# Full wwPDB X-ray Structure Validation Report (i)

Sep 14, 2023 – 02:32 AM EDT

| | | |
|---|---|---|
| PDB ID | : | 4V4P |
| Title | : | Crystal structure of 70S ribosome with thrS operator and tRNAs. |
| Authors | : | Jenner, L.; Romby, P.; Rees, B.; Schulze-Briese, C.; Springer, M.; Ehresmann, C.; Ehresmann, B.; Moras, D.; Yusupova, G.; Yusupov, M. |
| Deposited on | : | 2005-01-19 |
| Resolution | : | 5.50 Å(reported) |

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

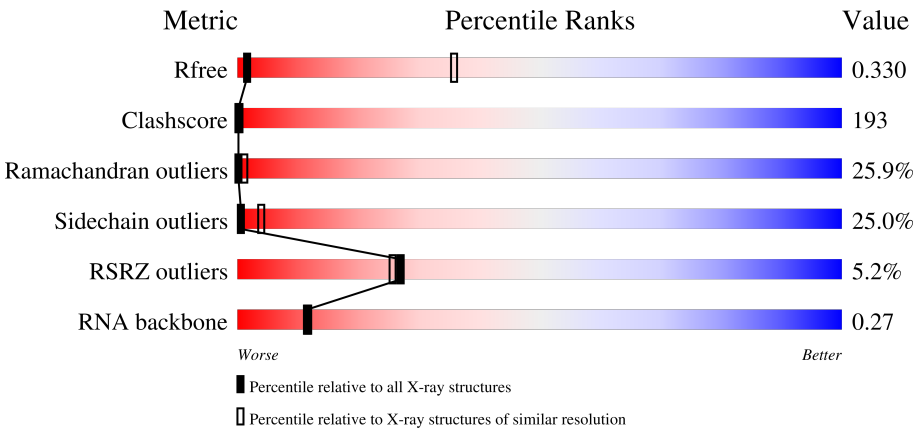
| | | |
|---|---|---|
| MolProbity | : | 4.02b-467 |
| Xtriage (Phenix) | : | 1.13 |
| EDS | : | 2.35.1 |
| Percentile statistics | : | 20191225.v01 (using entries in the PDB archive December 25th 2019) |
| Refmac | : | 5.8.0158 |
| CCP4 | : | 7.0.044 (Gargrove) |
| Ideal geometry (proteins) | : | Engh & Huber (2001) |
| Ideal geometry (DNA, RNA) | : | Parkinson et al. (1996) |
| Validation Pipeline (wwPDB-VP) | : | 2.35.1 |

# 1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
*X-RAY DIFFRACTION*

The reported resolution of this entry is 5.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.




| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|---|---|---|
| $R_{free}$ | 130704 | 1019 (7.12-3.82) |
| Clashscore | 141614 | 1010 (7.10-3.90) |
| Ramachandran outliers | 138981 | 1014 (7.12-3.82) |
| Sidechain outliers | 138945 | 1191 (7.20-3.80) |
| RSRZ outliers | 127900 | 1023 (7.08-3.76) |
| RNA backbone | 3102 | 1074 (7.80-3.00) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | AB | 123 | 52% 41% 7% |
| 2 | AA | 2915 | % 41% 39% 18% |
| 3 | AC | 228 | 2% 9% 64% 19% |
| 4 | AD | 178 | 6% 39% 40% 16% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 5 | AE | 338 | 11% • 28% 22% 6% 43% |
| 6 | AF | 246 | % • 42% 26% 8% 23% |
| 7 | AG | 176 | % • 34% 28% • 31% |
| 8 | AH | 177 | % • 56% 31% • 7% |
| 9 | AI | 128 | 23% 10% 74% 14% • |
| 9 | AJ | 128 | 38% 9% 75% 15% • |
| 10 | AK | 149 | 3% • 63% 30% 5% • |
| 11 | AL | 141 | 5% 6% 59% 26% • 6% |
| 12 | AM | 145 | 8% • 43% 30% 7% 19% |
| 13 | AN | 122 | 8% • 52% 37% 9% |
| 14 | AO | 164 | 3% • 23% 21% 5% 49% |
| 15 | AP | 138 | 7% • 42% 43% 12% |
| 16 | AQ | 186 | • 26% 28% 6% 39% |
| 17 | AR | 66 | 11% 35% 20% 24% 21% |
| 18 | AS | 113 | 2% • 61% 24% 6% • |
| 19 | AT | 84 | 5% 52% 25% 13% 10% |
| 20 | AU | 119 | 6% • 61% 24% 7% 8% |
| 21 | AV | 253 | 3% • 35% 24% 9% 30% |
| 22 | AW | 70 | % • 47% 36% • 9% |
| 23 | AX | 60 | • 47% 42% 10% |
| 24 | A0 | 118 | 2% • 48% 35% 5% 11% |
| 25 | A1 | 118 | % 55% 36% 8% • |
| 26 | A2 | 100 | 16% • 57% 32% 9% |
| 27 | A3 | 91 | 12% 7% 35% 44% 9% 5% |
| 28 | A4 | 73 | 8% • 40% 48% 11% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 29 | A5 | 60 | 3% 5% 45% 35% 12% |
| 30 | A6 | 82 | 5% 32% 28% 35% |
| 31 | A7 | 47 | 2% 49% 43% 6% |
| 32 | A8 | 64 | 2% 39% 47% 12% |
| 33 | A9 | 36 | 64% 28% |
| 34 | BA | 1522 | 55% 34% 10% |
| 35 | BB | 76 | 79% 9% 30% 59% |
| 35 | BC | 76 | 42% 38% 18% |
| 36 | B1 | 78 | 55% 50% 26% 6% 15% |
| 37 | BE | 256 | 8% 50% 33% 6% 9% |
| 38 | BF | 239 | 16% 5% 54% 23% 5% 14% |
| 39 | BG | 209 | 3% 56% 35% 5% |
| 40 | BH | 162 | 12% 54% 31% 7% |
| 41 | BI | 101 | 28% 55% 41% |
| 42 | BJ | 156 | 4% 6% 62% 26% 6% |
| 43 | BK | 138 | 7% 49% 41% 9% |
| 44 | BL | 128 | 64% 31% |
| 45 | BM | 105 | 10% 5% 53% 31% 7% |
| 46 | BN | 129 | 7% 5% 53% 31% 8% |
| 47 | BO | 135 | 3% 5% 54% 30% 8% |
| 48 | BP | 126 | 10% 49% 39% |
| 49 | BQ | 61 | 3% 48% 36% 11% |
| 50 | BR | 89 | 3% 57% 37% |
| 51 | BS | 88 | % 51% 34% 8% 6% |
| 52 | BT | 105 | 3% 61% 35% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 53 | BU | 88 | 10%, 49%, 20%, 10%, 17% |
| 54 | BV | 93 | 5%, 48%, 28%, 5%, 14% |
| 55 | BW | 106 | 56%, 32%, 6%, 7% |
| 56 | BX | 27 | 56%, 30%, 11% |

# 2 Entry composition (i)

There are 56 unique types of molecules in this entry. The entry contains 148539 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 5S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | P | | | |
| 1 | AB | 123 | 2641 | 1175 | 488 | 855 | 123 | 0 | 0 | 0 |

There are 2 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| AB | -1 | A | - | insertion | GB 48271 |
| AB | 120 | U | - | insertion | GB 48271 |

- Molecule 2 is a RNA chain called 23S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | P | | | |
| 2 | AA | 2872 | 61847 | 27526 | 11556 | 19893 | 2872 | 0 | 0 | 0 |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| AA | 494 | G | - | insertion | GB 48268 |

- Molecule 3 is a protein called 50S ribosomal protein L1.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 3 | AC | 221 | 1687 | 1066 | 306 | 312 | 3 | 0 | 0 | 0 |

- Molecule 4 is a protein called 50S ribosomal protein L2.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 4 | AD | 173 | 1308 | 820 | 246 | 236 | 6 | 0 | 0 | 0 |

- Molecule 5 is a protein called 50S ribosomal protein L3.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 5 | AE | 191 | 1507 | 940 | 290 | 273 | 4 | 0 | 0 | 0 |

- Molecule 6 is a protein called 50S ribosomal protein L4.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 6 | AF | 189 | 1430 | 872 | 255 | 302 | 1 | 0 | 0 | 0 |

- Molecule 7 is a protein called 50S ribosomal protein L5.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 7 | AG | 122 | 957 | 597 | 176 | 180 | 4 | 0 | 0 | 0 |

- Molecule 8 is a protein called 50S ribosomal protein L6.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 8 | AH | 164 | 1251 | 787 | 225 | 237 | 2 | 0 | 0 | 0 |

- Molecule 9 is a protein called 50S ribosomal protein L7/L12.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 9 | AI | 128 | 945 | 599 | 152 | 193 | 1 | 0 | 0 | 0 |
| 9 | AJ | 128 | 945 | 599 | 152 | 193 | 1 | 0 | 0 | 0 |

- Molecule 10 is a protein called 50S ribosomal protein L9.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 10 | AK | 148 | 1145 | 727 | 205 | 212 | 1 | 0 | 0 | 0 |

- Molecule 11 is a protein called 50S ribosomal protein L11.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 11 | AL | 133 | 999 | 642 | 169 | 182 | 6 | 0 | 0 | 0 |

- Molecule 12 is a protein called 50S ribosomal protein L13.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 12 | AM | 117 | 917 | 570 | 164 | 180 | 3 | 0 | 0 | 0 |

- Molecule 13 is a protein called 50S ribosomal protein L14.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 13 | AN | 122 | 937 | 585 | 180 | 169 | 3 | 0 | 0 | 0 |

- Molecule 14 is a protein called 50S ribosomal protein L15.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | | | |
| 14 | AO | 84 | 639 | 391 | 109 | 139 | 0 | 0 | 0 |

- Molecule 15 is a protein called 50S ribosomal protein L16.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 15 | AP | 138 | 1081 | 678 | 208 | 192 | 3 | 0 | 0 | 0 |

- Molecule 16 is a protein called 50S ribosomal protein L18.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 16 | AQ | 113 | 866 | 536 | 165 | 164 | 1 | 0 | 0 | 0 |

- Molecule 17 is a protein called 50S ribosomal protein L19.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 17 | AR | 52 | 406 | 242 | 74 | 85 | 5 | 0 | 0 | 0 |

- Molecule 18 is a protein called 50S ribosomal protein L22.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | | | |
| 18 | AS | 108 | 860 | 542 | 169 | 149 | 0 | 0 | 0 |

- Molecule 19 is a protein called 50S ribosomal protein L23.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 19 | AT | 76 | 602 | 366 | 102 | 131 | 3 | 0 | 0 | 0 |

- Molecule 20 is a protein called 50S ribosomal protein L24.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | | | |
| 20 | AU | 110 | 879 | 531 | 166 | 182 | 0 | 0 | 0 |

- Molecule 21 is a protein called 50S general stress protein CTC (L25).

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 21 | AV | 177 | 1360 | 859 | 238 | 257 | 6 | 0 | 0 | 0 |

- Molecule 22 is a protein called 50S ribosomal protein L29.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 22 | AW | 64 | 494 | 301 | 93 | 99 | 1 | 0 | 0 | 0 |

- Molecule 23 is a protein called 50S ribosomal protein L30.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 23 | AX | 60 | 477 | 303 | 91 | 82 | 1 | 0 | 0 | 0 |

- Molecule 24 is a protein called 50S ribosomal protein L17.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | | | |
| 24 | A0 | 105 | 855 | 536 | 174 | 145 | 0 | 0 | 0 |

- Molecule 25 is a protein called 50S ribosomal protein L20.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 25 | A1 | 117 | 978 | 608 | 210 | 159 | 1 | 0 | 0 | 0 |

- Molecule 26 is a protein called 50S ribosomal protein L21.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 26 | A2 | 100 | 787 | 495 | 146 | 145 | 1 | 0 | 0 | 0 |

- Molecule 27 is a protein called 50S ribosomal protein L27.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 27 | A3 | 86 | 641 | 402 | 124 | 114 | 1 | 0 | 0 | 0 |

- Molecule 28 is a protein called 50S ribosomal protein L31.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 28 | A4 | 73 | 604 | 382 | 110 | 108 | 4 | 0 | 0 | 0 |

- Molecule 29 is a protein called 50S ribosomal protein L32.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 29 | A5 | 58 | 457 | 281 | 94 | 77 | 5 | 0 | 0 | 0 |

- Molecule 30 is a protein called 50S ribosomal protein L33.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 30 | A6 | 53 | 431 | 274 | 80 | 76 | 1 | 0 | 0 | 0 |

- Molecule 31 is a protein called 50S ribosomal protein L34.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 31 | A7 | 46 | 383 | 230 | 91 | 60 | 2 | 0 | 0 | 0 |

- Molecule 32 is a protein called 50S ribosomal protein L35.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 32 | A8 | 63 | 496 | 312 | 101 | 78 | 5 | 0 | 0 | 0 |

- Molecule 33 is a protein called 50S ribosomal protein L36.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 33 | A9 | 35 | 285 | 172 | 64 | 45 | 4 | 0 | 0 | 0 |

- Molecule 34 is a RNA chain called 16S rRNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | P | | | |
| 34 | BA | 1515 | 32554 | 14490 | 6022 | 10527 | 1515 | 0 | 0 | 0 |

- Molecule 35 is a RNA chain called tRNA Phe (unmodified bases).

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | P | | | |
| 35 | BB | 76 | 1626 | 725 | 293 | 532 | 76 | 0 | 0 | 0 |
| | | | Total | C | N | O | P | | | |
| 35 | BC | 76 | 1626 | 725 | 293 | 532 | 76 | 0 | 0 | 0 |

- Molecule 36 is a RNA chain called thrS mRNA operator.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | P | | | |
| 36 | B1 | 66 | 1405 | 629 | 247 | 463 | 66 | 0 | 0 | 0 |

- Molecule 37 is a protein called 30S ribosomal protein S2.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 37 | BE | 234 | 1900 | 1213 | 341 | 341 | 5 | 0 | 0 | 0 |

- Molecule 38 is a protein called 30S ribosomal protein S3.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 38 | BF | 206 | 1612 | 1016 | 314 | 281 | 1 | 0 | 0 | 0 |

- Molecule 39 is a protein called 30S ribosomal protein S4.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 39 | BG | 208 | 1703 | 1066 | 339 | 291 | 7 | 0 | 0 | 0 |

- Molecule 40 is a protein called 30S ribosomal protein S5.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 40 | BH | 150 | 1146 | 724 | 217 | 201 | 4 | 0 | 0 | 0 |

- Molecule 41 is a protein called 30S ribosomal protein S6.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 41 | BI | 101 | 843 | 531 | 155 | 154 | 3 | 0 | 0 | 0 |

- Molecule 42 is a protein called 30S ribosomal protein S7.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 42 | BJ | 155 | 1257 | 781 | 252 | 218 | 6 | 0 | 0 | 0 |

- Molecule 43 is a protein called 30S ribosomal protein S8.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 43 | BK | 138 | 1116 | 705 | 215 | 193 | 3 | 0 | 0 | 0 |

There are 8 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| BK | 25 | ASP | GLU | conflict | UNP Q5SHQ2 |
| BK | 37 | ARG | LYS | conflict | UNP Q5SHQ2 |
| BK | 52 | ASP | GLU | conflict | UNP Q5SHQ2 |
| BK | 61 | VAL | ILE | conflict | UNP Q5SHQ2 |
| BK | 62 | TYR | HIS | conflict | UNP Q5SHQ2 |
| BK | 81 | HIS | LYS | conflict | UNP Q5SHQ2 |
| BK | 88 | LYS | ARG | conflict | UNP Q5SHQ2 |
| BK | 115 | SER | PRO | conflict | UNP Q5SHQ2 |

- Molecule 44 is a protein called 30S ribosomal protein S9.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | | | |
| 44 | BL | 127 | 1011 | 639 | 198 | 174 | 0 | 0 | 0 |

- Molecule 45 is a protein called 30S ribosomal protein S10.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 45 | BM | 98 | 794 | 499 | 156 | 138 | 1 | 0 | 0 | 0 |

- Molecule 46 is a protein called 30S ribosomal protein S11.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 46 | BN | 119 | 885 | 549 | 168 | 165 | 3 | 0 | 0 | 0 |

- Molecule 47 is a protein called 30S ribosomal protein S12.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 47 | BO | 124 | 970 | 611 | 195 | 163 | 1 | 0 | 0 | 0 |

- Molecule 48 is a protein called 30S ribosomal protein S13.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 48 | BP | 125 | 997 | 617 | 207 | 171 | 2 | 0 | 0 | 0 |

- Molecule 49 is a protein called 30S ribosomal protein S14.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 49 | BQ | 60 | 492 | 312 | 104 | 72 | 4 | 0 | 0 | 0 |

- Molecule 50 is a protein called 30S ribosomal protein S15.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 50 | BR | 88 | 734 | 459 | 147 | 126 | 2 | 0 | 0 | 0 |

- Molecule 51 is a protein called 30S ribosomal protein S16.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 51 | BS | 83 | 700 | 443 | 139 | 117 | 1 | 0 | 0 | 0 |

- Molecule 52 is a protein called 30S ribosomal protein S17.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 52 | BT | 104 | 857 | 547 | 161 | 147 | 2 | 0 | 0 | 0 |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| BT | 96 | GLN | GLU | conflict | UNP Q5SHP7 |

- Molecule 53 is a protein called 30S ribosomal protein S18.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | | | |
| 53 | BU | 73 | 597 | 380 | 118 | 99 | 0 | 0 | 0 |

- Molecule 54 is a protein called 30S ribosomal protein S19.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 54 | BV | 80 | 647 | 414 | 119 | 112 | 2 | 0 | 0 | 0 |

- Molecule 55 is a protein called 30S ribosomal protein S20.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | S | | | |
| 55 | BW | 99 | 762 | 469 | 162 | 129 | 2 | 0 | 0 | 0 |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| BW | 41 | VAL | ILE | conflict | UNP Q5SIH2 |

- Molecule 56 is a protein called 30S ribosomal protein Thx.

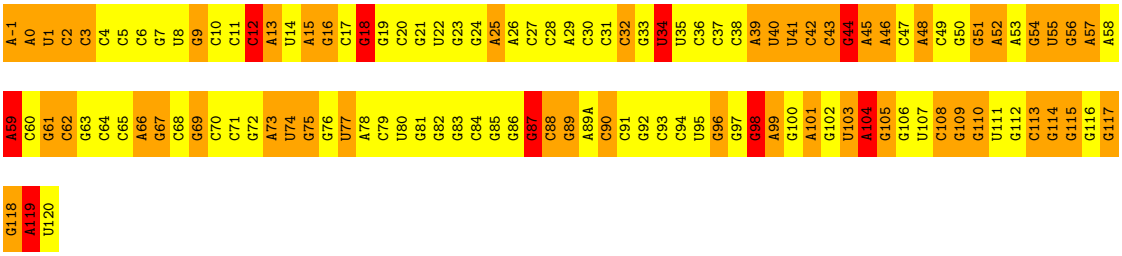
| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total | C | N | O | | | |
| 56 | BX | 24 | 208 | 128 | 50 | 30 | 0 | 0 | 0 |

# 3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

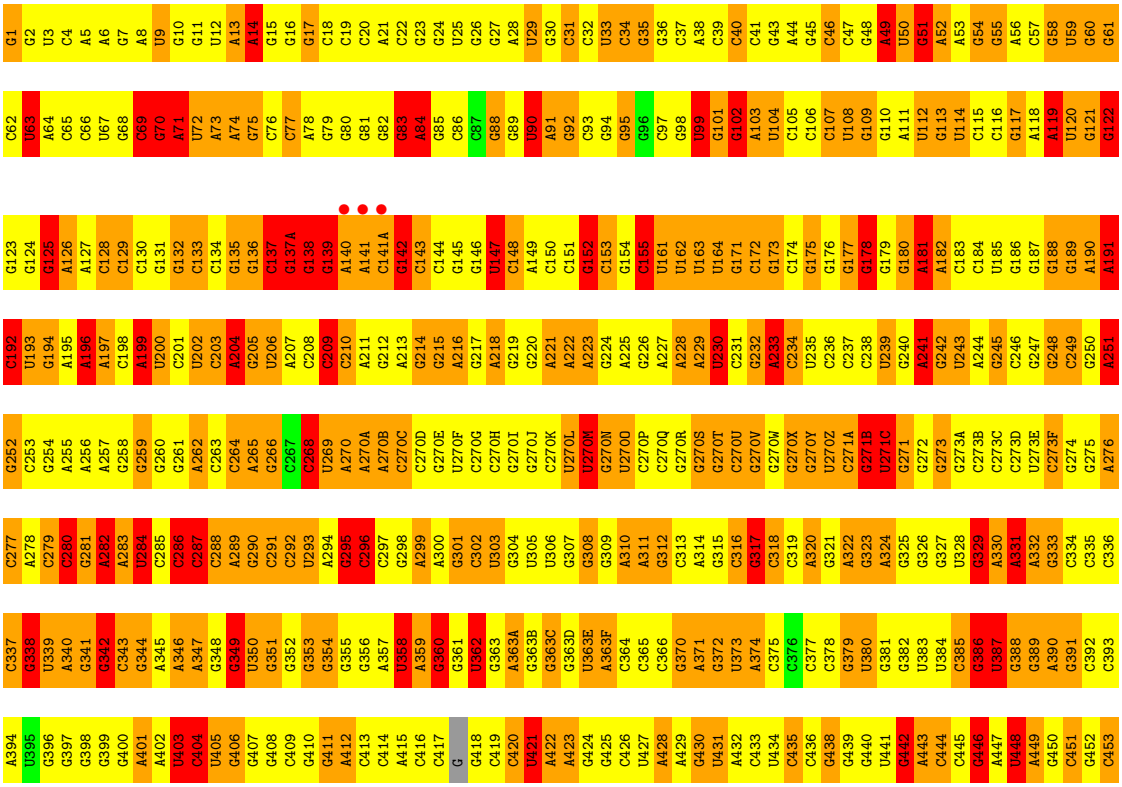
- Molecule 1: 5S ribosomal RNA

Chain AB: 52% 41% 7%

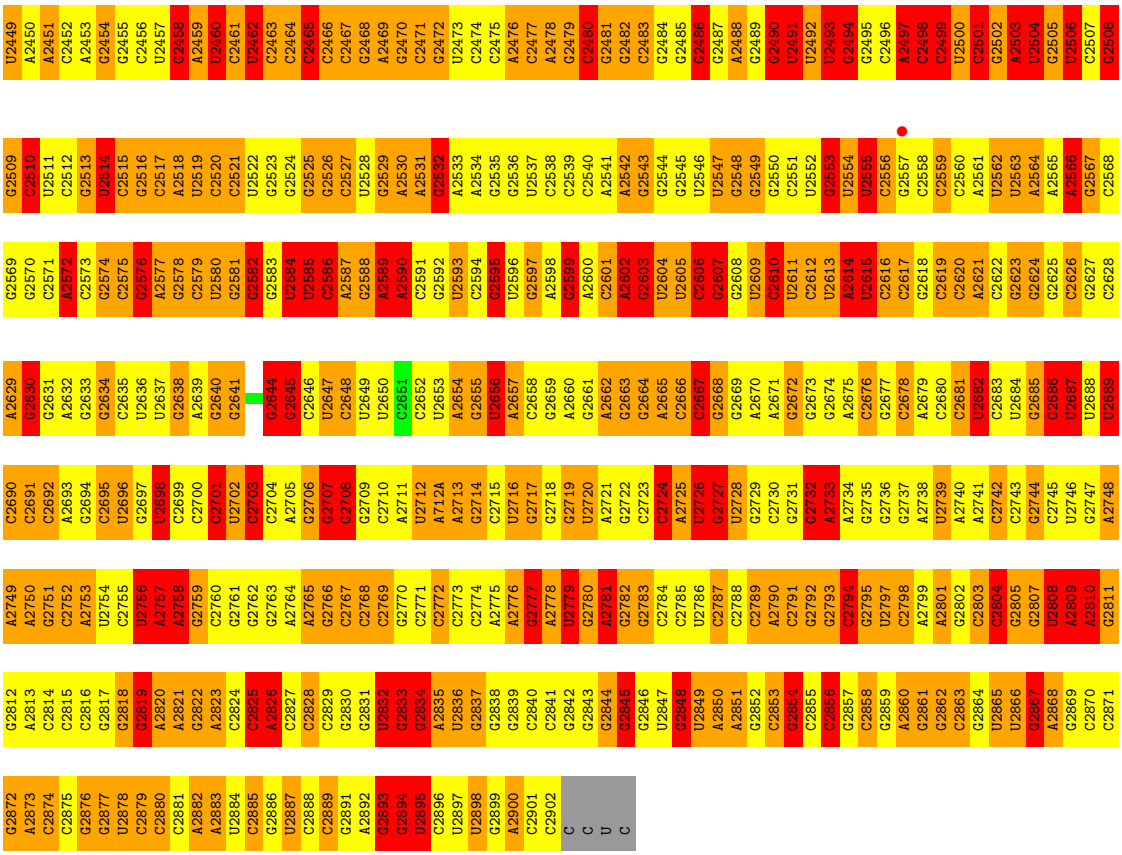


- Molecule 2: 23S ribosomal RNA

Chain AA: % 41% 39% 18%

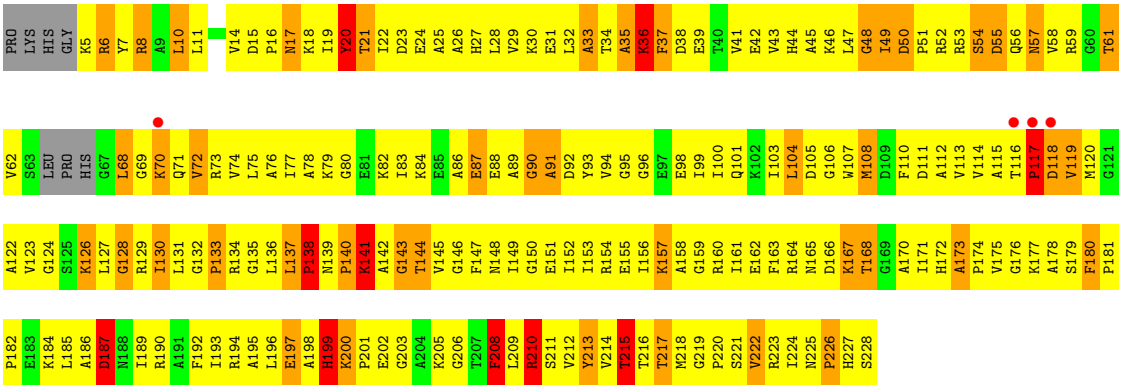


A1395 U1396 U1397 C1398 C1399 G1400 G1401 C1402 C1403 C1404 U1405 U1406 C1407 C1408 C1409 G1410 C1411 A1412 G1413 G1414 U1415 G1416 C1417 G1418 A1419 U1420 G1421 G1422 G1423 G1424 G1425 G1426 A1427 C1428 G1429 C1430 U1431 C1432 U1433 A1434 G1435 G1436 C1437 U1438 A1439 G1440 G1441 G1442 G1443 G1444 A444A C1445 C1446 G1447 G1448 A1449 G449A C1450 C1451 A1453
U1335 A1336 G1337 G1338 G1339 U1340 U1341 A1342 G1343 G1344 C1345 G1346 G1347 G1348 A1349 C1350 C1351 U1352 A1353 A1354 C1355 G1356 U1357 C1358 A1359 U1360 G1361 C1362 C1363 G1364 A1365 A1366 A1367 G1368 G1369 C1370 G1371 U1372 A1373 G1374 C1375 C1376 G1377 A1378 A1379 G1380 G1381 G1382 G1383 A1384 G1385 C1386 C1387 G1388 G1389 U1390 U1391 A1392 C1393 A1394
A1275 A1276 G1277 A1278 G1279 G1280 G1281 U1282 G1283 A1284 G1285 A1286 A1287 U1288 C1289 C1290 C1291 U1292 C1293 U1294 C1295 G1296 A1297 C1298 G1299 U1300 A1301 A1302 G1303 C1304 C1305 C1306 A1307 A1308 G1309 G1310 G1311 U1312 U1313 C1314 C1315 U1316 A1317 C1318 G1319 C1320 A1321 A1322 U1323 G1324 G1325 U1326 C1327 G1328 U1329 C1330 A1331 G1332 C1333 G1334
G1215 G1216 C1217 C1218 G1219 A1220 C1221 C1222 G1223 G1224 C1225 G1226 A1227 G1228 G1229 G1230 G1231 G1232 C1233 U1234 A1235 G1236 A1237 G1238 G1239 U1240 A1241 A1242 G1243 G1244 G1245 A1246 A1247 G1248 U1249 G1250 C1251 G1252 A1253 A1254 U1255 G1256 C1257 C1258 G1259 G1260 C1261 C1262 A1263 G1264 A1265 G1266 U1267 A1268 A1269 C1270 G1271 A1272 U1273 A1274
G1154 A1155 A1156 G1157 C1158 U1159 C1160 C1161 G1162 G1163 G1164 U1165 C1166 U1167 G1168 G1169 G1170 G1171 G1173 A1174 U1175 C1176 G1177 C1178 C1179 C1180 C1181 A1182 G1183 C1184 C1185 G1186 G1187 U1188 A1189 G1190 G1191 G1192 G1193 A1194 G1195 C1196 G1197 U1198 U1199 C1200 C1201 C1202 G1203 A1204 U1205 G1206 C1207 C1208 G1209 A1210 U1211 A1212 A1213 A1214
A1095 A1096 U1097 A1098 G1099 C1100 U1101 C1102 A1103 C1104 U1105 G1106 G1107 U1108 C1109 G1110 A1111 G1112 U1113 A1114 G1115 C1116 A1117 C1118 C1119 G1120 C1121 G1122 G1123 C1124 G1125 A1126 A1127 A1128 A1129 U1130 G1131 A1132 U1133 G1134 C1135 G1136 G1137 U1138 G1139 C1140 U1141 U1142 A142A A1143 G1144 C1145 C1146 C1147 C1148 G1149 C1150 G1151 C1152 C1153
U1035 G1036 G1037 C1038 G1039 C1040 C1041 G1042 C1043 G1044 A1045 A1046 G1047 A1048 C1049 A1050 G1051 C1052 C1053 A1054 G1055 G1056 A1057 G1058 G1059 U1060 U1061 G1062 G1063 C1064 U1065 U1066 A1067 G1068 A1069 A1070 G1071 C1072 A1073 G1074 C1075 C1076 A1077 U1078 C1079 C1080 U1081 U1082 U1083 A1084 A1085 A1086 G1087 A1088 G1089 U1090 G1091 C1092 G1093 U1094
G975 G976 G977 G978 G979 A980 A981 G982 A983 A984 C985 G986 G987 A988 G989 A990 C991 C992 G993 C994 C995 A996 G997 G998 U999 A1000 A1001 G1002 G1003 G1004 C1005 C1006 C1007 C1008 A1009 A1010 G1011 U1012 C1013 U1014 G1015 G1016 G1017 C1018 U1019 A1020 A1021 G1022 U1023 G1024 G1025 U1026 A1027 A1028 G1029 G1030 G1031 A1032 U1033 G1034
C915 G916 A917 A918 G919 G920 G921 U922 C923 C924 C925 A926 G928 G929 U930 G931 G932 A933 G934 C935 C936 U937 G938 G939 G940 A941 G942 U943 G944 A945 G946 G947 G948 C949 G950 C951 G952 A953 G954 C955 G956 A957 U958 A959 A960 C961 G962 U963 C964 C965 G966 C967 G968 U969 C970 C971 G972 A973 G974 C974A
G854 G855 C856 C857 U858 G859 U860 A861 G862 A863 G864 C865 A866 C867 U868 G869 A870 U871 A872 G873 G874 G875 C876 U877 A878 G879 G880 G881 G882 G883 C884 C885 C886 A887 C888 C889 A890 G892 C893 C894 U895 A896 C897 C898 A899 A900 A901 C902 C903 C904 U905 G906 U907 C908 A909 A910 A911 C912 U913 C914
G794 C795 C796 C797 G798 G799 A800 G801 A802 U803 A804 G805 C806 U807 G808 G809 U810 U811 C812 U813 C814 C815 C816 U817 G818 A819 A820 A821 U822 G823 A824 C825 U826 U827 U828 A829 G830 G831 G832 U833 C834 A835 G836 C837 C838 U839 C840 A841 G842 G843 C844 G845 C846 U847 G848 A849 C850 U851 G852 G853
A734 A735 C736 C737 G738 G739 U740 G741 G742 G743 G744 G745 A746 U747 G748 C749 A750 A751 A752 C753 C754 C755 G756 U757 C758 G759 G760 A761 U762 G763 A764 G765 C766 U767 G768 G769 G770 G771 C772 U773 A774 G775 G776 A777 G778 U779 G780 A781 A782 A783 A784 G785 C786 U787 A788 A789 C790 C791 G792 A793
G674 A675 A676 A677 C678 C679 G680 G681 G682 C683 G684 A685 G686 C687 U688 A689 G690 C691 C692 G693 U694 G695 G696 C697 C698 A699 G700 G701 G702 U703 G704 A705 A706 G707 C708 U709 G710 G711 G712 G713 U714 G715 A716 G717 A718 C719 C720 C721 A722 G723 U724 G725 G726 A727 G728 G729 C730 C731 C732 G733
C635 G636 A637 G638 U639 C640 C641 G642 A643 A644 C645 A646 G647 G648 G649 C G C A A G C G G G C G G C C C A C G G C C G G U606 U607 A608 A609 G609A C610 C611 G612 U613 U614 G615 A616 G617 G618 C618A G619 G620 A621 G622 G623 C624 G625 U626 A627 G628 G629 G630 A631 A632 A633 C634
G577 A578 G579 C580 C581 G582 G583 C584 G585 A586 C587 U588 C589 A590 C591 G592 G593 U594 C595 G596 U597 G598 G599 G600 C601 G602 A603 G604 C605 C606 C607 A608 A609 G609A C610 C611 G612 U613 U614 G615 A616 G617 G618 C618A G619 G620 A621 G622 G623 C624 G625 U626 A627 G628 G629 G630 A631 A632 A633 C634
A515 C516 C517 G518 U519 G520 G521 G522 C523 U524 U525 A526 C527 A528 A529 G530 C531 A532 G533 U534 C535 A536 C537 G539 G540 C541 C542 C543 C544 G545 C546 A547 A548 G549 G550 G551 G552 U553 U554 G556 U557 G558 G559 C560 G561 U562 G563 C564 C565 U566 A567 U568 U569 G570 A571 A572 G573 C574 A575 U576
A454 C455 C456 A457 G458 U459 A460 C461 C462 G463 U464 G465 A466 G467 G468 G469 A470 A471 A472 G473 G474 U475 G476 A477 A478 A479 A480 G481 A482 A483 C484 C485 C486 C487 G488 G489 G491 A492 G493 G494 G495 G496 A497 G498 U499 G500 A501 A502 A503 U504 A505 G506 A507 G508 C509 C510 U511 G512 A513 A514



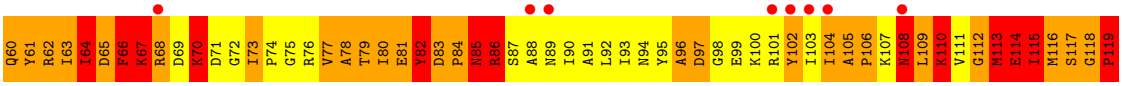
• Molecule 3: 50S ribosomal protein L1

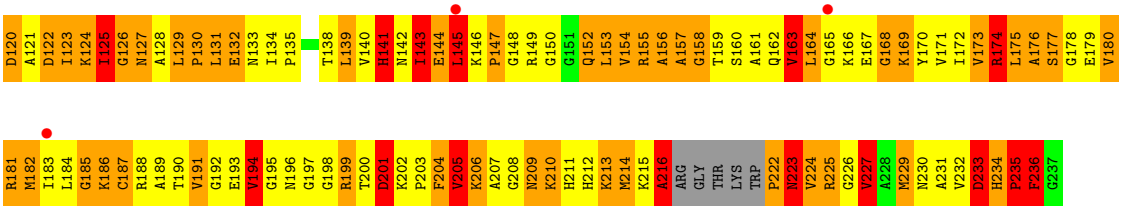
Chain AC:



• Molecule 4: 50S ribosomal protein L2

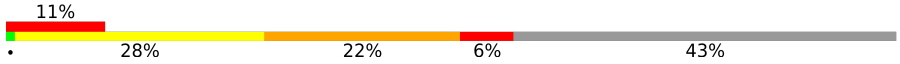
Chain AD:

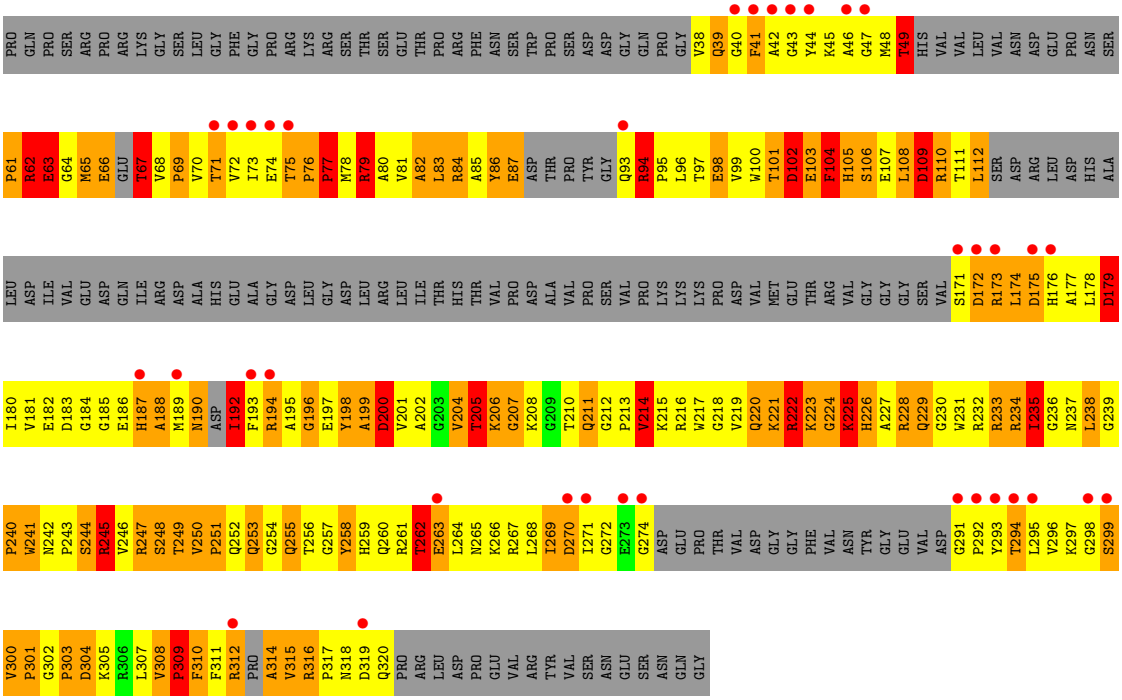





• Molecule 5: 50S ribosomal protein L3

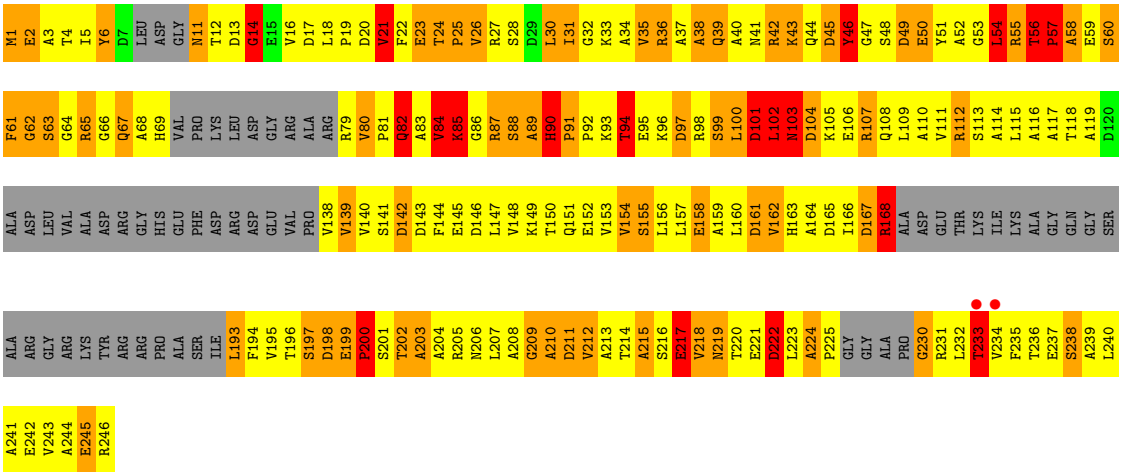
Chain AE:



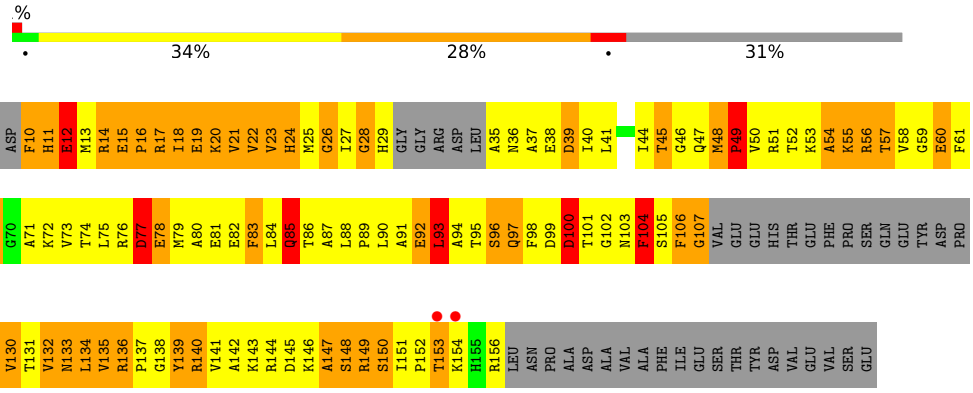

• Molecule 6: 50S ribosomal protein L4

Chain AF:



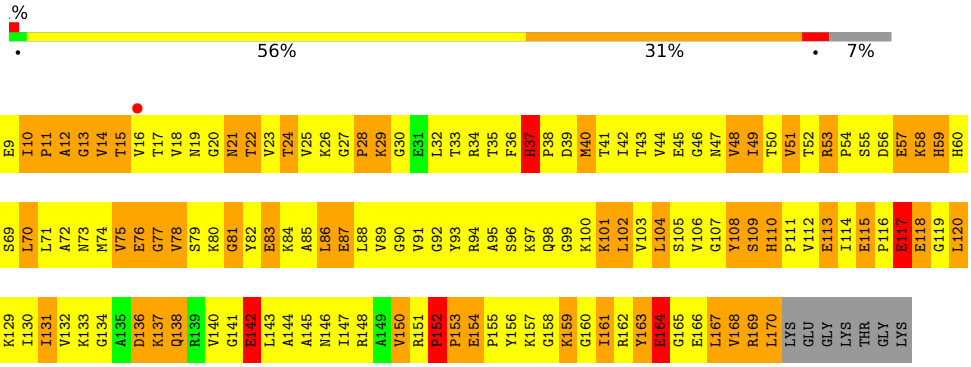

• Molecule 7: 50S ribosomal protein L5

Chain AG:



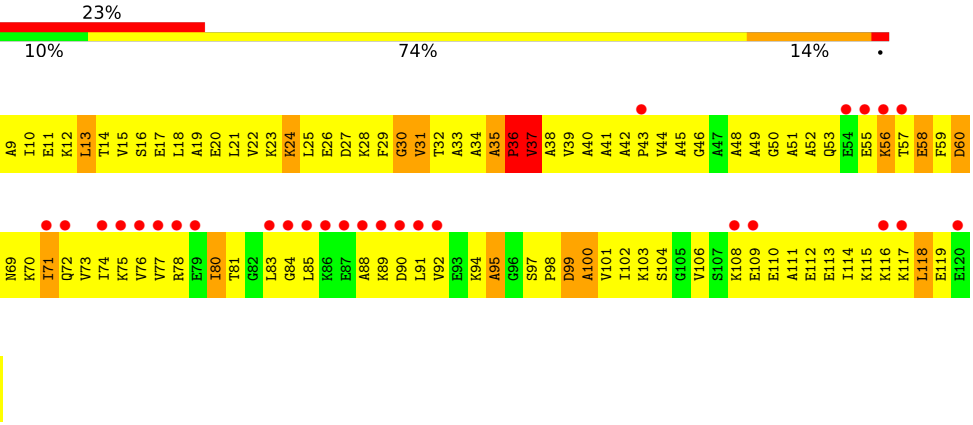

- Molecule 8: 50S ribosomal protein L6

Chain AH:



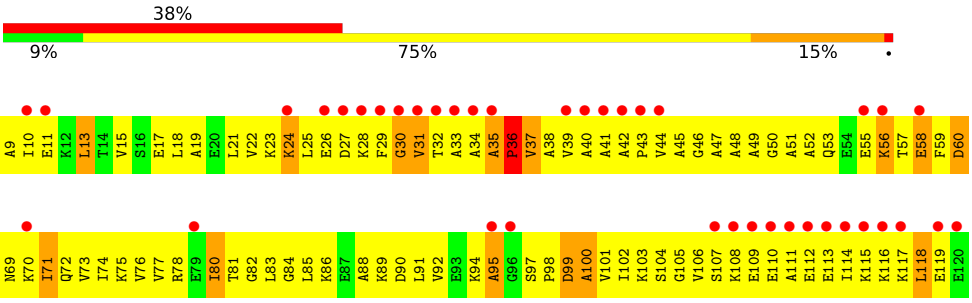

- Molecule 9: 50S ribosomal protein L7/L12

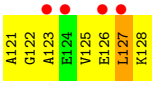
Chain AI:




- Molecule 9: 50S ribosomal protein L7/L12

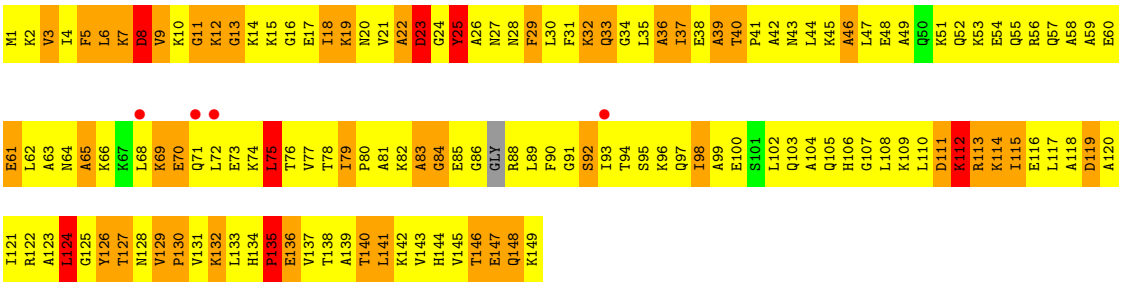
Chain AJ:





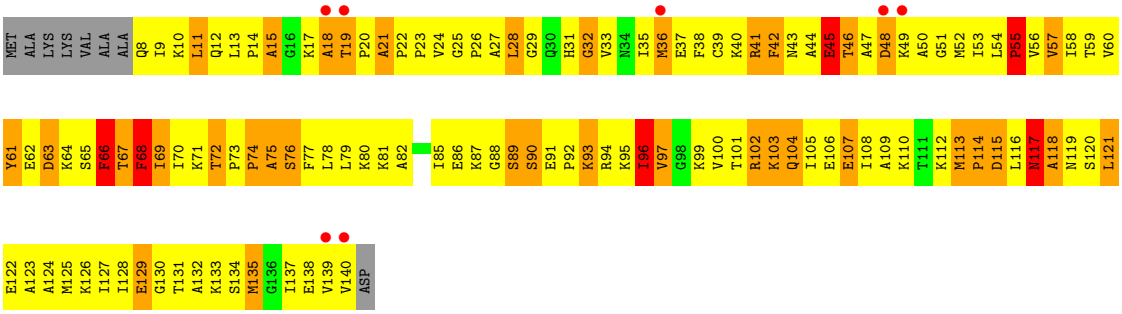

• Molecule 10: 50S ribosomal protein L9

Chain AK:



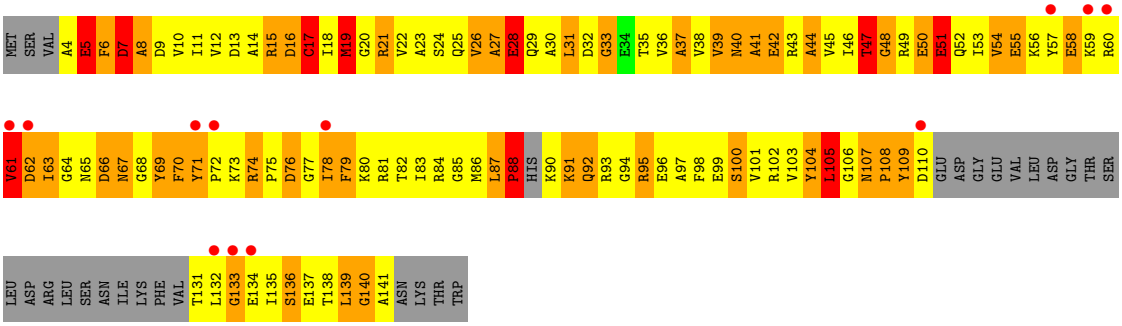

• Molecule 11: 50S ribosomal protein L11

Chain AL:




• Molecule 12: 50S ribosomal protein L13

Chain AM:




• Molecule 13: 50S ribosomal protein L14

Chain AN:

V61 V62 V63 R64 T65 K66 R67 G68 V69 R70 R71 P72 D73 G74 S75 Y76 I77 R78 F79 D80 E81 N82 A83 C84 V85 I86 I87 R88 D89 D90 K91 S92 P93 R94 G95 T96 R97 I98 F99 G100 P101 V102 A103 R104 E105 L106 R107 D108 K109 D110 F111 M112 K113 I114 I115 S116 L117 A118 P119 E120

V121 I122

- Molecule 14: 50S ribosomal protein L15

Chain AO: 3% · 23% 21% 5% 49%

THR SER LYS LYS LYS ARG GLN ARG GLY SER ARG THR HIS GLY GLY GLY SER HIS LYS ASN ARG ARG GLY ALA GLY HIS ARG GLY GLY GLY ARG GLY ASP ALA GLY ARG ASP LYS HIS GLU PHE HIS ASN HIS GLU PRO LEU GLY LYS SER GLY F51 K52 R53 P54 Q55 K56 V57 Q58 E59 E60

A61 A62 T63 I64 D65 V66 R67 E68 I69 D70 E71 N72 V73 T74 L75 L76 A77 A78 D79 D80 V81 A82 E83 VAL GLU ASP GLY GLY PHE ARG VAL D92 V93 R94 D95 V96 VAL GLU GLU A100 D101 D102 A103 D104 Y105 V106 K107 V108 L109 G110 A111 G112 Q113 V114 R115 H116 E117 L118 T119 L120

I121 A122 D123 D124 F125 S126 E127 G128 A129 R130 E131 K132 V133 E134 G135 A136 G137 G138 S139 V140 E141 L142 T143 D144 L145 GLY GLU GLU ARG GLN ALA GLU ALA GLU GLU THR GLU ASP ALA ASP ALA ASP GLU GLU

- Molecule 15: 50S ribosomal protein L16

Chain AP: 7% · 42% 43% 12%

S9 I10 K11 P12 T15 R16 R17 E18 Y19 I20 S21 G22 I23 P24 G25 K26 G27 I28 A29 Q30 F31 K32 M33 G34 N35 N36 T41 Y42 P43 A44 Q45 V46 E47 N48 V49 V50 E51 K52 P53 V54 Q55 I56 R57 H58 N59 A60 L61 E62 A63 A64 R65 N66 A67 A68 N69 R70 F71 V72 Q73 N74

S75 G76 K82 F83 R84 I85 R86 K87 F88 P89 F90 H91 V92 I93 R94 E95 Q96 D97 G98 D99 G100 M101 R102 A103 P104 F105 G106 K107 S108 V109 G110 T111 A112 A113 R114 S115 H116 G117 A118 N119 H120 D121 F122 I123 A124 W125 V126 N127 P128 D129 P130 A131 V132 E133 F134 A135 W136 R137 R138 A139

Y140 M141 K142 V143 T144 P145 T146 V147 N148 I149 D150 S151 S152 P153 A154 G155 N156 A157

- Molecule 16: 50S ribosomal protein L18

Chain AQ: · 26% 28% 6% 39%

ALA THR GLY PRO ARG TYR LYS VAL P9 M10 R11 R12 R13 R14 E15 A16 R17 T18 D19 Y20 H21 Q22 R23 L24 R25 L26 L27 K28 S29 G30 K31 P32 R33 L34 V35 A36 R37 K38 S39 N40 K41 H42 V43 R44 A45 Q46 L47 V48 T49 LEU GLY P52 N53 G54 D55 D56 T57 L58 A59 S60

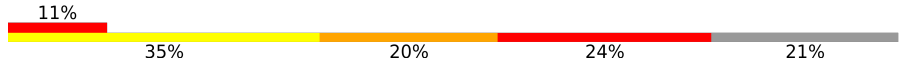
A61 H62 S63 S64 D65 L66 A67 E68 Y69 G70 W71 E72 ALA P74 T75 G76 ASN MET PRO S80 A81 Y82 L83 T84 G85 L86 L87 A88 G89 L90 R91 A92 Q93 E94 A95 G96 V97 E98 E99 A100 V101 L102 D103 I104 G105 L106 N107 S108 P109 T110 P111 GLY SER K114 V115 F116 A117 I118 Q119 E120

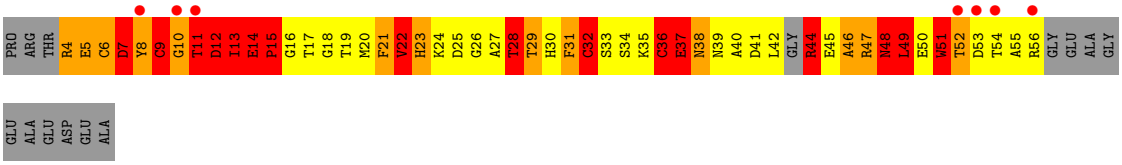
G121 A122 I123 D124 A125 G126 L127 D128 I129 PRO HIS ASN ASP ASP VAL LEU ALA ASP TRP GLN ARG THR ARG GLY ALA HIS ILE ALA GLU TYR ASP GLU GLN LEU GLU GLU PRO LEU TYR SER GLY ASP PHE ASP ALA ALA ASP LEU PRO GLU HIS PHE ASP GLU LEU ARG GLU THR LEU LEU

ASP GLY ASP ILE GLU LEU

- Molecule 17: 50S ribosomal protein L19

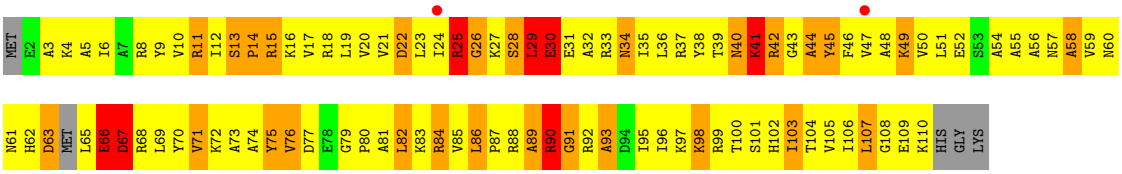
Chain AR:



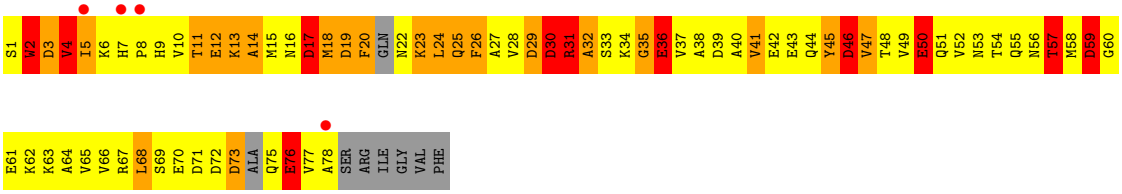

- Molecule 18: 50S ribosomal protein L22

Chain AS:




- Molecule 19: 50S ribosomal protein L23

Chain AT:

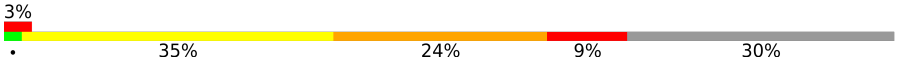


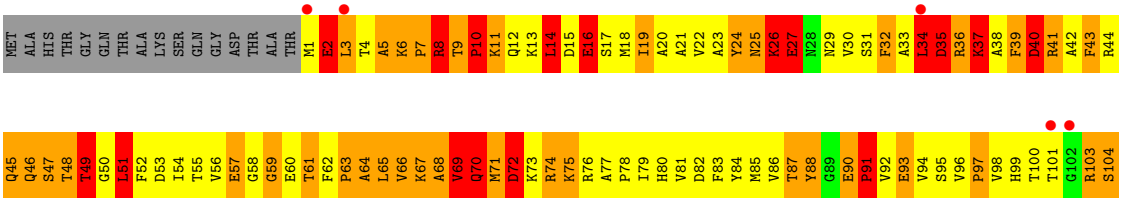

- Molecule 20: 50S ribosomal protein L24

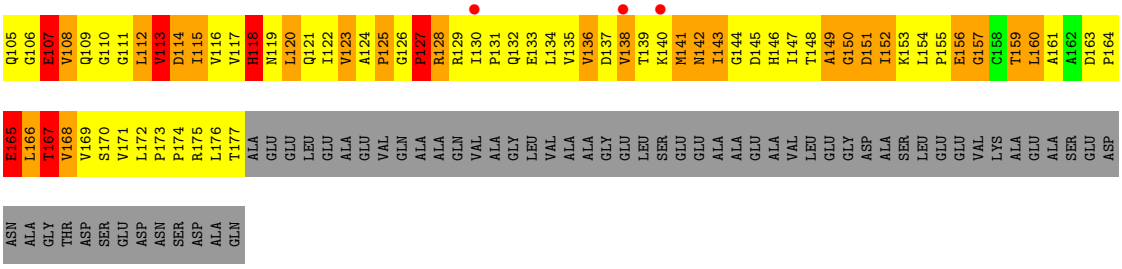
Chain AU:

- Molecule 21: 50S general stress protein CTC (L25)

Chain AV:

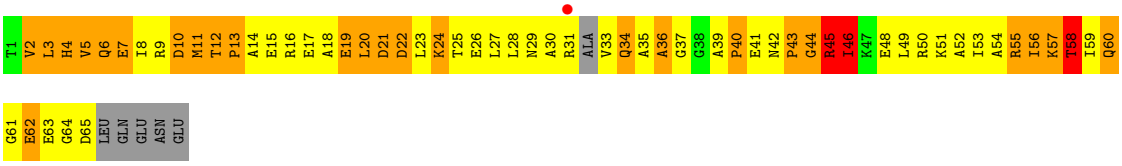





- Molecule 22: 50S ribosomal protein L29

Chain AW:

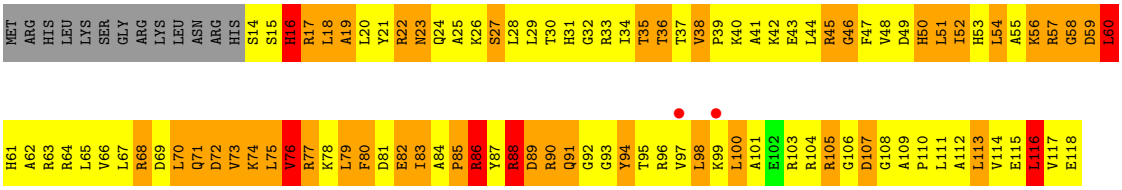



- Molecule 23: 50S ribosomal protein L30

Chain AX:

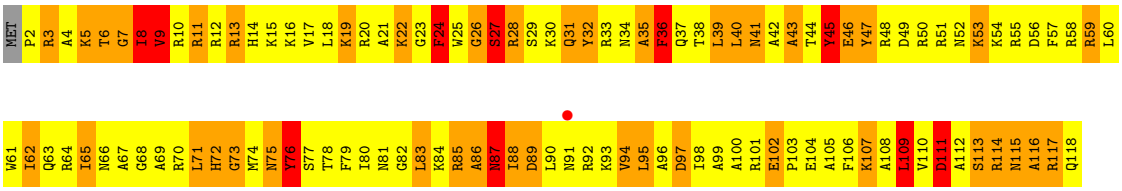
- Molecule 24: 50S ribosomal protein L17

Chain A0:



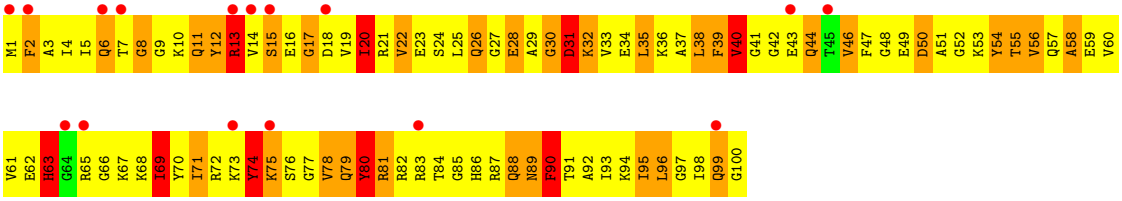

- Molecule 25: 50S ribosomal protein L20

Chain A1:



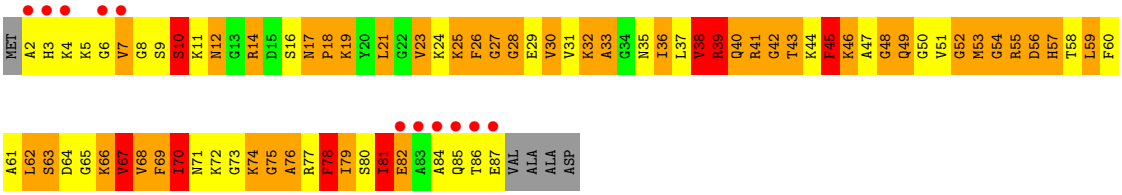

- Molecule 26: 50S ribosomal protein L21

Chain A2:



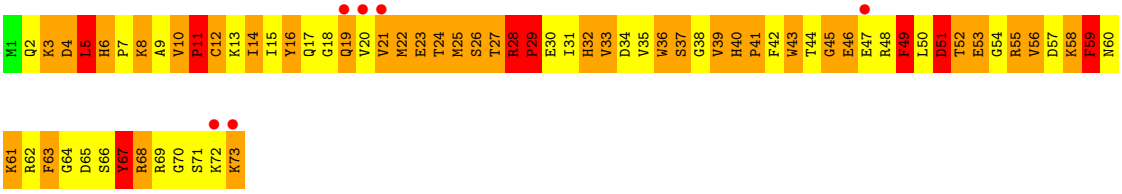

- Molecule 27: 50S ribosomal protein L27

Chain A3:



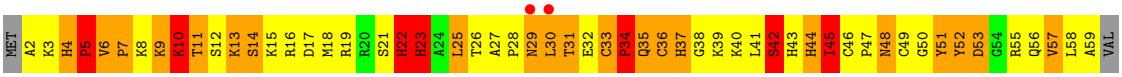

- Molecule 28: 50S ribosomal protein L31

Chain A4:



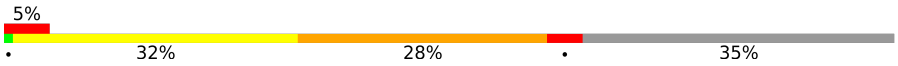

- Molecule 29: 50S ribosomal protein L32

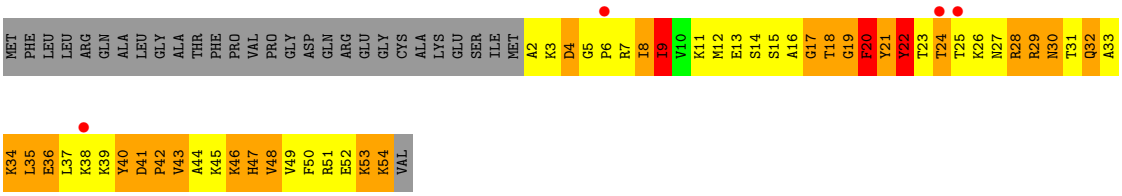
Chain A5:




- Molecule 30: 50S ribosomal protein L33

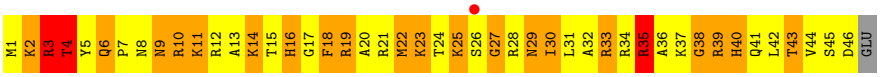
Chain A6:



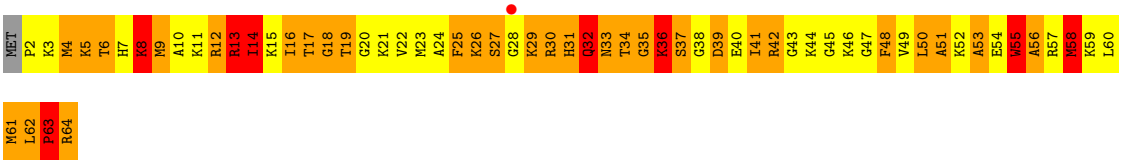

- Molecule 31: 50S ribosomal protein L34

Chain A7:



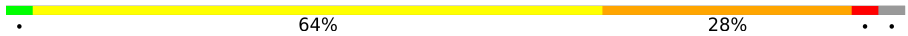

• Molecule 32: 50S ribosomal protein L35

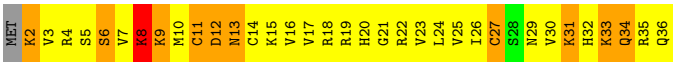
Chain A8:




• Molecule 33: 50S ribosomal protein L36

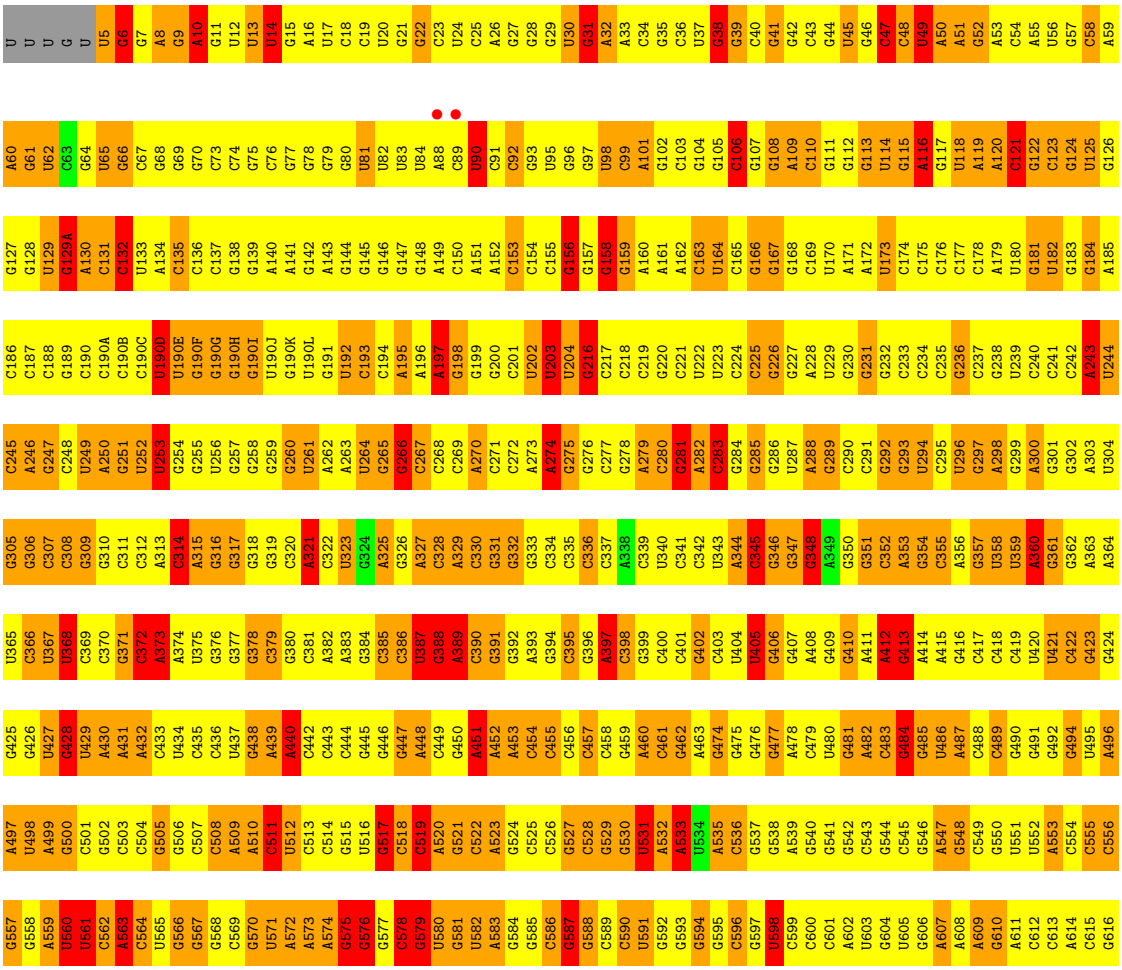
Chain A9:

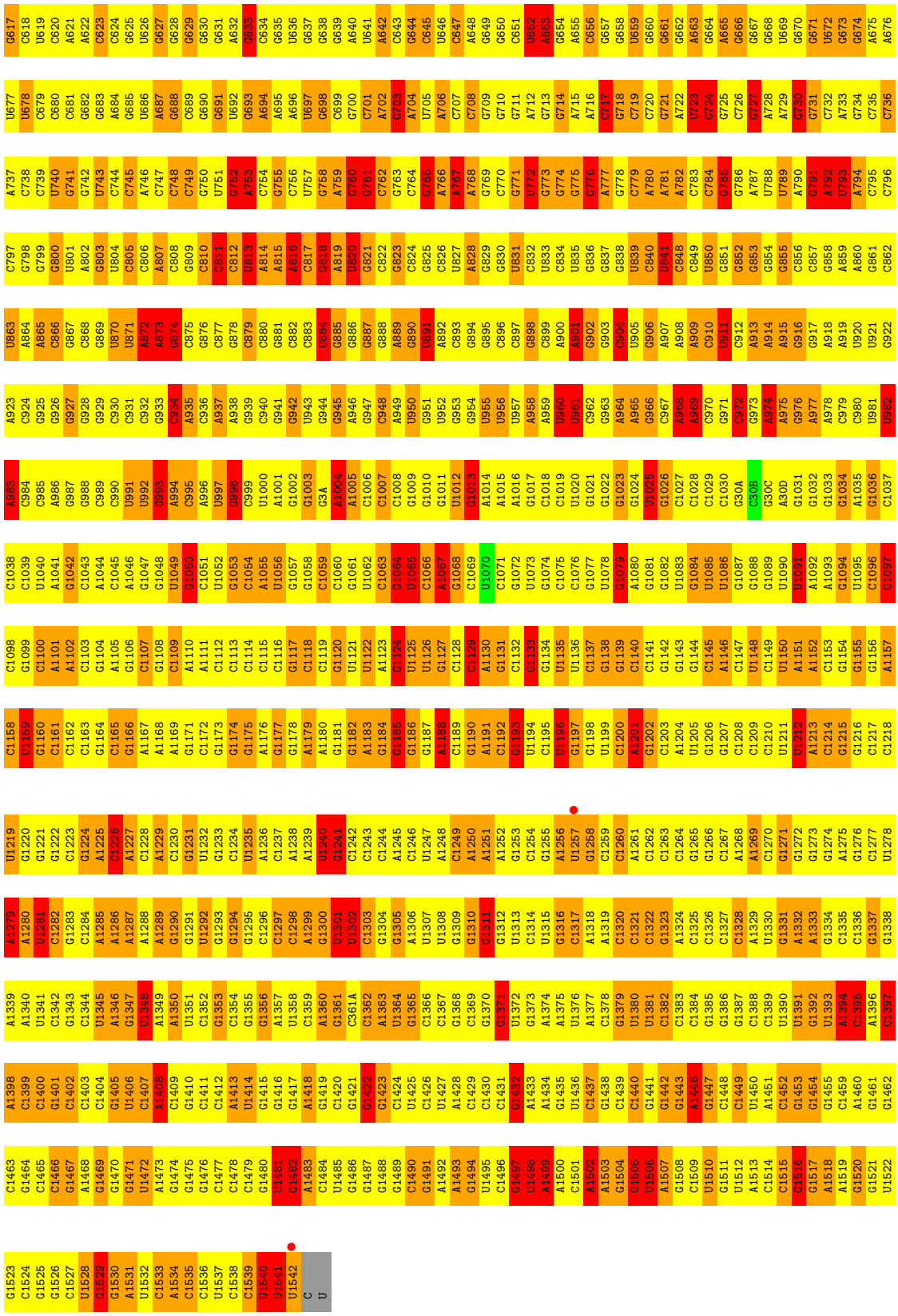


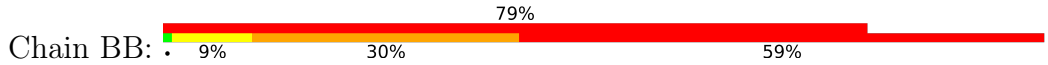

• Molecule 34: 16S rRNA

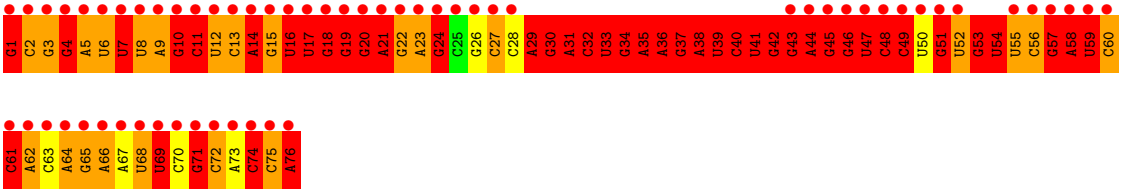
Chain BA:





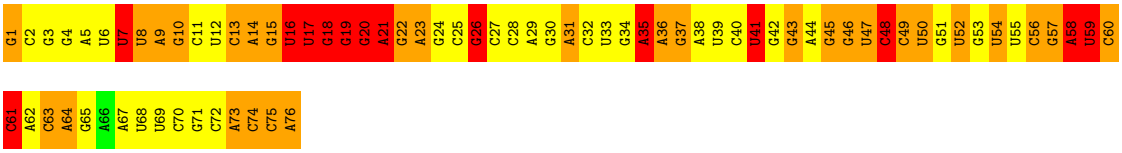
• Molecule 35: tRNA Phe (unmodified bases)





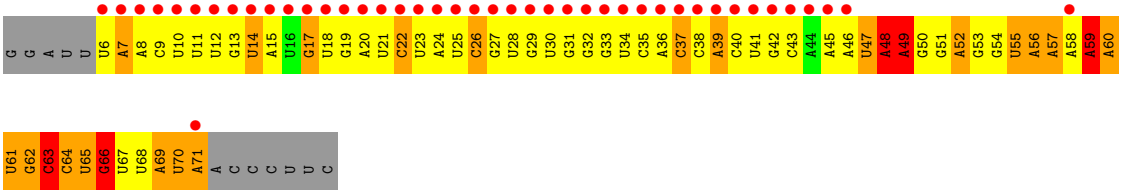

• Molecule 35: tRNA Phe (unmodified bases)

Chain BC:



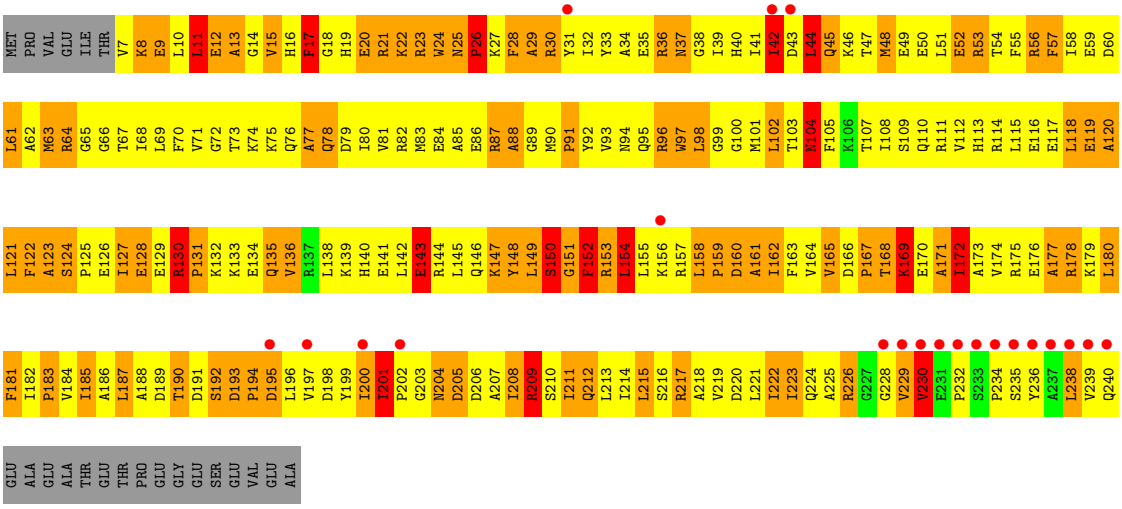

• Molecule 36: thrS mRNA operator

Chain B1:



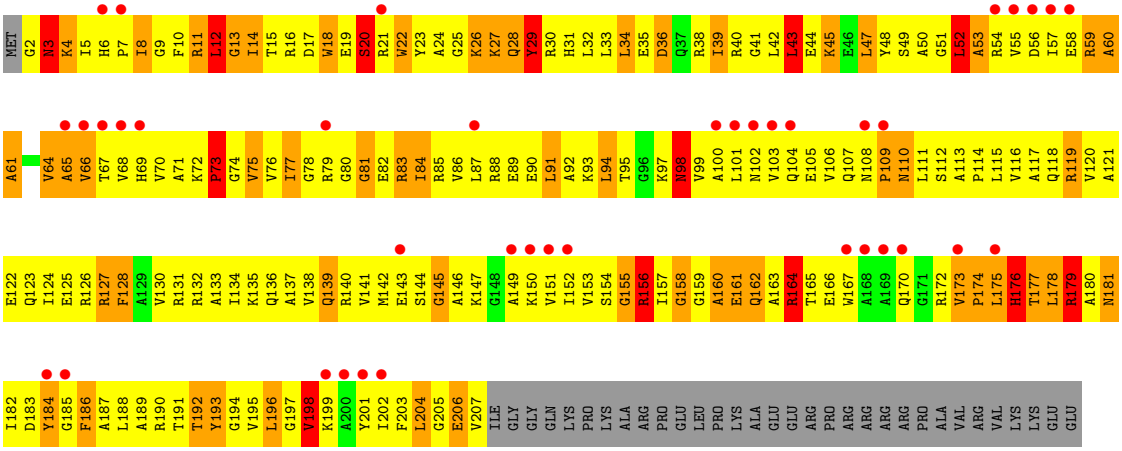

• Molecule 37: 30S ribosomal protein S2

Chain BE:



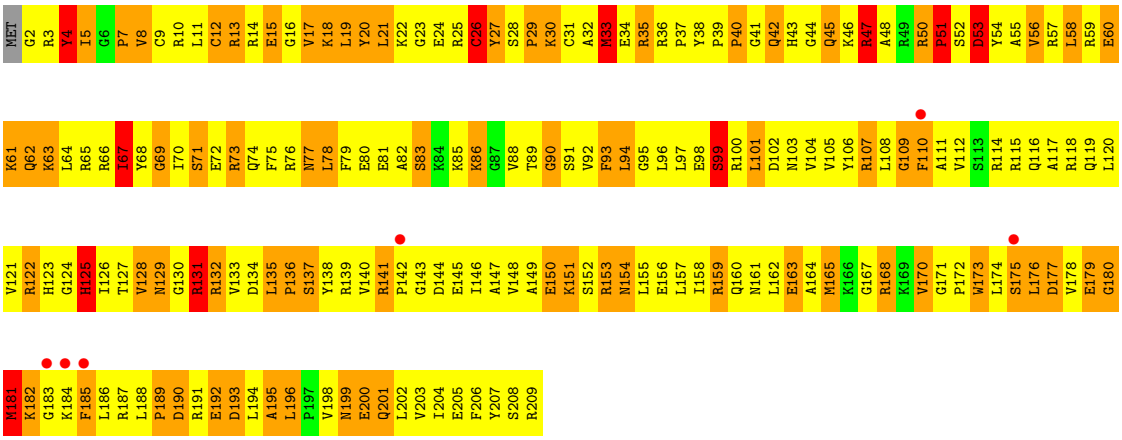

• Molecule 38: 30S ribosomal protein S3

Chain BF:



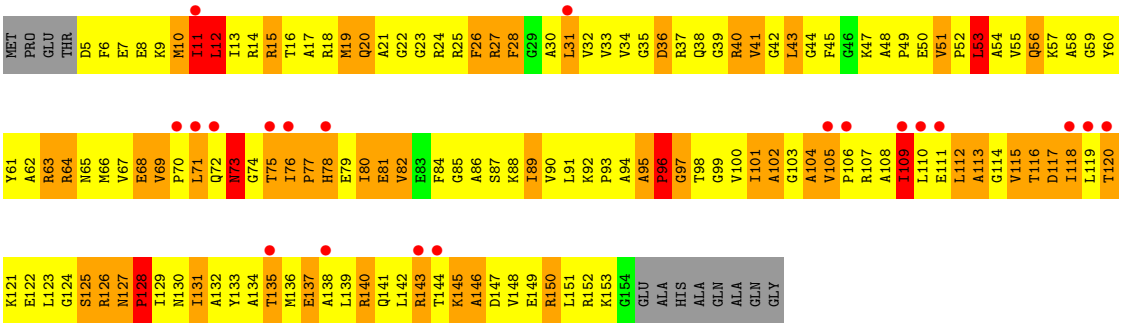

- Molecule 39: 30S ribosomal protein S4

Chain BG:



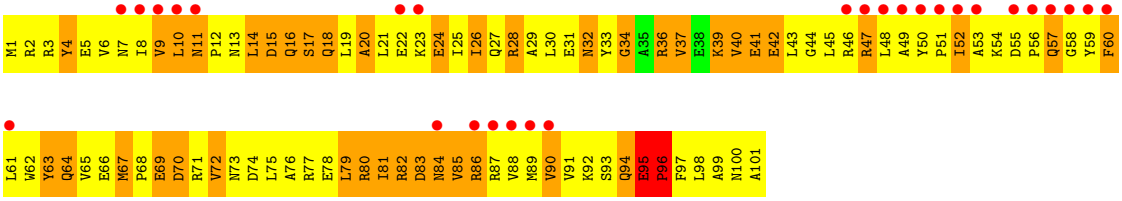

- Molecule 40: 30S ribosomal protein S5

Chain BH:



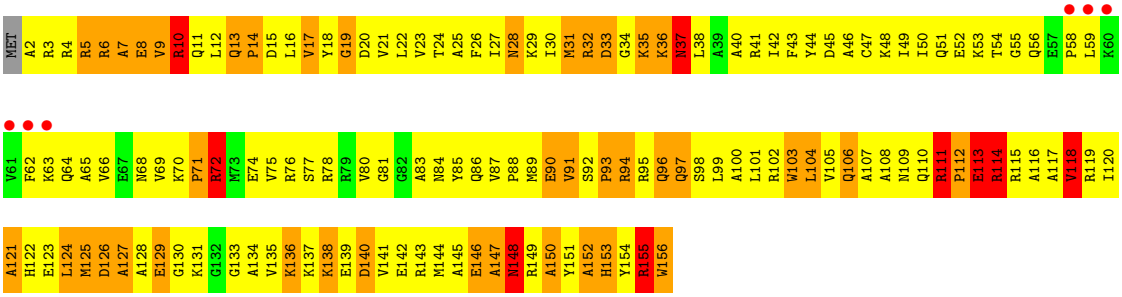

- Molecule 41: 30S ribosomal protein S6

Chain BI:



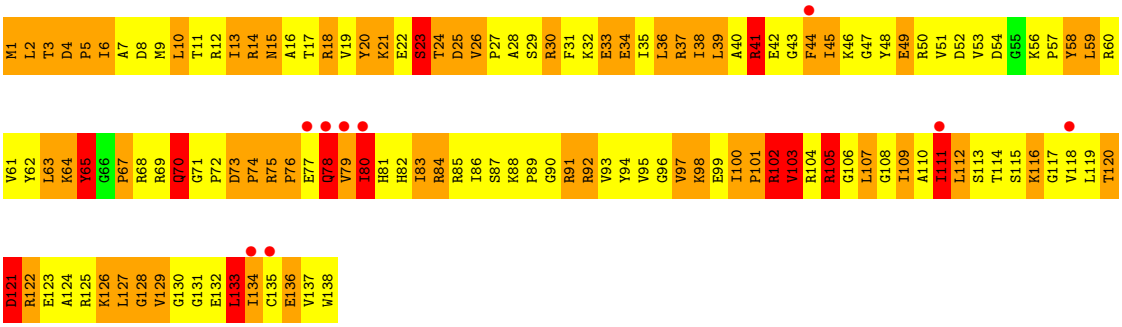

- Molecule 42: 30S ribosomal protein S7

Chain BJ:



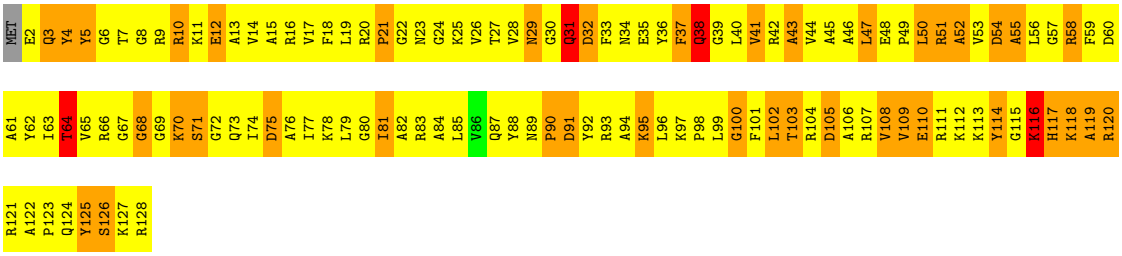

- Molecule 43: 30S ribosomal protein S8

Chain BK:



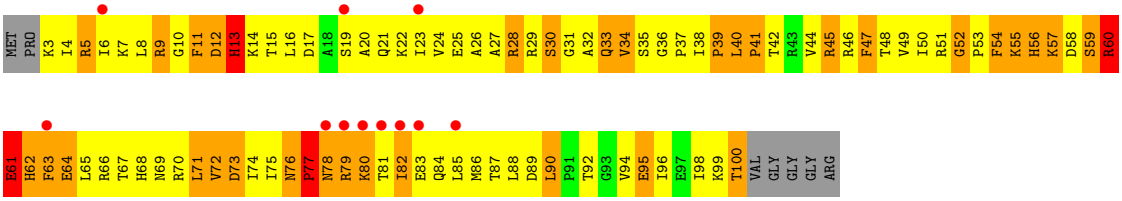

- Molecule 44: 30S ribosomal protein S9

Chain BL:



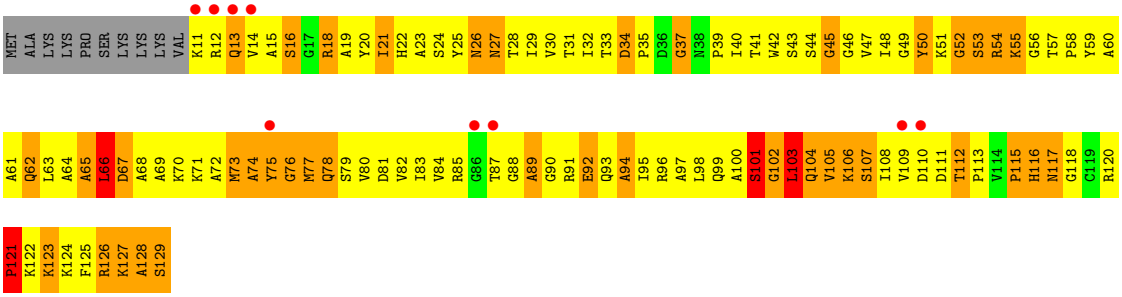

- Molecule 45: 30S ribosomal protein S10

Chain BM:



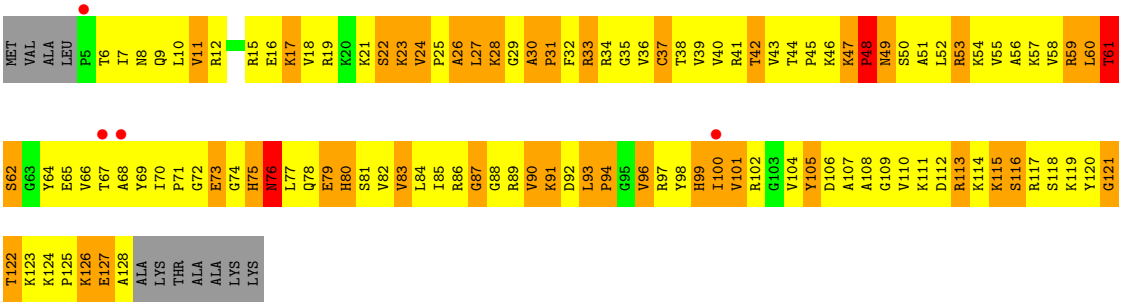

- Molecule 46: 30S ribosomal protein S11

Chain BN:



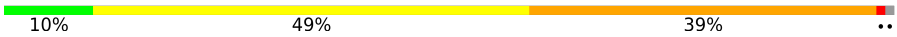

- Molecule 47: 30S ribosomal protein S12

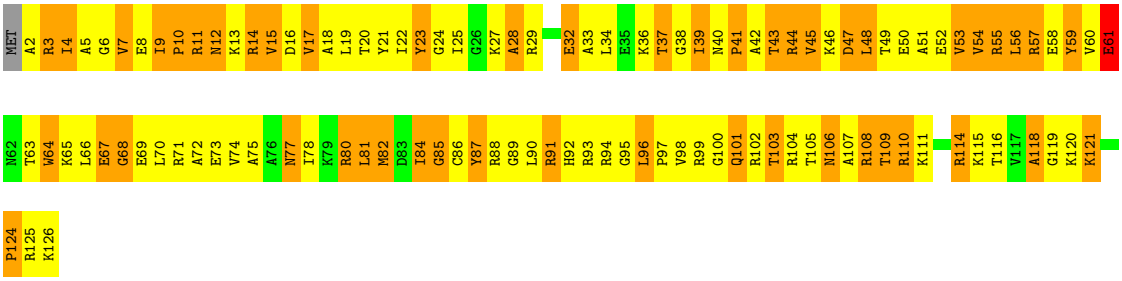
Chain BO:




- Molecule 48: 30S ribosomal protein S13

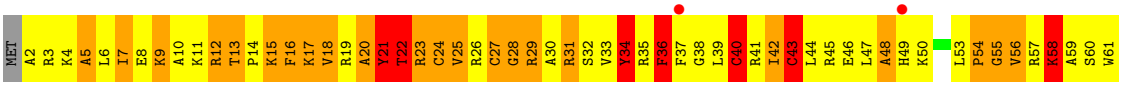
Chain BP:



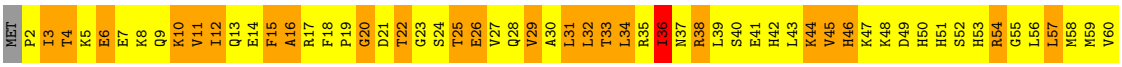

- Molecule 49: 30S ribosomal protein S14

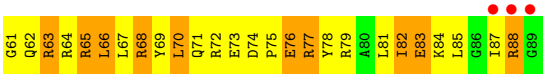
Chain BQ:




• Molecule 50: 30S ribosomal protein S15

Chain BR:




• Molecule 51: 30S ribosomal protein S16

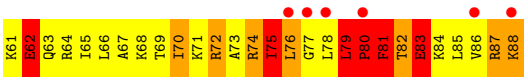
Chain BS:

• Molecule 52: 30S ribosomal protein S17

Chain BT:

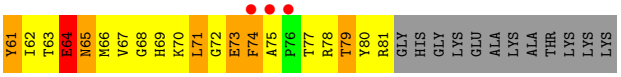
• Molecule 53: 30S ribosomal protein S18

Chain BU:



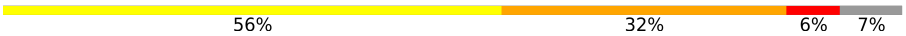

• Molecule 54: 30S ribosomal protein S19

Chain BV:



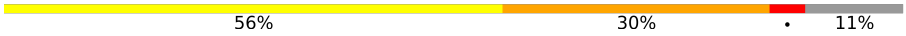

- Molecule 55: 30S ribosomal protein S20

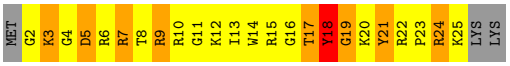
Chain BW:



- Molecule 56: 30S ribosomal protein Thx

Chain BX:



# 4 Data and refinement statistics (i)

| Property | Value | Source |
|---|---|---|
| Space group | I 4 2 2 | Depositor |
| Cell constants<br>a, b, c, $\alpha$, $\beta$, $\gamma$ | 508.64Å 508.64Å 806.25Å<br>90.00° 90.00° 90.00° | Depositor |
| Resolution (Å) | 300.00 – 5.50<br>268.38 – 5.50 | Depositor<br>EDS |
| % Data completeness<br>(in resolution range) | 94.6 (300.00-5.50)<br>97.5 (268.38-5.50) | Depositor<br>EDS |
| $R_{merge}$ | 0.10 | Depositor |
| $R_{sym}$ | 0.10 | Depositor |
| $< I/\sigma(I) >$ [1] | 2.17 (at 5.42Å) | Xtriage |
| Refinement program | CNS | Depositor |
| R, $R_{free}$ | 0.307 , 0.356<br>0.288 , 0.330 | Depositor<br>DCC |
| $R_{free}$ test set | 7724 reflections (4.56%) | wwPDB-VP |
| Wilson B-factor (Å$^2$) | 206.2 | Xtriage |
| Anisotropy | 0.054 | Xtriage |
| Bulk solvent $k_{sol}$(e/Å$^3$), $B_{sol}$(Å$^2$) | 0.11 , 178.3 | EDS |
| L-test for twinning[2] | $< \|L\| > = 0.52$, $< L^2 > = 0.36$ | Xtriage |
| Estimated twinning fraction | No twinning to report. | Xtriage |
| $F_o$,$F_c$ correlation | 0.92 | EDS |
| Total number of atoms | 148539 | wwPDB-VP |
| Average B, all atoms (Å$^2$) | 338.0 | wwPDB-VP |

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.74% of the height of the origin peak. No significant pseudotranslation is detected.*

[1]Intensities estimated from amplitudes.

[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

# 5 Model quality (i)

## 5.1 Standard geometry (i)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #\|Z\| >5 | RMSZ | #\|Z\| >5 |
| 1 | AB | 0.95 | 1/2954 (0.0%) | 1.06 | 7/4606 (0.2%) |
| 2 | AA | 1.16 | 181/69267 (0.3%) | 1.22 | 549/108130 (0.5%) |
| 3 | AC | 0.62 | 0/1715 | 0.94 | 2/2310 (0.1%) |
| 4 | AD | 1.11 | 6/1329 (0.5%) | 1.52 | 22/1787 (1.2%) |
| 5 | AE | 1.04 | 3/1542 (0.2%) | 1.41 | 21/2084 (1.0%) |
| 6 | AF | 0.82 | 0/1446 | 1.26 | 14/1960 (0.7%) |
| 7 | AG | 0.83 | 0/972 | 1.20 | 6/1307 (0.5%) |
| 8 | AH | 0.76 | 0/1272 | 1.13 | 1/1721 (0.1%) |
| 9 | AI | 0.48 | 0/950 | 0.72 | 0/1275 |
| 9 | AJ | 0.43 | 0/950 | 0.68 | 0/1275 |
| 10 | AK | 0.73 | 0/1157 | 1.17 | 8/1547 (0.5%) |
| 11 | AL | 0.48 | 0/1015 | 0.91 | 4/1366 (0.3%) |
| 12 | AM | 1.04 | 2/928 (0.2%) | 1.23 | 2/1248 (0.2%) |
| 13 | AN | 1.06 | 2/946 (0.2%) | 1.43 | 14/1269 (1.1%) |
| 14 | AO | 0.67 | 0/643 | 1.30 | 9/870 (1.0%) |
| 15 | AP | 1.04 | 1/1109 (0.1%) | 1.43 | 16/1499 (1.1%) |
| 16 | AQ | 0.71 | 0/880 | 1.23 | 5/1189 (0.4%) |
| 17 | AR | 1.37 | 4/413 (1.0%) | 2.01 | 18/557 (3.2%) |
| 18 | AS | 0.81 | 0/869 | 1.19 | 3/1166 (0.3%) |
| 19 | AT | 0.76 | 0/609 | 1.05 | 0/823 |
| 20 | AU | 0.46 | 0/887 | 0.89 | 0/1195 |
| 21 | AV | 0.71 | 0/1385 | 1.10 | 7/1883 (0.4%) |
| 22 | AW | 0.73 | 0/497 | 1.05 | 1/668 (0.1%) |
| 23 | AX | 0.81 | 0/482 | 1.18 | 2/646 (0.3%) |
| 24 | A0 | 0.86 | 0/867 | 1.24 | 3/1162 (0.3%) |
| 25 | A1 | 1.03 | 0/994 | 1.33 | 6/1323 (0.5%) |
| 26 | A2 | 0.71 | 0/797 | 1.14 | 4/1061 (0.4%) |
| 27 | A3 | 0.72 | 0/649 | 1.14 | 3/860 (0.3%) |
| 28 | A4 | 0.97 | 1/620 (0.2%) | 1.18 | 4/831 (0.5%) |
| 29 | A5 | 0.79 | 0/469 | 1.41 | 5/629 (0.8%) |
| 30 | A6 | 0.93 | 0/438 | 1.25 | 4/583 (0.7%) |
| 31 | A7 | 0.78 | 0/387 | 1.05 | 0/509 |
| 32 | A8 | 0.98 | 2/503 (0.4%) | 1.48 | 8/657 (1.2%) |
| 33 | A9 | 1.36 | 1/286 (0.3%) | 1.44 | 4/375 (1.1%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #\|Z\| >5 | RMSZ | #\|Z\| >5 |
| 34 | BA | 1.03 | 30/36438 (0.1%) | 1.17 | 167/56869 (0.3%) |
| 35 | BB | 2.33 | 76/1818 (4.2%) | 2.48 | 157/2831 (5.5%) |
| 35 | BC | 1.09 | 5/1818 (0.3%) | 1.11 | 7/2831 (0.2%) |
| 36 | B1 | 1.14 | 7/1571 (0.4%) | 0.96 | 7/2445 (0.3%) |
| 37 | BE | 0.75 | 0/1935 | 1.06 | 3/2609 (0.1%) |
| 38 | BF | 0.62 | 0/1636 | 0.99 | 5/2205 (0.2%) |
| 39 | BG | 0.86 | 2/1733 (0.1%) | 1.16 | 4/2318 (0.2%) |
| 40 | BH | 0.85 | 0/1162 | 1.12 | 1/1564 (0.1%) |
| 41 | BI | 0.78 | 0/856 | 1.06 | 1/1154 (0.1%) |
| 42 | BJ | 0.70 | 1/1276 (0.1%) | 1.00 | 6/1709 (0.4%) |
| 43 | BK | 0.81 | 0/1136 | 1.18 | 5/1527 (0.3%) |
| 44 | BL | 0.52 | 0/1029 | 0.86 | 1/1378 (0.1%) |
| 45 | BM | 0.58 | 0/807 | 0.94 | 2/1085 (0.2%) |
| 46 | BN | 0.75 | 0/900 | 1.04 | 0/1213 |
| 47 | BO | 0.78 | 0/986 | 1.22 | 3/1320 (0.2%) |
| 48 | BP | 0.59 | 0/1008 | 0.98 | 0/1347 |
| 49 | BQ | 0.83 | 1/501 (0.2%) | 1.09 | 2/664 (0.3%) |
| 50 | BR | 0.74 | 0/745 | 1.05 | 2/992 (0.2%) |
| 51 | BS | 0.81 | 0/716 | 1.10 | 3/963 (0.3%) |
| 52 | BT | 0.82 | 0/870 | 1.11 | 2/1159 (0.2%) |
| 53 | BU | 0.72 | 0/603 | 1.18 | 2/799 (0.3%) |
| 54 | BV | 0.59 | 0/661 | 0.98 | 1/890 (0.1%) |
| 55 | BW | 0.84 | 0/764 | 1.12 | 2/1006 (0.2%) |
| 56 | BX | 0.45 | 0/212 | 0.81 | 0/277 |
| All | All | 1.05 | 326/161408 (0.2%) | 1.21 | 1135/241526 (0.5%) |

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 1 | AB | 0 | 14 |
| 2 | AA | 0 | 527 |
| 4 | AD | 0 | 1 |
| 5 | AE | 0 | 1 |
| 6 | AF | 0 | 1 |
| 7 | AG | 0 | 2 |
| 12 | AM | 0 | 2 |
| 13 | AN | 0 | 2 |
| 14 | AO | 0 | 2 |
| 16 | AQ | 0 | 1 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 23 | AX | 0 | 1 |
| 25 | A1 | 0 | 3 |
| 26 | A2 | 0 | 1 |
| 28 | A4 | 0 | 1 |
| 30 | A6 | 0 | 1 |
| 34 | BA | 0 | 220 |
| 35 | BB | 0 | 35 |
| 35 | BC | 0 | 12 |
| 36 | B1 | 0 | 4 |
| 38 | BF | 0 | 1 |
| 39 | BG | 0 | 1 |
| 41 | BI | 0 | 1 |
| 43 | BK | 0 | 1 |
| 48 | BP | 0 | 1 |
| 51 | BS | 0 | 2 |
| All | All | 0 | 838 |

All (326) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 142 | G | C5-C6 | 27.73 | 1.70 | 1.42 |
| 36 | B1 | 48 | A | C5-C6 | 27.45 | 1.65 | 1.41 |
| 35 | BB | 37 | G | C2-N2 | 18.34 | 1.52 | 1.34 |
| 34 | BA | 1541 | U | C4-C5 | 17.23 | 1.59 | 1.43 |
| 2 | AA | 142 | G | C2-N3 | 16.69 | 1.46 | 1.32 |
| 35 | BB | 36 | A | C2'-C1' | 16.25 | 1.71 | 1.53 |
| 34 | BA | 1541 | U | C5-C6 | 16.13 | 1.48 | 1.34 |
| 35 | BB | 34 | G | N9-C4 | -15.91 | 1.25 | 1.38 |
| 34 | BA | 1541 | U | C2-N3 | 15.64 | 1.48 | 1.37 |
| 35 | BB | 34 | G | C5-C4 | 15.44 | 1.49 | 1.38 |
| 36 | B1 | 48 | A | C2-N3 | 15.28 | 1.47 | 1.33 |
| 35 | BB | 40 | C | N1-C2 | 15.22 | 1.55 | 1.40 |
| 33 | A9 | 11 | CYS | CB-SG | 14.32 | 2.06 | 1.82 |
| 36 | B1 | 48 | A | N1-C2 | 14.23 | 1.47 | 1.34 |
| 35 | BB | 37 | G | C6-O6 | -13.99 | 1.11 | 1.24 |
| 2 | AA | 142 | G | C2-N2 | 13.75 | 1.48 | 1.34 |
| 2 | AA | 137 | C | C5-C6 | 13.62 | 1.45 | 1.34 |
| 2 | AA | 137 | C | C4-N4 | 13.09 | 1.45 | 1.33 |
| 36 | B1 | 48 | A | C6-N1 | 13.01 | 1.44 | 1.35 |
| 34 | BA | 1064 | G | C2-N3 | 12.14 | 1.42 | 1.32 |
| 35 | BB | 36 | A | O3'-P | -11.71 | 1.47 | 1.61 |
| 2 | AA | 142 | G | C6-N1 | 11.46 | 1.47 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 983 | A | C3'-O3' | 11.45 | 1.58 | 1.42 |
| 35 | BB | 24 | G | C2-N2 | -11.26 | 1.23 | 1.34 |
| 2 | AA | 1359 | A | C6-N1 | -11.19 | 1.27 | 1.35 |
| 35 | BB | 37 | G | C2-N3 | -10.96 | 1.24 | 1.32 |
| 2 | AA | 1359 | A | C6-N6 | -10.67 | 1.25 | 1.33 |
| 35 | BB | 71 | G | N3-C4 | 10.13 | 1.42 | 1.35 |
| 2 | AA | 974(A) | C | C2-N3 | 10.07 | 1.43 | 1.35 |
| 2 | AA | 1823 | G | C6-O6 | 9.95 | 1.33 | 1.24 |
| 35 | BB | 71 | G | N7-C5 | 9.79 | 1.45 | 1.39 |
| 35 | BB | 39 | U | N1-C2 | 9.58 | 1.47 | 1.38 |
| 2 | AA | 1796 | U | C4-O4 | 9.46 | 1.31 | 1.23 |
| 35 | BB | 18 | G | C5-C6 | -9.39 | 1.32 | 1.42 |
| 35 | BB | 59 | U | N1-C2 | -9.28 | 1.30 | 1.38 |
| 2 | AA | 775 | G | N9-C4 | 9.18 | 1.45 | 1.38 |
| 36 | B1 | 48 | A | C6-N6 | 9.11 | 1.41 | 1.33 |
| 35 | BB | 34 | G | C2-N2 | 9.09 | 1.43 | 1.34 |
| 2 | AA | 687 | C | N1-C2 | 9.09 | 1.49 | 1.40 |
| 34 | BA | 1064 | G | N1-C2 | 9.07 | 1.45 | 1.37 |
| 4 | AD | 82 | TYR | CB-CG | 8.94 | 1.65 | 1.51 |
| 2 | AA | 142 | G | N7-C5 | 8.92 | 1.44 | 1.39 |
| 35 | BB | 19 | G | C5-C6 | 8.92 | 1.51 | 1.42 |
| 2 | AA | 775 | G | C2-N3 | 8.91 | 1.39 | 1.32 |
| 2 | AA | 1785 | A | C6-N6 | -8.85 | 1.26 | 1.33 |
| 35 | BB | 34 | G | C6-O6 | -8.83 | 1.16 | 1.24 |
| 2 | AA | 992 | C | N1-C2 | 8.53 | 1.48 | 1.40 |
| 2 | AA | 791 | C | O3'-P | -8.51 | 1.50 | 1.61 |
| 35 | BB | 45 | G | N9-C4 | 8.48 | 1.44 | 1.38 |
| 35 | BB | 39 | U | C5'-C4' | -8.44 | 1.41 | 1.51 |
| 32 | A8 | 55 | TRP | CB-CG | 8.35 | 1.65 | 1.50 |
| 2 | AA | 1667 | G | N9-C4 | 8.29 | 1.44 | 1.38 |
| 34 | BA | 1494 | G | C6-O6 | 8.26 | 1.31 | 1.24 |
| 2 | AA | 1625 | C | N1-C2 | 8.25 | 1.48 | 1.40 |
| 2 | AA | 1668 | A | C3'-O3' | 8.22 | 1.53 | 1.42 |
| 35 | BB | 57 | G | N9-C4 | -8.22 | 1.31 | 1.38 |
| 2 | AA | 1626 | G | C5'-C4' | 8.20 | 1.61 | 1.51 |
| 2 | AA | 983 | A | O3'-P | 8.01 | 1.70 | 1.61 |
| 2 | AA | 1083 | U | O3'-P | 8.00 | 1.70 | 1.61 |
| 2 | AA | 137 | C | N3-C4 | -7.96 | 1.28 | 1.33 |
| 2 | AA | 974(A) | C | C5-C6 | 7.87 | 1.40 | 1.34 |
| 2 | AA | 1378 | A | C5-C6 | -7.83 | 1.34 | 1.41 |
| 34 | BA | 1064 | G | C5-C6 | -7.77 | 1.34 | 1.42 |
| 35 | BB | 35 | A | C2'-C1' | 7.71 | 1.61 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1303 | G | C2-N3 | 7.68 | 1.38 | 1.32 |
| 35 | BB | 34 | G | N3-C4 | -7.64 | 1.30 | 1.35 |
| 1 | AB | -1 | A | OP3-P | -7.61 | 1.52 | 1.61 |
| 34 | BA | 579 | G | O3'-P | 7.61 | 1.70 | 1.61 |
| 2 | AA | 2559 | C | N1-C2 | -7.57 | 1.32 | 1.40 |
| 2 | AA | 974(A) | C | C1'-N1 | 7.56 | 1.60 | 1.48 |
| 35 | BB | 5 | A | C5'-C4' | 7.56 | 1.60 | 1.51 |
| 35 | BB | 37 | G | C5-C6 | -7.52 | 1.34 | 1.42 |
| 35 | BB | 37 | G | C8-N7 | 7.52 | 1.35 | 1.30 |
| 2 | AA | 1 | G | OP3-P | -7.51 | 1.52 | 1.61 |
| 39 | BG | 12 | CYS | CA-CB | 7.50 | 1.70 | 1.53 |
| 2 | AA | 1372 | U | N3-C4 | 7.49 | 1.45 | 1.38 |
| 2 | AA | 2195 | C | C3'-O3' | 7.42 | 1.52 | 1.42 |
| 2 | AA | 142 | G | C6-O6 | -7.38 | 1.17 | 1.24 |
| 28 | A4 | 43 | TRP | CB-CG | 7.36 | 1.63 | 1.50 |
| 2 | AA | 1083 | U | C3'-O3' | 7.28 | 1.52 | 1.42 |
| 2 | AA | 2497 | A | C5-C6 | -7.25 | 1.34 | 1.41 |
| 35 | BB | 16 | U | N1-C2 | 7.22 | 1.45 | 1.38 |
| 2 | AA | 2295 | C | N1-C2 | 7.16 | 1.47 | 1.40 |
| 2 | AA | 1303 | G | N9-C4 | 7.14 | 1.43 | 1.38 |
| 2 | AA | 990 | A | N9-C4 | 7.14 | 1.42 | 1.37 |
| 2 | AA | 295 | G | C6-O6 | 7.11 | 1.30 | 1.24 |
| 2 | AA | 974(A) | C | O3'-P | 7.06 | 1.69 | 1.61 |
| 42 | BJ | 156 | TRP | NE1-CE2 | -7.06 | 1.28 | 1.37 |
| 35 | BB | 1 | G | OP3-P | -7.06 | 1.52 | 1.61 |
| 2 | AA | 984 | A | C5'-C4' | 7.04 | 1.59 | 1.51 |
| 2 | AA | 1668 | A | O3'-P | 7.04 | 1.69 | 1.61 |
| 35 | BB | 18 | G | N9-C4 | -7.03 | 1.32 | 1.38 |
| 35 | BB | 40 | C | C2-O2 | 6.94 | 1.30 | 1.24 |
| 35 | BB | 38 | A | N9-C4 | 6.93 | 1.42 | 1.37 |
| 34 | BA | 1064 | G | C2-N2 | 6.92 | 1.41 | 1.34 |
| 2 | AA | 1796 | U | C5-C6 | 6.91 | 1.40 | 1.34 |
| 2 | AA | 983 | A | C3'-C2' | 6.91 | 1.60 | 1.52 |
| 2 | AA | 688 | U | C4-O4 | -6.87 | 1.18 | 1.23 |
| 2 | AA | 1516 | U | N1-C2 | -6.83 | 1.32 | 1.38 |
| 34 | BA | 1192 | C | N1-C2 | 6.82 | 1.47 | 1.40 |
| 2 | AA | 1938 | A | N9-C4 | -6.79 | 1.33 | 1.37 |
| 2 | AA | 2698 | U | C2-O2 | 6.76 | 1.28 | 1.22 |
| 2 | AA | 1241 | A | C5-C6 | -6.72 | 1.35 | 1.41 |
| 35 | BB | 34 | G | C3'-C2' | 6.66 | 1.60 | 1.52 |
| 2 | AA | 343 | C | C2-O2 | 6.65 | 1.30 | 1.24 |
| 4 | AD | 205 | VAL | CA-CB | 6.63 | 1.68 | 1.54 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 34 | BA | 579 | G | C3'-O3' | 6.63 | 1.51 | 1.42 |
| 2 | AA | 950 | G | N9-C4 | -6.61 | 1.32 | 1.38 |
| 35 | BB | 18 | G | C2-N3 | -6.59 | 1.27 | 1.32 |
| 2 | AA | 2595 | G | N9-C4 | 6.50 | 1.43 | 1.38 |
| 2 | AA | 969 | U | C3'-O3' | 6.49 | 1.51 | 1.42 |
| 2 | AA | 2665 | A | C6-N6 | -6.47 | 1.28 | 1.33 |
| 2 | AA | 739 | G | N9-C4 | 6.47 | 1.43 | 1.38 |
| 4 | AD | 82 | TYR | CD1-CE1 | 6.46 | 1.49 | 1.39 |
| 35 | BB | 37 | G | C6-N1 | 6.46 | 1.44 | 1.39 |
| 2 | AA | 2494 | G | C5'-C4' | 6.45 | 1.59 | 1.51 |
| 2 | AA | 775 | G | C3'-O3' | 6.44 | 1.51 | 1.42 |
| 2 | AA | 137 | C | C1'-N1 | 6.44 | 1.58 | 1.48 |
| 2 | AA | 1763 | G | C6-O6 | 6.43 | 1.29 | 1.24 |
| 2 | AA | 2061 | G | N9-C4 | 6.42 | 1.43 | 1.38 |
| 2 | AA | 295 | G | C2-N2 | 6.40 | 1.41 | 1.34 |
| 2 | AA | 1170 | G | N9-C4 | -6.39 | 1.32 | 1.38 |
| 2 | AA | 770 | G | C5-C6 | -6.37 | 1.35 | 1.42 |
| 35 | BB | 1 | G | C5-C6 | -6.37 | 1.35 | 1.42 |
| 2 | AA | 2856 | C | N1-C2 | 6.35 | 1.46 | 1.40 |
| 36 | B1 | 48 | A | N7-C5 | 6.33 | 1.43 | 1.39 |
| 5 | AE | 220 | GLN | CB-CG | 6.32 | 1.69 | 1.52 |
| 17 | AR | 12 | ASP | CB-CG | 6.30 | 1.65 | 1.51 |
| 36 | B1 | 48 | A | N9-C4 | 6.29 | 1.41 | 1.37 |
| 2 | AA | 974(A) | C | C3'-O3' | 6.28 | 1.50 | 1.42 |
| 2 | AA | 1796 | U | C2-N3 | 6.26 | 1.42 | 1.37 |
| 2 | AA | 2822 | G | N9-C4 | -6.24 | 1.32 | 1.38 |
| 2 | AA | 1699 | G | C6-O6 | -6.21 | 1.18 | 1.24 |
| 2 | AA | 1786 | A | C5'-C4' | -6.21 | 1.43 | 1.51 |
| 35 | BB | 71 | G | C8-N7 | -6.19 | 1.27 | 1.30 |
| 35 | BB | 41 | U | P-OP2 | -6.17 | 1.38 | 1.49 |
| 34 | BA | 361 | G | N9-C4 | 6.15 | 1.42 | 1.38 |
| 35 | BB | 41 | U | N1-C2 | -6.15 | 1.33 | 1.38 |
| 35 | BB | 48 | C | N1-C2 | 6.15 | 1.46 | 1.40 |
| 17 | AR | 37 | GLU | CB-CG | 6.12 | 1.63 | 1.52 |
| 2 | AA | 1997 | G | C5'-C4' | 6.11 | 1.58 | 1.51 |
| 4 | AD | 214 | MET | CG-SD | 6.10 | 1.97 | 1.81 |
| 2 | AA | 561 | G | C5-C6 | -6.08 | 1.36 | 1.42 |
| 2 | AA | 1779 | U | N3-C4 | 6.04 | 1.43 | 1.38 |
| 35 | BB | 19 | G | C5'-C4' | 6.04 | 1.58 | 1.51 |
| 13 | AN | 84 | CYS | CB-SG | -6.03 | 1.72 | 1.82 |
| 2 | AA | 2041 | U | N1-C2 | -6.00 | 1.33 | 1.38 |
| 35 | BB | 56 | C | N3-C4 | 6.00 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1785 | A | C5-C6 | -6.00 | 1.35 | 1.41 |
| 17 | AR | 11 | THR | C-O | 5.98 | 1.34 | 1.23 |
| 34 | BA | 823 | G | N9-C4 | -5.98 | 1.33 | 1.38 |
| 35 | BB | 34 | G | C5'-C4' | 5.97 | 1.58 | 1.51 |
| 2 | AA | 1492 | G | N9-C4 | 5.97 | 1.42 | 1.38 |
| 34 | BA | 811 | C | C2-N3 | 5.96 | 1.40 | 1.35 |
| 2 | AA | 1786 | A | N9-C4 | -5.96 | 1.34 | 1.37 |
| 35 | BB | 34 | G | O3'-P | -5.96 | 1.54 | 1.61 |
| 2 | AA | 1303 | G | C5-C6 | 5.95 | 1.48 | 1.42 |
| 2 | AA | 137 | C | N1-C6 | -5.94 | 1.33 | 1.37 |
| 2 | AA | 974(A) | C | C3'-C2' | 5.93 | 1.59 | 1.52 |
| 2 | AA | 344 | G | C6-N1 | 5.93 | 1.43 | 1.39 |
| 4 | AD | 83 | ASP | C-O | 5.93 | 1.34 | 1.23 |
| 2 | AA | 343 | C | C4-N4 | 5.91 | 1.39 | 1.33 |
| 2 | AA | 984 | A | C4'-C3' | 5.90 | 1.59 | 1.53 |
| 35 | BB | 58 | A | N9-C4 | 5.87 | 1.41 | 1.37 |
| 34 | BA | 354 | G | N9-C4 | 5.87 | 1.42 | 1.38 |
| 2 | AA | 1489 | U | C2-O2 | 5.85 | 1.27 | 1.22 |
| 35 | BB | 59 | U | C2-O2 | -5.85 | 1.17 | 1.22 |
| 4 | AD | 234 | HIS | CA-C | 5.83 | 1.68 | 1.52 |
| 2 | AA | 739 | G | C2-N3 | 5.83 | 1.37 | 1.32 |
| 35 | BB | 37 | G | N3-C4 | -5.83 | 1.31 | 1.35 |
| 34 | BA | 292 | G | C5-C6 | -5.82 | 1.36 | 1.42 |
| 35 | BB | 54 | U | C5-C6 | -5.82 | 1.28 | 1.34 |
| 34 | BA | 47 | C | N1-C2 | 5.80 | 1.46 | 1.40 |
| 2 | AA | 946 | G | C2-N3 | 5.80 | 1.37 | 1.32 |
| 12 | AM | 7 | ASP | CB-CG | 5.80 | 1.64 | 1.51 |
| 35 | BB | 57 | G | C2-N3 | -5.80 | 1.28 | 1.32 |
| 2 | AA | 2581 | G | C5-C6 | -5.80 | 1.36 | 1.42 |
| 2 | AA | 2486 | G | C6-O6 | 5.79 | 1.29 | 1.24 |
| 2 | AA | 1665 | A | C6-N6 | -5.77 | 1.29 | 1.33 |
| 2 | AA | 2508 | G | N9-C4 | -5.75 | 1.33 | 1.38 |
| 13 | AN | 32 | TYR | CD1-CE1 | -5.72 | 1.30 | 1.39 |
| 2 | AA | 1656 | C | C5'-C4' | -5.71 | 1.44 | 1.51 |
| 2 | AA | 2615 | U | C4-O4 | -5.71 | 1.19 | 1.23 |
| 2 | AA | 1161 | C | N1-C2 | 5.71 | 1.45 | 1.40 |
| 2 | AA | 2196 | C | C5'-C4' | 5.69 | 1.58 | 1.51 |
| 2 | AA | 2894 | G | C5-C6 | 5.69 | 1.48 | 1.42 |
| 2 | AA | 1823 | G | N1-C2 | 5.68 | 1.42 | 1.37 |
| 2 | AA | 2695 | C | N1-C2 | -5.67 | 1.34 | 1.40 |
| 35 | BB | 71 | G | C5-C6 | -5.67 | 1.36 | 1.42 |
| 35 | BC | 1 | G | OP3-P | -5.67 | 1.54 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1026 | U | N1-C2 | 5.66 | 1.43 | 1.38 |
| 2 | AA | 2460 | U | N1-C2 | -5.66 | 1.33 | 1.38 |
| 2 | AA | 1796 | U | N3-C4 | 5.66 | 1.43 | 1.38 |
| 35 | BB | 33 | U | N1-C6 | 5.65 | 1.43 | 1.38 |
| 35 | BB | 40 | C | C2'-C1' | 5.65 | 1.59 | 1.53 |
| 2 | AA | 1625 | C | C3'-O3' | 5.65 | 1.50 | 1.42 |
| 2 | AA | 329 | G | N9-C4 | -5.64 | 1.33 | 1.38 |
| 2 | AA | 775 | G | C2-N2 | 5.64 | 1.40 | 1.34 |
| 2 | AA | 745 | G | N9-C4 | -5.64 | 1.33 | 1.38 |
| 2 | AA | 2580 | U | C5'-C4' | -5.62 | 1.44 | 1.51 |
| 2 | AA | 871 | U | C2-O2 | -5.62 | 1.17 | 1.22 |
| 34 | BA | 633 | G | N9-C4 | -5.60 | 1.33 | 1.38 |
| 34 | BA | 167 | G | N9-C4 | -5.60 | 1.33 | 1.38 |
| 35 | BB | 34 | G | C6-N1 | 5.60 | 1.43 | 1.39 |
| 35 | BC | 14 | A | C5-C6 | -5.60 | 1.36 | 1.41 |
| 35 | BB | 34 | G | N1-C2 | 5.59 | 1.42 | 1.37 |
| 35 | BB | 4 | G | C5'-C4' | 5.58 | 1.58 | 1.51 |
| 35 | BC | 20 | G | N9-C4 | 5.58 | 1.42 | 1.38 |
| 2 | AA | 245 | G | N9-C4 | -5.58 | 1.33 | 1.38 |
| 2 | AA | 1448 | G | N9-C4 | 5.57 | 1.42 | 1.38 |
| 2 | AA | 1809 | A | N9-C4 | 5.57 | 1.41 | 1.37 |
| 2 | AA | 1220 | A | C3'-O3' | 5.57 | 1.50 | 1.42 |
| 2 | AA | 969 | U | O3'-P | 5.54 | 1.67 | 1.61 |
| 35 | BB | 55 | U | C2-N3 | 5.53 | 1.41 | 1.37 |
| 5 | AE | 62 | ARG | CG-CD | 5.51 | 1.65 | 1.51 |
| 12 | AM | 58 | GLU | CB-CG | -5.51 | 1.41 | 1.52 |
| 34 | BA | 1064 | G | C5-C4 | -5.51 | 1.34 | 1.38 |
| 34 | BA | 811 | C | C5-C6 | 5.50 | 1.38 | 1.34 |
| 2 | AA | 1938 | A | C5-C6 | -5.50 | 1.36 | 1.41 |
| 2 | AA | 1983 | C | C5'-C4' | -5.50 | 1.44 | 1.51 |
| 17 | AR | 12 | ASP | CA-C | 5.50 | 1.67 | 1.52 |
| 2 | AA | 2499 | C | N1-C2 | 5.50 | 1.45 | 1.40 |
| 2 | AA | 1626 | G | C2-N2 | -5.48 | 1.29 | 1.34 |
| 35 | BB | 24 | G | C2-N3 | -5.48 | 1.28 | 1.32 |
| 32 | A8 | 9 | MET | CG-SD | 5.48 | 1.95 | 1.81 |
| 35 | BB | 52 | U | O5'-C5' | -5.47 | 1.34 | 1.42 |
| 2 | AA | 2368 | C | N1-C2 | 5.46 | 1.45 | 1.40 |
| 5 | AE | 220 | GLN | CG-CD | 5.46 | 1.63 | 1.51 |
| 35 | BB | 42 | G | N9-C4 | 5.45 | 1.42 | 1.38 |
| 2 | AA | 2828 | C | N1-C2 | -5.45 | 1.34 | 1.40 |
| 2 | AA | 360 | G | C5-C6 | 5.44 | 1.47 | 1.42 |
| 2 | AA | 1379 | A | C5-C6 | 5.43 | 1.46 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1950 | G | C5-C6 | -5.42 | 1.36 | 1.42 |
| 2 | AA | 2667 | C | N1-C2 | -5.42 | 1.34 | 1.40 |
| 2 | AA | 984 | A | O3'-P | 5.41 | 1.67 | 1.61 |
| 2 | AA | 142 | G | C5-C4 | -5.40 | 1.34 | 1.38 |
| 34 | BA | 1064 | G | C6-N1 | 5.39 | 1.43 | 1.39 |
| 35 | BB | 62 | A | C5'-C4' | -5.39 | 1.44 | 1.51 |
| 2 | AA | 774 | A | C6-N1 | 5.39 | 1.39 | 1.35 |
| 34 | BA | 1541 | U | C4'-C3' | -5.37 | 1.47 | 1.52 |
| 34 | BA | 519 | C | N1-C2 | 5.37 | 1.45 | 1.40 |
| 2 | AA | 1337 | G | C2-N2 | 5.37 | 1.40 | 1.34 |
| 2 | AA | 973 | A | C3'-O3' | 5.36 | 1.49 | 1.42 |
| 35 | BB | 52 | U | N1-C2 | 5.36 | 1.43 | 1.38 |
| 2 | AA | 2492 | U | C2-O2 | 5.35 | 1.27 | 1.22 |
| 2 | AA | 142 | G | N9-C8 | -5.34 | 1.34 | 1.37 |
| 2 | AA | 2640 | G | N9-C4 | 5.34 | 1.42 | 1.38 |
| 34 | BA | 58 | C | C5-C6 | -5.33 | 1.30 | 1.34 |
| 2 | AA | 137 | C | C2'-O2' | 5.33 | 1.48 | 1.41 |
| 34 | BA | 727 | G | C5-C6 | -5.32 | 1.37 | 1.42 |
| 35 | BB | 5 | A | C6-N6 | -5.32 | 1.29 | 1.33 |
| 2 | AA | 2720 | U | N1-C2 | -5.31 | 1.33 | 1.38 |
| 2 | AA | 1186 | G | N9-C4 | -5.30 | 1.33 | 1.38 |
| 2 | AA | 1528 | A | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 35 | BB | 56 | C | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 35 | BB | 52 | U | C5'-C4' | -5.29 | 1.45 | 1.51 |
| 2 | AA | 1989 | G | C5-C6 | -5.28 | 1.37 | 1.42 |
| 2 | AA | 2423 | U | N1-C2 | -5.27 | 1.33 | 1.38 |
| 2 | AA | 142 | G | O4'-C1' | 5.25 | 1.48 | 1.41 |
| 35 | BB | 1 | G | P-O5' | 5.25 | 1.65 | 1.59 |
| 35 | BB | 39 | U | C5-C6 | 5.25 | 1.38 | 1.34 |
| 35 | BB | 56 | C | O3'-P | -5.24 | 1.54 | 1.61 |
| 2 | AA | 729 | G | C5-C6 | -5.24 | 1.37 | 1.42 |
| 2 | AA | 1703 | G | C5-C6 | 5.23 | 1.47 | 1.42 |
| 2 | AA | 776 | G | C3'-O3' | 5.23 | 1.49 | 1.42 |
| 49 | BQ | 24 | CYS | CB-SG | -5.22 | 1.73 | 1.81 |
| 35 | BB | 19 | G | O5'-C5' | 5.21 | 1.52 | 1.44 |
| 35 | BB | 20 | G | C5-C6 | 5.20 | 1.47 | 1.42 |
| 2 | AA | 688 | U | N1-C2 | 5.20 | 1.43 | 1.38 |
| 2 | AA | 777 | A | N9-C4 | 5.19 | 1.41 | 1.37 |
| 39 | BG | 26 | CYS | CB-SG | 5.19 | 1.91 | 1.82 |
| 2 | AA | 984 | A | C5-C6 | 5.19 | 1.45 | 1.41 |
| 35 | BB | 40 | C | C2'-O2' | 5.18 | 1.48 | 1.41 |
| 2 | AA | 1671 | U | N1-C2 | 5.18 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 2498 | C | N1-C2 | -5.18 | 1.34 | 1.40 |
| 2 | AA | 587 | C | N1-C2 | 5.17 | 1.45 | 1.40 |
| 2 | AA | 726 | G | N1-C2 | 5.17 | 1.41 | 1.37 |
| 2 | AA | 1396 | U | N3-C4 | 5.17 | 1.43 | 1.38 |
| 2 | AA | 1824 | G | C5-C4 | -5.16 | 1.34 | 1.38 |
| 2 | AA | 693 | C | N1-C2 | 5.16 | 1.45 | 1.40 |
| 2 | AA | 775 | G | O3'-P | 5.15 | 1.67 | 1.61 |
| 2 | AA | 2825 | C | C5-C6 | -5.15 | 1.30 | 1.34 |
| 34 | BA | 644 | G | C5-C6 | -5.15 | 1.37 | 1.42 |
| 2 | AA | 2595 | G | C6-O6 | 5.15 | 1.28 | 1.24 |
| 2 | AA | 2584 | U | N1-C2 | -5.14 | 1.33 | 1.38 |
| 2 | AA | 790 | C | O3'-P | -5.14 | 1.54 | 1.61 |
| 15 | AP | 136 | TRP | CB-CG | 5.13 | 1.59 | 1.50 |
| 2 | AA | 1634 | A | N9-C4 | -5.13 | 1.34 | 1.37 |
| 2 | AA | 974 | G | N9-C4 | 5.12 | 1.42 | 1.38 |
| 34 | BA | 617 | G | N9-C4 | 5.12 | 1.42 | 1.38 |
| 35 | BB | 19 | G | N9-C8 | -5.12 | 1.34 | 1.37 |
| 2 | AA | 819 | A | C5-C6 | -5.12 | 1.36 | 1.41 |
| 2 | AA | 1492 | G | C2-N2 | 5.11 | 1.39 | 1.34 |
| 35 | BB | 55 | U | N1-C2 | 5.11 | 1.43 | 1.38 |
| 2 | AA | 2073 | C | N1-C2 | -5.11 | 1.35 | 1.40 |
| 2 | AA | 1240 | U | N1-C2 | 5.10 | 1.43 | 1.38 |
| 2 | AA | 2031 | A | N9-C4 | -5.10 | 1.34 | 1.37 |
| 35 | BC | 45 | G | C5-C6 | 5.09 | 1.47 | 1.42 |
| 2 | AA | 2848 | G | N9-C4 | -5.09 | 1.33 | 1.38 |
| 35 | BB | 40 | C | O3'-P | 5.09 | 1.67 | 1.61 |
| 2 | AA | 1402 | C | N1-C2 | -5.08 | 1.35 | 1.40 |
| 2 | AA | 729 | G | C2-N3 | -5.08 | 1.28 | 1.32 |
| 34 | BA | 1541 | U | C4-O4 | 5.07 | 1.27 | 1.23 |
| 2 | AA | 1378 | A | C2-N3 | -5.07 | 1.28 | 1.33 |
| 2 | AA | 142 | G | C8-N7 | 5.06 | 1.33 | 1.30 |
| 34 | BA | 633 | G | C5'-C4' | -5.06 | 1.45 | 1.51 |
| 2 | AA | 1492 | G | C2-N3 | 5.05 | 1.36 | 1.32 |
| 2 | AA | 973 | A | O3'-P | 5.05 | 1.67 | 1.61 |
| 2 | AA | 1628 | G | N9-C4 | -5.05 | 1.33 | 1.38 |
| 2 | AA | 1786 | A | C5-C6 | -5.05 | 1.36 | 1.41 |
| 2 | AA | 759 | G | C3'-O3' | 5.04 | 1.49 | 1.42 |
| 2 | AA | 2462 | U | C4-O4 | -5.04 | 1.19 | 1.23 |
| 35 | BB | 66 | A | C5'-C4' | -5.04 | 1.45 | 1.51 |
| 35 | BB | 40 | C | O4'-C1' | 5.03 | 1.48 | 1.41 |
| 35 | BB | 30 | G | N9-C4 | -5.03 | 1.33 | 1.38 |
| 35 | BC | 17 | U | N1-C2 | 5.02 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1303 | G | C2-N2 | 5.02 | 1.39 | 1.34 |
| 35 | BB | 20 | G | C3'-O3' | 5.02 | 1.49 | 1.42 |
| 2 | AA | 1512 | G | C5-C6 | 5.02 | 1.47 | 1.42 |
| 2 | AA | 2461 | C | C2-N3 | -5.02 | 1.31 | 1.35 |
| 2 | AA | 1161 | C | C2-O2 | 5.02 | 1.28 | 1.24 |
| 2 | AA | 1186 | G | N3-C4 | -5.01 | 1.31 | 1.35 |
| 2 | AA | 1263 | U | N1-C2 | 5.01 | 1.43 | 1.38 |
| 35 | BB | 68 | U | C2-O2 | 5.01 | 1.26 | 1.22 |
| 2 | AA | 1489 | U | C2-N3 | 5.01 | 1.41 | 1.37 |
| 2 | AA | 1700 | A | C5'-C4' | -5.00 | 1.45 | 1.51 |

All (1135) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 34 | BA | 1064 | G | N1-C2-N2 | -65.61 | 57.15 | 116.20 |
| 34 | BA | 1064 | G | N3-C2-N2 | 63.69 | 164.48 | 119.90 |
| 34 | BA | 1064 | G | N1-C2-N3 | -27.38 | 107.47 | 123.90 |
| 2 | AA | 1084 | A | O5'-P-OP2 | -26.59 | 78.79 | 110.70 |
| 35 | BB | 36 | A | OP1-P-O3' | -18.47 | 64.57 | 105.20 |
| 35 | BB | 19 | G | N9-C1'-C2' | -16.98 | 91.92 | 114.00 |
| 34 | BA | 1064 | G | C2-N3-C4 | 16.50 | 120.15 | 111.90 |
| 2 | AA | 2610 | C | N1-C1'-C2' | 16.06 | 134.88 | 114.00 |
| 2 | AA | 974(A) | C | N1-C1'-C2' | 15.04 | 133.55 | 114.00 |
| 2 | AA | 791 | C | C1'-O4'-C4' | -14.59 | 98.23 | 109.90 |
| 35 | BB | 71 | G | N9-C4-C5 | 14.46 | 111.18 | 105.40 |
| 35 | BB | 71 | G | C8-N9-C4 | -13.86 | 100.85 | 106.40 |
| 35 | BB | 56 | C | N1-C1'-C2' | -13.53 | 96.41 | 114.00 |
| 35 | BB | 39 | U | N1-C1'-C2' | 13.04 | 130.96 | 114.00 |
| 2 | AA | 1498 | C | N1-C1'-C2' | 12.97 | 130.87 | 114.00 |
| 2 | AA | 1828 | G | N9-C1'-C2' | 12.96 | 130.85 | 114.00 |
| 35 | BB | 37 | G | C4-C5-C6 | -12.51 | 111.30 | 118.80 |
| 2 | AA | 142 | G | O4'-C1'-N9 | 12.47 | 118.17 | 108.20 |
| 2 | AA | 930 | U | N1-C1'-C2' | 12.30 | 129.99 | 114.00 |
| 35 | BB | 36 | A | P-O3'-C3' | 12.22 | 134.37 | 119.70 |
| 35 | BB | 29 | A | N9-C1'-C2' | -12.16 | 98.19 | 114.00 |
| 34 | BA | 727 | G | N9-C1'-C2' | -12.16 | 98.19 | 114.00 |
| 35 | BB | 34 | G | N3-C4-C5 | 12.14 | 134.67 | 128.60 |
| 2 | AA | 1559 | G | N9-C1'-C2' | -11.82 | 98.63 | 114.00 |
| 35 | BB | 49 | C | O4'-C4'-C3' | -11.64 | 92.36 | 104.00 |
| 35 | BB | 20 | G | C5'-C4'-O4' | -11.50 | 95.30 | 109.10 |
| 36 | B1 | 48 | A | C6-N1-C2 | -11.37 | 111.78 | 118.60 |
| 35 | BB | 34 | G | C8-N9-C4 | 11.28 | 110.91 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 34 | BA | 1064 | G | C6-N1-C2 | 11.13 | 131.78 | 125.10 |
| 35 | BB | 37 | G | C5'-C4'-O4' | -11.13 | 95.75 | 109.10 |
| 2 | AA | 1206 | G | N9-C1'-C2' | -11.10 | 99.57 | 114.00 |
| 35 | BB | 40 | C | C2-N1-C1' | 11.07 | 130.97 | 118.80 |
| 35 | BB | 37 | G | N1-C2-N3 | -11.06 | 117.26 | 123.90 |
| 35 | BB | 34 | G | C5-N7-C8 | -11.02 | 98.79 | 104.30 |
| 34 | BA | 1541 | U | N1-C2-O2 | -10.98 | 115.11 | 122.80 |
| 35 | BB | 37 | G | N1-C2-N2 | 10.90 | 126.01 | 116.20 |
| 35 | BB | 37 | G | N3-C4-C5 | 10.67 | 133.93 | 128.60 |
| 36 | B1 | 48 | A | O5'-P-OP2 | -10.67 | 96.10 | 105.70 |
| 15 | AP | 20 | ILE | CB-CA-C | -10.64 | 90.31 | 111.60 |
| 2 | AA | 790 | C | P-O3'-C3' | 10.51 | 132.31 | 119.70 |
| 35 | BB | 39 | U | O5'-P-OP1 | -10.51 | 96.25 | 105.70 |
| 2 | AA | 137 | C | N3-C4-C5 | -10.47 | 117.71 | 121.90 |
| 34 | BA | 1541 | U | N1-C2-N3 | 10.46 | 121.17 | 114.90 |
| 17 | AR | 31 | PHE | N-CA-C | 10.42 | 139.13 | 111.00 |
| 2 | AA | 2848 | G | N9-C1'-C2' | 10.37 | 127.49 | 114.00 |
| 34 | BA | 793 | U | N1-C1'-C2' | 10.32 | 127.42 | 114.00 |
| 2 | AA | 137 | C | C5-C4-N4 | 10.28 | 127.40 | 120.20 |
| 2 | AA | 142 | G | N3-C4-N9 | -10.19 | 119.89 | 126.00 |
| 2 | AA | 142 | G | C6-N1-C2 | -10.15 | 119.01 | 125.10 |
| 4 | AD | 233 | ASP | N-CA-C | 10.11 | 138.30 | 111.00 |
| 2 | AA | 1359 | A | N1-C6-N6 | -10.04 | 112.58 | 118.60 |
| 34 | BA | 810 | C | N1-C1'-C2' | -10.02 | 100.98 | 114.00 |
| 35 | BB | 36 | A | C3'-C2'-C1' | -9.96 | 93.53 | 101.50 |
| 2 | AA | 1786 | A | N9-C1'-C2' | 9.95 | 126.94 | 114.00 |
| 35 | BB | 42 | G | C5'-C4'-O4' | 9.93 | 121.02 | 109.10 |
| 2 | AA | 2644 | G | N9-C1'-C2' | -9.92 | 101.09 | 112.00 |
| 2 | AA | 1241 | A | N9-C1'-C2' | 9.90 | 126.86 | 114.00 |
| 2 | AA | 386 | G | N9-C1'-C2' | 9.87 | 126.83 | 114.00 |
| 25 | A1 | 109 | LEU | CA-CB-CG | -9.85 | 92.64 | 115.30 |
| 34 | BA | 576 | G | N9-C1'-C2' | 9.81 | 126.75 | 114.00 |
| 35 | BB | 71 | G | C4-C5-N7 | -9.80 | 106.88 | 110.80 |
| 4 | AD | 126 | GLY | N-CA-C | -9.69 | 88.87 | 113.10 |
| 17 | AR | 14 | GLU | C-N-CD | -9.65 | 99.38 | 120.60 |
| 34 | BA | 818 | G | N9-C1'-C2' | 9.62 | 126.51 | 114.00 |
| 34 | BA | 792 | A | N9-C1'-C2' | 9.59 | 126.47 | 114.00 |
| 2 | AA | 2358 | G | N9-C1'-C2' | -9.59 | 101.45 | 112.00 |
| 2 | AA | 442 | G | N9-C1'-C2' | 9.57 | 126.44 | 114.00 |
| 2 | AA | 2032 | G | N9-C1'-C2' | 9.54 | 126.40 | 114.00 |
| 35 | BB | 49 | C | O4'-C1'-N1 | 9.51 | 115.81 | 108.20 |
| 2 | AA | 2777 | G | O4'-C1'-N9 | -9.46 | 100.64 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 39 | BG | 26 | CYS | CA-CB-SG | 9.44 | 130.99 | 114.00 |
| 1 | AB | 119 | A | N9-C1'-C2' | -9.43 | 101.63 | 112.00 |
| 35 | BB | 40 | C | N1-C2-O2 | 9.41 | 124.55 | 118.90 |
| 16 | AQ | 34 | LEU | N-CA-C | -9.39 | 85.64 | 111.00 |
| 35 | BB | 53 | G | N9-C1'-C2' | -9.37 | 101.69 | 112.00 |
| 2 | AA | 787 | U | C5'-C4'-O4' | 9.35 | 120.32 | 109.10 |
| 34 | BA | 173 | U | P-O3'-C3' | 9.34 | 130.91 | 119.70 |
| 2 | AA | 125 | G | N9-C1'-C2' | 9.31 | 126.11 | 114.00 |
| 2 | AA | 189 | G | N9-C1'-C2' | -9.31 | 101.76 | 112.00 |
| 35 | BB | 34 | G | N9-C4-C5 | -9.30 | 101.68 | 105.40 |
| 2 | AA | 2123 | G | N9-C1'-C2' | -9.29 | 101.78 | 112.00 |
| 35 | BB | 37 | G | O4'-C1'-C2' | -9.26 | 96.54 | 105.80 |
| 35 | BB | 37 | G | C6-C5-N7 | 9.23 | 135.94 | 130.40 |
| 2 | AA | 1800 | C | N1-C1'-C2' | -9.20 | 101.88 | 112.00 |
| 2 | AA | 1542 | G | N9-C1'-C2' | -9.18 | 101.90 | 112.00 |
| 2 | AA | 142 | G | C2-N3-C4 | 9.16 | 116.48 | 111.90 |
| 2 | AA | 984 | A | C5'-C4'-C3' | 9.10 | 130.56 | 116.00 |
| 2 | AA | 2423 | U | O4'-C1'-N1 | -9.06 | 100.95 | 108.20 |
| 35 | BB | 49 | C | O5'-P-OP2 | -9.04 | 97.56 | 105.70 |
| 35 | BB | 34 | G | C4-C5-C6 | -8.99 | 113.41 | 118.80 |
| 2 | AA | 1489 | U | N1-C1'-C2' | 8.96 | 125.65 | 114.00 |
| 2 | AA | 2832 | U | N1-C1'-C2' | -8.95 | 102.16 | 112.00 |
| 35 | BB | 39 | U | C5'-C4'-C3' | -8.93 | 101.72 | 116.00 |
| 34 | BA | 451 | A | N9-C1'-C2' | 8.90 | 125.57 | 114.00 |
| 2 | AA | 2384 | G | N9-C1'-C2' | 8.89 | 125.56 | 114.00 |
| 2 | AA | 2894 | G | N9-C1'-C2' | 8.76 | 125.39 | 114.00 |
| 2 | AA | 2756 | U | N1-C1'-C2' | 8.74 | 125.37 | 114.00 |
| 34 | BA | 47 | C | N1-C1'-C2' | 8.74 | 125.36 | 114.00 |
| 2 | AA | 142 | G | C4-C5-C6 | -8.67 | 113.60 | 118.80 |
| 35 | BB | 37 | G | C2-N3-C4 | 8.64 | 116.22 | 111.90 |
| 2 | AA | 1240 | U | N1-C1'-C2' | 8.64 | 125.23 | 114.00 |
| 2 | AA | 142 | G | N9-C4-C5 | 8.63 | 108.85 | 105.40 |
| 35 | BB | 39 | U | C2'-C3'-O3' | 8.61 | 128.44 | 109.50 |
| 17 | AR | 5 | GLU | N-CA-C | -8.60 | 87.77 | 111.00 |
| 35 | BC | 16 | U | C2'-C3'-O3' | 8.57 | 128.35 | 109.50 |
| 35 | BB | 40 | C | C6-N1-C1' | -8.55 | 110.54 | 120.80 |
| 34 | BA | 402 | G | N9-C1'-C2' | -8.54 | 102.60 | 112.00 |
| 17 | AR | 28 | THR | N-CA-C | 8.52 | 134.00 | 111.00 |
| 35 | BB | 54 | U | O4'-C1'-N1 | -8.48 | 101.42 | 108.20 |
| 2 | AA | 446 | G | N9-C1'-C2' | 8.47 | 125.01 | 114.00 |
| 2 | AA | 790 | C | OP1-P-O3' | 8.45 | 123.79 | 105.20 |
| 35 | BB | 41 | U | C5'-C4'-O4' | 8.44 | 119.22 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 2885 | C | N1-C1'-C2' | -8.43 | 102.72 | 112.00 |
| 2 | AA | 2606 | C | N1-C1'-C2' | -8.42 | 102.74 | 112.00 |
| 34 | BA | 1541 | U | N1-C1'-C2' | -8.41 | 102.75 | 112.00 |
| 35 | BB | 71 | G | C4-C5-C6 | 8.37 | 123.82 | 118.80 |
| 2 | AA | 199 | A | N9-C1'-C2' | 8.36 | 124.86 | 114.00 |
| 2 | AA | 2610 | C | C1'-O4'-C4' | -8.35 | 103.22 | 109.90 |
| 2 | AA | 1253 | A | N9-C1'-C2' | 8.35 | 124.86 | 114.00 |
| 35 | BB | 54 | U | C5'-C4'-O4' | 8.33 | 119.10 | 109.10 |
| 14 | AO | 83 | GLU | N-CA-C | -8.33 | 88.52 | 111.00 |
| 2 | AA | 2508 | G | N9-C1'-C2' | -8.32 | 102.85 | 112.00 |
| 49 | BQ | 40 | CYS | CA-CB-SG | 8.31 | 128.96 | 114.00 |
| 2 | AA | 2125 | G | N9-C1'-C2' | 8.30 | 124.78 | 114.00 |
| 2 | AA | 797 | C | N1-C1'-C2' | -8.26 | 102.92 | 112.00 |
| 2 | AA | 1248 | G | N9-C1'-C2' | 8.26 | 124.74 | 114.00 |
| 2 | AA | 2602 | A | O5'-P-OP1 | -8.26 | 98.27 | 105.70 |
| 2 | AA | 2266 | A | N9-C1'-C2' | 8.22 | 124.69 | 114.00 |
| 2 | AA | 1757 | U | N1-C1'-C2' | -8.19 | 102.99 | 112.00 |
| 34 | BA | 372 | C | N1-C1'-C2' | 8.18 | 124.64 | 114.00 |
| 14 | AO | 82 | ALA | N-CA-C | -8.18 | 88.91 | 111.00 |
| 35 | BC | 19 | G | N9-C1'-C2' | 8.18 | 124.64 | 114.00 |
| 2 | AA | 2471 | C | N1-C1'-C2' | -8.18 | 103.00 | 112.00 |
| 18 | AS | 98 | LYS | N-CA-C | -8.18 | 88.92 | 111.00 |
| 2 | AA | 1988 | C | N1-C1'-C2' | -8.18 | 103.00 | 112.00 |
| 34 | BA | 347 | G | N9-C1'-C2' | -8.15 | 103.04 | 112.00 |
| 34 | BA | 359 | U | N1-C1'-C2' | -8.13 | 103.05 | 112.00 |
| 13 | AN | 64 | ARG | NE-CZ-NH1 | 8.11 | 124.36 | 120.30 |
| 2 | AA | 1012 | U | N1-C1'-C2' | -8.10 | 103.09 | 112.00 |
| 35 | BB | 37 | G | N3-C4-N9 | -8.10 | 121.14 | 126.00 |
| 35 | BB | 5 | A | C5'-C4'-C3' | 8.10 | 128.96 | 116.00 |
| 35 | BB | 43 | G | N9-C1'-C2' | -8.09 | 103.10 | 112.00 |
| 35 | BB | 43 | G | N9-C4-C5 | 8.09 | 108.64 | 105.40 |
| 35 | BB | 37 | G | C4'-C3'-O3' | 8.06 | 129.13 | 113.00 |
| 35 | BB | 41 | U | P-O5'-C5' | -8.06 | 108.00 | 120.90 |
| 2 | AA | 1925 | C | N1-C1'-C2' | -8.06 | 103.14 | 112.00 |
| 2 | AA | 974 | G | N9-C1'-C2' | 8.04 | 124.45 | 114.00 |
| 2 | AA | 574 | C | N1-C1'-C2' | 8.01 | 124.42 | 114.00 |
| 2 | AA | 444(A) | A | N9-C1'-C2' | 7.98 | 124.37 | 114.00 |
| 14 | AO | 106 | VAL | N-CA-C | 7.97 | 132.52 | 111.00 |
| 4 | AD | 174 | ARG | N-CA-C | -7.97 | 89.49 | 111.00 |
| 2 | AA | 1924 | C | N1-C1'-C2' | -7.94 | 103.27 | 112.00 |
| 2 | AA | 142 | G | C5-C6-O6 | -7.93 | 123.84 | 128.60 |
| 35 | BB | 33 | U | N1-C1'-C2' | 7.91 | 124.28 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1673 | U | C5'-C4'-C3' | 7.87 | 128.59 | 116.00 |
| 35 | BB | 34 | G | C5'-C4'-O4' | -7.87 | 99.66 | 109.10 |
| 2 | AA | 137 | C | C6-N1-C2 | -7.87 | 117.15 | 120.30 |
| 2 | AA | 2781 | A | N9-C1'-C2' | 7.86 | 124.22 | 114.00 |
| 2 | AA | 2113 | U | N1-C1'-C2' | 7.84 | 124.19 | 114.00 |
| 2 | AA | 1625 | C | N1-C1'-C2' | 7.81 | 124.15 | 114.00 |
| 4 | AD | 194 | VAL | N-CA-C | -7.80 | 89.94 | 111.00 |
| 2 | AA | 1823 | G | N9-C1'-C2' | -7.80 | 103.42 | 112.00 |
| 35 | BB | 41 | U | O4'-C1'-N1 | -7.76 | 101.99 | 108.20 |
| 2 | AA | 2399 | G | N9-C1'-C2' | -7.76 | 103.46 | 112.00 |
| 2 | AA | 196 | A | N9-C1'-C2' | 7.75 | 124.08 | 114.00 |
| 34 | BA | 106 | C | N1-C1'-C2' | -7.75 | 103.48 | 112.00 |
| 34 | BA | 307 | C | O4'-C1'-N1 | -7.75 | 102.00 | 108.20 |
| 2 | AA | 787 | U | O4'-C1'-N1 | 7.74 | 114.39 | 108.20 |
| 18 | AS | 90 | ARG | N-CA-C | -7.74 | 90.10 | 111.00 |
| 2 | AA | 974(A) | C | C6-N1-C2 | -7.73 | 117.21 | 120.30 |
| 32 | A8 | 6 | THR | N-CA-C | -7.72 | 90.16 | 111.00 |
| 17 | AR | 36 | CYS | CA-CB-SG | 7.69 | 127.85 | 114.00 |
| 35 | BB | 41 | U | C5'-C4'-C3' | 7.69 | 128.31 | 116.00 |
| 34 | BA | 226 | G | N9-C1'-C2' | -7.69 | 103.54 | 112.00 |
| 22 | AW | 44 | GLY | N-CA-C | -7.69 | 93.88 | 113.10 |
| 2 | AA | 1140 | C | C1'-O4'-C4' | -7.67 | 103.76 | 109.90 |
| 2 | AA | 360 | G | N9-C1'-C2' | 7.67 | 123.97 | 114.00 |
| 35 | BB | 34 | G | O4'-C1'-N9 | -7.66 | 102.07 | 108.20 |
| 47 | BO | 76 | ASN | N-CA-C | -7.65 | 90.33 | 111.00 |
| 2 | AA | 2118 | U | N1-C1'-C2' | -7.65 | 103.58 | 112.00 |
| 2 | AA | 932 | G | N9-C1'-C2' | 7.65 | 123.94 | 114.00 |
| 16 | AQ | 26 | LEU | CA-CB-CG | -7.65 | 97.70 | 115.30 |
| 35 | BB | 42 | G | C5'-C4'-C3' | -7.64 | 103.77 | 116.00 |
| 2 | AA | 2275 | C | N1-C1'-C2' | 7.64 | 123.94 | 114.00 |
| 2 | AA | 1656 | C | C5'-C4'-C3' | -7.63 | 103.79 | 116.00 |
| 34 | BA | 531 | U | N1-C1'-C2' | 7.62 | 123.91 | 114.00 |
| 2 | AA | 1549 | C | N1-C1'-C2' | -7.62 | 103.62 | 112.00 |
| 2 | AA | 1183 | G | O4'-C1'-N9 | 7.61 | 114.29 | 108.20 |
| 2 | AA | 1140 | C | N1-C1'-C2' | 7.60 | 123.88 | 114.00 |
| 2 | AA | 2772 | C | C5'-C4'-O4' | -7.57 | 100.01 | 109.10 |
| 2 | AA | 1970 | A | C5'-C4'-O4' | 7.52 | 118.13 | 109.10 |
| 35 | BB | 10 | G | N9-C1'-C2' | -7.51 | 103.74 | 112.00 |
| 34 | BA | 730 | G | O5'-P-OP1 | -7.50 | 98.95 | 105.70 |
| 2 | AA | 1084 | A | C5'-C4'-C3' | -7.49 | 104.02 | 116.00 |
| 15 | AP | 84 | ARG | N-CA-C | -7.49 | 90.79 | 111.00 |
| 32 | A8 | 55 | TRP | N-CA-C | -7.48 | 90.79 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 2490 | G | N9-C1'-C2' | 7.47 | 123.71 | 114.00 |
| 34 | BA | 968 | A | N9-C1'-C2' | 7.46 | 123.70 | 114.00 |
| 2 | AA | 787 | U | C4'-C3'-C2' | -7.46 | 95.14 | 102.60 |
| 35 | BB | 37 | G | O4'-C1'-N9 | 7.46 | 114.17 | 108.20 |
| 34 | BA | 1422 | G | N9-C1'-C2' | -7.45 | 103.80 | 112.00 |
| 34 | BA | 586 | C | N1-C1'-C2' | -7.45 | 103.81 | 112.00 |
| 2 | AA | 137 | C | C2-N3-C4 | 7.44 | 123.62 | 119.90 |
| 2 | AA | 1779 | U | C5-C4-O4 | -7.43 | 121.44 | 125.90 |
| 2 | AA | 2121 | G | O4'-C1'-N9 | 7.43 | 114.14 | 108.20 |
| 5 | AE | 274 | GLY | N-CA-C | -7.43 | 94.53 | 113.10 |
| 35 | BB | 34 | G | C4-C5-N7 | 7.42 | 113.77 | 110.80 |
| 2 | AA | 2681 | C | N1-C1'-C2' | 7.42 | 123.65 | 114.00 |
| 2 | AA | 943 | U | N1-C1'-C2' | -7.42 | 103.84 | 112.00 |
| 34 | BA | 1541 | U | C5'-C4'-O4' | 7.41 | 117.99 | 109.10 |
| 26 | A2 | 12 | TYR | N-CA-C | 7.40 | 130.98 | 111.00 |
| 2 | AA | 1024 | G | N9-C1'-C2' | -7.40 | 103.86 | 112.00 |
| 2 | AA | 1800 | C | O4'-C4'-C3' | -7.39 | 96.61 | 104.00 |
| 2 | AA | 1699 | G | N9-C1'-C2' | 7.39 | 123.61 | 114.00 |
| 10 | AK | 8 | ASP | N-CA-C | 7.38 | 130.92 | 111.00 |
| 35 | BB | 43 | G | C8-N9-C4 | -7.38 | 103.45 | 106.40 |
| 34 | BA | 1482 | G | N9-C1'-C2' | -7.36 | 103.91 | 112.00 |
| 5 | AE | 225 | LYS | N-CA-C | -7.36 | 91.14 | 111.00 |
| 2 | AA | 1084 | A | O5'-P-OP1 | 7.32 | 119.49 | 110.70 |
| 2 | AA | 2584 | U | N1-C1'-C2' | -7.31 | 103.96 | 112.00 |
| 34 | BA | 644 | G | N9-C1'-C2' | -7.31 | 103.96 | 112.00 |
| 34 | BA | 158 | G | N9-C1'-C2' | -7.30 | 103.97 | 112.00 |
| 35 | BB | 40 | C | N1-C2-N3 | -7.30 | 114.09 | 119.20 |
| 2 | AA | 1571 | A | C5'-C4'-O4' | -7.29 | 100.36 | 109.10 |
| 2 | AA | 1992 | G | C2'-C3'-O3' | 7.29 | 125.53 | 109.50 |
| 34 | BA | 457 | C | N1-C1'-C2' | -7.28 | 103.99 | 112.00 |
| 2 | AA | 1642 | G | N9-C1'-C2' | -7.26 | 104.01 | 112.00 |
| 35 | BB | 37 | G | C5'-C4'-C3' | -7.26 | 104.39 | 116.00 |
| 34 | BA | 960 | U | N1-C1'-C2' | 7.25 | 123.42 | 114.00 |
| 2 | AA | 1944 | U | O5'-P-OP1 | -7.23 | 99.20 | 105.70 |
| 6 | AF | 14 | GLY | N-CA-C | 7.23 | 131.17 | 113.10 |
| 2 | AA | 1187 | G | N9-C1'-C2' | 7.22 | 123.39 | 114.00 |
| 2 | AA | 2420 | C | N1-C1'-C2' | -7.22 | 104.06 | 112.00 |
| 17 | AR | 9 | CYS | CA-CB-SG | 7.22 | 127.00 | 114.00 |
| 34 | BA | 1541 | U | N3-C4-C5 | -7.22 | 110.27 | 114.60 |
| 5 | AE | 291 | GLY | N-CA-C | -7.21 | 95.07 | 113.10 |
| 21 | AV | 34 | LEU | CA-CB-CG | 7.19 | 131.85 | 115.30 |
| 2 | AA | 775 | G | N3-C2-N2 | 7.19 | 124.93 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 532 | A | N9-C1'-C2' | 7.18 | 123.34 | 114.00 |
| 2 | AA | 979 | G | N9-C1'-C2' | -7.17 | 104.11 | 112.00 |
| 35 | BB | 40 | C | C2'-C3'-O3' | 7.17 | 125.28 | 109.50 |
| 2 | AA | 137 | C | N1-C1'-C2' | 7.17 | 123.32 | 114.00 |
| 2 | AA | 387 | U | N1-C1'-C2' | 7.17 | 123.32 | 114.00 |
| 2 | AA | 786 | C | N1-C1'-C2' | 7.17 | 123.32 | 114.00 |
| 2 | AA | 2582 | G | O4'-C1'-N9 | -7.17 | 102.47 | 108.20 |
| 2 | AA | 2478 | A | N9-C1'-C2' | -7.16 | 104.12 | 112.00 |
| 34 | BA | 372 | C | C2'-C3'-O3' | 7.16 | 125.25 | 109.50 |
| 1 | AB | 118 | G | N9-C1'-C2' | -7.15 | 104.13 | 112.00 |
| 2 | AA | 1971 | A | N9-C1'-C2' | -7.15 | 104.13 | 112.00 |
| 4 | AD | 214 | MET | N-CA-C | -7.14 | 91.73 | 111.00 |
| 35 | BB | 16 | U | C5'-C4'-O4' | -7.13 | 100.54 | 109.10 |
| 36 | B1 | 66 | G | N9-C1'-C2' | -7.12 | 104.16 | 112.00 |
| 34 | BA | 1185 | G | N9-C1'-C2' | -7.10 | 104.19 | 112.00 |
| 39 | BG | 19 | LEU | CA-CB-CG | -7.10 | 98.97 | 115.30 |
| 35 | BB | 35 | A | N9-C1'-C2' | 7.08 | 123.21 | 114.00 |
| 2 | AA | 1059 | G | N9-C1'-C2' | -7.08 | 104.21 | 112.00 |
| 34 | BA | 1446 | A | N9-C1'-C2' | 7.07 | 123.19 | 114.00 |
| 2 | AA | 1625 | C | C3'-C2'-C1' | 7.07 | 107.16 | 101.50 |
| 2 | AA | 575 | A | N9-C1'-C2' | 7.07 | 123.19 | 114.00 |
| 2 | AA | 1673 | U | C1'-O4'-C4' | -7.06 | 104.25 | 109.90 |
| 2 | AA | 2587 | A | N9-C1'-C2' | 7.06 | 123.18 | 114.00 |
| 2 | AA | 2238 | G | O4'-C1'-N9 | 7.05 | 113.84 | 108.20 |
| 34 | BA | 753 | A | C2'-C3'-O3' | -7.05 | 93.99 | 109.50 |
| 2 | AA | 1229 | G | N9-C1'-C2' | -7.04 | 104.26 | 112.00 |
| 2 | AA | 787 | U | N1-C1'-C2' | -7.03 | 104.27 | 112.00 |
| 2 | AA | 84 | A | N9-C1'-C2' | 7.03 | 123.14 | 114.00 |
| 5 | AE | 63 | GLU | N-CA-C | 7.02 | 129.96 | 111.00 |
| 2 | AA | 1509 | C | N1-C1'-C2' | -7.02 | 104.28 | 112.00 |
| 2 | AA | 2586 | C | N1-C1'-C2' | -7.01 | 104.29 | 112.00 |
| 35 | BB | 20 | G | N9-C1'-C2' | 7.00 | 123.10 | 114.00 |
| 30 | A6 | 43 | VAL | N-CA-C | -6.97 | 92.17 | 111.00 |
| 2 | AA | 983 | A | N9-C1'-C2' | 6.95 | 123.03 | 114.00 |
| 2 | AA | 2665 | A | C8-N9-C1' | -6.93 | 115.23 | 127.70 |
| 21 | AV | 34 | LEU | N-CA-C | 6.92 | 129.70 | 111.00 |
| 2 | AA | 152 | G | N9-C1'-C2' | -6.91 | 104.40 | 112.00 |
| 2 | AA | 1742 | C | O4'-C4'-C3' | -6.90 | 97.10 | 104.00 |
| 42 | BJ | 130 | GLY | N-CA-C | -6.90 | 95.84 | 113.10 |
| 2 | AA | 2620 | C | C1'-O4'-C4' | -6.90 | 104.38 | 109.90 |
| 2 | AA | 139 | G | C2'-C3'-O3' | 6.90 | 124.73 | 113.70 |
| 2 | AA | 714 | U | N1-C1'-C2' | -6.90 | 104.41 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 2665 | A | C4-N9-C1' | 6.90 | 138.71 | 126.30 |
| 2 | AA | 828 | U | N1-C1'-C2' | 6.89 | 122.96 | 114.00 |
| 13 | AN | 20 | LEU | CA-CB-CG | 6.89 | 131.16 | 115.30 |
| 2 | AA | 1605 | C | C5'-C4'-C3' | -6.89 | 104.98 | 116.00 |
| 1 | AB | 12 | C | N1-C1'-C2' | 6.89 | 122.95 | 114.00 |
| 35 | BB | 34 | G | OP2-P-O3' | 6.88 | 120.34 | 105.20 |
| 2 | AA | 1085 | A | N9-C1'-C2' | 6.87 | 122.93 | 114.00 |
| 2 | AA | 1239 | G | N9-C1'-C2' | 6.87 | 122.93 | 114.00 |
| 2 | AA | 717 | G | N9-C1'-C2' | -6.87 | 104.45 | 112.00 |
| 17 | AR | 14 | GLU | N-CA-C | 6.87 | 129.53 | 111.00 |
| 34 | BA | 1193 | G | N9-C1'-C2' | -6.86 | 104.46 | 112.00 |
| 47 | BO | 37 | CYS | CA-CB-SG | -6.86 | 101.66 | 114.00 |
| 34 | BA | 1281 | U | C2'-C3'-O3' | 6.85 | 124.67 | 113.70 |
| 2 | AA | 317 | G | N9-C1'-C2' | -6.84 | 104.47 | 112.00 |
| 7 | AG | 15 | GLU | C-N-CD | -6.84 | 105.55 | 120.60 |
| 2 | AA | 527 | C | N1-C1'-C2' | 6.83 | 122.88 | 114.00 |
| 35 | BC | 13 | C | N1-C1'-C2' | -6.83 | 104.49 | 112.00 |
| 2 | AA | 931 | G | O4'-C1'-N9 | 6.83 | 113.66 | 108.20 |
| 2 | AA | 2825 | C | N1-C1'-C2' | -6.82 | 104.49 | 112.00 |
| 34 | BA | 1371 | G | N9-C1'-C2' | -6.82 | 104.49 | 112.00 |
| 2 | AA | 832 | G | C5'-C4'-C3' | 6.82 | 126.91 | 116.00 |
| 21 | AV | 43 | PHE | N-CA-C | -6.82 | 92.59 | 111.00 |
| 36 | B1 | 48 | A | C4-C5-N7 | -6.81 | 107.29 | 110.70 |
| 35 | BB | 54 | U | C2-N1-C1' | 6.81 | 125.87 | 117.70 |
| 42 | BJ | 156 | TRP | NE1-CE2-CD2 | 6.81 | 114.11 | 107.30 |
| 6 | AF | 193 | LEU | CA-CB-CG | -6.81 | 99.64 | 115.30 |
| 2 | AA | 1968 | G | N9-C1'-C2' | -6.79 | 104.53 | 112.00 |
| 34 | BA | 135 | C | N1-C1'-C2' | -6.79 | 104.53 | 112.00 |
| 34 | BA | 1541 | U | N3-C4-O4 | -6.79 | 114.65 | 119.40 |
| 34 | BA | 1124 | G | N9-C1'-C2' | 6.79 | 122.82 | 114.00 |
| 28 | A4 | 45 | GLY | N-CA-C | 6.78 | 130.06 | 113.10 |
| 2 | AA | 2581 | G | N9-C1'-C2' | 6.77 | 122.80 | 114.00 |
| 5 | AE | 199 | ALA | N-CA-C | -6.77 | 92.73 | 111.00 |
| 2 | AA | 974 | G | O5'-P-OP1 | -6.76 | 99.61 | 105.70 |
| 34 | BA | 993 | G | N9-C1'-C2' | 6.76 | 122.79 | 114.00 |
| 35 | BB | 37 | G | C5-C6-N1 | 6.76 | 114.88 | 111.50 |
| 2 | AA | 774 | A | C2'-C3'-O3' | 6.76 | 124.51 | 113.70 |
| 2 | AA | 864 | G | N9-C1'-C2' | 6.75 | 122.78 | 114.00 |
| 2 | AA | 945 | A | O4'-C4'-C3' | -6.74 | 97.26 | 104.00 |
| 4 | AD | 155 | ARG | N-CA-C | -6.74 | 92.80 | 111.00 |
| 2 | AA | 1955 | U | N1-C1'-C2' | 6.73 | 122.75 | 114.00 |
| 2 | AA | 2590 | A | N9-C1'-C2' | -6.73 | 104.60 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 10 | AK | 32 | LYS | N-CA-C | -6.72 | 92.85 | 111.00 |
| 34 | BA | 740 | U | N1-C1'-C2' | -6.72 | 104.61 | 112.00 |
| 42 | BJ | 156 | TRP | CD2-CE2-CZ2 | -6.72 | 114.24 | 122.30 |
| 16 | AQ | 126 | GLY | N-CA-C | -6.71 | 96.33 | 113.10 |
| 2 | AA | 2336 | A | N9-C1'-C2' | 6.70 | 122.71 | 114.00 |
| 2 | AA | 1536 | A | N9-C1'-C2' | 6.70 | 122.71 | 114.00 |
| 2 | AA | 2447 | G | N9-C1'-C2' | 6.68 | 122.68 | 114.00 |
| 2 | AA | 1746 | G | N9-C1'-C2' | -6.67 | 104.66 | 112.00 |
| 2 | AA | 574 | C | O4'-C1'-N1 | 6.67 | 113.54 | 108.20 |
| 2 | AA | 931 | G | C1'-O4'-C4' | -6.67 | 104.57 | 109.90 |
| 35 | BB | 7 | U | O5'-P-OP2 | -6.67 | 99.70 | 105.70 |
| 39 | BG | 12 | CYS | N-CA-C | -6.67 | 92.99 | 111.00 |
| 2 | AA | 984 | A | C5'-C4'-O4' | -6.66 | 101.11 | 109.10 |
| 2 | AA | 945 | A | O4'-C1'-N9 | 6.66 | 113.53 | 108.20 |
| 2 | AA | 1927 | A | N9-C1'-C2' | -6.66 | 104.68 | 112.00 |
| 32 | A8 | 35 | GLY | N-CA-C | -6.65 | 96.48 | 113.10 |
| 2 | AA | 2603 | G | O5'-P-OP1 | -6.63 | 99.73 | 105.70 |
| 35 | BB | 40 | C | C6-N1-C2 | -6.63 | 117.65 | 120.30 |
| 34 | BA | 1175 | G | N9-C1'-C2' | -6.62 | 104.71 | 112.00 |
| 2 | AA | 162 | U | N1-C1'-C2' | 6.61 | 122.60 | 114.00 |
| 29 | A5 | 44 | HIS | N-CA-C | 6.61 | 128.86 | 111.00 |
| 2 | AA | 687 | C | N1-C1'-C2' | 6.61 | 122.60 | 114.00 |
| 2 | AA | 1265 | A | C2'-C3'-O3' | 6.61 | 124.27 | 113.70 |
| 34 | BA | 765 | G | OP2-P-O3' | 6.60 | 119.72 | 105.20 |
| 34 | BA | 645 | C | N1-C1'-C2' | -6.58 | 104.77 | 112.00 |
| 34 | BA | 587 | G | N9-C1'-C2' | -6.57 | 104.78 | 112.00 |
| 35 | BB | 43 | G | C4-C5-N7 | -6.57 | 108.17 | 110.80 |
| 2 | AA | 2687 | U | O4'-C1'-N1 | 6.56 | 113.45 | 108.20 |
| 6 | AF | 82 | GLN | N-CA-C | 6.56 | 128.72 | 111.00 |
| 35 | BB | 38 | A | C2'-C3'-O3' | 6.56 | 124.20 | 113.70 |
| 2 | AA | 1440 | G | C5'-C4'-C3' | -6.56 | 105.51 | 116.00 |
| 2 | AA | 2383 | G | N9-C1'-C2' | 6.55 | 122.52 | 114.00 |
| 2 | AA | 2621 | A | N9-C1'-C2' | -6.55 | 104.80 | 112.00 |
| 2 | AA | 2488 | A | N9-C1'-C2' | -6.55 | 104.80 | 112.00 |
| 35 | BB | 55 | U | N1-C1'-C2' | 6.55 | 122.51 | 114.00 |
| 2 | AA | 2460 | U | N1-C1'-C2' | -6.54 | 104.80 | 112.00 |
| 2 | AA | 573 | G | N9-C1'-C2' | 6.54 | 122.50 | 114.00 |
| 2 | AA | 602 | G | N9-C1'-C2' | 6.54 | 122.50 | 114.00 |
| 2 | AA | 2119 | A | N9-C1'-C2' | 6.53 | 122.50 | 114.00 |
| 34 | BA | 1402 | C | N1-C1'-C2' | -6.53 | 104.81 | 112.00 |
| 35 | BB | 54 | U | C6-N1-C1' | -6.53 | 112.06 | 121.20 |
| 35 | BB | 69 | U | C5-C4-O4 | -6.53 | 121.98 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 548 | A | N9-C1'-C2' | 6.52 | 122.47 | 114.00 |
| 34 | BA | 348 | G | N9-C1'-C2' | -6.52 | 104.83 | 112.00 |
| 2 | AA | 2049 | G | N9-C1'-C2' | -6.52 | 104.83 | 112.00 |
| 2 | AA | 1956 | U | O5'-P-OP1 | -6.52 | 99.84 | 105.70 |
| 2 | AA | 2425 | A | N9-C1'-C2' | 6.51 | 122.47 | 114.00 |
| 2 | AA | 2624 | G | N9-C1'-C2' | -6.51 | 104.84 | 112.00 |
| 2 | AA | 271(B) | G | N9-C1'-C2' | 6.51 | 122.46 | 114.00 |
| 35 | BB | 12 | U | N1-C1'-C2' | -6.50 | 104.85 | 112.00 |
| 2 | AA | 1512 | G | N9-C1'-C2' | 6.50 | 122.44 | 114.00 |
| 2 | AA | 1970 | A | O4'-C1'-N9 | 6.50 | 113.40 | 108.20 |
| 43 | BK | 133 | LEU | CA-CB-CG | -6.49 | 100.37 | 115.30 |
| 35 | BB | 76 | A | C2'-C3'-O3' | -6.49 | 95.23 | 109.50 |
| 2 | AA | 574 | C | C1'-O4'-C4' | -6.48 | 104.72 | 109.90 |
| 2 | AA | 1544 | C | O4'-C1'-N1 | 6.48 | 113.39 | 108.20 |
| 38 | BF | 13 | GLY | N-CA-C | -6.48 | 96.90 | 113.10 |
| 17 | AR | 16 | GLY | N-CA-C | -6.48 | 96.90 | 113.10 |
| 35 | BB | 71 | G | N7-C8-N9 | 6.47 | 116.34 | 113.10 |
| 47 | BO | 59 | ARG | N-CA-C | -6.47 | 93.52 | 111.00 |
| 2 | AA | 1781 | C | C2'-C3'-O3' | 6.47 | 124.05 | 113.70 |
| 2 | AA | 1825 | A | O4'-C1'-N9 | 6.47 | 113.38 | 108.20 |
| 35 | BB | 37 | G | N9-C1'-C2' | 6.47 | 122.41 | 114.00 |
| 2 | AA | 119 | A | N9-C1'-C2' | 6.46 | 122.40 | 114.00 |
| 2 | AA | 2402 | C | N1-C1'-C2' | -6.46 | 104.89 | 112.00 |
| 2 | AA | 1700 | A | O5'-P-OP1 | -6.45 | 99.89 | 105.70 |
| 17 | AR | 44 | ARG | N-CA-C | 6.45 | 128.41 | 111.00 |
| 34 | BA | 378 | G | O5'-P-OP2 | -6.45 | 99.90 | 105.70 |
| 2 | AA | 2100 | G | N9-C1'-C2' | -6.45 | 104.91 | 112.00 |
| 34 | BA | 477 | G | N9-C1'-C2' | -6.44 | 104.92 | 112.00 |
| 4 | AD | 214 | MET | CA-CB-CG | 6.43 | 124.24 | 113.30 |
| 2 | AA | 2876 | G | N9-C1'-C2' | -6.42 | 104.93 | 112.00 |
| 2 | AA | 1147 | C | N1-C1'-C2' | -6.42 | 104.94 | 112.00 |
| 2 | AA | 775 | G | N1-C2-N2 | -6.42 | 110.42 | 116.20 |
| 2 | AA | 790 | C | C1'-O4'-C4' | -6.42 | 104.77 | 109.90 |
| 15 | AP | 47 | GLU | N-CA-C | 6.42 | 128.33 | 111.00 |
| 15 | AP | 98 | GLY | N-CA-C | 6.42 | 129.14 | 113.10 |
| 2 | AA | 2422 | A | N9-C1'-C2' | 6.42 | 122.34 | 114.00 |
| 34 | BA | 1432 | G | N9-C1'-C2' | -6.42 | 104.94 | 112.00 |
| 2 | AA | 1183 | G | O4'-C4'-C3' | -6.41 | 97.59 | 104.00 |
| 35 | BB | 47 | U | OP2-P-O3' | 6.41 | 119.31 | 105.20 |
| 2 | AA | 1691 | C | C5'-C4'-O4' | -6.40 | 101.42 | 109.10 |
| 2 | AA | 1937 | A | N9-C1'-C2' | 6.40 | 122.32 | 114.00 |
| 7 | AG | 93 | LEU | CA-CB-CG | -6.39 | 100.60 | 115.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 775 | G | N9-C1'-C2' | 6.39 | 122.31 | 114.00 |
| 30 | A6 | 19 | GLY | N-CA-C | -6.38 | 97.15 | 113.10 |
| 35 | BB | 17 | U | N1-C1'-C2' | 6.38 | 122.29 | 114.00 |
| 2 | AA | 1312 | U | C2'-C3'-O3' | 6.37 | 123.90 | 113.70 |
| 17 | AR | 7 | ASP | N-CA-C | -6.37 | 93.81 | 111.00 |
| 43 | BK | 80 | ILE | N-CA-C | -6.37 | 93.80 | 111.00 |
| 2 | AA | 1727 | U | N1-C1'-C2' | 6.37 | 122.28 | 114.00 |
| 35 | BB | 4 | G | C5'-C4'-C3' | 6.36 | 126.18 | 116.00 |
| 4 | AD | 114 | GLU | N-CA-C | 6.36 | 128.17 | 111.00 |
| 2 | AA | 2054 | A | N9-C1'-C2' | -6.35 | 105.01 | 112.00 |
| 2 | AA | 2174 | C | N1-C1'-C2' | 6.35 | 122.26 | 114.00 |
| 35 | BB | 44 | A | C2'-C3'-O3' | -6.35 | 95.53 | 109.50 |
| 34 | BA | 1502 | A | O4'-C1'-N9 | 6.34 | 113.27 | 108.20 |
| 2 | AA | 142 | G | C4-C5-N7 | -6.34 | 108.26 | 110.80 |
| 34 | BA | 771 | G | C5'-C4'-C3' | -6.34 | 105.86 | 116.00 |
| 6 | AF | 94 | THR | N-CA-C | -6.33 | 93.92 | 111.00 |
| 2 | AA | 2042 | A | C1'-O4'-C4' | -6.32 | 104.84 | 109.90 |
| 2 | AA | 2826 | A | N9-C1'-C2' | -6.32 | 105.05 | 112.00 |
| 2 | AA | 541 | C | O4'-C1'-N1 | 6.32 | 113.26 | 108.20 |
| 41 | BI | 64 | GLN | N-CA-C | -6.31 | 93.95 | 111.00 |
| 2 | AA | 496 | G | N9-C1'-C2' | -6.31 | 105.06 | 112.00 |
| 34 | BA | 752 | G | N9-C1'-C2' | 6.31 | 122.20 | 114.00 |
| 13 | AN | 17 | ARG | N-CA-C | -6.30 | 93.98 | 111.00 |
| 2 | AA | 1646 | C | N1-C1'-C2' | 6.30 | 122.19 | 114.00 |
| 34 | BA | 1541 | U | O4'-C4'-C3' | -6.29 | 97.71 | 104.00 |
| 2 | AA | 342 | G | C5'-C4'-O4' | 6.29 | 116.65 | 109.10 |
| 2 | AA | 1324 | G | N9-C1'-C2' | 6.29 | 122.17 | 114.00 |
| 35 | BB | 14 | A | C4'-C3'-C2' | -6.28 | 96.32 | 102.60 |
| 17 | AR | 15 | PRO | N-CA-C | 6.27 | 128.40 | 112.10 |
| 2 | AA | 1206 | G | O4'-C4'-C3' | -6.27 | 97.73 | 104.00 |
| 2 | AA | 1593 | G | C5'-C4'-C3' | -6.27 | 105.97 | 116.00 |
| 24 | A0 | 116 | LEU | CA-CB-CG | -6.26 | 100.89 | 115.30 |
| 2 | AA | 790 | C | OP2-P-O3' | -6.26 | 91.43 | 105.20 |
| 34 | BA | 1311 | G | N9-C1'-C2' | -6.25 | 105.12 | 112.00 |
| 2 | AA | 2042 | A | O4'-C1'-N9 | 6.25 | 113.20 | 108.20 |
| 15 | AP | 25 | GLY | N-CA-C | -6.25 | 97.47 | 113.10 |
| 2 | AA | 286 | C | N1-C1'-C2' | -6.25 | 105.12 | 112.00 |
| 2 | AA | 2190 | G | N9-C1'-C2' | -6.25 | 105.12 | 112.00 |
| 2 | AA | 1317 | A | N9-C1'-C2' | -6.25 | 105.13 | 112.00 |
| 10 | AK | 124 | LEU | N-CA-C | 6.25 | 127.86 | 111.00 |
| 35 | BB | 31 | A | N9-C1'-C2' | -6.25 | 105.13 | 112.00 |
| 4 | AD | 83 | ASP | N-CA-C | 6.24 | 127.85 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 987 | G | N9-C1'-C2' | -6.24 | 105.14 | 112.00 |
| 2 | AA | 2610 | C | O4'-C1'-N1 | 6.23 | 113.19 | 108.20 |
| 2 | AA | 1792 | G | N9-C1'-C2' | -6.23 | 105.15 | 112.00 |
| 2 | AA | 971 | C | O4'-C1'-N1 | 6.23 | 113.18 | 108.20 |
| 2 | AA | 1716 | U | N1-C1'-C2' | -6.23 | 105.15 | 112.00 |
| 4 | AD | 191 | VAL | CB-CA-C | -6.22 | 99.57 | 111.40 |
| 34 | BA | 385 | C | N1-C1'-C2' | -6.22 | 105.16 | 112.00 |
| 33 | A9 | 27 | CYS | N-CA-CB | -6.22 | 99.41 | 110.60 |
| 32 | A8 | 36 | LYS | N-CA-C | 6.22 | 127.78 | 111.00 |
| 35 | BB | 51 | G | N9-C1'-C2' | 6.21 | 122.08 | 114.00 |
| 2 | AA | 1274 | A | N9-C1'-C2' | -6.21 | 105.17 | 112.00 |
| 4 | AD | 141 | HIS | N-CA-C | -6.20 | 94.25 | 111.00 |
| 2 | AA | 458 | G | N9-C1'-C2' | 6.20 | 122.06 | 114.00 |
| 34 | BA | 904 | C | N1-C1'-C2' | -6.20 | 105.18 | 112.00 |
| 35 | BB | 40 | C | O5'-P-OP1 | -6.20 | 100.12 | 105.70 |
| 2 | AA | 268 | C | N1-C1'-C2' | 6.20 | 122.05 | 114.00 |
| 42 | BJ | 156 | TRP | CE2-CD2-CE3 | 6.20 | 126.14 | 118.70 |
| 2 | AA | 2553 | G | C5'-C4'-O4' | 6.19 | 116.53 | 109.10 |
| 42 | BJ | 156 | TRP | CE2-CD2-CG | -6.19 | 102.34 | 107.30 |
| 2 | AA | 234 | C | N1-C1'-C2' | -6.19 | 105.19 | 112.00 |
| 35 | BB | 29 | A | C5'-C4'-O4' | 6.18 | 116.52 | 109.10 |
| 2 | AA | 1018 | C | N1-C1'-C2' | 6.18 | 122.03 | 114.00 |
| 2 | AA | 1530 | G | N9-C1'-C2' | 6.18 | 122.03 | 114.00 |
| 2 | AA | 2572 | A | N9-C1'-C2' | -6.18 | 105.20 | 112.00 |
| 34 | BA | 1541 | U | C3'-C2'-C1' | 6.18 | 106.44 | 101.50 |
| 34 | BA | 816 | A | N9-C1'-C2' | 6.18 | 122.03 | 114.00 |
| 14 | AO | 121 | ILE | N-CA-C | -6.18 | 94.33 | 111.00 |
| 33 | A9 | 27 | CYS | CB-CA-C | 6.17 | 122.75 | 110.40 |
| 35 | BB | 19 | G | C5'-C4'-C3' | 6.17 | 125.88 | 116.00 |
| 35 | BB | 1 | G | C2'-C3'-O3' | -6.17 | 95.92 | 109.50 |
| 2 | AA | 704 | G | N9-C1'-C2' | 6.17 | 122.02 | 114.00 |
| 34 | BA | 156 | G | N9-C1'-C2' | -6.16 | 105.22 | 112.00 |
| 2 | AA | 2267 | A | O5'-P-OP1 | -6.16 | 100.16 | 105.70 |
| 34 | BA | 723 | U | O4'-C1'-N1 | -6.15 | 103.28 | 108.20 |
| 10 | AK | 127 | THR | N-CA-C | -6.15 | 94.40 | 111.00 |
| 5 | AE | 253 | GLN | N-CA-C | -6.13 | 94.44 | 111.00 |
| 6 | AF | 233 | THR | N-CA-C | 6.13 | 127.55 | 111.00 |
| 35 | BB | 18 | G | N3-C4-N9 | -6.12 | 122.33 | 126.00 |
| 34 | BA | 1541 | U | C5-C6-N1 | -6.12 | 119.64 | 122.70 |
| 34 | BA | 964 | A | N9-C1'-C2' | -6.12 | 105.27 | 112.00 |
| 2 | AA | 49 | A | N9-C1'-C2' | -6.12 | 105.27 | 112.00 |
| 2 | AA | 2014 | A | N9-C1'-C2' | -6.11 | 105.28 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 34 | BA | 38 | G | N9-C1'-C2' | -6.11 | 105.28 | 112.00 |
| 35 | BB | 48 | C | OP1-P-O3' | 6.11 | 118.65 | 105.20 |
| 2 | AA | 967 | C | N1-C1'-C2' | -6.11 | 105.28 | 112.00 |
| 2 | AA | 1667 | G | N9-C1'-C2' | 6.11 | 121.94 | 114.00 |
| 2 | AA | 2270 | G | N9-C1'-C2' | -6.11 | 105.28 | 112.00 |
| 36 | B1 | 48 | A | C2-N3-C4 | 6.11 | 113.65 | 110.60 |
| 34 | BA | 1506 | U | C1'-O4'-C4' | -6.11 | 105.02 | 109.90 |
| 34 | BA | 243 | A | N9-C1'-C2' | 6.11 | 121.94 | 114.00 |
| 2 | AA | 1220 | A | N9-C1'-C2' | 6.10 | 121.94 | 114.00 |
| 2 | AA | 2599 | G | N9-C1'-C2' | 6.10 | 121.93 | 114.00 |
| 2 | AA | 421 | U | N1-C1'-C2' | 6.10 | 121.93 | 114.00 |
| 5 | AE | 109 | ASP | N-CA-C | -6.10 | 94.54 | 111.00 |
| 2 | AA | 2854 | G | N9-C1'-C2' | -6.09 | 105.30 | 112.00 |
| 2 | AA | 1424 | G | O4'-C4'-C3' | -6.09 | 97.91 | 104.00 |
| 13 | AN | 88 | ARG | N-CA-C | -6.08 | 94.58 | 111.00 |
| 35 | BB | 38 | A | C4-N9-C1' | 6.08 | 137.24 | 126.30 |
| 1 | AB | 34 | U | N1-C1'-C2' | 6.08 | 121.90 | 114.00 |
| 21 | AV | 8 | ARG | N-CA-C | -6.07 | 94.60 | 111.00 |
| 2 | AA | 2439 | A | N9-C1'-C2' | 6.07 | 121.89 | 114.00 |
| 34 | BA | 314 | C | N1-C1'-C2' | 6.07 | 121.89 | 114.00 |
| 2 | AA | 178 | G | N9-C1'-C2' | -6.07 | 105.33 | 112.00 |
| 2 | AA | 2107 | C | N1-C1'-C2' | -6.07 | 105.33 | 112.00 |
| 11 | AL | 66 | PHE | N-CA-C | 6.06 | 127.37 | 111.00 |
| 34 | BA | 1004 | A | C2'-C3'-O3' | 6.06 | 123.40 | 113.70 |
| 34 | BA | 321 | A | N9-C1'-C2' | -6.06 | 105.33 | 112.00 |
| 2 | AA | 654 | A | N9-C1'-C2' | -6.05 | 105.34 | 112.00 |
| 2 | AA | 2131 | G | N9-C1'-C2' | 6.05 | 121.87 | 114.00 |
| 15 | AP | 83 | PHE | N-CA-C | -6.05 | 94.67 | 111.00 |
| 35 | BC | 61 | C | C5'-C4'-O4' | 6.05 | 116.36 | 109.10 |
| 2 | AA | 1999 | C | N1-C1'-C2' | -6.05 | 105.35 | 112.00 |
| 2 | AA | 1670 | C | O4'-C1'-N1 | -6.04 | 103.37 | 108.20 |
| 17 | AR | 32 | CYS | N-CA-C | 6.04 | 127.31 | 111.00 |
| 2 | AA | 2585 | U | N1-C1'-C2' | 6.04 | 121.85 | 114.00 |
| 2 | AA | 2716 | U | N1-C1'-C2' | -6.04 | 105.36 | 112.00 |
| 35 | BB | 21 | A | C5'-C4'-C3' | 6.03 | 125.65 | 116.00 |
| 2 | AA | 834 | C | N1-C1'-C2' | -6.03 | 105.37 | 112.00 |
| 34 | BA | 818 | G | C1'-O4'-C4' | -6.02 | 105.08 | 109.90 |
| 2 | AA | 142 | G | C5-C6-N1 | 6.02 | 114.51 | 111.50 |
| 2 | AA | 530 | G | O4'-C1'-N9 | 6.02 | 113.01 | 108.20 |
| 2 | AA | 627 | A | O4'-C1'-N9 | 6.02 | 113.01 | 108.20 |
| 35 | BB | 38 | A | C8-N9-C1' | -6.02 | 116.87 | 127.70 |
| 2 | AA | 2647 | U | O5'-P-OP1 | -6.01 | 100.29 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1728 | G | N9-C1'-C2' | 6.00 | 121.80 | 114.00 |
| 2 | AA | 282 | A | N9-C1'-C2' | -6.00 | 105.40 | 112.00 |
| 2 | AA | 2320 | A | N9-C1'-C2' | 6.00 | 121.80 | 114.00 |
| 2 | AA | 1493 | C | N1-C1'-C2' | 6.00 | 121.80 | 114.00 |
| 2 | AA | 1805 | U | O4'-C4'-C3' | -6.00 | 98.00 | 104.00 |
| 2 | AA | 930 | U | N1-C2-O2 | 5.99 | 126.99 | 122.80 |
| 34 | BA | 1506 | U | O4'-C1'-N1 | 5.98 | 112.98 | 108.20 |
| 2 | AA | 687 | C | N1-C2-O2 | 5.98 | 122.49 | 118.90 |
| 10 | AK | 130 | PRO | N-CA-C | -5.98 | 96.56 | 112.10 |
| 34 | BA | 489 | C | N1-C1'-C2' | -5.98 | 105.42 | 112.00 |
| 2 | AA | 2819 | G | N9-C1'-C2' | 5.98 | 121.77 | 114.00 |
| 5 | AE | 192 | ILE | N-CA-C | -5.98 | 94.87 | 111.00 |
| 35 | BB | 71 | G | C4-N9-C1' | 5.98 | 134.27 | 126.50 |
| 2 | AA | 1910 | G | N9-C1'-C2' | -5.97 | 105.43 | 112.00 |
| 28 | A4 | 43 | TRP | CA-CB-CG | 5.97 | 125.05 | 113.70 |
| 35 | BB | 23 | A | N9-C1'-C2' | -5.97 | 105.43 | 112.00 |
| 35 | BB | 41 | U | O3'-P-O5' | -5.97 | 92.65 | 104.00 |
| 2 | AA | 790 | C | O4'-C1'-N1 | 5.97 | 112.97 | 108.20 |
| 35 | BB | 52 | U | N1-C1'-C2' | 5.97 | 121.76 | 114.00 |
| 2 | AA | 1698 | A | C5'-C4'-O4' | -5.97 | 101.94 | 109.10 |
| 2 | AA | 1668 | A | C2'-C3'-O3' | 5.96 | 123.24 | 113.70 |
| 23 | AX | 27 | GLY | N-CA-C | -5.96 | 98.20 | 113.10 |
| 34 | BA | 1091 | U | N1-C1'-C2' | -5.96 | 105.44 | 112.00 |
| 34 | BA | 197 | A | N9-C1'-C2' | 5.95 | 121.73 | 114.00 |
| 2 | AA | 1635 | G | C5'-C4'-C3' | -5.95 | 106.48 | 116.00 |
| 2 | AA | 1732 | A | N9-C1'-C2' | 5.95 | 121.73 | 114.00 |
| 2 | AA | 296 | C | O4'-C1'-N1 | 5.95 | 112.96 | 108.20 |
| 2 | AA | 1742 | C | N1-C1'-C2' | -5.94 | 105.46 | 112.00 |
| 34 | BA | 517 | G | N9-C1'-C2' | 5.94 | 121.72 | 114.00 |
| 2 | AA | 338 | G | N9-C1'-C2' | 5.94 | 121.72 | 114.00 |
| 2 | AA | 1970 | A | C1'-O4'-C4' | -5.94 | 105.15 | 109.90 |
| 2 | AA | 1011 | G | N9-C1'-C2' | 5.94 | 121.72 | 114.00 |
| 2 | AA | 1936 | A | N9-C1'-C2' | 5.94 | 121.72 | 114.00 |
| 2 | AA | 2724 | C | O4'-C1'-N1 | 5.94 | 112.95 | 108.20 |
| 35 | BB | 49 | C | C5'-C4'-O4' | 5.94 | 116.22 | 109.10 |
| 34 | BA | 1192 | C | N1-C2-O2 | 5.93 | 122.46 | 118.90 |
| 2 | AA | 155 | C | N1-C1'-C2' | 5.93 | 121.71 | 114.00 |
| 2 | AA | 2564 | A | C5'-C4'-C3' | -5.93 | 106.51 | 116.00 |
| 35 | BB | 39 | U | C6-N1-C2 | -5.93 | 117.44 | 121.00 |
| 35 | BB | 56 | C | O4'-C1'-N1 | -5.93 | 103.46 | 108.20 |
| 53 | BU | 80 | PRO | N-CA-C | 5.92 | 127.49 | 112.10 |
| 2 | AA | 1568 | G | N9-C1'-C2' | 5.92 | 121.69 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1310 | G | C5'-C4'-O4' | 5.92 | 116.20 | 109.10 |
| 34 | BA | 1200 | C | N1-C1'-C2' | 5.92 | 121.69 | 114.00 |
| 2 | AA | 1247 | A | N9-C1'-C2' | 5.92 | 121.69 | 114.00 |
| 34 | BA | 1408 | A | N9-C1'-C2' | -5.92 | 105.49 | 112.00 |
| 34 | BA | 1004 | A | N9-C1'-C2' | 5.91 | 121.68 | 114.00 |
| 2 | AA | 2657 | A | N9-C1'-C2' | -5.91 | 105.50 | 112.00 |
| 2 | AA | 2757 | A | N9-C1'-C2' | -5.90 | 105.51 | 112.00 |
| 27 | A3 | 38 | VAL | N-CA-C | 5.90 | 126.94 | 111.00 |
| 2 | AA | 2664 | G | N9-C1'-C2' | -5.90 | 105.51 | 112.00 |
| 35 | BB | 74 | C | O4'-C1'-N1 | 5.90 | 112.92 | 108.20 |
| 34 | BA | 90 | U | N1-C1'-C2' | 5.90 | 121.67 | 114.00 |
| 35 | BB | 34 | G | P-O3'-C3' | -5.90 | 112.62 | 119.70 |
| 55 | BW | 96 | GLY | N-CA-C | 5.90 | 127.84 | 113.10 |
| 2 | AA | 973 | A | O4'-C1'-N9 | 5.89 | 112.92 | 108.20 |
| 34 | BA | 575 | G | N9-C1'-C2' | 5.89 | 121.66 | 114.00 |
| 34 | BA | 1166 | G | N9-C1'-C2' | -5.89 | 105.52 | 112.00 |
| 2 | AA | 1888 | G | N9-C1'-C2' | 5.89 | 121.65 | 114.00 |
| 2 | AA | 1083 | U | O3'-P-O5' | 5.89 | 115.18 | 104.00 |
| 34 | BA | 92 | C | O4'-C1'-N1 | 5.89 | 112.91 | 108.20 |
| 2 | AA | 386 | G | O4'-C1'-N9 | 5.88 | 112.91 | 108.20 |
| 2 | AA | 1824 | G | N9-C1'-C2' | -5.88 | 105.53 | 112.00 |
| 34 | BA | 1529 | G | O4'-C1'-N9 | 5.88 | 112.90 | 108.20 |
| 2 | AA | 2566 | A | N9-C1'-C2' | 5.88 | 121.64 | 114.00 |
| 35 | BB | 36 | A | O3'-P-O5' | 5.88 | 115.17 | 104.00 |
| 2 | AA | 787 | U | O4'-C4'-C3' | -5.87 | 98.13 | 104.00 |
| 2 | AA | 2664 | G | O4'-C4'-C3' | -5.87 | 98.13 | 104.00 |
| 35 | BB | 58 | A | N9-C1'-C2' | 5.87 | 121.64 | 114.00 |
| 35 | BB | 15 | G | C4'-C3'-O3' | 5.87 | 124.74 | 113.00 |
| 37 | BE | 151 | GLY | N-CA-C | -5.87 | 98.43 | 113.10 |
| 34 | BA | 653 | A | N9-C1'-C2' | 5.87 | 121.62 | 114.00 |
| 2 | AA | 865 | C | N1-C1'-C2' | 5.86 | 121.62 | 114.00 |
| 2 | AA | 1444 | G | C2'-C3'-O3' | 5.86 | 123.08 | 113.70 |
| 5 | AE | 238 | LEU | CA-CB-CG | -5.86 | 101.82 | 115.30 |
| 2 | AA | 2732 | G | N9-C1'-C2' | 5.86 | 121.61 | 114.00 |
| 34 | BA | 556 | C | O4'-C4'-C3' | -5.86 | 98.14 | 104.00 |
| 2 | AA | 142 | G | C6-C5-N7 | 5.85 | 133.91 | 130.40 |
| 2 | AA | 1304 | C | N1-C1'-C2' | -5.85 | 105.57 | 112.00 |
| 34 | BA | 360 | A | N9-C1'-C2' | -5.84 | 105.57 | 112.00 |
| 30 | A6 | 24 | THR | N-CA-C | 5.84 | 126.77 | 111.00 |
| 2 | AA | 974 | G | C5'-C4'-O4' | 5.84 | 116.11 | 109.10 |
| 2 | AA | 917 | A | C4-N9-C1' | 5.83 | 136.80 | 126.30 |
| 2 | AA | 2509 | G | N9-C1'-C2' | -5.83 | 105.58 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 16 | AQ | 33 | ARG | N-CA-C | -5.83 | 95.25 | 111.00 |
| 14 | AO | 53 | ARG | N-CA-C | 5.83 | 126.74 | 111.00 |
| 34 | BA | 1025 | U | N1-C1'-C2' | -5.83 | 105.59 | 112.00 |
| 2 | AA | 271(C) | U | C2'-C3'-O3' | 5.83 | 123.02 | 113.70 |
| 2 | AA | 2110 | G | C2'-C3'-O3' | 5.83 | 123.02 | 113.70 |
| 2 | AA | 1625 | C | C2-N1-C1' | 5.82 | 125.20 | 118.80 |
| 2 | AA | 1482 | U | C3'-C2'-C1' | -5.82 | 96.84 | 101.50 |
| 35 | BB | 15 | G | C5'-C4'-O4' | -5.82 | 102.12 | 109.10 |
| 34 | BA | 563 | A | N9-C1'-C2' | 5.82 | 121.56 | 114.00 |
| 2 | AA | 953 | A | N9-C1'-C2' | -5.82 | 105.60 | 112.00 |
| 2 | AA | 829 | A | N9-C1'-C2' | 5.81 | 121.56 | 114.00 |
| 30 | A6 | 29 | ARG | N-CA-C | -5.81 | 95.32 | 111.00 |
| 34 | BA | 454 | C | N1-C1'-C2' | -5.81 | 105.61 | 112.00 |
| 29 | A5 | 38 | GLY | N-CA-C | -5.81 | 98.58 | 113.10 |
| 2 | AA | 1206 | G | C4'-C3'-C2' | -5.80 | 96.80 | 102.60 |
| 2 | AA | 1494 | A | N9-C1'-C2' | -5.80 | 105.62 | 112.00 |
| 17 | AR | 15 | PRO | CA-N-CD | -5.80 | 103.37 | 111.50 |
| 2 | AA | 1359 | A | C5-C6-N6 | 5.79 | 128.34 | 123.70 |
| 2 | AA | 1324 | G | C2'-C3'-O3' | 5.79 | 122.97 | 113.70 |
| 35 | BB | 53 | G | C4'-C3'-C2' | -5.79 | 96.81 | 102.60 |
| 2 | AA | 2040 | C | O4'-C4'-C3' | -5.79 | 98.21 | 104.00 |
| 13 | AN | 95 | GLY | N-CA-C | 5.79 | 127.58 | 113.10 |
| 35 | BB | 45 | G | O4'-C1'-N9 | 5.79 | 112.83 | 108.20 |
| 34 | BA | 533 | A | N9-C1'-C2' | 5.78 | 121.52 | 114.00 |
| 34 | BA | 388 | G | N9-C1'-C2' | 5.78 | 121.52 | 114.00 |
| 2 | AA | 1732 | A | O4'-C1'-N9 | 5.78 | 112.82 | 108.20 |
| 2 | AA | 2656 | U | C5-C4-O4 | -5.78 | 122.43 | 125.90 |
| 2 | AA | 2458 | G | C5'-C4'-C3' | -5.78 | 106.76 | 116.00 |
| 2 | AA | 2361 | A | C5'-C4'-C3' | -5.77 | 106.77 | 116.00 |
| 2 | AA | 2091 | U | N1-C1'-C2' | -5.77 | 105.65 | 112.00 |
| 35 | BB | 19 | G | C2'-C3'-O3' | -5.77 | 96.81 | 109.50 |
| 2 | AA | 2345 | G | C1'-O4'-C4' | -5.77 | 105.29 | 109.90 |
| 34 | BA | 1294 | G | N9-C1'-C2' | -5.76 | 105.66 | 112.00 |
| 2 | AA | 774 | A | C6-N1-C2 | -5.76 | 115.14 | 118.60 |
| 2 | AA | 1364 | G | C5'-C4'-O4' | -5.76 | 102.19 | 109.10 |
| 2 | AA | 687 | C | C2-N1-C1' | 5.76 | 125.14 | 118.80 |
| 2 | AA | 1626 | G | C5'-C4'-O4' | 5.76 | 116.01 | 109.10 |
| 12 | AM | 19 | MET | CA-CB-CG | -5.76 | 103.51 | 113.30 |
| 6 | AF | 57 | PRO | N-CA-C | 5.75 | 127.06 | 112.10 |
| 35 | BB | 16 | U | N1-C1'-C2' | 5.75 | 121.47 | 114.00 |
| 2 | AA | 1625 | C | N1-C2-O2 | 5.74 | 122.35 | 118.90 |
| 2 | AA | 1372 | U | C5-C4-O4 | -5.74 | 122.46 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 34 | BA | 1301 | U | N1-C1'-C2' | 5.74 | 121.46 | 114.00 |
| 2 | AA | 1206 | G | C5'-C4'-C3' | 5.74 | 125.18 | 116.00 |
| 26 | A2 | 99 | GLN | N-CA-C | 5.74 | 126.49 | 111.00 |
| 35 | BB | 15 | G | O4'-C4'-C3' | -5.74 | 98.26 | 104.00 |
| 2 | AA | 667 | U | C5'-C4'-O4' | -5.74 | 102.22 | 109.10 |
| 2 | AA | 444(A) | A | O5'-P-OP2 | 5.73 | 117.58 | 110.70 |
| 13 | AN | 64 | ARG | NE-CZ-NH2 | -5.73 | 117.44 | 120.30 |
| 51 | BS | 16 | HIS | N-CA-C | -5.73 | 95.54 | 111.00 |
| 29 | A5 | 10 | LYS | N-CA-C | -5.73 | 95.54 | 111.00 |
| 2 | AA | 2620 | C | O4'-C1'-N1 | 5.72 | 112.78 | 108.20 |
| 35 | BB | 34 | G | N9-C1'-C2' | 5.72 | 121.44 | 114.00 |
| 2 | AA | 805 | G | C5'-C4'-C3' | -5.72 | 106.85 | 116.00 |
| 21 | AV | 167 | THR | N-CA-C | 5.72 | 126.44 | 111.00 |
| 2 | AA | 2114 | A | N9-C1'-C2' | 5.72 | 121.43 | 114.00 |
| 2 | AA | 2364 | C | O4'-C1'-N1 | 5.72 | 112.78 | 108.20 |
| 1 | AB | 44 | G | N9-C1'-C2' | -5.71 | 105.72 | 112.00 |
| 2 | AA | 746 | A | C1'-O4'-C4' | -5.71 | 105.33 | 109.90 |
| 2 | AA | 901 | A | N9-C1'-C2' | -5.71 | 105.72 | 112.00 |
| 6 | AF | 224 | ALA | N-CA-C | -5.71 | 95.59 | 111.00 |
| 6 | AF | 54 | LEU | C-N-CA | 5.70 | 135.95 | 121.70 |
| 35 | BB | 74 | C | O4'-C4'-C3' | -5.70 | 98.30 | 104.00 |
| 2 | AA | 390 | A | C5'-C4'-O4' | -5.70 | 102.26 | 109.10 |
| 2 | AA | 776 | G | C2'-C3'-O3' | 5.70 | 122.81 | 113.70 |
| 2 | AA | 2777 | G | C5'-C4'-O4' | 5.69 | 115.93 | 109.10 |
| 13 | AN | 30 | ARG | N-CA-C | 5.69 | 126.37 | 111.00 |
| 34 | BA | 656 | C | N1-C1'-C2' | -5.69 | 105.74 | 112.00 |
| 35 | BB | 71 | G | N3-C4-C5 | -5.69 | 125.75 | 128.60 |
| 2 | AA | 204 | A | N9-C1'-C2' | 5.69 | 121.40 | 114.00 |
| 2 | AA | 2061 | G | N9-C1'-C2' | 5.69 | 121.40 | 114.00 |
| 2 | AA | 1557 | C | N1-C1'-C2' | 5.69 | 121.40 | 114.00 |
| 2 | AA | 1706 | U | N1-C1'-C2' | 5.69 | 121.39 | 114.00 |
| 34 | BA | 1302 | U | N1-C1'-C2' | 5.69 | 121.39 | 114.00 |
| 15 | AP | 73 | GLN | N-CA-C | 5.68 | 126.35 | 111.00 |
| 2 | AA | 1036 | G | N9-C1'-C2' | -5.68 | 105.75 | 112.00 |
| 2 | AA | 983 | A | C4'-C3'-C2' | -5.68 | 96.92 | 102.60 |
| 15 | AP | 31 | PHE | N-CA-C | 5.67 | 126.31 | 111.00 |
| 34 | BA | 785 | G | O5'-P-OP1 | -5.67 | 100.60 | 105.70 |
| 2 | AA | 913 | U | N1-C1'-C2' | 5.67 | 121.36 | 114.00 |
| 2 | AA | 1379 | A | O4'-C1'-N9 | -5.66 | 103.67 | 108.20 |
| 32 | A8 | 14 | ILE | N-CA-C | 5.66 | 126.28 | 111.00 |
| 32 | A8 | 9 | MET | CB-CG-SD | 5.66 | 129.37 | 112.40 |
| 32 | A8 | 32 | GLN | N-CA-C | -5.65 | 95.74 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 2676 | C | N1-C1'-C2' | -5.65 | 105.78 | 112.00 |
| 35 | BC | 1 | G | OP1-P-OP2 | -5.65 | 111.13 | 119.60 |
| 2 | AA | 917 | A | C8-N9-C1' | -5.65 | 117.53 | 127.70 |
| 4 | AD | 81 | GLU | N-CA-C | -5.64 | 95.76 | 111.00 |
| 4 | AD | 234 | HIS | N-CA-C | 5.64 | 126.23 | 111.00 |
| 2 | AA | 2501 | C | N1-C1'-C2' | 5.64 | 121.33 | 114.00 |
| 2 | AA | 1750 | G | C5'-C4'-C3' | 5.64 | 125.02 | 116.00 |
| 34 | BA | 647 | C | C5'-C4'-C3' | -5.64 | 106.98 | 116.00 |
| 2 | AA | 1105 | U | N1-C1'-C2' | 5.63 | 121.33 | 114.00 |
| 2 | AA | 1742 | C | O4'-C1'-N1 | 5.63 | 112.70 | 108.20 |
| 6 | AF | 55 | ARG | N-CA-C | 5.63 | 126.19 | 111.00 |
| 6 | AF | 218 | VAL | N-CA-C | -5.63 | 95.81 | 111.00 |
| 10 | AK | 147 | GLU | N-CA-C | -5.63 | 95.81 | 111.00 |
| 2 | AA | 1544 | C | O4'-C4'-C3' | -5.62 | 98.38 | 104.00 |
| 52 | BT | 22 | LEU | CA-CB-CG | -5.62 | 102.36 | 115.30 |
| 2 | AA | 728 | G | N9-C1'-C2' | 5.62 | 121.31 | 114.00 |
| 34 | BA | 484 | G | N9-C1'-C2' | 5.62 | 121.30 | 114.00 |
| 2 | AA | 99 | U | N1-C1'-C2' | -5.61 | 105.83 | 112.00 |
| 2 | AA | 1681 | G | O4'-C1'-N9 | 5.61 | 112.69 | 108.20 |
| 2 | AA | 1420 | U | N1-C1'-C2' | 5.61 | 121.29 | 114.00 |
| 4 | AD | 216 | ALA | N-CA-C | 5.61 | 126.13 | 111.00 |
| 2 | AA | 1219 | G | N9-C1'-C2' | 5.60 | 121.28 | 114.00 |
| 2 | AA | 1448 | G | N9-C1'-C2' | 5.60 | 121.28 | 114.00 |
| 40 | BH | 12 | LEU | CA-CB-CG | 5.60 | 128.18 | 115.30 |
| 34 | BA | 1506 | U | C2'-C3'-O3' | -5.60 | 97.19 | 109.50 |
| 2 | AA | 1545 | A | N9-C1'-C2' | 5.59 | 121.27 | 114.00 |
| 2 | AA | 1696 | G | OP2-P-O3' | 5.59 | 117.50 | 105.20 |
| 5 | AE | 66 | GLU | N-CA-C | -5.59 | 95.90 | 111.00 |
| 2 | AA | 1607 | C | N1-C1'-C2' | -5.59 | 105.85 | 112.00 |
| 2 | AA | 1970 | A | N9-C1'-C2' | 5.59 | 121.27 | 114.00 |
| 5 | AE | 112 | LEU | CA-CB-CG | 5.59 | 128.15 | 115.30 |
| 35 | BB | 38 | A | OP1-P-O3' | 5.59 | 117.49 | 105.20 |
| 35 | BB | 16 | U | O5'-P-OP2 | -5.58 | 100.67 | 105.70 |
| 1 | AB | 74 | U | C1'-O4'-C4' | -5.58 | 105.44 | 109.90 |
| 2 | AA | 2398 | U | N1-C1'-C2' | -5.58 | 105.86 | 112.00 |
| 2 | AA | 554 | U | N1-C1'-C2' | 5.58 | 121.25 | 114.00 |
| 34 | BA | 1279 | A | N9-C1'-C2' | 5.58 | 121.25 | 114.00 |
| 49 | BQ | 24 | CYS | CA-CB-SG | 5.58 | 124.04 | 114.00 |
| 10 | AK | 140 | THR | N-CA-C | -5.57 | 95.95 | 111.00 |
| 35 | BB | 3 | G | O4'-C1'-N9 | 5.57 | 112.66 | 108.20 |
| 2 | AA | 2115 | G | N9-C1'-C2' | -5.57 | 105.87 | 112.00 |
| 4 | AD | 163 | VAL | N-CA-C | -5.57 | 95.97 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 737 | C | O4'-C1'-N1 | 5.57 | 112.65 | 108.20 |
| 2 | AA | 1625 | C | O4'-C4'-C3' | 5.56 | 110.55 | 106.10 |
| 34 | BA | 1499 | A | C5'-C4'-O4' | 5.56 | 115.78 | 109.10 |
| 2 | AA | 775 | G | N3-C4-N9 | 5.56 | 129.34 | 126.00 |
| 34 | BA | 774 | G | N9-C1'-C2' | -5.56 | 105.88 | 112.00 |
| 35 | BB | 62 | A | N9-C1'-C2' | 5.56 | 121.23 | 114.00 |
| 2 | AA | 1561 | G | O5'-P-OP1 | -5.56 | 100.70 | 105.70 |
| 2 | AA | 148 | C | C5'-C4'-O4' | 5.56 | 115.77 | 109.10 |
| 2 | AA | 1670 | C | C2'-C3'-O3' | 5.56 | 122.59 | 113.70 |
| 5 | AE | 312 | ARG | N-CA-C | -5.56 | 96.00 | 111.00 |
| 35 | BB | 18 | G | N9-C4-C5 | 5.56 | 107.62 | 105.40 |
| 2 | AA | 585 | G | C5'-C4'-O4' | -5.55 | 102.44 | 109.10 |
| 35 | BB | 11 | C | OP1-P-O3' | 5.55 | 117.42 | 105.20 |
| 2 | AA | 2018 | G | N9-C1'-C2' | -5.55 | 105.90 | 112.00 |
| 2 | AA | 2137 | C | N1-C1'-C2' | 5.55 | 121.22 | 114.00 |
| 2 | AA | 1175 | U | N1-C1'-C2' | 5.55 | 121.21 | 114.00 |
| 2 | AA | 676 | A | N9-C1'-C2' | 5.55 | 121.21 | 114.00 |
| 2 | AA | 2733 | A | O4'-C4'-C3' | -5.55 | 98.45 | 104.00 |
| 14 | AO | 74 | THR | N-CA-C | -5.55 | 96.03 | 111.00 |
| 34 | BA | 164 | U | O4'-C1'-N1 | 5.55 | 112.64 | 108.20 |
| 3 | AC | 128 | GLY | N-CA-C | -5.54 | 99.24 | 113.10 |
| 35 | BB | 39 | U | N3-C2-O2 | -5.54 | 118.32 | 122.20 |
| 2 | AA | 1782 | C | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 35 | BB | 38 | A | O3'-P-O5' | -5.54 | 93.48 | 104.00 |
| 44 | BL | 64 | THR | N-CA-C | -5.54 | 96.05 | 111.00 |
| 2 | AA | 2614 | A | C1'-O4'-C4' | -5.53 | 105.47 | 109.90 |
| 34 | BA | 810 | C | C1'-O4'-C4' | -5.53 | 105.47 | 109.90 |
| 29 | A5 | 36 | CYS | CA-CB-SG | -5.53 | 104.05 | 114.00 |
| 35 | BB | 72 | C | C4'-C3'-C2' | 5.53 | 108.13 | 102.60 |
| 35 | BB | 15 | G | C5'-C4'-C3' | -5.53 | 107.15 | 116.00 |
| 34 | BA | 10 | A | N9-C1'-C2' | -5.53 | 105.92 | 112.00 |
| 2 | AA | 983 | A | C3'-C2'-C1' | 5.52 | 105.92 | 101.50 |
| 34 | BA | 31 | G | C1'-O4'-C4' | -5.52 | 105.48 | 109.90 |
| 34 | BA | 1091 | U | O4'-C4'-C3' | -5.52 | 98.48 | 104.00 |
| 5 | AE | 79 | ARG | N-CA-C | 5.52 | 125.90 | 111.00 |
| 2 | AA | 1758 | G | N9-C1'-C2' | 5.52 | 121.17 | 114.00 |
| 35 | BB | 37 | G | O5'-P-OP2 | 5.51 | 117.32 | 110.70 |
| 35 | BB | 32 | C | C5'-C4'-C3' | -5.51 | 107.19 | 116.00 |
| 6 | AF | 197 | SER | N-CA-C | 5.51 | 125.87 | 111.00 |
| 2 | AA | 2042 | A | C5'-C4'-O4' | 5.50 | 115.71 | 109.10 |
| 34 | BA | 578 | C | N1-C1'-C2' | -5.50 | 105.95 | 112.00 |
| 51 | BS | 63 | GLY | N-CA-C | 5.50 | 126.85 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 147 | U | N1-C1'-C2' | 5.50 | 121.15 | 114.00 |
| 35 | BB | 16 | U | O5'-P-OP1 | 5.50 | 117.30 | 110.70 |
| 35 | BB | 34 | G | O5'-P-OP1 | 5.50 | 117.30 | 110.70 |
| 2 | AA | 1083 | U | OP2-P-O3' | 5.49 | 117.28 | 105.20 |
| 2 | AA | 1778 | U | O4'-C1'-N1 | 5.49 | 112.59 | 108.20 |
| 39 | BG | 129 | ASN | N-CA-C | -5.49 | 96.19 | 111.00 |
| 2 | AA | 2493 | U | O5'-P-OP1 | -5.48 | 100.77 | 105.70 |
| 35 | BB | 40 | C | O4'-C1'-C2' | -5.47 | 100.33 | 105.80 |
| 34 | BA | 590 | C | N1-C1'-C2' | -5.47 | 105.98 | 112.00 |
| 2 | AA | 1991 | U | N1-C1'-C2' | -5.47 | 105.99 | 112.00 |
| 2 | AA | 271(C) | U | N1-C1'-C2' | 5.46 | 121.10 | 114.00 |
| 2 | AA | 2601 | C | OP2-P-O3' | 5.46 | 117.21 | 105.20 |
| 5 | AE | 245 | ARG | N-CA-C | 5.46 | 125.75 | 111.00 |
| 35 | BB | 33 | U | C2'-C3'-O3' | 5.46 | 122.44 | 113.70 |
| 34 | BA | 576 | G | O4'-C1'-N9 | 5.46 | 112.57 | 108.20 |
| 2 | AA | 2224 | G | C5'-C4'-C3' | -5.46 | 107.27 | 116.00 |
| 4 | AD | 182 | MET | N-CA-C | 5.46 | 125.73 | 111.00 |
| 17 | AR | 13 | ILE | C-N-CA | 5.46 | 135.34 | 121.70 |
| 26 | A2 | 63 | HIS | N-CA-C | -5.45 | 96.27 | 111.00 |
| 18 | AS | 25 | ARG | N-CA-C | 5.45 | 125.71 | 111.00 |
| 21 | AV | 72 | ASP | N-CA-C | 5.45 | 125.71 | 111.00 |
| 34 | BA | 1129 | C | N1-C1'-C2' | 5.45 | 121.08 | 114.00 |
| 2 | AA | 2809 | A | O4'-C1'-N9 | -5.45 | 103.84 | 108.20 |
| 35 | BB | 18 | G | N1-C2-N2 | 5.45 | 121.10 | 116.20 |
| 2 | AA | 624 | C | N1-C1'-C2' | -5.44 | 106.01 | 112.00 |
| 34 | BA | 173 | U | OP1-P-O3' | 5.44 | 117.17 | 105.20 |
| 2 | AA | 972 | G | OP2-P-O3' | 5.44 | 117.17 | 105.20 |
| 2 | AA | 284 | U | N1-C1'-C2' | 5.44 | 121.07 | 114.00 |
| 34 | BA | 371 | G | C5'-C4'-O4' | 5.44 | 115.62 | 109.10 |
| 38 | BF | 20 | SER | N-CA-C | -5.43 | 96.33 | 111.00 |
| 5 | AE | 224 | GLY | N-CA-C | 5.43 | 126.68 | 113.10 |
| 2 | AA | 1199 | U | O4'-C1'-N1 | 5.43 | 112.54 | 108.20 |
| 2 | AA | 775 | G | C4-N9-C1' | 5.42 | 133.55 | 126.50 |
| 2 | AA | 1942 | C | N1-C1'-C2' | 5.42 | 121.05 | 114.00 |
| 25 | A1 | 76 | TYR | CA-CB-CG | -5.42 | 103.09 | 113.40 |
| 34 | BA | 661 | G | C5'-C4'-C3' | -5.42 | 107.32 | 116.00 |
| 34 | BA | 203 | U | N1-C1'-C2' | 5.42 | 121.05 | 114.00 |
| 2 | AA | 646 | A | N9-C1'-C2' | 5.42 | 121.04 | 114.00 |
| 2 | AA | 2054 | A | N1-C6-N6 | 5.42 | 121.85 | 118.60 |
| 34 | BA | 190(I) | G | N9-C1'-C2' | -5.42 | 106.04 | 112.00 |
| 34 | BA | 190(H) | G | C5'-C4'-O4' | 5.41 | 115.60 | 109.10 |
| 35 | BB | 40 | C | C5'-C4'-C3' | -5.41 | 107.34 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 830 | G | OP1-P-O3' | 5.41 | 117.10 | 105.20 |
| 11 | AL | 57 | VAL | N-CA-C | -5.41 | 96.40 | 111.00 |
| 34 | BA | 1481 | U | O4'-C1'-N1 | 5.41 | 112.53 | 108.20 |
| 2 | AA | 1229 | G | C5'-C4'-C3' | 5.40 | 124.64 | 116.00 |
| 26 | A2 | 13 | ARG | N-CA-C | -5.40 | 96.42 | 111.00 |
| 6 | AF | 65 | ARG | N-CA-C | 5.40 | 125.57 | 111.00 |
| 43 | BK | 70 | GLN | N-CA-C | 5.40 | 125.57 | 111.00 |
| 2 | AA | 2042 | A | O4'-C4'-C3' | -5.39 | 98.61 | 104.00 |
| 27 | A3 | 41 | ARG | N-CA-C | -5.39 | 96.44 | 111.00 |
| 2 | AA | 1825 | A | N9-C1'-C2' | -5.39 | 106.07 | 112.00 |
| 23 | AX | 28 | LEU | CA-CB-CG | -5.39 | 102.91 | 115.30 |
| 34 | BA | 708 | C | N1-C1'-C2' | -5.39 | 106.07 | 112.00 |
| 13 | AN | 84 | CYS | CA-CB-SG | -5.39 | 104.31 | 114.00 |
| 29 | A5 | 23 | HIS | N-CA-C | 5.39 | 125.55 | 111.00 |
| 2 | AA | 1991 | U | C4'-C3'-O3' | 5.38 | 123.77 | 113.00 |
| 2 | AA | 2893 | G | N9-C1'-C2' | -5.38 | 106.08 | 112.00 |
| 2 | AA | 2364 | C | C5'-C4'-C3' | 5.38 | 124.61 | 116.00 |
| 2 | AA | 2665 | A | O4'-C1'-N9 | -5.38 | 103.90 | 108.20 |
| 35 | BB | 22 | G | OP2-P-O3' | 5.38 | 117.03 | 105.20 |
| 53 | BU | 60 | GLY | N-CA-C | -5.38 | 99.65 | 113.10 |
| 2 | AA | 1483 | G | N9-C1'-C2' | -5.37 | 106.09 | 112.00 |
| 2 | AA | 1673 | U | C5'-C4'-O4' | 5.37 | 115.55 | 109.10 |
| 34 | BA | 968 | A | OP2-P-O3' | 5.37 | 117.02 | 105.20 |
| 34 | BA | 1481 | U | N1-C1'-C2' | 5.37 | 120.98 | 114.00 |
| 35 | BB | 32 | C | C5'-C4'-O4' | -5.37 | 102.66 | 109.10 |
| 35 | BB | 69 | U | C5'-C4'-O4' | 5.37 | 115.54 | 109.10 |
| 2 | AA | 1932 | A | N9-C1'-C2' | -5.37 | 106.10 | 112.00 |
| 6 | AF | 168 | ARG | N-CA-C | 5.37 | 125.49 | 111.00 |
| 13 | AN | 76 | TYR | N-CA-C | 5.37 | 125.49 | 111.00 |
| 2 | AA | 2492 | U | N1-C1'-C2' | -5.36 | 106.10 | 112.00 |
| 2 | AA | 738 | G | N9-C1'-C2' | 5.36 | 120.97 | 114.00 |
| 2 | AA | 2606 | C | O5'-P-OP2 | -5.36 | 100.88 | 105.70 |
| 34 | BA | 755 | G | N9-C1'-C2' | -5.36 | 106.10 | 112.00 |
| 2 | AA | 989 | G | N9-C1'-C2' | 5.36 | 120.97 | 114.00 |
| 2 | AA | 2429 | G | C5'-C4'-O4' | 5.36 | 115.53 | 109.10 |
| 2 | AA | 1667 | G | C2'-C3'-O3' | 5.36 | 122.27 | 113.70 |
| 2 | AA | 2794 | C | C3'-C2'-C1' | -5.35 | 97.22 | 101.50 |
| 2 | AA | 1960 | A | O5'-P-OP2 | -5.35 | 100.89 | 105.70 |
| 2 | AA | 2678 | C | C5'-C4'-O4' | 5.35 | 115.52 | 109.10 |
| 35 | BB | 62 | A | O4'-C4'-C3' | -5.35 | 98.65 | 104.00 |
| 17 | AR | 38 | ASN | C-N-CA | -5.34 | 108.34 | 121.70 |
| 2 | AA | 1634 | A | OP1-P-O3' | 5.34 | 116.95 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 33 | A9 | 8 | LYS | N-CA-C | 5.34 | 125.43 | 111.00 |
| 13 | AN | 24 | VAL | N-CA-C | -5.34 | 96.58 | 111.00 |
| 11 | AL | 68 | PHE | N-CA-C | 5.34 | 125.42 | 111.00 |
| 11 | AL | 69 | ILE | N-CA-C | 5.34 | 125.42 | 111.00 |
| 27 | A3 | 21 | LEU | CA-CB-CG | -5.34 | 103.02 | 115.30 |
| 7 | AG | 100 | ASP | N-CA-C | 5.34 | 125.41 | 111.00 |
| 4 | AD | 118 | GLY | N-CA-C | 5.33 | 126.43 | 113.10 |
| 2 | AA | 1827 | C | O5'-P-OP1 | -5.33 | 100.90 | 105.70 |
| 2 | AA | 1785 | A | C4-N9-C1' | 5.33 | 135.88 | 126.30 |
| 2 | AA | 2150 | U | C1'-O4'-C4' | -5.33 | 105.64 | 109.90 |
| 2 | AA | 2425 | A | OP2-P-O3' | 5.33 | 116.92 | 105.20 |
| 2 | AA | 2510 | C | N1-C1'-C2' | -5.33 | 106.14 | 112.00 |
| 35 | BB | 47 | U | O5'-P-OP2 | -5.33 | 100.91 | 105.70 |
| 35 | BB | 37 | G | OP1-P-O3' | 5.32 | 116.91 | 105.20 |
| 2 | AA | 1140 | C | C5'-C4'-C3' | 5.32 | 124.51 | 116.00 |
| 2 | AA | 1626 | G | N9-C1'-C2' | 5.32 | 120.92 | 114.00 |
| 25 | A1 | 68 | GLY | N-CA-C | 5.32 | 126.40 | 113.10 |
| 2 | AA | 687 | C | N3-C2-O2 | -5.32 | 118.18 | 121.90 |
| 51 | BS | 78 | GLY | N-CA-C | -5.32 | 99.80 | 113.10 |
| 34 | BA | 760 | G | N9-C1'-C2' | -5.32 | 106.15 | 112.00 |
| 2 | AA | 1903 | G | N9-C1'-C2' | -5.32 | 106.15 | 112.00 |
| 2 | AA | 1931 | U | N1-C1'-C2' | -5.32 | 106.15 | 112.00 |
| 2 | AA | 192 | C | N1-C1'-C2' | -5.31 | 106.16 | 112.00 |
| 25 | A1 | 115 | ASN | CB-CA-C | 5.31 | 121.03 | 110.40 |
| 35 | BB | 69 | U | N1-C1'-C2' | -5.31 | 106.16 | 112.00 |
| 5 | AE | 248 | SER | N-CA-C | -5.31 | 96.67 | 111.00 |
| 2 | AA | 438 | G | N9-C1'-C2' | -5.30 | 106.17 | 112.00 |
| 2 | AA | 774 | A | C5-C6-N6 | -5.30 | 119.46 | 123.70 |
| 43 | BK | 111 | ILE | CB-CA-C | -5.30 | 100.99 | 111.60 |
| 35 | BB | 24 | G | C5'-C4'-C3' | -5.30 | 107.52 | 116.00 |
| 2 | AA | 832 | G | C5'-C4'-O4' | 5.30 | 115.46 | 109.10 |
| 14 | AO | 109 | LEU | CA-CB-CG | 5.30 | 127.49 | 115.30 |
| 35 | BB | 46 | G | N9-C4-C5 | -5.30 | 103.28 | 105.40 |
| 35 | BC | 21 | A | O4'-C1'-N9 | 5.30 | 112.44 | 108.20 |
| 2 | AA | 698 | C | N1-C1'-C2' | 5.30 | 120.89 | 114.00 |
| 2 | AA | 1142 | U | O4'-C4'-C3' | -5.29 | 98.71 | 104.00 |
| 35 | BB | 51 | G | N9-C4-C5 | 5.29 | 107.52 | 105.40 |
| 2 | AA | 296 | C | O4'-C4'-C3' | -5.29 | 98.71 | 104.00 |
| 2 | AA | 1991 | U | C4'-C3'-C2' | -5.29 | 97.31 | 102.60 |
| 45 | BM | 61 | GLU | N-CA-C | -5.29 | 96.71 | 111.00 |
| 2 | AA | 2121 | G | O4'-C4'-C3' | -5.29 | 98.71 | 104.00 |
| 2 | AA | 1673 | U | N1-C1'-C2' | 5.29 | 120.87 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 5 | AE | 200 | ASP | N-CA-C | -5.29 | 96.73 | 111.00 |
| 50 | BR | 45 | VAL | N-CA-C | -5.29 | 96.73 | 111.00 |
| 34 | BA | 270 | A | C5'-C4'-C3' | -5.28 | 107.55 | 116.00 |
| 16 | AQ | 107 | ASN | N-CA-C | 5.28 | 125.25 | 111.00 |
| 2 | AA | 1521 | G | N9-C1'-C2' | 5.28 | 120.86 | 114.00 |
| 2 | AA | 296 | C | N1-C1'-C2' | -5.27 | 106.20 | 112.00 |
| 36 | B1 | 49 | A | O5'-P-OP1 | 5.27 | 117.03 | 110.70 |
| 38 | BF | 198 | VAL | CB-CA-C | -5.27 | 101.38 | 111.40 |
| 38 | BF | 94 | LEU | CA-CB-CG | 5.27 | 127.42 | 115.30 |
| 2 | AA | 1191 | G | N9-C1'-C2' | -5.27 | 106.20 | 112.00 |
| 34 | BA | 785 | G | C5'-C4'-C3' | -5.27 | 107.57 | 116.00 |
| 1 | AB | 75 | G | O4'-C1'-N9 | 5.26 | 112.41 | 108.20 |
| 2 | AA | 282 | A | C3'-C2'-C1' | -5.26 | 97.29 | 101.50 |
| 50 | BR | 66 | LEU | CA-CB-CG | -5.26 | 103.19 | 115.30 |
| 2 | AA | 1249 | U | C5'-C4'-O4' | -5.26 | 102.78 | 109.10 |
| 2 | AA | 70 | G | N9-C1'-C2' | 5.26 | 120.84 | 114.00 |
| 2 | AA | 2626 | C | N1-C1'-C2' | -5.26 | 106.21 | 112.00 |
| 2 | AA | 2641 | G | C5'-C4'-C3' | 5.26 | 124.42 | 116.00 |
| 2 | AA | 866 | A | N9-C1'-C2' | -5.26 | 106.22 | 112.00 |
| 25 | A1 | 85 | ARG | N-CA-C | -5.26 | 96.80 | 111.00 |
| 2 | AA | 535 | C | N1-C1'-C2' | -5.26 | 106.22 | 112.00 |
| 2 | AA | 331 | A | C2'-C3'-O3' | 5.26 | 122.11 | 113.70 |
| 15 | AP | 35 | ASN | N-CA-C | 5.26 | 125.19 | 111.00 |
| 17 | AR | 11 | THR | CA-C-N | -5.26 | 105.64 | 117.20 |
| 35 | BB | 34 | G | C4-N9-C1' | -5.26 | 119.67 | 126.50 |
| 14 | AO | 94 | ARG | N-CA-C | 5.25 | 125.18 | 111.00 |
| 34 | BA | 529 | G | N9-C1'-C2' | -5.25 | 106.23 | 112.00 |
| 2 | AA | 71 | A | OP2-P-O3' | 5.24 | 116.74 | 105.20 |
| 2 | AA | 1372 | U | C2-N3-C4 | -5.24 | 123.86 | 127.00 |
| 15 | AP | 92 | VAL | N-CA-C | 5.24 | 125.15 | 111.00 |
| 34 | BA | 884 | U | N1-C1'-C2' | 5.24 | 120.81 | 114.00 |
| 55 | BW | 36 | LEU | CA-CB-CG | -5.24 | 103.26 | 115.30 |
| 42 | BJ | 148 | ASN | N-CA-C | -5.24 | 96.86 | 111.00 |
| 15 | AP | 72 | VAL | N-CA-C | 5.23 | 125.13 | 111.00 |
| 34 | BA | 197 | A | O4'-C1'-N9 | -5.23 | 104.01 | 108.20 |
| 34 | BA | 659 | U | C1'-O4'-C4' | -5.23 | 105.71 | 109.90 |
| 35 | BB | 33 | U | O4'-C1'-C2' | -5.23 | 100.57 | 105.80 |
| 2 | AA | 1132 | A | C5'-C4'-O4' | 5.23 | 115.37 | 109.10 |
| 35 | BB | 41 | U | C5-C6-N1 | 5.22 | 125.31 | 122.70 |
| 2 | AA | 2708 | G | OP2-P-O3' | 5.22 | 116.69 | 105.20 |
| 2 | AA | 2195 | C | C3'-C2'-C1' | 5.22 | 105.68 | 101.50 |
| 24 | A0 | 16 | HIS | N-CA-CB | -5.22 | 101.21 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1692 | U | N1-C1'-C2' | -5.21 | 106.27 | 112.00 |
| 15 | AP | 20 | ILE | CG1-CB-CG2 | 5.21 | 122.86 | 111.40 |
| 28 | A4 | 28 | ARG | N-CA-C | 5.21 | 125.06 | 111.00 |
| 34 | BA | 413 | G | N9-C1'-C2' | 5.21 | 120.77 | 114.00 |
| 2 | AA | 270(M) | U | N1-C1'-C2' | 5.21 | 120.77 | 114.00 |
| 34 | BA | 934 | C | N1-C1'-C2' | 5.21 | 120.77 | 114.00 |
| 2 | AA | 379 | G | O4'-C1'-N9 | 5.20 | 112.36 | 108.20 |
| 2 | AA | 1828 | G | C2'-C3'-O3' | 5.20 | 122.02 | 113.70 |
| 35 | BB | 15 | G | O5'-P-OP1 | -5.20 | 101.02 | 105.70 |
| 45 | BM | 60 | ARG | N-CA-C | 5.20 | 125.04 | 111.00 |
| 2 | AA | 984 | A | C4'-C3'-O3' | 5.20 | 123.39 | 113.00 |
| 34 | BA | 1059 | C | N1-C1'-C2' | -5.20 | 106.28 | 112.00 |
| 35 | BB | 57 | G | N3-C4-N9 | -5.20 | 122.88 | 126.00 |
| 34 | BA | 511 | C | N1-C1'-C2' | 5.20 | 120.75 | 114.00 |
| 2 | AA | 2110 | G | N9-C1'-C2' | 5.19 | 120.75 | 114.00 |
| 13 | AN | 32 | TYR | N-CA-C | 5.19 | 125.01 | 111.00 |
| 34 | BA | 768 | A | N9-C1'-C2' | -5.19 | 106.29 | 112.00 |
| 34 | BA | 249 | U | C5'-C4'-C3' | 5.19 | 124.30 | 116.00 |
| 52 | BT | 59 | ILE | CB-CA-C | -5.19 | 101.23 | 111.60 |
| 2 | AA | 209 | C | C5'-C4'-C3' | -5.18 | 107.71 | 116.00 |
| 2 | AA | 1156 | A | N9-C1'-C2' | 5.18 | 120.74 | 114.00 |
| 6 | AF | 46 | TYR | CA-CB-CG | -5.18 | 103.55 | 113.40 |
| 4 | AD | 70 | LYS | N-CA-C | -5.18 | 97.02 | 111.00 |
| 35 | BB | 71 | G | C5-C6-N1 | -5.18 | 108.91 | 111.50 |
| 54 | BV | 20 | LEU | CA-CB-CG | 5.18 | 127.21 | 115.30 |
| 2 | AA | 2580 | U | C5'-C4'-O4' | -5.17 | 102.89 | 109.10 |
| 34 | BA | 1498 | U | N1-C1'-C2' | 5.17 | 120.73 | 114.00 |
| 2 | AA | 1976 | U | O4'-C1'-N1 | 5.17 | 112.34 | 108.20 |
| 2 | AA | 2385 | C | N1-C1'-C2' | 5.17 | 120.72 | 114.00 |
| 2 | AA | 135 | G | N9-C1'-C2' | -5.17 | 106.31 | 112.00 |
| 2 | AA | 230 | U | C1'-O4'-C4' | -5.17 | 105.76 | 109.90 |
| 2 | AA | 387 | U | O4'-C1'-N1 | -5.17 | 104.06 | 108.20 |
| 5 | AE | 110 | ARG | N-CA-C | -5.17 | 97.04 | 111.00 |
| 36 | B1 | 59 | A | C5'-C4'-C3' | 5.17 | 124.27 | 116.00 |
| 2 | AA | 1140 | C | O4'-C1'-N1 | 5.17 | 112.33 | 108.20 |
| 34 | BA | 1541 | U | C4'-C3'-O3' | -5.17 | 98.55 | 109.40 |
| 2 | AA | 1621 | U | O4'-C4'-C3' | -5.16 | 98.84 | 104.00 |
| 2 | AA | 2589 | A | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 2 | AA | 337 | C | O4'-C1'-N1 | 5.16 | 112.33 | 108.20 |
| 2 | AA | 869 | G | N9-C1'-C2' | -5.16 | 106.32 | 112.00 |
| 2 | AA | 2238 | G | C1'-O4'-C4' | -5.16 | 105.77 | 109.90 |
| 2 | AA | 1668 | A | N9-C1'-C2' | 5.16 | 120.70 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 13 | AN | 81 | GLU | N-CA-C | 5.16 | 124.92 | 111.00 |
| 15 | AP | 30 | GLN | N-CA-C | 5.16 | 124.92 | 111.00 |
| 34 | BA | 388 | G | C2'-C3'-O3' | 5.16 | 121.95 | 113.70 |
| 35 | BB | 45 | G | N3-C4-N9 | 5.15 | 129.09 | 126.00 |
| 2 | AA | 1916 | A | C5'-C4'-O4' | -5.15 | 102.92 | 109.10 |
| 34 | BA | 752 | G | C1'-O4'-C4' | -5.15 | 105.78 | 109.90 |
| 34 | BA | 1310 | G | N9-C1'-C2' | -5.15 | 106.33 | 112.00 |
| 7 | AG | 77 | ASP | N-CA-CB | -5.15 | 101.33 | 110.60 |
| 2 | AA | 971 | C | C1'-O4'-C4' | -5.15 | 105.78 | 109.90 |
| 10 | AK | 135 | PRO | N-CA-C | 5.15 | 125.48 | 112.10 |
| 4 | AD | 82 | TYR | CA-CB-CG | 5.15 | 123.18 | 113.40 |
| 2 | AA | 262 | A | C5'-C4'-C3' | -5.14 | 107.77 | 116.00 |
| 2 | AA | 1482 | U | C2'-C3'-O3' | 5.14 | 121.93 | 113.70 |
| 2 | AA | 1455 | G | C3'-C2'-C1' | -5.14 | 97.39 | 101.50 |
| 2 | AA | 1477 | A | N9-C1'-C2' | 5.14 | 120.69 | 114.00 |
| 2 | AA | 2733 | A | O4'-C1'-N9 | 5.14 | 112.31 | 108.20 |
| 2 | AA | 1104 | C | C5'-C4'-C3' | 5.14 | 124.23 | 116.00 |
| 2 | AA | 2589 | A | C1'-O4'-C4' | -5.14 | 105.79 | 109.90 |
| 25 | A1 | 89 | ASP | N-CA-C | 5.14 | 124.88 | 111.00 |
| 2 | AA | 797 | C | C3'-C2'-C1' | -5.14 | 97.39 | 101.50 |
| 2 | AA | 2416 | C | C5'-C4'-O4' | -5.14 | 102.93 | 109.10 |
| 2 | AA | 528 | A | O4'-C1'-C2' | -5.14 | 100.66 | 105.80 |
| 34 | BA | 288 | A | N9-C1'-C2' | -5.14 | 106.35 | 112.00 |
| 34 | BA | 1192 | C | C2-N1-C1' | 5.14 | 124.45 | 118.80 |
| 2 | AA | 1088 | A | O4'-C1'-N9 | 5.14 | 112.31 | 108.20 |
| 32 | A8 | 17 | THR | N-CA-C | -5.14 | 97.13 | 111.00 |
| 35 | BC | 58 | A | C2'-C3'-O3' | 5.14 | 121.92 | 113.70 |
| 2 | AA | 1956 | U | OP1-P-O3' | 5.13 | 116.50 | 105.20 |
| 2 | AA | 1958 | C | C5'-C4'-C3' | -5.13 | 107.79 | 116.00 |
| 2 | AA | 2630 | G | N9-C1'-C2' | 5.13 | 120.67 | 114.00 |
| 2 | AA | 830 | G | C5'-C4'-O4' | -5.13 | 102.94 | 109.10 |
| 34 | BA | 724 | G | O5'-P-OP1 | -5.13 | 101.08 | 105.70 |
| 2 | AA | 474 | G | N9-C1'-C2' | 5.13 | 120.67 | 114.00 |
| 15 | AP | 115 | SER | N-CA-C | -5.13 | 97.15 | 111.00 |
| 4 | AD | 102 | TYR | N-CA-C | -5.13 | 97.15 | 111.00 |
| 34 | BA | 243 | A | C2'-C3'-O3' | 5.13 | 121.90 | 113.70 |
| 2 | AA | 2471 | C | O4'-C4'-C3' | -5.12 | 98.88 | 104.00 |
| 2 | AA | 2580 | U | O4'-C1'-N1 | 5.12 | 112.30 | 108.20 |
| 2 | AA | 386 | G | C1'-O4'-C4' | -5.12 | 105.80 | 109.90 |
| 2 | AA | 1607 | C | C4'-C3'-C2' | -5.12 | 97.48 | 102.60 |
| 2 | AA | 1191 | G | C5'-C4'-O4' | 5.12 | 115.24 | 109.10 |
| 2 | AA | 2532 | G | N9-C1'-C2' | 5.12 | 120.65 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1508 | A | C3'-C2'-C1' | -5.12 | 97.41 | 101.50 |
| 2 | AA | 191 | A | O4'-C1'-N9 | -5.11 | 104.11 | 108.20 |
| 2 | AA | 1848 | A | N9-C1'-C2' | -5.11 | 106.38 | 112.00 |
| 2 | AA | 2077 | A | C5-C6-N6 | -5.11 | 119.61 | 123.70 |
| 12 | AM | 37 | ALA | N-CA-C | -5.11 | 97.19 | 111.00 |
| 15 | AP | 96 | GLN | N-CA-C | 5.11 | 124.81 | 111.00 |
| 2 | AA | 572 | A | O4'-C1'-N9 | -5.11 | 104.11 | 108.20 |
| 2 | AA | 1667 | G | N1-C2-N2 | -5.11 | 111.60 | 116.20 |
| 2 | AA | 2209 | C | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 5 | AE | 49 | THR | N-CA-C | -5.11 | 97.20 | 111.00 |
| 2 | AA | 1070 | A | N9-C1'-C2' | 5.11 | 120.64 | 114.00 |
| 34 | BA | 307 | C | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 35 | BB | 58 | A | C2'-C3'-O3' | 5.11 | 121.87 | 113.70 |
| 34 | BA | 955 | U | N1-C1'-C2' | -5.10 | 106.39 | 112.00 |
| 38 | BF | 43 | LEU | CA-CB-CG | 5.10 | 127.04 | 115.30 |
| 2 | AA | 1266 | G | C5'-C4'-C3' | 5.10 | 124.16 | 116.00 |
| 34 | BA | 785 | G | O4'-C1'-N9 | -5.10 | 104.12 | 108.20 |
| 14 | AO | 83 | GLU | C-N-CA | -5.09 | 108.97 | 121.70 |
| 2 | AA | 2000 | G | O5'-P-OP1 | -5.09 | 101.12 | 105.70 |
| 13 | AN | 63 | VAL | N-CA-C | 5.09 | 124.75 | 111.00 |
| 34 | BA | 1133 | G | N9-C1'-C2' | -5.09 | 106.40 | 112.00 |
| 2 | AA | 1947 | C | C5'-C4'-C3' | -5.09 | 107.86 | 116.00 |
| 2 | AA | 1944 | U | N1-C1'-C2' | -5.09 | 106.40 | 112.00 |
| 15 | AP | 33 | MET | N-CA-C | -5.09 | 97.26 | 111.00 |
| 2 | AA | 899 | A | N9-C1'-C2' | -5.09 | 106.40 | 112.00 |
| 2 | AA | 1128 | A | O4'-C1'-N9 | 5.09 | 112.27 | 108.20 |
| 35 | BB | 59 | U | N1-C1'-C2' | 5.09 | 120.61 | 114.00 |
| 2 | AA | 1476 | C | C5'-C4'-O4' | 5.08 | 115.20 | 109.10 |
| 34 | BA | 387 | U | O4'-C1'-N1 | 5.08 | 112.26 | 108.20 |
| 2 | AA | 1796 | U | C1'-O4'-C4' | -5.08 | 105.84 | 109.90 |
| 2 | AA | 137 | C | N3-C4-N4 | -5.08 | 114.45 | 118.00 |
| 34 | BA | 1350 | A | C5'-C4'-C3' | -5.08 | 107.88 | 116.00 |
| 2 | AA | 1169 | G | N9-C1'-C2' | -5.07 | 106.42 | 112.00 |
| 2 | AA | 1327 | C | N1-C1'-C2' | 5.07 | 120.59 | 114.00 |
| 2 | AA | 2210 | G | N9-C1'-C2' | 5.07 | 120.59 | 114.00 |
| 2 | AA | 1980 | G | O4'-C1'-N9 | -5.07 | 104.15 | 108.20 |
| 2 | AA | 210 | C | O4'-C1'-N1 | -5.06 | 104.15 | 108.20 |
| 8 | AH | 24 | THR | N-CA-C | -5.06 | 97.33 | 111.00 |
| 33 | A9 | 27 | CYS | CA-CB-SG | -5.06 | 104.89 | 114.00 |
| 35 | BB | 24 | G | N3-C2-N2 | -5.06 | 116.36 | 119.90 |
| 2 | AA | 1377 | G | C5'-C4'-C3' | -5.06 | 107.91 | 116.00 |
| 2 | AA | 699 | A | N9-C1'-C2' | -5.06 | 106.44 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 1785 | A | C5-C6-N1 | 5.06 | 120.23 | 117.70 |
| 2 | AA | 1983 | C | C5'-C4'-C3' | -5.06 | 107.91 | 116.00 |
| 34 | BA | 574 | A | O5'-P-OP1 | -5.06 | 101.15 | 105.70 |
| 34 | BA | 872 | A | N9-C1'-C2' | 5.05 | 120.57 | 114.00 |
| 4 | AD | 82 | TYR | N-CA-C | -5.05 | 97.36 | 111.00 |
| 2 | AA | 714 | U | C3'-C2'-C1' | -5.05 | 97.46 | 101.50 |
| 2 | AA | 1014 | U | O4'-C1'-N1 | 5.05 | 112.24 | 108.20 |
| 2 | AA | 1143 | A | C5'-C4'-O4' | 5.05 | 115.16 | 109.10 |
| 2 | AA | 1925 | C | C3'-C2'-C1' | -5.05 | 97.46 | 101.50 |
| 24 | A0 | 98 | LEU | CA-CB-CG | -5.05 | 103.69 | 115.30 |
| 2 | AA | 1476 | C | C5'-C4'-C3' | 5.05 | 124.08 | 116.00 |
| 2 | AA | 2867 | G | N9-C1'-C2' | 5.05 | 120.56 | 114.00 |
| 2 | AA | 1248 | G | C2'-C3'-O3' | 5.04 | 121.77 | 113.70 |
| 2 | AA | 808 | G | C4'-C3'-O3' | -5.04 | 98.81 | 109.40 |
| 5 | AE | 94 | ARG | N-CA-C | -5.04 | 97.39 | 111.00 |
| 34 | BA | 1226 | C | N1-C1'-C2' | 5.04 | 120.55 | 114.00 |
| 2 | AA | 791 | C | O4'-C4'-C3' | -5.04 | 98.96 | 104.00 |
| 2 | AA | 1753 | G | N9-C1'-C2' | -5.04 | 106.46 | 112.00 |
| 35 | BB | 40 | C | C5-C4-N4 | -5.04 | 116.67 | 120.20 |
| 2 | AA | 972 | G | O4'-C1'-N9 | 5.03 | 112.23 | 108.20 |
| 35 | BB | 56 | C | C5-C4-N4 | -5.03 | 116.68 | 120.20 |
| 2 | AA | 584 | C | OP2-P-O3' | 5.03 | 116.27 | 105.20 |
| 2 | AA | 2686 | G | C5'-C4'-C3' | -5.03 | 107.95 | 116.00 |
| 34 | BA | 388 | G | O4'-C1'-N9 | -5.03 | 104.17 | 108.20 |
| 34 | BA | 1013 | G | N9-C1'-C2' | -5.03 | 106.47 | 112.00 |
| 34 | BA | 1179 | A | N9-C1'-C2' | 5.03 | 120.54 | 114.00 |
| 2 | AA | 969 | U | C5'-C4'-O4' | -5.03 | 103.07 | 109.10 |
| 4 | AD | 108 | ASN | N-CA-C | 5.03 | 124.58 | 111.00 |
| 43 | BK | 112 | LEU | CA-CB-CG | 5.03 | 126.87 | 115.30 |
| 7 | AG | 20 | LYS | N-CA-C | 5.03 | 124.57 | 111.00 |
| 7 | AG | 54 | ALA | N-CA-C | 5.03 | 124.58 | 111.00 |
| 2 | AA | 181 | A | C5'-C4'-O4' | -5.03 | 103.07 | 109.10 |
| 17 | AR | 22 | VAL | N-CA-C | 5.03 | 124.57 | 111.00 |
| 34 | BA | 1064 | G | C5-C6-O6 | -5.03 | 125.58 | 128.60 |
| 28 | A4 | 32 | HIS | N-CA-C | 5.02 | 124.57 | 111.00 |
| 35 | BB | 42 | G | C2'-C3'-O3' | 5.02 | 121.74 | 113.70 |
| 35 | BB | 71 | G | N9-C1'-C2' | 5.02 | 120.53 | 114.00 |
| 17 | AR | 5 | GLU | C-N-CA | -5.02 | 109.15 | 121.70 |
| 35 | BB | 34 | G | N1-C2-N3 | -5.02 | 120.89 | 123.90 |
| 2 | AA | 775 | G | C3'-C2'-C1' | 5.02 | 105.52 | 101.50 |
| 3 | AC | 33 | ALA | N-CA-C | 5.02 | 124.56 | 111.00 |
| 37 | BE | 158 | LEU | N-CA-C | 5.02 | 124.56 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 35 | BB | 52 | U | C5'-C4'-C3' | -5.02 | 107.97 | 116.00 |
| 2 | AA | 2579 | C | C3'-C2'-C1' | -5.02 | 97.49 | 101.50 |
| 2 | AA | 2848 | G | C4'-C3'-O3' | -5.02 | 98.87 | 109.40 |
| 2 | AA | 945 | A | C5'-C4'-C3' | 5.01 | 124.02 | 116.00 |
| 13 | AN | 73 | ASP | CB-CG-OD1 | -5.01 | 113.79 | 118.30 |
| 34 | BA | 359 | U | O4'-C4'-C3' | -5.01 | 98.99 | 104.00 |
| 5 | AE | 260 | GLN | N-CA-C | -5.01 | 97.47 | 111.00 |
| 2 | AA | 2079 | U | N1-C1'-C2' | -5.01 | 106.49 | 112.00 |
| 21 | AV | 37 | LYS | N-CA-C | -5.01 | 97.47 | 111.00 |
| 2 | AA | 848 | G | N9-C1'-C2' | -5.01 | 106.49 | 112.00 |
| 2 | AA | 1581 | G | N9-C1'-C2' | -5.01 | 106.49 | 112.00 |
| 35 | BB | 62 | A | O4'-C1'-N9 | 5.01 | 112.21 | 108.20 |
| 2 | AA | 1140 | C | C5'-C4'-O4' | 5.00 | 115.11 | 109.10 |
| 34 | BA | 736 | C | C5'-C4'-O4' | -5.00 | 103.10 | 109.10 |
| 37 | BE | 104 | ASN | N-CA-C | -5.00 | 97.49 | 111.00 |

There are no chirality outliers.

All (838) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 25 | A1 | 24 | PHE | Sidechain |
| 25 | A1 | 45 | TYR | Sidechain |
| 25 | A1 | 76 | TYR | Sidechain |
| 26 | A2 | 74 | TYR | Sidechain |
| 28 | A4 | 67 | TYR | Sidechain |
| 30 | A6 | 22 | TYR | Sidechain |
| 2 | AA | 1001 | A | Sidechain |
| 2 | AA | 1012 | U | Sidechain |
| 2 | AA | 1017 | G | Sidechain |
| 2 | AA | 1018 | C | Sidechain |
| 2 | AA | 1019 | U | Sidechain |
| 2 | AA | 102 | G | Sidechain |
| 2 | AA | 1022 | G | Sidechain |
| 2 | AA | 1023 | U | Sidechain |
| 2 | AA | 1031 | G | Sidechain |
| 2 | AA | 1059 | G | Sidechain |
| 2 | AA | 1091 | G | Sidechain |
| 2 | AA | 1092 | C | Sidechain |
| 2 | AA | 1093 | G | Sidechain |
| 2 | AA | 1101 | U | Sidechain |
| 2 | AA | 1129 | A | Sidechain |
| 2 | AA | 1132 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 1133 | U | Sidechain |
| 2 | AA | 1139 | G | Sidechain |
| 2 | AA | 114 | U | Sidechain |
| 2 | AA | 1140 | C | Sidechain |
| 2 | AA | 1142 | U | Sidechain |
| 2 | AA | 1143 | A | Sidechain |
| 2 | AA | 1146 | C | Sidechain |
| 2 | AA | 1155 | A | Sidechain |
| 2 | AA | 1170 | G | Sidechain |
| 2 | AA | 1173 | G | Sidechain |
| 2 | AA | 1183 | G | Sidechain |
| 2 | AA | 1187 | G | Sidechain |
| 2 | AA | 119 | A | Sidechain |
| 2 | AA | 1195 | G | Sidechain |
| 2 | AA | 1198 | U | Sidechain |
| 2 | AA | 1199 | U | Sidechain |
| 2 | AA | 1206 | G | Sidechain |
| 2 | AA | 1207 | C | Sidechain |
| 2 | AA | 1209 | G | Sidechain |
| 2 | AA | 1219 | G | Sidechain |
| 2 | AA | 122 | G | Sidechain |
| 2 | AA | 1225 | C | Sidechain |
| 2 | AA | 1230 | C | Sidechain |
| 2 | AA | 1241 | A | Sidechain |
| 2 | AA | 1243 | G | Sidechain |
| 2 | AA | 1246 | A | Sidechain |
| 2 | AA | 1247 | A | Sidechain |
| 2 | AA | 1248 | G | Sidechain |
| 2 | AA | 125 | G | Sidechain |
| 2 | AA | 1257 | C | Sidechain |
| 2 | AA | 1266 | G | Sidechain |
| 2 | AA | 1271 | G | Sidechain |
| 2 | AA | 1274 | A | Sidechain |
| 2 | AA | 1275 | A | Sidechain |
| 2 | AA | 1300 | U | Sidechain |
| 2 | AA | 1301 | A | Sidechain |
| 2 | AA | 1310 | G | Sidechain |
| 2 | AA | 1323 | U | Sidechain |
| 2 | AA | 1324 | G | Sidechain |
| 2 | AA | 1329 | U | Sidechain |
| 2 | AA | 1333 | C | Sidechain |
| 2 | AA | 1344 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 1354 | A | Sidechain |
| 2 | AA | 137 | C | Sidechain |
| 2 | AA | 137(A) | G | Sidechain |
| 2 | AA | 1378 | A | Sidechain |
| 2 | AA | 1379 | A | Sidechain |
| 2 | AA | 138 | G | Sidechain |
| 2 | AA | 1389 | G | Sidechain |
| 2 | AA | 1397 | U | Sidechain |
| 2 | AA | 14 | A | Sidechain |
| 2 | AA | 1405 | U | Sidechain |
| 2 | AA | 1406 | U | Sidechain |
| 2 | AA | 1416 | G | Sidechain |
| 2 | AA | 1418 | G | Sidechain |
| 2 | AA | 142 | G | Sidechain |
| 2 | AA | 142(A) | A | Sidechain |
| 2 | AA | 1423 | G | Sidechain |
| 2 | AA | 1428 | C | Sidechain |
| 2 | AA | 1441 | G | Sidechain |
| 2 | AA | 147 | U | Sidechain |
| 2 | AA | 1477 | A | Sidechain |
| 2 | AA | 1479 | G | Sidechain |
| 2 | AA | 1485 | G | Sidechain |
| 2 | AA | 1489 | U | Sidechain |
| 2 | AA | 1497 | U | Sidechain |
| 2 | AA | 1508 | A | Sidechain |
| 2 | AA | 1509 | C | Sidechain |
| 2 | AA | 1512 | G | Sidechain |
| 2 | AA | 1514 | U | Sidechain |
| 2 | AA | 1523 | U | Sidechain |
| 2 | AA | 1524 | G | Sidechain |
| 2 | AA | 1525 | G | Sidechain |
| 2 | AA | 1534 | G | Sidechain |
| 2 | AA | 1540 | G | Sidechain |
| 2 | AA | 1541 | U | Sidechain |
| 2 | AA | 1542 | G | Sidechain |
| 2 | AA | 1545 | A | Sidechain |
| 2 | AA | 1550 | C | Sidechain |
| 2 | AA | 1557 | C | Sidechain |
| 2 | AA | 1559 | G | Sidechain |
| 2 | AA | 1560 | G | Sidechain |
| 2 | AA | 1564 | C | Sidechain |
| 2 | AA | 1565 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 1567 | A | Sidechain |
| 2 | AA | 1568 | G | Sidechain |
| 2 | AA | 1571 | A | Sidechain |
| 2 | AA | 1575 | C | Sidechain |
| 2 | AA | 1576 | U | Sidechain |
| 2 | AA | 1603 | A | Sidechain |
| 2 | AA | 1607 | C | Sidechain |
| 2 | AA | 1609 | A | Sidechain |
| 2 | AA | 1624 | G | Sidechain |
| 2 | AA | 1625 | C | Sidechain |
| 2 | AA | 1626 | G | Sidechain |
| 2 | AA | 1629 | U | Sidechain |
| 2 | AA | 1639 | U | Sidechain |
| 2 | AA | 1640 | C | Sidechain |
| 2 | AA | 1642 | G | Sidechain |
| 2 | AA | 1643 | G | Sidechain |
| 2 | AA | 1649 | G | Sidechain |
| 2 | AA | 1658 | C | Sidechain |
| 2 | AA | 1661 | G | Sidechain |
| 2 | AA | 1663 | C | Sidechain |
| 2 | AA | 1668 | A | Sidechain |
| 2 | AA | 1670 | C | Sidechain |
| 2 | AA | 1677 | A | Sidechain |
| 2 | AA | 1687 | G | Sidechain |
| 2 | AA | 1690 | A | Sidechain |
| 2 | AA | 1695 | G | Sidechain |
| 2 | AA | 1703 | G | Sidechain |
| 2 | AA | 1706 | U | Sidechain |
| 2 | AA | 1709 | U | Sidechain |
| 2 | AA | 1712 | C | Sidechain |
| 2 | AA | 1716 | U | Sidechain |
| 2 | AA | 1726 | G | Sidechain |
| 2 | AA | 1728 | G | Sidechain |
| 2 | AA | 1731 | G | Sidechain |
| 2 | AA | 1734 | C | Sidechain |
| 2 | AA | 1735 | C | Sidechain |
| 2 | AA | 1742 | C | Sidechain |
| 2 | AA | 175 | G | Sidechain |
| 2 | AA | 1752 | C | Sidechain |
| 2 | AA | 1757 | U | Sidechain |
| 2 | AA | 1758 | G | Sidechain |
| 2 | AA | 1760 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 1762 | A | Sidechain |
| 2 | AA | 1766 | U | Sidechain |
| 2 | AA | 1775 | U | Sidechain |
| 2 | AA | 1779 | U | Sidechain |
| 2 | AA | 1780 | A | Sidechain |
| 2 | AA | 1784 | A | Sidechain |
| 2 | AA | 1786 | A | Sidechain |
| 2 | AA | 1791 | A | Sidechain |
| 2 | AA | 1792 | G | Sidechain |
| 2 | AA | 1794 | U | Sidechain |
| 2 | AA | 1801 | G | Sidechain |
| 2 | AA | 1815 | A | Sidechain |
| 2 | AA | 1817 | G | Sidechain |
| 2 | AA | 1825 | A | Sidechain |
| 2 | AA | 1831 | G | Sidechain |
| 2 | AA | 1840 | G | Sidechain |
| 2 | AA | 1843 | C | Sidechain |
| 2 | AA | 1848 | A | Sidechain |
| 2 | AA | 1858 | G | Sidechain |
| 2 | AA | 188 | G | Sidechain |
| 2 | AA | 1884 | A | Sidechain |
| 2 | AA | 1902 | C | Sidechain |
| 2 | AA | 1911 | U | Sidechain |
| 2 | AA | 1917 | U | Sidechain |
| 2 | AA | 1918 | A | Sidechain |
| 2 | AA | 1919 | A | Sidechain |
| 2 | AA | 1928 | A | Sidechain |
| 2 | AA | 193 | U | Sidechain |
| 2 | AA | 1930 | G | Sidechain |
| 2 | AA | 1931 | U | Sidechain |
| 2 | AA | 1938 | A | Sidechain |
| 2 | AA | 194 | G | Sidechain |
| 2 | AA | 1942 | C | Sidechain |
| 2 | AA | 1944 | U | Sidechain |
| 2 | AA | 1955 | U | Sidechain |
| 2 | AA | 1957 | C | Sidechain |
| 2 | AA | 1967 | C | Sidechain |
| 2 | AA | 1970 | A | Sidechain |
| 2 | AA | 1978 | A | Sidechain |
| 2 | AA | 1979 | C | Sidechain |
| 2 | AA | 1981 | A | Sidechain |
| 2 | AA | 1983 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 1989 | G | Sidechain |
| 2 | AA | 199 | A | Sidechain |
| 2 | AA | 1990 | C | Sidechain |
| 2 | AA | 1991 | U | Sidechain |
| 2 | AA | 1992 | G | Sidechain |
| 2 | AA | 1994 | C | Sidechain |
| 2 | AA | 200 | U | Sidechain |
| 2 | AA | 2007 | C | Sidechain |
| 2 | AA | 2016 | U | Sidechain |
| 2 | AA | 2017 | U | Sidechain |
| 2 | AA | 2019 | A | Sidechain |
| 2 | AA | 202 | U | Sidechain |
| 2 | AA | 2020 | A | Sidechain |
| 2 | AA | 2023 | G | Sidechain |
| 2 | AA | 2026 | C | Sidechain |
| 2 | AA | 2027 | G | Sidechain |
| 2 | AA | 2038 | G | Sidechain |
| 2 | AA | 204 | A | Sidechain |
| 2 | AA | 2042 | A | Sidechain |
| 2 | AA | 2045 | C | Sidechain |
| 2 | AA | 2047 | U | Sidechain |
| 2 | AA | 2049 | G | Sidechain |
| 2 | AA | 2051 | A | Sidechain |
| 2 | AA | 2053 | G | Sidechain |
| 2 | AA | 2060 | A | Sidechain |
| 2 | AA | 2062 | A | Sidechain |
| 2 | AA | 2063 | C | Sidechain |
| 2 | AA | 2066 | C | Sidechain |
| 2 | AA | 2068 | U | Sidechain |
| 2 | AA | 2069 | G | Sidechain |
| 2 | AA | 2074 | U | Sidechain |
| 2 | AA | 2075 | U | Sidechain |
| 2 | AA | 2076 | U | Sidechain |
| 2 | AA | 2085 | C | Sidechain |
| 2 | AA | 2086 | U | Sidechain |
| 2 | AA | 2088 | G | Sidechain |
| 2 | AA | 209 | C | Sidechain |
| 2 | AA | 2093 | G | Sidechain |
| 2 | AA | 2098 | U | Sidechain |
| 2 | AA | 2114 | A | Sidechain |
| 2 | AA | 2119 | A | Sidechain |
| 2 | AA | 2125 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 2126 | A | Sidechain |
| 2 | AA | 2144 | U | Sidechain |
| 2 | AA | 2150 | U | Sidechain |
| 2 | AA | 2174 | C | Sidechain |
| 2 | AA | 2189 | U | Sidechain |
| 2 | AA | 2213 | U | Sidechain |
| 2 | AA | 2232 | U | Sidechain |
| 2 | AA | 2244 | U | Sidechain |
| 2 | AA | 2246 | G | Sidechain |
| 2 | AA | 2249 | U | Sidechain |
| 2 | AA | 2250 | G | Sidechain |
| 2 | AA | 2259 | G | Sidechain |
| 2 | AA | 2267 | A | Sidechain |
| 2 | AA | 2274 | A | Sidechain |
| 2 | AA | 2275 | C | Sidechain |
| 2 | AA | 2277 | G | Sidechain |
| 2 | AA | 2283 | C | Sidechain |
| 2 | AA | 2297 | C | Sidechain |
| 2 | AA | 2299 | G | Sidechain |
| 2 | AA | 230 | U | Sidechain |
| 2 | AA | 2320 | A | Sidechain |
| 2 | AA | 2326 | C | Sidechain |
| 2 | AA | 233 | A | Sidechain |
| 2 | AA | 2330 | G | Sidechain |
| 2 | AA | 2331 | G | Sidechain |
| 2 | AA | 2332 | U | Sidechain |
| 2 | AA | 2334 | G | Sidechain |
| 2 | AA | 2344 | U | Sidechain |
| 2 | AA | 2348 | U | Sidechain |
| 2 | AA | 2372 | G | Sidechain |
| 2 | AA | 2376 | A | Sidechain |
| 2 | AA | 2384 | G | Sidechain |
| 2 | AA | 2385 | C | Sidechain |
| 2 | AA | 2395 | C | Sidechain |
| 2 | AA | 2398 | U | Sidechain |
| 2 | AA | 2399 | G | Sidechain |
| 2 | AA | 2402 | C | Sidechain |
| 2 | AA | 241 | A | Sidechain |
| 2 | AA | 2416 | C | Sidechain |
| 2 | AA | 2417 | C | Sidechain |
| 2 | AA | 2420 | C | Sidechain |
| 2 | AA | 2424 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 2425 | A | Sidechain |
| 2 | AA | 2427 | C | Sidechain |
| 2 | AA | 2432 | A | Sidechain |
| 2 | AA | 2433 | A | Sidechain |
| 2 | AA | 2434 | A | Sidechain |
| 2 | AA | 2435 | A | Sidechain |
| 2 | AA | 2444 | G | Sidechain |
| 2 | AA | 2454 | G | Sidechain |
| 2 | AA | 2459 | A | Sidechain |
| 2 | AA | 2462 | U | Sidechain |
| 2 | AA | 2463 | C | Sidechain |
| 2 | AA | 2464 | C | Sidechain |
| 2 | AA | 2465 | C | Sidechain |
| 2 | AA | 2466 | C | Sidechain |
| 2 | AA | 2467 | C | Sidechain |
| 2 | AA | 2468 | G | Sidechain |
| 2 | AA | 2477 | C | Sidechain |
| 2 | AA | 2480 | C | Sidechain |
| 2 | AA | 2483 | C | Sidechain |
| 2 | AA | 2486 | G | Sidechain |
| 2 | AA | 2491 | U | Sidechain |
| 2 | AA | 2500 | U | Sidechain |
| 2 | AA | 2503 | A | Sidechain |
| 2 | AA | 2504 | U | Sidechain |
| 2 | AA | 2506 | U | Sidechain |
| 2 | AA | 2508 | G | Sidechain |
| 2 | AA | 251 | A | Sidechain |
| 2 | AA | 2510 | C | Sidechain |
| 2 | AA | 2514 | U | Sidechain |
| 2 | AA | 2516 | G | Sidechain |
| 2 | AA | 2525 | G | Sidechain |
| 2 | AA | 2527 | C | Sidechain |
| 2 | AA | 2530 | A | Sidechain |
| 2 | AA | 2547 | U | Sidechain |
| 2 | AA | 2548 | G | Sidechain |
| 2 | AA | 2553 | G | Sidechain |
| 2 | AA | 2555 | U | Sidechain |
| 2 | AA | 2563 | U | Sidechain |
| 2 | AA | 2566 | A | Sidechain |
| 2 | AA | 2572 | A | Sidechain |
| 2 | AA | 2576 | G | Sidechain |
| 2 | AA | 2584 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 2585 | U | Sidechain |
| 2 | AA | 2588 | G | Sidechain |
| 2 | AA | 2589 | A | Sidechain |
| 2 | AA | 259 | G | Sidechain |
| 2 | AA | 2590 | A | Sidechain |
| 2 | AA | 2595 | G | Sidechain |
| 2 | AA | 2599 | G | Sidechain |
| 2 | AA | 2603 | G | Sidechain |
| 2 | AA | 2604 | U | Sidechain |
| 2 | AA | 2605 | U | Sidechain |
| 2 | AA | 2607 | G | Sidechain |
| 2 | AA | 2619 | C | Sidechain |
| 2 | AA | 2623 | G | Sidechain |
| 2 | AA | 2630 | G | Sidechain |
| 2 | AA | 2644 | G | Sidechain |
| 2 | AA | 2645 | G | Sidechain |
| 2 | AA | 2656 | U | Sidechain |
| 2 | AA | 2668 | G | Sidechain |
| 2 | AA | 2672 | G | Sidechain |
| 2 | AA | 268 | C | Sidechain |
| 2 | AA | 2682 | U | Sidechain |
| 2 | AA | 2685 | G | Sidechain |
| 2 | AA | 2686 | G | Sidechain |
| 2 | AA | 2687 | U | Sidechain |
| 2 | AA | 2689 | U | Sidechain |
| 2 | AA | 2692 | C | Sidechain |
| 2 | AA | 2696 | U | Sidechain |
| 2 | AA | 270 | A | Sidechain |
| 2 | AA | 270(S) | G | Sidechain |
| 2 | AA | 2701 | C | Sidechain |
| 2 | AA | 2703 | C | Sidechain |
| 2 | AA | 2707 | G | Sidechain |
| 2 | AA | 2708 | G | Sidechain |
| 2 | AA | 271(C) | U | Sidechain |
| 2 | AA | 2724 | C | Sidechain |
| 2 | AA | 2726 | U | Sidechain |
| 2 | AA | 2727 | G | Sidechain |
| 2 | AA | 2728 | U | Sidechain |
| 2 | AA | 2732 | G | Sidechain |
| 2 | AA | 2733 | A | Sidechain |
| 2 | AA | 2739 | U | Sidechain |
| 2 | AA | 2744 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 2758 | A | Sidechain |
| 2 | AA | 2767 | C | Sidechain |
| 2 | AA | 2768 | C | Sidechain |
| 2 | AA | 2777 | G | Sidechain |
| 2 | AA | 2779 | U | Sidechain |
| 2 | AA | 2781 | A | Sidechain |
| 2 | AA | 2783 | G | Sidechain |
| 2 | AA | 2792 | G | Sidechain |
| 2 | AA | 2793 | G | Sidechain |
| 2 | AA | 280 | C | Sidechain |
| 2 | AA | 2804 | C | Sidechain |
| 2 | AA | 2808 | U | Sidechain |
| 2 | AA | 2810 | A | Sidechain |
| 2 | AA | 2825 | C | Sidechain |
| 2 | AA | 2826 | A | Sidechain |
| 2 | AA | 2832 | U | Sidechain |
| 2 | AA | 2833 | G | Sidechain |
| 2 | AA | 2834 | G | Sidechain |
| 2 | AA | 284 | U | Sidechain |
| 2 | AA | 2845 | G | Sidechain |
| 2 | AA | 2848 | G | Sidechain |
| 2 | AA | 2854 | G | Sidechain |
| 2 | AA | 2863 | C | Sidechain |
| 2 | AA | 2865 | U | Sidechain |
| 2 | AA | 287 | C | Sidechain |
| 2 | AA | 2887 | U | Sidechain |
| 2 | AA | 2889 | C | Sidechain |
| 2 | AA | 2895 | U | Sidechain |
| 2 | AA | 2898 | U | Sidechain |
| 2 | AA | 292 | C | Sidechain |
| 2 | AA | 296 | C | Sidechain |
| 2 | AA | 31 | C | Sidechain |
| 2 | AA | 317 | G | Sidechain |
| 2 | AA | 329 | G | Sidechain |
| 2 | AA | 349 | G | Sidechain |
| 2 | AA | 353 | G | Sidechain |
| 2 | AA | 358 | U | Sidechain |
| 2 | AA | 362 | U | Sidechain |
| 2 | AA | 363(E) | U | Sidechain |
| 2 | AA | 385 | C | Sidechain |
| 2 | AA | 386 | G | Sidechain |
| 2 | AA | 389 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 403 | U | Sidechain |
| 2 | AA | 404 | C | Sidechain |
| 2 | AA | 431 | U | Sidechain |
| 2 | AA | 442 | G | Sidechain |
| 2 | AA | 444(A) | A | Sidechain |
| 2 | AA | 446 | G | Sidechain |
| 2 | AA | 448 | U | Sidechain |
| 2 | AA | 45 | G | Sidechain |
| 2 | AA | 458 | G | Sidechain |
| 2 | AA | 459 | U | Sidechain |
| 2 | AA | 461 | C | Sidechain |
| 2 | AA | 464 | U | Sidechain |
| 2 | AA | 468 | G | Sidechain |
| 2 | AA | 470 | A | Sidechain |
| 2 | AA | 473 | G | Sidechain |
| 2 | AA | 474 | G | Sidechain |
| 2 | AA | 484 | C | Sidechain |
| 2 | AA | 49 | A | Sidechain |
| 2 | AA | 508 | G | Sidechain |
| 2 | AA | 51 | G | Sidechain |
| 2 | AA | 511 | U | Sidechain |
| 2 | AA | 513 | A | Sidechain |
| 2 | AA | 514 | A | Sidechain |
| 2 | AA | 515 | A | Sidechain |
| 2 | AA | 530 | G | Sidechain |
| 2 | AA | 54 | G | Sidechain |
| 2 | AA | 544 | C | Sidechain |
| 2 | AA | 549 | G | Sidechain |
| 2 | AA | 554 | U | Sidechain |
| 2 | AA | 560 | C | Sidechain |
| 2 | AA | 566 | U | Sidechain |
| 2 | AA | 567 | A | Sidechain |
| 2 | AA | 573 | G | Sidechain |
| 2 | AA | 574 | C | Sidechain |
| 2 | AA | 575 | A | Sidechain |
| 2 | AA | 576 | U | Sidechain |
| 2 | AA | 58 | G | Sidechain |
| 2 | AA | 583 | G | Sidechain |
| 2 | AA | 584 | C | Sidechain |
| 2 | AA | 59 | U | Sidechain |
| 2 | AA | 599 | G | Sidechain |
| 2 | AA | 605 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 614 | U | Sidechain |
| 2 | AA | 615 | G | Sidechain |
| 2 | AA | 616 | A | Sidechain |
| 2 | AA | 617 | G | Sidechain |
| 2 | AA | 623 | G | Sidechain |
| 2 | AA | 63 | U | Sidechain |
| 2 | AA | 638 | G | Sidechain |
| 2 | AA | 639 | U | Sidechain |
| 2 | AA | 642 | G | Sidechain |
| 2 | AA | 646 | A | Sidechain |
| 2 | AA | 649 | G | Sidechain |
| 2 | AA | 650 | C | Sidechain |
| 2 | AA | 656 | G | Sidechain |
| 2 | AA | 661 | C | Sidechain |
| 2 | AA | 670 | A | Sidechain |
| 2 | AA | 679 | C | Sidechain |
| 2 | AA | 684 | G | Sidechain |
| 2 | AA | 688 | U | Sidechain |
| 2 | AA | 69 | C | Sidechain |
| 2 | AA | 70 | G | Sidechain |
| 2 | AA | 706 | A | Sidechain |
| 2 | AA | 711 | G | Sidechain |
| 2 | AA | 713 | G | Sidechain |
| 2 | AA | 714 | U | Sidechain |
| 2 | AA | 715 | G | Sidechain |
| 2 | AA | 717 | G | Sidechain |
| 2 | AA | 740 | U | Sidechain |
| 2 | AA | 743 | G | Sidechain |
| 2 | AA | 746 | A | Sidechain |
| 2 | AA | 748 | G | Sidechain |
| 2 | AA | 751 | A | Sidechain |
| 2 | AA | 752 | A | Sidechain |
| 2 | AA | 762 | U | Sidechain |
| 2 | AA | 767 | U | Sidechain |
| 2 | AA | 769 | G | Sidechain |
| 2 | AA | 771 | G | Sidechain |
| 2 | AA | 787 | U | Sidechain |
| 2 | AA | 791 | C | Sidechain |
| 2 | AA | 795 | C | Sidechain |
| 2 | AA | 801 | G | Sidechain |
| 2 | AA | 803 | U | Sidechain |
| 2 | AA | 805 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 810 | U | Sidechain |
| 2 | AA | 819 | A | Sidechain |
| 2 | AA | 822 | U | Sidechain |
| 2 | AA | 828 | U | Sidechain |
| 2 | AA | 829 | A | Sidechain |
| 2 | AA | 83 | G | Sidechain |
| 2 | AA | 830 | G | Sidechain |
| 2 | AA | 833 | U | Sidechain |
| 2 | AA | 843 | G | Sidechain |
| 2 | AA | 845 | G | Sidechain |
| 2 | AA | 849 | A | Sidechain |
| 2 | AA | 858 | U | Sidechain |
| 2 | AA | 864 | G | Sidechain |
| 2 | AA | 865 | C | Sidechain |
| 2 | AA | 871 | U | Sidechain |
| 2 | AA | 875 | G | Sidechain |
| 2 | AA | 899 | A | Sidechain |
| 2 | AA | 90 | U | Sidechain |
| 2 | AA | 906 | G | Sidechain |
| 2 | AA | 908 | C | Sidechain |
| 2 | AA | 910 | A | Sidechain |
| 2 | AA | 911 | A | Sidechain |
| 2 | AA | 913 | U | Sidechain |
| 2 | AA | 915 | C | Sidechain |
| 2 | AA | 917 | A | Sidechain |
| 2 | AA | 918 | A | Sidechain |
| 2 | AA | 920 | G | Sidechain |
| 2 | AA | 923 | C | Sidechain |
| 2 | AA | 924 | C | Sidechain |
| 2 | AA | 930 | U | Sidechain |
| 2 | AA | 932 | G | Sidechain |
| 2 | AA | 937 | U | Sidechain |
| 2 | AA | 944 | G | Sidechain |
| 2 | AA | 945 | A | Sidechain |
| 2 | AA | 954 | G | Sidechain |
| 2 | AA | 955 | C | Sidechain |
| 2 | AA | 960 | A | Sidechain |
| 2 | AA | 969 | U | Sidechain |
| 2 | AA | 970 | C | Sidechain |
| 2 | AA | 972 | G | Sidechain |
| 2 | AA | 975 | G | Sidechain |
| 2 | AA | 978 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 2 | AA | 980 | A | Sidechain |
| 2 | AA | 983 | A | Sidechain |
| 2 | AA | 984 | A | Sidechain |
| 2 | AA | 987 | G | Sidechain |
| 2 | AA | 989 | G | Sidechain |
| 2 | AA | 99 | U | Sidechain |
| 2 | AA | 996 | A | Sidechain |
| 1 | AB | 101 | A | Sidechain |
| 1 | AB | 104 | A | Sidechain |
| 1 | AB | 105 | G | Sidechain |
| 1 | AB | 12 | C | Sidechain |
| 1 | AB | 18 | G | Sidechain |
| 1 | AB | 34 | U | Sidechain |
| 1 | AB | 39 | A | Sidechain |
| 1 | AB | 44 | G | Sidechain |
| 1 | AB | 54 | G | Sidechain |
| 1 | AB | 55 | U | Sidechain |
| 1 | AB | 59 | A | Sidechain |
| 1 | AB | 77 | U | Sidechain |
| 1 | AB | 87 | G | Sidechain |
| 1 | AB | 98 | G | Sidechain |
| 4 | AD | 82 | TYR | Sidechain |
| 5 | AE | 198 | TYR | Sidechain |
| 6 | AF | 46 | TYR | Sidechain |
| 7 | AG | 104 | PHE | Sidechain |
| 7 | AG | 83 | PHE | Sidechain |
| 12 | AM | 104 | TYR | Sidechain |
| 12 | AM | 109 | TYR | Sidechain |
| 13 | AN | 32 | TYR | Sidechain |
| 13 | AN | 76 | TYR | Sidechain |
| 14 | AO | 105 | TYR | Sidechain |
| 14 | AO | 125 | PHE | Sidechain |
| 16 | AQ | 69 | TYR | Sidechain |
| 23 | AX | 15 | TYR | Sidechain |
| 36 | B1 | 48 | A | Sidechain |
| 36 | B1 | 49 | A | Sidechain |
| 36 | B1 | 63 | C | Sidechain |
| 36 | B1 | 65 | U | Sidechain |
| 34 | BA | 10 | A | Sidechain |
| 34 | BA | 1003 | G | Sidechain |
| 34 | BA | 1012 | U | Sidechain |
| 34 | BA | 1036 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 34 | BA | 1050 | G | Sidechain |
| 34 | BA | 1063 | C | Sidechain |
| 34 | BA | 1065 | U | Sidechain |
| 34 | BA | 1067 | A | Sidechain |
| 34 | BA | 1079 | G | Sidechain |
| 34 | BA | 108 | G | Sidechain |
| 34 | BA | 1091 | U | Sidechain |
| 34 | BA | 1094 | G | Sidechain |
| 34 | BA | 1097 | C | Sidechain |
| 34 | BA | 1109 | C | Sidechain |
| 34 | BA | 1120 | G | Sidechain |
| 34 | BA | 1124 | G | Sidechain |
| 34 | BA | 113 | G | Sidechain |
| 34 | BA | 1133 | G | Sidechain |
| 34 | BA | 1135 | U | Sidechain |
| 34 | BA | 114 | U | Sidechain |
| 34 | BA | 1150 | U | Sidechain |
| 34 | BA | 1155 | G | Sidechain |
| 34 | BA | 1159 | U | Sidechain |
| 34 | BA | 116 | A | Sidechain |
| 34 | BA | 1165 | C | Sidechain |
| 34 | BA | 1174 | G | Sidechain |
| 34 | BA | 118 | U | Sidechain |
| 34 | BA | 1188 | A | Sidechain |
| 34 | BA | 1193 | G | Sidechain |
| 34 | BA | 1196 | U | Sidechain |
| 34 | BA | 1201 | A | Sidechain |
| 34 | BA | 121 | C | Sidechain |
| 34 | BA | 1212 | U | Sidechain |
| 34 | BA | 1219 | U | Sidechain |
| 34 | BA | 1235 | U | Sidechain |
| 34 | BA | 1240 | U | Sidechain |
| 34 | BA | 1241 | G | Sidechain |
| 34 | BA | 1271 | G | Sidechain |
| 34 | BA | 129 | U | Sidechain |
| 34 | BA | 129(A) | G | Sidechain |
| 34 | BA | 1302 | U | Sidechain |
| 34 | BA | 1311 | G | Sidechain |
| 34 | BA | 132 | C | Sidechain |
| 34 | BA | 1321 | C | Sidechain |
| 34 | BA | 1328 | C | Sidechain |
| 34 | BA | 1348 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 34 | BA | 1361 | G | Sidechain |
| 34 | BA | 1391 | U | Sidechain |
| 34 | BA | 1392 | G | Sidechain |
| 34 | BA | 1393 | U | Sidechain |
| 34 | BA | 1394 | A | Sidechain |
| 34 | BA | 1395 | C | Sidechain |
| 34 | BA | 1397 | C | Sidechain |
| 34 | BA | 14 | U | Sidechain |
| 34 | BA | 1405 | G | Sidechain |
| 34 | BA | 1406 | U | Sidechain |
| 34 | BA | 1407 | C | Sidechain |
| 34 | BA | 1408 | A | Sidechain |
| 34 | BA | 1413 | A | Sidechain |
| 34 | BA | 1414 | U | Sidechain |
| 34 | BA | 1418 | A | Sidechain |
| 34 | BA | 1422 | G | Sidechain |
| 34 | BA | 1423 | G | Sidechain |
| 34 | BA | 1432 | G | Sidechain |
| 34 | BA | 1466 | C | Sidechain |
| 34 | BA | 1469 | G | Sidechain |
| 34 | BA | 1471 | G | Sidechain |
| 34 | BA | 1472 | U | Sidechain |
| 34 | BA | 1482 | G | Sidechain |
| 34 | BA | 1483 | A | Sidechain |
| 34 | BA | 1497 | G | Sidechain |
| 34 | BA | 1502 | A | Sidechain |
| 34 | BA | 1505 | G | Sidechain |
| 34 | BA | 1510 | U | Sidechain |
| 34 | BA | 1515 | C | Sidechain |
| 34 | BA | 1516 | G | Sidechain |
| 34 | BA | 1539 | C | Sidechain |
| 34 | BA | 1540 | U | Sidechain |
| 34 | BA | 1541 | U | Sidechain |
| 34 | BA | 156 | G | Sidechain |
| 34 | BA | 158 | G | Sidechain |
| 34 | BA | 159 | G | Sidechain |
| 34 | BA | 166 | G | Sidechain |
| 34 | BA | 180 | U | Sidechain |
| 34 | BA | 184 | G | Sidechain |
| 34 | BA | 190(D) | U | Sidechain |
| 34 | BA | 190(H) | G | Sidechain |
| 34 | BA | 192 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 34 | BA | 197 | A | Sidechain |
| 34 | BA | 203 | U | Sidechain |
| 34 | BA | 216 | G | Sidechain |
| 34 | BA | 22 | G | Sidechain |
| 34 | BA | 231 | G | Sidechain |
| 34 | BA | 243 | A | Sidechain |
| 34 | BA | 253 | U | Sidechain |
| 34 | BA | 266 | G | Sidechain |
| 34 | BA | 274 | A | Sidechain |
| 34 | BA | 281 | G | Sidechain |
| 34 | BA | 283 | C | Sidechain |
| 34 | BA | 285 | G | Sidechain |
| 34 | BA | 294 | U | Sidechain |
| 34 | BA | 297 | G | Sidechain |
| 34 | BA | 298 | A | Sidechain |
| 34 | BA | 300 | A | Sidechain |
| 34 | BA | 31 | G | Sidechain |
| 34 | BA | 314 | C | Sidechain |
| 34 | BA | 331 | G | Sidechain |
| 34 | BA | 345 | C | Sidechain |
| 34 | BA | 348 | G | Sidechain |
| 34 | BA | 357 | G | Sidechain |
| 34 | BA | 358 | U | Sidechain |
| 34 | BA | 360 | A | Sidechain |
| 34 | BA | 368 | U | Sidechain |
| 34 | BA | 369 | C | Sidechain |
| 34 | BA | 372 | C | Sidechain |
| 34 | BA | 373 | A | Sidechain |
| 34 | BA | 38 | G | Sidechain |
| 34 | BA | 388 | G | Sidechain |
| 34 | BA | 389 | A | Sidechain |
| 34 | BA | 395 | C | Sidechain |
| 34 | BA | 397 | A | Sidechain |
| 34 | BA | 405 | U | Sidechain |
| 34 | BA | 406 | G | Sidechain |
| 34 | BA | 41 | G | Sidechain |
| 34 | BA | 412 | A | Sidechain |
| 34 | BA | 413 | G | Sidechain |
| 34 | BA | 421 | U | Sidechain |
| 34 | BA | 428 | G | Sidechain |
| 34 | BA | 431 | A | Sidechain |
| 34 | BA | 432 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 34 | BA | 440 | A | Sidechain |
| 34 | BA | 47 | C | Sidechain |
| 34 | BA | 484 | G | Sidechain |
| 34 | BA | 488 | C | Sidechain |
| 34 | BA | 49 | U | Sidechain |
| 34 | BA | 494 | G | Sidechain |
| 34 | BA | 512 | U | Sidechain |
| 34 | BA | 528 | C | Sidechain |
| 34 | BA | 533 | A | Sidechain |
| 34 | BA | 557 | G | Sidechain |
| 34 | BA | 560 | U | Sidechain |
| 34 | BA | 561 | U | Sidechain |
| 34 | BA | 563 | A | Sidechain |
| 34 | BA | 564 | C | Sidechain |
| 34 | BA | 575 | G | Sidechain |
| 34 | BA | 576 | G | Sidechain |
| 34 | BA | 578 | C | Sidechain |
| 34 | BA | 579 | G | Sidechain |
| 34 | BA | 580 | U | Sidechain |
| 34 | BA | 581 | G | Sidechain |
| 34 | BA | 587 | G | Sidechain |
| 34 | BA | 591 | U | Sidechain |
| 34 | BA | 594 | G | Sidechain |
| 34 | BA | 598 | U | Sidechain |
| 34 | BA | 6 | G | Sidechain |
| 34 | BA | 627 | G | Sidechain |
| 34 | BA | 633 | G | Sidechain |
| 34 | BA | 652 | U | Sidechain |
| 34 | BA | 663 | A | Sidechain |
| 34 | BA | 666 | G | Sidechain |
| 34 | BA | 681 | C | Sidechain |
| 34 | BA | 691 | G | Sidechain |
| 34 | BA | 697 | U | Sidechain |
| 34 | BA | 703 | G | Sidechain |
| 34 | BA | 706 | A | Sidechain |
| 34 | BA | 717 | C | Sidechain |
| 34 | BA | 723 | U | Sidechain |
| 34 | BA | 727 | G | Sidechain |
| 34 | BA | 741 | G | Sidechain |
| 34 | BA | 743 | U | Sidechain |
| 34 | BA | 761 | G | Sidechain |
| 34 | BA | 762 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 34 | BA | 765 | G | Sidechain |
| 34 | BA | 767 | A | Sidechain |
| 34 | BA | 772 | U | Sidechain |
| 34 | BA | 776 | G | Sidechain |
| 34 | BA | 779 | C | Sidechain |
| 34 | BA | 784 | C | Sidechain |
| 34 | BA | 785 | G | Sidechain |
| 34 | BA | 789 | U | Sidechain |
| 34 | BA | 791 | G | Sidechain |
| 34 | BA | 792 | A | Sidechain |
| 34 | BA | 800 | G | Sidechain |
| 34 | BA | 803 | G | Sidechain |
| 34 | BA | 807 | A | Sidechain |
| 34 | BA | 811 | C | Sidechain |
| 34 | BA | 813 | U | Sidechain |
| 34 | BA | 816 | A | Sidechain |
| 34 | BA | 818 | G | Sidechain |
| 34 | BA | 820 | U | Sidechain |
| 34 | BA | 831 | U | Sidechain |
| 34 | BA | 841 | U | Sidechain |
| 34 | BA | 850 | U | Sidechain |
| 34 | BA | 852 | G | Sidechain |
| 34 | BA | 853 | G | Sidechain |
| 34 | BA | 863 | U | Sidechain |
| 34 | BA | 873 | A | Sidechain |
| 34 | BA | 874 | G | Sidechain |
| 34 | BA | 879 | C | Sidechain |
| 34 | BA | 887 | G | Sidechain |
| 34 | BA | 891 | U | Sidechain |
| 34 | BA | 898 | G | Sidechain |
| 34 | BA | 90 | U | Sidechain |
| 34 | BA | 901 | A | Sidechain |
| 34 | BA | 904 | C | Sidechain |
| 34 | BA | 909 | A | Sidechain |
| 34 | BA | 911 | U | Sidechain |
| 34 | BA | 915 | A | Sidechain |
| 34 | BA | 916 | G | Sidechain |
| 34 | BA | 937 | A | Sidechain |
| 34 | BA | 948 | C | Sidechain |
| 34 | BA | 961 | U | Sidechain |
| 34 | BA | 968 | A | Sidechain |
| 34 | BA | 969 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 34 | BA | 972 | C | Sidechain |
| 34 | BA | 974 | A | Sidechain |
| 34 | BA | 98 | U | Sidechain |
| 34 | BA | 982 | U | Sidechain |
| 34 | BA | 983 | A | Sidechain |
| 34 | BA | 998 | G | Sidechain |
| 35 | BB | 1 | G | Sidechain |
| 35 | BB | 10 | G | Sidechain |
| 35 | BB | 11 | C | Sidechain |
| 35 | BB | 13 | C | Sidechain |
| 35 | BB | 14 | A | Sidechain |
| 35 | BB | 16 | U | Sidechain |
| 35 | BB | 18 | G | Sidechain |
| 35 | BB | 19 | G | Sidechain |
| 35 | BB | 20 | G | Sidechain |
| 35 | BB | 24 | G | Sidechain |
| 35 | BB | 27 | C | Sidechain |
| 35 | BB | 29 | A | Sidechain |
| 35 | BB | 30 | G | Sidechain |
| 35 | BB | 33 | U | Sidechain |
| 35 | BB | 34 | G | Sidechain |
| 35 | BB | 35 | A | Sidechain |
| 35 | BB | 37 | G | Sidechain |
| 35 | BB | 38 | A | Sidechain |
| 35 | BB | 39 | U | Sidechain |
| 35 | BB | 4 | G | Sidechain |
| 35 | BB | 40 | C | Sidechain |
| 35 | BB | 44 | A | Sidechain |
| 35 | BB | 45 | G | Sidechain |
| 35 | BB | 46 | G | Sidechain |
| 35 | BB | 47 | U | Sidechain |
| 35 | BB | 49 | C | Sidechain |
| 35 | BB | 51 | G | Sidechain |
| 35 | BB | 57 | G | Sidechain |
| 35 | BB | 59 | U | Sidechain |
| 35 | BB | 6 | U | Sidechain |
| 35 | BB | 61 | C | Sidechain |
| 35 | BB | 65 | G | Sidechain |
| 35 | BB | 69 | U | Sidechain |
| 35 | BB | 7 | U | Sidechain |
| 35 | BB | 71 | G | Sidechain |
| 35 | BC | 18 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 35 | BC | 22 | G | Sidechain |
| 35 | BC | 26 | G | Sidechain |
| 35 | BC | 35 | A | Sidechain |
| 35 | BC | 41 | U | Sidechain |
| 35 | BC | 48 | C | Sidechain |
| 35 | BC | 52 | U | Sidechain |
| 35 | BC | 54 | U | Sidechain |
| 35 | BC | 56 | C | Sidechain |
| 35 | BC | 57 | G | Sidechain |
| 35 | BC | 59 | U | Sidechain |
| 35 | BC | 7 | U | Sidechain |
| 38 | BF | 184 | TYR | Sidechain |
| 39 | BG | 4 | TYR | Sidechain |
| 41 | BI | 63 | TYR | Sidechain |
| 43 | BK | 20 | TYR | Sidechain |
| 48 | BP | 23 | TYR | Sidechain |
| 51 | BS | 17 | TYR | Sidechain |
| 51 | BS | 58 | TYR | Sidechain |

## 5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 1 | AB | 2641 | 0 | 1337 | 635 | 1 |
| 2 | AA | 61847 | 0 | 31165 | 17729 | 1 |
| 3 | AC | 1687 | 0 | 1737 | 723 | 0 |
| 4 | AD | 1308 | 0 | 1355 | 898 | 0 |
| 5 | AE | 1507 | 0 | 1494 | 986 | 0 |
| 6 | AF | 1430 | 0 | 1386 | 832 | 0 |
| 7 | AG | 957 | 0 | 959 | 519 | 0 |
| 8 | AH | 1251 | 0 | 1298 | 612 | 0 |
| 9 | AI | 945 | 0 | 999 | 497 | 0 |
| 9 | AJ | 945 | 0 | 999 | 362 | 0 |
| 10 | AK | 1145 | 0 | 1227 | 630 | 0 |
| 11 | AL | 999 | 0 | 1071 | 497 | 0 |
| 12 | AM | 917 | 0 | 904 | 616 | 0 |
| 13 | AN | 937 | 0 | 1000 | 549 | 0 |
| 14 | AO | 639 | 0 | 615 | 373 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 15 | AP | 1081 | 0 | 1062 | 743 | 0 |
| 16 | AQ | 866 | 0 | 875 | 512 | 0 |
| 17 | AR | 406 | 0 | 361 | 160 | 0 |
| 18 | AS | 860 | 0 | 919 | 442 | 0 |
| 19 | AT | 602 | 0 | 563 | 332 | 0 |
| 20 | AU | 879 | 0 | 868 | 477 | 0 |
| 21 | AV | 1360 | 0 | 1390 | 788 | 0 |
| 22 | AW | 494 | 0 | 506 | 240 | 0 |
| 23 | AX | 477 | 0 | 529 | 309 | 0 |
| 24 | A0 | 855 | 0 | 906 | 492 | 0 |
| 25 | A1 | 978 | 0 | 1020 | 685 | 0 |
| 26 | A2 | 787 | 0 | 804 | 571 | 0 |
| 27 | A3 | 641 | 0 | 668 | 421 | 0 |
| 28 | A4 | 604 | 0 | 595 | 365 | 0 |
| 29 | A5 | 457 | 0 | 462 | 294 | 0 |
| 30 | A6 | 431 | 0 | 456 | 224 | 0 |
| 31 | A7 | 383 | 0 | 414 | 260 | 0 |
| 32 | A8 | 496 | 0 | 549 | 296 | 0 |
| 33 | A9 | 285 | 0 | 312 | 125 | 0 |
| 34 | BA | 32554 | 0 | 16429 | 7563 | 1 |
| 35 | BB | 1626 | 0 | 817 | 629 | 0 |
| 35 | BC | 1626 | 0 | 820 | 429 | 0 |
| 36 | B1 | 1405 | 0 | 706 | 258 | 1 |
| 37 | BE | 1900 | 0 | 1951 | 930 | 0 |
| 38 | BF | 1612 | 0 | 1677 | 662 | 0 |
| 39 | BG | 1703 | 0 | 1763 | 719 | 0 |
| 40 | BH | 1146 | 0 | 1207 | 489 | 1 |
| 41 | BI | 843 | 0 | 857 | 398 | 0 |
| 42 | BJ | 1257 | 0 | 1296 | 527 | 0 |
| 43 | BK | 1116 | 0 | 1177 | 677 | 0 |
| 44 | BL | 1011 | 0 | 1043 | 442 | 0 |
| 45 | BM | 794 | 0 | 840 | 332 | 0 |
| 46 | BN | 885 | 0 | 904 | 409 | 0 |
| 47 | BO | 970 | 0 | 1057 | 459 | 0 |
| 48 | BP | 997 | 0 | 1072 | 493 | 0 |
| 49 | BQ | 492 | 0 | 529 | 258 | 0 |
| 50 | BR | 734 | 0 | 771 | 330 | 0 |
| 51 | BS | 700 | 0 | 720 | 318 | 0 |
| 52 | BT | 857 | 0 | 930 | 423 | 0 |
| 53 | BU | 597 | 0 | 668 | 334 | 0 |
| 54 | BV | 647 | 0 | 673 | 254 | 0 |
| 55 | BW | 762 | 0 | 859 | 366 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 56 | BX | 208 | 0 | 221 | 103 | 0 |
| All | All | 148539 | 0 | 99792 | 47710 | 3 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 193.

All (47710) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2515:C:N4 | 2:AA:2569:G:H1 | 1.08 | 1.45 |
| 34:BA:144:G:H1 | 34:BA:178:C:N4 | 1.13 | 1.45 |
| 34:BA:292:G:H1 | 34:BA:308:C:N4 | 1.08 | 1.45 |
| 2:AA:447:A:H1' | 2:AA:449:A:N6 | 1.28 | 1.44 |
| 33:A9:11:CYS:SG | 33:A9:11:CYS:CB | 2.06 | 1.44 |
| 2:AA:1083:U:C2' | 9:AI:37:VAL:HA | 1.48 | 1.43 |
| 2:AA:1651:G:H1 | 2:AA:2006:C:N4 | 1.08 | 1.43 |
| 2:AA:533:G:H1 | 2:AA:560:C:N4 | 1.06 | 1.43 |
| 13:AN:68:GLY:HA3 | 13:AN:78:ARG:NE | 1.28 | 1.42 |
| 35:BB:37:G:C2 | 36:B1:63:C:N4 | 1.88 | 1.41 |
| 2:AA:1778:U:H3 | 2:AA:1785:A:N6 | 1.08 | 1.41 |
| 34:BA:131:C:N4 | 34:BA:231:G:H1 | 1.19 | 1.40 |
| 2:AA:245:G:N2 | 2:AA:254:G:H1' | 1.36 | 1.40 |
| 2:AA:343:C:N4 | 2:AA:344:G:C6 | 1.83 | 1.40 |
| 2:AA:2048:G:H1 | 2:AA:2620:C:N4 | 1.14 | 1.39 |
| 2:AA:1222:C:H42 | 2:AA:1227:A:N6 | 1.16 | 1.39 |
| 34:BA:1426:C:N4 | 34:BA:1474:G:H1 | 1.20 | 1.38 |
| 1:AB:70:C:N4 | 1:AB:106:G:H1 | 1.22 | 1.38 |
| 2:AA:343:C:N3 | 2:AA:344:G:C2 | 1.91 | 1.37 |
| 2:AA:1612:C:N4 | 2:AA:1619:G:H1 | 1.20 | 1.37 |
| 2:AA:701:G:H1 | 2:AA:731:C:N4 | 1.21 | 1.36 |
| 2:AA:1855:G:H1 | 2:AA:1887:C:N4 | 1.23 | 1.36 |
| 2:AA:1299:G:H4' | 2:AA:1301:A:N3 | 1.40 | 1.35 |
| 35:BB:18:G:N1 | 35:BB:57:G:N1 | 1.74 | 1.35 |
| 2:AA:828:U:H2' | 2:AA:829:A:C8 | 1.60 | 1.35 |
| 10:AK:3:VAL:HB | 10:AK:19:LYS:O | 1.18 | 1.35 |
| 34:BA:1134:G:H1 | 34:BA:1140:C:N4 | 1.25 | 1.34 |
| 17:AR:23:HIS:CE1 | 17:AR:27:ALA:HB3 | 1.62 | 1.34 |
| 34:BA:1352:C:N4 | 34:BA:1370:G:H1 | 1.19 | 1.34 |
| 4:AD:165:GLY:O | 4:AD:172:ILE:HB | 1.20 | 1.34 |
| 4:AD:78:ALA:HB3 | 4:AD:92:LEU:O | 1.26 | 1.33 |
| 35:BB:42:G:H5" | 35:BB:43:G:OP2 | 1.29 | 1.32 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:295:G:O6 | 2:AA:344:G:C6 | 1.81 | 1.32 |
| 6:AF:53:GLY:O | 6:AF:54:LEU:HG | 1.27 | 1.32 |
| 13:AN:68:GLY:CA | 13:AN:78:ARG:HE | 1.43 | 1.32 |
| 2:AA:1006:C:H1' | 12:AM:86:MET:SD | 1.67 | 1.32 |
| 2:AA:775:G:O2' | 2:AA:791:C:N4 | 1.61 | 1.31 |
| 10:AK:4:ILE:HB | 10:AK:37:ILE:O | 1.14 | 1.31 |
| 35:BB:53:G:C2' | 35:BB:54:U:H5' | 1.59 | 1.31 |
| 2:AA:2324:C:N4 | 2:AA:2331:G:H1 | 1.24 | 1.31 |
| 2:AA:2097:C:N4 | 2:AA:2192:G:H1 | 1.28 | 1.31 |
| 2:AA:447:A:C1' | 2:AA:449:A:H62 | 1.44 | 1.30 |
| 19:AT:6:LYS:HB3 | 19:AT:27:ALA:O | 1.32 | 1.30 |
| 35:BB:34:G:N2 | 35:BB:35:A:C2 | 1.99 | 1.30 |
| 2:AA:142(A):A:H4' | 12:AM:21:ARG:NH2 | 1.43 | 1.30 |
| 10:AK:88:ARG:HA | 10:AK:122:ARG:O | 1.28 | 1.30 |
| 2:AA:1909:C:N4 | 2:AA:1921:G:H1 | 1.27 | 1.29 |
| 2:AA:324:A:N6 | 2:AA:339:U:H1' | 1.43 | 1.29 |
| 4:AD:89:ASN:O | 4:AD:105:ALA:HB2 | 1.32 | 1.29 |
| 34:BA:530:G:N7 | 35:BB:35:A:H1' | 1.44 | 1.29 |
| 2:AA:1966:A:N3 | 2:AA:2593:U:H5' | 1.45 | 1.28 |
| 2:AA:2295:C:N4 | 2:AA:2337:G:H1 | 1.30 | 1.28 |
| 6:AF:55:ARG:C | 6:AF:79:ARG:HE | 1.35 | 1.28 |
| 35:BB:34:G:C2 | 35:BB:35:A:N1 | 2.00 | 1.28 |
| 2:AA:599:G:H1 | 2:AA:658:C:N4 | 1.28 | 1.28 |
| 2:AA:1315:C:N4 | 2:AA:1337:G:H1 | 1.30 | 1.28 |
| 2:AA:484:C:H2' | 2:AA:485:C:C6 | 1.68 | 1.27 |
| 2:AA:983:A:C8 | 2:AA:984:A:H1' | 1.68 | 1.27 |
| 34:BA:320:C:N4 | 34:BA:333:G:H1 | 1.29 | 1.27 |
| 34:BA:957:U:H2' | 34:BA:959:A:OP2 | 1.19 | 1.27 |
| 35:BB:33:U:C2 | 35:BB:35:A:OP2 | 1.87 | 1.27 |
| 35:BC:72:C:H2' | 35:BC:73:A:C8 | 1.68 | 1.27 |
| 34:BA:378:G:H1 | 34:BA:385:C:N4 | 1.28 | 1.27 |
| 2:AA:388:G:H2' | 2:AA:390:A:N7 | 1.45 | 1.27 |
| 2:AA:1450:C:N4 | 2:AA:1461:G:H1 | 1.28 | 1.27 |
| 47:BO:85:ILE:HD11 | 47:BO:98:TYR:CB | 1.61 | 1.27 |
| 2:AA:138:G:H3' | 2:AA:138:G:N3 | 1.50 | 1.26 |
| 2:AA:296:C:N3 | 2:AA:344:G:N2 | 1.83 | 1.26 |
| 2:AA:1350:C:N4 | 2:AA:1381:G:H1 | 1.32 | 1.26 |
| 17:AR:12:ASP:O | 17:AR:13:ILE:HG12 | 1.26 | 1.26 |
| 1:AB:71:C:N4 | 1:AB:105:G:H1 | 1.32 | 1.26 |
| 2:AA:1076:C:O2' | 11:AL:91:GLU:HB3 | 1.34 | 1.26 |
| 34:BA:766:A:H2' | 34:BA:767:A:C8 | 1.69 | 1.26 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:850:C:H4' | 23:AX:18:ASP:OD1 | 1.36 | 1.26 |
| 16:AQ:20:TYR:O | 16:AQ:23:ARG:HB3 | 1.29 | 1.26 |
| 34:BA:530:G:N7 | 35:BB:35:A:C1' | 1.97 | 1.26 |
| 4:AD:87:SER:OG | 4:AD:156:ALA:HB2 | 1.33 | 1.26 |
| 34:BA:961:U:O4 | 34:BA:974:A:N1 | 1.67 | 1.26 |
| 34:BA:1118:C:OP1 | 44:BL:104:ARG:HB2 | 1.25 | 1.25 |
| 35:BB:74:C:C4 | 35:BB:75:C:H1' | 1.71 | 1.25 |
| 2:AA:1995:U:H5' | 2:AA:1996:C:C5' | 1.64 | 1.25 |
| 2:AA:533:G:N2 | 2:AA:560:C:N3 | 1.82 | 1.25 |
| 2:AA:1538:G:H2' | 2:AA:1539:G:O4' | 1.33 | 1.25 |
| 2:AA:1809:A:N6 | 28:A4:3:LYS:HG2 | 1.52 | 1.25 |
| 4:AD:167:GLU:HB2 | 4:AD:170:TYR:CE1 | 1.72 | 1.25 |
| 2:AA:270(E):G:H1 | 2:AA:270(U):C:N4 | 1.35 | 1.25 |
| 24:A0:58:GLY:HA2 | 24:A0:80:PHE:CE2 | 1.72 | 1.25 |
| 33:A9:19:ARG:O | 33:A9:22:ARG:HB2 | 1.36 | 1.25 |
| 35:BB:34:G:C2' | 35:BB:35:A:H5" | 1.65 | 1.25 |
| 2:AA:135:G:H1 | 2:AA:144:C:N4 | 1.33 | 1.24 |
| 1:AB:70:C:N3 | 1:AB:106:G:N2 | 1.83 | 1.24 |
| 2:AA:2226:C:C2 | 2:AA:2227:A:H1' | 1.72 | 1.24 |
| 2:AA:2581:G:O6 | 2:AA:2610:C:H2' | 1.37 | 1.24 |
| 8:AH:148:ARG:CZ | 8:AH:163:TYR:HA | 1.66 | 1.24 |
| 2:AA:530:G:C6 | 2:AA:2021:C:H3' | 1.71 | 1.24 |
| 2:AA:1183:G:OP2 | 2:AA:1183:G:H3' | 1.36 | 1.24 |
| 2:AA:1300:U:H1' | 2:AA:1626:G:N2 | 1.53 | 1.24 |
| 24:A0:78:LYS:O | 24:A0:82:GLU:HB2 | 1.09 | 1.24 |
| 34:BA:131:C:N3 | 34:BA:231:G:N2 | 1.86 | 1.24 |
| 34:BA:1352:C:N3 | 34:BA:1370:G:N2 | 1.86 | 1.24 |
| 2:AA:1414:G:H1 | 2:AA:1588:C:N4 | 1.36 | 1.23 |
| 34:BA:1164:G:H1 | 34:BA:1172:C:N4 | 1.35 | 1.23 |
| 2:AA:2544:G:H5' | 2:AA:2645:G:N7 | 1.49 | 1.23 |
| 7:AG:97:GLN:HB2 | 7:AG:106:PHE:CE2 | 1.73 | 1.23 |
| 2:AA:874:G:H1 | 2:AA:903:C:N4 | 1.32 | 1.23 |
| 2:AA:1697:G:C5' | 2:AA:1698:A:H5' | 1.66 | 1.23 |
| 2:AA:1935:G:N2 | 2:AA:1962:C:H2' | 1.49 | 1.23 |
| 34:BA:378:G:N2 | 34:BA:385:C:N3 | 1.86 | 1.23 |
| 2:AA:559:G:H2' | 2:AA:560:C:C6 | 1.74 | 1.23 |
| 2:AA:589:C:N4 | 2:AA:668:G:H1 | 1.35 | 1.23 |
| 2:AA:612:G:H4' | 2:AA:616:A:N6 | 1.49 | 1.23 |
| 37:BE:145:LEU:O | 37:BE:149:LEU:HB2 | 1.33 | 1.23 |
| 10:AK:4:ILE:O | 10:AK:36:ALA:HB1 | 1.36 | 1.22 |
| 14:AO:69:ILE:O | 14:AO:73:VAL:HB | 1.37 | 1.22 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:375:U:O3' | 51:BS:6:LEU:HD21 | 1.39 | 1.22 |
| 2:AA:557:U:H4' | 12:AM:92:GLN:NE2 | 1.50 | 1.22 |
| 2:AA:1717:G:N1 | 2:AA:1742:C:O2 | 1.69 | 1.22 |
| 2:AA:783:A:C2 | 2:AA:785:G:H1' | 1.74 | 1.22 |
| 2:AA:1166:C:N3 | 2:AA:1183:G:N2 | 1.87 | 1.22 |
| 4:AD:210:LYS:O | 4:AD:213:LYS:HB2 | 1.34 | 1.22 |
| 34:BA:1490:C:C6 | 34:BA:1490:C:H5' | 1.75 | 1.22 |
| 37:BE:176:GLU:O | 37:BE:180:LEU:HG | 1.36 | 1.22 |
| 2:AA:701:G:N2 | 2:AA:731:C:N3 | 1.86 | 1.22 |
| 13:AN:64:ARG:NH2 | 13:AN:100:GLY:HA3 | 1.51 | 1.22 |
| 15:AP:50:VAL:O | 15:AP:118:ALA:HA | 1.32 | 1.22 |
| 16:AQ:19:ASP:HB2 | 16:AQ:22:GLN:NE2 | 1.52 | 1.22 |
| 34:BA:888:G:H21 | 34:BA:909:A:N6 | 1.38 | 1.22 |
| 34:BA:1534:A:H3' | 34:BA:1534:A:N3 | 1.52 | 1.22 |
| 2:AA:270(O):U:H5" | 2:AA:270(P):C:C5 | 1.75 | 1.21 |
| 2:AA:1568:G:H5" | 4:AD:60:GLN:NE2 | 1.55 | 1.21 |
| 13:AN:81:GLU:CG | 13:AN:82:ASN:H | 1.52 | 1.21 |
| 34:BA:1299:A:C8 | 34:BA:1301:U:H1' | 1.74 | 1.21 |
| 42:BJ:68:ASN:ND2 | 42:BJ:128:ALA:HA | 1.52 | 1.21 |
| 35:BB:12:U:C2 | 35:BB:24:G:N2 | 2.08 | 1.21 |
| 34:BA:625:G:OP1 | 51:BS:9:PHE:HB3 | 1.38 | 1.21 |
| 34:BA:939:G:H1 | 34:BA:1344:C:N4 | 1.38 | 1.21 |
| 51:BS:6:LEU:HA | 51:BS:18:ARG:O | 1.38 | 1.21 |
| 2:AA:295:G:N1 | 2:AA:344:G:C2 | 2.05 | 1.21 |
| 2:AA:302:C:N4 | 2:AA:315:G:H1 | 1.38 | 1.21 |
| 2:AA:530:G:H3' | 2:AA:530:G:OP2 | 1.39 | 1.21 |
| 41:BI:76:ALA:HB1 | 41:BI:80:ARG:NH2 | 1.55 | 1.21 |
| 34:BA:279:A:H1' | 34:BA:281:G:C2 | 1.75 | 1.21 |
| 15:AP:46:VAL:HB | 15:AP:124:ALA:O | 1.40 | 1.20 |
| 33:A9:7:VAL:HB | 33:A9:36:GLN:OE1 | 1.38 | 1.20 |
| 2:AA:1795:C:H2' | 2:AA:1796:U:C5' | 1.68 | 1.20 |
| 2:AA:2635:C:N4 | 2:AA:2783:G:H1 | 1.39 | 1.20 |
| 26:A2:21:ARG:O | 26:A2:92:ALA:HB1 | 1.41 | 1.20 |
| 2:AA:137(A):G:H5" | 2:AA:137(A):G:N3 | 1.55 | 1.20 |
| 2:AA:678:C:N4 | 2:AA:799:G:H1 | 1.38 | 1.20 |
| 2:AA:715:G:H3' | 2:AA:715:G:OP2 | 1.41 | 1.20 |
| 2:AA:1270:C:H1' | 2:AA:1325:G:N7 | 1.57 | 1.20 |
| 2:AA:1651:G:N2 | 2:AA:2006:C:N3 | 1.88 | 1.20 |
| 2:AA:2616:C:H2' | 2:AA:2617:C:C6 | 1.76 | 1.20 |
| 13:AN:104:ARG:NH1 | 13:AN:122:ILE:HA | 1.56 | 1.20 |
| 2:AA:1471:A:C2 | 2:AA:1472:A:H1' | 1.74 | 1.20 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1936:A:H1' | 2:AA:1940:U:N3 | 1.53 | 1.20 |
| 2:AA:1939:U:C1' | 2:AA:2592:G:H4' | 1.72 | 1.20 |
| 4:AD:89:ASN:O | 4:AD:90:ILE:HD12 | 1.37 | 1.20 |
| 5:AE:210:THR:HA | 5:AE:216:ARG:NH2 | 1.57 | 1.20 |
| 12:AM:5:GLU:HA | 12:AM:109:TYR:HE2 | 1.05 | 1.20 |
| 34:BA:562:C:O2' | 47:BO:15:ARG:HB3 | 1.39 | 1.19 |
| 35:BB:47:U:C5 | 35:BB:49:C:H5" | 1.77 | 1.19 |
| 2:AA:125:G:H5" | 31:A7:19:ARG:NH1 | 1.57 | 1.19 |
| 2:AA:1058:G:O3' | 9:AI:2:THR:HA | 1.39 | 1.19 |
| 2:AA:1695:G:H2' | 2:AA:1696:G:C5' | 1.72 | 1.19 |
| 5:AE:74:GLU:HA | 5:AE:293:TYR:CE2 | 1.77 | 1.19 |
| 35:BB:34:G:C2 | 36:B1:66:G:N7 | 2.09 | 1.19 |
| 2:AA:326:G:N2 | 2:AA:337:C:H1' | 1.57 | 1.19 |
| 2:AA:1203:G:H1' | 2:AA:1241:A:N1 | 1.53 | 1.19 |
| 2:AA:1519:G:H2' | 2:AA:1520:U:O4' | 1.43 | 1.19 |
| 2:AA:2355:C:N4 | 2:AA:2362:G:H1 | 1.41 | 1.19 |
| 2:AA:2553:G:H21 | 2:AA:2583:G:C1' | 1.56 | 1.19 |
| 34:BA:1062:U:H2' | 34:BA:1063:C:C6 | 1.77 | 1.19 |
| 2:AA:2226:C:H2' | 2:AA:2227:A:O4' | 1.38 | 1.19 |
| 4:AD:67:LYS:HD2 | 4:AD:67:LYS:N | 1.58 | 1.19 |
| 12:AM:61:VAL:CG2 | 12:AM:139:LEU:HB2 | 1.71 | 1.19 |
| 20:AU:78:THR:HG22 | 20:AU:88:PRO:HA | 1.21 | 1.19 |
| 21:AV:13:LYS:HE2 | 21:AV:18:MET:SD | 1.82 | 1.19 |
| 35:BB:41:U:H2' | 35:BB:42:G:O4' | 1.42 | 1.19 |
| 43:BK:29:SER:HB3 | 43:BK:32:LYS:NZ | 1.55 | 1.19 |
| 34:BA:745:C:H5' | 34:BA:851:G:N3 | 1.58 | 1.19 |
| 37:BE:14:GLY:HA3 | 37:BE:209:ARG:NH2 | 1.57 | 1.19 |
| 2:AA:1482:U:H1' | 2:AA:1512:G:H22 | 1.06 | 1.18 |
| 2:AA:2209:C:H2' | 2:AA:2210:G:C3' | 1.71 | 1.18 |
| 2:AA:2495:G:H4' | 15:AP:101:MET:HG3 | 1.25 | 1.18 |
| 20:AU:66:ASP:H | 20:AU:72:ILE:HG12 | 1.08 | 1.18 |
| 34:BA:663:A:H5' | 34:BA:836:G:OP1 | 1.41 | 1.18 |
| 1:AB:12:C:C5 | 27:A3:53:MET:HA | 1.78 | 1.18 |
| 2:AA:2209:C:C2' | 2:AA:2210:G:H3' | 1.72 | 1.18 |
| 2:AA:2530:A:H2' | 2:AA:2531:A:H5" | 1.22 | 1.18 |
| 7:AG:93:LEU:HD12 | 7:AG:94:ALA:N | 1.58 | 1.18 |
| 34:BA:974:A:H1' | 49:BQ:31:ARG:HH21 | 1.03 | 1.18 |
| 2:AA:729:G:H3' | 2:AA:729:G:N3 | 1.55 | 1.18 |
| 37:BE:21:ARG:HA | 37:BE:39:ILE:HG12 | 1.25 | 1.18 |
| 2:AA:1613:G:H2' | 2:AA:1617:C:H42 | 1.09 | 1.18 |
| 34:BA:370:C:O2' | 34:BA:371:G:H5' | 1.42 | 1.18 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:665:A:H2' | 34:BA:725:G:N2 | 1.56 | 1.18 |
| 34:BA:1320:C:H42 | 54:BV:36:ARG:NH1 | 1.42 | 1.18 |
| 35:BC:37:G:H2' | 35:BC:38:A:C8 | 1.79 | 1.18 |
| 48:BP:84:ILE:HG13 | 48:BP:85:GLY:H | 1.06 | 1.18 |
| 2:AA:295:G:N1 | 2:AA:344:G:C4 | 2.12 | 1.18 |
| 15:AP:35:ASN:ND2 | 21:AV:113:VAL:HB | 1.55 | 1.18 |
| 15:AP:45:GLN:HE22 | 15:AP:153:PRO:HB2 | 1.06 | 1.18 |
| 25:A1:57:PHE:HA | 25:A1:60:LEU:HD12 | 1.20 | 1.18 |
| 2:AA:2841:C:H2' | 2:AA:2842:G:C8 | 1.79 | 1.17 |
| 52:BT:18:THR:HG22 | 52:BT:43:LEU:HD21 | 1.20 | 1.17 |
| 2:AA:1604:C:O2' | 2:AA:1605:C:H5' | 1.44 | 1.17 |
| 2:AA:27:G:C2 | 2:AA:512:G:H2' | 1.79 | 1.17 |
| 2:AA:783:A:N1 | 2:AA:785:G:H1' | 1.60 | 1.17 |
| 2:AA:919:G:H2' | 2:AA:920:G:C8 | 1.80 | 1.17 |
| 5:AE:76:PRO:HB2 | 5:AE:77:PRO:HD3 | 1.22 | 1.17 |
| 5:AE:105:HIS:HB2 | 5:AE:108:LEU:HG | 1.25 | 1.17 |
| 6:AF:240:LEU:O | 6:AF:243:VAL:HB | 1.40 | 1.17 |
| 13:AN:42:THR:HB | 13:AN:56:GLN:O | 1.43 | 1.17 |
| 29:A5:11:THR:CB | 29:A5:16:ARG:HE | 1.56 | 1.17 |
| 2:AA:973:A:H2' | 2:AA:974:G:H5" | 1.20 | 1.17 |
| 2:AA:1778:U:N3 | 2:AA:1785:A:N6 | 1.92 | 1.17 |
| 6:AF:83:ALA:H | 6:AF:87:ARG:NE | 1.41 | 1.17 |
| 12:AM:12:VAL:HB | 12:AM:38:VAL:CG2 | 1.74 | 1.17 |
| 15:AP:50:VAL:HG13 | 15:AP:147:VAL:HA | 1.21 | 1.17 |
| 29:A5:11:THR:HB | 29:A5:16:ARG:NE | 1.57 | 1.17 |
| 34:BA:1308:U:H3' | 48:BP:99:ARG:NH1 | 1.59 | 1.17 |
| 2:AA:1171:G:H1 | 2:AA:1179:C:N4 | 1.43 | 1.17 |
| 2:AA:1855:G:N2 | 2:AA:1887:C:N3 | 1.92 | 1.17 |
| 2:AA:1903:G:H2' | 2:AA:1904:G:H8 | 1.08 | 1.17 |
| 2:AA:2464:C:N3 | 2:AA:2486:G:N2 | 1.93 | 1.17 |
| 2:AA:911:A:C8 | 2:AA:2264:C:H1' | 1.80 | 1.16 |
| 5:AE:196:GLY:HA2 | 5:AE:268:LEU:O | 1.42 | 1.16 |
| 29:A5:10:LYS:HA | 29:A5:10:LYS:HZ2 | 1.09 | 1.16 |
| 34:BA:371:G:H1 | 34:BA:390:C:N4 | 1.39 | 1.16 |
| 34:BA:570:G:H5' | 34:BA:820:U:H1' | 1.17 | 1.16 |
| 39:BG:20:TYR:HA | 39:BG:31:CYS:SG | 1.83 | 1.16 |
| 43:BK:35:ILE:HD11 | 43:BK:134:ILE:HD13 | 1.26 | 1.16 |
| 2:AA:135:G:N2 | 2:AA:144:C:N3 | 1.91 | 1.16 |
| 2:AA:530:G:N1 | 2:AA:2021:C:H3' | 1.59 | 1.16 |
| 2:AA:711:G:H1 | 2:AA:720:C:N4 | 1.43 | 1.16 |
| 2:AA:1568:G:OP1 | 4:AD:60:GLN:HA | 1.44 | 1.16 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2048:G:N2 | 2:AA:2620:C:N3 | 1.92 | 1.16 |
| 2:AA:2464:C:N4 | 2:AA:2486:G:H1 | 1.42 | 1.16 |
| 16:AQ:22:GLN:O | 16:AQ:25:ARG:HB3 | 1.45 | 1.16 |
| 23:AX:7:LYS:O | 23:AX:54:VAL:HB | 1.39 | 1.16 |
| 24:A0:32:GLY:CA | 24:A0:116:LEU:HD21 | 1.75 | 1.16 |
| 34:BA:509:A:H2' | 34:BA:510:A:C8 | 1.79 | 1.16 |
| 2:AA:1002:G:H1 | 2:AA:1153:C:N4 | 1.42 | 1.16 |
| 2:AA:1527:G:H2' | 2:AA:1528:A:H5" | 1.23 | 1.16 |
| 2:AA:2115:G:O2' | 3:AC:126:LYS:HD2 | 1.44 | 1.16 |
| 5:AE:82:ALA:O | 5:AE:83:LEU:HG | 1.40 | 1.16 |
| 5:AE:174:LEU:O | 5:AE:177:ALA:HB3 | 1.44 | 1.16 |
| 6:AF:195:VAL:HB | 6:AF:235:PHE:HA | 1.25 | 1.16 |
| 13:AN:66:LYS:CE | 13:AN:82:ASN:HD21 | 1.59 | 1.16 |
| 26:A2:69:ILE:N | 26:A2:91:THR:HG22 | 1.60 | 1.16 |
| 35:BC:30:G:H1 | 35:BC:40:C:N4 | 1.41 | 1.16 |
| 37:BE:118:LEU:HD22 | 37:BE:142:LEU:HB2 | 1.19 | 1.16 |
| 43:BK:10:LEU:O | 43:BK:13:ILE:HB | 1.39 | 1.16 |
| 47:BO:126:LYS:HZ3 | 47:BO:128:ALA:HB2 | 1.05 | 1.16 |
| 2:AA:2657:A:N6 | 2:AA:2664:G:H21 | 1.44 | 1.16 |
| 18:AS:20:VAL:HG11 | 18:AS:47:VAL:HG21 | 1.21 | 1.16 |
| 18:AS:90:ARG:HB2 | 18:AS:90:ARG:NH1 | 1.58 | 1.16 |
| 25:A1:13:ARG:NH1 | 25:A1:13:ARG:H | 1.42 | 1.16 |
| 34:BA:1129:C:H4' | 34:BA:1131:G:N7 | 1.61 | 1.16 |
| 34:BA:1236:A:H4' | 34:BA:1304:G:H4' | 1.21 | 1.16 |
| 2:AA:172:C:H2' | 2:AA:173:G:H8 | 1.07 | 1.16 |
| 2:AA:919:G:N2 | 2:AA:2268:A:H5" | 1.61 | 1.16 |
| 2:AA:1937:A:H3' | 2:AA:1938:A:H5" | 1.25 | 1.16 |
| 4:AD:62:ARG:HH22 | 4:AD:84:PRO:HD2 | 1.11 | 1.16 |
| 34:BA:1073:U:H2' | 34:BA:1074:G:H8 | 1.08 | 1.16 |
| 35:BB:34:G:N1 | 36:B1:66:G:N7 | 1.94 | 1.16 |
| 44:BL:16:ARG:HG2 | 44:BL:18:PHE:HE1 | 1.11 | 1.16 |
| 1:AB:71:C:N3 | 1:AB:105:G:N2 | 1.93 | 1.15 |
| 2:AA:671:C:N4 | 2:AA:809:G:H1 | 1.43 | 1.15 |
| 2:AA:1495:A:H2' | 2:AA:1496:A:N7 | 1.60 | 1.15 |
| 2:AA:2043:C:H5 | 2:AA:2777:G:H1' | 1.04 | 1.15 |
| 10:AK:3:VAL:O | 10:AK:18:ILE:HA | 1.45 | 1.15 |
| 21:AV:41:ARG:O | 21:AV:44:ARG:HB2 | 1.46 | 1.15 |
| 26:A2:72:ARG:HB2 | 26:A2:88:GLN:CD | 1.63 | 1.15 |
| 34:BA:313:A:H2' | 34:BA:314:C:C6 | 1.81 | 1.15 |
| 34:BA:1392:G:H2' | 34:BA:1393:U:C6 | 1.81 | 1.15 |
| 35:BB:12:U:N3 | 35:BB:24:G:N2 | 1.94 | 1.15 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:37:G:P | 35:BB:37:G:C8 | 2.38 | 1.15 |
| 2:AA:614:U:H3' | 2:AA:615:G:H4' | 1.23 | 1.15 |
| 2:AA:818:G:H21 | 2:AA:1189:A:N6 | 1.45 | 1.15 |
| 2:AA:2313:C:H5" | 7:AG:51:ARG:HD3 | 1.20 | 1.15 |
| 2:AA:2553:G:N2 | 2:AA:2583:G:H1' | 1.61 | 1.15 |
| 24:A0:79:LEU:HD23 | 24:A0:80:PHE:N | 1.61 | 1.15 |
| 34:BA:77:G:H1 | 34:BA:92:C:N4 | 1.45 | 1.15 |
| 2:AA:718:A:H5" | 2:AA:719:C:C6 | 1.81 | 1.15 |
| 2:AA:874:G:N2 | 2:AA:903:C:N3 | 1.92 | 1.15 |
| 5:AE:44:TYR:HA | 5:AE:309:PRO:CD | 1.76 | 1.15 |
| 18:AS:19:LEU:HD22 | 29:A5:25:LEU:HG | 1.27 | 1.15 |
| 31:A7:35:ARG:HB3 | 31:A7:35:ARG:NH1 | 1.60 | 1.15 |
| 34:BA:408:A:H2' | 34:BA:409:G:C8 | 1.81 | 1.15 |
| 2:AA:971:C:O2 | 2:AA:972:G:H1' | 1.46 | 1.15 |
| 2:AA:1084:A:O5' | 9:AI:38:ALA:N | 1.78 | 1.15 |
| 2:AA:1184:G:C2' | 2:AA:1185:C:H5' | 1.77 | 1.15 |
| 3:AC:100:ILE:HG22 | 3:AC:126:LYS:HG2 | 1.21 | 1.15 |
| 13:AN:63:VAL:HG12 | 13:AN:102:VAL:HG13 | 1.19 | 1.15 |
| 13:AN:64:ARG:HD3 | 13:AN:81:GLU:OE1 | 1.42 | 1.15 |
| 37:BE:88:ALA:HB2 | 37:BE:219:VAL:HG22 | 1.28 | 1.15 |
| 37:BE:185:ILE:CG2 | 37:BE:199:TYR:HB2 | 1.76 | 1.15 |
| 43:BK:63:LEU:HD13 | 43:BK:63:LEU:N | 1.56 | 1.15 |
| 50:BR:38:ARG:HB3 | 50:BR:38:ARG:NH1 | 1.61 | 1.15 |
| 2:AA:607:U:N3 | 2:AA:621:A:N6 | 1.95 | 1.15 |
| 2:AA:987:G:H2' | 2:AA:988:A:H5' | 1.25 | 1.15 |
| 2:AA:1222:C:N4 | 2:AA:1227:A:N6 | 1.94 | 1.15 |
| 2:AA:1530:G:O6 | 2:AA:1541:U:O2 | 1.61 | 1.15 |
| 2:AA:1691:C:O2' | 2:AA:1692:U:H5' | 1.46 | 1.15 |
| 3:AC:82:LYS:HB3 | 3:AC:116:THR:HG21 | 1.27 | 1.15 |
| 4:AD:112:GLY:O | 4:AD:114:GLU:HG3 | 1.47 | 1.15 |
| 21:AV:13:LYS:HZ1 | 21:AV:33:ALA:HA | 1.06 | 1.15 |
| 25:A1:98:ILE:HG13 | 26:A2:13:ARG:HH21 | 1.06 | 1.15 |
| 28:A4:5:LEU:HD12 | 28:A4:60:ASN:HD21 | 1.12 | 1.15 |
| 34:BA:144:G:N2 | 34:BA:178:C:N3 | 1.92 | 1.15 |
| 43:BK:9:MET:HG2 | 43:BK:13:ILE:HD11 | 1.24 | 1.15 |
| 1:AB:89(A):A:H2' | 1:AB:90:C:H5' | 1.20 | 1.14 |
| 2:AA:2231:C:H2' | 2:AA:2232:U:C6 | 1.81 | 1.14 |
| 2:AA:2702:U:H6 | 2:AA:2702:U:OP1 | 1.25 | 1.14 |
| 3:AC:76:ALA:HB3 | 3:AC:94:VAL:HG22 | 1.29 | 1.14 |
| 4:AD:213:LYS:HB3 | 4:AD:215:LYS:HB2 | 1.23 | 1.14 |
| 5:AE:42:ALA:HA | 5:AE:311:PHE:CE2 | 1.79 | 1.14 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:48:MET:HB3 | 5:AE:71:THR:HG23 | 1.24 | 1.14 |
| 6:AF:58:ALA:HB2 | 6:AF:79:ARG:N | 1.62 | 1.14 |
| 12:AM:44:ALA:C | 12:AM:132:LEU:HB2 | 1.66 | 1.14 |
| 18:AS:30:GLU:HA | 18:AS:33:ARG:HD3 | 1.30 | 1.14 |
| 30:A6:28:ARG:NH1 | 30:A6:28:ARG:HB3 | 1.60 | 1.14 |
| 37:BE:174:VAL:O | 37:BE:178:ARG:HB2 | 1.44 | 1.14 |
| 2:AA:246:C:N4 | 2:AA:252:G:H1 | 1.46 | 1.14 |
| 2:AA:2103:C:N4 | 2:AA:2186:G:H1 | 1.43 | 1.14 |
| 8:AH:73:ASN:HB3 | 8:AH:137:LYS:NZ | 1.61 | 1.14 |
| 34:BA:985:C:N4 | 34:BA:1220:G:H1 | 1.45 | 1.14 |
| 43:BK:33:GLU:HG2 | 43:BK:59:LEU:HD11 | 1.26 | 1.14 |
| 2:AA:628:G:H1 | 2:AA:635:C:N4 | 1.44 | 1.14 |
| 2:AA:1054:A:N6 | 2:AA:1105:U:H3 | 1.46 | 1.14 |
| 2:AA:2250:G:H5" | 15:AP:102:ARG:HB3 | 1.19 | 1.14 |
| 13:AN:20:LEU:O | 13:AN:41:ALA:HB1 | 1.45 | 1.14 |
| 16:AQ:104:ILE:HG21 | 16:AQ:109:PRO:HD3 | 1.25 | 1.14 |
| 23:AX:9:VAL:N | 23:AX:54:VAL:HG12 | 1.61 | 1.14 |
| 1:AB:84:C:N4 | 1:AB:92:G:H1 | 1.45 | 1.14 |
| 2:AA:68:G:H2' | 2:AA:69:C:C6 | 1.83 | 1.14 |
| 2:AA:343:C:N3 | 2:AA:344:G:C4 | 2.16 | 1.14 |
| 2:AA:594:U:H2' | 2:AA:595:C:C6 | 1.83 | 1.14 |
| 2:AA:1350:C:N3 | 2:AA:1381:G:N2 | 1.95 | 1.14 |
| 2:AA:1482:U:C1' | 2:AA:1512:G:H22 | 1.58 | 1.14 |
| 2:AA:1795:C:C2' | 2:AA:1796:U:H5' | 1.77 | 1.14 |
| 3:AC:14:VAL:HG22 | 3:AC:28:LEU:HD21 | 1.25 | 1.14 |
| 7:AG:93:LEU:CD1 | 7:AG:94:ALA:H | 1.60 | 1.14 |
| 15:AP:50:VAL:HG22 | 15:AP:147:VAL:HG13 | 1.30 | 1.14 |
| 31:A7:27:GLY:O | 31:A7:31:LEU:HG | 1.47 | 1.14 |
| 37:BE:217:ARG:O | 37:BE:220:ASP:HB2 | 1.47 | 1.14 |
| 2:AA:342:G:N1 | 2:AA:344:G:N2 | 1.96 | 1.14 |
| 2:AA:783:A:H2' | 2:AA:784:A:H4' | 1.16 | 1.14 |
| 3:AC:193:ILE:O | 3:AC:197:GLU:HB2 | 1.48 | 1.14 |
| 21:AV:24:TYR:O | 21:AV:84:TYR:HA | 1.46 | 1.14 |
| 34:BA:417:C:N4 | 34:BA:426:G:H1 | 1.44 | 1.14 |
| 51:BS:3:LYS:HD2 | 51:BS:24:ALA:HB2 | 1.22 | 1.14 |
| 53:BU:49:LYS:N | 53:BU:49:LYS:HE3 | 1.62 | 1.14 |
| 2:AA:139:G:H2' | 2:AA:141(A):C:O2' | 1.45 | 1.13 |
| 2:AA:955:C:N4 | 2:AA:962:G:H1 | 1.43 | 1.13 |
| 2:AA:1083:U:H2' | 9:AI:37:VAL:CA | 1.77 | 1.13 |
| 2:AA:1977:A:H2' | 2:AA:1978:A:C8 | 1.82 | 1.13 |
| 2:AA:2121:G:H2' | 2:AA:2122:U:H6 | 1.09 | 1.13 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2457:U:C2' | 2:AA:2458:G:H5' | 1.78 | 1.13 |
| 4:AD:213:LYS:C | 4:AD:215:LYS:H | 1.37 | 1.13 |
| 10:AK:94:THR:HG22 | 10:AK:97:GLN:HG3 | 1.21 | 1.13 |
| 17:AR:6:CYS:CB | 17:AR:9:CYS:HB3 | 1.78 | 1.13 |
| 34:BA:280:C:H5" | 34:BA:281:G:OP2 | 1.49 | 1.13 |
| 34:BA:1128:C:H1' | 34:BA:1146:A:H61 | 1.09 | 1.13 |
| 41:BI:95:GLU:HB2 | 41:BI:96:PRO:HD3 | 1.25 | 1.13 |
| 2:AA:978:G:H1 | 2:AA:985:C:N4 | 1.44 | 1.13 |
| 2:AA:1268:A:H2' | 2:AA:1269:A:C8 | 1.83 | 1.13 |
| 15:AP:68:ALA:HB2 | 15:AP:139:ALA:HB2 | 1.15 | 1.13 |
| 25:A1:74:MET:HG3 | 25:A1:117:ARG:NH2 | 1.61 | 1.13 |
| 28:A4:5:LEU:HD12 | 28:A4:60:ASN:ND2 | 1.62 | 1.13 |
| 34:BA:666:G:H5' | 34:BA:726:C:O2 | 1.46 | 1.13 |
| 35:BB:57:G:H2' | 35:BB:58:A:H5' | 1.20 | 1.13 |
| 37:BE:97:TRP:HZ3 | 37:BE:172:ILE:HB | 1.08 | 1.13 |
| 52:BT:45:HIS:NE2 | 52:BT:47:PRO:HG3 | 1.64 | 1.13 |
| 55:BW:54:LYS:HA | 55:BW:57:ARG:HD2 | 1.25 | 1.13 |
| 2:AA:286:C:H2' | 2:AA:287:C:C5' | 1.77 | 1.13 |
| 2:AA:343:C:N3 | 2:AA:344:G:N3 | 1.96 | 1.13 |
| 2:AA:1270:C:C4' | 2:AA:1271:G:H5" | 1.77 | 1.13 |
| 2:AA:1772:G:H2' | 2:AA:1773:A:H4' | 1.16 | 1.13 |
| 2:AA:2195:C:H2' | 2:AA:2196:C:O4' | 1.47 | 1.13 |
| 2:AA:2305:A:H5' | 2:AA:2306:C:OP2 | 1.49 | 1.13 |
| 2:AA:2584:U:H6 | 2:AA:2584:U:H3' | 1.05 | 1.13 |
| 2:AA:2836:U:H2' | 2:AA:2837:G:C8 | 1.82 | 1.13 |
| 2:AA:2838:G:H1 | 2:AA:2880:C:N4 | 1.45 | 1.13 |
| 6:AF:213:ALA:HB1 | 6:AF:218:VAL:HG22 | 1.13 | 1.13 |
| 8:AH:86:LEU:HA | 8:AH:148:ARG:NH2 | 1.61 | 1.13 |
| 11:AL:72:THR:OG1 | 11:AL:115:ASP:HB3 | 1.45 | 1.13 |
| 24:A0:79:LEU:HD23 | 24:A0:80:PHE:CA | 1.79 | 1.13 |
| 26:A2:61:VAL:HG12 | 26:A2:95:ILE:HG22 | 1.25 | 1.13 |
| 34:BA:520:A:H3' | 34:BA:521:G:H5" | 1.30 | 1.13 |
| 34:BA:1528:U:O2' | 34:BA:1529:G:H3' | 1.47 | 1.13 |
| 35:BB:18:G:C2 | 35:BB:57:G:C2 | 2.37 | 1.13 |
| 48:BP:81:LEU:HB2 | 48:BP:86:CYS:SG | 1.87 | 1.13 |
| 2:AA:2310:A:H2' | 7:AG:55:LYS:HE2 | 1.30 | 1.13 |
| 4:AD:181:ARG:HB3 | 4:AD:181:ARG:NH1 | 1.64 | 1.13 |
| 10:AK:88:ARG:HD3 | 10:AK:122:ARG:HB3 | 1.31 | 1.13 |
| 24:A0:32:GLY:HA2 | 24:A0:116:LEU:CD2 | 1.76 | 1.13 |
| 25:A1:74:MET:HG3 | 25:A1:117:ARG:HH22 | 0.99 | 1.13 |
| 25:A1:97:ASP:O | 25:A1:101:ARG:HG2 | 1.49 | 1.13 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:60:VAL:O | 26:A2:98:ILE:HB | 1.47 | 1.13 |
| 28:A4:68:ARG:HG2 | 28:A4:72:LYS:HG2 | 1.31 | 1.13 |
| 37:BE:59:GLU:CB | 37:BE:221:LEU:HD21 | 1.79 | 1.13 |
| 37:BE:97:TRP:CZ3 | 37:BE:172:ILE:HB | 1.84 | 1.13 |
| 45:BM:84:GLN:HA | 45:BM:88:LEU:HD12 | 1.15 | 1.13 |
| 51:BS:74:LEU:HD22 | 51:BS:79:VAL:HG21 | 1.23 | 1.13 |
| 1:AB:16:G:H3' | 1:AB:16:G:OP2 | 1.47 | 1.13 |
| 2:AA:217:G:H2' | 2:AA:218:A:H5' | 1.29 | 1.12 |
| 12:AM:15:ARG:HG2 | 12:AM:43:ARG:HB3 | 1.31 | 1.13 |
| 18:AS:4:LYS:HG2 | 18:AS:106:ILE:HA | 1.23 | 1.12 |
| 23:AX:31:LEU:CD2 | 23:AX:32:GLN:H | 1.60 | 1.12 |
| 30:A6:19:GLY:HA3 | 30:A6:42:PRO:HG3 | 1.29 | 1.12 |
| 34:BA:858:G:N2 | 34:BA:869:G:H2' | 1.63 | 1.12 |
| 34:BA:1347:G:H3' | 44:BL:108:VAL:HA | 1.29 | 1.13 |
| 43:BK:126:LYS:HD2 | 43:BK:127:LEU:N | 1.62 | 1.13 |
| 53:BU:46:GLU:HB3 | 53:BU:85:LEU:HD13 | 1.31 | 1.13 |
| 55:BW:45:GLN:HA | 55:BW:91:LEU:HD22 | 1.19 | 1.13 |
| 2:AA:2624:G:H1' | 29:A5:22:HIS:HE2 | 1.00 | 1.12 |
| 2:AA:2785:C:H5' | 5:AE:99:VAL:HG22 | 1.30 | 1.12 |
| 35:BB:22:G:H2' | 35:BB:23:A:C8 | 1.82 | 1.12 |
| 2:AA:697:C:O2' | 2:AA:698:C:H5" | 1.49 | 1.12 |
| 2:AA:1085:A:H1' | 2:AA:1086:A:H4' | 1.13 | 1.12 |
| 2:AA:1718:G:N2 | 2:AA:1741:C:N3 | 1.97 | 1.12 |
| 10:AK:115:ILE:HG23 | 10:AK:131:VAL:HG22 | 1.28 | 1.12 |
| 12:AM:50:GLU:O | 12:AM:53:ILE:HG22 | 1.49 | 1.12 |
| 15:AP:16:ARG:HB3 | 15:AP:16:ARG:NH1 | 1.63 | 1.12 |
| 19:AT:6:LYS:HD2 | 19:AT:27:ALA:HB1 | 1.17 | 1.12 |
| 27:A3:36:ILE:HB | 27:A3:68:VAL:HG11 | 1.26 | 1.12 |
| 34:BA:5:U:C4 | 39:BG:86:LYS:HE3 | 1.83 | 1.12 |
| 35:BB:18:G:N1 | 35:BB:57:G:C2 | 2.16 | 1.12 |
| 35:BC:20:G:N2 | 35:BC:21:A:H5' | 1.62 | 1.12 |
| 46:BN:58:PRO:HA | 46:BN:90:GLY:HA3 | 1.30 | 1.12 |
| 2:AA:137(A):G:H5' | 2:AA:138:G:OP2 | 1.48 | 1.12 |
| 2:AA:245:G:OP1 | 14:AO:53:ARG:HD3 | 1.47 | 1.12 |
| 2:AA:791:C:C2 | 2:AA:794:G:H5' | 1.84 | 1.12 |
| 2:AA:2125:G:N2 | 2:AA:2174:C:H42 | 1.46 | 1.12 |
| 2:AA:2343:C:O2' | 2:AA:2344:U:H5' | 1.46 | 1.12 |
| 10:AK:7:LYS:HA | 10:AK:14:LYS:HG2 | 1.23 | 1.12 |
| 12:AM:61:VAL:HG21 | 12:AM:139:LEU:CB | 1.79 | 1.12 |
| 13:AN:71:ARG:NH2 | 13:AN:77:ILE:HG21 | 1.64 | 1.12 |
| 22:AW:26:GLU:HA | 22:AW:29:ASN:HD22 | 1.01 | 1.12 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:61:VAL:HG13 | 26:A2:96:LEU:O | 1.49 | 1.12 |
| 34:BA:15:G:H2' | 34:BA:16:A:C8 | 1.83 | 1.12 |
| 34:BA:1426:C:N3 | 34:BA:1474:G:N2 | 1.97 | 1.12 |
| 45:BM:51:ARG:HB2 | 45:BM:59:SER:HB3 | 1.26 | 1.12 |
| 2:AA:780:G:H2' | 2:AA:782:A:C8 | 1.83 | 1.12 |
| 2:AA:893:C:H2' | 2:AA:894:C:C6 | 1.85 | 1.12 |
| 2:AA:1528:A:N6 | 2:AA:1543:A:H62 | 1.47 | 1.12 |
| 5:AE:45:LYS:HE3 | 5:AE:303:PRO:HG2 | 1.29 | 1.12 |
| 13:AN:9:LYS:HG3 | 13:AN:18:GLU:HG2 | 1.30 | 1.12 |
| 20:AU:23:VAL:HG23 | 20:AU:67:LEU:HD21 | 1.20 | 1.12 |
| 26:A2:78:VAL:HB | 26:A2:80:TYR:HD1 | 1.02 | 1.12 |
| 34:BA:671:G:H2' | 34:BA:672:U:C6 | 1.85 | 1.12 |
| 43:BK:6:ILE:HD12 | 43:BK:85:ARG:HH11 | 1.11 | 1.12 |
| 45:BM:24:VAL:HG21 | 45:BM:37:PRO:HD3 | 1.26 | 1.12 |
| 53:BU:75:ILE:HG22 | 53:BU:76:LEU:HD22 | 1.32 | 1.12 |
| 2:AA:1695:G:N2 | 2:AA:1696:G:C8 | 2.17 | 1.12 |
| 2:AA:2097:C:N3 | 2:AA:2192:G:N2 | 1.95 | 1.12 |
| 2:AA:2472:G:H2' | 2:AA:2475:C:N4 | 1.65 | 1.12 |
| 5:AE:171:SER:O | 5:AE:175:ASP:HB2 | 1.49 | 1.12 |
| 5:AE:317:PRO:HG2 | 5:AE:320:GLN:HG2 | 1.16 | 1.12 |
| 6:AF:162:VAL:HB | 6:AF:165:ASP:OD1 | 1.48 | 1.12 |
| 21:AV:71:MET:HA | 21:AV:78:PRO:CB | 1.78 | 1.12 |
| 23:AX:31:LEU:HD22 | 23:AX:32:GLN:N | 1.63 | 1.12 |
| 27:A3:46:LYS:HG2 | 27:A3:58:THR:H | 1.10 | 1.12 |
| 39:BG:10:ARG:O | 39:BG:13:ARG:HB2 | 1.48 | 1.12 |
| 1:AB:33:G:H2' | 1:AB:34:U:C6 | 1.84 | 1.11 |
| 2:AA:821:A:O2' | 2:AA:945:A:H3' | 1.48 | 1.11 |
| 2:AA:1055:G:C2 | 9:AI:28:LYS:HD3 | 1.85 | 1.11 |
| 2:AA:1085:A:H1' | 2:AA:1086:A:C4' | 1.78 | 1.11 |
| 2:AA:1309:G:C2' | 2:AA:1310:G:H5' | 1.78 | 1.11 |
| 2:AA:1909:C:N3 | 2:AA:1921:G:N2 | 1.98 | 1.11 |
| 8:AH:90:GLY:HA3 | 8:AH:93:TYR:HB2 | 1.24 | 1.11 |
| 13:AN:66:LYS:HE3 | 13:AN:82:ASN:HD21 | 1.03 | 1.11 |
| 15:AP:127:ASN:HB2 | 15:AP:128:PRO:HD3 | 1.21 | 1.11 |
| 18:AS:8:ARG:HG2 | 18:AS:9:TYR:H | 1.05 | 1.11 |
| 30:A6:40:TYR:O | 30:A6:47:HIS:HA | 1.49 | 1.11 |
| 34:BA:1073:U:H3 | 34:BA:1102:A:N6 | 1.46 | 1.11 |
| 35:BC:40:C:H2' | 35:BC:41:U:H5" | 1.22 | 1.11 |
| 43:BK:26:VAL:HG22 | 43:BK:27:PRO:HD2 | 1.31 | 1.11 |
| 2:AA:599:G:N2 | 2:AA:658:C:N3 | 1.98 | 1.11 |
| 2:AA:752:A:C5 | 2:AA:1781:C:H1' | 1.83 | 1.11 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1527:G:N2 | 2:AA:1544:C:N3 | 1.98 | 1.11 |
| 2:AA:1935:G:H2' | 2:AA:1962:C:N3 | 1.66 | 1.11 |
| 2:AA:2636:U:H4' | 5:AE:84:ARG:HH12 | 1.09 | 1.11 |
| 3:AC:205:LYS:HG2 | 3:AC:206:GLY:H | 1.12 | 1.11 |
| 15:AP:26:LYS:HD2 | 15:AP:89:PRO:HD2 | 1.25 | 1.11 |
| 19:AT:11:THR:HG23 | 19:AT:14:ALA:HB2 | 1.31 | 1.11 |
| 22:AW:20:LEU:HD21 | 22:AW:53:ILE:HG23 | 1.22 | 1.11 |
| 34:BA:1452:C:H4' | 34:BA:1453:G:H5" | 1.32 | 1.11 |
| 35:BB:36:A:N6 | 36:B1:65:U:C2 | 2.18 | 1.11 |
| 44:BL:55:ALA:HB3 | 44:BL:58:ARG:NE | 1.65 | 1.11 |
| 53:BU:66:LEU:HD12 | 53:BU:67:ALA:N | 1.65 | 1.11 |
| 2:AA:108:U:H2' | 2:AA:109:G:H8 | 1.07 | 1.11 |
| 2:AA:245:G:H22 | 2:AA:254:G:C1' | 1.63 | 1.11 |
| 2:AA:271(B):G:C5' | 2:AA:271(C):U:H5' | 1.79 | 1.11 |
| 2:AA:1084:A:O5' | 9:AI:39:VAL:N | 1.84 | 1.11 |
| 2:AA:1309:G:H2' | 2:AA:1310:G:H5' | 1.21 | 1.11 |
| 2:AA:1528:A:H61 | 2:AA:1543:A:N6 | 1.47 | 1.11 |
| 2:AA:2023:G:H1 | 2:AA:2040:C:N4 | 1.46 | 1.11 |
| 2:AA:2353:G:N2 | 2:AA:2364:C:N3 | 1.97 | 1.11 |
| 20:AU:42:VAL:HG12 | 20:AU:43:ASN:H | 1.05 | 1.11 |
| 34:BA:517:G:O2' | 34:BA:530:G:H4' | 1.49 | 1.11 |
| 34:BA:1428:A:H2' | 34:BA:1429:C:C6 | 1.84 | 1.11 |
| 39:BG:18:LYS:HA | 39:BG:33:MET:HE2 | 1.32 | 1.11 |
| 40:BH:89:ILE:HG12 | 40:BH:131:ILE:HD12 | 1.27 | 1.11 |
| 43:BK:6:ILE:HD11 | 43:BK:85:ARG:HD3 | 1.31 | 1.11 |
| 48:BP:91:ARG:HB3 | 48:BP:98:VAL:HG22 | 1.26 | 1.11 |
| 2:AA:449:A:OP2 | 6:AF:85:LYS:HA | 1.47 | 1.11 |
| 2:AA:559:G:H2' | 2:AA:560:C:H6 | 0.97 | 1.11 |
| 2:AA:1240:U:H3' | 2:AA:1241:A:H8 | 1.12 | 1.11 |
| 2:AA:1544:C:OP2 | 2:AA:1544:C:H3' | 1.48 | 1.11 |
| 2:AA:2207:C:C2' | 2:AA:2208:U:H5' | 1.80 | 1.11 |
| 2:AA:2373:G:H1 | 2:AA:2380:C:N4 | 1.49 | 1.11 |
| 2:AA:2581:G:C6 | 2:AA:2610:C:H2' | 1.84 | 1.11 |
| 4:AD:74:PRO:HD2 | 4:AD:96:ALA:HB2 | 1.24 | 1.11 |
| 4:AD:213:LYS:HB3 | 4:AD:215:LYS:CB | 1.80 | 1.11 |
| 6:AF:5:ILE:HD11 | 6:AF:16:VAL:HG23 | 1.15 | 1.11 |
| 21:AV:13:LYS:NZ | 21:AV:33:ALA:HA | 1.62 | 1.11 |
| 42:BJ:100:ALA:O | 42:BJ:104:LEU:HD23 | 1.49 | 1.11 |
| 42:BJ:113:GLU:HG3 | 42:BJ:118:VAL:HB | 1.25 | 1.11 |
| 44:BL:32:ASP:HB3 | 44:BL:35:GLU:HB2 | 1.26 | 1.11 |
| 47:BO:126:LYS:NZ | 47:BO:128:ALA:HB2 | 1.66 | 1.11 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:8:U:H2' | 1:AB:9:G:C8 | 1.85 | 1.11 |
| 2:AA:1083:U:C4 | 9:AI:36:PRO:HB3 | 1.85 | 1.11 |
| 2:AA:2521:C:N4 | 2:AA:2544:G:H1 | 1.46 | 1.11 |
| 5:AE:268:LEU:HG | 5:AE:296:VAL:HG22 | 1.33 | 1.11 |
| 9:AI:16:SER:OG | 9:AJ:105:GLY:HA3 | 1.47 | 1.11 |
| 13:AN:86:ILE:HG22 | 13:AN:94:ARG:HG3 | 1.33 | 1.11 |
| 18:AS:5:ALA:HB2 | 18:AS:54:ALA:HB2 | 1.13 | 1.11 |
| 23:AX:26:LEU:HD13 | 23:AX:47:VAL:HG22 | 1.26 | 1.11 |
| 38:BF:19:GLU:HA | 38:BF:54:ARG:NH2 | 1.63 | 1.11 |
| 48:BP:22:ILE:HB | 48:BP:25:ILE:HG13 | 1.18 | 1.11 |
| 2:AA:621:A:H2' | 2:AA:622:G:H5' | 1.19 | 1.10 |
| 2:AA:678:C:N3 | 2:AA:799:G:N2 | 1.98 | 1.10 |
| 2:AA:786:C:O2' | 2:AA:787:U:H5' | 1.51 | 1.10 |
| 2:AA:1035:U:H2' | 2:AA:1036:G:H8 | 1.13 | 1.10 |
| 2:AA:1142:U:C6 | 2:AA:142(A):A:H5' | 1.86 | 1.10 |
| 2:AA:2681:C:H5 | 2:AA:2727:G:N2 | 1.48 | 1.10 |
| 5:AE:45:LYS:NZ | 5:AE:301:PRO:HG2 | 1.64 | 1.10 |
| 9:AI:35:ALA:HB3 | 9:AI:36:PRO:HD3 | 1.30 | 1.10 |
| 15:AP:85:ILE:HG22 | 15:AP:122:PHE:HB3 | 1.23 | 1.10 |
| 20:AU:42:VAL:HA | 20:AU:112:LEU:HD13 | 1.32 | 1.10 |
| 29:A5:15:LYS:HB2 | 29:A5:15:LYS:NZ | 1.62 | 1.10 |
| 33:A9:2:LYS:HZ2 | 33:A9:2:LYS:N | 1.45 | 1.10 |
| 33:A9:11:CYS:HB3 | 33:A9:32:HIS:CE1 | 1.85 | 1.10 |
| 34:BA:1210:C:H4' | 34:BA:1214:C:N3 | 1.64 | 1.10 |
| 38:BF:88:ARG:NE | 38:BF:101:LEU:H | 1.47 | 1.10 |
| 43:BK:95:VAL:HB | 43:BK:99:GLU:CD | 1.70 | 1.10 |
| 51:BS:20:VAL:HG11 | 51:BS:32:TYR:HB2 | 1.31 | 1.10 |
| 54:BV:32:LYS:HA | 54:BV:50:ALA:HB3 | 1.34 | 1.10 |
| 2:AA:669:G:N3 | 2:AA:669:G:H2' | 1.61 | 1.10 |
| 2:AA:791:C:N3 | 2:AA:793:A:O2' | 1.84 | 1.10 |
| 2:AA:817:C:H2' | 2:AA:818:G:O4' | 1.50 | 1.10 |
| 2:AA:1309:G:H21 | 2:AA:1611:C:H5' | 1.17 | 1.10 |
| 13:AN:19:VAL:HG13 | 13:AN:42:THR:O | 1.50 | 1.10 |
| 13:AN:43:VAL:HG11 | 13:AN:54:LYS:HA | 1.32 | 1.10 |
| 15:AP:31:PHE:HA | 15:AP:85:ILE:HD11 | 1.22 | 1.10 |
| 17:AR:6:CYS:HB3 | 17:AR:9:CYS:CB | 1.80 | 1.10 |
| 32:A8:29:LYS:HD3 | 32:A8:36:LYS:HZ3 | 1.02 | 1.10 |
| 34:BA:946:A:H2' | 34:BA:947:G:C8 | 1.85 | 1.10 |
| 35:BB:18:G:C6 | 35:BB:57:G:N1 | 2.18 | 1.10 |
| 46:BN:32:ILE:CG2 | 46:BN:40:ILE:HD12 | 1.79 | 1.10 |
| 47:BO:53:ARG:NH1 | 47:BO:93:LEU:HD22 | 1.64 | 1.10 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1543:A:H3' | 2:AA:1544:C:C6 | 1.85 | 1.10 |
| 2:AA:2041:U:C2' | 2:AA:2042:A:H5' | 1.81 | 1.10 |
| 2:AA:2305:A:H3' | 2:AA:2306:C:H5" | 1.29 | 1.10 |
| 5:AE:46:ALA:HB3 | 5:AE:72:VAL:HG23 | 1.15 | 1.10 |
| 23:AX:30:ARG:HG3 | 23:AX:30:ARG:HH11 | 1.17 | 1.10 |
| 24:A0:58:GLY:HA2 | 24:A0:80:PHE:HE2 | 1.01 | 1.10 |
| 24:A0:61:HIS:HA | 24:A0:64:ARG:HD3 | 1.13 | 1.10 |
| 34:BA:545:C:O2' | 34:BA:546:G:H5' | 1.52 | 1.10 |
| 34:BA:1538:C:N4 | 36:B1:51:G:H1 | 1.49 | 1.10 |
| 35:BB:40:C:H5' | 35:BB:41:U:OP2 | 1.51 | 1.10 |
| 38:BF:84:ILE:HA | 38:BF:87:LEU:HD12 | 1.29 | 1.10 |
| 41:BI:49:ALA:HB1 | 53:BU:80:PRO:HD3 | 1.21 | 1.10 |
| 42:BJ:75:VAL:HG22 | 42:BJ:88:PRO:HA | 1.13 | 1.10 |
| 56:BX:12:LYS:HB3 | 56:BX:18:TYR:HD2 | 1.16 | 1.10 |
| 2:AA:2316:C:H4' | 7:AG:142:ALA:HB1 | 1.29 | 1.10 |
| 5:AE:61:PRO:HB3 | 5:AE:69:PRO:HA | 1.25 | 1.10 |
| 5:AE:269:ILE:HD12 | 5:AE:269:ILE:H | 1.11 | 1.10 |
| 14:AO:77:ALA:HA | 14:AO:81:VAL:HB | 1.27 | 1.10 |
| 18:AS:23:LEU:HD12 | 29:A5:25:LEU:HB3 | 1.23 | 1.10 |
| 20:AU:57:GLY:HA2 | 20:AU:97:ARG:HH22 | 1.04 | 1.10 |
| 23:AX:23:LEU:HA | 23:AX:28:LEU:HD12 | 1.34 | 1.10 |
| 30:A6:37:LEU:HD21 | 30:A6:51:ARG:HG2 | 1.32 | 1.10 |
| 34:BA:474:G:H5' | 51:BS:81:ARG:HG3 | 1.24 | 1.10 |
| 34:BA:590:C:H5" | 43:BK:30:ARG:HD2 | 1.29 | 1.10 |
| 34:BA:1163:C:N4 | 34:BA:1173:G:H1 | 1.49 | 1.10 |
| 35:BB:53:G:H2' | 35:BB:54:U:H5' | 1.31 | 1.10 |
| 38:BF:132:ARG:HG2 | 38:BF:136:GLN:HE21 | 1.05 | 1.10 |
| 47:BO:41:ARG:HG2 | 47:BO:42:THR:H | 1.06 | 1.10 |
| 47:BO:84:LEU:N | 47:BO:104:VAL:HG11 | 1.66 | 1.10 |
| 2:AA:270(I):G:H1 | 2:AA:270(Q):C:N4 | 1.49 | 1.10 |
| 2:AA:270(P):C:H2' | 2:AA:270(Q):C:C6 | 1.85 | 1.10 |
| 2:AA:775:G:C5' | 2:AA:777:A:H1' | 1.81 | 1.10 |
| 2:AA:780:G:H2' | 2:AA:782:A:N7 | 1.67 | 1.10 |
| 2:AA:973:A:C2' | 2:AA:974:G:H5" | 1.82 | 1.10 |
| 2:AA:1379:A:N3 | 2:AA:1379:A:H3' | 1.66 | 1.10 |
| 2:AA:1442:G:H1 | 2:AA:1549:C:N4 | 1.49 | 1.10 |
| 2:AA:1482:U:H2' | 2:AA:1483:G:H4' | 1.23 | 1.10 |
| 2:AA:1591:G:H2' | 2:AA:1592:C:C6 | 1.87 | 1.10 |
| 2:AA:2515:C:N3 | 2:AA:2569:G:N2 | 1.97 | 1.10 |
| 4:AD:89:ASN:HD21 | 4:AD:199:ARG:NE | 1.48 | 1.10 |
| 8:AH:148:ARG:NH1 | 8:AH:163:TYR:HA | 1.66 | 1.10 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:92:ASP:CB | 14:AO:118:LEU:HD22 | 1.81 | 1.10 |
| 14:AO:119:THR:HA | 14:AO:138:GLY:O | 1.52 | 1.10 |
| 29:A5:40:LYS:NZ | 29:A5:49:CYS:HB2 | 1.65 | 1.10 |
| 29:A5:45:ILE:HG13 | 29:A5:52:TYR:HE1 | 1.13 | 1.10 |
| 34:BA:571:U:H3' | 34:BA:572:A:H5" | 1.19 | 1.10 |
| 38:BF:84:ILE:HG13 | 38:BF:101:LEU:HD22 | 1.34 | 1.10 |
| 55:BW:40:ALA:HB2 | 55:BW:55:ILE:HG21 | 1.33 | 1.10 |
| 2:AA:270(M):U:H4' | 2:AA:270(N):G:H4' | 1.27 | 1.09 |
| 2:AA:627:A:C6 | 2:AA:637:A:H1' | 1.85 | 1.09 |
| 2:AA:1202:C:C2 | 2:AA:1243:G:N2 | 2.20 | 1.09 |
| 2:AA:1264:G:H3' | 2:AA:1265:A:H5" | 1.30 | 1.09 |
| 2:AA:1613:G:H3' | 2:AA:1614:A:H5' | 1.10 | 1.09 |
| 2:AA:2067:G:H1 | 2:AA:2443:C:N4 | 1.50 | 1.09 |
| 2:AA:2680:C:H5" | 5:AE:302:GLY:O | 1.50 | 1.09 |
| 3:AC:131:LEU:HB3 | 3:AC:136:LEU:C | 1.72 | 1.09 |
| 5:AE:201:VAL:HG22 | 5:AE:311:PHE:HB3 | 1.28 | 1.09 |
| 5:AE:304:ASP:H | 5:AE:307:LEU:HD12 | 1.10 | 1.09 |
| 6:AF:223:LEU:HD22 | 6:AF:233:THR:HG21 | 1.16 | 1.09 |
| 10:AK:77:VAL:HG12 | 10:AK:79:ILE:HD11 | 1.11 | 1.09 |
| 10:AK:110:LEU:HD21 | 10:AK:114:LYS:HG3 | 1.23 | 1.09 |
| 15:AP:88:PHE:HB2 | 15:AP:90:PHE:CE1 | 1.85 | 1.09 |
| 21:AV:71:MET:CA | 21:AV:78:PRO:HB3 | 1.81 | 1.09 |
| 27:A3:78:PHE:O | 27:A3:79:ILE:HG13 | 1.52 | 1.09 |
| 28:A4:56:VAL:HG12 | 28:A4:57:ASP:H | 1.15 | 1.09 |
| 38:BF:33:LEU:CD1 | 49:BQ:54:PRO:HD2 | 1.81 | 1.09 |
| 39:BG:144:ASP:O | 39:BG:184:LYS:HA | 1.51 | 1.09 |
| 46:BN:78:GLN:HA | 46:BN:103:LEU:HD13 | 1.33 | 1.09 |
| 2:AA:215:G:H4' | 2:AA:216:A:O5' | 1.52 | 1.09 |
| 2:AA:237:C:N4 | 2:AA:260:G:H1 | 1.50 | 1.09 |
| 2:AA:531:C:N4 | 25:A1:38:THR:HG22 | 1.67 | 1.09 |
| 2:AA:1465:G:H2' | 2:AA:1466:G:H8 | 1.09 | 1.09 |
| 2:AA:2225:A:H5" | 2:AA:2226:C:H5' | 1.29 | 1.09 |
| 2:AA:2250:G:N7 | 15:AP:102:ARG:HA | 1.65 | 1.09 |
| 3:AC:22:ILE:HG22 | 3:AC:186:ALA:HA | 1.22 | 1.09 |
| 6:AF:83:ALA:HB3 | 6:AF:87:ARG:HH21 | 1.16 | 1.09 |
| 8:AH:9:GLU:HA | 8:AH:48:VAL:HG12 | 1.10 | 1.09 |
| 12:AM:45:VAL:O | 12:AM:46:ILE:HG13 | 1.51 | 1.09 |
| 32:A8:21:LYS:HB3 | 32:A8:48:PHE:HZ | 1.14 | 1.09 |
| 34:BA:22:G:H2' | 34:BA:23:C:C6 | 1.86 | 1.09 |
| 34:BA:1189:C:OP1 | 38:BF:5:ILE:HG21 | 1.53 | 1.09 |
| 34:BA:1287:A:H2' | 34:BA:1288:A:C8 | 1.86 | 1.09 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:70:C:H2' | 35:BB:71:G:C8 | 1.87 | 1.09 |
| 40:BH:61:TYR:HA | 40:BH:64:ARG:HG3 | 1.34 | 1.09 |
| 46:BN:73:MET:SD | 46:BN:103:LEU:HD21 | 1.91 | 1.09 |
| 46:BN:95:ILE:HA | 46:BN:98:LEU:HD12 | 1.28 | 1.09 |
| 1:AB:115:G:H5' | 16:AQ:59:ALA:HB2 | 1.25 | 1.09 |
| 2:AA:648:G:H2' | 2:AA:649:G:C8 | 1.87 | 1.09 |
| 2:AA:1151:G:H4' | 25:A1:81:ASN:ND2 | 1.65 | 1.09 |
| 2:AA:1438:U:H2' | 2:AA:1439:A:H5' | 1.24 | 1.09 |
| 2:AA:1468:C:C2 | 2:AA:1524:G:N2 | 2.20 | 1.09 |
| 2:AA:1568:G:C5' | 4:AD:60:GLN:HE21 | 1.64 | 1.09 |
| 2:AA:2207:C:H2' | 2:AA:2208:U:H5' | 1.10 | 1.09 |
| 2:AA:2587:A:O2' | 2:AA:2588:G:H5' | 1.49 | 1.09 |
| 3:AC:133:PRO:HG2 | 3:AC:134:ARG:HG3 | 1.34 | 1.09 |
| 9:AJ:35:ALA:HB3 | 9:AJ:36:PRO:HD3 | 1.32 | 1.09 |
| 12:AM:5:GLU:HA | 12:AM:109:TYR:CE2 | 1.87 | 1.09 |
| 14:AO:73:VAL:HG22 | 14:AO:76:LEU:HD22 | 1.34 | 1.09 |
| 15:AP:15:THR:HB | 15:AP:20:ILE:HG12 | 1.31 | 1.09 |
| 17:AR:49:LEU:HD22 | 17:AR:54:THR:CG2 | 1.81 | 1.09 |
| 27:A3:49:GLN:H | 27:A3:49:GLN:NE2 | 1.49 | 1.09 |
| 34:BA:1539:C:N4 | 36:B1:50:G:H1 | 1.49 | 1.09 |
| 35:BB:37:G:C8 | 35:BB:37:G:OP2 | 2.06 | 1.09 |
| 39:BG:59:ARG:CZ | 39:BG:59:ARG:HA | 1.83 | 1.09 |
| 42:BJ:69:VAL:HG11 | 42:BJ:104:LEU:CD2 | 1.82 | 1.09 |
| 43:BK:80:ILE:HD12 | 43:BK:80:ILE:H | 1.17 | 1.09 |
| 46:BN:79:SER:HA | 46:BN:104:GLN:HB3 | 1.11 | 1.09 |
| 48:BP:77:ASN:HB2 | 48:BP:80:ARG:HH11 | 0.98 | 1.09 |
| 2:AA:527:C:H2' | 12:AM:95:ARG:HH12 | 1.08 | 1.09 |
| 2:AA:531:C:H5' | 2:AA:532:A:N3 | 1.67 | 1.09 |
| 2:AA:1083:U:H4' | 9:AI:40:ALA:HB3 | 1.13 | 1.09 |
| 2:AA:1270:C:H4' | 2:AA:1271:G:C5' | 1.82 | 1.09 |
| 2:AA:1717:G:O6 | 2:AA:1742:C:N3 | 1.85 | 1.09 |
| 2:AA:1810:A:H2' | 2:AA:1811:G:H5' | 1.13 | 1.09 |
| 2:AA:1936:A:H1' | 2:AA:1940:U:C2 | 1.88 | 1.09 |
| 2:AA:2219:G:H2' | 2:AA:2224:G:H5' | 1.27 | 1.09 |
| 2:AA:2313:C:H5' | 7:AG:72:LYS:HG3 | 1.29 | 1.09 |
| 2:AA:2635:C:N3 | 2:AA:2783:G:N2 | 1.99 | 1.09 |
| 8:AH:25:VAL:HG12 | 8:AH:78:VAL:HG21 | 1.27 | 1.09 |
| 9:AI:3:ILE:HG21 | 11:AL:117:ASN:HA | 1.22 | 1.09 |
| 13:AN:81:GLU:HG2 | 13:AN:82:ASN:N | 1.50 | 1.09 |
| 16:AQ:61:ALA:HB2 | 16:AQ:88:ALA:HB2 | 1.11 | 1.09 |
| 31:A7:34:ARG:HH11 | 31:A7:42:LEU:HD23 | 1.14 | 1.09 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:386:C:H2' | 34:BA:387:U:H5' | 1.14 | 1.09 |
| 34:BA:1048:G:H1 | 34:BA:1209:C:N4 | 1.49 | 1.09 |
| 34:BA:1308:U:C3' | 48:BP:99:ARG:HH12 | 1.66 | 1.09 |
| 37:BE:187:LEU:HD23 | 37:BE:201:ILE:HG22 | 1.32 | 1.09 |
| 39:BG:58:LEU:HD13 | 39:BG:59:ARG:HH11 | 0.94 | 1.09 |
| 52:BT:62:SER:HB3 | 52:BT:72:ARG:HE | 1.07 | 1.09 |
| 2:AA:138:G:H5" | 19:AT:43:GLU:HG3 | 1.33 | 1.09 |
| 2:AA:295:G:N1 | 2:AA:344:G:N3 | 1.98 | 1.09 |
| 2:AA:2674:G:H2' | 2:AA:2675:A:C8 | 1.88 | 1.09 |
| 4:AD:216:ALA:HB1 | 4:AD:223:ASN:HB2 | 1.30 | 1.09 |
| 7:AG:19:GLU:HB3 | 7:AG:135:VAL:HG21 | 1.19 | 1.09 |
| 15:AP:48:ASN:HA | 15:AP:140:TYR:OH | 1.51 | 1.09 |
| 15:AP:66:ASN:HB2 | 15:AP:70:ARG:NH2 | 1.66 | 1.09 |
| 19:AT:11:THR:H | 19:AT:14:ALA:HB3 | 0.94 | 1.09 |
| 20:AU:41:ARG:HB3 | 20:AU:111:ARG:HG2 | 1.24 | 1.09 |
| 20:AU:51:LEU:HA | 20:AU:97:ARG:HH21 | 1.12 | 1.09 |
| 21:AV:46:GLN:HE21 | 21:AV:50:GLY:HA3 | 1.07 | 1.09 |
| 24:A0:55:ALA:HA | 24:A0:80:PHE:CE1 | 1.87 | 1.09 |
| 25:A1:24:PHE:HE1 | 25:A1:29:SER:HA | 1.18 | 1.09 |
| 26:A2:57:GLN:HG2 | 26:A2:58:ALA:H | 1.00 | 1.09 |
| 32:A8:4:MET:HB2 | 32:A8:7:HIS:HE1 | 1.16 | 1.09 |
| 34:BA:462:G:H21 | 51:BS:82:GLN:NE2 | 1.49 | 1.09 |
| 34:BA:1305:G:H5" | 56:BX:5:ASP:H | 1.15 | 1.09 |
| 38:BF:36:ASP:HA | 38:BF:39:ILE:HD12 | 1.31 | 1.09 |
| 38:BF:67:THR:HA | 38:BF:102:ASN:O | 1.53 | 1.09 |
| 40:BH:78:HIS:HB2 | 43:BK:104:ARG:HD2 | 1.10 | 1.09 |
| 47:BO:32:PHE:HB3 | 47:BO:84:LEU:HD21 | 1.31 | 1.09 |
| 2:AA:68:G:H2' | 2:AA:69:C:H6 | 1.01 | 1.08 |
| 2:AA:295:G:N2 | 2:AA:344:G:N3 | 2.01 | 1.08 |
| 2:AA:557:U:H4' | 12:AM:92:GLN:HE21 | 0.95 | 1.08 |
| 2:AA:1614:A:N6 | 18:AS:88:ARG:HB2 | 1.68 | 1.08 |
| 2:AA:2089:U:H3 | 2:AA:2231:C:N4 | 1.50 | 1.08 |
| 5:AE:77:PRO:HB2 | 5:AE:187:HIS:H | 1.12 | 1.08 |
| 5:AE:201:VAL:HG13 | 5:AE:310:PHE:O | 1.49 | 1.08 |
| 21:AV:148:THR:HA | 21:AV:168:VAL:HB | 1.15 | 1.08 |
| 31:A7:28:ARG:HA | 31:A7:31:LEU:HD12 | 1.35 | 1.08 |
| 34:BA:112:G:H5' | 34:BA:389:A:H4' | 1.13 | 1.08 |
| 34:BA:766:A:H2' | 34:BA:767:A:H8 | 0.96 | 1.08 |
| 37:BE:54:THR:O | 37:BE:58:ILE:HG13 | 1.52 | 1.08 |
| 39:BG:60:GLU:HA | 39:BG:63:LYS:CD | 1.82 | 1.08 |
| 46:BN:32:ILE:HB | 46:BN:40:ILE:HB | 1.17 | 1.08 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:54:G:H1 | 2:AA:116:C:N4 | 1.50 | 1.08 |
| 2:AA:270(E):G:N2 | 2:AA:270(U):C:N3 | 2.01 | 1.08 |
| 2:AA:904:C:H1' | 21:AV:166:LEU:HD11 | 1.22 | 1.08 |
| 2:AA:1995:U:H5' | 2:AA:1996:C:H5" | 1.16 | 1.08 |
| 2:AA:2359:C:H4' | 32:A8:52:LYS:NZ | 1.68 | 1.08 |
| 2:AA:2364:C:H1' | 27:A3:32:LYS:HE2 | 1.33 | 1.08 |
| 3:AC:22:ILE:CG2 | 3:AC:186:ALA:HA | 1.83 | 1.08 |
| 5:AE:222:ARG:HG2 | 5:AE:232:ARG:HA | 1.25 | 1.08 |
| 5:AE:269:ILE:HG13 | 5:AE:297:LYS:HG2 | 1.31 | 1.08 |
| 10:AK:93:ILE:HD11 | 10:AK:121:ILE:HB | 1.13 | 1.08 |
| 21:AV:5:ALA:O | 21:AV:33:ALA:HB2 | 1.50 | 1.08 |
| 21:AV:103:ARG:HG2 | 21:AV:139:THR:HG22 | 1.17 | 1.08 |
| 21:AV:148:THR:HA | 21:AV:168:VAL:CB | 1.83 | 1.08 |
| 40:BH:39:GLY:O | 40:BH:69:VAL:HG23 | 1.54 | 1.08 |
| 43:BK:22:GLU:CA | 43:BK:63:LEU:HD11 | 1.83 | 1.08 |
| 45:BM:10:GLY:HA3 | 45:BM:16:LEU:HD21 | 1.26 | 1.08 |
| 50:BR:3:ILE:HG23 | 50:BR:38:ARG:HH21 | 1.11 | 1.08 |
| 2:AA:491:G:H2' | 2:AA:492:A:C8 | 1.88 | 1.08 |
| 2:AA:823:G:H2' | 2:AA:824:A:C8 | 1.88 | 1.08 |
| 2:AA:1355:G:N2 | 2:AA:1377:G:H1' | 1.67 | 1.08 |
| 2:AA:1617:C:H5" | 2:AA:1618:A:OP2 | 1.53 | 1.08 |
| 5:AE:202:ALA:HA | 5:AE:262:THR:HB | 1.29 | 1.08 |
| 10:AK:2:LYS:HD2 | 10:AK:39:ALA:HB2 | 1.32 | 1.08 |
| 11:AL:14:PRO:HB2 | 11:AL:17:LYS:HD2 | 1.27 | 1.08 |
| 13:AN:77:ILE:HD13 | 13:AN:78:ARG:N | 1.69 | 1.08 |
| 15:AP:67:ALA:HA | 15:AP:70:ARG:CD | 1.81 | 1.08 |
| 21:AV:112:LEU:HA | 21:AV:174:PRO:HD3 | 1.35 | 1.08 |
| 22:AW:39:ALA:HB3 | 22:AW:40:PRO:HD3 | 1.19 | 1.08 |
| 25:A1:20:ARG:HB3 | 25:A1:39:LEU:HD11 | 1.36 | 1.08 |
| 25:A1:83:LEU:O | 25:A1:86:ALA:HB2 | 1.53 | 1.08 |
| 29:A5:10:LYS:HE3 | 29:A5:16:ARG:HH22 | 1.08 | 1.08 |
| 43:BK:67:PRO:HD2 | 43:BK:76:PRO:HB3 | 1.32 | 1.08 |
| 43:BK:87:SER:HB3 | 43:BK:92:ARG:HA | 1.33 | 1.08 |
| 2:AA:950:G:H2' | 2:AA:951:C:C6 | 1.89 | 1.08 |
| 2:AA:972:G:N7 | 2:AA:1188:U:O4 | 1.87 | 1.08 |
| 2:AA:1058:G:C1' | 9:AI:3:ILE:HG13 | 1.84 | 1.08 |
| 2:AA:1473:G:H2' | 2:AA:1474:C:O4' | 1.52 | 1.08 |
| 2:AA:2386:C:H4' | 27:A3:39:ARG:NE | 1.66 | 1.08 |
| 3:AC:43:VAL:HG23 | 3:AC:175:VAL:HG21 | 1.34 | 1.08 |
| 3:AC:180:PHE:CD2 | 3:AC:184:LYS:HD3 | 1.89 | 1.08 |
| 5:AE:205:THR:O | 5:AE:206:LYS:HG3 | 1.51 | 1.08 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:304:ASP:N | 5:AE:307:LEU:HD12 | 1.66 | 1.08 |
| 11:AL:124:ALA:HA | 11:AL:127:ILE:HD12 | 1.20 | 1.08 |
| 12:AM:137:GLU:HA | 12:AM:141:ALA:CB | 1.83 | 1.08 |
| 25:A1:47:TYR:CE1 | 26:A2:76:SER:HA | 1.88 | 1.08 |
| 34:BA:781:A:H2' | 34:BA:782:A:C5' | 1.82 | 1.08 |
| 39:BG:29:PRO:O | 39:BG:30:LYS:HG3 | 1.53 | 1.08 |
| 2:AA:629:G:H1' | 2:AA:639:U:O2' | 1.54 | 1.08 |
| 2:AA:973:A:C5 | 26:A2:80:TYR:HA | 1.89 | 1.08 |
| 2:AA:1213:A:N1 | 2:AA:1237:A:H1' | 1.67 | 1.08 |
| 2:AA:2022:U:H3 | 29:A5:9:LYS:NZ | 1.50 | 1.08 |
| 2:AA:2125:G:OP2 | 3:AC:130:ILE:HA | 1.54 | 1.08 |
| 3:AC:75:LEU:HB3 | 3:AC:113:VAL:HG22 | 1.30 | 1.08 |
| 4:AD:196:ASN:HA | 4:AD:199:ARG:HD2 | 1.13 | 1.08 |
| 5:AE:39:GLN:CD | 5:AE:174:LEU:HD11 | 1.73 | 1.08 |
| 18:AS:40:ASN:HD22 | 18:AS:41:LYS:HD2 | 1.16 | 1.08 |
| 24:A0:86:ARG:HB3 | 24:A0:86:ARG:HH11 | 1.12 | 1.08 |
| 32:A8:10:ALA:HA | 32:A8:14:ILE:HG21 | 1.31 | 1.08 |
| 34:BA:1251:A:H2' | 34:BA:1252:A:C8 | 1.89 | 1.08 |
| 35:BB:60:C:OP2 | 35:BB:61:C:C5 | 2.07 | 1.08 |
| 37:BE:59:GLU:HB3 | 37:BE:221:LEU:CD2 | 1.83 | 1.08 |
| 37:BE:91:PRO:HG2 | 37:BE:155:LEU:HB2 | 1.17 | 1.08 |
| 41:BI:23:LYS:HA | 41:BI:26:ILE:HD12 | 1.17 | 1.08 |
| 41:BI:95:GLU:HB2 | 41:BI:96:PRO:CD | 1.84 | 1.08 |
| 45:BM:32:ALA:HB2 | 45:BM:76:ASN:HD22 | 0.92 | 1.08 |
| 47:BO:85:ILE:HD11 | 47:BO:98:TYR:HB3 | 1.21 | 1.08 |
| 48:BP:13:LYS:HA | 48:BP:44:ARG:HE | 1.18 | 1.08 |
| 2:AA:1084:A:OP1 | 9:AI:40:ALA:N | 1.86 | 1.07 |
| 2:AA:1614:A:N7 | 18:AS:88:ARG:HD2 | 1.69 | 1.07 |
| 2:AA:2472:G:C2' | 2:AA:2475:C:H42 | 1.66 | 1.07 |
| 2:AA:2584:U:H3' | 2:AA:2584:U:C6 | 1.89 | 1.07 |
| 2:AA:2836:U:H2' | 2:AA:2837:G:H8 | 0.99 | 1.07 |
| 4:AD:131:LEU:HD11 | 4:AD:187:CYS:HB2 | 1.27 | 1.07 |
| 8:AH:104:LEU:HB2 | 8:AH:151:ARG:CZ | 1.83 | 1.07 |
| 10:AK:125:GLY:HA2 | 10:AK:145:VAL:H | 1.08 | 1.07 |
| 15:AP:71:PHE:HB3 | 15:AP:138:ARG:HH11 | 1.00 | 1.07 |
| 23:AX:9:VAL:HG23 | 23:AX:54:VAL:HA | 1.09 | 1.07 |
| 34:BA:292:G:N2 | 34:BA:308:C:N3 | 2.00 | 1.07 |
| 34:BA:357:G:OP1 | 34:BA:367:U:H3' | 1.53 | 1.07 |
| 34:BA:953:G:H4' | 48:BP:124:PRO:O | 1.53 | 1.07 |
| 35:BB:33:U:N3 | 35:BB:35:A:OP2 | 1.85 | 1.07 |
| 37:BE:115:LEU:HB2 | 37:BE:145:LEU:HD12 | 1.36 | 1.07 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:51:VAL:O | 40:BH:55:VAL:HG23 | 1.50 | 1.07 |
| 44:BL:10:ARG:HA | 44:BL:104:ARG:HE | 1.19 | 1.07 |
| 2:AA:607:U:N3 | 2:AA:621:A:C6 | 2.22 | 1.07 |
| 2:AA:685:A:O4' | 2:AA:688:U:O4 | 1.71 | 1.07 |
| 2:AA:860:U:O4 | 2:AA:917:A:N1 | 1.86 | 1.07 |
| 2:AA:1044:G:H2' | 2:AA:1111:A:H2 | 1.14 | 1.07 |
| 2:AA:1943:U:O2 | 2:AA:1945:G:H5' | 1.52 | 1.07 |
| 2:AA:1981:A:H5" | 2:AA:1982:C:OP2 | 1.53 | 1.07 |
| 2:AA:2320:A:C6 | 16:AQ:9:PRO:HB3 | 1.89 | 1.07 |
| 2:AA:2334:G:H1 | 16:AQ:10:MET:HE2 | 1.10 | 1.07 |
| 2:AA:2674:G:H2' | 2:AA:2675:A:H8 | 1.12 | 1.07 |
| 2:AA:2739:U:H6 | 2:AA:2739:U:H3' | 1.19 | 1.07 |
| 2:AA:2848:G:H22 | 2:AA:2867:G:H1' | 1.12 | 1.07 |
| 4:AD:174:ARG:HA | 4:AD:180:VAL:HG13 | 1.30 | 1.07 |
| 5:AE:174:LEU:HD12 | 5:AE:174:LEU:H | 1.13 | 1.07 |
| 12:AM:135:ILE:HG22 | 12:AM:139:LEU:HD11 | 1.35 | 1.07 |
| 22:AW:20:LEU:HD22 | 22:AW:23:LEU:HD12 | 1.08 | 1.07 |
| 26:A2:4:ILE:HA | 26:A2:12:TYR:CE2 | 1.87 | 1.07 |
| 26:A2:69:ILE:H | 26:A2:91:THR:CG2 | 1.67 | 1.07 |
| 32:A8:50:LEU:HD23 | 32:A8:51:ALA:H | 1.15 | 1.07 |
| 34:BA:276:G:H2' | 34:BA:277:C:H5' | 1.36 | 1.07 |
| 34:BA:613:C:N4 | 34:BA:627:G:H1 | 1.51 | 1.07 |
| 34:BA:1490:C:H5' | 34:BA:1490:C:H6 | 0.93 | 1.07 |
| 48:BP:34:LEU:HD23 | 48:BP:39:ILE:HG13 | 1.36 | 1.07 |
| 48:BP:81:LEU:HD11 | 48:BP:88:ARG:NH2 | 1.68 | 1.07 |
| 2:AA:270(X):G:H2' | 2:AA:270(Y):G:C5' | 1.84 | 1.07 |
| 2:AA:602:G:O3' | 2:AA:603:A:H4' | 1.42 | 1.07 |
| 2:AA:2317:C:H5' | 7:AG:150:SER:HA | 1.33 | 1.07 |
| 6:AF:1:MET:O | 6:AF:18:LEU:HG | 1.53 | 1.07 |
| 14:AO:53:ARG:HD2 | 14:AO:53:ARG:H | 1.20 | 1.07 |
| 21:AV:118:HIS:CD2 | 21:AV:168:VAL:HA | 1.88 | 1.07 |
| 26:A2:59:GLU:CD | 26:A2:99:GLN:HA | 1.73 | 1.07 |
| 34:BA:754:C:H5' | 34:BA:755:G:C8 | 1.88 | 1.07 |
| 35:BC:48:C:H2' | 35:BC:48:C:O2 | 1.49 | 1.07 |
| 37:BE:16:HIS:O | 37:BE:204:ASN:HB2 | 1.53 | 1.07 |
| 37:BE:217:ARG:HA | 37:BE:220:ASP:OD2 | 1.54 | 1.07 |
| 39:BG:140:VAL:HB | 39:BG:185:PHE:HD1 | 1.19 | 1.07 |
| 40:BH:104:ALA:HA | 40:BH:107:ARG:HH12 | 1.14 | 1.07 |
| 46:BN:62:GLN:HE22 | 46:BN:63:LEU:HG | 1.16 | 1.07 |
| 2:AA:286:C:H2' | 2:AA:287:C:H5' | 1.30 | 1.07 |
| 2:AA:1061:U:H4' | 2:AA:1070:A:C1' | 1.84 | 1.07 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1862:G:H1 | 2:AA:1880:C:N4 | 1.52 | 1.07 |
| 2:AA:2805:G:H3' | 2:AA:2807:G:H5" | 1.36 | 1.07 |
| 5:AE:45:LYS:HZ3 | 5:AE:301:PRO:CG | 1.67 | 1.07 |
| 32:A8:50:LEU:HD23 | 32:A8:51:ALA:N | 1.68 | 1.07 |
| 34:BA:939:G:N2 | 34:BA:1344:C:N3 | 2.01 | 1.07 |
| 34:BA:1299:A:N7 | 34:BA:1301:U:H1' | 1.68 | 1.07 |
| 34:BA:1343:G:H4' | 44:BL:122:ALA:HB3 | 1.37 | 1.07 |
| 39:BG:20:TYR:CA | 39:BG:31:CYS:SG | 2.43 | 1.07 |
| 43:BK:111:ILE:O | 43:BK:134:ILE:HB | 1.53 | 1.07 |
| 43:BK:126:LYS:HZ3 | 43:BK:127:LEU:HD23 | 1.16 | 1.07 |
| 48:BP:14:ARG:HA | 48:BP:44:ARG:HA | 1.31 | 1.07 |
| 55:BW:63:ILE:HD11 | 55:BW:80:ARG:HB3 | 1.32 | 1.07 |
| 2:AA:172:C:H2' | 2:AA:173:G:C8 | 1.88 | 1.07 |
| 2:AA:457:A:H1' | 2:AA:459:U:C2 | 1.89 | 1.07 |
| 2:AA:784:A:O2' | 2:AA:785:G:H5" | 1.55 | 1.07 |
| 2:AA:870:A:N6 | 2:AA:907:U:H3 | 1.51 | 1.07 |
| 2:AA:1151:G:H4' | 25:A1:81:ASN:HD21 | 0.98 | 1.07 |
| 2:AA:1552:G:O2' | 2:AA:1553:A:H5" | 1.54 | 1.07 |
| 2:AA:1685:C:H2' | 2:AA:1686:C:H6 | 1.19 | 1.07 |
| 2:AA:1935:G:H22 | 2:AA:1962:C:H2' | 1.01 | 1.07 |
| 2:AA:2730:C:H4' | 5:AE:265:ASN:HD21 | 1.09 | 1.07 |
| 4:AD:89:ASN:O | 4:AD:105:ALA:CB | 2.02 | 1.07 |
| 4:AD:128:ALA:HB2 | 4:AD:190:THR:HG22 | 1.36 | 1.07 |
| 5:AE:263:GLU:H | 5:AE:266:LYS:NZ | 1.51 | 1.07 |
| 5:AE:299:SER:OG | 5:AE:301:PRO:HD3 | 1.52 | 1.07 |
| 6:AF:109:LEU:O | 6:AF:112:ARG:HB2 | 1.55 | 1.07 |
| 12:AM:58:GLU:HA | 12:AM:61:VAL:HB | 1.35 | 1.07 |
| 13:AN:66:LYS:HE3 | 13:AN:82:ASN:ND2 | 1.69 | 1.07 |
| 24:A0:97:VAL:HG13 | 24:A0:114:VAL:HG22 | 1.30 | 1.07 |
| 37:BE:61:LEU:HA | 37:BE:64:ARG:HD2 | 1.09 | 1.07 |
| 38:BF:132:ARG:HG2 | 38:BF:136:GLN:NE2 | 1.68 | 1.07 |
| 41:BI:37:VAL:HA | 41:BI:65:VAL:HG12 | 1.27 | 1.07 |
| 2:AA:27:G:N1 | 2:AA:512:G:H2' | 1.69 | 1.06 |
| 2:AA:342:G:H1 | 2:AA:344:G:N2 | 1.52 | 1.06 |
| 2:AA:600:G:H5' | 6:AF:30:LEU:HD11 | 1.31 | 1.06 |
| 2:AA:640:C:N4 | 2:AA:647:G:H1 | 1.51 | 1.06 |
| 2:AA:783:A:H5" | 2:AA:2589:A:OP1 | 1.53 | 1.06 |
| 2:AA:1156:A:H5' | 2:AA:1157:G:N7 | 1.68 | 1.06 |
| 2:AA:1939:U:H1' | 2:AA:2592:G:H4' | 1.07 | 1.06 |
| 2:AA:2785:C:H4' | 5:AE:99:VAL:HA | 1.32 | 1.06 |
| 2:AA:2862:G:H2' | 2:AA:2863:C:H6 | 1.12 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:181:ARG:HB3 | 4:AD:181:ARG:CZ | 1.80 | 1.06 |
| 6:AF:115:LEU:HG | 6:AF:246:ARG:NH2 | 1.70 | 1.06 |
| 7:AG:19:GLU:OE2 | 7:AG:135:VAL:HG13 | 1.55 | 1.06 |
| 10:AK:83:ALA:CB | 10:AK:89:LEU:HA | 1.83 | 1.06 |
| 14:AO:108:VAL:HB | 14:AO:125:PHE:CD2 | 1.88 | 1.06 |
| 16:AQ:47:LEU:H | 16:AQ:57:THR:HG22 | 1.07 | 1.06 |
| 19:AT:30:ASP:HA | 19:AT:62:LYS:HD2 | 1.37 | 1.06 |
| 21:AV:51:LEU:HD21 | 21:AV:64:ALA:H | 1.09 | 1.06 |
| 28:A4:43:TRP:HA | 28:A4:61:LYS:HE3 | 1.35 | 1.06 |
| 34:BA:573:A:H2' | 34:BA:574:A:C8 | 1.89 | 1.06 |
| 34:BA:1338:G:H21 | 35:BC:41:U:H1' | 1.12 | 1.06 |
| 35:BB:1:G:C6 | 35:BB:73:A:C6 | 2.43 | 1.06 |
| 37:BE:135:GLN:O | 37:BE:139:LYS:HG2 | 1.53 | 1.06 |
| 47:BO:27:LEU:HD23 | 47:BO:33:ARG:HH11 | 0.90 | 1.06 |
| 52:BT:25:ARG:HH21 | 52:BT:40:LYS:HD2 | 1.13 | 1.06 |
| 55:BW:30:LYS:HB2 | 55:BW:30:LYS:NZ | 1.68 | 1.06 |
| 2:AA:648:G:H2' | 2:AA:649:G:H8 | 0.97 | 1.06 |
| 2:AA:1024:G:N7 | 2:AA:1025:G:C8 | 2.23 | 1.06 |
| 2:AA:1677:A:H2' | 2:AA:1678:G:C8 | 1.89 | 1.06 |
| 2:AA:2054:A:N1 | 2:AA:2615:U:O4 | 1.88 | 1.06 |
| 2:AA:2132:U:H4' | 3:AC:5:LYS:HG2 | 1.35 | 1.06 |
| 2:AA:2284:C:OP2 | 30:A6:9:ILE:HG13 | 1.55 | 1.06 |
| 2:AA:2316:C:C4' | 7:AG:142:ALA:HB1 | 1.85 | 1.06 |
| 2:AA:2334:G:H2' | 2:AA:2335:A:H5' | 1.37 | 1.06 |
| 14:AO:108:VAL:HB | 14:AO:125:PHE:HD2 | 1.08 | 1.06 |
| 24:A0:90:ARG:HH22 | 24:A0:117:VAL:HG22 | 1.20 | 1.06 |
| 26:A2:50:ASP:H | 26:A2:53:LYS:HD2 | 1.13 | 1.06 |
| 29:A5:10:LYS:HE3 | 29:A5:16:ARG:NH2 | 1.70 | 1.06 |
| 30:A6:28:ARG:HB3 | 30:A6:28:ARG:HH11 | 1.06 | 1.06 |
| 34:BA:275:G:H5' | 52:BT:14:LYS:HD3 | 1.36 | 1.06 |
| 34:BA:776:G:H5" | 34:BA:777:A:OP1 | 1.52 | 1.06 |
| 34:BA:1193:G:H2' | 34:BA:1194:U:H5' | 1.34 | 1.06 |
| 35:BB:60:C:H5' | 35:BB:61:C:O5' | 1.55 | 1.06 |
| 50:BR:8:LYS:O | 50:BR:11:VAL:HB | 1.54 | 1.06 |
| 2:AA:819:A:H4' | 2:AA:838:C:H5' | 1.37 | 1.06 |
| 2:AA:1414:G:N2 | 2:AA:1588:C:N3 | 2.03 | 1.06 |
| 2:AA:1482:U:H3' | 2:AA:1482:U:C6 | 1.90 | 1.06 |
| 2:AA:1703:G:O2' | 34:BA:1429:C:H4' | 1.55 | 1.06 |
| 2:AA:2842:G:H1 | 2:AA:2875:C:N4 | 1.53 | 1.06 |
| 3:AC:70:LYS:HG2 | 3:AC:157:LYS:HZ1 | 1.16 | 1.06 |
| 4:AD:109:LEU:HD13 | 4:AD:115:ILE:HG12 | 1.37 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:213:ALA:HB1 | 6:AF:218:VAL:CG2 | 1.84 | 1.06 |
| 14:AO:141:GLU:HB2 | 14:AO:145:LEU:HD22 | 1.35 | 1.06 |
| 15:AP:57:ARG:O | 15:AP:61:LEU:HG | 1.54 | 1.06 |
| 22:AW:3:LEU:HB3 | 22:AW:8:ILE:HD11 | 1.37 | 1.06 |
| 28:A4:2:GLN:O | 28:A4:3:LYS:HG3 | 1.56 | 1.06 |
| 34:BA:547:A:H4' | 34:BA:548:G:O5' | 1.55 | 1.06 |
| 35:BB:37:G:N1 | 36:B1:63:C:N4 | 2.02 | 1.06 |
| 35:BC:20:G:H21 | 35:BC:21:A:C5' | 1.68 | 1.06 |
| 39:BG:59:ARG:HA | 39:BG:59:ARG:NH1 | 1.71 | 1.06 |
| 2:AA:137:C:N3 | 2:AA:142:G:N2 | 2.02 | 1.06 |
| 2:AA:562:U:O2' | 2:AA:563:G:H5" | 1.55 | 1.06 |
| 2:AA:1012:U:H5' | 2:AA:1013:C:OP1 | 1.54 | 1.06 |
| 2:AA:1252:G:H8 | 2:AA:1253:A:H1' | 1.20 | 1.06 |
| 2:AA:2348:U:O4 | 2:AA:2382:G:N2 | 1.89 | 1.06 |
| 2:AA:2510:C:N3 | 2:AA:2578:G:O6 | 1.86 | 1.06 |
| 2:AA:2649:U:H2' | 2:AA:2650:U:H6 | 1.20 | 1.06 |
| 3:AC:190:ARG:NH1 | 3:AC:190:ARG:HB2 | 1.68 | 1.06 |
| 6:AF:83:ALA:CB | 6:AF:87:ARG:HH21 | 1.69 | 1.06 |
| 9:AI:102:ILE:HG21 | 9:AI:118:LEU:HD11 | 1.38 | 1.06 |
| 11:AL:105:ILE:HG23 | 11:AL:128:ILE:HG21 | 1.38 | 1.06 |
| 15:AP:56:ILE:HG22 | 15:AP:61:LEU:HD13 | 1.37 | 1.06 |
| 28:A4:16:TYR:O | 28:A4:17:GLN:HG3 | 1.53 | 1.06 |
| 34:BA:531:U:H4' | 34:BA:532:A:H5" | 1.31 | 1.06 |
| 34:BA:1316:G:H5" | 49:BQ:17:LYS:HD2 | 1.18 | 1.06 |
| 37:BE:102:LEU:HD22 | 37:BE:176:GLU:HB2 | 1.37 | 1.06 |
| 38:BF:64:VAL:HB | 38:BF:99:VAL:HG11 | 1.32 | 1.06 |
| 39:BG:55:ALA:O | 39:BG:59:ARG:HG2 | 1.54 | 1.06 |
| 40:BH:11:ILE:HG22 | 40:BH:12:LEU:H | 1.21 | 1.06 |
| 44:BL:82:ALA:HB1 | 44:BL:96:LEU:HD11 | 1.33 | 1.06 |
| 2:AA:138:G:H2' | 2:AA:139:G:H4' | 1.06 | 1.06 |
| 2:AA:270(X):G:C2' | 2:AA:270(Y):G:H5' | 1.86 | 1.06 |
| 2:AA:1262:A:H2 | 29:A5:10:LYS:HE2 | 1.12 | 1.06 |
| 2:AA:1388:G:O2' | 2:AA:1525:G:H5' | 1.55 | 1.06 |
| 2:AA:1718:G:H2' | 2:AA:1725:G:H8 | 1.21 | 1.06 |
| 2:AA:1857:G:H1 | 2:AA:1884:A:N6 | 1.54 | 1.06 |
| 2:AA:2006:C:O2' | 2:AA:2823:A:N3 | 1.89 | 1.06 |
| 2:AA:2121:G:H2' | 2:AA:2122:U:C6 | 1.90 | 1.06 |
| 2:AA:2316:C:H4' | 7:AG:151:ILE:HD11 | 1.32 | 1.06 |
| 2:AA:2821:A:OP2 | 5:AE:207:GLY:HA3 | 1.55 | 1.06 |
| 2:AA:2848:G:N2 | 2:AA:2867:G:H1' | 1.69 | 1.06 |
| 3:AC:104:LEU:HD12 | 3:AC:130:ILE:HD11 | 1.06 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:65:ASP:HA | 14:AO:108:VAL:HG13 | 1.38 | 1.06 |
| 25:A1:13:ARG:O | 25:A1:16:LYS:HB2 | 1.55 | 1.06 |
| 25:A1:74:MET:CG | 25:A1:117:ARG:HH22 | 1.68 | 1.06 |
| 27:A3:38:VAL:HA | 27:A3:40:GLN:HE21 | 1.20 | 1.06 |
| 34:BA:1053:G:H5' | 34:BA:1054:C:H5' | 1.36 | 1.06 |
| 37:BE:136:VAL:HA | 37:BE:139:LYS:HZ2 | 1.12 | 1.06 |
| 37:BE:185:ILE:HG22 | 37:BE:199:TYR:HB2 | 1.32 | 1.06 |
| 38:BF:11:ARG:HG2 | 38:BF:15:THR:O | 1.55 | 1.06 |
| 39:BG:12:CYS:HA | 39:BG:19:LEU:HB2 | 1.15 | 1.06 |
| 40:BH:79:GLU:HG3 | 40:BH:93:PRO:CD | 1.85 | 1.06 |
| 41:BI:23:LYS:O | 41:BI:26:ILE:HB | 1.56 | 1.06 |
| 1:AB:43:C:N4 | 1:AB:45:A:H62 | 1.54 | 1.05 |
| 2:AA:1559:G:C6 | 2:AA:1560:G:H4' | 1.91 | 1.05 |
| 2:AA:1890:A:C2 | 2:AA:1891:G:H1' | 1.91 | 1.05 |
| 3:AC:176:GLY:HA3 | 3:AC:185:LEU:HD23 | 1.36 | 1.05 |
| 15:AP:15:THR:HB | 15:AP:20:ILE:CG1 | 1.85 | 1.05 |
| 21:AV:172:LEU:HG | 21:AV:173:PRO:HD2 | 1.35 | 1.05 |
| 27:A3:37:LEU:HD13 | 27:A3:69:PHE:HB2 | 1.13 | 1.05 |
| 34:BA:192:U:H1' | 55:BW:103:GLY:HA2 | 1.08 | 1.05 |
| 34:BA:626:U:H2' | 34:BA:627:G:C8 | 1.91 | 1.05 |
| 34:BA:968:A:H5" | 34:BA:969:A:OP2 | 1.54 | 1.05 |
| 34:BA:1000:U:O4 | 34:BA:1041:A:N1 | 1.89 | 1.05 |
| 40:BH:122:GLU:O | 40:BH:123:LEU:HD22 | 1.54 | 1.05 |
| 51:BS:28:ARG:HD2 | 51:BS:29:ASP:OD2 | 1.55 | 1.05 |
| 53:BU:72:ARG:HG2 | 53:BU:72:ARG:HH11 | 1.19 | 1.05 |
| 2:AA:558:G:P | 12:AM:91:LYS:HB3 | 1.96 | 1.05 |
| 2:AA:616:A:H5" | 6:AF:42:ARG:NH1 | 1.71 | 1.05 |
| 2:AA:671:C:N3 | 2:AA:809:G:N2 | 2.04 | 1.05 |
| 2:AA:800:A:O2' | 2:AA:801:G:H3' | 1.56 | 1.05 |
| 2:AA:880:G:H1 | 2:AA:897:C:N4 | 1.54 | 1.05 |
| 2:AA:882:G:H1 | 2:AA:894:C:N4 | 1.53 | 1.05 |
| 2:AA:950:G:H2' | 2:AA:951:C:H6 | 1.20 | 1.05 |
| 2:AA:1559:G:O6 | 2:AA:1560:G:H4' | 1.56 | 1.05 |
| 2:AA:1666:G:C2' | 2:AA:1667:G:H5' | 1.86 | 1.05 |
| 2:AA:1940:U:H2' | 2:AA:1940:U:O2 | 1.53 | 1.05 |
| 2:AA:2810:A:H2' | 2:AA:2811:G:H5' | 1.38 | 1.05 |
| 4:AD:209:ASN:HB3 | 4:AD:213:LYS:NZ | 1.71 | 1.05 |
| 7:AG:98:PHE:HA | 7:AG:104:PHE:HD2 | 1.20 | 1.05 |
| 8:AH:44:VAL:HA | 8:AH:49:ILE:HG22 | 1.34 | 1.05 |
| 13:AN:3:GLN:HA | 13:AN:21:VAL:HG11 | 1.33 | 1.05 |
| 18:AS:88:ARG:HD3 | 18:AS:91:GLY:O | 1.55 | 1.05 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1134:G:N2 | 34:BA:1140:C:N3 | 2.04 | 1.05 |
| 34:BA:1182:G:H4' | 34:BA:1183:A:O5' | 1.52 | 1.05 |
| 39:BG:60:GLU:CA | 39:BG:63:LYS:HD2 | 1.85 | 1.05 |
| 39:BG:145:GLU:HG3 | 39:BG:184:LYS:HE2 | 1.38 | 1.05 |
| 49:BQ:9:LYS:NZ | 49:BQ:10:ALA:HB2 | 1.72 | 1.05 |
| 50:BR:33:THR:HG23 | 50:BR:63:ARG:NH1 | 1.69 | 1.05 |
| 1:AB:21:G:H1 | 1:AB:62:C:N4 | 1.52 | 1.05 |
| 2:AA:95:G:H5' | 22:AW:41:GLU:CD | 1.77 | 1.05 |
| 2:AA:271(B):G:H5" | 2:AA:271(C):U:H5' | 1.07 | 1.05 |
| 2:AA:580:C:H2' | 2:AA:581:C:C6 | 1.92 | 1.05 |
| 2:AA:930:U:C2' | 2:AA:931:G:H1' | 1.86 | 1.05 |
| 2:AA:931:G:H2' | 2:AA:932:G:C8 | 1.90 | 1.05 |
| 2:AA:1263:U:H4' | 29:A5:16:ARG:CZ | 1.85 | 1.05 |
| 2:AA:1450:C:N3 | 2:AA:1461:G:N2 | 2.04 | 1.05 |
| 2:AA:1625:C:H2' | 2:AA:1626:G:C4' | 1.86 | 1.05 |
| 2:AA:1800:C:H6 | 2:AA:1800:C:H3' | 1.19 | 1.05 |
| 2:AA:2055:C:H2' | 2:AA:2504:U:H5' | 1.34 | 1.05 |
| 4:AD:76:ARG:HH11 | 4:AD:113:MET:HB2 | 1.22 | 1.05 |
| 4:AD:166:LYS:HD2 | 4:AD:171:VAL:HG12 | 1.33 | 1.05 |
| 5:AE:200:ASP:OD2 | 5:AE:264:LEU:HA | 1.56 | 1.05 |
| 6:AF:37:ALA:HB2 | 6:AF:102:LEU:HD12 | 1.37 | 1.05 |
| 9:AJ:71:ILE:CG1 | 11:AL:61:TYR:HB2 | 1.85 | 1.05 |
| 26:A2:62:GLU:HG3 | 26:A2:98:ILE:HD11 | 1.36 | 1.05 |
| 34:BA:399:G:H2' | 34:BA:400:C:H6 | 1.21 | 1.05 |
| 35:BB:34:G:H2' | 35:BB:35:A:C5' | 1.86 | 1.05 |
| 38:BF:83:ARG:HG3 | 38:BF:87:LEU:HD11 | 1.33 | 1.05 |
| 39:BG:53:ASP:O | 39:BG:56:VAL:HB | 1.55 | 1.05 |
| 40:BH:141:GLN:HA | 40:BH:143:ARG:HH21 | 1.19 | 1.05 |
| 51:BS:39:TYR:CZ | 51:BS:41:PRO:HG3 | 1.91 | 1.05 |
| 2:AA:616:A:H5" | 6:AF:42:ARG:HH12 | 0.91 | 1.05 |
| 2:AA:1417:C:N4 | 2:AA:1581:G:H22 | 1.53 | 1.05 |
| 2:AA:2543:G:H2' | 2:AA:2544:G:C8 | 1.92 | 1.05 |
| 6:AF:111:VAL:HA | 6:AF:220:THR:HG23 | 1.38 | 1.05 |
| 13:AN:83:ALA:O | 13:AN:84:CYS:SG | 2.13 | 1.05 |
| 15:AP:45:GLN:NE2 | 15:AP:153:PRO:HB2 | 1.71 | 1.05 |
| 32:A8:29:LYS:HD3 | 32:A8:36:LYS:NZ | 1.71 | 1.05 |
| 34:BA:599:C:H4' | 43:BK:130:GLY:HA3 | 1.36 | 1.05 |
| 35:BB:62:A:O2' | 35:BB:63:C:H5' | 1.55 | 1.05 |
| 40:BH:81:GLU:HB3 | 40:BH:90:VAL:HG22 | 1.07 | 1.05 |
| 44:BL:38:GLN:O | 44:BL:40:LEU:HG | 1.55 | 1.05 |
| 47:BO:60:LEU:H | 47:BO:60:LEU:HD22 | 1.22 | 1.05 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:85:ILE:HD11 | 47:BO:98:TYR:HB2 | 1.38 | 1.05 |
| 50:BR:25:THR:HA | 50:BR:28:GLN:HG2 | 1.37 | 1.05 |
| 51:BS:46:PRO:HG2 | 51:BS:47:ASP:H | 1.16 | 1.05 |
| 55:BW:37:SER:O | 55:BW:41:VAL:HG23 | 1.53 | 1.05 |
| 1:AB:8:U:C2' | 1:AB:9:G:H8 | 1.69 | 1.05 |
| 2:AA:581:C:H5" | 25:A1:32:TYR:HB2 | 1.36 | 1.05 |
| 2:AA:792:G:N2 | 2:AA:2072:G:H1' | 1.72 | 1.05 |
| 2:AA:2083:G:H2' | 2:AA:2084:C:C6 | 1.92 | 1.05 |
| 2:AA:2671:A:H2' | 2:AA:2672:G:H8 | 1.20 | 1.05 |
| 2:AA:2779:U:H1' | 2:AA:2781:A:N6 | 1.71 | 1.05 |
| 2:AA:2803:C:H2' | 2:AA:2803:C:O2 | 1.55 | 1.05 |
| 3:AC:41:VAL:HB | 3:AC:176:GLY:O | 1.57 | 1.05 |
| 4:AD:131:LEU:HA | 4:AD:134:ILE:HD12 | 1.06 | 1.05 |
| 9:AI:1:MET:HE2 | 9:AJ:86:LYS:HD2 | 1.34 | 1.05 |
| 12:AM:57:TYR:HB2 | 12:AM:135:ILE:HG21 | 1.36 | 1.05 |
| 14:AO:92:ASP:HB2 | 14:AO:118:LEU:HD22 | 1.06 | 1.05 |
| 15:AP:65:ARG:NH1 | 15:AP:85:ILE:HD13 | 1.69 | 1.05 |
| 18:AS:29:LEU:HD22 | 18:AS:107:LEU:HD21 | 1.32 | 1.05 |
| 19:AT:24:LEU:HD21 | 19:AT:73:ASP:OD1 | 1.55 | 1.05 |
| 24:A0:78:LYS:O | 24:A0:82:GLU:CB | 2.05 | 1.05 |
| 30:A6:19:GLY:HA3 | 30:A6:42:PRO:CG | 1.87 | 1.05 |
| 34:BA:761:G:H5" | 52:BT:102:GLY:CA | 1.86 | 1.05 |
| 34:BA:959:A:H3' | 34:BA:960:U:H5" | 1.35 | 1.05 |
| 34:BA:1521:G:H2' | 34:BA:1522:U:H6 | 1.21 | 1.05 |
| 37:BE:15:VAL:CG2 | 37:BE:209:ARG:HD2 | 1.86 | 1.05 |
| 38:BF:182:ILE:HG23 | 38:BF:203:PHE:HA | 1.37 | 1.05 |
| 43:BK:6:ILE:HD12 | 43:BK:85:ARG:NH1 | 1.72 | 1.05 |
| 2:AA:642:G:H21 | 2:AA:646:A:N6 | 1.53 | 1.04 |
| 2:AA:1353:A:C6 | 2:AA:1378:A:N1 | 2.25 | 1.04 |
| 2:AA:1818:U:O5' | 4:AD:155:ARG:HG3 | 1.56 | 1.04 |
| 2:AA:1977:A:H2' | 2:AA:1978:A:H8 | 0.93 | 1.04 |
| 2:AA:2209:C:N4 | 2:AA:2215:G:H1 | 1.56 | 1.04 |
| 2:AA:2308:G:H5' | 2:AA:2309:A:OP1 | 1.55 | 1.04 |
| 2:AA:2648:C:N4 | 2:AA:2672:G:H1 | 1.54 | 1.04 |
| 2:AA:2822:G:H5" | 5:AE:258:TYR:OH | 1.55 | 1.04 |
| 5:AE:44:TYR:HA | 5:AE:309:PRO:HD2 | 1.37 | 1.04 |
| 6:AF:153:VAL:HG11 | 6:AF:207:LEU:HD13 | 1.37 | 1.04 |
| 10:AK:83:ALA:HB2 | 10:AK:89:LEU:HA | 1.05 | 1.04 |
| 19:AT:33:SER:O | 19:AT:37:VAL:HB | 1.54 | 1.04 |
| 21:AV:112:LEU:HD21 | 21:AV:171:VAL:HB | 1.38 | 1.04 |
| 34:BA:452:A:H2' | 34:BA:453:A:H8 | 1.21 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:143:GLY:HA2 | 39:BG:185:PHE:O | 1.57 | 1.04 |
| 42:BJ:106:GLN:HA | 42:BJ:109:ASN:HD22 | 1.19 | 1.04 |
| 53:BU:53:ARG:HD2 | 53:BU:58:LEU:O | 1.56 | 1.04 |
| 1:AB:8:U:H2' | 1:AB:9:G:H8 | 0.97 | 1.04 |
| 2:AA:138:G:C2' | 2:AA:139:G:H4' | 1.86 | 1.04 |
| 2:AA:863:A:H2' | 2:AA:864:G:H8 | 1.17 | 1.04 |
| 2:AA:1969:A:H4' | 2:AA:1970:A:H5' | 1.36 | 1.04 |
| 2:AA:2146:C:H2' | 2:AA:2147:G:N3 | 1.73 | 1.04 |
| 2:AA:2471:C:N4 | 2:AA:2479:G:H1 | 1.54 | 1.04 |
| 3:AC:181:PRO:HD2 | 3:AC:184:LYS:HD2 | 1.34 | 1.04 |
| 4:AD:107:LYS:N | 4:AD:194:VAL:O | 1.90 | 1.04 |
| 7:AG:82:GLU:HA | 7:AG:85:GLN:NE2 | 1.71 | 1.04 |
| 8:AH:30:GLY:O | 8:AH:78:VAL:HG13 | 1.57 | 1.04 |
| 8:AH:102:LEU:HD22 | 8:AH:122:ILE:HD13 | 1.36 | 1.04 |
| 10:AK:6:LEU:HD22 | 10:AK:14:LYS:HD3 | 1.35 | 1.04 |
| 21:AV:52:PHE:H | 21:AV:65:LEU:HD11 | 1.18 | 1.04 |
| 34:BA:1475:G:H2' | 34:BA:1476:G:C8 | 1.92 | 1.04 |
| 35:BC:7:U:H4' | 35:BC:8:U:OP2 | 1.57 | 1.04 |
| 39:BG:12:CYS:HB3 | 39:BG:33:MET:SD | 1.97 | 1.04 |
| 40:BH:104:ALA:HA | 40:BH:107:ARG:NH1 | 1.70 | 1.04 |
| 54:BV:40:ILE:HG12 | 54:BV:71:LEU:HD23 | 1.38 | 1.04 |
| 55:BW:56:MET:SD | 55:BW:88:VAL:HG21 | 1.97 | 1.04 |
| 2:AA:25:U:H2' | 2:AA:26:G:C8 | 1.91 | 1.04 |
| 2:AA:58:G:H2' | 2:AA:73:A:N6 | 1.72 | 1.04 |
| 2:AA:401:A:H2' | 2:AA:402:A:H8 | 1.23 | 1.04 |
| 2:AA:404:C:H4' | 2:AA:405:U:H5' | 1.05 | 1.04 |
| 2:AA:752:A:C6 | 2:AA:1781:C:H1' | 1.92 | 1.04 |
| 2:AA:791:C:C2 | 2:AA:793:A:O2' | 2.10 | 1.04 |
| 2:AA:1993:U:H4' | 5:AE:228:ARG:HH21 | 1.20 | 1.04 |
| 2:AA:2135:A:H3' | 2:AA:2135:A:N3 | 1.71 | 1.04 |
| 7:AG:90:LEU:HD13 | 48:BP:3:ARG:HH12 | 1.15 | 1.04 |
| 10:AK:31:PHE:CZ | 10:AK:36:ALA:HB3 | 1.92 | 1.04 |
| 34:BA:12:U:H4' | 34:BA:526:C:H4' | 1.35 | 1.04 |
| 34:BA:118:U:H2' | 34:BA:288:A:N1 | 1.73 | 1.04 |
| 35:BC:20:G:H21 | 35:BC:21:A:H5' | 0.90 | 1.04 |
| 37:BE:55:PHE:HA | 37:BE:58:ILE:HD12 | 1.08 | 1.04 |
| 39:BG:38:TYR:HB2 | 39:BG:39:PRO:HD2 | 1.36 | 1.04 |
| 40:BH:78:HIS:HB3 | 43:BK:107:LEU:HD21 | 1.38 | 1.04 |
| 40:BH:79:GLU:HG3 | 40:BH:93:PRO:HD3 | 1.34 | 1.04 |
| 41:BI:23:LYS:HE3 | 41:BI:61:LEU:HD11 | 1.37 | 1.04 |
| 1:AB:69:G:H5' | 1:AB:70:C:OP2 | 1.57 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:80:G:H1 | 2:AA:106:C:N4 | 1.56 | 1.04 |
| 2:AA:711:G:N2 | 2:AA:720:C:N3 | 2.06 | 1.04 |
| 2:AA:962:G:H2' | 2:AA:963:U:C6 | 1.92 | 1.04 |
| 2:AA:1022:G:H2' | 2:AA:1025:G:O6 | 1.56 | 1.04 |
| 2:AA:1262:A:C2 | 29:A5:10:LYS:HE2 | 1.91 | 1.04 |
| 2:AA:1911:U:O2' | 2:AA:1912:A:H5' | 1.57 | 1.04 |
| 2:AA:2052:G:H1' | 5:AE:245:ARG:O | 1.55 | 1.04 |
| 2:AA:2073:C:H2' | 2:AA:2074:U:H6 | 1.20 | 1.04 |
| 2:AA:2312:U:C5' | 7:AG:53:LYS:HA | 1.86 | 1.04 |
| 2:AA:2862:G:H2' | 2:AA:2863:C:C6 | 1.92 | 1.04 |
| 4:AD:85:ASN:N | 4:AD:85:ASN:HD22 | 1.54 | 1.04 |
| 6:AF:161:ASP:O | 6:AF:162:VAL:HG23 | 1.57 | 1.04 |
| 7:AG:98:PHE:HA | 7:AG:104:PHE:CD2 | 1.93 | 1.04 |
| 10:AK:7:LYS:HE2 | 10:AK:12:LYS:HZ3 | 1.21 | 1.04 |
| 13:AN:42:THR:HG21 | 13:AN:57:VAL:HA | 1.37 | 1.04 |
| 23:AX:8:LEU:HA | 23:AX:54:VAL:CG1 | 1.87 | 1.04 |
| 24:A0:51:LEU:HD23 | 24:A0:66:VAL:HG22 | 1.34 | 1.04 |
| 34:BA:93:G:H2' | 34:BA:95:U:O4' | 1.56 | 1.04 |
| 34:BA:328:C:H4' | 34:BA:329:A:O5' | 1.52 | 1.04 |
| 34:BA:761:G:H5" | 52:BT:102:GLY:HA3 | 1.39 | 1.04 |
| 34:BA:1266:G:H2' | 34:BA:1268:A:OP2 | 1.56 | 1.04 |
| 34:BA:1399:C:H4' | 34:BA:1400:C:O5' | 1.54 | 1.04 |
| 35:BB:37:G:N2 | 36:B1:63:C:C4 | 2.25 | 1.04 |
| 42:BJ:126:ASP:O | 42:BJ:129:GLU:HB2 | 1.58 | 1.04 |
| 47:BO:34:ARG:HH21 | 47:BO:61:THR:HG21 | 1.21 | 1.04 |
| 48:BP:10:PRO:HG2 | 48:BP:18:ALA:HB1 | 1.38 | 1.04 |
| 2:AA:1050:A:O2' | 2:AA:1051:G:H5' | 1.58 | 1.04 |
| 2:AA:1791:A:O2' | 4:AD:204:PHE:HB2 | 1.58 | 1.04 |
| 2:AA:2043:C:C5 | 2:AA:2777:G:H1' | 1.93 | 1.04 |
| 2:AA:2624:G:H1' | 29:A5:22:HIS:NE2 | 1.72 | 1.04 |
| 5:AE:226:HIS:HA | 5:AE:229:GLN:HG3 | 1.34 | 1.04 |
| 6:AF:37:ALA:HB1 | 6:AF:107:ARG:NH2 | 1.72 | 1.04 |
| 10:AK:3:VAL:CB | 10:AK:19:LYS:O | 2.05 | 1.04 |
| 10:AK:7:LYS:CA | 10:AK:14:LYS:HG2 | 1.88 | 1.04 |
| 21:AV:148:THR:HG22 | 21:AV:168:VAL:H | 1.21 | 1.04 |
| 23:AX:9:VAL:H | 23:AX:54:VAL:HG12 | 0.91 | 1.04 |
| 34:BA:263:A:O2' | 34:BA:264:U:H5" | 1.56 | 1.04 |
| 34:BA:754:C:H5' | 34:BA:755:G:H8 | 1.14 | 1.04 |
| 34:BA:1004:A:H5" | 34:BA:1025:U:C5 | 1.93 | 1.04 |
| 35:BB:1:G:C6 | 35:BB:73:A:N1 | 2.25 | 1.04 |
| 35:BB:34:G:N2 | 35:BB:35:A:N1 | 2.02 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:58:LEU:HD13 | 39:BG:59:ARG:NH1 | 1.73 | 1.04 |
| 42:BJ:69:VAL:CG1 | 42:BJ:104:LEU:HD21 | 1.87 | 1.04 |
| 46:BN:61:ALA:HB1 | 46:BN:94:ALA:HB2 | 1.06 | 1.04 |
| 48:BP:77:ASN:HB2 | 48:BP:80:ARG:NH1 | 1.73 | 1.04 |
| 51:BS:6:LEU:HD23 | 51:BS:17:TYR:HD2 | 1.18 | 1.04 |
| 55:BW:8:ARG:NH1 | 55:BW:8:ARG:HB2 | 1.72 | 1.04 |
| 1:AB:46:A:H2' | 1:AB:47:C:C6 | 1.93 | 1.03 |
| 1:AB:115:G:H5' | 16:AQ:59:ALA:CB | 1.87 | 1.03 |
| 2:AA:574:C:H41 | 2:AA:2054:A:H5" | 1.21 | 1.03 |
| 2:AA:1142:U:H6 | 2:AA:142(A):A:H5' | 1.15 | 1.03 |
| 2:AA:1422:G:H2' | 2:AA:1423:G:H8 | 1.20 | 1.03 |
| 2:AA:1482:U:H3' | 2:AA:1482:U:H6 | 1.15 | 1.03 |
| 2:AA:1746:G:H2' | 2:AA:1747:G:C8 | 1.93 | 1.03 |
| 2:AA:1771:C:N4 | 2:AA:1980:G:H1 | 1.56 | 1.03 |
| 2:AA:2312:U:H5' | 7:AG:53:LYS:HA | 1.07 | 1.03 |
| 6:AF:194:PHE:CZ | 6:AF:207:LEU:HD12 | 1.93 | 1.03 |
| 9:AI:80:ILE:HG23 | 9:AI:103:LYS:HD2 | 1.38 | 1.03 |
| 9:AJ:102:ILE:HG21 | 9:AJ:118:LEU:HD11 | 1.38 | 1.03 |
| 10:AK:124:LEU:HG | 10:AK:145:VAL:O | 1.56 | 1.03 |
| 13:AN:64:ARG:HH22 | 13:AN:100:GLY:CA | 1.70 | 1.03 |
| 13:AN:97:ARG:HA | 13:AN:117:LEU:HD12 | 1.38 | 1.03 |
| 13:AN:102:VAL:HG12 | 13:AN:103:ALA:H | 1.20 | 1.03 |
| 16:AQ:27:LEU:HB2 | 16:AQ:33:ARG:NH2 | 1.73 | 1.03 |
| 17:AR:53:ASP:HA | 17:AR:56:ARG:HG3 | 1.40 | 1.03 |
| 18:AS:38:TYR:HB3 | 29:A5:41:LEU:HD21 | 1.32 | 1.03 |
| 24:A0:52:ILE:HD13 | 24:A0:94:TYR:HB3 | 1.39 | 1.03 |
| 26:A2:78:VAL:HG23 | 26:A2:82:ARG:HB2 | 1.41 | 1.03 |
| 34:BA:277:C:H5" | 52:BT:68:ARG:NH2 | 1.73 | 1.03 |
| 34:BA:715:A:H4' | 34:BA:777:A:H61 | 1.23 | 1.03 |
| 34:BA:781:A:H2' | 34:BA:782:A:H5' | 1.36 | 1.03 |
| 34:BA:1192:C:H6 | 34:BA:1192:C:H3' | 1.15 | 1.03 |
| 34:BA:1261:A:H61 | 34:BA:1274:G:H1' | 1.17 | 1.03 |
| 35:BB:59:U:O2 | 35:BB:60:C:C2 | 2.10 | 1.03 |
| 48:BP:74:VAL:HG12 | 48:BP:78:ILE:HD11 | 1.38 | 1.03 |
| 53:BU:46:GLU:HB3 | 53:BU:85:LEU:CD1 | 1.88 | 1.03 |
| 2:AA:271(B):G:H4' | 2:AA:271(C):U:OP2 | 1.56 | 1.03 |
| 2:AA:669:G:H5" | 2:AA:670:A:OP2 | 1.58 | 1.03 |
| 2:AA:1781:C:H5' | 2:AA:1782:C:OP1 | 1.58 | 1.03 |
| 2:AA:2295:C:N3 | 2:AA:2337:G:N2 | 2.04 | 1.03 |
| 2:AA:2520:C:O2' | 2:AA:2521:C:H5' | 1.58 | 1.03 |
| 2:AA:2616:C:H2' | 2:AA:2617:C:H6 | 0.89 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2679:A:N3 | 5:AE:300:VAL:HG13 | 1.73 | 1.03 |
| 11:AL:25:GLY:HA2 | 11:AL:35:ILE:HD13 | 1.33 | 1.03 |
| 14:AO:67:ARG:HH12 | 14:AO:109:LEU:HD12 | 1.18 | 1.03 |
| 15:AP:45:GLN:HB2 | 15:AP:152:SER:O | 1.57 | 1.03 |
| 15:AP:66:ASN:HB2 | 15:AP:70:ARG:HH21 | 0.88 | 1.03 |
| 22:AW:19:GLU:O | 22:AW:23:LEU:HG | 1.58 | 1.03 |
| 31:A7:34:ARG:NH1 | 31:A7:42:LEU:HD23 | 1.72 | 1.03 |
| 34:BA:332:G:O2' | 34:BA:333:G:H5' | 1.58 | 1.03 |
| 46:BN:111:ASP:OD2 | 46:BN:113:PRO:HD3 | 1.57 | 1.03 |
| 47:BO:35:GLY:O | 47:BO:82:VAL:HA | 1.57 | 1.03 |
| 51:BS:20:VAL:HG22 | 51:BS:35:LYS:HA | 1.40 | 1.03 |
| 2:AA:629:G:H21 | 2:AA:640:C:P | 1.81 | 1.03 |
| 2:AA:1128:A:N6 | 2:AA:2518:A:H61 | 1.56 | 1.03 |
| 2:AA:1140:C:N3 | 12:AM:49:ARG:NH2 | 2.07 | 1.03 |
| 2:AA:1169:G:H1 | 2:AA:1180:C:N4 | 1.55 | 1.03 |
| 2:AA:1364:G:H3' | 28:A4:3:LYS:CD | 1.88 | 1.03 |
| 2:AA:2115:G:H4' | 3:AC:126:LYS:HE2 | 1.40 | 1.03 |
| 2:AA:2491:U:O2 | 2:AA:2491:U:H2' | 1.56 | 1.03 |
| 4:AD:135:PRO:HG2 | 4:AD:138:THR:HG21 | 1.39 | 1.03 |
| 8:AH:159:LYS:H | 8:AH:162:ARG:NH1 | 1.56 | 1.03 |
| 10:AK:4:ILE:CB | 10:AK:37:ILE:O | 2.06 | 1.03 |
| 12:AM:12:VAL:CB | 12:AM:38:VAL:HG22 | 1.89 | 1.03 |
| 21:AV:143:ILE:HG22 | 21:AV:144:GLY:H | 1.23 | 1.03 |
| 25:A1:9:VAL:HG12 | 25:A1:13:ARG:NH2 | 1.72 | 1.03 |
| 25:A1:98:ILE:HG13 | 26:A2:13:ARG:NH2 | 1.73 | 1.03 |
| 34:BA:854:G:H3' | 34:BA:871:U:O4 | 1.57 | 1.03 |
| 36:B1:59:A:H2' | 36:B1:60:A:C5' | 1.88 | 1.03 |
| 39:BG:83:SER:HA | 39:BG:89:THR:OG1 | 1.57 | 1.03 |
| 39:BG:107:ARG:HH11 | 39:BG:107:ARG:HA | 1.19 | 1.03 |
| 39:BG:128:VAL:HG21 | 39:BG:133:VAL:HG23 | 1.38 | 1.03 |
| 43:BK:19:VAL:HG23 | 43:BK:21:LYS:HG2 | 1.39 | 1.03 |
| 2:AA:16:G:H4' | 29:A5:18:MET:CE | 1.86 | 1.03 |
| 2:AA:748:G:H3' | 2:AA:750:A:OP2 | 1.55 | 1.03 |
| 2:AA:792:G:H21 | 2:AA:2072:G:H1' | 0.92 | 1.03 |
| 2:AA:818:G:N2 | 2:AA:1189:A:H62 | 1.55 | 1.03 |
| 2:AA:823:G:H2' | 2:AA:824:A:H8 | 1.16 | 1.03 |
| 2:AA:955:C:O2' | 2:AA:956:G:H5' | 1.58 | 1.03 |
| 2:AA:2107:C:N3 | 2:AA:2182:G:N2 | 2.06 | 1.03 |
| 6:AF:55:ARG:HG3 | 6:AF:56:THR:N | 1.67 | 1.03 |
| 8:AH:15:THR:HG22 | 8:AH:26:LYS:O | 1.56 | 1.03 |
| 12:AM:135:ILE:CG2 | 12:AM:139:LEU:HD11 | 1.89 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 17:AR:6:CYS:HB3 | 17:AR:9:CYS:HB3 | 1.04 | 1.03 |
| 21:AV:3:LEU:HB3 | 21:AV:34:LEU:HB3 | 1.38 | 1.03 |
| 23:AX:3:ARG:HB2 | 23:AX:60:GLU:HA | 1.38 | 1.03 |
| 25:A1:8:ILE:HA | 25:A1:11:ARG:HD2 | 1.41 | 1.03 |
| 26:A2:75:LYS:HE2 | 26:A2:75:LYS:HA | 1.40 | 1.03 |
| 28:A4:58:LYS:O | 28:A4:61:LYS:HB2 | 1.57 | 1.03 |
| 34:BA:933:G:OP2 | 42:BJ:3:ARG:HG3 | 1.57 | 1.03 |
| 34:BA:1046:A:H2' | 34:BA:1046:A:N3 | 1.73 | 1.03 |
| 35:BB:9:A:C2 | 35:BB:45:G:C5 | 2.46 | 1.03 |
| 38:BF:82:GLU:HG3 | 38:BF:83:ARG:H | 1.19 | 1.03 |
| 43:BK:44:PHE:HE2 | 43:BK:109:ILE:HD13 | 1.21 | 1.03 |
| 46:BN:110:ASP:HB2 | 53:BU:88:LYS:HG3 | 1.41 | 1.03 |
| 2:AA:25:U:H3 | 2:AA:515:A:N6 | 1.57 | 1.03 |
| 2:AA:324:A:H62 | 2:AA:339:U:H1' | 0.89 | 1.03 |
| 2:AA:1061:U:H4' | 2:AA:1070:A:H1' | 1.40 | 1.03 |
| 2:AA:1520:U:H2' | 2:AA:1521:G:H5" | 1.41 | 1.03 |
| 2:AA:2122:U:O2' | 3:AC:166:ASP:HB2 | 1.58 | 1.03 |
| 2:AA:2180:U:H2' | 2:AA:2181:G:C8 | 1.93 | 1.03 |
| 2:AA:2884:U:H2' | 2:AA:2885:C:O4' | 1.55 | 1.03 |
| 4:AD:210:LYS:O | 4:AD:213:LYS:CB | 2.06 | 1.03 |
| 6:AF:22:PHE:CZ | 6:AF:115:LEU:HB3 | 1.93 | 1.03 |
| 6:AF:239:ALA:HB1 | 6:AF:242:GLU:OE2 | 1.59 | 1.03 |
| 7:AG:134:LEU:HD13 | 7:AG:136:ARG:HE | 1.22 | 1.03 |
| 13:AN:60:ALA:HB1 | 13:AN:85:VAL:O | 1.56 | 1.03 |
| 14:AO:94:ARG:HD2 | 14:AO:119:THR:O | 1.57 | 1.03 |
| 15:AP:58:HIS:CG | 15:AP:59:ASN:H | 1.74 | 1.03 |
| 15:AP:134:PHE:O | 15:AP:137:ARG:HB3 | 1.58 | 1.03 |
| 21:AV:71:MET:HB3 | 21:AV:78:PRO:HD3 | 1.36 | 1.03 |
| 21:AV:98:VAL:HA | 21:AV:134:LEU:O | 1.57 | 1.03 |
| 27:A3:69:PHE:O | 27:A3:70:ILE:HD13 | 1.58 | 1.03 |
| 28:A4:17:GLN:HA | 28:A4:33:VAL:HB | 1.35 | 1.03 |
| 34:BA:1308:U:H3' | 48:BP:99:ARG:HH12 | 0.89 | 1.03 |
| 35:BB:37:G:C8 | 35:BB:38:A:N7 | 2.26 | 1.03 |
| 38:BF:29:TYR:CE2 | 49:BQ:54:PRO:HG2 | 1.94 | 1.03 |
| 38:BF:33:LEU:HD11 | 49:BQ:54:PRO:CD | 1.88 | 1.03 |
| 39:BG:31:CYS:HB3 | 39:BG:33:MET:SD | 1.98 | 1.03 |
| 40:BH:10:MET:HA | 40:BH:32:VAL:HG22 | 1.37 | 1.03 |
| 40:BH:79:GLU:OE1 | 43:BK:105:ARG:HB2 | 1.57 | 1.03 |
| 43:BK:37:ARG:HD2 | 43:BK:38:ILE:HD13 | 1.41 | 1.03 |
| 45:BM:32:ALA:HB2 | 45:BM:76:ASN:ND2 | 1.74 | 1.03 |
| 46:BN:15:ALA:HA | 46:BN:78:GLN:NE2 | 1.73 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:339:U:H2' | 2:AA:340:A:C8 | 1.93 | 1.02 |
| 2:AA:775:G:H2' | 2:AA:794:G:N7 | 1.71 | 1.02 |
| 2:AA:791:C:O2' | 2:AA:792:G:H5" | 1.58 | 1.02 |
| 2:AA:1024:G:N2 | 2:AA:1139:G:N2 | 2.06 | 1.02 |
| 2:AA:1726:G:H2' | 2:AA:1727:U:H5' | 1.36 | 1.02 |
| 2:AA:2469:A:H8 | 2:AA:2469:A:H5' | 1.23 | 1.02 |
| 2:AA:2619:C:O2' | 2:AA:2620:C:H5' | 1.59 | 1.02 |
| 2:AA:2681:C:O2' | 2:AA:2682:U:H5' | 1.58 | 1.02 |
| 3:AC:124:GLY:HA2 | 3:AC:137:LEU:HD11 | 1.38 | 1.02 |
| 4:AD:76:ARG:CG | 4:AD:113:MET:HB3 | 1.89 | 1.02 |
| 5:AE:180:ILE:HA | 5:AE:183:ASP:CG | 1.79 | 1.02 |
| 5:AE:211:GLN:HG2 | 5:AE:212:GLY:H | 0.90 | 1.02 |
| 5:AE:222:ARG:HH11 | 5:AE:222:ARG:HG3 | 0.91 | 1.02 |
| 8:AH:67:THR:HG22 | 8:AH:71:LEU:HD11 | 1.39 | 1.02 |
| 8:AH:85:ALA:HA | 8:AH:131:ILE:HG22 | 1.39 | 1.02 |
| 9:AJ:80:ILE:HG23 | 9:AJ:103:LYS:HD2 | 1.35 | 1.02 |
| 10:AK:7:LYS:CG | 10:AK:12:LYS:HG2 | 1.89 | 1.02 |
| 10:AK:75:LEU:HD13 | 10:AK:76:THR:H | 1.18 | 1.02 |
| 10:AK:77:VAL:HG21 | 10:AK:141:LEU:HD11 | 1.41 | 1.02 |
| 20:AU:48:VAL:HG13 | 20:AU:97:ARG:O | 1.58 | 1.02 |
| 25:A1:17:VAL:O | 25:A1:20:ARG:HB2 | 1.59 | 1.02 |
| 25:A1:18:LEU:O | 25:A1:21:ALA:HB3 | 1.59 | 1.02 |
| 29:A5:15:LYS:HB2 | 29:A5:15:LYS:HZ2 | 1.09 | 1.02 |
| 34:BA:61:G:H2' | 34:BA:62:U:O4' | 1.59 | 1.02 |
| 34:BA:975:A:H4' | 34:BA:976:G:H5' | 1.37 | 1.02 |
| 38:BF:139:GLN:O | 38:BF:143:GLU:HB2 | 1.58 | 1.02 |
| 39:BG:31:CYS:HB3 | 39:BG:33:MET:CG | 1.89 | 1.02 |
| 42:BJ:65:ALA:HA | 42:BJ:68:ASN:HD22 | 1.21 | 1.02 |
| 2:AA:109:G:N2 | 2:AA:110:G:H1' | 1.73 | 1.02 |
| 2:AA:514:A:H2' | 2:AA:515:A:H8 | 1.21 | 1.02 |
| 2:AA:980:A:H2' | 2:AA:981:A:C8 | 1.94 | 1.02 |
| 2:AA:1031:G:H1 | 2:AA:1123:C:N4 | 1.55 | 1.02 |
| 2:AA:1082:U:O2 | 9:AI:3:ILE:HG23 | 1.59 | 1.02 |
| 2:AA:1252:G:C8 | 2:AA:1253:A:H1' | 1.95 | 1.02 |
| 2:AA:1429:G:H2' | 2:AA:1430:C:C6 | 1.94 | 1.02 |
| 2:AA:1482:U:H1' | 2:AA:1512:G:N2 | 1.74 | 1.02 |
| 2:AA:1936:A:H5' | 2:AA:1937:A:C2 | 1.94 | 1.02 |
| 2:AA:1965:C:H3' | 2:AA:1966:A:C8 | 1.93 | 1.02 |
| 2:AA:2737:G:H1 | 2:AA:2767:C:N4 | 1.56 | 1.02 |
| 8:AH:58:LYS:O | 8:AH:61:ARG:HB3 | 1.59 | 1.02 |
| 8:AH:114:ILE:HG13 | 8:AH:147:ILE:HD11 | 1.36 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:7:LYS:HG3 | 10:AK:12:LYS:HG2 | 1.40 | 1.02 |
| 23:AX:31:LEU:HD22 | 23:AX:32:GLN:H | 0.86 | 1.02 |
| 24:A0:96:ARG:NH2 | 24:A0:117:VAL:HG23 | 1.73 | 1.02 |
| 24:A0:96:ARG:HH21 | 24:A0:117:VAL:HG23 | 0.87 | 1.02 |
| 25:A1:27:SER:O | 25:A1:31:GLN:HG3 | 1.60 | 1.02 |
| 34:BA:190(F):G:H4' | 34:BA:190(G):G:OP2 | 1.54 | 1.02 |
| 34:BA:710:G:O2' | 34:BA:711:G:H5' | 1.59 | 1.02 |
| 34:BA:1239:A:H2' | 34:BA:1298:C:N4 | 1.75 | 1.02 |
| 38:BF:36:ASP:O | 38:BF:39:ILE:HB | 1.56 | 1.02 |
| 39:BG:141:ARG:HB3 | 39:BG:142:PRO:HD2 | 1.40 | 1.02 |
| 2:AA:640:C:H2' | 2:AA:641:C:H5' | 1.35 | 1.02 |
| 2:AA:671:C:N4 | 2:AA:809:G:N1 | 2.02 | 1.02 |
| 2:AA:873:G:OP1 | 15:AP:30:GLN:HB3 | 1.57 | 1.02 |
| 2:AA:955:C:OP2 | 15:AP:10:ILE:HB | 1.60 | 1.02 |
| 2:AA:974(A):C:H6 | 2:AA:1186:G:N1 | 1.56 | 1.02 |
| 2:AA:978:G:N2 | 2:AA:985:C:N3 | 2.06 | 1.02 |
| 2:AA:1465:G:H2' | 2:AA:1466:G:C8 | 1.94 | 1.02 |
| 2:AA:2495:G:H4' | 15:AP:101:MET:CG | 1.89 | 1.02 |
| 2:AA:2649:U:H2' | 2:AA:2650:U:C6 | 1.94 | 1.02 |
| 2:AA:2658:C:H2' | 2:AA:2659:G:H5' | 1.38 | 1.02 |
| 6:AF:61:PHE:HB3 | 6:AF:65:ARG:NH1 | 1.72 | 1.02 |
| 7:AG:93:LEU:HD13 | 7:AG:106:PHE:CE2 | 1.94 | 1.02 |
| 12:AM:10:VAL:HB | 12:AM:36:VAL:HA | 1.36 | 1.02 |
| 34:BA:386:C:C2' | 34:BA:387:U:H5' | 1.88 | 1.02 |
| 39:BG:26:CYS:O | 39:BG:31:CYS:HB2 | 1.60 | 1.02 |
| 2:AA:234:C:N3 | 2:AA:430:G:N2 | 2.06 | 1.02 |
| 2:AA:285:C:H42 | 2:AA:354:G:N2 | 1.58 | 1.02 |
| 2:AA:535:C:H4' | 25:A1:53:LYS:HE2 | 1.42 | 1.02 |
| 2:AA:1697:G:H5" | 2:AA:1698:A:C5' | 1.89 | 1.02 |
| 2:AA:1967:C:H42 | 2:AA:1968:G:N2 | 1.58 | 1.02 |
| 2:AA:2397:G:N2 | 2:AA:2420:C:H1' | 1.75 | 1.02 |
| 2:AA:2581:G:H1 | 2:AA:2610:C:C1' | 1.71 | 1.02 |
| 2:AA:2731:G:H5' | 5:AE:265:ASN:OD1 | 1.58 | 1.02 |
| 4:AD:143:ILE:HD12 | 4:AD:143:ILE:H | 1.19 | 1.02 |
| 5:AE:271:ILE:HG12 | 5:AE:294:THR:HA | 1.40 | 1.02 |
| 6:AF:32:GLY:HA3 | 6:AF:36:ARG:HH21 | 1.21 | 1.02 |
| 6:AF:55:ARG:O | 6:AF:79:ARG:NH2 | 1.93 | 1.02 |
| 6:AF:140:VAL:HG11 | 6:AF:236:THR:HG22 | 1.42 | 1.02 |
| 7:AG:51:ARG:HH11 | 7:AG:72:LYS:HB2 | 1.24 | 1.02 |
| 16:AQ:102:LEU:HG | 16:AQ:129:ILE:HD12 | 1.41 | 1.02 |
| 21:AV:168:VAL:HG12 | 21:AV:169:VAL:N | 1.73 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 22:AW:53:ILE:HG22 | 22:AW:57:LYS:HE3 | 1.07 | 1.02 |
| 24:A0:67:LEU:HD21 | 24:A0:72:ASP:H | 1.24 | 1.02 |
| 32:A8:16:ILE:HD12 | 32:A8:16:ILE:N | 1.74 | 1.02 |
| 34:BA:92:C:H2' | 34:BA:93:G:H8 | 1.19 | 1.02 |
| 34:BA:313:A:H2' | 34:BA:314:C:H6 | 1.13 | 1.02 |
| 34:BA:551:U:H2' | 34:BA:552:U:C6 | 1.94 | 1.02 |
| 34:BA:734:G:H2' | 34:BA:735:C:C6 | 1.95 | 1.02 |
| 37:BE:108:ILE:O | 37:BE:112:VAL:HG23 | 1.60 | 1.02 |
| 38:BF:19:GLU:CA | 38:BF:54:ARG:HH21 | 1.73 | 1.02 |
| 38:BF:52:LEU:HA | 38:BF:70:VAL:HG22 | 1.36 | 1.02 |
| 38:BF:153:VAL:HB | 38:BF:166:GLU:HB3 | 1.39 | 1.02 |
| 41:BI:77:ARG:HA | 41:BI:80:ARG:HD2 | 1.05 | 1.02 |
| 43:BK:39:LEU:HB3 | 43:BK:45:ILE:CG2 | 1.88 | 1.02 |
| 47:BO:41:ARG:HG2 | 47:BO:42:THR:N | 1.74 | 1.02 |
| 51:BS:26:ARG:HH21 | 51:BS:31:LYS:HE3 | 1.24 | 1.02 |
| 1:AB:104:A:H1' | 21:AV:24:TYR:OH | 1.60 | 1.02 |
| 2:AA:341:G:H2' | 2:AA:342:G:O4' | 1.59 | 1.02 |
| 2:AA:612:G:H4' | 2:AA:616:A:C6 | 1.94 | 1.02 |
| 2:AA:1157:G:OP2 | 2:AA:1157:G:H3' | 1.60 | 1.02 |
| 2:AA:1171:G:H3' | 2:AA:1173:G:H5" | 1.40 | 1.02 |
| 2:AA:1698:A:O2' | 2:AA:1699:G:H3' | 1.59 | 1.02 |
| 2:AA:2206:C:H2' | 2:AA:2207:C:O4' | 1.60 | 1.02 |
| 2:AA:2295:C:N4 | 2:AA:2337:G:N1 | 2.06 | 1.02 |
| 2:AA:2324:C:N3 | 2:AA:2331:G:N2 | 2.07 | 1.02 |
| 2:AA:2403:C:N4 | 2:AA:2414:G:H1 | 1.56 | 1.02 |
| 2:AA:2485:G:O2' | 2:AA:2486:G:H5' | 1.58 | 1.02 |
| 2:AA:2658:C:C2' | 2:AA:2659:G:H5' | 1.90 | 1.02 |
| 2:AA:2712:U:H3' | 2:AA:2714:G:OP2 | 1.59 | 1.02 |
| 4:AD:115:ILE:HB | 4:AD:127:ASN:OD1 | 1.60 | 1.02 |
| 4:AD:128:ALA:CB | 4:AD:190:THR:HG22 | 1.90 | 1.02 |
| 6:AF:53:GLY:C | 6:AF:54:LEU:HG | 1.73 | 1.02 |
| 10:AK:110:LEU:HD11 | 10:AK:133:LEU:HD22 | 1.42 | 1.02 |
| 12:AM:73:LYS:HB3 | 12:AM:140:GLY:CA | 1.88 | 1.02 |
| 14:AO:92:ASP:HB3 | 14:AO:118:LEU:HB3 | 1.05 | 1.02 |
| 19:AT:23:LYS:N | 19:AT:68:LEU:HG | 1.75 | 1.02 |
| 23:AX:22:ALA:HA | 23:AX:46:ASN:HD21 | 1.24 | 1.02 |
| 34:BA:821:G:H2' | 34:BA:822:C:H6 | 1.25 | 1.02 |
| 34:BA:826:C:H1' | 43:BK:15:ASN:ND2 | 1.73 | 1.02 |
| 37:BE:55:PHE:HE2 | 37:BE:218:ALA:HA | 1.23 | 1.02 |
| 37:BE:200:ILE:HG22 | 37:BE:202:PRO:HD3 | 1.38 | 1.02 |
| 39:BG:141:ARG:HB2 | 39:BG:144:ASP:OD2 | 1.60 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:23:LYS:HA | 41:BI:26:ILE:CD1 | 1.89 | 1.02 |
| 43:BK:63:LEU:HD13 | 43:BK:63:LEU:H | 0.90 | 1.02 |
| 47:BO:53:ARG:HG3 | 47:BO:69:TYR:OH | 1.60 | 1.02 |
| 53:BU:21:LYS:NZ | 53:BU:23:LYS:HB2 | 1.74 | 1.02 |
| 1:AB:8:U:O2 | 1:AB:112:G:O6 | 1.76 | 1.01 |
| 2:AA:164:U:O2 | 2:AA:171:G:H4' | 1.59 | 1.01 |
| 2:AA:270(A):A:H62 | 2:AA:270(Z):U:H5" | 1.20 | 1.01 |
| 2:AA:584:C:N4 | 2:AA:1256:G:H1 | 1.58 | 1.01 |
| 2:AA:898:C:H3' | 2:AA:899:A:H5" | 1.37 | 1.01 |
| 2:AA:930:U:H2' | 2:AA:931:G:C1' | 1.90 | 1.01 |
| 2:AA:955:C:N3 | 2:AA:962:G:N2 | 2.07 | 1.01 |
| 2:AA:974(A):C:O4' | 2:AA:1186:G:N2 | 1.93 | 1.01 |
| 2:AA:1451:C:H3' | 2:AA:1453:A:H4' | 1.40 | 1.01 |
| 2:AA:1612:C:N3 | 2:AA:1619:G:N2 | 2.08 | 1.01 |
| 2:AA:1752:C:N4 | 2:AA:1756:G:H1 | 1.58 | 1.01 |
| 2:AA:2464:C:N4 | 2:AA:2486:G:N1 | 2.00 | 1.01 |
| 8:AH:93:TYR:CZ | 8:AH:106:VAL:HG13 | 1.93 | 1.01 |
| 10:AK:94:THR:CG2 | 10:AK:97:GLN:HG3 | 1.89 | 1.01 |
| 11:AL:75:ALA:HB3 | 11:AL:131:THR:HG21 | 1.42 | 1.01 |
| 21:AV:91:PRO:HD2 | 21:AV:127:PRO:HB3 | 1.39 | 1.01 |
| 25:A1:57:PHE:HA | 25:A1:60:LEU:CD1 | 1.88 | 1.01 |
| 26:A2:50:ASP:N | 26:A2:53:LYS:HD2 | 1.72 | 1.01 |
| 2:AA:291:C:N3 | 2:AA:349:G:N2 | 2.07 | 1.01 |
| 2:AA:557:U:C4' | 12:AM:92:GLN:HE21 | 1.72 | 1.01 |
| 2:AA:675:A:O2' | 2:AA:676:A:H5' | 1.58 | 1.01 |
| 2:AA:775:G:H5" | 2:AA:777:A:H1' | 1.42 | 1.01 |
| 2:AA:1183:G:OP1 | 23:AX:29:ARG:HG3 | 1.58 | 1.01 |
| 2:AA:1534:G:N3 | 2:AA:1534:G:H2' | 1.75 | 1.01 |
| 2:AA:1689:A:H2' | 2:AA:1690:A:H8 | 1.22 | 1.01 |
| 2:AA:1697:G:H5" | 2:AA:1698:A:H5' | 1.04 | 1.01 |
| 2:AA:1936:A:C1' | 2:AA:1940:U:N3 | 2.22 | 1.01 |
| 2:AA:2125:G:O2' | 2:AA:2126:A:H4' | 1.57 | 1.01 |
| 2:AA:2148:G:H2' | 2:AA:2149:G:O4' | 1.58 | 1.01 |
| 2:AA:2371:G:H5' | 30:A6:46:LYS:HD3 | 1.42 | 1.01 |
| 6:AF:82:GLN:H | 6:AF:87:ARG:HD3 | 1.22 | 1.01 |
| 12:AM:52:GLN:HA | 12:AM:55:GLU:HG3 | 1.42 | 1.01 |
| 18:AS:55:ALA:HA | 18:AS:107:LEU:HD12 | 1.38 | 1.01 |
| 26:A2:78:VAL:HB | 26:A2:80:TYR:CD1 | 1.94 | 1.01 |
| 29:A5:15:LYS:HA | 29:A5:18:MET:HG2 | 1.38 | 1.01 |
| 34:BA:741:G:H2' | 34:BA:742:G:H8 | 1.26 | 1.01 |
| 34:BA:944:G:H21 | 34:BA:1339:A:H62 | 1.06 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1268:A:H4' | 56:BX:20:LYS:HA | 1.39 | 1.01 |
| 34:BA:1539:C:N3 | 36:B1:50:G:N2 | 2.09 | 1.01 |
| 35:BB:28:C:O2' | 35:BB:29:A:H5' | 1.60 | 1.01 |
| 37:BE:61:LEU:HA | 37:BE:64:ARG:CD | 1.90 | 1.01 |
| 37:BE:115:LEU:HA | 37:BE:118:LEU:HD12 | 1.39 | 1.01 |
| 39:BG:148:VAL:HB | 39:BG:181:MET:HE1 | 1.38 | 1.01 |
| 43:BK:24:THR:O | 43:BK:60:ARG:HG3 | 1.60 | 1.01 |
| 50:BR:36:ILE:HD12 | 50:BR:63:ARG:HD3 | 1.02 | 1.01 |
| 52:BT:75:ARG:HG3 | 52:BT:75:ARG:HH11 | 1.23 | 1.01 |
| 2:AA:214:G:N2 | 2:AA:215:G:C2 | 2.27 | 1.01 |
| 2:AA:589:C:N3 | 2:AA:668:G:N2 | 2.05 | 1.01 |
| 2:AA:775:G:N2 | 2:AA:787:U:C2' | 2.23 | 1.01 |
| 2:AA:930:U:H2' | 2:AA:931:G:H1' | 1.02 | 1.01 |
| 2:AA:1058:G:H1' | 9:AI:3:ILE:HG13 | 1.07 | 1.01 |
| 2:AA:1935:G:N2 | 2:AA:1962:C:C2' | 2.22 | 1.01 |
| 2:AA:2397:G:H2' | 2:AA:2398:U:H6 | 1.26 | 1.01 |
| 2:AA:2495:G:C4' | 15:AP:101:MET:HG3 | 1.91 | 1.01 |
| 2:AA:2781:A:H5" | 2:AA:2782:G:H5' | 1.38 | 1.01 |
| 2:AA:2819:G:H3' | 2:AA:2821:A:H62 | 1.24 | 1.01 |
| 3:AC:99:ILE:HG23 | 3:AC:107:TRP:CZ3 | 1.96 | 1.01 |
| 5:AE:42:ALA:O | 5:AE:75:THR:HG21 | 1.60 | 1.01 |
| 5:AE:211:GLN:HG2 | 5:AE:212:GLY:N | 1.71 | 1.01 |
| 6:AF:3:ALA:HB3 | 6:AF:16:VAL:O | 1.59 | 1.01 |
| 10:AK:6:LEU:HB3 | 10:AK:35:LEU:O | 1.60 | 1.01 |
| 15:AP:42:TYR:HA | 21:AV:119:ASN:ND2 | 1.74 | 1.01 |
| 23:AX:8:LEU:HA | 23:AX:54:VAL:HG11 | 1.37 | 1.01 |
| 34:BA:129(A):G:N2 | 34:BA:190(G):G:C5 | 2.28 | 1.01 |
| 34:BA:668:G:H1 | 34:BA:738:C:N4 | 1.57 | 1.01 |
| 34:BA:858:G:H22 | 34:BA:869:G:H2' | 0.85 | 1.01 |
| 37:BE:9:GLU:HG2 | 37:BE:217:ARG:NH2 | 1.75 | 1.01 |
| 48:BP:90:LEU:HD23 | 48:BP:93:ARG:HH11 | 1.24 | 1.01 |
| 50:BR:38:ARG:HB3 | 50:BR:38:ARG:HH11 | 0.86 | 1.01 |
| 51:BS:5:ARG:HH12 | 51:BS:24:ALA:HA | 1.25 | 1.01 |
| 2:AA:997:G:OP1 | 25:A1:92:ARG:HB2 | 1.60 | 1.01 |
| 2:AA:1174:A:C2 | 2:AA:1175:U:H3' | 1.94 | 1.01 |
| 2:AA:1492:G:H1 | 2:AA:1498:C:N4 | 1.59 | 1.01 |
| 2:AA:2447:G:H3' | 2:AA:2500:U:OP2 | 1.60 | 1.01 |
| 8:AH:121:GLU:OE2 | 8:AH:134:GLY:HA2 | 1.61 | 1.01 |
| 13:AN:22:ILE:HG13 | 13:AN:41:ALA:HA | 1.42 | 1.01 |
| 15:AP:16:ARG:HH11 | 15:AP:16:ARG:CB | 1.73 | 1.01 |
| 15:AP:67:ALA:CA | 15:AP:70:ARG:HD2 | 1.91 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 17:AR:10:GLY:CA | 17:AR:52:THR:HB | 1.90 | 1.01 |
| 18:AS:86:LEU:HD22 | 18:AS:87:PRO:HD3 | 1.39 | 1.01 |
| 25:A1:66:ASN:HA | 25:A1:76:TYR:CZ | 1.95 | 1.01 |
| 26:A2:61:VAL:HG22 | 26:A2:97:GLY:HA2 | 1.36 | 1.01 |
| 34:BA:362:G:P | 47:BO:34:ARG:HH22 | 1.82 | 1.01 |
| 34:BA:409:G:H1 | 34:BA:433:C:N4 | 1.57 | 1.01 |
| 35:BC:34:G:N2 | 36:B1:62:G:H22 | 1.59 | 1.01 |
| 42:BJ:50:ILE:HD12 | 42:BJ:58:PRO:CB | 1.90 | 1.01 |
| 55:BW:45:GLN:N | 55:BW:91:LEU:HD13 | 1.76 | 1.01 |
| 56:BX:12:LYS:HB3 | 56:BX:18:TYR:CD2 | 1.95 | 1.01 |
| 2:AA:623:G:H2' | 2:AA:624:C:H6 | 1.26 | 1.01 |
| 2:AA:679:C:H2' | 2:AA:679:C:O2 | 1.57 | 1.01 |
| 2:AA:687:C:O2 | 2:AA:787:U:O3' | 1.77 | 1.01 |
| 2:AA:1819:A:OP1 | 4:AD:154:VAL:HA | 1.61 | 1.01 |
| 2:AA:2180:U:H2' | 2:AA:2181:G:H8 | 1.20 | 1.01 |
| 2:AA:2360:A:OP1 | 32:A8:49:VAL:HG13 | 1.61 | 1.01 |
| 2:AA:2584:U:H2' | 2:AA:2585:U:C6 | 1.95 | 1.01 |
| 2:AA:2688:U:O2 | 2:AA:2688:U:H2' | 1.60 | 1.01 |
| 4:AD:89:ASN:HD21 | 4:AD:199:ARG:CZ | 1.74 | 1.01 |
| 5:AE:222:ARG:HD2 | 5:AE:222:ARG:N | 1.76 | 1.01 |
| 5:AE:269:ILE:HA | 5:AE:297:LYS:NZ | 1.76 | 1.01 |
| 6:AF:55:ARG:C | 6:AF:79:ARG:NE | 2.13 | 1.01 |
| 6:AF:166:ILE:O | 6:AF:168:ARG:HG3 | 1.60 | 1.01 |
| 7:AG:146:LYS:HG3 | 16:AQ:15:GLU:HG3 | 1.41 | 1.01 |
| 13:AN:42:THR:HG22 | 13:AN:58:VAL:H | 1.23 | 1.01 |
| 14:AO:94:ARG:HH11 | 14:AO:120:LEU:HB2 | 1.25 | 1.01 |
| 16:AQ:10:MET:HB2 | 16:AQ:13:ARG:NH2 | 1.76 | 1.01 |
| 19:AT:9:HIS:HB2 | 19:AT:26:PHE:HA | 1.39 | 1.01 |
| 21:AV:49:THR:HG22 | 21:AV:97:PRO:HD3 | 1.42 | 1.01 |
| 23:AX:26:LEU:CD1 | 23:AX:47:VAL:HG22 | 1.89 | 1.01 |
| 27:A3:38:VAL:HA | 27:A3:40:GLN:NE2 | 1.76 | 1.01 |
| 28:A4:67:TYR:O | 28:A4:68:ARG:HG3 | 1.60 | 1.01 |
| 31:A7:17:GLY:HA2 | 31:A7:44:VAL:HG23 | 1.41 | 1.01 |
| 34:BA:15:G:H2' | 34:BA:16:A:H8 | 1.14 | 1.01 |
| 34:BA:131:C:N4 | 34:BA:231:G:N1 | 1.98 | 1.01 |
| 34:BA:192:U:H1' | 55:BW:103:GLY:CA | 1.91 | 1.01 |
| 34:BA:582:U:H5' | 50:BR:64:ARG:NH2 | 1.75 | 1.01 |
| 34:BA:748:C:H6 | 34:BA:748:C:O5' | 1.43 | 1.01 |
| 34:BA:1073:U:H2' | 34:BA:1074:G:C8 | 1.96 | 1.01 |
| 34:BA:1226:C:C5 | 48:BP:104:ARG:HA | 1.95 | 1.01 |
| 35:BB:51:G:H1 | 35:BB:63:C:N4 | 1.58 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BC:37:G:H2' | 35:BC:38:A:H8 | 0.87 | 1.01 |
| 39:BG:104:VAL:HG21 | 39:BG:140:VAL:HG21 | 1.41 | 1.01 |
| 42:BJ:37:ASN:HD22 | 42:BJ:38:LEU:N | 1.59 | 1.01 |
| 45:BM:27:ALA:HB2 | 45:BM:85:LEU:HD11 | 1.43 | 1.01 |
| 46:BN:95:ILE:O | 46:BN:98:LEU:HB2 | 1.61 | 1.01 |
| 53:BU:56:THR:HB | 53:BU:58:LEU:HG | 1.41 | 1.01 |
| 55:BW:40:ALA:HB2 | 55:BW:55:ILE:CG2 | 1.91 | 1.01 |
| 2:AA:1288:U:H5" | 2:AA:1289:C:OP2 | 1.61 | 1.00 |
| 2:AA:1364:G:C3' | 28:A4:3:LYS:HD3 | 1.91 | 1.00 |
| 2:AA:1530:G:P | 2:AA:1539:G:H1 | 1.83 | 1.00 |
| 2:AA:1571:A:H3' | 2:AA:1571:A:N3 | 1.76 | 1.00 |
| 2:AA:1650:G:O2' | 2:AA:1651:G:H5' | 1.59 | 1.00 |
| 2:AA:2135:A:H62 | 2:AA:2150:U:H3' | 1.26 | 1.00 |
| 4:AD:66:PHE:HD2 | 4:AD:67:LYS:HE3 | 1.26 | 1.00 |
| 4:AD:78:ALA:CB | 4:AD:92:LEU:O | 2.07 | 1.00 |
| 6:AF:93:LYS:HB2 | 6:AF:96:LYS:HG3 | 1.42 | 1.00 |
| 28:A4:21:VAL:HG12 | 28:A4:22:MET:H | 1.23 | 1.00 |
| 34:BA:279:A:H1' | 34:BA:281:G:N3 | 1.77 | 1.00 |
| 34:BA:1139:G:H1 | 34:BA:1143:G:N2 | 1.58 | 1.00 |
| 34:BA:1139:G:H22 | 34:BA:1143:G:H1 | 1.09 | 1.00 |
| 34:BA:1144:G:H22 | 34:BA:1146:A:H62 | 1.09 | 1.00 |
| 35:BB:53:G:O2' | 35:BB:54:U:H5' | 1.60 | 1.00 |
| 35:BB:66:A:H3' | 35:BB:67:A:H8 | 1.26 | 1.00 |
| 39:BG:24:GLU:O | 39:BG:27:TYR:HB2 | 1.60 | 1.00 |
| 41:BI:33:TYR:CD1 | 41:BI:75:LEU:HD23 | 1.95 | 1.00 |
| 41:BI:81:ILE:HG22 | 41:BI:82:ARG:N | 1.75 | 1.00 |
| 42:BJ:50:ILE:HD12 | 42:BJ:58:PRO:HB3 | 1.06 | 1.00 |
| 43:BK:113:SER:HA | 43:BK:117:GLY:O | 1.59 | 1.00 |
| 44:BL:74:ILE:HA | 44:BL:77:ILE:HD12 | 1.42 | 1.00 |
| 47:BO:27:LEU:HD23 | 47:BO:33:ARG:NH1 | 1.76 | 1.00 |
| 53:BU:21:LYS:HA | 53:BU:55:ARG:HH12 | 1.19 | 1.00 |
| 2:AA:861:A:H2' | 2:AA:862:G:H5' | 1.42 | 1.00 |
| 2:AA:1083:U:H3' | 9:AI:36:PRO:C | 1.55 | 1.00 |
| 2:AA:1625:C:H2' | 2:AA:1626:G:O4' | 1.59 | 1.00 |
| 2:AA:2397:G:H2' | 2:AA:2398:U:C6 | 1.96 | 1.00 |
| 2:AA:2578:G:N7 | 5:AE:237:ASN:ND2 | 2.09 | 1.00 |
| 4:AD:95:TYR:HB2 | 4:AD:99:GLU:O | 1.61 | 1.00 |
| 6:AF:205:ARG:HG2 | 6:AF:212:VAL:HG21 | 1.42 | 1.00 |
| 8:AH:85:ALA:HA | 8:AH:131:ILE:CG2 | 1.90 | 1.00 |
| 20:AU:77:VAL:HA | 20:AU:89:ARG:NH1 | 1.77 | 1.00 |
| 21:AV:53:ASP:HA | 21:AV:65:LEU:HD21 | 1.43 | 1.00 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:83:ILE:HA | 24:A0:86:ARG:HG3 | 1.42 | 1.00 |
| 32:A8:16:ILE:HD13 | 32:A8:64:ARG:OXT | 1.60 | 1.00 |
| 34:BA:191:G:O2' | 55:BW:102:GLY:HA2 | 1.61 | 1.00 |
| 34:BA:1126:U:H2' | 34:BA:1127:G:H8 | 1.23 | 1.00 |
| 34:BA:1293:G:H2' | 34:BA:1294:G:H8 | 1.27 | 1.00 |
| 34:BA:1339:A:H2' | 34:BA:1340:A:H5' | 1.42 | 1.00 |
| 35:BB:19:G:H4' | 35:BB:20:G:OP2 | 1.60 | 1.00 |
| 35:BC:74:C:H2' | 35:BC:75:C:H5" | 1.44 | 1.00 |
| 44:BL:93:ARG:HH21 | 44:BL:97:LYS:HD3 | 1.23 | 1.00 |
| 55:BW:13:LEU:HD12 | 55:BW:13:LEU:H | 1.25 | 1.00 |
| 2:AA:138:G:H2' | 2:AA:139:G:C4' | 1.91 | 1.00 |
| 2:AA:270(B):A:O2' | 2:AA:270(C):C:H6 | 1.43 | 1.00 |
| 2:AA:295:G:C6 | 2:AA:344:G:C6 | 2.50 | 1.00 |
| 2:AA:618:G:H2' | 2:AA:618(A):C:C6 | 1.95 | 1.00 |
| 2:AA:965:C:H5' | 2:AA:2273:A:H1' | 1.02 | 1.00 |
| 2:AA:997:G:H5" | 25:A1:92:ARG:HD2 | 1.03 | 1.00 |
| 2:AA:1084:A:P | 9:AI:39:VAL:N | 2.33 | 1.00 |
| 2:AA:2219:G:C2' | 2:AA:2224:G:H5' | 1.91 | 1.00 |
| 2:AA:2574:G:H2' | 2:AA:2575:C:C6 | 1.96 | 1.00 |
| 2:AA:2715:C:H2' | 2:AA:2716:U:H6 | 1.25 | 1.00 |
| 2:AA:2848:G:N2 | 2:AA:2849:U:H3 | 1.58 | 1.00 |
| 3:AC:123:VAL:HG12 | 3:AC:137:LEU:HD13 | 1.40 | 1.00 |
| 4:AD:164:LEU:HD13 | 4:AD:174:ARG:NH1 | 1.76 | 1.00 |
| 5:AE:180:ILE:O | 5:AE:183:ASP:HB2 | 1.61 | 1.00 |
| 5:AE:269:ILE:HA | 5:AE:297:LYS:HZ3 | 1.23 | 1.00 |
| 6:AF:168:ARG:HD2 | 6:AF:168:ARG:O | 1.61 | 1.00 |
| 9:AI:7:ILE:HD13 | 11:AL:118:ALA:HA | 1.42 | 1.00 |
| 12:AM:44:ALA:HB3 | 12:AM:132:LEU:CD2 | 1.91 | 1.00 |
| 34:BA:320:C:N3 | 34:BA:333:G:N2 | 2.09 | 1.00 |
| 34:BA:986:A:H4' | 54:BV:55:LYS:HG3 | 1.39 | 1.00 |
| 37:BE:213:LEU:HD22 | 37:BE:214:ILE:HD13 | 1.43 | 1.00 |
| 54:BV:46:GLY:H | 54:BV:62:ILE:HG23 | 1.22 | 1.00 |
| 2:AA:271(B):G:H5" | 2:AA:271(C):U:C5' | 1.90 | 1.00 |
| 2:AA:1451:C:H6 | 2:AA:1453:A:H4' | 1.22 | 1.00 |
| 2:AA:1468:C:C4 | 2:AA:1524:G:N1 | 2.30 | 1.00 |
| 2:AA:1718:G:H2' | 2:AA:1725:G:C8 | 1.96 | 1.00 |
| 2:AA:2386:C:C4' | 27:A3:39:ARG:HE | 1.74 | 1.00 |
| 14:AO:92:ASP:HB3 | 14:AO:118:LEU:CB | 1.91 | 1.00 |
| 24:A0:38:VAL:HB | 24:A0:39:PRO:HD3 | 1.40 | 1.00 |
| 2:AA:974:G:H4' | 2:AA:974(A):C:OP1 | 1.62 | 1.00 |
| 2:AA:1129:A:C2 | 2:AA:2570:G:H1' | 1.95 | 1.00 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1991:U:H6 | 2:AA:1991:U:H3' | 1.19 | 1.00 |
| 2:AA:2785:C:H2' | 2:AA:2786:U:C6 | 1.97 | 1.00 |
| 4:AD:139:LEU:O | 4:AD:191:VAL:HB | 1.62 | 1.00 |
| 5:AE:61:PRO:HB3 | 5:AE:69:PRO:CA | 1.90 | 1.00 |
| 5:AE:221:LYS:NZ | 5:AE:233:ARG:HG2 | 1.75 | 1.00 |
| 6:AF:51:TYR:O | 6:AF:55:ARG:HB3 | 1.62 | 1.00 |
| 6:AF:140:VAL:HB | 6:AF:236:THR:HA | 1.44 | 1.00 |
| 15:AP:66:ASN:O | 15:AP:70:ARG:HG3 | 1.60 | 1.00 |
| 34:BA:760:G:H1 | 52:BT:105:ALA:HB2 | 1.26 | 1.00 |
| 34:BA:1062:U:H2' | 34:BA:1063:C:C5 | 1.97 | 1.00 |
| 35:BB:11:C:N3 | 35:BB:12:U:C4 | 2.29 | 1.00 |
| 2:AA:112:U:H5' | 2:AA:112:U:H6 | 1.27 | 1.00 |
| 2:AA:1395:A:OP2 | 2:AA:1603:A:H5" | 1.62 | 1.00 |
| 6:AF:238:SER:O | 6:AF:241:ALA:HB3 | 1.61 | 1.00 |
| 9:AJ:71:ILE:HG12 | 11:AL:61:TYR:CB | 1.91 | 1.00 |
| 11:AL:55:PRO:HD3 | 11:AL:73:PRO:HB3 | 1.43 | 1.00 |
| 23:AX:22:ALA:HA | 23:AX:46:ASN:ND2 | 1.75 | 1.00 |
| 25:A1:74:MET:HE2 | 25:A1:78:THR:HG21 | 1.39 | 1.00 |
| 34:BA:1128:C:C1' | 34:BA:1146:A:H61 | 1.74 | 1.00 |
| 35:BB:36:A:N6 | 36:B1:65:U:N3 | 2.08 | 1.00 |
| 41:BI:39:LYS:HD3 | 41:BI:64:GLN:NE2 | 1.76 | 1.00 |
| 2:AA:34:C:H2' | 2:AA:455:C:N4 | 1.77 | 1.00 |
| 2:AA:1826:G:OP2 | 4:AD:227:VAL:HG11 | 1.60 | 1.00 |
| 5:AE:201:VAL:N | 5:AE:266:LYS:HD2 | 1.77 | 1.00 |
| 5:AE:216:ARG:NH2 | 5:AE:255:GLN:HA | 1.77 | 1.00 |
| 7:AG:56:ARG:HD3 | 35:BC:56:C:O2' | 1.61 | 1.00 |
| 10:AK:93:ILE:HG12 | 10:AK:121:ILE:O | 1.62 | 1.00 |
| 16:AQ:31:LYS:NZ | 16:AQ:99:GLU:HB2 | 1.76 | 1.00 |
| 18:AS:84:ARG:NE | 18:AS:84:ARG:HA | 1.75 | 1.00 |
| 26:A2:57:GLN:HG2 | 26:A2:58:ALA:N | 1.76 | 1.00 |
| 34:BA:318:G:O2' | 34:BA:319:G:H5' | 1.59 | 1.00 |
| 34:BA:953:G:O2' | 48:BP:125:ARG:HA | 1.62 | 1.00 |
| 34:BA:1443:G:C5' | 34:BA:1446:A:H5' | 1.90 | 1.00 |
| 40:BH:76:ILE:HD13 | 40:BH:142:LEU:HD13 | 1.03 | 1.00 |
| 47:BO:41:ARG:NH1 | 47:BO:57:LYS:HE3 | 1.77 | 1.00 |
| 52:BT:15:MET:HB2 | 52:BT:18:THR:HB | 1.43 | 1.00 |
| 1:AB:103:U:H2' | 1:AB:104:A:H5' | 1.44 | 0.99 |
| 2:AA:586:A:C6 | 2:AA:1254:A:C2 | 2.50 | 0.99 |
| 2:AA:750:A:H2' | 2:AA:751:A:H5" | 1.41 | 0.99 |
| 2:AA:1903:G:H2' | 2:AA:1904:G:C8 | 1.96 | 0.99 |
| 2:AA:2468:G:O2' | 2:AA:2469:A:H5' | 1.61 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2472:G:H2' | 2:AA:2475:C:H42 | 0.83 | 0.99 |
| 4:AD:213:LYS:C | 4:AD:215:LYS:N | 2.11 | 0.99 |
| 6:AF:34:ALA:HB2 | 6:AF:110:ALA:HB1 | 1.44 | 0.99 |
| 15:AP:42:TYR:HD2 | 21:AV:119:ASN:HA | 1.21 | 0.99 |
| 18:AS:90:ARG:HB2 | 18:AS:90:ARG:CZ | 1.89 | 0.99 |
| 21:AV:46:GLN:HE21 | 21:AV:50:GLY:CA | 1.75 | 0.99 |
| 24:A0:18:LEU:HD11 | 24:A0:22:ARG:CZ | 1.92 | 0.99 |
| 25:A1:13:ARG:H | 25:A1:13:ARG:HH11 | 1.10 | 0.99 |
| 34:BA:1178:G:N2 | 34:BA:1180:A:H3' | 1.77 | 0.99 |
| 39:BG:162:LEU:HD13 | 39:BG:181:MET:HG2 | 1.44 | 0.99 |
| 41:BI:83:ASP:CG | 41:BI:84:ASN:H | 1.60 | 0.99 |
| 42:BJ:38:LEU:HA | 42:BJ:41:ARG:HG3 | 1.42 | 0.99 |
| 2:AA:808:G:H2' | 2:AA:809:G:H8 | 1.26 | 0.99 |
| 2:AA:871:U:H4' | 15:AP:90:PHE:CE2 | 1.95 | 0.99 |
| 4:AD:128:ALA:HB2 | 4:AD:190:THR:CG2 | 1.92 | 0.99 |
| 12:AM:87:LEU:HB2 | 12:AM:98:PHE:CZ | 1.96 | 0.99 |
| 18:AS:42:ARG:HG2 | 18:AS:43:GLY:H | 1.26 | 0.99 |
| 34:BA:1164:G:N2 | 34:BA:1172:C:N3 | 2.09 | 0.99 |
| 34:BA:1538:C:H42 | 36:B1:51:G:H1 | 1.04 | 0.99 |
| 35:BB:34:G:N1 | 36:B1:65:U:H2' | 1.76 | 0.99 |
| 42:BJ:113:GLU:HG2 | 42:BJ:113:GLU:O | 1.59 | 0.99 |
| 49:BQ:23:ARG:NE | 49:BQ:30:ALA:HB2 | 1.75 | 0.99 |
| 50:BR:39:LEU:HD11 | 50:BR:56:LEU:HB2 | 1.41 | 0.99 |
| 52:BT:38:ARG:HG3 | 52:BT:39:SER:H | 1.26 | 0.99 |
| 2:AA:23:G:H2' | 2:AA:24:G:H5' | 1.45 | 0.99 |
| 2:AA:139:G:H3' | 2:AA:141(A):C:H1' | 1.44 | 0.99 |
| 2:AA:600:G:H5' | 6:AF:30:LEU:CD1 | 1.91 | 0.99 |
| 2:AA:996:A:H5" | 25:A1:93:LYS:HG3 | 1.44 | 0.99 |
| 2:AA:1063:G:N2 | 2:AA:1075:C:N3 | 2.10 | 0.99 |
| 2:AA:1353:A:N6 | 2:AA:1378:A:N1 | 2.09 | 0.99 |
| 2:AA:1527:G:H1 | 2:AA:1544:C:N4 | 1.59 | 0.99 |
| 2:AA:1668:A:H61 | 2:AA:1676:A:N6 | 1.60 | 0.99 |
| 2:AA:1991:U:H2' | 2:AA:1992:G:H5" | 1.42 | 0.99 |
| 2:AA:2135:A:H2' | 2:AA:2152:G:N7 | 1.78 | 0.99 |
| 2:AA:2712:U:H2' | 2:AA:712(A):A:H5" | 1.43 | 0.99 |
| 5:AE:211:GLN:CG | 5:AE:212:GLY:H | 1.73 | 0.99 |
| 6:AF:194:PHE:HZ | 6:AF:207:LEU:HD12 | 1.27 | 0.99 |
| 9:AJ:25:LEU:HD23 | 9:AJ:28:LYS:HD2 | 1.42 | 0.99 |
| 13:AN:1:MET:N | 13:AN:32:TYR:HD2 | 1.60 | 0.99 |
| 15:AP:33:MET:O | 15:AP:83:PHE:HB2 | 1.61 | 0.99 |
| 34:BA:372:C:N4 | 34:BA:389:A:H62 | 1.59 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:66:A:H3' | 35:BB:67:A:C8 | 1.97 | 0.99 |
| 37:BE:9:GLU:HB2 | 37:BE:217:ARG:HH12 | 1.23 | 0.99 |
| 43:BK:12:ARG:NH1 | 43:BK:27:PRO:HD3 | 1.77 | 0.99 |
| 43:BK:22:GLU:HA | 43:BK:63:LEU:HD11 | 1.43 | 0.99 |
| 44:BL:26:VAL:HG22 | 44:BL:61:ALA:HB3 | 1.40 | 0.99 |
| 2:AA:135:G:N1 | 2:AA:144:C:N4 | 2.07 | 0.99 |
| 2:AA:247:G:H4' | 2:AA:386:G:N3 | 1.77 | 0.99 |
| 7:AG:20:LYS:HG2 | 7:AG:76:ARG:HG2 | 1.40 | 0.99 |
| 12:AM:23:ALA:O | 12:AM:26:VAL:HB | 1.60 | 0.99 |
| 25:A1:98:ILE:HD11 | 26:A2:13:ARG:HE | 1.26 | 0.99 |
| 27:A3:49:GLN:N | 27:A3:49:GLN:HE21 | 1.61 | 0.99 |
| 34:BA:961:U:H3 | 34:BA:974:A:H61 | 1.09 | 0.99 |
| 39:BG:4:TYR:HE2 | 39:BG:8:VAL:HG22 | 1.27 | 0.99 |
| 39:BG:57:ARG:HH22 | 40:BH:107:ARG:HD3 | 1.24 | 0.99 |
| 42:BJ:138:LYS:HE2 | 42:BJ:142:GLU:OE1 | 1.63 | 0.99 |
| 2:AA:94:G:N2 | 22:AW:42:ASN:HD22 | 1.59 | 0.99 |
| 2:AA:364:C:H2' | 2:AA:365:C:C5 | 1.98 | 0.99 |
| 2:AA:897:C:H4' | 35:BB:56:C:C6 | 1.97 | 0.99 |
| 2:AA:1128:A:H2 | 2:AA:1129:A:C5 | 1.81 | 0.99 |
| 2:AA:1315:C:N3 | 2:AA:1337:G:N2 | 2.10 | 0.99 |
| 2:AA:1691:C:C2' | 2:AA:1692:U:H5' | 1.92 | 0.99 |
| 3:AC:200:LYS:HB2 | 3:AC:208:PHE:CZ | 1.97 | 0.99 |
| 7:AG:56:ARG:HB3 | 7:AG:56:ARG:NH1 | 1.77 | 0.99 |
| 13:AN:43:VAL:CG1 | 13:AN:54:LYS:HA | 1.91 | 0.99 |
| 13:AN:63:VAL:HG21 | 13:AN:85:VAL:HG23 | 1.44 | 0.99 |
| 15:AP:16:ARG:HB2 | 15:AP:19:TYR:HB2 | 1.44 | 0.99 |
| 34:BA:43:C:OP1 | 51:BS:12:LYS:HG2 | 1.63 | 0.99 |
| 34:BA:429:U:H4' | 34:BA:430:A:O5' | 1.61 | 0.99 |
| 34:BA:684:A:N3 | 46:BN:39:PRO:HG3 | 1.76 | 0.99 |
| 39:BG:18:LYS:HA | 39:BG:33:MET:CE | 1.93 | 0.99 |
| 42:BJ:69:VAL:HG11 | 42:BJ:104:LEU:HD21 | 1.02 | 0.99 |
| 52:BT:88:TYR:HA | 52:BT:91:ARG:HH21 | 1.24 | 0.99 |
| 2:AA:137(A):G:N3 | 2:AA:137(A):G:C5' | 2.25 | 0.99 |
| 2:AA:1118:C:H2' | 2:AA:1119:C:O4' | 1.62 | 0.99 |
| 2:AA:1487:G:H2' | 2:AA:1488:G:H8 | 1.27 | 0.99 |
| 2:AA:2431:U:H2' | 2:AA:2433:A:OP2 | 1.62 | 0.99 |
| 10:AK:77:VAL:HB | 10:AK:143:VAL:HA | 1.45 | 0.99 |
| 12:AM:58:GLU:HG3 | 12:AM:139:LEU:HB3 | 1.42 | 0.99 |
| 13:AN:11:ALA:O | 13:AN:99:PHE:HB2 | 1.62 | 0.99 |
| 13:AN:31:ARG:HB2 | 13:AN:32:TYR:CE1 | 1.97 | 0.99 |
| 29:A5:40:LYS:CE | 29:A5:46:CYS:HB2 | 1.93 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:986:A:H1' | 54:BV:55:LYS:HA | 1.44 | 0.99 |
| 46:BN:21:ILE:HD11 | 46:BN:82:VAL:HG11 | 1.42 | 0.99 |
| 50:BR:65:ARG:O | 50:BR:68:ARG:HB3 | 1.63 | 0.99 |
| 50:BR:74:ASP:OD1 | 50:BR:76:GLU:HB3 | 1.62 | 0.99 |
| 1:AB:28:C:OP1 | 16:AQ:42:HIS:NE2 | 1.96 | 0.99 |
| 2:AA:54:G:N2 | 2:AA:116:C:N3 | 2.11 | 0.99 |
| 2:AA:343:C:C2 | 2:AA:344:G:N3 | 2.31 | 0.99 |
| 2:AA:343:C:O2' | 2:AA:344:G:H5' | 1.62 | 0.99 |
| 2:AA:729:G:N3 | 2:AA:729:G:C3' | 2.26 | 0.99 |
| 2:AA:1025:G:H1' | 2:AA:1134:G:H4' | 1.41 | 0.99 |
| 2:AA:1026:U:H5' | 2:AA:1026:U:H6 | 1.28 | 0.99 |
| 2:AA:1058:G:H4' | 9:AI:2:THR:C | 1.83 | 0.99 |
| 2:AA:1083:U:C3' | 9:AI:37:VAL:HA | 1.92 | 0.99 |
| 2:AA:1527:G:H2' | 2:AA:1528:A:C5' | 1.92 | 0.99 |
| 2:AA:1795:C:N4 | 2:AA:1824:G:H1 | 1.59 | 0.99 |
| 2:AA:2505:G:H2' | 2:AA:2576:G:N2 | 1.78 | 0.99 |
| 4:AD:117:SER:HB3 | 4:AD:128:ALA:O | 1.61 | 0.99 |
| 6:AF:55:ARG:HG3 | 6:AF:56:THR:H | 0.87 | 0.99 |
| 9:AI:78:ARG:HH21 | 9:AI:89:LYS:HG3 | 1.28 | 0.99 |
| 14:AO:64:ILE:O | 14:AO:108:VAL:HA | 1.61 | 0.99 |
| 15:AP:94:ARG:HG2 | 15:AP:107:LYS:O | 1.60 | 0.99 |
| 17:AR:10:GLY:HA3 | 17:AR:52:THR:HB | 1.44 | 0.99 |
| 25:A1:13:ARG:HH11 | 25:A1:13:ARG:HB2 | 1.26 | 0.99 |
| 34:BA:386:C:H2' | 34:BA:387:U:C5' | 1.92 | 0.99 |
| 34:BA:626:U:H2' | 34:BA:627:G:H8 | 1.24 | 0.99 |
| 35:BC:70:C:H2' | 35:BC:71:G:H8 | 1.24 | 0.99 |
| 37:BE:69:LEU:HB3 | 37:BE:162:ILE:HG22 | 1.43 | 0.99 |
| 42:BJ:72:ARG:HH12 | 42:BJ:138:LYS:NZ | 1.60 | 0.99 |
| 44:BL:9:ARG:O | 44:BL:104:ARG:HG3 | 1.63 | 0.99 |
| 47:BO:53:ARG:HH12 | 47:BO:93:LEU:HD22 | 0.84 | 0.99 |
| 1:AB:28:C:OP2 | 16:AQ:41:LYS:HG3 | 1.61 | 0.99 |
| 2:AA:343:C:C4 | 2:AA:344:G:C6 | 2.51 | 0.99 |
| 2:AA:2530:A:C2' | 2:AA:2531:A:H5" | 1.93 | 0.99 |
| 18:AS:73:ALA:HB3 | 18:AS:106:ILE:HD12 | 1.41 | 0.99 |
| 25:A1:57:PHE:CA | 25:A1:60:LEU:HD12 | 1.90 | 0.99 |
| 34:BA:408:A:H2' | 34:BA:409:G:H8 | 1.20 | 0.99 |
| 38:BF:116:VAL:O | 38:BF:119:ARG:HB3 | 1.61 | 0.99 |
| 43:BK:27:PRO:HB2 | 43:BK:32:LYS:HE2 | 1.40 | 0.99 |
| 43:BK:91:ARG:HG2 | 52:BT:34:LYS:H | 1.26 | 0.99 |
| 52:BT:62:SER:CB | 52:BT:72:ARG:HE | 1.76 | 0.99 |
| 55:BW:23:ARG:O | 55:BW:26:ASN:ND2 | 1.96 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:125:G:C5' | 31:A7:19:ARG:HH11 | 1.76 | 0.99 |
| 2:AA:293:U:H2' | 2:AA:294:A:C8 | 1.97 | 0.99 |
| 2:AA:326:G:H22 | 2:AA:337:C:C1' | 1.74 | 0.99 |
| 2:AA:530:G:H22 | 2:AA:2021:C:H5" | 1.25 | 0.99 |
| 2:AA:783:A:H2' | 2:AA:784:A:C4' | 1.92 | 0.99 |
| 2:AA:1309:G:P | 31:A7:9:ASN:HD22 | 1.85 | 0.99 |
| 2:AA:1695:G:H2' | 2:AA:1696:G:H5' | 1.01 | 0.99 |
| 2:AA:1809:A:H62 | 28:A4:3:LYS:HG2 | 1.05 | 0.99 |
| 2:AA:1993:U:C4' | 5:AE:228:ARG:HH21 | 1.75 | 0.99 |
| 2:AA:2207:C:H2' | 2:AA:2208:U:C5' | 1.92 | 0.99 |
| 2:AA:2602:A:OP1 | 35:BC:75:C:P | 2.21 | 0.99 |
| 6:AF:109:LEU:HA | 6:AF:112:ARG:HD2 | 1.41 | 0.99 |
| 9:AI:25:LEU:HD23 | 9:AI:28:LYS:HD2 | 1.44 | 0.99 |
| 9:AI:76:VAL:HG21 | 9:AI:121:ALA:HB2 | 1.43 | 0.99 |
| 10:AK:6:LEU:HD13 | 10:AK:6:LEU:O | 1.60 | 0.99 |
| 10:AK:111:ASP:CG | 10:AK:112:LYS:H | 1.62 | 0.99 |
| 18:AS:29:LEU:O | 18:AS:33:ARG:HG3 | 1.61 | 0.99 |
| 19:AT:18:MET:SD | 19:AT:25:GLN:HG2 | 2.02 | 0.99 |
| 25:A1:61:TRP:HZ3 | 25:A1:94:VAL:N | 1.61 | 0.99 |
| 25:A1:79:PHE:O | 25:A1:83:LEU:HB2 | 1.60 | 0.99 |
| 27:A3:19:LYS:HB3 | 27:A3:21:LEU:HG | 1.44 | 0.99 |
| 34:BA:101:A:O2' | 34:BA:102:G:H5' | 1.61 | 0.99 |
| 34:BA:1250:A:H2' | 34:BA:1251:A:C8 | 1.97 | 0.99 |
| 34:BA:1263:C:H42 | 34:BA:1272:G:H1 | 1.08 | 0.99 |
| 45:BM:3:LYS:HD2 | 45:BM:3:LYS:N | 1.74 | 0.99 |
| 2:AA:51:G:H5' | 2:AA:52:A:OP1 | 1.62 | 0.99 |
| 2:AA:752:A:N7 | 2:AA:1781:C:O2 | 1.96 | 0.99 |
| 2:AA:1695:G:C2' | 2:AA:1696:G:H5' | 1.91 | 0.99 |
| 2:AA:2507:C:N3 | 2:AA:2582:G:N2 | 2.11 | 0.99 |
| 5:AE:176:HIS:O | 5:AE:179:ASP:HB2 | 1.62 | 0.99 |
| 12:AM:73:LYS:CB | 12:AM:140:GLY:HA3 | 1.92 | 0.99 |
| 16:AQ:102:LEU:HD12 | 16:AQ:102:LEU:H | 1.27 | 0.99 |
| 34:BA:668:G:H1' | 50:BR:46:HIS:NE2 | 1.78 | 0.99 |
| 34:BA:713:G:H2' | 34:BA:714:G:C8 | 1.97 | 0.99 |
| 2:AA:259:G:H2' | 2:AA:260:G:H8 | 1.25 | 0.98 |
| 2:AA:605:C:H3' | 6:AF:105:LYS:NZ | 1.77 | 0.98 |
| 2:AA:937:U:H2' | 2:AA:938:G:H8 | 1.24 | 0.98 |
| 2:AA:1475:G:H2' | 2:AA:1476:C:H5' | 1.45 | 0.98 |
| 2:AA:1544:C:O2' | 2:AA:1545:A:H4' | 1.63 | 0.98 |
| 2:AA:2296:U:H3' | 2:AA:2296:U:H6 | 1.22 | 0.98 |
| 4:AD:131:LEU:HA | 4:AD:134:ILE:CD1 | 1.92 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:166:LYS:HD2 | 4:AD:171:VAL:CG1 | 1.93 | 0.98 |
| 8:AH:43:THR:HG22 | 8:AH:52:THR:HG22 | 1.45 | 0.98 |
| 10:AK:77:VAL:CG1 | 10:AK:79:ILE:HD11 | 1.92 | 0.98 |
| 15:AP:49:VAL:HG22 | 15:AP:119:ASN:O | 1.62 | 0.98 |
| 17:AR:49:LEU:HD23 | 17:AR:50:GLU:N | 1.77 | 0.98 |
| 34:BA:189:G:N2 | 34:BA:190(J):U:O2 | 1.96 | 0.98 |
| 34:BA:1159:U:H5' | 34:BA:1160:G:OP1 | 1.63 | 0.98 |
| 35:BC:3:G:O6 | 35:BC:70:C:N3 | 1.96 | 0.98 |
| 35:BC:52:U:H3 | 35:BC:62:A:H61 | 1.01 | 0.98 |
| 38:BF:16:ARG:NH2 | 38:BF:184:TYR:H | 1.59 | 0.98 |
| 38:BF:88:ARG:O | 38:BF:91:LEU:HB3 | 1.62 | 0.98 |
| 46:BN:15:ALA:HA | 46:BN:78:GLN:HE21 | 1.26 | 0.98 |
| 2:AA:179:G:H3' | 2:AA:180:G:H8 | 1.24 | 0.98 |
| 2:AA:270(E):G:N1 | 2:AA:270(U):C:N4 | 2.10 | 0.98 |
| 2:AA:1364:G:C5' | 2:AA:1809:A:N7 | 2.26 | 0.98 |
| 2:AA:1612:C:H2' | 31:A7:3:ARG:NE | 1.78 | 0.98 |
| 2:AA:1685:C:O2' | 2:AA:1686:C:H5' | 1.61 | 0.98 |
| 2:AA:2120:G:H1 | 2:AA:2178:C:H42 | 1.11 | 0.98 |
| 2:AA:2553:G:H21 | 2:AA:2583:G:H1' | 0.84 | 0.98 |
| 5:AE:307:LEU:O | 5:AE:309:PRO:HD3 | 1.63 | 0.98 |
| 10:AK:94:THR:HG23 | 10:AK:96:LYS:HB3 | 1.46 | 0.98 |
| 12:AM:137:GLU:CA | 12:AM:141:ALA:HB2 | 1.92 | 0.98 |
| 15:AP:20:ILE:HG13 | 15:AP:21:SER:H | 1.27 | 0.98 |
| 15:AP:64:ALA:O | 15:AP:67:ALA:HB3 | 1.63 | 0.98 |
| 21:AV:96:VAL:HG21 | 21:AV:130:ILE:HD13 | 1.43 | 0.98 |
| 32:A8:5:LYS:O | 32:A8:7:HIS:N | 1.96 | 0.98 |
| 34:BA:60:A:H62 | 34:BA:110:C:N4 | 1.61 | 0.98 |
| 34:BA:297:G:H21 | 34:BA:299:G:H3' | 1.26 | 0.98 |
| 34:BA:375:U:H4' | 51:BS:17:TYR:HE2 | 1.27 | 0.98 |
| 37:BE:113:HIS:HA | 37:BE:116:GLU:OE1 | 1.61 | 0.98 |
| 43:BK:10:LEU:CA | 43:BK:13:ILE:HD12 | 1.93 | 0.98 |
| 2:AA:270(C):C:H2' | 2:AA:270(D):C:H6 | 1.27 | 0.98 |
| 2:AA:270(X):G:H2' | 2:AA:270(Y):G:H5' | 1.01 | 0.98 |
| 2:AA:302:C:N3 | 2:AA:315:G:N2 | 2.10 | 0.98 |
| 2:AA:863:A:H2' | 2:AA:864:G:C8 | 1.97 | 0.98 |
| 2:AA:1612:C:H3' | 31:A7:3:ARG:HH21 | 1.24 | 0.98 |
| 2:AA:1700:A:H2' | 2:AA:1701:A:H5' | 1.45 | 0.98 |
| 2:AA:2320:A:H1' | 2:AA:2333:A:N6 | 1.78 | 0.98 |
| 4:AD:196:ASN:CA | 4:AD:199:ARG:HD2 | 1.91 | 0.98 |
| 11:AL:46:THR:HG22 | 11:AL:54:LEU:HD12 | 1.40 | 0.98 |
| 21:AV:52:PHE:H | 21:AV:65:LEU:CD1 | 1.76 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:781:A:C2' | 34:BA:782:A:H5' | 1.93 | 0.98 |
| 34:BA:817:C:N4 | 34:BA:819:A:N3 | 2.12 | 0.98 |
| 34:BA:1490:C:H6 | 34:BA:1490:C:C5' | 1.75 | 0.98 |
| 35:BB:37:G:N2 | 36:B1:63:C:N4 | 2.11 | 0.98 |
| 38:BF:111:LEU:O | 38:BF:202:ILE:HD12 | 1.60 | 0.98 |
| 42:BJ:118:VAL:HG12 | 42:BJ:122:HIS:NE2 | 1.78 | 0.98 |
| 2:AA:342:G:H2' | 2:AA:343:C:C6 | 1.96 | 0.98 |
| 2:AA:373:U:H4' | 2:AA:374:A:C8 | 1.98 | 0.98 |
| 2:AA:920:G:O2' | 2:AA:921:G:H5' | 1.63 | 0.98 |
| 3:AC:144:THR:HA | 3:AC:152:ILE:HG21 | 1.45 | 0.98 |
| 4:AD:169:LYS:H | 4:AD:169:LYS:NZ | 1.61 | 0.98 |
| 6:AF:55:ARG:CG | 6:AF:56:THR:H | 1.76 | 0.98 |
| 7:AG:21:VAL:HG13 | 7:AG:132:VAL:HG23 | 1.46 | 0.98 |
| 9:AJ:71:ILE:HG12 | 11:AL:61:TYR:HB2 | 0.99 | 0.98 |
| 12:AM:39:VAL:HG11 | 12:AM:108:PRO:HD3 | 1.41 | 0.98 |
| 44:BL:48:GLU:HA | 44:BL:51:ARG:NE | 1.79 | 0.98 |
| 2:AA:154:G:C2 | 2:AA:155:C:H1' | 1.99 | 0.98 |
| 2:AA:221:A:N7 | 2:AA:266:G:N7 | 2.12 | 0.98 |
| 2:AA:251:A:H2' | 2:AA:252:G:O4' | 1.62 | 0.98 |
| 2:AA:343:C:N4 | 2:AA:344:G:O6 | 1.95 | 0.98 |
| 2:AA:528:A:C2 | 2:AA:2043:C:H4' | 1.98 | 0.98 |
| 2:AA:791:C:N4 | 2:AA:794:G:H8 | 1.61 | 0.98 |
| 2:AA:1405:U:H3 | 2:AA:1597:A:N6 | 1.61 | 0.98 |
| 2:AA:1917:U:H6 | 2:AA:1917:U:H3' | 1.25 | 0.98 |
| 2:AA:1993:U:O2' | 2:AA:1994:C:H5' | 1.63 | 0.98 |
| 2:AA:2353:G:H1 | 2:AA:2364:C:N4 | 1.60 | 0.98 |
| 2:AA:2519:U:H5" | 2:AA:2520:C:OP1 | 1.62 | 0.98 |
| 2:AA:2560:C:O2 | 2:AA:2560:C:H2' | 1.58 | 0.98 |
| 2:AA:2699:C:N3 | 2:AA:2708:G:N2 | 2.11 | 0.98 |
| 7:AG:79:MET:HA | 7:AG:82:GLU:OE1 | 1.63 | 0.98 |
| 8:AH:116:PRO:HB2 | 8:AH:120:LEU:HB2 | 1.42 | 0.98 |
| 9:AI:69:ASN:O | 9:AI:73:VAL:HG23 | 1.62 | 0.98 |
| 34:BA:590:C:H5" | 43:BK:30:ARG:CD | 1.93 | 0.98 |
| 34:BA:913:A:O2' | 34:BA:914:A:O4' | 1.79 | 0.98 |
| 34:BA:948:C:OP1 | 48:BP:109:THR:HB | 1.62 | 0.98 |
| 40:BH:78:HIS:NE2 | 40:BH:142:LEU:HD23 | 1.78 | 0.98 |
| 50:BR:36:ILE:HD12 | 50:BR:63:ARG:CD | 1.93 | 0.98 |
| 53:BU:36:ASN:HB3 | 53:BU:40:LEU:HD21 | 1.46 | 0.98 |
| 2:AA:29:U:H4' | 25:A1:11:ARG:NH1 | 1.79 | 0.98 |
| 2:AA:2067:G:N2 | 2:AA:2443:C:N3 | 2.11 | 0.98 |
| 2:AA:2131:G:H3' | 3:AC:6:ARG:HB2 | 1.43 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2386:C:H4' | 27:A3:39:ARG:HE | 0.83 | 0.98 |
| 2:AA:2785:C:C5' | 5:AE:99:VAL:HG22 | 1.93 | 0.98 |
| 10:AK:95:SER:HA | 10:AK:98:ILE:HG13 | 1.41 | 0.98 |
| 12:AM:87:LEU:HD22 | 12:AM:98:PHE:CE1 | 1.98 | 0.98 |
| 19:AT:23:LYS:O | 19:AT:24:LEU:HG | 1.62 | 0.98 |
| 21:AV:18:MET:HA | 21:AV:35:ASP:HA | 1.46 | 0.98 |
| 31:A7:30:ILE:HG23 | 31:A7:33:ARG:HD2 | 1.45 | 0.98 |
| 34:BA:679:C:H2' | 34:BA:680:C:H6 | 1.22 | 0.98 |
| 35:BB:19:G:O2' | 35:BB:20:G:OP1 | 1.81 | 0.98 |
| 37:BE:61:LEU:CA | 37:BE:64:ARG:HD2 | 1.94 | 0.98 |
| 41:BI:91:VAL:CG2 | 53:BU:72:ARG:HH12 | 1.76 | 0.98 |
| 42:BJ:86:GLN:HG3 | 42:BJ:148:ASN:HD22 | 1.28 | 0.98 |
| 42:BJ:146:GLU:CG | 42:BJ:149:ARG:HH21 | 1.75 | 0.98 |
| 50:BR:3:ILE:HG23 | 50:BR:38:ARG:NH2 | 1.78 | 0.98 |
| 50:BR:62:GLN:HA | 50:BR:65:ARG:NH2 | 1.77 | 0.98 |
| 2:AA:487:C:H42 | 2:AA:493:G:H1 | 1.11 | 0.98 |
| 2:AA:1184:G:O2' | 2:AA:1185:C:H5' | 1.61 | 0.98 |
| 2:AA:1669:A:H2' | 2:AA:1670:C:C5' | 1.94 | 0.98 |
| 2:AA:2182:G:H2' | 2:AA:2183:C:C6 | 1.97 | 0.98 |
| 2:AA:2745:C:H1' | 8:AH:142:GLU:HG3 | 1.44 | 0.98 |
| 2:AA:2776:A:H1' | 2:AA:2778:A:C8 | 1.98 | 0.98 |
| 4:AD:154:VAL:HG21 | 4:AD:160:SER:HA | 1.43 | 0.98 |
| 5:AE:211:GLN:H | 5:AE:216:ARG:CZ | 1.75 | 0.98 |
| 27:A3:14:ARG:C | 27:A3:14:ARG:HD2 | 1.84 | 0.98 |
| 34:BA:392:G:H5' | 51:BS:12:LYS:HE2 | 1.43 | 0.98 |
| 34:BA:520:A:N6 | 34:BA:529:G:N3 | 2.11 | 0.98 |
| 34:BA:579:G:C2' | 34:BA:580:U:H5' | 1.94 | 0.98 |
| 34:BA:1004:A:H8 | 34:BA:1036:G:O6 | 1.46 | 0.98 |
| 35:BC:51:G:H1 | 35:BC:63:C:N4 | 1.60 | 0.98 |
| 47:BO:53:ARG:HH12 | 47:BO:93:LEU:CD2 | 1.77 | 0.98 |
| 48:BP:60:VAL:HA | 48:BP:63:THR:HG22 | 1.46 | 0.98 |
| 48:BP:108:ARG:HH11 | 48:BP:108:ARG:HA | 1.25 | 0.98 |
| 2:AA:616:A:H4' | 2:AA:617:G:OP1 | 1.61 | 0.98 |
| 2:AA:1084:A:OP1 | 9:AI:39:VAL:HB | 1.63 | 0.98 |
| 2:AA:1796:U:H2' | 2:AA:1797:C:C5 | 1.98 | 0.98 |
| 2:AA:1809:A:H3' | 2:AA:1810:A:N3 | 1.79 | 0.98 |
| 2:AA:1932:A:H2' | 2:AA:1932:A:N3 | 1.77 | 0.98 |
| 2:AA:2376:A:C2 | 16:AQ:102:LEU:HD22 | 1.99 | 0.98 |
| 2:AA:2476:A:N7 | 2:AA:2477:C:C5 | 2.31 | 0.98 |
| 4:AD:162:GLN:HB2 | 4:AD:164:LEU:HD12 | 1.46 | 0.98 |
| 24:A0:97:VAL:HG13 | 24:A0:114:VAL:CG2 | 1.92 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:111:ASP:HA | 25:A1:114:ARG:HD2 | 1.44 | 0.98 |
| 32:A8:31:HIS:O | 32:A8:32:GLN:HG3 | 1.64 | 0.98 |
| 34:BA:922:G:H1 | 34:BA:1395:C:H42 | 1.03 | 0.98 |
| 34:BA:1315:U:O2' | 34:BA:1360:A:N3 | 1.96 | 0.98 |
| 43:BK:103:VAL:HB | 43:BK:108:GLY:HA3 | 1.46 | 0.98 |
| 45:BM:34:VAL:HG12 | 45:BM:36:GLY:H | 1.23 | 0.98 |
| 2:AA:108:U:H2' | 2:AA:109:G:C8 | 1.99 | 0.98 |
| 2:AA:628:G:N2 | 2:AA:635:C:N3 | 2.11 | 0.98 |
| 2:AA:1252:G:H3' | 2:AA:1253:A:O4' | 1.64 | 0.98 |
| 2:AA:2312:U:H5" | 7:AG:52:THR:O | 1.63 | 0.98 |
| 2:AA:2754:U:H2' | 2:AA:2756:U:OP1 | 1.64 | 0.98 |
| 4:AD:173:VAL:HG23 | 4:AD:181:ARG:O | 1.63 | 0.98 |
| 12:AM:52:GLN:O | 12:AM:55:GLU:HB2 | 1.63 | 0.98 |
| 13:AN:112:MET:HA | 13:AN:115:ILE:HD12 | 1.45 | 0.98 |
| 15:AP:127:ASN:CB | 15:AP:128:PRO:HD3 | 1.93 | 0.98 |
| 22:AW:13:PRO:HA | 22:AW:16:ARG:HD2 | 1.43 | 0.98 |
| 24:A0:72:ASP:OD1 | 24:A0:74:LYS:HD3 | 1.64 | 0.98 |
| 25:A1:66:ASN:HA | 25:A1:76:TYR:OH | 1.63 | 0.98 |
| 34:BA:479:C:O5' | 34:BA:479:C:H6 | 1.47 | 0.98 |
| 34:BA:628:G:H2' | 34:BA:629:G:C8 | 1.99 | 0.98 |
| 34:BA:1069:C:H42 | 34:BA:1106:G:H1 | 1.07 | 0.98 |
| 36:B1:11:U:H3 | 36:B1:45:A:H61 | 1.09 | 0.98 |
| 37:BE:69:LEU:HD12 | 37:BE:162:ILE:HB | 1.46 | 0.98 |
| 37:BE:102:LEU:HB2 | 37:BE:176:GLU:HB3 | 1.44 | 0.98 |
| 2:AA:304:G:H1 | 2:AA:313:C:H42 | 1.04 | 0.98 |
| 2:AA:2331:G:O2' | 27:A3:70:ILE:HG21 | 1.63 | 0.98 |
| 5:AE:222:ARG:HH21 | 5:AE:234:ARG:N | 1.59 | 0.98 |
| 10:AK:69:LYS:HG2 | 10:AK:70:GLU:N | 1.78 | 0.98 |
| 10:AK:75:LEU:CD1 | 10:AK:76:THR:H | 1.76 | 0.98 |
| 12:AM:12:VAL:O | 12:AM:38:VAL:HA | 1.63 | 0.98 |
| 15:AP:67:ALA:HA | 15:AP:70:ARG:HD2 | 0.98 | 0.98 |
| 15:AP:71:PHE:HB3 | 15:AP:138:ARG:NH1 | 1.78 | 0.98 |
| 27:A3:44:LYS:HD3 | 27:A3:78:PHE:CE2 | 1.98 | 0.98 |
| 34:BA:68:G:H5' | 34:BA:171:A:H1' | 1.43 | 0.98 |
| 34:BA:520:A:H62 | 34:BA:529:G:H21 | 1.05 | 0.98 |
| 35:BB:59:U:OP1 | 35:BB:59:U:C5 | 2.17 | 0.98 |
| 37:BE:53:ARG:HE | 37:BE:199:TYR:HE2 | 0.98 | 0.98 |
| 37:BE:91:PRO:HG3 | 37:BE:155:LEU:H | 1.28 | 0.98 |
| 41:BI:91:VAL:HG21 | 53:BU:72:ARG:HH12 | 1.28 | 0.98 |
| 46:BN:32:ILE:HG22 | 46:BN:40:ILE:HD12 | 1.01 | 0.98 |
| 47:BO:36:VAL:O | 47:BO:58:VAL:HG13 | 1.64 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:791:C:N4 | 2:AA:794:G:C8 | 2.32 | 0.97 |
| 2:AA:904:C:C1' | 21:AV:166:LEU:HD11 | 1.94 | 0.97 |
| 2:AA:977:G:C8 | 2:AA:987:G:N2 | 2.31 | 0.97 |
| 2:AA:1252:G:N2 | 25:A1:37:GLN:HE21 | 1.61 | 0.97 |
| 2:AA:2656:U:C4 | 2:AA:2665:A:N6 | 2.31 | 0.97 |
| 4:AD:66:PHE:C | 4:AD:67:LYS:HD2 | 1.85 | 0.97 |
| 10:AK:125:GLY:HA2 | 10:AK:145:VAL:N | 1.77 | 0.97 |
| 15:AP:139:ALA:O | 15:AP:142:LYS:HB3 | 1.62 | 0.97 |
| 17:AR:45:GLU:HG3 | 17:AR:48:ASN:OD1 | 1.64 | 0.97 |
| 25:A1:47:TYR:HE1 | 26:A2:76:SER:HA | 1.27 | 0.97 |
| 34:BA:8:A:H1' | 40:BH:102:ALA:O | 1.64 | 0.97 |
| 34:BA:95:U:H2' | 34:BA:96:G:H8 | 1.26 | 0.97 |
| 34:BA:1448:C:N4 | 34:BA:1455:G:H1 | 1.62 | 0.97 |
| 53:BU:75:ILE:CG2 | 53:BU:76:LEU:HD22 | 1.94 | 0.97 |
| 2:AA:225:A:N6 | 2:AA:419:C:H4' | 1.80 | 0.97 |
| 2:AA:282:A:C2 | 2:AA:283:A:H5' | 1.99 | 0.97 |
| 2:AA:1166:C:N4 | 2:AA:1183:G:N1 | 2.12 | 0.97 |
| 2:AA:1568:G:H5" | 4:AD:60:GLN:HE21 | 0.81 | 0.97 |
| 2:AA:1701:A:O2' | 2:AA:1702:G:H5' | 1.64 | 0.97 |
| 2:AA:1933:G:O6 | 2:AA:1968:G:N2 | 1.95 | 0.97 |
| 6:AF:5:ILE:HD11 | 6:AF:16:VAL:CG2 | 1.94 | 0.97 |
| 12:AM:45:VAL:HA | 12:AM:131:THR:C | 1.84 | 0.97 |
| 37:BE:163:PHE:CZ | 37:BE:186:ALA:HA | 1.99 | 0.97 |
| 43:BK:97:VAL:HG22 | 43:BK:98:LYS:HD3 | 1.46 | 0.97 |
| 43:BK:112:LEU:HD23 | 43:BK:113:SER:H | 1.29 | 0.97 |
| 45:BM:94:VAL:HG12 | 45:BM:95:GLU:H | 1.28 | 0.97 |
| 55:BW:8:ARG:HB2 | 55:BW:8:ARG:HH11 | 1.23 | 0.97 |
| 2:AA:246:C:H42 | 2:AA:252:G:H1 | 1.09 | 0.97 |
| 2:AA:1281:G:H2' | 2:AA:1282:U:H6 | 1.28 | 0.97 |
| 2:AA:1857:G:N1 | 2:AA:1884:A:N6 | 2.13 | 0.97 |
| 2:AA:1917:U:H3' | 2:AA:1918:A:C8 | 1.99 | 0.97 |
| 12:AM:84:ARG:HD3 | 12:AM:98:PHE:HD2 | 1.29 | 0.97 |
| 15:AP:64:ALA:HB2 | 15:AP:142:LYS:HE2 | 1.43 | 0.97 |
| 25:A1:13:ARG:HH11 | 25:A1:13:ARG:N | 1.61 | 0.97 |
| 35:BB:53:G:H2' | 35:BB:54:U:C6 | 1.99 | 0.97 |
| 52:BT:45:HIS:O | 52:BT:73:VAL:HG23 | 1.62 | 0.97 |
| 2:AA:29:U:H4' | 25:A1:11:ARG:HH12 | 1.28 | 0.97 |
| 2:AA:299:A:H2' | 2:AA:300:A:C8 | 1.98 | 0.97 |
| 2:AA:857:C:N4 | 2:AA:920:G:H1 | 1.61 | 0.97 |
| 2:AA:1065:U:C3' | 2:AA:1066:U:H5" | 1.93 | 0.97 |
| 2:AA:1255:U:OP1 | 2:AA:1256:G:H5" | 1.63 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2041:U:O2' | 2:AA:2042:A:H5' | 1.63 | 0.97 |
| 2:AA:2095:C:N3 | 2:AA:2194:G:O6 | 1.96 | 0.97 |
| 2:AA:2132:U:H2' | 2:AA:2133:G:H5" | 1.46 | 0.97 |
| 2:AA:2341:G:H2' | 2:AA:2342:C:C6 | 1.99 | 0.97 |
| 2:AA:2355:C:O3' | 27:A3:21:LEU:HD13 | 1.63 | 0.97 |
| 2:AA:2702:U:OP1 | 2:AA:2702:U:C6 | 2.16 | 0.97 |
| 9:AJ:86:LYS:HE3 | 11:AL:10:LYS:HG3 | 1.45 | 0.97 |
| 10:AK:79:ILE:HB | 10:AK:145:VAL:HG22 | 1.44 | 0.97 |
| 15:AP:142:LYS:O | 15:AP:143:VAL:O | 1.82 | 0.97 |
| 52:BT:28:PRO:HB2 | 52:BT:33:GLY:O | 1.64 | 0.97 |
| 2:AA:937:U:H2' | 2:AA:938:G:C8 | 1.98 | 0.97 |
| 2:AA:1559:G:H2' | 2:AA:1559:G:N3 | 1.75 | 0.97 |
| 2:AA:2882:A:OP1 | 24:A0:96:ARG:HD3 | 1.65 | 0.97 |
| 7:AG:22:VAL:HB | 7:AG:24:HIS:NE2 | 1.79 | 0.97 |
| 10:AK:95:SER:OG | 10:AK:98:ILE:HD12 | 1.64 | 0.97 |
| 14:AO:124:ASP:HB3 | 14:AO:130:ARG:HH21 | 1.26 | 0.97 |
| 29:A5:11:THR:HB | 29:A5:16:ARG:HE | 0.81 | 0.97 |
| 34:BA:371:G:O2' | 34:BA:372:C:H5' | 1.64 | 0.97 |
| 34:BA:763:G:H2' | 34:BA:764:C:H6 | 1.29 | 0.97 |
| 39:BG:179:GLU:C | 39:BG:181:MET:H | 1.67 | 0.97 |
| 2:AA:429:A:H2' | 2:AA:430:G:C8 | 1.99 | 0.97 |
| 2:AA:1403:C:H4' | 2:AA:1471:A:H5' | 1.45 | 0.97 |
| 2:AA:2276:G:OP2 | 15:AP:104:PRO:HD2 | 1.64 | 0.97 |
| 2:AA:2418:A:H2' | 2:AA:2419:U:O4' | 1.65 | 0.97 |
| 2:AA:2754:U:H2' | 2:AA:2756:U:P | 2.04 | 0.97 |
| 6:AF:103:ASN:HB2 | 6:AF:106:GLU:OE2 | 1.65 | 0.97 |
| 12:AM:12:VAL:HB | 12:AM:38:VAL:HG22 | 1.02 | 0.97 |
| 13:AN:98:ILE:HD11 | 13:AN:114:ILE:HG23 | 1.43 | 0.97 |
| 13:AN:98:ILE:HG23 | 13:AN:99:PHE:H | 1.30 | 0.97 |
| 15:AP:20:ILE:HD12 | 15:AP:21:SER:OG | 1.64 | 0.97 |
| 16:AQ:83:LEU:O | 16:AQ:87:LEU:HD23 | 1.64 | 0.97 |
| 19:AT:50:GLU:OE2 | 19:AT:69:SER:HB2 | 1.63 | 0.97 |
| 25:A1:62:ILE:O | 25:A1:65:ILE:HB | 1.62 | 0.97 |
| 34:BA:76:C:H42 | 34:BA:93:G:H1 | 1.05 | 0.97 |
| 34:BA:192:U:C1' | 55:BW:103:GLY:HA2 | 1.94 | 0.97 |
| 34:BA:1087:G:H2' | 34:BA:1088:G:H8 | 1.27 | 0.97 |
| 52:BT:5:VAL:C | 52:BT:6:LEU:HD12 | 1.85 | 0.97 |
| 2:AA:792:G:H21 | 2:AA:2072:G:C1' | 1.78 | 0.97 |
| 2:AA:1417:C:H42 | 2:AA:1581:G:N2 | 1.61 | 0.97 |
| 2:AA:2103:C:N3 | 2:AA:2186:G:N2 | 2.11 | 0.97 |
| 2:AA:2316:C:C5' | 7:AG:142:ALA:HB1 | 1.94 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2541:A:H2 | 2:AA:2765:A:H61 | 1.03 | 0.97 |
| 2:AA:2688:U:O4 | 2:AA:2719:G:H3' | 1.64 | 0.97 |
| 5:AE:263:GLU:H | 5:AE:266:LYS:HZ1 | 1.03 | 0.97 |
| 6:AF:45:ASP:OD1 | 6:AF:98:ARG:HG3 | 1.62 | 0.97 |
| 8:AH:10:ILE:HG12 | 8:AH:14:VAL:HG11 | 1.43 | 0.97 |
| 10:AK:5:PHE:HB3 | 10:AK:17:GLU:O | 1.65 | 0.97 |
| 12:AM:59:LYS:O | 12:AM:63:ILE:HG13 | 1.63 | 0.97 |
| 15:AP:16:ARG:HB3 | 15:AP:16:ARG:HH11 | 0.82 | 0.97 |
| 24:A0:100:LEU:HB2 | 24:A0:111:LEU:O | 1.64 | 0.97 |
| 32:A8:21:LYS:HB3 | 32:A8:48:PHE:CZ | 1.98 | 0.97 |
| 34:BA:130:A:C8 | 52:BT:63:ARG:HG3 | 2.00 | 0.97 |
| 34:BA:453:A:N6 | 34:BA:480:U:H3 | 1.62 | 0.97 |
| 35:BC:30:G:N2 | 35:BC:40:C:N3 | 2.13 | 0.97 |
| 45:BM:45:ARG:HB3 | 45:BM:45:ARG:HH11 | 1.28 | 0.97 |
| 52:BT:74:LEU:HD13 | 52:BT:75:ARG:HB3 | 1.47 | 0.97 |
| 2:AA:28:A:H2' | 2:AA:29:U:H5' | 1.45 | 0.97 |
| 2:AA:404:C:C4' | 2:AA:405:U:H5' | 1.94 | 0.97 |
| 2:AA:802:A:H2' | 2:AA:803:U:C6 | 2.00 | 0.97 |
| 2:AA:1085:A:O2' | 2:AA:1086:A:O4' | 1.82 | 0.97 |
| 2:AA:1105:U:H4' | 9:AI:30:GLY:N | 1.80 | 0.97 |
| 2:AA:1113:U:H2' | 2:AA:1114:G:C8 | 2.00 | 0.97 |
| 2:AA:1342:A:H4' | 2:AA:1343:G:OP1 | 1.63 | 0.97 |
| 2:AA:1613:G:C3' | 2:AA:1614:A:H5' | 1.94 | 0.97 |
| 2:AA:2304:G:H1 | 2:AA:2312:U:H3 | 1.10 | 0.97 |
| 3:AC:75:LEU:HD11 | 3:AC:99:ILE:HD13 | 1.47 | 0.97 |
| 5:AE:222:ARG:HG3 | 5:AE:222:ARG:NH1 | 1.73 | 0.97 |
| 7:AG:28:GLY:HA2 | 7:AG:69:ILE:HG21 | 1.42 | 0.97 |
| 8:AH:37:HIS:HE2 | 8:AH:67:THR:HG1 | 1.11 | 0.97 |
| 19:AT:24:LEU:HB2 | 19:AT:26:PHE:CZ | 1.99 | 0.97 |
| 21:AV:10:PRO:HG2 | 21:AV:11:LYS:H | 1.30 | 0.97 |
| 34:BA:609:A:C2 | 34:BA:610:G:H1' | 2.00 | 0.97 |
| 34:BA:1314:C:H41 | 54:BV:4:SER:HB2 | 1.27 | 0.97 |
| 37:BE:69:LEU:HB2 | 37:BE:159:PRO:HB2 | 1.47 | 0.97 |
| 38:BF:83:ARG:NE | 38:BF:87:LEU:HD21 | 1.80 | 0.97 |
| 39:BG:107:ARG:HA | 39:BG:107:ARG:NH1 | 1.78 | 0.97 |
| 55:BW:84:LEU:O | 55:BW:88:VAL:HG23 | 1.62 | 0.97 |
| 2:AA:475:U:H4' | 2:AA:510:C:H5' | 1.46 | 0.97 |
| 2:AA:1041:C:H42 | 2:AA:1114:G:H1 | 1.06 | 0.97 |
| 2:AA:1304:C:H42 | 2:AA:1624:G:H1 | 1.05 | 0.97 |
| 2:AA:1666:G:H2' | 2:AA:1667:G:H5' | 1.45 | 0.97 |
| 2:AA:1668:A:N6 | 2:AA:1676:A:H61 | 1.61 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1754:C:H2' | 2:AA:1755:A:C1' | 1.94 | 0.97 |
| 2:AA:1923:U:O2' | 35:BC:12:U:H1' | 1.65 | 0.97 |
| 2:AA:2022:U:N3 | 29:A5:9:LYS:NZ | 2.07 | 0.97 |
| 2:AA:2712:U:C2' | 2:AA:712(A):A:H5" | 1.93 | 0.97 |
| 2:AA:2747:G:H2' | 2:AA:2748:A:H5" | 1.44 | 0.97 |
| 6:AF:4:THR:O | 6:AF:139:VAL:HB | 1.62 | 0.97 |
| 13:AN:107:ARG:HA | 13:AN:115:ILE:HD11 | 1.43 | 0.97 |
| 13:AN:111:PHE:O | 13:AN:115:ILE:HG13 | 1.63 | 0.97 |
| 20:AU:31:LEU:O | 20:AU:34:GLU:HB2 | 1.62 | 0.97 |
| 21:AV:94:VAL:HG11 | 21:AV:130:ILE:HG21 | 1.47 | 0.97 |
| 25:A1:13:ARG:HH11 | 25:A1:13:ARG:CB | 1.77 | 0.97 |
| 25:A1:31:GLN:O | 25:A1:33:ARG:N | 1.97 | 0.97 |
| 33:A9:10:MET:HB2 | 33:A9:32:HIS:HD2 | 1.28 | 0.97 |
| 34:BA:559:A:H4' | 34:BA:560:U:C5' | 1.94 | 0.97 |
| 34:BA:571:U:C3' | 34:BA:572:A:H5" | 1.94 | 0.97 |
| 34:BA:1308:U:O5' | 48:BP:99:ARG:NH1 | 1.98 | 0.97 |
| 35:BB:12:U:O2 | 35:BB:24:G:N2 | 1.96 | 0.97 |
| 37:BE:82:ARG:HA | 37:BE:92:TYR:CE1 | 1.99 | 0.97 |
| 39:BG:60:GLU:O | 39:BG:63:LYS:HG2 | 1.65 | 0.97 |
| 46:BN:84:VAL:HG21 | 53:BU:88:LYS:NZ | 1.80 | 0.97 |
| 2:AA:602:G:H21 | 2:AA:655:A:H2' | 1.30 | 0.97 |
| 2:AA:768:G:H2' | 2:AA:769:G:H8 | 1.26 | 0.97 |
| 2:AA:1024:G:H3' | 2:AA:1025:G:H5" | 1.42 | 0.97 |
| 2:AA:2056:G:N2 | 2:AA:2057:A:C1' | 2.27 | 0.97 |
| 2:AA:2521:C:N3 | 2:AA:2544:G:N2 | 2.12 | 0.97 |
| 4:AD:142:ASN:N | 4:AD:143:ILE:HD12 | 1.80 | 0.97 |
| 4:AD:172:ILE:HA | 4:AD:182:MET:HG2 | 1.43 | 0.97 |
| 9:AI:74:ILE:HD13 | 9:AI:89:LYS:HG2 | 1.43 | 0.97 |
| 18:AS:77:ASP:O | 18:AS:102:HIS:HB2 | 1.63 | 0.97 |
| 34:BA:692:U:H5 | 46:BN:26:ASN:HD21 | 1.05 | 0.97 |
| 34:BA:877:C:O2' | 43:BK:3:THR:HB | 1.64 | 0.97 |
| 34:BA:974:A:H1' | 49:BQ:31:ARG:NH2 | 1.78 | 0.97 |
| 34:BA:1348:U:OP1 | 44:BL:109:VAL:HA | 1.65 | 0.97 |
| 38:BF:139:GLN:HE21 | 38:BF:139:GLN:HA | 1.29 | 0.97 |
| 40:BH:81:GLU:HA | 40:BH:89:ILE:O | 1.65 | 0.97 |
| 47:BO:90:VAL:HG21 | 47:BO:96:VAL:HG11 | 1.42 | 0.97 |
| 2:AA:327:G:C2 | 2:AA:328:U:H6 | 1.82 | 0.96 |
| 2:AA:913:U:O2' | 2:AA:914:C:H5 | 1.46 | 0.96 |
| 2:AA:1062:G:N2 | 11:AL:92:PRO:HG3 | 1.80 | 0.96 |
| 2:AA:1829:A:C2 | 2:AA:1830:C:H1' | 2.00 | 0.96 |
| 2:AA:2286:A:OP2 | 30:A6:28:ARG:HD2 | 1.62 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2557:G:H2' | 2:AA:2558:C:C6 | 1.99 | 0.96 |
| 5:AE:66:GLU:O | 5:AE:67:THR:HG23 | 1.64 | 0.96 |
| 6:AF:80:VAL:HG13 | 6:AF:81:PRO:HD2 | 1.45 | 0.96 |
| 12:AM:73:LYS:HB3 | 12:AM:140:GLY:HA3 | 0.98 | 0.96 |
| 13:AN:102:VAL:HG11 | 13:AN:106:LEU:HD11 | 1.43 | 0.96 |
| 17:AR:5:GLU:O | 17:AR:7:ASP:N | 1.98 | 0.96 |
| 40:BH:94:ALA:HB1 | 40:BH:98:THR:HG21 | 1.47 | 0.96 |
| 2:AA:1061:U:C4' | 2:AA:1070:A:H1' | 1.95 | 0.96 |
| 2:AA:1323:U:H2' | 2:AA:1324:G:H5' | 1.46 | 0.96 |
| 2:AA:1363:C:H2' | 2:AA:1363:C:O2 | 1.64 | 0.96 |
| 12:AM:39:VAL:HG12 | 12:AM:104:TYR:O | 1.64 | 0.96 |
| 12:AM:58:GLU:CA | 12:AM:61:VAL:HB | 1.94 | 0.96 |
| 13:AN:1:MET:N | 13:AN:32:TYR:HB3 | 1.77 | 0.96 |
| 13:AN:103:ALA:O | 13:AN:105:GLU:N | 1.98 | 0.96 |
| 18:AS:5:ALA:HB3 | 18:AS:105:VAL:HG23 | 1.45 | 0.96 |
| 31:A7:35:ARG:HH11 | 31:A7:35:ARG:CB | 1.77 | 0.96 |
| 34:BA:190:C:H2' | 34:BA:190(A):C:H6 | 1.26 | 0.96 |
| 34:BA:1347:G:C8 | 44:BL:107:ARG:HB3 | 2.01 | 0.96 |
| 34:BA:1521:G:H2' | 34:BA:1522:U:C6 | 2.00 | 0.96 |
| 35:BB:34:G:N2 | 36:B1:66:G:N7 | 2.13 | 0.96 |
| 37:BE:47:THR:HG23 | 37:BE:202:PRO:HG2 | 1.47 | 0.96 |
| 37:BE:97:TRP:HH2 | 37:BE:176:GLU:HG3 | 1.30 | 0.96 |
| 37:BE:118:LEU:HD13 | 37:BE:142:LEU:HA | 1.47 | 0.96 |
| 38:BF:60:ALA:HB2 | 45:BM:92:THR:O | 1.66 | 0.96 |
| 53:BU:36:ASN:O | 53:BU:40:LEU:HG | 1.63 | 0.96 |
| 2:AA:139:G:H2' | 2:AA:141(A):C:C2' | 1.95 | 0.96 |
| 2:AA:216:A:H2' | 2:AA:217:G:C8 | 1.99 | 0.96 |
| 2:AA:1083:U:C4' | 9:AI:40:ALA:HB3 | 1.95 | 0.96 |
| 10:AK:124:LEU:HD21 | 10:AK:146:THR:HA | 1.47 | 0.96 |
| 34:BA:1028:C:H2' | 34:BA:1029:C:C6 | 1.98 | 0.96 |
| 34:BA:1269:A:H5' | 34:BA:1326:C:H4' | 1.48 | 0.96 |
| 42:BJ:104:LEU:HA | 42:BJ:134:ALA:HB2 | 1.46 | 0.96 |
| 2:AA:324:A:H62 | 2:AA:339:U:C1' | 1.78 | 0.96 |
| 2:AA:913:U:HO2' | 2:AA:914:C:H5 | 1.06 | 0.96 |
| 2:AA:1002:G:N1 | 2:AA:1153:C:N4 | 2.12 | 0.96 |
| 2:AA:1471:A:H2' | 2:AA:1472:A:O4' | 1.64 | 0.96 |
| 2:AA:1918:A:H2' | 2:AA:1919:A:N7 | 1.81 | 0.96 |
| 2:AA:2253:G:H2' | 2:AA:2254:C:C6 | 2.00 | 0.96 |
| 10:AK:83:ALA:HB2 | 10:AK:89:LEU:CA | 1.95 | 0.96 |
| 12:AM:78:ILE:O | 12:AM:82:THR:HG23 | 1.64 | 0.96 |
| 15:AP:130:PRO:HB2 | 15:AP:134:PHE:CZ | 2.01 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:64:ALA:HB3 | 21:AV:84:TYR:O | 1.64 | 0.96 |
| 21:AV:100:THR:HA | 21:AV:137:ASP:OD2 | 1.65 | 0.96 |
| 23:AX:11:SER:OG | 23:AX:12:PRO:HD2 | 1.65 | 0.96 |
| 25:A1:13:ARG:NH1 | 25:A1:13:ARG:HB2 | 1.79 | 0.96 |
| 28:A4:56:VAL:HG12 | 28:A4:57:ASP:N | 1.75 | 0.96 |
| 34:BA:942:G:H21 | 44:BL:124:GLN:HE22 | 1.00 | 0.96 |
| 43:BK:126:LYS:HZ3 | 43:BK:127:LEU:CD2 | 1.79 | 0.96 |
| 49:BQ:17:LYS:HG3 | 49:BQ:18:VAL:H | 1.27 | 0.96 |
| 51:BS:74:LEU:CD2 | 51:BS:79:VAL:HG21 | 1.95 | 0.96 |
| 2:AA:1061:U:OP2 | 2:AA:1061:U:H3' | 1.65 | 0.96 |
| 2:AA:1087:G:H21 | 2:AA:1103:A:H2' | 1.31 | 0.96 |
| 2:AA:2491:U:H5' | 2:AA:2570:G:H5' | 1.44 | 0.96 |
| 22:AW:53:ILE:HG22 | 22:AW:57:LYS:CE | 1.94 | 0.96 |
| 30:A6:26:LYS:HE2 | 32:A8:35:GLY:HA3 | 1.44 | 0.96 |
| 34:BA:118:U:H3' | 34:BA:288:A:H61 | 1.29 | 0.96 |
| 34:BA:889:A:H4' | 34:BA:890:G:H4' | 1.47 | 0.96 |
| 39:BG:98:GLU:CD | 39:BG:103:ASN:HD21 | 1.69 | 0.96 |
| 40:BH:105:VAL:HG11 | 40:BH:131:ILE:HG22 | 1.43 | 0.96 |
| 49:BQ:43:CYS:HA | 49:BQ:46:GLU:OE1 | 1.63 | 0.96 |
| 2:AA:997:G:H5" | 25:A1:92:ARG:CD | 1.96 | 0.96 |
| 2:AA:1603:A:OP2 | 2:AA:1603:A:H3' | 1.63 | 0.96 |
| 2:AA:1775:U:O2' | 2:AA:1776:G:H5' | 1.65 | 0.96 |
| 2:AA:2306:C:O2 | 7:AG:27:ILE:HG12 | 1.65 | 0.96 |
| 2:AA:2709:G:O2' | 2:AA:2710:C:H5' | 1.66 | 0.96 |
| 11:AL:8:GLN:N | 11:AL:59:THR:HA | 1.78 | 0.96 |
| 13:AN:93:PRO:HD2 | 13:AN:113:LYS:HD2 | 1.47 | 0.96 |
| 14:AO:117:GLU:O | 14:AO:118:LEU:HD23 | 1.64 | 0.96 |
| 16:AQ:102:LEU:HD21 | 16:AQ:129:ILE:HG23 | 1.45 | 0.96 |
| 34:BA:513:C:H2' | 34:BA:514:C:C6 | 2.00 | 0.96 |
| 34:BA:761:G:H4' | 52:BT:103:GLY:N | 1.78 | 0.96 |
| 34:BA:809:G:O2' | 34:BA:810:C:H5' | 1.65 | 0.96 |
| 34:BA:1538:C:N3 | 36:B1:51:G:N2 | 2.12 | 0.96 |
| 46:BN:110:ASP:HA | 53:BU:88:LYS:HZ3 | 1.30 | 0.96 |
| 55:BW:64:ASP:O | 55:BW:67:ALA:HB3 | 1.66 | 0.96 |
| 2:AA:138:G:O6 | 2:AA:142:G:O2' | 1.82 | 0.96 |
| 2:AA:514:A:H2' | 2:AA:515:A:C8 | 2.00 | 0.96 |
| 2:AA:654:A:H2' | 2:AA:654:A:N3 | 1.78 | 0.96 |
| 2:AA:945:A:N6 | 2:AA:2448:A:C2 | 2.33 | 0.96 |
| 2:AA:1991:U:H3' | 2:AA:1991:U:C6 | 2.00 | 0.96 |
| 2:AA:2021:C:O2 | 2:AA:2021:C:H2' | 1.61 | 0.96 |
| 2:AA:2403:C:N3 | 2:AA:2414:G:N2 | 2.12 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:199:ALA:HA | 5:AE:312:ARG:O | 1.62 | 0.96 |
| 7:AG:45:THR:HG22 | 7:AG:83:PHE:CE2 | 1.99 | 0.96 |
| 8:AH:98:GLN:HB2 | 8:AH:103:VAL:HG23 | 1.48 | 0.96 |
| 9:AJ:78:ARG:HH21 | 9:AJ:89:LYS:HG3 | 1.29 | 0.96 |
| 10:AK:39:ALA:HB1 | 10:AK:44:LEU:HD21 | 1.48 | 0.96 |
| 11:AL:55:PRO:HG3 | 11:AL:73:PRO:HA | 1.44 | 0.96 |
| 14:AO:64:ILE:HD12 | 14:AO:106:VAL:HG12 | 1.47 | 0.96 |
| 18:AS:36:LEU:HD12 | 18:AS:51:LEU:HD22 | 1.45 | 0.96 |
| 28:A4:7:PRO:HD2 | 28:A4:56:VAL:CG2 | 1.96 | 0.96 |
| 50:BR:34:LEU:HG | 50:BR:38:ARG:HD3 | 1.47 | 0.96 |
| 2:AA:2058:A:C2 | 2:AA:2059:A:N7 | 2.34 | 0.96 |
| 2:AA:2284:C:P | 30:A6:9:ILE:HG13 | 2.05 | 0.96 |
| 2:AA:2313:C:C5' | 7:AG:72:LYS:HG3 | 1.96 | 0.96 |
| 2:AA:2360:A:N7 | 2:AA:2361:A:C8 | 2.32 | 0.96 |
| 4:AD:131:LEU:CA | 4:AD:134:ILE:HD12 | 1.95 | 0.96 |
| 5:AE:214:VAL:HG13 | 5:AE:221:LYS:HD2 | 1.48 | 0.96 |
| 6:AF:32:GLY:HA3 | 6:AF:36:ARG:NH2 | 1.80 | 0.96 |
| 15:AP:15:THR:HB | 15:AP:20:ILE:CB | 1.95 | 0.96 |
| 15:AP:44:ALA:HB3 | 15:AP:126:VAL:O | 1.66 | 0.96 |
| 34:BA:121:C:N4 | 34:BA:236:G:N7 | 2.11 | 0.96 |
| 34:BA:825:G:H1 | 34:BA:875:C:H42 | 1.09 | 0.96 |
| 35:BB:28:C:O2 | 35:BB:29:A:C8 | 2.16 | 0.96 |
| 40:BH:76:ILE:HD13 | 40:BH:142:LEU:CD1 | 1.95 | 0.96 |
| 52:BT:92:ARG:O | 52:BT:95:TYR:HB2 | 1.64 | 0.96 |
| 55:BW:63:ILE:CD1 | 55:BW:80:ARG:HB3 | 1.94 | 0.96 |
| 1:AB:89(A):A:C2' | 1:AB:90:C:H5' | 1.95 | 0.96 |
| 2:AA:1520:U:C2' | 2:AA:1521:G:H5" | 1.95 | 0.96 |
| 2:AA:1862:G:H1 | 2:AA:1880:C:H42 | 0.96 | 0.96 |
| 5:AE:44:TYR:CE1 | 5:AE:308:VAL:HG13 | 2.01 | 0.96 |
| 6:AF:220:THR:O | 6:AF:225:PRO:HD2 | 1.65 | 0.96 |
| 9:AJ:86:LYS:HD2 | 11:AL:10:LYS:HE3 | 1.43 | 0.96 |
| 15:AP:50:VAL:HG12 | 15:AP:51:GLU:H | 1.28 | 0.96 |
| 20:AU:48:VAL:HG11 | 20:AU:96:VAL:HG13 | 1.48 | 0.96 |
| 25:A1:91:ASN:ND2 | 26:A2:10:LYS:HE2 | 1.80 | 0.96 |
| 34:BA:77:G:N2 | 34:BA:92:C:N3 | 2.13 | 0.96 |
| 34:BA:1004:A:H3' | 34:BA:1025:U:N3 | 1.81 | 0.96 |
| 34:BA:1080:A:N7 | 34:BA:1081:G:H1' | 1.81 | 0.96 |
| 35:BB:32:C:N4 | 35:BB:33:U:N3 | 2.13 | 0.96 |
| 40:BH:51:VAL:HB | 40:BH:52:PRO:HD3 | 1.47 | 0.96 |
| 40:BH:104:ALA:CA | 40:BH:107:ARG:HH12 | 1.78 | 0.96 |
| 41:BI:98:LEU:HD21 | 53:BU:28:GLU:HA | 1.46 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2623:G:N2 | 29:A5:22:HIS:HE1 | 1.63 | 0.96 |
| 2:AA:2667:C:O2 | 8:AH:108:TYR:HB3 | 1.63 | 0.96 |
| 3:AC:99:ILE:HG23 | 3:AC:107:TRP:HZ3 | 1.25 | 0.96 |
| 8:AH:159:LYS:N | 8:AH:162:ARG:HH12 | 1.63 | 0.96 |
| 18:AS:38:TYR:CD2 | 29:A5:41:LEU:HG | 2.00 | 0.96 |
| 34:BA:957:U:C2' | 34:BA:959:A:OP2 | 2.12 | 0.96 |
| 34:BA:1239:A:H4' | 34:BA:1240:U:H5" | 1.44 | 0.96 |
| 1:AB:56:G:H4' | 1:AB:57:A:C5' | 1.96 | 0.95 |
| 2:AA:13:A:N1 | 2:AA:525:U:H2' | 1.81 | 0.95 |
| 2:AA:444:C:O2' | 2:AA:445:C:H5' | 1.65 | 0.95 |
| 2:AA:973:A:N6 | 26:A2:79:GLN:O | 1.98 | 0.95 |
| 2:AA:1025:G:H8 | 2:AA:1134:G:HO2' | 1.07 | 0.95 |
| 2:AA:1057:A:H61 | 2:AA:1081:U:H3 | 1.11 | 0.95 |
| 3:AC:32:LEU:HD13 | 3:AC:220:PRO:HB2 | 1.45 | 0.95 |
| 3:AC:38:ASP:OD1 | 3:AC:178:ALA:HB3 | 1.66 | 0.95 |
| 4:AD:107:LYS:HB2 | 4:AD:194:VAL:O | 1.64 | 0.95 |
| 5:AE:46:ALA:CB | 5:AE:72:VAL:HG23 | 1.96 | 0.95 |
| 5:AE:304:ASP:H | 5:AE:307:LEU:CD1 | 1.79 | 0.95 |
| 6:AF:5:ILE:CD1 | 6:AF:16:VAL:HG23 | 1.96 | 0.95 |
| 6:AF:83:ALA:H | 6:AF:87:ARG:CZ | 1.78 | 0.95 |
| 7:AG:21:VAL:CG1 | 7:AG:132:VAL:HG23 | 1.95 | 0.95 |
| 9:AJ:63:LEU:HD11 | 9:AJ:102:ILE:HD12 | 1.48 | 0.95 |
| 12:AM:102:ARG:HB3 | 12:AM:104:TYR:OH | 1.65 | 0.95 |
| 15:AP:86:ARG:HB2 | 15:AP:121:ASP:O | 1.64 | 0.95 |
| 18:AS:82:LEU:HD23 | 18:AS:98:LYS:HB2 | 1.48 | 0.95 |
| 21:AV:156:GLU:HG2 | 21:AV:157:GLY:H | 1.26 | 0.95 |
| 25:A1:50:ARG:HA | 25:A1:53:LYS:HZ2 | 1.26 | 0.95 |
| 33:A9:11:CYS:SG | 33:A9:14:CYS:N | 2.38 | 0.95 |
| 34:BA:265:G:H2' | 34:BA:267:C:C5 | 2.01 | 0.95 |
| 34:BA:482:A:N3 | 34:BA:482:A:H2' | 1.81 | 0.95 |
| 43:BK:18:ARG:HH11 | 43:BK:18:ARG:HA | 1.26 | 0.95 |
| 2:AA:1918:A:C8 | 2:AA:1918:A:OP2 | 2.19 | 0.95 |
| 2:AA:2265:U:C2 | 2:AA:2266:A:N7 | 2.33 | 0.95 |
| 2:AA:2441:C:O2' | 2:AA:2442:C:H5' | 1.66 | 0.95 |
| 3:AC:39:GLU:HG2 | 3:AC:216:THR:HB | 1.47 | 0.95 |
| 12:AM:104:TYR:HB3 | 12:AM:105:LEU:HD23 | 1.45 | 0.95 |
| 15:AP:97:ASP:HB2 | 15:AP:107:LYS:HD2 | 1.46 | 0.95 |
| 16:AQ:31:LYS:HZ1 | 16:AQ:99:GLU:HB2 | 1.26 | 0.95 |
| 21:AV:3:LEU:HB2 | 21:AV:54:ILE:HG12 | 1.48 | 0.95 |
| 24:A0:86:ARG:HH22 | 24:A0:118:GLU:HG3 | 1.28 | 0.95 |
| 26:A2:69:ILE:H | 26:A2:91:THR:HG22 | 0.80 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:491:G:O2' | 34:BA:492:G:H5' | 1.64 | 0.95 |
| 35:BB:33:U:C4 | 35:BB:35:A:OP2 | 2.19 | 0.95 |
| 38:BF:8:ILE:HG12 | 38:BF:16:ARG:HG2 | 1.46 | 0.95 |
| 39:BG:56:VAL:HG12 | 39:BG:57:ARG:N | 1.81 | 0.95 |
| 46:BN:99:GLN:HG2 | 46:BN:105:VAL:HG11 | 1.48 | 0.95 |
| 52:BT:62:SER:OG | 52:BT:72:ARG:HG3 | 1.66 | 0.95 |
| 2:AA:25:U:H2' | 2:AA:26:G:H8 | 1.29 | 0.95 |
| 2:AA:26:G:H1 | 2:AA:27:G:N2 | 1.63 | 0.95 |
| 2:AA:1019:U:H2' | 2:AA:1020:A:H5' | 1.46 | 0.95 |
| 2:AA:1031:G:N2 | 2:AA:1123:C:N3 | 2.14 | 0.95 |
| 2:AA:1083:U:O3' | 9:AI:37:VAL:O | 1.84 | 0.95 |
| 2:AA:1568:G:C5' | 4:AD:60:GLN:HG2 | 1.96 | 0.95 |
| 2:AA:2449:U:O4' | 2:AA:2449:U:OP1 | 1.84 | 0.95 |
| 3:AC:123:VAL:CG1 | 3:AC:138:PRO:HD2 | 1.96 | 0.95 |
| 8:AH:151:ARG:O | 8:AH:161:ILE:HG12 | 1.66 | 0.95 |
| 15:AP:58:HIS:HB3 | 15:AP:111:THR:O | 1.67 | 0.95 |
| 20:AU:48:VAL:HG22 | 20:AU:98:VAL:HA | 1.45 | 0.95 |
| 21:AV:57:GLU:C | 21:AV:59:GLY:H | 1.64 | 0.95 |
| 27:A3:67:VAL:HG11 | 27:A3:74:LYS:HA | 1.46 | 0.95 |
| 30:A6:37:LEU:CD2 | 30:A6:51:ARG:HG2 | 1.97 | 0.95 |
| 34:BA:1298:C:C3' | 42:BJ:114:ARG:HH12 | 1.80 | 0.95 |
| 37:BE:50:GLU:CD | 37:BE:200:ILE:HB | 1.86 | 0.95 |
| 42:BJ:50:ILE:CD1 | 42:BJ:58:PRO:HB3 | 1.96 | 0.95 |
| 43:BK:18:ARG:HH11 | 43:BK:18:ARG:CA | 1.78 | 0.95 |
| 47:BO:39:VAL:HB | 47:BO:57:LYS:HD2 | 1.43 | 0.95 |
| 2:AA:997:G:H4' | 25:A1:92:ARG:NH1 | 1.81 | 0.95 |
| 2:AA:1058:G:H1' | 9:AI:3:ILE:CG1 | 1.96 | 0.95 |
| 2:AA:1422:G:H2' | 2:AA:1423:G:C8 | 2.01 | 0.95 |
| 2:AA:2110:G:H2' | 2:AA:2111:C:C5 | 2.02 | 0.95 |
| 2:AA:2459:A:N6 | 2:AA:2493:U:O4 | 1.98 | 0.95 |
| 6:AF:195:VAL:HG11 | 6:AF:235:PHE:CD2 | 2.01 | 0.95 |
| 8:AH:143:LEU:HD23 | 8:AH:144:ALA:H | 1.30 | 0.95 |
| 9:AJ:74:ILE:HD13 | 9:AJ:89:LYS:HG2 | 1.46 | 0.95 |
| 28:A4:68:ARG:HD3 | 28:A4:72:LYS:HE2 | 1.47 | 0.95 |
| 32:A8:13:ARG:O | 32:A8:14:ILE:HB | 1.63 | 0.95 |
| 34:BA:1373:G:H4' | 42:BJ:36:LYS:NZ | 1.79 | 0.95 |
| 34:BA:1539:C:H42 | 36:B1:50:G:H1 | 1.10 | 0.95 |
| 35:BC:3:G:N1 | 35:BC:70:C:O2 | 1.99 | 0.95 |
| 42:BJ:83:ALA:HB3 | 42:BJ:85:TYR:HE2 | 1.31 | 0.95 |
| 2:AA:291:C:N4 | 2:AA:349:G:N1 | 2.14 | 0.95 |
| 2:AA:2848:G:H21 | 2:AA:2849:U:H3 | 1.02 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:AG:29:HIS:ND1 | 7:AG:69:ILE:HD11 | 1.80 | 0.95 |
| 9:AJ:69:ASN:O | 9:AJ:73:VAL:HG23 | 1.64 | 0.95 |
| 12:AM:41:ALA:HB3 | 12:AM:42:GLU:OE2 | 1.66 | 0.95 |
| 17:AR:7:ASP:OD1 | 17:AR:30:HIS:O | 1.84 | 0.95 |
| 18:AS:42:ARG:HG2 | 18:AS:43:GLY:N | 1.82 | 0.95 |
| 20:AU:73:HIS:HD2 | 20:AU:88:PRO:HB2 | 1.32 | 0.95 |
| 21:AV:100:THR:HA | 21:AV:137:ASP:CG | 1.86 | 0.95 |
| 21:AV:103:ARG:NH2 | 21:AV:137:ASP:HB3 | 1.82 | 0.95 |
| 25:A1:20:ARG:CB | 25:A1:39:LEU:HD11 | 1.96 | 0.95 |
| 26:A2:6:GLN:OE1 | 26:A2:10:LYS:HA | 1.67 | 0.95 |
| 26:A2:59:GLU:HG2 | 26:A2:100:GLY:H | 1.31 | 0.95 |
| 28:A4:38:GLY:O | 28:A4:39:VAL:HG23 | 1.66 | 0.95 |
| 28:A4:58:LYS:HG2 | 28:A4:62:ARG:NH2 | 1.82 | 0.95 |
| 34:BA:1086:U:N3 | 34:BA:1099:G:N1 | 2.14 | 0.95 |
| 34:BA:1305:G:H5" | 56:BX:5:ASP:N | 1.81 | 0.95 |
| 34:BA:1350:A:H61 | 34:BA:1372:U:H3 | 1.01 | 0.95 |
| 35:BB:22:G:H2' | 35:BB:23:A:H8 | 1.16 | 0.95 |
| 35:BB:70:C:H2' | 35:BB:71:G:H8 | 1.24 | 0.95 |
| 35:BC:40:C:H2' | 35:BC:41:U:C5' | 1.96 | 0.95 |
| 39:BG:31:CYS:HB3 | 39:BG:33:MET:HG2 | 1.48 | 0.95 |
| 39:BG:93:PHE:CE2 | 39:BG:97:LEU:HD21 | 2.01 | 0.95 |
| 52:BT:83:ASP:O | 52:BT:86:GLU:HB2 | 1.63 | 0.95 |
| 2:AA:271:G:H2' | 2:AA:272:G:H8 | 1.32 | 0.95 |
| 2:AA:361:G:H2' | 2:AA:362:U:C6 | 2.02 | 0.95 |
| 2:AA:1202:C:C4 | 2:AA:1243:G:N1 | 2.32 | 0.95 |
| 2:AA:1518:C:C2 | 2:AA:1519:G:H1' | 2.01 | 0.95 |
| 2:AA:1804:C:H42 | 2:AA:1813:G:H1 | 1.13 | 0.95 |
| 2:AA:1809:A:O2' | 2:AA:1810:A:OP1 | 1.81 | 0.95 |
| 2:AA:1917:U:H3' | 2:AA:1918:A:H8 | 1.32 | 0.95 |
| 2:AA:2064:C:H1' | 2:AA:2450:A:C6 | 2.00 | 0.95 |
| 2:AA:2287:A:O2' | 2:AA:2288:A:O5' | 1.85 | 0.95 |
| 8:AH:88:LEU:HD11 | 8:AH:95:ALA:N | 1.81 | 0.95 |
| 34:BA:445:G:H1 | 34:BA:489:C:H42 | 1.11 | 0.95 |
| 34:BA:1316:G:H2' | 34:BA:1318:A:OP2 | 1.67 | 0.95 |
| 46:BN:79:SER:HA | 46:BN:104:GLN:CB | 1.96 | 0.95 |
| 47:BO:28:LYS:CD | 47:BO:33:ARG:HH12 | 1.79 | 0.95 |
| 2:AA:1796:U:H3 | 2:AA:1823:G:H1 | 0.99 | 0.95 |
| 2:AA:2226:C:H2' | 2:AA:2227:A:C4' | 1.96 | 0.95 |
| 2:AA:2792:G:N2 | 2:AA:2804:C:N3 | 2.14 | 0.95 |
| 6:AF:45:ASP:HB3 | 6:AF:98:ARG:NE | 1.81 | 0.95 |
| 12:AM:84:ARG:HA | 12:AM:98:PHE:CE2 | 2.01 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:103:ALA:HA | 13:AN:122:ILE:O | 1.65 | 0.95 |
| 21:AV:105:GLN:HB2 | 21:AV:141:MET:HG2 | 1.49 | 0.95 |
| 23:AX:5:LYS:HA | 23:AX:36:VAL:HG12 | 1.49 | 0.95 |
| 31:A7:35:ARG:HB3 | 31:A7:35:ARG:HH11 | 0.82 | 0.95 |
| 34:BA:481:G:H4' | 34:BA:482:A:OP1 | 1.64 | 0.95 |
| 34:BA:679:C:H2' | 34:BA:680:C:C6 | 2.02 | 0.95 |
| 35:BB:34:G:C2 | 35:BB:35:A:C2 | 2.49 | 0.95 |
| 37:BE:80:ILE:HD11 | 37:BE:208:ILE:HG23 | 1.48 | 0.95 |
| 38:BF:19:GLU:HG2 | 38:BF:54:ARG:HE | 1.30 | 0.95 |
| 40:BH:76:ILE:CD1 | 40:BH:142:LEU:HD13 | 1.95 | 0.95 |
| 46:BN:58:PRO:O | 46:BN:61:ALA:HB3 | 1.65 | 0.95 |
| 48:BP:20:THR:HA | 48:BP:25:ILE:CG2 | 1.96 | 0.95 |
| 50:BR:62:GLN:NE2 | 50:BR:65:ARG:HH21 | 1.62 | 0.95 |
| 2:AA:250:G:H5" | 32:A8:8:LYS:HE2 | 1.48 | 0.95 |
| 2:AA:442:G:H4' | 6:AF:44:GLN:OE1 | 1.65 | 0.95 |
| 2:AA:663:G:O2' | 2:AA:940:G:H4' | 1.67 | 0.95 |
| 2:AA:774:A:C5' | 2:AA:778:G:H4' | 1.97 | 0.95 |
| 2:AA:1263:U:H4' | 29:A5:16:ARG:NH1 | 1.80 | 0.95 |
| 2:AA:1275:A:N1 | 24:A0:16:HIS:HA | 1.82 | 0.95 |
| 2:AA:1637:A:H4' | 2:AA:2711:A:O2' | 1.64 | 0.95 |
| 2:AA:2346:A:H1' | 2:AA:2383:G:C8 | 2.00 | 0.95 |
| 2:AA:2542:A:H5' | 2:AA:2543:G:OP1 | 1.65 | 0.95 |
| 2:AA:2652:C:N4 | 2:AA:2668:G:H1 | 1.64 | 0.95 |
| 12:AM:22:VAL:O | 12:AM:26:VAL:HG23 | 1.66 | 0.95 |
| 13:AN:85:VAL:HG21 | 13:AN:114:ILE:HD11 | 1.49 | 0.95 |
| 25:A1:55:ARG:HA | 25:A1:58:ARG:NE | 1.82 | 0.95 |
| 30:A6:16:ALA:C | 30:A6:18:THR:H | 1.65 | 0.95 |
| 34:BA:372:C:H42 | 34:BA:389:A:H62 | 1.00 | 0.95 |
| 34:BA:1494:G:C2 | 34:BA:1495:U:C5 | 2.54 | 0.95 |
| 37:BE:130:ARG:NE | 37:BE:130:ARG:HA | 1.81 | 0.95 |
| 37:BE:150:SER:HA | 37:BE:153:ARG:CB | 1.97 | 0.95 |
| 38:BF:52:LEU:HA | 38:BF:70:VAL:CG2 | 1.96 | 0.95 |
| 41:BI:36:ARG:HB3 | 41:BI:36:ARG:NH1 | 1.82 | 0.95 |
| 43:BK:95:VAL:HG22 | 43:BK:133:LEU:HD21 | 1.45 | 0.95 |
| 44:BL:55:ALA:HB3 | 44:BL:58:ARG:HE | 1.32 | 0.95 |
| 2:AA:882:G:H2' | 2:AA:883:G:C8 | 2.01 | 0.95 |
| 2:AA:986:C:H3' | 2:AA:986:C:H6 | 1.30 | 0.95 |
| 2:AA:1173:G:H22 | 2:AA:1175:U:H5' | 1.30 | 0.95 |
| 2:AA:1179:C:HO2' | 2:AA:1180:C:H6 | 0.96 | 0.95 |
| 2:AA:1364:G:H3' | 28:A4:3:LYS:HD3 | 0.98 | 0.95 |
| 2:AA:1504:C:H2' | 2:AA:1505:C:H6 | 1.31 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2030:A:H4' | 2:AA:2031:A:C8 | 2.01 | 0.95 |
| 2:AA:2225:A:H5" | 2:AA:2226:C:C5' | 1.97 | 0.95 |
| 2:AA:2243:U:O2' | 2:AA:2244:U:H5' | 1.66 | 0.95 |
| 4:AD:76:ARG:HD3 | 4:AD:113:MET:HB3 | 1.46 | 0.95 |
| 7:AG:18:ILE:HG21 | 7:AG:77:ASP:HA | 1.48 | 0.95 |
| 7:AG:98:PHE:CA | 7:AG:104:PHE:HD2 | 1.80 | 0.95 |
| 13:AN:63:VAL:HG12 | 13:AN:102:VAL:CG1 | 1.96 | 0.95 |
| 14:AO:117:GLU:HA | 14:AO:136:ALA:O | 1.65 | 0.95 |
| 15:AP:47:GLU:OE1 | 15:AP:151:SER:HA | 1.65 | 0.95 |
| 34:BA:195:A:H4' | 55:BW:68:LYS:NZ | 1.80 | 0.95 |
| 34:BA:605:U:H2' | 34:BA:606:G:H8 | 1.32 | 0.95 |
| 34:BA:1007:C:C2 | 34:BA:1022:G:N2 | 2.35 | 0.95 |
| 34:BA:1350:A:N6 | 34:BA:1372:U:H3 | 1.65 | 0.95 |
| 34:BA:1368:G:OP1 | 44:BL:113:LYS:HA | 1.64 | 0.95 |
| 45:BM:3:LYS:O | 45:BM:100:THR:HB | 1.66 | 0.95 |
| 1:AB:11:C:N3 | 1:AB:109:G:O6 | 1.99 | 0.95 |
| 2:AA:273:G:H1 | 2:AA:364:C:H42 | 1.11 | 0.95 |
| 2:AA:295:G:C2 | 2:AA:344:G:N3 | 2.35 | 0.95 |
| 2:AA:527:C:H2' | 12:AM:95:ARG:NH1 | 1.82 | 0.95 |
| 2:AA:605:C:H2' | 2:AA:606:U:C6 | 2.01 | 0.95 |
| 2:AA:616:A:C5' | 6:AF:42:ARG:HH12 | 1.80 | 0.95 |
| 2:AA:2021:C:OP2 | 29:A5:12:SER:HB2 | 1.65 | 0.95 |
| 2:AA:2421:G:H5" | 30:A6:4:ASP:OD1 | 1.67 | 0.95 |
| 2:AA:2509:G:O2' | 2:AA:2510:C:H5' | 1.67 | 0.95 |
| 2:AA:2779:U:H5" | 2:AA:2780:G:O5' | 1.66 | 0.95 |
| 5:AE:193:PHE:CE2 | 5:AE:199:ALA:HB2 | 2.01 | 0.95 |
| 6:AF:47:GLY:HA2 | 6:AF:92:PRO:O | 1.66 | 0.95 |
| 10:AK:125:GLY:CA | 10:AK:145:VAL:H | 1.80 | 0.95 |
| 34:BA:489:C:H2' | 34:BA:490:G:C8 | 2.02 | 0.95 |
| 34:BA:1193:G:C2' | 34:BA:1194:U:H5' | 1.97 | 0.95 |
| 37:BE:136:VAL:HA | 37:BE:139:LYS:NZ | 1.80 | 0.95 |
| 44:BL:10:ARG:CA | 44:BL:104:ARG:HE | 1.78 | 0.95 |
| 2:AA:709:U:H2' | 2:AA:710:G:C8 | 2.02 | 0.94 |
| 2:AA:718:A:H5" | 2:AA:719:C:C5 | 2.02 | 0.94 |
| 2:AA:775:G:H5' | 2:AA:777:A:H1' | 1.49 | 0.94 |
| 2:AA:897:C:H4' | 35:BB:56:C:C5 | 2.02 | 0.94 |
| 2:AA:1161:C:O2' | 26:A2:22:VAL:HG11 | 1.66 | 0.94 |
| 2:AA:1508:A:H2' | 2:AA:1509:C:C5 | 2.02 | 0.94 |
| 2:AA:1996:C:H2' | 2:AA:1997:G:O5' | 1.63 | 0.94 |
| 4:AD:208:GLY:N | 4:AD:211:HIS:NE2 | 2.14 | 0.94 |
| 13:AN:43:VAL:HG21 | 13:AN:56:GLN:HB2 | 1.48 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:AQ:20:TYR:O | 16:AQ:23:ARG:CB | 2.15 | 0.94 |
| 19:AT:5:ILE:HG13 | 19:AT:40:ALA:HB1 | 1.49 | 0.94 |
| 34:BA:372:C:H42 | 34:BA:389:A:N6 | 1.64 | 0.94 |
| 34:BA:1190:G:OP1 | 38:BF:5:ILE:HG13 | 1.65 | 0.94 |
| 34:BA:1424:C:H42 | 34:BA:1476:G:H1 | 0.97 | 0.94 |
| 37:BE:178:ARG:HD2 | 37:BE:184:VAL:HG21 | 1.49 | 0.94 |
| 2:AA:511:U:C5 | 2:AA:512:G:N3 | 2.34 | 0.94 |
| 2:AA:1069:A:H4' | 2:AA:1070:A:C5' | 1.97 | 0.94 |
| 2:AA:1477:A:C2 | 2:AA:1516:U:N3 | 2.35 | 0.94 |
| 2:AA:2307:G:H1' | 2:AA:2311:A:H61 | 1.29 | 0.94 |
| 2:AA:2457:U:H2' | 2:AA:2458:G:H5' | 1.46 | 0.94 |
| 2:AA:2652:C:H42 | 2:AA:2668:G:H1 | 0.94 | 0.94 |
| 3:AC:100:ILE:CG2 | 3:AC:126:LYS:HG2 | 1.97 | 0.94 |
| 8:AH:167:LEU:HG | 8:AH:169:ARG:HH12 | 1.32 | 0.94 |
| 9:AI:23:LYS:HG3 | 9:AJ:46:GLY:HA3 | 1.49 | 0.94 |
| 12:AM:19:MET:HB3 | 12:AM:46:ILE:HD11 | 1.46 | 0.94 |
| 12:AM:84:ARG:HD3 | 12:AM:98:PHE:CD2 | 2.01 | 0.94 |
| 19:AT:11:THR:N | 19:AT:14:ALA:HB3 | 1.80 | 0.94 |
| 20:AU:19:ARG:NH2 | 20:AU:68:ASP:HA | 1.82 | 0.94 |
| 34:BA:52:G:H2' | 34:BA:53:A:H8 | 1.30 | 0.94 |
| 35:BB:34:G:H1 | 36:B1:65:U:H2' | 1.28 | 0.94 |
| 35:BB:37:G:C8 | 35:BB:37:G:O5' | 2.20 | 0.94 |
| 41:BI:76:ALA:HB1 | 41:BI:80:ARG:HH21 | 1.14 | 0.94 |
| 42:BJ:124:LEU:O | 42:BJ:127:ALA:HB3 | 1.67 | 0.94 |
| 46:BN:95:ILE:HA | 46:BN:98:LEU:CD1 | 1.97 | 0.94 |
| 48:BP:22:ILE:HD12 | 48:BP:25:ILE:HD11 | 1.49 | 0.94 |
| 2:AA:775:G:H21 | 2:AA:787:U:C3' | 1.78 | 0.94 |
| 2:AA:849:A:N3 | 23:AX:21:ALA:HB1 | 1.82 | 0.94 |
| 2:AA:965:C:H5' | 2:AA:2273:A:C1' | 1.95 | 0.94 |
| 2:AA:1777:U:H2' | 2:AA:1778:U:H6 | 1.30 | 0.94 |
| 2:AA:2296:U:H3' | 2:AA:2296:U:C6 | 2.00 | 0.94 |
| 14:AO:67:ARG:NH1 | 14:AO:111:ALA:HB3 | 1.82 | 0.94 |
| 15:AP:137:ARG:O | 15:AP:140:TYR:HB2 | 1.67 | 0.94 |
| 28:A4:56:VAL:O | 28:A4:61:LYS:HE2 | 1.66 | 0.94 |
| 35:BC:51:G:H1 | 35:BC:63:C:H42 | 0.99 | 0.94 |
| 38:BF:12:LEU:HD13 | 38:BF:18:TRP:N | 1.82 | 0.94 |
| 41:BI:89:MET:HB3 | 53:BU:76:LEU:HD11 | 1.48 | 0.94 |
| 43:BK:14:ARG:HB3 | 43:BK:14:ARG:HH11 | 1.31 | 0.94 |
| 53:BU:74:ARG:N | 53:BU:79:LEU:HD21 | 1.80 | 0.94 |
| 1:AB:43:C:H42 | 1:AB:45:A:H62 | 0.95 | 0.94 |
| 2:AA:265:A:H2 | 2:AA:266:G:N3 | 1.64 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:969:U:H2' | 2:AA:970:C:O4' | 1.66 | 0.94 |
| 2:AA:981:A:H1' | 2:AA:2037:G:O4' | 1.67 | 0.94 |
| 2:AA:1238:G:C2' | 2:AA:1239:G:H5' | 1.98 | 0.94 |
| 2:AA:1267:U:H5 | 2:AA:2012:G:H22 | 0.95 | 0.94 |
| 2:AA:1299:G:O6 | 2:AA:1639:U:H5" | 1.66 | 0.94 |
| 2:AA:1472:A:N6 | 2:AA:1518:C:N4 | 2.14 | 0.94 |
| 2:AA:2590:A:H2' | 2:AA:2591:C:H6 | 1.30 | 0.94 |
| 2:AA:2749:A:H4' | 8:AH:61:ARG:HG2 | 1.45 | 0.94 |
| 6:AF:81:PRO:C | 6:AF:87:ARG:NH1 | 2.21 | 0.94 |
| 24:A0:86:ARG:HB3 | 24:A0:86:ARG:NH1 | 1.81 | 0.94 |
| 34:BA:452:A:H2' | 34:BA:453:A:C8 | 2.02 | 0.94 |
| 36:B1:14:U:H3 | 36:B1:42:G:H1 | 0.99 | 0.94 |
| 37:BE:47:THR:HB | 37:BE:48:MET:SD | 2.08 | 0.94 |
| 43:BK:6:ILE:HG23 | 43:BK:7:ALA:H | 1.27 | 0.94 |
| 44:BL:32:ASP:CB | 44:BL:35:GLU:HB2 | 1.97 | 0.94 |
| 45:BM:16:LEU:HD22 | 45:BM:94:VAL:HG22 | 1.49 | 0.94 |
| 51:BS:21:VAL:HG22 | 51:BS:36:ILE:HD13 | 1.45 | 0.94 |
| 1:AB:16:G:O2' | 1:AB:17:C:H5' | 1.65 | 0.94 |
| 2:AA:775:G:N2 | 2:AA:787:U:H2' | 1.81 | 0.94 |
| 2:AA:777:A:O2' | 2:AA:778:G:H5' | 1.66 | 0.94 |
| 2:AA:988:A:OP1 | 23:AX:11:SER:HB2 | 1.65 | 0.94 |
| 2:AA:1002:G:N2 | 2:AA:1153:C:N3 | 2.13 | 0.94 |
| 2:AA:1054:A:C2 | 9:AI:28:LYS:HG2 | 2.01 | 0.94 |
| 2:AA:1058:G:N3 | 9:AI:3:ILE:HD11 | 1.82 | 0.94 |
| 2:AA:1076:C:HO2' | 11:AL:91:GLU:HB3 | 1.12 | 0.94 |
| 2:AA:1995:U:C5' | 2:AA:1996:C:H5" | 1.95 | 0.94 |
| 4:AD:63:ILE:HA | 4:AD:86:ARG:HH22 | 1.30 | 0.94 |
| 4:AD:128:ALA:HB2 | 4:AD:190:THR:CB | 1.96 | 0.94 |
| 6:AF:52:ALA:HA | 6:AF:55:ARG:NE | 1.82 | 0.94 |
| 16:AQ:22:GLN:OE1 | 16:AQ:23:ARG:N | 2.01 | 0.94 |
| 19:AT:11:THR:H | 19:AT:14:ALA:CB | 1.79 | 0.94 |
| 24:A0:79:LEU:HD23 | 24:A0:80:PHE:HA | 1.48 | 0.94 |
| 34:BA:520:A:H62 | 34:BA:529:G:N2 | 1.64 | 0.94 |
| 34:BA:1136:U:H5" | 34:BA:1137:C:OP2 | 1.67 | 0.94 |
| 37:BE:7:VAL:HG23 | 37:BE:8:LYS:H | 1.28 | 0.94 |
| 39:BG:58:LEU:CD1 | 39:BG:59:ARG:HH11 | 1.81 | 0.94 |
| 43:BK:29:SER:HB3 | 43:BK:32:LYS:HZ1 | 1.18 | 0.94 |
| 48:BP:82:MET:SD | 48:BP:93:ARG:HG3 | 2.07 | 0.94 |
| 51:BS:6:LEU:HD13 | 51:BS:6:LEU:N | 1.82 | 0.94 |
| 1:AB:83:G:H4' | 23:AX:52:HIS:HD2 | 1.31 | 0.94 |
| 2:AA:220:G:H4' | 2:AA:234:C:H4' | 1.47 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:860:U:N3 | 2:AA:917:A:N6 | 2.14 | 0.94 |
| 2:AA:1083:U:H4' | 9:AI:40:ALA:CB | 1.97 | 0.94 |
| 2:AA:1613:G:H3' | 2:AA:1614:A:C5' | 1.98 | 0.94 |
| 2:AA:1759:A:OP2 | 2:AA:1759:A:H3' | 1.67 | 0.94 |
| 2:AA:2107:C:N4 | 2:AA:2182:G:N1 | 2.15 | 0.94 |
| 2:AA:2253:G:H2' | 2:AA:2254:C:H6 | 1.31 | 0.94 |
| 10:AK:124:LEU:CD2 | 10:AK:146:THR:HA | 1.98 | 0.94 |
| 20:AU:47:THR:HG21 | 20:AU:100:ASP:HB2 | 1.49 | 0.94 |
| 34:BA:76:C:N4 | 34:BA:93:G:H1 | 1.64 | 0.94 |
| 34:BA:280:C:H1' | 52:BT:38:ARG:NE | 1.82 | 0.94 |
| 34:BA:463:A:H1' | 51:BS:82:GLN:HE21 | 1.32 | 0.94 |
| 34:BA:582:U:H3 | 34:BA:759:A:H62 | 1.10 | 0.94 |
| 34:BA:946:A:H2' | 34:BA:947:G:H8 | 1.25 | 0.94 |
| 34:BA:1128:C:H1' | 34:BA:1146:A:N6 | 1.81 | 0.94 |
| 37:BE:166:ASP:O | 37:BE:169:LYS:HB3 | 1.68 | 0.94 |
| 42:BJ:113:GLU:HG3 | 42:BJ:118:VAL:CB | 1.97 | 0.94 |
| 44:BL:10:ARG:HA | 44:BL:104:ARG:NE | 1.81 | 0.94 |
| 46:BN:61:ALA:CB | 46:BN:94:ALA:HB2 | 1.96 | 0.94 |
| 48:BP:23:TYR:O | 48:BP:66:LEU:HB3 | 1.67 | 0.94 |
| 55:BW:49:ALA:CB | 55:BW:99:LEU:HG | 1.97 | 0.94 |
| 2:AA:660:G:H2' | 2:AA:661:C:C6 | 2.03 | 0.94 |
| 2:AA:1240:U:H3' | 2:AA:1241:A:C8 | 2.03 | 0.94 |
| 2:AA:1527:G:C2' | 2:AA:1528:A:H5" | 1.98 | 0.94 |
| 2:AA:1563:G:H2' | 2:AA:1564:C:H6 | 1.28 | 0.94 |
| 2:AA:1612:C:N4 | 2:AA:1619:G:N1 | 2.02 | 0.94 |
| 2:AA:2111:C:N4 | 2:AA:2120:G:H1' | 1.82 | 0.94 |
| 2:AA:2471:C:N3 | 2:AA:2479:G:N2 | 2.15 | 0.94 |
| 3:AC:104:LEU:HD12 | 3:AC:130:ILE:CD1 | 1.96 | 0.94 |
| 4:AD:161:ALA:HB1 | 4:AD:173:VAL:HG12 | 1.48 | 0.94 |
| 4:AD:167:GLU:HB2 | 4:AD:170:TYR:HE1 | 1.23 | 0.94 |
| 5:AE:222:ARG:HG2 | 5:AE:232:ARG:CA | 1.98 | 0.94 |
| 9:AI:4:ASP:HA | 9:AI:7:ILE:HD12 | 1.45 | 0.94 |
| 9:AJ:76:VAL:HG21 | 9:AJ:121:ALA:HB2 | 1.48 | 0.94 |
| 13:AN:83:ALA:C | 13:AN:84:CYS:SG | 2.46 | 0.94 |
| 24:A0:31:HIS:HD2 | 24:A0:34:ILE:HD11 | 1.33 | 0.94 |
| 34:BA:299:G:N2 | 34:BA:566:G:O6 | 2.00 | 0.94 |
| 34:BA:715:A:H4' | 34:BA:777:A:N6 | 1.82 | 0.94 |
| 34:BA:1263:C:H2' | 34:BA:1264:C:C6 | 2.03 | 0.94 |
| 37:BE:68:ILE:O | 37:BE:90:MET:HB3 | 1.67 | 0.94 |
| 40:BH:78:HIS:HB2 | 43:BK:104:ARG:CD | 1.97 | 0.94 |
| 2:AA:34:C:H2' | 2:AA:455:C:H41 | 1.32 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:137:C:C2 | 2:AA:142:G:N2 | 2.35 | 0.94 |
| 2:AA:197:A:N6 | 2:AA:248:G:H22 | 1.66 | 0.94 |
| 2:AA:270:A:C2 | 2:AA:370:G:H1' | 2.02 | 0.94 |
| 2:AA:563:G:N2 | 25:A1:37:GLN:HE22 | 1.66 | 0.94 |
| 2:AA:586:A:N1 | 2:AA:809:G:O2' | 2.00 | 0.94 |
| 2:AA:961:C:C5 | 2:AA:2031:A:C2 | 2.56 | 0.94 |
| 2:AA:984:A:H3' | 2:AA:985:C:C5 | 2.01 | 0.94 |
| 2:AA:1406:U:H2' | 2:AA:1407:C:H6 | 1.32 | 0.94 |
| 2:AA:1425:G:H2' | 2:AA:1426:G:C8 | 2.02 | 0.94 |
| 2:AA:1451:C:H3' | 2:AA:1453:A:C4' | 1.98 | 0.94 |
| 2:AA:1492:G:H1 | 2:AA:1498:C:H42 | 1.10 | 0.94 |
| 2:AA:1562:A:H2' | 2:AA:1563:G:H8 | 1.31 | 0.94 |
| 2:AA:1718:G:N1 | 2:AA:1741:C:N4 | 2.15 | 0.94 |
| 2:AA:1840:G:H1 | 2:AA:1902:C:H42 | 1.13 | 0.94 |
| 2:AA:1889:A:H2' | 2:AA:1890:A:C8 | 2.02 | 0.94 |
| 2:AA:2584:U:H6 | 2:AA:2584:U:C3' | 1.80 | 0.94 |
| 2:AA:2661:G:H2' | 2:AA:2662:A:C8 | 2.01 | 0.94 |
| 3:AC:59:ARG:HD2 | 3:AC:164:ARG:CD | 1.98 | 0.94 |
| 4:AD:76:ARG:CD | 4:AD:113:MET:HB3 | 1.97 | 0.94 |
| 5:AE:45:LYS:HB3 | 5:AE:305:LYS:HA | 1.46 | 0.94 |
| 10:AK:86:GLY:O | 10:AK:123:ALA:HA | 1.67 | 0.94 |
| 13:AN:22:ILE:HB | 13:AN:40:VAL:O | 1.68 | 0.94 |
| 15:AP:65:ARG:CZ | 15:AP:85:ILE:HB | 1.98 | 0.94 |
| 24:A0:42:LYS:O | 24:A0:45:ARG:HB3 | 1.68 | 0.94 |
| 26:A2:1:MET:O | 26:A2:15:SER:HB2 | 1.67 | 0.94 |
| 30:A6:19:GLY:HA3 | 30:A6:42:PRO:CB | 1.98 | 0.94 |
| 34:BA:132:C:N4 | 34:BA:230:G:H1 | 1.64 | 0.94 |
| 34:BA:536:C:H2' | 34:BA:537:G:H5' | 1.49 | 0.94 |
| 34:BA:594:G:H2' | 34:BA:595:G:O4' | 1.68 | 0.94 |
| 35:BB:12:U:H3 | 35:BB:24:G:N2 | 1.62 | 0.94 |
| 37:BE:49:GLU:O | 37:BE:52:GLU:HB3 | 1.66 | 0.94 |
| 38:BF:47:LEU:CD1 | 38:BF:83:ARG:HH21 | 1.79 | 0.94 |
| 39:BG:105:VAL:HG21 | 39:BG:121:VAL:CG2 | 1.96 | 0.94 |
| 41:BI:91:VAL:HG21 | 53:BU:72:ARG:NH1 | 1.81 | 0.94 |
| 43:BK:14:ARG:HB3 | 43:BK:14:ARG:NH1 | 1.81 | 0.94 |
| 47:BO:27:LEU:CD2 | 47:BO:33:ARG:HH11 | 1.78 | 0.94 |
| 47:BO:85:ILE:CD1 | 47:BO:98:TYR:HB3 | 1.97 | 0.94 |
| 2:AA:237:C:H42 | 2:AA:260:G:H1 | 1.13 | 0.94 |
| 2:AA:880:G:N2 | 2:AA:897:C:N3 | 2.15 | 0.94 |
| 2:AA:912:C:OP1 | 15:AP:16:ARG:NH2 | 2.00 | 0.94 |
| 2:AA:1006:C:O2' | 12:AM:86:MET:HB3 | 1.68 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1169:G:N2 | 2:AA:1180:C:N3 | 2.15 | 0.94 |
| 2:AA:1675:C:H42 | 5:AE:228:ARG:HH22 | 1.15 | 0.94 |
| 2:AA:1792:G:H1 | 2:AA:1827:C:N4 | 1.64 | 0.94 |
| 2:AA:2013:A:H2' | 2:AA:2014:A:O4' | 1.66 | 0.94 |
| 2:AA:2252:G:H22 | 35:BC:74:C:N4 | 1.65 | 0.94 |
| 2:AA:2264:C:N4 | 2:AA:2276:G:H1 | 1.64 | 0.94 |
| 2:AA:2730:C:H4' | 5:AE:265:ASN:ND2 | 1.80 | 0.94 |
| 2:AA:2895:U:H2' | 2:AA:2896:C:C6 | 2.02 | 0.94 |
| 16:AQ:110:THR:HG22 | 16:AQ:115:VAL:HG23 | 1.49 | 0.94 |
| 21:AV:107:GLU:H | 21:AV:107:GLU:CD | 1.67 | 0.94 |
| 27:A3:44:LYS:HA | 27:A3:64:ASP:OD1 | 1.67 | 0.94 |
| 34:BA:121:C:H4' | 34:BA:122:G:OP1 | 1.64 | 0.94 |
| 34:BA:764:C:H2' | 34:BA:765:G:C8 | 2.03 | 0.94 |
| 34:BA:932:C:H5" | 42:BJ:3:ARG:HD2 | 1.48 | 0.94 |
| 35:BB:15:G:H2' | 35:BB:16:U:OP2 | 1.68 | 0.94 |
| 44:BL:16:ARG:HG2 | 44:BL:18:PHE:CE1 | 2.03 | 0.94 |
| 54:BV:5:LEU:HD12 | 54:BV:9:VAL:HG13 | 1.49 | 0.94 |
| 2:AA:295:G:H1 | 2:AA:344:G:C2 | 1.22 | 0.94 |
| 2:AA:336:C:O2' | 2:AA:337:C:H5' | 1.68 | 0.94 |
| 2:AA:633:A:H4' | 2:AA:2404:C:OP1 | 1.68 | 0.94 |
| 2:AA:142(A):A:H4' | 12:AM:21:ARG:HH21 | 1.06 | 0.94 |
| 2:AA:1650:G:H5' | 24:A0:104:ARG:HH22 | 1.31 | 0.94 |
| 2:AA:1935:G:C4 | 2:AA:1962:C:C4 | 2.56 | 0.94 |
| 2:AA:2406:U:N3 | 14:AO:55:GLN:HB3 | 1.83 | 0.94 |
| 2:AA:2635:C:N4 | 2:AA:2783:G:N1 | 2.15 | 0.94 |
| 2:AA:2655:G:N3 | 2:AA:2655:G:H2' | 1.81 | 0.94 |
| 7:AG:27:ILE:O | 7:AG:69:ILE:HG23 | 1.66 | 0.94 |
| 25:A1:103:PRO:O | 25:A1:107:LYS:HG2 | 1.67 | 0.94 |
| 27:A3:37:LEU:HB3 | 27:A3:69:PHE:CD2 | 2.03 | 0.94 |
| 29:A5:40:LYS:NZ | 29:A5:46:CYS:HB2 | 1.84 | 0.94 |
| 34:BA:975:A:H4' | 34:BA:976:G:C5' | 1.96 | 0.94 |
| 36:B1:59:A:H2' | 36:B1:60:A:O5' | 1.67 | 0.94 |
| 41:BI:77:ARG:HA | 41:BI:80:ARG:CD | 1.96 | 0.94 |
| 50:BR:36:ILE:CD1 | 50:BR:63:ARG:HD3 | 1.96 | 0.94 |
| 2:AA:625:G:O2' | 2:AA:656:G:H4' | 1.68 | 0.93 |
| 2:AA:660:G:H2' | 2:AA:661:C:H6 | 1.29 | 0.93 |
| 2:AA:1028:A:H1' | 2:AA:2487:G:OP1 | 1.67 | 0.93 |
| 2:AA:1365:A:H2' | 2:AA:1366:A:H8 | 1.33 | 0.93 |
| 2:AA:1493:C:N4 | 2:AA:1499:C:N3 | 2.14 | 0.93 |
| 2:AA:1681:G:O2' | 2:AA:1763:G:H5' | 1.66 | 0.93 |
| 2:AA:2010:G:H2' | 2:AA:2011:U:H5' | 1.48 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2023:G:N2 | 2:AA:2040:C:N3 | 2.15 | 0.93 |
| 2:AA:2057:A:H5' | 29:A5:8:LYS:HZ3 | 1.29 | 0.93 |
| 2:AA:2111:C:H41 | 2:AA:2120:G:C1' | 1.81 | 0.93 |
| 2:AA:2149:G:H2' | 2:AA:2150:U:H5' | 1.46 | 0.93 |
| 2:AA:2334:G:H1' | 16:AQ:21:HIS:ND1 | 1.82 | 0.93 |
| 5:AE:77:PRO:HB2 | 5:AE:187:HIS:N | 1.82 | 0.93 |
| 8:AH:73:ASN:HB3 | 8:AH:137:LYS:HZ2 | 1.28 | 0.93 |
| 9:AJ:4:ASP:HA | 9:AJ:7:ILE:HD12 | 1.49 | 0.93 |
| 9:AJ:73:VAL:HA | 9:AJ:121:ALA:HB1 | 1.50 | 0.93 |
| 14:AO:66:VAL:N | 14:AO:67:ARG:HH21 | 1.65 | 0.93 |
| 15:AP:43:PRO:HD3 | 21:AV:99:HIS:NE2 | 1.83 | 0.93 |
| 15:AP:59:ASN:ND2 | 15:AP:60:ALA:H | 1.67 | 0.93 |
| 21:AV:67:LYS:HD3 | 21:AV:93:GLU:CD | 1.88 | 0.93 |
| 32:A8:13:ARG:HB3 | 32:A8:24:ALA:HB1 | 1.49 | 0.93 |
| 34:BA:95:U:H2' | 34:BA:96:G:C8 | 2.03 | 0.93 |
| 34:BA:99:C:H2' | 34:BA:101:A:C8 | 2.03 | 0.93 |
| 34:BA:948:C:P | 48:BP:109:THR:HB | 2.08 | 0.93 |
| 35:BC:69:U:H2' | 35:BC:70:C:H6 | 1.33 | 0.93 |
| 38:BF:33:LEU:HD11 | 49:BQ:54:PRO:HD2 | 0.96 | 0.93 |
| 38:BF:82:GLU:HG3 | 38:BF:83:ARG:N | 1.78 | 0.93 |
| 2:AA:209:C:O2' | 2:AA:210:C:H5' | 1.66 | 0.93 |
| 2:AA:1013:C:H2' | 2:AA:1014:U:H6 | 1.30 | 0.93 |
| 2:AA:1024:G:O6 | 2:AA:1025:G:N7 | 2.01 | 0.93 |
| 2:AA:1781:C:H6 | 2:AA:1781:C:H3' | 1.33 | 0.93 |
| 2:AA:2406:U:H3 | 14:AO:55:GLN:HB3 | 1.34 | 0.93 |
| 6:AF:32:GLY:C | 6:AF:36:ARG:HE | 1.70 | 0.93 |
| 6:AF:236:THR:O | 6:AF:239:ALA:HB3 | 1.66 | 0.93 |
| 14:AO:141:GLU:OE2 | 14:AO:145:LEU:HB2 | 1.68 | 0.93 |
| 16:AQ:16:ALA:O | 16:AQ:18:THR:HG22 | 1.68 | 0.93 |
| 16:AQ:49:THR:O | 16:AQ:55:ASP:HB3 | 1.69 | 0.93 |
| 19:AT:6:LYS:CD | 19:AT:27:ALA:HB1 | 1.97 | 0.93 |
| 27:A3:37:LEU:O | 27:A3:40:GLN:HG3 | 1.67 | 0.93 |
| 30:A6:42:PRO:HG2 | 30:A6:44:ALA:O | 1.68 | 0.93 |
| 32:A8:62:LEU:HB2 | 32:A8:63:PRO:HD3 | 1.48 | 0.93 |
| 34:BA:228:A:O2' | 34:BA:229:U:H5' | 1.67 | 0.93 |
| 34:BA:513:C:H2' | 34:BA:514:C:H6 | 1.33 | 0.93 |
| 34:BA:1210:C:H5" | 34:BA:1214:C:H42 | 1.32 | 0.93 |
| 34:BA:1263:C:H2' | 34:BA:1264:C:H6 | 1.32 | 0.93 |
| 42:BJ:68:ASN:HD21 | 42:BJ:128:ALA:HA | 1.13 | 0.93 |
| 53:BU:21:LYS:HE2 | 53:BU:57:GLY:HA3 | 1.51 | 0.93 |
| 53:BU:79:LEU:O | 53:BU:79:LEU:HD22 | 1.68 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:290:G:N1 | 2:AA:350:U:C2 | 2.35 | 0.93 |
| 2:AA:1300:U:C1' | 2:AA:1626:G:N2 | 2.32 | 0.93 |
| 2:AA:1359:A:N7 | 2:AA:1372:U:O4 | 2.01 | 0.93 |
| 2:AA:1551:C:H2' | 2:AA:1552:G:C8 | 2.04 | 0.93 |
| 2:AA:2023:G:H1 | 2:AA:2040:C:H42 | 0.94 | 0.93 |
| 2:AA:2564:A:H2' | 2:AA:2565:A:C8 | 2.02 | 0.93 |
| 2:AA:2596:U:H3' | 2:AA:2597:G:C8 | 2.02 | 0.93 |
| 17:AR:49:LEU:CD2 | 17:AR:54:THR:HG22 | 1.97 | 0.93 |
| 29:A5:40:LYS:HZ1 | 29:A5:49:CYS:HB2 | 1.27 | 0.93 |
| 34:BA:247:G:OP2 | 52:BT:99:SER:HA | 1.65 | 0.93 |
| 34:BA:327:A:H4' | 34:BA:328:C:OP1 | 1.67 | 0.93 |
| 34:BA:628:G:H2' | 34:BA:629:G:H8 | 1.32 | 0.93 |
| 34:BA:828:A:H2' | 34:BA:829:G:O4' | 1.67 | 0.93 |
| 35:BC:74:C:C2' | 35:BC:75:C:H5" | 1.98 | 0.93 |
| 41:BI:81:ILE:HG22 | 41:BI:82:ARG:H | 1.34 | 0.93 |
| 48:BP:13:LYS:HA | 48:BP:44:ARG:NE | 1.83 | 0.93 |
| 2:AA:13:A:N6 | 2:AA:525:U:C6 | 2.36 | 0.93 |
| 2:AA:125:G:H5' | 31:A7:19:ARG:HD2 | 1.49 | 0.93 |
| 2:AA:278:A:C2 | 2:AA:362:U:N3 | 2.37 | 0.93 |
| 2:AA:2256:G:H5' | 27:A3:5:LYS:HG3 | 1.48 | 0.93 |
| 2:AA:2286:A:H3' | 2:AA:2286:A:C8 | 2.04 | 0.93 |
| 2:AA:2649:U:O2' | 2:AA:2650:U:H5' | 1.68 | 0.93 |
| 8:AH:29:LYS:HE3 | 8:AH:81:GLY:H | 1.29 | 0.93 |
| 11:AL:28:LEU:HD11 | 11:AL:58:ILE:HD12 | 1.50 | 0.93 |
| 14:AO:62:ALA:N | 14:AO:107:LYS:HE3 | 1.84 | 0.93 |
| 15:AP:56:ILE:HD11 | 15:AP:115:SER:CB | 1.99 | 0.93 |
| 21:AV:40:ASP:O | 21:AV:44:ARG:HG2 | 1.67 | 0.93 |
| 25:A1:15:LYS:O | 25:A1:18:LEU:HB2 | 1.68 | 0.93 |
| 30:A6:19:GLY:O | 30:A6:44:ALA:HB2 | 1.69 | 0.93 |
| 34:BA:42:G:H2' | 34:BA:43:C:C6 | 2.03 | 0.93 |
| 34:BA:1440:C:H2' | 34:BA:1441:G:O4' | 1.68 | 0.93 |
| 42:BJ:104:LEU:HD23 | 42:BJ:104:LEU:H | 1.33 | 0.93 |
| 44:BL:17:VAL:HG13 | 44:BL:63:ILE:HG12 | 1.49 | 0.93 |
| 1:AB:49:C:H2' | 1:AB:50:G:C8 | 2.03 | 0.93 |
| 2:AA:457:A:H1' | 2:AA:459:U:O2 | 1.66 | 0.93 |
| 2:AA:784:A:C2' | 2:AA:785:G:H5" | 1.98 | 0.93 |
| 2:AA:824:A:H2' | 2:AA:825:C:C5 | 2.03 | 0.93 |
| 2:AA:1044:G:H2' | 2:AA:1111:A:C2 | 2.03 | 0.93 |
| 2:AA:1222:C:O2' | 2:AA:1223:C:H5' | 1.68 | 0.93 |
| 2:AA:2391:G:O2' | 2:AA:2392:A:H5' | 1.69 | 0.93 |
| 3:AC:59:ARG:NH1 | 3:AC:164:ARG:HH11 | 1.65 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:151:GLN:HA | 6:AF:154:VAL:HG23 | 1.51 | 0.93 |
| 8:AH:98:GLN:HB2 | 8:AH:103:VAL:CG2 | 1.98 | 0.93 |
| 10:AK:88:ARG:CA | 10:AK:122:ARG:O | 2.15 | 0.93 |
| 15:AP:15:THR:CB | 15:AP:20:ILE:HG12 | 1.98 | 0.93 |
| 15:AP:142:LYS:HE3 | 15:AP:143:VAL:CA | 1.97 | 0.93 |
| 19:AT:28:VAL:HG23 | 19:AT:62:LYS:HB3 | 1.47 | 0.93 |
| 34:BA:581:G:H4' | 50:BR:64:ARG:HH11 | 1.32 | 0.93 |
| 34:BA:597:G:N2 | 43:BK:94:TYR:HE2 | 1.65 | 0.93 |
| 34:BA:1323:G:H2' | 34:BA:1324:A:H8 | 1.34 | 0.93 |
| 37:BE:14:GLY:O | 37:BE:15:VAL:HG13 | 1.69 | 0.93 |
| 41:BI:76:ALA:CB | 41:BI:80:ARG:HH21 | 1.81 | 0.93 |
| 42:BJ:106:GLN:HA | 42:BJ:109:ASN:ND2 | 1.82 | 0.93 |
| 43:BK:64:LYS:CG | 43:BK:79:VAL:HG21 | 1.99 | 0.93 |
| 2:AA:106:C:H2' | 2:AA:107:C:H5' | 1.51 | 0.93 |
| 2:AA:245:G:H1 | 2:AA:253:C:H42 | 1.13 | 0.93 |
| 2:AA:299:A:H1' | 2:AA:319:C:O2' | 1.66 | 0.93 |
| 2:AA:343:C:C2' | 2:AA:344:G:H5' | 1.99 | 0.93 |
| 2:AA:612:G:H4' | 2:AA:616:A:H61 | 1.13 | 0.93 |
| 2:AA:624:C:H2' | 2:AA:624:C:O2 | 1.68 | 0.93 |
| 2:AA:1166:C:N4 | 2:AA:1183:G:H1 | 1.64 | 0.93 |
| 2:AA:2013:A:OP1 | 18:AS:96:ILE:HB | 1.67 | 0.93 |
| 2:AA:2285:C:O4' | 2:AA:2288:A:N6 | 2.02 | 0.93 |
| 2:AA:2599:G:H2' | 2:AA:2600:A:O4' | 1.68 | 0.93 |
| 3:AC:104:LEU:HB3 | 3:AC:126:LYS:HE3 | 1.48 | 0.93 |
| 5:AE:222:ARG:CG | 5:AE:232:ARG:HA | 1.98 | 0.93 |
| 13:AN:85:VAL:HG21 | 13:AN:114:ILE:CD1 | 1.99 | 0.93 |
| 18:AS:40:ASN:ND2 | 18:AS:41:LYS:H | 1.65 | 0.93 |
| 25:A1:114:ARG:O | 25:A1:117:ARG:HG3 | 1.69 | 0.93 |
| 26:A2:4:ILE:HA | 26:A2:12:TYR:CD2 | 2.04 | 0.93 |
| 29:A5:10:LYS:HA | 29:A5:10:LYS:NZ | 1.82 | 0.93 |
| 33:A9:10:MET:HB2 | 33:A9:32:HIS:CD2 | 2.03 | 0.93 |
| 34:BA:783:C:H2' | 34:BA:784:C:H5' | 1.50 | 0.93 |
| 34:BA:1104:G:O2' | 34:BA:1105:A:H5' | 1.69 | 0.93 |
| 34:BA:1479:C:C2' | 34:BA:1480:G:H5' | 1.98 | 0.93 |
| 39:BG:88:VAL:HG22 | 40:BH:96:PRO:HB3 | 1.51 | 0.93 |
| 46:BN:65:ALA:HB1 | 46:BN:98:LEU:CD2 | 1.98 | 0.93 |
| 48:BP:22:ILE:HB | 48:BP:25:ILE:CG1 | 1.99 | 0.93 |
| 51:BS:21:VAL:HG22 | 51:BS:36:ILE:CD1 | 1.98 | 0.93 |
| 1:AB:115:G:C5' | 16:AQ:59:ALA:HB2 | 1.98 | 0.93 |
| 2:AA:854:G:H2' | 2:AA:855:G:H8 | 1.32 | 0.93 |
| 2:AA:957:A:N7 | 2:AA:959:A:C5 | 2.37 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1065:U:H3' | 2:AA:1066:U:H5" | 1.47 | 0.93 |
| 2:AA:1614:A:H62 | 18:AS:88:ARG:HB2 | 1.26 | 0.93 |
| 2:AA:1666:G:O6 | 2:AA:1667:G:N2 | 2.02 | 0.93 |
| 2:AA:1993:U:H4' | 5:AE:228:ARG:NH2 | 1.84 | 0.93 |
| 2:AA:2285:C:H5 | 30:A6:28:ARG:HH21 | 0.96 | 0.93 |
| 2:AA:2818:G:H4' | 2:AA:2837:G:H4' | 1.51 | 0.93 |
| 3:AC:100:ILE:HG22 | 3:AC:126:LYS:CG | 1.99 | 0.93 |
| 4:AD:122:ASP:O | 4:AD:124:LYS:N | 2.00 | 0.93 |
| 4:AD:165:GLY:O | 4:AD:172:ILE:CB | 2.15 | 0.93 |
| 4:AD:216:ALA:C | 4:AD:223:ASN:H | 1.63 | 0.93 |
| 5:AE:70:VAL:HG13 | 5:AE:296:VAL:O | 1.67 | 0.93 |
| 8:AH:88:LEU:HB3 | 8:AH:128:THR:O | 1.68 | 0.93 |
| 12:AM:14:ALA:C | 12:AM:40:ASN:HD22 | 1.71 | 0.93 |
| 12:AM:76:ASP:O | 12:AM:80:LYS:HG2 | 1.68 | 0.93 |
| 16:AQ:31:LYS:HB3 | 16:AQ:32:PRO:HD3 | 1.50 | 0.93 |
| 21:AV:15:ASP:C | 21:AV:36:ARG:HH22 | 1.72 | 0.93 |
| 34:BA:5:U:C5 | 39:BG:86:LYS:HE3 | 2.02 | 0.93 |
| 34:BA:130:A:H4' | 34:BA:190(F):G:C2 | 2.04 | 0.93 |
| 34:BA:715:A:C4' | 34:BA:777:A:N6 | 2.32 | 0.93 |
| 34:BA:1481:U:H2' | 34:BA:1482:G:C8 | 2.03 | 0.93 |
| 37:BE:101:MET:HA | 37:BE:108:ILE:HG13 | 1.48 | 0.93 |
| 39:BG:175:SER:OG | 39:BG:186:LEU:HD21 | 1.67 | 0.93 |
| 42:BJ:75:VAL:HG22 | 42:BJ:88:PRO:CA | 1.98 | 0.93 |
| 48:BP:84:ILE:HG13 | 48:BP:85:GLY:N | 1.84 | 0.93 |
| 55:BW:100:ILE:O | 55:BW:102:GLY:N | 2.00 | 0.93 |
| 2:AA:93:C:H2' | 2:AA:94:G:H8 | 1.31 | 0.93 |
| 2:AA:269:U:H3 | 2:AA:270:A:H62 | 1.09 | 0.93 |
| 2:AA:407:G:H1 | 2:AA:420:C:N4 | 1.66 | 0.93 |
| 2:AA:1568:G:O5' | 4:AD:60:GLN:HG2 | 1.68 | 0.93 |
| 2:AA:1663:C:H2' | 2:AA:1664:A:N7 | 1.82 | 0.93 |
| 2:AA:1819:A:H4' | 2:AA:1820:U:C5' | 1.99 | 0.93 |
| 2:AA:2369:A:H2' | 2:AA:2370:G:H8 | 1.28 | 0.93 |
| 3:AC:68:LEU:HB3 | 3:AC:72:VAL:HG21 | 1.51 | 0.93 |
| 5:AE:76:PRO:HA | 5:AE:292:PRO:HG2 | 1.49 | 0.93 |
| 8:AH:97:LYS:HB2 | 8:AH:124:VAL:HG11 | 1.49 | 0.93 |
| 13:AN:43:VAL:HB | 13:AN:56:GLN:H | 1.30 | 0.93 |
| 13:AN:104:ARG:HH11 | 13:AN:122:ILE:HA | 1.31 | 0.93 |
| 22:AW:26:GLU:HA | 22:AW:29:ASN:ND2 | 1.82 | 0.93 |
| 34:BA:138:G:H1 | 34:BA:225:C:N4 | 1.65 | 0.93 |
| 34:BA:345:C:H4' | 34:BA:346:G:O5' | 1.65 | 0.93 |
| 34:BA:818:G:H3' | 34:BA:819:A:H5" | 1.49 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:990:C:H2' | 34:BA:991:U:C6 | 2.03 | 0.93 |
| 34:BA:1489:G:C2' | 34:BA:1490:C:H5" | 1.98 | 0.93 |
| 43:BK:10:LEU:HD22 | 43:BK:135:CYS:SG | 2.09 | 0.93 |
| 2:AA:270(D):C:O2 | 2:AA:270(D):C:H2' | 1.68 | 0.93 |
| 2:AA:530:G:H1 | 2:AA:2021:C:C5' | 1.82 | 0.93 |
| 2:AA:1102:C:H1' | 2:AA:1103:A:C8 | 2.04 | 0.93 |
| 2:AA:1319:G:O2' | 2:AA:1320:C:H5' | 1.69 | 0.93 |
| 2:AA:2113:U:OP2 | 2:AA:2116:G:H2' | 1.68 | 0.93 |
| 7:AG:106:PHE:O | 7:AG:130:VAL:HG23 | 1.67 | 0.93 |
| 21:AV:16:GLU:N | 21:AV:36:ARG:HH12 | 1.67 | 0.93 |
| 21:AV:21:ALA:HB3 | 21:AV:34:LEU:HD11 | 1.49 | 0.93 |
| 24:A0:63:ARG:HH21 | 24:A0:77:ARG:HG2 | 1.34 | 0.93 |
| 34:BA:440:A:N6 | 34:BA:495:U:C5 | 2.36 | 0.93 |
| 34:BA:459:G:N2 | 34:BA:463:A:H62 | 1.67 | 0.93 |
| 35:BB:5:A:C2 | 35:BB:69:U:O2 | 2.21 | 0.93 |
| 43:BK:34:GLU:O | 43:BK:37:ARG:HB3 | 1.68 | 0.93 |
| 55:BW:53:LEU:O | 55:BW:56:MET:HB2 | 1.68 | 0.93 |
| 2:AA:342:G:C2 | 2:AA:344:G:N2 | 2.36 | 0.93 |
| 2:AA:398:G:N2 | 2:AA:399:G:H1' | 1.84 | 0.93 |
| 2:AA:1020:A:H2 | 2:AA:1140:C:HO2' | 1.13 | 0.93 |
| 2:AA:1030:G:H1 | 2:AA:1124:C:H42 | 0.94 | 0.93 |
| 2:AA:1060:U:OP1 | 11:AL:74:PRO:HA | 1.68 | 0.93 |
| 2:AA:1173:G:N2 | 2:AA:1175:U:C5' | 2.31 | 0.93 |
| 4:AD:160:SER:O | 4:AD:176:ALA:HB2 | 1.69 | 0.93 |
| 4:AD:197:GLY:C | 4:AD:199:ARG:H | 1.72 | 0.93 |
| 5:AE:77:PRO:HG2 | 5:AE:186:GLU:HB2 | 1.47 | 0.93 |
| 10:AK:6:LEU:O | 10:AK:7:LYS:HB2 | 1.68 | 0.93 |
| 14:AO:92:ASP:HB2 | 14:AO:118:LEU:CD2 | 1.98 | 0.93 |
| 15:AP:71:PHE:CB | 15:AP:138:ARG:HH11 | 1.82 | 0.93 |
| 18:AS:82:LEU:HB2 | 18:AS:98:LYS:HB2 | 1.51 | 0.93 |
| 22:AW:5:VAL:HG13 | 22:AW:59:ILE:HD12 | 1.51 | 0.93 |
| 22:AW:43:PRO:C | 22:AW:45:ARG:N | 2.19 | 0.93 |
| 27:A3:68:VAL:HG21 | 27:A3:72:LYS:HE3 | 1.51 | 0.93 |
| 28:A4:5:LEU:O | 28:A4:56:VAL:HG13 | 1.68 | 0.93 |
| 28:A4:68:ARG:HH11 | 28:A4:72:LYS:HE2 | 1.33 | 0.93 |
| 34:BA:955:U:H1' | 34:BA:1227:A:H61 | 1.32 | 0.93 |
| 34:BA:1127:G:N2 | 34:BA:1144:G:H22 | 1.66 | 0.93 |
| 34:BA:1451:A:H5" | 34:BA:1452:C:C5 | 2.04 | 0.93 |
| 37:BE:21:ARG:HD2 | 37:BE:21:ARG:H | 1.30 | 0.93 |
| 38:BF:47:LEU:O | 38:BF:52:LEU:HD22 | 1.69 | 0.93 |
| 43:BK:38:ILE:HG13 | 43:BK:118:VAL:HG11 | 1.51 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:104:ARG:HB3 | 43:BK:107:LEU:HG | 1.51 | 0.93 |
| 1:AB:12:C:H3' | 27:A3:53:MET:SD | 2.08 | 0.92 |
| 2:AA:659:C:H5' | 6:AF:103:ASN:OD1 | 1.69 | 0.92 |
| 2:AA:853:G:H2' | 2:AA:854:G:H8 | 1.30 | 0.92 |
| 2:AA:969:U:H2' | 2:AA:970:C:H6 | 1.34 | 0.92 |
| 2:AA:1020:A:H4' | 12:AM:49:ARG:HH12 | 1.34 | 0.92 |
| 2:AA:1222:C:H42 | 2:AA:1227:A:H62 | 0.94 | 0.92 |
| 2:AA:1252:G:H22 | 25:A1:37:GLN:HE21 | 0.93 | 0.92 |
| 2:AA:1355:G:H22 | 2:AA:1377:G:H1' | 1.26 | 0.92 |
| 2:AA:1414:G:N1 | 2:AA:1588:C:N4 | 2.16 | 0.92 |
| 6:AF:153:VAL:O | 6:AF:157:LEU:HG | 1.69 | 0.92 |
| 10:AK:108:LEU:HD23 | 10:AK:109:LYS:H | 1.29 | 0.92 |
| 14:AO:73:VAL:HA | 14:AO:76:LEU:HB2 | 1.49 | 0.92 |
| 15:AP:35:ASN:H | 15:AP:76:GLY:H | 1.09 | 0.92 |
| 34:BA:665:A:H2' | 34:BA:725:G:H22 | 1.28 | 0.92 |
| 34:BA:1338:G:N2 | 35:BC:41:U:H1' | 1.81 | 0.92 |
| 36:B1:20:A:H61 | 36:B1:34:U:H3 | 1.08 | 0.92 |
| 48:BP:13:LYS:HD3 | 48:BP:17:VAL:HG12 | 1.51 | 0.92 |
| 1:AB:21:G:N2 | 1:AB:62:C:N3 | 2.17 | 0.92 |
| 2:AA:1613:G:H2' | 2:AA:1617:C:N4 | 1.82 | 0.92 |
| 2:AA:1664:A:N1 | 2:AA:1665:A:N6 | 2.16 | 0.92 |
| 2:AA:2640:G:H1 | 2:AA:2774:C:H42 | 0.96 | 0.92 |
| 3:AC:91:ALA:HA | 3:AC:153:ILE:HG21 | 1.48 | 0.92 |
| 5:AE:61:PRO:CB | 5:AE:69:PRO:HA | 1.97 | 0.92 |
| 10:AK:94:THR:CG2 | 10:AK:96:LYS:HB3 | 1.98 | 0.92 |
| 15:AP:26:LYS:HD2 | 15:AP:89:PRO:CD | 1.98 | 0.92 |
| 15:AP:67:ALA:N | 15:AP:70:ARG:CZ | 2.32 | 0.92 |
| 17:AR:49:LEU:HD22 | 17:AR:54:THR:HG22 | 1.47 | 0.92 |
| 23:AX:22:ALA:O | 23:AX:26:LEU:HG | 1.69 | 0.92 |
| 34:BA:409:G:H1 | 34:BA:433:C:H42 | 0.94 | 0.92 |
| 34:BA:533:A:H2' | 34:BA:535:A:OP2 | 1.69 | 0.92 |
| 34:BA:657:G:H2' | 34:BA:658:G:H5' | 1.49 | 0.92 |
| 34:BA:985:C:N3 | 34:BA:1220:G:N2 | 2.17 | 0.92 |
| 34:BA:1133:G:H1 | 34:BA:1141:C:H42 | 0.93 | 0.92 |
| 34:BA:1310:G:H2' | 34:BA:1311:G:C8 | 2.04 | 0.92 |
| 35:BB:2:C:N4 | 35:BB:71:G:O6 | 2.02 | 0.92 |
| 39:BG:12:CYS:CA | 39:BG:19:LEU:HB2 | 1.98 | 0.92 |
| 40:BH:89:ILE:HG12 | 40:BH:131:ILE:CD1 | 1.98 | 0.92 |
| 41:BI:69:GLU:O | 41:BI:72:VAL:HG23 | 1.69 | 0.92 |
| 50:BR:3:ILE:CG2 | 50:BR:38:ARG:HH21 | 1.81 | 0.92 |
| 2:AA:231:C:C4 | 2:AA:232:G:N2 | 2.37 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:270(S):G:H2' | 2:AA:270(T):G:C8 | 2.04 | 0.92 |
| 2:AA:457:A:C8 | 2:AA:471:A:N6 | 2.37 | 0.92 |
| 2:AA:1139:G:O2' | 2:AA:142(A):A:N3 | 2.02 | 0.92 |
| 2:AA:1163:G:H5' | 26:A2:23:GLU:CD | 1.89 | 0.92 |
| 2:AA:1298:C:H4' | 2:AA:1302:A:H62 | 1.32 | 0.92 |
| 9:AI:69:ASN:HB2 | 9:AI:122:GLY:HA3 | 1.51 | 0.92 |
| 13:AN:1:MET:N | 13:AN:32:TYR:CD2 | 2.36 | 0.92 |
| 34:BA:50:A:N6 | 34:BA:361:G:H4' | 1.83 | 0.92 |
| 37:BE:102:LEU:CD2 | 37:BE:176:GLU:HB2 | 1.99 | 0.92 |
| 39:BG:155:LEU:HB2 | 39:BG:158:ILE:HG12 | 1.51 | 0.92 |
| 48:BP:24:GLY:HA3 | 48:BP:66:LEU:HB3 | 1.52 | 0.92 |
| 50:BR:77:ARG:HH11 | 50:BR:77:ARG:HB3 | 1.32 | 0.92 |
| 2:AA:14:A:N7 | 2:AA:15:G:C4 | 2.37 | 0.92 |
| 2:AA:530:G:H3' | 2:AA:530:G:P | 2.09 | 0.92 |
| 2:AA:1272:A:O2' | 2:AA:1273:U:OP1 | 1.86 | 0.92 |
| 2:AA:1439:A:H2' | 2:AA:1440:G:H5' | 1.50 | 0.92 |
| 2:AA:1697:G:H3' | 2:AA:1698:A:C5' | 1.99 | 0.92 |
| 2:AA:1782:C:H5" | 2:AA:1783:A:P | 2.10 | 0.92 |
| 2:AA:2081:C:C5' | 28:A4:35:VAL:HG21 | 2.00 | 0.92 |
| 2:AA:2359:C:H4' | 32:A8:52:LYS:CE | 1.99 | 0.92 |
| 2:AA:2376:A:H2 | 16:AQ:102:LEU:HD22 | 1.34 | 0.92 |
| 2:AA:2507:C:H2' | 2:AA:2508:G:H8 | 1.34 | 0.92 |
| 2:AA:2689:U:H5' | 2:AA:2690:C:H5' | 1.49 | 0.92 |
| 9:AI:73:VAL:HA | 9:AI:121:ALA:HB1 | 1.50 | 0.92 |
| 21:AV:51:LEU:HD21 | 21:AV:64:ALA:N | 1.83 | 0.92 |
| 30:A6:11:LYS:HZ3 | 32:A8:35:GLY:CA | 1.82 | 0.92 |
| 32:A8:26:LYS:HD2 | 32:A8:43:GLY:C | 1.89 | 0.92 |
| 34:BA:236:G:H2' | 34:BA:237:C:C6 | 2.03 | 0.92 |
| 34:BA:697:U:H2' | 34:BA:698:G:O5' | 1.67 | 0.92 |
| 34:BA:965:A:H1' | 34:BA:969:A:C8 | 2.05 | 0.92 |
| 34:BA:1001:A:N1 | 34:BA:1040:U:O4 | 2.01 | 0.92 |
| 34:BA:1269:A:H8 | 34:BA:1270:C:O4' | 1.53 | 0.92 |
| 46:BN:31:THR:HG23 | 46:BN:42:TRP:HB3 | 1.48 | 0.92 |
| 48:BP:11:ARG:HG3 | 48:BP:11:ARG:HH11 | 1.34 | 0.92 |
| 2:AA:1036:G:OP1 | 8:AH:59:HIS:HE1 | 1.51 | 0.92 |
| 2:AA:1365:A:H5" | 28:A4:3:LYS:HD2 | 1.49 | 0.92 |
| 2:AA:1519:G:H4' | 2:AA:1519:G:OP1 | 1.70 | 0.92 |
| 2:AA:2681:C:C5 | 2:AA:2727:G:N2 | 2.36 | 0.92 |
| 2:AA:2699:C:N4 | 2:AA:2708:G:N1 | 2.18 | 0.92 |
| 3:AC:173:ALA:HB1 | 3:AC:174:PRO:HD2 | 1.51 | 0.92 |
| 9:AJ:69:ASN:HB2 | 9:AJ:122:GLY:HA3 | 1.50 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:110:LEU:CD2 | 10:AK:114:LYS:HG3 | 1.98 | 0.92 |
| 12:AM:137:GLU:HA | 12:AM:141:ALA:HB2 | 0.97 | 0.92 |
| 14:AO:66:VAL:HG23 | 14:AO:109:LEU:O | 1.68 | 0.92 |
| 21:AV:70:GLN:HG3 | 21:AV:72:ASP:HB3 | 1.51 | 0.92 |
| 28:A4:5:LEU:CD1 | 28:A4:60:ASN:HD21 | 1.82 | 0.92 |
| 29:A5:50:GLY:HA2 | 29:A5:57:VAL:HB | 1.48 | 0.92 |
| 32:A8:4:MET:HB2 | 32:A8:7:HIS:CE1 | 2.04 | 0.92 |
| 32:A8:15:LYS:O | 32:A8:22:VAL:HG13 | 1.70 | 0.92 |
| 34:BA:129(A):G:C6 | 34:BA:190(D):U:H4' | 2.03 | 0.92 |
| 34:BA:531:U:H4' | 34:BA:532:A:C5' | 1.99 | 0.92 |
| 34:BA:777:A:H2' | 34:BA:778:G:H8 | 1.32 | 0.92 |
| 34:BA:1126:U:H2' | 34:BA:1127:G:C8 | 2.04 | 0.92 |
| 34:BA:1470:G:O2' | 34:BA:1471:G:H5' | 1.70 | 0.92 |
| 38:BF:38:ARG:HB2 | 38:BF:94:LEU:HD21 | 1.49 | 0.92 |
| 42:BJ:145:ALA:O | 42:BJ:146:GLU:HB3 | 1.69 | 0.92 |
| 2:AA:136:G:O3' | 2:AA:137:C:H4' | 1.70 | 0.92 |
| 2:AA:612:G:H2' | 2:AA:615:G:C4 | 2.05 | 0.92 |
| 2:AA:872:A:O2' | 15:AP:31:PHE:HB2 | 1.69 | 0.92 |
| 2:AA:878:A:C2 | 2:AA:879:G:H5" | 2.04 | 0.92 |
| 2:AA:1434:A:H61 | 2:AA:1558:A:H61 | 1.16 | 0.92 |
| 2:AA:1471:A:H62 | 2:AA:1519:G:N2 | 1.66 | 0.92 |
| 2:AA:1942:C:H3' | 2:AA:1942:C:OP2 | 1.70 | 0.92 |
| 2:AA:2028:U:H2' | 2:AA:2029:G:C8 | 2.05 | 0.92 |
| 2:AA:2231:C:H2' | 2:AA:2232:U:H6 | 1.21 | 0.92 |
| 2:AA:2771:C:H5' | 5:AE:316:ARG:HD2 | 1.52 | 0.92 |
| 2:AA:2785:C:H4' | 5:AE:99:VAL:CA | 1.99 | 0.92 |
| 5:AE:109:ASP:OD2 | 5:AE:112:LEU:HG | 1.68 | 0.92 |
| 8:AH:10:ILE:HD11 | 8:AH:16:VAL:HG21 | 1.51 | 0.92 |
| 25:A1:24:PHE:CE1 | 25:A1:29:SER:HA | 2.04 | 0.92 |
| 25:A1:89:ASP:OD2 | 26:A2:52:GLY:N | 2.01 | 0.92 |
| 30:A6:12:MET:HB2 | 30:A6:27:ASN:ND2 | 1.84 | 0.92 |
| 34:BA:1026:G:H2' | 34:BA:1027:C:H5' | 1.51 | 0.92 |
| 43:BK:10:LEU:CD1 | 43:BK:85:ARG:HB2 | 1.99 | 0.92 |
| 46:BN:54:ARG:HG3 | 46:BN:54:ARG:HH11 | 1.33 | 0.92 |
| 2:AA:94:G:H21 | 22:AW:42:ASN:HD22 | 1.04 | 0.92 |
| 2:AA:354:G:N3 | 2:AA:355:G:N7 | 2.17 | 0.92 |
| 2:AA:404:C:H4' | 2:AA:405:U:C5' | 1.99 | 0.92 |
| 2:AA:763:G:O2' | 2:AA:764:A:H5" | 1.70 | 0.92 |
| 2:AA:1014:U:O2' | 2:AA:1015:G:H5' | 1.68 | 0.92 |
| 2:AA:1035:U:H2' | 2:AA:1036:G:C8 | 2.03 | 0.92 |
| 2:AA:1044:G:C2' | 2:AA:1111:A:H2 | 1.82 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1559:G:C4 | 2:AA:1559:G:H3' | 2.04 | 0.92 |
| 2:AA:1690:A:N6 | 2:AA:1697:G:H21 | 1.67 | 0.92 |
| 2:AA:1837:C:N4 | 2:AA:1903:G:H1 | 1.67 | 0.92 |
| 2:AA:1975:G:O2' | 2:AA:1976:U:H5' | 1.68 | 0.92 |
| 2:AA:2348:U:H3' | 32:A8:42:ARG:NH2 | 1.84 | 0.92 |
| 2:AA:2690:C:H41 | 24:A0:14:SER:HB2 | 1.34 | 0.92 |
| 5:AE:74:GLU:HA | 5:AE:293:TYR:CD2 | 2.05 | 0.92 |
| 8:AH:21:ASN:HD22 | 8:AH:38:PRO:HD3 | 1.34 | 0.92 |
| 9:AJ:85:LEU:HD21 | 11:AL:69:ILE:HD11 | 1.49 | 0.92 |
| 22:AW:20:LEU:CD2 | 22:AW:53:ILE:HG23 | 1.99 | 0.92 |
| 22:AW:54:ALA:HA | 22:AW:57:LYS:HD2 | 1.51 | 0.92 |
| 23:AX:26:LEU:HB2 | 23:AX:28:LEU:HD11 | 1.50 | 0.92 |
| 24:A0:45:ARG:HD3 | 24:A0:97:VAL:HG23 | 1.49 | 0.92 |
| 25:A1:44:THR:O | 25:A1:47:TYR:HB2 | 1.69 | 0.92 |
| 29:A5:18:MET:O | 29:A5:21:SER:OG | 1.86 | 0.92 |
| 30:A6:28:ARG:HB2 | 30:A6:30:ASN:HB2 | 1.52 | 0.92 |
| 34:BA:599:C:H42 | 34:BA:639:G:H1 | 1.04 | 0.92 |
| 34:BA:1286:A:N6 | 34:BA:1355:G:OP1 | 2.02 | 0.92 |
| 37:BE:118:LEU:CD1 | 37:BE:145:LEU:HG | 2.00 | 0.92 |
| 37:BE:150:SER:HA | 37:BE:153:ARG:HB3 | 1.51 | 0.92 |
| 38:BF:138:VAL:HG12 | 38:BF:170:GLN:HE21 | 1.35 | 0.92 |
| 44:BL:50:LEU:HD11 | 44:BL:56:LEU:HA | 1.50 | 0.92 |
| 54:BV:32:LYS:CA | 54:BV:50:ALA:HB3 | 2.00 | 0.92 |
| 2:AA:270(H):C:N3 | 2:AA:270(R):G:C2 | 2.38 | 0.92 |
| 2:AA:730:C:O2' | 2:AA:731:C:H5' | 1.70 | 0.92 |
| 2:AA:806:C:C2 | 2:AA:807:U:H5 | 1.87 | 0.92 |
| 2:AA:850:C:H4' | 23:AX:18:ASP:CG | 1.89 | 0.92 |
| 2:AA:882:G:H1 | 2:AA:894:C:H42 | 1.05 | 0.92 |
| 2:AA:1064:C:H2' | 2:AA:1065:U:H6 | 1.35 | 0.92 |
| 2:AA:1837:C:H42 | 2:AA:1903:G:H1 | 0.93 | 0.92 |
| 2:AA:2320:A:N6 | 16:AQ:9:PRO:HB3 | 1.85 | 0.92 |
| 3:AC:46:LYS:HE3 | 3:AC:210:ARG:HD3 | 1.50 | 0.92 |
| 3:AC:120:MET:SD | 3:AC:138:PRO:HB2 | 2.09 | 0.92 |
| 4:AD:131:LEU:CD1 | 4:AD:187:CYS:HB2 | 2.00 | 0.92 |
| 5:AE:231:TRP:O | 5:AE:232:ARG:HG3 | 1.68 | 0.92 |
| 10:AK:6:LEU:HD12 | 10:AK:35:LEU:HA | 1.50 | 0.92 |
| 10:AK:94:THR:HG22 | 10:AK:97:GLN:CG | 1.98 | 0.92 |
| 12:AM:80:LYS:HA | 12:AM:83:ILE:HD11 | 1.52 | 0.92 |
| 16:AQ:34:LEU:HD21 | 16:AQ:129:ILE:HD11 | 1.51 | 0.92 |
| 20:AU:66:ASP:N | 20:AU:72:ILE:HG12 | 1.85 | 0.92 |
| 34:BA:19:C:H1' | 34:BA:864:A:N3 | 1.84 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:489:C:H2' | 34:BA:490:G:H8 | 1.31 | 0.92 |
| 34:BA:579:G:H2' | 34:BA:580:U:H5' | 1.50 | 0.92 |
| 34:BA:886:G:O2' | 34:BA:887:G:H5' | 1.69 | 0.92 |
| 34:BA:964:A:C2 | 34:BA:969:A:H1' | 2.04 | 0.92 |
| 34:BA:1435:G:H2' | 34:BA:1436:U:C5 | 2.05 | 0.92 |
| 37:BE:67:THR:HB | 37:BE:155:LEU:HD21 | 1.52 | 0.92 |
| 37:BE:91:PRO:CG | 37:BE:155:LEU:H | 1.82 | 0.92 |
| 38:BF:31:HIS:O | 38:BF:34:LEU:HB3 | 1.69 | 0.92 |
| 47:BO:41:ARG:HH12 | 47:BO:57:LYS:HE3 | 1.34 | 0.92 |
| 48:BP:23:TYR:HB3 | 48:BP:67:GLU:HA | 1.50 | 0.92 |
| 52:BT:10:VAL:CG1 | 52:BT:53:LEU:HA | 1.98 | 0.92 |
| 1:AB:84:C:N3 | 1:AB:92:G:N2 | 2.18 | 0.92 |
| 2:AA:26:G:N1 | 2:AA:27:G:N2 | 2.18 | 0.92 |
| 2:AA:322:A:O4' | 2:AA:341:G:H5' | 1.69 | 0.92 |
| 2:AA:755:C:H2' | 2:AA:756:C:H6 | 1.35 | 0.92 |
| 2:AA:860:U:H3 | 2:AA:917:A:H61 | 1.17 | 0.92 |
| 2:AA:869:G:H1 | 2:AA:908:C:N4 | 1.68 | 0.92 |
| 2:AA:1195:G:N3 | 2:AA:1226:G:N2 | 2.17 | 0.92 |
| 2:AA:1365:A:H2' | 2:AA:1366:A:C8 | 2.05 | 0.92 |
| 2:AA:1904:G:O2' | 2:AA:1905:C:H5' | 1.69 | 0.92 |
| 2:AA:1966:A:C2 | 2:AA:2593:U:H5' | 2.04 | 0.92 |
| 2:AA:2312:U:C2' | 7:AG:72:LYS:HZ2 | 1.83 | 0.92 |
| 2:AA:2355:C:N3 | 2:AA:2362:G:N2 | 2.18 | 0.92 |
| 2:AA:2445:G:H2' | 2:AA:2446:G:C8 | 2.04 | 0.92 |
| 2:AA:2512:C:H4' | 5:AE:235:ILE:HD12 | 1.52 | 0.92 |
| 2:AA:2818:G:H4' | 2:AA:2837:G:C4' | 1.99 | 0.92 |
| 3:AC:36:LYS:HZ2 | 3:AC:36:LYS:HA | 1.30 | 0.92 |
| 4:AD:199:ARG:HH11 | 4:AD:199:ARG:HG3 | 1.35 | 0.92 |
| 5:AE:42:ALA:HA | 5:AE:311:PHE:CZ | 2.04 | 0.92 |
| 9:AI:7:ILE:CD1 | 11:AL:118:ALA:HA | 1.99 | 0.92 |
| 12:AM:54:VAL:HG22 | 12:AM:135:ILE:CD1 | 1.99 | 0.92 |
| 12:AM:58:GLU:CG | 12:AM:139:LEU:HB3 | 2.00 | 0.92 |
| 20:AU:57:GLY:HA2 | 20:AU:97:ARG:NH2 | 1.84 | 0.92 |
| 26:A2:72:ARG:HB2 | 26:A2:88:GLN:CG | 1.99 | 0.92 |
| 34:BA:371:G:N2 | 34:BA:390:C:N3 | 2.17 | 0.92 |
| 35:BB:15:G:O2' | 35:BB:16:U:H5" | 1.70 | 0.92 |
| 35:BB:66:A:C3' | 35:BB:67:A:H8 | 1.81 | 0.92 |
| 40:BH:47:LYS:HD2 | 40:BH:47:LYS:N | 1.84 | 0.92 |
| 43:BK:47:GLY:O | 43:BK:61:VAL:HG13 | 1.69 | 0.92 |
| 48:BP:108:ARG:HH11 | 48:BP:108:ARG:CA | 1.82 | 0.92 |
| 52:BT:5:VAL:HG13 | 52:BT:59:ILE:O | 1.69 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BU:31:LEU:HD11 | 53:BU:62:GLU:OE2 | 1.70 | 0.92 |
| 53:BU:55:ARG:HH11 | 53:BU:55:ARG:HA | 1.34 | 0.92 |
| 1:AB:9:G:H1 | 1:AB:111:U:H3 | 1.09 | 0.92 |
| 2:AA:7:G:H2' | 2:AA:8:A:H8 | 1.33 | 0.92 |
| 2:AA:717:G:C2 | 2:AA:718:A:H1' | 2.05 | 0.92 |
| 2:AA:945:A:N3 | 2:AA:945:A:H2' | 1.84 | 0.92 |
| 2:AA:1012:U:H3' | 2:AA:1012:U:C6 | 2.04 | 0.92 |
| 2:AA:1127:A:C2 | 2:AA:2518:A:N3 | 2.38 | 0.92 |
| 2:AA:1152:C:O3' | 25:A1:80:ILE:HD13 | 1.70 | 0.92 |
| 2:AA:1943:U:C2 | 2:AA:1945:G:H5' | 2.03 | 0.92 |
| 2:AA:2052:G:H5' | 5:AE:239:GLY:H | 1.33 | 0.92 |
| 2:AA:2138:C:H2' | 2:AA:2139:C:H6 | 1.31 | 0.92 |
| 2:AA:2215:G:H2' | 2:AA:2216:G:C8 | 2.04 | 0.92 |
| 2:AA:2684:U:H3 | 2:AA:2725:A:H61 | 1.10 | 0.92 |
| 2:AA:2838:G:N2 | 2:AA:2880:C:N3 | 2.18 | 0.92 |
| 5:AE:45:LYS:HZ1 | 5:AE:301:PRO:C | 1.72 | 0.92 |
| 5:AE:210:THR:HA | 5:AE:216:ARG:HH22 | 1.20 | 0.92 |
| 13:AN:64:ARG:HH22 | 13:AN:100:GLY:HA3 | 1.12 | 0.92 |
| 20:AU:71:VAL:HG22 | 20:AU:93:THR:H | 1.35 | 0.92 |
| 34:BA:858:G:H22 | 34:BA:869:G:C2' | 1.80 | 0.92 |
| 34:BA:1448:C:H42 | 34:BA:1455:G:H1 | 0.96 | 0.92 |
| 35:BB:7:U:C4 | 35:BB:67:A:N1 | 2.37 | 0.92 |
| 38:BF:73:PRO:HD3 | 38:BF:105:GLU:HG3 | 1.48 | 0.92 |
| 1:AB:11:C:O2 | 1:AB:109:G:N1 | 2.02 | 0.91 |
| 2:AA:259:G:H1' | 2:AA:621:A:O2' | 1.70 | 0.91 |
| 2:AA:429:A:H2' | 2:AA:430:G:N7 | 1.84 | 0.91 |
| 2:AA:449:A:O2' | 2:AA:450:G:H5' | 1.70 | 0.91 |
| 2:AA:610:C:H42 | 2:AA:618(A):C:H42 | 0.98 | 0.91 |
| 2:AA:642:G:H21 | 2:AA:646:A:H61 | 0.94 | 0.91 |
| 2:AA:1069:A:H4' | 2:AA:1070:A:H5" | 1.52 | 0.91 |
| 2:AA:2149:G:C2' | 2:AA:2150:U:H5' | 1.99 | 0.91 |
| 2:AA:2453:A:O2' | 2:AA:2454:G:H5' | 1.69 | 0.91 |
| 14:AO:92:ASP:CB | 14:AO:118:LEU:HB3 | 1.97 | 0.91 |
| 22:AW:26:GLU:O | 22:AW:29:ASN:HB2 | 1.68 | 0.91 |
| 31:A7:6:GLN:H | 31:A7:6:GLN:CD | 1.70 | 0.91 |
| 34:BA:1165:C:H42 | 34:BA:1171:G:H1 | 1.12 | 0.91 |
| 34:BA:1244:C:H42 | 34:BA:1293:G:H1 | 1.16 | 0.91 |
| 35:BB:29:A:H61 | 35:BB:41:U:H3 | 1.01 | 0.91 |
| 37:BE:70:PHE:O | 37:BE:92:TYR:HA | 1.70 | 0.91 |
| 37:BE:77:ALA:O | 37:BE:80:ILE:HB | 1.70 | 0.91 |
| 37:BE:163:PHE:CE2 | 37:BE:186:ALA:HA | 2.05 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:58:LEU:O | 39:BG:58:LEU:HD22 | 1.70 | 0.91 |
| 47:BO:46:LYS:HG2 | 47:BO:47:LYS:H | 1.35 | 0.91 |
| 2:AA:273(D):C:N3 | 2:AA:363(B):G:N2 | 2.18 | 0.91 |
| 2:AA:412:A:C2 | 2:AA:413:C:H1' | 2.04 | 0.91 |
| 2:AA:945:A:N6 | 2:AA:2448:A:H2 | 1.68 | 0.91 |
| 2:AA:1426:G:H1' | 2:AA:1573:G:N2 | 1.84 | 0.91 |
| 2:AA:1741:C:O2' | 2:AA:1742:C:H5' | 1.71 | 0.91 |
| 2:AA:2059:A:C2 | 2:AA:2503:A:N6 | 2.38 | 0.91 |
| 2:AA:2083:G:H2' | 2:AA:2084:C:H6 | 1.29 | 0.91 |
| 2:AA:2099:U:H3 | 2:AA:2190:G:H1 | 1.10 | 0.91 |
| 2:AA:2316:C:H4' | 7:AG:142:ALA:CB | 2.01 | 0.91 |
| 2:AA:2521:C:H42 | 2:AA:2544:G:H1 | 0.91 | 0.91 |
| 6:AF:5:ILE:HB | 6:AF:14:GLY:O | 1.71 | 0.91 |
| 8:AH:41:THR:N | 8:AH:54:PRO:HG3 | 1.85 | 0.91 |
| 12:AM:21:ARG:HD2 | 12:AM:21:ARG:H | 1.33 | 0.91 |
| 21:AV:33:ALA:O | 21:AV:34:LEU:HD12 | 1.68 | 0.91 |
| 27:A3:37:LEU:CD1 | 27:A3:69:PHE:HB2 | 2.00 | 0.91 |
| 34:BA:1172:C:H2' | 34:BA:1173:G:H8 | 1.36 | 0.91 |
| 35:BB:7:U:N3 | 35:BB:67:A:N1 | 2.19 | 0.91 |
| 35:BB:19:G:O3' | 35:BB:20:G:C8 | 2.23 | 0.91 |
| 35:BB:33:U:C4 | 35:BB:35:A:P | 2.63 | 0.91 |
| 37:BE:169:LYS:NZ | 37:BE:170:GLU:HA | 1.86 | 0.91 |
| 39:BG:133:VAL:HG11 | 39:BG:138:TYR:HB2 | 1.50 | 0.91 |
| 43:BK:6:ILE:HD13 | 43:BK:7:ALA:N | 1.85 | 0.91 |
| 43:BK:98:LYS:N | 43:BK:98:LYS:HZ2 | 1.68 | 0.91 |
| 49:BQ:14:PRO:C | 49:BQ:16:PHE:H | 1.70 | 0.91 |
| 2:AA:860:U:H3 | 2:AA:917:A:N6 | 1.68 | 0.91 |
| 2:AA:955:C:H42 | 2:AA:962:G:H1 | 0.92 | 0.91 |
| 2:AA:1135:C:O2' | 2:AA:1136:G:H5' | 1.71 | 0.91 |
| 2:AA:1173:G:N2 | 2:AA:1175:U:H5' | 1.85 | 0.91 |
| 2:AA:1225:C:OP1 | 26:A2:87:ARG:HB2 | 1.69 | 0.91 |
| 2:AA:1788:C:O2' | 2:AA:1789:A:H5' | 1.69 | 0.91 |
| 2:AA:1864:U:H2' | 2:AA:1869:G:H5' | 1.52 | 0.91 |
| 2:AA:1966:A:O2' | 2:AA:2593:U:OP1 | 1.87 | 0.91 |
| 2:AA:2023:G:H2' | 2:AA:2024:G:C8 | 2.04 | 0.91 |
| 2:AA:2209:C:H42 | 2:AA:2215:G:H1 | 1.09 | 0.91 |
| 2:AA:2373:G:N2 | 2:AA:2380:C:N3 | 2.18 | 0.91 |
| 2:AA:2657:A:H62 | 2:AA:2664:G:H21 | 0.98 | 0.91 |
| 3:AC:58:VAL:HG22 | 3:AC:201:PRO:HD3 | 1.51 | 0.91 |
| 8:AH:146:ASN:O | 8:AH:150:VAL:HG23 | 1.70 | 0.91 |
| 11:AL:79:LEU:HD21 | 11:AL:137:ILE:HG21 | 1.53 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:45:VAL:O | 12:AM:132:LEU:HD13 | 1.71 | 0.91 |
| 21:AV:34:LEU:O | 21:AV:35:ASP:HB3 | 1.70 | 0.91 |
| 21:AV:156:GLU:HG2 | 21:AV:157:GLY:N | 1.84 | 0.91 |
| 24:A0:55:ALA:CB | 24:A0:79:LEU:HD21 | 2.00 | 0.91 |
| 26:A2:3:ALA:O | 26:A2:12:TYR:HE2 | 1.51 | 0.91 |
| 34:BA:130:A:H5" | 34:BA:190(F):G:H2' | 1.52 | 0.91 |
| 34:BA:265:G:H2' | 34:BA:267:C:H5 | 1.35 | 0.91 |
| 34:BA:862:C:H1' | 34:BA:874:G:H5" | 1.52 | 0.91 |
| 34:BA:1250:A:H4' | 44:BL:67:GLY:C | 1.91 | 0.91 |
| 35:BB:34:G:N3 | 36:B1:66:G:O6 | 2.03 | 0.91 |
| 37:BE:54:THR:HG21 | 37:BE:201:ILE:HD11 | 1.52 | 0.91 |
| 43:BK:33:GLU:HA | 43:BK:36:LEU:HD21 | 1.50 | 0.91 |
| 44:BL:47:LEU:HD21 | 44:BL:50:LEU:HD12 | 1.52 | 0.91 |
| 1:AB:46:A:H2' | 1:AB:47:C:H6 | 1.31 | 0.91 |
| 2:AA:237:C:N3 | 2:AA:260:G:N2 | 2.18 | 0.91 |
| 2:AA:481:G:N2 | 2:AA:507:A:H1' | 1.85 | 0.91 |
| 2:AA:802:A:H2' | 2:AA:803:U:H6 | 1.34 | 0.91 |
| 2:AA:983:A:H3' | 2:AA:984:A:O4' | 1.70 | 0.91 |
| 2:AA:1438:U:H2' | 2:AA:1439:A:C5' | 1.99 | 0.91 |
| 2:AA:1782:C:H5" | 2:AA:1783:A:OP2 | 1.68 | 0.91 |
| 2:AA:2507:C:N4 | 2:AA:2582:G:N1 | 2.18 | 0.91 |
| 2:AA:2553:G:N2 | 2:AA:2583:G:O2' | 2.03 | 0.91 |
| 2:AA:2671:A:H2' | 2:AA:2672:G:C8 | 2.04 | 0.91 |
| 6:AF:164:ALA:O | 6:AF:167:ASP:HB2 | 1.71 | 0.91 |
| 7:AG:151:ILE:HD13 | 7:AG:156:ARG:NH2 | 1.85 | 0.91 |
| 8:AH:102:LEU:HD12 | 8:AH:104:LEU:HD11 | 1.52 | 0.91 |
| 26:A2:28:GLU:O | 26:A2:30:GLY:N | 2.02 | 0.91 |
| 34:BA:193:C:H2' | 34:BA:194:C:H6 | 1.35 | 0.91 |
| 34:BA:1007:C:N3 | 34:BA:1022:G:N2 | 2.17 | 0.91 |
| 34:BA:1261:A:N6 | 34:BA:1274:G:H1' | 1.86 | 0.91 |
| 35:BB:29:A:N6 | 35:BB:41:U:H3 | 1.67 | 0.91 |
| 40:BH:28:PHE:HD1 | 40:BH:28:PHE:N | 1.66 | 0.91 |
| 43:BK:109:ILE:HG12 | 43:BK:137:VAL:O | 1.70 | 0.91 |
| 44:BL:97:LYS:NZ | 44:BL:102:LEU:HD11 | 1.86 | 0.91 |
| 48:BP:74:VAL:HG12 | 48:BP:78:ILE:CD1 | 2.00 | 0.91 |
| 2:AA:285:C:H42 | 2:AA:354:G:H22 | 1.16 | 0.91 |
| 2:AA:291:C:N3 | 2:AA:349:G:C2 | 2.39 | 0.91 |
| 2:AA:1361:G:H2' | 2:AA:1362:C:H6 | 1.32 | 0.91 |
| 2:AA:1393:A:N6 | 19:AT:13:LYS:HZ2 | 1.67 | 0.91 |
| 2:AA:1810:A:H2' | 2:AA:1811:G:C5' | 1.99 | 0.91 |
| 2:AA:2329:G:H2' | 2:AA:2330:G:H8 | 1.35 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2785:C:C4' | 5:AE:99:VAL:HA | 1.99 | 0.91 |
| 2:AA:2853:C:O2' | 2:AA:2854:G:H5' | 1.70 | 0.91 |
| 3:AC:123:VAL:HG11 | 3:AC:138:PRO:HD2 | 1.53 | 0.91 |
| 5:AE:216:ARG:HH11 | 5:AE:253:GLN:CB | 1.83 | 0.91 |
| 6:AF:83:ALA:N | 6:AF:87:ARG:CZ | 2.33 | 0.91 |
| 19:AT:22:ASN:HA | 19:AT:68:LEU:CD1 | 2.00 | 0.91 |
| 34:BA:1048:G:N2 | 34:BA:1209:C:N3 | 2.17 | 0.91 |
| 34:BA:1192:C:H3' | 34:BA:1192:C:C6 | 2.04 | 0.91 |
| 34:BA:1500:A:OP1 | 34:BA:1508:G:OP1 | 1.87 | 0.91 |
| 35:BC:34:G:H1 | 36:B1:62:G:H1 | 1.15 | 0.91 |
| 37:BE:53:ARG:NE | 37:BE:199:TYR:HE2 | 1.66 | 0.91 |
| 37:BE:55:PHE:HA | 37:BE:58:ILE:CD1 | 2.00 | 0.91 |
| 44:BL:48:GLU:HA | 44:BL:51:ARG:HE | 1.35 | 0.91 |
| 47:BO:41:ARG:HH12 | 47:BO:57:LYS:CE | 1.83 | 0.91 |
| 48:BP:39:ILE:HG23 | 48:BP:55:ARG:HH22 | 1.35 | 0.91 |
| 49:BQ:42:ILE:O | 49:BQ:46:GLU:HG3 | 1.71 | 0.91 |
| 2:AA:503:A:C4 | 2:AA:505:A:N7 | 2.39 | 0.91 |
| 2:AA:563:G:H21 | 25:A1:37:GLN:NE2 | 1.69 | 0.91 |
| 2:AA:1687:G:N2 | 2:AA:1701:A:N7 | 2.17 | 0.91 |
| 2:AA:1810:A:C2' | 2:AA:1811:G:H5' | 2.00 | 0.91 |
| 2:AA:2093:G:H4' | 10:AK:29:PHE:HE1 | 1.36 | 0.91 |
| 2:AA:2231:C:OP1 | 28:A4:39:VAL:HA | 1.69 | 0.91 |
| 2:AA:2250:G:C5' | 15:AP:102:ARG:HB3 | 1.99 | 0.91 |
| 2:AA:2323:G:H2' | 2:AA:2324:C:C6 | 2.06 | 0.91 |
| 2:AA:2358:G:H2' | 2:AA:2358:G:N3 | 1.86 | 0.91 |
| 2:AA:2749:A:C1' | 8:AH:62:ALA:HB2 | 2.00 | 0.91 |
| 12:AM:84:ARG:HA | 12:AM:87:LEU:HD13 | 1.53 | 0.91 |
| 15:AP:35:ASN:CG | 21:AV:113:VAL:HB | 1.91 | 0.91 |
| 25:A1:69:ALA:HB3 | 25:A1:76:TYR:OH | 1.70 | 0.91 |
| 34:BA:576:G:N7 | 34:BA:881:G:H1' | 1.85 | 0.91 |
| 35:BC:15:G:H22 | 35:BC:48:C:H42 | 1.13 | 0.91 |
| 35:BC:37:G:C2' | 35:BC:38:A:H8 | 1.81 | 0.91 |
| 1:AB:37:C:O2 | 16:AQ:111:PRO:HG2 | 1.67 | 0.91 |
| 2:AA:218:A:H3' | 2:AA:219:G:H8 | 1.36 | 0.91 |
| 2:AA:285:C:H2' | 2:AA:286:C:C2 | 2.05 | 0.91 |
| 2:AA:399:G:H2' | 2:AA:400:G:H5' | 1.51 | 0.91 |
| 2:AA:997:G:C5' | 25:A1:92:ARG:HD2 | 1.97 | 0.91 |
| 2:AA:1492:G:N2 | 2:AA:1499:C:N4 | 2.19 | 0.91 |
| 2:AA:1655:A:C5' | 5:AE:211:GLN:HA | 1.99 | 0.91 |
| 2:AA:1741:C:C2' | 2:AA:1742:C:H5' | 2.01 | 0.91 |
| 4:AD:183:ILE:HG22 | 4:AD:184:LEU:N | 1.85 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:216:ARG:HH21 | 5:AE:255:GLN:HA | 1.35 | 0.91 |
| 8:AH:67:THR:HG22 | 8:AH:71:LEU:CD1 | 2.00 | 0.91 |
| 14:AO:94:ARG:HB2 | 14:AO:120:LEU:HD13 | 1.53 | 0.91 |
| 15:AP:86:ARG:CZ | 15:AP:123:ILE:HD11 | 2.01 | 0.91 |
| 24:A0:63:ARG:NH2 | 24:A0:77:ARG:HG2 | 1.86 | 0.91 |
| 34:BA:110:C:H2' | 34:BA:111:G:O4' | 1.71 | 0.91 |
| 34:BA:329:A:H4' | 34:BA:330:C:OP1 | 1.68 | 0.91 |
| 34:BA:737:A:OP1 | 41:BI:91:VAL:HA | 1.70 | 0.91 |
| 34:BA:1363:A:H5" | 34:BA:1364:U:OP1 | 1.70 | 0.91 |
| 35:BB:53:G:C4 | 35:BB:54:U:C5 | 2.58 | 0.91 |
| 37:BE:15:VAL:HG22 | 37:BE:209:ARG:HD2 | 1.51 | 0.91 |
| 37:BE:115:LEU:HD22 | 37:BE:149:LEU:HD13 | 1.53 | 0.91 |
| 38:BF:88:ARG:CZ | 38:BF:101:LEU:H | 1.83 | 0.91 |
| 39:BG:60:GLU:HA | 39:BG:63:LYS:HD2 | 0.95 | 0.91 |
| 40:BH:100:VAL:HG11 | 40:BH:107:ARG:HG3 | 1.51 | 0.91 |
| 41:BI:97:PHE:CE2 | 53:BU:31:LEU:HD12 | 2.05 | 0.91 |
| 43:BK:93:VAL:O | 43:BK:133:LEU:HG | 1.70 | 0.91 |
| 44:BL:113:LYS:HZ3 | 44:BL:119:ALA:HB1 | 1.33 | 0.91 |
| 46:BN:95:ILE:HG21 | 46:BN:108:ILE:HD11 | 1.53 | 0.91 |
| 1:AB:116:G:H4' | 16:AQ:64:SER:OG | 1.71 | 0.91 |
| 2:AA:363(C):G:H2' | 2:AA:363(D):G:H5' | 1.53 | 0.91 |
| 2:AA:870:A:H61 | 2:AA:907:U:H3 | 0.92 | 0.91 |
| 2:AA:1021:A:N3 | 2:AA:1122:G:O3' | 2.03 | 0.91 |
| 2:AA:1567:A:C2 | 4:AD:84:PRO:HD3 | 2.04 | 0.91 |
| 2:AA:1940:U:H5' | 2:AA:1941:C:OP1 | 1.71 | 0.91 |
| 2:AA:2283:C:N3 | 2:AA:2284:C:H1' | 1.85 | 0.91 |
| 2:AA:2576:G:H5" | 2:AA:2577:A:OP1 | 1.70 | 0.91 |
| 2:AA:2646:C:O2' | 2:AA:2647:U:H5' | 1.71 | 0.91 |
| 6:AF:205:ARG:HG2 | 6:AF:212:VAL:CG2 | 2.01 | 0.91 |
| 10:AK:124:LEU:CG | 10:AK:146:THR:HA | 2.00 | 0.91 |
| 13:AN:107:ARG:HG2 | 13:AN:115:ILE:HD13 | 1.51 | 0.91 |
| 13:AN:120:GLU:HG2 | 13:AN:122:ILE:HD11 | 1.51 | 0.91 |
| 14:AO:113:GLN:HB2 | 14:AO:115:ARG:CZ | 1.99 | 0.91 |
| 27:A3:61:ALA:O | 27:A3:62:LEU:HD12 | 1.70 | 0.91 |
| 34:BA:13:U:H6 | 34:BA:13:U:H5" | 1.34 | 0.91 |
| 34:BA:373:A:O2' | 34:BA:374:A:H5' | 1.70 | 0.91 |
| 35:BC:55:U:N3 | 35:BC:58:A:OP2 | 2.03 | 0.91 |
| 37:BE:48:MET:SD | 37:BE:48:MET:N | 2.44 | 0.91 |
| 53:BU:56:THR:HB | 53:BU:58:LEU:CG | 2.00 | 0.91 |
| 2:AA:10:G:N2 | 2:AA:2629:A:C2 | 2.39 | 0.91 |
| 2:AA:535:C:C4' | 25:A1:53:LYS:HE2 | 2.01 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:791:C:O2 | 2:AA:793:A:O2' | 1.87 | 0.91 |
| 2:AA:994:C:O2 | 25:A1:53:LYS:HB3 | 1.71 | 0.91 |
| 2:AA:1155:A:C2' | 2:AA:1156:A:H5" | 2.00 | 0.91 |
| 2:AA:1786:A:N1 | 2:AA:1938:A:C6 | 2.38 | 0.91 |
| 2:AA:1818:U:H3' | 4:AD:155:ARG:CG | 2.01 | 0.91 |
| 2:AA:1937:A:C3' | 2:AA:1938:A:H5" | 2.01 | 0.91 |
| 2:AA:2041:U:H2' | 2:AA:2042:A:H5' | 1.49 | 0.91 |
| 2:AA:2123:G:O2' | 3:AC:172:HIS:NE2 | 2.04 | 0.91 |
| 2:AA:2818:G:O2' | 2:AA:2837:G:H5' | 1.69 | 0.91 |
| 4:AD:143:ILE:O | 4:AD:152:GLN:HB2 | 1.70 | 0.91 |
| 5:AE:74:GLU:CA | 5:AE:293:TYR:CE2 | 2.54 | 0.91 |
| 5:AE:263:GLU:N | 5:AE:266:LYS:HZ1 | 1.68 | 0.91 |
| 11:AL:116:LEU:HD21 | 11:AL:127:ILE:HD13 | 1.52 | 0.91 |
| 13:AN:61:VAL:O | 13:AN:84:CYS:HB3 | 1.71 | 0.91 |
| 24:A0:61:HIS:CA | 24:A0:64:ARG:HD3 | 2.00 | 0.91 |
| 26:A2:62:GLU:HB2 | 26:A2:96:LEU:HD21 | 1.52 | 0.91 |
| 32:A8:12:ARG:HH11 | 32:A8:13:ARG:NH1 | 1.68 | 0.91 |
| 34:BA:597:G:H21 | 43:BK:94:TYR:HE2 | 0.91 | 0.91 |
| 34:BA:834:C:H2' | 34:BA:835:U:H6 | 1.36 | 0.91 |
| 36:B1:59:A:H2' | 36:B1:60:A:H5' | 1.50 | 0.91 |
| 37:BE:132:LYS:N | 37:BE:132:LYS:HE2 | 1.86 | 0.91 |
| 39:BG:170:VAL:HG12 | 39:BG:171:GLY:H | 1.33 | 0.91 |
| 46:BN:110:ASP:HB2 | 53:BU:88:LYS:CG | 2.00 | 0.91 |
| 51:BS:6:LEU:HB2 | 51:BS:17:TYR:HB3 | 1.52 | 0.91 |
| 2:AA:1906:G:H2' | 2:AA:1907:G:H8 | 1.34 | 0.91 |
| 2:AA:2316:C:OP1 | 7:AG:143:LYS:HG3 | 1.71 | 0.91 |
| 2:AA:2559:C:O2' | 2:AA:2560:C:H5' | 1.71 | 0.91 |
| 4:AD:89:ASN:C | 4:AD:90:ILE:HD12 | 1.90 | 0.91 |
| 14:AO:66:VAL:HG12 | 14:AO:67:ARG:N | 1.83 | 0.91 |
| 14:AO:81:VAL:HG13 | 14:AO:116:HIS:NE2 | 1.85 | 0.91 |
| 15:AP:66:ASN:CB | 15:AP:70:ARG:HH21 | 1.82 | 0.91 |
| 18:AS:40:ASN:ND2 | 18:AS:41:LYS:HD2 | 1.86 | 0.91 |
| 34:BA:193:C:H2' | 34:BA:194:C:C6 | 2.06 | 0.91 |
| 34:BA:334:C:H2' | 34:BA:335:C:C6 | 2.05 | 0.91 |
| 34:BA:909:A:H2' | 34:BA:910:C:C5' | 2.00 | 0.91 |
| 35:BB:9:A:C2 | 35:BB:45:G:C6 | 2.58 | 0.91 |
| 37:BE:14:GLY:HA3 | 37:BE:209:ARG:HH22 | 1.23 | 0.91 |
| 37:BE:130:ARG:HD3 | 37:BE:131:PRO:HD2 | 1.53 | 0.91 |
| 41:BI:67:MET:HE2 | 41:BI:72:VAL:HG22 | 1.53 | 0.91 |
| 54:BV:63:THR:O | 54:BV:66:MET:HG2 | 1.71 | 0.91 |
| 55:BW:75:ASN:O | 55:BW:78:ALA:HB3 | 1.70 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:138:G:O2' | 2:AA:140:A:H5' | 1.71 | 0.90 |
| 2:AA:139:G:H3' | 2:AA:141(A):C:O2 | 1.72 | 0.90 |
| 2:AA:270(C):C:N3 | 2:AA:270(W):G:N2 | 2.19 | 0.90 |
| 2:AA:270(C):C:N4 | 2:AA:270(W):G:H1 | 1.67 | 0.90 |
| 2:AA:607:U:O4 | 2:AA:621:A:N1 | 2.02 | 0.90 |
| 2:AA:791:C:O2' | 2:AA:792:G:C5' | 2.18 | 0.90 |
| 2:AA:1058:G:H4' | 9:AI:2:THR:CA | 2.01 | 0.90 |
| 2:AA:1264:G:H3' | 2:AA:1265:A:C5' | 2.01 | 0.90 |
| 2:AA:1356:G:H2' | 2:AA:1357:U:H6 | 1.35 | 0.90 |
| 2:AA:1535:U:H5" | 2:AA:1536:A:O5' | 1.71 | 0.90 |
| 2:AA:1707:G:H1 | 2:AA:1751:C:H42 | 1.13 | 0.90 |
| 2:AA:1826:G:H2' | 2:AA:1827:C:H5' | 1.51 | 0.90 |
| 2:AA:1956:U:H2' | 2:AA:1956:U:O2 | 1.71 | 0.90 |
| 2:AA:1966:A:N3 | 2:AA:2593:U:C5' | 2.33 | 0.90 |
| 6:AF:81:PRO:C | 6:AF:87:ARG:HH11 | 1.74 | 0.90 |
| 8:AH:151:ARG:H | 8:AH:161:ILE:HD11 | 1.35 | 0.90 |
| 9:AI:110:GLU:CD | 9:AJ:57:THR:HG21 | 1.91 | 0.90 |
| 10:AK:141:LEU:HD22 | 10:AK:142:LYS:H | 1.35 | 0.90 |
| 24:A0:60:LEU:HD23 | 24:A0:60:LEU:H | 1.36 | 0.90 |
| 31:A7:25:LYS:CA | 31:A7:25:LYS:HE2 | 2.01 | 0.90 |
| 34:BA:888:G:H21 | 34:BA:909:A:H62 | 1.01 | 0.90 |
| 34:BA:1229:A:OP1 | 48:BP:116:THR:HG22 | 1.69 | 0.90 |
| 34:BA:1330:U:H4' | 48:BP:23:TYR:CZ | 2.05 | 0.90 |
| 35:BB:42:G:H5" | 35:BB:43:G:P | 2.11 | 0.90 |
| 35:BC:74:C:C3' | 35:BC:75:C:H5" | 2.01 | 0.90 |
| 43:BK:29:SER:HB3 | 43:BK:32:LYS:HZ2 | 1.36 | 0.90 |
| 50:BR:77:ARG:HB3 | 50:BR:77:ARG:NH1 | 1.85 | 0.90 |
| 2:AA:270(C):C:C2 | 2:AA:270(W):G:N2 | 2.38 | 0.90 |
| 2:AA:270(X):G:C6 | 2:AA:270(Y):G:H1' | 2.07 | 0.90 |
| 2:AA:771:G:H2' | 2:AA:772:C:C6 | 2.05 | 0.90 |
| 2:AA:893:C:H2' | 2:AA:894:C:H6 | 1.35 | 0.90 |
| 2:AA:1020:A:H1' | 12:AM:49:ARG:CZ | 2.01 | 0.90 |
| 2:AA:1105:U:O2' | 9:AI:27:ASP:O | 1.89 | 0.90 |
| 2:AA:1131:G:H4' | 2:AA:1132:A:OP1 | 1.69 | 0.90 |
| 2:AA:1800:C:H3' | 2:AA:1800:C:C6 | 2.06 | 0.90 |
| 2:AA:1928:A:H5' | 2:AA:1929:G:OP2 | 1.70 | 0.90 |
| 2:AA:2031:A:H62 | 2:AA:2498:C:H1' | 1.35 | 0.90 |
| 2:AA:2093:G:N2 | 2:AA:2197:U:O2 | 2.03 | 0.90 |
| 2:AA:2250:G:H5" | 15:AP:102:ARG:CB | 2.01 | 0.90 |
| 2:AA:2532:G:N2 | 2:AA:2662:A:N1 | 2.18 | 0.90 |
| 2:AA:2619:C:O2' | 2:AA:2620:C:C5' | 2.18 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:59:ARG:HD2 | 3:AC:164:ARG:HD2 | 1.51 | 0.90 |
| 6:AF:240:LEU:O | 6:AF:243:VAL:CB | 2.17 | 0.90 |
| 15:AP:68:ALA:HB2 | 15:AP:139:ALA:CB | 2.01 | 0.90 |
| 19:AT:57:THR:HB | 19:AT:59:ASP:OD2 | 1.70 | 0.90 |
| 21:AV:19:ILE:H | 21:AV:36:ARG:HG3 | 1.35 | 0.90 |
| 23:AX:45:GLY:HA2 | 23:AX:48:GLU:OE2 | 1.70 | 0.90 |
| 34:BA:605:U:H2' | 34:BA:606:G:C8 | 2.05 | 0.90 |
| 34:BA:1133:G:H1 | 34:BA:1141:C:N4 | 1.69 | 0.90 |
| 35:BB:34:G:H2' | 35:BB:35:A:H5" | 0.93 | 0.90 |
| 35:BB:67:A:C2 | 35:BB:68:U:C5 | 2.58 | 0.90 |
| 37:BE:27:LYS:HB3 | 37:BE:194:PRO:HG2 | 1.50 | 0.90 |
| 47:BO:72:GLY:HA3 | 47:BO:102:ARG:NH1 | 1.87 | 0.90 |
| 1:AB:49:C:H2' | 1:AB:50:G:H8 | 1.34 | 0.90 |
| 2:AA:292:C:H3' | 2:AA:293:U:C4 | 2.06 | 0.90 |
| 2:AA:373:U:C2 | 2:AA:400:G:N2 | 2.39 | 0.90 |
| 2:AA:627:A:N6 | 2:AA:636:G:O2' | 2.05 | 0.90 |
| 2:AA:1426:G:H1' | 2:AA:1573:G:H22 | 1.35 | 0.90 |
| 2:AA:2429:G:H5" | 2:AA:2430:A:OP2 | 1.72 | 0.90 |
| 2:AA:2727:G:H4' | 13:AN:70:ARG:NH2 | 1.87 | 0.90 |
| 2:AA:2821:A:OP2 | 2:AA:2821:A:H3' | 1.69 | 0.90 |
| 2:AA:2850:A:N3 | 2:AA:2869:G:H4' | 1.85 | 0.90 |
| 5:AE:222:ARG:HH11 | 5:AE:222:ARG:CG | 1.81 | 0.90 |
| 7:AG:22:VAL:HB | 7:AG:24:HIS:CE1 | 2.06 | 0.90 |
| 11:AL:79:LEU:HD22 | 11:AL:137:ILE:HD13 | 1.50 | 0.90 |
| 14:AO:94:ARG:HD3 | 14:AO:120:LEU:HD22 | 1.51 | 0.90 |
| 17:AR:10:GLY:N | 17:AR:52:THR:HB | 1.85 | 0.90 |
| 18:AS:40:ASN:HD22 | 18:AS:41:LYS:CD | 1.83 | 0.90 |
| 34:BA:113:G:H1' | 34:BA:354:G:H5" | 1.52 | 0.90 |
| 34:BA:410:G:N3 | 34:BA:432:A:N6 | 2.19 | 0.90 |
| 34:BA:1068:G:N7 | 34:BA:1094:G:C8 | 2.39 | 0.90 |
| 34:BA:1139:G:H1 | 34:BA:1143:G:H22 | 0.92 | 0.90 |
| 34:BA:1144:G:N2 | 34:BA:1146:A:H62 | 1.67 | 0.90 |
| 36:B1:21:U:O2 | 36:B1:33:G:O6 | 1.88 | 0.90 |
| 40:BH:151:LEU:HD21 | 43:BK:67:PRO:HD3 | 1.52 | 0.90 |
| 41:BI:100:ASN:ND2 | 53:BU:23:LYS:HG2 | 1.86 | 0.90 |
| 43:BK:40:ALA:N | 43:BK:45:ILE:HG23 | 1.84 | 0.90 |
| 50:BR:38:ARG:HH11 | 50:BR:38:ARG:CB | 1.80 | 0.90 |
| 51:BS:20:VAL:HG11 | 51:BS:32:TYR:CB | 2.02 | 0.90 |
| 52:BT:81:ARG:HG2 | 52:BT:84:LEU:HD11 | 1.53 | 0.90 |
| 2:AA:93:C:H2' | 2:AA:94:G:C8 | 2.05 | 0.90 |
| 2:AA:641:C:H2' | 2:AA:642:G:O4' | 1.71 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:663:G:N2 | 2:AA:940:G:OP1 | 2.04 | 0.90 |
| 2:AA:783:A:H4' | 2:AA:2588:G:O3' | 1.71 | 0.90 |
| 2:AA:815:C:C2' | 2:AA:816:C:H5' | 2.02 | 0.90 |
| 2:AA:1020:A:H4' | 12:AM:49:ARG:NH1 | 1.85 | 0.90 |
| 2:AA:1351:C:H2' | 2:AA:1352:U:H6 | 1.34 | 0.90 |
| 2:AA:2009:G:H4' | 18:AS:40:ASN:HD21 | 1.37 | 0.90 |
| 2:AA:2209:C:C4' | 4:AD:149:ARG:HH21 | 1.84 | 0.90 |
| 2:AA:2227:A:N1 | 2:AA:2228:G:C6 | 2.40 | 0.90 |
| 2:AA:2391:G:H2' | 2:AA:2392:A:OP2 | 1.72 | 0.90 |
| 2:AA:2495:G:H4' | 15:AP:101:MET:CB | 2.02 | 0.90 |
| 4:AD:167:GLU:HG2 | 4:AD:182:MET:HE1 | 1.53 | 0.90 |
| 5:AE:39:GLN:OE1 | 5:AE:174:LEU:HD21 | 1.72 | 0.90 |
| 9:AI:63:LEU:HD11 | 9:AI:102:ILE:HD12 | 1.51 | 0.90 |
| 15:AP:125:TRP:O | 15:AP:126:VAL:HG23 | 1.70 | 0.90 |
| 16:AQ:23:ARG:O | 16:AQ:33:ARG:NH1 | 2.05 | 0.90 |
| 18:AS:66:GLU:O | 18:AS:69:LEU:HG | 1.72 | 0.90 |
| 34:BA:118:U:H3 | 34:BA:289:G:H4' | 1.36 | 0.90 |
| 37:BE:16:HIS:CE1 | 37:BE:213:LEU:HD13 | 2.06 | 0.90 |
| 41:BI:82:ARG:O | 41:BI:85:VAL:HG23 | 1.71 | 0.90 |
| 43:BK:61:VAL:HG12 | 43:BK:62:TYR:H | 1.36 | 0.90 |
| 51:BS:14:ASN:HA | 51:BS:42:ARG:NH2 | 1.86 | 0.90 |
| 55:BW:63:ILE:HG23 | 55:BW:77:ALA:HB1 | 1.51 | 0.90 |
| 2:AA:296:C:C2 | 2:AA:344:G:N2 | 2.39 | 0.90 |
| 2:AA:774:A:H5" | 2:AA:778:G:H4' | 1.52 | 0.90 |
| 2:AA:882:G:H2' | 2:AA:883:G:H8 | 1.36 | 0.90 |
| 2:AA:1064:C:H2' | 2:AA:1065:U:C6 | 2.07 | 0.90 |
| 2:AA:1087:G:H21 | 2:AA:1103:A:C2' | 1.84 | 0.90 |
| 2:AA:1530:G:O6 | 2:AA:1541:U:C2 | 2.24 | 0.90 |
| 2:AA:1669:A:H8 | 13:AN:4:GLN:OE1 | 1.53 | 0.90 |
| 2:AA:2832:U:H1' | 2:AA:2834:G:H21 | 1.36 | 0.90 |
| 9:AJ:71:ILE:HG23 | 11:AL:61:TYR:CD1 | 2.07 | 0.90 |
| 10:AK:12:LYS:CE | 10:AK:14:LYS:HE3 | 2.01 | 0.90 |
| 10:AK:141:LEU:HD22 | 10:AK:142:LYS:N | 1.87 | 0.90 |
| 13:AN:64:ARG:NH2 | 13:AN:100:GLY:CA | 2.29 | 0.90 |
| 15:AP:34:GLY:HA2 | 15:AP:74:ASN:O | 1.71 | 0.90 |
| 16:AQ:60:SER:O | 16:AQ:88:ALA:HA | 1.72 | 0.90 |
| 23:AX:43:ILE:H | 23:AX:43:ILE:CD1 | 1.82 | 0.90 |
| 25:A1:91:ASN:HD21 | 26:A2:10:LYS:HE2 | 1.37 | 0.90 |
| 34:BA:911:U:H2' | 34:BA:912:C:H6 | 1.34 | 0.90 |
| 34:BA:991:U:O2' | 34:BA:993:G:H1' | 1.71 | 0.90 |
| 34:BA:1225:A:H5' | 54:BV:78:ARG:NH1 | 1.86 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1310:G:H2' | 34:BA:1311:G:H8 | 1.36 | 0.90 |
| 35:BC:47:U:C5 | 35:BC:49:C:H5" | 2.07 | 0.90 |
| 42:BJ:107:ALA:HB1 | 42:BJ:123:GLU:OE1 | 1.70 | 0.90 |
| 53:BU:47:THR:N | 53:BU:49:LYS:HZ1 | 1.68 | 0.90 |
| 1:AB:52:A:C2 | 1:AB:53:A:H1' | 2.06 | 0.90 |
| 2:AA:531:C:H5' | 2:AA:532:A:C2 | 2.05 | 0.90 |
| 2:AA:861:A:N6 | 2:AA:916:G:H21 | 1.68 | 0.90 |
| 2:AA:2841:C:H2' | 2:AA:2842:G:H8 | 1.26 | 0.90 |
| 3:AC:26:ALA:HB1 | 3:AC:185:LEU:HD13 | 1.52 | 0.90 |
| 3:AC:70:LYS:HG2 | 3:AC:157:LYS:NZ | 1.86 | 0.90 |
| 5:AE:222:ARG:HH22 | 5:AE:234:ARG:HB2 | 1.36 | 0.90 |
| 9:AI:22:VAL:HG13 | 9:AI:38:ALA:HB1 | 1.54 | 0.90 |
| 13:AN:8:LEU:N | 13:AN:8:LEU:HD23 | 1.86 | 0.90 |
| 13:AN:52:VAL:O | 13:AN:56:GLN:HG3 | 1.71 | 0.90 |
| 20:AU:42:VAL:HG12 | 20:AU:43:ASN:N | 1.85 | 0.90 |
| 26:A2:3:ALA:HB2 | 26:A2:44:GLN:OE1 | 1.70 | 0.90 |
| 28:A4:68:ARG:CG | 28:A4:72:LYS:HG2 | 2.01 | 0.90 |
| 29:A5:15:LYS:CA | 29:A5:18:MET:HG2 | 2.01 | 0.90 |
| 34:BA:157:G:H1 | 34:BA:164:U:H3 | 0.97 | 0.90 |
| 34:BA:1263:C:N4 | 34:BA:1272:G:H1 | 1.69 | 0.90 |
| 35:BB:60:C:OP2 | 35:BB:61:C:C6 | 2.24 | 0.90 |
| 42:BJ:111:ARG:HB3 | 42:BJ:111:ARG:HH11 | 1.36 | 0.90 |
| 43:BK:126:LYS:HZ2 | 43:BK:127:LEU:HB2 | 1.36 | 0.90 |
| 45:BM:22:LYS:NZ | 45:BM:90:LEU:HB2 | 1.86 | 0.90 |
| 48:BP:110:ARG:HB2 | 48:BP:110:ARG:HH11 | 1.36 | 0.90 |
| 2:AA:71:A:H4' | 2:AA:72:U:H3' | 1.51 | 0.90 |
| 2:AA:528:A:H3' | 2:AA:528:A:C8 | 2.06 | 0.90 |
| 2:AA:574:C:H41 | 2:AA:2054:A:C5' | 1.84 | 0.90 |
| 2:AA:595:C:H42 | 2:AA:662:G:H1 | 1.16 | 0.90 |
| 2:AA:1026:U:H5' | 2:AA:1026:U:C6 | 2.06 | 0.90 |
| 2:AA:1058:G:O2' | 2:AA:1059:G:H5' | 1.71 | 0.90 |
| 2:AA:1069:A:C4' | 2:AA:1070:A:H5" | 2.02 | 0.90 |
| 2:AA:1267:U:H5 | 2:AA:2012:G:N2 | 1.69 | 0.90 |
| 2:AA:1558:A:C2 | 2:AA:1560:G:H1' | 2.06 | 0.90 |
| 2:AA:1718:G:C2 | 2:AA:1741:C:N3 | 2.39 | 0.90 |
| 2:AA:1907:G:N2 | 2:AA:1923:U:O2 | 2.04 | 0.90 |
| 2:AA:2019:A:H2' | 2:AA:2020:A:O4' | 1.72 | 0.90 |
| 2:AA:2579:C:H2' | 2:AA:2580:U:H5' | 1.52 | 0.90 |
| 2:AA:2640:G:H1 | 2:AA:2774:C:N4 | 1.70 | 0.90 |
| 2:AA:2662:A:H2' | 2:AA:2663:G:H5' | 1.51 | 0.90 |
| 3:AC:39:GLU:HG2 | 3:AC:216:THR:CB | 2.01 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:182:PRO:HA | 3:AC:185:LEU:HD12 | 1.54 | 0.90 |
| 4:AD:222:PRO:C | 4:AD:224:VAL:H | 1.72 | 0.90 |
| 16:AQ:27:LEU:H | 16:AQ:33:ARG:HH12 | 1.10 | 0.90 |
| 26:A2:67:LYS:HG2 | 26:A2:70:TYR:HE1 | 1.35 | 0.90 |
| 34:BA:1001:A:H2 | 34:BA:1040:U:H3 | 1.19 | 0.90 |
| 34:BA:1089:G:H1 | 34:BA:1096:C:H42 | 1.12 | 0.90 |
| 34:BA:1163:C:N3 | 34:BA:1173:G:N2 | 2.20 | 0.90 |
| 35:BC:34:G:C3' | 35:BC:35:A:H5" | 2.02 | 0.90 |
| 37:BE:180:LEU:O | 37:BE:181:PHE:HB2 | 1.72 | 0.90 |
| 38:BF:142:MET:HA | 38:BF:146:ALA:HB3 | 1.53 | 0.90 |
| 39:BG:141:ARG:HB3 | 39:BG:142:PRO:CD | 1.96 | 0.90 |
| 40:BH:78:HIS:CG | 43:BK:107:LEU:HD11 | 2.06 | 0.90 |
| 42:BJ:114:ARG:HG2 | 42:BJ:114:ARG:HH11 | 1.37 | 0.90 |
| 46:BN:16:SER:O | 46:BN:35:PRO:HG3 | 1.70 | 0.90 |
| 47:BO:46:LYS:HE3 | 47:BO:47:LYS:HE3 | 1.53 | 0.90 |
| 47:BO:60:LEU:HD13 | 47:BO:60:LEU:N | 1.84 | 0.90 |
| 51:BS:58:TYR:HD1 | 51:BS:59:TRP:N | 1.69 | 0.90 |
| 51:BS:67:THR:HB | 51:BS:70:ALA:HB2 | 1.52 | 0.90 |
| 55:BW:23:ARG:C | 55:BW:26:ASN:HD21 | 1.75 | 0.90 |
| 2:AA:270(H):C:N3 | 2:AA:270(R):G:N2 | 2.19 | 0.90 |
| 2:AA:775:G:H2' | 2:AA:794:G:C5 | 2.07 | 0.90 |
| 2:AA:775:G:N2 | 2:AA:787:U:O3' | 2.05 | 0.90 |
| 2:AA:886:C:H4' | 2:AA:887:A:O5' | 1.68 | 0.90 |
| 2:AA:919:G:H2' | 2:AA:920:G:H8 | 1.30 | 0.90 |
| 2:AA:1579:A:H2' | 2:AA:1580:A:O4' | 1.71 | 0.90 |
| 2:AA:2345:G:N7 | 2:AA:2371:G:N2 | 2.18 | 0.90 |
| 2:AA:2640:G:HO2' | 12:AM:70:PHE:HE2 | 0.93 | 0.90 |
| 2:AA:2699:C:N4 | 2:AA:2708:G:H1 | 1.70 | 0.90 |
| 12:AM:60:ARG:HA | 12:AM:71:TYR:CD2 | 2.06 | 0.90 |
| 13:AN:47:THR:HB | 13:AN:48:PRO:HD2 | 1.54 | 0.90 |
| 14:AO:55:GLN:HG3 | 14:AO:56:LYS:H | 1.35 | 0.90 |
| 16:AQ:27:LEU:H | 16:AQ:33:ARG:NH1 | 1.68 | 0.90 |
| 18:AS:13:SER:O | 18:AS:17:VAL:HG23 | 1.71 | 0.90 |
| 18:AS:34:ASN:ND2 | 29:A5:39:LYS:HB2 | 1.86 | 0.90 |
| 21:AV:154:LEU:HD13 | 21:AV:160:LEU:HD11 | 1.54 | 0.90 |
| 22:AW:52:ALA:O | 22:AW:56:ILE:HG13 | 1.72 | 0.90 |
| 23:AX:53:LEU:O | 23:AX:53:LEU:HD23 | 1.71 | 0.90 |
| 27:A3:46:LYS:HE2 | 27:A3:58:THR:O | 1.72 | 0.90 |
| 28:A4:13:LYS:O | 28:A4:14:ILE:HB | 1.72 | 0.90 |
| 32:A8:52:LYS:O | 32:A8:54:GLU:N | 2.03 | 0.90 |
| 33:A9:7:VAL:HG13 | 33:A9:34:GLN:OE1 | 1.72 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:112:G:C5' | 34:BA:389:A:H4' | 2.01 | 0.90 |
| 34:BA:1222:G:OP1 | 54:BV:77:THR:HG21 | 1.71 | 0.90 |
| 37:BE:131:PRO:HG2 | 37:BE:134:GLU:HG2 | 1.51 | 0.90 |
| 37:BE:184:VAL:O | 37:BE:198:ASP:HB2 | 1.71 | 0.90 |
| 39:BG:25:ARG:HE | 39:BG:30:LYS:HD3 | 1.36 | 0.90 |
| 39:BG:64:LEU:HA | 39:BG:67:ILE:CD1 | 2.01 | 0.90 |
| 46:BN:61:ALA:HB1 | 46:BN:94:ALA:CB | 2.00 | 0.90 |
| 2:AA:783:A:C2' | 2:AA:784:A:H4' | 2.02 | 0.90 |
| 2:AA:959:A:C6 | 2:AA:960:A:N6 | 2.39 | 0.90 |
| 2:AA:1818:U:H3' | 4:AD:155:ARG:HG2 | 1.53 | 0.90 |
| 2:AA:1941:C:N4 | 2:AA:1965:C:H1' | 1.86 | 0.90 |
| 2:AA:2089:U:H3 | 2:AA:2231:C:H42 | 0.93 | 0.90 |
| 2:AA:2139:C:N3 | 2:AA:2152:G:O6 | 2.05 | 0.90 |
| 2:AA:2484:G:H2' | 2:AA:2485:G:H5' | 1.52 | 0.90 |
| 3:AC:36:LYS:HG3 | 3:AC:37:PHE:HD2 | 1.34 | 0.90 |
| 5:AE:267:ARG:O | 5:AE:297:LYS:HG3 | 1.72 | 0.90 |
| 16:AQ:81:ALA:HB3 | 16:AQ:117:ALA:HB1 | 1.52 | 0.90 |
| 19:AT:34:LYS:NZ | 19:AT:52:VAL:HG12 | 1.87 | 0.90 |
| 34:BA:559:A:H4' | 34:BA:560:U:H5" | 1.50 | 0.90 |
| 35:BB:1:G:O6 | 35:BB:73:A:C6 | 2.22 | 0.90 |
| 35:BB:60:C:OP2 | 35:BB:61:C:H5 | 1.55 | 0.90 |
| 37:BE:56:ARG:HB3 | 37:BE:56:ARG:HH11 | 1.33 | 0.90 |
| 38:BF:30:ARG:HG2 | 38:BF:30:ARG:HH11 | 1.37 | 0.90 |
| 38:BF:84:ILE:CG1 | 38:BF:101:LEU:HD22 | 2.02 | 0.90 |
| 41:BI:50:TYR:HE2 | 41:BI:52:ILE:HD11 | 1.36 | 0.90 |
| 46:BN:79:SER:CA | 46:BN:104:GLN:HB3 | 1.99 | 0.90 |
| 53:BU:45:SER:HB3 | 53:BU:51:LEU:HD11 | 1.53 | 0.90 |
| 2:AA:20:C:O2' | 2:AA:21:A:H5' | 1.71 | 0.90 |
| 2:AA:468:G:H2' | 2:AA:469:G:O4' | 1.71 | 0.90 |
| 2:AA:484:C:H2' | 2:AA:485:C:H6 | 1.06 | 0.90 |
| 2:AA:1275:A:C2 | 24:A0:16:HIS:HB3 | 2.06 | 0.90 |
| 2:AA:2110:G:C8 | 2:AA:2120:G:OP2 | 2.24 | 0.90 |
| 2:AA:2334:G:H1 | 16:AQ:10:MET:CE | 1.85 | 0.90 |
| 2:AA:2491:U:H5' | 2:AA:2570:G:C5' | 2.01 | 0.90 |
| 2:AA:2574:G:H1' | 5:AE:240:PRO:HB3 | 1.53 | 0.90 |
| 2:AA:2581:G:O6 | 2:AA:2610:C:C2' | 2.19 | 0.90 |
| 8:AH:34:ARG:HD2 | 8:AH:36:PHE:CE1 | 2.07 | 0.90 |
| 16:AQ:19:ASP:HB2 | 16:AQ:22:GLN:HE21 | 1.28 | 0.90 |
| 17:AR:50:GLU:HA | 17:AR:55:ALA:CB | 2.02 | 0.90 |
| 18:AS:72:LYS:HB3 | 18:AS:106:ILE:HG21 | 1.51 | 0.90 |
| 19:AT:24:LEU:HB2 | 19:AT:26:PHE:HZ | 1.29 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:74:TYR:CZ | 26:A2:88:GLN:HA | 2.06 | 0.90 |
| 34:BA:582:U:H3 | 34:BA:759:A:N6 | 1.70 | 0.90 |
| 34:BA:1127:G:H1' | 34:BA:1148:U:H3 | 1.34 | 0.90 |
| 39:BG:170:VAL:HG21 | 39:BG:176:LEU:HB3 | 1.54 | 0.90 |
| 52:BT:85:VAL:O | 52:BT:89:LEU:HG | 1.71 | 0.90 |
| 53:BU:58:LEU:HB2 | 53:BU:63:GLN:HE22 | 1.37 | 0.90 |
| 1:AB:89:G:H2' | 1:AB:89(A):A:N7 | 1.85 | 0.89 |
| 2:AA:195:A:OP2 | 2:AA:196:A:H4' | 1.71 | 0.89 |
| 2:AA:845:G:H5" | 2:AA:846:C:OP1 | 1.72 | 0.89 |
| 2:AA:917:A:H2' | 2:AA:918:A:C4' | 2.02 | 0.89 |
| 2:AA:986:C:H3' | 2:AA:986:C:C6 | 2.07 | 0.89 |
| 2:AA:2016:U:H2' | 2:AA:2017:U:O4' | 1.70 | 0.89 |
| 2:AA:2312:U:H2' | 7:AG:72:LYS:HZ2 | 1.36 | 0.89 |
| 5:AE:102:ASP:HA | 5:AE:104:PHE:CE2 | 2.07 | 0.89 |
| 12:AM:39:VAL:HB | 12:AM:106:GLY:O | 1.71 | 0.89 |
| 12:AM:84:ARG:HB3 | 12:AM:98:PHE:HE2 | 1.35 | 0.89 |
| 15:AP:56:ILE:O | 15:AP:112:ALA:HB1 | 1.71 | 0.89 |
| 24:A0:100:LEU:HD21 | 24:A0:113:LEU:HB2 | 1.52 | 0.89 |
| 34:BA:675:A:H1' | 46:BN:116:HIS:ND1 | 1.87 | 0.89 |
| 34:BA:1259:C:H42 | 34:BA:1276:G:H1 | 1.17 | 0.89 |
| 34:BA:1316:G:H8 | 34:BA:1316:G:OP2 | 1.55 | 0.89 |
| 38:BF:12:LEU:HD22 | 38:BF:17:ASP:HA | 1.53 | 0.89 |
| 55:BW:13:LEU:H | 55:BW:13:LEU:CD1 | 1.85 | 0.89 |
| 2:AA:350:U:H2' | 2:AA:350:U:O2 | 1.71 | 0.89 |
| 2:AA:470:A:C2 | 2:AA:471:A:H1' | 2.07 | 0.89 |
| 2:AA:586:A:C6 | 2:AA:1254:A:H2 | 1.89 | 0.89 |
| 2:AA:635:C:H2' | 2:AA:636:G:H8 | 1.36 | 0.89 |
| 2:AA:1081:U:H2' | 2:AA:1082:U:C5 | 2.07 | 0.89 |
| 2:AA:1173:G:H22 | 2:AA:1175:U:C5' | 1.84 | 0.89 |
| 2:AA:1675:C:O2 | 2:AA:1675:C:H2' | 1.71 | 0.89 |
| 2:AA:2107:C:N4 | 2:AA:2182:G:H1 | 1.69 | 0.89 |
| 2:AA:2125:G:N2 | 2:AA:2174:C:N4 | 2.20 | 0.89 |
| 2:AA:2254:C:C2' | 2:AA:2255:G:H5' | 2.01 | 0.89 |
| 2:AA:2321:G:H21 | 2:AA:2322:A:H1' | 1.37 | 0.89 |
| 2:AA:2527:C:OP1 | 33:A9:30:VAL:HG13 | 1.71 | 0.89 |
| 4:AD:79:THR:HG23 | 4:AD:111:VAL:HG13 | 1.54 | 0.89 |
| 5:AE:219:VAL:HG11 | 5:AE:235:ILE:CD1 | 2.02 | 0.89 |
| 8:AH:94:ARG:HB3 | 8:AH:127:GLN:HE22 | 1.35 | 0.89 |
| 9:AI:1:MET:HE2 | 9:AJ:86:LYS:CD | 2.03 | 0.89 |
| 12:AM:44:ALA:HB3 | 12:AM:132:LEU:HD23 | 1.52 | 0.89 |
| 16:AQ:105:GLY:O | 16:AQ:106:LEU:HD23 | 1.72 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:87:VAL:HG13 | 20:AU:88:PRO:HD2 | 1.54 | 0.89 |
| 26:A2:33:VAL:HB | 26:A2:63:HIS:CD2 | 2.05 | 0.89 |
| 27:A3:40:GLN:HG2 | 27:A3:67:VAL:O | 1.72 | 0.89 |
| 34:BA:828:A:N1 | 34:BA:859:A:O4' | 2.04 | 0.89 |
| 34:BA:965:A:OP1 | 34:BA:1198:G:OP1 | 1.91 | 0.89 |
| 34:BA:1002:G:N3 | 34:BA:1003:G:H1' | 1.87 | 0.89 |
| 38:BF:130:VAL:O | 38:BF:133:ALA:HB3 | 1.72 | 0.89 |
| 39:BG:25:ARG:NE | 39:BG:30:LYS:HD3 | 1.87 | 0.89 |
| 41:BI:89:MET:HG2 | 53:BU:76:LEU:HD21 | 1.53 | 0.89 |
| 43:BK:12:ARG:HH12 | 43:BK:27:PRO:HD3 | 1.30 | 0.89 |
| 44:BL:67:GLY:N | 44:BL:73:GLN:HE21 | 1.70 | 0.89 |
| 45:BM:30:SER:HB3 | 45:BM:80:LYS:HG3 | 1.54 | 0.89 |
| 2:AA:808:G:H2' | 2:AA:809:G:C8 | 2.06 | 0.89 |
| 2:AA:1054:A:N1 | 2:AA:1105:U:O2 | 2.06 | 0.89 |
| 2:AA:1317:A:H2' | 2:AA:1318:C:H6 | 1.35 | 0.89 |
| 2:AA:1341:U:O2' | 2:AA:1342:A:OP1 | 1.89 | 0.89 |
| 2:AA:1368:G:OP1 | 31:A7:25:LYS:HD2 | 1.72 | 0.89 |
| 2:AA:1664:A:C2 | 2:AA:1665:A:N6 | 2.40 | 0.89 |
| 2:AA:2185:C:H2' | 2:AA:2186:G:H8 | 1.38 | 0.89 |
| 2:AA:2282:G:N2 | 2:AA:2425:A:C8 | 2.41 | 0.89 |
| 2:AA:2313:C:OP1 | 7:AG:51:ARG:HB3 | 1.71 | 0.89 |
| 2:AA:2748:A:C8 | 8:AH:62:ALA:HB1 | 2.06 | 0.89 |
| 4:AD:76:ARG:HD3 | 4:AD:113:MET:CB | 2.03 | 0.89 |
| 5:AE:237:ASN:C | 5:AE:238:LEU:HD22 | 1.93 | 0.89 |
| 5:AE:256:THR:HA | 5:AE:259:HIS:CE1 | 2.07 | 0.89 |
| 6:AF:83:ALA:CB | 6:AF:87:ARG:NH2 | 2.34 | 0.89 |
| 7:AG:19:GLU:OE1 | 7:AG:135:VAL:HG22 | 1.72 | 0.89 |
| 8:AH:10:ILE:CD1 | 8:AH:16:VAL:HG21 | 2.01 | 0.89 |
| 22:AW:55:ARG:HD2 | 22:AW:55:ARG:H | 1.36 | 0.89 |
| 26:A2:59:GLU:CG | 26:A2:100:GLY:H | 1.84 | 0.89 |
| 26:A2:72:ARG:HB2 | 26:A2:88:GLN:NE2 | 1.87 | 0.89 |
| 34:BA:880:C:O2' | 34:BA:881:G:H5' | 1.72 | 0.89 |
| 34:BA:975:A:C4' | 34:BA:976:G:H5' | 2.02 | 0.89 |
| 34:BA:1124:G:H1 | 34:BA:1149:C:H42 | 1.18 | 0.89 |
| 34:BA:1540:U:H2' | 34:BA:1541:U:O4' | 1.73 | 0.89 |
| 37:BE:73:THR:HG21 | 37:BE:97:TRP:H | 1.34 | 0.89 |
| 37:BE:167:PRO:O | 37:BE:169:LYS:N | 2.06 | 0.89 |
| 40:BH:95:ALA:HB1 | 40:BH:96:PRO:HD3 | 1.52 | 0.89 |
| 42:BJ:12:LEU:HD22 | 42:BJ:24:THR:HB | 1.55 | 0.89 |
| 42:BJ:36:LYS:HB2 | 42:BJ:36:LYS:HZ2 | 1.38 | 0.89 |
| 42:BJ:129:GLU:HB3 | 42:BJ:131:LYS:HG2 | 1.52 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:62:TYR:C | 44:BL:63:ILE:HD12 | 1.92 | 0.89 |
| 51:BS:6:LEU:HD23 | 51:BS:17:TYR:CD2 | 2.07 | 0.89 |
| 54:BV:18:LYS:O | 54:BV:22:LEU:HB2 | 1.71 | 0.89 |
| 55:BW:72:LEU:HD22 | 55:BW:77:ALA:N | 1.88 | 0.89 |
| 2:AA:218:A:H2' | 2:AA:219:G:O4' | 1.72 | 0.89 |
| 2:AA:636:G:OP1 | 14:AO:127:GLU:HG2 | 1.73 | 0.89 |
| 2:AA:800:A:O2' | 2:AA:801:G:C3' | 2.20 | 0.89 |
| 2:AA:928:G:H2' | 2:AA:929:G:C5 | 2.06 | 0.89 |
| 2:AA:974(A):C:C6 | 2:AA:1186:G:N1 | 2.39 | 0.89 |
| 2:AA:1252:G:H22 | 25:A1:37:GLN:NE2 | 1.70 | 0.89 |
| 2:AA:1363:C:H1' | 2:AA:1810:A:H1' | 1.54 | 0.89 |
| 2:AA:2417:C:O2' | 2:AA:2418:A:H5' | 1.72 | 0.89 |
| 2:AA:2468:G:H22 | 2:AA:2481:G:H2' | 1.36 | 0.89 |
| 2:AA:2508:G:O2' | 2:AA:2509:G:H5' | 1.71 | 0.89 |
| 2:AA:2564:A:OP1 | 2:AA:2648:C:H4' | 1.71 | 0.89 |
| 2:AA:2582:G:O2' | 2:AA:2583:G:H5' | 1.72 | 0.89 |
| 2:AA:2779:U:H1' | 2:AA:2781:A:H62 | 1.32 | 0.89 |
| 5:AE:43:GLY:O | 5:AE:309:PRO:HD2 | 1.71 | 0.89 |
| 7:AG:19:GLU:HB3 | 7:AG:135:VAL:CG2 | 2.02 | 0.89 |
| 8:AH:83:GLU:HB2 | 8:AH:133:LYS:HG2 | 1.53 | 0.89 |
| 8:AH:137:LYS:HD2 | 8:AH:138:GLN:H | 1.37 | 0.89 |
| 16:AQ:34:LEU:HG | 16:AQ:101:VAL:O | 1.71 | 0.89 |
| 21:AV:45:GLN:HE21 | 21:AV:45:GLN:H | 1.20 | 0.89 |
| 27:A3:65:GLY:HA2 | 27:A3:66:LYS:NZ | 1.86 | 0.89 |
| 30:A6:18:THR:C | 30:A6:20:PHE:N | 2.19 | 0.89 |
| 34:BA:922:G:O2' | 34:BA:1398:A:N1 | 2.05 | 0.89 |
| 34:BA:942:G:H21 | 44:BL:124:GLN:NE2 | 1.68 | 0.89 |
| 39:BG:163:GLU:HG3 | 39:BG:164:ALA:N | 1.85 | 0.89 |
| 40:BH:65:ASN:HD21 | 40:BH:136:MET:HE2 | 1.36 | 0.89 |
| 42:BJ:72:ARG:HH12 | 42:BJ:138:LYS:HZ1 | 0.92 | 0.89 |
| 43:BK:95:VAL:HB | 43:BK:99:GLU:OE1 | 1.71 | 0.89 |
| 43:BK:112:LEU:HD21 | 43:BK:131:GLY:CA | 2.02 | 0.89 |
| 44:BL:19:LEU:HD22 | 44:BL:59:PHE:HB3 | 1.53 | 0.89 |
| 45:BM:5:ARG:HB2 | 45:BM:5:ARG:CZ | 2.02 | 0.89 |
| 47:BO:90:VAL:HG12 | 47:BO:93:LEU:HD21 | 1.53 | 0.89 |
| 2:AA:27:G:HO2' | 2:AA:28:A:H8 | 1.14 | 0.89 |
| 2:AA:71:A:H4' | 2:AA:72:U:H5" | 1.52 | 0.89 |
| 2:AA:528:A:H3' | 2:AA:528:A:H8 | 1.37 | 0.89 |
| 2:AA:929:G:H1' | 23:AX:43:ILE:HD11 | 1.52 | 0.89 |
| 2:AA:1084:A:C8 | 9:AI:37:VAL:HB | 2.07 | 0.89 |
| 2:AA:1114:G:N2 | 2:AA:1115:G:H1' | 1.87 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1171:G:N1 | 2:AA:1179:C:N4 | 2.17 | 0.89 |
| 2:AA:1202:C:N4 | 2:AA:1243:G:H1 | 1.70 | 0.89 |
| 2:AA:1255:U:H5" | 2:AA:1256:G:C5' | 2.02 | 0.89 |
| 2:AA:1752:C:N3 | 2:AA:1756:G:N2 | 2.20 | 0.89 |
| 2:AA:2432:A:N7 | 28:A4:30:GLU:HB3 | 1.88 | 0.89 |
| 2:AA:2739:U:H3' | 2:AA:2739:U:C6 | 2.05 | 0.89 |
| 24:A0:63:ARG:HH22 | 24:A0:77:ARG:HA | 1.36 | 0.89 |
| 25:A1:26:GLY:O | 25:A1:27:SER:HB2 | 1.71 | 0.89 |
| 29:A5:45:ILE:HG13 | 29:A5:52:TYR:CE1 | 2.05 | 0.89 |
| 34:BA:276:G:C2' | 34:BA:277:C:H5' | 2.03 | 0.89 |
| 34:BA:1095:U:H5' | 34:BA:1109:C:O2 | 1.71 | 0.89 |
| 34:BA:1107:C:H2' | 34:BA:1108:G:H5' | 1.53 | 0.89 |
| 35:BC:16:U:H5' | 35:BC:18:G:H5" | 1.54 | 0.89 |
| 38:BF:91:LEU:HD11 | 38:BF:99:VAL:HG22 | 1.52 | 0.89 |
| 43:BK:10:LEU:HD11 | 43:BK:85:ARG:HB2 | 1.51 | 0.89 |
| 45:BM:29:ARG:HB2 | 45:BM:84:GLN:HE22 | 1.35 | 0.89 |
| 48:BP:91:ARG:NH1 | 48:BP:96:LEU:HD12 | 1.88 | 0.89 |
| 52:BT:38:ARG:HG3 | 52:BT:39:SER:N | 1.86 | 0.89 |
| 2:AA:270(A):A:N6 | 2:AA:270(Z):U:H5" | 1.87 | 0.89 |
| 2:AA:617:G:C8 | 2:AA:618:G:N7 | 2.41 | 0.89 |
| 2:AA:850:C:H42 | 2:AA:928:G:H1 | 1.17 | 0.89 |
| 2:AA:858:U:H2' | 2:AA:2268:A:H2' | 1.55 | 0.89 |
| 2:AA:870:A:N1 | 2:AA:907:U:O2 | 2.05 | 0.89 |
| 2:AA:1012:U:O2 | 12:AM:21:ARG:HG2 | 1.73 | 0.89 |
| 2:AA:1338:G:H4' | 19:AT:12:GLU:OE1 | 1.71 | 0.89 |
| 2:AA:1350:C:N4 | 2:AA:1381:G:N1 | 2.11 | 0.89 |
| 2:AA:1906:G:H2' | 2:AA:1907:G:C8 | 2.08 | 0.89 |
| 2:AA:1943:U:H1' | 2:AA:1945:G:C5' | 2.01 | 0.89 |
| 2:AA:2657:A:H62 | 2:AA:2664:G:N2 | 1.71 | 0.89 |
| 3:AC:83:ILE:O | 3:AC:87:GLU:HG3 | 1.72 | 0.89 |
| 4:AD:74:PRO:CD | 4:AD:96:ALA:HB2 | 2.02 | 0.89 |
| 5:AE:45:LYS:HZ3 | 5:AE:301:PRO:HG2 | 0.76 | 0.89 |
| 10:AK:147:GLU:C | 10:AK:149:LYS:H | 1.69 | 0.89 |
| 13:AN:11:ALA:CA | 13:AN:99:PHE:HB2 | 2.02 | 0.89 |
| 14:AO:141:GLU:CB | 14:AO:145:LEU:HD22 | 2.02 | 0.89 |
| 18:AS:19:LEU:CD2 | 29:A5:25:LEU:HG | 2.01 | 0.89 |
| 21:AV:34:LEU:HD13 | 21:AV:39:PHE:CZ | 2.07 | 0.89 |
| 27:A3:38:VAL:C | 27:A3:40:GLN:H | 1.74 | 0.89 |
| 34:BA:953:G:N7 | 48:BP:104:ARG:NH2 | 2.20 | 0.89 |
| 34:BA:1296:C:C5 | 34:BA:1297:C:N4 | 2.39 | 0.89 |
| 34:BA:1410:G:H1 | 34:BA:1490:C:H42 | 1.15 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:193:ASP:C | 39:BG:194:LEU:HD22 | 1.93 | 0.89 |
| 45:BM:16:LEU:HB3 | 45:BM:70:ARG:HG2 | 1.55 | 0.89 |
| 52:BT:10:VAL:HB | 52:BT:54:GLY:N | 1.87 | 0.89 |
| 53:BU:58:LEU:HB3 | 53:BU:62:GLU:HB3 | 1.55 | 0.89 |
| 54:BV:5:LEU:HD12 | 54:BV:9:VAL:HG22 | 1.55 | 0.89 |
| 55:BW:72:LEU:HD13 | 55:BW:77:ALA:HB2 | 1.54 | 0.89 |
| 2:AA:270(S):G:H2' | 2:AA:270(T):G:H8 | 1.36 | 0.89 |
| 2:AA:328:U:H2' | 2:AA:328:U:O2 | 1.72 | 0.89 |
| 2:AA:600:G:OP1 | 6:AF:27:ARG:HD3 | 1.72 | 0.89 |
| 2:AA:607:U:C4 | 2:AA:621:A:C6 | 2.61 | 0.89 |
| 2:AA:987:G:C2' | 2:AA:988:A:H5' | 2.02 | 0.89 |
| 2:AA:1085:A:OP1 | 9:AI:36:PRO:HD2 | 1.71 | 0.89 |
| 2:AA:1239:G:O2' | 2:AA:1240:U:H6 | 1.53 | 0.89 |
| 2:AA:1403:C:H4' | 2:AA:1471:A:C5' | 2.01 | 0.89 |
| 2:AA:1414:G:H2' | 2:AA:1415:U:C6 | 2.07 | 0.89 |
| 2:AA:1747:G:O2' | 2:AA:1748:G:H5' | 1.73 | 0.89 |
| 2:AA:1841:U:H2' | 2:AA:1842:G:C8 | 2.07 | 0.89 |
| 2:AA:1936:A:C4 | 2:AA:1940:U:N3 | 2.40 | 0.89 |
| 2:AA:1969:A:C4' | 2:AA:1970:A:H5' | 2.01 | 0.89 |
| 2:AA:2059:A:H2 | 2:AA:2503:A:N6 | 1.68 | 0.89 |
| 2:AA:2331:G:N2 | 2:AA:2385:C:H41 | 1.71 | 0.89 |
| 2:AA:2416:C:O2' | 2:AA:2417:C:H5" | 1.73 | 0.89 |
| 2:AA:2636:U:H4' | 5:AE:84:ARG:NH1 | 1.88 | 0.89 |
| 4:AD:60:GLN:O | 4:AD:62:ARG:HD3 | 1.71 | 0.89 |
| 6:AF:225:PRO:O | 6:AF:231:ARG:HG3 | 1.71 | 0.89 |
| 8:AH:22:THR:HG22 | 8:AH:34:ARG:O | 1.73 | 0.89 |
| 10:AK:147:GLU:C | 10:AK:149:LYS:N | 2.23 | 0.89 |
| 11:AL:67:THR:O | 11:AL:68:PHE:HB2 | 1.72 | 0.89 |
| 12:AM:45:VAL:HG22 | 12:AM:131:THR:N | 1.87 | 0.89 |
| 21:AV:112:LEU:CD2 | 21:AV:171:VAL:HB | 2.02 | 0.89 |
| 25:A1:55:ARG:HA | 25:A1:58:ARG:HG3 | 1.55 | 0.89 |
| 29:A5:15:LYS:O | 29:A5:18:MET:HG2 | 1.73 | 0.89 |
| 34:BA:1291:G:H2' | 34:BA:1292:U:C6 | 2.08 | 0.89 |
| 40:BH:95:ALA:HB1 | 40:BH:96:PRO:CD | 2.02 | 0.89 |
| 42:BJ:46:ALA:HA | 42:BJ:49:ILE:HD12 | 1.53 | 0.89 |
| 47:BO:41:ARG:HH22 | 47:BO:57:LYS:HZ2 | 1.17 | 0.89 |
| 50:BR:33:THR:HG23 | 50:BR:63:ARG:HH11 | 1.38 | 0.89 |
| 2:AA:1130:U:O2' | 2:AA:1131:G:OP1 | 1.90 | 0.89 |
| 2:AA:1275:A:H61 | 24:A0:19:ALA:HB2 | 1.38 | 0.89 |
| 2:AA:1676:A:H2' | 2:AA:1677:A:H8 | 1.34 | 0.89 |
| 2:AA:2056:G:N2 | 29:A5:4:HIS:O | 2.06 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2810:A:H2' | 2:AA:2811:G:C5' | 2.03 | 0.89 |
| 2:AA:2832:U:C6 | 2:AA:2832:U:H5' | 2.08 | 0.89 |
| 5:AE:317:PRO:CG | 5:AE:320:GLN:HG2 | 2.01 | 0.89 |
| 10:AK:77:VAL:HG12 | 10:AK:79:ILE:CD1 | 2.02 | 0.89 |
| 12:AM:63:ILE:O | 12:AM:69:TYR:HB3 | 1.72 | 0.89 |
| 13:AN:7:ARG:HB3 | 13:AN:44:LYS:NZ | 1.86 | 0.89 |
| 15:AP:12:PRO:HB3 | 15:AP:20:ILE:HD11 | 1.54 | 0.89 |
| 17:AR:49:LEU:HD23 | 17:AR:49:LEU:C | 1.93 | 0.89 |
| 18:AS:88:ARG:C | 18:AS:90:ARG:H | 1.72 | 0.89 |
| 21:AV:67:LYS:NZ | 21:AV:67:LYS:HA | 1.88 | 0.89 |
| 25:A1:28:ARG:NH1 | 25:A1:28:ARG:H | 1.71 | 0.89 |
| 25:A1:89:ASP:CG | 26:A2:52:GLY:N | 2.26 | 0.89 |
| 34:BA:13:U:O4 | 34:BA:21:G:O6 | 1.89 | 0.89 |
| 34:BA:394:G:H2' | 34:BA:395:C:H6 | 1.37 | 0.89 |
| 34:BA:992:U:H4' | 34:BA:993:G:O5' | 1.73 | 0.89 |
| 34:BA:1250:A:H2' | 34:BA:1251:A:H8 | 1.37 | 0.89 |
| 37:BE:24:TRP:CZ3 | 37:BE:26:PRO:HA | 2.08 | 0.89 |
| 48:BP:4:ILE:HD12 | 48:BP:8:GLU:O | 1.73 | 0.89 |
| 51:BS:3:LYS:CD | 51:BS:24:ALA:HB2 | 2.03 | 0.89 |
| 55:BW:88:VAL:HG12 | 55:BW:92:LEU:HD11 | 1.53 | 0.89 |
| 2:AA:123:G:H1 | 2:AA:128:C:H42 | 1.19 | 0.89 |
| 2:AA:930:U:H5' | 2:AA:931:G:OP2 | 1.73 | 0.89 |
| 2:AA:949:C:H2' | 2:AA:950:G:H8 | 1.36 | 0.89 |
| 2:AA:972:G:C8 | 2:AA:974:G:OP1 | 2.25 | 0.89 |
| 2:AA:1188:U:O2' | 2:AA:1189:A:H5' | 1.73 | 0.89 |
| 2:AA:1197:G:C6 | 2:AA:1198:U:C5 | 2.60 | 0.89 |
| 2:AA:2336:A:H2' | 2:AA:2337:G:H5' | 1.53 | 0.89 |
| 2:AA:2852:G:H1 | 2:AA:2865:U:H3 | 0.90 | 0.89 |
| 4:AD:210:LYS:HG3 | 4:AD:211:HIS:H | 1.37 | 0.89 |
| 5:AE:39:GLN:CB | 5:AE:174:LEU:HG | 2.03 | 0.89 |
| 5:AE:269:ILE:CG1 | 5:AE:297:LYS:HG2 | 2.02 | 0.89 |
| 7:AG:46:GLY:O | 7:AG:47:GLN:HG3 | 1.72 | 0.89 |
| 10:AK:93:ILE:CD1 | 10:AK:121:ILE:HB | 2.00 | 0.89 |
| 11:AL:95:LYS:O | 11:AL:97:VAL:HG22 | 1.72 | 0.89 |
| 15:AP:16:ARG:CB | 15:AP:19:TYR:HB2 | 2.03 | 0.89 |
| 15:AP:56:ILE:HG22 | 15:AP:61:LEU:CD1 | 2.03 | 0.89 |
| 18:AS:88:ARG:O | 18:AS:90:ARG:N | 2.04 | 0.89 |
| 25:A1:69:ALA:HB1 | 25:A1:79:PHE:CE1 | 2.08 | 0.89 |
| 29:A5:13:LYS:O | 29:A5:17:ASP:OD1 | 1.91 | 0.89 |
| 29:A5:15:LYS:HA | 29:A5:18:MET:CG | 2.01 | 0.89 |
| 34:BA:667:G:H4' | 50:BR:51:HIS:ND1 | 1.87 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:965:A:O2' | 34:BA:966:G:C5' | 2.20 | 0.89 |
| 35:BC:44:A:N6 | 35:BC:45:G:N2 | 2.21 | 0.89 |
| 40:BH:11:ILE:HG22 | 40:BH:12:LEU:N | 1.87 | 0.89 |
| 43:BK:115:SER:O | 43:BK:116:LYS:HD2 | 1.72 | 0.89 |
| 55:BW:30:LYS:HB2 | 55:BW:30:LYS:HZ2 | 1.33 | 0.89 |
| 2:AA:99:U:H3 | 20:AU:107:LYS:CD | 1.85 | 0.89 |
| 2:AA:270:A:H2' | 2:AA:270(A):A:C4' | 2.03 | 0.89 |
| 2:AA:273(D):C:N4 | 2:AA:363(B):G:N1 | 2.21 | 0.89 |
| 2:AA:458:G:O2' | 2:AA:469:G:N1 | 2.05 | 0.89 |
| 2:AA:801:G:OP1 | 6:AF:79:ARG:HD3 | 1.72 | 0.89 |
| 2:AA:873:G:H4' | 15:AP:32:LYS:HG2 | 1.54 | 0.89 |
| 2:AA:1030:G:H1 | 2:AA:1124:C:N4 | 1.69 | 0.89 |
| 2:AA:1051:G:H4' | 2:AA:2752:C:O2' | 1.72 | 0.89 |
| 2:AA:1083:U:H2' | 9:AI:37:VAL:HA | 0.89 | 0.89 |
| 2:AA:1113:U:H2' | 2:AA:1114:G:H8 | 1.34 | 0.89 |
| 2:AA:1151:G:O3' | 25:A1:81:ASN:OD1 | 1.89 | 0.89 |
| 2:AA:1488:G:H2' | 2:AA:1489:U:H5' | 1.53 | 0.89 |
| 2:AA:1556:C:H2' | 2:AA:1557:C:C6 | 2.08 | 0.89 |
| 2:AA:1995:U:H5' | 2:AA:1996:C:H5' | 1.53 | 0.89 |
| 2:AA:2519:U:OP1 | 2:AA:2519:U:H3' | 1.73 | 0.89 |
| 5:AE:79:ARG:HA | 5:AE:186:GLU:HA | 1.54 | 0.89 |
| 6:AF:45:ASP:HB3 | 6:AF:98:ARG:CZ | 2.03 | 0.89 |
| 6:AF:55:ARG:HA | 6:AF:79:ARG:NH2 | 1.88 | 0.89 |
| 7:AG:102:GLY:O | 7:AG:134:LEU:HB2 | 1.73 | 0.89 |
| 12:AM:56:LYS:O | 12:AM:59:LYS:HB2 | 1.73 | 0.89 |
| 13:AN:64:ARG:HB2 | 13:AN:79:PHE:CE1 | 2.07 | 0.89 |
| 15:AP:48:ASN:ND2 | 15:AP:122:PHE:H | 1.71 | 0.89 |
| 19:AT:25:GLN:OE1 | 19:AT:65:VAL:HG13 | 1.73 | 0.89 |
| 21:AV:46:GLN:NE2 | 21:AV:50:GLY:HA3 | 1.87 | 0.89 |
| 26:A2:39:PHE:O | 26:A2:40:VAL:HG13 | 1.73 | 0.89 |
| 34:BA:333:G:C4' | 55:BW:16:HIS:HE2 | 1.85 | 0.89 |
| 34:BA:511:C:HO2' | 34:BA:512:U:H6 | 0.90 | 0.89 |
| 34:BA:551:U:H5' | 47:BO:119:LYS:CE | 2.03 | 0.89 |
| 34:BA:1000:U:H3 | 34:BA:1041:A:H2 | 1.19 | 0.89 |
| 34:BA:1193:G:H2' | 34:BA:1194:U:C5' | 2.01 | 0.89 |
| 34:BA:1346:A:H4' | 34:BA:1347:G:O5' | 1.73 | 0.89 |
| 34:BA:1495:U:O2' | 34:BA:1496:C:H5' | 1.73 | 0.89 |
| 37:BE:77:ALA:O | 37:BE:80:ILE:N | 2.06 | 0.89 |
| 37:BE:88:ALA:HA | 37:BE:222:ILE:CD1 | 2.03 | 0.89 |
| 41:BI:33:TYR:CE1 | 41:BI:75:LEU:HD23 | 2.07 | 0.89 |
| 45:BM:22:LYS:HE2 | 45:BM:90:LEU:HD12 | 1.55 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:58:G:H2' | 2:AA:73:A:C6 | 2.08 | 0.88 |
| 2:AA:503:A:H1' | 2:AA:505:A:C8 | 2.08 | 0.88 |
| 2:AA:687:C:H42 | 2:AA:775:G:H1 | 1.08 | 0.88 |
| 2:AA:1063:G:N1 | 2:AA:1075:C:N4 | 2.22 | 0.88 |
| 2:AA:1267:U:C5 | 2:AA:2012:G:N2 | 2.40 | 0.88 |
| 2:AA:1333:C:H6 | 2:AA:1333:C:H5' | 1.37 | 0.88 |
| 2:AA:2456:C:O2' | 2:AA:2457:U:H5' | 1.73 | 0.88 |
| 2:AA:2737:G:N2 | 2:AA:2767:C:N3 | 2.21 | 0.88 |
| 3:AC:22:ILE:HD11 | 3:AC:193:ILE:HD11 | 1.51 | 0.88 |
| 6:AF:162:VAL:O | 6:AF:165:ASP:HB2 | 1.73 | 0.88 |
| 8:AH:86:LEU:HD21 | 8:AH:161:ILE:HG22 | 1.53 | 0.88 |
| 12:AM:87:LEU:HD13 | 12:AM:98:PHE:CE2 | 2.08 | 0.88 |
| 15:AP:68:ALA:CB | 15:AP:139:ALA:HB2 | 2.01 | 0.88 |
| 17:AR:23:HIS:ND1 | 17:AR:24:LYS:O | 2.06 | 0.88 |
| 27:A3:36:ILE:HB | 27:A3:68:VAL:CG1 | 2.03 | 0.88 |
| 34:BA:988:G:O6 | 34:BA:1217:C:N3 | 2.05 | 0.88 |
| 34:BA:1086:U:O4 | 34:BA:1099:G:O6 | 1.90 | 0.88 |
| 34:BA:1203:C:OP1 | 49:BQ:2:ALA:HB2 | 1.73 | 0.88 |
| 34:BA:1314:C:H41 | 54:BV:4:SER:CB | 1.86 | 0.88 |
| 37:BE:69:LEU:CB | 37:BE:162:ILE:HG22 | 2.02 | 0.88 |
| 39:BG:9:CYS:SG | 39:BG:31:CYS:C | 2.51 | 0.88 |
| 42:BJ:31:MET:HG2 | 42:BJ:32:ARG:H | 1.36 | 0.88 |
| 43:BK:33:GLU:CG | 43:BK:59:LEU:HD11 | 2.02 | 0.88 |
| 45:BM:32:ALA:CB | 45:BM:76:ASN:HD22 | 1.82 | 0.88 |
| 48:BP:52:GLU:O | 48:BP:56:LEU:HG | 1.73 | 0.88 |
| 48:BP:89:GLY:O | 48:BP:93:ARG:HB2 | 1.72 | 0.88 |
| 50:BR:32:LEU:HB3 | 50:BR:63:ARG:HG2 | 1.55 | 0.88 |
| 50:BR:39:LEU:HD21 | 50:BR:56:LEU:HD22 | 1.54 | 0.88 |
| 2:AA:954:G:H2' | 2:AA:955:C:O4' | 1.73 | 0.88 |
| 2:AA:1403:C:C5' | 2:AA:1471:A:H5' | 2.04 | 0.88 |
| 2:AA:1492:G:HO2' | 2:AA:1493:C:H6 | 0.92 | 0.88 |
| 2:AA:2067:G:H1 | 2:AA:2443:C:H42 | 1.15 | 0.88 |
| 4:AD:154:VAL:HG22 | 4:AD:157:ALA:HB1 | 1.54 | 0.88 |
| 4:AD:158:GLY:HA2 | 4:AD:194:VAL:HG21 | 1.55 | 0.88 |
| 5:AE:211:GLN:OE1 | 5:AE:212:GLY:O | 1.91 | 0.88 |
| 8:AH:82:TYR:O | 8:AH:133:LYS:HA | 1.74 | 0.88 |
| 13:AN:64:ARG:CZ | 13:AN:100:GLY:HA3 | 2.03 | 0.88 |
| 20:AU:21:LYS:NZ | 20:AU:22:GLN:HE21 | 1.71 | 0.88 |
| 32:A8:26:LYS:HD2 | 32:A8:44:LYS:N | 1.87 | 0.88 |
| 34:BA:70:G:H1 | 34:BA:98:U:H3 | 1.14 | 0.88 |
| 35:BB:6:U:N3 | 35:BB:68:U:N3 | 2.20 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:16:THR:O | 40:BH:26:PHE:HB2 | 1.73 | 0.88 |
| 41:BI:77:ARG:CA | 41:BI:80:ARG:HD2 | 2.00 | 0.88 |
| 44:BL:74:ILE:HA | 44:BL:77:ILE:CD1 | 2.03 | 0.88 |
| 44:BL:97:LYS:HZ2 | 44:BL:102:LEU:HD11 | 1.37 | 0.88 |
| 47:BO:84:LEU:H | 47:BO:104:VAL:HG11 | 1.31 | 0.88 |
| 50:BR:78:TYR:CE2 | 50:BR:82:ILE:HD11 | 2.09 | 0.88 |
| 53:BU:29:PHE:CE1 | 53:BU:39:VAL:HG11 | 2.09 | 0.88 |
| 53:BU:49:LYS:HE3 | 53:BU:49:LYS:H | 1.30 | 0.88 |
| 2:AA:94:G:N2 | 22:AW:42:ASN:ND2 | 2.20 | 0.88 |
| 2:AA:245:G:H22 | 2:AA:254:G:H1' | 0.74 | 0.88 |
| 2:AA:301:G:H2' | 2:AA:302:C:C6 | 2.07 | 0.88 |
| 2:AA:363(D):G:O2' | 2:AA:363(E):U:H5' | 1.73 | 0.88 |
| 2:AA:714:U:H2' | 2:AA:715:G:OP2 | 1.70 | 0.88 |
| 2:AA:1083:U:O3' | 9:AI:37:VAL:C | 2.11 | 0.88 |
| 2:AA:1508:A:C8 | 2:AA:1508:A:H3' | 2.07 | 0.88 |
| 2:AA:1799:G:C6 | 4:AD:177:SER:HB2 | 2.07 | 0.88 |
| 2:AA:2021:C:P | 29:A5:15:LYS:HE3 | 2.13 | 0.88 |
| 2:AA:2314:C:H5' | 7:AG:22:VAL:HG11 | 1.55 | 0.88 |
| 2:AA:2463:C:N3 | 2:AA:2487:G:O6 | 2.06 | 0.88 |
| 2:AA:2700:C:H2' | 2:AA:2701:C:C4' | 2.02 | 0.88 |
| 4:AD:80:ILE:HB | 4:AD:82:TYR:CE1 | 2.07 | 0.88 |
| 5:AE:222:ARG:NH2 | 5:AE:234:ARG:HB2 | 1.88 | 0.88 |
| 6:AF:52:ALA:HA | 6:AF:55:ARG:HE | 1.35 | 0.88 |
| 6:AF:81:PRO:HA | 6:AF:87:ARG:HG2 | 1.55 | 0.88 |
| 8:AH:117:GLU:O | 8:AH:120:LEU:HG | 1.73 | 0.88 |
| 10:AK:21:VAL:HB | 10:AK:26:ALA:CB | 2.04 | 0.88 |
| 13:AN:2:ILE:HG13 | 13:AN:67:ARG:HH21 | 1.36 | 0.88 |
| 13:AN:43:VAL:HG11 | 13:AN:54:LYS:CA | 2.02 | 0.88 |
| 15:AP:42:TYR:CD2 | 21:AV:119:ASN:HA | 2.08 | 0.88 |
| 20:AU:71:VAL:HG13 | 20:AU:72:ILE:N | 1.87 | 0.88 |
| 21:AV:52:PHE:N | 21:AV:65:LEU:HD11 | 1.88 | 0.88 |
| 24:A0:53:HIS:HA | 24:A0:56:LYS:HG3 | 1.55 | 0.88 |
| 27:A3:39:ARG:HG2 | 27:A3:69:PHE:CZ | 2.09 | 0.88 |
| 30:A6:16:ALA:O | 30:A6:48:VAL:HG11 | 1.73 | 0.88 |
| 34:BA:343:U:O2 | 34:BA:346:G:N1 | 2.07 | 0.88 |
| 34:BA:817:C:N4 | 34:BA:1529:G:O6 | 2.06 | 0.88 |
| 34:BA:923:A:OP1 | 40:BH:21:ALA:HB2 | 1.74 | 0.88 |
| 34:BA:1305:G:N2 | 34:BA:1331:G:H2' | 1.87 | 0.88 |
| 37:BE:139:LYS:O | 37:BE:143:GLU:HB2 | 1.74 | 0.88 |
| 46:BN:79:SER:OG | 46:BN:106:LYS:HE2 | 1.73 | 0.88 |
| 55:BW:79:ARG:HA | 55:BW:82:SER:HB3 | 1.56 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:407:G:H1 | 2:AA:420:C:H42 | 0.89 | 0.88 |
| 2:AA:959:A:H2' | 2:AA:960:A:H8 | 1.39 | 0.88 |
| 2:AA:976:C:H42 | 2:AA:987:G:H1 | 1.15 | 0.88 |
| 2:AA:1024:G:C6 | 2:AA:1025:G:N7 | 2.42 | 0.88 |
| 2:AA:1184:G:H2' | 2:AA:1185:C:H5' | 1.53 | 0.88 |
| 2:AA:1273:U:H4' | 2:AA:1275:A:OP2 | 1.74 | 0.88 |
| 2:AA:1936:A:N9 | 2:AA:1940:U:N3 | 2.21 | 0.88 |
| 2:AA:2092:U:H5 | 2:AA:2227:A:N6 | 1.70 | 0.88 |
| 2:AA:2312:U:H5' | 7:AG:53:LYS:CA | 2.01 | 0.88 |
| 2:AA:2715:C:H2' | 2:AA:2716:U:C6 | 2.08 | 0.88 |
| 2:AA:2850:A:C2 | 2:AA:2869:G:H4' | 2.07 | 0.88 |
| 5:AE:199:ALA:CA | 5:AE:312:ARG:O | 2.21 | 0.88 |
| 6:AF:82:GLN:N | 6:AF:87:ARG:NH1 | 2.21 | 0.88 |
| 8:AH:168:VAL:HG12 | 8:AH:169:ARG:H | 1.36 | 0.88 |
| 9:AI:3:ILE:CG2 | 11:AL:117:ASN:HA | 2.02 | 0.88 |
| 9:AJ:78:ARG:HH22 | 11:AL:59:THR:HG21 | 1.37 | 0.88 |
| 11:AL:129:GLU:O | 11:AL:133:LYS:HG3 | 1.72 | 0.88 |
| 12:AM:56:LYS:HA | 12:AM:59:LYS:HG3 | 1.53 | 0.88 |
| 13:AN:64:ARG:O | 13:AN:64:ARG:HG2 | 1.73 | 0.88 |
| 18:AS:4:LYS:HD2 | 18:AS:106:ILE:HG12 | 1.55 | 0.88 |
| 28:A4:43:TRP:HA | 28:A4:61:LYS:CE | 2.03 | 0.88 |
| 34:BA:1333:A:O2' | 34:BA:1334:G:H5' | 1.74 | 0.88 |
| 35:BC:35:A:H8 | 35:BC:35:A:H5' | 1.35 | 0.88 |
| 39:BG:12:CYS:SG | 39:BG:19:LEU:O | 2.32 | 0.88 |
| 39:BG:61:LYS:HZ3 | 39:BG:65:ARG:HD2 | 1.38 | 0.88 |
| 47:BO:41:ARG:HH22 | 47:BO:57:LYS:NZ | 1.70 | 0.88 |
| 52:BT:6:LEU:HD22 | 52:BT:23:VAL:HG11 | 1.55 | 0.88 |
| 2:AA:25:U:O2 | 2:AA:515:A:N1 | 2.06 | 0.88 |
| 2:AA:221:A:H4' | 2:AA:222:A:H5' | 1.55 | 0.88 |
| 2:AA:1155:A:O5' | 25:A1:55:ARG:NH1 | 2.05 | 0.88 |
| 2:AA:1264:G:N7 | 2:AA:1265:A:C5 | 2.41 | 0.88 |
| 2:AA:1287:A:O4' | 24:A0:104:ARG:HD2 | 1.73 | 0.88 |
| 2:AA:1534:G:N1 | 2:AA:1538:G:H1' | 1.88 | 0.88 |
| 2:AA:1917:U:H3' | 2:AA:1917:U:C6 | 2.09 | 0.88 |
| 2:AA:1965:C:H3' | 2:AA:1966:A:H8 | 1.36 | 0.88 |
| 2:AA:2053:G:H1 | 2:AA:2616:C:H42 | 1.21 | 0.88 |
| 2:AA:2317:C:C5' | 7:AG:150:SER:HA | 2.03 | 0.88 |
| 2:AA:2645:G:H4' | 2:AA:2732:G:O2' | 1.73 | 0.88 |
| 3:AC:5:LYS:HZ1 | 3:AC:8:ARG:HB3 | 1.36 | 0.88 |
| 3:AC:28:LEU:HA | 3:AC:31:GLU:CD | 1.93 | 0.88 |
| 3:AC:74:VAL:HG22 | 3:AC:112:ALA:HB3 | 1.54 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:225:LYS:HB3 | 5:AE:226:HIS:CE1 | 2.09 | 0.88 |
| 6:AF:61:PHE:C | 6:AF:65:ARG:NH2 | 2.27 | 0.88 |
| 7:AG:105:SER:HB3 | 7:AG:130:VAL:O | 1.74 | 0.88 |
| 12:AM:54:VAL:HA | 12:AM:135:ILE:HG23 | 1.54 | 0.88 |
| 14:AO:108:VAL:CB | 14:AO:125:PHE:HD2 | 1.86 | 0.88 |
| 15:AP:17:ARG:C | 15:AP:22:GLY:HA3 | 1.93 | 0.88 |
| 15:AP:35:ASN:HD21 | 21:AV:114:ASP:N | 1.71 | 0.88 |
| 15:AP:65:ARG:HH22 | 15:AP:87:LYS:H | 1.19 | 0.88 |
| 18:AS:8:ARG:HG2 | 18:AS:9:TYR:N | 1.86 | 0.88 |
| 22:AW:53:ILE:CG2 | 22:AW:57:LYS:HE3 | 2.01 | 0.88 |
| 34:BA:299:G:H2' | 34:BA:300:A:C8 | 2.07 | 0.88 |
| 34:BA:417:C:N3 | 34:BA:426:G:N2 | 2.20 | 0.88 |
| 34:BA:620:C:H2' | 34:BA:621:A:O4' | 1.72 | 0.88 |
| 34:BA:757:U:H5' | 34:BA:878:G:N2 | 1.89 | 0.88 |
| 34:BA:965:A:O2' | 34:BA:966:G:H5" | 1.73 | 0.88 |
| 36:B1:23:U:H2' | 36:B1:24:A:O4' | 1.72 | 0.88 |
| 41:BI:22:GLU:O | 41:BI:26:ILE:HG13 | 1.73 | 0.88 |
| 52:BT:60:ILE:HD13 | 52:BT:62:SER:OG | 1.72 | 0.88 |
| 1:AB:93:C:H2' | 1:AB:94:C:C6 | 2.08 | 0.88 |
| 2:AA:107:C:H2' | 2:AA:108:U:H6 | 1.38 | 0.88 |
| 2:AA:311:A:N1 | 2:AA:331:A:OP2 | 2.07 | 0.88 |
| 2:AA:511:U:H5 | 2:AA:512:G:N3 | 1.71 | 0.88 |
| 2:AA:1780:A:O2' | 2:AA:1781:C:OP1 | 1.91 | 0.88 |
| 2:AA:2635:C:H2' | 2:AA:2635:C:O2 | 1.74 | 0.88 |
| 5:AE:175:ASP:HA | 5:AE:178:LEU:HG | 1.54 | 0.88 |
| 15:AP:151:SER:HB3 | 15:AP:155:GLY:O | 1.74 | 0.88 |
| 20:AU:78:THR:HA | 20:AU:89:ARG:HG3 | 1.54 | 0.88 |
| 21:AV:51:LEU:CD2 | 21:AV:64:ALA:H | 1.86 | 0.88 |
| 21:AV:149:ALA:O | 21:AV:152:ILE:HG13 | 1.72 | 0.88 |
| 22:AW:39:ALA:CB | 22:AW:40:PRO:HD3 | 2.02 | 0.88 |
| 23:AX:7:LYS:HB2 | 23:AX:34:GLU:HG2 | 1.55 | 0.88 |
| 27:A3:66:LYS:HD2 | 27:A3:66:LYS:N | 1.89 | 0.88 |
| 34:BA:1410:G:H1 | 34:BA:1490:C:N4 | 1.70 | 0.88 |
| 34:BA:1507:A:N1 | 34:BA:1528:U:O4 | 2.06 | 0.88 |
| 35:BB:57:G:H2' | 35:BB:58:A:C5' | 2.03 | 0.88 |
| 35:BC:17:U:H3' | 35:BC:18:G:H8 | 1.38 | 0.88 |
| 38:BF:58:GLU:HB2 | 38:BF:65:ALA:HB2 | 1.55 | 0.88 |
| 41:BI:33:TYR:CD2 | 41:BI:75:LEU:HB2 | 2.09 | 0.88 |
| 41:BI:75:LEU:HD22 | 41:BI:78:GLU:HB3 | 1.54 | 0.88 |
| 47:BO:25:PRO:C | 47:BO:27:LEU:H | 1.76 | 0.88 |
| 2:AA:261:G:O4' | 2:AA:608:A:H2 | 1.54 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:764:A:H62 | 2:AA:1776:G:H1' | 1.39 | 0.88 |
| 2:AA:864:G:H2' | 2:AA:865:C:C6 | 2.09 | 0.88 |
| 2:AA:917:A:H3' | 2:AA:918:A:H5" | 1.55 | 0.88 |
| 2:AA:987:G:H2' | 2:AA:988:A:C5' | 2.02 | 0.88 |
| 2:AA:1527:G:N1 | 2:AA:1544:C:N4 | 2.17 | 0.88 |
| 2:AA:1991:U:H6 | 2:AA:1991:U:C3' | 1.86 | 0.88 |
| 2:AA:2444:G:H2' | 2:AA:2445:G:C8 | 2.09 | 0.88 |
| 2:AA:2573:C:O5' | 2:AA:2574:G:OP1 | 1.90 | 0.88 |
| 2:AA:2634:G:O2' | 2:AA:2635:C:H5' | 1.74 | 0.88 |
| 4:AD:158:GLY:HA2 | 4:AD:194:VAL:CG2 | 2.04 | 0.88 |
| 7:AG:24:HIS:HB3 | 7:AG:72:LYS:HA | 1.56 | 0.88 |
| 10:AK:81:ALA:HB3 | 10:AK:89:LEU:HD22 | 1.55 | 0.88 |
| 11:AL:10:LYS:HG2 | 11:AL:57:VAL:HG22 | 1.54 | 0.88 |
| 12:AM:53:ILE:HG23 | 12:AM:135:ILE:CG1 | 2.04 | 0.88 |
| 12:AM:80:LYS:O | 12:AM:83:ILE:HG13 | 1.74 | 0.88 |
| 12:AM:83:ILE:O | 12:AM:87:LEU:HD12 | 1.73 | 0.88 |
| 15:AP:12:PRO:CG | 15:AP:92:VAL:H | 1.87 | 0.88 |
| 21:AV:13:LYS:CE | 21:AV:18:MET:SD | 2.61 | 0.88 |
| 21:AV:91:PRO:CD | 21:AV:127:PRO:HB3 | 2.03 | 0.88 |
| 26:A2:35:LEU:H | 26:A2:60:VAL:HG13 | 1.37 | 0.88 |
| 34:BA:157:G:N2 | 34:BA:164:U:O2 | 2.06 | 0.88 |
| 34:BA:726:C:N4 | 34:BA:731:G:H1 | 1.72 | 0.88 |
| 34:BA:1089:G:H1 | 34:BA:1096:C:N4 | 1.72 | 0.88 |
| 34:BA:1271:G:OP1 | 34:BA:1314:C:H5" | 1.72 | 0.88 |
| 35:BB:9:A:N6 | 35:BB:22:G:C8 | 2.42 | 0.88 |
| 37:BE:15:VAL:HG21 | 37:BE:209:ARG:HD2 | 1.53 | 0.88 |
| 38:BF:175:LEU:HD11 | 38:BF:201:TYR:CD2 | 2.08 | 0.88 |
| 43:BK:24:THR:HG22 | 43:BK:61:VAL:O | 1.72 | 0.88 |
| 46:BN:84:VAL:O | 46:BN:85:ARG:HD3 | 1.73 | 0.88 |
| 48:BP:22:ILE:HD12 | 48:BP:25:ILE:CD1 | 2.04 | 0.88 |
| 2:AA:518:G:H1' | 18:AS:77:ASP:OD1 | 1.73 | 0.88 |
| 2:AA:673:C:H5" | 6:AF:80:VAL:HG13 | 1.56 | 0.88 |
| 2:AA:1203:G:HO2' | 2:AA:1241:A:H2 | 0.90 | 0.88 |
| 2:AA:1536:A:H2' | 2:AA:1537:C:H5' | 1.56 | 0.88 |
| 2:AA:2043:C:N4 | 2:AA:2777:G:N3 | 2.22 | 0.88 |
| 2:AA:2124:G:OP1 | 3:AC:133:PRO:HD3 | 1.73 | 0.88 |
| 2:AA:2185:C:H2' | 2:AA:2186:G:C8 | 2.09 | 0.88 |
| 2:AA:2219:G:H2' | 2:AA:2224:G:C5' | 2.04 | 0.88 |
| 2:AA:2509:G:N2 | 2:AA:2510:C:H1' | 1.87 | 0.88 |
| 2:AA:2636:U:C4' | 5:AE:84:ARG:HH12 | 1.87 | 0.88 |
| 2:AA:2747:G:C2' | 2:AA:2748:A:H5" | 2.04 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:14:VAL:HG22 | 3:AC:28:LEU:CD2 | 2.04 | 0.88 |
| 3:AC:22:ILE:HD12 | 3:AC:190:ARG:CZ | 2.04 | 0.88 |
| 4:AD:168:GLY:HA3 | 4:AD:170:TYR:CE2 | 2.08 | 0.88 |
| 8:AH:44:VAL:HA | 8:AH:49:ILE:CG2 | 2.03 | 0.88 |
| 14:AO:65:ASP:HB2 | 14:AO:67:ARG:NH2 | 1.87 | 0.88 |
| 14:AO:66:VAL:HB | 14:AO:67:ARG:CZ | 2.03 | 0.88 |
| 14:AO:67:ARG:N | 14:AO:67:ARG:HE | 1.72 | 0.88 |
| 20:AU:64:ASN:O | 20:AU:72:ILE:HG23 | 1.72 | 0.88 |
| 25:A1:55:ARG:HG2 | 25:A1:58:ARG:HH21 | 1.39 | 0.88 |
| 34:BA:138:G:H1 | 34:BA:225:C:H42 | 0.90 | 0.88 |
| 34:BA:321:A:H62 | 34:BA:328:C:H1' | 1.37 | 0.88 |
| 34:BA:668:G:N2 | 34:BA:738:C:N3 | 2.22 | 0.88 |
| 34:BA:671:G:H2' | 34:BA:672:U:H6 | 1.33 | 0.88 |
| 34:BA:692:U:H5 | 46:BN:26:ASN:ND2 | 1.72 | 0.88 |
| 34:BA:829:G:H4' | 37:BE:26:PRO:HG2 | 1.55 | 0.88 |
| 34:BA:1405:G:N2 | 34:BA:1517:G:H22 | 1.72 | 0.88 |
| 35:BB:37:G:OP2 | 35:BB:37:G:N7 | 2.07 | 0.88 |
| 36:B1:52:A:H2' | 36:B1:53:G:H8 | 1.38 | 0.88 |
| 38:BF:84:ILE:HG13 | 38:BF:101:LEU:CD2 | 2.03 | 0.88 |
| 49:BQ:23:ARG:H | 49:BQ:33:VAL:HG21 | 1.39 | 0.88 |
| 51:BS:39:TYR:HB2 | 51:BS:49:LEU:HD13 | 1.56 | 0.88 |
| 54:BV:44:MET:HA | 54:BV:47:HIS:CD2 | 2.08 | 0.88 |
| 2:AA:343:C:N3 | 2:AA:344:G:N1 | 2.20 | 0.88 |
| 2:AA:388:G:OP2 | 28:A4:23:GLU:HB3 | 1.74 | 0.88 |
| 2:AA:621:A:C2' | 2:AA:622:G:H5' | 2.03 | 0.88 |
| 2:AA:647:G:H4' | 2:AA:2352:A:OP1 | 1.73 | 0.88 |
| 2:AA:880:G:H1 | 2:AA:897:C:H42 | 0.89 | 0.88 |
| 2:AA:971:C:O2 | 2:AA:972:G:C1' | 2.22 | 0.88 |
| 2:AA:1264:G:C3' | 2:AA:1265:A:H5" | 2.04 | 0.88 |
| 2:AA:1529:A:H62 | 2:AA:1542:G:H22 | 1.19 | 0.88 |
| 4:AD:222:PRO:O | 4:AD:224:VAL:N | 2.07 | 0.88 |
| 12:AM:84:ARG:CB | 12:AM:98:PHE:HE2 | 1.87 | 0.88 |
| 13:AN:21:VAL:HG22 | 13:AN:39:VAL:HG11 | 1.54 | 0.88 |
| 14:AO:92:ASP:OD1 | 14:AO:94:ARG:HG3 | 1.73 | 0.88 |
| 15:AP:11:LYS:HD2 | 15:AP:91:HIS:CD2 | 2.07 | 0.88 |
| 21:AV:148:THR:CA | 21:AV:168:VAL:HB | 2.03 | 0.88 |
| 27:A3:80:SER:C | 27:A3:81:ILE:HD12 | 1.94 | 0.88 |
| 34:BA:81:U:H2' | 34:BA:83:U:OP2 | 1.73 | 0.88 |
| 34:BA:124:G:H2' | 34:BA:125:U:O4' | 1.73 | 0.88 |
| 34:BA:695:A:H2' | 34:BA:696:A:O4' | 1.73 | 0.88 |
| 34:BA:1500:A:H5" | 34:BA:1508:G:H5" | 1.54 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:115:LEU:HD13 | 37:BE:145:LEU:HB3 | 1.55 | 0.88 |
| 48:BP:10:PRO:CG | 48:BP:18:ALA:HB1 | 2.03 | 0.88 |
| 48:BP:81:LEU:HD13 | 48:BP:81:LEU:H | 1.37 | 0.88 |
| 2:AA:270:A:N1 | 2:AA:370:G:H1' | 1.89 | 0.88 |
| 2:AA:337:C:H3' | 2:AA:338:G:H5" | 1.55 | 0.88 |
| 2:AA:624:C:O2 | 2:AA:657:U:H5" | 1.74 | 0.88 |
| 2:AA:1055:G:N2 | 9:AI:29:PHE:CE1 | 2.41 | 0.88 |
| 2:AA:1995:U:H6 | 2:AA:1995:U:H5" | 1.39 | 0.88 |
| 2:AA:2405:G:H2' | 2:AA:2411:A:H61 | 1.39 | 0.88 |
| 2:AA:2582:G:C2' | 2:AA:2583:G:H5' | 2.04 | 0.88 |
| 5:AE:214:VAL:CG1 | 5:AE:221:LYS:HZ2 | 1.87 | 0.88 |
| 6:AF:225:PRO:HB2 | 6:AF:231:ARG:HE | 1.39 | 0.88 |
| 7:AG:19:GLU:CB | 7:AG:135:VAL:HG21 | 2.03 | 0.88 |
| 10:AK:2:LYS:CD | 10:AK:39:ALA:HB2 | 2.04 | 0.88 |
| 10:AK:77:VAL:HG23 | 10:AK:141:LEU:HD21 | 1.54 | 0.88 |
| 12:AM:8:ALA:O | 12:AM:11:ILE:HG13 | 1.74 | 0.88 |
| 17:AR:9:CYS:O | 17:AR:11:THR:O | 1.92 | 0.88 |
| 23:AX:9:VAL:CG2 | 23:AX:54:VAL:HA | 2.02 | 0.88 |
| 24:A0:96:ARG:HH21 | 24:A0:117:VAL:CG2 | 1.82 | 0.88 |
| 26:A2:50:ASP:H | 26:A2:53:LYS:CD | 1.85 | 0.88 |
| 34:BA:792:A:C2' | 34:BA:794:A:H62 | 1.87 | 0.88 |
| 34:BA:1064:G:N2 | 34:BA:1192:C:N3 | 2.22 | 0.88 |
| 34:BA:1316:G:O6 | 54:BV:6:LYS:HE2 | 1.73 | 0.88 |
| 34:BA:1409:C:O2' | 34:BA:1410:G:H5' | 1.73 | 0.88 |
| 35:BB:33:U:N1 | 35:BB:35:A:OP2 | 2.07 | 0.88 |
| 35:BB:51:G:H1 | 35:BB:63:C:H42 | 1.19 | 0.88 |
| 38:BF:182:ILE:HG12 | 38:BF:203:PHE:HD1 | 1.37 | 0.88 |
| 39:BG:25:ARG:C | 39:BG:27:TYR:H | 1.77 | 0.88 |
| 40:BH:28:PHE:N | 40:BH:28:PHE:CD1 | 2.37 | 0.88 |
| 41:BI:23:LYS:HE3 | 41:BI:61:LEU:CD1 | 2.03 | 0.88 |
| 43:BK:44:PHE:CE2 | 43:BK:109:ILE:HD13 | 2.09 | 0.88 |
| 43:BK:63:LEU:H | 43:BK:63:LEU:CD1 | 1.68 | 0.88 |
| 50:BR:74:ASP:CG | 50:BR:76:GLU:HB3 | 1.93 | 0.88 |
| 51:BS:57:ARG:HA | 51:BS:60:LEU:HD12 | 1.53 | 0.88 |
| 54:BV:15:LEU:H | 54:BV:15:LEU:HD23 | 1.39 | 0.88 |
| 1:AB:56:G:O2' | 1:AB:57:A:OP2 | 1.91 | 0.87 |
| 1:AB:57:A:C2 | 7:AG:17:ARG:NH1 | 2.42 | 0.87 |
| 1:AB:74:U:H2' | 1:AB:75:G:C8 | 2.09 | 0.87 |
| 2:AA:137:C:N4 | 2:AA:142:G:N1 | 2.22 | 0.87 |
| 2:AA:477:A:H2' | 2:AA:478:A:C8 | 2.08 | 0.87 |
| 2:AA:751:A:O4' | 18:AS:90:ARG:NH2 | 2.07 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:964:C:O5' | 2:AA:964:C:H6 | 1.57 | 0.87 |
| 2:AA:1259:G:H2' | 2:AA:1260:G:H8 | 1.40 | 0.87 |
| 2:AA:1510:A:H5' | 2:AA:1511:A:OP2 | 1.73 | 0.87 |
| 2:AA:1792:G:N2 | 2:AA:1827:C:N3 | 2.21 | 0.87 |
| 2:AA:2251:G:H5" | 15:AP:102:ARG:NH2 | 1.88 | 0.87 |
| 2:AA:2275:C:O2 | 15:AP:103:ALA:HB2 | 1.74 | 0.87 |
| 2:AA:2343:C:O2 | 2:AA:2344:U:H6 | 1.57 | 0.87 |
| 2:AA:2389:G:H5" | 2:AA:2390:U:O5' | 1.75 | 0.87 |
| 2:AA:2489:G:H2' | 2:AA:2490:G:C8 | 2.07 | 0.87 |
| 2:AA:2626:C:H2' | 2:AA:2627:G:H8 | 1.39 | 0.87 |
| 6:AF:11:ASN:HD21 | 6:AF:160:LEU:HD21 | 1.35 | 0.87 |
| 10:AK:72:LEU:HD11 | 10:AK:108:LEU:HD13 | 1.55 | 0.87 |
| 15:AP:46:VAL:HG22 | 15:AP:156:ASN:ND2 | 1.88 | 0.87 |
| 15:AP:47:GLU:OE2 | 15:AP:152:SER:HB2 | 1.74 | 0.87 |
| 21:AV:103:ARG:HD3 | 21:AV:103:ARG:N | 1.87 | 0.87 |
| 30:A6:42:PRO:CG | 30:A6:44:ALA:HB3 | 2.04 | 0.87 |
| 33:A9:20:HIS:O | 33:A9:22:ARG:HG3 | 1.72 | 0.87 |
| 34:BA:3(A):G:H2' | 34:BA:1004:A:H4' | 1.54 | 0.87 |
| 34:BA:1454:G:H2' | 34:BA:1455:G:H8 | 1.39 | 0.87 |
| 46:BN:99:GLN:HG2 | 46:BN:105:VAL:CG1 | 2.03 | 0.87 |
| 2:AA:104:U:H2' | 2:AA:105:C:O4' | 1.73 | 0.87 |
| 2:AA:179:G:H3' | 2:AA:180:G:C8 | 2.09 | 0.87 |
| 2:AA:244:A:H1' | 2:AA:255:A:N6 | 1.89 | 0.87 |
| 2:AA:610:C:H2' | 2:AA:611:C:C6 | 2.10 | 0.87 |
| 2:AA:1266:G:H2' | 2:AA:2012:G:O6 | 1.73 | 0.87 |
| 2:AA:1453:A:C6 | 2:AA:1454:U:H1' | 2.08 | 0.87 |
| 2:AA:1655:A:H2' | 2:AA:1656:C:C6 | 2.09 | 0.87 |
| 2:AA:1655:A:H4' | 5:AE:211:GLN:HA | 1.56 | 0.87 |
| 2:AA:1690:A:N6 | 2:AA:1697:G:N2 | 2.22 | 0.87 |
| 2:AA:2024:G:H2' | 2:AA:2025:C:O4' | 1.72 | 0.87 |
| 2:AA:2286:A:H3' | 2:AA:2286:A:H8 | 1.35 | 0.87 |
| 2:AA:2416:C:OP1 | 14:AO:51:PHE:CE2 | 2.27 | 0.87 |
| 2:AA:2677:G:O2' | 2:AA:2678:C:H5' | 1.74 | 0.87 |
| 2:AA:2879:C:H5' | 2:AA:2880:C:OP1 | 1.74 | 0.87 |
| 3:AC:104:LEU:CD1 | 3:AC:130:ILE:HD11 | 2.01 | 0.87 |
| 8:AH:49:ILE:HD12 | 8:AH:49:ILE:N | 1.90 | 0.87 |
| 9:AJ:78:ARG:HG2 | 9:AJ:88:ALA:CB | 2.04 | 0.87 |
| 10:AK:21:VAL:HB | 10:AK:26:ALA:HB2 | 1.56 | 0.87 |
| 10:AK:110:LEU:HD23 | 10:AK:111:ASP:N | 1.89 | 0.87 |
| 13:AN:88:ARG:CZ | 13:AN:94:ARG:HD3 | 2.05 | 0.87 |
| 23:AX:3:ARG:CB | 23:AX:60:GLU:HA | 2.03 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:9:A:O2' | 35:BB:45:G:O2' | 1.92 | 0.87 |
| 37:BE:91:PRO:HG3 | 37:BE:155:LEU:N | 1.88 | 0.87 |
| 46:BN:12:ARG:NH1 | 46:BN:40:ILE:HA | 1.89 | 0.87 |
| 51:BS:20:VAL:CG1 | 51:BS:32:TYR:HB2 | 2.03 | 0.87 |
| 2:AA:5:A:O2' | 12:AM:4:ALA:HB3 | 1.73 | 0.87 |
| 2:AA:273(D):C:C2 | 2:AA:363(B):G:N2 | 2.42 | 0.87 |
| 2:AA:365:C:N3 | 2:AA:366:C:H5 | 1.70 | 0.87 |
| 2:AA:452:G:H3' | 2:AA:453:C:H5" | 1.57 | 0.87 |
| 2:AA:530:G:O6 | 2:AA:2022:U:P | 2.33 | 0.87 |
| 2:AA:584:C:H42 | 2:AA:1256:G:H1 | 0.94 | 0.87 |
| 2:AA:627:A:H2' | 2:AA:628:G:O4' | 1.75 | 0.87 |
| 2:AA:976:C:H5' | 2:AA:1156:A:N6 | 1.88 | 0.87 |
| 2:AA:1023:U:H2' | 2:AA:1024:G:H5' | 1.55 | 0.87 |
| 2:AA:1084:A:P | 9:AI:40:ALA:H | 1.96 | 0.87 |
| 2:AA:1137:G:OP1 | 12:AM:60:ARG:NH2 | 2.06 | 0.87 |
| 2:AA:1291:C:O2' | 2:AA:1292:U:H5' | 1.74 | 0.87 |
| 2:AA:1400:G:H2' | 2:AA:1401:G:C8 | 2.08 | 0.87 |
| 2:AA:2359:C:H4' | 32:A8:52:LYS:HZ1 | 1.34 | 0.87 |
| 2:AA:2450:A:C2' | 2:AA:2451:A:H5' | 2.04 | 0.87 |
| 2:AA:2692:C:H42 | 2:AA:2717:G:H1 | 1.21 | 0.87 |
| 3:AC:75:LEU:HD12 | 3:AC:93:TYR:O | 1.74 | 0.87 |
| 5:AE:292:PRO:O | 5:AE:293:TYR:CD2 | 2.27 | 0.87 |
| 10:AK:114:LYS:CE | 10:AK:133:LEU:HA | 2.03 | 0.87 |
| 15:AP:85:ILE:HG22 | 15:AP:122:PHE:CB | 2.04 | 0.87 |
| 15:AP:120:HIS:CE1 | 21:AV:76:ARG:HH12 | 1.91 | 0.87 |
| 21:AV:3:LEU:HD22 | 21:AV:34:LEU:HB2 | 1.56 | 0.87 |
| 26:A2:55:THR:O | 26:A2:56:VAL:HG23 | 1.75 | 0.87 |
| 28:A4:15:ILE:HG13 | 28:A4:36:TRP:CE3 | 2.09 | 0.87 |
| 34:BA:983:A:H3' | 34:BA:983:A:N3 | 1.89 | 0.87 |
| 34:BA:1320:C:H1' | 54:BV:73:GLU:HG2 | 1.56 | 0.87 |
| 34:BA:1532:U:H6 | 34:BA:1532:U:H3' | 1.38 | 0.87 |
| 35:BB:1:G:C5 | 35:BB:73:A:N1 | 2.42 | 0.87 |
| 35:BB:22:G:C2' | 35:BB:23:A:H8 | 1.87 | 0.87 |
| 38:BF:180:ALA:HB1 | 38:BF:203:PHE:HE1 | 1.38 | 0.87 |
| 44:BL:11:LYS:HD2 | 44:BL:108:VAL:HG11 | 1.55 | 0.87 |
| 48:BP:80:ARG:HG2 | 48:BP:81:LEU:N | 1.89 | 0.87 |
| 51:BS:20:VAL:HG21 | 51:BS:32:TYR:CD2 | 2.08 | 0.87 |
| 2:AA:411:G:OP2 | 2:AA:2407:G:P | 2.32 | 0.87 |
| 2:AA:445:C:H3' | 25:A1:3:ARG:HH21 | 1.38 | 0.87 |
| 2:AA:529:A:C2' | 2:AA:530:G:H8 | 1.88 | 0.87 |
| 2:AA:861:A:H62 | 2:AA:916:G:H21 | 0.90 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:997:G:O2' | 2:AA:998:C:H5' | 1.73 | 0.87 |
| 2:AA:1263:U:C5 | 2:AA:1264:G:N1 | 2.42 | 0.87 |
| 2:AA:1731:G:N3 | 2:AA:1731:G:H2' | 1.88 | 0.87 |
| 2:AA:2737:G:H1 | 2:AA:2767:C:H42 | 1.16 | 0.87 |
| 4:AD:129:LEU:HD23 | 4:AD:130:PRO:HD2 | 1.54 | 0.87 |
| 4:AD:213:LYS:CB | 4:AD:215:LYS:HB2 | 2.05 | 0.87 |
| 8:AH:9:GLU:CA | 8:AH:48:VAL:HG12 | 2.00 | 0.87 |
| 9:AJ:35:ALA:O | 9:AJ:39:VAL:HB | 1.72 | 0.87 |
| 16:AQ:24:LEU:HA | 16:AQ:33:ARG:HH22 | 1.37 | 0.87 |
| 21:AV:26:LYS:HD2 | 21:AV:27:GLU:OE2 | 1.74 | 0.87 |
| 24:A0:45:ARG:HD3 | 24:A0:97:VAL:CG2 | 2.03 | 0.87 |
| 25:A1:58:ARG:O | 25:A1:62:ILE:HG12 | 1.75 | 0.87 |
| 34:BA:284:G:H2' | 34:BA:285:G:H8 | 1.39 | 0.87 |
| 34:BA:298:A:H3' | 34:BA:299:G:H8 | 1.40 | 0.87 |
| 34:BA:375:U:H4' | 51:BS:17:TYR:CE2 | 2.10 | 0.87 |
| 34:BA:1002:G:H2' | 34:BA:1003:G:O4' | 1.74 | 0.87 |
| 34:BA:1245:A:H2' | 34:BA:1246:C:C6 | 2.08 | 0.87 |
| 34:BA:1424:C:N4 | 34:BA:1476:G:H1 | 1.70 | 0.87 |
| 35:BC:34:G:H3' | 35:BC:35:A:H5" | 1.54 | 0.87 |
| 37:BE:119:GLU:OE1 | 37:BE:142:LEU:HD11 | 1.74 | 0.87 |
| 39:BG:161:ASN:O | 39:BG:165:MET:HB2 | 1.75 | 0.87 |
| 46:BN:121:PRO:HG2 | 46:BN:126:ARG:HG2 | 1.55 | 0.87 |
| 53:BU:53:ARG:HH11 | 53:BU:59:SER:C | 1.78 | 0.87 |
| 53:BU:54:ARG:O | 53:BU:54:ARG:HG3 | 1.74 | 0.87 |
| 1:AB:57:A:H2 | 7:AG:17:ARG:NH1 | 1.71 | 0.87 |
| 2:AA:446:G:OP2 | 25:A1:3:ARG:CZ | 2.23 | 0.87 |
| 2:AA:1223:C:C4 | 2:AA:1227:A:N1 | 2.42 | 0.87 |
| 2:AA:1322:A:H2' | 2:AA:1323:U:H5' | 1.57 | 0.87 |
| 2:AA:1790:C:H5" | 2:AA:1828:G:H1 | 1.37 | 0.87 |
| 2:AA:1993:U:C2' | 2:AA:1994:C:H5' | 2.03 | 0.87 |
| 2:AA:2584:U:C6 | 2:AA:2584:U:C3' | 2.50 | 0.87 |
| 2:AA:2718:G:H2' | 2:AA:2719:G:C8 | 2.09 | 0.87 |
| 2:AA:2770:G:O2' | 5:AE:316:ARG:CZ | 2.23 | 0.87 |
| 3:AC:5:LYS:NZ | 3:AC:8:ARG:HB3 | 1.88 | 0.87 |
| 4:AD:83:ASP:H | 4:AD:89:ASN:HA | 1.37 | 0.87 |
| 5:AE:180:ILE:HG23 | 5:AE:183:ASP:OD2 | 1.74 | 0.87 |
| 6:AF:162:VAL:HG12 | 6:AF:164:ALA:H | 1.38 | 0.87 |
| 8:AH:120:LEU:HD13 | 8:AH:143:LEU:HD13 | 1.57 | 0.87 |
| 11:AL:104:GLN:O | 11:AL:107:GLU:HG3 | 1.75 | 0.87 |
| 12:AM:87:LEU:HB3 | 12:AM:88:PRO:CD | 2.04 | 0.87 |
| 20:AU:21:LYS:HZ1 | 20:AU:22:GLN:HE21 | 0.88 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:21:ALA:CB | 21:AV:34:LEU:HD11 | 2.05 | 0.87 |
| 21:AV:91:PRO:HB2 | 21:AV:127:PRO:HA | 1.56 | 0.87 |
| 22:AW:20:LEU:HD21 | 22:AW:53:ILE:CG2 | 2.03 | 0.87 |
| 32:A8:12:ARG:NH1 | 32:A8:13:ARG:NH1 | 2.22 | 0.87 |
| 34:BA:600:C:H5' | 43:BK:129:VAL:HA | 1.56 | 0.87 |
| 34:BA:1156:G:H1' | 34:BA:1179:A:H61 | 1.39 | 0.87 |
| 46:BN:85:ARG:HE | 46:BN:111:ASP:CG | 1.78 | 0.87 |
| 53:BU:70:ILE:O | 53:BU:73:ALA:HB3 | 1.74 | 0.87 |
| 55:BW:45:GLN:HA | 55:BW:91:LEU:CD2 | 2.05 | 0.87 |
| 1:AB:82:G:H2' | 1:AB:83:G:H8 | 1.37 | 0.87 |
| 2:AA:144:C:H2' | 2:AA:145:G:H8 | 1.38 | 0.87 |
| 2:AA:163:U:H2' | 2:AA:164:U:C5 | 2.10 | 0.87 |
| 2:AA:216:A:H2' | 2:AA:217:G:H8 | 1.34 | 0.87 |
| 2:AA:270(H):C:N4 | 2:AA:270(R):G:N1 | 2.22 | 0.87 |
| 2:AA:548:A:H5' | 2:AA:549:G:C8 | 2.08 | 0.87 |
| 2:AA:565:C:HO2' | 2:AA:1253:A:H2 | 0.88 | 0.87 |
| 2:AA:1309:G:H2' | 2:AA:1310:G:C5' | 2.05 | 0.87 |
| 2:AA:1332:G:C4 | 2:AA:1609:A:N1 | 2.42 | 0.87 |
| 2:AA:1793:C:N4 | 2:AA:1825:A:N6 | 2.23 | 0.87 |
| 2:AA:1851:U:H2' | 2:AA:1852:C:C6 | 2.09 | 0.87 |
| 2:AA:2124:G:H3' | 2:AA:2124:G:H8 | 1.38 | 0.87 |
| 2:AA:2251:G:OP1 | 15:AP:102:ARG:NE | 2.08 | 0.87 |
| 2:AA:2519:U:H3' | 2:AA:2519:U:P | 2.15 | 0.87 |
| 10:AK:4:ILE:O | 10:AK:36:ALA:CB | 2.21 | 0.87 |
| 25:A1:61:TRP:CZ3 | 25:A1:94:VAL:N | 2.42 | 0.87 |
| 27:A3:37:LEU:HD12 | 27:A3:68:VAL:O | 1.75 | 0.87 |
| 34:BA:363:A:O2' | 34:BA:364:A:H5' | 1.73 | 0.87 |
| 34:BA:518:C:N4 | 35:BB:34:G:H21 | 1.71 | 0.87 |
| 34:BA:597:G:O2' | 34:BA:598:U:H5' | 1.74 | 0.87 |
| 34:BA:891:U:H2' | 34:BA:892:A:H8 | 1.39 | 0.87 |
| 37:BE:55:PHE:CA | 37:BE:58:ILE:HD12 | 2.02 | 0.87 |
| 40:BH:47:LYS:HD2 | 40:BH:47:LYS:H | 1.39 | 0.87 |
| 40:BH:149:GLU:HA | 40:BH:152:ARG:HB2 | 1.56 | 0.87 |
| 42:BJ:86:GLN:HG3 | 42:BJ:148:ASN:ND2 | 1.89 | 0.87 |
| 46:BN:32:ILE:HB | 46:BN:40:ILE:CB | 2.01 | 0.87 |
| 54:BV:40:ILE:HA | 54:BV:44:MET:SD | 2.13 | 0.87 |
| 1:AB:17:C:OP1 | 7:AG:147:ALA:HA | 1.73 | 0.87 |
| 2:AA:23:G:N2 | 2:AA:24:G:H1' | 1.90 | 0.87 |
| 2:AA:606:U:OP1 | 6:AF:104:ASP:HB2 | 1.75 | 0.87 |
| 2:AA:667:U:H2' | 2:AA:668:G:O4' | 1.75 | 0.87 |
| 2:AA:1264:G:O6 | 2:AA:1265:A:N6 | 2.07 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1406:U:O2' | 2:AA:1407:C:O5' | 1.91 | 0.87 |
| 2:AA:1456:G:H1 | 2:AA:2703:C:N4 | 1.69 | 0.87 |
| 2:AA:1468:C:N3 | 2:AA:1524:G:N2 | 2.21 | 0.87 |
| 2:AA:2053:G:O2' | 2:AA:2054:A:H5' | 1.75 | 0.87 |
| 5:AE:211:GLN:CD | 5:AE:215:LYS:HG3 | 1.95 | 0.87 |
| 7:AG:49:PRO:HB3 | 7:AG:72:LYS:O | 1.73 | 0.87 |
| 9:AI:77:VAL:HG22 | 9:AI:102:ILE:HD11 | 1.55 | 0.87 |
| 9:AJ:77:VAL:HG22 | 9:AJ:102:ILE:HD11 | 1.55 | 0.87 |
| 12:AM:45:VAL:HG13 | 12:AM:131:THR:N | 1.89 | 0.87 |
| 14:AO:116:HIS:CD2 | 14:AO:118:LEU:HD21 | 2.10 | 0.87 |
| 15:AP:82:LYS:O | 15:AP:124:ALA:HA | 1.75 | 0.87 |
| 19:AT:6:LYS:CB | 19:AT:27:ALA:O | 2.21 | 0.87 |
| 19:AT:17:ASP:HB2 | 19:AT:18:MET:SD | 2.15 | 0.87 |
| 22:AW:45:ARG:HE | 22:AW:49:LEU:CD1 | 1.87 | 0.87 |
| 32:A8:30:ARG:HB3 | 32:A8:44:LYS:NZ | 1.88 | 0.87 |
| 34:BA:429:U:C2' | 39:BG:22:LYS:HZ1 | 1.88 | 0.87 |
| 34:BA:1229:A:H2' | 34:BA:1230:C:C6 | 2.10 | 0.87 |
| 36:B1:49:A:H2' | 36:B1:50:G:O4' | 1.73 | 0.87 |
| 37:BE:187:LEU:HA | 37:BE:201:ILE:HB | 1.54 | 0.87 |
| 43:BK:6:ILE:HD11 | 43:BK:10:LEU:HD11 | 1.56 | 0.87 |
| 43:BK:11:THR:HA | 43:BK:14:ARG:CZ | 2.03 | 0.87 |
| 43:BK:28:ALA:HB3 | 43:BK:57:PRO:O | 1.75 | 0.87 |
| 43:BK:61:VAL:HG12 | 43:BK:62:TYR:N | 1.90 | 0.87 |
| 44:BL:5:TYR:OH | 44:BL:16:ARG:HG3 | 1.75 | 0.87 |
| 52:BT:25:ARG:NH2 | 52:BT:40:LYS:HD2 | 1.90 | 0.87 |
| 2:AA:237:C:O2' | 2:AA:238:C:H5' | 1.74 | 0.87 |
| 2:AA:980:A:N3 | 2:AA:2037:G:O2' | 2.08 | 0.87 |
| 2:AA:1024:G:N2 | 2:AA:1139:G:C2 | 2.42 | 0.87 |
| 2:AA:1472:A:H61 | 2:AA:1518:C:N4 | 1.72 | 0.87 |
| 2:AA:1580:A:H2' | 2:AA:1581:G:N9 | 1.90 | 0.87 |
| 2:AA:1841:U:H2' | 2:AA:1842:G:H8 | 1.39 | 0.87 |
| 2:AA:2377:A:N3 | 16:AQ:102:LEU:HD13 | 1.90 | 0.87 |
| 9:AI:78:ARG:HG2 | 9:AI:88:ALA:CB | 2.05 | 0.87 |
| 12:AM:74:ARG:HD2 | 12:AM:140:GLY:O | 1.75 | 0.87 |
| 19:AT:22:ASN:HA | 19:AT:68:LEU:HD11 | 1.56 | 0.87 |
| 25:A1:72:HIS:ND1 | 25:A1:110:VAL:HG21 | 1.90 | 0.87 |
| 26:A2:74:TYR:OH | 26:A2:88:GLN:HA | 1.75 | 0.87 |
| 34:BA:235:C:H2' | 34:BA:236:G:H8 | 1.39 | 0.87 |
| 34:BA:300:A:C2' | 34:BA:301:G:H5' | 2.05 | 0.87 |
| 34:BA:1053:G:O6 | 34:BA:1199:U:H2' | 1.74 | 0.87 |
| 34:BA:1117:G:H5' | 34:BA:1118:C:OP2 | 1.74 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1216:G:H2' | 34:BA:1217:C:C6 | 2.09 | 0.87 |
| 40:BH:109:ILE:HG22 | 40:BH:110:LEU:N | 1.88 | 0.87 |
| 41:BI:27:GLN:HA | 41:BI:30:LEU:HD13 | 1.55 | 0.87 |
| 44:BL:67:GLY:N | 44:BL:73:GLN:NE2 | 2.23 | 0.87 |
| 46:BN:57:THR:HG23 | 46:BN:60:ALA:H | 1.38 | 0.87 |
| 55:BW:43:LEU:HD12 | 55:BW:55:ILE:HD11 | 1.55 | 0.87 |
| 2:AA:389:G:OP2 | 28:A4:24:THR:HG22 | 1.74 | 0.87 |
| 2:AA:601:C:H2' | 2:AA:602:G:H5' | 1.54 | 0.87 |
| 2:AA:752:A:H4' | 2:AA:753:C:H5' | 1.57 | 0.87 |
| 2:AA:835:A:O4' | 2:AA:2358:G:H1' | 1.75 | 0.87 |
| 2:AA:1336:A:H2' | 2:AA:1337:G:C8 | 2.09 | 0.87 |
| 2:AA:2111:C:H3' | 2:AA:2117:A:N6 | 1.90 | 0.87 |
| 2:AA:2226:C:C2 | 2:AA:2227:A:C1' | 2.58 | 0.87 |
| 2:AA:2306:C:O2 | 7:AG:27:ILE:HA | 1.74 | 0.87 |
| 2:AA:2541:A:H2 | 2:AA:2765:A:N6 | 1.73 | 0.87 |
| 2:AA:2679:A:O2' | 2:AA:2680:C:H5' | 1.74 | 0.87 |
| 2:AA:2734:A:H61 | 5:AE:316:ARG:NH2 | 1.73 | 0.87 |
| 3:AC:86:ALA:HB2 | 3:AC:149:ILE:HD13 | 1.57 | 0.87 |
| 5:AE:39:GLN:HB2 | 5:AE:174:LEU:HG | 1.57 | 0.87 |
| 6:AF:156:LEU:O | 6:AF:159:ALA:HB3 | 1.74 | 0.87 |
| 22:AW:45:ARG:HH21 | 22:AW:49:LEU:CD2 | 1.88 | 0.87 |
| 23:AX:7:LYS:HE3 | 23:AX:32:GLN:O | 1.75 | 0.87 |
| 25:A1:34:ASN:O | 25:A1:38:THR:HG23 | 1.75 | 0.87 |
| 27:A3:18:PRO:HB2 | 27:A3:36:ILE:HD13 | 1.56 | 0.87 |
| 34:BA:64:G:H4' | 34:BA:65:U:H5" | 1.57 | 0.87 |
| 34:BA:449:C:N3 | 34:BA:450:G:H1' | 1.90 | 0.87 |
| 34:BA:950:U:H3 | 34:BA:1231:G:H1 | 0.88 | 0.87 |
| 34:BA:1128:C:N4 | 34:BA:1143:G:H22 | 1.71 | 0.87 |
| 34:BA:1329:A:H5' | 48:BP:29:ARG:NE | 1.89 | 0.87 |
| 36:B1:6:U:H5' | 36:B1:7:A:H5' | 1.56 | 0.87 |
| 37:BE:39:ILE:HG22 | 37:BE:41:ILE:HD12 | 1.57 | 0.87 |
| 42:BJ:22:LEU:HD23 | 42:BJ:63:LYS:HZ2 | 1.40 | 0.87 |
| 55:BW:40:ALA:HA | 55:BW:55:ILE:HD12 | 1.57 | 0.87 |
| 1:AB:61:G:C2 | 1:AB:62:C:C4 | 2.62 | 0.86 |
| 2:AA:270(M):U:H4' | 2:AA:270(N):G:C4' | 2.05 | 0.86 |
| 2:AA:390:A:H5" | 2:AA:391:G:OP1 | 1.73 | 0.86 |
| 2:AA:467:G:H2' | 2:AA:468:G:H5' | 1.55 | 0.86 |
| 2:AA:666:G:H2' | 2:AA:667:U:C6 | 2.10 | 0.86 |
| 2:AA:1021:A:H2' | 2:AA:1022:G:OP1 | 1.75 | 0.86 |
| 2:AA:1021:A:C2 | 2:AA:1023:U:H1' | 2.09 | 0.86 |
| 2:AA:1054:A:H2' | 2:AA:1055:G:C8 | 2.10 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1519:G:C2' | 2:AA:1520:U:O4' | 2.22 | 0.86 |
| 2:AA:1543:A:H3' | 2:AA:1544:C:H6 | 1.36 | 0.86 |
| 2:AA:2275:C:O2' | 2:AA:2276:G:OP2 | 1.91 | 0.86 |
| 2:AA:2286:A:H5' | 2:AA:2287:A:H5' | 1.53 | 0.86 |
| 2:AA:2507:C:H2' | 2:AA:2508:G:C8 | 2.09 | 0.86 |
| 4:AD:118:GLY:O | 4:AD:129:LEU:HD11 | 1.74 | 0.86 |
| 8:AH:167:LEU:HG | 8:AH:169:ARG:NH1 | 1.90 | 0.86 |
| 9:AI:35:ALA:O | 9:AI:39:VAL:HB | 1.73 | 0.86 |
| 12:AM:16:ASP:HA | 12:AM:45:VAL:HG23 | 1.56 | 0.86 |
| 12:AM:38:VAL:O | 12:AM:103:VAL:HG13 | 1.75 | 0.86 |
| 14:AO:94:ARG:HH21 | 14:AO:118:LEU:HB2 | 1.38 | 0.86 |
| 15:AP:15:THR:HB | 15:AP:20:ILE:CG2 | 2.04 | 0.86 |
| 20:AU:62:VAL:HA | 20:AU:74:VAL:HG22 | 1.57 | 0.86 |
| 21:AV:40:ASP:OD1 | 21:AV:40:ASP:N | 2.06 | 0.86 |
| 26:A2:61:VAL:HG13 | 26:A2:96:LEU:C | 1.95 | 0.86 |
| 32:A8:16:ILE:HD12 | 32:A8:16:ILE:H | 1.39 | 0.86 |
| 34:BA:375:U:O3' | 51:BS:6:LEU:CD2 | 2.23 | 0.86 |
| 34:BA:399:G:H2' | 34:BA:400:C:C6 | 2.10 | 0.86 |
| 34:BA:610:G:C2' | 34:BA:611:A:H5' | 2.04 | 0.86 |
| 34:BA:1472:U:O2' | 34:BA:1473:A:H5' | 1.74 | 0.86 |
| 35:BB:53:G:C6 | 35:BB:54:U:O4 | 2.28 | 0.86 |
| 39:BG:153:ARG:HB3 | 39:BG:181:MET:HE3 | 1.57 | 0.86 |
| 50:BR:62:GLN:O | 50:BR:66:LEU:HD23 | 1.75 | 0.86 |
| 2:AA:342:G:N2 | 2:AA:344:G:N2 | 2.23 | 0.86 |
| 2:AA:1350:C:H42 | 2:AA:1381:G:H1 | 0.87 | 0.86 |
| 2:AA:1681:G:C4 | 2:AA:1762:A:N7 | 2.43 | 0.86 |
| 2:AA:1837:C:OP1 | 34:BA:784:C:H5" | 1.75 | 0.86 |
| 2:AA:2073:C:H2' | 2:AA:2074:U:C6 | 2.08 | 0.86 |
| 2:AA:2325:G:O2' | 2:AA:2326:C:H5' | 1.74 | 0.86 |
| 2:AA:2378:A:N3 | 16:AQ:26:LEU:HD21 | 1.90 | 0.86 |
| 3:AC:75:LEU:HD12 | 3:AC:93:TYR:HB2 | 1.56 | 0.86 |
| 7:AG:134:LEU:CD1 | 7:AG:136:ARG:HH21 | 1.87 | 0.86 |
| 15:AP:45:GLN:HG2 | 15:AP:125:TRP:HE1 | 1.38 | 0.86 |
| 18:AS:88:ARG:HB3 | 18:AS:91:GLY:C | 1.95 | 0.86 |
| 23:AX:9:VAL:HG23 | 23:AX:54:VAL:CA | 2.00 | 0.86 |
| 32:A8:30:ARG:NH2 | 32:A8:41:ILE:O | 2.09 | 0.86 |
| 33:A9:2:LYS:HD2 | 33:A9:33:LYS:O | 1.73 | 0.86 |
| 34:BA:340:U:H2' | 34:BA:341:C:H6 | 1.40 | 0.86 |
| 34:BA:667:G:H4' | 50:BR:51:HIS:CE1 | 2.10 | 0.86 |
| 35:BB:60:C:P | 35:BB:61:C:C5 | 2.69 | 0.86 |
| 39:BG:124:GLY:O | 39:BG:132:ARG:HD2 | 1.73 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:180:GLY:C | 39:BG:182:LYS:HG2 | 1.95 | 0.86 |
| 50:BR:39:LEU:CD2 | 50:BR:56:LEU:HD22 | 2.04 | 0.86 |
| 51:BS:67:THR:O | 51:BS:70:ALA:HB3 | 1.75 | 0.86 |
| 1:AB:45:A:H1' | 7:AG:76:ARG:NH1 | 1.89 | 0.86 |
| 1:AB:57:A:O2' | 7:AG:13:MET:SD | 2.32 | 0.86 |
| 2:AA:237:C:N4 | 2:AA:261:G:C6 | 2.42 | 0.86 |
| 2:AA:371:A:H2' | 2:AA:372:G:N7 | 1.90 | 0.86 |
| 2:AA:1005:C:H1' | 12:AM:21:ARG:HG3 | 1.56 | 0.86 |
| 2:AA:1084:A:OP1 | 9:AI:39:VAL:CB | 2.23 | 0.86 |
| 2:AA:1326:U:O4' | 2:AA:2010:G:N2 | 2.08 | 0.86 |
| 2:AA:1690:A:N3 | 2:AA:1690:A:H2' | 1.88 | 0.86 |
| 2:AA:1949:G:H2' | 2:AA:1950:G:C8 | 2.08 | 0.86 |
| 2:AA:2147:G:O2' | 2:AA:2148:G:H5' | 1.75 | 0.86 |
| 2:AA:2619:C:O3' | 5:AE:248:SER:HA | 1.75 | 0.86 |
| 3:AC:171:ILE:HD13 | 3:AC:196:LEU:HD13 | 1.56 | 0.86 |
| 8:AH:53:ARG:NH1 | 8:AH:56:ASP:HA | 1.91 | 0.86 |
| 10:AK:115:ILE:HG22 | 10:AK:116:GLU:N | 1.90 | 0.86 |
| 14:AO:124:ASP:HB3 | 14:AO:130:ARG:NH2 | 1.90 | 0.86 |
| 18:AS:36:LEU:CD1 | 18:AS:51:LEU:HD22 | 2.04 | 0.86 |
| 25:A1:69:ALA:HB3 | 25:A1:76:TYR:CZ | 2.10 | 0.86 |
| 34:BA:243:A:O2' | 34:BA:244:U:OP2 | 1.93 | 0.86 |
| 34:BA:808:C:H2' | 34:BA:809:G:H8 | 1.40 | 0.86 |
| 34:BA:1230:C:C2' | 34:BA:1231:G:H5' | 2.05 | 0.86 |
| 37:BE:21:ARG:H | 37:BE:21:ARG:CD | 1.89 | 0.86 |
| 38:BF:64:VAL:O | 38:BF:99:VAL:HB | 1.75 | 0.86 |
| 38:BF:150:LYS:NZ | 38:BF:152:ILE:HD11 | 1.89 | 0.86 |
| 46:BN:67:ASP:HA | 46:BN:70:LYS:HD2 | 1.57 | 0.86 |
| 51:BS:3:LYS:HD2 | 51:BS:24:ALA:CB | 2.05 | 0.86 |
| 54:BV:19:VAL:HG21 | 54:BV:43:GLU:O | 1.75 | 0.86 |
| 2:AA:29:U:H2' | 2:AA:30:G:C8 | 2.10 | 0.86 |
| 2:AA:295:G:C2 | 2:AA:344:G:C4 | 2.63 | 0.86 |
| 2:AA:629:G:H1' | 2:AA:639:U:HO2' | 1.32 | 0.86 |
| 2:AA:871:U:C4' | 15:AP:90:PHE:HE2 | 1.88 | 0.86 |
| 2:AA:984:A:H2' | 2:AA:985:C:OP1 | 1.74 | 0.86 |
| 2:AA:1268:A:H2' | 2:AA:1269:A:H8 | 1.38 | 0.86 |
| 2:AA:1518:C:H3' | 2:AA:1519:G:C4' | 2.05 | 0.86 |
| 2:AA:2378:A:O2' | 16:AQ:30:GLY:HA3 | 1.76 | 0.86 |
| 2:AA:2587:A:C2' | 2:AA:2588:G:H5' | 2.05 | 0.86 |
| 2:AA:2741:A:H2' | 2:AA:2742:C:O4' | 1.75 | 0.86 |
| 4:AD:92:LEU:HD11 | 4:AD:102:TYR:CE2 | 2.09 | 0.86 |
| 4:AD:167:GLU:HG2 | 4:AD:182:MET:CE | 2.05 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:167:GLU:O | 4:AD:170:TYR:O | 1.93 | 0.86 |
| 4:AD:173:VAL:HB | 4:AD:175:LEU:HD23 | 1.56 | 0.86 |
| 6:AF:82:GLN:N | 6:AF:87:ARG:HH11 | 1.73 | 0.86 |
| 6:AF:83:ALA:O | 6:AF:84:VAL:HG22 | 1.75 | 0.86 |
| 8:AH:73:ASN:HB3 | 8:AH:137:LYS:HZ1 | 1.39 | 0.86 |
| 10:AK:6:LEU:HB3 | 10:AK:35:LEU:C | 1.94 | 0.86 |
| 11:AL:39:CYS:O | 11:AL:42:PHE:HB2 | 1.74 | 0.86 |
| 13:AN:11:ALA:C | 13:AN:99:PHE:HB2 | 1.94 | 0.86 |
| 14:AO:67:ARG:NE | 14:AO:67:ARG:H | 1.73 | 0.86 |
| 16:AQ:111:PRO:HA | 16:AQ:116:PHE:HD1 | 1.40 | 0.86 |
| 24:A0:52:ILE:CD1 | 24:A0:94:TYR:HB3 | 2.04 | 0.86 |
| 31:A7:41:GLN:O | 31:A7:42:LEU:HG | 1.75 | 0.86 |
| 34:BA:462:G:H21 | 51:BS:82:GLN:HE21 | 1.23 | 0.86 |
| 34:BA:922:G:H1' | 34:BA:1398:A:H2 | 1.39 | 0.86 |
| 38:BF:138:VAL:HG12 | 38:BF:170:GLN:NE2 | 1.90 | 0.86 |
| 42:BJ:75:VAL:HG13 | 42:BJ:87:VAL:O | 1.76 | 0.86 |
| 42:BJ:136:LYS:HZ1 | 42:BJ:137:LYS:HG3 | 1.38 | 0.86 |
| 44:BL:113:LYS:NZ | 44:BL:119:ALA:HB1 | 1.90 | 0.86 |
| 48:BP:90:LEU:O | 48:BP:93:ARG:HB3 | 1.73 | 0.86 |
| 1:AB:43:C:H42 | 1:AB:45:A:N6 | 1.73 | 0.86 |
| 1:AB:56:G:H4' | 1:AB:57:A:H5' | 1.55 | 0.86 |
| 2:AA:616:A:H2' | 2:AA:617:G:N3 | 1.89 | 0.86 |
| 2:AA:681:G:H1 | 2:AA:796:C:H42 | 1.22 | 0.86 |
| 2:AA:1393:A:H61 | 19:AT:13:LYS:HZ2 | 1.23 | 0.86 |
| 2:AA:1530:G:H1' | 2:AA:1542:G:C6 | 2.09 | 0.86 |
| 2:AA:1615:C:N4 | 2:AA:1617:C:C2 | 2.43 | 0.86 |
| 2:AA:1835:G:H1 | 2:AA:1905:C:N4 | 1.73 | 0.86 |
| 2:AA:1964:G:H4' | 2:AA:1965:C:OP2 | 1.73 | 0.86 |
| 2:AA:2264:C:H42 | 2:AA:2276:G:H1 | 0.89 | 0.86 |
| 2:AA:2384:G:O2' | 2:AA:2385:C:OP1 | 1.93 | 0.86 |
| 2:AA:2416:C:H2' | 2:AA:2417:C:H5' | 1.55 | 0.86 |
| 3:AC:210:ARG:HH11 | 3:AC:210:ARG:HG2 | 1.41 | 0.86 |
| 6:AF:149:LYS:HB2 | 6:AF:152:GLU:HG3 | 1.56 | 0.86 |
| 8:AH:102:LEU:CG | 8:AH:114:ILE:HB | 2.06 | 0.86 |
| 8:AH:116:PRO:HA | 8:AH:120:LEU:HD12 | 1.58 | 0.86 |
| 11:AL:55:PRO:HD3 | 11:AL:73:PRO:CB | 2.04 | 0.86 |
| 21:AV:4:THR:O | 21:AV:33:ALA:HB1 | 1.75 | 0.86 |
| 28:A4:14:ILE:HG13 | 28:A4:39:VAL:HB | 1.58 | 0.86 |
| 34:BA:32:A:H2' | 34:BA:33:A:O4' | 1.76 | 0.86 |
| 34:BA:1094:G:H2' | 34:BA:1108:G:H22 | 1.41 | 0.86 |
| 37:BE:55:PHE:O | 37:BE:58:ILE:HB | 1.74 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:178:LEU:O | 38:BF:179:ARG:HB3 | 1.73 | 0.86 |
| 38:BF:187:ALA:HB3 | 38:BF:198:VAL:CG2 | 2.05 | 0.86 |
| 40:BH:84:PHE:HB2 | 40:BH:134:ALA:HB2 | 1.55 | 0.86 |
| 46:BN:62:GLN:CD | 46:BN:63:LEU:N | 2.29 | 0.86 |
| 48:BP:66:LEU:O | 48:BP:70:LEU:HB2 | 1.76 | 0.86 |
| 1:AB:57:A:H2 | 7:AG:17:ARG:HH11 | 1.19 | 0.86 |
| 2:AA:30:G:H2' | 2:AA:31:C:H6 | 1.40 | 0.86 |
| 2:AA:530:G:N1 | 2:AA:2021:C:C3' | 2.38 | 0.86 |
| 2:AA:783:A:C2 | 2:AA:785:G:C1' | 2.56 | 0.86 |
| 2:AA:1471:A:N6 | 2:AA:1519:G:N2 | 2.22 | 0.86 |
| 2:AA:1475:G:H1 | 2:AA:1477:A:N6 | 1.73 | 0.86 |
| 2:AA:1520:U:C3' | 2:AA:1521:G:H5" | 2.03 | 0.86 |
| 2:AA:1952:A:C4 | 2:AA:1953:A:C2 | 2.63 | 0.86 |
| 2:AA:2000:G:H2' | 2:AA:2001:A:H8 | 1.35 | 0.86 |
| 2:AA:2331:G:O3' | 27:A3:70:ILE:HB | 1.75 | 0.86 |
| 2:AA:2453:A:H4' | 2:AA:2572:A:O2' | 1.75 | 0.86 |
| 4:AD:104:ILE:C | 4:AD:106:PRO:HD2 | 1.95 | 0.86 |
| 7:AG:90:LEU:HD13 | 48:BP:3:ARG:NH1 | 1.90 | 0.86 |
| 8:AH:148:ARG:CZ | 8:AH:163:TYR:CA | 2.53 | 0.86 |
| 10:AK:7:LYS:HG3 | 10:AK:12:LYS:HZ2 | 1.38 | 0.86 |
| 14:AO:126:SER:OG | 14:AO:129:ALA:HB2 | 1.74 | 0.86 |
| 15:AP:142:LYS:HE3 | 15:AP:143:VAL:N | 1.91 | 0.86 |
| 18:AS:5:ALA:CB | 18:AS:54:ALA:HB2 | 2.03 | 0.86 |
| 21:AV:14:LEU:CD2 | 21:AV:79:ILE:HG21 | 2.05 | 0.86 |
| 29:A5:15:LYS:NZ | 29:A5:15:LYS:CB | 2.36 | 0.86 |
| 34:BA:966:G:N2 | 35:BC:34:G:H5' | 1.91 | 0.86 |
| 34:BA:1329:A:H5" | 48:BP:29:ARG:HG3 | 1.55 | 0.86 |
| 37:BE:59:GLU:HB3 | 37:BE:221:LEU:HD21 | 0.91 | 0.86 |
| 39:BG:18:LYS:HG3 | 39:BG:33:MET:SD | 2.14 | 0.86 |
| 39:BG:155:LEU:H | 39:BG:158:ILE:HG13 | 1.41 | 0.86 |
| 55:BW:83:ARG:HA | 55:BW:86:ARG:HD2 | 1.55 | 0.86 |
| 2:AA:95:G:H5' | 22:AW:41:GLU:OE2 | 1.75 | 0.86 |
| 2:AA:353:G:H2' | 2:AA:354:G:O5' | 1.76 | 0.86 |
| 2:AA:600:G:C5' | 6:AF:30:LEU:HD11 | 2.05 | 0.86 |
| 2:AA:873:G:H2' | 2:AA:874:G:O4' | 1.76 | 0.86 |
| 2:AA:142(A):A:C4' | 12:AM:21:ARG:HH21 | 1.89 | 0.86 |
| 2:AA:1166:C:H2' | 2:AA:1167:U:H6 | 1.38 | 0.86 |
| 2:AA:1668:A:H61 | 2:AA:1676:A:H61 | 0.87 | 0.86 |
| 2:AA:1795:C:N3 | 2:AA:1824:G:N2 | 2.24 | 0.86 |
| 2:AA:1829:A:N6 | 2:AA:1976:U:O2 | 2.08 | 0.86 |
| 2:AA:1863:G:H2' | 2:AA:1864:U:C6 | 2.10 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1918:A:OP2 | 2:AA:1918:A:H3' | 1.75 | 0.86 |
| 2:AA:1989:G:O2' | 2:AA:1990:C:H5' | 1.75 | 0.86 |
| 2:AA:2123:G:N1 | 2:AA:2175:C:C2 | 2.44 | 0.86 |
| 2:AA:2602:A:N1 | 35:BB:76:A:N7 | 2.23 | 0.86 |
| 2:AA:2855:C:H42 | 2:AA:2862:G:H1 | 1.23 | 0.86 |
| 3:AC:205:LYS:HG2 | 3:AC:206:GLY:N | 1.89 | 0.86 |
| 4:AD:169:LYS:H | 4:AD:169:LYS:HZ3 | 1.19 | 0.86 |
| 4:AD:174:ARG:HG2 | 4:AD:174:ARG:HH11 | 1.39 | 0.86 |
| 5:AE:44:TYR:HA | 5:AE:309:PRO:CG | 2.05 | 0.86 |
| 5:AE:80:ALA:HB1 | 5:AE:181:VAL:HG13 | 1.56 | 0.86 |
| 5:AE:201:VAL:O | 5:AE:266:LYS:NZ | 2.08 | 0.86 |
| 5:AE:233:ARG:O | 5:AE:234:ARG:HG3 | 1.75 | 0.86 |
| 10:AK:31:PHE:CE1 | 10:AK:36:ALA:HB3 | 2.09 | 0.86 |
| 14:AO:69:ILE:O | 14:AO:73:VAL:CB | 2.22 | 0.86 |
| 18:AS:82:LEU:HD23 | 18:AS:98:LYS:CB | 2.05 | 0.86 |
| 25:A1:21:ALA:HB1 | 25:A1:24:PHE:HZ | 1.40 | 0.86 |
| 28:A4:17:GLN:HG2 | 28:A4:33:VAL:C | 1.96 | 0.86 |
| 32:A8:5:LYS:O | 32:A8:7:HIS:ND1 | 2.08 | 0.86 |
| 34:BA:410:G:H1' | 34:BA:432:A:H61 | 1.41 | 0.86 |
| 34:BA:888:G:N2 | 34:BA:909:A:N6 | 2.22 | 0.86 |
| 35:BB:33:U:C6 | 35:BB:35:A:OP2 | 2.28 | 0.86 |
| 35:BB:41:U:C2 | 35:BB:42:G:C8 | 2.62 | 0.86 |
| 39:BG:43:HIS:ND1 | 39:BG:46:LYS:HE3 | 1.91 | 0.86 |
| 40:BH:109:ILE:HG22 | 40:BH:110:LEU:H | 1.39 | 0.86 |
| 42:BJ:113:GLU:CG | 42:BJ:118:VAL:HB | 2.06 | 0.86 |
| 43:BK:120:THR:H | 43:BK:123:GLU:CD | 1.78 | 0.86 |
| 53:BU:70:ILE:HG22 | 53:BU:74:ARG:NE | 1.91 | 0.86 |
| 54:BV:36:ARG:HE | 54:BV:72:GLY:HA2 | 1.41 | 0.86 |
| 2:AA:139:G:C3' | 2:AA:141(A):C:H1' | 2.05 | 0.86 |
| 2:AA:145:G:H4' | 19:AT:1:SER:HB2 | 1.56 | 0.86 |
| 2:AA:296:C:O2' | 2:AA:297:C:H5' | 1.74 | 0.86 |
| 2:AA:326:G:H1' | 20:AU:7:GLN:HE22 | 1.38 | 0.86 |
| 2:AA:1084:A:OP1 | 9:AI:39:VAL:CA | 2.23 | 0.86 |
| 2:AA:1434:A:H61 | 2:AA:1558:A:N6 | 1.74 | 0.86 |
| 2:AA:1442:G:N2 | 2:AA:1549:C:N3 | 2.23 | 0.86 |
| 2:AA:2009:G:OP1 | 18:AS:41:LYS:HE2 | 1.74 | 0.86 |
| 2:AA:2057:A:C4' | 29:A5:8:LYS:HZ1 | 1.89 | 0.86 |
| 2:AA:2097:C:C2' | 2:AA:2098:U:H5' | 2.04 | 0.86 |
| 2:AA:2675:A:O2' | 2:AA:2676:C:H5' | 1.76 | 0.86 |
| 4:AD:175:LEU:HG | 4:AD:180:VAL:HA | 1.57 | 0.86 |
| 12:AM:38:VAL:HB | 12:AM:103:VAL:HG22 | 1.58 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:94:ARG:NH1 | 14:AO:120:LEU:HB2 | 1.89 | 0.86 |
| 15:AP:26:LYS:HG3 | 15:AP:28:ILE:HG13 | 1.57 | 0.86 |
| 25:A1:35:ALA:O | 25:A1:38:THR:OG1 | 1.93 | 0.86 |
| 26:A2:61:VAL:HA | 26:A2:98:ILE:HG13 | 1.56 | 0.86 |
| 28:A4:17:GLN:CA | 28:A4:33:VAL:HB | 2.06 | 0.86 |
| 34:BA:79:G:H22 | 34:BA:91:C:H1' | 1.41 | 0.86 |
| 34:BA:166:G:O2' | 34:BA:167:G:H5' | 1.75 | 0.86 |
| 34:BA:570:G:H5' | 34:BA:820:U:C1' | 2.03 | 0.86 |
| 34:BA:821:G:H2' | 34:BA:822:C:C6 | 2.11 | 0.86 |
| 34:BA:988:G:N2 | 34:BA:1016:A:H1' | 1.91 | 0.86 |
| 34:BA:1021:G:C2 | 34:BA:1022:G:H1' | 2.11 | 0.86 |
| 34:BA:1327:C:H5" | 56:BX:20:LYS:HE2 | 1.56 | 0.86 |
| 38:BF:13:GLY:O | 38:BF:14:ILE:HD13 | 1.75 | 0.86 |
| 39:BG:65:ARG:HD2 | 39:BG:72:GLU:OE2 | 1.76 | 0.86 |
| 39:BG:140:VAL:HB | 39:BG:185:PHE:CD1 | 2.08 | 0.86 |
| 41:BI:49:ALA:CB | 53:BU:80:PRO:HD3 | 2.06 | 0.86 |
| 2:AA:404:C:H5' | 2:AA:406:G:O4' | 1.76 | 0.86 |
| 2:AA:1324:G:O2' | 2:AA:1325:G:OP1 | 1.94 | 0.86 |
| 2:AA:1418:G:OP1 | 2:AA:1588:C:H4' | 1.74 | 0.86 |
| 2:AA:2009:G:O2' | 2:AA:2010:G:H5' | 1.76 | 0.86 |
| 2:AA:2061:G:O2' | 2:AA:2062:A:H5" | 1.76 | 0.86 |
| 2:AA:2115:G:H4' | 3:AC:126:LYS:CE | 2.04 | 0.86 |
| 2:AA:2285:C:H1' | 2:AA:2288:A:N7 | 1.91 | 0.86 |
| 2:AA:2710:C:O2' | 2:AA:2711:A:H5' | 1.75 | 0.86 |
| 2:AA:2719:G:H8 | 2:AA:2719:G:O5' | 1.58 | 0.86 |
| 12:AM:54:VAL:HG22 | 12:AM:135:ILE:HD12 | 1.56 | 0.86 |
| 12:AM:80:LYS:O | 12:AM:83:ILE:CG1 | 2.24 | 0.86 |
| 21:AV:94:VAL:CG1 | 21:AV:130:ILE:HG21 | 2.06 | 0.86 |
| 22:AW:18:ALA:O | 22:AW:21:ASP:HB2 | 1.76 | 0.86 |
| 24:A0:15:SER:HB2 | 24:A0:16:HIS:CE1 | 2.11 | 0.86 |
| 24:A0:51:LEU:HD21 | 24:A0:70:LEU:HD21 | 1.58 | 0.86 |
| 27:A3:49:GLN:H | 27:A3:49:GLN:HE21 | 0.86 | 0.86 |
| 30:A6:21:TYR:CZ | 30:A6:43:VAL:HG23 | 2.10 | 0.86 |
| 30:A6:28:ARG:HH11 | 30:A6:28:ARG:CB | 1.88 | 0.86 |
| 34:BA:665:A:C2' | 34:BA:725:G:N2 | 2.38 | 0.86 |
| 34:BA:878:G:H5" | 43:BK:89:PRO:O | 1.75 | 0.86 |
| 34:BA:894:G:H2' | 34:BA:895:G:H8 | 1.40 | 0.86 |
| 45:BM:10:GLY:HA3 | 45:BM:16:LEU:CD2 | 2.05 | 0.86 |
| 45:BM:24:VAL:HA | 45:BM:34:VAL:HG21 | 1.57 | 0.86 |
| 48:BP:48:LEU:HD22 | 48:BP:53:VAL:HG23 | 1.58 | 0.86 |
| 52:BT:31:LEU:HD12 | 52:BT:31:LEU:O | 1.76 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:357:A:C3' | 2:AA:358:U:H5" | 2.06 | 0.86 |
| 2:AA:740:U:O2' | 2:AA:741:G:P | 2.32 | 0.86 |
| 2:AA:774:A:H1' | 2:AA:775:G:C8 | 2.11 | 0.86 |
| 2:AA:1043:C:H2' | 2:AA:1044:G:H5' | 1.56 | 0.86 |
| 2:AA:1085:A:H4' | 9:AI:29:PHE:CD2 | 2.10 | 0.86 |
| 2:AA:1114:G:H21 | 2:AA:1115:G:H1' | 1.38 | 0.86 |
| 2:AA:1140:C:H4' | 2:AA:142(A):A:C6 | 2.10 | 0.86 |
| 2:AA:1152:C:H5" | 25:A1:80:ILE:CG2 | 2.05 | 0.86 |
| 2:AA:1272:A:N7 | 2:AA:1618:A:H1' | 1.89 | 0.86 |
| 2:AA:1301:A:N6 | 2:AA:1303:G:N3 | 2.24 | 0.86 |
| 2:AA:1364:G:H5" | 2:AA:1809:A:N7 | 1.88 | 0.86 |
| 2:AA:1405:U:H2' | 2:AA:1406:U:C5 | 2.10 | 0.86 |
| 2:AA:1456:G:H1 | 2:AA:2703:C:H41 | 0.86 | 0.86 |
| 2:AA:1475:G:N1 | 2:AA:1477:A:N6 | 2.24 | 0.86 |
| 2:AA:1809:A:O2' | 2:AA:1810:A:H5' | 1.74 | 0.86 |
| 2:AA:2121:G:N2 | 3:AC:168:THR:HG21 | 1.91 | 0.86 |
| 2:AA:2278:A:O2' | 2:AA:2279:G:H5' | 1.76 | 0.86 |
| 2:AA:2700:C:C3' | 2:AA:2701:C:H5" | 2.06 | 0.86 |
| 2:AA:2727:G:H4' | 13:AN:70:ARG:CZ | 2.05 | 0.86 |
| 4:AD:90:ILE:HG13 | 4:AD:105:ALA:H | 1.41 | 0.86 |
| 4:AD:143:ILE:HD12 | 4:AD:143:ILE:N | 1.90 | 0.86 |
| 6:AF:80:VAL:HG13 | 6:AF:81:PRO:CD | 2.04 | 0.86 |
| 8:AH:106:VAL:O | 8:AH:106:VAL:HG12 | 1.75 | 0.86 |
| 9:AI:12:LYS:HD2 | 9:AJ:82:GLY:HA3 | 1.56 | 0.86 |
| 9:AJ:115:LYS:HE2 | 9:AJ:127:LEU:HB3 | 1.58 | 0.86 |
| 10:AK:44:LEU:O | 10:AK:47:LEU:HG | 1.76 | 0.86 |
| 11:AL:124:ALA:HA | 11:AL:127:ILE:CD1 | 2.05 | 0.86 |
| 13:AN:98:ILE:HG23 | 13:AN:99:PHE:N | 1.89 | 0.86 |
| 15:AP:15:THR:CB | 15:AP:20:ILE:HG23 | 2.06 | 0.86 |
| 16:AQ:35:VAL:HG11 | 16:AQ:37:ARG:CZ | 2.05 | 0.86 |
| 22:AW:43:PRO:HB2 | 22:AW:46:ILE:H | 1.40 | 0.86 |
| 23:AX:3:ARG:NE | 23:AX:60:GLU:OXT | 2.09 | 0.86 |
| 25:A1:109:LEU:O | 25:A1:113:SER:OG | 1.94 | 0.86 |
| 26:A2:19:VAL:HB | 26:A2:21:ARG:HH12 | 1.40 | 0.86 |
| 34:BA:1497:G:H2' | 34:BA:1498:U:C6 | 2.11 | 0.86 |
| 35:BB:34:G:N2 | 35:BB:35:A:H2 | 1.67 | 0.86 |
| 40:BH:147:ASP:HA | 40:BH:150:ARG:HB2 | 1.58 | 0.86 |
| 42:BJ:104:LEU:CD2 | 42:BJ:104:LEU:H | 1.89 | 0.86 |
| 46:BN:65:ALA:O | 46:BN:68:ALA:HB3 | 1.76 | 0.86 |
| 52:BT:2:PRO:O | 52:BT:4:LYS:N | 2.09 | 0.86 |
| 2:AA:138:G:N3 | 2:AA:138:G:C3' | 2.36 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:349:G:C8 | 2:AA:349:G:OP2 | 2.28 | 0.85 |
| 2:AA:857:C:N3 | 2:AA:920:G:N2 | 2.22 | 0.85 |
| 2:AA:976:C:H4' | 2:AA:1156:A:N6 | 1.91 | 0.85 |
| 2:AA:1405:U:H3 | 2:AA:1597:A:H61 | 0.89 | 0.85 |
| 2:AA:1472:A:H61 | 2:AA:1518:C:H41 | 1.22 | 0.85 |
| 2:AA:1827:C:O2 | 2:AA:1827:C:H2' | 1.72 | 0.85 |
| 2:AA:1936:A:H5' | 2:AA:1937:A:N3 | 1.91 | 0.85 |
| 2:AA:1972:A:H2' | 2:AA:1973:G:H8 | 1.36 | 0.85 |
| 2:AA:2195:C:O2 | 2:AA:2196:C:H1' | 1.76 | 0.85 |
| 2:AA:2321:G:N2 | 2:AA:2322:A:H1' | 1.91 | 0.85 |
| 2:AA:2779:U:O4' | 2:AA:2781:A:N7 | 2.09 | 0.85 |
| 4:AD:140:VAL:HG22 | 4:AD:191:VAL:HG12 | 1.54 | 0.85 |
| 7:AG:93:LEU:HD12 | 7:AG:94:ALA:H | 0.74 | 0.85 |
| 8:AH:10:ILE:HG23 | 8:AH:14:VAL:CG1 | 2.06 | 0.85 |
| 10:AK:141:LEU:HD13 | 10:AK:141:LEU:C | 1.96 | 0.85 |
| 12:AM:24:SER:HB3 | 12:AM:86:MET:HE3 | 1.58 | 0.85 |
| 15:AP:54:VAL:CG1 | 15:AP:56:ILE:HD13 | 2.05 | 0.85 |
| 28:A4:42:PHE:N | 28:A4:57:ASP:OD2 | 2.09 | 0.85 |
| 34:BA:523:A:H61 | 47:BO:53:ARG:NH2 | 1.73 | 0.85 |
| 34:BA:581:G:H4' | 50:BR:64:ARG:NH1 | 1.88 | 0.85 |
| 34:BA:981:U:H2' | 34:BA:982:U:H5 | 1.38 | 0.85 |
| 34:BA:1132:C:H42 | 34:BA:1142:G:H1 | 1.24 | 0.85 |
| 34:BA:1280:A:O4' | 45:BM:41:PRO:HG3 | 1.76 | 0.85 |
| 34:BA:1347:G:N7 | 44:BL:107:ARG:CZ | 2.39 | 0.85 |
| 38:BF:112:SER:O | 38:BF:116:VAL:HG23 | 1.75 | 0.85 |
| 40:BH:41:VAL:HG21 | 40:BH:113:ALA:HA | 1.58 | 0.85 |
| 41:BI:24:GLU:OE2 | 41:BI:28:ARG:HD2 | 1.76 | 0.85 |
| 42:BJ:136:LYS:NZ | 42:BJ:137:LYS:HG3 | 1.92 | 0.85 |
| 1:AB:32:C:H2' | 1:AB:33:G:C8 | 2.11 | 0.85 |
| 1:AB:75:G:O6 | 1:AB:102:G:N2 | 2.08 | 0.85 |
| 1:AB:103:U:C2' | 1:AB:104:A:H5' | 2.07 | 0.85 |
| 2:AA:25:U:H3 | 2:AA:515:A:H61 | 1.20 | 0.85 |
| 2:AA:119:A:H4' | 2:AA:120:U:H5' | 1.57 | 0.85 |
| 2:AA:482:A:N3 | 2:AA:482:A:H2' | 1.91 | 0.85 |
| 2:AA:844:C:C5 | 2:AA:845:G:N7 | 2.44 | 0.85 |
| 2:AA:873:G:H4' | 15:AP:32:LYS:HB3 | 1.56 | 0.85 |
| 2:AA:1076:C:O2' | 11:AL:91:GLU:CB | 2.22 | 0.85 |
| 2:AA:1171:G:O4' | 2:AA:1171:G:OP1 | 1.95 | 0.85 |
| 2:AA:1428:C:O2' | 2:AA:1429:G:OP1 | 1.95 | 0.85 |
| 2:AA:1475:G:N1 | 2:AA:1477:A:C6 | 2.43 | 0.85 |
| 2:AA:1668:A:H1' | 2:AA:1669:A:C2 | 2.11 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2607:G:O2' | 2:AA:2608:G:H5' | 1.76 | 0.85 |
| 4:AD:210:LYS:HA | 4:AD:213:LYS:HG2 | 1.56 | 0.85 |
| 5:AE:271:ILE:HG23 | 5:AE:293:TYR:O | 1.76 | 0.85 |
| 11:AL:24:VAL:HG12 | 11:AL:35:ILE:HG23 | 1.58 | 0.85 |
| 19:AT:11:THR:HG23 | 19:AT:14:ALA:CB | 2.06 | 0.85 |
| 19:AT:50:GLU:HB2 | 19:AT:67:ARG:O | 1.75 | 0.85 |
| 33:A9:19:ARG:HD2 | 33:A9:24:LEU:CD1 | 2.06 | 0.85 |
| 34:BA:92:C:O2' | 34:BA:93:G:H5' | 1.76 | 0.85 |
| 35:BB:59:U:C5 | 35:BB:59:U:P | 2.69 | 0.85 |
| 37:BE:42:ILE:HG23 | 37:BE:43:ASP:N | 1.90 | 0.85 |
| 39:BG:12:CYS:HA | 39:BG:19:LEU:CB | 2.05 | 0.85 |
| 44:BL:3:GLN:H | 44:BL:3:GLN:HE21 | 1.22 | 0.85 |
| 45:BM:7:LYS:HG3 | 45:BM:71:LEU:CD2 | 2.06 | 0.85 |
| 45:BM:23:ILE:HA | 45:BM:85:LEU:HD21 | 1.57 | 0.85 |
| 45:BM:25:GLU:HA | 45:BM:28:ARG:HD2 | 1.56 | 0.85 |
| 52:BT:45:HIS:CD2 | 52:BT:47:PRO:HG3 | 2.10 | 0.85 |
| 2:AA:35:G:N3 | 2:AA:454:A:H2 | 1.74 | 0.85 |
| 2:AA:80:G:N2 | 2:AA:106:C:N3 | 2.24 | 0.85 |
| 2:AA:389:G:O6 | 14:AO:54:PRO:HB3 | 1.76 | 0.85 |
| 2:AA:768:G:H2' | 2:AA:769:G:C8 | 2.12 | 0.85 |
| 2:AA:1406:U:H2' | 2:AA:1407:C:C6 | 2.11 | 0.85 |
| 2:AA:1407:C:O2' | 2:AA:1408:C:H5' | 1.75 | 0.85 |
| 2:AA:1451:C:C6 | 2:AA:1453:A:H4' | 2.11 | 0.85 |
| 2:AA:2465:C:O2 | 2:AA:2485:G:N1 | 2.07 | 0.85 |
| 2:AA:2571:C:H5" | 2:AA:2572:A:H5' | 1.56 | 0.85 |
| 4:AD:144:GLU:HG2 | 4:AD:152:GLN:NE2 | 1.91 | 0.85 |
| 5:AE:71:THR:OG1 | 5:AE:299:SER:HA | 1.75 | 0.85 |
| 5:AE:174:LEU:O | 5:AE:177:ALA:CB | 2.24 | 0.85 |
| 13:AN:1:MET:HB3 | 13:AN:67:ARG:NE | 1.90 | 0.85 |
| 17:AR:50:GLU:O | 17:AR:55:ALA:HB3 | 1.76 | 0.85 |
| 26:A2:49:GLU:HB3 | 26:A2:53:LYS:CD | 2.06 | 0.85 |
| 30:A6:26:LYS:CE | 32:A8:35:GLY:HA3 | 2.06 | 0.85 |
| 34:BA:194:C:C2' | 34:BA:195:A:H5" | 2.06 | 0.85 |
| 34:BA:292:G:N1 | 34:BA:308:C:N4 | 1.93 | 0.85 |
| 34:BA:391:G:OP1 | 51:BS:28:ARG:NH2 | 2.08 | 0.85 |
| 34:BA:560:U:O2' | 34:BA:561:U:OP2 | 1.93 | 0.85 |
| 34:BA:782:A:N1 | 34:BA:801:U:H1' | 1.90 | 0.85 |
| 34:BA:1034:G:H2' | 34:BA:1035:A:C8 | 2.10 | 0.85 |
| 34:BA:1040:U:H2' | 34:BA:1041:A:H8 | 1.39 | 0.85 |
| 34:BA:1403:C:H1' | 34:BA:1500:A:C6 | 2.11 | 0.85 |
| 37:BE:212:GLN:HG3 | 37:BE:235:SER:OG | 1.76 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:76:ILE:HG23 | 40:BH:77:PRO:HD2 | 1.58 | 0.85 |
| 46:BN:32:ILE:HG22 | 46:BN:40:ILE:CD1 | 1.98 | 0.85 |
| 50:BR:24:SER:O | 50:BR:28:GLN:HG2 | 1.76 | 0.85 |
| 51:BS:7:ALA:HB3 | 51:BS:18:ARG:HG3 | 1.57 | 0.85 |
| 2:AA:253:C:H2' | 2:AA:254:G:H5' | 1.58 | 0.85 |
| 2:AA:431:U:H6 | 2:AA:431:U:H3' | 1.41 | 0.85 |
| 2:AA:741:G:H2' | 2:AA:742:G:H8 | 1.41 | 0.85 |
| 2:AA:1143:A:C2 | 2:AA:1144:G:C4 | 2.64 | 0.85 |
| 2:AA:1510:A:C8 | 2:AA:1511:A:C6 | 2.65 | 0.85 |
| 2:AA:1592:C:H2' | 2:AA:1593:G:C8 | 2.11 | 0.85 |
| 2:AA:2053:G:H2' | 2:AA:2054:A:H8 | 1.42 | 0.85 |
| 2:AA:2468:G:N2 | 2:AA:2481:G:H2' | 1.91 | 0.85 |
| 7:AG:96:SER:C | 7:AG:98:PHE:H | 1.77 | 0.85 |
| 9:AI:10:ILE:HA | 9:AI:13:LEU:HD12 | 1.56 | 0.85 |
| 9:AI:57:THR:HB | 9:AJ:107:SER:OG | 1.75 | 0.85 |
| 10:AK:29:PHE:CD2 | 10:AK:30:LEU:HG | 2.11 | 0.85 |
| 10:AK:111:ASP:HB3 | 10:AK:114:LYS:CG | 2.06 | 0.85 |
| 13:AN:58:VAL:HG12 | 13:AN:59:LYS:H | 1.41 | 0.85 |
| 16:AQ:27:LEU:N | 16:AQ:33:ARG:NH1 | 2.23 | 0.85 |
| 20:AU:19:ARG:O | 20:AU:22:GLN:HB2 | 1.75 | 0.85 |
| 20:AU:46:ASP:O | 20:AU:62:VAL:HB | 1.77 | 0.85 |
| 23:AX:43:ILE:H | 23:AX:43:ILE:HD12 | 1.37 | 0.85 |
| 25:A1:13:ARG:HD3 | 25:A1:16:LYS:HZ3 | 1.38 | 0.85 |
| 26:A2:35:LEU:O | 26:A2:60:VAL:HA | 1.74 | 0.85 |
| 30:A6:18:THR:C | 30:A6:20:PHE:H | 1.76 | 0.85 |
| 34:BA:229:U:H2' | 34:BA:230:G:C8 | 2.10 | 0.85 |
| 34:BA:970:C:H42 | 48:BP:126:LYS:NZ | 1.73 | 0.85 |
| 34:BA:1073:U:O2 | 34:BA:1102:A:N1 | 2.09 | 0.85 |
| 34:BA:1154:G:H2' | 34:BA:1155:G:H8 | 1.39 | 0.85 |
| 34:BA:1276:G:H1' | 34:BA:1282:C:O2' | 1.75 | 0.85 |
| 34:BA:1452:C:H4' | 34:BA:1453:G:C5' | 2.05 | 0.85 |
| 35:BB:1:G:C5 | 35:BB:73:A:C2 | 2.64 | 0.85 |
| 38:BF:29:TYR:HE1 | 45:BM:65:LEU:HD11 | 1.39 | 0.85 |
| 40:BH:91:LEU:HD23 | 40:BH:92:LYS:N | 1.90 | 0.85 |
| 52:BT:67:LYS:HA | 52:BT:70:ARG:NH2 | 1.91 | 0.85 |
| 54:BV:62:ILE:HD12 | 54:BV:66:MET:HG3 | 1.56 | 0.85 |
| 1:AB:79:C:O2' | 2:AA:861:A:N3 | 2.09 | 0.85 |
| 2:AA:135:G:H1' | 2:AA:145:G:N2 | 1.91 | 0.85 |
| 2:AA:231:C:N4 | 2:AA:232:G:N2 | 2.23 | 0.85 |
| 2:AA:307:G:H22 | 2:AA:310:A:C5' | 1.88 | 0.85 |
| 2:AA:612:G:H2' | 2:AA:615:G:N3 | 1.92 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:668:G:H5' | 2:AA:669:G:OP2 | 1.74 | 0.85 |
| 2:AA:946:G:N2 | 2:AA:971:C:C2 | 2.44 | 0.85 |
| 2:AA:959:A:H2' | 2:AA:960:A:C8 | 2.10 | 0.85 |
| 2:AA:1504:C:H2' | 2:AA:1505:C:C6 | 2.11 | 0.85 |
| 2:AA:2089:U:H2' | 2:AA:2090:G:H8 | 1.40 | 0.85 |
| 2:AA:2226:C:C2' | 2:AA:2227:A:O4' | 2.23 | 0.85 |
| 2:AA:2792:G:N2 | 2:AA:2804:C:C2 | 2.43 | 0.85 |
| 5:AE:226:HIS:HA | 5:AE:229:GLN:CG | 2.06 | 0.85 |
| 6:AF:35:VAL:C | 6:AF:39:GLN:HE22 | 1.79 | 0.85 |
| 8:AH:58:LYS:HA | 8:AH:61:ARG:HD2 | 1.55 | 0.85 |
| 9:AI:115:LYS:HE2 | 9:AI:127:LEU:HB3 | 1.58 | 0.85 |
| 15:AP:20:ILE:CG1 | 15:AP:21:SER:H | 1.85 | 0.85 |
| 15:AP:29:ALA:CB | 15:AP:66:ASN:HD21 | 1.89 | 0.85 |
| 18:AS:28:SER:OG | 18:AS:31:GLU:HB3 | 1.77 | 0.85 |
| 19:AT:9:HIS:ND1 | 19:AT:63:LYS:HG2 | 1.91 | 0.85 |
| 27:A3:35:ASN:HA | 27:A3:68:VAL:HG22 | 1.59 | 0.85 |
| 32:A8:28:GLY:O | 32:A8:29:LYS:HG3 | 1.76 | 0.85 |
| 33:A9:9:LYS:HE3 | 33:A9:16:VAL:HG23 | 1.56 | 0.85 |
| 34:BA:55:A:O2' | 34:BA:56:U:H5' | 1.75 | 0.85 |
| 34:BA:190(E):U:N3 | 52:BT:72:ARG:NH2 | 2.22 | 0.85 |
| 34:BA:824:C:H2' | 34:BA:825:G:H8 | 1.38 | 0.85 |
| 34:BA:1209:C:H2' | 34:BA:1210:C:H5' | 1.59 | 0.85 |
| 34:BA:1347:G:H3' | 44:BL:108:VAL:CA | 2.05 | 0.85 |
| 34:BA:1428:A:H2' | 34:BA:1429:C:H6 | 1.38 | 0.85 |
| 35:BB:11:C:N4 | 35:BB:12:U:O4 | 2.08 | 0.85 |
| 35:BC:16:U:H4' | 35:BC:17:U:H5' | 1.59 | 0.85 |
| 37:BE:16:HIS:NE2 | 37:BE:213:LEU:HD13 | 1.91 | 0.85 |
| 37:BE:25:ASN:ND2 | 37:BE:27:LYS:HB2 | 1.92 | 0.85 |
| 38:BF:121:ALA:O | 38:BF:124:ILE:HB | 1.75 | 0.85 |
| 43:BK:6:ILE:CD1 | 43:BK:85:ARG:HD3 | 2.06 | 0.85 |
| 43:BK:39:LEU:HB3 | 43:BK:45:ILE:HG21 | 1.55 | 0.85 |
| 45:BM:22:LYS:HZ1 | 45:BM:90:LEU:HB2 | 1.42 | 0.85 |
| 55:BW:73:HIS:H | 55:BW:76:ALA:HB3 | 1.39 | 0.85 |
| 2:AA:1:G:H1 | 2:AA:2902:C:N4 | 1.73 | 0.85 |
| 2:AA:35:G:N3 | 2:AA:454:A:C2 | 2.44 | 0.85 |
| 2:AA:270(A):A:H2' | 2:AA:370:G:H5" | 1.59 | 0.85 |
| 2:AA:882:G:N2 | 2:AA:894:C:N3 | 2.24 | 0.85 |
| 2:AA:1128:A:N6 | 2:AA:2518:A:N1 | 2.25 | 0.85 |
| 2:AA:1338:G:H2' | 2:AA:1339:G:H8 | 1.41 | 0.85 |
| 2:AA:1468:C:N4 | 2:AA:1524:G:N1 | 2.24 | 0.85 |
| 2:AA:1492:G:N3 | 2:AA:1493:C:C4 | 2.44 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1568:G:OP1 | 4:AD:60:GLN:CA | 2.24 | 0.85 |
| 2:AA:1995:U:C5 | 2:AA:1996:C:C5 | 2.65 | 0.85 |
| 2:AA:2287:A:N1 | 2:AA:2289:G:H1' | 1.92 | 0.85 |
| 2:AA:2465:C:N3 | 2:AA:2485:G:O6 | 2.09 | 0.85 |
| 2:AA:2749:A:H1' | 8:AH:62:ALA:HB2 | 1.58 | 0.85 |
| 5:AE:225:LYS:C | 5:AE:226:HIS:ND1 | 2.29 | 0.85 |
| 11:AL:77:PHE:O | 11:AL:80:LYS:HB3 | 1.75 | 0.85 |
| 20:AU:31:LEU:HB3 | 20:AU:101:LEU:HD12 | 1.57 | 0.85 |
| 23:AX:27:GLY:C | 23:AX:28:LEU:HG | 1.95 | 0.85 |
| 30:A6:11:LYS:HE2 | 30:A6:26:LYS:HE2 | 1.59 | 0.85 |
| 34:BA:421:U:C2 | 38:BF:127:ARG:CZ | 2.60 | 0.85 |
| 34:BA:591:U:OP1 | 43:BK:30:ARG:NH2 | 2.08 | 0.85 |
| 34:BA:726:C:N3 | 34:BA:731:G:N2 | 2.25 | 0.85 |
| 34:BA:1213:A:C2 | 34:BA:1215:G:H1' | 2.11 | 0.85 |
| 40:BH:59:GLY:C | 40:BH:63:ARG:HH21 | 1.80 | 0.85 |
| 41:BI:75:LEU:CD1 | 41:BI:79:LEU:HD21 | 2.07 | 0.85 |
| 43:BK:26:VAL:HG22 | 43:BK:27:PRO:CD | 2.04 | 0.85 |
| 43:BK:29:SER:CB | 43:BK:32:LYS:NZ | 2.38 | 0.85 |
| 43:BK:46:LYS:HZ1 | 43:BK:65:TYR:H | 1.23 | 0.85 |
| 46:BN:80:VAL:O | 46:BN:106:LYS:HB2 | 1.77 | 0.85 |
| 51:BS:10:GLY:HA3 | 51:BS:14:ASN:O | 1.76 | 0.85 |
| 55:BW:54:LYS:CA | 55:BW:57:ARG:HD2 | 2.07 | 0.85 |
| 1:AB:25:A:O2' | 1:AB:26:A:H5' | 1.74 | 0.85 |
| 1:AB:89:G:H2' | 1:AB:89(A):A:C8 | 2.10 | 0.85 |
| 2:AA:1:G:H1 | 2:AA:2902:C:H42 | 1.19 | 0.85 |
| 2:AA:347:A:C8 | 2:AA:347:A:H3' | 2.12 | 0.85 |
| 2:AA:566:U:H3' | 2:AA:567:A:H8 | 1.40 | 0.85 |
| 2:AA:720:C:O2' | 2:AA:721:C:H5' | 1.76 | 0.85 |
| 2:AA:996:A:O3' | 25:A1:93:LYS:HG2 | 1.77 | 0.85 |
| 2:AA:1353:A:N1 | 2:AA:1378:A:N1 | 2.25 | 0.85 |
| 2:AA:1829:A:C2 | 2:AA:1830:C:C1' | 2.59 | 0.85 |
| 2:AA:1930:G:H2' | 2:AA:1931:U:OP2 | 1.76 | 0.85 |
| 2:AA:2023:G:H2' | 2:AA:2024:G:H8 | 1.38 | 0.85 |
| 2:AA:2103:C:H42 | 2:AA:2186:G:H1 | 0.86 | 0.85 |
| 2:AA:2120:G:H8 | 2:AA:2120:G:OP1 | 1.59 | 0.85 |
| 2:AA:2232:U:O2' | 2:AA:2233:U:H5' | 1.77 | 0.85 |
| 2:AA:2640:G:O3' | 12:AM:70:PHE:HD2 | 1.59 | 0.85 |
| 2:AA:2648:C:H42 | 2:AA:2672:G:H1 | 0.85 | 0.85 |
| 5:AE:269:ILE:HD12 | 5:AE:269:ILE:N | 1.91 | 0.85 |
| 6:AF:1:MET:H3 | 6:AF:18:LEU:HD12 | 1.41 | 0.85 |
| 6:AF:223:LEU:HD21 | 6:AF:235:PHE:CZ | 2.12 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:29:LYS:HE3 | 8:AH:81:GLY:N | 1.92 | 0.85 |
| 9:AJ:119:GLU:HA | 9:AJ:123:ALA:O | 1.75 | 0.85 |
| 13:AN:35:ILE:HD12 | 13:AN:35:ILE:N | 1.92 | 0.85 |
| 13:AN:64:ARG:HG3 | 13:AN:79:PHE:HD1 | 1.40 | 0.85 |
| 16:AQ:23:ARG:HH22 | 16:AQ:48:VAL:CG2 | 1.89 | 0.85 |
| 18:AS:10:VAL:HB | 18:AS:101:SER:O | 1.77 | 0.85 |
| 34:BA:80:G:H3' | 34:BA:81:U:H5' | 1.58 | 0.85 |
| 34:BA:92:C:H2' | 34:BA:93:G:C8 | 2.10 | 0.85 |
| 34:BA:219:C:H6 | 34:BA:219:C:H3' | 1.41 | 0.85 |
| 34:BA:250:A:H2 | 34:BA:274:A:N1 | 1.75 | 0.85 |
| 34:BA:714:G:H1' | 34:BA:777:A:C8 | 2.11 | 0.85 |
| 34:BA:975:A:O2' | 34:BA:976:G:OP2 | 1.95 | 0.85 |
| 34:BA:1060:C:C5 | 38:BF:2:GLY:HA3 | 2.12 | 0.85 |
| 34:BA:1194:U:H4' | 40:BH:22:GLY:O | 1.77 | 0.85 |
| 34:BA:1305:G:H5' | 56:BX:4:GLY:HA3 | 1.58 | 0.85 |
| 34:BA:1346:A:H5' | 44:BL:120:ARG:HH12 | 1.41 | 0.85 |
| 35:BC:15:G:H22 | 35:BC:48:C:N4 | 1.73 | 0.85 |
| 35:BC:38:A:H2' | 35:BC:39:U:H5' | 1.57 | 0.85 |
| 42:BJ:94:ARG:HH11 | 42:BJ:94:ARG:C | 1.78 | 0.85 |
| 45:BM:16:LEU:HD22 | 45:BM:94:VAL:CG2 | 2.07 | 0.85 |
| 55:BW:49:ALA:O | 55:BW:53:LEU:HG | 1.74 | 0.85 |
| 2:AA:245:G:O2' | 2:AA:246:C:H5' | 1.76 | 0.85 |
| 2:AA:295:G:N2 | 2:AA:344:G:H1' | 1.92 | 0.85 |
| 2:AA:443:A:H1' | 2:AA:1201:C:O4' | 1.75 | 0.85 |
| 2:AA:775:G:H21 | 2:AA:787:U:C2' | 1.86 | 0.85 |
| 2:AA:873:G:H5' | 15:AP:32:LYS:N | 1.91 | 0.85 |
| 2:AA:975:G:N1 | 2:AA:976:C:C6 | 2.44 | 0.85 |
| 2:AA:1500:G:N2 | 4:AD:97:ASP:OD2 | 2.10 | 0.85 |
| 2:AA:2285:C:H5 | 30:A6:28:ARG:NH2 | 1.72 | 0.85 |
| 2:AA:2553:G:C2 | 2:AA:2583:G:O2' | 2.29 | 0.85 |
| 4:AD:144:GLU:HB3 | 4:AD:188:ARG:O | 1.77 | 0.85 |
| 5:AE:76:PRO:HA | 5:AE:292:PRO:CG | 2.06 | 0.85 |
| 12:AM:38:VAL:O | 12:AM:103:VAL:HA | 1.76 | 0.85 |
| 13:AN:26:GLY:HA3 | 13:AN:30:ARG:CZ | 2.06 | 0.85 |
| 14:AO:94:ARG:HH11 | 14:AO:120:LEU:N | 1.74 | 0.85 |
| 15:AP:56:ILE:HD11 | 15:AP:115:SER:OG | 1.76 | 0.85 |
| 34:BA:553:A:H2' | 34:BA:554:C:C6 | 2.12 | 0.85 |
| 34:BA:1073:U:H3 | 34:BA:1102:A:H61 | 1.23 | 0.85 |
| 34:BA:1399:C:N4 | 34:BA:1502:A:N7 | 2.24 | 0.85 |
| 35:BB:8:U:H1' | 35:BB:48:C:H1' | 1.59 | 0.85 |
| 35:BC:52:U:H3 | 35:BC:62:A:N6 | 1.74 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:10:PHE:CE1 | 38:BF:178:LEU:HD13 | 2.11 | 0.85 |
| 43:BK:25:ASP:HB3 | 43:BK:58:TYR:CE2 | 2.11 | 0.85 |
| 45:BM:7:LYS:HG3 | 45:BM:71:LEU:HD21 | 1.58 | 0.85 |
| 55:BW:62:LEU:N | 55:BW:62:LEU:HD23 | 1.91 | 0.85 |
| 1:AB:55:U:H2' | 1:AB:56:G:C8 | 2.11 | 0.85 |
| 2:AA:295:G:OP1 | 2:AA:338:G:C2 | 2.29 | 0.85 |
| 2:AA:326:G:H2' | 2:AA:327:G:H8 | 1.39 | 0.85 |
| 2:AA:663:G:H21 | 2:AA:940:G:P | 2.00 | 0.85 |
| 2:AA:993:G:H1' | 2:AA:1162:G:N2 | 1.91 | 0.85 |
| 2:AA:1492:G:N2 | 2:AA:1499:C:H42 | 1.74 | 0.85 |
| 2:AA:1554:A:N6 | 2:AA:1626:G:OP2 | 2.09 | 0.85 |
| 2:AA:1900:A:C2 | 2:AA:1970:A:C6 | 2.64 | 0.85 |
| 2:AA:1996:C:H2' | 2:AA:1997:G:C5' | 2.07 | 0.85 |
| 2:AA:2405:G:H2' | 2:AA:2411:A:N6 | 1.90 | 0.85 |
| 3:AC:36:LYS:NZ | 3:AC:37:PHE:H | 1.74 | 0.85 |
| 5:AE:42:ALA:N | 5:AE:189:MET:SD | 2.50 | 0.85 |
| 6:AF:28:SER:HA | 6:AF:31:ILE:CD1 | 2.06 | 0.85 |
| 6:AF:193:LEU:HB2 | 6:AF:233:THR:CG2 | 2.07 | 0.85 |
| 10:AK:81:ALA:CB | 10:AK:89:LEU:HD22 | 2.06 | 0.85 |
| 15:AP:28:ILE:HD11 | 15:AP:89:PRO:CG | 2.06 | 0.85 |
| 20:AU:46:ASP:HA | 20:AU:102:ASP:CG | 1.98 | 0.85 |
| 23:AX:43:ILE:HD12 | 23:AX:43:ILE:N | 1.92 | 0.85 |
| 24:A0:77:ARG:HH11 | 24:A0:77:ARG:CG | 1.89 | 0.85 |
| 32:A8:62:LEU:CB | 32:A8:63:PRO:HD3 | 2.07 | 0.85 |
| 34:BA:68:G:C5' | 34:BA:171:A:H1' | 2.06 | 0.85 |
| 34:BA:720:C:C5 | 34:BA:721:G:H2' | 2.12 | 0.85 |
| 34:BA:787:A:N6 | 34:BA:793:U:OP2 | 2.09 | 0.85 |
| 34:BA:1060:C:C4 | 38:BF:2:GLY:HA3 | 2.12 | 0.85 |
| 35:BB:49:C:N4 | 35:BB:65:G:H1 | 1.73 | 0.85 |
| 39:BG:76:ARG:O | 39:BG:79:PHE:HB3 | 1.76 | 0.85 |
| 48:BP:55:ARG:HH21 | 48:BP:56:LEU:CD2 | 1.90 | 0.85 |
| 49:BQ:40:CYS:HB2 | 49:BQ:42:ILE:HB | 1.57 | 0.85 |
| 51:BS:20:VAL:HG13 | 51:BS:34:GLU:O | 1.77 | 0.85 |
| 2:AA:107:C:H5" | 2:AA:293:U:H1' | 1.59 | 0.85 |
| 2:AA:138:G:H8 | 19:AT:42:GLU:OE1 | 1.60 | 0.85 |
| 2:AA:246:C:N4 | 2:AA:252:G:N1 | 2.21 | 0.85 |
| 2:AA:869:G:H1 | 2:AA:908:C:H42 | 0.88 | 0.85 |
| 2:AA:894:C:H2' | 2:AA:895:U:H6 | 1.42 | 0.85 |
| 2:AA:984:A:H3' | 2:AA:985:C:H5 | 1.39 | 0.85 |
| 2:AA:1128:A:N6 | 2:AA:2518:A:N6 | 2.24 | 0.85 |
| 2:AA:1283:G:N2 | 2:AA:1285:G:H2' | 1.90 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1301:A:H5' | 2:AA:1607:C:N4 | 1.91 | 0.85 |
| 2:AA:1353:A:O2' | 2:AA:1354:A:H5' | 1.76 | 0.85 |
| 2:AA:1649:G:C2 | 2:AA:1650:G:N7 | 2.45 | 0.85 |
| 2:AA:1670:C:O2' | 2:AA:1671:U:H5' | 1.77 | 0.85 |
| 2:AA:2626:C:H6 | 2:AA:2626:C:O5' | 1.58 | 0.85 |
| 2:AA:2635:C:H42 | 2:AA:2783:G:H1 | 0.86 | 0.85 |
| 2:AA:2815:C:H5' | 29:A5:29:ASN:ND2 | 1.92 | 0.85 |
| 3:AC:59:ARG:NH1 | 3:AC:164:ARG:NH1 | 2.25 | 0.85 |
| 5:AE:208:LYS:H | 5:AE:257:GLY:HA3 | 1.40 | 0.85 |
| 5:AE:247:ARG:HB3 | 5:AE:249:THR:HG23 | 1.58 | 0.85 |
| 8:AH:11:PRO:O | 8:AH:14:VAL:HG23 | 1.75 | 0.85 |
| 8:AH:143:LEU:HD23 | 8:AH:144:ALA:N | 1.89 | 0.85 |
| 8:AH:148:ARG:HH22 | 8:AH:164:GLU:H | 1.21 | 0.85 |
| 11:AL:100:VAL:HG12 | 11:AL:101:THR:H | 1.41 | 0.85 |
| 13:AN:9:LYS:O | 13:AN:83:ALA:HB1 | 1.76 | 0.85 |
| 21:AV:13:LYS:C | 21:AV:15:ASP:H | 1.79 | 0.85 |
| 21:AV:148:THR:HG22 | 21:AV:168:VAL:N | 1.91 | 0.85 |
| 34:BA:640:A:H2' | 34:BA:641:U:H5' | 1.59 | 0.85 |
| 34:BA:1274:G:H2' | 34:BA:1275:A:H8 | 1.42 | 0.85 |
| 34:BA:1315:U:H3' | 34:BA:1316:G:C8 | 2.12 | 0.85 |
| 38:BF:58:GLU:HB2 | 38:BF:65:ALA:CB | 2.07 | 0.85 |
| 42:BJ:74:GLU:HG2 | 42:BJ:75:VAL:N | 1.90 | 0.85 |
| 42:BJ:106:GLN:CA | 42:BJ:109:ASN:HD22 | 1.88 | 0.85 |
| 42:BJ:106:GLN:O | 42:BJ:110:GLN:HG2 | 1.76 | 0.85 |
| 43:BK:46:LYS:NZ | 43:BK:64:LYS:HA | 1.92 | 0.85 |
| 46:BN:84:VAL:HG21 | 53:BU:88:LYS:HZ3 | 1.35 | 0.85 |
| 46:BN:92:GLU:HG3 | 46:BN:96:ARG:CD | 2.07 | 0.85 |
| 49:BQ:44:LEU:HG | 49:BQ:45:ARG:N | 1.89 | 0.85 |
| 54:BV:45:VAL:HG22 | 54:BV:67:VAL:HG21 | 1.58 | 0.85 |
| 2:AA:255:A:C2 | 2:AA:256:A:C4 | 2.65 | 0.84 |
| 2:AA:519:U:C4' | 18:AS:75:TYR:HB3 | 2.07 | 0.84 |
| 2:AA:684:G:C6 | 2:AA:775:G:N7 | 2.44 | 0.84 |
| 2:AA:1718:G:N2 | 2:AA:1742:C:C2 | 2.45 | 0.84 |
| 2:AA:2059:A:H2 | 2:AA:2503:A:H62 | 0.90 | 0.84 |
| 2:AA:2330:G:H22 | 2:AA:2385:C:N4 | 1.74 | 0.84 |
| 6:AF:240:LEU:HA | 6:AF:243:VAL:HG23 | 1.58 | 0.84 |
| 7:AG:21:VAL:HG13 | 7:AG:132:VAL:CG2 | 2.06 | 0.84 |
| 10:AK:108:LEU:C | 10:AK:109:LYS:HE2 | 1.96 | 0.84 |
| 12:AM:21:ARG:H | 12:AM:21:ARG:CD | 1.90 | 0.84 |
| 16:AQ:38:LYS:HZ1 | 16:AQ:114:LYS:HD2 | 1.41 | 0.84 |
| 20:AU:17:HIS:O | 20:AU:20:HIS:HB3 | 1.76 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:89:ASP:OD1 | 26:A2:52:GLY:N | 2.10 | 0.84 |
| 26:A2:6:GLN:CD | 26:A2:10:LYS:HA | 1.96 | 0.84 |
| 26:A2:35:LEU:N | 26:A2:60:VAL:HG13 | 1.90 | 0.84 |
| 28:A4:17:GLN:HA | 28:A4:33:VAL:CB | 2.07 | 0.84 |
| 31:A7:21:ARG:NH1 | 31:A7:43:THR:HG23 | 1.92 | 0.84 |
| 34:BA:826:C:H4' | 43:BK:12:ARG:HG2 | 1.57 | 0.84 |
| 34:BA:1040:U:H2' | 34:BA:1041:A:C8 | 2.12 | 0.84 |
| 34:BA:1118:C:OP1 | 44:BL:104:ARG:CB | 2.19 | 0.84 |
| 37:BE:118:LEU:HD22 | 37:BE:142:LEU:CB | 2.06 | 0.84 |
| 40:BH:89:ILE:CG1 | 40:BH:131:ILE:HD12 | 2.07 | 0.84 |
| 1:AB:100:G:H2' | 1:AB:101:A:H8 | 1.42 | 0.84 |
| 2:AA:120:U:O2' | 2:AA:121:G:H5" | 1.77 | 0.84 |
| 2:AA:292:C:N3 | 2:AA:348:G:O6 | 2.09 | 0.84 |
| 2:AA:452:G:C3' | 2:AA:453:C:H5" | 2.07 | 0.84 |
| 2:AA:531:C:N4 | 25:A1:38:THR:CG2 | 2.39 | 0.84 |
| 2:AA:695:G:O2' | 2:AA:696:G:H5' | 1.77 | 0.84 |
| 2:AA:775:G:C2' | 2:AA:794:G:N7 | 2.39 | 0.84 |
| 2:AA:806:C:H2' | 2:AA:807:U:H6 | 1.40 | 0.84 |
| 2:AA:851:U:O2' | 23:AX:45:GLY:HA3 | 1.77 | 0.84 |
| 2:AA:1013:C:H2' | 2:AA:1014:U:C6 | 2.11 | 0.84 |
| 2:AA:1492:G:N2 | 2:AA:1498:C:N3 | 2.24 | 0.84 |
| 2:AA:1786:A:N1 | 2:AA:1938:A:N1 | 2.25 | 0.84 |
| 2:AA:1790:C:H5" | 2:AA:1828:G:N1 | 1.92 | 0.84 |
| 2:AA:2055:C:H4' | 2:AA:2056:G:H5" | 1.58 | 0.84 |
| 4:AD:116:MET:O | 4:AD:117:SER:OG | 1.94 | 0.84 |
| 5:AE:317:PRO:O | 5:AE:320:GLN:HG3 | 1.76 | 0.84 |
| 6:AF:6:TYR:OH | 6:AF:234:VAL:HG12 | 1.77 | 0.84 |
| 15:AP:127:ASN:HB2 | 15:AP:128:PRO:CD | 2.03 | 0.84 |
| 21:AV:69:VAL:HG13 | 21:AV:81:VAL:HA | 1.58 | 0.84 |
| 28:A4:11:PRO:HA | 28:A4:40:HIS:CD2 | 2.12 | 0.84 |
| 28:A4:21:VAL:HG12 | 28:A4:22:MET:N | 1.92 | 0.84 |
| 31:A7:30:ILE:HA | 31:A7:33:ARG:CG | 2.06 | 0.84 |
| 34:BA:362:G:P | 47:BO:34:ARG:NH2 | 2.49 | 0.84 |
| 34:BA:964:A:N3 | 34:BA:969:A:H1' | 1.91 | 0.84 |
| 34:BA:997:U:O4 | 34:BA:1044:A:N1 | 2.11 | 0.84 |
| 34:BA:1305:G:C5' | 56:BX:5:ASP:H | 1.90 | 0.84 |
| 34:BA:1443:G:H5" | 34:BA:1446:A:H5' | 1.57 | 0.84 |
| 35:BB:59:U:N3 | 35:BB:60:C:N3 | 2.24 | 0.84 |
| 38:BF:138:VAL:HG22 | 38:BF:151:VAL:CG2 | 2.06 | 0.84 |
| 39:BG:179:GLU:O | 39:BG:181:MET:N | 2.10 | 0.84 |
| 43:BK:46:LYS:HB2 | 43:BK:63:LEU:O | 1.76 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 49:BQ:24:CYS:HB3 | 49:BQ:29:ARG:N | 1.92 | 0.84 |
| 53:BU:38:GLU:O | 53:BU:42:ARG:HG3 | 1.77 | 0.84 |
| 2:AA:270(I):G:N2 | 2:AA:270(Q):C:N3 | 2.23 | 0.84 |
| 2:AA:343:C:O2 | 2:AA:344:G:N3 | 2.07 | 0.84 |
| 2:AA:880:G:C2' | 2:AA:881:G:H5' | 2.08 | 0.84 |
| 2:AA:1151:G:C4' | 25:A1:81:ASN:HD21 | 1.89 | 0.84 |
| 2:AA:1439:A:C2' | 2:AA:1440:G:H5' | 2.06 | 0.84 |
| 2:AA:1450:C:N4 | 2:AA:1461:G:N1 | 2.12 | 0.84 |
| 2:AA:1912:A:N7 | 2:AA:1918:A:H2 | 1.76 | 0.84 |
| 2:AA:2364:C:H1' | 27:A3:32:LYS:CE | 2.06 | 0.84 |
| 4:AD:145:LEU:H | 4:AD:152:GLN:HB2 | 1.41 | 0.84 |
| 5:AE:45:LYS:HE3 | 5:AE:303:PRO:CG | 2.08 | 0.84 |
| 5:AE:45:LYS:NZ | 5:AE:303:PRO:O | 2.11 | 0.84 |
| 5:AE:221:LYS:HZ1 | 5:AE:233:ARG:HG2 | 1.37 | 0.84 |
| 8:AH:40:MET:HB2 | 8:AH:64:HIS:NE2 | 1.93 | 0.84 |
| 12:AM:19:MET:SD | 12:AM:22:VAL:HB | 2.16 | 0.84 |
| 18:AS:23:LEU:HD21 | 29:A5:27:ALA:HB2 | 1.60 | 0.84 |
| 21:AV:19:ILE:HG13 | 21:AV:79:ILE:HG23 | 1.57 | 0.84 |
| 24:A0:34:ILE:O | 24:A0:113:LEU:HD22 | 1.77 | 0.84 |
| 25:A1:50:ARG:HH12 | 26:A2:74:TYR:HB3 | 1.42 | 0.84 |
| 28:A4:56:VAL:CG1 | 28:A4:57:ASP:H | 1.91 | 0.84 |
| 34:BA:15:G:C2' | 34:BA:16:A:H8 | 1.89 | 0.84 |
| 34:BA:571:U:H3' | 34:BA:572:A:C5' | 2.06 | 0.84 |
| 34:BA:716:A:O2' | 34:BA:717:C:H5' | 1.75 | 0.84 |
| 35:BC:69:U:O2' | 35:BC:70:C:H5' | 1.76 | 0.84 |
| 53:BU:29:PHE:HE1 | 53:BU:36:ASN:OD1 | 1.59 | 0.84 |
| 53:BU:74:ARG:HD2 | 53:BU:74:ARG:H | 1.41 | 0.84 |
| 2:AA:116:C:H2' | 2:AA:117:G:H8 | 1.42 | 0.84 |
| 2:AA:270(C):C:H2' | 2:AA:270(D):C:C6 | 2.13 | 0.84 |
| 2:AA:273(D):C:O2' | 2:AA:273(E):U:H5' | 1.77 | 0.84 |
| 2:AA:656:G:H2' | 2:AA:657:U:O4' | 1.76 | 0.84 |
| 2:AA:900:A:C8 | 2:AA:901:A:C8 | 2.65 | 0.84 |
| 2:AA:1026:U:H6 | 2:AA:1026:U:C5' | 1.89 | 0.84 |
| 2:AA:1084:A:P | 9:AI:37:VAL:C | 2.55 | 0.84 |
| 2:AA:1171:G:H1 | 2:AA:1179:C:H42 | 1.21 | 0.84 |
| 2:AA:2218:G:O3' | 4:AD:184:LEU:HD13 | 1.76 | 0.84 |
| 2:AA:2553:G:H8 | 2:AA:2553:G:H3' | 1.39 | 0.84 |
| 2:AA:2675:A:H5' | 13:AN:30:ARG:N | 1.91 | 0.84 |
| 2:AA:2832:U:O2' | 2:AA:2834:G:N3 | 2.09 | 0.84 |
| 3:AC:77:ILE:HG22 | 3:AC:119:VAL:HG21 | 1.60 | 0.84 |
| 5:AE:193:PHE:CE2 | 5:AE:199:ALA:CB | 2.60 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:239:ALA:O | 6:AF:242:GLU:N | 2.11 | 0.84 |
| 7:AG:76:ARG:O | 7:AG:80:ALA:CB | 2.26 | 0.84 |
| 15:AP:65:ARG:HH22 | 15:AP:87:LYS:N | 1.75 | 0.84 |
| 16:AQ:114:LYS:O | 16:AQ:117:ALA:HB3 | 1.78 | 0.84 |
| 17:AR:23:HIS:NE2 | 17:AR:27:ALA:HB3 | 1.93 | 0.84 |
| 20:AU:23:VAL:HG23 | 20:AU:67:LEU:CD2 | 2.05 | 0.84 |
| 26:A2:78:VAL:CB | 26:A2:80:TYR:HD1 | 1.88 | 0.84 |
| 29:A5:11:THR:CG2 | 29:A5:19:ARG:HH22 | 1.90 | 0.84 |
| 30:A6:42:PRO:HD2 | 30:A6:47:HIS:O | 1.77 | 0.84 |
| 34:BA:872:A:HO2' | 34:BA:873:A:H3' | 1.40 | 0.84 |
| 34:BA:941:G:H1 | 34:BA:1342:C:H42 | 1.24 | 0.84 |
| 34:BA:961:U:O2' | 34:BA:962:C:H5' | 1.77 | 0.84 |
| 34:BA:984:C:N4 | 34:BA:1221:G:H1 | 1.74 | 0.84 |
| 34:BA:1192:C:N4 | 34:BA:1193:G:C5 | 2.45 | 0.84 |
| 37:BE:9:GLU:HB2 | 37:BE:217:ARG:NH1 | 1.91 | 0.84 |
| 37:BE:21:ARG:CA | 37:BE:39:ILE:HG12 | 2.06 | 0.84 |
| 39:BG:14:ARG:O | 39:BG:14:ARG:HD3 | 1.77 | 0.84 |
| 39:BG:100:ARG:O | 39:BG:104:VAL:HG23 | 1.77 | 0.84 |
| 40:BH:10:MET:HA | 40:BH:32:VAL:CG2 | 2.07 | 0.84 |
| 40:BH:110:LEU:HA | 40:BH:113:ALA:HB3 | 1.58 | 0.84 |
| 42:BJ:104:LEU:HD22 | 42:BJ:134:ALA:HB1 | 1.57 | 0.84 |
| 43:BK:6:ILE:CD1 | 43:BK:85:ARG:HH11 | 1.91 | 0.84 |
| 43:BK:23:SER:O | 43:BK:24:THR:HB | 1.77 | 0.84 |
| 43:BK:97:VAL:HG22 | 43:BK:98:LYS:H | 1.41 | 0.84 |
| 2:AA:6:A:H5" | 12:AM:4:ALA:N | 1.91 | 0.84 |
| 2:AA:974(A):C:H1' | 2:AA:989:G:H1 | 1.40 | 0.84 |
| 2:AA:1083:U:C2' | 9:AI:37:VAL:CA | 2.45 | 0.84 |
| 2:AA:1393:A:H61 | 19:AT:13:LYS:NZ | 1.75 | 0.84 |
| 2:AA:1664:A:H8 | 2:AA:1664:A:O5' | 1.60 | 0.84 |
| 2:AA:1759:A:C2' | 2:AA:1760:A:O5' | 2.25 | 0.84 |
| 2:AA:2353:G:N1 | 2:AA:2364:C:N4 | 2.22 | 0.84 |
| 2:AA:2805:G:H8 | 2:AA:2807:G:O4' | 1.60 | 0.84 |
| 4:AD:209:ASN:HB3 | 4:AD:213:LYS:HZ3 | 1.42 | 0.84 |
| 5:AE:105:HIS:CB | 5:AE:108:LEU:HG | 2.06 | 0.84 |
| 10:AK:114:LYS:HE2 | 10:AK:133:LEU:HA | 1.59 | 0.84 |
| 15:AP:48:ASN:O | 15:AP:121:ASP:HB3 | 1.77 | 0.84 |
| 15:AP:54:VAL:HG12 | 15:AP:56:ILE:HD13 | 1.59 | 0.84 |
| 19:AT:56:ASN:HD21 | 19:AT:62:LYS:HE3 | 1.41 | 0.84 |
| 26:A2:69:ILE:HG13 | 26:A2:91:THR:CG2 | 2.08 | 0.84 |
| 30:A6:54:LYS:HA | 30:A6:54:LYS:HZ2 | 1.43 | 0.84 |
| 34:BA:193:C:O4' | 55:BW:60:GLU:HG2 | 1.77 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:363:A:C5 | 47:BO:31:PRO:HD2 | 2.13 | 0.84 |
| 34:BA:520:A:C3' | 34:BA:521:G:H5" | 2.07 | 0.84 |
| 34:BA:1378:C:H2' | 34:BA:1378:C:O2 | 1.76 | 0.84 |
| 34:BA:1513:A:H2' | 34:BA:1514:C:C6 | 2.12 | 0.84 |
| 37:BE:111:ARG:O | 37:BE:114:ARG:HB3 | 1.77 | 0.84 |
| 39:BG:191:ARG:HD3 | 39:BG:191:ARG:O | 1.78 | 0.84 |
| 43:BK:82:HIS:O | 43:BK:137:VAL:HA | 1.76 | 0.84 |
| 43:BK:100:ILE:HG22 | 43:BK:101:PRO:HD2 | 1.58 | 0.84 |
| 43:BK:126:LYS:NZ | 43:BK:127:LEU:HD23 | 1.91 | 0.84 |
| 51:BS:20:VAL:HG11 | 51:BS:32:TYR:CD2 | 2.13 | 0.84 |
| 2:AA:136:G:O6 | 2:AA:143:C:N3 | 2.11 | 0.84 |
| 2:AA:223:A:H4' | 2:AA:223:A:OP2 | 1.77 | 0.84 |
| 2:AA:265:A:N3 | 2:AA:266:G:H1' | 1.92 | 0.84 |
| 2:AA:371:A:H5" | 2:AA:423:A:C8 | 2.13 | 0.84 |
| 2:AA:397:G:OP2 | 28:A4:10:VAL:HG11 | 1.78 | 0.84 |
| 2:AA:445:C:P | 25:A1:2:PRO:HD2 | 2.18 | 0.84 |
| 2:AA:566:U:C6 | 2:AA:567:A:N7 | 2.45 | 0.84 |
| 2:AA:786:C:O2' | 2:AA:787:U:C5' | 2.25 | 0.84 |
| 2:AA:1020:A:O4' | 12:AM:49:ARG:NH2 | 2.10 | 0.84 |
| 2:AA:142(A):A:C4' | 12:AM:21:ARG:NH2 | 2.37 | 0.84 |
| 2:AA:1248:G:O2' | 2:AA:1249:U:OP1 | 1.96 | 0.84 |
| 2:AA:1270:C:H4' | 2:AA:1271:G:H5" | 0.88 | 0.84 |
| 2:AA:1286:A:N3 | 2:AA:1329:U:C4 | 2.45 | 0.84 |
| 2:AA:1301:A:H62 | 2:AA:1303:G:H1' | 1.43 | 0.84 |
| 2:AA:1913:A:C8 | 2:AA:1918:A:N1 | 2.46 | 0.84 |
| 2:AA:1992:G:C6 | 2:AA:1997:G:C4 | 2.65 | 0.84 |
| 2:AA:1992:G:N2 | 2:AA:1995:U:C5 | 2.46 | 0.84 |
| 2:AA:2058:A:H2' | 2:AA:2059:A:H8 | 1.40 | 0.84 |
| 2:AA:2346:A:C4' | 2:AA:2383:G:O4' | 2.26 | 0.84 |
| 2:AA:2346:A:H4' | 2:AA:2383:G:O4' | 1.78 | 0.84 |
| 2:AA:2802:G:H2' | 2:AA:2803:C:H6 | 1.42 | 0.84 |
| 2:AA:2810:A:H62 | 2:AA:2891:G:N2 | 1.74 | 0.84 |
| 2:AA:2865:U:C5 | 2:AA:2866:U:H5 | 1.94 | 0.84 |
| 3:AC:133:PRO:HA | 3:AC:172:HIS:NE2 | 1.92 | 0.84 |
| 4:AD:164:LEU:HD13 | 4:AD:174:ARG:HH12 | 1.43 | 0.84 |
| 5:AE:68:VAL:HG13 | 5:AE:69:PRO:HD2 | 1.59 | 0.84 |
| 5:AE:201:VAL:CG2 | 5:AE:311:PHE:HB3 | 2.07 | 0.84 |
| 10:AK:79:ILE:HD12 | 10:AK:79:ILE:N | 1.93 | 0.84 |
| 12:AM:10:VAL:CG1 | 12:AM:36:VAL:HG13 | 2.08 | 0.84 |
| 12:AM:108:PRO:HG2 | 12:AM:109:TYR:CD1 | 2.11 | 0.84 |
| 13:AN:98:ILE:HG22 | 13:AN:119:PRO:HD3 | 1.57 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 18:AS:5:ALA:HB3 | 18:AS:105:VAL:CG2 | 2.07 | 0.84 |
| 21:AV:174:PRO:O | 21:AV:175:ARG:NH1 | 2.10 | 0.84 |
| 31:A7:32:ALA:HA | 31:A7:35:ARG:HG3 | 1.58 | 0.84 |
| 34:BA:163:C:O2' | 34:BA:164:U:H5' | 1.76 | 0.84 |
| 34:BA:426:G:H2' | 34:BA:427:U:C6 | 2.13 | 0.84 |
| 34:BA:551:U:H5' | 47:BO:119:LYS:HE2 | 1.58 | 0.84 |
| 34:BA:640:A:C2' | 34:BA:641:U:H5' | 2.07 | 0.84 |
| 34:BA:828:A:C6 | 34:BA:859:A:O4' | 2.30 | 0.84 |
| 34:BA:1081:G:OP2 | 40:BH:27:ARG:HD2 | 1.77 | 0.84 |
| 34:BA:1196:U:H5' | 34:BA:1197:G:C5' | 2.07 | 0.84 |
| 34:BA:1339:A:C2' | 34:BA:1340:A:H5' | 2.07 | 0.84 |
| 35:BB:34:G:H8 | 35:BB:34:G:O5' | 1.59 | 0.84 |
| 36:B1:30:U:H2' | 36:B1:31:G:H5' | 1.60 | 0.84 |
| 39:BG:152:SER:C | 39:BG:154:ASN:H | 1.77 | 0.84 |
| 43:BK:10:LEU:HA | 43:BK:13:ILE:HD12 | 1.57 | 0.84 |
| 44:BL:118:LYS:O | 44:BL:120:ARG:N | 2.11 | 0.84 |
| 48:BP:78:ILE:HA | 48:BP:88:ARG:HH21 | 1.41 | 0.84 |
| 1:AB:24:G:O6 | 1:AB:56:G:H2' | 1.77 | 0.84 |
| 2:AA:27:G:N2 | 2:AA:512:G:H2' | 1.92 | 0.84 |
| 2:AA:388:G:H2' | 2:AA:390:A:C5 | 2.13 | 0.84 |
| 2:AA:640:C:N4 | 2:AA:647:G:N1 | 2.25 | 0.84 |
| 2:AA:929:G:N7 | 2:AA:930:U:C6 | 2.46 | 0.84 |
| 2:AA:1903:G:C2 | 2:AA:1904:G:N7 | 2.45 | 0.84 |
| 2:AA:1943:U:H1' | 2:AA:1945:G:H5' | 1.59 | 0.84 |
| 2:AA:2577:A:H2 | 29:A5:5:PRO:HB3 | 1.41 | 0.84 |
| 3:AC:171:ILE:CD1 | 3:AC:196:LEU:HD13 | 2.07 | 0.84 |
| 4:AD:62:ARG:NH2 | 4:AD:84:PRO:HD2 | 1.91 | 0.84 |
| 4:AD:85:ASN:C | 4:AD:86:ARG:HE | 1.81 | 0.84 |
| 4:AD:211:HIS:HA | 4:AD:222:PRO:HG3 | 1.57 | 0.84 |
| 6:AF:99:SER:O | 6:AF:100:LEU:HG | 1.76 | 0.84 |
| 7:AG:56:ARG:CD | 7:AG:65:GLU:HB2 | 2.07 | 0.84 |
| 8:AH:34:ARG:HG2 | 8:AH:35:THR:H | 1.41 | 0.84 |
| 8:AH:93:TYR:CG | 8:AH:106:VAL:HG22 | 2.12 | 0.84 |
| 10:AK:66:LYS:HA | 10:AK:69:LYS:HD3 | 1.59 | 0.84 |
| 10:AK:111:ASP:HB3 | 10:AK:114:LYS:HG2 | 1.57 | 0.84 |
| 24:A0:83:ILE:HG23 | 24:A0:86:ARG:HE | 1.40 | 0.84 |
| 25:A1:40:LEU:HD11 | 26:A2:83:ARG:NE | 1.92 | 0.84 |
| 31:A7:30:ILE:O | 31:A7:33:ARG:HB2 | 1.77 | 0.84 |
| 34:BA:118:U:H3' | 34:BA:288:A:N6 | 1.91 | 0.84 |
| 34:BA:255:G:H1' | 52:BT:16:GLN:HE21 | 1.43 | 0.84 |
| 34:BA:585:G:H4' | 47:BO:8:ASN:ND2 | 1.92 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:597:G:H1 | 34:BA:643:C:N4 | 1.75 | 0.84 |
| 35:BB:28:C:N4 | 35:BB:42:G:O6 | 2.10 | 0.84 |
| 35:BB:53:G:H2' | 35:BB:54:U:H6 | 1.40 | 0.84 |
| 36:B1:17:G:H22 | 36:B1:39:A:H61 | 1.23 | 0.84 |
| 37:BE:70:PHE:CE2 | 37:BE:163:PHE:HB3 | 2.11 | 0.84 |
| 39:BG:8:VAL:HG13 | 39:BG:11:LEU:CD1 | 2.08 | 0.84 |
| 40:BH:109:ILE:HG13 | 40:BH:135:THR:HG21 | 1.59 | 0.84 |
| 41:BI:3:ARG:HB2 | 41:BI:66:GLU:HB3 | 1.59 | 0.84 |
| 51:BS:74:LEU:HD22 | 51:BS:79:VAL:CG2 | 2.06 | 0.84 |
| 2:AA:300:A:O2' | 2:AA:318:C:H1' | 1.77 | 0.84 |
| 2:AA:311:A:H1' | 2:AA:332:A:C4 | 2.12 | 0.84 |
| 2:AA:388:G:O2' | 2:AA:390:A:N6 | 2.09 | 0.84 |
| 2:AA:674:G:N1 | 2:AA:807:U:O4 | 2.11 | 0.84 |
| 2:AA:789:A:O2' | 2:AA:790:C:OP1 | 1.95 | 0.84 |
| 2:AA:973:A:N1 | 26:A2:81:ARG:HG3 | 1.93 | 0.84 |
| 2:AA:990:A:C6 | 2:AA:1186:G:H1' | 2.13 | 0.84 |
| 2:AA:1814:G:H3' | 2:AA:1815:A:H8 | 1.43 | 0.84 |
| 2:AA:1816:G:C8 | 4:AD:63:ILE:HG13 | 2.11 | 0.84 |
| 2:AA:2106:G:H1 | 2:AA:2183:C:H42 | 1.25 | 0.84 |
| 2:AA:2181:G:H2' | 2:AA:2182:G:H5" | 1.56 | 0.84 |
| 2:AA:2505:G:H2' | 2:AA:2576:G:H22 | 1.39 | 0.84 |
| 2:AA:2807:G:N1 | 2:AA:2893:G:O6 | 2.10 | 0.84 |
| 3:AC:10:LEU:HD11 | 3:AC:32:LEU:HA | 1.59 | 0.84 |
| 3:AC:163:PHE:HB2 | 3:AC:171:ILE:HD11 | 1.60 | 0.84 |
| 7:AG:24:HIS:CB | 7:AG:72:LYS:HD3 | 2.08 | 0.84 |
| 7:AG:97:GLN:O | 7:AG:104:PHE:HB3 | 1.77 | 0.84 |
| 15:AP:31:PHE:HA | 15:AP:85:ILE:CD1 | 2.07 | 0.84 |
| 17:AR:21:PHE:HB2 | 17:AR:31:PHE:CD1 | 2.13 | 0.84 |
| 24:A0:33:ARG:O | 24:A0:34:ILE:HG12 | 1.78 | 0.84 |
| 26:A2:4:ILE:C | 26:A2:39:PHE:HE2 | 1.79 | 0.84 |
| 32:A8:23:MET:SD | 32:A8:47:GLY:O | 2.36 | 0.84 |
| 34:BA:22:G:H5' | 34:BA:885:G:O4' | 1.78 | 0.84 |
| 34:BA:510:A:H8 | 34:BA:510:A:O5' | 1.61 | 0.84 |
| 34:BA:624:C:H4' | 51:BS:10:GLY:O | 1.77 | 0.84 |
| 34:BA:1069:C:N4 | 34:BA:1106:G:H1 | 1.75 | 0.84 |
| 34:BA:1185:G:H2' | 34:BA:1186:G:O4' | 1.75 | 0.84 |
| 34:BA:1322:C:H4' | 34:BA:1323:G:OP1 | 1.78 | 0.84 |
| 34:BA:1378:C:OP1 | 42:BJ:7:ALA:HB3 | 1.76 | 0.84 |
| 34:BA:1497:G:H2' | 34:BA:1498:U:H6 | 1.43 | 0.84 |
| 37:BE:15:VAL:HG21 | 37:BE:209:ARG:HB3 | 1.59 | 0.84 |
| 38:BF:15:THR:HB | 38:BF:181:ASN:OD1 | 1.76 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:83:ARG:O | 38:BF:85:ARG:N | 2.11 | 0.84 |
| 47:BO:92:ASP:C | 47:BO:93:LEU:HD23 | 1.98 | 0.84 |
| 48:BP:77:ASN:CB | 48:BP:80:ARG:HH11 | 1.89 | 0.84 |
| 50:BR:27:VAL:O | 50:BR:31:LEU:HD13 | 1.78 | 0.84 |
| 2:AA:541:C:N4 | 2:AA:552:G:H1 | 1.75 | 0.84 |
| 2:AA:703:U:H3' | 2:AA:704:G:H8 | 1.43 | 0.84 |
| 2:AA:828:U:C2' | 2:AA:829:A:C8 | 2.55 | 0.84 |
| 2:AA:873:G:O3' | 15:AP:32:LYS:HG2 | 1.78 | 0.84 |
| 2:AA:953:A:C2' | 2:AA:954:G:H5' | 2.08 | 0.84 |
| 2:AA:972:G:OP1 | 2:AA:975:G:OP1 | 1.95 | 0.84 |
| 2:AA:1258:C:O2' | 2:AA:1259:G:H5' | 1.76 | 0.84 |
| 2:AA:1482:U:C1' | 2:AA:1512:G:N2 | 2.37 | 0.84 |
| 2:AA:2290:G:H1 | 2:AA:2342:C:H42 | 1.22 | 0.84 |
| 2:AA:2331:G:HO2' | 27:A3:70:ILE:HG21 | 1.39 | 0.84 |
| 2:AA:2658:C:H2' | 2:AA:2659:G:C5' | 2.07 | 0.84 |
| 7:AG:134:LEU:HD13 | 7:AG:136:ARG:NE | 1.93 | 0.84 |
| 9:AI:80:ILE:HG22 | 9:AI:81:THR:HG23 | 1.58 | 0.84 |
| 14:AO:67:ARG:CZ | 14:AO:110:GLY:O | 2.25 | 0.84 |
| 15:AP:33:MET:SD | 21:AV:175:ARG:NH1 | 2.49 | 0.84 |
| 23:AX:55:ARG:HB3 | 23:AX:55:ARG:HH11 | 1.43 | 0.84 |
| 24:A0:90:ARG:HH22 | 24:A0:117:VAL:CG2 | 1.91 | 0.84 |
| 25:A1:65:ILE:CD1 | 25:A1:96:ALA:HB2 | 2.07 | 0.84 |
| 25:A1:93:LYS:HB2 | 26:A2:10:LYS:HZ3 | 1.42 | 0.84 |
| 26:A2:4:ILE:HA | 26:A2:12:TYR:HE2 | 1.41 | 0.84 |
| 27:A3:46:LYS:HG2 | 27:A3:58:THR:N | 1.93 | 0.84 |
| 34:BA:5:U:O2' | 34:BA:6:G:OP2 | 1.94 | 0.84 |
| 34:BA:708:C:H4' | 46:BN:37:GLY:HA3 | 1.59 | 0.84 |
| 34:BA:1403:C:H1' | 34:BA:1500:A:N6 | 1.93 | 0.84 |
| 42:BJ:83:ALA:HB3 | 42:BJ:85:TYR:CE2 | 2.13 | 0.84 |
| 42:BJ:150:ALA:HB2 | 46:BN:59:TYR:HD2 | 1.42 | 0.84 |
| 43:BK:83:ILE:HA | 43:BK:137:VAL:HG22 | 1.58 | 0.84 |
| 49:BQ:26:ARG:HD3 | 49:BQ:43:CYS:CB | 2.07 | 0.84 |
| 53:BU:62:GLU:O | 53:BU:66:LEU:HG | 1.78 | 0.84 |
| 54:BV:46:GLY:H | 54:BV:62:ILE:CG2 | 1.90 | 0.84 |
| 1:AB:57:A:H1' | 7:AG:13:MET:CE | 2.07 | 0.84 |
| 1:AB:71:C:H2' | 1:AB:72:G:O4' | 1.76 | 0.84 |
| 2:AA:230:U:H2' | 2:AA:231:C:H6 | 1.43 | 0.84 |
| 2:AA:270:A:H2' | 2:AA:270(A):A:H4' | 1.56 | 0.84 |
| 2:AA:954:G:OP1 | 15:AP:10:ILE:HA | 1.77 | 0.84 |
| 2:AA:1055:G:N3 | 9:AI:28:LYS:HD3 | 1.92 | 0.84 |
| 2:AA:1300:U:H4' | 2:AA:1301:A:O5' | 1.76 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1570:A:C2 | 2:AA:1571:A:N7 | 2.45 | 0.84 |
| 2:AA:1749:A:O2' | 2:AA:1750:G:H5' | 1.78 | 0.84 |
| 2:AA:1980:G:O2' | 2:AA:1981:A:OP1 | 1.96 | 0.84 |
| 2:AA:2124:G:H3' | 2:AA:2124:G:C8 | 2.13 | 0.84 |
| 2:AA:2233:U:O2' | 2:AA:2234:G:H5' | 1.78 | 0.84 |
| 4:AD:62:ARG:HH22 | 4:AD:84:PRO:CD | 1.90 | 0.84 |
| 4:AD:185:GLY:O | 4:AD:187:CYS:N | 2.10 | 0.84 |
| 5:AE:214:VAL:HG11 | 5:AE:221:LYS:HZ2 | 1.40 | 0.84 |
| 6:AF:5:ILE:HA | 6:AF:139:VAL:HG11 | 1.60 | 0.84 |
| 9:AI:119:GLU:HA | 9:AI:123:ALA:O | 1.76 | 0.84 |
| 9:AJ:13:LEU:HA | 9:AJ:17:GLU:OE1 | 1.78 | 0.84 |
| 10:AK:96:LYS:HG2 | 10:AK:100:GLU:OE2 | 1.78 | 0.84 |
| 10:AK:103:GLN:HE21 | 10:AK:110:LEU:H | 1.26 | 0.84 |
| 12:AM:84:ARG:HA | 12:AM:87:LEU:CD1 | 2.08 | 0.84 |
| 15:AP:98:GLY:O | 35:BC:1:G:O2' | 1.96 | 0.84 |
| 16:AQ:111:PRO:HA | 16:AQ:116:PHE:CD1 | 2.13 | 0.84 |
| 17:AR:6:CYS:SG | 17:AR:31:PHE:HD2 | 2.01 | 0.84 |
| 20:AU:71:VAL:HG13 | 20:AU:72:ILE:H | 1.42 | 0.84 |
| 30:A6:29:ARG:HG2 | 30:A6:30:ASN:N | 1.93 | 0.84 |
| 34:BA:170:U:O2' | 34:BA:171:A:H5' | 1.78 | 0.84 |
| 34:BA:195:A:H8 | 34:BA:195:A:H5' | 1.43 | 0.84 |
| 34:BA:580:U:H2' | 34:BA:581:G:C8 | 2.13 | 0.84 |
| 34:BA:658:G:O2' | 34:BA:659:U:H5' | 1.77 | 0.84 |
| 34:BA:859:A:H2' | 34:BA:860:A:O4' | 1.78 | 0.84 |
| 34:BA:922:G:H1 | 34:BA:1395:C:N4 | 1.75 | 0.84 |
| 37:BE:186:ALA:O | 37:BE:201:ILE:HB | 1.77 | 0.84 |
| 42:BJ:68:ASN:ND2 | 42:BJ:128:ALA:CA | 2.39 | 0.84 |
| 48:BP:48:LEU:HD13 | 48:BP:53:VAL:HG22 | 1.60 | 0.84 |
| 2:AA:240:G:C6 | 2:AA:241:A:N6 | 2.45 | 0.83 |
| 2:AA:391:G:H2' | 2:AA:392:C:H6 | 1.42 | 0.83 |
| 2:AA:515:A:H3' | 2:AA:516:C:H6 | 1.43 | 0.83 |
| 2:AA:600:G:H5" | 6:AF:27:ARG:HH11 | 1.41 | 0.83 |
| 2:AA:612:G:O2' | 2:AA:615:G:H2' | 1.78 | 0.83 |
| 2:AA:1061:U:C5' | 2:AA:1070:A:H4' | 2.08 | 0.83 |
| 2:AA:1227:A:H8 | 2:AA:1228:G:H5" | 1.40 | 0.83 |
| 2:AA:1239:G:HO2' | 2:AA:1240:U:H6 | 0.87 | 0.83 |
| 2:AA:1361:G:H2' | 2:AA:1362:C:C6 | 2.13 | 0.83 |
| 2:AA:1495:A:H2' | 2:AA:1496:A:C8 | 2.12 | 0.83 |
| 2:AA:2815:C:O2' | 2:AA:2816:C:H5' | 1.78 | 0.83 |
| 3:AC:56:GLN:HA | 3:AC:201:PRO:CB | 2.08 | 0.83 |
| 4:AD:154:VAL:HG22 | 4:AD:157:ALA:CB | 2.06 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:174:ARG:HE | 4:AD:180:VAL:CG2 | 1.91 | 0.83 |
| 8:AH:34:ARG:NH2 | 8:AH:74:MET:HA | 1.93 | 0.83 |
| 8:AH:159:LYS:O | 8:AH:162:ARG:NH2 | 2.10 | 0.83 |
| 15:AP:41:THR:O | 21:AV:116:VAL:HG11 | 1.78 | 0.83 |
| 19:AT:32:ALA:CB | 19:AT:37:VAL:HG23 | 2.08 | 0.83 |
| 21:AV:86:VAL:HG11 | 21:AV:91:PRO:HG3 | 1.60 | 0.83 |
| 24:A0:51:LEU:CD2 | 24:A0:66:VAL:HG13 | 2.07 | 0.83 |
| 25:A1:13:ARG:NH1 | 25:A1:13:ARG:N | 2.19 | 0.83 |
| 34:BA:125:U:H2' | 34:BA:126:G:C8 | 2.13 | 0.83 |
| 34:BA:563:A:N3 | 47:BO:15:ARG:NH1 | 2.25 | 0.83 |
| 34:BA:657:G:N2 | 34:BA:750:G:C8 | 2.46 | 0.83 |
| 37:BE:222:ILE:HD12 | 37:BE:226:ARG:HH21 | 1.42 | 0.83 |
| 40:BH:77:PRO:HG2 | 40:BH:78:HIS:HD2 | 1.43 | 0.83 |
| 43:BK:18:ARG:HA | 43:BK:18:ARG:NH1 | 1.92 | 0.83 |
| 47:BO:113:ARG:C | 47:BO:114:LYS:HG3 | 1.97 | 0.83 |
| 1:AB:97:G:C5 | 1:AB:98:G:N7 | 2.46 | 0.83 |
| 2:AA:112:U:H5' | 2:AA:112:U:C6 | 2.12 | 0.83 |
| 2:AA:145:G:O2' | 2:AA:146:G:H5' | 1.77 | 0.83 |
| 2:AA:343:C:N4 | 2:AA:344:G:N1 | 2.08 | 0.83 |
| 2:AA:955:C:C2' | 2:AA:956:G:H5' | 2.07 | 0.83 |
| 2:AA:1526:G:H22 | 2:AA:1546:C:N4 | 1.75 | 0.83 |
| 2:AA:1583:A:OP1 | 2:AA:1586:A:OP1 | 1.95 | 0.83 |
| 2:AA:1805:U:H6 | 2:AA:1805:U:OP2 | 1.61 | 0.83 |
| 2:AA:1956:U:O2 | 2:AA:1956:U:C2' | 2.26 | 0.83 |
| 2:AA:2380:C:H2' | 2:AA:2381:C:H5' | 1.60 | 0.83 |
| 3:AC:116:THR:HG22 | 3:AC:149:ILE:HB | 1.59 | 0.83 |
| 4:AD:145:LEU:H | 4:AD:152:GLN:CB | 1.91 | 0.83 |
| 5:AE:76:PRO:HB3 | 5:AE:292:PRO:HG2 | 1.60 | 0.83 |
| 5:AE:267:ARG:HB2 | 5:AE:297:LYS:HD2 | 1.59 | 0.83 |
| 15:AP:12:PRO:HG2 | 15:AP:91:HIS:HB2 | 1.59 | 0.83 |
| 15:AP:58:HIS:O | 15:AP:62:GLU:HG3 | 1.77 | 0.83 |
| 15:AP:101:MET:O | 15:AP:101:MET:SD | 2.36 | 0.83 |
| 18:AS:29:LEU:HD12 | 18:AS:33:ARG:HD2 | 1.58 | 0.83 |
| 21:AV:21:ALA:HB2 | 21:AV:81:VAL:HB | 1.58 | 0.83 |
| 25:A1:42:ALA:O | 25:A1:46:GLU:HG3 | 1.78 | 0.83 |
| 26:A2:63:HIS:HA | 26:A2:95:ILE:HG23 | 1.58 | 0.83 |
| 32:A8:14:ILE:HG22 | 32:A8:14:ILE:O | 1.78 | 0.83 |
| 34:BA:225:C:H2' | 34:BA:226:G:C5' | 2.08 | 0.83 |
| 35:BB:32:C:C4 | 35:BB:33:U:C4 | 2.66 | 0.83 |
| 43:BK:103:VAL:HB | 43:BK:108:GLY:CA | 2.08 | 0.83 |
| 47:BO:28:LYS:CE | 47:BO:33:ARG:HH12 | 1.90 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 49:BQ:9:LYS:HA | 49:BQ:21:TYR:HE1 | 1.43 | 0.83 |
| 1:AB:12:C:N4 | 27:A3:50:GLY:H | 1.74 | 0.83 |
| 2:AA:54:G:H1 | 2:AA:116:C:H42 | 0.86 | 0.83 |
| 2:AA:90:U:O2' | 2:AA:91:A:H5" | 1.79 | 0.83 |
| 2:AA:347:A:H3' | 2:AA:347:A:H8 | 1.41 | 0.83 |
| 2:AA:458:G:OP1 | 31:A7:39:ARG:CZ | 2.26 | 0.83 |
| 2:AA:559:G:C2' | 2:AA:560:C:H6 | 1.88 | 0.83 |
| 2:AA:903:C:H2' | 2:AA:904:C:H6 | 1.42 | 0.83 |
| 2:AA:1210:A:H5' | 2:AA:1211:U:H3' | 1.60 | 0.83 |
| 2:AA:1353:A:N6 | 2:AA:1378:A:C6 | 2.46 | 0.83 |
| 2:AA:1458:C:H4' | 2:AA:1459:G:C4 | 2.13 | 0.83 |
| 2:AA:1471:A:N3 | 2:AA:1472:A:H1' | 1.92 | 0.83 |
| 2:AA:1536:A:C8 | 2:AA:1538:G:O4' | 2.31 | 0.83 |
| 2:AA:1685:C:H2' | 2:AA:1686:C:C6 | 2.12 | 0.83 |
| 2:AA:1772:G:H2' | 2:AA:1773:A:C4' | 2.06 | 0.83 |
| 2:AA:1796:U:O2 | 2:AA:1823:G:N2 | 2.10 | 0.83 |
| 2:AA:1840:G:O2' | 2:AA:1841:U:H5' | 1.78 | 0.83 |
| 2:AA:2100:G:H1' | 2:AA:2190:G:N2 | 1.93 | 0.83 |
| 2:AA:2209:C:H4' | 4:AD:149:ARG:HH21 | 1.42 | 0.83 |
| 2:AA:2565:A:H2' | 2:AA:2566:A:H1' | 1.59 | 0.83 |
| 4:AD:90:ILE:HG13 | 4:AD:105:ALA:N | 1.94 | 0.83 |
| 5:AE:70:VAL:HG22 | 5:AE:297:LYS:HA | 1.57 | 0.83 |
| 5:AE:219:VAL:HG11 | 5:AE:235:ILE:HD11 | 1.60 | 0.83 |
| 8:AH:28:PRO:C | 8:AH:30:GLY:H | 1.77 | 0.83 |
| 17:AR:23:HIS:CE1 | 17:AR:27:ALA:CB | 2.56 | 0.83 |
| 20:AU:43:ASN:HD21 | 20:AU:112:LEU:HD21 | 1.41 | 0.83 |
| 20:AU:87:VAL:HG13 | 20:AU:88:PRO:CD | 2.08 | 0.83 |
| 21:AV:104:SER:HB2 | 21:AV:108:VAL:HB | 1.60 | 0.83 |
| 23:AX:8:LEU:HD23 | 23:AX:31:LEU:HA | 1.58 | 0.83 |
| 32:A8:26:LYS:HD2 | 32:A8:44:LYS:HA | 1.59 | 0.83 |
| 34:BA:247:G:OP2 | 52:BT:99:SER:CA | 2.27 | 0.83 |
| 34:BA:277:C:OP1 | 52:BT:41:LYS:HD2 | 1.78 | 0.83 |
| 34:BA:559:A:C4' | 34:BA:560:U:H5" | 2.07 | 0.83 |
| 34:BA:575:G:OP1 | 34:BA:575:G:H4' | 1.78 | 0.83 |
| 34:BA:944:G:N2 | 34:BA:1339:A:H62 | 1.76 | 0.83 |
| 34:BA:1436:U:H2' | 34:BA:1437:C:O4' | 1.77 | 0.83 |
| 35:BC:69:U:H2' | 35:BC:70:C:C6 | 2.13 | 0.83 |
| 37:BE:97:TRP:CH2 | 37:BE:176:GLU:HG3 | 2.13 | 0.83 |
| 38:BF:47:LEU:HD11 | 38:BF:83:ARG:HH21 | 1.42 | 0.83 |
| 38:BF:138:VAL:HG22 | 38:BF:151:VAL:HG23 | 1.59 | 0.83 |
| 40:BH:141:GLN:HA | 40:BH:143:ARG:NH2 | 1.91 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:5:ARG:O | 42:BJ:6:ARG:HB2 | 1.79 | 0.83 |
| 42:BJ:20:ASP:OD1 | 42:BJ:22:LEU:HB3 | 1.78 | 0.83 |
| 48:BP:60:VAL:HA | 48:BP:63:THR:CG2 | 2.07 | 0.83 |
| 48:BP:110:ARG:HB2 | 48:BP:110:ARG:NH1 | 1.92 | 0.83 |
| 52:BT:62:SER:HB3 | 52:BT:72:ARG:NE | 1.91 | 0.83 |
| 54:BV:18:LYS:HE3 | 54:BV:18:LYS:HA | 1.58 | 0.83 |
| 55:BW:49:ALA:HB3 | 55:BW:99:LEU:HG | 1.58 | 0.83 |
| 55:BW:72:LEU:HD13 | 55:BW:77:ALA:CB | 2.08 | 0.83 |
| 2:AA:23:G:C2' | 2:AA:24:G:H5' | 2.08 | 0.83 |
| 2:AA:241:A:H1' | 2:AA:243:U:C6 | 2.12 | 0.83 |
| 2:AA:270(N):G:H2' | 2:AA:270(O):U:H5' | 1.60 | 0.83 |
| 2:AA:401:A:N6 | 2:AA:423:A:N1 | 2.27 | 0.83 |
| 2:AA:503:A:N3 | 2:AA:505:A:N7 | 2.26 | 0.83 |
| 2:AA:1351:C:H2' | 2:AA:1352:U:C6 | 2.13 | 0.83 |
| 2:AA:1453:A:C5 | 2:AA:1454:U:H1' | 2.14 | 0.83 |
| 2:AA:1717:G:N2 | 2:AA:1718:G:H1' | 1.93 | 0.83 |
| 2:AA:1742:C:H2' | 2:AA:1743:G:O4' | 1.78 | 0.83 |
| 2:AA:1752:C:H42 | 2:AA:1756:G:H1 | 0.85 | 0.83 |
| 2:AA:1754:C:H2' | 2:AA:1755:A:H1' | 1.59 | 0.83 |
| 2:AA:2078:C:C5' | 2:AA:2434:A:H5' | 2.08 | 0.83 |
| 2:AA:2423:U:H6 | 2:AA:2425:A:C5 | 1.96 | 0.83 |
| 2:AA:2725:A:H2' | 2:AA:2726:U:H3' | 1.59 | 0.83 |
| 4:AD:119:PRO:O | 4:AD:129:LEU:HD21 | 1.78 | 0.83 |
| 7:AG:71:ALA:O | 7:AG:72:LYS:HD3 | 1.77 | 0.83 |
| 16:AQ:23:ARG:HH21 | 16:AQ:35:VAL:HG21 | 1.43 | 0.83 |
| 16:AQ:47:LEU:N | 16:AQ:57:THR:HG22 | 1.92 | 0.83 |
| 16:AQ:61:ALA:HB1 | 16:AQ:84:THR:HG22 | 1.59 | 0.83 |
| 25:A1:73:GLY:O | 25:A1:74:MET:HG2 | 1.78 | 0.83 |
| 34:BA:360:A:O2' | 34:BA:361:G:H5' | 1.78 | 0.83 |
| 34:BA:984:C:H42 | 34:BA:1221:G:H1 | 1.23 | 0.83 |
| 34:BA:1284:C:H2' | 34:BA:1285:A:C8 | 2.14 | 0.83 |
| 35:BB:28:C:C2 | 35:BB:29:A:C8 | 2.66 | 0.83 |
| 35:BC:44:A:H61 | 35:BC:45:G:N2 | 1.75 | 0.83 |
| 37:BE:73:THR:HA | 37:BE:94:ASN:O | 1.77 | 0.83 |
| 37:BE:212:GLN:OE1 | 37:BE:216:SER:HB2 | 1.79 | 0.83 |
| 38:BF:53:ALA:HB2 | 38:BF:115:LEU:HD21 | 1.59 | 0.83 |
| 46:BN:27:ASN:HB2 | 46:BN:55:LYS:HE3 | 1.59 | 0.83 |
| 50:BR:9:GLN:OE1 | 50:BR:12:ILE:HD12 | 1.77 | 0.83 |
| 52:BT:53:LEU:HD12 | 52:BT:54:GLY:H | 1.44 | 0.83 |
| 52:BT:81:ARG:HG2 | 52:BT:84:LEU:CD1 | 2.08 | 0.83 |
| 1:AB:12:C:H5 | 27:A3:53:MET:HA | 1.36 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:113:G:H5' | 2:AA:114:U:OP1 | 1.77 | 0.83 |
| 2:AA:2356:C:OP1 | 27:A3:19:LYS:HD2 | 1.79 | 0.83 |
| 2:AA:2484:G:C2' | 2:AA:2485:G:H5' | 2.07 | 0.83 |
| 4:AD:122:ASP:C | 4:AD:124:LYS:H | 1.77 | 0.83 |
| 5:AE:240:PRO:HG2 | 5:AE:243:PRO:HG3 | 1.60 | 0.83 |
| 6:AF:219:ASN:O | 6:AF:222:ASP:HB2 | 1.77 | 0.83 |
| 8:AH:41:THR:O | 8:AH:52:THR:OG1 | 1.93 | 0.83 |
| 10:AK:39:ALA:CB | 10:AK:44:LEU:HD21 | 2.08 | 0.83 |
| 12:AM:52:GLN:HA | 12:AM:55:GLU:CG | 2.08 | 0.83 |
| 15:AP:26:LYS:HZ3 | 15:AP:90:PHE:HE1 | 1.20 | 0.83 |
| 15:AP:88:PHE:HB2 | 15:AP:90:PHE:HE1 | 1.44 | 0.83 |
| 18:AS:50:VAL:HG21 | 18:AS:103:ILE:HD13 | 1.60 | 0.83 |
| 20:AU:43:ASN:ND2 | 20:AU:112:LEU:HD21 | 1.94 | 0.83 |
| 24:A0:41:ALA:HB1 | 24:A0:114:VAL:HG21 | 1.57 | 0.83 |
| 24:A0:50:HIS:O | 24:A0:54:LEU:HD13 | 1.79 | 0.83 |
| 25:A1:8:ILE:HD12 | 25:A1:8:ILE:N | 1.92 | 0.83 |
| 25:A1:65:ILE:HD13 | 25:A1:96:ALA:HB2 | 1.60 | 0.83 |
| 25:A1:82:GLY:O | 25:A1:85:ARG:HB2 | 1.78 | 0.83 |
| 34:BA:70:G:N2 | 34:BA:98:U:O2 | 2.11 | 0.83 |
| 34:BA:229:U:H2' | 34:BA:230:G:H8 | 1.44 | 0.83 |
| 34:BA:597:G:N2 | 34:BA:643:C:N3 | 2.26 | 0.83 |
| 34:BA:610:G:H2' | 34:BA:611:A:H5' | 1.58 | 0.83 |
| 34:BA:30(C):G:O2' | 34:BA:30(D):A:H5' | 1.78 | 0.83 |
| 35:BB:74:C:H2' | 35:BB:75:C:O5' | 1.78 | 0.83 |
| 41:BI:39:LYS:HG3 | 41:BI:64:GLN:HB3 | 1.61 | 0.83 |
| 45:BM:54:PHE:CZ | 45:BM:55:LYS:HE3 | 2.13 | 0.83 |
| 54:BV:11:VAL:HG13 | 54:BV:38:SER:OG | 1.77 | 0.83 |
| 56:BX:12:LYS:HG3 | 56:BX:18:TYR:HB3 | 1.60 | 0.83 |
| 2:AA:218:A:C6 | 2:AA:235:U:H4' | 2.13 | 0.83 |
| 2:AA:557:U:C4' | 12:AM:92:GLN:NE2 | 2.35 | 0.83 |
| 2:AA:638:G:O2' | 2:AA:639:U:H5' | 1.79 | 0.83 |
| 2:AA:686:G:H5' | 2:AA:687:C:OP2 | 1.79 | 0.83 |
| 2:AA:1025:G:H8 | 2:AA:1134:G:C1' | 1.91 | 0.83 |
| 2:AA:1041:C:N3 | 2:AA:1114:G:N2 | 2.26 | 0.83 |
| 2:AA:1063:G:O6 | 2:AA:1069:A:O3' | 1.96 | 0.83 |
| 2:AA:1166:C:H2' | 2:AA:1167:U:C6 | 2.13 | 0.83 |
| 2:AA:1179:C:O2' | 2:AA:1180:C:O5' | 1.95 | 0.83 |
| 2:AA:1322:A:C2' | 2:AA:1323:U:H5' | 2.09 | 0.83 |
| 2:AA:1405:U:H2' | 2:AA:1406:U:C6 | 2.12 | 0.83 |
| 2:AA:1782:C:N4 | 2:AA:2587:A:N6 | 2.25 | 0.83 |
| 2:AA:1809:A:C2' | 2:AA:1810:A:H5' | 2.08 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1859:A:H2' | 2:AA:1860:G:H5' | 1.59 | 0.83 |
| 2:AA:2471:C:H42 | 2:AA:2479:G:H1 | 0.83 | 0.83 |
| 2:AA:2509:G:C2' | 2:AA:2510:C:H5' | 2.09 | 0.83 |
| 3:AC:43:VAL:HG23 | 3:AC:175:VAL:CG2 | 2.08 | 0.83 |
| 3:AC:104:LEU:CB | 3:AC:126:LYS:HE3 | 2.07 | 0.83 |
| 4:AD:142:ASN:CB | 4:AD:190:THR:HG23 | 2.08 | 0.83 |
| 4:AD:194:VAL:HG23 | 4:AD:195:GLY:N | 1.92 | 0.83 |
| 4:AD:196:ASN:HB2 | 4:AD:199:ARG:HB2 | 1.60 | 0.83 |
| 5:AE:80:ALA:HB2 | 5:AE:181:VAL:HA | 1.58 | 0.83 |
| 6:AF:168:ARG:CZ | 6:AF:209:GLY:HA2 | 2.08 | 0.83 |
| 15:AP:142:LYS:HE3 | 15:AP:143:VAL:HA | 1.61 | 0.83 |
| 26:A2:35:LEU:HB2 | 26:A2:63:HIS:CE1 | 2.12 | 0.83 |
| 33:A9:25:VAL:HB | 33:A9:34:GLN:HB2 | 1.60 | 0.83 |
| 34:BA:130:A:H2 | 34:BA:263:A:H2 | 1.25 | 0.83 |
| 34:BA:559:A:OP2 | 40:BH:126:ARG:NH2 | 2.12 | 0.83 |
| 34:BA:950:U:C2' | 34:BA:951:G:H5' | 2.09 | 0.83 |
| 34:BA:1312:G:O2' | 34:BA:1313:U:H5' | 1.78 | 0.83 |
| 34:BA:1493:A:C8 | 34:BA:1493:A:OP2 | 2.31 | 0.83 |
| 35:BB:1:G:O6 | 35:BB:73:A:N6 | 2.10 | 0.83 |
| 37:BE:102:LEU:HD21 | 37:BE:173:ALA:HB1 | 1.59 | 0.83 |
| 39:BG:43:HIS:HB3 | 39:BG:46:LYS:HG3 | 1.60 | 0.83 |
| 49:BQ:12:ARG:O | 49:BQ:14:PRO:N | 2.11 | 0.83 |
| 50:BR:36:ILE:HG13 | 50:BR:59:MET:SD | 2.18 | 0.83 |
| 50:BR:39:LEU:HD22 | 50:BR:56:LEU:HD13 | 1.61 | 0.83 |
| 51:BS:13:HIS:O | 51:BS:15:PRO:HD3 | 1.77 | 0.83 |
| 53:BU:43:PHE:O | 53:BU:51:LEU:HD13 | 1.78 | 0.83 |
| 54:BV:40:ILE:HB | 54:BV:67:VAL:O | 1.79 | 0.83 |
| 55:BW:50:GLU:HB2 | 55:BW:99:LEU:CD1 | 2.08 | 0.83 |
| 55:BW:51:GLU:HA | 55:BW:54:LYS:HG3 | 1.59 | 0.83 |
| 1:AB:44:G:H5" | 1:AB:45:A:OP1 | 1.79 | 0.83 |
| 1:AB:44:G:N2 | 1:AB:48:A:H1' | 1.93 | 0.83 |
| 2:AA:365:C:N4 | 2:AA:366:C:H41 | 1.77 | 0.83 |
| 2:AA:412:A:H2' | 2:AA:413:C:O4' | 1.78 | 0.83 |
| 2:AA:666:G:H2' | 2:AA:667:U:H6 | 1.44 | 0.83 |
| 2:AA:1214:A:H2' | 2:AA:1215:G:C8 | 2.14 | 0.83 |
| 2:AA:1281:G:H2' | 2:AA:1282:U:C6 | 2.14 | 0.83 |
| 2:AA:1379:A:N3 | 2:AA:1379:A:C3' | 2.42 | 0.83 |
| 2:AA:1819:A:H1' | 2:AA:1821:A:C6 | 2.14 | 0.83 |
| 2:AA:2136:C:N4 | 2:AA:2155:G:C5 | 2.45 | 0.83 |
| 2:AA:2561:A:O2' | 13:AN:40:VAL:HG11 | 1.78 | 0.83 |
| 2:AA:2619:C:H4' | 5:AE:247:ARG:O | 1.77 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2794:C:N3 | 2:AA:2802:G:N2 | 2.25 | 0.83 |
| 7:AG:36:ASN:O | 7:AG:39:ASP:HB2 | 1.79 | 0.83 |
| 9:AJ:80:ILE:HG22 | 9:AJ:81:THR:HG23 | 1.60 | 0.83 |
| 11:AL:28:LEU:HD13 | 11:AL:33:VAL:HG21 | 1.61 | 0.83 |
| 12:AM:23:ALA:HA | 12:AM:26:VAL:HG21 | 1.61 | 0.83 |
| 14:AO:73:VAL:HG22 | 14:AO:76:LEU:CD2 | 2.08 | 0.83 |
| 20:AU:27:LEU:HD13 | 20:AU:31:LEU:HD12 | 1.59 | 0.83 |
| 21:AV:70:GLN:C | 21:AV:72:ASP:H | 1.80 | 0.83 |
| 21:AV:173:PRO:HB3 | 21:AV:177:THR:HG23 | 1.58 | 0.83 |
| 22:AW:39:ALA:HB3 | 22:AW:40:PRO:CD | 2.07 | 0.83 |
| 25:A1:49:ASP:HA | 25:A1:52:ASN:ND2 | 1.93 | 0.83 |
| 34:BA:675:A:H1' | 46:BN:116:HIS:CG | 2.14 | 0.83 |
| 34:BA:748:C:O5' | 34:BA:748:C:C6 | 2.31 | 0.83 |
| 34:BA:825:G:H1 | 34:BA:875:C:N4 | 1.76 | 0.83 |
| 34:BA:988:G:N1 | 34:BA:1217:C:O2 | 2.10 | 0.83 |
| 39:BG:102:ASP:CB | 39:BG:121:VAL:HG21 | 2.09 | 0.83 |
| 40:BH:42:GLY:HA3 | 40:BH:66:MET:SD | 2.19 | 0.83 |
| 43:BK:22:GLU:HA | 43:BK:63:LEU:HD21 | 1.60 | 0.83 |
| 46:BN:67:ASP:HA | 46:BN:70:LYS:CD | 2.08 | 0.83 |
| 46:BN:85:ARG:HH21 | 46:BN:111:ASP:CG | 1.81 | 0.83 |
| 46:BN:111:ASP:O | 46:BN:113:PRO:N | 2.12 | 0.83 |
| 2:AA:324:A:C2 | 2:AA:325:G:C4 | 2.67 | 0.83 |
| 2:AA:462:C:H2' | 2:AA:463:G:H5' | 1.60 | 0.83 |
| 2:AA:815:C:O2' | 2:AA:816:C:H5' | 1.79 | 0.83 |
| 2:AA:826:U:H5" | 2:AA:2429:G:P | 2.19 | 0.83 |
| 2:AA:857:C:H42 | 2:AA:920:G:H1 | 0.91 | 0.83 |
| 2:AA:1081:U:OP1 | 11:AL:126:LYS:HD3 | 1.77 | 0.83 |
| 2:AA:1152:C:O2' | 2:AA:1153:C:H5' | 1.77 | 0.83 |
| 2:AA:1343:G:O6 | 2:AA:1404:C:N4 | 2.11 | 0.83 |
| 2:AA:1559:G:N3 | 2:AA:1559:G:C2' | 2.42 | 0.83 |
| 2:AA:1770:G:H2' | 2:AA:1771:C:H6 | 1.44 | 0.83 |
| 2:AA:2009:G:H1' | 24:A0:107:ASP:O | 1.79 | 0.83 |
| 2:AA:2174:C:O2' | 3:AC:218:MET:HA | 1.78 | 0.83 |
| 2:AA:2212:A:H2' | 2:AA:2212:A:N3 | 1.94 | 0.83 |
| 2:AA:2305:A:C3' | 2:AA:2306:C:H5" | 2.09 | 0.83 |
| 3:AC:84:LYS:O | 3:AC:87:GLU:HB2 | 1.78 | 0.83 |
| 5:AE:315:VAL:HG12 | 5:AE:316:ARG:H | 1.41 | 0.83 |
| 6:AF:238:SER:O | 6:AF:241:ALA:CB | 2.26 | 0.83 |
| 9:AJ:10:ILE:HA | 9:AJ:13:LEU:HD12 | 1.59 | 0.83 |
| 10:AK:115:ILE:HG22 | 10:AK:116:GLU:H | 1.42 | 0.83 |
| 11:AL:124:ALA:CA | 11:AL:127:ILE:HD12 | 2.07 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:62:ASP:O | 12:AM:64:GLY:N | 2.11 | 0.83 |
| 13:AN:87:ILE:HG23 | 13:AN:92:SER:N | 1.93 | 0.83 |
| 14:AO:113:GLN:HB2 | 14:AO:115:ARG:NH1 | 1.93 | 0.83 |
| 16:AQ:17:ARG:CZ | 16:AQ:106:LEU:HD22 | 2.09 | 0.83 |
| 16:AQ:19:ASP:O | 16:AQ:22:GLN:CD | 2.16 | 0.83 |
| 31:A7:31:LEU:O | 31:A7:35:ARG:HG3 | 1.78 | 0.83 |
| 34:BA:379:C:H42 | 34:BA:384:G:H1 | 1.27 | 0.83 |
| 34:BA:575:G:N2 | 34:BA:880:C:O2 | 2.12 | 0.83 |
| 34:BA:775:G:H2' | 34:BA:776:G:H8 | 1.41 | 0.83 |
| 34:BA:1113:C:O5' | 34:BA:1113:C:H6 | 1.61 | 0.83 |
| 34:BA:1493:A:OP2 | 34:BA:1493:A:H8 | 1.62 | 0.83 |
| 35:BB:47:U:H5 | 35:BB:49:C:H5" | 1.32 | 0.83 |
| 39:BG:117:ALA:O | 39:BG:121:VAL:HG23 | 1.78 | 0.83 |
| 39:BG:180:GLY:O | 39:BG:182:LYS:HG2 | 1.79 | 0.83 |
| 41:BI:49:ALA:HB1 | 53:BU:80:PRO:CD | 2.06 | 0.83 |
| 43:BK:115:SER:C | 43:BK:116:LYS:HD2 | 1.98 | 0.83 |
| 48:BP:91:ARG:HB3 | 48:BP:98:VAL:CG2 | 2.09 | 0.83 |
| 52:BT:25:ARG:HH21 | 52:BT:40:LYS:CD | 1.90 | 0.83 |
| 53:BU:74:ARG:HG2 | 53:BU:81:PHE:HB3 | 1.61 | 0.83 |
| 2:AA:297:C:H2' | 2:AA:298:G:O4' | 1.78 | 0.83 |
| 2:AA:602:G:N2 | 2:AA:655:A:H2' | 1.94 | 0.83 |
| 2:AA:710:G:H1 | 2:AA:721:C:H42 | 1.23 | 0.83 |
| 2:AA:751:A:N1 | 2:AA:789:A:C6 | 2.47 | 0.83 |
| 2:AA:1376:C:H2' | 2:AA:1377:G:C8 | 2.14 | 0.83 |
| 4:AD:152:GLN:O | 4:AD:153:LEU:HB2 | 1.77 | 0.83 |
| 6:AF:1:MET:HG2 | 6:AF:18:LEU:HD12 | 1.61 | 0.83 |
| 8:AH:155:PRO:HB2 | 8:AH:169:ARG:HG3 | 1.60 | 0.83 |
| 10:AK:28:ASN:O | 10:AK:32:LYS:HB2 | 1.79 | 0.83 |
| 14:AO:71:GLU:HA | 14:AO:74:THR:HG23 | 1.61 | 0.83 |
| 14:AO:77:ALA:HA | 14:AO:81:VAL:CB | 2.09 | 0.83 |
| 18:AS:3:ALA:HB2 | 18:AS:62:HIS:ND1 | 1.93 | 0.83 |
| 22:AW:55:ARG:H | 22:AW:55:ARG:CD | 1.91 | 0.83 |
| 24:A0:20:LEU:CD2 | 24:A0:24:GLN:HG3 | 2.08 | 0.83 |
| 24:A0:37:THR:HG23 | 24:A0:40:LYS:HD2 | 1.61 | 0.83 |
| 25:A1:93:LYS:CB | 26:A2:10:LYS:HZ3 | 1.92 | 0.83 |
| 34:BA:280:C:C5' | 34:BA:281:G:OP2 | 2.25 | 0.83 |
| 34:BA:392:G:H5' | 51:BS:12:LYS:CE | 2.08 | 0.83 |
| 34:BA:1395:C:O2 | 34:BA:1395:C:H2' | 1.79 | 0.83 |
| 34:BA:1501:C:H2' | 34:BA:1504:G:O6 | 1.77 | 0.83 |
| 35:BB:34:G:C2 | 36:B1:66:G:C5 | 2.66 | 0.83 |
| 35:BB:54:U:C6 | 35:BB:54:U:C4' | 2.62 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:67:THR:HG21 | 37:BE:155:LEU:HD11 | 1.59 | 0.83 |
| 38:BF:20:SER:CB | 38:BF:40:ARG:HH22 | 1.91 | 0.83 |
| 40:BH:75:THR:HB | 40:BH:118:ILE:HG12 | 1.59 | 0.83 |
| 43:BK:28:ALA:CB | 43:BK:57:PRO:O | 2.27 | 0.83 |
| 43:BK:36:LEU:O | 43:BK:39:LEU:HB2 | 1.79 | 0.83 |
| 45:BM:6:ILE:HG22 | 45:BM:98:ILE:HG12 | 1.59 | 0.83 |
| 50:BR:76:GLU:HA | 50:BR:79:ARG:NH1 | 1.94 | 0.83 |
| 51:BS:6:LEU:CA | 51:BS:18:ARG:O | 2.24 | 0.83 |
| 53:BU:21:LYS:HZ1 | 53:BU:23:LYS:HB2 | 1.40 | 0.83 |
| 1:AB:3:C:H2' | 1:AB:4:C:O4' | 1.79 | 0.83 |
| 2:AA:245:G:OP2 | 14:AO:53:ARG:NH1 | 2.11 | 0.83 |
| 2:AA:462:C:N3 | 2:AA:468:G:N2 | 2.26 | 0.83 |
| 2:AA:788:A:H4' | 2:AA:789:A:O5' | 1.77 | 0.83 |
| 2:AA:1085:A:H5' | 9:AI:29:PHE:CG | 2.12 | 0.83 |
| 2:AA:1155:A:H4' | 25:A1:55:ARG:HH12 | 1.44 | 0.83 |
| 2:AA:1421:G:O6 | 2:AA:1577:C:N3 | 2.11 | 0.83 |
| 2:AA:1430:C:H2' | 2:AA:1431:U:H6 | 1.43 | 0.83 |
| 2:AA:1996:C:H5" | 2:AA:1996:C:H6 | 1.43 | 0.83 |
| 2:AA:2103:C:H2' | 2:AA:2104:G:H8 | 1.44 | 0.83 |
| 3:AC:131:LEU:HD12 | 3:AC:137:LEU:HD22 | 1.61 | 0.83 |
| 4:AD:146:LYS:HD3 | 4:AD:147:PRO:HD2 | 1.59 | 0.83 |
| 5:AE:180:ILE:HB | 5:AE:187:HIS:HB3 | 1.61 | 0.83 |
| 6:AF:81:PRO:O | 6:AF:82:GLN:NE2 | 2.11 | 0.83 |
| 6:AF:91:PRO:HB2 | 6:AF:92:PRO:HD2 | 1.60 | 0.83 |
| 6:AF:224:ALA:N | 6:AF:225:PRO:HD2 | 1.94 | 0.83 |
| 9:AI:35:ALA:HB3 | 9:AI:36:PRO:CD | 2.08 | 0.83 |
| 12:AM:87:LEU:HB2 | 12:AM:98:PHE:HZ | 1.40 | 0.83 |
| 21:AV:24:TYR:HB3 | 21:AV:83:PHE:O | 1.79 | 0.83 |
| 21:AV:70:GLN:O | 21:AV:70:GLN:HG2 | 1.79 | 0.83 |
| 21:AV:100:THR:HG22 | 21:AV:137:ASP:HB3 | 1.59 | 0.83 |
| 22:AW:45:ARG:NE | 22:AW:49:LEU:HG | 1.94 | 0.83 |
| 25:A1:69:ALA:HA | 25:A1:79:PHE:CZ | 2.14 | 0.83 |
| 29:A5:50:GLY:HA2 | 29:A5:57:VAL:CB | 2.07 | 0.83 |
| 34:BA:7:G:H1' | 34:BA:298:A:C8 | 2.13 | 0.83 |
| 34:BA:47:C:H4' | 34:BA:48:C:H5' | 1.59 | 0.83 |
| 34:BA:247:G:O2' | 34:BA:248:C:H5' | 1.78 | 0.83 |
| 34:BA:792:A:H2' | 34:BA:794:A:H62 | 1.44 | 0.83 |
| 34:BA:1363:A:H4' | 34:BA:1364:U:O5' | 1.79 | 0.83 |
| 35:BB:9:A:N1 | 35:BB:45:G:C6 | 2.46 | 0.83 |
| 39:BG:22:LYS:HB3 | 39:BG:26:CYS:HB2 | 1.60 | 0.83 |
| 39:BG:152:SER:O | 39:BG:154:ASN:N | 2.11 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:BP:104:ARG:HG2 | 48:BP:105:THR:HG23 | 1.61 | 0.83 |
| 1:AB:5:C:H2' | 1:AB:6:C:H6 | 1.43 | 0.82 |
| 2:AA:595:C:N4 | 2:AA:662:G:H1 | 1.77 | 0.82 |
| 2:AA:826:U:H5" | 2:AA:2428:G:O3' | 1.78 | 0.82 |
| 2:AA:969:U:C2 | 2:AA:970:C:C6 | 2.67 | 0.82 |
| 2:AA:1084:A:C5' | 9:AI:38:ALA:N | 2.41 | 0.82 |
| 2:AA:1362:C:N3 | 2:AA:1369:G:O6 | 2.12 | 0.82 |
| 2:AA:1659:U:O2' | 2:AA:1660:C:H5' | 1.77 | 0.82 |
| 2:AA:1818:U:O2 | 4:AD:153:LEU:HD12 | 1.79 | 0.82 |
| 2:AA:2756:U:O2' | 2:AA:2757:A:H5' | 1.78 | 0.82 |
| 3:AC:93:TYR:HE2 | 3:AC:110:PHE:N | 1.77 | 0.82 |
| 5:AE:216:ARG:CD | 5:AE:253:GLN:HA | 2.09 | 0.82 |
| 5:AE:256:THR:HA | 5:AE:259:HIS:HE1 | 1.40 | 0.82 |
| 8:AH:159:LYS:H | 8:AH:162:ARG:HH12 | 0.85 | 0.82 |
| 12:AM:24:SER:O | 12:AM:27:ALA:HB3 | 1.77 | 0.82 |
| 13:AN:42:THR:CG2 | 13:AN:57:VAL:HA | 2.07 | 0.82 |
| 13:AN:64:ARG:HB2 | 13:AN:79:PHE:CD1 | 2.14 | 0.82 |
| 14:AO:114:VAL:O | 14:AO:115:ARG:HG3 | 1.79 | 0.82 |
| 15:AP:51:GLU:N | 15:AP:51:GLU:CD | 2.33 | 0.82 |
| 21:AV:3:LEU:HD21 | 21:AV:38:ALA:HB3 | 1.59 | 0.82 |
| 34:BA:141:A:H1' | 34:BA:182:U:O2 | 1.79 | 0.82 |
| 34:BA:190(E):U:C4 | 52:BT:72:ARG:NH2 | 2.47 | 0.82 |
| 34:BA:519:C:H2' | 34:BA:520:A:H5' | 1.59 | 0.82 |
| 34:BA:817:C:O2' | 34:BA:818:G:H5" | 1.77 | 0.82 |
| 35:BB:19:G:C4' | 35:BB:20:G:OP2 | 2.26 | 0.82 |
| 38:BF:157:ILE:HD12 | 38:BF:164:ARG:CZ | 2.09 | 0.82 |
| 39:BG:102:ASP:O | 39:BG:105:VAL:HB | 1.79 | 0.82 |
| 48:BP:29:ARG:CZ | 48:BP:64:TRP:HE1 | 1.92 | 0.82 |
| 56:BX:16:GLY:O | 56:BX:18:TYR:N | 2.11 | 0.82 |
| 2:AA:152:G:N2 | 2:AA:176:G:C4 | 2.47 | 0.82 |
| 2:AA:270(Q):C:O2' | 2:AA:270(R):G:H5' | 1.78 | 0.82 |
| 2:AA:287:C:H2' | 2:AA:288:C:C5 | 2.14 | 0.82 |
| 2:AA:1058:G:N2 | 11:AL:117:ASN:HD21 | 1.77 | 0.82 |
| 2:AA:2324:C:O2 | 2:AA:2385:C:H5 | 1.62 | 0.82 |
| 2:AA:2347:C:H4' | 30:A6:40:TYR:OH | 1.79 | 0.82 |
| 2:AA:2622:C:O2' | 2:AA:2824:C:N4 | 2.13 | 0.82 |
| 2:AA:2832:U:H1' | 2:AA:2834:G:N2 | 1.94 | 0.82 |
| 4:AD:69:ASP:OD2 | 4:AD:188:ARG:NH1 | 2.12 | 0.82 |
| 14:AO:64:ILE:CD1 | 14:AO:106:VAL:HG12 | 2.08 | 0.82 |
| 15:AP:10:ILE:O | 15:AP:11:LYS:HD3 | 1.79 | 0.82 |
| 15:AP:36:ASN:HD21 | 21:AV:116:VAL:HB | 1.45 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:84:ARG:NH2 | 15:AP:86:ARG:HH21 | 1.78 | 0.82 |
| 20:AU:44:ALA:HB1 | 20:AU:65:VAL:HG21 | 1.61 | 0.82 |
| 21:AV:123:VAL:HA | 21:AV:161:ALA:CB | 2.08 | 0.82 |
| 21:AV:130:ILE:HD12 | 21:AV:130:ILE:O | 1.78 | 0.82 |
| 25:A1:91:ASN:O | 25:A1:95:LEU:HD21 | 1.80 | 0.82 |
| 26:A2:39:PHE:CE1 | 26:A2:42:GLY:HA2 | 2.15 | 0.82 |
| 34:BA:1246:C:N3 | 34:BA:1291:G:O6 | 2.12 | 0.82 |
| 39:BG:120:LEU:HG | 39:BG:125:HIS:CD2 | 2.14 | 0.82 |
| 41:BI:6:VAL:HG12 | 41:BI:63:TYR:O | 1.78 | 0.82 |
| 45:BM:51:ARG:CB | 45:BM:59:SER:HB3 | 2.09 | 0.82 |
| 46:BN:62:GLN:HE22 | 46:BN:63:LEU:CG | 1.91 | 0.82 |
| 48:BP:81:LEU:CB | 48:BP:86:CYS:SG | 2.65 | 0.82 |
| 50:BR:41:GLU:N | 50:BR:44:LYS:HZ1 | 1.77 | 0.82 |
| 51:BS:46:PRO:CG | 51:BS:47:ASP:H | 1.92 | 0.82 |
| 2:AA:338:G:OP2 | 20:AU:21:LYS:HG3 | 1.79 | 0.82 |
| 2:AA:412:A:H61 | 2:AA:2411:A:H1' | 1.44 | 0.82 |
| 2:AA:431:U:H3' | 2:AA:431:U:C6 | 2.14 | 0.82 |
| 2:AA:1040:C:O2 | 2:AA:1040:C:H2' | 1.79 | 0.82 |
| 2:AA:1063:G:C2 | 2:AA:1075:C:N3 | 2.46 | 0.82 |
| 2:AA:1853:A:H2' | 2:AA:1854:A:C8 | 2.14 | 0.82 |
| 2:AA:2057:A:H5' | 29:A5:8:LYS:NZ | 1.94 | 0.82 |
| 2:AA:2093:G:H5' | 10:AK:25:TYR:CD1 | 2.14 | 0.82 |
| 2:AA:2180:U:C2' | 2:AA:2181:G:H8 | 1.93 | 0.82 |
| 3:AC:114:VAL:HG11 | 3:AC:153:ILE:HG12 | 1.62 | 0.82 |
| 7:AG:45:THR:HA | 7:AG:83:PHE:HZ | 1.43 | 0.82 |
| 8:AH:41:THR:HB | 8:AH:52:THR:OG1 | 1.79 | 0.82 |
| 10:AK:21:VAL:CB | 10:AK:26:ALA:HB2 | 2.09 | 0.82 |
| 12:AM:23:ALA:HA | 12:AM:26:VAL:CG2 | 2.08 | 0.82 |
| 15:AP:56:ILE:HD11 | 15:AP:115:SER:HB3 | 1.59 | 0.82 |
| 19:AT:6:LYS:HB3 | 19:AT:27:ALA:C | 1.97 | 0.82 |
| 20:AU:51:LEU:HA | 20:AU:97:ARG:NH2 | 1.92 | 0.82 |
| 20:AU:57:GLY:CA | 20:AU:97:ARG:HH22 | 1.90 | 0.82 |
| 20:AU:81:LYS:HG2 | 20:AU:82:THR:H | 1.43 | 0.82 |
| 25:A1:9:VAL:HG12 | 25:A1:13:ARG:HH21 | 1.42 | 0.82 |
| 25:A1:50:ARG:HA | 25:A1:53:LYS:NZ | 1.94 | 0.82 |
| 32:A8:16:ILE:HA | 32:A8:22:VAL:HG22 | 1.61 | 0.82 |
| 34:BA:987:G:C2' | 34:BA:988:G:H5' | 2.10 | 0.82 |
| 37:BE:118:LEU:HD12 | 37:BE:145:LEU:HG | 1.59 | 0.82 |
| 38:BF:19:GLU:HA | 38:BF:54:ARG:HH21 | 0.77 | 0.82 |
| 39:BG:8:VAL:CG1 | 39:BG:11:LEU:HD12 | 2.09 | 0.82 |
| 40:BH:65:ASN:HD21 | 40:BH:136:MET:CE | 1.90 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:6:ILE:HD11 | 43:BK:85:ARG:CD | 2.09 | 0.82 |
| 48:BP:92:HIS:CG | 48:BP:98:VAL:HG21 | 2.15 | 0.82 |
| 2:AA:273(D):C:N4 | 2:AA:363(B):G:H1 | 1.78 | 0.82 |
| 2:AA:388:G:C2' | 2:AA:390:A:N7 | 2.38 | 0.82 |
| 2:AA:523:C:O2' | 2:AA:524:U:H5' | 1.78 | 0.82 |
| 2:AA:566:U:C5 | 2:AA:567:A:N7 | 2.47 | 0.82 |
| 2:AA:1510:A:H3' | 2:AA:1511:A:C8 | 2.15 | 0.82 |
| 2:AA:1729:A:N6 | 2:AA:1731:G:O6 | 2.12 | 0.82 |
| 2:AA:2137:C:H3' | 2:AA:2138:C:C5 | 2.14 | 0.82 |
| 2:AA:2314:C:H2' | 2:AA:2315:G:H8 | 1.44 | 0.82 |
| 2:AA:2623:G:H21 | 29:A5:22:HIS:HE1 | 1.24 | 0.82 |
| 3:AC:115:ALA:HB2 | 3:AC:138:PRO:HG2 | 1.60 | 0.82 |
| 7:AG:90:LEU:HD22 | 48:BP:3:ARG:NH1 | 1.94 | 0.82 |
| 10:AK:4:ILE:HD11 | 10:AK:39:ALA:HA | 1.59 | 0.82 |
| 10:AK:94:THR:HG23 | 10:AK:97:GLN:H | 1.44 | 0.82 |
| 20:AU:77:VAL:HG12 | 20:AU:89:ARG:HD2 | 1.60 | 0.82 |
| 21:AV:95:SER:OG | 21:AV:122:ILE:HG12 | 1.80 | 0.82 |
| 22:AW:3:LEU:O | 22:AW:4:HIS:HB2 | 1.80 | 0.82 |
| 34:BA:536:C:C2' | 34:BA:537:G:H5' | 2.08 | 0.82 |
| 34:BA:676:A:O2' | 46:BN:115:PRO:HG3 | 1.79 | 0.82 |
| 34:BA:769:G:O2' | 34:BA:770:C:H5' | 1.80 | 0.82 |
| 34:BA:778:G:O2' | 34:BA:779:C:H5' | 1.79 | 0.82 |
| 34:BA:987:G:H2' | 34:BA:988:G:H5' | 1.60 | 0.82 |
| 34:BA:1226:C:H5" | 48:BP:103:THR:HB | 1.61 | 0.82 |
| 37:BE:10:LEU:HD23 | 37:BE:11:LEU:H | 1.44 | 0.82 |
| 37:BE:97:TRP:HZ2 | 37:BE:102:LEU:HD13 | 1.44 | 0.82 |
| 43:BK:100:ILE:HB | 43:BK:125:ARG:HH21 | 1.45 | 0.82 |
| 44:BL:17:VAL:HG13 | 44:BL:63:ILE:CG1 | 2.09 | 0.82 |
| 52:BT:57:VAL:HB | 52:BT:75:ARG:O | 1.77 | 0.82 |
| 52:BT:89:LEU:O | 52:BT:92:ARG:HB3 | 1.77 | 0.82 |
| 1:AB:80:U:HO2' | 2:AA:918:A:H8 | 1.26 | 0.82 |
| 2:AA:352:G:O5' | 2:AA:352:G:H8 | 1.62 | 0.82 |
| 2:AA:422:A:H2' | 2:AA:422:A:N3 | 1.93 | 0.82 |
| 2:AA:455:C:H4' | 2:AA:456:C:OP1 | 1.80 | 0.82 |
| 2:AA:709:U:H2' | 2:AA:710:G:H8 | 1.42 | 0.82 |
| 2:AA:1287:A:H8 | 24:A0:104:ARG:HH11 | 1.28 | 0.82 |
| 2:AA:1557:C:H3' | 2:AA:1558:A:H5" | 1.61 | 0.82 |
| 2:AA:1605:C:H2' | 2:AA:1606:G:O4' | 1.79 | 0.82 |
| 2:AA:1780:A:H3' | 2:AA:1781:C:H5" | 1.61 | 0.82 |
| 2:AA:2226:C:N3 | 2:AA:2227:A:H1' | 1.94 | 0.82 |
| 2:AA:2319:G:O5' | 2:AA:2320:A:OP1 | 1.97 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:60:GLN:N | 4:AD:62:ARG:NH1 | 2.27 | 0.82 |
| 7:AG:81:GLU:O | 7:AG:85:GLN:HG3 | 1.78 | 0.82 |
| 8:AH:18:VAL:HG21 | 8:AH:44:VAL:HG11 | 1.61 | 0.82 |
| 10:AK:83:ALA:HB3 | 10:AK:147:GLU:HG2 | 1.62 | 0.82 |
| 12:AM:5:GLU:CA | 12:AM:109:TYR:HE2 | 1.89 | 0.82 |
| 12:AM:19:MET:HG2 | 12:AM:132:LEU:HD21 | 1.61 | 0.82 |
| 13:AN:63:VAL:HG23 | 13:AN:84:CYS:CB | 2.10 | 0.82 |
| 13:AN:71:ARG:C | 13:AN:73:ASP:H | 1.80 | 0.82 |
| 15:AP:50:VAL:HG22 | 15:AP:147:VAL:CG1 | 2.08 | 0.82 |
| 23:AX:18:ASP:O | 23:AX:21:ALA:HB3 | 1.79 | 0.82 |
| 27:A3:28:GLY:HA3 | 27:A3:60:PHE:HB3 | 1.62 | 0.82 |
| 28:A4:54:GLY:O | 28:A4:55:ARG:HG3 | 1.79 | 0.82 |
| 32:A8:21:LYS:HA | 32:A8:57:ARG:HH21 | 1.44 | 0.82 |
| 34:BA:19:C:H2' | 34:BA:20:U:H6 | 1.44 | 0.82 |
| 34:BA:783:C:H42 | 34:BA:799:G:H1 | 1.24 | 0.82 |
| 34:BA:1196:U:H5' | 34:BA:1197:G:H5' | 1.61 | 0.82 |
| 34:BA:1338:G:H21 | 35:BC:41:U:C1' | 1.92 | 0.82 |
| 34:BA:1403:C:H1' | 34:BA:1500:A:N1 | 1.94 | 0.82 |
| 34:BA:1425:U:O2' | 34:BA:1426:C:H5' | 1.78 | 0.82 |
| 35:BC:72:C:H2' | 35:BC:73:A:H8 | 1.42 | 0.82 |
| 37:BE:115:LEU:CD2 | 37:BE:149:LEU:HD13 | 2.09 | 0.82 |
| 37:BE:149:LEU:O | 37:BE:152:PHE:N | 2.11 | 0.82 |
| 47:BO:85:ILE:CD1 | 47:BO:98:TYR:CB | 2.52 | 0.82 |
| 52:BT:58:GLU:OE1 | 52:BT:75:ARG:HG2 | 1.79 | 0.82 |
| 54:BV:13:ASP:HA | 54:BV:16:LEU:HB2 | 1.62 | 0.82 |
| 2:AA:95:G:H5' | 22:AW:41:GLU:OE1 | 1.78 | 0.82 |
| 2:AA:530:G:H1' | 2:AA:532:A:OP2 | 1.79 | 0.82 |
| 2:AA:616:A:N3 | 2:AA:617:G:N2 | 2.27 | 0.82 |
| 2:AA:637:A:OP2 | 14:AO:109:LEU:HD22 | 1.80 | 0.82 |
| 2:AA:806:C:O2' | 2:AA:2445:G:H4' | 1.79 | 0.82 |
| 2:AA:1084:A:P | 9:AI:39:VAL:H | 2.01 | 0.82 |
| 2:AA:1275:A:O2' | 2:AA:1276:A:O5' | 1.96 | 0.82 |
| 2:AA:1472:A:H2' | 2:AA:1473:G:H8 | 1.44 | 0.82 |
| 2:AA:1650:G:O2' | 2:AA:1651:G:C5' | 2.26 | 0.82 |
| 2:AA:1822:G:H2' | 2:AA:1823:G:H8 | 1.43 | 0.82 |
| 2:AA:2259:G:N2 | 2:AA:2282:G:C5 | 2.46 | 0.82 |
| 2:AA:2579:C:H4' | 5:AE:231:TRP:CH2 | 2.15 | 0.82 |
| 2:AA:2734:A:H61 | 5:AE:316:ARG:HH22 | 1.26 | 0.82 |
| 3:AC:6:ARG:HH12 | 3:AC:35:ALA:HA | 1.43 | 0.82 |
| 5:AE:268:LEU:HD23 | 5:AE:269:ILE:N | 1.95 | 0.82 |
| 5:AE:315:VAL:HG12 | 5:AE:316:ARG:N | 1.95 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:AQ:19:ASP:O | 16:AQ:21:HIS:N | 2.13 | 0.82 |
| 24:A0:52:ILE:HD13 | 24:A0:94:TYR:CB | 2.09 | 0.82 |
| 24:A0:113:LEU:HD13 | 24:A0:114:VAL:N | 1.94 | 0.82 |
| 27:A3:14:ARG:HH11 | 27:A3:14:ARG:H | 1.28 | 0.82 |
| 34:BA:15:G:H1 | 34:BA:920:U:H3 | 1.25 | 0.82 |
| 34:BA:130:A:H2 | 34:BA:263:A:C2 | 1.97 | 0.82 |
| 34:BA:1165:C:N4 | 34:BA:1171:G:H1 | 1.77 | 0.82 |
| 34:BA:1201:A:H4' | 34:BA:1202:G:H5" | 1.61 | 0.82 |
| 34:BA:1533:C:H2' | 34:BA:1534:A:H4' | 1.61 | 0.82 |
| 37:BE:25:ASN:O | 37:BE:27:LYS:N | 2.12 | 0.82 |
| 37:BE:74:LYS:HE2 | 37:BE:76:GLN:HB2 | 1.60 | 0.82 |
| 37:BE:88:ALA:HA | 37:BE:222:ILE:HD13 | 1.61 | 0.82 |
| 44:BL:114:TYR:CB | 45:BM:60:ARG:HH12 | 1.91 | 0.82 |
| 46:BN:21:ILE:HD11 | 46:BN:82:VAL:CG1 | 2.08 | 0.82 |
| 46:BN:28:THR:O | 46:BN:44:SER:HB2 | 1.78 | 0.82 |
| 1:AB:60:C:H2' | 1:AB:61:G:H8 | 1.45 | 0.82 |
| 2:AA:73:A:H2' | 2:AA:74:A:OP2 | 1.78 | 0.82 |
| 2:AA:146:G:C2 | 2:AA:147:U:H1' | 2.14 | 0.82 |
| 2:AA:911:A:C5 | 15:AP:16:ARG:HG2 | 2.14 | 0.82 |
| 2:AA:917:A:N7 | 2:AA:2268:A:N6 | 2.28 | 0.82 |
| 2:AA:1466:G:H2' | 2:AA:1547:C:H41 | 1.44 | 0.82 |
| 2:AA:1819:A:H1' | 2:AA:1821:A:C5 | 2.14 | 0.82 |
| 2:AA:2466:C:OP1 | 33:A9:5:SER:O | 1.97 | 0.82 |
| 2:AA:2575:C:O2' | 5:AE:237:ASN:ND2 | 2.10 | 0.82 |
| 2:AA:2590:A:H2' | 2:AA:2591:C:C6 | 2.13 | 0.82 |
| 4:AD:85:ASN:N | 4:AD:85:ASN:ND2 | 2.25 | 0.82 |
| 4:AD:183:ILE:HG22 | 4:AD:184:LEU:H | 1.42 | 0.82 |
| 16:AQ:100:ALA:HB3 | 16:AQ:127:LEU:HD21 | 1.60 | 0.82 |
| 18:AS:25:ARG:O | 18:AS:27:LYS:N | 2.11 | 0.82 |
| 20:AU:71:VAL:HG21 | 20:AU:92:ASP:HA | 1.58 | 0.82 |
| 34:BA:1144:G:N2 | 34:BA:1146:A:N6 | 2.28 | 0.82 |
| 35:BB:6:U:C2 | 35:BB:68:U:C2 | 2.67 | 0.82 |
| 40:BH:56:GLN:H | 40:BH:56:GLN:HE21 | 1.26 | 0.82 |
| 43:BK:114:THR:HG23 | 43:BK:119:LEU:HD23 | 1.61 | 0.82 |
| 43:BK:123:GLU:HA | 43:BK:126:LYS:HE3 | 1.59 | 0.82 |
| 46:BN:100:ALA:C | 46:BN:102:GLY:H | 1.82 | 0.82 |
| 48:BP:34:LEU:HD23 | 48:BP:39:ILE:CG1 | 2.09 | 0.82 |
| 51:BS:58:TYR:CD1 | 51:BS:59:TRP:N | 2.48 | 0.82 |
| 54:BV:77:THR:HG22 | 54:BV:78:ARG:HG3 | 1.60 | 0.82 |
| 2:AA:59:U:H3' | 2:AA:60:G:H5" | 1.60 | 0.82 |
| 2:AA:270(L):U:H4' | 2:AA:270(M):U:OP1 | 1.79 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:342:G:H2' | 2:AA:343:C:C5 | 2.15 | 0.82 |
| 2:AA:1011:G:N1 | 2:AA:1150:C:O2 | 2.13 | 0.82 |
| 2:AA:1018:C:H2' | 2:AA:1019:U:H5" | 1.62 | 0.82 |
| 2:AA:1183:G:O2' | 2:AA:1184:G:O4' | 1.96 | 0.82 |
| 2:AA:1364:G:O5' | 2:AA:1809:A:N7 | 2.12 | 0.82 |
| 2:AA:1413:G:H1 | 2:AA:1589:C:H42 | 1.25 | 0.82 |
| 2:AA:2424:C:H2' | 2:AA:2424:C:O2 | 1.79 | 0.82 |
| 2:AA:2553:G:H3' | 2:AA:2553:G:C8 | 2.15 | 0.82 |
| 2:AA:2845:G:O6 | 2:AA:2871:C:N3 | 2.12 | 0.82 |
| 3:AC:116:THR:HG23 | 3:AC:149:ILE:HD12 | 1.61 | 0.82 |
| 3:AC:126:LYS:HG2 | 3:AC:127:LEU:HG | 1.62 | 0.82 |
| 5:AE:45:LYS:CB | 5:AE:305:LYS:HA | 2.08 | 0.82 |
| 5:AE:102:ASP:O | 5:AE:103:GLU:HG3 | 1.80 | 0.82 |
| 6:AF:115:LEU:HB2 | 6:AF:246:ARG:HH12 | 1.44 | 0.82 |
| 6:AF:215:ALA:HA | 6:AF:239:ALA:HA | 1.61 | 0.82 |
| 13:AN:3:GLN:HG2 | 13:AN:4:GLN:N | 1.95 | 0.82 |
| 18:AS:23:LEU:CD1 | 29:A5:25:LEU:HB3 | 2.09 | 0.82 |
| 23:AX:38:GLU:CD | 23:AX:38:GLU:H | 1.81 | 0.82 |
| 25:A1:78:THR:HB | 25:A1:117:ARG:HH21 | 1.42 | 0.82 |
| 26:A2:11:GLN:CD | 26:A2:22:VAL:HG23 | 2.00 | 0.82 |
| 30:A6:19:GLY:CA | 30:A6:42:PRO:HG3 | 2.09 | 0.82 |
| 34:BA:673:G:H2' | 34:BA:674:G:C8 | 2.15 | 0.82 |
| 34:BA:1192:C:H6 | 34:BA:1192:C:C3' | 1.91 | 0.82 |
| 34:BA:1293:G:H2' | 34:BA:1294:G:C8 | 2.14 | 0.82 |
| 34:BA:1475:G:H2' | 34:BA:1476:G:H8 | 1.39 | 0.82 |
| 35:BC:22:G:H2' | 35:BC:23:A:H8 | 1.41 | 0.82 |
| 37:BE:25:ASN:HD21 | 37:BE:27:LYS:HB2 | 1.45 | 0.82 |
| 38:BF:10:PHE:HE1 | 38:BF:178:LEU:HD22 | 1.44 | 0.82 |
| 38:BF:182:ILE:HG23 | 38:BF:203:PHE:CA | 2.09 | 0.82 |
| 40:BH:78:HIS:HB3 | 43:BK:107:LEU:CD2 | 2.10 | 0.82 |
| 41:BI:60:PHE:CZ | 53:BU:78:LEU:HD21 | 2.15 | 0.82 |
| 45:BM:30:SER:OG | 45:BM:81:THR:HA | 1.79 | 0.82 |
| 48:BP:14:ARG:HG3 | 48:BP:16:ASP:OD2 | 1.80 | 0.82 |
| 48:BP:54:VAL:O | 48:BP:57:ARG:HB3 | 1.80 | 0.82 |
| 51:BS:19:ILE:HD12 | 51:BS:38:TYR:N | 1.95 | 0.82 |
| 55:BW:50:GLU:H | 55:BW:99:LEU:HD12 | 1.45 | 0.82 |
| 2:AA:146:G:O2' | 2:AA:147:U:H5' | 1.79 | 0.82 |
| 2:AA:271:G:N1 | 2:AA:404:C:N4 | 2.28 | 0.82 |
| 2:AA:308:G:N2 | 2:AA:329:G:N2 | 2.28 | 0.82 |
| 2:AA:374:A:H2' | 2:AA:375:C:O4' | 1.78 | 0.82 |
| 2:AA:610:C:H42 | 2:AA:618(A):C:N4 | 1.76 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:635:C:H2' | 2:AA:636:G:C8 | 2.15 | 0.82 |
| 2:AA:903:C:H2' | 2:AA:904:C:C6 | 2.14 | 0.82 |
| 2:AA:1111:A:H5" | 2:AA:1112:G:OP1 | 1.78 | 0.82 |
| 2:AA:1260:G:H2' | 2:AA:1261:C:H5' | 1.62 | 0.82 |
| 2:AA:1417:C:H42 | 2:AA:1581:G:H22 | 0.89 | 0.82 |
| 2:AA:1799:G:O6 | 4:AD:177:SER:HB2 | 1.79 | 0.82 |
| 2:AA:2051:A:N7 | 2:AA:2614:A:N7 | 2.27 | 0.82 |
| 2:AA:2416:C:H2' | 2:AA:2417:C:C5' | 2.09 | 0.82 |
| 2:AA:2840:C:H5" | 24:A0:53:HIS:CD2 | 2.15 | 0.82 |
| 16:AQ:38:LYS:HZ3 | 16:AQ:110:THR:HG21 | 1.44 | 0.82 |
| 18:AS:17:VAL:O | 18:AS:20:VAL:HB | 1.78 | 0.82 |
| 25:A1:11:ARG:HG2 | 25:A1:12:ARG:H | 1.45 | 0.82 |
| 28:A4:7:PRO:HD2 | 28:A4:56:VAL:HG21 | 1.59 | 0.82 |
| 28:A4:46:GLU:OE1 | 28:A4:54:GLY:HA3 | 1.80 | 0.82 |
| 34:BA:22:G:H2' | 34:BA:23:C:C1' | 2.09 | 0.82 |
| 34:BA:300:A:H2' | 34:BA:301:G:H5' | 1.60 | 0.82 |
| 34:BA:922:G:O2' | 34:BA:923:A:H5' | 1.79 | 0.82 |
| 34:BA:952:U:C5' | 34:BA:972:C:H41 | 1.93 | 0.82 |
| 39:BG:43:HIS:CB | 39:BG:46:LYS:HG3 | 2.10 | 0.82 |
| 42:BJ:69:VAL:HG21 | 42:BJ:134:ALA:HB1 | 1.62 | 0.82 |
| 47:BO:6:THR:OG1 | 47:BO:9:GLN:HG3 | 1.78 | 0.82 |
| 47:BO:90:VAL:HG21 | 47:BO:96:VAL:CG1 | 2.08 | 0.82 |
| 2:AA:16:G:H4' | 29:A5:18:MET:HE1 | 1.62 | 0.82 |
| 2:AA:304:G:O2' | 2:AA:305:U:H5' | 1.80 | 0.82 |
| 2:AA:740:U:H4' | 2:AA:1784:A:OP1 | 1.80 | 0.82 |
| 2:AA:775:G:H4' | 2:AA:777:A:C4 | 2.15 | 0.82 |
| 2:AA:861:A:H62 | 2:AA:916:G:N2 | 1.75 | 0.82 |
| 2:AA:1024:G:H3' | 2:AA:1025:G:C5' | 2.09 | 0.82 |
| 2:AA:2123:G:O2' | 3:AC:133:PRO:HA | 1.80 | 0.82 |
| 2:AA:2334:G:H2' | 2:AA:2335:A:C5' | 2.09 | 0.82 |
| 3:AC:10:LEU:HG | 3:AC:220:PRO:HG2 | 1.61 | 0.82 |
| 8:AH:53:ARG:HB3 | 8:AH:56:ASP:OD1 | 1.79 | 0.82 |
| 9:AI:35:ALA:CB | 9:AI:36:PRO:HD3 | 2.10 | 0.82 |
| 15:AP:18:GLU:HG2 | 15:AP:23:ILE:HD11 | 1.62 | 0.82 |
| 15:AP:133:GLU:HG3 | 15:AP:134:PHE:CD1 | 2.13 | 0.82 |
| 18:AS:12:ILE:O | 18:AS:101:SER:OG | 1.96 | 0.82 |
| 26:A2:14:VAL:HG22 | 26:A2:19:VAL:HG21 | 1.61 | 0.82 |
| 34:BA:297:G:N2 | 34:BA:300:A:OP2 | 2.12 | 0.82 |
| 34:BA:646:U:H2' | 34:BA:647:C:H6 | 1.45 | 0.82 |
| 34:BA:674:G:O6 | 34:BA:716:A:N6 | 2.12 | 0.82 |
| 34:BA:826:C:C4' | 43:BK:12:ARG:HG2 | 2.10 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:909:A:H2' | 34:BA:910:C:H5' | 1.60 | 0.82 |
| 34:BA:1074:G:H2' | 34:BA:1075:C:O4' | 1.78 | 0.82 |
| 34:BA:1119:C:H2' | 34:BA:1120:G:H8 | 1.45 | 0.82 |
| 34:BA:1226:C:C5' | 48:BP:103:THR:HB | 2.10 | 0.82 |
| 34:BA:1479:C:O2' | 34:BA:1480:G:H5' | 1.80 | 0.82 |
| 35:BB:75:C:C6 | 35:BB:76:A:H2 | 1.97 | 0.82 |
| 37:BE:213:LEU:HD22 | 37:BE:214:ILE:CD1 | 2.09 | 0.82 |
| 38:BF:157:ILE:HD12 | 38:BF:164:ARG:NE | 1.95 | 0.82 |
| 43:BK:123:GLU:HG2 | 43:BK:124:ALA:N | 1.95 | 0.82 |
| 46:BN:50:TYR:CD1 | 46:BN:54:ARG:HB3 | 2.14 | 0.82 |
| 46:BN:58:PRO:CA | 46:BN:90:GLY:HA3 | 2.09 | 0.82 |
| 47:BO:38:THR:HG23 | 47:BO:39:VAL:HG23 | 1.62 | 0.82 |
| 49:BQ:23:ARG:HA | 49:BQ:30:ALA:HA | 1.60 | 0.82 |
| 2:AA:85:G:H1 | 2:AA:97:C:H42 | 1.27 | 0.81 |
| 2:AA:257:A:O5' | 2:AA:257:A:H8 | 1.63 | 0.81 |
| 2:AA:530:G:H1 | 2:AA:2021:C:H5' | 1.45 | 0.81 |
| 2:AA:656:G:C8 | 2:AA:656:G:OP2 | 2.33 | 0.81 |
| 2:AA:711:G:N1 | 2:AA:720:C:N4 | 2.13 | 0.81 |
| 2:AA:871:U:H4' | 15:AP:90:PHE:HE2 | 1.42 | 0.81 |
| 2:AA:872:A:O2' | 15:AP:31:PHE:CB | 2.29 | 0.81 |
| 2:AA:1105:U:O2 | 9:AI:28:LYS:HA | 1.79 | 0.81 |
| 2:AA:1603:A:N1 | 2:AA:1604:C:N4 | 2.27 | 0.81 |
| 2:AA:1991:U:C6 | 2:AA:1991:U:C3' | 2.56 | 0.81 |
| 2:AA:2007:C:H2' | 2:AA:2008:C:H5' | 1.62 | 0.81 |
| 2:AA:2320:A:N6 | 16:AQ:9:PRO:CB | 2.43 | 0.81 |
| 2:AA:2484:G:N2 | 2:AA:2485:G:H1' | 1.95 | 0.81 |
| 2:AA:2644:G:N1 | 2:AA:2645:G:C2 | 2.47 | 0.81 |
| 3:AC:43:VAL:HG22 | 3:AC:214:VAL:HG22 | 1.60 | 0.81 |
| 10:AK:108:LEU:HD23 | 10:AK:109:LYS:N | 1.93 | 0.81 |
| 12:AM:41:ALA:HB1 | 12:AM:75:PRO:CB | 2.10 | 0.81 |
| 23:AX:31:LEU:HD13 | 23:AX:32:GLN:HG3 | 1.60 | 0.81 |
| 34:BA:80:G:O6 | 34:BA:89:C:N3 | 2.13 | 0.81 |
| 34:BA:277:C:H5" | 52:BT:68:ARG:CZ | 2.10 | 0.81 |
| 34:BA:583:A:H2' | 34:BA:584:G:C8 | 2.15 | 0.81 |
| 34:BA:1007:C:N4 | 34:BA:1022:G:N1 | 2.27 | 0.81 |
| 34:BA:1160:G:H2' | 34:BA:1160:G:N3 | 1.93 | 0.81 |
| 34:BA:1203:C:H6 | 34:BA:1203:C:O5' | 1.62 | 0.81 |
| 35:BB:9:A:N1 | 35:BB:45:G:O6 | 2.13 | 0.81 |
| 35:BB:18:G:C2 | 35:BB:57:G:N2 | 2.48 | 0.81 |
| 37:BE:23:ARG:HH11 | 37:BE:24:TRP:N | 1.78 | 0.81 |
| 41:BI:37:VAL:HA | 41:BI:65:VAL:CG1 | 2.07 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:98:LYS:HZ2 | 43:BK:98:LYS:H | 1.24 | 0.81 |
| 43:BK:112:LEU:HD23 | 43:BK:113:SER:N | 1.94 | 0.81 |
| 46:BN:78:GLN:HA | 46:BN:103:LEU:CD1 | 2.09 | 0.81 |
| 2:AA:301:G:OP1 | 2:AA:301:G:H4' | 1.79 | 0.81 |
| 2:AA:697:C:C2' | 2:AA:698:C:H5" | 2.09 | 0.81 |
| 2:AA:740:U:H2' | 2:AA:741:G:H8 | 1.44 | 0.81 |
| 2:AA:1083:U:H5' | 9:AI:40:ALA:HB2 | 1.62 | 0.81 |
| 2:AA:1126:A:H5" | 2:AA:1127:A:OP1 | 1.79 | 0.81 |
| 2:AA:1964:G:O2' | 2:AA:1965:C:OP1 | 1.98 | 0.81 |
| 2:AA:2020:A:N7 | 29:A5:9:LYS:HE2 | 1.94 | 0.81 |
| 2:AA:2125:G:H22 | 2:AA:2174:C:N4 | 1.76 | 0.81 |
| 2:AA:2396:G:H2' | 2:AA:2396:G:N3 | 1.95 | 0.81 |
| 2:AA:2576:G:OP1 | 2:AA:2577:A:OP1 | 1.96 | 0.81 |
| 2:AA:2623:G:H21 | 29:A5:22:HIS:CE1 | 1.97 | 0.81 |
| 3:AC:135:GLY:O | 3:AC:136:LEU:HD23 | 1.79 | 0.81 |
| 4:AD:210:LYS:HA | 4:AD:213:LYS:CD | 2.10 | 0.81 |
| 5:AE:77:PRO:CG | 5:AE:186:GLU:HB2 | 2.09 | 0.81 |
| 18:AS:68:ARG:HH21 | 18:AS:110:LYS:HG2 | 1.45 | 0.81 |
| 20:AU:80:GLU:HG2 | 20:AU:86:GLU:HG2 | 1.62 | 0.81 |
| 24:A0:79:LEU:CD2 | 24:A0:80:PHE:N | 2.42 | 0.81 |
| 25:A1:8:ILE:O | 25:A1:11:ARG:HG2 | 1.80 | 0.81 |
| 28:A4:14:ILE:C | 28:A4:15:ILE:HD12 | 2.01 | 0.81 |
| 30:A6:29:ARG:HG2 | 30:A6:30:ASN:H | 1.42 | 0.81 |
| 34:BA:914:A:H2' | 34:BA:915:A:H8 | 1.44 | 0.81 |
| 34:BA:1317:C:H2' | 34:BA:1318:A:O4' | 1.80 | 0.81 |
| 34:BA:1507:A:H2' | 34:BA:1508:G:H8 | 1.45 | 0.81 |
| 35:BC:17:U:C4 | 35:BC:19:G:H8 | 1.98 | 0.81 |
| 37:BE:55:PHE:CE2 | 37:BE:218:ALA:HA | 2.12 | 0.81 |
| 37:BE:91:PRO:HG2 | 37:BE:155:LEU:CB | 2.07 | 0.81 |
| 39:BG:165:MET:SD | 39:BG:165:MET:O | 2.38 | 0.81 |
| 43:BK:40:ALA:O | 43:BK:43:GLY:N | 2.12 | 0.81 |
| 43:BK:134:ILE:HG22 | 43:BK:135:CYS:N | 1.93 | 0.81 |
| 48:BP:48:LEU:HD23 | 48:BP:52:GLU:HB2 | 1.62 | 0.81 |
| 2:AA:248:G:H21 | 2:AA:2431:U:C4' | 1.93 | 0.81 |
| 2:AA:253:C:H2' | 2:AA:254:G:C5' | 2.10 | 0.81 |
| 2:AA:270(H):C:N4 | 2:AA:270(R):G:C6 | 2.48 | 0.81 |
| 2:AA:449:A:C2 | 2:AA:450:G:C4 | 2.68 | 0.81 |
| 2:AA:529:A:H62 | 2:AA:2042:A:H2 | 1.27 | 0.81 |
| 2:AA:541:C:H2' | 2:AA:542:C:H6 | 1.45 | 0.81 |
| 2:AA:588:U:C5 | 2:AA:589:C:H5 | 1.99 | 0.81 |
| 2:AA:608:A:C2' | 2:AA:609:A:H5' | 2.11 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:715:G:H2' | 2:AA:716:A:C8 | 2.14 | 0.81 |
| 2:AA:861:A:C2' | 2:AA:862:G:H5' | 2.08 | 0.81 |
| 2:AA:1005:C:H2' | 2:AA:1006:C:H6 | 1.46 | 0.81 |
| 2:AA:1021:A:C2 | 2:AA:1122:G:H5" | 2.15 | 0.81 |
| 2:AA:1022:G:C2 | 2:AA:1139:G:C2 | 2.67 | 0.81 |
| 2:AA:1046:A:C4 | 9:AI:32:THR:HG21 | 2.15 | 0.81 |
| 2:AA:1134:G:H3' | 2:AA:1136:G:OP2 | 1.79 | 0.81 |
| 2:AA:1304:C:H2' | 2:AA:1305:C:O5' | 1.79 | 0.81 |
| 2:AA:1356:G:H2' | 2:AA:1357:U:C6 | 2.14 | 0.81 |
| 2:AA:1454:U:O2 | 2:AA:1454:U:H2' | 1.79 | 0.81 |
| 2:AA:1576:U:H5 | 2:AA:1577:C:C4 | 1.98 | 0.81 |
| 2:AA:1632:A:H8 | 2:AA:1632:A:O5' | 1.63 | 0.81 |
| 2:AA:1863:G:H2' | 2:AA:1864:U:H6 | 1.42 | 0.81 |
| 2:AA:1913:A:N1 | 2:AA:1917:U:C4 | 2.48 | 0.81 |
| 2:AA:1953:A:H62 | 2:AA:2550:G:H4' | 1.45 | 0.81 |
| 2:AA:2378:A:H1' | 16:AQ:26:LEU:HD21 | 1.62 | 0.81 |
| 2:AA:2496:C:H5" | 2:AA:2497:A:OP2 | 1.80 | 0.81 |
| 2:AA:2623:G:N2 | 29:A5:22:HIS:CE1 | 2.48 | 0.81 |
| 3:AC:193:ILE:HG21 | 3:AC:226:PRO:O | 1.79 | 0.81 |
| 4:AD:71:ASP:OD1 | 4:AD:118:GLY:HA3 | 1.80 | 0.81 |
| 4:AD:235:PRO:O | 4:AD:236:PHE:HB2 | 1.80 | 0.81 |
| 6:AF:6:TYR:CD2 | 6:AF:140:VAL:HA | 2.15 | 0.81 |
| 6:AF:84:VAL:O | 6:AF:86:GLY:N | 2.12 | 0.81 |
| 6:AF:214:THR:O | 6:AF:216:SER:N | 2.12 | 0.81 |
| 7:AG:56:ARG:NE | 7:AG:65:GLU:HB2 | 1.94 | 0.81 |
| 12:AM:19:MET:HB3 | 12:AM:46:ILE:CD1 | 2.10 | 0.81 |
| 14:AO:81:VAL:CG1 | 14:AO:116:HIS:NE2 | 2.44 | 0.81 |
| 15:AP:46:VAL:CB | 15:AP:124:ALA:O | 2.27 | 0.81 |
| 15:AP:63:ALA:HA | 15:AP:70:ARG:HH22 | 1.45 | 0.81 |
| 15:AP:82:LYS:NZ | 15:AP:84:ARG:NE | 2.28 | 0.81 |
| 16:AQ:56:ASP:O | 16:AQ:57:THR:HG23 | 1.79 | 0.81 |
| 19:AT:55:GLN:HG2 | 19:AT:56:ASN:N | 1.93 | 0.81 |
| 20:AU:21:LYS:HZ1 | 20:AU:22:GLN:NE2 | 1.74 | 0.81 |
| 20:AU:73:HIS:CD2 | 20:AU:88:PRO:HB2 | 2.14 | 0.81 |
| 21:AV:98:VAL:HG11 | 21:AV:136:VAL:HB | 1.60 | 0.81 |
| 21:AV:163:ASP:CG | 21:AV:164:PRO:HD2 | 2.01 | 0.81 |
| 26:A2:51:ALA:HA | 26:A2:54:TYR:CD1 | 2.15 | 0.81 |
| 31:A7:4:THR:N | 31:A7:6:GLN:HE22 | 1.79 | 0.81 |
| 32:A8:22:VAL:CG1 | 32:A8:23:MET:N | 2.43 | 0.81 |
| 34:BA:153:C:H2' | 34:BA:154:C:H6 | 1.46 | 0.81 |
| 34:BA:198:G:O2' | 34:BA:199:G:C5' | 2.28 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:285:G:O2' | 34:BA:286:G:H5' | 1.79 | 0.81 |
| 34:BA:483:C:O2' | 34:BA:484:G:OP1 | 1.96 | 0.81 |
| 34:BA:509:A:N3 | 34:BA:543:C:O2' | 2.13 | 0.81 |
| 34:BA:599:C:N4 | 34:BA:639:G:H1 | 1.78 | 0.81 |
| 34:BA:714:G:H1' | 34:BA:777:A:N7 | 1.95 | 0.81 |
| 34:BA:791:G:N1 | 34:BA:1498:U:OP1 | 2.12 | 0.81 |
| 34:BA:933:G:H2' | 34:BA:934:C:H5' | 1.63 | 0.81 |
| 34:BA:1367:C:OP1 | 44:BL:114:TYR:HA | 1.81 | 0.81 |
| 34:BA:1407:C:O2' | 34:BA:1408:A:H5' | 1.79 | 0.81 |
| 35:BB:23:A:N1 | 35:BB:24:G:C6 | 2.48 | 0.81 |
| 35:BB:41:U:C2' | 35:BB:42:G:O4' | 2.26 | 0.81 |
| 35:BB:49:C:N4 | 35:BB:65:G:O6 | 2.13 | 0.81 |
| 35:BB:60:C:H5' | 35:BB:61:C:P | 2.19 | 0.81 |
| 35:BC:20:G:N3 | 35:BC:20:G:H3' | 1.94 | 0.81 |
| 37:BE:10:LEU:HD23 | 37:BE:11:LEU:N | 1.95 | 0.81 |
| 37:BE:187:LEU:HD21 | 37:BE:203:GLY:O | 1.78 | 0.81 |
| 38:BF:19:GLU:HG2 | 38:BF:54:ARG:NE | 1.96 | 0.81 |
| 38:BF:76:VAL:HG11 | 38:BF:103:VAL:HG11 | 1.60 | 0.81 |
| 38:BF:190:ARG:NH1 | 38:BF:190:ARG:HB3 | 1.95 | 0.81 |
| 40:BH:114:GLY:O | 40:BH:115:VAL:HG13 | 1.81 | 0.81 |
| 41:BI:75:LEU:O | 41:BI:79:LEU:HG | 1.80 | 0.81 |
| 42:BJ:129:GLU:HG3 | 42:BJ:131:LYS:HE2 | 1.61 | 0.81 |
| 43:BK:46:LYS:HZ2 | 43:BK:64:LYS:HA | 1.43 | 0.81 |
| 43:BK:80:ILE:HD12 | 43:BK:80:ILE:N | 1.95 | 0.81 |
| 46:BN:18:ARG:HH21 | 46:BN:37:GLY:HA2 | 1.45 | 0.81 |
| 46:BN:33:THR:C | 46:BN:40:ILE:HD11 | 2.00 | 0.81 |
| 46:BN:92:GLU:OE2 | 46:BN:96:ARG:HG3 | 1.80 | 0.81 |
| 47:BO:114:LYS:O | 47:BO:117:ARG:HG3 | 1.80 | 0.81 |
| 49:BQ:29:ARG:HB3 | 49:BQ:40:CYS:HB3 | 1.61 | 0.81 |
| 51:BS:26:ARG:HE | 51:BS:31:LYS:HB3 | 1.44 | 0.81 |
| 1:AB:97:G:N2 | 2:AA:918:A:O2' | 2.13 | 0.81 |
| 2:AA:162:U:H4' | 2:AA:171:G:H21 | 1.42 | 0.81 |
| 2:AA:203:C:OP1 | 2:AA:204:A:H3' | 1.79 | 0.81 |
| 2:AA:638:G:H2' | 2:AA:639:U:O4' | 1.81 | 0.81 |
| 2:AA:973:A:N6 | 26:A2:81:ARG:H | 1.78 | 0.81 |
| 2:AA:997:G:OP1 | 25:A1:92:ARG:CB | 2.29 | 0.81 |
| 2:AA:1129:A:C2 | 2:AA:2570:G:C1' | 2.63 | 0.81 |
| 2:AA:1270:C:H1' | 2:AA:1325:G:C5 | 2.16 | 0.81 |
| 2:AA:1444:G:O3' | 2:AA:444(A):A:H8 | 1.63 | 0.81 |
| 2:AA:1939:U:C1' | 2:AA:2592:G:C4' | 2.58 | 0.81 |
| 2:AA:2123:G:O6 | 2:AA:2175:C:N3 | 2.13 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2469:A:H5' | 2:AA:2469:A:C8 | 2.12 | 0.81 |
| 2:AA:2557:G:H2' | 2:AA:2558:C:H6 | 1.42 | 0.81 |
| 2:AA:2581:G:N1 | 2:AA:2610:C:C6 | 2.48 | 0.81 |
| 2:AA:2595:G:C2 | 2:AA:2597:G:O5' | 2.33 | 0.81 |
| 6:AF:2:GLU:O | 6:AF:18:LEU:HD21 | 1.81 | 0.81 |
| 9:AJ:64:LYS:HD3 | 9:AJ:126:GLU:OE2 | 1.80 | 0.81 |
| 9:AJ:85:LEU:HD11 | 11:AL:69:ILE:HG13 | 1.62 | 0.81 |
| 12:AM:12:VAL:C | 12:AM:38:VAL:HG13 | 2.01 | 0.81 |
| 13:AN:7:ARG:HB3 | 13:AN:44:LYS:CE | 2.11 | 0.81 |
| 13:AN:12:ASP:HB2 | 13:AN:95:GLY:HA3 | 1.62 | 0.81 |
| 14:AO:129:ALA:O | 14:AO:133:VAL:HG23 | 1.79 | 0.81 |
| 16:AQ:27:LEU:HB2 | 16:AQ:33:ARG:HH22 | 1.42 | 0.81 |
| 18:AS:24:ILE:HG22 | 18:AS:35:ILE:HB | 1.63 | 0.81 |
| 21:AV:13:LYS:HG2 | 21:AV:18:MET:HB3 | 1.61 | 0.81 |
| 23:AX:30:ARG:HH21 | 23:AX:33:GLN:HG3 | 1.42 | 0.81 |
| 34:BA:440:A:H61 | 34:BA:495:U:H5 | 1.26 | 0.81 |
| 34:BA:792:A:N3 | 34:BA:794:A:C6 | 2.48 | 0.81 |
| 34:BA:889:A:H5" | 34:BA:890:G:OP1 | 1.80 | 0.81 |
| 34:BA:921:U:O2' | 40:BH:19:MET:O | 1.99 | 0.81 |
| 34:BA:1113:C:O2' | 34:BA:1114:C:H5' | 1.80 | 0.81 |
| 34:BA:1408:A:C2 | 34:BA:1494:G:N3 | 2.48 | 0.81 |
| 35:BB:49:C:C4 | 35:BB:50:U:O4 | 2.33 | 0.81 |
| 41:BI:41:GLU:HG3 | 41:BI:62:TRP:CE3 | 2.15 | 0.81 |
| 45:BM:15:THR:OG1 | 45:BM:94:VAL:HG23 | 1.81 | 0.81 |
| 48:BP:92:HIS:CD2 | 48:BP:98:VAL:HG11 | 2.16 | 0.81 |
| 50:BR:53:HIS:O | 50:BR:56:LEU:HB3 | 1.80 | 0.81 |
| 50:BR:70:LEU:HD12 | 50:BR:70:LEU:C | 2.01 | 0.81 |
| 53:BU:55:ARG:HA | 53:BU:55:ARG:NH1 | 1.94 | 0.81 |
| 2:AA:63:U:H3' | 2:AA:63:U:C6 | 2.15 | 0.81 |
| 2:AA:264:C:O2' | 2:AA:265:A:H5" | 1.81 | 0.81 |
| 2:AA:338:G:H3' | 2:AA:338:G:P | 2.20 | 0.81 |
| 2:AA:383:U:HO2' | 2:AA:384:U:H5 | 0.82 | 0.81 |
| 2:AA:552:G:O2' | 2:AA:553:U:H5' | 1.81 | 0.81 |
| 2:AA:659:C:H5' | 6:AF:103:ASN:CG | 2.00 | 0.81 |
| 2:AA:815:C:H2' | 2:AA:816:C:H6 | 1.46 | 0.81 |
| 2:AA:979:G:C8 | 2:AA:979:G:H3' | 2.15 | 0.81 |
| 2:AA:1227:A:OP1 | 25:A1:13:ARG:HD2 | 1.80 | 0.81 |
| 2:AA:1449:A:C2 | 2:AA:449(A):G:H1' | 2.15 | 0.81 |
| 2:AA:1528:A:C2 | 2:AA:1529:A:H1' | 2.16 | 0.81 |
| 2:AA:1665:A:O2' | 2:AA:1666:G:H5' | 1.80 | 0.81 |
| 2:AA:1793:C:H42 | 2:AA:1825:A:N6 | 1.79 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2316:C:C4' | 7:AG:151:ILE:HD11 | 2.11 | 0.81 |
| 2:AA:2498:C:C2' | 2:AA:2499:C:H5" | 2.11 | 0.81 |
| 2:AA:2721:A:O2' | 2:AA:2874:C:H5' | 1.80 | 0.81 |
| 4:AD:117:SER:OG | 4:AD:128:ALA:N | 2.13 | 0.81 |
| 5:AE:216:ARG:HD3 | 5:AE:253:GLN:HA | 1.60 | 0.81 |
| 9:AI:64:LYS:HD3 | 9:AI:126:GLU:OE2 | 1.79 | 0.81 |
| 13:AN:106:LEU:N | 13:AN:106:LEU:HD23 | 1.96 | 0.81 |
| 20:AU:103:LEU:HD22 | 20:AU:109:GLU:HA | 1.63 | 0.81 |
| 22:AW:20:LEU:CD2 | 22:AW:23:LEU:HD12 | 2.03 | 0.81 |
| 24:A0:36:THR:HG22 | 24:A0:40:LYS:HD3 | 1.62 | 0.81 |
| 26:A2:33:VAL:O | 26:A2:62:GLU:HA | 1.81 | 0.81 |
| 34:BA:15:G:H4' | 40:BH:24:ARG:HH12 | 1.45 | 0.81 |
| 34:BA:112:G:O2' | 34:BA:354:G:O2' | 1.97 | 0.81 |
| 34:BA:190(J):U:O2' | 34:BA:190(K):G:H5' | 1.80 | 0.81 |
| 34:BA:290:C:H2' | 34:BA:291:C:H5' | 1.63 | 0.81 |
| 34:BA:611:A:N6 | 34:BA:629:G:H1 | 1.79 | 0.81 |
| 34:BA:878:G:O4' | 43:BK:3:THR:HG21 | 1.81 | 0.81 |
| 35:BB:62:A:C2 | 35:BB:63:C:C2 | 2.68 | 0.81 |
| 38:BF:10:PHE:CZ | 38:BF:178:LEU:HA | 2.16 | 0.81 |
| 38:BF:19:GLU:CG | 38:BF:54:ARG:HE | 1.91 | 0.81 |
| 39:BG:68:TYR:O | 39:BG:70:ILE:HG12 | 1.81 | 0.81 |
| 39:BG:98:GLU:O | 39:BG:100:ARG:N | 2.14 | 0.81 |
| 55:BW:50:GLU:HB2 | 55:BW:99:LEU:HD12 | 1.61 | 0.81 |
| 1:AB:37:C:N4 | 1:AB:44:G:H22 | 1.79 | 0.81 |
| 2:AA:7:G:H2' | 2:AA:8:A:C8 | 2.15 | 0.81 |
| 2:AA:137:C:O4' | 2:AA:137:C:OP2 | 1.99 | 0.81 |
| 2:AA:218:A:N1 | 2:AA:235:U:H4' | 1.94 | 0.81 |
| 2:AA:270(I):G:H2' | 2:AA:270(J):G:O4' | 1.80 | 0.81 |
| 2:AA:363(A):A:H2' | 2:AA:363(B):G:H5' | 1.63 | 0.81 |
| 2:AA:568:U:H2' | 2:AA:568:U:O2 | 1.78 | 0.81 |
| 2:AA:605:C:H3' | 6:AF:105:LYS:HZ2 | 1.40 | 0.81 |
| 2:AA:770:G:H5' | 31:A7:10:ARG:HH11 | 1.45 | 0.81 |
| 2:AA:804:A:O2' | 2:AA:806:C:N3 | 2.12 | 0.81 |
| 2:AA:1155:A:H2' | 2:AA:1156:A:H5" | 1.60 | 0.81 |
| 2:AA:1301:A:H5' | 2:AA:1607:C:H41 | 1.45 | 0.81 |
| 2:AA:1479:G:N2 | 2:AA:1515:C:C6 | 2.49 | 0.81 |
| 2:AA:1571:A:N3 | 2:AA:1571:A:C3' | 2.43 | 0.81 |
| 2:AA:1820:U:O2 | 4:AD:200:THR:HG23 | 1.80 | 0.81 |
| 2:AA:1845:G:O2' | 2:AA:1846:G:H5' | 1.80 | 0.81 |
| 2:AA:1913:A:N7 | 2:AA:1918:A:C6 | 2.49 | 0.81 |
| 2:AA:2120:G:H1 | 2:AA:2178:C:N4 | 1.79 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2458:G:O6 | 2:AA:2490:G:H2' | 1.79 | 0.81 |
| 2:AA:2606:C:H6 | 2:AA:2606:C:H5' | 1.45 | 0.81 |
| 2:AA:2612:C:O2' | 2:AA:2613:U:OP1 | 1.98 | 0.81 |
| 3:AC:181:PRO:HD2 | 3:AC:184:LYS:CD | 2.11 | 0.81 |
| 4:AD:82:TYR:HA | 4:AD:89:ASN:HB3 | 1.63 | 0.81 |
| 11:AL:58:ILE:HG23 | 11:AL:67:THR:HA | 1.63 | 0.81 |
| 12:AM:46:ILE:HG22 | 12:AM:53:ILE:HD11 | 1.62 | 0.81 |
| 15:AP:28:ILE:HD11 | 15:AP:89:PRO:HG3 | 1.62 | 0.81 |
| 15:AP:86:ARG:NH1 | 15:AP:120:HIS:HD2 | 1.77 | 0.81 |
| 20:AU:18:GLU:O | 20:AU:21:LYS:HG2 | 1.81 | 0.81 |
| 21:AV:7:PRO:HG2 | 21:AV:8:ARG:H | 1.44 | 0.81 |
| 25:A1:110:VAL:O | 25:A1:114:ARG:HG3 | 1.81 | 0.81 |
| 34:BA:225:C:H2' | 34:BA:226:G:H5' | 1.63 | 0.81 |
| 34:BA:334:C:H2' | 34:BA:335:C:H6 | 1.42 | 0.81 |
| 34:BA:597:G:N2 | 43:BK:94:TYR:CE2 | 2.42 | 0.81 |
| 34:BA:1400:C:H1' | 35:BC:34:G:H22 | 1.46 | 0.81 |
| 34:BA:1479:C:H2' | 34:BA:1480:G:C5' | 2.10 | 0.81 |
| 35:BB:74:C:C4 | 35:BB:75:C:C1' | 2.60 | 0.81 |
| 37:BE:178:ARG:NH2 | 37:BE:196:LEU:O | 2.13 | 0.81 |
| 38:BF:59:ARG:CZ | 38:BF:64:VAL:HG22 | 2.11 | 0.81 |
| 39:BG:98:GLU:HA | 39:BG:98:GLU:OE1 | 1.80 | 0.81 |
| 40:BH:132:ALA:O | 40:BH:135:THR:HB | 1.81 | 0.81 |
| 42:BJ:43:PHE:O | 42:BJ:46:ALA:HB3 | 1.81 | 0.81 |
| 42:BJ:103:TRP:HZ2 | 42:BJ:141:VAL:HG21 | 1.46 | 0.81 |
| 45:BM:5:ARG:HB2 | 45:BM:5:ARG:NH1 | 1.96 | 0.81 |
| 45:BM:22:LYS:CE | 45:BM:90:LEU:HD12 | 2.11 | 0.81 |
| 46:BN:32:ILE:O | 46:BN:40:ILE:HG13 | 1.80 | 0.81 |
| 2:AA:270(K):C:H3' | 2:AA:270(L):U:O4' | 1.81 | 0.81 |
| 2:AA:273(D):C:C4 | 2:AA:363(B):G:N1 | 2.48 | 0.81 |
| 2:AA:846:C:O2' | 2:AA:847:U:P | 2.38 | 0.81 |
| 2:AA:973:A:C6 | 26:A2:80:TYR:HA | 2.15 | 0.81 |
| 2:AA:1054:A:N3 | 9:AI:28:LYS:HE2 | 1.96 | 0.81 |
| 2:AA:1081:U:H5" | 11:AL:123:ALA:HA | 1.62 | 0.81 |
| 2:AA:1535:U:H5" | 2:AA:1536:A:O4' | 1.80 | 0.81 |
| 2:AA:1732:A:H2' | 2:AA:1733:G:H5' | 1.62 | 0.81 |
| 2:AA:2371:G:N2 | 2:AA:2372:G:C4 | 2.48 | 0.81 |
| 2:AA:2574:G:H2' | 2:AA:2575:C:H6 | 1.38 | 0.81 |
| 2:AA:2713:A:C5' | 2:AA:2714:G:OP2 | 2.29 | 0.81 |
| 2:AA:2785:C:O3' | 5:AE:99:VAL:HG13 | 1.80 | 0.81 |
| 2:AA:2845:G:O2' | 2:AA:2846:G:H5' | 1.81 | 0.81 |
| 4:AD:70:LYS:O | 4:AD:70:LYS:HG3 | 1.78 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:39:GLN:HB2 | 5:AE:174:LEU:CD2 | 2.11 | 0.81 |
| 5:AE:81:VAL:HB | 5:AE:100:TRP:CZ3 | 2.15 | 0.81 |
| 11:AL:91:GLU:OE1 | 11:AL:94:ARG:HD2 | 1.80 | 0.81 |
| 12:AM:45:VAL:HG12 | 12:AM:46:ILE:N | 1.96 | 0.81 |
| 12:AM:61:VAL:HG21 | 12:AM:139:LEU:HB2 | 0.86 | 0.81 |
| 16:AQ:65:ASP:C | 16:AQ:66:LEU:HD12 | 2.00 | 0.81 |
| 32:A8:61:MET:O | 32:A8:62:LEU:HB2 | 1.81 | 0.81 |
| 34:BA:21:G:H2' | 34:BA:22:G:H8 | 1.46 | 0.81 |
| 34:BA:778:G:H2' | 34:BA:779:C:H6 | 1.44 | 0.81 |
| 34:BA:973:G:H3' | 34:BA:974:A:H5" | 1.63 | 0.81 |
| 34:BA:1323:G:H2' | 34:BA:1324:A:C8 | 2.15 | 0.81 |
| 45:BM:35:SER:HB3 | 45:BM:73:ASP:O | 1.79 | 0.81 |
| 46:BN:87:THR:HG22 | 46:BN:91:ARG:HH21 | 1.46 | 0.81 |
| 46:BN:126:ARG:O | 46:BN:128:ALA:N | 2.12 | 0.81 |
| 55:BW:75:ASN:HD22 | 55:BW:75:ASN:H | 1.27 | 0.81 |
| 1:AB:18:G:H3' | 7:AG:149:ARG:NH1 | 1.94 | 0.81 |
| 2:AA:295:G:O6 | 2:AA:344:G:N1 | 2.13 | 0.81 |
| 2:AA:775:G:C2 | 2:AA:787:U:H2' | 2.15 | 0.81 |
| 2:AA:860:U:H2' | 2:AA:861:A:H5' | 1.63 | 0.81 |
| 2:AA:1212:G:N7 | 2:AA:1235:G:O6 | 2.14 | 0.81 |
| 2:AA:1521:G:O5' | 2:AA:1522:G:OP2 | 1.99 | 0.81 |
| 2:AA:1534:G:N2 | 2:AA:1538:G:N3 | 2.28 | 0.81 |
| 2:AA:1669:A:H2' | 2:AA:1670:C:H5' | 1.61 | 0.81 |
| 2:AA:1853:A:H2' | 2:AA:1854:A:H8 | 1.44 | 0.81 |
| 2:AA:2149:G:H2' | 2:AA:2150:U:C5' | 2.09 | 0.81 |
| 2:AA:2209:C:O2' | 2:AA:2210:G:H8 | 1.63 | 0.81 |
| 2:AA:2548:G:H1 | 2:AA:2560:C:N4 | 1.77 | 0.81 |
| 4:AD:67:LYS:HB3 | 4:AD:150:GLY:HA2 | 1.63 | 0.81 |
| 4:AD:162:GLN:CB | 4:AD:164:LEU:HD12 | 2.11 | 0.81 |
| 6:AF:107:ARG:O | 6:AF:110:ALA:HB3 | 1.81 | 0.81 |
| 8:AH:121:GLU:HG2 | 8:AH:133:LYS:O | 1.79 | 0.81 |
| 13:AN:66:LYS:NZ | 13:AN:82:ASN:HD21 | 1.77 | 0.81 |
| 16:AQ:10:MET:HB2 | 16:AQ:13:ARG:HH21 | 1.41 | 0.81 |
| 20:AU:11:GLN:HG3 | 20:AU:21:LYS:NZ | 1.96 | 0.81 |
| 22:AW:45:ARG:HE | 22:AW:49:LEU:CG | 1.94 | 0.81 |
| 24:A0:20:LEU:HD13 | 24:A0:20:LEU:C | 2.01 | 0.81 |
| 26:A2:20:ILE:HG23 | 26:A2:67:LYS:HZ2 | 1.46 | 0.81 |
| 29:A5:40:LYS:HE2 | 29:A5:46:CYS:HB2 | 1.61 | 0.81 |
| 29:A5:40:LYS:HZ2 | 29:A5:49:CYS:HB2 | 1.43 | 0.81 |
| 34:BA:50:A:C2 | 34:BA:360:A:N3 | 2.48 | 0.81 |
| 34:BA:474:G:C5' | 51:BS:81:ARG:HG3 | 2.10 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:708:C:O2' | 34:BA:709:G:H5' | 1.81 | 0.81 |
| 34:BA:826:C:H2' | 34:BA:827:U:H6 | 1.43 | 0.81 |
| 34:BA:1483:A:H2' | 34:BA:1484:C:H5' | 1.63 | 0.81 |
| 35:BB:60:C:C5' | 35:BB:61:C:O5' | 2.28 | 0.81 |
| 35:BC:48:C:O2 | 35:BC:48:C:C2' | 2.29 | 0.81 |
| 37:BE:208:ILE:HG21 | 37:BE:239:VAL:HG11 | 1.61 | 0.81 |
| 42:BJ:74:GLU:HB3 | 42:BJ:91:VAL:HG23 | 1.63 | 0.81 |
| 46:BN:92:GLU:HG3 | 46:BN:96:ARG:HD2 | 1.62 | 0.81 |
| 48:BP:81:LEU:HD22 | 48:BP:82:MET:H | 1.44 | 0.81 |
| 54:BV:62:ILE:HG13 | 54:BV:63:THR:N | 1.93 | 0.81 |
| 55:BW:26:ASN:HD22 | 55:BW:27:LYS:H | 1.26 | 0.81 |
| 56:BX:12:LYS:CG | 56:BX:18:TYR:HB3 | 2.11 | 0.81 |
| 1:AB:76:G:N2 | 1:AB:102:G:C2 | 2.49 | 0.81 |
| 2:AA:291:C:N4 | 2:AA:349:G:C6 | 2.49 | 0.81 |
| 2:AA:593:G:C1' | 32:A8:3:LYS:HZ2 | 1.94 | 0.81 |
| 2:AA:594:U:C4 | 2:AA:595:C:N4 | 2.48 | 0.81 |
| 2:AA:740:U:O2' | 2:AA:741:G:OP1 | 1.97 | 0.81 |
| 2:AA:930:U:P | 23:AX:37:LEU:HD21 | 2.21 | 0.81 |
| 2:AA:1058:G:HO2' | 9:AI:3:ILE:H | 1.28 | 0.81 |
| 2:AA:1206:G:H1' | 2:AA:1242:A:N6 | 1.95 | 0.81 |
| 2:AA:1264:G:N7 | 2:AA:1265:A:C4 | 2.49 | 0.81 |
| 2:AA:1336:A:H2' | 2:AA:1337:G:H8 | 1.46 | 0.81 |
| 2:AA:1716:U:H6 | 2:AA:1716:U:O5' | 1.64 | 0.81 |
| 2:AA:1762:A:H3' | 2:AA:1762:A:H8 | 1.45 | 0.81 |
| 2:AA:1903:G:C2 | 2:AA:1904:G:C5 | 2.69 | 0.81 |
| 2:AA:1996:C:C6 | 2:AA:1996:C:OP1 | 2.34 | 0.81 |
| 2:AA:2111:C:H41 | 2:AA:2120:G:H1' | 1.40 | 0.81 |
| 2:AA:2147:G:H2' | 2:AA:2148:G:C8 | 2.15 | 0.81 |
| 2:AA:2316:C:H5' | 7:AG:142:ALA:HB1 | 1.63 | 0.81 |
| 2:AA:2482:G:H2' | 2:AA:2483:C:H5' | 1.61 | 0.81 |
| 2:AA:2690:C:O5' | 2:AA:2690:C:H6 | 1.62 | 0.81 |
| 2:AA:2713:A:H5" | 2:AA:2714:G:OP2 | 1.81 | 0.81 |
| 2:AA:2893:G:C8 | 2:AA:2893:G:OP2 | 2.34 | 0.81 |
| 3:AC:78:ALA:HB1 | 3:AC:82:LYS:HB2 | 1.63 | 0.81 |
| 3:AC:129:ARG:O | 3:AC:130:ILE:HD12 | 1.81 | 0.81 |
| 5:AE:76:PRO:CA | 5:AE:292:PRO:HG2 | 2.10 | 0.81 |
| 10:AK:21:VAL:HG11 | 10:AK:30:LEU:HD11 | 1.61 | 0.81 |
| 11:AL:129:GLU:HG2 | 11:AL:133:LYS:HE3 | 1.62 | 0.81 |
| 12:AM:24:SER:CB | 12:AM:86:MET:HE3 | 2.11 | 0.81 |
| 13:AN:102:VAL:HG12 | 13:AN:103:ALA:N | 1.95 | 0.81 |
| 14:AO:80:ASP:OD1 | 14:AO:93:VAL:HB | 1.81 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:15:THR:OG1 | 15:AP:20:ILE:HG23 | 1.80 | 0.81 |
| 16:AQ:61:ALA:CB | 16:AQ:88:ALA:HB2 | 2.04 | 0.81 |
| 19:AT:16:ASN:HB2 | 19:AT:20:PHE:CZ | 2.14 | 0.81 |
| 24:A0:64:ARG:HG2 | 24:A0:65:LEU:H | 1.45 | 0.81 |
| 24:A0:77:ARG:HH11 | 24:A0:77:ARG:HG3 | 1.45 | 0.81 |
| 28:A4:5:LEU:N | 28:A4:5:LEU:HD23 | 1.95 | 0.81 |
| 31:A7:25:LYS:HE2 | 31:A7:25:LYS:HA | 1.62 | 0.81 |
| 31:A7:34:ARG:NH1 | 31:A7:42:LEU:HA | 1.96 | 0.81 |
| 32:A8:26:LYS:HD2 | 32:A8:44:LYS:CA | 2.11 | 0.81 |
| 34:BA:453:A:N6 | 34:BA:480:U:N3 | 2.28 | 0.81 |
| 35:BB:59:U:N3 | 35:BB:60:C:C4 | 2.48 | 0.81 |
| 39:BG:4:TYR:CE2 | 39:BG:8:VAL:HG22 | 2.16 | 0.81 |
| 39:BG:31:CYS:SG | 39:BG:33:MET:SD | 2.79 | 0.81 |
| 41:BI:11:ASN:ND2 | 41:BI:13:ASN:HD22 | 1.77 | 0.81 |
| 41:BI:14:LEU:HD13 | 41:BI:18:GLN:CG | 2.10 | 0.81 |
| 45:BM:36:GLY:O | 45:BM:38:ILE:HG23 | 1.80 | 0.81 |
| 45:BM:44:VAL:HG11 | 45:BM:46:ARG:HE | 1.46 | 0.81 |
| 49:BQ:24:CYS:N | 49:BQ:33:VAL:HG11 | 1.94 | 0.81 |
| 52:BT:88:TYR:HA | 52:BT:91:ARG:NH2 | 1.95 | 0.81 |
| 2:AA:108:U:H4' | 2:AA:348:G:N2 | 1.95 | 0.81 |
| 2:AA:199:A:H2' | 2:AA:2433:A:H61 | 1.46 | 0.81 |
| 2:AA:489:G:N2 | 2:AA:491:G:H1' | 1.95 | 0.81 |
| 2:AA:610:C:N4 | 2:AA:618(A):C:H42 | 1.77 | 0.81 |
| 2:AA:627:A:H4' | 2:AA:627:A:OP2 | 1.81 | 0.81 |
| 2:AA:991:C:H5' | 2:AA:1186:G:OP2 | 1.81 | 0.81 |
| 2:AA:1006:C:HO2' | 12:AM:86:MET:HB3 | 1.44 | 0.81 |
| 2:AA:1012:U:H3' | 2:AA:1012:U:H6 | 1.45 | 0.81 |
| 2:AA:1208:C:H2' | 2:AA:1209:G:H8 | 1.45 | 0.81 |
| 2:AA:1341:U:HO2' | 2:AA:1342:A:P | 2.04 | 0.81 |
| 2:AA:2316:C:H4' | 7:AG:151:ILE:CD1 | 2.11 | 0.81 |
| 2:AA:2376:A:H2' | 2:AA:2377:A:C8 | 2.16 | 0.81 |
| 6:AF:193:LEU:HD13 | 6:AF:223:LEU:CB | 2.10 | 0.81 |
| 6:AF:197:SER:HB3 | 6:AF:239:ALA:N | 1.96 | 0.81 |
| 8:AH:102:LEU:CD2 | 8:AH:122:ILE:HD13 | 2.10 | 0.81 |
| 9:AI:13:LEU:HA | 9:AI:17:GLU:OE1 | 1.81 | 0.81 |
| 11:AL:18:ALA:O | 11:AL:39:CYS:HB3 | 1.81 | 0.81 |
| 12:AM:84:ARG:CD | 12:AM:98:PHE:HD2 | 1.94 | 0.81 |
| 14:AO:66:VAL:H | 14:AO:67:ARG:HH21 | 1.27 | 0.81 |
| 18:AS:49:LYS:HD3 | 18:AS:50:VAL:N | 1.95 | 0.81 |
| 24:A0:96:ARG:HD2 | 24:A0:115:GLU:OE1 | 1.81 | 0.81 |
| 34:BA:580:U:N3 | 34:BA:761:G:O6 | 2.14 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:620:C:C2 | 39:BG:135:LEU:HD13 | 2.16 | 0.81 |
| 35:BB:34:G:C2 | 35:BB:35:A:C6 | 2.68 | 0.81 |
| 35:BB:59:U:P | 35:BB:59:U:C6 | 2.74 | 0.81 |
| 41:BI:26:ILE:HG22 | 41:BI:30:LEU:HD11 | 1.62 | 0.81 |
| 43:BK:64:LYS:HG2 | 43:BK:79:VAL:HG21 | 1.60 | 0.81 |
| 44:BL:35:GLU:O | 44:BL:38:GLN:HG2 | 1.80 | 0.81 |
| 47:BO:27:LEU:O | 47:BO:29:GLY:N | 2.14 | 0.81 |
| 2:AA:207:A:C2 | 2:AA:208:C:H1' | 2.17 | 0.80 |
| 2:AA:220:G:C4' | 2:AA:234:C:H4' | 2.10 | 0.80 |
| 2:AA:280:C:O2' | 2:AA:281:G:H3' | 1.81 | 0.80 |
| 2:AA:284:U:N3 | 2:AA:357:A:N6 | 2.29 | 0.80 |
| 2:AA:343:C:C2 | 2:AA:344:G:C4 | 2.69 | 0.80 |
| 2:AA:640:C:H42 | 2:AA:647:G:H1 | 1.29 | 0.80 |
| 2:AA:977:G:N7 | 2:AA:987:G:N2 | 2.28 | 0.80 |
| 2:AA:1305:C:N3 | 2:AA:1623:G:O6 | 2.14 | 0.80 |
| 2:AA:1602:U:H2' | 2:AA:1603:A:O5' | 1.80 | 0.80 |
| 2:AA:1612:C:H3' | 31:A7:3:ARG:NH2 | 1.96 | 0.80 |
| 2:AA:1952:A:H1' | 2:AA:2560:C:O2' | 1.80 | 0.80 |
| 2:AA:2189:U:O2' | 2:AA:2190:G:H5' | 1.81 | 0.80 |
| 2:AA:2403:C:N4 | 2:AA:2414:G:N1 | 2.23 | 0.80 |
| 2:AA:2842:G:H1 | 2:AA:2875:C:H42 | 0.83 | 0.80 |
| 2:AA:2893:G:O2' | 2:AA:2894:G:O4' | 1.99 | 0.80 |
| 4:AD:166:LYS:CD | 4:AD:171:VAL:HG12 | 2.10 | 0.80 |
| 5:AE:38:VAL:HG22 | 5:AE:81:VAL:CG2 | 2.10 | 0.80 |
| 6:AF:148:VAL:HG12 | 6:AF:148:VAL:O | 1.80 | 0.80 |
| 6:AF:193:LEU:HB2 | 6:AF:233:THR:HB | 1.63 | 0.80 |
| 7:AG:84:LEU:O | 7:AG:88:LEU:HB2 | 1.80 | 0.80 |
| 9:AJ:71:ILE:HG22 | 9:AJ:75:LYS:HE3 | 1.63 | 0.80 |
| 11:AL:106:GLU:HA | 11:AL:125:MET:SD | 2.21 | 0.80 |
| 18:AS:29:LEU:HD12 | 18:AS:33:ARG:CD | 2.11 | 0.80 |
| 19:AT:34:LYS:HE3 | 19:AT:52:VAL:O | 1.79 | 0.80 |
| 20:AU:46:ASP:OD1 | 20:AU:47:THR:N | 2.14 | 0.80 |
| 21:AV:168:VAL:HG12 | 21:AV:169:VAL:H | 1.43 | 0.80 |
| 34:BA:52:G:H2' | 34:BA:53:A:C8 | 2.16 | 0.80 |
| 34:BA:190(I):G:H2' | 34:BA:190(J):U:C6 | 2.16 | 0.80 |
| 34:BA:942:G:N2 | 44:BL:124:GLN:HE22 | 1.79 | 0.80 |
| 34:BA:970:C:H42 | 48:BP:126:LYS:CE | 1.93 | 0.80 |
| 34:BA:1188:A:H2' | 34:BA:1189:C:H6 | 1.44 | 0.80 |
| 34:BA:1236:A:H2' | 34:BA:1237:C:C6 | 2.15 | 0.80 |
| 35:BB:53:G:C6 | 35:BB:54:U:C4 | 2.69 | 0.80 |
| 36:B1:53:G:H2' | 36:B1:54:G:H8 | 1.45 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:167:PRO:HG2 | 37:BE:168:THR:H | 1.47 | 0.80 |
| 38:BF:142:MET:HA | 38:BF:146:ALA:CB | 2.10 | 0.80 |
| 43:BK:9:MET:HG2 | 43:BK:13:ILE:CD1 | 2.09 | 0.80 |
| 50:BR:25:THR:HA | 50:BR:28:GLN:CG | 2.10 | 0.80 |
| 55:BW:13:LEU:HD12 | 55:BW:13:LEU:N | 1.96 | 0.80 |
| 56:BX:6:ARG:HH11 | 56:BX:15:ARG:HH22 | 1.26 | 0.80 |
| 1:AB:42:C:H2' | 1:AB:43:C:C6 | 2.16 | 0.80 |
| 2:AA:107:C:H2' | 2:AA:108:U:C6 | 2.16 | 0.80 |
| 2:AA:146:G:C2' | 2:AA:147:U:H5' | 2.11 | 0.80 |
| 2:AA:288:C:H6 | 2:AA:288:C:H5' | 1.46 | 0.80 |
| 2:AA:414:C:H4' | 2:AA:1863:G:N2 | 1.96 | 0.80 |
| 2:AA:482:A:N6 | 2:AA:506:G:C4 | 2.49 | 0.80 |
| 2:AA:974(A):C:H1' | 2:AA:989:G:H22 | 1.45 | 0.80 |
| 2:AA:1158:C:H5' | 23:AX:31:LEU:HB3 | 1.64 | 0.80 |
| 2:AA:1255:U:H5" | 2:AA:1256:G:H5" | 1.63 | 0.80 |
| 2:AA:1650:G:H5' | 24:A0:104:ARG:NH2 | 1.96 | 0.80 |
| 2:AA:1862:G:H2' | 2:AA:1863:G:H8 | 1.46 | 0.80 |
| 2:AA:1889:A:H2' | 2:AA:1890:A:H8 | 1.42 | 0.80 |
| 2:AA:1930:G:O2' | 2:AA:1931:U:O5' | 1.98 | 0.80 |
| 2:AA:2469:A:H8 | 2:AA:2469:A:C5' | 1.93 | 0.80 |
| 2:AA:2882:A:H5" | 24:A0:98:LEU:HD21 | 1.63 | 0.80 |
| 3:AC:46:LYS:O | 3:AC:210:ARG:HG3 | 1.79 | 0.80 |
| 5:AE:269:ILE:HG13 | 5:AE:297:LYS:CG | 2.11 | 0.80 |
| 10:AK:12:LYS:HE3 | 10:AK:14:LYS:HE3 | 1.62 | 0.80 |
| 15:AP:58:HIS:CG | 15:AP:59:ASN:N | 2.50 | 0.80 |
| 16:AQ:35:VAL:HG13 | 16:AQ:103:ASP:CG | 2.02 | 0.80 |
| 20:AU:20:HIS:HD2 | 20:AU:23:VAL:HB | 1.46 | 0.80 |
| 25:A1:93:LYS:H | 26:A2:10:LYS:NZ | 1.79 | 0.80 |
| 28:A4:58:LYS:HG2 | 28:A4:62:ARG:CZ | 2.10 | 0.80 |
| 33:A9:7:VAL:HG22 | 33:A9:34:GLN:HG2 | 1.63 | 0.80 |
| 34:BA:141:A:H1' | 34:BA:182:U:H1' | 1.63 | 0.80 |
| 34:BA:974:A:H5' | 34:BA:975:A:OP1 | 1.82 | 0.80 |
| 34:BA:1105:A:H2' | 34:BA:1106:G:H8 | 1.45 | 0.80 |
| 34:BA:1507:A:H2' | 34:BA:1508:G:C8 | 2.16 | 0.80 |
| 36:B1:18:U:H2' | 36:B1:19:G:O4' | 1.81 | 0.80 |
| 36:B1:20:A:N6 | 36:B1:34:U:H3 | 1.78 | 0.80 |
| 40:BH:101:ILE:HG12 | 40:BH:118:ILE:O | 1.82 | 0.80 |
| 40:BH:151:LEU:HD22 | 43:BK:65:TYR:O | 1.79 | 0.80 |
| 42:BJ:146:GLU:HG3 | 42:BJ:149:ARG:HH21 | 1.46 | 0.80 |
| 48:BP:65:LYS:O | 48:BP:66:LEU:HD23 | 1.80 | 0.80 |
| 49:BQ:20:ALA:O | 49:BQ:21:TYR:HB3 | 1.82 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:BT:59:ILE:HG13 | 52:BT:60:ILE:N | 1.96 | 0.80 |
| 2:AA:137:C:N3 | 2:AA:142:G:C2 | 2.49 | 0.80 |
| 2:AA:481:G:N2 | 2:AA:509:C:N3 | 2.30 | 0.80 |
| 2:AA:568:U:O2 | 2:AA:570:G:C8 | 2.34 | 0.80 |
| 2:AA:609:A:H61 | 2:AA:619:G:H21 | 1.27 | 0.80 |
| 2:AA:1084:A:OP2 | 9:AI:35:ALA:O | 1.98 | 0.80 |
| 2:AA:1239:G:N3 | 2:AA:1240:U:C5 | 2.49 | 0.80 |
| 2:AA:1403:C:C4' | 2:AA:1471:A:H5' | 2.10 | 0.80 |
| 2:AA:1703:G:N2 | 2:AA:1704:G:H1' | 1.97 | 0.80 |
| 2:AA:1911:U:O4 | 2:AA:1918:A:N7 | 2.15 | 0.80 |
| 2:AA:2055:C:C2' | 2:AA:2504:U:H5' | 2.11 | 0.80 |
| 2:AA:2611:U:H3' | 2:AA:2611:U:OP2 | 1.82 | 0.80 |
| 2:AA:2755:C:O5' | 2:AA:2755:C:H6 | 1.63 | 0.80 |
| 3:AC:161:ILE:HD12 | 3:AC:174:PRO:HG2 | 1.63 | 0.80 |
| 5:AE:228:ARG:HD2 | 5:AE:228:ARG:H | 1.44 | 0.80 |
| 7:AG:79:MET:HA | 7:AG:82:GLU:CD | 2.01 | 0.80 |
| 10:AK:111:ASP:C | 10:AK:112:LYS:HD3 | 2.01 | 0.80 |
| 16:AQ:23:ARG:HH22 | 16:AQ:48:VAL:HG21 | 1.46 | 0.80 |
| 28:A4:33:VAL:HG12 | 28:A4:34:ASP:N | 1.96 | 0.80 |
| 28:A4:58:LYS:HG2 | 28:A4:62:ARG:HH21 | 1.47 | 0.80 |
| 34:BA:375:U:C4' | 51:BS:17:TYR:HE2 | 1.94 | 0.80 |
| 34:BA:551:U:H2' | 34:BA:552:U:H6 | 1.40 | 0.80 |
| 34:BA:658:G:C2' | 34:BA:659:U:H5' | 2.12 | 0.80 |
| 34:BA:1015:A:H2' | 34:BA:1016:A:C8 | 2.15 | 0.80 |
| 34:BA:1347:G:H8 | 44:BL:107:ARG:HB3 | 1.46 | 0.80 |
| 34:BA:1361:G:H8 | 34:BA:1361:G:H3' | 1.46 | 0.80 |
| 34:BA:1517:G:N2 | 34:BA:1518:A:H1' | 1.95 | 0.80 |
| 38:BF:182:ILE:HG12 | 38:BF:203:PHE:CD1 | 2.16 | 0.80 |
| 39:BG:92:VAL:HG12 | 39:BG:96:LEU:CD1 | 2.10 | 0.80 |
| 40:BH:125:SER:O | 40:BH:127:ASN:N | 2.13 | 0.80 |
| 47:BO:33:ARG:HE | 47:BO:33:ARG:HA | 1.47 | 0.80 |
| 47:BO:104:VAL:O | 47:BO:106:ASP:N | 2.13 | 0.80 |
| 49:BQ:9:LYS:HD3 | 49:BQ:10:ALA:N | 1.96 | 0.80 |
| 52:BT:74:LEU:HD13 | 52:BT:74:LEU:C | 2.02 | 0.80 |
| 53:BU:53:ARG:C | 53:BU:55:ARG:H | 1.82 | 0.80 |
| 2:AA:23:G:H2' | 2:AA:24:G:C5' | 2.11 | 0.80 |
| 2:AA:83:G:C6 | 2:AA:102:G:H2' | 2.16 | 0.80 |
| 2:AA:380:U:H2' | 2:AA:381:G:H5' | 1.61 | 0.80 |
| 2:AA:763:G:O2' | 2:AA:764:A:C5' | 2.30 | 0.80 |
| 2:AA:977:G:O2' | 2:AA:978:G:H5' | 1.82 | 0.80 |
| 2:AA:1479:G:H2' | 2:AA:1480:G:H8 | 1.45 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1484:G:H1 | 2:AA:1505:C:H42 | 1.30 | 0.80 |
| 2:AA:1790:C:H5" | 2:AA:1828:G:H22 | 1.46 | 0.80 |
| 2:AA:2255:G:C2 | 2:AA:2256:G:H1' | 2.16 | 0.80 |
| 2:AA:2510:C:O2 | 2:AA:2578:G:N1 | 2.11 | 0.80 |
| 4:AD:209:ASN:HB3 | 4:AD:213:LYS:HZ2 | 1.43 | 0.80 |
| 7:AG:68:PRO:O | 7:AG:69:ILE:HG13 | 1.81 | 0.80 |
| 8:AH:102:LEU:HB2 | 8:AH:104:LEU:HD11 | 1.64 | 0.80 |
| 9:AI:102:ILE:HG21 | 9:AI:118:LEU:CD1 | 2.11 | 0.80 |
| 10:AK:115:ILE:HA | 10:AK:131:VAL:HG13 | 1.62 | 0.80 |
| 11:AL:132:ALA:CA | 11:AL:137:ILE:HB | 2.11 | 0.80 |
| 12:AM:94:GLY:O | 12:AM:98:PHE:HD1 | 1.63 | 0.80 |
| 13:AN:98:ILE:HG21 | 13:AN:118:ALA:HA | 1.63 | 0.80 |
| 15:AP:76:GLY:HA3 | 15:AP:132:VAL:HG21 | 1.62 | 0.80 |
| 19:AT:3:ASP:CG | 19:AT:4:VAL:H | 1.82 | 0.80 |
| 20:AU:19:ARG:HA | 20:AU:22:GLN:NE2 | 1.97 | 0.80 |
| 21:AV:119:ASN:HB3 | 21:AV:120:LEU:HD23 | 1.63 | 0.80 |
| 22:AW:53:ILE:O | 22:AW:57:LYS:HG3 | 1.82 | 0.80 |
| 25:A1:13:ARG:HH11 | 25:A1:13:ARG:CA | 1.94 | 0.80 |
| 25:A1:55:ARG:CB | 25:A1:58:ARG:HE | 1.95 | 0.80 |
| 31:A7:21:ARG:NH2 | 31:A7:42:LEU:HB3 | 1.96 | 0.80 |
| 34:BA:242:C:C2 | 34:BA:285:G:N2 | 2.49 | 0.80 |
| 34:BA:741:G:O2' | 34:BA:742:G:H5' | 1.81 | 0.80 |
| 34:BA:1053:G:C5' | 34:BA:1054:C:H5' | 2.10 | 0.80 |
| 34:BA:1489:G:H2' | 34:BA:1490:C:H5" | 1.61 | 0.80 |
| 34:BA:1539:C:H2' | 34:BA:1540:U:H5' | 1.63 | 0.80 |
| 35:BB:65:G:C2 | 35:BB:66:A:C5 | 2.70 | 0.80 |
| 39:BG:26:CYS:HA | 39:BG:31:CYS:HA | 1.63 | 0.80 |
| 39:BG:135:LEU:O | 39:BG:137:SER:N | 2.14 | 0.80 |
| 41:BI:70:ASP:OD1 | 41:BI:71:ARG:HG2 | 1.81 | 0.80 |
| 1:AB:100:G:H2' | 1:AB:101:A:C8 | 2.16 | 0.80 |
| 2:AA:13:A:H2 | 2:AA:526:A:N7 | 1.79 | 0.80 |
| 2:AA:292:C:C6 | 2:AA:293:U:O4 | 2.35 | 0.80 |
| 2:AA:467:G:C2' | 2:AA:468:G:H5' | 2.11 | 0.80 |
| 2:AA:692:C:O2' | 2:AA:693:C:H5' | 1.82 | 0.80 |
| 2:AA:971:C:C2 | 2:AA:972:G:H1' | 2.16 | 0.80 |
| 2:AA:980:A:C2 | 2:AA:2038:G:O4' | 2.35 | 0.80 |
| 2:AA:1036:G:OP1 | 8:AH:59:HIS:CE1 | 2.34 | 0.80 |
| 2:AA:1521:G:H3' | 2:AA:1522:G:C8 | 2.16 | 0.80 |
| 2:AA:1651:G:N1 | 2:AA:2006:C:N4 | 1.93 | 0.80 |
| 2:AA:1676:A:O2' | 2:AA:1677:A:H5' | 1.81 | 0.80 |
| 2:AA:1918:A:OP2 | 2:AA:1918:A:C3' | 2.30 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2573:C:H6 | 2:AA:2573:C:H3' | 1.45 | 0.80 |
| 2:AA:2807:G:O6 | 2:AA:2893:G:N7 | 2.14 | 0.80 |
| 6:AF:82:GLN:N | 6:AF:87:ARG:HD3 | 1.97 | 0.80 |
| 7:AG:97:GLN:HB2 | 7:AG:106:PHE:CD2 | 2.17 | 0.80 |
| 8:AH:137:LYS:HD2 | 8:AH:138:GLN:N | 1.96 | 0.80 |
| 13:AN:9:LYS:HG3 | 13:AN:18:GLU:CG | 2.10 | 0.80 |
| 13:AN:98:ILE:CG2 | 13:AN:99:PHE:N | 2.42 | 0.80 |
| 15:AP:11:LYS:HB3 | 15:AP:12:PRO:HD2 | 1.63 | 0.80 |
| 15:AP:57:ARG:O | 15:AP:61:LEU:CG | 2.30 | 0.80 |
| 21:AV:19:ILE:HD13 | 21:AV:36:ARG:CD | 2.12 | 0.80 |
| 21:AV:126:GLY:O | 21:AV:129:ARG:HB2 | 1.81 | 0.80 |
| 22:AW:57:LYS:O | 22:AW:60:GLN:HB3 | 1.80 | 0.80 |
| 25:A1:6:THR:O | 25:A1:9:VAL:HB | 1.82 | 0.80 |
| 30:A6:19:GLY:O | 30:A6:20:PHE:HB2 | 1.81 | 0.80 |
| 34:BA:187:C:H1' | 55:BW:104:LEU:HD23 | 1.63 | 0.80 |
| 34:BA:251:G:H4' | 34:BA:252:U:O5' | 1.81 | 0.80 |
| 34:BA:414:A:H2' | 34:BA:415:A:H8 | 1.44 | 0.80 |
| 34:BA:430:A:H4' | 39:BG:7:PRO:HB3 | 1.63 | 0.80 |
| 34:BA:438:G:H22 | 34:BA:496:A:P | 2.04 | 0.80 |
| 34:BA:560:U:O4' | 34:BA:566:G:N2 | 2.15 | 0.80 |
| 34:BA:765:G:H21 | 34:BA:816:A:H2 | 1.29 | 0.80 |
| 34:BA:768:A:N7 | 34:BA:769:G:N7 | 2.30 | 0.80 |
| 34:BA:1532:U:H3' | 34:BA:1532:U:C6 | 2.16 | 0.80 |
| 37:BE:163:PHE:HZ | 37:BE:201:ILE:HG12 | 1.44 | 0.80 |
| 37:BE:168:THR:OG1 | 37:BE:192:SER:HA | 1.81 | 0.80 |
| 42:BJ:65:ALA:CA | 42:BJ:68:ASN:HD22 | 1.93 | 0.80 |
| 44:BL:19:LEU:HD22 | 44:BL:59:PHE:CB | 2.12 | 0.80 |
| 47:BO:77:LEU:O | 47:BO:78:GLN:HG3 | 1.82 | 0.80 |
| 2:AA:204:A:OP1 | 2:AA:206:U:H1' | 1.81 | 0.80 |
| 2:AA:574:C:N4 | 2:AA:2054:A:H5" | 1.96 | 0.80 |
| 2:AA:791:C:N3 | 2:AA:794:G:H5' | 1.96 | 0.80 |
| 2:AA:1352:U:H1' | 2:AA:1570:A:C2 | 2.15 | 0.80 |
| 2:AA:1439:A:H2' | 2:AA:1440:G:C5' | 2.11 | 0.80 |
| 2:AA:1548:C:H2' | 2:AA:1549:C:C6 | 2.16 | 0.80 |
| 2:AA:1650:G:O6 | 2:AA:2008:C:C4 | 2.35 | 0.80 |
| 2:AA:1695:G:H3' | 2:AA:1695:G:N3 | 1.97 | 0.80 |
| 2:AA:1899:G:N2 | 2:AA:1902:C:H41 | 1.78 | 0.80 |
| 2:AA:2137:C:H5 | 2:AA:2154:G:N2 | 1.79 | 0.80 |
| 2:AA:2313:C:C5' | 7:AG:51:ARG:HD3 | 2.08 | 0.80 |
| 2:AA:2320:A:H5' | 2:AA:2321:G:C5 | 2.16 | 0.80 |
| 2:AA:2354:G:O2' | 27:A3:31:VAL:HG13 | 1.81 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2432:A:C2 | 2:AA:2433:A:C2 | 2.70 | 0.80 |
| 2:AA:2589:A:O2' | 2:AA:2590:A:H5' | 1.82 | 0.80 |
| 2:AA:2737:G:H2' | 2:AA:2738:A:H8 | 1.45 | 0.80 |
| 2:AA:2848:G:H22 | 2:AA:2867:G:C1' | 1.94 | 0.80 |
| 2:AA:2852:G:N2 | 2:AA:2865:U:O2 | 2.14 | 0.80 |
| 6:AF:5:ILE:HA | 6:AF:139:VAL:CG1 | 2.12 | 0.80 |
| 8:AH:34:ARG:CZ | 8:AH:74:MET:HG2 | 2.11 | 0.80 |
| 11:AL:14:PRO:CB | 11:AL:17:LYS:HD2 | 2.08 | 0.80 |
| 11:AL:125:MET:O | 11:AL:128:ILE:HB | 1.79 | 0.80 |
| 14:AO:114:VAL:HG21 | 14:AO:133:VAL:N | 1.96 | 0.80 |
| 15:AP:17:ARG:HA | 15:AP:22:GLY:HA3 | 1.63 | 0.80 |
| 16:AQ:27:LEU:HD13 | 16:AQ:27:LEU:O | 1.82 | 0.80 |
| 19:AT:56:ASN:HD21 | 19:AT:62:LYS:CE | 1.95 | 0.80 |
| 20:AU:15:PRO:O | 20:AU:18:GLU:HB2 | 1.81 | 0.80 |
| 20:AU:49:GLU:HB3 | 20:AU:97:ARG:HD2 | 1.63 | 0.80 |
| 21:AV:37:LYS:N | 21:AV:40:ASP:OD1 | 2.14 | 0.80 |
| 21:AV:103:ARG:CZ | 21:AV:137:ASP:HB3 | 2.10 | 0.80 |
| 25:A1:93:LYS:O | 25:A1:94:VAL:HG23 | 1.80 | 0.80 |
| 34:BA:43:C:H5" | 51:BS:12:LYS:CB | 2.11 | 0.80 |
| 34:BA:129(A):G:H2' | 34:BA:190(E):U:C6 | 2.16 | 0.80 |
| 34:BA:449:C:H2' | 34:BA:450:G:O4' | 1.81 | 0.80 |
| 34:BA:665:A:H2' | 34:BA:725:G:H21 | 1.44 | 0.80 |
| 34:BA:922:G:H1' | 34:BA:1398:A:C2 | 2.16 | 0.80 |
| 34:BA:1064:G:H1' | 34:BA:1066:C:N3 | 1.96 | 0.80 |
| 34:BA:1128:C:H42 | 34:BA:1143:G:N2 | 1.80 | 0.80 |
| 34:BA:1235:U:H5" | 56:BX:3:LYS:HB2 | 1.63 | 0.80 |
| 34:BA:1240:U:C2 | 42:BJ:32:ARG:NH2 | 2.50 | 0.80 |
| 34:BA:1443:G:OP2 | 34:BA:1446:A:H5" | 1.80 | 0.80 |
| 37:BE:163:PHE:CD1 | 37:BE:185:ILE:HB | 2.17 | 0.80 |
| 44:BL:74:ILE:O | 44:BL:77:ILE:HB | 1.81 | 0.80 |
| 44:BL:93:ARG:NH2 | 44:BL:97:LYS:HD3 | 1.95 | 0.80 |
| 47:BO:34:ARG:NH2 | 47:BO:61:THR:HG21 | 1.96 | 0.80 |
| 50:BR:35:ARG:HH12 | 50:BR:59:MET:HG3 | 1.47 | 0.80 |
| 53:BU:56:THR:HB | 53:BU:58:LEU:CD1 | 2.12 | 0.80 |
| 56:BX:10:ARG:HH21 | 56:BX:13:ILE:HD12 | 1.44 | 0.80 |
| 2:AA:27:G:C2 | 2:AA:512:G:C2' | 2.64 | 0.80 |
| 2:AA:274:G:H2' | 2:AA:275:G:H5' | 1.63 | 0.80 |
| 2:AA:511:U:H5 | 2:AA:512:G:C2 | 2.00 | 0.80 |
| 2:AA:929:G:N7 | 2:AA:930:U:C5 | 2.49 | 0.80 |
| 2:AA:1138:G:OP1 | 12:AM:82:THR:HG22 | 1.80 | 0.80 |
| 2:AA:1690:A:C2 | 2:AA:1691:C:O4' | 2.35 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1801:G:N1 | 2:AA:2207:C:H4' | 1.97 | 0.80 |
| 2:AA:1830:C:O2' | 2:AA:1831:G:H5' | 1.82 | 0.80 |
| 2:AA:2015:A:N7 | 29:A5:6:VAL:HG11 | 1.97 | 0.80 |
| 2:AA:2359:C:H4' | 32:A8:52:LYS:HE2 | 1.62 | 0.80 |
| 2:AA:2424:C:H5' | 2:AA:2425:A:H5' | 1.64 | 0.80 |
| 3:AC:77:ILE:HD13 | 3:AC:123:VAL:HG22 | 1.63 | 0.80 |
| 3:AC:80:GLY:H | 3:AC:83:ILE:HG13 | 1.47 | 0.80 |
| 8:AH:102:LEU:HD23 | 8:AH:114:ILE:O | 1.81 | 0.80 |
| 10:AK:7:LYS:HG3 | 10:AK:12:LYS:CG | 2.12 | 0.80 |
| 10:AK:115:ILE:HG12 | 10:AK:131:VAL:HG13 | 1.64 | 0.80 |
| 17:AR:11:THR:HG22 | 17:AR:12:ASP:H | 1.46 | 0.80 |
| 18:AS:19:LEU:HD22 | 29:A5:25:LEU:CG | 2.10 | 0.80 |
| 20:AU:42:VAL:CA | 20:AU:112:LEU:HD13 | 2.09 | 0.80 |
| 26:A2:6:GLN:HE22 | 26:A2:10:LYS:CB | 1.94 | 0.80 |
| 28:A4:5:LEU:HD21 | 28:A4:9:ALA:HA | 1.63 | 0.80 |
| 34:BA:220:G:O2' | 34:BA:221:C:H5' | 1.80 | 0.80 |
| 34:BA:253:U:O2 | 34:BA:275:G:H1' | 1.82 | 0.80 |
| 34:BA:394:G:H2' | 34:BA:395:C:C6 | 2.16 | 0.80 |
| 34:BA:677:U:H3 | 34:BA:713:G:H1 | 1.27 | 0.80 |
| 34:BA:872:A:O2' | 34:BA:873:A:H5" | 1.82 | 0.80 |
| 34:BA:1401:G:H2' | 34:BA:1402:C:O4' | 1.81 | 0.80 |
| 37:BE:192:SER:O | 37:BE:194:PRO:HD2 | 1.80 | 0.80 |
| 38:BF:52:LEU:HD23 | 38:BF:52:LEU:H | 1.46 | 0.80 |
| 39:BG:77:ASN:O | 39:BG:80:GLU:HB2 | 1.82 | 0.80 |
| 40:BH:41:VAL:CG2 | 40:BH:113:ALA:HA | 2.12 | 0.80 |
| 40:BH:81:GLU:HB3 | 40:BH:90:VAL:CG2 | 2.02 | 0.80 |
| 43:BK:6:ILE:HG23 | 43:BK:7:ALA:N | 1.95 | 0.80 |
| 44:BL:116:LYS:HB3 | 44:BL:122:ALA:HA | 1.62 | 0.80 |
| 48:BP:16:ASP:HA | 48:BP:19:LEU:CG | 2.11 | 0.80 |
| 55:BW:75:ASN:H | 55:BW:75:ASN:ND2 | 1.79 | 0.80 |
| 2:AA:66:C:C4 | 2:AA:89:G:N1 | 2.49 | 0.80 |
| 2:AA:272:G:H2' | 2:AA:273:G:O4' | 1.81 | 0.80 |
| 2:AA:311:A:H2' | 2:AA:311:A:N3 | 1.97 | 0.80 |
| 2:AA:452:G:C2 | 2:AA:458:G:C2 | 2.70 | 0.80 |
| 2:AA:1014:U:C2' | 2:AA:1015:G:H5' | 2.12 | 0.80 |
| 2:AA:1422:G:N1 | 2:AA:1576:U:N3 | 2.30 | 0.80 |
| 2:AA:1496:A:H2' | 2:AA:1497:U:C5 | 2.17 | 0.80 |
| 2:AA:1759:A:H2' | 2:AA:1760:A:O5' | 1.81 | 0.80 |
| 2:AA:1826:G:C2' | 2:AA:1827:C:H5' | 2.12 | 0.80 |
| 2:AA:1864:U:H2' | 2:AA:1869:G:C5' | 2.12 | 0.80 |
| 2:AA:2010:G:C2' | 2:AA:2011:U:H5' | 2.11 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2403:C:H42 | 2:AA:2414:G:H1 | 0.82 | 0.80 |
| 2:AA:2455:G:O2' | 2:AA:2456:C:H5' | 1.82 | 0.80 |
| 2:AA:2607:G:C2' | 2:AA:2608:G:H5' | 2.11 | 0.80 |
| 5:AE:41:PHE:HB2 | 5:AE:311:PHE:CE1 | 2.17 | 0.80 |
| 5:AE:46:ALA:HB3 | 5:AE:72:VAL:CG2 | 2.07 | 0.80 |
| 6:AF:153:VAL:HG11 | 6:AF:207:LEU:CD1 | 2.11 | 0.80 |
| 8:AH:28:PRO:O | 8:AH:30:GLY:N | 2.14 | 0.80 |
| 10:AK:93:ILE:O | 10:AK:93:ILE:HG13 | 1.81 | 0.80 |
| 11:AL:20:PRO:HG2 | 11:AL:23:PRO:HG2 | 1.64 | 0.80 |
| 18:AS:11:ARG:NH2 | 18:AS:98:LYS:HB3 | 1.96 | 0.80 |
| 26:A2:19:VAL:HG12 | 26:A2:21:ARG:HH22 | 1.46 | 0.80 |
| 31:A7:32:ALA:HA | 31:A7:35:ARG:CG | 2.11 | 0.80 |
| 34:BA:449:C:C2 | 34:BA:450:G:H1' | 2.16 | 0.80 |
| 34:BA:450:G:H1 | 34:BA:483:C:H42 | 1.29 | 0.80 |
| 34:BA:763:G:H2' | 34:BA:764:C:C6 | 2.16 | 0.80 |
| 34:BA:1529:G:H5" | 34:BA:1530:G:OP2 | 1.81 | 0.80 |
| 35:BB:53:G:H2' | 35:BB:54:U:C5 | 2.16 | 0.80 |
| 37:BE:15:VAL:HG22 | 37:BE:209:ARG:NH1 | 1.97 | 0.80 |
| 37:BE:68:ILE:HB | 37:BE:70:PHE:CE1 | 2.16 | 0.80 |
| 37:BE:169:LYS:HZ3 | 37:BE:170:GLU:HA | 1.43 | 0.80 |
| 42:BJ:126:ASP:C | 42:BJ:129:GLU:HB2 | 2.01 | 0.80 |
| 47:BO:43:VAL:HG23 | 47:BO:55:VAL:HG21 | 1.61 | 0.80 |
| 47:BO:53:ARG:CZ | 47:BO:92:ASP:OD2 | 2.29 | 0.80 |
| 54:BV:5:LEU:CD1 | 54:BV:9:VAL:HG13 | 2.11 | 0.80 |
| 54:BV:20:LEU:HD12 | 54:BV:21:GLU:N | 1.97 | 0.80 |
| 55:BW:88:VAL:O | 55:BW:92:LEU:HG | 1.81 | 0.80 |
| 2:AA:50:U:H3' | 2:AA:50:U:H6 | 1.45 | 0.80 |
| 2:AA:80:G:H1 | 2:AA:106:C:H42 | 0.81 | 0.80 |
| 2:AA:125:G:C5' | 31:A7:19:ARG:HD2 | 2.12 | 0.80 |
| 2:AA:218:A:H3' | 2:AA:219:G:C8 | 2.17 | 0.80 |
| 2:AA:810:U:OP1 | 2:AA:1253:A:C5 | 2.34 | 0.80 |
| 2:AA:873:G:H4' | 15:AP:32:LYS:CG | 2.11 | 0.80 |
| 2:AA:878:A:H2 | 2:AA:879:G:H5" | 1.46 | 0.80 |
| 2:AA:953:A:H2' | 2:AA:954:G:H5' | 1.64 | 0.80 |
| 2:AA:1665:A:O2' | 13:AN:67:ARG:CZ | 2.30 | 0.80 |
| 2:AA:1669:A:C8 | 13:AN:4:GLN:OE1 | 2.33 | 0.80 |
| 2:AA:1691:C:H2' | 2:AA:1692:U:H5' | 1.64 | 0.80 |
| 2:AA:2047:U:H2' | 2:AA:2048:G:C8 | 2.17 | 0.80 |
| 2:AA:2063:C:O2 | 2:AA:2451:A:C2 | 2.35 | 0.80 |
| 2:AA:2213:U:H5' | 2:AA:2215:G:N7 | 1.96 | 0.80 |
| 4:AD:181:ARG:CZ | 4:AD:181:ARG:CB | 2.60 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:68:ALA:O | 6:AF:69:HIS:ND1 | 2.15 | 0.80 |
| 6:AF:194:PHE:HB2 | 6:AF:211:ASP:O | 1.82 | 0.80 |
| 7:AG:56:ARG:NH2 | 7:AG:63:ILE:HG12 | 1.97 | 0.80 |
| 10:AK:62:LEU:O | 10:AK:65:ALA:HB3 | 1.81 | 0.80 |
| 12:AM:105:LEU:HD23 | 12:AM:105:LEU:N | 1.96 | 0.80 |
| 13:AN:58:VAL:HG11 | 13:AN:86:ILE:CD1 | 2.11 | 0.80 |
| 13:AN:83:ALA:C | 13:AN:84:CYS:HG | 1.82 | 0.80 |
| 14:AO:67:ARG:NH1 | 14:AO:109:LEU:HD12 | 1.96 | 0.80 |
| 15:AP:42:TYR:HA | 21:AV:119:ASN:HD21 | 1.46 | 0.80 |
| 29:A5:44:HIS:HA | 29:A5:52:TYR:OH | 1.81 | 0.80 |
| 32:A8:37:SER:O | 32:A8:41:ILE:HD11 | 1.82 | 0.80 |
| 33:A9:19:ARG:O | 33:A9:22:ARG:CB | 2.27 | 0.80 |
| 34:BA:227:G:H2' | 34:BA:228:A:C8 | 2.17 | 0.80 |
| 34:BA:283:C:H2' | 34:BA:283:C:O2 | 1.82 | 0.80 |
| 34:BA:678:U:H2' | 34:BA:679:C:C6 | 2.16 | 0.80 |
| 34:BA:932:C:H4' | 42:BJ:4:ARG:NH2 | 1.95 | 0.80 |
| 34:BA:1181:G:O3' | 34:BA:1184:G:H5' | 1.81 | 0.80 |
| 34:BA:1184:G:H2' | 34:BA:1185:G:H8 | 1.47 | 0.80 |
| 35:BC:16:U:OP2 | 35:BC:60:C:O2' | 2.00 | 0.80 |
| 43:BK:45:ILE:HG13 | 43:BK:47:GLY:H | 1.45 | 0.80 |
| 46:BN:62:GLN:NE2 | 46:BN:63:LEU:N | 2.30 | 0.80 |
| 50:BR:56:LEU:O | 50:BR:59:MET:HB3 | 1.81 | 0.80 |
| 52:BT:10:VAL:HG23 | 52:BT:55:ASP:O | 1.82 | 0.80 |
| 2:AA:144:C:O2' | 2:AA:145:G:H5' | 1.81 | 0.80 |
| 2:AA:846:C:O2' | 2:AA:847:U:OP2 | 2.00 | 0.80 |
| 2:AA:889:C:H2' | 2:AA:890:A:O4' | 1.82 | 0.80 |
| 2:AA:951:C:O2' | 2:AA:952:G:H5' | 1.80 | 0.80 |
| 2:AA:1468:C:C4 | 2:AA:1524:G:C2 | 2.69 | 0.80 |
| 2:AA:1519:G:N3 | 2:AA:1520:U:H1' | 1.98 | 0.80 |
| 2:AA:1588:C:O2' | 2:AA:1589:C:H5' | 1.82 | 0.80 |
| 2:AA:1791:A:O2' | 4:AD:204:PHE:O | 1.99 | 0.80 |
| 2:AA:1949:G:O2' | 2:AA:1950:G:H5' | 1.82 | 0.80 |
| 3:AC:140:PRO:C | 3:AC:142:ALA:H | 1.84 | 0.80 |
| 5:AE:70:VAL:CG1 | 5:AE:71:THR:N | 2.45 | 0.80 |
| 5:AE:107:GLU:HB3 | 5:AE:110:ARG:CZ | 2.12 | 0.80 |
| 7:AG:56:ARG:HB3 | 7:AG:56:ARG:CZ | 2.08 | 0.80 |
| 8:AH:51:VAL:HG21 | 8:AH:68:ARG:HE | 1.47 | 0.80 |
| 10:AK:132:LYS:HA | 10:AK:138:THR:HG21 | 1.62 | 0.80 |
| 21:AV:4:THR:C | 21:AV:33:ALA:HB1 | 2.01 | 0.80 |
| 24:A0:96:ARG:HG3 | 24:A0:98:LEU:HD11 | 1.62 | 0.80 |
| 25:A1:74:MET:CE | 25:A1:78:THR:HG21 | 2.11 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:7:THR:O | 26:A2:8:GLY:C | 2.20 | 0.80 |
| 26:A2:69:ILE:HG13 | 26:A2:91:THR:HG23 | 1.64 | 0.80 |
| 34:BA:312:C:H2' | 34:BA:312:C:O2 | 1.81 | 0.80 |
| 34:BA:841:U:H3' | 34:BA:848:C:H5' | 1.64 | 0.80 |
| 34:BA:889:A:C2 | 34:BA:891:U:N3 | 2.50 | 0.80 |
| 34:BA:962:C:C4 | 34:BA:963:G:N7 | 2.49 | 0.80 |
| 34:BA:1032:G:H2' | 34:BA:1033:G:C8 | 2.16 | 0.80 |
| 34:BA:1481:U:H2' | 34:BA:1482:G:H8 | 1.42 | 0.80 |
| 35:BB:18:G:N1 | 35:BB:57:G:C6 | 2.32 | 0.80 |
| 35:BC:51:G:N2 | 35:BC:63:C:N3 | 2.26 | 0.80 |
| 37:BE:69:LEU:HB2 | 37:BE:159:PRO:CB | 2.11 | 0.80 |
| 40:BH:76:ILE:HG23 | 40:BH:77:PRO:CD | 2.12 | 0.80 |
| 43:BK:100:ILE:HD13 | 43:BK:125:ARG:HE | 1.45 | 0.80 |
| 44:BL:111:ARG:O | 44:BL:119:ALA:HB2 | 1.82 | 0.80 |
| 48:BP:23:TYR:O | 48:BP:66:LEU:CB | 2.30 | 0.80 |
| 49:BQ:34:TYR:H | 49:BQ:34:TYR:HD1 | 1.26 | 0.80 |
| 54:BV:13:ASP:HA | 54:BV:16:LEU:CB | 2.12 | 0.80 |
| 2:AA:669:G:N3 | 2:AA:669:G:C2' | 2.41 | 0.79 |
| 2:AA:946:G:N1 | 2:AA:971:C:C4 | 2.50 | 0.79 |
| 2:AA:1139:G:O2' | 2:AA:1140:C:H5' | 1.82 | 0.79 |
| 2:AA:1672:C:O2 | 2:AA:2582:G:O4' | 2.00 | 0.79 |
| 2:AA:1790:C:H5" | 2:AA:1828:G:N2 | 1.97 | 0.79 |
| 2:AA:2247:A:H2' | 2:AA:2248:C:H6 | 1.46 | 0.79 |
| 2:AA:2286:A:N6 | 30:A6:32:GLN:O | 2.16 | 0.79 |
| 2:AA:2415:G:N2 | 2:AA:2416:C:H1' | 1.97 | 0.79 |
| 2:AA:2574:G:O2' | 5:AE:240:PRO:HA | 1.81 | 0.79 |
| 3:AC:14:VAL:CG2 | 3:AC:28:LEU:HD21 | 2.11 | 0.79 |
| 5:AE:85:ALA:HB1 | 5:AE:87:GLU:CG | 2.11 | 0.79 |
| 8:AH:41:THR:HG22 | 8:AH:52:THR:HG21 | 1.63 | 0.79 |
| 8:AH:102:LEU:HD12 | 8:AH:104:LEU:CD1 | 2.12 | 0.79 |
| 10:AK:111:ASP:CG | 10:AK:112:LYS:N | 2.35 | 0.79 |
| 12:AM:54:VAL:HG13 | 12:AM:135:ILE:HD12 | 1.62 | 0.79 |
| 13:AN:68:GLY:HA2 | 13:AN:78:ARG:HG2 | 1.65 | 0.79 |
| 14:AO:94:ARG:HH11 | 14:AO:120:LEU:CB | 1.94 | 0.79 |
| 14:AO:141:GLU:HB2 | 14:AO:145:LEU:CD2 | 2.12 | 0.79 |
| 18:AS:40:ASN:HD22 | 18:AS:41:LYS:H | 1.29 | 0.79 |
| 21:AV:34:LEU:HD13 | 21:AV:39:PHE:CE2 | 2.16 | 0.79 |
| 21:AV:118:HIS:CG | 21:AV:168:VAL:HA | 2.16 | 0.79 |
| 24:A0:86:ARG:HH22 | 24:A0:118:GLU:CG | 1.94 | 0.79 |
| 27:A3:37:LEU:HB3 | 27:A3:69:PHE:CG | 2.18 | 0.79 |
| 30:A6:21:TYR:CE1 | 30:A6:43:VAL:HG23 | 2.17 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:109:A:H4' | 34:BA:110:C:OP2 | 1.80 | 0.79 |
| 34:BA:766:A:N7 | 34:BA:814:A:C6 | 2.51 | 0.79 |
| 34:BA:1073:U:N3 | 34:BA:1102:A:N6 | 2.28 | 0.79 |
| 35:BB:48:C:N4 | 35:BB:59:U:C2 | 2.49 | 0.79 |
| 35:BC:72:C:C2' | 35:BC:73:A:C8 | 2.59 | 0.79 |
| 37:BE:28:PHE:CE1 | 37:BE:31:TYR:HB3 | 2.17 | 0.79 |
| 37:BE:53:ARG:NE | 37:BE:199:TYR:CE2 | 2.50 | 0.79 |
| 37:BE:185:ILE:HG23 | 37:BE:199:TYR:HB2 | 1.63 | 0.79 |
| 37:BE:188:ALA:HB1 | 37:BE:192:SER:OG | 1.82 | 0.79 |
| 39:BG:205:GLU:OE1 | 40:BH:100:VAL:N | 2.13 | 0.79 |
| 42:BJ:74:GLU:HG2 | 42:BJ:75:VAL:H | 1.45 | 0.79 |
| 45:BM:47:PHE:HZ | 45:BM:65:LEU:HB2 | 1.46 | 0.79 |
| 47:BO:53:ARG:NH2 | 47:BO:92:ASP:OD2 | 2.15 | 0.79 |
| 49:BQ:29:ARG:HH11 | 49:BQ:42:ILE:HD11 | 1.45 | 0.79 |
| 2:AA:185:U:H5' | 2:AA:217:G:H21 | 1.47 | 0.79 |
| 2:AA:417:C:H2' | 2:AA:418:G:H8 | 1.45 | 0.79 |
| 2:AA:527:C:H5" | 2:AA:2779:U:O2 | 1.82 | 0.79 |
| 2:AA:801:G:O2' | 2:AA:802:A:OP1 | 2.00 | 0.79 |
| 2:AA:975:G:N2 | 2:AA:976:C:O4' | 2.15 | 0.79 |
| 2:AA:1006:C:C1' | 12:AM:86:MET:SD | 2.62 | 0.79 |
| 2:AA:1066:U:O2' | 2:AA:1067:A:H3' | 1.83 | 0.79 |
| 2:AA:1352:U:O2 | 2:AA:1352:U:H2' | 1.80 | 0.79 |
| 2:AA:1707:G:H2' | 2:AA:1708:C:C6 | 2.18 | 0.79 |
| 2:AA:1787:A:C2 | 2:AA:1788:C:C4 | 2.70 | 0.79 |
| 2:AA:1840:G:H1 | 2:AA:1902:C:N4 | 1.80 | 0.79 |
| 2:AA:1937:A:H3' | 2:AA:1938:A:C5' | 2.11 | 0.79 |
| 2:AA:2013:A:C6 | 2:AA:2014:A:C2 | 2.69 | 0.79 |
| 2:AA:2033:A:N1 | 2:AA:2036:C:C5 | 2.51 | 0.79 |
| 2:AA:2041:U:H2' | 2:AA:2042:A:C5' | 2.12 | 0.79 |
| 2:AA:2132:U:C2 | 2:AA:2134:A:OP2 | 2.35 | 0.79 |
| 2:AA:2251:G:H5" | 15:AP:102:ARG:CZ | 2.11 | 0.79 |
| 2:AA:2623:G:H5' | 2:AA:2826:A:O2' | 1.81 | 0.79 |
| 2:AA:2839:G:H21 | 24:A0:91:GLN:HB3 | 1.46 | 0.79 |
| 3:AC:5:LYS:HE3 | 3:AC:8:ARG:HE | 1.47 | 0.79 |
| 3:AC:36:LYS:HZ2 | 3:AC:36:LYS:CA | 1.94 | 0.79 |
| 3:AC:89:ALA:HA | 3:AC:154:ARG:NH1 | 1.97 | 0.79 |
| 5:AE:107:GLU:O | 5:AE:110:ARG:HG3 | 1.81 | 0.79 |
| 5:AE:212:GLY:O | 5:AE:216:ARG:HG3 | 1.83 | 0.79 |
| 7:AG:145:ASP:HB3 | 16:AQ:15:GLU:O | 1.82 | 0.79 |
| 8:AH:18:VAL:HG11 | 8:AH:42:ILE:HD12 | 1.64 | 0.79 |
| 13:AN:73:ASP:O | 13:AN:75:SER:OG | 1.99 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 18:AS:27:LYS:H | 18:AS:71:VAL:HG23 | 1.48 | 0.79 |
| 19:AT:6:LYS:HD2 | 19:AT:27:ALA:CB | 2.07 | 0.79 |
| 23:AX:9:VAL:H | 23:AX:54:VAL:CG1 | 1.86 | 0.79 |
| 30:A6:16:ALA:HB2 | 30:A6:50:PHE:CZ | 2.17 | 0.79 |
| 34:BA:262:A:C2 | 34:BA:263:A:C6 | 2.70 | 0.79 |
| 34:BA:519:C:H2' | 34:BA:520:A:C5' | 2.13 | 0.79 |
| 34:BA:660:G:H2' | 34:BA:661:G:H8 | 1.47 | 0.79 |
| 34:BA:673:G:C5' | 41:BI:87:ARG:HE | 1.96 | 0.79 |
| 34:BA:1157:A:H4' | 34:BA:1158:C:O5' | 1.81 | 0.79 |
| 34:BA:1165:C:N3 | 34:BA:1171:G:N2 | 2.30 | 0.79 |
| 34:BA:1308:U:OP2 | 48:BP:99:ARG:HD2 | 1.82 | 0.79 |
| 37:BE:33:TYR:HB2 | 37:BE:43:ASP:HB2 | 1.64 | 0.79 |
| 37:BE:82:ARG:HD2 | 37:BE:92:TYR:OH | 1.81 | 0.79 |
| 37:BE:166:ASP:OD2 | 37:BE:167:PRO:HD2 | 1.81 | 0.79 |
| 38:BF:83:ARG:O | 38:BF:87:LEU:HG | 1.81 | 0.79 |
| 39:BG:149:ALA:O | 39:BG:152:SER:HB2 | 1.81 | 0.79 |
| 40:BH:87:SER:OG | 40:BH:130:ASN:HB3 | 1.82 | 0.79 |
| 41:BI:76:ALA:O | 41:BI:80:ARG:HG3 | 1.82 | 0.79 |
| 41:BI:89:MET:CB | 53:BU:76:LEU:HD11 | 2.12 | 0.79 |
| 43:BK:40:ALA:HA | 43:BK:43:GLY:O | 1.82 | 0.79 |
| 43:BK:92:ARG:HG2 | 43:BK:92:ARG:HH11 | 1.46 | 0.79 |
| 44:BL:16:ARG:O | 44:BL:63:ILE:HG23 | 1.82 | 0.79 |
| 45:BM:30:SER:HB2 | 45:BM:81:THR:N | 1.97 | 0.79 |
| 45:BM:32:ALA:O | 45:BM:33:GLN:HG3 | 1.81 | 0.79 |
| 51:BS:4:ILE:CG2 | 51:BS:21:VAL:HG13 | 2.12 | 0.79 |
| 52:BT:63:ARG:O | 52:BT:65:ILE:HG23 | 1.82 | 0.79 |
| 1:AB:41:U:OP1 | 1:AB:42:C:H5 | 1.65 | 0.79 |
| 1:AB:84:C:H42 | 1:AB:92:G:H1 | 0.80 | 0.79 |
| 2:AA:120:U:O2 | 2:AA:120:U:H2' | 1.80 | 0.79 |
| 2:AA:176:G:N3 | 2:AA:176:G:H2' | 1.95 | 0.79 |
| 2:AA:343:C:N3 | 2:AA:344:G:C5 | 2.50 | 0.79 |
| 2:AA:572:A:N6 | 2:AA:573:G:N1 | 2.31 | 0.79 |
| 2:AA:738:G:N7 | 2:AA:739:G:N2 | 2.30 | 0.79 |
| 2:AA:1057:A:N6 | 2:AA:1081:U:H3 | 1.80 | 0.79 |
| 2:AA:1222:C:N4 | 2:AA:1227:A:H61 | 1.76 | 0.79 |
| 2:AA:444(A):A:H2' | 2:AA:1460:A:O2' | 1.82 | 0.79 |
| 2:AA:1612:C:O3' | 31:A7:5:TYR:HB2 | 1.82 | 0.79 |
| 2:AA:2001:A:H2' | 2:AA:2002:G:C8 | 2.17 | 0.79 |
| 2:AA:2278:A:HO2' | 15:AP:19:TYR:HD2 | 1.28 | 0.79 |
| 2:AA:2581:G:N1 | 2:AA:2610:C:H6 | 1.78 | 0.79 |
| 2:AA:2596:U:H3' | 2:AA:2597:G:H8 | 1.45 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2691:C:O2' | 2:AA:2692:C:H5' | 1.80 | 0.79 |
| 2:AA:2785:C:H1' | 5:AE:100:TRP:CD1 | 2.17 | 0.79 |
| 2:AA:2791:C:N3 | 2:AA:2805:G:O6 | 2.15 | 0.79 |
| 2:AA:2808:U:O3' | 2:AA:2810:A:OP1 | 1.99 | 0.79 |
| 6:AF:102:LEU:HB2 | 6:AF:107:ARG:HE | 1.47 | 0.79 |
| 9:AJ:71:ILE:CG1 | 11:AL:62:GLU:H | 1.95 | 0.79 |
| 13:AN:7:ARG:NE | 13:AN:44:LYS:HD3 | 1.97 | 0.79 |
| 13:AN:35:ILE:HD13 | 13:AN:69:VAL:HG21 | 1.64 | 0.79 |
| 14:AO:94:ARG:NH1 | 14:AO:120:LEU:N | 2.30 | 0.79 |
| 15:AP:50:VAL:HG13 | 15:AP:147:VAL:CA | 2.08 | 0.79 |
| 16:AQ:102:LEU:CG | 16:AQ:129:ILE:HD12 | 2.11 | 0.79 |
| 18:AS:8:ARG:HB3 | 18:AS:8:ARG:HH11 | 1.47 | 0.79 |
| 21:AV:124:ALA:H | 21:AV:159:THR:HG21 | 1.47 | 0.79 |
| 27:A3:36:ILE:C | 27:A3:68:VAL:HG13 | 2.02 | 0.79 |
| 29:A5:50:GLY:CA | 29:A5:57:VAL:HB | 2.11 | 0.79 |
| 34:BA:41:G:H2' | 34:BA:42:G:H8 | 1.45 | 0.79 |
| 34:BA:117:G:H2' | 34:BA:118:U:H5' | 1.63 | 0.79 |
| 34:BA:886:G:H2' | 34:BA:887:G:H8 | 1.46 | 0.79 |
| 34:BA:1412:C:H2' | 34:BA:1413:A:C8 | 2.17 | 0.79 |
| 35:BB:50:U:N3 | 35:BB:65:G:C2 | 2.50 | 0.79 |
| 37:BE:75:LYS:HE3 | 37:BE:78:GLN:CD | 2.02 | 0.79 |
| 37:BE:102:LEU:CB | 37:BE:176:GLU:HB3 | 2.11 | 0.79 |
| 38:BF:84:ILE:O | 38:BF:101:LEU:HD13 | 1.81 | 0.79 |
| 39:BG:93:PHE:O | 39:BG:94:LEU:C | 2.18 | 0.79 |
| 39:BG:94:LEU:HD11 | 39:BG:200:GLU:OE1 | 1.83 | 0.79 |
| 39:BG:122:ARG:O | 39:BG:134:ASP:HB2 | 1.82 | 0.79 |
| 40:BH:94:ALA:CB | 40:BH:98:THR:HG21 | 2.11 | 0.79 |
| 42:BJ:72:ARG:CZ | 42:BJ:142:GLU:OE1 | 2.29 | 0.79 |
| 43:BK:63:LEU:N | 43:BK:63:LEU:CD1 | 2.36 | 0.79 |
| 44:BL:23:ASN:CG | 44:BL:24:GLY:H | 1.83 | 0.79 |
| 44:BL:85:LEU:HD11 | 44:BL:89:ASN:HD22 | 1.47 | 0.79 |
| 50:BR:34:LEU:HD23 | 50:BR:35:ARG:N | 1.97 | 0.79 |
| 51:BS:45:THR:HB | 51:BS:46:PRO:HD2 | 1.62 | 0.79 |
| 2:AA:26:G:H1 | 2:AA:27:G:H21 | 1.28 | 0.79 |
| 2:AA:327:G:C2 | 2:AA:328:U:C6 | 2.71 | 0.79 |
| 2:AA:451:C:OP1 | 6:AF:49:ASP:N | 2.15 | 0.79 |
| 2:AA:559:G:H8 | 2:AA:559:G:H5' | 1.47 | 0.79 |
| 2:AA:573:G:H22 | 2:AA:2029:G:N2 | 1.80 | 0.79 |
| 2:AA:581:C:O3' | 25:A1:32:TYR:HD1 | 1.64 | 0.79 |
| 2:AA:607:U:C2 | 2:AA:621:A:N6 | 2.50 | 0.79 |
| 2:AA:700:G:H1 | 2:AA:732:C:H42 | 1.30 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:775:G:H5” | 2:AA:777:A:C1’ | 2.12 | 0.79 |
| 2:AA:869:G:N2 | 2:AA:908:C:N3 | 2.29 | 0.79 |
| 2:AA:1084:A:C5’ | 9:AI:38:ALA:H | 1.96 | 0.79 |
| 2:AA:1292:U:H2’ | 2:AA:1293:C:H6 | 1.48 | 0.79 |
| 2:AA:1310:G:N7 | 2:AA:1311:G:N3 | 2.30 | 0.79 |
| 2:AA:1340:U:H5 | 19:AT:55:GLN:HE22 | 1.28 | 0.79 |
| 2:AA:1421:G:N1 | 2:AA:1577:C:O2 | 2.16 | 0.79 |
| 2:AA:1510:A:H3’ | 2:AA:1511:A:N7 | 1.97 | 0.79 |
| 2:AA:1781:C:H3’ | 2:AA:1781:C:C6 | 2.16 | 0.79 |
| 2:AA:2210:G:H4’ | 2:AA:2211:G:H5’ | 1.65 | 0.79 |
| 2:AA:2450:A:O2’ | 2:AA:2451:A:H5’ | 1.82 | 0.79 |
| 2:AA:2479:G:OP1 | 2:AA:2537:U:O4’ | 2.01 | 0.79 |
| 2:AA:2553:G:N2 | 2:AA:2583:G:C2’ | 2.45 | 0.79 |
| 2:AA:2794:C:N4 | 2:AA:2802:G:H1 | 1.81 | 0.79 |
| 3:AC:46:LYS:HB3 | 3:AC:210:ARG:HD3 | 1.64 | 0.79 |
| 4:AD:93:ILE:HB | 4:AD:103:ILE:CG2 | 2.13 | 0.79 |
| 4:AD:232:VAL:HG23 | 4:AD:233:ASP:N | 1.94 | 0.79 |
| 6:AF:83:ALA:N | 6:AF:87:ARG:NE | 2.25 | 0.79 |
| 6:AF:84:VAL:HG23 | 6:AF:85:LYS:HZ2 | 1.47 | 0.79 |
| 6:AF:223:LEU:CD2 | 6:AF:233:THR:HG21 | 2.08 | 0.79 |
| 8:AH:92:GLY:O | 8:AH:94:ARG:HG3 | 1.82 | 0.79 |
| 9:AJ:35:ALA:HB3 | 9:AJ:36:PRO:CD | 2.11 | 0.79 |
| 11:AL:18:ALA:HB3 | 11:AL:43:ASN:ND2 | 1.98 | 0.79 |
| 11:AL:22:PRO:HG2 | 11:AL:23:PRO:HD3 | 1.65 | 0.79 |
| 18:AS:90:ARG:HB2 | 18:AS:90:ARG:HH11 | 1.47 | 0.79 |
| 19:AT:11:THR:CG2 | 19:AT:14:ALA:HB2 | 2.09 | 0.79 |
| 24:A0:101:ALA:HB2 | 29:A5:44:HIS:HB3 | 1.65 | 0.79 |
| 25:A1:55:ARG:HG2 | 25:A1:58:ARG:NH2 | 1.96 | 0.79 |
| 27:A3:36:ILE:H | 27:A3:68:VAL:HG22 | 1.47 | 0.79 |
| 31:A7:21:ARG:NH1 | 31:A7:42:LEU:HB3 | 1.96 | 0.79 |
| 31:A7:21:ARG:CZ | 31:A7:43:THR:HG23 | 2.13 | 0.79 |
| 34:BA:22:G:C2’ | 34:BA:23:C:C6 | 2.64 | 0.79 |
| 34:BA:28:G:O2’ | 34:BA:296:U:OP1 | 1.99 | 0.79 |
| 34:BA:113:G:C5 | 34:BA:114:U:C5 | 2.70 | 0.79 |
| 34:BA:283:C:N3 | 34:BA:284:G:C8 | 2.51 | 0.79 |
| 34:BA:791:G:H2’ | 34:BA:792:A:C8 | 2.18 | 0.79 |
| 34:BA:1388:C:H2’ | 34:BA:1389:C:C6 | 2.17 | 0.79 |
| 38:BF:18:TRP:O | 38:BF:21:ARG:HG2 | 1.82 | 0.79 |
| 38:BF:24:ALA:HB1 | 38:BF:28:GLN:OE1 | 1.83 | 0.79 |
| 41:BI:98:LEU:CD2 | 53:BU:28:GLU:HA | 2.12 | 0.79 |
| 42:BJ:137:LYS:O | 42:BJ:141:VAL:HG23 | 1.82 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:63:LEU:HG | 43:BK:65:TYR:OH | 1.82 | 0.79 |
| 51:BS:46:PRO:HG2 | 51:BS:47:ASP:N | 1.97 | 0.79 |
| 52:BT:10:VAL:O | 52:BT:53:LEU:HD12 | 1.82 | 0.79 |
| 53:BU:58:LEU:HB3 | 53:BU:62:GLU:CB | 2.11 | 0.79 |
| 54:BV:11:VAL:O | 54:BV:11:VAL:HG12 | 1.83 | 0.79 |
| 54:BV:70:LYS:HB2 | 54:BV:73:GLU:OE2 | 1.81 | 0.79 |
| 1:AB:103:U:H6 | 1:AB:103:U:H3' | 1.45 | 0.79 |
| 2:AA:324:A:H2 | 2:AA:325:G:C1' | 1.95 | 0.79 |
| 2:AA:387:U:H4' | 2:AA:388:G:O4' | 1.82 | 0.79 |
| 2:AA:760:G:H2' | 2:AA:761:A:O4' | 1.83 | 0.79 |
| 2:AA:1020:A:C1' | 12:AM:49:ARG:CZ | 2.60 | 0.79 |
| 2:AA:1059:G:OP1 | 9:AI:2:THR:HG22 | 1.83 | 0.79 |
| 2:AA:1270:C:H5" | 2:AA:1271:G:OP1 | 1.81 | 0.79 |
| 2:AA:1925:C:N3 | 2:AA:1929:G:O6 | 2.15 | 0.79 |
| 2:AA:1936:A:N3 | 2:AA:1940:U:O2 | 2.16 | 0.79 |
| 2:AA:2112:G:OP2 | 2:AA:2117:A:C5 | 2.35 | 0.79 |
| 2:AA:2313:C:H5" | 7:AG:51:ARG:CD | 2.10 | 0.79 |
| 2:AA:2336:A:O2' | 2:AA:2385:C:H5' | 1.82 | 0.79 |
| 2:AA:2761:G:O2' | 2:AA:2762:G:H5' | 1.83 | 0.79 |
| 3:AC:20:TYR:CE1 | 3:AC:222:VAL:HG22 | 2.18 | 0.79 |
| 4:AD:130:PRO:HA | 4:AD:187:CYS:O | 1.82 | 0.79 |
| 4:AD:155:ARG:O | 4:AD:157:ALA:N | 2.14 | 0.79 |
| 5:AE:225:LYS:HB3 | 5:AE:226:HIS:ND1 | 1.97 | 0.79 |
| 5:AE:225:LYS:O | 5:AE:229:GLN:NE2 | 2.14 | 0.79 |
| 6:AF:144:PHE:HE2 | 6:AF:156:LEU:HD22 | 1.46 | 0.79 |
| 6:AF:200:PRO:HB3 | 6:AF:212:VAL:HG11 | 1.64 | 0.79 |
| 7:AG:105:SER:OG | 7:AG:131:THR:HA | 1.82 | 0.79 |
| 9:AI:102:ILE:HD13 | 9:AI:118:LEU:HD22 | 1.65 | 0.79 |
| 13:AN:58:VAL:HG11 | 13:AN:86:ILE:HD13 | 1.63 | 0.79 |
| 14:AO:94:ARG:NH2 | 14:AO:118:LEU:HB2 | 1.97 | 0.79 |
| 15:AP:65:ARG:NE | 15:AP:85:ILE:HB | 1.97 | 0.79 |
| 18:AS:38:TYR:HB3 | 29:A5:41:LEU:CD2 | 2.12 | 0.79 |
| 20:AU:66:ASP:H | 20:AU:72:ILE:CG1 | 1.93 | 0.79 |
| 22:AW:52:ALA:HA | 22:AW:55:ARG:NH1 | 1.97 | 0.79 |
| 27:A3:14:ARG:HH11 | 27:A3:14:ARG:N | 1.80 | 0.79 |
| 34:BA:186:C:O2' | 55:BW:85:MET:SD | 2.40 | 0.79 |
| 34:BA:540:G:H2' | 34:BA:541:G:O4' | 1.82 | 0.79 |
| 34:BA:590:C:OP1 | 43:BK:30:ARG:HG3 | 1.83 | 0.79 |
| 36:B1:11:U:H3 | 36:B1:45:A:N6 | 1.79 | 0.79 |
| 37:BE:140:HIS:HA | 37:BE:143:GLU:HB2 | 1.63 | 0.79 |
| 38:BF:42:LEU:O | 38:BF:45:LYS:HB2 | 1.81 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:85:ARG:HH11 | 43:BK:85:ARG:HG2 | 1.48 | 0.79 |
| 46:BN:44:SER:H | 46:BN:47:VAL:HB | 1.48 | 0.79 |
| 51:BS:19:ILE:HB | 51:BS:37:GLY:O | 1.82 | 0.79 |
| 2:AA:304:G:H1 | 2:AA:313:C:N4 | 1.79 | 0.79 |
| 2:AA:452:G:P | 6:AF:52:ALA:HB1 | 2.21 | 0.79 |
| 2:AA:791:C:C4 | 2:AA:794:G:O4' | 2.35 | 0.79 |
| 2:AA:824:A:H2' | 2:AA:825:C:H5 | 1.47 | 0.79 |
| 2:AA:1025:G:C8 | 2:AA:1134:G:C1' | 2.65 | 0.79 |
| 2:AA:1422:G:N2 | 2:AA:1576:U:O2 | 2.16 | 0.79 |
| 2:AA:1663:C:H2' | 2:AA:1664:A:C8 | 2.18 | 0.79 |
| 2:AA:2058:A:H2' | 2:AA:2059:A:C8 | 2.17 | 0.79 |
| 2:AA:2680:C:H5" | 5:AE:302:GLY:C | 2.03 | 0.79 |
| 3:AC:45:ALA:O | 3:AC:170:ALA:HA | 1.83 | 0.79 |
| 4:AD:140:VAL:O | 4:AD:160:SER:HB2 | 1.82 | 0.79 |
| 5:AE:39:GLN:CA | 5:AE:174:LEU:HG | 2.13 | 0.79 |
| 5:AE:174:LEU:HD12 | 5:AE:174:LEU:N | 1.94 | 0.79 |
| 6:AF:42:ARG:O | 6:AF:43:LYS:O | 2.01 | 0.79 |
| 6:AF:59:GLU:OE2 | 6:AF:59:GLU:HA | 1.82 | 0.79 |
| 8:AH:10:ILE:CG2 | 8:AH:10:ILE:O | 2.31 | 0.79 |
| 8:AH:168:VAL:O | 8:AH:169:ARG:HG2 | 1.82 | 0.79 |
| 9:AI:71:ILE:HG22 | 9:AI:75:LYS:HE3 | 1.63 | 0.79 |
| 9:AJ:85:LEU:HD21 | 11:AL:69:ILE:CD1 | 2.11 | 0.79 |
| 9:AJ:102:ILE:HG21 | 9:AJ:118:LEU:CD1 | 2.12 | 0.79 |
| 18:AS:85:VAL:HG12 | 18:AS:95:ILE:HD11 | 1.63 | 0.79 |
| 20:AU:20:HIS:O | 20:AU:23:VAL:N | 2.15 | 0.79 |
| 24:A0:55:ALA:HA | 24:A0:80:PHE:CD1 | 2.17 | 0.79 |
| 24:A0:67:LEU:HD13 | 24:A0:67:LEU:O | 1.83 | 0.79 |
| 26:A2:28:GLU:OE2 | 26:A2:93:ILE:HB | 1.82 | 0.79 |
| 30:A6:15:SER:O | 30:A6:50:PHE:HA | 1.82 | 0.79 |
| 32:A8:16:ILE:N | 32:A8:16:ILE:CD1 | 2.46 | 0.79 |
| 32:A8:60:LEU:CD2 | 32:A8:64:ARG:HB2 | 2.13 | 0.79 |
| 34:BA:314:C:H2' | 34:BA:315:A:C8 | 2.18 | 0.79 |
| 34:BA:948:C:OP1 | 48:BP:109:THR:CB | 2.30 | 0.79 |
| 34:BA:1361:G:H3' | 34:BA:1361:G:C8 | 2.17 | 0.79 |
| 34:BA:1483:A:C2' | 34:BA:1484:C:H5' | 2.11 | 0.79 |
| 35:BC:34:G:N2 | 36:B1:62:G:N2 | 2.31 | 0.79 |
| 39:BG:64:LEU:HA | 39:BG:67:ILE:HD11 | 1.62 | 0.79 |
| 41:BI:97:PHE:HE2 | 53:BU:31:LEU:HD12 | 1.44 | 0.79 |
| 42:BJ:71:PRO:HG2 | 42:BJ:96:GLN:HG3 | 1.63 | 0.79 |
| 1:AB:103:U:H3' | 1:AB:103:U:C6 | 2.17 | 0.79 |
| 2:AA:99:U:H3 | 20:AU:107:LYS:HD3 | 1.47 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:321:G:H5' | 6:AF:150:THR:HG21 | 1.63 | 0.79 |
| 2:AA:452:G:OP1 | 6:AF:52:ALA:HB1 | 1.83 | 0.79 |
| 2:AA:643:A:O2' | 2:AA:644:A:O4' | 1.98 | 0.79 |
| 2:AA:718:A:H5" | 2:AA:719:C:H6 | 1.43 | 0.79 |
| 2:AA:729:G:H8 | 2:AA:764:A:OP1 | 1.66 | 0.79 |
| 2:AA:806:C:C2 | 2:AA:807:U:C5 | 2.71 | 0.79 |
| 2:AA:1454:U:H5' | 2:AA:1456:G:OP2 | 1.82 | 0.79 |
| 2:AA:2097:C:H2' | 2:AA:2098:U:H5' | 1.65 | 0.79 |
| 2:AA:2135:A:H62 | 2:AA:2150:U:C3' | 1.95 | 0.79 |
| 2:AA:2352:A:O2' | 2:AA:2353:G:H5' | 1.83 | 0.79 |
| 2:AA:2684:U:H3 | 2:AA:2725:A:N6 | 1.79 | 0.79 |
| 2:AA:2749:A:C5 | 2:AA:2750:A:N7 | 2.51 | 0.79 |
| 12:AM:61:VAL:HG12 | 12:AM:62:ASP:OD1 | 1.82 | 0.79 |
| 21:AV:142:ASN:O | 21:AV:171:VAL:HG21 | 1.83 | 0.79 |
| 23:AX:45:GLY:HA2 | 23:AX:48:GLU:CD | 2.03 | 0.79 |
| 28:A4:42:PHE:O | 28:A4:57:ASP:HA | 1.81 | 0.79 |
| 33:A9:25:VAL:HG21 | 33:A9:34:GLN:OE1 | 1.82 | 0.79 |
| 34:BA:394:G:C4 | 34:BA:395:C:C5 | 2.71 | 0.79 |
| 34:BA:440:A:N6 | 34:BA:495:U:H5 | 1.77 | 0.79 |
| 34:BA:764:C:H3' | 34:BA:765:G:H8 | 1.44 | 0.79 |
| 34:BA:826:C:H1' | 43:BK:15:ASN:HD22 | 1.43 | 0.79 |
| 34:BA:849:C:O2' | 34:BA:850:U:H5' | 1.82 | 0.79 |
| 34:BA:1067:A:N1 | 34:BA:1191:A:N7 | 2.30 | 0.79 |
| 34:BA:1068:G:H1' | 34:BA:1191:A:N6 | 1.97 | 0.79 |
| 34:BA:1229:A:H2' | 34:BA:1230:C:H6 | 1.47 | 0.79 |
| 34:BA:1231:G:H2' | 34:BA:1232:U:C6 | 2.18 | 0.79 |
| 35:BB:37:G:P | 35:BB:37:G:N7 | 2.55 | 0.79 |
| 35:BB:59:U:C6 | 35:BB:59:U:O5' | 2.36 | 0.79 |
| 38:BF:187:ALA:HB3 | 38:BF:198:VAL:HG23 | 1.64 | 0.79 |
| 41:BI:67:MET:HE1 | 41:BI:69:GLU:O | 1.82 | 0.79 |
| 41:BI:100:ASN:HD22 | 53:BU:23:LYS:HG2 | 1.48 | 0.79 |
| 53:BU:63:GLN:HA | 53:BU:66:LEU:HD21 | 1.65 | 0.79 |
| 54:BV:80:TYR:CD1 | 54:BV:81:ARG:N | 2.49 | 0.79 |
| 2:AA:270(B):A:O2' | 2:AA:270(C):C:C6 | 2.25 | 0.79 |
| 2:AA:295:G:C6 | 2:AA:344:G:C5 | 2.71 | 0.79 |
| 2:AA:506:G:H5' | 2:AA:509:C:O2' | 1.82 | 0.79 |
| 2:AA:609:A:H61 | 2:AA:619:G:N2 | 1.79 | 0.79 |
| 2:AA:830:G:C4 | 2:AA:2448:A:N7 | 2.51 | 0.79 |
| 2:AA:1227:A:C8 | 2:AA:1228:G:H5" | 2.18 | 0.79 |
| 2:AA:1332:G:N7 | 2:AA:1609:A:N6 | 2.30 | 0.79 |
| 2:AA:1482:U:C2' | 2:AA:1483:G:H4' | 2.12 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1882:C:H2' | 2:AA:1883:G:H5' | 1.65 | 0.79 |
| 2:AA:2027:G:C4 | 2:AA:2037:G:N2 | 2.51 | 0.79 |
| 2:AA:2207:C:C2' | 2:AA:2208:U:C5' | 2.54 | 0.79 |
| 2:AA:2354:G:O4' | 27:A3:31:VAL:HG22 | 1.83 | 0.79 |
| 2:AA:2517:C:O2' | 2:AA:2518:A:O5' | 2.01 | 0.79 |
| 3:AC:56:GLN:HA | 3:AC:201:PRO:HB2 | 1.65 | 0.79 |
| 4:AD:117:SER:CB | 4:AD:128:ALA:H | 1.95 | 0.79 |
| 5:AE:39:GLN:NE2 | 5:AE:174:LEU:HD11 | 1.96 | 0.79 |
| 5:AE:48:MET:CB | 5:AE:71:THR:HG23 | 2.11 | 0.79 |
| 6:AF:108:GLN:O | 6:AF:112:ARG:HG3 | 1.82 | 0.79 |
| 8:AH:9:GLU:O | 8:AH:49:ILE:HD11 | 1.81 | 0.79 |
| 10:AK:82:LYS:C | 10:AK:89:LEU:HD23 | 2.04 | 0.79 |
| 21:AV:5:ALA:O | 21:AV:33:ALA:CB | 2.31 | 0.79 |
| 21:AV:156:GLU:CG | 21:AV:157:GLY:H | 1.96 | 0.79 |
| 25:A1:86:ALA:O | 25:A1:87:ASN:HB2 | 1.80 | 0.79 |
| 27:A3:19:LYS:CD | 27:A3:21:LEU:HD21 | 2.12 | 0.79 |
| 34:BA:47:C:H4' | 34:BA:48:C:C5' | 2.12 | 0.79 |
| 34:BA:520:A:N6 | 34:BA:529:G:H21 | 1.80 | 0.79 |
| 34:BA:657:G:C2' | 34:BA:658:G:H5' | 2.12 | 0.79 |
| 34:BA:911:U:H2' | 34:BA:912:C:C6 | 2.17 | 0.79 |
| 34:BA:997:U:H3 | 34:BA:1044:A:H2 | 1.31 | 0.79 |
| 34:BA:1137:C:H4' | 34:BA:1138:G:N2 | 1.98 | 0.79 |
| 34:BA:1391:U:H2' | 34:BA:1392:G:H8 | 1.46 | 0.79 |
| 35:BB:51:G:N2 | 35:BB:63:C:N3 | 2.29 | 0.79 |
| 36:B1:67:U:H2' | 36:B1:68:U:H5' | 1.65 | 0.79 |
| 37:BE:75:LYS:HG2 | 37:BE:78:GLN:NE2 | 1.98 | 0.79 |
| 47:BO:93:LEU:O | 47:BO:96:VAL:HG23 | 1.83 | 0.79 |
| 48:BP:38:GLY:O | 48:BP:39:ILE:HG23 | 1.82 | 0.79 |
| 48:BP:77:ASN:O | 48:BP:81:LEU:HD13 | 1.82 | 0.79 |
| 52:BT:7:THR:HG23 | 52:BT:57:VAL:O | 1.83 | 0.79 |
| 1:AB:13:A:C6 | 1:AB:70:C:H5' | 2.17 | 0.79 |
| 2:AA:309:G:O2' | 2:AA:329:G:H2' | 1.83 | 0.79 |
| 2:AA:503:A:H1' | 2:AA:505:A:H8 | 1.45 | 0.79 |
| 2:AA:747:U:C5 | 2:AA:2613:U:C5 | 2.70 | 0.79 |
| 2:AA:932:G:N2 | 2:AA:933:A:N6 | 2.31 | 0.79 |
| 2:AA:1023:U:P | 2:AA:1025:G:H1 | 2.05 | 0.79 |
| 2:AA:1128:A:C2 | 2:AA:1129:A:C5 | 2.70 | 0.79 |
| 2:AA:1140:C:O2' | 2:AA:1141:U:OP2 | 2.00 | 0.79 |
| 2:AA:1479:G:H2' | 2:AA:1480:G:C8 | 2.17 | 0.79 |
| 2:AA:1528:A:H61 | 2:AA:1543:A:H62 | 0.83 | 0.79 |
| 2:AA:1699:G:N7 | 2:AA:1763:G:C2 | 2.51 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2553:G:N2 | 2:AA:2583:G:C1' | 2.33 | 0.79 |
| 2:AA:2628:C:H1' | 2:AA:2781:A:N3 | 1.97 | 0.79 |
| 2:AA:2852:G:O6 | 2:AA:2865:U:O4 | 2.01 | 0.79 |
| 2:AA:2865:U:C5 | 2:AA:2866:U:C5 | 2.71 | 0.79 |
| 4:AD:146:LYS:O | 4:AD:149:ARG:HG2 | 1.83 | 0.79 |
| 4:AD:213:LYS:O | 4:AD:215:LYS:HG2 | 1.83 | 0.79 |
| 5:AE:222:ARG:O | 5:AE:227:ALA:HA | 1.82 | 0.79 |
| 12:AM:45:VAL:C | 12:AM:132:LEU:HD13 | 2.02 | 0.79 |
| 20:AU:65:VAL:HA | 20:AU:72:ILE:CD1 | 2.13 | 0.79 |
| 25:A1:74:MET:HG3 | 25:A1:117:ARG:CZ | 2.12 | 0.79 |
| 25:A1:88:ILE:HB | 26:A2:52:GLY:HA3 | 1.65 | 0.79 |
| 26:A2:61:VAL:HG12 | 26:A2:95:ILE:CG2 | 2.09 | 0.79 |
| 27:A3:35:ASN:HA | 27:A3:68:VAL:CG2 | 2.13 | 0.79 |
| 34:BA:167:G:O2' | 34:BA:168:G:H5' | 1.82 | 0.79 |
| 35:BB:57:G:C2' | 35:BB:58:A:H5' | 2.08 | 0.79 |
| 37:BE:162:ILE:HD13 | 37:BE:183:PRO:O | 1.82 | 0.79 |
| 37:BE:210:SER:O | 37:BE:214:ILE:HG12 | 1.82 | 0.79 |
| 39:BG:31:CYS:CB | 39:BG:33:MET:SD | 2.70 | 0.79 |
| 48:BP:52:GLU:HA | 48:BP:55:ARG:HD3 | 1.64 | 0.79 |
| 49:BQ:22:THR:O | 49:BQ:23:ARG:HB2 | 1.82 | 0.79 |
| 51:BS:55:ARG:HE | 51:BS:55:ARG:HA | 1.48 | 0.79 |
| 1:AB:10:C:O5' | 1:AB:10:C:H6 | 1.65 | 0.79 |
| 1:AB:50:G:OP1 | 16:AQ:75:THR:HG23 | 1.83 | 0.79 |
| 2:AA:58:G:H1 | 2:AA:69:C:N4 | 1.81 | 0.79 |
| 2:AA:126:A:OP1 | 31:A7:44:VAL:HG11 | 1.82 | 0.79 |
| 2:AA:295:G:N1 | 2:AA:344:G:C5 | 2.51 | 0.79 |
| 2:AA:342:G:H22 | 2:AA:344:G:H21 | 1.28 | 0.79 |
| 2:AA:546:C:N4 | 2:AA:1221:C:OP1 | 2.12 | 0.79 |
| 2:AA:917:A:C3' | 2:AA:918:A:H5" | 2.12 | 0.79 |
| 2:AA:1234:U:O2' | 2:AA:1235:G:H5' | 1.83 | 0.79 |
| 2:AA:1529:A:OP1 | 2:AA:1539:G:O6 | 2.00 | 0.79 |
| 2:AA:1566:A:O4' | 2:AA:1566:A:OP1 | 2.00 | 0.79 |
| 2:AA:1726:G:H2' | 2:AA:1727:U:C5' | 2.12 | 0.79 |
| 2:AA:1771:C:H2' | 2:AA:1772:G:C8 | 2.18 | 0.79 |
| 2:AA:2029:G:H8 | 2:AA:2029:G:O5' | 1.64 | 0.79 |
| 2:AA:2139:C:O2 | 2:AA:2152:G:N1 | 2.15 | 0.79 |
| 2:AA:2704:C:H2' | 2:AA:2705:A:O4' | 1.83 | 0.79 |
| 2:AA:2863:C:O2' | 2:AA:2864:G:H5' | 1.81 | 0.79 |
| 3:AC:10:LEU:HD23 | 3:AC:220:PRO:HD3 | 1.65 | 0.79 |
| 5:AE:76:PRO:CB | 5:AE:292:PRO:HG2 | 2.12 | 0.79 |
| 5:AE:82:ALA:O | 5:AE:83:LEU:CG | 2.29 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:55:ARG:O | 6:AF:79:ARG:CZ | 2.31 | 0.79 |
| 6:AF:105:LYS:O | 6:AF:109:LEU:HG | 1.83 | 0.79 |
| 6:AF:152:GLU:O | 6:AF:155:SER:HB3 | 1.81 | 0.79 |
| 8:AH:55:SER:CB | 8:AH:60:HIS:HB2 | 2.12 | 0.79 |
| 12:AM:80:LYS:O | 12:AM:84:ARG:HG3 | 1.83 | 0.79 |
| 13:AN:78:ARG:HB2 | 17:AR:21:PHE:CE1 | 2.18 | 0.79 |
| 18:AS:69:LEU:HD13 | 18:AS:107:LEU:HD13 | 1.65 | 0.79 |
| 19:AT:5:ILE:HG22 | 19:AT:6:LYS:N | 1.98 | 0.79 |
| 21:AV:106:GLY:HA2 | 21:AV:142:ASN:OD1 | 1.82 | 0.79 |
| 25:A1:36:PHE:HD1 | 25:A1:36:PHE:H | 1.31 | 0.79 |
| 26:A2:34:GLU:C | 26:A2:63:HIS:HE1 | 1.85 | 0.79 |
| 27:A3:26:PHE:O | 27:A3:28:GLY:N | 2.15 | 0.79 |
| 30:A6:16:ALA:O | 30:A6:19:GLY:N | 2.16 | 0.79 |
| 31:A7:10:ARG:O | 31:A7:14:LYS:HG3 | 1.83 | 0.79 |
| 34:BA:52:G:O2' | 34:BA:53:A:H5' | 1.83 | 0.79 |
| 34:BA:367:U:H4' | 34:BA:368:U:OP1 | 1.82 | 0.79 |
| 34:BA:783:C:C2' | 34:BA:784:C:H5' | 2.11 | 0.79 |
| 34:BA:1125:U:H5" | 34:BA:1126:U:H5 | 1.48 | 0.79 |
| 34:BA:1227:A:O2' | 48:BP:115:LYS:HB3 | 1.81 | 0.79 |
| 34:BA:1423:G:H2' | 34:BA:1424:C:H6 | 1.48 | 0.79 |
| 34:BA:1479:C:H2' | 34:BA:1480:G:H5' | 1.63 | 0.79 |
| 38:BF:16:ARG:HH22 | 38:BF:184:TYR:H | 1.26 | 0.79 |
| 43:BK:6:ILE:HD13 | 43:BK:7:ALA:CA | 2.12 | 0.79 |
| 50:BR:36:ILE:HG13 | 50:BR:59:MET:CE | 2.13 | 0.79 |
| 52:BT:59:ILE:HG12 | 52:BT:71:PHE:HB3 | 1.65 | 0.79 |
| 55:BW:56:MET:O | 55:BW:59:ALA:HB3 | 1.83 | 0.79 |
| 2:AA:76:C:O2' | 22:AW:55:ARG:HG3 | 1.83 | 0.78 |
| 2:AA:775:G:N2 | 2:AA:787:U:C3' | 2.46 | 0.78 |
| 2:AA:1031:G:H1 | 2:AA:1123:C:H42 | 0.83 | 0.78 |
| 2:AA:1140:C:C4 | 12:AM:49:ARG:CZ | 2.66 | 0.78 |
| 2:AA:1701:A:C2' | 2:AA:1702:G:H5' | 2.12 | 0.78 |
| 2:AA:1864:U:C2' | 2:AA:1869:G:H5' | 2.12 | 0.78 |
| 2:AA:1936:A:C2 | 2:AA:1945:G:C8 | 2.71 | 0.78 |
| 2:AA:2415:G:C2 | 2:AA:2416:C:C6 | 2.72 | 0.78 |
| 2:AA:2899:G:H2' | 2:AA:2900:A:H8 | 1.47 | 0.78 |
| 3:AC:190:ARG:HB2 | 3:AC:190:ARG:HH11 | 1.46 | 0.78 |
| 4:AD:210:LYS:HA | 4:AD:213:LYS:CG | 2.12 | 0.78 |
| 5:AE:268:LEU:CG | 5:AE:296:VAL:HG22 | 2.12 | 0.78 |
| 6:AF:35:VAL:O | 6:AF:38:ALA:HB3 | 1.82 | 0.78 |
| 8:AH:58:LYS:HA | 8:AH:61:ARG:CD | 2.12 | 0.78 |
| 10:AK:125:GLY:N | 10:AK:145:VAL:O | 2.14 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:107:ARG:HA | 13:AN:115:ILE:CD1 | 2.11 | 0.78 |
| 15:AP:50:VAL:O | 15:AP:118:ALA:CA | 2.25 | 0.78 |
| 16:AQ:44:ARG:HB3 | 16:AQ:62:HIS:CD2 | 2.18 | 0.78 |
| 25:A1:9:VAL:O | 25:A1:13:ARG:NH1 | 2.16 | 0.78 |
| 26:A2:54:TYR:O | 26:A2:56:VAL:N | 2.17 | 0.78 |
| 28:A4:17:GLN:CD | 28:A4:34:ASP:HA | 2.04 | 0.78 |
| 34:BA:36:C:N3 | 34:BA:548:G:O6 | 2.15 | 0.78 |
| 34:BA:495:U:H2' | 34:BA:495:U:O2 | 1.82 | 0.78 |
| 34:BA:613:C:N3 | 34:BA:627:G:N2 | 2.28 | 0.78 |
| 34:BA:701:C:H4' | 34:BA:702:A:OP2 | 1.82 | 0.78 |
| 34:BA:717:C:O2' | 34:BA:718:G:OP2 | 2.01 | 0.78 |
| 34:BA:1269:A:H2' | 34:BA:1270:C:C4' | 2.12 | 0.78 |
| 34:BA:1270:C:O5' | 34:BA:1270:C:H6 | 1.65 | 0.78 |
| 34:BA:1497:G:HO2' | 34:BA:1519:A:H2 | 1.31 | 0.78 |
| 35:BB:51:G:H2' | 35:BB:52:U:H6 | 1.47 | 0.78 |
| 41:BI:41:GLU:HG3 | 41:BI:62:TRP:CZ3 | 2.17 | 0.78 |
| 43:BK:109:ILE:HG12 | 43:BK:137:VAL:H | 1.48 | 0.78 |
| 46:BN:103:LEU:O | 46:BN:105:VAL:N | 2.16 | 0.78 |
| 47:BO:32:PHE:HB3 | 47:BO:84:LEU:CD2 | 2.13 | 0.78 |
| 49:BQ:23:ARG:N | 49:BQ:33:VAL:HG21 | 1.98 | 0.78 |
| 52:BT:97:SER:O | 52:BT:98:LEU:HG | 1.82 | 0.78 |
| 1:AB:58:A:H8 | 1:AB:58:A:O5' | 1.66 | 0.78 |
| 2:AA:71:A:O2' | 2:AA:72:U:OP2 | 2.01 | 0.78 |
| 2:AA:139:G:C4 | 2:AA:141(A):C:O2 | 2.37 | 0.78 |
| 2:AA:308:G:N2 | 2:AA:329:G:H21 | 1.80 | 0.78 |
| 2:AA:331:A:O2' | 2:AA:332:A:OP1 | 2.01 | 0.78 |
| 2:AA:343:C:C4 | 2:AA:344:G:N1 | 2.51 | 0.78 |
| 2:AA:385:C:N3 | 2:AA:391:G:O6 | 2.15 | 0.78 |
| 2:AA:610:C:C6 | 2:AA:611:C:H5 | 2.02 | 0.78 |
| 2:AA:1007:C:H2' | 2:AA:1008:C:C5 | 2.19 | 0.78 |
| 2:AA:1020:A:C1' | 12:AM:49:ARG:NH2 | 2.46 | 0.78 |
| 2:AA:1143:A:O2' | 2:AA:1144:G:C5' | 2.31 | 0.78 |
| 2:AA:2123:G:N1 | 2:AA:2175:C:O2 | 2.15 | 0.78 |
| 2:AA:2776:A:H1' | 2:AA:2778:A:N7 | 1.97 | 0.78 |
| 2:AA:2779:U:C1' | 2:AA:2781:A:H62 | 1.96 | 0.78 |
| 2:AA:2804:C:H5 | 2:AA:2805:G:C6 | 2.00 | 0.78 |
| 4:AD:71:ASP:OD1 | 4:AD:119:PRO:HD2 | 1.84 | 0.78 |
| 5:AE:207:GLY:HA2 | 5:AE:257:GLY:HA3 | 1.65 | 0.78 |
| 8:AH:126:SER:O | 8:AH:128:THR:N | 2.16 | 0.78 |
| 9:AI:102:ILE:HD13 | 9:AI:118:LEU:CD2 | 2.13 | 0.78 |
| 9:AJ:60:ASP:HB2 | 9:AJ:128:LYS:HD3 | 1.63 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:AL:11:LEU:HD11 | 11:AL:28:LEU:CG | 2.13 | 0.78 |
| 16:AQ:19:ASP:O | 16:AQ:22:GLN:OE1 | 2.02 | 0.78 |
| 16:AQ:24:LEU:O | 16:AQ:27:LEU:N | 2.16 | 0.78 |
| 21:AV:14:LEU:HD23 | 21:AV:79:ILE:HG21 | 1.63 | 0.78 |
| 24:A0:64:ARG:HG2 | 24:A0:65:LEU:N | 1.98 | 0.78 |
| 25:A1:99:ALA:HA | 25:A1:106:PHE:CG | 2.19 | 0.78 |
| 26:A2:49:GLU:N | 26:A2:54:TYR:OH | 2.16 | 0.78 |
| 28:A4:48:ARG:HG3 | 28:A4:71:SER:OG | 1.83 | 0.78 |
| 28:A4:56:VAL:C | 28:A4:61:LYS:HE2 | 2.02 | 0.78 |
| 30:A6:16:ALA:C | 30:A6:48:VAL:HG11 | 2.02 | 0.78 |
| 30:A6:21:TYR:OH | 30:A6:43:VAL:N | 2.17 | 0.78 |
| 34:BA:299:G:H2' | 34:BA:300:A:N7 | 1.98 | 0.78 |
| 34:BA:515:G:H1 | 34:BA:536:C:H42 | 1.30 | 0.78 |
| 34:BA:754:C:H4' | 50:BR:72:ARG:NH2 | 1.97 | 0.78 |
| 34:BA:959:A:H3' | 34:BA:960:U:C5' | 2.13 | 0.78 |
| 34:BA:1418:A:N1 | 34:BA:1483:A:C6 | 2.51 | 0.78 |
| 35:BB:34:G:O2' | 35:BB:35:A:H5" | 1.83 | 0.78 |
| 35:BB:47:U:C5 | 35:BB:49:C:C5' | 2.64 | 0.78 |
| 35:BB:49:C:N3 | 35:BB:65:G:N1 | 2.31 | 0.78 |
| 35:BC:22:G:H2' | 35:BC:23:A:C8 | 2.18 | 0.78 |
| 37:BE:97:TRP:CZ2 | 37:BE:102:LEU:HD13 | 2.19 | 0.78 |
| 39:BG:78:LEU:HD13 | 39:BG:97:LEU:HD23 | 1.66 | 0.78 |
| 41:BI:1:MET:SD | 41:BI:68:PRO:HG3 | 2.23 | 0.78 |
| 45:BM:78:ASN:N | 45:BM:78:ASN:HD22 | 1.79 | 0.78 |
| 48:BP:57:ARG:O | 48:BP:61:GLU:HB2 | 1.81 | 0.78 |
| 55:BW:45:GLN:HG2 | 55:BW:91:LEU:HD21 | 1.63 | 0.78 |
| 55:BW:63:ILE:HG22 | 55:BW:64:ASP:N | 1.99 | 0.78 |
| 2:AA:221:A:N6 | 2:AA:266:G:C5 | 2.50 | 0.78 |
| 2:AA:270(N):G:H5" | 10:AK:53:LYS:NZ | 1.97 | 0.78 |
| 2:AA:525:U:OP1 | 2:AA:556:G:H5' | 1.83 | 0.78 |
| 2:AA:678:C:H42 | 2:AA:799:G:H1 | 0.82 | 0.78 |
| 2:AA:928:G:H2' | 2:AA:929:G:C8 | 2.19 | 0.78 |
| 2:AA:989:G:O2' | 2:AA:990:A:O5' | 2.00 | 0.78 |
| 2:AA:1005:C:H6 | 2:AA:1143:A:OP1 | 1.66 | 0.78 |
| 2:AA:1174:A:H2 | 2:AA:1175:U:H3' | 1.43 | 0.78 |
| 2:AA:1332:G:H5" | 2:AA:1333:C:OP2 | 1.83 | 0.78 |
| 2:AA:1364:G:N2 | 2:AA:1367:A:OP2 | 2.16 | 0.78 |
| 2:AA:1444:G:H2' | 2:AA:1445:C:C5 | 2.18 | 0.78 |
| 2:AA:1952:A:C5 | 2:AA:1953:A:N1 | 2.51 | 0.78 |
| 2:AA:2262:U:O2' | 2:AA:2263:C:H5' | 1.82 | 0.78 |
| 2:AA:2270:G:O6 | 2:AA:2271:G:C2 | 2.36 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2327:A:H2' | 2:AA:2328:A:C8 | 2.18 | 0.78 |
| 2:AA:2880:C:O2 | 24:A0:93:GLY:HA3 | 1.83 | 0.78 |
| 3:AC:10:LEU:HG | 3:AC:32:LEU:HD22 | 1.65 | 0.78 |
| 6:AF:193:LEU:HD13 | 6:AF:223:LEU:HB3 | 1.64 | 0.78 |
| 8:AH:60:HIS:O | 8:AH:63:LEU:HB3 | 1.84 | 0.78 |
| 9:AJ:86:LYS:CD | 11:AL:10:LYS:HE3 | 2.14 | 0.78 |
| 14:AO:114:VAL:HG11 | 14:AO:133:VAL:HA | 1.65 | 0.78 |
| 15:AP:142:LYS:HG3 | 15:AP:143:VAL:N | 1.97 | 0.78 |
| 16:AQ:35:VAL:HG22 | 16:AQ:103:ASP:OD1 | 1.83 | 0.78 |
| 19:AT:23:LYS:HE2 | 19:AT:67:ARG:NH1 | 1.97 | 0.78 |
| 22:AW:45:ARG:HE | 22:AW:49:LEU:HG | 1.48 | 0.78 |
| 26:A2:25:LEU:O | 26:A2:26:GLN:HG3 | 1.83 | 0.78 |
| 27:A3:59:LEU:HA | 27:A3:81:ILE:HG12 | 1.65 | 0.78 |
| 28:A4:48:ARG:H | 28:A4:52:THR:HG1 | 1.32 | 0.78 |
| 32:A8:29:LYS:HZ2 | 32:A8:36:LYS:HE2 | 1.47 | 0.78 |
| 34:BA:269:C:O2' | 34:BA:270:A:H5' | 1.81 | 0.78 |
| 34:BA:451:A:H61 | 34:BA:480:U:H2' | 1.49 | 0.78 |
| 34:BA:789:U:O2' | 36:B1:59:A:N1 | 2.17 | 0.78 |
| 34:BA:872:A:O2' | 34:BA:873:A:H3' | 1.83 | 0.78 |
| 34:BA:969:A:C8 | 34:BA:969:A:H5' | 2.16 | 0.78 |
| 35:BB:72:C:C2 | 35:BB:73:A:C8 | 2.70 | 0.78 |
| 36:B1:50:G:H2' | 36:B1:51:G:C8 | 2.18 | 0.78 |
| 43:BK:29:SER:CB | 43:BK:32:LYS:HZ1 | 1.94 | 0.78 |
| 43:BK:36:LEU:HA | 43:BK:39:LEU:HB2 | 1.65 | 0.78 |
| 45:BM:4:ILE:HG12 | 45:BM:100:THR:HG22 | 1.65 | 0.78 |
| 1:AB:87:G:H2' | 1:AB:89:G:N7 | 1.98 | 0.78 |
| 2:AA:270(C):C:N4 | 2:AA:270(W):G:N1 | 2.31 | 0.78 |
| 2:AA:324:A:H2 | 2:AA:325:G:H1' | 1.48 | 0.78 |
| 2:AA:442:G:HO2' | 6:AF:46:TYR:HE1 | 1.31 | 0.78 |
| 2:AA:511:U:O4 | 2:AA:512:G:H1' | 1.82 | 0.78 |
| 2:AA:530:G:H1 | 2:AA:2021:C:H3' | 1.47 | 0.78 |
| 2:AA:541:C:H42 | 2:AA:552:G:H1 | 1.31 | 0.78 |
| 2:AA:587:C:C2 | 2:AA:671:C:O4' | 2.37 | 0.78 |
| 2:AA:839:U:H4' | 2:AA:1191:G:N3 | 1.98 | 0.78 |
| 2:AA:880:G:H2' | 2:AA:881:G:H5' | 1.64 | 0.78 |
| 2:AA:1022:G:C2 | 2:AA:1139:G:N2 | 2.51 | 0.78 |
| 2:AA:1025:G:C1' | 2:AA:1134:G:H4' | 2.13 | 0.78 |
| 2:AA:1210:A:H1' | 2:AA:1212:G:N2 | 1.98 | 0.78 |
| 2:AA:1500:G:H2' | 2:AA:1501:C:H6 | 1.48 | 0.78 |
| 2:AA:1664:A:N3 | 2:AA:1665:A:N7 | 2.31 | 0.78 |
| 2:AA:1790:C:C5' | 2:AA:1828:G:H1 | 1.96 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2681:C:O2' | 2:AA:2682:U:C5' | 2.30 | 0.78 |
| 4:AD:166:LYS:HB2 | 4:AD:171:VAL:HA | 1.63 | 0.78 |
| 5:AE:76:PRO:HA | 5:AE:292:PRO:CB | 2.13 | 0.78 |
| 6:AF:144:PHE:HE2 | 6:AF:156:LEU:CD2 | 1.95 | 0.78 |
| 6:AF:218:VAL:HG13 | 6:AF:222:ASP:OD2 | 1.83 | 0.78 |
| 10:AK:124:LEU:CD1 | 10:AK:145:VAL:HG12 | 2.13 | 0.78 |
| 11:AL:93:LYS:HA | 11:AL:96:ILE:HD12 | 1.65 | 0.78 |
| 11:AL:109:ALA:HB3 | 11:AL:125:MET:SD | 2.24 | 0.78 |
| 13:AN:7:ARG:C | 13:AN:8:LEU:HD23 | 2.03 | 0.78 |
| 14:AO:64:ILE:HG22 | 14:AO:108:VAL:HG22 | 1.63 | 0.78 |
| 16:AQ:18:THR:HG1 | 16:AQ:20:TYR:HD1 | 1.29 | 0.78 |
| 21:AV:3:LEU:HD13 | 21:AV:34:LEU:CD2 | 2.14 | 0.78 |
| 21:AV:168:VAL:CG1 | 21:AV:169:VAL:N | 2.45 | 0.78 |
| 22:AW:7:GLU:HG2 | 22:AW:8:ILE:N | 1.96 | 0.78 |
| 24:A0:28:LEU:HD12 | 24:A0:29:LEU:HD22 | 1.66 | 0.78 |
| 24:A0:38:VAL:HB | 24:A0:39:PRO:CD | 2.12 | 0.78 |
| 27:A3:37:LEU:HB2 | 27:A3:68:VAL:C | 2.04 | 0.78 |
| 28:A4:17:GLN:HG2 | 28:A4:33:VAL:HG12 | 1.65 | 0.78 |
| 34:BA:517:G:H5' | 34:BA:519:C:C4 | 2.17 | 0.78 |
| 34:BA:1026:G:C2' | 34:BA:1027:C:H5' | 2.12 | 0.78 |
| 34:BA:1097:C:H2' | 34:BA:1098:C:H6 | 1.47 | 0.78 |
| 34:BA:1131:G:OP2 | 44:BL:20:ARG:NH2 | 2.15 | 0.78 |
| 35:BB:74:C:H4' | 35:BB:74:C:OP1 | 1.83 | 0.78 |
| 39:BG:35:ARG:O | 39:BG:37:PRO:HD3 | 1.83 | 0.78 |
| 39:BG:101:LEU:HB2 | 39:BG:138:TYR:HB3 | 1.66 | 0.78 |
| 41:BI:7:ASN:OD1 | 41:BI:62:TRP:HB2 | 1.84 | 0.78 |
| 41:BI:42:GLU:HG3 | 41:BI:61:LEU:CD2 | 2.13 | 0.78 |
| 44:BL:98:PRO:C | 44:BL:100:GLY:H | 1.86 | 0.78 |
| 46:BN:84:VAL:HG21 | 46:BN:110:ASP:HA | 1.64 | 0.78 |
| 1:AB:79:C:H42 | 1:AB:97:G:H1 | 1.32 | 0.78 |
| 2:AA:35:G:O4' | 2:AA:454:A:H1' | 1.84 | 0.78 |
| 2:AA:126:A:N7 | 2:AA:127:A:C4 | 2.51 | 0.78 |
| 2:AA:261:G:O4' | 2:AA:608:A:C2 | 2.37 | 0.78 |
| 2:AA:303:U:H2' | 2:AA:304:G:H8 | 1.47 | 0.78 |
| 2:AA:401:A:H2' | 2:AA:402:A:C8 | 2.14 | 0.78 |
| 2:AA:642:G:N2 | 2:AA:646:A:H61 | 1.77 | 0.78 |
| 2:AA:677:A:O2' | 2:AA:678:C:H5' | 1.84 | 0.78 |
| 2:AA:810:U:OP1 | 2:AA:1253:A:N7 | 2.16 | 0.78 |
| 2:AA:976:C:C5' | 2:AA:1156:A:N6 | 2.46 | 0.78 |
| 2:AA:1215:G:H5" | 25:A1:8:ILE:HG21 | 1.63 | 0.78 |
| 2:AA:1598:C:O3' | 19:AT:33:SER:OG | 2.02 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1634:A:O2' | 2:AA:1635:G:OP1 | 2.00 | 0.78 |
| 2:AA:2180:U:H2' | 2:AA:2181:G:O4' | 1.84 | 0.78 |
| 2:AA:2561:A:H2' | 2:AA:2562:U:O5' | 1.83 | 0.78 |
| 5:AE:107:GLU:HB3 | 5:AE:110:ARG:HD2 | 1.65 | 0.78 |
| 8:AH:40:MET:C | 8:AH:54:PRO:HG3 | 2.04 | 0.78 |
| 8:AH:109:SER:OG | 8:AH:110:HIS:N | 2.16 | 0.78 |
| 8:AH:148:ARG:NH2 | 8:AH:164:GLU:H | 1.81 | 0.78 |
| 13:AN:11:ALA:HB1 | 13:AN:99:PHE:HB3 | 1.65 | 0.78 |
| 20:AU:18:GLU:O | 20:AU:21:LYS:CG | 2.32 | 0.78 |
| 21:AV:92:VAL:O | 21:AV:94:VAL:HG23 | 1.83 | 0.78 |
| 21:AV:103:ARG:CG | 21:AV:139:THR:HG22 | 2.08 | 0.78 |
| 21:AV:112:LEU:HD13 | 21:AV:142:ASN:OD1 | 1.83 | 0.78 |
| 24:A0:83:ILE:HG23 | 24:A0:86:ARG:NE | 1.98 | 0.78 |
| 24:A0:86:ARG:NH2 | 24:A0:118:GLU:HG3 | 1.98 | 0.78 |
| 25:A1:21:ALA:HB1 | 25:A1:24:PHE:CZ | 2.19 | 0.78 |
| 25:A1:92:ARG:O | 25:A1:95:LEU:HG | 1.84 | 0.78 |
| 26:A2:38:LEU:N | 26:A2:38:LEU:HD23 | 1.98 | 0.78 |
| 26:A2:40:VAL:HG12 | 26:A2:51:ALA:O | 1.81 | 0.78 |
| 27:A3:42:GLY:HA3 | 27:A3:65:GLY:O | 1.82 | 0.78 |
| 28:A4:67:TYR:C | 28:A4:68:ARG:HG3 | 2.02 | 0.78 |
| 29:A5:18:MET:O | 29:A5:21:SER:CB | 2.30 | 0.78 |
| 30:A6:39:LYS:O | 30:A6:40:TYR:HD1 | 1.66 | 0.78 |
| 34:BA:22:G:C1' | 34:BA:914:A:N6 | 2.46 | 0.78 |
| 34:BA:226:G:O2' | 34:BA:227:G:H5' | 1.84 | 0.78 |
| 34:BA:266:G:H4' | 34:BA:267:C:H5 | 1.48 | 0.78 |
| 34:BA:530:G:C8 | 35:BB:35:A:C1' | 2.66 | 0.78 |
| 34:BA:656:C:O2' | 34:BA:657:G:H5' | 1.84 | 0.78 |
| 34:BA:952:U:H5' | 34:BA:972:C:H41 | 1.46 | 0.78 |
| 34:BA:983:A:H2 | 34:BA:984:C:H6 | 1.30 | 0.78 |
| 34:BA:1192:C:C6 | 34:BA:1192:C:C3' | 2.65 | 0.78 |
| 34:BA:1244:C:OP1 | 56:BX:9:ARG:HD3 | 1.83 | 0.78 |
| 34:BA:1326:C:OP2 | 56:BX:6:ARG:CZ | 2.31 | 0.78 |
| 35:BB:53:G:H2' | 35:BB:54:U:C5' | 2.13 | 0.78 |
| 37:BE:17:PHE:HA | 37:BE:42:ILE:HG21 | 1.64 | 0.78 |
| 39:BG:150:GLU:H | 39:BG:150:GLU:CD | 1.86 | 0.78 |
| 40:BH:84:PHE:HB2 | 40:BH:134:ALA:CB | 2.12 | 0.78 |
| 41:BI:78:GLU:O | 41:BI:81:ILE:HD12 | 1.83 | 0.78 |
| 47:BO:24:VAL:HG22 | 47:BO:98:TYR:CZ | 2.16 | 0.78 |
| 48:BP:20:THR:HA | 48:BP:25:ILE:CB | 2.14 | 0.78 |
| 52:BT:51:TYR:HD1 | 52:BT:51:TYR:H | 1.32 | 0.78 |
| 2:AA:324:A:N3 | 2:AA:324:A:H2' | 1.99 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:715:G:OP2 | 2:AA:715:G:C3' | 2.27 | 0.78 |
| 2:AA:833:U:H2' | 2:AA:834:C:C6 | 2.19 | 0.78 |
| 2:AA:998:C:H42 | 2:AA:1157:G:H1 | 1.28 | 0.78 |
| 2:AA:1024:G:N7 | 2:AA:1025:G:N7 | 2.31 | 0.78 |
| 2:AA:1039:G:N2 | 2:AA:1040:C:H1' | 1.99 | 0.78 |
| 2:AA:1084:A:O4' | 9:AI:38:ALA:CB | 2.31 | 0.78 |
| 2:AA:1116:C:OP2 | 2:AA:1116:C:H6 | 1.66 | 0.78 |
| 2:AA:1152:C:C2' | 2:AA:1153:C:H5' | 2.12 | 0.78 |
| 2:AA:1655:A:O2' | 2:AA:1656:C:H5' | 1.83 | 0.78 |
| 2:AA:1772:G:C2' | 2:AA:1773:A:H4' | 2.06 | 0.78 |
| 2:AA:1818:U:C5 | 4:AD:155:ARG:CZ | 2.66 | 0.78 |
| 2:AA:1880:C:O2 | 2:AA:1880:C:H2' | 1.82 | 0.78 |
| 2:AA:2011:U:H2' | 2:AA:2012:G:O4' | 1.82 | 0.78 |
| 2:AA:2051:A:C5' | 2:AA:2578:G:H5" | 2.14 | 0.78 |
| 2:AA:2147:G:H2' | 2:AA:2148:G:H8 | 1.48 | 0.78 |
| 2:AA:2211:G:OP1 | 2:AA:2212:A:H5' | 1.81 | 0.78 |
| 2:AA:2280:G:C6 | 2:AA:2281:C:N4 | 2.52 | 0.78 |
| 2:AA:2295:C:H2' | 2:AA:2296:U:H5' | 1.66 | 0.78 |
| 2:AA:2575:C:H5' | 5:AE:241:TRP:NE1 | 1.98 | 0.78 |
| 2:AA:2867:G:H5' | 2:AA:2868:A:H5' | 1.64 | 0.78 |
| 3:AC:14:VAL:HG11 | 3:AC:222:VAL:HG23 | 1.64 | 0.78 |
| 5:AE:76:PRO:CB | 5:AE:77:PRO:HD3 | 2.04 | 0.78 |
| 6:AF:53:GLY:C | 6:AF:54:LEU:CG | 2.51 | 0.78 |
| 6:AF:58:ALA:CB | 6:AF:79:ARG:N | 2.46 | 0.78 |
| 18:AS:86:LEU:HD13 | 18:AS:87:PRO:HD2 | 1.65 | 0.78 |
| 23:AX:26:LEU:HD13 | 23:AX:47:VAL:CG2 | 2.13 | 0.78 |
| 25:A1:55:ARG:CA | 25:A1:58:ARG:HE | 1.96 | 0.78 |
| 25:A1:99:ALA:HB2 | 25:A1:106:PHE:CZ | 2.18 | 0.78 |
| 31:A7:43:THR:O | 31:A7:46:ASP:N | 2.15 | 0.78 |
| 34:BA:190:C:H2' | 34:BA:190(A):C:C6 | 2.16 | 0.78 |
| 34:BA:619:U:C4 | 39:BG:135:LEU:HD21 | 2.18 | 0.78 |
| 34:BA:646:U:H2' | 34:BA:647:C:C6 | 2.19 | 0.78 |
| 34:BA:1054:C:OP2 | 34:BA:1196:U:O3' | 2.02 | 0.78 |
| 34:BA:1060:C:H5' | 45:BM:52:GLY:H | 1.49 | 0.78 |
| 34:BA:1124:G:H3' | 34:BA:1145:C:H41 | 1.45 | 0.78 |
| 34:BA:1236:A:OP1 | 56:BX:2:GLY:N | 2.15 | 0.78 |
| 34:BA:1361:G:N7 | 34:BA:361(A):C:C5 | 2.51 | 0.78 |
| 34:BA:1466:C:H2' | 34:BA:1467:G:C8 | 2.19 | 0.78 |
| 35:BB:32:C:C4 | 35:BB:33:U:N3 | 2.52 | 0.78 |
| 35:BB:37:G:C8 | 35:BB:38:A:C8 | 2.72 | 0.78 |
| 38:BF:12:LEU:HD22 | 38:BF:16:ARG:C | 2.03 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:28:GLN:NE2 | 38:BF:29:TYR:H | 1.81 | 0.78 |
| 38:BF:172:ARG:HH22 | 38:BF:203:PHE:HE2 | 1.28 | 0.78 |
| 41:BI:83:ASP:CG | 41:BI:84:ASN:N | 2.35 | 0.78 |
| 47:BO:72:GLY:HA3 | 47:BO:102:ARG:HH11 | 1.49 | 0.78 |
| 49:BQ:60:SER:O | 49:BQ:61:TRP:HB3 | 1.82 | 0.78 |
| 51:BS:32:TYR:CE2 | 51:BS:35:LYS:HB2 | 2.19 | 0.78 |
| 52:BT:5:VAL:HA | 52:BT:59:ILE:O | 1.84 | 0.78 |
| 56:BX:24:ARG:O | 56:BX:25:LYS:HB2 | 1.82 | 0.78 |
| 1:AB:12:C:H5 | 27:A3:53:MET:O | 1.67 | 0.78 |
| 1:AB:59:A:H5' | 7:AG:144:ARG:HD3 | 1.65 | 0.78 |
| 2:AA:58:G:C2' | 2:AA:73:A:N6 | 2.47 | 0.78 |
| 2:AA:274:G:C2' | 2:AA:275:G:H5' | 2.13 | 0.78 |
| 2:AA:541:C:H2' | 2:AA:542:C:C6 | 2.19 | 0.78 |
| 2:AA:842:G:H2' | 2:AA:843:G:H8 | 1.47 | 0.78 |
| 2:AA:854:G:H2' | 2:AA:855:G:C8 | 2.16 | 0.78 |
| 2:AA:914:C:H2' | 2:AA:915:C:H5' | 1.63 | 0.78 |
| 2:AA:1081:U:H4' | 11:AL:123:ALA:HB1 | 1.66 | 0.78 |
| 2:AA:1291:C:C2' | 2:AA:1292:U:H5' | 2.14 | 0.78 |
| 2:AA:1355:G:H2' | 2:AA:1356:G:H8 | 1.49 | 0.78 |
| 2:AA:1473:G:C2' | 2:AA:1474:C:O4' | 2.32 | 0.78 |
| 2:AA:1742:C:H2' | 2:AA:1743:G:C1' | 2.13 | 0.78 |
| 2:AA:1859:A:C2' | 2:AA:1860:G:H5' | 2.13 | 0.78 |
| 2:AA:1862:G:N2 | 2:AA:1880:C:N3 | 2.28 | 0.78 |
| 4:AD:89:ASN:O | 4:AD:90:ILE:CD1 | 2.27 | 0.78 |
| 5:AE:74:GLU:HA | 5:AE:293:TYR:HE2 | 1.48 | 0.78 |
| 9:AI:16:SER:OG | 9:AJ:105:GLY:CA | 2.31 | 0.78 |
| 9:AI:115:LYS:CE | 9:AI:127:LEU:HB3 | 2.14 | 0.78 |
| 13:AN:34:ASN:C | 13:AN:62:VAL:HG11 | 2.04 | 0.78 |
| 15:AP:67:ALA:HB2 | 15:AP:70:ARG:NH1 | 1.99 | 0.78 |
| 17:AR:13:ILE:CG1 | 17:AR:33:SER:HB2 | 2.13 | 0.78 |
| 24:A0:58:GLY:O | 24:A0:59:ASP:HB3 | 1.82 | 0.78 |
| 26:A2:33:VAL:HB | 26:A2:63:HIS:CG | 2.18 | 0.78 |
| 26:A2:68:LYS:C | 26:A2:69:ILE:HD12 | 2.03 | 0.78 |
| 30:A6:5:GLY:C | 30:A6:7:ARG:H | 1.84 | 0.78 |
| 30:A6:16:ALA:C | 30:A6:18:THR:N | 2.36 | 0.78 |
| 34:BA:8:A:N6 | 39:BG:209:ARG:HB2 | 1.98 | 0.78 |
| 34:BA:123:C:OP1 | 34:BA:311:C:O2' | 2.01 | 0.78 |
| 34:BA:203:U:H5" | 34:BA:204:U:OP1 | 1.83 | 0.78 |
| 34:BA:523:A:O5' | 34:BA:523:A:H8 | 1.66 | 0.78 |
| 34:BA:1127:G:H1' | 34:BA:1148:U:N3 | 1.99 | 0.78 |
| 34:BA:1129:C:OP1 | 34:BA:1130:A:OP1 | 2.02 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1505:G:H4' | 34:BA:1506:U:O5' | 1.84 | 0.78 |
| 37:BE:169:LYS:HD3 | 37:BE:170:GLU:N | 1.98 | 0.78 |
| 38:BF:155:GLY:HA2 | 38:BF:164:ARG:O | 1.83 | 0.78 |
| 41:BI:94:GLN:H | 41:BI:94:GLN:NE2 | 1.82 | 0.78 |
| 43:BK:86:ILE:HB | 43:BK:133:LEU:O | 1.84 | 0.78 |
| 46:BN:62:GLN:NE2 | 46:BN:63:LEU:H | 1.81 | 0.78 |
| 47:BO:8:ASN:O | 47:BO:11:VAL:HB | 1.82 | 0.78 |
| 47:BO:82:VAL:HG12 | 47:BO:83:VAL:H | 1.46 | 0.78 |
| 48:BP:120:LYS:C | 48:BP:121:LYS:HD2 | 2.04 | 0.78 |
| 53:BU:53:ARG:NH1 | 53:BU:60:GLY:N | 2.30 | 0.78 |
| 2:AA:111:A:C3' | 2:AA:112:U:H5" | 2.14 | 0.78 |
| 2:AA:274:G:N3 | 2:AA:274:G:O5' | 2.17 | 0.78 |
| 2:AA:326:G:H22 | 2:AA:337:C:H1' | 0.78 | 0.78 |
| 2:AA:407:G:N2 | 2:AA:420:C:N3 | 2.31 | 0.78 |
| 2:AA:997:G:OP1 | 25:A1:93:LYS:HE2 | 1.82 | 0.78 |
| 2:AA:1012:U:C6 | 2:AA:1012:U:C3' | 2.64 | 0.78 |
| 2:AA:1026:U:H2' | 2:AA:1027:A:O5' | 1.83 | 0.78 |
| 2:AA:1111:A:O2' | 2:AA:1112:G:O4' | 2.00 | 0.78 |
| 2:AA:1562:A:H2' | 2:AA:1563:G:C8 | 2.18 | 0.78 |
| 2:AA:1627:G:H1 | 2:AA:1639:U:H3 | 1.28 | 0.78 |
| 2:AA:1636:C:H1' | 2:AA:1761:C:O2 | 1.84 | 0.78 |
| 2:AA:2014:A:N6 | 2:AA:2015:A:H61 | 1.82 | 0.78 |
| 2:AA:2023:G:N1 | 2:AA:2040:C:N4 | 2.29 | 0.78 |
| 2:AA:2331:G:H4' | 27:A3:70:ILE:HG13 | 1.66 | 0.78 |
| 2:AA:2491:U:O2' | 2:AA:2492:U:H5' | 1.83 | 0.78 |
| 2:AA:2539:C:O2' | 2:AA:2540:C:H5' | 1.84 | 0.78 |
| 2:AA:2868:A:O2' | 2:AA:2869:G:H5' | 1.82 | 0.78 |
| 6:AF:197:SER:CB | 6:AF:239:ALA:N | 2.46 | 0.78 |
| 12:AM:108:PRO:HG2 | 12:AM:109:TYR:HD1 | 1.47 | 0.78 |
| 13:AN:106:LEU:HD12 | 13:AN:114:ILE:HG21 | 1.65 | 0.78 |
| 18:AS:30:GLU:HA | 18:AS:33:ARG:CD | 2.11 | 0.78 |
| 21:AV:26:LYS:HB3 | 21:AV:27:GLU:OE2 | 1.84 | 0.78 |
| 23:AX:30:ARG:HH11 | 23:AX:30:ARG:CG | 1.96 | 0.78 |
| 24:A0:19:ALA:O | 24:A0:22:ARG:HB3 | 1.84 | 0.78 |
| 24:A0:23:ASN:OD1 | 24:A0:24:GLN:HG2 | 1.84 | 0.78 |
| 31:A7:6:GLN:CD | 31:A7:6:GLN:N | 2.33 | 0.78 |
| 31:A7:28:ARG:HA | 31:A7:31:LEU:CD1 | 2.12 | 0.78 |
| 34:BA:49:U:C6 | 34:BA:364:A:N6 | 2.51 | 0.78 |
| 34:BA:51:A:O2' | 34:BA:52:G:P | 2.41 | 0.78 |
| 34:BA:437:U:C2' | 34:BA:438:G:H5' | 2.14 | 0.78 |
| 34:BA:452:A:N6 | 34:BA:480:U:N3 | 2.32 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:652:U:H1' | 34:BA:653:A:H2 | 1.46 | 0.78 |
| 34:BA:902:G:O2' | 34:BA:903:G:H5' | 1.84 | 0.78 |
| 34:BA:950:U:H2' | 34:BA:951:G:H5' | 1.66 | 0.78 |
| 35:BB:7:U:N3 | 35:BB:67:A:C2 | 2.51 | 0.78 |
| 37:BE:185:ILE:HG22 | 37:BE:199:TYR:CB | 2.13 | 0.78 |
| 40:BH:74:GLY:O | 40:BH:115:VAL:HG12 | 1.83 | 0.78 |
| 40:BH:107:ARG:HG2 | 40:BH:111:GLU:CD | 2.04 | 0.78 |
| 41:BI:52:ILE:O | 41:BI:55:ASP:HB2 | 1.83 | 0.78 |
| 48:BP:84:ILE:CG1 | 48:BP:85:GLY:H | 1.88 | 0.78 |
| 55:BW:60:GLU:OE1 | 55:BW:81:LYS:HE3 | 1.83 | 0.78 |
| 2:AA:37:C:H4' | 2:AA:451:C:H5" | 1.65 | 0.78 |
| 2:AA:54:G:C1' | 31:A7:35:ARG:HH22 | 1.96 | 0.78 |
| 2:AA:270(J):G:O6 | 2:AA:270(P):C:N3 | 2.16 | 0.78 |
| 2:AA:519:U:H4' | 18:AS:75:TYR:HB3 | 1.66 | 0.78 |
| 2:AA:648:G:N3 | 2:AA:649:G:C8 | 2.52 | 0.78 |
| 2:AA:869:G:H2' | 2:AA:870:A:H5" | 1.66 | 0.78 |
| 2:AA:1803:A:N7 | 2:AA:1804:C:C5 | 2.52 | 0.78 |
| 2:AA:1819:A:H4' | 2:AA:1820:U:H5' | 1.66 | 0.78 |
| 2:AA:1941:C:O2 | 2:AA:1941:C:H2' | 1.83 | 0.78 |
| 2:AA:2051:A:H4' | 5:AE:238:LEU:HD23 | 1.65 | 0.78 |
| 2:AA:2464:C:H42 | 2:AA:2486:G:H1 | 0.81 | 0.78 |
| 2:AA:2805:G:H3' | 2:AA:2807:G:C5' | 2.13 | 0.78 |
| 5:AE:198:TYR:HD2 | 5:AE:265:ASN:C | 1.87 | 0.78 |
| 6:AF:82:GLN:H | 6:AF:87:ARG:CD | 1.97 | 0.78 |
| 8:AH:51:VAL:HG13 | 8:AH:64:HIS:HB3 | 1.64 | 0.78 |
| 10:AK:110:LEU:HD11 | 10:AK:114:LYS:NZ | 1.99 | 0.78 |
| 12:AM:10:VAL:HG12 | 12:AM:36:VAL:HG13 | 1.66 | 0.78 |
| 15:AP:26:LYS:NZ | 15:AP:90:PHE:CE1 | 2.49 | 0.78 |
| 16:AQ:27:LEU:N | 16:AQ:33:ARG:HH12 | 1.82 | 0.78 |
| 18:AS:42:ARG:CG | 18:AS:43:GLY:H | 1.96 | 0.78 |
| 34:BA:106:C:O2 | 34:BA:379:C:H5' | 1.84 | 0.78 |
| 34:BA:137:C:H1' | 51:BS:63:GLY:H | 1.48 | 0.78 |
| 34:BA:306:G:H2' | 34:BA:307:C:C6 | 2.19 | 0.78 |
| 34:BA:378:G:N1 | 34:BA:385:C:N4 | 2.02 | 0.78 |
| 34:BA:501:C:H2' | 34:BA:502:G:H8 | 1.49 | 0.78 |
| 34:BA:1157:A:H1' | 34:BA:1181:G:N3 | 1.99 | 0.78 |
| 34:BA:1195:C:O5' | 34:BA:1195:C:H6 | 1.66 | 0.78 |
| 35:BC:32:C:O2 | 35:BC:32:C:H2' | 1.84 | 0.78 |
| 40:BH:15:ARG:HG3 | 40:BH:15:ARG:HH11 | 1.49 | 0.78 |
| 40:BH:35:GLY:CA | 40:BH:112:LEU:HD12 | 2.13 | 0.78 |
| 40:BH:39:GLY:C | 40:BH:69:VAL:HG23 | 2.05 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:95:GLU:CB | 41:BI:96:PRO:HD3 | 2.12 | 0.78 |
| 51:BS:6:LEU:CD2 | 51:BS:6:LEU:O | 2.31 | 0.78 |
| 2:AA:13:A:C6 | 2:AA:525:U:H2' | 2.19 | 0.78 |
| 2:AA:30:G:N2 | 2:AA:511:U:H1' | 1.97 | 0.78 |
| 2:AA:239:U:O2' | 2:AA:240:G:H5' | 1.84 | 0.78 |
| 2:AA:356:G:H2' | 2:AA:357:A:C8 | 2.18 | 0.78 |
| 2:AA:449:A:OP2 | 6:AF:85:LYS:CA | 2.30 | 0.78 |
| 2:AA:582:G:H1 | 2:AA:1258:C:H42 | 1.30 | 0.78 |
| 2:AA:853:G:H1 | 2:AA:924:C:N4 | 1.82 | 0.78 |
| 2:AA:1050:A:C2' | 2:AA:1051:G:H5' | 2.12 | 0.78 |
| 2:AA:1202:C:N3 | 2:AA:1243:G:N2 | 2.28 | 0.78 |
| 2:AA:1406:U:C2' | 2:AA:1407:C:O5' | 2.32 | 0.78 |
| 2:AA:1517:G:C2' | 2:AA:1518:C:H5' | 2.13 | 0.78 |
| 2:AA:1668:A:N1 | 2:AA:1674:G:H1' | 1.98 | 0.78 |
| 2:AA:1786:A:C2 | 2:AA:1938:A:N1 | 2.51 | 0.78 |
| 2:AA:2210:G:H4' | 2:AA:2211:G:C5' | 2.13 | 0.78 |
| 2:AA:2250:G:H5' | 15:AP:102:ARG:HD3 | 1.65 | 0.78 |
| 2:AA:2297:C:H2' | 2:AA:2298:A:H8 | 1.48 | 0.78 |
| 2:AA:2525:G:C2 | 2:AA:2539:C:C4 | 2.71 | 0.78 |
| 2:AA:2700:C:H3' | 2:AA:2701:C:H5" | 1.65 | 0.78 |
| 3:AC:14:VAL:HG12 | 3:AC:15:ASP:H | 1.49 | 0.78 |
| 4:AD:140:VAL:HA | 4:AD:191:VAL:HA | 1.66 | 0.78 |
| 5:AE:44:TYR:CZ | 5:AE:308:VAL:HG22 | 2.19 | 0.78 |
| 6:AF:93:LYS:HB2 | 6:AF:96:LYS:CG | 2.13 | 0.78 |
| 7:AG:140:ARG:HD2 | 7:AG:144:ARG:NH2 | 1.98 | 0.78 |
| 8:AH:25:VAL:HB | 8:AH:32:LEU:HD22 | 1.65 | 0.78 |
| 9:AI:60:ASP:HB2 | 9:AI:128:LYS:HD3 | 1.64 | 0.78 |
| 10:AK:95:SER:O | 10:AK:98:ILE:HB | 1.83 | 0.78 |
| 14:AO:67:ARG:HH11 | 14:AO:111:ALA:HB3 | 1.48 | 0.78 |
| 16:AQ:89:GLY:HA3 | 16:AQ:125:ALA:HB1 | 1.65 | 0.78 |
| 20:AU:20:HIS:O | 20:AU:23:VAL:HB | 1.84 | 0.78 |
| 26:A2:20:ILE:HG12 | 26:A2:67:LYS:NZ | 1.98 | 0.78 |
| 26:A2:35:LEU:C | 26:A2:60:VAL:HG22 | 2.04 | 0.78 |
| 31:A7:30:ILE:HD13 | 31:A7:33:ARG:NH1 | 1.99 | 0.78 |
| 34:BA:451:A:O2' | 34:BA:452:A:C8 | 2.35 | 0.78 |
| 34:BA:596:C:H42 | 34:BA:644:G:H1 | 1.32 | 0.78 |
| 34:BA:667:G:H1 | 34:BA:739:C:H42 | 1.32 | 0.78 |
| 34:BA:713:G:H2' | 34:BA:714:G:N7 | 1.99 | 0.78 |
| 34:BA:1283:G:O2' | 34:BA:1284:C:H5' | 1.82 | 0.78 |
| 35:BC:17:U:C4 | 35:BC:19:G:C8 | 2.72 | 0.78 |
| 37:BE:12:GLU:O | 37:BE:14:GLY:N | 2.18 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:56:ASP:HB2 | 38:BF:69:HIS:NE2 | 1.98 | 0.78 |
| 38:BF:157:ILE:HG21 | 38:BF:164:ARG:HE | 1.47 | 0.78 |
| 41:BI:21:LEU:O | 41:BI:24:GLU:HG3 | 1.83 | 0.78 |
| 43:BK:44:PHE:CE2 | 43:BK:109:ILE:HG21 | 2.17 | 0.78 |
| 43:BK:97:VAL:HG13 | 43:BK:98:LYS:NZ | 1.99 | 0.78 |
| 55:BW:77:ALA:O | 55:BW:80:ARG:HB2 | 1.83 | 0.78 |
| 1:AB:5:C:H2' | 1:AB:6:C:C6 | 2.18 | 0.77 |
| 2:AA:125:G:H5" | 31:A7:19:ARG:HH11 | 0.79 | 0.77 |
| 2:AA:283:A:N7 | 2:AA:284:U:H5 | 1.82 | 0.77 |
| 2:AA:307:G:N2 | 2:AA:310:A:O4' | 2.16 | 0.77 |
| 2:AA:408:G:H2' | 2:AA:409:C:O4' | 1.84 | 0.77 |
| 2:AA:697:C:OP2 | 2:AA:1555:G:N2 | 2.17 | 0.77 |
| 2:AA:749:C:H2' | 2:AA:750:A:H8 | 1.48 | 0.77 |
| 2:AA:911:A:N6 | 15:AP:15:THR:O | 2.17 | 0.77 |
| 2:AA:1022:G:C2 | 2:AA:1140:C:C5 | 2.71 | 0.77 |
| 2:AA:1023:U:H2' | 2:AA:1024:G:C5' | 2.14 | 0.77 |
| 2:AA:1165:U:HO2' | 2:AA:1166:C:H6 | 1.25 | 0.77 |
| 2:AA:1324:G:H1' | 2:AA:1616:A:N6 | 1.99 | 0.77 |
| 2:AA:1384:A:H1' | 2:AA:1405:U:O4' | 1.83 | 0.77 |
| 2:AA:444(A):A:H5" | 2:AA:1445:C:OP1 | 1.84 | 0.77 |
| 2:AA:1661:G:O2' | 2:AA:1662:C:H5' | 1.84 | 0.77 |
| 2:AA:1676:A:H2' | 2:AA:1677:A:C8 | 2.17 | 0.77 |
| 2:AA:2021:C:O2 | 2:AA:2021:C:C2' | 2.31 | 0.77 |
| 2:AA:2086:U:N3 | 2:AA:2233:U:O4 | 2.17 | 0.77 |
| 2:AA:2116:G:OP2 | 3:AC:126:LYS:CB | 2.32 | 0.77 |
| 2:AA:2132:U:O2 | 2:AA:2133:G:N3 | 2.16 | 0.77 |
| 2:AA:2136:C:N3 | 2:AA:2155:G:C2 | 2.53 | 0.77 |
| 2:AA:2295:C:C2' | 2:AA:2296:U:H5' | 2.13 | 0.77 |
| 2:AA:2424:C:O2' | 2:AA:2429:G:O2' | 2.00 | 0.77 |
| 2:AA:2451:A:H4' | 35:BC:75:C:N4 | 1.97 | 0.77 |
| 2:AA:2644:G:H8 | 2:AA:2644:G:O5' | 1.65 | 0.77 |
| 2:AA:2694:G:C6 | 2:AA:2695:C:C5 | 2.72 | 0.77 |
| 4:AD:66:PHE:CD2 | 4:AD:67:LYS:HE3 | 2.16 | 0.77 |
| 7:AG:81:GLU:O | 7:AG:85:GLN:CG | 2.32 | 0.77 |
| 8:AH:145:ALA:HA | 8:AH:148:ARG:HB2 | 1.66 | 0.77 |
| 9:AJ:22:VAL:HG13 | 9:AJ:38:ALA:HB1 | 1.66 | 0.77 |
| 10:AK:51:LYS:O | 10:AK:55:GLN:HG3 | 1.83 | 0.77 |
| 13:AN:1:MET:N | 13:AN:32:TYR:CB | 2.47 | 0.77 |
| 16:AQ:111:PRO:O | 16:AQ:116:PHE:HB2 | 1.82 | 0.77 |
| 18:AS:85:VAL:HA | 18:AS:95:ILE:HG12 | 1.63 | 0.77 |
| 21:AV:72:ASP:OD2 | 21:AV:78:PRO:HA | 1.83 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:117:VAL:HB | 21:AV:167:THR:HB | 1.66 | 0.77 |
| 22:AW:59:ILE:HG23 | 22:AW:60:GLN:N | 1.99 | 0.77 |
| 25:A1:97:ASP:O | 25:A1:100:ALA:HB3 | 1.83 | 0.77 |
| 26:A2:50:ASP:OD1 | 26:A2:53:LYS:HE3 | 1.84 | 0.77 |
| 31:A7:38:GLY:O | 31:A7:39:ARG:HB2 | 1.83 | 0.77 |
| 34:BA:507:C:H2' | 34:BA:508:C:H5 | 1.48 | 0.77 |
| 34:BA:1139:G:N2 | 34:BA:1143:G:N1 | 2.29 | 0.77 |
| 34:BA:1192:C:C5 | 34:BA:1193:G:C8 | 2.72 | 0.77 |
| 34:BA:1286:A:C5' | 56:BX:25:LYS:HG2 | 2.13 | 0.77 |
| 34:BA:1363:A:H1' | 34:BA:1365:G:N7 | 1.99 | 0.77 |
| 34:BA:1392:G:H2' | 34:BA:1393:U:H6 | 1.40 | 0.77 |
| 34:BA:1399:C:C4 | 34:BA:1502:A:N6 | 2.51 | 0.77 |
| 35:BB:19:G:O2' | 35:BB:20:G:P | 2.41 | 0.77 |
| 36:B1:66:G:H2' | 36:B1:67:U:H5' | 1.66 | 0.77 |
| 37:BE:165:VAL:O | 37:BE:187:LEU:O | 1.99 | 0.77 |
| 40:BH:81:GLU:CB | 40:BH:90:VAL:HG22 | 2.02 | 0.77 |
| 44:BL:15:ALA:HA | 44:BL:65:VAL:HG23 | 1.66 | 0.77 |
| 45:BM:24:VAL:HG12 | 45:BM:28:ARG:HE | 1.47 | 0.77 |
| 47:BO:93:LEU:HD23 | 47:BO:93:LEU:N | 1.98 | 0.77 |
| 48:BP:2:ALA:C | 48:BP:4:ILE:H | 1.85 | 0.77 |
| 56:BX:10:ARG:NH2 | 56:BX:13:ILE:HD12 | 1.99 | 0.77 |
| 1:AB:13:A:N6 | 1:AB:70:C:H5' | 2.00 | 0.77 |
| 1:AB:59:A:OP1 | 7:AG:141:VAL:HG22 | 1.84 | 0.77 |
| 2:AA:38:A:H2' | 2:AA:39:C:C6 | 2.19 | 0.77 |
| 2:AA:580:C:H2' | 2:AA:581:C:H6 | 1.45 | 0.77 |
| 2:AA:617:G:H2' | 2:AA:618:G:C8 | 2.19 | 0.77 |
| 2:AA:931:G:H2' | 2:AA:932:G:N9 | 1.98 | 0.77 |
| 2:AA:1183:G:OP2 | 2:AA:1183:G:C3' | 2.28 | 0.77 |
| 2:AA:1212:G:N1 | 2:AA:1236:G:O6 | 2.17 | 0.77 |
| 2:AA:1467:C:C5 | 2:AA:1468:C:H5 | 2.02 | 0.77 |
| 2:AA:1762:A:H3' | 2:AA:1762:A:C8 | 2.19 | 0.77 |
| 2:AA:1809:A:N6 | 28:A4:3:LYS:CG | 2.43 | 0.77 |
| 2:AA:2230:G:H2' | 2:AA:2231:C:H6 | 1.49 | 0.77 |
| 2:AA:2254:C:O2' | 2:AA:2255:G:H5' | 1.83 | 0.77 |
| 2:AA:2436:G:O2' | 2:AA:2598:A:N1 | 2.17 | 0.77 |
| 2:AA:2810:A:H62 | 2:AA:2891:G:H21 | 1.28 | 0.77 |
| 3:AC:190:ARG:HB2 | 3:AC:190:ARG:CZ | 2.15 | 0.77 |
| 4:AD:145:LEU:HD13 | 4:AD:146:LYS:NZ | 1.99 | 0.77 |
| 5:AE:82:ALA:HB2 | 5:AE:99:VAL:H | 1.49 | 0.77 |
| 5:AE:200:ASP:O | 5:AE:311:PHE:HA | 1.84 | 0.77 |
| 6:AF:55:ARG:C | 6:AF:79:ARG:HH21 | 1.86 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AI:10:ILE:O | 9:AI:18:LEU:HD21 | 1.84 | 0.77 |
| 9:AI:17:GLU:HG3 | 9:AJ:104:SER:O | 1.84 | 0.77 |
| 10:AK:104:ALA:HB3 | 10:AK:105:GLN:OE1 | 1.83 | 0.77 |
| 12:AM:53:ILE:CG2 | 12:AM:135:ILE:HD11 | 2.14 | 0.77 |
| 12:AM:87:LEU:HD13 | 12:AM:98:PHE:CZ | 2.19 | 0.77 |
| 14:AO:55:GLN:CG | 14:AO:56:LYS:H | 1.96 | 0.77 |
| 18:AS:23:LEU:CD2 | 29:A5:27:ALA:HB2 | 2.14 | 0.77 |
| 24:A0:67:LEU:HD13 | 24:A0:67:LEU:C | 2.04 | 0.77 |
| 27:A3:48:GLY:H | 27:A3:49:GLN:HE21 | 1.32 | 0.77 |
| 34:BA:673:G:H5' | 41:BI:87:ARG:HE | 1.49 | 0.77 |
| 34:BA:1044:A:H2' | 34:BA:1045:C:O4' | 1.84 | 0.77 |
| 34:BA:1163:C:O2' | 34:BA:1164:G:H5' | 1.83 | 0.77 |
| 34:BA:1373:G:H4' | 42:BJ:36:LYS:HZ2 | 1.48 | 0.77 |
| 34:BA:1448:C:N3 | 34:BA:1455:G:N2 | 2.30 | 0.77 |
| 35:BB:41:U:C6 | 35:BB:41:U:C4' | 2.65 | 0.77 |
| 38:BF:157:ILE:HB | 38:BF:164:ARG:HD3 | 1.65 | 0.77 |
| 41:BI:10:LEU:HD21 | 41:BI:26:ILE:HD11 | 1.65 | 0.77 |
| 46:BN:19:ALA:HB2 | 46:BN:80:VAL:HG11 | 1.66 | 0.77 |
| 51:BS:58:TYR:CD1 | 51:BS:58:TYR:C | 2.58 | 0.77 |
| 52:BT:28:PRO:HA | 52:BT:35:VAL:HA | 1.64 | 0.77 |
| 56:BX:9:ARG:CZ | 56:BX:21:TYR:HB3 | 2.14 | 0.77 |
| 1:AB:88:C:H3' | 1:AB:88:C:C6 | 2.20 | 0.77 |
| 2:AA:205:G:O2' | 2:AA:206:U:P | 2.41 | 0.77 |
| 2:AA:301:G:H2' | 2:AA:302:C:H6 | 1.50 | 0.77 |
| 2:AA:809:G:C5 | 2:AA:810:U:C5 | 2.72 | 0.77 |
| 2:AA:969:U:H2' | 2:AA:970:C:C6 | 2.17 | 0.77 |
| 2:AA:1083:U:C3' | 9:AI:37:VAL:CA | 2.62 | 0.77 |
| 2:AA:1255:U:H5" | 2:AA:1256:G:O5' | 1.84 | 0.77 |
| 2:AA:1298:C:H4' | 2:AA:1302:A:N6 | 1.99 | 0.77 |
| 2:AA:1771:C:H42 | 2:AA:1980:G:H1 | 0.80 | 0.77 |
| 2:AA:2468:G:H22 | 2:AA:2481:G:C2' | 1.97 | 0.77 |
| 2:AA:2597:G:H2' | 2:AA:2598:A:C8 | 2.19 | 0.77 |
| 2:AA:2605:U:O2 | 2:AA:2606:C:C5 | 2.38 | 0.77 |
| 2:AA:2792:G:N1 | 2:AA:2804:C:N4 | 2.33 | 0.77 |
| 2:AA:2825:C:H2' | 2:AA:2826:A:O4' | 1.83 | 0.77 |
| 7:AG:128:LEU:O | 7:AG:129:ASP:HB2 | 1.84 | 0.77 |
| 8:AH:34:ARG:HH22 | 8:AH:74:MET:N | 1.81 | 0.77 |
| 11:AL:73:PRO:HB2 | 11:AL:78:LEU:HD21 | 1.64 | 0.77 |
| 12:AM:50:GLU:O | 12:AM:54:VAL:HG23 | 1.85 | 0.77 |
| 13:AN:102:VAL:HG11 | 13:AN:106:LEU:CD1 | 2.13 | 0.77 |
| 16:AQ:110:THR:HG23 | 16:AQ:114:LYS:HB2 | 1.64 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 18:AS:6:ILE:HG13 | 18:AS:104:THR:HG23 | 1.66 | 0.77 |
| 23:AX:52:HIS:ND1 | 23:AX:53:LEU:N | 2.31 | 0.77 |
| 29:A5:40:LYS:NZ | 29:A5:49:CYS:CB | 2.46 | 0.77 |
| 31:A7:30:ILE:HA | 31:A7:33:ARG:HG3 | 1.65 | 0.77 |
| 34:BA:279:A:H5" | 34:BA:280:C:H3' | 1.66 | 0.77 |
| 34:BA:522:C:N4 | 34:BA:523:A:N6 | 2.33 | 0.77 |
| 34:BA:555:C:H2' | 34:BA:555:C:O2 | 1.82 | 0.77 |
| 34:BA:795:C:O5' | 34:BA:795:C:H6 | 1.66 | 0.77 |
| 34:BA:922:G:H5' | 40:BH:19:MET:O | 1.83 | 0.77 |
| 34:BA:1488:G:H2' | 34:BA:1489:G:H8 | 1.49 | 0.77 |
| 37:BE:16:HIS:CD2 | 37:BE:214:ILE:HD11 | 2.19 | 0.77 |
| 37:BE:56:ARG:HH11 | 37:BE:56:ARG:CB | 1.97 | 0.77 |
| 40:BH:95:ALA:CB | 40:BH:96:PRO:CD | 2.60 | 0.77 |
| 44:BL:55:ALA:HB3 | 44:BL:58:ARG:CZ | 2.13 | 0.77 |
| 46:BN:111:ASP:OD2 | 46:BN:113:PRO:CD | 2.31 | 0.77 |
| 52:BT:40:LYS:HE2 | 52:BT:42:TYR:HE1 | 1.49 | 0.77 |
| 53:BU:59:SER:N | 53:BU:62:GLU:HB2 | 1.99 | 0.77 |
| 2:AA:63:U:H3' | 2:AA:63:U:H6 | 1.47 | 0.77 |
| 2:AA:133:C:H2' | 2:AA:134:C:H6 | 1.50 | 0.77 |
| 2:AA:250:G:H2' | 2:AA:250:G:N3 | 1.99 | 0.77 |
| 2:AA:270(Z):U:H4' | 2:AA:270(Z):U:OP1 | 1.83 | 0.77 |
| 2:AA:461:C:N4 | 2:AA:469:G:H21 | 1.83 | 0.77 |
| 2:AA:701:G:N1 | 2:AA:731:C:N4 | 1.96 | 0.77 |
| 2:AA:1158:C:H4' | 23:AX:32:GLN:OE1 | 1.83 | 0.77 |
| 2:AA:1238:G:C2 | 2:AA:1239:G:H1' | 2.20 | 0.77 |
| 2:AA:1625:C:O2' | 2:AA:1626:G:H5' | 1.84 | 0.77 |
| 2:AA:1883:G:C2 | 2:AA:1884:A:H2 | 2.02 | 0.77 |
| 2:AA:2021:C:OP2 | 29:A5:12:SER:CB | 2.31 | 0.77 |
| 2:AA:2872:G:C2 | 2:AA:2873:A:N6 | 2.52 | 0.77 |
| 4:AD:67:LYS:N | 4:AD:67:LYS:CD | 2.45 | 0.77 |
| 5:AE:271:ILE:HG12 | 5:AE:294:THR:CA | 2.15 | 0.77 |
| 5:AE:317:PRO:O | 5:AE:320:GLN:CG | 2.32 | 0.77 |
| 6:AF:193:LEU:HB2 | 6:AF:233:THR:CB | 2.13 | 0.77 |
| 7:AG:40:ILE:HG22 | 7:AG:44:ILE:HD11 | 1.67 | 0.77 |
| 8:AH:36:PHE:CZ | 8:AH:70:LEU:HD22 | 2.19 | 0.77 |
| 8:AH:58:LYS:C | 8:AH:61:ARG:HB3 | 2.03 | 0.77 |
| 10:AK:21:VAL:O | 10:AK:26:ALA:HB2 | 1.84 | 0.77 |
| 13:AN:24:VAL:HG11 | 13:AN:32:TYR:H | 1.48 | 0.77 |
| 18:AS:76:VAL:HG22 | 18:AS:102:HIS:O | 1.84 | 0.77 |
| 19:AT:56:ASN:O | 19:AT:57:THR:HG23 | 1.85 | 0.77 |
| 21:AV:19:ILE:N | 21:AV:36:ARG:HG3 | 1.97 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:53:ASP:CA | 21:AV:65:LEU:HD21 | 2.15 | 0.77 |
| 21:AV:67:LYS:HD3 | 21:AV:93:GLU:OE2 | 1.84 | 0.77 |
| 25:A1:11:ARG:HG2 | 25:A1:12:ARG:N | 2.00 | 0.77 |
| 27:A3:46:LYS:HZ3 | 27:A3:81:ILE:HD11 | 1.50 | 0.77 |
| 28:A4:20:VAL:O | 28:A4:20:VAL:HG12 | 1.84 | 0.77 |
| 29:A5:57:VAL:CG1 | 29:A5:58:LEU:N | 2.48 | 0.77 |
| 34:BA:501:C:H1' | 34:BA:549:C:H1' | 1.66 | 0.77 |
| 34:BA:750:G:N3 | 50:BR:23:GLY:O | 2.18 | 0.77 |
| 34:BA:1203:C:O2' | 34:BA:1204:A:H5' | 1.84 | 0.77 |
| 34:BA:1320:C:N4 | 54:BV:36:ARG:NH1 | 2.27 | 0.77 |
| 35:BB:9:A:HO2' | 35:BB:45:G:HO2' | 1.28 | 0.77 |
| 35:BB:33:U:O4 | 35:BB:35:A:OP1 | 2.02 | 0.77 |
| 39:BG:8:VAL:HG13 | 39:BG:11:LEU:HD12 | 1.62 | 0.77 |
| 40:BH:43:LEU:HD23 | 40:BH:44:GLY:N | 1.99 | 0.77 |
| 42:BJ:86:GLN:CG | 42:BJ:148:ASN:HD22 | 1.98 | 0.77 |
| 44:BL:67:GLY:O | 44:BL:73:GLN:NE2 | 2.17 | 0.77 |
| 51:BS:5:ARG:C | 51:BS:6:LEU:HD13 | 2.04 | 0.77 |
| 53:BU:66:LEU:HD12 | 53:BU:67:ALA:CA | 2.15 | 0.77 |
| 2:AA:481:G:H1 | 2:AA:509:C:H42 | 1.33 | 0.77 |
| 2:AA:530:G:H1' | 2:AA:532:A:P | 2.25 | 0.77 |
| 2:AA:880:G:H2' | 2:AA:881:G:C5' | 2.14 | 0.77 |
| 2:AA:962:G:H2' | 2:AA:963:U:H6 | 1.45 | 0.77 |
| 2:AA:1058:G:O2' | 9:AI:3:ILE:N | 2.18 | 0.77 |
| 2:AA:1086:A:OP1 | 2:AA:1104:C:H4' | 1.85 | 0.77 |
| 2:AA:1304:C:N4 | 2:AA:1624:G:H1 | 1.80 | 0.77 |
| 2:AA:1343:G:H3' | 2:AA:1344:G:H5" | 1.66 | 0.77 |
| 2:AA:1563:G:H2' | 2:AA:1564:C:C6 | 2.17 | 0.77 |
| 2:AA:1591:G:H2' | 2:AA:1592:C:H6 | 1.41 | 0.77 |
| 2:AA:1975:G:O2' | 2:AA:1976:U:C5' | 2.32 | 0.77 |
| 2:AA:2343:C:O2 | 2:AA:2344:U:C6 | 2.37 | 0.77 |
| 2:AA:2488:A:O2' | 2:AA:2489:G:H5' | 1.84 | 0.77 |
| 2:AA:2872:G:N2 | 2:AA:2873:A:N6 | 2.32 | 0.77 |
| 6:AF:35:VAL:O | 6:AF:39:GLN:NE2 | 2.17 | 0.77 |
| 8:AH:9:GLU:HA | 8:AH:48:VAL:CG1 | 2.05 | 0.77 |
| 9:AJ:115:LYS:CE | 9:AJ:127:LEU:HB3 | 2.15 | 0.77 |
| 10:AK:82:LYS:O | 10:AK:89:LEU:HD23 | 1.85 | 0.77 |
| 10:AK:102:LEU:HD12 | 10:AK:103:GLN:N | 2.00 | 0.77 |
| 11:AL:100:VAL:HG12 | 11:AL:101:THR:N | 1.99 | 0.77 |
| 16:AQ:19:ASP:C | 16:AQ:21:HIS:N | 2.31 | 0.77 |
| 26:A2:5:ILE:HD12 | 26:A2:5:ILE:N | 1.99 | 0.77 |
| 34:BA:29:G:H5' | 34:BA:296:U:OP1 | 1.83 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:295:C:O2' | 34:BA:296:U:H5' | 1.84 | 0.77 |
| 34:BA:297:G:N2 | 34:BA:299:G:H3' | 1.98 | 0.77 |
| 34:BA:300:A:H2' | 34:BA:301:G:C5' | 2.15 | 0.77 |
| 34:BA:453:A:H62 | 34:BA:480:U:H3 | 1.30 | 0.77 |
| 34:BA:650:G:O2' | 34:BA:651:C:H5' | 1.85 | 0.77 |
| 34:BA:974:A:C1' | 49:BQ:31:ARG:HH21 | 1.90 | 0.77 |
| 34:BA:979:C:O2 | 49:BQ:19:ARG:NE | 2.16 | 0.77 |
| 34:BA:981:U:H2' | 34:BA:982:U:C5 | 2.19 | 0.77 |
| 34:BA:1004:A:H3' | 34:BA:1025:U:C4 | 2.19 | 0.77 |
| 34:BA:1060:C:H2' | 34:BA:1061:G:H8 | 1.49 | 0.77 |
| 34:BA:1244:C:N4 | 34:BA:1293:G:H1 | 1.81 | 0.77 |
| 34:BA:1274:G:N2 | 34:BA:1275:A:H62 | 1.82 | 0.77 |
| 34:BA:1502:A:H5" | 34:BA:1503:A:OP2 | 1.83 | 0.77 |
| 39:BG:126:ILE:O | 39:BG:132:ARG:HB3 | 1.84 | 0.77 |
| 42:BJ:47:CYS:HA | 42:BJ:50:ILE:HD12 | 1.67 | 0.77 |
| 44:BL:6:GLY:HA3 | 44:BL:80:GLY:O | 1.84 | 0.77 |
| 45:BM:84:GLN:HA | 45:BM:88:LEU:CD1 | 2.06 | 0.77 |
| 52:BT:18:THR:HG23 | 52:BT:69:LYS:NZ | 2.00 | 0.77 |
| 2:AA:83:G:O6 | 2:AA:102:G:H2' | 1.83 | 0.77 |
| 2:AA:531:C:N3 | 2:AA:532:A:O2' | 2.17 | 0.77 |
| 2:AA:647:G:H5' | 2:AA:2352:A:H5" | 1.67 | 0.77 |
| 2:AA:918:A:H5' | 2:AA:919:G:C8 | 2.18 | 0.77 |
| 2:AA:976:C:H5' | 2:AA:1156:A:H61 | 1.49 | 0.77 |
| 2:AA:142(A):A:C6 | 2:AA:1143:A:C5 | 2.73 | 0.77 |
| 2:AA:1221:C:C2 | 2:AA:1229:G:N2 | 2.52 | 0.77 |
| 2:AA:1492:G:N2 | 2:AA:1499:C:C4 | 2.53 | 0.77 |
| 2:AA:1835:G:H1 | 2:AA:1905:C:H42 | 1.32 | 0.77 |
| 2:AA:1878:G:O2' | 2:AA:1879:C:H5' | 1.84 | 0.77 |
| 2:AA:1934:C:C4' | 2:AA:1974:C:H4' | 2.15 | 0.77 |
| 2:AA:1936:A:H5" | 2:AA:1937:A:H5' | 1.67 | 0.77 |
| 2:AA:1938:A:O2' | 2:AA:1939:U:OP1 | 2.01 | 0.77 |
| 2:AA:1992:G:O6 | 2:AA:1997:G:N3 | 2.17 | 0.77 |
| 2:AA:2013:A:H4' | 18:AS:96:ILE:HG22 | 1.66 | 0.77 |
| 2:AA:2044:C:C6 | 2:AA:2625:G:N2 | 2.52 | 0.77 |
| 2:AA:2371:G:H5' | 30:A6:46:LYS:CD | 2.13 | 0.77 |
| 2:AA:2378:A:H1' | 16:AQ:26:LEU:CD2 | 2.14 | 0.77 |
| 2:AA:2468:G:N2 | 2:AA:2481:G:C2' | 2.47 | 0.77 |
| 2:AA:2640:G:O2' | 12:AM:70:PHE:HE2 | 1.66 | 0.77 |
| 2:AA:2654:A:H5" | 2:AA:2655:G:OP1 | 1.85 | 0.77 |
| 2:AA:2687:U:C2 | 2:AA:2688:U:H6 | 2.02 | 0.77 |
| 3:AC:131:LEU:HD13 | 3:AC:136:LEU:O | 1.85 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:143:ILE:HD13 | 4:AD:153:LEU:C | 2.05 | 0.77 |
| 4:AD:213:LYS:O | 4:AD:214:MET:HB2 | 1.82 | 0.77 |
| 10:AK:76:THR:HG22 | 10:AK:142:LYS:CE | 2.14 | 0.77 |
| 11:AL:11:LEU:HD11 | 11:AL:28:LEU:HG | 1.66 | 0.77 |
| 21:AV:148:THR:HA | 21:AV:168:VAL:CG2 | 2.14 | 0.77 |
| 23:AX:39:ASP:HA | 23:AX:44:ARG:NH2 | 2.00 | 0.77 |
| 34:BA:50:A:N6 | 34:BA:361:G:C4' | 2.48 | 0.77 |
| 34:BA:530:G:N7 | 35:BB:35:A:O4' | 2.18 | 0.77 |
| 34:BA:888:G:N2 | 34:BA:909:A:H62 | 1.79 | 0.77 |
| 34:BA:1253:G:C6 | 34:BA:1285:A:N6 | 2.53 | 0.77 |
| 34:BA:1288:A:H2' | 34:BA:1289:A:H8 | 1.47 | 0.77 |
| 36:B1:19:G:O2' | 36:B1:20:A:H5' | 1.85 | 0.77 |
| 39:BG:105:VAL:HG21 | 39:BG:121:VAL:HG22 | 1.65 | 0.77 |
| 39:BG:135:LEU:C | 39:BG:137:SER:H | 1.86 | 0.77 |
| 41:BI:42:GLU:HG3 | 41:BI:61:LEU:HD21 | 1.65 | 0.77 |
| 41:BI:80:ARG:HG2 | 41:BI:80:ARG:HH11 | 1.48 | 0.77 |
| 45:BM:4:ILE:HG23 | 45:BM:99:LYS:O | 1.84 | 0.77 |
| 49:BQ:34:TYR:CD1 | 49:BQ:34:TYR:N | 2.49 | 0.77 |
| 50:BR:74:ASP:OD1 | 50:BR:76:GLU:CB | 2.32 | 0.77 |
| 52:BT:88:TYR:CA | 52:BT:91:ARG:HH21 | 1.97 | 0.77 |
| 55:BW:26:ASN:ND2 | 55:BW:26:ASN:N | 2.30 | 0.77 |
| 1:AB:28:C:OP1 | 16:AQ:44:ARG:NH2 | 2.17 | 0.77 |
| 1:AB:80:U:H4' | 2:AA:918:A:H8 | 1.50 | 0.77 |
| 2:AA:607:U:O4 | 2:AA:621:A:C6 | 2.37 | 0.77 |
| 2:AA:608:A:O2' | 2:AA:609:A:H5' | 1.84 | 0.77 |
| 2:AA:668:G:C4 | 2:AA:670:A:N7 | 2.52 | 0.77 |
| 2:AA:740:U:O2' | 2:AA:741:G:O5' | 2.02 | 0.77 |
| 2:AA:1967:C:N4 | 2:AA:1968:G:N2 | 2.33 | 0.77 |
| 2:AA:2579:C:N4 | 2:AA:2580:U:C5 | 2.53 | 0.77 |
| 3:AC:74:VAL:HG11 | 3:AC:153:ILE:HG23 | 1.66 | 0.77 |
| 3:AC:210:ARG:HG2 | 3:AC:210:ARG:NH1 | 1.98 | 0.77 |
| 6:AF:51:TYR:O | 6:AF:55:ARG:CB | 2.33 | 0.77 |
| 6:AF:193:LEU:HD11 | 6:AF:231:ARG:CB | 2.15 | 0.77 |
| 9:AJ:102:ILE:HD13 | 9:AJ:118:LEU:CD2 | 2.15 | 0.77 |
| 10:AK:5:PHE:CB | 10:AK:17:GLU:O | 2.32 | 0.77 |
| 11:AL:52:MET:HA | 11:AL:81:LYS:HE3 | 1.67 | 0.77 |
| 19:AT:22:ASN:O | 19:AT:23:LYS:O | 2.02 | 0.77 |
| 20:AU:43:ASN:O | 20:AU:45:GLY:N | 2.17 | 0.77 |
| 20:AU:52:ARG:HD2 | 20:AU:95:ASN:OD1 | 1.85 | 0.77 |
| 24:A0:67:LEU:CD2 | 24:A0:72:ASP:H | 1.97 | 0.77 |
| 25:A1:49:ASP:C | 25:A1:53:LYS:HE3 | 2.05 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1243:C:H42 | 34:BA:1294:G:H1 | 1.29 | 0.77 |
| 35:BB:30:G:H1 | 35:BB:40:C:H42 | 1.33 | 0.77 |
| 35:BB:33:U:C5 | 35:BB:35:A:OP2 | 2.36 | 0.77 |
| 35:BB:74:C:H2' | 35:BB:75:C:C5' | 2.15 | 0.77 |
| 37:BE:18:GLY:HA2 | 37:BE:42:ILE:H | 1.50 | 0.77 |
| 37:BE:82:ARG:HB3 | 37:BE:83:MET:HE2 | 1.66 | 0.77 |
| 38:BF:12:LEU:HD22 | 38:BF:17:ASP:CA | 2.14 | 0.77 |
| 40:BH:12:LEU:CD1 | 40:BH:31:LEU:HB3 | 2.15 | 0.77 |
| 41:BI:11:ASN:HD21 | 41:BI:13:ASN:HB2 | 1.49 | 0.77 |
| 42:BJ:72:ARG:NH1 | 42:BJ:138:LYS:HZ1 | 1.77 | 0.77 |
| 42:BJ:146:GLU:HG2 | 42:BJ:149:ARG:HH21 | 1.48 | 0.77 |
| 43:BK:40:ALA:HB2 | 43:BK:45:ILE:HG12 | 1.66 | 0.77 |
| 44:BL:107:ARG:O | 44:BL:108:VAL:HG13 | 1.85 | 0.77 |
| 45:BM:82:ILE:O | 45:BM:86:MET:CB | 2.32 | 0.77 |
| 46:BN:54:ARG:O | 46:BN:57:THR:HG22 | 1.85 | 0.77 |
| 50:BR:29:VAL:HG11 | 50:BR:81:LEU:HD21 | 1.65 | 0.77 |
| 2:AA:131:G:N1 | 2:AA:149:A:N6 | 2.33 | 0.77 |
| 2:AA:294:A:H2' | 2:AA:295:G:C5' | 2.15 | 0.77 |
| 2:AA:365:C:C4 | 2:AA:366:C:H5 | 2.02 | 0.77 |
| 2:AA:465:G:H21 | 2:AA:683:C:H2' | 1.48 | 0.77 |
| 2:AA:784:A:C6 | 2:AA:792:G:H1' | 2.20 | 0.77 |
| 2:AA:826:U:O2 | 2:AA:832:G:N2 | 2.18 | 0.77 |
| 2:AA:971:C:H42 | 2:AA:972:G:H21 | 1.31 | 0.77 |
| 2:AA:1261:C:OP2 | 2:AA:1261:C:H3' | 1.85 | 0.77 |
| 2:AA:1430:C:H2' | 2:AA:1431:U:C6 | 2.19 | 0.77 |
| 2:AA:1494:A:H2' | 2:AA:1494:A:N3 | 1.97 | 0.77 |
| 2:AA:2471:C:H2' | 2:AA:2472:G:O5' | 1.85 | 0.77 |
| 2:AA:2575:C:H5" | 2:AA:2576:G:OP2 | 1.85 | 0.77 |
| 4:AD:108:ASN:O | 4:AD:110:LYS:N | 2.17 | 0.77 |
| 4:AD:183:ILE:CG2 | 4:AD:184:LEU:H | 1.98 | 0.77 |
| 5:AE:76:PRO:HB2 | 5:AE:77:PRO:CD | 2.09 | 0.77 |
| 6:AF:91:PRO:CB | 6:AF:92:PRO:HD2 | 2.12 | 0.77 |
| 6:AF:211:ASP:O | 6:AF:212:VAL:HG23 | 1.85 | 0.77 |
| 7:AG:49:PRO:CB | 7:AG:72:LYS:O | 2.32 | 0.77 |
| 8:AH:97:LYS:HB2 | 8:AH:124:VAL:CG1 | 2.14 | 0.77 |
| 10:AK:115:ILE:HG12 | 10:AK:131:VAL:CG1 | 2.15 | 0.77 |
| 15:AP:36:ASN:HD22 | 15:AP:41:THR:H | 1.33 | 0.77 |
| 15:AP:66:ASN:C | 15:AP:70:ARG:NE | 2.38 | 0.77 |
| 17:AR:50:GLU:HG3 | 17:AR:55:ALA:CB | 2.15 | 0.77 |
| 26:A2:51:ALA:HA | 26:A2:54:TYR:HD1 | 1.48 | 0.77 |
| 34:BA:679:C:H6 | 34:BA:679:C:O5' | 1.68 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:745:C:H5" | 34:BA:851:G:H1' | 1.65 | 0.77 |
| 34:BA:1064:G:H1' | 34:BA:1066:C:C4 | 2.20 | 0.77 |
| 34:BA:1394:A:H4' | 34:BA:1395:C:OP1 | 1.84 | 0.77 |
| 40:BH:59:GLY:CA | 40:BH:63:ARG:HH21 | 1.98 | 0.77 |
| 40:BH:71:LEU:HD21 | 40:BH:115:VAL:HG13 | 1.66 | 0.77 |
| 41:BI:4:TYR:HD2 | 41:BI:4:TYR:N | 1.82 | 0.77 |
| 46:BN:53:SER:OG | 46:BN:54:ARG:N | 2.18 | 0.77 |
| 47:BO:39:VAL:CB | 47:BO:57:LYS:HD2 | 2.15 | 0.77 |
| 47:BO:48:PRO:O | 47:BO:49:ASN:O | 2.02 | 0.77 |
| 1:AB:87:G:OP2 | 1:AB:87:G:H8 | 1.68 | 0.77 |
| 2:AA:116:C:H2' | 2:AA:117:G:C8 | 2.19 | 0.77 |
| 2:AA:290:G:O6 | 2:AA:350:U:C4 | 2.38 | 0.77 |
| 2:AA:531:C:H2' | 2:AA:531:C:O2 | 1.83 | 0.77 |
| 2:AA:607:U:H3 | 2:AA:621:A:N6 | 1.69 | 0.77 |
| 2:AA:729:G:H1' | 2:AA:763:G:O3' | 1.83 | 0.77 |
| 2:AA:864:G:H2' | 2:AA:865:C:C1' | 2.14 | 0.77 |
| 2:AA:1024:G:C5 | 2:AA:1025:G:N7 | 2.52 | 0.77 |
| 2:AA:142(A):A:H4' | 12:AM:21:ARG:HH22 | 1.44 | 0.77 |
| 2:AA:1162:G:H2' | 2:AA:1163:G:H8 | 1.49 | 0.77 |
| 2:AA:1163:G:C2 | 2:AA:1164:G:C8 | 2.72 | 0.77 |
| 2:AA:1216:G:N2 | 2:AA:1234:U:H1' | 1.99 | 0.77 |
| 2:AA:1602:U:H6 | 2:AA:1602:U:H3' | 1.50 | 0.77 |
| 2:AA:2093:G:C5 | 2:AA:2225:A:N7 | 2.53 | 0.77 |
| 2:AA:2320:A:H62 | 16:AQ:9:PRO:HG3 | 1.50 | 0.77 |
| 2:AA:2466:C:OP1 | 33:A9:6:SER:HB3 | 1.85 | 0.77 |
| 2:AA:2892:A:H2' | 2:AA:2893:G:C8 | 2.20 | 0.77 |
| 3:AC:59:ARG:HB2 | 3:AC:164:ARG:HB2 | 1.67 | 0.77 |
| 4:AD:143:ILE:O | 4:AD:152:GLN:CB | 2.32 | 0.77 |
| 7:AG:27:ILE:C | 7:AG:69:ILE:HG23 | 2.05 | 0.77 |
| 8:AH:51:VAL:HG22 | 8:AH:68:ARG:HG2 | 1.66 | 0.77 |
| 10:AK:124:LEU:HD11 | 10:AK:145:VAL:HG12 | 1.67 | 0.77 |
| 16:AQ:74:PRO:HG3 | 16:AQ:114:LYS:HE2 | 1.67 | 0.77 |
| 24:A0:87:TYR:OH | 24:A0:116:LEU:HB2 | 1.85 | 0.77 |
| 26:A2:3:ALA:O | 26:A2:12:TYR:CE2 | 2.37 | 0.77 |
| 29:A5:15:LYS:O | 29:A5:18:MET:N | 2.18 | 0.77 |
| 33:A9:14:CYS:SG | 33:A9:32:HIS:CD2 | 2.77 | 0.77 |
| 34:BA:50:A:O2' | 34:BA:52:G:C8 | 2.37 | 0.77 |
| 34:BA:113:G:H2' | 34:BA:114:U:H6 | 1.50 | 0.77 |
| 34:BA:590:C:C5' | 43:BK:30:ARG:HD2 | 2.11 | 0.77 |
| 34:BA:706:A:H4' | 46:BN:29:ILE:HD11 | 1.66 | 0.77 |
| 34:BA:735:C:C1' | 53:BU:75:ILE:HD11 | 2.15 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1279:A:O2' | 34:BA:1282:C:N4 | 2.18 | 0.77 |
| 34:BA:1405:G:H1' | 34:BA:1519:A:H5' | 1.65 | 0.77 |
| 35:BB:1:G:C6 | 35:BB:73:A:C2 | 2.73 | 0.77 |
| 37:BE:15:VAL:HG22 | 37:BE:209:ARG:HH11 | 1.48 | 0.77 |
| 37:BE:75:LYS:HD3 | 37:BE:78:GLN:HB3 | 1.67 | 0.77 |
| 37:BE:155:LEU:CB | 37:BE:159:PRO:HG3 | 2.14 | 0.77 |
| 37:BE:164:VAL:O | 37:BE:186:ALA:HB1 | 1.85 | 0.77 |
| 37:BE:170:GLU:OE2 | 37:BE:172:ILE:HG13 | 1.84 | 0.77 |
| 38:BF:8:ILE:CG1 | 38:BF:16:ARG:HG2 | 2.14 | 0.77 |
| 43:BK:35:ILE:CD1 | 43:BK:134:ILE:HD13 | 2.13 | 0.77 |
| 43:BK:114:THR:HG21 | 43:BK:129:VAL:HG13 | 1.67 | 0.77 |
| 45:BM:23:ILE:HA | 45:BM:85:LEU:CD2 | 2.15 | 0.77 |
| 46:BN:31:THR:CG2 | 46:BN:42:TRP:HB3 | 2.15 | 0.77 |
| 49:BQ:6:LEU:C | 49:BQ:8:GLU:H | 1.87 | 0.77 |
| 53:BU:53:ARG:CD | 53:BU:58:LEU:O | 2.32 | 0.77 |
| 2:AA:5:A:H5' | 5:AE:94:ARG:NH2 | 2.00 | 0.77 |
| 2:AA:358:U:H3' | 2:AA:359:A:H5' | 1.67 | 0.77 |
| 2:AA:529:A:N6 | 2:AA:2042:A:C2 | 2.53 | 0.77 |
| 2:AA:535:C:C5' | 25:A1:53:LYS:HE2 | 2.15 | 0.77 |
| 2:AA:969:U:O2' | 2:AA:970:C:H5' | 1.85 | 0.77 |
| 2:AA:1119:C:O2 | 2:AA:1119:C:H2' | 1.85 | 0.77 |
| 2:AA:1181:C:C2' | 2:AA:1182:A:H8 | 1.97 | 0.77 |
| 2:AA:1972:A:H2' | 2:AA:1973:G:C8 | 2.18 | 0.77 |
| 2:AA:2468:G:O2' | 2:AA:2469:A:C8 | 2.38 | 0.77 |
| 2:AA:2575:C:OP1 | 5:AE:241:TRP:NE1 | 2.18 | 0.77 |
| 2:AA:2751:G:H2' | 2:AA:2751:G:N3 | 1.99 | 0.77 |
| 4:AD:76:ARG:HG2 | 4:AD:113:MET:C | 2.04 | 0.77 |
| 4:AD:144:GLU:O | 4:AD:183:ILE:HD13 | 1.85 | 0.77 |
| 9:AJ:35:ALA:CB | 9:AJ:36:PRO:HD3 | 2.14 | 0.77 |
| 11:AL:41:ARG:O | 11:AL:44:ALA:HB3 | 1.85 | 0.77 |
| 12:AM:42:GLU:O | 12:AM:132:LEU:C | 2.23 | 0.77 |
| 15:AP:33:MET:HE1 | 21:AV:174:PRO:O | 1.84 | 0.77 |
| 15:AP:82:LYS:NZ | 15:AP:84:ARG:CZ | 2.48 | 0.77 |
| 21:AV:5:ALA:HB3 | 21:AV:13:LYS:NZ | 2.00 | 0.77 |
| 21:AV:53:ASP:CG | 21:AV:62:PHE:O | 2.23 | 0.77 |
| 24:A0:20:LEU:HD12 | 24:A0:21:TYR:HD2 | 1.48 | 0.77 |
| 26:A2:54:TYR:O | 26:A2:56:VAL:HB | 1.85 | 0.77 |
| 32:A8:12:ARG:CD | 32:A8:13:ARG:HD2 | 2.15 | 0.77 |
| 34:BA:176:C:O2' | 34:BA:177:C:H5' | 1.84 | 0.77 |
| 34:BA:245:C:N3 | 34:BA:284:G:C6 | 2.53 | 0.77 |
| 34:BA:335:C:H4' | 34:BA:1434:A:H4' | 1.67 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:523:A:H61 | 47:BO:53:ARG:HH21 | 1.31 | 0.77 |
| 34:BA:540:G:C2 | 34:BA:541:G:H1' | 2.20 | 0.77 |
| 34:BA:601:C:H2' | 34:BA:602:A:H8 | 1.50 | 0.77 |
| 34:BA:708:C:C4' | 46:BN:37:GLY:HA3 | 2.13 | 0.77 |
| 34:BA:965:A:HO2' | 34:BA:966:G:C5' | 1.95 | 0.77 |
| 34:BA:1139:G:N2 | 34:BA:1143:G:H1 | 1.83 | 0.77 |
| 34:BA:1349:A:OP1 | 44:BL:120:ARG:HB2 | 1.83 | 0.77 |
| 34:BA:1373:G:H4' | 42:BJ:36:LYS:HZ3 | 1.47 | 0.77 |
| 34:BA:1373:G:H5" | 42:BJ:36:LYS:HD2 | 1.66 | 0.77 |
| 35:BB:15:G:O5' | 35:BB:15:G:H8 | 1.67 | 0.77 |
| 38:BF:84:ILE:HG13 | 38:BF:101:LEU:HD13 | 1.67 | 0.77 |
| 42:BJ:135:VAL:O | 42:BJ:138:LYS:HB3 | 1.84 | 0.77 |
| 43:BK:6:ILE:CD1 | 43:BK:85:ARG:NH1 | 2.48 | 0.77 |
| 43:BK:123:GLU:O | 43:BK:127:LEU:HB2 | 1.85 | 0.77 |
| 43:BK:126:LYS:NZ | 43:BK:127:LEU:HB2 | 1.99 | 0.77 |
| 49:BQ:14:PRO:O | 49:BQ:16:PHE:N | 2.18 | 0.77 |
| 50:BR:78:TYR:O | 50:BR:82:ILE:HG13 | 1.84 | 0.77 |
| 2:AA:356:G:H2' | 2:AA:357:A:N9 | 1.98 | 0.76 |
| 2:AA:452:G:N2 | 2:AA:457:A:C2 | 2.53 | 0.76 |
| 2:AA:573:G:H22 | 2:AA:2029:G:H21 | 1.32 | 0.76 |
| 2:AA:607:U:O4 | 2:AA:621:A:C2 | 2.38 | 0.76 |
| 2:AA:616:A:OP2 | 6:AF:42:ARG:CZ | 2.34 | 0.76 |
| 2:AA:935:C:O2' | 2:AA:936:C:O5' | 2.02 | 0.76 |
| 2:AA:957:A:H2 | 2:AA:2459:A:H5' | 1.51 | 0.76 |
| 2:AA:1137:G:O2' | 12:AM:82:THR:O | 2.03 | 0.76 |
| 2:AA:1163:G:H5' | 26:A2:23:GLU:OE2 | 1.85 | 0.76 |
| 2:AA:1471:A:H62 | 2:AA:1519:G:H22 | 1.31 | 0.76 |
| 2:AA:1511:A:C3' | 2:AA:1512:G:H5" | 2.15 | 0.76 |
| 2:AA:1819:A:C1' | 2:AA:1821:A:C5 | 2.67 | 0.76 |
| 2:AA:1854:A:H2' | 2:AA:1855:G:H5' | 1.65 | 0.76 |
| 2:AA:1959:G:H1' | 34:BA:1418:A:N3 | 2.00 | 0.76 |
| 2:AA:2176:A:H2' | 2:AA:2177:C:H6 | 1.50 | 0.76 |
| 2:AA:2246:G:C2 | 2:AA:2247:A:C5 | 2.73 | 0.76 |
| 2:AA:2602:A:O2' | 2:AA:2603:G:OP2 | 2.03 | 0.76 |
| 2:AA:2679:A:H5" | 5:AE:261:ARG:CZ | 2.15 | 0.76 |
| 2:AA:2679:A:H5" | 5:AE:261:ARG:NE | 1.99 | 0.76 |
| 3:AC:18:LYS:HE3 | 3:AC:20:TYR:HD2 | 1.50 | 0.76 |
| 9:AJ:83:LEU:HD13 | 9:AJ:91:LEU:HD12 | 1.66 | 0.76 |
| 10:AK:4:ILE:HD11 | 10:AK:39:ALA:CA | 2.14 | 0.76 |
| 13:AN:2:ILE:HB | 13:AN:33:ALA:HB3 | 1.65 | 0.76 |
| 13:AN:112:MET:CA | 13:AN:115:ILE:HD12 | 2.16 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:122:ALA:HB3 | 14:AO:125:PHE:HZ | 1.47 | 0.76 |
| 17:AR:13:ILE:HG13 | 17:AR:33:SER:CB | 2.15 | 0.76 |
| 21:AV:49:THR:CG2 | 21:AV:97:PRO:HD3 | 2.14 | 0.76 |
| 24:A0:38:VAL:CB | 24:A0:39:PRO:HD3 | 2.15 | 0.76 |
| 27:A3:65:GLY:HA2 | 27:A3:66:LYS:HZ2 | 1.48 | 0.76 |
| 34:BA:417:C:H42 | 34:BA:426:G:H1 | 0.78 | 0.76 |
| 34:BA:876:G:H1' | 43:BK:11:THR:HG21 | 1.67 | 0.76 |
| 34:BA:1124:G:H2' | 34:BA:1126:U:O4 | 1.85 | 0.76 |
| 34:BA:1307:U:H5' | 48:BP:109:THR:HG21 | 1.67 | 0.76 |
| 35:BB:41:U:C4' | 35:BB:41:U:H6 | 1.98 | 0.76 |
| 35:BB:62:A:O2' | 35:BB:63:C:C5' | 2.32 | 0.76 |
| 35:BC:18:G:C2 | 35:BC:58:A:C4 | 2.73 | 0.76 |
| 37:BE:20:GLU:O | 37:BE:39:ILE:HG23 | 1.85 | 0.76 |
| 37:BE:124:SER:HB2 | 37:BE:125:PRO:HD2 | 1.66 | 0.76 |
| 38:BF:38:ARG:CB | 38:BF:94:LEU:HD21 | 2.15 | 0.76 |
| 38:BF:182:ILE:HA | 38:BF:204:LEU:HG | 1.67 | 0.76 |
| 41:BI:4:TYR:N | 41:BI:4:TYR:CD2 | 2.53 | 0.76 |
| 43:BK:87:SER:CB | 43:BK:92:ARG:HA | 2.13 | 0.76 |
| 43:BK:96:GLY:O | 43:BK:99:GLU:HG3 | 1.84 | 0.76 |
| 46:BN:54:ARG:O | 46:BN:56:GLY:N | 2.18 | 0.76 |
| 47:BO:59:ARG:C | 47:BO:60:LEU:HD13 | 2.04 | 0.76 |
| 47:BO:60:LEU:HD22 | 47:BO:60:LEU:N | 1.98 | 0.76 |
| 51:BS:32:TYR:HD1 | 51:BS:32:TYR:H | 1.32 | 0.76 |
| 52:BT:75:ARG:HH12 | 52:BT:77:VAL:HA | 1.48 | 0.76 |
| 1:AB:71:C:O2' | 1:AB:72:G:H5' | 1.85 | 0.76 |
| 1:AB:90:C:O2' | 1:AB:91:C:H5' | 1.85 | 0.76 |
| 1:AB:116:G:H2' | 1:AB:117:G:O4' | 1.85 | 0.76 |
| 2:AA:126:A:H4' | 31:A7:19:ARG:HH21 | 1.50 | 0.76 |
| 2:AA:230:U:H2' | 2:AA:231:C:C6 | 2.20 | 0.76 |
| 2:AA:252:G:N2 | 2:AA:253:C:C2 | 2.54 | 0.76 |
| 2:AA:357:A:H3' | 2:AA:358:U:H5" | 1.66 | 0.76 |
| 2:AA:585:G:O2' | 2:AA:586:A:C8 | 2.37 | 0.76 |
| 2:AA:855:G:N2 | 2:AA:856:C:H1' | 1.99 | 0.76 |
| 2:AA:861:A:C5 | 2:AA:862:G:C8 | 2.73 | 0.76 |
| 2:AA:866:A:H2' | 2:AA:867:C:O5' | 1.84 | 0.76 |
| 2:AA:873:G:H4' | 15:AP:32:LYS:CB | 2.15 | 0.76 |
| 2:AA:974(A):C:OP2 | 2:AA:1186:G:N2 | 2.18 | 0.76 |
| 2:AA:1084:A:P | 9:AI:35:ALA:O | 2.42 | 0.76 |
| 2:AA:1141:U:H2' | 2:AA:1142:U:OP2 | 1.85 | 0.76 |
| 2:AA:1419:A:H4' | 2:AA:1419:A:OP2 | 1.85 | 0.76 |
| 2:AA:1467:C:N4 | 2:AA:1524:G:O6 | 2.17 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1800:C:C6 | 2:AA:1800:C:C3' | 2.63 | 0.76 |
| 2:AA:1855:G:H8 | 2:AA:1855:G:O5' | 1.68 | 0.76 |
| 2:AA:1882:C:C2' | 2:AA:1883:G:H5' | 2.15 | 0.76 |
| 2:AA:1908:C:H42 | 2:AA:1922:G:H1 | 1.32 | 0.76 |
| 2:AA:2068:U:O2 | 2:AA:2430:A:N1 | 2.18 | 0.76 |
| 2:AA:2097:C:O2' | 2:AA:2098:U:H5' | 1.83 | 0.76 |
| 2:AA:2101:G:O2' | 2:AA:2102:U:H5' | 1.85 | 0.76 |
| 2:AA:2132:U:H4' | 3:AC:5:LYS:CG | 2.15 | 0.76 |
| 2:AA:2599:G:C2' | 2:AA:2600:A:O4' | 2.33 | 0.76 |
| 2:AA:2864:G:H2' | 2:AA:2865:U:H6 | 1.49 | 0.76 |
| 3:AC:58:VAL:CG2 | 3:AC:201:PRO:HD3 | 2.15 | 0.76 |
| 3:AC:99:ILE:O | 3:AC:103:ILE:HG13 | 1.84 | 0.76 |
| 4:AD:77:VAL:C | 4:AD:113:MET:HG3 | 2.06 | 0.76 |
| 9:AI:23:LYS:HD2 | 9:AJ:47:ALA:N | 1.99 | 0.76 |
| 9:AI:63:LEU:HG | 9:AI:102:ILE:HB | 1.67 | 0.76 |
| 9:AI:91:LEU:HD23 | 9:AI:94:LYS:HD2 | 1.65 | 0.76 |
| 9:AJ:10:ILE:O | 9:AJ:18:LEU:HD21 | 1.85 | 0.76 |
| 13:AN:1:MET:HB3 | 13:AN:67:ARG:CD | 2.15 | 0.76 |
| 13:AN:66:LYS:HB3 | 13:AN:79:PHE:O | 1.85 | 0.76 |
| 13:AN:68:GLY:HA3 | 13:AN:78:ARG:HE | 0.62 | 0.76 |
| 15:AP:75:SER:O | 15:AP:132:VAL:HG21 | 1.85 | 0.76 |
| 16:AQ:120:GLU:HA | 16:AQ:123:ILE:HD12 | 1.66 | 0.76 |
| 18:AS:36:LEU:HB3 | 18:AS:48:ALA:HB2 | 1.66 | 0.76 |
| 20:AU:27:LEU:HD22 | 20:AU:31:LEU:CD1 | 2.15 | 0.76 |
| 24:A0:50:HIS:CE1 | 24:A0:54:LEU:HD11 | 2.20 | 0.76 |
| 25:A1:8:ILE:CA | 25:A1:11:ARG:HD2 | 2.14 | 0.76 |
| 25:A1:88:ILE:O | 25:A1:89:ASP:OD1 | 2.02 | 0.76 |
| 26:A2:14:VAL:HG12 | 26:A2:15:SER:N | 2.00 | 0.76 |
| 27:A3:36:ILE:N | 27:A3:68:VAL:HG22 | 2.00 | 0.76 |
| 31:A7:21:ARG:HH22 | 31:A7:42:LEU:HB3 | 1.50 | 0.76 |
| 34:BA:272:C:O2' | 34:BA:273:A:H5' | 1.85 | 0.76 |
| 34:BA:275:G:O2' | 34:BA:276:G:H5' | 1.85 | 0.76 |
| 34:BA:389:A:H2' | 34:BA:390:C:C5' | 2.14 | 0.76 |
| 34:BA:445:G:H1 | 34:BA:489:C:N4 | 1.83 | 0.76 |
| 34:BA:751:U:O2' | 34:BA:752:G:H5' | 1.85 | 0.76 |
| 34:BA:940:C:H2' | 34:BA:941:G:H8 | 1.49 | 0.76 |
| 34:BA:1209:C:C2' | 34:BA:1210:C:H5' | 2.14 | 0.76 |
| 35:BB:14:A:C2 | 35:BB:22:G:N3 | 2.54 | 0.76 |
| 36:B1:14:U:H5" | 36:B1:38:C:H42 | 1.50 | 0.76 |
| 36:B1:25:U:H3 | 36:B1:28:U:H5 | 1.33 | 0.76 |
| 37:BE:130:ARG:CD | 37:BE:131:PRO:HD2 | 2.15 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:14:LEU:HD13 | 41:BI:18:GLN:HG2 | 1.67 | 0.76 |
| 42:BJ:88:PRO:CG | 42:BJ:152:ALA:HA | 2.16 | 0.76 |
| 43:BK:46:LYS:HG3 | 43:BK:64:LYS:HG3 | 1.67 | 0.76 |
| 44:BL:27:THR:HB | 44:BL:62:TYR:HD1 | 1.50 | 0.76 |
| 48:BP:48:LEU:CD1 | 48:BP:53:VAL:HG22 | 2.14 | 0.76 |
| 51:BS:20:VAL:HG11 | 51:BS:32:TYR:HD2 | 1.50 | 0.76 |
| 2:AA:135:G:H1' | 2:AA:145:G:H22 | 1.51 | 0.76 |
| 2:AA:207:A:C2 | 2:AA:208:C:C1' | 2.68 | 0.76 |
| 2:AA:679:C:H42 | 2:AA:798:G:H1 | 1.31 | 0.76 |
| 2:AA:750:A:C2' | 2:AA:751:A:H5" | 2.15 | 0.76 |
| 2:AA:774:A:O2' | 2:AA:775:G:H8 | 1.68 | 0.76 |
| 2:AA:894:C:H2' | 2:AA:895:U:C6 | 2.19 | 0.76 |
| 2:AA:975:G:N1 | 2:AA:976:C:H6 | 1.83 | 0.76 |
| 2:AA:1083:U:O2 | 9:AI:37:VAL:HG22 | 1.85 | 0.76 |
| 2:AA:1645:G:H5" | 2:AA:1646:C:H5' | 1.66 | 0.76 |
| 2:AA:1799:G:C2 | 2:AA:1819:A:N7 | 2.53 | 0.76 |
| 2:AA:1915:U:H2' | 2:AA:1916:A:N7 | 2.00 | 0.76 |
| 2:AA:2132:U:N3 | 2:AA:2134:A:OP2 | 2.18 | 0.76 |
| 2:AA:2136:C:C5 | 2:AA:2154:G:N1 | 2.51 | 0.76 |
| 2:AA:2278:A:O2' | 15:AP:19:TYR:CD2 | 2.38 | 0.76 |
| 2:AA:2320:A:H5' | 2:AA:2321:G:N7 | 1.99 | 0.76 |
| 2:AA:2470:G:O6 | 2:AA:2481:G:C2 | 2.38 | 0.76 |
| 2:AA:2504:U:C2' | 2:AA:2505:G:H5' | 2.15 | 0.76 |
| 2:AA:2649:U:O2' | 2:AA:2650:U:C5' | 2.34 | 0.76 |
| 4:AD:79:THR:CG2 | 4:AD:111:VAL:HG13 | 2.15 | 0.76 |
| 4:AD:131:LEU:HD11 | 4:AD:187:CYS:CB | 2.13 | 0.76 |
| 4:AD:144:GLU:HG2 | 4:AD:152:GLN:HE22 | 1.50 | 0.76 |
| 6:AF:158:GLU:N | 6:AF:158:GLU:OE2 | 2.18 | 0.76 |
| 8:AH:98:GLN:OE1 | 8:AH:103:VAL:HG21 | 1.85 | 0.76 |
| 9:AI:22:VAL:HG12 | 9:AI:26:GLU:OE1 | 1.86 | 0.76 |
| 12:AM:54:VAL:HA | 12:AM:135:ILE:CG2 | 2.14 | 0.76 |
| 13:AN:45:ASP:HA | 13:AN:54:LYS:HG3 | 1.66 | 0.76 |
| 15:AP:33:MET:CE | 15:AP:34:GLY:H | 1.96 | 0.76 |
| 16:AQ:122:ALA:CB | 16:AQ:127:LEU:HD13 | 2.15 | 0.76 |
| 21:AV:37:LYS:O | 21:AV:41:ARG:CZ | 2.34 | 0.76 |
| 25:A1:43:ALA:HA | 25:A1:46:GLU:OE2 | 1.85 | 0.76 |
| 25:A1:59:ARG:HH11 | 25:A1:59:ARG:HB3 | 1.48 | 0.76 |
| 27:A3:27:GLY:HA2 | 27:A3:60:PHE:CE2 | 2.20 | 0.76 |
| 32:A8:12:ARG:HH11 | 32:A8:13:ARG:HH11 | 1.32 | 0.76 |
| 32:A8:33:ASN:O | 32:A8:34:THR:OG1 | 2.03 | 0.76 |
| 34:BA:940:C:H2' | 34:BA:941:G:C8 | 2.20 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:37:G:C4 | 35:BB:38:A:N7 | 2.53 | 0.76 |
| 35:BC:74:C:H3' | 35:BC:75:C:H5" | 1.67 | 0.76 |
| 41:BI:79:LEU:O | 41:BI:81:ILE:N | 2.19 | 0.76 |
| 41:BI:79:LEU:O | 41:BI:85:VAL:HG21 | 1.84 | 0.76 |
| 41:BI:96:PRO:HA | 53:BU:32:ARG:CD | 2.15 | 0.76 |
| 43:BK:38:ILE:HA | 43:BK:41:ARG:HB3 | 1.66 | 0.76 |
| 54:BV:44:MET:O | 54:BV:62:ILE:HG21 | 1.84 | 0.76 |
| 2:AA:47:C:N3 | 2:AA:179:G:C6 | 2.54 | 0.76 |
| 2:AA:199:A:C6 | 2:AA:2434:A:C2 | 2.74 | 0.76 |
| 2:AA:383:U:O2' | 2:AA:384:U:H5 | 1.64 | 0.76 |
| 2:AA:680:G:H2' | 2:AA:681:G:H8 | 1.49 | 0.76 |
| 2:AA:751:A:OP2 | 18:AS:90:ARG:HB3 | 1.84 | 0.76 |
| 2:AA:842:G:H2' | 2:AA:843:G:C8 | 2.20 | 0.76 |
| 2:AA:900:A:H2' | 2:AA:901:A:O4' | 1.86 | 0.76 |
| 2:AA:978:G:O6 | 2:AA:984:A:OP2 | 2.03 | 0.76 |
| 2:AA:1029:A:O2' | 2:AA:1030:G:H5' | 1.85 | 0.76 |
| 2:AA:1252:G:O2' | 25:A1:33:ARG:NE | 2.19 | 0.76 |
| 2:AA:1743:G:C2' | 2:AA:1746:G:H5' | 2.15 | 0.76 |
| 2:AA:1778:U:N1 | 2:AA:1784:A:H2 | 1.83 | 0.76 |
| 2:AA:1802:A:N3 | 2:AA:1802:A:H2' | 1.99 | 0.76 |
| 2:AA:1917:U:H6 | 2:AA:1917:U:C3' | 1.98 | 0.76 |
| 2:AA:2056:G:N2 | 2:AA:2057:A:H1' | 1.97 | 0.76 |
| 2:AA:2445:G:H2' | 2:AA:2446:G:H8 | 1.48 | 0.76 |
| 2:AA:2595:G:H1' | 2:AA:2599:G:H22 | 1.49 | 0.76 |
| 2:AA:2688:U:O2 | 2:AA:2688:U:C2' | 2.33 | 0.76 |
| 2:AA:2807:G:H3' | 2:AA:2891:G:O6 | 1.86 | 0.76 |
| 3:AC:10:LEU:HD11 | 3:AC:32:LEU:CA | 2.15 | 0.76 |
| 5:AE:201:VAL:HG22 | 5:AE:311:PHE:CB | 2.12 | 0.76 |
| 9:AJ:74:ILE:HD12 | 11:AL:61:TYR:HD2 | 1.48 | 0.76 |
| 13:AN:90:ASP:O | 13:AN:92:SER:N | 2.17 | 0.76 |
| 19:AT:49:VAL:O | 19:AT:49:VAL:HG12 | 1.84 | 0.76 |
| 22:AW:43:PRO:HB3 | 22:AW:45:ARG:HB3 | 1.66 | 0.76 |
| 27:A3:25:LYS:C | 27:A3:26:PHE:CD1 | 2.59 | 0.76 |
| 29:A5:11:THR:H | 29:A5:16:ARG:HH21 | 1.32 | 0.76 |
| 34:BA:275:G:H5' | 52:BT:14:LYS:CD | 2.13 | 0.76 |
| 34:BA:728:A:H8 | 50:BR:54:ARG:NH1 | 1.83 | 0.76 |
| 34:BA:824:C:H2' | 34:BA:825:G:C8 | 2.20 | 0.76 |
| 34:BA:948:C:P | 48:BP:109:THR:H | 2.09 | 0.76 |
| 34:BA:953:G:O2' | 34:BA:954:G:H5' | 1.85 | 0.76 |
| 34:BA:1269:A:H5' | 34:BA:1326:C:C4' | 2.14 | 0.76 |
| 37:BE:48:MET:HA | 37:BE:51:LEU:HD12 | 1.67 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:235:SER:O | 37:BE:238:LEU:HD23 | 1.86 | 0.76 |
| 39:BG:193:ASP:O | 39:BG:194:LEU:HD13 | 1.85 | 0.76 |
| 40:BH:57:LYS:HG2 | 40:BH:61:TYR:HE2 | 1.49 | 0.76 |
| 42:BJ:42:ILE:HG22 | 42:BJ:120:ILE:CD1 | 2.15 | 0.76 |
| 42:BJ:65:ALA:HA | 42:BJ:68:ASN:ND2 | 2.00 | 0.76 |
| 43:BK:69:ARG:CZ | 43:BK:74:PRO:O | 2.34 | 0.76 |
| 44:BL:24:GLY:O | 44:BL:25:LYS:HG3 | 1.84 | 0.76 |
| 44:BL:117:HIS:O | 44:BL:119:ALA:N | 2.15 | 0.76 |
| 46:BN:99:GLN:CG | 46:BN:105:VAL:HG11 | 2.15 | 0.76 |
| 55:BW:12:ALA:H | 55:BW:13:LEU:HD12 | 1.50 | 0.76 |
| 1:AB:28:C:P | 16:AQ:42:HIS:NE2 | 2.58 | 0.76 |
| 2:AA:152:G:C8 | 2:AA:152:G:H3' | 2.19 | 0.76 |
| 2:AA:279:C:H2' | 2:AA:360:G:O6 | 1.85 | 0.76 |
| 2:AA:289:A:O3' | 2:AA:351:G:O6 | 2.03 | 0.76 |
| 2:AA:324:A:C2 | 2:AA:325:G:N9 | 2.53 | 0.76 |
| 2:AA:593:G:H1' | 32:A8:3:LYS:NZ | 2.00 | 0.76 |
| 2:AA:614:U:H3' | 2:AA:615:G:C4' | 2.11 | 0.76 |
| 2:AA:673:C:H5" | 6:AF:80:VAL:CG1 | 2.15 | 0.76 |
| 2:AA:782:A:H5" | 2:AA:783:A:OP1 | 1.85 | 0.76 |
| 2:AA:1011:G:H5' | 2:AA:1012:U:OP2 | 1.86 | 0.76 |
| 2:AA:1034:G:H5' | 33:A9:18:ARG:NE | 1.99 | 0.76 |
| 2:AA:1076:C:O2 | 11:AL:92:PRO:HD2 | 1.85 | 0.76 |
| 2:AA:1303:G:N2 | 2:AA:1626:G:O2' | 2.19 | 0.76 |
| 2:AA:1340:U:H5 | 19:AT:55:GLN:NE2 | 1.82 | 0.76 |
| 2:AA:1681:G:N7 | 2:AA:1762:A:N6 | 2.32 | 0.76 |
| 2:AA:1806:C:H2' | 2:AA:1807:G:H5' | 1.66 | 0.76 |
| 2:AA:1930:G:C2' | 2:AA:1931:U:OP2 | 2.33 | 0.76 |
| 2:AA:2067:G:H5" | 2:AA:2068:U:OP2 | 1.85 | 0.76 |
| 2:AA:2146:C:H2' | 2:AA:2147:G:C2 | 2.20 | 0.76 |
| 2:AA:2330:G:H1 | 2:AA:2385:C:N4 | 1.84 | 0.76 |
| 2:AA:2617:C:H1' | 5:AE:245:ARG:NH2 | 2.00 | 0.76 |
| 2:AA:2743:C:C2 | 2:AA:2762:G:C2 | 2.73 | 0.76 |
| 2:AA:2809:A:H4' | 2:AA:2811:G:N7 | 2.00 | 0.76 |
| 2:AA:2821:A:OP2 | 2:AA:2822:G:OP2 | 2.02 | 0.76 |
| 4:AD:131:LEU:CD1 | 4:AD:171:VAL:HG21 | 2.16 | 0.76 |
| 4:AD:142:ASN:H | 4:AD:143:ILE:HD12 | 1.48 | 0.76 |
| 5:AE:105:HIS:ND1 | 5:AE:108:LEU:HD11 | 1.99 | 0.76 |
| 13:AN:81:GLU:HG2 | 13:AN:82:ASN:H | 0.67 | 0.76 |
| 14:AO:70:ASP:O | 14:AO:74:THR:HG23 | 1.85 | 0.76 |
| 16:AQ:89:GLY:HA2 | 16:AQ:127:LEU:HD12 | 1.66 | 0.76 |
| 20:AU:28:SER:HB3 | 20:AU:99:THR:HG23 | 1.68 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:72:ILE:O | 20:AU:91:LEU:HB2 | 1.85 | 0.76 |
| 23:AX:48:GLU:O | 23:AX:51:ALA:HB2 | 1.85 | 0.76 |
| 25:A1:63:GLN:O | 25:A1:64:ARG:C | 2.22 | 0.76 |
| 30:A6:21:TYR:C | 30:A6:22:TYR:CG | 2.59 | 0.76 |
| 31:A7:30:ILE:HD13 | 31:A7:33:ARG:CZ | 2.16 | 0.76 |
| 32:A8:30:ARG:HB3 | 32:A8:44:LYS:HZ1 | 1.50 | 0.76 |
| 34:BA:362:G:O5' | 47:BO:34:ARG:NH2 | 2.17 | 0.76 |
| 34:BA:653:A:O5' | 43:BK:56:LYS:NZ | 2.16 | 0.76 |
| 34:BA:813:U:H5" | 34:BA:814:A:OP2 | 1.85 | 0.76 |
| 34:BA:1006:C:N4 | 34:BA:1024:G:H21 | 1.82 | 0.76 |
| 34:BA:1129:C:O2' | 34:BA:1131:G:H3' | 1.86 | 0.76 |
| 34:BA:1137:C:H4' | 34:BA:1138:G:C2 | 2.21 | 0.76 |
| 34:BA:1155:G:H2' | 34:BA:1156:G:C8 | 2.20 | 0.76 |
| 34:BA:1202:G:H1' | 49:BQ:29:ARG:HD3 | 1.67 | 0.76 |
| 35:BB:74:C:N3 | 35:BB:75:C:H1' | 2.00 | 0.76 |
| 37:BE:21:ARG:HD2 | 37:BE:21:ARG:N | 2.00 | 0.76 |
| 37:BE:136:VAL:CA | 37:BE:139:LYS:HZ2 | 1.97 | 0.76 |
| 41:BI:41:GLU:O | 41:BI:42:GLU:HB2 | 1.83 | 0.76 |
| 42:BJ:150:ALA:HB2 | 46:BN:59:TYR:CD2 | 2.21 | 0.76 |
| 43:BK:111:ILE:HG22 | 43:BK:134:ILE:HD12 | 1.68 | 0.76 |
| 46:BN:104:GLN:O | 46:BN:106:LYS:N | 2.18 | 0.76 |
| 47:BO:28:LYS:HD2 | 47:BO:33:ARG:HH22 | 1.51 | 0.76 |
| 48:BP:11:ARG:HG3 | 48:BP:11:ARG:NH1 | 1.95 | 0.76 |
| 50:BR:39:LEU:CD1 | 50:BR:56:LEU:HB2 | 2.16 | 0.76 |
| 50:BR:62:GLN:HA | 50:BR:65:ARG:HH22 | 1.50 | 0.76 |
| 2:AA:78:A:H2' | 2:AA:79:G:H8 | 1.51 | 0.76 |
| 2:AA:293:U:O2' | 2:AA:294:A:O4' | 2.04 | 0.76 |
| 2:AA:499:U:C2' | 2:AA:500:G:H5' | 2.15 | 0.76 |
| 2:AA:526:A:H5" | 2:AA:527:C:OP2 | 1.86 | 0.76 |
| 2:AA:558:G:C2 | 2:AA:559:G:N7 | 2.54 | 0.76 |
| 2:AA:697:C:N3 | 2:AA:765:G:O6 | 2.19 | 0.76 |
| 2:AA:770:G:C5' | 31:A7:10:ARG:HH11 | 1.98 | 0.76 |
| 2:AA:1078:U:OP1 | 11:AL:93:LYS:HG3 | 1.84 | 0.76 |
| 2:AA:1128:A:H2 | 2:AA:1129:A:C6 | 2.04 | 0.76 |
| 2:AA:1937:A:N6 | 2:AA:1939:U:C5 | 2.53 | 0.76 |
| 2:AA:1961:C:C2' | 2:AA:1962:C:H5' | 2.16 | 0.76 |
| 2:AA:2132:U:C4' | 3:AC:5:LYS:HG2 | 2.15 | 0.76 |
| 2:AA:2285:C:OP2 | 30:A6:28:ARG:HD3 | 1.86 | 0.76 |
| 2:AA:2311:A:OP2 | 7:AG:55:LYS:HE3 | 1.85 | 0.76 |
| 2:AA:2330:G:N2 | 2:AA:2331:G:N3 | 2.33 | 0.76 |
| 2:AA:2526:G:O2' | 2:AA:2527:C:H5' | 1.85 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2528:U:H2' | 2:AA:2530:A:O5' | 1.86 | 0.76 |
| 2:AA:2589:A:N1 | 2:AA:2606:C:N4 | 2.34 | 0.76 |
| 2:AA:2592:G:H2' | 2:AA:2593:U:O5' | 1.84 | 0.76 |
| 2:AA:2830:G:N3 | 2:AA:2883:A:H2 | 1.84 | 0.76 |
| 4:AD:66:PHE:CZ | 4:AD:150:GLY:HA3 | 2.20 | 0.76 |
| 4:AD:216:ALA:C | 4:AD:223:ASN:N | 2.33 | 0.76 |
| 6:AF:196:THR:HA | 6:AF:236:THR:CG2 | 2.15 | 0.76 |
| 9:AJ:62:VAL:HG13 | 9:AJ:100:ALA:C | 2.06 | 0.76 |
| 9:AJ:63:LEU:HG | 9:AJ:102:ILE:HB | 1.67 | 0.76 |
| 10:AK:115:ILE:O | 10:AK:132:LYS:HE3 | 1.85 | 0.76 |
| 10:AK:134:HIS:ND1 | 10:AK:135:PRO:HD2 | 2.01 | 0.76 |
| 10:AK:147:GLU:O | 10:AK:149:LYS:N | 2.19 | 0.76 |
| 12:AM:45:VAL:N | 12:AM:132:LEU:HB2 | 2.01 | 0.76 |
| 17:AR:53:ASP:CA | 17:AR:56:ARG:HG3 | 2.16 | 0.76 |
| 20:AU:51:LEU:O | 20:AU:52:ARG:HG3 | 1.85 | 0.76 |
| 20:AU:78:THR:CA | 20:AU:89:ARG:HG3 | 2.14 | 0.76 |
| 21:AV:5:ALA:HB3 | 21:AV:13:LYS:HZ1 | 1.51 | 0.76 |
| 23:AX:50:VAL:CG1 | 23:AX:53:LEU:HD12 | 2.15 | 0.76 |
| 27:A3:68:VAL:CG1 | 27:A3:71:ASN:HB2 | 2.15 | 0.76 |
| 28:A4:28:ARG:HB3 | 28:A4:29:PRO:CD | 2.14 | 0.76 |
| 34:BA:575:G:O2' | 34:BA:576:G:O5' | 2.04 | 0.76 |
| 34:BA:674:G:H2' | 34:BA:675:A:H8 | 1.51 | 0.76 |
| 34:BA:954:G:H21 | 34:BA:1227:A:H62 | 1.33 | 0.76 |
| 34:BA:1292:U:H2' | 34:BA:1293:G:C8 | 2.21 | 0.76 |
| 34:BA:1298:C:C4 | 42:BJ:114:ARG:HB3 | 2.20 | 0.76 |
| 34:BA:1329:A:OP1 | 48:BP:28:ALA:HB3 | 1.85 | 0.76 |
| 35:BB:29:A:C2 | 35:BB:30:G:C8 | 2.73 | 0.76 |
| 38:BF:52:LEU:HD23 | 38:BF:52:LEU:N | 2.01 | 0.76 |
| 39:BG:63:LYS:HG2 | 39:BG:64:LEU:H | 1.51 | 0.76 |
| 40:BH:59:GLY:O | 40:BH:62:ALA:HB3 | 1.86 | 0.76 |
| 40:BH:71:LEU:HD21 | 40:BH:115:VAL:CG1 | 2.16 | 0.76 |
| 40:BH:79:GLU:HG3 | 40:BH:93:PRO:HD2 | 1.67 | 0.76 |
| 47:BO:86:ARG:NH1 | 47:BO:99:HIS:ND1 | 2.34 | 0.76 |
| 48:BP:23:TYR:HD2 | 48:BP:70:LEU:HD13 | 1.51 | 0.76 |
| 55:BW:49:ALA:HB1 | 55:BW:99:LEU:HG | 1.66 | 0.76 |
| 55:BW:89:ARG:HA | 55:BW:92:LEU:HD12 | 1.66 | 0.76 |
| 2:AA:270(H):C:C2 | 2:AA:270(R):G:N2 | 2.54 | 0.76 |
| 2:AA:445:C:C3' | 25:A1:3:ARG:HH21 | 1.98 | 0.76 |
| 2:AA:515:A:H3' | 2:AA:516:C:C6 | 2.19 | 0.76 |
| 2:AA:703:U:H3' | 2:AA:704:G:C8 | 2.20 | 0.76 |
| 2:AA:848:G:C8 | 2:AA:848:G:H3' | 2.20 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:849:A:C2' | 2:AA:850:C:H5' | 2.15 | 0.76 |
| 2:AA:1299:G:H5" | 2:AA:1300:U:H5' | 1.68 | 0.76 |
| 2:AA:1364:G:H8 | 2:AA:1364:G:H5' | 1.51 | 0.76 |
| 2:AA:1450:C:H42 | 2:AA:1461:G:H1 | 0.76 | 0.76 |
| 2:AA:1530:G:C6 | 2:AA:1541:U:O2 | 2.39 | 0.76 |
| 2:AA:1603:A:C4 | 2:AA:1604:C:H5 | 2.04 | 0.76 |
| 2:AA:1657:C:O2' | 2:AA:1658:C:H5' | 1.86 | 0.76 |
| 2:AA:1800:C:H6 | 2:AA:1800:C:C3' | 1.92 | 0.76 |
| 2:AA:2027:G:O2' | 2:AA:2028:U:H5' | 1.84 | 0.76 |
| 2:AA:2122:U:C5 | 3:AC:129:ARG:NH2 | 2.54 | 0.76 |
| 2:AA:2335:A:H2' | 2:AA:2337:G:N7 | 2.01 | 0.76 |
| 2:AA:2507:C:N3 | 2:AA:2583:G:N3 | 2.33 | 0.76 |
| 2:AA:2657:A:N7 | 2:AA:2658:C:C6 | 2.54 | 0.76 |
| 2:AA:2810:A:C2' | 2:AA:2811:G:H5' | 2.14 | 0.76 |
| 5:AE:39:GLN:HB2 | 5:AE:174:LEU:CG | 2.15 | 0.76 |
| 5:AE:44:TYR:O | 5:AE:73:ILE:HG23 | 1.86 | 0.76 |
| 6:AF:142:ASP:OD1 | 6:AF:237:GLU:HB2 | 1.85 | 0.76 |
| 7:AG:49:PRO:CB | 7:AG:72:LYS:C | 2.54 | 0.76 |
| 8:AH:88:LEU:HD12 | 8:AH:95:ALA:HB3 | 1.68 | 0.76 |
| 8:AH:116:PRO:CB | 8:AH:120:LEU:HB2 | 2.15 | 0.76 |
| 9:AI:77:VAL:HG22 | 9:AI:102:ILE:CD1 | 2.16 | 0.76 |
| 9:AJ:102:ILE:HD13 | 9:AJ:118:LEU:HD22 | 1.67 | 0.76 |
| 12:AM:14:ALA:O | 12:AM:40:ASN:ND2 | 2.19 | 0.76 |
| 16:AQ:41:LYS:HD2 | 16:AQ:42:HIS:CD2 | 2.21 | 0.76 |
| 20:AU:27:LEU:O | 20:AU:32:ARG:HB2 | 1.85 | 0.76 |
| 20:AU:31:LEU:HD11 | 20:AU:99:THR:O | 1.85 | 0.76 |
| 23:AX:18:ASP:O | 23:AX:21:ALA:N | 2.18 | 0.76 |
| 24:A0:75:LEU:HD23 | 24:A0:78:LYS:HB3 | 1.67 | 0.76 |
| 24:A0:88:ARG:O | 24:A0:89:ASP:HB3 | 1.86 | 0.76 |
| 26:A2:51:ALA:O | 26:A2:55:THR:HG23 | 1.86 | 0.76 |
| 26:A2:60:VAL:O | 26:A2:98:ILE:CB | 2.31 | 0.76 |
| 28:A4:15:ILE:CG1 | 28:A4:36:TRP:CE3 | 2.69 | 0.76 |
| 31:A7:26:SER:O | 31:A7:29:ASN:HB2 | 1.86 | 0.76 |
| 34:BA:48:C:O2' | 34:BA:49:U:OP1 | 2.01 | 0.76 |
| 34:BA:448:A:OP2 | 34:BA:485:G:N2 | 2.18 | 0.76 |
| 34:BA:736:C:H2' | 34:BA:737:A:C8 | 2.21 | 0.76 |
| 34:BA:776:G:H22 | 34:BA:802:A:P | 2.08 | 0.76 |
| 34:BA:817:C:O2' | 34:BA:818:G:C5' | 2.34 | 0.76 |
| 34:BA:986:A:C4' | 54:BV:55:LYS:HG3 | 2.16 | 0.76 |
| 34:BA:1118:C:H1' | 34:BA:1179:A:C4 | 2.21 | 0.76 |
| 34:BA:1352:C:H2' | 34:BA:1353:G:C8 | 2.21 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:15:G:H22 | 35:BB:48:C:H42 | 1.33 | 0.76 |
| 36:B1:48:A:H2' | 36:B1:49:A:H8 | 1.49 | 0.76 |
| 39:BG:57:ARG:NH2 | 40:BH:107:ARG:HD3 | 1.98 | 0.76 |
| 39:BG:177:ASP:OD1 | 39:BG:179:GLU:HB2 | 1.84 | 0.76 |
| 41:BI:53:ALA:HB3 | 41:BI:55:ASP:OD2 | 1.86 | 0.76 |
| 41:BI:84:ASN:O | 41:BI:86:ARG:N | 2.19 | 0.76 |
| 43:BK:40:ALA:CA | 43:BK:45:ILE:HG23 | 2.15 | 0.76 |
| 44:BL:47:LEU:HD22 | 44:BL:50:LEU:HB2 | 1.68 | 0.76 |
| 48:BP:84:ILE:HD11 | 48:BP:86:CYS:SG | 2.26 | 0.76 |
| 51:BS:74:LEU:O | 51:BS:77:ALA:HB3 | 1.86 | 0.76 |
| 53:BU:21:LYS:HA | 53:BU:55:ARG:NH1 | 1.99 | 0.76 |
| 55:BW:65:LYS:O | 55:BW:68:LYS:HG2 | 1.84 | 0.76 |
| 2:AA:292:C:H3' | 2:AA:293:U:O4 | 1.85 | 0.76 |
| 2:AA:822:U:H2' | 2:AA:823:G:H8 | 1.48 | 0.76 |
| 2:AA:865:C:N4 | 2:AA:909:A:H62 | 1.83 | 0.76 |
| 2:AA:969:U:C2' | 2:AA:970:C:O4' | 2.34 | 0.76 |
| 2:AA:980:A:N6 | 2:AA:1135:C:H4' | 2.01 | 0.76 |
| 2:AA:1030:G:N2 | 2:AA:1124:C:N3 | 2.34 | 0.76 |
| 2:AA:1139:G:C2' | 2:AA:1140:C:H5' | 2.16 | 0.76 |
| 2:AA:1273:U:C2 | 2:AA:2003:G:H5' | 2.21 | 0.76 |
| 2:AA:1770:G:O6 | 2:AA:1983:C:N4 | 2.18 | 0.76 |
| 2:AA:1779:U:H5 | 2:AA:1784:A:N1 | 1.84 | 0.76 |
| 2:AA:1786:A:C2 | 2:AA:1938:A:N6 | 2.53 | 0.76 |
| 2:AA:2118:U:H2' | 2:AA:2119:A:H4' | 1.68 | 0.76 |
| 2:AA:2686:G:O2' | 2:AA:2687:U:H5' | 1.86 | 0.76 |
| 3:AC:68:LEU:CB | 3:AC:72:VAL:HG21 | 2.16 | 0.76 |
| 5:AE:216:ARG:HH11 | 5:AE:253:GLN:HB3 | 1.48 | 0.76 |
| 5:AE:315:VAL:CG1 | 5:AE:316:ARG:H | 1.99 | 0.76 |
| 6:AF:197:SER:HB2 | 6:AF:238:SER:CB | 2.14 | 0.76 |
| 8:AH:8:ILE:O | 8:AH:49:ILE:HD12 | 1.85 | 0.76 |
| 9:AJ:52:ALA:HB1 | 9:AJ:58:GLU:HB2 | 1.66 | 0.76 |
| 10:AK:103:GLN:HE21 | 10:AK:110:LEU:N | 1.84 | 0.76 |
| 11:AL:60:VAL:HA | 11:AL:65:SER:O | 1.85 | 0.76 |
| 12:AM:17:CYS:HB2 | 12:AM:22:VAL:HG21 | 1.68 | 0.76 |
| 12:AM:45:VAL:HA | 12:AM:131:THR:O | 1.84 | 0.76 |
| 13:AN:11:ALA:HA | 13:AN:99:PHE:CB | 2.15 | 0.76 |
| 13:AN:35:ILE:HA | 13:AN:62:VAL:O | 1.86 | 0.76 |
| 13:AN:63:VAL:HG23 | 13:AN:84:CYS:CA | 2.15 | 0.76 |
| 15:AP:47:GLU:OE2 | 15:AP:152:SER:N | 2.18 | 0.76 |
| 24:A0:82:GLU:HB3 | 24:A0:83:ILE:CD1 | 2.16 | 0.76 |
| 26:A2:37:ALA:O | 26:A2:58:ALA:HB1 | 1.85 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 28:A4:18:GLY:HA2 | 28:A4:19:GLN:NE2 | 2.01 | 0.76 |
| 34:BA:30:U:H4' | 34:BA:31:G:OP2 | 1.86 | 0.76 |
| 34:BA:198:G:O2' | 34:BA:199:G:O5' | 2.04 | 0.76 |
| 34:BA:219:C:H3' | 34:BA:219:C:C6 | 2.20 | 0.76 |
| 34:BA:397:A:N7 | 34:BA:548:G:C8 | 2.54 | 0.76 |
| 34:BA:504:C:H42 | 34:BA:541:G:H1 | 1.30 | 0.76 |
| 34:BA:619:U:N3 | 39:BG:135:LEU:HD21 | 1.99 | 0.76 |
| 34:BA:673:G:N2 | 34:BA:674:G:C2 | 2.54 | 0.76 |
| 34:BA:859:A:O2' | 34:BA:860:A:H5' | 1.86 | 0.76 |
| 34:BA:1148:U:H2' | 34:BA:1149:C:C6 | 2.21 | 0.76 |
| 34:BA:1511:G:H2' | 34:BA:1512:U:O4' | 1.85 | 0.76 |
| 34:BA:1518:A:O5' | 34:BA:1518:A:H8 | 1.67 | 0.76 |
| 37:BE:213:LEU:CD2 | 37:BE:214:ILE:HD13 | 2.16 | 0.76 |
| 40:BH:98:THR:O | 40:BH:101:ILE:HD11 | 1.85 | 0.76 |
| 43:BK:6:ILE:HD13 | 43:BK:7:ALA:HA | 1.67 | 0.76 |
| 43:BK:24:THR:O | 43:BK:60:ARG:CG | 2.33 | 0.76 |
| 51:BS:42:ARG:C | 51:BS:43:LYS:HD2 | 2.05 | 0.76 |
| 55:BW:73:HIS:O | 55:BW:74:LYS:O | 2.03 | 0.76 |
| 1:AB:17:C:H2' | 1:AB:18:G:O4' | 1.86 | 0.76 |
| 1:AB:100:G:H2' | 1:AB:101:A:O4' | 1.85 | 0.76 |
| 2:AA:34:C:C2' | 2:AA:455:C:N4 | 2.49 | 0.76 |
| 2:AA:270:A:N7 | 2:AA:270(A):A:H8 | 1.83 | 0.76 |
| 2:AA:319:C:H42 | 2:AA:323:G:H1 | 1.31 | 0.76 |
| 2:AA:325:G:O2' | 2:AA:326:G:H5' | 1.86 | 0.76 |
| 2:AA:342:G:H22 | 2:AA:344:G:N2 | 1.83 | 0.76 |
| 2:AA:391:G:H2' | 2:AA:392:C:C6 | 2.20 | 0.76 |
| 2:AA:563:G:OP1 | 26:A2:79:GLN:NE2 | 2.17 | 0.76 |
| 2:AA:572:A:N7 | 2:AA:573:G:C5 | 2.54 | 0.76 |
| 2:AA:617:G:H4' | 6:AF:219:ASN:CG | 2.06 | 0.76 |
| 2:AA:680:G:H2' | 2:AA:681:G:C8 | 2.21 | 0.76 |
| 2:AA:715:G:C2 | 2:AA:716:A:C2 | 2.74 | 0.76 |
| 2:AA:759:G:H2' | 2:AA:760:G:H8 | 1.50 | 0.76 |
| 2:AA:796:C:H2' | 2:AA:797:C:C6 | 2.20 | 0.76 |
| 2:AA:886:C:H1' | 2:AA:887:A:C8 | 2.21 | 0.76 |
| 2:AA:1366:A:C8 | 2:AA:1366:A:OP2 | 2.39 | 0.76 |
| 2:AA:1394:U:H4' | 2:AA:1603:A:H4' | 1.67 | 0.76 |
| 2:AA:1437:C:O2' | 2:AA:1516:U:O2' | 2.03 | 0.76 |
| 2:AA:1520:U:O5' | 2:AA:1520:U:H6 | 1.69 | 0.76 |
| 2:AA:2218:G:H5' | 4:AD:147:PRO:HG3 | 1.68 | 0.76 |
| 2:AA:2535:G:N3 | 2:AA:2535:G:H2' | 1.99 | 0.76 |
| 2:AA:2591:C:H2' | 2:AA:2592:G:C8 | 2.20 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2897:U:H2' | 2:AA:2898:U:H6 | 1.49 | 0.76 |
| 6:AF:236:THR:O | 6:AF:239:ALA:CB | 2.33 | 0.76 |
| 7:AG:93:LEU:HD13 | 7:AG:106:PHE:CD2 | 2.21 | 0.76 |
| 9:AI:114:ILE:O | 9:AI:118:LEU:HG | 1.85 | 0.76 |
| 10:AK:5:PHE:N | 10:AK:5:PHE:CD2 | 2.48 | 0.76 |
| 10:AK:28:ASN:CG | 10:AK:32:LYS:HG3 | 2.06 | 0.76 |
| 16:AQ:12:ARG:HD2 | 16:AQ:20:TYR:CE1 | 2.20 | 0.76 |
| 17:AR:50:GLU:HA | 17:AR:55:ALA:HB2 | 1.66 | 0.76 |
| 18:AS:81:ALA:HB2 | 18:AS:99:ARG:NH1 | 2.01 | 0.76 |
| 20:AU:23:VAL:CG2 | 20:AU:67:LEU:HD21 | 2.11 | 0.76 |
| 20:AU:46:ASP:OD2 | 20:AU:101:LEU:HA | 1.85 | 0.76 |
| 25:A1:59:ARG:HA | 25:A1:62:ILE:HG12 | 1.66 | 0.76 |
| 25:A1:89:ASP:OD1 | 26:A2:51:ALA:C | 2.24 | 0.76 |
| 26:A2:3:ALA:HB1 | 26:A2:39:PHE:CZ | 2.20 | 0.76 |
| 27:A3:44:LYS:HB3 | 27:A3:45:PHE:HD1 | 1.51 | 0.76 |
| 34:BA:443:C:H42 | 34:BA:491:G:H1 | 1.34 | 0.76 |
| 34:BA:806:C:N4 | 34:BA:807:A:N6 | 2.33 | 0.76 |
| 34:BA:3(A):G:C5 | 34:BA:1004:A:H1' | 2.21 | 0.76 |
| 34:BA:1062:U:N3 | 34:BA:1063:C:N4 | 2.33 | 0.76 |
| 34:BA:1463:C:O2' | 34:BA:1464:G:H5' | 1.86 | 0.76 |
| 37:BE:16:HIS:CD2 | 37:BE:210:SER:HA | 2.21 | 0.76 |
| 39:BG:104:VAL:HG21 | 39:BG:140:VAL:CG2 | 2.15 | 0.76 |
| 39:BG:154:ASN:HA | 39:BG:159:ARG:HH22 | 1.50 | 0.76 |
| 45:BM:48:THR:HG23 | 45:BM:61:GLU:O | 1.85 | 0.76 |
| 53:BU:46:GLU:C | 53:BU:48:GLY:H | 1.86 | 0.76 |
| 1:AB:45:A:H1' | 7:AG:76:ARG:HH12 | 1.50 | 0.76 |
| 2:AA:35:G:H1' | 2:AA:454:A:N3 | 2.01 | 0.76 |
| 2:AA:64:A:H2' | 2:AA:65:C:O4' | 1.86 | 0.76 |
| 2:AA:134:C:H2' | 2:AA:135:G:O4' | 1.85 | 0.76 |
| 2:AA:681:G:H1 | 2:AA:796:C:N4 | 1.84 | 0.76 |
| 2:AA:897:C:O3' | 35:BB:56:C:OP1 | 2.02 | 0.76 |
| 2:AA:977:G:C5 | 2:AA:987:G:C2 | 2.74 | 0.76 |
| 2:AA:1014:U:H2' | 2:AA:1015:G:C5' | 2.15 | 0.76 |
| 2:AA:1056:G:O6 | 2:AA:1101:U:H3' | 1.86 | 0.76 |
| 2:AA:1085:A:H5" | 9:AI:34:ALA:HA | 1.68 | 0.76 |
| 2:AA:1179:C:H4' | 2:AA:1180:C:OP1 | 1.84 | 0.76 |
| 2:AA:1434:A:C5 | 2:AA:1560:G:N2 | 2.55 | 0.76 |
| 2:AA:1436:G:O2' | 2:AA:1437:C:H5' | 1.86 | 0.76 |
| 2:AA:2457:U:O2' | 2:AA:2458:G:H5' | 1.86 | 0.76 |
| 2:AA:2564:A:C6 | 2:AA:2647:U:H4' | 2.21 | 0.76 |
| 2:AA:2612:C:O2' | 2:AA:2613:U:P | 2.44 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2739:U:H6 | 2:AA:2739:U:C3' | 1.97 | 0.76 |
| 3:AC:43:VAL:CG2 | 3:AC:175:VAL:HG11 | 2.16 | 0.76 |
| 3:AC:123:VAL:HG11 | 3:AC:138:PRO:CD | 2.16 | 0.76 |
| 3:AC:215:THR:OG1 | 3:AC:216:THR:N | 2.18 | 0.76 |
| 5:AE:263:GLU:N | 5:AE:266:LYS:NZ | 2.28 | 0.76 |
| 6:AF:193:LEU:HD12 | 6:AF:233:THR:HG22 | 1.68 | 0.76 |
| 8:AH:41:THR:O | 8:AH:52:THR:CG2 | 2.34 | 0.76 |
| 9:AJ:64:LYS:HE2 | 9:AJ:126:GLU:HB3 | 1.68 | 0.76 |
| 10:AK:125:GLY:C | 10:AK:144:HIS:HA | 2.05 | 0.76 |
| 13:AN:19:VAL:HG13 | 13:AN:42:THR:C | 2.06 | 0.76 |
| 13:AN:22:ILE:CG1 | 13:AN:41:ALA:HA | 2.15 | 0.76 |
| 13:AN:87:ILE:HG23 | 13:AN:92:SER:H | 1.49 | 0.76 |
| 20:AU:31:LEU:HD22 | 20:AU:113:GLU:OE1 | 1.85 | 0.76 |
| 24:A0:43:GLU:N | 24:A0:43:GLU:OE2 | 2.18 | 0.76 |
| 24:A0:83:ILE:CG2 | 24:A0:86:ARG:NE | 2.49 | 0.76 |
| 25:A1:111:ASP:HA | 25:A1:114:ARG:CD | 2.16 | 0.76 |
| 26:A2:61:VAL:CG2 | 26:A2:97:GLY:HA2 | 2.16 | 0.76 |
| 28:A4:73:LYS:OXT | 28:A4:73:LYS:HG3 | 1.83 | 0.76 |
| 31:A7:21:ARG:HH12 | 31:A7:42:LEU:HB3 | 1.51 | 0.76 |
| 33:A9:9:LYS:HG2 | 33:A9:14:CYS:O | 1.86 | 0.76 |
| 34:BA:132:C:N3 | 34:BA:231:G:C2 | 2.54 | 0.76 |
| 34:BA:766:A:C2' | 34:BA:767:A:H8 | 1.90 | 0.76 |
| 34:BA:819:A:C2 | 34:BA:1529:G:C6 | 2.74 | 0.76 |
| 34:BA:978:A:C6 | 34:BA:1318:A:N6 | 2.54 | 0.76 |
| 34:BA:1216:G:H5" | 49:BQ:5:ALA:CB | 2.16 | 0.76 |
| 34:BA:1454:G:H2' | 34:BA:1455:G:C8 | 2.21 | 0.76 |
| 38:BF:91:LEU:HD23 | 38:BF:92:ALA:N | 1.99 | 0.76 |
| 39:BG:179:GLU:C | 39:BG:181:MET:N | 2.38 | 0.76 |
| 48:BP:78:ILE:HA | 48:BP:88:ARG:NH2 | 2.01 | 0.76 |
| 52:BT:6:LEU:CD2 | 52:BT:23:VAL:HG11 | 2.16 | 0.76 |
| 54:BV:28:LYS:O | 54:BV:29:ARG:HG3 | 1.86 | 0.76 |
| 55:BW:50:GLU:H | 55:BW:99:LEU:CD1 | 1.99 | 0.76 |
| 55:BW:62:LEU:HD23 | 55:BW:62:LEU:H | 1.51 | 0.76 |
| 1:AB:104:A:C1' | 21:AV:24:TYR:OH | 2.32 | 0.75 |
| 2:AA:6:A:H5' | 12:AM:4:ALA:HB3 | 1.68 | 0.75 |
| 2:AA:128:C:H2' | 2:AA:129:C:H6 | 1.49 | 0.75 |
| 2:AA:136:G:N1 | 2:AA:143:C:O2 | 2.19 | 0.75 |
| 2:AA:215:G:O2' | 2:AA:216:A:H5" | 1.86 | 0.75 |
| 2:AA:621:A:H2' | 2:AA:622:G:C5' | 2.11 | 0.75 |
| 2:AA:871:U:C4' | 15:AP:90:PHE:CE2 | 2.67 | 0.75 |
| 2:AA:974:G:N7 | 26:A2:80:TYR:CZ | 2.55 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1286:A:N6 | 2:AA:1289:C:C2 | 2.54 | 0.75 |
| 2:AA:1320:C:N4 | 2:AA:1329:U:H5' | 2.00 | 0.75 |
| 2:AA:1787:A:H2' | 2:AA:1788:C:C6 | 2.20 | 0.75 |
| 2:AA:1851:U:H3 | 2:AA:1891:G:H1 | 1.34 | 0.75 |
| 2:AA:1903:G:N3 | 2:AA:1904:G:C8 | 2.54 | 0.75 |
| 2:AA:1995:U:C6 | 2:AA:1996:C:H5 | 2.04 | 0.75 |
| 2:AA:2063:C:O2 | 2:AA:2450:A:N1 | 2.20 | 0.75 |
| 2:AA:2447:G:C5 | 2:AA:2501:C:C2 | 2.73 | 0.75 |
| 2:AA:2469:A:H2' | 2:AA:2470:G:H5' | 1.68 | 0.75 |
| 2:AA:2785:C:H4' | 5:AE:99:VAL:HG13 | 1.68 | 0.75 |
| 4:AD:89:ASN:ND2 | 4:AD:199:ARG:CZ | 2.48 | 0.75 |
| 4:AD:145:LEU:HD13 | 4:AD:146:LYS:HZ2 | 1.51 | 0.75 |
| 6:AF:93:LYS:C | 6:AF:95:GLU:N | 2.30 | 0.75 |
| 6:AF:213:ALA:CB | 6:AF:218:VAL:HG22 | 2.07 | 0.75 |
| 10:AK:2:LYS:HD2 | 10:AK:39:ALA:CB | 2.15 | 0.75 |
| 10:AK:75:LEU:O | 10:AK:142:LYS:NZ | 2.16 | 0.75 |
| 10:AK:77:VAL:HG11 | 10:AK:143:VAL:HG22 | 1.68 | 0.75 |
| 10:AK:88:ARG:HB3 | 10:AK:122:ARG:CG | 2.14 | 0.75 |
| 10:AK:110:LEU:HD11 | 10:AK:133:LEU:CD2 | 2.16 | 0.75 |
| 10:AK:115:ILE:CG2 | 10:AK:131:VAL:HG22 | 2.11 | 0.75 |
| 12:AM:87:LEU:HD22 | 12:AM:98:PHE:CD1 | 2.21 | 0.75 |
| 18:AS:19:LEU:O | 29:A5:25:LEU:HD12 | 1.86 | 0.75 |
| 23:AX:55:ARG:NH1 | 23:AX:55:ARG:CB | 2.49 | 0.75 |
| 31:A7:30:ILE:HD13 | 31:A7:33:ARG:HD2 | 1.68 | 0.75 |
| 34:BA:8:A:H5' | 40:BH:120:THR:O | 1.86 | 0.75 |
| 34:BA:114:U:O2 | 34:BA:114:U:H2' | 1.85 | 0.75 |
| 34:BA:197:A:N6 | 34:BA:221:C:C5' | 2.48 | 0.75 |
| 34:BA:771:G:H2' | 34:BA:772:U:H6 | 1.50 | 0.75 |
| 34:BA:800:G:H8 | 34:BA:800:G:O5' | 1.68 | 0.75 |
| 34:BA:1060:C:H5" | 45:BM:51:ARG:HB3 | 1.69 | 0.75 |
| 34:BA:1375:A:C2 | 34:BA:1376:U:C2 | 2.74 | 0.75 |
| 35:BB:34:G:O6 | 36:B1:66:G:OP2 | 2.04 | 0.75 |
| 35:BB:60:C:H4' | 35:BB:61:C:OP2 | 1.85 | 0.75 |
| 35:BB:75:C:C5 | 35:BB:76:A:C2 | 2.74 | 0.75 |
| 35:BC:37:G:C4 | 35:BC:38:A:N7 | 2.54 | 0.75 |
| 35:BC:46:G:H8 | 35:BC:46:G:OP2 | 1.69 | 0.75 |
| 37:BE:222:ILE:O | 37:BE:226:ARG:HG3 | 1.85 | 0.75 |
| 38:BF:55:VAL:HG13 | 38:BF:68:VAL:HG22 | 1.66 | 0.75 |
| 38:BF:59:ARG:NE | 38:BF:64:VAL:HG22 | 2.01 | 0.75 |
| 40:BH:57:LYS:CG | 40:BH:61:TYR:HE2 | 1.99 | 0.75 |
| 42:BJ:78:ARG:O | 42:BJ:80:VAL:HG23 | 1.85 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:7:THR:O | 44:BL:83:ARG:HD2 | 1.84 | 0.75 |
| 46:BN:62:GLN:NE2 | 46:BN:63:LEU:HG | 1.96 | 0.75 |
| 49:BQ:9:LYS:HZ2 | 49:BQ:10:ALA:HB2 | 1.48 | 0.75 |
| 1:AB:21:G:H1 | 1:AB:62:C:H42 | 0.80 | 0.75 |
| 2:AA:201:C:C5 | 2:AA:202:U:C4 | 2.74 | 0.75 |
| 2:AA:273(F):C:H5' | 2:AA:274:G:OP2 | 1.84 | 0.75 |
| 2:AA:295:G:O6 | 2:AA:344:G:O6 | 2.03 | 0.75 |
| 2:AA:479:A:N7 | 2:AA:481:G:C4 | 2.54 | 0.75 |
| 2:AA:997:G:H4' | 25:A1:92:ARG:HH11 | 1.47 | 0.75 |
| 2:AA:1025:G:C8 | 2:AA:1134:G:O4' | 2.39 | 0.75 |
| 2:AA:1238:G:H2' | 2:AA:1239:G:H5' | 1.66 | 0.75 |
| 2:AA:1287:A:C8 | 24:A0:104:ARG:NH1 | 2.53 | 0.75 |
| 2:AA:1368:G:OP1 | 31:A7:25:LYS:CD | 2.34 | 0.75 |
| 2:AA:1439:A:H8 | 2:AA:1440:G:C8 | 2.03 | 0.75 |
| 2:AA:1748:G:H2' | 2:AA:1749:A:H8 | 1.50 | 0.75 |
| 2:AA:1784:A:H4' | 2:AA:1785:A:H5" | 1.67 | 0.75 |
| 2:AA:1993:U:H2' | 2:AA:1994:C:H5' | 1.66 | 0.75 |
| 2:AA:2052:G:H2' | 2:AA:2053:G:H8 | 1.51 | 0.75 |
| 2:AA:2286:A:H2 | 30:A6:27:ASN:HB3 | 1.52 | 0.75 |
| 2:AA:2320:A:N1 | 16:AQ:13:ARG:CG | 2.50 | 0.75 |
| 2:AA:2423:U:H5' | 2:AA:2423:U:C6 | 2.21 | 0.75 |
| 2:AA:2491:U:O2 | 2:AA:2491:U:C2' | 2.35 | 0.75 |
| 2:AA:2578:G:O2' | 2:AA:2579:C:O5' | 2.04 | 0.75 |
| 2:AA:2684:U:H4' | 13:AN:76:TYR:CE2 | 2.20 | 0.75 |
| 3:AC:58:VAL:HG13 | 3:AC:199:HIS:HB3 | 1.69 | 0.75 |
| 4:AD:208:GLY:HA3 | 4:AD:210:LYS:NZ | 2.01 | 0.75 |
| 4:AD:209:ASN:O | 4:AD:212:HIS:HB2 | 1.86 | 0.75 |
| 6:AF:106:GLU:HA | 6:AF:109:LEU:HD12 | 1.67 | 0.75 |
| 8:AH:148:ARG:NH2 | 8:AH:164:GLU:N | 2.35 | 0.75 |
| 10:AK:110:LEU:HD21 | 10:AK:114:LYS:CG | 2.11 | 0.75 |
| 10:AK:125:GLY:O | 10:AK:144:HIS:HA | 1.85 | 0.75 |
| 12:AM:36:VAL:HG12 | 12:AM:38:VAL:HG23 | 1.68 | 0.75 |
| 12:AM:44:ALA:CB | 12:AM:132:LEU:CD2 | 2.64 | 0.75 |
| 15:AP:26:LYS:CD | 15:AP:89:PRO:HD2 | 2.10 | 0.75 |
| 15:AP:45:GLN:HG2 | 15:AP:125:TRP:NE1 | 2.00 | 0.75 |
| 20:AU:81:LYS:HZ2 | 20:AU:81:LYS:HB3 | 1.49 | 0.75 |
| 23:AX:4:LEU:HG | 23:AX:37:LEU:O | 1.86 | 0.75 |
| 24:A0:67:LEU:CD2 | 24:A0:71:GLN:HA | 2.16 | 0.75 |
| 26:A2:5:ILE:HG23 | 26:A2:39:PHE:HA | 1.68 | 0.75 |
| 28:A4:40:HIS:HB3 | 28:A4:41:PRO:CD | 2.15 | 0.75 |
| 29:A5:18:MET:HA | 29:A5:21:SER:HB3 | 1.67 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:A6:35:LEU:H | 30:A6:35:LEU:HD23 | 1.51 | 0.75 |
| 34:BA:43:C:H5" | 51:BS:12:LYS:HB3 | 1.66 | 0.75 |
| 34:BA:585:G:H4' | 47:BO:8:ASN:HD21 | 1.50 | 0.75 |
| 34:BA:613:C:H42 | 34:BA:627:G:H1 | 0.79 | 0.75 |
| 34:BA:688:G:H1 | 34:BA:699:C:N4 | 1.84 | 0.75 |
| 34:BA:947:G:H2' | 34:BA:948:C:H6 | 1.49 | 0.75 |
| 34:BA:1025:U:H2' | 34:BA:1026:G:C8 | 2.20 | 0.75 |
| 34:BA:1410:G:N2 | 34:BA:1490:C:N3 | 2.33 | 0.75 |
| 34:BA:1514:C:H2' | 34:BA:1515:C:H6 | 1.50 | 0.75 |
| 35:BB:35:A:C8 | 35:BB:36:A:N7 | 2.55 | 0.75 |
| 37:BE:58:ILE:HG22 | 37:BE:221:LEU:CD1 | 2.16 | 0.75 |
| 37:BE:102:LEU:HB2 | 37:BE:176:GLU:OE1 | 1.86 | 0.75 |
| 37:BE:135:GLN:C | 37:BE:139:LYS:HE3 | 2.07 | 0.75 |
| 39:BG:64:LEU:HD22 | 39:BG:67:ILE:HD12 | 1.68 | 0.75 |
| 41:BI:17:SER:O | 41:BI:20:ALA:HB3 | 1.87 | 0.75 |
| 43:BK:19:VAL:CG2 | 43:BK:21:LYS:HG2 | 2.17 | 0.75 |
| 43:BK:86:ILE:HD11 | 43:BK:136:GLU:OE1 | 1.86 | 0.75 |
| 44:BL:12:GLU:H | 44:BL:104:ARG:HH22 | 1.35 | 0.75 |
| 45:BM:6:ILE:CD1 | 45:BM:23:ILE:HG21 | 2.16 | 0.75 |
| 45:BM:58:ASP:O | 45:BM:60:ARG:HB2 | 1.85 | 0.75 |
| 50:BR:42:HIS:CD2 | 50:BR:43:LEU:N | 2.55 | 0.75 |
| 51:BS:71:ARG:HG2 | 51:BS:72:ARG:N | 2.00 | 0.75 |
| 2:AA:137(A):G:H5" | 2:AA:137(A):G:C2 | 2.21 | 0.75 |
| 2:AA:195:A:N6 | 2:AA:198:C:OP2 | 2.19 | 0.75 |
| 2:AA:226:G:C2 | 2:AA:227:A:N3 | 2.54 | 0.75 |
| 2:AA:261:G:C4' | 2:AA:608:A:H2 | 1.99 | 0.75 |
| 2:AA:352:G:O5' | 2:AA:352:G:C8 | 2.39 | 0.75 |
| 2:AA:443:A:H2 | 2:AA:1245:G:N3 | 1.83 | 0.75 |
| 2:AA:640:C:C2' | 2:AA:641:C:H5' | 2.15 | 0.75 |
| 2:AA:747:U:C5 | 2:AA:2613:U:H5 | 2.04 | 0.75 |
| 2:AA:878:A:N3 | 2:AA:879:G:C8 | 2.54 | 0.75 |
| 2:AA:963:U:H2' | 2:AA:964:C:C5 | 2.21 | 0.75 |
| 2:AA:1138:G:H2' | 2:AA:1138:G:N3 | 2.00 | 0.75 |
| 2:AA:1144:G:H2' | 2:AA:1145:C:H6 | 1.51 | 0.75 |
| 2:AA:1341:U:O4 | 2:AA:1395:A:C2 | 2.38 | 0.75 |
| 2:AA:1470:G:N1 | 2:AA:1520:U:O4 | 2.20 | 0.75 |
| 2:AA:1543:A:H5' | 2:AA:1544:C:C5 | 2.20 | 0.75 |
| 2:AA:1558:A:C2 | 2:AA:1560:G:C1' | 2.69 | 0.75 |
| 2:AA:2125:G:P | 3:AC:130:ILE:HA | 2.25 | 0.75 |
| 2:AA:2393:A:OP2 | 32:A8:32:GLN:NE2 | 2.18 | 0.75 |
| 2:AA:2458:G:C8 | 2:AA:2490:G:C6 | 2.74 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2559:C:O2' | 2:AA:2560:C:C5' | 2.33 | 0.75 |
| 2:AA:2662:A:H2' | 2:AA:2663:G:C5' | 2.16 | 0.75 |
| 2:AA:2721:A:C6 | 2:AA:2873:A:N6 | 2.54 | 0.75 |
| 5:AE:174:LEU:H | 5:AE:174:LEU:CD1 | 1.96 | 0.75 |
| 10:AK:59:ALA:HA | 10:AK:62:LEU:HD12 | 1.69 | 0.75 |
| 10:AK:88:ARG:CD | 10:AK:122:ARG:HB3 | 2.14 | 0.75 |
| 12:AM:60:ARG:CA | 12:AM:71:TYR:CD2 | 2.69 | 0.75 |
| 13:AN:7:ARG:CZ | 13:AN:44:LYS:HD3 | 2.15 | 0.75 |
| 13:AN:41:ALA:O | 13:AN:42:THR:HG22 | 1.86 | 0.75 |
| 14:AO:125:PHE:H | 14:AO:130:ARG:HE | 1.33 | 0.75 |
| 16:AQ:31:LYS:CB | 16:AQ:32:PRO:HD3 | 2.15 | 0.75 |
| 19:AT:3:ASP:CG | 19:AT:4:VAL:N | 2.40 | 0.75 |
| 19:AT:9:HIS:O | 19:AT:14:ALA:HB1 | 1.87 | 0.75 |
| 20:AU:21:LYS:HG2 | 20:AU:22:GLN:N | 2.02 | 0.75 |
| 22:AW:51:LYS:O | 22:AW:54:ALA:HB3 | 1.85 | 0.75 |
| 23:AX:30:ARG:HG3 | 23:AX:30:ARG:NH1 | 1.93 | 0.75 |
| 24:A0:76:VAL:HG12 | 24:A0:77:ARG:N | 2.02 | 0.75 |
| 24:A0:77:ARG:HH11 | 24:A0:77:ARG:CB | 2.00 | 0.75 |
| 25:A1:111:ASP:O | 25:A1:115:ASN:ND2 | 2.19 | 0.75 |
| 26:A2:67:LYS:HG2 | 26:A2:70:TYR:CE1 | 2.21 | 0.75 |
| 27:A3:47:ALA:CB | 27:A3:73:GLY:O | 2.35 | 0.75 |
| 31:A7:32:ALA:HA | 31:A7:35:ARG:CD | 2.16 | 0.75 |
| 32:A8:23:MET:HE1 | 32:A8:48:PHE:HB2 | 1.67 | 0.75 |
| 34:BA:538:G:OP2 | 47:BO:115:LYS:HB2 | 1.85 | 0.75 |
| 34:BA:600:C:OP1 | 43:BK:97:VAL:N | 2.20 | 0.75 |
| 34:BA:777:A:O2' | 34:BA:778:G:H5' | 1.87 | 0.75 |
| 34:BA:782:A:N6 | 34:BA:801:U:C6 | 2.55 | 0.75 |
| 34:BA:983:A:H2 | 34:BA:984:C:C6 | 2.04 | 0.75 |
| 34:BA:1069:C:N3 | 34:BA:1106:G:N2 | 2.35 | 0.75 |
| 34:BA:1226:C:C4 | 48:BP:104:ARG:HG3 | 2.21 | 0.75 |
| 34:BA:1237:C:H4' | 34:BA:1334:G:N2 | 2.02 | 0.75 |
| 34:BA:1419:G:O6 | 34:BA:1482:G:C6 | 2.39 | 0.75 |
| 35:BB:39:U:H2' | 35:BB:40:C:H6 | 1.50 | 0.75 |
| 35:BB:41:U:N3 | 35:BB:42:G:N7 | 2.34 | 0.75 |
| 39:BG:158:ILE:O | 39:BG:162:LEU:HG | 1.85 | 0.75 |
| 41:BI:95:GLU:O | 53:BU:32:ARG:HD2 | 1.85 | 0.75 |
| 42:BJ:118:VAL:HG12 | 42:BJ:122:HIS:CE1 | 2.21 | 0.75 |
| 43:BK:61:VAL:CG1 | 43:BK:62:TYR:H | 1.99 | 0.75 |
| 43:BK:129:VAL:HG22 | 43:BK:130:GLY:H | 1.51 | 0.75 |
| 45:BM:82:ILE:O | 45:BM:86:MET:HB2 | 1.87 | 0.75 |
| 46:BN:87:THR:HG22 | 46:BN:91:ARG:NH2 | 2.01 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:BP:36:LYS:HD3 | 48:BP:59:TYR:OH | 1.87 | 0.75 |
| 49:BQ:14:PRO:C | 49:BQ:16:PHE:N | 2.39 | 0.75 |
| 53:BU:39:VAL:O | 53:BU:42:ARG:HB2 | 1.86 | 0.75 |
| 1:AB:81:G:C6 | 1:AB:82:G:N7 | 2.54 | 0.75 |
| 2:AA:15:G:H2' | 2:AA:16:G:H5' | 1.69 | 0.75 |
| 2:AA:188:G:H2' | 2:AA:189:G:O4' | 1.86 | 0.75 |
| 2:AA:271(C):U:O2' | 2:AA:271:G:O4' | 2.04 | 0.75 |
| 2:AA:303:U:O2' | 2:AA:304:G:H5' | 1.87 | 0.75 |
| 2:AA:565:C:O2' | 2:AA:1253:A:H2 | 1.68 | 0.75 |
| 2:AA:574:C:H4' | 2:AA:575:A:H5" | 1.67 | 0.75 |
| 2:AA:584:C:N3 | 2:AA:1256:G:N2 | 2.30 | 0.75 |
| 2:AA:1779:U:C2' | 2:AA:1783:A:H62 | 1.98 | 0.75 |
| 2:AA:1846:G:C2' | 2:AA:1847:A:H5' | 2.15 | 0.75 |
| 2:AA:1925:C:O2 | 2:AA:1925:C:H2' | 1.85 | 0.75 |
| 2:AA:2014:A:H2' | 2:AA:2015:A:C2 | 2.22 | 0.75 |
| 2:AA:2300:G:O2' | 2:AA:2301:C:H5' | 1.87 | 0.75 |
| 2:AA:2416:C:C2' | 2:AA:2417:C:C5' | 2.65 | 0.75 |
| 2:AA:2575:C:C2' | 5:AE:237:ASN:HD21 | 1.99 | 0.75 |
| 2:AA:2580:U:C6 | 2:AA:2581:G:C8 | 2.75 | 0.75 |
| 2:AA:2593:U:H3 | 2:AA:2600:A:N6 | 1.83 | 0.75 |
| 2:AA:2699:C:C2 | 2:AA:2708:G:N2 | 2.53 | 0.75 |
| 2:AA:2828:C:C2 | 2:AA:2829:C:C5 | 2.74 | 0.75 |
| 2:AA:2874:C:H3' | 2:AA:2874:C:OP2 | 1.87 | 0.75 |
| 3:AC:26:ALA:HB1 | 3:AC:185:LEU:CD1 | 2.16 | 0.75 |
| 3:AC:89:ALA:HA | 3:AC:154:ARG:HH12 | 1.51 | 0.75 |
| 3:AC:149:ILE:O | 3:AC:153:ILE:HG13 | 1.86 | 0.75 |
| 6:AF:28:SER:HA | 6:AF:31:ILE:HD12 | 1.67 | 0.75 |
| 6:AF:93:LYS:O | 6:AF:98:ARG:NH2 | 2.20 | 0.75 |
| 6:AF:202:THR:O | 6:AF:204:ALA:N | 2.20 | 0.75 |
| 9:AI:115:LYS:NZ | 9:AI:127:LEU:HD13 | 2.02 | 0.75 |
| 10:AK:47:LEU:HG | 10:AK:48:GLU:H | 1.52 | 0.75 |
| 11:AL:55:PRO:CG | 11:AL:73:PRO:HA | 2.16 | 0.75 |
| 13:AN:58:VAL:HG12 | 13:AN:59:LYS:N | 1.99 | 0.75 |
| 13:AN:89:ASP:O | 13:AN:91:LYS:N | 2.20 | 0.75 |
| 16:AQ:12:ARG:NH1 | 16:AQ:20:TYR:CE2 | 2.54 | 0.75 |
| 20:AU:65:VAL:HG13 | 20:AU:72:ILE:HD11 | 1.68 | 0.75 |
| 21:AV:120:LEU:HD23 | 21:AV:120:LEU:H | 1.51 | 0.75 |
| 24:A0:51:LEU:HD23 | 24:A0:66:VAL:CG2 | 2.15 | 0.75 |
| 24:A0:90:ARG:HB2 | 24:A0:94:TYR:CE2 | 2.21 | 0.75 |
| 27:A3:43:THR:OG1 | 27:A3:44:LYS:N | 2.19 | 0.75 |
| 28:A4:68:ARG:NH1 | 28:A4:72:LYS:HE2 | 2.02 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:187:C:N3 | 55:BW:105:SER:HB3 | 2.00 | 0.75 |
| 34:BA:742:G:O2' | 34:BA:743:U:H5' | 1.85 | 0.75 |
| 34:BA:790:A:N6 | 34:BA:791:G:N1 | 2.35 | 0.75 |
| 34:BA:818:G:H3' | 34:BA:819:A:C5' | 2.15 | 0.75 |
| 34:BA:1007:C:C4 | 34:BA:1022:G:N1 | 2.54 | 0.75 |
| 34:BA:1342:C:H1' | 44:BL:124:GLN:HB2 | 1.68 | 0.75 |
| 38:BF:152:ILE:HD12 | 38:BF:201:TYR:HE1 | 1.51 | 0.75 |
| 39:BG:19:LEU:HD22 | 39:BG:21:LEU:HD11 | 1.67 | 0.75 |
| 39:BG:173:TRP:HD1 | 39:BG:185:PHE:HE2 | 1.35 | 0.75 |
| 39:BG:191:ARG:HD3 | 39:BG:191:ARG:C | 2.07 | 0.75 |
| 39:BG:192:GLU:N | 39:BG:192:GLU:OE1 | 2.19 | 0.75 |
| 40:BH:61:TYR:HA | 40:BH:64:ARG:CG | 2.16 | 0.75 |
| 41:BI:10:LEU:HD12 | 41:BI:10:LEU:N | 2.02 | 0.75 |
| 43:BK:22:GLU:O | 43:BK:62:TYR:HA | 1.86 | 0.75 |
| 46:BN:53:SER:O | 46:BN:55:LYS:N | 2.18 | 0.75 |
| 46:BN:77:MET:C | 46:BN:78:GLN:HG3 | 2.05 | 0.75 |
| 46:BN:85:ARG:HG3 | 46:BN:85:ARG:HH11 | 1.50 | 0.75 |
| 49:BQ:13:THR:HG22 | 49:BQ:13:THR:O | 1.87 | 0.75 |
| 49:BQ:47:LEU:O | 49:BQ:50:LYS:HB2 | 1.86 | 0.75 |
| 54:BV:5:LEU:HD12 | 54:BV:9:VAL:CG1 | 2.15 | 0.75 |
| 54:BV:77:THR:HG22 | 54:BV:78:ARG:N | 2.00 | 0.75 |
| 55:BW:86:ARG:CG | 55:BW:87:LYS:N | 2.48 | 0.75 |
| 2:AA:299:A:N1 | 2:AA:322:A:N7 | 2.35 | 0.75 |
| 2:AA:463:G:N2 | 2:AA:467:G:C8 | 2.54 | 0.75 |
| 2:AA:689:A:H2' | 2:AA:690:G:O4' | 1.87 | 0.75 |
| 2:AA:723:G:H2' | 2:AA:724:U:H6 | 1.51 | 0.75 |
| 2:AA:856:C:OP1 | 27:A3:57:HIS:HE1 | 1.68 | 0.75 |
| 2:AA:1023:U:OP2 | 2:AA:1025:G:N1 | 2.19 | 0.75 |
| 2:AA:1061:U:H4' | 2:AA:1070:A:O4' | 1.85 | 0.75 |
| 2:AA:1137:G:C6 | 2:AA:1138:G:H1' | 2.21 | 0.75 |
| 2:AA:1148:A:N1 | 2:AA:1149:G:C6 | 2.55 | 0.75 |
| 2:AA:1301:A:N7 | 2:AA:1303:G:O4' | 2.20 | 0.75 |
| 2:AA:1341:U:O2' | 19:AT:53:ASN:HB3 | 1.86 | 0.75 |
| 2:AA:1539:G:H2' | 2:AA:1540:G:C8 | 2.21 | 0.75 |
| 2:AA:1900:A:H2 | 2:AA:1970:A:C6 | 2.04 | 0.75 |
| 2:AA:2135:A:N6 | 2:AA:2150:U:H3' | 1.99 | 0.75 |
| 2:AA:2369:A:H2' | 2:AA:2370:G:C8 | 2.16 | 0.75 |
| 2:AA:2637:U:H2' | 2:AA:2638:G:O4' | 1.85 | 0.75 |
| 2:AA:2785:C:H4' | 5:AE:99:VAL:CB | 2.16 | 0.75 |
| 2:AA:2821:A:OP2 | 2:AA:2822:G:P | 2.45 | 0.75 |
| 2:AA:2864:G:H2' | 2:AA:2865:U:C6 | 2.20 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2882:A:OP1 | 24:A0:96:ARG:CD | 2.35 | 0.75 |
| 3:AC:190:ARG:HA | 3:AC:193:ILE:HD12 | 1.68 | 0.75 |
| 4:AD:157:ALA:O | 4:AD:194:VAL:HG11 | 1.87 | 0.75 |
| 5:AE:205:THR:CG2 | 5:AE:259:HIS:HB2 | 2.16 | 0.75 |
| 6:AF:165:ASP:O | 6:AF:168:ARG:HB3 | 1.86 | 0.75 |
| 8:AH:86:LEU:HD12 | 8:AH:130:ILE:HB | 1.68 | 0.75 |
| 9:AI:52:ALA:HB1 | 9:AI:58:GLU:HB2 | 1.67 | 0.75 |
| 13:AN:43:VAL:CB | 13:AN:56:GLN:H | 1.99 | 0.75 |
| 15:AP:84:ARG:NH2 | 15:AP:86:ARG:NH2 | 2.34 | 0.75 |
| 18:AS:8:ARG:HG3 | 18:AS:102:HIS:CE1 | 2.22 | 0.75 |
| 21:AV:71:MET:HG2 | 21:AV:78:PRO:HG3 | 1.69 | 0.75 |
| 21:AV:143:ILE:HG22 | 21:AV:144:GLY:N | 2.01 | 0.75 |
| 24:A0:86:ARG:NH1 | 24:A0:86:ARG:CB | 2.50 | 0.75 |
| 25:A1:50:ARG:NH2 | 26:A2:73:LYS:O | 2.19 | 0.75 |
| 30:A6:54:LYS:HA | 30:A6:54:LYS:NZ | 2.00 | 0.75 |
| 34:BA:68:G:H5' | 34:BA:171:A:C1' | 2.15 | 0.75 |
| 34:BA:437:U:H2' | 34:BA:438:G:C5' | 2.16 | 0.75 |
| 34:BA:707:C:H4' | 46:BN:20:TYR:CD2 | 2.21 | 0.75 |
| 34:BA:764:C:C2' | 34:BA:765:G:C8 | 2.70 | 0.75 |
| 34:BA:966:G:H2' | 34:BA:967:C:C6 | 2.21 | 0.75 |
| 34:BA:1086:U:O2 | 34:BA:1099:G:N2 | 2.19 | 0.75 |
| 34:BA:1367:C:OP1 | 44:BL:115:GLY:N | 2.17 | 0.75 |
| 35:BB:40:C:C3' | 35:BB:41:U:H5' | 2.16 | 0.75 |
| 35:BC:3:G:N2 | 35:BC:71:G:H1' | 2.02 | 0.75 |
| 38:BF:26:LYS:HD3 | 38:BF:26:LYS:N | 2.00 | 0.75 |
| 42:BJ:104:LEU:CD2 | 42:BJ:104:LEU:N | 2.46 | 0.75 |
| 48:BP:20:THR:HA | 48:BP:25:ILE:HB | 1.68 | 0.75 |
| 49:BQ:26:ARG:HD3 | 49:BQ:43:CYS:HB3 | 1.67 | 0.75 |
| 55:BW:73:HIS:O | 55:BW:76:ALA:HB3 | 1.87 | 0.75 |
| 1:AB:80:U:H4' | 2:AA:918:A:C8 | 2.21 | 0.75 |
| 2:AA:67:U:H2' | 2:AA:68:G:H8 | 1.50 | 0.75 |
| 2:AA:107:C:H4' | 2:AA:293:U:O2 | 1.87 | 0.75 |
| 2:AA:408:G:O2' | 2:AA:409:C:H5' | 1.87 | 0.75 |
| 2:AA:979:G:N7 | 2:AA:981:A:OP2 | 2.20 | 0.75 |
| 2:AA:2103:C:O2' | 2:AA:2104:G:H5' | 1.87 | 0.75 |
| 2:AA:2143:C:OP2 | 2:AA:2143:C:H6 | 1.70 | 0.75 |
| 2:AA:2547:U:C5 | 2:AA:2566:A:C5 | 2.75 | 0.75 |
| 2:AA:2623:G:H4' | 2:AA:2826:A:H1' | 1.67 | 0.75 |
| 3:AC:48:GLY:HA3 | 3:AC:210:ARG:NH1 | 2.01 | 0.75 |
| 4:AD:63:ILE:HD13 | 4:AD:86:ARG:NH2 | 2.00 | 0.75 |
| 4:AD:76:ARG:CB | 4:AD:113:MET:HB3 | 2.16 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:109:ASP:CG | 5:AE:112:LEU:HG | 2.07 | 0.75 |
| 6:AF:151:GLN:HA | 6:AF:154:VAL:CG2 | 2.16 | 0.75 |
| 7:AG:93:LEU:HB2 | 7:AG:97:GLN:OE1 | 1.85 | 0.75 |
| 9:AJ:91:LEU:HD23 | 9:AJ:94:LYS:HD2 | 1.68 | 0.75 |
| 10:AK:63:ALA:HA | 10:AK:66:LYS:HE3 | 1.69 | 0.75 |
| 13:AN:98:ILE:CG2 | 13:AN:119:PRO:HD3 | 2.16 | 0.75 |
| 14:AO:65:ASP:CA | 14:AO:108:VAL:HG13 | 2.14 | 0.75 |
| 15:AP:35:ASN:N | 15:AP:76:GLY:H | 1.84 | 0.75 |
| 16:AQ:59:ALA:HB3 | 16:AQ:91:ARG:NH2 | 2.02 | 0.75 |
| 22:AW:30:ALA:CA | 22:AW:34:GLN:HG2 | 2.16 | 0.75 |
| 23:AX:12:PRO:HB2 | 23:AX:20:LYS:HE2 | 1.66 | 0.75 |
| 23:AX:40:THR:OG1 | 23:AX:43:ILE:HD13 | 1.86 | 0.75 |
| 24:A0:67:LEU:HD21 | 24:A0:72:ASP:N | 2.01 | 0.75 |
| 24:A0:83:ILE:CA | 24:A0:86:ARG:HG3 | 2.17 | 0.75 |
| 31:A7:6:GLN:H | 31:A7:6:GLN:NE2 | 1.85 | 0.75 |
| 33:A9:7:VAL:HG22 | 33:A9:34:GLN:CG | 2.17 | 0.75 |
| 34:BA:262:A:H2' | 34:BA:263:A:C8 | 2.22 | 0.75 |
| 34:BA:752:G:O4' | 34:BA:752:G:OP2 | 2.05 | 0.75 |
| 34:BA:982:U:H1' | 34:BA:983:A:N6 | 2.01 | 0.75 |
| 34:BA:1119:C:H2' | 34:BA:1120:G:C8 | 2.21 | 0.75 |
| 34:BA:1519:A:H2' | 34:BA:1520:G:H5' | 1.69 | 0.75 |
| 36:B1:48:A:H2' | 36:B1:49:A:C8 | 2.22 | 0.75 |
| 38:BF:91:LEU:HD21 | 38:BF:98:ASN:HA | 1.68 | 0.75 |
| 45:BM:16:LEU:CD2 | 45:BM:94:VAL:HG22 | 2.15 | 0.75 |
| 47:BO:45:PRO:HB2 | 47:BO:49:ASN:O | 1.86 | 0.75 |
| 48:BP:29:ARG:CZ | 48:BP:64:TRP:NE1 | 2.50 | 0.75 |
| 50:BR:62:GLN:CD | 50:BR:65:ARG:HH21 | 1.89 | 0.75 |
| 55:BW:33:ILE:HD13 | 55:BW:63:ILE:HA | 1.68 | 0.75 |
| 2:AA:220:G:H22 | 2:AA:427:U:H2' | 1.50 | 0.75 |
| 2:AA:777:A:N1 | 2:AA:787:U:C4 | 2.55 | 0.75 |
| 2:AA:830:G:C5 | 2:AA:2448:A:N7 | 2.54 | 0.75 |
| 2:AA:954:G:O2' | 2:AA:2274:A:N1 | 2.18 | 0.75 |
| 2:AA:1394:U:H4' | 2:AA:1603:A:C5' | 2.15 | 0.75 |
| 2:AA:1420:U:H1' | 2:AA:1421:G:N7 | 2.02 | 0.75 |
| 2:AA:1498:C:O2 | 2:AA:1499:C:C4 | 2.40 | 0.75 |
| 2:AA:1563:G:C4 | 2:AA:1564:C:C5 | 2.75 | 0.75 |
| 2:AA:1609:A:C8 | 2:AA:1616:A:H1' | 2.22 | 0.75 |
| 2:AA:1645:G:H5' | 2:AA:1646:C:O4' | 1.87 | 0.75 |
| 2:AA:1663:C:N4 | 2:AA:1992:G:C8 | 2.55 | 0.75 |
| 2:AA:1699:G:H2' | 2:AA:1700:A:H4' | 1.68 | 0.75 |
| 2:AA:1790:C:H5" | 2:AA:1828:G:C2 | 2.21 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1923:U:H2' | 2:AA:1924:C:C6 | 2.22 | 0.75 |
| 2:AA:1992:G:H22 | 2:AA:1995:U:H5 | 1.33 | 0.75 |
| 2:AA:2254:C:H2' | 2:AA:2255:G:H5' | 1.68 | 0.75 |
| 2:AA:2310:A:C2' | 7:AG:55:LYS:HE2 | 2.13 | 0.75 |
| 2:AA:2447:G:O2' | 2:AA:2448:A:OP2 | 2.03 | 0.75 |
| 5:AE:300:VAL:O | 5:AE:302:GLY:N | 2.20 | 0.75 |
| 6:AF:195:VAL:HG11 | 6:AF:235:PHE:HD2 | 1.49 | 0.75 |
| 7:AG:36:ASN:O | 7:AG:39:ASP:N | 2.20 | 0.75 |
| 7:AG:104:PHE:N | 7:AG:104:PHE:CD1 | 2.55 | 0.75 |
| 8:AH:104:LEU:HD12 | 8:AH:104:LEU:N | 2.01 | 0.75 |
| 9:AI:64:LYS:HE2 | 9:AI:126:GLU:HB3 | 1.67 | 0.75 |
| 10:AK:88:ARG:HE | 10:AK:123:ALA:HB2 | 1.52 | 0.75 |
| 10:AK:124:LEU:HD21 | 10:AK:147:GLU:H | 1.52 | 0.75 |
| 11:AL:129:GLU:CG | 11:AL:133:LYS:HE3 | 2.16 | 0.75 |
| 13:AN:63:VAL:CG1 | 13:AN:102:VAL:HG13 | 2.10 | 0.75 |
| 15:AP:17:ARG:CA | 15:AP:22:GLY:HA3 | 2.17 | 0.75 |
| 15:AP:36:ASN:HB2 | 21:AV:114:ASP:OD1 | 1.85 | 0.75 |
| 15:AP:82:LYS:HD3 | 15:AP:84:ARG:HE | 1.52 | 0.75 |
| 17:AR:50:GLU:HA | 17:AR:55:ALA:HB3 | 1.68 | 0.75 |
| 18:AS:84:ARG:O | 18:AS:95:ILE:HA | 1.87 | 0.75 |
| 18:AS:90:ARG:CZ | 18:AS:90:ARG:CB | 2.63 | 0.75 |
| 21:AV:41:ARG:H | 21:AV:41:ARG:HE | 1.33 | 0.75 |
| 21:AV:64:ALA:CB | 21:AV:84:TYR:O | 2.33 | 0.75 |
| 21:AV:68:ALA:HB3 | 21:AV:82:ASP:OD2 | 1.87 | 0.75 |
| 27:A3:19:LYS:HD3 | 27:A3:21:LEU:HD21 | 1.69 | 0.75 |
| 27:A3:68:VAL:O | 27:A3:68:VAL:HG12 | 1.86 | 0.75 |
| 28:A4:7:PRO:O | 28:A4:60:ASN:CG | 2.25 | 0.75 |
| 34:BA:173:U:H5' | 34:BA:197:A:O4' | 1.85 | 0.75 |
| 34:BA:775:G:N2 | 34:BA:804:U:O4 | 2.18 | 0.75 |
| 34:BA:895:G:H2' | 34:BA:896:C:C6 | 2.21 | 0.75 |
| 34:BA:968:A:C5' | 34:BA:969:A:OP2 | 2.33 | 0.75 |
| 34:BA:1347:G:C3' | 44:BL:108:VAL:HA | 2.11 | 0.75 |
| 36:B1:70:U:H4' | 36:B1:71:A:OP1 | 1.86 | 0.75 |
| 37:BE:74:LYS:HG2 | 37:BE:76:GLN:HB2 | 1.67 | 0.75 |
| 37:BE:112:VAL:HG12 | 37:BE:116:GLU:OE2 | 1.87 | 0.75 |
| 38:BF:84:ILE:CD1 | 38:BF:101:LEU:HD22 | 2.17 | 0.75 |
| 40:BH:78:HIS:CB | 43:BK:107:LEU:HD11 | 2.17 | 0.75 |
| 40:BH:100:VAL:CG1 | 40:BH:107:ARG:HG3 | 2.16 | 0.75 |
| 42:BJ:129:GLU:CB | 42:BJ:131:LYS:HG2 | 2.17 | 0.75 |
| 50:BR:15:PHE:CE2 | 50:BR:30:ALA:HB2 | 2.21 | 0.75 |
| 1:AB:16:G:H22 | 1:AB:69:G:H1' | 1.51 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:17:C:H2' | 1:AB:18:G:C8 | 2.21 | 0.75 |
| 1:AB:83:G:C4' | 23:AX:52:HIS:HD2 | 1.99 | 0.75 |
| 2:AA:16:G:C4' | 29:A5:18:MET:CE | 2.63 | 0.75 |
| 2:AA:54:G:H1' | 31:A7:35:ARG:NH2 | 2.01 | 0.75 |
| 2:AA:237:C:H2' | 2:AA:238:C:H6 | 1.52 | 0.75 |
| 2:AA:270(J):G:N2 | 2:AA:270(K):C:H1' | 2.02 | 0.75 |
| 2:AA:287:C:N3 | 2:AA:353:G:O6 | 2.20 | 0.75 |
| 2:AA:310:A:P | 20:AU:53:GLY:H | 2.10 | 0.75 |
| 2:AA:447:A:C1' | 2:AA:449:A:N6 | 2.21 | 0.75 |
| 2:AA:487:C:N4 | 2:AA:493:G:H1 | 1.83 | 0.75 |
| 2:AA:600:G:H5" | 6:AF:27:ARG:NH1 | 2.01 | 0.75 |
| 2:AA:734:A:H2 | 2:AA:735:A:H1' | 1.51 | 0.75 |
| 2:AA:1181:C:O2' | 2:AA:1182:A:O5' | 2.04 | 0.75 |
| 2:AA:1656:C:OP1 | 5:AE:212:GLY:HA3 | 1.87 | 0.75 |
| 2:AA:1791:A:N1 | 2:AA:1829:A:O4' | 2.20 | 0.75 |
| 2:AA:2552:U:O2 | 2:AA:2554:U:H5" | 1.87 | 0.75 |
| 2:AA:2564:A:O2' | 2:AA:2565:A:H5' | 1.87 | 0.75 |
| 2:AA:2573:C:H3' | 2:AA:2573:C:C6 | 2.22 | 0.75 |
| 2:AA:2745:C:H42 | 2:AA:2759:G:H1 | 1.34 | 0.75 |
| 2:AA:2809:A:C4' | 2:AA:2811:G:N7 | 2.50 | 0.75 |
| 6:AF:219:ASN:H | 6:AF:222:ASP:CG | 1.90 | 0.75 |
| 7:AG:63:ILE:O | 7:AG:65:GLU:N | 2.20 | 0.75 |
| 8:AH:43:THR:HG22 | 8:AH:52:THR:CG2 | 2.17 | 0.75 |
| 8:AH:70:LEU:HA | 8:AH:73:ASN:ND2 | 2.02 | 0.75 |
| 10:AK:6:LEU:HD22 | 10:AK:14:LYS:CD | 2.16 | 0.75 |
| 12:AM:58:GLU:O | 12:AM:61:VAL:N | 2.20 | 0.75 |
| 14:AO:79:ASP:CG | 14:AO:80:ASP:N | 2.40 | 0.75 |
| 15:AP:82:LYS:HB2 | 15:AP:125:TRP:H | 1.49 | 0.75 |
| 16:AQ:11:ARG:HA | 16:AQ:14:ARG:NH1 | 2.02 | 0.75 |
| 16:AQ:30:GLY:O | 16:AQ:31:LYS:HB2 | 1.85 | 0.75 |
| 16:AQ:61:ALA:HB2 | 16:AQ:88:ALA:CB | 2.06 | 0.75 |
| 18:AS:88:ARG:C | 18:AS:90:ARG:N | 2.37 | 0.75 |
| 20:AU:71:VAL:CG2 | 20:AU:92:ASP:HA | 2.15 | 0.75 |
| 21:AV:75:LYS:HE3 | 21:AV:77:ALA:HB3 | 1.68 | 0.75 |
| 29:A5:10:LYS:HZ2 | 29:A5:10:LYS:CA | 1.95 | 0.75 |
| 29:A5:57:VAL:CG1 | 29:A5:58:LEU:H | 1.98 | 0.75 |
| 34:BA:133:U:H3 | 34:BA:229:U:H3 | 1.35 | 0.75 |
| 34:BA:152:A:C8 | 34:BA:153:C:C5 | 2.75 | 0.75 |
| 34:BA:683:G:H2' | 34:BA:684:A:C8 | 2.21 | 0.75 |
| 34:BA:736:C:OP1 | 53:BU:72:ARG:NH2 | 2.20 | 0.75 |
| 34:BA:840:C:H5" | 34:BA:841:U:O5' | 1.85 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1412:C:H2' | 34:BA:1413:A:H8 | 1.52 | 0.75 |
| 35:BB:22:G:C4 | 35:BB:23:A:N7 | 2.55 | 0.75 |
| 35:BB:33:U:C4 | 35:BB:35:A:OP1 | 2.40 | 0.75 |
| 35:BB:49:C:N3 | 35:BB:65:G:N2 | 2.35 | 0.75 |
| 35:BC:8:U:C5 | 35:BC:13:C:N4 | 2.54 | 0.75 |
| 37:BE:71:VAL:HG13 | 37:BE:93:VAL:O | 1.87 | 0.75 |
| 37:BE:101:MET:HA | 37:BE:108:ILE:CG1 | 2.17 | 0.75 |
| 37:BE:102:LEU:HD22 | 37:BE:176:GLU:CB | 2.14 | 0.75 |
| 38:BF:12:LEU:HD13 | 38:BF:17:ASP:HA | 1.69 | 0.75 |
| 38:BF:26:LYS:O | 38:BF:28:GLN:HG3 | 1.87 | 0.75 |
| 41:BI:53:ALA:C | 41:BI:55:ASP:H | 1.88 | 0.75 |
| 43:BK:4:ASP:OD1 | 43:BK:6:ILE:HG22 | 1.87 | 0.75 |
| 44:BL:93:ARG:HH22 | 44:BL:102:LEU:HD13 | 1.50 | 0.75 |
| 45:BM:49:VAL:HG12 | 45:BM:50:ILE:N | 2.01 | 0.75 |
| 46:BN:18:ARG:NH2 | 46:BN:37:GLY:HA2 | 2.01 | 0.75 |
| 48:BP:6:GLY:O | 48:BP:8:GLU:N | 2.19 | 0.75 |
| 48:BP:23:TYR:HB3 | 48:BP:67:GLU:CA | 2.17 | 0.75 |
| 49:BQ:27:CYS:O | 49:BQ:29:ARG:N | 2.19 | 0.75 |
| 49:BQ:40:CYS:O | 49:BQ:44:LEU:HB3 | 1.87 | 0.75 |
| 51:BS:4:ILE:HG12 | 51:BS:65:GLN:O | 1.87 | 0.75 |
| 52:BT:8:GLY:O | 52:BT:56:VAL:HA | 1.86 | 0.75 |
| 52:BT:61:GLU:HA | 52:BT:71:PHE:CD1 | 2.22 | 0.75 |
| 1:AB:12:C:C5 | 27:A3:53:MET:CA | 2.67 | 0.75 |
| 2:AA:226:G:H21 | 2:AA:227:A:H1' | 1.52 | 0.75 |
| 2:AA:270(C):C:C4 | 2:AA:270(W):G:N1 | 2.55 | 0.75 |
| 2:AA:374:A:C2 | 2:AA:375:C:H1' | 2.22 | 0.75 |
| 2:AA:397:G:OP1 | 28:A4:41:PRO:HG3 | 1.86 | 0.75 |
| 2:AA:729:G:C6 | 2:AA:1775:U:N3 | 2.55 | 0.75 |
| 2:AA:796:C:H2' | 2:AA:797:C:H6 | 1.51 | 0.75 |
| 2:AA:928:G:N2 | 2:AA:929:G:H1 | 1.85 | 0.75 |
| 2:AA:1085:A:P | 9:AI:36:PRO:HD2 | 2.26 | 0.75 |
| 2:AA:1240:U:C3' | 2:AA:1241:A:H8 | 1.97 | 0.75 |
| 2:AA:1476:C:H5 | 2:AA:1477:A:C2 | 2.05 | 0.75 |
| 2:AA:1491:G:O2' | 2:AA:1492:G:O4' | 2.05 | 0.75 |
| 2:AA:1521:G:H3' | 2:AA:1522:G:H8 | 1.52 | 0.75 |
| 2:AA:1602:U:N3 | 2:AA:1602:U:OP2 | 2.20 | 0.75 |
| 2:AA:1647:G:H3' | 2:AA:1647:G:OP2 | 1.87 | 0.75 |
| 2:AA:2025:C:H2' | 2:AA:2026:C:C6 | 2.21 | 0.75 |
| 2:AA:2118:U:H3' | 2:AA:2118:U:C6 | 2.21 | 0.75 |
| 2:AA:2377:A:H2' | 2:AA:2378:A:C8 | 2.21 | 0.75 |
| 2:AA:2436:G:C6 | 2:AA:2437:U:C4 | 2.74 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:208:GLY:HA3 | 4:AD:210:LYS:CE | 2.16 | 0.75 |
| 8:AH:34:ARG:HG2 | 8:AH:35:THR:N | 2.01 | 0.75 |
| 9:AJ:78:ARG:HG2 | 9:AJ:88:ALA:HB1 | 1.69 | 0.75 |
| 15:AP:48:ASN:OD1 | 15:AP:121:ASP:HB3 | 1.87 | 0.75 |
| 18:AS:6:ILE:HA | 18:AS:103:ILE:O | 1.86 | 0.75 |
| 18:AS:73:ALA:HB3 | 18:AS:106:ILE:CD1 | 2.17 | 0.75 |
| 20:AU:73:HIS:CE1 | 20:AU:90:PRO:HA | 2.20 | 0.75 |
| 24:A0:58:GLY:HA2 | 24:A0:80:PHE:CZ | 2.21 | 0.75 |
| 25:A1:29:SER:OG | 25:A1:30:LYS:HD2 | 1.87 | 0.75 |
| 26:A2:40:VAL:HB | 26:A2:51:ALA:HB1 | 1.67 | 0.75 |
| 26:A2:87:ARG:HH11 | 26:A2:87:ARG:HB3 | 1.50 | 0.75 |
| 27:A3:49:GLN:NE2 | 27:A3:49:GLN:N | 2.28 | 0.75 |
| 28:A4:17:GLN:HG2 | 28:A4:34:ASP:N | 2.02 | 0.75 |
| 34:BA:22:G:H2' | 34:BA:23:C:O4' | 1.87 | 0.75 |
| 34:BA:274:A:O2' | 34:BA:275:G:O4' | 2.05 | 0.75 |
| 34:BA:277:C:H5" | 52:BT:68:ARG:HH22 | 1.49 | 0.75 |
| 34:BA:416:G:H2' | 34:BA:417:C:C6 | 2.22 | 0.75 |
| 34:BA:766:A:C8 | 34:BA:814:A:N1 | 2.55 | 0.75 |
| 34:BA:1259:C:N4 | 34:BA:1276:G:H1 | 1.85 | 0.75 |
| 34:BA:1407:C:C2' | 34:BA:1408:A:H5' | 2.17 | 0.75 |
| 35:BB:11:C:C4 | 35:BB:12:U:O4 | 2.39 | 0.75 |
| 36:B1:41:U:H2' | 36:B1:42:G:C8 | 2.22 | 0.75 |
| 37:BE:163:PHE:HA | 37:BE:185:ILE:O | 1.86 | 0.75 |
| 38:BF:70:VAL:O | 38:BF:106:VAL:HG23 | 1.86 | 0.75 |
| 42:BJ:34:GLY:O | 42:BJ:36:LYS:N | 2.19 | 0.75 |
| 43:BK:18:ARG:HH22 | 43:BK:78:GLN:HG3 | 1.50 | 0.75 |
| 50:BR:74:ASP:OD2 | 50:BR:76:GLU:HB3 | 1.87 | 0.75 |
| 55:BW:50:GLU:CA | 55:BW:99:LEU:HB2 | 2.17 | 0.75 |
| 2:AA:69:C:O2 | 2:AA:69:C:H2' | 1.87 | 0.74 |
| 2:AA:182:A:H2' | 2:AA:183:C:C6 | 2.22 | 0.74 |
| 2:AA:327:G:H2' | 2:AA:328:U:H5' | 1.67 | 0.74 |
| 2:AA:371:A:O2' | 2:AA:372:G:P | 2.45 | 0.74 |
| 2:AA:489:G:C2 | 2:AA:491:G:C4 | 2.75 | 0.74 |
| 2:AA:596:G:H2' | 2:AA:597:U:O4' | 1.87 | 0.74 |
| 2:AA:673:C:OP1 | 6:AF:81:PRO:HG2 | 1.86 | 0.74 |
| 2:AA:803:U:H2' | 2:AA:804:A:H5' | 1.68 | 0.74 |
| 2:AA:1022:G:N3 | 2:AA:1139:G:N2 | 2.35 | 0.74 |
| 2:AA:1089:G:H8 | 2:AA:1089:G:O5' | 1.68 | 0.74 |
| 2:AA:1108:U:C4 | 2:AA:1109:C:C4 | 2.75 | 0.74 |
| 2:AA:1245:G:O2' | 2:AA:1246:A:H5' | 1.86 | 0.74 |
| 2:AA:1302:A:H5" | 2:AA:1303:G:OP2 | 1.87 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1363:C:O2 | 2:AA:1363:C:C2' | 2.35 | 0.74 |
| 2:AA:1414:G:H1 | 2:AA:1588:C:H42 | 1.31 | 0.74 |
| 2:AA:1842:G:H2' | 2:AA:1843:C:O4' | 1.85 | 0.74 |
| 2:AA:1872:A:H2' | 2:AA:1878:G:C5' | 2.17 | 0.74 |
| 2:AA:1999:C:N3 | 2:AA:2000:G:C8 | 2.55 | 0.74 |
| 2:AA:2027:G:H1' | 2:AA:2037:G:N2 | 2.02 | 0.74 |
| 2:AA:2195:C:C2' | 2:AA:2196:C:O4' | 2.33 | 0.74 |
| 2:AA:2218:G:C4' | 4:AD:147:PRO:HG3 | 2.16 | 0.74 |
| 2:AA:2354:G:O2' | 27:A3:31:VAL:CG1 | 2.34 | 0.74 |
| 2:AA:2356:C:OP1 | 27:A3:21:LEU:HD21 | 1.85 | 0.74 |
| 2:AA:2396:G:O2' | 28:A4:27:THR:HG22 | 1.87 | 0.74 |
| 2:AA:2476:A:N7 | 2:AA:2477:C:H5 | 1.83 | 0.74 |
| 2:AA:2682:U:O2' | 2:AA:2683:C:H5' | 1.86 | 0.74 |
| 3:AC:5:LYS:O | 3:AC:6:ARG:HG2 | 1.87 | 0.74 |
| 5:AE:85:ALA:HB3 | 5:AE:87:GLU:OE2 | 1.86 | 0.74 |
| 7:AG:26:GLY:O | 7:AG:53:LYS:NZ | 2.20 | 0.74 |
| 8:AH:167:LEU:CG | 8:AH:169:ARG:HH12 | 1.99 | 0.74 |
| 9:AI:42:ALA:HB3 | 9:AI:43:PRO:HD3 | 1.67 | 0.74 |
| 10:AK:89:LEU:O | 10:AK:122:ARG:NE | 2.18 | 0.74 |
| 10:AK:136:GLU:N | 10:AK:136:GLU:OE1 | 2.20 | 0.74 |
| 12:AM:88:PRO:O | 12:AM:94:GLY:HA3 | 1.86 | 0.74 |
| 13:AN:63:VAL:HG23 | 13:AN:84:CYS:HA | 1.68 | 0.74 |
| 19:AT:28:VAL:HG11 | 19:AT:64:ALA:HB3 | 1.69 | 0.74 |
| 32:A8:5:LYS:HD2 | 32:A8:5:LYS:N | 2.02 | 0.74 |
| 34:BA:50:A:O2' | 34:BA:52:G:N7 | 2.19 | 0.74 |
| 34:BA:281:G:HO2' | 34:BA:282:A:H8 | 1.34 | 0.74 |
| 34:BA:296:U:C4 | 34:BA:297:G:N7 | 2.55 | 0.74 |
| 34:BA:366:C:O2' | 34:BA:367:U:OP1 | 2.05 | 0.74 |
| 34:BA:745:C:H2' | 34:BA:746:A:C8 | 2.21 | 0.74 |
| 34:BA:917:G:O2' | 34:BA:918:A:H5' | 1.87 | 0.74 |
| 34:BA:996:A:N1 | 34:BA:997:U:C4 | 2.54 | 0.74 |
| 34:BA:1108:G:N7 | 34:BA:1109:C:C5 | 2.56 | 0.74 |
| 34:BA:1298:C:H4' | 34:BA:1299:A:C2 | 2.22 | 0.74 |
| 42:BJ:72:ARG:HH22 | 42:BJ:138:LYS:HZ3 | 1.34 | 0.74 |
| 43:BK:112:LEU:HD21 | 43:BK:131:GLY:C | 2.07 | 0.74 |
| 44:BL:111:ARG:HD2 | 49:BQ:61:TRP:NE1 | 2.02 | 0.74 |
| 47:BO:70:ILE:HG21 | 47:BO:77:LEU:HD11 | 1.67 | 0.74 |
| 48:BP:60:VAL:CA | 48:BP:63:THR:HG22 | 2.17 | 0.74 |
| 50:BR:18:PHE:CE1 | 50:BR:21:ASP:HB2 | 2.22 | 0.74 |
| 50:BR:61:GLY:O | 50:BR:64:ARG:HG2 | 1.86 | 0.74 |
| 52:BT:6:LEU:HB2 | 52:BT:23:VAL:HG21 | 1.69 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 54:BV:64:GLU:CG | 54:BV:65:ASN:H | 1.98 | 0.74 |
| 2:AA:71:A:C4' | 2:AA:72:U:H5" | 2.16 | 0.74 |
| 2:AA:148:C:H2' | 2:AA:149:A:C8 | 2.22 | 0.74 |
| 2:AA:343:C:H2' | 2:AA:344:G:C5' | 2.17 | 0.74 |
| 2:AA:492:A:H2' | 2:AA:493:G:O4' | 1.86 | 0.74 |
| 2:AA:530:G:O2' | 2:AA:531:C:O5' | 2.04 | 0.74 |
| 2:AA:679:C:N4 | 2:AA:798:G:H1 | 1.84 | 0.74 |
| 2:AA:974:G:O5' | 2:AA:974(A):C:OP1 | 2.05 | 0.74 |
| 2:AA:997:G:O2' | 2:AA:998:C:C5' | 2.34 | 0.74 |
| 2:AA:1084:A:OP1 | 9:AI:39:VAL:C | 2.25 | 0.74 |
| 2:AA:1085:A:C1' | 2:AA:1086:A:H4' | 2.06 | 0.74 |
| 2:AA:1551:C:H2' | 2:AA:1552:G:H8 | 1.51 | 0.74 |
| 2:AA:1796:U:O4 | 2:AA:1823:G:O6 | 2.05 | 0.74 |
| 2:AA:1963:U:O2 | 2:AA:1963:U:H2' | 1.85 | 0.74 |
| 2:AA:2137:C:N4 | 2:AA:2155:G:O2' | 2.19 | 0.74 |
| 2:AA:2294:C:H2' | 2:AA:2294:C:O2 | 1.86 | 0.74 |
| 2:AA:2744:G:O2' | 2:AA:2745:C:H5' | 1.86 | 0.74 |
| 2:AA:2791:C:H2' | 2:AA:2792:G:C8 | 2.21 | 0.74 |
| 3:AC:36:LYS:HG3 | 3:AC:37:PHE:CD2 | 2.20 | 0.74 |
| 4:AD:63:ILE:O | 4:AD:64:ILE:HG13 | 1.86 | 0.74 |
| 5:AE:194:ARG:HG3 | 5:AE:197:GLU:OE1 | 1.88 | 0.74 |
| 5:AE:201:VAL:H | 5:AE:266:LYS:HD2 | 1.47 | 0.74 |
| 8:AH:87:GLU:HG3 | 8:AH:162:ARG:O | 1.87 | 0.74 |
| 9:AI:62:VAL:HG13 | 9:AI:100:ALA:C | 2.08 | 0.74 |
| 10:AK:66:LYS:HA | 10:AK:69:LYS:HB3 | 1.68 | 0.74 |
| 12:AM:8:ALA:HB1 | 12:AM:11:ILE:HD11 | 1.70 | 0.74 |
| 14:AO:52:LYS:HE2 | 14:AO:53:ARG:NH2 | 2.02 | 0.74 |
| 17:AR:34:SER:O | 17:AR:37:GLU:HB3 | 1.86 | 0.74 |
| 18:AS:46:PHE:O | 18:AS:50:VAL:HG23 | 1.87 | 0.74 |
| 21:AV:40:ASP:O | 21:AV:44:ARG:CG | 2.34 | 0.74 |
| 23:AX:52:HIS:O | 23:AX:54:VAL:N | 2.20 | 0.74 |
| 25:A1:59:ARG:O | 25:A1:62:ILE:HB | 1.86 | 0.74 |
| 25:A1:96:ALA:O | 25:A1:99:ALA:N | 2.20 | 0.74 |
| 26:A2:20:ILE:CD1 | 26:A2:67:LYS:HZ3 | 2.00 | 0.74 |
| 26:A2:31:ASP:O | 26:A2:33:VAL:HG23 | 1.86 | 0.74 |
| 34:BA:409:G:H2' | 34:BA:410:G:H8 | 1.52 | 0.74 |
| 34:BA:421:U:H5" | 34:BA:422:C:H5 | 1.50 | 0.74 |
| 34:BA:579:G:O2' | 34:BA:580:U:H5' | 1.87 | 0.74 |
| 34:BA:583:A:H2' | 34:BA:584:G:O4' | 1.87 | 0.74 |
| 34:BA:626:U:H5" | 51:BS:38:TYR:CD2 | 2.22 | 0.74 |
| 34:BA:694:A:H2' | 34:BA:695:A:O5' | 1.87 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:764:C:C3' | 34:BA:765:G:H8 | 1.99 | 0.74 |
| 34:BA:781:A:O2' | 34:BA:782:A:H5' | 1.87 | 0.74 |
| 34:BA:1053:G:H5' | 34:BA:1054:C:C5' | 2.16 | 0.74 |
| 34:BA:1164:G:N1 | 34:BA:1172:C:N4 | 2.16 | 0.74 |
| 34:BA:1231:G:H2' | 34:BA:1232:U:H6 | 1.49 | 0.74 |
| 34:BA:1263:C:O2' | 34:BA:1264:C:H5' | 1.87 | 0.74 |
| 35:BB:50:U:O5' | 35:BB:50:U:H6 | 1.69 | 0.74 |
| 36:B1:17:G:O6 | 36:B1:37:C:N3 | 2.19 | 0.74 |
| 42:BJ:140:ASP:HA | 42:BJ:143:ARG:HD2 | 1.68 | 0.74 |
| 44:BL:47:LEU:HD13 | 44:BL:47:LEU:O | 1.88 | 0.74 |
| 45:BM:60:ARG:O | 45:BM:61:GLU:HB2 | 1.86 | 0.74 |
| 51:BS:26:ARG:NH2 | 51:BS:31:LYS:HE3 | 2.02 | 0.74 |
| 55:BW:51:GLU:HA | 55:BW:54:LYS:CG | 2.16 | 0.74 |
| 2:AA:137(A):G:O6 | 2:AA:139:G:C6 | 2.40 | 0.74 |
| 2:AA:287:C:O2 | 2:AA:353:G:N1 | 2.20 | 0.74 |
| 2:AA:401:A:N6 | 2:AA:423:A:C2 | 2.55 | 0.74 |
| 2:AA:530:G:O2' | 2:AA:531:C:C5' | 2.36 | 0.74 |
| 2:AA:579:G:H5" | 2:AA:2018:G:H5" | 1.69 | 0.74 |
| 2:AA:698:C:C5' | 2:AA:698:C:H6 | 2.00 | 0.74 |
| 2:AA:774:A:H5' | 2:AA:778:G:H4' | 1.67 | 0.74 |
| 2:AA:785:G:H2' | 2:AA:785:G:N3 | 1.99 | 0.74 |
| 2:AA:806:C:H2' | 2:AA:807:U:C6 | 2.22 | 0.74 |
| 2:AA:911:A:H8 | 2:AA:2264:C:H1' | 1.46 | 0.74 |
| 2:AA:1047:G:N2 | 2:AA:1111:A:C6 | 2.55 | 0.74 |
| 2:AA:1080:C:H4' | 11:AL:126:LYS:HB3 | 1.69 | 0.74 |
| 2:AA:1514:U:H2' | 2:AA:1514:U:O2 | 1.86 | 0.74 |
| 2:AA:1566:A:C2 | 4:AD:212:HIS:CG | 2.74 | 0.74 |
| 2:AA:1943:U:H1' | 2:AA:1945:G:H5" | 1.70 | 0.74 |
| 2:AA:1953:A:N6 | 2:AA:2550:G:H4' | 2.01 | 0.74 |
| 2:AA:2038:G:O5' | 2:AA:2038:G:H8 | 1.68 | 0.74 |
| 2:AA:2052:G:H21 | 5:AE:245:ARG:HB3 | 1.52 | 0.74 |
| 2:AA:2110:G:H8 | 2:AA:2120:G:OP2 | 1.68 | 0.74 |
| 2:AA:2130:U:OP1 | 2:AA:2130:U:H4' | 1.86 | 0.74 |
| 2:AA:2416:C:C2' | 2:AA:2417:C:H5" | 2.17 | 0.74 |
| 2:AA:2442:C:O2' | 2:AA:2443:C:H5' | 1.86 | 0.74 |
| 2:AA:2729:G:N3 | 5:AE:300:VAL:HG21 | 2.01 | 0.74 |
| 2:AA:2805:G:C8 | 2:AA:2807:G:O4' | 2.40 | 0.74 |
| 2:AA:2880:C:O2' | 24:A0:90:ARG:HD2 | 1.87 | 0.74 |
| 3:AC:70:LYS:CG | 3:AC:157:LYS:HZ1 | 1.99 | 0.74 |
| 6:AF:102:LEU:CB | 6:AF:107:ARG:HE | 1.99 | 0.74 |
| 6:AF:167:ASP:HB3 | 6:AF:232:LEU:N | 2.02 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:AG:20:LYS:HE2 | 7:AG:76:ARG:HE | 1.52 | 0.74 |
| 8:AH:40:MET:N | 8:AH:40:MET:SD | 2.60 | 0.74 |
| 9:AJ:115:LYS:NZ | 9:AJ:127:LEU:HD13 | 2.02 | 0.74 |
| 11:AL:11:LEU:CD1 | 11:AL:58:ILE:HD12 | 2.17 | 0.74 |
| 13:AN:13:ASN:O | 13:AN:15:GLY:N | 2.20 | 0.74 |
| 17:AR:52:THR:O | 17:AR:56:ARG:HA | 1.87 | 0.74 |
| 21:AV:62:PHE:CE2 | 21:AV:87:THR:HB | 2.23 | 0.74 |
| 28:A4:7:PRO:HD2 | 28:A4:56:VAL:HG22 | 1.68 | 0.74 |
| 34:BA:371:G:C2' | 34:BA:372:C:H5' | 2.16 | 0.74 |
| 34:BA:537:G:O2' | 34:BA:538:G:H5' | 1.87 | 0.74 |
| 34:BA:559:A:H4' | 34:BA:560:U:O5' | 1.87 | 0.74 |
| 34:BA:583:A:H2' | 34:BA:584:G:H8 | 1.51 | 0.74 |
| 34:BA:642:A:O2' | 43:BK:31:PHE:HE1 | 1.69 | 0.74 |
| 34:BA:872:A:O2' | 34:BA:873:A:OP1 | 2.05 | 0.74 |
| 34:BA:1236:A:H5" | 34:BA:1304:G:H5" | 1.69 | 0.74 |
| 34:BA:1246:C:O2 | 34:BA:1291:G:N1 | 2.19 | 0.74 |
| 34:BA:1278:U:H5" | 34:BA:1279:A:H5' | 1.69 | 0.74 |
| 35:BB:72:C:O2' | 35:BB:73:A:H5' | 1.87 | 0.74 |
| 40:BH:43:LEU:HD23 | 40:BH:44:GLY:H | 1.53 | 0.74 |
| 40:BH:84:PHE:CB | 40:BH:134:ALA:HB2 | 2.17 | 0.74 |
| 2:AA:245:G:OP1 | 14:AO:53:ARG:CD | 2.34 | 0.74 |
| 2:AA:308:G:H21 | 2:AA:329:G:N2 | 1.85 | 0.74 |
| 2:AA:447:A:C6 | 2:AA:454:A:N7 | 2.55 | 0.74 |
| 2:AA:530:G:O6 | 2:AA:2021:C:H3' | 1.87 | 0.74 |
| 2:AA:530:G:N2 | 2:AA:2020:A:O2' | 2.21 | 0.74 |
| 2:AA:532:A:O3' | 25:A1:25:TRP:HD1 | 1.70 | 0.74 |
| 2:AA:939:G:O2' | 2:AA:940:G:H5' | 1.87 | 0.74 |
| 2:AA:989:G:N2 | 2:AA:990:A:H62 | 1.86 | 0.74 |
| 2:AA:1084:A:C2 | 9:AI:29:PHE:CE1 | 2.76 | 0.74 |
| 2:AA:1084:A:N1 | 2:AA:1085:A:N1 | 2.35 | 0.74 |
| 2:AA:1359:A:H2' | 2:AA:1360:A:H5' | 1.69 | 0.74 |
| 2:AA:1373:A:H2' | 2:AA:1374:G:H8 | 1.52 | 0.74 |
| 2:AA:1529:A:N6 | 2:AA:1542:G:H22 | 1.85 | 0.74 |
| 2:AA:1869:G:N3 | 2:AA:1878:G:O6 | 2.21 | 0.74 |
| 2:AA:2131:G:C3' | 3:AC:6:ARG:HB2 | 2.15 | 0.74 |
| 2:AA:2239:G:H2' | 2:AA:2240:C:O4' | 1.86 | 0.74 |
| 2:AA:2628:C:H1' | 2:AA:2781:A:H2' | 1.69 | 0.74 |
| 2:AA:2804:C:C5 | 2:AA:2805:G:N1 | 2.55 | 0.74 |
| 4:AD:86:ARG:N | 4:AD:86:ARG:HD2 | 2.02 | 0.74 |
| 5:AE:250:VAL:O | 5:AE:251:PRO:O | 2.05 | 0.74 |
| 6:AF:241:ALA:O | 6:AF:244:ALA:HB3 | 1.88 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AJ:114:ILE:O | 9:AJ:118:LEU:HG | 1.87 | 0.74 |
| 10:AK:93:ILE:HD11 | 10:AK:121:ILE:CB | 2.08 | 0.74 |
| 12:AM:35:THR:HG22 | 12:AM:100:SER:OG | 1.87 | 0.74 |
| 12:AM:79:PHE:HD1 | 12:AM:79:PHE:N | 1.85 | 0.74 |
| 12:AM:82:THR:OG1 | 12:AM:83:ILE:N | 2.19 | 0.74 |
| 13:AN:2:ILE:HG13 | 13:AN:67:ARG:NH2 | 2.02 | 0.74 |
| 15:AP:12:PRO:HG3 | 15:AP:92:VAL:H | 1.53 | 0.74 |
| 16:AQ:65:ASP:O | 16:AQ:66:LEU:HD12 | 1.87 | 0.74 |
| 18:AS:30:GLU:CA | 18:AS:33:ARG:HD3 | 2.14 | 0.74 |
| 18:AS:84:ARG:O | 18:AS:95:ILE:HG23 | 1.88 | 0.74 |
| 21:AV:45:GLN:HE21 | 21:AV:45:GLN:N | 1.83 | 0.74 |
| 25:A1:43:ALA:HB1 | 26:A2:75:LYS:CB | 2.18 | 0.74 |
| 34:BA:19:C:H2' | 34:BA:20:U:C6 | 2.20 | 0.74 |
| 34:BA:320:C:N4 | 34:BA:333:G:N1 | 2.12 | 0.74 |
| 34:BA:335:C:C4' | 34:BA:1434:A:H4' | 2.16 | 0.74 |
| 34:BA:459:G:H21 | 34:BA:463:A:N6 | 1.84 | 0.74 |
| 34:BA:463:A:H1' | 51:BS:82:GLN:NE2 | 2.00 | 0.74 |
| 34:BA:766:A:N7 | 34:BA:814:A:N1 | 2.35 | 0.74 |
| 34:BA:889:A:H4' | 34:BA:890:G:C4' | 2.16 | 0.74 |
| 34:BA:1402:C:H2' | 34:BA:1403:C:H6 | 1.52 | 0.74 |
| 34:BA:1540:U:C4 | 34:BA:1541:U:O4 | 2.40 | 0.74 |
| 37:BE:140:HIS:O | 37:BE:143:GLU:HB3 | 1.86 | 0.74 |
| 39:BG:132:ARG:HG2 | 39:BG:132:ARG:HH11 | 1.50 | 0.74 |
| 39:BG:151:LYS:H | 39:BG:151:LYS:HD2 | 1.52 | 0.74 |
| 39:BG:159:ARG:O | 39:BG:163:GLU:HB3 | 1.87 | 0.74 |
| 40:BH:12:LEU:HD12 | 40:BH:31:LEU:HB3 | 1.69 | 0.74 |
| 40:BH:91:LEU:HD23 | 40:BH:91:LEU:C | 2.08 | 0.74 |
| 40:BH:145:LYS:O | 40:BH:148:VAL:HB | 1.87 | 0.74 |
| 44:BL:32:ASP:O | 44:BL:35:GLU:HB3 | 1.88 | 0.74 |
| 48:BP:13:LYS:HE3 | 48:BP:21:TYR:OH | 1.86 | 0.74 |
| 49:BQ:43:CYS:O | 49:BQ:47:LEU:HG | 1.87 | 0.74 |
| 53:BU:72:ARG:HG2 | 53:BU:72:ARG:NH1 | 1.91 | 0.74 |
| 55:BW:57:ARG:NH2 | 55:BW:100:ILE:HG22 | 2.02 | 0.74 |
| 2:AA:29:U:OP1 | 2:AA:583:G:H4' | 1.87 | 0.74 |
| 2:AA:33:U:O2' | 2:AA:34:C:C6 | 2.38 | 0.74 |
| 2:AA:273:G:H1 | 2:AA:364:C:N4 | 1.86 | 0.74 |
| 2:AA:398:G:C2 | 2:AA:399:G:H1' | 2.23 | 0.74 |
| 2:AA:494:G:H4' | 18:AS:6:ILE:O | 1.86 | 0.74 |
| 2:AA:673:C:C2 | 2:AA:808:G:N2 | 2.55 | 0.74 |
| 2:AA:1449:A:N1 | 2:AA:449(A):G:C4 | 2.56 | 0.74 |
| 2:AA:1530:G:O6 | 2:AA:1540:G:C6 | 2.40 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1565:C:HO2' | 2:AA:1566:A:H8 | 1.34 | 0.74 |
| 2:AA:1653:G:H5" | 2:AA:1653:G:H8 | 1.53 | 0.74 |
| 2:AA:1657:C:H2' | 2:AA:1658:C:O4' | 1.87 | 0.74 |
| 2:AA:1699:G:C8 | 2:AA:1763:G:N2 | 2.56 | 0.74 |
| 2:AA:1790:C:P | 4:AD:224:VAL:HG13 | 2.28 | 0.74 |
| 2:AA:1935:G:H22 | 2:AA:1962:C:C2' | 1.89 | 0.74 |
| 2:AA:1973:G:H2' | 2:AA:1974:C:C6 | 2.23 | 0.74 |
| 2:AA:2296:U:H6 | 2:AA:2296:U:C3' | 2.00 | 0.74 |
| 2:AA:2329:G:H2' | 2:AA:2330:G:C8 | 2.21 | 0.74 |
| 2:AA:2426:A:H8 | 2:AA:2426:A:OP1 | 1.69 | 0.74 |
| 2:AA:2457:U:H2' | 2:AA:2458:G:C5' | 2.17 | 0.74 |
| 2:AA:2468:G:N1 | 2:AA:2481:G:C4 | 2.55 | 0.74 |
| 2:AA:2783:G:H2' | 2:AA:2784:C:O4' | 1.87 | 0.74 |
| 6:AF:37:ALA:HB2 | 6:AF:102:LEU:CD1 | 2.16 | 0.74 |
| 7:AG:24:HIS:HB2 | 7:AG:72:LYS:HD3 | 1.69 | 0.74 |
| 8:AH:86:LEU:HB3 | 8:AH:130:ILE:O | 1.86 | 0.74 |
| 9:AI:64:LYS:CE | 9:AI:126:GLU:HB3 | 2.17 | 0.74 |
| 9:AJ:64:LYS:CE | 9:AJ:126:GLU:HB3 | 2.18 | 0.74 |
| 10:AK:7:LYS:HG3 | 10:AK:12:LYS:NZ | 2.02 | 0.74 |
| 11:AL:19:THR:H | 11:AL:20:PRO:CD | 1.99 | 0.74 |
| 12:AM:47:THR:O | 12:AM:53:ILE:HD13 | 1.88 | 0.74 |
| 12:AM:84:ARG:HB3 | 12:AM:98:PHE:CE2 | 2.22 | 0.74 |
| 14:AO:116:HIS:O | 14:AO:118:LEU:CD2 | 2.35 | 0.74 |
| 15:AP:12:PRO:HG2 | 15:AP:92:VAL:H | 1.51 | 0.74 |
| 19:AT:5:ILE:HG13 | 19:AT:40:ALA:CB | 2.16 | 0.74 |
| 21:AV:19:ILE:HB | 21:AV:39:PHE:HE1 | 1.53 | 0.74 |
| 25:A1:85:ARG:HD2 | 25:A1:116:ALA:O | 1.86 | 0.74 |
| 26:A2:19:VAL:HB | 26:A2:21:ARG:NH1 | 2.02 | 0.74 |
| 26:A2:49:GLU:HB3 | 26:A2:53:LYS:HD2 | 1.68 | 0.74 |
| 28:A4:41:PRO:HD2 | 28:A4:57:ASP:OD2 | 1.87 | 0.74 |
| 34:BA:1184:G:H2' | 34:BA:1185:G:C8 | 2.23 | 0.74 |
| 34:BA:1267:C:N4 | 34:BA:1268:A:C6 | 2.55 | 0.74 |
| 34:BA:1345:U:O2 | 34:BA:1377:A:C6 | 2.41 | 0.74 |
| 37:BE:118:LEU:CD1 | 37:BE:142:LEU:HA | 2.16 | 0.74 |
| 37:BE:222:ILE:HG13 | 37:BE:226:ARG:NE | 2.02 | 0.74 |
| 38:BF:118:GLN:O | 38:BF:122:GLU:HG3 | 1.88 | 0.74 |
| 43:BK:97:VAL:HG22 | 43:BK:98:LYS:N | 2.02 | 0.74 |
| 43:BK:107:LEU:HD23 | 43:BK:107:LEU:H | 1.52 | 0.74 |
| 48:BP:98:VAL:O | 48:BP:98:VAL:HG12 | 1.87 | 0.74 |
| 53:BU:66:LEU:CD1 | 53:BU:67:ALA:N | 2.49 | 0.74 |
| 54:BV:33:THR:HG22 | 54:BV:34:TRP:H | 1.53 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:12:U:O2 | 2:AA:2627:G:OP1 | 2.06 | 0.74 |
| 2:AA:214:G:N2 | 2:AA:215:G:N3 | 2.34 | 0.74 |
| 2:AA:217:G:H2' | 2:AA:218:A:C5' | 2.14 | 0.74 |
| 2:AA:270(J):G:N1 | 2:AA:270(P):C:O2 | 2.20 | 0.74 |
| 2:AA:311:A:H1' | 2:AA:332:A:C5 | 2.22 | 0.74 |
| 2:AA:574:C:O2' | 2:AA:575:A:OP2 | 2.03 | 0.74 |
| 2:AA:820:A:N1 | 2:AA:821:A:N3 | 2.35 | 0.74 |
| 2:AA:957:A:N7 | 2:AA:959:A:N7 | 2.35 | 0.74 |
| 2:AA:1076:C:H5' | 11:AL:94:ARG:NH2 | 2.02 | 0.74 |
| 2:AA:1183:G:H5" | 23:AX:29:ARG:NE | 2.03 | 0.74 |
| 2:AA:1249:U:H5" | 25:A1:4:ALA:HB2 | 1.70 | 0.74 |
| 2:AA:1339:G:H22 | 2:AA:1603:A:H8 | 1.33 | 0.74 |
| 2:AA:1528:A:N3 | 2:AA:1529:A:H1' | 2.02 | 0.74 |
| 2:AA:1535:U:C5' | 2:AA:1536:A:O4' | 2.36 | 0.74 |
| 2:AA:1746:G:C2' | 2:AA:1747:G:C8 | 2.70 | 0.74 |
| 2:AA:2136:C:N4 | 2:AA:2155:G:C6 | 2.55 | 0.74 |
| 2:AA:2149:G:O2' | 2:AA:2150:U:H5' | 1.85 | 0.74 |
| 2:AA:2303:G:H21 | 7:AG:131:THR:HG21 | 1.53 | 0.74 |
| 2:AA:2306:C:N4 | 2:AA:2311:A:H2 | 1.85 | 0.74 |
| 2:AA:2331:G:N2 | 2:AA:2385:C:N4 | 2.35 | 0.74 |
| 2:AA:2497:A:H2' | 2:AA:2498:C:OP2 | 1.86 | 0.74 |
| 2:AA:2504:U:H2' | 2:AA:2505:G:H5' | 1.69 | 0.74 |
| 2:AA:2681:C:H5 | 2:AA:2727:G:C2 | 2.05 | 0.74 |
| 2:AA:2746:U:H4' | 8:AH:138:GLN:HA | 1.69 | 0.74 |
| 2:AA:2781:A:H5" | 2:AA:2782:G:C5' | 2.15 | 0.74 |
| 4:AD:106:PRO:HA | 4:AD:193:GLU:O | 1.87 | 0.74 |
| 6:AF:38:ALA:HB2 | 6:AF:221:GLU:HG2 | 1.69 | 0.74 |
| 8:AH:106:VAL:O | 8:AH:106:VAL:CG1 | 2.36 | 0.74 |
| 11:AL:37:GLU:O | 11:AL:41:ARG:HD2 | 1.88 | 0.74 |
| 12:AM:16:ASP:HA | 12:AM:45:VAL:CG2 | 2.17 | 0.74 |
| 16:AQ:20:TYR:CE2 | 16:AQ:21:HIS:CD2 | 2.76 | 0.74 |
| 21:AV:66:VAL:HG21 | 21:AV:69:VAL:CG2 | 2.17 | 0.74 |
| 23:AX:51:ALA:O | 23:AX:53:LEU:N | 2.20 | 0.74 |
| 24:A0:87:TYR:O | 24:A0:89:ASP:OD2 | 2.05 | 0.74 |
| 24:A0:100:LEU:HD21 | 24:A0:113:LEU:CB | 2.16 | 0.74 |
| 25:A1:50:ARG:HH12 | 26:A2:74:TYR:CB | 2.00 | 0.74 |
| 27:A3:33:ALA:HB2 | 27:A3:65:GLY:HA3 | 1.70 | 0.74 |
| 29:A5:33:CYS:HB3 | 29:A5:34:PRO:HD2 | 1.68 | 0.74 |
| 30:A6:19:GLY:O | 30:A6:44:ALA:CB | 2.35 | 0.74 |
| 31:A7:21:ARG:CZ | 31:A7:42:LEU:HB3 | 2.18 | 0.74 |
| 34:BA:585:G:C4' | 47:BO:8:ASN:HD21 | 1.99 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:909:A:C2' | 34:BA:910:C:H5' | 2.18 | 0.74 |
| 34:BA:986:A:H2' | 34:BA:987:G:C8 | 2.23 | 0.74 |
| 34:BA:1080:A:C8 | 34:BA:1081:G:O4' | 2.40 | 0.74 |
| 34:BA:1182:G:O2' | 34:BA:1183:A:OP2 | 2.04 | 0.74 |
| 34:BA:1239:A:H2' | 34:BA:1298:C:H42 | 1.51 | 0.74 |
| 34:BA:1241:G:O6 | 34:BA:1296:C:N3 | 2.19 | 0.74 |
| 35:BC:9:A:O4' | 35:BC:46:G:H1' | 1.88 | 0.74 |
| 35:BC:76:A:OP1 | 35:BC:76:A:H3' | 1.88 | 0.74 |
| 37:BE:59:GLU:HA | 37:BE:221:LEU:HD11 | 1.69 | 0.74 |
| 39:BG:18:LYS:C | 39:BG:19:LEU:HG | 2.06 | 0.74 |
| 39:BG:128:VAL:CG1 | 39:BG:129:ASN:N | 2.51 | 0.74 |
| 40:BH:88:LYS:HB3 | 40:BH:123:LEU:O | 1.86 | 0.74 |
| 41:BI:23:LYS:CA | 41:BI:26:ILE:HD12 | 2.10 | 0.74 |
| 42:BJ:108:ALA:O | 42:BJ:119:ARG:HD2 | 1.87 | 0.74 |
| 52:BT:53:LEU:HD11 | 52:BT:85:VAL:CG1 | 2.16 | 0.74 |
| 53:BU:21:LYS:HZ3 | 53:BU:23:LYS:HB2 | 1.53 | 0.74 |
| 55:BW:23:ARG:CA | 55:BW:26:ASN:HD21 | 2.00 | 0.74 |
| 55:BW:62:LEU:HA | 55:BW:65:LYS:CG | 2.17 | 0.74 |
| 55:BW:62:LEU:HA | 55:BW:65:LYS:HG2 | 1.69 | 0.74 |
| 2:AA:138:G:C5' | 19:AT:43:GLU:HG3 | 2.16 | 0.74 |
| 2:AA:237:C:N4 | 2:AA:260:G:N1 | 2.30 | 0.74 |
| 2:AA:567:A:C2 | 2:AA:568:U:C6 | 2.75 | 0.74 |
| 2:AA:599:G:O2' | 6:AF:30:LEU:HD21 | 1.86 | 0.74 |
| 2:AA:974(A):C:H5' | 2:AA:975:G:OP1 | 1.87 | 0.74 |
| 2:AA:1061:U:H3' | 2:AA:1061:U:P | 2.27 | 0.74 |
| 2:AA:1087:G:N2 | 2:AA:1103:A:H2' | 2.02 | 0.74 |
| 2:AA:1195:G:C2' | 2:AA:1226:G:H22 | 2.00 | 0.74 |
| 2:AA:1508:A:H2' | 2:AA:1509:C:H5 | 1.46 | 0.74 |
| 2:AA:1579:A:OP2 | 2:AA:1579:A:H3' | 1.87 | 0.74 |
| 2:AA:1670:C:H2' | 2:AA:1671:U:C5' | 2.18 | 0.74 |
| 2:AA:2051:A:H5" | 2:AA:2578:G:H5" | 1.70 | 0.74 |
| 2:AA:2334:G:OP2 | 16:AQ:13:ARG:HG3 | 1.87 | 0.74 |
| 2:AA:2359:C:C4' | 32:A8:52:LYS:NZ | 2.49 | 0.74 |
| 2:AA:2407:G:H2' | 2:AA:2408:U:C5 | 2.22 | 0.74 |
| 3:AC:144:THR:CA | 3:AC:152:ILE:HG21 | 2.17 | 0.74 |
| 4:AD:85:ASN:CB | 4:AD:86:ARG:HE | 1.99 | 0.74 |
| 4:AD:120:ASP:CG | 4:AD:121:ALA:H | 1.88 | 0.74 |
| 6:AF:30:LEU:O | 6:AF:33:LYS:HB2 | 1.87 | 0.74 |
| 6:AF:195:VAL:HB | 6:AF:235:PHE:CA | 2.12 | 0.74 |
| 13:AN:21:VAL:HG12 | 13:AN:22:ILE:N | 2.03 | 0.74 |
| 14:AO:94:ARG:HE | 14:AO:118:LEU:HB2 | 1.52 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:126:SER:O | 14:AO:129:ALA:HB3 | 1.88 | 0.74 |
| 15:AP:36:ASN:ND2 | 15:AP:41:THR:H | 1.86 | 0.74 |
| 17:AR:49:LEU:HD23 | 17:AR:50:GLU:CA | 2.17 | 0.74 |
| 21:AV:12:GLN:O | 21:AV:15:ASP:HB3 | 1.88 | 0.74 |
| 24:A0:73:VAL:HG12 | 24:A0:77:ARG:NE | 2.02 | 0.74 |
| 26:A2:14:VAL:HG12 | 26:A2:15:SER:H | 1.51 | 0.74 |
| 30:A6:19:GLY:CA | 30:A6:42:PRO:CB | 2.65 | 0.74 |
| 32:A8:10:ALA:CA | 32:A8:14:ILE:HG21 | 2.17 | 0.74 |
| 32:A8:30:ARG:HG2 | 32:A8:31:HIS:N | 2.02 | 0.74 |
| 32:A8:50:LEU:CD2 | 32:A8:51:ALA:H | 1.96 | 0.74 |
| 34:BA:113:G:C1' | 34:BA:354:G:H5" | 2.17 | 0.74 |
| 34:BA:129(A):G:N2 | 34:BA:190(G):G:C4 | 2.55 | 0.74 |
| 34:BA:410:G:C1' | 34:BA:432:A:H61 | 2.00 | 0.74 |
| 34:BA:538:G:H3' | 47:BO:115:LYS:HE2 | 1.69 | 0.74 |
| 34:BA:697:U:C2' | 34:BA:698:G:O5' | 2.36 | 0.74 |
| 34:BA:739:C:H2' | 34:BA:740:U:H5' | 1.69 | 0.74 |
| 34:BA:751:U:H2' | 34:BA:752:G:O4' | 1.86 | 0.74 |
| 34:BA:928:G:O3' | 34:BA:1533:C:N4 | 2.21 | 0.74 |
| 34:BA:1095:U:OP2 | 34:BA:1108:G:N1 | 2.16 | 0.74 |
| 34:BA:1344:C:O2' | 34:BA:1349:A:H5' | 1.87 | 0.74 |
| 34:BA:1376:U:H3 | 34:BA:1377:A:H62 | 1.33 | 0.74 |
| 37:BE:67:THR:CB | 37:BE:155:LEU:HD21 | 2.17 | 0.74 |
| 37:BE:211:ILE:HG22 | 37:BE:212:GLN:N | 2.03 | 0.74 |
| 38:BF:33:LEU:HD21 | 49:BQ:54:PRO:HD3 | 1.68 | 0.74 |
| 40:BH:94:ALA:HB3 | 40:BH:117:ASP:O | 1.86 | 0.74 |
| 41:BI:60:PHE:CE2 | 53:BU:78:LEU:HD11 | 2.23 | 0.74 |
| 47:BO:27:LEU:HD22 | 47:BO:62:SER:OG | 1.88 | 0.74 |
| 47:BO:117:ARG:HB3 | 47:BO:117:ARG:CZ | 2.18 | 0.74 |
| 49:BQ:27:CYS:SG | 49:BQ:42:ILE:HB | 2.27 | 0.74 |
| 54:BV:22:LEU:HD23 | 54:BV:25:LYS:HD3 | 1.69 | 0.74 |
| 55:BW:88:VAL:HG12 | 55:BW:92:LEU:CD1 | 2.18 | 0.74 |
| 1:AB:25:A:H2' | 1:AB:26:A:O4' | 1.88 | 0.74 |
| 2:AA:95:G:O2' | 22:AW:42:ASN:HB3 | 1.88 | 0.74 |
| 2:AA:272:G:H1 | 2:AA:365:C:H42 | 1.34 | 0.74 |
| 2:AA:482:A:C5 | 2:AA:506:G:C2 | 2.75 | 0.74 |
| 2:AA:535:C:H5' | 25:A1:53:LYS:HE2 | 1.67 | 0.74 |
| 2:AA:1106:G:O4' | 9:AI:27:ASP:CG | 2.26 | 0.74 |
| 2:AA:1174:A:N6 | 2:AA:1177:A:C5 | 2.55 | 0.74 |
| 2:AA:1294:U:O2' | 24:A0:26:LYS:HD2 | 1.88 | 0.74 |
| 2:AA:1347:G:O2' | 2:AA:1348:G:H5' | 1.86 | 0.74 |
| 2:AA:1534:G:N1 | 2:AA:1538:G:N3 | 2.34 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1707:G:H1 | 2:AA:1751:C:N4 | 1.86 | 0.74 |
| 2:AA:1861:G:H4' | 3:AC:205:LYS:HZ1 | 1.51 | 0.74 |
| 2:AA:2028:U:H2' | 2:AA:2029:G:N7 | 2.02 | 0.74 |
| 2:AA:2043:C:O2 | 2:AA:2043:C:H2' | 1.88 | 0.74 |
| 2:AA:2074:U:H2' | 2:AA:2074:U:O2 | 1.87 | 0.74 |
| 2:AA:2423:U:C6 | 2:AA:2425:A:C5 | 2.75 | 0.74 |
| 2:AA:2438:U:H4' | 2:AA:2440:C:OP1 | 1.88 | 0.74 |
| 4:AD:93:ILE:HB | 4:AD:103:ILE:HG21 | 1.69 | 0.74 |
| 4:AD:114:GLU:OE2 | 4:AD:115:ILE:HG13 | 1.87 | 0.74 |
| 4:AD:183:ILE:CG2 | 4:AD:184:LEU:N | 2.51 | 0.74 |
| 6:AF:41:ASN:HD21 | 6:AF:101:ASP:HA | 1.51 | 0.74 |
| 9:AJ:77:VAL:HG22 | 9:AJ:102:ILE:CD1 | 2.18 | 0.74 |
| 12:AM:87:LEU:CB | 12:AM:98:PHE:CZ | 2.70 | 0.74 |
| 12:AM:135:ILE:O | 12:AM:139:LEU:HD22 | 1.88 | 0.74 |
| 13:AN:91:LYS:HB3 | 13:AN:111:PHE:CE2 | 2.23 | 0.74 |
| 17:AR:13:ILE:HD11 | 17:AR:33:SER:OG | 1.88 | 0.74 |
| 18:AS:20:VAL:HG11 | 18:AS:47:VAL:CG2 | 2.12 | 0.74 |
| 21:AV:68:ALA:O | 21:AV:82:ASP:HB3 | 1.87 | 0.74 |
| 25:A1:8:ILE:O | 25:A1:12:ARG:HG3 | 1.87 | 0.74 |
| 25:A1:55:ARG:HA | 25:A1:58:ARG:HE | 1.49 | 0.74 |
| 26:A2:57:GLN:NE2 | 26:A2:100:GLY:O | 2.21 | 0.74 |
| 28:A4:64:GLY:O | 28:A4:67:TYR:O | 2.06 | 0.74 |
| 32:A8:30:ARG:HG2 | 32:A8:31:HIS:H | 1.53 | 0.74 |
| 34:BA:225:C:H2' | 34:BA:226:G:O5' | 1.87 | 0.74 |
| 34:BA:582:U:C4 | 34:BA:583:A:N7 | 2.56 | 0.74 |
| 34:BA:826:C:H5' | 43:BK:12:ARG:HE | 1.53 | 0.74 |
| 34:BA:965:A:OP1 | 34:BA:1198:G:H5" | 1.87 | 0.74 |
| 34:BA:1128:C:N4 | 34:BA:1143:G:N2 | 2.35 | 0.74 |
| 34:BA:1360:A:N7 | 49:BQ:18:VAL:HG12 | 2.02 | 0.74 |
| 35:BB:6:U:C4 | 35:BB:7:U:C5 | 2.76 | 0.74 |
| 35:BB:22:G:C2' | 35:BB:23:A:C8 | 2.67 | 0.74 |
| 35:BB:26:G:N2 | 35:BB:27:C:C1' | 2.51 | 0.74 |
| 35:BC:71:G:N1 | 35:BC:72:C:C2 | 2.56 | 0.74 |
| 37:BE:222:ILE:CG1 | 37:BE:223:ILE:N | 2.49 | 0.74 |
| 41:BI:40:VAL:HG23 | 41:BI:63:TYR:HE1 | 1.52 | 0.74 |
| 42:BJ:12:LEU:CD2 | 42:BJ:24:THR:HB | 2.18 | 0.74 |
| 43:BK:6:ILE:CG2 | 43:BK:7:ALA:H | 2.01 | 0.74 |
| 43:BK:95:VAL:HG22 | 43:BK:133:LEU:CD2 | 2.18 | 0.74 |
| 44:BL:48:GLU:O | 44:BL:51:ARG:HB2 | 1.87 | 0.74 |
| 45:BM:16:LEU:HD12 | 45:BM:70:ARG:HG2 | 1.69 | 0.74 |
| 45:BM:84:GLN:CA | 45:BM:88:LEU:HD12 | 2.08 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:BT:11:VAL:O | 52:BT:12:SER:HB2 | 1.86 | 0.74 |
| 1:AB:68:C:H3' | 1:AB:69:G:H8 | 1.53 | 0.74 |
| 2:AA:112:U:C5 | 2:AA:113:G:C4 | 2.75 | 0.74 |
| 2:AA:144:C:H5" | 19:AT:36:GLU:CD | 2.07 | 0.74 |
| 2:AA:220:G:H4' | 2:AA:234:C:C4' | 2.18 | 0.74 |
| 2:AA:264:C:C2' | 2:AA:265:A:H5" | 2.17 | 0.74 |
| 2:AA:451:C:N4 | 2:AA:453:C:H3' | 2.03 | 0.74 |
| 2:AA:464:U:N3 | 2:AA:465:G:C5 | 2.56 | 0.74 |
| 2:AA:471:A:H2' | 2:AA:472:A:H8 | 1.53 | 0.74 |
| 2:AA:479:A:O2' | 2:AA:480:A:H3' | 1.87 | 0.74 |
| 2:AA:746:A:OP1 | 2:AA:2612:C:N3 | 2.20 | 0.74 |
| 2:AA:870:A:H5' | 2:AA:871:U:OP2 | 1.88 | 0.74 |
| 2:AA:895:U:O2 | 2:AA:896:A:C6 | 2.41 | 0.74 |
| 2:AA:911:A:H2' | 15:AP:16:ARG:HE | 1.53 | 0.74 |
| 2:AA:932:G:H21 | 2:AA:933:A:N6 | 1.85 | 0.74 |
| 2:AA:1138:G:N2 | 2:AA:1139:G:C4 | 2.55 | 0.74 |
| 2:AA:1165:U:H2' | 2:AA:1166:C:C6 | 2.23 | 0.74 |
| 2:AA:1327:C:H3' | 2:AA:1328:G:H8 | 1.53 | 0.74 |
| 2:AA:1478:G:O2' | 2:AA:1479:G:O4' | 2.03 | 0.74 |
| 2:AA:1826:G:H2' | 2:AA:1827:C:C5' | 2.18 | 0.74 |
| 2:AA:2013:A:P | 18:AS:96:ILE:HB | 2.27 | 0.74 |
| 2:AA:2043:C:C4 | 2:AA:2777:G:N3 | 2.56 | 0.74 |
| 2:AA:2051:A:O2' | 2:AA:2052:G:O5' | 2.06 | 0.74 |
| 2:AA:2209:C:N3 | 2:AA:2215:G:N2 | 2.33 | 0.74 |
| 2:AA:2216:G:O2' | 2:AA:2217:G:H5' | 1.88 | 0.74 |
| 2:AA:2468:G:C2 | 2:AA:2481:G:C4 | 2.76 | 0.74 |
| 2:AA:2686:G:H2' | 2:AA:2687:U:O4' | 1.87 | 0.74 |
| 2:AA:2791:C:O2 | 2:AA:2805:G:N1 | 2.20 | 0.74 |
| 3:AC:26:ALA:O | 3:AC:29:VAL:HG12 | 1.87 | 0.74 |
| 4:AD:166:LYS:HB2 | 4:AD:171:VAL:HG12 | 1.67 | 0.74 |
| 4:AD:174:ARG:HH11 | 4:AD:174:ARG:CG | 2.00 | 0.74 |
| 4:AD:176:ALA:O | 4:AD:178:GLY:N | 2.21 | 0.74 |
| 4:AD:210:LYS:O | 4:AD:213:LYS:N | 2.20 | 0.74 |
| 4:AD:226:GLY:O | 4:AD:227:VAL:HG12 | 1.88 | 0.74 |
| 6:AF:52:ALA:HA | 6:AF:55:ARG:CZ | 2.18 | 0.74 |
| 7:AG:151:ILE:HD13 | 7:AG:156:ARG:CZ | 2.17 | 0.74 |
| 9:AJ:4:ASP:O | 9:AJ:8:GLU:HG3 | 1.88 | 0.74 |
| 12:AM:45:VAL:HG12 | 12:AM:46:ILE:H | 1.53 | 0.74 |
| 15:AP:85:ILE:CG2 | 15:AP:122:PHE:HB3 | 2.12 | 0.74 |
| 15:AP:142:LYS:HG3 | 15:AP:143:VAL:H | 1.51 | 0.74 |
| 17:AR:12:ASP:C | 17:AR:13:ILE:HG12 | 2.06 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:16:LEU:O | 20:AU:19:ARG:HB2 | 1.88 | 0.74 |
| 21:AV:57:GLU:C | 21:AV:59:GLY:N | 2.39 | 0.74 |
| 21:AV:100:THR:HG22 | 21:AV:137:ASP:CB | 2.18 | 0.74 |
| 21:AV:154:LEU:HD13 | 21:AV:160:LEU:CD1 | 2.17 | 0.74 |
| 21:AV:166:LEU:HD13 | 21:AV:167:THR:N | 2.03 | 0.74 |
| 25:A1:66:ASN:HA | 25:A1:76:TYR:HH | 1.53 | 0.74 |
| 25:A1:76:TYR:N | 25:A1:76:TYR:CD1 | 2.56 | 0.74 |
| 30:A6:28:ARG:HG3 | 30:A6:30:ASN:HB3 | 1.70 | 0.74 |
| 30:A6:37:LEU:HD21 | 30:A6:51:ARG:CG | 2.13 | 0.74 |
| 34:BA:55:A:H2' | 34:BA:56:U:H6 | 1.53 | 0.74 |
| 34:BA:191:G:O2' | 55:BW:102:GLY:CA | 2.36 | 0.74 |
| 34:BA:204:U:H2' | 34:BA:204:U:O2 | 1.86 | 0.74 |
| 34:BA:437:U:O2' | 34:BA:438:G:H5' | 1.87 | 0.74 |
| 34:BA:556:C:H2' | 34:BA:557:G:O4' | 1.88 | 0.74 |
| 34:BA:735:C:H1' | 53:BU:75:ILE:HD11 | 1.68 | 0.74 |
| 34:BA:777:A:H2' | 34:BA:778:G:C8 | 2.20 | 0.74 |
| 34:BA:1286:A:H5' | 56:BX:25:LYS:HG2 | 1.70 | 0.74 |
| 35:BB:12:U:N3 | 35:BB:24:G:C2 | 2.47 | 0.74 |
| 35:BB:32:C:N4 | 35:BB:33:U:H3 | 1.83 | 0.74 |
| 38:BF:114:PRO:O | 38:BF:117:ALA:HB3 | 1.87 | 0.74 |
| 39:BG:121:VAL:HG22 | 39:BG:126:ILE:HD11 | 1.68 | 0.74 |
| 41:BI:5:GLU:HB3 | 41:BI:62:TRP:HE1 | 1.53 | 0.74 |
| 42:BJ:54:THR:O | 42:BJ:54:THR:HG23 | 1.88 | 0.74 |
| 43:BK:22:GLU:C | 43:BK:63:LEU:HD11 | 2.07 | 0.74 |
| 43:BK:126:LYS:HD2 | 43:BK:127:LEU:H | 1.50 | 0.74 |
| 44:BL:3:GLN:H | 44:BL:3:GLN:NE2 | 1.86 | 0.74 |
| 49:BQ:43:CYS:CA | 49:BQ:46:GLU:OE1 | 2.35 | 0.74 |
| 1:AB:98:G:H5" | 1:AB:99:A:OP1 | 1.88 | 0.74 |
| 2:AA:145:G:H2' | 2:AA:146:G:H8 | 1.52 | 0.74 |
| 2:AA:246:C:O2' | 2:AA:385:C:H4' | 1.87 | 0.74 |
| 2:AA:259:G:H2' | 2:AA:260:G:C8 | 2.17 | 0.74 |
| 2:AA:273(E):U:O4 | 2:AA:363(A):A:N1 | 2.21 | 0.74 |
| 2:AA:465:G:H2' | 2:AA:466:A:C8 | 2.23 | 0.74 |
| 2:AA:979:G:H3' | 2:AA:980:A:C5' | 2.18 | 0.74 |
| 2:AA:991:C:C5' | 2:AA:1186:G:OP2 | 2.34 | 0.74 |
| 2:AA:1069:A:H4' | 2:AA:1070:A:O5' | 1.85 | 0.74 |
| 2:AA:1140:C:H4' | 2:AA:142(A):A:C5 | 2.22 | 0.74 |
| 2:AA:1141:U:C2' | 2:AA:1142:U:OP2 | 2.34 | 0.74 |
| 2:AA:1317:A:H2' | 2:AA:1318:C:C6 | 2.20 | 0.74 |
| 2:AA:1469:A:N1 | 2:AA:1522:G:N2 | 2.35 | 0.74 |
| 2:AA:1508:A:H2' | 2:AA:1509:C:C6 | 2.23 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1530:G:OP1 | 2:AA:1539:G:N1 | 2.17 | 0.74 |
| 2:AA:1566:A:C6 | 4:AD:212:HIS:CE1 | 2.76 | 0.74 |
| 2:AA:1663:C:C2' | 2:AA:1664:A:C8 | 2.70 | 0.74 |
| 2:AA:1670:C:C2' | 2:AA:1671:U:H5' | 2.17 | 0.74 |
| 2:AA:2043:C:N4 | 2:AA:2777:G:C4 | 2.56 | 0.74 |
| 2:AA:2045:C:O2 | 29:A5:22:HIS:CE1 | 2.41 | 0.74 |
| 2:AA:2095:C:O2 | 2:AA:2194:G:N1 | 2.20 | 0.74 |
| 2:AA:2641:G:O6 | 2:AA:2773:C:N3 | 2.20 | 0.74 |
| 2:AA:2652:C:N3 | 2:AA:2668:G:N2 | 2.30 | 0.74 |
| 2:AA:2804:C:C5 | 2:AA:2805:G:C6 | 2.76 | 0.74 |
| 2:AA:2842:G:N2 | 2:AA:2875:C:N3 | 2.29 | 0.74 |
| 8:AH:72:ALA:O | 8:AH:75:VAL:HB | 1.87 | 0.74 |
| 9:AJ:22:VAL:HG12 | 9:AJ:26:GLU:OE1 | 1.87 | 0.74 |
| 16:AQ:19:ASP:CB | 16:AQ:22:GLN:NE2 | 2.42 | 0.74 |
| 17:AR:13:ILE:HG13 | 17:AR:33:SER:HB2 | 1.69 | 0.74 |
| 26:A2:49:GLU:HB3 | 26:A2:53:LYS:HD3 | 1.69 | 0.74 |
| 26:A2:62:GLU:HB2 | 26:A2:96:LEU:CD2 | 2.17 | 0.74 |
| 26:A2:63:HIS:CA | 26:A2:95:ILE:HG23 | 2.18 | 0.74 |
| 34:BA:138:G:N2 | 34:BA:225:C:N3 | 2.31 | 0.74 |
| 34:BA:163:C:O2' | 34:BA:164:U:C5' | 2.36 | 0.74 |
| 34:BA:519:C:C2' | 34:BA:520:A:H5' | 2.18 | 0.74 |
| 34:BA:566:G:H4' | 34:BA:567:G:OP1 | 1.85 | 0.74 |
| 34:BA:598:U:O2' | 43:BK:94:TYR:HB3 | 1.88 | 0.74 |
| 34:BA:787:A:O2' | 34:BA:788:U:H5' | 1.87 | 0.74 |
| 34:BA:1387:G:H2' | 34:BA:1388:C:C6 | 2.22 | 0.74 |
| 37:BE:149:LEU:O | 37:BE:151:GLY:N | 2.20 | 0.74 |
| 37:BE:221:LEU:HD13 | 37:BE:221:LEU:C | 2.09 | 0.74 |
| 38:BF:73:PRO:HG3 | 38:BF:105:GLU:OE2 | 1.88 | 0.74 |
| 38:BF:177:THR:HG23 | 38:BF:180:ALA:HB2 | 1.70 | 0.74 |
| 39:BG:20:TYR:O | 39:BG:22:LYS:N | 2.14 | 0.74 |
| 39:BG:31:CYS:O | 39:BG:33:MET:N | 2.20 | 0.74 |
| 40:BH:151:LEU:HD11 | 43:BK:77:GLU:HB3 | 1.69 | 0.74 |
| 42:BJ:66:VAL:O | 42:BJ:70:LYS:HG3 | 1.87 | 0.74 |
| 45:BM:34:VAL:HG22 | 45:BM:74:ILE:HD11 | 1.69 | 0.74 |
| 48:BP:24:GLY:HA3 | 48:BP:66:LEU:HD22 | 1.67 | 0.74 |
| 1:AB:100:G:C4 | 1:AB:101:A:C8 | 2.76 | 0.73 |
| 2:AA:36:G:C2 | 2:AA:445:C:O2 | 2.40 | 0.73 |
| 2:AA:85:G:OP2 | 20:AU:65:VAL:HB | 1.88 | 0.73 |
| 2:AA:99:U:H3 | 20:AU:107:LYS:HD2 | 1.53 | 0.73 |
| 2:AA:233:A:C8 | 2:AA:234:C:C5 | 2.76 | 0.73 |
| 2:AA:373:U:H4' | 2:AA:374:A:H8 | 1.49 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:853:G:O2' | 2:AA:854:G:O4' | 2.04 | 0.73 |
| 2:AA:919:G:C2' | 2:AA:920:G:C8 | 2.67 | 0.73 |
| 2:AA:142(A):A:OP2 | 2:AA:1143:A:C8 | 2.41 | 0.73 |
| 2:AA:1691:C:O2 | 2:AA:1692:U:O4' | 2.06 | 0.73 |
| 3:AC:76:ALA:CB | 3:AC:86:ALA:HB1 | 2.18 | 0.73 |
| 4:AD:131:LEU:O | 4:AD:134:ILE:HB | 1.88 | 0.73 |
| 5:AE:44:TYR:OH | 5:AE:308:VAL:HG22 | 1.87 | 0.73 |
| 5:AE:210:THR:CA | 5:AE:216:ARG:NH2 | 2.45 | 0.73 |
| 5:AE:211:GLN:HE22 | 5:AE:215:LYS:C | 1.91 | 0.73 |
| 7:AG:24:HIS:O | 7:AG:25:MET:HG2 | 1.88 | 0.73 |
| 11:AL:66:PHE:O | 11:AL:67:THR:HG23 | 1.88 | 0.73 |
| 12:AM:74:ARG:HD3 | 12:AM:74:ARG:N | 2.03 | 0.73 |
| 13:AN:10:VAL:HG12 | 13:AN:12:ASP:H | 1.52 | 0.73 |
| 15:AP:35:ASN:H | 15:AP:76:GLY:N | 1.85 | 0.73 |
| 18:AS:20:VAL:CG1 | 18:AS:47:VAL:HG21 | 2.11 | 0.73 |
| 20:AU:21:LYS:HG2 | 20:AU:22:GLN:H | 1.52 | 0.73 |
| 20:AU:48:VAL:HG22 | 20:AU:98:VAL:CA | 2.18 | 0.73 |
| 21:AV:19:ILE:CB | 21:AV:36:ARG:HG2 | 2.17 | 0.73 |
| 26:A2:12:TYR:CD2 | 26:A2:13:ARG:N | 2.57 | 0.73 |
| 28:A4:62:ARG:O | 28:A4:65:ASP:OD2 | 2.06 | 0.73 |
| 30:A6:16:ALA:HB3 | 30:A6:19:GLY:H | 1.51 | 0.73 |
| 32:A8:37:SER:OG | 32:A8:38:GLY:N | 2.18 | 0.73 |
| 34:BA:482:A:H2 | 34:BA:483:C:O4' | 1.71 | 0.73 |
| 34:BA:551:U:H6 | 34:BA:551:U:O5' | 1.69 | 0.73 |
| 34:BA:579:G:H5' | 34:BA:728:A:O2' | 1.88 | 0.73 |
| 34:BA:600:C:O2' | 34:BA:601:C:H5' | 1.87 | 0.73 |
| 34:BA:603:U:H2' | 34:BA:604:G:H8 | 1.53 | 0.73 |
| 34:BA:607:A:C2' | 34:BA:608:A:H5' | 2.18 | 0.73 |
| 34:BA:1028:C:H2' | 34:BA:1029:C:H6 | 1.50 | 0.73 |
| 34:BA:1238:A:H62 | 34:BA:1301:U:H3 | 1.35 | 0.73 |
| 34:BA:1349:A:O2' | 34:BA:1350:A:H5' | 1.88 | 0.73 |
| 34:BA:1379:G:N7 | 42:BJ:2:ALA:N | 2.35 | 0.73 |
| 34:BA:1405:G:H21 | 34:BA:1517:G:H22 | 1.33 | 0.73 |
| 34:BA:1452:C:O2 | 34:BA:1452:C:H2' | 1.88 | 0.73 |
| 34:BA:1461:G:H2' | 34:BA:1462:G:H8 | 1.53 | 0.73 |
| 37:BE:115:LEU:HD22 | 37:BE:149:LEU:HB3 | 1.70 | 0.73 |
| 43:BK:48:TYR:HA | 43:BK:61:VAL:HG22 | 1.69 | 0.73 |
| 43:BK:90:GLY:O | 52:BT:34:LYS:HD3 | 1.88 | 0.73 |
| 48:BP:36:LYS:HB3 | 48:BP:59:TYR:OH | 1.88 | 0.73 |
| 52:BT:75:ARG:NH1 | 52:BT:76:LEU:O | 2.21 | 0.73 |
| 1:AB:87:G:OP2 | 1:AB:87:G:C8 | 2.40 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:171:G:H2' | 2:AA:172:C:C5 | 2.23 | 0.73 |
| 2:AA:245:G:C5' | 14:AO:55:GLN:HA | 2.16 | 0.73 |
| 2:AA:273(B):C:N3 | 2:AA:363(D):G:C6 | 2.57 | 0.73 |
| 2:AA:284:U:C2 | 2:AA:357:A:N1 | 2.55 | 0.73 |
| 2:AA:414:C:H1' | 2:AA:1864:U:H1' | 1.70 | 0.73 |
| 2:AA:460:A:C8 | 2:AA:461:C:H5 | 2.06 | 0.73 |
| 2:AA:995:C:P | 25:A1:54:LYS:HE2 | 2.28 | 0.73 |
| 2:AA:1000:A:H8 | 2:AA:1154:G:H21 | 1.36 | 0.73 |
| 2:AA:1022:G:O2' | 2:AA:1023:U:OP2 | 2.06 | 0.73 |
| 2:AA:1044:G:O3' | 2:AA:1045:A:H4' | 1.88 | 0.73 |
| 2:AA:1173:G:N2 | 2:AA:1175:U:H5" | 2.03 | 0.73 |
| 2:AA:1327:C:N4 | 2:AA:1647:G:N2 | 2.35 | 0.73 |
| 2:AA:1472:A:C8 | 2:AA:1473:G:N7 | 2.56 | 0.73 |
| 2:AA:1492:G:H21 | 2:AA:1493:C:H42 | 1.36 | 0.73 |
| 2:AA:1613:G:OP1 | 31:A7:5:TYR:CG | 2.41 | 0.73 |
| 2:AA:1614:A:H3' | 2:AA:1614:A:N3 | 2.02 | 0.73 |
| 2:AA:1856:G:C6 | 2:AA:1857:G:N3 | 2.56 | 0.73 |
| 2:AA:1892:C:H2' | 2:AA:1893:C:H6 | 1.51 | 0.73 |
| 2:AA:2044:C:O2' | 2:AA:2045:C:H5' | 1.87 | 0.73 |
| 2:AA:2072:G:C6 | 2:AA:2073:C:N4 | 2.56 | 0.73 |
| 2:AA:2210:G:O6 | 4:AD:148:GLY:HA3 | 1.88 | 0.73 |
| 2:AA:2215:G:H2' | 2:AA:2216:G:H8 | 1.49 | 0.73 |
| 2:AA:2282:G:N2 | 2:AA:2427:C:O2 | 2.20 | 0.73 |
| 2:AA:2484:G:H2' | 2:AA:2485:G:C5' | 2.18 | 0.73 |
| 2:AA:2484:G:N2 | 2:AA:2485:G:C1' | 2.52 | 0.73 |
| 2:AA:2531:A:H2' | 2:AA:2532:G:C5' | 2.18 | 0.73 |
| 2:AA:2607:G:H2' | 2:AA:2608:G:C5' | 2.18 | 0.73 |
| 3:AC:53:ARG:O | 3:AC:55:ASP:N | 2.22 | 0.73 |
| 3:AC:127:LEU:HA | 3:AC:130:ILE:HD13 | 1.70 | 0.73 |
| 3:AC:127:LEU:HD22 | 3:AC:130:ILE:HG21 | 1.69 | 0.73 |
| 4:AD:66:PHE:N | 4:AD:67:LYS:NZ | 2.36 | 0.73 |
| 7:AG:105:SER:C | 7:AG:106:PHE:CD1 | 2.62 | 0.73 |
| 8:AH:93:TYR:CE1 | 8:AH:106:VAL:HG13 | 2.22 | 0.73 |
| 9:AI:83:LEU:HD13 | 9:AI:91:LEU:HD12 | 1.69 | 0.73 |
| 10:AK:6:LEU:CD1 | 10:AK:14:LYS:HZ3 | 2.01 | 0.73 |
| 12:AM:79:PHE:N | 12:AM:79:PHE:CD1 | 2.55 | 0.73 |
| 13:AN:10:VAL:HG23 | 13:AN:17:ARG:O | 1.88 | 0.73 |
| 13:AN:37:ASP:O | 13:AN:62:VAL:HG23 | 1.88 | 0.73 |
| 14:AO:117:GLU:CD | 14:AO:136:ALA:O | 2.26 | 0.73 |
| 17:AR:23:HIS:HE1 | 17:AR:27:ALA:HB3 | 1.48 | 0.73 |
| 18:AS:40:ASN:ND2 | 18:AS:41:LYS:N | 2.35 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:15:PRO:O | 20:AU:18:GLU:N | 2.21 | 0.73 |
| 21:AV:54:ILE:HG21 | 21:AV:56:VAL:HG23 | 1.70 | 0.73 |
| 21:AV:116:VAL:HA | 21:AV:169:VAL:HG22 | 1.69 | 0.73 |
| 22:AW:20:LEU:HA | 22:AW:23:LEU:HD12 | 1.70 | 0.73 |
| 23:AX:3:ARG:HD3 | 23:AX:60:GLU:CB | 2.18 | 0.73 |
| 26:A2:48:GLY:C | 26:A2:49:GLU:CD | 2.47 | 0.73 |
| 34:BA:17:U:H2' | 34:BA:18:C:C6 | 2.23 | 0.73 |
| 34:BA:319:G:O2' | 34:BA:320:C:H5' | 1.87 | 0.73 |
| 34:BA:582:U:C5' | 50:BR:64:ARG:NH2 | 2.51 | 0.73 |
| 34:BA:642:A:O2' | 43:BK:31:PHE:CE1 | 2.39 | 0.73 |
| 34:BA:1077:G:N2 | 34:BA:1079:G:H3' | 2.01 | 0.73 |
| 34:BA:1226:C:C4 | 48:BP:104:ARG:HA | 2.22 | 0.73 |
| 34:BA:1226:C:C6 | 48:BP:104:ARG:HA | 2.22 | 0.73 |
| 35:BC:50:U:O2' | 35:BC:51:G:H5' | 1.88 | 0.73 |
| 37:BE:9:GLU:HG2 | 37:BE:217:ARG:HH22 | 1.49 | 0.73 |
| 37:BE:127:ILE:O | 37:BE:129:GLU:N | 2.20 | 0.73 |
| 39:BG:72:GLU:OE2 | 39:BG:72:GLU:HA | 1.88 | 0.73 |
| 43:BK:36:LEU:O | 43:BK:39:LEU:CB | 2.35 | 0.73 |
| 45:BM:16:LEU:HB3 | 45:BM:70:ARG:CG | 2.18 | 0.73 |
| 48:BP:88:ARG:HG3 | 48:BP:89:GLY:N | 2.01 | 0.73 |
| 1:AB:16:G:O2' | 1:AB:17:C:C5' | 2.36 | 0.73 |
| 2:AA:37:C:H5' | 2:AA:451:C:O4' | 1.87 | 0.73 |
| 2:AA:197:A:H2' | 2:AA:198:C:O4' | 1.88 | 0.73 |
| 2:AA:310:A:H2' | 2:AA:312:G:N7 | 2.03 | 0.73 |
| 2:AA:391:G:C5 | 2:AA:411:G:N2 | 2.55 | 0.73 |
| 2:AA:414:C:C4' | 2:AA:1863:G:N2 | 2.51 | 0.73 |
| 2:AA:541:C:N3 | 2:AA:552:G:N2 | 2.36 | 0.73 |
| 2:AA:729:G:C6 | 4:AD:207:ALA:HA | 2.23 | 0.73 |
| 2:AA:919:G:H2' | 2:AA:920:G:N7 | 2.02 | 0.73 |
| 2:AA:946:G:H2' | 2:AA:947:G:C8 | 2.23 | 0.73 |
| 2:AA:978:G:H2' | 2:AA:979:G:C8 | 2.23 | 0.73 |
| 2:AA:1011:G:C6 | 2:AA:1151:G:C6 | 2.76 | 0.73 |
| 2:AA:1778:U:C2 | 2:AA:1784:A:H2 | 2.06 | 0.73 |
| 2:AA:1826:G:C6 | 2:AA:1827:C:C5 | 2.76 | 0.73 |
| 2:AA:1837:C:O2' | 2:AA:1928:A:H1' | 1.88 | 0.73 |
| 2:AA:1927:A:C6 | 2:AA:1928:A:N1 | 2.56 | 0.73 |
| 2:AA:1950:G:C6 | 2:AA:1951:U:H5 | 2.05 | 0.73 |
| 2:AA:1991:U:H2' | 2:AA:1992:G:C5' | 2.17 | 0.73 |
| 2:AA:2022:U:C4 | 29:A5:9:LYS:NZ | 2.51 | 0.73 |
| 2:AA:2246:G:H2' | 2:AA:2247:A:H8 | 1.51 | 0.73 |
| 6:AF:37:ALA:HB1 | 6:AF:107:ARG:CZ | 2.18 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:168:ARG:CZ | 6:AF:209:GLY:CA | 2.66 | 0.73 |
| 7:AG:21:VAL:O | 7:AG:75:LEU:O | 2.06 | 0.73 |
| 7:AG:136:ARG:HD3 | 7:AG:156:ARG:C | 2.08 | 0.73 |
| 8:AH:8:ILE:CD1 | 8:AH:72:ALA:HB2 | 2.17 | 0.73 |
| 9:AI:115:LYS:HD3 | 9:AI:127:LEU:HD22 | 1.70 | 0.73 |
| 10:AK:7:LYS:HG2 | 10:AK:12:LYS:HG2 | 1.68 | 0.73 |
| 10:AK:133:LEU:HD11 | 10:AK:139:ALA:HB3 | 1.70 | 0.73 |
| 12:AM:19:MET:HB3 | 12:AM:46:ILE:CG1 | 2.18 | 0.73 |
| 12:AM:74:ARG:HB3 | 12:AM:75:PRO:HD2 | 1.70 | 0.73 |
| 12:AM:135:ILE:HA | 12:AM:138:THR:OG1 | 1.88 | 0.73 |
| 20:AU:5:ASP:O | 20:AU:9:LYS:HD3 | 1.89 | 0.73 |
| 21:AV:19:ILE:HD13 | 21:AV:36:ARG:HD3 | 1.70 | 0.73 |
| 21:AV:21:ALA:CB | 21:AV:81:VAL:HB | 2.18 | 0.73 |
| 23:AX:53:LEU:O | 23:AX:54:VAL:HG13 | 1.88 | 0.73 |
| 26:A2:38:LEU:HD23 | 26:A2:38:LEU:H | 1.53 | 0.73 |
| 27:A3:38:VAL:O | 27:A3:40:GLN:N | 2.20 | 0.73 |
| 28:A4:65:ASP:OD2 | 28:A4:66:SER:N | 2.20 | 0.73 |
| 31:A7:17:GLY:HA2 | 31:A7:44:VAL:CG2 | 2.18 | 0.73 |
| 34:BA:51:A:O2' | 34:BA:52:G:OP2 | 2.06 | 0.73 |
| 34:BA:405:U:H5" | 34:BA:406:G:O4' | 1.87 | 0.73 |
| 34:BA:724:G:O2' | 34:BA:725:G:H5' | 1.86 | 0.73 |
| 34:BA:770:C:H4' | 34:BA:900:A:H2 | 1.52 | 0.73 |
| 34:BA:907:A:H4' | 34:BA:907:A:OP1 | 1.86 | 0.73 |
| 34:BA:950:U:O4 | 34:BA:1231:G:O6 | 2.06 | 0.73 |
| 34:BA:1007:C:O2' | 34:BA:1008:C:H5' | 1.87 | 0.73 |
| 34:BA:1389:C:H2' | 34:BA:1390:U:O4' | 1.88 | 0.73 |
| 35:BB:34:G:C6 | 36:B1:66:G:OP2 | 2.40 | 0.73 |
| 35:BB:37:G:N7 | 35:BB:39:U:O4 | 2.21 | 0.73 |
| 35:BC:19:G:H3' | 35:BC:20:G:N7 | 2.04 | 0.73 |
| 37:BE:133:LYS:N | 37:BE:133:LYS:HE2 | 2.03 | 0.73 |
| 37:BE:178:ARG:CD | 37:BE:184:VAL:HG21 | 2.17 | 0.73 |
| 38:BF:116:VAL:HG21 | 38:BF:141:VAL:CG2 | 2.18 | 0.73 |
| 40:BH:7:GLU:HB3 | 40:BH:112:LEU:HD11 | 1.69 | 0.73 |
| 42:BJ:87:VAL:HG13 | 42:BJ:154:TYR:HB2 | 1.70 | 0.73 |
| 43:BK:9:MET:HG3 | 43:BK:26:VAL:HG21 | 1.70 | 0.73 |
| 50:BR:26:GLU:N | 50:BR:26:GLU:CD | 2.39 | 0.73 |
| 1:AB:13:A:O2' | 1:AB:15:A:H5" | 1.88 | 0.73 |
| 2:AA:15:G:H2' | 2:AA:16:G:C5' | 2.18 | 0.73 |
| 2:AA:92:G:O2' | 2:AA:93:C:H5' | 1.89 | 0.73 |
| 2:AA:126:A:OP1 | 31:A7:44:VAL:HG21 | 1.88 | 0.73 |
| 2:AA:176:G:H21 | 2:AA:177:G:H1' | 1.54 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:399:G:C2' | 2:AA:400:G:H5' | 2.18 | 0.73 |
| 2:AA:563:G:O5' | 2:AA:564:C:OP2 | 2.03 | 0.73 |
| 2:AA:946:G:H2' | 2:AA:947:G:O4' | 1.88 | 0.73 |
| 2:AA:995:C:H2' | 2:AA:995:C:O2 | 1.86 | 0.73 |
| 2:AA:1022:G:O6 | 12:AM:47:THR:HG21 | 1.88 | 0.73 |
| 2:AA:1066:U:O2 | 2:AA:1068:G:H3' | 1.89 | 0.73 |
| 2:AA:1073:A:N7 | 2:AA:1074:G:C5 | 2.56 | 0.73 |
| 2:AA:1301:A:C5' | 2:AA:1607:C:H41 | 2.02 | 0.73 |
| 2:AA:1304:C:C2' | 2:AA:1305:C:O5' | 2.37 | 0.73 |
| 2:AA:1791:A:O5' | 2:AA:1791:A:H8 | 1.72 | 0.73 |
| 2:AA:2209:C:O2 | 2:AA:2210:G:H2' | 1.88 | 0.73 |
| 2:AA:2246:G:H2' | 2:AA:2247:A:C8 | 2.23 | 0.73 |
| 2:AA:2371:G:HO2' | 30:A6:47:HIS:HE2 | 1.34 | 0.73 |
| 2:AA:2386:C:H2' | 2:AA:2387:U:C6 | 2.22 | 0.73 |
| 3:AC:128:GLY:HA2 | 3:AC:137:LEU:HD21 | 1.70 | 0.73 |
| 4:AD:122:ASP:HB2 | 4:AD:124:LYS:HD3 | 1.70 | 0.73 |
| 5:AE:221:LYS:HZ3 | 5:AE:233:ARG:HG2 | 1.51 | 0.73 |
| 5:AE:223:LYS:O | 5:AE:227:ALA:N | 2.21 | 0.73 |
| 5:AE:308:VAL:HG12 | 5:AE:310:PHE:CE1 | 2.23 | 0.73 |
| 9:AJ:13:LEU:HB3 | 9:AJ:17:GLU:CB | 2.18 | 0.73 |
| 10:AK:7:LYS:HE2 | 10:AK:12:LYS:NZ | 2.01 | 0.73 |
| 10:AK:83:ALA:HA | 10:AK:90:PHE:CD1 | 2.23 | 0.73 |
| 12:AM:18:ILE:HG23 | 12:AM:18:ILE:O | 1.89 | 0.73 |
| 13:AN:105:GLU:HB2 | 13:AN:106:LEU:HD23 | 1.68 | 0.73 |
| 14:AO:120:LEU:HD12 | 14:AO:121:ILE:N | 2.02 | 0.73 |
| 16:AQ:26:LEU:HD13 | 16:AQ:101:VAL:CG2 | 2.17 | 0.73 |
| 19:AT:52:VAL:HG22 | 19:AT:66:VAL:HG22 | 1.69 | 0.73 |
| 20:AU:103:LEU:HD11 | 20:AU:113:GLU:HB3 | 1.69 | 0.73 |
| 23:AX:5:LYS:HE2 | 23:AX:34:GLU:OE2 | 1.88 | 0.73 |
| 23:AX:38:GLU:HB2 | 23:AX:40:THR:HG22 | 1.71 | 0.73 |
| 24:A0:105:ARG:O | 24:A0:107:ASP:N | 2.19 | 0.73 |
| 26:A2:54:TYR:O | 26:A2:55:THR:C | 2.26 | 0.73 |
| 34:BA:1230:C:O2' | 34:BA:1231:G:H5' | 1.89 | 0.73 |
| 34:BA:1494:G:C2 | 34:BA:1495:U:H5 | 2.00 | 0.73 |
| 35:BB:67:A:N1 | 35:BB:68:U:C4 | 2.56 | 0.73 |
| 36:B1:41:U:H2' | 36:B1:42:G:H8 | 1.53 | 0.73 |
| 43:BK:6:ILE:CD1 | 43:BK:10:LEU:HD11 | 2.17 | 0.73 |
| 45:BM:24:VAL:HG13 | 45:BM:34:VAL:HG11 | 1.68 | 0.73 |
| 47:BO:60:LEU:HD23 | 47:BO:64:TYR:HB2 | 1.70 | 0.73 |
| 48:BP:20:THR:HA | 48:BP:25:ILE:HG22 | 1.69 | 0.73 |
| 52:BT:10:VAL:HG12 | 52:BT:53:LEU:HA | 1.69 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BU:63:GLN:HA | 53:BU:66:LEU:HD11 | 1.70 | 0.73 |
| 55:BW:50:GLU:H | 55:BW:99:LEU:CG | 2.00 | 0.73 |
| 1:AB:83:G:N1 | 1:AB:84:C:C4 | 2.57 | 0.73 |
| 2:AA:25:U:C2' | 2:AA:26:G:H8 | 2.01 | 0.73 |
| 2:AA:81:G:C2' | 2:AA:82:G:H5' | 2.19 | 0.73 |
| 2:AA:84:A:OP2 | 20:AU:111:ARG:NH1 | 2.19 | 0.73 |
| 2:AA:182:A:C8 | 2:AA:182:A:OP2 | 2.41 | 0.73 |
| 2:AA:185:U:H5' | 2:AA:217:G:N2 | 2.03 | 0.73 |
| 2:AA:185:U:H2' | 2:AA:186:G:H8 | 1.53 | 0.73 |
| 2:AA:294:A:H8 | 2:AA:294:A:O5' | 1.71 | 0.73 |
| 2:AA:396:G:OP1 | 28:A4:10:VAL:HG13 | 1.88 | 0.73 |
| 2:AA:479:A:N6 | 2:AA:481:G:N3 | 2.36 | 0.73 |
| 2:AA:571:A:N3 | 2:AA:573:G:N7 | 2.36 | 0.73 |
| 2:AA:608:A:H2' | 2:AA:609:A:H5' | 1.71 | 0.73 |
| 2:AA:1184:G:O2' | 2:AA:1185:C:C5' | 2.36 | 0.73 |
| 2:AA:1227:A:H2' | 2:AA:1228:G:H5" | 1.70 | 0.73 |
| 2:AA:1420:U:O2' | 2:AA:1421:G:C8 | 2.41 | 0.73 |
| 2:AA:1664:A:N3 | 2:AA:2726:U:N3 | 2.35 | 0.73 |
| 2:AA:1666:G:O2' | 2:AA:1667:G:H5' | 1.89 | 0.73 |
| 2:AA:1729:A:H2' | 2:AA:1730:U:H5' | 1.71 | 0.73 |
| 2:AA:1822:G:H2' | 2:AA:1823:G:C8 | 2.22 | 0.73 |
| 2:AA:1826:G:C6 | 2:AA:1827:C:H5 | 2.06 | 0.73 |
| 2:AA:1862:G:N1 | 2:AA:1880:C:N4 | 2.34 | 0.73 |
| 2:AA:1887:C:O2' | 2:AA:1888:G:H5' | 1.89 | 0.73 |
| 2:AA:2009:G:C4' | 18:AS:40:ASN:HD21 | 2.01 | 0.73 |
| 2:AA:2245:U:O2 | 2:AA:2435:A:H3' | 1.89 | 0.73 |
| 2:AA:2695:C:H2' | 2:AA:2696:U:C6 | 2.22 | 0.73 |
| 6:AF:149:LYS:O | 6:AF:152:GLU:HB2 | 1.88 | 0.73 |
| 6:AF:242:GLU:HA | 6:AF:245:GLU:OE1 | 1.88 | 0.73 |
| 9:AI:24:LYS:O | 9:AI:27:ASP:HB2 | 1.87 | 0.73 |
| 10:AK:5:PHE:HD2 | 10:AK:5:PHE:H | 1.36 | 0.73 |
| 10:AK:116:GLU:HB2 | 10:AK:130:PRO:HG2 | 1.68 | 0.73 |
| 14:AO:52:LYS:HE2 | 14:AO:53:ARG:CZ | 2.18 | 0.73 |
| 15:AP:47:GLU:OE1 | 15:AP:47:GLU:N | 2.22 | 0.73 |
| 20:AU:48:VAL:O | 20:AU:60:GLY:O | 2.06 | 0.73 |
| 21:AV:41:ARG:H | 21:AV:41:ARG:NE | 1.86 | 0.73 |
| 21:AV:53:ASP:CG | 21:AV:54:ILE:H | 1.91 | 0.73 |
| 22:AW:8:ILE:O | 22:AW:11:MET:HB2 | 1.89 | 0.73 |
| 23:AX:5:LYS:CA | 23:AX:36:VAL:HG12 | 2.18 | 0.73 |
| 23:AX:37:LEU:HB3 | 23:AX:43:ILE:HG21 | 1.70 | 0.73 |
| 24:A0:55:ALA:HB1 | 24:A0:79:LEU:HD21 | 1.71 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:55:ARG:HA | 25:A1:58:ARG:CG | 2.19 | 0.73 |
| 25:A1:92:ARG:C | 25:A1:95:LEU:HG | 2.08 | 0.73 |
| 26:A2:65:ARG:O | 26:A2:93:ILE:HG13 | 1.87 | 0.73 |
| 34:BA:9:G:C8 | 40:BH:126:ARG:NH1 | 2.57 | 0.73 |
| 34:BA:80:G:N1 | 34:BA:89:C:O2 | 2.20 | 0.73 |
| 34:BA:174:C:C4 | 34:BA:175:C:N4 | 2.56 | 0.73 |
| 34:BA:175:C:H2' | 34:BA:176:C:H6 | 1.52 | 0.73 |
| 34:BA:939:G:H5" | 42:BJ:102:ARG:HH12 | 1.54 | 0.73 |
| 34:BA:1005:A:H2' | 34:BA:1006:C:O4' | 1.87 | 0.73 |
| 34:BA:1203:C:OP1 | 49:BQ:2:ALA:CB | 2.36 | 0.73 |
| 34:BA:1329:A:P | 48:BP:28:ALA:HB3 | 2.29 | 0.73 |
| 34:BA:1368:G:OP2 | 44:BL:112:LYS:HG2 | 1.88 | 0.73 |
| 34:BA:1371:G:O2' | 34:BA:1372:U:H5' | 1.89 | 0.73 |
| 37:BE:74:LYS:HE2 | 37:BE:76:GLN:CB | 2.18 | 0.73 |
| 40:BH:109:ILE:CG2 | 40:BH:110:LEU:N | 2.50 | 0.73 |
| 45:BM:38:ILE:HG13 | 45:BM:71:LEU:HB3 | 1.69 | 0.73 |
| 46:BN:95:ILE:CA | 46:BN:98:LEU:HD12 | 2.15 | 0.73 |
| 47:BO:35:GLY:O | 47:BO:82:VAL:CA | 2.35 | 0.73 |
| 52:BT:78:GLU:OE2 | 52:BT:81:ARG:HB2 | 1.89 | 0.73 |
| 53:BU:74:ARG:HG2 | 53:BU:74:ARG:HH11 | 1.53 | 0.73 |
| 55:BW:30:LYS:NZ | 55:BW:30:LYS:CB | 2.51 | 0.73 |
| 1:AB:56:G:H4' | 1:AB:57:A:H5" | 1.71 | 0.73 |
| 2:AA:265:A:N6 | 2:AA:428:A:C5 | 2.57 | 0.73 |
| 2:AA:605:C:H3' | 6:AF:105:LYS:HZ3 | 1.51 | 0.73 |
| 2:AA:1162:G:H5" | 26:A2:23:GLU:O | 1.88 | 0.73 |
| 2:AA:1233:C:H2' | 2:AA:1234:U:O5' | 1.89 | 0.73 |
| 2:AA:1529:A:C8 | 2:AA:1542:G:O6 | 2.42 | 0.73 |
| 2:AA:1664:A:C2 | 2:AA:1665:A:N7 | 2.55 | 0.73 |
| 2:AA:1718:G:C6 | 2:AA:1741:C:N4 | 2.57 | 0.73 |
| 2:AA:1802:A:OP1 | 2:AA:1814:G:N2 | 2.17 | 0.73 |
| 2:AA:1918:A:H3' | 2:AA:1918:A:P | 2.28 | 0.73 |
| 2:AA:1981:A:H3' | 2:AA:1982:C:H5' | 1.69 | 0.73 |
| 2:AA:2199:A:C4 | 2:AA:2225:A:C2 | 2.76 | 0.73 |
| 2:AA:2305:A:C2 | 7:AG:72:LYS:HE2 | 2.24 | 0.73 |
| 2:AA:2402:C:H5" | 2:AA:2403:C:OP1 | 1.88 | 0.73 |
| 2:AA:2526:G:C5 | 2:AA:2527:C:C5 | 2.76 | 0.73 |
| 2:AA:2742:C:OP1 | 33:A9:35:ARG:HD3 | 1.88 | 0.73 |
| 3:AC:190:ARG:HA | 3:AC:193:ILE:CD1 | 2.19 | 0.73 |
| 5:AE:267:ARG:HG3 | 5:AE:297:LYS:HB2 | 1.71 | 0.73 |
| 6:AF:4:THR:O | 6:AF:139:VAL:CB | 2.37 | 0.73 |
| 8:AH:168:VAL:O | 8:AH:169:ARG:CZ | 2.37 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AJ:78:ARG:NH2 | 11:AL:59:THR:HG21 | 2.03 | 0.73 |
| 12:AM:19:MET:HE1 | 12:AM:22:VAL:HG11 | 1.69 | 0.73 |
| 15:AP:65:ARG:NH2 | 15:AP:87:LYS:N | 2.35 | 0.73 |
| 16:AQ:38:LYS:NZ | 16:AQ:110:THR:HG21 | 2.03 | 0.73 |
| 16:AQ:47:LEU:HD12 | 16:AQ:58:LEU:CD2 | 2.18 | 0.73 |
| 19:AT:32:ALA:HB1 | 19:AT:37:VAL:HG23 | 1.71 | 0.73 |
| 21:AV:12:GLN:O | 21:AV:15:ASP:O | 2.07 | 0.73 |
| 21:AV:149:ALA:O | 21:AV:152:ILE:CG1 | 2.35 | 0.73 |
| 28:A4:59:PHE:HA | 28:A4:62:ARG:NE | 2.04 | 0.73 |
| 29:A5:57:VAL:HG12 | 29:A5:58:LEU:N | 2.04 | 0.73 |
| 30:A6:7:ARG:O | 30:A6:9:ILE:N | 2.22 | 0.73 |
| 30:A6:34:LYS:HA | 30:A6:53:LYS:NZ | 2.04 | 0.73 |
| 34:BA:246:A:N6 | 34:BA:281:G:H21 | 1.86 | 0.73 |
| 34:BA:576:G:N7 | 34:BA:881:G:C1' | 2.50 | 0.73 |
| 34:BA:673:G:H5" | 41:BI:87:ARG:NE | 2.04 | 0.73 |
| 34:BA:791:G:H22 | 34:BA:1498:U:P | 2.12 | 0.73 |
| 34:BA:797:C:O2' | 34:BA:798:G:H5' | 1.88 | 0.73 |
| 34:BA:1090:U:O2' | 34:BA:1091:U:C5' | 2.37 | 0.73 |
| 35:BB:65:G:H2' | 35:BB:66:A:H8 | 1.52 | 0.73 |
| 38:BF:156:ARG:N | 38:BF:163:ALA:HB1 | 2.03 | 0.73 |
| 38:BF:178:LEU:O | 38:BF:179:ARG:CB | 2.37 | 0.73 |
| 43:BK:83:ILE:CB | 43:BK:137:VAL:HG22 | 2.18 | 0.73 |
| 43:BK:126:LYS:HZ3 | 43:BK:127:LEU:CG | 2.01 | 0.73 |
| 48:BP:81:LEU:HD22 | 48:BP:82:MET:N | 2.04 | 0.73 |
| 50:BR:62:GLN:NE2 | 50:BR:65:ARG:NH2 | 2.36 | 0.73 |
| 52:BT:66:SER:O | 52:BT:70:ARG:NH1 | 2.22 | 0.73 |
| 2:AA:7:G:O6 | 2:AA:2896:C:N3 | 2.21 | 0.73 |
| 2:AA:71:A:H4' | 2:AA:72:U:C3' | 2.18 | 0.73 |
| 2:AA:83:G:O6 | 2:AA:102:G:N3 | 2.21 | 0.73 |
| 2:AA:195:A:H4' | 2:AA:251:A:O4' | 1.88 | 0.73 |
| 2:AA:252:G:O2' | 2:AA:253:C:H5' | 1.87 | 0.73 |
| 2:AA:315:G:H8 | 2:AA:315:G:O5' | 1.71 | 0.73 |
| 2:AA:337:C:O3' | 2:AA:338:G:H3' | 1.88 | 0.73 |
| 2:AA:445:C:H3' | 25:A1:3:ARG:NH2 | 2.03 | 0.73 |
| 2:AA:500:G:C2' | 2:AA:501:A:H5" | 2.19 | 0.73 |
| 2:AA:530:G:H1 | 2:AA:2021:C:C4' | 2.00 | 0.73 |
| 2:AA:566:U:H3' | 2:AA:567:A:C8 | 2.23 | 0.73 |
| 2:AA:711:G:H1 | 2:AA:720:C:H42 | 0.75 | 0.73 |
| 2:AA:725:G:N1 | 2:AA:726:G:N2 | 2.36 | 0.73 |
| 2:AA:741:G:H2' | 2:AA:742:G:C8 | 2.23 | 0.73 |
| 2:AA:840:C:H5' | 2:AA:1192:G:H1' | 1.69 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:988:A:OP2 | 23:AX:11:SER:HB3 | 1.87 | 0.73 |
| 2:AA:1857:G:H1 | 2:AA:1884:A:H61 | 1.36 | 0.73 |
| 2:AA:1882:C:C3' | 2:AA:1883:G:H5' | 2.17 | 0.73 |
| 2:AA:2059:A:N1 | 2:AA:2503:A:C5 | 2.57 | 0.73 |
| 2:AA:2638:G:H21 | 2:AA:2778:A:H62 | 1.36 | 0.73 |
| 2:AA:2849:U:O2' | 2:AA:2850:A:OP2 | 2.05 | 0.73 |
| 3:AC:140:PRO:O | 3:AC:142:ALA:N | 2.20 | 0.73 |
| 4:AD:135:PRO:CG | 4:AD:138:THR:HG21 | 2.17 | 0.73 |
| 6:AF:83:ALA:C | 6:AF:84:VAL:HG22 | 2.09 | 0.73 |
| 6:AF:168:ARG:NH2 | 6:AF:209:GLY:HA2 | 2.03 | 0.73 |
| 13:AN:49:GLY:HA3 | 13:AN:53:LYS:HE2 | 1.70 | 0.73 |
| 13:AN:121:VAL:C | 13:AN:122:ILE:HD12 | 2.09 | 0.73 |
| 14:AO:79:ASP:CG | 14:AO:80:ASP:H | 1.91 | 0.73 |
| 20:AU:81:LYS:HZ2 | 20:AU:84:GLY:H | 1.37 | 0.73 |
| 23:AX:3:ARG:HD3 | 23:AX:60:GLU:HB3 | 1.70 | 0.73 |
| 28:A4:41:PRO:HB3 | 28:A4:59:PHE:HE1 | 1.52 | 0.73 |
| 29:A5:18:MET:N | 29:A5:18:MET:SD | 2.59 | 0.73 |
| 30:A6:21:TYR:OH | 30:A6:43:VAL:HG23 | 1.89 | 0.73 |
| 34:BA:22:G:H2' | 34:BA:23:C:N1 | 2.04 | 0.73 |
| 34:BA:511:C:C6 | 34:BA:512:U:H5 | 2.07 | 0.73 |
| 34:BA:640:A:H2' | 34:BA:641:U:C5' | 2.18 | 0.73 |
| 34:BA:757:U:H5' | 34:BA:878:G:H21 | 1.53 | 0.73 |
| 34:BA:932:C:O2 | 34:BA:932:C:H2' | 1.89 | 0.73 |
| 34:BA:3(A):G:H8 | 34:BA:3(A):G:O5' | 1.71 | 0.73 |
| 34:BA:1157:A:C1' | 34:BA:1181:G:H21 | 2.02 | 0.73 |
| 34:BA:1376:U:H5" | 42:BJ:94:ARG:NH2 | 2.04 | 0.73 |
| 35:BB:37:G:C5 | 35:BB:38:A:N7 | 2.56 | 0.73 |
| 35:BB:51:G:H2' | 35:BB:52:U:C6 | 2.23 | 0.73 |
| 35:BC:58:A:H2' | 35:BC:61:C:H5 | 1.52 | 0.73 |
| 38:BF:12:LEU:HD22 | 38:BF:17:ASP:N | 2.03 | 0.73 |
| 39:BG:12:CYS:HB3 | 39:BG:33:MET:CE | 2.19 | 0.73 |
| 39:BG:98:GLU:O | 39:BG:103:ASN:ND2 | 2.22 | 0.73 |
| 39:BG:109:GLY:O | 39:BG:110:PHE:C | 2.27 | 0.73 |
| 40:BH:17:ALA:HA | 40:BH:26:PHE:HB3 | 1.70 | 0.73 |
| 41:BI:9:VAL:HG13 | 41:BI:60:PHE:HA | 1.69 | 0.73 |
| 41:BI:76:ALA:HB1 | 41:BI:80:ARG:CZ | 2.18 | 0.73 |
| 42:BJ:42:ILE:HG22 | 42:BJ:120:ILE:HD11 | 1.71 | 0.73 |
| 48:BP:23:TYR:CD2 | 48:BP:70:LEU:HD13 | 2.23 | 0.73 |
| 50:BR:43:LEU:HD11 | 50:BR:53:HIS:HA | 1.69 | 0.73 |
| 52:BT:65:ILE:O | 52:BT:65:ILE:HG13 | 1.87 | 0.73 |
| 2:AA:270(B):A:HO2' | 2:AA:270(C):C:H6 | 0.75 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:278:A:N1 | 2:AA:362:U:O4 | 2.22 | 0.73 |
| 2:AA:285:C:N4 | 2:AA:354:G:H22 | 1.87 | 0.73 |
| 2:AA:412:A:N6 | 2:AA:2410:G:H22 | 1.85 | 0.73 |
| 2:AA:440:G:H5" | 20:AU:2:LYS:HB3 | 1.69 | 0.73 |
| 2:AA:531:C:N3 | 25:A1:28:ARG:NE | 2.36 | 0.73 |
| 2:AA:541:C:C2 | 2:AA:542:C:C5 | 2.76 | 0.73 |
| 2:AA:996:A:C5' | 25:A1:93:LYS:HG3 | 2.17 | 0.73 |
| 2:AA:1355:G:H22 | 2:AA:1377:G:C1' | 2.00 | 0.73 |
| 2:AA:1799:G:N1 | 4:AD:153:LEU:HD21 | 2.03 | 0.73 |
| 2:AA:1853:A:N6 | 2:AA:1889:A:C8 | 2.56 | 0.73 |
| 2:AA:2013:A:O2' | 2:AA:2014:A:H5' | 1.88 | 0.73 |
| 2:AA:2056:G:C2 | 29:A5:4:HIS:O | 2.42 | 0.73 |
| 2:AA:2514:U:H2' | 2:AA:2515:C:H6 | 1.53 | 0.73 |
| 2:AA:2773:C:H2' | 2:AA:2774:C:H6 | 1.53 | 0.73 |
| 2:AA:2856:C:N4 | 2:AA:2862:G:N1 | 2.36 | 0.73 |
| 5:AE:43:GLY:O | 5:AE:309:PRO:CD | 2.36 | 0.73 |
| 5:AE:220:GLN:OE1 | 5:AE:223:LYS:CE | 2.37 | 0.73 |
| 6:AF:153:VAL:HG12 | 6:AF:157:LEU:HD21 | 1.71 | 0.73 |
| 7:AG:105:SER:OG | 7:AG:131:THR:HG22 | 1.89 | 0.73 |
| 9:AI:78:ARG:HG2 | 9:AI:88:ALA:HB1 | 1.69 | 0.73 |
| 10:AK:77:VAL:CG2 | 10:AK:141:LEU:HD11 | 2.17 | 0.73 |
| 12:AM:84:ARG:HA | 12:AM:98:PHE:HE2 | 1.54 | 0.73 |
| 13:AN:11:ALA:CA | 13:AN:99:PHE:CB | 2.67 | 0.73 |
| 13:AN:99:PHE:CD2 | 17:AR:24:LYS:HE2 | 2.24 | 0.73 |
| 15:AP:41:THR:O | 15:AP:125:TRP:HZ3 | 1.72 | 0.73 |
| 21:AV:19:ILE:HD11 | 21:AV:79:ILE:CD1 | 2.19 | 0.73 |
| 21:AV:123:VAL:HG12 | 21:AV:161:ALA:N | 2.03 | 0.73 |
| 22:AW:43:PRO:C | 22:AW:45:ARG:H | 1.92 | 0.73 |
| 25:A1:44:THR:O | 25:A1:48:ARG:HG3 | 1.88 | 0.73 |
| 26:A2:69:ILE:HA | 26:A2:90:PHE:O | 1.87 | 0.73 |
| 32:A8:4:MET:CB | 32:A8:7:HIS:HE1 | 1.96 | 0.73 |
| 32:A8:26:LYS:HG3 | 32:A8:45:GLY:N | 2.04 | 0.73 |
| 34:BA:20:U:O4' | 34:BA:572:A:C2 | 2.42 | 0.73 |
| 34:BA:245:C:N3 | 34:BA:284:G:N1 | 2.37 | 0.73 |
| 34:BA:499:A:O2' | 34:BA:500:G:C8 | 2.42 | 0.73 |
| 34:BA:894:G:H2' | 34:BA:895:G:C8 | 2.23 | 0.73 |
| 34:BA:914:A:H2' | 34:BA:915:A:C8 | 2.24 | 0.73 |
| 34:BA:922:G:H5" | 40:BH:20:GLN:HE21 | 1.53 | 0.73 |
| 34:BA:1234:C:HO2' | 56:BX:14:TRP:HZ2 | 1.35 | 0.73 |
| 34:BA:1239:A:H62 | 34:BA:1299:A:N6 | 1.86 | 0.73 |
| 34:BA:1406:U:H2' | 34:BA:1406:U:O2 | 1.87 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:6:U:N3 | 35:BB:7:U:C5 | 2.56 | 0.73 |
| 35:BB:34:G:N2 | 36:B1:66:G:C5 | 2.56 | 0.73 |
| 36:B1:46:A:H5" | 36:B1:47:U:C5 | 2.24 | 0.73 |
| 37:BE:75:LYS:HA | 37:BE:78:GLN:HB2 | 1.71 | 0.73 |
| 38:BF:17:ASP:HB3 | 38:BF:18:TRP:HE3 | 1.53 | 0.73 |
| 40:BH:139:LEU:O | 40:BH:142:LEU:HD12 | 1.89 | 0.73 |
| 42:BJ:111:ARG:HD2 | 42:BJ:123:GLU:OE2 | 1.89 | 0.73 |
| 44:BL:11:LYS:CD | 44:BL:108:VAL:HG11 | 2.19 | 0.73 |
| 49:BQ:39:LEU:HD13 | 49:BQ:47:LEU:HD12 | 1.70 | 0.73 |
| 1:AB:60:C:H2' | 1:AB:61:G:C8 | 2.23 | 0.73 |
| 1:AB:71:C:O2 | 1:AB:72:G:C1' | 2.36 | 0.73 |
| 2:AA:13:A:C2 | 2:AA:526:A:N7 | 2.57 | 0.73 |
| 2:AA:71:A:C2 | 2:AA:73:A:C8 | 2.77 | 0.73 |
| 2:AA:146:G:H2' | 2:AA:147:U:O4' | 1.88 | 0.73 |
| 2:AA:295:G:OP1 | 2:AA:338:G:N1 | 2.22 | 0.73 |
| 2:AA:475:U:O2' | 2:AA:476:G:H5' | 1.87 | 0.73 |
| 2:AA:586:A:H5' | 6:AF:90:HIS:NE2 | 2.04 | 0.73 |
| 2:AA:653:A:H3' | 2:AA:654:A:O3' | 1.89 | 0.73 |
| 2:AA:916:G:H8 | 2:AA:916:G:O5' | 1.70 | 0.73 |
| 2:AA:1007:C:H5" | 2:AA:1008:C:OP2 | 1.89 | 0.73 |
| 2:AA:1388:G:N2 | 2:AA:1389:G:H1' | 2.04 | 0.73 |
| 2:AA:1527:G:H1 | 2:AA:1544:C:H42 | 0.77 | 0.73 |
| 2:AA:1904:G:O2' | 2:AA:1927:A:N6 | 2.22 | 0.73 |
| 2:AA:1917:U:C6 | 2:AA:1917:U:C3' | 2.68 | 0.73 |
| 2:AA:2055:C:OP1 | 2:AA:2056:G:H4' | 1.88 | 0.73 |
| 2:AA:2183:C:H2' | 2:AA:2184:G:H8 | 1.53 | 0.73 |
| 2:AA:2330:G:N2 | 2:AA:2385:C:N4 | 2.35 | 0.73 |
| 2:AA:2730:C:H2' | 2:AA:2731:G:H8 | 1.54 | 0.73 |
| 2:AA:2747:G:N2 | 2:AA:2754:U:H3 | 1.86 | 0.73 |
| 2:AA:2878:U:OP2 | 2:AA:2878:U:C6 | 2.41 | 0.73 |
| 4:AD:60:GLN:N | 4:AD:62:ARG:HH11 | 1.86 | 0.73 |
| 6:AF:162:VAL:HG12 | 6:AF:164:ALA:N | 2.03 | 0.73 |
| 8:AH:49:ILE:HD12 | 8:AH:49:ILE:H | 1.53 | 0.73 |
| 9:AJ:71:ILE:HA | 11:AL:61:TYR:CG | 2.24 | 0.73 |
| 12:AM:14:ALA:N | 12:AM:40:ASN:ND2 | 2.36 | 0.73 |
| 12:AM:88:PRO:HD2 | 12:AM:94:GLY:CA | 2.17 | 0.73 |
| 13:AN:43:VAL:CG2 | 13:AN:56:GLN:HB2 | 2.17 | 0.73 |
| 14:AO:71:GLU:HG3 | 14:AO:72:ASN:H | 1.52 | 0.73 |
| 20:AU:71:VAL:HG23 | 20:AU:93:THR:HG23 | 1.70 | 0.73 |
| 25:A1:7:GLY:C | 25:A1:8:ILE:HD12 | 2.09 | 0.73 |
| 26:A2:87:ARG:O | 26:A2:88:GLN:O | 2.06 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:95:ILE:HD12 | 26:A2:95:ILE:N | 2.04 | 0.73 |
| 34:BA:197:A:O2' | 34:BA:198:G:O4' | 2.06 | 0.73 |
| 34:BA:266:G:H4' | 34:BA:267:C:C5 | 2.23 | 0.73 |
| 34:BA:582:U:H1' | 52:BT:105:ALA:C | 2.10 | 0.73 |
| 34:BA:772:U:H2' | 34:BA:773:G:H8 | 1.51 | 0.73 |
| 35:BB:34:G:C2' | 35:BB:35:A:C5' | 2.54 | 0.73 |
| 38:BF:126:ARG:HB2 | 38:BF:128:PHE:CZ | 2.24 | 0.73 |
| 39:BG:148:VAL:HB | 39:BG:181:MET:CE | 2.15 | 0.73 |
| 41:BI:69:GLU:O | 41:BI:72:VAL:CG2 | 2.36 | 0.73 |
| 43:BK:14:ARG:HH11 | 43:BK:14:ARG:CB | 2.01 | 0.73 |
| 43:BK:45:ILE:CD1 | 43:BK:48:TYR:HB3 | 2.19 | 0.73 |
| 50:BR:70:LEU:HG | 50:BR:78:TYR:CD1 | 2.24 | 0.73 |
| 54:BV:62:ILE:CD1 | 54:BV:66:MET:HG3 | 2.18 | 0.73 |
| 2:AA:58:G:N2 | 2:AA:69:C:N3 | 2.36 | 0.73 |
| 2:AA:284:U:C4 | 2:AA:357:A:N6 | 2.54 | 0.73 |
| 2:AA:292:C:O2 | 2:AA:348:G:N1 | 2.17 | 0.73 |
| 2:AA:575:A:O2' | 2:AA:576:U:H5' | 1.89 | 0.73 |
| 2:AA:771:G:H2' | 2:AA:772:C:C5 | 2.23 | 0.73 |
| 2:AA:771:G:C6 | 2:AA:772:C:N4 | 2.57 | 0.73 |
| 2:AA:929:G:H1' | 23:AX:43:ILE:CD1 | 2.19 | 0.73 |
| 2:AA:1020:A:H1' | 12:AM:49:ARG:NH2 | 2.03 | 0.73 |
| 2:AA:1084:A:O3' | 9:AI:34:ALA:HB1 | 1.89 | 0.73 |
| 2:AA:1219:G:O6 | 2:AA:1230:C:N3 | 2.22 | 0.73 |
| 2:AA:1420:U:O2' | 2:AA:1421:G:H8 | 1.72 | 0.73 |
| 2:AA:1508:A:H5" | 2:AA:1510:A:C5 | 2.24 | 0.73 |
| 2:AA:1598:C:OP1 | 19:AT:34:LYS:HG3 | 1.89 | 0.73 |
| 2:AA:1655:A:C4' | 5:AE:211:GLN:HA | 2.19 | 0.73 |
| 2:AA:1691:C:H2' | 2:AA:1691:C:O2 | 1.87 | 0.73 |
| 2:AA:1790:C:O2 | 2:AA:1791:A:N7 | 2.21 | 0.73 |
| 2:AA:1872:A:H2' | 2:AA:1878:G:H5' | 1.70 | 0.73 |
| 2:AA:1913:A:N7 | 2:AA:1918:A:N6 | 2.37 | 0.73 |
| 2:AA:2014:A:C5 | 2:AA:2015:A:N1 | 2.57 | 0.73 |
| 2:AA:2209:C:O2' | 2:AA:2210:G:C8 | 2.37 | 0.73 |
| 2:AA:2246:G:N2 | 2:AA:2247:A:C5 | 2.57 | 0.73 |
| 2:AA:2355:C:H42 | 2:AA:2362:G:H1 | 0.77 | 0.73 |
| 2:AA:2380:C:C2' | 2:AA:2381:C:H5' | 2.19 | 0.73 |
| 2:AA:2739:U:C6 | 2:AA:2739:U:C3' | 2.66 | 0.73 |
| 5:AE:107:GLU:HB3 | 5:AE:110:ARG:CD | 2.19 | 0.73 |
| 7:AG:76:ARG:O | 7:AG:80:ALA:HB3 | 1.89 | 0.73 |
| 7:AG:106:PHE:C | 7:AG:130:VAL:HG23 | 2.08 | 0.73 |
| 8:AH:167:LEU:N | 8:AH:167:LEU:HD23 | 2.04 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AJ:106:VAL:HG11 | 9:AJ:114:ILE:HD11 | 1.71 | 0.73 |
| 10:AK:3:VAL:O | 10:AK:18:ILE:CA | 2.31 | 0.73 |
| 10:AK:29:PHE:HD2 | 10:AK:30:LEU:CG | 2.02 | 0.73 |
| 10:AK:115:ILE:CA | 10:AK:131:VAL:HG13 | 2.18 | 0.73 |
| 12:AM:23:ALA:O | 12:AM:26:VAL:N | 2.22 | 0.73 |
| 15:AP:82:LYS:HZ2 | 15:AP:84:ARG:CZ | 2.02 | 0.73 |
| 18:AS:36:LEU:HD13 | 18:AS:48:ALA:N | 2.04 | 0.73 |
| 22:AW:30:ALA:HA | 22:AW:34:GLN:HG2 | 1.70 | 0.73 |
| 24:A0:52:ILE:HG22 | 24:A0:53:HIS:N | 2.03 | 0.73 |
| 26:A2:19:VAL:HG12 | 26:A2:21:ARG:NH2 | 2.02 | 0.73 |
| 27:A3:58:THR:O | 27:A3:60:PHE:N | 2.19 | 0.73 |
| 29:A5:45:ILE:HD12 | 29:A5:45:ILE:N | 2.02 | 0.73 |
| 30:A6:19:GLY:O | 30:A6:42:PRO:HB2 | 1.89 | 0.73 |
| 31:A7:9:ASN:O | 31:A7:10:ARG:C | 2.25 | 0.73 |
| 33:A9:19:ARG:HD2 | 33:A9:24:LEU:HD12 | 1.69 | 0.73 |
| 34:BA:20:U:N3 | 34:BA:21:G:C5 | 2.57 | 0.73 |
| 34:BA:115:G:C2 | 34:BA:313:A:C2 | 2.77 | 0.73 |
| 34:BA:317:G:O2' | 34:BA:318:G:H5' | 1.88 | 0.73 |
| 34:BA:342:C:C2 | 34:BA:348:G:N2 | 2.57 | 0.73 |
| 34:BA:713:G:C2' | 34:BA:714:G:C8 | 2.72 | 0.73 |
| 34:BA:719:C:H3' | 34:BA:720:C:C6 | 2.22 | 0.73 |
| 34:BA:811:C:O2' | 34:BA:901:A:N1 | 2.22 | 0.73 |
| 34:BA:965:A:H4' | 34:BA:966:G:OP1 | 1.87 | 0.73 |
| 34:BA:1412:C:H42 | 34:BA:1488:G:H1 | 1.35 | 0.73 |
| 35:BB:30:G:H8 | 35:BB:30:G:O5' | 1.71 | 0.73 |
| 38:BF:78:GLY:O | 38:BF:80:GLY:N | 2.22 | 0.73 |
| 38:BF:153:VAL:CB | 38:BF:166:GLU:HB3 | 2.17 | 0.73 |
| 39:BG:101:LEU:N | 39:BG:138:TYR:O | 2.19 | 0.73 |
| 39:BG:133:VAL:CG1 | 39:BG:138:TYR:HB2 | 2.18 | 0.73 |
| 40:BH:84:PHE:CE1 | 40:BH:133:TYR:HB3 | 2.23 | 0.73 |
| 41:BI:10:LEU:HD12 | 41:BI:10:LEU:H | 1.52 | 0.73 |
| 42:BJ:111:ARG:HD2 | 42:BJ:123:GLU:HB2 | 1.70 | 0.73 |
| 43:BK:109:ILE:HG23 | 43:BK:137:VAL:O | 1.88 | 0.73 |
| 44:BL:15:ALA:HB2 | 44:BL:76:ALA:HB3 | 1.71 | 0.73 |
| 48:BP:4:ILE:C | 48:BP:6:GLY:H | 1.92 | 0.73 |
| 48:BP:88:ARG:O | 48:BP:91:ARG:HB2 | 1.88 | 0.73 |
| 48:BP:90:LEU:HD23 | 48:BP:93:ARG:NH1 | 2.01 | 0.73 |
| 50:BR:17:ARG:HD3 | 50:BR:77:ARG:NE | 2.04 | 0.73 |
| 2:AA:137(A):G:H1 | 2:AA:139:G:N2 | 1.87 | 0.72 |
| 2:AA:273(E):U:H3 | 2:AA:363(A):A:H2 | 1.36 | 0.72 |
| 2:AA:323:G:OP2 | 2:AA:340:A:H2 | 1.71 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:383:U:O2 | 2:AA:385:C:N4 | 2.22 | 0.72 |
| 2:AA:460:A:C8 | 2:AA:461:C:C5 | 2.77 | 0.72 |
| 2:AA:971:C:OP2 | 2:AA:974(A):C:O2 | 2.06 | 0.72 |
| 2:AA:1014:U:H2' | 2:AA:1015:G:O5' | 1.89 | 0.72 |
| 2:AA:1135:C:O2 | 2:AA:2038:G:H4' | 1.89 | 0.72 |
| 2:AA:1222:C:C4 | 2:AA:1223:C:H5 | 2.06 | 0.72 |
| 2:AA:1449:A:C2 | 2:AA:449(A):G:C1' | 2.71 | 0.72 |
| 2:AA:1933:G:O2' | 2:AA:1934:C:H5' | 1.88 | 0.72 |
| 2:AA:1951:U:O2 | 2:AA:1951:U:H2' | 1.88 | 0.72 |
| 2:AA:2330:G:C2 | 2:AA:2386:C:N4 | 2.56 | 0.72 |
| 2:AA:2348:U:C5' | 32:A8:42:ARG:HH22 | 2.02 | 0.72 |
| 2:AA:2464:C:H2' | 2:AA:2465:C:O5' | 1.88 | 0.72 |
| 2:AA:2648:C:N3 | 2:AA:2672:G:N2 | 2.32 | 0.72 |
| 2:AA:2706:G:H2' | 2:AA:2707:G:O5' | 1.89 | 0.72 |
| 2:AA:2726:U:O3' | 2:AA:2727:G:H8 | 1.71 | 0.72 |
| 2:AA:2795:G:H2' | 2:AA:2795:G:N3 | 2.04 | 0.72 |
| 2:AA:2841:C:C2' | 2:AA:2842:G:C8 | 2.68 | 0.72 |
| 4:AD:146:LYS:CD | 4:AD:147:PRO:HD2 | 2.19 | 0.72 |
| 5:AE:83:LEU:HD13 | 5:AE:178:LEU:HD22 | 1.69 | 0.72 |
| 5:AE:303:PRO:HB2 | 5:AE:307:LEU:HD13 | 1.70 | 0.72 |
| 6:AF:197:SER:HB2 | 6:AF:238:SER:HB2 | 1.71 | 0.72 |
| 7:AG:90:LEU:CD1 | 48:BP:3:ARG:HH12 | 1.97 | 0.72 |
| 10:AK:66:LYS:O | 10:AK:69:LYS:HB3 | 1.88 | 0.72 |
| 14:AO:94:ARG:HB2 | 14:AO:120:LEU:HD22 | 1.71 | 0.72 |
| 15:AP:49:VAL:CG1 | 15:AP:50:VAL:N | 2.51 | 0.72 |
| 16:AQ:59:ALA:HB3 | 16:AQ:91:ARG:HH22 | 1.53 | 0.72 |
| 17:AR:10:GLY:HA3 | 17:AR:53:ASP:H | 1.52 | 0.72 |
| 21:AV:14:LEU:HD23 | 21:AV:79:ILE:HD13 | 1.71 | 0.72 |
| 24:A0:58:GLY:CA | 24:A0:80:PHE:HE2 | 1.92 | 0.72 |
| 25:A1:59:ARG:HA | 25:A1:62:ILE:CG1 | 2.19 | 0.72 |
| 26:A2:22:VAL:HG12 | 26:A2:23:GLU:N | 2.03 | 0.72 |
| 28:A4:55:ARG:O | 28:A4:61:LYS:NZ | 2.20 | 0.72 |
| 32:A8:12:ARG:HD3 | 32:A8:13:ARG:HD2 | 1.71 | 0.72 |
| 34:BA:22:G:C2' | 34:BA:23:C:O4' | 2.37 | 0.72 |
| 34:BA:552:U:O2' | 34:BA:553:A:H5' | 1.89 | 0.72 |
| 34:BA:559:A:O2' | 34:BA:560:U:OP2 | 2.06 | 0.72 |
| 34:BA:611:A:H61 | 34:BA:629:G:H1 | 1.37 | 0.72 |
| 34:BA:688:G:C2' | 34:BA:689:C:H5' | 2.18 | 0.72 |
| 34:BA:772:U:O2' | 34:BA:773:G:H5' | 1.89 | 0.72 |
| 34:BA:775:G:O2' | 34:BA:776:G:H5' | 1.88 | 0.72 |
| 34:BA:975:A:C5' | 34:BA:976:G:H5' | 2.19 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1058:G:H2' | 34:BA:1059:C:O4' | 1.89 | 0.72 |
| 34:BA:1068:G:O2' | 34:BA:1069:C:H5' | 1.88 | 0.72 |
| 34:BA:1504:G:OP2 | 34:BA:1504:G:H3' | 1.89 | 0.72 |
| 40:BH:78:HIS:CB | 43:BK:104:ARG:HD2 | 2.04 | 0.72 |
| 44:BL:50:LEU:CD1 | 44:BL:56:LEU:HA | 2.19 | 0.72 |
| 45:BM:34:VAL:HA | 45:BM:74:ILE:HG12 | 1.70 | 0.72 |
| 48:BP:48:LEU:CD2 | 48:BP:52:GLU:HB2 | 2.18 | 0.72 |
| 49:BQ:6:LEU:O | 49:BQ:8:GLU:HG2 | 1.89 | 0.72 |
| 53:BU:25:THR:HG22 | 53:BU:42:ARG:NH2 | 2.03 | 0.72 |
| 53:BU:53:ARG:O | 53:BU:55:ARG:N | 2.21 | 0.72 |
| 54:BV:36:ARG:NE | 54:BV:72:GLY:HA2 | 2.03 | 0.72 |
| 2:AA:59:U:H5" | 2:AA:59:U:H6 | 1.54 | 0.72 |
| 2:AA:287:C:H2' | 2:AA:288:C:C6 | 2.24 | 0.72 |
| 2:AA:534:U:C5' | 25:A1:46:GLU:HG2 | 2.18 | 0.72 |
| 2:AA:565:C:O2' | 2:AA:1253:A:C2 | 2.41 | 0.72 |
| 2:AA:591:C:C4 | 2:AA:592:G:N7 | 2.57 | 0.72 |
| 2:AA:684:G:O2' | 2:AA:788:A:N6 | 2.21 | 0.72 |
| 2:AA:976:C:N4 | 2:AA:987:G:H1 | 1.86 | 0.72 |
| 2:AA:1222:C:C2' | 2:AA:1223:C:H5' | 2.19 | 0.72 |
| 2:AA:1416:G:N3 | 2:AA:1583:A:N1 | 2.38 | 0.72 |
| 2:AA:1488:G:C2' | 2:AA:1489:U:H5' | 2.18 | 0.72 |
| 2:AA:1583:A:H5' | 2:AA:1585:C:OP1 | 1.90 | 0.72 |
| 2:AA:1614:A:N6 | 18:AS:88:ARG:CB | 2.50 | 0.72 |
| 2:AA:1763:G:H2' | 2:AA:1764:G:O5' | 1.88 | 0.72 |
| 2:AA:1804:C:N4 | 2:AA:1813:G:H1 | 1.87 | 0.72 |
| 2:AA:1912:A:N1 | 2:AA:1919:A:C8 | 2.57 | 0.72 |
| 2:AA:2181:G:N2 | 2:AA:2182:G:O4' | 2.21 | 0.72 |
| 2:AA:2239:G:H2' | 2:AA:2240:C:H6 | 1.54 | 0.72 |
| 2:AA:2342:C:O2 | 2:AA:2374:C:H5" | 1.87 | 0.72 |
| 2:AA:2542:A:C5' | 2:AA:2543:G:OP1 | 2.37 | 0.72 |
| 2:AA:2585:U:H1' | 35:BC:76:A:N7 | 2.04 | 0.72 |
| 2:AA:2626:C:H2' | 2:AA:2627:G:C8 | 2.24 | 0.72 |
| 2:AA:2711:A:OP1 | 2:AA:712(A):A:P | 2.47 | 0.72 |
| 2:AA:2753:A:O2' | 2:AA:2754:U:H5' | 1.89 | 0.72 |
| 2:AA:2866:U:H1' | 2:AA:2868:A:O4' | 1.89 | 0.72 |
| 3:AC:22:ILE:HB | 3:AC:190:ARG:HH22 | 1.54 | 0.72 |
| 3:AC:33:ALA:HB1 | 3:AC:39:GLU:HB3 | 1.69 | 0.72 |
| 4:AD:186:LYS:O | 4:AD:186:LYS:HG2 | 1.89 | 0.72 |
| 5:AE:175:ASP:O | 5:AE:178:LEU:N | 2.22 | 0.72 |
| 6:AF:153:VAL:HG21 | 6:AF:207:LEU:HD11 | 1.71 | 0.72 |
| 7:AG:24:HIS:O | 7:AG:129:ASP:HB3 | 1.88 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AJ:89:LYS:HE3 | 11:AL:59:THR:HB | 1.70 | 0.72 |
| 13:AN:47:THR:CB | 13:AN:48:PRO:HD2 | 2.19 | 0.72 |
| 13:AN:66:LYS:CE | 13:AN:82:ASN:ND2 | 2.37 | 0.72 |
| 21:AV:19:ILE:HG13 | 21:AV:79:ILE:HA | 1.70 | 0.72 |
| 22:AW:7:GLU:CD | 22:AW:8:ILE:HG13 | 2.10 | 0.72 |
| 26:A2:6:GLN:HE22 | 26:A2:10:LYS:HB3 | 1.53 | 0.72 |
| 28:A4:19:GLN:HB3 | 28:A4:30:GLU:O | 1.89 | 0.72 |
| 32:A8:23:MET:SD | 32:A8:47:GLY:C | 2.67 | 0.72 |
| 33:A9:20:HIS:C | 33:A9:22:ARG:H | 1.91 | 0.72 |
| 34:BA:173:U:C5' | 34:BA:197:A:O4' | 2.37 | 0.72 |
| 34:BA:195:A:H4' | 55:BW:68:LYS:HZ3 | 1.54 | 0.72 |
| 34:BA:197:A:OP2 | 34:BA:197:A:H3' | 1.88 | 0.72 |
| 34:BA:340:U:H2' | 34:BA:341:C:C6 | 2.24 | 0.72 |
| 34:BA:445:G:H2' | 34:BA:446:G:H8 | 1.53 | 0.72 |
| 34:BA:563:A:O2' | 34:BA:566:G:O2' | 2.04 | 0.72 |
| 34:BA:735:C:H5' | 53:BU:71:LYS:HD3 | 1.71 | 0.72 |
| 34:BA:894:G:C4 | 34:BA:895:G:C8 | 2.77 | 0.72 |
| 34:BA:950:U:O2' | 34:BA:951:G:H5' | 1.89 | 0.72 |
| 34:BA:1234:C:H1' | 34:BA:1364:U:O2 | 1.89 | 0.72 |
| 34:BA:1350:A:H2' | 34:BA:1351:U:C6 | 2.25 | 0.72 |
| 34:BA:1451:A:H5" | 34:BA:1452:C:N4 | 2.04 | 0.72 |
| 36:B1:17:G:N2 | 36:B1:39:A:H61 | 1.86 | 0.72 |
| 43:BK:26:VAL:CG2 | 43:BK:27:PRO:HD2 | 2.16 | 0.72 |
| 43:BK:111:ILE:HD12 | 43:BK:135:CYS:O | 1.89 | 0.72 |
| 47:BO:26:ALA:O | 47:BO:27:LEU:O | 2.07 | 0.72 |
| 48:BP:14:ARG:HD3 | 48:BP:41:PRO:O | 1.88 | 0.72 |
| 2:AA:35:G:O4' | 2:AA:454:A:C1' | 2.37 | 0.72 |
| 2:AA:209:C:C2' | 2:AA:210:C:H5' | 2.19 | 0.72 |
| 2:AA:466:A:C2' | 2:AA:467:G:H5' | 2.19 | 0.72 |
| 2:AA:503:A:O2' | 2:AA:506:G:OP2 | 2.06 | 0.72 |
| 2:AA:528:A:H2 | 2:AA:2043:C:H4' | 1.54 | 0.72 |
| 2:AA:684:G:N2 | 2:AA:794:G:C2 | 2.57 | 0.72 |
| 2:AA:698:C:H6 | 2:AA:698:C:H5' | 1.53 | 0.72 |
| 2:AA:919:G:C2' | 2:AA:920:G:H8 | 2.00 | 0.72 |
| 2:AA:1080:C:H1' | 11:AL:127:ILE:HA | 1.71 | 0.72 |
| 2:AA:1203:G:H3' | 2:AA:1203:G:N3 | 2.04 | 0.72 |
| 2:AA:1294:U:H2' | 2:AA:1294:U:O2 | 1.89 | 0.72 |
| 2:AA:1526:G:N2 | 2:AA:1546:C:C4 | 2.57 | 0.72 |
| 2:AA:1602:U:H3' | 2:AA:1602:U:C6 | 2.25 | 0.72 |
| 2:AA:1609:A:C6 | 2:AA:1616:A:H2 | 2.06 | 0.72 |
| 2:AA:1732:A:OP1 | 2:AA:1733:G:N7 | 2.22 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1819:A:OP2 | 4:AD:153:LEU:HG | 1.89 | 0.72 |
| 2:AA:1913:A:N1 | 2:AA:1917:U:O4 | 2.22 | 0.72 |
| 2:AA:1952:A:C5 | 2:AA:1953:A:C2 | 2.76 | 0.72 |
| 2:AA:2638:G:N2 | 2:AA:2778:A:H62 | 1.86 | 0.72 |
| 3:AC:133:PRO:HG3 | 3:AC:134:ARG:NH1 | 2.03 | 0.72 |
| 4:AD:107:LYS:HB3 | 4:AD:193:GLU:HB2 | 1.69 | 0.72 |
| 5:AE:70:VAL:HG13 | 5:AE:71:THR:H | 1.53 | 0.72 |
| 6:AF:200:PRO:HB3 | 6:AF:205:ARG:HD3 | 1.70 | 0.72 |
| 10:AK:54:GLU:OE1 | 10:AK:54:GLU:HA | 1.88 | 0.72 |
| 13:AN:22:ILE:HB | 13:AN:40:VAL:HG12 | 1.69 | 0.72 |
| 14:AO:66:VAL:HB | 14:AO:67:ARG:NH2 | 2.04 | 0.72 |
| 15:AP:45:GLN:CB | 15:AP:152:SER:O | 2.36 | 0.72 |
| 15:AP:48:ASN:ND2 | 15:AP:122:PHE:N | 2.37 | 0.72 |
| 18:AS:5:ALA:HB2 | 18:AS:54:ALA:CB | 2.08 | 0.72 |
| 18:AS:32:ALA:HA | 18:AS:35:ILE:HG13 | 1.70 | 0.72 |
| 23:AX:13:ILE:HD13 | 23:AX:13:ILE:H | 1.53 | 0.72 |
| 23:AX:53:LEU:O | 23:AX:54:VAL:CG1 | 2.36 | 0.72 |
| 24:A0:77:ARG:HB2 | 24:A0:77:ARG:NH1 | 2.04 | 0.72 |
| 24:A0:105:ARG:CZ | 24:A0:105:ARG:N | 2.52 | 0.72 |
| 25:A1:43:ALA:HB1 | 26:A2:75:LYS:HB2 | 1.69 | 0.72 |
| 28:A4:6:HIS:CE1 | 28:A4:55:ARG:HB2 | 2.24 | 0.72 |
| 29:A5:34:PRO:HG2 | 29:A5:35:GLN:N | 2.04 | 0.72 |
| 30:A6:38:LYS:O | 30:A6:50:PHE:HB2 | 1.89 | 0.72 |
| 32:A8:16:ILE:HG13 | 32:A8:22:VAL:CG2 | 2.19 | 0.72 |
| 34:BA:440:A:C6 | 34:BA:495:U:C5 | 2.77 | 0.72 |
| 34:BA:513:C:C2 | 34:BA:514:C:C5 | 2.77 | 0.72 |
| 34:BA:862:C:H1' | 34:BA:874:G:C5' | 2.20 | 0.72 |
| 34:BA:1044:A:H2' | 34:BA:1045:C:C4' | 2.18 | 0.72 |
| 34:BA:1255:G:O2' | 34:BA:1258:G:H1' | 1.88 | 0.72 |
| 35:BB:31:A:H5" | 35:BB:31:A:C8 | 2.24 | 0.72 |
| 35:BC:57:G:H2' | 35:BC:58:A:C5' | 2.20 | 0.72 |
| 37:BE:14:GLY:HA3 | 37:BE:209:ARG:CZ | 2.19 | 0.72 |
| 38:BF:42:LEU:HD12 | 38:BF:94:LEU:HD12 | 1.70 | 0.72 |
| 39:BG:120:LEU:HD11 | 39:BG:125:HIS:HB2 | 1.70 | 0.72 |
| 40:BH:9:LYS:HD2 | 40:BH:112:LEU:HD23 | 1.71 | 0.72 |
| 40:BH:78:HIS:HB3 | 43:BK:107:LEU:HD11 | 1.71 | 0.72 |
| 48:BP:20:THR:HG23 | 48:BP:25:ILE:O | 1.89 | 0.72 |
| 53:BU:70:ILE:HG22 | 53:BU:74:ARG:HE | 1.51 | 0.72 |
| 2:AA:70:G:OP1 | 2:AA:112:U:N3 | 2.22 | 0.72 |
| 2:AA:133:C:O2' | 2:AA:134:C:H5' | 1.89 | 0.72 |
| 2:AA:142:G:OP1 | 2:AA:1596:A:H5" | 1.90 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:567:A:C2 | 2:AA:568:U:H1' | 2.25 | 0.72 |
| 2:AA:974:G:OP2 | 2:AA:1188:U:C6 | 2.42 | 0.72 |
| 2:AA:1029:A:O2' | 2:AA:1030:G:OP1 | 2.06 | 0.72 |
| 2:AA:1084:A:N7 | 9:AI:25:LEU:HD13 | 2.04 | 0.72 |
| 2:AA:1140:C:N3 | 12:AM:49:ARG:CZ | 2.52 | 0.72 |
| 2:AA:1173:G:H1' | 2:AA:1177:A:N1 | 2.03 | 0.72 |
| 2:AA:1299:G:H4' | 2:AA:1301:A:C2 | 2.20 | 0.72 |
| 2:AA:1299:G:O2' | 2:AA:1301:A:C2 | 2.40 | 0.72 |
| 2:AA:1316:U:O2' | 2:AA:1317:A:H5' | 1.89 | 0.72 |
| 2:AA:1470:G:H2' | 2:AA:1519:G:O6 | 1.90 | 0.72 |
| 2:AA:1515:C:H6 | 2:AA:1515:C:OP1 | 1.71 | 0.72 |
| 2:AA:1792:G:N1 | 2:AA:1827:C:N4 | 2.38 | 0.72 |
| 2:AA:1809:A:H2' | 2:AA:1810:A:H5' | 1.71 | 0.72 |
| 2:AA:1831:G:H2' | 2:AA:1832:C:C6 | 2.23 | 0.72 |
| 2:AA:1950:G:C5 | 2:AA:1951:U:H5 | 2.07 | 0.72 |
| 2:AA:1986:A:N1 | 2:AA:1987:G:C5 | 2.57 | 0.72 |
| 2:AA:2268:A:H5' | 2:AA:2269:A:OP2 | 1.90 | 0.72 |
| 2:AA:2345:G:N2 | 2:AA:2382:G:OP2 | 2.22 | 0.72 |
| 2:AA:2422:A:H2' | 2:AA:2424:C:H5 | 1.55 | 0.72 |
| 2:AA:2587:A:HO2' | 2:AA:2588:G:H5' | 1.51 | 0.72 |
| 2:AA:2661:G:H2' | 2:AA:2662:A:H8 | 1.48 | 0.72 |
| 2:AA:2820:A:N7 | 5:AE:304:ASP:OD2 | 2.22 | 0.72 |
| 3:AC:46:LYS:HB2 | 3:AC:210:ARG:HB2 | 1.71 | 0.72 |
| 4:AD:77:VAL:HG11 | 4:AD:109:LEU:O | 1.89 | 0.72 |
| 4:AD:145:LEU:HD23 | 4:AD:183:ILE:HG12 | 1.70 | 0.72 |
| 4:AD:169:LYS:NZ | 4:AD:169:LYS:N | 2.34 | 0.72 |
| 5:AE:107:GLU:HB3 | 5:AE:110:ARG:NE | 2.04 | 0.72 |
| 6:AF:61:PHE:HB3 | 6:AF:65:ARG:CZ | 2.19 | 0.72 |
| 7:AG:28:GLY:HA2 | 7:AG:69:ILE:CG2 | 2.18 | 0.72 |
| 7:AG:136:ARG:HD2 | 7:AG:136:ARG:H | 1.54 | 0.72 |
| 9:AI:42:ALA:HB2 | 9:AJ:42:ALA:HB2 | 1.70 | 0.72 |
| 12:AM:73:LYS:O | 12:AM:140:GLY:C | 2.28 | 0.72 |
| 12:AM:88:PRO:HD2 | 12:AM:94:GLY:HA3 | 1.71 | 0.72 |
| 14:AO:81:VAL:O | 14:AO:81:VAL:HG12 | 1.88 | 0.72 |
| 14:AO:94:ARG:HB2 | 14:AO:120:LEU:CD1 | 2.18 | 0.72 |
| 17:AR:14:GLU:CG | 17:AR:15:PRO:HD2 | 2.20 | 0.72 |
| 17:AR:15:PRO:HB2 | 17:AR:17:THR:OG1 | 1.89 | 0.72 |
| 17:AR:49:LEU:HD22 | 17:AR:54:THR:HG23 | 1.67 | 0.72 |
| 19:AT:7:HIS:O | 19:AT:26:PHE:HB3 | 1.88 | 0.72 |
| 19:AT:47:VAL:HB | 19:AT:69:SER:HB2 | 1.72 | 0.72 |
| 20:AU:9:LYS:O | 20:AU:13:ARG:HB2 | 1.89 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:6:LYS:HD3 | 21:AV:30:VAL:HG11 | 1.71 | 0.72 |
| 21:AV:65:LEU:O | 21:AV:83:PHE:HA | 1.89 | 0.72 |
| 26:A2:59:GLU:OE1 | 26:A2:99:GLN:HA | 1.89 | 0.72 |
| 27:A3:39:ARG:N | 27:A3:69:PHE:HZ | 1.86 | 0.72 |
| 28:A4:48:ARG:HG3 | 28:A4:49:PHE:CD1 | 2.23 | 0.72 |
| 29:A5:29:ASN:O | 29:A5:30:LEU:O | 2.07 | 0.72 |
| 29:A5:34:PRO:CD | 29:A5:35:GLN:H | 2.01 | 0.72 |
| 34:BA:519:C:N4 | 34:BA:520:A:C2 | 2.57 | 0.72 |
| 34:BA:776:G:C5' | 34:BA:777:A:OP1 | 2.34 | 0.72 |
| 34:BA:1396:A:H4' | 34:BA:1398:A:O4' | 1.89 | 0.72 |
| 34:BA:1451:A:H5" | 34:BA:1452:C:C4 | 2.24 | 0.72 |
| 37:BE:82:ARG:HA | 37:BE:92:TYR:HE1 | 1.49 | 0.72 |
| 39:BG:170:VAL:HG21 | 39:BG:176:LEU:CB | 2.20 | 0.72 |
| 41:BI:1:MET:SD | 41:BI:68:PRO:CD | 2.77 | 0.72 |
| 41:BI:27:GLN:CA | 41:BI:30:LEU:HD13 | 2.19 | 0.72 |
| 50:BR:41:GLU:HA | 50:BR:41:GLU:OE2 | 1.89 | 0.72 |
| 51:BS:20:VAL:CG1 | 51:BS:21:VAL:N | 2.52 | 0.72 |
| 2:AA:106:C:H2' | 2:AA:107:C:C5' | 2.19 | 0.72 |
| 2:AA:280:C:O2' | 2:AA:281:G:C4 | 2.43 | 0.72 |
| 2:AA:318:C:O2' | 2:AA:319:C:H5' | 1.90 | 0.72 |
| 2:AA:385:C:O5' | 2:AA:385:C:H6 | 1.72 | 0.72 |
| 2:AA:462:C:C4 | 2:AA:468:G:N2 | 2.57 | 0.72 |
| 2:AA:687:C:N4 | 2:AA:775:G:H1 | 1.86 | 0.72 |
| 2:AA:735:A:H2' | 2:AA:736:C:H5' | 1.71 | 0.72 |
| 2:AA:791:C:C5 | 2:AA:794:G:O4' | 2.43 | 0.72 |
| 2:AA:849:A:O2' | 2:AA:850:C:H5' | 1.89 | 0.72 |
| 2:AA:1011:G:O6 | 2:AA:1150:C:N3 | 2.23 | 0.72 |
| 2:AA:1246:A:N1 | 2:AA:1247:A:C2 | 2.57 | 0.72 |
| 2:AA:1391:U:N3 | 2:AA:1394:U:C5 | 2.58 | 0.72 |
| 2:AA:1513:C:H2' | 2:AA:1514:U:H5 | 1.55 | 0.72 |
| 2:AA:1572:A:O2' | 2:AA:1573:G:OP1 | 2.06 | 0.72 |
| 2:AA:1631:A:N6 | 2:AA:1683:C:H5' | 2.04 | 0.72 |
| 2:AA:2115:G:O3' | 3:AC:126:LYS:HB2 | 1.90 | 0.72 |
| 2:AA:2136:C:H5" | 2:AA:2137:C:OP2 | 1.89 | 0.72 |
| 2:AA:2398:U:H2' | 2:AA:2399:G:H8 | 1.54 | 0.72 |
| 2:AA:2678:C:H2' | 2:AA:2679:A:O4' | 1.88 | 0.72 |
| 2:AA:2733:A:H2' | 2:AA:2734:A:O5' | 1.89 | 0.72 |
| 2:AA:2821:A:H3' | 2:AA:2821:A:P | 2.29 | 0.72 |
| 2:AA:2838:G:O2' | 2:AA:2839:G:H5' | 1.89 | 0.72 |
| 2:AA:2845:G:O2' | 2:AA:2846:G:C5' | 2.36 | 0.72 |
| 4:AD:66:PHE:N | 4:AD:67:LYS:HZ3 | 1.87 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:83:GLU:HB2 | 8:AH:133:LYS:CG | 2.18 | 0.72 |
| 10:AK:5:PHE:CG | 10:AK:17:GLU:O | 2.43 | 0.72 |
| 10:AK:26:ALA:HA | 10:AK:29:PHE:CE2 | 2.23 | 0.72 |
| 12:AM:58:GLU:HG3 | 12:AM:139:LEU:HD12 | 1.70 | 0.72 |
| 14:AO:109:LEU:HD13 | 14:AO:110:GLY:N | 2.03 | 0.72 |
| 16:AQ:90:LEU:HA | 16:AQ:93:GLN:CD | 2.09 | 0.72 |
| 25:A1:98:ILE:HD12 | 25:A1:101:ARG:HG3 | 1.70 | 0.72 |
| 27:A3:30:VAL:HG23 | 27:A3:62:LEU:HB3 | 1.71 | 0.72 |
| 27:A3:37:LEU:HD11 | 27:A3:71:ASN:ND2 | 2.05 | 0.72 |
| 34:BA:313:A:H2' | 34:BA:314:C:C5 | 2.24 | 0.72 |
| 34:BA:370:C:O2' | 34:BA:371:G:C5' | 2.32 | 0.72 |
| 34:BA:542:G:N2 | 34:BA:543:C:C2 | 2.57 | 0.72 |
| 34:BA:563:A:H4' | 34:BA:565:U:H5 | 1.54 | 0.72 |
| 34:BA:727:G:N2 | 34:BA:731:G:C4 | 2.57 | 0.72 |
| 34:BA:1192:C:N4 | 34:BA:1193:G:C6 | 2.57 | 0.72 |
| 34:BA:1261:A:H5' | 34:BA:1283:G:O3' | 1.88 | 0.72 |
| 34:BA:1422:G:N2 | 34:BA:1479:C:C2 | 2.57 | 0.72 |
| 35:BB:2:C:N3 | 35:BB:71:G:N1 | 2.37 | 0.72 |
| 35:BC:19:G:C4 | 35:BC:57:G:N2 | 2.57 | 0.72 |
| 37:BE:187:LEU:HD22 | 37:BE:188:ALA:N | 2.04 | 0.72 |
| 39:BG:121:VAL:O | 39:BG:134:ASP:HA | 1.89 | 0.72 |
| 39:BG:127:THR:N | 39:BG:147:ALA:O | 2.23 | 0.72 |
| 41:BI:9:VAL:HG23 | 41:BI:87:ARG:HB2 | 1.72 | 0.72 |
| 45:BM:49:VAL:O | 45:BM:60:ARG:HD2 | 1.88 | 0.72 |
| 50:BR:29:VAL:HG11 | 50:BR:81:LEU:HD11 | 1.71 | 0.72 |
| 53:BU:29:PHE:CZ | 53:BU:39:VAL:HG11 | 2.23 | 0.72 |
| 54:BV:30:LEU:CD2 | 54:BV:31:ILE:H | 2.01 | 0.72 |
| 2:AA:25:U:C2' | 2:AA:26:G:C8 | 2.69 | 0.72 |
| 2:AA:88:G:N3 | 2:AA:88:G:H2' | 2.03 | 0.72 |
| 2:AA:388:G:C2' | 2:AA:390:A:H62 | 2.02 | 0.72 |
| 2:AA:464:U:N3 | 2:AA:465:G:N7 | 2.37 | 0.72 |
| 2:AA:464:U:H1' | 2:AA:788:A:N1 | 2.05 | 0.72 |
| 2:AA:913:U:O2' | 2:AA:914:C:C5 | 2.36 | 0.72 |
| 2:AA:1084:A:C4' | 9:AI:38:ALA:H | 2.03 | 0.72 |
| 2:AA:1189:A:H2' | 2:AA:1190:G:H5' | 1.71 | 0.72 |
| 2:AA:1367:A:O2' | 31:A7:25:LYS:HD3 | 1.89 | 0.72 |
| 2:AA:1668:A:O2' | 2:AA:1669:A:H3' | 1.90 | 0.72 |
| 2:AA:1777:U:H2' | 2:AA:1778:U:C6 | 2.20 | 0.72 |
| 2:AA:1816:G:N7 | 4:AD:63:ILE:HG13 | 2.04 | 0.72 |
| 2:AA:1941:C:H41 | 2:AA:1965:C:H1' | 1.53 | 0.72 |
| 2:AA:2273:A:H8 | 2:AA:2274:A:O4' | 1.73 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2653:U:H3' | 2:AA:2654:A:C8 | 2.24 | 0.72 |
| 2:AA:2787:C:H2' | 2:AA:2788:C:C6 | 2.24 | 0.72 |
| 2:AA:2877:G:H3' | 2:AA:2878:U:C5 | 2.25 | 0.72 |
| 3:AC:36:LYS:NZ | 3:AC:37:PHE:N | 2.36 | 0.72 |
| 3:AC:75:LEU:HD22 | 3:AC:110:PHE:CE2 | 2.25 | 0.72 |
| 3:AC:133:PRO:HG2 | 3:AC:134:ARG:H | 1.52 | 0.72 |
| 5:AE:256:THR:CA | 5:AE:259:HIS:HE1 | 2.03 | 0.72 |
| 8:AH:18:VAL:CG1 | 8:AH:42:ILE:HD12 | 2.19 | 0.72 |
| 8:AH:121:GLU:CD | 8:AH:121:GLU:N | 2.42 | 0.72 |
| 11:AL:79:LEU:CD2 | 11:AL:137:ILE:HD13 | 2.19 | 0.72 |
| 18:AS:13:SER:O | 18:AS:14:PRO:C | 2.27 | 0.72 |
| 18:AS:55:ALA:HA | 18:AS:107:LEU:CD1 | 2.15 | 0.72 |
| 19:AT:52:VAL:CG2 | 19:AT:66:VAL:HG22 | 2.20 | 0.72 |
| 20:AU:46:ASP:HA | 20:AU:102:ASP:OD1 | 1.90 | 0.72 |
| 20:AU:71:VAL:CG1 | 20:AU:72:ILE:N | 2.52 | 0.72 |
| 21:AV:64:ALA:HB3 | 21:AV:85:MET:HA | 1.72 | 0.72 |
| 21:AV:151:ASP:O | 21:AV:153:LYS:HD2 | 1.89 | 0.72 |
| 24:A0:31:HIS:CD2 | 24:A0:34:ILE:HD11 | 2.22 | 0.72 |
| 27:A3:44:LYS:HB3 | 27:A3:45:PHE:CD1 | 2.24 | 0.72 |
| 27:A3:46:LYS:NZ | 27:A3:81:ILE:HD11 | 2.05 | 0.72 |
| 28:A4:48:ARG:N | 28:A4:52:THR:OG1 | 2.23 | 0.72 |
| 31:A7:27:GLY:C | 31:A7:31:LEU:HG | 2.08 | 0.72 |
| 31:A7:34:ARG:O | 31:A7:35:ARG:C | 2.26 | 0.72 |
| 32:A8:60:LEU:HD21 | 32:A8:64:ARG:HB2 | 1.70 | 0.72 |
| 34:BA:51:A:C2 | 34:BA:353:A:C6 | 2.77 | 0.72 |
| 34:BA:195:A:C4' | 55:BW:68:LYS:NZ | 2.53 | 0.72 |
| 34:BA:448:A:H62 | 34:BA:486:U:H3 | 1.38 | 0.72 |
| 34:BA:584:G:OP1 | 52:BT:87:LYS:HD3 | 1.88 | 0.72 |
| 34:BA:862:C:C4 | 34:BA:863:U:C5 | 2.78 | 0.72 |
| 34:BA:962:C:H2' | 34:BA:963:G:O4' | 1.90 | 0.72 |
| 34:BA:1163:C:C2' | 34:BA:1164:G:H5' | 2.18 | 0.72 |
| 34:BA:1371:G:OP1 | 44:BL:68:GLY:HA3 | 1.90 | 0.72 |
| 37:BE:16:HIS:HA | 37:BE:204:ASN:HB3 | 1.72 | 0.72 |
| 39:BG:61:LYS:HA | 39:BG:203:VAL:HG22 | 1.72 | 0.72 |
| 41:BI:53:ALA:C | 41:BI:55:ASP:N | 2.42 | 0.72 |
| 45:BM:47:PHE:CZ | 45:BM:65:LEU:HB2 | 2.24 | 0.72 |
| 46:BN:46:GLY:H | 46:BN:55:LYS:HD3 | 1.54 | 0.72 |
| 46:BN:111:ASP:O | 46:BN:112:THR:C | 2.28 | 0.72 |
| 52:BT:27:PHE:O | 52:BT:36:ILE:HD13 | 1.88 | 0.72 |
| 1:AB:13:A:H2 | 1:AB:69:G:H21 | 1.32 | 0.72 |
| 1:AB:15:A:H5' | 1:AB:16:G:N7 | 2.03 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:269:U:H3 | 2:AA:270:A:N6 | 1.86 | 0.72 |
| 2:AA:465:G:C6 | 2:AA:466:A:C6 | 2.78 | 0.72 |
| 2:AA:489:G:H21 | 2:AA:491:G:H1' | 1.54 | 0.72 |
| 2:AA:530:G:O2' | 2:AA:531:C:C4' | 2.37 | 0.72 |
| 2:AA:749:C:O2' | 2:AA:1617:C:H2' | 1.89 | 0.72 |
| 2:AA:974:G:O2' | 2:AA:974(A):C:O5' | 2.04 | 0.72 |
| 2:AA:975:G:C8 | 2:AA:990:A:C6 | 2.77 | 0.72 |
| 2:AA:1023:U:P | 2:AA:1025:G:N1 | 2.63 | 0.72 |
| 2:AA:142(A):A:C5 | 2:AA:1143:A:N7 | 2.57 | 0.72 |
| 2:AA:1527:G:H1' | 2:AA:1545:A:H62 | 1.53 | 0.72 |
| 2:AA:1552:G:H5" | 2:AA:1553:A:OP1 | 1.90 | 0.72 |
| 2:AA:1665:A:HO2' | 13:AN:67:ARG:CZ | 2.02 | 0.72 |
| 2:AA:1778:U:C2 | 2:AA:1784:A:C2 | 2.78 | 0.72 |
| 2:AA:1993:U:H2' | 2:AA:1994:C:C5' | 2.20 | 0.72 |
| 2:AA:2000:G:H2' | 2:AA:2001:A:C8 | 2.21 | 0.72 |
| 2:AA:2056:G:N2 | 2:AA:2057:A:O4' | 2.22 | 0.72 |
| 2:AA:2423:U:C6 | 2:AA:2425:A:C6 | 2.77 | 0.72 |
| 2:AA:2482:G:N7 | 2:AA:2483:C:C5 | 2.58 | 0.72 |
| 2:AA:2581:G:H1 | 2:AA:2610:C:C2' | 2.01 | 0.72 |
| 2:AA:2589:A:OP1 | 4:AD:230:ASN:ND2 | 2.22 | 0.72 |
| 2:AA:2776:A:H4' | 2:AA:2778:A:OP1 | 1.89 | 0.72 |
| 4:AD:129:LEU:HD22 | 4:AD:133:ASN:CB | 2.20 | 0.72 |
| 4:AD:131:LEU:HD11 | 4:AD:183:ILE:HG21 | 1.72 | 0.72 |
| 5:AE:39:GLN:HA | 5:AE:174:LEU:HG | 1.69 | 0.72 |
| 5:AE:77:PRO:HG2 | 5:AE:186:GLU:CB | 2.19 | 0.72 |
| 6:AF:27:ARG:O | 6:AF:31:ILE:HG13 | 1.88 | 0.72 |
| 6:AF:55:ARG:HA | 6:AF:79:ARG:HH21 | 1.52 | 0.72 |
| 6:AF:153:VAL:CG1 | 6:AF:157:LEU:HD21 | 2.20 | 0.72 |
| 9:AI:9:ALA:O | 9:AI:13:LEU:HG | 1.89 | 0.72 |
| 10:AK:4:ILE:O | 10:AK:4:ILE:HG22 | 1.89 | 0.72 |
| 13:AN:64:ARG:CG | 13:AN:79:PHE:HD1 | 2.01 | 0.72 |
| 14:AO:92:ASP:CB | 14:AO:118:LEU:CD2 | 2.64 | 0.72 |
| 15:AP:86:ARG:HH11 | 15:AP:120:HIS:HD2 | 1.37 | 0.72 |
| 20:AU:41:ARG:HB3 | 20:AU:111:ARG:CG | 2.13 | 0.72 |
| 22:AW:62:GLU:N | 22:AW:62:GLU:OE1 | 2.23 | 0.72 |
| 23:AX:27:GLY:O | 23:AX:28:LEU:HD23 | 1.89 | 0.72 |
| 25:A1:49:ASP:HA | 25:A1:52:ASN:HD22 | 1.53 | 0.72 |
| 28:A4:40:HIS:HB3 | 28:A4:41:PRO:HD3 | 1.72 | 0.72 |
| 34:BA:17:U:H2' | 34:BA:18:C:H6 | 1.53 | 0.72 |
| 34:BA:153:C:H2' | 34:BA:154:C:C6 | 2.24 | 0.72 |
| 34:BA:429:U:C2' | 39:BG:22:LYS:NZ | 2.51 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:815:A:C4 | 34:BA:1529:G:C6 | 2.78 | 0.72 |
| 34:BA:857:C:H2' | 34:BA:858:G:H8 | 1.54 | 0.72 |
| 34:BA:994:A:H61 | 34:BA:1046:A:H2 | 1.38 | 0.72 |
| 34:BA:1201:A:O2' | 34:BA:1202:G:OP2 | 2.08 | 0.72 |
| 34:BA:1237:C:C1' | 34:BA:1334:G:H21 | 2.03 | 0.72 |
| 34:BA:1534:A:N3 | 34:BA:1534:A:C3' | 2.43 | 0.72 |
| 35:BB:15:G:H22 | 35:BB:48:C:N4 | 1.88 | 0.72 |
| 35:BB:28:C:O2 | 35:BB:29:A:H8 | 1.71 | 0.72 |
| 35:BB:53:G:C2' | 35:BB:54:U:C5' | 2.54 | 0.72 |
| 35:BC:74:C:H2' | 35:BC:75:C:C5' | 2.18 | 0.72 |
| 38:BF:11:ARG:CG | 38:BF:15:THR:O | 2.34 | 0.72 |
| 40:BH:107:ARG:HG2 | 40:BH:111:GLU:CG | 2.20 | 0.72 |
| 43:BK:109:ILE:O | 43:BK:109:ILE:HG13 | 1.89 | 0.72 |
| 46:BN:91:ARG:O | 46:BN:95:ILE:HG13 | 1.89 | 0.72 |
| 55:BW:53:LEU:O | 55:BW:56:MET:N | 2.23 | 0.72 |
| 1:AB:35:U:C5 | 1:AB:36:C:C5 | 2.78 | 0.72 |
| 1:AB:102:G:N2 | 1:AB:103:U:H3 | 1.87 | 0.72 |
| 2:AA:271:G:C2 | 2:AA:404:C:N4 | 2.57 | 0.72 |
| 2:AA:359:A:H2 | 2:AA:361:G:N2 | 1.88 | 0.72 |
| 2:AA:650:C:O2' | 2:AA:651:G:H5' | 1.89 | 0.72 |
| 2:AA:930:U:OP1 | 23:AX:37:LEU:HD21 | 1.89 | 0.72 |
| 2:AA:941:A:C2 | 2:AA:942:G:C4 | 2.77 | 0.72 |
| 2:AA:1084:A:H5" | 9:AI:37:VAL:N | 2.03 | 0.72 |
| 2:AA:1193:G:O2' | 2:AA:1194:A:H5' | 1.90 | 0.72 |
| 2:AA:1362:C:O2 | 2:AA:1369:G:N1 | 2.20 | 0.72 |
| 2:AA:1636:C:O2' | 2:AA:1761:C:H1' | 1.90 | 0.72 |
| 2:AA:1689:A:H2' | 2:AA:1690:A:C8 | 2.15 | 0.72 |
| 2:AA:1799:G:C2 | 4:AD:153:LEU:HD21 | 2.25 | 0.72 |
| 2:AA:2231:C:H2' | 2:AA:2232:U:C5 | 2.22 | 0.72 |
| 2:AA:2486:G:C2 | 2:AA:2487:G:C8 | 2.78 | 0.72 |
| 2:AA:2488:A:C6 | 2:AA:2489:G:C5 | 2.78 | 0.72 |
| 2:AA:2491:U:C5' | 2:AA:2570:G:H5' | 2.20 | 0.72 |
| 2:AA:2616:C:C2' | 2:AA:2617:C:H6 | 1.85 | 0.72 |
| 2:AA:2687:U:H2' | 2:AA:2687:U:O2 | 1.87 | 0.72 |
| 2:AA:2799:A:H5" | 2:AA:2801:A:OP2 | 1.89 | 0.72 |
| 2:AA:2839:G:O2' | 24:A0:92:GLY:HA3 | 1.90 | 0.72 |
| 3:AC:181:PRO:CD | 3:AC:184:LYS:HD2 | 2.15 | 0.72 |
| 4:AD:185:GLY:C | 4:AD:187:CYS:H | 1.92 | 0.72 |
| 7:AG:45:THR:HA | 7:AG:83:PHE:CZ | 2.24 | 0.72 |
| 11:AL:109:ALA:HB2 | 11:AL:128:ILE:HD11 | 1.72 | 0.72 |
| 13:AN:21:VAL:CG1 | 13:AN:22:ILE:N | 2.53 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:37:ASP:HB2 | 13:AN:62:VAL:HG21 | 1.71 | 0.72 |
| 14:AO:53:ARG:H | 14:AO:53:ARG:CD | 1.84 | 0.72 |
| 15:AP:25:GLY:O | 15:AP:27:GLY:N | 2.21 | 0.72 |
| 15:AP:56:ILE:O | 15:AP:112:ALA:CB | 2.38 | 0.72 |
| 18:AS:24:ILE:HD13 | 18:AS:36:LEU:HD11 | 1.71 | 0.72 |
| 20:AU:14:ALA:HB1 | 20:AU:15:PRO:CD | 2.18 | 0.72 |
| 20:AU:14:ALA:HB3 | 20:AU:18:GLU:OE1 | 1.89 | 0.72 |
| 20:AU:18:GLU:O | 20:AU:21:LYS:N | 2.23 | 0.72 |
| 21:AV:142:ASN:N | 21:AV:171:VAL:HG11 | 2.05 | 0.72 |
| 24:A0:52:ILE:O | 24:A0:55:ALA:HB3 | 1.90 | 0.72 |
| 25:A1:28:ARG:HA | 25:A1:31:GLN:HB2 | 1.71 | 0.72 |
| 26:A2:21:ARG:HB2 | 26:A2:95:ILE:CD1 | 2.18 | 0.72 |
| 31:A7:30:ILE:HD13 | 31:A7:33:ARG:CD | 2.20 | 0.72 |
| 32:A8:9:MET:O | 32:A8:14:ILE:HB | 1.89 | 0.72 |
| 34:BA:36:C:H2' | 34:BA:37:U:H6 | 1.54 | 0.72 |
| 34:BA:76:C:N3 | 34:BA:93:G:N2 | 2.32 | 0.72 |
| 34:BA:185:A:N3 | 55:BW:81:LYS:NZ | 2.38 | 0.72 |
| 34:BA:254:G:H2' | 34:BA:255:G:H8 | 1.54 | 0.72 |
| 34:BA:265:G:O2' | 34:BA:266:G:H5' | 1.88 | 0.72 |
| 34:BA:309:G:O2' | 34:BA:310:G:H5' | 1.90 | 0.72 |
| 34:BA:409:G:N2 | 34:BA:433:C:N3 | 2.30 | 0.72 |
| 34:BA:741:G:H2' | 34:BA:742:G:C8 | 2.17 | 0.72 |
| 34:BA:1316:G:OP2 | 34:BA:1316:G:C8 | 2.42 | 0.72 |
| 35:BB:9:A:C2 | 35:BB:45:G:N7 | 2.57 | 0.72 |
| 35:BB:26:G:H2' | 35:BB:26:G:N3 | 2.05 | 0.72 |
| 39:BG:25:ARG:CZ | 39:BG:30:LYS:HD3 | 2.19 | 0.72 |
| 42:BJ:80:VAL:HG21 | 42:BJ:85:TYR:HB2 | 1.71 | 0.72 |
| 43:BK:22:GLU:HA | 43:BK:63:LEU:CD1 | 2.19 | 0.72 |
| 50:BR:39:LEU:HD23 | 50:BR:39:LEU:C | 2.10 | 0.72 |
| 53:BU:40:LEU:C | 53:BU:42:ARG:H | 1.91 | 0.72 |
| 1:AB:20:C:H2' | 1:AB:21:G:H5' | 1.72 | 0.72 |
| 2:AA:16:G:C4' | 29:A5:18:MET:HE3 | 2.20 | 0.72 |
| 2:AA:126:A:H4' | 31:A7:19:ARG:HE | 1.54 | 0.72 |
| 2:AA:412:A:O2' | 2:AA:413:C:H5' | 1.90 | 0.72 |
| 2:AA:500:G:H2' | 2:AA:501:A:H5" | 1.70 | 0.72 |
| 2:AA:528:A:C8 | 2:AA:528:A:C3' | 2.71 | 0.72 |
| 2:AA:537:C:H2' | 2:AA:539:G:H8 | 1.53 | 0.72 |
| 2:AA:611:C:O2' | 2:AA:616:A:H2 | 1.73 | 0.72 |
| 2:AA:702:G:C6 | 2:AA:731:C:N4 | 2.58 | 0.72 |
| 2:AA:853:G:H2' | 2:AA:854:G:C8 | 2.21 | 0.72 |
| 2:AA:923:C:O4' | 27:A3:26:PHE:CD2 | 2.43 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:997:G:C4' | 25:A1:92:ARG:HH11 | 2.01 | 0.72 |
| 2:AA:1127:A:H2' | 2:AA:1128:A:H8 | 1.54 | 0.72 |
| 2:AA:1327:C:H3' | 2:AA:1328:G:C8 | 2.25 | 0.72 |
| 2:AA:1391:U:C4 | 2:AA:1394:U:H5 | 2.07 | 0.72 |
| 2:AA:1681:G:C5 | 2:AA:1762:A:N7 | 2.58 | 0.72 |
| 2:AA:2016:U:H5" | 2:AA:2058:A:OP1 | 1.90 | 0.72 |
| 2:AA:2320:A:O5' | 2:AA:2320:A:H8 | 1.72 | 0.72 |
| 2:AA:2320:A:N3 | 2:AA:2333:A:C5 | 2.56 | 0.72 |
| 2:AA:2332:U:H4' | 2:AA:2336:A:H61 | 1.54 | 0.72 |
| 2:AA:2626:C:O2' | 2:AA:2627:G:H5' | 1.89 | 0.72 |
| 2:AA:2633:G:H5' | 2:AA:2811:G:O3' | 1.90 | 0.72 |
| 2:AA:2785:C:O2 | 5:AE:100:TRP:CD1 | 2.43 | 0.72 |
| 2:AA:2808:U:OP1 | 2:AA:2809:A:OP2 | 2.08 | 0.72 |
| 2:AA:2835:A:N6 | 2:AA:2879:C:OP2 | 2.23 | 0.72 |
| 4:AD:80:ILE:O | 4:AD:80:ILE:HD12 | 1.89 | 0.72 |
| 4:AD:104:ILE:HD13 | 4:AD:106:PRO:HG2 | 1.72 | 0.72 |
| 5:AE:48:MET:O | 5:AE:49:THR:HG22 | 1.89 | 0.72 |
| 5:AE:216:ARG:NH2 | 5:AE:255:GLN:CA | 2.53 | 0.72 |
| 6:AF:167:ASP:HB3 | 6:AF:232:LEU:H | 1.53 | 0.72 |
| 8:AH:11:PRO:O | 8:AH:14:VAL:CG2 | 2.38 | 0.72 |
| 11:AL:22:PRO:HG2 | 11:AL:23:PRO:CD | 2.19 | 0.72 |
| 12:AM:103:VAL:C | 12:AM:104:TYR:CD1 | 2.63 | 0.72 |
| 13:AN:86:ILE:C | 13:AN:87:ILE:HD12 | 2.09 | 0.72 |
| 19:AT:23:LYS:H | 19:AT:68:LEU:HG | 1.53 | 0.72 |
| 21:AV:172:LEU:CG | 21:AV:173:PRO:HD2 | 2.16 | 0.72 |
| 26:A2:65:ARG:NH1 | 26:A2:94:LYS:NZ | 2.37 | 0.72 |
| 28:A4:5:LEU:HA | 28:A4:56:VAL:HA | 1.72 | 0.72 |
| 30:A6:12:MET:HB2 | 30:A6:27:ASN:HD22 | 1.53 | 0.72 |
| 34:BA:169:C:H2' | 34:BA:170:U:H6 | 1.55 | 0.72 |
| 34:BA:281:G:O2' | 34:BA:282:A:H8 | 1.73 | 0.72 |
| 34:BA:568:G:C2 | 34:BA:569:C:C4 | 2.78 | 0.72 |
| 34:BA:598:U:O4' | 43:BK:94:TYR:HD2 | 1.71 | 0.72 |
| 34:BA:1015:A:H1' | 34:BA:1218:C:O2' | 1.90 | 0.72 |
| 37:BE:39:ILE:HG22 | 37:BE:41:ILE:CD1 | 2.20 | 0.72 |
| 37:BE:107:THR:HA | 37:BE:110:GLN:OE1 | 1.90 | 0.72 |
| 37:BE:135:GLN:HB3 | 37:BE:139:LYS:HE3 | 1.71 | 0.72 |
| 37:BE:222:ILE:HG13 | 37:BE:226:ARG:HE | 1.53 | 0.72 |
| 42:BJ:54:THR:O | 42:BJ:56:GLN:N | 2.22 | 0.72 |
| 42:BJ:111:ARG:NH2 | 42:BJ:122:HIS:HB3 | 2.04 | 0.72 |
| 47:BO:41:ARG:NH2 | 47:BO:57:LYS:NZ | 2.37 | 0.72 |
| 47:BO:53:ARG:HH22 | 47:BO:92:ASP:HB3 | 1.54 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BR:36:ILE:HG22 | 50:BR:37:ASN:H | 1.54 | 0.72 |
| 52:BT:9:VAL:HG11 | 52:BT:84:LEU:HD12 | 1.72 | 0.72 |
| 1:AB:53:A:C6 | 1:AB:54:G:C8 | 2.77 | 0.72 |
| 2:AA:286:C:H2' | 2:AA:287:C:O5' | 1.89 | 0.72 |
| 2:AA:559:G:C2' | 2:AA:560:C:C6 | 2.65 | 0.72 |
| 2:AA:737:C:N3 | 2:AA:759:G:N2 | 2.37 | 0.72 |
| 2:AA:784:A:N6 | 2:AA:792:G:N3 | 2.38 | 0.72 |
| 2:AA:949:C:H2' | 2:AA:950:G:C8 | 2.24 | 0.72 |
| 2:AA:980:A:H2 | 2:AA:2038:G:O4' | 1.71 | 0.72 |
| 2:AA:1084:A:C4 | 9:AI:25:LEU:HB3 | 2.25 | 0.72 |
| 2:AA:1299:G:H21 | 2:AA:1641:A:H62 | 1.36 | 0.72 |
| 2:AA:1348:G:C2 | 2:AA:1599:C:N3 | 2.58 | 0.72 |
| 2:AA:1534:G:O2' | 2:AA:1536:A:H4' | 1.90 | 0.72 |
| 2:AA:1716:U:O5' | 2:AA:1716:U:C6 | 2.43 | 0.72 |
| 2:AA:2018:G:O2' | 2:AA:2019:A:H5' | 1.89 | 0.72 |
| 2:AA:2323:G:H2' | 2:AA:2324:C:H6 | 1.52 | 0.72 |
| 2:AA:2384:G:H3' | 2:AA:2386:C:P | 2.29 | 0.72 |
| 2:AA:2450:A:H2' | 2:AA:2451:A:H5' | 1.71 | 0.72 |
| 2:AA:2653:U:N3 | 2:AA:2654:A:N6 | 2.38 | 0.72 |
| 3:AC:86:ALA:HB2 | 3:AC:149:ILE:CD1 | 2.19 | 0.72 |
| 4:AD:103:ILE:HG13 | 4:AD:104:ILE:HG13 | 1.71 | 0.72 |
| 6:AF:212:VAL:O | 6:AF:212:VAL:HG12 | 1.90 | 0.72 |
| 7:AG:146:LYS:HG3 | 16:AQ:15:GLU:CG | 2.18 | 0.72 |
| 8:AH:86:LEU:HD23 | 8:AH:148:ARG:HE | 1.55 | 0.72 |
| 8:AH:151:ARG:HB2 | 8:AH:161:ILE:HD13 | 1.72 | 0.72 |
| 9:AI:62:VAL:HG22 | 9:AI:101:VAL:HG22 | 1.72 | 0.72 |
| 10:AK:68:LEU:HD22 | 10:AK:108:LEU:HD11 | 1.72 | 0.72 |
| 12:AM:39:VAL:HG11 | 12:AM:108:PRO:CD | 2.18 | 0.72 |
| 13:AN:101:PRO:HD3 | 17:AR:26:GLY:HA2 | 1.71 | 0.72 |
| 14:AO:113:GLN:HE21 | 14:AO:115:ARG:HH12 | 1.37 | 0.72 |
| 17:AR:14:GLU:HG3 | 17:AR:15:PRO:HD2 | 1.72 | 0.72 |
| 22:AW:12:THR:HB | 22:AW:13:PRO:HD2 | 1.72 | 0.72 |
| 25:A1:111:ASP:O | 25:A1:114:ARG:HG3 | 1.90 | 0.72 |
| 34:BA:174:C:N4 | 34:BA:175:C:H41 | 1.88 | 0.72 |
| 34:BA:306:G:C4 | 34:BA:307:C:C5 | 2.77 | 0.72 |
| 34:BA:377:G:O2' | 34:BA:378:G:O5' | 2.07 | 0.72 |
| 34:BA:459:G:H21 | 34:BA:463:A:H62 | 1.38 | 0.72 |
| 34:BA:704:A:H2' | 34:BA:705:U:C6 | 2.25 | 0.72 |
| 34:BA:978:A:N6 | 34:BA:1361:G:N2 | 2.38 | 0.72 |
| 34:BA:1196:U:H5' | 34:BA:1197:G:O5' | 1.89 | 0.72 |
| 34:BA:1346:A:O2' | 34:BA:1347:G:OP2 | 2.07 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1539:C:N4 | 36:B1:50:G:N1 | 2.29 | 0.72 |
| 35:BB:51:G:C4 | 35:BB:52:U:C5 | 2.77 | 0.72 |
| 36:B1:34:U:H2' | 36:B1:35:C:H6 | 1.55 | 0.72 |
| 40:BH:86:ALA:O | 40:BH:125:SER:HB3 | 1.90 | 0.72 |
| 41:BI:11:ASN:OD1 | 41:BI:14:LEU:N | 2.23 | 0.72 |
| 48:BP:16:ASP:HA | 48:BP:19:LEU:HG | 1.70 | 0.72 |
| 48:BP:48:LEU:HD21 | 48:BP:53:VAL:N | 2.05 | 0.72 |
| 54:BV:36:ARG:HA | 54:BV:71:LEU:HD12 | 1.70 | 0.72 |
| 1:AB:75:G:N3 | 21:AV:22:VAL:HG21 | 2.04 | 0.71 |
| 2:AA:270(Q):C:C2 | 2:AA:270(R):G:C8 | 2.78 | 0.71 |
| 2:AA:358:U:H3' | 2:AA:359:A:C5' | 2.18 | 0.71 |
| 2:AA:427:U:O5' | 2:AA:427:U:H6 | 1.73 | 0.71 |
| 2:AA:695:G:H1 | 2:AA:767:U:H3 | 1.37 | 0.71 |
| 2:AA:743:G:O2' | 2:AA:744:G:H5' | 1.89 | 0.71 |
| 2:AA:972:G:H8 | 2:AA:974:G:OP1 | 1.69 | 0.71 |
| 2:AA:974:G:H3' | 26:A2:82:ARG:CZ | 2.19 | 0.71 |
| 2:AA:978:G:H1 | 2:AA:985:C:H42 | 0.75 | 0.71 |
| 2:AA:1083:U:OP2 | 2:AA:1083:U:H6 | 1.73 | 0.71 |
| 2:AA:1084:A:H5' | 9:AI:35:ALA:O | 1.90 | 0.71 |
| 2:AA:1324:G:C1' | 2:AA:1616:A:N6 | 2.53 | 0.71 |
| 2:AA:1416:G:N2 | 2:AA:1582:C:H42 | 1.87 | 0.71 |
| 2:AA:1428:C:N4 | 2:AA:1569:A:H5" | 2.05 | 0.71 |
| 2:AA:1451:C:H3' | 2:AA:1453:A:C5' | 2.20 | 0.71 |
| 2:AA:1463:C:O2' | 2:AA:1464:C:O5' | 2.08 | 0.71 |
| 2:AA:1530:G:P | 2:AA:1539:G:N1 | 2.63 | 0.71 |
| 2:AA:1557:C:H5" | 2:AA:1558:A:OP2 | 1.89 | 0.71 |
| 2:AA:1805:U:H2' | 2:AA:1806:C:H6 | 1.55 | 0.71 |
| 2:AA:1917:U:H6 | 2:AA:1918:A:C8 | 2.08 | 0.71 |
| 2:AA:2081:C:H5" | 28:A4:35:VAL:HG21 | 1.72 | 0.71 |
| 2:AA:2115:G:HO2' | 3:AC:126:LYS:HD2 | 1.55 | 0.71 |
| 2:AA:2284:C:P | 30:A6:9:ILE:CG1 | 2.77 | 0.71 |
| 2:AA:2367:G:O2' | 2:AA:2368:C:H5' | 1.89 | 0.71 |
| 2:AA:2425:A:H1' | 2:AA:2427:C:C2 | 2.25 | 0.71 |
| 2:AA:2507:C:C4 | 2:AA:2582:G:N1 | 2.58 | 0.71 |
| 2:AA:2563:U:C5' | 13:AN:27:GLY:HA2 | 2.18 | 0.71 |
| 2:AA:2573:C:H5" | 2:AA:2574:G:C5' | 2.20 | 0.71 |
| 2:AA:2581:G:N1 | 2:AA:2610:C:H2' | 2.04 | 0.71 |
| 2:AA:2749:A:O4' | 8:AH:62:ALA:HB2 | 1.89 | 0.71 |
| 2:AA:2820:A:H2' | 2:AA:2821:A:OP1 | 1.90 | 0.71 |
| 4:AD:80:ILE:HB | 4:AD:82:TYR:CD1 | 2.25 | 0.71 |
| 4:AD:184:LEU:C | 4:AD:187:CYS:SG | 2.68 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:247:ARG:HB2 | 5:AE:249:THR:OG1 | 1.90 | 0.71 |
| 5:AE:303:PRO:HB2 | 5:AE:307:LEU:CD1 | 2.20 | 0.71 |
| 8:AH:41:THR:O | 8:AH:52:THR:HG23 | 1.90 | 0.71 |
| 8:AH:51:VAL:CG2 | 8:AH:68:ARG:HG2 | 2.20 | 0.71 |
| 10:AK:124:LEU:HD21 | 10:AK:146:THR:CA | 2.19 | 0.71 |
| 13:AN:7:ARG:HB3 | 13:AN:44:LYS:HE3 | 1.69 | 0.71 |
| 13:AN:122:ILE:HD12 | 13:AN:122:ILE:N | 2.04 | 0.71 |
| 14:AO:76:LEU:HD11 | 14:AO:96:VAL:HG12 | 1.71 | 0.71 |
| 16:AQ:21:HIS:O | 16:AQ:24:LEU:N | 2.23 | 0.71 |
| 16:AQ:91:ARG:O | 16:AQ:94:GLU:HG3 | 1.90 | 0.71 |
| 23:AX:55:ARG:HB3 | 23:AX:55:ARG:NH1 | 2.03 | 0.71 |
| 27:A3:8:GLY:O | 27:A3:10:SER:OG | 2.08 | 0.71 |
| 29:A5:44:HIS:HA | 29:A5:52:TYR:CZ | 2.25 | 0.71 |
| 32:A8:16:ILE:CA | 32:A8:22:VAL:HG22 | 2.20 | 0.71 |
| 34:BA:202:U:O3' | 34:BA:203:U:H6 | 1.71 | 0.71 |
| 34:BA:286:G:O2' | 34:BA:287:U:H5' | 1.90 | 0.71 |
| 34:BA:390:C:H2' | 34:BA:391:G:H8 | 1.54 | 0.71 |
| 34:BA:539:A:OP1 | 47:BO:114:LYS:HE2 | 1.89 | 0.71 |
| 34:BA:568:G:N1 | 34:BA:569:C:N4 | 2.38 | 0.71 |
| 34:BA:1400:C:H1' | 35:BC:34:G:N2 | 2.03 | 0.71 |
| 35:BB:26:G:C2 | 35:BB:27:C:C1' | 2.73 | 0.71 |
| 39:BG:120:LEU:HD23 | 39:BG:121:VAL:N | 2.05 | 0.71 |
| 39:BG:154:ASN:HA | 39:BG:159:ARG:NH2 | 2.05 | 0.71 |
| 43:BK:9:MET:O | 43:BK:10:LEU:C | 2.24 | 0.71 |
| 47:BO:83:VAL:HG22 | 47:BO:84:LEU:H | 1.54 | 0.71 |
| 2:AA:197:A:H5" | 2:AA:2068:U:N3 | 2.04 | 0.71 |
| 2:AA:343:C:C2 | 2:AA:344:G:C2 | 2.75 | 0.71 |
| 2:AA:444:C:O3' | 25:A1:2:PRO:HD2 | 1.90 | 0.71 |
| 2:AA:452:G:P | 6:AF:52:ALA:CB | 2.78 | 0.71 |
| 2:AA:494:G:H4' | 18:AS:6:ILE:HG23 | 1.73 | 0.71 |
| 2:AA:529:A:O2' | 2:AA:530:G:C8 | 2.43 | 0.71 |
| 2:AA:1034:G:O4' | 33:A9:18:ARG:NH1 | 2.23 | 0.71 |
| 2:AA:1050:A:N6 | 2:AA:2751:G:N7 | 2.37 | 0.71 |
| 2:AA:1068:G:H4' | 2:AA:1096:A:H1' | 1.71 | 0.71 |
| 2:AA:1155:A:C2 | 2:AA:1157:G:H1' | 2.25 | 0.71 |
| 2:AA:1489:U:O2 | 2:AA:1500:G:O6 | 2.06 | 0.71 |
| 2:AA:1667:G:O2' | 2:AA:1991:U:O4 | 2.09 | 0.71 |
| 2:AA:2122:U:H2' | 2:AA:2123:G:C5' | 2.21 | 0.71 |
| 2:AA:2218:G:O3' | 4:AD:184:LEU:CD1 | 2.38 | 0.71 |
| 2:AA:2507:C:C2 | 2:AA:2582:G:N2 | 2.57 | 0.71 |
| 2:AA:2555:U:O2' | 2:AA:2556:C:H5' | 1.89 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2633:G:OP1 | 2:AA:2811:G:O2' | 2.09 | 0.71 |
| 2:AA:2747:G:O6 | 2:AA:2755:C:H5" | 1.89 | 0.71 |
| 4:AD:79:THR:O | 4:AD:91:ALA:HA | 1.89 | 0.71 |
| 5:AE:63:GLU:O | 5:AE:67:THR:HA | 1.89 | 0.71 |
| 6:AF:61:PHE:CB | 6:AF:65:ARG:NH1 | 2.50 | 0.71 |
| 6:AF:84:VAL:C | 6:AF:85:LYS:HD2 | 2.10 | 0.71 |
| 6:AF:140:VAL:O | 6:AF:237:GLU:HG3 | 1.90 | 0.71 |
| 8:AH:37:HIS:NE2 | 8:AH:64:HIS:CE1 | 2.58 | 0.71 |
| 8:AH:60:HIS:HA | 8:AH:63:LEU:HB2 | 1.70 | 0.71 |
| 9:AJ:42:ALA:HB3 | 9:AJ:43:PRO:HD3 | 1.70 | 0.71 |
| 10:AK:6:LEU:N | 10:AK:36:ALA:HB2 | 2.04 | 0.71 |
| 11:AL:76:SER:O | 11:AL:79:LEU:HB3 | 1.89 | 0.71 |
| 13:AN:11:ALA:HA | 13:AN:99:PHE:HB2 | 1.71 | 0.71 |
| 14:AO:52:LYS:HD3 | 14:AO:53:ARG:NH1 | 2.05 | 0.71 |
| 15:AP:84:ARG:HH22 | 15:AP:86:ARG:NH2 | 1.88 | 0.71 |
| 17:AR:13:ILE:HG13 | 17:AR:33:SER:CA | 2.20 | 0.71 |
| 17:AR:45:GLU:O | 17:AR:48:ASN:ND2 | 2.23 | 0.71 |
| 21:AV:3:LEU:HD13 | 21:AV:34:LEU:HD23 | 1.72 | 0.71 |
| 21:AV:92:VAL:HA | 21:AV:124:ALA:HB1 | 1.71 | 0.71 |
| 21:AV:116:VAL:HG22 | 21:AV:116:VAL:O | 1.91 | 0.71 |
| 21:AV:118:HIS:ND1 | 21:AV:167:THR:O | 2.23 | 0.71 |
| 23:AX:26:LEU:CB | 23:AX:28:LEU:HD11 | 2.20 | 0.71 |
| 24:A0:28:LEU:HD13 | 24:A0:28:LEU:C | 2.09 | 0.71 |
| 24:A0:67:LEU:HB2 | 24:A0:76:VAL:HG21 | 1.71 | 0.71 |
| 25:A1:91:ASN:O | 25:A1:95:LEU:HD11 | 1.89 | 0.71 |
| 26:A2:67:LYS:NZ | 26:A2:94:LYS:HD2 | 2.06 | 0.71 |
| 31:A7:32:ALA:CA | 31:A7:35:ARG:HG3 | 2.20 | 0.71 |
| 32:A8:26:LYS:HE3 | 32:A8:45:GLY:H | 1.55 | 0.71 |
| 34:BA:258:G:H1 | 34:BA:268:C:H42 | 1.38 | 0.71 |
| 34:BA:392:G:P | 51:BS:12:LYS:HZ1 | 2.11 | 0.71 |
| 34:BA:515:G:O6 | 34:BA:533:A:N7 | 2.23 | 0.71 |
| 34:BA:545:C:H5" | 39:BG:72:GLU:HG2 | 1.72 | 0.71 |
| 34:BA:551:U:C5' | 47:BO:119:LYS:HE2 | 2.20 | 0.71 |
| 34:BA:866:C:H5 | 34:BA:867:G:C4 | 2.07 | 0.71 |
| 34:BA:928:G:N2 | 34:BA:1390:U:H1' | 2.05 | 0.71 |
| 34:BA:939:G:H1 | 34:BA:1344:C:H42 | 0.75 | 0.71 |
| 34:BA:1047:G:O2' | 34:BA:1048:G:H5' | 1.89 | 0.71 |
| 34:BA:1178:G:H22 | 34:BA:1180:A:H3' | 1.53 | 0.71 |
| 34:BA:1256:A:H5' | 34:BA:1258:G:O4' | 1.90 | 0.71 |
| 35:BB:8:U:C5 | 35:BB:13:C:N4 | 2.57 | 0.71 |
| 35:BC:14:A:H2' | 35:BC:15:G:H8 | 1.55 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:179:ARG:HG3 | 38:BF:179:ARG:HH11 | 1.55 | 0.71 |
| 44:BL:82:ALA:CB | 44:BL:96:LEU:HD11 | 2.18 | 0.71 |
| 45:BM:49:VAL:CG1 | 45:BM:50:ILE:N | 2.53 | 0.71 |
| 48:BP:52:GLU:HA | 48:BP:55:ARG:CD | 2.20 | 0.71 |
| 52:BT:18:THR:HG22 | 52:BT:43:LEU:CD2 | 2.13 | 0.71 |
| 52:BT:74:LEU:CD1 | 52:BT:75:ARG:HB3 | 2.20 | 0.71 |
| 52:BT:96:GLN:CD | 52:BT:97:SER:N | 2.43 | 0.71 |
| 1:AB:15:A:H5' | 1:AB:16:G:C8 | 2.25 | 0.71 |
| 2:AA:112:U:O4 | 2:AA:113:G:C2 | 2.43 | 0.71 |
| 2:AA:179:G:C3' | 2:AA:180:G:H8 | 2.03 | 0.71 |
| 2:AA:491:G:H2' | 2:AA:492:A:H8 | 1.53 | 0.71 |
| 2:AA:531:C:C4 | 25:A1:38:THR:HG22 | 2.24 | 0.71 |
| 2:AA:531:C:H41 | 25:A1:38:THR:HA | 1.54 | 0.71 |
| 2:AA:617:G:H4' | 6:AF:219:ASN:OD1 | 1.89 | 0.71 |
| 2:AA:821:A:N7 | 2:AA:946:G:C5 | 2.58 | 0.71 |
| 2:AA:860:U:O2 | 2:AA:2268:A:N3 | 2.22 | 0.71 |
| 2:AA:1044:G:C4' | 2:AA:1047:G:H4' | 2.20 | 0.71 |
| 2:AA:1169:G:H1 | 2:AA:1180:C:H42 | 0.78 | 0.71 |
| 2:AA:1470:G:N2 | 2:AA:1522:G:N1 | 2.38 | 0.71 |
| 2:AA:1513:C:H2' | 2:AA:1514:U:C5 | 2.25 | 0.71 |
| 2:AA:1604:C:HO2' | 2:AA:1605:C:H5' | 1.52 | 0.71 |
| 2:AA:1743:G:C4 | 2:AA:1746:G:C8 | 2.78 | 0.71 |
| 2:AA:1824:G:H2' | 2:AA:1825:A:O4' | 1.89 | 0.71 |
| 2:AA:2138:C:H2' | 2:AA:2139:C:C6 | 2.22 | 0.71 |
| 2:AA:2866:U:O2' | 2:AA:2867:G:O5' | 2.08 | 0.71 |
| 3:AC:190:ARG:HH11 | 3:AC:190:ARG:CB | 2.04 | 0.71 |
| 4:AD:85:ASN:HB2 | 4:AD:86:ARG:HH21 | 1.54 | 0.71 |
| 4:AD:89:ASN:HD21 | 4:AD:199:ARG:HE | 1.34 | 0.71 |
| 5:AE:48:MET:HB3 | 5:AE:71:THR:CG2 | 2.13 | 0.71 |
| 5:AE:74:GLU:CA | 5:AE:293:TYR:HE2 | 2.01 | 0.71 |
| 5:AE:258:TYR:N | 5:AE:258:TYR:CD2 | 2.57 | 0.71 |
| 5:AE:300:VAL:C | 5:AE:302:GLY:H | 1.93 | 0.71 |
| 6:AF:86:GLY:O | 6:AF:87:ARG:HD2 | 1.90 | 0.71 |
| 8:AH:151:ARG:N | 8:AH:161:ILE:HD11 | 2.04 | 0.71 |
| 9:AI:4:ASP:O | 9:AI:8:GLU:HG3 | 1.90 | 0.71 |
| 9:AJ:62:VAL:HG22 | 9:AJ:101:VAL:HG22 | 1.71 | 0.71 |
| 11:AL:10:LYS:O | 11:AL:11:LEU:HD23 | 1.90 | 0.71 |
| 15:AP:58:HIS:O | 15:AP:61:LEU:HG | 1.90 | 0.71 |
| 19:AT:32:ALA:HA | 19:AT:36:GLU:CG | 2.20 | 0.71 |
| 21:AV:67:LYS:HA | 21:AV:67:LYS:HZ2 | 1.53 | 0.71 |
| 22:AW:45:ARG:CZ | 22:AW:49:LEU:HG | 2.20 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:389:A:H2' | 34:BA:390:C:H5' | 1.72 | 0.71 |
| 34:BA:509:A:O2' | 34:BA:510:A:O5' | 2.08 | 0.71 |
| 34:BA:562:C:O2' | 47:BO:15:ARG:CB | 2.31 | 0.71 |
| 34:BA:740:U:OP2 | 50:BR:2:PRO:HG3 | 1.91 | 0.71 |
| 34:BA:1293:G:O2' | 34:BA:1294:G:H5' | 1.89 | 0.71 |
| 37:BE:18:GLY:HA3 | 37:BE:41:ILE:HG23 | 1.71 | 0.71 |
| 37:BE:22:LYS:O | 37:BE:24:TRP:CD1 | 2.44 | 0.71 |
| 37:BE:58:ILE:HG22 | 37:BE:221:LEU:HD12 | 1.73 | 0.71 |
| 37:BE:102:LEU:HB2 | 37:BE:176:GLU:CB | 2.20 | 0.71 |
| 37:BE:222:ILE:HG12 | 37:BE:223:ILE:N | 2.05 | 0.71 |
| 38:BF:188:LEU:HD13 | 38:BF:189:ALA:N | 2.04 | 0.71 |
| 39:BG:42:GLN:HG2 | 39:BG:43:HIS:NE2 | 2.05 | 0.71 |
| 46:BN:32:ILE:C | 46:BN:40:ILE:HG13 | 2.10 | 0.71 |
| 52:BT:9:VAL:O | 52:BT:11:VAL:HG13 | 1.90 | 0.71 |
| 55:BW:54:LYS:O | 55:BW:57:ARG:HB2 | 1.91 | 0.71 |
| 1:AB:47:C:O3' | 16:AQ:107:ASN:ND2 | 2.23 | 0.71 |
| 1:AB:58:A:H62 | 1:AB:59:A:N6 | 1.88 | 0.71 |
| 1:AB:68:C:H2' | 1:AB:69:G:C1' | 2.20 | 0.71 |
| 1:AB:69:G:H2' | 1:AB:69:G:N3 | 2.04 | 0.71 |
| 1:AB:81:G:O4' | 2:AA:919:G:H5' | 1.91 | 0.71 |
| 2:AA:388:G:OP2 | 28:A4:29:PRO:HB3 | 1.91 | 0.71 |
| 2:AA:475:U:C5 | 2:AA:509:C:C4 | 2.78 | 0.71 |
| 2:AA:479:A:N7 | 2:AA:481:G:C5 | 2.58 | 0.71 |
| 2:AA:492:A:O2' | 2:AA:493:G:H5' | 1.90 | 0.71 |
| 2:AA:514:A:O2' | 25:A1:32:TYR:CE1 | 2.42 | 0.71 |
| 2:AA:571:A:C6 | 2:AA:575:A:N7 | 2.59 | 0.71 |
| 2:AA:657:U:H2' | 2:AA:658:C:H6 | 1.56 | 0.71 |
| 2:AA:824:A:H2' | 2:AA:825:C:C6 | 2.25 | 0.71 |
| 2:AA:866:A:H2' | 2:AA:866:A:N3 | 2.05 | 0.71 |
| 2:AA:873:G:C4' | 15:AP:32:LYS:HG2 | 2.19 | 0.71 |
| 2:AA:946:G:H1 | 2:AA:971:C:N4 | 1.88 | 0.71 |
| 2:AA:1174:A:N6 | 2:AA:1177:A:C6 | 2.58 | 0.71 |
| 2:AA:1552:G:O2' | 2:AA:1553:A:C5' | 2.35 | 0.71 |
| 2:AA:1861:G:H4' | 3:AC:205:LYS:NZ | 2.04 | 0.71 |
| 2:AA:2074:U:O2' | 2:AA:2598:A:O4' | 2.08 | 0.71 |
| 2:AA:2102:U:H2' | 2:AA:2103:C:C6 | 2.25 | 0.71 |
| 2:AA:2197:U:H5 | 2:AA:2224:G:C4 | 2.07 | 0.71 |
| 2:AA:2348:U:C3' | 32:A8:42:ARG:NH2 | 2.53 | 0.71 |
| 2:AA:2493:U:H2' | 2:AA:2494:G:O5' | 1.90 | 0.71 |
| 2:AA:2528:U:C2 | 2:AA:2536:G:N2 | 2.58 | 0.71 |
| 2:AA:2556:C:O2' | 2:AA:2557:G:H5' | 1.90 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2582:G:H5' | 2:AA:2582:G:C8 | 2.24 | 0.71 |
| 2:AA:2611:U:H5' | 2:AA:2611:U:H6 | 1.55 | 0.71 |
| 2:AA:2710:C:HO2' | 2:AA:2711:A:H5' | 1.54 | 0.71 |
| 3:AC:104:LEU:HA | 3:AC:130:ILE:HG12 | 1.72 | 0.71 |
| 3:AC:190:ARG:NH1 | 3:AC:190:ARG:CB | 2.52 | 0.71 |
| 4:AD:109:LEU:HD11 | 4:AD:126:GLY:HA3 | 1.72 | 0.71 |
| 4:AD:135:PRO:HG2 | 4:AD:138:THR:CG2 | 2.18 | 0.71 |
| 4:AD:143:ILE:H | 4:AD:143:ILE:CD1 | 1.88 | 0.71 |
| 6:AF:46:TYR:O | 6:AF:92:PRO:O | 2.09 | 0.71 |
| 6:AF:115:LEU:HG | 6:AF:246:ARG:HH22 | 1.51 | 0.71 |
| 8:AH:26:LYS:HZ2 | 8:AH:33:THR:HG22 | 1.56 | 0.71 |
| 8:AH:101:LYS:HB3 | 8:AH:114:ILE:O | 1.90 | 0.71 |
| 9:AI:26:GLU:OE2 | 9:AJ:43:PRO:HG3 | 1.88 | 0.71 |
| 10:AK:6:LEU:HD13 | 10:AK:14:LYS:HZ3 | 1.54 | 0.71 |
| 11:AL:116:LEU:CD2 | 11:AL:127:ILE:HD13 | 2.20 | 0.71 |
| 14:AO:59:GLU:OE1 | 14:AO:60:GLU:N | 2.23 | 0.71 |
| 19:AT:11:THR:O | 19:AT:12:GLU:C | 2.28 | 0.71 |
| 19:AT:45:TYR:O | 19:AT:47:VAL:HG22 | 1.90 | 0.71 |
| 21:AV:63:PRO:O | 21:AV:85:MET:HG2 | 1.91 | 0.71 |
| 21:AV:71:MET:HA | 21:AV:78:PRO:HB3 | 0.87 | 0.71 |
| 24:A0:61:HIS:O | 24:A0:64:ARG:HG2 | 1.91 | 0.71 |
| 24:A0:67:LEU:HD21 | 24:A0:71:GLN:HA | 1.70 | 0.71 |
| 29:A5:11:THR:HG21 | 29:A5:19:ARG:HH22 | 1.54 | 0.71 |
| 34:BA:38:G:C2 | 34:BA:397:A:C2 | 2.78 | 0.71 |
| 34:BA:242:C:N3 | 34:BA:285:G:C2 | 2.59 | 0.71 |
| 34:BA:511:C:C6 | 34:BA:512:U:C5 | 2.78 | 0.71 |
| 34:BA:808:C:H2' | 34:BA:809:G:C8 | 2.24 | 0.71 |
| 34:BA:817:C:H4' | 34:BA:818:G:OP1 | 1.88 | 0.71 |
| 34:BA:859:A:C8 | 34:BA:860:A:C8 | 2.78 | 0.71 |
| 34:BA:958:A:H2' | 34:BA:959:A:C8 | 2.24 | 0.71 |
| 34:BA:1236:A:H4' | 34:BA:1304:G:C4' | 2.12 | 0.71 |
| 34:BA:1376:U:H3 | 34:BA:1377:A:N6 | 1.89 | 0.71 |
| 35:BB:1:G:C4 | 35:BB:73:A:C2 | 2.78 | 0.71 |
| 37:BE:27:LYS:HB3 | 37:BE:194:PRO:CG | 2.21 | 0.71 |
| 37:BE:77:ALA:HB1 | 37:BE:80:ILE:HB | 1.72 | 0.71 |
| 39:BG:39:PRO:HG2 | 39:BG:44:GLY:HA2 | 1.72 | 0.71 |
| 39:BG:83:SER:N | 39:BG:89:THR:HG23 | 2.05 | 0.71 |
| 43:BK:45:ILE:HD11 | 43:BK:48:TYR:N | 2.05 | 0.71 |
| 43:BK:112:LEU:HD21 | 43:BK:131:GLY:HA3 | 1.72 | 0.71 |
| 44:BL:3:GLN:HE21 | 44:BL:3:GLN:N | 1.88 | 0.71 |
| 45:BM:38:ILE:HG13 | 45:BM:38:ILE:O | 1.90 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BN:126:ARG:C | 46:BN:128:ALA:H | 1.93 | 0.71 |
| 48:BP:81:LEU:HD23 | 48:BP:89:GLY:HA2 | 1.71 | 0.71 |
| 52:BT:3:LYS:HD3 | 52:BT:61:GLU:O | 1.90 | 0.71 |
| 52:BT:59:ILE:HG13 | 52:BT:60:ILE:H | 1.53 | 0.71 |
| 54:BV:5:LEU:HD12 | 54:BV:9:VAL:CG2 | 2.19 | 0.71 |
| 2:AA:49:A:C6 | 2:AA:177:G:N1 | 2.57 | 0.71 |
| 2:AA:108:U:O2' | 2:AA:109:G:O5' | 2.08 | 0.71 |
| 2:AA:270(S):G:C2' | 2:AA:270(T):G:H8 | 2.02 | 0.71 |
| 2:AA:343:C:N3 | 2:AA:344:G:C6 | 2.56 | 0.71 |
| 2:AA:764:A:C5 | 2:AA:781:A:N1 | 2.58 | 0.71 |
| 2:AA:771:G:H2' | 2:AA:772:C:H6 | 1.55 | 0.71 |
| 2:AA:799:G:OP1 | 2:AA:800:A:H5" | 1.91 | 0.71 |
| 2:AA:963:U:H1' | 2:AA:2250:G:N2 | 2.04 | 0.71 |
| 2:AA:1044:G:C2' | 2:AA:1111:A:C2 | 2.69 | 0.71 |
| 2:AA:1265:A:H8 | 2:AA:1267:U:H3 | 1.38 | 0.71 |
| 2:AA:1358:G:N1 | 2:AA:1371:G:H2' | 2.05 | 0.71 |
| 2:AA:1491:G:H3' | 2:AA:1491:G:P | 2.30 | 0.71 |
| 2:AA:1655:A:H4' | 5:AE:211:GLN:C | 2.11 | 0.71 |
| 2:AA:1853:A:N1 | 2:AA:2087:G:H1' | 2.04 | 0.71 |
| 2:AA:1883:G:C2 | 2:AA:1884:A:C2 | 2.79 | 0.71 |
| 2:AA:1941:C:C5 | 2:AA:1965:C:C2 | 2.79 | 0.71 |
| 2:AA:1992:G:N2 | 2:AA:1995:U:H5 | 1.84 | 0.71 |
| 2:AA:2009:G:H5" | 18:AS:40:ASN:ND2 | 2.06 | 0.71 |
| 2:AA:2218:G:C5' | 4:AD:147:PRO:HG3 | 2.20 | 0.71 |
| 2:AA:2252:G:H8 | 2:AA:2252:G:O5' | 1.71 | 0.71 |
| 2:AA:2406:U:H3 | 14:AO:55:GLN:CB | 2.03 | 0.71 |
| 2:AA:2580:U:C6 | 2:AA:2581:G:H8 | 2.09 | 0.71 |
| 2:AA:2667:C:O2 | 8:AH:108:TYR:CB | 2.36 | 0.71 |
| 2:AA:2779:U:C4' | 2:AA:2781:A:N7 | 2.52 | 0.71 |
| 3:AC:77:ILE:HD12 | 3:AC:138:PRO:HG2 | 1.72 | 0.71 |
| 5:AE:240:PRO:CG | 5:AE:243:PRO:HG3 | 2.21 | 0.71 |
| 6:AF:38:ALA:CB | 6:AF:221:GLU:HG2 | 2.20 | 0.71 |
| 7:AG:105:SER:HG | 7:AG:131:THR:HA | 1.53 | 0.71 |
| 8:AH:32:LEU:HB3 | 8:AH:78:VAL:HG22 | 1.72 | 0.71 |
| 8:AH:37:HIS:HD2 | 8:AH:63:LEU:HD21 | 1.54 | 0.71 |
| 9:AJ:73:VAL:HG11 | 9:AJ:123:ALA:HB2 | 1.72 | 0.71 |
| 10:AK:5:PHE:CD2 | 10:AK:17:GLU:O | 2.43 | 0.71 |
| 13:AN:21:VAL:HG13 | 13:AN:39:VAL:CG1 | 2.19 | 0.71 |
| 13:AN:66:LYS:C | 13:AN:66:LYS:HD2 | 2.11 | 0.71 |
| 20:AU:76:ASP:O | 20:AU:78:THR:N | 2.23 | 0.71 |
| 20:AU:81:LYS:HB3 | 20:AU:81:LYS:NZ | 2.06 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:18:MET:HG3 | 21:AV:35:ASP:HB2 | 1.71 | 0.71 |
| 21:AV:62:PHE:CZ | 21:AV:87:THR:HB | 2.25 | 0.71 |
| 22:AW:43:PRO:HB2 | 22:AW:46:ILE:HG12 | 1.73 | 0.71 |
| 28:A4:48:ARG:HB2 | 28:A4:71:SER:HB3 | 1.71 | 0.71 |
| 32:A8:5:LYS:C | 32:A8:7:HIS:N | 2.43 | 0.71 |
| 32:A8:38:GLY:O | 32:A8:41:ILE:HG12 | 1.91 | 0.71 |
| 34:BA:216:G:H2' | 34:BA:217:C:C6 | 2.26 | 0.71 |
| 34:BA:219:C:C5 | 34:BA:220:G:C8 | 2.78 | 0.71 |
| 34:BA:290:C:C2' | 34:BA:291:C:H5' | 2.19 | 0.71 |
| 34:BA:460:A:N7 | 34:BA:462:G:C6 | 2.58 | 0.71 |
| 34:BA:1007:C:N3 | 34:BA:1022:G:C2 | 2.58 | 0.71 |
| 34:BA:1132:C:H2' | 34:BA:1133:G:H8 | 1.55 | 0.71 |
| 34:BA:1180:A:C2' | 34:BA:1181:G:H5' | 2.20 | 0.71 |
| 36:B1:14:U:C5' | 36:B1:38:C:H42 | 2.04 | 0.71 |
| 38:BF:12:LEU:HD13 | 38:BF:18:TRP:H | 1.54 | 0.71 |
| 38:BF:150:LYS:HZ1 | 38:BF:152:ILE:HD11 | 1.55 | 0.71 |
| 39:BG:170:VAL:HG12 | 39:BG:171:GLY:N | 2.05 | 0.71 |
| 40:BH:102:ALA:CB | 40:BH:120:THR:HG22 | 2.20 | 0.71 |
| 41:BI:4:TYR:HA | 41:BI:93:SER:OG | 1.89 | 0.71 |
| 43:BK:25:ASP:HB3 | 43:BK:58:TYR:CD2 | 2.25 | 0.71 |
| 43:BK:36:LEU:CA | 43:BK:39:LEU:HB2 | 2.18 | 0.71 |
| 48:BP:63:THR:HG23 | 48:BP:64:TRP:N | 2.03 | 0.71 |
| 50:BR:68:ARG:O | 50:BR:69:TYR:C | 2.27 | 0.71 |
| 1:AB:118:G:O2' | 1:AB:119:A:H5' | 1.91 | 0.71 |
| 2:AA:137(A):G:O6 | 2:AA:139:G:C2 | 2.43 | 0.71 |
| 2:AA:295:G:N1 | 2:AA:344:G:N1 | 2.35 | 0.71 |
| 2:AA:295:G:O5' | 2:AA:296:C:OP2 | 2.08 | 0.71 |
| 2:AA:463:G:C2 | 2:AA:467:G:C5 | 2.79 | 0.71 |
| 2:AA:465:G:H21 | 2:AA:683:C:C2' | 2.04 | 0.71 |
| 2:AA:585:G:C4 | 2:AA:1251:C:N4 | 2.58 | 0.71 |
| 2:AA:640:C:H6 | 2:AA:640:C:H3' | 1.56 | 0.71 |
| 2:AA:662:G:HO2' | 2:AA:663:G:H8 | 1.38 | 0.71 |
| 2:AA:674:G:C5' | 6:AF:69:HIS:HA | 2.21 | 0.71 |
| 2:AA:777:A:N1 | 2:AA:787:U:O4 | 2.23 | 0.71 |
| 2:AA:932:G:H5' | 23:AX:24:LYS:NZ | 2.05 | 0.71 |
| 2:AA:996:A:C6 | 2:AA:1160:G:C6 | 2.79 | 0.71 |
| 2:AA:1058:G:C3' | 9:AI:2:THR:HA | 2.20 | 0.71 |
| 2:AA:1470:G:N1 | 2:AA:1520:U:N3 | 2.39 | 0.71 |
| 2:AA:1472:A:N9 | 2:AA:1473:G:N7 | 2.38 | 0.71 |
| 2:AA:1519:G:H2' | 2:AA:1520:U:C1' | 2.20 | 0.71 |
| 2:AA:2247:A:O2' | 2:AA:2248:C:H5' | 1.91 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2441:C:O2' | 2:AA:2442:C:C5' | 2.39 | 0.71 |
| 2:AA:2680:C:H3' | 5:AE:206:LYS:NZ | 2.05 | 0.71 |
| 2:AA:2687:U:C2 | 2:AA:2688:U:C6 | 2.78 | 0.71 |
| 4:AD:210:LYS:HA | 4:AD:213:LYS:HE2 | 1.71 | 0.71 |
| 5:AE:46:ALA:HB3 | 5:AE:72:VAL:O | 1.91 | 0.71 |
| 6:AF:154:VAL:O | 6:AF:157:LEU:HB2 | 1.91 | 0.71 |
| 8:AH:63:LEU:O | 8:AH:66:THR:HG22 | 1.91 | 0.71 |
| 8:AH:129:LYS:C | 8:AH:130:ILE:HD12 | 2.11 | 0.71 |
| 10:AK:119:ASP:CG | 10:AK:120:ALA:N | 2.39 | 0.71 |
| 15:AP:56:ILE:CD1 | 15:AP:115:SER:HB3 | 2.19 | 0.71 |
| 15:AP:59:ASN:ND2 | 15:AP:60:ALA:N | 2.38 | 0.71 |
| 16:AQ:11:ARG:HG3 | 16:AQ:12:ARG:HG2 | 1.70 | 0.71 |
| 16:AQ:24:LEU:CA | 16:AQ:33:ARG:HH22 | 2.04 | 0.71 |
| 16:AQ:32:PRO:HD2 | 16:AQ:101:VAL:N | 2.06 | 0.71 |
| 16:AQ:59:ALA:HB3 | 16:AQ:91:ARG:NH1 | 2.05 | 0.71 |
| 16:AQ:115:VAL:O | 16:AQ:116:PHE:C | 2.28 | 0.71 |
| 16:AQ:116:PHE:O | 16:AQ:119:GLN:HB2 | 1.90 | 0.71 |
| 20:AU:40:VAL:HG12 | 20:AU:41:ARG:HG3 | 1.71 | 0.71 |
| 21:AV:50:GLY:O | 21:AV:51:LEU:HB2 | 1.89 | 0.71 |
| 21:AV:136:VAL:O | 21:AV:137:ASP:OD1 | 2.09 | 0.71 |
| 24:A0:118:GLU:OE2 | 24:A0:118:GLU:HA | 1.90 | 0.71 |
| 28:A4:49:PHE:CD1 | 28:A4:49:PHE:N | 2.57 | 0.71 |
| 30:A6:35:LEU:HD23 | 30:A6:35:LEU:N | 2.05 | 0.71 |
| 30:A6:39:LYS:O | 30:A6:40:TYR:CD1 | 2.44 | 0.71 |
| 31:A7:41:GLN:C | 31:A7:42:LEU:HG | 2.11 | 0.71 |
| 34:BA:197:A:O2' | 34:BA:198:G:OP2 | 2.08 | 0.71 |
| 34:BA:757:U:H1' | 34:BA:879:C:H1' | 1.73 | 0.71 |
| 34:BA:797:C:H2' | 34:BA:798:G:H8 | 1.54 | 0.71 |
| 34:BA:848:C:C2 | 34:BA:849:C:C5 | 2.79 | 0.71 |
| 34:BA:1132:C:H2' | 34:BA:1133:G:C8 | 2.25 | 0.71 |
| 34:BA:1188:A:H2' | 34:BA:1189:C:C6 | 2.24 | 0.71 |
| 34:BA:1320:C:C1' | 54:BV:73:GLU:HG2 | 2.21 | 0.71 |
| 34:BA:1490:C:C6 | 34:BA:1490:C:C5' | 2.61 | 0.71 |
| 35:BC:9:A:C2 | 35:BC:45:G:C8 | 2.78 | 0.71 |
| 39:BG:25:ARG:NH2 | 39:BG:30:LYS:HD3 | 2.05 | 0.71 |
| 39:BG:93:PHE:CE1 | 39:BG:97:LEU:HD11 | 2.25 | 0.71 |
| 40:BH:110:LEU:HB3 | 40:BH:115:VAL:HG21 | 1.73 | 0.71 |
| 43:BK:24:THR:O | 43:BK:24:THR:HG23 | 1.89 | 0.71 |
| 45:BM:38:ILE:HG12 | 45:BM:72:VAL:N | 2.06 | 0.71 |
| 47:BO:25:PRO:O | 47:BO:27:LEU:N | 2.22 | 0.71 |
| 47:BO:90:VAL:O | 47:BO:92:ASP:N | 2.23 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:BT:96:GLN:CD | 52:BT:96:GLN:C | 2.49 | 0.71 |
| 55:BW:50:GLU:N | 55:BW:99:LEU:HD12 | 2.05 | 0.71 |
| 55:BW:57:ARG:HH21 | 55:BW:100:ILE:CG2 | 2.03 | 0.71 |
| 2:AA:85:G:N2 | 2:AA:86:C:C2 | 2.58 | 0.71 |
| 2:AA:197:A:C5 | 2:AA:2430:A:N7 | 2.59 | 0.71 |
| 2:AA:242:G:H2' | 2:AA:254:G:H1 | 1.55 | 0.71 |
| 2:AA:270(H):C:C4 | 2:AA:270(R):G:C2 | 2.78 | 0.71 |
| 2:AA:308:G:C2 | 2:AA:329:G:N2 | 2.59 | 0.71 |
| 2:AA:338:G:OP1 | 20:AU:21:LYS:HD2 | 1.91 | 0.71 |
| 2:AA:465:G:C6 | 2:AA:466:A:N6 | 2.59 | 0.71 |
| 2:AA:518:G:H4' | 18:AS:18:ARG:NH2 | 2.05 | 0.71 |
| 2:AA:571:A:C8 | 2:AA:2030:A:N6 | 2.59 | 0.71 |
| 2:AA:615:G:O5' | 2:AA:616:A:OP2 | 2.09 | 0.71 |
| 2:AA:676:A:H2' | 2:AA:677:A:H5' | 1.72 | 0.71 |
| 2:AA:834:C:H1' | 2:AA:2358:G:C2 | 2.25 | 0.71 |
| 2:AA:888:C:O2' | 2:AA:889:C:H3' | 1.91 | 0.71 |
| 2:AA:928:G:H21 | 2:AA:929:G:H1 | 1.38 | 0.71 |
| 2:AA:955:C:HO2' | 2:AA:956:G:H5' | 1.54 | 0.71 |
| 2:AA:957:A:N7 | 2:AA:959:A:C8 | 2.58 | 0.71 |
| 2:AA:974:G:N7 | 26:A2:80:TYR:CE1 | 2.58 | 0.71 |
| 2:AA:1024:G:N7 | 2:AA:1025:G:C5 | 2.58 | 0.71 |
| 2:AA:1084:A:O5' | 9:AI:37:VAL:C | 2.27 | 0.71 |
| 2:AA:1143:A:O2' | 2:AA:1144:G:H5' | 1.89 | 0.71 |
| 2:AA:1160:G:H2' | 2:AA:1161:C:C6 | 2.25 | 0.71 |
| 2:AA:1202:C:H5' | 2:AA:1203:G:OP2 | 1.90 | 0.71 |
| 2:AA:1206:G:O6 | 2:AA:1207:C:O2 | 2.07 | 0.71 |
| 2:AA:1216:G:N2 | 2:AA:1234:U:C1' | 2.53 | 0.71 |
| 2:AA:1223:C:C4 | 26:A2:87:ARG:NH2 | 2.57 | 0.71 |
| 2:AA:1224:G:N7 | 2:AA:1225:C:C5 | 2.58 | 0.71 |
| 2:AA:1409:C:O2' | 2:AA:1410:G:H5' | 1.91 | 0.71 |
| 2:AA:1468:C:C4 | 2:AA:1524:G:N2 | 2.58 | 0.71 |
| 2:AA:1475:G:N2 | 2:AA:1476:C:O5' | 2.23 | 0.71 |
| 2:AA:1572:A:H8 | 2:AA:1572:A:OP1 | 1.74 | 0.71 |
| 2:AA:1616:A:H4' | 2:AA:1617:C:OP1 | 1.90 | 0.71 |
| 2:AA:1943:U:O2' | 2:AA:1944:U:O5' | 2.08 | 0.71 |
| 2:AA:2132:U:O2 | 2:AA:2133:G:C2 | 2.42 | 0.71 |
| 2:AA:2330:G:N2 | 2:AA:2385:C:H42 | 1.88 | 0.71 |
| 2:AA:2345:G:H21 | 2:AA:2382:G:P | 2.13 | 0.71 |
| 2:AA:2489:G:H2' | 2:AA:2490:G:H8 | 1.53 | 0.71 |
| 2:AA:2595:G:N2 | 2:AA:2599:G:O6 | 2.22 | 0.71 |
| 2:AA:2604:U:C2 | 2:AA:2605:U:C5 | 2.79 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2779:U:C1' | 2:AA:2781:A:N6 | 2.51 | 0.71 |
| 2:AA:2822:G:O2' | 2:AA:2824:C:OP2 | 2.09 | 0.71 |
| 9:AI:1:MET:HB3 | 11:AL:10:LYS:HZ1 | 1.54 | 0.71 |
| 9:AJ:24:LYS:O | 9:AJ:27:ASP:HB2 | 1.91 | 0.71 |
| 9:AJ:63:LEU:HD21 | 9:AJ:118:LEU:HD13 | 1.72 | 0.71 |
| 10:AK:47:LEU:HD13 | 10:AK:51:LYS:NZ | 2.06 | 0.71 |
| 13:AN:21:VAL:HG12 | 13:AN:22:ILE:O | 1.91 | 0.71 |
| 15:AP:50:VAL:HG12 | 15:AP:51:GLU:N | 2.04 | 0.71 |
| 15:AP:82:LYS:O | 15:AP:124:ALA:CA | 2.39 | 0.71 |
| 16:AQ:33:ARG:HB3 | 16:AQ:35:VAL:CG2 | 2.20 | 0.71 |
| 16:AQ:34:LEU:O | 16:AQ:34:LEU:HD12 | 1.91 | 0.71 |
| 18:AS:23:LEU:HD11 | 29:A5:27:ALA:N | 2.04 | 0.71 |
| 21:AV:53:ASP:HA | 21:AV:65:LEU:CD2 | 2.20 | 0.71 |
| 21:AV:69:VAL:CG1 | 21:AV:81:VAL:HG13 | 2.21 | 0.71 |
| 22:AW:43:PRO:CG | 22:AW:46:ILE:HG12 | 2.20 | 0.71 |
| 23:AX:3:ARG:HB2 | 23:AX:60:GLU:CA | 2.19 | 0.71 |
| 25:A1:8:ILE:N | 25:A1:8:ILE:CD1 | 2.48 | 0.71 |
| 25:A1:59:ARG:O | 25:A1:62:ILE:N | 2.23 | 0.71 |
| 26:A2:5:ILE:HG13 | 26:A2:39:PHE:CD2 | 2.26 | 0.71 |
| 29:A5:15:LYS:C | 29:A5:18:MET:HG2 | 2.11 | 0.71 |
| 34:BA:237:C:OP1 | 52:BT:40:LYS:NZ | 2.23 | 0.71 |
| 34:BA:445:G:O2' | 34:BA:446:G:H5' | 1.91 | 0.71 |
| 34:BA:609:A:C4 | 34:BA:610:G:C8 | 2.79 | 0.71 |
| 34:BA:762:C:N4 | 34:BA:763:G:O6 | 2.24 | 0.71 |
| 34:BA:766:A:C2' | 34:BA:767:A:C8 | 2.63 | 0.71 |
| 34:BA:836:G:OP2 | 53:BU:61:LYS:NZ | 2.24 | 0.71 |
| 34:BA:947:G:O3' | 48:BP:109:THR:HB | 1.89 | 0.71 |
| 34:BA:966:G:C2 | 35:BC:34:G:H5' | 2.25 | 0.71 |
| 34:BA:1080:A:N7 | 34:BA:1081:G:C1' | 2.53 | 0.71 |
| 34:BA:1257:U:O2' | 34:BA:1258:G:C8 | 2.43 | 0.71 |
| 34:BA:1305:G:C5' | 56:BX:5:ASP:N | 2.49 | 0.71 |
| 34:BA:1373:G:C5' | 42:BJ:36:LYS:HB2 | 2.21 | 0.71 |
| 35:BB:60:C:P | 35:BB:61:C:C6 | 2.83 | 0.71 |
| 37:BE:7:VAL:HG23 | 37:BE:8:LYS:N | 2.04 | 0.71 |
| 37:BE:91:PRO:HG3 | 37:BE:154:LEU:HB3 | 1.71 | 0.71 |
| 37:BE:97:TRP:CD1 | 37:BE:101:MET:SD | 2.84 | 0.71 |
| 37:BE:136:VAL:CA | 37:BE:139:LYS:NZ | 2.52 | 0.71 |
| 37:BE:150:SER:HA | 37:BE:153:ARG:HB2 | 1.72 | 0.71 |
| 38:BF:19:GLU:HB3 | 38:BF:55:VAL:O | 1.90 | 0.71 |
| 39:BG:55:ALA:O | 39:BG:59:ARG:CG | 2.35 | 0.71 |
| 39:BG:190:ASP:O | 39:BG:194:LEU:HD23 | 1.90 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:68:GLU:O | 40:BH:70:PRO:HD3 | 1.90 | 0.71 |
| 45:BM:54:PHE:CD1 | 45:BM:55:LYS:HG2 | 2.25 | 0.71 |
| 46:BN:62:GLN:OE1 | 46:BN:63:LEU:HA | 1.90 | 0.71 |
| 47:BO:24:VAL:HG13 | 47:BO:98:TYR:OH | 1.90 | 0.71 |
| 50:BR:3:ILE:HG21 | 50:BR:34:LEU:HD21 | 1.72 | 0.71 |
| 50:BR:18:PHE:O | 50:BR:18:PHE:HD1 | 1.73 | 0.71 |
| 51:BS:19:ILE:HB | 51:BS:37:GLY:C | 2.11 | 0.71 |
| 52:BT:6:LEU:HD12 | 52:BT:6:LEU:N | 2.06 | 0.71 |
| 52:BT:104:LYS:O | 52:BT:105:ALA:HB2 | 1.89 | 0.71 |
| 2:AA:136:G:N1 | 2:AA:143:C:C2 | 2.57 | 0.71 |
| 2:AA:139:G:C2' | 2:AA:141(A):C:O2' | 2.32 | 0.71 |
| 2:AA:179:G:C4 | 2:AA:180:G:C8 | 2.79 | 0.71 |
| 2:AA:270:A:N6 | 2:AA:370:G:C4 | 2.59 | 0.71 |
| 2:AA:290:G:H2' | 2:AA:291:C:O5' | 1.90 | 0.71 |
| 2:AA:544:C:O2 | 2:AA:549:G:N1 | 2.22 | 0.71 |
| 2:AA:581:C:H5" | 25:A1:32:TYR:CB | 2.17 | 0.71 |
| 2:AA:650:C:H42 | 2:AA:651:G:H1 | 1.37 | 0.71 |
| 2:AA:730:C:OP2 | 2:AA:731:C:OP2 | 2.08 | 0.71 |
| 2:AA:837:C:N3 | 2:AA:942:G:N2 | 2.38 | 0.71 |
| 2:AA:886:C:H1' | 2:AA:887:A:N7 | 2.05 | 0.71 |
| 2:AA:975:G:C2 | 2:AA:976:C:H6 | 2.07 | 0.71 |
| 2:AA:983:A:H8 | 2:AA:984:A:H1' | 1.51 | 0.71 |
| 2:AA:1131:G:N2 | 12:AM:69:TYR:CZ | 2.58 | 0.71 |
| 2:AA:1393:A:N6 | 19:AT:13:LYS:NZ | 2.36 | 0.71 |
| 2:AA:1538:G:H2' | 2:AA:1539:G:C4' | 2.20 | 0.71 |
| 2:AA:1697:G:C8 | 2:AA:1698:A:H5" | 2.25 | 0.71 |
| 2:AA:1717:G:C6 | 2:AA:1742:C:N3 | 2.59 | 0.71 |
| 2:AA:2015:A:H8 | 2:AA:2016:U:C6 | 2.09 | 0.71 |
| 2:AA:2025:C:C2 | 2:AA:2026:C:C5 | 2.79 | 0.71 |
| 2:AA:2093:G:O2' | 10:AK:29:PHE:CE1 | 2.36 | 0.71 |
| 2:AA:2256:G:H2' | 2:AA:2257:U:O4' | 1.89 | 0.71 |
| 2:AA:2287:A:C6 | 2:AA:2289:G:C4 | 2.79 | 0.71 |
| 2:AA:2348:U:H5" | 32:A8:42:ARG:HH22 | 1.56 | 0.71 |
| 2:AA:2565:A:O3' | 2:AA:2566:A:O4' | 2.09 | 0.71 |
| 2:AA:2576:G:H4' | 2:AA:2577:A:C5' | 2.20 | 0.71 |
| 2:AA:2658:C:O2' | 2:AA:2659:G:H5' | 1.91 | 0.71 |
| 4:AD:85:ASN:CG | 4:AD:86:ARG:NE | 2.43 | 0.71 |
| 4:AD:145:LEU:H | 4:AD:152:GLN:CG | 2.04 | 0.71 |
| 5:AE:105:HIS:HB2 | 5:AE:108:LEU:CG | 2.14 | 0.71 |
| 5:AE:193:PHE:CE2 | 5:AE:311:PHE:HD1 | 2.08 | 0.71 |
| 8:AH:132:VAL:HG12 | 8:AH:140:VAL:HG13 | 1.73 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:143:LEU:O | 8:AH:146:ASN:CB | 2.39 | 0.71 |
| 10:AK:7:LYS:HA | 10:AK:14:LYS:CG | 2.13 | 0.71 |
| 10:AK:58:ALA:O | 10:AK:62:LEU:HG | 1.90 | 0.71 |
| 11:AL:15:ALA:CB | 11:AL:46:THR:HB | 2.21 | 0.71 |
| 12:AM:54:VAL:HG22 | 12:AM:135:ILE:HD11 | 1.72 | 0.71 |
| 15:AP:48:ASN:ND2 | 15:AP:122:PHE:CB | 2.53 | 0.71 |
| 16:AQ:102:LEU:CD2 | 16:AQ:129:ILE:HG23 | 2.20 | 0.71 |
| 17:AR:45:GLU:HB3 | 17:AR:48:ASN:ND2 | 2.05 | 0.71 |
| 18:AS:20:VAL:HG12 | 18:AS:21:VAL:N | 2.05 | 0.71 |
| 20:AU:101:LEU:O | 20:AU:103:LEU:HG | 1.91 | 0.71 |
| 21:AV:103:ARG:HB2 | 21:AV:141:MET:HE1 | 1.73 | 0.71 |
| 25:A1:84:LYS:HE3 | 25:A1:92:ARG:HH21 | 1.56 | 0.71 |
| 25:A1:99:ALA:HB2 | 25:A1:106:PHE:CE2 | 2.25 | 0.71 |
| 27:A3:48:GLY:H | 27:A3:49:GLN:NE2 | 1.89 | 0.71 |
| 28:A4:43:TRP:CA | 28:A4:61:LYS:HE3 | 2.18 | 0.71 |
| 28:A4:46:GLU:O | 28:A4:53:GLU:HA | 1.89 | 0.71 |
| 31:A7:21:ARG:HH22 | 31:A7:42:LEU:CB | 2.03 | 0.71 |
| 31:A7:43:THR:O | 31:A7:46:ASP:CG | 2.28 | 0.71 |
| 34:BA:30:U:O2' | 34:BA:31:G:OP1 | 2.07 | 0.71 |
| 34:BA:181:G:O2' | 34:BA:182:U:OP2 | 2.06 | 0.71 |
| 34:BA:190(A):C:O2' | 34:BA:190(B):C:H5' | 1.90 | 0.71 |
| 34:BA:407:G:H4' | 39:BG:115:ARG:HB3 | 1.70 | 0.71 |
| 34:BA:428:G:C2 | 34:BA:430:A:N6 | 2.59 | 0.71 |
| 34:BA:575:G:C6 | 34:BA:821:G:C8 | 2.79 | 0.71 |
| 34:BA:971:G:N2 | 34:BA:1363:A:OP2 | 2.23 | 0.71 |
| 34:BA:1363:A:C5' | 34:BA:1364:U:OP1 | 2.39 | 0.71 |
| 38:BF:142:MET:SD | 38:BF:146:ALA:HB3 | 2.30 | 0.71 |
| 39:BG:121:VAL:HA | 39:BG:126:ILE:CG1 | 2.21 | 0.71 |
| 40:BH:17:ALA:HA | 40:BH:26:PHE:CB | 2.21 | 0.71 |
| 40:BH:50:GLU:O | 40:BH:53:LEU:HB2 | 1.90 | 0.71 |
| 43:BK:37:ARG:O | 43:BK:41:ARG:HB2 | 1.90 | 0.71 |
| 45:BM:32:ALA:HB2 | 45:BM:75:ILE:O | 1.90 | 0.71 |
| 51:BS:57:ARG:CA | 51:BS:60:LEU:HD12 | 2.21 | 0.71 |
| 53:BU:51:LEU:HD12 | 53:BU:51:LEU:H | 1.56 | 0.71 |
| 54:BV:32:LYS:HA | 54:BV:50:ALA:CB | 2.18 | 0.71 |
| 1:AB:12:C:H5" | 27:A3:53:MET:HE1 | 1.71 | 0.71 |
| 2:AA:147:U:O2' | 2:AA:148:C:H5' | 1.90 | 0.71 |
| 2:AA:271:G:H2' | 2:AA:272:G:C8 | 2.23 | 0.71 |
| 2:AA:446:G:OP2 | 25:A1:3:ARG:NE | 2.22 | 0.71 |
| 2:AA:464:U:H2' | 2:AA:465:G:O4' | 1.91 | 0.71 |
| 2:AA:475:U:C5 | 2:AA:509:C:N4 | 2.59 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:495:G:H21 | 18:AS:61:ASN:ND2 | 1.89 | 0.71 |
| 2:AA:629:G:N2 | 2:AA:640:C:P | 2.62 | 0.71 |
| 2:AA:758:C:O2' | 2:AA:1981:A:N3 | 2.23 | 0.71 |
| 2:AA:904:C:H1' | 21:AV:166:LEU:CD1 | 2.12 | 0.71 |
| 2:AA:965:C:C5' | 2:AA:2273:A:H1' | 1.99 | 0.71 |
| 2:AA:1322:A:H2' | 2:AA:1323:U:C5' | 2.21 | 0.71 |
| 2:AA:1453:A:N6 | 24:A0:77:ARG:HD3 | 2.04 | 0.71 |
| 2:AA:1646:C:H3' | 2:AA:1647:G:C5' | 2.20 | 0.71 |
| 2:AA:1747:G:H2' | 2:AA:1748:G:H8 | 1.56 | 0.71 |
| 2:AA:1851:U:H2' | 2:AA:1852:C:H6 | 1.51 | 0.71 |
| 2:AA:2004:G:C5 | 2:AA:2005:A:C5 | 2.79 | 0.71 |
| 2:AA:2131:G:H5" | 3:AC:6:ARG:CB | 2.21 | 0.71 |
| 2:AA:2186:G:H2' | 2:AA:2187:G:C8 | 2.25 | 0.71 |
| 2:AA:2320:A:H5' | 2:AA:2321:G:C8 | 2.25 | 0.71 |
| 2:AA:2607:G:H2' | 2:AA:2608:G:H5' | 1.71 | 0.71 |
| 2:AA:2617:C:O2' | 2:AA:2618:G:H5' | 1.90 | 0.71 |
| 2:AA:2696:U:H2' | 2:AA:2697:G:H8 | 1.56 | 0.71 |
| 3:AC:180:PHE:CE2 | 3:AC:184:LYS:HD3 | 2.24 | 0.71 |
| 4:AD:66:PHE:O | 4:AD:66:PHE:CG | 2.43 | 0.71 |
| 4:AD:196:ASN:HA | 4:AD:199:ARG:CD | 2.08 | 0.71 |
| 6:AF:239:ALA:O | 6:AF:242:GLU:HG3 | 1.91 | 0.71 |
| 7:AG:76:ARG:O | 7:AG:80:ALA:HB2 | 1.90 | 0.71 |
| 7:AG:93:LEU:HB3 | 7:AG:97:GLN:HE22 | 1.55 | 0.71 |
| 8:AH:102:LEU:HD21 | 8:AH:114:ILE:HB | 1.73 | 0.71 |
| 9:AI:15:VAL:HG13 | 9:AI:45:ALA:O | 1.90 | 0.71 |
| 9:AI:63:LEU:HD21 | 9:AI:118:LEU:HD13 | 1.73 | 0.71 |
| 9:AI:110:GLU:O | 9:AI:113:GLU:HB2 | 1.91 | 0.71 |
| 11:AL:73:PRO:CG | 11:AL:78:LEU:HD21 | 2.20 | 0.71 |
| 12:AM:23:ALA:O | 12:AM:26:VAL:CB | 2.35 | 0.71 |
| 15:AP:26:LYS:HD3 | 15:AP:90:PHE:CE1 | 2.26 | 0.71 |
| 16:AQ:47:LEU:H | 16:AQ:57:THR:CG2 | 1.96 | 0.71 |
| 16:AQ:47:LEU:HD12 | 16:AQ:58:LEU:HD21 | 1.73 | 0.71 |
| 18:AS:37:ARG:NH2 | 29:A5:48:ASN:HD21 | 1.89 | 0.71 |
| 19:AT:18:MET:SD | 19:AT:18:MET:N | 2.64 | 0.71 |
| 21:AV:118:HIS:HB2 | 21:AV:168:VAL:O | 1.91 | 0.71 |
| 25:A1:13:ARG:HD3 | 25:A1:16:LYS:NZ | 2.05 | 0.71 |
| 30:A6:47:HIS:O | 30:A6:48:VAL:HB | 1.90 | 0.71 |
| 33:A9:7:VAL:CB | 33:A9:36:GLN:OE1 | 2.31 | 0.71 |
| 34:BA:68:G:C4' | 34:BA:171:A:H1' | 2.20 | 0.71 |
| 34:BA:70:G:H2' | 34:BA:73:C:C6 | 2.26 | 0.71 |
| 34:BA:197:A:N6 | 34:BA:221:C:H5' | 2.06 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:253:U:P | 52:BT:67:LYS:HE3 | 2.30 | 0.71 |
| 34:BA:450:G:O6 | 34:BA:481:G:H2' | 1.90 | 0.71 |
| 34:BA:564:C:OP1 | 47:BO:15:ARG:NH2 | 2.24 | 0.71 |
| 34:BA:586:C:H1' | 34:BA:878:G:O2' | 1.90 | 0.71 |
| 34:BA:745:C:H2' | 34:BA:746:A:H8 | 1.54 | 0.71 |
| 34:BA:800:G:O5' | 34:BA:800:G:C8 | 2.43 | 0.71 |
| 34:BA:1064:G:OP1 | 34:BA:1386:G:H4' | 1.91 | 0.71 |
| 34:BA:1143:G:H2' | 34:BA:1144:G:C8 | 2.26 | 0.71 |
| 34:BA:1259:C:N3 | 34:BA:1276:G:N2 | 2.39 | 0.71 |
| 35:BB:28:C:C4 | 35:BB:43:G:N2 | 2.59 | 0.71 |
| 38:BF:59:ARG:NH2 | 38:BF:64:VAL:HG13 | 2.05 | 0.71 |
| 38:BF:90:GLU:O | 38:BF:93:LYS:HB2 | 1.91 | 0.71 |
| 39:BG:129:ASN:HD21 | 39:BG:144:ASP:HB3 | 1.55 | 0.71 |
| 39:BG:130:GLY:HA3 | 39:BG:131:ARG:HH11 | 1.55 | 0.71 |
| 40:BH:15:ARG:CZ | 40:BH:26:PHE:CE2 | 2.74 | 0.71 |
| 40:BH:94:ALA:HB3 | 40:BH:118:ILE:HA | 1.73 | 0.71 |
| 41:BI:45:LEU:HG | 41:BI:59:TYR:CD1 | 2.26 | 0.71 |
| 42:BJ:14:PRO:HB2 | 42:BJ:19:GLY:C | 2.10 | 0.71 |
| 47:BO:86:ARG:HH12 | 47:BO:99:HIS:CE1 | 2.07 | 0.71 |
| 47:BO:126:LYS:C | 47:BO:126:LYS:HD2 | 2.12 | 0.71 |
| 49:BQ:9:LYS:HZ3 | 49:BQ:10:ALA:HB2 | 1.52 | 0.71 |
| 49:BQ:45:ARG:O | 49:BQ:48:ALA:HB3 | 1.89 | 0.71 |
| 55:BW:75:ASN:O | 55:BW:79:ARG:HG3 | 1.89 | 0.71 |
| 2:AA:81:G:H2' | 2:AA:82:G:O4' | 1.91 | 0.71 |
| 2:AA:109:G:H5' | 2:AA:348:G:O2' | 1.89 | 0.71 |
| 2:AA:247:G:N7 | 2:AA:249:C:O2 | 2.24 | 0.71 |
| 2:AA:290:G:H22 | 2:AA:350:U:C2' | 2.04 | 0.71 |
| 2:AA:297:C:C2 | 2:AA:342:G:N2 | 2.59 | 0.71 |
| 2:AA:343:C:H2' | 2:AA:344:G:H5' | 1.72 | 0.71 |
| 2:AA:775:G:N2 | 2:AA:788:A:P | 2.64 | 0.71 |
| 2:AA:814:C:O3' | 2:AA:1224:G:N2 | 2.24 | 0.71 |
| 2:AA:1087:G:H21 | 2:AA:1103:A:C3' | 2.03 | 0.71 |
| 2:AA:1206:G:O6 | 2:AA:1207:C:H1' | 1.90 | 0.71 |
| 2:AA:1266:G:O4' | 18:AS:15:ARG:NH2 | 2.22 | 0.71 |
| 2:AA:1391:U:N3 | 2:AA:1394:U:H5 | 1.89 | 0.71 |
| 2:AA:1422:G:N3 | 2:AA:1423:G:C8 | 2.59 | 0.71 |
| 2:AA:1638:C:H4' | 2:AA:2710:C:O2 | 1.90 | 0.71 |
| 2:AA:1681:G:O2' | 2:AA:1763:G:C5' | 2.38 | 0.71 |
| 2:AA:1758:G:N7 | 2:AA:2695:C:H4' | 2.06 | 0.71 |
| 2:AA:1771:C:H2' | 2:AA:1772:G:H8 | 1.56 | 0.71 |
| 2:AA:1872:A:C2' | 2:AA:1878:G:H5' | 2.21 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1993:U:H4' | 5:AE:228:ARG:HE | 1.55 | 0.71 |
| 2:AA:2083:G:O2' | 2:AA:2084:C:H5' | 1.90 | 0.71 |
| 2:AA:2469:A:C2 | 2:AA:2482:G:C1' | 2.74 | 0.71 |
| 2:AA:2599:G:O2' | 2:AA:2600:A:H5' | 1.91 | 0.71 |
| 2:AA:2757:A:O2' | 2:AA:2758:A:O5' | 2.07 | 0.71 |
| 3:AC:41:VAL:CB | 3:AC:176:GLY:O | 2.38 | 0.71 |
| 4:AD:123:ILE:O | 4:AD:123:ILE:HG22 | 1.90 | 0.71 |
| 4:AD:130:PRO:HB3 | 4:AD:186:LYS:O | 1.91 | 0.71 |
| 4:AD:139:LEU:O | 4:AD:139:LEU:CD1 | 2.39 | 0.71 |
| 5:AE:267:ARG:HB2 | 5:AE:297:LYS:CD | 2.19 | 0.71 |
| 6:AF:87:ARG:HH11 | 6:AF:87:ARG:HG2 | 1.55 | 0.71 |
| 6:AF:218:VAL:HA | 6:AF:222:ASP:OD2 | 1.91 | 0.71 |
| 7:AG:93:LEU:HD22 | 7:AG:106:PHE:CD2 | 2.25 | 0.71 |
| 11:AL:9:ILE:HD11 | 11:AL:31:HIS:HB3 | 1.71 | 0.71 |
| 12:AM:83:ILE:HG13 | 12:AM:84:ARG:H | 1.55 | 0.71 |
| 13:AN:71:ARG:HH22 | 13:AN:77:ILE:HG21 | 1.56 | 0.71 |
| 13:AN:87:ILE:HG22 | 13:AN:88:ARG:O | 1.91 | 0.71 |
| 13:AN:104:ARG:HD2 | 13:AN:104:ARG:H | 1.56 | 0.71 |
| 15:AP:33:MET:HE3 | 15:AP:34:GLY:H | 1.54 | 0.71 |
| 22:AW:20:LEU:HA | 22:AW:23:LEU:CD1 | 2.21 | 0.71 |
| 24:A0:63:ARG:HH12 | 24:A0:80:PHE:HB3 | 1.56 | 0.71 |
| 24:A0:88:ARG:HB2 | 24:A0:88:ARG:HH11 | 1.54 | 0.71 |
| 26:A2:11:GLN:OE1 | 26:A2:22:VAL:HG23 | 1.89 | 0.71 |
| 30:A6:16:ALA:HB3 | 30:A6:19:GLY:N | 2.05 | 0.71 |
| 34:BA:109:A:C4' | 34:BA:110:C:OP2 | 2.39 | 0.71 |
| 34:BA:373:A:N7 | 34:BA:482:A:N7 | 2.39 | 0.71 |
| 34:BA:781:A:C6 | 34:BA:802:A:N3 | 2.59 | 0.71 |
| 34:BA:826:C:H2' | 34:BA:827:U:C6 | 2.26 | 0.71 |
| 34:BA:1376:U:H5" | 42:BJ:94:ARG:HH22 | 1.56 | 0.71 |
| 34:BA:1399:C:H42 | 34:BA:1504:G:H1 | 1.39 | 0.71 |
| 35:BC:4:G:C5 | 35:BC:5:A:N7 | 2.58 | 0.71 |
| 37:BE:17:PHE:CD1 | 37:BE:18:GLY:N | 2.59 | 0.71 |
| 37:BE:140:HIS:HA | 37:BE:143:GLU:CB | 2.21 | 0.71 |
| 38:BF:136:GLN:O | 38:BF:139:GLN:HB2 | 1.91 | 0.71 |
| 43:BK:77:GLU:HG2 | 43:BK:78:GLN:N | 2.06 | 0.71 |
| 46:BN:95:ILE:HG23 | 46:BN:98:LEU:HD12 | 1.71 | 0.71 |
| 52:BT:31:LEU:O | 52:BT:32:TYR:HD2 | 1.72 | 0.71 |
| 53:BU:31:LEU:CD1 | 53:BU:62:GLU:OE2 | 2.38 | 0.71 |
| 53:BU:67:ALA:HA | 53:BU:70:ILE:HD12 | 1.73 | 0.71 |
| 55:BW:51:GLU:HA | 55:BW:54:LYS:CD | 2.21 | 0.71 |
| 2:AA:138:G:N3 | 2:AA:139:G:O4' | 2.24 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:141(A):C:O5' | 2:AA:141(A):C:H6 | 1.74 | 0.70 |
| 2:AA:184:C:H2' | 2:AA:185:U:H6 | 1.56 | 0.70 |
| 2:AA:190:A:H2' | 2:AA:191:A:C8 | 2.25 | 0.70 |
| 2:AA:251:A:H2' | 2:AA:252:G:O5' | 1.91 | 0.70 |
| 2:AA:290:G:O5' | 2:AA:351:G:O6 | 2.09 | 0.70 |
| 2:AA:462:C:C2 | 2:AA:468:G:N2 | 2.59 | 0.70 |
| 2:AA:484:C:C2' | 2:AA:485:C:H6 | 1.96 | 0.70 |
| 2:AA:594:U:H2' | 2:AA:595:C:C5 | 2.26 | 0.70 |
| 2:AA:605:C:H2' | 2:AA:606:U:H6 | 1.52 | 0.70 |
| 2:AA:612:G:C2' | 2:AA:615:G:H2' | 2.21 | 0.70 |
| 2:AA:742:G:C2 | 2:AA:743:G:C8 | 2.79 | 0.70 |
| 2:AA:784:A:N6 | 2:AA:792:G:H1' | 2.05 | 0.70 |
| 2:AA:789:A:O2' | 2:AA:790:C:P | 2.48 | 0.70 |
| 2:AA:1087:G:H2' | 2:AA:1103:A:H2 | 1.55 | 0.70 |
| 2:AA:1255:U:O2 | 2:AA:1255:U:H2' | 1.90 | 0.70 |
| 2:AA:1582:C:N3 | 2:AA:1583:A:C4 | 2.59 | 0.70 |
| 2:AA:1594:G:O2' | 2:AA:1595:G:H5' | 1.91 | 0.70 |
| 2:AA:1909:C:C6 | 2:AA:1922:G:N2 | 2.59 | 0.70 |
| 2:AA:2055:C:H2' | 2:AA:2055:C:O2 | 1.89 | 0.70 |
| 2:AA:2111:C:N4 | 2:AA:2120:G:C1' | 2.48 | 0.70 |
| 2:AA:2603:G:C5 | 2:AA:2604:U:C5 | 2.78 | 0.70 |
| 2:AA:2698:U:H2' | 2:AA:2699:C:H6 | 1.55 | 0.70 |
| 2:AA:2845:G:N1 | 2:AA:2871:C:O2 | 2.19 | 0.70 |
| 3:AC:200:LYS:CB | 3:AC:208:PHE:CZ | 2.74 | 0.70 |
| 6:AF:193:LEU:HD11 | 6:AF:231:ARG:HB3 | 1.73 | 0.70 |
| 6:AF:223:LEU:HD22 | 6:AF:233:THR:CG2 | 2.08 | 0.70 |
| 10:AK:7:LYS:N | 10:AK:14:LYS:HG2 | 2.04 | 0.70 |
| 10:AK:28:ASN:ND2 | 10:AK:32:LYS:HG3 | 2.05 | 0.70 |
| 12:AM:66:ASP:O | 12:AM:68:GLY:N | 2.24 | 0.70 |
| 12:AM:135:ILE:O | 12:AM:139:LEU:CD2 | 2.39 | 0.70 |
| 13:AN:43:VAL:HB | 13:AN:56:GLN:N | 2.06 | 0.70 |
| 14:AO:82:ALA:C | 14:AO:83:GLU:O | 2.14 | 0.70 |
| 15:AP:45:GLN:HE22 | 15:AP:153:PRO:CB | 1.95 | 0.70 |
| 20:AU:78:THR:O | 20:AU:89:ARG:NE | 2.23 | 0.70 |
| 20:AU:103:LEU:HD23 | 20:AU:108:ARG:HB3 | 1.72 | 0.70 |
| 21:AV:100:THR:HG22 | 21:AV:137:ASP:CG | 2.12 | 0.70 |
| 23:AX:23:LEU:CA | 23:AX:28:LEU:HD12 | 2.17 | 0.70 |
| 27:A3:29:GLU:O | 27:A3:30:VAL:C | 2.28 | 0.70 |
| 31:A7:4:THR:C | 31:A7:6:GLN:HE22 | 1.94 | 0.70 |
| 31:A7:17:GLY:CA | 31:A7:44:VAL:HG23 | 2.20 | 0.70 |
| 34:BA:266:G:N2 | 34:BA:270:A:H62 | 1.88 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:269:C:H2' | 34:BA:270:A:C8 | 2.26 | 0.70 |
| 34:BA:529:G:C6 | 47:BO:49:ASN:ND2 | 2.59 | 0.70 |
| 34:BA:565:U:H3' | 34:BA:566:G:H8 | 1.55 | 0.70 |
| 34:BA:689:C:H4' | 34:BA:705:U:O2 | 1.90 | 0.70 |
| 34:BA:767:A:N6 | 34:BA:813:U:H3 | 1.88 | 0.70 |
| 34:BA:791:G:N2 | 34:BA:1497:G:O3' | 2.22 | 0.70 |
| 34:BA:1269:A:H8 | 34:BA:1270:C:C1' | 2.04 | 0.70 |
| 34:BA:1391:U:H2' | 34:BA:1392:G:C8 | 2.25 | 0.70 |
| 34:BA:1451:A:C8 | 34:BA:1451:A:H3' | 2.26 | 0.70 |
| 35:BB:11:C:C4 | 35:BB:12:U:C4 | 2.78 | 0.70 |
| 35:BC:19:G:C5 | 35:BC:57:G:N2 | 2.58 | 0.70 |
| 35:BC:44:A:N1 | 35:BC:45:G:N3 | 2.39 | 0.70 |
| 37:BE:223:ILE:O | 37:BE:226:ARG:HB2 | 1.91 | 0.70 |
| 39:BG:57:ARG:HB3 | 39:BG:206:PHE:HB2 | 1.73 | 0.70 |
| 40:BH:61:TYR:CA | 40:BH:64:ARG:HG3 | 2.17 | 0.70 |
| 42:BJ:11:GLN:HE21 | 42:BJ:12:LEU:H | 1.38 | 0.70 |
| 43:BK:36:LEU:C | 43:BK:39:LEU:HB2 | 2.09 | 0.70 |
| 43:BK:81:HIS:HB3 | 43:BK:138:TRP:O | 1.91 | 0.70 |
| 43:BK:109:ILE:O | 43:BK:109:ILE:CG1 | 2.39 | 0.70 |
| 50:BR:29:VAL:HG12 | 50:BR:85:LEU:HD11 | 1.73 | 0.70 |
| 51:BS:4:ILE:HA | 51:BS:20:VAL:O | 1.91 | 0.70 |
| 54:BV:30:LEU:O | 54:BV:31:ILE:HG12 | 1.89 | 0.70 |
| 2:AA:139:G:C8 | 2:AA:141(A):C:H2' | 2.25 | 0.70 |
| 2:AA:197:A:N6 | 2:AA:248:G:N2 | 2.37 | 0.70 |
| 2:AA:449:A:C2 | 2:AA:450:G:N9 | 2.59 | 0.70 |
| 2:AA:752:A:H4' | 2:AA:753:C:C5' | 2.20 | 0.70 |
| 2:AA:953:A:O2' | 2:AA:954:G:H5' | 1.91 | 0.70 |
| 2:AA:1058:G:O2' | 2:AA:1059:G:C5' | 2.39 | 0.70 |
| 2:AA:1084:A:H5' | 9:AI:35:ALA:C | 2.11 | 0.70 |
| 2:AA:1156:A:H2 | 25:A1:51:ARG:NH2 | 1.88 | 0.70 |
| 2:AA:1193:G:C2' | 2:AA:1194:A:H5' | 2.21 | 0.70 |
| 2:AA:1213:A:H61 | 2:AA:1236:G:H1' | 1.56 | 0.70 |
| 2:AA:1287:A:H2' | 2:AA:1288:U:C6 | 2.26 | 0.70 |
| 2:AA:1582:C:C2 | 2:AA:1583:A:H1' | 2.25 | 0.70 |
| 2:AA:1704:G:N2 | 2:AA:1705:G:H1' | 2.05 | 0.70 |
| 2:AA:1918:A:C2' | 2:AA:1919:A:N7 | 2.55 | 0.70 |
| 2:AA:1924:C:N3 | 2:AA:1925:C:C5 | 2.59 | 0.70 |
| 2:AA:1967:C:H2' | 2:AA:1968:G:H5' | 1.72 | 0.70 |
| 2:AA:2156:G:C8 | 2:AA:2156:G:O5' | 2.44 | 0.70 |
| 2:AA:2199:A:C2 | 2:AA:2225:A:N3 | 2.59 | 0.70 |
| 2:AA:2314:C:H2' | 2:AA:2315:G:C8 | 2.26 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2406:U:C4 | 14:AO:55:GLN:HB3 | 2.26 | 0.70 |
| 2:AA:2432:A:N7 | 28:A4:30:GLU:CB | 2.55 | 0.70 |
| 2:AA:2700:C:H2' | 2:AA:2701:C:C5' | 2.19 | 0.70 |
| 2:AA:2733:A:H61 | 5:AE:316:ARG:HD3 | 1.55 | 0.70 |
| 4:AD:97:ASP:HB3 | 4:AD:99:GLU:OE2 | 1.91 | 0.70 |
| 4:AD:208:GLY:HA3 | 4:AD:210:LYS:HE2 | 1.73 | 0.70 |
| 4:AD:213:LYS:HB3 | 4:AD:215:LYS:CA | 2.22 | 0.70 |
| 5:AE:71:THR:OG1 | 5:AE:299:SER:CA | 2.39 | 0.70 |
| 7:AG:56:ARG:HE | 7:AG:65:GLU:HB2 | 1.54 | 0.70 |
| 8:AH:17:THR:HG22 | 8:AH:19:ASN:OD1 | 1.91 | 0.70 |
| 9:AJ:74:ILE:HG12 | 9:AJ:92:VAL:HG21 | 1.73 | 0.70 |
| 10:AK:2:LYS:HG3 | 10:AK:18:ILE:CD1 | 2.21 | 0.70 |
| 10:AK:94:THR:N | 10:AK:97:GLN:OE1 | 2.19 | 0.70 |
| 11:AL:114:PRO:C | 11:AL:116:LEU:H | 1.94 | 0.70 |
| 11:AL:132:ALA:HA | 11:AL:137:ILE:HB | 1.72 | 0.70 |
| 14:AO:94:ARG:CD | 14:AO:120:LEU:HD22 | 2.19 | 0.70 |
| 15:AP:69:ASN:ND2 | 15:AP:70:ARG:N | 2.38 | 0.70 |
| 16:AQ:11:ARG:HA | 16:AQ:14:ARG:CZ | 2.21 | 0.70 |
| 16:AQ:90:LEU:O | 16:AQ:93:GLN:OE1 | 2.09 | 0.70 |
| 18:AS:84:ARG:HA | 18:AS:84:ARG:CZ | 2.21 | 0.70 |
| 19:AT:7:HIS:CE1 | 19:AT:8:PRO:O | 2.44 | 0.70 |
| 20:AU:50:VAL:O | 20:AU:97:ARG:NH2 | 2.24 | 0.70 |
| 23:AX:8:LEU:HA | 23:AX:54:VAL:HG12 | 1.72 | 0.70 |
| 24:A0:61:HIS:ND1 | 24:A0:64:ARG:CZ | 2.53 | 0.70 |
| 28:A4:61:LYS:O | 28:A4:62:ARG:C | 2.29 | 0.70 |
| 30:A6:29:ARG:CG | 30:A6:30:ASN:N | 2.54 | 0.70 |
| 31:A7:25:LYS:NZ | 31:A7:28:ARG:NH2 | 2.40 | 0.70 |
| 34:BA:232:G:H2' | 34:BA:233:C:H6 | 1.56 | 0.70 |
| 34:BA:253:U:O4 | 34:BA:273:A:N1 | 2.24 | 0.70 |
| 34:BA:376:G:OP1 | 51:BS:5:ARG:HB2 | 1.91 | 0.70 |
| 34:BA:515:G:H1 | 34:BA:536:C:N4 | 1.88 | 0.70 |
| 34:BA:1004:A:H5" | 34:BA:1025:U:C4 | 2.25 | 0.70 |
| 34:BA:1067:A:O2' | 34:BA:1068:G:OP2 | 2.07 | 0.70 |
| 34:BA:1225:A:H4' | 54:BV:78:ARG:HD3 | 1.73 | 0.70 |
| 34:BA:1283:G:C2' | 34:BA:1284:C:H5' | 2.21 | 0.70 |
| 34:BA:1464:G:H2' | 34:BA:1465:C:C6 | 2.26 | 0.70 |
| 34:BA:1540:U:O4 | 34:BA:1541:U:O4 | 2.09 | 0.70 |
| 35:BB:35:A:N1 | 36:B1:65:U:H2' | 2.06 | 0.70 |
| 35:BB:37:G:N7 | 35:BB:38:A:N7 | 2.39 | 0.70 |
| 36:B1:53:G:H2' | 36:B1:54:G:C8 | 2.25 | 0.70 |
| 36:B1:59:A:H4' | 36:B1:59:A:OP2 | 1.90 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:19:LEU:CA | 39:BG:21:LEU:HG | 2.21 | 0.70 |
| 39:BG:88:VAL:CG2 | 40:BH:96:PRO:HB3 | 2.21 | 0.70 |
| 45:BM:34:VAL:HG22 | 45:BM:74:ILE:CD1 | 2.21 | 0.70 |
| 48:BP:63:THR:CG2 | 48:BP:64:TRP:N | 2.54 | 0.70 |
| 51:BS:43:LYS:HG3 | 51:BS:48:TRP:CE3 | 2.26 | 0.70 |
| 52:BT:5:VAL:HG12 | 52:BT:6:LEU:N | 2.07 | 0.70 |
| 1:AB:114:G:H2' | 1:AB:115:G:H8 | 1.56 | 0.70 |
| 2:AA:50:U:H3' | 2:AA:50:U:C6 | 2.26 | 0.70 |
| 2:AA:139:G:O3' | 2:AA:141(A):C:H1' | 1.90 | 0.70 |
| 2:AA:204:A:O2' | 2:AA:205:G:O5' | 2.09 | 0.70 |
| 2:AA:221:A:C5 | 2:AA:266:G:N7 | 2.59 | 0.70 |
| 2:AA:342:G:C2' | 2:AA:343:C:C6 | 2.74 | 0.70 |
| 2:AA:585:G:N3 | 2:AA:1251:C:N4 | 2.38 | 0.70 |
| 2:AA:755:C:H2' | 2:AA:756:C:C6 | 2.24 | 0.70 |
| 2:AA:990:A:N6 | 2:AA:1186:G:N3 | 2.39 | 0.70 |
| 2:AA:1000:A:N7 | 2:AA:1001:A:C6 | 2.60 | 0.70 |
| 2:AA:1149:G:H2' | 2:AA:1150:C:H6 | 1.56 | 0.70 |
| 2:AA:1252:G:H8 | 2:AA:1253:A:C1' | 2.01 | 0.70 |
| 2:AA:1278:A:O3' | 24:A0:34:ILE:HD12 | 1.91 | 0.70 |
| 2:AA:1301:A:N6 | 2:AA:1303:G:H1' | 2.06 | 0.70 |
| 2:AA:1333:C:H5' | 2:AA:1333:C:C6 | 2.24 | 0.70 |
| 2:AA:1455:G:C8 | 2:AA:1455:G:H3' | 2.26 | 0.70 |
| 2:AA:1492:G:H21 | 2:AA:1493:C:N4 | 1.89 | 0.70 |
| 2:AA:1572:A:C2' | 2:AA:1573:G:OP1 | 2.39 | 0.70 |
| 2:AA:1593:G:H2' | 2:AA:1594:G:C8 | 2.26 | 0.70 |
| 2:AA:2053:G:H1 | 2:AA:2616:C:N4 | 1.88 | 0.70 |
| 2:AA:2122:U:H2' | 2:AA:2122:U:O2 | 1.91 | 0.70 |
| 2:AA:2128:C:OP2 | 2:AA:2129:C:H4' | 1.91 | 0.70 |
| 2:AA:2256:G:C5' | 27:A3:5:LYS:HE2 | 2.21 | 0.70 |
| 2:AA:2553:G:H21 | 2:AA:2583:G:C2' | 2.02 | 0.70 |
| 2:AA:2583:G:H2' | 2:AA:2584:U:C2 | 2.26 | 0.70 |
| 2:AA:2618:G:C2 | 2:AA:2619:C:C6 | 2.78 | 0.70 |
| 2:AA:2721:A:H2' | 2:AA:2722:G:C8 | 2.26 | 0.70 |
| 2:AA:2816:C:O2' | 2:AA:2817:G:H5' | 1.91 | 0.70 |
| 2:AA:2893:G:OP2 | 2:AA:2893:G:H8 | 1.73 | 0.70 |
| 5:AE:104:PHE:HB3 | 5:AE:108:LEU:HD12 | 1.73 | 0.70 |
| 5:AE:202:ALA:CA | 5:AE:262:THR:HB | 2.14 | 0.70 |
| 6:AF:2:GLU:C | 6:AF:18:LEU:HD21 | 2.11 | 0.70 |
| 7:AG:99:ASP:N | 7:AG:104:PHE:CD2 | 2.59 | 0.70 |
| 8:AH:93:TYR:CD2 | 8:AH:159:LYS:HE2 | 2.26 | 0.70 |
| 8:AH:148:ARG:HH22 | 8:AH:164:GLU:N | 1.88 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AJ:60:ASP:H | 9:AJ:128:LYS:HG2 | 1.55 | 0.70 |
| 11:AL:75:ALA:CB | 11:AL:131:THR:HG21 | 2.19 | 0.70 |
| 11:AL:93:LYS:HA | 11:AL:96:ILE:CD1 | 2.21 | 0.70 |
| 12:AM:39:VAL:O | 12:AM:40:ASN:CG | 2.30 | 0.70 |
| 13:AN:7:ARG:CB | 13:AN:44:LYS:NZ | 2.53 | 0.70 |
| 13:AN:22:ILE:HG22 | 13:AN:23:LYS:N | 2.04 | 0.70 |
| 15:AP:59:ASN:HA | 15:AP:62:GLU:OE1 | 1.92 | 0.70 |
| 15:AP:86:ARG:NH2 | 15:AP:123:ILE:HD11 | 2.05 | 0.70 |
| 17:AR:50:GLU:HG3 | 17:AR:55:ALA:HB1 | 1.72 | 0.70 |
| 21:AV:166:LEU:HD13 | 21:AV:167:THR:H | 1.55 | 0.70 |
| 24:A0:20:LEU:HD22 | 24:A0:24:GLN:HG3 | 1.73 | 0.70 |
| 26:A2:24:SER:OG | 26:A2:28:GLU:HG3 | 1.91 | 0.70 |
| 26:A2:27:GLY:O | 26:A2:28:GLU:O | 2.09 | 0.70 |
| 26:A2:42:GLY:N | 26:A2:54:TYR:CE1 | 2.52 | 0.70 |
| 28:A4:15:ILE:HD12 | 28:A4:15:ILE:N | 2.06 | 0.70 |
| 28:A4:17:GLN:OE1 | 28:A4:33:VAL:O | 2.09 | 0.70 |
| 31:A7:30:ILE:HA | 31:A7:33:ARG:CD | 2.20 | 0.70 |
| 34:BA:306:G:H2' | 34:BA:307:C:H6 | 1.56 | 0.70 |
| 34:BA:515:G:H1' | 34:BA:537:G:N2 | 2.07 | 0.70 |
| 34:BA:521:G:OP1 | 47:BO:73:GLU:O | 2.10 | 0.70 |
| 34:BA:648:A:C2 | 34:BA:649:G:C8 | 2.79 | 0.70 |
| 34:BA:834:C:N4 | 34:BA:853:G:C6 | 2.59 | 0.70 |
| 34:BA:1180:A:H5' | 44:BL:103:THR:OG1 | 1.92 | 0.70 |
| 34:BA:1226:C:N4 | 48:BP:104:ARG:HG3 | 2.06 | 0.70 |
| 34:BA:1256:A:O3' | 34:BA:1257:U:C4' | 2.39 | 0.70 |
| 37:BE:194:PRO:O | 37:BE:196:LEU:N | 2.23 | 0.70 |
| 38:BF:15:THR:HG21 | 38:BF:181:ASN:HB2 | 1.74 | 0.70 |
| 38:BF:88:ARG:CZ | 38:BF:101:LEU:N | 2.54 | 0.70 |
| 38:BF:180:ALA:HB1 | 38:BF:203:PHE:CE1 | 2.24 | 0.70 |
| 40:BH:102:ALA:HB1 | 40:BH:120:THR:HG22 | 1.71 | 0.70 |
| 41:BI:11:ASN:HD21 | 41:BI:13:ASN:HD22 | 1.39 | 0.70 |
| 45:BM:45:ARG:HH11 | 45:BM:45:ARG:CB | 2.01 | 0.70 |
| 47:BO:113:ARG:O | 47:BO:114:LYS:HG3 | 1.90 | 0.70 |
| 49:BQ:24:CYS:O | 49:BQ:28:GLY:HA2 | 1.91 | 0.70 |
| 1:AB:59:A:H4' | 7:AG:144:ARG:HG2 | 1.72 | 0.70 |
| 2:AA:202:U:C5 | 2:AA:203:C:C4 | 2.80 | 0.70 |
| 2:AA:239:U:H1' | 2:AA:259:G:N2 | 2.06 | 0.70 |
| 2:AA:247:G:N2 | 32:A8:8:LYS:HZ2 | 1.90 | 0.70 |
| 2:AA:271(C):U:O4 | 2:AA:421:U:N1 | 2.24 | 0.70 |
| 2:AA:414:C:O2 | 2:AA:1864:U:H4' | 1.89 | 0.70 |
| 2:AA:921:G:N2 | 27:A3:23:VAL:HG11 | 2.07 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:974(A):C:O2' | 2:AA:989:G:N2 | 2.24 | 0.70 |
| 2:AA:1012:U:C5' | 2:AA:1013:C:OP1 | 2.37 | 0.70 |
| 2:AA:1312:U:H1' | 2:AA:1313:U:C5 | 2.27 | 0.70 |
| 2:AA:1663:C:O2' | 2:AA:1664:A:C8 | 2.42 | 0.70 |
| 2:AA:1886:C:O2' | 2:AA:1887:C:H5' | 1.92 | 0.70 |
| 2:AA:1958:C:O2' | 2:AA:1959:G:H5' | 1.89 | 0.70 |
| 2:AA:1977:A:C4 | 2:AA:1978:A:C8 | 2.80 | 0.70 |
| 2:AA:2269:A:OP1 | 2:AA:2269:A:H3' | 1.92 | 0.70 |
| 2:AA:2289:G:OP1 | 2:AA:2384:G:O2' | 2.09 | 0.70 |
| 2:AA:2528:U:O2' | 2:AA:2529:G:H3' | 1.90 | 0.70 |
| 2:AA:2553:G:O2' | 2:AA:2582:G:H1' | 1.92 | 0.70 |
| 2:AA:2585:U:OP1 | 2:AA:2585:U:H6 | 1.74 | 0.70 |
| 2:AA:2589:A:H61 | 2:AA:2605:U:H3 | 1.38 | 0.70 |
| 2:AA:2592:G:C2' | 2:AA:2593:U:O5' | 2.40 | 0.70 |
| 2:AA:2766:G:N3 | 2:AA:2766:G:H2' | 2.07 | 0.70 |
| 2:AA:2811:G:N2 | 2:AA:2891:G:H1' | 2.06 | 0.70 |
| 5:AE:217:TRP:CD2 | 5:AE:251:PRO:HG3 | 2.26 | 0.70 |
| 6:AF:59:GLU:O | 6:AF:61:PHE:CD2 | 2.43 | 0.70 |
| 6:AF:84:VAL:HB | 6:AF:85:LYS:HD2 | 1.72 | 0.70 |
| 6:AF:223:LEU:HD21 | 6:AF:235:PHE:HZ | 1.52 | 0.70 |
| 12:AM:58:GLU:HG3 | 12:AM:139:LEU:CB | 2.19 | 0.70 |
| 12:AM:84:ARG:CA | 12:AM:98:PHE:HE2 | 2.05 | 0.70 |
| 15:AP:59:ASN:HD22 | 15:AP:60:ALA:N | 1.89 | 0.70 |
| 16:AQ:104:ILE:HG22 | 16:AQ:106:LEU:O | 1.91 | 0.70 |
| 18:AS:4:LYS:CD | 18:AS:106:ILE:HG12 | 2.20 | 0.70 |
| 19:AT:9:HIS:CE1 | 19:AT:63:LYS:HG2 | 2.26 | 0.70 |
| 19:AT:26:PHE:N | 19:AT:26:PHE:CD1 | 2.57 | 0.70 |
| 24:A0:73:VAL:HG12 | 24:A0:77:ARG:CD | 2.22 | 0.70 |
| 28:A4:10:VAL:O | 28:A4:10:VAL:HG12 | 1.91 | 0.70 |
| 32:A8:34:THR:HG22 | 32:A8:36:LYS:HD2 | 1.73 | 0.70 |
| 34:BA:33:A:H5" | 34:BA:34:C:OP2 | 1.90 | 0.70 |
| 34:BA:594:G:H1 | 34:BA:645:C:H42 | 1.39 | 0.70 |
| 34:BA:834:C:H2' | 34:BA:835:U:C6 | 2.25 | 0.70 |
| 34:BA:969:A:H5' | 34:BA:969:A:H8 | 1.55 | 0.70 |
| 34:BA:1353:G:N1 | 34:BA:1370:G:C2 | 2.58 | 0.70 |
| 38:BF:18:TRP:HE3 | 38:BF:18:TRP:H | 1.39 | 0.70 |
| 38:BF:47:LEU:N | 38:BF:47:LEU:HD22 | 2.06 | 0.70 |
| 38:BF:186:PHE:HA | 38:BF:198:VAL:O | 1.92 | 0.70 |
| 39:BG:173:TRP:CD1 | 39:BG:185:PHE:CE2 | 2.79 | 0.70 |
| 41:BI:83:ASP:OD2 | 41:BI:84:ASN:N | 2.22 | 0.70 |
| 42:BJ:72:ARG:NH1 | 42:BJ:138:LYS:NZ | 2.34 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:BP:14:ARG:H | 48:BP:44:ARG:CZ | 2.04 | 0.70 |
| 53:BU:77:GLY:O | 53:BU:79:LEU:HD13 | 1.91 | 0.70 |
| 1:AB:110:G:C2 | 1:AB:111:U:H1' | 2.26 | 0.70 |
| 2:AA:58:G:C2 | 2:AA:73:A:C2 | 2.79 | 0.70 |
| 2:AA:137(A):G:C5' | 2:AA:138:G:OP2 | 2.34 | 0.70 |
| 2:AA:265:A:C2 | 2:AA:266:G:N3 | 2.55 | 0.70 |
| 2:AA:398:G:H21 | 2:AA:399:G:H1' | 1.56 | 0.70 |
| 2:AA:858:U:H2' | 2:AA:2268:A:C2' | 2.21 | 0.70 |
| 2:AA:1168:G:C2' | 2:AA:1169:G:H5' | 2.22 | 0.70 |
| 2:AA:1286:A:H2' | 2:AA:1288:U:OP2 | 1.89 | 0.70 |
| 2:AA:1327:C:C2' | 2:AA:1328:G:H8 | 2.03 | 0.70 |
| 2:AA:444(A):A:C2 | 2:AA:1461:G:O5' | 2.44 | 0.70 |
| 2:AA:1520:U:OP2 | 2:AA:1520:U:C5 | 2.44 | 0.70 |
| 2:AA:1637:A:O2' | 2:AA:1638:C:H5' | 1.92 | 0.70 |
| 2:AA:1767:C:O2' | 2:AA:1768:U:H5' | 1.91 | 0.70 |
| 2:AA:1771:C:N3 | 2:AA:1980:G:N2 | 2.34 | 0.70 |
| 2:AA:1800:C:H2' | 2:AA:1801:G:H5" | 1.73 | 0.70 |
| 2:AA:2056:G:C8 | 2:AA:2577:A:C6 | 2.80 | 0.70 |
| 2:AA:2193:G:C2 | 2:AA:2194:G:C8 | 2.80 | 0.70 |
| 2:AA:2252:G:H1 | 35:BC:74:C:H42 | 1.39 | 0.70 |
| 2:AA:2296:U:C6 | 2:AA:2296:U:C3' | 2.66 | 0.70 |
| 2:AA:2307:G:H1' | 2:AA:2311:A:N6 | 2.06 | 0.70 |
| 2:AA:2809:A:O4' | 2:AA:2811:G:N7 | 2.25 | 0.70 |
| 3:AC:114:VAL:HG21 | 3:AC:153:ILE:HD11 | 1.74 | 0.70 |
| 4:AD:121:ALA:HA | 4:AD:129:LEU:HD13 | 1.72 | 0.70 |
| 6:AF:81:PRO:CA | 6:AF:87:ARG:HH11 | 2.03 | 0.70 |
| 9:AI:60:ASP:H | 9:AI:128:LYS:HG2 | 1.57 | 0.70 |
| 10:AK:79:ILE:HD12 | 10:AK:79:ILE:H | 1.57 | 0.70 |
| 10:AK:95:SER:HA | 10:AK:98:ILE:CG1 | 2.21 | 0.70 |
| 13:AN:64:ARG:CB | 13:AN:79:PHE:CD1 | 2.74 | 0.70 |
| 13:AN:107:ARG:CA | 13:AN:115:ILE:HD11 | 2.21 | 0.70 |
| 16:AQ:19:ASP:HB2 | 16:AQ:22:GLN:CD | 2.11 | 0.70 |
| 16:AQ:97:VAL:HG12 | 16:AQ:98:GLU:N | 2.07 | 0.70 |
| 20:AU:71:VAL:HG22 | 20:AU:91:LEU:O | 1.91 | 0.70 |
| 21:AV:57:GLU:O | 21:AV:59:GLY:N | 2.25 | 0.70 |
| 25:A1:99:ALA:HB2 | 25:A1:106:PHE:CE1 | 2.26 | 0.70 |
| 31:A7:20:ALA:O | 31:A7:23:LYS:HB2 | 1.90 | 0.70 |
| 34:BA:333:G:H4' | 55:BW:16:HIS:NE2 | 2.06 | 0.70 |
| 34:BA:474:G:O2' | 34:BA:475:G:H5' | 1.91 | 0.70 |
| 34:BA:482:A:C2 | 34:BA:483:C:O4' | 2.44 | 0.70 |
| 34:BA:582:U:H2' | 34:BA:583:A:O5' | 1.91 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:723:U:O5' | 34:BA:723:U:C6 | 2.45 | 0.70 |
| 34:BA:984:C:N3 | 34:BA:1221:G:N2 | 2.37 | 0.70 |
| 34:BA:1237:C:H4' | 34:BA:1334:G:H22 | 1.56 | 0.70 |
| 35:BB:19:G:C1' | 35:BB:57:G:H21 | 2.04 | 0.70 |
| 35:BC:17:U:H3' | 35:BC:18:G:C8 | 2.23 | 0.70 |
| 39:BG:15:GLU:HG2 | 39:BG:63:LYS:CB | 2.22 | 0.70 |
| 42:BJ:114:ARG:HG2 | 42:BJ:114:ARG:NH1 | 2.06 | 0.70 |
| 46:BN:25:TYR:OH | 46:BN:87:THR:HB | 1.92 | 0.70 |
| 46:BN:69:ALA:O | 46:BN:72:ALA:HB3 | 1.91 | 0.70 |
| 46:BN:85:ARG:NH2 | 46:BN:111:ASP:OD1 | 2.17 | 0.70 |
| 51:BS:6:LEU:N | 51:BS:6:LEU:CD1 | 2.54 | 0.70 |
| 51:BS:6:LEU:HB2 | 51:BS:17:TYR:CB | 2.22 | 0.70 |
| 53:BU:86:VAL:O | 53:BU:87:ARG:HG2 | 1.90 | 0.70 |
| 55:BW:57:ARG:HH21 | 55:BW:100:ILE:HG22 | 1.56 | 0.70 |
| 55:BW:72:LEU:HD22 | 55:BW:77:ALA:H | 1.54 | 0.70 |
| 55:BW:88:VAL:CG1 | 55:BW:92:LEU:HD11 | 2.21 | 0.70 |
| 2:AA:41:C:H2' | 2:AA:43:G:H8 | 1.56 | 0.70 |
| 2:AA:154:G:C4 | 2:AA:155:C:H1' | 2.26 | 0.70 |
| 2:AA:219:G:H2' | 2:AA:220:G:H8 | 1.56 | 0.70 |
| 2:AA:273(D):C:C2' | 2:AA:273(E):U:H5' | 2.20 | 0.70 |
| 2:AA:299:A:C4 | 2:AA:322:A:N6 | 2.60 | 0.70 |
| 2:AA:399:G:C6 | 2:AA:400:G:H1' | 2.26 | 0.70 |
| 2:AA:559:G:O2' | 2:AA:560:C:O5' | 2.09 | 0.70 |
| 2:AA:640:C:H41 | 2:AA:641:C:N4 | 1.88 | 0.70 |
| 2:AA:743:G:OP1 | 5:AE:229:GLN:HG2 | 1.90 | 0.70 |
| 2:AA:833:U:H2' | 2:AA:834:C:H6 | 1.56 | 0.70 |
| 2:AA:906:G:H2' | 2:AA:906:G:N3 | 2.06 | 0.70 |
| 2:AA:910:A:C6 | 2:AA:911:A:N6 | 2.59 | 0.70 |
| 2:AA:929:G:OP2 | 2:AA:930:U:C5 | 2.45 | 0.70 |
| 2:AA:993:G:C2 | 25:A1:54:LYS:NZ | 2.60 | 0.70 |
| 2:AA:997:G:C4' | 25:A1:92:ARG:NH1 | 2.54 | 0.70 |
| 2:AA:1009:A:O4' | 25:A1:59:ARG:NE | 2.24 | 0.70 |
| 2:AA:1080:C:H2' | 2:AA:1081:U:O4' | 1.90 | 0.70 |
| 2:AA:1179:C:O2' | 2:AA:1180:C:H6 | 1.71 | 0.70 |
| 2:AA:1300:U:C6 | 2:AA:1301:A:C2 | 2.80 | 0.70 |
| 2:AA:1300:U:H2' | 2:AA:1634:A:O2' | 1.92 | 0.70 |
| 2:AA:1301:A:O2' | 2:AA:1302:A:H8 | 1.74 | 0.70 |
| 2:AA:1426:G:C8 | 2:AA:1427:A:N7 | 2.59 | 0.70 |
| 2:AA:1471:A:C2 | 2:AA:1472:A:C1' | 2.67 | 0.70 |
| 2:AA:1518:C:H3' | 2:AA:1519:G:C5' | 2.21 | 0.70 |
| 2:AA:1899:G:H22 | 2:AA:1902:C:H41 | 1.39 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1992:G:N7 | 2:AA:1997:G:C6 | 2.59 | 0.70 |
| 2:AA:2105:C:N4 | 2:AA:2106:G:O6 | 2.25 | 0.70 |
| 2:AA:2119:A:P | 2:AA:2120:G:H5" | 2.31 | 0.70 |
| 2:AA:2281:C:O2' | 2:AA:2282:G:O5' | 2.08 | 0.70 |
| 2:AA:2339:G:H2' | 2:AA:2340:G:H8 | 1.54 | 0.70 |
| 2:AA:2531:A:C2 | 2:AA:2658:C:O2 | 2.44 | 0.70 |
| 2:AA:2630:G:N7 | 2:AA:2894:G:C6 | 2.59 | 0.70 |
| 2:AA:2657:A:C2 | 2:AA:2665:A:C4 | 2.79 | 0.70 |
| 2:AA:2795:G:OP2 | 2:AA:2795:G:H3' | 1.90 | 0.70 |
| 2:AA:2880:C:H1' | 24:A0:91:GLN:O | 1.90 | 0.70 |
| 4:AD:107:LYS:CB | 4:AD:194:VAL:O | 2.40 | 0.70 |
| 5:AE:217:TRP:CZ2 | 5:AE:251:PRO:HB3 | 2.26 | 0.70 |
| 7:AG:29:HIS:ND1 | 7:AG:69:ILE:CD1 | 2.54 | 0.70 |
| 8:AH:34:ARG:HD2 | 8:AH:36:PHE:CZ | 2.27 | 0.70 |
| 9:AJ:110:GLU:O | 9:AJ:113:GLU:HB2 | 1.91 | 0.70 |
| 10:AK:3:VAL:HG21 | 10:AK:21:VAL:H | 1.56 | 0.70 |
| 10:AK:124:LEU:HG | 10:AK:146:THR:HA | 1.72 | 0.70 |
| 12:AM:24:SER:O | 12:AM:28:GLU:HG2 | 1.91 | 0.70 |
| 12:AM:87:LEU:HB3 | 12:AM:88:PRO:HD2 | 1.73 | 0.70 |
| 13:AN:105:GLU:O | 13:AN:108:ASP:HB2 | 1.91 | 0.70 |
| 17:AR:23:HIS:NE2 | 17:AR:27:ALA:CB | 2.55 | 0.70 |
| 17:AR:49:LEU:CD2 | 17:AR:49:LEU:C | 2.59 | 0.70 |
| 18:AS:97:LYS:HD2 | 18:AS:99:ARG:NH1 | 2.07 | 0.70 |
| 19:AT:34:LYS:HZ1 | 19:AT:52:VAL:HG12 | 1.57 | 0.70 |
| 21:AV:21:ALA:O | 21:AV:32:PHE:HA | 1.90 | 0.70 |
| 26:A2:5:ILE:HG23 | 26:A2:38:LEU:O | 1.91 | 0.70 |
| 27:A3:40:GLN:HA | 27:A3:69:PHE:HE1 | 1.57 | 0.70 |
| 29:A5:40:LYS:HZ2 | 29:A5:49:CYS:CB | 2.03 | 0.70 |
| 32:A8:19:THR:HB | 32:A8:21:LYS:NZ | 2.06 | 0.70 |
| 34:BA:449:C:O2 | 51:BS:42:ARG:HD2 | 1.92 | 0.70 |
| 34:BA:718:G:N7 | 34:BA:719:C:N4 | 2.39 | 0.70 |
| 34:BA:938:A:O2' | 34:BA:939:G:H5' | 1.89 | 0.70 |
| 34:BA:956:U:H2' | 34:BA:957:U:C6 | 2.26 | 0.70 |
| 34:BA:1034:G:H2' | 34:BA:1035:A:H8 | 1.53 | 0.70 |
| 34:BA:1256:A:O3' | 34:BA:1257:U:H4' | 1.91 | 0.70 |
| 35:BC:62:A:O2' | 35:BC:63:C:O5' | 2.08 | 0.70 |
| 37:BE:28:PHE:CE1 | 37:BE:31:TYR:O | 2.45 | 0.70 |
| 39:BG:61:LYS:HG3 | 39:BG:207:TYR:CE1 | 2.27 | 0.70 |
| 39:BG:187:ARG:HG3 | 39:BG:188:LEU:N | 2.06 | 0.70 |
| 43:BK:10:LEU:N | 43:BK:13:ILE:HD12 | 2.05 | 0.70 |
| 45:BM:15:THR:HG23 | 45:BM:16:LEU:CD2 | 2.21 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:BP:24:GLY:CA | 48:BP:66:LEU:HD22 | 2.22 | 0.70 |
| 48:BP:24:GLY:O | 48:BP:29:ARG:HD2 | 1.92 | 0.70 |
| 51:BS:20:VAL:HA | 51:BS:36:ILE:CG1 | 2.22 | 0.70 |
| 51:BS:26:ARG:HH21 | 51:BS:31:LYS:CE | 2.02 | 0.70 |
| 2:AA:8:A:H61 | 2:AA:2895:U:H3 | 1.39 | 0.70 |
| 2:AA:154:G:H2' | 2:AA:155:C:O4' | 1.91 | 0.70 |
| 2:AA:197:A:C2 | 2:AA:198:C:H1' | 2.26 | 0.70 |
| 2:AA:233:A:N7 | 2:AA:234:C:C5 | 2.60 | 0.70 |
| 2:AA:245:G:N2 | 2:AA:254:G:C1' | 2.33 | 0.70 |
| 2:AA:311:A:H3' | 2:AA:312:G:H8 | 1.56 | 0.70 |
| 2:AA:337:C:OP1 | 20:AU:24:ARG:HB2 | 1.91 | 0.70 |
| 2:AA:393:C:O2' | 2:AA:394:A:H5' | 1.91 | 0.70 |
| 2:AA:499:U:H2' | 2:AA:500:G:H5' | 1.73 | 0.70 |
| 2:AA:529:A:O2' | 2:AA:530:G:H8 | 1.73 | 0.70 |
| 2:AA:729:G:N1 | 2:AA:1775:U:C2 | 2.59 | 0.70 |
| 2:AA:749:C:C2 | 2:AA:1618:A:C5 | 2.79 | 0.70 |
| 2:AA:761:A:H8 | 2:AA:761:A:O5' | 1.75 | 0.70 |
| 2:AA:775:G:N2 | 2:AA:788:A:OP2 | 2.24 | 0.70 |
| 2:AA:806:C:O2' | 2:AA:807:U:H5' | 1.90 | 0.70 |
| 2:AA:986:C:C6 | 2:AA:986:C:C3' | 2.71 | 0.70 |
| 2:AA:1059:G:H5' | 9:AI:3:ILE:HD12 | 1.73 | 0.70 |
| 2:AA:1163:G:H5' | 26:A2:23:GLU:OE1 | 1.90 | 0.70 |
| 2:AA:1199:U:C2' | 2:AA:1200:C:O5' | 2.40 | 0.70 |
| 2:AA:1264:G:O6 | 2:AA:1265:A:C6 | 2.44 | 0.70 |
| 2:AA:1451:C:H2' | 2:AA:1457:A:N1 | 2.07 | 0.70 |
| 2:AA:1567:A:H4' | 2:AA:1568:G:C2 | 2.26 | 0.70 |
| 2:AA:1771:C:O2' | 2:AA:1772:G:O5' | 2.06 | 0.70 |
| 2:AA:1811:G:H2' | 2:AA:1812:A:H8 | 1.55 | 0.70 |
| 2:AA:1920:C:H2' | 2:AA:1921:G:O5' | 1.92 | 0.70 |
| 2:AA:1920:C:OP1 | 34:BA:1517:G:C1' | 2.40 | 0.70 |
| 2:AA:2141:G:N2 | 2:AA:2150:U:O2' | 2.25 | 0.70 |
| 2:AA:2305:A:H2 | 7:AG:72:LYS:HE2 | 1.57 | 0.70 |
| 2:AA:2378:A:C1' | 16:AQ:26:LEU:HD21 | 2.20 | 0.70 |
| 2:AA:2430:A:H2' | 2:AA:2431:U:H5' | 1.73 | 0.70 |
| 2:AA:2522:U:O2' | 2:AA:2647:U:OP1 | 2.07 | 0.70 |
| 2:AA:2531:A:H2 | 2:AA:2658:C:O2 | 1.75 | 0.70 |
| 2:AA:2745:C:C1' | 8:AH:142:GLU:HG3 | 2.21 | 0.70 |
| 2:AA:2776:A:C1' | 2:AA:2778:A:N7 | 2.55 | 0.70 |
| 2:AA:2853:C:C2' | 2:AA:2854:G:H5' | 2.21 | 0.70 |
| 3:AC:7:TYR:O | 3:AC:11:LEU:HD13 | 1.92 | 0.70 |
| 4:AD:89:ASN:ND2 | 4:AD:199:ARG:NE | 2.33 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:213:LYS:O | 4:AD:215:LYS:N | 2.25 | 0.70 |
| 5:AE:199:ALA:HB1 | 5:AE:312:ARG:O | 1.91 | 0.70 |
| 5:AE:201:VAL:H | 5:AE:266:LYS:NZ | 1.88 | 0.70 |
| 5:AE:217:TRP:O | 5:AE:219:VAL:HG23 | 1.91 | 0.70 |
| 5:AE:317:PRO:HG2 | 5:AE:320:GLN:CG | 2.10 | 0.70 |
| 7:AG:38:GLU:O | 7:AG:41:LEU:HB2 | 1.90 | 0.70 |
| 8:AH:69:SER:O | 8:AH:72:ALA:HB3 | 1.91 | 0.70 |
| 9:AI:13:LEU:HB3 | 9:AI:17:GLU:CB | 2.22 | 0.70 |
| 9:AI:74:ILE:HG12 | 9:AI:92:VAL:HG21 | 1.71 | 0.70 |
| 11:AL:18:ALA:O | 11:AL:19:THR:HG23 | 1.91 | 0.70 |
| 18:AS:36:LEU:HD13 | 18:AS:48:ALA:CA | 2.21 | 0.70 |
| 18:AS:55:ALA:CA | 18:AS:107:LEU:HD12 | 2.18 | 0.70 |
| 18:AS:55:ALA:O | 18:AS:58:ALA:HB3 | 1.92 | 0.70 |
| 20:AU:27:LEU:HD13 | 20:AU:31:LEU:HB2 | 1.74 | 0.70 |
| 25:A1:31:GLN:C | 25:A1:33:ARG:H | 1.92 | 0.70 |
| 25:A1:79:PHE:C | 25:A1:83:LEU:HD12 | 2.12 | 0.70 |
| 27:A3:36:ILE:CB | 27:A3:68:VAL:HG11 | 2.16 | 0.70 |
| 27:A3:59:LEU:C | 27:A3:81:ILE:HG12 | 2.12 | 0.70 |
| 27:A3:68:VAL:HG12 | 27:A3:71:ASN:HB2 | 1.72 | 0.70 |
| 29:A5:34:PRO:CG | 29:A5:35:GLN:H | 2.05 | 0.70 |
| 30:A6:19:GLY:HA3 | 30:A6:42:PRO:HB3 | 1.72 | 0.70 |
| 34:BA:64:G:H4' | 34:BA:65:U:C5' | 2.21 | 0.70 |
| 34:BA:101:A:N3 | 34:BA:102:G:C8 | 2.60 | 0.70 |
| 34:BA:781:A:C2' | 34:BA:782:A:C5' | 2.57 | 0.70 |
| 34:BA:876:G:C1' | 43:BK:11:THR:HG21 | 2.22 | 0.70 |
| 34:BA:1225:A:H5" | 48:BP:103:THR:OG1 | 1.92 | 0.70 |
| 34:BA:1522:U:H2' | 34:BA:1523:G:H8 | 1.55 | 0.70 |
| 37:BE:109:SER:O | 37:BE:112:VAL:N | 2.24 | 0.70 |
| 37:BE:115:LEU:HD22 | 37:BE:149:LEU:CD1 | 2.21 | 0.70 |
| 37:BE:115:LEU:O | 37:BE:118:LEU:HB2 | 1.92 | 0.70 |
| 39:BG:101:LEU:CD2 | 39:BG:138:TYR:HB3 | 2.21 | 0.70 |
| 45:BM:66:ARG:HD3 | 45:BM:68:HIS:NE2 | 2.06 | 0.70 |
| 49:BQ:23:ARG:CD | 49:BQ:30:ALA:HB2 | 2.20 | 0.70 |
| 49:BQ:25:VAL:HB | 49:BQ:38:GLY:O | 1.92 | 0.70 |
| 52:BT:48:GLU:OE2 | 52:BT:50:LYS:HB2 | 1.91 | 0.70 |
| 53:BU:70:ILE:CG2 | 53:BU:74:ARG:HE | 2.05 | 0.70 |
| 1:AB:52:A:H2' | 1:AB:53:A:H8 | 1.56 | 0.70 |
| 2:AA:34:C:C2' | 2:AA:455:C:H41 | 2.05 | 0.70 |
| 2:AA:64:A:C2' | 2:AA:65:C:H5' | 2.22 | 0.70 |
| 2:AA:72:U:HO2' | 2:AA:73:A:P | 2.15 | 0.70 |
| 2:AA:252:G:C2 | 2:AA:253:C:C6 | 2.80 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:294:A:H2' | 2:AA:295:G:H5' | 1.74 | 0.70 |
| 2:AA:518:G:H4' | 18:AS:18:ARG:CZ | 2.21 | 0.70 |
| 2:AA:738:G:H2' | 2:AA:739:G:H1' | 1.74 | 0.70 |
| 2:AA:1023:U:C2' | 2:AA:1024:G:H5' | 2.22 | 0.70 |
| 2:AA:1083:U:C5' | 9:AI:40:ALA:HB2 | 2.21 | 0.70 |
| 2:AA:1087:G:N2 | 2:AA:1103:A:C2' | 2.55 | 0.70 |
| 2:AA:1128:A:N6 | 2:AA:2518:A:C6 | 2.59 | 0.70 |
| 2:AA:1139:G:OP1 | 12:AM:19:MET:O | 2.09 | 0.70 |
| 2:AA:142(A):A:N6 | 2:AA:1143:A:N6 | 2.40 | 0.70 |
| 2:AA:1419:A:H1' | 2:AA:1578:U:O4 | 1.92 | 0.70 |
| 2:AA:1469:A:C2 | 2:AA:1522:G:N2 | 2.60 | 0.70 |
| 2:AA:1758:G:C6 | 2:AA:2696:U:H5' | 2.26 | 0.70 |
| 2:AA:2259:G:C4 | 2:AA:2427:C:N4 | 2.60 | 0.70 |
| 2:AA:2309:A:O4' | 2:AA:2309:A:OP2 | 2.09 | 0.70 |
| 2:AA:2503:A:H4' | 2:AA:2504:U:OP1 | 1.89 | 0.70 |
| 2:AA:2512:C:H5" | 5:AE:219:VAL:HG13 | 1.73 | 0.70 |
| 2:AA:2653:U:C2 | 2:AA:2654:A:N6 | 2.60 | 0.70 |
| 5:AE:70:VAL:CG2 | 5:AE:297:LYS:HA | 2.21 | 0.70 |
| 6:AF:140:VAL:HB | 6:AF:236:THR:CA | 2.21 | 0.70 |
| 7:AG:19:GLU:CD | 7:AG:135:VAL:HG22 | 2.12 | 0.70 |
| 8:AH:28:PRO:C | 8:AH:30:GLY:N | 2.45 | 0.70 |
| 8:AH:37:HIS:HE1 | 8:AH:67:THR:HG21 | 1.57 | 0.70 |
| 10:AK:62:LEU:O | 10:AK:66:LYS:HE2 | 1.91 | 0.70 |
| 10:AK:115:ILE:CG2 | 10:AK:116:GLU:H | 2.03 | 0.70 |
| 12:AM:5:GLU:OE2 | 12:AM:6:PHE:O | 2.10 | 0.70 |
| 15:AP:15:THR:H | 15:AP:20:ILE:CD1 | 2.03 | 0.70 |
| 16:AQ:104:ILE:CG2 | 16:AQ:109:PRO:HD3 | 2.15 | 0.70 |
| 20:AU:14:ALA:HB1 | 20:AU:15:PRO:HD2 | 1.72 | 0.70 |
| 20:AU:77:VAL:HA | 20:AU:89:ARG:HH11 | 1.54 | 0.70 |
| 21:AV:123:VAL:HG12 | 21:AV:161:ALA:H | 1.55 | 0.70 |
| 24:A0:84:ALA:HB3 | 24:A0:85:PRO:HD3 | 1.72 | 0.70 |
| 25:A1:7:GLY:O | 25:A1:9:VAL:N | 2.25 | 0.70 |
| 25:A1:50:ARG:HH22 | 26:A2:74:TYR:HA | 1.54 | 0.70 |
| 26:A2:62:GLU:CB | 26:A2:96:LEU:HD21 | 2.22 | 0.70 |
| 26:A2:69:ILE:HG23 | 26:A2:89:ASN:C | 2.12 | 0.70 |
| 27:A3:27:GLY:HA2 | 27:A3:60:PHE:CD2 | 2.27 | 0.70 |
| 28:A4:65:ASP:O | 28:A4:66:SER:C | 2.29 | 0.70 |
| 34:BA:184:G:C4' | 34:BA:224:C:H4' | 2.22 | 0.70 |
| 34:BA:279:A:N3 | 34:BA:281:G:N2 | 2.40 | 0.70 |
| 34:BA:452:A:N6 | 34:BA:480:U:C2 | 2.59 | 0.70 |
| 34:BA:520:A:N7 | 34:BA:521:G:C8 | 2.60 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:590:C:H5" | 43:BK:30:ARG:CG | 2.21 | 0.70 |
| 34:BA:646:U:C2 | 34:BA:647:C:C5 | 2.80 | 0.70 |
| 34:BA:760:G:N1 | 52:BT:105:ALA:HB2 | 2.04 | 0.70 |
| 34:BA:1071:C:N4 | 34:BA:1084:G:N2 | 2.40 | 0.70 |
| 34:BA:1230:C:H2' | 34:BA:1231:G:H5' | 1.74 | 0.70 |
| 34:BA:1339:A:O2' | 35:BC:40:C:O2 | 2.08 | 0.70 |
| 35:BB:49:C:N4 | 35:BB:65:G:N1 | 2.36 | 0.70 |
| 36:B1:55:U:O2 | 36:B1:56:A:N7 | 2.25 | 0.70 |
| 37:BE:97:TRP:CE2 | 37:BE:173:ALA:HB2 | 2.26 | 0.70 |
| 38:BF:60:ALA:CB | 45:BM:92:THR:O | 2.39 | 0.70 |
| 39:BG:192:GLU:H | 39:BG:192:GLU:CD | 1.94 | 0.70 |
| 40:BH:107:ARG:O | 40:BH:108:ALA:C | 2.30 | 0.70 |
| 41:BI:45:LEU:CG | 41:BI:59:TYR:HD1 | 2.05 | 0.70 |
| 41:BI:95:GLU:CD | 41:BI:95:GLU:H | 1.92 | 0.70 |
| 42:BJ:146:GLU:O | 42:BJ:149:ARG:HB2 | 1.91 | 0.70 |
| 43:BK:104:ARG:HG3 | 43:BK:138:TRP:CE3 | 2.27 | 0.70 |
| 48:BP:39:ILE:HG23 | 48:BP:55:ARG:NH2 | 2.07 | 0.70 |
| 1:AB:70:C:O2' | 1:AB:71:C:H5' | 1.91 | 0.70 |
| 2:AA:131:G:N2 | 2:AA:149:A:C6 | 2.60 | 0.70 |
| 2:AA:207:A:H2 | 2:AA:208:C:H1' | 1.55 | 0.70 |
| 2:AA:324:A:C8 | 2:AA:340:A:H1' | 2.27 | 0.70 |
| 2:AA:326:G:H2' | 2:AA:327:G:C8 | 2.25 | 0.70 |
| 2:AA:476:G:O4' | 2:AA:505:A:H2 | 1.75 | 0.70 |
| 2:AA:603:A:H61 | 2:AA:624:C:N4 | 1.90 | 0.70 |
| 2:AA:648:G:C4 | 2:AA:649:G:N7 | 2.60 | 0.70 |
| 2:AA:682:G:O3' | 31:A7:26:SER:HB2 | 1.91 | 0.70 |
| 2:AA:876:C:N3 | 2:AA:901:A:N6 | 2.40 | 0.70 |
| 2:AA:898:C:H5' | 2:AA:899:A:OP2 | 1.92 | 0.70 |
| 2:AA:973:A:N1 | 26:A2:81:ARG:CG | 2.55 | 0.70 |
| 2:AA:1189:A:C2' | 2:AA:1190:G:H5' | 2.22 | 0.70 |
| 2:AA:1292:U:H2' | 2:AA:1293:C:C6 | 2.26 | 0.70 |
| 2:AA:1449:A:H5' | 2:AA:1528:A:C2 | 2.26 | 0.70 |
| 2:AA:1710:C:O2' | 2:AA:1711:C:H5' | 1.92 | 0.70 |
| 2:AA:1884:A:C8 | 2:AA:1884:A:OP2 | 2.45 | 0.70 |
| 2:AA:1996:C:P | 13:AN:31:ARG:HH12 | 2.15 | 0.70 |
| 2:AA:2093:G:H4' | 10:AK:29:PHE:CE1 | 2.25 | 0.70 |
| 2:AA:2125:G:H22 | 2:AA:2174:C:H42 | 1.27 | 0.70 |
| 2:AA:2210:G:C6 | 4:AD:148:GLY:HA3 | 2.26 | 0.70 |
| 2:AA:2250:G:H3' | 2:AA:2250:G:H8 | 1.57 | 0.70 |
| 2:AA:2313:C:OP1 | 7:AG:51:ARG:CB | 2.40 | 0.70 |
| 4:AD:90:ILE:HG23 | 4:AD:103:ILE:O | 1.92 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:104:ILE:O | 4:AD:106:PRO:HD2 | 1.92 | 0.70 |
| 4:AD:130:PRO:O | 4:AD:134:ILE:HG13 | 1.91 | 0.70 |
| 5:AE:196:GLY:HA2 | 5:AE:297:LYS:HZ3 | 1.57 | 0.70 |
| 5:AE:219:VAL:HG11 | 5:AE:235:ILE:HD13 | 1.72 | 0.70 |
| 7:AG:19:GLU:OE1 | 7:AG:19:GLU:O | 2.09 | 0.70 |
| 8:AH:10:ILE:O | 8:AH:14:VAL:HB | 1.91 | 0.70 |
| 10:AK:31:PHE:CZ | 10:AK:36:ALA:CB | 2.74 | 0.70 |
| 11:AL:102:ARG:O | 11:AL:105:ILE:HB | 1.92 | 0.70 |
| 12:AM:54:VAL:HA | 12:AM:135:ILE:CG1 | 2.22 | 0.70 |
| 12:AM:54:VAL:HA | 12:AM:135:ILE:HG13 | 1.72 | 0.70 |
| 12:AM:84:ARG:CB | 12:AM:98:PHE:CE2 | 2.73 | 0.70 |
| 13:AN:5:GLU:HB3 | 13:AN:20:LEU:HG | 1.73 | 0.70 |
| 19:AT:42:GLU:HB2 | 19:AT:49:VAL:HG23 | 1.74 | 0.70 |
| 19:AT:44:GLN:CD | 19:AT:44:GLN:C | 2.51 | 0.70 |
| 20:AU:102:ASP:O | 20:AU:108:ARG:HD3 | 1.92 | 0.70 |
| 21:AV:74:ARG:O | 21:AV:76:ARG:N | 2.25 | 0.70 |
| 21:AV:103:ARG:HG2 | 21:AV:103:ARG:HH11 | 1.56 | 0.70 |
| 26:A2:35:LEU:N | 26:A2:63:HIS:HE1 | 1.89 | 0.70 |
| 26:A2:74:TYR:CE2 | 26:A2:88:GLN:NE2 | 2.59 | 0.70 |
| 31:A7:22:MET:O | 31:A7:28:ARG:HG3 | 1.92 | 0.70 |
| 34:BA:10:A:O2' | 34:BA:11:G:H5' | 1.92 | 0.70 |
| 34:BA:129(A):G:O6 | 34:BA:190(D):U:H4' | 1.92 | 0.70 |
| 34:BA:287:U:O2' | 34:BA:288:A:H5' | 1.91 | 0.70 |
| 34:BA:726:C:N4 | 34:BA:731:G:N1 | 2.39 | 0.70 |
| 34:BA:921:U:HO2' | 34:BA:922:G:H5' | 1.56 | 0.70 |
| 34:BA:1090:U:O2' | 34:BA:1091:U:H5' | 1.92 | 0.70 |
| 35:BB:11:C:C2 | 35:BB:12:U:C5 | 2.79 | 0.70 |
| 35:BB:28:C:O2' | 35:BB:29:A:C5' | 2.37 | 0.70 |
| 35:BC:21:A:N1 | 35:BC:48:C:C5 | 2.60 | 0.70 |
| 35:BC:34:G:H2' | 35:BC:35:A:C4' | 2.22 | 0.70 |
| 39:BG:58:LEU:CD1 | 39:BG:59:ARG:NH1 | 2.45 | 0.70 |
| 39:BG:120:LEU:CD1 | 39:BG:125:HIS:HB2 | 2.21 | 0.70 |
| 40:BH:105:VAL:HG12 | 40:BH:106:PRO:CD | 2.21 | 0.70 |
| 45:BM:27:ALA:HB2 | 45:BM:85:LEU:CD1 | 2.20 | 0.70 |
| 47:BO:126:LYS:HZ3 | 47:BO:128:ALA:CB | 1.96 | 0.70 |
| 48:BP:55:ARG:HH21 | 48:BP:56:LEU:HD21 | 1.57 | 0.70 |
| 52:BT:59:ILE:CD1 | 52:BT:72:ARG:O | 2.40 | 0.70 |
| 2:AA:186:G:O2' | 2:AA:187:G:H5' | 1.92 | 0.70 |
| 2:AA:245:G:H1 | 2:AA:253:C:N4 | 1.90 | 0.70 |
| 2:AA:280:C:O2' | 2:AA:281:G:O5' | 2.07 | 0.70 |
| 2:AA:557:U:O3' | 12:AM:92:GLN:HB3 | 1.92 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:764:A:C6 | 2:AA:781:A:C2 | 2.80 | 0.70 |
| 2:AA:976:C:O2' | 2:AA:977:G:H5' | 1.92 | 0.70 |
| 2:AA:1085:A:OP1 | 9:AI:35:ALA:N | 2.24 | 0.70 |
| 2:AA:1114:G:N2 | 2:AA:1115:G:C1' | 2.54 | 0.70 |
| 2:AA:1203:G:C1' | 2:AA:1241:A:N1 | 2.46 | 0.70 |
| 2:AA:1208:C:N4 | 2:AA:1209:G:O6 | 2.25 | 0.70 |
| 2:AA:1358:G:H2' | 2:AA:1371:G:N2 | 2.06 | 0.70 |
| 2:AA:1388:G:HO2' | 2:AA:1525:G:H5' | 1.55 | 0.70 |
| 2:AA:1524:G:C5 | 2:AA:1525:G:N7 | 2.60 | 0.70 |
| 2:AA:1529:A:H62 | 2:AA:1542:G:N2 | 1.89 | 0.70 |
| 2:AA:1787:A:H2' | 2:AA:1788:C:C5 | 2.27 | 0.70 |
| 2:AA:1798:U:O2' | 2:AA:1799:G:H5' | 1.92 | 0.70 |
| 2:AA:1912:A:N7 | 2:AA:1918:A:C2 | 2.59 | 0.70 |
| 2:AA:1914:C:P | 2:AA:1916:A:H62 | 2.14 | 0.70 |
| 2:AA:1932:A:N3 | 2:AA:1932:A:C2' | 2.54 | 0.70 |
| 2:AA:2057:A:H2' | 2:AA:2058:A:O5' | 1.92 | 0.70 |
| 2:AA:2097:C:N4 | 2:AA:2193:G:C6 | 2.60 | 0.70 |
| 2:AA:2182:G:H2' | 2:AA:2183:C:C5 | 2.27 | 0.70 |
| 2:AA:2484:G:O2' | 2:AA:2485:G:H5' | 1.92 | 0.70 |
| 2:AA:2556:C:H2' | 2:AA:2557:G:O4' | 1.92 | 0.70 |
| 2:AA:2595:G:N2 | 2:AA:2597:G:O5' | 2.25 | 0.70 |
| 2:AA:2617:C:C6 | 2:AA:2617:C:OP2 | 2.45 | 0.70 |
| 6:AF:3:ALA:HB2 | 6:AF:18:LEU:HD23 | 1.72 | 0.70 |
| 6:AF:23:GLU:O | 6:AF:24:THR:O | 2.09 | 0.70 |
| 6:AF:237:GLU:O | 6:AF:240:LEU:N | 2.25 | 0.70 |
| 8:AH:65:GLY:O | 8:AH:68:ARG:HB2 | 1.91 | 0.70 |
| 9:AI:73:VAL:HG11 | 9:AI:123:ALA:HB2 | 1.74 | 0.70 |
| 9:AJ:9:ALA:O | 9:AJ:13:LEU:HG | 1.92 | 0.70 |
| 10:AK:39:ALA:O | 10:AK:40:THR:O | 2.09 | 0.70 |
| 11:AL:73:PRO:CB | 11:AL:78:LEU:HD21 | 2.22 | 0.70 |
| 12:AM:25:GLN:O | 12:AM:26:VAL:C | 2.28 | 0.70 |
| 15:AP:54:VAL:HG12 | 15:AP:56:ILE:CD1 | 2.21 | 0.70 |
| 15:AP:82:LYS:O | 15:AP:123:ILE:O | 2.10 | 0.70 |
| 20:AU:99:THR:HG22 | 20:AU:100:ASP:N | 2.05 | 0.70 |
| 22:AW:6:GLN:O | 22:AW:9:ARG:N | 2.25 | 0.70 |
| 25:A1:42:ALA:O | 25:A1:45:TYR:HB2 | 1.90 | 0.70 |
| 25:A1:63:GLN:HA | 25:A1:66:ASN:ND2 | 2.07 | 0.70 |
| 28:A4:7:PRO:HG2 | 28:A4:60:ASN:HB3 | 1.74 | 0.70 |
| 30:A6:2:ALA:N | 30:A6:11:LYS:HD2 | 2.07 | 0.70 |
| 30:A6:8:ILE:O | 30:A6:9:ILE:HG12 | 1.91 | 0.70 |
| 30:A6:40:TYR:O | 30:A6:47:HIS:CA | 2.37 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:284:G:H2' | 34:BA:285:G:C8 | 2.25 | 0.70 |
| 34:BA:323:U:H5" | 55:BW:26:ASN:OD1 | 1.92 | 0.70 |
| 34:BA:340:U:C2 | 34:BA:341:C:C5 | 2.80 | 0.70 |
| 34:BA:520:A:H3' | 34:BA:521:G:C5' | 2.16 | 0.70 |
| 34:BA:573:A:H3' | 34:BA:573:A:OP2 | 1.91 | 0.70 |
| 34:BA:597:G:N1 | 34:BA:643:C:N4 | 2.40 | 0.70 |
| 34:BA:622:A:C8 | 34:BA:623:C:C5 | 2.80 | 0.70 |
| 34:BA:874:G:N2 | 34:BA:875:C:C1' | 2.54 | 0.70 |
| 34:BA:970:C:N3 | 48:BP:126:LYS:HD3 | 2.07 | 0.70 |
| 34:BA:1057:G:H2' | 34:BA:1058:G:H8 | 1.56 | 0.70 |
| 35:BB:9:A:N3 | 35:BB:45:G:C5 | 2.60 | 0.70 |
| 37:BE:219:VAL:O | 37:BE:223:ILE:HG13 | 1.91 | 0.70 |
| 37:BE:234:PRO:O | 37:BE:238:LEU:HD21 | 1.91 | 0.70 |
| 38:BF:95:THR:HB | 38:BF:97:LYS:HG2 | 1.74 | 0.70 |
| 39:BG:102:ASP:HB3 | 39:BG:121:VAL:HG21 | 1.73 | 0.70 |
| 39:BG:173:TRP:HD1 | 39:BG:185:PHE:CE2 | 2.09 | 0.70 |
| 41:BI:50:TYR:CE2 | 41:BI:52:ILE:HD11 | 2.24 | 0.70 |
| 41:BI:79:LEU:O | 41:BI:80:ARG:C | 2.28 | 0.70 |
| 44:BL:118:LYS:C | 44:BL:120:ARG:H | 1.94 | 0.70 |
| 48:BP:16:ASP:OD2 | 48:BP:17:VAL:N | 2.24 | 0.70 |
| 50:BR:39:LEU:O | 50:BR:42:HIS:HB3 | 1.92 | 0.70 |
| 50:BR:54:ARG:O | 50:BR:57:LEU:HB2 | 1.92 | 0.70 |
| 1:AB:35:U:C5 | 1:AB:36:C:H5 | 2.09 | 0.69 |
| 2:AA:29:U:H5' | 25:A1:11:ARG:HH22 | 1.57 | 0.69 |
| 2:AA:68:G:C4 | 2:AA:69:C:C5 | 2.80 | 0.69 |
| 2:AA:92:G:H2' | 2:AA:93:C:H6 | 1.57 | 0.69 |
| 2:AA:226:G:N2 | 2:AA:227:A:N3 | 2.39 | 0.69 |
| 2:AA:265:A:N1 | 2:AA:281:G:OP1 | 2.25 | 0.69 |
| 2:AA:595:C:N3 | 2:AA:662:G:N2 | 2.38 | 0.69 |
| 2:AA:1519:G:C2 | 2:AA:1520:U:H1' | 2.27 | 0.69 |
| 2:AA:1528:A:N6 | 2:AA:1543:A:N7 | 2.40 | 0.69 |
| 2:AA:1610:A:H5" | 2:AA:1611:C:OP2 | 1.92 | 0.69 |
| 2:AA:1926:U:C4 | 2:AA:1928:A:OP2 | 2.45 | 0.69 |
| 2:AA:1938:A:O2' | 2:AA:1939:U:P | 2.50 | 0.69 |
| 2:AA:1944:U:H1' | 2:AA:1955:U:O4' | 1.92 | 0.69 |
| 2:AA:1996:C:C5' | 2:AA:1996:C:H6 | 2.04 | 0.69 |
| 2:AA:2188:C:H2' | 2:AA:2189:U:C6 | 2.26 | 0.69 |
| 2:AA:2436:G:O2' | 2:AA:2437:U:H5' | 1.92 | 0.69 |
| 2:AA:2507:C:N4 | 2:AA:2582:G:H1 | 1.88 | 0.69 |
| 2:AA:2577:A:C2 | 29:A5:5:PRO:HB3 | 2.24 | 0.69 |
| 2:AA:2695:C:H2' | 2:AA:2696:U:C5 | 2.26 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2872:G:N2 | 2:AA:2873:A:C6 | 2.60 | 0.69 |
| 4:AD:66:PHE:CE2 | 4:AD:150:GLY:HA3 | 2.26 | 0.69 |
| 4:AD:142:ASN:ND2 | 4:AD:190:THR:OG1 | 2.25 | 0.69 |
| 5:AE:175:ASP:OD1 | 5:AE:178:LEU:HD11 | 1.92 | 0.69 |
| 5:AE:193:PHE:HE2 | 5:AE:199:ALA:CB | 2.05 | 0.69 |
| 6:AF:11:ASN:HD21 | 6:AF:160:LEU:CD2 | 2.05 | 0.69 |
| 8:AH:17:THR:HB | 8:AH:24:THR:OG1 | 1.91 | 0.69 |
| 8:AH:108:TYR:O | 8:AH:109:SER:HB3 | 1.90 | 0.69 |
| 9:AI:46:GLY:N | 9:AJ:19:ALA:HB1 | 2.07 | 0.69 |
| 10:AK:29:PHE:CD2 | 10:AK:30:LEU:CG | 2.75 | 0.69 |
| 10:AK:29:PHE:HD2 | 10:AK:30:LEU:CD2 | 2.04 | 0.69 |
| 11:AL:96:ILE:O | 11:AL:97:VAL:HG13 | 1.91 | 0.69 |
| 11:AL:116:LEU:HD13 | 11:AL:117:ASN:N | 2.06 | 0.69 |
| 12:AM:46:ILE:N | 12:AM:131:THR:OG1 | 2.25 | 0.69 |
| 12:AM:84:ARG:CA | 12:AM:98:PHE:CE2 | 2.75 | 0.69 |
| 12:AM:94:GLY:O | 12:AM:98:PHE:CD1 | 2.44 | 0.69 |
| 18:AS:34:ASN:O | 18:AS:37:ARG:HB3 | 1.92 | 0.69 |
| 18:AS:73:ALA:CB | 18:AS:106:ILE:HD12 | 2.20 | 0.69 |
| 19:AT:32:ALA:HA | 19:AT:36:GLU:HG3 | 1.74 | 0.69 |
| 20:AU:47:THR:CG2 | 20:AU:100:ASP:HB2 | 2.21 | 0.69 |
| 21:AV:103:ARG:HD3 | 21:AV:103:ARG:H | 1.54 | 0.69 |
| 25:A1:50:ARG:NH2 | 26:A2:74:TYR:HD2 | 1.88 | 0.69 |
| 30:A6:45:LYS:C | 30:A6:46:LYS:HG2 | 2.10 | 0.69 |
| 34:BA:504:C:N4 | 34:BA:541:G:H1 | 1.89 | 0.69 |
| 34:BA:671:G:OP1 | 41:BI:77:ARG:NH2 | 2.25 | 0.69 |
| 34:BA:770:C:O2' | 34:BA:771:G:H5' | 1.91 | 0.69 |
| 34:BA:789:U:H2' | 34:BA:790:A:H3' | 1.72 | 0.69 |
| 34:BA:999:C:N3 | 34:BA:1042:G:O6 | 2.25 | 0.69 |
| 34:BA:1298:C:H3' | 42:BJ:114:ARG:HH12 | 1.55 | 0.69 |
| 34:BA:1305:G:H21 | 34:BA:1331:G:H2' | 1.54 | 0.69 |
| 35:BC:63:C:H2' | 35:BC:64:A:H8 | 1.56 | 0.69 |
| 40:BH:31:LEU:HD12 | 40:BH:129:ILE:HG12 | 1.74 | 0.69 |
| 43:BK:89:PRO:HA | 43:BK:92:ARG:NE | 2.06 | 0.69 |
| 43:BK:104:ARG:NH2 | 43:BK:138:TRP:CH2 | 2.59 | 0.69 |
| 44:BL:78:LYS:O | 44:BL:81:ILE:HB | 1.92 | 0.69 |
| 46:BN:27:ASN:HA | 46:BN:55:LYS:O | 1.92 | 0.69 |
| 46:BN:72:ALA:O | 46:BN:77:MET:HB2 | 1.91 | 0.69 |
| 47:BO:38:THR:HG22 | 47:BO:57:LYS:CB | 2.22 | 0.69 |
| 1:AB:6:C:H2' | 1:AB:7:G:C8 | 2.26 | 0.69 |
| 2:AA:48:G:H8 | 2:AA:48:G:O5' | 1.73 | 0.69 |
| 2:AA:242:G:H2' | 2:AA:254:G:N1 | 2.07 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:247:G:C5 | 2:AA:249:C:O2 | 2.45 | 0.69 |
| 2:AA:248:G:N2 | 2:AA:2431:U:O4' | 2.24 | 0.69 |
| 2:AA:281:G:O5' | 2:AA:281:G:C8 | 2.45 | 0.69 |
| 2:AA:296:C:N3 | 2:AA:344:G:C2 | 2.58 | 0.69 |
| 2:AA:522:G:H2' | 2:AA:523:C:O4' | 1.91 | 0.69 |
| 2:AA:526:A:H4' | 2:AA:527:C:OP1 | 1.91 | 0.69 |
| 2:AA:530:G:N2 | 2:AA:2021:C:H5" | 2.03 | 0.69 |
| 2:AA:574:C:H4' | 2:AA:575:A:C5' | 2.21 | 0.69 |
| 2:AA:585:G:C2' | 2:AA:586:A:C8 | 2.75 | 0.69 |
| 2:AA:775:G:O2' | 2:AA:794:G:C8 | 2.45 | 0.69 |
| 2:AA:1084:A:O5' | 9:AI:38:ALA:CA | 2.39 | 0.69 |
| 2:AA:1086:A:H3' | 2:AA:1087:G:H5' | 1.73 | 0.69 |
| 2:AA:1840:G:N2 | 2:AA:1902:C:N3 | 2.40 | 0.69 |
| 2:AA:1905:C:H2' | 2:AA:1930:G:C6 | 2.26 | 0.69 |
| 2:AA:1916:A:P | 2:AA:1916:A:H8 | 2.15 | 0.69 |
| 2:AA:2274:A:N7 | 2:AA:2276:G:C8 | 2.59 | 0.69 |
| 2:AA:2415:G:N2 | 2:AA:2416:C:C1' | 2.55 | 0.69 |
| 2:AA:2542:A:O4' | 2:AA:2542:A:OP2 | 2.09 | 0.69 |
| 2:AA:2575:C:O2 | 5:AE:237:ASN:ND2 | 2.25 | 0.69 |
| 2:AA:2579:C:H2' | 2:AA:2580:U:C5' | 2.22 | 0.69 |
| 2:AA:2581:G:C6 | 2:AA:2610:C:C2' | 2.72 | 0.69 |
| 2:AA:2805:G:H2' | 2:AA:2807:G:O4' | 1.92 | 0.69 |
| 4:AD:140:VAL:CG2 | 4:AD:191:VAL:HG12 | 2.22 | 0.69 |
| 5:AE:199:ALA:CB | 5:AE:312:ARG:O | 2.40 | 0.69 |
| 6:AF:55:ARG:CA | 6:AF:79:ARG:HH21 | 2.05 | 0.69 |
| 6:AF:83:ALA:HB2 | 6:AF:87:ARG:NH2 | 2.06 | 0.69 |
| 6:AF:195:VAL:O | 6:AF:236:THR:HG23 | 1.91 | 0.69 |
| 11:AL:110:LYS:O | 11:AL:113:MET:HG2 | 1.93 | 0.69 |
| 16:AQ:32:PRO:CD | 16:AQ:100:ALA:HA | 2.22 | 0.69 |
| 18:AS:69:LEU:HD23 | 18:AS:109:GLU:HB3 | 1.71 | 0.69 |
| 18:AS:97:LYS:CB | 18:AS:99:ARG:HD3 | 2.22 | 0.69 |
| 21:AV:100:THR:HG22 | 21:AV:137:ASP:OD1 | 1.92 | 0.69 |
| 22:AW:45:ARG:NH2 | 22:AW:49:LEU:HG | 2.06 | 0.69 |
| 27:A3:24:LYS:HG2 | 27:A3:56:ASP:OD1 | 1.92 | 0.69 |
| 30:A6:34:LYS:HA | 30:A6:53:LYS:HZ1 | 1.55 | 0.69 |
| 31:A7:21:ARG:HB3 | 31:A7:31:LEU:HD11 | 1.74 | 0.69 |
| 33:A9:2:LYS:N | 33:A9:2:LYS:NZ | 2.33 | 0.69 |
| 34:BA:43:C:C2 | 34:BA:44:G:C8 | 2.80 | 0.69 |
| 34:BA:250:A:H4' | 34:BA:251:G:O5' | 1.92 | 0.69 |
| 34:BA:607:A:H2' | 34:BA:608:A:H5' | 1.72 | 0.69 |
| 34:BA:796:C:OP1 | 46:BN:123:LYS:HD3 | 1.91 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:893:C:H2' | 34:BA:894:G:H8 | 1.55 | 0.69 |
| 34:BA:944:G:H3' | 34:BA:945:G:H5' | 1.75 | 0.69 |
| 34:BA:1216:G:H2' | 34:BA:1217:C:H6 | 1.52 | 0.69 |
| 34:BA:1228:C:H2' | 34:BA:1228:C:O2 | 1.91 | 0.69 |
| 35:BB:53:G:O2' | 35:BB:54:U:C5' | 2.40 | 0.69 |
| 35:BC:70:C:H2' | 35:BC:71:G:C8 | 2.16 | 0.69 |
| 39:BG:140:VAL:CB | 39:BG:185:PHE:HD1 | 2.03 | 0.69 |
| 39:BG:170:VAL:CG2 | 39:BG:176:LEU:HB3 | 2.21 | 0.69 |
| 40:BH:92:LYS:O | 40:BH:118:ILE:HG22 | 1.91 | 0.69 |
| 40:BH:104:ALA:N | 40:BH:107:ARG:HH12 | 1.90 | 0.69 |
| 42:BJ:9:VAL:HG21 | 42:BJ:94:ARG:HD3 | 1.74 | 0.69 |
| 42:BJ:26:PHE:HE1 | 42:BJ:105:VAL:HG22 | 1.57 | 0.69 |
| 47:BO:28:LYS:HE3 | 47:BO:33:ARG:HH12 | 1.57 | 0.69 |
| 47:BO:45:PRO:HD3 | 47:BO:51:ALA:O | 1.91 | 0.69 |
| 48:BP:19:LEU:HD12 | 48:BP:20:THR:N | 2.07 | 0.69 |
| 50:BR:33:THR:HG23 | 50:BR:63:ARG:HH12 | 1.56 | 0.69 |
| 2:AA:71:A:H5" | 2:AA:72:U:H3' | 1.73 | 0.69 |
| 2:AA:609:A:N1 | 2:AA:619:G:N3 | 2.40 | 0.69 |
| 2:AA:635:C:O2' | 2:AA:636:G:H5' | 1.92 | 0.69 |
| 2:AA:774:A:O2' | 2:AA:775:G:C8 | 2.44 | 0.69 |
| 2:AA:890:A:H4' | 2:AA:892:G:H5' | 1.73 | 0.69 |
| 2:AA:932:G:H5' | 23:AX:24:LYS:HZ1 | 1.57 | 0.69 |
| 2:AA:984:A:H5" | 2:AA:985:C:H41 | 1.58 | 0.69 |
| 2:AA:1065:U:C2' | 2:AA:1066:U:H5" | 2.22 | 0.69 |
| 2:AA:1141:U:C6 | 2:AA:1141:U:H5' | 2.27 | 0.69 |
| 2:AA:1229:G:H2' | 2:AA:1230:C:O4' | 1.92 | 0.69 |
| 2:AA:1717:G:N1 | 2:AA:1742:C:C2 | 2.58 | 0.69 |
| 2:AA:1956:U:H5" | 2:AA:1957:C:OP2 | 1.91 | 0.69 |
| 2:AA:2212:A:N3 | 2:AA:2213:U:H5" | 2.07 | 0.69 |
| 2:AA:2286:A:H5' | 2:AA:2287:A:C5' | 2.23 | 0.69 |
| 2:AA:2492:U:H2' | 2:AA:2493:U:O5' | 1.91 | 0.69 |
| 2:AA:2603:G:H8 | 2:AA:2603:G:H5' | 1.56 | 0.69 |
| 5:AE:217:TRP:CE2 | 5:AE:251:PRO:HG3 | 2.26 | 0.69 |
| 6:AF:151:GLN:OE1 | 6:AF:154:VAL:HG21 | 1.92 | 0.69 |
| 8:AH:10:ILE:HG23 | 8:AH:14:VAL:HG11 | 1.73 | 0.69 |
| 9:AI:39:VAL:HG22 | 9:AJ:39:VAL:HG13 | 1.74 | 0.69 |
| 9:AI:106:VAL:HG11 | 9:AI:114:ILE:HD11 | 1.73 | 0.69 |
| 13:AN:1:MET:H2 | 13:AN:32:TYR:CB | 2.06 | 0.69 |
| 14:AO:76:LEU:CD1 | 14:AO:96:VAL:HG12 | 2.21 | 0.69 |
| 15:AP:152:SER:OG | 15:AP:153:PRO:HD2 | 1.91 | 0.69 |
| 16:AQ:34:LEU:HD11 | 16:AQ:102:LEU:HA | 1.73 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 17:AR:6:CYS:SG | 17:AR:31:PHE:CD2 | 2.85 | 0.69 |
| 18:AS:75:TYR:CE1 | 18:AS:104:THR:OG1 | 2.45 | 0.69 |
| 18:AS:82:LEU:CD2 | 18:AS:98:LYS:HB2 | 2.22 | 0.69 |
| 20:AU:101:LEU:HD21 | 20:AU:112:LEU:HD11 | 1.74 | 0.69 |
| 21:AV:159:THR:HG23 | 21:AV:160:LEU:H | 1.56 | 0.69 |
| 28:A4:33:VAL:CG1 | 28:A4:34:ASP:N | 2.55 | 0.69 |
| 31:A7:22:MET:HA | 31:A7:28:ARG:HG2 | 1.73 | 0.69 |
| 34:BA:29:G:C6 | 34:BA:555:C:N4 | 2.61 | 0.69 |
| 34:BA:121:C:N4 | 34:BA:236:G:C8 | 2.58 | 0.69 |
| 34:BA:272:C:H2' | 34:BA:273:A:H8 | 1.57 | 0.69 |
| 34:BA:280:C:H1' | 52:BT:38:ARG:CD | 2.22 | 0.69 |
| 34:BA:421:U:C2 | 38:BF:127:ARG:NH2 | 2.61 | 0.69 |
| 34:BA:499:A:H4' | 34:BA:500:G:OP1 | 1.91 | 0.69 |
| 34:BA:658:G:H2' | 34:BA:659:U:O4' | 1.91 | 0.69 |
| 34:BA:877:C:O2 | 34:BA:877:C:H2' | 1.92 | 0.69 |
| 35:BB:26:G:N2 | 35:BB:27:C:O4' | 2.24 | 0.69 |
| 35:BB:39:U:H6 | 35:BB:39:U:O5' | 1.75 | 0.69 |
| 36:B1:25:U:O4 | 36:B1:27:G:H3' | 1.91 | 0.69 |
| 37:BE:20:GLU:HG3 | 37:BE:189:ASP:HB2 | 1.74 | 0.69 |
| 41:BI:44:GLY:O | 41:BI:59:TYR:HA | 1.92 | 0.69 |
| 42:BJ:47:CYS:HA | 42:BJ:50:ILE:CD1 | 2.21 | 0.69 |
| 46:BN:85:ARG:HE | 46:BN:111:ASP:CB | 2.04 | 0.69 |
| 48:BP:101:GLN:OE1 | 48:BP:101:GLN:N | 2.21 | 0.69 |
| 2:AA:134:C:C2 | 2:AA:135:G:C8 | 2.80 | 0.69 |
| 2:AA:153:C:H42 | 2:AA:173:G:H1 | 1.38 | 0.69 |
| 2:AA:370:G:C2 | 2:AA:424:G:N7 | 2.60 | 0.69 |
| 2:AA:464:U:C6 | 2:AA:464:U:O5' | 2.45 | 0.69 |
| 2:AA:782:A:C2 | 4:AD:229:MET:SD | 2.86 | 0.69 |
| 2:AA:792:G:O2' | 2:AA:793:A:P | 2.50 | 0.69 |
| 2:AA:1060:U:OP1 | 11:AL:75:ALA:N | 2.25 | 0.69 |
| 2:AA:1160:G:C5 | 2:AA:1161:C:C4 | 2.80 | 0.69 |
| 2:AA:1171:G:H2' | 2:AA:1173:G:H4' | 1.73 | 0.69 |
| 2:AA:1309:G:O2' | 2:AA:1310:G:H5' | 1.91 | 0.69 |
| 2:AA:1389:G:C2 | 2:AA:1390:U:C2 | 2.80 | 0.69 |
| 2:AA:1431:U:H2' | 2:AA:1432:C:O4' | 1.92 | 0.69 |
| 2:AA:1472:A:C2 | 2:AA:1519:G:N1 | 2.60 | 0.69 |
| 2:AA:1534:G:N3 | 2:AA:1534:G:C2' | 2.55 | 0.69 |
| 2:AA:1604:C:O2' | 2:AA:1605:C:C5' | 2.34 | 0.69 |
| 2:AA:1726:G:C2 | 2:AA:1727:U:O4' | 2.46 | 0.69 |
| 2:AA:1809:A:H5" | 2:AA:1810:A:C2 | 2.27 | 0.69 |
| 2:AA:1818:U:H3' | 4:AD:155:ARG:HG3 | 1.74 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1941:C:H2' | 2:AA:1942:C:O5' | 1.93 | 0.69 |
| 2:AA:2093:G:H1 | 2:AA:2196:C:H42 | 1.39 | 0.69 |
| 6:AF:37:ALA:CB | 6:AF:102:LEU:HD12 | 2.20 | 0.69 |
| 6:AF:90:HIS:N | 6:AF:91:PRO:CD | 2.54 | 0.69 |
| 8:AH:15:THR:CG2 | 8:AH:26:LYS:O | 2.38 | 0.69 |
| 8:AH:102:LEU:CD2 | 8:AH:114:ILE:HB | 2.22 | 0.69 |
| 9:AJ:115:LYS:HD3 | 9:AJ:127:LEU:HD22 | 1.72 | 0.69 |
| 12:AM:24:SER:HB3 | 12:AM:86:MET:CE | 2.22 | 0.69 |
| 12:AM:63:ILE:HG21 | 12:AM:71:TYR:OH | 1.91 | 0.69 |
| 13:AN:112:MET:HA | 13:AN:115:ILE:CD1 | 2.21 | 0.69 |
| 15:AP:11:LYS:HB3 | 15:AP:12:PRO:CD | 2.22 | 0.69 |
| 15:AP:64:ALA:O | 15:AP:67:ALA:CB | 2.39 | 0.69 |
| 16:AQ:49:THR:HG23 | 16:AQ:52:PRO:HD2 | 1.75 | 0.69 |
| 21:AV:39:PHE:HA | 21:AV:43:PHE:CE2 | 2.27 | 0.69 |
| 21:AV:52:PHE:C | 21:AV:65:LEU:HD11 | 2.12 | 0.69 |
| 25:A1:61:TRP:O | 25:A1:62:ILE:C | 2.30 | 0.69 |
| 26:A2:50:ASP:O | 26:A2:53:LYS:HB2 | 1.91 | 0.69 |
| 29:A5:6:VAL:O | 29:A5:6:VAL:HG12 | 1.91 | 0.69 |
| 32:A8:41:ILE:O | 32:A8:43:GLY:N | 2.25 | 0.69 |
| 34:BA:21:G:N2 | 34:BA:915:A:N6 | 2.40 | 0.69 |
| 34:BA:264:U:H2' | 34:BA:265:G:H5' | 1.73 | 0.69 |
| 34:BA:475:G:H2' | 34:BA:476:G:H8 | 1.54 | 0.69 |
| 34:BA:1326:C:H2' | 34:BA:1327:C:C6 | 2.27 | 0.69 |
| 34:BA:1345:U:O2 | 34:BA:1377:A:N6 | 2.25 | 0.69 |
| 35:BB:41:U:H2' | 35:BB:42:G:C1' | 2.23 | 0.69 |
| 37:BE:28:PHE:HE1 | 37:BE:31:TYR:HB3 | 1.57 | 0.69 |
| 37:BE:34:ALA:HB1 | 37:BE:36:ARG:HH11 | 1.57 | 0.69 |
| 37:BE:167:PRO:HG3 | 37:BE:192:SER:HB3 | 1.75 | 0.69 |
| 38:BF:84:ILE:CA | 38:BF:87:LEU:HD12 | 2.15 | 0.69 |
| 39:BG:120:LEU:CG | 39:BG:125:HIS:HB2 | 2.22 | 0.69 |
| 43:BK:97:VAL:HG13 | 43:BK:98:LYS:HZ2 | 1.56 | 0.69 |
| 47:BO:53:ARG:NH1 | 47:BO:53:ARG:HG2 | 2.06 | 0.69 |
| 47:BO:101:VAL:O | 47:BO:104:VAL:CG2 | 2.40 | 0.69 |
| 51:BS:5:ARG:NH1 | 51:BS:24:ALA:HA | 2.05 | 0.69 |
| 53:BU:59:SER:H | 53:BU:62:GLU:HB2 | 1.57 | 0.69 |
| 2:AA:72:U:H1' | 22:AW:54:ALA:HA | 1.75 | 0.69 |
| 2:AA:206:U:O2' | 2:AA:207:A:H5' | 1.92 | 0.69 |
| 2:AA:248:G:N2 | 2:AA:2431:U:C4' | 2.54 | 0.69 |
| 2:AA:360:G:O2' | 2:AA:361:G:H5' | 1.93 | 0.69 |
| 2:AA:360:G:H2' | 2:AA:361:G:O4' | 1.92 | 0.69 |
| 2:AA:583:G:H1 | 2:AA:1257:C:H42 | 1.38 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:586:A:N1 | 2:AA:810:U:H5' | 2.07 | 0.69 |
| 2:AA:666:G:O2' | 2:AA:667:U:O5' | 2.10 | 0.69 |
| 2:AA:673:C:H5' | 6:AF:81:PRO:HB2 | 1.74 | 0.69 |
| 2:AA:783:A:H2' | 2:AA:784:A:C5' | 2.22 | 0.69 |
| 2:AA:912:C:H2' | 2:AA:913:U:H5' | 1.74 | 0.69 |
| 2:AA:928:G:H2' | 2:AA:929:G:N7 | 2.06 | 0.69 |
| 2:AA:1022:G:H5" | 12:AM:56:LYS:NZ | 2.08 | 0.69 |
| 2:AA:1128:A:C6 | 2:AA:2518:A:N6 | 2.57 | 0.69 |
| 2:AA:1241:A:O2' | 2:AA:1242:A:N7 | 2.25 | 0.69 |
| 2:AA:1245:G:C2' | 2:AA:1246:A:H5' | 2.21 | 0.69 |
| 2:AA:1339:G:N2 | 2:AA:1603:A:H8 | 1.90 | 0.69 |
| 2:AA:1410:G:H2' | 2:AA:1411:C:C6 | 2.27 | 0.69 |
| 2:AA:1473:G:H2' | 2:AA:1474:C:H6 | 1.56 | 0.69 |
| 2:AA:1543:A:H5' | 2:AA:1544:C:H5 | 1.56 | 0.69 |
| 2:AA:1690:A:C6 | 2:AA:1697:G:N2 | 2.58 | 0.69 |
| 2:AA:1742:C:C4 | 2:AA:1743:G:N7 | 2.60 | 0.69 |
| 2:AA:1785:A:C8 | 2:AA:1785:A:H3' | 2.27 | 0.69 |
| 2:AA:1827:C:O2 | 2:AA:1828:G:O4' | 2.09 | 0.69 |
| 2:AA:1879:C:H2' | 2:AA:1880:C:H6 | 1.55 | 0.69 |
| 2:AA:1957:C:O2' | 2:AA:1985:G:H1' | 1.92 | 0.69 |
| 2:AA:2042:A:O2' | 2:AA:2043:C:C5' | 2.39 | 0.69 |
| 2:AA:2123:G:H22 | 3:AC:217:THR:HG23 | 1.58 | 0.69 |
| 2:AA:2194:G:C6 | 2:AA:2195:C:N4 | 2.60 | 0.69 |
| 2:AA:2290:G:H1 | 2:AA:2342:C:N4 | 1.90 | 0.69 |
| 2:AA:2348:U:C4 | 2:AA:2382:G:N2 | 2.60 | 0.69 |
| 2:AA:2507:C:C2 | 2:AA:2583:G:N2 | 2.61 | 0.69 |
| 2:AA:2893:G:H2' | 2:AA:2893:G:N3 | 2.06 | 0.69 |
| 3:AC:95:GLY:HA3 | 3:AC:99:ILE:HG13 | 1.74 | 0.69 |
| 8:AH:51:VAL:HG22 | 8:AH:68:ARG:CG | 2.21 | 0.69 |
| 8:AH:114:ILE:HG13 | 8:AH:147:ILE:CD1 | 2.20 | 0.69 |
| 9:AI:15:VAL:HG21 | 9:AI:49:ALA:HA | 1.74 | 0.69 |
| 9:AJ:60:ASP:N | 9:AJ:128:LYS:HE3 | 2.08 | 0.69 |
| 10:AK:81:ALA:O | 10:AK:147:GLU:HA | 1.93 | 0.69 |
| 12:AM:44:ALA:CB | 12:AM:132:LEU:HD22 | 2.23 | 0.69 |
| 15:AP:94:ARG:CG | 15:AP:107:LYS:O | 2.37 | 0.69 |
| 18:AS:18:ARG:HG3 | 18:AS:76:VAL:CG1 | 2.22 | 0.69 |
| 18:AS:19:LEU:HD13 | 29:A5:25:LEU:CD2 | 2.22 | 0.69 |
| 18:AS:72:LYS:HB3 | 18:AS:106:ILE:CG2 | 2.22 | 0.69 |
| 20:AU:73:HIS:HE1 | 20:AU:90:PRO:HA | 1.56 | 0.69 |
| 25:A1:27:SER:C | 25:A1:29:SER:N | 2.43 | 0.69 |
| 25:A1:94:VAL:HG12 | 25:A1:98:ILE:HD13 | 1.74 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:39:PHE:H | 26:A2:58:ALA:HB2 | 1.55 | 0.69 |
| 28:A4:6:HIS:HB2 | 28:A4:56:VAL:HG22 | 1.75 | 0.69 |
| 34:BA:25:C:C4 | 34:BA:558:G:N2 | 2.60 | 0.69 |
| 34:BA:36:C:H5" | 47:BO:122:THR:O | 1.92 | 0.69 |
| 34:BA:372:C:O2 | 34:BA:387:U:O4 | 2.10 | 0.69 |
| 34:BA:421:U:C5' | 34:BA:422:C:H5 | 2.04 | 0.69 |
| 34:BA:568:G:C6 | 34:BA:569:C:N4 | 2.60 | 0.69 |
| 34:BA:663:A:C5' | 34:BA:836:G:OP1 | 2.32 | 0.69 |
| 34:BA:758:G:H4' | 34:BA:880:C:H4' | 1.73 | 0.69 |
| 34:BA:806:C:H42 | 34:BA:807:A:N6 | 1.90 | 0.69 |
| 34:BA:1002:G:C2 | 34:BA:1003:G:H1' | 2.28 | 0.69 |
| 34:BA:1347:G:N2 | 34:BA:1373:G:C4 | 2.61 | 0.69 |
| 34:BA:1353:G:OP1 | 56:BX:10:ARG:NH2 | 2.24 | 0.69 |
| 34:BA:1378:C:O2 | 34:BA:1378:C:C2' | 2.40 | 0.69 |
| 34:BA:1401:G:O2' | 34:BA:1402:C:H5' | 1.91 | 0.69 |
| 34:BA:1421:G:O2' | 34:BA:1422:G:H5' | 1.92 | 0.69 |
| 34:BA:1535:C:N3 | 36:B1:55:U:N3 | 2.41 | 0.69 |
| 35:BB:18:G:C2' | 35:BB:19:G:O5' | 2.40 | 0.69 |
| 35:BB:22:G:N3 | 35:BB:23:A:C8 | 2.60 | 0.69 |
| 35:BC:72:C:O2' | 35:BC:73:A:O4' | 2.09 | 0.69 |
| 37:BE:25:ASN:HD21 | 37:BE:27:LYS:CB | 2.05 | 0.69 |
| 39:BG:19:LEU:C | 39:BG:21:LEU:HG | 2.12 | 0.69 |
| 39:BG:98:GLU:HA | 39:BG:103:ASN:ND2 | 2.07 | 0.69 |
| 39:BG:128:VAL:O | 39:BG:130:GLY:N | 2.25 | 0.69 |
| 41:BI:36:ARG:HB3 | 41:BI:36:ARG:HH11 | 1.55 | 0.69 |
| 44:BL:16:ARG:HD3 | 44:BL:64:THR:CB | 2.22 | 0.69 |
| 48:BP:108:ARG:NH1 | 48:BP:111:LYS:HB2 | 2.08 | 0.69 |
| 51:BS:1:MET:HE3 | 51:BS:1:MET:C | 2.12 | 0.69 |
| 52:BT:45:HIS:CE1 | 52:BT:47:PRO:HG3 | 2.28 | 0.69 |
| 1:AB:40:U:H3' | 1:AB:41:U:H5' | 1.75 | 0.69 |
| 2:AA:6:A:C5' | 12:AM:4:ALA:N | 2.55 | 0.69 |
| 2:AA:74:A:O2' | 2:AA:75:G:OP2 | 2.10 | 0.69 |
| 2:AA:239:U:O2' | 2:AA:240:G:C5' | 2.40 | 0.69 |
| 2:AA:242:G:C2' | 2:AA:243:U:OP2 | 2.41 | 0.69 |
| 2:AA:269:U:H5 | 2:AA:270(Z):U:P | 2.15 | 0.69 |
| 2:AA:613:U:O5' | 2:AA:615:G:H1' | 1.93 | 0.69 |
| 2:AA:713:G:C2 | 2:AA:714:U:C6 | 2.80 | 0.69 |
| 2:AA:780:G:N1 | 4:AD:233:ASP:OD1 | 2.23 | 0.69 |
| 2:AA:809:G:O4' | 2:AA:1254:A:H1' | 1.92 | 0.69 |
| 2:AA:815:C:H2' | 2:AA:816:C:C6 | 2.27 | 0.69 |
| 2:AA:818:G:H21 | 2:AA:1189:A:H62 | 0.76 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:896:A:H3' | 2:AA:896:A:N3 | 2.07 | 0.69 |
| 2:AA:965:C:H2' | 2:AA:966:G:O4' | 1.93 | 0.69 |
| 2:AA:1177:A:H2' | 2:AA:1178:C:C6 | 2.27 | 0.69 |
| 2:AA:1239:G:C2' | 2:AA:1240:U:H6 | 2.06 | 0.69 |
| 2:AA:1280:G:O2' | 2:AA:1281:G:H5' | 1.91 | 0.69 |
| 2:AA:1375:C:O2' | 2:AA:1376:C:H5' | 1.93 | 0.69 |
| 2:AA:1563:G:N3 | 2:AA:1564:C:C6 | 2.61 | 0.69 |
| 2:AA:1769:G:C2 | 2:AA:1984:G:C5 | 2.81 | 0.69 |
| 2:AA:1797:C:H6 | 2:AA:1797:C:O5' | 1.75 | 0.69 |
| 2:AA:2131:G:H3' | 3:AC:5:LYS:O | 1.92 | 0.69 |
| 2:AA:2325:G:H2' | 2:AA:2326:C:H6 | 1.56 | 0.69 |
| 2:AA:2352:A:H2' | 2:AA:2353:G:O4' | 1.91 | 0.69 |
| 2:AA:2386:C:C1' | 27:A3:39:ARG:HH21 | 2.06 | 0.69 |
| 2:AA:2675:A:H5' | 13:AN:30:ARG:H | 1.56 | 0.69 |
| 2:AA:2830:G:N3 | 2:AA:2883:A:C2 | 2.61 | 0.69 |
| 3:AC:103:ILE:HG22 | 3:AC:130:ILE:CG2 | 2.23 | 0.69 |
| 4:AD:140:VAL:HG22 | 4:AD:191:VAL:CG1 | 2.23 | 0.69 |
| 4:AD:160:SER:O | 4:AD:176:ALA:CB | 2.39 | 0.69 |
| 5:AE:205:THR:HG23 | 5:AE:259:HIS:HB2 | 1.72 | 0.69 |
| 9:AJ:15:VAL:HG21 | 9:AJ:49:ALA:HA | 1.73 | 0.69 |
| 10:AK:3:VAL:O | 10:AK:3:VAL:HG12 | 1.92 | 0.69 |
| 13:AN:86:ILE:CG2 | 13:AN:94:ARG:HG3 | 2.18 | 0.69 |
| 13:AN:107:ARG:CG | 13:AN:115:ILE:HD13 | 2.23 | 0.69 |
| 15:AP:63:ALA:O | 15:AP:64:ALA:C | 2.27 | 0.69 |
| 16:AQ:120:GLU:HA | 16:AQ:123:ILE:CG1 | 2.21 | 0.69 |
| 21:AV:54:ILE:CG2 | 21:AV:56:VAL:HG23 | 2.23 | 0.69 |
| 25:A1:33:ARG:C | 25:A1:35:ALA:N | 2.36 | 0.69 |
| 25:A1:99:ALA:HA | 25:A1:106:PHE:CB | 2.23 | 0.69 |
| 34:BA:129(A):G:O2' | 34:BA:130:A:OP2 | 2.08 | 0.69 |
| 34:BA:332:G:OP2 | 55:BW:10:LEU:HD23 | 1.93 | 0.69 |
| 34:BA:440:A:C8 | 34:BA:440:A:OP2 | 2.45 | 0.69 |
| 34:BA:476:G:O2' | 34:BA:477:G:H5' | 1.93 | 0.69 |
| 34:BA:558:G:H5" | 34:BA:559:A:H5" | 1.74 | 0.69 |
| 34:BA:641:U:O2' | 34:BA:642:A:N7 | 2.20 | 0.69 |
| 34:BA:761:G:H1' | 52:BT:103:GLY:O | 1.92 | 0.69 |
| 34:BA:889:A:N3 | 34:BA:891:U:N3 | 2.39 | 0.69 |
| 34:BA:909:A:C2 | 34:BA:910:C:H1' | 2.27 | 0.69 |
| 34:BA:979:C:H2' | 34:BA:980:C:H5' | 1.75 | 0.69 |
| 34:BA:988:G:H2' | 34:BA:989:C:O4' | 1.92 | 0.69 |
| 34:BA:1046:A:N3 | 34:BA:1046:A:C2' | 2.52 | 0.69 |
| 34:BA:1454:G:C2' | 34:BA:1455:G:H8 | 2.06 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1514:C:H2' | 34:BA:1515:C:C6 | 2.27 | 0.69 |
| 37:BE:95:GLN:HB2 | 37:BE:148:TYR:HB3 | 1.75 | 0.69 |
| 38:BF:54:ARG:HG2 | 38:BF:55:VAL:N | 2.08 | 0.69 |
| 38:BF:76:VAL:HG11 | 38:BF:103:VAL:CG1 | 2.22 | 0.69 |
| 38:BF:133:ALA:O | 38:BF:136:GLN:HB2 | 1.93 | 0.69 |
| 41:BI:45:LEU:HG | 41:BI:59:TYR:HD1 | 1.57 | 0.69 |
| 42:BJ:76:ARG:HD2 | 42:BJ:89:MET:HE1 | 1.75 | 0.69 |
| 43:BK:6:ILE:HG21 | 43:BK:85:ARG:NH1 | 2.08 | 0.69 |
| 43:BK:10:LEU:O | 43:BK:14:ARG:NH1 | 2.25 | 0.69 |
| 43:BK:48:TYR:HB2 | 43:BK:61:VAL:HG22 | 1.73 | 0.69 |
| 47:BO:60:LEU:O | 47:BO:62:SER:N | 2.25 | 0.69 |
| 47:BO:84:LEU:N | 47:BO:104:VAL:CG1 | 2.51 | 0.69 |
| 52:BT:101:ARG:CZ | 52:BT:101:ARG:HB3 | 2.22 | 0.69 |
| 54:BV:41:VAL:HB | 54:BV:42:PRO:HD2 | 1.73 | 0.69 |
| 2:AA:35:G:C4 | 2:AA:454:A:C2 | 2.80 | 0.69 |
| 2:AA:290:G:N2 | 2:AA:350:U:C2 | 2.59 | 0.69 |
| 2:AA:300:A:HO2' | 2:AA:318:C:H1' | 1.57 | 0.69 |
| 2:AA:363(A):A:H2' | 2:AA:363(B):G:C5' | 2.22 | 0.69 |
| 2:AA:500:G:C3' | 2:AA:501:A:H5" | 2.23 | 0.69 |
| 2:AA:673:C:OP1 | 6:AF:81:PRO:CG | 2.41 | 0.69 |
| 2:AA:716:A:C8 | 2:AA:716:A:H3' | 2.27 | 0.69 |
| 2:AA:725:G:C6 | 2:AA:726:G:N2 | 2.60 | 0.69 |
| 2:AA:754:C:H2' | 2:AA:755:C:C5' | 2.23 | 0.69 |
| 2:AA:848:G:C2 | 2:AA:849:A:N6 | 2.60 | 0.69 |
| 2:AA:931:G:C2' | 2:AA:932:G:C8 | 2.74 | 0.69 |
| 2:AA:957:A:C8 | 2:AA:959:A:N7 | 2.60 | 0.69 |
| 2:AA:976:C:H4' | 2:AA:1156:A:H62 | 1.56 | 0.69 |
| 2:AA:997:G:C5' | 25:A1:92:ARG:HH11 | 2.06 | 0.69 |
| 2:AA:1053:C:O2' | 2:AA:1054:A:H5' | 1.92 | 0.69 |
| 2:AA:1061:U:H5" | 2:AA:1070:A:H4' | 1.74 | 0.69 |
| 2:AA:1085:A:C4' | 9:AI:29:PHE:CD2 | 2.75 | 0.69 |
| 2:AA:142(A):A:N6 | 2:AA:1143:A:C6 | 2.60 | 0.69 |
| 2:AA:1266:G:N7 | 18:AS:16:LYS:HE3 | 2.07 | 0.69 |
| 2:AA:1339:G:H5' | 19:AT:13:LYS:CE | 2.21 | 0.69 |
| 2:AA:1470:G:N1 | 2:AA:1520:U:C4 | 2.61 | 0.69 |
| 2:AA:1682:G:OP1 | 2:AA:1699:G:N2 | 2.26 | 0.69 |
| 2:AA:1807:G:H1' | 2:AA:1811:G:N2 | 2.08 | 0.69 |
| 2:AA:1833:U:H2' | 2:AA:1834:U:H6 | 1.58 | 0.69 |
| 2:AA:1861:G:H5' | 3:AC:205:LYS:CD | 2.22 | 0.69 |
| 2:AA:1907:G:O6 | 2:AA:1923:U:O4 | 2.10 | 0.69 |
| 2:AA:1919:A:O3' | 34:BA:1517:G:H1' | 1.92 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1980:G:C5 | 2:AA:1982:C:N4 | 2.61 | 0.69 |
| 2:AA:1996:C:C2' | 2:AA:1997:G:O5' | 2.35 | 0.69 |
| 2:AA:2094:G:C2 | 2:AA:2196:C:C2 | 2.80 | 0.69 |
| 2:AA:2131:G:H5" | 3:AC:6:ARG:HB2 | 1.75 | 0.69 |
| 2:AA:2265:U:O2 | 2:AA:2266:A:N7 | 2.26 | 0.69 |
| 2:AA:2320:A:N3 | 2:AA:2333:A:C6 | 2.61 | 0.69 |
| 2:AA:2325:G:C4 | 2:AA:2326:C:H5 | 2.10 | 0.69 |
| 2:AA:2624:G:N2 | 2:AA:2625:G:H1' | 2.07 | 0.69 |
| 2:AA:2749:A:O4' | 8:AH:62:ALA:CB | 2.41 | 0.69 |
| 2:AA:2818:G:C6 | 2:AA:2829:C:N4 | 2.61 | 0.69 |
| 2:AA:2855:C:N4 | 2:AA:2862:G:H1 | 1.90 | 0.69 |
| 3:AC:225:ASN:O | 3:AC:227:HIS:N | 2.20 | 0.69 |
| 5:AE:223:LYS:O | 5:AE:227:ALA:CA | 2.41 | 0.69 |
| 8:AH:25:VAL:CG1 | 8:AH:78:VAL:HG21 | 2.16 | 0.69 |
| 8:AH:102:LEU:HG | 8:AH:114:ILE:HB | 1.73 | 0.69 |
| 11:AL:32:GLY:O | 11:AL:60:VAL:HG11 | 1.91 | 0.69 |
| 14:AO:130:ARG:O | 14:AO:133:VAL:HB | 1.93 | 0.69 |
| 15:AP:36:ASN:HB2 | 21:AV:114:ASP:O | 1.91 | 0.69 |
| 15:AP:36:ASN:ND2 | 21:AV:116:VAL:HB | 2.07 | 0.69 |
| 15:AP:49:VAL:HG13 | 15:AP:119:ASN:O | 1.92 | 0.69 |
| 16:AQ:35:VAL:HA | 16:AQ:103:ASP:HB3 | 1.74 | 0.69 |
| 17:AR:45:GLU:O | 17:AR:48:ASN:CG | 2.31 | 0.69 |
| 18:AS:13:SER:O | 18:AS:17:VAL:CG2 | 2.40 | 0.69 |
| 21:AV:6:LYS:HD3 | 21:AV:30:VAL:CG1 | 2.22 | 0.69 |
| 22:AW:51:LYS:HB3 | 22:AW:55:ARG:HE | 1.58 | 0.69 |
| 23:AX:1:MET:CE | 23:AX:3:ARG:HD2 | 2.21 | 0.69 |
| 24:A0:86:ARG:HH11 | 24:A0:86:ARG:CB | 1.98 | 0.69 |
| 24:A0:97:VAL:C | 24:A0:98:LEU:HG | 2.11 | 0.69 |
| 26:A2:20:ILE:CG2 | 26:A2:67:LYS:HZ2 | 2.05 | 0.69 |
| 27:A3:43:THR:OG1 | 27:A3:75:GLY:C | 2.30 | 0.69 |
| 29:A5:34:PRO:HG2 | 29:A5:35:GLN:H | 1.58 | 0.69 |
| 33:A9:24:LEU:HD13 | 33:A9:35:ARG:HG3 | 1.74 | 0.69 |
| 34:BA:577:G:H1' | 34:BA:816:A:N3 | 2.07 | 0.69 |
| 35:BB:34:G:C5' | 35:BB:34:G:C8 | 2.75 | 0.69 |
| 36:B1:14:U:O2 | 36:B1:42:G:N2 | 2.25 | 0.69 |
| 37:BE:14:GLY:CA | 37:BE:209:ARG:NH2 | 2.46 | 0.69 |
| 37:BE:117:GLU:O | 37:BE:120:ALA:HB3 | 1.92 | 0.69 |
| 37:BE:184:VAL:HB | 37:BE:198:ASP:OD2 | 1.93 | 0.69 |
| 37:BE:223:ILE:HA | 37:BE:226:ARG:HD2 | 1.73 | 0.69 |
| 41:BI:33:TYR:CZ | 41:BI:75:LEU:HA | 2.28 | 0.69 |
| 41:BI:77:ARG:O | 41:BI:81:ILE:HG13 | 1.93 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:50:LEU:HD21 | 44:BL:58:ARG:HD2 | 1.74 | 0.69 |
| 45:BM:54:PHE:H | 49:BQ:41:ARG:HH21 | 1.41 | 0.69 |
| 50:BR:18:PHE:O | 50:BR:18:PHE:CD1 | 2.45 | 0.69 |
| 50:BR:87:ILE:O | 50:BR:88:ARG:HB2 | 1.92 | 0.69 |
| 51:BS:23:ASP:O | 51:BS:25:ARG:N | 2.23 | 0.69 |
| 53:BU:72:ARG:O | 53:BU:75:ILE:HB | 1.90 | 0.69 |
| 1:AB:43:C:N3 | 1:AB:45:A:N7 | 2.41 | 0.69 |
| 1:AB:61:G:N2 | 1:AB:62:C:C2 | 2.61 | 0.69 |
| 1:AB:81:G:H4' | 2:AA:919:G:H4' | 1.74 | 0.69 |
| 2:AA:19:C:OP1 | 25:A1:23:GLY:HA2 | 1.93 | 0.69 |
| 2:AA:90:U:H4' | 2:AA:91:A:O5' | 1.92 | 0.69 |
| 2:AA:176:G:H3' | 2:AA:177:G:H8 | 1.56 | 0.69 |
| 2:AA:270(D):C:O2 | 2:AA:270(D):C:C2' | 2.37 | 0.69 |
| 2:AA:295:G:C6 | 2:AA:344:G:N1 | 2.61 | 0.69 |
| 2:AA:324:A:C2 | 2:AA:325:G:C1' | 2.75 | 0.69 |
| 2:AA:338:G:H3' | 2:AA:338:G:OP1 | 1.92 | 0.69 |
| 2:AA:388:G:H1' | 2:AA:390:A:N6 | 2.07 | 0.69 |
| 2:AA:396:G:H2' | 2:AA:397:G:C8 | 2.28 | 0.69 |
| 2:AA:411:G:OP2 | 2:AA:2407:G:OP2 | 2.11 | 0.69 |
| 2:AA:693:C:O2' | 2:AA:694:U:H5' | 1.92 | 0.69 |
| 2:AA:733:G:N7 | 2:AA:761:A:C6 | 2.61 | 0.69 |
| 2:AA:744:G:H2' | 2:AA:745:G:C8 | 2.28 | 0.69 |
| 2:AA:865:C:O2 | 2:AA:865:C:H2' | 1.92 | 0.69 |
| 2:AA:928:G:H2' | 2:AA:929:G:C4 | 2.27 | 0.69 |
| 2:AA:981:A:H5" | 2:AA:982:C:OP2 | 1.92 | 0.69 |
| 2:AA:993:G:C1' | 2:AA:1162:G:N2 | 2.55 | 0.69 |
| 2:AA:1008:C:HO2' | 2:AA:1009:A:P | 2.16 | 0.69 |
| 2:AA:1014:U:H2' | 2:AA:1015:G:H5' | 1.72 | 0.69 |
| 2:AA:1054:A:H2 | 9:AI:28:LYS:HG2 | 1.57 | 0.69 |
| 2:AA:1063:G:C6 | 2:AA:1075:C:N4 | 2.59 | 0.69 |
| 2:AA:1136:G:N2 | 2:AA:1137:G:H1' | 2.07 | 0.69 |
| 2:AA:1199:U:H2' | 2:AA:1200:C:O5' | 1.92 | 0.69 |
| 2:AA:1270:C:C1' | 2:AA:1325:G:N7 | 2.47 | 0.69 |
| 2:AA:1303:G:C8 | 2:AA:1304:C:C5 | 2.80 | 0.69 |
| 2:AA:1341:U:O4 | 2:AA:1395:A:H2 | 1.75 | 0.69 |
| 2:AA:1343:G:N1 | 2:AA:1404:C:N3 | 2.37 | 0.69 |
| 2:AA:1356:G:O2' | 2:AA:1357:U:H5' | 1.93 | 0.69 |
| 2:AA:1379:A:N6 | 31:A7:10:ARG:NH2 | 2.40 | 0.69 |
| 2:AA:1472:A:H62 | 2:AA:1474:C:N4 | 1.91 | 0.69 |
| 2:AA:1525:G:C2' | 2:AA:1526:G:O5' | 2.40 | 0.69 |
| 2:AA:1567:A:H4' | 2:AA:1568:G:N1 | 2.08 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1602:U:C6 | 2:AA:1602:U:C3' | 2.76 | 0.69 |
| 2:AA:1801:G:OP1 | 2:AA:1801:G:H8 | 1.75 | 0.69 |
| 2:AA:1894:C:O2 | 2:AA:1895:C:C5 | 2.45 | 0.69 |
| 2:AA:2058:A:N3 | 2:AA:2059:A:N7 | 2.41 | 0.69 |
| 2:AA:2061:G:OP2 | 2:AA:2502:G:OP2 | 2.11 | 0.69 |
| 2:AA:2136:C:N4 | 2:AA:2154:G:C6 | 2.60 | 0.69 |
| 2:AA:2210:G:O2' | 2:AA:2211:G:OP2 | 2.09 | 0.69 |
| 2:AA:2298:A:C2 | 2:AA:2299:G:H1' | 2.26 | 0.69 |
| 2:AA:2332:U:H5' | 27:A3:70:ILE:HG22 | 1.74 | 0.69 |
| 2:AA:2353:G:O2' | 27:A3:31:VAL:HG23 | 1.93 | 0.69 |
| 2:AA:2364:C:H5" | 27:A3:38:VAL:CG1 | 2.23 | 0.69 |
| 2:AA:2376:A:N6 | 16:AQ:109:PRO:HG2 | 2.08 | 0.69 |
| 2:AA:2557:G:H2' | 2:AA:2558:C:C5 | 2.27 | 0.69 |
| 2:AA:2637:U:O2 | 2:AA:2782:G:N2 | 2.26 | 0.69 |
| 2:AA:2686:G:O2' | 2:AA:2687:U:C5' | 2.41 | 0.69 |
| 2:AA:2700:C:C2' | 2:AA:2701:C:H5" | 2.22 | 0.69 |
| 2:AA:2712:U:C6 | 2:AA:712(A):A:C8 | 2.80 | 0.69 |
| 2:AA:2727:G:O2' | 13:AN:70:ARG:NH1 | 2.24 | 0.69 |
| 2:AA:2771:C:C5' | 5:AE:316:ARG:HD2 | 2.21 | 0.69 |
| 2:AA:2810:A:N6 | 2:AA:2891:G:N2 | 2.41 | 0.69 |
| 2:AA:2821:A:OP2 | 2:AA:2821:A:C3' | 2.40 | 0.69 |
| 3:AC:30:LYS:HG2 | 3:AC:178:ALA:O | 1.91 | 0.69 |
| 3:AC:68:LEU:HB3 | 3:AC:72:VAL:CG2 | 2.22 | 0.69 |
| 3:AC:76:ALA:HB1 | 3:AC:86:ALA:HB1 | 1.75 | 0.69 |
| 3:AC:78:ALA:HB1 | 3:AC:82:LYS:CB | 2.22 | 0.69 |
| 4:AD:154:VAL:HA | 4:AD:157:ALA:HB3 | 1.73 | 0.69 |
| 4:AD:167:GLU:CB | 4:AD:170:TYR:CE1 | 2.65 | 0.69 |
| 4:AD:172:ILE:CA | 4:AD:182:MET:HG2 | 2.22 | 0.69 |
| 5:AE:61:PRO:HB3 | 5:AE:69:PRO:CB | 2.23 | 0.69 |
| 5:AE:69:PRO:O | 5:AE:70:VAL:HG23 | 1.93 | 0.69 |
| 5:AE:74:GLU:C | 5:AE:75:THR:HG1 | 1.95 | 0.69 |
| 5:AE:225:LYS:N | 5:AE:228:ARG:NH1 | 2.41 | 0.69 |
| 6:AF:115:LEU:CG | 6:AF:246:ARG:HH22 | 2.05 | 0.69 |
| 6:AF:200:PRO:HG3 | 6:AF:212:VAL:HG12 | 1.74 | 0.69 |
| 7:AG:25:MET:SD | 7:AG:128:LEU:O | 2.49 | 0.69 |
| 8:AH:10:ILE:HG23 | 8:AH:10:ILE:O | 1.93 | 0.69 |
| 8:AH:10:ILE:CG1 | 8:AH:14:VAL:HG11 | 2.22 | 0.69 |
| 8:AH:40:MET:HE3 | 8:AH:64:HIS:CE1 | 2.28 | 0.69 |
| 9:AI:3:ILE:HG21 | 11:AL:117:ASN:CA | 2.13 | 0.69 |
| 9:AI:102:ILE:CD1 | 9:AI:118:LEU:HD22 | 2.22 | 0.69 |
| 9:AJ:15:VAL:HG13 | 9:AJ:45:ALA:O | 1.93 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AJ:18:LEU:O | 9:AJ:22:VAL:HG23 | 1.91 | 0.69 |
| 9:AJ:62:VAL:HG22 | 9:AJ:101:VAL:HA | 1.75 | 0.69 |
| 10:AK:77:VAL:CG1 | 10:AK:143:VAL:HG13 | 2.23 | 0.69 |
| 11:AL:114:PRO:O | 11:AL:116:LEU:N | 2.26 | 0.69 |
| 12:AM:104:TYR:HB3 | 12:AM:105:LEU:CD2 | 2.19 | 0.69 |
| 13:AN:10:VAL:HG12 | 13:AN:11:ALA:H | 1.58 | 0.69 |
| 13:AN:42:THR:HG22 | 13:AN:58:VAL:N | 2.04 | 0.69 |
| 13:AN:63:VAL:HG23 | 13:AN:84:CYS:HB3 | 1.74 | 0.69 |
| 13:AN:77:ILE:HD13 | 13:AN:77:ILE:C | 2.13 | 0.69 |
| 14:AO:65:ASP:HB2 | 14:AO:67:ARG:HH21 | 1.57 | 0.69 |
| 15:AP:51:GLU:HA | 15:AP:118:ALA:N | 2.07 | 0.69 |
| 17:AR:7:ASP:OD2 | 17:AR:31:PHE:HE2 | 1.75 | 0.69 |
| 17:AR:53:ASP:HB3 | 17:AR:56:ARG:NH2 | 2.07 | 0.69 |
| 18:AS:30:GLU:O | 18:AS:33:ARG:HB2 | 1.92 | 0.69 |
| 18:AS:86:LEU:HD13 | 18:AS:87:PRO:CD | 2.22 | 0.69 |
| 19:AT:42:GLU:CD | 19:AT:49:VAL:HG23 | 2.12 | 0.69 |
| 20:AU:72:ILE:CG2 | 20:AU:73:HIS:N | 2.56 | 0.69 |
| 21:AV:68:ALA:O | 21:AV:69:VAL:HG22 | 1.93 | 0.69 |
| 21:AV:100:THR:CG2 | 21:AV:137:ASP:OD1 | 2.41 | 0.69 |
| 22:AW:59:ILE:HG23 | 22:AW:60:GLN:H | 1.54 | 0.69 |
| 24:A0:18:LEU:HD11 | 24:A0:22:ARG:NH2 | 2.08 | 0.69 |
| 24:A0:63:ARG:HH22 | 24:A0:77:ARG:CA | 2.06 | 0.69 |
| 24:A0:103:ARG:O | 24:A0:105:ARG:NH2 | 2.22 | 0.69 |
| 25:A1:64:ARG:O | 25:A1:67:ALA:HB3 | 1.93 | 0.69 |
| 26:A2:19:VAL:O | 26:A2:21:ARG:HG2 | 1.93 | 0.69 |
| 26:A2:67:LYS:CE | 26:A2:94:LYS:HD2 | 2.23 | 0.69 |
| 27:A3:68:VAL:HG21 | 27:A3:72:LYS:CE | 2.23 | 0.69 |
| 28:A4:58:LYS:CG | 28:A4:62:ARG:HH21 | 2.04 | 0.69 |
| 30:A6:42:PRO:C | 30:A6:44:ALA:N | 2.37 | 0.69 |
| 31:A7:20:ALA:HA | 31:A7:23:LYS:HD2 | 1.75 | 0.69 |
| 32:A8:16:ILE:HG13 | 32:A8:22:VAL:HG21 | 1.74 | 0.69 |
| 32:A8:22:VAL:O | 32:A8:48:PHE:CE2 | 2.46 | 0.69 |
| 34:BA:121:C:C4' | 34:BA:122:G:OP1 | 2.41 | 0.69 |
| 34:BA:572:A:O2' | 34:BA:916:G:O2' | 2.07 | 0.69 |
| 34:BA:642:A:H1' | 43:BK:113:SER:OG | 1.92 | 0.69 |
| 34:BA:652:U:O4 | 34:BA:752:G:O2' | 2.11 | 0.69 |
| 34:BA:719:C:O2 | 53:BU:50:ILE:HG13 | 1.93 | 0.69 |
| 34:BA:750:G:N3 | 50:BR:23:GLY:HA3 | 2.08 | 0.69 |
| 34:BA:817:C:C6 | 34:BA:819:A:H4' | 2.28 | 0.69 |
| 34:BA:1041:A:C2 | 34:BA:1042:G:C8 | 2.81 | 0.69 |
| 34:BA:1049:U:H1' | 34:BA:1201:A:C8 | 2.27 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1115:C:O2' | 34:BA:1116:C:H5' | 1.93 | 0.69 |
| 34:BA:1336:C:H1' | 34:BA:1337:G:C6 | 2.28 | 0.69 |
| 34:BA:1534:A:H3' | 34:BA:1534:A:C4 | 2.28 | 0.69 |
| 35:BB:37:G:C2 | 36:B1:63:C:C4 | 2.77 | 0.69 |
| 35:BC:19:G:H4' | 35:BC:20:G:OP2 | 1.92 | 0.69 |
| 35:BC:21:A:N6 | 35:BC:46:G:C2 | 2.60 | 0.69 |
| 35:BC:71:G:H2' | 35:BC:72:C:H5' | 1.75 | 0.69 |
| 37:BE:80:ILE:HD11 | 37:BE:208:ILE:CG2 | 2.23 | 0.69 |
| 37:BE:113:HIS:O | 37:BE:117:GLU:HG3 | 1.93 | 0.69 |
| 38:BF:56:ASP:O | 38:BF:66:VAL:HA | 1.93 | 0.69 |
| 38:BF:187:ALA:HB3 | 38:BF:198:VAL:HG21 | 1.74 | 0.69 |
| 39:BG:38:TYR:HB2 | 39:BG:39:PRO:CD | 2.15 | 0.69 |
| 39:BG:121:VAL:HG11 | 39:BG:136:PRO:HA | 1.74 | 0.69 |
| 39:BG:131:ARG:N | 39:BG:131:ARG:HD2 | 2.07 | 0.69 |
| 40:BH:77:PRO:HG2 | 40:BH:78:HIS:CD2 | 2.26 | 0.69 |
| 40:BH:105:VAL:HG21 | 40:BH:132:ALA:HB2 | 1.74 | 0.69 |
| 41:BI:21:LEU:O | 41:BI:25:ILE:HG13 | 1.93 | 0.69 |
| 42:BJ:11:GLN:NE2 | 42:BJ:12:LEU:H | 1.91 | 0.69 |
| 42:BJ:14:PRO:O | 42:BJ:16:LEU:HD23 | 1.92 | 0.69 |
| 43:BK:9:MET:O | 43:BK:13:ILE:HG13 | 1.93 | 0.69 |
| 43:BK:38:ILE:HG13 | 43:BK:118:VAL:CG1 | 2.23 | 0.69 |
| 43:BK:83:ILE:CA | 43:BK:137:VAL:HG22 | 2.22 | 0.69 |
| 48:BP:50:GLU:O | 48:BP:53:VAL:HB | 1.93 | 0.69 |
| 48:BP:56:LEU:O | 48:BP:59:TYR:HB3 | 1.93 | 0.69 |
| 48:BP:110:ARG:HH11 | 48:BP:110:ARG:CB | 2.05 | 0.69 |
| 51:BS:20:VAL:HG21 | 51:BS:32:TYR:HD2 | 1.54 | 0.69 |
| 53:BU:75:ILE:HG22 | 53:BU:76:LEU:N | 2.08 | 0.69 |
| 1:AB:80:U:H2' | 1:AB:81:G:C8 | 2.27 | 0.69 |
| 1:AB:99:A:H2' | 1:AB:100:G:C8 | 2.28 | 0.69 |
| 2:AA:60:G:N3 | 2:AA:74:A:C6 | 2.61 | 0.69 |
| 2:AA:94:G:H21 | 22:AW:42:ASN:ND2 | 1.80 | 0.69 |
| 2:AA:225:A:N1 | 2:AA:230:U:O4 | 2.26 | 0.69 |
| 2:AA:226:G:N2 | 2:AA:227:A:H1' | 2.08 | 0.69 |
| 2:AA:270:A:N6 | 2:AA:370:G:C5 | 2.60 | 0.69 |
| 2:AA:349:G:C2 | 2:AA:350:U:C5 | 2.81 | 0.69 |
| 2:AA:352:G:C6 | 2:AA:353:G:C5 | 2.80 | 0.69 |
| 2:AA:458:G:H2' | 31:A7:40:HIS:CE1 | 2.28 | 0.69 |
| 2:AA:558:G:C2' | 2:AA:559:G:H5' | 2.23 | 0.69 |
| 2:AA:780:G:C2' | 2:AA:782:A:C8 | 2.72 | 0.69 |
| 2:AA:853:G:O2' | 2:AA:854:G:C5' | 2.40 | 0.69 |
| 2:AA:980:A:C2' | 2:AA:981:A:C8 | 2.75 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1031:G:C6 | 2:AA:1032:A:N6 | 2.60 | 0.69 |
| 2:AA:1040:C:C2 | 2:AA:1115:G:N2 | 2.61 | 0.69 |
| 2:AA:1081:U:C5' | 11:AL:123:ALA:HA | 2.23 | 0.69 |
| 2:AA:1233:C:O2' | 2:AA:1234:U:H5' | 1.92 | 0.69 |
| 2:AA:1256:G:H2' | 2:AA:1257:C:H6 | 1.57 | 0.69 |
| 2:AA:1345:C:O2' | 2:AA:1346:G:H5' | 1.92 | 0.69 |
| 2:AA:1523:U:O2' | 2:AA:1524:G:H5' | 1.93 | 0.69 |
| 2:AA:1612:C:C6 | 31:A7:3:ARG:NH2 | 2.61 | 0.69 |
| 2:AA:1655:A:H2' | 2:AA:1656:C:O4' | 1.93 | 0.69 |
| 2:AA:1691:C:H2' | 2:AA:1692:U:C5' | 2.23 | 0.69 |
| 2:AA:1786:A:C2 | 2:AA:1938:A:C6 | 2.81 | 0.69 |
| 2:AA:1856:G:C5 | 2:AA:1857:G:N3 | 2.61 | 0.69 |
| 2:AA:1918:A:OP2 | 2:AA:1918:A:H8 | 1.76 | 0.69 |
| 2:AA:2031:A:H62 | 2:AA:2498:C:C1' | 2.05 | 0.69 |
| 2:AA:2307:G:C1' | 2:AA:2311:A:H61 | 2.05 | 0.69 |
| 2:AA:2347:C:N4 | 2:AA:2348:U:O4 | 2.26 | 0.69 |
| 2:AA:2644:G:O5' | 2:AA:2644:G:C8 | 2.45 | 0.69 |
| 2:AA:2834:G:O6 | 2:AA:2835:A:C2 | 2.46 | 0.69 |
| 3:AC:74:VAL:O | 3:AC:92:ASP:HB2 | 1.93 | 0.69 |
| 5:AE:70:VAL:HG22 | 5:AE:297:LYS:CA | 2.23 | 0.69 |
| 5:AE:180:ILE:HG22 | 5:AE:186:GLU:O | 1.92 | 0.69 |
| 6:AF:197:SER:HB3 | 6:AF:239:ALA:H | 1.58 | 0.69 |
| 10:AK:81:ALA:HB3 | 10:AK:89:LEU:CD2 | 2.22 | 0.69 |
| 13:AN:11:ALA:O | 13:AN:99:PHE:N | 2.25 | 0.69 |
| 14:AO:55:GLN:HG3 | 14:AO:56:LYS:HG2 | 1.75 | 0.69 |
| 14:AO:59:GLU:O | 14:AO:60:GLU:HG3 | 1.92 | 0.69 |
| 15:AP:26:LYS:NZ | 15:AP:88:PHE:HB3 | 2.08 | 0.69 |
| 18:AS:29:LEU:HD12 | 18:AS:33:ARG:CG | 2.23 | 0.69 |
| 19:AT:12:GLU:O | 19:AT:16:ASN:OD1 | 2.11 | 0.69 |
| 19:AT:52:VAL:HA | 19:AT:65:VAL:O | 1.93 | 0.69 |
| 20:AU:44:ALA:CB | 20:AU:65:VAL:HG21 | 2.21 | 0.69 |
| 21:AV:106:GLY:HA2 | 21:AV:142:ASN:CG | 2.13 | 0.69 |
| 22:AW:58:THR:O | 22:AW:62:GLU:HG2 | 1.92 | 0.69 |
| 24:A0:74:LYS:O | 24:A0:78:LYS:HB2 | 1.93 | 0.69 |
| 25:A1:84:LYS:O | 25:A1:85:ARG:C | 2.29 | 0.69 |
| 28:A4:7:PRO:CG | 28:A4:60:ASN:HB3 | 2.23 | 0.69 |
| 29:A5:21:SER:OG | 29:A5:22:HIS:N | 2.24 | 0.69 |
| 29:A5:21:SER:O | 29:A5:23:HIS:N | 2.26 | 0.69 |
| 34:BA:73:C:O2' | 34:BA:74:C:H5' | 1.93 | 0.69 |
| 34:BA:576:G:C8 | 34:BA:881:G:H1' | 2.28 | 0.69 |
| 34:BA:708:C:C5' | 46:BN:37:GLY:HA3 | 2.22 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:770:C:H1' | 34:BA:900:A:N1 | 2.08 | 0.69 |
| 34:BA:819:A:N1 | 34:BA:1529:G:N7 | 2.40 | 0.69 |
| 34:BA:1241:G:N1 | 34:BA:1296:C:O2 | 2.21 | 0.69 |
| 34:BA:1307:U:H2' | 34:BA:1308:U:C6 | 2.28 | 0.69 |
| 34:BA:1398:A:H61 | 40:BH:21:ALA:HA | 1.57 | 0.69 |
| 36:B1:50:G:H2' | 36:B1:51:G:H8 | 1.57 | 0.69 |
| 38:BF:15:THR:O | 38:BF:16:ARG:HB3 | 1.91 | 0.69 |
| 38:BF:17:ASP:HB3 | 38:BF:18:TRP:CE3 | 2.28 | 0.69 |
| 39:BG:110:PHE:CE1 | 39:BG:148:VAL:HG23 | 2.28 | 0.69 |
| 42:BJ:15:ASP:OD1 | 42:BJ:18:TYR:N | 2.24 | 0.69 |
| 43:BK:91:ARG:CG | 52:BT:34:LYS:H | 2.03 | 0.69 |
| 44:BL:28:VAL:O | 44:BL:29:ASN:C | 2.31 | 0.69 |
| 44:BL:37:PHE:N | 44:BL:37:PHE:CD2 | 2.61 | 0.69 |
| 47:BO:38:THR:HG22 | 47:BO:57:LYS:HB2 | 1.73 | 0.69 |
| 48:BP:14:ARG:HG2 | 48:BP:44:ARG:NH1 | 2.08 | 0.69 |
| 52:BT:10:VAL:CG2 | 52:BT:55:ASP:HB2 | 2.23 | 0.69 |
| 1:AB:20:C:C2' | 1:AB:21:G:H5' | 2.22 | 0.69 |
| 2:AA:60:G:C2 | 2:AA:74:A:N6 | 2.61 | 0.69 |
| 2:AA:387:U:H5" | 2:AA:388:G:OP1 | 1.93 | 0.69 |
| 2:AA:464:U:N3 | 2:AA:465:G:C8 | 2.60 | 0.69 |
| 2:AA:492:A:H2' | 2:AA:493:G:C5' | 2.22 | 0.69 |
| 2:AA:503:A:N1 | 2:AA:505:A:N6 | 2.40 | 0.69 |
| 2:AA:603:A:H2' | 2:AA:604:G:C8 | 2.27 | 0.69 |
| 2:AA:669:G:C4 | 2:AA:801:G:C6 | 2.81 | 0.69 |
| 2:AA:772:C:H2' | 2:AA:773:U:C6 | 2.28 | 0.69 |
| 2:AA:828:U:C5 | 2:AA:829:A:N6 | 2.61 | 0.69 |
| 2:AA:864:G:H2' | 2:AA:865:C:H6 | 1.55 | 0.69 |
| 2:AA:911:A:C6 | 15:AP:15:THR:O | 2.44 | 0.69 |
| 2:AA:969:U:H4' | 23:AX:14:GLY:O | 1.93 | 0.69 |
| 2:AA:1049:C:N4 | 2:AA:1050:A:H62 | 1.91 | 0.69 |
| 2:AA:1202:C:O2 | 2:AA:1202:C:H2' | 1.92 | 0.69 |
| 2:AA:1263:U:C4' | 29:A5:16:ARG:NH1 | 2.56 | 0.69 |
| 2:AA:1343:G:C3' | 2:AA:1344:G:H5" | 2.23 | 0.69 |
| 2:AA:1352:U:H1' | 2:AA:1570:A:N3 | 2.07 | 0.69 |
| 2:AA:1500:G:H2' | 2:AA:1501:C:C6 | 2.28 | 0.69 |
| 2:AA:1521:G:H5' | 2:AA:1522:G:C8 | 2.28 | 0.69 |
| 2:AA:1583:A:P | 2:AA:1586:A:H5' | 2.32 | 0.69 |
| 2:AA:1809:A:O2' | 2:AA:1810:A:P | 2.51 | 0.69 |
| 2:AA:1819:A:N3 | 2:AA:1821:A:N6 | 2.41 | 0.69 |
| 2:AA:1843:C:C2 | 2:AA:1844:C:C5 | 2.80 | 0.69 |
| 2:AA:1854:A:C2' | 2:AA:1855:G:H5' | 2.23 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2015:A:C5 | 29:A5:6:VAL:HG21 | 2.28 | 0.69 |
| 2:AA:2043:C:H5 | 2:AA:2777:G:C1' | 1.96 | 0.69 |
| 2:AA:2332:U:OP2 | 27:A3:51:VAL:HG21 | 1.92 | 0.69 |
| 2:AA:2393:A:H2' | 2:AA:2394:C:O4' | 1.93 | 0.69 |
| 2:AA:2447:G:C6 | 2:AA:2501:C:N3 | 2.61 | 0.69 |
| 2:AA:2616:C:O2' | 2:AA:2617:C:H5' | 1.93 | 0.69 |
| 2:AA:2690:C:N4 | 24:A0:14:SER:HB2 | 2.08 | 0.69 |
| 2:AA:2703:C:O2' | 2:AA:2704:C:H5' | 1.93 | 0.69 |
| 2:AA:2765:A:H5' | 2:AA:2766:G:OP2 | 1.93 | 0.69 |
| 2:AA:2820:A:C2' | 2:AA:2821:A:OP1 | 2.41 | 0.69 |
| 3:AC:27:HIS:CE1 | 3:AC:182:PRO:HG3 | 2.29 | 0.69 |
| 4:AD:199:ARG:HG3 | 4:AD:199:ARG:NH1 | 2.03 | 0.69 |
| 5:AE:74:GLU:O | 5:AE:75:THR:OG1 | 2.08 | 0.69 |
| 6:AF:55:ARG:O | 6:AF:79:ARG:NE | 2.25 | 0.69 |
| 6:AF:88:SER:O | 6:AF:89:ALA:HB2 | 1.93 | 0.69 |
| 6:AF:96:LYS:O | 6:AF:98:ARG:NE | 2.26 | 0.69 |
| 7:AG:13:MET:HG3 | 7:AG:137:PRO:HG3 | 1.74 | 0.69 |
| 12:AM:57:TYR:CB | 12:AM:135:ILE:HG21 | 2.20 | 0.69 |
| 13:AN:35:ILE:N | 13:AN:62:VAL:CG1 | 2.56 | 0.69 |
| 13:AN:42:THR:CB | 13:AN:56:GLN:O | 2.31 | 0.69 |
| 14:AO:73:VAL:HG13 | 14:AO:76:LEU:HB3 | 1.73 | 0.69 |
| 16:AQ:120:GLU:O | 16:AQ:123:ILE:HB | 1.93 | 0.69 |
| 20:AU:51:LEU:N | 20:AU:97:ARG:HE | 1.91 | 0.69 |
| 20:AU:71:VAL:CG2 | 20:AU:93:THR:H | 2.04 | 0.69 |
| 23:AX:30:ARG:HH21 | 23:AX:33:GLN:CG | 2.06 | 0.69 |
| 24:A0:20:LEU:CD1 | 24:A0:24:GLN:HG3 | 2.23 | 0.69 |
| 24:A0:55:ALA:HB2 | 24:A0:79:LEU:HD21 | 1.73 | 0.69 |
| 24:A0:96:ARG:HG2 | 24:A0:115:GLU:CG | 2.22 | 0.69 |
| 25:A1:114:ARG:O | 25:A1:117:ARG:CG | 2.41 | 0.69 |
| 27:A3:28:GLY:CA | 27:A3:60:PHE:HB3 | 2.23 | 0.69 |
| 28:A4:23:GLU:HA | 28:A4:27:THR:O | 1.93 | 0.69 |
| 34:BA:132:C:N3 | 34:BA:230:G:N2 | 2.33 | 0.69 |
| 34:BA:350:G:N2 | 34:BA:351:G:C2 | 2.60 | 0.69 |
| 34:BA:378:G:O5' | 34:BA:378:G:H8 | 1.76 | 0.69 |
| 34:BA:421:U:H5" | 34:BA:422:C:OP2 | 1.92 | 0.69 |
| 34:BA:672:U:O2 | 34:BA:672:U:H2' | 1.91 | 0.69 |
| 34:BA:730:G:N2 | 34:BA:765:G:H4' | 2.08 | 0.69 |
| 34:BA:995:C:H2' | 49:BQ:4:LYS:NZ | 2.07 | 0.69 |
| 34:BA:999:C:O2 | 34:BA:1042:G:N1 | 2.26 | 0.69 |
| 34:BA:1060:C:H2' | 34:BA:1061:G:C8 | 2.26 | 0.69 |
| 34:BA:1350:A:N1 | 34:BA:1372:U:O2 | 2.26 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1423:G:O2' | 34:BA:1424:C:H5' | 1.93 | 0.69 |
| 37:BE:187:LEU:HD22 | 37:BE:201:ILE:O | 1.93 | 0.69 |
| 37:BE:187:LEU:CD2 | 37:BE:201:ILE:HG22 | 2.19 | 0.69 |
| 39:BG:19:LEU:O | 39:BG:20:TYR:C | 2.32 | 0.69 |
| 40:BH:30:ALA:O | 40:BH:45:PHE:HA | 1.92 | 0.69 |
| 40:BH:60:TYR:O | 40:BH:64:ARG:HG2 | 1.92 | 0.69 |
| 40:BH:76:ILE:HG21 | 40:BH:142:LEU:CD2 | 2.23 | 0.69 |
| 40:BH:137:GLU:HA | 40:BH:137:GLU:OE1 | 1.91 | 0.69 |
| 42:BJ:50:ILE:HD13 | 42:BJ:58:PRO:HA | 1.73 | 0.69 |
| 44:BL:19:LEU:HD23 | 44:BL:61:ALA:HA | 1.74 | 0.69 |
| 46:BN:60:ALA:O | 46:BN:61:ALA:C | 2.31 | 0.69 |
| 46:BN:62:GLN:OE1 | 46:BN:63:LEU:HD23 | 1.93 | 0.69 |
| 46:BN:82:VAL:CG1 | 46:BN:108:ILE:HG12 | 2.23 | 0.69 |
| 50:BR:36:ILE:HG22 | 50:BR:37:ASN:N | 2.08 | 0.69 |
| 52:BT:59:ILE:HD12 | 52:BT:73:VAL:HA | 1.73 | 0.69 |
| 54:BV:64:GLU:HG3 | 54:BV:65:ASN:N | 2.07 | 0.69 |
| 2:AA:58:G:H1' | 2:AA:70:G:N2 | 2.07 | 0.68 |
| 2:AA:134:C:O2' | 2:AA:135:G:H5' | 1.93 | 0.68 |
| 2:AA:270(A):A:H5' | 2:AA:270(B):A:OP2 | 1.93 | 0.68 |
| 2:AA:270(H):C:O2' | 2:AA:270(I):G:H5' | 1.93 | 0.68 |
| 2:AA:358:U:C2 | 2:AA:359:A:H5' | 2.28 | 0.68 |
| 2:AA:389:G:N3 | 2:AA:389:G:H2' | 2.08 | 0.68 |
| 2:AA:493:G:H2' | 2:AA:494:G:H8 | 1.57 | 0.68 |
| 2:AA:501:A:N7 | 2:AA:502:A:N6 | 2.41 | 0.68 |
| 2:AA:784:A:N7 | 2:AA:792:G:C5 | 2.61 | 0.68 |
| 2:AA:792:G:O2' | 2:AA:793:A:OP2 | 2.10 | 0.68 |
| 2:AA:961:C:C4 | 2:AA:2031:A:C2 | 2.81 | 0.68 |
| 2:AA:989:G:H4' | 2:AA:1157:G:H5" | 1.74 | 0.68 |
| 2:AA:1309:G:C2' | 2:AA:1310:G:C5' | 2.67 | 0.68 |
| 2:AA:1338:G:H2' | 2:AA:1339:G:C8 | 2.26 | 0.68 |
| 2:AA:1475:G:H2' | 2:AA:1475:G:N3 | 2.08 | 0.68 |
| 2:AA:1498:C:H3' | 2:AA:1499:C:H6 | 1.57 | 0.68 |
| 2:AA:1673:U:C2' | 2:AA:1674:G:O5' | 2.40 | 0.68 |
| 2:AA:1699:G:O6 | 2:AA:1763:G:C1' | 2.42 | 0.68 |
| 2:AA:1811:G:H2' | 2:AA:1812:A:C8 | 2.28 | 0.68 |
| 2:AA:1939:U:H1' | 2:AA:2592:G:C4' | 2.03 | 0.68 |
| 2:AA:1961:C:O2' | 2:AA:1962:C:H5' | 1.92 | 0.68 |
| 2:AA:2108:C:H5" | 2:AA:2109:U:H5 | 1.58 | 0.68 |
| 2:AA:2206:C:O2' | 2:AA:2207:C:H5' | 1.92 | 0.68 |
| 2:AA:2216:G:C2' | 2:AA:2217:G:H5' | 2.22 | 0.68 |
| 2:AA:2378:A:H8 | 2:AA:2378:A:O5' | 1.76 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2654:A:H1' | 2:AA:2656:U:C4 | 2.27 | 0.68 |
| 4:AD:156:ALA:C | 4:AD:196:ASN:HD22 | 1.97 | 0.68 |
| 5:AE:240:PRO:CB | 5:AE:243:PRO:HG3 | 2.23 | 0.68 |
| 6:AF:147:LEU:HD12 | 6:AF:156:LEU:HD11 | 1.75 | 0.68 |
| 8:AH:27:GLY:O | 8:AH:30:GLY:O | 2.11 | 0.68 |
| 8:AH:84:LYS:O | 8:AH:131:ILE:HG22 | 1.92 | 0.68 |
| 9:AI:18:LEU:HD13 | 9:AI:45:ALA:N | 2.08 | 0.68 |
| 13:AN:35:ILE:N | 13:AN:62:VAL:HG11 | 2.08 | 0.68 |
| 13:AN:92:SER:HB3 | 13:AN:113:LYS:NZ | 2.08 | 0.68 |
| 13:AN:103:ALA:HB3 | 13:AN:105:GLU:HG2 | 1.73 | 0.68 |
| 14:AO:67:ARG:NH1 | 14:AO:110:GLY:O | 2.26 | 0.68 |
| 16:AQ:85:GLY:HA3 | 16:AQ:121:GLY:HA3 | 1.75 | 0.68 |
| 21:AV:124:ALA:H | 21:AV:159:THR:CG2 | 2.06 | 0.68 |
| 26:A2:19:VAL:CB | 26:A2:21:ARG:HH12 | 2.06 | 0.68 |
| 28:A4:5:LEU:CD1 | 28:A4:60:ASN:ND2 | 2.47 | 0.68 |
| 34:BA:333:G:C4' | 55:BW:16:HIS:NE2 | 2.55 | 0.68 |
| 34:BA:656:C:C2' | 34:BA:657:G:H5' | 2.24 | 0.68 |
| 34:BA:977:A:H2' | 34:BA:977:A:N3 | 2.08 | 0.68 |
| 34:BA:1124:G:H3' | 34:BA:1145:C:N4 | 2.06 | 0.68 |
| 34:BA:1298:C:C4' | 42:BJ:114:ARG:HH12 | 2.06 | 0.68 |
| 34:BA:1403:C:H1' | 34:BA:1500:A:H61 | 1.58 | 0.68 |
| 34:BA:1418:A:C2 | 34:BA:1483:A:N1 | 2.61 | 0.68 |
| 35:BC:17:U:H5" | 35:BC:18:G:C3' | 2.23 | 0.68 |
| 36:B1:46:A:H5" | 36:B1:47:U:C6 | 2.28 | 0.68 |
| 38:BF:64:VAL:HB | 38:BF:99:VAL:CG1 | 2.17 | 0.68 |
| 39:BG:191:ARG:HH22 | 39:BG:196:LEU:CB | 2.06 | 0.68 |
| 39:BG:205:GLU:O | 39:BG:208:SER:N | 2.26 | 0.68 |
| 43:BK:48:TYR:CB | 43:BK:61:VAL:HG22 | 2.24 | 0.68 |
| 43:BK:68:ARG:HD3 | 43:BK:69:ARG:N | 2.09 | 0.68 |
| 45:BM:54:PHE:CE1 | 45:BM:55:LYS:HG2 | 2.28 | 0.68 |
| 52:BT:59:ILE:HD11 | 52:BT:72:ARG:C | 2.13 | 0.68 |
| 53:BU:70:ILE:O | 53:BU:74:ARG:HD2 | 1.93 | 0.68 |
| 55:BW:62:LEU:CA | 55:BW:65:LYS:HG2 | 2.23 | 0.68 |
| 1:AB:12:C:H5 | 27:A3:53:MET:CA | 2.04 | 0.68 |
| 2:AA:28:A:O2' | 2:AA:583:G:H5' | 1.93 | 0.68 |
| 2:AA:99:U:N3 | 20:AU:107:LYS:CD | 2.56 | 0.68 |
| 2:AA:195:A:N3 | 2:AA:198:C:N4 | 2.41 | 0.68 |
| 2:AA:215:G:O4' | 2:AA:216:A:H4' | 1.91 | 0.68 |
| 2:AA:237:C:O2 | 2:AA:608:A:O2' | 2.08 | 0.68 |
| 2:AA:247:G:O2' | 2:AA:386:G:N2 | 2.26 | 0.68 |
| 2:AA:292:C:H2' | 2:AA:293:U:H3 | 1.56 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:331:A:C6 | 2:AA:1209:G:C2 | 2.80 | 0.68 |
| 2:AA:396:G:H2' | 2:AA:397:G:H8 | 1.57 | 0.68 |
| 2:AA:544:C:N3 | 2:AA:549:G:O6 | 2.26 | 0.68 |
| 2:AA:594:U:N3 | 2:AA:595:C:N4 | 2.41 | 0.68 |
| 2:AA:638:G:N7 | 2:AA:639:U:N3 | 2.41 | 0.68 |
| 2:AA:929:G:H2' | 23:AX:37:LEU:HD13 | 1.75 | 0.68 |
| 2:AA:972:G:OP1 | 2:AA:974(A):C:H5' | 1.93 | 0.68 |
| 2:AA:994:C:H5' | 2:AA:995:C:OP2 | 1.92 | 0.68 |
| 2:AA:1021:A:C2' | 2:AA:1022:G:OP1 | 2.39 | 0.68 |
| 2:AA:1059:G:H1' | 11:AL:127:ILE:HG21 | 1.74 | 0.68 |
| 2:AA:1263:U:C2 | 2:AA:1264:G:N2 | 2.62 | 0.68 |
| 2:AA:1424:G:C2 | 2:AA:1425:G:O4' | 2.46 | 0.68 |
| 2:AA:1487:G:H2' | 2:AA:1488:G:C8 | 2.19 | 0.68 |
| 2:AA:1535:U:H5" | 2:AA:1536:A:C4' | 2.23 | 0.68 |
| 2:AA:1669:A:O2' | 2:AA:1670:C:OP1 | 2.12 | 0.68 |
| 2:AA:1682:G:C5 | 2:AA:1757:U:H1' | 2.29 | 0.68 |
| 2:AA:1789:A:H2' | 2:AA:1790:C:C1' | 2.24 | 0.68 |
| 2:AA:1839:G:H2' | 2:AA:1839:G:N3 | 2.09 | 0.68 |
| 2:AA:1941:C:C4 | 2:AA:1942:C:C5 | 2.81 | 0.68 |
| 2:AA:1967:C:O2 | 2:AA:1968:G:O4' | 2.11 | 0.68 |
| 2:AA:1981:A:C5' | 2:AA:1982:C:OP2 | 2.36 | 0.68 |
| 2:AA:2072:G:C5 | 2:AA:2073:C:C5 | 2.80 | 0.68 |
| 2:AA:2177:C:H5" | 3:AC:46:LYS:HD2 | 1.75 | 0.68 |
| 2:AA:2250:G:H3' | 2:AA:2250:G:C8 | 2.27 | 0.68 |
| 2:AA:2332:U:C4' | 2:AA:2336:A:H61 | 2.07 | 0.68 |
| 2:AA:2459:A:N6 | 2:AA:2493:U:C4 | 2.60 | 0.68 |
| 2:AA:2756:U:O2' | 2:AA:2757:A:C5' | 2.40 | 0.68 |
| 4:AD:232:VAL:CG2 | 4:AD:233:ASP:N | 2.56 | 0.68 |
| 5:AE:45:LYS:NZ | 5:AE:301:PRO:C | 2.46 | 0.68 |
| 5:AE:109:ASP:OD1 | 5:AE:112:LEU:HB3 | 1.92 | 0.68 |
| 6:AF:196:THR:OG1 | 6:AF:201:SER:N | 2.26 | 0.68 |
| 7:AG:67:ASP:HB2 | 7:AG:69:ILE:HD12 | 1.75 | 0.68 |
| 8:AH:43:THR:HG23 | 8:AH:50:THR:O | 1.92 | 0.68 |
| 8:AH:43:THR:OG1 | 8:AH:50:THR:O | 2.09 | 0.68 |
| 8:AH:102:LEU:CD1 | 8:AH:104:LEU:HD11 | 2.24 | 0.68 |
| 9:AI:18:LEU:O | 9:AI:22:VAL:HG23 | 1.93 | 0.68 |
| 10:AK:6:LEU:O | 10:AK:6:LEU:CD1 | 2.39 | 0.68 |
| 10:AK:8:ASP:C | 10:AK:10:LYS:H | 1.95 | 0.68 |
| 10:AK:78:THR:HA | 10:AK:144:HIS:NE2 | 2.08 | 0.68 |
| 11:AL:58:ILE:CG2 | 11:AL:67:THR:HA | 2.23 | 0.68 |
| 12:AM:77:GLY:O | 12:AM:78:ILE:C | 2.31 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:121:VAL:O | 13:AN:122:ILE:HG13 | 1.93 | 0.68 |
| 14:AO:65:ASP:HB3 | 14:AO:109:LEU:HB3 | 1.75 | 0.68 |
| 15:AP:88:PHE:O | 15:AP:113:ALA:HB2 | 1.93 | 0.68 |
| 16:AQ:15:GLU:O | 16:AQ:16:ALA:CB | 2.41 | 0.68 |
| 17:AR:10:GLY:H | 17:AR:52:THR:HB | 1.58 | 0.68 |
| 17:AR:30:HIS:O | 17:AR:31:PHE:CD2 | 2.47 | 0.68 |
| 21:AV:19:ILE:HB | 21:AV:36:ARG:HG2 | 1.76 | 0.68 |
| 21:AV:141:MET:CA | 21:AV:171:VAL:HG11 | 2.23 | 0.68 |
| 23:AX:30:ARG:CG | 23:AX:30:ARG:NH1 | 2.54 | 0.68 |
| 24:A0:34:ILE:CG2 | 24:A0:35:THR:N | 2.56 | 0.68 |
| 25:A1:98:ILE:O | 25:A1:99:ALA:C | 2.31 | 0.68 |
| 25:A1:113:SER:O | 25:A1:116:ALA:HB3 | 1.93 | 0.68 |
| 26:A2:33:VAL:HG12 | 26:A2:34:GLU:N | 2.06 | 0.68 |
| 34:BA:61:G:N7 | 34:BA:62:U:C4 | 2.61 | 0.68 |
| 34:BA:318:G:C2' | 34:BA:319:G:H5' | 2.22 | 0.68 |
| 34:BA:475:G:H2' | 34:BA:476:G:C8 | 2.28 | 0.68 |
| 34:BA:575:G:N1 | 34:BA:821:G:C8 | 2.61 | 0.68 |
| 34:BA:597:G:C4 | 34:BA:644:G:C2 | 2.81 | 0.68 |
| 34:BA:671:G:C2' | 34:BA:672:U:H6 | 2.06 | 0.68 |
| 34:BA:874:G:N2 | 34:BA:875:C:H1' | 2.08 | 0.68 |
| 34:BA:1067:A:O2' | 34:BA:1068:G:P | 2.51 | 0.68 |
| 34:BA:1360:A:N1 | 34:BA:1361:G:C2 | 2.61 | 0.68 |
| 35:BB:32:C:N4 | 35:BB:33:U:C4 | 2.60 | 0.68 |
| 35:BC:8:U:C1' | 35:BC:48:C:O2' | 2.41 | 0.68 |
| 35:BC:54:U:C2' | 35:BC:55:U:H5' | 2.23 | 0.68 |
| 37:BE:130:ARG:HB3 | 37:BE:134:GLU:CG | 2.23 | 0.68 |
| 37:BE:222:ILE:HG12 | 37:BE:223:ILE:H | 1.56 | 0.68 |
| 37:BE:229:VAL:O | 37:BE:230:VAL:HG13 | 1.94 | 0.68 |
| 38:BF:47:LEU:HD13 | 38:BF:83:ARG:HH21 | 1.57 | 0.68 |
| 39:BG:8:VAL:HA | 39:BG:11:LEU:HG | 1.76 | 0.68 |
| 42:BJ:80:VAL:CG2 | 42:BJ:85:TYR:HB2 | 2.23 | 0.68 |
| 43:BK:30:ARG:O | 43:BK:33:GLU:HB3 | 1.92 | 0.68 |
| 43:BK:53:VAL:HG12 | 43:BK:54:ASP:OD1 | 1.94 | 0.68 |
| 45:BM:6:ILE:HG22 | 45:BM:98:ILE:CG1 | 2.23 | 0.68 |
| 46:BN:58:PRO:HA | 46:BN:90:GLY:CA | 2.17 | 0.68 |
| 47:BO:7:ILE:O | 47:BO:11:VAL:HG23 | 1.92 | 0.68 |
| 47:BO:80:HIS:ND1 | 47:BO:80:HIS:N | 2.40 | 0.68 |
| 48:BP:66:LEU:HA | 48:BP:70:LEU:HD12 | 1.75 | 0.68 |
| 51:BS:7:ALA:O | 51:BS:17:TYR:HA | 1.92 | 0.68 |
| 1:AB:83:G:H4' | 23:AX:52:HIS:CD2 | 2.23 | 0.68 |
| 2:AA:363(D):G:H2' | 2:AA:363(E):U:H6 | 1.57 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:364:C:H2' | 2:AA:365:C:C6 | 2.28 | 0.68 |
| 2:AA:364:C:N3 | 2:AA:365:C:N4 | 2.40 | 0.68 |
| 2:AA:468:G:O2' | 2:AA:469:G:H5' | 1.91 | 0.68 |
| 2:AA:529:A:H2' | 2:AA:530:G:H8 | 1.57 | 0.68 |
| 2:AA:533:G:C5 | 2:AA:534:U:C4 | 2.81 | 0.68 |
| 2:AA:713:G:C6 | 2:AA:714:U:C5 | 2.81 | 0.68 |
| 2:AA:866:A:C2 | 2:AA:867:C:H6 | 2.11 | 0.68 |
| 2:AA:951:C:O2' | 2:AA:952:G:C5' | 2.40 | 0.68 |
| 2:AA:1027:A:N6 | 2:AA:1126:A:H1' | 2.08 | 0.68 |
| 2:AA:1047:G:N2 | 2:AA:1111:A:N6 | 2.41 | 0.68 |
| 2:AA:1212:G:O2' | 2:AA:1213:A:H8 | 1.76 | 0.68 |
| 2:AA:1227:A:H2' | 2:AA:1228:G:C5' | 2.24 | 0.68 |
| 2:AA:1280:G:C2' | 2:AA:1281:G:O5' | 2.41 | 0.68 |
| 2:AA:1301:A:O2' | 2:AA:1302:A:OP1 | 2.11 | 0.68 |
| 2:AA:1340:U:O4 | 19:AT:57:THR:HG22 | 1.92 | 0.68 |
| 2:AA:1683:C:N4 | 2:AA:1684:C:H41 | 1.91 | 0.68 |
| 2:AA:2352:A:C8 | 2:AA:2366:A:N1 | 2.62 | 0.68 |
| 2:AA:2507:C:N3 | 2:AA:2583:G:C2 | 2.62 | 0.68 |
| 2:AA:2531:A:H2' | 2:AA:2532:G:O5' | 1.93 | 0.68 |
| 2:AA:2654:A:N6 | 2:AA:2667:C:N4 | 2.41 | 0.68 |
| 2:AA:2733:A:N7 | 2:AA:2734:A:C8 | 2.61 | 0.68 |
| 2:AA:2839:G:O2' | 2:AA:2840:C:H5' | 1.94 | 0.68 |
| 2:AA:2899:G:H2' | 2:AA:2900:A:C8 | 2.28 | 0.68 |
| 3:AC:114:VAL:HG21 | 3:AC:153:ILE:CG1 | 2.24 | 0.68 |
| 4:AD:139:LEU:O | 4:AD:139:LEU:HD12 | 1.92 | 0.68 |
| 4:AD:142:ASN:HB2 | 4:AD:190:THR:H | 1.58 | 0.68 |
| 4:AD:154:VAL:O | 4:AD:154:VAL:HG12 | 1.92 | 0.68 |
| 5:AE:269:ILE:CA | 5:AE:297:LYS:NZ | 2.53 | 0.68 |
| 6:AF:207:LEU:O | 6:AF:209:GLY:N | 2.23 | 0.68 |
| 8:AH:34:ARG:NH2 | 8:AH:74:MET:CA | 2.55 | 0.68 |
| 9:AJ:15:VAL:HG22 | 9:AJ:48:ALA:CB | 2.24 | 0.68 |
| 9:AJ:72:GLN:HA | 9:AJ:75:LYS:HD2 | 1.75 | 0.68 |
| 13:AN:28:SER:O | 13:AN:29:GLY:C | 2.32 | 0.68 |
| 15:AP:48:ASN:CA | 15:AP:140:TYR:OH | 2.36 | 0.68 |
| 16:AQ:39:SER:O | 16:AQ:41:LYS:N | 2.26 | 0.68 |
| 17:AR:53:ASP:O | 17:AR:56:ARG:NE | 2.25 | 0.68 |
| 18:AS:77:ASP:O | 18:AS:102:HIS:CB | 2.41 | 0.68 |
| 19:AT:69:SER:O | 19:AT:70:GLU:HB2 | 1.92 | 0.68 |
| 20:AU:44:ALA:HB1 | 20:AU:65:VAL:HG11 | 1.74 | 0.68 |
| 20:AU:52:ARG:HD2 | 20:AU:95:ASN:CG | 2.13 | 0.68 |
| 22:AW:34:GLN:N | 22:AW:34:GLN:OE1 | 2.26 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:99:LYS:O | 29:A5:44:HIS:CD2 | 2.47 | 0.68 |
| 24:A0:107:ASP:OD2 | 24:A0:109:ALA:HB3 | 1.93 | 0.68 |
| 25:A1:69:ALA:CB | 25:A1:79:PHE:CZ | 2.76 | 0.68 |
| 26:A2:34:GLU:C | 26:A2:63:HIS:CE1 | 2.67 | 0.68 |
| 28:A4:48:ARG:HB2 | 28:A4:71:SER:CB | 2.23 | 0.68 |
| 34:BA:308:C:H2' | 34:BA:309:G:O5' | 1.92 | 0.68 |
| 34:BA:439:A:H5" | 34:BA:494:G:H22 | 1.56 | 0.68 |
| 34:BA:520:A:N6 | 34:BA:529:G:C2 | 2.61 | 0.68 |
| 34:BA:1313:U:O4 | 54:BV:4:SER:OG | 2.08 | 0.68 |
| 34:BA:1473:A:H2' | 34:BA:1474:G:O5' | 1.92 | 0.68 |
| 36:B1:18:U:H6 | 36:B1:18:U:O5' | 1.75 | 0.68 |
| 36:B1:59:A:C2' | 36:B1:60:A:O5' | 2.40 | 0.68 |
| 39:BG:61:LYS:NZ | 39:BG:65:ARG:HD2 | 2.08 | 0.68 |
| 42:BJ:46:ALA:CA | 42:BJ:49:ILE:HD12 | 2.24 | 0.68 |
| 42:BJ:65:ALA:CB | 42:BJ:124:LEU:HD23 | 2.22 | 0.68 |
| 42:BJ:77:SER:O | 42:BJ:156:TRP:HH2 | 1.75 | 0.68 |
| 42:BJ:91:VAL:O | 42:BJ:91:VAL:HG12 | 1.93 | 0.68 |
| 43:BK:18:ARG:HH22 | 43:BK:78:GLN:CG | 2.06 | 0.68 |
| 43:BK:64:LYS:CD | 43:BK:79:VAL:HG21 | 2.22 | 0.68 |
| 44:BL:84:ALA:O | 44:BL:87:GLN:HB2 | 1.93 | 0.68 |
| 52:BT:15:MET:HB2 | 52:BT:18:THR:CB | 2.22 | 0.68 |
| 54:BV:53:ASN:HD21 | 54:BV:58:VAL:HG13 | 1.58 | 0.68 |
| 55:BW:53:LEU:HA | 55:BW:56:MET:CG | 2.24 | 0.68 |
| 2:AA:270(E):G:O2' | 2:AA:270(F):U:H5' | 1.92 | 0.68 |
| 2:AA:290:G:N2 | 2:AA:350:U:O2 | 2.27 | 0.68 |
| 2:AA:291:C:O2' | 2:AA:292:C:H5' | 1.93 | 0.68 |
| 2:AA:412:A:N6 | 2:AA:2411:A:H1' | 2.09 | 0.68 |
| 2:AA:521:G:O2' | 2:AA:522:G:H5' | 1.93 | 0.68 |
| 2:AA:559:G:H2' | 2:AA:560:C:O4' | 1.93 | 0.68 |
| 2:AA:583:G:O2' | 2:AA:584:C:H5' | 1.92 | 0.68 |
| 2:AA:648:G:C2' | 2:AA:649:G:H8 | 1.92 | 0.68 |
| 2:AA:853:G:O2' | 2:AA:854:G:H5' | 1.93 | 0.68 |
| 2:AA:969:U:C2' | 2:AA:970:C:H6 | 2.07 | 0.68 |
| 2:AA:988:A:P | 23:AX:11:SER:HB2 | 2.34 | 0.68 |
| 2:AA:1058:G:N2 | 11:AL:117:ASN:ND2 | 2.41 | 0.68 |
| 2:AA:1216:G:P | 25:A1:8:ILE:HG22 | 2.33 | 0.68 |
| 2:AA:1458:C:H4' | 2:AA:1459:G:C8 | 2.29 | 0.68 |
| 2:AA:1602:U:OP2 | 2:AA:1602:U:C4 | 2.46 | 0.68 |
| 2:AA:1742:C:C2' | 2:AA:1743:G:O4' | 2.41 | 0.68 |
| 2:AA:1801:G:C2 | 2:AA:2207:C:H4' | 2.28 | 0.68 |
| 2:AA:1966:A:O2' | 2:AA:1967:C:P | 2.51 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2009:G:N3 | 24:A0:106:GLY:O | 2.27 | 0.68 |
| 2:AA:2076:U:O2' | 2:AA:2077:A:OP1 | 2.11 | 0.68 |
| 2:AA:2286:A:C8 | 2:AA:2286:A:C3' | 2.76 | 0.68 |
| 2:AA:2371:G:C2 | 2:AA:2372:G:C5 | 2.82 | 0.68 |
| 2:AA:2572:A:N7 | 5:AE:241:TRP:CG | 2.62 | 0.68 |
| 2:AA:2647:U:O2' | 2:AA:2648:C:H5' | 1.93 | 0.68 |
| 2:AA:2712:U:C3' | 2:AA:712(A):A:H5" | 2.23 | 0.68 |
| 2:AA:2732:G:H5' | 2:AA:2733:A:O5' | 1.92 | 0.68 |
| 2:AA:2785:C:H4' | 5:AE:99:VAL:CG1 | 2.23 | 0.68 |
| 2:AA:2862:G:C4 | 2:AA:2863:C:C5 | 2.82 | 0.68 |
| 2:AA:2882:A:OP1 | 24:A0:96:ARG:HB2 | 1.93 | 0.68 |
| 4:AD:203:PRO:C | 4:AD:204:PHE:HD1 | 1.95 | 0.68 |
| 5:AE:44:TYR:CZ | 5:AE:308:VAL:HG13 | 2.28 | 0.68 |
| 5:AE:210:THR:HG22 | 5:AE:255:GLN:HG2 | 1.75 | 0.68 |
| 7:AG:20:LYS:CE | 7:AG:76:ARG:HE | 2.05 | 0.68 |
| 8:AH:10:ILE:HD12 | 8:AH:49:ILE:CG1 | 2.24 | 0.68 |
| 8:AH:101:LYS:HD3 | 8:AH:113:GLU:OE2 | 1.93 | 0.68 |
| 10:AK:25:TYR:C | 10:AK:29:PHE:CE1 | 2.67 | 0.68 |
| 10:AK:47:LEU:HG | 10:AK:48:GLU:N | 2.08 | 0.68 |
| 11:AL:42:PHE:HZ | 11:AL:58:ILE:HD11 | 1.59 | 0.68 |
| 13:AN:25:LEU:HD21 | 13:AN:40:VAL:HG23 | 1.76 | 0.68 |
| 14:AO:141:GLU:HB2 | 14:AO:145:LEU:HD13 | 1.74 | 0.68 |
| 16:AQ:21:HIS:CD2 | 16:AQ:24:LEU:HG | 2.28 | 0.68 |
| 18:AS:8:ARG:HG3 | 18:AS:102:HIS:ND1 | 2.08 | 0.68 |
| 20:AU:71:VAL:CG2 | 20:AU:93:THR:HG23 | 2.24 | 0.68 |
| 21:AV:1:MET:N | 21:AV:54:ILE:HD12 | 2.09 | 0.68 |
| 21:AV:19:ILE:HB | 21:AV:39:PHE:CE1 | 2.27 | 0.68 |
| 21:AV:72:ASP:OD1 | 21:AV:79:ILE:O | 2.10 | 0.68 |
| 26:A2:4:ILE:C | 26:A2:39:PHE:CE2 | 2.66 | 0.68 |
| 31:A7:30:ILE:HA | 31:A7:33:ARG:HD2 | 1.74 | 0.68 |
| 34:BA:47:C:O2' | 34:BA:48:C:OP2 | 2.09 | 0.68 |
| 34:BA:112:G:O2' | 34:BA:113:G:H5' | 1.94 | 0.68 |
| 34:BA:112:G:C4' | 34:BA:389:A:H5" | 2.24 | 0.68 |
| 34:BA:254:G:H4' | 52:BT:18:THR:HG21 | 1.75 | 0.68 |
| 34:BA:263:A:C2' | 34:BA:264:U:H5" | 2.23 | 0.68 |
| 34:BA:300:A:O2' | 34:BA:301:G:H5' | 1.93 | 0.68 |
| 34:BA:357:G:OP1 | 34:BA:367:U:C3' | 2.39 | 0.68 |
| 34:BA:459:G:N2 | 34:BA:463:A:N6 | 2.39 | 0.68 |
| 34:BA:499:A:H4' | 34:BA:500:G:H5' | 1.73 | 0.68 |
| 34:BA:571:U:H5" | 34:BA:572:A:OP2 | 1.94 | 0.68 |
| 34:BA:686:U:O2 | 34:BA:686:U:H2' | 1.91 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:840:C:H5' | 34:BA:848:C:C2 | 2.29 | 0.68 |
| 34:BA:1094:G:H2' | 34:BA:1108:G:N2 | 2.07 | 0.68 |
| 34:BA:1292:U:OP2 | 34:BA:1292:U:H6 | 1.77 | 0.68 |
| 36:B1:36:A:C5 | 36:B1:37:C:H1' | 2.28 | 0.68 |
| 39:BG:64:LEU:HD13 | 39:BG:65:ARG:N | 2.09 | 0.68 |
| 39:BG:122:ARG:HE | 39:BG:122:ARG:HA | 1.57 | 0.68 |
| 46:BN:23:ALA:HB1 | 46:BN:28:THR:OG1 | 1.93 | 0.68 |
| 46:BN:42:TRP:HE3 | 46:BN:43:SER:HA | 1.59 | 0.68 |
| 47:BO:17:LYS:HA | 47:BO:17:LYS:HZ2 | 1.57 | 0.68 |
| 48:BP:104:ARG:HG2 | 48:BP:105:THR:CG2 | 2.23 | 0.68 |
| 53:BU:21:LYS:HE2 | 53:BU:57:GLY:CA | 2.22 | 0.68 |
| 56:BX:10:ARG:O | 56:BX:13:ILE:HB | 1.93 | 0.68 |
| 2:AA:27:G:N2 | 2:AA:512:G:C2' | 2.55 | 0.68 |
| 2:AA:128:C:H2' | 2:AA:129:C:C6 | 2.27 | 0.68 |
| 2:AA:244:A:H1' | 2:AA:255:A:H61 | 1.56 | 0.68 |
| 2:AA:618:G:C5 | 2:AA:618(A):C:N4 | 2.61 | 0.68 |
| 2:AA:668:G:H2' | 2:AA:670:A:N7 | 2.08 | 0.68 |
| 2:AA:770:G:H5' | 31:A7:10:ARG:NH1 | 2.08 | 0.68 |
| 2:AA:807:U:H2' | 2:AA:808:G:C8 | 2.28 | 0.68 |
| 2:AA:1041:C:N4 | 2:AA:1114:G:H1 | 1.86 | 0.68 |
| 2:AA:1060:U:H5" | 2:AA:1061:U:O4 | 1.93 | 0.68 |
| 2:AA:1091:G:N1 | 2:AA:1101:U:C4 | 2.61 | 0.68 |
| 2:AA:1248:G:C8 | 25:A1:2:PRO:HB3 | 2.28 | 0.68 |
| 2:AA:1351:C:O2' | 2:AA:1571:A:H1' | 1.92 | 0.68 |
| 2:AA:1530:G:C5 | 2:AA:1542:G:N7 | 2.61 | 0.68 |
| 2:AA:1630:G:C5 | 2:AA:630(A):C:C5 | 2.81 | 0.68 |
| 2:AA:2143:C:N3 | 2:AA:2148:G:O6 | 2.26 | 0.68 |
| 2:AA:2250:G:N7 | 15:AP:101:MET:HE3 | 2.09 | 0.68 |
| 2:AA:2334:G:H1' | 16:AQ:21:HIS:HD1 | 1.57 | 0.68 |
| 2:AA:2485:G:HO2' | 2:AA:2486:G:H5' | 1.57 | 0.68 |
| 2:AA:2706:G:N1 | 2:AA:2707:G:C5 | 2.61 | 0.68 |
| 2:AA:2738:A:N1 | 2:AA:2739:U:O2 | 2.27 | 0.68 |
| 3:AC:75:LEU:CD1 | 3:AC:93:TYR:HB2 | 2.22 | 0.68 |
| 4:AD:104:ILE:O | 4:AD:104:ILE:HD12 | 1.93 | 0.68 |
| 4:AD:158:GLY:N | 4:AD:196:ASN:HD21 | 1.90 | 0.68 |
| 5:AE:176:HIS:HA | 5:AE:179:ASP:OD1 | 1.94 | 0.68 |
| 8:AH:100:LYS:O | 8:AH:100:LYS:HG3 | 1.92 | 0.68 |
| 10:AK:78:THR:HG22 | 10:AK:144:HIS:CE1 | 2.28 | 0.68 |
| 10:AK:115:ILE:O | 10:AK:132:LYS:CE | 2.42 | 0.68 |
| 14:AO:122:ALA:HB3 | 14:AO:125:PHE:CZ | 2.28 | 0.68 |
| 17:AR:22:VAL:HA | 17:AR:29:THR:OG1 | 1.94 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 18:AS:40:ASN:O | 18:AS:41:LYS:O | 2.11 | 0.68 |
| 19:AT:30:ASP:CA | 19:AT:62:LYS:HD2 | 2.20 | 0.68 |
| 25:A1:40:LEU:HD21 | 26:A2:83:ARG:CZ | 2.22 | 0.68 |
| 26:A2:1:MET:O | 26:A2:15:SER:CB | 2.40 | 0.68 |
| 27:A3:43:THR:O | 27:A3:64:ASP:HB3 | 1.94 | 0.68 |
| 31:A7:20:ALA:HA | 31:A7:23:LYS:CD | 2.24 | 0.68 |
| 32:A8:20:GLY:O | 32:A8:57:ARG:NH2 | 2.27 | 0.68 |
| 34:BA:294:U:H2' | 34:BA:295:C:C6 | 2.28 | 0.68 |
| 34:BA:659:U:OP1 | 50:BR:9:GLN:NE2 | 2.27 | 0.68 |
| 34:BA:1121:U:O5' | 34:BA:1121:U:H6 | 1.75 | 0.68 |
| 34:BA:1310:G:N1 | 34:BA:1328:C:C4 | 2.61 | 0.68 |
| 35:BB:7:U:O4 | 35:BB:67:A:N6 | 2.26 | 0.68 |
| 35:BB:9:A:N6 | 35:BB:22:G:H8 | 1.92 | 0.68 |
| 35:BB:26:G:N2 | 35:BB:27:C:H1' | 2.08 | 0.68 |
| 35:BB:28:C:HO2' | 35:BB:29:A:H5' | 1.57 | 0.68 |
| 38:BF:33:LEU:HD21 | 49:BQ:54:PRO:CD | 2.24 | 0.68 |
| 39:BG:25:ARG:HH21 | 39:BG:30:LYS:CE | 2.06 | 0.68 |
| 40:BH:91:LEU:HD21 | 40:BH:118:ILE:HG21 | 1.75 | 0.68 |
| 41:BI:75:LEU:HD13 | 41:BI:79:LEU:HD21 | 1.76 | 0.68 |
| 43:BK:44:PHE:HA | 43:BK:79:VAL:CG1 | 2.23 | 0.68 |
| 43:BK:98:LYS:O | 43:BK:100:ILE:HD12 | 1.92 | 0.68 |
| 46:BN:27:ASN:ND2 | 46:BN:55:LYS:HZ2 | 1.90 | 0.68 |
| 47:BO:37:CYS:HA | 47:BO:57:LYS:O | 1.94 | 0.68 |
| 47:BO:56:ALA:HB2 | 47:BO:70:ILE:HG12 | 1.76 | 0.68 |
| 48:BP:96:LEU:HB2 | 48:BP:97:PRO:HD2 | 1.76 | 0.68 |
| 49:BQ:41:ARG:HA | 49:BQ:44:LEU:HD23 | 1.75 | 0.68 |
| 53:BU:40:LEU:C | 53:BU:42:ARG:N | 2.44 | 0.68 |
| 53:BU:41:LYS:O | 53:BU:44:LEU:HD22 | 1.94 | 0.68 |
| 53:BU:47:THR:N | 53:BU:49:LYS:NZ | 2.41 | 0.68 |
| 1:AB:71:C:H2' | 1:AB:72:G:C8 | 2.29 | 0.68 |
| 2:AA:137:C:N4 | 2:AA:142:G:H1 | 1.91 | 0.68 |
| 2:AA:137(A):G:O6 | 2:AA:139:G:N1 | 2.27 | 0.68 |
| 2:AA:154:G:C2 | 2:AA:155:C:C1' | 2.76 | 0.68 |
| 2:AA:273(B):C:N3 | 2:AA:363(D):G:O6 | 2.27 | 0.68 |
| 2:AA:641:C:C2' | 2:AA:642:G:O4' | 2.42 | 0.68 |
| 2:AA:656:G:O2' | 2:AA:657:U:H5' | 1.93 | 0.68 |
| 2:AA:685:A:C2 | 2:AA:774:A:C2 | 2.81 | 0.68 |
| 2:AA:759:G:O2' | 2:AA:760:G:H5' | 1.93 | 0.68 |
| 2:AA:826:U:OP1 | 2:AA:2429:G:OP1 | 2.11 | 0.68 |
| 2:AA:978:G:N2 | 2:AA:986:C:N3 | 2.41 | 0.68 |
| 2:AA:1005:C:H1' | 12:AM:21:ARG:CG | 2.23 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1102:C:H1' | 2:AA:1103:A:N7 | 2.09 | 0.68 |
| 2:AA:1152:C:H5" | 25:A1:80:ILE:HG22 | 1.76 | 0.68 |
| 2:AA:1353:A:C6 | 2:AA:1378:A:C6 | 2.82 | 0.68 |
| 2:AA:1358:G:C2' | 2:AA:1373:A:H61 | 2.07 | 0.68 |
| 2:AA:1479:G:N2 | 2:AA:1514:U:O2 | 2.26 | 0.68 |
| 2:AA:1920:C:H5" | 34:BA:1517:G:N7 | 2.09 | 0.68 |
| 2:AA:2041:U:C2' | 2:AA:2042:A:C5' | 2.66 | 0.68 |
| 2:AA:2122:U:C2' | 3:AC:166:ASP:HB2 | 2.23 | 0.68 |
| 2:AA:2404:C:C6 | 2:AA:2414:G:N2 | 2.62 | 0.68 |
| 2:AA:2663:G:H2' | 2:AA:2664:G:O4' | 1.92 | 0.68 |
| 2:AA:2835:A:N6 | 2:AA:2878:U:H3' | 2.09 | 0.68 |
| 2:AA:2872:G:N2 | 2:AA:2873:A:H61 | 1.91 | 0.68 |
| 5:AE:200:ASP:CG | 5:AE:264:LEU:HA | 2.13 | 0.68 |
| 6:AF:195:VAL:HG21 | 6:AF:235:PHE:CD2 | 2.29 | 0.68 |
| 9:AI:103:LYS:HD3 | 9:AI:114:ILE:HG12 | 1.75 | 0.68 |
| 10:AK:124:LEU:HD21 | 10:AK:147:GLU:N | 2.08 | 0.68 |
| 13:AN:22:ILE:HG13 | 13:AN:41:ALA:CA | 2.20 | 0.68 |
| 16:AQ:59:ALA:HB3 | 16:AQ:91:ARG:HH12 | 1.57 | 0.68 |
| 17:AR:50:GLU:CA | 17:AR:55:ALA:HB3 | 2.24 | 0.68 |
| 21:AV:45:GLN:N | 21:AV:45:GLN:NE2 | 2.42 | 0.68 |
| 23:AX:26:LEU:CD2 | 23:AX:46:ASN:HD22 | 2.07 | 0.68 |
| 25:A1:9:VAL:HG12 | 25:A1:13:ARG:HH22 | 1.57 | 0.68 |
| 30:A6:30:ASN:OD1 | 30:A6:31:THR:HG23 | 1.92 | 0.68 |
| 34:BA:126:G:N2 | 34:BA:127:G:C4 | 2.62 | 0.68 |
| 34:BA:357:G:O2' | 34:BA:358:U:H5' | 1.94 | 0.68 |
| 34:BA:596:C:N4 | 34:BA:644:G:H1 | 1.91 | 0.68 |
| 34:BA:659:U:O2' | 34:BA:660:G:H5' | 1.93 | 0.68 |
| 34:BA:1115:C:H42 | 34:BA:1185:G:H1 | 1.40 | 0.68 |
| 34:BA:1214:C:H2' | 34:BA:1214:C:O2 | 1.92 | 0.68 |
| 35:BB:39:U:H2' | 35:BB:40:C:C6 | 2.28 | 0.68 |
| 35:BC:10:G:N2 | 35:BC:11:C:C2 | 2.61 | 0.68 |
| 37:BE:53:ARG:HG2 | 37:BE:199:TYR:CE2 | 2.27 | 0.68 |
| 37:BE:60:ASP:HA | 37:BE:63:MET:SD | 2.34 | 0.68 |
| 37:BE:77:ALA:CB | 37:BE:211:ILE:HD13 | 2.24 | 0.68 |
| 37:BE:187:LEU:HD13 | 37:BE:187:LEU:C | 2.13 | 0.68 |
| 39:BG:29:PRO:HA | 39:BG:34:GLU:HG2 | 1.74 | 0.68 |
| 41:BI:50:TYR:OH | 53:BU:74:ARG:O | 2.07 | 0.68 |
| 43:BK:18:ARG:HD2 | 43:BK:18:ARG:H | 1.58 | 0.68 |
| 44:BL:114:TYR:HB3 | 45:BM:60:ARG:HH12 | 1.57 | 0.68 |
| 45:BM:3:LYS:HG3 | 45:BM:75:ILE:HA | 1.74 | 0.68 |
| 1:AB:9:G:N2 | 1:AB:111:U:O2 | 2.26 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:133:C:H2' | 2:AA:134:C:C6 | 2.28 | 0.68 |
| 2:AA:233:A:H2' | 2:AA:234:C:H6 | 1.59 | 0.68 |
| 2:AA:288:C:C6 | 2:AA:288:C:H3' | 2.28 | 0.68 |
| 2:AA:304:G:N2 | 2:AA:313:C:N3 | 2.40 | 0.68 |
| 2:AA:378:C:N3 | 2:AA:396:G:O6 | 2.26 | 0.68 |
| 2:AA:639:U:H3 | 2:AA:649:G:H1 | 1.40 | 0.68 |
| 2:AA:771:G:C4 | 2:AA:772:C:C5 | 2.81 | 0.68 |
| 2:AA:784:A:OP1 | 2:AA:2588:G:H5" | 1.94 | 0.68 |
| 2:AA:830:G:O2' | 2:AA:831:G:OP1 | 2.10 | 0.68 |
| 2:AA:1005:C:H5 | 2:AA:1143:A:H5" | 1.56 | 0.68 |
| 2:AA:1011:G:H2' | 2:AA:1013:C:H5' | 1.74 | 0.68 |
| 2:AA:1102:C:O2' | 2:AA:1103:A:O5' | 2.11 | 0.68 |
| 2:AA:1373:A:H2' | 2:AA:1374:G:C8 | 2.29 | 0.68 |
| 2:AA:1508:A:H8 | 2:AA:1509:C:OP2 | 1.75 | 0.68 |
| 2:AA:1779:U:C5 | 2:AA:1784:A:C2 | 2.82 | 0.68 |
| 2:AA:1798:U:C4 | 2:AA:1819:A:C2 | 2.82 | 0.68 |
| 2:AA:1802:A:H61 | 2:AA:1822:G:H1' | 1.57 | 0.68 |
| 2:AA:1823:G:H2' | 2:AA:1824:G:O5' | 1.94 | 0.68 |
| 2:AA:1890:A:H8 | 2:AA:1890:A:O5' | 1.77 | 0.68 |
| 2:AA:2262:U:C2' | 2:AA:2263:C:H5' | 2.23 | 0.68 |
| 2:AA:2303:G:C2 | 2:AA:2304:G:C5 | 2.81 | 0.68 |
| 2:AA:2332:U:O2' | 2:AA:2333:A:H5' | 1.94 | 0.68 |
| 2:AA:2422:A:C2' | 2:AA:2424:C:H5 | 2.06 | 0.68 |
| 2:AA:2511:U:C5 | 2:AA:2512:C:C5 | 2.82 | 0.68 |
| 2:AA:2588:G:N7 | 2:AA:2589:A:C8 | 2.62 | 0.68 |
| 2:AA:2698:U:H2' | 2:AA:2699:C:C6 | 2.28 | 0.68 |
| 2:AA:2749:A:O4' | 8:AH:62:ALA:HA | 1.94 | 0.68 |
| 2:AA:2783:G:H2' | 2:AA:2784:C:H6 | 1.58 | 0.68 |
| 3:AC:14:VAL:HG21 | 3:AC:32:LEU:HD11 | 1.75 | 0.68 |
| 3:AC:34:THR:O | 3:AC:35:ALA:O | 2.11 | 0.68 |
| 3:AC:76:ALA:CB | 3:AC:94:VAL:HG22 | 2.18 | 0.68 |
| 3:AC:128:GLY:HA2 | 3:AC:137:LEU:CD2 | 2.24 | 0.68 |
| 3:AC:193:ILE:HD13 | 3:AC:226:PRO:O | 1.94 | 0.68 |
| 5:AE:216:ARG:C | 5:AE:217:TRP:CD1 | 2.67 | 0.68 |
| 5:AE:240:PRO:HB2 | 5:AE:243:PRO:HG3 | 1.75 | 0.68 |
| 6:AF:205:ARG:CG | 6:AF:212:VAL:HG21 | 2.23 | 0.68 |
| 9:AJ:62:VAL:HG13 | 9:AJ:100:ALA:O | 1.94 | 0.68 |
| 10:AK:69:LYS:O | 10:AK:73:GLU:HG3 | 1.93 | 0.68 |
| 13:AN:35:ILE:CD1 | 13:AN:69:VAL:HG21 | 2.23 | 0.68 |
| 13:AN:64:ARG:CD | 13:AN:81:GLU:OE1 | 2.32 | 0.68 |
| 14:AO:141:GLU:C | 14:AO:145:LEU:HD13 | 2.14 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:142:LYS:CG | 15:AP:143:VAL:N | 2.54 | 0.68 |
| 16:AQ:36:ALA:HB2 | 16:AQ:118:ILE:HD13 | 1.76 | 0.68 |
| 20:AU:51:LEU:HD13 | 20:AU:95:ASN:O | 1.94 | 0.68 |
| 25:A1:98:ILE:CD1 | 26:A2:13:ARG:HE | 2.03 | 0.68 |
| 26:A2:6:GLN:OE1 | 26:A2:10:LYS:HG2 | 1.94 | 0.68 |
| 34:BA:21:G:C2 | 34:BA:915:A:N6 | 2.62 | 0.68 |
| 34:BA:64:G:H5' | 34:BA:66:G:OP1 | 1.94 | 0.68 |
| 34:BA:143:A:H2 | 34:BA:220:G:H1 | 1.40 | 0.68 |
| 34:BA:258:G:C2 | 34:BA:259:G:N7 | 2.61 | 0.68 |
| 34:BA:644:G:O2' | 34:BA:645:C:H5' | 1.93 | 0.68 |
| 34:BA:720:C:H5 | 34:BA:721:G:H2' | 1.56 | 0.68 |
| 34:BA:946:A:N6 | 34:BA:1236:A:C6 | 2.61 | 0.68 |
| 34:BA:1060:C:C5' | 45:BM:51:ARG:HB3 | 2.24 | 0.68 |
| 34:BA:1350:A:H2' | 34:BA:1351:U:H6 | 1.58 | 0.68 |
| 34:BA:1418:A:N7 | 34:BA:1482:G:N2 | 2.41 | 0.68 |
| 34:BA:1461:G:O2' | 34:BA:1462:G:H5' | 1.93 | 0.68 |
| 35:BB:8:U:C5 | 35:BB:13:C:C4 | 2.81 | 0.68 |
| 37:BE:97:TRP:NE1 | 37:BE:101:MET:SD | 2.66 | 0.68 |
| 37:BE:163:PHE:HB2 | 37:BE:185:ILE:HD12 | 1.75 | 0.68 |
| 38:BF:182:ILE:CG1 | 38:BF:203:PHE:HD1 | 2.05 | 0.68 |
| 39:BG:92:VAL:HG12 | 39:BG:96:LEU:HD11 | 1.74 | 0.68 |
| 40:BH:41:VAL:HG21 | 40:BH:113:ALA:CA | 2.24 | 0.68 |
| 42:BJ:17:VAL:HG12 | 42:BJ:18:TYR:CD1 | 2.28 | 0.68 |
| 42:BJ:122:HIS:H | 42:BJ:122:HIS:CD2 | 2.11 | 0.68 |
| 46:BN:46:GLY:H | 46:BN:55:LYS:CD | 2.06 | 0.68 |
| 48:BP:90:LEU:O | 48:BP:93:ARG:CB | 2.41 | 0.68 |
| 50:BR:60:VAL:O | 50:BR:63:ARG:HB2 | 1.94 | 0.68 |
| 53:BU:43:PHE:O | 53:BU:51:LEU:CD1 | 2.42 | 0.68 |
| 55:BW:14:LYS:O | 55:BW:15:ARG:C | 2.32 | 0.68 |
| 56:BX:9:ARG:O | 56:BX:10:ARG:C | 2.31 | 0.68 |
| 1:AB:59:A:H5' | 7:AG:144:ARG:CD | 2.23 | 0.68 |
| 1:AB:113:C:O2' | 16:AQ:56:ASP:OD1 | 2.12 | 0.68 |
| 2:AA:154:G:N1 | 2:AA:155:C:H1' | 2.07 | 0.68 |
| 2:AA:184:C:H2' | 2:AA:185:U:C6 | 2.29 | 0.68 |
| 2:AA:270(Z):U:H2' | 2:AA:270(Z):U:O2 | 1.93 | 0.68 |
| 2:AA:283:A:N7 | 2:AA:284:U:C5 | 2.62 | 0.68 |
| 2:AA:360:G:O2' | 2:AA:361:G:O4' | 2.10 | 0.68 |
| 2:AA:366:C:O2 | 2:AA:366:C:H2' | 1.92 | 0.68 |
| 2:AA:371:A:C8 | 2:AA:424:G:OP1 | 2.47 | 0.68 |
| 2:AA:458:G:C2' | 2:AA:469:G:N1 | 2.57 | 0.68 |
| 2:AA:729:G:H1' | 2:AA:763:G:H4' | 1.76 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:860:U:C4 | 2:AA:917:A:N1 | 2.62 | 0.68 |
| 2:AA:1263:U:C6 | 2:AA:1264:G:N1 | 2.61 | 0.68 |
| 2:AA:1352:U:O2 | 2:AA:1352:U:C2' | 2.41 | 0.68 |
| 2:AA:1550:C:H2' | 2:AA:1551:C:C6 | 2.28 | 0.68 |
| 2:AA:1699:G:O6 | 2:AA:1763:G:O4' | 2.12 | 0.68 |
| 2:AA:1778:U:C4 | 2:AA:1784:A:N3 | 2.61 | 0.68 |
| 2:AA:1779:U:H5 | 2:AA:1784:A:C2 | 2.12 | 0.68 |
| 2:AA:1907:G:C2 | 2:AA:1908:C:C4 | 2.82 | 0.68 |
| 2:AA:1937:A:C3' | 2:AA:1938:A:C5' | 2.71 | 0.68 |
| 2:AA:2093:G:N7 | 2:AA:2225:A:N7 | 2.42 | 0.68 |
| 2:AA:2111:C:H3' | 2:AA:2117:A:H62 | 1.57 | 0.68 |
| 2:AA:2122:U:H2' | 2:AA:2123:G:H5' | 1.76 | 0.68 |
| 2:AA:2123:G:O6 | 2:AA:2175:C:C4 | 2.47 | 0.68 |
| 2:AA:2132:U:O5' | 3:AC:5:LYS:HA | 1.93 | 0.68 |
| 2:AA:2147:G:C2' | 2:AA:2148:G:H5' | 2.22 | 0.68 |
| 2:AA:2225:A:O2' | 2:AA:2226:C:OP2 | 2.12 | 0.68 |
| 2:AA:2468:G:C2 | 2:AA:2481:G:N3 | 2.61 | 0.68 |
| 2:AA:2694:G:C6 | 2:AA:2695:C:C4 | 2.82 | 0.68 |
| 2:AA:2819:G:C3' | 2:AA:2821:A:H62 | 2.04 | 0.68 |
| 3:AC:32:LEU:HD13 | 3:AC:220:PRO:CB | 2.20 | 0.68 |
| 3:AC:75:LEU:CD1 | 3:AC:107:TRP:HH2 | 2.06 | 0.68 |
| 5:AE:211:GLN:CG | 5:AE:212:GLY:N | 2.42 | 0.68 |
| 6:AF:163:HIS:O | 6:AF:166:ILE:HB | 1.94 | 0.68 |
| 8:AH:148:ARG:HA | 8:AH:161:ILE:HD12 | 1.75 | 0.68 |
| 13:AN:10:VAL:HG22 | 13:AN:16:ALA:HB3 | 1.76 | 0.68 |
| 14:AO:82:ALA:O | 14:AO:83:GLU:C | 2.29 | 0.68 |
| 15:AP:144:THR:OG1 | 15:AP:145:PRO:HD3 | 1.93 | 0.68 |
| 20:AU:51:LEU:HD12 | 20:AU:97:ARG:HG2 | 1.76 | 0.68 |
| 20:AU:101:LEU:HD21 | 20:AU:112:LEU:CG | 2.23 | 0.68 |
| 21:AV:2:GLU:O | 21:AV:3:LEU:O | 2.12 | 0.68 |
| 21:AV:18:MET:HA | 21:AV:35:ASP:CA | 2.23 | 0.68 |
| 21:AV:60:GLU:O | 21:AV:62:PHE:N | 2.26 | 0.68 |
| 21:AV:71:MET:CB | 21:AV:78:PRO:HD3 | 2.18 | 0.68 |
| 22:AW:45:ARG:HE | 22:AW:49:LEU:HD11 | 1.59 | 0.68 |
| 25:A1:21:ALA:HA | 25:A1:24:PHE:CE2 | 2.29 | 0.68 |
| 25:A1:37:GLN:O | 25:A1:40:LEU:N | 2.27 | 0.68 |
| 25:A1:63:GLN:O | 25:A1:65:ILE:N | 2.27 | 0.68 |
| 31:A7:24:THR:OG1 | 31:A7:25:LYS:N | 2.26 | 0.68 |
| 34:BA:25:C:H4' | 34:BA:524:G:H21 | 1.59 | 0.68 |
| 34:BA:101:A:H2' | 34:BA:102:G:H8 | 1.58 | 0.68 |
| 34:BA:310:G:OP2 | 51:BS:27:LYS:HE2 | 1.93 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:878:G:H2' | 34:BA:879:C:C6 | 2.28 | 0.68 |
| 34:BA:954:G:N2 | 34:BA:1227:A:N6 | 2.41 | 0.68 |
| 34:BA:1054:C:O2' | 34:BA:1055:A:H5" | 1.94 | 0.68 |
| 35:BB:23:A:N1 | 35:BB:24:G:N1 | 2.42 | 0.68 |
| 35:BB:26:G:O6 | 35:BB:44:A:N1 | 2.27 | 0.68 |
| 35:BB:38:A:C2' | 35:BB:39:U:H5' | 2.24 | 0.68 |
| 37:BE:132:LYS:HE2 | 37:BE:132:LYS:H | 1.58 | 0.68 |
| 38:BF:132:ARG:O | 38:BF:136:GLN:HG3 | 1.94 | 0.68 |
| 39:BG:200:GLU:O | 39:BG:201:GLN:C | 2.32 | 0.68 |
| 40:BH:11:ILE:CG2 | 40:BH:12:LEU:N | 2.55 | 0.68 |
| 41:BI:91:VAL:HG12 | 41:BI:92:LYS:O | 1.93 | 0.68 |
| 42:BJ:15:ASP:OD2 | 42:BJ:23:VAL:HG11 | 1.93 | 0.68 |
| 42:BJ:94:ARG:NH1 | 42:BJ:98:SER:OG | 2.27 | 0.68 |
| 42:BJ:152:ALA:O | 42:BJ:154:TYR:N | 2.27 | 0.68 |
| 42:BJ:155:ARG:O | 42:BJ:156:TRP:HB3 | 1.93 | 0.68 |
| 43:BK:6:ILE:HD13 | 43:BK:6:ILE:C | 2.13 | 0.68 |
| 43:BK:40:ALA:HB2 | 43:BK:45:ILE:CG1 | 2.23 | 0.68 |
| 47:BO:33:ARG:O | 47:BO:84:LEU:HG | 1.94 | 0.68 |
| 48:BP:24:GLY:HA3 | 48:BP:66:LEU:CB | 2.24 | 0.68 |
| 48:BP:77:ASN:O | 48:BP:80:ARG:HD3 | 1.93 | 0.68 |
| 50:BR:43:LEU:O | 50:BR:45:VAL:O | 2.11 | 0.68 |
| 50:BR:62:GLN:CD | 50:BR:65:ARG:NH2 | 2.47 | 0.68 |
| 51:BS:39:TYR:CE2 | 51:BS:41:PRO:HG3 | 2.28 | 0.68 |
| 51:BS:56:ALA:O | 51:BS:60:LEU:HG | 1.94 | 0.68 |
| 52:BT:3:LYS:O | 52:BT:4:LYS:O | 2.12 | 0.68 |
| 55:BW:26:ASN:HD22 | 55:BW:27:LYS:N | 1.92 | 0.68 |
| 56:BX:3:LYS:HD3 | 56:BX:14:TRP:CD1 | 2.29 | 0.68 |
| 2:AA:67:U:H2' | 2:AA:68:G:C8 | 2.29 | 0.68 |
| 2:AA:253:C:C2' | 2:AA:254:G:H5' | 2.23 | 0.68 |
| 2:AA:412:A:N6 | 2:AA:2410:G:N2 | 2.42 | 0.68 |
| 2:AA:445:C:OP1 | 25:A1:2:PRO:HD2 | 1.94 | 0.68 |
| 2:AA:562:U:HO2' | 2:AA:563:G:H5" | 1.56 | 0.68 |
| 2:AA:572:A:N7 | 2:AA:573:G:C4 | 2.62 | 0.68 |
| 2:AA:783:A:N1 | 2:AA:785:G:C1' | 2.49 | 0.68 |
| 2:AA:1019:U:OP1 | 2:AA:1120:G:N2 | 2.22 | 0.68 |
| 2:AA:1127:A:H2' | 2:AA:1128:A:OP2 | 1.94 | 0.68 |
| 2:AA:1181:C:O2' | 2:AA:1182:A:H8 | 1.76 | 0.68 |
| 2:AA:1203:G:O2' | 2:AA:1241:A:H2 | 1.70 | 0.68 |
| 2:AA:1343:G:N2 | 2:AA:1405:U:C2 | 2.62 | 0.68 |
| 2:AA:1378:A:O2' | 2:AA:1379:A:OP1 | 2.12 | 0.68 |
| 2:AA:1426:G:H5" | 2:AA:1427:A:H5" | 1.75 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1444:G:H2' | 2:AA:1445:C:H5 | 1.59 | 0.68 |
| 2:AA:1470:G:C2 | 2:AA:1520:U:N3 | 2.61 | 0.68 |
| 2:AA:1478:G:H1 | 2:AA:1515:C:H42 | 1.42 | 0.68 |
| 2:AA:1522:G:O2' | 2:AA:1523:U:H5' | 1.93 | 0.68 |
| 2:AA:1561:G:O2' | 2:AA:1562:A:H5' | 1.94 | 0.68 |
| 2:AA:1687:G:N2 | 2:AA:1688:U:C2 | 2.61 | 0.68 |
| 2:AA:1741:C:H2' | 2:AA:1742:C:H5' | 1.75 | 0.68 |
| 2:AA:1785:A:H5" | 2:AA:1785:A:H8 | 1.58 | 0.68 |
| 2:AA:2186:G:N2 | 2:AA:2187:G:C6 | 2.62 | 0.68 |
| 2:AA:2252:G:H1 | 35:BC:74:C:N4 | 1.91 | 0.68 |
| 2:AA:2419:U:H5" | 30:A6:24:THR:HG22 | 1.74 | 0.68 |
| 6:AF:223:LEU:HA | 6:AF:225:PRO:HG2 | 1.74 | 0.68 |
| 8:AH:167:LEU:N | 8:AH:167:LEU:CD2 | 2.56 | 0.68 |
| 9:AI:60:ASP:N | 9:AI:128:LYS:HE3 | 2.09 | 0.68 |
| 9:AJ:7:ILE:HG22 | 9:AJ:11:GLU:OE2 | 1.94 | 0.68 |
| 10:AK:126:TYR:CD1 | 10:AK:126:TYR:N | 2.62 | 0.68 |
| 12:AM:10:VAL:HG11 | 12:AM:36:VAL:HG22 | 1.75 | 0.68 |
| 13:AN:71:ARG:O | 13:AN:73:ASP:N | 2.23 | 0.68 |
| 15:AP:64:ALA:HB1 | 15:AP:142:LYS:HG3 | 1.76 | 0.68 |
| 16:AQ:9:PRO:HA | 16:AQ:13:ARG:NH1 | 2.09 | 0.68 |
| 16:AQ:19:ASP:O | 16:AQ:20:TYR:C | 2.32 | 0.68 |
| 16:AQ:81:ALA:CB | 16:AQ:117:ALA:HB1 | 2.22 | 0.68 |
| 18:AS:88:ARG:HB3 | 18:AS:91:GLY:O | 1.94 | 0.68 |
| 22:AW:43:PRO:HB2 | 22:AW:46:ILE:CG1 | 2.24 | 0.68 |
| 22:AW:53:ILE:HA | 22:AW:56:ILE:HD12 | 1.74 | 0.68 |
| 25:A1:57:PHE:N | 25:A1:60:LEU:HD12 | 2.09 | 0.68 |
| 26:A2:57:GLN:O | 26:A2:58:ALA:HB2 | 1.92 | 0.68 |
| 28:A4:5:LEU:O | 28:A4:7:PRO:N | 2.27 | 0.68 |
| 30:A6:16:ALA:O | 30:A6:18:THR:N | 2.27 | 0.68 |
| 34:BA:109:A:H5' | 34:BA:110:C:OP2 | 1.94 | 0.68 |
| 34:BA:160:A:N6 | 34:BA:161:A:C6 | 2.62 | 0.68 |
| 34:BA:509:A:C2' | 34:BA:510:A:C8 | 2.70 | 0.68 |
| 34:BA:676:A:H2' | 34:BA:677:U:H6 | 1.58 | 0.68 |
| 34:BA:878:G:H2' | 34:BA:879:C:H6 | 1.59 | 0.68 |
| 34:BA:880:C:H2' | 34:BA:881:G:O5' | 1.93 | 0.68 |
| 34:BA:1085:U:O4' | 34:BA:1094:G:C2 | 2.46 | 0.68 |
| 34:BA:1191:A:H5" | 38:BF:4:LYS:NZ | 2.09 | 0.68 |
| 35:BB:66:A:H2' | 35:BB:67:A:C8 | 2.29 | 0.68 |
| 37:BE:22:LYS:O | 37:BE:24:TRP:HD1 | 1.75 | 0.68 |
| 39:BG:40:PRO:O | 39:BG:44:GLY:HA3 | 1.93 | 0.68 |
| 39:BG:152:SER:O | 39:BG:158:ILE:HG13 | 1.94 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:11:ASN:OD1 | 41:BI:13:ASN:N | 2.27 | 0.68 |
| 42:BJ:36:LYS:HZ2 | 42:BJ:36:LYS:CB | 2.06 | 0.68 |
| 43:BK:90:GLY:O | 52:BT:34:LYS:HB2 | 1.93 | 0.68 |
| 45:BM:8:LEU:HD22 | 45:BM:94:VAL:CG1 | 2.23 | 0.68 |
| 47:BO:53:ARG:HG2 | 47:BO:53:ARG:HH11 | 1.59 | 0.68 |
| 1:AB:40:U:O2' | 1:AB:41:U:OP1 | 2.09 | 0.68 |
| 1:AB:68:C:C6 | 1:AB:69:G:C8 | 2.81 | 0.68 |
| 1:AB:78:A:O2' | 1:AB:79:C:H5' | 1.93 | 0.68 |
| 1:AB:83:G:N2 | 1:AB:84:C:C2 | 2.62 | 0.68 |
| 2:AA:532:A:H3' | 2:AA:533:G:O4' | 1.94 | 0.68 |
| 2:AA:609:A:C6 | 2:AA:609(A):G:O6 | 2.47 | 0.68 |
| 2:AA:620:G:O4' | 2:AA:620:G:OP2 | 2.12 | 0.68 |
| 2:AA:866:A:N6 | 2:AA:914:C:C5 | 2.61 | 0.68 |
| 2:AA:1084:A:O2' | 9:AI:26:GLU:HA | 1.93 | 0.68 |
| 2:AA:1246:A:N6 | 2:AA:1247:A:C6 | 2.62 | 0.68 |
| 2:AA:1314:C:OP1 | 2:AA:1332:G:H5' | 1.94 | 0.68 |
| 2:AA:1461:G:H2' | 2:AA:1462:C:H6 | 1.57 | 0.68 |
| 2:AA:1528:A:N6 | 2:AA:1543:A:N6 | 2.22 | 0.68 |
| 2:AA:1602:U:C2' | 2:AA:1603:A:O5' | 2.38 | 0.68 |
| 2:AA:1798:U:O5' | 2:AA:1798:U:H6 | 1.77 | 0.68 |
| 2:AA:2080:G:H2' | 2:AA:2081:C:C6 | 2.29 | 0.68 |
| 2:AA:2090:G:C6 | 2:AA:2230:G:O6 | 2.47 | 0.68 |
| 2:AA:2189:U:O2' | 2:AA:2190:G:C5' | 2.41 | 0.68 |
| 2:AA:2259:G:C2 | 2:AA:2282:G:C6 | 2.82 | 0.68 |
| 2:AA:2275:C:O2 | 15:AP:103:ALA:CB | 2.42 | 0.68 |
| 2:AA:2314:C:O2' | 2:AA:2315:G:H5' | 1.93 | 0.68 |
| 2:AA:2464:C:C2' | 2:AA:2465:C:O5' | 2.41 | 0.68 |
| 2:AA:2675:A:N1 | 2:AA:2732:G:N2 | 2.38 | 0.68 |
| 2:AA:2692:C:N4 | 2:AA:2717:G:H1 | 1.91 | 0.68 |
| 2:AA:2845:G:H2' | 2:AA:2846:G:H8 | 1.59 | 0.68 |
| 4:AD:73:ILE:O | 4:AD:116:MET:SD | 2.52 | 0.68 |
| 4:AD:208:GLY:O | 4:AD:209:ASN:C | 2.32 | 0.68 |
| 5:AE:205:THR:HA | 5:AE:261:ARG:HD2 | 1.74 | 0.68 |
| 6:AF:88:SER:O | 6:AF:89:ALA:CB | 2.42 | 0.68 |
| 8:AH:47:ASN:ND2 | 8:AH:48:VAL:HG22 | 2.08 | 0.68 |
| 8:AH:82:TYR:CZ | 8:AH:137:LYS:HB3 | 2.29 | 0.68 |
| 8:AH:82:TYR:CE2 | 8:AH:137:LYS:HB3 | 2.30 | 0.68 |
| 9:AI:74:ILE:O | 9:AI:78:ARG:HG3 | 1.94 | 0.68 |
| 10:AK:32:LYS:O | 10:AK:33:GLN:C | 2.31 | 0.68 |
| 11:AL:106:GLU:O | 11:AL:110:LYS:HG3 | 1.92 | 0.68 |
| 13:AN:68:GLY:CA | 13:AN:78:ARG:NE | 2.22 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:76:LEU:HB3 | 14:AO:81:VAL:HG21 | 1.76 | 0.68 |
| 18:AS:88:ARG:HA | 18:AS:93:ALA:HA | 1.74 | 0.68 |
| 19:AT:16:ASN:HB2 | 19:AT:20:PHE:CE2 | 2.29 | 0.68 |
| 20:AU:65:VAL:HA | 20:AU:72:ILE:HD13 | 1.74 | 0.68 |
| 21:AV:6:LYS:NZ | 21:AV:30:VAL:HG11 | 2.08 | 0.68 |
| 23:AX:41:PRO:HA | 23:AX:44:ARG:HB3 | 1.75 | 0.68 |
| 24:A0:99:LYS:HB3 | 29:A5:44:HIS:NE2 | 2.08 | 0.68 |
| 34:BA:44:G:H2' | 34:BA:45:U:O5' | 1.92 | 0.68 |
| 34:BA:129(A):G:H4' | 34:BA:130:A:O5' | 1.93 | 0.68 |
| 34:BA:309:G:O2' | 34:BA:310:G:C5' | 2.42 | 0.68 |
| 34:BA:437:U:H2' | 34:BA:438:G:H5' | 1.73 | 0.68 |
| 34:BA:772:U:O2' | 34:BA:773:G:C5' | 2.42 | 0.68 |
| 34:BA:818:G:N2 | 34:BA:820:U:N3 | 2.42 | 0.68 |
| 34:BA:1048:G:H1 | 34:BA:1209:C:H42 | 0.73 | 0.68 |
| 34:BA:1239:A:N6 | 34:BA:1299:A:N6 | 2.41 | 0.68 |
| 34:BA:1314:C:N4 | 54:BV:4:SER:CB | 2.57 | 0.68 |
| 34:BA:1343:G:C4' | 44:BL:122:ALA:HB3 | 2.22 | 0.68 |
| 35:BB:66:A:C3' | 35:BB:67:A:C8 | 2.65 | 0.68 |
| 35:BC:17:U:H5" | 35:BC:18:G:H3' | 1.77 | 0.68 |
| 36:B1:36:A:H8 | 36:B1:36:A:O5' | 1.76 | 0.68 |
| 36:B1:43:C:OP1 | 53:BU:19:LYS:NZ | 2.22 | 0.68 |
| 36:B1:52:A:H2' | 36:B1:53:G:C8 | 2.25 | 0.68 |
| 37:BE:88:ALA:HB2 | 37:BE:219:VAL:CG2 | 2.14 | 0.68 |
| 38:BF:58:GLU:H | 38:BF:65:ALA:HB3 | 1.59 | 0.68 |
| 39:BG:130:GLY:HA3 | 39:BG:131:ARG:NH1 | 2.09 | 0.68 |
| 39:BG:198:VAL:O | 39:BG:199:ASN:HB3 | 1.93 | 0.68 |
| 41:BI:98:LEU:HD22 | 41:BI:101:ALA:HB2 | 1.74 | 0.68 |
| 44:BL:37:PHE:N | 44:BL:37:PHE:HD2 | 1.91 | 0.68 |
| 46:BN:12:ARG:HB3 | 46:BN:75:TYR:CD2 | 2.29 | 0.68 |
| 46:BN:23:ALA:HB2 | 46:BN:28:THR:HG23 | 1.76 | 0.68 |
| 46:BN:48:ILE:HD11 | 46:BN:64:ALA:HA | 1.76 | 0.68 |
| 47:BO:101:VAL:O | 47:BO:104:VAL:HG23 | 1.94 | 0.68 |
| 48:BP:14:ARG:HA | 48:BP:44:ARG:CA | 2.19 | 0.68 |
| 1:AB:33:G:H2' | 1:AB:34:U:H6 | 1.56 | 0.67 |
| 2:AA:83:G:O2' | 2:AA:84:A:O4' | 2.13 | 0.67 |
| 2:AA:139:G:H3' | 2:AA:141(A):C:C1' | 2.22 | 0.67 |
| 2:AA:270(P):C:OP2 | 10:AK:45:LYS:HD3 | 1.93 | 0.67 |
| 2:AA:270(X):G:C2 | 2:AA:270(Y):G:H4' | 2.29 | 0.67 |
| 2:AA:297:C:H3' | 2:AA:298:G:C8 | 2.28 | 0.67 |
| 2:AA:319:C:C2 | 2:AA:320:A:C8 | 2.82 | 0.67 |
| 2:AA:343:C:C2' | 2:AA:344:G:C5' | 2.71 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:380:U:H2' | 2:AA:381:G:C5' | 2.23 | 0.67 |
| 2:AA:405:U:H5" | 2:AA:406:G:H5' | 1.76 | 0.67 |
| 2:AA:440:G:H2' | 2:AA:441:U:C6 | 2.30 | 0.67 |
| 2:AA:715:G:H5' | 2:AA:715:G:C8 | 2.29 | 0.67 |
| 2:AA:952:G:H21 | 2:AA:2267:A:H62 | 1.42 | 0.67 |
| 2:AA:1012:U:H2' | 2:AA:1142:U:C4 | 2.30 | 0.67 |
| 2:AA:1109:C:C5 | 2:AA:1110:G:C2 | 2.82 | 0.67 |
| 2:AA:1156:A:C2 | 25:A1:51:ARG:NH2 | 2.62 | 0.67 |
| 2:AA:1229:G:C6 | 2:AA:1230:C:O2 | 2.47 | 0.67 |
| 2:AA:1498:C:O2 | 2:AA:1499:C:C5 | 2.47 | 0.67 |
| 2:AA:1524:G:H2' | 2:AA:1525:G:O4' | 1.94 | 0.67 |
| 2:AA:1534:G:C2 | 2:AA:1538:G:H1' | 2.29 | 0.67 |
| 2:AA:1655:A:H4' | 5:AE:211:GLN:CA | 2.23 | 0.67 |
| 2:AA:1894:C:HO2' | 2:AA:1895:C:C5' | 2.07 | 0.67 |
| 2:AA:1977:A:C2 | 2:AA:1978:A:C4 | 2.82 | 0.67 |
| 2:AA:2058:A:C2 | 2:AA:2059:A:C5 | 2.82 | 0.67 |
| 2:AA:2343:C:O2' | 2:AA:2344:U:C5' | 2.35 | 0.67 |
| 2:AA:2346:A:O4' | 2:AA:2383:G:C1' | 2.42 | 0.67 |
| 2:AA:2558:C:N3 | 2:AA:2559:C:C5 | 2.63 | 0.67 |
| 2:AA:2769:C:H2' | 2:AA:2770:G:H5' | 1.76 | 0.67 |
| 3:AC:124:GLY:CA | 3:AC:137:LEU:HD11 | 2.18 | 0.67 |
| 5:AE:42:ALA:H | 5:AE:189:MET:CE | 2.06 | 0.67 |
| 5:AE:214:VAL:HG21 | 5:AE:221:LYS:HZ1 | 1.58 | 0.67 |
| 6:AF:28:SER:HA | 6:AF:31:ILE:CG1 | 2.24 | 0.67 |
| 8:AH:43:THR:OG1 | 8:AH:50:THR:N | 2.27 | 0.67 |
| 9:AI:72:GLN:HA | 9:AI:75:LYS:HD2 | 1.74 | 0.67 |
| 9:AJ:40:ALA:O | 9:AJ:43:PRO:HD2 | 1.94 | 0.67 |
| 10:AK:40:THR:O | 10:AK:41:PRO:C | 2.27 | 0.67 |
| 10:AK:62:LEU:HD23 | 10:AK:134:HIS:NE2 | 2.09 | 0.67 |
| 11:AL:55:PRO:HG3 | 11:AL:74:PRO:HD3 | 1.76 | 0.67 |
| 12:AM:53:ILE:HG23 | 12:AM:135:ILE:HG13 | 1.75 | 0.67 |
| 12:AM:78:ILE:HG22 | 12:AM:79:PHE:HD1 | 1.59 | 0.67 |
| 13:AN:103:ALA:C | 13:AN:105:GLU:H | 1.94 | 0.67 |
| 13:AN:106:LEU:HD23 | 13:AN:106:LEU:H | 1.57 | 0.67 |
| 13:AN:112:MET:O | 13:AN:115:ILE:N | 2.27 | 0.67 |
| 20:AU:30:ASP:O | 20:AU:34:GLU:HG3 | 1.94 | 0.67 |
| 22:AW:3:LEU:O | 22:AW:4:HIS:CB | 2.42 | 0.67 |
| 22:AW:20:LEU:HA | 22:AW:23:LEU:CG | 2.23 | 0.67 |
| 24:A0:47:PHE:CZ | 24:A0:51:LEU:HD11 | 2.29 | 0.67 |
| 25:A1:99:ALA:HA | 25:A1:106:PHE:HB2 | 1.74 | 0.67 |
| 26:A2:65:ARG:NH1 | 26:A2:94:LYS:HZ3 | 1.93 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:92:C:C2 | 34:BA:93:G:C8 | 2.83 | 0.67 |
| 34:BA:101:A:C2' | 34:BA:102:G:H5' | 2.24 | 0.67 |
| 34:BA:486:U:H2' | 34:BA:486:U:O2 | 1.94 | 0.67 |
| 34:BA:654:G:N2 | 34:BA:753:A:H1' | 2.09 | 0.67 |
| 34:BA:1202:G:H1' | 49:BQ:42:ILE:CD1 | 2.23 | 0.67 |
| 35:BB:59:U:C2 | 35:BB:60:C:C2 | 2.82 | 0.67 |
| 37:BE:96:ARG:N | 37:BE:96:ARG:HD2 | 2.10 | 0.67 |
| 37:BE:114:ARG:HD2 | 37:BE:141:GLU:CD | 2.13 | 0.67 |
| 38:BF:73:PRO:HG2 | 38:BF:74:GLY:H | 1.58 | 0.67 |
| 38:BF:142:MET:HB3 | 38:BF:170:GLN:NE2 | 2.09 | 0.67 |
| 38:BF:156:ARG:O | 38:BF:193:TYR:HE1 | 1.77 | 0.67 |
| 39:BG:20:TYR:O | 39:BG:26:CYS:SG | 2.52 | 0.67 |
| 39:BG:24:GLU:HG2 | 39:BG:25:ARG:N | 2.07 | 0.67 |
| 39:BG:128:VAL:HG12 | 39:BG:129:ASN:O | 1.94 | 0.67 |
| 40:BH:45:PHE:CE1 | 40:BH:47:LYS:HE3 | 2.29 | 0.67 |
| 40:BH:65:ASN:ND2 | 40:BH:65:ASN:O | 2.27 | 0.67 |
| 40:BH:100:VAL:HG11 | 40:BH:107:ARG:CG | 2.22 | 0.67 |
| 40:BH:105:VAL:HG11 | 40:BH:131:ILE:CG2 | 2.23 | 0.67 |
| 40:BH:105:VAL:HG12 | 40:BH:106:PRO:HD3 | 1.76 | 0.67 |
| 42:BJ:17:VAL:HG12 | 42:BJ:18:TYR:CE1 | 2.28 | 0.67 |
| 42:BJ:93:PRO:HG2 | 42:BJ:94:ARG:H | 1.58 | 0.67 |
| 43:BK:91:ARG:HG2 | 52:BT:34:LYS:N | 2.06 | 0.67 |
| 47:BO:27:LEU:HD22 | 47:BO:62:SER:HG | 1.60 | 0.67 |
| 47:BO:58:VAL:O | 47:BO:65:GLU:HA | 1.93 | 0.67 |
| 52:BT:81:ARG:HG2 | 52:BT:84:LEU:CG | 2.24 | 0.67 |
| 53:BU:63:GLN:HA | 53:BU:66:LEU:CG | 2.24 | 0.67 |
| 55:BW:53:LEU:HD21 | 55:BW:92:LEU:CD1 | 2.24 | 0.67 |
| 1:AB:88:C:H3' | 1:AB:88:C:H6 | 1.60 | 0.67 |
| 2:AA:6:A:O2' | 2:AA:7:G:H5' | 1.94 | 0.67 |
| 2:AA:176:G:N3 | 2:AA:177:G:H1' | 2.09 | 0.67 |
| 2:AA:278:A:O2' | 2:AA:279:C:H5' | 1.93 | 0.67 |
| 2:AA:687:C:H5" | 31:A7:4:THR:HG22 | 1.77 | 0.67 |
| 2:AA:738:G:H2' | 2:AA:739:G:C1' | 2.24 | 0.67 |
| 2:AA:817:C:C2' | 2:AA:818:G:O4' | 2.36 | 0.67 |
| 2:AA:827:U:OP2 | 2:AA:2429:G:OP2 | 2.11 | 0.67 |
| 2:AA:850:C:N4 | 2:AA:928:G:H1 | 1.90 | 0.67 |
| 2:AA:1014:U:C2' | 2:AA:1015:G:C5' | 2.72 | 0.67 |
| 2:AA:1092:C:H3' | 2:AA:1092:C:C6 | 2.29 | 0.67 |
| 2:AA:1116:C:OP2 | 2:AA:1116:C:C6 | 2.47 | 0.67 |
| 2:AA:1342:A:C4 | 2:AA:1345:C:N4 | 2.62 | 0.67 |
| 2:AA:1359:A:C2' | 2:AA:1360:A:H5' | 2.24 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1407:C:O2' | 2:AA:1408:C:C5' | 2.42 | 0.67 |
| 2:AA:1417:C:N4 | 2:AA:1581:G:N2 | 2.32 | 0.67 |
| 2:AA:1568:G:H5" | 4:AD:60:GLN:HG2 | 1.76 | 0.67 |
| 2:AA:1603:A:C2 | 2:AA:1604:C:C5 | 2.82 | 0.67 |
| 2:AA:1682:G:H2' | 2:AA:1683:C:C6 | 2.29 | 0.67 |
| 2:AA:1795:C:H2' | 2:AA:1796:U:H5' | 0.82 | 0.67 |
| 2:AA:1853:A:H1' | 2:AA:2234:G:H5' | 1.76 | 0.67 |
| 2:AA:1936:A:C1' | 2:AA:1940:U:C4 | 2.77 | 0.67 |
| 2:AA:2043:C:C2' | 2:AA:2044:C:O5' | 2.42 | 0.67 |
| 2:AA:2047:U:C2 | 2:AA:2048:G:N7 | 2.63 | 0.67 |
| 2:AA:2057:A:C4' | 29:A5:8:LYS:NZ | 2.57 | 0.67 |
| 2:AA:2132:U:C2' | 2:AA:2133:G:H5" | 2.23 | 0.67 |
| 2:AA:2324:C:O2 | 2:AA:2385:C:C5 | 2.47 | 0.67 |
| 2:AA:2391:G:C2' | 2:AA:2392:A:OP2 | 2.41 | 0.67 |
| 2:AA:2474:C:O2' | 2:AA:2475:C:H5' | 1.95 | 0.67 |
| 2:AA:2572:A:O5' | 2:AA:2574:G:H4' | 1.94 | 0.67 |
| 2:AA:2712:U:C2' | 2:AA:712(A):A:C5' | 2.72 | 0.67 |
| 2:AA:2712:U:H5" | 2:AA:2714:G:O5' | 1.94 | 0.67 |
| 3:AC:18:LYS:HE3 | 3:AC:20:TYR:CD2 | 2.29 | 0.67 |
| 4:AD:141:HIS:ND1 | 4:AD:141:HIS:N | 2.40 | 0.67 |
| 4:AD:145:LEU:N | 4:AD:152:GLN:HB2 | 2.08 | 0.67 |
| 4:AD:174:ARG:HE | 4:AD:180:VAL:HG22 | 1.57 | 0.67 |
| 5:AE:208:LYS:N | 5:AE:257:GLY:HA3 | 2.08 | 0.67 |
| 5:AE:221:LYS:NZ | 5:AE:233:ARG:CG | 2.55 | 0.67 |
| 6:AF:61:PHE:O | 6:AF:65:ARG:CZ | 2.42 | 0.67 |
| 7:AG:21:VAL:HG12 | 7:AG:132:VAL:HG23 | 1.74 | 0.67 |
| 9:AI:40:ALA:O | 9:AI:43:PRO:HD2 | 1.94 | 0.67 |
| 9:AI:62:VAL:HG22 | 9:AI:101:VAL:HA | 1.77 | 0.67 |
| 9:AJ:13:LEU:HB3 | 9:AJ:17:GLU:HB3 | 1.75 | 0.67 |
| 9:AJ:60:ASP:OD2 | 9:AJ:101:VAL:HG11 | 1.94 | 0.67 |
| 12:AM:60:ARG:O | 12:AM:71:TYR:CG | 2.47 | 0.67 |
| 14:AO:53:ARG:HD2 | 14:AO:53:ARG:N | 2.03 | 0.67 |
| 15:AP:29:ALA:HB3 | 15:AP:66:ASN:HD21 | 1.59 | 0.67 |
| 15:AP:86:ARG:NH1 | 15:AP:120:HIS:CD2 | 2.62 | 0.67 |
| 16:AQ:94:GLU:HG3 | 16:AQ:95:ALA:N | 2.08 | 0.67 |
| 20:AU:81:LYS:HD2 | 20:AU:83:ASP:H | 1.59 | 0.67 |
| 21:AV:125:PRO:HB2 | 21:AV:157:GLY:HA3 | 1.76 | 0.67 |
| 24:A0:37:THR:CG2 | 24:A0:40:LYS:HD2 | 2.24 | 0.67 |
| 25:A1:93:LYS:H | 26:A2:10:LYS:HZ1 | 1.42 | 0.67 |
| 26:A2:59:GLU:HG2 | 26:A2:100:GLY:N | 2.06 | 0.67 |
| 28:A4:16:TYR:HE1 | 28:A4:37:SER:HG | 1.42 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 28:A4:57:ASP:O | 28:A4:61:LYS:HG3 | 1.94 | 0.67 |
| 34:BA:429:U:H2' | 39:BG:22:LYS:NZ | 2.09 | 0.67 |
| 34:BA:736:C:OP1 | 53:BU:72:ARG:CZ | 2.41 | 0.67 |
| 34:BA:789:U:C2 | 34:BA:791:G:OP2 | 2.47 | 0.67 |
| 34:BA:897:C:H2' | 34:BA:898:G:H8 | 1.60 | 0.67 |
| 34:BA:927:G:C6 | 34:BA:1391:U:N3 | 2.62 | 0.67 |
| 34:BA:1251:A:C2' | 34:BA:1252:A:C8 | 2.73 | 0.67 |
| 35:BB:42:G:C5' | 35:BB:43:G:P | 2.83 | 0.67 |
| 35:BC:47:U:C2 | 35:BC:50:U:OP1 | 2.47 | 0.67 |
| 37:BE:69:LEU:HD13 | 37:BE:69:LEU:C | 2.15 | 0.67 |
| 37:BE:130:ARG:HD3 | 37:BE:131:PRO:CD | 2.23 | 0.67 |
| 38:BF:12:LEU:CD2 | 38:BF:17:ASP:HA | 2.23 | 0.67 |
| 38:BF:12:LEU:HB3 | 38:BF:18:TRP:CZ3 | 2.30 | 0.67 |
| 38:BF:58:GLU:O | 38:BF:59:ARG:HB2 | 1.92 | 0.67 |
| 38:BF:84:ILE:HG13 | 38:BF:101:LEU:CD1 | 2.25 | 0.67 |
| 38:BF:92:ALA:O | 38:BF:95:THR:O | 2.13 | 0.67 |
| 39:BG:46:LYS:O | 39:BG:47:ARG:C | 2.32 | 0.67 |
| 39:BG:88:VAL:O | 39:BG:92:VAL:HG23 | 1.94 | 0.67 |
| 39:BG:148:VAL:HG11 | 39:BG:158:ILE:HD12 | 1.76 | 0.67 |
| 40:BH:94:ALA:CB | 40:BH:118:ILE:HA | 2.23 | 0.67 |
| 40:BH:122:GLU:O | 40:BH:123:LEU:CD2 | 2.38 | 0.67 |
| 42:BJ:94:ARG:NH1 | 42:BJ:94:ARG:O | 2.26 | 0.67 |
| 43:BK:10:LEU:CD2 | 43:BK:135:CYS:SG | 2.83 | 0.67 |
| 43:BK:72:PRO:O | 43:BK:73:ASP:HB3 | 1.93 | 0.67 |
| 44:BL:110:GLU:OE2 | 44:BL:113:LYS:NZ | 2.26 | 0.67 |
| 48:BP:55:ARG:NH2 | 48:BP:56:LEU:HD21 | 2.09 | 0.67 |
| 50:BR:38:ARG:NH1 | 50:BR:38:ARG:CB | 2.46 | 0.67 |
| 52:BT:31:LEU:HG | 52:BT:32:TYR:CD2 | 2.28 | 0.67 |
| 52:BT:53:LEU:HD12 | 52:BT:54:GLY:N | 2.08 | 0.67 |
| 54:BV:22:LEU:HD23 | 54:BV:25:LYS:CD | 2.23 | 0.67 |
| 55:BW:56:MET:SD | 55:BW:88:VAL:HG11 | 2.35 | 0.67 |
| 55:BW:73:HIS:H | 55:BW:76:ALA:CB | 2.07 | 0.67 |
| 1:AB:103:U:C6 | 1:AB:103:U:C3' | 2.76 | 0.67 |
| 2:AA:64:A:O2' | 2:AA:65:C:H5' | 1.95 | 0.67 |
| 2:AA:184:C:O3' | 2:AA:217:G:N2 | 2.28 | 0.67 |
| 2:AA:211:A:O2' | 2:AA:212:G:H5' | 1.94 | 0.67 |
| 2:AA:529:A:O2' | 2:AA:530:G:O5' | 2.12 | 0.67 |
| 2:AA:575:A:C2' | 2:AA:576:U:H5' | 2.24 | 0.67 |
| 2:AA:647:G:H2' | 2:AA:648:G:H8 | 1.59 | 0.67 |
| 2:AA:650:C:N3 | 2:AA:651:G:C2 | 2.63 | 0.67 |
| 2:AA:721:C:H2' | 2:AA:722:A:H8 | 1.59 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:799:G:C6 | 2:AA:800:A:N1 | 2.62 | 0.67 |
| 2:AA:1122:G:C2 | 2:AA:1123:C:C5 | 2.82 | 0.67 |
| 2:AA:1305:C:O2' | 2:AA:1306:C:O5' | 2.11 | 0.67 |
| 2:AA:1686:C:N3 | 2:AA:1702:G:O6 | 2.27 | 0.67 |
| 2:AA:1826:G:O5' | 2:AA:1826:G:H8 | 1.77 | 0.67 |
| 2:AA:1917:U:C6 | 2:AA:1918:A:C8 | 2.82 | 0.67 |
| 2:AA:2321:G:H2' | 2:AA:2321:G:N3 | 2.09 | 0.67 |
| 2:AA:2347:C:O2' | 30:A6:40:TYR:CE2 | 2.48 | 0.67 |
| 2:AA:2461:C:O2' | 2:AA:2462:U:H5' | 1.93 | 0.67 |
| 4:AD:95:TYR:CB | 4:AD:99:GLU:HG3 | 2.24 | 0.67 |
| 4:AD:210:LYS:HA | 4:AD:213:LYS:CE | 2.24 | 0.67 |
| 6:AF:55:ARG:CA | 6:AF:79:ARG:HE | 2.06 | 0.67 |
| 6:AF:55:ARG:CA | 6:AF:79:ARG:NH2 | 2.58 | 0.67 |
| 9:AI:22:VAL:HG22 | 9:AI:41:ALA:HB3 | 1.76 | 0.67 |
| 11:AL:93:LYS:H | 11:AL:96:ILE:HG13 | 1.59 | 0.67 |
| 13:AN:52:VAL:O | 13:AN:53:LYS:HB2 | 1.93 | 0.67 |
| 15:AP:26:LYS:NZ | 15:AP:90:PHE:HE1 | 1.86 | 0.67 |
| 19:AT:34:LYS:HE3 | 19:AT:52:VAL:C | 2.14 | 0.67 |
| 20:AU:42:VAL:CG1 | 20:AU:43:ASN:H | 1.87 | 0.67 |
| 21:AV:6:LYS:H | 21:AV:7:PRO:HD3 | 1.59 | 0.67 |
| 22:AW:9:ARG:NH2 | 22:AW:59:ILE:HG13 | 2.10 | 0.67 |
| 23:AX:12:PRO:HG3 | 23:AX:20:LYS:NZ | 2.09 | 0.67 |
| 23:AX:41:PRO:O | 23:AX:44:ARG:HB3 | 1.93 | 0.67 |
| 24:A0:59:ASP:O | 24:A0:63:ARG:HG3 | 1.93 | 0.67 |
| 25:A1:113:SER:O | 25:A1:116:ALA:N | 2.27 | 0.67 |
| 30:A6:48:VAL:O | 30:A6:50:PHE:CD1 | 2.48 | 0.67 |
| 34:BA:21:G:N2 | 34:BA:915:A:H62 | 1.91 | 0.67 |
| 34:BA:98:U:O2' | 34:BA:99:C:H5' | 1.94 | 0.67 |
| 34:BA:124:G:OP1 | 34:BA:310:G:N2 | 2.28 | 0.67 |
| 34:BA:280:C:O2 | 52:BT:38:ARG:HG3 | 1.94 | 0.67 |
| 34:BA:283:C:C2 | 34:BA:284:G:C8 | 2.82 | 0.67 |
| 34:BA:286:G:C5 | 34:BA:287:U:C5 | 2.82 | 0.67 |
| 34:BA:721:G:OP1 | 34:BA:721:G:H8 | 1.76 | 0.67 |
| 34:BA:792:A:O2' | 34:BA:794:A:N7 | 2.26 | 0.67 |
| 34:BA:1097:C:O2' | 34:BA:1098:C:H5' | 1.95 | 0.67 |
| 34:BA:1126:U:C2 | 34:BA:1127:G:C8 | 2.82 | 0.67 |
| 34:BA:1133:G:H2' | 34:BA:1134:G:O4' | 1.93 | 0.67 |
| 34:BA:1346:A:C8 | 34:BA:1348:U:C4 | 2.82 | 0.67 |
| 35:BB:67:A:C2 | 35:BB:68:U:C4 | 2.83 | 0.67 |
| 39:BG:64:LEU:HA | 39:BG:67:ILE:HD12 | 1.74 | 0.67 |
| 40:BH:137:GLU:OE1 | 40:BH:140:ARG:HB2 | 1.94 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:37:ASN:ND2 | 42:BJ:38:LEU:N | 2.39 | 0.67 |
| 43:BK:103:VAL:HB | 43:BK:108:GLY:C | 2.14 | 0.67 |
| 45:BM:8:LEU:HD23 | 45:BM:95:GLU:C | 2.14 | 0.67 |
| 48:BP:10:PRO:HB2 | 48:BP:18:ALA:HA | 1.76 | 0.67 |
| 51:BS:9:PHE:CE1 | 51:BS:18:ARG:NE | 2.62 | 0.67 |
| 54:BV:43:GLU:H | 54:BV:43:GLU:CD | 1.96 | 0.67 |
| 2:AA:49:A:C6 | 2:AA:177:G:C2 | 2.82 | 0.67 |
| 2:AA:151:C:N4 | 2:AA:176:G:O6 | 2.27 | 0.67 |
| 2:AA:353:G:C2' | 2:AA:354:G:O5' | 2.42 | 0.67 |
| 2:AA:530:G:H1 | 2:AA:2021:C:C3' | 2.02 | 0.67 |
| 2:AA:534:U:O2' | 25:A1:49:ASP:OD2 | 2.12 | 0.67 |
| 2:AA:735:A:H8 | 2:AA:735:A:O5' | 1.76 | 0.67 |
| 2:AA:972:G:N7 | 2:AA:1188:U:C4 | 2.61 | 0.67 |
| 2:AA:1047:G:H2' | 2:AA:1110:G:N1 | 2.09 | 0.67 |
| 2:AA:1166:C:N3 | 2:AA:1183:G:C2 | 2.62 | 0.67 |
| 2:AA:1458:C:H4' | 2:AA:1459:G:N9 | 2.09 | 0.67 |
| 2:AA:1515:C:C6 | 2:AA:1515:C:OP1 | 2.46 | 0.67 |
| 2:AA:1529:A:H3' | 2:AA:1530:G:O4' | 1.94 | 0.67 |
| 2:AA:1567:A:C5 | 4:AD:84:PRO:HB3 | 2.30 | 0.67 |
| 2:AA:1614:A:N6 | 18:AS:88:ARG:H | 1.92 | 0.67 |
| 2:AA:1665:A:C2 | 2:AA:1666:G:C8 | 2.82 | 0.67 |
| 2:AA:1675:C:C5 | 5:AE:225:LYS:HG3 | 2.29 | 0.67 |
| 2:AA:1700:A:H2' | 2:AA:1701:A:C5' | 2.23 | 0.67 |
| 2:AA:1843:C:O2' | 2:AA:1844:C:H5' | 1.95 | 0.67 |
| 2:AA:2105:C:H2' | 2:AA:2106:G:H8 | 1.59 | 0.67 |
| 2:AA:2330:G:N1 | 2:AA:2385:C:N4 | 2.42 | 0.67 |
| 2:AA:2579:C:C2' | 2:AA:2580:U:H5' | 2.24 | 0.67 |
| 3:AC:211:SER:HA | 3:AC:223:ARG:NH2 | 2.10 | 0.67 |
| 3:AC:211:SER:HB2 | 3:AC:213:TYR:CZ | 2.29 | 0.67 |
| 5:AE:205:THR:HG22 | 5:AE:261:ARG:NE | 2.09 | 0.67 |
| 6:AF:147:LEU:CD1 | 6:AF:156:LEU:HD11 | 2.24 | 0.67 |
| 9:AJ:80:ILE:HD13 | 9:AJ:114:ILE:HG23 | 1.77 | 0.67 |
| 10:AK:7:LYS:CG | 10:AK:12:LYS:HZ2 | 2.05 | 0.67 |
| 10:AK:25:TYR:HD2 | 10:AK:25:TYR:H | 1.42 | 0.67 |
| 11:AL:93:LYS:HZ2 | 21:AV:108:VAL:HG12 | 1.60 | 0.67 |
| 13:AN:77:ILE:HD11 | 13:AN:79:PHE:HE2 | 1.60 | 0.67 |
| 15:AP:65:ARG:NH2 | 15:AP:85:ILE:C | 2.48 | 0.67 |
| 16:AQ:94:GLU:HG3 | 16:AQ:95:ALA:H | 1.60 | 0.67 |
| 16:AQ:103:ASP:OD2 | 16:AQ:103:ASP:C | 2.32 | 0.67 |
| 18:AS:17:VAL:HG11 | 18:AS:76:VAL:HG21 | 1.76 | 0.67 |
| 19:AT:45:TYR:OH | 19:AT:73:ASP:O | 2.11 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:86:VAL:CG1 | 21:AV:91:PRO:HG3 | 2.24 | 0.67 |
| 24:A0:96:ARG:CD | 24:A0:98:LEU:HD11 | 2.24 | 0.67 |
| 24:A0:97:VAL:CG1 | 24:A0:114:VAL:HG22 | 2.16 | 0.67 |
| 25:A1:7:GLY:O | 25:A1:8:ILE:C | 2.32 | 0.67 |
| 25:A1:64:ARG:NH1 | 25:A1:101:ARG:HH21 | 1.91 | 0.67 |
| 27:A3:25:LYS:NZ | 27:A3:57:HIS:CE1 | 2.62 | 0.67 |
| 28:A4:68:ARG:HD3 | 28:A4:72:LYS:CE | 2.23 | 0.67 |
| 31:A7:43:THR:OG1 | 31:A7:44:VAL:N | 2.27 | 0.67 |
| 33:A9:14:CYS:SG | 33:A9:32:HIS:CG | 2.87 | 0.67 |
| 34:BA:108:G:O6 | 55:BW:15:ARG:HD2 | 1.95 | 0.67 |
| 34:BA:132:C:C2 | 34:BA:231:G:N2 | 2.62 | 0.67 |
| 34:BA:190(F):G:OP1 | 34:BA:190(F):G:C8 | 2.47 | 0.67 |
| 34:BA:199:G:O2' | 34:BA:200:G:H5' | 1.93 | 0.67 |
| 34:BA:780:A:H8 | 34:BA:780:A:H3' | 1.60 | 0.67 |
| 34:BA:953:G:H1 | 34:BA:1228:C:H42 | 1.40 | 0.67 |
| 34:BA:1015:A:H2' | 34:BA:1016:A:H8 | 1.59 | 0.67 |
| 34:BA:1224:G:C2' | 34:BA:1225:A:OP1 | 2.42 | 0.67 |
| 34:BA:1347:G:H1' | 34:BA:1348:U:H5 | 1.58 | 0.67 |
| 35:BB:15:G:C2' | 35:BB:16:U:OP2 | 2.36 | 0.67 |
| 35:BB:69:U:H2' | 35:BB:70:C:H6 | 1.60 | 0.67 |
| 37:BE:163:PHE:CZ | 37:BE:201:ILE:HG12 | 2.29 | 0.67 |
| 39:BG:134:ASP:O | 39:BG:136:PRO:HD3 | 1.95 | 0.67 |
| 41:BI:30:LEU:H | 41:BI:30:LEU:HD12 | 1.59 | 0.67 |
| 43:BK:114:THR:C | 43:BK:116:LYS:H | 1.97 | 0.67 |
| 45:BM:58:ASP:O | 45:BM:60:ARG:N | 2.26 | 0.67 |
| 46:BN:18:ARG:HH11 | 46:BN:18:ARG:HG2 | 1.60 | 0.67 |
| 47:BO:25:PRO:C | 47:BO:27:LEU:N | 2.46 | 0.67 |
| 50:BR:18:PHE:O | 50:BR:20:GLY:N | 2.28 | 0.67 |
| 50:BR:64:ARG:HG2 | 50:BR:65:ARG:H | 1.59 | 0.67 |
| 50:BR:76:GLU:HA | 50:BR:79:ARG:HH12 | 1.58 | 0.67 |
| 52:BT:18:THR:HG23 | 52:BT:69:LYS:CE | 2.25 | 0.67 |
| 53:BU:47:THR:O | 53:BU:82:THR:HA | 1.94 | 0.67 |
| 53:BU:66:LEU:HD12 | 53:BU:67:ALA:H | 1.59 | 0.67 |
| 54:BV:5:LEU:CD1 | 54:BV:9:VAL:HG22 | 2.24 | 0.67 |
| 1:AB:91:C:O2' | 1:AB:92:G:H5' | 1.94 | 0.67 |
| 2:AA:182:A:C2 | 2:AA:183:C:C2 | 2.82 | 0.67 |
| 2:AA:342:G:H2' | 2:AA:343:C:H6 | 1.56 | 0.67 |
| 2:AA:531:C:N4 | 25:A1:38:THR:CB | 2.57 | 0.67 |
| 2:AA:734:A:C2 | 2:AA:735:A:H1' | 2.28 | 0.67 |
| 2:AA:983:A:C8 | 2:AA:984:A:C1' | 2.63 | 0.67 |
| 2:AA:1670:C:H2' | 2:AA:1671:U:O4' | 1.94 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1860:G:O2' | 3:AC:205:LYS:HD3 | 1.93 | 0.67 |
| 2:AA:1967:C:N4 | 2:AA:1968:G:C2 | 2.63 | 0.67 |
| 2:AA:2004:G:H2' | 2:AA:2005:A:O4' | 1.94 | 0.67 |
| 2:AA:2123:G:O2' | 3:AC:172:HIS:CE1 | 2.47 | 0.67 |
| 2:AA:2224:G:O2' | 2:AA:2225:A:H5' | 1.95 | 0.67 |
| 2:AA:2239:G:H2' | 2:AA:2240:C:C6 | 2.29 | 0.67 |
| 2:AA:2317:C:H2' | 2:AA:2318:G:H8 | 1.59 | 0.67 |
| 2:AA:2352:A:N7 | 2:AA:2366:A:C6 | 2.63 | 0.67 |
| 2:AA:2359:C:C4' | 32:A8:52:LYS:HZ1 | 2.04 | 0.67 |
| 2:AA:2362:G:OP1 | 32:A8:29:LYS:HE2 | 1.95 | 0.67 |
| 2:AA:2429:G:C5' | 2:AA:2430:A:OP2 | 2.41 | 0.67 |
| 2:AA:2486:G:N1 | 2:AA:2487:G:N7 | 2.43 | 0.67 |
| 2:AA:2513:G:H1 | 2:AA:2571:C:H42 | 1.42 | 0.67 |
| 2:AA:2680:C:C5' | 5:AE:302:GLY:HA2 | 2.25 | 0.67 |
| 5:AE:45:LYS:HD2 | 5:AE:304:ASP:O | 1.94 | 0.67 |
| 5:AE:200:ASP:CA | 5:AE:266:LYS:HD2 | 2.24 | 0.67 |
| 5:AE:202:ALA:HA | 5:AE:262:THR:CB | 2.18 | 0.67 |
| 6:AF:213:ALA:CB | 6:AF:218:VAL:HG13 | 2.24 | 0.67 |
| 6:AF:224:ALA:N | 6:AF:225:PRO:CD | 2.53 | 0.67 |
| 8:AH:25:VAL:CG2 | 8:AH:74:MET:HE1 | 2.25 | 0.67 |
| 9:AI:18:LEU:HD11 | 9:AI:44:VAL:HG12 | 1.75 | 0.67 |
| 9:AJ:74:ILE:O | 9:AJ:78:ARG:HG3 | 1.94 | 0.67 |
| 10:AK:10:LYS:CG | 10:AK:11:GLY:H | 2.08 | 0.67 |
| 11:AL:73:PRO:HG2 | 11:AL:78:LEU:HD11 | 1.76 | 0.67 |
| 12:AM:4:ALA:C | 12:AM:109:TYR:OH | 2.33 | 0.67 |
| 15:AP:48:ASN:HD22 | 15:AP:122:PHE:HB2 | 1.58 | 0.67 |
| 20:AU:101:LEU:HD13 | 20:AU:113:GLU:OE1 | 1.94 | 0.67 |
| 21:AV:1:MET:C | 21:AV:54:ILE:HG13 | 2.14 | 0.67 |
| 24:A0:54:LEU:N | 24:A0:54:LEU:CD1 | 2.58 | 0.67 |
| 24:A0:97:VAL:HA | 24:A0:114:VAL:HG13 | 1.74 | 0.67 |
| 25:A1:55:ARG:CG | 25:A1:58:ARG:HH21 | 2.07 | 0.67 |
| 27:A3:14:ARG:HD2 | 27:A3:14:ARG:O | 1.94 | 0.67 |
| 27:A3:66:LYS:N | 27:A3:66:LYS:CD | 2.58 | 0.67 |
| 27:A3:68:VAL:HB | 27:A3:72:LYS:HG3 | 1.76 | 0.67 |
| 28:A4:4:ASP:OD1 | 28:A4:11:PRO:HG3 | 1.93 | 0.67 |
| 28:A4:54:GLY:O | 28:A4:55:ARG:CG | 2.42 | 0.67 |
| 30:A6:42:PRO:CB | 30:A6:44:ALA:HB3 | 2.25 | 0.67 |
| 31:A7:13:ALA:O | 31:A7:16:HIS:O | 2.12 | 0.67 |
| 32:A8:26:LYS:HG3 | 32:A8:45:GLY:H | 1.59 | 0.67 |
| 32:A8:26:LYS:CD | 32:A8:45:GLY:H | 2.08 | 0.67 |
| 34:BA:39:G:C6 | 34:BA:40:C:C5 | 2.81 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:186:C:O2' | 34:BA:187:C:H5' | 1.94 | 0.67 |
| 34:BA:235:C:H2' | 34:BA:236:G:C8 | 2.27 | 0.67 |
| 34:BA:407:G:O2' | 39:BG:116:GLN:HG3 | 1.94 | 0.67 |
| 34:BA:479:C:O5' | 34:BA:479:C:C6 | 2.39 | 0.67 |
| 34:BA:580:U:H2' | 34:BA:581:G:H8 | 1.58 | 0.67 |
| 34:BA:581:G:H2' | 34:BA:582:U:OP2 | 1.94 | 0.67 |
| 34:BA:620:C:C6 | 34:BA:621:A:C8 | 2.83 | 0.67 |
| 34:BA:668:G:H1' | 50:BR:46:HIS:CD2 | 2.28 | 0.67 |
| 34:BA:688:G:O2' | 34:BA:689:C:H5' | 1.95 | 0.67 |
| 34:BA:761:G:O2' | 52:BT:104:LYS:HA | 1.93 | 0.67 |
| 34:BA:1020:U:H2' | 34:BA:1021:G:C8 | 2.29 | 0.67 |
| 34:BA:1032:G:H2' | 34:BA:1033:G:O4' | 1.95 | 0.67 |
| 34:BA:1045:C:N3 | 34:BA:1046:A:C8 | 2.63 | 0.67 |
| 34:BA:1087:G:H2' | 34:BA:1088:G:C8 | 2.19 | 0.67 |
| 34:BA:1098:C:H2' | 34:BA:1099:G:H5' | 1.76 | 0.67 |
| 34:BA:1111:A:H2' | 34:BA:1112:C:C6 | 2.29 | 0.67 |
| 34:BA:1128:C:H2' | 34:BA:1130:A:N7 | 2.10 | 0.67 |
| 34:BA:1363:A:OP1 | 34:BA:1363:A:H8 | 1.77 | 0.67 |
| 35:BB:22:G:HO2' | 35:BB:23:A:H8 | 1.41 | 0.67 |
| 35:BB:38:A:H2' | 35:BB:39:U:H5' | 1.76 | 0.67 |
| 37:BE:20:GLU:HG3 | 37:BE:189:ASP:CB | 2.24 | 0.67 |
| 38:BF:30:ARG:HB2 | 49:BQ:37:PHE:O | 1.94 | 0.67 |
| 38:BF:52:LEU:CA | 38:BF:70:VAL:HG22 | 2.20 | 0.67 |
| 39:BG:145:GLU:HA | 39:BG:183:GLY:O | 1.94 | 0.67 |
| 39:BG:162:LEU:CD1 | 39:BG:181:MET:HG2 | 2.23 | 0.67 |
| 43:BK:14:ARG:O | 43:BK:17:THR:HB | 1.94 | 0.67 |
| 43:BK:36:LEU:H | 43:BK:36:LEU:HD23 | 1.60 | 0.67 |
| 43:BK:109:ILE:HG12 | 43:BK:137:VAL:N | 2.09 | 0.67 |
| 48:BP:29:ARG:NE | 48:BP:64:TRP:NE1 | 2.43 | 0.67 |
| 51:BS:7:ALA:H | 51:BS:18:ARG:HB2 | 1.59 | 0.67 |
| 51:BS:26:ARG:HG2 | 51:BS:26:ARG:HH11 | 1.59 | 0.67 |
| 51:BS:58:TYR:O | 51:BS:59:TRP:C | 2.32 | 0.67 |
| 1:AB:77:U:H2' | 1:AB:78:A:C8 | 2.29 | 0.67 |
| 1:AB:80:U:C2 | 1:AB:81:G:N7 | 2.63 | 0.67 |
| 2:AA:154:G:C5 | 2:AA:155:C:C2 | 2.82 | 0.67 |
| 2:AA:181:A:C2 | 2:AA:434:U:O2' | 2.48 | 0.67 |
| 2:AA:270(A):A:H5' | 2:AA:270(B):A:P | 2.35 | 0.67 |
| 2:AA:604:G:N3 | 2:AA:657:U:H4' | 2.09 | 0.67 |
| 2:AA:627:A:C2' | 2:AA:628:G:O4' | 2.43 | 0.67 |
| 2:AA:650:C:N4 | 2:AA:651:G:N1 | 2.42 | 0.67 |
| 2:AA:848:G:H2' | 2:AA:849:A:C8 | 2.29 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:912:C:C2' | 2:AA:913:U:H5' | 2.24 | 0.67 |
| 2:AA:941:A:H2 | 2:AA:942:G:H1' | 1.59 | 0.67 |
| 2:AA:961:C:O2' | 2:AA:962:G:P | 2.53 | 0.67 |
| 2:AA:979:G:C8 | 2:AA:980:A:H5" | 2.29 | 0.67 |
| 2:AA:1071:G:C8 | 2:AA:1089:G:C6 | 2.83 | 0.67 |
| 2:AA:1083:U:H3' | 9:AI:37:VAL:N | 2.09 | 0.67 |
| 2:AA:1168:G:H2' | 2:AA:1169:G:O4' | 1.95 | 0.67 |
| 2:AA:1171:G:H3' | 2:AA:1173:G:C5' | 2.22 | 0.67 |
| 2:AA:1312:U:O4 | 19:AT:58:MET:HB2 | 1.93 | 0.67 |
| 2:AA:1582:C:H2' | 2:AA:1583:A:O2' | 1.94 | 0.67 |
| 2:AA:1627:G:H2' | 2:AA:1628:G:C8 | 2.30 | 0.67 |
| 2:AA:1795:C:H42 | 2:AA:1824:G:H1 | 0.78 | 0.67 |
| 2:AA:1815:A:O2' | 2:AA:1816:G:O5' | 2.13 | 0.67 |
| 2:AA:1861:G:H5' | 3:AC:205:LYS:CE | 2.24 | 0.67 |
| 2:AA:2209:C:HO2' | 2:AA:2210:G:H8 | 0.79 | 0.67 |
| 2:AA:2308:G:OP2 | 2:AA:2310:A:N6 | 2.27 | 0.67 |
| 2:AA:2380:C:H2' | 2:AA:2381:C:C5' | 2.24 | 0.67 |
| 2:AA:2389:G:P | 2:AA:2390:U:H5' | 2.34 | 0.67 |
| 2:AA:2423:U:O4' | 2:AA:2425:A:C8 | 2.48 | 0.67 |
| 2:AA:2553:G:C2 | 2:AA:2583:G:H1' | 2.29 | 0.67 |
| 2:AA:2635:C:C2 | 2:AA:2783:G:N2 | 2.62 | 0.67 |
| 3:AC:5:LYS:CE | 3:AC:8:ARG:HB3 | 2.24 | 0.67 |
| 4:AD:76:ARG:HG2 | 4:AD:113:MET:HB3 | 1.74 | 0.67 |
| 5:AE:240:PRO:HB2 | 5:AE:243:PRO:CD | 2.24 | 0.67 |
| 5:AE:271:ILE:CG2 | 5:AE:272:GLY:N | 2.57 | 0.67 |
| 7:AG:87:ALA:C | 7:AG:89:PRO:HD2 | 2.15 | 0.67 |
| 8:AH:32:LEU:HD11 | 8:AH:34:ARG:HH21 | 1.59 | 0.67 |
| 9:AI:26:GLU:CD | 9:AJ:43:PRO:HG3 | 2.15 | 0.67 |
| 12:AM:12:VAL:O | 12:AM:38:VAL:HG13 | 1.94 | 0.67 |
| 13:AN:20:LEU:HD23 | 13:AN:21:VAL:O | 1.94 | 0.67 |
| 13:AN:68:GLY:HA3 | 13:AN:78:ARG:CZ | 2.18 | 0.67 |
| 14:AO:94:ARG:NE | 14:AO:118:LEU:HB2 | 2.09 | 0.67 |
| 16:AQ:27:LEU:O | 16:AQ:28:LYS:C | 2.31 | 0.67 |
| 16:AQ:60:SER:O | 16:AQ:88:ALA:CA | 2.41 | 0.67 |
| 19:AT:47:VAL:HB | 19:AT:50:GLU:OE2 | 1.94 | 0.67 |
| 24:A0:33:ARG:HA | 24:A0:114:VAL:O | 1.93 | 0.67 |
| 25:A1:59:ARG:HH11 | 25:A1:59:ARG:CB | 2.06 | 0.67 |
| 26:A2:4:ILE:O | 26:A2:41:GLY:HA3 | 1.94 | 0.67 |
| 34:BA:162:A:C2' | 34:BA:163:C:H5' | 2.25 | 0.67 |
| 34:BA:189:G:O6 | 34:BA:190(J):U:O4 | 2.12 | 0.67 |
| 34:BA:342:C:O2' | 34:BA:343:U:H5' | 1.95 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:585:G:C4' | 47:BO:8:ASN:ND2 | 2.57 | 0.67 |
| 34:BA:605:U:C2' | 34:BA:606:G:H8 | 2.05 | 0.67 |
| 34:BA:673:G:H5" | 41:BI:87:ARG:CZ | 2.23 | 0.67 |
| 34:BA:953:G:C4' | 48:BP:124:PRO:O | 2.37 | 0.67 |
| 34:BA:1059:C:H2' | 34:BA:1059:C:O2 | 1.93 | 0.67 |
| 34:BA:1117:G:OP1 | 44:BL:104:ARG:NH1 | 2.26 | 0.67 |
| 34:BA:1158:C:C2 | 34:BA:1160:G:C8 | 2.83 | 0.67 |
| 34:BA:1508:G:O2' | 34:BA:1509:C:H5' | 1.95 | 0.67 |
| 35:BB:34:G:C2 | 36:B1:66:G:C6 | 2.83 | 0.67 |
| 35:BC:38:A:H2' | 35:BC:39:U:C5' | 2.25 | 0.67 |
| 37:BE:33:TYR:HB3 | 37:BE:42:ILE:O | 1.95 | 0.67 |
| 37:BE:93:VAL:HG12 | 37:BE:95:GLN:O | 1.94 | 0.67 |
| 38:BF:30:ARG:HG2 | 38:BF:30:ARG:NH1 | 2.06 | 0.67 |
| 40:BH:116:THR:O | 40:BH:117:ASP:OD1 | 2.13 | 0.67 |
| 41:BI:14:LEU:HD13 | 41:BI:18:GLN:HB3 | 1.77 | 0.67 |
| 41:BI:96:PRO:HA | 53:BU:32:ARG:CG | 2.25 | 0.67 |
| 46:BN:21:ILE:HG23 | 46:BN:30:VAL:HG22 | 1.77 | 0.67 |
| 47:BO:70:ILE:HG21 | 47:BO:77:LEU:CD1 | 2.24 | 0.67 |
| 48:BP:29:ARG:HD3 | 48:BP:64:TRP:CE2 | 2.29 | 0.67 |
| 48:BP:81:LEU:HA | 48:BP:84:ILE:HG12 | 1.76 | 0.67 |
| 50:BR:54:ARG:HD3 | 50:BR:55:GLY:N | 2.10 | 0.67 |
| 54:BV:40:ILE:CG1 | 54:BV:71:LEU:HD23 | 2.19 | 0.67 |
| 1:AB:8:U:C2' | 1:AB:9:G:C8 | 2.61 | 0.67 |
| 1:AB:17:C:OP1 | 7:AG:147:ALA:CA | 2.43 | 0.67 |
| 2:AA:30:G:C2 | 2:AA:511:U:H1' | 2.30 | 0.67 |
| 2:AA:49:A:C2 | 2:AA:118:A:N7 | 2.62 | 0.67 |
| 2:AA:137(A):G:H3' | 2:AA:138:G:C2 | 2.29 | 0.67 |
| 2:AA:139:G:C8 | 2:AA:142:G:O4' | 2.48 | 0.67 |
| 2:AA:468:G:N7 | 2:AA:469:G:C4 | 2.62 | 0.67 |
| 2:AA:528:A:N6 | 2:AA:2042:A:C8 | 2.63 | 0.67 |
| 2:AA:612:G:C4' | 2:AA:616:A:N6 | 2.43 | 0.67 |
| 2:AA:746:A:H5" | 2:AA:748:G:H1' | 1.77 | 0.67 |
| 2:AA:805:G:O2' | 2:AA:831:G:H4' | 1.95 | 0.67 |
| 2:AA:877:U:O5' | 2:AA:877:U:H6 | 1.77 | 0.67 |
| 2:AA:974(A):C:H1' | 2:AA:989:G:N1 | 2.10 | 0.67 |
| 2:AA:1006:C:H1' | 12:AM:86:MET:CE | 2.24 | 0.67 |
| 2:AA:1058:G:H4' | 9:AI:2:THR:HA | 1.73 | 0.67 |
| 2:AA:1343:G:N3 | 2:AA:1384:A:H2 | 1.91 | 0.67 |
| 2:AA:1395:A:P | 2:AA:1603:A:H5" | 2.34 | 0.67 |
| 2:AA:1458:C:H4' | 2:AA:1459:G:C5 | 2.28 | 0.67 |
| 2:AA:1463:C:C2 | 2:AA:1464:C:C5 | 2.83 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1892:C:H2' | 2:AA:1893:C:C6 | 2.29 | 0.67 |
| 2:AA:2053:G:H2' | 2:AA:2054:A:C8 | 2.27 | 0.67 |
| 2:AA:2059:A:N1 | 2:AA:2503:A:N7 | 2.42 | 0.67 |
| 2:AA:2265:U:N3 | 2:AA:2266:A:N7 | 2.43 | 0.67 |
| 2:AA:2311:A:OP2 | 7:AG:55:LYS:CE | 2.43 | 0.67 |
| 2:AA:2325:G:C4 | 2:AA:2326:C:C5 | 2.82 | 0.67 |
| 2:AA:2332:U:H4' | 2:AA:2336:A:N6 | 2.10 | 0.67 |
| 2:AA:2498:C:H2' | 2:AA:2499:C:H5" | 1.77 | 0.67 |
| 2:AA:2508:G:H1 | 2:AA:2580:U:H3 | 1.41 | 0.67 |
| 2:AA:2549:G:N2 | 2:AA:2560:C:C6 | 2.63 | 0.67 |
| 2:AA:2569:G:C2 | 2:AA:2570:G:N7 | 2.63 | 0.67 |
| 2:AA:2622:C:H5' | 5:AE:255:GLN:OE1 | 1.94 | 0.67 |
| 2:AA:2729:G:N2 | 5:AE:300:VAL:HG11 | 2.09 | 0.67 |
| 3:AC:131:LEU:HB2 | 3:AC:137:LEU:HD23 | 1.76 | 0.67 |
| 3:AC:133:PRO:CG | 3:AC:134:ARG:NH1 | 2.57 | 0.67 |
| 3:AC:186:ALA:O | 3:AC:190:ARG:NH1 | 2.27 | 0.67 |
| 4:AD:115:ILE:O | 4:AD:116:MET:HB2 | 1.92 | 0.67 |
| 4:AD:216:ALA:HB1 | 4:AD:223:ASN:CB | 2.18 | 0.67 |
| 7:AG:145:ASP:CB | 16:AQ:15:GLU:O | 2.43 | 0.67 |
| 11:AL:15:ALA:HA | 11:AL:46:THR:CB | 2.25 | 0.67 |
| 14:AO:113:GLN:HE21 | 14:AO:115:ARG:NH1 | 1.93 | 0.67 |
| 15:AP:48:ASN:ND2 | 15:AP:122:PHE:HB2 | 2.10 | 0.67 |
| 15:AP:66:ASN:O | 15:AP:70:ARG:CG | 2.41 | 0.67 |
| 15:AP:85:ILE:HD12 | 15:AP:85:ILE:O | 1.93 | 0.67 |
| 16:AQ:44:ARG:HB3 | 16:AQ:62:HIS:HD2 | 1.60 | 0.67 |
| 18:AS:6:ILE:HG13 | 18:AS:104:THR:CG2 | 2.24 | 0.67 |
| 18:AS:32:ALA:HA | 18:AS:35:ILE:CG1 | 2.24 | 0.67 |
| 18:AS:32:ALA:O | 18:AS:35:ILE:HB | 1.95 | 0.67 |
| 20:AU:27:LEU:CB | 20:AU:98:VAL:O | 2.42 | 0.67 |
| 23:AX:3:ARG:HD3 | 23:AX:60:GLU:CG | 2.24 | 0.67 |
| 23:AX:12:PRO:HB2 | 23:AX:20:LYS:CE | 2.25 | 0.67 |
| 25:A1:77:SER:OG | 25:A1:78:THR:N | 2.27 | 0.67 |
| 28:A4:28:ARG:HB3 | 28:A4:29:PRO:HD2 | 1.77 | 0.67 |
| 32:A8:22:VAL:HG12 | 32:A8:23:MET:N | 2.08 | 0.67 |
| 34:BA:236:G:H5' | 52:BT:42:TYR:OH | 1.95 | 0.67 |
| 34:BA:592:G:O2' | 34:BA:593:G:H5' | 1.95 | 0.67 |
| 34:BA:986:A:H1' | 54:BV:55:LYS:CA | 2.21 | 0.67 |
| 34:BA:1483:A:C3' | 34:BA:1484:C:H5' | 2.25 | 0.67 |
| 35:BB:34:G:H1 | 36:B1:65:U:C2' | 2.03 | 0.67 |
| 36:B1:10:U:H2' | 36:B1:11:U:H6 | 1.60 | 0.67 |
| 39:BG:160:GLN:O | 39:BG:163:GLU:HB3 | 1.95 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:56:GLN:O | 40:BH:59:GLY:N | 2.28 | 0.67 |
| 40:BH:99:GLY:N | 40:BH:117:ASP:HA | 2.10 | 0.67 |
| 40:BH:136:MET:O | 40:BH:139:LEU:HB2 | 1.95 | 0.67 |
| 41:BI:42:GLU:C | 41:BI:44:GLY:H | 1.97 | 0.67 |
| 43:BK:93:VAL:HB | 43:BK:133:LEU:HD12 | 1.75 | 0.67 |
| 45:BM:34:VAL:HG12 | 45:BM:36:GLY:N | 2.04 | 0.67 |
| 45:BM:49:VAL:CG1 | 45:BM:50:ILE:H | 2.06 | 0.67 |
| 46:BN:85:ARG:NE | 46:BN:111:ASP:OD2 | 2.27 | 0.67 |
| 48:BP:11:ARG:O | 48:BP:13:LYS:N | 2.27 | 0.67 |
| 48:BP:96:LEU:C | 48:BP:110:ARG:HG2 | 2.15 | 0.67 |
| 52:BT:10:VAL:HG11 | 52:BT:53:LEU:HA | 1.76 | 0.67 |
| 54:BV:30:LEU:HA | 54:BV:48:THR:O | 1.94 | 0.67 |
| 55:BW:86:ARG:HG2 | 55:BW:87:LYS:H | 1.60 | 0.67 |
| 2:AA:38:A:H2' | 2:AA:39:C:C5 | 2.29 | 0.67 |
| 2:AA:153:C:N3 | 2:AA:174:C:N4 | 2.43 | 0.67 |
| 2:AA:259:G:O2' | 2:AA:260:G:H5' | 1.95 | 0.67 |
| 2:AA:273(B):C:H2' | 2:AA:273(C):C:C6 | 2.30 | 0.67 |
| 2:AA:280:C:C2' | 2:AA:281:G:H3' | 2.25 | 0.67 |
| 2:AA:311:A:H3' | 2:AA:312:G:C8 | 2.29 | 0.67 |
| 2:AA:557:U:C5' | 12:AM:92:GLN:HE21 | 2.08 | 0.67 |
| 2:AA:566:U:H5" | 26:A2:81:ARG:NH2 | 2.09 | 0.67 |
| 2:AA:581:C:O3' | 25:A1:32:TYR:CD1 | 2.46 | 0.67 |
| 2:AA:669:G:C5' | 2:AA:670:A:OP2 | 2.38 | 0.67 |
| 2:AA:1086:A:C3' | 2:AA:1087:G:H5' | 2.24 | 0.67 |
| 2:AA:1178:C:C2 | 2:AA:1179:C:C5 | 2.83 | 0.67 |
| 2:AA:1303:G:C8 | 2:AA:1304:C:H5 | 2.12 | 0.67 |
| 2:AA:1334:G:C4 | 2:AA:1335:U:C5 | 2.83 | 0.67 |
| 2:AA:1340:U:H4' | 2:AA:1394:U:O2' | 1.95 | 0.67 |
| 2:AA:1364:G:N7 | 28:A4:2:GLN:OE1 | 2.28 | 0.67 |
| 2:AA:1441:G:C2' | 2:AA:1442:G:H5' | 2.25 | 0.67 |
| 2:AA:1645:G:H5" | 2:AA:1646:C:C5' | 2.25 | 0.67 |
| 2:AA:1652:A:N7 | 2:AA:1653:G:N2 | 2.43 | 0.67 |
| 2:AA:1663:C:N4 | 2:AA:1992:G:H8 | 1.91 | 0.67 |
| 2:AA:1689:A:C6 | 2:AA:1700:A:C2 | 2.83 | 0.67 |
| 2:AA:2177:C:H2' | 2:AA:2178:C:C6 | 2.30 | 0.67 |
| 2:AA:2700:C:H2' | 2:AA:2701:C:H5" | 1.75 | 0.67 |
| 2:AA:2703:C:C5 | 2:AA:2704:C:C4 | 2.83 | 0.67 |
| 2:AA:2893:G:O2' | 2:AA:2894:G:C1' | 2.42 | 0.67 |
| 2:AA:2896:C:O5' | 2:AA:2896:C:H6 | 1.77 | 0.67 |
| 3:AC:59:ARG:HD2 | 3:AC:164:ARG:HD3 | 1.75 | 0.67 |
| 5:AE:189:MET:O | 5:AE:190:ASN:HB3 | 1.92 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:308:VAL:HG12 | 5:AE:310:PHE:HE1 | 1.59 | 0.67 |
| 6:AF:153:VAL:O | 6:AF:154:VAL:C | 2.33 | 0.67 |
| 12:AM:74:ARG:N | 12:AM:74:ARG:CD | 2.58 | 0.67 |
| 13:AN:5:GLU:HB3 | 13:AN:20:LEU:CG | 2.25 | 0.67 |
| 15:AP:20:ILE:HD12 | 15:AP:21:SER:HG | 1.58 | 0.67 |
| 15:AP:28:ILE:HG23 | 15:AP:62:GLU:CG | 2.25 | 0.67 |
| 15:AP:56:ILE:CG1 | 15:AP:115:SER:HB3 | 2.24 | 0.67 |
| 19:AT:3:ASP:O | 19:AT:4:VAL:HG13 | 1.94 | 0.67 |
| 21:AV:51:LEU:HD11 | 21:AV:64:ALA:HA | 1.76 | 0.67 |
| 29:A5:40:LYS:NZ | 29:A5:46:CYS:N | 2.42 | 0.67 |
| 31:A7:4:THR:H | 31:A7:6:GLN:HE22 | 1.43 | 0.67 |
| 31:A7:28:ARG:O | 31:A7:31:LEU:HB2 | 1.94 | 0.67 |
| 34:BA:384:G:O2' | 34:BA:385:C:H5' | 1.93 | 0.67 |
| 34:BA:392:G:P | 51:BS:8:ARG:HH22 | 2.18 | 0.67 |
| 34:BA:552:U:H4' | 47:BO:86:ARG:O | 1.94 | 0.67 |
| 34:BA:606:G:N2 | 34:BA:631:G:N3 | 2.43 | 0.67 |
| 34:BA:1241:G:C6 | 34:BA:1242:C:N4 | 2.63 | 0.67 |
| 34:BA:1463:C:C2' | 34:BA:1464:G:H5' | 2.25 | 0.67 |
| 35:BB:72:C:C4 | 35:BB:73:A:N7 | 2.63 | 0.67 |
| 35:BC:2:C:O2' | 35:BC:3:G:H5' | 1.94 | 0.67 |
| 37:BE:170:GLU:O | 37:BE:171:ALA:C | 2.33 | 0.67 |
| 38:BF:21:ARG:HH21 | 38:BF:54:ARG:HH22 | 1.42 | 0.67 |
| 38:BF:42:LEU:HD23 | 38:BF:45:LYS:HD2 | 1.76 | 0.67 |
| 39:BG:148:VAL:O | 39:BG:153:ARG:HD3 | 1.95 | 0.67 |
| 40:BH:86:ALA:O | 40:BH:125:SER:CB | 2.43 | 0.67 |
| 41:BI:4:TYR:CA | 41:BI:93:SER:OG | 2.42 | 0.67 |
| 42:BJ:70:LYS:O | 42:BJ:138:LYS:HE3 | 1.94 | 0.67 |
| 44:BL:96:LEU:HD12 | 44:BL:101:PHE:CD1 | 2.30 | 0.67 |
| 51:BS:43:LYS:O | 51:BS:45:THR:N | 2.23 | 0.67 |
| 51:BS:67:THR:HB | 51:BS:70:ALA:CB | 2.25 | 0.67 |
| 53:BU:36:ASN:HB3 | 53:BU:40:LEU:CD2 | 2.22 | 0.67 |
| 53:BU:67:ALA:O | 53:BU:70:ILE:N | 2.28 | 0.67 |
| 54:BV:33:THR:HG22 | 54:BV:34:TRP:N | 2.10 | 0.67 |
| 1:AB:35:U:C4 | 1:AB:36:C:C5 | 2.83 | 0.67 |
| 2:AA:223:A:N1 | 2:AA:407:G:O2' | 2.22 | 0.67 |
| 2:AA:292:C:H3' | 2:AA:293:U:N3 | 2.10 | 0.67 |
| 2:AA:459:U:H2' | 2:AA:460:A:H8 | 1.60 | 0.67 |
| 2:AA:533:G:OP1 | 25:A1:24:PHE:HB2 | 1.95 | 0.67 |
| 2:AA:585:G:H5" | 2:AA:586:A:OP2 | 1.95 | 0.67 |
| 2:AA:602:G:H4' | 2:AA:603:A:O2' | 1.95 | 0.67 |
| 2:AA:624:C:H5' | 2:AA:625:G:OP2 | 1.95 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:640:C:H2' | 2:AA:641:C:C5' | 2.18 | 0.67 |
| 2:AA:1083:U:C3' | 9:AI:36:PRO:C | 2.49 | 0.67 |
| 2:AA:1263:U:O2' | 29:A5:16:ARG:NH2 | 2.27 | 0.67 |
| 2:AA:1444:G:O2' | 2:AA:444(A):A:OP1 | 2.08 | 0.67 |
| 2:AA:1451:C:C5 | 2:AA:1453:A:O3' | 2.48 | 0.67 |
| 2:AA:1788:C:O5' | 2:AA:1788:C:H6 | 1.78 | 0.67 |
| 2:AA:1891:G:H3' | 2:AA:1892:C:H6 | 1.58 | 0.67 |
| 2:AA:1907:G:N1 | 2:AA:1908:C:N4 | 2.42 | 0.67 |
| 2:AA:2243:U:H2' | 2:AA:2244:U:O4' | 1.95 | 0.67 |
| 2:AA:2246:G:N3 | 2:AA:2247:A:N7 | 2.43 | 0.67 |
| 2:AA:2432:A:N1 | 2:AA:2433:A:N1 | 2.43 | 0.67 |
| 4:AD:85:ASN:CB | 4:AD:86:ARG:NE | 2.58 | 0.67 |
| 4:AD:132:GLU:OE2 | 4:AD:186:LYS:HB2 | 1.94 | 0.67 |
| 5:AE:200:ASP:HA | 5:AE:266:LYS:HD2 | 1.77 | 0.67 |
| 5:AE:254:GLY:O | 5:AE:255:GLN:O | 2.12 | 0.67 |
| 6:AF:84:VAL:C | 6:AF:86:GLY:H | 1.97 | 0.67 |
| 8:AH:86:LEU:HA | 8:AH:148:ARG:CZ | 2.22 | 0.67 |
| 9:AI:7:ILE:HG22 | 9:AI:11:GLU:OE2 | 1.95 | 0.67 |
| 9:AI:62:VAL:HG13 | 9:AI:100:ALA:O | 1.95 | 0.67 |
| 9:AI:115:LYS:HZ3 | 9:AI:127:LEU:HD13 | 1.59 | 0.67 |
| 9:AJ:73:VAL:HA | 9:AJ:121:ALA:CB | 2.24 | 0.67 |
| 9:AJ:78:ARG:HH22 | 11:AL:59:THR:CG2 | 2.07 | 0.67 |
| 10:AK:37:ILE:HG23 | 10:AK:38:GLU:N | 2.09 | 0.67 |
| 13:AN:10:VAL:HG11 | 13:AN:12:ASP:O | 1.95 | 0.67 |
| 13:AN:71:ARG:HH21 | 13:AN:77:ILE:HG21 | 1.58 | 0.67 |
| 16:AQ:69:TYR:N | 16:AQ:69:TYR:CD1 | 2.62 | 0.67 |
| 18:AS:8:ARG:NH1 | 18:AS:8:ARG:CB | 2.58 | 0.67 |
| 20:AU:112:LEU:H | 20:AU:112:LEU:HD23 | 1.58 | 0.67 |
| 21:AV:37:LYS:HG3 | 21:AV:41:ARG:NH1 | 2.10 | 0.67 |
| 21:AV:103:ARG:HG2 | 21:AV:103:ARG:NH1 | 2.08 | 0.67 |
| 23:AX:18:ASP:O | 23:AX:21:ALA:CB | 2.43 | 0.67 |
| 24:A0:20:LEU:HD12 | 24:A0:21:TYR:CD2 | 2.29 | 0.67 |
| 26:A2:79:GLN:NE2 | 26:A2:80:TYR:OH | 2.27 | 0.67 |
| 27:A3:37:LEU:O | 27:A3:40:GLN:CG | 2.43 | 0.67 |
| 32:A8:23:MET:HG3 | 32:A8:24:ALA:N | 2.08 | 0.67 |
| 32:A8:62:LEU:CB | 32:A8:63:PRO:CD | 2.73 | 0.67 |
| 34:BA:27:G:H8 | 34:BA:27:G:O5' | 1.77 | 0.67 |
| 34:BA:113:G:N7 | 34:BA:114:U:C5 | 2.63 | 0.67 |
| 34:BA:294:U:C2 | 34:BA:295:C:C5 | 2.83 | 0.67 |
| 34:BA:486:U:H2' | 34:BA:487:A:O5' | 1.94 | 0.67 |
| 34:BA:570:G:H4' | 34:BA:820:U:C6 | 2.30 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:632:A:H8 | 34:BA:632:A:O5' | 1.78 | 0.67 |
| 34:BA:659:U:O2' | 34:BA:660:G:C5' | 2.43 | 0.67 |
| 34:BA:668:G:H1 | 34:BA:738:C:H42 | 0.78 | 0.67 |
| 34:BA:745:C:C5' | 34:BA:851:G:H1' | 2.25 | 0.67 |
| 34:BA:877:C:HO2' | 43:BK:3:THR:HB | 1.57 | 0.67 |
| 34:BA:946:A:C2' | 34:BA:947:G:H8 | 2.06 | 0.67 |
| 34:BA:1072:G:C2 | 34:BA:1104:G:C2 | 2.83 | 0.67 |
| 34:BA:1255:G:O3' | 34:BA:1258:G:H1' | 1.95 | 0.67 |
| 34:BA:1426:C:N4 | 34:BA:1474:G:N1 | 2.05 | 0.67 |
| 37:BE:12:GLU:C | 37:BE:14:GLY:H | 1.97 | 0.67 |
| 38:BF:40:ARG:O | 38:BF:44:GLU:HG3 | 1.95 | 0.67 |
| 39:BG:78:LEU:CD1 | 39:BG:97:LEU:HD23 | 2.25 | 0.67 |
| 39:BG:177:ASP:CG | 39:BG:179:GLU:HB2 | 2.15 | 0.67 |
| 40:BH:135:THR:O | 40:BH:136:MET:C | 2.33 | 0.67 |
| 43:BK:11:THR:HA | 43:BK:14:ARG:NH1 | 2.10 | 0.67 |
| 44:BL:27:THR:HB | 44:BL:62:TYR:CD1 | 2.30 | 0.67 |
| 46:BN:84:VAL:CG2 | 46:BN:111:ASP:H | 2.08 | 0.67 |
| 47:BO:38:THR:O | 47:BO:39:VAL:HG23 | 1.95 | 0.67 |
| 47:BO:82:VAL:O | 47:BO:106:ASP:HB2 | 1.94 | 0.67 |
| 49:BQ:14:PRO:HB2 | 49:BQ:17:LYS:O | 1.93 | 0.67 |
| 49:BQ:29:ARG:NH1 | 49:BQ:42:ILE:HD11 | 2.10 | 0.67 |
| 51:BS:20:VAL:CG1 | 51:BS:32:TYR:HD2 | 2.07 | 0.67 |
| 51:BS:58:TYR:HD1 | 51:BS:59:TRP:CA | 2.07 | 0.67 |
| 1:AB:45:A:C1' | 7:AG:76:ARG:HH12 | 2.08 | 0.67 |
| 1:AB:81:G:C5 | 1:AB:82:G:N7 | 2.63 | 0.67 |
| 1:AB:93:C:H2' | 1:AB:94:C:H6 | 1.56 | 0.67 |
| 2:AA:18:C:OP1 | 25:A1:26:GLY:HA2 | 1.94 | 0.67 |
| 2:AA:273:G:C4 | 2:AA:273(A):G:N7 | 2.63 | 0.67 |
| 2:AA:327:G:N1 | 2:AA:328:U:C6 | 2.63 | 0.67 |
| 2:AA:457:A:H1' | 2:AA:459:U:N3 | 2.10 | 0.67 |
| 2:AA:603:A:N6 | 2:AA:624:C:N4 | 2.43 | 0.67 |
| 2:AA:813:U:H4' | 2:AA:1226:G:H5' | 1.76 | 0.67 |
| 2:AA:917:A:H2' | 2:AA:918:A:O4' | 1.94 | 0.67 |
| 2:AA:928:G:N3 | 2:AA:929:G:C6 | 2.63 | 0.67 |
| 2:AA:1029:A:H2' | 2:AA:1030:G:C5' | 2.25 | 0.67 |
| 2:AA:1087:G:H2' | 2:AA:1089:G:H4' | 1.77 | 0.67 |
| 2:AA:1300:U:C4' | 2:AA:1301:A:O5' | 2.42 | 0.67 |
| 2:AA:1348:G:O2' | 2:AA:1349:A:H5' | 1.94 | 0.67 |
| 2:AA:1457:A:O2' | 2:AA:1458:C:H5' | 1.95 | 0.67 |
| 2:AA:1472:A:C4 | 2:AA:1473:G:N7 | 2.63 | 0.67 |
| 2:AA:1472:A:H2 | 2:AA:1519:G:N1 | 1.93 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1498:C:H6 | 2:AA:1576:U:O2' | 1.77 | 0.67 |
| 2:AA:1807:G:C1' | 2:AA:1811:G:N2 | 2.58 | 0.67 |
| 2:AA:1825:A:C6 | 2:AA:1826:G:C6 | 2.83 | 0.67 |
| 2:AA:1857:G:N1 | 2:AA:1884:A:C6 | 2.62 | 0.67 |
| 2:AA:1983:C:O2' | 2:AA:1984:G:H5' | 1.95 | 0.67 |
| 2:AA:2119:A:C6 | 2:AA:2147:G:O5' | 2.48 | 0.67 |
| 2:AA:2640:G:O3' | 12:AM:70:PHE:CD2 | 2.46 | 0.67 |
| 2:AA:2673:G:O2' | 2:AA:2674:G:H5' | 1.94 | 0.67 |
| 3:AC:10:LEU:HD23 | 3:AC:220:PRO:CD | 2.24 | 0.67 |
| 4:AD:204:PHE:HD1 | 4:AD:204:PHE:N | 1.91 | 0.67 |
| 6:AF:115:LEU:CG | 6:AF:246:ARG:NH2 | 2.52 | 0.67 |
| 10:AK:52:GLN:HA | 10:AK:55:GLN:NE2 | 2.10 | 0.67 |
| 10:AK:115:ILE:HA | 10:AK:131:VAL:HA | 1.77 | 0.67 |
| 11:AL:11:LEU:CD1 | 11:AL:28:LEU:HG | 2.24 | 0.67 |
| 12:AM:57:TYR:HB2 | 12:AM:135:ILE:CG2 | 2.19 | 0.67 |
| 13:AN:112:MET:O | 13:AN:113:LYS:C | 2.33 | 0.67 |
| 15:AP:88:PHE:CB | 15:AP:90:PHE:CE1 | 2.74 | 0.67 |
| 20:AU:49:GLU:O | 20:AU:97:ARG:HG3 | 1.95 | 0.67 |
| 21:AV:14:LEU:HG | 21:AV:80:HIS:NE2 | 2.10 | 0.67 |
| 24:A0:60:LEU:HD23 | 24:A0:60:LEU:N | 2.10 | 0.67 |
| 24:A0:90:ARG:HB2 | 24:A0:94:TYR:OH | 1.94 | 0.67 |
| 24:A0:96:ARG:CG | 24:A0:98:LEU:HD11 | 2.25 | 0.67 |
| 27:A3:78:PHE:HD1 | 27:A3:78:PHE:H | 1.43 | 0.67 |
| 28:A4:58:LYS:HG2 | 28:A4:62:ARG:NE | 2.10 | 0.67 |
| 29:A5:12:SER:HB3 | 29:A5:15:LYS:HZ2 | 1.60 | 0.67 |
| 30:A6:11:LYS:HZ3 | 32:A8:35:GLY:N | 1.93 | 0.67 |
| 34:BA:93:G:C2' | 34:BA:95:U:O4' | 2.39 | 0.67 |
| 34:BA:131:C:H2' | 34:BA:131:C:O2 | 1.95 | 0.67 |
| 34:BA:247:G:N3 | 34:BA:282:A:H2 | 1.93 | 0.67 |
| 34:BA:325:A:N7 | 34:BA:326:G:C5 | 2.62 | 0.67 |
| 34:BA:330:C:O2' | 34:BA:331:G:H5' | 1.94 | 0.67 |
| 34:BA:339:C:O2' | 34:BA:340:U:H5' | 1.95 | 0.67 |
| 34:BA:363:A:H5" | 47:BO:105:TYR:OH | 1.95 | 0.67 |
| 34:BA:370:C:C2' | 34:BA:371:G:H5' | 2.25 | 0.67 |
| 34:BA:593:G:O2' | 34:BA:594:G:H5' | 1.95 | 0.67 |
| 34:BA:646:U:O2' | 34:BA:647:C:H5' | 1.95 | 0.67 |
| 34:BA:649:G:H2' | 34:BA:650:G:H8 | 1.59 | 0.67 |
| 34:BA:890:G:N1 | 34:BA:906:G:N7 | 2.42 | 0.67 |
| 34:BA:910:C:H2' | 34:BA:911:U:O4' | 1.95 | 0.67 |
| 34:BA:1016:A:H2' | 34:BA:1017:G:O4' | 1.93 | 0.67 |
| 34:BA:1150:U:H1' | 34:BA:1280:A:N6 | 2.10 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1203:C:H2' | 34:BA:1204:A:O4' | 1.95 | 0.67 |
| 34:BA:1327:C:C5' | 56:BX:20:LYS:HE2 | 2.25 | 0.67 |
| 34:BA:1504:G:H4' | 34:BA:1505:G:O5' | 1.93 | 0.67 |
| 35:BB:7:U:C2 | 35:BB:67:A:C2 | 2.83 | 0.67 |
| 35:BB:26:G:C2 | 35:BB:27:C:O4' | 2.48 | 0.67 |
| 35:BB:40:C:H5' | 35:BB:41:U:P | 2.34 | 0.67 |
| 35:BB:49:C:H42 | 35:BB:65:G:H1 | 1.35 | 0.67 |
| 35:BB:51:G:C5 | 35:BB:52:U:C4 | 2.82 | 0.67 |
| 35:BB:64:A:C6 | 35:BB:65:G:C5 | 2.83 | 0.67 |
| 36:B1:17:G:H2' | 36:B1:18:U:C5 | 2.29 | 0.67 |
| 37:BE:35:GLU:O | 37:BE:36:ARG:CZ | 2.43 | 0.67 |
| 38:BF:73:PRO:O | 38:BF:76:VAL:HB | 1.95 | 0.67 |
| 38:BF:91:LEU:CD2 | 38:BF:98:ASN:HA | 2.25 | 0.67 |
| 39:BG:102:ASP:HA | 39:BG:105:VAL:HG23 | 1.77 | 0.67 |
| 41:BI:1:MET:SD | 41:BI:68:PRO:HD3 | 2.35 | 0.67 |
| 41:BI:45:LEU:HA | 41:BI:58:GLY:O | 1.95 | 0.67 |
| 41:BI:81:ILE:CG2 | 41:BI:82:ARG:N | 2.47 | 0.67 |
| 44:BL:66:ARG:C | 44:BL:73:GLN:HE21 | 1.98 | 0.67 |
| 51:BS:58:TYR:O | 51:BS:61:SER:CB | 2.43 | 0.67 |
| 53:BU:46:GLU:C | 53:BU:48:GLY:N | 2.47 | 0.67 |
| 1:AB:87:G:C2' | 1:AB:89:G:N7 | 2.58 | 0.66 |
| 2:AA:53:A:H8 | 2:AA:53:A:O5' | 1.78 | 0.66 |
| 2:AA:307:G:H21 | 2:AA:330:A:N6 | 1.91 | 0.66 |
| 2:AA:343:C:C4 | 2:AA:344:G:C5 | 2.83 | 0.66 |
| 2:AA:442:G:N3 | 6:AF:46:TYR:CZ | 2.63 | 0.66 |
| 2:AA:996:A:N6 | 2:AA:1160:G:C6 | 2.62 | 0.66 |
| 2:AA:1179:C:OP2 | 2:AA:1179:C:H3' | 1.95 | 0.66 |
| 2:AA:1508:A:C5' | 2:AA:1510:A:N7 | 2.58 | 0.66 |
| 2:AA:1683:C:N3 | 2:AA:1684:C:N4 | 2.42 | 0.66 |
| 2:AA:1703:G:O2' | 2:AA:1704:G:H5' | 1.95 | 0.66 |
| 2:AA:1807:G:H21 | 2:AA:1809:A:H5' | 1.60 | 0.66 |
| 2:AA:1840:G:C2' | 2:AA:1841:U:H5' | 2.25 | 0.66 |
| 2:AA:2011:U:OP1 | 18:AS:42:ARG:NH1 | 2.28 | 0.66 |
| 2:AA:2013:A:C2' | 2:AA:2014:A:H5' | 2.24 | 0.66 |
| 2:AA:2120:G:N2 | 2:AA:2178:C:N3 | 2.40 | 0.66 |
| 2:AA:2121:G:N2 | 2:AA:2178:C:C2 | 2.63 | 0.66 |
| 2:AA:2231:C:H5" | 28:A4:39:VAL:HG22 | 1.78 | 0.66 |
| 2:AA:2334:G:N1 | 16:AQ:10:MET:HE2 | 1.95 | 0.66 |
| 2:AA:2359:C:N3 | 2:AA:2360:A:C2 | 2.63 | 0.66 |
| 2:AA:2564:A:H2' | 2:AA:2565:A:H8 | 1.60 | 0.66 |
| 2:AA:2706:G:C2 | 2:AA:2707:G:C8 | 2.83 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2752:C:H2' | 2:AA:2752:C:O2 | 1.96 | 0.66 |
| 4:AD:103:ILE:CG1 | 4:AD:104:ILE:HG13 | 2.25 | 0.66 |
| 4:AD:144:GLU:OE2 | 4:AD:148:GLY:N | 2.28 | 0.66 |
| 6:AF:54:LEU:O | 6:AF:79:ARG:CZ | 2.43 | 0.66 |
| 10:AK:3:VAL:HG21 | 10:AK:21:VAL:HG23 | 1.75 | 0.66 |
| 10:AK:116:GLU:HB2 | 10:AK:130:PRO:O | 1.95 | 0.66 |
| 12:AM:10:VAL:HB | 12:AM:36:VAL:CA | 2.20 | 0.66 |
| 13:AN:47:THR:O | 13:AN:49:GLY:N | 2.27 | 0.66 |
| 13:AN:91:LYS:HB3 | 13:AN:111:PHE:HE2 | 1.58 | 0.66 |
| 13:AN:103:ALA:O | 13:AN:105:GLU:HG2 | 1.94 | 0.66 |
| 15:AP:87:LYS:HB2 | 15:AP:122:PHE:CE2 | 2.30 | 0.66 |
| 21:AV:20:ALA:O | 21:AV:80:HIS:HA | 1.95 | 0.66 |
| 21:AV:92:VAL:O | 21:AV:124:ALA:HB2 | 1.94 | 0.66 |
| 29:A5:57:VAL:HG13 | 29:A5:58:LEU:H | 1.59 | 0.66 |
| 31:A7:34:ARG:HH12 | 31:A7:42:LEU:HA | 1.60 | 0.66 |
| 34:BA:279:A:C1' | 34:BA:281:G:N3 | 2.55 | 0.66 |
| 34:BA:592:G:C2' | 34:BA:593:G:H5' | 2.25 | 0.66 |
| 34:BA:666:G:C5' | 34:BA:726:C:O2 | 2.35 | 0.66 |
| 34:BA:778:G:C4 | 34:BA:779:C:C5 | 2.83 | 0.66 |
| 34:BA:781:A:N6 | 34:BA:802:A:C4 | 2.63 | 0.66 |
| 34:BA:959:A:H5" | 34:BA:960:U:OP2 | 1.94 | 0.66 |
| 34:BA:1127:G:N2 | 34:BA:1144:G:N2 | 2.42 | 0.66 |
| 34:BA:1237:C:C4' | 34:BA:1334:G:N2 | 2.57 | 0.66 |
| 35:BB:40:C:C5' | 35:BB:41:U:OP2 | 2.38 | 0.66 |
| 35:BB:49:C:N4 | 35:BB:65:G:C6 | 2.57 | 0.66 |
| 37:BE:97:TRP:HZ2 | 37:BE:176:GLU:OE1 | 1.77 | 0.66 |
| 38:BF:150:LYS:HZ3 | 38:BF:152:ILE:HD11 | 1.59 | 0.66 |
| 39:BG:29:PRO:C | 39:BG:30:LYS:HG3 | 2.15 | 0.66 |
| 42:BJ:22:LEU:HD23 | 42:BJ:63:LYS:NZ | 2.11 | 0.66 |
| 43:BK:17:THR:HG23 | 43:BK:80:ILE:HD13 | 1.76 | 0.66 |
| 47:BO:39:VAL:HB | 47:BO:57:LYS:CD | 2.21 | 0.66 |
| 47:BO:90:VAL:CG1 | 47:BO:93:LEU:HD21 | 2.25 | 0.66 |
| 48:BP:19:LEU:O | 48:BP:25:ILE:HD12 | 1.95 | 0.66 |
| 55:BW:51:GLU:HA | 55:BW:54:LYS:HD2 | 1.77 | 0.66 |
| 55:BW:91:LEU:C | 55:BW:93:GLU:H | 1.98 | 0.66 |
| 2:AA:85:G:H1 | 2:AA:97:C:N4 | 1.92 | 0.66 |
| 2:AA:162:U:H4' | 2:AA:171:G:N2 | 2.11 | 0.66 |
| 2:AA:208:C:H2' | 2:AA:209:C:C6 | 2.29 | 0.66 |
| 2:AA:292:C:C3' | 2:AA:293:U:N3 | 2.58 | 0.66 |
| 2:AA:588:U:OP2 | 2:AA:588:U:C6 | 2.49 | 0.66 |
| 2:AA:632:A:O2' | 2:AA:633:A:H5' | 1.96 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:636:G:OP2 | 14:AO:126:SER:HA | 1.96 | 0.66 |
| 2:AA:681:G:N2 | 2:AA:796:C:N3 | 2.42 | 0.66 |
| 2:AA:762:U:N3 | 2:AA:1431:U:OP1 | 2.28 | 0.66 |
| 2:AA:828:U:H4' | 2:AA:831:G:C2 | 2.30 | 0.66 |
| 2:AA:919:G:C4 | 2:AA:920:G:N7 | 2.62 | 0.66 |
| 2:AA:1057:A:C8 | 2:AA:1085:A:N1 | 2.63 | 0.66 |
| 2:AA:1084:A:N9 | 9:AI:25:LEU:HB3 | 2.10 | 0.66 |
| 2:AA:1177:A:H2' | 2:AA:1178:C:H6 | 1.59 | 0.66 |
| 2:AA:1184:G:H2' | 2:AA:1185:C:H6 | 1.60 | 0.66 |
| 2:AA:1404:C:O2' | 2:AA:1405:U:H5' | 1.95 | 0.66 |
| 2:AA:1449:A:H2 | 2:AA:449(A):G:H1' | 1.59 | 0.66 |
| 2:AA:1529:A:N7 | 2:AA:1543:A:C8 | 2.63 | 0.66 |
| 2:AA:1539:G:H2' | 2:AA:1540:G:C5 | 2.31 | 0.66 |
| 2:AA:1753:G:H8 | 2:AA:1753:G:H3' | 1.61 | 0.66 |
| 2:AA:1754:C:H2' | 2:AA:1755:A:O4' | 1.95 | 0.66 |
| 2:AA:1935:G:C8 | 2:AA:1962:C:N4 | 2.64 | 0.66 |
| 2:AA:1945:G:N2 | 2:AA:1946:U:C2 | 2.63 | 0.66 |
| 2:AA:2126:A:H2' | 2:AA:2127:G:H5" | 1.75 | 0.66 |
| 2:AA:2178:C:H1' | 3:AC:168:THR:HB | 1.78 | 0.66 |
| 2:AA:2291:U:OP1 | 2:AA:2381:C:H5' | 1.95 | 0.66 |
| 2:AA:2297:C:H2' | 2:AA:2298:A:C8 | 2.29 | 0.66 |
| 2:AA:2313:C:C4' | 7:AG:72:LYS:HG3 | 2.26 | 0.66 |
| 2:AA:2514:U:O2' | 2:AA:2515:C:O4' | 2.10 | 0.66 |
| 2:AA:2576:G:H4' | 2:AA:2577:A:H5" | 1.76 | 0.66 |
| 2:AA:2584:U:H2' | 2:AA:2585:U:OP1 | 1.95 | 0.66 |
| 2:AA:2729:G:H21 | 5:AE:300:VAL:HG11 | 1.59 | 0.66 |
| 2:AA:2758:A:N3 | 2:AA:2758:A:H2' | 2.07 | 0.66 |
| 2:AA:2833:G:H8 | 2:AA:2833:G:OP1 | 1.77 | 0.66 |
| 3:AC:76:ALA:HB1 | 3:AC:86:ALA:CB | 2.24 | 0.66 |
| 6:AF:52:ALA:CA | 6:AF:55:ARG:HE | 2.09 | 0.66 |
| 6:AF:162:VAL:HG12 | 6:AF:163:HIS:N | 2.10 | 0.66 |
| 7:AG:82:GLU:HA | 7:AG:85:GLN:CD | 2.15 | 0.66 |
| 9:AI:76:VAL:CG2 | 9:AI:121:ALA:HB2 | 2.22 | 0.66 |
| 9:AJ:66:PHE:CE2 | 9:AJ:92:VAL:HG13 | 2.31 | 0.66 |
| 11:AL:28:LEU:HB3 | 11:AL:33:VAL:HB | 1.78 | 0.66 |
| 13:AN:25:LEU:HD12 | 13:AN:38:VAL:C | 2.16 | 0.66 |
| 13:AN:31:ARG:C | 13:AN:32:TYR:CD1 | 2.68 | 0.66 |
| 13:AN:120:GLU:HG2 | 13:AN:122:ILE:CD1 | 2.25 | 0.66 |
| 14:AO:64:ILE:HB | 14:AO:107:LYS:O | 1.95 | 0.66 |
| 15:AP:28:ILE:HG23 | 15:AP:62:GLU:CD | 2.16 | 0.66 |
| 15:AP:117:GLY:O | 15:AP:118:ALA:HB3 | 1.94 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:137:ARG:HD3 | 15:AP:138:ARG:N | 2.10 | 0.66 |
| 16:AQ:120:GLU:HA | 16:AQ:123:ILE:CD1 | 2.26 | 0.66 |
| 18:AS:22:ASP:O | 18:AS:25:ARG:HB2 | 1.95 | 0.66 |
| 19:AT:55:GLN:C | 19:AT:56:ASN:HD22 | 1.97 | 0.66 |
| 21:AV:40:ASP:CB | 21:AV:41:ARG:HH21 | 2.07 | 0.66 |
| 21:AV:69:VAL:CG2 | 21:AV:81:VAL:HG13 | 2.26 | 0.66 |
| 21:AV:168:VAL:O | 21:AV:169:VAL:HG23 | 1.94 | 0.66 |
| 24:A0:116:LEU:HD12 | 24:A0:116:LEU:O | 1.95 | 0.66 |
| 30:A6:11:LYS:HZ3 | 32:A8:35:GLY:HA3 | 1.60 | 0.66 |
| 34:BA:37:U:H1' | 34:BA:548:G:N2 | 2.10 | 0.66 |
| 34:BA:190(I):G:H2' | 34:BA:190(J):U:H6 | 1.58 | 0.66 |
| 34:BA:518:C:O2' | 34:BA:519:C:OP2 | 2.13 | 0.66 |
| 34:BA:830:G:C2 | 34:BA:857:C:C2 | 2.84 | 0.66 |
| 34:BA:987:G:O2' | 34:BA:988:G:H5' | 1.95 | 0.66 |
| 34:BA:1228:C:H4' | 48:BP:115:LYS:O | 1.95 | 0.66 |
| 34:BA:1289:A:H2' | 34:BA:1290:G:O5' | 1.96 | 0.66 |
| 34:BA:1396:A:O4' | 34:BA:1398:A:H1' | 1.95 | 0.66 |
| 34:BA:1447:G:O2' | 34:BA:1448:C:H5' | 1.94 | 0.66 |
| 35:BB:64:A:C6 | 35:BB:65:G:C6 | 2.83 | 0.66 |
| 35:BC:8:U:O4' | 35:BC:48:C:O2' | 2.12 | 0.66 |
| 36:B1:56:A:H2' | 36:B1:56:A:N3 | 2.09 | 0.66 |
| 38:BF:11:ARG:HG3 | 38:BF:11:ARG:HH11 | 1.59 | 0.66 |
| 38:BF:139:GLN:HA | 38:BF:139:GLN:NE2 | 2.07 | 0.66 |
| 41:BI:80:ARG:HG2 | 41:BI:80:ARG:NH1 | 2.11 | 0.66 |
| 42:BJ:149:ARG:O | 42:BJ:152:ALA:N | 2.22 | 0.66 |
| 43:BK:6:ILE:CD1 | 43:BK:7:ALA:N | 2.57 | 0.66 |
| 43:BK:109:ILE:HD11 | 43:BK:111:ILE:HD11 | 1.77 | 0.66 |
| 46:BN:84:VAL:CG2 | 46:BN:110:ASP:HA | 2.24 | 0.66 |
| 48:BP:14:ARG:N | 48:BP:44:ARG:NE | 2.43 | 0.66 |
| 50:BR:64:ARG:CG | 50:BR:65:ARG:N | 2.59 | 0.66 |
| 54:BV:18:LYS:HA | 54:BV:18:LYS:CE | 2.25 | 0.66 |
| 2:AA:122:G:N2 | 2:AA:130:C:H1' | 2.11 | 0.66 |
| 2:AA:126:A:N7 | 2:AA:127:A:C5 | 2.63 | 0.66 |
| 2:AA:258:G:H8 | 2:AA:258:G:O5' | 1.78 | 0.66 |
| 2:AA:465:G:N3 | 2:AA:683:C:O2' | 2.24 | 0.66 |
| 2:AA:627:A:OP2 | 2:AA:627:A:C4' | 2.44 | 0.66 |
| 2:AA:644:A:O2' | 2:AA:646:A:N7 | 2.28 | 0.66 |
| 2:AA:749:C:H6 | 2:AA:749:C:H3' | 1.57 | 0.66 |
| 2:AA:869:G:H2' | 2:AA:870:A:C5' | 2.25 | 0.66 |
| 2:AA:987:G:H8 | 2:AA:987:G:O5' | 1.78 | 0.66 |
| 2:AA:1005:C:C6 | 2:AA:1143:A:OP1 | 2.47 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1156:A:C2 | 25:A1:51:ARG:CZ | 2.78 | 0.66 |
| 2:AA:1290:C:H2' | 2:AA:1291:C:H6 | 1.60 | 0.66 |
| 2:AA:1422:G:C2 | 2:AA:1423:G:C5 | 2.84 | 0.66 |
| 2:AA:1441:G:H2' | 2:AA:1442:G:H5' | 1.76 | 0.66 |
| 2:AA:1664:A:O5' | 2:AA:1664:A:C8 | 2.47 | 0.66 |
| 2:AA:1675:C:N4 | 5:AE:224:GLY:O | 2.29 | 0.66 |
| 2:AA:1727:U:O2 | 2:AA:1733:G:O6 | 2.14 | 0.66 |
| 2:AA:1819:A:O2' | 2:AA:1820:U:OP2 | 2.12 | 0.66 |
| 2:AA:1854:A:N3 | 2:AA:2087:G:N2 | 2.43 | 0.66 |
| 2:AA:1993:U:H4' | 5:AE:228:ARG:CZ | 2.24 | 0.66 |
| 2:AA:2142:C:H2' | 2:AA:2142:C:O2 | 1.93 | 0.66 |
| 2:AA:2378:A:O2' | 16:AQ:29:SER:O | 2.08 | 0.66 |
| 2:AA:2730:C:C4' | 5:AE:265:ASN:HD21 | 1.97 | 0.66 |
| 2:AA:2788:C:H4' | 2:AA:2810:A:H5' | 1.76 | 0.66 |
| 2:AA:2834:G:O6 | 2:AA:2835:A:H2 | 1.78 | 0.66 |
| 3:AC:47:LEU:O | 3:AC:49:ILE:HG12 | 1.95 | 0.66 |
| 3:AC:75:LEU:CD2 | 3:AC:103:ILE:HD11 | 2.26 | 0.66 |
| 3:AC:110:PHE:HE1 | 3:AC:136:LEU:HD22 | 1.61 | 0.66 |
| 4:AD:135:PRO:O | 4:AD:138:THR:OG1 | 2.11 | 0.66 |
| 5:AE:79:ARG:HA | 5:AE:186:GLU:CA | 2.26 | 0.66 |
| 5:AE:204:VAL:O | 5:AE:303:PRO:HD3 | 1.94 | 0.66 |
| 6:AF:215:ALA:HA | 6:AF:242:GLU:CG | 2.24 | 0.66 |
| 7:AG:105:SER:CB | 7:AG:130:VAL:O | 2.43 | 0.66 |
| 9:AI:66:PHE:CE2 | 9:AI:92:VAL:HG13 | 2.30 | 0.66 |
| 10:AK:3:VAL:HG12 | 10:AK:19:LYS:H | 1.61 | 0.66 |
| 13:AN:35:ILE:N | 13:AN:35:ILE:CD1 | 2.51 | 0.66 |
| 14:AO:66:VAL:HG12 | 14:AO:67:ARG:H | 1.58 | 0.66 |
| 16:AQ:115:VAL:O | 16:AQ:119:GLN:HG3 | 1.95 | 0.66 |
| 17:AR:53:ASP:O | 17:AR:56:ARG:CD | 2.44 | 0.66 |
| 19:AT:42:GLU:OE1 | 19:AT:49:VAL:HG23 | 1.96 | 0.66 |
| 21:AV:107:GLU:O | 21:AV:109:GLN:N | 2.28 | 0.66 |
| 22:AW:19:GLU:HG2 | 22:AW:23:LEU:HD11 | 1.77 | 0.66 |
| 22:AW:27:LEU:O | 22:AW:30:ALA:HB3 | 1.96 | 0.66 |
| 24:A0:83:ILE:CG2 | 24:A0:86:ARG:HE | 2.09 | 0.66 |
| 27:A3:14:ARG:H | 27:A3:14:ARG:NH1 | 1.92 | 0.66 |
| 27:A3:68:VAL:O | 27:A3:70:ILE:N | 2.27 | 0.66 |
| 29:A5:34:PRO:CG | 29:A5:35:GLN:N | 2.57 | 0.66 |
| 34:BA:169:C:H2' | 34:BA:170:U:C6 | 2.30 | 0.66 |
| 34:BA:286:G:H2' | 34:BA:287:U:H6 | 1.60 | 0.66 |
| 34:BA:363:A:HO2' | 34:BA:364:A:H5' | 1.58 | 0.66 |
| 34:BA:898:G:C6 | 34:BA:902:G:O6 | 2.47 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:923:A:H2' | 34:BA:924:C:C6 | 2.30 | 0.66 |
| 34:BA:1062:U:C2' | 34:BA:1063:C:C6 | 2.69 | 0.66 |
| 34:BA:1414:U:C2 | 34:BA:1415:G:N7 | 2.64 | 0.66 |
| 35:BB:30:G:C8 | 35:BB:30:G:O5' | 2.48 | 0.66 |
| 35:BC:11:C:O2' | 35:BC:12:U:H5' | 1.94 | 0.66 |
| 35:BC:34:G:C2' | 35:BC:35:A:H5" | 2.25 | 0.66 |
| 37:BE:79:ASP:O | 37:BE:83:MET:HG2 | 1.95 | 0.66 |
| 38:BF:97:LYS:O | 38:BF:98:ASN:O | 2.12 | 0.66 |
| 40:BH:31:LEU:HD23 | 40:BH:31:LEU:C | 2.16 | 0.66 |
| 40:BH:72:GLN:O | 40:BH:73:ASN:CB | 2.43 | 0.66 |
| 41:BI:6:VAL:HG13 | 41:BI:63:TYR:H | 1.59 | 0.66 |
| 42:BJ:16:LEU:O | 42:BJ:17:VAL:HG23 | 1.96 | 0.66 |
| 46:BN:27:ASN:ND2 | 46:BN:55:LYS:NZ | 2.43 | 0.66 |
| 47:BO:100:ILE:HD13 | 47:BO:100:ILE:N | 2.10 | 0.66 |
| 49:BQ:17:LYS:HG3 | 49:BQ:18:VAL:N | 2.08 | 0.66 |
| 49:BQ:23:ARG:H | 49:BQ:33:VAL:CG2 | 2.08 | 0.66 |
| 50:BR:40:SER:O | 50:BR:41:GLU:C | 2.32 | 0.66 |
| 52:BT:31:LEU:O | 52:BT:32:TYR:CD2 | 2.47 | 0.66 |
| 52:BT:57:VAL:HG23 | 52:BT:58:GLU:N | 2.09 | 0.66 |
| 52:BT:86:GLU:OE2 | 52:BT:89:LEU:HD12 | 1.96 | 0.66 |
| 54:BV:66:MET:HB2 | 54:BV:74:PHE:CE2 | 2.31 | 0.66 |
| 55:BW:55:ILE:O | 55:BW:56:MET:C | 2.34 | 0.66 |
| 2:AA:83:G:O2' | 2:AA:84:A:P | 2.54 | 0.66 |
| 2:AA:125:G:H3' | 31:A7:19:ARG:CZ | 2.25 | 0.66 |
| 2:AA:197:A:H61 | 2:AA:248:G:H22 | 1.41 | 0.66 |
| 2:AA:237:C:C5 | 2:AA:238:C:H5 | 2.14 | 0.66 |
| 2:AA:272:G:H1 | 2:AA:365:C:N4 | 1.93 | 0.66 |
| 2:AA:410:G:C2 | 2:AA:2407:G:N7 | 2.63 | 0.66 |
| 2:AA:457:A:C1' | 2:AA:459:U:O2 | 2.44 | 0.66 |
| 2:AA:529:A:C2' | 2:AA:530:G:C8 | 2.75 | 0.66 |
| 2:AA:536:A:H8 | 2:AA:536:A:O5' | 1.78 | 0.66 |
| 2:AA:711:G:O2' | 2:AA:712:G:H5' | 1.96 | 0.66 |
| 2:AA:867:C:O2 | 2:AA:867:C:H2' | 1.95 | 0.66 |
| 2:AA:902:C:O2' | 2:AA:903:C:H5' | 1.95 | 0.66 |
| 2:AA:941:A:C2 | 2:AA:942:G:H1' | 2.30 | 0.66 |
| 2:AA:1029:A:O2' | 2:AA:1030:G:P | 2.53 | 0.66 |
| 2:AA:1031:G:H4' | 33:A9:8:LYS:NZ | 2.09 | 0.66 |
| 2:AA:1060:U:H5" | 2:AA:1061:U:C4 | 2.31 | 0.66 |
| 2:AA:1191:G:H2' | 2:AA:1192:G:H8 | 1.59 | 0.66 |
| 2:AA:1213:A:C2 | 2:AA:1237:A:H1' | 2.30 | 0.66 |
| 2:AA:1413:G:O2' | 2:AA:1414:G:H5' | 1.95 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1707:G:H1' | 2:AA:1756:G:H1' | 1.77 | 0.66 |
| 2:AA:1846:G:N2 | 2:AA:1895:C:C2 | 2.62 | 0.66 |
| 2:AA:1999:C:O2' | 2:AA:2000:G:H5' | 1.95 | 0.66 |
| 2:AA:2013:A:OP1 | 18:AS:96:ILE:CB | 2.43 | 0.66 |
| 2:AA:2190:G:O2' | 2:AA:2191:G:H5' | 1.94 | 0.66 |
| 2:AA:2291:U:H2' | 2:AA:2292:C:C6 | 2.31 | 0.66 |
| 2:AA:2400:G:O3' | 30:A6:20:PHE:CZ | 2.48 | 0.66 |
| 2:AA:2570:G:H5" | 2:AA:2571:C:OP2 | 1.95 | 0.66 |
| 2:AA:2617:C:N3 | 2:AA:2618:G:C8 | 2.63 | 0.66 |
| 2:AA:2793:G:H1 | 2:AA:2803:C:H42 | 1.44 | 0.66 |
| 2:AA:2797:U:C4' | 2:AA:2797:U:OP1 | 2.43 | 0.66 |
| 2:AA:2861:G:C2' | 2:AA:2862:G:O5' | 2.43 | 0.66 |
| 5:AE:85:ALA:CB | 5:AE:87:GLU:CD | 2.63 | 0.66 |
| 7:AG:140:ARG:HD2 | 7:AG:144:ARG:HH22 | 1.60 | 0.66 |
| 9:AI:72:GLN:HA | 9:AI:75:LYS:CD | 2.25 | 0.66 |
| 9:AJ:71:ILE:HG12 | 11:AL:62:GLU:H | 1.59 | 0.66 |
| 9:AJ:72:GLN:HA | 9:AJ:75:LYS:CD | 2.26 | 0.66 |
| 11:AL:28:LEU:HD11 | 11:AL:58:ILE:CD1 | 2.25 | 0.66 |
| 15:AP:15:THR:H | 15:AP:20:ILE:HD13 | 1.58 | 0.66 |
| 15:AP:64:ALA:HA | 15:AP:142:LYS:HG2 | 1.77 | 0.66 |
| 16:AQ:81:ALA:HB3 | 16:AQ:117:ALA:CB | 2.23 | 0.66 |
| 18:AS:14:PRO:O | 18:AS:17:VAL:HB | 1.96 | 0.66 |
| 21:AV:54:ILE:CG2 | 21:AV:55:THR:N | 2.59 | 0.66 |
| 25:A1:25:TRP:O | 25:A1:28:ARG:NH1 | 2.28 | 0.66 |
| 30:A6:13:GLU:O | 30:A6:52:GLU:O | 2.14 | 0.66 |
| 31:A7:38:GLY:O | 31:A7:40:HIS:CE1 | 2.48 | 0.66 |
| 34:BA:579:G:H2' | 34:BA:580:U:C5' | 2.25 | 0.66 |
| 34:BA:625:G:H4' | 51:BS:16:HIS:CG | 2.30 | 0.66 |
| 34:BA:668:G:H1' | 50:BR:46:HIS:HE2 | 1.56 | 0.66 |
| 34:BA:755:G:H2' | 34:BA:756:C:C6 | 2.30 | 0.66 |
| 34:BA:902:G:N2 | 34:BA:903:G:H1' | 2.11 | 0.66 |
| 34:BA:1300:G:C2 | 34:BA:1335:C:C2 | 2.83 | 0.66 |
| 34:BA:1301:U:O4 | 34:BA:1303:C:H1' | 1.95 | 0.66 |
| 34:BA:1470:G:O2' | 34:BA:1471:G:C5' | 2.42 | 0.66 |
| 35:BC:57:G:H2' | 35:BC:58:A:H5" | 1.77 | 0.66 |
| 37:BE:69:LEU:HD12 | 37:BE:162:ILE:CB | 2.23 | 0.66 |
| 38:BF:16:ARG:HH22 | 38:BF:184:TYR:N | 1.93 | 0.66 |
| 39:BG:123:HIS:HB2 | 39:BG:125:HIS:NE2 | 2.09 | 0.66 |
| 42:BJ:68:ASN:HD21 | 42:BJ:128:ALA:CA | 2.00 | 0.66 |
| 45:BM:51:ARG:HA | 49:BQ:45:ARG:NE | 2.10 | 0.66 |
| 46:BN:85:ARG:NE | 46:BN:111:ASP:CG | 2.48 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:46:LYS:O | 47:BO:48:PRO:O | 2.14 | 0.66 |
| 50:BR:27:VAL:O | 50:BR:31:LEU:HB2 | 1.95 | 0.66 |
| 52:BT:26:GLN:O | 52:BT:27:PHE:HB3 | 1.95 | 0.66 |
| 54:BV:62:ILE:HG13 | 54:BV:63:THR:H | 1.60 | 0.66 |
| 1:AB:42:C:H5' | 7:AG:48:MET:CG | 2.26 | 0.66 |
| 2:AA:138:G:C6 | 2:AA:142:G:O2' | 2.48 | 0.66 |
| 2:AA:245:G:P | 14:AO:53:ARG:HD3 | 2.35 | 0.66 |
| 2:AA:270(X):G:O2' | 2:AA:272:G:H4' | 1.96 | 0.66 |
| 2:AA:286:C:O5' | 2:AA:286:C:H6 | 1.78 | 0.66 |
| 2:AA:641:C:H3' | 2:AA:641:C:OP2 | 1.95 | 0.66 |
| 2:AA:705:A:H2' | 2:AA:705:A:N3 | 2.11 | 0.66 |
| 2:AA:729:G:O6 | 4:AD:207:ALA:HA | 1.96 | 0.66 |
| 2:AA:740:U:C5 | 2:AA:741:G:N7 | 2.64 | 0.66 |
| 2:AA:828:U:H2' | 2:AA:829:A:H8 | 1.52 | 0.66 |
| 2:AA:869:G:N1 | 2:AA:908:C:N4 | 2.34 | 0.66 |
| 2:AA:979:G:C8 | 2:AA:979:G:C3' | 2.79 | 0.66 |
| 2:AA:1102:C:C1' | 2:AA:1103:A:C8 | 2.78 | 0.66 |
| 2:AA:1137:G:O2' | 12:AM:85:GLY:HA3 | 1.95 | 0.66 |
| 2:AA:1160:G:O2' | 2:AA:1161:C:H5' | 1.95 | 0.66 |
| 2:AA:1183:G:H5" | 23:AX:29:ARG:CZ | 2.25 | 0.66 |
| 2:AA:1265:A:OP2 | 2:AA:2615:U:OP1 | 2.14 | 0.66 |
| 2:AA:1375:C:H2' | 2:AA:1376:C:H6 | 1.60 | 0.66 |
| 2:AA:1570:A:N6 | 2:AA:1571:A:H62 | 1.92 | 0.66 |
| 2:AA:1580:A:H2' | 2:AA:1581:G:C4 | 2.30 | 0.66 |
| 2:AA:1655:A:OP2 | 2:AA:1655:A:O4' | 2.13 | 0.66 |
| 2:AA:1669:A:H4' | 2:AA:2550:G:OP1 | 1.95 | 0.66 |
| 2:AA:1750:G:O2' | 2:AA:1751:C:H5' | 1.94 | 0.66 |
| 2:AA:1819:A:C8 | 4:AD:177:SER:OG | 2.49 | 0.66 |
| 2:AA:2252:G:O2' | 2:AA:2253:G:H5' | 1.96 | 0.66 |
| 2:AA:2264:C:C4 | 2:AA:2265:U:C5 | 2.83 | 0.66 |
| 2:AA:2354:G:C1' | 27:A3:31:VAL:HG13 | 2.26 | 0.66 |
| 2:AA:2364:C:C5' | 27:A3:38:VAL:HG13 | 2.26 | 0.66 |
| 2:AA:2727:G:C4' | 13:AN:70:ARG:NH2 | 2.58 | 0.66 |
| 2:AA:2787:C:H2' | 2:AA:2788:C:H6 | 1.59 | 0.66 |
| 4:AD:90:ILE:CG1 | 4:AD:105:ALA:H | 2.08 | 0.66 |
| 5:AE:299:SER:OG | 5:AE:301:PRO:CD | 2.38 | 0.66 |
| 6:AF:45:ASP:HB3 | 6:AF:98:ARG:CD | 2.26 | 0.66 |
| 6:AF:193:LEU:HB2 | 6:AF:233:THR:HG21 | 1.75 | 0.66 |
| 6:AF:196:THR:C | 6:AF:236:THR:OG1 | 2.34 | 0.66 |
| 8:AH:8:ILE:HG22 | 8:AH:9:GLU:N | 2.09 | 0.66 |
| 8:AH:87:GLU:H | 8:AH:148:ARG:HH21 | 1.41 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:7:LYS:CB | 10:AK:14:LYS:HE2 | 2.26 | 0.66 |
| 11:AL:12:GLN:O | 11:AL:13:LEU:HD23 | 1.95 | 0.66 |
| 12:AM:21:ARG:HA | 12:AM:24:SER:OG | 1.96 | 0.66 |
| 13:AN:10:VAL:CG1 | 13:AN:12:ASP:O | 2.42 | 0.66 |
| 14:AO:67:ARG:HE | 14:AO:67:ARG:H | 1.31 | 0.66 |
| 14:AO:94:ARG:NH2 | 14:AO:118:LEU:O | 2.29 | 0.66 |
| 14:AO:116:HIS:CD2 | 14:AO:118:LEU:HD11 | 2.31 | 0.66 |
| 15:AP:31:PHE:CA | 15:AP:85:ILE:HD11 | 2.14 | 0.66 |
| 17:AR:22:VAL:HG12 | 17:AR:28:THR:HB | 1.77 | 0.66 |
| 18:AS:24:ILE:HB | 18:AS:32:ALA:HB1 | 1.75 | 0.66 |
| 24:A0:37:THR:H | 24:A0:40:LYS:HB2 | 1.61 | 0.66 |
| 24:A0:86:ARG:NH1 | 24:A0:118:GLU:OE1 | 2.24 | 0.66 |
| 25:A1:55:ARG:CG | 25:A1:58:ARG:HE | 2.09 | 0.66 |
| 25:A1:59:ARG:CA | 25:A1:62:ILE:HG12 | 2.25 | 0.66 |
| 26:A2:69:ILE:HG23 | 26:A2:90:PHE:O | 1.94 | 0.66 |
| 26:A2:78:VAL:HG23 | 26:A2:82:ARG:CB | 2.18 | 0.66 |
| 27:A3:25:LYS:H | 27:A3:58:THR:HB | 1.60 | 0.66 |
| 34:BA:59:A:C2 | 34:BA:331:G:C2 | 2.83 | 0.66 |
| 34:BA:69:G:H2' | 34:BA:70:G:H8 | 1.60 | 0.66 |
| 34:BA:112:G:C2' | 34:BA:113:G:H5' | 2.26 | 0.66 |
| 34:BA:135:C:H3' | 34:BA:135:C:C6 | 2.30 | 0.66 |
| 34:BA:250:A:C2 | 34:BA:274:A:N1 | 2.62 | 0.66 |
| 34:BA:389:A:H2' | 34:BA:390:C:O5' | 1.94 | 0.66 |
| 34:BA:528:C:N4 | 47:BO:49:ASN:ND2 | 2.42 | 0.66 |
| 34:BA:609:A:H2' | 34:BA:610:G:O4' | 1.95 | 0.66 |
| 34:BA:737:A:OP1 | 41:BI:91:VAL:CA | 2.42 | 0.66 |
| 34:BA:819:A:C2 | 34:BA:1529:G:O6 | 2.48 | 0.66 |
| 34:BA:881:G:C6 | 34:BA:882:C:C4 | 2.83 | 0.66 |
| 34:BA:1068:G:C8 | 34:BA:1094:G:C8 | 2.84 | 0.66 |
| 34:BA:1133:G:N2 | 34:BA:1141:C:N3 | 2.39 | 0.66 |
| 34:BA:1201:A:O2' | 34:BA:1202:G:H5' | 1.95 | 0.66 |
| 38:BF:29:TYR:O | 38:BF:32:LEU:HB2 | 1.96 | 0.66 |
| 38:BF:195:VAL:C | 38:BF:196:LEU:HD23 | 2.15 | 0.66 |
| 40:BH:18:ARG:O | 40:BH:25:ARG:O | 2.14 | 0.66 |
| 40:BH:91:LEU:HD21 | 40:BH:118:ILE:CG2 | 2.26 | 0.66 |
| 41:BI:25:ILE:O | 41:BI:28:ARG:HB2 | 1.95 | 0.66 |
| 41:BI:45:LEU:CD2 | 41:BI:59:TYR:HD1 | 2.08 | 0.66 |
| 45:BM:40:LEU:HD11 | 45:BM:71:LEU:HG | 1.77 | 0.66 |
| 45:BM:60:ARG:HB2 | 45:BM:60:ARG:HH11 | 1.60 | 0.66 |
| 46:BN:20:TYR:CZ | 46:BN:83:ILE:HG12 | 2.30 | 0.66 |
| 46:BN:54:ARG:C | 46:BN:56:GLY:N | 2.48 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:6:THR:OG1 | 47:BO:9:GLN:CG | 2.44 | 0.66 |
| 47:BO:7:ILE:HA | 47:BO:10:LEU:HD12 | 1.76 | 0.66 |
| 47:BO:55:VAL:O | 47:BO:70:ILE:HD11 | 1.96 | 0.66 |
| 49:BQ:24:CYS:SG | 49:BQ:27:CYS:N | 2.69 | 0.66 |
| 2:AA:199:A:H2' | 2:AA:2433:A:N6 | 2.09 | 0.66 |
| 2:AA:297:C:N3 | 2:AA:298:G:H1' | 2.11 | 0.66 |
| 2:AA:563:G:N2 | 25:A1:37:GLN:NE2 | 2.31 | 0.66 |
| 2:AA:624:C:O2 | 2:AA:624:C:C2' | 2.38 | 0.66 |
| 2:AA:675:A:C2' | 2:AA:676:A:H5' | 2.24 | 0.66 |
| 2:AA:769:G:C2 | 2:AA:770:G:C8 | 2.84 | 0.66 |
| 2:AA:957:A:C2 | 2:AA:2459:A:H5' | 2.29 | 0.66 |
| 2:AA:973:A:H61 | 26:A2:81:ARG:HG3 | 1.60 | 0.66 |
| 2:AA:1028:A:O2' | 2:AA:1029:A:H5' | 1.96 | 0.66 |
| 2:AA:1029:A:HO2' | 2:AA:1030:G:P | 2.19 | 0.66 |
| 2:AA:1063:G:H2' | 2:AA:1064:C:C6 | 2.30 | 0.66 |
| 2:AA:1102:C:C2' | 2:AA:1103:A:H8 | 2.08 | 0.66 |
| 2:AA:1239:G:C4 | 2:AA:1240:U:C5 | 2.83 | 0.66 |
| 2:AA:1472:A:H2' | 2:AA:1473:G:C8 | 2.29 | 0.66 |
| 2:AA:1636:C:C1' | 2:AA:1761:C:H1' | 2.26 | 0.66 |
| 2:AA:1699:G:N7 | 2:AA:1763:G:N2 | 2.44 | 0.66 |
| 2:AA:1995:U:OP1 | 5:AE:220:GLN:NE2 | 2.29 | 0.66 |
| 2:AA:2067:G:N1 | 2:AA:2443:C:N4 | 2.28 | 0.66 |
| 2:AA:2137:C:H3' | 2:AA:2138:C:C6 | 2.31 | 0.66 |
| 2:AA:2261:C:H5' | 2:AA:2388:A:H4' | 1.77 | 0.66 |
| 2:AA:2316:C:O2' | 7:AG:151:ILE:HG13 | 1.96 | 0.66 |
| 2:AA:2512:C:H5" | 5:AE:219:VAL:CG1 | 2.25 | 0.66 |
| 2:AA:2531:A:H2' | 2:AA:2532:G:H5' | 1.77 | 0.66 |
| 2:AA:2533:A:OP1 | 2:AA:2665:A:H1' | 1.96 | 0.66 |
| 3:AC:28:LEU:HD12 | 3:AC:28:LEU:O | 1.95 | 0.66 |
| 3:AC:75:LEU:HD11 | 3:AC:107:TRP:HH2 | 1.59 | 0.66 |
| 3:AC:123:VAL:O | 3:AC:137:LEU:HD21 | 1.96 | 0.66 |
| 4:AD:90:ILE:HD12 | 4:AD:105:ALA:HB2 | 1.77 | 0.66 |
| 4:AD:162:GLN:OE1 | 4:AD:174:ARG:HB3 | 1.96 | 0.66 |
| 5:AE:216:ARG:HD3 | 5:AE:253:GLN:CA | 2.24 | 0.66 |
| 6:AF:232:LEU:C | 6:AF:233:THR:HG22 | 2.16 | 0.66 |
| 8:AH:119:GLY:O | 8:AH:121:GLU:OE2 | 2.14 | 0.66 |
| 9:AI:103:LYS:CB | 9:AI:114:ILE:HD13 | 2.26 | 0.66 |
| 9:AJ:18:LEU:HD13 | 9:AJ:45:ALA:N | 2.10 | 0.66 |
| 10:AK:66:LYS:O | 10:AK:69:LYS:HE2 | 1.96 | 0.66 |
| 10:AK:95:SER:OG | 10:AK:98:ILE:CD1 | 2.43 | 0.66 |
| 10:AK:111:ASP:CB | 10:AK:114:LYS:HG2 | 2.26 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:AL:75:ALA:CA | 11:AL:112:LYS:HZ2 | 2.08 | 0.66 |
| 12:AM:12:VAL:O | 12:AM:38:VAL:CA | 2.42 | 0.66 |
| 14:AO:104:ASP:O | 14:AO:105:TYR:CG | 2.49 | 0.66 |
| 16:AQ:35:VAL:HG11 | 16:AQ:37:ARG:NE | 2.09 | 0.66 |
| 16:AQ:122:ALA:O | 16:AQ:125:ALA:HB3 | 1.95 | 0.66 |
| 17:AR:53:ASP:O | 17:AR:56:ARG:CZ | 2.43 | 0.66 |
| 18:AS:58:ALA:O | 18:AS:63:ASP:N | 2.28 | 0.66 |
| 20:AU:42:VAL:HA | 20:AU:112:LEU:CD1 | 2.18 | 0.66 |
| 21:AV:16:GLU:C | 21:AV:36:ARG:NH1 | 2.49 | 0.66 |
| 23:AX:16:PRO:HB2 | 23:AX:19:GLN:HG2 | 1.76 | 0.66 |
| 25:A1:9:VAL:C | 25:A1:13:ARG:HH22 | 1.98 | 0.66 |
| 31:A7:11:LYS:O | 31:A7:12:ARG:C | 2.34 | 0.66 |
| 34:BA:155:C:H2' | 34:BA:156:G:H8 | 1.59 | 0.66 |
| 34:BA:333:G:H4' | 55:BW:16:HIS:HE2 | 1.60 | 0.66 |
| 34:BA:496:A:H4' | 34:BA:497:A:O5' | 1.96 | 0.66 |
| 34:BA:541:G:H2' | 34:BA:542:G:H8 | 1.60 | 0.66 |
| 34:BA:575:G:N2 | 34:BA:880:C:C2 | 2.60 | 0.66 |
| 34:BA:649:G:H2' | 34:BA:650:G:C8 | 2.31 | 0.66 |
| 34:BA:704:A:H2' | 34:BA:705:U:H6 | 1.60 | 0.66 |
| 34:BA:1172:C:H2' | 34:BA:1173:G:C8 | 2.24 | 0.66 |
| 34:BA:1248:A:N6 | 34:BA:1249:C:H42 | 1.93 | 0.66 |
| 34:BA:1278:U:C5' | 34:BA:1279:A:O4' | 2.44 | 0.66 |
| 34:BA:1326:C:H2' | 34:BA:1327:C:H6 | 1.59 | 0.66 |
| 34:BA:1425:U:H3 | 34:BA:1475:G:H1 | 1.43 | 0.66 |
| 35:BC:48:C:H5' | 35:BC:49:C:O5' | 1.95 | 0.66 |
| 37:BE:212:GLN:NE2 | 37:BE:215:LEU:HB3 | 2.11 | 0.66 |
| 39:BG:8:VAL:O | 39:BG:11:LEU:N | 2.27 | 0.66 |
| 42:BJ:77:SER:O | 42:BJ:156:TRP:CH2 | 2.49 | 0.66 |
| 42:BJ:142:GLU:O | 42:BJ:145:ALA:O | 2.13 | 0.66 |
| 43:BK:38:ILE:HA | 43:BK:41:ARG:CB | 2.26 | 0.66 |
| 43:BK:63:LEU:HB2 | 43:BK:65:TYR:CZ | 2.31 | 0.66 |
| 44:BL:118:LYS:C | 44:BL:120:ARG:N | 2.48 | 0.66 |
| 45:BM:49:VAL:HG21 | 49:BQ:44:LEU:HD21 | 1.78 | 0.66 |
| 51:BS:7:ALA:HB1 | 51:BS:9:PHE:HE2 | 1.61 | 0.66 |
| 52:BT:92:ARG:O | 52:BT:95:TYR:N | 2.28 | 0.66 |
| 53:BU:61:LYS:O | 53:BU:65:ILE:HG12 | 1.96 | 0.66 |
| 54:BV:64:GLU:CG | 54:BV:65:ASN:N | 2.59 | 0.66 |
| 1:AB:28:C:OP1 | 16:AQ:42:HIS:CE1 | 2.49 | 0.66 |
| 2:AA:30:G:OP2 | 25:A1:5:LYS:HD3 | 1.96 | 0.66 |
| 2:AA:152:G:H5" | 2:AA:153:C:OP2 | 1.95 | 0.66 |
| 2:AA:290:G:H22 | 2:AA:350:U:H2' | 1.60 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:331:A:C5 | 2:AA:1209:G:C2 | 2.84 | 0.66 |
| 2:AA:365:C:C4 | 2:AA:366:C:C5 | 2.83 | 0.66 |
| 2:AA:386:G:O2' | 2:AA:387:U:P | 2.54 | 0.66 |
| 2:AA:414:C:C4' | 2:AA:1863:G:H21 | 2.09 | 0.66 |
| 2:AA:458:G:C2' | 2:AA:469:G:H1 | 2.09 | 0.66 |
| 2:AA:775:G:H2' | 2:AA:794:G:C8 | 2.28 | 0.66 |
| 2:AA:957:A:C8 | 2:AA:959:A:C8 | 2.82 | 0.66 |
| 2:AA:996:A:C5 | 2:AA:1160:G:N1 | 2.63 | 0.66 |
| 2:AA:1129:A:O2' | 2:AA:2515:C:H2' | 1.96 | 0.66 |
| 2:AA:1198:U:H2' | 2:AA:1199:U:C6 | 2.31 | 0.66 |
| 2:AA:1332:G:N9 | 2:AA:1609:A:N1 | 2.43 | 0.66 |
| 2:AA:1529:A:C2 | 2:AA:1530:G:H4' | 2.31 | 0.66 |
| 2:AA:1683:C:H42 | 2:AA:1684:C:N4 | 1.94 | 0.66 |
| 2:AA:1725:G:C2 | 2:AA:1726:G:C8 | 2.84 | 0.66 |
| 2:AA:1837:C:N3 | 2:AA:1903:G:N2 | 2.35 | 0.66 |
| 2:AA:1924:C:C2 | 2:AA:1925:C:C5 | 2.82 | 0.66 |
| 2:AA:1967:C:H2' | 2:AA:1967:C:O2 | 1.94 | 0.66 |
| 2:AA:2027:G:H2' | 2:AA:2028:U:H6 | 1.59 | 0.66 |
| 2:AA:2043:C:O2' | 2:AA:2044:C:O5' | 2.14 | 0.66 |
| 2:AA:2076:U:O2' | 2:AA:2077:A:H5" | 1.96 | 0.66 |
| 2:AA:2398:U:H2' | 2:AA:2399:G:C8 | 2.29 | 0.66 |
| 2:AA:2718:G:H2' | 2:AA:2719:G:H8 | 1.61 | 0.66 |
| 2:AA:2791:C:N3 | 2:AA:2805:G:C6 | 2.64 | 0.66 |
| 4:AD:128:ALA:HB2 | 4:AD:190:THR:CA | 2.26 | 0.66 |
| 4:AD:194:VAL:HG21 | 4:AD:196:ASN:ND2 | 2.10 | 0.66 |
| 5:AE:85:ALA:O | 5:AE:96:LEU:O | 2.14 | 0.66 |
| 5:AE:213:PRO:HB2 | 5:AE:235:ILE:HG12 | 1.76 | 0.66 |
| 5:AE:231:TRP:C | 5:AE:232:ARG:HG3 | 2.14 | 0.66 |
| 5:AE:263:GLU:H | 5:AE:266:LYS:HZ2 | 1.44 | 0.66 |
| 5:AE:269:ILE:HG23 | 5:AE:297:LYS:HZ2 | 1.59 | 0.66 |
| 6:AF:35:VAL:C | 6:AF:39:GLN:NE2 | 2.47 | 0.66 |
| 6:AF:55:ARG:C | 6:AF:79:ARG:CZ | 2.64 | 0.66 |
| 6:AF:93:LYS:CB | 6:AF:96:LYS:HG3 | 2.24 | 0.66 |
| 6:AF:151:GLN:O | 6:AF:154:VAL:HB | 1.96 | 0.66 |
| 7:AG:14:ARG:HA | 7:AG:137:PRO:CD | 2.25 | 0.66 |
| 7:AG:40:ILE:O | 7:AG:44:ILE:HG13 | 1.96 | 0.66 |
| 8:AH:10:ILE:HD12 | 8:AH:49:ILE:HG13 | 1.76 | 0.66 |
| 10:AK:104:ALA:HB1 | 10:AK:105:GLN:HE22 | 1.60 | 0.66 |
| 11:AL:11:LEU:HD12 | 11:AL:58:ILE:HD12 | 1.77 | 0.66 |
| 11:AL:93:LYS:HD3 | 11:AL:96:ILE:HD12 | 1.78 | 0.66 |
| 11:AL:129:GLU:HB2 | 11:AL:139:VAL:HG11 | 1.76 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:17:CYS:SG | 12:AM:44:ALA:HB1 | 2.36 | 0.66 |
| 16:AQ:104:ILE:HG21 | 16:AQ:109:PRO:CD | 2.14 | 0.66 |
| 21:AV:149:ALA:HA | 21:AV:152:ILE:HD11 | 1.77 | 0.66 |
| 24:A0:26:LYS:HE2 | 24:A0:70:LEU:O | 1.96 | 0.66 |
| 25:A1:7:GLY:CA | 25:A1:8:ILE:HD12 | 2.26 | 0.66 |
| 25:A1:50:ARG:CZ | 26:A2:74:TYR:HD2 | 2.09 | 0.66 |
| 26:A2:15:SER:OG | 26:A2:16:GLU:N | 2.28 | 0.66 |
| 26:A2:21:ARG:O | 26:A2:22:VAL:O | 2.13 | 0.66 |
| 28:A4:59:PHE:O | 28:A4:60:ASN:C | 2.34 | 0.66 |
| 34:BA:5:U:C4 | 39:BG:86:LYS:CE | 2.71 | 0.66 |
| 34:BA:189:G:H2' | 34:BA:190:C:C5 | 2.31 | 0.66 |
| 34:BA:476:G:H21 | 34:BA:477:G:H1' | 1.61 | 0.66 |
| 34:BA:533:A:N7 | 34:BA:536:C:N4 | 2.44 | 0.66 |
| 34:BA:665:A:C2 | 34:BA:732:C:C4 | 2.84 | 0.66 |
| 34:BA:668:G:H2' | 34:BA:669:U:H6 | 1.60 | 0.66 |
| 34:BA:673:G:C5' | 41:BI:87:ARG:NE | 2.58 | 0.66 |
| 34:BA:928:G:O2' | 34:BA:1533:C:N4 | 2.29 | 0.66 |
| 34:BA:981:U:H6 | 34:BA:981:U:O5' | 1.79 | 0.66 |
| 34:BA:1061:G:C2 | 34:BA:1197:G:C2 | 2.84 | 0.66 |
| 34:BA:1180:A:H2' | 34:BA:1181:G:H5' | 1.77 | 0.66 |
| 34:BA:1239:A:H4' | 34:BA:1240:U:C5' | 2.21 | 0.66 |
| 35:BB:59:U:O2 | 35:BB:60:C:O2 | 2.13 | 0.66 |
| 35:BB:65:G:H2' | 35:BB:66:A:C8 | 2.30 | 0.66 |
| 37:BE:164:VAL:HG12 | 37:BE:186:ALA:HB2 | 1.77 | 0.66 |
| 37:BE:187:LEU:HB2 | 37:BE:201:ILE:HG21 | 1.77 | 0.66 |
| 39:BG:9:CYS:SG | 39:BG:31:CYS:CA | 2.84 | 0.66 |
| 40:BH:59:GLY:C | 40:BH:63:ARG:NH2 | 2.49 | 0.66 |
| 43:BK:67:PRO:CD | 43:BK:76:PRO:HB3 | 2.20 | 0.66 |
| 46:BN:12:ARG:HH12 | 46:BN:40:ILE:HA | 1.58 | 0.66 |
| 50:BR:71:GLN:O | 50:BR:75:PRO:HD3 | 1.96 | 0.66 |
| 51:BS:15:PRO:HB2 | 51:BS:17:TYR:HE1 | 1.60 | 0.66 |
| 54:BV:10:PHE:O | 54:BV:11:VAL:HG23 | 1.96 | 0.66 |
| 2:AA:54:G:C1' | 31:A7:35:ARG:NH2 | 2.59 | 0.66 |
| 2:AA:111:A:H4' | 22:AW:62:GLU:OE2 | 1.96 | 0.66 |
| 2:AA:319:C:N4 | 2:AA:323:G:H1 | 1.93 | 0.66 |
| 2:AA:324:A:N6 | 2:AA:339:U:O2 | 2.29 | 0.66 |
| 2:AA:347:A:C8 | 2:AA:347:A:C3' | 2.76 | 0.66 |
| 2:AA:360:G:C2' | 2:AA:361:G:O4' | 2.44 | 0.66 |
| 2:AA:825:C:O2' | 2:AA:826:U:H5' | 1.96 | 0.66 |
| 2:AA:970:C:O2 | 2:AA:970:C:H2' | 1.95 | 0.66 |
| 2:AA:1133:U:O2' | 2:AA:1134:G:H5" | 1.96 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1144:G:H2' | 2:AA:1145:C:C6 | 2.31 | 0.66 |
| 2:AA:1324:G:C4' | 2:AA:1616:A:H62 | 2.08 | 0.66 |
| 2:AA:1620:G:O2' | 2:AA:1621:U:H5' | 1.96 | 0.66 |
| 2:AA:1632:A:O5' | 2:AA:1632:A:C8 | 2.49 | 0.66 |
| 2:AA:1827:C:O2 | 2:AA:1827:C:C2' | 2.44 | 0.66 |
| 2:AA:2056:G:OP2 | 2:AA:2504:U:OP2 | 2.13 | 0.66 |
| 2:AA:2110:G:N1 | 2:AA:2179:C:C2 | 2.63 | 0.66 |
| 2:AA:2231:C:C2 | 2:AA:2232:U:C5 | 2.84 | 0.66 |
| 2:AA:2234:G:O2' | 2:AA:2235:G:H5' | 1.95 | 0.66 |
| 2:AA:2605:U:O2' | 2:AA:2606:C:C5' | 2.43 | 0.66 |
| 2:AA:2655:G:N3 | 2:AA:2655:G:C2' | 2.57 | 0.66 |
| 2:AA:2721:A:C5 | 2:AA:2873:A:N6 | 2.64 | 0.66 |
| 2:AA:2749:A:O4' | 8:AH:62:ALA:CA | 2.43 | 0.66 |
| 4:AD:208:GLY:O | 4:AD:211:HIS:CE1 | 2.48 | 0.66 |
| 5:AE:79:ARG:NH1 | 5:AE:104:PHE:O | 2.27 | 0.66 |
| 6:AF:16:VAL:HG12 | 6:AF:17:ASP:N | 2.09 | 0.66 |
| 6:AF:109:LEU:O | 6:AF:112:ARG:CB | 2.38 | 0.66 |
| 8:AH:86:LEU:HA | 8:AH:148:ARG:HH21 | 1.57 | 0.66 |
| 11:AL:9:ILE:HG12 | 11:AL:31:HIS:CD2 | 2.31 | 0.66 |
| 12:AM:15:ARG:NH1 | 12:AM:43:ARG:CZ | 2.59 | 0.66 |
| 13:AN:17:ARG:HE | 13:AN:47:THR:HA | 1.60 | 0.66 |
| 15:AP:56:ILE:CG2 | 15:AP:61:LEU:HD13 | 2.22 | 0.66 |
| 18:AS:8:ARG:CG | 18:AS:9:TYR:H | 1.92 | 0.66 |
| 19:AT:34:LYS:HZ2 | 19:AT:52:VAL:HG12 | 1.60 | 0.66 |
| 20:AU:18:GLU:C | 20:AU:21:LYS:HZ3 | 1.99 | 0.66 |
| 20:AU:101:LEU:HD21 | 20:AU:112:LEU:HG | 1.78 | 0.66 |
| 20:AU:101:LEU:HD22 | 20:AU:103:LEU:HD11 | 1.77 | 0.66 |
| 20:AU:103:LEU:C | 20:AU:105:ASP:N | 2.47 | 0.66 |
| 21:AV:25:ASN:O | 21:AV:26:LYS:C | 2.34 | 0.66 |
| 21:AV:64:ALA:CB | 21:AV:85:MET:HA | 2.26 | 0.66 |
| 22:AW:43:PRO:HD2 | 22:AW:46:ILE:HG12 | 1.77 | 0.66 |
| 24:A0:61:HIS:C | 24:A0:64:ARG:HH11 | 1.98 | 0.66 |
| 25:A1:107:LYS:O | 25:A1:110:VAL:HB | 1.95 | 0.66 |
| 26:A2:67:LYS:HZ1 | 26:A2:94:LYS:HD2 | 1.61 | 0.66 |
| 27:A3:41:ARG:O | 27:A3:67:VAL:CG2 | 2.44 | 0.66 |
| 32:A8:7:HIS:O | 32:A8:10:ALA:HB3 | 1.96 | 0.66 |
| 32:A8:60:LEU:HD23 | 32:A8:60:LEU:C | 2.16 | 0.66 |
| 34:BA:112:G:N2 | 34:BA:330:C:N4 | 2.43 | 0.66 |
| 34:BA:197:A:O2' | 34:BA:198:G:C8 | 2.49 | 0.66 |
| 34:BA:198:G:O6 | 34:BA:220:G:C4 | 2.49 | 0.66 |
| 34:BA:583:A:C2' | 34:BA:584:G:O4' | 2.44 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:629:G:H2' | 34:BA:630:G:H8 | 1.61 | 0.66 |
| 34:BA:676:A:H2' | 34:BA:677:U:C6 | 2.30 | 0.66 |
| 34:BA:825:G:N2 | 34:BA:875:C:N3 | 2.39 | 0.66 |
| 34:BA:986:A:H4' | 54:BV:55:LYS:CG | 2.23 | 0.66 |
| 34:BA:1104:G:HO2' | 34:BA:1105:A:H5' | 1.60 | 0.66 |
| 34:BA:1169:A:N6 | 34:BA:1171:G:C2 | 2.63 | 0.66 |
| 34:BA:1193:G:C8 | 34:BA:1193:G:H3' | 2.30 | 0.66 |
| 34:BA:1209:C:H2' | 34:BA:1210:C:C5' | 2.26 | 0.66 |
| 34:BA:1242:C:O2 | 34:BA:1302:U:O2 | 2.14 | 0.66 |
| 34:BA:1307:U:C5' | 48:BP:109:THR:HG21 | 2.25 | 0.66 |
| 34:BA:1431:C:H2' | 34:BA:1432:G:O4' | 1.96 | 0.66 |
| 35:BC:30:G:H1 | 35:BC:40:C:H42 | 0.75 | 0.66 |
| 35:BC:35:A:H5' | 35:BC:35:A:C8 | 2.25 | 0.66 |
| 37:BE:155:LEU:HB2 | 37:BE:159:PRO:HG3 | 1.78 | 0.66 |
| 37:BE:213:LEU:HD23 | 37:BE:213:LEU:C | 2.16 | 0.66 |
| 39:BG:205:GLU:OE2 | 40:BH:100:VAL:HB | 1.96 | 0.66 |
| 40:BH:74:GLY:C | 40:BH:115:VAL:HG12 | 2.16 | 0.66 |
| 40:BH:79:GLU:O | 40:BH:80:ILE:HG23 | 1.96 | 0.66 |
| 43:BK:89:PRO:HA | 43:BK:92:ARG:CZ | 2.25 | 0.66 |
| 44:BL:23:ASN:CG | 44:BL:24:GLY:N | 2.47 | 0.66 |
| 44:BL:111:ARG:HD2 | 49:BQ:61:TRP:HE1 | 1.60 | 0.66 |
| 47:BO:102:ARG:HE | 47:BO:109:GLY:C | 1.99 | 0.66 |
| 50:BR:35:ARG:NH1 | 50:BR:59:MET:HG3 | 2.08 | 0.66 |
| 51:BS:21:VAL:HG23 | 51:BS:34:GLU:O | 1.96 | 0.66 |
| 54:BV:40:ILE:HG21 | 54:BV:62:ILE:HD13 | 1.77 | 0.66 |
| 54:BV:80:TYR:HD1 | 54:BV:81:ARG:H | 1.43 | 0.66 |
| 1:AB:82:G:C4 | 1:AB:83:G:C8 | 2.84 | 0.66 |
| 2:AA:530:G:O2' | 2:AA:531:C:H4' | 1.95 | 0.66 |
| 2:AA:638:G:N7 | 2:AA:639:U:C2 | 2.64 | 0.66 |
| 2:AA:719:C:O2' | 2:AA:720:C:H5' | 1.96 | 0.66 |
| 2:AA:1021:A:H2 | 2:AA:1122:G:H5" | 1.60 | 0.66 |
| 2:AA:1035:U:C2 | 2:AA:1036:G:N7 | 2.64 | 0.66 |
| 2:AA:1084:A:P | 9:AI:40:ALA:N | 2.64 | 0.66 |
| 2:AA:1084:A:O4' | 9:AI:38:ALA:HB3 | 1.94 | 0.66 |
| 2:AA:1582:C:C3' | 2:AA:1583:A:H4' | 2.26 | 0.66 |
| 2:AA:1779:U:O4 | 2:AA:1784:A:C4 | 2.49 | 0.66 |
| 2:AA:1792:G:N2 | 2:AA:1827:C:C2 | 2.61 | 0.66 |
| 2:AA:1794:U:H5' | 2:AA:1900:A:N6 | 2.10 | 0.66 |
| 2:AA:1827:C:H1' | 2:AA:1970:A:H2 | 1.61 | 0.66 |
| 2:AA:1861:G:H5' | 3:AC:205:LYS:HD3 | 1.77 | 0.66 |
| 2:AA:1919:A:O2' | 2:AA:1920:C:H5' | 1.95 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1955:U:O2' | 2:AA:1956:U:P | 2.54 | 0.66 |
| 2:AA:2102:U:N3 | 2:AA:2103:C:N4 | 2.44 | 0.66 |
| 2:AA:2107:C:H6 | 2:AA:2107:C:O5' | 1.79 | 0.66 |
| 2:AA:2210:G:N2 | 4:AD:69:ASP:OD2 | 2.28 | 0.66 |
| 2:AA:2364:C:H5" | 27:A3:38:VAL:HG13 | 1.77 | 0.66 |
| 2:AA:2378:A:N3 | 16:AQ:26:LEU:CD2 | 2.59 | 0.66 |
| 2:AA:2674:G:H4' | 13:AN:30:ARG:HG2 | 1.78 | 0.66 |
| 2:AA:2680:C:H5' | 5:AE:302:GLY:HA2 | 1.78 | 0.66 |
| 2:AA:2731:G:H4' | 5:AE:264:LEU:HD12 | 1.78 | 0.66 |
| 2:AA:2742:C:H5" | 33:A9:35:ARG:CZ | 2.26 | 0.66 |
| 2:AA:2766:G:C2 | 2:AA:2767:C:C6 | 2.84 | 0.66 |
| 2:AA:2849:U:H4' | 2:AA:2850:A:H5' | 1.77 | 0.66 |
| 3:AC:143:GLY:O | 3:AC:144:THR:HG23 | 1.96 | 0.66 |
| 3:AC:166:ASP:OD2 | 3:AC:170:ALA:HB3 | 1.96 | 0.66 |
| 5:AE:270:ASP:N | 5:AE:270:ASP:OD2 | 2.28 | 0.66 |
| 6:AF:148:VAL:O | 6:AF:148:VAL:CG1 | 2.44 | 0.66 |
| 8:AH:86:LEU:HD13 | 8:AH:86:LEU:C | 2.16 | 0.66 |
| 8:AH:101:LYS:CG | 8:AH:115:GLU:HB2 | 2.26 | 0.66 |
| 9:AJ:102:ILE:CD1 | 9:AJ:118:LEU:HD22 | 2.25 | 0.66 |
| 11:AL:9:ILE:CD1 | 11:AL:31:HIS:HB3 | 2.25 | 0.66 |
| 12:AM:92:GLN:HG2 | 12:AM:93:ARG:N | 2.11 | 0.66 |
| 14:AO:62:ALA:HB3 | 14:AO:105:TYR:O | 1.96 | 0.66 |
| 15:AP:67:ALA:O | 15:AP:70:ARG:HB2 | 1.95 | 0.66 |
| 15:AP:95:GLU:N | 15:AP:95:GLU:CD | 2.49 | 0.66 |
| 19:AT:17:ASP:HA | 19:AT:20:PHE:HE1 | 1.59 | 0.66 |
| 21:AV:10:PRO:HG2 | 21:AV:11:LYS:N | 2.09 | 0.66 |
| 22:AW:6:GLN:O | 22:AW:9:ARG:HB3 | 1.95 | 0.66 |
| 22:AW:55:ARG:HA | 22:AW:58:THR:OG1 | 1.96 | 0.66 |
| 23:AX:19:GLN:CD | 23:AX:19:GLN:H | 1.98 | 0.66 |
| 25:A1:13:ARG:O | 25:A1:16:LYS:CB | 2.41 | 0.66 |
| 25:A1:55:ARG:O | 25:A1:58:ARG:N | 2.28 | 0.66 |
| 32:A8:23:MET:CG | 32:A8:46:LYS:HB3 | 2.26 | 0.66 |
| 32:A8:54:GLU:O | 32:A8:55:TRP:C | 2.34 | 0.66 |
| 33:A9:11:CYS:HB3 | 33:A9:32:HIS:HE1 | 1.57 | 0.66 |
| 34:BA:175:C:O2' | 34:BA:176:C:H5' | 1.95 | 0.66 |
| 34:BA:311:C:HO2' | 34:BA:312:C:H5' | 1.59 | 0.66 |
| 34:BA:438:G:N2 | 34:BA:496:A:O5' | 2.28 | 0.66 |
| 34:BA:673:G:HO2' | 34:BA:674:G:C1' | 2.08 | 0.66 |
| 34:BA:751:U:O4' | 50:BR:23:GLY:O | 2.14 | 0.66 |
| 34:BA:809:G:C2' | 34:BA:810:C:H5' | 2.25 | 0.66 |
| 34:BA:909:A:H8 | 34:BA:909:A:O5' | 1.79 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1424:C:N3 | 34:BA:1476:G:N2 | 2.37 | 0.66 |
| 35:BB:29:A:O2' | 35:BB:30:G:H5' | 1.95 | 0.66 |
| 35:BB:56:C:C6 | 35:BB:56:C:C4' | 2.78 | 0.66 |
| 36:B1:60:A:C2 | 36:B1:61:U:C5 | 2.84 | 0.66 |
| 37:BE:80:ILE:HD12 | 37:BE:211:ILE:HG21 | 1.78 | 0.66 |
| 37:BE:91:PRO:CG | 37:BE:155:LEU:N | 2.52 | 0.66 |
| 39:BG:102:ASP:HA | 39:BG:105:VAL:CG2 | 2.25 | 0.66 |
| 40:BH:51:VAL:HB | 40:BH:52:PRO:CD | 2.25 | 0.66 |
| 42:BJ:27:ILE:HG21 | 42:BJ:40:ALA:HA | 1.77 | 0.66 |
| 43:BK:18:ARG:CA | 43:BK:18:ARG:NH1 | 2.54 | 0.66 |
| 43:BK:80:ILE:H | 43:BK:80:ILE:CD1 | 1.88 | 0.66 |
| 43:BK:112:LEU:HG | 43:BK:133:LEU:HD23 | 1.77 | 0.66 |
| 44:BL:7:THR:H | 44:BL:83:ARG:HG2 | 1.61 | 0.66 |
| 45:BM:49:VAL:O | 45:BM:60:ARG:HA | 1.96 | 0.66 |
| 48:BP:14:ARG:H | 48:BP:44:ARG:NE | 1.93 | 0.66 |
| 48:BP:71:ARG:HA | 48:BP:74:VAL:HG23 | 1.77 | 0.66 |
| 50:BR:15:PHE:CD2 | 50:BR:30:ALA:HB2 | 2.31 | 0.66 |
| 51:BS:74:LEU:O | 51:BS:79:VAL:HG23 | 1.96 | 0.66 |
| 54:BV:47:HIS:H | 54:BV:62:ILE:CG2 | 2.08 | 0.66 |
| 1:AB:47:C:H2' | 1:AB:48:A:H5' | 1.76 | 0.66 |
| 1:AB:71:C:N4 | 1:AB:105:G:N1 | 2.10 | 0.66 |
| 1:AB:100:G:O2' | 1:AB:101:A:O4' | 2.13 | 0.66 |
| 2:AA:58:G:N1 | 2:AA:69:C:N4 | 2.44 | 0.66 |
| 2:AA:162:U:H5' | 2:AA:171:G:H1' | 1.76 | 0.66 |
| 2:AA:243:U:C2 | 2:AA:244:A:C8 | 2.83 | 0.66 |
| 2:AA:270:A:H2' | 2:AA:270(A):A:O4' | 1.95 | 0.66 |
| 2:AA:351:G:H2' | 2:AA:352:G:C8 | 2.31 | 0.66 |
| 2:AA:467:G:H2' | 2:AA:468:G:C5' | 2.26 | 0.66 |
| 2:AA:623:G:H2' | 2:AA:624:C:C6 | 2.18 | 0.66 |
| 2:AA:1034:G:C5' | 33:A9:18:ARG:CZ | 2.73 | 0.66 |
| 2:AA:1085:A:P | 9:AI:35:ALA:H | 2.18 | 0.66 |
| 2:AA:1283:G:N2 | 2:AA:1285:G:C2' | 2.59 | 0.66 |
| 2:AA:1413:G:C2' | 2:AA:1414:G:H5' | 2.26 | 0.66 |
| 2:AA:1414:G:N2 | 2:AA:1588:C:C2 | 2.59 | 0.66 |
| 2:AA:1491:G:H3' | 2:AA:1491:G:OP1 | 1.96 | 0.66 |
| 2:AA:1630:G:H1 | 2:AA:1636:C:H42 | 1.43 | 0.66 |
| 2:AA:1665:A:HO2' | 2:AA:1666:G:H5' | 1.60 | 0.66 |
| 2:AA:1775:U:HO2' | 2:AA:1776:G:H5' | 1.59 | 0.66 |
| 2:AA:1815:A:C2 | 2:AA:1817:G:C6 | 2.84 | 0.66 |
| 2:AA:1905:C:H2' | 2:AA:1930:G:C5 | 2.30 | 0.66 |
| 2:AA:1927:A:C6 | 2:AA:1928:A:C2 | 2.84 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2299:G:O2' | 2:AA:2300:G:H5' | 1.96 | 0.66 |
| 2:AA:2761:G:C2' | 2:AA:2762:G:H5' | 2.26 | 0.66 |
| 2:AA:2793:G:C6 | 2:AA:2794:C:N4 | 2.64 | 0.66 |
| 2:AA:2899:G:O2' | 2:AA:2900:A:O5' | 2.12 | 0.66 |
| 5:AE:199:ALA:HA | 5:AE:314:ALA:HA | 1.78 | 0.66 |
| 6:AF:1:MET:C | 6:AF:18:LEU:HG | 2.15 | 0.66 |
| 6:AF:93:LYS:HB3 | 6:AF:95:GLU:O | 1.96 | 0.66 |
| 8:AH:138:GLN:HG2 | 8:AH:142:GLU:OE1 | 1.95 | 0.66 |
| 9:AI:3:ILE:HD13 | 11:AL:117:ASN:CG | 2.16 | 0.66 |
| 9:AI:48:ALA:O | 9:AI:51:ALA:HB3 | 1.95 | 0.66 |
| 11:AL:19:THR:HG23 | 11:AL:39:CYS:CB | 2.25 | 0.66 |
| 14:AO:66:VAL:H | 14:AO:67:ARG:NH2 | 1.94 | 0.66 |
| 16:AQ:108:SER:O | 16:AQ:109:PRO:C | 2.33 | 0.66 |
| 16:AQ:108:SER:O | 16:AQ:110:THR:N | 2.29 | 0.66 |
| 19:AT:10:VAL:CG1 | 19:AT:15:MET:HG2 | 2.25 | 0.66 |
| 21:AV:19:ILE:CB | 21:AV:39:PHE:HE1 | 2.09 | 0.66 |
| 21:AV:107:GLU:HG3 | 21:AV:113:VAL:HG13 | 1.78 | 0.66 |
| 21:AV:108:VAL:HG12 | 21:AV:108:VAL:O | 1.95 | 0.66 |
| 21:AV:148:THR:HB | 21:AV:166:LEU:O | 1.96 | 0.66 |
| 21:AV:172:LEU:HD23 | 21:AV:173:PRO:O | 1.96 | 0.66 |
| 24:A0:24:GLN:O | 24:A0:25:ALA:C | 2.35 | 0.66 |
| 25:A1:21:ALA:HA | 25:A1:24:PHE:HE2 | 1.61 | 0.66 |
| 28:A4:52:THR:O | 28:A4:53:GLU:HB2 | 1.96 | 0.66 |
| 31:A7:4:THR:CA | 31:A7:6:GLN:HE22 | 2.08 | 0.66 |
| 31:A7:30:ILE:CG2 | 31:A7:33:ARG:HD2 | 2.23 | 0.66 |
| 34:BA:42:G:H2' | 34:BA:43:C:H6 | 1.57 | 0.66 |
| 34:BA:131:C:O2' | 34:BA:262:A:H1' | 1.95 | 0.66 |
| 34:BA:190(A):C:C2 | 34:BA:190(I):G:N2 | 2.64 | 0.66 |
| 34:BA:364:A:C2 | 34:BA:365:U:O4 | 2.49 | 0.66 |
| 34:BA:437:U:H5" | 39:BG:155:LEU:HD13 | 1.77 | 0.66 |
| 34:BA:522:C:H41 | 34:BA:523:A:N6 | 1.93 | 0.66 |
| 34:BA:607:A:H2' | 34:BA:608:A:C5' | 2.25 | 0.66 |
| 34:BA:625:G:C6 | 34:BA:626:U:C4 | 2.84 | 0.66 |
| 34:BA:1084:G:O3' | 34:BA:1086:U:C5 | 2.48 | 0.66 |
| 34:BA:1250:A:OP1 | 44:BL:66:ARG:HD2 | 1.96 | 0.66 |
| 34:BA:1346:A:H8 | 34:BA:1348:U:C2 | 2.14 | 0.66 |
| 35:BB:66:A:C6 | 35:BB:67:A:N6 | 2.64 | 0.66 |
| 37:BE:62:ALA:HB1 | 37:BE:225:ALA:HB3 | 1.77 | 0.66 |
| 38:BF:10:PHE:CE1 | 38:BF:178:LEU:HD22 | 2.31 | 0.66 |
| 38:BF:157:ILE:O | 38:BF:159:GLY:N | 2.29 | 0.66 |
| 38:BF:189:ALA:HB3 | 38:BF:196:LEU:HG | 1.78 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:25:ARG:HH21 | 39:BG:30:LYS:CD | 2.08 | 0.66 |
| 39:BG:120:LEU:HG | 39:BG:125:HIS:HB2 | 1.78 | 0.66 |
| 40:BH:76:ILE:O | 40:BH:93:PRO:HB3 | 1.96 | 0.66 |
| 43:BK:18:ARG:NH2 | 43:BK:78:GLN:HG3 | 2.10 | 0.66 |
| 43:BK:82:HIS:HB3 | 43:BK:138:TRP:NE1 | 2.09 | 0.66 |
| 46:BN:82:VAL:N | 46:BN:107:SER:O | 2.29 | 0.66 |
| 47:BO:43:VAL:HG12 | 47:BO:44:THR:O | 1.96 | 0.66 |
| 48:BP:32:GLU:HB3 | 48:BP:64:TRP:HZ3 | 1.59 | 0.66 |
| 51:BS:6:LEU:O | 51:BS:6:LEU:HD22 | 1.96 | 0.66 |
| 53:BU:39:VAL:HG12 | 53:BU:40:LEU:HD23 | 1.78 | 0.66 |
| 54:BV:12:ASP:O | 54:BV:15:LEU:HG | 1.96 | 0.66 |
| 1:AB:76:G:C8 | 1:AB:77:U:O4 | 2.49 | 0.65 |
| 2:AA:111:A:C2' | 2:AA:112:U:H5" | 2.26 | 0.65 |
| 2:AA:163:U:H5" | 2:AA:164:U:OP2 | 1.96 | 0.65 |
| 2:AA:417:C:H2' | 2:AA:418:G:C8 | 2.29 | 0.65 |
| 2:AA:524:U:H4' | 2:AA:554:U:H4' | 1.78 | 0.65 |
| 2:AA:558:G:OP1 | 12:AM:92:GLN:N | 2.29 | 0.65 |
| 2:AA:563:G:H2' | 2:AA:563:G:N3 | 2.11 | 0.65 |
| 2:AA:801:G:O2' | 2:AA:802:A:P | 2.54 | 0.65 |
| 2:AA:919:G:N2 | 2:AA:2268:A:C5' | 2.51 | 0.65 |
| 2:AA:1000:A:H2' | 2:AA:1001:A:O4' | 1.96 | 0.65 |
| 2:AA:1022:G:C2 | 2:AA:1140:C:C6 | 2.83 | 0.65 |
| 2:AA:1068:G:N1 | 2:AA:1073:A:C2 | 2.64 | 0.65 |
| 2:AA:1309:G:N2 | 2:AA:1611:C:H5' | 2.00 | 0.65 |
| 2:AA:1327:C:C3' | 2:AA:1328:G:H8 | 2.08 | 0.65 |
| 2:AA:1669:A:H2' | 2:AA:1670:C:H5" | 1.76 | 0.65 |
| 2:AA:1770:G:H2' | 2:AA:1771:C:C6 | 2.28 | 0.65 |
| 2:AA:1796:U:HO2' | 2:AA:1797:C:H6 | 1.42 | 0.65 |
| 2:AA:1935:G:C2 | 2:AA:1962:C:C6 | 2.84 | 0.65 |
| 2:AA:1995:U:C6 | 2:AA:1996:C:C5 | 2.84 | 0.65 |
| 2:AA:2020:A:N6 | 2:AA:2022:U:N3 | 2.45 | 0.65 |
| 2:AA:2075:U:C6 | 2:AA:2597:G:N2 | 2.63 | 0.65 |
| 2:AA:2093:G:H1' | 2:AA:2198:A:N1 | 2.10 | 0.65 |
| 2:AA:2123:G:C6 | 2:AA:2175:C:C2 | 2.84 | 0.65 |
| 2:AA:2246:G:N2 | 2:AA:2247:A:C4 | 2.64 | 0.65 |
| 2:AA:2331:G:O2' | 27:A3:70:ILE:CG2 | 2.43 | 0.65 |
| 2:AA:2331:G:C4' | 27:A3:70:ILE:HG13 | 2.26 | 0.65 |
| 2:AA:2392:A:C2 | 2:AA:2429:G:C4 | 2.83 | 0.65 |
| 2:AA:2768:C:C2 | 2:AA:2769:C:C6 | 2.84 | 0.65 |
| 4:AD:146:LYS:O | 4:AD:148:GLY:N | 2.29 | 0.65 |
| 5:AE:62:ARG:O | 5:AE:63:GLU:OE2 | 2.13 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:55:ARG:CA | 6:AF:79:ARG:NE | 2.59 | 0.65 |
| 6:AF:106:GLU:O | 6:AF:109:LEU:HB2 | 1.96 | 0.65 |
| 7:AG:22:VAL:CB | 7:AG:24:HIS:NE2 | 2.56 | 0.65 |
| 7:AG:141:VAL:HA | 7:AG:144:ARG:HH11 | 1.61 | 0.65 |
| 9:AJ:77:VAL:HG13 | 9:AJ:102:ILE:HG13 | 1.78 | 0.65 |
| 10:AK:12:LYS:NZ | 10:AK:14:LYS:HE3 | 2.11 | 0.65 |
| 11:AL:79:LEU:HD13 | 11:AL:137:ILE:HD13 | 1.78 | 0.65 |
| 15:AP:123:ILE:HG22 | 15:AP:124:ALA:N | 2.09 | 0.65 |
| 20:AU:19:ARG:HH11 | 20:AU:19:ARG:CB | 2.08 | 0.65 |
| 21:AV:145:ASP:O | 21:AV:171:VAL:HG22 | 1.96 | 0.65 |
| 23:AX:23:LEU:HD23 | 23:AX:23:LEU:N | 2.11 | 0.65 |
| 24:A0:34:ILE:HG22 | 24:A0:35:THR:N | 2.11 | 0.65 |
| 24:A0:44:LEU:CD1 | 24:A0:48:VAL:HG21 | 2.26 | 0.65 |
| 25:A1:55:ARG:HA | 25:A1:58:ARG:CD | 2.25 | 0.65 |
| 27:A3:4:LYS:NZ | 27:A3:11:LYS:NZ | 2.44 | 0.65 |
| 34:BA:16:A:H1' | 40:BH:17:ALA:HB3 | 1.78 | 0.65 |
| 34:BA:20:U:O4' | 34:BA:572:A:N1 | 2.29 | 0.65 |
| 34:BA:41:G:H2' | 34:BA:42:G:C8 | 2.29 | 0.65 |
| 34:BA:522:C:H42 | 34:BA:528:C:H42 | 1.42 | 0.65 |
| 34:BA:754:C:P | 50:BR:72:ARG:NH1 | 2.69 | 0.65 |
| 34:BA:841:U:C2' | 34:BA:848:C:OP1 | 2.43 | 0.65 |
| 34:BA:968:A:H8 | 34:BA:968:A:OP1 | 1.79 | 0.65 |
| 34:BA:1222:G:C2 | 34:BA:1223:C:N3 | 2.63 | 0.65 |
| 34:BA:1534:A:OP1 | 34:BA:1535:C:C4 | 2.49 | 0.65 |
| 36:B1:23:U:H3 | 36:B1:31:G:H1 | 0.75 | 0.65 |
| 36:B1:36:A:H2' | 36:B1:37:C:H4' | 1.78 | 0.65 |
| 37:BE:19:HIS:CE1 | 37:BE:206:ASP:HB2 | 2.31 | 0.65 |
| 37:BE:164:VAL:HG12 | 37:BE:186:ALA:CB | 2.26 | 0.65 |
| 37:BE:176:GLU:O | 37:BE:180:LEU:CG | 2.30 | 0.65 |
| 38:BF:10:PHE:O | 38:BF:10:PHE:CG | 2.49 | 0.65 |
| 38:BF:59:ARG:HH21 | 38:BF:64:VAL:HG13 | 1.59 | 0.65 |
| 41:BI:89:MET:HB3 | 53:BU:76:LEU:CD1 | 2.25 | 0.65 |
| 43:BK:45:ILE:HG13 | 43:BK:47:GLY:N | 2.09 | 0.65 |
| 43:BK:84:ARG:HD3 | 43:BK:136:GLU:OE2 | 1.95 | 0.65 |
| 44:BL:32:ASP:HB3 | 44:BL:35:GLU:OE2 | 1.96 | 0.65 |
| 48:BP:14:ARG:NE | 48:BP:42:ALA:HA | 2.11 | 0.65 |
| 51:BS:18:ARG:NH1 | 51:BS:32:TYR:OH | 2.29 | 0.65 |
| 1:AB:71:C:H2' | 1:AB:72:G:H8 | 1.61 | 0.65 |
| 2:AA:30:G:C5 | 2:AA:31:C:C5 | 2.84 | 0.65 |
| 2:AA:373:U:H4' | 2:AA:374:A:N7 | 2.11 | 0.65 |
| 2:AA:450:G:OP2 | 6:AF:85:LYS:O | 2.13 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:611:C:HO2' | 2:AA:616:A:H2 | 1.37 | 0.65 |
| 2:AA:684:G:C2 | 2:AA:775:G:C5 | 2.84 | 0.65 |
| 2:AA:813:U:O2' | 2:AA:814:C:H5' | 1.97 | 0.65 |
| 2:AA:951:C:H2' | 2:AA:952:G:H8 | 1.61 | 0.65 |
| 2:AA:973:A:C6 | 26:A2:81:ARG:N | 2.64 | 0.65 |
| 2:AA:1005:C:H2' | 2:AA:1006:C:C6 | 2.30 | 0.65 |
| 2:AA:1299:G:N2 | 2:AA:1642:G:C6 | 2.64 | 0.65 |
| 2:AA:1397:U:O2 | 2:AA:1397:U:H2' | 1.96 | 0.65 |
| 2:AA:1400:G:H2' | 2:AA:1401:G:H8 | 1.57 | 0.65 |
| 2:AA:1417:C:H2' | 2:AA:1418:G:O5' | 1.96 | 0.65 |
| 2:AA:1547:C:O2' | 2:AA:1548:C:H5' | 1.95 | 0.65 |
| 2:AA:1550:C:O5' | 2:AA:1550:C:H6 | 1.79 | 0.65 |
| 2:AA:1785:A:C2' | 2:AA:1786:A:H5' | 2.26 | 0.65 |
| 2:AA:1795:C:C2' | 2:AA:1796:U:C5' | 2.54 | 0.65 |
| 2:AA:2036:C:H6 | 2:AA:2036:C:H5' | 1.61 | 0.65 |
| 2:AA:2088:G:N2 | 2:AA:2232:U:C2 | 2.64 | 0.65 |
| 2:AA:2421:G:OP1 | 30:A6:4:ASP:OD1 | 2.14 | 0.65 |
| 2:AA:2435:A:C2' | 2:AA:2436:G:O5' | 2.45 | 0.65 |
| 2:AA:2497:A:C2' | 2:AA:2498:C:OP2 | 2.44 | 0.65 |
| 2:AA:2678:C:O2' | 2:AA:2679:A:H5' | 1.96 | 0.65 |
| 2:AA:2785:C:H2' | 2:AA:2786:U:C5 | 2.32 | 0.65 |
| 2:AA:2867:G:H5' | 2:AA:2868:A:C5' | 2.27 | 0.65 |
| 3:AC:83:ILE:HG23 | 3:AC:94:VAL:CG1 | 2.25 | 0.65 |
| 3:AC:103:ILE:HD13 | 3:AC:110:PHE:HE2 | 1.62 | 0.65 |
| 4:AD:232:VAL:CG2 | 4:AD:233:ASP:H | 2.09 | 0.65 |
| 5:AE:198:TYR:CD2 | 5:AE:265:ASN:C | 2.69 | 0.65 |
| 6:AF:193:LEU:HD12 | 6:AF:233:THR:CG2 | 2.27 | 0.65 |
| 6:AF:215:ALA:CA | 6:AF:239:ALA:HA | 2.26 | 0.65 |
| 7:AG:19:GLU:OE2 | 7:AG:135:VAL:CG1 | 2.39 | 0.65 |
| 9:AI:15:VAL:HG22 | 9:AI:48:ALA:CB | 2.27 | 0.65 |
| 12:AM:72:PRO:HB2 | 12:AM:77:GLY:HA3 | 1.79 | 0.65 |
| 16:AQ:32:PRO:HB3 | 16:AQ:49:THR:OG1 | 1.95 | 0.65 |
| 16:AQ:42:HIS:CD2 | 16:AQ:44:ARG:HH21 | 2.14 | 0.65 |
| 18:AS:50:VAL:HG21 | 18:AS:103:ILE:HG21 | 1.77 | 0.65 |
| 19:AT:3:ASP:O | 19:AT:4:VAL:HG22 | 1.96 | 0.65 |
| 19:AT:30:ASP:HA | 19:AT:62:LYS:CD | 2.21 | 0.65 |
| 22:AW:9:ARG:CZ | 22:AW:59:ILE:HG13 | 2.26 | 0.65 |
| 25:A1:14:HIS:O | 25:A1:18:LEU:HD23 | 1.96 | 0.65 |
| 26:A2:58:ALA:O | 26:A2:100:GLY:O | 2.14 | 0.65 |
| 26:A2:75:LYS:HE2 | 26:A2:75:LYS:CA | 2.22 | 0.65 |
| 30:A6:14:SER:O | 30:A6:22:TYR:HB3 | 1.97 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 33:A9:20:HIS:C | 33:A9:22:ARG:N | 2.50 | 0.65 |
| 34:BA:43:C:H5" | 51:BS:12:LYS:HB2 | 1.78 | 0.65 |
| 34:BA:344:A:O2' | 34:BA:345:C:P | 2.54 | 0.65 |
| 34:BA:573:A:N3 | 34:BA:883:C:O2' | 2.27 | 0.65 |
| 34:BA:665:A:C8 | 34:BA:733:A:N3 | 2.65 | 0.65 |
| 34:BA:1077:G:N2 | 34:BA:1079:G:H2' | 2.12 | 0.65 |
| 34:BA:1154:G:H2' | 34:BA:1155:G:C8 | 2.29 | 0.65 |
| 34:BA:1280:A:C1' | 45:BM:41:PRO:HG3 | 2.26 | 0.65 |
| 34:BA:1354:C:H2' | 34:BA:1355:G:C8 | 2.32 | 0.65 |
| 34:BA:1489:G:C3' | 34:BA:1490:C:H5" | 2.22 | 0.65 |
| 35:BB:58:A:H4' | 35:BB:59:U:OP1 | 1.97 | 0.65 |
| 35:BB:72:C:O2' | 35:BB:73:A:C5' | 2.45 | 0.65 |
| 36:B1:27:G:H2' | 36:B1:28:U:C6 | 2.31 | 0.65 |
| 37:BE:10:LEU:O | 37:BE:11:LEU:HG | 1.96 | 0.65 |
| 38:BF:154:SER:OG | 38:BF:197:GLY:N | 2.30 | 0.65 |
| 39:BG:12:CYS:CB | 39:BG:31:CYS:O | 2.45 | 0.65 |
| 42:BJ:62:PHE:O | 42:BJ:66:VAL:HG23 | 1.96 | 0.65 |
| 42:BJ:99:LEU:HD23 | 42:BJ:102:ARG:HD2 | 1.77 | 0.65 |
| 43:BK:46:LYS:HG3 | 43:BK:64:LYS:CG | 2.25 | 0.65 |
| 43:BK:61:VAL:CG1 | 43:BK:62:TYR:N | 2.57 | 0.65 |
| 48:BP:13:LYS:CA | 48:BP:44:ARG:HE | 2.02 | 0.65 |
| 54:BV:58:VAL:O | 54:BV:58:VAL:HG23 | 1.96 | 0.65 |
| 55:BW:97:ALA:O | 55:BW:99:LEU:HD23 | 1.96 | 0.65 |
| 1:AB:97:G:C5 | 1:AB:98:G:C8 | 2.85 | 0.65 |
| 2:AA:71:A:C4' | 2:AA:72:U:H3' | 2.26 | 0.65 |
| 2:AA:199:A:H5' | 2:AA:200:U:OP2 | 1.96 | 0.65 |
| 2:AA:379:G:H4' | 2:AA:2232:U:H5" | 1.78 | 0.65 |
| 2:AA:431:U:C6 | 2:AA:431:U:C3' | 2.77 | 0.65 |
| 2:AA:451:C:O3' | 6:AF:52:ALA:HB2 | 1.96 | 0.65 |
| 2:AA:528:A:C2 | 2:AA:2043:C:C4' | 2.76 | 0.65 |
| 2:AA:532:A:H4' | 2:AA:532:A:OP1 | 1.96 | 0.65 |
| 2:AA:612:G:C4' | 2:AA:616:A:C6 | 2.76 | 0.65 |
| 2:AA:737:C:O2' | 2:AA:738:G:H5' | 1.95 | 0.65 |
| 2:AA:919:G:H21 | 2:AA:2268:A:H5" | 1.57 | 0.65 |
| 2:AA:1008:C:O2' | 2:AA:1009:A:O5' | 2.15 | 0.65 |
| 2:AA:1022:G:C6 | 2:AA:1139:G:C4 | 2.84 | 0.65 |
| 2:AA:1058:G:C2' | 9:AI:3:ILE:HG13 | 2.26 | 0.65 |
| 2:AA:1071:G:H8 | 2:AA:1071:G:OP2 | 1.79 | 0.65 |
| 2:AA:1487:G:O2' | 2:AA:1488:G:H5' | 1.97 | 0.65 |
| 2:AA:1598:C:H5' | 19:AT:34:LYS:HB2 | 1.79 | 0.65 |
| 2:AA:1825:A:C8 | 4:AD:225:ARG:NH2 | 2.65 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1903:G:N3 | 2:AA:1904:G:N7 | 2.44 | 0.65 |
| 2:AA:1927:A:H5" | 2:AA:1928:A:P | 2.36 | 0.65 |
| 2:AA:1993:U:H4' | 5:AE:228:ARG:NE | 2.10 | 0.65 |
| 2:AA:2042:A:O2' | 2:AA:2043:C:H5' | 1.95 | 0.65 |
| 2:AA:2047:U:O2' | 2:AA:2048:G:H5' | 1.96 | 0.65 |
| 2:AA:2143:C:O2 | 2:AA:2148:G:N1 | 2.27 | 0.65 |
| 2:AA:2181:G:H2' | 2:AA:2182:G:C5' | 2.26 | 0.65 |
| 2:AA:2457:U:O4 | 2:AA:2458:G:C2 | 2.50 | 0.65 |
| 2:AA:2520:C:C4 | 2:AA:2567:G:C8 | 2.83 | 0.65 |
| 2:AA:2544:G:H8 | 2:AA:2544:G:O5' | 1.78 | 0.65 |
| 2:AA:2807:G:C6 | 2:AA:2892:A:N7 | 2.64 | 0.65 |
| 4:AD:123:ILE:H | 4:AD:123:ILE:CD1 | 2.09 | 0.65 |
| 4:AD:123:ILE:HD12 | 4:AD:123:ILE:N | 2.09 | 0.65 |
| 4:AD:156:ALA:O | 4:AD:196:ASN:ND2 | 2.28 | 0.65 |
| 8:AH:143:LEU:HA | 8:AH:146:ASN:HB2 | 1.76 | 0.65 |
| 8:AH:167:LEU:HD12 | 8:AH:169:ARG:HH22 | 1.61 | 0.65 |
| 9:AI:77:VAL:HG13 | 9:AI:102:ILE:HG13 | 1.77 | 0.65 |
| 9:AJ:18:LEU:HD11 | 9:AJ:44:VAL:HG12 | 1.77 | 0.65 |
| 9:AJ:29:PHE:HB2 | 9:AJ:34:ALA:HB2 | 1.77 | 0.65 |
| 9:AJ:76:VAL:CG2 | 9:AJ:121:ALA:HB2 | 2.26 | 0.65 |
| 10:AK:12:LYS:O | 10:AK:14:LYS:N | 2.29 | 0.65 |
| 10:AK:95:SER:OG | 10:AK:115:ILE:HD12 | 1.95 | 0.65 |
| 12:AM:104:TYR:CB | 12:AM:105:LEU:HD23 | 2.21 | 0.65 |
| 13:AN:103:ALA:CB | 13:AN:105:GLU:HG2 | 2.26 | 0.65 |
| 15:AP:20:ILE:CG1 | 15:AP:21:SER:N | 2.56 | 0.65 |
| 16:AQ:21:HIS:C | 16:AQ:23:ARG:N | 2.45 | 0.65 |
| 16:AQ:34:LEU:HD23 | 16:AQ:100:ALA:CB | 2.25 | 0.65 |
| 20:AU:27:LEU:HB3 | 20:AU:98:VAL:O | 1.97 | 0.65 |
| 21:AV:40:ASP:O | 21:AV:41:ARG:C | 2.33 | 0.65 |
| 21:AV:98:VAL:HG22 | 21:AV:134:LEU:HB3 | 1.78 | 0.65 |
| 22:AW:51:LYS:O | 22:AW:55:ARG:CD | 2.45 | 0.65 |
| 24:A0:90:ARG:NH2 | 24:A0:117:VAL:HG22 | 2.03 | 0.65 |
| 25:A1:33:ARG:O | 25:A1:36:PHE:N | 2.30 | 0.65 |
| 26:A2:62:GLU:O | 26:A2:95:ILE:HA | 1.97 | 0.65 |
| 28:A4:5:LEU:HG | 28:A4:8:LYS:O | 1.97 | 0.65 |
| 28:A4:58:LYS:CG | 28:A4:62:ARG:NH2 | 2.57 | 0.65 |
| 29:A5:12:SER:O | 29:A5:13:LYS:C | 2.34 | 0.65 |
| 32:A8:18:GLY:C | 32:A8:20:GLY:N | 2.49 | 0.65 |
| 34:BA:60:A:H4' | 34:BA:61:G:O5' | 1.96 | 0.65 |
| 34:BA:81:U:C2 | 34:BA:83:U:OP2 | 2.49 | 0.65 |
| 34:BA:350:G:N2 | 34:BA:351:G:N2 | 2.45 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:522:C:H42 | 34:BA:528:C:N4 | 1.94 | 0.65 |
| 34:BA:687:A:O2' | 34:BA:688:G:P | 2.54 | 0.65 |
| 34:BA:772:U:C2' | 34:BA:773:G:O5' | 2.43 | 0.65 |
| 34:BA:819:A:H5" | 34:BA:820:U:OP2 | 1.95 | 0.65 |
| 34:BA:848:C:O2' | 34:BA:849:C:O4' | 2.14 | 0.65 |
| 34:BA:872:A:O2' | 34:BA:873:A:P | 2.55 | 0.65 |
| 34:BA:888:G:OP2 | 34:BA:889:A:H2' | 1.96 | 0.65 |
| 34:BA:950:U:H2' | 34:BA:951:G:C5' | 2.27 | 0.65 |
| 34:BA:970:C:N4 | 48:BP:126:LYS:NZ | 2.45 | 0.65 |
| 34:BA:1462:G:H2' | 34:BA:1463:C:C6 | 2.31 | 0.65 |
| 34:BA:1498:U:O2' | 34:BA:1499:A:H8 | 1.79 | 0.65 |
| 38:BF:157:ILE:HD12 | 38:BF:164:ARG:HG3 | 1.76 | 0.65 |
| 39:BG:18:LYS:HG3 | 39:BG:33:MET:CG | 2.26 | 0.65 |
| 39:BG:25:ARG:HG2 | 39:BG:28:SER:OG | 1.96 | 0.65 |
| 39:BG:61:LYS:CA | 39:BG:203:VAL:HG22 | 2.27 | 0.65 |
| 40:BH:65:ASN:O | 40:BH:65:ASN:CG | 2.33 | 0.65 |
| 41:BI:53:ALA:CB | 41:BI:55:ASP:OD2 | 2.44 | 0.65 |
| 46:BN:65:ALA:HB1 | 46:BN:98:LEU:HD21 | 1.77 | 0.65 |
| 49:BQ:40:CYS:C | 49:BQ:42:ILE:N | 2.46 | 0.65 |
| 55:BW:10:LEU:HD12 | 55:BW:11:SER:H | 1.60 | 0.65 |
| 55:BW:46:GLU:HB2 | 55:BW:48:LYS:HE2 | 1.78 | 0.65 |
| 1:AB:61:G:H2' | 1:AB:62:C:C6 | 2.31 | 0.65 |
| 2:AA:30:G:O2' | 2:AA:31:C:H5' | 1.97 | 0.65 |
| 2:AA:67:U:O5' | 2:AA:67:U:H6 | 1.78 | 0.65 |
| 2:AA:137(A):G:C6 | 2:AA:139:G:C2 | 2.84 | 0.65 |
| 2:AA:138:G:H5" | 19:AT:43:GLU:CG | 2.20 | 0.65 |
| 2:AA:215:G:C4' | 2:AA:216:A:H4' | 2.27 | 0.65 |
| 2:AA:251:A:C2' | 2:AA:252:G:O5' | 2.43 | 0.65 |
| 2:AA:300:A:H2 | 2:AA:333:G:N3 | 1.94 | 0.65 |
| 2:AA:303:U:C2 | 2:AA:304:G:C8 | 2.84 | 0.65 |
| 2:AA:537:C:H2' | 2:AA:539:G:C8 | 2.32 | 0.65 |
| 2:AA:558:G:OP2 | 12:AM:91:LYS:HB3 | 1.97 | 0.65 |
| 2:AA:654:A:N3 | 2:AA:654:A:C2' | 2.57 | 0.65 |
| 2:AA:659:C:H2' | 2:AA:660:G:H8 | 1.62 | 0.65 |
| 2:AA:1022:G:C6 | 12:AM:47:THR:HG21 | 2.31 | 0.65 |
| 2:AA:142(A):A:OP1 | 2:AA:1143:A:OP2 | 2.15 | 0.65 |
| 2:AA:1272:A:C5 | 2:AA:1618:A:H1' | 2.31 | 0.65 |
| 2:AA:1479:G:C2 | 2:AA:1514:U:O2 | 2.49 | 0.65 |
| 2:AA:1640:C:H2' | 2:AA:1641:A:H8 | 1.62 | 0.65 |
| 2:AA:1649:G:C2 | 2:AA:1650:G:C8 | 2.85 | 0.65 |
| 2:AA:1697:G:C3' | 2:AA:1698:A:H5' | 2.27 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1704:G:C2 | 2:AA:1705:G:H1' | 2.32 | 0.65 |
| 2:AA:1935:G:N9 | 2:AA:1962:C:N4 | 2.45 | 0.65 |
| 2:AA:2113:U:OP2 | 2:AA:2117:A:H5" | 1.96 | 0.65 |
| 2:AA:2150:U:H2' | 2:AA:2151:G:N7 | 2.11 | 0.65 |
| 2:AA:2264:C:N3 | 2:AA:2276:G:N2 | 2.37 | 0.65 |
| 2:AA:2275:C:O2' | 15:AP:103:ALA:HA | 1.96 | 0.65 |
| 2:AA:2287:A:C2 | 2:AA:2289:G:H1' | 2.31 | 0.65 |
| 2:AA:2350:C:H2' | 2:AA:2351:G:H8 | 1.62 | 0.65 |
| 2:AA:2378:A:H1' | 16:AQ:101:VAL:HG21 | 1.77 | 0.65 |
| 2:AA:2432:A:N1 | 2:AA:2433:A:C2 | 2.64 | 0.65 |
| 2:AA:2522:U:O4 | 2:AA:2541:A:N1 | 2.30 | 0.65 |
| 2:AA:2740:A:H62 | 2:AA:2741:A:N6 | 1.93 | 0.65 |
| 2:AA:2779:U:H5' | 2:AA:2781:A:C8 | 2.32 | 0.65 |
| 2:AA:2810:A:C2 | 2:AA:2892:A:C2 | 2.84 | 0.65 |
| 2:AA:2868:A:H2' | 2:AA:2869:G:H8 | 1.61 | 0.65 |
| 3:AC:28:LEU:HD12 | 3:AC:31:GLU:HB2 | 1.78 | 0.65 |
| 4:AD:174:ARG:NH1 | 4:AD:174:ARG:HB2 | 2.12 | 0.65 |
| 6:AF:28:SER:HA | 6:AF:31:ILE:HG13 | 1.78 | 0.65 |
| 8:AH:41:THR:HB | 8:AH:52:THR:CB | 2.26 | 0.65 |
| 9:AI:38:ALA:O | 9:AI:41:ALA:HB3 | 1.97 | 0.65 |
| 9:AI:71:ILE:HG22 | 9:AI:75:LYS:CE | 2.27 | 0.65 |
| 9:AI:73:VAL:HA | 9:AI:121:ALA:CB | 2.24 | 0.65 |
| 10:AK:21:VAL:CG1 | 10:AK:26:ALA:HB2 | 2.27 | 0.65 |
| 11:AL:15:ALA:HB1 | 11:AL:46:THR:HB | 1.77 | 0.65 |
| 12:AM:54:VAL:CG2 | 12:AM:135:ILE:HD12 | 2.25 | 0.65 |
| 13:AN:104:ARG:NE | 13:AN:121:VAL:HG12 | 2.11 | 0.65 |
| 14:AO:66:VAL:HB | 14:AO:110:GLY:O | 1.96 | 0.65 |
| 15:AP:94:ARG:HH12 | 15:AP:104:PRO:HB2 | 1.61 | 0.65 |
| 19:AT:5:ILE:HD11 | 19:AT:41:VAL:N | 2.11 | 0.65 |
| 20:AU:31:LEU:HA | 20:AU:34:GLU:CD | 2.16 | 0.65 |
| 20:AU:101:LEU:HD21 | 20:AU:112:LEU:CD1 | 2.26 | 0.65 |
| 22:AW:43:PRO:CB | 22:AW:45:ARG:HB3 | 2.26 | 0.65 |
| 23:AX:9:VAL:O | 23:AX:53:LEU:O | 2.13 | 0.65 |
| 23:AX:30:ARG:NH2 | 23:AX:33:GLN:HB2 | 2.11 | 0.65 |
| 24:A0:48:VAL:HA | 24:A0:51:LEU:HD12 | 1.78 | 0.65 |
| 25:A1:69:ALA:CA | 25:A1:79:PHE:CZ | 2.79 | 0.65 |
| 26:A2:5:ILE:HD13 | 26:A2:12:TYR:CZ | 2.32 | 0.65 |
| 26:A2:50:ASP:CG | 26:A2:53:LYS:HG3 | 2.16 | 0.65 |
| 27:A3:39:ARG:O | 27:A3:40:GLN:O | 2.15 | 0.65 |
| 32:A8:38:GLY:O | 32:A8:41:ILE:N | 2.28 | 0.65 |
| 32:A8:52:LYS:C | 32:A8:54:GLU:N | 2.48 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 33:A9:4:ARG:HA | 33:A9:36:GLN:HA | 1.76 | 0.65 |
| 34:BA:332:G:H2' | 34:BA:333:G:H8 | 1.62 | 0.65 |
| 34:BA:389:A:C6 | 34:BA:390:C:H1' | 2.31 | 0.65 |
| 34:BA:499:A:C2 | 34:BA:546:G:N3 | 2.64 | 0.65 |
| 34:BA:510:A:C8 | 34:BA:510:A:O5' | 2.47 | 0.65 |
| 34:BA:518:C:N4 | 35:BB:34:G:N2 | 2.44 | 0.65 |
| 34:BA:883:C:H5' | 34:BA:884:U:OP2 | 1.97 | 0.65 |
| 34:BA:1326:C:N3 | 34:BA:1327:C:C4 | 2.64 | 0.65 |
| 35:BB:19:G:H1' | 35:BB:57:G:H21 | 1.61 | 0.65 |
| 35:BC:33:U:H3' | 35:BC:33:U:C6 | 2.32 | 0.65 |
| 35:BC:50:U:H2' | 35:BC:51:G:H8 | 1.61 | 0.65 |
| 35:BC:60:C:H4' | 35:BC:61:C:OP2 | 1.97 | 0.65 |
| 37:BE:77:ALA:O | 37:BE:80:ILE:CB | 2.43 | 0.65 |
| 39:BG:58:LEU:CD2 | 39:BG:62:GLN:HG2 | 2.26 | 0.65 |
| 40:BH:14:ARG:O | 40:BH:14:ARG:HG3 | 1.95 | 0.65 |
| 40:BH:20:GLN:NE2 | 40:BH:21:ALA:H | 1.93 | 0.65 |
| 40:BH:43:LEU:O | 40:BH:65:ASN:ND2 | 2.29 | 0.65 |
| 41:BI:41:GLU:O | 41:BI:42:GLU:CB | 2.44 | 0.65 |
| 42:BJ:69:VAL:HG21 | 42:BJ:104:LEU:CD1 | 2.27 | 0.65 |
| 43:BK:24:THR:O | 43:BK:60:ARG:HA | 1.96 | 0.65 |
| 44:BL:38:GLN:HA | 44:BL:38:GLN:OE1 | 1.95 | 0.65 |
| 45:BM:44:VAL:HG11 | 45:BM:46:ARG:NE | 2.11 | 0.65 |
| 45:BM:82:ILE:O | 45:BM:86:MET:HB3 | 1.96 | 0.65 |
| 48:BP:49:THR:HG22 | 48:BP:51:ALA:H | 1.60 | 0.65 |
| 51:BS:58:TYR:O | 51:BS:61:SER:N | 2.30 | 0.65 |
| 52:BT:61:GLU:HA | 52:BT:71:PHE:CE1 | 2.31 | 0.65 |
| 53:BU:30:ASP:OD1 | 53:BU:32:ARG:HB2 | 1.95 | 0.65 |
| 55:BW:90:GLN:O | 55:BW:93:GLU:HG3 | 1.96 | 0.65 |
| 1:AB:42:C:H2' | 1:AB:43:C:C5 | 2.31 | 0.65 |
| 1:AB:100:G:C2' | 1:AB:101:A:O4' | 2.45 | 0.65 |
| 2:AA:58:G:N2 | 2:AA:70:G:C5 | 2.65 | 0.65 |
| 2:AA:63:U:C6 | 2:AA:63:U:C3' | 2.78 | 0.65 |
| 2:AA:71:A:H4' | 2:AA:72:U:C5' | 2.25 | 0.65 |
| 2:AA:134:C:C2 | 2:AA:146:G:N2 | 2.64 | 0.65 |
| 2:AA:207:A:C2 | 2:AA:208:C:C2 | 2.84 | 0.65 |
| 2:AA:265:A:O2' | 2:AA:266:G:P | 2.55 | 0.65 |
| 2:AA:306:U:H5 | 2:AA:307:G:C8 | 2.15 | 0.65 |
| 2:AA:442:G:N2 | 6:AF:46:TYR:CE2 | 2.65 | 0.65 |
| 2:AA:487:C:C5 | 2:AA:488:G:N7 | 2.64 | 0.65 |
| 2:AA:635:C:O2' | 2:AA:639:U:OP1 | 2.13 | 0.65 |
| 2:AA:729:G:N7 | 4:AD:207:ALA:HB1 | 2.11 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:754:C:H2' | 2:AA:755:C:H5' | 1.78 | 0.65 |
| 2:AA:776:G:O2' | 2:AA:777:A:OP2 | 2.14 | 0.65 |
| 2:AA:776:G:N3 | 2:AA:793:A:N6 | 2.45 | 0.65 |
| 2:AA:945:A:H2' | 2:AA:946:G:O5' | 1.95 | 0.65 |
| 2:AA:1109:C:N4 | 2:AA:1110:G:N2 | 2.43 | 0.65 |
| 2:AA:1168:G:H2' | 2:AA:1169:G:C5' | 2.26 | 0.65 |
| 2:AA:1181:C:O2' | 2:AA:1182:A:P | 2.53 | 0.65 |
| 2:AA:1268:A:C2' | 2:AA:1269:A:C8 | 2.72 | 0.65 |
| 2:AA:1274:A:C2 | 2:AA:1302:A:C2 | 2.85 | 0.65 |
| 2:AA:1293:C:N3 | 2:AA:1294:U:C5 | 2.64 | 0.65 |
| 2:AA:1315:C:N4 | 2:AA:1337:G:N1 | 2.07 | 0.65 |
| 2:AA:1558:A:O2' | 2:AA:1559:G:H5" | 1.96 | 0.65 |
| 2:AA:1675:C:O2 | 2:AA:1676:A:O4' | 2.14 | 0.65 |
| 2:AA:1787:A:H3' | 2:AA:1787:A:OP2 | 1.96 | 0.65 |
| 2:AA:1835:G:N2 | 2:AA:1905:C:N3 | 2.41 | 0.65 |
| 2:AA:1856:G:O2' | 2:AA:1857:G:H5' | 1.96 | 0.65 |
| 2:AA:1909:C:C5 | 2:AA:1922:G:N2 | 2.65 | 0.65 |
| 2:AA:1971:A:H2' | 2:AA:1972:A:OP1 | 1.96 | 0.65 |
| 2:AA:1996:C:C5 | 2:AA:1996:C:OP1 | 2.50 | 0.65 |
| 2:AA:2056:G:C2 | 2:AA:2057:A:C8 | 2.85 | 0.65 |
| 2:AA:2081:C:H5' | 28:A4:35:VAL:HG21 | 1.78 | 0.65 |
| 2:AA:2280:G:C2 | 2:AA:2281:C:C5 | 2.85 | 0.65 |
| 2:AA:2402:C:O5' | 2:AA:2402:C:H6 | 1.80 | 0.65 |
| 2:AA:2527:C:H5" | 33:A9:30:VAL:HG12 | 1.79 | 0.65 |
| 2:AA:2561:A:C2' | 2:AA:2562:U:O5' | 2.44 | 0.65 |
| 2:AA:2603:G:H3' | 2:AA:2603:G:C8 | 2.32 | 0.65 |
| 2:AA:2649:U:C2' | 2:AA:2650:U:H6 | 2.04 | 0.65 |
| 2:AA:2742:C:H5" | 33:A9:35:ARG:NH1 | 2.12 | 0.65 |
| 2:AA:2818:G:N1 | 2:AA:2829:C:N4 | 2.44 | 0.65 |
| 2:AA:2892:A:H3' | 2:AA:2893:G:H8 | 1.60 | 0.65 |
| 4:AD:78:ALA:CB | 4:AD:94:ASN:ND2 | 2.60 | 0.65 |
| 4:AD:111:VAL:O | 4:AD:113:MET:N | 2.30 | 0.65 |
| 4:AD:197:GLY:H | 4:AD:199:ARG:NH1 | 1.95 | 0.65 |
| 5:AE:45:LYS:NZ | 5:AE:302:GLY:C | 2.50 | 0.65 |
| 5:AE:247:ARG:HD2 | 5:AE:249:THR:OG1 | 1.97 | 0.65 |
| 6:AF:115:LEU:CD2 | 6:AF:246:ARG:HH22 | 2.08 | 0.65 |
| 9:AI:101:VAL:HG11 | 9:AI:104:SER:HB3 | 1.78 | 0.65 |
| 9:AJ:103:LYS:HD3 | 9:AJ:114:ILE:HG12 | 1.78 | 0.65 |
| 12:AM:79:PHE:O | 12:AM:80:LYS:C | 2.34 | 0.65 |
| 13:AN:68:GLY:CA | 13:AN:78:ARG:HG2 | 2.26 | 0.65 |
| 15:AP:65:ARG:NH2 | 15:AP:122:PHE:CE2 | 2.61 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:81:VAL:HG12 | 21:AV:82:ASP:H | 1.60 | 0.65 |
| 21:AV:112:LEU:HA | 21:AV:174:PRO:CD | 2.20 | 0.65 |
| 26:A2:3:ALA:CB | 26:A2:44:GLN:OE1 | 2.43 | 0.65 |
| 26:A2:76:SER:OG | 26:A2:84:THR:O | 2.13 | 0.65 |
| 34:BA:80:G:H2' | 34:BA:81:U:H5" | 1.79 | 0.65 |
| 34:BA:194:C:H2' | 34:BA:195:A:H5" | 1.78 | 0.65 |
| 34:BA:346:G:H2' | 34:BA:347:G:O4' | 1.95 | 0.65 |
| 34:BA:372:C:N4 | 34:BA:389:A:N6 | 2.33 | 0.65 |
| 34:BA:533:A:C5 | 34:BA:536:C:N4 | 2.65 | 0.65 |
| 34:BA:562:C:O3' | 47:BO:15:ARG:HD2 | 1.96 | 0.65 |
| 34:BA:659:U:C2 | 34:BA:660:G:C8 | 2.85 | 0.65 |
| 34:BA:1055:A:H2 | 38:BF:193:TYR:O | 1.79 | 0.65 |
| 34:BA:1069:C:H1' | 34:BA:1191:A:C2 | 2.32 | 0.65 |
| 34:BA:1239:A:C2' | 34:BA:1298:C:N4 | 2.57 | 0.65 |
| 34:BA:1324:A:C6 | 34:BA:1325:C:C4 | 2.84 | 0.65 |
| 34:BA:1355:G:H1 | 34:BA:1367:C:H42 | 1.43 | 0.65 |
| 34:BA:1404:C:H2' | 34:BA:1405:G:C8 | 2.31 | 0.65 |
| 34:BA:1413:A:C2 | 34:BA:1414:U:C6 | 2.85 | 0.65 |
| 34:BA:1418:A:C2' | 34:BA:1419:G:H5' | 2.26 | 0.65 |
| 35:BB:23:A:C6 | 35:BB:24:G:C6 | 2.84 | 0.65 |
| 36:B1:11:U:O2 | 36:B1:45:A:N1 | 2.30 | 0.65 |
| 37:BE:24:TRP:CH2 | 37:BE:26:PRO:HA | 2.31 | 0.65 |
| 37:BE:25:ASN:CG | 37:BE:27:LYS:HB2 | 2.16 | 0.65 |
| 37:BE:78:GLN:HG3 | 37:BE:94:ASN:HB3 | 1.78 | 0.65 |
| 37:BE:146:GLN:HE21 | 37:BE:150:SER:HB2 | 1.61 | 0.65 |
| 39:BG:108:LEU:O | 39:BG:110:PHE:N | 2.30 | 0.65 |
| 42:BJ:126:ASP:HB3 | 42:BJ:131:LYS:HG3 | 1.79 | 0.65 |
| 44:BL:114:TYR:HB2 | 45:BM:60:ARG:HH12 | 1.58 | 0.65 |
| 46:BN:13:GLN:H | 46:BN:75:TYR:HB3 | 1.60 | 0.65 |
| 46:BN:85:ARG:NH2 | 46:BN:111:ASP:CG | 2.49 | 0.65 |
| 47:BO:41:ARG:NH1 | 47:BO:57:LYS:CE | 2.49 | 0.65 |
| 47:BO:115:LYS:O | 47:BO:117:ARG:N | 2.28 | 0.65 |
| 52:BT:78:GLU:HG3 | 52:BT:78:GLU:O | 1.96 | 0.65 |
| 55:BW:36:LEU:HD12 | 55:BW:62:LEU:HD12 | 1.78 | 0.65 |
| 55:BW:63:ILE:CG2 | 55:BW:77:ALA:HB1 | 2.23 | 0.65 |
| 2:AA:365:C:C2 | 2:AA:366:C:H5 | 2.14 | 0.65 |
| 2:AA:378:C:O2 | 2:AA:396:G:N1 | 2.28 | 0.65 |
| 2:AA:411:G:OP2 | 2:AA:2407:G:OP1 | 2.15 | 0.65 |
| 2:AA:448:U:O2' | 2:AA:449:A:OP1 | 2.09 | 0.65 |
| 2:AA:564:C:O2' | 2:AA:1252:G:O6 | 2.13 | 0.65 |
| 2:AA:593:G:C2 | 2:AA:594:U:C2 | 2.85 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:786:C:HO2' | 2:AA:787:U:H5' | 1.57 | 0.65 |
| 2:AA:821:A:O2' | 2:AA:945:A:C3' | 2.36 | 0.65 |
| 2:AA:849:A:C2 | 23:AX:21:ALA:HB1 | 2.31 | 0.65 |
| 2:AA:850:C:H5" | 23:AX:18:ASP:HB2 | 1.78 | 0.65 |
| 2:AA:933:A:O2' | 2:AA:934:G:H5' | 1.97 | 0.65 |
| 2:AA:1054:A:N6 | 2:AA:1104:C:N4 | 2.45 | 0.65 |
| 2:AA:1372:U:H2' | 2:AA:1373:A:C8 | 2.32 | 0.65 |
| 2:AA:1376:C:H2' | 2:AA:1376:C:O2 | 1.96 | 0.65 |
| 2:AA:1379:A:H3' | 2:AA:1379:A:C4 | 2.32 | 0.65 |
| 2:AA:1395:A:OP2 | 2:AA:1603:A:OP1 | 2.14 | 0.65 |
| 2:AA:1477:A:C2 | 2:AA:1516:U:C2 | 2.84 | 0.65 |
| 2:AA:1485:G:H8 | 2:AA:1485:G:OP2 | 1.79 | 0.65 |
| 2:AA:1518:C:C2 | 2:AA:1519:G:C1' | 2.77 | 0.65 |
| 2:AA:1534:G:N2 | 2:AA:1535:U:H5' | 2.11 | 0.65 |
| 2:AA:2019:A:C2' | 2:AA:2020:A:O4' | 2.43 | 0.65 |
| 2:AA:2520:C:C6 | 2:AA:2567:G:H1' | 2.32 | 0.65 |
| 2:AA:2711:A:P | 2:AA:2712:U:O3' | 2.53 | 0.65 |
| 2:AA:2737:G:H2' | 2:AA:2738:A:C8 | 2.31 | 0.65 |
| 2:AA:2740:A:N6 | 2:AA:2764:A:C8 | 2.65 | 0.65 |
| 2:AA:2838:G:C6 | 2:AA:2839:G:N7 | 2.64 | 0.65 |
| 2:AA:2850:A:C4 | 2:AA:2869:G:H4' | 2.30 | 0.65 |
| 3:AC:114:VAL:HG21 | 3:AC:153:ILE:CD1 | 2.26 | 0.65 |
| 4:AD:71:ASP:CG | 4:AD:118:GLY:HA3 | 2.15 | 0.65 |
| 4:AD:143:ILE:HD11 | 4:AD:154:VAL:HB | 1.78 | 0.65 |
| 5:AE:44:TYR:CE1 | 5:AE:308:VAL:HA | 2.32 | 0.65 |
| 6:AF:162:VAL:CG1 | 6:AF:163:HIS:N | 2.59 | 0.65 |
| 8:AH:21:ASN:ND2 | 8:AH:38:PRO:HD3 | 2.08 | 0.65 |
| 8:AH:26:LYS:HZ2 | 8:AH:33:THR:CG2 | 2.08 | 0.65 |
| 8:AH:36:PHE:HE2 | 8:AH:70:LEU:HB3 | 1.59 | 0.65 |
| 8:AH:98:GLN:HB2 | 8:AH:103:VAL:HG21 | 1.79 | 0.65 |
| 11:AL:54:LEU:HD23 | 11:AL:73:PRO:HG3 | 1.78 | 0.65 |
| 12:AM:10:VAL:HG21 | 12:AM:36:VAL:HG22 | 1.77 | 0.65 |
| 14:AO:67:ARG:HH12 | 14:AO:109:LEU:CD1 | 2.01 | 0.65 |
| 14:AO:116:HIS:O | 14:AO:118:LEU:HD21 | 1.95 | 0.65 |
| 15:AP:49:VAL:HA | 15:AP:121:ASP:HB2 | 1.79 | 0.65 |
| 18:AS:36:LEU:HD12 | 18:AS:51:LEU:CD2 | 2.25 | 0.65 |
| 21:AV:15:ASP:O | 21:AV:16:GLU:HB2 | 1.95 | 0.65 |
| 25:A1:53:LYS:O | 25:A1:57:PHE:CD1 | 2.50 | 0.65 |
| 25:A1:57:PHE:O | 25:A1:60:LEU:N | 2.30 | 0.65 |
| 25:A1:74:MET:HG3 | 25:A1:117:ARG:NH1 | 2.12 | 0.65 |
| 28:A4:48:ARG:HG3 | 28:A4:49:PHE:CE1 | 2.32 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:A5:10:LYS:NZ | 29:A5:10:LYS:CA | 2.58 | 0.65 |
| 34:BA:61:G:O2' | 34:BA:62:U:H5' | 1.96 | 0.65 |
| 34:BA:174:C:H2' | 34:BA:175:C:H6 | 1.61 | 0.65 |
| 34:BA:359:U:H2' | 34:BA:360:A:O5' | 1.97 | 0.65 |
| 34:BA:439:A:H3' | 34:BA:440:A:C8 | 2.31 | 0.65 |
| 34:BA:463:A:O2' | 51:BS:82:GLN:HG2 | 1.97 | 0.65 |
| 34:BA:598:U:C4' | 43:BK:94:TYR:HD2 | 2.09 | 0.65 |
| 34:BA:688:G:N2 | 34:BA:699:C:N3 | 2.41 | 0.65 |
| 34:BA:784:C:C2 | 34:BA:785:G:C8 | 2.85 | 0.65 |
| 34:BA:887:G:H2' | 34:BA:888:G:H8 | 1.60 | 0.65 |
| 34:BA:900:A:C8 | 34:BA:901:A:N7 | 2.64 | 0.65 |
| 34:BA:904:C:O2' | 34:BA:905:U:H5' | 1.97 | 0.65 |
| 34:BA:986:A:N3 | 54:BV:52:TYR:OH | 2.29 | 0.65 |
| 34:BA:1049:U:C5 | 34:BA:1201:A:H5' | 2.32 | 0.65 |
| 34:BA:1115:C:C5 | 34:BA:1116:C:C5 | 2.85 | 0.65 |
| 34:BA:1228:C:OP1 | 48:BP:111:LYS:HD3 | 1.97 | 0.65 |
| 34:BA:1419:G:O2' | 34:BA:1420:C:C5' | 2.45 | 0.65 |
| 34:BA:1472:U:C2' | 34:BA:1473:A:H5' | 2.26 | 0.65 |
| 34:BA:1515:C:H2' | 34:BA:1516:G:H8 | 1.61 | 0.65 |
| 37:BE:16:HIS:C | 37:BE:204:ASN:HB2 | 2.17 | 0.65 |
| 37:BE:132:LYS:O | 37:BE:136:VAL:HG23 | 1.95 | 0.65 |
| 38:BF:122:GLU:O | 38:BF:125:GLU:HB2 | 1.97 | 0.65 |
| 40:BH:28:PHE:HD1 | 40:BH:28:PHE:H | 1.40 | 0.65 |
| 40:BH:141:GLN:N | 40:BH:141:GLN:OE1 | 2.29 | 0.65 |
| 43:BK:120:THR:HG23 | 43:BK:123:GLU:OE1 | 1.96 | 0.65 |
| 45:BM:12:ASP:OD1 | 45:BM:14:LYS:HB2 | 1.95 | 0.65 |
| 48:BP:2:ALA:O | 48:BP:4:ILE:HG13 | 1.96 | 0.65 |
| 48:BP:92:HIS:NE2 | 48:BP:98:VAL:HG11 | 2.12 | 0.65 |
| 48:BP:108:ARG:HH11 | 48:BP:108:ARG:CB | 2.10 | 0.65 |
| 50:BR:39:LEU:HD13 | 50:BR:56:LEU:HD13 | 1.78 | 0.65 |
| 50:BR:69:TYR:O | 50:BR:72:ARG:HB3 | 1.96 | 0.65 |
| 51:BS:9:PHE:CE2 | 51:BS:18:ARG:HG3 | 2.31 | 0.65 |
| 53:BU:63:GLN:HA | 53:BU:66:LEU:CD2 | 2.26 | 0.65 |
| 55:BW:49:ALA:HB3 | 55:BW:99:LEU:CG | 2.25 | 0.65 |
| 1:AB:12:C:H5 | 27:A3:53:MET:C | 1.98 | 0.65 |
| 2:AA:71:A:O2' | 19:AT:2:TRP:CZ2 | 2.49 | 0.65 |
| 2:AA:118:A:C8 | 2:AA:177:G:N2 | 2.65 | 0.65 |
| 2:AA:244:A:C1' | 2:AA:255:A:N6 | 2.58 | 0.65 |
| 2:AA:247:G:N2 | 2:AA:252:G:C6 | 2.64 | 0.65 |
| 2:AA:994:C:O3' | 2:AA:995:C:H4' | 1.95 | 0.65 |
| 2:AA:1083:U:N3 | 9:AI:36:PRO:HB3 | 2.11 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1168:G:O2' | 2:AA:1169:G:H5' | 1.97 | 0.65 |
| 2:AA:1223:C:N4 | 26:A2:87:ARG:HH21 | 1.94 | 0.65 |
| 2:AA:1332:G:C5 | 2:AA:1609:A:C6 | 2.85 | 0.65 |
| 2:AA:1341:U:O2' | 19:AT:53:ASN:OD1 | 2.15 | 0.65 |
| 2:AA:1517:G:O2' | 2:AA:1518:C:H5' | 1.97 | 0.65 |
| 2:AA:1534:G:N3 | 2:AA:1535:U:H5' | 2.11 | 0.65 |
| 2:AA:1544:C:C2' | 2:AA:1545:A:H4' | 2.27 | 0.65 |
| 2:AA:1666:G:H2' | 2:AA:1667:G:C5' | 2.24 | 0.65 |
| 2:AA:1726:G:C6 | 2:AA:1727:U:C2 | 2.85 | 0.65 |
| 2:AA:1769:G:N2 | 2:AA:1984:G:C4 | 2.64 | 0.65 |
| 2:AA:1774:C:N4 | 2:AA:1775:U:O4 | 2.30 | 0.65 |
| 2:AA:1814:G:C2 | 2:AA:1815:A:N6 | 2.65 | 0.65 |
| 2:AA:1829:A:H3' | 2:AA:1830:C:H6 | 1.61 | 0.65 |
| 2:AA:1986:A:C2 | 2:AA:1987:G:C8 | 2.84 | 0.65 |
| 2:AA:2047:U:H2' | 2:AA:2048:G:H8 | 1.61 | 0.65 |
| 2:AA:2198:A:C2 | 10:AK:29:PHE:HB3 | 2.31 | 0.65 |
| 2:AA:2244:U:H1' | 2:AA:2434:A:N7 | 2.11 | 0.65 |
| 2:AA:2286:A:H4' | 2:AA:2287:A:O4' | 1.97 | 0.65 |
| 2:AA:2353:G:N2 | 2:AA:2364:C:C2 | 2.64 | 0.65 |
| 2:AA:2680:C:H5" | 5:AE:302:GLY:CA | 2.27 | 0.65 |
| 2:AA:2714:G:C6 | 2:AA:2715:C:C4 | 2.85 | 0.65 |
| 3:AC:59:ARG:CZ | 3:AC:164:ARG:HH11 | 2.09 | 0.65 |
| 3:AC:127:LEU:HB3 | 3:AC:130:ILE:HB | 1.78 | 0.65 |
| 4:AD:76:ARG:HB3 | 4:AD:113:MET:HB3 | 1.77 | 0.65 |
| 4:AD:132:GLU:O | 4:AD:166:LYS:NZ | 2.30 | 0.65 |
| 4:AD:141:HIS:HB3 | 4:AD:154:VAL:HG11 | 1.78 | 0.65 |
| 8:AH:112:VAL:HB | 8:AH:151:ARG:NH2 | 2.12 | 0.65 |
| 8:AH:159:LYS:N | 8:AH:162:ARG:NH1 | 2.33 | 0.65 |
| 9:AI:29:PHE:HB2 | 9:AI:34:ALA:HB2 | 1.79 | 0.65 |
| 9:AJ:89:LYS:HZ2 | 11:AL:8:GLN:N | 1.95 | 0.65 |
| 10:AK:29:PHE:HD2 | 10:AK:30:LEU:HG | 1.57 | 0.65 |
| 10:AK:132:LYS:HA | 10:AK:138:THR:CG2 | 2.27 | 0.65 |
| 12:AM:45:VAL:HG13 | 12:AM:131:THR:HG23 | 1.78 | 0.65 |
| 13:AN:4:GLN:O | 13:AN:21:VAL:HB | 1.96 | 0.65 |
| 14:AO:120:LEU:O | 14:AO:140:VAL:O | 2.14 | 0.65 |
| 15:AP:82:LYS:HZ3 | 15:AP:84:ARG:NE | 1.94 | 0.65 |
| 18:AS:12:ILE:CG2 | 18:AS:13:SER:N | 2.58 | 0.65 |
| 19:AT:76:GLU:OE1 | 19:AT:77:VAL:N | 2.29 | 0.65 |
| 20:AU:101:LEU:HD22 | 20:AU:103:LEU:CG | 2.26 | 0.65 |
| 21:AV:2:GLU:OE1 | 21:AV:4:THR:HG23 | 1.97 | 0.65 |
| 21:AV:45:GLN:H | 21:AV:45:GLN:NE2 | 1.91 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:26:LEU:HD23 | 23:AX:46:ASN:HD22 | 1.61 | 0.65 |
| 25:A1:43:ALA:O | 25:A1:44:THR:C | 2.35 | 0.65 |
| 27:A3:36:ILE:O | 27:A3:37:LEU:HG | 1.95 | 0.65 |
| 27:A3:48:GLY:N | 27:A3:49:GLN:HE21 | 1.94 | 0.65 |
| 27:A3:59:LEU:CA | 27:A3:81:ILE:HG12 | 2.26 | 0.65 |
| 28:A4:6:HIS:HB2 | 28:A4:7:PRO:CD | 2.27 | 0.65 |
| 29:A5:10:LYS:NZ | 29:A5:10:LYS:CB | 2.60 | 0.65 |
| 31:A7:38:GLY:O | 31:A7:39:ARG:CB | 2.45 | 0.65 |
| 34:BA:22:G:H3' | 34:BA:23:C:H6 | 1.62 | 0.65 |
| 34:BA:373:A:C5 | 34:BA:482:A:N7 | 2.64 | 0.65 |
| 34:BA:375:U:H2' | 34:BA:376:G:C8 | 2.31 | 0.65 |
| 34:BA:409:G:H5' | 39:BG:24:GLU:HB3 | 1.78 | 0.65 |
| 34:BA:674:G:O2' | 53:BU:81:PHE:CE1 | 2.48 | 0.65 |
| 34:BA:694:A:H8 | 34:BA:694:A:O5' | 1.80 | 0.65 |
| 34:BA:777:A:N3 | 34:BA:778:G:C8 | 2.64 | 0.65 |
| 34:BA:932:C:H4' | 42:BJ:4:ARG:CZ | 2.27 | 0.65 |
| 34:BA:1101:A:O2' | 34:BA:1102:A:O5' | 2.14 | 0.65 |
| 34:BA:1249:C:O4' | 44:BL:70:LYS:NZ | 2.30 | 0.65 |
| 35:BC:34:G:N2 | 36:B1:62:G:H1 | 1.94 | 0.65 |
| 36:B1:52:A:C4 | 36:B1:53:G:N7 | 2.65 | 0.65 |
| 37:BE:115:LEU:HD22 | 37:BE:149:LEU:CB | 2.26 | 0.65 |
| 38:BF:82:GLU:O | 38:BF:85:ARG:HB3 | 1.96 | 0.65 |
| 39:BG:16:GLY:O | 39:BG:18:LYS:N | 2.30 | 0.65 |
| 43:BK:85:ARG:NH1 | 43:BK:85:ARG:HG2 | 2.11 | 0.65 |
| 46:BN:44:SER:O | 46:BN:47:VAL:HB | 1.96 | 0.65 |
| 46:BN:100:ALA:O | 46:BN:102:GLY:N | 2.27 | 0.65 |
| 48:BP:108:ARG:NH1 | 48:BP:111:LYS:CB | 2.59 | 0.65 |
| 49:BQ:55:GLY:O | 49:BQ:56:VAL:C | 2.34 | 0.65 |
| 52:BT:7:THR:O | 52:BT:23:VAL:HG22 | 1.96 | 0.65 |
| 52:BT:10:VAL:HB | 52:BT:54:GLY:H | 1.62 | 0.65 |
| 52:BT:24:GLU:HG2 | 52:BT:38:ARG:O | 1.97 | 0.65 |
| 52:BT:31:LEU:HG | 52:BT:32:TYR:CE2 | 2.32 | 0.65 |
| 55:BW:30:LYS:HB2 | 55:BW:30:LYS:HZ3 | 1.60 | 0.65 |
| 2:AA:136:G:O3' | 2:AA:137:C:C4' | 2.43 | 0.65 |
| 2:AA:136:G:O6 | 2:AA:143:C:C4 | 2.50 | 0.65 |
| 2:AA:270(S):G:C2' | 2:AA:270(T):G:C8 | 2.78 | 0.65 |
| 2:AA:271(B):G:N2 | 2:AA:421:U:OP1 | 2.27 | 0.65 |
| 2:AA:285:C:H2' | 2:AA:286:C:N1 | 2.11 | 0.65 |
| 2:AA:364:C:C2 | 2:AA:365:C:C4 | 2.83 | 0.65 |
| 2:AA:422:A:C2' | 2:AA:423:A:O5' | 2.44 | 0.65 |
| 2:AA:459:U:C5 | 2:AA:460:A:N7 | 2.65 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:499:U:O2' | 2:AA:500:G:H5' | 1.97 | 0.65 |
| 2:AA:514:A:N3 | 2:AA:515:A:C8 | 2.65 | 0.65 |
| 2:AA:567:A:H2 | 2:AA:568:U:H1' | 1.62 | 0.65 |
| 2:AA:585:G:C6 | 2:AA:1251:C:C5 | 2.85 | 0.65 |
| 2:AA:760:G:C2 | 2:AA:761:A:H1' | 2.31 | 0.65 |
| 2:AA:1074:G:O2' | 2:AA:1075:C:H5' | 1.95 | 0.65 |
| 2:AA:1084:A:C2 | 9:AI:29:PHE:HE1 | 2.15 | 0.65 |
| 2:AA:1091:G:N2 | 2:AA:1101:U:C6 | 2.65 | 0.65 |
| 2:AA:1135:C:C2 | 2:AA:1136:G:C8 | 2.85 | 0.65 |
| 2:AA:1144:G:C8 | 2:AA:1145:C:C5 | 2.85 | 0.65 |
| 2:AA:1290:C:H2' | 2:AA:1291:C:C6 | 2.31 | 0.65 |
| 2:AA:1560:G:H2' | 2:AA:1561:G:O5' | 1.97 | 0.65 |
| 2:AA:1668:A:N6 | 2:AA:1674:G:N3 | 2.45 | 0.65 |
| 2:AA:2051:A:O2' | 5:AE:238:LEU:HB2 | 1.97 | 0.65 |
| 2:AA:2056:G:N3 | 2:AA:2056:G:H2' | 2.11 | 0.65 |
| 2:AA:2056:G:N7 | 2:AA:2577:A:C5 | 2.65 | 0.65 |
| 2:AA:2289:G:H5" | 2:AA:2384:G:O2' | 1.96 | 0.65 |
| 2:AA:2373:G:C2 | 2:AA:2374:C:N3 | 2.65 | 0.65 |
| 2:AA:2603:G:C6 | 2:AA:2604:U:C4 | 2.84 | 0.65 |
| 2:AA:2684:U:O2 | 2:AA:2725:A:N1 | 2.29 | 0.65 |
| 2:AA:2785:C:HO2' | 5:AE:100:TRP:HD1 | 1.40 | 0.65 |
| 3:AC:15:ASP:OD2 | 3:AC:20:TYR:CE2 | 2.49 | 0.65 |
| 5:AE:216:ARG:HD3 | 5:AE:254:GLY:N | 2.12 | 0.65 |
| 5:AE:269:ILE:H | 5:AE:269:ILE:CD1 | 1.92 | 0.65 |
| 6:AF:34:ALA:HB2 | 6:AF:110:ALA:CB | 2.23 | 0.65 |
| 6:AF:59:GLU:HB2 | 6:AF:61:PHE:CE2 | 2.32 | 0.65 |
| 6:AF:201:SER:O | 6:AF:202:THR:O | 2.15 | 0.65 |
| 7:AG:24:HIS:HB3 | 7:AG:72:LYS:HD3 | 1.79 | 0.65 |
| 8:AH:147:ILE:HG22 | 8:AH:148:ARG:N | 2.11 | 0.65 |
| 9:AI:80:ILE:HD13 | 9:AI:114:ILE:HG23 | 1.77 | 0.65 |
| 9:AJ:13:LEU:HD22 | 9:AJ:17:GLU:HB3 | 1.78 | 0.65 |
| 9:AJ:101:VAL:HG11 | 9:AJ:104:SER:HB3 | 1.78 | 0.65 |
| 10:AK:6:LEU:O | 10:AK:14:LYS:CE | 2.45 | 0.65 |
| 10:AK:22:ALA:O | 10:AK:25:TYR:HB2 | 1.97 | 0.65 |
| 10:AK:37:ILE:CG2 | 10:AK:38:GLU:N | 2.59 | 0.65 |
| 10:AK:40:THR:HG22 | 10:AK:42:ALA:HB3 | 1.79 | 0.65 |
| 12:AM:80:LYS:O | 12:AM:83:ILE:HG12 | 1.96 | 0.65 |
| 13:AN:63:VAL:CG2 | 13:AN:84:CYS:HA | 2.26 | 0.65 |
| 15:AP:67:ALA:CA | 15:AP:70:ARG:NH1 | 2.60 | 0.65 |
| 15:AP:74:ASN:HD22 | 15:AP:75:SER:H | 1.45 | 0.65 |
| 17:AR:45:GLU:HB3 | 17:AR:48:ASN:HD21 | 1.61 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:AT:23:LYS:HG2 | 19:AT:67:ARG:HG3 | 1.78 | 0.65 |
| 20:AU:68:ASP:C | 20:AU:70:ALA:H | 2.00 | 0.65 |
| 21:AV:13:LYS:O | 21:AV:36:ARG:NH2 | 2.29 | 0.65 |
| 25:A1:32:TYR:O | 25:A1:36:PHE:CE1 | 2.49 | 0.65 |
| 25:A1:37:GLN:O | 25:A1:38:THR:C | 2.35 | 0.65 |
| 25:A1:70:ARG:HG3 | 25:A1:76:TYR:OH | 1.97 | 0.65 |
| 25:A1:98:ILE:C | 25:A1:100:ALA:N | 2.47 | 0.65 |
| 26:A2:5:ILE:HA | 26:A2:39:PHE:HD2 | 1.62 | 0.65 |
| 27:A3:25:LYS:CE | 27:A3:57:HIS:ND1 | 2.60 | 0.65 |
| 32:A8:16:ILE:H | 32:A8:16:ILE:CD1 | 2.07 | 0.65 |
| 34:BA:190:C:O2' | 34:BA:190(A):C:H5' | 1.97 | 0.65 |
| 34:BA:431:A:N6 | 34:BA:432:A:C2 | 2.64 | 0.65 |
| 34:BA:738:C:H4' | 41:BI:70:ASP:HA | 1.78 | 0.65 |
| 34:BA:757:U:H1' | 34:BA:879:C:O2' | 1.97 | 0.65 |
| 34:BA:791:G:C6 | 34:BA:792:A:N6 | 2.61 | 0.65 |
| 34:BA:826:C:C2 | 34:BA:827:U:C5 | 2.84 | 0.65 |
| 34:BA:891:U:H2' | 34:BA:892:A:C8 | 2.27 | 0.65 |
| 34:BA:988:G:H21 | 34:BA:1016:A:H1' | 1.61 | 0.65 |
| 34:BA:1321:C:N4 | 34:BA:1322:C:N3 | 2.45 | 0.65 |
| 35:BC:53:G:C2 | 35:BC:62:A:C5 | 2.84 | 0.65 |
| 37:BE:78:GLN:HG3 | 37:BE:94:ASN:CB | 2.27 | 0.65 |
| 37:BE:84:GLU:HG3 | 37:BE:212:GLN:NE2 | 2.12 | 0.65 |
| 37:BE:187:LEU:CD2 | 37:BE:201:ILE:O | 2.44 | 0.65 |
| 42:BJ:122:HIS:HA | 42:BJ:125:MET:HG3 | 1.77 | 0.65 |
| 46:BN:82:VAL:HG12 | 46:BN:108:ILE:HG12 | 1.79 | 0.65 |
| 46:BN:126:ARG:C | 46:BN:128:ALA:N | 2.48 | 0.65 |
| 47:BO:27:LEU:HD22 | 47:BO:62:SER:CB | 2.26 | 0.65 |
| 51:BS:42:ARG:O | 51:BS:43:LYS:HD2 | 1.97 | 0.65 |
| 52:BT:59:ILE:CG1 | 52:BT:71:PHE:HB3 | 2.26 | 0.65 |
| 53:BU:31:LEU:HD13 | 53:BU:65:ILE:HG13 | 1.79 | 0.65 |
| 2:AA:8:A:H2' | 2:AA:9:U:H6 | 1.62 | 0.65 |
| 2:AA:124:G:N2 | 2:AA:128:C:C4 | 2.64 | 0.65 |
| 2:AA:290:G:N1 | 2:AA:350:U:N3 | 2.43 | 0.65 |
| 2:AA:319:C:H2' | 2:AA:320:A:O4' | 1.96 | 0.65 |
| 2:AA:573:G:H2' | 2:AA:574:C:H3' | 1.77 | 0.65 |
| 2:AA:695:G:C6 | 2:AA:768:G:C6 | 2.84 | 0.65 |
| 2:AA:710:G:H1 | 2:AA:721:C:N4 | 1.95 | 0.65 |
| 2:AA:714:U:C2' | 2:AA:715:G:OP2 | 2.43 | 0.65 |
| 2:AA:748:G:H8 | 2:AA:750:A:OP2 | 1.80 | 0.65 |
| 2:AA:818:G:C5 | 2:AA:1187:G:C2 | 2.85 | 0.65 |
| 2:AA:823:G:C6 | 2:AA:824:A:N6 | 2.65 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:838:C:N3 | 2:AA:941:A:N7 | 2.44 | 0.65 |
| 2:AA:984:A:C2' | 2:AA:985:C:OP1 | 2.42 | 0.65 |
| 2:AA:1188:U:O2 | 2:AA:1188:U:H2' | 1.97 | 0.65 |
| 2:AA:1270:C:O2' | 2:AA:1648:C:OP2 | 2.10 | 0.65 |
| 2:AA:1339:G:H1' | 2:AA:1393:A:N3 | 2.12 | 0.65 |
| 2:AA:1364:G:H5' | 2:AA:1364:G:C8 | 2.31 | 0.65 |
| 2:AA:1453:A:N7 | 2:AA:1454:U:H6 | 1.95 | 0.65 |
| 2:AA:1678:G:H22 | 2:AA:1989:G:H22 | 1.42 | 0.65 |
| 2:AA:1782:C:C4 | 2:AA:2587:A:N6 | 2.64 | 0.65 |
| 2:AA:1936:A:C8 | 2:AA:1940:U:O4 | 2.49 | 0.65 |
| 2:AA:2064:C:H1' | 2:AA:2450:A:N6 | 2.12 | 0.65 |
| 2:AA:2065:C:H42 | 2:AA:2445:G:H1 | 1.44 | 0.65 |
| 2:AA:2072:G:C6 | 2:AA:2073:C:C4 | 2.84 | 0.65 |
| 2:AA:2317:C:H5' | 7:AG:150:SER:CA | 2.19 | 0.65 |
| 2:AA:2393:A:OP1 | 32:A8:27:SER:OG | 2.14 | 0.65 |
| 2:AA:2783:G:H8 | 2:AA:2783:G:O5' | 1.80 | 0.65 |
| 2:AA:2882:A:C5' | 24:A0:98:LEU:HD21 | 2.25 | 0.65 |
| 3:AC:114:VAL:HG21 | 3:AC:153:ILE:HG12 | 1.79 | 0.65 |
| 3:AC:215:THR:HB | 3:AC:221:SER:HA | 1.78 | 0.65 |
| 4:AD:64:ILE:HG12 | 4:AD:102:TYR:HB2 | 1.79 | 0.65 |
| 4:AD:103:ILE:CG1 | 4:AD:104:ILE:N | 2.59 | 0.65 |
| 5:AE:74:GLU:C | 5:AE:75:THR:OG1 | 2.35 | 0.65 |
| 6:AF:45:ASP:CB | 6:AF:98:ARG:CZ | 2.75 | 0.65 |
| 6:AF:115:LEU:HG | 6:AF:246:ARG:CZ | 2.26 | 0.65 |
| 9:AJ:71:ILE:HG22 | 9:AJ:75:LYS:CE | 2.26 | 0.65 |
| 14:AO:94:ARG:NH2 | 14:AO:118:LEU:C | 2.50 | 0.65 |
| 18:AS:19:LEU:HB3 | 29:A5:25:LEU:CG | 2.27 | 0.65 |
| 18:AS:50:VAL:CG2 | 18:AS:103:ILE:HG21 | 2.27 | 0.65 |
| 19:AT:14:ALA:HB1 | 19:AT:18:MET:HE2 | 1.79 | 0.65 |
| 20:AU:42:VAL:O | 20:AU:112:LEU:HD22 | 1.97 | 0.65 |
| 21:AV:54:ILE:HG23 | 21:AV:55:THR:N | 2.12 | 0.65 |
| 22:AW:5:VAL:CG1 | 22:AW:59:ILE:HD12 | 2.24 | 0.65 |
| 25:A1:67:ALA:O | 25:A1:71:LEU:HB2 | 1.97 | 0.65 |
| 26:A2:11:GLN:OE1 | 26:A2:21:ARG:HD3 | 1.97 | 0.65 |
| 26:A2:61:VAL:HG22 | 26:A2:97:GLY:CA | 2.20 | 0.65 |
| 26:A2:96:LEU:HD23 | 26:A2:96:LEU:H | 1.60 | 0.65 |
| 27:A3:18:PRO:HB2 | 27:A3:36:ILE:CD1 | 2.27 | 0.65 |
| 29:A5:56:GLN:O | 29:A5:57:VAL:HG23 | 1.96 | 0.65 |
| 33:A9:7:VAL:HB | 33:A9:36:GLN:CD | 2.17 | 0.65 |
| 34:BA:251:G:H5' | 34:BA:252:U:OP1 | 1.97 | 0.65 |
| 34:BA:253:U:H2' | 34:BA:254:G:H8 | 1.61 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:373:A:H2' | 34:BA:374:A:H8 | 1.61 | 0.65 |
| 34:BA:518:C:O2' | 34:BA:519:C:P | 2.55 | 0.65 |
| 34:BA:608:A:C2 | 34:BA:609:A:C8 | 2.84 | 0.65 |
| 34:BA:665:A:C2 | 34:BA:732:C:N3 | 2.65 | 0.65 |
| 34:BA:730:G:H21 | 34:BA:765:G:H4' | 1.62 | 0.65 |
| 34:BA:771:G:O6 | 34:BA:809:G:C6 | 2.50 | 0.65 |
| 34:BA:961:U:O4 | 34:BA:974:A:C2 | 2.47 | 0.65 |
| 34:BA:1159:U:C5 | 34:BA:1182:G:C4 | 2.84 | 0.65 |
| 34:BA:1274:G:H21 | 34:BA:1275:A:H62 | 1.44 | 0.65 |
| 34:BA:1292:U:H2' | 34:BA:1293:G:H8 | 1.59 | 0.65 |
| 34:BA:1418:A:C6 | 34:BA:1483:A:C6 | 2.85 | 0.65 |
| 34:BA:1526:G:O2' | 34:BA:1527:C:H5' | 1.96 | 0.65 |
| 42:BJ:90:GLU:O | 42:BJ:91:VAL:HG23 | 1.97 | 0.65 |
| 43:BK:25:ASP:C | 43:BK:58:TYR:HE2 | 1.99 | 0.65 |
| 43:BK:46:LYS:HG3 | 43:BK:64:LYS:HB2 | 1.77 | 0.65 |
| 43:BK:47:GLY:O | 43:BK:62:TYR:CD2 | 2.50 | 0.65 |
| 43:BK:104:ARG:CB | 43:BK:107:LEU:HG | 2.25 | 0.65 |
| 44:BL:69:GLY:C | 44:BL:73:GLN:OE1 | 2.36 | 0.65 |
| 50:BR:6:GLU:HG2 | 50:BR:7:GLU:N | 2.12 | 0.65 |
| 54:BV:15:LEU:HG | 54:BV:16:LEU:H | 1.62 | 0.65 |
| 54:BV:45:VAL:CG2 | 54:BV:67:VAL:HG21 | 2.26 | 0.65 |
| 54:BV:66:MET:HB2 | 54:BV:74:PHE:HE2 | 1.61 | 0.65 |
| 55:BW:53:LEU:HD21 | 55:BW:92:LEU:HD13 | 1.79 | 0.65 |
| 1:AB:58:A:N6 | 1:AB:59:A:C6 | 2.65 | 0.65 |
| 1:AB:59:A:H2' | 1:AB:60:C:H5' | 1.79 | 0.65 |
| 2:AA:18:C:O2 | 2:AA:553:U:H5" | 1.97 | 0.65 |
| 2:AA:25:U:N3 | 2:AA:515:A:N6 | 2.32 | 0.65 |
| 2:AA:72:U:O2' | 2:AA:73:A:P | 2.54 | 0.65 |
| 2:AA:119:A:C4' | 2:AA:120:U:H5' | 2.27 | 0.65 |
| 2:AA:152:G:C6 | 2:AA:175:G:N1 | 2.59 | 0.65 |
| 2:AA:217:G:C2 | 2:AA:218:A:O4' | 2.50 | 0.65 |
| 2:AA:297:C:C2 | 2:AA:298:G:H1' | 2.32 | 0.65 |
| 2:AA:342:G:N2 | 2:AA:344:G:H21 | 1.88 | 0.65 |
| 2:AA:371:A:O2' | 2:AA:372:G:OP1 | 2.15 | 0.65 |
| 2:AA:530:G:H1' | 2:AA:531:C:O3' | 1.97 | 0.65 |
| 2:AA:606:U:P | 6:AF:105:LYS:HD2 | 2.37 | 0.65 |
| 2:AA:613:U:H5' | 2:AA:614:U:C5 | 2.31 | 0.65 |
| 2:AA:625:G:C2 | 2:AA:626:U:O4' | 2.50 | 0.65 |
| 2:AA:638:G:C5 | 2:AA:639:U:O2 | 2.50 | 0.65 |
| 2:AA:729:G:N7 | 4:AD:207:ALA:CB | 2.59 | 0.65 |
| 2:AA:928:G:C2 | 2:AA:929:G:O6 | 2.51 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1063:G:H2' | 2:AA:1064:C:H6 | 1.62 | 0.65 |
| 2:AA:1091:G:N2 | 2:AA:1100:C:N3 | 2.45 | 0.65 |
| 2:AA:1128:A:O2' | 2:AA:1129:A:O5' | 2.15 | 0.65 |
| 2:AA:1238:G:C3' | 2:AA:1239:G:H5' | 2.25 | 0.65 |
| 2:AA:1298:C:C4' | 2:AA:1302:A:N6 | 2.59 | 0.65 |
| 2:AA:1341:U:H1' | 19:AT:53:ASN:HB3 | 1.78 | 0.65 |
| 2:AA:1362:C:H2' | 2:AA:1363:C:H6 | 1.61 | 0.65 |
| 2:AA:1474:C:O2 | 2:AA:1474:C:H2' | 1.97 | 0.65 |
| 2:AA:1727:U:O2 | 2:AA:1733:G:C6 | 2.50 | 0.65 |
| 2:AA:1769:G:C4' | 2:AA:1958:C:H5" | 2.27 | 0.65 |
| 2:AA:1893:C:H2' | 2:AA:1894:C:H6 | 1.60 | 0.65 |
| 2:AA:1918:A:OP2 | 2:AA:1918:A:C1' | 2.45 | 0.65 |
| 2:AA:1936:A:H5" | 2:AA:1937:A:C5' | 2.26 | 0.65 |
| 2:AA:1943:U:C1' | 2:AA:1945:G:H5" | 2.26 | 0.65 |
| 2:AA:2048:G:H2' | 2:AA:2049:G:O5' | 1.97 | 0.65 |
| 2:AA:2196:C:H2' | 2:AA:2196:C:O2 | 1.97 | 0.65 |
| 2:AA:2289:G:OP1 | 2:AA:2385:C:P | 2.55 | 0.65 |
| 2:AA:2448:A:P | 2:AA:2499:C:OP2 | 2.55 | 0.65 |
| 2:AA:2472:G:N2 | 2:AA:2529:G:H1 | 1.94 | 0.65 |
| 2:AA:2617:C:HO2' | 2:AA:2618:G:H5' | 1.61 | 0.65 |
| 2:AA:2715:C:C2 | 2:AA:2716:U:C5 | 2.85 | 0.65 |
| 2:AA:2718:G:OP1 | 17:AR:38:ASN:ND2 | 2.30 | 0.65 |
| 2:AA:2769:C:C2' | 2:AA:2770:G:H5' | 2.26 | 0.65 |
| 3:AC:22:ILE:HD12 | 3:AC:190:ARG:NH2 | 2.12 | 0.65 |
| 3:AC:22:ILE:HG21 | 3:AC:186:ALA:HA | 1.79 | 0.65 |
| 4:AD:175:LEU:HD21 | 4:AD:181:ARG:H | 1.62 | 0.65 |
| 4:AD:197:GLY:H | 4:AD:199:ARG:HH11 | 1.45 | 0.65 |
| 5:AE:211:GLN:HE22 | 5:AE:216:ARG:N | 1.94 | 0.65 |
| 5:AE:214:VAL:CG2 | 5:AE:221:LYS:NZ | 2.60 | 0.65 |
| 6:AF:3:ALA:HB3 | 6:AF:16:VAL:C | 2.16 | 0.65 |
| 10:AK:21:VAL:HG11 | 10:AK:30:LEU:CD1 | 2.26 | 0.65 |
| 10:AK:79:ILE:O | 10:AK:145:VAL:HG13 | 1.96 | 0.65 |
| 13:AN:2:ILE:H | 13:AN:67:ARG:NH2 | 1.95 | 0.65 |
| 15:AP:49:VAL:HG13 | 15:AP:50:VAL:N | 2.12 | 0.65 |
| 20:AU:71:VAL:HG13 | 20:AU:91:LEU:O | 1.97 | 0.65 |
| 21:AV:149:ALA:O | 21:AV:150:GLY:C | 2.35 | 0.65 |
| 23:AX:45:GLY:HA2 | 23:AX:48:GLU:OE1 | 1.95 | 0.65 |
| 25:A1:55:ARG:HG2 | 25:A1:58:ARG:HE | 1.61 | 0.65 |
| 27:A3:19:LYS:HD2 | 27:A3:21:LEU:HD21 | 1.77 | 0.65 |
| 27:A3:25:LYS:C | 27:A3:26:PHE:HD1 | 1.99 | 0.65 |
| 27:A3:37:LEU:N | 27:A3:68:VAL:HG13 | 2.11 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 28:A4:58:LYS:N | 28:A4:61:LYS:HD2 | 2.12 | 0.65 |
| 32:A8:13:ARG:HB3 | 32:A8:24:ALA:CB | 2.27 | 0.65 |
| 33:A9:20:HIS:O | 33:A9:22:ARG:N | 2.30 | 0.65 |
| 34:BA:219:C:C6 | 34:BA:219:C:C3' | 2.79 | 0.65 |
| 34:BA:439:A:C5' | 34:BA:494:G:H22 | 2.09 | 0.65 |
| 34:BA:482:A:N3 | 34:BA:482:A:C2' | 2.58 | 0.65 |
| 34:BA:826:C:O5' | 34:BA:826:C:H6 | 1.78 | 0.65 |
| 34:BA:1118:C:H1' | 34:BA:1179:A:C5 | 2.32 | 0.65 |
| 34:BA:1269:A:C6 | 34:BA:1312:G:O2' | 2.48 | 0.65 |
| 35:BC:14:A:H2' | 35:BC:15:G:C8 | 2.32 | 0.65 |
| 38:BF:73:PRO:HG3 | 38:BF:105:GLU:CD | 2.16 | 0.65 |
| 39:BG:123:HIS:CB | 39:BG:125:HIS:NE2 | 2.60 | 0.65 |
| 39:BG:130:GLY:O | 39:BG:131:ARG:O | 2.15 | 0.65 |
| 39:BG:148:VAL:HB | 39:BG:153:ARG:HG2 | 1.79 | 0.65 |
| 41:BI:11:ASN:OD1 | 41:BI:14:LEU:HD23 | 1.97 | 0.65 |
| 43:BK:47:GLY:C | 43:BK:61:VAL:HG13 | 2.17 | 0.65 |
| 43:BK:95:VAL:HB | 43:BK:99:GLU:OE2 | 1.96 | 0.65 |
| 44:BL:12:GLU:N | 44:BL:104:ARG:NH2 | 2.44 | 0.65 |
| 49:BQ:9:LYS:HA | 49:BQ:21:TYR:CE1 | 2.28 | 0.65 |
| 49:BQ:24:CYS:HB3 | 49:BQ:28:GLY:C | 2.16 | 0.65 |
| 50:BR:70:LEU:C | 50:BR:70:LEU:CD1 | 2.63 | 0.65 |
| 51:BS:6:LEU:HD23 | 51:BS:6:LEU:O | 1.94 | 0.65 |
| 53:BU:34:TYR:CE1 | 53:BU:35:ARG:HG3 | 2.32 | 0.65 |
| 53:BU:46:GLU:HB3 | 53:BU:85:LEU:HD11 | 1.77 | 0.65 |
| 53:BU:80:PRO:O | 53:BU:81:PHE:CD1 | 2.50 | 0.65 |
| 55:BW:43:LEU:HD12 | 55:BW:55:ILE:CD1 | 2.24 | 0.65 |
| 1:AB:88:C:C6 | 1:AB:88:C:C3' | 2.79 | 0.64 |
| 1:AB:115:G:C5' | 16:AQ:59:ALA:CB | 2.65 | 0.64 |
| 2:AA:71:A:O2' | 2:AA:72:U:C5' | 2.45 | 0.64 |
| 2:AA:243:U:H2' | 2:AA:243:U:O2 | 1.97 | 0.64 |
| 2:AA:274:G:OP2 | 2:AA:274:G:N2 | 2.30 | 0.64 |
| 2:AA:616:A:C2' | 2:AA:617:G:N3 | 2.60 | 0.64 |
| 2:AA:627:A:C6 | 2:AA:637:A:C1' | 2.72 | 0.64 |
| 2:AA:738:G:C4 | 2:AA:739:G:N3 | 2.65 | 0.64 |
| 2:AA:762:U:H5" | 2:AA:763:G:OP1 | 1.97 | 0.64 |
| 2:AA:848:G:C8 | 2:AA:848:G:C3' | 2.80 | 0.64 |
| 2:AA:872:A:HO2' | 15:AP:31:PHE:CB | 2.06 | 0.64 |
| 2:AA:929:G:OP2 | 2:AA:930:U:H5 | 1.80 | 0.64 |
| 2:AA:1063:G:H5' | 11:AL:88:GLY:HA3 | 1.79 | 0.64 |
| 2:AA:1175:U:H2' | 2:AA:1175:U:O2 | 1.97 | 0.64 |
| 2:AA:1222:C:C4 | 2:AA:1223:C:C5 | 2.85 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1298:C:C4' | 2:AA:1302:A:H62 | 2.07 | 0.64 |
| 2:AA:1298:C:O2' | 2:AA:1302:A:C8 | 2.46 | 0.64 |
| 2:AA:1339:G:C5' | 19:AT:13:LYS:HE3 | 2.27 | 0.64 |
| 2:AA:1392:A:H2' | 2:AA:1393:A:C8 | 2.32 | 0.64 |
| 2:AA:1656:C:H2' | 2:AA:1657:C:C5 | 2.32 | 0.64 |
| 2:AA:1789:A:H4' | 4:AD:224:VAL:HG11 | 1.78 | 0.64 |
| 2:AA:1885:A:O2' | 2:AA:1886:C:H5' | 1.97 | 0.64 |
| 2:AA:2212:A:C2 | 2:AA:2213:U:H5" | 2.32 | 0.64 |
| 2:AA:2326:C:H2' | 2:AA:2326:C:O2 | 1.97 | 0.64 |
| 2:AA:2332:U:C4' | 2:AA:2336:A:N6 | 2.60 | 0.64 |
| 2:AA:2356:C:H2' | 2:AA:2357:U:O5' | 1.97 | 0.64 |
| 2:AA:2488:A:O5' | 2:AA:2488:A:H8 | 1.80 | 0.64 |
| 2:AA:2543:G:C2' | 2:AA:2544:G:C8 | 2.76 | 0.64 |
| 2:AA:2548:G:H1 | 2:AA:2560:C:H42 | 1.43 | 0.64 |
| 2:AA:2589:A:C5 | 2:AA:2590:A:N7 | 2.66 | 0.64 |
| 2:AA:2621:A:O2' | 5:AE:255:GLN:OE1 | 2.12 | 0.64 |
| 2:AA:2631:G:C2 | 2:AA:2632:A:H1' | 2.32 | 0.64 |
| 2:AA:2853:C:HO2' | 2:AA:2854:G:H5' | 1.62 | 0.64 |
| 3:AC:23:ASP:O | 3:AC:26:ALA:HB3 | 1.97 | 0.64 |
| 4:AD:89:ASN:ND2 | 4:AD:199:ARG:NH2 | 2.45 | 0.64 |
| 4:AD:103:ILE:HG12 | 4:AD:104:ILE:N | 2.12 | 0.64 |
| 4:AD:109:LEU:HD13 | 4:AD:115:ILE:CG1 | 2.23 | 0.64 |
| 5:AE:42:ALA:CA | 5:AE:311:PHE:CZ | 2.80 | 0.64 |
| 6:AF:55:ARG:C | 6:AF:79:ARG:NH2 | 2.47 | 0.64 |
| 7:AG:56:ARG:HD2 | 7:AG:65:GLU:CB | 2.27 | 0.64 |
| 8:AH:10:ILE:HG12 | 8:AH:14:VAL:CG1 | 2.25 | 0.64 |
| 12:AM:53:ILE:CG2 | 12:AM:54:VAL:N | 2.60 | 0.64 |
| 15:AP:42:TYR:CA | 21:AV:119:ASN:HD21 | 2.10 | 0.64 |
| 15:AP:82:LYS:HB2 | 15:AP:125:TRP:CB | 2.28 | 0.64 |
| 21:AV:124:ALA:N | 21:AV:159:THR:HG21 | 2.12 | 0.64 |
| 21:AV:127:PRO:O | 21:AV:128:ARG:C | 2.35 | 0.64 |
| 21:AV:147:ILE:O | 21:AV:168:VAL:HB | 1.96 | 0.64 |
| 25:A1:69:ALA:HB3 | 25:A1:76:TYR:CE2 | 2.31 | 0.64 |
| 25:A1:74:MET:HE2 | 25:A1:78:THR:CG2 | 2.23 | 0.64 |
| 25:A1:92:ARG:HA | 25:A1:95:LEU:CD1 | 2.27 | 0.64 |
| 28:A4:33:VAL:HG13 | 28:A4:35:VAL:HG23 | 1.80 | 0.64 |
| 30:A6:11:LYS:NZ | 32:A8:35:GLY:H | 1.96 | 0.64 |
| 31:A7:44:VAL:O | 31:A7:45:SER:C | 2.34 | 0.64 |
| 34:BA:122:G:H1 | 34:BA:239:U:H3 | 1.42 | 0.64 |
| 34:BA:190:C:C2 | 34:BA:190(A):C:C6 | 2.85 | 0.64 |
| 34:BA:195:A:H1' | 34:BA:223:U:H5' | 1.79 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:333:G:O2' | 34:BA:334:C:H5' | 1.97 | 0.64 |
| 34:BA:359:U:H2' | 34:BA:360:A:H8 | 1.61 | 0.64 |
| 34:BA:413:G:H22 | 34:BA:428:G:C2' | 2.09 | 0.64 |
| 34:BA:483:C:C2' | 34:BA:484:G:OP1 | 2.44 | 0.64 |
| 34:BA:627:G:H2' | 34:BA:628:G:C8 | 2.32 | 0.64 |
| 34:BA:673:G:H5" | 41:BI:87:ARG:NH2 | 2.12 | 0.64 |
| 34:BA:953:G:O6 | 48:BP:104:ARG:NE | 2.29 | 0.64 |
| 34:BA:954:G:N2 | 34:BA:1227:A:H62 | 1.93 | 0.64 |
| 35:BB:41:U:C4 | 35:BB:42:G:N7 | 2.65 | 0.64 |
| 37:BE:70:PHE:O | 37:BE:92:TYR:CA | 2.45 | 0.64 |
| 37:BE:91:PRO:CD | 37:BE:155:LEU:HD23 | 2.27 | 0.64 |
| 37:BE:102:LEU:CD2 | 37:BE:176:GLU:CB | 2.74 | 0.64 |
| 40:BH:76:ILE:CG2 | 40:BH:77:PRO:HD2 | 2.27 | 0.64 |
| 41:BI:29:ALA:O | 41:BI:30:LEU:C | 2.35 | 0.64 |
| 43:BK:10:LEU:HD13 | 43:BK:85:ARG:HB2 | 1.79 | 0.64 |
| 43:BK:120:THR:N | 43:BK:123:GLU:CD | 2.51 | 0.64 |
| 44:BL:104:ARG:O | 44:BL:105:ASP:HB2 | 1.95 | 0.64 |
| 47:BO:30:ALA:HB1 | 47:BO:31:PRO:CD | 2.27 | 0.64 |
| 50:BR:46:HIS:O | 50:BR:48:LYS:N | 2.30 | 0.64 |
| 51:BS:20:VAL:CG2 | 51:BS:35:LYS:HA | 2.22 | 0.64 |
| 53:BU:27:GLY:O | 53:BU:29:PHE:N | 2.30 | 0.64 |
| 1:AB:12:C:C3' | 27:A3:53:MET:SD | 2.84 | 0.64 |
| 2:AA:61:G:C6 | 2:AA:62:C:C4 | 2.85 | 0.64 |
| 2:AA:76:C:H2' | 2:AA:76:C:O2 | 1.96 | 0.64 |
| 2:AA:145:G:H2' | 2:AA:146:G:C8 | 2.32 | 0.64 |
| 2:AA:245:G:H5" | 14:AO:55:GLN:HA | 1.79 | 0.64 |
| 2:AA:265:A:C6 | 2:AA:281:G:OP2 | 2.50 | 0.64 |
| 2:AA:328:U:O2 | 2:AA:328:U:C2' | 2.44 | 0.64 |
| 2:AA:402:A:N3 | 2:AA:406:G:O2' | 2.29 | 0.64 |
| 2:AA:503:A:H2' | 2:AA:506:G:N7 | 2.12 | 0.64 |
| 2:AA:568:U:O2 | 2:AA:568:U:C2' | 2.46 | 0.64 |
| 2:AA:570:G:O6 | 2:AA:2499:C:OP1 | 2.16 | 0.64 |
| 2:AA:578:A:C2 | 2:AA:2018:G:O4' | 2.50 | 0.64 |
| 2:AA:638:G:C5 | 2:AA:639:U:C2 | 2.86 | 0.64 |
| 2:AA:715:G:OP2 | 2:AA:715:G:H8 | 1.80 | 0.64 |
| 2:AA:749:C:O2' | 2:AA:750:A:H5' | 1.97 | 0.64 |
| 2:AA:754:C:O2' | 2:AA:755:C:H5' | 1.97 | 0.64 |
| 2:AA:784:A:C6 | 2:AA:792:G:C1' | 2.81 | 0.64 |
| 2:AA:856:C:H5' | 27:A3:25:LYS:HE3 | 1.79 | 0.64 |
| 2:AA:859:G:OP2 | 2:AA:859:G:O4' | 2.14 | 0.64 |
| 2:AA:1059:G:N2 | 11:AL:131:THR:HG23 | 2.12 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1076:C:H4' | 11:AL:94:ARG:CZ | 2.28 | 0.64 |
| 2:AA:1136:G:N2 | 12:AM:85:GLY:O | 2.29 | 0.64 |
| 2:AA:1300:U:H6 | 2:AA:1301:A:C2 | 2.15 | 0.64 |
| 2:AA:1327:C:H2' | 2:AA:1328:G:O4' | 1.97 | 0.64 |
| 2:AA:1340:U:C5 | 19:AT:55:GLN:NE2 | 2.65 | 0.64 |
| 2:AA:1341:U:O2' | 19:AT:53:ASN:CB | 2.44 | 0.64 |
| 2:AA:1350:C:N4 | 2:AA:1382:G:C2 | 2.65 | 0.64 |
| 2:AA:1378:A:O2' | 2:AA:1379:A:P | 2.55 | 0.64 |
| 2:AA:1405:U:O2 | 2:AA:1597:A:N1 | 2.29 | 0.64 |
| 2:AA:1462:C:O2 | 2:AA:1462:C:H2' | 1.95 | 0.64 |
| 2:AA:1494:A:N3 | 2:AA:1494:A:C2' | 2.59 | 0.64 |
| 2:AA:1608:A:N6 | 2:AA:1611:C:H1' | 2.13 | 0.64 |
| 2:AA:1636:C:H2' | 2:AA:1636:C:O2 | 1.97 | 0.64 |
| 2:AA:1727:U:C2 | 2:AA:1733:G:O6 | 2.50 | 0.64 |
| 2:AA:1919:A:H3' | 2:AA:1919:A:P | 2.37 | 0.64 |
| 2:AA:1993:U:C5' | 5:AE:228:ARG:HE | 2.10 | 0.64 |
| 2:AA:2072:G:C4 | 2:AA:2073:C:C5 | 2.85 | 0.64 |
| 2:AA:2191:G:N2 | 2:AA:2192:G:H1' | 2.12 | 0.64 |
| 2:AA:2199:A:H5" | 2:AA:2205:C:OP2 | 1.97 | 0.64 |
| 2:AA:2371:G:N2 | 2:AA:2372:G:C5 | 2.64 | 0.64 |
| 2:AA:2543:G:C5 | 2:AA:2544:G:C6 | 2.85 | 0.64 |
| 2:AA:2544:G:H2' | 2:AA:2545:G:O4' | 1.97 | 0.64 |
| 2:AA:2579:C:H4' | 5:AE:231:TRP:HH2 | 1.58 | 0.64 |
| 2:AA:2620:C:H4' | 5:AE:252:GLN:HB2 | 1.79 | 0.64 |
| 3:AC:22:ILE:CG2 | 3:AC:189:ILE:HB | 2.27 | 0.64 |
| 3:AC:39:GLU:HG2 | 3:AC:216:THR:OG1 | 1.97 | 0.64 |
| 4:AD:150:GLY:O | 4:AD:152:GLN:OE1 | 2.14 | 0.64 |
| 5:AE:42:ALA:H | 5:AE:189:MET:HE1 | 1.63 | 0.64 |
| 5:AE:44:TYR:CD2 | 5:AE:307:LEU:C | 2.70 | 0.64 |
| 5:AE:256:THR:CB | 5:AE:259:HIS:HE1 | 2.10 | 0.64 |
| 6:AF:140:VAL:CB | 6:AF:236:THR:HA | 2.22 | 0.64 |
| 6:AF:154:VAL:HG12 | 6:AF:158:GLU:OE1 | 1.97 | 0.64 |
| 8:AH:100:LYS:C | 8:AH:101:LYS:HD2 | 2.17 | 0.64 |
| 10:AK:116:GLU:OE1 | 10:AK:130:PRO:HB2 | 1.96 | 0.64 |
| 12:AM:16:ASP:CA | 12:AM:45:VAL:HG23 | 2.26 | 0.64 |
| 13:AN:27:GLY:O | 13:AN:30:ARG:HD2 | 1.97 | 0.64 |
| 16:AQ:38:LYS:NZ | 16:AQ:114:LYS:HD2 | 2.12 | 0.64 |
| 19:AT:71:ASP:OD1 | 19:AT:72:ASP:N | 2.30 | 0.64 |
| 21:AV:19:ILE:HD11 | 21:AV:79:ILE:HD13 | 1.79 | 0.64 |
| 27:A3:46:LYS:HZ1 | 27:A3:60:PHE:C | 1.99 | 0.64 |
| 28:A4:43:TRP:HB3 | 28:A4:56:VAL:O | 1.97 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:16:A:C2 | 34:BA:17:U:C6 | 2.85 | 0.64 |
| 34:BA:193:C:C2 | 34:BA:194:C:C5 | 2.85 | 0.64 |
| 34:BA:538:G:O3' | 47:BO:114:LYS:NZ | 2.30 | 0.64 |
| 34:BA:609:A:C2 | 34:BA:610:G:C1' | 2.77 | 0.64 |
| 34:BA:790:A:O2' | 34:BA:791:G:O5' | 2.10 | 0.64 |
| 34:BA:852:G:C6 | 34:BA:853:G:N7 | 2.65 | 0.64 |
| 34:BA:907:A:H3' | 34:BA:908:A:H8 | 1.63 | 0.64 |
| 34:BA:926:G:H2' | 34:BA:1505:G:H21 | 1.63 | 0.64 |
| 34:BA:1498:U:HO2' | 34:BA:1499:A:C5' | 2.09 | 0.64 |
| 35:BC:68:U:H2' | 35:BC:69:U:C6 | 2.33 | 0.64 |
| 37:BE:35:GLU:O | 37:BE:36:ARG:NE | 2.31 | 0.64 |
| 37:BE:130:ARG:NE | 37:BE:130:ARG:CA | 2.58 | 0.64 |
| 37:BE:214:ILE:HD13 | 37:BE:214:ILE:N | 2.13 | 0.64 |
| 38:BF:190:ARG:HB3 | 38:BF:190:ARG:CZ | 2.26 | 0.64 |
| 39:BG:54:TYR:O | 39:BG:55:ALA:C | 2.35 | 0.64 |
| 39:BG:129:ASN:OD1 | 39:BG:145:GLU:N | 2.31 | 0.64 |
| 40:BH:96:PRO:O | 40:BH:97:GLY:C | 2.36 | 0.64 |
| 46:BN:64:ALA:O | 46:BN:65:ALA:C | 2.34 | 0.64 |
| 46:BN:99:GLN:HA | 46:BN:105:VAL:CG2 | 2.27 | 0.64 |
| 49:BQ:22:THR:HB | 49:BQ:33:VAL:HG23 | 1.78 | 0.64 |
| 1:AB:32:C:C4 | 1:AB:51:G:N1 | 2.65 | 0.64 |
| 2:AA:187:G:O2' | 2:AA:188:G:H5' | 1.98 | 0.64 |
| 2:AA:191:A:C2 | 2:AA:192:C:C2 | 2.86 | 0.64 |
| 2:AA:350:U:O2 | 2:AA:350:U:C2' | 2.45 | 0.64 |
| 2:AA:610:C:H2' | 2:AA:611:C:H6 | 1.63 | 0.64 |
| 2:AA:673:C:H5' | 6:AF:82:GLN:NE2 | 2.12 | 0.64 |
| 2:AA:830:G:O6 | 2:AA:2446:G:O4' | 2.16 | 0.64 |
| 2:AA:1020:A:H1' | 12:AM:49:ARG:NE | 2.12 | 0.64 |
| 2:AA:1154:G:O2' | 2:AA:1155:A:H5" | 1.97 | 0.64 |
| 2:AA:1210:A:C5' | 2:AA:1211:U:H3' | 2.28 | 0.64 |
| 2:AA:1221:C:C4 | 2:AA:1229:G:N1 | 2.65 | 0.64 |
| 2:AA:1241:A:P | 2:AA:1241:A:O4' | 2.56 | 0.64 |
| 2:AA:1398:C:H2' | 2:AA:1399:C:C6 | 2.33 | 0.64 |
| 2:AA:1422:G:H1 | 2:AA:1576:U:H3 | 1.42 | 0.64 |
| 2:AA:1482:U:C6 | 2:AA:1482:U:C3' | 2.64 | 0.64 |
| 2:AA:1796:U:O2' | 2:AA:1797:C:C6 | 2.50 | 0.64 |
| 2:AA:1820:U:O2' | 2:AA:1821:A:P | 2.55 | 0.64 |
| 2:AA:1899:G:H21 | 2:AA:1902:C:H5 | 1.44 | 0.64 |
| 2:AA:1911:U:C5 | 2:AA:1918:A:N6 | 2.66 | 0.64 |
| 2:AA:1935:G:O2' | 2:AA:1937:A:H2 | 1.79 | 0.64 |
| 2:AA:2091:U:O4 | 2:AA:2092:U:C6 | 2.50 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2445:G:O2' | 2:AA:2446:G:H5' | 1.97 | 0.64 |
| 2:AA:2507:C:C2 | 2:AA:2583:G:N3 | 2.65 | 0.64 |
| 2:AA:2570:G:C5' | 2:AA:2571:C:OP2 | 2.45 | 0.64 |
| 2:AA:2688:U:N3 | 2:AA:2719:G:H2' | 2.12 | 0.64 |
| 3:AC:51:PRO:HG3 | 3:AC:167:LYS:O | 1.98 | 0.64 |
| 5:AE:76:PRO:O | 5:AE:188:ALA:HA | 1.98 | 0.64 |
| 5:AE:175:ASP:CA | 5:AE:178:LEU:HG | 2.24 | 0.64 |
| 6:AF:144:PHE:CE2 | 6:AF:156:LEU:HD22 | 2.31 | 0.64 |
| 9:AJ:71:ILE:O | 9:AJ:75:LYS:HG3 | 1.97 | 0.64 |
| 10:AK:132:LYS:O | 10:AK:133:LEU:HD23 | 1.98 | 0.64 |
| 12:AM:42:GLU:CA | 12:AM:132:LEU:O | 2.45 | 0.64 |
| 13:AN:66:LYS:HE3 | 13:AN:82:ASN:CG | 2.18 | 0.64 |
| 14:AO:62:ALA:O | 14:AO:107:LYS:HG3 | 1.97 | 0.64 |
| 16:AQ:19:ASP:CB | 16:AQ:22:GLN:HE21 | 2.08 | 0.64 |
| 20:AU:27:LEU:HB3 | 20:AU:98:VAL:C | 2.18 | 0.64 |
| 21:AV:103:ARG:HB2 | 21:AV:141:MET:CE | 2.28 | 0.64 |
| 24:A0:97:VAL:HG22 | 24:A0:114:VAL:HG11 | 1.79 | 0.64 |
| 25:A1:8:ILE:CD1 | 25:A1:9:VAL:HG23 | 2.27 | 0.64 |
| 25:A1:64:ARG:NH1 | 25:A1:101:ARG:NH2 | 2.46 | 0.64 |
| 26:A2:68:LYS:HG2 | 26:A2:69:ILE:CD1 | 2.26 | 0.64 |
| 28:A4:20:VAL:HB | 28:A4:30:GLU:OE1 | 1.97 | 0.64 |
| 34:BA:57:G:N2 | 34:BA:388:G:C6 | 2.65 | 0.64 |
| 34:BA:383:A:H2' | 34:BA:384:G:H5' | 1.78 | 0.64 |
| 34:BA:521:G:C5 | 34:BA:529:G:N2 | 2.65 | 0.64 |
| 34:BA:523:A:O5' | 34:BA:523:A:C8 | 2.51 | 0.64 |
| 34:BA:598:U:H4' | 43:BK:94:TYR:CD2 | 2.33 | 0.64 |
| 34:BA:695:A:H2 | 34:BA:787:A:H4' | 1.63 | 0.64 |
| 34:BA:706:A:O2' | 34:BA:707:C:H5' | 1.97 | 0.64 |
| 34:BA:829:G:H4' | 37:BE:26:PRO:CG | 2.26 | 0.64 |
| 34:BA:880:C:HO2' | 34:BA:881:G:H5' | 1.62 | 0.64 |
| 34:BA:949:A:N3 | 34:BA:971:G:O6 | 2.30 | 0.64 |
| 34:BA:1128:C:C2 | 34:BA:1146:A:N6 | 2.65 | 0.64 |
| 34:BA:1413:A:H2' | 34:BA:1414:U:O5' | 1.96 | 0.64 |
| 34:BA:1433:A:H2' | 34:BA:1434:A:O4' | 1.97 | 0.64 |
| 34:BA:1493:A:O2' | 34:BA:1494:G:O5' | 2.15 | 0.64 |
| 35:BB:11:C:N3 | 35:BB:12:U:C5 | 2.65 | 0.64 |
| 35:BB:19:G:C3' | 35:BB:20:G:C8 | 2.80 | 0.64 |
| 35:BB:41:U:H6 | 35:BB:41:U:C5' | 2.10 | 0.64 |
| 36:B1:34:U:H2' | 36:B1:35:C:C6 | 2.32 | 0.64 |
| 38:BF:13:GLY:O | 38:BF:14:ILE:CD1 | 2.45 | 0.64 |
| 43:BK:95:VAL:HG13 | 43:BK:133:LEU:HD11 | 1.77 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BN:19:ALA:HB3 | 46:BN:82:VAL:HG22 | 1.77 | 0.64 |
| 49:BQ:15:LYS:O | 49:BQ:16:PHE:CG | 2.50 | 0.64 |
| 50:BR:36:ILE:CG2 | 50:BR:37:ASN:N | 2.61 | 0.64 |
| 52:BT:5:VAL:HG22 | 52:BT:60:ILE:HA | 1.80 | 0.64 |
| 52:BT:7:THR:CG2 | 52:BT:8:GLY:N | 2.60 | 0.64 |
| 55:BW:50:GLU:HA | 55:BW:99:LEU:HB2 | 1.78 | 0.64 |
| 2:AA:13:A:N7 | 2:AA:525:U:C4 | 2.66 | 0.64 |
| 2:AA:161:U:O5' | 2:AA:161:U:H6 | 1.81 | 0.64 |
| 2:AA:164:U:O2 | 2:AA:164:U:H2' | 1.96 | 0.64 |
| 2:AA:454:A:O2' | 2:AA:455:C:C2 | 2.50 | 0.64 |
| 2:AA:564:C:O4' | 25:A1:37:GLN:OE1 | 2.16 | 0.64 |
| 2:AA:777:A:C2' | 2:AA:778:G:H5' | 2.27 | 0.64 |
| 2:AA:826:U:C2 | 2:AA:832:G:N2 | 2.65 | 0.64 |
| 2:AA:914:C:O5' | 2:AA:914:C:H6 | 1.80 | 0.64 |
| 2:AA:957:A:O2' | 2:AA:958:U:OP1 | 2.14 | 0.64 |
| 2:AA:974(A):C:C1' | 2:AA:989:G:H22 | 2.11 | 0.64 |
| 2:AA:1091:G:H1 | 2:AA:1100:C:N4 | 1.96 | 0.64 |
| 2:AA:1183:G:H3' | 2:AA:1183:G:P | 2.37 | 0.64 |
| 2:AA:1283:G:H22 | 2:AA:1285:G:H2' | 1.61 | 0.64 |
| 2:AA:1326:U:O4' | 2:AA:2010:G:N3 | 2.31 | 0.64 |
| 2:AA:1475:G:C2' | 2:AA:1476:C:H5' | 2.23 | 0.64 |
| 2:AA:1511:A:H3' | 2:AA:1512:G:H5" | 1.78 | 0.64 |
| 2:AA:1534:G:N2 | 2:AA:1536:A:C8 | 2.65 | 0.64 |
| 2:AA:1580:A:H2' | 2:AA:1581:G:C8 | 2.33 | 0.64 |
| 2:AA:1604:C:O2 | 2:AA:1604:C:H2' | 1.96 | 0.64 |
| 2:AA:1625:C:C2' | 2:AA:1626:G:C5' | 2.76 | 0.64 |
| 2:AA:1807:G:H21 | 2:AA:1809:A:H4' | 1.63 | 0.64 |
| 2:AA:2007:C:N4 | 2:AA:2008:C:C5 | 2.65 | 0.64 |
| 2:AA:2012:G:O3' | 18:AS:96:ILE:HD13 | 1.97 | 0.64 |
| 2:AA:2091:U:O4 | 2:AA:2092:U:C5 | 2.50 | 0.64 |
| 2:AA:2195:C:H2' | 2:AA:2196:C:C4' | 2.27 | 0.64 |
| 2:AA:2246:G:HO2' | 2:AA:2247:A:H8 | 1.45 | 0.64 |
| 2:AA:2285:C:C4' | 2:AA:2288:A:N6 | 2.60 | 0.64 |
| 2:AA:2613:U:O2' | 2:AA:2614:A:OP1 | 2.11 | 0.64 |
| 2:AA:2679:A:H5" | 5:AE:261:ARG:CD | 2.28 | 0.64 |
| 2:AA:2825:C:C4 | 2:AA:2826:A:N7 | 2.65 | 0.64 |
| 3:AC:39:GLU:O | 3:AC:178:ALA:HB2 | 1.96 | 0.64 |
| 4:AD:173:VAL:O | 4:AD:175:LEU:CD2 | 2.46 | 0.64 |
| 5:AE:65:MET:O | 5:AE:65:MET:SD | 2.55 | 0.64 |
| 6:AF:61:PHE:C | 6:AF:65:ARG:CZ | 2.65 | 0.64 |
| 9:AJ:48:ALA:O | 9:AJ:51:ALA:HB3 | 1.97 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:88:ARG:HB3 | 10:AK:122:ARG:HG2 | 1.79 | 0.64 |
| 13:AN:85:VAL:CG2 | 13:AN:114:ILE:HD11 | 2.27 | 0.64 |
| 15:AP:12:PRO:HB3 | 15:AP:20:ILE:CD1 | 2.24 | 0.64 |
| 15:AP:74:ASN:ND2 | 15:AP:75:SER:H | 1.95 | 0.64 |
| 16:AQ:24:LEU:HA | 16:AQ:27:LEU:HB2 | 1.77 | 0.64 |
| 16:AQ:32:PRO:HD2 | 16:AQ:101:VAL:HG12 | 1.80 | 0.64 |
| 16:AQ:74:PRO:O | 16:AQ:75:THR:C | 2.36 | 0.64 |
| 19:AT:47:VAL:HB | 19:AT:69:SER:CB | 2.28 | 0.64 |
| 24:A0:105:ARG:C | 24:A0:107:ASP:H | 2.00 | 0.64 |
| 26:A2:35:LEU:HD23 | 26:A2:36:LYS:H | 1.63 | 0.64 |
| 26:A2:69:ILE:HG23 | 26:A2:89:ASN:O | 1.98 | 0.64 |
| 26:A2:72:ARG:O | 26:A2:88:GLN:HG2 | 1.97 | 0.64 |
| 27:A3:40:GLN:HA | 27:A3:69:PHE:CE1 | 2.32 | 0.64 |
| 29:A5:10:LYS:HZ3 | 29:A5:10:LYS:HB2 | 1.62 | 0.64 |
| 30:A6:11:LYS:NZ | 32:A8:35:GLY:CA | 2.60 | 0.64 |
| 30:A6:42:PRO:HB2 | 30:A6:44:ALA:HB3 | 1.79 | 0.64 |
| 34:BA:8:A:N6 | 39:BG:209:ARG:CB | 2.60 | 0.64 |
| 34:BA:15:G:H4' | 40:BH:24:ARG:HH22 | 1.63 | 0.64 |
| 34:BA:113:G:N7 | 34:BA:114:U:H5 | 1.94 | 0.64 |
| 34:BA:155:C:O2' | 34:BA:156:G:H5' | 1.98 | 0.64 |
| 34:BA:308:C:O2 | 34:BA:309:G:O4' | 2.16 | 0.64 |
| 34:BA:620:C:C2 | 39:BG:135:LEU:CD1 | 2.81 | 0.64 |
| 34:BA:627:G:N3 | 34:BA:628:G:C8 | 2.65 | 0.64 |
| 34:BA:905:U:O4 | 34:BA:906:G:N3 | 2.30 | 0.64 |
| 34:BA:918:A:O2' | 34:BA:919:A:O5' | 2.13 | 0.64 |
| 34:BA:967:C:H6 | 34:BA:967:C:O5' | 1.80 | 0.64 |
| 34:BA:978:A:C2 | 34:BA:1319:A:N3 | 2.66 | 0.64 |
| 34:BA:1375:A:C2 | 34:BA:1376:U:N1 | 2.66 | 0.64 |
| 34:BA:1404:C:H2' | 34:BA:1405:G:H8 | 1.62 | 0.64 |
| 35:BB:18:G:H2' | 35:BB:19:G:O5' | 1.98 | 0.64 |
| 37:BE:57:PHE:CD1 | 37:BE:199:TYR:HE1 | 2.15 | 0.64 |
| 37:BE:175:ARG:HD3 | 37:BE:179:LYS:NZ | 2.12 | 0.64 |
| 38:BF:21:ARG:NH2 | 38:BF:54:ARG:HH22 | 1.94 | 0.64 |
| 38:BF:67:THR:HG22 | 38:BF:69:HIS:CE1 | 2.32 | 0.64 |
| 39:BG:101:LEU:CB | 39:BG:138:TYR:HB3 | 2.26 | 0.64 |
| 39:BG:175:SER:O | 39:BG:183:GLY:HA2 | 1.98 | 0.64 |
| 40:BH:62:ALA:O | 40:BH:66:MET:SD | 2.55 | 0.64 |
| 43:BK:33:GLU:O | 43:BK:36:LEU:HG | 1.97 | 0.64 |
| 44:BL:5:TYR:HD2 | 44:BL:6:GLY:H | 1.43 | 0.64 |
| 46:BN:21:ILE:HD13 | 46:BN:95:ILE:HG12 | 1.80 | 0.64 |
| 48:BP:77:ASN:HD22 | 48:BP:80:ARG:NH1 | 1.96 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 54:BV:30:LEU:HD22 | 54:BV:31:ILE:H | 1.61 | 0.64 |
| 54:BV:38:SER:O | 54:BV:70:LYS:HG2 | 1.97 | 0.64 |
| 55:BW:91:LEU:O | 55:BW:93:GLU:N | 2.31 | 0.64 |
| 2:AA:15:G:C2' | 2:AA:16:G:H5' | 2.26 | 0.64 |
| 2:AA:70:G:H4' | 2:AA:71:A:H5' | 1.80 | 0.64 |
| 2:AA:123:G:H1 | 2:AA:128:C:N4 | 1.91 | 0.64 |
| 2:AA:154:G:C4 | 2:AA:155:C:C1' | 2.81 | 0.64 |
| 2:AA:184:C:O2' | 2:AA:217:G:N2 | 2.30 | 0.64 |
| 2:AA:227:A:N6 | 2:AA:2407:G:O4' | 2.30 | 0.64 |
| 2:AA:234:C:H42 | 2:AA:430:G:N2 | 1.95 | 0.64 |
| 2:AA:237:C:O2' | 2:AA:238:C:C5' | 2.46 | 0.64 |
| 2:AA:265:A:H1' | 2:AA:266:G:O4' | 1.96 | 0.64 |
| 2:AA:273:G:N2 | 2:AA:364:C:N3 | 2.40 | 0.64 |
| 2:AA:313:C:C4 | 2:AA:314:A:N7 | 2.66 | 0.64 |
| 2:AA:359:A:C2 | 2:AA:361:G:N2 | 2.65 | 0.64 |
| 2:AA:397:G:P | 28:A4:10:VAL:HG11 | 2.37 | 0.64 |
| 2:AA:685:A:C2' | 2:AA:686:G:OP2 | 2.44 | 0.64 |
| 2:AA:973:A:C4 | 26:A2:80:TYR:HA | 2.32 | 0.64 |
| 2:AA:1022:G:O5' | 12:AM:52:GLN:OE1 | 2.15 | 0.64 |
| 2:AA:1024:G:OP2 | 2:AA:1025:G:N2 | 2.31 | 0.64 |
| 2:AA:1069:A:C2 | 2:AA:1096:A:H5' | 2.33 | 0.64 |
| 2:AA:1071:G:H2' | 2:AA:1072:C:C5' | 2.28 | 0.64 |
| 2:AA:1166:C:C2 | 2:AA:1183:G:N2 | 2.66 | 0.64 |
| 2:AA:1203:G:H1' | 2:AA:1241:A:C2 | 2.32 | 0.64 |
| 2:AA:1212:G:O2' | 2:AA:1213:A:C8 | 2.50 | 0.64 |
| 2:AA:1339:G:H5' | 19:AT:13:LYS:HE3 | 1.80 | 0.64 |
| 2:AA:1392:A:C5 | 2:AA:1393:A:N6 | 2.65 | 0.64 |
| 2:AA:1398:C:H2' | 2:AA:1399:C:H6 | 1.63 | 0.64 |
| 2:AA:1421:G:C2 | 2:AA:1422:G:C8 | 2.86 | 0.64 |
| 2:AA:1431:U:C2 | 2:AA:1432:C:C6 | 2.86 | 0.64 |
| 2:AA:1508:A:H5" | 2:AA:1510:A:N7 | 2.12 | 0.64 |
| 2:AA:1566:A:C6 | 4:AD:212:HIS:ND1 | 2.65 | 0.64 |
| 2:AA:1668:A:C6 | 2:AA:1674:G:C4 | 2.86 | 0.64 |
| 2:AA:1769:G:C2 | 2:AA:1984:G:C4 | 2.85 | 0.64 |
| 2:AA:1807:G:H21 | 2:AA:1809:A:C5' | 2.10 | 0.64 |
| 2:AA:1819:A:OP1 | 4:AD:154:VAL:CA | 2.43 | 0.64 |
| 2:AA:1934:C:H4' | 2:AA:1974:C:H4' | 1.80 | 0.64 |
| 2:AA:1939:U:O4' | 2:AA:1939:U:O2 | 2.10 | 0.64 |
| 2:AA:2051:A:C5 | 2:AA:2614:A:N7 | 2.65 | 0.64 |
| 2:AA:2053:G:H1' | 5:AE:245:ARG:HG2 | 1.80 | 0.64 |
| 2:AA:2213:U:C2' | 2:AA:2213:U:O2 | 2.46 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2246:G:C4 | 2:AA:2426:A:C2 | 2.85 | 0.64 |
| 2:AA:2305:A:H3' | 2:AA:2306:C:C5' | 2.18 | 0.64 |
| 2:AA:2385:C:O2' | 2:AA:2386:C:O5' | 2.09 | 0.64 |
| 2:AA:2519:U:C4 | 2:AA:2542:A:N7 | 2.66 | 0.64 |
| 2:AA:2644:G:H1 | 2:AA:2645:G:N2 | 1.96 | 0.64 |
| 2:AA:2691:C:H6 | 2:AA:2691:C:H3' | 1.62 | 0.64 |
| 2:AA:2793:G:H1 | 2:AA:2803:C:N4 | 1.94 | 0.64 |
| 2:AA:2841:C:C2' | 2:AA:2842:G:H8 | 2.07 | 0.64 |
| 2:AA:2892:A:H2' | 2:AA:2893:G:N9 | 2.12 | 0.64 |
| 3:AC:75:LEU:CD1 | 3:AC:99:ILE:HD13 | 2.26 | 0.64 |
| 3:AC:123:VAL:HG13 | 3:AC:138:PRO:HD2 | 1.80 | 0.64 |
| 3:AC:131:LEU:O | 3:AC:136:LEU:N | 2.30 | 0.64 |
| 5:AE:45:LYS:HZ1 | 5:AE:302:GLY:C | 2.01 | 0.64 |
| 5:AE:246:VAL:HG12 | 5:AE:247:ARG:O | 1.98 | 0.64 |
| 6:AF:197:SER:N | 6:AF:236:THR:OG1 | 2.31 | 0.64 |
| 7:AG:88:LEU:N | 7:AG:89:PRO:HD2 | 2.12 | 0.64 |
| 7:AG:103:ASN:C | 7:AG:104:PHE:CD1 | 2.71 | 0.64 |
| 8:AH:25:VAL:HG11 | 8:AH:74:MET:HB3 | 1.78 | 0.64 |
| 8:AH:37:HIS:CD2 | 8:AH:63:LEU:HD21 | 2.32 | 0.64 |
| 11:AL:109:ALA:CB | 11:AL:125:MET:SD | 2.86 | 0.64 |
| 12:AM:44:ALA:HB3 | 12:AM:132:LEU:CB | 2.27 | 0.64 |
| 12:AM:76:ASP:OD2 | 12:AM:76:ASP:N | 2.27 | 0.64 |
| 13:AN:63:VAL:HG13 | 13:AN:106:LEU:HD11 | 1.78 | 0.64 |
| 19:AT:4:VAL:HB | 19:AT:40:ALA:HB1 | 1.80 | 0.64 |
| 19:AT:55:GLN:HE21 | 19:AT:57:THR:HG23 | 1.62 | 0.64 |
| 20:AU:10:SER:O | 20:AU:14:ALA:HB3 | 1.98 | 0.64 |
| 21:AV:34:LEU:HD21 | 21:AV:83:PHE:CE1 | 2.33 | 0.64 |
| 21:AV:149:ALA:HA | 21:AV:152:ILE:CD1 | 2.28 | 0.64 |
| 25:A1:31:GLN:O | 25:A1:35:ALA:HB2 | 1.97 | 0.64 |
| 26:A2:61:VAL:CG1 | 26:A2:95:ILE:HG22 | 2.17 | 0.64 |
| 26:A2:63:HIS:ND1 | 26:A2:63:HIS:N | 2.46 | 0.64 |
| 28:A4:49:PHE:HD1 | 28:A4:49:PHE:H | 1.46 | 0.64 |
| 34:BA:8:A:H1' | 40:BH:102:ALA:C | 2.17 | 0.64 |
| 34:BA:104:G:C2 | 34:BA:105:G:C8 | 2.86 | 0.64 |
| 34:BA:123:C:O2' | 34:BA:290:C:O2 | 2.12 | 0.64 |
| 34:BA:762:C:C2 | 34:BA:763:G:N7 | 2.66 | 0.64 |
| 34:BA:775:G:H2' | 34:BA:776:G:C8 | 2.29 | 0.64 |
| 34:BA:792:A:N3 | 34:BA:794:A:N6 | 2.45 | 0.64 |
| 34:BA:986:A:H2' | 34:BA:987:G:H8 | 1.62 | 0.64 |
| 34:BA:1007:C:C4 | 34:BA:1022:G:C2 | 2.86 | 0.64 |
| 34:BA:1219:U:O2' | 54:BV:34:TRP:HB3 | 1.97 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1269:A:H2' | 34:BA:1270:C:O4' | 1.97 | 0.64 |
| 34:BA:1269:A:C8 | 34:BA:1270:C:C1' | 2.81 | 0.64 |
| 34:BA:1347:G:O2' | 34:BA:1348:U:P | 2.55 | 0.64 |
| 34:BA:1443:G:O5' | 34:BA:1446:A:H5' | 1.97 | 0.64 |
| 34:BA:1504:G:OP1 | 34:BA:1507:A:H4' | 1.96 | 0.64 |
| 35:BB:29:A:N6 | 35:BB:42:G:C6 | 2.66 | 0.64 |
| 35:BC:5:A:O2' | 35:BC:6:U:H5' | 1.97 | 0.64 |
| 35:BC:15:G:N2 | 35:BC:60:C:O2 | 2.29 | 0.64 |
| 35:BC:70:C:O2 | 35:BC:71:G:C8 | 2.51 | 0.64 |
| 36:B1:6:U:C5' | 36:B1:7:A:H5' | 2.24 | 0.64 |
| 36:B1:11:U:H2' | 36:B1:12:U:H5 | 1.63 | 0.64 |
| 37:BE:28:PHE:CD2 | 37:BE:190:THR:HA | 2.33 | 0.64 |
| 38:BF:191:THR:HG21 | 38:BF:196:LEU:HD11 | 1.79 | 0.64 |
| 40:BH:75:THR:HA | 40:BH:115:VAL:HG12 | 1.79 | 0.64 |
| 40:BH:105:VAL:HG12 | 40:BH:106:PRO:N | 2.11 | 0.64 |
| 41:BI:75:LEU:CD2 | 41:BI:79:LEU:HD21 | 2.27 | 0.64 |
| 41:BI:84:ASN:HA | 41:BI:86:ARG:HH21 | 1.61 | 0.64 |
| 42:BJ:139:GLU:HA | 42:BJ:142:GLU:OE2 | 1.97 | 0.64 |
| 42:BJ:147:ALA:O | 42:BJ:149:ARG:N | 2.30 | 0.64 |
| 43:BK:111:ILE:HD12 | 43:BK:135:CYS:C | 2.17 | 0.64 |
| 44:BL:23:ASN:HA | 44:BL:57:GLY:O | 1.97 | 0.64 |
| 45:BM:30:SER:CB | 45:BM:80:LYS:HG3 | 2.27 | 0.64 |
| 47:BO:24:VAL:CG1 | 47:BO:26:ALA:HB2 | 2.28 | 0.64 |
| 47:BO:88:GLY:HA3 | 47:BO:99:HIS:HE1 | 1.61 | 0.64 |
| 52:BT:22:LEU:HD12 | 52:BT:23:VAL:H | 1.63 | 0.64 |
| 53:BU:58:LEU:HB3 | 53:BU:62:GLU:CG | 2.28 | 0.64 |
| 55:BW:50:GLU:CB | 55:BW:99:LEU:HD12 | 2.27 | 0.64 |
| 2:AA:270(C):C:O2' | 2:AA:270(D):C:H5' | 1.97 | 0.64 |
| 2:AA:270(O):U:C5' | 2:AA:270(P):C:C5 | 2.68 | 0.64 |
| 2:AA:317:G:N2 | 2:AA:318:C:C2 | 2.66 | 0.64 |
| 2:AA:442:G:N2 | 6:AF:46:TYR:CZ | 2.66 | 0.64 |
| 2:AA:452:G:OP1 | 6:AF:55:ARG:NH2 | 2.30 | 0.64 |
| 2:AA:487:C:N3 | 2:AA:493:G:N2 | 2.44 | 0.64 |
| 2:AA:565:C:N3 | 2:AA:566:U:N3 | 2.45 | 0.64 |
| 2:AA:599:G:N1 | 2:AA:658:C:N4 | 2.10 | 0.64 |
| 2:AA:617:G:H5' | 6:AF:219:ASN:ND2 | 2.13 | 0.64 |
| 2:AA:800:A:C8 | 2:AA:802:A:O4' | 2.51 | 0.64 |
| 2:AA:1020:A:C4' | 12:AM:49:ARG:NH2 | 2.60 | 0.64 |
| 2:AA:1025:G:H8 | 2:AA:1134:G:O2' | 1.80 | 0.64 |
| 2:AA:1062:G:H2' | 2:AA:1062:G:N3 | 2.12 | 0.64 |
| 2:AA:1062:G:O6 | 2:AA:1077:A:C5 | 2.51 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1076:C:HO2' | 11:AL:91:GLU:CB | 2.00 | 0.64 |
| 2:AA:1087:G:N2 | 2:AA:1103:A:H3' | 2.12 | 0.64 |
| 2:AA:1799:G:O2' | 2:AA:1800:C:O5' | 2.15 | 0.64 |
| 2:AA:1858:G:O2' | 2:AA:1859:A:H5' | 1.97 | 0.64 |
| 2:AA:2022:U:H1' | 2:AA:2034:U:O2 | 1.97 | 0.64 |
| 2:AA:2061:G:N7 | 2:AA:2501:C:H1' | 2.12 | 0.64 |
| 2:AA:2081:C:O2' | 2:AA:2082:A:H5' | 1.97 | 0.64 |
| 2:AA:2082:A:H2' | 2:AA:2082:A:N3 | 2.13 | 0.64 |
| 2:AA:2136:C:O5' | 2:AA:2136:C:H6 | 1.81 | 0.64 |
| 2:AA:2469:A:H61 | 2:AA:2481:G:H1' | 1.63 | 0.64 |
| 2:AA:2509:G:C2 | 2:AA:2510:C:C1' | 2.80 | 0.64 |
| 2:AA:2573:C:OP1 | 2:AA:2575:C:OP2 | 2.15 | 0.64 |
| 2:AA:2740:A:N6 | 2:AA:2741:A:C6 | 2.66 | 0.64 |
| 2:AA:2808:U:O2' | 2:AA:2810:A:OP1 | 2.15 | 0.64 |
| 2:AA:2886:G:N2 | 2:AA:2887:U:C2 | 2.65 | 0.64 |
| 3:AC:22:ILE:HG13 | 3:AC:228:SER:O | 1.97 | 0.64 |
| 3:AC:36:LYS:CE | 3:AC:37:PHE:H | 2.09 | 0.64 |
| 4:AD:85:ASN:HB2 | 4:AD:86:ARG:HE | 1.63 | 0.64 |
| 9:AI:57:THR:HG21 | 9:AJ:110:GLU:HG3 | 1.79 | 0.64 |
| 10:AK:19:LYS:HE3 | 10:AK:20:ASN:N | 2.13 | 0.64 |
| 11:AL:112:LYS:C | 11:AL:114:PRO:HD2 | 2.18 | 0.64 |
| 15:AP:31:PHE:HZ | 15:AP:88:PHE:CD2 | 2.15 | 0.64 |
| 15:AP:46:VAL:HG13 | 15:AP:156:ASN:HD22 | 1.63 | 0.64 |
| 15:AP:89:PRO:C | 15:AP:90:PHE:HD1 | 2.01 | 0.64 |
| 20:AU:11:GLN:HG3 | 20:AU:21:LYS:HZ1 | 1.60 | 0.64 |
| 21:AV:45:GLN:O | 21:AV:46:GLN:HB3 | 1.97 | 0.64 |
| 22:AW:43:PRO:CB | 22:AW:46:ILE:HG12 | 2.28 | 0.64 |
| 23:AX:16:PRO:HB2 | 23:AX:19:GLN:CG | 2.28 | 0.64 |
| 25:A1:47:TYR:O | 25:A1:50:ARG:HB2 | 1.97 | 0.64 |
| 28:A4:35:VAL:HG12 | 28:A4:36:TRP:N | 2.12 | 0.64 |
| 29:A5:45:ILE:HG23 | 29:A5:52:TYR:CD1 | 2.33 | 0.64 |
| 30:A6:17:GLY:O | 30:A6:18:THR:HG22 | 1.96 | 0.64 |
| 32:A8:22:VAL:O | 32:A8:48:PHE:CD2 | 2.51 | 0.64 |
| 32:A8:23:MET:HG2 | 32:A8:46:LYS:HB3 | 1.78 | 0.64 |
| 34:BA:8:A:O4' | 40:BH:102:ALA:HA | 1.97 | 0.64 |
| 34:BA:36:C:O2 | 34:BA:548:G:N1 | 2.27 | 0.64 |
| 34:BA:266:G:H22 | 34:BA:270:A:H62 | 1.44 | 0.64 |
| 34:BA:291:C:H2' | 34:BA:291:C:O2 | 1.95 | 0.64 |
| 34:BA:301:G:N2 | 34:BA:302:G:H1' | 2.12 | 0.64 |
| 34:BA:499:A:C8 | 34:BA:547:A:N6 | 2.66 | 0.64 |
| 34:BA:502:G:O2' | 34:BA:503:C:H5' | 1.96 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:674:G:H2' | 34:BA:675:A:C8 | 2.32 | 0.64 |
| 34:BA:790:A:N6 | 34:BA:791:G:C6 | 2.66 | 0.64 |
| 34:BA:994:A:N1 | 34:BA:1047:G:H4' | 2.12 | 0.64 |
| 34:BA:1263:C:N3 | 34:BA:1272:G:N2 | 2.38 | 0.64 |
| 34:BA:1314:C:N4 | 54:BV:4:SER:HB2 | 2.06 | 0.64 |
| 34:BA:1451:A:H5" | 34:BA:1452:C:H41 | 1.60 | 0.64 |
| 37:BE:56:ARG:CB | 37:BE:56:ARG:NH1 | 2.61 | 0.64 |
| 40:BH:100:VAL:C | 40:BH:101:ILE:HD13 | 2.18 | 0.64 |
| 41:BI:26:ILE:O | 41:BI:30:LEU:HD12 | 1.96 | 0.64 |
| 41:BI:85:VAL:HG12 | 41:BI:88:VAL:HG23 | 1.80 | 0.64 |
| 42:BJ:115:ARG:HB2 | 42:BJ:118:VAL:HG21 | 1.79 | 0.64 |
| 44:BL:48:GLU:O | 44:BL:51:ARG:N | 2.30 | 0.64 |
| 45:BM:6:ILE:HD11 | 45:BM:23:ILE:HG21 | 1.79 | 0.64 |
| 46:BN:108:ILE:O | 53:BU:87:ARG:O | 2.15 | 0.64 |
| 48:BP:2:ALA:C | 48:BP:4:ILE:N | 2.51 | 0.64 |
| 48:BP:91:ARG:CB | 48:BP:98:VAL:HG13 | 2.27 | 0.64 |
| 50:BR:66:LEU:N | 50:BR:66:LEU:HD22 | 2.12 | 0.64 |
| 52:BT:58:GLU:CD | 52:BT:75:ARG:HG2 | 2.18 | 0.64 |
| 1:AB:73:A:H2' | 1:AB:74:U:H6 | 1.62 | 0.64 |
| 2:AA:24:G:H2' | 2:AA:25:U:O4' | 1.98 | 0.64 |
| 2:AA:257:A:O5' | 2:AA:257:A:C8 | 2.50 | 0.64 |
| 2:AA:265:A:O2' | 2:AA:266:G:O4' | 2.08 | 0.64 |
| 2:AA:270(Z):U:O2' | 2:AA:271(A):C:OP1 | 2.12 | 0.64 |
| 2:AA:295:G:N1 | 2:AA:344:G:C6 | 2.66 | 0.64 |
| 2:AA:312:G:O4' | 2:AA:312:G:OP1 | 2.16 | 0.64 |
| 2:AA:364:C:H2' | 2:AA:365:C:H5 | 1.58 | 0.64 |
| 2:AA:464:U:C1' | 2:AA:788:A:N1 | 2.61 | 0.64 |
| 2:AA:566:U:C5' | 26:A2:81:ARG:NH2 | 2.60 | 0.64 |
| 2:AA:738:G:N3 | 2:AA:739:G:H1' | 2.11 | 0.64 |
| 2:AA:834:C:O2' | 2:AA:2358:G:N3 | 2.19 | 0.64 |
| 2:AA:1153:C:H2' | 2:AA:1153:C:O2 | 1.97 | 0.64 |
| 2:AA:1202:C:O2 | 2:AA:1202:C:C2' | 2.46 | 0.64 |
| 2:AA:1299:G:N2 | 2:AA:1641:A:H62 | 1.95 | 0.64 |
| 2:AA:1304:C:H2' | 2:AA:1304:C:O2 | 1.97 | 0.64 |
| 2:AA:1412:A:H2' | 2:AA:1413:G:C8 | 2.33 | 0.64 |
| 2:AA:1449:A:C5' | 2:AA:1528:A:C2 | 2.80 | 0.64 |
| 2:AA:1472:A:N7 | 2:AA:1474:C:N4 | 2.44 | 0.64 |
| 2:AA:1543:A:H2' | 2:AA:1544:C:O4' | 1.97 | 0.64 |
| 2:AA:1637:A:H4' | 2:AA:2711:A:HO2' | 1.62 | 0.64 |
| 2:AA:1815:A:HO2' | 2:AA:1816:G:P | 2.20 | 0.64 |
| 2:AA:2018:G:H3' | 2:AA:2018:G:P | 2.36 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2241:A:H2' | 2:AA:2242:G:C8 | 2.33 | 0.64 |
| 2:AA:2250:G:C8 | 2:AA:2250:G:C3' | 2.80 | 0.64 |
| 2:AA:2271:G:OP1 | 27:A3:17:ASN:HA | 1.97 | 0.64 |
| 2:AA:2290:G:C6 | 2:AA:2291:U:N3 | 2.65 | 0.64 |
| 2:AA:2532:G:H2' | 2:AA:2533:A:O4' | 1.97 | 0.64 |
| 2:AA:2815:C:C2 | 2:AA:2816:C:C6 | 2.86 | 0.64 |
| 4:AD:77:VAL:O | 4:AD:113:MET:HG3 | 1.98 | 0.64 |
| 4:AD:140:VAL:HG13 | 4:AD:191:VAL:CG1 | 2.27 | 0.64 |
| 4:AD:196:ASN:OD1 | 4:AD:196:ASN:O | 2.16 | 0.64 |
| 4:AD:235:PRO:O | 4:AD:236:PHE:CB | 2.45 | 0.64 |
| 5:AE:231:TRP:O | 5:AE:232:ARG:CG | 2.44 | 0.64 |
| 6:AF:197:SER:HB2 | 6:AF:238:SER:C | 2.18 | 0.64 |
| 8:AH:86:LEU:HD13 | 8:AH:86:LEU:O | 1.97 | 0.64 |
| 9:AI:13:LEU:HD22 | 9:AI:17:GLU:HB3 | 1.79 | 0.64 |
| 11:AL:79:LEU:CD2 | 11:AL:137:ILE:HG21 | 2.26 | 0.64 |
| 19:AT:7:HIS:H | 19:AT:27:ALA:HB3 | 1.61 | 0.64 |
| 20:AU:19:ARG:O | 20:AU:22:GLN:CB | 2.45 | 0.64 |
| 20:AU:102:ASP:C | 20:AU:108:ARG:HD3 | 2.18 | 0.64 |
| 21:AV:138:VAL:HG23 | 21:AV:140:LYS:HD2 | 1.80 | 0.64 |
| 21:AV:141:MET:C | 21:AV:171:VAL:HG11 | 2.18 | 0.64 |
| 22:AW:33:VAL:O | 22:AW:36:ALA:HB3 | 1.98 | 0.64 |
| 23:AX:7:LYS:HG3 | 23:AX:33:GLN:O | 1.97 | 0.64 |
| 25:A1:73:GLY:O | 25:A1:74:MET:CG | 2.45 | 0.64 |
| 26:A2:10:LYS:O | 26:A2:12:TYR:HB2 | 1.97 | 0.64 |
| 26:A2:39:PHE:CZ | 26:A2:41:GLY:O | 2.50 | 0.64 |
| 26:A2:65:ARG:O | 26:A2:93:ILE:HA | 1.97 | 0.64 |
| 34:BA:123:C:OP1 | 34:BA:312:C:H5' | 1.98 | 0.64 |
| 34:BA:195:A:H4' | 55:BW:68:LYS:HZ1 | 1.60 | 0.64 |
| 34:BA:363:A:N7 | 47:BO:31:PRO:HD2 | 2.12 | 0.64 |
| 34:BA:421:U:O2 | 38:BF:127:ARG:CZ | 2.46 | 0.64 |
| 34:BA:517:G:H22 | 34:BA:533:A:P | 2.20 | 0.64 |
| 34:BA:627:G:N3 | 34:BA:628:G:N7 | 2.45 | 0.64 |
| 34:BA:745:C:C5' | 34:BA:851:G:N3 | 2.50 | 0.64 |
| 34:BA:1079:G:O3' | 40:BH:14:ARG:NH2 | 2.30 | 0.64 |
| 34:BA:1124:G:OP1 | 45:BM:35:SER:OG | 2.16 | 0.64 |
| 34:BA:1287:A:N6 | 34:BA:1371:G:O4' | 2.30 | 0.64 |
| 34:BA:1350:A:OP2 | 44:BL:118:LYS:CD | 2.46 | 0.64 |
| 35:BB:8:U:C4 | 35:BB:13:C:C4 | 2.85 | 0.64 |
| 35:BC:28:C:O5' | 35:BC:28:C:H6 | 1.81 | 0.64 |
| 35:BC:33:U:H2' | 35:BC:35:A:OP2 | 1.98 | 0.64 |
| 37:BE:50:GLU:OE2 | 37:BE:200:ILE:HB | 1.97 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:175:ARG:O | 37:BE:176:GLU:C | 2.34 | 0.64 |
| 38:BF:88:ARG:HE | 38:BF:101:LEU:H | 1.42 | 0.64 |
| 39:BG:62:GLN:HE21 | 39:BG:62:GLN:HA | 1.61 | 0.64 |
| 39:BG:92:VAL:HG12 | 39:BG:96:LEU:HD13 | 1.79 | 0.64 |
| 39:BG:129:ASN:ND2 | 39:BG:144:ASP:HB3 | 2.12 | 0.64 |
| 40:BH:82:VAL:HG21 | 40:BH:137:GLU:HB3 | 1.79 | 0.64 |
| 42:BJ:64:GLN:O | 42:BJ:68:ASN:ND2 | 2.29 | 0.64 |
| 42:BJ:99:LEU:O | 42:BJ:103:TRP:HB2 | 1.97 | 0.64 |
| 43:BK:29:SER:O | 43:BK:33:GLU:HB2 | 1.97 | 0.64 |
| 44:BL:23:ASN:ND2 | 44:BL:24:GLY:N | 2.45 | 0.64 |
| 47:BO:30:ALA:HB1 | 47:BO:31:PRO:HD2 | 1.78 | 0.64 |
| 47:BO:79:GLU:OE1 | 47:BO:80:HIS:HE1 | 1.80 | 0.64 |
| 48:BP:22:ILE:CB | 48:BP:25:ILE:HG13 | 2.12 | 0.64 |
| 48:BP:37:THR:HG21 | 48:BP:56:LEU:CD2 | 2.28 | 0.64 |
| 53:BU:43:PHE:C | 53:BU:51:LEU:HD13 | 2.16 | 0.64 |
| 54:BV:67:VAL:O | 54:BV:69:HIS:N | 2.30 | 0.64 |
| 55:BW:83:ARG:O | 55:BW:86:ARG:HG2 | 1.96 | 0.64 |
| 55:BW:104:LEU:O | 55:BW:106:ALA:N | 2.31 | 0.64 |
| 56:BX:20:LYS:HG2 | 56:BX:21:TYR:H | 1.62 | 0.64 |
| 1:AB:12:C:C6 | 27:A3:53:MET:HA | 2.32 | 0.64 |
| 1:AB:97:G:C4 | 1:AB:98:G:C8 | 2.86 | 0.64 |
| 2:AA:56:A:H3' | 2:AA:57:C:C5 | 2.32 | 0.64 |
| 2:AA:72:U:O2' | 22:AW:54:ALA:HB2 | 1.98 | 0.64 |
| 2:AA:224:G:N2 | 2:AA:225:A:H1' | 2.13 | 0.64 |
| 2:AA:288:C:H6 | 2:AA:288:C:C5' | 2.11 | 0.64 |
| 2:AA:291:C:C4 | 2:AA:349:G:C2 | 2.86 | 0.64 |
| 2:AA:357:A:C2' | 2:AA:358:U:H5" | 2.27 | 0.64 |
| 2:AA:374:A:C4 | 2:AA:375:C:C6 | 2.85 | 0.64 |
| 2:AA:445:C:C2' | 25:A1:3:ARG:HH21 | 2.11 | 0.64 |
| 2:AA:452:G:C2 | 2:AA:458:G:N2 | 2.65 | 0.64 |
| 2:AA:747:U:C4 | 2:AA:2613:U:C5 | 2.85 | 0.64 |
| 2:AA:752:A:O2' | 2:AA:753:C:OP2 | 2.16 | 0.64 |
| 2:AA:752:A:O2' | 2:AA:753:C:P | 2.56 | 0.64 |
| 2:AA:1238:G:C6 | 2:AA:1239:G:C8 | 2.85 | 0.64 |
| 2:AA:1342:A:C2 | 2:AA:1397:U:C6 | 2.86 | 0.64 |
| 2:AA:1523:U:H2' | 2:AA:1524:G:O4' | 1.98 | 0.64 |
| 2:AA:1529:A:H2' | 2:AA:1530:G:H5' | 1.79 | 0.64 |
| 2:AA:1529:A:N3 | 2:AA:1530:G:H4' | 2.13 | 0.64 |
| 2:AA:1592:C:H2' | 2:AA:1593:G:H8 | 1.57 | 0.64 |
| 2:AA:1609:A:C5 | 2:AA:1616:A:N3 | 2.66 | 0.64 |
| 2:AA:1625:C:H2' | 2:AA:1626:G:C5' | 2.28 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1669:A:C2' | 2:AA:1670:C:C5' | 2.73 | 0.64 |
| 2:AA:1676:A:O2' | 2:AA:1677:A:C5' | 2.46 | 0.64 |
| 2:AA:1697:G:C4' | 2:AA:1698:A:H5' | 2.27 | 0.64 |
| 2:AA:1807:G:C2 | 2:AA:1809:A:OP2 | 2.51 | 0.64 |
| 2:AA:1832:C:N4 | 2:AA:1833:U:O4 | 2.30 | 0.64 |
| 2:AA:2110:G:H2' | 2:AA:2111:C:C6 | 2.33 | 0.64 |
| 2:AA:2110:G:O2' | 2:AA:2111:C:OP1 | 2.16 | 0.64 |
| 2:AA:2115:G:N3 | 2:AA:2115:G:H2' | 2.12 | 0.64 |
| 2:AA:2122:U:O2' | 3:AC:166:ASP:CB | 2.42 | 0.64 |
| 2:AA:2132:U:O2 | 2:AA:2133:G:H3' | 1.98 | 0.64 |
| 2:AA:2144:U:H5' | 2:AA:2146:C:N3 | 2.13 | 0.64 |
| 2:AA:2423:U:H2' | 2:AA:2423:U:O2 | 1.96 | 0.64 |
| 2:AA:2468:G:N2 | 2:AA:2481:G:C1' | 2.61 | 0.64 |
| 2:AA:2511:U:O4 | 2:AA:2575:C:N3 | 2.30 | 0.64 |
| 2:AA:2819:G:H2' | 2:AA:2821:A:N7 | 2.13 | 0.64 |
| 5:AE:200:ASP:C | 5:AE:266:LYS:HD2 | 2.17 | 0.64 |
| 5:AE:222:ARG:N | 5:AE:222:ARG:CD | 2.56 | 0.64 |
| 7:AG:13:MET:CE | 7:AG:13:MET:HA | 2.27 | 0.64 |
| 8:AH:103:VAL:C | 8:AH:104:LEU:HD12 | 2.17 | 0.64 |
| 9:AJ:22:VAL:HG22 | 9:AJ:41:ALA:HB3 | 1.78 | 0.64 |
| 9:AJ:38:ALA:O | 9:AJ:41:ALA:HB3 | 1.98 | 0.64 |
| 10:AK:126:TYR:N | 10:AK:126:TYR:HD1 | 1.96 | 0.64 |
| 14:AO:120:LEU:O | 14:AO:140:VAL:HB | 1.97 | 0.64 |
| 19:AT:13:LYS:O | 19:AT:14:ALA:C | 2.35 | 0.64 |
| 22:AW:20:LEU:CA | 22:AW:23:LEU:HG | 2.28 | 0.64 |
| 23:AX:55:ARG:HB2 | 23:AX:55:ARG:CZ | 2.27 | 0.64 |
| 25:A1:106:PHE:O | 25:A1:107:LYS:C | 2.35 | 0.64 |
| 28:A4:57:ASP:HA | 28:A4:61:LYS:HE2 | 1.80 | 0.64 |
| 34:BA:15:G:C4' | 40:BH:24:ARG:HH22 | 2.10 | 0.64 |
| 34:BA:118:U:N3 | 34:BA:289:G:H4' | 2.09 | 0.64 |
| 34:BA:146:G:H1 | 34:BA:176:C:H42 | 1.45 | 0.64 |
| 34:BA:296:U:O2' | 34:BA:297:G:H5' | 1.97 | 0.64 |
| 34:BA:412:A:O2' | 34:BA:413:G:H5" | 1.97 | 0.64 |
| 34:BA:423:G:H2' | 34:BA:424:G:O4' | 1.96 | 0.64 |
| 34:BA:459:G:N2 | 34:BA:462:G:C5 | 2.65 | 0.64 |
| 34:BA:502:G:H4' | 34:BA:550:G:O2' | 1.97 | 0.64 |
| 34:BA:694:A:C2' | 34:BA:695:A:O5' | 2.45 | 0.64 |
| 34:BA:778:G:N3 | 34:BA:779:C:C6 | 2.66 | 0.64 |
| 34:BA:836:G:N2 | 34:BA:837:G:H1' | 2.13 | 0.64 |
| 34:BA:946:A:H61 | 34:BA:1235:U:H3 | 1.45 | 0.64 |
| 34:BA:1465:C:H2' | 34:BA:1465:C:O2 | 1.97 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1539:C:C2' | 34:BA:1540:U:H5' | 2.27 | 0.64 |
| 35:BB:5:A:H61 | 35:BB:68:U:H3 | 1.43 | 0.64 |
| 35:BB:34:G:C2 | 36:B1:66:G:O6 | 2.50 | 0.64 |
| 35:BB:37:G:OP2 | 35:BB:37:G:H8 | 1.77 | 0.64 |
| 35:BB:56:C:C6 | 35:BB:56:C:C3' | 2.80 | 0.64 |
| 35:BC:54:U:H2' | 35:BC:55:U:H5' | 1.79 | 0.64 |
| 38:BF:51:GLY:O | 38:BF:52:LEU:O | 2.16 | 0.64 |
| 39:BG:25:ARG:HH21 | 39:BG:30:LYS:HD3 | 1.61 | 0.64 |
| 39:BG:100:ARG:NH2 | 39:BG:137:SER:HA | 2.13 | 0.64 |
| 43:BK:38:ILE:HD13 | 43:BK:38:ILE:N | 2.12 | 0.64 |
| 43:BK:101:PRO:O | 43:BK:102:ARG:HB2 | 1.98 | 0.64 |
| 47:BO:23:LYS:O | 47:BO:24:VAL:HG23 | 1.97 | 0.64 |
| 47:BO:32:PHE:CB | 47:BO:84:LEU:HD21 | 2.19 | 0.64 |
| 47:BO:76:ASN:HD21 | 47:BO:107:ALA:HA | 1.61 | 0.64 |
| 48:BP:66:LEU:O | 48:BP:70:LEU:CB | 2.46 | 0.64 |
| 48:BP:90:LEU:HA | 48:BP:93:ARG:HD2 | 1.80 | 0.64 |
| 51:BS:18:ARG:HD3 | 51:BS:35:LYS:NZ | 2.13 | 0.64 |
| 54:BV:24:ALA:C | 54:BV:26:GLY:H | 2.00 | 0.64 |
| 55:BW:43:LEU:HB3 | 55:BW:52:ALA:HB2 | 1.79 | 0.64 |
| 55:BW:49:ALA:HA | 55:BW:92:LEU:HD22 | 1.80 | 0.64 |
| 1:AB:99:A:C6 | 1:AB:100:G:C6 | 2.85 | 0.64 |
| 2:AA:85:G:HO2' | 2:AA:103:A:H2 | 1.45 | 0.64 |
| 2:AA:198:C:H2' | 2:AA:198:C:O2 | 1.96 | 0.64 |
| 2:AA:242:G:H3' | 32:A8:5:LYS:NZ | 2.12 | 0.64 |
| 2:AA:294:A:N1 | 2:AA:346:A:N1 | 2.45 | 0.64 |
| 2:AA:328:U:O2' | 20:AU:94:SER:OG | 2.13 | 0.64 |
| 2:AA:769:G:C6 | 2:AA:770:G:N7 | 2.65 | 0.64 |
| 2:AA:782:A:H1' | 2:AA:783:A:H62 | 1.63 | 0.64 |
| 2:AA:844:C:C6 | 2:AA:845:G:N7 | 2.65 | 0.64 |
| 2:AA:908:C:O2 | 2:AA:908:C:H2' | 1.98 | 0.64 |
| 2:AA:959:A:N1 | 2:AA:960:A:N6 | 2.46 | 0.64 |
| 2:AA:970:C:O2 | 2:AA:971:C:H6 | 1.80 | 0.64 |
| 2:AA:971:C:O2 | 2:AA:971:C:C2' | 2.44 | 0.64 |
| 2:AA:1066:U:H2' | 2:AA:1067:A:H5" | 1.79 | 0.64 |
| 2:AA:1067:A:C6 | 2:AA:1068:G:O6 | 2.51 | 0.64 |
| 2:AA:1124:C:H3' | 2:AA:1125:G:H8 | 1.63 | 0.64 |
| 2:AA:1169:G:N2 | 2:AA:1181:C:C4 | 2.65 | 0.64 |
| 2:AA:1434:A:N6 | 2:AA:1558:A:H61 | 1.92 | 0.64 |
| 2:AA:1555:G:O4' | 2:AA:1555:G:OP1 | 2.14 | 0.64 |
| 2:AA:1563:G:O2' | 2:AA:1564:C:H5' | 1.98 | 0.64 |
| 2:AA:1748:G:H2' | 2:AA:1749:A:C8 | 2.33 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1753:G:H3' | 2:AA:1753:G:C8 | 2.33 | 0.64 |
| 2:AA:1769:G:HO2' | 2:AA:1770:G:C5' | 2.11 | 0.64 |
| 2:AA:1774:C:C4 | 2:AA:1775:U:O4 | 2.51 | 0.64 |
| 2:AA:1782:C:C2 | 2:AA:2609:U:C6 | 2.86 | 0.64 |
| 2:AA:1785:A:C8 | 2:AA:1785:A:C3' | 2.81 | 0.64 |
| 2:AA:1838:C:H2' | 2:AA:1898:U:C4 | 2.33 | 0.64 |
| 2:AA:1980:G:C6 | 2:AA:1982:C:N4 | 2.66 | 0.64 |
| 2:AA:2129:C:OP1 | 3:AC:37:PHE:CZ | 2.50 | 0.64 |
| 2:AA:2262:U:H5 | 27:A3:14:ARG:HH22 | 1.43 | 0.64 |
| 2:AA:2469:A:H2 | 2:AA:2482:G:H1' | 1.63 | 0.64 |
| 2:AA:2484:G:C2 | 2:AA:2485:G:O4' | 2.51 | 0.64 |
| 2:AA:2647:U:H1' | 2:AA:2674:G:N2 | 2.12 | 0.64 |
| 2:AA:2793:G:H2' | 2:AA:2794:C:C6 | 2.33 | 0.64 |
| 2:AA:2872:G:N2 | 2:AA:2873:A:N1 | 2.46 | 0.64 |
| 3:AC:10:LEU:HD11 | 3:AC:32:LEU:O | 1.98 | 0.64 |
| 3:AC:73:ARG:N | 3:AC:111:ASP:OD2 | 2.30 | 0.64 |
| 5:AE:222:ARG:NE | 5:AE:232:ARG:C | 2.51 | 0.64 |
| 6:AF:193:LEU:HD13 | 6:AF:223:LEU:HB2 | 1.80 | 0.64 |
| 8:AH:37:HIS:CE1 | 8:AH:67:THR:HG21 | 2.33 | 0.64 |
| 8:AH:41:THR:OG1 | 8:AH:54:PRO:HB3 | 1.97 | 0.64 |
| 8:AH:88:LEU:HD11 | 8:AH:94:ARG:C | 2.18 | 0.64 |
| 9:AJ:83:LEU:CD1 | 9:AJ:91:LEU:HD12 | 2.28 | 0.64 |
| 11:AL:25:GLY:CA | 11:AL:35:ILE:HD13 | 2.20 | 0.64 |
| 12:AM:15:ARG:NE | 12:AM:40:ASN:ND2 | 2.46 | 0.64 |
| 14:AO:94:ARG:HB2 | 14:AO:120:LEU:CD2 | 2.28 | 0.64 |
| 14:AO:104:ASP:C | 14:AO:105:TYR:CG | 2.71 | 0.64 |
| 18:AS:8:ARG:HB3 | 18:AS:8:ARG:NH1 | 2.12 | 0.64 |
| 18:AS:89:ALA:H | 18:AS:92:ARG:N | 1.96 | 0.64 |
| 20:AU:48:VAL:CG2 | 20:AU:98:VAL:HG22 | 2.28 | 0.64 |
| 21:AV:3:LEU:HD21 | 21:AV:38:ALA:CB | 2.26 | 0.64 |
| 21:AV:91:PRO:HB2 | 21:AV:127:PRO:CA | 2.26 | 0.64 |
| 24:A0:55:ALA:CA | 24:A0:80:PHE:CE1 | 2.73 | 0.64 |
| 24:A0:105:ARG:NH1 | 24:A0:105:ARG:HB2 | 2.13 | 0.64 |
| 29:A5:57:VAL:O | 29:A5:58:LEU:HD23 | 1.97 | 0.64 |
| 31:A7:21:ARG:NH2 | 31:A7:43:THR:OG1 | 2.30 | 0.64 |
| 34:BA:113:G:O6 | 34:BA:314:C:N3 | 2.31 | 0.64 |
| 34:BA:438:G:H5" | 34:BA:439:A:OP1 | 1.98 | 0.64 |
| 34:BA:511:C:O2' | 34:BA:512:U:H6 | 1.71 | 0.64 |
| 34:BA:828:A:N6 | 34:BA:858:G:O2' | 2.30 | 0.64 |
| 34:BA:947:G:H2' | 34:BA:948:C:C6 | 2.32 | 0.64 |
| 34:BA:956:U:O2 | 34:BA:960:U:O4 | 2.16 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1014:A:H2' | 34:BA:1015:A:C8 | 2.33 | 0.64 |
| 34:BA:1307:U:H2' | 34:BA:1308:U:H6 | 1.61 | 0.64 |
| 34:BA:1498:U:O2' | 34:BA:1499:A:O5' | 2.16 | 0.64 |
| 35:BB:11:C:N3 | 35:BB:12:U:O4 | 2.30 | 0.64 |
| 35:BB:37:G:N9 | 35:BB:38:A:N7 | 2.45 | 0.64 |
| 35:BB:40:C:O2' | 48:BP:120:LYS:CE | 2.46 | 0.64 |
| 35:BB:53:G:C5 | 35:BB:54:U:C5 | 2.86 | 0.64 |
| 37:BE:163:PHE:CZ | 37:BE:186:ALA:CA | 2.79 | 0.64 |
| 39:BG:19:LEU:HB3 | 39:BG:21:LEU:CD1 | 2.27 | 0.64 |
| 40:BH:95:ALA:O | 40:BH:117:ASP:HB3 | 1.98 | 0.64 |
| 41:BI:39:LYS:CG | 41:BI:64:GLN:HB3 | 2.27 | 0.64 |
| 42:BJ:88:PRO:CD | 42:BJ:152:ALA:HA | 2.28 | 0.64 |
| 42:BJ:146:GLU:HG2 | 42:BJ:149:ARG:NH2 | 2.13 | 0.64 |
| 44:BL:85:LEU:HD11 | 44:BL:92:TYR:HD1 | 1.62 | 0.64 |
| 50:BR:70:LEU:HG | 50:BR:78:TYR:CB | 2.27 | 0.64 |
| 1:AB:68:C:H3' | 1:AB:69:G:C8 | 2.33 | 0.64 |
| 2:AA:327:G:C2' | 2:AA:328:U:H5' | 2.28 | 0.64 |
| 2:AA:562:U:C5 | 2:AA:2036:C:O4' | 2.50 | 0.64 |
| 2:AA:599:G:H2' | 2:AA:600:G:H8 | 1.63 | 0.64 |
| 2:AA:628:G:H8 | 2:AA:628:G:O5' | 1.80 | 0.64 |
| 2:AA:673:C:OP1 | 6:AF:81:PRO:HD2 | 1.97 | 0.64 |
| 2:AA:680:G:O2' | 2:AA:681:G:H5' | 1.98 | 0.64 |
| 2:AA:702:G:H2' | 2:AA:703:U:C6 | 2.33 | 0.64 |
| 2:AA:804:A:H5" | 2:AA:805:G:OP1 | 1.98 | 0.64 |
| 2:AA:951:C:HO2' | 2:AA:952:G:C5' | 2.11 | 0.64 |
| 2:AA:1047:G:N1 | 2:AA:1110:G:N7 | 2.46 | 0.64 |
| 2:AA:1057:A:O2' | 9:AI:6:ILE:CD1 | 2.46 | 0.64 |
| 2:AA:1136:G:N2 | 2:AA:1137:G:C1' | 2.60 | 0.64 |
| 2:AA:1218:C:O2 | 2:AA:1219:G:C8 | 2.51 | 0.64 |
| 2:AA:1301:A:N7 | 2:AA:1303:G:C1' | 2.61 | 0.64 |
| 2:AA:1357:U:H2' | 2:AA:1358:G:O4' | 1.98 | 0.64 |
| 2:AA:1385:G:H1 | 2:AA:1402:C:N4 | 1.95 | 0.64 |
| 2:AA:1463:C:H2' | 2:AA:1464:C:H6 | 1.63 | 0.64 |
| 2:AA:1468:C:N3 | 2:AA:1524:G:C2 | 2.65 | 0.64 |
| 2:AA:1471:A:N3 | 2:AA:1472:A:C1' | 2.60 | 0.64 |
| 2:AA:1508:A:OP1 | 2:AA:1510:A:C6 | 2.50 | 0.64 |
| 2:AA:1555:G:H8 | 2:AA:1555:G:O5' | 1.80 | 0.64 |
| 2:AA:1658:C:OP1 | 5:AE:230:GLY:C | 2.37 | 0.64 |
| 2:AA:1696:G:H2' | 2:AA:1697:G:C8 | 2.33 | 0.64 |
| 2:AA:1789:A:H2' | 2:AA:1790:C:H1' | 1.80 | 0.64 |
| 2:AA:1819:A:H1' | 2:AA:1821:A:N6 | 2.13 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1827:C:H1' | 2:AA:1970:A:C2 | 2.33 | 0.64 |
| 2:AA:1992:G:C5 | 2:AA:1997:G:C5 | 2.84 | 0.64 |
| 2:AA:2051:A:N6 | 2:AA:2614:A:N7 | 2.45 | 0.64 |
| 2:AA:2057:A:C5' | 29:A5:8:LYS:NZ | 2.61 | 0.64 |
| 2:AA:2330:G:C2 | 2:AA:2331:G:C4 | 2.85 | 0.64 |
| 2:AA:2335:A:H2' | 2:AA:2337:G:C8 | 2.33 | 0.64 |
| 2:AA:2354:G:H21 | 27:A3:32:LYS:HG3 | 1.63 | 0.64 |
| 2:AA:2436:G:C6 | 2:AA:2437:U:C5 | 2.86 | 0.64 |
| 2:AA:2436:G:C2' | 2:AA:2437:U:O5' | 2.46 | 0.64 |
| 2:AA:2486:G:H2' | 2:AA:2487:G:O5' | 1.98 | 0.64 |
| 2:AA:2494:G:N2 | 2:AA:2495:G:C4 | 2.66 | 0.64 |
| 2:AA:2505:G:O6 | 2:AA:2576:G:H1' | 1.98 | 0.64 |
| 2:AA:2544:G:H5' | 2:AA:2645:G:C8 | 2.29 | 0.64 |
| 2:AA:2836:U:C2 | 2:AA:2837:G:N7 | 2.66 | 0.64 |
| 2:AA:2850:A:H2' | 2:AA:2851:A:H8 | 1.63 | 0.64 |
| 4:AD:76:ARG:HB3 | 4:AD:113:MET:HG2 | 1.78 | 0.64 |
| 4:AD:216:ALA:O | 4:AD:223:ASN:N | 2.31 | 0.64 |
| 5:AE:262:THR:OG1 | 5:AE:263:GLU:N | 2.26 | 0.64 |
| 6:AF:113:SER:O | 6:AF:116:ALA:HB3 | 1.97 | 0.64 |
| 6:AF:196:THR:HG22 | 6:AF:197:SER:H | 1.62 | 0.64 |
| 6:AF:234:VAL:O | 6:AF:234:VAL:HG23 | 1.98 | 0.64 |
| 7:AG:53:LYS:CG | 7:AG:54:ALA:N | 2.60 | 0.64 |
| 7:AG:82:GLU:O | 7:AG:85:GLN:CD | 2.36 | 0.64 |
| 8:AH:67:THR:O | 8:AH:71:LEU:HD12 | 1.98 | 0.64 |
| 10:AK:30:LEU:HA | 10:AK:33:GLN:NE2 | 2.13 | 0.64 |
| 13:AN:34:ASN:HB2 | 13:AN:37:ASP:OD2 | 1.98 | 0.64 |
| 14:AO:95:ASP:OD1 | 14:AO:95:ASP:O | 2.16 | 0.64 |
| 14:AO:124:ASP:O | 14:AO:125:PHE:CD2 | 2.51 | 0.64 |
| 15:AP:28:ILE:HG22 | 15:AP:29:ALA:N | 2.13 | 0.64 |
| 15:AP:32:LYS:HE3 | 21:AV:172:LEU:CD1 | 2.27 | 0.64 |
| 16:AQ:20:TYR:HE2 | 16:AQ:21:HIS:CD2 | 2.15 | 0.64 |
| 16:AQ:59:ALA:HB3 | 16:AQ:91:ARG:CZ | 2.28 | 0.64 |
| 16:AQ:94:GLU:CG | 16:AQ:95:ALA:N | 2.61 | 0.64 |
| 17:AR:25:ASP:O | 17:AR:26:GLY:C | 2.34 | 0.64 |
| 18:AS:95:ILE:CG2 | 18:AS:96:ILE:N | 2.61 | 0.64 |
| 19:AT:56:ASN:N | 19:AT:56:ASN:HD22 | 1.94 | 0.64 |
| 24:A0:53:HIS:O | 24:A0:56:LYS:HG3 | 1.98 | 0.64 |
| 24:A0:83:ILE:O | 24:A0:84:ALA:C | 2.35 | 0.64 |
| 25:A1:72:HIS:HE1 | 25:A1:107:LYS:HA | 1.63 | 0.64 |
| 29:A5:31:THR:HG22 | 29:A5:42:SER:HA | 1.80 | 0.64 |
| 31:A7:21:ARG:CZ | 31:A7:43:THR:OG1 | 2.46 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:A8:26:LYS:HZ3 | 32:A8:43:GLY:HA2 | 1.63 | 0.64 |
| 34:BA:131:C:C2 | 34:BA:231:G:N2 | 2.63 | 0.64 |
| 34:BA:311:C:O2' | 34:BA:312:C:H5' | 1.98 | 0.64 |
| 34:BA:332:G:O2' | 34:BA:333:G:C5' | 2.41 | 0.64 |
| 34:BA:373:A:N3 | 34:BA:374:A:C8 | 2.66 | 0.64 |
| 34:BA:627:G:O2' | 34:BA:628:G:O5' | 2.16 | 0.64 |
| 34:BA:714:G:O2' | 34:BA:777:A:N7 | 2.24 | 0.64 |
| 34:BA:723:U:O2 | 34:BA:723:U:H2' | 1.97 | 0.64 |
| 34:BA:769:G:O2' | 34:BA:770:C:C5' | 2.46 | 0.64 |
| 34:BA:841:U:C3' | 34:BA:848:C:H5' | 2.28 | 0.64 |
| 34:BA:1091:U:O2 | 34:BA:1093:A:N7 | 2.31 | 0.64 |
| 34:BA:1227:A:H8 | 34:BA:1228:C:O4' | 1.80 | 0.64 |
| 34:BA:1269:A:N6 | 34:BA:1312:G:HO2' | 1.96 | 0.64 |
| 34:BA:1278:U:H4' | 34:BA:1279:A:C8 | 2.33 | 0.64 |
| 34:BA:1284:C:H2' | 34:BA:1285:A:H8 | 1.61 | 0.64 |
| 34:BA:1316:G:C5' | 49:BQ:17:LYS:HD2 | 2.11 | 0.64 |
| 34:BA:1321:C:C5 | 34:BA:1322:C:C2 | 2.86 | 0.64 |
| 34:BA:1405:G:C2 | 34:BA:1406:U:C5 | 2.86 | 0.64 |
| 34:BA:1480:G:H2' | 34:BA:1481:U:C5' | 2.28 | 0.64 |
| 35:BB:37:G:N9 | 35:BB:38:A:C8 | 2.66 | 0.64 |
| 35:BC:50:U:H2' | 35:BC:51:G:C8 | 2.33 | 0.64 |
| 38:BF:57:ILE:HG23 | 38:BF:66:VAL:HG22 | 1.80 | 0.64 |
| 39:BG:15:GLU:HG2 | 39:BG:63:LYS:HB3 | 1.80 | 0.64 |
| 39:BG:59:ARG:NH1 | 39:BG:59:ARG:CA | 2.56 | 0.64 |
| 39:BG:118:ARG:HG3 | 39:BG:118:ARG:HH21 | 1.62 | 0.64 |
| 40:BH:94:ALA:HB3 | 40:BH:117:ASP:C | 2.18 | 0.64 |
| 40:BH:105:VAL:CG2 | 40:BH:132:ALA:HB2 | 2.27 | 0.64 |
| 42:BJ:54:THR:C | 42:BJ:56:GLN:H | 2.01 | 0.64 |
| 42:BJ:129:GLU:CG | 42:BJ:131:LYS:HE2 | 2.28 | 0.64 |
| 44:BL:36:TYR:OH | 44:BL:70:LYS:NZ | 2.31 | 0.64 |
| 47:BO:102:ARG:HB3 | 47:BO:109:GLY:HA2 | 1.79 | 0.64 |
| 48:BP:13:LYS:C | 48:BP:44:ARG:HG3 | 2.19 | 0.64 |
| 53:BU:47:THR:H | 53:BU:49:LYS:NZ | 1.96 | 0.64 |
| 1:AB:82:G:N3 | 1:AB:83:G:C8 | 2.66 | 0.63 |
| 2:AA:16:G:O6 | 2:AA:524:U:O2 | 2.17 | 0.63 |
| 2:AA:70:G:C5 | 2:AA:114:U:O4 | 2.51 | 0.63 |
| 2:AA:136:G:C3' | 2:AA:137:C:H4' | 2.27 | 0.63 |
| 2:AA:181:A:H2' | 2:AA:182:A:H8 | 1.63 | 0.63 |
| 2:AA:273(B):C:O2 | 2:AA:363(D):G:N1 | 2.31 | 0.63 |
| 2:AA:288:C:C6 | 2:AA:288:C:C3' | 2.80 | 0.63 |
| 2:AA:355:G:H2' | 2:AA:356:G:C8 | 2.33 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:569:U:OP1 | 2:AA:945:A:N1 | 2.30 | 0.63 |
| 2:AA:622:G:O2' | 2:AA:623:G:H5' | 1.98 | 0.63 |
| 2:AA:804:A:OP1 | 2:AA:805:G:OP1 | 2.15 | 0.63 |
| 2:AA:831:G:H2' | 2:AA:832:G:H5' | 1.79 | 0.63 |
| 2:AA:942:G:C2 | 2:AA:943:U:C4 | 2.86 | 0.63 |
| 2:AA:975:G:N7 | 2:AA:990:A:C6 | 2.65 | 0.63 |
| 2:AA:997:G:HO2' | 2:AA:998:C:H6 | 1.46 | 0.63 |
| 2:AA:1000:A:C8 | 2:AA:1001:A:C5 | 2.86 | 0.63 |
| 2:AA:1063:G:N2 | 2:AA:1076:C:C6 | 2.66 | 0.63 |
| 2:AA:1162:G:H4' | 26:A2:23:GLU:HB2 | 1.79 | 0.63 |
| 2:AA:1213:A:C6 | 2:AA:1237:A:H1' | 2.32 | 0.63 |
| 2:AA:1322:A:O2' | 2:AA:1323:U:H5' | 1.98 | 0.63 |
| 2:AA:1359:A:H2' | 2:AA:1360:A:C5' | 2.27 | 0.63 |
| 2:AA:1468:C:N4 | 2:AA:1524:G:C6 | 2.66 | 0.63 |
| 2:AA:1469:A:N6 | 2:AA:1470:G:H1 | 1.96 | 0.63 |
| 2:AA:1613:G:N1 | 2:AA:1619:G:C5 | 2.67 | 0.63 |
| 2:AA:1654:A:N3 | 2:AA:1654:A:H2' | 2.12 | 0.63 |
| 2:AA:1672:C:H2' | 2:AA:1673:U:C5' | 2.29 | 0.63 |
| 2:AA:1780:A:OP2 | 2:AA:1782:C:P | 2.56 | 0.63 |
| 2:AA:1857:G:H3' | 2:AA:1857:G:H8 | 1.63 | 0.63 |
| 2:AA:2015:A:OP2 | 2:AA:2015:A:O4' | 2.16 | 0.63 |
| 2:AA:2023:G:O2' | 2:AA:2024:G:H5' | 1.99 | 0.63 |
| 2:AA:2092:U:C5 | 2:AA:2227:A:N6 | 2.61 | 0.63 |
| 2:AA:2106:G:H1 | 2:AA:2183:C:N4 | 1.94 | 0.63 |
| 2:AA:2348:U:P | 32:A8:42:ARG:HH12 | 2.20 | 0.63 |
| 2:AA:2432:A:C2 | 2:AA:2433:A:C6 | 2.86 | 0.63 |
| 2:AA:2589:A:O2' | 2:AA:2590:A:C5' | 2.46 | 0.63 |
| 2:AA:2615:U:O2' | 2:AA:2616:C:O5' | 2.16 | 0.63 |
| 2:AA:2713:A:H3' | 2:AA:2714:G:H5' | 1.80 | 0.63 |
| 2:AA:2899:G:C4 | 2:AA:2900:A:N7 | 2.66 | 0.63 |
| 3:AC:70:LYS:CA | 3:AC:157:LYS:HZ3 | 2.11 | 0.63 |
| 3:AC:173:ALA:HB1 | 3:AC:174:PRO:CD | 2.24 | 0.63 |
| 4:AD:89:ASN:O | 4:AD:105:ALA:CA | 2.46 | 0.63 |
| 5:AE:190:ASN:C | 5:AE:193:PHE:N | 2.45 | 0.63 |
| 5:AE:300:VAL:C | 5:AE:302:GLY:N | 2.52 | 0.63 |
| 6:AF:163:HIS:HA | 6:AF:166:ILE:HG13 | 1.80 | 0.63 |
| 6:AF:194:PHE:CB | 6:AF:211:ASP:O | 2.46 | 0.63 |
| 6:AF:215:ALA:HA | 6:AF:242:GLU:HG3 | 1.80 | 0.63 |
| 6:AF:238:SER:O | 6:AF:241:ALA:N | 2.31 | 0.63 |
| 7:AG:51:ARG:HH12 | 7:AG:74:THR:HG23 | 1.62 | 0.63 |
| 7:AG:90:LEU:HD22 | 48:BP:3:ARG:HH11 | 1.62 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:67:THR:CG2 | 8:AH:71:LEU:HD11 | 2.21 | 0.63 |
| 10:AK:40:THR:O | 10:AK:43:ASN:N | 2.29 | 0.63 |
| 10:AK:79:ILE:HD12 | 10:AK:144:HIS:O | 1.97 | 0.63 |
| 12:AM:15:ARG:HA | 12:AM:44:ALA:HA | 1.80 | 0.63 |
| 12:AM:15:ARG:HD3 | 12:AM:43:ARG:NH1 | 2.13 | 0.63 |
| 12:AM:59:LYS:O | 12:AM:63:ILE:CG1 | 2.41 | 0.63 |
| 12:AM:79:PHE:O | 12:AM:83:ILE:HG12 | 1.98 | 0.63 |
| 12:AM:135:ILE:O | 12:AM:139:LEU:CD1 | 2.46 | 0.63 |
| 12:AM:135:ILE:HD13 | 12:AM:135:ILE:N | 2.12 | 0.63 |
| 13:AN:1:MET:HB3 | 13:AN:67:ARG:CZ | 2.27 | 0.63 |
| 15:AP:26:LYS:HG3 | 15:AP:28:ILE:CG1 | 2.28 | 0.63 |
| 15:AP:87:LYS:C | 15:AP:88:PHE:CG | 2.72 | 0.63 |
| 16:AQ:85:GLY:O | 16:AQ:86:LEU:C | 2.37 | 0.63 |
| 19:AT:5:ILE:CG2 | 19:AT:6:LYS:N | 2.61 | 0.63 |
| 19:AT:45:TYR:O | 19:AT:47:VAL:N | 2.31 | 0.63 |
| 20:AU:46:ASP:OD2 | 20:AU:102:ASP:N | 2.30 | 0.63 |
| 20:AU:49:GLU:HG2 | 20:AU:59:GLU:HA | 1.80 | 0.63 |
| 20:AU:51:LEU:HB3 | 20:AU:97:ARG:NE | 2.14 | 0.63 |
| 21:AV:149:ALA:O | 21:AV:150:GLY:O | 2.16 | 0.63 |
| 24:A0:56:LYS:O | 24:A0:57:ARG:C | 2.37 | 0.63 |
| 24:A0:57:ARG:HE | 24:A0:62:ALA:HB2 | 1.63 | 0.63 |
| 24:A0:94:TYR:O | 24:A0:116:LEU:HA | 1.98 | 0.63 |
| 25:A1:50:ARG:HH22 | 26:A2:74:TYR:CA | 2.10 | 0.63 |
| 27:A3:25:LYS:HE2 | 27:A3:57:HIS:ND1 | 2.12 | 0.63 |
| 27:A3:49:GLN:HE22 | 27:A3:73:GLY:HA3 | 1.63 | 0.63 |
| 34:BA:108:G:C6 | 55:BW:15:ARG:NE | 2.65 | 0.63 |
| 34:BA:150:C:H2' | 34:BA:151:A:O4' | 1.98 | 0.63 |
| 34:BA:197:A:O2' | 34:BA:198:G:P | 2.56 | 0.63 |
| 34:BA:814:A:N7 | 34:BA:816:A:C5 | 2.66 | 0.63 |
| 34:BA:873:A:H3' | 34:BA:873:A:OP1 | 1.98 | 0.63 |
| 34:BA:978:A:C6 | 34:BA:1319:A:C2 | 2.85 | 0.63 |
| 34:BA:1161:C:H2' | 34:BA:1162:C:H6 | 1.62 | 0.63 |
| 34:BA:1233:G:O2' | 34:BA:1365:G:OP1 | 2.15 | 0.63 |
| 35:BB:8:U:O5' | 35:BB:8:U:C6 | 2.52 | 0.63 |
| 35:BC:1:G:N2 | 35:BC:2:C:C6 | 2.66 | 0.63 |
| 37:BE:221:LEU:HA | 37:BE:224:GLN:CD | 2.17 | 0.63 |
| 38:BF:26:LYS:O | 38:BF:28:GLN:N | 2.31 | 0.63 |
| 39:BG:106:TYR:HD1 | 39:BG:111:ALA:O | 1.81 | 0.63 |
| 39:BG:106:TYR:CE1 | 39:BG:112:VAL:O | 2.51 | 0.63 |
| 42:BJ:31:MET:CG | 42:BJ:32:ARG:H | 2.07 | 0.63 |
| 44:BL:37:PHE:HB3 | 44:BL:43:ALA:HB2 | 1.79 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:29:ARG:HB2 | 45:BM:84:GLN:NE2 | 2.11 | 0.63 |
| 45:BM:51:ARG:HA | 49:BQ:45:ARG:CZ | 2.28 | 0.63 |
| 46:BN:15:ALA:CA | 46:BN:78:GLN:NE2 | 2.57 | 0.63 |
| 46:BN:34:ASP:N | 46:BN:40:ILE:HD11 | 2.12 | 0.63 |
| 47:BO:28:LYS:HD2 | 47:BO:33:ARG:HH12 | 1.60 | 0.63 |
| 48:BP:77:ASN:HA | 48:BP:80:ARG:HD3 | 1.81 | 0.63 |
| 48:BP:104:ARG:CG | 48:BP:105:THR:HG23 | 2.28 | 0.63 |
| 48:BP:120:LYS:HG2 | 48:BP:121:LYS:N | 2.13 | 0.63 |
| 50:BR:70:LEU:HG | 50:BR:78:TYR:HD1 | 1.62 | 0.63 |
| 51:BS:12:LYS:HE2 | 51:BS:13:HIS:CE1 | 2.33 | 0.63 |
| 52:BT:5:VAL:CG1 | 52:BT:59:ILE:O | 2.43 | 0.63 |
| 53:BU:53:ARG:NH1 | 53:BU:59:SER:C | 2.50 | 0.63 |
| 53:BU:56:THR:HB | 53:BU:58:LEU:HD12 | 1.80 | 0.63 |
| 1:AB:33:G:C2' | 1:AB:34:U:C6 | 2.74 | 0.63 |
| 2:AA:135:G:N2 | 2:AA:144:C:C2 | 2.66 | 0.63 |
| 2:AA:231:C:N4 | 2:AA:232:G:H22 | 1.94 | 0.63 |
| 2:AA:244:A:O2' | 14:AO:55:GLN:NE2 | 2.30 | 0.63 |
| 2:AA:270(C):C:C5 | 2:AA:270(D):C:H5 | 2.15 | 0.63 |
| 2:AA:327:G:N1 | 2:AA:328:U:H6 | 1.95 | 0.63 |
| 2:AA:342:G:H1 | 2:AA:344:G:H22 | 0.72 | 0.63 |
| 2:AA:530:G:HO2' | 2:AA:531:C:C4' | 2.11 | 0.63 |
| 2:AA:579:G:H5" | 2:AA:2018:G:C5' | 2.28 | 0.63 |
| 2:AA:737:C:N4 | 2:AA:759:G:H1 | 1.96 | 0.63 |
| 2:AA:873:G:H5' | 15:AP:32:LYS:H | 1.60 | 0.63 |
| 2:AA:911:A:C2 | 15:AP:16:ARG:HA | 2.33 | 0.63 |
| 2:AA:1022:G:H1 | 12:AM:47:THR:HG21 | 1.62 | 0.63 |
| 2:AA:1064:C:C2' | 2:AA:1065:U:C6 | 2.82 | 0.63 |
| 2:AA:1107:G:O2' | 2:AA:1108:U:H5' | 1.98 | 0.63 |
| 2:AA:1174:A:N6 | 2:AA:1177:A:C4 | 2.66 | 0.63 |
| 2:AA:1181:C:C2 | 2:AA:1182:A:C8 | 2.86 | 0.63 |
| 2:AA:1394:U:H4' | 2:AA:1603:A:C4' | 2.29 | 0.63 |
| 2:AA:1420:U:O2' | 2:AA:1421:G:O5' | 2.13 | 0.63 |
| 2:AA:1475:G:N2 | 2:AA:1477:A:C5 | 2.65 | 0.63 |
| 2:AA:1494:A:C2 | 2:AA:1495:A:O4' | 2.52 | 0.63 |
| 2:AA:1568:G:H3' | 4:AD:60:GLN:CG | 2.29 | 0.63 |
| 2:AA:1609:A:C6 | 2:AA:1616:A:C2 | 2.87 | 0.63 |
| 2:AA:1636:C:O2' | 2:AA:1761:C:C1' | 2.45 | 0.63 |
| 2:AA:1765:C:O2' | 2:AA:1766:U:H5' | 1.98 | 0.63 |
| 2:AA:1835:G:C2' | 2:AA:1836:C:H5' | 2.28 | 0.63 |
| 2:AA:1846:G:N1 | 2:AA:1895:C:C4 | 2.67 | 0.63 |
| 2:AA:1894:C:C2 | 2:AA:1895:C:C5 | 2.86 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1984:G:C6 | 2:AA:1985:G:N7 | 2.66 | 0.63 |
| 2:AA:2044:C:C5 | 2:AA:2625:G:N2 | 2.66 | 0.63 |
| 2:AA:2072:G:H2' | 2:AA:2073:C:H6 | 1.63 | 0.63 |
| 2:AA:2092:U:H5 | 2:AA:2227:A:H62 | 1.41 | 0.63 |
| 2:AA:2109:U:H6 | 2:AA:2109:U:O5' | 1.82 | 0.63 |
| 2:AA:2138:C:O5' | 2:AA:2138:C:H6 | 1.81 | 0.63 |
| 2:AA:2252:G:N2 | 35:BC:74:C:N4 | 2.41 | 0.63 |
| 2:AA:2312:U:O2' | 7:AG:72:LYS:HE3 | 1.98 | 0.63 |
| 2:AA:2371:G:H4' | 30:A6:47:HIS:CE1 | 2.34 | 0.63 |
| 2:AA:2407:G:H2' | 2:AA:2408:U:C6 | 2.32 | 0.63 |
| 2:AA:2830:G:N2 | 2:AA:2883:A:C2 | 2.65 | 0.63 |
| 2:AA:2866:U:O2 | 2:AA:2868:A:H4' | 1.98 | 0.63 |
| 3:AC:22:ILE:HG21 | 3:AC:189:ILE:HB | 1.80 | 0.63 |
| 4:AD:139:LEU:HD13 | 4:AD:192:GLY:H | 1.61 | 0.63 |
| 5:AE:70:VAL:CG1 | 5:AE:71:THR:H | 2.07 | 0.63 |
| 5:AE:208:LYS:HB3 | 5:AE:256:THR:O | 1.99 | 0.63 |
| 5:AE:220:GLN:OE1 | 5:AE:223:LYS:HE2 | 1.98 | 0.63 |
| 8:AH:51:VAL:HG12 | 8:AH:52:THR:O | 1.99 | 0.63 |
| 9:AI:13:LEU:HB3 | 9:AI:17:GLU:HB3 | 1.79 | 0.63 |
| 12:AM:12:VAL:HG12 | 12:AM:13:ASP:N | 2.13 | 0.63 |
| 12:AM:135:ILE:HG23 | 12:AM:139:LEU:HD11 | 1.76 | 0.63 |
| 15:AP:89:PRO:HB2 | 15:AP:111:THR:HG22 | 1.80 | 0.63 |
| 16:AQ:19:ASP:C | 16:AQ:21:HIS:H | 1.99 | 0.63 |
| 17:AR:46:ALA:O | 17:AR:49:LEU:HB3 | 1.98 | 0.63 |
| 19:AT:57:THR:CB | 19:AT:59:ASP:OD2 | 2.46 | 0.63 |
| 20:AU:81:LYS:HZ2 | 20:AU:84:GLY:N | 1.96 | 0.63 |
| 20:AU:101:LEU:HD13 | 20:AU:113:GLU:CD | 2.19 | 0.63 |
| 21:AV:13:LYS:C | 21:AV:15:ASP:N | 2.51 | 0.63 |
| 24:A0:58:GLY:CA | 24:A0:80:PHE:CE2 | 2.67 | 0.63 |
| 24:A0:73:VAL:O | 24:A0:77:ARG:NH1 | 2.30 | 0.63 |
| 26:A2:19:VAL:CG1 | 26:A2:21:ARG:HH22 | 2.11 | 0.63 |
| 31:A7:33:ARG:O | 31:A7:37:LYS:HB2 | 1.96 | 0.63 |
| 32:A8:5:LYS:H | 32:A8:7:HIS:CE1 | 2.14 | 0.63 |
| 34:BA:166:G:C2 | 34:BA:167:G:C8 | 2.86 | 0.63 |
| 34:BA:174:C:N4 | 34:BA:175:C:N4 | 2.45 | 0.63 |
| 34:BA:264:U:H2' | 52:BT:64:PRO:HB2 | 1.79 | 0.63 |
| 34:BA:451:A:N6 | 34:BA:480:U:H2' | 2.13 | 0.63 |
| 34:BA:462:G:H21 | 51:BS:82:GLN:HE22 | 1.40 | 0.63 |
| 34:BA:598:U:H4' | 43:BK:94:TYR:CB | 2.28 | 0.63 |
| 34:BA:625:G:C2 | 34:BA:626:U:C2 | 2.86 | 0.63 |
| 34:BA:642:A:H8 | 34:BA:642:A:O5' | 1.81 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:817:C:C2 | 34:BA:819:A:H5' | 2.33 | 0.63 |
| 34:BA:959:A:H2 | 34:BA:1221:G:N3 | 1.95 | 0.63 |
| 34:BA:962:C:O2' | 34:BA:963:G:H5' | 1.98 | 0.63 |
| 34:BA:1048:G:OP1 | 49:BQ:3:ARG:HA | 1.99 | 0.63 |
| 34:BA:1054:C:H6 | 34:BA:1054:C:H3' | 1.63 | 0.63 |
| 34:BA:1068:G:H1' | 34:BA:1191:A:H61 | 1.62 | 0.63 |
| 34:BA:1127:G:C1' | 34:BA:1148:U:H3 | 2.07 | 0.63 |
| 34:BA:1145:C:HO2' | 34:BA:1146:A:P | 2.21 | 0.63 |
| 34:BA:1188:A:O2' | 34:BA:1189:C:H5' | 1.98 | 0.63 |
| 34:BA:1246:C:O2' | 34:BA:1247:U:H5' | 1.98 | 0.63 |
| 34:BA:1326:C:N4 | 34:BA:1327:C:N4 | 2.46 | 0.63 |
| 34:BA:1371:G:H5" | 44:BL:68:GLY:CA | 2.28 | 0.63 |
| 34:BA:1443:G:H5" | 34:BA:1446:A:C5' | 2.27 | 0.63 |
| 35:BC:34:G:H8 | 35:BC:34:G:O5' | 1.79 | 0.63 |
| 36:B1:54:G:H2' | 36:B1:54:G:N3 | 2.11 | 0.63 |
| 37:BE:165:VAL:HG23 | 37:BE:166:ASP:H | 1.61 | 0.63 |
| 37:BE:171:ALA:O | 37:BE:174:VAL:HB | 1.97 | 0.63 |
| 39:BG:12:CYS:HB3 | 39:BG:31:CYS:O | 1.98 | 0.63 |
| 39:BG:34:GLU:HG3 | 39:BG:35:ARG:HG2 | 1.80 | 0.63 |
| 39:BG:82:ALA:CB | 39:BG:89:THR:HG23 | 2.28 | 0.63 |
| 41:BI:14:LEU:CD1 | 41:BI:18:GLN:HB3 | 2.28 | 0.63 |
| 41:BI:39:LYS:CD | 41:BI:64:GLN:NE2 | 2.56 | 0.63 |
| 41:BI:80:ARG:O | 41:BI:81:ILE:O | 2.16 | 0.63 |
| 46:BN:91:ARG:O | 46:BN:94:ALA:HB3 | 1.99 | 0.63 |
| 47:BO:38:THR:O | 47:BO:39:VAL:CG2 | 2.46 | 0.63 |
| 47:BO:117:ARG:NH2 | 47:BO:124:LYS:N | 2.46 | 0.63 |
| 48:BP:15:VAL:O | 48:BP:19:LEU:HG | 1.99 | 0.63 |
| 48:BP:80:ARG:O | 48:BP:84:ILE:HG23 | 1.99 | 0.63 |
| 51:BS:7:ALA:HB3 | 51:BS:18:ARG:CG | 2.27 | 0.63 |
| 54:BV:32:LYS:CB | 54:BV:50:ALA:HB3 | 2.28 | 0.63 |
| 55:BW:56:MET:SD | 55:BW:88:VAL:CG2 | 2.83 | 0.63 |
| 1:AB:12:C:C5' | 27:A3:53:MET:HE1 | 2.28 | 0.63 |
| 2:AA:28:A:H2' | 2:AA:29:U:C5' | 2.26 | 0.63 |
| 2:AA:63:U:C6 | 2:AA:63:U:OP2 | 2.51 | 0.63 |
| 2:AA:106:C:C2' | 2:AA:107:C:H5' | 2.27 | 0.63 |
| 2:AA:125:G:C5' | 31:A7:19:ARG:NH1 | 2.49 | 0.63 |
| 2:AA:292:C:C2' | 2:AA:293:U:H3 | 2.11 | 0.63 |
| 2:AA:531:C:C6 | 2:AA:532:A:N3 | 2.67 | 0.63 |
| 2:AA:612:G:H4' | 2:AA:616:A:N1 | 2.13 | 0.63 |
| 2:AA:668:G:H2' | 2:AA:670:A:H62 | 1.63 | 0.63 |
| 2:AA:873:G:O2' | 21:AV:115:ILE:HD11 | 1.98 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:977:G:H2' | 2:AA:978:G:O4' | 1.98 | 0.63 |
| 2:AA:989:G:H2' | 2:AA:990:A:OP2 | 1.99 | 0.63 |
| 2:AA:1034:G:P | 33:A9:18:ARG:NH2 | 2.71 | 0.63 |
| 2:AA:1057:A:N3 | 2:AA:1058:G:C8 | 2.67 | 0.63 |
| 2:AA:1084:A:H2 | 9:AI:29:PHE:CE1 | 2.16 | 0.63 |
| 2:AA:1085:A:O2' | 2:AA:1086:A:C4' | 2.46 | 0.63 |
| 2:AA:1299:G:C4' | 2:AA:1301:A:N3 | 2.37 | 0.63 |
| 2:AA:1301:A:N7 | 2:AA:1303:G:N9 | 2.47 | 0.63 |
| 2:AA:1310:G:H1 | 2:AA:1604:C:H42 | 1.46 | 0.63 |
| 2:AA:1416:G:H22 | 2:AA:1581:G:H1 | 1.46 | 0.63 |
| 2:AA:1448:G:C2 | 2:AA:1449:A:N7 | 2.65 | 0.63 |
| 2:AA:1492:G:N1 | 2:AA:1498:C:N4 | 2.28 | 0.63 |
| 2:AA:1650:G:C5' | 24:A0:104:ARG:HH22 | 2.09 | 0.63 |
| 2:AA:1758:G:H3' | 2:AA:1759:A:H8 | 1.62 | 0.63 |
| 2:AA:1906:G:C1' | 2:AA:1929:G:C8 | 2.82 | 0.63 |
| 2:AA:1944:U:O4' | 2:AA:1955:U:C6 | 2.51 | 0.63 |
| 2:AA:1955:U:O2 | 2:AA:1955:U:H2' | 1.99 | 0.63 |
| 2:AA:2076:U:H4' | 2:AA:2077:A:OP1 | 1.99 | 0.63 |
| 2:AA:2195:C:C2 | 2:AA:2196:C:C6 | 2.86 | 0.63 |
| 2:AA:2290:G:C5 | 2:AA:2291:U:C4 | 2.87 | 0.63 |
| 2:AA:2311:A:O2' | 7:AG:54:ALA:N | 2.31 | 0.63 |
| 2:AA:2320:A:N6 | 16:AQ:9:PRO:HG3 | 2.13 | 0.63 |
| 2:AA:2447:G:C6 | 2:AA:2501:C:C2 | 2.85 | 0.63 |
| 3:AC:83:ILE:HG23 | 3:AC:94:VAL:HG12 | 1.80 | 0.63 |
| 4:AD:203:PRO:HB2 | 4:AD:205:VAL:HG13 | 1.80 | 0.63 |
| 5:AE:85:ALA:CB | 5:AE:87:GLU:OE2 | 2.46 | 0.63 |
| 5:AE:214:VAL:CG2 | 5:AE:221:LYS:HZ1 | 2.11 | 0.63 |
| 5:AE:222:ARG:NH2 | 5:AE:234:ARG:N | 2.41 | 0.63 |
| 6:AF:84:VAL:CG2 | 6:AF:85:LYS:NZ | 2.60 | 0.63 |
| 6:AF:223:LEU:O | 6:AF:224:ALA:C | 2.37 | 0.63 |
| 7:AG:93:LEU:HD22 | 7:AG:106:PHE:HD2 | 1.62 | 0.63 |
| 8:AH:25:VAL:HG12 | 8:AH:78:VAL:CG2 | 2.17 | 0.63 |
| 8:AH:83:GLU:CD | 8:AH:83:GLU:C | 2.57 | 0.63 |
| 8:AH:84:LYS:HE3 | 8:AH:141:GLY:CA | 2.28 | 0.63 |
| 10:AK:107:GLY:O | 10:AK:109:LYS:HE3 | 1.99 | 0.63 |
| 11:AL:35:ILE:O | 11:AL:39:CYS:SG | 2.56 | 0.63 |
| 12:AM:56:LYS:O | 12:AM:59:LYS:CB | 2.46 | 0.63 |
| 13:AN:77:ILE:HD11 | 13:AN:79:PHE:CE2 | 2.32 | 0.63 |
| 14:AO:71:GLU:HG3 | 14:AO:72:ASN:N | 2.13 | 0.63 |
| 15:AP:66:ASN:O | 15:AP:69:ASN:OD1 | 2.17 | 0.63 |
| 15:AP:88:PHE:CB | 15:AP:90:PHE:HE1 | 2.12 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:AQ:102:LEU:H | 16:AQ:102:LEU:CD1 | 1.92 | 0.63 |
| 16:AQ:110:THR:O | 16:AQ:111:PRO:C | 2.32 | 0.63 |
| 18:AS:29:LEU:CD1 | 18:AS:33:ARG:HD2 | 2.28 | 0.63 |
| 25:A1:40:LEU:HD21 | 26:A2:83:ARG:NH2 | 2.13 | 0.63 |
| 25:A1:44:THR:OG1 | 26:A2:77:GLY:O | 2.15 | 0.63 |
| 26:A2:14:VAL:CG2 | 26:A2:19:VAL:HG21 | 2.29 | 0.63 |
| 26:A2:21:ARG:HB2 | 26:A2:95:ILE:HD11 | 1.79 | 0.63 |
| 28:A4:58:LYS:O | 28:A4:62:ARG:HG3 | 1.98 | 0.63 |
| 34:BA:113:G:H1' | 34:BA:354:G:C5' | 2.25 | 0.63 |
| 34:BA:193:C:O2' | 34:BA:194:C:H5' | 1.98 | 0.63 |
| 34:BA:406:G:C2 | 34:BA:407:G:N7 | 2.66 | 0.63 |
| 34:BA:462:G:N2 | 51:BS:82:GLN:HE21 | 1.95 | 0.63 |
| 34:BA:571:U:O4' | 34:BA:819:A:N7 | 2.30 | 0.63 |
| 34:BA:595:G:H5" | 34:BA:596:C:OP1 | 1.98 | 0.63 |
| 34:BA:673:G:C2' | 34:BA:674:G:C8 | 2.81 | 0.63 |
| 34:BA:689:C:H2' | 34:BA:689:C:O2 | 1.99 | 0.63 |
| 34:BA:790:A:C6 | 34:BA:791:G:C2 | 2.86 | 0.63 |
| 34:BA:819:A:H4' | 34:BA:820:U:OP2 | 1.95 | 0.63 |
| 34:BA:1195:C:C2 | 34:BA:1197:G:C8 | 2.85 | 0.63 |
| 34:BA:1302:U:O2' | 34:BA:1303:C:OP1 | 2.13 | 0.63 |
| 34:BA:1388:C:H2' | 34:BA:1389:C:H6 | 1.61 | 0.63 |
| 34:BA:1405:G:C1' | 34:BA:1519:A:H5' | 2.29 | 0.63 |
| 34:BA:1435:G:H2' | 34:BA:1436:U:C6 | 2.33 | 0.63 |
| 35:BB:19:G:H5' | 35:BB:20:G:C6 | 2.34 | 0.63 |
| 36:B1:11:U:H2' | 36:B1:12:U:C5 | 2.33 | 0.63 |
| 37:BE:67:THR:CG2 | 37:BE:155:LEU:HD11 | 2.27 | 0.63 |
| 37:BE:115:LEU:HB2 | 37:BE:149:LEU:CD1 | 2.29 | 0.63 |
| 38:BF:73:PRO:CD | 38:BF:105:GLU:HG3 | 2.26 | 0.63 |
| 38:BF:88:ARG:HH21 | 38:BF:100:ALA:HB1 | 1.63 | 0.63 |
| 42:BJ:107:ALA:O | 42:BJ:110:GLN:HB2 | 1.96 | 0.63 |
| 43:BK:22:GLU:HA | 43:BK:63:LEU:CD2 | 2.27 | 0.63 |
| 49:BQ:16:PHE:O | 49:BQ:17:LYS:C | 2.37 | 0.63 |
| 50:BR:8:LYS:O | 50:BR:11:VAL:CB | 2.41 | 0.63 |
| 51:BS:14:ASN:OD1 | 51:BS:14:ASN:C | 2.36 | 0.63 |
| 51:BS:53:VAL:HG12 | 51:BS:78:GLY:O | 1.98 | 0.63 |
| 52:BT:40:LYS:NZ | 52:BT:42:TYR:OH | 2.27 | 0.63 |
| 52:BT:67:LYS:HA | 52:BT:70:ARG:HH22 | 1.59 | 0.63 |
| 53:BU:21:LYS:NZ | 53:BU:23:LYS:CB | 2.56 | 0.63 |
| 53:BU:77:GLY:O | 53:BU:79:LEU:CD1 | 2.47 | 0.63 |
| 54:BV:18:LYS:HE3 | 54:BV:18:LYS:CA | 2.28 | 0.63 |
| 1:AB:47:C:O3' | 16:AQ:107:ASN:OD1 | 2.17 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:69:G:N3 | 1:AB:69:G:C2' | 2.61 | 0.63 |
| 2:AA:52:A:C2 | 2:AA:53:A:C4 | 2.85 | 0.63 |
| 2:AA:137(A):G:C6 | 2:AA:142:G:N2 | 2.65 | 0.63 |
| 2:AA:223:A:N6 | 2:AA:422:A:N6 | 2.46 | 0.63 |
| 2:AA:230:U:O2' | 2:AA:231:C:O4' | 2.08 | 0.63 |
| 2:AA:270(M):U:C4' | 2:AA:270(N):G:H4' | 2.18 | 0.63 |
| 2:AA:270(S):G:C4 | 2:AA:270(T):G:N7 | 2.66 | 0.63 |
| 2:AA:328:U:O2' | 20:AU:94:SER:CB | 2.46 | 0.63 |
| 2:AA:594:U:H2' | 2:AA:595:C:H6 | 1.55 | 0.63 |
| 2:AA:1271:G:H2' | 2:AA:1618:A:OP1 | 1.99 | 0.63 |
| 2:AA:1280:G:H2' | 2:AA:1281:G:O5' | 1.99 | 0.63 |
| 2:AA:1457:A:C6 | 2:AA:2703:C:N4 | 2.67 | 0.63 |
| 2:AA:1463:C:H2' | 2:AA:1464:C:C6 | 2.33 | 0.63 |
| 2:AA:1475:G:N3 | 2:AA:1475:G:C2' | 2.62 | 0.63 |
| 2:AA:1566:A:N3 | 4:AD:212:HIS:HB3 | 2.13 | 0.63 |
| 2:AA:1670:C:C5' | 2:AA:1670:C:H6 | 2.10 | 0.63 |
| 2:AA:1698:A:O2' | 2:AA:1699:G:O5' | 2.17 | 0.63 |
| 2:AA:1758:G:H3' | 2:AA:1759:A:C8 | 2.33 | 0.63 |
| 2:AA:2287:A:O2' | 2:AA:2288:A:C5' | 2.45 | 0.63 |
| 2:AA:2320:A:N6 | 16:AQ:13:ARG:HG2 | 2.13 | 0.63 |
| 2:AA:2419:U:OP1 | 32:A8:41:ILE:HD12 | 1.97 | 0.63 |
| 2:AA:2473:U:O2 | 2:AA:2473:U:H2' | 1.98 | 0.63 |
| 2:AA:2593:U:H3 | 2:AA:2600:A:H61 | 1.44 | 0.63 |
| 2:AA:2662:A:C2 | 2:AA:2663:G:O4' | 2.51 | 0.63 |
| 2:AA:2818:G:C2 | 2:AA:2829:C:N3 | 2.66 | 0.63 |
| 3:AC:5:LYS:NZ | 3:AC:5:LYS:HB3 | 2.14 | 0.63 |
| 3:AC:36:LYS:O | 3:AC:37:PHE:C | 2.37 | 0.63 |
| 3:AC:157:LYS:O | 3:AC:159:GLY:N | 2.32 | 0.63 |
| 4:AD:77:VAL:HG21 | 4:AD:109:LEU:HB3 | 1.81 | 0.63 |
| 4:AD:81:GLU:HG3 | 4:AD:92:LEU:CD1 | 2.28 | 0.63 |
| 4:AD:131:LEU:C | 4:AD:134:ILE:HB | 2.19 | 0.63 |
| 4:AD:143:ILE:O | 4:AD:152:GLN:CA | 2.46 | 0.63 |
| 5:AE:70:VAL:HG12 | 5:AE:71:THR:N | 2.14 | 0.63 |
| 5:AE:208:LYS:H | 5:AE:257:GLY:CA | 2.12 | 0.63 |
| 5:AE:311:PHE:N | 5:AE:311:PHE:CD2 | 2.66 | 0.63 |
| 6:AF:200:PRO:HG3 | 6:AF:212:VAL:CG1 | 2.28 | 0.63 |
| 8:AH:88:LEU:CD1 | 8:AH:95:ALA:N | 2.60 | 0.63 |
| 9:AI:80:ILE:CG2 | 9:AI:103:LYS:HD2 | 2.23 | 0.63 |
| 9:AJ:103:LYS:CB | 9:AJ:114:ILE:HD13 | 2.29 | 0.63 |
| 10:AK:7:LYS:HG3 | 10:AK:12:LYS:CD | 2.29 | 0.63 |
| 12:AM:31:LEU:O | 12:AM:32:ASP:C | 2.36 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:85:VAL:HG21 | 13:AN:114:ILE:HD13 | 1.79 | 0.63 |
| 13:AN:120:GLU:CG | 13:AN:122:ILE:HD11 | 2.24 | 0.63 |
| 18:AS:13:SER:O | 18:AS:13:SER:OG | 2.16 | 0.63 |
| 19:AT:29:ASP:C | 19:AT:30:ASP:CG | 2.56 | 0.63 |
| 21:AV:17:SER:N | 21:AV:36:ARG:CZ | 2.61 | 0.63 |
| 21:AV:81:VAL:HG12 | 21:AV:82:ASP:N | 2.13 | 0.63 |
| 22:AW:27:LEU:HD21 | 22:AW:49:LEU:CB | 2.29 | 0.63 |
| 23:AX:20:LYS:CA | 23:AX:23:LEU:HG | 2.28 | 0.63 |
| 24:A0:20:LEU:CD2 | 24:A0:24:GLN:CG | 2.76 | 0.63 |
| 24:A0:22:ARG:O | 24:A0:26:LYS:HG3 | 1.99 | 0.63 |
| 25:A1:72:HIS:CG | 25:A1:110:VAL:HG11 | 2.34 | 0.63 |
| 25:A1:83:LEU:O | 25:A1:86:ALA:CB | 2.39 | 0.63 |
| 26:A2:72:ARG:CB | 26:A2:88:GLN:NE2 | 2.58 | 0.63 |
| 29:A5:12:SER:O | 29:A5:14:SER:N | 2.32 | 0.63 |
| 29:A5:18:MET:O | 29:A5:19:ARG:C | 2.37 | 0.63 |
| 33:A9:9:LYS:HE3 | 33:A9:16:VAL:CG2 | 2.28 | 0.63 |
| 34:BA:106:C:C2 | 34:BA:107:G:C8 | 2.87 | 0.63 |
| 34:BA:247:G:H1 | 34:BA:277:C:N4 | 1.95 | 0.63 |
| 34:BA:295:C:H2' | 34:BA:296:U:O4' | 1.98 | 0.63 |
| 34:BA:351:G:H4' | 34:BA:352:C:OP1 | 1.98 | 0.63 |
| 34:BA:530:G:O6 | 35:BB:34:G:N3 | 2.31 | 0.63 |
| 34:BA:571:U:C5' | 34:BA:572:A:OP2 | 2.47 | 0.63 |
| 34:BA:620:C:N3 | 39:BG:135:LEU:HD13 | 2.13 | 0.63 |
| 34:BA:626:U:OP1 | 51:BS:38:TYR:HB3 | 1.99 | 0.63 |
| 34:BA:634:C:O2' | 34:BA:635:G:H5' | 1.97 | 0.63 |
| 34:BA:769:G:H21 | 34:BA:900:A:H61 | 1.47 | 0.63 |
| 34:BA:1017:G:H2' | 34:BA:1018:C:H6 | 1.63 | 0.63 |
| 34:BA:1191:A:H5" | 38:BF:4:LYS:HZ2 | 1.62 | 0.63 |
| 34:BA:1198:G:O2' | 45:BM:55:LYS:NZ | 2.23 | 0.63 |
| 34:BA:1313:U:H5 | 54:BV:4:SER:HB3 | 1.63 | 0.63 |
| 34:BA:1338:G:C6 | 34:BA:1339:A:C6 | 2.87 | 0.63 |
| 34:BA:1419:G:N2 | 34:BA:1420:C:C2 | 2.67 | 0.63 |
| 34:BA:1464:G:C6 | 34:BA:1465:C:N4 | 2.66 | 0.63 |
| 35:BB:19:G:N9 | 35:BB:57:G:N2 | 2.45 | 0.63 |
| 35:BB:48:C:N4 | 35:BB:59:U:O2 | 2.32 | 0.63 |
| 35:BB:53:G:N3 | 35:BB:54:U:C6 | 2.67 | 0.63 |
| 35:BB:74:C:C2' | 35:BB:75:C:O5' | 2.46 | 0.63 |
| 37:BE:82:ARG:HD2 | 37:BE:92:TYR:CE1 | 2.34 | 0.63 |
| 38:BF:12:LEU:HD13 | 38:BF:17:ASP:C | 2.18 | 0.63 |
| 38:BF:123:GLN:O | 38:BF:126:ARG:N | 2.31 | 0.63 |
| 41:BI:1:MET:HB3 | 41:BI:67:MET:O | 1.99 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:72:ARG:HG2 | 42:BJ:72:ARG:HH11 | 1.64 | 0.63 |
| 43:BK:63:LEU:HG | 43:BK:65:TYR:HH | 1.63 | 0.63 |
| 46:BN:48:ILE:HD11 | 46:BN:64:ALA:CA | 2.28 | 0.63 |
| 50:BR:77:ARG:NH1 | 50:BR:77:ARG:CB | 2.60 | 0.63 |
| 51:BS:22:THR:HG22 | 51:BS:32:TYR:HB2 | 1.81 | 0.63 |
| 53:BU:17:SER:O | 53:BU:18:ARG:CZ | 2.46 | 0.63 |
| 2:AA:10:G:C2 | 2:AA:2629:A:C2 | 2.86 | 0.63 |
| 2:AA:59:U:O4' | 2:AA:73:A:N7 | 2.32 | 0.63 |
| 2:AA:71:A:O2' | 2:AA:72:U:H5" | 1.98 | 0.63 |
| 2:AA:85:G:H1' | 2:AA:103:A:C2 | 2.34 | 0.63 |
| 2:AA:199:A:C6 | 2:AA:2434:A:N1 | 2.67 | 0.63 |
| 2:AA:241:A:N3 | 2:AA:241:A:H2' | 2.12 | 0.63 |
| 2:AA:242:G:H2' | 2:AA:243:U:OP2 | 1.98 | 0.63 |
| 2:AA:270(H):C:C4 | 2:AA:270(R):G:N1 | 2.66 | 0.63 |
| 2:AA:339:U:C5 | 2:AA:340:A:N6 | 2.67 | 0.63 |
| 2:AA:507:A:H4' | 2:AA:509:C:C6 | 2.33 | 0.63 |
| 2:AA:527:C:OP1 | 2:AA:527:C:H4' | 1.99 | 0.63 |
| 2:AA:579:G:C2 | 2:AA:1262:A:C6 | 2.86 | 0.63 |
| 2:AA:603:A:N1 | 2:AA:625:G:N7 | 2.45 | 0.63 |
| 2:AA:640:C:N4 | 2:AA:641:C:N4 | 2.47 | 0.63 |
| 2:AA:697:C:H2' | 2:AA:698:C:C6 | 2.33 | 0.63 |
| 2:AA:792:G:C5 | 2:AA:2440:C:C2 | 2.87 | 0.63 |
| 2:AA:838:C:O2' | 2:AA:839:U:C5' | 2.47 | 0.63 |
| 2:AA:929:G:H21 | 23:AX:42:ALA:C | 2.02 | 0.63 |
| 2:AA:1052:C:O2' | 2:AA:1053:C:H5' | 1.98 | 0.63 |
| 2:AA:1084:A:O4' | 9:AI:38:ALA:N | 2.29 | 0.63 |
| 2:AA:1162:G:H2' | 2:AA:1163:G:C8 | 2.32 | 0.63 |
| 2:AA:1261:C:O2' | 2:AA:1262:A:O5' | 2.16 | 0.63 |
| 2:AA:1306:C:H2' | 2:AA:1307:A:O4' | 1.97 | 0.63 |
| 2:AA:1342:A:C4' | 2:AA:1343:G:OP1 | 2.45 | 0.63 |
| 2:AA:1388:G:O2' | 2:AA:1525:G:C5' | 2.41 | 0.63 |
| 2:AA:1466:G:N3 | 2:AA:1547:C:N4 | 2.47 | 0.63 |
| 2:AA:1535:U:OP1 | 2:AA:1536:A:O5' | 2.16 | 0.63 |
| 2:AA:1557:C:H3' | 2:AA:1558:A:C5' | 2.29 | 0.63 |
| 2:AA:1647:G:H4' | 2:AA:1648:C:O5' | 1.97 | 0.63 |
| 2:AA:1697:G:O2' | 2:AA:1978:A:H5" | 1.99 | 0.63 |
| 2:AA:1893:C:H2' | 2:AA:1894:C:C6 | 2.33 | 0.63 |
| 2:AA:1965:C:C5' | 2:AA:1966:A:O5' | 2.46 | 0.63 |
| 2:AA:2051:A:N6 | 2:AA:2614:A:C8 | 2.65 | 0.63 |
| 2:AA:2275:C:O2' | 15:AP:103:ALA:CB | 2.46 | 0.63 |
| 2:AA:2317:C:H2' | 2:AA:2318:G:C8 | 2.34 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2469:A:C2 | 2:AA:2482:G:H1' | 2.33 | 0.63 |
| 2:AA:2486:G:N2 | 2:AA:2487:G:C4 | 2.66 | 0.63 |
| 2:AA:2511:U:OP1 | 5:AE:223:LYS:HE2 | 1.99 | 0.63 |
| 3:AC:62:VAL:HB | 3:AC:195:ALA:CB | 2.27 | 0.63 |
| 4:AD:169:LYS:N | 4:AD:169:LYS:HZ2 | 1.96 | 0.63 |
| 4:AD:174:ARG:HB2 | 4:AD:174:ARG:CZ | 2.28 | 0.63 |
| 5:AE:39:GLN:HB2 | 5:AE:174:LEU:HD21 | 1.81 | 0.63 |
| 7:AG:28:GLY:HA2 | 7:AG:69:ILE:HD13 | 1.80 | 0.63 |
| 8:AH:29:LYS:HE3 | 8:AH:80:LYS:HA | 1.79 | 0.63 |
| 8:AH:73:ASN:O | 8:AH:74:MET:C | 2.37 | 0.63 |
| 8:AH:101:LYS:HG2 | 8:AH:115:GLU:HB2 | 1.79 | 0.63 |
| 8:AH:124:VAL:O | 8:AH:124:VAL:HG22 | 1.98 | 0.63 |
| 11:AL:96:ILE:HG23 | 11:AL:138:GLU:OE1 | 1.98 | 0.63 |
| 11:AL:105:ILE:CD1 | 11:AL:139:VAL:HG12 | 2.28 | 0.63 |
| 15:AP:136:TRP:O | 15:AP:137:ARG:C | 2.36 | 0.63 |
| 15:AP:140:TYR:CZ | 15:AP:149:ILE:HA | 2.32 | 0.63 |
| 21:AV:4:THR:O | 21:AV:5:ALA:HB3 | 1.98 | 0.63 |
| 21:AV:19:ILE:CG1 | 21:AV:79:ILE:HG12 | 2.29 | 0.63 |
| 23:AX:21:ALA:O | 23:AX:25:ALA:HB2 | 1.98 | 0.63 |
| 26:A2:39:PHE:C | 26:A2:40:VAL:HG22 | 2.18 | 0.63 |
| 26:A2:39:PHE:N | 26:A2:58:ALA:HB2 | 2.12 | 0.63 |
| 27:A3:58:THR:O | 27:A3:58:THR:OG1 | 2.14 | 0.63 |
| 30:A6:42:PRO:HD3 | 30:A6:50:PHE:HZ | 1.64 | 0.63 |
| 32:A8:29:LYS:NZ | 32:A8:36:LYS:HE2 | 2.14 | 0.63 |
| 32:A8:29:LYS:CD | 32:A8:36:LYS:NZ | 2.58 | 0.63 |
| 34:BA:225:C:C2' | 34:BA:226:G:H5' | 2.28 | 0.63 |
| 34:BA:236:G:C2' | 34:BA:237:C:C6 | 2.78 | 0.63 |
| 34:BA:264:U:H2' | 34:BA:264:U:O2 | 1.98 | 0.63 |
| 34:BA:544:G:C4 | 34:BA:545:C:C6 | 2.86 | 0.63 |
| 34:BA:778:G:O2' | 34:BA:779:C:C5' | 2.45 | 0.63 |
| 34:BA:809:G:C2 | 34:BA:810:C:C6 | 2.87 | 0.63 |
| 34:BA:933:G:C2' | 34:BA:934:C:H5' | 2.27 | 0.63 |
| 34:BA:1111:A:C2 | 34:BA:1112:C:C2 | 2.87 | 0.63 |
| 34:BA:1118:C:P | 44:BL:104:ARG:HB2 | 2.38 | 0.63 |
| 34:BA:1126:U:OP2 | 34:BA:1281:U:O2 | 2.16 | 0.63 |
| 34:BA:1155:G:H2' | 34:BA:1156:G:H8 | 1.62 | 0.63 |
| 34:BA:1345:U:C2 | 34:BA:1377:A:N1 | 2.67 | 0.63 |
| 34:BA:1372:U:H2' | 34:BA:1373:G:O4' | 1.99 | 0.63 |
| 34:BA:1520:G:H2' | 34:BA:1521:G:H8 | 1.63 | 0.63 |
| 35:BB:2:C:N4 | 35:BB:71:G:C6 | 2.64 | 0.63 |
| 35:BC:43:G:H2' | 35:BC:44:A:H8 | 1.63 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:142:LEU:HD23 | 37:BE:142:LEU:C | 2.19 | 0.63 |
| 44:BL:89:ASN:O | 44:BL:91:ASP:N | 2.31 | 0.63 |
| 51:BS:20:VAL:CG2 | 51:BS:32:TYR:HD2 | 2.11 | 0.63 |
| 51:BS:68:ASP:O | 51:BS:70:ALA:N | 2.32 | 0.63 |
| 52:BT:97:SER:C | 52:BT:98:LEU:HG | 2.19 | 0.63 |
| 55:BW:36:LEU:HD12 | 55:BW:62:LEU:CD1 | 2.28 | 0.63 |
| 55:BW:89:ARG:O | 55:BW:93:GLU:HG3 | 1.98 | 0.63 |
| 2:AA:28:A:H1' | 2:AA:513:A:C2 | 2.33 | 0.63 |
| 2:AA:221:A:C8 | 2:AA:221:A:H3' | 2.33 | 0.63 |
| 2:AA:224:G:C2 | 2:AA:225:A:H1' | 2.34 | 0.63 |
| 2:AA:270(N):G:H5" | 10:AK:53:LYS:HZ1 | 1.62 | 0.63 |
| 2:AA:288:C:C5 | 2:AA:289:A:H4' | 2.34 | 0.63 |
| 2:AA:317:G:C2 | 2:AA:318:C:C2 | 2.87 | 0.63 |
| 2:AA:322:A:C2 | 2:AA:341:G:C4 | 2.86 | 0.63 |
| 2:AA:379:G:C6 | 2:AA:380:U:C5 | 2.87 | 0.63 |
| 2:AA:396:G:H1' | 28:A4:39:VAL:HG11 | 1.80 | 0.63 |
| 2:AA:780:G:O6 | 4:AD:234:HIS:CE1 | 2.51 | 0.63 |
| 2:AA:864:G:C2' | 2:AA:865:C:C1' | 2.76 | 0.63 |
| 2:AA:953:A:N6 | 2:AA:965:C:C4 | 2.67 | 0.63 |
| 2:AA:963:U:H2' | 2:AA:964:C:C6 | 2.33 | 0.63 |
| 2:AA:1007:C:H2' | 2:AA:1008:C:H5 | 1.63 | 0.63 |
| 2:AA:1024:G:H1 | 2:AA:1138:G:H1 | 1.46 | 0.63 |
| 2:AA:1057:A:N1 | 2:AA:1082:U:O4 | 2.32 | 0.63 |
| 2:AA:1189:A:C3' | 2:AA:1190:G:H5' | 2.28 | 0.63 |
| 2:AA:1339:G:OP1 | 19:AT:11:THR:HG21 | 1.99 | 0.63 |
| 2:AA:1364:G:C4 | 28:A4:3:LYS:NZ | 2.67 | 0.63 |
| 2:AA:1475:G:C6 | 2:AA:1477:A:N6 | 2.67 | 0.63 |
| 2:AA:1609:A:O2' | 2:AA:1616:A:H4' | 1.99 | 0.63 |
| 2:AA:1826:G:P | 4:AD:227:VAL:HG21 | 2.39 | 0.63 |
| 2:AA:1858:G:N2 | 2:AA:1885:A:C8 | 2.66 | 0.63 |
| 2:AA:1947:C:H2' | 2:AA:1948:G:H5' | 1.80 | 0.63 |
| 2:AA:1995:U:H5" | 2:AA:1995:U:C6 | 2.29 | 0.63 |
| 2:AA:2046:G:H1' | 29:A5:22:HIS:ND1 | 2.14 | 0.63 |
| 2:AA:2209:C:N4 | 2:AA:2215:G:N1 | 2.29 | 0.63 |
| 2:AA:2261:C:OP2 | 27:A3:14:ARG:NE | 2.32 | 0.63 |
| 2:AA:2286:A:C2 | 30:A6:27:ASN:HB3 | 2.31 | 0.63 |
| 2:AA:2459:A:C8 | 2:AA:2460:U:C5 | 2.86 | 0.63 |
| 2:AA:2508:G:O3' | 2:AA:2555:U:H5' | 1.99 | 0.63 |
| 2:AA:2623:G:O2' | 2:AA:2624:G:H5' | 1.98 | 0.63 |
| 2:AA:2684:U:H1' | 13:AN:70:ARG:NH2 | 2.13 | 0.63 |
| 2:AA:2785:C:C4' | 5:AE:99:VAL:HG13 | 2.28 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:133:PRO:CG | 3:AC:134:ARG:H | 2.10 | 0.63 |
| 4:AD:140:VAL:O | 4:AD:160:SER:CB | 2.46 | 0.63 |
| 5:AE:81:VAL:HB | 5:AE:100:TRP:HZ3 | 1.63 | 0.63 |
| 5:AE:225:LYS:CB | 5:AE:226:HIS:ND1 | 2.60 | 0.63 |
| 7:AG:21:VAL:HG23 | 7:AG:76:ARG:HA | 1.81 | 0.63 |
| 7:AG:27:ILE:HG22 | 7:AG:29:HIS:H | 1.64 | 0.63 |
| 8:AH:7:PRO:N | 8:AH:50:THR:HG1 | 1.97 | 0.63 |
| 8:AH:87:GLU:CG | 8:AH:162:ARG:HB2 | 2.29 | 0.63 |
| 10:AK:8:ASP:HA | 10:AK:12:LYS:N | 2.13 | 0.63 |
| 12:AM:41:ALA:HB1 | 12:AM:75:PRO:HB2 | 1.80 | 0.63 |
| 15:AP:22:GLY:O | 15:AP:23:ILE:HD12 | 1.98 | 0.63 |
| 16:AQ:115:VAL:O | 16:AQ:118:ILE:HG22 | 1.97 | 0.63 |
| 17:AR:5:GLU:HB3 | 17:AR:53:ASP:OD2 | 1.98 | 0.63 |
| 20:AU:44:ALA:HB1 | 20:AU:65:VAL:CG2 | 2.28 | 0.63 |
| 21:AV:40:ASP:HB2 | 21:AV:41:ARG:NH2 | 2.13 | 0.63 |
| 21:AV:142:ASN:H | 21:AV:171:VAL:HG21 | 1.64 | 0.63 |
| 22:AW:20:LEU:HA | 22:AW:23:LEU:HG | 1.79 | 0.63 |
| 23:AX:7:LYS:O | 23:AX:54:VAL:CB | 2.32 | 0.63 |
| 24:A0:38:VAL:HG23 | 24:A0:110:PRO:O | 1.99 | 0.63 |
| 24:A0:82:GLU:HB3 | 24:A0:83:ILE:HD13 | 1.80 | 0.63 |
| 24:A0:90:ARG:HB2 | 24:A0:94:TYR:CZ | 2.34 | 0.63 |
| 26:A2:67:LYS:HE3 | 26:A2:94:LYS:HD2 | 1.78 | 0.63 |
| 27:A3:37:LEU:HD13 | 27:A3:69:PHE:CB | 2.08 | 0.63 |
| 31:A7:25:LYS:HE2 | 31:A7:25:LYS:N | 2.12 | 0.63 |
| 34:BA:70:G:H2' | 34:BA:73:C:H6 | 1.63 | 0.63 |
| 34:BA:611:A:N6 | 34:BA:629:G:N1 | 2.47 | 0.63 |
| 34:BA:710:G:C2' | 34:BA:711:G:H5' | 2.28 | 0.63 |
| 34:BA:781:A:H2' | 34:BA:782:A:C4' | 2.29 | 0.63 |
| 34:BA:920:U:C2 | 34:BA:921:U:C6 | 2.86 | 0.63 |
| 34:BA:936:C:H2' | 34:BA:937:A:H5' | 1.80 | 0.63 |
| 34:BA:975:A:C8 | 34:BA:1365:G:N2 | 2.65 | 0.63 |
| 34:BA:1101:A:O2' | 34:BA:1102:A:P | 2.55 | 0.63 |
| 34:BA:1127:G:H22 | 34:BA:1144:G:H22 | 1.46 | 0.63 |
| 34:BA:1322:C:C4' | 34:BA:1323:G:OP1 | 2.47 | 0.63 |
| 34:BA:1371:G:H5" | 44:BL:68:GLY:C | 2.18 | 0.63 |
| 34:BA:1451:A:H5" | 34:BA:1452:C:H5 | 1.63 | 0.63 |
| 35:BB:1:G:C2 | 35:BB:73:A:N3 | 2.66 | 0.63 |
| 35:BB:75:C:C5 | 35:BB:76:A:H2 | 2.15 | 0.63 |
| 35:BC:47:U:H5 | 35:BC:49:C:H5" | 1.59 | 0.63 |
| 35:BC:58:A:H2' | 35:BC:61:C:C5 | 2.32 | 0.63 |
| 37:BE:17:PHE:HD1 | 37:BE:18:GLY:N | 1.96 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:47:THR:C | 37:BE:48:MET:SD | 2.76 | 0.63 |
| 37:BE:61:LEU:HD11 | 37:BE:67:THR:O | 1.99 | 0.63 |
| 37:BE:115:LEU:CB | 37:BE:149:LEU:HD13 | 2.29 | 0.63 |
| 37:BE:171:ALA:O | 37:BE:174:VAL:N | 2.31 | 0.63 |
| 38:BF:134:ILE:O | 38:BF:138:VAL:HG23 | 1.99 | 0.63 |
| 38:BF:157:ILE:HB | 38:BF:164:ARG:CD | 2.29 | 0.63 |
| 39:BG:56:VAL:HG12 | 39:BG:57:ARG:H | 1.64 | 0.63 |
| 40:BH:80:ILE:HD12 | 40:BH:80:ILE:N | 2.13 | 0.63 |
| 41:BI:11:ASN:HD21 | 41:BI:13:ASN:ND2 | 1.97 | 0.63 |
| 44:BL:28:VAL:HG21 | 44:BL:33:PHE:HA | 1.80 | 0.63 |
| 46:BN:50:TYR:CG | 46:BN:54:ARG:HB3 | 2.33 | 0.63 |
| 46:BN:95:ILE:HA | 46:BN:98:LEU:CG | 2.28 | 0.63 |
| 47:BO:59:ARG:HD3 | 47:BO:65:GLU:HG3 | 1.80 | 0.63 |
| 48:BP:120:LYS:CG | 48:BP:121:LYS:H | 2.11 | 0.63 |
| 51:BS:57:ARG:O | 51:BS:60:LEU:HB2 | 1.97 | 0.63 |
| 52:BT:38:ARG:CG | 52:BT:39:SER:N | 2.62 | 0.63 |
| 2:AA:107:C:H4' | 2:AA:293:U:C2 | 2.33 | 0.63 |
| 2:AA:248:G:N3 | 2:AA:2431:U:H4' | 2.14 | 0.63 |
| 2:AA:252:G:N3 | 2:AA:253:C:C6 | 2.67 | 0.63 |
| 2:AA:280:C:O2 | 2:AA:360:G:N1 | 2.25 | 0.63 |
| 2:AA:380:U:O4 | 2:AA:394:A:N1 | 2.31 | 0.63 |
| 2:AA:642:G:N2 | 2:AA:646:A:N6 | 2.38 | 0.63 |
| 2:AA:659:C:O2' | 2:AA:660:G:H5' | 1.98 | 0.63 |
| 2:AA:674:G:H4' | 6:AF:69:HIS:HA | 1.80 | 0.63 |
| 2:AA:695:G:H2' | 2:AA:696:G:H8 | 1.64 | 0.63 |
| 2:AA:929:G:O2' | 23:AX:43:ILE:HG12 | 1.97 | 0.63 |
| 2:AA:1015:G:H2' | 2:AA:1016:G:H8 | 1.64 | 0.63 |
| 2:AA:1022:G:C2' | 2:AA:1025:G:O6 | 2.40 | 0.63 |
| 2:AA:1044:G:H4' | 2:AA:1047:G:H4' | 1.81 | 0.63 |
| 2:AA:1062:G:N2 | 11:AL:92:PRO:CG | 2.59 | 0.63 |
| 2:AA:1092:C:N4 | 2:AA:1093:G:C4 | 2.67 | 0.63 |
| 2:AA:142(A):A:C5 | 2:AA:1143:A:C8 | 2.87 | 0.63 |
| 2:AA:1244:G:O2' | 2:AA:1245:G:H5' | 1.97 | 0.63 |
| 2:AA:1246:A:N1 | 2:AA:1247:A:N3 | 2.47 | 0.63 |
| 2:AA:1332:G:C5 | 2:AA:1609:A:N6 | 2.67 | 0.63 |
| 2:AA:1423:G:H2' | 2:AA:1423:G:N3 | 2.13 | 0.63 |
| 2:AA:1569:A:C2 | 2:AA:1570:A:C5 | 2.86 | 0.63 |
| 2:AA:1625:C:C2 | 2:AA:1626:G:H1' | 2.34 | 0.63 |
| 2:AA:1782:C:O2 | 2:AA:2609:U:O4' | 2.16 | 0.63 |
| 2:AA:1916:A:H8 | 2:AA:1916:A:O5' | 1.82 | 0.63 |
| 2:AA:1934:C:H5' | 2:AA:1974:C:HO2' | 1.64 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2046:G:H5' | 29:A5:19:ARG:HA | 1.80 | 0.63 |
| 2:AA:2047:U:O2' | 2:AA:2048:G:C5' | 2.46 | 0.63 |
| 2:AA:2404:C:C5 | 2:AA:2414:G:N2 | 2.67 | 0.63 |
| 2:AA:2481:G:O2' | 2:AA:2482:G:H5' | 1.97 | 0.63 |
| 2:AA:2498:C:H2' | 2:AA:2498:C:O2 | 1.97 | 0.63 |
| 2:AA:2588:G:H2' | 2:AA:2589:A:H5' | 1.80 | 0.63 |
| 2:AA:2635:C:O2 | 2:AA:2636:U:O4' | 2.17 | 0.63 |
| 2:AA:2685:G:H1 | 2:AA:2724:C:H42 | 1.46 | 0.63 |
| 2:AA:2705:A:H8 | 2:AA:2705:A:O5' | 1.81 | 0.63 |
| 2:AA:2711:A:OP2 | 2:AA:2712:U:O3' | 2.16 | 0.63 |
| 2:AA:2792:G:H1 | 2:AA:2804:C:N4 | 1.96 | 0.63 |
| 2:AA:2893:G:O3' | 2:AA:2894:G:H4' | 1.99 | 0.63 |
| 3:AC:127:LEU:HD23 | 3:AC:130:ILE:HD13 | 1.79 | 0.63 |
| 4:AD:81:GLU:HG3 | 4:AD:92:LEU:HD13 | 1.79 | 0.63 |
| 5:AE:46:ALA:O | 5:AE:305:LYS:HD3 | 1.97 | 0.63 |
| 5:AE:235:ILE:CG2 | 5:AE:236:GLY:N | 2.61 | 0.63 |
| 6:AF:115:LEU:HB2 | 6:AF:246:ARG:NH1 | 2.11 | 0.63 |
| 8:AH:53:ARG:HH12 | 8:AH:56:ASP:HA | 1.61 | 0.63 |
| 8:AH:70:LEU:O | 8:AH:73:ASN:HB2 | 1.99 | 0.63 |
| 8:AH:98:GLN:CD | 8:AH:103:VAL:HG21 | 2.17 | 0.63 |
| 8:AH:155:PRO:O | 8:AH:156:TYR:C | 2.36 | 0.63 |
| 9:AI:19:ALA:HB1 | 9:AJ:45:ALA:C | 2.19 | 0.63 |
| 9:AJ:63:LEU:CD2 | 9:AJ:118:LEU:HD13 | 2.29 | 0.63 |
| 10:AK:59:ALA:O | 10:AK:62:LEU:HB2 | 1.98 | 0.63 |
| 12:AM:52:GLN:O | 12:AM:56:LYS:HG2 | 1.99 | 0.63 |
| 15:AP:26:LYS:O | 15:AP:28:ILE:CG1 | 2.46 | 0.63 |
| 15:AP:32:LYS:NZ | 21:AV:172:LEU:HD11 | 2.14 | 0.63 |
| 15:AP:89:PRO:C | 15:AP:90:PHE:CD1 | 2.72 | 0.63 |
| 17:AR:5:GLU:OE2 | 17:AR:56:ARG:NH2 | 2.32 | 0.63 |
| 18:AS:36:LEU:CD1 | 18:AS:47:VAL:HG12 | 2.29 | 0.63 |
| 20:AU:27:LEU:HD22 | 20:AU:31:LEU:HD12 | 1.79 | 0.63 |
| 20:AU:66:ASP:OD2 | 20:AU:72:ILE:HA | 1.98 | 0.63 |
| 21:AV:56:VAL:HG12 | 21:AV:57:GLU:HG2 | 1.79 | 0.63 |
| 21:AV:103:ARG:N | 21:AV:103:ARG:CD | 2.62 | 0.63 |
| 25:A1:115:ASN:O | 25:A1:116:ALA:C | 2.36 | 0.63 |
| 26:A2:20:ILE:HD13 | 26:A2:67:LYS:HZ3 | 1.63 | 0.63 |
| 27:A3:41:ARG:O | 27:A3:42:GLY:O | 2.17 | 0.63 |
| 28:A4:11:PRO:O | 28:A4:12:CYS:CB | 2.47 | 0.63 |
| 29:A5:42:SER:O | 29:A5:43:HIS:HB2 | 1.98 | 0.63 |
| 32:A8:13:ARG:O | 32:A8:14:ILE:CB | 2.43 | 0.63 |
| 34:BA:137:C:C2 | 34:BA:227:G:N2 | 2.67 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:267:C:N4 | 34:BA:268:C:H41 | 1.95 | 0.63 |
| 34:BA:707:C:H2' | 34:BA:708:C:O5' | 1.98 | 0.63 |
| 34:BA:872:A:C5 | 34:BA:874:G:C8 | 2.86 | 0.63 |
| 34:BA:1087:G:C4 | 34:BA:1088:G:N7 | 2.67 | 0.63 |
| 34:BA:1120:G:H1 | 34:BA:1153:C:H42 | 1.44 | 0.63 |
| 34:BA:1209:C:O2' | 34:BA:1210:C:H5' | 1.98 | 0.63 |
| 34:BA:1347:G:O2' | 34:BA:1348:U:OP2 | 2.16 | 0.63 |
| 34:BA:1373:G:H5' | 42:BJ:36:LYS:HB2 | 1.80 | 0.63 |
| 34:BA:1450:U:H1' | 34:BA:1454:G:N2 | 2.14 | 0.63 |
| 35:BB:6:U:C2 | 35:BB:68:U:O2 | 2.52 | 0.63 |
| 35:BB:34:G:O2' | 35:BB:35:A:C5' | 2.46 | 0.63 |
| 35:BC:17:U:O5' | 35:BC:19:G:OP2 | 2.17 | 0.63 |
| 36:B1:59:A:H3' | 36:B1:59:A:H8 | 1.62 | 0.63 |
| 37:BE:68:ILE:HB | 37:BE:70:PHE:HE1 | 1.61 | 0.63 |
| 37:BE:196:LEU:HD12 | 37:BE:197:VAL:N | 2.14 | 0.63 |
| 38:BF:12:LEU:HD13 | 38:BF:17:ASP:CA | 2.29 | 0.63 |
| 40:BH:109:ILE:CG1 | 40:BH:135:THR:HG21 | 2.27 | 0.63 |
| 41:BI:1:MET:SD | 41:BI:68:PRO:CG | 2.86 | 0.63 |
| 41:BI:84:ASN:O | 41:BI:86:ARG:HG2 | 1.99 | 0.63 |
| 42:BJ:12:LEU:HD23 | 42:BJ:24:THR:CG2 | 2.28 | 0.63 |
| 42:BJ:29:LYS:NZ | 42:BJ:102:ARG:HE | 1.95 | 0.63 |
| 42:BJ:69:VAL:HG21 | 42:BJ:134:ALA:CB | 2.27 | 0.63 |
| 42:BJ:74:GLU:HB3 | 42:BJ:91:VAL:CG2 | 2.27 | 0.63 |
| 42:BJ:136:LYS:O | 42:BJ:140:ASP:OD1 | 2.17 | 0.63 |
| 43:BK:11:THR:C | 43:BK:13:ILE:N | 2.47 | 0.63 |
| 43:BK:46:LYS:HG3 | 43:BK:64:LYS:CB | 2.29 | 0.63 |
| 44:BL:12:GLU:H | 44:BL:104:ARG:NH2 | 1.96 | 0.63 |
| 47:BO:35:GLY:O | 47:BO:82:VAL:HG13 | 1.98 | 0.63 |
| 1:AB:52:A:H2' | 1:AB:53:A:O4' | 1.98 | 0.63 |
| 1:AB:80:U:O2 | 1:AB:81:G:N7 | 2.31 | 0.63 |
| 2:AA:28:A:C2 | 2:AA:29:U:O4' | 2.51 | 0.63 |
| 2:AA:65:C:C2 | 2:AA:66:C:H5 | 2.17 | 0.63 |
| 2:AA:78:A:H2' | 2:AA:79:G:C8 | 2.33 | 0.63 |
| 2:AA:246:C:N4 | 2:AA:247:G:C6 | 2.67 | 0.63 |
| 2:AA:295:G:H1 | 2:AA:344:G:N3 | 1.36 | 0.63 |
| 2:AA:476:G:C4' | 2:AA:505:A:H2 | 2.11 | 0.63 |
| 2:AA:495:G:H21 | 18:AS:61:ASN:HD21 | 1.47 | 0.63 |
| 2:AA:768:G:O2' | 2:AA:769:G:H5' | 1.99 | 0.63 |
| 2:AA:823:G:C2' | 2:AA:824:A:H8 | 2.02 | 0.63 |
| 2:AA:864:G:O2' | 2:AA:865:C:H1' | 1.99 | 0.63 |
| 2:AA:957:A:N6 | 2:AA:959:A:N3 | 2.46 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:976:C:N3 | 2:AA:987:G:N2 | 2.44 | 0.63 |
| 2:AA:1309:G:C5' | 31:A7:7:PRO:O | 2.46 | 0.63 |
| 2:AA:1325:G:OP2 | 2:AA:1616:A:N7 | 2.32 | 0.63 |
| 2:AA:1534:G:H21 | 2:AA:1535:U:H5' | 1.63 | 0.63 |
| 2:AA:1640:C:H2' | 2:AA:1641:A:C8 | 2.34 | 0.63 |
| 2:AA:1670:C:H2' | 2:AA:1671:U:H5' | 1.78 | 0.63 |
| 2:AA:1684:C:H2' | 2:AA:1685:C:C6 | 2.34 | 0.63 |
| 2:AA:1697:G:O6 | 2:AA:1698:A:C6 | 2.52 | 0.63 |
| 2:AA:1824:G:O2' | 2:AA:1825:A:H5' | 1.99 | 0.63 |
| 2:AA:1941:C:O2 | 2:AA:1942:C:H5' | 1.98 | 0.63 |
| 2:AA:1948:G:O4' | 34:BA:1483:A:H1' | 1.98 | 0.63 |
| 2:AA:2046:G:H2' | 2:AA:2047:U:C5 | 2.34 | 0.63 |
| 2:AA:2048:G:C2' | 2:AA:2049:G:O5' | 2.45 | 0.63 |
| 2:AA:2067:G:H8 | 2:AA:2067:G:O5' | 1.82 | 0.63 |
| 2:AA:2116:G:OP2 | 3:AC:126:LYS:CA | 2.47 | 0.63 |
| 2:AA:2116:G:P | 3:AC:126:LYS:HB2 | 2.39 | 0.63 |
| 2:AA:2137:C:H5 | 2:AA:2154:G:H21 | 1.44 | 0.63 |
| 2:AA:2208:U:H3 | 2:AA:2216:G:H1 | 1.46 | 0.63 |
| 2:AA:2261:C:OP2 | 27:A3:14:ARG:CG | 2.47 | 0.63 |
| 2:AA:2334:G:O2' | 2:AA:2335:A:OP1 | 2.14 | 0.63 |
| 2:AA:2639:A:C4 | 2:AA:2778:A:C2 | 2.87 | 0.63 |
| 3:AC:28:LEU:O | 3:AC:31:GLU:HB2 | 1.98 | 0.63 |
| 4:AD:85:ASN:C | 4:AD:86:ARG:NE | 2.53 | 0.63 |
| 4:AD:92:LEU:HD21 | 4:AD:102:TYR:CZ | 2.33 | 0.63 |
| 5:AE:199:ALA:CA | 5:AE:314:ALA:HA | 2.28 | 0.63 |
| 7:AG:22:VAL:HG23 | 7:AG:131:THR:O | 1.99 | 0.63 |
| 7:AG:96:SER:O | 7:AG:98:PHE:N | 2.28 | 0.63 |
| 7:AG:103:ASN:C | 7:AG:104:PHE:CG | 2.72 | 0.63 |
| 7:AG:107:GLY:O | 7:AG:129:ASP:N | 2.31 | 0.63 |
| 8:AH:74:MET:O | 8:AH:78:VAL:HG23 | 1.97 | 0.63 |
| 9:AI:1:MET:CE | 11:AL:10:LYS:HZ1 | 2.11 | 0.63 |
| 9:AJ:77:VAL:HG13 | 9:AJ:102:ILE:CG1 | 2.29 | 0.63 |
| 12:AM:14:ALA:O | 12:AM:15:ARG:HB2 | 1.99 | 0.63 |
| 13:AN:1:MET:HB3 | 13:AN:67:ARG:HD2 | 1.80 | 0.63 |
| 13:AN:61:VAL:HG21 | 13:AN:111:PHE:CZ | 2.33 | 0.63 |
| 14:AO:72:ASN:O | 14:AO:75:LEU:CB | 2.46 | 0.63 |
| 15:AP:133:GLU:HG3 | 15:AP:134:PHE:N | 2.14 | 0.63 |
| 18:AS:59:VAL:HA | 18:AS:63:ASP:HA | 1.79 | 0.63 |
| 19:AT:23:LYS:HG2 | 19:AT:67:ARG:HA | 1.79 | 0.63 |
| 21:AV:37:LYS:O | 21:AV:41:ARG:NE | 2.32 | 0.63 |
| 21:AV:154:LEU:HD23 | 21:AV:154:LEU:C | 2.20 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:66:VAL:O | 24:A0:70:LEU:HG | 1.97 | 0.63 |
| 25:A1:11:ARG:CG | 25:A1:12:ARG:N | 2.62 | 0.63 |
| 25:A1:31:GLN:O | 25:A1:35:ALA:N | 2.27 | 0.63 |
| 25:A1:34:ASN:O | 25:A1:38:THR:CG2 | 2.46 | 0.63 |
| 26:A2:36:LYS:HA | 26:A2:59:GLU:O | 1.98 | 0.63 |
| 26:A2:42:GLY:O | 26:A2:48:GLY:HA2 | 1.99 | 0.63 |
| 28:A4:46:GLU:C | 28:A4:47:GLU:HG3 | 2.17 | 0.63 |
| 34:BA:399:G:C4 | 34:BA:400:C:C5 | 2.87 | 0.63 |
| 34:BA:591:U:P | 43:BK:30:ARG:CZ | 2.87 | 0.63 |
| 34:BA:601:C:H2' | 34:BA:602:A:C8 | 2.33 | 0.63 |
| 34:BA:643:C:H5' | 43:BK:31:PHE:CD1 | 2.34 | 0.63 |
| 34:BA:687:A:O2' | 34:BA:688:G:OP2 | 2.15 | 0.63 |
| 34:BA:707:C:N3 | 34:BA:708:C:C5 | 2.67 | 0.63 |
| 34:BA:757:U:O3' | 34:BA:821:G:N2 | 2.32 | 0.63 |
| 34:BA:877:C:O2' | 43:BK:3:THR:CB | 2.42 | 0.63 |
| 34:BA:881:G:O2' | 34:BA:882:C:H5' | 1.98 | 0.63 |
| 34:BA:960:U:N3 | 34:BA:1225:A:C5 | 2.66 | 0.63 |
| 34:BA:992:U:O2' | 34:BA:993:G:OP2 | 2.15 | 0.63 |
| 34:BA:1018:C:C4 | 34:BA:1019:C:C5 | 2.87 | 0.63 |
| 34:BA:1086:U:C4 | 34:BA:1099:G:O6 | 2.52 | 0.63 |
| 34:BA:1095:U:C5' | 34:BA:1109:C:O2 | 2.46 | 0.63 |
| 34:BA:1148:U:O2' | 34:BA:1149:C:H5' | 1.99 | 0.63 |
| 34:BA:1405:G:H2' | 34:BA:1406:U:H6 | 1.64 | 0.63 |
| 34:BA:1490:C:H2' | 34:BA:1491:G:O5' | 1.99 | 0.63 |
| 35:BB:34:G:O5' | 35:BB:34:G:C8 | 2.48 | 0.63 |
| 35:BB:53:G:C5 | 35:BB:54:U:C4 | 2.87 | 0.63 |
| 35:BC:17:U:H5" | 35:BC:18:G:O3' | 1.98 | 0.63 |
| 36:B1:38:C:H4' | 36:B1:39:A:C2 | 2.33 | 0.63 |
| 37:BE:82:ARG:HB2 | 37:BE:94:ASN:ND2 | 2.13 | 0.63 |
| 38:BF:73:PRO:CG | 38:BF:105:GLU:OE2 | 2.47 | 0.63 |
| 38:BF:159:GLY:HA2 | 38:BF:193:TYR:CE1 | 2.33 | 0.63 |
| 41:BI:36:ARG:HB3 | 41:BI:36:ARG:CZ | 2.29 | 0.63 |
| 42:BJ:155:ARG:O | 42:BJ:156:TRP:CB | 2.47 | 0.63 |
| 43:BK:11:THR:O | 43:BK:13:ILE:N | 2.32 | 0.63 |
| 43:BK:40:ALA:O | 43:BK:42:GLU:N | 2.31 | 0.63 |
| 43:BK:100:ILE:HG21 | 43:BK:125:ARG:NH2 | 2.14 | 0.63 |
| 51:BS:49:LEU:HD11 | 51:BS:51:VAL:HG23 | 1.80 | 0.63 |
| 51:BS:51:VAL:HG11 | 51:BS:74:LEU:HD23 | 1.81 | 0.63 |
| 52:BT:80:GLY:O | 52:BT:81:ARG:C | 2.35 | 0.63 |
| 55:BW:73:HIS:N | 55:BW:76:ALA:HB3 | 2.13 | 0.63 |
| 56:BX:9:ARG:NH1 | 56:BX:21:TYR:CG | 2.66 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:109:G:N2 | 2:AA:110:G:C1' | 2.58 | 0.63 |
| 2:AA:188:G:O2' | 2:AA:189:G:H5' | 1.98 | 0.63 |
| 2:AA:270:A:C6 | 2:AA:370:G:N9 | 2.67 | 0.63 |
| 2:AA:271(C):U:O4 | 2:AA:421:U:C6 | 2.52 | 0.63 |
| 2:AA:558:G:OP1 | 12:AM:91:LYS:HB3 | 1.98 | 0.63 |
| 2:AA:603:A:C2 | 2:AA:625:G:C5 | 2.87 | 0.63 |
| 2:AA:705:A:N6 | 2:AA:727:A:N9 | 2.47 | 0.63 |
| 2:AA:944:G:H5" | 2:AA:945:A:H5" | 1.81 | 0.63 |
| 2:AA:996:A:C2 | 2:AA:997:G:C8 | 2.87 | 0.63 |
| 2:AA:1041:C:N4 | 2:AA:1114:G:N1 | 2.45 | 0.63 |
| 2:AA:1060:U:P | 11:AL:74:PRO:HA | 2.38 | 0.63 |
| 2:AA:1063:G:N7 | 2:AA:1070:A:P | 2.71 | 0.63 |
| 2:AA:1081:U:P | 11:AL:126:LYS:HD3 | 2.38 | 0.63 |
| 2:AA:1323:U:H2' | 2:AA:1324:G:C5' | 2.26 | 0.63 |
| 2:AA:1343:G:C2 | 2:AA:1405:U:N3 | 2.67 | 0.63 |
| 2:AA:1406:U:HO2' | 2:AA:1407:C:P | 2.22 | 0.63 |
| 2:AA:1465:G:C2 | 2:AA:1466:G:C4 | 2.87 | 0.63 |
| 2:AA:1525:G:H2' | 2:AA:1526:G:C8 | 2.34 | 0.63 |
| 2:AA:1670:C:H3' | 2:AA:1671:U:C6 | 2.33 | 0.63 |
| 2:AA:1672:C:C5 | 2:AA:1673:U:C6 | 2.86 | 0.63 |
| 2:AA:1697:G:C3' | 2:AA:1698:A:C5' | 2.75 | 0.63 |
| 2:AA:1706:U:O2' | 2:AA:1707:G:OP1 | 2.17 | 0.63 |
| 2:AA:1773:A:H2' | 2:AA:1774:C:O4' | 1.98 | 0.63 |
| 2:AA:1803:A:H8 | 2:AA:1803:A:O5' | 1.82 | 0.63 |
| 2:AA:1914:C:P | 2:AA:1916:A:N6 | 2.71 | 0.63 |
| 2:AA:1923:U:H2' | 2:AA:1924:C:H6 | 1.61 | 0.63 |
| 2:AA:1951:U:O2 | 2:AA:1951:U:C2' | 2.46 | 0.63 |
| 2:AA:2064:C:H2' | 2:AA:2064:C:O2 | 1.98 | 0.63 |
| 2:AA:2121:G:C2' | 2:AA:2122:U:H6 | 1.98 | 0.63 |
| 2:AA:2136:C:N3 | 2:AA:2155:G:N3 | 2.47 | 0.63 |
| 2:AA:2137:C:H3' | 2:AA:2138:C:H5 | 1.59 | 0.63 |
| 2:AA:2269:A:C8 | 2:AA:2270:G:C8 | 2.87 | 0.63 |
| 2:AA:2270:G:O6 | 2:AA:2271:G:N2 | 2.32 | 0.63 |
| 2:AA:2335:A:O2' | 2:AA:2336:A:C8 | 2.48 | 0.63 |
| 2:AA:2422:A:N3 | 2:AA:2424:C:C5 | 2.67 | 0.63 |
| 2:AA:2630:G:H5' | 2:AA:2631:G:OP2 | 1.98 | 0.63 |
| 2:AA:2861:G:H2' | 2:AA:2862:G:O5' | 1.99 | 0.63 |
| 3:AC:112:ALA:CB | 3:AC:156:ILE:HD13 | 2.29 | 0.63 |
| 4:AD:92:LEU:HD12 | 4:AD:92:LEU:N | 2.14 | 0.63 |
| 4:AD:140:VAL:HG11 | 4:AD:189:ALA:CB | 2.29 | 0.63 |
| 6:AF:114:ALA:O | 6:AF:117:ALA:HB3 | 1.99 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:115:LEU:HA | 6:AF:118:THR:HG23 | 1.80 | 0.63 |
| 7:AG:14:ARG:H | 7:AG:14:ARG:HD2 | 1.64 | 0.63 |
| 8:AH:17:THR:O | 8:AH:23:VAL:HA | 1.98 | 0.63 |
| 9:AI:57:THR:HB | 9:AJ:107:SER:HG | 1.62 | 0.63 |
| 11:AL:79:LEU:HD11 | 11:AL:137:ILE:HG21 | 1.81 | 0.63 |
| 11:AL:89:SER:O | 11:AL:90:SER:OG | 2.16 | 0.63 |
| 12:AM:44:ALA:HB3 | 12:AM:132:LEU:HD22 | 1.81 | 0.63 |
| 12:AM:135:ILE:O | 12:AM:139:LEU:HD13 | 1.99 | 0.63 |
| 14:AO:126:SER:OG | 14:AO:129:ALA:CB | 2.46 | 0.63 |
| 15:AP:63:ALA:CA | 15:AP:70:ARG:HH22 | 2.10 | 0.63 |
| 17:AR:50:GLU:C | 17:AR:55:ALA:HB3 | 2.18 | 0.63 |
| 18:AS:36:LEU:HD13 | 18:AS:48:ALA:HA | 1.80 | 0.63 |
| 19:AT:17:ASP:OD2 | 19:AT:25:GLN:HG3 | 1.99 | 0.63 |
| 20:AU:61:GLU:O | 20:AU:74:VAL:HG13 | 1.99 | 0.63 |
| 21:AV:19:ILE:CG2 | 21:AV:39:PHE:HE1 | 2.11 | 0.63 |
| 25:A1:69:ALA:HB3 | 25:A1:76:TYR:HH | 1.64 | 0.63 |
| 26:A2:20:ILE:CG2 | 26:A2:67:LYS:HD2 | 2.29 | 0.63 |
| 26:A2:39:PHE:O | 26:A2:40:VAL:HG22 | 1.99 | 0.63 |
| 32:A8:30:ARG:HB3 | 32:A8:44:LYS:HZ2 | 1.62 | 0.63 |
| 34:BA:70:G:C4 | 34:BA:73:C:C5 | 2.86 | 0.63 |
| 34:BA:429:U:H5' | 34:BA:430:A:OP1 | 1.98 | 0.63 |
| 34:BA:727:G:H3' | 34:BA:727:G:C8 | 2.34 | 0.63 |
| 34:BA:765:G:N2 | 34:BA:816:A:C2 | 2.67 | 0.63 |
| 34:BA:815:A:C1' | 34:BA:1529:G:O6 | 2.47 | 0.63 |
| 34:BA:950:U:O2 | 34:BA:1231:G:N2 | 2.26 | 0.63 |
| 34:BA:956:U:O2 | 34:BA:957:U:C6 | 2.52 | 0.63 |
| 34:BA:1124:G:H1 | 34:BA:1149:C:N4 | 1.92 | 0.63 |
| 34:BA:1262:C:H2' | 34:BA:1263:C:C6 | 2.34 | 0.63 |
| 34:BA:1502:A:C6 | 34:BA:1504:G:C2 | 2.87 | 0.63 |
| 34:BA:1521:G:C4 | 34:BA:1522:U:C5 | 2.87 | 0.63 |
| 35:BB:21:A:C8 | 35:BB:21:A:H3' | 2.34 | 0.63 |
| 35:BB:57:G:C2' | 35:BB:58:A:C5' | 2.74 | 0.63 |
| 37:BE:17:PHE:HB2 | 37:BE:42:ILE:HG22 | 1.81 | 0.63 |
| 37:BE:72:GLY:HA2 | 37:BE:165:VAL:CG2 | 2.29 | 0.63 |
| 37:BE:161:ALA:HA | 37:BE:183:PRO:HB2 | 1.81 | 0.63 |
| 37:BE:215:LEU:HD13 | 37:BE:215:LEU:O | 1.99 | 0.63 |
| 38:BF:28:GLN:N | 38:BF:30:ARG:HH12 | 1.97 | 0.63 |
| 39:BG:42:GLN:HG2 | 39:BG:43:HIS:CE1 | 2.33 | 0.63 |
| 39:BG:56:VAL:HG12 | 39:BG:57:ARG:HD2 | 1.81 | 0.63 |
| 39:BG:58:LEU:HD21 | 39:BG:62:GLN:HG2 | 1.81 | 0.63 |
| 39:BG:120:LEU:HD21 | 39:BG:125:HIS:O | 1.99 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:109:ILE:CG2 | 40:BH:110:LEU:HD23 | 2.29 | 0.63 |
| 40:BH:151:LEU:CD2 | 43:BK:67:PRO:HD3 | 2.28 | 0.63 |
| 44:BL:78:LYS:HA | 44:BL:81:ILE:HD12 | 1.81 | 0.63 |
| 50:BR:16:ALA:CB | 50:BR:21:ASP:HB3 | 2.29 | 0.63 |
| 50:BR:70:LEU:CD1 | 50:BR:78:TYR:HB2 | 2.29 | 0.63 |
| 51:BS:4:ILE:HG13 | 51:BS:66:PRO:CB | 2.29 | 0.63 |
| 52:BT:41:LYS:O | 52:BT:42:TYR:CD1 | 2.52 | 0.63 |
| 1:AB:44:G:H8 | 1:AB:44:G:O5' | 1.82 | 0.62 |
| 1:AB:44:G:O2' | 1:AB:47:C:N4 | 2.31 | 0.62 |
| 1:AB:44:G:H21 | 1:AB:48:A:H1' | 1.59 | 0.62 |
| 1:AB:53:A:C6 | 1:AB:54:G:N7 | 2.67 | 0.62 |
| 2:AA:68:G:C2' | 2:AA:69:C:H6 | 1.94 | 0.62 |
| 2:AA:177:G:C2' | 2:AA:178:G:OP1 | 2.47 | 0.62 |
| 2:AA:190:A:N6 | 2:AA:207:A:C8 | 2.67 | 0.62 |
| 2:AA:482:A:N7 | 2:AA:506:G:N2 | 2.46 | 0.62 |
| 2:AA:618:G:OP1 | 6:AF:108:GLN:HG3 | 1.99 | 0.62 |
| 2:AA:685:A:C1' | 2:AA:688:U:O4 | 2.46 | 0.62 |
| 2:AA:754:C:H2' | 2:AA:755:C:O5' | 1.99 | 0.62 |
| 2:AA:775:G:C2' | 2:AA:794:G:C8 | 2.82 | 0.62 |
| 2:AA:819:A:OP2 | 2:AA:1187:G:N2 | 2.31 | 0.62 |
| 2:AA:839:U:H2' | 2:AA:840:C:H6 | 1.62 | 0.62 |
| 2:AA:952:G:N2 | 2:AA:2267:A:H62 | 1.97 | 0.62 |
| 2:AA:961:C:N4 | 2:AA:2031:A:N3 | 2.47 | 0.62 |
| 2:AA:974(A):C:H1' | 2:AA:989:G:N2 | 2.12 | 0.62 |
| 2:AA:1019:U:C2' | 2:AA:1020:A:H5' | 2.24 | 0.62 |
| 2:AA:1025:G:N3 | 2:AA:1025:G:H2' | 2.13 | 0.62 |
| 2:AA:1071:G:H2' | 2:AA:1072:C:H5' | 1.81 | 0.62 |
| 2:AA:1141:U:H5' | 2:AA:1141:U:H6 | 1.64 | 0.62 |
| 2:AA:1223:C:N3 | 2:AA:1227:A:N1 | 2.47 | 0.62 |
| 2:AA:1289:C:O2' | 2:AA:1330:C:H4' | 1.98 | 0.62 |
| 2:AA:1324:G:C1' | 2:AA:1616:A:H62 | 2.12 | 0.62 |
| 2:AA:1364:G:OP1 | 2:AA:1809:A:N6 | 2.32 | 0.62 |
| 2:AA:1387:C:H42 | 2:AA:1400:G:H1 | 1.45 | 0.62 |
| 2:AA:1399:C:OP1 | 19:AT:67:ARG:CZ | 2.46 | 0.62 |
| 2:AA:1439:A:N1 | 2:AA:1553:A:C8 | 2.67 | 0.62 |
| 2:AA:1693:U:H5" | 2:AA:1694:C:OP2 | 1.99 | 0.62 |
| 2:AA:1780:A:O5' | 2:AA:1782:C:OP1 | 2.17 | 0.62 |
| 2:AA:1967:C:H2' | 2:AA:1968:G:C5' | 2.28 | 0.62 |
| 2:AA:2078:C:C2 | 2:AA:2079:U:C6 | 2.87 | 0.62 |
| 2:AA:2096:U:O2' | 2:AA:2097:C:H5' | 1.99 | 0.62 |
| 2:AA:2210:G:C5 | 4:AD:148:GLY:HA3 | 2.34 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2320:A:C2 | 2:AA:2333:A:C4 | 2.87 | 0.62 |
| 2:AA:2436:G:C5 | 2:AA:2437:U:C5 | 2.87 | 0.62 |
| 2:AA:2495:G:O2' | 15:AP:101:MET:SD | 2.57 | 0.62 |
| 2:AA:2564:A:C6 | 2:AA:2565:A:C6 | 2.86 | 0.62 |
| 2:AA:2579:C:N4 | 2:AA:2580:U:C4 | 2.67 | 0.62 |
| 2:AA:2639:A:C6 | 2:AA:2640:G:H1' | 2.33 | 0.62 |
| 2:AA:2730:C:H2' | 2:AA:2731:G:C8 | 2.32 | 0.62 |
| 2:AA:2898:U:H2' | 2:AA:2898:U:O2 | 1.99 | 0.62 |
| 3:AC:131:LEU:C | 3:AC:133:PRO:CD | 2.67 | 0.62 |
| 5:AE:221:LYS:C | 5:AE:222:ARG:HD2 | 2.19 | 0.62 |
| 7:AG:100:ASP:C | 7:AG:102:GLY:H | 2.02 | 0.62 |
| 8:AH:40:MET:CA | 8:AH:54:PRO:HG3 | 2.28 | 0.62 |
| 8:AH:97:LYS:O | 8:AH:98:GLN:HG3 | 1.98 | 0.62 |
| 10:AK:121:ILE:HD12 | 10:AK:121:ILE:N | 2.13 | 0.62 |
| 14:AO:94:ARG:HD3 | 14:AO:120:LEU:CD2 | 2.26 | 0.62 |
| 15:AP:49:VAL:CG2 | 15:AP:120:HIS:HA | 2.28 | 0.62 |
| 15:AP:104:PRO:O | 15:AP:105:PHE:O | 2.17 | 0.62 |
| 16:AQ:68:GLU:O | 16:AQ:69:TYR:O | 2.17 | 0.62 |
| 24:A0:56:LYS:O | 24:A0:58:GLY:N | 2.31 | 0.62 |
| 26:A2:90:PHE:O | 26:A2:91:THR:HG23 | 1.97 | 0.62 |
| 29:A5:33:CYS:HB3 | 29:A5:34:PRO:CD | 2.27 | 0.62 |
| 29:A5:40:LYS:HZ3 | 29:A5:46:CYS:N | 1.96 | 0.62 |
| 34:BA:193:C:C2' | 34:BA:194:C:H6 | 2.10 | 0.62 |
| 34:BA:271:C:O2' | 34:BA:272:C:H5' | 1.99 | 0.62 |
| 34:BA:603:U:H2' | 34:BA:604:G:C8 | 2.34 | 0.62 |
| 34:BA:761:G:C4' | 52:BT:103:GLY:N | 2.60 | 0.62 |
| 34:BA:778:G:H2' | 34:BA:779:C:C6 | 2.30 | 0.62 |
| 34:BA:839:U:OP2 | 34:BA:840:C:N4 | 2.32 | 0.62 |
| 34:BA:1255:G:N2 | 34:BA:1276:G:H21 | 1.97 | 0.62 |
| 34:BA:1464:G:H2' | 34:BA:1465:C:C5 | 2.33 | 0.62 |
| 34:BA:1512:U:H2' | 34:BA:1513:A:C8 | 2.33 | 0.62 |
| 35:BB:37:G:O5' | 35:BB:37:G:N9 | 2.32 | 0.62 |
| 35:BB:58:A:N3 | 35:BB:61:C:C6 | 2.67 | 0.62 |
| 35:BC:21:A:N6 | 35:BC:46:G:N2 | 2.46 | 0.62 |
| 37:BE:212:GLN:O | 37:BE:213:LEU:C | 2.37 | 0.62 |
| 38:BF:112:SER:OG | 38:BF:115:LEU:HD12 | 1.99 | 0.62 |
| 38:BF:189:ALA:CB | 38:BF:196:LEU:HG | 2.28 | 0.62 |
| 39:BG:79:PHE:O | 39:BG:83:SER:OG | 2.17 | 0.62 |
| 39:BG:105:VAL:HG11 | 39:BG:117:ALA:HA | 1.80 | 0.62 |
| 40:BH:43:LEU:CD2 | 40:BH:44:GLY:N | 2.61 | 0.62 |
| 40:BH:78:HIS:CB | 43:BK:107:LEU:HD21 | 2.21 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:104:ALA:CA | 40:BH:107:ARG:NH1 | 2.47 | 0.62 |
| 42:BJ:127:ALA:O | 42:BJ:128:ALA:C | 2.37 | 0.62 |
| 44:BL:116:LYS:HD3 | 44:BL:116:LYS:N | 2.14 | 0.62 |
| 45:BM:78:ASN:O | 45:BM:79:ARG:C | 2.37 | 0.62 |
| 46:BN:44:SER:H | 46:BN:47:VAL:CB | 2.12 | 0.62 |
| 47:BO:86:ARG:HG3 | 47:BO:86:ARG:HH11 | 1.64 | 0.62 |
| 47:BO:117:ARG:HH21 | 47:BO:123:LYS:HA | 1.64 | 0.62 |
| 52:BT:95:TYR:O | 52:BT:97:SER:O | 2.17 | 0.62 |
| 55:BW:57:ARG:O | 55:BW:59:ALA:N | 2.32 | 0.62 |
| 1:AB:18:G:H3' | 7:AG:149:ARG:CZ | 2.27 | 0.62 |
| 1:AB:84:C:O2' | 1:AB:85:G:O5' | 2.16 | 0.62 |
| 2:AA:117:G:O3' | 31:A7:22:MET:HE1 | 1.98 | 0.62 |
| 2:AA:260:G:C2 | 2:AA:261:G:C8 | 2.88 | 0.62 |
| 2:AA:290:G:P | 2:AA:351:G:O6 | 2.57 | 0.62 |
| 2:AA:299:A:C2 | 2:AA:322:A:N7 | 2.66 | 0.62 |
| 2:AA:380:U:C2' | 2:AA:381:G:H5' | 2.29 | 0.62 |
| 2:AA:585:G:N1 | 2:AA:1251:C:C5 | 2.67 | 0.62 |
| 2:AA:596:G:C6 | 2:AA:597:U:N3 | 2.67 | 0.62 |
| 2:AA:657:U:H2' | 2:AA:658:C:C6 | 2.34 | 0.62 |
| 2:AA:700:G:H1 | 2:AA:732:C:N4 | 1.97 | 0.62 |
| 2:AA:713:G:H2' | 2:AA:713:G:N3 | 2.15 | 0.62 |
| 2:AA:823:G:C2 | 2:AA:824:A:C5 | 2.87 | 0.62 |
| 2:AA:928:G:C2 | 2:AA:929:G:C6 | 2.86 | 0.62 |
| 2:AA:957:A:N7 | 2:AA:959:A:C4 | 2.68 | 0.62 |
| 2:AA:1055:G:C4 | 9:AI:28:LYS:HD3 | 2.33 | 0.62 |
| 2:AA:1162:G:C5' | 26:A2:23:GLU:O | 2.47 | 0.62 |
| 2:AA:1202:C:N4 | 2:AA:1243:G:N1 | 2.40 | 0.62 |
| 2:AA:1249:U:O2' | 2:AA:1250:G:H5' | 1.99 | 0.62 |
| 2:AA:1418:G:H2' | 2:AA:1419:A:OP1 | 1.98 | 0.62 |
| 2:AA:1460:A:N1 | 2:AA:1732:A:C2 | 2.67 | 0.62 |
| 2:AA:1517:G:H2' | 2:AA:1518:C:O4' | 1.98 | 0.62 |
| 2:AA:1527:G:N3 | 2:AA:1545:A:N7 | 2.46 | 0.62 |
| 2:AA:1529:A:N6 | 2:AA:1542:G:N2 | 2.46 | 0.62 |
| 2:AA:1559:G:C2 | 2:AA:1560:G:OP1 | 2.52 | 0.62 |
| 2:AA:1658:C:OP1 | 5:AE:230:GLY:HA2 | 1.99 | 0.62 |
| 2:AA:1792:G:H8 | 2:AA:1792:G:O5' | 1.82 | 0.62 |
| 2:AA:1799:G:N1 | 4:AD:177:SER:OG | 2.32 | 0.62 |
| 2:AA:2011:U:O2' | 2:AA:2012:G:H5' | 2.00 | 0.62 |
| 2:AA:2093:G:C4' | 10:AK:29:PHE:HE1 | 2.07 | 0.62 |
| 2:AA:2112:G:HO2' | 2:AA:2116:G:H8 | 1.45 | 0.62 |
| 2:AA:2226:C:C4 | 2:AA:2227:A:N3 | 2.66 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2512:C:H4' | 5:AE:235:ILE:CD1 | 2.28 | 0.62 |
| 2:AA:2533:A:H2' | 2:AA:2534:A:C8 | 2.34 | 0.62 |
| 2:AA:2593:U:O2 | 2:AA:2600:A:N1 | 2.32 | 0.62 |
| 3:AC:193:ILE:HG23 | 3:AC:226:PRO:HB2 | 1.79 | 0.62 |
| 5:AE:222:ARG:CD | 5:AE:232:ARG:HA | 2.30 | 0.62 |
| 7:AG:49:PRO:HB2 | 7:AG:72:LYS:H | 1.64 | 0.62 |
| 8:AH:93:TYR:CD1 | 8:AH:106:VAL:HA | 2.34 | 0.62 |
| 10:AK:8:ASP:N | 10:AK:12:LYS:HA | 2.14 | 0.62 |
| 11:AL:11:LEU:HD12 | 11:AL:58:ILE:CD1 | 2.29 | 0.62 |
| 11:AL:56:VAL:CG1 | 11:AL:58:ILE:HG12 | 2.28 | 0.62 |
| 12:AM:40:ASN:O | 12:AM:41:ALA:C | 2.37 | 0.62 |
| 13:AN:63:VAL:CG1 | 13:AN:102:VAL:CG1 | 2.71 | 0.62 |
| 15:AP:57:ARG:N | 15:AP:61:LEU:HD21 | 2.14 | 0.62 |
| 15:AP:67:ALA:CA | 15:AP:70:ARG:CD | 2.65 | 0.62 |
| 16:AQ:92:ALA:O | 16:AQ:95:ALA:N | 2.32 | 0.62 |
| 17:AR:38:ASN:OD1 | 17:AR:39:ASN:N | 2.32 | 0.62 |
| 17:AR:53:ASP:HB3 | 17:AR:56:ARG:CZ | 2.29 | 0.62 |
| 18:AS:84:ARG:HB2 | 18:AS:96:ILE:O | 1.99 | 0.62 |
| 18:AS:97:LYS:HB3 | 18:AS:99:ARG:HD3 | 1.82 | 0.62 |
| 20:AU:81:LYS:HD2 | 20:AU:83:ASP:OD1 | 1.99 | 0.62 |
| 21:AV:138:VAL:HB | 21:AV:140:LYS:HZ1 | 1.64 | 0.62 |
| 25:A1:53:LYS:O | 25:A1:57:PHE:HD1 | 1.82 | 0.62 |
| 25:A1:78:THR:CB | 25:A1:117:ARG:HH21 | 2.12 | 0.62 |
| 26:A2:39:PHE:HB3 | 26:A2:54:TYR:HB3 | 1.82 | 0.62 |
| 26:A2:66:GLY:HA2 | 26:A2:93:ILE:CD1 | 2.29 | 0.62 |
| 27:A3:69:PHE:C | 27:A3:70:ILE:HD13 | 2.20 | 0.62 |
| 29:A5:6:VAL:O | 29:A5:8:LYS:HE3 | 1.99 | 0.62 |
| 29:A5:40:LYS:HD3 | 29:A5:46:CYS:SG | 2.38 | 0.62 |
| 34:BA:22:G:H1' | 34:BA:914:A:N6 | 2.13 | 0.62 |
| 34:BA:292:G:N3 | 34:BA:309:G:C2 | 2.67 | 0.62 |
| 34:BA:314:C:H2' | 34:BA:315:A:C1' | 2.29 | 0.62 |
| 34:BA:462:G:C2 | 34:BA:463:A:C4 | 2.86 | 0.62 |
| 34:BA:552:U:C2' | 34:BA:553:A:H5' | 2.30 | 0.62 |
| 34:BA:565:U:H2' | 34:BA:566:G:N7 | 2.14 | 0.62 |
| 34:BA:599:C:O3' | 43:BK:96:GLY:HA3 | 1.99 | 0.62 |
| 34:BA:643:C:H5' | 43:BK:31:PHE:CE1 | 2.33 | 0.62 |
| 34:BA:901:A:H2' | 34:BA:902:G:O4' | 1.99 | 0.62 |
| 34:BA:956:U:O2' | 34:BA:957:U:C5' | 2.47 | 0.62 |
| 34:BA:978:A:H62 | 34:BA:1360:A:H61 | 1.45 | 0.62 |
| 34:BA:1139:G:N1 | 34:BA:1143:G:N2 | 2.41 | 0.62 |
| 34:BA:1372:U:H2' | 34:BA:1373:G:C8 | 2.34 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1512:U:H2' | 34:BA:1513:A:H8 | 1.64 | 0.62 |
| 34:BA:1538:C:N4 | 36:B1:51:G:N1 | 2.31 | 0.62 |
| 35:BB:58:A:C2 | 35:BB:61:C:C6 | 2.87 | 0.62 |
| 36:B1:68:U:H5" | 36:B1:69:A:OP1 | 1.98 | 0.62 |
| 37:BE:70:PHE:CD2 | 37:BE:163:PHE:HB3 | 2.34 | 0.62 |
| 37:BE:220:ASP:HB3 | 37:BE:224:GLN:HE21 | 1.64 | 0.62 |
| 38:BF:84:ILE:CG1 | 38:BF:101:LEU:HD13 | 2.29 | 0.62 |
| 39:BG:82:ALA:HB3 | 39:BG:89:THR:HG23 | 1.81 | 0.62 |
| 44:BL:73:GLN:O | 44:BL:76:ALA:HB3 | 1.99 | 0.62 |
| 47:BO:117:ARG:HE | 47:BO:123:LYS:C | 2.01 | 0.62 |
| 48:BP:77:ASN:OD1 | 48:BP:78:ILE:HG13 | 1.99 | 0.62 |
| 51:BS:30:GLY:O | 51:BS:31:LYS:C | 2.38 | 0.62 |
| 53:BU:21:LYS:CE | 53:BU:57:GLY:HA3 | 2.27 | 0.62 |
| 2:AA:138:G:C8 | 19:AT:42:GLU:OE1 | 2.47 | 0.62 |
| 2:AA:152:G:C8 | 2:AA:152:G:C3' | 2.83 | 0.62 |
| 2:AA:197:A:O4' | 2:AA:2068:U:O2 | 2.17 | 0.62 |
| 2:AA:324:A:OP2 | 2:AA:613:U:O4 | 2.17 | 0.62 |
| 2:AA:510:C:O5' | 2:AA:512:G:N1 | 2.26 | 0.62 |
| 2:AA:575:A:C2 | 2:AA:576:U:C2 | 2.86 | 0.62 |
| 2:AA:673:C:N3 | 2:AA:808:G:N2 | 2.46 | 0.62 |
| 2:AA:783:A:C6 | 2:AA:785:G:C8 | 2.86 | 0.62 |
| 2:AA:783:A:OP2 | 4:AD:230:ASN:ND2 | 2.33 | 0.62 |
| 2:AA:857:C:H3' | 2:AA:857:C:C6 | 2.33 | 0.62 |
| 2:AA:878:A:N3 | 2:AA:878:A:H2' | 2.14 | 0.62 |
| 2:AA:924:C:O2' | 2:AA:925:C:H5' | 1.99 | 0.62 |
| 2:AA:973:A:C8 | 26:A2:80:TYR:CD2 | 2.87 | 0.62 |
| 2:AA:1029:A:C2' | 2:AA:1030:G:O5' | 2.47 | 0.62 |
| 2:AA:1055:G:N2 | 9:AI:29:PHE:CZ | 2.66 | 0.62 |
| 2:AA:1171:G:C3' | 2:AA:1173:G:H5" | 2.23 | 0.62 |
| 2:AA:1226:G:H3' | 2:AA:1226:G:H8 | 1.64 | 0.62 |
| 2:AA:1467:C:C4 | 2:AA:1468:C:H5 | 2.17 | 0.62 |
| 2:AA:1526:G:H5" | 2:AA:1527:G:OP1 | 1.99 | 0.62 |
| 2:AA:1639:U:O2' | 2:AA:2699:C:H4' | 1.98 | 0.62 |
| 2:AA:1728:G:H2' | 2:AA:1729:A:C2 | 2.34 | 0.62 |
| 2:AA:1818:U:O4 | 4:AD:66:PHE:HE1 | 1.80 | 0.62 |
| 2:AA:1825:A:N7 | 4:AD:225:ARG:NH2 | 2.47 | 0.62 |
| 2:AA:1913:A:C2 | 2:AA:1917:U:O4 | 2.52 | 0.62 |
| 2:AA:1927:A:N6 | 2:AA:1928:A:N1 | 2.47 | 0.62 |
| 2:AA:2057:A:H2' | 2:AA:2058:A:H8 | 1.63 | 0.62 |
| 2:AA:2059:A:N1 | 2:AA:2503:A:C6 | 2.67 | 0.62 |
| 2:AA:2284:C:C4 | 2:AA:2285:C:N4 | 2.68 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2313:C:O2' | 2:AA:2314:C:H5' | 1.99 | 0.62 |
| 2:AA:2437:U:H5' | 2:AA:2598:A:C2 | 2.34 | 0.62 |
| 2:AA:2447:G:C5 | 2:AA:2501:C:N3 | 2.66 | 0.62 |
| 2:AA:2457:U:C4 | 2:AA:2458:G:C2 | 2.87 | 0.62 |
| 2:AA:2604:U:H2' | 2:AA:2605:U:O5' | 1.98 | 0.62 |
| 2:AA:2678:C:C2 | 2:AA:2679:A:C8 | 2.87 | 0.62 |
| 2:AA:2776:A:N3 | 2:AA:2778:A:C5 | 2.68 | 0.62 |
| 2:AA:2837:G:H1 | 2:AA:2881:C:H42 | 1.48 | 0.62 |
| 3:AC:76:ALA:HB1 | 3:AC:149:ILE:HD11 | 1.82 | 0.62 |
| 9:AI:62:VAL:HA | 9:AI:101:VAL:HA | 1.81 | 0.62 |
| 9:AI:77:VAL:HG13 | 9:AI:102:ILE:CG1 | 2.29 | 0.62 |
| 11:AL:79:LEU:HD21 | 11:AL:137:ILE:CG2 | 2.29 | 0.62 |
| 11:AL:104:GLN:HA | 11:AL:107:GLU:CG | 2.28 | 0.62 |
| 14:AO:94:ARG:HH11 | 14:AO:120:LEU:CA | 2.12 | 0.62 |
| 15:AP:42:TYR:CA | 21:AV:119:ASN:ND2 | 2.58 | 0.62 |
| 18:AS:71:VAL:HA | 18:AS:106:ILE:O | 2.00 | 0.62 |
| 20:AU:77:VAL:O | 20:AU:89:ARG:HB2 | 1.99 | 0.62 |
| 21:AV:64:ALA:O | 21:AV:65:LEU:HB2 | 1.96 | 0.62 |
| 21:AV:103:ARG:HG2 | 21:AV:139:THR:CG2 | 2.11 | 0.62 |
| 24:A0:104:ARG:HB2 | 24:A0:111:LEU:HD11 | 1.80 | 0.62 |
| 24:A0:105:ARG:C | 24:A0:107:ASP:N | 2.52 | 0.62 |
| 25:A1:9:VAL:O | 25:A1:12:ARG:HB2 | 1.99 | 0.62 |
| 25:A1:13:ARG:CD | 25:A1:16:LYS:NZ | 2.62 | 0.62 |
| 25:A1:41:ASN:O | 25:A1:45:TYR:HB2 | 1.99 | 0.62 |
| 25:A1:50:ARG:CA | 25:A1:53:LYS:NZ | 2.61 | 0.62 |
| 26:A2:31:ASP:O | 26:A2:33:VAL:N | 2.31 | 0.62 |
| 27:A3:24:LYS:O | 27:A3:26:PHE:HE1 | 1.81 | 0.62 |
| 27:A3:42:GLY:HA2 | 27:A3:66:LYS:HA | 1.82 | 0.62 |
| 28:A4:7:PRO:HG2 | 28:A4:56:VAL:HG11 | 1.80 | 0.62 |
| 28:A4:70:GLY:O | 28:A4:71:SER:OG | 2.17 | 0.62 |
| 30:A6:18:THR:O | 30:A6:20:PHE:N | 2.32 | 0.62 |
| 32:A8:23:MET:HE1 | 32:A8:48:PHE:CB | 2.28 | 0.62 |
| 34:BA:137:C:H1' | 51:BS:63:GLY:N | 2.14 | 0.62 |
| 34:BA:151:A:N6 | 34:BA:152:A:C2 | 2.67 | 0.62 |
| 34:BA:300:A:H2' | 34:BA:301:G:O4' | 1.99 | 0.62 |
| 34:BA:431:A:N6 | 34:BA:432:A:N3 | 2.47 | 0.62 |
| 34:BA:579:G:H8 | 34:BA:579:G:O5' | 1.83 | 0.62 |
| 34:BA:738:C:N3 | 34:BA:739:C:C5 | 2.68 | 0.62 |
| 34:BA:929:G:H5' | 34:BA:1533:C:H42 | 1.64 | 0.62 |
| 34:BA:1074:G:C5 | 34:BA:1075:C:C5 | 2.87 | 0.62 |
| 34:BA:1143:G:H2' | 34:BA:1144:G:H8 | 1.65 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1145:C:O2' | 34:BA:1146:A:O5' | 2.17 | 0.62 |
| 34:BA:1221:G:OP1 | 34:BA:1320:C:N4 | 2.33 | 0.62 |
| 34:BA:1528:U:O2 | 34:BA:1530:G:H5" | 1.99 | 0.62 |
| 35:BC:30:G:H2' | 35:BC:31:A:O4' | 1.99 | 0.62 |
| 37:BE:22:LYS:HD2 | 37:BE:40:HIS:HE1 | 1.65 | 0.62 |
| 39:BG:152:SER:C | 39:BG:154:ASN:N | 2.45 | 0.62 |
| 40:BH:80:ILE:CD1 | 40:BH:91:LEU:HB3 | 2.30 | 0.62 |
| 42:BJ:105:VAL:HG12 | 42:BJ:109:ASN:HD21 | 1.64 | 0.62 |
| 43:BK:27:PRO:O | 43:BK:32:LYS:NZ | 2.31 | 0.62 |
| 43:BK:129:VAL:HG13 | 43:BK:130:GLY:N | 2.15 | 0.62 |
| 44:BL:3:GLN:CB | 44:BL:20:ARG:HG2 | 2.30 | 0.62 |
| 46:BN:121:PRO:CG | 46:BN:126:ARG:HG2 | 2.27 | 0.62 |
| 47:BO:93:LEU:HG | 47:BO:96:VAL:HG21 | 1.81 | 0.62 |
| 50:BR:67:LEU:O | 50:BR:70:LEU:HB3 | 1.99 | 0.62 |
| 51:BS:1:MET:O | 51:BS:3:LYS:HG2 | 1.98 | 0.62 |
| 53:BU:26:LEU:HD21 | 53:BU:29:PHE:CD1 | 2.35 | 0.62 |
| 53:BU:44:LEU:O | 53:BU:48:GLY:HA2 | 1.99 | 0.62 |
| 53:BU:67:ALA:HA | 53:BU:70:ILE:CD1 | 2.29 | 0.62 |
| 1:AB:12:C:H41 | 27:A3:50:GLY:H | 1.44 | 0.62 |
| 1:AB:61:G:N2 | 1:AB:62:C:N3 | 2.47 | 0.62 |
| 1:AB:112:G:H5' | 1:AB:113:C:OP2 | 1.99 | 0.62 |
| 2:AA:119:A:O2' | 2:AA:120:U:P | 2.57 | 0.62 |
| 2:AA:126:A:O5' | 31:A7:19:ARG:NE | 2.32 | 0.62 |
| 2:AA:208:C:O5' | 2:AA:208:C:H6 | 1.83 | 0.62 |
| 2:AA:291:C:C2 | 2:AA:349:G:N2 | 2.66 | 0.62 |
| 2:AA:598:G:O2' | 2:AA:599:G:H5' | 1.99 | 0.62 |
| 2:AA:607:U:C6 | 2:AA:608:A:N7 | 2.67 | 0.62 |
| 2:AA:648:G:O2' | 2:AA:649:G:H5' | 1.99 | 0.62 |
| 2:AA:674:G:O3' | 6:AF:69:HIS:C | 2.37 | 0.62 |
| 2:AA:729:G:N1 | 2:AA:1775:U:C4 | 2.67 | 0.62 |
| 2:AA:865:C:O2' | 2:AA:866:A:N7 | 2.27 | 0.62 |
| 2:AA:943:U:H2' | 2:AA:944:G:OP1 | 1.99 | 0.62 |
| 2:AA:988:A:H4' | 2:AA:1155:A:H2 | 1.65 | 0.62 |
| 2:AA:1021:A:C2 | 2:AA:1122:G:O3' | 2.52 | 0.62 |
| 2:AA:1157:G:O2' | 23:AX:31:LEU:HD12 | 1.99 | 0.62 |
| 2:AA:1158:C:H4' | 23:AX:32:GLN:CD | 2.19 | 0.62 |
| 2:AA:1212:G:H2' | 2:AA:1213:A:OP2 | 1.99 | 0.62 |
| 2:AA:1293:C:H2' | 2:AA:1294:U:O5' | 1.98 | 0.62 |
| 2:AA:1299:G:C5' | 2:AA:1300:U:H5' | 2.28 | 0.62 |
| 2:AA:1305:C:O2 | 2:AA:1623:G:N1 | 2.28 | 0.62 |
| 2:AA:1326:U:C2' | 2:AA:1327:C:H5' | 2.30 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1608:A:O2' | 2:AA:1609:A:H5' | 1.99 | 0.62 |
| 2:AA:2186:G:C2 | 2:AA:2187:G:C6 | 2.88 | 0.62 |
| 2:AA:2206:C:C2' | 2:AA:2207:C:O4' | 2.40 | 0.62 |
| 2:AA:2213:U:O2 | 2:AA:2213:U:H2' | 1.99 | 0.62 |
| 2:AA:2331:G:C2 | 2:AA:2385:C:N4 | 2.68 | 0.62 |
| 2:AA:2376:A:N6 | 16:AQ:109:PRO:CG | 2.62 | 0.62 |
| 2:AA:2472:G:H21 | 2:AA:2529:G:H1 | 1.47 | 0.62 |
| 2:AA:2493:U:C2' | 2:AA:2494:G:O5' | 2.47 | 0.62 |
| 2:AA:2506:U:O2' | 2:AA:2507:C:H5' | 1.99 | 0.62 |
| 2:AA:2549:G:H2' | 2:AA:2550:G:O4' | 1.98 | 0.62 |
| 2:AA:2628:C:C1' | 2:AA:2781:A:N3 | 2.61 | 0.62 |
| 2:AA:2740:A:C6 | 2:AA:2764:A:C8 | 2.87 | 0.62 |
| 3:AC:75:LEU:HD11 | 3:AC:99:ILE:HG21 | 1.80 | 0.62 |
| 3:AC:211:SER:HB2 | 3:AC:213:TYR:OH | 2.00 | 0.62 |
| 5:AE:258:TYR:N | 5:AE:258:TYR:HD2 | 1.96 | 0.62 |
| 6:AF:37:ALA:HB1 | 6:AF:107:ARG:HH21 | 1.60 | 0.62 |
| 6:AF:47:GLY:HA2 | 6:AF:92:PRO:HG2 | 1.80 | 0.62 |
| 6:AF:138:VAL:HG12 | 6:AF:138:VAL:O | 1.99 | 0.62 |
| 6:AF:151:GLN:CA | 6:AF:154:VAL:HG23 | 2.28 | 0.62 |
| 9:AI:71:ILE:O | 9:AI:75:LYS:HG3 | 1.99 | 0.62 |
| 10:AK:40:THR:CG2 | 10:AK:42:ALA:HB3 | 2.30 | 0.62 |
| 10:AK:93:ILE:HG12 | 10:AK:121:ILE:C | 2.20 | 0.62 |
| 10:AK:110:LEU:HD23 | 10:AK:110:LEU:C | 2.20 | 0.62 |
| 11:AL:18:ALA:C | 11:AL:39:CYS:HB3 | 2.19 | 0.62 |
| 11:AL:106:GLU:CA | 11:AL:125:MET:SD | 2.87 | 0.62 |
| 12:AM:54:VAL:CG1 | 12:AM:135:ILE:HD12 | 2.29 | 0.62 |
| 12:AM:54:VAL:CA | 12:AM:135:ILE:HG13 | 2.29 | 0.62 |
| 13:AN:64:ARG:O | 13:AN:82:ASN:HA | 1.99 | 0.62 |
| 13:AN:106:LEU:HB3 | 13:AN:111:PHE:HB2 | 1.80 | 0.62 |
| 16:AQ:21:HIS:O | 16:AQ:22:GLN:C | 2.36 | 0.62 |
| 18:AS:11:ARG:HB3 | 18:AS:11:ARG:NH1 | 2.13 | 0.62 |
| 19:AT:9:HIS:CB | 19:AT:26:PHE:HA | 2.23 | 0.62 |
| 20:AU:79:LEU:HG | 20:AU:80:GLU:N | 2.12 | 0.62 |
| 25:A1:5:LYS:O | 25:A1:7:GLY:N | 2.32 | 0.62 |
| 25:A1:30:LYS:O | 25:A1:32:TYR:CD2 | 2.53 | 0.62 |
| 25:A1:64:ARG:HH12 | 25:A1:101:ARG:NH2 | 1.98 | 0.62 |
| 26:A2:43:GLU:O | 26:A2:44:GLN:NE2 | 2.32 | 0.62 |
| 27:A3:69:PHE:O | 27:A3:70:ILE:CD1 | 2.42 | 0.62 |
| 28:A4:13:LYS:O | 28:A4:14:ILE:CB | 2.44 | 0.62 |
| 30:A6:16:ALA:CB | 30:A6:42:PRO:HD3 | 2.29 | 0.62 |
| 34:BA:302:G:H21 | 34:BA:556:C:H4' | 1.64 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:325:A:O2' | 34:BA:326:G:H5' | 2.00 | 0.62 |
| 34:BA:449:C:C4 | 34:BA:450:G:H1' | 2.34 | 0.62 |
| 34:BA:475:G:C4 | 34:BA:476:G:N7 | 2.68 | 0.62 |
| 34:BA:585:G:O2' | 34:BA:586:C:H5' | 2.00 | 0.62 |
| 34:BA:722:A:C6 | 34:BA:724:G:C6 | 2.87 | 0.62 |
| 34:BA:727:G:N2 | 34:BA:731:G:C5 | 2.67 | 0.62 |
| 34:BA:965:A:H1' | 34:BA:969:A:N7 | 2.14 | 0.62 |
| 34:BA:967:C:H2' | 34:BA:968:A:C8 | 2.34 | 0.62 |
| 34:BA:986:A:C1' | 54:BV:55:LYS:HA | 2.25 | 0.62 |
| 34:BA:1160:G:O6 | 34:BA:1181:G:C6 | 2.52 | 0.62 |
| 34:BA:1253:G:N1 | 34:BA:1285:A:N6 | 2.47 | 0.62 |
| 34:BA:1343:G:O5' | 34:BA:1343:G:H8 | 1.82 | 0.62 |
| 34:BA:1433:A:C2' | 34:BA:1434:A:H5' | 2.28 | 0.62 |
| 35:BC:9:A:C2 | 35:BC:45:G:N7 | 2.67 | 0.62 |
| 37:BE:15:VAL:HG21 | 37:BE:210:SER:N | 2.15 | 0.62 |
| 37:BE:68:ILE:O | 37:BE:90:MET:CB | 2.46 | 0.62 |
| 37:BE:79:ASP:O | 37:BE:82:ARG:HB3 | 1.98 | 0.62 |
| 37:BE:134:GLU:O | 37:BE:138:LEU:HG | 2.00 | 0.62 |
| 37:BE:218:ALA:O | 37:BE:221:LEU:N | 2.32 | 0.62 |
| 38:BF:28:GLN:HE21 | 38:BF:29:TYR:H | 1.47 | 0.62 |
| 38:BF:77:ILE:HG23 | 38:BF:81:GLY:HA2 | 1.81 | 0.62 |
| 39:BG:191:ARG:NH2 | 39:BG:196:LEU:HB2 | 2.14 | 0.62 |
| 42:BJ:25:ALA:O | 42:BJ:28:ASN:HB2 | 2.00 | 0.62 |
| 42:BJ:59:LEU:O | 42:BJ:63:LYS:HG2 | 1.99 | 0.62 |
| 43:BK:23:SER:O | 43:BK:24:THR:CB | 2.48 | 0.62 |
| 46:BN:54:ARG:HH11 | 46:BN:54:ARG:CG | 2.09 | 0.62 |
| 46:BN:92:GLU:HG3 | 46:BN:96:ARG:HD3 | 1.79 | 0.62 |
| 48:BP:2:ALA:O | 48:BP:4:ILE:N | 2.24 | 0.62 |
| 50:BR:66:LEU:O | 50:BR:67:LEU:C | 2.36 | 0.62 |
| 53:BU:77:GLY:C | 53:BU:78:LEU:HG | 2.19 | 0.62 |
| 56:BX:12:LYS:HG3 | 56:BX:18:TYR:CB | 2.30 | 0.62 |
| 2:AA:40:C:H2' | 2:AA:41:C:C6 | 2.33 | 0.62 |
| 2:AA:49:A:N6 | 2:AA:177:G:C2 | 2.67 | 0.62 |
| 2:AA:122:G:C2 | 2:AA:130:C:C2 | 2.87 | 0.62 |
| 2:AA:142:G:OP1 | 2:AA:1596:A:C5' | 2.47 | 0.62 |
| 2:AA:162:U:C4' | 2:AA:171:G:H21 | 2.12 | 0.62 |
| 2:AA:245:G:H5' | 14:AO:55:GLN:HA | 1.79 | 0.62 |
| 2:AA:286:C:C2' | 2:AA:287:C:C5' | 2.67 | 0.62 |
| 2:AA:302:C:N3 | 2:AA:303:U:C4 | 2.67 | 0.62 |
| 2:AA:473:G:H2' | 2:AA:474:G:H5' | 1.81 | 0.62 |
| 2:AA:532:A:OP1 | 25:A1:25:TRP:CD1 | 2.52 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:686:G:OP1 | 31:A7:11:LYS:HD3 | 1.99 | 0.62 |
| 2:AA:754:C:C2' | 2:AA:755:C:H5' | 2.30 | 0.62 |
| 2:AA:782:A:C1' | 2:AA:783:A:H62 | 2.13 | 0.62 |
| 2:AA:881:G:H2' | 2:AA:882:G:O4' | 1.99 | 0.62 |
| 2:AA:1043:C:C2' | 2:AA:1044:G:H5' | 2.28 | 0.62 |
| 2:AA:1064:C:C2' | 2:AA:1065:U:H6 | 2.11 | 0.62 |
| 2:AA:1083:U:C5' | 9:AI:40:ALA:CB | 2.76 | 0.62 |
| 2:AA:1222:C:N4 | 2:AA:1227:A:H62 | 1.78 | 0.62 |
| 2:AA:1274:A:H2 | 2:AA:1297:C:O2 | 1.80 | 0.62 |
| 2:AA:1314:C:O2' | 2:AA:1315:C:H5' | 2.00 | 0.62 |
| 2:AA:1326:U:O4' | 2:AA:2010:G:C2 | 2.52 | 0.62 |
| 2:AA:1332:G:C8 | 2:AA:1609:A:N6 | 2.64 | 0.62 |
| 2:AA:1464:C:H2' | 2:AA:1465:G:H8 | 1.64 | 0.62 |
| 2:AA:1529:A:H3' | 2:AA:1530:G:C8 | 2.35 | 0.62 |
| 2:AA:1645:G:OP2 | 2:AA:1645:G:H8 | 1.82 | 0.62 |
| 2:AA:1754:C:O2 | 2:AA:1755:A:H1' | 1.99 | 0.62 |
| 2:AA:1799:G:N2 | 4:AD:153:LEU:HG | 2.13 | 0.62 |
| 2:AA:1857:G:H2' | 2:AA:1858:G:C8 | 2.33 | 0.62 |
| 2:AA:1937:A:N7 | 2:AA:1939:U:C2 | 2.68 | 0.62 |
| 2:AA:1981:A:H3' | 2:AA:1982:C:C5' | 2.28 | 0.62 |
| 2:AA:2027:G:C4 | 2:AA:2028:U:C6 | 2.87 | 0.62 |
| 2:AA:2090:G:H2' | 2:AA:2091:U:C6 | 2.35 | 0.62 |
| 2:AA:2151:G:O5' | 2:AA:2152:G:OP2 | 2.17 | 0.62 |
| 2:AA:2325:G:C5 | 2:AA:2326:C:H5 | 2.18 | 0.62 |
| 2:AA:2331:G:O2' | 27:A3:70:ILE:HD12 | 2.00 | 0.62 |
| 2:AA:2510:C:N4 | 2:AA:2511:U:C4 | 2.67 | 0.62 |
| 2:AA:2573:C:C6 | 2:AA:2573:C:C3' | 2.82 | 0.62 |
| 2:AA:2676:C:H2' | 2:AA:2677:G:H8 | 1.65 | 0.62 |
| 3:AC:82:LYS:CB | 3:AC:116:THR:HG21 | 2.17 | 0.62 |
| 4:AD:211:HIS:HA | 4:AD:222:PRO:CG | 2.29 | 0.62 |
| 6:AF:80:VAL:O | 6:AF:87:ARG:NH1 | 2.32 | 0.62 |
| 7:AG:27:ILE:O | 7:AG:29:HIS:N | 2.31 | 0.62 |
| 7:AG:36:ASN:O | 7:AG:39:ASP:CB | 2.48 | 0.62 |
| 8:AH:161:ILE:C | 8:AH:162:ARG:HG3 | 2.19 | 0.62 |
| 8:AH:169:ARG:NE | 8:AH:169:ARG:HA | 2.15 | 0.62 |
| 9:AJ:61:VAL:HG21 | 9:AJ:114:ILE:HB | 1.82 | 0.62 |
| 10:AK:39:ALA:CA | 10:AK:44:LEU:HD21 | 2.28 | 0.62 |
| 10:AK:77:VAL:HG11 | 10:AK:143:VAL:HG13 | 1.82 | 0.62 |
| 10:AK:89:LEU:N | 10:AK:122:ARG:HG2 | 2.14 | 0.62 |
| 11:AL:92:PRO:O | 11:AL:94:ARG:N | 2.32 | 0.62 |
| 13:AN:17:ARG:C | 13:AN:18:GLU:HG3 | 2.20 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:77:ALA:CA | 14:AO:81:VAL:HB | 2.16 | 0.62 |
| 14:AO:125:PHE:O | 14:AO:130:ARG:HG3 | 1.98 | 0.62 |
| 14:AO:141:GLU:CD | 14:AO:145:LEU:HB2 | 2.19 | 0.62 |
| 15:AP:133:GLU:C | 15:AP:133:GLU:OE1 | 2.38 | 0.62 |
| 16:AQ:35:VAL:HG13 | 16:AQ:103:ASP:OD2 | 2.00 | 0.62 |
| 16:AQ:122:ALA:HB1 | 16:AQ:127:LEU:HD13 | 1.80 | 0.62 |
| 19:AT:5:ILE:HG22 | 19:AT:6:LYS:H | 1.65 | 0.62 |
| 19:AT:18:MET:SD | 19:AT:25:GLN:N | 2.71 | 0.62 |
| 22:AW:26:GLU:CA | 22:AW:29:ASN:HD22 | 1.93 | 0.62 |
| 23:AX:41:PRO:O | 23:AX:42:ALA:C | 2.37 | 0.62 |
| 26:A2:5:ILE:CG2 | 26:A2:38:LEU:O | 2.48 | 0.62 |
| 27:A3:28:GLY:N | 27:A3:60:PHE:HB3 | 2.15 | 0.62 |
| 27:A3:46:LYS:HE2 | 27:A3:58:THR:OG1 | 1.99 | 0.62 |
| 30:A6:18:THR:O | 30:A6:18:THR:HG23 | 1.99 | 0.62 |
| 32:A8:3:LYS:O | 32:A8:4:MET:HE3 | 2.00 | 0.62 |
| 32:A8:14:ILE:O | 32:A8:14:ILE:CG2 | 2.47 | 0.62 |
| 34:BA:13:U:O2 | 34:BA:21:G:N2 | 2.23 | 0.62 |
| 34:BA:115:G:O2' | 34:BA:116:A:OP2 | 2.11 | 0.62 |
| 34:BA:621:A:C6 | 34:BA:622:A:C6 | 2.88 | 0.62 |
| 34:BA:781:A:H61 | 34:BA:802:A:H1' | 1.65 | 0.62 |
| 34:BA:783:C:N4 | 34:BA:799:G:H1 | 1.96 | 0.62 |
| 34:BA:871:U:H4' | 34:BA:872:A:OP1 | 2.00 | 0.62 |
| 34:BA:944:G:C2 | 34:BA:1340:A:C6 | 2.88 | 0.62 |
| 34:BA:956:U:O2 | 34:BA:960:U:C4 | 2.52 | 0.62 |
| 34:BA:979:C:C2' | 34:BA:980:C:H5' | 2.29 | 0.62 |
| 34:BA:1157:A:C1' | 34:BA:1181:G:N2 | 2.62 | 0.62 |
| 34:BA:1172:C:O2' | 34:BA:1173:G:H5' | 2.00 | 0.62 |
| 34:BA:1254:C:OP1 | 45:BM:45:ARG:HD2 | 1.99 | 0.62 |
| 34:BA:1302:U:OP1 | 48:BP:13:LYS:NZ | 2.29 | 0.62 |
| 34:BA:1306:A:H61 | 34:BA:1331:G:H1' | 1.65 | 0.62 |
| 34:BA:1326:C:C4 | 34:BA:1327:C:C4 | 2.88 | 0.62 |
| 34:BA:1403:C:C1' | 34:BA:1500:A:N1 | 2.63 | 0.62 |
| 34:BA:1413:A:C2' | 34:BA:1414:U:O5' | 2.48 | 0.62 |
| 34:BA:1516:G:N2 | 34:BA:1519:A:OP2 | 2.32 | 0.62 |
| 35:BB:51:G:H2' | 35:BB:52:U:O4' | 2.00 | 0.62 |
| 37:BE:47:THR:CB | 37:BE:48:MET:SD | 2.84 | 0.62 |
| 37:BE:102:LEU:HD13 | 37:BE:176:GLU:OE1 | 1.99 | 0.62 |
| 37:BE:131:PRO:CG | 37:BE:134:GLU:HG2 | 2.26 | 0.62 |
| 40:BH:51:VAL:O | 40:BH:55:VAL:CG2 | 2.38 | 0.62 |
| 42:BJ:76:ARG:HG3 | 42:BJ:89:MET:SD | 2.39 | 0.62 |
| 43:BK:100:ILE:HB | 43:BK:125:ARG:NH2 | 2.14 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:122:ALA:O | 44:BL:123:PRO:C | 2.36 | 0.62 |
| 46:BN:54:ARG:HG3 | 46:BN:54:ARG:NH1 | 2.09 | 0.62 |
| 50:BR:65:ARG:HB2 | 50:BR:65:ARG:CZ | 2.29 | 0.62 |
| 55:BW:72:LEU:CD2 | 55:BW:76:ALA:HB1 | 2.30 | 0.62 |
| 1:AB:54:G:O2' | 1:AB:55:U:H5' | 1.99 | 0.62 |
| 2:AA:73:A:C2' | 2:AA:74:A:OP2 | 2.47 | 0.62 |
| 2:AA:265:A:O2' | 2:AA:266:G:O5' | 2.16 | 0.62 |
| 2:AA:324:A:N6 | 2:AA:339:U:C1' | 2.39 | 0.62 |
| 2:AA:581:C:H2' | 2:AA:582:G:C8 | 2.35 | 0.62 |
| 2:AA:607:U:C4 | 2:AA:621:A:N1 | 2.66 | 0.62 |
| 2:AA:686:G:C5' | 2:AA:687:C:OP2 | 2.46 | 0.62 |
| 2:AA:751:A:H8 | 18:AS:90:ARG:NH2 | 1.98 | 0.62 |
| 2:AA:909:A:C2 | 2:AA:912:C:H1' | 2.34 | 0.62 |
| 2:AA:993:G:C8 | 2:AA:1162:G:N1 | 2.68 | 0.62 |
| 2:AA:1081:U:H2' | 2:AA:1082:U:C4 | 2.34 | 0.62 |
| 2:AA:1085:A:HO2' | 2:AA:1086:A:C4' | 2.09 | 0.62 |
| 2:AA:1300:U:C2 | 2:AA:1626:G:C2 | 2.87 | 0.62 |
| 2:AA:1343:G:C2 | 2:AA:1405:U:C2 | 2.87 | 0.62 |
| 2:AA:1413:G:H1 | 2:AA:1589:C:N4 | 1.97 | 0.62 |
| 2:AA:1769:G:C6 | 2:AA:1984:G:C6 | 2.88 | 0.62 |
| 2:AA:1930:G:O2' | 2:AA:1931:U:P | 2.58 | 0.62 |
| 2:AA:1943:U:O2' | 2:AA:1944:U:P | 2.57 | 0.62 |
| 2:AA:2046:G:H2' | 2:AA:2047:U:C6 | 2.35 | 0.62 |
| 2:AA:2218:G:H4' | 4:AD:147:PRO:HG3 | 1.82 | 0.62 |
| 2:AA:2330:G:O2' | 2:AA:2331:G:H5' | 2.00 | 0.62 |
| 2:AA:2457:U:C2' | 2:AA:2458:G:C5' | 2.69 | 0.62 |
| 2:AA:2548:G:H2' | 2:AA:2549:G:O5' | 1.98 | 0.62 |
| 2:AA:2579:C:H5" | 2:AA:2579:C:C6 | 2.35 | 0.62 |
| 2:AA:2674:G:O6 | 2:AA:2675:A:N6 | 2.32 | 0.62 |
| 2:AA:2700:C:H2' | 2:AA:2701:C:H4' | 1.79 | 0.62 |
| 2:AA:2742:C:OP1 | 33:A9:35:ARG:CD | 2.48 | 0.62 |
| 4:AD:78:ALA:HB2 | 4:AD:94:ASN:ND2 | 2.14 | 0.62 |
| 4:AD:142:ASN:HB3 | 4:AD:190:THR:HG23 | 1.82 | 0.62 |
| 5:AE:189:MET:SD | 5:AE:311:PHE:HZ | 2.22 | 0.62 |
| 6:AF:238:SER:C | 6:AF:241:ALA:H | 2.03 | 0.62 |
| 7:AG:100:ASP:N | 7:AG:100:ASP:OD1 | 2.32 | 0.62 |
| 10:AK:30:LEU:HA | 10:AK:33:GLN:HE21 | 1.64 | 0.62 |
| 10:AK:112:LYS:HG2 | 10:AK:113:ARG:H | 1.64 | 0.62 |
| 11:AL:36:MET:SD | 11:AL:40:LYS:HG3 | 2.40 | 0.62 |
| 11:AL:53:ILE:O | 11:AL:54:LEU:HD23 | 2.00 | 0.62 |
| 12:AM:13:ASP:N | 12:AM:38:VAL:HG13 | 2.14 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 18:AS:55:ALA:HB2 | 18:AS:107:LEU:HD11 | 1.81 | 0.62 |
| 21:AV:14:LEU:HD23 | 21:AV:79:ILE:CD1 | 2.28 | 0.62 |
| 25:A1:27:SER:C | 25:A1:29:SER:H | 1.96 | 0.62 |
| 27:A3:52:GLY:O | 27:A3:53:MET:HB2 | 1.99 | 0.62 |
| 29:A5:15:LYS:O | 29:A5:16:ARG:C | 2.38 | 0.62 |
| 34:BA:28:G:C2' | 34:BA:296:U:OP1 | 2.47 | 0.62 |
| 34:BA:112:G:H5' | 34:BA:389:A:C4' | 2.08 | 0.62 |
| 34:BA:118:U:O4 | 34:BA:289:G:OP2 | 2.17 | 0.62 |
| 34:BA:269:C:H2' | 34:BA:270:A:H8 | 1.63 | 0.62 |
| 34:BA:321:A:C6 | 34:BA:322:C:N4 | 2.68 | 0.62 |
| 34:BA:448:A:C2 | 34:BA:449:C:C4 | 2.87 | 0.62 |
| 34:BA:669:U:O4' | 50:BR:46:HIS:CE1 | 2.53 | 0.62 |
| 34:BA:749:C:H2' | 34:BA:749:C:O2 | 1.98 | 0.62 |
| 34:BA:815:A:N1 | 34:BA:1529:G:H2' | 2.15 | 0.62 |
| 34:BA:1053:G:H2' | 34:BA:1199:U:H5 | 1.65 | 0.62 |
| 34:BA:1058:G:OP1 | 38:BF:199:LYS:HE3 | 1.99 | 0.62 |
| 34:BA:1206:G:H2' | 34:BA:1207:G:O4' | 1.99 | 0.62 |
| 34:BA:1289:A:OP2 | 34:BA:1289:A:H3' | 1.99 | 0.62 |
| 34:BA:1358:U:H5" | 49:BQ:34:TYR:HA | 1.81 | 0.62 |
| 36:B1:28:U:H2' | 36:B1:29:G:C8 | 2.35 | 0.62 |
| 39:BG:172:PRO:HG3 | 39:BG:193:ASP:CB | 2.30 | 0.62 |
| 42:BJ:12:LEU:O | 42:BJ:14:PRO:HD3 | 2.00 | 0.62 |
| 43:BK:49:GLU:O | 43:BK:59:LEU:HD23 | 1.99 | 0.62 |
| 44:BL:37:PHE:HA | 44:BL:40:LEU:HD12 | 1.81 | 0.62 |
| 45:BM:51:ARG:HG2 | 49:BQ:45:ARG:NH1 | 2.15 | 0.62 |
| 47:BO:27:LEU:HD13 | 47:BO:64:TYR:CE1 | 2.35 | 0.62 |
| 47:BO:62:SER:HB2 | 47:BO:64:TYR:HB2 | 1.81 | 0.62 |
| 53:BU:21:LYS:CA | 53:BU:55:ARG:HH12 | 2.05 | 0.62 |
| 55:BW:26:ASN:ND2 | 55:BW:26:ASN:H | 1.95 | 0.62 |
| 1:AB:73:A:H2' | 1:AB:74:U:C6 | 2.34 | 0.62 |
| 2:AA:69:C:C6 | 2:AA:69:C:OP2 | 2.52 | 0.62 |
| 2:AA:216:A:C2 | 2:AA:217:G:C5 | 2.88 | 0.62 |
| 2:AA:323:G:OP2 | 2:AA:340:A:C2 | 2.51 | 0.62 |
| 2:AA:557:U:H2' | 2:AA:558:G:C8 | 2.35 | 0.62 |
| 2:AA:576:U:O2' | 2:AA:577:G:H5' | 2.00 | 0.62 |
| 2:AA:611:C:O2 | 2:AA:611:C:H2' | 1.98 | 0.62 |
| 2:AA:734:A:C2 | 2:AA:735:A:C1' | 2.83 | 0.62 |
| 2:AA:959:A:C4 | 2:AA:960:A:N7 | 2.68 | 0.62 |
| 2:AA:1087:G:N2 | 2:AA:1103:A:C3' | 2.63 | 0.62 |
| 2:AA:1155:A:H8 | 2:AA:1155:A:H5' | 1.64 | 0.62 |
| 2:AA:1275:A:N6 | 24:A0:19:ALA:HB2 | 2.11 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1309:G:OP1 | 31:A7:9:ASN:HB2 | 2.00 | 0.62 |
| 2:AA:1363:C:H5' | 28:A4:55:ARG:HH12 | 1.63 | 0.62 |
| 2:AA:1591:G:C5 | 2:AA:1592:C:C4 | 2.87 | 0.62 |
| 2:AA:1672:C:O2' | 2:AA:1673:U:H5' | 2.00 | 0.62 |
| 2:AA:1775:U:OP2 | 2:AA:1775:U:H3' | 1.98 | 0.62 |
| 2:AA:1846:G:N2 | 2:AA:1895:C:N1 | 2.47 | 0.62 |
| 2:AA:1973:G:H2' | 2:AA:1974:C:H6 | 1.62 | 0.62 |
| 2:AA:2009:G:C6 | 2:AA:2010:G:N7 | 2.68 | 0.62 |
| 2:AA:2010:G:O2' | 18:AS:42:ARG:NH2 | 2.33 | 0.62 |
| 2:AA:2078:C:H5' | 2:AA:2434:A:H5' | 1.82 | 0.62 |
| 2:AA:2119:A:N6 | 2:AA:2147:G:C5' | 2.63 | 0.62 |
| 2:AA:2460:U:C5 | 2:AA:2461:C:C5 | 2.88 | 0.62 |
| 2:AA:2572:A:N7 | 5:AE:241:TRP:CD1 | 2.68 | 0.62 |
| 2:AA:2698:U:C2 | 2:AA:2699:C:C5 | 2.88 | 0.62 |
| 2:AA:2714:G:H8 | 2:AA:2714:G:H5" | 1.63 | 0.62 |
| 2:AA:2803:C:O2 | 2:AA:2803:C:C2' | 2.31 | 0.62 |
| 2:AA:2824:C:N4 | 2:AA:2825:C:O2 | 2.33 | 0.62 |
| 3:AC:180:PHE:HD2 | 3:AC:184:LYS:HB3 | 1.65 | 0.62 |
| 6:AF:31:ILE:O | 6:AF:34:ALA:HB3 | 2.00 | 0.62 |
| 6:AF:32:GLY:O | 6:AF:36:ARG:HG2 | 2.00 | 0.62 |
| 8:AH:145:ALA:O | 8:AH:146:ASN:C | 2.37 | 0.62 |
| 9:AI:1:MET:HB3 | 11:AL:10:LYS:NZ | 2.14 | 0.62 |
| 10:AK:19:LYS:HD2 | 10:AK:20:ASN:H | 1.65 | 0.62 |
| 10:AK:88:ARG:NH2 | 10:AK:121:ILE:HG23 | 2.14 | 0.62 |
| 14:AO:52:LYS:CD | 14:AO:53:ARG:NH1 | 2.62 | 0.62 |
| 14:AO:94:ARG:HD3 | 14:AO:120:LEU:CB | 2.30 | 0.62 |
| 16:AQ:17:ARG:NH2 | 16:AQ:106:LEU:CD1 | 2.62 | 0.62 |
| 18:AS:18:ARG:HG3 | 18:AS:76:VAL:HG12 | 1.82 | 0.62 |
| 21:AV:19:ILE:N | 21:AV:36:ARG:CG | 2.63 | 0.62 |
| 21:AV:128:ARG:O | 21:AV:129:ARG:HG2 | 2.00 | 0.62 |
| 24:A0:53:HIS:CA | 24:A0:56:LYS:HG3 | 2.28 | 0.62 |
| 24:A0:63:ARG:HH12 | 24:A0:80:PHE:CB | 2.12 | 0.62 |
| 24:A0:103:ARG:HA | 24:A0:109:ALA:O | 1.99 | 0.62 |
| 25:A1:17:VAL:CG1 | 25:A1:39:LEU:HD12 | 2.29 | 0.62 |
| 26:A2:7:THR:O | 26:A2:9:GLY:N | 2.33 | 0.62 |
| 26:A2:15:SER:HB2 | 26:A2:99:GLN:NE2 | 2.14 | 0.62 |
| 27:A3:27:GLY:CA | 27:A3:60:PHE:CD2 | 2.83 | 0.62 |
| 29:A5:11:THR:HB | 29:A5:16:ARG:CG | 2.29 | 0.62 |
| 30:A6:36:GLU:OE1 | 30:A6:53:LYS:HG2 | 1.99 | 0.62 |
| 31:A7:27:GLY:O | 31:A7:28:ARG:C | 2.37 | 0.62 |
| 32:A8:26:LYS:CE | 32:A8:45:GLY:H | 2.11 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:A8:26:LYS:HB2 | 32:A8:44:LYS:HA | 1.82 | 0.62 |
| 34:BA:130:A:H5' | 52:BT:63:ARG:NH2 | 2.14 | 0.62 |
| 34:BA:237:C:P | 52:BT:40:LYS:HZ2 | 2.22 | 0.62 |
| 34:BA:419:C:O2' | 34:BA:420:U:H5' | 2.00 | 0.62 |
| 34:BA:462:G:C8 | 34:BA:462:G:OP2 | 2.53 | 0.62 |
| 34:BA:539:A:OP2 | 47:BO:115:LYS:HE2 | 1.99 | 0.62 |
| 34:BA:735:C:O5' | 34:BA:735:C:H6 | 1.80 | 0.62 |
| 34:BA:748:C:O2' | 34:BA:749:C:C5' | 2.47 | 0.62 |
| 34:BA:779:C:H2' | 34:BA:780:A:O5' | 1.99 | 0.62 |
| 34:BA:924:C:O2' | 34:BA:925:G:H5' | 1.99 | 0.62 |
| 34:BA:937:A:H1' | 34:BA:1379:G:N2 | 2.15 | 0.62 |
| 34:BA:982:U:H1' | 34:BA:983:A:C6 | 2.34 | 0.62 |
| 34:BA:1147:C:N3 | 34:BA:1148:U:C5 | 2.68 | 0.62 |
| 34:BA:1166:G:H1' | 34:BA:1169:A:H61 | 1.63 | 0.62 |
| 34:BA:1174:G:O2' | 34:BA:1175:G:H5' | 2.00 | 0.62 |
| 34:BA:1485:U:O2 | 34:BA:1486:G:N7 | 2.33 | 0.62 |
| 35:BB:18:G:O2' | 35:BB:19:G:O5' | 2.17 | 0.62 |
| 37:BE:219:VAL:HA | 37:BE:222:ILE:CG2 | 2.30 | 0.62 |
| 38:BF:88:ARG:NE | 38:BF:101:LEU:N | 2.32 | 0.62 |
| 42:BJ:136:LYS:HD2 | 42:BJ:137:LYS:N | 2.14 | 0.62 |
| 43:BK:18:ARG:HH22 | 43:BK:78:GLN:CD | 2.03 | 0.62 |
| 45:BM:5:ARG:HA | 45:BM:73:ASP:CG | 2.20 | 0.62 |
| 46:BN:32:ILE:HD11 | 46:BN:72:ALA:HB2 | 1.81 | 0.62 |
| 46:BN:100:ALA:C | 46:BN:102:GLY:N | 2.48 | 0.62 |
| 47:BO:60:LEU:CD2 | 47:BO:64:TYR:HB2 | 2.30 | 0.62 |
| 48:BP:77:ASN:CA | 48:BP:80:ARG:HD3 | 2.30 | 0.62 |
| 55:BW:63:ILE:CD1 | 55:BW:80:ARG:CB | 2.73 | 0.62 |
| 1:AB:9:G:OP1 | 16:AQ:23:ARG:NH1 | 2.31 | 0.62 |
| 2:AA:199:A:C5 | 2:AA:2434:A:N1 | 2.68 | 0.62 |
| 2:AA:248:G:N2 | 2:AA:2431:U:H5" | 2.15 | 0.62 |
| 2:AA:270(R):G:N2 | 2:AA:270(S):G:C2 | 2.67 | 0.62 |
| 2:AA:272:G:C2' | 2:AA:273:G:O4' | 2.48 | 0.62 |
| 2:AA:529:A:C2 | 2:AA:2022:U:H5' | 2.34 | 0.62 |
| 2:AA:534:U:O2' | 25:A1:49:ASP:CG | 2.37 | 0.62 |
| 2:AA:534:U:H4' | 25:A1:46:GLU:HG2 | 1.82 | 0.62 |
| 2:AA:574:C:O2' | 2:AA:575:A:P | 2.57 | 0.62 |
| 2:AA:592:G:H5' | 2:AA:593:G:OP2 | 1.99 | 0.62 |
| 2:AA:637:A:OP2 | 14:AO:109:LEU:HD13 | 1.99 | 0.62 |
| 2:AA:675:A:N7 | 2:AA:804:A:C6 | 2.67 | 0.62 |
| 2:AA:679:C:O2 | 2:AA:679:C:C2' | 2.34 | 0.62 |
| 2:AA:684:G:C4 | 2:AA:775:G:O6 | 2.53 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:740:U:O4 | 2:AA:758:C:H1' | 1.99 | 0.62 |
| 2:AA:839:U:H2' | 2:AA:840:C:C6 | 2.34 | 0.62 |
| 2:AA:979:G:N2 | 2:AA:985:C:N4 | 2.48 | 0.62 |
| 2:AA:1026:U:C6 | 2:AA:1026:U:C5' | 2.75 | 0.62 |
| 2:AA:1084:A:O5' | 9:AI:38:ALA:C | 2.36 | 0.62 |
| 2:AA:1284:A:C6 | 2:AA:1285:G:C2 | 2.88 | 0.62 |
| 2:AA:1376:C:H2' | 2:AA:1377:G:H8 | 1.62 | 0.62 |
| 2:AA:1463:C:C2' | 2:AA:1464:C:O5' | 2.47 | 0.62 |
| 2:AA:1628:G:C2 | 2:AA:1629:U:C4 | 2.88 | 0.62 |
| 2:AA:1750:G:H2' | 2:AA:1751:C:H6 | 1.65 | 0.62 |
| 2:AA:1826:G:C2 | 2:AA:1827:C:C6 | 2.87 | 0.62 |
| 2:AA:1906:G:N9 | 2:AA:1929:G:C8 | 2.67 | 0.62 |
| 2:AA:1906:G:C8 | 2:AA:1929:G:C8 | 2.88 | 0.62 |
| 2:AA:1957:C:C2' | 2:AA:1985:G:HO2' | 2.11 | 0.62 |
| 2:AA:2059:A:C2 | 2:AA:2503:A:N7 | 2.67 | 0.62 |
| 2:AA:2078:C:N3 | 2:AA:2079:U:C5 | 2.68 | 0.62 |
| 2:AA:2273:A:H2' | 2:AA:2274:A:H5' | 1.81 | 0.62 |
| 2:AA:2620:C:OP1 | 5:AE:248:SER:O | 2.17 | 0.62 |
| 2:AA:2625:G:H3' | 2:AA:2626:C:C5 | 2.35 | 0.62 |
| 2:AA:2653:U:C4 | 2:AA:2654:A:C6 | 2.87 | 0.62 |
| 2:AA:2733:A:C8 | 2:AA:2734:A:C8 | 2.87 | 0.62 |
| 2:AA:2885:C:C4 | 2:AA:2886:G:C8 | 2.88 | 0.62 |
| 3:AC:131:LEU:CB | 3:AC:136:LEU:HB2 | 2.29 | 0.62 |
| 5:AE:198:TYR:O | 5:AE:314:ALA:HB1 | 1.99 | 0.62 |
| 6:AF:80:VAL:HG13 | 6:AF:81:PRO:N | 2.15 | 0.62 |
| 6:AF:196:THR:HA | 6:AF:236:THR:HG23 | 1.80 | 0.62 |
| 7:AG:24:HIS:C | 7:AG:129:ASP:OD2 | 2.38 | 0.62 |
| 9:AI:103:LYS:HB2 | 9:AI:114:ILE:HD13 | 1.82 | 0.62 |
| 9:AJ:111:ALA:O | 9:AJ:115:LYS:HG3 | 1.98 | 0.62 |
| 10:AK:5:PHE:N | 10:AK:5:PHE:HD2 | 1.93 | 0.62 |
| 10:AK:26:ALA:HB1 | 10:AK:30:LEU:HD12 | 1.81 | 0.62 |
| 11:AL:18:ALA:HB1 | 11:AL:39:CYS:C | 2.20 | 0.62 |
| 12:AM:27:ALA:O | 12:AM:30:ALA:N | 2.32 | 0.62 |
| 15:AP:152:SER:CB | 15:AP:153:PRO:HD2 | 2.29 | 0.62 |
| 20:AU:27:LEU:HD22 | 20:AU:31:LEU:HD13 | 1.82 | 0.62 |
| 21:AV:115:ILE:O | 21:AV:169:VAL:HG13 | 2.00 | 0.62 |
| 24:A0:25:ALA:HA | 24:A0:48:VAL:HG22 | 1.81 | 0.62 |
| 24:A0:30:THR:HB | 24:A0:31:HIS:ND1 | 2.14 | 0.62 |
| 24:A0:75:LEU:HA | 24:A0:78:LYS:HB3 | 1.81 | 0.62 |
| 24:A0:96:ARG:HG2 | 24:A0:115:GLU:HG2 | 1.82 | 0.62 |
| 25:A1:69:ALA:HB1 | 25:A1:79:PHE:CZ | 2.34 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 28:A4:60:ASN:O | 28:A4:63:PHE:HB2 | 1.99 | 0.62 |
| 34:BA:192:U:H5' | 55:BW:102:GLY:HA2 | 1.81 | 0.62 |
| 34:BA:246:A:C2' | 34:BA:247:G:OP2 | 2.48 | 0.62 |
| 34:BA:363:A:C5' | 47:BO:105:TYR:OH | 2.48 | 0.62 |
| 34:BA:451:A:H1' | 34:BA:452:A:C4 | 2.35 | 0.62 |
| 34:BA:540:G:H21 | 39:BG:42:GLN:NE2 | 1.97 | 0.62 |
| 34:BA:573:A:C2 | 34:BA:574:A:C6 | 2.88 | 0.62 |
| 34:BA:783:C:H2' | 34:BA:784:C:C5' | 2.27 | 0.62 |
| 34:BA:909:A:H2' | 34:BA:910:C:O5' | 1.99 | 0.62 |
| 34:BA:1143:G:H8 | 34:BA:1143:G:O5' | 1.83 | 0.62 |
| 34:BA:1239:A:C2' | 34:BA:1298:C:H42 | 2.13 | 0.62 |
| 34:BA:1341:U:H6 | 34:BA:1341:U:O5' | 1.82 | 0.62 |
| 34:BA:1442:G:N2 | 34:BA:1446:A:N9 | 2.48 | 0.62 |
| 34:BA:1479:C:C2' | 34:BA:1480:G:C5' | 2.72 | 0.62 |
| 34:BA:1539:C:H2' | 34:BA:1539:C:O2 | 1.99 | 0.62 |
| 38:BF:8:ILE:HG12 | 38:BF:12:LEU:HD21 | 1.82 | 0.62 |
| 38:BF:28:GLN:NE2 | 38:BF:29:TYR:N | 2.48 | 0.62 |
| 40:BH:131:ILE:HG22 | 40:BH:132:ALA:N | 2.15 | 0.62 |
| 41:BI:87:ARG:HG2 | 41:BI:87:ARG:HH11 | 1.64 | 0.62 |
| 43:BK:49:GLU:HG2 | 43:BK:62:TYR:OH | 2.00 | 0.62 |
| 43:BK:118:VAL:C | 43:BK:119:LEU:HD22 | 2.19 | 0.62 |
| 45:BM:13:HIS:O | 45:BM:13:HIS:CG | 2.52 | 0.62 |
| 46:BN:43:SER:HA | 46:BN:47:VAL:HG11 | 1.82 | 0.62 |
| 46:BN:83:ILE:HD12 | 46:BN:83:ILE:N | 2.15 | 0.62 |
| 47:BO:28:LYS:HD2 | 47:BO:33:ARG:NH2 | 2.13 | 0.62 |
| 48:BP:4:ILE:C | 48:BP:6:GLY:N | 2.52 | 0.62 |
| 50:BR:3:ILE:HG23 | 50:BR:38:ARG:CZ | 2.29 | 0.62 |
| 50:BR:7:GLU:O | 50:BR:11:VAL:HG23 | 2.00 | 0.62 |
| 50:BR:26:GLU:CD | 50:BR:26:GLU:H | 2.02 | 0.62 |
| 55:BW:45:GLN:H | 55:BW:91:LEU:HD13 | 1.61 | 0.62 |
| 2:AA:17:G:P | 29:A5:13:LYS:HZ2 | 2.23 | 0.62 |
| 2:AA:19:C:H5' | 2:AA:553:U:OP1 | 2.00 | 0.62 |
| 2:AA:116:C:C2 | 2:AA:117:G:C8 | 2.88 | 0.62 |
| 2:AA:290:G:C2' | 2:AA:291:C:O5' | 2.47 | 0.62 |
| 2:AA:447:A:N6 | 2:AA:454:A:N7 | 2.47 | 0.62 |
| 2:AA:532:A:OP2 | 2:AA:2021:C:C5 | 2.52 | 0.62 |
| 2:AA:627:A:N3 | 2:AA:637:A:N3 | 2.48 | 0.62 |
| 2:AA:684:G:OP1 | 31:A7:16:HIS:NE2 | 2.32 | 0.62 |
| 2:AA:715:G:O2' | 2:AA:716:A:H5' | 2.00 | 0.62 |
| 2:AA:734:A:H2' | 2:AA:735:A:C8 | 2.35 | 0.62 |
| 2:AA:806:C:N1 | 2:AA:807:U:H5 | 1.98 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:911:A:N1 | 15:AP:16:ARG:HA | 2.15 | 0.62 |
| 2:AA:940:G:N1 | 2:AA:941:A:C8 | 2.68 | 0.62 |
| 2:AA:978:G:C5 | 2:AA:979:G:C6 | 2.87 | 0.62 |
| 2:AA:1155:A:C2 | 2:AA:1157:G:C1' | 2.83 | 0.62 |
| 2:AA:1178:C:N3 | 2:AA:1179:C:N4 | 2.48 | 0.62 |
| 2:AA:1222:C:N3 | 2:AA:1223:C:C5 | 2.67 | 0.62 |
| 2:AA:1275:A:H2 | 24:A0:16:HIS:HB3 | 1.61 | 0.62 |
| 2:AA:1301:A:N7 | 2:AA:1303:G:C8 | 2.68 | 0.62 |
| 2:AA:1539:G:H2' | 2:AA:1540:G:N7 | 2.14 | 0.62 |
| 2:AA:1773:A:H2' | 2:AA:1774:C:H5' | 1.82 | 0.62 |
| 2:AA:1778:U:C2 | 2:AA:1785:A:N6 | 2.67 | 0.62 |
| 2:AA:1814:G:H3' | 2:AA:1815:A:C8 | 2.31 | 0.62 |
| 2:AA:1858:G:O6 | 2:AA:1884:A:C2 | 2.53 | 0.62 |
| 2:AA:1954:G:O2' | 2:AA:1955:U:O5' | 2.15 | 0.62 |
| 2:AA:2230:G:H2' | 2:AA:2231:C:C6 | 2.31 | 0.62 |
| 2:AA:2246:G:N3 | 2:AA:2247:A:C8 | 2.68 | 0.62 |
| 2:AA:2320:A:N1 | 16:AQ:13:ARG:HG2 | 2.15 | 0.62 |
| 2:AA:2355:C:O3' | 27:A3:21:LEU:CD1 | 2.45 | 0.62 |
| 2:AA:2400:G:C2 | 2:AA:2417:C:N3 | 2.68 | 0.62 |
| 2:AA:2581:G:N1 | 2:AA:2610:C:C2' | 2.60 | 0.62 |
| 2:AA:2616:C:C2' | 2:AA:2617:C:C6 | 2.70 | 0.62 |
| 2:AA:2645:G:O2' | 2:AA:2732:G:O3' | 2.18 | 0.62 |
| 2:AA:2712:U:H2' | 2:AA:712(A):A:C5' | 2.25 | 0.62 |
| 2:AA:2748:A:C6 | 2:AA:2757:A:N7 | 2.68 | 0.62 |
| 2:AA:2758:A:P | 2:AA:2758:A:H3' | 2.40 | 0.62 |
| 2:AA:2816:C:C2' | 2:AA:2817:G:H5' | 2.30 | 0.62 |
| 5:AE:207:GLY:HA2 | 5:AE:257:GLY:CA | 2.29 | 0.62 |
| 5:AE:216:ARG:HD2 | 5:AE:253:GLN:HA | 1.82 | 0.62 |
| 5:AE:269:ILE:CD1 | 5:AE:297:LYS:HG2 | 2.30 | 0.62 |
| 8:AH:29:LYS:CE | 8:AH:80:LYS:HA | 2.30 | 0.62 |
| 8:AH:37:HIS:HB2 | 8:AH:40:MET:SD | 2.40 | 0.62 |
| 15:AP:15:THR:CB | 15:AP:20:ILE:CG2 | 2.69 | 0.62 |
| 15:AP:59:ASN:N | 15:AP:59:ASN:HD22 | 1.97 | 0.62 |
| 17:AR:10:GLY:HA3 | 17:AR:52:THR:CB | 2.27 | 0.62 |
| 18:AS:29:LEU:O | 18:AS:30:GLU:C | 2.36 | 0.62 |
| 18:AS:85:VAL:HG23 | 18:AS:85:VAL:O | 1.99 | 0.62 |
| 18:AS:96:ILE:HD12 | 18:AS:96:ILE:C | 2.19 | 0.62 |
| 21:AV:123:VAL:HA | 21:AV:161:ALA:H | 1.64 | 0.62 |
| 25:A1:44:THR:HG22 | 25:A1:48:ARG:NE | 2.15 | 0.62 |
| 26:A2:50:ASP:CB | 26:A2:53:LYS:HG3 | 2.30 | 0.62 |
| 28:A4:6:HIS:HB2 | 28:A4:7:PRO:HD2 | 1.80 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 28:A4:16:TYR:HE1 | 28:A4:37:SER:OG | 1.82 | 0.62 |
| 29:A5:10:LYS:CE | 29:A5:16:ARG:HH22 | 2.00 | 0.62 |
| 30:A6:48:VAL:O | 30:A6:50:PHE:CE1 | 2.53 | 0.62 |
| 34:BA:106:C:H2' | 34:BA:107:G:O5' | 1.99 | 0.62 |
| 34:BA:118:U:O4 | 34:BA:289:G:O5' | 2.17 | 0.62 |
| 34:BA:258:G:C4 | 34:BA:259:G:N7 | 2.67 | 0.62 |
| 34:BA:301:G:H21 | 34:BA:302:G:H1' | 1.65 | 0.62 |
| 34:BA:779:C:C2' | 34:BA:780:A:O5' | 2.48 | 0.62 |
| 34:BA:939:G:OP1 | 42:BJ:99:LEU:HD21 | 2.00 | 0.62 |
| 34:BA:1109:C:H2' | 34:BA:1110:A:O4' | 1.99 | 0.62 |
| 34:BA:1519:A:C2' | 34:BA:1520:G:H5' | 2.30 | 0.62 |
| 35:BB:66:A:C2' | 35:BB:67:A:C8 | 2.83 | 0.62 |
| 35:BC:18:G:C2' | 35:BC:19:G:O5' | 2.48 | 0.62 |
| 36:B1:23:U:O4 | 36:B1:31:G:O6 | 2.17 | 0.62 |
| 37:BE:141:GLU:O | 37:BE:145:LEU:HD23 | 1.98 | 0.62 |
| 37:BE:169:LYS:HZ2 | 37:BE:170:GLU:HA | 1.63 | 0.62 |
| 38:BF:110:ASN:ND2 | 38:BF:144:SER:OG | 2.32 | 0.62 |
| 39:BG:128:VAL:HG12 | 39:BG:129:ASN:C | 2.20 | 0.62 |
| 39:BG:145:GLU:HG3 | 39:BG:184:LYS:CE | 2.23 | 0.62 |
| 41:BI:11:ASN:HD21 | 41:BI:13:ASN:CB | 2.13 | 0.62 |
| 42:BJ:71:PRO:HD3 | 42:BJ:103:TRP:CZ3 | 2.35 | 0.62 |
| 43:BK:4:ASP:HB3 | 43:BK:6:ILE:CG2 | 2.30 | 0.62 |
| 43:BK:18:ARG:NH1 | 43:BK:18:ARG:N | 2.47 | 0.62 |
| 43:BK:26:VAL:HG13 | 43:BK:27:PRO:N | 2.15 | 0.62 |
| 44:BL:85:LEU:CD1 | 44:BL:89:ASN:HD22 | 2.13 | 0.62 |
| 45:BM:4:ILE:HG12 | 45:BM:100:THR:CG2 | 2.29 | 0.62 |
| 49:BQ:6:LEU:HD23 | 49:BQ:8:GLU:OE2 | 2.00 | 0.62 |
| 50:BR:16:ALA:HB2 | 50:BR:21:ASP:HB3 | 1.82 | 0.62 |
| 50:BR:29:VAL:HG21 | 50:BR:81:LEU:HD11 | 1.81 | 0.62 |
| 52:BT:34:LYS:HG3 | 52:BT:35:VAL:N | 2.15 | 0.62 |
| 56:BX:12:LYS:HZ2 | 56:BX:19:GLY:N | 1.97 | 0.62 |
| 56:BX:20:LYS:HG2 | 56:BX:21:TYR:N | 2.15 | 0.62 |
| 1:AB:6:C:N3 | 1:AB:114:G:O6 | 2.32 | 0.62 |
| 1:AB:89:G:C2 | 1:AB:89(A):A:N6 | 2.68 | 0.62 |
| 2:AA:58:G:O2' | 2:AA:71:A:N6 | 2.33 | 0.62 |
| 2:AA:111:A:H2' | 2:AA:112:U:H5" | 1.82 | 0.62 |
| 2:AA:184:C:HO2' | 2:AA:217:G:H21 | 1.47 | 0.62 |
| 2:AA:262:A:H4' | 2:AA:609(A):G:OP1 | 2.00 | 0.62 |
| 2:AA:318:C:C6 | 2:AA:318:C:OP2 | 2.52 | 0.62 |
| 2:AA:378:C:O2' | 2:AA:379:G:H5' | 1.99 | 0.62 |
| 2:AA:510:C:H3' | 2:AA:512:G:N2 | 2.13 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:617:G:OP2 | 6:AF:42:ARG:NH1 | 2.32 | 0.62 |
| 2:AA:713:G:N2 | 2:AA:714:U:C1' | 2.63 | 0.62 |
| 2:AA:976:C:C4' | 2:AA:1156:A:N6 | 2.62 | 0.62 |
| 2:AA:1011:G:O2' | 2:AA:1013:C:C5' | 2.47 | 0.62 |
| 2:AA:1078:U:H5" | 2:AA:1079:C:OP1 | 2.00 | 0.62 |
| 2:AA:1195:G:C2' | 2:AA:1226:G:N2 | 2.63 | 0.62 |
| 2:AA:1301:A:HO2' | 2:AA:1302:A:H8 | 1.48 | 0.62 |
| 2:AA:1394:U:H4' | 2:AA:1603:A:H5' | 1.82 | 0.62 |
| 2:AA:1476:C:H5 | 2:AA:1477:A:N3 | 1.97 | 0.62 |
| 2:AA:1818:U:O5' | 4:AD:155:ARG:CG | 2.40 | 0.62 |
| 2:AA:1950:G:C5 | 2:AA:1951:U:C5 | 2.88 | 0.62 |
| 2:AA:1957:C:C4 | 2:AA:1958:C:N4 | 2.68 | 0.62 |
| 2:AA:1987:G:H2' | 2:AA:1988:C:H6 | 1.65 | 0.62 |
| 2:AA:2043:C:O2 | 2:AA:2044:C:C6 | 2.52 | 0.62 |
| 2:AA:2181:G:C2 | 2:AA:2182:G:O4' | 2.53 | 0.62 |
| 2:AA:2238:G:H5" | 2:AA:2239:G:N7 | 2.14 | 0.62 |
| 2:AA:2247:A:H2' | 2:AA:2248:C:C6 | 2.33 | 0.62 |
| 2:AA:2284:C:N3 | 2:AA:2285:C:C4 | 2.67 | 0.62 |
| 2:AA:2424:C:C5' | 2:AA:2425:A:H5' | 2.30 | 0.62 |
| 2:AA:2513:G:C5 | 2:AA:2514:U:C4 | 2.87 | 0.62 |
| 2:AA:2515:C:C4 | 2:AA:2570:G:C6 | 2.88 | 0.62 |
| 2:AA:2792:G:C2 | 2:AA:2804:C:C4 | 2.88 | 0.62 |
| 3:AC:68:LEU:HB2 | 3:AC:157:LYS:O | 2.00 | 0.62 |
| 3:AC:110:PHE:CE1 | 3:AC:136:LEU:HB3 | 2.35 | 0.62 |
| 4:AD:204:PHE:N | 4:AD:204:PHE:CD1 | 2.66 | 0.62 |
| 5:AE:77:PRO:HB3 | 5:AE:188:ALA:N | 2.14 | 0.62 |
| 6:AF:59:GLU:O | 6:AF:61:PHE:CE2 | 2.53 | 0.62 |
| 6:AF:62:GLY:O | 6:AF:63:SER:OG | 2.16 | 0.62 |
| 6:AF:84:VAL:HG23 | 6:AF:85:LYS:NZ | 2.14 | 0.62 |
| 6:AF:93:LYS:HD3 | 6:AF:95:GLU:O | 1.99 | 0.62 |
| 8:AH:48:VAL:O | 8:AH:49:ILE:HG23 | 2.00 | 0.62 |
| 9:AI:64:LYS:HD3 | 9:AI:126:GLU:CD | 2.20 | 0.62 |
| 9:AJ:63:LEU:CD1 | 9:AJ:102:ILE:HD12 | 2.27 | 0.62 |
| 10:AK:59:ALA:HA | 10:AK:62:LEU:CD1 | 2.30 | 0.62 |
| 11:AL:45:GLU:OE1 | 11:AL:70:ILE:HD12 | 2.00 | 0.62 |
| 11:AL:79:LEU:HD23 | 11:AL:79:LEU:C | 2.20 | 0.62 |
| 13:AN:34:ASN:O | 13:AN:35:ILE:C | 2.37 | 0.62 |
| 14:AO:68:GLU:O | 14:AO:71:GLU:HG2 | 2.00 | 0.62 |
| 15:AP:42:TYR:O | 15:AP:125:TRP:HH2 | 1.82 | 0.62 |
| 16:AQ:48:VAL:HA | 16:AQ:55:ASP:OD1 | 1.99 | 0.62 |
| 20:AU:27:LEU:CD1 | 20:AU:31:LEU:HB2 | 2.30 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:80:GLU:CG | 20:AU:86:GLU:HG2 | 2.29 | 0.62 |
| 21:AV:15:ASP:O | 21:AV:16:GLU:CB | 2.48 | 0.62 |
| 21:AV:103:ARG:HH12 | 21:AV:139:THR:H | 1.44 | 0.62 |
| 21:AV:113:VAL:O | 21:AV:171:VAL:HA | 1.99 | 0.62 |
| 21:AV:147:ILE:HG13 | 21:AV:168:VAL:HG11 | 1.81 | 0.62 |
| 22:AW:45:ARG:HH21 | 22:AW:49:LEU:CG | 2.12 | 0.62 |
| 25:A1:57:PHE:O | 25:A1:58:ARG:C | 2.37 | 0.62 |
| 26:A2:15:SER:HA | 26:A2:99:GLN:NE2 | 2.15 | 0.62 |
| 27:A3:25:LYS:HZ1 | 27:A3:57:HIS:CE1 | 2.18 | 0.62 |
| 31:A7:18:PHE:O | 31:A7:19:ARG:C | 2.38 | 0.62 |
| 33:A9:9:LYS:CE | 33:A9:16:VAL:HG23 | 2.27 | 0.62 |
| 34:BA:22:G:H4' | 34:BA:885:G:C8 | 2.35 | 0.62 |
| 34:BA:296:U:H2' | 34:BA:297:G:H8 | 1.65 | 0.62 |
| 34:BA:597:G:H8 | 34:BA:597:G:O5' | 1.82 | 0.62 |
| 34:BA:665:A:N3 | 34:BA:732:C:C2 | 2.67 | 0.62 |
| 34:BA:841:U:H2' | 34:BA:848:C:OP1 | 2.00 | 0.62 |
| 34:BA:1062:U:H2' | 34:BA:1063:C:H6 | 1.60 | 0.62 |
| 34:BA:1104:G:H4' | 37:BE:111:ARG:NH1 | 2.15 | 0.62 |
| 34:BA:1125:U:O4 | 45:BM:5:ARG:NH1 | 2.33 | 0.62 |
| 34:BA:1225:A:C4' | 54:BV:78:ARG:HD3 | 2.29 | 0.62 |
| 34:BA:1227:A:O2' | 48:BP:115:LYS:CB | 2.48 | 0.62 |
| 34:BA:1234:C:C4' | 34:BA:1364:U:O2' | 2.48 | 0.62 |
| 34:BA:1381:U:H2' | 34:BA:1382:C:O5' | 2.00 | 0.62 |
| 34:BA:1394:A:N6 | 34:BA:1501:C:H5' | 2.15 | 0.62 |
| 34:BA:1504:G:H3' | 34:BA:1504:G:H8 | 1.65 | 0.62 |
| 35:BB:16:U:O2' | 35:BB:17:U:OP2 | 2.12 | 0.62 |
| 35:BC:9:A:H5" | 35:BC:10:G:OP2 | 2.00 | 0.62 |
| 38:BF:191:THR:O | 38:BF:193:TYR:N | 2.33 | 0.62 |
| 39:BG:11:LEU:O | 39:BG:12:CYS:C | 2.38 | 0.62 |
| 39:BG:92:VAL:O | 39:BG:96:LEU:HD12 | 2.00 | 0.62 |
| 41:BI:63:TYR:O | 41:BI:65:VAL:HG22 | 2.00 | 0.62 |
| 45:BM:9:ARG:O | 45:BM:94:VAL:HG13 | 1.99 | 0.62 |
| 45:BM:56:HIS:HB3 | 45:BM:59:SER:OG | 2.00 | 0.62 |
| 53:BU:30:ASP:C | 53:BU:32:ARG:H | 2.04 | 0.62 |
| 54:BV:41:VAL:HB | 54:BV:42:PRO:CD | 2.30 | 0.62 |
| 55:BW:13:LEU:O | 55:BW:14:LYS:C | 2.38 | 0.62 |
| 1:AB:10:C:O5' | 1:AB:10:C:C6 | 2.51 | 0.61 |
| 1:AB:74:U:H2' | 1:AB:75:G:H8 | 1.61 | 0.61 |
| 2:AA:119:A:H4' | 2:AA:120:U:C5' | 2.30 | 0.61 |
| 2:AA:176:G:H21 | 2:AA:177:G:C1' | 2.12 | 0.61 |
| 2:AA:247:G:H21 | 32:A8:8:LYS:HZ2 | 1.45 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:354:G:C2 | 2:AA:355:G:N7 | 2.68 | 0.61 |
| 2:AA:385:C:O2' | 2:AA:388:G:N2 | 2.31 | 0.61 |
| 2:AA:433:C:H2' | 2:AA:434:U:C6 | 2.35 | 0.61 |
| 2:AA:445:C:H2' | 25:A1:3:ARG:NH2 | 2.14 | 0.61 |
| 2:AA:452:G:H3' | 2:AA:453:C:C5' | 2.29 | 0.61 |
| 2:AA:452:G:OP1 | 6:AF:52:ALA:CB | 2.48 | 0.61 |
| 2:AA:592:G:N3 | 2:AA:592:G:H2' | 2.12 | 0.61 |
| 2:AA:617:G:O2' | 2:AA:618:G:O4' | 2.11 | 0.61 |
| 2:AA:678:C:N4 | 2:AA:799:G:N1 | 2.14 | 0.61 |
| 2:AA:681:G:C2 | 2:AA:682:G:C4 | 2.88 | 0.61 |
| 2:AA:722:A:N3 | 2:AA:723:G:C8 | 2.68 | 0.61 |
| 2:AA:729:G:N3 | 2:AA:729:G:C2' | 2.63 | 0.61 |
| 2:AA:830:G:O2' | 2:AA:831:G:P | 2.58 | 0.61 |
| 2:AA:865:C:H42 | 2:AA:909:A:H62 | 1.46 | 0.61 |
| 2:AA:974(A):C:H6 | 2:AA:1186:G:C2 | 2.18 | 0.61 |
| 2:AA:997:G:O3' | 25:A1:92:ARG:CZ | 2.47 | 0.61 |
| 2:AA:1025:G:C8 | 2:AA:1134:G:H1' | 2.35 | 0.61 |
| 2:AA:1165:U:C2' | 2:AA:1166:C:C6 | 2.83 | 0.61 |
| 2:AA:1392:A:H2' | 2:AA:1393:A:C4 | 2.35 | 0.61 |
| 2:AA:1609:A:N7 | 2:AA:1616:A:N3 | 2.48 | 0.61 |
| 2:AA:1691:C:C2' | 2:AA:1692:U:C5' | 2.74 | 0.61 |
| 2:AA:1725:G:N2 | 2:AA:1726:G:C8 | 2.68 | 0.61 |
| 2:AA:1790:C:OP2 | 4:AD:224:VAL:HG13 | 1.99 | 0.61 |
| 2:AA:1803:A:C8 | 2:AA:1804:C:C5 | 2.88 | 0.61 |
| 2:AA:1845:G:C2' | 2:AA:1846:G:H5' | 2.30 | 0.61 |
| 2:AA:1908:C:O2' | 2:AA:1909:C:O5' | 2.17 | 0.61 |
| 2:AA:1942:C:OP2 | 2:AA:1943:U:H3' | 2.01 | 0.61 |
| 2:AA:2124:G:C8 | 2:AA:2124:G:C3' | 2.79 | 0.61 |
| 2:AA:2483:C:C2 | 2:AA:2484:G:C8 | 2.88 | 0.61 |
| 2:AA:2505:G:N7 | 2:AA:2576:G:H2' | 2.15 | 0.61 |
| 2:AA:2531:A:C2' | 2:AA:2532:G:O5' | 2.49 | 0.61 |
| 2:AA:2576:G:C5' | 2:AA:2577:A:OP1 | 2.47 | 0.61 |
| 2:AA:2577:A:O2' | 29:A5:4:HIS:CD2 | 2.52 | 0.61 |
| 2:AA:2705:A:H2' | 2:AA:2706:G:C8 | 2.35 | 0.61 |
| 2:AA:2727:G:O3' | 13:AN:70:ARG:NH1 | 2.33 | 0.61 |
| 2:AA:2792:G:H1' | 2:AA:2805:G:N2 | 2.15 | 0.61 |
| 3:AC:49:ILE:HG13 | 3:AC:50:ASP:N | 2.14 | 0.61 |
| 3:AC:62:VAL:HG12 | 3:AC:163:PHE:HD2 | 1.64 | 0.61 |
| 3:AC:75:LEU:CD1 | 3:AC:107:TRP:CH2 | 2.83 | 0.61 |
| 3:AC:77:ILE:HD11 | 3:AC:113:VAL:HG11 | 1.81 | 0.61 |
| 3:AC:117:PRO:O | 3:AC:118:ASP:CG | 2.38 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:86:ARG:N | 4:AD:86:ARG:CD | 2.62 | 0.61 |
| 6:AF:59:GLU:OE2 | 6:AF:59:GLU:CA | 2.48 | 0.61 |
| 6:AF:87:ARG:NH1 | 6:AF:87:ARG:HG2 | 2.15 | 0.61 |
| 6:AF:144:PHE:CE2 | 6:AF:156:LEU:HD13 | 2.34 | 0.61 |
| 6:AF:220:THR:HA | 6:AF:224:ALA:HB2 | 1.81 | 0.61 |
| 7:AG:99:ASP:N | 7:AG:104:PHE:HD2 | 1.97 | 0.61 |
| 8:AH:87:GLU:CD | 8:AH:89:VAL:HG23 | 2.20 | 0.61 |
| 9:AI:69:ASN:HB3 | 9:AI:72:GLN:HG3 | 1.82 | 0.61 |
| 9:AJ:18:LEU:CD1 | 9:AJ:44:VAL:HG12 | 2.30 | 0.61 |
| 9:AJ:62:VAL:HA | 9:AJ:101:VAL:HA | 1.81 | 0.61 |
| 11:AL:11:LEU:HD11 | 11:AL:58:ILE:HD12 | 1.82 | 0.61 |
| 11:AL:17:LYS:O | 11:AL:18:ALA:HB2 | 1.99 | 0.61 |
| 11:AL:42:PHE:CZ | 11:AL:58:ILE:HD11 | 2.35 | 0.61 |
| 13:AN:7:ARG:CZ | 13:AN:44:LYS:CD | 2.77 | 0.61 |
| 13:AN:11:ALA:CB | 13:AN:99:PHE:HB3 | 2.30 | 0.61 |
| 15:AP:84:ARG:NH2 | 15:AP:123:ILE:HD12 | 2.15 | 0.61 |
| 20:AU:49:GLU:OE2 | 20:AU:97:ARG:CZ | 2.48 | 0.61 |
| 21:AV:40:ASP:C | 21:AV:44:ARG:HG2 | 2.19 | 0.61 |
| 21:AV:48:THR:HG22 | 21:AV:48:THR:O | 2.00 | 0.61 |
| 23:AX:37:LEU:CB | 23:AX:43:ILE:HG21 | 2.30 | 0.61 |
| 25:A1:75:ASN:O | 25:A1:78:THR:OG1 | 2.14 | 0.61 |
| 26:A2:62:GLU:CG | 26:A2:98:ILE:HD11 | 2.21 | 0.61 |
| 34:BA:15:G:C4' | 40:BH:24:ARG:HH12 | 2.12 | 0.61 |
| 34:BA:22:G:C3' | 34:BA:23:C:H6 | 2.13 | 0.61 |
| 34:BA:110:C:O2 | 34:BA:111:G:O4' | 2.18 | 0.61 |
| 34:BA:113:G:C8 | 34:BA:114:U:H5 | 2.18 | 0.61 |
| 34:BA:164:U:H2' | 34:BA:165:C:C6 | 2.35 | 0.61 |
| 34:BA:164:U:H2' | 34:BA:165:C:C5 | 2.35 | 0.61 |
| 34:BA:238:G:N2 | 34:BA:239:U:C2 | 2.68 | 0.61 |
| 34:BA:246:A:N1 | 34:BA:279:A:N7 | 2.48 | 0.61 |
| 34:BA:327:A:C6 | 34:BA:329:A:C6 | 2.88 | 0.61 |
| 34:BA:506:G:O6 | 34:BA:525:C:N4 | 2.33 | 0.61 |
| 34:BA:972:C:H2' | 34:BA:973:G:C8 | 2.35 | 0.61 |
| 34:BA:994:A:H2 | 49:BQ:4:LYS:HB3 | 1.64 | 0.61 |
| 34:BA:1117:G:C6 | 34:BA:1184:G:C6 | 2.88 | 0.61 |
| 34:BA:1230:C:O2' | 48:BP:126:LYS:HG3 | 2.00 | 0.61 |
| 34:BA:1244:C:P | 56:BX:9:ARG:HD3 | 2.39 | 0.61 |
| 34:BA:1261:A:C2 | 34:BA:1262:C:C2 | 2.87 | 0.61 |
| 34:BA:1266:G:N2 | 34:BA:1270:C:N4 | 2.47 | 0.61 |
| 34:BA:1298:C:C3' | 42:BJ:114:ARG:NH1 | 2.60 | 0.61 |
| 35:BB:72:C:N3 | 35:BB:73:A:C8 | 2.68 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:40:HIS:C | 37:BE:41:ILE:HD12 | 2.19 | 0.61 |
| 37:BE:100:GLY:O | 37:BE:104:ASN:HB3 | 2.00 | 0.61 |
| 37:BE:101:MET:HA | 37:BE:108:ILE:CD1 | 2.30 | 0.61 |
| 38:BF:65:ALA:O | 38:BF:66:VAL:HB | 1.99 | 0.61 |
| 39:BG:13:ARG:NH1 | 39:BG:36:ARG:HB3 | 2.14 | 0.61 |
| 39:BG:26:CYS:C | 39:BG:31:CYS:HB2 | 2.20 | 0.61 |
| 39:BG:114:ARG:O | 39:BG:117:ALA:HB3 | 2.00 | 0.61 |
| 40:BH:35:GLY:HA3 | 40:BH:112:LEU:HD12 | 1.81 | 0.61 |
| 40:BH:78:HIS:HB3 | 43:BK:107:LEU:CG | 2.30 | 0.61 |
| 41:BI:31:GLU:O | 41:BI:34:GLY:N | 2.33 | 0.61 |
| 42:BJ:94:ARG:NH1 | 42:BJ:94:ARG:HG3 | 2.13 | 0.61 |
| 43:BK:34:GLU:OE2 | 43:BK:118:VAL:HG23 | 1.99 | 0.61 |
| 45:BM:94:VAL:HG12 | 45:BM:95:GLU:N | 2.08 | 0.61 |
| 46:BN:88:GLY:O | 46:BN:90:GLY:N | 2.32 | 0.61 |
| 47:BO:117:ARG:HH21 | 47:BO:123:LYS:CA | 2.13 | 0.61 |
| 52:BT:29:HIS:CE1 | 52:BT:31:LEU:HB3 | 2.35 | 0.61 |
| 54:BV:15:LEU:HD12 | 54:BV:44:MET:CE | 2.29 | 0.61 |
| 2:AA:74:A:H4' | 2:AA:75:G:O4' | 2.00 | 0.61 |
| 2:AA:81:G:C2 | 2:AA:106:C:C4 | 2.87 | 0.61 |
| 2:AA:187:G:C2' | 2:AA:188:G:H5' | 2.31 | 0.61 |
| 2:AA:290:G:C2 | 2:AA:350:U:C2 | 2.87 | 0.61 |
| 2:AA:440:G:OP1 | 20:AU:3:GLN:HG3 | 2.01 | 0.61 |
| 2:AA:461:C:O2 | 2:AA:461:C:H2' | 1.99 | 0.61 |
| 2:AA:558:G:H2' | 2:AA:559:G:H5' | 1.81 | 0.61 |
| 2:AA:569:U:O4' | 2:AA:946:G:O2' | 2.15 | 0.61 |
| 2:AA:629:G:OP1 | 32:A8:17:THR:HG22 | 2.00 | 0.61 |
| 2:AA:701:G:H2' | 2:AA:702:G:H8 | 1.65 | 0.61 |
| 2:AA:789:A:C2' | 2:AA:790:C:OP1 | 2.48 | 0.61 |
| 2:AA:823:G:C2' | 2:AA:824:A:C8 | 2.76 | 0.61 |
| 2:AA:865:C:H42 | 2:AA:909:A:N6 | 1.98 | 0.61 |
| 2:AA:901:A:C5 | 2:AA:902:C:C5 | 2.87 | 0.61 |
| 2:AA:1144:G:O2' | 2:AA:1145:C:H5' | 2.00 | 0.61 |
| 2:AA:1155:A:O3' | 25:A1:55:ARG:NH2 | 2.33 | 0.61 |
| 2:AA:1288:U:C2 | 2:AA:1327:C:C2 | 2.88 | 0.61 |
| 2:AA:1300:U:N1 | 2:AA:1626:G:N2 | 2.47 | 0.61 |
| 2:AA:1587:A:C6 | 2:AA:1588:C:N4 | 2.68 | 0.61 |
| 2:AA:1899:G:H2' | 2:AA:1900:A:OP2 | 1.99 | 0.61 |
| 2:AA:1923:U:HO2' | 35:BC:12:U:H1' | 1.64 | 0.61 |
| 2:AA:2056:G:N1 | 29:A5:4:HIS:O | 2.33 | 0.61 |
| 2:AA:2090:G:H1 | 2:AA:2227:A:N6 | 1.98 | 0.61 |
| 2:AA:2287:A:N1 | 2:AA:2346:A:N7 | 2.48 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2320:A:H62 | 16:AQ:9:PRO:CG | 2.12 | 0.61 |
| 2:AA:2343:C:C2' | 2:AA:2344:U:H5' | 2.30 | 0.61 |
| 2:AA:2471:C:C2' | 2:AA:2472:G:O5' | 2.47 | 0.61 |
| 2:AA:2481:G:HO2' | 2:AA:2482:G:H8 | 1.48 | 0.61 |
| 2:AA:2553:G:O6 | 2:AA:2554:U:O2 | 2.18 | 0.61 |
| 2:AA:2571:C:O2' | 5:AE:243:PRO:HD3 | 2.00 | 0.61 |
| 2:AA:2726:U:C3' | 2:AA:2727:G:H8 | 2.13 | 0.61 |
| 2:AA:2769:C:H2' | 2:AA:2770:G:C5' | 2.30 | 0.61 |
| 2:AA:2776:A:C1' | 2:AA:2778:A:C8 | 2.80 | 0.61 |
| 2:AA:2822:G:H5" | 5:AE:258:TYR:CZ | 2.35 | 0.61 |
| 2:AA:2840:C:C5' | 24:A0:53:HIS:CD2 | 2.83 | 0.61 |
| 4:AD:128:ALA:HB2 | 4:AD:190:THR:HB | 1.80 | 0.61 |
| 5:AE:75:THR:O | 5:AE:292:PRO:HB2 | 2.00 | 0.61 |
| 7:AG:103:ASN:OD1 | 7:AG:133:ASN:HA | 1.99 | 0.61 |
| 8:AH:18:VAL:HG21 | 8:AH:44:VAL:CG1 | 2.29 | 0.61 |
| 8:AH:37:HIS:NE2 | 8:AH:64:HIS:HE1 | 1.96 | 0.61 |
| 8:AH:101:LYS:NZ | 8:AH:115:GLU:HB2 | 2.15 | 0.61 |
| 9:AJ:63:LEU:HD13 | 9:AJ:66:PHE:CZ | 2.35 | 0.61 |
| 10:AK:75:LEU:HD13 | 10:AK:76:THR:N | 2.03 | 0.61 |
| 12:AM:15:ARG:CA | 12:AM:44:ALA:HA | 2.29 | 0.61 |
| 13:AN:87:ILE:HG22 | 13:AN:88:ARG:N | 2.14 | 0.61 |
| 13:AN:106:LEU:CD1 | 13:AN:114:ILE:HG21 | 2.31 | 0.61 |
| 15:AP:28:ILE:HG12 | 15:AP:62:GLU:OE2 | 1.99 | 0.61 |
| 15:AP:87:LYS:NZ | 15:AP:115:SER:HA | 2.14 | 0.61 |
| 15:AP:118:ALA:O | 15:AP:119:ASN:HB3 | 2.01 | 0.61 |
| 16:AQ:32:PRO:HD2 | 16:AQ:101:VAL:H | 1.65 | 0.61 |
| 18:AS:23:LEU:HD21 | 29:A5:27:ALA:CB | 2.29 | 0.61 |
| 23:AX:12:PRO:HG2 | 23:AX:13:ILE:HD13 | 1.82 | 0.61 |
| 23:AX:26:LEU:CD2 | 23:AX:46:ASN:HB3 | 2.30 | 0.61 |
| 23:AX:54:VAL:HG23 | 23:AX:55:ARG:N | 2.14 | 0.61 |
| 26:A2:10:LYS:O | 26:A2:12:TYR:N | 2.32 | 0.61 |
| 28:A4:7:PRO:HG2 | 28:A4:60:ASN:CB | 2.30 | 0.61 |
| 28:A4:15:ILE:HG12 | 28:A4:36:TRP:CZ3 | 2.35 | 0.61 |
| 29:A5:15:LYS:HB2 | 29:A5:15:LYS:HZ3 | 1.62 | 0.61 |
| 31:A7:21:ARG:HD2 | 31:A7:31:LEU:HD22 | 1.82 | 0.61 |
| 34:BA:8:A:OP1 | 34:BA:8:A:H3' | 1.99 | 0.61 |
| 34:BA:55:A:H2' | 34:BA:56:U:O4' | 2.00 | 0.61 |
| 34:BA:285:G:H2' | 34:BA:286:G:H8 | 1.64 | 0.61 |
| 34:BA:292:G:N2 | 34:BA:309:G:C4 | 2.68 | 0.61 |
| 34:BA:440:A:OP2 | 34:BA:442:C:H5 | 1.83 | 0.61 |
| 34:BA:522:C:H2' | 34:BA:523:A:O5' | 2.00 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:709:G:O2' | 34:BA:710:G:H5' | 2.00 | 0.61 |
| 34:BA:866:C:C5 | 34:BA:867:G:H1' | 2.35 | 0.61 |
| 34:BA:887:G:H2' | 34:BA:888:G:C8 | 2.35 | 0.61 |
| 34:BA:1044:A:H2' | 34:BA:1045:C:C5' | 2.30 | 0.61 |
| 34:BA:1127:G:H22 | 34:BA:1144:G:N2 | 1.98 | 0.61 |
| 34:BA:1240:U:OP2 | 42:BJ:116:ALA:N | 2.26 | 0.61 |
| 34:BA:1256:A:C8 | 38:BF:27:LYS:NZ | 2.63 | 0.61 |
| 34:BA:1299:A:O2' | 34:BA:1300:G:O5' | 2.07 | 0.61 |
| 34:BA:1397:C:O2' | 34:BA:1398:A:OP2 | 2.15 | 0.61 |
| 36:B1:46:A:OP2 | 36:B1:47:U:H5 | 1.82 | 0.61 |
| 37:BE:115:LEU:CB | 37:BE:145:LEU:HD12 | 2.23 | 0.61 |
| 37:BE:218:ALA:C | 37:BE:220:ASP:N | 2.51 | 0.61 |
| 38:BF:8:ILE:O | 38:BF:11:ARG:N | 2.31 | 0.61 |
| 42:BJ:49:ILE:HG23 | 42:BJ:53:LYS:HG3 | 1.83 | 0.61 |
| 42:BJ:71:PRO:HD3 | 42:BJ:103:TRP:HZ3 | 1.65 | 0.61 |
| 43:BK:9:MET:O | 43:BK:11:THR:N | 2.33 | 0.61 |
| 43:BK:28:ALA:O | 43:BK:29:SER:HB2 | 2.00 | 0.61 |
| 45:BM:25:GLU:O | 45:BM:28:ARG:HB2 | 1.99 | 0.61 |
| 45:BM:55:LYS:O | 45:BM:56:HIS:CG | 2.53 | 0.61 |
| 46:BN:84:VAL:HG23 | 46:BN:111:ASP:H | 1.64 | 0.61 |
| 52:BT:5:VAL:CG1 | 52:BT:6:LEU:N | 2.62 | 0.61 |
| 52:BT:11:VAL:HG22 | 52:BT:20:THR:CB | 2.30 | 0.61 |
| 52:BT:86:GLU:HA | 52:BT:89:LEU:HD12 | 1.82 | 0.61 |
| 54:BV:39:THR:O | 54:BV:41:VAL:HG13 | 1.99 | 0.61 |
| 55:BW:61:SER:O | 55:BW:65:LYS:HG2 | 2.00 | 0.61 |
| 1:AB:45:A:N3 | 1:AB:45:A:H2' | 2.15 | 0.61 |
| 2:AA:65:C:N3 | 2:AA:66:C:H5 | 1.99 | 0.61 |
| 2:AA:213:A:H2' | 2:AA:214:G:O4' | 1.99 | 0.61 |
| 2:AA:238:C:H2' | 2:AA:239:U:O5' | 2.00 | 0.61 |
| 2:AA:332:A:H2' | 2:AA:334:C:OP2 | 2.00 | 0.61 |
| 2:AA:498:G:C8 | 2:AA:498:G:H3' | 2.35 | 0.61 |
| 2:AA:673:C:O3' | 6:AF:80:VAL:HG11 | 2.00 | 0.61 |
| 2:AA:780:G:C2' | 2:AA:782:A:N7 | 2.56 | 0.61 |
| 2:AA:853:G:N2 | 2:AA:924:C:N3 | 2.47 | 0.61 |
| 2:AA:1176:G:C8 | 2:AA:1177:A:O4' | 2.53 | 0.61 |
| 2:AA:1265:A:O5' | 2:AA:1267:U:O2 | 2.18 | 0.61 |
| 2:AA:1418:G:OP1 | 2:AA:1588:C:C4' | 2.48 | 0.61 |
| 2:AA:1510:A:H8 | 2:AA:1511:A:C6 | 2.13 | 0.61 |
| 2:AA:1572:A:N3 | 2:AA:1572:A:H2' | 2.16 | 0.61 |
| 2:AA:1576:U:C5 | 2:AA:1577:C:N3 | 2.68 | 0.61 |
| 2:AA:1814:G:H2' | 2:AA:1815:A:N7 | 2.15 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1992:G:O2' | 2:AA:1993:U:OP2 | 2.12 | 0.61 |
| 2:AA:2009:G:C5' | 18:AS:40:ASN:HD21 | 2.12 | 0.61 |
| 2:AA:2103:C:N4 | 2:AA:2186:G:N1 | 2.26 | 0.61 |
| 2:AA:2137:C:P | 2:AA:2137:C:O4' | 2.58 | 0.61 |
| 2:AA:2305:A:H3' | 2:AA:2305:A:H8 | 1.64 | 0.61 |
| 2:AA:2432:A:C2 | 2:AA:2433:A:N1 | 2.68 | 0.61 |
| 2:AA:2530:A:H2' | 2:AA:2531:A:C5' | 2.14 | 0.61 |
| 2:AA:2626:C:O5' | 2:AA:2626:C:C6 | 2.48 | 0.61 |
| 2:AA:2720:U:C2' | 2:AA:2720:U:O2 | 2.47 | 0.61 |
| 2:AA:2792:G:N2 | 2:AA:2793:G:C2 | 2.68 | 0.61 |
| 4:AD:94:ASN:OD1 | 4:AD:100:LYS:HD3 | 2.00 | 0.61 |
| 4:AD:116:MET:O | 4:AD:127:ASN:OD1 | 2.18 | 0.61 |
| 6:AF:52:ALA:HA | 6:AF:55:ARG:NH2 | 2.15 | 0.61 |
| 6:AF:91:PRO:HB2 | 6:AF:92:PRO:CD | 2.30 | 0.61 |
| 7:AG:23:VAL:C | 7:AG:24:HIS:CG | 2.73 | 0.61 |
| 7:AG:29:HIS:ND1 | 7:AG:69:ILE:CG1 | 2.63 | 0.61 |
| 7:AG:80:ALA:O | 7:AG:84:LEU:HG | 2.00 | 0.61 |
| 8:AH:9:GLU:C | 8:AH:49:ILE:HD11 | 2.20 | 0.61 |
| 8:AH:37:HIS:CG | 8:AH:40:MET:SD | 2.93 | 0.61 |
| 8:AH:93:TYR:CE2 | 8:AH:159:LYS:HE2 | 2.35 | 0.61 |
| 8:AH:169:ARG:HA | 8:AH:169:ARG:HE | 1.66 | 0.61 |
| 10:AK:3:VAL:HB | 10:AK:19:LYS:C | 2.12 | 0.61 |
| 11:AL:114:PRO:C | 11:AL:116:LEU:N | 2.52 | 0.61 |
| 12:AM:54:VAL:HG13 | 12:AM:138:THR:OG1 | 2.00 | 0.61 |
| 13:AN:2:ILE:N | 13:AN:67:ARG:NH2 | 2.48 | 0.61 |
| 13:AN:78:ARG:HB2 | 17:AR:21:PHE:CD1 | 2.35 | 0.61 |
| 14:AO:69:ILE:HB | 14:AO:73:VAL:HG21 | 1.81 | 0.61 |
| 15:AP:59:ASN:HD22 | 15:AP:60:ALA:H | 1.44 | 0.61 |
| 15:AP:140:TYR:O | 15:AP:141:MET:C | 2.37 | 0.61 |
| 16:AQ:22:GLN:C | 16:AQ:25:ARG:HB3 | 2.17 | 0.61 |
| 20:AU:62:VAL:CA | 20:AU:74:VAL:HG22 | 2.28 | 0.61 |
| 21:AV:104:SER:O | 21:AV:105:GLN:NE2 | 2.32 | 0.61 |
| 21:AV:118:HIS:CE1 | 21:AV:167:THR:C | 2.73 | 0.61 |
| 21:AV:123:VAL:HA | 21:AV:161:ALA:HB2 | 1.81 | 0.61 |
| 21:AV:168:VAL:O | 21:AV:169:VAL:CG2 | 2.47 | 0.61 |
| 24:A0:50:HIS:CE1 | 24:A0:54:LEU:HD21 | 2.35 | 0.61 |
| 24:A0:89:ASP:CG | 24:A0:90:ARG:N | 2.52 | 0.61 |
| 24:A0:97:VAL:HG22 | 24:A0:114:VAL:CG1 | 2.31 | 0.61 |
| 25:A1:47:TYR:OH | 26:A2:76:SER:N | 2.33 | 0.61 |
| 26:A2:87:ARG:NH1 | 26:A2:87:ARG:CB | 2.63 | 0.61 |
| 28:A4:54:GLY:O | 28:A4:55:ARG:CB | 2.48 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:A6:35:LEU:O | 30:A6:36:GLU:HG3 | 2.00 | 0.61 |
| 31:A7:30:ILE:CD1 | 31:A7:33:ARG:NH1 | 2.62 | 0.61 |
| 34:BA:15:G:O6 | 34:BA:1396:A:C6 | 2.53 | 0.61 |
| 34:BA:133:U:O2' | 34:BA:134:A:C8 | 2.47 | 0.61 |
| 34:BA:246:A:N1 | 34:BA:279:A:C5 | 2.68 | 0.61 |
| 34:BA:259:G:H2' | 34:BA:260:G:C8 | 2.35 | 0.61 |
| 34:BA:370:C:H2' | 34:BA:371:G:H8 | 1.66 | 0.61 |
| 34:BA:462:G:N2 | 51:BS:82:GLN:NE2 | 2.34 | 0.61 |
| 34:BA:607:A:C2 | 34:BA:608:A:H1' | 2.36 | 0.61 |
| 34:BA:703:G:O2' | 34:BA:704:A:OP2 | 2.17 | 0.61 |
| 34:BA:771:G:H2' | 34:BA:772:U:C6 | 2.32 | 0.61 |
| 34:BA:780:A:H3' | 34:BA:780:A:C8 | 2.34 | 0.61 |
| 34:BA:900:A:H2' | 34:BA:901:A:O5' | 2.00 | 0.61 |
| 34:BA:932:C:H5" | 42:BJ:3:ARG:HB3 | 1.81 | 0.61 |
| 34:BA:1181:G:H2' | 34:BA:1182:G:O4' | 2.00 | 0.61 |
| 34:BA:1191:A:N3 | 34:BA:1191:A:H2' | 2.15 | 0.61 |
| 34:BA:1250:A:OP1 | 44:BL:66:ARG:CD | 2.48 | 0.61 |
| 34:BA:1258:G:H1 | 34:BA:1277:C:H42 | 1.49 | 0.61 |
| 34:BA:1314:C:N4 | 54:BV:4:SER:OG | 2.33 | 0.61 |
| 35:BB:8:U:O5' | 35:BB:8:U:H6 | 1.82 | 0.61 |
| 35:BB:54:U:H6 | 35:BB:54:U:C4' | 2.13 | 0.61 |
| 35:BC:33:U:H3' | 35:BC:33:U:H6 | 1.64 | 0.61 |
| 37:BE:77:ALA:CB | 37:BE:80:ILE:HD12 | 2.30 | 0.61 |
| 37:BE:221:LEU:O | 37:BE:221:LEU:HD22 | 2.00 | 0.61 |
| 40:BH:20:GLN:O | 40:BH:23:GLY:O | 2.19 | 0.61 |
| 40:BH:91:LEU:HA | 40:BH:119:LEU:O | 2.00 | 0.61 |
| 40:BH:149:GLU:O | 40:BH:152:ARG:N | 2.34 | 0.61 |
| 42:BJ:50:ILE:HG21 | 42:BJ:58:PRO:HA | 1.83 | 0.61 |
| 42:BJ:116:ALA:O | 42:BJ:117:ALA:C | 2.38 | 0.61 |
| 42:BJ:139:GLU:O | 42:BJ:142:GLU:HB2 | 2.00 | 0.61 |
| 44:BL:97:LYS:HB3 | 44:BL:98:PRO:HD3 | 1.82 | 0.61 |
| 46:BN:20:TYR:CE1 | 46:BN:83:ILE:HD13 | 2.36 | 0.61 |
| 46:BN:27:ASN:OD1 | 46:BN:55:LYS:HD2 | 2.00 | 0.61 |
| 48:BP:120:LYS:CG | 48:BP:121:LYS:N | 2.63 | 0.61 |
| 52:BT:70:ARG:O | 52:BT:71:PHE:HD1 | 1.83 | 0.61 |
| 54:BV:15:LEU:O | 54:BV:16:LEU:C | 2.38 | 0.61 |
| 2:AA:172:C:O5' | 2:AA:172:C:H6 | 1.82 | 0.61 |
| 2:AA:478:A:O2' | 20:AU:90:PRO:HG3 | 2.00 | 0.61 |
| 2:AA:565:C:OP2 | 26:A2:79:GLN:HB3 | 2.00 | 0.61 |
| 2:AA:611:C:H6 | 2:AA:618:G:H22 | 1.47 | 0.61 |
| 2:AA:625:G:H2' | 2:AA:626:U:H5' | 1.82 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:749:C:O2' | 2:AA:1617:C:C2' | 2.48 | 0.61 |
| 2:AA:792:G:C8 | 2:AA:2440:C:O2 | 2.54 | 0.61 |
| 2:AA:989:G:H21 | 2:AA:990:A:H62 | 1.46 | 0.61 |
| 2:AA:1092:C:C6 | 2:AA:1092:C:C3' | 2.84 | 0.61 |
| 2:AA:1305:C:O2' | 2:AA:1306:C:C5' | 2.49 | 0.61 |
| 2:AA:1612:C:H2' | 31:A7:3:ARG:HE | 1.62 | 0.61 |
| 2:AA:1808:U:H2' | 2:AA:1808:U:O2 | 2.00 | 0.61 |
| 2:AA:1834:U:H2' | 2:AA:1834:U:O2 | 1.99 | 0.61 |
| 2:AA:1949:G:H2' | 2:AA:1950:G:H8 | 1.63 | 0.61 |
| 2:AA:2046:G:OP1 | 29:A5:18:MET:C | 2.39 | 0.61 |
| 2:AA:2191:G:H2' | 2:AA:2192:G:O4' | 1.99 | 0.61 |
| 2:AA:2395:C:H5" | 28:A4:28:ARG:NH1 | 2.15 | 0.61 |
| 2:AA:2476:A:C2' | 2:AA:2477:C:H5' | 2.31 | 0.61 |
| 2:AA:2479:G:H2' | 2:AA:2480:C:O4' | 2.00 | 0.61 |
| 2:AA:2575:C:C2' | 5:AE:237:ASN:ND2 | 2.63 | 0.61 |
| 2:AA:2637:U:H2' | 2:AA:2638:G:C1' | 2.30 | 0.61 |
| 2:AA:2686:G:C6 | 2:AA:2687:U:C5 | 2.89 | 0.61 |
| 2:AA:2885:C:N4 | 2:AA:2886:G:C8 | 2.68 | 0.61 |
| 4:AD:70:LYS:O | 4:AD:70:LYS:CG | 2.48 | 0.61 |
| 4:AD:118:GLY:O | 4:AD:119:PRO:C | 2.39 | 0.61 |
| 4:AD:140:VAL:HG11 | 4:AD:189:ALA:HB1 | 1.82 | 0.61 |
| 5:AE:41:PHE:HZ | 5:AE:173:ARG:HD3 | 1.63 | 0.61 |
| 5:AE:220:GLN:OE1 | 5:AE:223:LYS:NZ | 2.33 | 0.61 |
| 5:AE:268:LEU:HD11 | 5:AE:294:THR:HB | 1.81 | 0.61 |
| 6:AF:56:THR:HB | 6:AF:57:PRO:CD | 2.29 | 0.61 |
| 6:AF:200:PRO:HD3 | 6:AF:214:THR:CG2 | 2.30 | 0.61 |
| 7:AG:38:GLU:HA | 7:AG:41:LEU:HG | 1.81 | 0.61 |
| 8:AH:112:VAL:HG12 | 8:AH:113:GLU:N | 2.15 | 0.61 |
| 8:AH:168:VAL:HG12 | 8:AH:169:ARG:N | 2.13 | 0.61 |
| 9:AI:83:LEU:CD1 | 9:AI:91:LEU:HD12 | 2.31 | 0.61 |
| 9:AJ:71:ILE:CD1 | 11:AL:62:GLU:H | 2.13 | 0.61 |
| 9:AJ:86:LYS:NZ | 11:AL:10:LYS:HD2 | 2.16 | 0.61 |
| 13:AN:2:ILE:HG22 | 13:AN:21:VAL:HG21 | 1.82 | 0.61 |
| 13:AN:79:PHE:C | 13:AN:81:GLU:H | 2.03 | 0.61 |
| 15:AP:45:GLN:HA | 15:AP:125:TRP:CD1 | 2.36 | 0.61 |
| 15:AP:46:VAL:O | 15:AP:124:ALA:O | 2.18 | 0.61 |
| 15:AP:140:TYR:O | 15:AP:142:LYS:N | 2.33 | 0.61 |
| 18:AS:69:LEU:HA | 18:AS:109:GLU:HA | 1.83 | 0.61 |
| 18:AS:82:LEU:CB | 18:AS:98:LYS:HB2 | 2.26 | 0.61 |
| 20:AU:21:LYS:CG | 20:AU:22:GLN:N | 2.63 | 0.61 |
| 20:AU:108:ARG:O | 20:AU:112:LEU:HD23 | 2.00 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:20:LYS:HA | 23:AX:23:LEU:HG | 1.82 | 0.61 |
| 23:AX:40:THR:HG23 | 23:AX:43:ILE:HG12 | 1.82 | 0.61 |
| 24:A0:41:ALA:HB1 | 24:A0:114:VAL:CG2 | 2.28 | 0.61 |
| 25:A1:115:ASN:O | 25:A1:117:ARG:N | 2.33 | 0.61 |
| 30:A6:19:GLY:CA | 30:A6:44:ALA:HB3 | 2.30 | 0.61 |
| 34:BA:8:A:H61 | 39:BG:209:ARG:HB2 | 1.65 | 0.61 |
| 34:BA:106:C:O2 | 34:BA:379:C:C5' | 2.48 | 0.61 |
| 34:BA:254:G:O2' | 52:BT:18:THR:OG1 | 2.14 | 0.61 |
| 34:BA:284:G:O2' | 34:BA:285:G:H5' | 2.00 | 0.61 |
| 34:BA:375:U:H2' | 34:BA:376:G:H8 | 1.65 | 0.61 |
| 34:BA:543:C:H2' | 34:BA:544:G:H8 | 1.64 | 0.61 |
| 34:BA:640:A:O2' | 34:BA:641:U:H5' | 1.99 | 0.61 |
| 34:BA:676:A:O4' | 46:BN:115:PRO:HA | 2.01 | 0.61 |
| 34:BA:687:A:C8 | 34:BA:701:C:N4 | 2.68 | 0.61 |
| 34:BA:1044:A:C2' | 34:BA:1045:C:H5' | 2.30 | 0.61 |
| 34:BA:1235:U:H5" | 56:BX:3:LYS:CB | 2.29 | 0.61 |
| 34:BA:1274:G:H2' | 34:BA:1275:A:C8 | 2.29 | 0.61 |
| 34:BA:1319:A:C2 | 34:BA:1361:G:N2 | 2.68 | 0.61 |
| 34:BA:1409:C:H2' | 34:BA:1410:G:H8 | 1.63 | 0.61 |
| 35:BB:6:U:C2 | 35:BB:7:U:C6 | 2.88 | 0.61 |
| 35:BB:34:G:H21 | 35:BB:35:A:H2 | 1.31 | 0.61 |
| 35:BC:50:U:N3 | 35:BC:65:G:C2 | 2.68 | 0.61 |
| 37:BE:16:HIS:CE1 | 37:BE:213:LEU:CD1 | 2.81 | 0.61 |
| 37:BE:25:ASN:OD1 | 37:BE:27:LYS:HB2 | 1.99 | 0.61 |
| 37:BE:132:LYS:HB2 | 37:BE:133:LYS:HE3 | 1.83 | 0.61 |
| 42:BJ:126:ASP:O | 42:BJ:129:GLU:CB | 2.41 | 0.61 |
| 43:BK:25:ASP:OD2 | 43:BK:58:TYR:CD2 | 2.53 | 0.61 |
| 44:BL:93:ARG:NE | 44:BL:97:LYS:HB2 | 2.16 | 0.61 |
| 48:BP:63:THR:CG2 | 48:BP:64:TRP:H | 2.13 | 0.61 |
| 49:BQ:17:LYS:O | 49:BQ:19:ARG:N | 2.33 | 0.61 |
| 49:BQ:40:CYS:N | 49:BQ:43:CYS:SG | 2.71 | 0.61 |
| 51:BS:32:TYR:HD1 | 51:BS:32:TYR:N | 1.98 | 0.61 |
| 53:BU:63:GLN:HA | 53:BU:66:LEU:CD1 | 2.30 | 0.61 |
| 55:BW:46:GLU:HB2 | 55:BW:48:LYS:CD | 2.30 | 0.61 |
| 1:AB:9:G:OP1 | 16:AQ:23:ARG:CZ | 2.48 | 0.61 |
| 1:AB:29:A:H2' | 1:AB:30:C:O4' | 2.00 | 0.61 |
| 1:AB:76:G:H4' | 21:AV:80:HIS:HB3 | 1.81 | 0.61 |
| 2:AA:13:A:O2' | 2:AA:14:A:P | 2.58 | 0.61 |
| 2:AA:99:U:N3 | 20:AU:107:LYS:HD3 | 2.16 | 0.61 |
| 2:AA:181:A:H5' | 2:AA:181:A:C8 | 2.36 | 0.61 |
| 2:AA:305:U:H3 | 2:AA:312:G:H1 | 1.46 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:363(D):G:O2' | 2:AA:363(E):U:C5' | 2.48 | 0.61 |
| 2:AA:417:C:N3 | 2:AA:2407:G:C6 | 2.69 | 0.61 |
| 2:AA:422:A:N1 | 2:AA:423:A:C2 | 2.68 | 0.61 |
| 2:AA:500:G:C2' | 2:AA:502:A:OP2 | 2.48 | 0.61 |
| 2:AA:510:C:H3' | 2:AA:512:G:C2 | 2.35 | 0.61 |
| 2:AA:527:C:C5' | 2:AA:2779:U:O2 | 2.47 | 0.61 |
| 2:AA:565:C:OP1 | 26:A2:79:GLN:O | 2.17 | 0.61 |
| 2:AA:996:A:N6 | 2:AA:1160:G:O6 | 2.33 | 0.61 |
| 2:AA:1106:G:C6 | 2:AA:1107:G:C6 | 2.88 | 0.61 |
| 2:AA:1315:C:O2' | 2:AA:1392:A:O2' | 2.02 | 0.61 |
| 2:AA:1422:G:C4 | 2:AA:1423:G:C8 | 2.89 | 0.61 |
| 2:AA:1424:G:H2' | 2:AA:1425:G:O5' | 2.00 | 0.61 |
| 2:AA:1458:C:O2' | 2:AA:1459:G:C2 | 2.52 | 0.61 |
| 2:AA:1479:G:N2 | 2:AA:1515:C:C5 | 2.68 | 0.61 |
| 2:AA:1494:A:C2 | 2:AA:1495:A:H5' | 2.35 | 0.61 |
| 2:AA:1553:A:C6 | 2:AA:1556:C:C5 | 2.89 | 0.61 |
| 2:AA:1589:C:C2 | 2:AA:1590:U:C6 | 2.89 | 0.61 |
| 2:AA:1664:A:N7 | 2:AA:1664:A:OP2 | 2.34 | 0.61 |
| 2:AA:1717:G:C2 | 2:AA:1742:C:O2 | 2.50 | 0.61 |
| 2:AA:1731:G:N3 | 2:AA:1731:G:C2' | 2.60 | 0.61 |
| 2:AA:1797:C:C6 | 2:AA:1797:C:H3' | 2.36 | 0.61 |
| 2:AA:1800:C:C4 | 2:AA:1817:G:N1 | 2.69 | 0.61 |
| 2:AA:1819:A:C1' | 2:AA:1821:A:C6 | 2.83 | 0.61 |
| 2:AA:1942:C:C6 | 2:AA:1943:U:C5 | 2.89 | 0.61 |
| 2:AA:1947:C:N3 | 2:AA:1948:G:N7 | 2.49 | 0.61 |
| 2:AA:1988:C:H2' | 2:AA:1989:G:H5' | 1.81 | 0.61 |
| 2:AA:2022:U:H3' | 2:AA:2617:C:H5" | 1.81 | 0.61 |
| 2:AA:2346:A:C1' | 2:AA:2383:G:C8 | 2.82 | 0.61 |
| 2:AA:2460:U:C4 | 2:AA:2461:C:C4 | 2.88 | 0.61 |
| 2:AA:2699:C:O2' | 2:AA:2700:C:H5' | 2.00 | 0.61 |
| 2:AA:2784:C:H5" | 5:AE:95:PRO:O | 2.01 | 0.61 |
| 3:AC:36:LYS:HZ2 | 3:AC:37:PHE:N | 1.96 | 0.61 |
| 4:AD:166:LYS:CB | 4:AD:171:VAL:HG12 | 2.31 | 0.61 |
| 6:AF:30:LEU:N | 6:AF:30:LEU:HD23 | 2.13 | 0.61 |
| 6:AF:39:GLN:H | 6:AF:39:GLN:CD | 2.03 | 0.61 |
| 6:AF:168:ARG:NE | 6:AF:209:GLY:HA3 | 2.15 | 0.61 |
| 7:AG:27:ILE:C | 7:AG:29:HIS:H | 2.03 | 0.61 |
| 8:AH:41:THR:O | 8:AH:52:THR:CB | 2.48 | 0.61 |
| 8:AH:43:THR:HG1 | 8:AH:50:THR:C | 2.04 | 0.61 |
| 10:AK:21:VAL:HB | 10:AK:26:ALA:HB1 | 1.82 | 0.61 |
| 10:AK:114:LYS:HE2 | 10:AK:133:LEU:O | 2.00 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:104:TYR:CD1 | 12:AM:104:TYR:N | 2.68 | 0.61 |
| 13:AN:25:LEU:HB2 | 13:AN:38:VAL:O | 2.00 | 0.61 |
| 13:AN:104:ARG:NH1 | 13:AN:122:ILE:CA | 2.49 | 0.61 |
| 15:AP:31:PHE:CZ | 15:AP:88:PHE:CD2 | 2.88 | 0.61 |
| 15:AP:57:ARG:O | 15:AP:60:ALA:HB3 | 2.00 | 0.61 |
| 15:AP:59:ASN:O | 15:AP:60:ALA:C | 2.39 | 0.61 |
| 15:AP:86:ARG:HH11 | 15:AP:120:HIS:CD2 | 2.16 | 0.61 |
| 21:AV:19:ILE:CG1 | 21:AV:36:ARG:HG2 | 2.31 | 0.61 |
| 23:AX:7:LYS:CB | 23:AX:34:GLU:HG2 | 2.28 | 0.61 |
| 23:AX:12:PRO:O | 23:AX:13:ILE:C | 2.39 | 0.61 |
| 23:AX:31:LEU:HD13 | 23:AX:32:GLN:CG | 2.31 | 0.61 |
| 24:A0:99:LYS:C | 29:A5:44:HIS:NE2 | 2.54 | 0.61 |
| 25:A1:5:LYS:C | 25:A1:7:GLY:H | 2.02 | 0.61 |
| 25:A1:72:HIS:ND1 | 25:A1:110:VAL:HG11 | 2.15 | 0.61 |
| 25:A1:77:SER:OG | 25:A1:78:THR:HG23 | 2.01 | 0.61 |
| 26:A2:36:LYS:N | 26:A2:60:VAL:HG22 | 2.15 | 0.61 |
| 34:BA:24:U:O2' | 34:BA:25:C:H5' | 2.01 | 0.61 |
| 34:BA:176:C:H2' | 34:BA:177:C:H6 | 1.64 | 0.61 |
| 34:BA:254:G:O3' | 52:BT:69:LYS:NZ | 2.33 | 0.61 |
| 34:BA:360:A:N6 | 34:BA:361:G:C6 | 2.69 | 0.61 |
| 34:BA:437:U:H2' | 34:BA:438:G:O4' | 2.00 | 0.61 |
| 34:BA:591:U:N3 | 34:BA:649:G:C6 | 2.69 | 0.61 |
| 34:BA:678:U:C4 | 34:BA:679:C:N4 | 2.68 | 0.61 |
| 34:BA:768:A:N7 | 34:BA:769:G:C8 | 2.69 | 0.61 |
| 34:BA:815:A:C2 | 34:BA:1529:G:C4 | 2.89 | 0.61 |
| 34:BA:953:G:C6 | 34:BA:954:G:C5 | 2.88 | 0.61 |
| 34:BA:974:A:N3 | 49:BQ:31:ARG:NH2 | 2.47 | 0.61 |
| 34:BA:1130:A:C4 | 34:BA:1146:A:C2 | 2.89 | 0.61 |
| 34:BA:1135:U:N3 | 34:BA:1137:C:C2 | 2.68 | 0.61 |
| 34:BA:1343:G:C2 | 34:BA:1344:C:C2 | 2.88 | 0.61 |
| 34:BA:1365:G:C6 | 34:BA:1366:C:C4 | 2.88 | 0.61 |
| 34:BA:1488:G:H2' | 34:BA:1489:G:C8 | 2.33 | 0.61 |
| 35:BB:37:G:OP2 | 35:BB:39:U:O4 | 2.17 | 0.61 |
| 38:BF:44:GLU:HA | 38:BF:52:LEU:HD13 | 1.81 | 0.61 |
| 40:BH:37:ARG:HA | 40:BH:112:LEU:O | 1.99 | 0.61 |
| 43:BK:112:LEU:CD2 | 43:BK:113:SER:N | 2.64 | 0.61 |
| 44:BL:48:GLU:N | 44:BL:49:PRO:HD2 | 2.16 | 0.61 |
| 46:BN:21:ILE:HG23 | 46:BN:30:VAL:CG2 | 2.31 | 0.61 |
| 46:BN:84:VAL:HG21 | 53:BU:88:LYS:HZ1 | 1.62 | 0.61 |
| 48:BP:81:LEU:O | 48:BP:84:ILE:HG12 | 1.99 | 0.61 |
| 51:BS:20:VAL:HA | 51:BS:36:ILE:HG12 | 1.80 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:BT:43:LEU:HD23 | 52:BT:44:ALA:N | 2.15 | 0.61 |
| 52:BT:53:LEU:HD11 | 52:BT:85:VAL:HG13 | 1.81 | 0.61 |
| 55:BW:22:ARG:O | 55:BW:26:ASN:ND2 | 2.33 | 0.61 |
| 55:BW:44:ALA:HB1 | 55:BW:92:LEU:HD21 | 1.80 | 0.61 |
| 55:BW:54:LYS:HG2 | 55:BW:100:ILE:CD1 | 2.29 | 0.61 |
| 2:AA:84:A:N7 | 20:AU:111:ARG:NH2 | 2.48 | 0.61 |
| 2:AA:347:A:N7 | 2:AA:348:G:C8 | 2.69 | 0.61 |
| 2:AA:349:G:C2 | 2:AA:350:U:C6 | 2.87 | 0.61 |
| 2:AA:424:G:O2' | 2:AA:425:G:H5' | 2.01 | 0.61 |
| 2:AA:780:G:C5 | 2:AA:782:A:C6 | 2.89 | 0.61 |
| 2:AA:996:A:H2' | 2:AA:997:G:H8 | 1.66 | 0.61 |
| 2:AA:1058:G:C4' | 9:AI:2:THR:HA | 2.29 | 0.61 |
| 2:AA:1069:A:N6 | 2:AA:1073:A:C4 | 2.68 | 0.61 |
| 2:AA:1165:U:H2' | 2:AA:1166:C:H6 | 1.65 | 0.61 |
| 2:AA:1364:G:O6 | 28:A4:2:GLN:HG3 | 2.00 | 0.61 |
| 2:AA:1529:A:C6 | 2:AA:1530:G:O2' | 2.54 | 0.61 |
| 2:AA:1701:A:H2' | 2:AA:1702:G:H5' | 1.82 | 0.61 |
| 2:AA:1725:G:C6 | 2:AA:1741:C:N4 | 2.69 | 0.61 |
| 2:AA:1890:A:C8 | 2:AA:1890:A:O5' | 2.53 | 0.61 |
| 2:AA:1891:G:N3 | 2:AA:1891:G:H2' | 2.16 | 0.61 |
| 2:AA:1943:U:C2 | 2:AA:1945:G:C5' | 2.81 | 0.61 |
| 2:AA:2000:G:C4 | 2:AA:2001:A:N7 | 2.69 | 0.61 |
| 2:AA:2259:G:N2 | 2:AA:2282:G:C6 | 2.68 | 0.61 |
| 2:AA:2261:C:OP2 | 27:A3:14:ARG:HG2 | 2.00 | 0.61 |
| 2:AA:2530:A:C3' | 2:AA:2531:A:H5" | 2.30 | 0.61 |
| 2:AA:2888:C:H2' | 2:AA:2889:C:O4' | 2.00 | 0.61 |
| 4:AD:85:ASN:HB2 | 4:AD:86:ARG:NH2 | 2.16 | 0.61 |
| 5:AE:205:THR:HG22 | 5:AE:261:ARG:CD | 2.30 | 0.61 |
| 5:AE:216:ARG:HD3 | 5:AE:254:GLY:H | 1.65 | 0.61 |
| 5:AE:263:GLU:O | 5:AE:266:LYS:CE | 2.48 | 0.61 |
| 6:AF:87:ARG:O | 6:AF:88:SER:HB2 | 2.00 | 0.61 |
| 7:AG:50:VAL:O | 7:AG:50:VAL:HG12 | 1.99 | 0.61 |
| 8:AH:34:ARG:HH22 | 8:AH:74:MET:CA | 2.12 | 0.61 |
| 9:AI:60:ASP:OD2 | 9:AI:101:VAL:HG11 | 2.00 | 0.61 |
| 10:AK:2:LYS:HG3 | 10:AK:18:ILE:HD11 | 1.83 | 0.61 |
| 10:AK:94:THR:HG21 | 10:AK:96:LYS:HB3 | 1.81 | 0.61 |
| 11:AL:20:PRO:O | 11:AL:23:PRO:HD2 | 2.01 | 0.61 |
| 12:AM:42:GLU:HA | 12:AM:132:LEU:O | 2.00 | 0.61 |
| 13:AN:5:GLU:O | 13:AN:6:SER:C | 2.36 | 0.61 |
| 13:AN:10:VAL:CG2 | 13:AN:16:ALA:HB3 | 2.31 | 0.61 |
| 13:AN:64:ARG:HB2 | 13:AN:79:PHE:HE1 | 1.62 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:94:ARG:CZ | 14:AO:118:LEU:HB2 | 2.31 | 0.61 |
| 15:AP:15:THR:CA | 15:AP:20:ILE:HG12 | 2.31 | 0.61 |
| 15:AP:57:ARG:HB3 | 15:AP:60:ALA:CB | 2.30 | 0.61 |
| 15:AP:69:ASN:ND2 | 15:AP:69:ASN:C | 2.54 | 0.61 |
| 15:AP:147:VAL:HG12 | 15:AP:148:ASN:N | 2.14 | 0.61 |
| 18:AS:8:ARG:HH11 | 18:AS:8:ARG:CB | 2.13 | 0.61 |
| 18:AS:68:ARG:O | 18:AS:110:LYS:N | 2.33 | 0.61 |
| 20:AU:31:LEU:N | 20:AU:34:GLU:OE2 | 2.34 | 0.61 |
| 20:AU:105:ASP:CG | 20:AU:108:ARG:HD2 | 2.20 | 0.61 |
| 21:AV:98:VAL:CA | 21:AV:134:LEU:O | 2.44 | 0.61 |
| 24:A0:78:LYS:HG3 | 24:A0:82:GLU:HG3 | 1.83 | 0.61 |
| 24:A0:87:TYR:CE2 | 24:A0:118:GLU:OE1 | 2.53 | 0.61 |
| 26:A2:20:ILE:HG23 | 26:A2:67:LYS:HD2 | 1.82 | 0.61 |
| 34:BA:236:G:C3' | 34:BA:237:C:H6 | 2.13 | 0.61 |
| 34:BA:378:G:N2 | 34:BA:385:C:C2 | 2.67 | 0.61 |
| 34:BA:591:U:H3 | 34:BA:648:A:H61 | 1.49 | 0.61 |
| 34:BA:1066:C:C6 | 34:BA:1067:A:N7 | 2.69 | 0.61 |
| 34:BA:1089:G:N2 | 34:BA:1096:C:N3 | 2.42 | 0.61 |
| 34:BA:1213:A:C6 | 34:BA:1215:G:N3 | 2.69 | 0.61 |
| 34:BA:1244:C:OP1 | 56:BX:9:ARG:NH1 | 2.34 | 0.61 |
| 34:BA:1269:A:N1 | 34:BA:1312:G:H1' | 2.16 | 0.61 |
| 34:BA:1328:C:H2' | 34:BA:1329:A:H8 | 1.64 | 0.61 |
| 37:BE:147:LYS:HG3 | 37:BE:148:TYR:HD1 | 1.64 | 0.61 |
| 38:BF:8:ILE:HG22 | 38:BF:9:GLY:N | 2.15 | 0.61 |
| 39:BG:110:PHE:O | 39:BG:161:ASN:ND2 | 2.33 | 0.61 |
| 39:BG:151:LYS:O | 39:BG:154:ASN:ND2 | 2.33 | 0.61 |
| 39:BG:177:ASP:C | 39:BG:179:GLU:H | 2.04 | 0.61 |
| 42:BJ:94:ARG:NH2 | 42:BJ:98:SER:OG | 2.34 | 0.61 |
| 44:BL:78:LYS:HD2 | 44:BL:78:LYS:C | 2.20 | 0.61 |
| 44:BL:114:TYR:HB3 | 45:BM:60:ARG:NH1 | 2.16 | 0.61 |
| 48:BP:74:VAL:O | 48:BP:78:ILE:CG1 | 2.47 | 0.61 |
| 51:BS:52:ASP:OD2 | 51:BS:52:ASP:C | 2.38 | 0.61 |
| 53:BU:58:LEU:HB2 | 53:BU:63:GLN:NE2 | 2.13 | 0.61 |
| 55:BW:13:LEU:O | 55:BW:16:HIS:N | 2.33 | 0.61 |
| 56:BX:3:LYS:HB3 | 56:BX:14:TRP:CD1 | 2.35 | 0.61 |
| 56:BX:6:ARG:O | 56:BX:8:THR:N | 2.30 | 0.61 |
| 1:AB:58:A:O2' | 7:AG:140:ARG:CZ | 2.49 | 0.61 |
| 1:AB:113:C:O2' | 1:AB:114:G:H5' | 2.01 | 0.61 |
| 2:AA:5:A:H5' | 5:AE:94:ARG:HH22 | 1.66 | 0.61 |
| 2:AA:35:G:C1' | 2:AA:454:A:N3 | 2.63 | 0.61 |
| 2:AA:48:G:N3 | 2:AA:178:G:C2 | 2.68 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:50:U:C6 | 2:AA:50:U:C3' | 2.83 | 0.61 |
| 2:AA:59:U:H2' | 2:AA:60:G:H4' | 1.81 | 0.61 |
| 2:AA:66:C:O2' | 2:AA:67:U:H5' | 2.00 | 0.61 |
| 2:AA:126:A:H2' | 2:AA:127:A:O4' | 2.01 | 0.61 |
| 2:AA:147:U:H2' | 2:AA:148:C:O4' | 2.00 | 0.61 |
| 2:AA:353:G:H3' | 2:AA:354:G:C8 | 2.35 | 0.61 |
| 2:AA:730:C:C2' | 2:AA:731:C:H5' | 2.30 | 0.61 |
| 2:AA:1028:A:H2' | 2:AA:1029:A:H8 | 1.66 | 0.61 |
| 2:AA:1034:G:P | 33:A9:18:ARG:HH21 | 2.22 | 0.61 |
| 2:AA:1058:G:O2' | 9:AI:3:ILE:HG13 | 2.01 | 0.61 |
| 2:AA:1132:A:H2' | 2:AA:1133:U:O2 | 2.01 | 0.61 |
| 2:AA:1261:C:H3' | 2:AA:1261:C:P | 2.40 | 0.61 |
| 2:AA:1325:G:P | 2:AA:1616:A:N7 | 2.74 | 0.61 |
| 2:AA:1482:U:O2' | 2:AA:1512:G:N2 | 2.34 | 0.61 |
| 2:AA:1566:A:C2 | 4:AD:212:HIS:CB | 2.83 | 0.61 |
| 2:AA:1582:C:H3' | 2:AA:1583:A:C4' | 2.31 | 0.61 |
| 2:AA:1672:C:H2' | 2:AA:1673:U:H5' | 1.83 | 0.61 |
| 2:AA:1843:C:H2' | 2:AA:1844:C:C6 | 2.36 | 0.61 |
| 2:AA:1907:G:C2 | 2:AA:1908:C:C5 | 2.89 | 0.61 |
| 2:AA:1952:A:C6 | 2:AA:1953:A:N1 | 2.69 | 0.61 |
| 2:AA:2208:U:O2' | 2:AA:2209:C:O4' | 2.19 | 0.61 |
| 2:AA:2418:A:C2' | 2:AA:2419:U:O4' | 2.47 | 0.61 |
| 2:AA:2454:G:C5 | 2:AA:2455:G:C8 | 2.88 | 0.61 |
| 2:AA:2652:C:C5 | 2:AA:2653:U:C4 | 2.89 | 0.61 |
| 2:AA:2712:U:O2' | 2:AA:712(A):A:P | 2.58 | 0.61 |
| 2:AA:2732:G:H3' | 2:AA:2733:A:H5' | 1.83 | 0.61 |
| 2:AA:2892:A:H2' | 2:AA:2893:G:C1' | 2.31 | 0.61 |
| 3:AC:75:LEU:HD22 | 3:AC:110:PHE:CD2 | 2.35 | 0.61 |
| 3:AC:82:LYS:HG3 | 3:AC:116:THR:HB | 1.81 | 0.61 |
| 3:AC:133:PRO:HG2 | 3:AC:134:ARG:N | 2.15 | 0.61 |
| 5:AE:225:LYS:CA | 5:AE:228:ARG:NH1 | 2.64 | 0.61 |
| 5:AE:250:VAL:C | 5:AE:251:PRO:O | 2.39 | 0.61 |
| 6:AF:103:ASN:O | 6:AF:107:ARG:HG3 | 2.01 | 0.61 |
| 6:AF:164:ALA:HA | 6:AF:232:LEU:HD12 | 1.81 | 0.61 |
| 9:AI:53:GLN:HA | 9:AI:128:LYS:HZ3 | 1.66 | 0.61 |
| 9:AJ:35:ALA:O | 9:AJ:39:VAL:CB | 2.45 | 0.61 |
| 9:AJ:69:ASN:HB3 | 9:AJ:72:GLN:HG3 | 1.82 | 0.61 |
| 10:AK:8:ASP:OD1 | 10:AK:11:GLY:O | 2.19 | 0.61 |
| 10:AK:66:LYS:CA | 10:AK:69:LYS:HB3 | 2.31 | 0.61 |
| 10:AK:89:LEU:HD11 | 10:AK:124:LEU:CD1 | 2.30 | 0.61 |
| 11:AL:92:PRO:C | 11:AL:94:ARG:H | 2.04 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:14:ALA:O | 12:AM:15:ARG:CB | 2.47 | 0.61 |
| 13:AN:95:GLY:O | 13:AN:97:ARG:N | 2.28 | 0.61 |
| 15:AP:28:ILE:CD1 | 15:AP:89:PRO:HG3 | 2.29 | 0.61 |
| 15:AP:47:GLU:OE1 | 15:AP:150:ASP:O | 2.19 | 0.61 |
| 16:AQ:17:ARG:NH1 | 16:AQ:106:LEU:HD22 | 2.14 | 0.61 |
| 18:AS:24:ILE:HG21 | 18:AS:36:LEU:HG | 1.83 | 0.61 |
| 18:AS:26:GLY:O | 18:AS:27:LYS:HG3 | 2.01 | 0.61 |
| 18:AS:28:SER:HB3 | 18:AS:31:GLU:OE2 | 2.00 | 0.61 |
| 21:AV:19:ILE:HD13 | 21:AV:36:ARG:HG2 | 1.81 | 0.61 |
| 21:AV:149:ALA:HB3 | 21:AV:165:GLU:N | 2.15 | 0.61 |
| 23:AX:26:LEU:HB2 | 23:AX:28:LEU:CD1 | 2.26 | 0.61 |
| 24:A0:49:ASP:O | 24:A0:52:ILE:HB | 2.01 | 0.61 |
| 30:A6:28:ARG:HB2 | 30:A6:30:ASN:CB | 2.28 | 0.61 |
| 32:A8:60:LEU:O | 32:A8:61:MET:O | 2.18 | 0.61 |
| 33:A9:6:SER:HA | 33:A9:8:LYS:NZ | 2.15 | 0.61 |
| 34:BA:97:G:C6 | 34:BA:98:U:C4 | 2.88 | 0.61 |
| 34:BA:134:A:C2 | 34:BA:135:C:N3 | 2.68 | 0.61 |
| 34:BA:197:A:O2' | 34:BA:198:G:H8 | 1.82 | 0.61 |
| 34:BA:388:G:O2' | 34:BA:389:A:OP2 | 2.14 | 0.61 |
| 34:BA:422:C:O5' | 34:BA:422:C:H6 | 1.84 | 0.61 |
| 34:BA:452:A:N6 | 34:BA:480:U:H3 | 1.99 | 0.61 |
| 34:BA:562:C:H5" | 34:BA:563:A:OP1 | 2.00 | 0.61 |
| 34:BA:643:C:N3 | 34:BA:644:G:C8 | 2.69 | 0.61 |
| 34:BA:665:A:OP2 | 34:BA:666:G:OP1 | 2.18 | 0.61 |
| 34:BA:755:G:H2' | 34:BA:756:C:C5 | 2.35 | 0.61 |
| 34:BA:1166:G:C2 | 34:BA:1171:G:O6 | 2.53 | 0.61 |
| 34:BA:1323:G:H4' | 34:BA:1362:C:C4 | 2.35 | 0.61 |
| 34:BA:1373:G:C1' | 42:BJ:34:GLY:HA2 | 2.30 | 0.61 |
| 34:BA:1405:G:O4' | 34:BA:1519:A:H4' | 2.00 | 0.61 |
| 34:BA:1531:A:N3 | 34:BA:1532:U:N3 | 2.48 | 0.61 |
| 35:BB:43:G:H5" | 35:BB:43:G:H8 | 1.64 | 0.61 |
| 35:BB:67:A:N3 | 35:BB:68:U:C5 | 2.67 | 0.61 |
| 35:BB:69:U:H2' | 35:BB:70:C:C6 | 2.36 | 0.61 |
| 38:BF:57:ILE:HG23 | 38:BF:66:VAL:CG2 | 2.31 | 0.61 |
| 39:BG:78:LEU:O | 39:BG:81:GLU:N | 2.34 | 0.61 |
| 39:BG:127:THR:HB | 39:BG:147:ALA:HB3 | 1.82 | 0.61 |
| 41:BI:14:LEU:HD13 | 41:BI:18:GLN:CB | 2.30 | 0.61 |
| 41:BI:37:VAL:CA | 41:BI:65:VAL:HG12 | 2.18 | 0.61 |
| 45:BM:38:ILE:CG1 | 45:BM:71:LEU:HB3 | 2.30 | 0.61 |
| 46:BN:48:ILE:O | 46:BN:50:TYR:N | 2.33 | 0.61 |
| 47:BO:82:VAL:N | 47:BO:106:ASP:OD1 | 2.33 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:126:LYS:O | 47:BO:127:GLU:HG3 | 2.01 | 0.61 |
| 48:BP:8:GLU:CD | 48:BP:22:ILE:HG12 | 2.20 | 0.61 |
| 48:BP:78:ILE:O | 48:BP:81:LEU:HD22 | 2.01 | 0.61 |
| 49:BQ:45:ARG:O | 49:BQ:49:HIS:CD2 | 2.54 | 0.61 |
| 52:BT:18:THR:O | 52:BT:19:VAL:HG13 | 2.00 | 0.61 |
| 1:AB:41:U:OP1 | 1:AB:42:C:C5 | 2.53 | 0.61 |
| 1:AB:80:U:O2' | 2:AA:918:A:H2' | 2.00 | 0.61 |
| 2:AA:112:U:H6 | 2:AA:112:U:C5' | 2.08 | 0.61 |
| 2:AA:152:G:O6 | 2:AA:175:G:O6 | 2.19 | 0.61 |
| 2:AA:179:G:C5 | 2:AA:180:G:C5 | 2.89 | 0.61 |
| 2:AA:273(C):C:N3 | 2:AA:273(D):C:N4 | 2.49 | 0.61 |
| 2:AA:414:C:H4' | 2:AA:1863:G:H22 | 1.64 | 0.61 |
| 2:AA:531:C:H42 | 25:A1:38:THR:HB | 1.66 | 0.61 |
| 2:AA:558:G:O2' | 2:AA:559:G:H5' | 2.01 | 0.61 |
| 2:AA:564:C:O2' | 2:AA:1252:G:N1 | 2.32 | 0.61 |
| 2:AA:609:A:C8 | 2:AA:609(A):G:N7 | 2.69 | 0.61 |
| 2:AA:865:C:N4 | 2:AA:908:C:N4 | 2.49 | 0.61 |
| 2:AA:1029:A:O5' | 2:AA:1029:A:C8 | 2.54 | 0.61 |
| 2:AA:1129:A:O2' | 2:AA:2515:C:C2' | 2.49 | 0.61 |
| 2:AA:142(A):A:H5" | 2:AA:1143:A:OP2 | 1.99 | 0.61 |
| 2:AA:1152:C:H2' | 2:AA:1153:C:H5' | 1.82 | 0.61 |
| 2:AA:1326:U:O2' | 2:AA:1327:C:H5' | 2.01 | 0.61 |
| 2:AA:1327:C:H2' | 2:AA:1328:G:H8 | 1.64 | 0.61 |
| 2:AA:1368:G:OP1 | 31:A7:25:LYS:NZ | 2.34 | 0.61 |
| 2:AA:1397:U:O2' | 2:AA:1398:C:OP1 | 2.15 | 0.61 |
| 2:AA:1510:A:N7 | 2:AA:1511:A:N1 | 2.49 | 0.61 |
| 2:AA:1669:A:O3' | 2:AA:2550:G:OP1 | 2.19 | 0.61 |
| 2:AA:1905:C:C4 | 2:AA:1930:G:N2 | 2.69 | 0.61 |
| 2:AA:1920:C:OP1 | 34:BA:1517:G:O4' | 2.19 | 0.61 |
| 2:AA:1988:C:H2' | 2:AA:1989:G:C5' | 2.30 | 0.61 |
| 2:AA:2008:C:C4 | 2:AA:2009:G:N7 | 2.68 | 0.61 |
| 2:AA:2085:C:O2' | 2:AA:2086:U:H5' | 2.00 | 0.61 |
| 2:AA:2117:A:OP1 | 2:AA:2117:A:H4' | 1.99 | 0.61 |
| 2:AA:2137:C:C5 | 2:AA:2154:G:N2 | 2.65 | 0.61 |
| 2:AA:2208:U:O2' | 2:AA:2209:C:H5' | 2.00 | 0.61 |
| 2:AA:2291:U:C5' | 2:AA:2380:C:O2 | 2.48 | 0.61 |
| 2:AA:2305:A:H2 | 7:AG:72:LYS:CE | 2.13 | 0.61 |
| 2:AA:2320:A:C6 | 16:AQ:13:ARG:HG2 | 2.35 | 0.61 |
| 2:AA:2423:U:O2 | 2:AA:2423:U:C2' | 2.47 | 0.61 |
| 2:AA:2488:A:H2' | 2:AA:2489:G:O5' | 1.99 | 0.61 |
| 2:AA:2547:U:C6 | 2:AA:2566:A:C6 | 2.89 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2595:G:C2 | 2:AA:2599:G:O6 | 2.54 | 0.61 |
| 2:AA:2679:A:H5" | 5:AE:261:ARG:HD3 | 1.81 | 0.61 |
| 2:AA:2709:G:C2' | 2:AA:2710:C:H5' | 2.30 | 0.61 |
| 2:AA:2797:U:OP1 | 2:AA:2797:U:H4' | 2.00 | 0.61 |
| 2:AA:2807:G:H2' | 2:AA:2808:U:C5 | 2.35 | 0.61 |
| 2:AA:2877:G:C2 | 2:AA:2878:U:N3 | 2.68 | 0.61 |
| 2:AA:2889:C:H2' | 2:AA:2891:G:O4' | 1.99 | 0.61 |
| 3:AC:22:ILE:HG23 | 3:AC:189:ILE:HG21 | 1.82 | 0.61 |
| 3:AC:42:GLU:OE1 | 3:AC:172:HIS:HD2 | 1.84 | 0.61 |
| 3:AC:103:ILE:HA | 3:AC:107:TRP:O | 2.01 | 0.61 |
| 5:AE:44:TYR:CA | 5:AE:309:PRO:HD2 | 2.22 | 0.61 |
| 5:AE:83:LEU:HD13 | 5:AE:178:LEU:CD2 | 2.30 | 0.61 |
| 5:AE:221:LYS:HE2 | 5:AE:233:ARG:HA | 1.83 | 0.61 |
| 5:AE:267:ARG:HB2 | 5:AE:297:LYS:CE | 2.31 | 0.61 |
| 6:AF:62:GLY:N | 6:AF:65:ARG:NH2 | 2.48 | 0.61 |
| 9:AI:26:GLU:O | 9:AI:30:GLY:N | 2.34 | 0.61 |
| 9:AI:61:VAL:HG21 | 9:AI:114:ILE:HB | 1.83 | 0.61 |
| 10:AK:3:VAL:CG1 | 10:AK:19:LYS:H | 2.13 | 0.61 |
| 10:AK:94:THR:O | 10:AK:97:GLN:N | 2.34 | 0.61 |
| 11:AL:69:ILE:HB | 11:AL:71:LYS:HE3 | 1.81 | 0.61 |
| 12:AM:105:LEU:HD23 | 12:AM:105:LEU:H | 1.63 | 0.61 |
| 13:AN:3:GLN:O | 13:AN:4:GLN:C | 2.35 | 0.61 |
| 13:AN:7:ARG:NE | 13:AN:44:LYS:CD | 2.63 | 0.61 |
| 13:AN:99:PHE:CE2 | 17:AR:24:LYS:HE2 | 2.36 | 0.61 |
| 15:AP:41:THR:HG21 | 15:AP:127:ASN:N | 2.15 | 0.61 |
| 15:AP:72:VAL:HG21 | 15:AP:83:PHE:CZ | 2.36 | 0.61 |
| 15:AP:84:ARG:HH22 | 15:AP:86:ARG:HH21 | 1.43 | 0.61 |
| 16:AQ:83:LEU:HA | 16:AQ:86:LEU:HG | 1.82 | 0.61 |
| 17:AR:21:PHE:HB2 | 17:AR:31:PHE:HD1 | 1.61 | 0.61 |
| 18:AS:23:LEU:HD12 | 29:A5:25:LEU:CB | 2.14 | 0.61 |
| 18:AS:80:PRO:HG2 | 18:AS:100:THR:OG1 | 2.01 | 0.61 |
| 19:AT:72:ASP:HB2 | 19:AT:75:GLN:NE2 | 2.15 | 0.61 |
| 21:AV:15:ASP:C | 21:AV:36:ARG:NH2 | 2.50 | 0.61 |
| 21:AV:90:GLU:O | 21:AV:92:VAL:HG23 | 2.01 | 0.61 |
| 21:AV:116:VAL:HG23 | 21:AV:169:VAL:CG2 | 2.31 | 0.61 |
| 23:AX:22:ALA:CA | 23:AX:46:ASN:ND2 | 2.58 | 0.61 |
| 25:A1:74:MET:HE3 | 25:A1:75:ASN:H | 1.63 | 0.61 |
| 34:BA:19:C:H5" | 40:BH:86:ALA:HB1 | 1.83 | 0.61 |
| 34:BA:144:G:N3 | 34:BA:179:A:C2 | 2.69 | 0.61 |
| 34:BA:184:G:H5' | 34:BA:224:C:H4' | 1.83 | 0.61 |
| 34:BA:188:C:H2' | 34:BA:189:G:C5' | 2.30 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:255:G:H1' | 52:BT:16:GLN:NE2 | 2.15 | 0.61 |
| 34:BA:295:C:O2' | 34:BA:296:U:C5' | 2.48 | 0.61 |
| 34:BA:432:A:N7 | 34:BA:433:C:C5 | 2.69 | 0.61 |
| 34:BA:494:G:O2' | 34:BA:495:U:C5 | 2.49 | 0.61 |
| 34:BA:671:G:C4 | 34:BA:672:U:C5 | 2.89 | 0.61 |
| 34:BA:752:G:OP2 | 34:BA:752:G:H8 | 1.83 | 0.61 |
| 34:BA:769:G:N1 | 34:BA:811:C:O2 | 2.34 | 0.61 |
| 34:BA:922:G:H5" | 40:BH:20:GLN:NE2 | 2.15 | 0.61 |
| 34:BA:1008:C:H42 | 34:BA:1021:G:H1 | 1.47 | 0.61 |
| 34:BA:1048:G:H5" | 49:BQ:3:ARG:HD3 | 1.83 | 0.61 |
| 34:BA:1202:G:N2 | 34:BA:1203:C:C1' | 2.63 | 0.61 |
| 34:BA:1411:C:H2' | 34:BA:1412:C:H6 | 1.64 | 0.61 |
| 34:BA:1425:U:O2' | 34:BA:1426:C:C5' | 2.49 | 0.61 |
| 34:BA:1510:U:H2' | 34:BA:1511:G:C8 | 2.36 | 0.61 |
| 37:BE:71:VAL:CG1 | 37:BE:72:GLY:N | 2.64 | 0.61 |
| 39:BG:63:LYS:O | 39:BG:67:ILE:HG13 | 2.01 | 0.61 |
| 39:BG:173:TRP:CH2 | 39:BG:194:LEU:HD11 | 2.35 | 0.61 |
| 42:BJ:15:ASP:C | 42:BJ:17:VAL:H | 2.04 | 0.61 |
| 42:BJ:29:LYS:HZ1 | 42:BJ:102:ARG:HE | 1.49 | 0.61 |
| 42:BJ:72:ARG:NH1 | 42:BJ:72:ARG:HG2 | 2.15 | 0.61 |
| 44:BL:19:LEU:HD21 | 44:BL:61:ALA:HB2 | 1.82 | 0.61 |
| 46:BN:16:SER:O | 46:BN:35:PRO:CG | 2.47 | 0.61 |
| 46:BN:54:ARG:C | 46:BN:56:GLY:H | 2.04 | 0.61 |
| 47:BO:77:LEU:O | 47:BO:78:GLN:CG | 2.48 | 0.61 |
| 48:BP:8:GLU:HG3 | 48:BP:22:ILE:HG12 | 1.83 | 0.61 |
| 48:BP:48:LEU:CD2 | 48:BP:53:VAL:HG23 | 2.29 | 0.61 |
| 49:BQ:21:TYR:N | 49:BQ:21:TYR:CD1 | 2.69 | 0.61 |
| 49:BQ:36:PHE:CD1 | 49:BQ:37:PHE:HD2 | 2.19 | 0.61 |
| 50:BR:39:LEU:HD23 | 50:BR:40:SER:N | 2.16 | 0.61 |
| 50:BR:41:GLU:CA | 50:BR:44:LYS:HZ1 | 2.12 | 0.61 |
| 51:BS:58:TYR:O | 51:BS:61:SER:OG | 2.19 | 0.61 |
| 54:BV:5:LEU:HD12 | 54:BV:9:VAL:CB | 2.31 | 0.61 |
| 55:BW:66:ALA:CB | 55:BW:72:LEU:HB2 | 2.30 | 0.61 |
| 55:BW:75:ASN:ND2 | 55:BW:75:ASN:N | 2.48 | 0.61 |
| 2:AA:154:G:N3 | 2:AA:155:C:H1' | 2.16 | 0.61 |
| 2:AA:240:G:C5 | 2:AA:241:A:C6 | 2.89 | 0.61 |
| 2:AA:261:G:O2' | 2:AA:262:A:H5' | 2.00 | 0.61 |
| 2:AA:262:A:C2 | 2:AA:430:G:H1' | 2.36 | 0.61 |
| 2:AA:286:C:H3' | 2:AA:286:C:C6 | 2.36 | 0.61 |
| 2:AA:324:A:N7 | 2:AA:340:A:H1' | 2.16 | 0.61 |
| 2:AA:351:G:O4' | 2:AA:351:G:OP1 | 2.18 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:478:A:N6 | 2:AA:480:A:C6 | 2.68 | 0.61 |
| 2:AA:585:G:N1 | 2:AA:1251:C:H5 | 1.98 | 0.61 |
| 2:AA:674:G:H4' | 6:AF:69:HIS:CA | 2.31 | 0.61 |
| 2:AA:695:G:C6 | 2:AA:768:G:O6 | 2.54 | 0.61 |
| 2:AA:737:C:N4 | 2:AA:759:G:N1 | 2.48 | 0.61 |
| 2:AA:771:G:C6 | 2:AA:772:C:C4 | 2.89 | 0.61 |
| 2:AA:808:G:C2' | 2:AA:809:G:O5' | 2.49 | 0.61 |
| 2:AA:1055:G:H21 | 9:AI:29:PHE:HE1 | 1.47 | 0.61 |
| 2:AA:1081:U:H1' | 11:AL:117:ASN:HD22 | 1.65 | 0.61 |
| 2:AA:1087:G:H2' | 2:AA:1103:A:C2 | 2.36 | 0.61 |
| 2:AA:1358:G:N1 | 2:AA:1372:U:OP2 | 2.32 | 0.61 |
| 2:AA:1461:G:P | 2:AA:1461:G:H8 | 2.24 | 0.61 |
| 2:AA:1473:G:C4 | 2:AA:1474:C:C6 | 2.89 | 0.61 |
| 2:AA:1605:C:H4' | 2:AA:1610:A:H62 | 1.66 | 0.61 |
| 2:AA:1770:G:C6 | 2:AA:1983:C:N3 | 2.68 | 0.61 |
| 2:AA:1869:G:C2 | 2:AA:1878:G:O6 | 2.54 | 0.61 |
| 2:AA:1920:C:OP1 | 34:BA:1517:G:C8 | 2.54 | 0.61 |
| 2:AA:2012:G:H5' | 18:AS:98:LYS:NZ | 2.16 | 0.61 |
| 2:AA:2020:A:N6 | 2:AA:2022:U:C2 | 2.69 | 0.61 |
| 2:AA:2055:C:C4' | 2:AA:2056:G:H5" | 2.29 | 0.61 |
| 2:AA:2124:G:OP2 | 3:AC:129:ARG:HA | 2.01 | 0.61 |
| 2:AA:2135:A:N3 | 2:AA:2135:A:C3' | 2.55 | 0.61 |
| 2:AA:2476:A:C8 | 2:AA:2477:C:C6 | 2.89 | 0.61 |
| 2:AA:2507:C:N4 | 2:AA:2582:G:C6 | 2.69 | 0.61 |
| 2:AA:2556:C:N4 | 2:AA:2557:G:C2 | 2.68 | 0.61 |
| 2:AA:2591:C:O2' | 2:AA:2592:G:H5' | 2.01 | 0.61 |
| 2:AA:2619:C:H4' | 5:AE:246:VAL:HG12 | 1.82 | 0.61 |
| 2:AA:2635:C:H1' | 5:AE:98:GLU:OE2 | 2.01 | 0.61 |
| 2:AA:2694:G:O6 | 2:AA:2695:C:N4 | 2.34 | 0.61 |
| 2:AA:2702:U:OP1 | 2:AA:2702:U:O4' | 2.18 | 0.61 |
| 3:AC:75:LEU:HD13 | 3:AC:107:TRP:CH2 | 2.36 | 0.61 |
| 4:AD:129:LEU:HD22 | 4:AD:133:ASN:HB2 | 1.82 | 0.61 |
| 6:AF:163:HIS:HA | 6:AF:166:ILE:CD1 | 2.30 | 0.61 |
| 6:AF:215:ALA:HB1 | 6:AF:238:SER:O | 2.01 | 0.61 |
| 7:AG:18:ILE:HG21 | 7:AG:77:ASP:CA | 2.28 | 0.61 |
| 7:AG:55:LYS:O | 7:AG:56:ARG:HG2 | 2.01 | 0.61 |
| 7:AG:144:ARG:O | 7:AG:148:SER:HB3 | 2.00 | 0.61 |
| 8:AH:90:GLY:O | 8:AH:92:GLY:N | 2.33 | 0.61 |
| 9:AJ:71:ILE:HA | 11:AL:61:TYR:CB | 2.30 | 0.61 |
| 9:AJ:80:ILE:HG23 | 9:AJ:103:LYS:CD | 2.22 | 0.61 |
| 9:AJ:85:LEU:HD12 | 11:AL:57:VAL:CG1 | 2.31 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:83:ALA:HA | 10:AK:90:PHE:CE1 | 2.36 | 0.61 |
| 12:AM:74:ARG:HB3 | 12:AM:76:ASP:OD2 | 2.00 | 0.61 |
| 12:AM:96:GLU:HA | 12:AM:99:GLU:OE2 | 2.00 | 0.61 |
| 15:AP:136:TRP:O | 15:AP:139:ALA:N | 2.34 | 0.61 |
| 15:AP:139:ALA:C | 15:AP:142:LYS:HB3 | 2.21 | 0.61 |
| 16:AQ:33:ARG:HG3 | 16:AQ:48:VAL:HB | 1.83 | 0.61 |
| 18:AS:36:LEU:HD11 | 18:AS:47:VAL:HG12 | 1.83 | 0.61 |
| 21:AV:51:LEU:HG | 21:AV:64:ALA:O | 2.01 | 0.61 |
| 22:AW:29:ASN:O | 22:AW:30:ALA:C | 2.39 | 0.61 |
| 22:AW:43:PRO:CD | 22:AW:46:ILE:HG12 | 2.31 | 0.61 |
| 24:A0:45:ARG:O | 24:A0:46:GLY:C | 2.38 | 0.61 |
| 25:A1:106:PHE:O | 25:A1:109:LEU:N | 2.33 | 0.61 |
| 26:A2:77:GLY:O | 26:A2:78:VAL:HG13 | 2.01 | 0.61 |
| 27:A3:35:ASN:O | 27:A3:36:ILE:HG12 | 2.00 | 0.61 |
| 27:A3:69:PHE:O | 27:A3:70:ILE:HG23 | 2.01 | 0.61 |
| 32:A8:6:THR:C | 32:A8:8:LYS:N | 2.51 | 0.61 |
| 34:BA:83:U:H2' | 34:BA:84:U:O4' | 2.01 | 0.61 |
| 34:BA:390:C:C2' | 34:BA:391:G:O5' | 2.49 | 0.61 |
| 34:BA:392:G:P | 51:BS:8:ARG:NH2 | 2.74 | 0.61 |
| 34:BA:829:G:C4' | 37:BE:26:PRO:HG2 | 2.28 | 0.61 |
| 34:BA:932:C:C5' | 42:BJ:3:ARG:HB3 | 2.30 | 0.61 |
| 34:BA:934:C:N4 | 34:BA:1344:C:N3 | 2.49 | 0.61 |
| 34:BA:986:A:H1' | 54:BV:54:GLY:O | 2.00 | 0.61 |
| 34:BA:1190:G:P | 38:BF:5:ILE:HG13 | 2.40 | 0.61 |
| 34:BA:1368:G:P | 44:BL:113:LYS:HA | 2.40 | 0.61 |
| 35:BB:52:U:C2' | 35:BB:53:G:H5' | 2.31 | 0.61 |
| 35:BC:9:A:H2 | 35:BC:45:G:C8 | 2.18 | 0.61 |
| 35:BC:18:G:H2' | 35:BC:19:G:O5' | 2.00 | 0.61 |
| 35:BC:53:G:C6 | 35:BC:62:A:N6 | 2.69 | 0.61 |
| 37:BE:21:ARG:O | 37:BE:23:ARG:HD3 | 2.01 | 0.61 |
| 37:BE:130:ARG:CB | 37:BE:131:PRO:HD2 | 2.29 | 0.61 |
| 37:BE:219:VAL:CA | 37:BE:222:ILE:HG23 | 2.31 | 0.61 |
| 38:BF:7:PRO:HG3 | 38:BF:184:TYR:CG | 2.35 | 0.61 |
| 38:BF:54:ARG:NH2 | 38:BF:56:ASP:OD1 | 2.34 | 0.61 |
| 38:BF:138:VAL:O | 38:BF:170:GLN:NE2 | 2.33 | 0.61 |
| 39:BG:102:ASP:OD2 | 39:BG:118:ARG:HB2 | 2.01 | 0.61 |
| 39:BG:141:ARG:CB | 39:BG:142:PRO:CD | 2.77 | 0.61 |
| 39:BG:173:TRP:CE2 | 39:BG:189:PRO:HB3 | 2.35 | 0.61 |
| 44:BL:67:GLY:O | 44:BL:68:GLY:C | 2.39 | 0.61 |
| 47:BO:46:LYS:HG2 | 47:BO:47:LYS:N | 2.11 | 0.61 |
| 47:BO:82:VAL:HG12 | 47:BO:83:VAL:N | 2.13 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:115:LYS:O | 47:BO:116:SER:C | 2.38 | 0.61 |
| 48:BP:16:ASP:HA | 48:BP:19:LEU:CD1 | 2.30 | 0.61 |
| 50:BR:15:PHE:HZ | 50:BR:85:LEU:HD21 | 1.64 | 0.61 |
| 52:BT:59:ILE:CD1 | 52:BT:73:VAL:HA | 2.31 | 0.61 |
| 2:AA:1:G:N2 | 2:AA:2902:C:N3 | 2.40 | 0.61 |
| 2:AA:221:A:O2' | 2:AA:222:A:OP2 | 2.18 | 0.61 |
| 2:AA:284:U:O2 | 2:AA:357:A:N1 | 2.33 | 0.61 |
| 2:AA:285:C:N3 | 2:AA:355:G:C6 | 2.69 | 0.61 |
| 2:AA:341:G:O2' | 2:AA:342:G:H5' | 2.00 | 0.61 |
| 2:AA:473:G:C2' | 2:AA:474:G:H5' | 2.31 | 0.61 |
| 2:AA:616:A:H2' | 2:AA:617:G:C2 | 2.36 | 0.61 |
| 2:AA:665:C:C2 | 2:AA:666:G:N7 | 2.68 | 0.61 |
| 2:AA:685:A:C4 | 2:AA:774:A:C6 | 2.89 | 0.61 |
| 2:AA:705:A:OP2 | 2:AA:725:G:N2 | 2.32 | 0.61 |
| 2:AA:800:A:O2' | 2:AA:801:G:O5' | 2.17 | 0.61 |
| 2:AA:848:G:H2' | 2:AA:849:A:H8 | 1.63 | 0.61 |
| 2:AA:960:A:C2 | 2:AA:962:G:O4' | 2.54 | 0.61 |
| 2:AA:1058:G:N3 | 9:AI:3:ILE:CD1 | 2.60 | 0.61 |
| 2:AA:1070:A:N6 | 2:AA:1096:A:C2 | 2.66 | 0.61 |
| 2:AA:1176:G:OP1 | 2:AA:1176:G:H4' | 2.01 | 0.61 |
| 2:AA:1213:A:N6 | 2:AA:1236:G:H1' | 2.15 | 0.61 |
| 2:AA:1324:G:H1' | 2:AA:1616:A:H61 | 1.66 | 0.61 |
| 2:AA:1351:C:O2' | 2:AA:1571:A:C1' | 2.48 | 0.61 |
| 2:AA:1381:G:C6 | 2:AA:1382:G:C6 | 2.89 | 0.61 |
| 2:AA:1424:G:H2' | 2:AA:1424:G:N3 | 2.14 | 0.61 |
| 2:AA:1453:A:N7 | 2:AA:1454:U:C6 | 2.69 | 0.61 |
| 2:AA:1576:U:H2' | 2:AA:1577:C:H1' | 1.82 | 0.61 |
| 2:AA:1666:G:OP1 | 13:AN:66:LYS:HE2 | 2.01 | 0.61 |
| 2:AA:1881:C:O2' | 2:AA:1882:C:H5' | 2.01 | 0.61 |
| 2:AA:1909:C:C2' | 2:AA:1910:G:H5' | 2.31 | 0.61 |
| 2:AA:1914:C:H2' | 2:AA:1914:C:O2 | 2.00 | 0.61 |
| 2:AA:2026:C:C2 | 2:AA:2027:G:C8 | 2.89 | 0.61 |
| 2:AA:2287:A:HO2' | 2:AA:2288:A:P | 2.24 | 0.61 |
| 2:AA:2436:G:H2' | 2:AA:2437:U:O5' | 2.01 | 0.61 |
| 2:AA:2468:G:O5' | 2:AA:2468:G:H8 | 1.82 | 0.61 |
| 2:AA:2551:C:H2' | 2:AA:2552:U:H6 | 1.66 | 0.61 |
| 2:AA:2567:G:C2 | 2:AA:2568:C:C5 | 2.88 | 0.61 |
| 2:AA:2639:A:C2 | 2:AA:2640:G:H1' | 2.36 | 0.61 |
| 2:AA:2674:G:C2' | 2:AA:2675:A:H8 | 2.01 | 0.61 |
| 2:AA:2697:G:O2' | 2:AA:2698:U:C5' | 2.48 | 0.61 |
| 3:AC:68:LEU:HD23 | 3:AC:72:VAL:HG21 | 1.82 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:123:VAL:O | 3:AC:137:LEU:CD2 | 2.49 | 0.61 |
| 3:AC:131:LEU:HB3 | 3:AC:136:LEU:O | 2.00 | 0.61 |
| 4:AD:140:VAL:CB | 4:AD:191:VAL:HG12 | 2.31 | 0.61 |
| 5:AE:238:LEU:HD22 | 5:AE:238:LEU:N | 2.13 | 0.61 |
| 5:AE:240:PRO:HB2 | 5:AE:243:PRO:CG | 2.31 | 0.61 |
| 6:AF:197:SER:HB2 | 6:AF:239:ALA:N | 2.15 | 0.61 |
| 7:AG:56:ARG:HB3 | 7:AG:56:ARG:HH11 | 1.62 | 0.61 |
| 8:AH:153:PRO:HB3 | 8:AH:161:ILE:O | 2.01 | 0.61 |
| 9:AI:18:LEU:CD1 | 9:AI:44:VAL:HG12 | 2.31 | 0.61 |
| 9:AI:26:GLU:OE1 | 9:AJ:43:PRO:HG3 | 2.01 | 0.61 |
| 10:AK:5:PHE:CE1 | 10:AK:16:GLY:N | 2.69 | 0.61 |
| 10:AK:66:LYS:C | 10:AK:69:LYS:HB3 | 2.21 | 0.61 |
| 12:AM:15:ARG:HG2 | 12:AM:43:ARG:CB | 2.20 | 0.61 |
| 12:AM:104:TYR:O | 12:AM:105:LEU:C | 2.38 | 0.61 |
| 15:AP:140:TYR:O | 15:AP:143:VAL:HG22 | 2.00 | 0.61 |
| 16:AQ:12:ARG:CZ | 16:AQ:20:TYR:CE2 | 2.84 | 0.61 |
| 18:AS:19:LEU:HB3 | 29:A5:25:LEU:HG | 1.83 | 0.61 |
| 18:AS:97:LYS:HB2 | 18:AS:99:ARG:HD3 | 1.83 | 0.61 |
| 19:AT:57:THR:O | 19:AT:59:ASP:OD1 | 2.18 | 0.61 |
| 20:AU:33:GLU:HG2 | 20:AU:34:GLU:N | 2.16 | 0.61 |
| 20:AU:48:VAL:CG1 | 20:AU:97:ARG:O | 2.43 | 0.61 |
| 20:AU:87:VAL:CG1 | 20:AU:88:PRO:HD2 | 2.30 | 0.61 |
| 21:AV:36:ARG:HA | 21:AV:39:PHE:CD1 | 2.36 | 0.61 |
| 21:AV:38:ALA:O | 21:AV:39:PHE:C | 2.39 | 0.61 |
| 21:AV:41:ARG:HE | 21:AV:41:ARG:N | 1.99 | 0.61 |
| 24:A0:114:VAL:HG12 | 24:A0:115:GLU:N | 2.15 | 0.61 |
| 25:A1:103:PRO:HG2 | 25:A1:104:GLU:H | 1.65 | 0.61 |
| 26:A2:67:LYS:HB2 | 26:A2:92:ALA:O | 2.00 | 0.61 |
| 28:A4:20:VAL:O | 28:A4:20:VAL:CG1 | 2.49 | 0.61 |
| 32:A8:7:HIS:O | 32:A8:11:LYS:HG3 | 2.01 | 0.61 |
| 34:BA:110:C:O2' | 34:BA:111:G:H5' | 2.01 | 0.61 |
| 34:BA:132:C:O2' | 34:BA:133:U:O5' | 2.19 | 0.61 |
| 34:BA:376:G:OP1 | 51:BS:6:LEU:CD1 | 2.49 | 0.61 |
| 34:BA:410:G:C4 | 34:BA:432:A:N6 | 2.69 | 0.61 |
| 34:BA:484:G:O4' | 34:BA:486:U:C6 | 2.54 | 0.61 |
| 34:BA:490:G:H2' | 34:BA:491:G:C8 | 2.35 | 0.61 |
| 34:BA:517:G:H5' | 34:BA:519:C:N4 | 2.16 | 0.61 |
| 34:BA:547:A:C4' | 34:BA:548:G:O5' | 2.42 | 0.61 |
| 34:BA:706:A:C2 | 34:BA:707:C:C6 | 2.89 | 0.61 |
| 34:BA:995:C:H2' | 49:BQ:4:LYS:HZ3 | 1.65 | 0.61 |
| 34:BA:1000:U:C4 | 34:BA:1041:A:N1 | 2.69 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1199:U:H4' | 45:BM:54:PHE:CE2 | 2.35 | 0.61 |
| 34:BA:1314:C:OP2 | 54:BV:6:LYS:HG2 | 2.00 | 0.61 |
| 34:BA:1345:U:C2 | 34:BA:1377:A:C6 | 2.89 | 0.61 |
| 34:BA:1378:C:N3 | 34:BA:1379:G:H1' | 2.15 | 0.61 |
| 34:BA:1406:U:C2 | 34:BA:1407:C:C6 | 2.89 | 0.61 |
| 34:BA:1471:G:H2' | 34:BA:1472:U:C6 | 2.36 | 0.61 |
| 35:BC:5:A:C2' | 35:BC:6:U:O5' | 2.49 | 0.61 |
| 35:BC:73:A:H2' | 35:BC:74:C:OP1 | 2.00 | 0.61 |
| 36:B1:69:A:H3' | 36:B1:69:A:N3 | 2.16 | 0.61 |
| 37:BE:72:GLY:HA2 | 37:BE:165:VAL:HG22 | 1.83 | 0.61 |
| 37:BE:163:PHE:CB | 37:BE:185:ILE:HD12 | 2.31 | 0.61 |
| 39:BG:20:TYR:HA | 39:BG:26:CYS:O | 2.00 | 0.61 |
| 39:BG:96:LEU:HD12 | 39:BG:96:LEU:H | 1.66 | 0.61 |
| 39:BG:101:LEU:HD22 | 39:BG:138:TYR:HB3 | 1.82 | 0.61 |
| 39:BG:107:ARG:HB3 | 39:BG:174:LEU:CD1 | 2.31 | 0.61 |
| 39:BG:119:GLN:HG2 | 39:BG:123:HIS:CD2 | 2.36 | 0.61 |
| 39:BG:159:ARG:O | 39:BG:163:GLU:CB | 2.48 | 0.61 |
| 39:BG:204:ILE:HD12 | 39:BG:204:ILE:H | 1.66 | 0.61 |
| 41:BI:8:ILE:HG23 | 41:BI:88:VAL:HA | 1.81 | 0.61 |
| 41:BI:82:ARG:C | 41:BI:85:VAL:HG23 | 2.20 | 0.61 |
| 44:BL:110:GLU:CD | 44:BL:111:ARG:H | 2.04 | 0.61 |
| 45:BM:44:VAL:CG1 | 45:BM:46:ARG:HE | 2.12 | 0.61 |
| 46:BN:50:TYR:CG | 46:BN:54:ARG:CB | 2.84 | 0.61 |
| 47:BO:6:THR:HG1 | 47:BO:9:GLN:HG3 | 1.65 | 0.61 |
| 47:BO:46:LYS:HG2 | 47:BO:47:LYS:HG3 | 1.83 | 0.61 |
| 49:BQ:13:THR:C | 49:BQ:15:LYS:H | 2.04 | 0.61 |
| 55:BW:73:HIS:O | 55:BW:74:LYS:C | 2.38 | 0.61 |
| 1:AB:14:U:O2' | 1:AB:107:U:H4' | 2.01 | 0.60 |
| 1:AB:49:C:OP1 | 16:AQ:111:PRO:HD2 | 2.00 | 0.60 |
| 1:AB:99:A:O2' | 1:AB:100:G:H5' | 2.01 | 0.60 |
| 2:AA:58:G:C4 | 2:AA:73:A:N1 | 2.69 | 0.60 |
| 2:AA:184:C:HO2' | 2:AA:217:G:N2 | 1.98 | 0.60 |
| 2:AA:197:A:H61 | 2:AA:248:G:N2 | 1.94 | 0.60 |
| 2:AA:285:C:C2 | 2:AA:356:G:N2 | 2.69 | 0.60 |
| 2:AA:288:C:P | 2:AA:289:A:OP2 | 2.58 | 0.60 |
| 2:AA:422:A:N1 | 2:AA:423:A:N3 | 2.49 | 0.60 |
| 2:AA:476:G:H4' | 2:AA:505:A:C2 | 2.36 | 0.60 |
| 2:AA:563:G:H21 | 25:A1:37:GLN:CD | 2.03 | 0.60 |
| 2:AA:774:A:C5' | 2:AA:778:G:C4' | 2.77 | 0.60 |
| 2:AA:776:G:C6 | 2:AA:793:A:C8 | 2.89 | 0.60 |
| 2:AA:840:C:C5' | 2:AA:1192:G:H1' | 2.30 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:919:G:N3 | 2:AA:920:G:C8 | 2.69 | 0.60 |
| 2:AA:956:G:H2' | 2:AA:957:A:C5' | 2.31 | 0.60 |
| 2:AA:1000:A:H8 | 2:AA:1154:G:N2 | 1.99 | 0.60 |
| 2:AA:1025:G:H8 | 2:AA:1134:G:H1' | 1.64 | 0.60 |
| 2:AA:1061:U:O4' | 2:AA:1070:A:H1' | 2.00 | 0.60 |
| 2:AA:1065:U:H3' | 2:AA:1066:U:C5' | 2.27 | 0.60 |
| 2:AA:1212:G:C2 | 2:AA:1236:G:C6 | 2.88 | 0.60 |
| 2:AA:1286:A:C2 | 2:AA:1329:U:C2 | 2.89 | 0.60 |
| 2:AA:1352:U:O2' | 2:AA:1570:A:H2' | 2.00 | 0.60 |
| 2:AA:1403:C:H5' | 2:AA:1471:A:H5' | 1.80 | 0.60 |
| 2:AA:1442:G:H1 | 2:AA:1549:C:H42 | 0.73 | 0.60 |
| 2:AA:1576:U:H5 | 2:AA:1577:C:N3 | 1.98 | 0.60 |
| 2:AA:1775:U:H3' | 2:AA:1775:U:P | 2.41 | 0.60 |
| 2:AA:1788:C:C2 | 2:AA:1789:A:C8 | 2.89 | 0.60 |
| 2:AA:1800:C:O2' | 2:AA:1802:A:O4' | 2.18 | 0.60 |
| 2:AA:1805:U:H2' | 2:AA:1806:C:C6 | 2.35 | 0.60 |
| 2:AA:1835:G:O2' | 2:AA:1836:C:H5' | 2.00 | 0.60 |
| 2:AA:1881:C:H6 | 2:AA:1881:C:C5' | 2.14 | 0.60 |
| 2:AA:1923:U:P | 35:BC:25:C:H4' | 2.40 | 0.60 |
| 2:AA:1943:U:C2 | 2:AA:1945:G:O4' | 2.54 | 0.60 |
| 2:AA:1970:A:O2' | 2:AA:1971:A:H5' | 2.01 | 0.60 |
| 2:AA:2134:A:C2 | 2:AA:2152:G:OP2 | 2.54 | 0.60 |
| 2:AA:2218:G:H4' | 4:AD:184:LEU:CD1 | 2.31 | 0.60 |
| 2:AA:2322:A:O4' | 2:AA:2322:A:OP1 | 2.19 | 0.60 |
| 2:AA:2355:C:C5 | 2:AA:2356:C:N4 | 2.69 | 0.60 |
| 2:AA:2519:U:C4 | 2:AA:2542:A:C8 | 2.89 | 0.60 |
| 2:AA:2742:C:O2' | 2:AA:2743:C:H5' | 2.01 | 0.60 |
| 2:AA:2748:A:N6 | 2:AA:2757:A:N7 | 2.49 | 0.60 |
| 3:AC:144:THR:HA | 3:AC:152:ILE:CG2 | 2.25 | 0.60 |
| 3:AC:145:VAL:N | 3:AC:152:ILE:HD13 | 2.16 | 0.60 |
| 4:AD:105:ALA:O | 4:AD:106:PRO:C | 2.39 | 0.60 |
| 4:AD:208:GLY:CA | 4:AD:210:LYS:NZ | 2.63 | 0.60 |
| 5:AE:87:GLU:OE1 | 5:AE:96:LEU:HB2 | 2.00 | 0.60 |
| 5:AE:193:PHE:HE2 | 5:AE:199:ALA:HB1 | 1.65 | 0.60 |
| 9:AJ:73:VAL:HG22 | 9:AJ:122:GLY:N | 2.16 | 0.60 |
| 9:AJ:106:VAL:HG11 | 9:AJ:114:ILE:CD1 | 2.31 | 0.60 |
| 9:AJ:112:GLU:HA | 9:AJ:115:LYS:HD2 | 1.83 | 0.60 |
| 12:AM:18:ILE:O | 12:AM:18:ILE:CG2 | 2.49 | 0.60 |
| 12:AM:44:ALA:CA | 12:AM:132:LEU:HB2 | 2.30 | 0.60 |
| 13:AN:41:ALA:O | 13:AN:42:THR:CG2 | 2.48 | 0.60 |
| 13:AN:73:ASP:O | 13:AN:74:GLY:C | 2.40 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:106:LEU:O | 13:AN:107:ARG:C | 2.36 | 0.60 |
| 15:AP:54:VAL:HG13 | 15:AP:56:ILE:HD13 | 1.81 | 0.60 |
| 15:AP:94:ARG:CZ | 15:AP:105:PHE:O | 2.49 | 0.60 |
| 16:AQ:33:ARG:HB3 | 16:AQ:35:VAL:HG22 | 1.82 | 0.60 |
| 17:AR:6:CYS:O | 17:AR:7:ASP:CG | 2.39 | 0.60 |
| 17:AR:47:ARG:C | 17:AR:48:ASN:OD1 | 2.40 | 0.60 |
| 18:AS:13:SER:OG | 18:AS:16:LYS:N | 2.34 | 0.60 |
| 20:AU:55:PHE:CZ | 20:AU:89:ARG:CZ | 2.84 | 0.60 |
| 20:AU:102:ASP:HB3 | 20:AU:108:ARG:CZ | 2.31 | 0.60 |
| 21:AV:3:LEU:HD22 | 21:AV:34:LEU:CB | 2.29 | 0.60 |
| 21:AV:6:LYS:CE | 21:AV:30:VAL:HG11 | 2.30 | 0.60 |
| 21:AV:75:LYS:O | 21:AV:76:ARG:HB2 | 2.00 | 0.60 |
| 22:AW:28:LEU:O | 22:AW:31:ARG:HB2 | 2.00 | 0.60 |
| 24:A0:30:THR:HB | 24:A0:31:HIS:CE1 | 2.35 | 0.60 |
| 25:A1:53:LYS:HA | 25:A1:56:ASP:OD2 | 2.01 | 0.60 |
| 26:A2:12:TYR:CE1 | 26:A2:14:VAL:HB | 2.35 | 0.60 |
| 27:A3:47:ALA:HB2 | 27:A3:73:GLY:O | 2.01 | 0.60 |
| 29:A5:41:LEU:O | 29:A5:42:SER:C | 2.39 | 0.60 |
| 32:A8:19:THR:HB | 32:A8:21:LYS:HZ2 | 1.64 | 0.60 |
| 34:BA:55:A:N6 | 34:BA:357:G:H1' | 2.16 | 0.60 |
| 34:BA:59:A:H1' | 34:BA:388:G:H5" | 1.83 | 0.60 |
| 34:BA:198:G:O2' | 34:BA:199:G:H5' | 2.00 | 0.60 |
| 34:BA:217:C:H2' | 34:BA:218:C:H6 | 1.66 | 0.60 |
| 34:BA:237:C:H2' | 34:BA:238:G:H8 | 1.66 | 0.60 |
| 34:BA:272:C:H2' | 34:BA:273:A:C8 | 2.34 | 0.60 |
| 34:BA:299:G:C2' | 34:BA:300:A:C8 | 2.83 | 0.60 |
| 34:BA:404:U:P | 39:BG:118:ARG:NH1 | 2.74 | 0.60 |
| 34:BA:448:A:O2' | 34:BA:449:C:H5' | 2.00 | 0.60 |
| 34:BA:475:G:C2' | 34:BA:476:G:H8 | 2.13 | 0.60 |
| 34:BA:642:A:C2 | 43:BK:113:SER:O | 2.54 | 0.60 |
| 34:BA:859:A:N6 | 34:BA:860:A:C2 | 2.69 | 0.60 |
| 34:BA:900:A:C2' | 34:BA:901:A:O5' | 2.48 | 0.60 |
| 34:BA:941:G:H1 | 34:BA:1342:C:N4 | 1.96 | 0.60 |
| 34:BA:1016:A:H8 | 34:BA:1016:A:O5' | 1.84 | 0.60 |
| 34:BA:1150:U:H4' | 34:BA:1280:A:C2 | 2.35 | 0.60 |
| 34:BA:1189:C:OP1 | 38:BF:5:ILE:CG2 | 2.40 | 0.60 |
| 34:BA:1337:G:H5" | 34:BA:1338:G:OP1 | 2.00 | 0.60 |
| 34:BA:1368:G:O2' | 34:BA:1369:C:H5' | 2.01 | 0.60 |
| 34:BA:1378:C:N3 | 34:BA:1379:G:C1' | 2.64 | 0.60 |
| 34:BA:1427:U:O2' | 34:BA:1428:A:H5' | 2.01 | 0.60 |
| 34:BA:1498:U:O2' | 34:BA:1499:A:C5' | 2.49 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1528:U:H2' | 34:BA:1530:G:H5' | 1.82 | 0.60 |
| 35:BC:71:G:C2' | 35:BC:72:C:H5' | 2.30 | 0.60 |
| 37:BE:91:PRO:HG3 | 37:BE:154:LEU:CB | 2.31 | 0.60 |
| 37:BE:114:ARG:HD2 | 37:BE:141:GLU:OE1 | 2.02 | 0.60 |
| 37:BE:144:ARG:CD | 37:BE:148:TYR:OH | 2.49 | 0.60 |
| 38:BF:48:TYR:HA | 38:BF:52:LEU:HD21 | 1.82 | 0.60 |
| 41:BI:79:LEU:C | 41:BI:81:ILE:N | 2.53 | 0.60 |
| 46:BN:102:GLY:O | 46:BN:103:LEU:O | 2.19 | 0.60 |
| 47:BO:85:ILE:HG13 | 47:BO:99:HIS:O | 2.01 | 0.60 |
| 54:BV:79:THR:HG22 | 54:BV:79:THR:O | 2.00 | 0.60 |
| 1:AB:34:U:O4 | 1:AB:48:A:N1 | 2.34 | 0.60 |
| 1:AB:99:A:N1 | 1:AB:100:G:C6 | 2.70 | 0.60 |
| 2:AA:10:G:H2' | 2:AA:11:G:C8 | 2.35 | 0.60 |
| 2:AA:112:U:C6 | 2:AA:112:U:C5' | 2.82 | 0.60 |
| 2:AA:122:G:C6 | 2:AA:130:C:C4 | 2.88 | 0.60 |
| 2:AA:241:A:H1' | 2:AA:243:U:C5 | 2.36 | 0.60 |
| 2:AA:291:C:N4 | 2:AA:349:G:C2 | 2.68 | 0.60 |
| 2:AA:342:G:N1 | 2:AA:344:G:C2 | 2.69 | 0.60 |
| 2:AA:357:A:H2' | 2:AA:358:U:H5" | 1.82 | 0.60 |
| 2:AA:506:G:H4' | 2:AA:509:C:H1' | 1.81 | 0.60 |
| 2:AA:547:A:H4' | 2:AA:549:G:C2 | 2.37 | 0.60 |
| 2:AA:558:G:O2' | 2:AA:559:G:C5' | 2.49 | 0.60 |
| 2:AA:566:U:C3' | 2:AA:567:A:H8 | 2.11 | 0.60 |
| 2:AA:650:C:O2 | 2:AA:650:C:H2' | 2.01 | 0.60 |
| 2:AA:713:G:N1 | 2:AA:714:U:C6 | 2.69 | 0.60 |
| 2:AA:778:G:N2 | 2:AA:787:U:C2 | 2.69 | 0.60 |
| 2:AA:782:A:H4' | 2:AA:783:A:N7 | 2.15 | 0.60 |
| 2:AA:856:C:O2' | 27:A3:24:LYS:HB2 | 2.00 | 0.60 |
| 2:AA:1007:C:O4' | 12:AM:86:MET:O | 2.19 | 0.60 |
| 2:AA:1021:A:N3 | 2:AA:1123:C:P | 2.74 | 0.60 |
| 2:AA:1091:G:C2 | 2:AA:1101:U:C2 | 2.90 | 0.60 |
| 2:AA:142(A):A:C4 | 2:AA:1143:A:C8 | 2.89 | 0.60 |
| 2:AA:1165:U:O2' | 2:AA:1166:C:C6 | 2.52 | 0.60 |
| 2:AA:1422:G:N1 | 2:AA:1576:U:C2 | 2.67 | 0.60 |
| 2:AA:1462:C:H5' | 2:AA:1463:C:OP2 | 2.00 | 0.60 |
| 2:AA:1466:G:O2' | 2:AA:1546:C:H4' | 2.01 | 0.60 |
| 2:AA:1568:G:H5" | 4:AD:60:GLN:CD | 2.21 | 0.60 |
| 2:AA:1646:C:H3' | 2:AA:1647:G:H5' | 1.83 | 0.60 |
| 2:AA:1650:G:H21 | 2:AA:1651:G:H1' | 1.65 | 0.60 |
| 2:AA:1689:A:C6 | 2:AA:1700:A:N1 | 2.69 | 0.60 |
| 2:AA:1743:G:C5 | 2:AA:1746:G:C8 | 2.88 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1773:A:C2' | 2:AA:1774:C:H5' | 2.32 | 0.60 |
| 2:AA:1785:A:O2' | 2:AA:1786:A:H5' | 2.01 | 0.60 |
| 2:AA:1796:U:N3 | 2:AA:1823:G:N1 | 2.19 | 0.60 |
| 2:AA:1827:C:N3 | 2:AA:1828:G:H1' | 2.16 | 0.60 |
| 2:AA:1887:C:H2' | 2:AA:1888:G:O5' | 2.01 | 0.60 |
| 2:AA:1979:C:O2 | 2:AA:1979:C:H2' | 2.01 | 0.60 |
| 2:AA:2061:G:C4 | 2:AA:2063:C:N4 | 2.69 | 0.60 |
| 2:AA:2210:G:N7 | 4:AD:148:GLY:HA3 | 2.15 | 0.60 |
| 2:AA:2287:A:N6 | 2:AA:2289:G:N3 | 2.50 | 0.60 |
| 2:AA:2309:A:C5' | 2:AA:2310:A:OP2 | 2.49 | 0.60 |
| 2:AA:2310:A:C2 | 7:AG:55:LYS:HD3 | 2.36 | 0.60 |
| 2:AA:2354:G:O2' | 2:AA:2355:C:H5' | 2.01 | 0.60 |
| 2:AA:2466:C:N4 | 2:AA:2467:C:N4 | 2.48 | 0.60 |
| 2:AA:2553:G:C8 | 2:AA:2553:G:C3' | 2.78 | 0.60 |
| 2:AA:2584:U:H2' | 2:AA:2585:U:H6 | 1.60 | 0.60 |
| 2:AA:2626:C:C2 | 2:AA:2627:G:C8 | 2.89 | 0.60 |
| 2:AA:2719:G:C8 | 2:AA:2719:G:O5' | 2.48 | 0.60 |
| 4:AD:63:ILE:HG22 | 4:AD:64:ILE:H | 1.64 | 0.60 |
| 7:AG:106:PHE:O | 7:AG:107:GLY:O | 2.19 | 0.60 |
| 8:AH:43:THR:CG2 | 8:AH:52:THR:CG2 | 2.78 | 0.60 |
| 9:AJ:13:LEU:HB3 | 9:AJ:17:GLU:HB2 | 1.82 | 0.60 |
| 9:AJ:62:VAL:CG2 | 9:AJ:101:VAL:HG22 | 2.30 | 0.60 |
| 10:AK:124:LEU:HD11 | 10:AK:146:THR:CA | 2.31 | 0.60 |
| 11:AL:71:LYS:HB3 | 11:AL:115:ASP:CG | 2.22 | 0.60 |
| 13:AN:24:VAL:HG11 | 13:AN:32:TYR:N | 2.15 | 0.60 |
| 20:AU:21:LYS:O | 20:AU:24:ARG:HG3 | 2.01 | 0.60 |
| 20:AU:31:LEU:O | 20:AU:34:GLU:CB | 2.45 | 0.60 |
| 20:AU:31:LEU:HD23 | 20:AU:31:LEU:H | 1.66 | 0.60 |
| 20:AU:52:ARG:HD2 | 20:AU:95:ASN:ND2 | 2.16 | 0.60 |
| 21:AV:7:PRO:HG2 | 21:AV:8:ARG:N | 2.12 | 0.60 |
| 21:AV:40:ASP:HB2 | 21:AV:41:ARG:HH21 | 1.66 | 0.60 |
| 22:AW:13:PRO:CA | 22:AW:16:ARG:HD2 | 2.25 | 0.60 |
| 25:A1:7:GLY:C | 25:A1:9:VAL:N | 2.51 | 0.60 |
| 25:A1:13:ARG:NH1 | 25:A1:13:ARG:CB | 2.50 | 0.60 |
| 28:A4:4:ASP:HB3 | 28:A4:5:LEU:HD23 | 1.82 | 0.60 |
| 29:A5:21:SER:O | 29:A5:22:HIS:C | 2.36 | 0.60 |
| 30:A6:16:ALA:CB | 30:A6:19:GLY:H | 2.13 | 0.60 |
| 34:BA:237:C:OP1 | 52:BT:40:LYS:CD | 2.49 | 0.60 |
| 34:BA:331:G:OP1 | 34:BA:332:G:H5' | 2.02 | 0.60 |
| 34:BA:390:C:H2' | 34:BA:391:G:C8 | 2.35 | 0.60 |
| 34:BA:522:C:C4 | 34:BA:523:A:N6 | 2.69 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:598:U:N3 | 34:BA:599:C:C5 | 2.69 | 0.60 |
| 34:BA:622:A:H2' | 34:BA:623:C:H5' | 1.83 | 0.60 |
| 34:BA:684:A:N3 | 46:BN:39:PRO:CG | 2.57 | 0.60 |
| 34:BA:737:A:H5' | 41:BI:90:VAL:CG1 | 2.31 | 0.60 |
| 34:BA:748:C:O2' | 34:BA:749:C:H5' | 2.01 | 0.60 |
| 34:BA:757:U:C5' | 34:BA:878:G:N2 | 2.63 | 0.60 |
| 34:BA:793:U:H5' | 34:BA:794:A:C8 | 2.35 | 0.60 |
| 34:BA:817:C:O2' | 34:BA:818:G:O5' | 2.19 | 0.60 |
| 34:BA:1290:G:O3' | 42:BJ:37:ASN:OD1 | 2.19 | 0.60 |
| 34:BA:1298:C:C2' | 42:BJ:114:ARG:NH1 | 2.64 | 0.60 |
| 34:BA:1342:C:O2' | 44:BL:124:GLN:HA | 2.01 | 0.60 |
| 35:BB:21:A:C6 | 35:BB:46:G:N1 | 2.69 | 0.60 |
| 35:BB:42:G:C5' | 35:BB:43:G:OP2 | 2.25 | 0.60 |
| 35:BC:7:U:C2 | 35:BC:67:A:C2 | 2.89 | 0.60 |
| 35:BC:70:C:C2 | 35:BC:71:G:C8 | 2.89 | 0.60 |
| 37:BE:15:VAL:HG11 | 37:BE:209:ARG:CB | 2.31 | 0.60 |
| 37:BE:150:SER:CA | 37:BE:153:ARG:HB3 | 2.29 | 0.60 |
| 37:BE:222:ILE:HG12 | 37:BE:223:ILE:HG13 | 1.83 | 0.60 |
| 38:BF:52:LEU:O | 38:BF:115:LEU:HD21 | 2.01 | 0.60 |
| 39:BG:9:CYS:SG | 39:BG:31:CYS:O | 2.59 | 0.60 |
| 39:BG:177:ASP:OD2 | 39:BG:179:GLU:HB2 | 2.00 | 0.60 |
| 40:BH:110:LEU:HA | 40:BH:113:ALA:CB | 2.31 | 0.60 |
| 41:BI:42:GLU:O | 41:BI:44:GLY:N | 2.35 | 0.60 |
| 41:BI:46:ARG:HH12 | 53:BU:37:VAL:CG1 | 2.14 | 0.60 |
| 43:BK:46:LYS:HE3 | 43:BK:64:LYS:HG3 | 1.83 | 0.60 |
| 43:BK:48:TYR:CA | 43:BK:61:VAL:HG22 | 2.31 | 0.60 |
| 43:BK:64:LYS:O | 43:BK:79:VAL:HB | 2.01 | 0.60 |
| 44:BL:12:GLU:N | 44:BL:12:GLU:OE2 | 2.34 | 0.60 |
| 44:BL:103:THR:HG22 | 44:BL:105:ASP:N | 2.16 | 0.60 |
| 46:BN:12:ARG:NH2 | 46:BN:39:PRO:O | 2.33 | 0.60 |
| 46:BN:110:ASP:CA | 53:BU:88:LYS:HZ3 | 2.07 | 0.60 |
| 48:BP:8:GLU:CG | 48:BP:22:ILE:HG12 | 2.31 | 0.60 |
| 51:BS:20:VAL:HG11 | 51:BS:32:TYR:CG | 2.36 | 0.60 |
| 51:BS:32:TYR:N | 51:BS:32:TYR:CD1 | 2.66 | 0.60 |
| 52:BT:9:VAL:HG13 | 52:BT:56:VAL:HG22 | 1.83 | 0.60 |
| 52:BT:104:LYS:O | 52:BT:105:ALA:CB | 2.49 | 0.60 |
| 55:BW:55:ILE:O | 55:BW:57:ARG:N | 2.34 | 0.60 |
| 56:BX:7:ARG:O | 56:BX:8:THR:HG23 | 2.01 | 0.60 |
| 1:AB:82:G:H2' | 1:AB:83:G:C8 | 2.28 | 0.60 |
| 1:AB:97:G:N7 | 1:AB:98:G:N7 | 2.49 | 0.60 |
| 1:AB:99:A:H5" | 1:AB:99:A:H8 | 1.67 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:242:G:C3' | 32:A8:5:LYS:HZ3 | 2.14 | 0.60 |
| 2:AA:281:G:N2 | 2:AA:282:A:C8 | 2.69 | 0.60 |
| 2:AA:296:C:O2' | 2:AA:297:C:C5' | 2.47 | 0.60 |
| 2:AA:358:U:O2 | 2:AA:358:U:H2' | 2.00 | 0.60 |
| 2:AA:442:G:N3 | 6:AF:46:TYR:OH | 2.29 | 0.60 |
| 2:AA:450:G:N2 | 2:AA:454:A:C2 | 2.68 | 0.60 |
| 2:AA:573:G:N2 | 2:AA:2029:G:H21 | 1.99 | 0.60 |
| 2:AA:660:G:C4 | 2:AA:661:C:C5 | 2.89 | 0.60 |
| 2:AA:684:G:C6 | 2:AA:775:G:C8 | 2.89 | 0.60 |
| 2:AA:772:C:H2' | 2:AA:773:U:H6 | 1.65 | 0.60 |
| 2:AA:866:A:C2 | 2:AA:867:C:C6 | 2.90 | 0.60 |
| 2:AA:929:G:C2' | 23:AX:37:LEU:HD13 | 2.30 | 0.60 |
| 2:AA:1022:G:C5 | 2:AA:1139:G:C6 | 2.89 | 0.60 |
| 2:AA:1085:A:OP2 | 9:AI:36:PRO:HB2 | 2.01 | 0.60 |
| 2:AA:1142:U:C5 | 2:AA:142(A):A:H5' | 2.35 | 0.60 |
| 2:AA:1238:G:N1 | 2:AA:1240:U:H5 | 2.00 | 0.60 |
| 2:AA:1324:G:H4' | 2:AA:1616:A:H62 | 1.65 | 0.60 |
| 2:AA:1473:G:H2' | 2:AA:1474:C:C6 | 2.35 | 0.60 |
| 2:AA:1639:U:H2' | 2:AA:1640:C:H5' | 1.83 | 0.60 |
| 2:AA:1650:G:C2' | 2:AA:1651:G:O5' | 2.50 | 0.60 |
| 2:AA:1782:C:C5' | 2:AA:1783:A:OP2 | 2.44 | 0.60 |
| 2:AA:1814:G:C3' | 2:AA:1815:A:H8 | 2.14 | 0.60 |
| 2:AA:2111:C:H2' | 2:AA:2117:A:N7 | 2.16 | 0.60 |
| 2:AA:2176:A:C5 | 2:AA:2177:C:C5 | 2.89 | 0.60 |
| 2:AA:2325:G:H2' | 2:AA:2326:C:C6 | 2.36 | 0.60 |
| 2:AA:2422:A:H2' | 2:AA:2424:C:C5 | 2.34 | 0.60 |
| 2:AA:2448:A:OP2 | 2:AA:2499:C:OP2 | 2.20 | 0.60 |
| 2:AA:2476:A:N7 | 2:AA:2477:C:C6 | 2.69 | 0.60 |
| 2:AA:2525:G:C2 | 2:AA:2539:C:N3 | 2.70 | 0.60 |
| 2:AA:2552:U:C2 | 2:AA:2554:U:H5" | 2.37 | 0.60 |
| 2:AA:2583:G:C4 | 2:AA:2584:U:O2 | 2.54 | 0.60 |
| 2:AA:2606:C:H5' | 2:AA:2606:C:C6 | 2.32 | 0.60 |
| 2:AA:2703:C:H5 | 2:AA:2704:C:N3 | 1.99 | 0.60 |
| 2:AA:2717:G:H3' | 2:AA:2717:G:P | 2.41 | 0.60 |
| 2:AA:2735:G:C6 | 2:AA:2770:G:N2 | 2.69 | 0.60 |
| 2:AA:2807:G:H2' | 2:AA:2808:U:C6 | 2.35 | 0.60 |
| 2:AA:2826:A:C6 | 2:AA:2827:C:C6 | 2.89 | 0.60 |
| 3:AC:131:LEU:HB3 | 3:AC:136:LEU:HB2 | 1.81 | 0.60 |
| 4:AD:120:ASP:CG | 4:AD:121:ALA:N | 2.55 | 0.60 |
| 6:AF:55:ARG:CG | 6:AF:56:THR:N | 2.42 | 0.60 |
| 6:AF:93:LYS:CG | 6:AF:96:LYS:HE3 | 2.31 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:25:VAL:HB | 8:AH:32:LEU:CD2 | 2.31 | 0.60 |
| 9:AJ:78:ARG:NH1 | 9:AJ:85:LEU:HD22 | 2.16 | 0.60 |
| 11:AL:107:GLU:HA | 11:AL:110:LYS:HD2 | 1.83 | 0.60 |
| 12:AM:50:GLU:HB3 | 12:AM:134:GLU:OE2 | 2.00 | 0.60 |
| 14:AO:124:ASP:C | 14:AO:125:PHE:CG | 2.74 | 0.60 |
| 15:AP:42:TYR:HB3 | 21:AV:119:ASN:OD1 | 2.00 | 0.60 |
| 18:AS:35:ILE:O | 18:AS:39:THR:HB | 2.01 | 0.60 |
| 21:AV:6:LYS:H | 21:AV:7:PRO:CD | 2.14 | 0.60 |
| 21:AV:103:ARG:O | 21:AV:141:MET:SD | 2.59 | 0.60 |
| 22:AW:45:ARG:HH21 | 22:AW:49:LEU:HG | 1.65 | 0.60 |
| 22:AW:55:ARG:O | 22:AW:56:ILE:C | 2.40 | 0.60 |
| 26:A2:69:ILE:HG21 | 26:A2:89:ASN:N | 2.17 | 0.60 |
| 29:A5:46:CYS:HB3 | 29:A5:47:PRO:HD2 | 1.83 | 0.60 |
| 30:A6:11:LYS:NZ | 32:A8:35:GLY:N | 2.48 | 0.60 |
| 30:A6:29:ARG:O | 30:A6:30:ASN:C | 2.39 | 0.60 |
| 34:BA:82:U:H2' | 34:BA:83:U:O4' | 2.01 | 0.60 |
| 34:BA:102:G:H2' | 34:BA:103:C:O4' | 2.01 | 0.60 |
| 34:BA:565:U:H3' | 34:BA:566:G:C8 | 2.37 | 0.60 |
| 34:BA:642:A:H2 | 43:BK:113:SER:O | 1.84 | 0.60 |
| 34:BA:662:G:O2' | 34:BA:836:G:H5" | 2.00 | 0.60 |
| 34:BA:728:A:C8 | 50:BR:54:ARG:NH1 | 2.66 | 0.60 |
| 34:BA:752:G:OP2 | 34:BA:752:G:C8 | 2.54 | 0.60 |
| 34:BA:955:U:H2' | 34:BA:956:U:H6 | 1.65 | 0.60 |
| 34:BA:1049:U:C6 | 34:BA:1201:A:H5' | 2.36 | 0.60 |
| 34:BA:1120:G:O2' | 34:BA:1121:U:H5' | 2.01 | 0.60 |
| 34:BA:1289:A:C2' | 34:BA:1290:G:O5' | 2.49 | 0.60 |
| 34:BA:1329:A:H2' | 34:BA:1330:U:O4' | 2.00 | 0.60 |
| 34:BA:1406:U:O2 | 34:BA:1407:C:C6 | 2.54 | 0.60 |
| 34:BA:1514:C:O2' | 34:BA:1515:C:H5' | 2.01 | 0.60 |
| 35:BB:30:G:H1 | 35:BB:40:C:N4 | 1.98 | 0.60 |
| 35:BC:37:G:N2 | 36:B1:60:A:C5 | 2.69 | 0.60 |
| 36:B1:14:U:P | 36:B1:38:C:N4 | 2.74 | 0.60 |
| 37:BE:42:ILE:CG2 | 37:BE:43:ASP:N | 2.63 | 0.60 |
| 37:BE:102:LEU:HD12 | 37:BE:102:LEU:N | 2.16 | 0.60 |
| 40:BH:80:ILE:HD11 | 40:BH:91:LEU:HB3 | 1.81 | 0.60 |
| 41:BI:26:ILE:O | 41:BI:30:LEU:CD1 | 2.48 | 0.60 |
| 41:BI:76:ALA:C | 41:BI:80:ARG:NE | 2.54 | 0.60 |
| 43:BK:82:HIS:O | 43:BK:137:VAL:HG13 | 2.00 | 0.60 |
| 43:BK:109:ILE:O | 43:BK:136:GLU:HB2 | 2.01 | 0.60 |
| 44:BL:51:ARG:O | 44:BL:53:VAL:N | 2.34 | 0.60 |
| 44:BL:114:TYR:N | 44:BL:114:TYR:CD2 | 2.69 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BN:69:ALA:O | 46:BN:72:ALA:N | 2.34 | 0.60 |
| 47:BO:79:GLU:HB3 | 47:BO:80:HIS:CE1 | 2.36 | 0.60 |
| 48:BP:8:GLU:HG3 | 48:BP:22:ILE:CD1 | 2.30 | 0.60 |
| 48:BP:73:GLU:OE2 | 48:BP:74:VAL:N | 2.34 | 0.60 |
| 51:BS:49:LEU:HD11 | 51:BS:51:VAL:CG2 | 2.31 | 0.60 |
| 52:BT:5:VAL:CA | 52:BT:59:ILE:O | 2.49 | 0.60 |
| 54:BV:16:LEU:O | 54:BV:19:VAL:HG12 | 2.02 | 0.60 |
| 56:BX:3:LYS:HB3 | 56:BX:14:TRP:CG | 2.36 | 0.60 |
| 1:AB:34:U:N3 | 1:AB:48:A:C2 | 2.69 | 0.60 |
| 1:AB:59:A:C2' | 1:AB:60:C:H5' | 2.32 | 0.60 |
| 1:AB:73:A:O4' | 1:AB:73:A:OP2 | 2.19 | 0.60 |
| 2:AA:117:G:C2 | 2:AA:119:A:N6 | 2.69 | 0.60 |
| 2:AA:177:G:H2' | 2:AA:178:G:OP1 | 2.00 | 0.60 |
| 2:AA:191:A:H8 | 2:AA:191:A:O5' | 1.83 | 0.60 |
| 2:AA:205:G:HO2' | 2:AA:206:U:P | 2.23 | 0.60 |
| 2:AA:237:C:C4 | 2:AA:238:C:C5 | 2.90 | 0.60 |
| 2:AA:319:C:C4 | 2:AA:320:A:N7 | 2.70 | 0.60 |
| 2:AA:533:G:OP1 | 25:A1:24:PHE:CB | 2.49 | 0.60 |
| 2:AA:556:G:H2' | 2:AA:557:U:O4' | 2.01 | 0.60 |
| 2:AA:582:G:H1 | 2:AA:1258:C:N4 | 1.98 | 0.60 |
| 2:AA:684:G:OP1 | 31:A7:16:HIS:CE1 | 2.54 | 0.60 |
| 2:AA:722:A:O2' | 2:AA:723:G:C5' | 2.50 | 0.60 |
| 2:AA:838:C:O2' | 2:AA:839:U:O5' | 2.19 | 0.60 |
| 2:AA:929:G:C2' | 23:AX:43:ILE:HG13 | 2.30 | 0.60 |
| 2:AA:929:G:O3' | 23:AX:37:LEU:HD21 | 2.00 | 0.60 |
| 2:AA:996:A:N1 | 2:AA:997:G:C5 | 2.69 | 0.60 |
| 2:AA:1020:A:H4' | 12:AM:49:ARG:CZ | 2.32 | 0.60 |
| 2:AA:1021:A:N3 | 2:AA:1123:C:OP1 | 2.34 | 0.60 |
| 2:AA:1142:U:H3' | 2:AA:142(A):A:C5' | 2.32 | 0.60 |
| 2:AA:1217:C:N4 | 2:AA:1218:C:H41 | 1.99 | 0.60 |
| 2:AA:1365:A:C5' | 28:A4:3:LYS:HD2 | 2.27 | 0.60 |
| 2:AA:1366:A:H2' | 2:AA:1367:A:H8 | 1.66 | 0.60 |
| 2:AA:1612:C:C2 | 31:A7:3:ARG:NH1 | 2.69 | 0.60 |
| 2:AA:1673:U:O2' | 2:AA:1674:G:O5' | 2.19 | 0.60 |
| 2:AA:1698:A:H1' | 2:AA:1700:A:O5' | 2.01 | 0.60 |
| 2:AA:1887:C:C2' | 2:AA:1888:G:O5' | 2.49 | 0.60 |
| 2:AA:1993:U:C2' | 2:AA:1994:C:C5' | 2.76 | 0.60 |
| 2:AA:2175:C:H2' | 2:AA:2176:A:C8 | 2.35 | 0.60 |
| 2:AA:2322:A:C2 | 2:AA:2323:G:O4' | 2.54 | 0.60 |
| 2:AA:2400:G:N2 | 2:AA:2417:C:C2 | 2.69 | 0.60 |
| 2:AA:2462:U:C4 | 2:AA:2463:C:C4 | 2.89 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2617:C:H1' | 5:AE:245:ARG:HH22 | 1.66 | 0.60 |
| 2:AA:2720:U:H2' | 2:AA:2721:A:H8 | 1.65 | 0.60 |
| 2:AA:2829:C:H2' | 2:AA:2830:G:H8 | 1.66 | 0.60 |
| 2:AA:2832:U:C1' | 2:AA:2834:G:H21 | 2.12 | 0.60 |
| 2:AA:2889:C:H2' | 2:AA:2891:G:C8 | 2.36 | 0.60 |
| 3:AC:27:HIS:O | 3:AC:31:GLU:HG3 | 2.01 | 0.60 |
| 4:AD:88:ALA:HB1 | 4:AD:90:ILE:HD11 | 1.82 | 0.60 |
| 4:AD:90:ILE:CG2 | 4:AD:91:ALA:N | 2.63 | 0.60 |
| 4:AD:213:LYS:O | 4:AD:214:MET:CB | 2.49 | 0.60 |
| 5:AE:70:VAL:HG22 | 5:AE:296:VAL:O | 2.02 | 0.60 |
| 5:AE:271:ILE:HG22 | 5:AE:272:GLY:N | 2.15 | 0.60 |
| 6:AF:213:ALA:CB | 6:AF:218:VAL:CG2 | 2.72 | 0.60 |
| 7:AG:151:ILE:HD13 | 7:AG:156:ARG:HH22 | 1.64 | 0.60 |
| 8:AH:26:LYS:NZ | 8:AH:33:THR:CG2 | 2.65 | 0.60 |
| 8:AH:104:LEU:HB2 | 8:AH:151:ARG:NH1 | 2.16 | 0.60 |
| 8:AH:158:GLY:O | 8:AH:159:LYS:CB | 2.49 | 0.60 |
| 9:AI:63:LEU:CD2 | 9:AI:118:LEU:HD13 | 2.31 | 0.60 |
| 9:AI:115:LYS:O | 9:AI:119:GLU:HG3 | 2.02 | 0.60 |
| 10:AK:93:ILE:CG1 | 10:AK:121:ILE:H | 2.15 | 0.60 |
| 11:AL:73:PRO:HG2 | 11:AL:78:LEU:HD21 | 1.83 | 0.60 |
| 13:AN:60:ALA:HA | 13:AN:87:ILE:HD13 | 1.83 | 0.60 |
| 13:AN:64:ARG:NH1 | 17:AR:24:LYS:HG3 | 2.16 | 0.60 |
| 14:AO:142:LEU:O | 14:AO:144:ASP:N | 2.34 | 0.60 |
| 16:AQ:31:LYS:HZ2 | 16:AQ:99:GLU:HB2 | 1.65 | 0.60 |
| 19:AT:55:GLN:NE2 | 19:AT:57:THR:HG23 | 2.16 | 0.60 |
| 21:AV:46:GLN:NE2 | 21:AV:50:GLY:CA | 2.54 | 0.60 |
| 21:AV:123:VAL:HA | 21:AV:161:ALA:HB3 | 1.80 | 0.60 |
| 22:AW:19:GLU:C | 22:AW:23:LEU:HG | 2.20 | 0.60 |
| 22:AW:61:GLY:O | 22:AW:64:GLY:N | 2.34 | 0.60 |
| 26:A2:1:MET:C | 26:A2:2:PHE:HD1 | 2.05 | 0.60 |
| 31:A7:21:ARG:HB3 | 31:A7:31:LEU:CD1 | 2.32 | 0.60 |
| 31:A7:34:ARG:HD2 | 31:A7:42:LEU:HD21 | 1.82 | 0.60 |
| 32:A8:26:LYS:CG | 32:A8:45:GLY:H | 2.15 | 0.60 |
| 34:BA:69:G:H1 | 34:BA:99:C:H42 | 1.47 | 0.60 |
| 34:BA:283:C:N3 | 34:BA:284:G:N7 | 2.49 | 0.60 |
| 34:BA:308:C:H2' | 34:BA:309:G:C5' | 2.32 | 0.60 |
| 34:BA:357:G:C2' | 34:BA:358:U:H5' | 2.32 | 0.60 |
| 34:BA:609:A:OP1 | 51:BS:18:ARG:NH2 | 2.34 | 0.60 |
| 34:BA:690:G:H2' | 34:BA:691:G:O4' | 2.01 | 0.60 |
| 34:BA:703:G:OP2 | 34:BA:703:G:H8 | 1.84 | 0.60 |
| 34:BA:767:A:H8 | 34:BA:767:A:O5' | 1.84 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:793:U:O2 | 34:BA:1516:G:H4' | 2.01 | 0.60 |
| 34:BA:985:C:H2' | 34:BA:986:A:H8 | 1.66 | 0.60 |
| 34:BA:995:C:O2' | 49:BQ:4:LYS:HE2 | 2.02 | 0.60 |
| 34:BA:998:G:H2' | 34:BA:999:C:H5' | 1.81 | 0.60 |
| 34:BA:1116:C:C2 | 34:BA:1117:G:C8 | 2.88 | 0.60 |
| 35:BB:60:C:C5' | 35:BB:61:C:P | 2.83 | 0.60 |
| 36:B1:65:U:O3' | 36:B1:66:G:H8 | 1.85 | 0.60 |
| 37:BE:146:GLN:O | 37:BE:147:LYS:C | 2.39 | 0.60 |
| 37:BE:157:ARG:C | 37:BE:158:LEU:HD23 | 2.22 | 0.60 |
| 38:BF:11:ARG:HG3 | 38:BF:11:ARG:NH1 | 2.16 | 0.60 |
| 38:BF:193:TYR:N | 38:BF:193:TYR:CD2 | 2.70 | 0.60 |
| 41:BI:96:PRO:C | 53:BU:32:ARG:NE | 2.55 | 0.60 |
| 45:BM:23:ILE:HG13 | 45:BM:85:LEU:HD22 | 1.81 | 0.60 |
| 46:BN:85:ARG:NE | 46:BN:113:PRO:HD3 | 2.16 | 0.60 |
| 48:BP:13:LYS:CA | 48:BP:44:ARG:NE | 2.62 | 0.60 |
| 49:BQ:11:LYS:O | 49:BQ:12:ARG:HB2 | 2.01 | 0.60 |
| 53:BU:38:GLU:O | 53:BU:42:ARG:CG | 2.48 | 0.60 |
| 1:AB:19:G:OP2 | 7:AG:149:ARG:NH1 | 2.32 | 0.60 |
| 1:AB:100:G:C5 | 1:AB:101:A:N7 | 2.70 | 0.60 |
| 2:AA:219:G:H2' | 2:AA:220:G:C8 | 2.36 | 0.60 |
| 2:AA:270(W):G:H2' | 2:AA:270(X):G:C8 | 2.37 | 0.60 |
| 2:AA:294:A:H4' | 20:AU:15:PRO:HD2 | 1.84 | 0.60 |
| 2:AA:463:G:N2 | 2:AA:466:A:OP2 | 2.35 | 0.60 |
| 2:AA:529:A:C2 | 2:AA:2022:U:C5' | 2.85 | 0.60 |
| 2:AA:542:C:C2 | 2:AA:543:C:C5 | 2.89 | 0.60 |
| 2:AA:567:A:C2 | 2:AA:568:U:N1 | 2.70 | 0.60 |
| 2:AA:627:A:C4 | 2:AA:637:A:N3 | 2.70 | 0.60 |
| 2:AA:643:A:O2' | 2:AA:644:A:C8 | 2.55 | 0.60 |
| 2:AA:647:G:H1' | 2:AA:2351:G:OP1 | 2.01 | 0.60 |
| 2:AA:727:A:H2' | 2:AA:728:G:O5' | 2.01 | 0.60 |
| 2:AA:747:U:O2 | 2:AA:2015:A:H2 | 1.84 | 0.60 |
| 2:AA:830:G:N7 | 2:AA:2448:A:C8 | 2.69 | 0.60 |
| 2:AA:917:A:H2' | 2:AA:918:A:H4' | 1.83 | 0.60 |
| 2:AA:919:G:C2 | 2:AA:2268:A:H5" | 2.34 | 0.60 |
| 2:AA:941:A:C2 | 2:AA:942:G:N3 | 2.70 | 0.60 |
| 2:AA:987:G:O6 | 2:AA:988:A:C5 | 2.55 | 0.60 |
| 2:AA:1135:C:O2' | 2:AA:1136:G:C5' | 2.47 | 0.60 |
| 2:AA:1263:U:N3 | 2:AA:1264:G:N2 | 2.49 | 0.60 |
| 2:AA:1324:G:C2 | 2:AA:1328:G:N2 | 2.69 | 0.60 |
| 2:AA:1379:A:N3 | 2:AA:1379:A:C2' | 2.64 | 0.60 |
| 2:AA:1697:G:H3' | 2:AA:1698:A:H5' | 1.80 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1789:A:H5" | 2:AA:1790:C:OP2 | 2.01 | 0.60 |
| 2:AA:1947:C:N3 | 2:AA:1948:G:C8 | 2.70 | 0.60 |
| 2:AA:1977:A:C2' | 2:AA:1978:A:C8 | 2.74 | 0.60 |
| 2:AA:2104:G:C2 | 2:AA:2105:C:C2 | 2.89 | 0.60 |
| 2:AA:2194:G:N3 | 2:AA:2194:G:H2' | 2.14 | 0.60 |
| 2:AA:2210:G:H4' | 2:AA:2211:G:O5' | 2.02 | 0.60 |
| 2:AA:2219:G:OP1 | 4:AD:184:LEU:CD2 | 2.50 | 0.60 |
| 2:AA:2244:U:H1' | 2:AA:2434:A:C5 | 2.36 | 0.60 |
| 2:AA:2373:G:H1 | 2:AA:2380:C:H42 | 0.73 | 0.60 |
| 2:AA:2488:A:C6 | 2:AA:2489:G:N7 | 2.69 | 0.60 |
| 2:AA:2492:U:C2' | 2:AA:2493:U:O5' | 2.48 | 0.60 |
| 2:AA:2653:U:H2' | 2:AA:2654:A:N7 | 2.16 | 0.60 |
| 2:AA:2771:C:H2' | 2:AA:2772:C:C6 | 2.36 | 0.60 |
| 2:AA:2831:G:O4' | 2:AA:2883:A:C2 | 2.54 | 0.60 |
| 2:AA:2848:G:N2 | 2:AA:2867:G:N3 | 2.49 | 0.60 |
| 3:AC:48:GLY:CA | 3:AC:210:ARG:NH1 | 2.64 | 0.60 |
| 4:AD:197:GLY:C | 4:AD:199:ARG:N | 2.44 | 0.60 |
| 4:AD:223:ASN:O | 4:AD:224:VAL:O | 2.20 | 0.60 |
| 5:AE:44:TYR:CD1 | 5:AE:308:VAL:HA | 2.36 | 0.60 |
| 6:AF:6:TYR:CG | 6:AF:139:VAL:O | 2.54 | 0.60 |
| 6:AF:220:THR:O | 6:AF:221:GLU:C | 2.38 | 0.60 |
| 9:AI:7:ILE:CD1 | 11:AL:118:ALA:CA | 2.78 | 0.60 |
| 9:AI:63:LEU:HD13 | 9:AI:66:PHE:CZ | 2.36 | 0.60 |
| 9:AI:109:GLU:O | 9:AI:113:GLU:HG3 | 2.01 | 0.60 |
| 9:AJ:86:LYS:HD2 | 11:AL:10:LYS:CE | 2.24 | 0.60 |
| 12:AM:38:VAL:O | 12:AM:103:VAL:CG1 | 2.48 | 0.60 |
| 12:AM:39:VAL:O | 12:AM:40:ASN:CB | 2.49 | 0.60 |
| 13:AN:25:LEU:HD12 | 13:AN:38:VAL:O | 2.02 | 0.60 |
| 13:AN:87:ILE:CG2 | 13:AN:88:ARG:N | 2.64 | 0.60 |
| 15:AP:48:ASN:HB2 | 15:AP:140:TYR:CZ | 2.36 | 0.60 |
| 16:AQ:120:GLU:HA | 16:AQ:123:ILE:HB | 1.82 | 0.60 |
| 18:AS:36:LEU:CB | 18:AS:48:ALA:HB2 | 2.32 | 0.60 |
| 18:AS:86:LEU:CD2 | 18:AS:87:PRO:HD3 | 2.23 | 0.60 |
| 20:AU:16:LEU:HD12 | 20:AU:16:LEU:H | 1.66 | 0.60 |
| 26:A2:19:VAL:CG1 | 26:A2:21:ARG:HH12 | 2.15 | 0.60 |
| 26:A2:28:GLU:C | 26:A2:30:GLY:N | 2.55 | 0.60 |
| 27:A3:36:ILE:O | 27:A3:36:ILE:HG22 | 2.02 | 0.60 |
| 28:A4:6:HIS:HE1 | 28:A4:55:ARG:HB2 | 1.65 | 0.60 |
| 28:A4:11:PRO:C | 28:A4:12:CYS:SG | 2.80 | 0.60 |
| 29:A5:11:THR:HB | 29:A5:16:ARG:CD | 2.29 | 0.60 |
| 32:A8:29:LYS:HD3 | 32:A8:36:LYS:CE | 2.31 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:32:A:C2' | 34:BA:33:A:O4' | 2.49 | 0.60 |
| 34:BA:192:U:C2 | 34:BA:193:C:C5 | 2.90 | 0.60 |
| 34:BA:723:U:O2 | 34:BA:723:U:C2' | 2.50 | 0.60 |
| 34:BA:739:C:C2' | 34:BA:740:U:H5' | 2.31 | 0.60 |
| 34:BA:761:G:H4' | 52:BT:103:GLY:CA | 2.30 | 0.60 |
| 34:BA:810:C:C2' | 34:BA:811:C:O5' | 2.50 | 0.60 |
| 34:BA:886:G:C2' | 34:BA:887:G:H5' | 2.31 | 0.60 |
| 34:BA:894:G:C5 | 34:BA:895:G:N7 | 2.70 | 0.60 |
| 34:BA:985:C:N3 | 34:BA:1221:G:C2 | 2.70 | 0.60 |
| 34:BA:1004:A:C8 | 34:BA:1036:G:O6 | 2.39 | 0.60 |
| 34:BA:1129:C:H4' | 34:BA:1131:G:C8 | 2.33 | 0.60 |
| 34:BA:1232:U:OP1 | 44:BL:126:SER:HB3 | 2.02 | 0.60 |
| 34:BA:1342:C:H1' | 44:BL:124:GLN:OE1 | 2.01 | 0.60 |
| 34:BA:1394:A:H8 | 34:BA:1394:A:O5' | 1.83 | 0.60 |
| 34:BA:1405:G:H21 | 34:BA:1517:G:N2 | 1.99 | 0.60 |
| 35:BB:18:G:N2 | 35:BB:57:G:N3 | 2.49 | 0.60 |
| 36:B1:55:U:H2' | 36:B1:56:A:N7 | 2.15 | 0.60 |
| 37:BE:130:ARG:HA | 37:BE:130:ARG:HE | 1.61 | 0.60 |
| 37:BE:147:LYS:HB2 | 37:BE:147:LYS:NZ | 2.17 | 0.60 |
| 38:BF:49:SER:C | 38:BF:51:GLY:N | 2.55 | 0.60 |
| 38:BF:141:VAL:CG1 | 38:BF:202:ILE:HD13 | 2.31 | 0.60 |
| 39:BG:68:TYR:O | 39:BG:69:GLY:C | 2.40 | 0.60 |
| 39:BG:180:GLY:O | 39:BG:181:MET:C | 2.40 | 0.60 |
| 42:BJ:99:LEU:CD2 | 42:BJ:102:ARG:HD2 | 2.30 | 0.60 |
| 44:BL:16:ARG:HD3 | 44:BL:64:THR:OG1 | 2.01 | 0.60 |
| 52:BT:75:ARG:HG3 | 52:BT:75:ARG:NH1 | 2.02 | 0.60 |
| 54:BV:2:PRO:O | 54:BV:3:ARG:O | 2.19 | 0.60 |
| 55:BW:74:LYS:C | 55:BW:76:ALA:H | 2.03 | 0.60 |
| 56:BX:18:TYR:N | 56:BX:18:TYR:CD1 | 2.59 | 0.60 |
| 1:AB:17:C:H3' | 1:AB:18:G:H8 | 1.66 | 0.60 |
| 2:AA:23:G:H21 | 18:AS:77:ASP:CG | 2.05 | 0.60 |
| 2:AA:75:G:O3' | 22:AW:51:LYS:NZ | 2.29 | 0.60 |
| 2:AA:154:G:C6 | 2:AA:155:C:H1' | 2.36 | 0.60 |
| 2:AA:161:U:OP1 | 2:AA:161:U:C5 | 2.55 | 0.60 |
| 2:AA:171:G:H2' | 2:AA:172:C:C6 | 2.35 | 0.60 |
| 2:AA:182:A:O2' | 2:AA:183:C:C5' | 2.49 | 0.60 |
| 2:AA:265:A:N3 | 2:AA:266:G:C1' | 2.65 | 0.60 |
| 2:AA:435:C:H2' | 2:AA:436:C:H5' | 1.83 | 0.60 |
| 2:AA:618:G:C8 | 2:AA:618(A):C:C5 | 2.89 | 0.60 |
| 2:AA:649:G:O3' | 32:A8:17:THR:HG21 | 2.01 | 0.60 |
| 2:AA:703:U:H5" | 2:AA:704:G:OP2 | 2.02 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:881:G:N2 | 2:AA:896:A:N1 | 2.47 | 0.60 |
| 2:AA:921:G:H22 | 27:A3:23:VAL:HG11 | 1.66 | 0.60 |
| 2:AA:1015:G:H2' | 2:AA:1016:G:C8 | 2.36 | 0.60 |
| 2:AA:1022:G:C4 | 2:AA:1139:G:C2 | 2.89 | 0.60 |
| 2:AA:1023:U:OP1 | 2:AA:1025:G:N2 | 2.34 | 0.60 |
| 2:AA:1063:G:C5' | 11:AL:88:GLY:HA3 | 2.32 | 0.60 |
| 2:AA:1144:G:C5 | 2:AA:1145:C:C4 | 2.89 | 0.60 |
| 2:AA:1317:A:C5 | 2:AA:1318:C:C5 | 2.89 | 0.60 |
| 2:AA:1344:G:H2' | 2:AA:1345:C:OP1 | 2.01 | 0.60 |
| 2:AA:1480:G:O6 | 2:AA:1513:C:N3 | 2.34 | 0.60 |
| 2:AA:1510:A:C5' | 2:AA:1511:A:OP2 | 2.49 | 0.60 |
| 2:AA:1534:G:C2 | 2:AA:1535:U:H5' | 2.37 | 0.60 |
| 2:AA:1640:C:C2' | 2:AA:1641:A:O5' | 2.49 | 0.60 |
| 2:AA:1800:C:C2' | 2:AA:1801:G:H5" | 2.31 | 0.60 |
| 2:AA:1908:C:N4 | 2:AA:1922:G:H1 | 1.97 | 0.60 |
| 2:AA:1943:U:C1' | 2:AA:1945:G:C5' | 2.76 | 0.60 |
| 2:AA:1956:U:O2 | 2:AA:1957:C:O4' | 2.20 | 0.60 |
| 2:AA:2018:G:N2 | 2:AA:2019:A:C1' | 2.65 | 0.60 |
| 2:AA:2043:C:O2 | 2:AA:2044:C:H6 | 1.83 | 0.60 |
| 2:AA:2209:C:O4' | 4:AD:149:ARG:NH2 | 2.34 | 0.60 |
| 2:AA:2419:U:O4 | 32:A8:31:HIS:CE1 | 2.55 | 0.60 |
| 2:AA:2432:A:N3 | 2:AA:2432:A:H2' | 2.17 | 0.60 |
| 2:AA:2626:C:C2 | 2:AA:2627:G:N7 | 2.70 | 0.60 |
| 2:AA:2737:G:C2 | 2:AA:2768:C:N3 | 2.69 | 0.60 |
| 2:AA:2808:U:C2' | 2:AA:2810:A:OP1 | 2.49 | 0.60 |
| 2:AA:2818:G:H4' | 2:AA:2837:G:O4' | 2.01 | 0.60 |
| 2:AA:2841:C:C2 | 2:AA:2842:G:N7 | 2.70 | 0.60 |
| 2:AA:2900:A:H2' | 2:AA:2901:C:H6 | 1.66 | 0.60 |
| 6:AF:153:VAL:C | 6:AF:157:LEU:HG | 2.21 | 0.60 |
| 6:AF:165:ASP:O | 6:AF:168:ARG:N | 2.35 | 0.60 |
| 6:AF:205:ARG:HG2 | 6:AF:212:VAL:CB | 2.30 | 0.60 |
| 7:AG:36:ASN:C | 7:AG:39:ASP:H | 2.05 | 0.60 |
| 7:AG:88:LEU:O | 7:AG:88:LEU:HD23 | 2.02 | 0.60 |
| 8:AH:102:LEU:HD21 | 8:AH:114:ILE:CB | 2.30 | 0.60 |
| 9:AI:103:LYS:HD3 | 9:AI:114:ILE:CG1 | 2.31 | 0.60 |
| 9:AJ:115:LYS:HZ3 | 9:AJ:127:LEU:HD13 | 1.64 | 0.60 |
| 11:AL:72:THR:CG2 | 11:AL:115:ASP:H | 2.15 | 0.60 |
| 11:AL:109:ALA:HB2 | 11:AL:128:ILE:CD1 | 2.31 | 0.60 |
| 14:AO:66:VAL:HB | 14:AO:67:ARG:NE | 2.15 | 0.60 |
| 14:AO:94:ARG:HE | 14:AO:118:LEU:CB | 2.14 | 0.60 |
| 16:AQ:41:LYS:HB3 | 16:AQ:42:HIS:CE1 | 2.37 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 18:AS:22:ASP:O | 18:AS:25:ARG:HD2 | 2.01 | 0.60 |
| 20:AU:28:SER:HB3 | 20:AU:99:THR:OG1 | 2.02 | 0.60 |
| 20:AU:48:VAL:HG13 | 20:AU:97:ARG:C | 2.21 | 0.60 |
| 21:AV:150:GLY:O | 21:AV:151:ASP:C | 2.40 | 0.60 |
| 24:A0:20:LEU:HD21 | 24:A0:24:GLN:CD | 2.22 | 0.60 |
| 25:A1:20:ARG:CG | 25:A1:39:LEU:HD11 | 2.31 | 0.60 |
| 28:A4:18:GLY:H | 28:A4:33:VAL:HB | 1.66 | 0.60 |
| 32:A8:12:ARG:HD2 | 32:A8:13:ARG:HD2 | 1.83 | 0.60 |
| 34:BA:21:G:H2' | 34:BA:22:G:C8 | 2.33 | 0.60 |
| 34:BA:80:G:H3' | 34:BA:81:U:C5' | 2.29 | 0.60 |
| 34:BA:307:C:O2 | 34:BA:307:C:H2' | 1.99 | 0.60 |
| 34:BA:379:C:N4 | 34:BA:384:G:H1 | 1.97 | 0.60 |
| 34:BA:740:U:O2' | 34:BA:741:G:H5' | 2.01 | 0.60 |
| 34:BA:862:C:C5 | 34:BA:863:U:H5 | 2.20 | 0.60 |
| 34:BA:934:C:N4 | 34:BA:1344:C:C2 | 2.70 | 0.60 |
| 34:BA:947:G:N3 | 34:BA:948:C:C6 | 2.70 | 0.60 |
| 34:BA:1005:A:O2' | 34:BA:1006:C:H5' | 2.01 | 0.60 |
| 34:BA:1085:U:H6 | 34:BA:1094:G:H22 | 1.48 | 0.60 |
| 34:BA:1107:C:C2' | 34:BA:1108:G:H5' | 2.28 | 0.60 |
| 34:BA:1217:C:O2' | 34:BA:1218:C:H5' | 2.01 | 0.60 |
| 34:BA:1341:U:O2' | 44:BL:126:SER:O | 2.16 | 0.60 |
| 34:BA:1361:G:C8 | 34:BA:1361:G:C3' | 2.80 | 0.60 |
| 34:BA:1498:U:H2' | 34:BA:1498:U:O2 | 2.00 | 0.60 |
| 35:BB:15:G:O5' | 35:BB:15:G:C8 | 2.52 | 0.60 |
| 35:BB:62:A:C2' | 35:BB:63:C:O5' | 2.50 | 0.60 |
| 35:BB:67:A:C6 | 35:BB:68:U:O4 | 2.55 | 0.60 |
| 35:BB:72:C:N3 | 35:BB:73:A:N7 | 2.49 | 0.60 |
| 35:BC:37:G:C6 | 35:BC:38:A:N6 | 2.70 | 0.60 |
| 39:BG:205:GLU:O | 39:BG:208:SER:HB3 | 2.02 | 0.60 |
| 40:BH:32:VAL:CG1 | 40:BH:33:VAL:N | 2.65 | 0.60 |
| 40:BH:63:ARG:O | 40:BH:66:MET:HG2 | 2.01 | 0.60 |
| 40:BH:141:GLN:HG3 | 40:BH:143:ARG:NH2 | 2.16 | 0.60 |
| 41:BI:57:GLN:C | 41:BI:57:GLN:HE21 | 2.05 | 0.60 |
| 42:BJ:31:MET:HG2 | 42:BJ:32:ARG:N | 2.14 | 0.60 |
| 43:BK:89:PRO:HA | 43:BK:92:ARG:NH2 | 2.16 | 0.60 |
| 45:BM:10:GLY:CA | 45:BM:16:LEU:HD21 | 2.17 | 0.60 |
| 48:BP:37:THR:OG1 | 48:BP:59:TYR:CG | 2.49 | 0.60 |
| 50:BR:3:ILE:HD12 | 50:BR:3:ILE:N | 2.16 | 0.60 |
| 50:BR:57:LEU:O | 50:BR:58:MET:C | 2.38 | 0.60 |
| 51:BS:8:ARG:C | 51:BS:9:PHE:HD2 | 2.04 | 0.60 |
| 53:BU:69:THR:O | 53:BU:70:ILE:C | 2.40 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:89(A):A:C3' | 1:AB:90:C:H5' | 2.32 | 0.60 |
| 2:AA:31:C:H5" | 2:AA:1239:G:OP1 | 2.01 | 0.60 |
| 2:AA:38:A:H1' | 6:AF:46:TYR:CE2 | 2.37 | 0.60 |
| 2:AA:191:A:H2' | 2:AA:192:C:O4' | 2.01 | 0.60 |
| 2:AA:204:A:O2' | 2:AA:205:G:C4' | 2.50 | 0.60 |
| 2:AA:248:G:C2 | 2:AA:2431:U:H5" | 2.36 | 0.60 |
| 2:AA:278:A:N1 | 2:AA:362:U:C4 | 2.70 | 0.60 |
| 2:AA:449:A:C2 | 2:AA:450:G:C8 | 2.90 | 0.60 |
| 2:AA:466:A:O2' | 2:AA:467:G:H5' | 2.02 | 0.60 |
| 2:AA:564:C:O4' | 25:A1:37:GLN:CD | 2.40 | 0.60 |
| 2:AA:606:U:H5' | 6:AF:103:ASN:CG | 2.21 | 0.60 |
| 2:AA:721:C:C2 | 2:AA:722:A:C8 | 2.90 | 0.60 |
| 2:AA:753:C:C2' | 2:AA:754:C:O5' | 2.50 | 0.60 |
| 2:AA:774:A:C1' | 2:AA:775:G:C8 | 2.84 | 0.60 |
| 2:AA:815:C:H2' | 2:AA:816:C:H5' | 1.83 | 0.60 |
| 2:AA:866:A:C2' | 2:AA:867:C:O5' | 2.48 | 0.60 |
| 2:AA:1032:A:OP1 | 33:A9:8:LYS:HG3 | 2.00 | 0.60 |
| 2:AA:1140:C:N4 | 12:AM:49:ARG:CZ | 2.65 | 0.60 |
| 2:AA:1165:U:C2 | 2:AA:1166:C:C5 | 2.90 | 0.60 |
| 2:AA:1208:C:H2' | 2:AA:1209:G:C8 | 2.33 | 0.60 |
| 2:AA:1214:A:C2 | 2:AA:1215:G:C4 | 2.89 | 0.60 |
| 2:AA:1280:G:O2' | 2:AA:1281:G:C5' | 2.49 | 0.60 |
| 2:AA:1428:C:C4 | 2:AA:1569:A:H5" | 2.36 | 0.60 |
| 2:AA:1432:C:C2 | 2:AA:1562:A:N1 | 2.70 | 0.60 |
| 2:AA:1433:U:O2 | 2:AA:1560:G:O6 | 2.19 | 0.60 |
| 2:AA:1449:A:C2 | 2:AA:449(A):G:C4 | 2.90 | 0.60 |
| 2:AA:1486:A:O2' | 2:AA:1487:G:H5' | 2.02 | 0.60 |
| 2:AA:1665:A:O2' | 13:AN:67:ARG:NH1 | 2.34 | 0.60 |
| 2:AA:1670:C:C2' | 2:AA:1671:U:C5' | 2.78 | 0.60 |
| 2:AA:1706:U:H2' | 2:AA:1706:U:O2 | 2.01 | 0.60 |
| 2:AA:1710:C:H1' | 2:AA:2858:C:H42 | 1.66 | 0.60 |
| 2:AA:1808:U:O2 | 2:AA:1808:U:C2' | 2.50 | 0.60 |
| 2:AA:1899:G:C2' | 2:AA:1900:A:OP2 | 2.50 | 0.60 |
| 2:AA:1990:C:C2 | 2:AA:1991:U:O2 | 2.55 | 0.60 |
| 2:AA:2015:A:H2' | 2:AA:2016:U:H6 | 1.67 | 0.60 |
| 2:AA:2035:G:O2' | 2:AA:2036:C:OP1 | 2.14 | 0.60 |
| 2:AA:2121:G:C8 | 2:AA:2121:G:OP2 | 2.54 | 0.60 |
| 2:AA:2136:C:C4 | 2:AA:2154:G:N1 | 2.69 | 0.60 |
| 2:AA:2213:U:H5' | 2:AA:2215:G:C8 | 2.37 | 0.60 |
| 2:AA:2360:A:H2' | 2:AA:2361:A:O5' | 2.00 | 0.60 |
| 2:AA:2711:A:OP1 | 2:AA:712(A):A:OP2 | 2.19 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2830:G:H2' | 2:AA:2883:A:N1 | 2.17 | 0.60 |
| 2:AA:2847:U:C5 | 2:AA:2848:G:N7 | 2.70 | 0.60 |
| 2:AA:2872:G:C2 | 2:AA:2873:A:C6 | 2.90 | 0.60 |
| 3:AC:33:ALA:HB1 | 3:AC:39:GLU:CB | 2.32 | 0.60 |
| 3:AC:33:ALA:CB | 3:AC:39:GLU:HB3 | 2.31 | 0.60 |
| 4:AD:141:HIS:HE1 | 4:AD:191:VAL:C | 2.03 | 0.60 |
| 5:AE:44:TYR:HB3 | 5:AE:74:GLU:OE1 | 2.01 | 0.60 |
| 5:AE:45:LYS:HD2 | 5:AE:304:ASP:C | 2.22 | 0.60 |
| 6:AF:103:ASN:CB | 6:AF:106:GLU:OE2 | 2.45 | 0.60 |
| 8:AH:116:PRO:HD3 | 8:AH:122:ILE:HD12 | 1.84 | 0.60 |
| 9:AI:111:ALA:O | 9:AI:115:LYS:HG3 | 2.00 | 0.60 |
| 9:AJ:26:GLU:O | 9:AJ:30:GLY:N | 2.34 | 0.60 |
| 9:AJ:103:LYS:HB2 | 9:AJ:114:ILE:HD13 | 1.84 | 0.60 |
| 10:AK:103:GLN:HA | 10:AK:108:LEU:O | 2.02 | 0.60 |
| 10:AK:124:LEU:HD12 | 10:AK:145:VAL:HG12 | 1.84 | 0.60 |
| 11:AL:20:PRO:CG | 11:AL:23:PRO:HG2 | 2.31 | 0.60 |
| 12:AM:108:PRO:HB2 | 12:AM:109:TYR:CE1 | 2.37 | 0.60 |
| 14:AO:117:GLU:CA | 14:AO:136:ALA:O | 2.45 | 0.60 |
| 14:AO:122:ALA:O | 14:AO:142:LEU:HG | 2.01 | 0.60 |
| 15:AP:10:ILE:O | 15:AP:11:LYS:CD | 2.50 | 0.60 |
| 16:AQ:36:ALA:O | 16:AQ:105:GLY:HA3 | 2.01 | 0.60 |
| 17:AR:10:GLY:HA3 | 17:AR:53:ASP:N | 2.16 | 0.60 |
| 20:AU:51:LEU:HB3 | 20:AU:97:ARG:HE | 1.67 | 0.60 |
| 20:AU:103:LEU:CD1 | 20:AU:113:GLU:HB3 | 2.31 | 0.60 |
| 21:AV:19:ILE:H | 21:AV:36:ARG:CG | 2.10 | 0.60 |
| 21:AV:19:ILE:H | 21:AV:36:ARG:H | 1.50 | 0.60 |
| 23:AX:13:ILE:HD13 | 23:AX:13:ILE:N | 2.14 | 0.60 |
| 23:AX:26:LEU:HD21 | 23:AX:46:ASN:HB3 | 1.82 | 0.60 |
| 26:A2:4:ILE:CG2 | 26:A2:12:TYR:HD2 | 2.15 | 0.60 |
| 29:A5:40:LYS:NZ | 29:A5:46:CYS:CB | 2.64 | 0.60 |
| 32:A8:12:ARG:HG3 | 32:A8:12:ARG:O | 2.00 | 0.60 |
| 34:BA:28:G:C2 | 34:BA:556:C:C4 | 2.89 | 0.60 |
| 34:BA:169:C:O2' | 34:BA:170:U:H5' | 2.01 | 0.60 |
| 34:BA:198:G:H2' | 34:BA:199:G:H8 | 1.67 | 0.60 |
| 34:BA:501:C:H2' | 34:BA:502:G:C8 | 2.33 | 0.60 |
| 34:BA:754:C:C5' | 34:BA:755:G:H8 | 2.03 | 0.60 |
| 34:BA:773:G:C6 | 34:BA:774:G:N7 | 2.70 | 0.60 |
| 34:BA:816:A:C2' | 34:BA:817:C:OP2 | 2.49 | 0.60 |
| 34:BA:1049:U:C2 | 34:BA:1201:A:C8 | 2.90 | 0.60 |
| 34:BA:1099:G:N7 | 34:BA:1100:C:C4 | 2.70 | 0.60 |
| 34:BA:1148:U:H2' | 34:BA:1149:C:O4' | 2.01 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1152:A:O2' | 34:BA:1153:C:C5' | 2.49 | 0.60 |
| 34:BA:1208:C:O2' | 34:BA:1209:C:H5' | 2.01 | 0.60 |
| 34:BA:1326:C:OP2 | 56:BX:6:ARG:NH1 | 2.35 | 0.60 |
| 34:BA:1326:C:C4 | 34:BA:1327:C:N4 | 2.70 | 0.60 |
| 34:BA:1370:G:C2 | 34:BA:1371:G:N7 | 2.70 | 0.60 |
| 34:BA:1419:G:C2 | 34:BA:1420:C:C2 | 2.90 | 0.60 |
| 34:BA:1469:G:O2' | 34:BA:1470:G:H5' | 2.01 | 0.60 |
| 35:BC:44:A:C6 | 35:BC:45:G:N2 | 2.69 | 0.60 |
| 35:BC:52:U:H2' | 35:BC:53:G:O4' | 2.02 | 0.60 |
| 37:BE:82:ARG:HD2 | 37:BE:92:TYR:CZ | 2.37 | 0.60 |
| 37:BE:168:THR:CG2 | 37:BE:192:SER:HA | 2.31 | 0.60 |
| 37:BE:204:ASN:HD22 | 37:BE:205:ASP:N | 2.00 | 0.60 |
| 41:BI:76:ALA:HA | 41:BI:79:LEU:CD1 | 2.31 | 0.60 |
| 42:BJ:15:ASP:OD1 | 42:BJ:17:VAL:HB | 2.02 | 0.60 |
| 44:BL:119:ALA:O | 44:BL:120:ARG:HG3 | 2.01 | 0.60 |
| 45:BM:62:HIS:O | 49:BQ:59:ALA:HB3 | 2.02 | 0.60 |
| 48:BP:16:ASP:HA | 48:BP:19:LEU:HD11 | 1.84 | 0.60 |
| 48:BP:81:LEU:HD11 | 48:BP:88:ARG:CZ | 2.30 | 0.60 |
| 48:BP:88:ARG:CG | 48:BP:89:GLY:N | 2.64 | 0.60 |
| 50:BR:21:ASP:O | 50:BR:27:VAL:HG21 | 2.01 | 0.60 |
| 50:BR:34:LEU:O | 50:BR:38:ARG:HG2 | 2.02 | 0.60 |
| 1:AB:37:C:O2 | 16:AQ:111:PRO:CG | 2.45 | 0.60 |
| 2:AA:139:G:N9 | 2:AA:141(A):C:O2 | 2.34 | 0.60 |
| 2:AA:176:G:N2 | 2:AA:177:G:H1' | 2.16 | 0.60 |
| 2:AA:359:A:C2 | 2:AA:361:G:C2 | 2.89 | 0.60 |
| 2:AA:360:G:H2' | 2:AA:361:G:C8 | 2.37 | 0.60 |
| 2:AA:366:C:O2 | 2:AA:366:C:C2' | 2.48 | 0.60 |
| 2:AA:449:A:H2 | 2:AA:450:G:C4 | 2.16 | 0.60 |
| 2:AA:499:U:H6 | 2:AA:500:G:O4' | 1.84 | 0.60 |
| 2:AA:530:G:O6 | 2:AA:2022:U:O5' | 2.18 | 0.60 |
| 2:AA:559:G:C4 | 2:AA:560:C:C5 | 2.90 | 0.60 |
| 2:AA:586:A:C5 | 2:AA:1254:A:H2 | 2.20 | 0.60 |
| 2:AA:874:G:OP1 | 21:AV:172:LEU:CD1 | 2.50 | 0.60 |
| 2:AA:898:C:H3' | 2:AA:899:A:C5' | 2.23 | 0.60 |
| 2:AA:951:C:H2' | 2:AA:952:G:C8 | 2.37 | 0.60 |
| 2:AA:1008:C:O2' | 2:AA:1009:A:P | 2.59 | 0.60 |
| 2:AA:1056:G:C2 | 2:AA:1102:C:N4 | 2.70 | 0.60 |
| 2:AA:1470:G:N2 | 2:AA:1522:G:C6 | 2.70 | 0.60 |
| 2:AA:1497:U:C4 | 2:AA:1498:C:H5 | 2.19 | 0.60 |
| 2:AA:1609:A:C5 | 2:AA:1616:A:C2 | 2.89 | 0.60 |
| 2:AA:1735:C:HO2' | 2:AA:1741:C:H6 | 1.50 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1769:G:H4' | 2:AA:1958:C:H5" | 1.82 | 0.60 |
| 2:AA:1804:C:H2' | 2:AA:1804:C:O2 | 2.02 | 0.60 |
| 2:AA:1805:U:N3 | 2:AA:1813:G:C2 | 2.70 | 0.60 |
| 2:AA:1862:G:H2' | 2:AA:1863:G:C8 | 2.34 | 0.60 |
| 2:AA:2013:A:C4' | 18:AS:96:ILE:HG22 | 2.32 | 0.60 |
| 2:AA:2045:C:O2 | 29:A5:22:HIS:NE2 | 2.34 | 0.60 |
| 2:AA:2067:G:C2 | 2:AA:2069:G:C8 | 2.90 | 0.60 |
| 2:AA:2125:G:HO2' | 2:AA:2126:A:H4' | 1.65 | 0.60 |
| 2:AA:2180:U:C2' | 2:AA:2181:G:O4' | 2.50 | 0.60 |
| 2:AA:2305:A:H3' | 2:AA:2305:A:C8 | 2.36 | 0.60 |
| 2:AA:2313:C:H5' | 7:AG:72:LYS:CG | 2.20 | 0.60 |
| 2:AA:2435:A:H2' | 2:AA:2436:G:O5' | 2.02 | 0.60 |
| 2:AA:2450:A:C2 | 2:AA:2451:A:C1' | 2.84 | 0.60 |
| 2:AA:2659:G:H2' | 2:AA:2661:G:OP2 | 2.02 | 0.60 |
| 2:AA:2705:A:C8 | 2:AA:2706:G:N7 | 2.70 | 0.60 |
| 2:AA:2805:G:H2' | 2:AA:2807:G:C4' | 2.31 | 0.60 |
| 3:AC:59:ARG:O | 3:AC:199:HIS:NE2 | 2.33 | 0.60 |
| 4:AD:154:VAL:HG21 | 4:AD:160:SER:CA | 2.24 | 0.60 |
| 5:AE:45:LYS:CE | 5:AE:303:PRO:HG2 | 2.20 | 0.60 |
| 5:AE:68:VAL:HG13 | 5:AE:69:PRO:CD | 2.29 | 0.60 |
| 5:AE:213:PRO:HG3 | 5:AE:235:ILE:H | 1.65 | 0.60 |
| 5:AE:300:VAL:N | 5:AE:301:PRO:CD | 2.63 | 0.60 |
| 6:AF:200:PRO:CB | 6:AF:212:VAL:HG11 | 2.30 | 0.60 |
| 7:AG:82:GLU:O | 7:AG:85:GLN:HG3 | 2.02 | 0.60 |
| 8:AH:25:VAL:HG21 | 8:AH:74:MET:SD | 2.42 | 0.60 |
| 8:AH:86:LEU:HD23 | 8:AH:148:ARG:HG2 | 1.83 | 0.60 |
| 9:AJ:78:ARG:HH11 | 9:AJ:85:LEU:HD22 | 1.67 | 0.60 |
| 9:AJ:81:THR:HG22 | 9:AJ:103:LYS:HG2 | 1.84 | 0.60 |
| 11:AL:93:LYS:HA | 11:AL:96:ILE:CG1 | 2.32 | 0.60 |
| 12:AM:105:LEU:N | 12:AM:105:LEU:CD2 | 2.65 | 0.60 |
| 13:AN:37:ASP:O | 13:AN:61:VAL:HG13 | 2.02 | 0.60 |
| 13:AN:71:ARG:NH2 | 13:AN:77:ILE:CG2 | 2.54 | 0.60 |
| 14:AO:65:ASP:C | 14:AO:108:VAL:HG13 | 2.22 | 0.60 |
| 14:AO:116:HIS:HB3 | 14:AO:118:LEU:HD11 | 1.83 | 0.60 |
| 18:AS:30:GLU:CA | 18:AS:33:ARG:CD | 2.77 | 0.60 |
| 19:AT:8:PRO:HG3 | 22:AW:33:VAL:HG13 | 1.82 | 0.60 |
| 21:AV:69:VAL:HG12 | 21:AV:70:GLN:H | 1.66 | 0.60 |
| 21:AV:107:GLU:CD | 21:AV:107:GLU:N | 2.47 | 0.60 |
| 22:AW:54:ALA:O | 22:AW:57:LYS:HB2 | 2.01 | 0.60 |
| 23:AX:26:LEU:CG | 23:AX:28:LEU:HD11 | 2.32 | 0.60 |
| 24:A0:36:THR:CG2 | 24:A0:40:LYS:HB3 | 2.31 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:105:ARG:NE | 24:A0:105:ARG:CA | 2.63 | 0.60 |
| 26:A2:3:ALA:HB1 | 26:A2:39:PHE:HZ | 1.64 | 0.60 |
| 27:A3:45:PHE:O | 27:A3:46:LYS:HE3 | 2.02 | 0.60 |
| 33:A9:15:LYS:O | 33:A9:25:VAL:HA | 2.01 | 0.60 |
| 33:A9:17:VAL:HG21 | 33:A9:26:ILE:HD12 | 1.82 | 0.60 |
| 34:BA:59:A:C2 | 34:BA:331:G:N3 | 2.70 | 0.60 |
| 34:BA:174:C:H2' | 34:BA:175:C:C6 | 2.37 | 0.60 |
| 34:BA:232:G:O2' | 34:BA:233:C:H5' | 2.02 | 0.60 |
| 34:BA:274:A:H4' | 34:BA:275:G:OP1 | 2.02 | 0.60 |
| 34:BA:418:C:H4' | 34:BA:540:G:O4' | 2.01 | 0.60 |
| 34:BA:421:U:N3 | 38:BF:127:ARG:NH1 | 2.49 | 0.60 |
| 34:BA:527:G:N2 | 34:BA:528:C:C2 | 2.69 | 0.60 |
| 34:BA:643:C:H2' | 34:BA:643:C:O2 | 2.01 | 0.60 |
| 34:BA:652:U:O4 | 34:BA:752:G:C2' | 2.49 | 0.60 |
| 34:BA:764:C:H2' | 34:BA:765:G:N9 | 2.15 | 0.60 |
| 34:BA:1055:A:C2 | 34:BA:1206:G:H1' | 2.37 | 0.60 |
| 34:BA:1135:U:N3 | 34:BA:1137:C:O2 | 2.35 | 0.60 |
| 34:BA:1339:A:O5' | 34:BA:1339:A:H8 | 1.85 | 0.60 |
| 34:BA:1408:A:C2 | 34:BA:1494:G:C2 | 2.89 | 0.60 |
| 34:BA:1522:U:H2' | 34:BA:1523:G:C8 | 2.36 | 0.60 |
| 35:BB:18:G:N2 | 35:BB:57:G:C2 | 2.70 | 0.60 |
| 37:BE:187:LEU:HA | 37:BE:201:ILE:CB | 2.31 | 0.60 |
| 37:BE:219:VAL:HA | 37:BE:222:ILE:HG23 | 1.83 | 0.60 |
| 38:BF:47:LEU:CD1 | 38:BF:83:ARG:NH2 | 2.59 | 0.60 |
| 39:BG:190:ASP:N | 39:BG:193:ASP:OD2 | 2.31 | 0.60 |
| 40:BH:9:LYS:O | 40:BH:32:VAL:HG13 | 2.01 | 0.60 |
| 42:BJ:94:ARG:CZ | 42:BJ:98:SER:OG | 2.50 | 0.60 |
| 42:BJ:105:VAL:O | 42:BJ:109:ASN:ND2 | 2.34 | 0.60 |
| 42:BJ:111:ARG:CZ | 42:BJ:122:HIS:HB2 | 2.32 | 0.60 |
| 43:BK:63:LEU:CG | 43:BK:65:TYR:OH | 2.50 | 0.60 |
| 44:BL:104:ARG:O | 44:BL:105:ASP:CB | 2.50 | 0.60 |
| 46:BN:85:ARG:HE | 46:BN:111:ASP:HB3 | 1.65 | 0.60 |
| 46:BN:95:ILE:CG2 | 46:BN:98:LEU:HD12 | 2.31 | 0.60 |
| 50:BR:9:GLN:OE1 | 50:BR:9:GLN:HA | 2.02 | 0.60 |
| 51:BS:61:SER:OG | 51:BS:62:VAL:HG22 | 2.01 | 0.60 |
| 52:BT:22:LEU:HD12 | 52:BT:23:VAL:N | 2.16 | 0.60 |
| 1:AB:65:C:C5 | 1:AB:108:C:C4 | 2.89 | 0.60 |
| 2:AA:12:U:H5" | 2:AA:13:A:OP2 | 2.02 | 0.60 |
| 2:AA:175:G:C2 | 2:AA:176:G:C8 | 2.90 | 0.60 |
| 2:AA:273:G:C5 | 2:AA:273(A):G:N7 | 2.70 | 0.60 |
| 2:AA:481:G:H22 | 2:AA:507:A:H1' | 1.67 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:598:G:H21 | 6:AF:33:LYS:HE3 | 1.67 | 0.60 |
| 2:AA:612:G:C4' | 2:AA:616:A:H61 | 2.02 | 0.60 |
| 2:AA:735:A:N6 | 2:AA:736:C:C2 | 2.70 | 0.60 |
| 2:AA:828:U:O2' | 2:AA:829:A:O4' | 2.18 | 0.60 |
| 2:AA:837:C:H42 | 2:AA:942:G:H1 | 1.48 | 0.60 |
| 2:AA:920:G:O2' | 2:AA:921:G:C5' | 2.44 | 0.60 |
| 2:AA:945:A:N3 | 2:AA:945:A:C2' | 2.60 | 0.60 |
| 2:AA:1029:A:H2' | 2:AA:1030:G:O5' | 2.01 | 0.60 |
| 2:AA:1082:U:C1' | 11:AL:118:ALA:HB2 | 2.32 | 0.60 |
| 2:AA:1444:G:H3' | 2:AA:1445:C:H41 | 1.67 | 0.60 |
| 2:AA:1509:C:C6 | 2:AA:1509:C:H5' | 2.37 | 0.60 |
| 2:AA:1603:A:H2' | 2:AA:1604:C:C6 | 2.36 | 0.60 |
| 2:AA:1655:A:H5" | 5:AE:211:GLN:HA | 1.84 | 0.60 |
| 2:AA:1666:G:C6 | 2:AA:1667:G:N2 | 2.69 | 0.60 |
| 2:AA:1759:A:C2 | 2:AA:1760:A:C4 | 2.89 | 0.60 |
| 2:AA:1926:U:H3' | 2:AA:1926:U:C6 | 2.37 | 0.60 |
| 2:AA:1992:G:O6 | 2:AA:1997:G:C4 | 2.53 | 0.60 |
| 2:AA:2007:C:H2' | 2:AA:2008:C:C5' | 2.30 | 0.60 |
| 2:AA:2132:U:O2 | 2:AA:2134:A:OP2 | 2.19 | 0.60 |
| 2:AA:2339:G:H2' | 2:AA:2340:G:C8 | 2.35 | 0.60 |
| 2:AA:2462:U:C4 | 2:AA:2463:C:N4 | 2.69 | 0.60 |
| 2:AA:2482:G:C5 | 2:AA:2483:C:C6 | 2.90 | 0.60 |
| 2:AA:2680:C:C5' | 5:AE:302:GLY:CA | 2.80 | 0.60 |
| 2:AA:2686:G:C5 | 2:AA:2687:U:C5 | 2.90 | 0.60 |
| 2:AA:2701:C:N3 | 2:AA:2707:G:C6 | 2.70 | 0.60 |
| 2:AA:2714:G:H2' | 2:AA:2715:C:H5' | 1.84 | 0.60 |
| 2:AA:2731:G:N2 | 2:AA:2732:G:C2 | 2.70 | 0.60 |
| 3:AC:61:THR:HA | 3:AC:162:GLU:HA | 1.81 | 0.60 |
| 3:AC:69:GLY:C | 3:AC:71:GLN:H | 2.05 | 0.60 |
| 3:AC:110:PHE:CD1 | 3:AC:113:VAL:HG23 | 2.36 | 0.60 |
| 5:AE:85:ALA:HB3 | 5:AE:87:GLU:CD | 2.21 | 0.60 |
| 5:AE:105:HIS:H | 5:AE:108:LEU:HD12 | 1.66 | 0.60 |
| 5:AE:222:ARG:NE | 5:AE:233:ARG:N | 2.49 | 0.60 |
| 6:AF:159:ALA:O | 6:AF:160:LEU:HD23 | 2.02 | 0.60 |
| 6:AF:197:SER:CB | 6:AF:215:ALA:HB2 | 2.31 | 0.60 |
| 7:AG:22:VAL:C | 7:AG:24:HIS:CE1 | 2.76 | 0.60 |
| 9:AI:20:GLU:HG3 | 9:AJ:49:ALA:HB3 | 1.84 | 0.60 |
| 9:AJ:118:LEU:HB2 | 9:AJ:125:VAL:HG21 | 1.83 | 0.60 |
| 10:AK:83:ALA:HB3 | 10:AK:147:GLU:CG | 2.32 | 0.60 |
| 12:AM:81:ARG:O | 12:AM:82:THR:C | 2.37 | 0.60 |
| 12:AM:84:ARG:CA | 12:AM:87:LEU:CD1 | 2.80 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:19:VAL:CG1 | 13:AN:42:THR:O | 2.39 | 0.60 |
| 13:AN:64:ARG:HH22 | 13:AN:100:GLY:HA2 | 1.64 | 0.60 |
| 14:AO:51:PHE:HD1 | 14:AO:51:PHE:N | 2.00 | 0.60 |
| 14:AO:55:GLN:HE21 | 14:AO:56:LYS:HD3 | 1.66 | 0.60 |
| 15:AP:45:GLN:HB2 | 15:AP:152:SER:C | 2.22 | 0.60 |
| 15:AP:135:ALA:O | 15:AP:138:ARG:HB2 | 2.01 | 0.60 |
| 16:AQ:17:ARG:NH2 | 16:AQ:106:LEU:CD2 | 2.64 | 0.60 |
| 18:AS:24:ILE:HG22 | 18:AS:35:ILE:CB | 2.32 | 0.60 |
| 18:AS:37:ARG:HH22 | 29:A5:48:ASN:ND2 | 1.99 | 0.60 |
| 19:AT:18:MET:HA | 19:AT:23:LYS:O | 2.01 | 0.60 |
| 21:AV:42:ALA:O | 21:AV:43:PHE:C | 2.40 | 0.60 |
| 21:AV:58:GLY:O | 21:AV:61:THR:HG23 | 2.02 | 0.60 |
| 21:AV:174:PRO:O | 21:AV:175:ARG:HG2 | 2.01 | 0.60 |
| 22:AW:45:ARG:O | 22:AW:46:ILE:C | 2.37 | 0.60 |
| 25:A1:18:LEU:O | 25:A1:21:ALA:CB | 2.44 | 0.60 |
| 25:A1:22:LYS:N | 25:A1:24:PHE:CE2 | 2.69 | 0.60 |
| 25:A1:31:GLN:O | 25:A1:35:ALA:CB | 2.50 | 0.60 |
| 26:A2:2:PHE:C | 26:A2:44:GLN:OE1 | 2.40 | 0.60 |
| 26:A2:33:VAL:O | 26:A2:63:HIS:ND1 | 2.35 | 0.60 |
| 27:A3:14:ARG:NH1 | 27:A3:14:ARG:HG3 | 2.15 | 0.60 |
| 28:A4:17:GLN:HA | 28:A4:33:VAL:CG1 | 2.31 | 0.60 |
| 32:A8:26:LYS:CB | 32:A8:44:LYS:HA | 2.31 | 0.60 |
| 34:BA:204:U:O2 | 34:BA:204:U:C2' | 2.50 | 0.60 |
| 34:BA:256:U:H2' | 34:BA:257:G:O4' | 2.02 | 0.60 |
| 34:BA:299:G:C2 | 34:BA:300:A:C6 | 2.89 | 0.60 |
| 34:BA:481:G:H2' | 34:BA:483:C:N4 | 2.17 | 0.60 |
| 34:BA:517:G:N2 | 34:BA:533:A:OP2 | 2.35 | 0.60 |
| 34:BA:665:A:C2' | 34:BA:725:G:H21 | 2.10 | 0.60 |
| 34:BA:838:G:N2 | 34:BA:849:C:C2 | 2.69 | 0.60 |
| 34:BA:932:C:H4' | 42:BJ:4:ARG:HH22 | 1.64 | 0.60 |
| 34:BA:1235:U:OP1 | 56:BX:3:LYS:CD | 2.49 | 0.60 |
| 34:BA:1280:A:N9 | 45:BM:41:PRO:HG3 | 2.16 | 0.60 |
| 34:BA:1331:G:C2' | 34:BA:1332:A:OP2 | 2.50 | 0.60 |
| 34:BA:1419:G:O2' | 34:BA:1420:C:C6 | 2.53 | 0.60 |
| 34:BA:1419:G:C6 | 34:BA:1482:G:C6 | 2.90 | 0.60 |
| 35:BB:21:A:N6 | 35:BB:46:G:C2 | 2.70 | 0.60 |
| 35:BC:28:C:H2' | 35:BC:29:A:H8 | 1.66 | 0.60 |
| 37:BE:150:SER:O | 37:BE:151:GLY:C | 2.39 | 0.60 |
| 37:BE:239:VAL:O | 37:BE:240:GLN:HB2 | 2.02 | 0.60 |
| 38:BF:95:THR:C | 38:BF:97:LYS:H | 2.04 | 0.60 |
| 38:BF:120:VAL:O | 38:BF:124:ILE:HG13 | 2.01 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:182:ILE:HG23 | 38:BF:202:ILE:O | 2.02 | 0.60 |
| 39:BG:93:PHE:O | 39:BG:95:GLY:N | 2.35 | 0.60 |
| 40:BH:26:PHE:C | 40:BH:27:ARG:CG | 2.70 | 0.60 |
| 41:BI:83:ASP:O | 41:BI:85:VAL:N | 2.34 | 0.60 |
| 41:BI:91:VAL:HG22 | 53:BU:72:ARG:HH12 | 1.60 | 0.60 |
| 42:BJ:77:SER:C | 42:BJ:156:TRP:HZ3 | 2.05 | 0.60 |
| 43:BK:92:ARG:HG2 | 43:BK:92:ARG:NH1 | 2.14 | 0.60 |
| 46:BN:15:ALA:C | 46:BN:77:MET:SD | 2.80 | 0.60 |
| 48:BP:53:VAL:O | 48:BP:54:VAL:C | 2.40 | 0.60 |
| 48:BP:80:ARG:HG2 | 48:BP:81:LEU:H | 1.67 | 0.60 |
| 48:BP:108:ARG:HA | 48:BP:108:ARG:NH1 | 2.07 | 0.60 |
| 52:BT:53:LEU:HD11 | 52:BT:85:VAL:HG11 | 1.81 | 0.60 |
| 54:BV:15:LEU:O | 54:BV:18:LYS:N | 2.35 | 0.60 |
| 54:BV:16:LEU:O | 54:BV:19:VAL:CG1 | 2.50 | 0.60 |
| 55:BW:14:LYS:O | 55:BW:16:HIS:N | 2.35 | 0.60 |
| 2:AA:95:G:C5' | 22:AW:41:GLU:OE1 | 2.50 | 0.60 |
| 2:AA:133:C:O2' | 2:AA:134:C:C5' | 2.50 | 0.60 |
| 2:AA:143:C:H6 | 2:AA:143:C:H3' | 1.66 | 0.60 |
| 2:AA:146:G:C2 | 2:AA:147:U:C1' | 2.84 | 0.60 |
| 2:AA:161:U:OP1 | 2:AA:161:U:H5 | 1.85 | 0.60 |
| 2:AA:205:G:H1' | 2:AA:206:U:OP2 | 2.02 | 0.60 |
| 2:AA:262:A:H2' | 2:AA:263:C:C5' | 2.32 | 0.60 |
| 2:AA:273(B):C:C2 | 2:AA:363(D):G:N1 | 2.70 | 0.60 |
| 2:AA:296:C:H6 | 2:AA:338:G:H21 | 1.47 | 0.60 |
| 2:AA:308:G:O5' | 2:AA:308:G:H8 | 1.85 | 0.60 |
| 2:AA:338:G:H8 | 20:AU:21:LYS:HD2 | 1.67 | 0.60 |
| 2:AA:365:C:N3 | 2:AA:366:C:C5 | 2.62 | 0.60 |
| 2:AA:479:A:O2' | 2:AA:480:A:C5' | 2.50 | 0.60 |
| 2:AA:483:A:C2 | 2:AA:484:C:C1' | 2.85 | 0.60 |
| 2:AA:530:G:P | 2:AA:530:G:C3' | 2.88 | 0.60 |
| 2:AA:586:A:N6 | 2:AA:1254:A:C2 | 2.69 | 0.60 |
| 2:AA:588:U:H2' | 2:AA:589:C:H6 | 1.66 | 0.60 |
| 2:AA:637:A:O2' | 2:AA:638:G:N3 | 2.35 | 0.60 |
| 2:AA:724:U:H2' | 2:AA:724:U:O2 | 2.02 | 0.60 |
| 2:AA:728:G:C2 | 2:AA:730:C:O2 | 2.55 | 0.60 |
| 2:AA:777:A:C2 | 2:AA:778:G:C4 | 2.90 | 0.60 |
| 2:AA:946:G:N1 | 2:AA:971:C:N4 | 2.49 | 0.60 |
| 2:AA:964:C:O5' | 2:AA:964:C:C6 | 2.48 | 0.60 |
| 2:AA:1034:G:H5' | 33:A9:18:ARG:CZ | 2.30 | 0.60 |
| 2:AA:1045:A:O2' | 2:AA:1047:G:O4' | 2.18 | 0.60 |
| 2:AA:1265:A:H2' | 2:AA:1265:A:N3 | 2.17 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1268:A:H1' | 2:AA:2013:A:H61 | 1.67 | 0.60 |
| 2:AA:1358:G:H3' | 2:AA:1371:G:H1 | 1.67 | 0.60 |
| 2:AA:1388:G:C2 | 2:AA:1389:G:H1' | 2.37 | 0.60 |
| 2:AA:1497:U:N3 | 2:AA:1577:C:H4' | 2.17 | 0.60 |
| 2:AA:1520:U:H2' | 2:AA:1521:G:C5' | 2.25 | 0.60 |
| 2:AA:1566:A:O2' | 2:AA:1567:A:OP1 | 2.17 | 0.60 |
| 2:AA:1598:C:C5' | 19:AT:34:LYS:HB2 | 2.32 | 0.60 |
| 2:AA:1682:G:H2' | 2:AA:1683:C:H6 | 1.67 | 0.60 |
| 2:AA:1787:A:N3 | 2:AA:1788:C:C5 | 2.70 | 0.60 |
| 2:AA:1858:G:C6 | 2:AA:1884:A:C2 | 2.89 | 0.60 |
| 2:AA:1927:A:H5" | 2:AA:1928:A:OP2 | 2.02 | 0.60 |
| 2:AA:1935:G:H4' | 2:AA:1937:A:C2 | 2.36 | 0.60 |
| 2:AA:2306:C:C4 | 7:AG:53:LYS:NZ | 2.70 | 0.60 |
| 2:AA:2414:G:H2' | 2:AA:2415:G:H8 | 1.67 | 0.60 |
| 2:AA:2526:G:H2' | 2:AA:2527:C:O5' | 2.01 | 0.60 |
| 2:AA:2603:G:C6 | 2:AA:2604:U:C5 | 2.90 | 0.60 |
| 2:AA:2691:C:C6 | 2:AA:2691:C:C3' | 2.85 | 0.60 |
| 2:AA:2720:U:O4 | 2:AA:2872:G:C4 | 2.55 | 0.60 |
| 2:AA:2870:C:C2' | 2:AA:2871:C:O5' | 2.49 | 0.60 |
| 3:AC:53:ARG:HB3 | 3:AC:55:ASP:OD2 | 2.02 | 0.60 |
| 3:AC:59:ARG:CZ | 3:AC:164:ARG:NH1 | 2.65 | 0.60 |
| 3:AC:127:LEU:HB3 | 3:AC:131:LEU:HG | 1.84 | 0.60 |
| 4:AD:210:LYS:O | 4:AD:211:HIS:C | 2.40 | 0.60 |
| 6:AF:90:HIS:H | 6:AF:91:PRO:CD | 2.14 | 0.60 |
| 6:AF:140:VAL:HB | 6:AF:235:PHE:O | 2.02 | 0.60 |
| 6:AF:240:LEU:O | 6:AF:243:VAL:N | 2.35 | 0.60 |
| 7:AG:29:HIS:HB3 | 7:AG:69:ILE:HG12 | 1.84 | 0.60 |
| 9:AI:16:SER:CB | 9:AJ:105:GLY:HA3 | 2.31 | 0.60 |
| 9:AI:110:GLU:HA | 9:AI:113:GLU:OE1 | 2.02 | 0.60 |
| 9:AJ:64:LYS:HD3 | 9:AJ:126:GLU:CD | 2.22 | 0.60 |
| 11:AL:96:ILE:O | 11:AL:96:ILE:HG22 | 2.02 | 0.60 |
| 12:AM:38:VAL:O | 12:AM:103:VAL:CA | 2.48 | 0.60 |
| 12:AM:53:ILE:HG22 | 12:AM:54:VAL:H | 1.67 | 0.60 |
| 12:AM:78:ILE:HG22 | 12:AM:79:PHE:CD1 | 2.37 | 0.60 |
| 13:AN:1:MET:C | 13:AN:2:ILE:HD12 | 2.22 | 0.60 |
| 14:AO:71:GLU:O | 14:AO:74:THR:OG1 | 2.15 | 0.60 |
| 14:AO:75:LEU:O | 14:AO:77:ALA:N | 2.35 | 0.60 |
| 14:AO:101:ASP:O | 14:AO:102:ASP:OD1 | 2.19 | 0.60 |
| 15:AP:51:GLU:HA | 15:AP:118:ALA:CA | 2.31 | 0.60 |
| 15:AP:87:LYS:HZ3 | 15:AP:115:SER:HA | 1.66 | 0.60 |
| 18:AS:21:VAL:CG2 | 18:AS:22:ASP:N | 2.64 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:28:SER:HB3 | 20:AU:99:THR:CG2 | 2.31 | 0.60 |
| 20:AU:48:VAL:HG12 | 20:AU:49:GLU:N | 2.17 | 0.60 |
| 21:AV:35:ASP:O | 21:AV:35:ASP:OD1 | 2.20 | 0.60 |
| 21:AV:40:ASP:CB | 21:AV:41:ARG:NH2 | 2.65 | 0.60 |
| 22:AW:29:ASN:O | 22:AW:34:GLN:OE1 | 2.20 | 0.60 |
| 22:AW:46:ILE:HD13 | 22:AW:46:ILE:N | 2.16 | 0.60 |
| 24:A0:113:LEU:HD13 | 24:A0:114:VAL:H | 1.67 | 0.60 |
| 26:A2:6:GLN:OE1 | 26:A2:10:LYS:CA | 2.48 | 0.60 |
| 34:BA:16:A:C2 | 34:BA:17:U:O4' | 2.55 | 0.60 |
| 34:BA:74:C:O2' | 34:BA:75:G:H5' | 2.01 | 0.60 |
| 34:BA:123:C:O2' | 34:BA:290:C:H1' | 2.02 | 0.60 |
| 34:BA:129(A):G:N2 | 34:BA:190(G):G:N7 | 2.49 | 0.60 |
| 34:BA:190(K):G:H2' | 34:BA:190(L):U:H6 | 1.65 | 0.60 |
| 34:BA:237:C:P | 52:BT:40:LYS:NZ | 2.75 | 0.60 |
| 34:BA:327:A:C5 | 34:BA:329:A:C5 | 2.90 | 0.60 |
| 34:BA:359:U:C2' | 34:BA:360:A:O5' | 2.50 | 0.60 |
| 34:BA:486:U:C2' | 34:BA:487:A:O5' | 2.50 | 0.60 |
| 34:BA:527:G:C2 | 34:BA:528:C:C2 | 2.90 | 0.60 |
| 34:BA:582:U:H1' | 52:BT:105:ALA:CA | 2.31 | 0.60 |
| 34:BA:609:A:N3 | 34:BA:610:G:H1' | 2.17 | 0.60 |
| 34:BA:815:A:C4 | 34:BA:1529:G:C5 | 2.90 | 0.60 |
| 34:BA:909:A:C2' | 34:BA:910:C:C5' | 2.75 | 0.60 |
| 34:BA:937:A:N6 | 34:BA:1345:U:O4 | 2.29 | 0.60 |
| 34:BA:947:G:N2 | 34:BA:948:C:C2 | 2.70 | 0.60 |
| 34:BA:1125:U:C5' | 34:BA:1126:U:H5 | 2.15 | 0.60 |
| 34:BA:1234:C:H4' | 34:BA:1364:U:H1' | 1.84 | 0.60 |
| 34:BA:1269:A:C8 | 34:BA:1270:C:H1' | 2.37 | 0.60 |
| 35:BC:14:A:C2 | 35:BC:22:G:N3 | 2.70 | 0.60 |
| 38:BF:73:PRO:HG2 | 38:BF:74:GLY:N | 2.16 | 0.60 |
| 39:BG:9:CYS:O | 39:BG:32:ALA:CB | 2.50 | 0.60 |
| 39:BG:22:LYS:CB | 39:BG:26:CYS:HB2 | 2.29 | 0.60 |
| 40:BH:77:PRO:CG | 40:BH:78:HIS:HD2 | 2.13 | 0.60 |
| 40:BH:118:ILE:HG22 | 40:BH:119:LEU:H | 1.67 | 0.60 |
| 41:BI:3:ARG:C | 41:BI:4:TYR:CD2 | 2.75 | 0.60 |
| 41:BI:6:VAL:CG1 | 41:BI:63:TYR:HB2 | 2.32 | 0.60 |
| 41:BI:75:LEU:HD11 | 41:BI:79:LEU:HD21 | 1.84 | 0.60 |
| 41:BI:89:MET:HE3 | 53:BU:76:LEU:HD21 | 1.82 | 0.60 |
| 42:BJ:38:LEU:CA | 42:BJ:41:ARG:HG3 | 2.27 | 0.60 |
| 42:BJ:111:ARG:HB3 | 42:BJ:111:ARG:NH1 | 2.12 | 0.60 |
| 42:BJ:146:GLU:HG2 | 42:BJ:149:ARG:HE | 1.65 | 0.60 |
| 46:BN:88:GLY:O | 46:BN:91:ARG:N | 2.28 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 49:BQ:26:ARG:HD2 | 49:BQ:47:LEU:HD11 | 1.84 | 0.60 |
| 50:BR:9:GLN:O | 50:BR:10:LYS:C | 2.41 | 0.60 |
| 52:BT:59:ILE:HD12 | 52:BT:73:VAL:CA | 2.31 | 0.60 |
| 53:BU:41:LYS:O | 53:BU:44:LEU:CD2 | 2.50 | 0.60 |
| 55:BW:65:LYS:O | 55:BW:68:LYS:CG | 2.50 | 0.60 |
| 55:BW:66:ALA:O | 55:BW:67:ALA:C | 2.39 | 0.60 |
| 1:AB:114:G:H2' | 1:AB:115:G:C8 | 2.36 | 0.59 |
| 2:AA:177:G:H2' | 2:AA:177:G:N3 | 2.16 | 0.59 |
| 2:AA:221:A:H3' | 2:AA:221:A:H8 | 1.66 | 0.59 |
| 2:AA:562:U:O2 | 2:AA:572:A:C1' | 2.50 | 0.59 |
| 2:AA:562:U:O2 | 2:AA:572:A:H1' | 2.02 | 0.59 |
| 2:AA:648:G:C4 | 2:AA:649:G:C8 | 2.90 | 0.59 |
| 2:AA:685:A:C4 | 2:AA:774:A:N1 | 2.70 | 0.59 |
| 2:AA:734:A:O2' | 2:AA:735:A:O5' | 2.20 | 0.59 |
| 2:AA:791:C:O2' | 2:AA:792:G:H5' | 1.99 | 0.59 |
| 2:AA:861:A:H2' | 2:AA:862:G:C5' | 2.26 | 0.59 |
| 2:AA:895:U:O2 | 2:AA:896:A:N1 | 2.35 | 0.59 |
| 2:AA:919:G:HO2' | 2:AA:920:G:H8 | 1.48 | 0.59 |
| 2:AA:969:U:C4 | 2:AA:970:C:C5 | 2.90 | 0.59 |
| 2:AA:998:C:N4 | 2:AA:1157:G:H1 | 2.00 | 0.59 |
| 2:AA:1029:A:H8 | 2:AA:1029:A:O5' | 1.85 | 0.59 |
| 2:AA:1076:C:C2' | 11:AL:91:GLU:HB3 | 2.28 | 0.59 |
| 2:AA:1077:A:H2' | 2:AA:1078:U:O4' | 2.02 | 0.59 |
| 2:AA:142(A):A:OP2 | 2:AA:1143:A:H8 | 1.83 | 0.59 |
| 2:AA:1457:A:C2 | 2:AA:2703:C:N4 | 2.70 | 0.59 |
| 2:AA:1494:A:H3' | 2:AA:1494:A:C4 | 2.37 | 0.59 |
| 2:AA:1528:A:H2' | 2:AA:1529:A:H4' | 1.83 | 0.59 |
| 2:AA:1530:G:C4 | 2:AA:1542:G:N7 | 2.69 | 0.59 |
| 2:AA:1568:G:H5" | 4:AD:60:GLN:CG | 2.32 | 0.59 |
| 2:AA:1583:A:OP1 | 2:AA:1586:A:H5' | 2.01 | 0.59 |
| 2:AA:1655:A:H2' | 2:AA:1656:C:H6 | 1.65 | 0.59 |
| 2:AA:1655:A:N6 | 2:AA:2005:A:O2' | 2.34 | 0.59 |
| 2:AA:1695:G:C2' | 2:AA:1696:G:C5' | 2.62 | 0.59 |
| 2:AA:1775:U:C2' | 2:AA:1776:G:H5' | 2.32 | 0.59 |
| 2:AA:1880:C:O2 | 2:AA:1880:C:C2' | 2.50 | 0.59 |
| 2:AA:1894:C:O2' | 2:AA:1895:C:O5' | 2.19 | 0.59 |
| 2:AA:1903:G:C4 | 2:AA:1904:G:N7 | 2.70 | 0.59 |
| 2:AA:2079:U:O4 | 2:AA:2241:A:N1 | 2.35 | 0.59 |
| 2:AA:2131:G:H3' | 3:AC:5:LYS:C | 2.21 | 0.59 |
| 2:AA:2305:A:N1 | 2:AA:2312:U:H1' | 2.17 | 0.59 |
| 2:AA:2468:G:HO2' | 2:AA:2469:A:H8 | 1.41 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2485:G:O2' | 2:AA:2486:G:C5' | 2.44 | 0.59 |
| 2:AA:2519:U:C5' | 2:AA:2520:C:OP1 | 2.45 | 0.59 |
| 2:AA:2526:G:C6 | 2:AA:2527:C:C5 | 2.89 | 0.59 |
| 2:AA:2544:G:C5' | 2:AA:2645:G:N7 | 2.44 | 0.59 |
| 2:AA:2549:G:O2' | 2:AA:2550:G:H5' | 2.00 | 0.59 |
| 2:AA:2589:A:H2' | 2:AA:2590:A:H8 | 1.66 | 0.59 |
| 2:AA:2691:C:H3' | 2:AA:2691:C:C6 | 2.37 | 0.59 |
| 2:AA:2768:C:N3 | 2:AA:2769:C:C5 | 2.70 | 0.59 |
| 2:AA:2781:A:C5' | 2:AA:2782:G:H5' | 2.23 | 0.59 |
| 2:AA:2784:C:H1' | 5:AE:98:GLU:OE1 | 2.02 | 0.59 |
| 3:AC:75:LEU:HD21 | 3:AC:103:ILE:HD11 | 1.84 | 0.59 |
| 3:AC:131:LEU:O | 3:AC:133:PRO:HD2 | 2.02 | 0.59 |
| 3:AC:205:LYS:CG | 3:AC:206:GLY:H | 1.97 | 0.59 |
| 4:AD:80:ILE:HB | 4:AD:82:TYR:HE1 | 1.63 | 0.59 |
| 4:AD:89:ASN:OD1 | 4:AD:199:ARG:NH2 | 2.32 | 0.59 |
| 4:AD:93:ILE:HB | 4:AD:103:ILE:HG22 | 1.84 | 0.59 |
| 4:AD:121:ALA:O | 4:AD:122:ASP:HB3 | 2.02 | 0.59 |
| 4:AD:210:LYS:CG | 4:AD:211:HIS:H | 2.07 | 0.59 |
| 5:AE:177:ALA:O | 5:AE:181:VAL:HB | 2.02 | 0.59 |
| 7:AG:14:ARG:HA | 7:AG:137:PRO:HG3 | 1.83 | 0.59 |
| 7:AG:103:ASN:HB3 | 7:AG:132:VAL:O | 2.02 | 0.59 |
| 9:AI:14:THR:CB | 9:AJ:105:GLY:O | 2.49 | 0.59 |
| 9:AI:14:THR:OG1 | 9:AJ:105:GLY:O | 2.19 | 0.59 |
| 10:AK:62:LEU:C | 10:AK:66:LYS:HE2 | 2.22 | 0.59 |
| 10:AK:114:LYS:HD2 | 10:AK:132:LYS:O | 2.02 | 0.59 |
| 11:AL:55:PRO:HD3 | 11:AL:73:PRO:CA | 2.32 | 0.59 |
| 12:AM:10:VAL:HG12 | 12:AM:12:VAL:CG2 | 2.32 | 0.59 |
| 13:AN:71:ARG:CG | 13:AN:72:PRO:HD2 | 2.32 | 0.59 |
| 13:AN:87:ILE:CG2 | 13:AN:92:SER:N | 2.64 | 0.59 |
| 15:AP:50:VAL:C | 15:AP:118:ALA:HA | 2.17 | 0.59 |
| 15:AP:73:GLN:O | 21:AV:175:ARG:NH1 | 2.23 | 0.59 |
| 15:AP:82:LYS:HB2 | 15:AP:125:TRP:N | 2.16 | 0.59 |
| 16:AQ:32:PRO:HG2 | 16:AQ:100:ALA:HB1 | 1.83 | 0.59 |
| 16:AQ:104:ILE:O | 16:AQ:106:LEU:N | 2.34 | 0.59 |
| 18:AS:19:LEU:CG | 29:A5:25:LEU:HG | 2.32 | 0.59 |
| 19:AT:20:PHE:O | 19:AT:22:ASN:OD1 | 2.19 | 0.59 |
| 20:AU:103:LEU:HA | 20:AU:108:ARG:HB2 | 1.84 | 0.59 |
| 23:AX:12:PRO:O | 23:AX:15:TYR:N | 2.35 | 0.59 |
| 24:A0:77:ARG:HH11 | 24:A0:77:ARG:HB2 | 1.63 | 0.59 |
| 25:A1:50:ARG:NH2 | 26:A2:74:TYR:HA | 2.17 | 0.59 |
| 25:A1:95:LEU:O | 25:A1:106:PHE:CE1 | 2.55 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 27:A3:28:GLY:H | 27:A3:60:PHE:CB | 2.15 | 0.59 |
| 27:A3:40:GLN:CA | 27:A3:69:PHE:HE1 | 2.15 | 0.59 |
| 28:A4:16:TYR:O | 28:A4:17:GLN:CG | 2.40 | 0.59 |
| 28:A4:48:ARG:CG | 28:A4:49:PHE:CD1 | 2.84 | 0.59 |
| 28:A4:48:ARG:O | 28:A4:51:ASP:O | 2.20 | 0.59 |
| 30:A6:8:ILE:HD13 | 30:A6:29:ARG:NE | 2.16 | 0.59 |
| 32:A8:62:LEU:HB2 | 32:A8:63:PRO:CD | 2.26 | 0.59 |
| 34:BA:7:G:H21 | 40:BH:121:LYS:HG2 | 1.65 | 0.59 |
| 34:BA:8:A:N7 | 39:BG:208:SER:O | 2.34 | 0.59 |
| 34:BA:132:C:C2 | 34:BA:230:G:N2 | 2.66 | 0.59 |
| 34:BA:160:A:C1' | 34:BA:344:A:N7 | 2.65 | 0.59 |
| 34:BA:339:C:H2' | 34:BA:340:U:O5' | 2.01 | 0.59 |
| 34:BA:410:G:N2 | 34:BA:429:U:H3 | 1.99 | 0.59 |
| 34:BA:414:A:C4 | 34:BA:415:A:C8 | 2.90 | 0.59 |
| 34:BA:701:C:H5' | 34:BA:703:G:O5' | 2.01 | 0.59 |
| 34:BA:703:G:C8 | 34:BA:703:G:O5' | 2.55 | 0.59 |
| 34:BA:841:U:H3 | 37:BE:37:ASN:ND2 | 1.99 | 0.59 |
| 34:BA:995:C:H6 | 34:BA:995:C:OP2 | 1.85 | 0.59 |
| 35:BB:29:A:C2 | 35:BB:30:G:N9 | 2.69 | 0.59 |
| 36:B1:59:A:H3' | 36:B1:59:A:C8 | 2.35 | 0.59 |
| 37:BE:69:LEU:HB3 | 37:BE:162:ILE:CG2 | 2.27 | 0.59 |
| 37:BE:78:GLN:O | 37:BE:94:ASN:ND2 | 2.35 | 0.59 |
| 37:BE:144:ARG:HD2 | 37:BE:148:TYR:OH | 2.02 | 0.59 |
| 38:BF:134:ILE:CG2 | 38:BF:151:VAL:HB | 2.31 | 0.59 |
| 39:BG:20:TYR:HD1 | 39:BG:21:LEU:H | 1.50 | 0.59 |
| 39:BG:155:LEU:N | 39:BG:155:LEU:HD23 | 2.17 | 0.59 |
| 42:BJ:22:LEU:O | 42:BJ:25:ALA:HB3 | 2.02 | 0.59 |
| 43:BK:24:THR:O | 43:BK:24:THR:CG2 | 2.49 | 0.59 |
| 44:BL:6:GLY:HA2 | 44:BL:83:ARG:HG2 | 1.83 | 0.59 |
| 47:BO:60:LEU:HD22 | 47:BO:64:TYR:O | 2.02 | 0.59 |
| 47:BO:102:ARG:HE | 47:BO:109:GLY:CA | 2.16 | 0.59 |
| 48:BP:10:PRO:HB2 | 48:BP:18:ALA:CA | 2.31 | 0.59 |
| 50:BR:75:PRO:O | 50:BR:79:ARG:HG3 | 2.02 | 0.59 |
| 51:BS:23:ASP:OD1 | 51:BS:25:ARG:HG3 | 2.02 | 0.59 |
| 52:BT:8:GLY:HA3 | 52:BT:22:LEU:O | 2.02 | 0.59 |
| 55:BW:16:HIS:O | 55:BW:19:SER:HB3 | 2.02 | 0.59 |
| 56:BX:6:ARG:C | 56:BX:8:THR:H | 2.05 | 0.59 |
| 2:AA:83:G:O6 | 2:AA:102:G:C4 | 2.55 | 0.59 |
| 2:AA:126:A:C8 | 2:AA:127:A:C4 | 2.90 | 0.59 |
| 2:AA:202:U:H2' | 2:AA:203:C:O4' | 2.02 | 0.59 |
| 2:AA:480:A:H2' | 2:AA:481:G:OP1 | 2.01 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:510:C:C6 | 2:AA:512:G:N2 | 2.70 | 0.59 |
| 2:AA:529:A:N6 | 2:AA:2042:A:H2 | 1.96 | 0.59 |
| 2:AA:690:G:O2' | 2:AA:780:G:OP1 | 2.19 | 0.59 |
| 2:AA:721:C:N4 | 2:AA:722:A:N6 | 2.49 | 0.59 |
| 2:AA:776:G:C4 | 2:AA:793:A:C5 | 2.89 | 0.59 |
| 2:AA:828:U:H2' | 2:AA:829:A:N9 | 2.14 | 0.59 |
| 2:AA:979:G:H22 | 2:AA:985:C:N4 | 1.99 | 0.59 |
| 2:AA:1059:G:OP2 | 2:AA:1061:U:O4 | 2.20 | 0.59 |
| 2:AA:1079:C:O2' | 11:AL:129:GLU:OE1 | 2.20 | 0.59 |
| 2:AA:1262:A:H2 | 29:A5:10:LYS:CE | 2.02 | 0.59 |
| 2:AA:1270:C:H5" | 2:AA:1271:G:P | 2.41 | 0.59 |
| 2:AA:1365:A:C4 | 2:AA:1366:A:N7 | 2.70 | 0.59 |
| 2:AA:1492:G:O4' | 4:AD:97:ASP:OD1 | 2.21 | 0.59 |
| 2:AA:1493:C:N4 | 2:AA:1500:G:C2 | 2.64 | 0.59 |
| 2:AA:1605:C:C5 | 2:AA:1606:G:C5 | 2.90 | 0.59 |
| 2:AA:1689:A:N1 | 2:AA:1700:A:C2 | 2.71 | 0.59 |
| 2:AA:1717:G:C6 | 2:AA:1742:C:O2 | 2.54 | 0.59 |
| 2:AA:1809:A:H3' | 2:AA:1810:A:C2 | 2.37 | 0.59 |
| 2:AA:1857:G:H3' | 2:AA:1857:G:C8 | 2.37 | 0.59 |
| 2:AA:1963:U:O2 | 2:AA:1963:U:C2' | 2.51 | 0.59 |
| 2:AA:1971:A:H3' | 2:AA:1971:A:H8 | 1.67 | 0.59 |
| 2:AA:1998:G:C6 | 2:AA:1999:C:C5 | 2.90 | 0.59 |
| 2:AA:2005:A:H5" | 2:AA:2006:C:OP2 | 2.00 | 0.59 |
| 2:AA:2058:A:N3 | 2:AA:2059:A:C8 | 2.70 | 0.59 |
| 2:AA:2082:A:C2 | 2:AA:2083:G:C4 | 2.90 | 0.59 |
| 2:AA:2091:U:O5' | 2:AA:2091:U:H6 | 1.85 | 0.59 |
| 2:AA:2107:C:O5' | 2:AA:2107:C:C6 | 2.55 | 0.59 |
| 2:AA:2219:G:C2' | 2:AA:2224:G:C5' | 2.72 | 0.59 |
| 2:AA:2333:A:H1' | 2:AA:2335:A:C4 | 2.37 | 0.59 |
| 2:AA:2385:C:N3 | 2:AA:2386:C:C5 | 2.69 | 0.59 |
| 2:AA:2396:G:O2' | 28:A4:27:THR:CG2 | 2.50 | 0.59 |
| 2:AA:2414:G:H8 | 2:AA:2414:G:O5' | 1.85 | 0.59 |
| 2:AA:2415:G:H21 | 2:AA:2416:C:H1' | 1.67 | 0.59 |
| 2:AA:2527:C:OP1 | 33:A9:30:VAL:CG1 | 2.48 | 0.59 |
| 2:AA:2690:C:H41 | 24:A0:14:SER:CB | 2.11 | 0.59 |
| 2:AA:2721:A:H2' | 2:AA:2722:G:H8 | 1.66 | 0.59 |
| 2:AA:2738:A:N6 | 2:AA:2767:C:N4 | 2.49 | 0.59 |
| 2:AA:2816:C:OP1 | 24:A0:99:LYS:NZ | 2.35 | 0.59 |
| 2:AA:2840:C:O2' | 2:AA:2841:C:H5' | 2.01 | 0.59 |
| 2:AA:2859:G:H2' | 2:AA:2860:A:O4' | 2.01 | 0.59 |
| 2:AA:2870:C:O2' | 2:AA:2871:C:O5' | 2.19 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:36:LYS:HA | 3:AC:36:LYS:NZ | 2.12 | 0.59 |
| 3:AC:41:VAL:HG13 | 3:AC:215:THR:O | 2.02 | 0.59 |
| 3:AC:93:TYR:CD2 | 3:AC:110:PHE:HB3 | 2.36 | 0.59 |
| 6:AF:40:ALA:HB1 | 6:AF:100:LEU:HB2 | 1.84 | 0.59 |
| 7:AG:97:GLN:OE1 | 7:AG:106:PHE:HE2 | 1.84 | 0.59 |
| 8:AH:85:ALA:CA | 8:AH:131:ILE:HG22 | 2.23 | 0.59 |
| 8:AH:95:ALA:O | 8:AH:127:GLN:HA | 2.01 | 0.59 |
| 8:AH:167:LEU:HD23 | 8:AH:167:LEU:H | 1.67 | 0.59 |
| 9:AI:73:VAL:HG22 | 9:AI:122:GLY:N | 2.17 | 0.59 |
| 9:AJ:80:ILE:CG2 | 9:AJ:103:LYS:HD2 | 2.22 | 0.59 |
| 10:AK:46:ALA:O | 10:AK:49:ALA:HB3 | 2.03 | 0.59 |
| 12:AM:83:ILE:O | 12:AM:84:ARG:C | 2.40 | 0.59 |
| 13:AN:73:ASP:O | 13:AN:75:SER:N | 2.35 | 0.59 |
| 13:AN:86:ILE:O | 13:AN:93:PRO:HA | 2.02 | 0.59 |
| 14:AO:67:ARG:HD3 | 14:AO:111:ALA:O | 2.02 | 0.59 |
| 15:AP:59:ASN:ND2 | 15:AP:59:ASN:N | 2.47 | 0.59 |
| 15:AP:66:ASN:C | 15:AP:70:ARG:CZ | 2.70 | 0.59 |
| 18:AS:3:ALA:HB2 | 18:AS:62:HIS:HD1 | 1.67 | 0.59 |
| 18:AS:25:ARG:CG | 18:AS:26:GLY:H | 2.15 | 0.59 |
| 19:AT:3:ASP:HA | 22:AW:24:LYS:HD2 | 1.83 | 0.59 |
| 19:AT:11:THR:O | 19:AT:14:ALA:N | 2.36 | 0.59 |
| 21:AV:118:HIS:O | 21:AV:119:ASN:CB | 2.50 | 0.59 |
| 24:A0:82:GLU:C | 24:A0:83:ILE:HD13 | 2.21 | 0.59 |
| 25:A1:28:ARG:HH11 | 25:A1:28:ARG:HG2 | 1.67 | 0.59 |
| 31:A7:21:ARG:NH2 | 31:A7:43:THR:N | 2.49 | 0.59 |
| 31:A7:34:ARG:HD2 | 31:A7:42:LEU:CD2 | 2.32 | 0.59 |
| 34:BA:49:U:C5 | 34:BA:364:A:N6 | 2.69 | 0.59 |
| 34:BA:129(A):G:H2' | 34:BA:190(E):U:C5 | 2.37 | 0.59 |
| 34:BA:148:G:N2 | 34:BA:175:C:C4 | 2.70 | 0.59 |
| 34:BA:174:C:C2 | 34:BA:175:C:C5 | 2.91 | 0.59 |
| 34:BA:187:C:O2' | 34:BA:188:C:H5' | 2.02 | 0.59 |
| 34:BA:422:C:O4' | 34:BA:423:G:C2 | 2.54 | 0.59 |
| 34:BA:453:A:H2' | 34:BA:454:C:C6 | 2.37 | 0.59 |
| 34:BA:556:C:O2' | 34:BA:557:G:H5' | 2.02 | 0.59 |
| 34:BA:590:C:H5" | 43:BK:30:ARG:HG3 | 1.83 | 0.59 |
| 34:BA:597:G:C2' | 34:BA:598:U:H5' | 2.31 | 0.59 |
| 34:BA:964:A:OP1 | 34:BA:1199:U:OP1 | 2.19 | 0.59 |
| 34:BA:1308:U:H5' | 48:BP:110:ARG:HH22 | 1.67 | 0.59 |
| 34:BA:1321:C:C4 | 34:BA:1322:C:N3 | 2.70 | 0.59 |
| 34:BA:1324:A:O4' | 34:BA:361(A):C:H4' | 2.02 | 0.59 |
| 34:BA:1358:U:OP2 | 34:BA:1359:C:H5 | 1.85 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1490:C:C2' | 34:BA:1491:G:O5' | 2.50 | 0.59 |
| 34:BA:1515:C:O2' | 34:BA:1516:G:O5' | 2.19 | 0.59 |
| 35:BC:4:G:N2 | 35:BC:70:C:H1' | 2.17 | 0.59 |
| 35:BC:57:G:H2' | 35:BC:58:A:H5' | 1.83 | 0.59 |
| 36:B1:15:A:N1 | 36:B1:41:U:C2 | 2.70 | 0.59 |
| 39:BG:61:LYS:N | 39:BG:203:VAL:HG22 | 2.17 | 0.59 |
| 39:BG:63:LYS:CG | 39:BG:64:LEU:H | 2.15 | 0.59 |
| 39:BG:107:ARG:HH11 | 39:BG:107:ARG:CA | 2.06 | 0.59 |
| 39:BG:128:VAL:CG2 | 39:BG:133:VAL:HG23 | 2.25 | 0.59 |
| 40:BH:150:ARG:O | 40:BH:150:ARG:HD3 | 2.02 | 0.59 |
| 41:BI:36:ARG:HH11 | 41:BI:36:ARG:CB | 2.15 | 0.59 |
| 41:BI:40:VAL:HA | 41:BI:63:TYR:HD1 | 1.66 | 0.59 |
| 42:BJ:64:GLN:CG | 42:BJ:128:ALA:HB1 | 2.32 | 0.59 |
| 45:BM:24:VAL:O | 45:BM:34:VAL:HG21 | 2.02 | 0.59 |
| 46:BN:42:TRP:HE3 | 46:BN:43:SER:CA | 2.14 | 0.59 |
| 46:BN:64:ALA:O | 46:BN:66:LEU:N | 2.35 | 0.59 |
| 46:BN:85:ARG:HG3 | 46:BN:85:ARG:NH1 | 2.16 | 0.59 |
| 49:BQ:29:ARG:HB3 | 49:BQ:40:CYS:CB | 2.32 | 0.59 |
| 55:BW:29:LYS:O | 55:BW:30:LYS:C | 2.36 | 0.59 |
| 56:BX:20:LYS:CG | 56:BX:21:TYR:N | 2.64 | 0.59 |
| 1:AB:71:C:O2 | 1:AB:72:G:O4' | 2.21 | 0.59 |
| 1:AB:75:G:O2' | 1:AB:76:G:H5' | 2.01 | 0.59 |
| 2:AA:10:G:N2 | 2:AA:2629:A:N3 | 2.50 | 0.59 |
| 2:AA:59:U:H3' | 2:AA:60:G:C5' | 2.32 | 0.59 |
| 2:AA:67:U:C2 | 2:AA:68:G:N7 | 2.70 | 0.59 |
| 2:AA:294:A:C8 | 2:AA:294:A:H3' | 2.38 | 0.59 |
| 2:AA:470:A:H2' | 2:AA:471:A:O4' | 2.02 | 0.59 |
| 2:AA:900:A:N7 | 2:AA:901:A:C8 | 2.69 | 0.59 |
| 2:AA:901:A:C5 | 2:AA:902:C:C4 | 2.90 | 0.59 |
| 2:AA:911:A:N6 | 15:AP:15:THR:C | 2.56 | 0.59 |
| 2:AA:960:A:N3 | 2:AA:962:G:O4' | 2.35 | 0.59 |
| 2:AA:1011:G:O2' | 2:AA:1013:C:O4' | 2.16 | 0.59 |
| 2:AA:1063:G:N2 | 2:AA:1075:C:C2 | 2.71 | 0.59 |
| 2:AA:1181:C:H2' | 2:AA:1182:A:H8 | 1.68 | 0.59 |
| 2:AA:1189:A:N6 | 2:AA:1190:G:N3 | 2.50 | 0.59 |
| 2:AA:1199:U:C2 | 2:AA:1200:C:C6 | 2.90 | 0.59 |
| 2:AA:1239:G:O2' | 2:AA:1240:U:O4' | 2.20 | 0.59 |
| 2:AA:1241:A:C8 | 2:AA:1241:A:OP2 | 2.55 | 0.59 |
| 2:AA:1260:G:C2' | 2:AA:1261:C:H5' | 2.30 | 0.59 |
| 2:AA:1471:A:N6 | 2:AA:1519:G:H22 | 1.93 | 0.59 |
| 2:AA:1548:C:H2' | 2:AA:1549:C:H6 | 1.67 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1649:G:C6 | 2:AA:2009:G:N1 | 2.70 | 0.59 |
| 2:AA:1683:C:N3 | 2:AA:1684:C:C4 | 2.70 | 0.59 |
| 2:AA:1763:G:C2' | 2:AA:1764:G:O5' | 2.49 | 0.59 |
| 2:AA:1809:A:H3' | 2:AA:1810:A:C4 | 2.36 | 0.59 |
| 2:AA:1819:A:C4 | 4:AD:177:SER:HB3 | 2.37 | 0.59 |
| 2:AA:1861:G:C4' | 3:AC:205:LYS:NZ | 2.64 | 0.59 |
| 2:AA:1982:C:N3 | 2:AA:1983:C:C5 | 2.71 | 0.59 |
| 2:AA:2053:G:C2 | 2:AA:2054:A:C8 | 2.89 | 0.59 |
| 2:AA:2097:C:N4 | 2:AA:2193:G:O6 | 2.36 | 0.59 |
| 2:AA:2151:G:C2 | 2:AA:2152:G:N3 | 2.70 | 0.59 |
| 2:AA:2219:G:OP1 | 4:AD:184:LEU:HD21 | 2.02 | 0.59 |
| 2:AA:2259:G:H5' | 2:AA:2427:C:H3' | 1.85 | 0.59 |
| 2:AA:2261:C:O4' | 2:AA:2388:A:H1' | 2.02 | 0.59 |
| 2:AA:2468:G:C6 | 2:AA:2481:G:C6 | 2.90 | 0.59 |
| 2:AA:2822:G:OP1 | 5:AE:207:GLY:CA | 2.51 | 0.59 |
| 2:AA:2826:A:C5 | 2:AA:2827:C:C6 | 2.90 | 0.59 |
| 3:AC:49:ILE:HG13 | 3:AC:50:ASP:H | 1.65 | 0.59 |
| 3:AC:49:ILE:CG1 | 3:AC:50:ASP:H | 2.15 | 0.59 |
| 3:AC:62:VAL:HB | 3:AC:163:PHE:HE2 | 1.67 | 0.59 |
| 4:AD:70:LYS:HB3 | 4:AD:70:LYS:NZ | 2.16 | 0.59 |
| 4:AD:122:ASP:C | 4:AD:124:LYS:N | 2.46 | 0.59 |
| 5:AE:225:LYS:CA | 5:AE:228:ARG:HH12 | 2.15 | 0.59 |
| 5:AE:263:GLU:O | 5:AE:266:LYS:NZ | 2.35 | 0.59 |
| 5:AE:269:ILE:CD1 | 5:AE:295:LEU:O | 2.50 | 0.59 |
| 6:AF:194:PHE:HB2 | 6:AF:211:ASP:OD2 | 2.01 | 0.59 |
| 7:AG:53:LYS:HG3 | 7:AG:54:ALA:H | 1.67 | 0.59 |
| 7:AG:152:PRO:O | 7:AG:154:LYS:N | 2.34 | 0.59 |
| 8:AH:104:LEU:HD13 | 8:AH:151:ARG:NH2 | 2.16 | 0.59 |
| 8:AH:117:GLU:HG2 | 8:AH:118:GLU:H | 1.68 | 0.59 |
| 8:AH:151:ARG:HB2 | 8:AH:161:ILE:CD1 | 2.33 | 0.59 |
| 11:AL:72:THR:CB | 11:AL:115:ASP:HB3 | 2.32 | 0.59 |
| 11:AL:75:ALA:HA | 11:AL:112:LYS:HZ2 | 1.65 | 0.59 |
| 11:AL:101:THR:O | 11:AL:105:ILE:HG13 | 2.01 | 0.59 |
| 12:AM:21:ARG:CD | 12:AM:21:ARG:N | 2.64 | 0.59 |
| 12:AM:45:VAL:CG1 | 12:AM:46:ILE:N | 2.66 | 0.59 |
| 14:AO:131:GLU:O | 14:AO:134:GLU:HB2 | 2.02 | 0.59 |
| 15:AP:16:ARG:NH1 | 15:AP:16:ARG:CB | 2.44 | 0.59 |
| 15:AP:45:GLN:CG | 15:AP:125:TRP:HE1 | 2.12 | 0.59 |
| 15:AP:49:VAL:HG22 | 15:AP:119:ASN:C | 2.21 | 0.59 |
| 15:AP:61:LEU:O | 15:AP:62:GLU:C | 2.41 | 0.59 |
| 15:AP:65:ARG:NH2 | 15:AP:87:LYS:HB2 | 2.17 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:AQ:97:VAL:C | 16:AQ:98:GLU:HG2 | 2.21 | 0.59 |
| 18:AS:19:LEU:HD13 | 29:A5:25:LEU:HD23 | 1.83 | 0.59 |
| 18:AS:27:LYS:O | 18:AS:71:VAL:HG22 | 2.02 | 0.59 |
| 20:AU:19:ARG:CZ | 20:AU:68:ASP:HA | 2.31 | 0.59 |
| 20:AU:92:ASP:O | 20:AU:93:THR:C | 2.41 | 0.59 |
| 21:AV:5:ALA:CB | 21:AV:13:LYS:NZ | 2.65 | 0.59 |
| 21:AV:14:LEU:CG | 21:AV:80:HIS:NE2 | 2.66 | 0.59 |
| 21:AV:71:MET:O | 21:AV:78:PRO:N | 2.35 | 0.59 |
| 23:AX:12:PRO:HG3 | 23:AX:20:LYS:HZ3 | 1.67 | 0.59 |
| 25:A1:113:SER:O | 25:A1:116:ALA:CB | 2.50 | 0.59 |
| 26:A2:20:ILE:CG1 | 26:A2:67:LYS:NZ | 2.64 | 0.59 |
| 26:A2:68:LYS:HG2 | 26:A2:69:ILE:HD11 | 1.85 | 0.59 |
| 34:BA:52:G:H21 | 34:BA:53:A:H1' | 1.67 | 0.59 |
| 34:BA:83:U:H2' | 34:BA:84:U:C6 | 2.36 | 0.59 |
| 34:BA:310:G:H2' | 34:BA:311:C:C6 | 2.38 | 0.59 |
| 34:BA:450:G:OP1 | 34:BA:451:A:H3' | 2.03 | 0.59 |
| 34:BA:530:G:C8 | 35:BB:35:A:O4' | 2.54 | 0.59 |
| 34:BA:557:G:H3' | 34:BA:558:G:C8 | 2.37 | 0.59 |
| 34:BA:586:C:N4 | 34:BA:755:G:H1 | 2.00 | 0.59 |
| 34:BA:693:G:H2' | 34:BA:694:A:C8 | 2.37 | 0.59 |
| 34:BA:889:A:H5' | 34:BA:891:U:O4' | 2.03 | 0.59 |
| 34:BA:1258:G:O5' | 34:BA:1258:G:H8 | 1.85 | 0.59 |
| 34:BA:1270:C:H4' | 34:BA:1313:U:O2' | 2.03 | 0.59 |
| 34:BA:1480:G:N1 | 34:BA:1481:U:O2 | 2.35 | 0.59 |
| 34:BA:1531:A:H2' | 34:BA:1532:U:C5 | 2.35 | 0.59 |
| 35:BB:9:A:C6 | 35:BB:45:G:C6 | 2.91 | 0.59 |
| 35:BB:34:G:H8 | 35:BB:34:G:C5' | 2.13 | 0.59 |
| 35:BB:52:U:C3' | 35:BB:53:G:H5' | 2.32 | 0.59 |
| 35:BC:58:A:H4' | 35:BC:59:U:OP1 | 2.02 | 0.59 |
| 37:BE:46:LYS:HA | 37:BE:49:GLU:OE1 | 2.02 | 0.59 |
| 37:BE:60:ASP:O | 37:BE:63:MET:HG2 | 2.01 | 0.59 |
| 37:BE:75:LYS:HA | 37:BE:78:GLN:CB | 2.32 | 0.59 |
| 38:BF:23:TYR:HD2 | 38:BF:24:ALA:N | 2.00 | 0.59 |
| 38:BF:182:ILE:HG23 | 38:BF:202:ILE:C | 2.23 | 0.59 |
| 39:BG:11:LEU:N | 39:BG:11:LEU:HD23 | 2.16 | 0.59 |
| 39:BG:25:ARG:C | 39:BG:27:TYR:N | 2.52 | 0.59 |
| 39:BG:39:PRO:HG2 | 39:BG:44:GLY:CA | 2.31 | 0.59 |
| 39:BG:129:ASN:HD21 | 39:BG:144:ASP:CB | 2.15 | 0.59 |
| 39:BG:133:VAL:HG11 | 39:BG:138:TYR:CB | 2.30 | 0.59 |
| 42:BJ:121:ALA:HB1 | 42:BJ:125:MET:CE | 2.32 | 0.59 |
| 43:BK:32:LYS:CG | 43:BK:33:GLU:N | 2.64 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:32:LYS:O | 43:BK:36:LEU:HD23 | 2.02 | 0.59 |
| 46:BN:67:ASP:HA | 46:BN:70:LYS:CE | 2.31 | 0.59 |
| 48:BP:87:TYR:HA | 48:BP:90:LEU:HD12 | 1.84 | 0.59 |
| 51:BS:81:ARG:HG2 | 51:BS:83:GLU:HG2 | 1.83 | 0.59 |
| 1:AB:37:C:N4 | 1:AB:48:A:O2' | 2.21 | 0.59 |
| 1:AB:48:A:H2' | 1:AB:49:C:C6 | 2.37 | 0.59 |
| 1:AB:66:A:C2 | 1:AB:108:C:C5 | 2.89 | 0.59 |
| 1:AB:70:C:C2 | 1:AB:106:G:N2 | 2.68 | 0.59 |
| 2:AA:37:C:C5' | 2:AA:451:C:H5" | 2.32 | 0.59 |
| 2:AA:92:G:C2 | 2:AA:93:C:C4 | 2.90 | 0.59 |
| 2:AA:270(X):G:H4' | 2:AA:272:G:O3' | 2.02 | 0.59 |
| 2:AA:405:U:H5" | 2:AA:406:G:C5' | 2.32 | 0.59 |
| 2:AA:451:C:N3 | 2:AA:453:C:C5 | 2.70 | 0.59 |
| 2:AA:452:G:N2 | 2:AA:458:G:N3 | 2.49 | 0.59 |
| 2:AA:508:G:H5" | 2:AA:509:C:OP1 | 2.02 | 0.59 |
| 2:AA:541:C:C4 | 2:AA:542:C:N4 | 2.70 | 0.59 |
| 2:AA:587:C:C6 | 2:AA:671:C:H1' | 2.38 | 0.59 |
| 2:AA:602:G:O5' | 2:AA:602:G:H8 | 1.84 | 0.59 |
| 2:AA:609:A:N7 | 2:AA:609(A):G:N7 | 2.50 | 0.59 |
| 2:AA:764:A:N7 | 2:AA:1776:G:O2' | 2.36 | 0.59 |
| 2:AA:798:G:H2' | 2:AA:799:G:C8 | 2.36 | 0.59 |
| 2:AA:880:G:H2' | 2:AA:881:G:C4' | 2.31 | 0.59 |
| 2:AA:946:G:N2 | 2:AA:971:C:N3 | 2.48 | 0.59 |
| 2:AA:996:A:O2' | 2:AA:997:G:O5' | 2.21 | 0.59 |
| 2:AA:999:U:H2' | 2:AA:1000:A:H5' | 1.85 | 0.59 |
| 2:AA:1179:C:OP2 | 2:AA:1179:C:H6 | 1.84 | 0.59 |
| 2:AA:1324:G:N2 | 2:AA:1328:G:H22 | 2.00 | 0.59 |
| 2:AA:1478:G:H1 | 2:AA:1515:C:N4 | 2.00 | 0.59 |
| 2:AA:1553:A:N1 | 2:AA:1556:C:C5 | 2.70 | 0.59 |
| 2:AA:1615:C:C5 | 2:AA:1617:C:C5 | 2.91 | 0.59 |
| 2:AA:1784:A:H4' | 2:AA:1785:A:C5' | 2.31 | 0.59 |
| 2:AA:1957:C:O2' | 2:AA:1985:G:C1' | 2.51 | 0.59 |
| 2:AA:1964:G:O2' | 2:AA:1965:C:P | 2.60 | 0.59 |
| 2:AA:1990:C:O2 | 2:AA:1991:U:O2 | 2.20 | 0.59 |
| 2:AA:2021:C:O2 | 2:AA:2022:U:OP1 | 2.19 | 0.59 |
| 2:AA:2025:C:H2' | 2:AA:2026:C:H6 | 1.65 | 0.59 |
| 2:AA:2246:G:C2' | 2:AA:2247:A:H8 | 2.15 | 0.59 |
| 2:AA:2320:A:N6 | 16:AQ:9:PRO:CG | 2.64 | 0.59 |
| 2:AA:2456:C:N3 | 2:AA:2495:G:O6 | 2.35 | 0.59 |
| 2:AA:2575:C:H2' | 5:AE:237:ASN:ND2 | 2.17 | 0.59 |
| 2:AA:2674:G:H4' | 13:AN:30:ARG:CG | 2.32 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2683:C:C5 | 2:AA:2684:U:C5 | 2.90 | 0.59 |
| 2:AA:2713:A:H3' | 2:AA:2714:G:C5' | 2.31 | 0.59 |
| 2:AA:2768:C:H2' | 2:AA:2769:C:O5' | 2.02 | 0.59 |
| 3:AC:59:ARG:HH21 | 3:AC:140:PRO:HD2 | 1.67 | 0.59 |
| 5:AE:201:VAL:C | 5:AE:262:THR:HG1 | 2.05 | 0.59 |
| 6:AF:22:PHE:CE2 | 6:AF:115:LEU:HB3 | 2.35 | 0.59 |
| 8:AH:45:GLU:N | 8:AH:45:GLU:OE1 | 2.35 | 0.59 |
| 8:AH:117:GLU:OE1 | 8:AH:118:GLU:O | 2.20 | 0.59 |
| 9:AI:57:THR:HG21 | 9:AJ:110:GLU:CG | 2.32 | 0.59 |
| 11:AL:106:GLU:O | 11:AL:109:ALA:HB3 | 2.02 | 0.59 |
| 12:AM:15:ARG:HH11 | 12:AM:43:ARG:CZ | 2.14 | 0.59 |
| 13:AN:76:TYR:HB2 | 17:AR:19:THR:OG1 | 2.03 | 0.59 |
| 14:AO:113:GLN:NE2 | 14:AO:115:ARG:HH12 | 2.00 | 0.59 |
| 15:AP:71:PHE:HD1 | 15:AP:71:PHE:H | 1.48 | 0.59 |
| 16:AQ:40:ASN:O | 16:AQ:42:HIS:N | 2.36 | 0.59 |
| 17:AR:9:CYS:O | 17:AR:11:THR:N | 2.35 | 0.59 |
| 20:AU:81:LYS:CG | 20:AU:82:THR:H | 2.12 | 0.59 |
| 21:AV:4:THR:HG22 | 21:AV:56:VAL:HG22 | 1.82 | 0.59 |
| 21:AV:99:HIS:O | 21:AV:137:ASP:OD2 | 2.21 | 0.59 |
| 21:AV:103:ARG:CZ | 21:AV:137:ASP:CB | 2.80 | 0.59 |
| 21:AV:117:VAL:HG11 | 21:AV:167:THR:HG21 | 1.83 | 0.59 |
| 22:AW:27:LEU:HD21 | 22:AW:49:LEU:HB2 | 1.85 | 0.59 |
| 32:A8:5:LYS:HG3 | 32:A8:60:LEU:O | 2.01 | 0.59 |
| 34:BA:22:G:C2' | 34:BA:23:C:H6 | 2.13 | 0.59 |
| 34:BA:116:A:C8 | 34:BA:116:A:O5' | 2.55 | 0.59 |
| 34:BA:474:G:O2' | 34:BA:475:G:C5' | 2.49 | 0.59 |
| 34:BA:499:A:O2' | 34:BA:500:G:O4' | 2.19 | 0.59 |
| 34:BA:562:C:O2' | 47:BO:15:ARG:HD3 | 2.02 | 0.59 |
| 34:BA:590:C:P | 43:BK:29:SER:HG | 2.24 | 0.59 |
| 34:BA:690:G:H8 | 34:BA:690:G:O5' | 1.86 | 0.59 |
| 34:BA:694:A:H5' | 42:BJ:85:TYR:OH | 2.02 | 0.59 |
| 34:BA:737:A:OP1 | 41:BI:92:LYS:N | 2.35 | 0.59 |
| 34:BA:738:C:C4 | 34:BA:739:C:C5 | 2.90 | 0.59 |
| 34:BA:761:G:C5' | 52:BT:103:GLY:H | 2.16 | 0.59 |
| 34:BA:911:U:C2' | 34:BA:912:C:H6 | 2.13 | 0.59 |
| 34:BA:924:C:O2' | 34:BA:1399:C:C6 | 2.55 | 0.59 |
| 34:BA:936:C:C2' | 34:BA:937:A:H5' | 2.32 | 0.59 |
| 34:BA:1285:A:O2' | 34:BA:1286:A:OP2 | 2.18 | 0.59 |
| 34:BA:1374:A:C5 | 34:BA:1375:A:N7 | 2.71 | 0.59 |
| 34:BA:1380:U:O2' | 34:BA:1381:U:H5" | 2.02 | 0.59 |
| 35:BB:29:A:N1 | 35:BB:30:G:C5 | 2.70 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BC:15:G:N2 | 35:BC:48:C:H42 | 1.93 | 0.59 |
| 35:BC:32:C:O2 | 35:BC:32:C:C2' | 2.48 | 0.59 |
| 35:BC:37:G:C2' | 35:BC:38:A:C8 | 2.69 | 0.59 |
| 35:BC:60:C:OP1 | 35:BC:61:C:C5 | 2.54 | 0.59 |
| 36:B1:39:A:O2' | 36:B1:40:C:H5' | 2.02 | 0.59 |
| 37:BE:182:ILE:CG2 | 37:BE:183:PRO:HD2 | 2.32 | 0.59 |
| 39:BG:13:ARG:HD2 | 39:BG:38:TYR:O | 2.02 | 0.59 |
| 39:BG:20:TYR:N | 39:BG:31:CYS:SG | 2.74 | 0.59 |
| 40:BH:79:GLU:CD | 40:BH:79:GLU:H | 2.05 | 0.59 |
| 43:BK:83:ILE:HB | 43:BK:137:VAL:HG22 | 1.83 | 0.59 |
| 43:BK:126:LYS:CD | 43:BK:127:LEU:N | 2.54 | 0.59 |
| 44:BL:16:ARG:HD3 | 44:BL:64:THR:HB | 1.84 | 0.59 |
| 45:BM:15:THR:HG23 | 45:BM:16:LEU:HD23 | 1.83 | 0.59 |
| 46:BN:65:ALA:HB1 | 46:BN:98:LEU:CG | 2.31 | 0.59 |
| 47:BO:100:ILE:HD13 | 47:BO:100:ILE:H | 1.65 | 0.59 |
| 49:BQ:40:CYS:C | 49:BQ:42:ILE:H | 2.03 | 0.59 |
| 50:BR:69:TYR:O | 50:BR:70:LEU:C | 2.40 | 0.59 |
| 52:BT:7:THR:HG22 | 52:BT:8:GLY:N | 2.15 | 0.59 |
| 1:AB:69:G:C2 | 1:AB:70:C:C6 | 2.91 | 0.59 |
| 2:AA:101:G:H5' | 2:AA:102:G:OP1 | 2.02 | 0.59 |
| 2:AA:137(A):G:O6 | 2:AA:139:G:C5 | 2.56 | 0.59 |
| 2:AA:222:A:C6 | 2:AA:224:G:C4 | 2.91 | 0.59 |
| 2:AA:408:G:C2' | 2:AA:409:C:H5' | 2.32 | 0.59 |
| 2:AA:481:G:N2 | 2:AA:507:A:C1' | 2.63 | 0.59 |
| 2:AA:616:A:H2' | 2:AA:617:G:H21 | 1.68 | 0.59 |
| 2:AA:647:G:H5' | 2:AA:2352:A:C5' | 2.33 | 0.59 |
| 2:AA:685:A:N1 | 2:AA:774:A:C2 | 2.70 | 0.59 |
| 2:AA:745:G:N2 | 2:AA:753:C:C4 | 2.71 | 0.59 |
| 2:AA:746:A:HO2' | 2:AA:747:U:P | 2.26 | 0.59 |
| 2:AA:801:G:OP1 | 6:AF:54:LEU:O | 2.20 | 0.59 |
| 2:AA:1022:G:N1 | 12:AM:47:THR:HG21 | 2.17 | 0.59 |
| 2:AA:1143:A:C2 | 2:AA:1144:G:C5 | 2.90 | 0.59 |
| 2:AA:1181:C:C2' | 2:AA:1182:A:C8 | 2.84 | 0.59 |
| 2:AA:1182:A:O2' | 2:AA:1183:G:O5' | 2.19 | 0.59 |
| 2:AA:1428:C:N4 | 2:AA:1569:A:C8 | 2.71 | 0.59 |
| 2:AA:1447:G:H21 | 2:AA:1545:A:H2 | 1.44 | 0.59 |
| 2:AA:1472:A:N6 | 2:AA:1518:C:H42 | 2.00 | 0.59 |
| 2:AA:1558:A:H2 | 2:AA:1560:G:H1' | 1.59 | 0.59 |
| 2:AA:1603:A:H2' | 2:AA:1604:C:H6 | 1.67 | 0.59 |
| 2:AA:1657:C:C2' | 2:AA:1658:C:H5' | 2.32 | 0.59 |
| 2:AA:1729:A:C8 | 2:AA:1730:U:O4' | 2.56 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1823:G:O2' | 2:AA:1824:G:H5' | 2.01 | 0.59 |
| 2:AA:1917:U:C6 | 2:AA:1917:U:O5' | 2.56 | 0.59 |
| 2:AA:1939:U:OP2 | 2:AA:1939:U:H3' | 2.02 | 0.59 |
| 2:AA:1996:C:O2 | 2:AA:1997:G:H4' | 2.03 | 0.59 |
| 2:AA:2283:C:H2' | 2:AA:2283:C:O2 | 2.03 | 0.59 |
| 2:AA:2330:G:H2' | 2:AA:2331:G:O4' | 2.02 | 0.59 |
| 2:AA:2468:G:N1 | 2:AA:2481:G:C5 | 2.70 | 0.59 |
| 2:AA:2606:C:H2' | 2:AA:2607:G:O5' | 2.02 | 0.59 |
| 2:AA:2645:G:O4' | 2:AA:2645:G:OP2 | 2.21 | 0.59 |
| 2:AA:2706:G:N1 | 2:AA:2707:G:N7 | 2.49 | 0.59 |
| 2:AA:2711:A:OP2 | 2:AA:2714:G:OP1 | 2.20 | 0.59 |
| 2:AA:2882:A:H2' | 2:AA:2883:A:O5' | 2.02 | 0.59 |
| 3:AC:45:ALA:HB2 | 3:AC:212:VAL:HA | 1.84 | 0.59 |
| 4:AD:75:GLY:O | 4:AD:115:ILE:O | 2.19 | 0.59 |
| 5:AE:214:VAL:HG13 | 5:AE:221:LYS:CD | 2.28 | 0.59 |
| 5:AE:303:PRO:CB | 5:AE:307:LEU:HD13 | 2.32 | 0.59 |
| 8:AH:123:GLU:CD | 8:AH:123:GLU:N | 2.55 | 0.59 |
| 9:AI:106:VAL:HG21 | 9:AI:114:ILE:CD1 | 2.32 | 0.59 |
| 10:AK:110:LEU:CG | 10:AK:114:LYS:HZ1 | 2.14 | 0.59 |
| 11:AL:138:GLU:O | 11:AL:140:VAL:HG23 | 2.02 | 0.59 |
| 15:AP:51:GLU:N | 15:AP:51:GLU:OE1 | 2.34 | 0.59 |
| 15:AP:129:ASP:OD1 | 15:AP:131:ALA:HB3 | 2.03 | 0.59 |
| 18:AS:81:ALA:CB | 18:AS:99:ARG:NH1 | 2.65 | 0.59 |
| 20:AU:31:LEU:HD13 | 20:AU:101:LEU:HB2 | 1.84 | 0.59 |
| 21:AV:62:PHE:CB | 21:AV:85:MET:SD | 2.91 | 0.59 |
| 21:AV:116:VAL:HG23 | 21:AV:169:VAL:HG22 | 1.84 | 0.59 |
| 24:A0:61:HIS:ND1 | 24:A0:64:ARG:NE | 2.50 | 0.59 |
| 25:A1:6:THR:O | 25:A1:9:VAL:CB | 2.51 | 0.59 |
| 25:A1:55:ARG:HG2 | 25:A1:58:ARG:NE | 2.18 | 0.59 |
| 25:A1:62:ILE:O | 25:A1:65:ILE:CB | 2.46 | 0.59 |
| 26:A2:15:SER:HB2 | 26:A2:99:GLN:HE22 | 1.66 | 0.59 |
| 26:A2:34:GLU:HB3 | 26:A2:60:VAL:HG11 | 1.84 | 0.59 |
| 26:A2:87:ARG:HH11 | 26:A2:87:ARG:CB | 2.14 | 0.59 |
| 27:A3:37:LEU:CD1 | 27:A3:71:ASN:ND2 | 2.65 | 0.59 |
| 28:A4:44:THR:O | 28:A4:46:GLU:OE2 | 2.21 | 0.59 |
| 28:A4:48:ARG:CG | 28:A4:71:SER:OG | 2.49 | 0.59 |
| 34:BA:132:C:O2' | 34:BA:133:U:C6 | 2.56 | 0.59 |
| 34:BA:258:G:N3 | 34:BA:259:G:C8 | 2.70 | 0.59 |
| 34:BA:320:C:O2 | 34:BA:321:A:H1' | 2.03 | 0.59 |
| 34:BA:366:C:O2' | 34:BA:367:U:P | 2.61 | 0.59 |
| 34:BA:652:U:O4 | 34:BA:752:G:H2' | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:701:C:O2' | 34:BA:702:A:P | 2.60 | 0.59 |
| 34:BA:755:G:H2' | 34:BA:755:G:N3 | 2.16 | 0.59 |
| 34:BA:922:G:N2 | 34:BA:1395:C:N3 | 2.40 | 0.59 |
| 34:BA:947:G:O2' | 34:BA:948:C:H5' | 2.02 | 0.59 |
| 34:BA:971:G:H2' | 34:BA:1365:G:O2' | 2.03 | 0.59 |
| 34:BA:975:A:H4' | 34:BA:976:G:O5' | 1.98 | 0.59 |
| 34:BA:1003:G:N3 | 34:BA:1003:G:H2' | 2.17 | 0.59 |
| 34:BA:1094:G:C2' | 34:BA:1108:G:H22 | 2.13 | 0.59 |
| 34:BA:1267:C:C5 | 34:BA:1268:A:C5 | 2.91 | 0.59 |
| 34:BA:1280:A:O5' | 34:BA:1281:U:OP2 | 2.20 | 0.59 |
| 34:BA:1286:A:H2 | 56:BX:18:TYR:HH | 1.50 | 0.59 |
| 34:BA:1325:C:H4' | 56:BX:17:THR:HB | 1.84 | 0.59 |
| 37:BE:22:LYS:NZ | 37:BE:35:GLU:OE1 | 2.20 | 0.59 |
| 37:BE:127:ILE:HG22 | 37:BE:128:GLU:N | 2.18 | 0.59 |
| 37:BE:193:ASP:HB2 | 37:BE:196:LEU:CD2 | 2.33 | 0.59 |
| 38:BF:112:SER:CB | 38:BF:115:LEU:HD12 | 2.33 | 0.59 |
| 39:BG:18:LYS:HG3 | 39:BG:33:MET:HG3 | 1.83 | 0.59 |
| 39:BG:205:GLU:OE1 | 40:BH:100:VAL:HG23 | 2.02 | 0.59 |
| 40:BH:115:VAL:HG11 | 40:BH:118:ILE:HD11 | 1.85 | 0.59 |
| 40:BH:145:LYS:HA | 40:BH:148:VAL:HG21 | 1.85 | 0.59 |
| 41:BI:49:ALA:O | 53:BU:80:PRO:HB3 | 2.03 | 0.59 |
| 42:BJ:27:ILE:HA | 42:BJ:30:ILE:HD12 | 1.83 | 0.59 |
| 42:BJ:45:ASP:HB2 | 42:BJ:117:ALA:CB | 2.32 | 0.59 |
| 42:BJ:72:ARG:NH2 | 42:BJ:142:GLU:OE1 | 2.35 | 0.59 |
| 43:BK:38:ILE:HG23 | 43:BK:41:ARG:HD2 | 1.85 | 0.59 |
| 43:BK:53:VAL:O | 43:BK:56:LYS:HB2 | 2.02 | 0.59 |
| 43:BK:114:THR:HG21 | 43:BK:129:VAL:CG1 | 2.31 | 0.59 |
| 44:BL:78:LYS:HE2 | 44:BL:79:LEU:HD22 | 1.83 | 0.59 |
| 46:BN:65:ALA:HB1 | 46:BN:98:LEU:HD23 | 1.84 | 0.59 |
| 47:BO:54:LYS:O | 47:BO:70:ILE:HG13 | 2.03 | 0.59 |
| 47:BO:117:ARG:CZ | 47:BO:117:ARG:CB | 2.80 | 0.59 |
| 49:BQ:23:ARG:CA | 49:BQ:33:VAL:HG21 | 2.31 | 0.59 |
| 50:BR:6:GLU:HG2 | 50:BR:7:GLU:H | 1.66 | 0.59 |
| 50:BR:83:GLU:O | 50:BR:84:LYS:C | 2.41 | 0.59 |
| 52:BT:67:LYS:HA | 52:BT:70:ARG:CZ | 2.33 | 0.59 |
| 53:BU:29:PHE:CE1 | 53:BU:36:ASN:OD1 | 2.50 | 0.59 |
| 53:BU:55:ARG:NH1 | 53:BU:55:ARG:CA | 2.64 | 0.59 |
| 55:BW:57:ARG:NH2 | 55:BW:100:ILE:CG2 | 2.65 | 0.59 |
| 1:AB:87:G:O2' | 1:AB:89:G:N7 | 2.35 | 0.59 |
| 2:AA:30:G:H2' | 2:AA:31:C:C6 | 2.31 | 0.59 |
| 2:AA:46:C:O2' | 2:AA:47:C:H5' | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:66:C:C6 | 2:AA:89:G:N2 | 2.71 | 0.59 |
| 2:AA:68:G:H22 | 2:AA:74:A:P | 2.26 | 0.59 |
| 2:AA:128:C:N4 | 2:AA:129:C:N4 | 2.51 | 0.59 |
| 2:AA:138:G:N7 | 19:AT:39:ASP:OD1 | 2.36 | 0.59 |
| 2:AA:222:A:HO2' | 2:AA:223:A:P | 2.25 | 0.59 |
| 2:AA:372:G:H4' | 28:A4:63:PHE:HE2 | 1.67 | 0.59 |
| 2:AA:402:A:C6 | 2:AA:403:U:C5 | 2.90 | 0.59 |
| 2:AA:475:U:OP2 | 2:AA:475:U:H6 | 1.86 | 0.59 |
| 2:AA:530:G:N1 | 2:AA:2021:C:C5' | 2.62 | 0.59 |
| 2:AA:535:C:H5' | 25:A1:53:LYS:CE | 2.32 | 0.59 |
| 2:AA:558:G:N3 | 2:AA:559:G:N7 | 2.51 | 0.59 |
| 2:AA:647:G:H2' | 2:AA:648:G:C8 | 2.37 | 0.59 |
| 2:AA:713:G:N2 | 2:AA:714:U:O4' | 2.36 | 0.59 |
| 2:AA:740:U:C4 | 2:AA:758:C:H1' | 2.38 | 0.59 |
| 2:AA:819:A:C4' | 2:AA:838:C:H5' | 2.23 | 0.59 |
| 2:AA:974(A):C:HO2' | 2:AA:989:G:N2 | 1.97 | 0.59 |
| 2:AA:1000:A:C8 | 2:AA:1154:G:N2 | 2.69 | 0.59 |
| 2:AA:1024:G:C5 | 2:AA:1025:G:C8 | 2.91 | 0.59 |
| 2:AA:1081:U:H1' | 11:AL:117:ASN:ND2 | 2.18 | 0.59 |
| 2:AA:1184:G:OP1 | 23:AX:29:ARG:HB3 | 2.02 | 0.59 |
| 2:AA:1274:A:C8 | 2:AA:1646:C:C4 | 2.91 | 0.59 |
| 2:AA:1288:U:C5' | 2:AA:1289:C:OP2 | 2.45 | 0.59 |
| 2:AA:1301:A:H62 | 2:AA:1303:G:C1' | 2.13 | 0.59 |
| 2:AA:1375:C:C5 | 2:AA:1376:C:H5 | 2.21 | 0.59 |
| 2:AA:1448:G:N3 | 2:AA:1449:A:N7 | 2.49 | 0.59 |
| 2:AA:1534:G:C2 | 2:AA:1538:G:N3 | 2.71 | 0.59 |
| 2:AA:1677:A:C2 | 2:AA:1678:G:N3 | 2.71 | 0.59 |
| 2:AA:1790:C:H3' | 2:AA:1828:G:N2 | 2.17 | 0.59 |
| 2:AA:1834:U:O3' | 2:AA:1835:G:H8 | 1.85 | 0.59 |
| 2:AA:1906:G:H8 | 2:AA:1929:G:H2' | 1.66 | 0.59 |
| 2:AA:1917:U:C3' | 2:AA:1918:A:H8 | 2.09 | 0.59 |
| 2:AA:1944:U:H2' | 2:AA:1945:G:OP1 | 2.01 | 0.59 |
| 2:AA:2122:U:OP2 | 3:AC:129:ARG:NE | 2.35 | 0.59 |
| 2:AA:2322:A:N3 | 2:AA:2322:A:H2' | 2.17 | 0.59 |
| 2:AA:2331:G:H2' | 2:AA:2332:U:O4' | 2.02 | 0.59 |
| 2:AA:2422:A:HO2' | 2:AA:2424:C:H6 | 1.50 | 0.59 |
| 2:AA:2450:A:H2' | 2:AA:2451:A:C5' | 2.32 | 0.59 |
| 2:AA:2497:A:H8 | 2:AA:2497:A:O5' | 1.85 | 0.59 |
| 2:AA:2748:A:H1' | 8:AH:66:THR:HB | 1.84 | 0.59 |
| 2:AA:2799:A:O2' | 2:AA:2802:G:C2 | 2.56 | 0.59 |
| 2:AA:2807:G:O6 | 2:AA:2892:A:N7 | 2.35 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:98:ARG:O | 6:AF:99:SER:O | 2.19 | 0.59 |
| 6:AF:164:ALA:HB1 | 6:AF:232:LEU:HD13 | 1.84 | 0.59 |
| 7:AG:134:LEU:HD13 | 7:AG:136:ARG:HH21 | 1.67 | 0.59 |
| 7:AG:136:ARG:HD2 | 7:AG:136:ARG:N | 2.17 | 0.59 |
| 8:AH:98:GLN:CB | 8:AH:103:VAL:HG21 | 2.33 | 0.59 |
| 9:AI:66:PHE:CZ | 9:AI:92:VAL:HG13 | 2.37 | 0.59 |
| 9:AJ:70:LYS:O | 9:AJ:74:ILE:HG13 | 2.02 | 0.59 |
| 10:AK:4:ILE:HD12 | 10:AK:38:GLU:C | 2.23 | 0.59 |
| 10:AK:47:LEU:CG | 10:AK:48:GLU:N | 2.65 | 0.59 |
| 12:AM:61:VAL:HG12 | 12:AM:62:ASP:N | 2.18 | 0.59 |
| 12:AM:88:PRO:O | 12:AM:88:PRO:HG2 | 2.01 | 0.59 |
| 13:AN:1:MET:SD | 13:AN:67:ARG:HD2 | 2.42 | 0.59 |
| 13:AN:31:ARG:O | 13:AN:32:TYR:CG | 2.55 | 0.59 |
| 13:AN:43:VAL:HG21 | 13:AN:53:LYS:O | 2.03 | 0.59 |
| 13:AN:78:ARG:HB2 | 17:AR:21:PHE:HE1 | 1.65 | 0.59 |
| 13:AN:86:ILE:CG2 | 13:AN:87:ILE:N | 2.65 | 0.59 |
| 14:AO:51:PHE:N | 14:AO:51:PHE:CD1 | 2.71 | 0.59 |
| 14:AO:67:ARG:N | 14:AO:67:ARG:NE | 2.38 | 0.59 |
| 15:AP:47:GLU:O | 15:AP:150:ASP:OD1 | 2.20 | 0.59 |
| 15:AP:64:ALA:HB2 | 15:AP:142:LYS:CE | 2.26 | 0.59 |
| 21:AV:67:LYS:HA | 21:AV:67:LYS:CE | 2.33 | 0.59 |
| 21:AV:156:GLU:O | 21:AV:157:GLY:C | 2.40 | 0.59 |
| 24:A0:73:VAL:HG12 | 24:A0:77:ARG:CZ | 2.31 | 0.59 |
| 25:A1:19:LYS:O | 25:A1:20:ARG:C | 2.38 | 0.59 |
| 25:A1:43:ALA:CB | 26:A2:75:LYS:HB2 | 2.32 | 0.59 |
| 25:A1:56:ASP:C | 25:A1:60:LEU:HD12 | 2.23 | 0.59 |
| 26:A2:12:TYR:CZ | 26:A2:14:VAL:HB | 2.37 | 0.59 |
| 27:A3:37:LEU:CD1 | 27:A3:71:ASN:HD22 | 2.15 | 0.59 |
| 28:A4:55:ARG:O | 28:A4:56:VAL:O | 2.21 | 0.59 |
| 29:A5:8:LYS:O | 29:A5:9:LYS:HG3 | 2.02 | 0.59 |
| 34:BA:44:G:C2' | 34:BA:45:U:O5' | 2.50 | 0.59 |
| 34:BA:198:G:O2' | 34:BA:199:G:O4' | 2.20 | 0.59 |
| 34:BA:320:C:O2' | 34:BA:321:A:O4' | 2.20 | 0.59 |
| 34:BA:329:A:O2' | 34:BA:330:C:H5' | 2.03 | 0.59 |
| 34:BA:389:A:N1 | 34:BA:390:C:H1' | 2.18 | 0.59 |
| 34:BA:551:U:O5' | 34:BA:551:U:C6 | 2.53 | 0.59 |
| 34:BA:610:G:O2' | 34:BA:611:A:H5' | 2.02 | 0.59 |
| 34:BA:620:C:C2' | 34:BA:621:A:H5' | 2.33 | 0.59 |
| 34:BA:705:U:C4 | 34:BA:706:A:N7 | 2.71 | 0.59 |
| 34:BA:772:U:H2' | 34:BA:773:G:C8 | 2.37 | 0.59 |
| 34:BA:773:G:H2' | 34:BA:774:G:O5' | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:960:U:C4 | 34:BA:1225:A:C4 | 2.91 | 0.59 |
| 34:BA:981:U:C2 | 34:BA:982:U:C4 | 2.91 | 0.59 |
| 34:BA:1180:A:OP1 | 44:BL:102:LEU:O | 2.20 | 0.59 |
| 34:BA:1255:G:N2 | 34:BA:1276:G:N2 | 2.50 | 0.59 |
| 34:BA:1436:U:O2' | 34:BA:1437:C:H5' | 2.02 | 0.59 |
| 34:BA:1476:G:C2 | 34:BA:1477:C:C4 | 2.91 | 0.59 |
| 34:BA:1504:G:H3' | 34:BA:1504:G:C8 | 2.38 | 0.59 |
| 35:BB:58:A:O2' | 35:BB:59:U:O5' | 2.11 | 0.59 |
| 35:BC:55:U:O2 | 35:BC:58:A:N7 | 2.35 | 0.59 |
| 37:BE:162:ILE:HD13 | 37:BE:162:ILE:H | 1.68 | 0.59 |
| 38:BF:64:VAL:CB | 38:BF:99:VAL:HG11 | 2.21 | 0.59 |
| 38:BF:157:ILE:CD1 | 38:BF:164:ARG:NE | 2.65 | 0.59 |
| 39:BG:20:TYR:C | 39:BG:22:LYS:H | 2.03 | 0.59 |
| 39:BG:173:TRP:CD1 | 39:BG:185:PHE:HE2 | 2.14 | 0.59 |
| 39:BG:178:VAL:O | 39:BG:178:VAL:HG12 | 2.02 | 0.59 |
| 40:BH:26:PHE:C | 40:BH:27:ARG:HG3 | 2.20 | 0.59 |
| 42:BJ:104:LEU:HD22 | 42:BJ:134:ALA:CB | 2.32 | 0.59 |
| 47:BO:32:PHE:CB | 47:BO:84:LEU:HD11 | 2.32 | 0.59 |
| 48:BP:74:VAL:O | 48:BP:78:ILE:HG13 | 2.02 | 0.59 |
| 49:BQ:21:TYR:N | 49:BQ:21:TYR:HD1 | 2.01 | 0.59 |
| 52:BT:62:SER:CB | 52:BT:72:ARG:NE | 2.57 | 0.59 |
| 55:BW:53:LEU:O | 55:BW:54:LYS:C | 2.40 | 0.59 |
| 1:AB:52:A:C2' | 1:AB:53:A:H8 | 2.15 | 0.59 |
| 1:AB:82:G:HO2' | 1:AB:83:G:C5' | 2.14 | 0.59 |
| 2:AA:59:U:O4' | 2:AA:73:A:C5 | 2.55 | 0.59 |
| 2:AA:123:G:C2 | 2:AA:124:G:N3 | 2.70 | 0.59 |
| 2:AA:131:G:C2 | 2:AA:149:A:N6 | 2.71 | 0.59 |
| 2:AA:261:G:O2' | 2:AA:609:A:H4' | 2.02 | 0.59 |
| 2:AA:288:C:OP2 | 2:AA:289:A:H5" | 2.02 | 0.59 |
| 2:AA:559:G:O2' | 2:AA:560:C:O4' | 2.21 | 0.59 |
| 2:AA:566:U:H5" | 26:A2:81:ARG:HH22 | 1.68 | 0.59 |
| 2:AA:585:G:H2' | 2:AA:586:A:C8 | 2.38 | 0.59 |
| 2:AA:590:A:O3' | 6:AF:97:ASP:OD2 | 2.19 | 0.59 |
| 2:AA:593:G:C4' | 32:A8:3:LYS:HZ2 | 2.15 | 0.59 |
| 2:AA:690:G:C6 | 2:AA:691:C:C4 | 2.90 | 0.59 |
| 2:AA:821:A:N6 | 2:AA:946:G:C2 | 2.70 | 0.59 |
| 2:AA:919:G:O2' | 2:AA:920:G:O5' | 2.20 | 0.59 |
| 2:AA:940:G:C2 | 2:AA:941:A:C8 | 2.90 | 0.59 |
| 2:AA:957:A:O2' | 2:AA:958:U:P | 2.61 | 0.59 |
| 2:AA:988:A:P | 23:AX:11:SER:CB | 2.90 | 0.59 |
| 2:AA:1021:A:H1' | 2:AA:1123:C:H5' | 1.84 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1081:U:O2' | 11:AL:117:ASN:HB3 | 2.02 | 0.59 |
| 2:AA:1325:G:OP2 | 2:AA:1616:A:C8 | 2.55 | 0.59 |
| 2:AA:1425:G:H2' | 2:AA:1426:G:N9 | 2.16 | 0.59 |
| 2:AA:1470:G:N2 | 2:AA:1522:G:C2 | 2.71 | 0.59 |
| 2:AA:1483:G:N3 | 2:AA:1483:G:H2' | 2.17 | 0.59 |
| 2:AA:1543:A:C2' | 2:AA:1544:C:O5' | 2.51 | 0.59 |
| 2:AA:1650:G:N2 | 2:AA:1651:G:H1' | 2.18 | 0.59 |
| 2:AA:1741:C:HO2' | 2:AA:1742:C:H5' | 1.67 | 0.59 |
| 2:AA:1754:C:N3 | 2:AA:2717:G:H5' | 2.17 | 0.59 |
| 2:AA:1788:C:O2' | 2:AA:1789:A:C5' | 2.47 | 0.59 |
| 2:AA:2049:G:O2' | 2:AA:2050:C:P | 2.60 | 0.59 |
| 2:AA:2127:G:C8 | 2:AA:2174:C:C5 | 2.91 | 0.59 |
| 2:AA:2150:U:O3' | 2:AA:2151:G:H8 | 1.85 | 0.59 |
| 2:AA:2208:U:H2' | 2:AA:2209:C:C6 | 2.38 | 0.59 |
| 2:AA:2252:G:C5 | 2:AA:2253:G:N7 | 2.70 | 0.59 |
| 2:AA:2273:A:N7 | 2:AA:2274:A:C4 | 2.70 | 0.59 |
| 2:AA:2567:G:N3 | 2:AA:2568:C:C5 | 2.71 | 0.59 |
| 2:AA:2575:C:H5' | 5:AE:241:TRP:HE1 | 1.64 | 0.59 |
| 2:AA:2600:A:N3 | 2:AA:2600:A:H2' | 2.18 | 0.59 |
| 2:AA:2811:G:H22 | 2:AA:2891:G:H1' | 1.67 | 0.59 |
| 3:AC:100:ILE:CG2 | 3:AC:127:LEU:HG | 2.33 | 0.59 |
| 4:AD:203:PRO:C | 4:AD:204:PHE:CD1 | 2.76 | 0.59 |
| 5:AE:99:VAL:O | 5:AE:100:TRP:CD2 | 2.55 | 0.59 |
| 5:AE:105:HIS:ND1 | 5:AE:108:LEU:HD21 | 2.18 | 0.59 |
| 6:AF:196:THR:HA | 6:AF:236:THR:HG21 | 1.85 | 0.59 |
| 8:AH:104:LEU:CD1 | 8:AH:104:LEU:N | 2.66 | 0.59 |
| 8:AH:136:ASP:O | 8:AH:140:VAL:HG23 | 2.02 | 0.59 |
| 11:AL:43:ASN:O | 11:AL:44:ALA:C | 2.41 | 0.59 |
| 11:AL:56:VAL:HG12 | 11:AL:58:ILE:HG12 | 1.84 | 0.59 |
| 12:AM:27:ALA:O | 12:AM:28:GLU:C | 2.41 | 0.59 |
| 12:AM:39:VAL:O | 12:AM:40:ASN:OD1 | 2.21 | 0.59 |
| 13:AN:11:ALA:O | 13:AN:99:PHE:CB | 2.46 | 0.59 |
| 13:AN:61:VAL:HG21 | 13:AN:111:PHE:CE2 | 2.37 | 0.59 |
| 15:AP:26:LYS:O | 15:AP:28:ILE:HG13 | 2.02 | 0.59 |
| 15:AP:57:ARG:O | 15:AP:58:HIS:C | 2.41 | 0.59 |
| 15:AP:85:ILE:CD1 | 15:AP:85:ILE:O | 2.50 | 0.59 |
| 19:AT:14:ALA:O | 19:AT:18:MET:SD | 2.61 | 0.59 |
| 19:AT:32:ALA:HB3 | 19:AT:37:VAL:HG23 | 1.83 | 0.59 |
| 20:AU:46:ASP:OD1 | 20:AU:98:VAL:HG13 | 2.02 | 0.59 |
| 22:AW:53:ILE:O | 22:AW:56:ILE:HB | 2.03 | 0.59 |
| 24:A0:51:LEU:HD22 | 24:A0:66:VAL:HG13 | 1.82 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:77:ARG:HG3 | 24:A0:77:ARG:NH1 | 2.17 | 0.59 |
| 26:A2:40:VAL:CB | 26:A2:51:ALA:HB1 | 2.33 | 0.59 |
| 27:A3:68:VAL:CB | 27:A3:72:LYS:HG3 | 2.32 | 0.59 |
| 27:A3:75:GLY:O | 27:A3:76:ALA:HB2 | 2.01 | 0.59 |
| 30:A6:16:ALA:CB | 30:A6:50:PHE:CZ | 2.85 | 0.59 |
| 31:A7:21:ARG:NH1 | 31:A7:43:THR:H | 2.00 | 0.59 |
| 34:BA:91:C:O2' | 34:BA:92:C:H5' | 2.01 | 0.59 |
| 34:BA:279:A:OP2 | 52:BT:95:TYR:OH | 2.18 | 0.59 |
| 34:BA:572:A:C2 | 34:BA:864:A:C2 | 2.91 | 0.59 |
| 34:BA:588:G:C8 | 34:BA:753:A:C2 | 2.91 | 0.59 |
| 34:BA:886:G:H5' | 34:BA:915:A:N3 | 2.17 | 0.59 |
| 34:BA:1160:G:N1 | 34:BA:1161:C:C4 | 2.71 | 0.59 |
| 34:BA:1235:U:OP1 | 56:BX:3:LYS:HD3 | 2.02 | 0.59 |
| 34:BA:1260:C:H4' | 34:BA:1284:C:H5' | 1.83 | 0.59 |
| 34:BA:1329:A:C5' | 48:BP:29:ARG:NE | 2.62 | 0.59 |
| 35:BB:32:C:O5' | 35:BB:32:C:C6 | 2.55 | 0.59 |
| 35:BB:54:U:C6 | 35:BB:54:U:C5' | 2.85 | 0.59 |
| 35:BC:34:G:H2' | 35:BC:35:A:O4' | 2.02 | 0.59 |
| 35:BC:62:A:C2' | 35:BC:63:C:O5' | 2.50 | 0.59 |
| 35:BC:75:C:O5' | 35:BC:76:A:P | 2.61 | 0.59 |
| 37:BE:19:HIS:CD2 | 37:BE:20:GLU:HG2 | 2.38 | 0.59 |
| 37:BE:128:GLU:O | 37:BE:128:GLU:HG3 | 2.02 | 0.59 |
| 37:BE:187:LEU:HD22 | 37:BE:188:ALA:H | 1.67 | 0.59 |
| 38:BF:12:LEU:HA | 38:BF:16:ARG:O | 2.03 | 0.59 |
| 38:BF:110:ASN:O | 38:BF:141:VAL:HG22 | 2.03 | 0.59 |
| 39:BG:19:LEU:O | 39:BG:31:CYS:SG | 2.61 | 0.59 |
| 39:BG:62:GLN:O | 39:BG:66:ARG:HD2 | 2.01 | 0.59 |
| 39:BG:155:LEU:O | 39:BG:158:ILE:HB | 2.03 | 0.59 |
| 41:BI:3:ARG:CB | 41:BI:66:GLU:HB3 | 2.30 | 0.59 |
| 41:BI:85:VAL:CG1 | 41:BI:88:VAL:HG23 | 2.33 | 0.59 |
| 42:BJ:75:VAL:CG1 | 42:BJ:76:ARG:N | 2.66 | 0.59 |
| 42:BJ:136:LYS:NZ | 42:BJ:137:LYS:CG | 2.65 | 0.59 |
| 43:BK:126:LYS:CE | 43:BK:127:LEU:HD23 | 2.31 | 0.59 |
| 51:BS:61:SER:OG | 51:BS:62:VAL:N | 2.32 | 0.59 |
| 55:BW:94:ALA:O | 55:BW:95:ALA:CB | 2.51 | 0.59 |
| 1:AB:80:U:H2' | 1:AB:81:G:H8 | 1.68 | 0.59 |
| 1:AB:99:A:C2 | 1:AB:100:G:C5 | 2.91 | 0.59 |
| 2:AA:85:G:H1' | 2:AA:103:A:N1 | 2.17 | 0.59 |
| 2:AA:152:G:N1 | 2:AA:175:G:N1 | 2.48 | 0.59 |
| 2:AA:272:G:C2 | 2:AA:366:C:C5 | 2.91 | 0.59 |
| 2:AA:448:U:HO2' | 6:AF:84:VAL:HG12 | 1.67 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:483:A:H3' | 2:AA:484:C:C6 | 2.38 | 0.59 |
| 2:AA:510:C:C2 | 2:AA:511:U:C6 | 2.90 | 0.59 |
| 2:AA:602:G:H2' | 2:AA:655:A:C2 | 2.38 | 0.59 |
| 2:AA:612:G:H2' | 2:AA:615:G:C2 | 2.38 | 0.59 |
| 2:AA:628:G:C2 | 2:AA:629:G:C5 | 2.91 | 0.59 |
| 2:AA:729:G:N1 | 2:AA:1775:U:N3 | 2.50 | 0.59 |
| 2:AA:735:A:H61 | 2:AA:760:G:H22 | 1.50 | 0.59 |
| 2:AA:804:A:O3' | 2:AA:806:C:N4 | 2.35 | 0.59 |
| 2:AA:864:G:C2' | 2:AA:865:C:O4' | 2.51 | 0.59 |
| 2:AA:1030:G:C5 | 2:AA:1125:G:N2 | 2.70 | 0.59 |
| 2:AA:1109:C:C4 | 2:AA:1110:G:C2 | 2.91 | 0.59 |
| 2:AA:1131:G:N2 | 2:AA:1132:A:C6 | 2.71 | 0.59 |
| 2:AA:1422:G:C2 | 2:AA:1576:U:C2 | 2.91 | 0.59 |
| 2:AA:1484:G:H1 | 2:AA:1505:C:N4 | 2.00 | 0.59 |
| 2:AA:1785:A:OP2 | 2:AA:1982:C:H5' | 2.03 | 0.59 |
| 2:AA:1856:G:O6 | 2:AA:1857:G:N2 | 2.31 | 0.59 |
| 2:AA:2056:G:H22 | 2:AA:2057:A:H1' | 1.66 | 0.59 |
| 2:AA:2097:C:C4 | 2:AA:2193:G:C6 | 2.90 | 0.59 |
| 2:AA:2121:G:N2 | 3:AC:168:THR:CG2 | 2.64 | 0.59 |
| 2:AA:2132:U:OP2 | 3:AC:6:ARG:N | 2.36 | 0.59 |
| 2:AA:2192:G:N1 | 2:AA:2193:G:N7 | 2.50 | 0.59 |
| 2:AA:2310:A:C6 | 7:AG:55:LYS:HD3 | 2.38 | 0.59 |
| 2:AA:2336:A:C2' | 2:AA:2337:G:H5' | 2.29 | 0.59 |
| 2:AA:2459:A:C8 | 2:AA:2460:U:C6 | 2.91 | 0.59 |
| 2:AA:2463:C:O2' | 2:AA:2464:C:H5' | 2.02 | 0.59 |
| 2:AA:2549:G:C2' | 2:AA:2550:G:H5' | 2.33 | 0.59 |
| 2:AA:2641:G:N1 | 2:AA:2773:C:O2 | 2.25 | 0.59 |
| 2:AA:2877:G:H3' | 2:AA:2878:U:H5 | 1.65 | 0.59 |
| 4:AD:76:ARG:HH11 | 4:AD:113:MET:CB | 2.07 | 0.59 |
| 5:AE:193:PHE:CE2 | 5:AE:199:ALA:HB1 | 2.38 | 0.59 |
| 5:AE:216:ARG:CD | 5:AE:253:GLN:CA | 2.81 | 0.59 |
| 9:AI:15:VAL:HG11 | 9:AI:49:ALA:HB2 | 1.85 | 0.59 |
| 9:AI:62:VAL:CG2 | 9:AI:101:VAL:HG22 | 2.31 | 0.59 |
| 9:AI:66:PHE:CZ | 9:AI:92:VAL:HG22 | 2.38 | 0.59 |
| 10:AK:93:ILE:HG13 | 10:AK:121:ILE:H | 1.66 | 0.59 |
| 11:AL:93:LYS:NZ | 21:AV:108:VAL:HG12 | 2.18 | 0.59 |
| 15:AP:33:MET:C | 15:AP:83:PHE:HB2 | 2.22 | 0.59 |
| 15:AP:134:PHE:O | 15:AP:137:ARG:CB | 2.44 | 0.59 |
| 19:AT:22:ASN:O | 19:AT:23:LYS:C | 2.41 | 0.59 |
| 20:AU:53:GLY:O | 20:AU:56:ALA:N | 2.31 | 0.59 |
| 20:AU:112:LEU:O | 20:AU:113:GLU:HB2 | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:55:ARG:NH1 | 23:AX:55:ARG:HB2 | 2.18 | 0.59 |
| 24:A0:90:ARG:NH2 | 24:A0:117:VAL:HG13 | 2.18 | 0.59 |
| 25:A1:20:ARG:HH12 | 26:A2:75:LYS:HE3 | 1.66 | 0.59 |
| 25:A1:76:TYR:O | 25:A1:80:ILE:CG1 | 2.51 | 0.59 |
| 25:A1:92:ARG:HA | 25:A1:95:LEU:HD11 | 1.83 | 0.59 |
| 27:A3:38:VAL:HG12 | 27:A3:39:ARG:N | 2.17 | 0.59 |
| 32:A8:34:THR:O | 32:A8:35:GLY:C | 2.40 | 0.59 |
| 34:BA:8:A:C4' | 40:BH:102:ALA:HA | 2.32 | 0.59 |
| 34:BA:44:G:C6 | 34:BA:399:G:C6 | 2.90 | 0.59 |
| 34:BA:254:G:H21 | 52:BT:16:GLN:NE2 | 2.01 | 0.59 |
| 34:BA:370:C:C2 | 34:BA:371:G:C8 | 2.91 | 0.59 |
| 34:BA:394:G:C6 | 34:BA:395:C:N4 | 2.70 | 0.59 |
| 34:BA:688:G:H1 | 34:BA:699:C:H42 | 1.49 | 0.59 |
| 34:BA:720:C:O5' | 34:BA:720:C:H6 | 1.86 | 0.59 |
| 34:BA:731:G:O2' | 34:BA:732:C:H5' | 2.03 | 0.59 |
| 34:BA:739:C:H2' | 34:BA:740:U:C5' | 2.32 | 0.59 |
| 34:BA:795:C:H4' | 34:BA:1506:U:O2 | 2.03 | 0.59 |
| 34:BA:855:G:C5 | 34:BA:856:C:C5 | 2.91 | 0.59 |
| 34:BA:880:C:H2' | 34:BA:881:G:C5' | 2.33 | 0.59 |
| 34:BA:951:G:O2' | 34:BA:972:C:H5 | 1.86 | 0.59 |
| 34:BA:957:U:H3 | 34:BA:960:U:H5' | 1.66 | 0.59 |
| 34:BA:1062:U:C2 | 34:BA:1063:C:C5 | 2.91 | 0.59 |
| 34:BA:1210:C:C5' | 34:BA:1214:C:H42 | 2.13 | 0.59 |
| 34:BA:1402:C:N3 | 34:BA:1500:A:N6 | 2.51 | 0.59 |
| 34:BA:1429:C:O2' | 34:BA:1430:C:H5' | 2.01 | 0.59 |
| 34:BA:1486:G:C2 | 34:BA:1487:G:C4 | 2.91 | 0.59 |
| 37:BE:102:LEU:H | 37:BE:102:LEU:CD1 | 2.15 | 0.59 |
| 40:BH:56:GLN:HE21 | 40:BH:56:GLN:N | 2.00 | 0.59 |
| 43:BK:60:ARG:CG | 43:BK:61:VAL:N | 2.66 | 0.59 |
| 43:BK:104:ARG:O | 43:BK:107:LEU:HD23 | 2.02 | 0.59 |
| 45:BM:58:ASP:O | 45:BM:59:SER:C | 2.39 | 0.59 |
| 45:BM:99:LYS:O | 45:BM:100:THR:HG22 | 2.03 | 0.59 |
| 46:BN:42:TRP:HZ3 | 46:BN:47:VAL:CG2 | 2.16 | 0.59 |
| 46:BN:92:GLU:C | 46:BN:94:ALA:N | 2.52 | 0.59 |
| 48:BP:15:VAL:HG21 | 48:BP:34:LEU:HD21 | 1.85 | 0.59 |
| 54:BV:78:ARG:O | 54:BV:79:THR:OG1 | 2.19 | 0.59 |
| 55:BW:49:ALA:HB3 | 55:BW:99:LEU:CD1 | 2.32 | 0.59 |
| 1:AB:52:A:O2' | 1:AB:53:A:H5' | 2.02 | 0.59 |
| 2:AA:5:A:H2' | 2:AA:6:A:O4' | 2.03 | 0.59 |
| 2:AA:71:A:C5' | 2:AA:72:U:H3' | 2.32 | 0.59 |
| 2:AA:155:C:O2' | 2:AA:161:U:P | 2.60 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:458:G:H5' | 31:A7:39:ARG:HD2 | 1.84 | 0.59 |
| 2:AA:492:A:N1 | 18:AS:49:LYS:NZ | 2.51 | 0.59 |
| 2:AA:511:U:H5 | 2:AA:512:G:N2 | 2.00 | 0.59 |
| 2:AA:604:G:H21 | 2:AA:657:U:C4' | 2.16 | 0.59 |
| 2:AA:637:A:O3' | 2:AA:638:G:O4' | 2.21 | 0.59 |
| 2:AA:801:G:N7 | 6:AF:54:LEU:HD22 | 2.18 | 0.59 |
| 2:AA:886:C:H4' | 2:AA:887:A:C5' | 2.33 | 0.59 |
| 2:AA:932:G:P | 23:AX:29:ARG:HH21 | 2.25 | 0.59 |
| 2:AA:973:A:N6 | 26:A2:81:ARG:HG3 | 2.18 | 0.59 |
| 2:AA:1226:G:H3' | 2:AA:1226:G:C8 | 2.38 | 0.59 |
| 2:AA:1376:C:C2 | 2:AA:1377:G:C8 | 2.90 | 0.59 |
| 2:AA:1628:G:N1 | 2:AA:1629:U:C4 | 2.71 | 0.59 |
| 2:AA:1636:C:H1' | 2:AA:1761:C:H1' | 1.84 | 0.59 |
| 2:AA:1665:A:C2 | 2:AA:1666:G:C4 | 2.90 | 0.59 |
| 2:AA:1677:A:C2 | 2:AA:1678:G:C4 | 2.91 | 0.59 |
| 2:AA:1718:G:N2 | 2:AA:1742:C:O2 | 2.35 | 0.59 |
| 2:AA:1770:G:C6 | 2:AA:1983:C:C4 | 2.91 | 0.59 |
| 2:AA:1819:A:O4' | 2:AA:1821:A:C5 | 2.56 | 0.59 |
| 2:AA:1904:G:C2 | 2:AA:1905:C:C6 | 2.90 | 0.59 |
| 2:AA:2015:A:C8 | 29:A5:6:VAL:HG11 | 2.38 | 0.59 |
| 2:AA:2015:A:H3' | 2:AA:2016:U:H5 | 1.68 | 0.59 |
| 2:AA:2320:A:C5 | 16:AQ:9:PRO:HB3 | 2.36 | 0.59 |
| 2:AA:2394:C:H2' | 2:AA:2395:C:C6 | 2.38 | 0.59 |
| 2:AA:2527:C:H5" | 33:A9:30:VAL:CG1 | 2.32 | 0.59 |
| 2:AA:2579:C:C4' | 5:AE:231:TRP:CH2 | 2.85 | 0.59 |
| 2:AA:2695:C:C2' | 2:AA:2696:U:C6 | 2.85 | 0.59 |
| 2:AA:2772:C:H2' | 2:AA:2773:C:C6 | 2.37 | 0.59 |
| 2:AA:2844:G:H2' | 2:AA:2844:G:N3 | 2.17 | 0.59 |
| 4:AD:140:VAL:HG13 | 4:AD:191:VAL:HG12 | 1.83 | 0.59 |
| 4:AD:166:LYS:HD2 | 4:AD:171:VAL:HG11 | 1.84 | 0.59 |
| 5:AE:198:TYR:CE1 | 5:AE:267:ARG:HB3 | 2.37 | 0.59 |
| 5:AE:228:ARG:O | 5:AE:230:GLY:N | 2.36 | 0.59 |
| 6:AF:38:ALA:O | 6:AF:39:GLN:C | 2.39 | 0.59 |
| 6:AF:56:THR:O | 6:AF:79:ARG:NE | 2.36 | 0.59 |
| 6:AF:165:ASP:O | 6:AF:168:ARG:CB | 2.51 | 0.59 |
| 6:AF:215:ALA:C | 6:AF:242:GLU:HG2 | 2.23 | 0.59 |
| 7:AG:156:ARG:HG2 | 7:AG:156:ARG:O | 2.03 | 0.59 |
| 8:AH:40:MET:HB2 | 8:AH:64:HIS:CE1 | 2.38 | 0.59 |
| 8:AH:102:LEU:CD2 | 8:AH:114:ILE:O | 2.50 | 0.59 |
| 8:AH:123:GLU:N | 8:AH:123:GLU:OE2 | 2.35 | 0.59 |
| 13:AN:7:ARG:NH2 | 13:AN:44:LYS:HD3 | 2.17 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:87:ILE:HG23 | 13:AN:92:SER:O | 2.03 | 0.59 |
| 13:AN:87:ILE:HG21 | 13:AN:91:LYS:HA | 1.83 | 0.59 |
| 15:AP:32:LYS:HE3 | 21:AV:172:LEU:CD2 | 2.33 | 0.59 |
| 15:AP:67:ALA:N | 15:AP:70:ARG:NE | 2.51 | 0.59 |
| 16:AQ:31:LYS:HB3 | 16:AQ:32:PRO:CD | 2.30 | 0.59 |
| 16:AQ:110:THR:CG2 | 16:AQ:114:LYS:HB2 | 2.33 | 0.59 |
| 17:AR:37:GLU:HG2 | 17:AR:38:ASN:N | 2.17 | 0.59 |
| 18:AS:12:ILE:HD13 | 18:AS:42:ARG:HD3 | 1.84 | 0.59 |
| 18:AS:34:ASN:HD21 | 29:A5:39:LYS:HB2 | 1.67 | 0.59 |
| 18:AS:43:GLY:O | 18:AS:46:PHE:N | 2.36 | 0.59 |
| 19:AT:6:LYS:HE3 | 19:AT:28:VAL:C | 2.23 | 0.59 |
| 19:AT:10:VAL:HG13 | 19:AT:15:MET:HG2 | 1.85 | 0.59 |
| 20:AU:18:GLU:O | 20:AU:19:ARG:C | 2.39 | 0.59 |
| 21:AV:62:PHE:HB2 | 21:AV:85:MET:SD | 2.43 | 0.59 |
| 21:AV:105:GLN:OE1 | 21:AV:141:MET:SD | 2.61 | 0.59 |
| 23:AX:20:LYS:HA | 23:AX:23:LEU:CD1 | 2.32 | 0.59 |
| 24:A0:20:LEU:C | 24:A0:20:LEU:CD1 | 2.70 | 0.59 |
| 24:A0:61:HIS:O | 24:A0:64:ARG:CG | 2.50 | 0.59 |
| 24:A0:75:LEU:O | 24:A0:78:LYS:N | 2.36 | 0.59 |
| 25:A1:62:ILE:C | 25:A1:65:ILE:HB | 2.22 | 0.59 |
| 26:A2:73:LYS:HG2 | 26:A2:87:ARG:HG2 | 1.84 | 0.59 |
| 28:A4:11:PRO:HG2 | 28:A4:12:CYS:SG | 2.43 | 0.59 |
| 28:A4:18:GLY:CA | 28:A4:19:GLN:NE2 | 2.65 | 0.59 |
| 30:A6:5:GLY:O | 30:A6:7:ARG:N | 2.34 | 0.59 |
| 32:A8:26:LYS:CD | 32:A8:44:LYS:HA | 2.30 | 0.59 |
| 32:A8:29:LYS:CD | 32:A8:36:LYS:HZ3 | 1.96 | 0.59 |
| 34:BA:152:A:N7 | 34:BA:153:C:C5 | 2.71 | 0.59 |
| 34:BA:192:U:N3 | 34:BA:193:C:N4 | 2.51 | 0.59 |
| 34:BA:246:A:O2' | 34:BA:247:G:OP2 | 2.21 | 0.59 |
| 34:BA:246:A:O2' | 34:BA:247:G:P | 2.60 | 0.59 |
| 34:BA:253:U:H2' | 34:BA:254:G:C8 | 2.38 | 0.59 |
| 34:BA:373:A:C6 | 34:BA:482:A:C6 | 2.91 | 0.59 |
| 34:BA:390:C:O2' | 34:BA:391:G:O5' | 2.21 | 0.59 |
| 34:BA:395:C:O2' | 34:BA:396:G:H5' | 2.03 | 0.59 |
| 34:BA:411:A:C6 | 34:BA:429:U:C4 | 2.91 | 0.59 |
| 34:BA:738:C:OP2 | 41:BI:92:LYS:NZ | 2.31 | 0.59 |
| 34:BA:933:G:H8 | 34:BA:933:G:O5' | 1.86 | 0.59 |
| 34:BA:1077:G:C2 | 34:BA:1079:G:H3' | 2.38 | 0.59 |
| 34:BA:1128:C:O2 | 34:BA:1130:A:N6 | 2.35 | 0.59 |
| 34:BA:1247:U:O2' | 34:BA:1248:A:H5' | 2.03 | 0.59 |
| 34:BA:1507:A:O2' | 34:BA:1508:G:H5' | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:58:A:C2 | 35:BB:61:C:N1 | 2.70 | 0.59 |
| 35:BC:17:U:C5 | 35:BC:19:G:H8 | 2.20 | 0.59 |
| 35:BC:35:A:C2 | 36:B1:62:G:C6 | 2.91 | 0.59 |
| 37:BE:16:HIS:NE2 | 37:BE:210:SER:HA | 2.18 | 0.59 |
| 37:BE:93:VAL:HG21 | 37:BE:101:MET:CE | 2.33 | 0.59 |
| 37:BE:118:LEU:O | 37:BE:120:ALA:N | 2.36 | 0.59 |
| 39:BG:7:PRO:O | 39:BG:10:ARG:HB3 | 2.02 | 0.59 |
| 39:BG:31:CYS:O | 39:BG:33:MET:SD | 2.60 | 0.59 |
| 40:BH:11:ILE:HB | 40:BH:31:LEU:HD22 | 1.84 | 0.59 |
| 45:BM:25:GLU:HA | 45:BM:28:ARG:HB2 | 1.83 | 0.59 |
| 48:BP:8:GLU:HG3 | 48:BP:22:ILE:HD11 | 1.85 | 0.59 |
| 50:BR:81:LEU:O | 50:BR:82:ILE:C | 2.40 | 0.59 |
| 53:BU:81:PHE:O | 53:BU:82:THR:HG22 | 2.03 | 0.59 |
| 1:AB:30:C:C4' | 1:AB:58:A:H2 | 2.14 | 0.59 |
| 1:AB:35:U:H3' | 1:AB:35:U:C6 | 2.38 | 0.59 |
| 2:AA:5:A:O2' | 2:AA:6:A:H5' | 2.02 | 0.59 |
| 2:AA:23:G:C2 | 2:AA:24:G:C1' | 2.86 | 0.59 |
| 2:AA:144:C:O2' | 2:AA:145:G:C5' | 2.51 | 0.59 |
| 2:AA:271:G:H1 | 2:AA:404:C:N4 | 2.00 | 0.59 |
| 2:AA:290:G:H2' | 2:AA:291:C:O4' | 2.03 | 0.59 |
| 2:AA:430:G:P | 2:AA:430:G:H8 | 2.26 | 0.59 |
| 2:AA:482:A:C8 | 2:AA:506:G:N2 | 2.71 | 0.59 |
| 2:AA:705:A:N6 | 2:AA:727:A:C1' | 2.66 | 0.59 |
| 2:AA:760:G:O2' | 2:AA:761:A:H5' | 2.03 | 0.59 |
| 2:AA:911:A:C4 | 15:AP:16:ARG:HG2 | 2.38 | 0.59 |
| 2:AA:930:U:OP1 | 23:AX:37:LEU:HD11 | 2.03 | 0.59 |
| 2:AA:1014:U:C2 | 2:AA:1149:G:N2 | 2.71 | 0.59 |
| 2:AA:1025:G:C8 | 2:AA:1134:G:C4' | 2.85 | 0.59 |
| 2:AA:1186:G:H2' | 2:AA:1187:G:H8 | 1.68 | 0.59 |
| 2:AA:1216:G:OP1 | 25:A1:11:ARG:HD3 | 2.03 | 0.59 |
| 2:AA:1259:G:C4 | 2:AA:1260:G:C8 | 2.91 | 0.59 |
| 2:AA:1567:A:C4 | 4:AD:84:PRO:HB3 | 2.37 | 0.59 |
| 2:AA:1569:A:N6 | 2:AA:1570:A:N6 | 2.50 | 0.59 |
| 2:AA:1672:C:C2' | 2:AA:1673:U:H5' | 2.33 | 0.59 |
| 2:AA:1688:U:O2' | 2:AA:1689:A:OP2 | 2.20 | 0.59 |
| 2:AA:1762:A:C8 | 2:AA:1762:A:C3' | 2.82 | 0.59 |
| 2:AA:1775:U:H2' | 2:AA:1776:G:C5' | 2.33 | 0.59 |
| 2:AA:1781:C:C6 | 2:AA:1781:C:C3' | 2.80 | 0.59 |
| 2:AA:1872:A:H2' | 2:AA:1878:G:C4' | 2.33 | 0.59 |
| 2:AA:1883:G:N1 | 2:AA:1884:A:H2 | 2.00 | 0.59 |
| 2:AA:2049:G:O2' | 5:AE:253:GLN:OE1 | 2.20 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2110:G:N1 | 2:AA:2179:C:O2 | 2.35 | 0.59 |
| 2:AA:2118:U:C6 | 2:AA:2118:U:C3' | 2.85 | 0.59 |
| 2:AA:2182:G:C2 | 2:AA:2183:C:N3 | 2.71 | 0.59 |
| 2:AA:2247:A:H2' | 2:AA:2248:C:O4' | 2.03 | 0.59 |
| 2:AA:2261:C:OP2 | 27:A3:14:ARG:CD | 2.51 | 0.59 |
| 2:AA:2350:C:H2' | 2:AA:2351:G:C8 | 2.38 | 0.59 |
| 2:AA:2358:G:N3 | 2:AA:2358:G:C2' | 2.58 | 0.59 |
| 2:AA:2437:U:O2' | 2:AA:2438:U:O5' | 2.20 | 0.59 |
| 2:AA:2674:G:O2' | 13:AN:30:ARG:HG3 | 2.03 | 0.59 |
| 2:AA:2793:G:H2' | 2:AA:2794:C:H6 | 1.68 | 0.59 |
| 2:AA:2802:G:H2' | 2:AA:2803:C:C6 | 2.31 | 0.59 |
| 3:AC:110:PHE:CE1 | 3:AC:136:LEU:HD22 | 2.38 | 0.59 |
| 4:AD:122:ASP:O | 4:AD:122:ASP:CG | 2.41 | 0.59 |
| 4:AD:158:GLY:CA | 4:AD:194:VAL:HG21 | 2.32 | 0.59 |
| 5:AE:43:GLY:C | 5:AE:44:TYR:HD1 | 2.07 | 0.59 |
| 5:AE:102:ASP:HA | 5:AE:104:PHE:CD2 | 2.37 | 0.59 |
| 5:AE:211:GLN:H | 5:AE:216:ARG:NH2 | 1.99 | 0.59 |
| 5:AE:247:ARG:HD3 | 5:AE:249:THR:HG21 | 1.85 | 0.59 |
| 6:AF:168:ARG:NH1 | 6:AF:209:GLY:O | 2.35 | 0.59 |
| 6:AF:197:SER:O | 6:AF:198:ASP:HB2 | 2.02 | 0.59 |
| 7:AG:151:ILE:HG21 | 7:AG:156:ARG:CZ | 2.32 | 0.59 |
| 8:AH:112:VAL:CG1 | 8:AH:113:GLU:N | 2.65 | 0.59 |
| 9:AJ:69:ASN:CB | 9:AJ:122:GLY:HA3 | 2.29 | 0.59 |
| 15:AP:67:ALA:O | 15:AP:71:PHE:HD1 | 1.86 | 0.59 |
| 16:AQ:56:ASP:OD1 | 16:AQ:57:THR:N | 2.36 | 0.59 |
| 16:AQ:58:LEU:O | 16:AQ:60:SER:N | 2.35 | 0.59 |
| 18:AS:88:ARG:CD | 18:AS:91:GLY:O | 2.41 | 0.59 |
| 19:AT:18:MET:CE | 19:AT:25:GLN:H | 2.14 | 0.59 |
| 20:AU:31:LEU:CB | 20:AU:101:LEU:HD12 | 2.29 | 0.59 |
| 21:AV:172:LEU:HD23 | 21:AV:173:PRO:N | 2.18 | 0.59 |
| 26:A2:35:LEU:O | 26:A2:60:VAL:CA | 2.50 | 0.59 |
| 26:A2:37:ALA:O | 26:A2:58:ALA:CB | 2.51 | 0.59 |
| 28:A4:33:VAL:CG1 | 28:A4:34:ASP:H | 2.16 | 0.59 |
| 34:BA:27:G:C2 | 34:BA:557:G:N3 | 2.71 | 0.59 |
| 34:BA:69:G:H2' | 34:BA:70:G:C8 | 2.37 | 0.59 |
| 34:BA:122:G:OP1 | 34:BA:122:G:C8 | 2.56 | 0.59 |
| 34:BA:187:C:O4' | 55:BW:85:MET:SD | 2.61 | 0.59 |
| 34:BA:308:C:C2' | 34:BA:309:G:O5' | 2.49 | 0.59 |
| 34:BA:440:A:OP2 | 34:BA:440:A:H8 | 1.84 | 0.59 |
| 34:BA:598:U:C2 | 34:BA:599:C:C6 | 2.91 | 0.59 |
| 34:BA:676:A:C4 | 34:BA:677:U:C5 | 2.91 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:948:C:OP1 | 48:BP:109:THR:N | 2.32 | 0.59 |
| 34:BA:961:U:H3 | 34:BA:974:A:N6 | 1.89 | 0.59 |
| 34:BA:1032:G:H2' | 34:BA:1033:G:H8 | 1.64 | 0.59 |
| 34:BA:1105:A:O2' | 34:BA:1106:G:H5' | 2.02 | 0.59 |
| 34:BA:1147:C:N4 | 34:BA:1148:U:O4 | 2.36 | 0.59 |
| 34:BA:1319:A:H4' | 54:BV:70:LYS:HZ3 | 1.68 | 0.59 |
| 34:BA:1409:C:H2' | 34:BA:1410:G:C8 | 2.37 | 0.59 |
| 34:BA:1473:A:O2' | 34:BA:1474:G:H5' | 2.02 | 0.59 |
| 34:BA:1473:A:C2' | 34:BA:1474:G:O5' | 2.51 | 0.59 |
| 35:BB:31:A:N3 | 35:BB:31:A:H2' | 2.18 | 0.59 |
| 37:BE:153:ARG:NH1 | 37:BE:154:LEU:O | 2.36 | 0.59 |
| 37:BE:200:ILE:O | 37:BE:202:PRO:HD3 | 2.01 | 0.59 |
| 38:BF:83:ARG:C | 38:BF:85:ARG:H | 2.05 | 0.59 |
| 39:BG:135:LEU:C | 39:BG:137:SER:N | 2.49 | 0.59 |
| 42:BJ:29:LYS:NZ | 42:BJ:102:ARG:HB2 | 2.17 | 0.59 |
| 42:BJ:45:ASP:HB2 | 42:BJ:117:ALA:HB1 | 1.84 | 0.59 |
| 43:BK:32:LYS:O | 43:BK:35:ILE:HB | 2.03 | 0.59 |
| 43:BK:100:ILE:HD12 | 43:BK:100:ILE:H | 1.67 | 0.59 |
| 46:BN:77:MET:CE | 46:BN:80:VAL:HG22 | 2.33 | 0.59 |
| 46:BN:99:GLN:CB | 46:BN:105:VAL:HG11 | 2.33 | 0.59 |
| 48:BP:44:ARG:N | 48:BP:47:ASP:OD2 | 2.36 | 0.59 |
| 48:BP:69:GLU:HA | 48:BP:72:ALA:CB | 2.32 | 0.59 |
| 50:BR:15:PHE:CZ | 50:BR:85:LEU:HD21 | 2.38 | 0.59 |
| 55:BW:102:GLY:O | 55:BW:104:LEU:N | 2.35 | 0.59 |
| 1:AB:9:G:C5 | 1:AB:112:G:C6 | 2.91 | 0.58 |
| 1:AB:46:A:H8 | 1:AB:46:A:O5' | 1.85 | 0.58 |
| 2:AA:181:A:C4 | 2:AA:182:A:N7 | 2.70 | 0.58 |
| 2:AA:186:G:C2 | 2:AA:187:G:C8 | 2.90 | 0.58 |
| 2:AA:207:A:C2 | 2:AA:208:C:N1 | 2.71 | 0.58 |
| 2:AA:270:A:N1 | 2:AA:370:G:C1' | 2.64 | 0.58 |
| 2:AA:715:G:C2 | 2:AA:716:A:N1 | 2.70 | 0.58 |
| 2:AA:722:A:H2' | 2:AA:723:G:H8 | 1.68 | 0.58 |
| 2:AA:871:U:H4' | 15:AP:90:PHE:CZ | 2.36 | 0.58 |
| 2:AA:928:G:C2' | 2:AA:929:G:C8 | 2.85 | 0.58 |
| 2:AA:1040:C:O2 | 2:AA:1040:C:C2' | 2.51 | 0.58 |
| 2:AA:1084:A:C5 | 9:AI:25:LEU:HD13 | 2.38 | 0.58 |
| 2:AA:1085:A:P | 9:AI:35:ALA:N | 2.76 | 0.58 |
| 2:AA:1139:G:H2' | 2:AA:1140:C:H5' | 1.84 | 0.58 |
| 2:AA:1223:C:C2 | 2:AA:1225:C:OP2 | 2.55 | 0.58 |
| 2:AA:1255:U:C5' | 2:AA:1256:G:H5" | 2.33 | 0.58 |
| 2:AA:1370:C:H2' | 2:AA:1370:C:O2 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1443:G:C2 | 2:AA:1444:G:H1' | 2.37 | 0.58 |
| 2:AA:1492:G:N2 | 2:AA:1493:C:N3 | 2.50 | 0.58 |
| 2:AA:1496:A:C2 | 2:AA:1497:U:C4 | 2.91 | 0.58 |
| 2:AA:1604:C:C2' | 2:AA:1605:C:H5' | 2.33 | 0.58 |
| 2:AA:1614:A:N6 | 18:AS:88:ARG:N | 2.51 | 0.58 |
| 2:AA:1678:G:H22 | 2:AA:1989:G:N2 | 2.01 | 0.58 |
| 2:AA:1846:G:N2 | 2:AA:1895:C:C6 | 2.70 | 0.58 |
| 2:AA:1859:A:N6 | 2:AA:1883:G:O2' | 2.30 | 0.58 |
| 2:AA:1912:A:C2 | 2:AA:1919:A:C4 | 2.91 | 0.58 |
| 2:AA:1993:U:O2' | 5:AE:224:GLY:HA3 | 2.03 | 0.58 |
| 2:AA:2022:U:H3 | 29:A5:9:LYS:CE | 2.14 | 0.58 |
| 2:AA:2022:U:O2' | 2:AA:2023:G:OP1 | 2.19 | 0.58 |
| 2:AA:2100:G:C6 | 2:AA:2101:G:C5 | 2.91 | 0.58 |
| 2:AA:2316:C:O2' | 7:AG:151:ILE:CG1 | 2.51 | 0.58 |
| 2:AA:2503:A:H5' | 2:AA:2504:U:OP2 | 2.03 | 0.58 |
| 2:AA:2507:C:C2 | 2:AA:2583:G:C2 | 2.91 | 0.58 |
| 2:AA:2633:G:H5" | 2:AA:2812:G:H5' | 1.85 | 0.58 |
| 2:AA:2811:G:H2' | 2:AA:2812:G:O4' | 2.03 | 0.58 |
| 3:AC:58:VAL:CG1 | 3:AC:199:HIS:HB3 | 2.33 | 0.58 |
| 3:AC:131:LEU:HA | 3:AC:136:LEU:HB2 | 1.85 | 0.58 |
| 4:AD:81:GLU:CG | 4:AD:92:LEU:HD13 | 2.33 | 0.58 |
| 4:AD:139:LEU:O | 4:AD:191:VAL:CB | 2.43 | 0.58 |
| 5:AE:66:GLU:HB3 | 13:AN:72:PRO:O | 2.03 | 0.58 |
| 6:AF:150:THR:HB | 6:AF:207:LEU:CD2 | 2.33 | 0.58 |
| 7:AG:100:ASP:O | 7:AG:102:GLY:N | 2.33 | 0.58 |
| 8:AH:34:ARG:HH12 | 8:AH:73:ASN:HB2 | 1.68 | 0.58 |
| 8:AH:102:LEU:HD23 | 8:AH:102:LEU:H | 1.67 | 0.58 |
| 9:AI:106:VAL:HG12 | 9:AI:110:GLU:HB2 | 1.86 | 0.58 |
| 9:AJ:60:ASP:HB2 | 9:AJ:128:LYS:CD | 2.33 | 0.58 |
| 10:AK:10:LYS:CG | 10:AK:11:GLY:N | 2.65 | 0.58 |
| 10:AK:134:HIS:O | 10:AK:137:VAL:O | 2.20 | 0.58 |
| 11:AL:11:LEU:HD11 | 11:AL:28:LEU:CD1 | 2.33 | 0.58 |
| 11:AL:71:LYS:HB3 | 11:AL:115:ASP:OD1 | 2.03 | 0.58 |
| 12:AM:88:PRO:HD2 | 12:AM:94:GLY:HA2 | 1.83 | 0.58 |
| 14:AO:55:GLN:HE21 | 14:AO:56:LYS:HB3 | 1.67 | 0.58 |
| 14:AO:95:ASP:O | 14:AO:96:VAL:O | 2.20 | 0.58 |
| 15:AP:48:ASN:OD1 | 15:AP:48:ASN:C | 2.41 | 0.58 |
| 15:AP:88:PHE:N | 15:AP:88:PHE:CD1 | 2.67 | 0.58 |
| 16:AQ:71:TRP:O | 16:AQ:72:GLU:O | 2.21 | 0.58 |
| 16:AQ:118:ILE:O | 16:AQ:121:GLY:HA3 | 2.03 | 0.58 |
| 18:AS:88:ARG:HA | 18:AS:93:ALA:CA | 2.33 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:103:LEU:O | 20:AU:105:ASP:N | 2.36 | 0.58 |
| 21:AV:19:ILE:HG13 | 21:AV:79:ILE:CG2 | 2.31 | 0.58 |
| 21:AV:53:ASP:CG | 21:AV:54:ILE:N | 2.56 | 0.58 |
| 21:AV:98:VAL:HG22 | 21:AV:134:LEU:HD22 | 1.83 | 0.58 |
| 26:A2:5:ILE:N | 26:A2:12:TYR:CD2 | 2.71 | 0.58 |
| 26:A2:6:GLN:NE2 | 26:A2:10:LYS:HA | 2.17 | 0.58 |
| 26:A2:50:ASP:HB2 | 26:A2:53:LYS:HG3 | 1.84 | 0.58 |
| 26:A2:65:ARG:HD2 | 26:A2:94:LYS:HD3 | 1.85 | 0.58 |
| 34:BA:55:A:C2 | 34:BA:56:U:H1' | 2.38 | 0.58 |
| 34:BA:122:G:H2' | 34:BA:123:C:O4' | 2.02 | 0.58 |
| 34:BA:280:C:O2 | 52:BT:39:SER:N | 2.34 | 0.58 |
| 34:BA:366:C:HO2' | 34:BA:367:U:P | 2.25 | 0.58 |
| 34:BA:456:C:H42 | 34:BA:476:G:H1 | 1.51 | 0.58 |
| 34:BA:660:G:O2' | 34:BA:661:G:O5' | 2.21 | 0.58 |
| 34:BA:668:G:N3 | 50:BR:46:HIS:NE2 | 2.50 | 0.58 |
| 34:BA:722:A:H2' | 34:BA:724:G:C8 | 2.38 | 0.58 |
| 34:BA:1191:A:OP1 | 38:BF:4:LYS:HG3 | 2.03 | 0.58 |
| 34:BA:1288:A:H2 | 34:BA:1352:C:O2 | 1.86 | 0.58 |
| 34:BA:1312:G:N7 | 54:BV:2:PRO:O | 2.36 | 0.58 |
| 34:BA:1408:A:N6 | 34:BA:1409:C:N4 | 2.51 | 0.58 |
| 35:BB:29:A:C5 | 35:BB:42:G:C2 | 2.91 | 0.58 |
| 35:BB:41:U:N3 | 35:BB:42:G:C5 | 2.71 | 0.58 |
| 36:B1:14:U:O4 | 36:B1:42:G:O6 | 2.21 | 0.58 |
| 36:B1:59:A:O2' | 36:B1:60:A:OP1 | 2.21 | 0.58 |
| 37:BE:28:PHE:HD2 | 37:BE:190:THR:HA | 1.66 | 0.58 |
| 37:BE:208:ILE:HA | 37:BE:211:ILE:HB | 1.84 | 0.58 |
| 39:BG:14:ARG:HG3 | 39:BG:15:GLU:OE1 | 2.03 | 0.58 |
| 39:BG:63:LYS:CG | 39:BG:64:LEU:N | 2.66 | 0.58 |
| 39:BG:64:LEU:HD13 | 39:BG:64:LEU:C | 2.23 | 0.58 |
| 39:BG:187:ARG:HE | 39:BG:188:LEU:HG | 1.69 | 0.58 |
| 40:BH:84:PHE:HE2 | 40:BH:130:ASN:OD1 | 1.84 | 0.58 |
| 40:BH:103:GLY:HA2 | 40:BH:107:ARG:NH2 | 2.18 | 0.58 |
| 42:BJ:68:ASN:HB3 | 42:BJ:135:VAL:CG2 | 2.33 | 0.58 |
| 42:BJ:104:LEU:HD22 | 42:BJ:104:LEU:N | 2.17 | 0.58 |
| 43:BK:69:ARG:NH1 | 43:BK:73:ASP:O | 2.36 | 0.58 |
| 43:BK:123:GLU:HG2 | 43:BK:124:ALA:H | 1.67 | 0.58 |
| 45:BM:24:VAL:CA | 45:BM:34:VAL:HG21 | 2.29 | 0.58 |
| 45:BM:51:ARG:O | 45:BM:52:GLY:C | 2.41 | 0.58 |
| 46:BN:28:THR:HG22 | 46:BN:29:ILE:N | 2.16 | 0.58 |
| 46:BN:46:GLY:N | 46:BN:55:LYS:HD3 | 2.17 | 0.58 |
| 46:BN:54:ARG:HD3 | 46:BN:54:ARG:H | 1.68 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:28:LYS:HE3 | 47:BO:33:ARG:NH1 | 2.17 | 0.58 |
| 48:BP:24:GLY:HA3 | 48:BP:66:LEU:CD2 | 2.32 | 0.58 |
| 51:BS:19:ILE:O | 51:BS:36:ILE:HG13 | 2.02 | 0.58 |
| 52:BT:95:TYR:O | 52:BT:97:SER:N | 2.36 | 0.58 |
| 53:BU:31:LEU:HD22 | 53:BU:66:LEU:HA | 1.85 | 0.58 |
| 55:BW:86:ARG:HG3 | 55:BW:87:LYS:N | 2.18 | 0.58 |
| 2:AA:27:G:H1 | 2:AA:512:G:H2' | 1.61 | 0.58 |
| 2:AA:137:C:H2' | 2:AA:137:C:O2 | 2.03 | 0.58 |
| 2:AA:144:C:H5" | 19:AT:36:GLU:OE1 | 2.03 | 0.58 |
| 2:AA:162:U:C5' | 2:AA:171:G:N3 | 2.66 | 0.58 |
| 2:AA:244:A:N6 | 2:AA:245:G:N3 | 2.51 | 0.58 |
| 2:AA:270:A:C6 | 2:AA:370:G:C8 | 2.91 | 0.58 |
| 2:AA:280:C:N3 | 2:AA:360:G:O6 | 2.36 | 0.58 |
| 2:AA:382:G:H1 | 2:AA:392:C:H42 | 1.50 | 0.58 |
| 2:AA:415:A:H2' | 2:AA:416:C:H6 | 1.68 | 0.58 |
| 2:AA:559:G:H5' | 2:AA:559:G:C8 | 2.34 | 0.58 |
| 2:AA:718:A:C5' | 2:AA:719:C:C5 | 2.83 | 0.58 |
| 2:AA:845:G:C5' | 2:AA:846:C:OP1 | 2.50 | 0.58 |
| 2:AA:882:G:H5' | 35:BB:19:G:O6 | 2.03 | 0.58 |
| 2:AA:1044:G:C2 | 2:AA:1111:A:H1' | 2.38 | 0.58 |
| 2:AA:1083:U:OP2 | 2:AA:1083:U:C6 | 2.54 | 0.58 |
| 2:AA:1134:G:N3 | 2:AA:1134:G:H2' | 2.18 | 0.58 |
| 2:AA:1149:G:H2' | 2:AA:1150:C:C6 | 2.37 | 0.58 |
| 2:AA:1196:C:H2' | 2:AA:1197:G:C8 | 2.38 | 0.58 |
| 2:AA:1309:G:H5" | 31:A7:7:PRO:O | 2.03 | 0.58 |
| 2:AA:1364:G:H5" | 2:AA:1809:A:C8 | 2.38 | 0.58 |
| 2:AA:1368:G:OP1 | 31:A7:25:LYS:CE | 2.50 | 0.58 |
| 2:AA:1492:G:C4' | 4:AD:97:ASP:OD1 | 2.51 | 0.58 |
| 2:AA:1527:G:H1' | 2:AA:1545:A:N6 | 2.19 | 0.58 |
| 2:AA:1544:C:O2' | 2:AA:1545:A:C4' | 2.46 | 0.58 |
| 2:AA:1627:G:H2' | 2:AA:1628:G:H8 | 1.68 | 0.58 |
| 2:AA:1655:A:OP2 | 2:AA:1655:A:H8 | 1.85 | 0.58 |
| 2:AA:1666:G:N7 | 2:AA:1667:G:C2 | 2.71 | 0.58 |
| 2:AA:1670:C:H3' | 2:AA:1671:U:H6 | 1.68 | 0.58 |
| 2:AA:1695:G:N2 | 2:AA:1696:G:N7 | 2.49 | 0.58 |
| 2:AA:1703:G:C2 | 2:AA:1704:G:H1' | 2.37 | 0.58 |
| 2:AA:1703:G:C2 | 2:AA:1704:G:C1' | 2.87 | 0.58 |
| 2:AA:1793:C:N4 | 2:AA:1825:A:H62 | 1.99 | 0.58 |
| 2:AA:1964:G:C6 | 2:AA:1967:C:C5 | 2.91 | 0.58 |
| 2:AA:2019:A:C2 | 2:AA:2020:A:C4 | 2.91 | 0.58 |
| 2:AA:2052:G:H21 | 5:AE:245:ARG:CB | 2.16 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2083:G:H8 | 2:AA:2083:G:O5' | 1.87 | 0.58 |
| 2:AA:2268:A:H4' | 2:AA:2268:A:OP1 | 2.02 | 0.58 |
| 2:AA:2379:G:N2 | 2:AA:2380:C:C2 | 2.71 | 0.58 |
| 2:AA:2576:G:H3' | 2:AA:2576:G:P | 2.43 | 0.58 |
| 2:AA:2603:G:C8 | 2:AA:2603:G:C3' | 2.86 | 0.58 |
| 2:AA:2607:G:C6 | 2:AA:2608:G:C2 | 2.91 | 0.58 |
| 2:AA:2818:G:O2' | 2:AA:2837:G:C5' | 2.49 | 0.58 |
| 3:AC:43:VAL:HG21 | 3:AC:175:VAL:HG11 | 1.85 | 0.58 |
| 3:AC:116:THR:O | 3:AC:118:ASP:N | 2.36 | 0.58 |
| 3:AC:215:THR:OG1 | 3:AC:220:PRO:O | 2.17 | 0.58 |
| 4:AD:164:LEU:O | 4:AD:172:ILE:HG21 | 2.03 | 0.58 |
| 4:AD:194:VAL:CG2 | 4:AD:195:GLY:N | 2.65 | 0.58 |
| 5:AE:44:TYR:CD1 | 5:AE:309:PRO:HD2 | 2.38 | 0.58 |
| 5:AE:214:VAL:HG21 | 5:AE:221:LYS:NZ | 2.17 | 0.58 |
| 5:AE:222:ARG:NH1 | 5:AE:234:ARG:HH21 | 2.01 | 0.58 |
| 5:AE:226:HIS:CG | 5:AE:229:GLN:OE1 | 2.56 | 0.58 |
| 5:AE:267:ARG:O | 5:AE:297:LYS:CG | 2.49 | 0.58 |
| 6:AF:36:ARG:O | 6:AF:37:ALA:C | 2.42 | 0.58 |
| 6:AF:37:ALA:CB | 6:AF:107:ARG:NH2 | 2.59 | 0.58 |
| 6:AF:197:SER:O | 6:AF:238:SER:HB2 | 2.03 | 0.58 |
| 6:AF:200:PRO:HD3 | 6:AF:214:THR:HG21 | 1.85 | 0.58 |
| 7:AG:19:GLU:CD | 7:AG:135:VAL:CG2 | 2.71 | 0.58 |
| 8:AH:124:VAL:O | 8:AH:125:PRO:C | 2.42 | 0.58 |
| 9:AI:78:ARG:HH11 | 9:AI:85:LEU:HD22 | 1.68 | 0.58 |
| 9:AJ:15:VAL:HG22 | 9:AJ:48:ALA:HB3 | 1.85 | 0.58 |
| 14:AO:94:ARG:CB | 14:AO:120:LEU:HD22 | 2.32 | 0.58 |
| 15:AP:57:ARG:CA | 15:AP:61:LEU:HD21 | 2.33 | 0.58 |
| 16:AQ:19:ASP:O | 16:AQ:22:GLN:N | 2.36 | 0.58 |
| 18:AS:36:LEU:CD1 | 18:AS:51:LEU:CD2 | 2.80 | 0.58 |
| 18:AS:68:ARG:NH2 | 18:AS:110:LYS:HG2 | 2.16 | 0.58 |
| 19:AT:54:THR:HG22 | 19:AT:64:ALA:HB1 | 1.85 | 0.58 |
| 20:AU:47:THR:OG1 | 20:AU:61:GLU:HG3 | 2.03 | 0.58 |
| 21:AV:68:ALA:HB3 | 21:AV:82:ASP:HB3 | 1.85 | 0.58 |
| 25:A1:44:THR:HG22 | 25:A1:48:ARG:HE | 1.68 | 0.58 |
| 25:A1:99:ALA:CA | 25:A1:106:PHE:CG | 2.85 | 0.58 |
| 26:A2:62:GLU:HG3 | 26:A2:98:ILE:CD1 | 2.24 | 0.58 |
| 27:A3:37:LEU:HB2 | 27:A3:68:VAL:CA | 2.33 | 0.58 |
| 27:A3:45:PHE:CD1 | 27:A3:45:PHE:N | 2.69 | 0.58 |
| 27:A3:76:ALA:O | 27:A3:78:PHE:CD1 | 2.56 | 0.58 |
| 28:A4:35:VAL:HG12 | 28:A4:36:TRP:H | 1.67 | 0.58 |
| 33:A9:32:HIS:O | 33:A9:33:LYS:C | 2.41 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:16:A:H2' | 34:BA:17:U:H5' | 1.84 | 0.58 |
| 34:BA:49:U:C5 | 34:BA:364:A:C6 | 2.91 | 0.58 |
| 34:BA:127:G:OP1 | 34:BA:635:G:H1' | 2.02 | 0.58 |
| 34:BA:181:G:H4' | 34:BA:182:U:H5' | 1.85 | 0.58 |
| 34:BA:302:G:H21 | 34:BA:556:C:C4' | 2.16 | 0.58 |
| 34:BA:333:G:C6 | 34:BA:334:C:N4 | 2.71 | 0.58 |
| 34:BA:350:G:C2 | 34:BA:351:G:N1 | 2.71 | 0.58 |
| 34:BA:370:C:H42 | 34:BA:391:G:H1 | 1.49 | 0.58 |
| 34:BA:413:G:N2 | 34:BA:428:G:H1' | 2.18 | 0.58 |
| 34:BA:523:A:N6 | 47:BO:53:ARG:HH21 | 1.99 | 0.58 |
| 34:BA:529:G:O6 | 47:BO:49:ASN:CB | 2.51 | 0.58 |
| 34:BA:676:A:HO2' | 46:BN:115:PRO:HG3 | 1.69 | 0.58 |
| 34:BA:695:A:OP2 | 46:BN:52:GLY:HA3 | 2.03 | 0.58 |
| 34:BA:837:G:H1 | 34:BA:849:C:H42 | 1.50 | 0.58 |
| 34:BA:1085:U:O2' | 34:BA:1086:U:OP1 | 2.16 | 0.58 |
| 34:BA:1127:G:N2 | 34:BA:1146:A:H62 | 2.00 | 0.58 |
| 34:BA:1243:C:N4 | 34:BA:1294:G:H1 | 1.97 | 0.58 |
| 34:BA:1358:U:C5' | 49:BQ:34:TYR:HA | 2.33 | 0.58 |
| 34:BA:1401:G:C8 | 34:BA:1402:C:C6 | 2.91 | 0.58 |
| 34:BA:1422:G:C6 | 34:BA:1423:G:N7 | 2.71 | 0.58 |
| 37:BE:104:ASN:O | 37:BE:104:ASN:CG | 2.41 | 0.58 |
| 39:BG:30:LYS:O | 39:BG:32:ALA:N | 2.31 | 0.58 |
| 40:BH:18:ARG:H | 40:BH:26:PHE:HB3 | 1.66 | 0.58 |
| 40:BH:90:VAL:O | 40:BH:120:THR:HA | 2.03 | 0.58 |
| 41:BI:2:ARG:NH2 | 50:BR:2:PRO:HD2 | 2.18 | 0.58 |
| 42:BJ:88:PRO:HD2 | 42:BJ:152:ALA:HA | 1.85 | 0.58 |
| 43:BK:8:ASP:HA | 43:BK:11:THR:OG1 | 2.03 | 0.58 |
| 47:BO:45:PRO:CD | 47:BO:51:ALA:H | 2.16 | 0.58 |
| 48:BP:16:ASP:OD2 | 48:BP:17:VAL:HG23 | 2.02 | 0.58 |
| 50:BR:59:MET:SD | 50:BR:60:VAL:N | 2.76 | 0.58 |
| 50:BR:62:GLN:CA | 50:BR:65:ARG:HH22 | 2.16 | 0.58 |
| 51:BS:20:VAL:CG2 | 51:BS:35:LYS:HD2 | 2.33 | 0.58 |
| 52:BT:9:VAL:HG12 | 52:BT:54:GLY:O | 2.02 | 0.58 |
| 52:BT:11:VAL:CG2 | 52:BT:20:THR:HB | 2.32 | 0.58 |
| 52:BT:33:GLY:O | 52:BT:34:LYS:O | 2.21 | 0.58 |
| 52:BT:59:ILE:O | 52:BT:59:ILE:HG23 | 2.03 | 0.58 |
| 53:BU:45:SER:CB | 53:BU:51:LEU:HD11 | 2.29 | 0.58 |
| 54:BV:53:ASN:OD1 | 54:BV:56:GLN:HB2 | 2.04 | 0.58 |
| 1:AB:62:C:C2 | 1:AB:63:G:C8 | 2.91 | 0.58 |
| 2:AA:81:G:H2' | 2:AA:82:G:H5' | 1.84 | 0.58 |
| 2:AA:196:A:H3' | 2:AA:2068:U:O4 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:204:A:O2' | 2:AA:205:G:P | 2.61 | 0.58 |
| 2:AA:220:G:H1' | 2:AA:234:C:H1' | 1.85 | 0.58 |
| 2:AA:220:G:N2 | 2:AA:427:U:H2' | 2.18 | 0.58 |
| 2:AA:270(O):U:OP1 | 2:AA:270(P):C:C4 | 2.57 | 0.58 |
| 2:AA:278:A:C2 | 2:AA:362:U:C4 | 2.90 | 0.58 |
| 2:AA:391:G:O2' | 2:AA:392:C:H5' | 2.04 | 0.58 |
| 2:AA:550:G:O2' | 2:AA:1220:A:C2 | 2.50 | 0.58 |
| 2:AA:557:U:C5' | 12:AM:92:GLN:NE2 | 2.64 | 0.58 |
| 2:AA:572:A:C5 | 2:AA:573:G:C2 | 2.92 | 0.58 |
| 2:AA:588:U:C4 | 2:AA:589:C:C5 | 2.90 | 0.58 |
| 2:AA:698:C:H5' | 2:AA:698:C:C6 | 2.36 | 0.58 |
| 2:AA:753:C:H2' | 2:AA:754:C:O5' | 2.04 | 0.58 |
| 2:AA:760:G:C2' | 2:AA:761:A:H5' | 2.33 | 0.58 |
| 2:AA:788:A:O2' | 2:AA:789:A:OP2 | 2.18 | 0.58 |
| 2:AA:827:U:C6 | 2:AA:2430:A:C2 | 2.92 | 0.58 |
| 2:AA:953:A:H2' | 2:AA:954:G:C5' | 2.33 | 0.58 |
| 2:AA:972:G:H3' | 2:AA:973:A:O3' | 2.02 | 0.58 |
| 2:AA:991:C:OP2 | 2:AA:1186:G:OP2 | 2.21 | 0.58 |
| 2:AA:1027:A:C8 | 2:AA:1027:A:OP2 | 2.57 | 0.58 |
| 2:AA:1137:G:H21 | 12:AM:86:MET:CE | 2.17 | 0.58 |
| 2:AA:1271:G:H3' | 2:AA:1271:G:H8 | 1.68 | 0.58 |
| 2:AA:1433:U:O5' | 2:AA:1433:U:H6 | 1.85 | 0.58 |
| 2:AA:1465:G:N3 | 2:AA:1466:G:C8 | 2.71 | 0.58 |
| 2:AA:1528:A:H2' | 2:AA:1529:A:C4' | 2.33 | 0.58 |
| 2:AA:1690:A:N3 | 2:AA:1690:A:C2' | 2.63 | 0.58 |
| 2:AA:1711:C:H2' | 2:AA:1712:C:C6 | 2.37 | 0.58 |
| 2:AA:2011:U:C2' | 2:AA:2012:G:H5' | 2.34 | 0.58 |
| 2:AA:2018:G:OP1 | 2:AA:2019:A:OP2 | 2.21 | 0.58 |
| 2:AA:2045:C:C2' | 2:AA:2046:G:O5' | 2.50 | 0.58 |
| 2:AA:2286:A:N6 | 30:A6:31:THR:O | 2.35 | 0.58 |
| 2:AA:2305:A:N6 | 2:AA:2311:A:C2 | 2.69 | 0.58 |
| 2:AA:2331:G:H4' | 27:A3:70:ILE:CG1 | 2.34 | 0.58 |
| 2:AA:2544:G:O2' | 2:AA:2545:G:H5' | 2.03 | 0.58 |
| 2:AA:2617:C:C2 | 2:AA:2618:G:C8 | 2.91 | 0.58 |
| 2:AA:2657:A:N7 | 2:AA:2658:C:C5 | 2.70 | 0.58 |
| 2:AA:2730:C:C4' | 5:AE:265:ASN:ND2 | 2.61 | 0.58 |
| 2:AA:2792:G:C2 | 2:AA:2793:G:N1 | 2.72 | 0.58 |
| 4:AD:168:GLY:CA | 4:AD:170:TYR:CE2 | 2.85 | 0.58 |
| 5:AE:180:ILE:HA | 5:AE:183:ASP:OD1 | 2.03 | 0.58 |
| 6:AF:84:VAL:HB | 6:AF:85:LYS:CD | 2.32 | 0.58 |
| 6:AF:153:VAL:HG12 | 6:AF:157:LEU:HD11 | 1.83 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:8:ILE:CG2 | 8:AH:9:GLU:N | 2.67 | 0.58 |
| 8:AH:37:HIS:CD2 | 8:AH:40:MET:HG2 | 2.37 | 0.58 |
| 8:AH:106:VAL:HG12 | 8:AH:108:TYR:CZ | 2.38 | 0.58 |
| 9:AJ:71:ILE:HD11 | 11:AL:62:GLU:H | 1.68 | 0.58 |
| 10:AK:7:LYS:C | 10:AK:12:LYS:HA | 2.23 | 0.58 |
| 10:AK:56:ARG:O | 10:AK:60:GLU:HB3 | 2.03 | 0.58 |
| 10:AK:77:VAL:HG21 | 10:AK:143:VAL:HG22 | 1.85 | 0.58 |
| 10:AK:114:LYS:HZ2 | 10:AK:133:LEU:HD23 | 1.69 | 0.58 |
| 11:AL:100:VAL:CG1 | 11:AL:101:THR:H | 2.12 | 0.58 |
| 12:AM:52:GLN:HG2 | 12:AM:55:GLU:OE2 | 2.04 | 0.58 |
| 13:AN:49:GLY:HA2 | 13:AN:53:LYS:HG2 | 1.85 | 0.58 |
| 14:AO:56:LYS:O | 14:AO:57:VAL:HB | 2.03 | 0.58 |
| 14:AO:73:VAL:O | 14:AO:74:THR:C | 2.41 | 0.58 |
| 15:AP:35:ASN:ND2 | 21:AV:114:ASP:N | 2.47 | 0.58 |
| 15:AP:66:ASN:CB | 15:AP:70:ARG:NH2 | 2.53 | 0.58 |
| 16:AQ:31:LYS:O | 16:AQ:52:PRO:HD2 | 2.02 | 0.58 |
| 16:AQ:116:PHE:HA | 16:AQ:119:GLN:OE1 | 2.03 | 0.58 |
| 18:AS:95:ILE:HG22 | 18:AS:96:ILE:N | 2.18 | 0.58 |
| 19:AT:17:ASP:HA | 19:AT:20:PHE:CE1 | 2.39 | 0.58 |
| 19:AT:56:ASN:ND2 | 19:AT:62:LYS:CE | 2.66 | 0.58 |
| 20:AU:25:ALA:O | 20:AU:26:THR:HG23 | 2.03 | 0.58 |
| 21:AV:68:ALA:HB3 | 21:AV:82:ASP:CB | 2.33 | 0.58 |
| 22:AW:7:GLU:OE1 | 22:AW:8:ILE:CG1 | 2.51 | 0.58 |
| 22:AW:51:LYS:O | 22:AW:55:ARG:HD2 | 2.02 | 0.58 |
| 25:A1:43:ALA:CB | 26:A2:75:LYS:CB | 2.81 | 0.58 |
| 26:A2:15:SER:HA | 26:A2:99:GLN:CD | 2.24 | 0.58 |
| 26:A2:71:ILE:O | 26:A2:72:ARG:CG | 2.51 | 0.58 |
| 27:A3:26:PHE:CD1 | 27:A3:26:PHE:N | 2.69 | 0.58 |
| 30:A6:11:LYS:NZ | 32:A8:35:GLY:HA3 | 2.18 | 0.58 |
| 31:A7:28:ARG:O | 31:A7:31:LEU:CB | 2.50 | 0.58 |
| 33:A9:23:VAL:O | 33:A9:24:LEU:HD23 | 2.04 | 0.58 |
| 34:BA:35:G:N3 | 47:BO:118:SER:OG | 2.36 | 0.58 |
| 34:BA:132:C:H42 | 34:BA:230:G:H1 | 1.46 | 0.58 |
| 34:BA:248:C:O2' | 34:BA:283:C:H4' | 2.04 | 0.58 |
| 34:BA:259:G:H21 | 34:BA:260:G:H1' | 1.69 | 0.58 |
| 34:BA:591:U:OP1 | 43:BK:30:ARG:CZ | 2.51 | 0.58 |
| 34:BA:690:G:H2' | 34:BA:691:G:C5' | 2.33 | 0.58 |
| 34:BA:839:U:O2 | 34:BA:839:U:H2' | 2.04 | 0.58 |
| 34:BA:853:G:O2' | 34:BA:854:G:H5' | 2.04 | 0.58 |
| 34:BA:866:C:C5 | 34:BA:867:G:N9 | 2.71 | 0.58 |
| 34:BA:943:U:H2' | 34:BA:944:G:H5' | 1.85 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1008:C:N4 | 34:BA:1021:G:H1 | 2.01 | 0.58 |
| 34:BA:1144:G:H2' | 34:BA:1144:G:N3 | 2.18 | 0.58 |
| 34:BA:1227:A:O2' | 48:BP:115:LYS:NZ | 2.23 | 0.58 |
| 34:BA:1326:C:OP1 | 56:BX:12:LYS:NZ | 2.36 | 0.58 |
| 34:BA:1355:G:N3 | 34:BA:1356:G:C8 | 2.72 | 0.58 |
| 34:BA:1511:G:C2' | 34:BA:1512:U:H5' | 2.33 | 0.58 |
| 35:BB:29:A:C6 | 35:BB:30:G:C5 | 2.92 | 0.58 |
| 35:BB:43:G:H5" | 35:BB:43:G:C8 | 2.38 | 0.58 |
| 35:BC:9:A:C2 | 35:BC:46:G:N7 | 2.71 | 0.58 |
| 36:B1:30:U:H2' | 36:B1:31:G:C5' | 2.31 | 0.58 |
| 36:B1:67:U:C2' | 36:B1:68:U:H5' | 2.32 | 0.58 |
| 37:BE:75:LYS:HA | 37:BE:78:GLN:HE21 | 1.66 | 0.58 |
| 37:BE:77:ALA:HB1 | 37:BE:80:ILE:HD12 | 1.85 | 0.58 |
| 38:BF:75:VAL:O | 38:BF:75:VAL:HG12 | 2.03 | 0.58 |
| 39:BG:151:LYS:H | 39:BG:151:LYS:CD | 2.14 | 0.58 |
| 41:BI:26:ILE:CG2 | 41:BI:30:LEU:HD11 | 2.32 | 0.58 |
| 42:BJ:140:ASP:HA | 42:BJ:143:ARG:NH1 | 2.18 | 0.58 |
| 42:BJ:142:GLU:O | 42:BJ:143:ARG:C | 2.40 | 0.58 |
| 45:BM:72:VAL:O | 45:BM:73:ASP:HB2 | 2.01 | 0.58 |
| 46:BN:27:ASN:CG | 46:BN:55:LYS:HD2 | 2.23 | 0.58 |
| 46:BN:77:MET:HE3 | 46:BN:79:SER:O | 2.02 | 0.58 |
| 47:BO:69:TYR:O | 47:BO:100:ILE:HG12 | 2.03 | 0.58 |
| 51:BS:20:VAL:HG12 | 51:BS:21:VAL:N | 2.17 | 0.58 |
| 52:BT:5:VAL:HG13 | 52:BT:59:ILE:C | 2.24 | 0.58 |
| 55:BW:17:ARG:O | 55:BW:20:LEU:HB2 | 2.02 | 0.58 |
| 55:BW:26:ASN:HD22 | 55:BW:26:ASN:N | 2.01 | 0.58 |
| 55:BW:64:ASP:O | 55:BW:67:ALA:CB | 2.46 | 0.58 |
| 2:AA:25:U:H4' | 18:AS:79:GLY:HA2 | 1.85 | 0.58 |
| 2:AA:38:A:H2' | 2:AA:39:C:H6 | 1.68 | 0.58 |
| 2:AA:278:A:H2' | 2:AA:279:C:OP2 | 2.03 | 0.58 |
| 2:AA:294:A:O2' | 20:AU:15:PRO:HG2 | 2.04 | 0.58 |
| 2:AA:319:C:H2' | 2:AA:320:A:C8 | 2.38 | 0.58 |
| 2:AA:459:U:H5 | 2:AA:469:G:N2 | 2.02 | 0.58 |
| 2:AA:530:G:N1 | 2:AA:2021:C:C4' | 2.65 | 0.58 |
| 2:AA:546:C:H41 | 2:AA:1221:C:P | 2.24 | 0.58 |
| 2:AA:550:G:H2' | 2:AA:1220:A:H2 | 1.68 | 0.58 |
| 2:AA:637:A:C2 | 2:AA:651:G:H4' | 2.39 | 0.58 |
| 2:AA:685:A:C5 | 2:AA:774:A:C6 | 2.92 | 0.58 |
| 2:AA:697:C:H2' | 2:AA:698:C:C5 | 2.37 | 0.58 |
| 2:AA:838:C:O2' | 2:AA:839:U:H5' | 2.03 | 0.58 |
| 2:AA:961:C:N4 | 2:AA:2031:A:C4 | 2.71 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:977:G:N7 | 2:AA:987:G:C2 | 2.72 | 0.58 |
| 2:AA:994:C:OP2 | 25:A1:54:LYS:HE3 | 2.03 | 0.58 |
| 2:AA:1059:G:OP1 | 9:AI:2:THR:CG2 | 2.50 | 0.58 |
| 2:AA:1210:A:H1' | 2:AA:1212:G:H21 | 1.67 | 0.58 |
| 2:AA:1227:A:C2' | 2:AA:1228:G:H5" | 2.34 | 0.58 |
| 2:AA:1238:G:H2' | 2:AA:1239:G:C5' | 2.34 | 0.58 |
| 2:AA:1344:G:N2 | 2:AA:1404:C:H1' | 2.17 | 0.58 |
| 2:AA:1544:C:OP2 | 2:AA:1544:C:C3' | 2.38 | 0.58 |
| 2:AA:1576:U:C5 | 2:AA:1577:C:C2 | 2.91 | 0.58 |
| 2:AA:1675:C:O2 | 2:AA:1675:C:C2' | 2.42 | 0.58 |
| 2:AA:1680:U:O2 | 2:AA:1764:G:O5' | 2.21 | 0.58 |
| 2:AA:1703:G:C2 | 2:AA:1704:G:N9 | 2.72 | 0.58 |
| 2:AA:1780:A:C3' | 2:AA:1781:C:H5" | 2.32 | 0.58 |
| 2:AA:1842:G:O2' | 2:AA:1843:C:H5' | 2.04 | 0.58 |
| 2:AA:2043:C:O2 | 2:AA:2043:C:C2' | 2.50 | 0.58 |
| 2:AA:2056:G:O5' | 2:AA:2057:A:OP2 | 2.21 | 0.58 |
| 2:AA:2213:U:H5' | 2:AA:2215:G:C5 | 2.37 | 0.58 |
| 2:AA:2269:A:H2' | 2:AA:2270:G:H8 | 1.66 | 0.58 |
| 2:AA:2331:G:C5 | 2:AA:2332:U:N3 | 2.71 | 0.58 |
| 2:AA:2386:C:H2' | 2:AA:2387:U:C5 | 2.38 | 0.58 |
| 2:AA:2397:G:C2 | 2:AA:2420:C:H1' | 2.38 | 0.58 |
| 2:AA:2397:G:H22 | 2:AA:2420:C:H1' | 1.63 | 0.58 |
| 2:AA:2414:G:H2' | 2:AA:2415:G:C8 | 2.38 | 0.58 |
| 2:AA:2510:C:N3 | 2:AA:2578:G:C6 | 2.71 | 0.58 |
| 2:AA:2542:A:C4' | 2:AA:2543:G:OP1 | 2.51 | 0.58 |
| 2:AA:2639:A:N3 | 2:AA:2778:A:C2 | 2.72 | 0.58 |
| 2:AA:2687:U:N3 | 2:AA:2688:U:H6 | 2.00 | 0.58 |
| 2:AA:2791:C:C2 | 2:AA:2805:G:C6 | 2.91 | 0.58 |
| 3:AC:30:LYS:HE3 | 3:AC:178:ALA:O | 2.02 | 0.58 |
| 3:AC:103:ILE:HB | 3:AC:127:LEU:CD1 | 2.33 | 0.58 |
| 3:AC:131:LEU:C | 3:AC:133:PRO:HD2 | 2.24 | 0.58 |
| 4:AD:66:PHE:HD2 | 4:AD:67:LYS:CE | 2.09 | 0.58 |
| 4:AD:104:ILE:O | 4:AD:106:PRO:CD | 2.50 | 0.58 |
| 6:AF:103:ASN:HB2 | 6:AF:106:GLU:CD | 2.24 | 0.58 |
| 6:AF:195:VAL:HG21 | 6:AF:235:PHE:CE2 | 2.38 | 0.58 |
| 8:AH:75:VAL:O | 8:AH:77:GLY:N | 2.36 | 0.58 |
| 9:AI:78:ARG:NH1 | 9:AI:85:LEU:HD22 | 2.18 | 0.58 |
| 10:AK:94:THR:O | 10:AK:96:LYS:N | 2.36 | 0.58 |
| 10:AK:125:GLY:O | 10:AK:143:VAL:O | 2.21 | 0.58 |
| 11:AL:107:GLU:OE2 | 11:AL:108:ILE:HG13 | 2.03 | 0.58 |
| 11:AL:116:LEU:HD22 | 11:AL:117:ASN:OD1 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:27:ALA:O | 12:AM:29:GLN:N | 2.36 | 0.58 |
| 14:AO:110:GLY:O | 14:AO:111:ALA:O | 2.21 | 0.58 |
| 15:AP:26:LYS:HD2 | 15:AP:89:PRO:CG | 2.33 | 0.58 |
| 15:AP:45:GLN:CB | 15:AP:152:SER:HB3 | 2.33 | 0.58 |
| 15:AP:87:LYS:HB2 | 15:AP:122:PHE:HE2 | 1.67 | 0.58 |
| 16:AQ:23:ARG:O | 16:AQ:24:LEU:C | 2.41 | 0.58 |
| 16:AQ:123:ILE:HG22 | 16:AQ:124:ASP:N | 2.17 | 0.58 |
| 19:AT:5:ILE:CG2 | 19:AT:6:LYS:H | 2.16 | 0.58 |
| 21:AV:14:LEU:HD11 | 21:AV:80:HIS:NE2 | 2.18 | 0.58 |
| 21:AV:51:LEU:HD21 | 21:AV:64:ALA:C | 2.24 | 0.58 |
| 25:A1:97:ASP:O | 25:A1:101:ARG:CG | 2.39 | 0.58 |
| 25:A1:104:GLU:O | 25:A1:107:LYS:HB2 | 2.04 | 0.58 |
| 26:A2:42:GLY:O | 26:A2:54:TYR:OH | 2.19 | 0.58 |
| 27:A3:26:PHE:O | 27:A3:60:PHE:CG | 2.56 | 0.58 |
| 34:BA:115:G:C6 | 34:BA:289:G:N7 | 2.72 | 0.58 |
| 34:BA:127:G:O3' | 52:BT:2:PRO:HD2 | 2.04 | 0.58 |
| 34:BA:188:C:N3 | 34:BA:189:G:C8 | 2.72 | 0.58 |
| 34:BA:231:G:O2' | 34:BA:232:G:H5' | 2.03 | 0.58 |
| 34:BA:340:U:O2' | 34:BA:341:C:H5' | 2.03 | 0.58 |
| 34:BA:518:C:H42 | 35:BB:34:G:N2 | 2.01 | 0.58 |
| 34:BA:706:A:C4' | 46:BN:29:ILE:HD11 | 2.32 | 0.58 |
| 34:BA:805:C:N3 | 34:BA:806:C:C5 | 2.71 | 0.58 |
| 34:BA:859:A:H2' | 34:BA:860:A:O5' | 2.02 | 0.58 |
| 34:BA:953:G:H1 | 34:BA:1228:C:N4 | 2.00 | 0.58 |
| 34:BA:1254:C:OP1 | 45:BM:45:ARG:CD | 2.51 | 0.58 |
| 34:BA:1348:U:H2' | 34:BA:1348:U:O2 | 2.02 | 0.58 |
| 34:BA:1382:C:H2' | 34:BA:1383:C:H6 | 1.69 | 0.58 |
| 34:BA:1398:A:N6 | 40:BH:21:ALA:HA | 2.17 | 0.58 |
| 34:BA:1476:G:H8 | 34:BA:1476:G:O5' | 1.85 | 0.58 |
| 34:BA:1484:C:H2' | 34:BA:1485:U:O4' | 2.03 | 0.58 |
| 34:BA:1486:G:C6 | 34:BA:1487:G:C6 | 2.91 | 0.58 |
| 34:BA:1537:U:H2' | 34:BA:1538:C:O4' | 2.02 | 0.58 |
| 35:BB:37:G:H2' | 35:BB:38:A:C5' | 2.33 | 0.58 |
| 35:BB:50:U:C2 | 35:BB:65:G:C2 | 2.91 | 0.58 |
| 35:BC:19:G:H3' | 35:BC:20:G:C8 | 2.39 | 0.58 |
| 36:B1:14:U:H5" | 36:B1:38:C:N4 | 2.19 | 0.58 |
| 37:BE:23:ARG:NH1 | 37:BE:24:TRP:O | 2.32 | 0.58 |
| 38:BF:28:GLN:N | 38:BF:30:ARG:NH1 | 2.50 | 0.58 |
| 40:BH:107:ARG:HG2 | 40:BH:111:GLU:HG3 | 1.86 | 0.58 |
| 41:BI:3:ARG:C | 41:BI:4:TYR:HD2 | 2.06 | 0.58 |
| 41:BI:46:ARG:NH1 | 53:BU:37:VAL:HG21 | 2.18 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:50:TYR:HD1 | 53:BU:80:PRO:HA | 1.68 | 0.58 |
| 42:BJ:14:PRO:HD3 | 42:BJ:21:VAL:HG12 | 1.84 | 0.58 |
| 42:BJ:77:SER:C | 42:BJ:156:TRP:CZ3 | 2.76 | 0.58 |
| 42:BJ:95:ARG:O | 42:BJ:96:GLN:C | 2.41 | 0.58 |
| 42:BJ:104:LEU:HA | 42:BJ:134:ALA:CB | 2.29 | 0.58 |
| 42:BJ:140:ASP:HA | 42:BJ:143:ARG:HH11 | 1.69 | 0.58 |
| 43:BK:4:ASP:CG | 43:BK:6:ILE:HG22 | 2.22 | 0.58 |
| 45:BM:51:ARG:HH11 | 49:BQ:45:ARG:HH12 | 1.51 | 0.58 |
| 46:BN:42:TRP:HZ3 | 46:BN:47:VAL:HG22 | 1.68 | 0.58 |
| 49:BQ:9:LYS:CE | 49:BQ:10:ALA:HB2 | 2.33 | 0.58 |
| 50:BR:34:LEU:HG | 50:BR:38:ARG:CD | 2.26 | 0.58 |
| 51:BS:7:ALA:CB | 51:BS:9:PHE:HE2 | 2.17 | 0.58 |
| 54:BV:25:LYS:HD2 | 54:BV:25:LYS:H | 1.69 | 0.58 |
| 55:BW:32:ALA:O | 55:BW:33:ILE:C | 2.38 | 0.58 |
| 1:AB:12:C:C6 | 27:A3:53:MET:SD | 2.96 | 0.58 |
| 1:AB:33:G:H1 | 1:AB:49:C:H42 | 1.51 | 0.58 |
| 2:AA:65:C:N3 | 2:AA:66:C:C5 | 2.71 | 0.58 |
| 2:AA:196:A:C2 | 2:AA:805:G:N1 | 2.71 | 0.58 |
| 2:AA:239:U:C1' | 2:AA:259:G:N2 | 2.66 | 0.58 |
| 2:AA:511:U:C4 | 2:AA:512:G:N3 | 2.72 | 0.58 |
| 2:AA:530:G:C1' | 2:AA:532:A:OP2 | 2.51 | 0.58 |
| 2:AA:567:A:C2 | 2:AA:568:U:C1' | 2.86 | 0.58 |
| 2:AA:791:C:C2' | 2:AA:792:G:H5' | 2.33 | 0.58 |
| 2:AA:819:A:C4 | 2:AA:820:A:C8 | 2.91 | 0.58 |
| 2:AA:932:G:H2' | 2:AA:933:A:C8 | 2.37 | 0.58 |
| 2:AA:994:C:O2 | 25:A1:53:LYS:CB | 2.49 | 0.58 |
| 2:AA:1170:G:H1 | 2:AA:1180:C:N4 | 2.01 | 0.58 |
| 2:AA:1238:G:C5 | 2:AA:1239:G:C8 | 2.91 | 0.58 |
| 2:AA:1379:A:C2 | 2:AA:1380:G:OP1 | 2.57 | 0.58 |
| 2:AA:1563:G:C4 | 2:AA:1564:C:C6 | 2.92 | 0.58 |
| 2:AA:1913:A:H2' | 2:AA:1913:A:N3 | 2.16 | 0.58 |
| 2:AA:2058:A:C4 | 2:AA:2059:A:N7 | 2.72 | 0.58 |
| 2:AA:2278:A:N1 | 2:AA:2279:G:C5 | 2.72 | 0.58 |
| 2:AA:2282:G:H4' | 2:AA:2283:C:O5' | 2.04 | 0.58 |
| 2:AA:2358:G:OP1 | 2:AA:2358:G:H8 | 1.86 | 0.58 |
| 2:AA:2361:A:C2' | 2:AA:2362:G:H5' | 2.33 | 0.58 |
| 2:AA:2497:A:O2' | 2:AA:2498:C:P | 2.61 | 0.58 |
| 2:AA:2498:C:C3' | 2:AA:2499:C:H5" | 2.34 | 0.58 |
| 2:AA:2543:G:N7 | 2:AA:2544:G:C6 | 2.72 | 0.58 |
| 2:AA:2564:A:C6 | 2:AA:2565:A:N6 | 2.71 | 0.58 |
| 2:AA:2568:C:O2 | 2:AA:2569:G:C8 | 2.57 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2605:U:O2' | 2:AA:2606:C:H5' | 2.04 | 0.58 |
| 2:AA:2660:A:H8 | 2:AA:2660:A:O5' | 1.87 | 0.58 |
| 2:AA:2667:C:O2 | 8:AH:108:TYR:CA | 2.52 | 0.58 |
| 2:AA:2678:C:N3 | 2:AA:2679:A:C8 | 2.72 | 0.58 |
| 2:AA:2870:C:O2 | 2:AA:2871:C:H1' | 2.04 | 0.58 |
| 3:AC:54:SER:HA | 3:AC:57:ASN:ND2 | 2.19 | 0.58 |
| 3:AC:115:ALA:HB2 | 3:AC:138:PRO:CG | 2.33 | 0.58 |
| 4:AD:95:TYR:O | 4:AD:96:ALA:C | 2.41 | 0.58 |
| 4:AD:143:ILE:HD13 | 4:AD:153:LEU:O | 2.03 | 0.58 |
| 4:AD:208:GLY:O | 4:AD:211:HIS:ND1 | 2.36 | 0.58 |
| 5:AE:318:ASN:C | 5:AE:320:GLN:H | 2.07 | 0.58 |
| 7:AG:78:GLU:O | 7:AG:81:GLU:HB2 | 2.04 | 0.58 |
| 7:AG:103:ASN:OD1 | 7:AG:134:LEU:N | 2.37 | 0.58 |
| 8:AH:166:GLU:OE2 | 8:AH:166:GLU:HA | 2.02 | 0.58 |
| 9:AI:70:LYS:O | 9:AI:74:ILE:HG13 | 2.03 | 0.58 |
| 9:AJ:62:VAL:HG22 | 9:AJ:101:VAL:CA | 2.33 | 0.58 |
| 9:AJ:66:PHE:CZ | 9:AJ:92:VAL:HG22 | 2.38 | 0.58 |
| 9:AJ:73:VAL:HG22 | 9:AJ:121:ALA:C | 2.23 | 0.58 |
| 9:AJ:110:GLU:HA | 9:AJ:113:GLU:OE1 | 2.02 | 0.58 |
| 10:AK:29:PHE:HD2 | 10:AK:30:LEU:HD21 | 1.68 | 0.58 |
| 12:AM:57:TYR:O | 12:AM:60:ARG:HB2 | 2.04 | 0.58 |
| 13:AN:79:PHE:CD2 | 17:AR:22:VAL:HG23 | 2.39 | 0.58 |
| 15:AP:132:VAL:O | 15:AP:135:ALA:HB3 | 2.04 | 0.58 |
| 18:AS:21:VAL:HG23 | 18:AS:22:ASP:N | 2.18 | 0.58 |
| 18:AS:29:LEU:C | 18:AS:33:ARG:HG3 | 2.24 | 0.58 |
| 18:AS:89:ALA:C | 18:AS:91:GLY:N | 2.48 | 0.58 |
| 20:AU:30:ASP:O | 20:AU:33:GLU:CD | 2.40 | 0.58 |
| 21:AV:18:MET:CA | 21:AV:35:ASP:HA | 2.27 | 0.58 |
| 21:AV:79:ILE:HG22 | 21:AV:80:HIS:CD2 | 2.38 | 0.58 |
| 21:AV:96:VAL:HG12 | 21:AV:97:PRO:N | 2.19 | 0.58 |
| 22:AW:5:VAL:HG12 | 22:AW:6:GLN:N | 2.17 | 0.58 |
| 23:AX:49:LYS:O | 23:AX:51:ALA:N | 2.37 | 0.58 |
| 25:A1:65:ILE:HG22 | 25:A1:66:ASN:N | 2.18 | 0.58 |
| 25:A1:79:PHE:HB3 | 25:A1:83:LEU:HD12 | 1.84 | 0.58 |
| 26:A2:18:ASP:OD2 | 26:A2:94:LYS:HE2 | 2.03 | 0.58 |
| 30:A6:42:PRO:HG2 | 30:A6:44:ALA:HB3 | 1.84 | 0.58 |
| 31:A7:4:THR:N | 31:A7:6:GLN:NE2 | 2.52 | 0.58 |
| 32:A8:4:MET:HA | 32:A8:5:LYS:NZ | 2.19 | 0.58 |
| 34:BA:118:U:O4 | 34:BA:289:G:P | 2.61 | 0.58 |
| 34:BA:132:C:N4 | 34:BA:230:G:N1 | 2.46 | 0.58 |
| 34:BA:592:G:C2 | 34:BA:593:G:C8 | 2.92 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:657:G:N2 | 34:BA:750:G:N9 | 2.52 | 0.58 |
| 34:BA:668:G:O2' | 50:BR:46:HIS:CE1 | 2.56 | 0.58 |
| 34:BA:802:A:N6 | 34:BA:803:G:C2 | 2.71 | 0.58 |
| 34:BA:833:U:H3 | 34:BA:853:G:H1 | 1.50 | 0.58 |
| 34:BA:891:U:H5 | 34:BA:906:G:C2 | 2.22 | 0.58 |
| 34:BA:983:A:H5' | 34:BA:984:C:OP2 | 2.03 | 0.58 |
| 34:BA:1007:C:N4 | 34:BA:1022:G:C6 | 2.71 | 0.58 |
| 34:BA:1065:U:O2' | 34:BA:1066:C:P | 2.61 | 0.58 |
| 34:BA:1147:C:O2 | 44:BL:16:ARG:NH2 | 2.37 | 0.58 |
| 34:BA:1320:C:H42 | 54:BV:36:ARG:HH11 | 1.47 | 0.58 |
| 34:BA:1538:C:O2' | 34:BA:1539:C:H5' | 2.03 | 0.58 |
| 35:BB:56:C:O5' | 35:BB:56:C:H6 | 1.86 | 0.58 |
| 35:BC:33:U:C6 | 35:BC:33:U:C3' | 2.86 | 0.58 |
| 36:B1:23:U:H3' | 36:B1:24:A:C8 | 2.39 | 0.58 |
| 39:BG:119:GLN:O | 39:BG:122:ARG:HB2 | 2.04 | 0.58 |
| 41:BI:67:MET:CE | 41:BI:69:GLU:O | 2.50 | 0.58 |
| 42:BJ:31:MET:SD | 42:BJ:36:LYS:NZ | 2.76 | 0.58 |
| 42:BJ:121:ALA:HB1 | 42:BJ:125:MET:HE2 | 1.86 | 0.58 |
| 43:BK:26:VAL:N | 43:BK:58:TYR:HE2 | 2.01 | 0.58 |
| 45:BM:20:ALA:O | 45:BM:24:VAL:HG23 | 2.02 | 0.58 |
| 46:BN:16:SER:N | 46:BN:77:MET:SD | 2.76 | 0.58 |
| 48:BP:34:LEU:HD23 | 48:BP:39:ILE:CD1 | 2.33 | 0.58 |
| 48:BP:91:ARG:NH1 | 48:BP:97:PRO:O | 2.36 | 0.58 |
| 48:BP:92:HIS:ND1 | 48:BP:98:VAL:HG21 | 2.17 | 0.58 |
| 50:BR:83:GLU:C | 50:BR:83:GLU:OE1 | 2.42 | 0.58 |
| 2:AA:37:C:C4' | 2:AA:451:C:H5" | 2.33 | 0.58 |
| 2:AA:146:G:C6 | 2:AA:147:U:C2 | 2.92 | 0.58 |
| 2:AA:245:G:C5 | 2:AA:246:C:H5 | 2.22 | 0.58 |
| 2:AA:360:G:O2' | 2:AA:361:G:C5' | 2.52 | 0.58 |
| 2:AA:386:G:HO2' | 2:AA:387:U:P | 2.26 | 0.58 |
| 2:AA:443:A:C1' | 2:AA:1201:C:H5' | 2.34 | 0.58 |
| 2:AA:484:C:H2' | 2:AA:485:C:C5 | 2.34 | 0.58 |
| 2:AA:572:A:N6 | 2:AA:573:G:H1 | 2.00 | 0.58 |
| 2:AA:746:A:OP1 | 2:AA:2612:C:C2 | 2.56 | 0.58 |
| 2:AA:778:G:C6 | 2:AA:779:U:O2 | 2.57 | 0.58 |
| 2:AA:811:U:O2' | 2:AA:1251:C:H1' | 2.03 | 0.58 |
| 2:AA:871:U:O4' | 15:AP:90:PHE:HE2 | 1.86 | 0.58 |
| 2:AA:1076:C:H4' | 11:AL:94:ARG:NH1 | 2.17 | 0.58 |
| 2:AA:1129:A:H4' | 2:AA:2516:G:H5' | 1.85 | 0.58 |
| 2:AA:1270:C:O2 | 2:AA:1325:G:C8 | 2.57 | 0.58 |
| 2:AA:1303:G:H22 | 2:AA:1626:G:H1' | 1.66 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1364:G:P | 28:A4:3:LYS:CG | 2.92 | 0.58 |
| 2:AA:1418:G:C2' | 2:AA:1419:A:OP1 | 2.50 | 0.58 |
| 2:AA:1428:C:HO2' | 2:AA:1429:G:P | 2.26 | 0.58 |
| 2:AA:1505:C:O2 | 2:AA:1505:C:H2' | 2.03 | 0.58 |
| 2:AA:1538:G:H2' | 2:AA:1539:G:C1' | 2.33 | 0.58 |
| 2:AA:1556:C:H2' | 2:AA:1557:C:H6 | 1.63 | 0.58 |
| 2:AA:1613:G:H2' | 2:AA:1614:A:OP1 | 2.04 | 0.58 |
| 2:AA:1676:A:C4 | 2:AA:1677:A:C8 | 2.92 | 0.58 |
| 2:AA:1698:A:OP2 | 2:AA:1698:A:H4' | 2.03 | 0.58 |
| 2:AA:1699:G:O6 | 2:AA:1763:G:N9 | 2.36 | 0.58 |
| 2:AA:1853:A:H1' | 2:AA:2233:U:O2' | 2.03 | 0.58 |
| 2:AA:1900:A:H2 | 2:AA:1970:A:N1 | 2.01 | 0.58 |
| 2:AA:1906:G:C8 | 2:AA:1929:G:H2' | 2.38 | 0.58 |
| 2:AA:2063:C:H2' | 2:AA:2064:C:O5' | 2.03 | 0.58 |
| 2:AA:2207:C:C3' | 2:AA:2208:U:H5' | 2.32 | 0.58 |
| 2:AA:2227:A:N1 | 2:AA:2228:G:C5 | 2.71 | 0.58 |
| 2:AA:2252:G:O5' | 2:AA:2252:G:C8 | 2.54 | 0.58 |
| 2:AA:2253:G:C4 | 2:AA:2254:C:C5 | 2.91 | 0.58 |
| 2:AA:2291:U:H2' | 2:AA:2292:C:H6 | 1.64 | 0.58 |
| 2:AA:2334:G:OP2 | 16:AQ:13:ARG:CG | 2.50 | 0.58 |
| 2:AA:2434:A:O2' | 2:AA:2435:A:H5" | 2.03 | 0.58 |
| 2:AA:2648:C:H2' | 2:AA:2649:U:C6 | 2.39 | 0.58 |
| 2:AA:2810:A:N6 | 2:AA:2891:G:C2 | 2.72 | 0.58 |
| 4:AD:89:ASN:HD21 | 4:AD:199:ARG:NH2 | 1.99 | 0.58 |
| 4:AD:107:LYS:HB3 | 4:AD:193:GLU:CB | 2.33 | 0.58 |
| 4:AD:128:ALA:O | 4:AD:129:LEU:HD12 | 2.04 | 0.58 |
| 5:AE:257:GLY:C | 5:AE:258:TYR:HD2 | 2.07 | 0.58 |
| 5:AE:299:SER:C | 5:AE:301:PRO:HD3 | 2.23 | 0.58 |
| 6:AF:81:PRO:O | 6:AF:82:GLN:CD | 2.42 | 0.58 |
| 7:AG:146:LYS:HD2 | 16:AQ:15:GLU:OE2 | 2.03 | 0.58 |
| 10:AK:93:ILE:HA | 10:AK:97:GLN:OE1 | 2.03 | 0.58 |
| 11:AL:21:ALA:HB3 | 11:AL:22:PRO:CD | 2.33 | 0.58 |
| 12:AM:10:VAL:HG12 | 12:AM:12:VAL:HG23 | 1.86 | 0.58 |
| 14:AO:62:ALA:CB | 14:AO:105:TYR:HB2 | 2.33 | 0.58 |
| 15:AP:61:LEU:HD23 | 15:AP:61:LEU:N | 2.18 | 0.58 |
| 17:AR:46:ALA:O | 17:AR:49:LEU:N | 2.33 | 0.58 |
| 19:AT:51:GLN:O | 19:AT:66:VAL:HA | 2.03 | 0.58 |
| 20:AU:72:ILE:HG22 | 20:AU:73:HIS:N | 2.18 | 0.58 |
| 20:AU:105:ASP:OD1 | 20:AU:108:ARG:HD2 | 2.03 | 0.58 |
| 21:AV:17:SER:N | 21:AV:36:ARG:NH2 | 2.52 | 0.58 |
| 22:AW:9:ARG:HB2 | 22:AW:59:ILE:HD11 | 1.86 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:1:MET:HE1 | 23:AX:3:ARG:HD2 | 1.86 | 0.58 |
| 23:AX:51:ALA:O | 23:AX:52:HIS:C | 2.42 | 0.58 |
| 24:A0:75:LEU:O | 24:A0:78:LYS:HB3 | 2.03 | 0.58 |
| 27:A3:4:LYS:HZ1 | 27:A3:11:LYS:NZ | 2.00 | 0.58 |
| 28:A4:48:ARG:HG2 | 28:A4:49:PHE:N | 2.11 | 0.58 |
| 33:A9:25:VAL:HB | 33:A9:34:GLN:CB | 2.31 | 0.58 |
| 34:BA:8:A:C1' | 40:BH:102:ALA:O | 2.47 | 0.58 |
| 34:BA:116:A:O5' | 34:BA:116:A:H8 | 1.87 | 0.58 |
| 34:BA:258:G:HO2' | 34:BA:259:G:C5' | 2.17 | 0.58 |
| 34:BA:509:A:C2' | 34:BA:510:A:O5' | 2.52 | 0.58 |
| 34:BA:616:G:C2 | 34:BA:617:G:C8 | 2.91 | 0.58 |
| 34:BA:690:G:O2' | 34:BA:691:G:H5' | 2.04 | 0.58 |
| 34:BA:692:U:C5 | 46:BN:26:ASN:ND2 | 2.56 | 0.58 |
| 34:BA:770:C:C4' | 34:BA:900:A:H2 | 2.17 | 0.58 |
| 34:BA:956:U:O2' | 34:BA:957:U:H5' | 2.02 | 0.58 |
| 34:BA:1072:G:H2' | 34:BA:1073:U:O4' | 2.04 | 0.58 |
| 34:BA:1319:A:H4' | 54:BV:70:LYS:NZ | 2.19 | 0.58 |
| 34:BA:1328:C:H2' | 34:BA:1329:A:C8 | 2.39 | 0.58 |
| 34:BA:1508:G:H1 | 34:BA:1527:C:H42 | 1.50 | 0.58 |
| 36:B1:20:A:N1 | 36:B1:34:U:O2 | 2.36 | 0.58 |
| 37:BE:15:VAL:HG23 | 37:BE:16:HIS:ND1 | 2.19 | 0.58 |
| 37:BE:149:LEU:O | 37:BE:150:SER:C | 2.42 | 0.58 |
| 37:BE:222:ILE:CG1 | 37:BE:226:ARG:HE | 2.17 | 0.58 |
| 38:BF:19:GLU:HG2 | 38:BF:54:ARG:CG | 2.34 | 0.58 |
| 38:BF:95:THR:CB | 38:BF:97:LYS:HG2 | 2.32 | 0.58 |
| 39:BG:10:ARG:HA | 39:BG:13:ARG:HG3 | 1.85 | 0.58 |
| 40:BH:47:LYS:O | 40:BH:57:LYS:NZ | 2.35 | 0.58 |
| 41:BI:28:ARG:HH11 | 41:BI:28:ARG:CG | 2.16 | 0.58 |
| 41:BI:57:GLN:NE2 | 41:BI:57:GLN:O | 2.36 | 0.58 |
| 44:BL:5:TYR:HD2 | 44:BL:6:GLY:N | 2.01 | 0.58 |
| 44:BL:97:LYS:O | 44:BL:100:GLY:HA2 | 2.04 | 0.58 |
| 46:BN:108:ILE:HG22 | 53:BU:87:ARG:O | 2.04 | 0.58 |
| 47:BO:6:THR:HG23 | 47:BO:9:GLN:OE1 | 2.03 | 0.58 |
| 47:BO:28:LYS:CD | 47:BO:33:ARG:NH1 | 2.60 | 0.58 |
| 51:BS:75:ARG:HA | 51:BS:80:PHE:CD1 | 2.39 | 0.58 |
| 52:BT:45:HIS:NE2 | 52:BT:47:PRO:CG | 2.55 | 0.58 |
| 52:BT:81:ARG:HG2 | 52:BT:84:LEU:HG | 1.85 | 0.58 |
| 53:BU:18:ARG:NH2 | 53:BU:21:LYS:HD3 | 2.18 | 0.58 |
| 1:AB:25:A:C2' | 1:AB:26:A:H5' | 2.32 | 0.58 |
| 1:AB:68:C:H2' | 1:AB:69:G:O4' | 2.04 | 0.58 |
| 1:AB:89:G:C2 | 1:AB:89(A):A:C6 | 2.91 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:112:G:H2' | 1:AB:112:G:N3 | 2.19 | 0.58 |
| 1:AB:118:G:H2' | 1:AB:119:A:O5' | 2.04 | 0.58 |
| 2:AA:16:G:H5' | 29:A5:18:MET:SD | 2.44 | 0.58 |
| 2:AA:29:U:C4' | 25:A1:11:ARG:HH12 | 2.09 | 0.58 |
| 2:AA:80:G:H8 | 2:AA:80:G:O5' | 1.86 | 0.58 |
| 2:AA:138:G:H1' | 19:AT:42:GLU:HG2 | 1.85 | 0.58 |
| 2:AA:152:G:O6 | 2:AA:175:G:C6 | 2.57 | 0.58 |
| 2:AA:260:G:C6 | 2:AA:261:G:N7 | 2.71 | 0.58 |
| 2:AA:270(F):U:H2' | 2:AA:270(G):C:O4' | 2.04 | 0.58 |
| 2:AA:306:U:C5 | 2:AA:307:G:C8 | 2.92 | 0.58 |
| 2:AA:430:G:H8 | 2:AA:430:G:OP2 | 1.87 | 0.58 |
| 2:AA:623:G:C8 | 2:AA:624:C:C5 | 2.92 | 0.58 |
| 2:AA:641:C:O2' | 2:AA:642:G:H5' | 2.03 | 0.58 |
| 2:AA:723:G:N2 | 2:AA:724:U:H1' | 2.19 | 0.58 |
| 2:AA:738:G:C5 | 2:AA:739:G:N3 | 2.71 | 0.58 |
| 2:AA:890:A:H5' | 2:AA:892:G:H5" | 1.85 | 0.58 |
| 2:AA:917:A:H2' | 2:AA:918:A:C5' | 2.34 | 0.58 |
| 2:AA:977:G:C5 | 2:AA:987:G:N2 | 2.71 | 0.58 |
| 2:AA:1054:A:H2' | 2:AA:1055:G:N7 | 2.18 | 0.58 |
| 2:AA:1058:G:O4' | 9:AI:6:ILE:HD11 | 2.03 | 0.58 |
| 2:AA:1225:C:OP1 | 26:A2:87:ARG:CB | 2.49 | 0.58 |
| 2:AA:1291:C:H2' | 2:AA:1292:U:H5' | 1.86 | 0.58 |
| 2:AA:1296:G:C6 | 2:AA:1297:C:C4 | 2.92 | 0.58 |
| 2:AA:1316:U:H2' | 2:AA:1317:A:C8 | 2.39 | 0.58 |
| 2:AA:1462:C:H4' | 2:AA:2703:C:H5' | 1.85 | 0.58 |
| 2:AA:1523:U:C4 | 2:AA:1524:G:C5 | 2.91 | 0.58 |
| 2:AA:1572:A:OP1 | 2:AA:1572:A:C8 | 2.57 | 0.58 |
| 2:AA:1683:C:N4 | 2:AA:1684:C:N4 | 2.50 | 0.58 |
| 2:AA:1778:U:C6 | 2:AA:1784:A:H2 | 2.21 | 0.58 |
| 2:AA:1798:U:H3 | 2:AA:1821:A:H61 | 1.50 | 0.58 |
| 2:AA:1900:A:O2' | 2:AA:1901:A:OP2 | 2.19 | 0.58 |
| 2:AA:1907:G:C4 | 2:AA:1908:C:C5 | 2.91 | 0.58 |
| 2:AA:1907:G:H2' | 2:AA:1908:C:C6 | 2.38 | 0.58 |
| 2:AA:1944:U:C2' | 2:AA:1945:G:OP1 | 2.51 | 0.58 |
| 2:AA:1978:A:C5 | 2:AA:1979:C:C5 | 2.92 | 0.58 |
| 2:AA:1995:U:C5' | 2:AA:1995:U:H6 | 2.13 | 0.58 |
| 2:AA:2002:G:N1 | 2:AA:2003:G:C8 | 2.72 | 0.58 |
| 2:AA:2024:G:C4 | 2:AA:2025:C:C6 | 2.92 | 0.58 |
| 2:AA:2040:C:H2' | 2:AA:2040:C:O2 | 2.02 | 0.58 |
| 2:AA:2083:G:C2 | 2:AA:2084:C:C2 | 2.91 | 0.58 |
| 2:AA:2105:C:H2' | 2:AA:2106:G:C8 | 2.38 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2116:G:H3' | 2:AA:2116:G:N3 | 2.18 | 0.58 |
| 2:AA:2207:C:C4 | 2:AA:2208:U:C5 | 2.92 | 0.58 |
| 2:AA:2329:G:N1 | 2:AA:2386:C:N4 | 2.52 | 0.58 |
| 2:AA:2333:A:H1' | 2:AA:2335:A:C5 | 2.39 | 0.58 |
| 2:AA:2362:G:H2' | 2:AA:2363:C:O4' | 2.03 | 0.58 |
| 2:AA:2447:G:O2' | 2:AA:2448:A:P | 2.62 | 0.58 |
| 2:AA:2524:G:O2' | 2:AA:2741:A:C2 | 2.54 | 0.58 |
| 2:AA:2597:G:H5" | 2:AA:2598:A:OP2 | 2.04 | 0.58 |
| 2:AA:2605:U:O2' | 2:AA:2606:C:H5" | 2.04 | 0.58 |
| 2:AA:2691:C:O4' | 2:AA:2872:G:N7 | 2.36 | 0.58 |
| 2:AA:2832:U:C6 | 2:AA:2832:U:C5' | 2.83 | 0.58 |
| 2:AA:2838:G:H1 | 2:AA:2880:C:H42 | 0.71 | 0.58 |
| 3:AC:59:ARG:HG3 | 3:AC:164:ARG:HB3 | 1.85 | 0.58 |
| 3:AC:104:LEU:HD13 | 3:AC:126:LYS:NZ | 2.18 | 0.58 |
| 4:AD:71:ASP:CG | 4:AD:118:GLY:CA | 2.72 | 0.58 |
| 6:AF:84:VAL:H | 6:AF:87:ARG:HE | 1.49 | 0.58 |
| 7:AG:45:THR:OG1 | 7:AG:46:GLY:N | 2.36 | 0.58 |
| 8:AH:43:THR:CG2 | 8:AH:50:THR:O | 2.51 | 0.58 |
| 9:AI:42:ALA:HB2 | 9:AJ:42:ALA:CB | 2.33 | 0.58 |
| 9:AI:63:LEU:CD1 | 9:AI:102:ILE:HD12 | 2.30 | 0.58 |
| 10:AK:79:ILE:O | 10:AK:145:VAL:HA | 2.03 | 0.58 |
| 13:AN:8:LEU:N | 13:AN:8:LEU:CD2 | 2.60 | 0.58 |
| 13:AN:22:ILE:CG2 | 13:AN:23:LYS:N | 2.61 | 0.58 |
| 14:AO:67:ARG:O | 14:AO:71:GLU:HG2 | 2.03 | 0.58 |
| 14:AO:71:GLU:O | 14:AO:74:THR:N | 2.36 | 0.58 |
| 14:AO:73:VAL:HG13 | 14:AO:76:LEU:HD23 | 1.84 | 0.58 |
| 14:AO:92:ASP:OD1 | 14:AO:93:VAL:N | 2.37 | 0.58 |
| 15:AP:26:LYS:NZ | 15:AP:90:PHE:CZ | 2.69 | 0.58 |
| 15:AP:136:TRP:HA | 15:AP:136:TRP:CE3 | 2.37 | 0.58 |
| 16:AQ:76:GLY:O | 16:AQ:82:TYR:HB2 | 2.04 | 0.58 |
| 16:AQ:81:ALA:CB | 16:AQ:117:ALA:CB | 2.82 | 0.58 |
| 16:AQ:124:ASP:O | 16:AQ:125:ALA:C | 2.42 | 0.58 |
| 17:AR:12:ASP:O | 17:AR:13:ILE:CG1 | 2.22 | 0.58 |
| 20:AU:84:GLY:O | 20:AU:85:GLU:O | 2.21 | 0.58 |
| 20:AU:101:LEU:HD22 | 20:AU:103:LEU:HD21 | 1.85 | 0.58 |
| 21:AV:19:ILE:HD13 | 21:AV:36:ARG:CG | 2.33 | 0.58 |
| 28:A4:61:LYS:O | 28:A4:65:ASP:CG | 2.41 | 0.58 |
| 32:A8:17:THR:OG1 | 32:A8:19:THR:OG1 | 2.14 | 0.58 |
| 32:A8:21:LYS:HA | 32:A8:57:ARG:NH2 | 2.17 | 0.58 |
| 34:BA:5:U:O4 | 39:BG:86:LYS:HE3 | 2.03 | 0.58 |
| 34:BA:79:G:N1 | 34:BA:91:C:C2 | 2.71 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:141:A:C1' | 34:BA:182:U:H1' | 2.32 | 0.58 |
| 34:BA:160:A:N7 | 34:BA:161:A:N7 | 2.52 | 0.58 |
| 34:BA:187:C:H2' | 34:BA:188:C:O4' | 2.03 | 0.58 |
| 34:BA:203:U:C5' | 34:BA:204:U:OP1 | 2.52 | 0.58 |
| 34:BA:277:C:P | 52:BT:68:ARG:HH12 | 2.26 | 0.58 |
| 34:BA:280:C:C4' | 34:BA:281:G:OP2 | 2.50 | 0.58 |
| 34:BA:300:A:O5' | 34:BA:300:A:H8 | 1.87 | 0.58 |
| 34:BA:451:A:C2 | 34:BA:480:U:C5 | 2.92 | 0.58 |
| 34:BA:530:G:C8 | 35:BB:35:A:H1' | 2.27 | 0.58 |
| 34:BA:538:G:H2' | 34:BA:539:A:O5' | 2.04 | 0.58 |
| 34:BA:716:A:C2' | 34:BA:717:C:H5' | 2.33 | 0.58 |
| 34:BA:766:A:C2' | 34:BA:767:A:O5' | 2.51 | 0.58 |
| 34:BA:781:A:N6 | 34:BA:802:A:N3 | 2.52 | 0.58 |
| 34:BA:820:U:O2 | 34:BA:820:U:H2' | 2.02 | 0.58 |
| 34:BA:976:G:N7 | 34:BA:361(A):C:N4 | 2.51 | 0.58 |
| 34:BA:1118:C:O4' | 34:BA:1179:A:H1' | 2.03 | 0.58 |
| 34:BA:1238:A:N6 | 34:BA:1301:U:H3 | 2.02 | 0.58 |
| 34:BA:1255:G:H21 | 34:BA:1276:G:N2 | 2.02 | 0.58 |
| 34:BA:1305:G:H8 | 34:BA:1305:G:OP2 | 1.87 | 0.58 |
| 34:BA:1331:G:H2' | 34:BA:1332:A:OP2 | 2.04 | 0.58 |
| 34:BA:1350:A:OP2 | 44:BL:118:LYS:HD2 | 2.04 | 0.58 |
| 34:BA:1515:C:H2' | 34:BA:1516:G:C8 | 2.38 | 0.58 |
| 35:BB:21:A:C6 | 35:BB:46:G:C2 | 2.92 | 0.58 |
| 37:BE:71:VAL:O | 37:BE:164:VAL:HG23 | 2.04 | 0.58 |
| 38:BF:8:ILE:HG21 | 49:BQ:50:LYS:O | 2.04 | 0.58 |
| 38:BF:59:ARG:O | 38:BF:60:ALA:HB2 | 2.03 | 0.58 |
| 39:BG:12:CYS:HB2 | 39:BG:32:ALA:HB3 | 1.85 | 0.58 |
| 40:BH:75:THR:HA | 40:BH:115:VAL:CG1 | 2.34 | 0.58 |
| 41:BI:3:ARG:HG3 | 41:BI:65:VAL:O | 2.03 | 0.58 |
| 41:BI:82:ARG:O | 41:BI:83:ASP:C | 2.41 | 0.58 |
| 43:BK:33:GLU:CA | 43:BK:36:LEU:HD21 | 2.29 | 0.58 |
| 44:BL:50:LEU:CD2 | 44:BL:58:ARG:HH11 | 2.17 | 0.58 |
| 47:BO:84:LEU:HG | 47:BO:85:ILE:N | 2.18 | 0.58 |
| 48:BP:10:PRO:CB | 48:BP:18:ALA:HB1 | 2.33 | 0.58 |
| 48:BP:14:ARG:HE | 48:BP:42:ALA:HA | 1.68 | 0.58 |
| 49:BQ:29:ARG:HH11 | 49:BQ:29:ARG:HG2 | 1.68 | 0.58 |
| 52:BT:59:ILE:CD1 | 52:BT:72:ARG:C | 2.72 | 0.58 |
| 1:AB:31:C:H2' | 1:AB:32:C:H6 | 1.67 | 0.58 |
| 2:AA:37:C:C5' | 2:AA:451:C:O4' | 2.51 | 0.58 |
| 2:AA:137(A):G:N1 | 2:AA:139:G:C2 | 2.72 | 0.58 |
| 2:AA:292:C:C3' | 2:AA:293:U:H3 | 2.16 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:311:A:C2 | 2:AA:331:A:OP2 | 2.57 | 0.58 |
| 2:AA:541:C:OP2 | 2:AA:541:C:H6 | 1.85 | 0.58 |
| 2:AA:600:G:O2' | 6:AF:109:LEU:HD11 | 2.03 | 0.58 |
| 2:AA:643:A:H2' | 2:AA:644:A:C8 | 2.38 | 0.58 |
| 2:AA:820:A:C2 | 2:AA:944:G:OP1 | 2.57 | 0.58 |
| 2:AA:953:A:C6 | 2:AA:965:C:N3 | 2.71 | 0.58 |
| 2:AA:1014:U:O2' | 2:AA:1015:G:C5' | 2.47 | 0.58 |
| 2:AA:1024:G:C2 | 2:AA:1139:G:N2 | 2.71 | 0.58 |
| 2:AA:1084:A:N3 | 9:AI:29:PHE:CE1 | 2.71 | 0.58 |
| 2:AA:1178:C:H2' | 2:AA:1179:C:C6 | 2.39 | 0.58 |
| 2:AA:1224:G:O2' | 26:A2:86:HIS:HA | 2.03 | 0.58 |
| 2:AA:1234:U:O4 | 2:AA:1235:G:N1 | 2.37 | 0.58 |
| 2:AA:1312:U:H1' | 2:AA:1313:U:H5 | 1.67 | 0.58 |
| 2:AA:1327:C:H2' | 2:AA:1328:G:C8 | 2.38 | 0.58 |
| 2:AA:1508:A:C8 | 2:AA:1508:A:C3' | 2.77 | 0.58 |
| 2:AA:1522:G:N2 | 2:AA:1523:U:C2 | 2.71 | 0.58 |
| 2:AA:1591:G:C4 | 2:AA:1592:C:C5 | 2.92 | 0.58 |
| 2:AA:1695:G:N2 | 2:AA:1696:G:N9 | 2.50 | 0.58 |
| 2:AA:1718:G:C2 | 2:AA:1741:C:N4 | 2.68 | 0.58 |
| 2:AA:1755:A:P | 17:AR:44:ARG:HH12 | 2.27 | 0.58 |
| 2:AA:1892:C:N4 | 2:AA:1893:C:N4 | 2.51 | 0.58 |
| 2:AA:1913:A:N1 | 2:AA:1916:A:H2' | 2.18 | 0.58 |
| 2:AA:1993:U:C2' | 2:AA:1993:U:O2 | 2.51 | 0.58 |
| 2:AA:2097:C:H2' | 2:AA:2098:U:C5' | 2.33 | 0.58 |
| 2:AA:2106:G:N2 | 2:AA:2182:G:N2 | 2.51 | 0.58 |
| 2:AA:2126:A:C2 | 2:AA:2127:G:N3 | 2.72 | 0.58 |
| 2:AA:2145:C:O3' | 2:AA:2146:C:O4' | 2.22 | 0.58 |
| 2:AA:2208:U:H2' | 2:AA:2209:C:H6 | 1.67 | 0.58 |
| 2:AA:2352:A:C2 | 2:AA:2353:G:H1' | 2.38 | 0.58 |
| 2:AA:2412:A:H2' | 2:AA:2413:G:O4' | 2.04 | 0.58 |
| 2:AA:2444:G:H2' | 2:AA:2445:G:H8 | 1.63 | 0.58 |
| 2:AA:2460:U:C5 | 2:AA:2461:C:N4 | 2.71 | 0.58 |
| 2:AA:2505:G:C5 | 2:AA:2576:G:N3 | 2.71 | 0.58 |
| 2:AA:2723:C:C4 | 2:AA:2724:C:C5 | 2.92 | 0.58 |
| 2:AA:2783:G:H2' | 2:AA:2784:C:C6 | 2.38 | 0.58 |
| 3:AC:199:HIS:O | 3:AC:200:LYS:O | 2.22 | 0.58 |
| 4:AD:123:ILE:H | 4:AD:123:ILE:HD12 | 1.67 | 0.58 |
| 5:AE:198:TYR:CZ | 5:AE:267:ARG:HB3 | 2.39 | 0.58 |
| 5:AE:268:LEU:HA | 5:AE:296:VAL:HG13 | 1.86 | 0.58 |
| 8:AH:30:GLY:O | 8:AH:78:VAL:CG1 | 2.43 | 0.58 |
| 8:AH:43:THR:HG1 | 8:AH:50:THR:H | 1.51 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:58:LYS:N | 8:AH:61:ARG:CZ | 2.67 | 0.58 |
| 8:AH:140:VAL:O | 8:AH:143:LEU:HD23 | 2.03 | 0.58 |
| 8:AH:143:LEU:O | 8:AH:146:ASN:HB3 | 2.02 | 0.58 |
| 9:AI:106:VAL:HG11 | 9:AI:114:ILE:CD1 | 2.32 | 0.58 |
| 9:AI:118:LEU:HB2 | 9:AI:125:VAL:HG21 | 1.85 | 0.58 |
| 9:AJ:66:PHE:CZ | 9:AJ:92:VAL:HG13 | 2.39 | 0.58 |
| 9:AJ:106:VAL:HG12 | 9:AJ:110:GLU:HB2 | 1.86 | 0.58 |
| 9:AJ:106:VAL:HG21 | 9:AJ:114:ILE:CD1 | 2.34 | 0.58 |
| 10:AK:141:LEU:C | 10:AK:141:LEU:CD1 | 2.70 | 0.58 |
| 11:AL:96:ILE:HG23 | 11:AL:138:GLU:CD | 2.24 | 0.58 |
| 12:AM:15:ARG:HA | 12:AM:43:ARG:C | 2.23 | 0.58 |
| 13:AN:43:VAL:CG2 | 13:AN:56:GLN:H | 2.15 | 0.58 |
| 13:AN:86:ILE:HG22 | 13:AN:94:ARG:CG | 2.22 | 0.58 |
| 13:AN:120:GLU:CG | 13:AN:121:VAL:N | 2.65 | 0.58 |
| 15:AP:49:VAL:CG2 | 15:AP:119:ASN:O | 2.47 | 0.58 |
| 15:AP:68:ALA:O | 15:AP:69:ASN:C | 2.42 | 0.58 |
| 15:AP:72:VAL:HG21 | 15:AP:83:PHE:HZ | 1.67 | 0.58 |
| 16:AQ:46:GLN:O | 16:AQ:47:LEU:HD23 | 2.03 | 0.58 |
| 17:AR:38:ASN:O | 17:AR:39:ASN:C | 2.39 | 0.58 |
| 18:AS:27:LYS:O | 18:AS:70:TYR:HB2 | 2.04 | 0.58 |
| 18:AS:49:LYS:HD3 | 18:AS:49:LYS:C | 2.23 | 0.58 |
| 20:AU:89:ARG:HB2 | 20:AU:91:LEU:HD21 | 1.84 | 0.58 |
| 20:AU:103:LEU:HD13 | 20:AU:113:GLU:O | 2.02 | 0.58 |
| 21:AV:5:ALA:O | 21:AV:6:LYS:HB3 | 2.03 | 0.58 |
| 21:AV:114:ASP:N | 21:AV:114:ASP:OD1 | 2.37 | 0.58 |
| 24:A0:26:LYS:CE | 24:A0:70:LEU:O | 2.51 | 0.58 |
| 24:A0:80:PHE:O | 24:A0:84:ALA:HB3 | 2.04 | 0.58 |
| 24:A0:87:TYR:HE2 | 24:A0:118:GLU:OE1 | 1.87 | 0.58 |
| 25:A1:8:ILE:HD13 | 25:A1:9:VAL:HG23 | 1.84 | 0.58 |
| 25:A1:79:PHE:O | 25:A1:83:LEU:HD12 | 2.04 | 0.58 |
| 26:A2:66:GLY:HA2 | 26:A2:93:ILE:HD12 | 1.83 | 0.58 |
| 27:A3:25:LYS:HE2 | 27:A3:57:HIS:O | 2.04 | 0.58 |
| 27:A3:39:ARG:O | 27:A3:39:ARG:HG3 | 2.04 | 0.58 |
| 29:A5:6:VAL:O | 29:A5:7:PRO:O | 2.22 | 0.58 |
| 29:A5:50:GLY:HA2 | 29:A5:57:VAL:CG2 | 2.33 | 0.58 |
| 34:BA:103:C:H1' | 34:BA:151:A:H2 | 1.69 | 0.58 |
| 34:BA:130:A:C4 | 34:BA:264:U:O4' | 2.57 | 0.58 |
| 34:BA:193:C:O4' | 55:BW:60:GLU:CG | 2.49 | 0.58 |
| 34:BA:240:C:N3 | 34:BA:241:C:C5 | 2.71 | 0.58 |
| 34:BA:259:G:C2 | 34:BA:260:G:C4 | 2.92 | 0.58 |
| 34:BA:374:A:O4' | 34:BA:481:G:N2 | 2.37 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:514:C:O2' | 34:BA:515:G:H5' | 2.04 | 0.58 |
| 34:BA:616:G:H1 | 34:BA:624:C:H42 | 1.50 | 0.58 |
| 34:BA:698:G:OP2 | 34:BA:698:G:H3' | 2.03 | 0.58 |
| 34:BA:718:G:C6 | 46:BN:116:HIS:NE2 | 2.72 | 0.58 |
| 34:BA:1132:C:N4 | 34:BA:1142:G:H1 | 1.98 | 0.58 |
| 34:BA:1163:C:H2' | 34:BA:1164:G:H5' | 1.86 | 0.58 |
| 34:BA:1186:G:N2 | 49:BQ:61:TRP:O | 2.37 | 0.58 |
| 34:BA:1192:C:C4 | 34:BA:1193:G:C5 | 2.91 | 0.58 |
| 34:BA:1224:G:H2' | 34:BA:1225:A:OP1 | 2.03 | 0.58 |
| 34:BA:1292:U:N3 | 34:BA:1293:G:C5 | 2.72 | 0.58 |
| 34:BA:1360:A:N7 | 49:BQ:18:VAL:CG1 | 2.67 | 0.58 |
| 34:BA:1371:G:H2' | 34:BA:1372:U:O5' | 2.03 | 0.58 |
| 34:BA:1419:G:O2' | 34:BA:1420:C:H6 | 1.86 | 0.58 |
| 35:BC:47:U:C5 | 35:BC:49:C:C5' | 2.85 | 0.58 |
| 35:BC:47:U:C4 | 35:BC:49:C:H4' | 2.39 | 0.58 |
| 37:BE:88:ALA:CA | 37:BE:222:ILE:HD13 | 2.32 | 0.58 |
| 38:BF:10:PHE:CZ | 38:BF:178:LEU:CA | 2.86 | 0.58 |
| 38:BF:13:GLY:C | 38:BF:14:ILE:HG12 | 2.24 | 0.58 |
| 39:BG:3:ARG:HG3 | 39:BG:3:ARG:HH11 | 1.69 | 0.58 |
| 42:BJ:10:ARG:CG | 42:BJ:10:ARG:HH11 | 2.16 | 0.58 |
| 43:BK:89:PRO:HB3 | 43:BK:92:ARG:NH2 | 2.19 | 0.58 |
| 43:BK:134:ILE:CG2 | 43:BK:135:CYS:N | 2.57 | 0.58 |
| 45:BM:46:ARG:HD3 | 45:BM:64:GLU:HB3 | 1.86 | 0.58 |
| 47:BO:102:ARG:HE | 47:BO:109:GLY:HA2 | 1.68 | 0.58 |
| 48:BP:73:GLU:O | 48:BP:74:VAL:C | 2.42 | 0.58 |
| 48:BP:108:ARG:HA | 48:BP:111:LYS:HB2 | 1.86 | 0.58 |
| 50:BR:51:HIS:O | 50:BR:54:ARG:HB3 | 2.03 | 0.58 |
| 51:BS:20:VAL:HG21 | 51:BS:32:TYR:CE2 | 2.39 | 0.58 |
| 51:BS:75:ARG:CG | 51:BS:80:PHE:HB2 | 2.34 | 0.58 |
| 52:BT:15:MET:CB | 52:BT:18:THR:HB | 2.27 | 0.58 |
| 53:BU:40:LEU:HD23 | 53:BU:40:LEU:N | 2.18 | 0.58 |
| 54:BV:63:THR:O | 54:BV:64:GLU:C | 2.41 | 0.58 |
| 1:AB:73:A:N6 | 1:AB:104:A:C4 | 2.72 | 0.58 |
| 2:AA:38:A:HO2' | 2:AA:39:C:H6 | 1.52 | 0.58 |
| 2:AA:115:C:O2' | 2:AA:116:C:H5' | 2.04 | 0.58 |
| 2:AA:126:A:H4' | 31:A7:19:ARG:NH2 | 2.17 | 0.58 |
| 2:AA:270:A:N6 | 2:AA:424:G:N7 | 2.50 | 0.58 |
| 2:AA:284:U:H2' | 2:AA:285:C:C6 | 2.39 | 0.58 |
| 2:AA:299:A:N1 | 2:AA:322:A:C5 | 2.72 | 0.58 |
| 2:AA:358:U:C3' | 2:AA:359:A:H5' | 2.33 | 0.58 |
| 2:AA:388:G:C2' | 2:AA:390:A:N6 | 2.64 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:443:A:H1' | 2:AA:1201:C:C4' | 2.33 | 0.58 |
| 2:AA:483:A:H3' | 2:AA:484:C:H6 | 1.68 | 0.58 |
| 2:AA:515:A:C3' | 2:AA:516:C:H6 | 2.15 | 0.58 |
| 2:AA:702:G:C6 | 2:AA:731:C:C4 | 2.92 | 0.58 |
| 2:AA:778:G:N2 | 2:AA:787:U:H1' | 2.18 | 0.58 |
| 2:AA:818:G:C2 | 2:AA:1190:G:N1 | 2.71 | 0.58 |
| 2:AA:823:G:O6 | 2:AA:835:A:C6 | 2.56 | 0.58 |
| 2:AA:869:G:O2' | 15:AP:23:ILE:HG12 | 2.04 | 0.58 |
| 2:AA:1044:G:O2' | 2:AA:1047:G:H1' | 2.04 | 0.58 |
| 2:AA:1050:A:N3 | 2:AA:2752:C:C6 | 2.71 | 0.58 |
| 2:AA:1062:G:H22 | 11:AL:92:PRO:HG3 | 1.64 | 0.58 |
| 2:AA:1068:G:C2 | 2:AA:1069:A:N6 | 2.71 | 0.58 |
| 2:AA:1073:A:N7 | 2:AA:1074:G:C6 | 2.72 | 0.58 |
| 2:AA:1084:A:N7 | 9:AI:37:VAL:CG1 | 2.67 | 0.58 |
| 2:AA:1250:G:O2' | 2:AA:1251:C:OP1 | 2.13 | 0.58 |
| 2:AA:1303:G:H2' | 2:AA:1304:C:C6 | 2.39 | 0.58 |
| 2:AA:1426:G:H5" | 2:AA:1427:A:C5' | 2.34 | 0.58 |
| 2:AA:1529:A:N7 | 2:AA:1542:G:N1 | 2.52 | 0.58 |
| 2:AA:1657:C:O3' | 5:AE:230:GLY:O | 2.21 | 0.58 |
| 2:AA:1668:A:C2 | 2:AA:1670:C:N4 | 2.71 | 0.58 |
| 2:AA:1775:U:C2' | 2:AA:1776:G:C5' | 2.81 | 0.58 |
| 2:AA:1790:C:C5' | 2:AA:1828:G:N1 | 2.61 | 0.58 |
| 2:AA:1949:G:O2' | 2:AA:1950:G:C5' | 2.50 | 0.58 |
| 2:AA:2009:G:C5' | 18:AS:40:ASN:ND2 | 2.67 | 0.58 |
| 2:AA:2013:A:H2' | 2:AA:2014:A:C5' | 2.34 | 0.58 |
| 2:AA:2025:C:H2' | 2:AA:2025:C:O2 | 2.03 | 0.58 |
| 2:AA:2135:A:O2' | 2:AA:2154:G:C6 | 2.56 | 0.58 |
| 2:AA:2265:U:H3 | 2:AA:2266:A:H62 | 1.52 | 0.58 |
| 2:AA:2408:U:C2' | 2:AA:2409:G:O5' | 2.52 | 0.58 |
| 2:AA:2450:A:H5" | 2:AA:2497:A:N6 | 2.19 | 0.58 |
| 2:AA:2720:U:O2 | 2:AA:2720:U:H2' | 2.02 | 0.58 |
| 2:AA:2776:A:N6 | 2:AA:2782:G:H1' | 2.18 | 0.58 |
| 2:AA:2878:U:O2' | 2:AA:2879:C:O5' | 2.15 | 0.58 |
| 3:AC:185:LEU:O | 3:AC:189:ILE:HG13 | 2.04 | 0.58 |
| 4:AD:130:PRO:HB3 | 4:AD:186:LYS:C | 2.24 | 0.58 |
| 4:AD:131:LEU:HD12 | 4:AD:171:VAL:HG21 | 1.85 | 0.58 |
| 4:AD:158:GLY:O | 4:AD:159:THR:C | 2.43 | 0.58 |
| 5:AE:41:PHE:HE1 | 5:AE:173:ARG:HH11 | 1.51 | 0.58 |
| 5:AE:247:ARG:HB3 | 5:AE:249:THR:CG2 | 2.32 | 0.58 |
| 5:AE:247:ARG:CB | 5:AE:249:THR:OG1 | 2.51 | 0.58 |
| 6:AF:22:PHE:CZ | 6:AF:115:LEU:CB | 2.80 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:56:THR:HB | 6:AF:57:PRO:HD2 | 1.85 | 0.58 |
| 6:AF:150:THR:HA | 6:AF:153:VAL:HG23 | 1.85 | 0.58 |
| 6:AF:193:LEU:CB | 6:AF:233:THR:HB | 2.34 | 0.58 |
| 8:AH:147:ILE:O | 8:AH:161:ILE:HD12 | 2.04 | 0.58 |
| 9:AI:13:LEU:HB3 | 9:AI:17:GLU:HB2 | 1.85 | 0.58 |
| 11:AL:56:VAL:HG13 | 11:AL:69:ILE:O | 2.04 | 0.58 |
| 12:AM:44:ALA:CB | 12:AM:132:LEU:HD23 | 2.31 | 0.58 |
| 13:AN:98:ILE:CD1 | 13:AN:114:ILE:HG23 | 2.28 | 0.58 |
| 14:AO:64:ILE:HD12 | 14:AO:106:VAL:CG1 | 2.27 | 0.58 |
| 14:AO:65:ASP:CB | 14:AO:109:LEU:HB3 | 2.34 | 0.58 |
| 14:AO:81:VAL:HG13 | 14:AO:116:HIS:CD2 | 2.39 | 0.58 |
| 14:AO:132:LYS:N | 14:AO:132:LYS:HD2 | 2.19 | 0.58 |
| 15:AP:46:VAL:HG13 | 15:AP:156:ASN:ND2 | 2.18 | 0.58 |
| 16:AQ:34:LEU:CD2 | 16:AQ:129:ILE:HD11 | 2.31 | 0.58 |
| 16:AQ:104:ILE:O | 16:AQ:105:GLY:C | 2.42 | 0.58 |
| 19:AT:22:ASN:C | 19:AT:68:LEU:HG | 2.23 | 0.58 |
| 20:AU:50:VAL:HG12 | 20:AU:52:ARG:H | 1.69 | 0.58 |
| 21:AV:94:VAL:HG11 | 21:AV:130:ILE:CG2 | 2.27 | 0.58 |
| 22:AW:7:GLU:CG | 22:AW:8:ILE:N | 2.66 | 0.58 |
| 25:A1:74:MET:CG | 25:A1:117:ARG:NH2 | 2.44 | 0.58 |
| 26:A2:5:ILE:N | 26:A2:5:ILE:CD1 | 2.67 | 0.58 |
| 27:A3:9:SER:O | 27:A3:10:SER:C | 2.42 | 0.58 |
| 28:A4:23:GLU:O | 28:A4:25:MET:N | 2.36 | 0.58 |
| 34:BA:122:G:OP1 | 34:BA:122:G:H8 | 1.87 | 0.58 |
| 34:BA:166:G:H2' | 34:BA:167:G:O5' | 2.03 | 0.58 |
| 34:BA:185:A:C2 | 34:BA:193:C:N3 | 2.72 | 0.58 |
| 34:BA:260:G:C2 | 34:BA:261:U:O2 | 2.56 | 0.58 |
| 34:BA:267:C:H2' | 34:BA:268:C:C6 | 2.39 | 0.58 |
| 34:BA:292:G:OP2 | 34:BA:305:G:N2 | 2.35 | 0.58 |
| 34:BA:327:A:C4' | 34:BA:328:C:OP1 | 2.47 | 0.58 |
| 34:BA:376:G:H1 | 34:BA:387:U:H3 | 1.50 | 0.58 |
| 34:BA:417:C:N4 | 34:BA:426:G:N1 | 2.26 | 0.58 |
| 34:BA:609:A:C5 | 34:BA:610:G:C8 | 2.92 | 0.58 |
| 34:BA:736:C:H2' | 34:BA:737:A:H8 | 1.68 | 0.58 |
| 34:BA:764:C:H2' | 34:BA:765:G:C1' | 2.33 | 0.58 |
| 34:BA:902:G:C2' | 34:BA:903:G:H5' | 2.34 | 0.58 |
| 34:BA:924:C:O2' | 34:BA:1399:C:H6 | 1.87 | 0.58 |
| 34:BA:965:A:C2 | 34:BA:969:A:C2 | 2.92 | 0.58 |
| 34:BA:983:A:N3 | 34:BA:983:A:C3' | 2.66 | 0.58 |
| 34:BA:1201:A:O2' | 34:BA:1202:G:C5' | 2.52 | 0.58 |
| 34:BA:1292:U:C6 | 34:BA:1292:U:OP2 | 2.55 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1306:A:N6 | 34:BA:1331:G:H1' | 2.19 | 0.58 |
| 34:BA:1317:C:OP1 | 49:BQ:16:PHE:HB3 | 2.04 | 0.58 |
| 34:BA:1476:G:N1 | 34:BA:1477:C:N4 | 2.52 | 0.58 |
| 35:BC:57:G:C8 | 35:BC:57:G:H3' | 2.38 | 0.58 |
| 37:BE:102:LEU:N | 37:BE:102:LEU:CD1 | 2.67 | 0.58 |
| 37:BE:113:HIS:HA | 37:BE:116:GLU:CD | 2.25 | 0.58 |
| 38:BF:83:ARG:HE | 38:BF:87:LEU:HD21 | 1.65 | 0.58 |
| 38:BF:167:TRP:O | 38:BF:167:TRP:CE3 | 2.57 | 0.58 |
| 39:BG:32:ALA:O | 39:BG:33:MET:C | 2.41 | 0.58 |
| 39:BG:36:ARG:HG2 | 39:BG:38:TYR:OH | 2.04 | 0.58 |
| 39:BG:128:VAL:HG12 | 39:BG:129:ASN:N | 2.18 | 0.58 |
| 41:BI:45:LEU:HD21 | 41:BI:59:TYR:HD1 | 1.69 | 0.58 |
| 45:BM:24:VAL:HG13 | 45:BM:34:VAL:CG1 | 2.33 | 0.58 |
| 45:BM:39:PRO:HA | 45:BM:69:ASN:O | 2.04 | 0.58 |
| 46:BN:28:THR:CG2 | 46:BN:29:ILE:N | 2.67 | 0.58 |
| 48:BP:78:ILE:O | 48:BP:82:MET:HB2 | 2.03 | 0.58 |
| 49:BQ:6:LEU:O | 49:BQ:8:GLU:N | 2.36 | 0.58 |
| 51:BS:4:ILE:HG13 | 51:BS:66:PRO:HB3 | 1.85 | 0.58 |
| 53:BU:38:GLU:OE2 | 53:BU:39:VAL:N | 2.36 | 0.58 |
| 1:AB:52:A:H2' | 1:AB:53:A:C8 | 2.38 | 0.58 |
| 2:AA:452:G:H21 | 2:AA:457:A:H2 | 1.51 | 0.58 |
| 2:AA:458:G:O2' | 2:AA:469:G:C2 | 2.50 | 0.58 |
| 2:AA:465:G:C5 | 2:AA:466:A:N6 | 2.72 | 0.58 |
| 2:AA:529:A:H5" | 2:AA:529:A:H8 | 1.69 | 0.58 |
| 2:AA:530:G:H22 | 2:AA:2021:C:C5' | 2.08 | 0.58 |
| 2:AA:531:C:H42 | 25:A1:38:THR:CB | 2.17 | 0.58 |
| 2:AA:611:C:N3 | 2:AA:617:G:O6 | 2.36 | 0.58 |
| 2:AA:776:G:H1' | 2:AA:793:A:N1 | 2.19 | 0.58 |
| 2:AA:868:U:H3 | 2:AA:909:A:H61 | 1.52 | 0.58 |
| 2:AA:943:U:H3' | 2:AA:943:U:C6 | 2.39 | 0.58 |
| 2:AA:1024:G:O6 | 2:AA:1138:G:O6 | 2.21 | 0.58 |
| 2:AA:1057:A:C2 | 2:AA:1058:G:C8 | 2.92 | 0.58 |
| 2:AA:1063:G:N2 | 2:AA:1076:C:N1 | 2.52 | 0.58 |
| 2:AA:1066:U:C2' | 2:AA:1067:A:H5" | 2.34 | 0.58 |
| 2:AA:1110:G:O3' | 2:AA:1111:A:C8 | 2.57 | 0.58 |
| 2:AA:1140:C:C4 | 12:AM:49:ARG:NE | 2.72 | 0.58 |
| 2:AA:1423:G:N2 | 2:AA:1424:G:C4 | 2.72 | 0.58 |
| 2:AA:1472:A:C6 | 2:AA:1518:C:N4 | 2.72 | 0.58 |
| 2:AA:1568:G:H3' | 4:AD:60:GLN:HG2 | 1.86 | 0.58 |
| 2:AA:1613:G:C2' | 2:AA:1614:A:OP1 | 2.52 | 0.58 |
| 2:AA:1617:C:H2' | 2:AA:1617:C:O2 | 2.02 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1620:G:H2' | 2:AA:1621:U:H6 | 1.69 | 0.58 |
| 2:AA:1653:G:H8 | 2:AA:1653:G:C5' | 2.16 | 0.58 |
| 2:AA:1691:C:C2' | 2:AA:1691:C:O2 | 2.45 | 0.58 |
| 2:AA:1703:G:N1 | 2:AA:1704:G:C4 | 2.72 | 0.58 |
| 2:AA:1717:G:N2 | 2:AA:1718:G:N3 | 2.52 | 0.58 |
| 2:AA:1769:G:N1 | 2:AA:1984:G:C5 | 2.72 | 0.58 |
| 2:AA:1817:G:H8 | 2:AA:1817:G:H5' | 1.69 | 0.58 |
| 2:AA:1941:C:O2 | 2:AA:1941:C:C2' | 2.49 | 0.58 |
| 2:AA:2019:A:O2' | 2:AA:2020:A:P | 2.62 | 0.58 |
| 2:AA:2040:C:H4' | 12:AM:69:TYR:CE2 | 2.39 | 0.58 |
| 2:AA:2147:G:C2 | 2:AA:2148:G:O6 | 2.56 | 0.58 |
| 2:AA:2430:A:C2' | 2:AA:2431:U:H5' | 2.34 | 0.58 |
| 2:AA:2486:G:C2' | 2:AA:2487:G:O5' | 2.52 | 0.58 |
| 2:AA:2497:A:O2' | 2:AA:2498:C:O5' | 2.22 | 0.58 |
| 2:AA:2526:G:C2' | 2:AA:2527:C:O5' | 2.52 | 0.58 |
| 2:AA:2581:G:C2 | 2:AA:2610:C:C6 | 2.91 | 0.58 |
| 2:AA:2620:C:O2' | 2:AA:2621:A:O5' | 2.21 | 0.58 |
| 2:AA:2850:A:H8 | 2:AA:2850:A:O5' | 1.87 | 0.58 |
| 2:AA:2870:C:H5" | 24:A0:64:ARG:HH22 | 1.68 | 0.58 |
| 2:AA:2887:U:H2' | 2:AA:2888:C:H6 | 1.68 | 0.58 |
| 2:AA:2897:U:H2' | 2:AA:2898:U:C6 | 2.36 | 0.58 |
| 3:AC:115:ALA:O | 3:AC:117:PRO:HD3 | 2.04 | 0.58 |
| 4:AD:194:VAL:HG23 | 4:AD:195:GLY:H | 1.69 | 0.58 |
| 4:AD:232:VAL:HG23 | 4:AD:233:ASP:H | 1.66 | 0.58 |
| 5:AE:38:VAL:HG22 | 5:AE:81:VAL:HG22 | 1.85 | 0.58 |
| 5:AE:101:THR:O | 5:AE:102:ASP:O | 2.22 | 0.58 |
| 5:AE:107:GLU:O | 5:AE:109:ASP:N | 2.34 | 0.58 |
| 5:AE:216:ARG:C | 5:AE:217:TRP:HD1 | 2.05 | 0.58 |
| 7:AG:152:PRO:C | 7:AG:154:LYS:H | 2.07 | 0.58 |
| 9:AI:57:THR:O | 9:AI:58:GLU:HG3 | 2.03 | 0.58 |
| 9:AI:60:ASP:HB2 | 9:AI:128:LYS:CD | 2.33 | 0.58 |
| 9:AJ:64:LYS:HE2 | 9:AJ:125:VAL:O | 2.04 | 0.58 |
| 10:AK:30:LEU:O | 10:AK:33:GLN:HB2 | 2.04 | 0.58 |
| 10:AK:112:LYS:O | 10:AK:114:LYS:N | 2.37 | 0.58 |
| 11:AL:89:SER:OG | 11:AL:95:LYS:HD3 | 2.03 | 0.58 |
| 13:AN:64:ARG:CB | 13:AN:79:PHE:HD1 | 2.13 | 0.58 |
| 13:AN:88:ARG:NE | 13:AN:94:ARG:HD3 | 2.19 | 0.58 |
| 16:AQ:34:LEU:CD1 | 16:AQ:102:LEU:HA | 2.34 | 0.58 |
| 17:AR:13:ILE:CG1 | 17:AR:33:SER:CB | 2.78 | 0.58 |
| 20:AU:49:GLU:HB3 | 20:AU:97:ARG:NH1 | 2.19 | 0.58 |
| 21:AV:6:LYS:CD | 21:AV:30:VAL:HG11 | 2.33 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:10:PRO:CG | 21:AV:11:LYS:H | 2.05 | 0.58 |
| 21:AV:51:LEU:HD21 | 21:AV:64:ALA:CA | 2.32 | 0.58 |
| 21:AV:55:THR:HA | 21:AV:61:THR:HG22 | 1.84 | 0.58 |
| 22:AW:5:VAL:O | 22:AW:6:GLN:C | 2.41 | 0.58 |
| 23:AX:27:GLY:O | 23:AX:28:LEU:CD2 | 2.52 | 0.58 |
| 25:A1:55:ARG:HG2 | 25:A1:58:ARG:CZ | 2.34 | 0.58 |
| 26:A2:15:SER:HB2 | 26:A2:99:GLN:OE1 | 2.04 | 0.58 |
| 27:A3:46:LYS:CG | 27:A3:58:THR:HG23 | 2.34 | 0.58 |
| 28:A4:49:PHE:CZ | 28:A4:70:GLY:O | 2.57 | 0.58 |
| 29:A5:44:HIS:CA | 29:A5:52:TYR:OH | 2.51 | 0.58 |
| 34:BA:40:C:O2' | 34:BA:41:G:H5' | 2.04 | 0.58 |
| 34:BA:79:G:N2 | 34:BA:91:C:H1' | 2.14 | 0.58 |
| 34:BA:123:C:H1' | 34:BA:290:C:H1' | 1.85 | 0.58 |
| 34:BA:236:G:H3' | 34:BA:237:C:H6 | 1.69 | 0.58 |
| 34:BA:316:G:C2 | 34:BA:317:G:C8 | 2.92 | 0.58 |
| 34:BA:429:U:H1' | 34:BA:430:A:H5" | 1.86 | 0.58 |
| 34:BA:734:G:C5 | 34:BA:735:C:C4 | 2.90 | 0.58 |
| 34:BA:736:C:H5' | 41:BI:89:MET:CE | 2.34 | 0.58 |
| 34:BA:877:C:O3' | 43:BK:88:LYS:HB3 | 2.02 | 0.58 |
| 34:BA:978:A:N6 | 34:BA:1318:A:N6 | 2.51 | 0.58 |
| 34:BA:1223:C:O5' | 34:BA:1224:G:H5" | 2.04 | 0.58 |
| 34:BA:1261:A:H2' | 34:BA:1261:A:N3 | 2.19 | 0.58 |
| 34:BA:1373:G:C4' | 42:BJ:36:LYS:NZ | 2.63 | 0.58 |
| 35:BC:5:A:O2' | 35:BC:6:U:C5' | 2.51 | 0.58 |
| 35:BC:17:U:H3' | 35:BC:18:G:H3' | 1.86 | 0.58 |
| 37:BE:10:LEU:CD2 | 37:BE:11:LEU:HD23 | 2.33 | 0.58 |
| 37:BE:22:LYS:HD2 | 37:BE:40:HIS:CE1 | 2.38 | 0.58 |
| 37:BE:123:ALA:O | 37:BE:127:ILE:HG13 | 2.04 | 0.58 |
| 37:BE:239:VAL:O | 37:BE:240:GLN:CB | 2.52 | 0.58 |
| 38:BF:11:ARG:O | 38:BF:14:ILE:N | 2.35 | 0.58 |
| 38:BF:52:LEU:H | 38:BF:52:LEU:CD2 | 2.16 | 0.58 |
| 38:BF:117:ALA:O | 38:BF:118:GLN:C | 2.42 | 0.58 |
| 39:BG:191:ARG:NH2 | 39:BG:196:LEU:CB | 2.67 | 0.58 |
| 41:BI:6:VAL:O | 41:BI:62:TRP:HA | 2.04 | 0.58 |
| 41:BI:40:VAL:HG23 | 41:BI:63:TYR:CE1 | 2.35 | 0.58 |
| 41:BI:80:ARG:O | 41:BI:81:ILE:C | 2.42 | 0.58 |
| 42:BJ:28:ASN:HA | 42:BJ:31:MET:HE2 | 1.85 | 0.58 |
| 42:BJ:76:ARG:HB3 | 42:BJ:156:TRP:CZ2 | 2.38 | 0.58 |
| 43:BK:7:ALA:HA | 43:BK:10:LEU:HD12 | 1.85 | 0.58 |
| 43:BK:9:MET:C | 43:BK:13:ILE:HD12 | 2.25 | 0.58 |
| 45:BM:52:GLY:O | 45:BM:56:HIS:HD2 | 1.87 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:26:ALA:C | 47:BO:27:LEU:O | 2.39 | 0.58 |
| 47:BO:43:VAL:HG12 | 47:BO:44:THR:N | 2.18 | 0.58 |
| 48:BP:27:LYS:O | 48:BP:28:ALA:CB | 2.51 | 0.58 |
| 50:BR:9:GLN:O | 50:BR:11:VAL:N | 2.36 | 0.58 |
| 51:BS:75:ARG:HA | 51:BS:80:PHE:HD1 | 1.69 | 0.58 |
| 52:BT:6:LEU:O | 52:BT:58:GLU:HA | 2.03 | 0.58 |
| 53:BU:66:LEU:O | 53:BU:70:ILE:HG13 | 2.04 | 0.58 |
| 1:AB:18:G:H2' | 1:AB:19:G:H8 | 1.68 | 0.57 |
| 1:AB:30:C:H2' | 1:AB:31:C:H5' | 1.86 | 0.57 |
| 1:AB:40:U:OP2 | 1:AB:40:U:C6 | 2.57 | 0.57 |
| 1:AB:43:C:H1' | 7:AG:47:GLN:CG | 2.34 | 0.57 |
| 1:AB:68:C:H2' | 1:AB:69:G:H1' | 1.85 | 0.57 |
| 2:AA:92:G:C2 | 2:AA:93:C:C5 | 2.92 | 0.57 |
| 2:AA:144:C:H2' | 2:AA:145:G:C8 | 2.29 | 0.57 |
| 2:AA:265:A:N1 | 2:AA:281:G:P | 2.77 | 0.57 |
| 2:AA:290:G:C8 | 2:AA:290:G:OP2 | 2.57 | 0.57 |
| 2:AA:441:U:H5 | 20:AU:3:GLN:HE22 | 1.50 | 0.57 |
| 2:AA:572:A:C6 | 2:AA:573:G:C2 | 2.92 | 0.57 |
| 2:AA:602:G:H4' | 2:AA:603:A:O3' | 2.04 | 0.57 |
| 2:AA:702:G:H2' | 2:AA:703:U:H6 | 1.70 | 0.57 |
| 2:AA:729:G:N2 | 2:AA:1775:U:C6 | 2.72 | 0.57 |
| 2:AA:749:C:O2 | 2:AA:1618:A:C8 | 2.57 | 0.57 |
| 2:AA:805:G:N7 | 2:AA:2067:G:O3' | 2.36 | 0.57 |
| 2:AA:1025:G:N3 | 2:AA:1025:G:C2' | 2.67 | 0.57 |
| 2:AA:1026:U:C6 | 2:AA:1026:U:C4' | 2.87 | 0.57 |
| 2:AA:1165:U:O2 | 2:AA:1166:C:C5 | 2.56 | 0.57 |
| 2:AA:1435:G:H1 | 2:AA:1557:C:H42 | 1.50 | 0.57 |
| 2:AA:444(A):A:H2 | 2:AA:1461:G:O5' | 1.86 | 0.57 |
| 2:AA:1567:A:C2 | 4:AD:84:PRO:CD | 2.85 | 0.57 |
| 2:AA:1655:A:OP2 | 2:AA:1655:A:C8 | 2.57 | 0.57 |
| 2:AA:1799:G:O2' | 2:AA:1800:C:O4' | 2.21 | 0.57 |
| 2:AA:1853:A:H2' | 2:AA:1854:A:O4' | 2.04 | 0.57 |
| 2:AA:1946:U:H2' | 2:AA:1947:C:H6 | 1.67 | 0.57 |
| 2:AA:1953:A:N6 | 2:AA:2550:G:C4' | 2.66 | 0.57 |
| 2:AA:2043:C:N4 | 2:AA:2777:G:C2 | 2.71 | 0.57 |
| 2:AA:2511:U:C4 | 2:AA:2512:C:C5 | 2.92 | 0.57 |
| 2:AA:2521:C:H2' | 2:AA:2522:U:O4' | 2.03 | 0.57 |
| 2:AA:2688:U:C4 | 2:AA:2719:G:H2' | 2.39 | 0.57 |
| 2:AA:2703:C:H5 | 2:AA:2704:C:C4 | 2.22 | 0.57 |
| 2:AA:2785:C:O4' | 5:AE:98:GLU:O | 2.21 | 0.57 |
| 2:AA:2819:G:H5" | 2:AA:2821:A:N6 | 2.18 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2880:C:O2' | 24:A0:90:ARG:CD | 2.52 | 0.57 |
| 3:AC:15:ASP:OD2 | 3:AC:20:TYR:HE2 | 1.86 | 0.57 |
| 4:AD:95:TYR:HB2 | 4:AD:99:GLU:HG3 | 1.85 | 0.57 |
| 5:AE:83:LEU:HD22 | 5:AE:178:LEU:HD23 | 1.86 | 0.57 |
| 7:AG:11:HIS:NE2 | 7:AG:15:GLU:OE2 | 2.37 | 0.57 |
| 8:AH:36:PHE:CE2 | 8:AH:70:LEU:HB3 | 2.39 | 0.57 |
| 8:AH:37:HIS:CE1 | 8:AH:67:THR:CG2 | 2.87 | 0.57 |
| 10:AK:112:LYS:HD3 | 10:AK:112:LYS:N | 2.19 | 0.57 |
| 10:AK:132:LYS:HA | 10:AK:138:THR:CB | 2.34 | 0.57 |
| 13:AN:88:ARG:O | 13:AN:89:ASP:C | 2.43 | 0.57 |
| 15:AP:49:VAL:CG2 | 15:AP:121:ASP:H | 2.16 | 0.57 |
| 20:AU:61:GLU:O | 20:AU:75:GLU:OE2 | 2.21 | 0.57 |
| 21:AV:151:ASP:O | 21:AV:153:LYS:N | 2.37 | 0.57 |
| 22:AW:59:ILE:CG2 | 22:AW:60:GLN:N | 2.67 | 0.57 |
| 24:A0:26:LYS:NZ | 24:A0:70:LEU:O | 2.37 | 0.57 |
| 24:A0:85:PRO:O | 24:A0:87:TYR:N | 2.37 | 0.57 |
| 25:A1:25:TRP:O | 25:A1:26:GLY:C | 2.41 | 0.57 |
| 27:A3:28:GLY:O | 27:A3:29:GLU:HG2 | 2.04 | 0.57 |
| 27:A3:43:THR:HG21 | 27:A3:75:GLY:N | 2.19 | 0.57 |
| 27:A3:46:LYS:NZ | 27:A3:61:ALA:HB2 | 2.19 | 0.57 |
| 27:A3:66:LYS:HD2 | 27:A3:66:LYS:H | 1.68 | 0.57 |
| 30:A6:16:ALA:HB3 | 30:A6:19:GLY:CA | 2.34 | 0.57 |
| 31:A7:25:LYS:HZ3 | 31:A7:28:ARG:NH2 | 2.02 | 0.57 |
| 32:A8:29:LYS:HB3 | 32:A8:34:THR:HG21 | 1.85 | 0.57 |
| 34:BA:101:A:O5' | 34:BA:101:A:H8 | 1.86 | 0.57 |
| 34:BA:391:G:P | 51:BS:28:ARG:NH2 | 2.77 | 0.57 |
| 34:BA:443:C:N4 | 34:BA:491:G:H1 | 2.02 | 0.57 |
| 34:BA:450:G:H1 | 34:BA:483:C:N4 | 2.00 | 0.57 |
| 34:BA:572:A:C2 | 34:BA:916:G:N2 | 2.72 | 0.57 |
| 34:BA:735:C:H5' | 53:BU:71:LYS:CD | 2.34 | 0.57 |
| 34:BA:761:G:C1' | 52:BT:103:GLY:O | 2.51 | 0.57 |
| 34:BA:771:G:C6 | 34:BA:809:G:C5 | 2.92 | 0.57 |
| 34:BA:1009:G:O2' | 34:BA:1010:G:H5' | 2.04 | 0.57 |
| 34:BA:1130:A:C8 | 34:BA:1131:G:N7 | 2.72 | 0.57 |
| 34:BA:1145:C:H1' | 34:BA:1146:A:C8 | 2.39 | 0.57 |
| 34:BA:1251:A:H1' | 34:BA:1369:C:O2' | 2.03 | 0.57 |
| 34:BA:1346:A:C8 | 34:BA:1348:U:C2 | 2.92 | 0.57 |
| 34:BA:1346:A:C5' | 44:BL:120:ARG:HH12 | 2.16 | 0.57 |
| 34:BA:1425:U:H2' | 34:BA:1426:C:H6 | 1.68 | 0.57 |
| 34:BA:1531:A:O2' | 34:BA:1532:U:N1 | 2.33 | 0.57 |
| 35:BC:21:A:N7 | 35:BC:46:G:C6 | 2.72 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BC:47:U:C4 | 35:BC:49:C:O3' | 2.57 | 0.57 |
| 36:B1:57:A:N3 | 36:B1:57:A:OP2 | 2.36 | 0.57 |
| 37:BE:76:GLN:O | 37:BE:77:ALA:CB | 2.52 | 0.57 |
| 38:BF:3:ASN:O | 38:BF:4:LYS:O | 2.22 | 0.57 |
| 38:BF:10:PHE:HZ | 38:BF:178:LEU:CA | 2.16 | 0.57 |
| 38:BF:34:LEU:HD23 | 38:BF:34:LEU:C | 2.24 | 0.57 |
| 39:BG:101:LEU:HB2 | 39:BG:138:TYR:O | 2.03 | 0.57 |
| 40:BH:76:ILE:HG12 | 40:BH:77:PRO:HD2 | 1.86 | 0.57 |
| 42:BJ:15:ASP:HB2 | 42:BJ:23:VAL:HB | 1.86 | 0.57 |
| 43:BK:100:ILE:CG2 | 43:BK:125:ARG:NH2 | 2.67 | 0.57 |
| 45:BM:54:PHE:CZ | 45:BM:55:LYS:CE | 2.86 | 0.57 |
| 47:BO:24:VAL:HG12 | 47:BO:24:VAL:O | 2.03 | 0.57 |
| 48:BP:51:ALA:HA | 48:BP:54:VAL:HG23 | 1.86 | 0.57 |
| 49:BQ:40:CYS:HB2 | 49:BQ:42:ILE:CB | 2.31 | 0.57 |
| 49:BQ:42:ILE:HG22 | 49:BQ:46:GLU:OE2 | 2.04 | 0.57 |
| 52:BT:19:VAL:O | 52:BT:43:LEU:HD23 | 2.03 | 0.57 |
| 1:AB:1:U:H6 | 1:AB:1:U:H5" | 1.69 | 0.57 |
| 1:AB:78:A:C2' | 1:AB:79:C:H5' | 2.34 | 0.57 |
| 1:AB:99:A:C2 | 1:AB:100:G:C4 | 2.91 | 0.57 |
| 2:AA:80:G:C2' | 2:AA:81:G:H5' | 2.34 | 0.57 |
| 2:AA:118:A:H5" | 2:AA:119:A:OP2 | 2.05 | 0.57 |
| 2:AA:319:C:C5 | 2:AA:320:A:N7 | 2.72 | 0.57 |
| 2:AA:363(C):G:C2' | 2:AA:363(D):G:H5' | 2.30 | 0.57 |
| 2:AA:494:G:C2 | 2:AA:495:G:C8 | 2.92 | 0.57 |
| 2:AA:566:U:OP2 | 26:A2:81:ARG:NE | 2.37 | 0.57 |
| 2:AA:601:C:C2' | 2:AA:602:G:H5' | 2.32 | 0.57 |
| 2:AA:740:U:C4 | 2:AA:758:C:O2 | 2.57 | 0.57 |
| 2:AA:971:C:O2' | 2:AA:972:G:C4' | 2.52 | 0.57 |
| 2:AA:1054:A:C2' | 2:AA:1055:G:C8 | 2.84 | 0.57 |
| 2:AA:1058:G:H5" | 9:AI:1:MET:C | 2.24 | 0.57 |
| 2:AA:1065:U:N3 | 2:AA:1066:U:C6 | 2.72 | 0.57 |
| 2:AA:1119:C:O2 | 2:AA:1119:C:C2' | 2.51 | 0.57 |
| 2:AA:1165:U:H2' | 2:AA:1166:C:C5 | 2.39 | 0.57 |
| 2:AA:1174:A:C2 | 2:AA:1176:G:O4' | 2.57 | 0.57 |
| 2:AA:1178:C:O2' | 2:AA:1179:C:O5' | 2.20 | 0.57 |
| 2:AA:1181:C:O2' | 2:AA:1182:A:C8 | 2.56 | 0.57 |
| 2:AA:1202:C:C4 | 2:AA:1243:G:N2 | 2.69 | 0.57 |
| 2:AA:1275:A:HO2' | 2:AA:1276:A:P | 2.23 | 0.57 |
| 2:AA:1284:A:O2' | 2:AA:1285:G:H5' | 2.04 | 0.57 |
| 2:AA:1315:C:H2' | 2:AA:1316:U:H6 | 1.68 | 0.57 |
| 2:AA:1794:U:H4' | 2:AA:1900:A:N7 | 2.18 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1872:A:H2' | 2:AA:1878:G:O4' | 2.04 | 0.57 |
| 2:AA:1912:A:N6 | 34:BA:1407:C:O2' | 2.37 | 0.57 |
| 2:AA:1968:G:H2' | 2:AA:1969:A:OP2 | 2.03 | 0.57 |
| 2:AA:2150:U:OP1 | 2:AA:2151:G:OP1 | 2.22 | 0.57 |
| 2:AA:2191:G:O2' | 2:AA:2192:G:H5' | 2.05 | 0.57 |
| 2:AA:2295:C:C2 | 2:AA:2337:G:N2 | 2.63 | 0.57 |
| 2:AA:2504:U:O5' | 2:AA:2504:U:H6 | 1.87 | 0.57 |
| 2:AA:2520:C:C2' | 2:AA:2521:C:H5' | 2.34 | 0.57 |
| 2:AA:2618:G:N3 | 2:AA:2619:C:C6 | 2.72 | 0.57 |
| 2:AA:2623:G:O2' | 2:AA:2825:C:O2' | 2.22 | 0.57 |
| 2:AA:2627:G:C6 | 2:AA:2777:G:O6 | 2.57 | 0.57 |
| 2:AA:2820:A:H5" | 2:AA:2820:A:N3 | 2.19 | 0.57 |
| 2:AA:2834:G:H3' | 2:AA:2834:G:C8 | 2.39 | 0.57 |
| 2:AA:2879:C:OP2 | 2:AA:2879:C:H6 | 1.86 | 0.57 |
| 3:AC:93:TYR:HE2 | 3:AC:110:PHE:CA | 2.16 | 0.57 |
| 5:AE:212:GLY:O | 5:AE:213:PRO:C | 2.42 | 0.57 |
| 6:AF:102:LEU:HD22 | 6:AF:106:GLU:OE1 | 2.04 | 0.57 |
| 6:AF:139:VAL:O | 6:AF:139:VAL:HG12 | 2.05 | 0.57 |
| 6:AF:194:PHE:O | 6:AF:212:VAL:HA | 2.04 | 0.57 |
| 6:AF:245:GLU:H | 6:AF:245:GLU:CD | 2.07 | 0.57 |
| 7:AG:151:ILE:CD1 | 7:AG:156:ARG:HH22 | 2.17 | 0.57 |
| 9:AI:2:THR:O | 9:AI:5:GLU:HB2 | 2.05 | 0.57 |
| 9:AJ:15:VAL:HG11 | 9:AJ:49:ALA:HB2 | 1.85 | 0.57 |
| 12:AM:60:ARG:CA | 12:AM:71:TYR:HD2 | 2.18 | 0.57 |
| 13:AN:1:MET:CA | 13:AN:32:TYR:HD2 | 2.17 | 0.57 |
| 13:AN:3:GLN:CA | 13:AN:21:VAL:HG11 | 2.22 | 0.57 |
| 13:AN:7:ARG:CG | 13:AN:44:LYS:HZ2 | 2.17 | 0.57 |
| 13:AN:88:ARG:NH1 | 13:AN:94:ARG:HD3 | 2.18 | 0.57 |
| 15:AP:34:GLY:HA3 | 15:AP:83:PHE:HD1 | 1.68 | 0.57 |
| 17:AR:15:PRO:C | 17:AR:17:THR:H | 2.07 | 0.57 |
| 18:AS:37:ARG:HH22 | 29:A5:48:ASN:CG | 2.07 | 0.57 |
| 20:AU:48:VAL:CG1 | 20:AU:49:GLU:N | 2.67 | 0.57 |
| 21:AV:18:MET:N | 21:AV:36:ARG:HE | 2.03 | 0.57 |
| 22:AW:19:GLU:OE2 | 22:AW:23:LEU:HD11 | 2.03 | 0.57 |
| 24:A0:32:GLY:O | 24:A0:116:LEU:HG | 2.04 | 0.57 |
| 25:A1:59:ARG:O | 25:A1:62:ILE:CB | 2.51 | 0.57 |
| 26:A2:6:GLN:NE2 | 26:A2:10:LYS:CA | 2.67 | 0.57 |
| 32:A8:39:ASP:O | 32:A8:42:ARG:HB2 | 2.03 | 0.57 |
| 32:A8:61:MET:O | 32:A8:62:LEU:CB | 2.51 | 0.57 |
| 34:BA:51:A:C2 | 34:BA:353:A:N6 | 2.72 | 0.57 |
| 34:BA:62:U:H5" | 34:BA:385:C:O2 | 2.05 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:78:G:C6 | 34:BA:92:C:N4 | 2.72 | 0.57 |
| 34:BA:116:A:H2' | 34:BA:117:G:O4' | 2.03 | 0.57 |
| 34:BA:132:C:H5' | 34:BA:262:A:H1' | 1.86 | 0.57 |
| 34:BA:478:A:H2' | 34:BA:479:C:C6 | 2.39 | 0.57 |
| 34:BA:492:G:C5 | 34:BA:494:G:C8 | 2.92 | 0.57 |
| 34:BA:562:C:HO2' | 47:BO:15:ARG:HB3 | 1.62 | 0.57 |
| 34:BA:604:G:H2' | 34:BA:605:U:O4' | 2.04 | 0.57 |
| 34:BA:675:A:N1 | 34:BA:716:A:C2 | 2.72 | 0.57 |
| 34:BA:695:A:O2' | 34:BA:696:A:H5' | 2.03 | 0.57 |
| 34:BA:711:G:O2' | 34:BA:712:A:H5' | 2.04 | 0.57 |
| 34:BA:779:C:O2' | 34:BA:780:A:H5' | 2.04 | 0.57 |
| 34:BA:1188:A:C2 | 34:BA:1189:C:C2 | 2.91 | 0.57 |
| 34:BA:1215:G:C2 | 34:BA:1216:G:C8 | 2.92 | 0.57 |
| 34:BA:1299:A:C8 | 34:BA:1301:U:C1' | 2.67 | 0.57 |
| 34:BA:1351:U:O4 | 44:BL:118:LYS:CE | 2.52 | 0.57 |
| 34:BA:1494:G:N1 | 34:BA:1495:U:C5 | 2.71 | 0.57 |
| 35:BB:1:G:C2 | 35:BB:73:A:C2 | 2.91 | 0.57 |
| 35:BB:32:C:OP2 | 35:BB:32:C:C5 | 2.57 | 0.57 |
| 35:BB:49:C:N3 | 35:BB:66:A:C6 | 2.72 | 0.57 |
| 44:BL:22:GLY:C | 44:BL:58:ARG:O | 2.42 | 0.57 |
| 45:BM:5:ARG:O | 45:BM:98:ILE:HG23 | 2.04 | 0.57 |
| 45:BM:78:ASN:O | 45:BM:80:LYS:N | 2.37 | 0.57 |
| 47:BO:53:ARG:HG3 | 47:BO:69:TYR:CZ | 2.39 | 0.57 |
| 47:BO:68:ALA:HB1 | 47:BO:99:HIS:HA | 1.85 | 0.57 |
| 48:BP:69:GLU:O | 48:BP:72:ALA:HB3 | 2.03 | 0.57 |
| 49:BQ:42:ILE:HG22 | 49:BQ:43:CYS:N | 2.19 | 0.57 |
| 51:BS:54:GLU:O | 51:BS:55:ARG:C | 2.41 | 0.57 |
| 56:BX:12:LYS:HG3 | 56:BX:18:TYR:HA | 1.86 | 0.57 |
| 2:AA:137:C:O2 | 2:AA:137(A):G:C4 | 2.57 | 0.57 |
| 2:AA:153:C:N3 | 2:AA:174:C:C4 | 2.72 | 0.57 |
| 2:AA:326:G:N1 | 2:AA:337:C:C2 | 2.73 | 0.57 |
| 2:AA:529:A:H2 | 2:AA:2022:U:OP1 | 1.87 | 0.57 |
| 2:AA:592:G:C6 | 2:AA:593:G:C5 | 2.91 | 0.57 |
| 2:AA:686:G:C4' | 2:AA:687:C:OP2 | 2.51 | 0.57 |
| 2:AA:729:G:O2' | 2:AA:763:G:H4' | 2.04 | 0.57 |
| 2:AA:785:G:C2 | 2:AA:786:C:C2 | 2.92 | 0.57 |
| 2:AA:912:C:H2' | 2:AA:913:U:C5' | 2.34 | 0.57 |
| 2:AA:1052:C:C2 | 2:AA:1053:C:C5 | 2.92 | 0.57 |
| 2:AA:1057:A:O2' | 9:AI:6:ILE:HD11 | 2.04 | 0.57 |
| 2:AA:1353:A:O2' | 2:AA:1354:A:C5' | 2.51 | 0.57 |
| 2:AA:1364:G:O6 | 28:A4:2:GLN:CD | 2.43 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1468:C:O2 | 2:AA:1468:C:H2' | 2.05 | 0.57 |
| 2:AA:1492:G:H1' | 2:AA:1493:C:C5 | 2.39 | 0.57 |
| 2:AA:1524:G:N7 | 2:AA:1525:G:N7 | 2.52 | 0.57 |
| 2:AA:1651:G:H2' | 2:AA:1652:A:H8 | 1.69 | 0.57 |
| 2:AA:1667:G:C2' | 2:AA:1991:U:O4 | 2.51 | 0.57 |
| 2:AA:1742:C:H2' | 2:AA:1743:G:C8 | 2.38 | 0.57 |
| 2:AA:1773:A:H2' | 2:AA:1774:C:C5' | 2.33 | 0.57 |
| 2:AA:1779:U:O4 | 2:AA:1784:A:N3 | 2.37 | 0.57 |
| 2:AA:1790:C:O2 | 2:AA:1790:C:C2' | 2.53 | 0.57 |
| 2:AA:1807:G:N2 | 2:AA:1809:A:P | 2.77 | 0.57 |
| 2:AA:1832:C:C4 | 2:AA:1833:U:C5 | 2.92 | 0.57 |
| 2:AA:1904:G:O2' | 2:AA:1905:C:C5' | 2.48 | 0.57 |
| 2:AA:1933:G:H2' | 2:AA:1934:C:O4' | 2.04 | 0.57 |
| 2:AA:2027:G:N2 | 2:AA:2028:U:H1' | 2.19 | 0.57 |
| 2:AA:2110:G:C4 | 2:AA:2111:C:N4 | 2.72 | 0.57 |
| 2:AA:2225:A:H4' | 2:AA:2226:C:O5' | 2.04 | 0.57 |
| 2:AA:2274:A:N6 | 2:AA:2276:G:C4 | 2.72 | 0.57 |
| 2:AA:2469:A:C2 | 2:AA:2482:G:N9 | 2.72 | 0.57 |
| 2:AA:2479:G:OP1 | 2:AA:2537:U:C1' | 2.53 | 0.57 |
| 2:AA:2639:A:N1 | 2:AA:2640:G:H1' | 2.19 | 0.57 |
| 2:AA:2695:C:O2' | 2:AA:2696:U:C6 | 2.58 | 0.57 |
| 2:AA:2792:G:N1 | 2:AA:2804:C:C4 | 2.72 | 0.57 |
| 2:AA:2795:G:O2' | 2:AA:2797:U:H6 | 1.86 | 0.57 |
| 3:AC:77:ILE:HG21 | 3:AC:123:VAL:CG2 | 2.34 | 0.57 |
| 4:AD:73:ILE:CG2 | 4:AD:95:TYR:HD2 | 2.16 | 0.57 |
| 4:AD:115:ILE:HG21 | 4:AD:127:ASN:HD21 | 1.70 | 0.57 |
| 4:AD:140:VAL:HG12 | 4:AD:190:THR:O | 2.04 | 0.57 |
| 5:AE:76:PRO:CB | 5:AE:77:PRO:CD | 2.78 | 0.57 |
| 5:AE:207:GLY:CA | 5:AE:257:GLY:HA3 | 2.33 | 0.57 |
| 6:AF:36:ARG:N | 6:AF:39:GLN:HE22 | 2.02 | 0.57 |
| 6:AF:80:VAL:CG1 | 6:AF:81:PRO:N | 2.67 | 0.57 |
| 6:AF:81:PRO:HA | 6:AF:87:ARG:HH11 | 1.68 | 0.57 |
| 6:AF:93:LYS:HB2 | 6:AF:96:LYS:CD | 2.34 | 0.57 |
| 8:AH:30:GLY:HA3 | 8:AH:78:VAL:HA | 1.86 | 0.57 |
| 10:AK:21:VAL:HG12 | 10:AK:26:ALA:HB2 | 1.86 | 0.57 |
| 14:AO:106:VAL:O | 14:AO:106:VAL:HG23 | 2.05 | 0.57 |
| 15:AP:57:ARG:HB3 | 15:AP:60:ALA:HB3 | 1.87 | 0.57 |
| 15:AP:135:ALA:O | 15:AP:136:TRP:C | 2.43 | 0.57 |
| 17:AR:6:CYS:SG | 17:AR:32:CYS:N | 2.78 | 0.57 |
| 17:AR:10:GLY:CA | 17:AR:53:ASP:H | 2.18 | 0.57 |
| 20:AU:41:ARG:O | 20:AU:112:LEU:HB2 | 2.05 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:43:ASN:ND2 | 20:AU:101:LEU:HD23 | 2.18 | 0.57 |
| 21:AV:6:LYS:O | 21:AV:31:SER:HB3 | 2.04 | 0.57 |
| 21:AV:18:MET:H | 21:AV:36:ARG:HH21 | 1.52 | 0.57 |
| 21:AV:23:ALA:O | 21:AV:29:ASN:HA | 2.04 | 0.57 |
| 21:AV:75:LYS:CE | 21:AV:77:ALA:HB3 | 2.35 | 0.57 |
| 22:AW:7:GLU:OE1 | 22:AW:8:ILE:HG13 | 2.04 | 0.57 |
| 25:A1:101:ARG:HB2 | 26:A2:13:ARG:NH2 | 2.18 | 0.57 |
| 26:A2:14:VAL:CG1 | 26:A2:15:SER:H | 2.14 | 0.57 |
| 27:A3:68:VAL:HG11 | 27:A3:71:ASN:HB2 | 1.86 | 0.57 |
| 28:A4:4:ASP:C | 28:A4:5:LEU:HD23 | 2.24 | 0.57 |
| 33:A9:2:LYS:N | 33:A9:35:ARG:HB3 | 2.19 | 0.57 |
| 34:BA:191:G:H2' | 34:BA:192:U:H6 | 1.70 | 0.57 |
| 34:BA:223:U:O2' | 34:BA:224:C:H5' | 2.03 | 0.57 |
| 34:BA:354:G:H21 | 34:BA:388:G:H3' | 1.70 | 0.57 |
| 34:BA:414:A:H2' | 34:BA:415:A:C8 | 2.33 | 0.57 |
| 34:BA:536:C:H2' | 34:BA:537:G:C5' | 2.29 | 0.57 |
| 34:BA:593:G:C2' | 34:BA:594:G:H5' | 2.34 | 0.57 |
| 34:BA:600:C:H4' | 43:BK:128:GLY:O | 2.05 | 0.57 |
| 34:BA:676:A:C6 | 34:BA:677:U:C4 | 2.92 | 0.57 |
| 34:BA:695:A:P | 46:BN:52:GLY:HA3 | 2.44 | 0.57 |
| 34:BA:799:G:C6 | 34:BA:800:G:C2 | 2.92 | 0.57 |
| 34:BA:892:A:HO2' | 34:BA:1415:G:HO2' | 1.46 | 0.57 |
| 34:BA:911:U:C2 | 34:BA:912:C:C5 | 2.92 | 0.57 |
| 34:BA:1062:U:C2 | 34:BA:1063:C:C4 | 2.92 | 0.57 |
| 34:BA:1081:G:O2' | 34:BA:1082:G:H5' | 2.03 | 0.57 |
| 34:BA:1260:C:H4' | 34:BA:1283:G:O2' | 2.04 | 0.57 |
| 34:BA:1298:C:C2' | 42:BJ:114:ARG:HH12 | 2.16 | 0.57 |
| 34:BA:1306:A:C6 | 34:BA:1307:U:C2 | 2.93 | 0.57 |
| 34:BA:1316:G:C2' | 34:BA:1318:A:OP2 | 2.47 | 0.57 |
| 34:BA:1343:G:H2' | 34:BA:1344:C:C6 | 2.39 | 0.57 |
| 35:BC:56:C:N3 | 35:BC:57:G:C2 | 2.72 | 0.57 |
| 37:BE:100:GLY:C | 37:BE:108:ILE:HD11 | 2.23 | 0.57 |
| 38:BF:88:ARG:CG | 38:BF:101:LEU:HB2 | 2.33 | 0.57 |
| 38:BF:179:ARG:HG3 | 38:BF:179:ARG:NH1 | 2.19 | 0.57 |
| 39:BG:152:SER:O | 39:BG:155:LEU:HG | 2.04 | 0.57 |
| 40:BH:78:HIS:CE1 | 40:BH:142:LEU:HD23 | 2.38 | 0.57 |
| 41:BI:4:TYR:HB3 | 41:BI:91:VAL:O | 2.04 | 0.57 |
| 41:BI:6:VAL:HG13 | 41:BI:6:VAL:O | 2.04 | 0.57 |
| 42:BJ:113:GLU:OE1 | 42:BJ:122:HIS:CE1 | 2.57 | 0.57 |
| 43:BK:98:LYS:HZ2 | 43:BK:98:LYS:CA | 2.17 | 0.57 |
| 43:BK:126:LYS:HD2 | 43:BK:126:LYS:C | 2.21 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:77:PRO:C | 45:BM:78:ASN:HD22 | 2.07 | 0.57 |
| 46:BN:20:TYR:CD1 | 46:BN:33:THR:HG21 | 2.38 | 0.57 |
| 47:BO:119:LYS:HB3 | 47:BO:120:TYR:HD1 | 1.70 | 0.57 |
| 52:BT:12:SER:HB3 | 52:BT:20:THR:OG1 | 2.04 | 0.57 |
| 54:BV:19:VAL:O | 54:BV:23:ASN:HB2 | 2.03 | 0.57 |
| 55:BW:57:ARG:O | 55:BW:60:GLU:N | 2.37 | 0.57 |
| 2:AA:8:A:H2' | 2:AA:9:U:C6 | 2.39 | 0.57 |
| 2:AA:126:A:C4' | 31:A7:19:ARG:HH21 | 2.17 | 0.57 |
| 2:AA:176:G:H3' | 2:AA:177:G:C8 | 2.38 | 0.57 |
| 2:AA:204:A:OP1 | 2:AA:204:A:H8 | 1.86 | 0.57 |
| 2:AA:246:C:C4 | 2:AA:247:G:C6 | 2.92 | 0.57 |
| 2:AA:265:A:O2' | 2:AA:266:G:C5' | 2.53 | 0.57 |
| 2:AA:300:A:H1' | 2:AA:319:C:O4' | 2.04 | 0.57 |
| 2:AA:338:G:OP1 | 2:AA:338:G:H8 | 1.87 | 0.57 |
| 2:AA:370:G:O2' | 2:AA:371:A:O5' | 2.20 | 0.57 |
| 2:AA:466:A:C2 | 2:AA:796:C:H1' | 2.40 | 0.57 |
| 2:AA:476:G:C4' | 2:AA:505:A:C2 | 2.86 | 0.57 |
| 2:AA:542:C:O2' | 2:AA:543:C:H5' | 2.03 | 0.57 |
| 2:AA:577:G:C6 | 2:AA:578:A:N6 | 2.72 | 0.57 |
| 2:AA:618:G:N7 | 2:AA:618(A):C:N4 | 2.53 | 0.57 |
| 2:AA:625:G:HO2' | 2:AA:656:G:H4' | 1.69 | 0.57 |
| 2:AA:715:G:C3' | 2:AA:715:G:P | 2.92 | 0.57 |
| 2:AA:764:A:C5' | 2:AA:765:G:OP2 | 2.52 | 0.57 |
| 2:AA:783:A:HO2' | 2:AA:784:A:P | 2.26 | 0.57 |
| 2:AA:784:A:N6 | 2:AA:792:G:C4 | 2.72 | 0.57 |
| 2:AA:785:G:N2 | 2:AA:786:C:N1 | 2.52 | 0.57 |
| 2:AA:1071:G:C8 | 2:AA:1071:G:OP2 | 2.58 | 0.57 |
| 2:AA:1084:A:OP1 | 9:AI:39:VAL:N | 2.36 | 0.57 |
| 2:AA:1152:C:O3' | 25:A1:80:ILE:HG21 | 2.04 | 0.57 |
| 2:AA:1268:A:C4 | 2:AA:2013:A:C6 | 2.92 | 0.57 |
| 2:AA:444(A):A:H4' | 2:AA:1445:C:O5' | 2.04 | 0.57 |
| 2:AA:1456:G:C2 | 2:AA:1457:A:C8 | 2.92 | 0.57 |
| 2:AA:1479:G:N2 | 2:AA:1558:A:OP1 | 2.32 | 0.57 |
| 2:AA:1657:C:H3' | 2:AA:1657:C:C6 | 2.39 | 0.57 |
| 2:AA:1667:G:O2' | 2:AA:1668:A:OP2 | 2.22 | 0.57 |
| 2:AA:1769:G:O2' | 2:AA:1770:G:C5' | 2.53 | 0.57 |
| 2:AA:1787:A:C2 | 2:AA:1788:C:N3 | 2.72 | 0.57 |
| 2:AA:1793:C:N4 | 2:AA:1825:A:H61 | 2.02 | 0.57 |
| 2:AA:1800:C:N4 | 2:AA:1817:G:N1 | 2.53 | 0.57 |
| 2:AA:1817:G:H8 | 2:AA:1817:G:C5' | 2.17 | 0.57 |
| 2:AA:1928:A:H8 | 2:AA:1928:A:H5" | 1.69 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2219:G:O2' | 2:AA:2224:G:H5' | 2.04 | 0.57 |
| 2:AA:2228:G:N7 | 2:AA:2229:C:C4 | 2.72 | 0.57 |
| 2:AA:2250:G:C5' | 15:AP:102:ARG:HD3 | 2.32 | 0.57 |
| 2:AA:2256:G:H4' | 27:A3:5:LYS:HE2 | 1.86 | 0.57 |
| 2:AA:2265:U:C2' | 2:AA:2266:A:OP1 | 2.52 | 0.57 |
| 2:AA:2265:U:H2' | 2:AA:2266:A:OP1 | 2.03 | 0.57 |
| 2:AA:2348:U:H2' | 2:AA:2349:G:O5' | 2.04 | 0.57 |
| 2:AA:2389:G:H5" | 2:AA:2390:U:C5' | 2.34 | 0.57 |
| 2:AA:2563:U:H5" | 13:AN:27:GLY:HA2 | 1.86 | 0.57 |
| 2:AA:2565:A:C2' | 2:AA:2566:A:H1' | 2.32 | 0.57 |
| 2:AA:2573:C:H5" | 2:AA:2574:G:H5" | 1.86 | 0.57 |
| 2:AA:2618:G:H2' | 2:AA:2619:C:H6 | 1.69 | 0.57 |
| 2:AA:2640:G:N2 | 2:AA:2774:C:N3 | 2.41 | 0.57 |
| 2:AA:2705:A:H2' | 2:AA:2706:G:H8 | 1.68 | 0.57 |
| 2:AA:2889:C:H2' | 2:AA:2891:G:H8 | 1.69 | 0.57 |
| 3:AC:14:VAL:HG23 | 3:AC:32:LEU:HD21 | 1.87 | 0.57 |
| 3:AC:100:ILE:HG22 | 3:AC:126:LYS:CD | 2.34 | 0.57 |
| 4:AD:141:HIS:O | 4:AD:142:ASN:HB2 | 2.04 | 0.57 |
| 4:AD:162:GLN:O | 4:AD:164:LEU:N | 2.36 | 0.57 |
| 4:AD:203:PRO:O | 4:AD:209:ASN:ND2 | 2.37 | 0.57 |
| 5:AE:41:PHE:C | 5:AE:311:PHE:CZ | 2.78 | 0.57 |
| 5:AE:182:GLU:O | 5:AE:183:ASP:C | 2.41 | 0.57 |
| 6:AF:54:LEU:O | 6:AF:79:ARG:NE | 2.37 | 0.57 |
| 6:AF:231:ARG:O | 6:AF:232:LEU:HG | 2.04 | 0.57 |
| 7:AG:49:PRO:HB3 | 7:AG:72:LYS:C | 2.21 | 0.57 |
| 7:AG:56:ARG:CD | 7:AG:65:GLU:CB | 2.79 | 0.57 |
| 7:AG:58:VAL:HG13 | 7:AG:61:PHE:CD1 | 2.39 | 0.57 |
| 7:AG:134:LEU:CD1 | 7:AG:136:ARG:NH2 | 2.65 | 0.57 |
| 7:AG:156:ARG:O | 7:AG:156:ARG:CG | 2.52 | 0.57 |
| 9:AI:35:ALA:O | 9:AI:39:VAL:CB | 2.48 | 0.57 |
| 9:AJ:115:LYS:O | 9:AJ:119:GLU:HG3 | 2.05 | 0.57 |
| 10:AK:94:THR:C | 10:AK:96:LYS:N | 2.56 | 0.57 |
| 11:AL:116:LEU:HD21 | 11:AL:127:ILE:CD1 | 2.30 | 0.57 |
| 12:AM:14:ALA:H | 12:AM:40:ASN:ND2 | 1.99 | 0.57 |
| 13:AN:111:PHE:C | 13:AN:115:ILE:HG13 | 2.23 | 0.57 |
| 15:AP:156:ASN:O | 15:AP:157:ALA:CB | 2.52 | 0.57 |
| 16:AQ:92:ALA:O | 16:AQ:95:ALA:HB3 | 2.03 | 0.57 |
| 16:AQ:102:LEU:HG | 16:AQ:129:ILE:CD1 | 2.25 | 0.57 |
| 17:AR:21:PHE:O | 17:AR:29:THR:O | 2.21 | 0.57 |
| 18:AS:46:PHE:O | 18:AS:49:LYS:HB3 | 2.05 | 0.57 |
| 22:AW:55:ARG:HD2 | 22:AW:55:ARG:N | 2.12 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 22:AW:59:ILE:CG2 | 22:AW:60:GLN:H | 2.17 | 0.57 |
| 24:A0:45:ARG:HH11 | 24:A0:45:ARG:HG2 | 1.69 | 0.57 |
| 25:A1:55:ARG:CA | 25:A1:58:ARG:NE | 2.56 | 0.57 |
| 25:A1:76:TYR:O | 25:A1:80:ILE:HG13 | 2.04 | 0.57 |
| 25:A1:95:LEU:O | 25:A1:106:PHE:HE1 | 1.86 | 0.57 |
| 32:A8:21:LYS:CB | 32:A8:48:PHE:HZ | 2.03 | 0.57 |
| 32:A8:31:HIS:C | 32:A8:32:GLN:HG3 | 2.24 | 0.57 |
| 33:A9:11:CYS:HB3 | 33:A9:32:HIS:NE2 | 2.19 | 0.57 |
| 34:BA:15:G:H4' | 40:BH:24:ARG:NH1 | 2.15 | 0.57 |
| 34:BA:157:G:C2 | 34:BA:165:C:C4 | 2.92 | 0.57 |
| 34:BA:187:C:C2 | 34:BA:188:C:C6 | 2.93 | 0.57 |
| 34:BA:226:G:O2' | 34:BA:227:G:C5' | 2.53 | 0.57 |
| 34:BA:243:A:C2 | 34:BA:245:C:C2 | 2.93 | 0.57 |
| 34:BA:254:G:H2' | 34:BA:255:G:C8 | 2.35 | 0.57 |
| 34:BA:350:G:H22 | 34:BA:351:G:N2 | 2.01 | 0.57 |
| 34:BA:363:A:OP2 | 47:BO:34:ARG:HB3 | 2.05 | 0.57 |
| 34:BA:484:G:C8 | 34:BA:486:U:C4 | 2.92 | 0.57 |
| 34:BA:692:U:N3 | 34:BA:695:A:OP2 | 2.29 | 0.57 |
| 34:BA:771:G:C4 | 34:BA:772:U:C5 | 2.92 | 0.57 |
| 34:BA:776:G:N2 | 34:BA:802:A:OP2 | 2.37 | 0.57 |
| 34:BA:859:A:C2' | 34:BA:860:A:O5' | 2.53 | 0.57 |
| 34:BA:1007:C:N3 | 34:BA:1008:C:C4 | 2.72 | 0.57 |
| 34:BA:1234:C:N4 | 34:BA:1235:U:N3 | 2.53 | 0.57 |
| 34:BA:1268:A:O3' | 56:BX:19:GLY:O | 2.23 | 0.57 |
| 34:BA:1346:A:C8 | 34:BA:1348:U:N3 | 2.72 | 0.57 |
| 34:BA:1347:G:H1' | 34:BA:1348:U:C5 | 2.39 | 0.57 |
| 34:BA:1357:A:N7 | 34:BA:1358:U:C4 | 2.72 | 0.57 |
| 34:BA:1399:C:O2 | 34:BA:1401:G:C5 | 2.57 | 0.57 |
| 34:BA:1440:C:H2' | 34:BA:1441:G:H8 | 1.69 | 0.57 |
| 34:BA:1461:G:O2' | 34:BA:1462:G:C5' | 2.52 | 0.57 |
| 34:BA:1503:A:HO2' | 34:BA:1504:G:P | 2.28 | 0.57 |
| 34:BA:1530:G:C6 | 34:BA:1531:A:N6 | 2.73 | 0.57 |
| 35:BB:65:G:N2 | 35:BB:66:A:C5 | 2.73 | 0.57 |
| 35:BB:65:G:N3 | 35:BB:66:A:C8 | 2.73 | 0.57 |
| 35:BC:33:U:C6 | 35:BC:35:A:OP2 | 2.57 | 0.57 |
| 37:BE:193:ASP:CG | 37:BE:196:LEU:HD21 | 2.24 | 0.57 |
| 38:BF:12:LEU:CD1 | 38:BF:17:ASP:HA | 2.34 | 0.57 |
| 38:BF:36:ASP:OD2 | 38:BF:57:ILE:HG21 | 2.04 | 0.57 |
| 38:BF:53:ALA:HB2 | 38:BF:115:LEU:CD2 | 2.31 | 0.57 |
| 38:BF:113:ALA:HB3 | 38:BF:114:PRO:HD3 | 1.87 | 0.57 |
| 40:BH:41:VAL:HG21 | 40:BH:113:ALA:CB | 2.34 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:75:THR:HA | 40:BH:118:ILE:HD11 | 1.87 | 0.57 |
| 40:BH:94:ALA:H | 40:BH:118:ILE:HG23 | 1.70 | 0.57 |
| 40:BH:107:ARG:HB2 | 40:BH:107:ARG:CZ | 2.34 | 0.57 |
| 40:BH:110:LEU:HB3 | 40:BH:115:VAL:CG2 | 2.34 | 0.57 |
| 40:BH:144:THR:HG22 | 40:BH:145:LYS:N | 2.20 | 0.57 |
| 42:BJ:94:ARG:C | 42:BJ:94:ARG:NH1 | 2.52 | 0.57 |
| 43:BK:84:ARG:HD3 | 43:BK:136:GLU:CD | 2.25 | 0.57 |
| 44:BL:22:GLY:O | 44:BL:58:ARG:O | 2.22 | 0.57 |
| 44:BL:32:ASP:O | 44:BL:35:GLU:CB | 2.52 | 0.57 |
| 49:BQ:12:ARG:C | 49:BQ:14:PRO:HD3 | 2.24 | 0.57 |
| 49:BQ:42:ILE:C | 49:BQ:44:LEU:N | 2.57 | 0.57 |
| 53:BU:51:LEU:O | 53:BU:56:THR:HG23 | 2.04 | 0.57 |
| 54:BV:38:SER:O | 54:BV:70:LYS:HA | 2.05 | 0.57 |
| 2:AA:65:C:C2 | 2:AA:66:C:C5 | 2.92 | 0.57 |
| 2:AA:130:C:H2' | 2:AA:130:C:O2 | 2.03 | 0.57 |
| 2:AA:181:A:H5' | 2:AA:181:A:H8 | 1.68 | 0.57 |
| 2:AA:270(X):G:C5 | 2:AA:270(Y):G:H1' | 2.39 | 0.57 |
| 2:AA:279:C:P | 2:AA:279:C:O4' | 2.63 | 0.57 |
| 2:AA:330:A:C4' | 2:AA:1210:A:N6 | 2.68 | 0.57 |
| 2:AA:410:G:N3 | 2:AA:2407:G:N7 | 2.52 | 0.57 |
| 2:AA:442:G:C2 | 6:AF:46:TYR:CZ | 2.93 | 0.57 |
| 2:AA:510:C:H2' | 2:AA:511:U:H6 | 1.69 | 0.57 |
| 2:AA:601:C:H2' | 2:AA:601:C:O2 | 2.04 | 0.57 |
| 2:AA:737:C:C2' | 2:AA:738:G:H5' | 2.35 | 0.57 |
| 2:AA:1020:A:O2' | 2:AA:1021:A:OP2 | 2.23 | 0.57 |
| 2:AA:1022:G:N2 | 2:AA:1140:C:C6 | 2.72 | 0.57 |
| 2:AA:1109:C:C5 | 2:AA:1110:G:N1 | 2.72 | 0.57 |
| 2:AA:1189:A:O5' | 2:AA:1189:A:H8 | 1.87 | 0.57 |
| 2:AA:1306:C:O2' | 2:AA:1307:A:H5' | 2.04 | 0.57 |
| 2:AA:1364:G:O4' | 2:AA:1368:G:N2 | 2.38 | 0.57 |
| 2:AA:1365:A:C6 | 2:AA:1366:A:C6 | 2.92 | 0.57 |
| 2:AA:1408:C:C2 | 2:AA:1595:G:C2 | 2.93 | 0.57 |
| 2:AA:1424:G:H2' | 2:AA:1425:G:C5' | 2.33 | 0.57 |
| 2:AA:1432:C:H2' | 2:AA:1432:C:O2 | 2.04 | 0.57 |
| 2:AA:1511:A:C2' | 2:AA:1512:G:H5" | 2.34 | 0.57 |
| 2:AA:1549:C:C2' | 2:AA:1550:C:H5' | 2.34 | 0.57 |
| 2:AA:1648:C:H2' | 2:AA:1649:G:H8 | 1.68 | 0.57 |
| 2:AA:1689:A:C5 | 2:AA:1700:A:C6 | 2.92 | 0.57 |
| 2:AA:1806:C:H2' | 2:AA:1807:G:C5' | 2.35 | 0.57 |
| 2:AA:1812:A:H2' | 2:AA:1813:G:C5' | 2.35 | 0.57 |
| 2:AA:1993:U:O2 | 2:AA:1994:C:O4' | 2.23 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2119:A:O5' | 2:AA:2120:G:H5" | 2.03 | 0.57 |
| 2:AA:2134:A:H2 | 2:AA:2152:G:OP2 | 1.88 | 0.57 |
| 2:AA:2290:G:C6 | 2:AA:2291:U:C4 | 2.92 | 0.57 |
| 2:AA:2317:C:OP2 | 7:AG:142:ALA:O | 2.23 | 0.57 |
| 2:AA:2346:A:O4' | 2:AA:2383:G:H1' | 2.04 | 0.57 |
| 2:AA:2424:C:O2 | 2:AA:2424:C:C2' | 2.50 | 0.57 |
| 2:AA:2426:A:OP1 | 2:AA:2426:A:C8 | 2.56 | 0.57 |
| 2:AA:2458:G:C4 | 2:AA:2490:G:C2 | 2.92 | 0.57 |
| 2:AA:2529:G:OP2 | 2:AA:2530:A:C8 | 2.58 | 0.57 |
| 2:AA:2548:G:C2' | 2:AA:2549:G:O5' | 2.51 | 0.57 |
| 2:AA:2573:C:C5' | 2:AA:2574:G:OP1 | 2.53 | 0.57 |
| 2:AA:2646:C:HO2' | 2:AA:2647:U:H5' | 1.69 | 0.57 |
| 2:AA:2817:G:C2 | 2:AA:2830:G:C4 | 2.92 | 0.57 |
| 2:AA:2821:A:C2 | 2:AA:2822:G:C4 | 2.93 | 0.57 |
| 2:AA:2882:A:P | 24:A0:96:ARG:HB2 | 2.44 | 0.57 |
| 3:AC:41:VAL:HG22 | 3:AC:216:THR:HG22 | 1.86 | 0.57 |
| 3:AC:43:VAL:O | 3:AC:172:HIS:HB2 | 2.05 | 0.57 |
| 3:AC:77:ILE:CD1 | 3:AC:123:VAL:HG22 | 2.34 | 0.57 |
| 3:AC:140:PRO:C | 3:AC:142:ALA:N | 2.53 | 0.57 |
| 5:AE:42:ALA:O | 5:AE:189:MET:CE | 2.52 | 0.57 |
| 5:AE:72:VAL:HA | 5:AE:294:THR:O | 2.05 | 0.57 |
| 5:AE:249:THR:O | 5:AE:250:VAL:C | 2.42 | 0.57 |
| 6:AF:32:GLY:C | 6:AF:36:ARG:NE | 2.51 | 0.57 |
| 6:AF:83:ALA:H | 6:AF:87:ARG:HE | 1.46 | 0.57 |
| 8:AH:58:LYS:HA | 8:AH:61:ARG:NE | 2.19 | 0.57 |
| 8:AH:77:GLY:O | 8:AH:79:SER:N | 2.36 | 0.57 |
| 8:AH:148:ARG:NH2 | 8:AH:162:ARG:O | 2.37 | 0.57 |
| 9:AI:57:THR:HG21 | 9:AJ:110:GLU:CD | 2.25 | 0.57 |
| 9:AJ:109:GLU:O | 9:AJ:113:GLU:HG3 | 2.03 | 0.57 |
| 10:AK:88:ARG:C | 10:AK:122:ARG:HG2 | 2.24 | 0.57 |
| 12:AM:45:VAL:CG1 | 12:AM:46:ILE:H | 2.18 | 0.57 |
| 14:AO:67:ARG:NH2 | 14:AO:110:GLY:O | 2.37 | 0.57 |
| 16:AQ:107:ASN:O | 16:AQ:109:PRO:N | 2.37 | 0.57 |
| 18:AS:12:ILE:CD1 | 18:AS:42:ARG:HD3 | 2.35 | 0.57 |
| 18:AS:30:GLU:N | 18:AS:33:ARG:HD2 | 2.19 | 0.57 |
| 19:AT:6:LYS:HE3 | 19:AT:29:ASP:N | 2.20 | 0.57 |
| 19:AT:14:ALA:HB1 | 19:AT:18:MET:CE | 2.34 | 0.57 |
| 20:AU:41:ARG:HB2 | 20:AU:111:ARG:O | 2.04 | 0.57 |
| 21:AV:137:ASP:C | 21:AV:139:THR:H | 2.08 | 0.57 |
| 24:A0:54:LEU:HD13 | 24:A0:54:LEU:H | 1.68 | 0.57 |
| 24:A0:96:ARG:CD | 24:A0:115:GLU:OE1 | 2.53 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:69:ALA:HA | 25:A1:79:PHE:HZ | 1.66 | 0.57 |
| 28:A4:7:PRO:O | 28:A4:60:ASN:OD1 | 2.22 | 0.57 |
| 32:A8:37:SER:HB3 | 32:A8:40:GLU:OE2 | 2.03 | 0.57 |
| 34:BA:17:U:O2' | 34:BA:1079:G:N3 | 2.37 | 0.57 |
| 34:BA:36:C:H2' | 34:BA:37:U:C6 | 2.39 | 0.57 |
| 34:BA:54:C:N4 | 34:BA:357:G:H1 | 2.02 | 0.57 |
| 34:BA:188:C:H2' | 34:BA:189:G:O5' | 2.04 | 0.57 |
| 34:BA:292:G:H3' | 34:BA:293:G:H8 | 1.70 | 0.57 |
| 34:BA:421:U:C6 | 34:BA:421:U:OP1 | 2.57 | 0.57 |
| 34:BA:536:C:H2' | 34:BA:536:C:O2 | 2.03 | 0.57 |
| 34:BA:668:G:O2' | 34:BA:669:U:H5' | 2.03 | 0.57 |
| 34:BA:668:G:C1' | 50:BR:46:HIS:NE2 | 2.61 | 0.57 |
| 34:BA:679:C:O2' | 34:BA:680:C:H5' | 2.05 | 0.57 |
| 34:BA:775:G:N2 | 34:BA:776:G:H1' | 2.19 | 0.57 |
| 34:BA:865:A:C4 | 34:BA:866:C:O2 | 2.57 | 0.57 |
| 34:BA:913:A:O2' | 34:BA:914:A:P | 2.63 | 0.57 |
| 34:BA:994:A:C2 | 49:BQ:4:LYS:HB3 | 2.40 | 0.57 |
| 34:BA:1049:U:H1' | 34:BA:1201:A:H8 | 1.67 | 0.57 |
| 34:BA:1151:A:H4' | 45:BM:42:THR:OG1 | 2.05 | 0.57 |
| 34:BA:1234:C:H5' | 34:BA:1364:U:O2' | 2.04 | 0.57 |
| 34:BA:1289:A:H3' | 34:BA:1289:A:P | 2.44 | 0.57 |
| 34:BA:1336:C:H4' | 34:BA:1337:G:N3 | 2.19 | 0.57 |
| 34:BA:1345:U:H5" | 34:BA:1346:A:OP1 | 2.05 | 0.57 |
| 34:BA:1357:A:N6 | 34:BA:1363:A:C2 | 2.73 | 0.57 |
| 34:BA:1390:U:C4 | 34:BA:1391:U:O4 | 2.58 | 0.57 |
| 35:BB:52:U:H3 | 35:BB:62:A:H61 | 1.52 | 0.57 |
| 35:BC:40:C:C2' | 35:BC:41:U:C5' | 2.78 | 0.57 |
| 37:BE:82:ARG:O | 37:BE:86:GLU:HG3 | 2.05 | 0.57 |
| 37:BE:95:GLN:HG3 | 37:BE:148:TYR:CD1 | 2.39 | 0.57 |
| 38:BF:156:ARG:CB | 38:BF:196:LEU:HD22 | 2.34 | 0.57 |
| 38:BF:187:ALA:O | 38:BF:198:VAL:HG23 | 2.04 | 0.57 |
| 39:BG:141:ARG:CB | 39:BG:144:ASP:OD2 | 2.46 | 0.57 |
| 40:BH:87:SER:OG | 40:BH:130:ASN:CB | 2.51 | 0.57 |
| 43:BK:33:GLU:CB | 43:BK:59:LEU:HD11 | 2.33 | 0.57 |
| 43:BK:45:ILE:HG12 | 43:BK:45:ILE:O | 2.03 | 0.57 |
| 44:BL:48:GLU:HA | 44:BL:51:ARG:CZ | 2.33 | 0.57 |
| 45:BM:49:VAL:HG21 | 49:BQ:44:LEU:CD2 | 2.34 | 0.57 |
| 46:BN:62:GLN:O | 46:BN:63:LEU:C | 2.42 | 0.57 |
| 46:BN:80:VAL:HG12 | 46:BN:81:ASP:O | 2.03 | 0.57 |
| 48:BP:15:VAL:HG11 | 48:BP:39:ILE:HD12 | 1.86 | 0.57 |
| 49:BQ:26:ARG:HD3 | 49:BQ:43:CYS:HB2 | 1.85 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 54:BV:5:LEU:CG | 54:BV:9:VAL:HG22 | 2.34 | 0.57 |
| 55:BW:62:LEU:HA | 55:BW:65:LYS:HG3 | 1.87 | 0.57 |
| 55:BW:86:ARG:HG2 | 55:BW:87:LYS:HG3 | 1.84 | 0.57 |
| 2:AA:16:G:H4' | 29:A5:18:MET:SD | 2.44 | 0.57 |
| 2:AA:137(A):G:C8 | 2:AA:138:G:N1 | 2.70 | 0.57 |
| 2:AA:200:U:C3' | 2:AA:201:C:H5' | 2.34 | 0.57 |
| 2:AA:223:A:C6 | 2:AA:408:G:O4' | 2.58 | 0.57 |
| 2:AA:246:C:N4 | 2:AA:247:G:N1 | 2.53 | 0.57 |
| 2:AA:356:G:H8 | 2:AA:356:G:O5' | 1.87 | 0.57 |
| 2:AA:480:A:C2' | 2:AA:481:G:OP1 | 2.52 | 0.57 |
| 2:AA:539:G:C2 | 2:AA:540:G:C5 | 2.92 | 0.57 |
| 2:AA:580:C:H2' | 2:AA:581:C:C5 | 2.39 | 0.57 |
| 2:AA:604:G:H21 | 2:AA:657:U:H4' | 1.70 | 0.57 |
| 2:AA:604:G:H2' | 2:AA:605:C:H6 | 1.70 | 0.57 |
| 2:AA:641:C:N3 | 2:AA:647:G:N2 | 2.53 | 0.57 |
| 2:AA:783:A:H5" | 4:AD:230:ASN:HD21 | 1.68 | 0.57 |
| 2:AA:783:A:C2' | 2:AA:784:A:O5' | 2.52 | 0.57 |
| 2:AA:800:A:H1' | 2:AA:802:A:H5' | 1.86 | 0.57 |
| 2:AA:909:A:N1 | 2:AA:912:C:H1' | 2.20 | 0.57 |
| 2:AA:971:C:N4 | 2:AA:972:G:H21 | 1.99 | 0.57 |
| 2:AA:989:G:O2' | 2:AA:990:A:P | 2.62 | 0.57 |
| 2:AA:996:A:C5 | 2:AA:1160:G:C2 | 2.93 | 0.57 |
| 2:AA:1063:G:H5' | 11:AL:135:MET:SD | 2.45 | 0.57 |
| 2:AA:1065:U:H2' | 2:AA:1066:U:H5" | 1.86 | 0.57 |
| 2:AA:1084:A:P | 9:AI:37:VAL:CA | 2.92 | 0.57 |
| 2:AA:1162:G:H4' | 26:A2:23:GLU:CB | 2.34 | 0.57 |
| 2:AA:1444:G:C3' | 2:AA:1445:C:H5 | 2.18 | 0.57 |
| 2:AA:1513:C:H6 | 2:AA:1513:C:H3' | 1.70 | 0.57 |
| 2:AA:1518:C:H3' | 2:AA:1519:G:O4' | 2.05 | 0.57 |
| 2:AA:1519:G:OP1 | 2:AA:1519:G:O3' | 2.22 | 0.57 |
| 2:AA:1529:A:N7 | 2:AA:1543:A:H8 | 2.01 | 0.57 |
| 2:AA:1650:G:C6 | 2:AA:2008:C:N3 | 2.73 | 0.57 |
| 2:AA:1769:G:O2' | 2:AA:1770:G:O5' | 2.22 | 0.57 |
| 2:AA:1819:A:H4' | 2:AA:1820:U:O5' | 2.03 | 0.57 |
| 2:AA:1823:G:C2' | 2:AA:1824:G:O5' | 2.52 | 0.57 |
| 2:AA:1913:A:N7 | 2:AA:1918:A:N1 | 2.49 | 0.57 |
| 2:AA:1936:A:N3 | 2:AA:1940:U:C2 | 2.72 | 0.57 |
| 2:AA:1939:U:OP2 | 2:AA:1939:U:C3' | 2.52 | 0.57 |
| 2:AA:1971:A:C3' | 2:AA:1971:A:C8 | 2.86 | 0.57 |
| 2:AA:2015:A:C8 | 2:AA:2016:U:C5 | 2.93 | 0.57 |
| 2:AA:2250:G:N7 | 15:AP:102:ARG:CA | 2.56 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2422:A:C2' | 2:AA:2424:C:C5 | 2.88 | 0.57 |
| 2:AA:2483:C:C4 | 2:AA:2484:G:N7 | 2.73 | 0.57 |
| 2:AA:2615:U:C2' | 2:AA:2616:C:O5' | 2.53 | 0.57 |
| 2:AA:2633:G:C2 | 2:AA:2634:G:C5 | 2.93 | 0.57 |
| 2:AA:2699:C:C4 | 2:AA:2708:G:N1 | 2.69 | 0.57 |
| 2:AA:2815:C:O2 | 2:AA:2816:C:C6 | 2.57 | 0.57 |
| 3:AC:59:ARG:HG3 | 3:AC:139:ASN:HD21 | 1.69 | 0.57 |
| 3:AC:74:VAL:HG21 | 3:AC:156:ILE:HD12 | 1.86 | 0.57 |
| 3:AC:225:ASN:C | 3:AC:227:HIS:H | 2.04 | 0.57 |
| 4:AD:68:ARG:HH21 | 4:AD:190:THR:CG2 | 2.18 | 0.57 |
| 6:AF:63:SER:C | 6:AF:65:ARG:H | 2.07 | 0.57 |
| 6:AF:196:THR:HB | 6:AF:200:PRO:HA | 1.85 | 0.57 |
| 6:AF:225:PRO:O | 6:AF:231:ARG:CG | 2.48 | 0.57 |
| 8:AH:82:TYR:CE1 | 8:AH:137:LYS:HG3 | 2.39 | 0.57 |
| 11:AL:18:ALA:HB3 | 11:AL:43:ASN:HD21 | 1.66 | 0.57 |
| 12:AM:14:ALA:HB1 | 12:AM:17:CYS:SG | 2.44 | 0.57 |
| 12:AM:54:VAL:CB | 12:AM:135:ILE:HD12 | 2.35 | 0.57 |
| 12:AM:108:PRO:C | 12:AM:109:TYR:CD1 | 2.78 | 0.57 |
| 13:AN:87:ILE:CG2 | 13:AN:92:SER:H | 2.15 | 0.57 |
| 15:AP:20:ILE:HG13 | 15:AP:21:SER:N | 2.10 | 0.57 |
| 18:AS:88:ARG:HA | 18:AS:93:ALA:N | 2.18 | 0.57 |
| 19:AT:3:ASP:C | 19:AT:4:VAL:HG22 | 2.25 | 0.57 |
| 20:AU:4:PRO:O | 20:AU:5:ASP:HB2 | 2.05 | 0.57 |
| 20:AU:15:PRO:HD2 | 20:AU:18:GLU:OE2 | 2.04 | 0.57 |
| 20:AU:27:LEU:HB3 | 20:AU:98:VAL:HB | 1.85 | 0.57 |
| 21:AV:13:LYS:O | 21:AV:15:ASP:N | 2.38 | 0.57 |
| 21:AV:19:ILE:HG23 | 21:AV:80:HIS:H | 1.69 | 0.57 |
| 22:AW:20:LEU:HD13 | 22:AW:23:LEU:HB2 | 1.87 | 0.57 |
| 34:BA:29:G:C5' | 34:BA:296:U:OP1 | 2.53 | 0.57 |
| 34:BA:101:A:C4 | 34:BA:102:G:C8 | 2.92 | 0.57 |
| 34:BA:103:C:H1' | 34:BA:151:A:C2 | 2.40 | 0.57 |
| 34:BA:112:G:H4' | 34:BA:389:A:H5" | 1.87 | 0.57 |
| 34:BA:132:C:C6 | 34:BA:133:U:C5 | 2.92 | 0.57 |
| 34:BA:225:C:N3 | 34:BA:226:G:C8 | 2.72 | 0.57 |
| 34:BA:253:U:OP2 | 52:BT:67:LYS:HE3 | 2.05 | 0.57 |
| 34:BA:421:U:H5" | 34:BA:422:C:C5 | 2.36 | 0.57 |
| 34:BA:432:A:N7 | 34:BA:433:C:C4 | 2.72 | 0.57 |
| 34:BA:695:A:C2 | 34:BA:787:A:H4' | 2.39 | 0.57 |
| 34:BA:748:C:O2' | 34:BA:749:C:O4' | 2.22 | 0.57 |
| 34:BA:775:G:O2' | 34:BA:776:G:C5' | 2.52 | 0.57 |
| 34:BA:985:C:H42 | 34:BA:1220:G:H1 | 0.69 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:988:G:C6 | 34:BA:989:C:N3 | 2.72 | 0.57 |
| 34:BA:1087:G:N2 | 34:BA:1099:G:H1' | 2.18 | 0.57 |
| 34:BA:1095:U:H2' | 34:BA:1096:C:O4' | 2.05 | 0.57 |
| 34:BA:1236:A:H5" | 56:BX:2:GLY:N | 2.20 | 0.57 |
| 34:BA:1352:C:C4 | 34:BA:1371:G:C6 | 2.92 | 0.57 |
| 34:BA:1487:G:O2' | 34:BA:1488:G:H5' | 2.04 | 0.57 |
| 37:BE:25:ASN:HD21 | 37:BE:27:LYS:CG | 2.17 | 0.57 |
| 37:BE:97:TRP:CH2 | 37:BE:173:ALA:HA | 2.40 | 0.57 |
| 39:BG:4:TYR:O | 39:BG:5:ILE:HB | 2.03 | 0.57 |
| 39:BG:93:PHE:CZ | 39:BG:97:LEU:HD11 | 2.39 | 0.57 |
| 39:BG:133:VAL:HG11 | 39:BG:138:TYR:CD1 | 2.40 | 0.57 |
| 40:BH:31:LEU:HD23 | 40:BH:32:VAL:N | 2.20 | 0.57 |
| 40:BH:81:GLU:CD | 40:BH:81:GLU:N | 2.58 | 0.57 |
| 42:BJ:71:PRO:HG2 | 42:BJ:96:GLN:HA | 1.87 | 0.57 |
| 43:BK:51:VAL:HG12 | 43:BK:52:ASP:N | 2.20 | 0.57 |
| 44:BL:28:VAL:N | 44:BL:31:GLN:O | 2.31 | 0.57 |
| 45:BM:78:ASN:N | 45:BM:78:ASN:ND2 | 2.52 | 0.57 |
| 47:BO:41:ARG:CG | 47:BO:42:THR:H | 1.98 | 0.57 |
| 48:BP:14:ARG:N | 48:BP:44:ARG:CD | 2.67 | 0.57 |
| 50:BR:4:THR:OG1 | 50:BR:7:GLU:OE2 | 2.20 | 0.57 |
| 53:BU:21:LYS:HZ3 | 53:BU:23:LYS:H | 1.52 | 0.57 |
| 55:BW:51:GLU:O | 55:BW:54:LYS:HB2 | 2.04 | 0.57 |
| 55:BW:57:ARG:O | 55:BW:58:LYS:C | 2.42 | 0.57 |
| 1:AB:40:U:C3' | 1:AB:41:U:H5' | 2.35 | 0.57 |
| 2:AA:106:C:C2' | 2:AA:107:C:C5' | 2.81 | 0.57 |
| 2:AA:245:G:OP1 | 14:AO:53:ARG:HB2 | 2.04 | 0.57 |
| 2:AA:270(A):A:C5 | 2:AA:270(X):G:N2 | 2.73 | 0.57 |
| 2:AA:278:A:H3' | 2:AA:278:A:C8 | 2.39 | 0.57 |
| 2:AA:297:C:N3 | 2:AA:342:G:N2 | 2.52 | 0.57 |
| 2:AA:451:C:OP1 | 6:AF:49:ASP:HB2 | 2.03 | 0.57 |
| 2:AA:468:G:H2' | 2:AA:469:G:C5' | 2.35 | 0.57 |
| 2:AA:492:A:H2' | 2:AA:493:G:O5' | 2.04 | 0.57 |
| 2:AA:494:G:C4' | 18:AS:6:ILE:O | 2.53 | 0.57 |
| 2:AA:522:G:O2' | 2:AA:523:C:H5' | 2.04 | 0.57 |
| 2:AA:533:G:H1' | 2:AA:561:G:N2 | 2.20 | 0.57 |
| 2:AA:536:A:P | 2:AA:994:C:H42 | 2.28 | 0.57 |
| 2:AA:608:A:H2' | 2:AA:609:A:C5' | 2.34 | 0.57 |
| 2:AA:674:G:H5" | 6:AF:69:HIS:HA | 1.86 | 0.57 |
| 2:AA:693:C:H2' | 2:AA:694:U:H6 | 1.70 | 0.57 |
| 2:AA:853:G:N1 | 2:AA:924:C:N4 | 2.52 | 0.57 |
| 2:AA:870:A:N1 | 2:AA:907:U:C2 | 2.73 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:933:A:H2' | 2:AA:934:G:C5' | 2.35 | 0.57 |
| 2:AA:973:A:C8 | 26:A2:80:TYR:HD2 | 2.22 | 0.57 |
| 2:AA:1056:G:N2 | 2:AA:1104:C:N4 | 2.53 | 0.57 |
| 2:AA:1097:U:H2' | 2:AA:1098:A:O5' | 2.04 | 0.57 |
| 2:AA:142(A):A:C6 | 2:AA:1143:A:N7 | 2.73 | 0.57 |
| 2:AA:1202:C:H1' | 2:AA:1244:G:N2 | 2.20 | 0.57 |
| 2:AA:1263:U:C4' | 29:A5:16:ARG:CZ | 2.74 | 0.57 |
| 2:AA:1356:G:H1 | 2:AA:1375:C:N4 | 2.03 | 0.57 |
| 2:AA:1449:A:C2 | 2:AA:449(A):G:N9 | 2.73 | 0.57 |
| 2:AA:1525:G:H2' | 2:AA:1526:G:O5' | 2.05 | 0.57 |
| 2:AA:1582:C:O3' | 2:AA:1583:A:H4' | 2.04 | 0.57 |
| 2:AA:1665:A:HO2' | 13:AN:67:ARG:NH1 | 2.03 | 0.57 |
| 2:AA:1675:C:C5 | 5:AE:225:LYS:CG | 2.88 | 0.57 |
| 2:AA:1717:G:C6 | 2:AA:1742:C:C2 | 2.92 | 0.57 |
| 2:AA:1789:A:C4 | 2:AA:1790:C:H6 | 2.23 | 0.57 |
| 2:AA:1812:A:H2' | 2:AA:1813:G:O4' | 2.05 | 0.57 |
| 2:AA:1814:G:H2' | 2:AA:1815:A:C8 | 2.40 | 0.57 |
| 2:AA:1826:G:OP1 | 4:AD:227:VAL:CG2 | 2.52 | 0.57 |
| 2:AA:1842:G:C5 | 2:AA:1843:C:C5 | 2.93 | 0.57 |
| 2:AA:1917:U:H5 | 2:AA:1918:A:C4 | 2.23 | 0.57 |
| 2:AA:1947:C:C2 | 2:AA:1948:G:C8 | 2.92 | 0.57 |
| 2:AA:2003:G:C6 | 2:AA:2004:G:C6 | 2.93 | 0.57 |
| 2:AA:2051:A:C5 | 2:AA:2614:A:N6 | 2.72 | 0.57 |
| 2:AA:2259:G:N2 | 2:AA:2282:G:C4 | 2.72 | 0.57 |
| 2:AA:2278:A:H4' | 15:AP:19:TYR:HB3 | 1.87 | 0.57 |
| 2:AA:2305:A:C2 | 7:AG:72:LYS:CE | 2.87 | 0.57 |
| 2:AA:2582:G:H5' | 2:AA:2582:G:H8 | 1.70 | 0.57 |
| 2:AA:2641:G:C6 | 2:AA:2774:C:C4 | 2.93 | 0.57 |
| 2:AA:2777:G:C8 | 2:AA:2777:G:O5' | 2.58 | 0.57 |
| 2:AA:2817:G:C2 | 2:AA:2830:G:C5 | 2.91 | 0.57 |
| 2:AA:2819:G:H3' | 2:AA:2821:A:N6 | 2.09 | 0.57 |
| 2:AA:2892:A:H3' | 2:AA:2893:G:C8 | 2.39 | 0.57 |
| 6:AF:93:LYS:HB3 | 6:AF:95:GLU:C | 2.24 | 0.57 |
| 6:AF:103:ASN:HB3 | 6:AF:106:GLU:HG3 | 1.86 | 0.57 |
| 6:AF:200:PRO:CB | 6:AF:205:ARG:HD3 | 2.35 | 0.57 |
| 7:AG:45:THR:HG22 | 7:AG:83:PHE:CZ | 2.38 | 0.57 |
| 7:AG:51:ARG:NH1 | 7:AG:72:LYS:HB2 | 2.08 | 0.57 |
| 8:AH:7:PRO:HA | 8:AH:50:THR:OG1 | 2.03 | 0.57 |
| 10:AK:1:MET:HE2 | 10:AK:23:ASP:O | 2.05 | 0.57 |
| 10:AK:37:ILE:HG23 | 10:AK:38:GLU:H | 1.69 | 0.57 |
| 11:AL:28:LEU:HB3 | 11:AL:33:VAL:CB | 2.35 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:AL:33:VAL:HG22 | 11:AL:60:VAL:HG11 | 1.86 | 0.57 |
| 12:AM:15:ARG:HG3 | 12:AM:40:ASN:ND2 | 2.20 | 0.57 |
| 13:AN:103:ALA:HB3 | 13:AN:105:GLU:CG | 2.34 | 0.57 |
| 14:AO:94:ARG:O | 14:AO:120:LEU:HD13 | 2.05 | 0.57 |
| 14:AO:142:LEU:O | 14:AO:145:LEU:HD12 | 2.05 | 0.57 |
| 15:AP:15:THR:O | 15:AP:16:ARG:CG | 2.53 | 0.57 |
| 15:AP:93:ILE:HG13 | 15:AP:110:GLY:HA3 | 1.86 | 0.57 |
| 18:AS:55:ALA:CB | 18:AS:107:LEU:HD11 | 2.34 | 0.57 |
| 19:AT:44:GLN:NE2 | 19:AT:44:GLN:O | 2.37 | 0.57 |
| 21:AV:148:THR:CG2 | 21:AV:168:VAL:H | 2.07 | 0.57 |
| 21:AV:163:ASP:CG | 21:AV:164:PRO:CD | 2.72 | 0.57 |
| 23:AX:3:ARG:HB2 | 23:AX:59:VAL:O | 2.03 | 0.57 |
| 24:A0:48:VAL:O | 24:A0:51:LEU:HB2 | 2.04 | 0.57 |
| 24:A0:100:LEU:C | 29:A5:44:HIS:CD2 | 2.78 | 0.57 |
| 30:A6:16:ALA:C | 30:A6:48:VAL:CG1 | 2.73 | 0.57 |
| 32:A8:56:ALA:O | 32:A8:57:ARG:C | 2.43 | 0.57 |
| 32:A8:60:LEU:HD23 | 32:A8:60:LEU:O | 2.04 | 0.57 |
| 34:BA:16:A:H2 | 34:BA:17:U:O4' | 1.87 | 0.57 |
| 34:BA:19:C:H1' | 34:BA:864:A:C2 | 2.40 | 0.57 |
| 34:BA:22:G:O4' | 34:BA:885:G:H1' | 2.05 | 0.57 |
| 34:BA:132:C:O2' | 34:BA:133:U:H6 | 1.87 | 0.57 |
| 34:BA:160:A:H1' | 34:BA:344:A:N7 | 2.19 | 0.57 |
| 34:BA:195:A:C4' | 55:BW:68:LYS:HZ1 | 2.15 | 0.57 |
| 34:BA:442:C:N3 | 34:BA:443:C:C5 | 2.72 | 0.57 |
| 34:BA:520:A:OP2 | 47:BO:51:ALA:HB1 | 2.04 | 0.57 |
| 34:BA:660:G:H2' | 34:BA:661:G:C8 | 2.36 | 0.57 |
| 34:BA:766:A:C5 | 34:BA:814:A:C2 | 2.92 | 0.57 |
| 34:BA:803:G:C6 | 34:BA:804:U:N3 | 2.73 | 0.57 |
| 34:BA:819:A:C2 | 34:BA:1529:G:C5 | 2.93 | 0.57 |
| 34:BA:907:A:H3' | 34:BA:908:A:C8 | 2.39 | 0.57 |
| 34:BA:932:C:H42 | 34:BA:1385:G:H1 | 1.52 | 0.57 |
| 34:BA:1073:U:C2 | 34:BA:1074:G:N7 | 2.73 | 0.57 |
| 34:BA:1076:C:OP1 | 37:BE:179:LYS:NZ | 2.37 | 0.57 |
| 34:BA:1077:G:N2 | 34:BA:1079:G:C3' | 2.66 | 0.57 |
| 34:BA:1186:G:C2 | 34:BA:1187:G:C8 | 2.93 | 0.57 |
| 35:BB:40:C:O2' | 48:BP:120:LYS:HE3 | 2.05 | 0.57 |
| 35:BB:49:C:C4 | 35:BB:50:U:C4 | 2.92 | 0.57 |
| 35:BC:63:C:O2' | 35:BC:64:A:O4' | 2.21 | 0.57 |
| 36:B1:17:G:H2' | 36:B1:18:U:H5 | 1.67 | 0.57 |
| 37:BE:97:TRP:HE1 | 37:BE:102:LEU:HD11 | 1.70 | 0.57 |
| 39:BG:75:PHE:CE1 | 39:BG:93:PHE:CZ | 2.92 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:102:ASP:CG | 39:BG:136:PRO:HB3 | 2.23 | 0.57 |
| 42:BJ:47:CYS:O | 42:BJ:50:ILE:HB | 2.04 | 0.57 |
| 43:BK:93:VAL:CG1 | 43:BK:133:LEU:HD12 | 2.34 | 0.57 |
| 43:BK:95:VAL:CG1 | 43:BK:133:LEU:HD11 | 2.34 | 0.57 |
| 44:BL:72:GLY:HA2 | 44:BL:75:ASP:OD1 | 2.04 | 0.57 |
| 45:BM:42:THR:HG23 | 45:BM:67:THR:O | 2.05 | 0.57 |
| 46:BN:13:GLN:N | 46:BN:75:TYR:HB3 | 2.20 | 0.57 |
| 46:BN:73:MET:SD | 46:BN:103:LEU:CD2 | 2.81 | 0.57 |
| 47:BO:87:GLY:HA2 | 47:BO:98:TYR:HA | 1.87 | 0.57 |
| 47:BO:92:ASP:O | 47:BO:92:ASP:CG | 2.42 | 0.57 |
| 47:BO:102:ARG:C | 47:BO:104:VAL:H | 2.08 | 0.57 |
| 48:BP:54:VAL:O | 48:BP:58:GLU:HG3 | 2.05 | 0.57 |
| 50:BR:39:LEU:CD2 | 50:BR:56:LEU:HD13 | 2.33 | 0.57 |
| 50:BR:74:ASP:C | 50:BR:76:GLU:N | 2.56 | 0.57 |
| 52:BT:27:PHE:O | 52:BT:36:ILE:CD1 | 2.52 | 0.57 |
| 52:BT:70:ARG:C | 52:BT:71:PHE:HD1 | 2.08 | 0.57 |
| 53:BU:34:TYR:CD1 | 53:BU:35:ARG:HG3 | 2.40 | 0.57 |
| 53:BU:34:TYR:CD1 | 53:BU:35:ARG:N | 2.73 | 0.57 |
| 55:BW:42:GLN:CA | 55:BW:42:GLN:HE21 | 2.16 | 0.57 |
| 55:BW:46:GLU:CB | 55:BW:48:LYS:HE2 | 2.35 | 0.57 |
| 56:BX:23:PRO:HB2 | 56:BX:25:LYS:O | 2.04 | 0.57 |
| 1:AB:57:A:C1' | 7:AG:13:MET:SD | 2.93 | 0.57 |
| 2:AA:127:A:H5" | 2:AA:128:C:C6 | 2.40 | 0.57 |
| 2:AA:146:G:H2' | 2:AA:147:U:C5' | 2.35 | 0.57 |
| 2:AA:181:A:H3' | 2:AA:181:A:OP2 | 2.04 | 0.57 |
| 2:AA:197:A:H5" | 2:AA:2068:U:C4 | 2.40 | 0.57 |
| 2:AA:246:C:O2' | 2:AA:385:C:C5' | 2.52 | 0.57 |
| 2:AA:588:U:C6 | 2:AA:589:C:H5 | 2.22 | 0.57 |
| 2:AA:604:G:N2 | 2:AA:657:U:H4' | 2.20 | 0.57 |
| 2:AA:639:U:O2 | 2:AA:649:G:N2 | 2.36 | 0.57 |
| 2:AA:674:G:H4' | 6:AF:69:HIS:C | 2.25 | 0.57 |
| 2:AA:675:A:O2' | 2:AA:676:A:C5' | 2.43 | 0.57 |
| 2:AA:742:G:C2' | 2:AA:743:G:O5' | 2.52 | 0.57 |
| 2:AA:969:U:C2 | 2:AA:970:C:C5 | 2.92 | 0.57 |
| 2:AA:991:C:O2' | 2:AA:992:C:H5' | 2.05 | 0.57 |
| 2:AA:1124:C:H3' | 2:AA:1125:G:C8 | 2.39 | 0.57 |
| 2:AA:1198:U:H2' | 2:AA:1199:U:H6 | 1.69 | 0.57 |
| 2:AA:1198:U:O2 | 2:AA:1199:U:C5 | 2.58 | 0.57 |
| 2:AA:1202:C:C4 | 2:AA:1243:G:C2 | 2.92 | 0.57 |
| 2:AA:1215:G:O3' | 25:A1:8:ILE:CG2 | 2.52 | 0.57 |
| 2:AA:1270:C:O2 | 2:AA:1325:G:N7 | 2.38 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1529:A:N7 | 2:AA:1542:G:O6 | 2.37 | 0.57 |
| 2:AA:1615:C:C5 | 2:AA:1617:C:C6 | 2.93 | 0.57 |
| 2:AA:1726:G:O6 | 2:AA:1727:U:C2 | 2.58 | 0.57 |
| 2:AA:1734:C:O2' | 2:AA:1735:C:H5' | 2.05 | 0.57 |
| 2:AA:1741:C:O2 | 2:AA:1742:C:O4' | 2.23 | 0.57 |
| 2:AA:1794:U:H4' | 2:AA:1900:A:C5 | 2.39 | 0.57 |
| 2:AA:1930:G:C2 | 2:AA:1968:G:N7 | 2.73 | 0.57 |
| 2:AA:2033:A:O2' | 2:AA:2034:U:P | 2.62 | 0.57 |
| 2:AA:2051:A:C8 | 2:AA:2051:A:OP2 | 2.57 | 0.57 |
| 2:AA:2096:U:C2 | 2:AA:2097:C:H5 | 2.22 | 0.57 |
| 2:AA:2123:G:N2 | 3:AC:217:THR:HG23 | 2.20 | 0.57 |
| 2:AA:2409:G:N2 | 2:AA:2410:G:H1' | 2.20 | 0.57 |
| 2:AA:2532:G:N2 | 2:AA:2662:A:H61 | 2.02 | 0.57 |
| 2:AA:2582:G:HO2' | 2:AA:2583:G:H5' | 1.69 | 0.57 |
| 2:AA:2680:C:P | 5:AE:206:LYS:HD2 | 2.44 | 0.57 |
| 2:AA:2690:C:C2' | 2:AA:2691:C:OP2 | 2.52 | 0.57 |
| 2:AA:2738:A:N6 | 2:AA:2767:C:H42 | 2.02 | 0.57 |
| 2:AA:2882:A:C2' | 2:AA:2883:A:O5' | 2.52 | 0.57 |
| 2:AA:2887:U:O2' | 2:AA:2888:C:H5' | 2.04 | 0.57 |
| 3:AC:41:VAL:HG22 | 3:AC:216:THR:CG2 | 2.34 | 0.57 |
| 3:AC:68:LEU:CG | 3:AC:72:VAL:HG21 | 2.34 | 0.57 |
| 3:AC:100:ILE:O | 3:AC:127:LEU:HD21 | 2.05 | 0.57 |
| 5:AE:72:VAL:HG13 | 5:AE:295:LEU:HD21 | 1.85 | 0.57 |
| 5:AE:229:GLN:O | 5:AE:230:GLY:C | 2.42 | 0.57 |
| 5:AE:315:VAL:CG1 | 5:AE:316:ARG:N | 2.60 | 0.57 |
| 6:AF:242:GLU:O | 6:AF:243:VAL:C | 2.43 | 0.57 |
| 9:AI:42:ALA:HB3 | 9:AI:43:PRO:CD | 2.34 | 0.57 |
| 9:AJ:17:GLU:O | 9:AJ:21:LEU:HB2 | 2.05 | 0.57 |
| 9:AJ:118:LEU:HB2 | 9:AJ:125:VAL:CG2 | 2.35 | 0.57 |
| 10:AK:3:VAL:CG2 | 10:AK:21:VAL:H | 2.17 | 0.57 |
| 13:AN:66:LYS:NZ | 13:AN:82:ASN:ND2 | 2.48 | 0.57 |
| 15:AP:48:ASN:ND2 | 15:AP:122:PHE:CA | 2.68 | 0.57 |
| 15:AP:127:ASN:CB | 15:AP:128:PRO:CD | 2.72 | 0.57 |
| 16:AQ:36:ALA:CB | 16:AQ:118:ILE:HD13 | 2.34 | 0.57 |
| 18:AS:15:ARG:O | 18:AS:18:ARG:HB2 | 2.05 | 0.57 |
| 18:AS:45:TYR:CD2 | 18:AS:46:PHE:N | 2.73 | 0.57 |
| 19:AT:23:LYS:HA | 19:AT:66:VAL:O | 2.04 | 0.57 |
| 20:AU:9:LYS:HE3 | 20:AU:13:ARG:NH1 | 2.19 | 0.57 |
| 20:AU:19:ARG:CA | 20:AU:21:LYS:HZ3 | 2.17 | 0.57 |
| 22:AW:27:LEU:HD11 | 22:AW:49:LEU:HB3 | 1.87 | 0.57 |
| 26:A2:52:GLY:O | 26:A2:53:LYS:C | 2.43 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 27:A3:61:ALA:CB | 27:A3:80:SER:HA | 2.35 | 0.57 |
| 29:A5:34:PRO:CD | 29:A5:35:GLN:N | 2.67 | 0.57 |
| 34:BA:110:C:H3' | 34:BA:111:G:H8 | 1.70 | 0.57 |
| 34:BA:133:U:O4 | 34:BA:229:U:O4 | 2.23 | 0.57 |
| 34:BA:152:A:OP2 | 34:BA:153:C:N4 | 2.33 | 0.57 |
| 34:BA:189:G:H2' | 34:BA:190:C:C6 | 2.39 | 0.57 |
| 34:BA:329:A:C6 | 34:BA:332:G:C2 | 2.93 | 0.57 |
| 34:BA:447:G:N2 | 34:BA:487:A:H62 | 2.03 | 0.57 |
| 34:BA:498:U:O2 | 34:BA:499:A:C8 | 2.58 | 0.57 |
| 34:BA:522:C:H5" | 47:BO:120:TYR:OH | 2.05 | 0.57 |
| 34:BA:685:G:H4' | 46:BN:40:ILE:O | 2.04 | 0.57 |
| 34:BA:724:G:N2 | 34:BA:725:G:H1' | 2.20 | 0.57 |
| 34:BA:888:G:H3' | 34:BA:889:A:C8 | 2.40 | 0.57 |
| 34:BA:956:U:OP2 | 34:BA:956:U:C6 | 2.58 | 0.57 |
| 34:BA:1128:C:O2 | 34:BA:1146:A:N6 | 2.37 | 0.57 |
| 34:BA:1128:C:C4 | 34:BA:1139:G:N1 | 2.72 | 0.57 |
| 34:BA:1278:U:H5" | 34:BA:1279:A:C5' | 2.34 | 0.57 |
| 34:BA:1400:C:C6 | 34:BA:1400:C:OP1 | 2.58 | 0.57 |
| 34:BA:1413:A:H61 | 34:BA:1487:G:H1 | 1.53 | 0.57 |
| 35:BB:11:C:C2 | 35:BB:12:U:C6 | 2.92 | 0.57 |
| 35:BB:62:A:HO2' | 35:BB:63:C:H5' | 1.67 | 0.57 |
| 35:BC:25:C:H2' | 35:BC:26:G:O4' | 2.04 | 0.57 |
| 37:BE:118:LEU:HD11 | 37:BE:145:LEU:HG | 1.82 | 0.57 |
| 38:BF:15:THR:CB | 38:BF:181:ASN:OD1 | 2.51 | 0.57 |
| 38:BF:60:ALA:HB3 | 45:BM:92:THR:OG1 | 2.04 | 0.57 |
| 38:BF:159:GLY:HA2 | 38:BF:193:TYR:CD1 | 2.40 | 0.57 |
| 39:BG:19:LEU:C | 39:BG:31:CYS:SG | 2.82 | 0.57 |
| 39:BG:61:LYS:HA | 39:BG:203:VAL:CG2 | 2.34 | 0.57 |
| 39:BG:177:ASP:OD1 | 39:BG:182:LYS:HG3 | 2.05 | 0.57 |
| 43:BK:116:LYS:HB3 | 43:BK:119:LEU:HD11 | 1.87 | 0.57 |
| 44:BL:38:GLN:O | 44:BL:40:LEU:N | 2.37 | 0.57 |
| 53:BU:74:ARG:N | 53:BU:74:ARG:HD2 | 2.16 | 0.57 |
| 54:BV:36:ARG:C | 54:BV:38:SER:H | 2.08 | 0.57 |
| 55:BW:53:LEU:O | 55:BW:56:MET:CB | 2.48 | 0.57 |
| 1:AB:54:G:C4 | 1:AB:55:U:C5 | 2.92 | 0.57 |
| 1:AB:58:A:N6 | 1:AB:59:A:N6 | 2.53 | 0.57 |
| 1:AB:65:C:H2' | 1:AB:66:A:H5' | 1.87 | 0.57 |
| 2:AA:137(A):G:C5 | 2:AA:142:G:N2 | 2.66 | 0.57 |
| 2:AA:154:G:H3' | 2:AA:155:C:H6 | 1.70 | 0.57 |
| 2:AA:251:A:H2' | 2:AA:252:G:C4' | 2.35 | 0.57 |
| 2:AA:270(V):G:C6 | 2:AA:270(W):G:N7 | 2.73 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:463:G:N2 | 2:AA:467:G:N9 | 2.53 | 0.57 |
| 2:AA:479:A:H1' | 2:AA:480:A:C8 | 2.39 | 0.57 |
| 2:AA:528:A:H2 | 2:AA:2043:C:C4' | 2.17 | 0.57 |
| 2:AA:612:G:C4' | 2:AA:616:A:N1 | 2.68 | 0.57 |
| 2:AA:745:G:O2' | 2:AA:746:A:H5' | 2.05 | 0.57 |
| 2:AA:782:A:H4' | 2:AA:783:A:C5 | 2.40 | 0.57 |
| 2:AA:830:G:C5 | 2:AA:2448:A:C8 | 2.93 | 0.57 |
| 2:AA:1021:A:C2 | 2:AA:1023:U:C1' | 2.84 | 0.57 |
| 2:AA:1058:G:N1 | 2:AA:1081:U:C2 | 2.73 | 0.57 |
| 2:AA:1120:G:C5 | 2:AA:1121:C:C5 | 2.93 | 0.57 |
| 2:AA:1142:U:H6 | 2:AA:142(A):A:C5' | 2.03 | 0.57 |
| 2:AA:1144:G:C5 | 2:AA:1145:C:C5 | 2.93 | 0.57 |
| 2:AA:1180:C:O2' | 2:AA:1181:C:O5' | 2.23 | 0.57 |
| 2:AA:1344:G:C2' | 2:AA:1345:C:OP1 | 2.51 | 0.57 |
| 2:AA:1532:C:OP2 | 2:AA:1533:C:H5 | 1.88 | 0.57 |
| 2:AA:1629:U:O2' | 2:AA:2698:U:OP1 | 2.17 | 0.57 |
| 2:AA:1771:C:C2 | 2:AA:1772:G:C8 | 2.93 | 0.57 |
| 2:AA:1840:G:N2 | 2:AA:1841:U:H1' | 2.19 | 0.57 |
| 2:AA:1930:G:N9 | 2:AA:1968:G:O6 | 2.38 | 0.57 |
| 2:AA:2042:A:H62 | 12:AM:90:LYS:NZ | 2.03 | 0.57 |
| 2:AA:2047:U:O2 | 2:AA:2048:G:N7 | 2.38 | 0.57 |
| 2:AA:2225:A:C5' | 2:AA:2226:C:H5' | 2.19 | 0.57 |
| 2:AA:2331:G:H2' | 2:AA:2332:U:C1' | 2.35 | 0.57 |
| 2:AA:2373:G:O2' | 2:AA:2374:C:O5' | 2.22 | 0.57 |
| 2:AA:2554:U:H6 | 2:AA:2554:U:H3' | 1.69 | 0.57 |
| 2:AA:2572:A:H5" | 2:AA:2574:G:H5' | 1.86 | 0.57 |
| 2:AA:2618:G:O2' | 2:AA:2619:C:H5' | 2.04 | 0.57 |
| 2:AA:2850:A:H62 | 2:AA:2866:U:H3 | 1.53 | 0.57 |
| 3:AC:14:VAL:CG2 | 3:AC:32:LEU:HD11 | 2.34 | 0.57 |
| 3:AC:70:LYS:CG | 3:AC:157:LYS:NZ | 2.64 | 0.57 |
| 3:AC:89:ALA:HA | 3:AC:154:ARG:CZ | 2.35 | 0.57 |
| 3:AC:131:LEU:HB2 | 3:AC:137:LEU:CD2 | 2.34 | 0.57 |
| 4:AD:76:ARG:NH1 | 4:AD:113:MET:HB2 | 2.06 | 0.57 |
| 4:AD:173:VAL:O | 4:AD:175:LEU:HD23 | 2.05 | 0.57 |
| 4:AD:208:GLY:CA | 4:AD:211:HIS:NE2 | 2.68 | 0.57 |
| 4:AD:210:LYS:HE2 | 4:AD:211:HIS:CD2 | 2.40 | 0.57 |
| 5:AE:94:ARG:HB3 | 5:AE:95:PRO:HD2 | 1.85 | 0.57 |
| 6:AF:16:VAL:HG12 | 6:AF:17:ASP:H | 1.70 | 0.57 |
| 7:AG:14:ARG:HA | 7:AG:137:PRO:CG | 2.35 | 0.57 |
| 9:AJ:103:LYS:HD3 | 9:AJ:114:ILE:CG1 | 2.34 | 0.57 |
| 10:AK:76:THR:CB | 10:AK:142:LYS:HE2 | 2.35 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:88:ARG:HB3 | 10:AK:122:ARG:CD | 2.34 | 0.57 |
| 11:AL:18:ALA:HB1 | 11:AL:39:CYS:O | 2.04 | 0.57 |
| 12:AM:68:GLY:O | 12:AM:69:TYR:HB2 | 2.05 | 0.57 |
| 13:AN:60:ALA:CB | 13:AN:85:VAL:O | 2.44 | 0.57 |
| 14:AO:131:GLU:HA | 14:AO:134:GLU:OE1 | 2.05 | 0.57 |
| 16:AQ:12:ARG:HD2 | 16:AQ:20:TYR:CZ | 2.39 | 0.57 |
| 17:AR:48:ASN:C | 17:AR:49:LEU:O | 2.41 | 0.57 |
| 18:AS:56:ALA:O | 18:AS:60:ASN:ND2 | 2.38 | 0.57 |
| 19:AT:42:GLU:OE1 | 19:AT:49:VAL:CG2 | 2.53 | 0.57 |
| 21:AV:18:MET:HG3 | 21:AV:35:ASP:CB | 2.33 | 0.57 |
| 25:A1:17:VAL:HG13 | 25:A1:39:LEU:HD12 | 1.85 | 0.57 |
| 26:A2:43:GLU:C | 26:A2:44:GLN:NE2 | 2.57 | 0.57 |
| 27:A3:31:VAL:CG1 | 27:A3:32:LYS:N | 2.67 | 0.57 |
| 28:A4:41:PRO:HB3 | 28:A4:59:PHE:CE1 | 2.37 | 0.57 |
| 28:A4:46:GLU:O | 28:A4:47:GLU:HG3 | 2.05 | 0.57 |
| 28:A4:58:LYS:C | 28:A4:62:ARG:HE | 2.07 | 0.57 |
| 30:A6:28:ARG:O | 30:A6:29:ARG:C | 2.44 | 0.57 |
| 32:A8:20:GLY:O | 32:A8:57:ARG:CZ | 2.52 | 0.57 |
| 34:BA:392:G:C5' | 51:BS:12:LYS:NZ | 2.68 | 0.57 |
| 34:BA:501:C:O2' | 34:BA:549:C:O2 | 2.17 | 0.57 |
| 34:BA:719:C:O2 | 53:BU:50:ILE:CG1 | 2.53 | 0.57 |
| 34:BA:897:C:H2' | 34:BA:898:G:C8 | 2.40 | 0.57 |
| 34:BA:925:G:C6 | 34:BA:1392:G:C6 | 2.93 | 0.57 |
| 34:BA:937:A:H1' | 34:BA:1379:G:C2 | 2.39 | 0.57 |
| 34:BA:944:G:H21 | 34:BA:1339:A:N6 | 1.89 | 0.57 |
| 34:BA:951:G:N2 | 34:BA:952:U:H1' | 2.20 | 0.57 |
| 34:BA:964:A:N6 | 34:BA:965:A:N6 | 2.52 | 0.57 |
| 34:BA:988:G:C6 | 34:BA:989:C:C2 | 2.92 | 0.57 |
| 34:BA:1080:A:C8 | 34:BA:1081:G:C1' | 2.88 | 0.57 |
| 34:BA:1125:U:H2' | 34:BA:1126:U:OP2 | 2.04 | 0.57 |
| 34:BA:1256:A:H61 | 34:BA:1278:U:C2' | 2.18 | 0.57 |
| 34:BA:1260:C:O2' | 34:BA:1283:G:H4' | 2.03 | 0.57 |
| 34:BA:1326:C:O3' | 56:BX:19:GLY:HA3 | 2.05 | 0.57 |
| 34:BA:1366:C:OP2 | 44:BL:117:HIS:NE2 | 2.37 | 0.57 |
| 34:BA:1374:A:C4 | 34:BA:1375:A:C8 | 2.92 | 0.57 |
| 34:BA:1480:G:H2' | 34:BA:1481:U:O5' | 2.04 | 0.57 |
| 34:BA:1494:G:C4 | 34:BA:1495:U:H5 | 2.22 | 0.57 |
| 35:BB:23:A:C2 | 35:BB:24:G:C4 | 2.93 | 0.57 |
| 35:BB:60:C:C4' | 35:BB:61:C:OP2 | 2.53 | 0.57 |
| 35:BC:44:A:C6 | 35:BC:45:G:C2 | 2.93 | 0.57 |
| 36:B1:59:A:OP2 | 36:B1:59:A:C4' | 2.53 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:45:GLN:N | 37:BE:45:GLN:OE1 | 2.36 | 0.57 |
| 37:BE:118:LEU:O | 37:BE:119:GLU:C | 2.42 | 0.57 |
| 37:BE:130:ARG:HB3 | 37:BE:134:GLU:HG3 | 1.85 | 0.57 |
| 37:BE:145:LEU:HD12 | 37:BE:149:LEU:CD1 | 2.35 | 0.57 |
| 37:BE:204:ASN:HD22 | 37:BE:204:ASN:C | 2.07 | 0.57 |
| 38:BF:10:PHE:HZ | 38:BF:178:LEU:HA | 1.66 | 0.57 |
| 38:BF:47:LEU:HD13 | 38:BF:83:ARG:NH2 | 2.20 | 0.57 |
| 38:BF:94:LEU:O | 38:BF:94:LEU:HD23 | 2.04 | 0.57 |
| 38:BF:157:ILE:HD12 | 38:BF:164:ARG:CG | 2.33 | 0.57 |
| 38:BF:159:GLY:O | 38:BF:160:ALA:O | 2.22 | 0.57 |
| 40:BH:109:ILE:HD12 | 40:BH:135:THR:HG22 | 1.85 | 0.57 |
| 42:BJ:68:ASN:HB3 | 42:BJ:135:VAL:HG22 | 1.86 | 0.57 |
| 42:BJ:70:LYS:HB3 | 42:BJ:96:GLN:HG2 | 1.86 | 0.57 |
| 45:BM:24:VAL:HG22 | 45:BM:34:VAL:HG11 | 1.87 | 0.57 |
| 47:BO:84:LEU:CA | 47:BO:104:VAL:HG11 | 2.35 | 0.57 |
| 51:BS:18:ARG:HD3 | 51:BS:35:LYS:HZ2 | 1.68 | 0.57 |
| 53:BU:46:GLU:OE2 | 53:BU:46:GLU:N | 2.37 | 0.57 |
| 53:BU:72:ARG:O | 53:BU:76:LEU:HD23 | 2.05 | 0.57 |
| 54:BV:15:LEU:HD12 | 54:BV:44:MET:HE1 | 1.86 | 0.57 |
| 1:AB:15:A:P | 1:AB:15:A:O4' | 2.63 | 0.57 |
| 1:AB:89:G:H2' | 1:AB:89(A):A:C5 | 2.39 | 0.57 |
| 1:AB:96:G:C6 | 1:AB:97:G:N7 | 2.72 | 0.57 |
| 1:AB:104:A:H2' | 1:AB:105:G:H5' | 1.87 | 0.57 |
| 2:AA:71:A:O2' | 2:AA:72:U:P | 2.62 | 0.57 |
| 2:AA:193:U:H5" | 2:AA:803:U:H1' | 1.86 | 0.57 |
| 2:AA:278:A:H3' | 2:AA:278:A:H8 | 1.70 | 0.57 |
| 2:AA:290:G:H22 | 2:AA:350:U:C1' | 2.17 | 0.57 |
| 2:AA:301:G:C8 | 2:AA:317:G:C2 | 2.93 | 0.57 |
| 2:AA:307:G:H22 | 2:AA:310:A:C4' | 2.17 | 0.57 |
| 2:AA:503:A:H8 | 2:AA:503:A:OP2 | 1.88 | 0.57 |
| 2:AA:595:C:O2' | 2:AA:596:G:H5' | 2.04 | 0.57 |
| 2:AA:675:A:H2' | 2:AA:676:A:N3 | 2.19 | 0.57 |
| 2:AA:901:A:C6 | 2:AA:902:C:C4 | 2.92 | 0.57 |
| 2:AA:1012:U:O2 | 12:AM:21:ARG:CZ | 2.53 | 0.57 |
| 2:AA:1037:G:H22 | 2:AA:1119:C:H1' | 1.70 | 0.57 |
| 2:AA:1084:A:OP2 | 9:AI:35:ALA:C | 2.42 | 0.57 |
| 2:AA:1102:C:H2' | 2:AA:1102:C:O2 | 2.04 | 0.57 |
| 2:AA:1105:U:HO2' | 9:AI:27:ASP:C | 2.03 | 0.57 |
| 2:AA:1364:G:P | 28:A4:3:LYS:HG2 | 2.44 | 0.57 |
| 2:AA:1465:G:C4 | 2:AA:1466:G:C8 | 2.93 | 0.57 |
| 2:AA:1585:C:H5" | 2:AA:1586:A:OP1 | 2.05 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1653:G:C5' | 2:AA:1653:G:C8 | 2.88 | 0.57 |
| 2:AA:1743:G:H2' | 2:AA:1746:G:H5' | 1.87 | 0.57 |
| 2:AA:1770:G:C4 | 2:AA:1771:C:C5 | 2.93 | 0.57 |
| 2:AA:1826:G:OP1 | 4:AD:227:VAL:HG22 | 2.04 | 0.57 |
| 2:AA:1848:A:C2 | 34:BA:702:A:C6 | 2.93 | 0.57 |
| 2:AA:2021:C:C5 | 25:A1:25:TRP:CZ2 | 2.93 | 0.57 |
| 2:AA:2047:U:C2' | 2:AA:2048:G:O5' | 2.53 | 0.57 |
| 2:AA:2078:C:H4' | 2:AA:2434:A:H5' | 1.86 | 0.57 |
| 2:AA:2125:G:C5' | 3:AC:130:ILE:HG13 | 2.35 | 0.57 |
| 2:AA:2127:G:N7 | 2:AA:2174:C:C6 | 2.72 | 0.57 |
| 2:AA:2186:G:C2 | 2:AA:2187:G:O6 | 2.58 | 0.57 |
| 2:AA:2251:G:OP1 | 15:AP:102:ARG:CD | 2.52 | 0.57 |
| 2:AA:2362:G:OP1 | 32:A8:29:LYS:CE | 2.52 | 0.57 |
| 2:AA:2472:G:O6 | 2:AA:2476:A:H4' | 2.04 | 0.57 |
| 2:AA:2654:A:N6 | 2:AA:2667:C:H42 | 2.03 | 0.57 |
| 2:AA:2824:C:N4 | 2:AA:2825:C:C2 | 2.73 | 0.57 |
| 2:AA:2879:C:C5' | 2:AA:2880:C:OP1 | 2.51 | 0.57 |
| 4:AD:130:PRO:HB2 | 4:AD:132:GLU:HB3 | 1.86 | 0.57 |
| 4:AD:160:SER:C | 4:AD:176:ALA:HB2 | 2.24 | 0.57 |
| 4:AD:174:ARG:NH1 | 4:AD:174:ARG:CG | 2.60 | 0.57 |
| 5:AE:269:ILE:HD11 | 5:AE:297:LYS:N | 2.20 | 0.57 |
| 6:AF:35:VAL:HG12 | 6:AF:39:GLN:HE21 | 1.69 | 0.57 |
| 6:AF:86:GLY:O | 6:AF:87:ARG:HB2 | 2.05 | 0.57 |
| 8:AH:150:VAL:O | 8:AH:152:PRO:HD3 | 2.05 | 0.57 |
| 9:AI:4:ASP:CG | 11:AL:114:PRO:O | 2.43 | 0.57 |
| 9:AJ:85:LEU:HD12 | 11:AL:57:VAL:HG12 | 1.87 | 0.57 |
| 10:AK:112:LYS:C | 10:AK:114:LYS:N | 2.57 | 0.57 |
| 10:AK:131:VAL:O | 10:AK:133:LEU:HG | 2.04 | 0.57 |
| 11:AL:56:VAL:HG12 | 11:AL:58:ILE:CG1 | 2.35 | 0.57 |
| 12:AM:53:ILE:HG23 | 12:AM:135:ILE:CD1 | 2.35 | 0.57 |
| 12:AM:63:ILE:HD12 | 12:AM:71:TYR:CE2 | 2.40 | 0.57 |
| 12:AM:83:ILE:HG13 | 12:AM:84:ARG:N | 2.20 | 0.57 |
| 15:AP:34:GLY:CA | 15:AP:74:ASN:O | 2.47 | 0.57 |
| 15:AP:60:ALA:O | 15:AP:63:ALA:HB3 | 2.05 | 0.57 |
| 18:AS:36:LEU:CD1 | 18:AS:48:ALA:HA | 2.34 | 0.57 |
| 18:AS:80:PRO:O | 18:AS:100:THR:OG1 | 2.14 | 0.57 |
| 19:AT:7:HIS:HB2 | 19:AT:8:PRO:HD2 | 1.87 | 0.57 |
| 19:AT:37:VAL:O | 19:AT:41:VAL:HG23 | 2.05 | 0.57 |
| 21:AV:13:LYS:HZ3 | 21:AV:33:ALA:HA | 1.64 | 0.57 |
| 21:AV:122:ILE:O | 21:AV:161:ALA:HB3 | 2.05 | 0.57 |
| 24:A0:51:LEU:CD2 | 24:A0:70:LEU:HD21 | 2.32 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:99:LYS:O | 29:A5:44:HIS:NE2 | 2.38 | 0.57 |
| 27:A3:14:ARG:C | 27:A3:14:ARG:CD | 2.68 | 0.57 |
| 28:A4:14:ILE:HD12 | 28:A4:39:VAL:HG21 | 1.86 | 0.57 |
| 32:A8:9:MET:O | 32:A8:14:ILE:CB | 2.52 | 0.57 |
| 34:BA:17:U:C2 | 34:BA:18:C:C5 | 2.93 | 0.57 |
| 34:BA:28:G:H1 | 34:BA:555:C:H42 | 1.52 | 0.57 |
| 34:BA:62:U:H4' | 34:BA:385:C:O2 | 2.04 | 0.57 |
| 34:BA:163:C:H2' | 34:BA:164:U:O4' | 2.04 | 0.57 |
| 34:BA:236:G:C5' | 52:BT:42:TYR:OH | 2.53 | 0.57 |
| 34:BA:285:G:C4 | 34:BA:286:G:C8 | 2.93 | 0.57 |
| 34:BA:285:G:C6 | 34:BA:286:G:N7 | 2.73 | 0.57 |
| 34:BA:328:C:O2' | 34:BA:329:A:OP2 | 2.22 | 0.57 |
| 34:BA:373:A:C8 | 34:BA:482:A:N7 | 2.73 | 0.57 |
| 34:BA:530:G:C5 | 35:BB:35:A:O4' | 2.57 | 0.57 |
| 34:BA:538:G:OP1 | 47:BO:113:ARG:HD3 | 2.05 | 0.57 |
| 34:BA:598:U:C4' | 43:BK:94:TYR:CD2 | 2.87 | 0.57 |
| 34:BA:712:A:O2' | 34:BA:713:G:H5' | 2.05 | 0.57 |
| 34:BA:716:A:H1' | 46:BN:118:GLY:CA | 2.35 | 0.57 |
| 34:BA:814:A:O2' | 34:BA:815:A:O5' | 2.22 | 0.57 |
| 34:BA:880:C:C2' | 34:BA:881:G:O5' | 2.52 | 0.57 |
| 34:BA:1141:C:C2 | 34:BA:1142:G:C8 | 2.93 | 0.57 |
| 34:BA:1227:A:C2' | 48:BP:115:LYS:HB3 | 2.34 | 0.57 |
| 34:BA:1269:A:N6 | 34:BA:1312:G:O2' | 2.37 | 0.57 |
| 34:BA:1342:C:O2' | 44:BL:124:GLN:HB2 | 2.04 | 0.57 |
| 34:BA:1387:G:C6 | 34:BA:1388:C:N4 | 2.73 | 0.57 |
| 34:BA:1399:C:N4 | 34:BA:1504:G:H1 | 2.03 | 0.57 |
| 34:BA:1438:G:C5 | 34:BA:1439:C:C5 | 2.93 | 0.57 |
| 34:BA:1451:A:H3' | 34:BA:1451:A:H8 | 1.69 | 0.57 |
| 35:BB:18:G:N2 | 35:BB:57:G:C4 | 2.73 | 0.57 |
| 35:BB:23:A:C2 | 35:BB:24:G:C2 | 2.93 | 0.57 |
| 35:BC:34:G:H2' | 35:BC:35:A:H5" | 1.87 | 0.57 |
| 37:BE:75:LYS:HE3 | 37:BE:78:GLN:CG | 2.34 | 0.57 |
| 37:BE:80:ILE:HD12 | 37:BE:208:ILE:HG12 | 1.86 | 0.57 |
| 37:BE:132:LYS:HB2 | 37:BE:133:LYS:CE | 2.34 | 0.57 |
| 38:BF:84:ILE:HG13 | 38:BF:101:LEU:CG | 2.35 | 0.57 |
| 39:BG:30:LYS:C | 39:BG:32:ALA:N | 2.59 | 0.57 |
| 39:BG:43:HIS:CA | 39:BG:46:LYS:HG3 | 2.35 | 0.57 |
| 39:BG:100:ARG:O | 39:BG:103:ASN:HB3 | 2.05 | 0.57 |
| 40:BH:78:HIS:HB3 | 43:BK:107:LEU:CD1 | 2.34 | 0.57 |
| 40:BH:103:GLY:O | 40:BH:106:PRO:HD2 | 2.04 | 0.57 |
| 40:BH:105:VAL:O | 40:BH:106:PRO:C | 2.43 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:32:ARG:O | 42:BJ:33:ASP:HB2 | 2.05 | 0.57 |
| 43:BK:6:ILE:HG21 | 43:BK:85:ARG:HH12 | 1.69 | 0.57 |
| 43:BK:120:THR:O | 43:BK:123:GLU:OE2 | 2.23 | 0.57 |
| 44:BL:10:ARG:C | 44:BL:104:ARG:HH21 | 2.08 | 0.57 |
| 45:BM:48:THR:OG1 | 45:BM:62:HIS:HB3 | 2.05 | 0.57 |
| 46:BN:73:MET:O | 46:BN:74:ALA:C | 2.42 | 0.57 |
| 48:BP:37:THR:HG21 | 48:BP:56:LEU:HD23 | 1.87 | 0.57 |
| 50:BR:36:ILE:HG13 | 50:BR:59:MET:HE1 | 1.86 | 0.57 |
| 50:BR:70:LEU:HG | 50:BR:78:TYR:HB2 | 1.85 | 0.57 |
| 51:BS:78:GLY:O | 51:BS:79:VAL:HG22 | 2.05 | 0.57 |
| 52:BT:53:LEU:HD21 | 52:BT:85:VAL:HG11 | 1.87 | 0.57 |
| 53:BU:56:THR:CB | 53:BU:58:LEU:HG | 2.27 | 0.57 |
| 53:BU:73:ALA:HB1 | 53:BU:79:LEU:HD11 | 1.87 | 0.57 |
| 54:BV:33:THR:O | 54:BV:57:HIS:HE1 | 1.88 | 0.57 |
| 54:BV:51:VAL:O | 54:BV:58:VAL:HG22 | 2.05 | 0.57 |
| 55:BW:82:SER:OG | 55:BW:83:ARG:N | 2.37 | 0.57 |
| 1:AB:8:U:C2 | 1:AB:9:G:N7 | 2.73 | 0.56 |
| 1:AB:74:U:C2' | 1:AB:75:G:H8 | 2.18 | 0.56 |
| 2:AA:18:C:N3 | 2:AA:19:C:C5 | 2.73 | 0.56 |
| 2:AA:48:G:C2 | 2:AA:178:G:N1 | 2.73 | 0.56 |
| 2:AA:48:G:C4 | 2:AA:178:G:N2 | 2.73 | 0.56 |
| 2:AA:134:C:C4 | 2:AA:135:G:N7 | 2.73 | 0.56 |
| 2:AA:161:U:H4' | 2:AA:162:U:C2 | 2.40 | 0.56 |
| 2:AA:185:U:H2' | 2:AA:186:G:C8 | 2.37 | 0.56 |
| 2:AA:214:G:H22 | 2:AA:215:G:N2 | 2.02 | 0.56 |
| 2:AA:240:G:N1 | 2:AA:241:A:N6 | 2.52 | 0.56 |
| 2:AA:242:G:H2' | 2:AA:254:G:C6 | 2.39 | 0.56 |
| 2:AA:284:U:H3 | 2:AA:357:A:N6 | 2.02 | 0.56 |
| 2:AA:306:U:C5 | 2:AA:307:G:N9 | 2.73 | 0.56 |
| 2:AA:343:C:HO2' | 2:AA:344:G:H5' | 1.69 | 0.56 |
| 2:AA:582:G:H8 | 2:AA:582:G:O5' | 1.87 | 0.56 |
| 2:AA:635:C:H2' | 2:AA:636:G:O4' | 2.05 | 0.56 |
| 2:AA:673:C:OP1 | 6:AF:81:PRO:CD | 2.53 | 0.56 |
| 2:AA:678:C:C4 | 2:AA:679:C:C5 | 2.93 | 0.56 |
| 2:AA:714:U:O5' | 2:AA:714:U:H6 | 1.88 | 0.56 |
| 2:AA:743:G:C2 | 2:AA:755:C:C2 | 2.92 | 0.56 |
| 2:AA:783:A:O2' | 2:AA:784:A:P | 2.63 | 0.56 |
| 2:AA:812:C:H42 | 2:AA:1195:G:H1 | 1.52 | 0.56 |
| 2:AA:821:A:H2' | 2:AA:946:G:H5' | 1.85 | 0.56 |
| 2:AA:851:U:O4' | 23:AX:46:ASN:OD1 | 2.23 | 0.56 |
| 2:AA:953:A:N6 | 2:AA:965:C:N4 | 2.53 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:954:G:P | 15:AP:10:ILE:HG22 | 2.45 | 0.56 |
| 2:AA:973:A:C6 | 26:A2:81:ARG:HG3 | 2.39 | 0.56 |
| 2:AA:1018:C:H2' | 2:AA:1019:U:C5' | 2.34 | 0.56 |
| 2:AA:1020:A:C4' | 12:AM:49:ARG:CZ | 2.83 | 0.56 |
| 2:AA:1058:G:H21 | 11:AL:117:ASN:HD21 | 1.51 | 0.56 |
| 2:AA:1061:U:C4' | 2:AA:1070:A:C1' | 2.63 | 0.56 |
| 2:AA:1066:U:C2 | 2:AA:1069:A:OP2 | 2.57 | 0.56 |
| 2:AA:1317:A:O5' | 2:AA:1317:A:H8 | 1.87 | 0.56 |
| 2:AA:1344:G:C6 | 2:AA:1385:G:N7 | 2.73 | 0.56 |
| 2:AA:1353:A:N1 | 2:AA:1354:A:C5 | 2.72 | 0.56 |
| 2:AA:1449:A:C2' | 2:AA:449(A):G:O5' | 2.53 | 0.56 |
| 2:AA:1498:C:H3' | 2:AA:1499:C:C6 | 2.38 | 0.56 |
| 2:AA:1501:C:O4' | 4:AD:98:GLY:HA2 | 2.04 | 0.56 |
| 2:AA:1571:A:N3 | 2:AA:1571:A:C2' | 2.68 | 0.56 |
| 2:AA:1593:G:H2' | 2:AA:1594:G:H8 | 1.69 | 0.56 |
| 2:AA:1805:U:H5" | 4:AD:235:PRO:HB3 | 1.87 | 0.56 |
| 2:AA:2078:C:O2' | 2:AA:2079:U:H5' | 2.05 | 0.56 |
| 2:AA:2107:C:N3 | 2:AA:2182:G:C2 | 2.73 | 0.56 |
| 2:AA:2251:G:C5' | 15:AP:102:ARG:CZ | 2.82 | 0.56 |
| 2:AA:2277:G:O3' | 15:AP:15:THR:CG2 | 2.53 | 0.56 |
| 2:AA:2312:U:C2' | 7:AG:72:LYS:NZ | 2.65 | 0.56 |
| 2:AA:2313:C:OP1 | 7:AG:51:ARG:CG | 2.53 | 0.56 |
| 2:AA:2320:A:H1' | 2:AA:2333:A:H62 | 1.65 | 0.56 |
| 2:AA:2320:A:N1 | 16:AQ:13:ARG:CD | 2.68 | 0.56 |
| 2:AA:2320:A:H2 | 2:AA:2333:A:C4 | 2.23 | 0.56 |
| 2:AA:2371:G:O3' | 30:A6:47:HIS:CE1 | 2.58 | 0.56 |
| 2:AA:2447:G:C6 | 2:AA:2501:C:O2 | 2.58 | 0.56 |
| 2:AA:2660:A:O2' | 2:AA:2661:G:H5' | 2.05 | 0.56 |
| 2:AA:2684:U:H5' | 13:AN:76:TYR:CE1 | 2.40 | 0.56 |
| 2:AA:2740:A:C6 | 2:AA:2741:A:C6 | 2.93 | 0.56 |
| 4:AD:77:VAL:N | 4:AD:113:MET:HA | 2.20 | 0.56 |
| 5:AE:199:ALA:HA | 5:AE:314:ALA:CA | 2.34 | 0.56 |
| 5:AE:299:SER:O | 5:AE:301:PRO:N | 2.38 | 0.56 |
| 6:AF:115:LEU:HD13 | 6:AF:118:THR:HG21 | 1.85 | 0.56 |
| 6:AF:219:ASN:O | 6:AF:220:THR:C | 2.42 | 0.56 |
| 7:AG:23:VAL:HG12 | 7:AG:130:VAL:HG12 | 1.87 | 0.56 |
| 7:AG:97:GLN:OE1 | 7:AG:106:PHE:CE2 | 2.58 | 0.56 |
| 9:AI:57:THR:HB | 9:AJ:107:SER:CB | 2.35 | 0.56 |
| 9:AJ:57:THR:O | 9:AJ:58:GLU:HG3 | 2.05 | 0.56 |
| 11:AL:72:THR:HB | 11:AL:112:LYS:HG3 | 1.87 | 0.56 |
| 11:AL:107:GLU:HA | 11:AL:110:LYS:CD | 2.35 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:63:ILE:HB | 12:AM:71:TYR:CZ | 2.40 | 0.56 |
| 13:AN:114:ILE:HG22 | 13:AN:115:ILE:N | 2.20 | 0.56 |
| 15:AP:63:ALA:O | 15:AP:65:ARG:N | 2.38 | 0.56 |
| 18:AS:70:TYR:CD2 | 18:AS:71:VAL:O | 2.58 | 0.56 |
| 19:AT:23:LYS:O | 19:AT:68:LEU:HD21 | 2.05 | 0.56 |
| 19:AT:39:ASP:O | 19:AT:40:ALA:C | 2.41 | 0.56 |
| 20:AU:105:ASP:HB2 | 20:AU:108:ARG:CG | 2.34 | 0.56 |
| 23:AX:17:LYS:O | 23:AX:20:LYS:HB2 | 2.05 | 0.56 |
| 25:A1:115:ASN:C | 25:A1:117:ARG:N | 2.56 | 0.56 |
| 26:A2:4:ILE:O | 26:A2:39:PHE:CE2 | 2.57 | 0.56 |
| 26:A2:21:ARG:C | 26:A2:92:ALA:HB1 | 2.22 | 0.56 |
| 28:A4:68:ARG:HB3 | 28:A4:71:SER:O | 2.05 | 0.56 |
| 31:A7:21:ARG:CZ | 31:A7:43:THR:CG2 | 2.82 | 0.56 |
| 32:A8:21:LYS:HD2 | 32:A8:48:PHE:CE1 | 2.40 | 0.56 |
| 34:BA:226:G:C2 | 34:BA:227:G:C4 | 2.93 | 0.56 |
| 34:BA:228:A:C2' | 34:BA:229:U:H5' | 2.34 | 0.56 |
| 34:BA:409:G:C4 | 34:BA:410:G:C8 | 2.93 | 0.56 |
| 34:BA:451:A:H1' | 34:BA:452:A:C8 | 2.40 | 0.56 |
| 34:BA:451:A:H1' | 34:BA:452:A:C5 | 2.40 | 0.56 |
| 34:BA:647:C:O2' | 34:BA:648:A:H5' | 2.04 | 0.56 |
| 34:BA:676:A:O2' | 34:BA:677:U:H5' | 2.05 | 0.56 |
| 34:BA:715:A:H2' | 34:BA:716:A:O4' | 2.03 | 0.56 |
| 34:BA:774:G:C6 | 34:BA:775:G:C5 | 2.92 | 0.56 |
| 34:BA:795:C:H4' | 34:BA:1506:U:C2 | 2.39 | 0.56 |
| 34:BA:886:G:N1 | 34:BA:912:C:C2 | 2.73 | 0.56 |
| 34:BA:944:G:H3' | 34:BA:945:G:C5' | 2.35 | 0.56 |
| 34:BA:948:C:H2' | 34:BA:949:A:O5' | 2.05 | 0.56 |
| 34:BA:955:U:H2' | 34:BA:956:U:C6 | 2.39 | 0.56 |
| 34:BA:1200:C:H2' | 34:BA:1200:C:O2 | 2.05 | 0.56 |
| 34:BA:1291:G:H2' | 34:BA:1292:U:H6 | 1.68 | 0.56 |
| 34:BA:1425:U:C2 | 34:BA:1426:C:C5 | 2.93 | 0.56 |
| 34:BA:1511:G:N7 | 34:BA:1512:U:C5 | 2.73 | 0.56 |
| 35:BB:19:G:H3' | 35:BB:20:G:N7 | 2.19 | 0.56 |
| 37:BE:55:PHE:O | 37:BE:58:ILE:CB | 2.50 | 0.56 |
| 37:BE:152:PHE:CD1 | 37:BE:152:PHE:C | 2.78 | 0.56 |
| 37:BE:160:ASP:O | 37:BE:161:ALA:HB2 | 2.05 | 0.56 |
| 37:BE:167:PRO:HG3 | 37:BE:192:SER:CB | 2.35 | 0.56 |
| 38:BF:7:PRO:O | 38:BF:11:ARG:HB2 | 2.05 | 0.56 |
| 38:BF:33:LEU:CD1 | 49:BQ:53:LEU:HA | 2.35 | 0.56 |
| 39:BG:30:LYS:C | 39:BG:32:ALA:H | 2.06 | 0.56 |
| 39:BG:52:SER:O | 39:BG:55:ALA:N | 2.38 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:99:SER:HB3 | 39:BG:139:ARG:HG3 | 1.87 | 0.56 |
| 39:BG:155:LEU:N | 39:BG:158:ILE:HG13 | 2.16 | 0.56 |
| 40:BH:80:ILE:HD12 | 40:BH:91:LEU:O | 2.05 | 0.56 |
| 41:BI:39:LYS:HD3 | 41:BI:64:GLN:HE22 | 1.67 | 0.56 |
| 41:BI:50:TYR:O | 41:BI:51:PRO:C | 2.41 | 0.56 |
| 43:BK:17:THR:HB | 43:BK:18:ARG:CZ | 2.35 | 0.56 |
| 43:BK:28:ALA:HB2 | 43:BK:57:PRO:O | 2.04 | 0.56 |
| 43:BK:113:SER:CA | 43:BK:117:GLY:O | 2.42 | 0.56 |
| 44:BL:10:ARG:HA | 44:BL:104:ARG:CG | 2.35 | 0.56 |
| 44:BL:12:GLU:N | 44:BL:104:ARG:HH22 | 1.98 | 0.56 |
| 44:BL:28:VAL:O | 44:BL:30:GLY:N | 2.38 | 0.56 |
| 44:BL:47:LEU:HD13 | 44:BL:50:LEU:HB3 | 1.86 | 0.56 |
| 45:BM:22:LYS:HZ3 | 45:BM:90:LEU:HB2 | 1.68 | 0.56 |
| 45:BM:49:VAL:O | 45:BM:60:ARG:CD | 2.53 | 0.56 |
| 45:BM:63:PHE:CE2 | 49:BQ:48:ALA:HB1 | 2.40 | 0.56 |
| 47:BO:35:GLY:O | 47:BO:82:VAL:CG1 | 2.53 | 0.56 |
| 50:BR:3:ILE:HG23 | 50:BR:38:ARG:HE | 1.70 | 0.56 |
| 51:BS:18:ARG:HA | 51:BS:35:LYS:NZ | 2.20 | 0.56 |
| 55:BW:50:GLU:HB2 | 55:BW:99:LEU:CB | 2.35 | 0.56 |
| 1:AB:16:G:H2' | 1:AB:17:C:H6 | 1.70 | 0.56 |
| 2:AA:21:A:O2' | 2:AA:22:C:H5' | 2.05 | 0.56 |
| 2:AA:23:G:N2 | 18:AS:77:ASP:CG | 2.59 | 0.56 |
| 2:AA:82:G:H5" | 2:AA:296:C:OP1 | 2.04 | 0.56 |
| 2:AA:270(C):C:OP2 | 2:AA:365:C:O2' | 2.23 | 0.56 |
| 2:AA:270(W):G:H3' | 2:AA:270(X):G:H8 | 1.70 | 0.56 |
| 2:AA:442:G:O2' | 6:AF:46:TYR:HE1 | 1.88 | 0.56 |
| 2:AA:445:C:OP1 | 25:A1:2:PRO:CD | 2.52 | 0.56 |
| 2:AA:502:A:O2' | 2:AA:503:A:H5' | 2.05 | 0.56 |
| 2:AA:503:A:C1' | 2:AA:505:A:C8 | 2.87 | 0.56 |
| 2:AA:543:C:C2' | 2:AA:544:C:O5' | 2.52 | 0.56 |
| 2:AA:559:G:C2' | 2:AA:560:C:O4' | 2.54 | 0.56 |
| 2:AA:593:G:N2 | 2:AA:594:U:C2 | 2.72 | 0.56 |
| 2:AA:697:C:C2' | 2:AA:698:C:C5' | 2.82 | 0.56 |
| 2:AA:724:U:H2' | 2:AA:725:G:O5' | 2.05 | 0.56 |
| 2:AA:846:C:C2' | 2:AA:847:U:OP2 | 2.53 | 0.56 |
| 2:AA:1012:U:H6 | 2:AA:1012:U:C3' | 2.13 | 0.56 |
| 2:AA:1014:U:C2' | 2:AA:1015:G:O5' | 2.53 | 0.56 |
| 2:AA:1092:C:N4 | 2:AA:1093:G:N3 | 2.53 | 0.56 |
| 2:AA:1195:G:H2' | 2:AA:1226:G:N2 | 2.20 | 0.56 |
| 2:AA:1237:A:O2' | 2:AA:1238:G:O5' | 2.23 | 0.56 |
| 2:AA:1239:G:N3 | 2:AA:1240:U:C6 | 2.73 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1327:C:N4 | 2:AA:1647:G:C2 | 2.73 | 0.56 |
| 2:AA:1341:U:O2' | 2:AA:1342:A:P | 2.59 | 0.56 |
| 2:AA:1510:A:C8 | 2:AA:1511:A:N1 | 2.73 | 0.56 |
| 2:AA:1554:A:H2' | 2:AA:1555:G:N7 | 2.20 | 0.56 |
| 2:AA:1566:A:N1 | 4:AD:212:HIS:CG | 2.73 | 0.56 |
| 2:AA:1657:C:C5 | 2:AA:1657:C:OP2 | 2.58 | 0.56 |
| 2:AA:1687:G:N1 | 2:AA:1688:U:C4 | 2.73 | 0.56 |
| 2:AA:1759:A:O2' | 2:AA:1760:A:O5' | 2.22 | 0.56 |
| 2:AA:1789:A:H5" | 4:AD:224:VAL:HG13 | 1.87 | 0.56 |
| 2:AA:1800:C:N3 | 2:AA:1817:G:N2 | 2.53 | 0.56 |
| 2:AA:1820:U:HO2' | 2:AA:1821:A:P | 2.28 | 0.56 |
| 2:AA:1952:A:H1' | 2:AA:2560:C:HO2' | 1.69 | 0.56 |
| 2:AA:2051:A:C4 | 2:AA:2614:A:N6 | 2.73 | 0.56 |
| 2:AA:2190:G:C6 | 2:AA:2191:G:N7 | 2.73 | 0.56 |
| 2:AA:2311:A:HO2' | 7:AG:54:ALA:H | 1.51 | 0.56 |
| 2:AA:2436:G:O6 | 2:AA:2437:U:C4 | 2.58 | 0.56 |
| 2:AA:2714:G:C6 | 2:AA:2715:C:C5 | 2.93 | 0.56 |
| 2:AA:2720:U:O4 | 2:AA:2872:G:C2 | 2.58 | 0.56 |
| 2:AA:2758:A:C2' | 2:AA:2759:G:O5' | 2.52 | 0.56 |
| 3:AC:211:SER:HA | 3:AC:223:ARG:CZ | 2.34 | 0.56 |
| 4:AD:123:ILE:CD1 | 4:AD:123:ILE:N | 2.67 | 0.56 |
| 5:AE:72:VAL:HG13 | 5:AE:295:LEU:CD2 | 2.35 | 0.56 |
| 5:AE:193:PHE:CE2 | 5:AE:311:PHE:CD1 | 2.93 | 0.56 |
| 5:AE:226:HIS:CG | 5:AE:229:GLN:CD | 2.78 | 0.56 |
| 5:AE:237:ASN:O | 5:AE:238:LEU:HD13 | 2.05 | 0.56 |
| 6:AF:165:ASP:O | 6:AF:166:ILE:C | 2.43 | 0.56 |
| 7:AG:11:HIS:CD2 | 7:AG:15:GLU:CD | 2.78 | 0.56 |
| 7:AG:56:ARG:NH2 | 35:BC:19:G:H22 | 2.03 | 0.56 |
| 8:AH:86:LEU:HD23 | 8:AH:148:ARG:NE | 2.18 | 0.56 |
| 9:AI:73:VAL:HG22 | 9:AI:121:ALA:C | 2.25 | 0.56 |
| 10:AK:121:ILE:HG22 | 10:AK:122:ARG:N | 2.21 | 0.56 |
| 12:AM:75:PRO:HG2 | 12:AM:76:ASP:H | 1.70 | 0.56 |
| 13:AN:1:MET:CG | 13:AN:67:ARG:HD2 | 2.35 | 0.56 |
| 13:AN:2:ILE:HG22 | 13:AN:21:VAL:CG2 | 2.34 | 0.56 |
| 13:AN:13:ASN:O | 13:AN:14:SER:C | 2.41 | 0.56 |
| 13:AN:21:VAL:CG2 | 13:AN:39:VAL:HG11 | 2.33 | 0.56 |
| 13:AN:41:ALA:C | 13:AN:42:THR:CG2 | 2.74 | 0.56 |
| 13:AN:92:SER:HB3 | 13:AN:113:LYS:HZ1 | 1.67 | 0.56 |
| 13:AN:101:PRO:HD3 | 17:AR:26:GLY:CA | 2.35 | 0.56 |
| 14:AO:94:ARG:NH1 | 14:AO:119:THR:C | 2.58 | 0.56 |
| 15:AP:48:ASN:HD21 | 15:AP:122:PHE:H | 1.53 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:89:PRO:HG2 | 15:AP:89:PRO:O | 2.04 | 0.56 |
| 15:AP:133:GLU:CG | 15:AP:134:PHE:N | 2.68 | 0.56 |
| 17:AR:6:CYS:SG | 17:AR:31:PHE:HA | 2.45 | 0.56 |
| 17:AR:33:SER:O | 17:AR:36:CYS:SG | 2.63 | 0.56 |
| 18:AS:38:TYR:CB | 29:A5:41:LEU:HD21 | 2.21 | 0.56 |
| 18:AS:45:TYR:HD2 | 18:AS:46:PHE:N | 2.03 | 0.56 |
| 19:AT:56:ASN:HD21 | 19:AT:62:LYS:NZ | 2.04 | 0.56 |
| 20:AU:19:ARG:N | 20:AU:21:LYS:HZ3 | 2.02 | 0.56 |
| 20:AU:51:LEU:HD13 | 20:AU:95:ASN:HB3 | 1.87 | 0.56 |
| 21:AV:1:MET:N | 21:AV:54:ILE:CD1 | 2.68 | 0.56 |
| 21:AV:21:ALA:O | 21:AV:32:PHE:CA | 2.53 | 0.56 |
| 21:AV:142:ASN:O | 21:AV:145:ASP:HB2 | 2.04 | 0.56 |
| 26:A2:57:GLN:CG | 26:A2:58:ALA:N | 2.56 | 0.56 |
| 27:A3:42:GLY:CA | 27:A3:66:LYS:HA | 2.34 | 0.56 |
| 28:A4:28:ARG:CB | 28:A4:29:PRO:CD | 2.82 | 0.56 |
| 29:A5:15:LYS:CB | 29:A5:15:LYS:HZ3 | 2.14 | 0.56 |
| 30:A6:19:GLY:CA | 30:A6:42:PRO:HB3 | 2.34 | 0.56 |
| 32:A8:4:MET:HA | 32:A8:5:LYS:HZ1 | 1.68 | 0.56 |
| 34:BA:12:U:C4' | 34:BA:526:C:H4' | 2.22 | 0.56 |
| 34:BA:237:C:O2' | 34:BA:238:G:H5' | 2.06 | 0.56 |
| 34:BA:266:G:O2' | 34:BA:267:C:OP2 | 2.23 | 0.56 |
| 34:BA:275:G:C4 | 34:BA:276:G:C8 | 2.93 | 0.56 |
| 34:BA:404:U:OP2 | 39:BG:118:ARG:NH1 | 2.36 | 0.56 |
| 34:BA:522:C:C2' | 34:BA:523:A:O5' | 2.53 | 0.56 |
| 34:BA:579:G:C5 | 34:BA:580:U:C5 | 2.92 | 0.56 |
| 34:BA:658:G:H2' | 34:BA:659:U:H5' | 1.87 | 0.56 |
| 34:BA:755:G:N3 | 34:BA:755:G:C2' | 2.67 | 0.56 |
| 34:BA:781:A:C6 | 34:BA:802:A:C2 | 2.93 | 0.56 |
| 34:BA:1261:A:C8 | 34:BA:1275:A:C6 | 2.94 | 0.56 |
| 34:BA:1327:C:O2' | 34:BA:1328:C:H5' | 2.04 | 0.56 |
| 34:BA:1498:U:O2' | 34:BA:1499:A:C8 | 2.58 | 0.56 |
| 34:BA:1539:C:O2 | 34:BA:1540:U:C6 | 2.58 | 0.56 |
| 35:BB:9:A:O2' | 35:BB:45:G:C2' | 2.54 | 0.56 |
| 35:BC:21:A:C6 | 35:BC:46:G:N2 | 2.73 | 0.56 |
| 35:BC:34:G:H22 | 36:B1:62:G:H1 | 1.49 | 0.56 |
| 35:BC:37:G:C5 | 35:BC:38:A:N7 | 2.73 | 0.56 |
| 35:BC:51:G:N1 | 35:BC:63:C:N4 | 2.42 | 0.56 |
| 35:BC:68:U:C4 | 35:BC:69:U:O4 | 2.58 | 0.56 |
| 37:BE:78:GLN:CG | 37:BE:94:ASN:HB3 | 2.35 | 0.56 |
| 37:BE:91:PRO:HD2 | 37:BE:155:LEU:HD23 | 1.87 | 0.56 |
| 37:BE:113:HIS:O | 37:BE:116:GLU:HG2 | 2.05 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:115:LEU:HB2 | 37:BE:149:LEU:HD13 | 1.85 | 0.56 |
| 37:BE:147:LYS:HG3 | 37:BE:148:TYR:CD1 | 2.41 | 0.56 |
| 38:BF:94:LEU:O | 38:BF:95:THR:HG22 | 2.04 | 0.56 |
| 39:BG:120:LEU:HG | 39:BG:125:HIS:CG | 2.41 | 0.56 |
| 42:BJ:15:ASP:OD1 | 42:BJ:17:VAL:C | 2.43 | 0.56 |
| 42:BJ:44:TYR:O | 42:BJ:45:ASP:C | 2.43 | 0.56 |
| 42:BJ:111:ARG:HH11 | 42:BJ:111:ARG:CB | 2.15 | 0.56 |
| 44:BL:69:GLY:O | 44:BL:73:GLN:HG3 | 2.04 | 0.56 |
| 51:BS:39:TYR:CE1 | 51:BS:41:PRO:HG3 | 2.39 | 0.56 |
| 51:BS:51:VAL:CG1 | 51:BS:74:LEU:HD23 | 2.33 | 0.56 |
| 52:BT:101:ARG:HB3 | 52:BT:101:ARG:NH1 | 2.19 | 0.56 |
| 54:BV:31:ILE:O | 54:BV:50:ALA:N | 2.36 | 0.56 |
| 55:BW:51:GLU:CA | 55:BW:54:LYS:HG3 | 2.35 | 0.56 |
| 55:BW:66:ALA:HB3 | 55:BW:72:LEU:HB2 | 1.86 | 0.56 |
| 55:BW:75:ASN:C | 55:BW:78:ALA:HB3 | 2.25 | 0.56 |
| 56:BX:23:PRO:C | 56:BX:25:LYS:H | 2.09 | 0.56 |
| 1:AB:22:U:O5' | 1:AB:22:U:H6 | 1.88 | 0.56 |
| 1:AB:63:G:H2' | 1:AB:64:C:C6 | 2.39 | 0.56 |
| 1:AB:102:G:N2 | 1:AB:103:U:N3 | 2.52 | 0.56 |
| 1:AB:103:U:H6 | 1:AB:103:U:C3' | 2.14 | 0.56 |
| 2:AA:4:C:H2' | 2:AA:5:A:H8 | 1.71 | 0.56 |
| 2:AA:12:U:C2 | 2:AA:2627:G:OP1 | 2.57 | 0.56 |
| 2:AA:80:G:O2' | 2:AA:81:G:H5' | 2.04 | 0.56 |
| 2:AA:126:A:OP2 | 31:A7:18:PHE:N | 2.39 | 0.56 |
| 2:AA:182:A:H2' | 2:AA:183:C:H6 | 1.69 | 0.56 |
| 2:AA:211:A:H2' | 2:AA:212:G:O4' | 2.04 | 0.56 |
| 2:AA:225:A:N6 | 2:AA:419:C:C4' | 2.62 | 0.56 |
| 2:AA:238:C:H2' | 2:AA:238:C:O2 | 2.05 | 0.56 |
| 2:AA:244:A:C1' | 2:AA:255:A:H62 | 2.19 | 0.56 |
| 2:AA:270(X):G:N3 | 2:AA:270(Y):G:H4' | 2.19 | 0.56 |
| 2:AA:297:C:H2' | 2:AA:298:G:C4' | 2.34 | 0.56 |
| 2:AA:297:C:C2 | 2:AA:298:G:C1' | 2.88 | 0.56 |
| 2:AA:317:G:N2 | 2:AA:318:C:O2 | 2.38 | 0.56 |
| 2:AA:370:G:N1 | 2:AA:424:G:N7 | 2.53 | 0.56 |
| 2:AA:422:A:H2' | 2:AA:423:A:O5' | 2.04 | 0.56 |
| 2:AA:468:G:C2' | 2:AA:469:G:H5' | 2.36 | 0.56 |
| 2:AA:493:G:N3 | 2:AA:494:G:C8 | 2.74 | 0.56 |
| 2:AA:556:G:O2' | 2:AA:557:U:H5' | 2.05 | 0.56 |
| 2:AA:628:G:H1 | 2:AA:635:C:H42 | 0.64 | 0.56 |
| 2:AA:665:C:H2' | 2:AA:666:G:H8 | 1.71 | 0.56 |
| 2:AA:669:G:N3 | 2:AA:801:G:N1 | 2.54 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:673:C:C4' | 6:AF:82:GLN:HE22 | 2.18 | 0.56 |
| 2:AA:715:G:N2 | 2:AA:716:A:C2 | 2.74 | 0.56 |
| 2:AA:738:G:H2' | 2:AA:739:G:O4' | 2.05 | 0.56 |
| 2:AA:759:G:H2' | 2:AA:760:G:C8 | 2.38 | 0.56 |
| 2:AA:851:U:O2' | 23:AX:46:ASN:N | 2.39 | 0.56 |
| 2:AA:873:G:C3' | 15:AP:32:LYS:HG2 | 2.34 | 0.56 |
| 2:AA:898:C:C3' | 2:AA:899:A:H5" | 2.24 | 0.56 |
| 2:AA:947:G:O5' | 2:AA:947:G:H8 | 1.88 | 0.56 |
| 2:AA:958:U:C2' | 2:AA:959:A:OP2 | 2.53 | 0.56 |
| 2:AA:973:A:C6 | 26:A2:80:TYR:CA | 2.88 | 0.56 |
| 2:AA:1026:U:C2' | 2:AA:1027:A:O5' | 2.52 | 0.56 |
| 2:AA:1032:A:OP1 | 33:A9:8:LYS:CG | 2.54 | 0.56 |
| 2:AA:1059:G:N3 | 11:AL:127:ILE:HG23 | 2.20 | 0.56 |
| 2:AA:1130:U:H5" | 2:AA:2515:C:O2' | 2.05 | 0.56 |
| 2:AA:1155:A:H2' | 2:AA:1156:A:C5' | 2.33 | 0.56 |
| 2:AA:1257:C:O2' | 6:AF:83:ALA:HB1 | 2.06 | 0.56 |
| 2:AA:1310:G:H2' | 2:AA:1311:G:C4' | 2.35 | 0.56 |
| 2:AA:1379:A:C3' | 2:AA:1379:A:C4 | 2.87 | 0.56 |
| 2:AA:1398:C:H4' | 19:AT:23:LYS:NZ | 2.20 | 0.56 |
| 2:AA:1444:G:O3' | 2:AA:444(A):A:C8 | 2.52 | 0.56 |
| 2:AA:1471:A:N6 | 2:AA:1519:G:H21 | 2.02 | 0.56 |
| 2:AA:1497:U:O2 | 2:AA:1577:C:O5' | 2.23 | 0.56 |
| 2:AA:1545:A:H2' | 2:AA:1545:A:N3 | 2.20 | 0.56 |
| 2:AA:1559:G:N2 | 2:AA:1560:G:OP1 | 2.38 | 0.56 |
| 2:AA:1657:C:OP2 | 2:AA:1657:C:H5 | 1.87 | 0.56 |
| 2:AA:1684:C:O2' | 2:AA:1685:C:H5' | 2.04 | 0.56 |
| 2:AA:1750:G:H2' | 2:AA:1751:C:C6 | 2.40 | 0.56 |
| 2:AA:1754:C:H4' | 17:AR:44:ARG:NH2 | 2.19 | 0.56 |
| 2:AA:1778:U:H2' | 2:AA:1779:U:C5 | 2.40 | 0.56 |
| 2:AA:1785:A:H5" | 2:AA:1785:A:C8 | 2.40 | 0.56 |
| 2:AA:1831:G:C6 | 2:AA:1832:C:C4 | 2.94 | 0.56 |
| 2:AA:1881:C:C2' | 2:AA:1882:C:H5' | 2.36 | 0.56 |
| 2:AA:1935:G:H2' | 2:AA:1962:C:C4 | 2.39 | 0.56 |
| 2:AA:1940:U:O2 | 2:AA:1940:U:C2' | 2.34 | 0.56 |
| 2:AA:1977:A:C2 | 2:AA:1978:A:N9 | 2.74 | 0.56 |
| 2:AA:2015:A:H3' | 2:AA:2016:U:C5 | 2.39 | 0.56 |
| 2:AA:2052:G:C4 | 2:AA:2053:G:C8 | 2.94 | 0.56 |
| 2:AA:2061:G:C2' | 2:AA:2062:A:H5" | 2.33 | 0.56 |
| 2:AA:2069:G:N2 | 2:AA:2070:G:N9 | 2.54 | 0.56 |
| 2:AA:2083:G:O2' | 2:AA:2084:C:C5' | 2.52 | 0.56 |
| 2:AA:2119:A:N1 | 2:AA:2147:G:OP1 | 2.37 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2149:G:C2' | 2:AA:2150:U:C5' | 2.72 | 0.56 |
| 2:AA:2227:A:C2 | 2:AA:2228:G:C5 | 2.93 | 0.56 |
| 2:AA:2236:C:C4 | 2:AA:2237:G:C4 | 2.93 | 0.56 |
| 2:AA:2264:C:C5 | 2:AA:2265:U:C5 | 2.93 | 0.56 |
| 2:AA:2444:G:C2 | 2:AA:2445:G:C4 | 2.93 | 0.56 |
| 2:AA:2452:C:C4 | 2:AA:2453:A:C6 | 2.93 | 0.56 |
| 2:AA:2507:C:N3 | 2:AA:2582:G:C2 | 2.74 | 0.56 |
| 2:AA:2659:G:C2' | 2:AA:2661:G:OP2 | 2.53 | 0.56 |
| 2:AA:2670:A:H5" | 2:AA:2670:A:H8 | 1.70 | 0.56 |
| 2:AA:2674:G:C6 | 2:AA:2675:A:N6 | 2.74 | 0.56 |
| 2:AA:2679:A:OP1 | 5:AE:261:ARG:NH2 | 2.38 | 0.56 |
| 2:AA:2716:U:C2' | 2:AA:2717:G:O5' | 2.53 | 0.56 |
| 2:AA:2797:U:O3' | 2:AA:2798:C:H4' | 2.05 | 0.56 |
| 2:AA:2810:A:H2 | 2:AA:2892:A:C2 | 2.23 | 0.56 |
| 2:AA:2831:G:H1' | 2:AA:2883:A:N3 | 2.21 | 0.56 |
| 3:AC:10:LEU:CG | 3:AC:220:PRO:HG2 | 2.32 | 0.56 |
| 3:AC:59:ARG:CG | 3:AC:139:ASN:HD21 | 2.18 | 0.56 |
| 3:AC:176:GLY:HA3 | 3:AC:185:LEU:CD2 | 2.21 | 0.56 |
| 4:AD:131:LEU:HD13 | 4:AD:171:VAL:HG21 | 1.86 | 0.56 |
| 4:AD:141:HIS:NE2 | 4:AD:193:GLU:O | 2.39 | 0.56 |
| 4:AD:148:GLY:O | 4:AD:149:ARG:CZ | 2.53 | 0.56 |
| 4:AD:185:GLY:C | 4:AD:187:CYS:N | 2.56 | 0.56 |
| 5:AE:101:THR:O | 5:AE:102:ASP:C | 2.43 | 0.56 |
| 5:AE:105:HIS:ND1 | 5:AE:108:LEU:CD1 | 2.69 | 0.56 |
| 6:AF:34:ALA:O | 6:AF:37:ALA:HB3 | 2.05 | 0.56 |
| 6:AF:91:PRO:CB | 6:AF:92:PRO:CD | 2.83 | 0.56 |
| 6:AF:144:PHE:CE2 | 6:AF:156:LEU:CD1 | 2.87 | 0.56 |
| 6:AF:239:ALA:O | 6:AF:242:GLU:CG | 2.53 | 0.56 |
| 7:AG:45:THR:HG21 | 7:AG:73:VAL:HG11 | 1.88 | 0.56 |
| 7:AG:102:GLY:O | 7:AG:103:ASN:OD1 | 2.24 | 0.56 |
| 7:AG:146:LYS:CD | 16:AQ:15:GLU:OE2 | 2.53 | 0.56 |
| 8:AH:10:ILE:HG23 | 8:AH:14:VAL:CB | 2.35 | 0.56 |
| 8:AH:43:THR:O | 8:AH:49:ILE:HG22 | 2.05 | 0.56 |
| 8:AH:102:LEU:CB | 8:AH:104:LEU:HD11 | 2.35 | 0.56 |
| 8:AH:108:TYR:N | 8:AH:108:TYR:CD2 | 2.71 | 0.56 |
| 8:AH:147:ILE:O | 8:AH:161:ILE:CD1 | 2.54 | 0.56 |
| 9:AI:1:MET:CG | 9:AJ:86:LYS:HB2 | 2.35 | 0.56 |
| 9:AI:112:GLU:HA | 9:AI:115:LYS:HD2 | 1.86 | 0.56 |
| 9:AJ:31:VAL:HG12 | 9:AJ:31:VAL:O | 2.05 | 0.56 |
| 9:AJ:73:VAL:HG11 | 9:AJ:123:ALA:CB | 2.36 | 0.56 |
| 9:AJ:74:ILE:HG12 | 9:AJ:92:VAL:HG11 | 1.86 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:3:VAL:CG2 | 10:AK:19:LYS:O | 2.53 | 0.56 |
| 10:AK:12:LYS:HZ2 | 10:AK:14:LYS:CE | 2.18 | 0.56 |
| 10:AK:42:ALA:C | 10:AK:43:ASN:HD22 | 2.08 | 0.56 |
| 11:AL:36:MET:HE3 | 11:AL:40:LYS:HD2 | 1.86 | 0.56 |
| 11:AL:75:ALA:N | 11:AL:112:LYS:NZ | 2.54 | 0.56 |
| 12:AM:55:GLU:O | 12:AM:56:LYS:C | 2.43 | 0.56 |
| 13:AN:63:VAL:CG1 | 13:AN:106:LEU:HD11 | 2.35 | 0.56 |
| 13:AN:77:ILE:C | 13:AN:77:ILE:CD1 | 2.73 | 0.56 |
| 13:AN:103:ALA:CA | 13:AN:122:ILE:O | 2.48 | 0.56 |
| 13:AN:104:ARG:O | 13:AN:108:ASP:OD2 | 2.22 | 0.56 |
| 14:AO:55:GLN:HE21 | 14:AO:56:LYS:CB | 2.18 | 0.56 |
| 14:AO:65:ASP:HA | 14:AO:108:VAL:CG1 | 2.24 | 0.56 |
| 14:AO:101:ASP:O | 14:AO:102:ASP:CG | 2.44 | 0.56 |
| 15:AP:47:GLU:OE1 | 15:AP:151:SER:CA | 2.47 | 0.56 |
| 15:AP:50:VAL:CG2 | 15:AP:147:VAL:HG22 | 2.35 | 0.56 |
| 15:AP:123:ILE:C | 15:AP:136:TRP:HE1 | 2.09 | 0.56 |
| 16:AQ:31:LYS:CB | 16:AQ:32:PRO:CD | 2.84 | 0.56 |
| 16:AQ:37:ARG:O | 16:AQ:43:VAL:HG13 | 2.05 | 0.56 |
| 17:AR:45:GLU:O | 17:AR:48:ASN:OD1 | 2.22 | 0.56 |
| 18:AS:4:LYS:CG | 18:AS:106:ILE:HA | 2.16 | 0.56 |
| 18:AS:12:ILE:HG22 | 18:AS:17:VAL:CG2 | 2.35 | 0.56 |
| 19:AT:8:PRO:HD3 | 22:AW:33:VAL:HG22 | 1.88 | 0.56 |
| 19:AT:77:VAL:O | 19:AT:78:ALA:C | 2.43 | 0.56 |
| 20:AU:55:PHE:O | 20:AU:58:GLU:HB2 | 2.04 | 0.56 |
| 20:AU:58:GLU:HG2 | 20:AU:76:ASP:OD2 | 2.05 | 0.56 |
| 20:AU:60:GLY:C | 20:AU:61:GLU:OE1 | 2.43 | 0.56 |
| 21:AV:72:ASP:OD2 | 21:AV:72:ASP:N | 2.36 | 0.56 |
| 22:AW:43:PRO:O | 22:AW:44:GLY:C | 2.44 | 0.56 |
| 23:AX:1:MET:N | 23:AX:2:PRO:HD3 | 2.20 | 0.56 |
| 24:A0:52:ILE:CG2 | 24:A0:53:HIS:N | 2.68 | 0.56 |
| 24:A0:99:LYS:HB3 | 29:A5:44:HIS:CE1 | 2.40 | 0.56 |
| 26:A2:59:GLU:OE1 | 26:A2:98:ILE:O | 2.24 | 0.56 |
| 27:A3:86:THR:O | 27:A3:87:GLU:C | 2.43 | 0.56 |
| 28:A4:11:PRO:O | 28:A4:12:CYS:SG | 2.63 | 0.56 |
| 28:A4:36:TRP:N | 28:A4:36:TRP:CD1 | 2.72 | 0.56 |
| 28:A4:57:ASP:C | 28:A4:61:LYS:HG3 | 2.26 | 0.56 |
| 32:A8:29:LYS:O | 32:A8:30:ARG:O | 2.23 | 0.56 |
| 34:BA:9:G:OP2 | 40:BH:122:GLU:N | 2.39 | 0.56 |
| 34:BA:76:C:O2' | 34:BA:77:G:H5' | 2.06 | 0.56 |
| 34:BA:106:C:N3 | 34:BA:107:G:N7 | 2.53 | 0.56 |
| 34:BA:112:G:H21 | 34:BA:330:C:N4 | 2.03 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:138:G:O2' | 34:BA:139:G:H5' | 2.05 | 0.56 |
| 34:BA:202:U:O3' | 34:BA:203:U:C6 | 2.58 | 0.56 |
| 34:BA:314:C:H5" | 34:BA:315:A:OP2 | 2.05 | 0.56 |
| 34:BA:344:A:H4' | 34:BA:345:C:OP2 | 2.05 | 0.56 |
| 34:BA:559:A:C8 | 34:BA:561:U:C5 | 2.93 | 0.56 |
| 34:BA:571:U:OP1 | 34:BA:819:A:H2' | 2.06 | 0.56 |
| 34:BA:591:U:P | 43:BK:30:ARG:NH1 | 2.78 | 0.56 |
| 34:BA:596:C:N3 | 34:BA:644:G:N2 | 2.52 | 0.56 |
| 34:BA:599:C:N3 | 34:BA:639:G:N2 | 2.40 | 0.56 |
| 34:BA:672:U:O2 | 34:BA:673:G:C8 | 2.58 | 0.56 |
| 34:BA:688:G:H1' | 34:BA:704:A:N1 | 2.20 | 0.56 |
| 34:BA:701:C:C4' | 34:BA:702:A:OP2 | 2.52 | 0.56 |
| 34:BA:706:A:C2 | 34:BA:707:C:N1 | 2.73 | 0.56 |
| 34:BA:736:C:H5' | 41:BI:89:MET:HE1 | 1.86 | 0.56 |
| 34:BA:765:G:O6 | 34:BA:812:C:C6 | 2.58 | 0.56 |
| 34:BA:792:A:C2 | 34:BA:794:A:C6 | 2.93 | 0.56 |
| 34:BA:817:C:C2' | 34:BA:817:C:O2 | 2.52 | 0.56 |
| 34:BA:889:A:OP1 | 34:BA:891:U:O2 | 2.23 | 0.56 |
| 34:BA:926:G:C4 | 34:BA:1505:G:C2 | 2.92 | 0.56 |
| 34:BA:1122:U:H2' | 34:BA:1123:A:O4' | 2.05 | 0.56 |
| 34:BA:1175:G:N1 | 34:BA:1176:A:C5 | 2.74 | 0.56 |
| 34:BA:1195:C:O2 | 34:BA:1197:G:H1' | 2.05 | 0.56 |
| 34:BA:1287:A:C2' | 34:BA:1288:A:C8 | 2.77 | 0.56 |
| 34:BA:1291:G:O2' | 34:BA:1292:U:O5' | 2.18 | 0.56 |
| 34:BA:1489:G:H2' | 34:BA:1490:C:C5' | 2.31 | 0.56 |
| 34:BA:1495:U:O2' | 34:BA:1496:C:C5' | 2.49 | 0.56 |
| 34:BA:1500:A:H2' | 34:BA:1501:C:C5 | 2.40 | 0.56 |
| 34:BA:1530:G:N1 | 34:BA:1531:A:N1 | 2.53 | 0.56 |
| 34:BA:1537:U:H2' | 34:BA:1538:C:C1' | 2.35 | 0.56 |
| 35:BB:6:U:C2 | 35:BB:68:U:N3 | 2.72 | 0.56 |
| 35:BB:64:A:N6 | 35:BB:65:G:C6 | 2.72 | 0.56 |
| 35:BB:67:A:C2 | 35:BB:68:U:C6 | 2.94 | 0.56 |
| 35:BC:1:G:C2 | 35:BC:2:C:C5 | 2.94 | 0.56 |
| 35:BC:56:C:N4 | 35:BC:57:G:N1 | 2.54 | 0.56 |
| 35:BC:62:A:O2' | 35:BC:63:C:C5' | 2.52 | 0.56 |
| 37:BE:9:GLU:CG | 37:BE:217:ARG:HH22 | 2.17 | 0.56 |
| 37:BE:25:ASN:O | 37:BE:25:ASN:CG | 2.40 | 0.56 |
| 37:BE:28:PHE:CD1 | 37:BE:31:TYR:CB | 2.89 | 0.56 |
| 37:BE:71:VAL:HG22 | 37:BE:93:VAL:HB | 1.85 | 0.56 |
| 37:BE:85:ALA:O | 37:BE:89:GLY:N | 2.37 | 0.56 |
| 37:BE:102:LEU:CB | 37:BE:176:GLU:OE1 | 2.52 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:201:ILE:CD1 | 37:BE:201:ILE:N | 2.68 | 0.56 |
| 37:BE:236:TYR:HA | 37:BE:240:GLN:HE21 | 1.69 | 0.56 |
| 38:BF:29:TYR:HE2 | 49:BQ:54:PRO:HG2 | 1.66 | 0.56 |
| 38:BF:52:LEU:O | 38:BF:53:ALA:HB2 | 2.05 | 0.56 |
| 38:BF:59:ARG:HG2 | 38:BF:60:ALA:H | 1.70 | 0.56 |
| 38:BF:83:ARG:HG3 | 38:BF:87:LEU:CD1 | 2.23 | 0.56 |
| 39:BG:4:TYR:CZ | 39:BG:5:ILE:O | 2.59 | 0.56 |
| 39:BG:38:TYR:HD1 | 39:BG:39:PRO:O | 1.88 | 0.56 |
| 39:BG:98:GLU:HA | 39:BG:103:ASN:HD21 | 1.68 | 0.56 |
| 39:BG:98:GLU:OE1 | 39:BG:103:ASN:ND2 | 2.32 | 0.56 |
| 40:BH:9:LYS:HD3 | 40:BH:108:ALA:HA | 1.86 | 0.56 |
| 40:BH:34:VAL:CG2 | 40:BH:62:ALA:HB1 | 2.35 | 0.56 |
| 40:BH:106:PRO:HB3 | 40:BH:120:THR:HG21 | 1.88 | 0.56 |
| 40:BH:144:THR:C | 40:BH:146:ALA:N | 2.55 | 0.56 |
| 41:BI:45:LEU:HD23 | 41:BI:59:TYR:CA | 2.35 | 0.56 |
| 41:BI:89:MET:CG | 53:BU:76:LEU:HD11 | 2.36 | 0.56 |
| 42:BJ:29:LYS:NZ | 42:BJ:102:ARG:HH21 | 2.01 | 0.56 |
| 42:BJ:122:HIS:H | 42:BJ:122:HIS:HD2 | 1.52 | 0.56 |
| 43:BK:9:MET:O | 43:BK:13:ILE:CG1 | 2.53 | 0.56 |
| 43:BK:24:THR:HG22 | 43:BK:61:VAL:H | 1.70 | 0.56 |
| 43:BK:40:ALA:C | 43:BK:42:GLU:N | 2.57 | 0.56 |
| 44:BL:105:ASP:O | 44:BL:107:ARG:N | 2.28 | 0.56 |
| 45:BM:21:GLN:HG2 | 45:BM:25:GLU:OE2 | 2.06 | 0.56 |
| 46:BN:110:ASP:HB2 | 53:BU:88:LYS:CB | 2.35 | 0.56 |
| 47:BO:40:VAL:HG21 | 47:BO:78:GLN:HA | 1.87 | 0.56 |
| 47:BO:88:GLY:CA | 47:BO:99:HIS:HE1 | 2.19 | 0.56 |
| 48:BP:67:GLU:O | 48:BP:70:LEU:HB3 | 2.06 | 0.56 |
| 50:BR:6:GLU:N | 50:BR:6:GLU:OE2 | 2.38 | 0.56 |
| 50:BR:42:HIS:HE1 | 50:BR:46:HIS:CD2 | 2.23 | 0.56 |
| 52:BT:29:HIS:CG | 52:BT:32:TYR:HB2 | 2.40 | 0.56 |
| 52:BT:96:GLN:OE1 | 52:BT:97:SER:N | 2.39 | 0.56 |
| 52:BT:97:SER:O | 52:BT:98:LEU:CG | 2.52 | 0.56 |
| 54:BV:46:GLY:N | 54:BV:62:ILE:HG23 | 2.06 | 0.56 |
| 55:BW:45:GLN:CG | 55:BW:91:LEU:HD21 | 2.33 | 0.56 |
| 55:BW:57:ARG:NH2 | 55:BW:100:ILE:O | 2.38 | 0.56 |
| 55:BW:57:ARG:C | 55:BW:59:ALA:N | 2.57 | 0.56 |
| 55:BW:72:LEU:HD23 | 55:BW:76:ALA:HB1 | 1.88 | 0.56 |
| 1:AB:88:C:C5 | 1:AB:89:G:O4' | 2.58 | 0.56 |
| 2:AA:270(O):U:H5" | 2:AA:270(P):C:H5 | 1.58 | 0.56 |
| 2:AA:446:G:C8 | 25:A1:3:ARG:NH2 | 2.72 | 0.56 |
| 2:AA:470:A:H4' | 2:AA:470:A:OP1 | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:531:C:C4 | 2:AA:532:A:O2' | 2.58 | 0.56 |
| 2:AA:592:G:N1 | 2:AA:593:G:C5 | 2.74 | 0.56 |
| 2:AA:627:A:N1 | 2:AA:637:A:H1' | 2.18 | 0.56 |
| 2:AA:645:C:H5' | 2:AA:646:A:OP1 | 2.06 | 0.56 |
| 2:AA:673:C:C4' | 6:AF:82:GLN:NE2 | 2.68 | 0.56 |
| 2:AA:816:C:C4 | 2:AA:1192:G:N1 | 2.73 | 0.56 |
| 2:AA:832:G:HO2' | 2:AA:833:U:C5' | 2.19 | 0.56 |
| 2:AA:878:A:N3 | 2:AA:879:G:H5" | 2.21 | 0.56 |
| 2:AA:1022:G:C4 | 2:AA:1139:G:N1 | 2.73 | 0.56 |
| 2:AA:1083:U:O3' | 9:AI:37:VAL:CA | 2.52 | 0.56 |
| 2:AA:1140:C:O5' | 12:AM:47:THR:HG23 | 2.05 | 0.56 |
| 2:AA:1239:G:C2' | 2:AA:1240:U:C6 | 2.86 | 0.56 |
| 2:AA:1429:G:H2' | 2:AA:1430:C:O4' | 2.05 | 0.56 |
| 2:AA:1479:G:C2' | 2:AA:1480:G:H8 | 2.16 | 0.56 |
| 2:AA:1534:G:N2 | 2:AA:1536:A:H1' | 2.20 | 0.56 |
| 2:AA:1625:C:C2' | 2:AA:1626:G:C4' | 2.74 | 0.56 |
| 2:AA:1683:C:O2 | 2:AA:1683:C:H2' | 2.04 | 0.56 |
| 2:AA:1690:A:H62 | 2:AA:1697:G:N2 | 2.01 | 0.56 |
| 2:AA:1699:G:N7 | 2:AA:1763:G:N3 | 2.53 | 0.56 |
| 2:AA:1773:A:H8 | 2:AA:1773:A:H3' | 1.71 | 0.56 |
| 2:AA:1805:U:H5" | 4:AD:235:PRO:CG | 2.35 | 0.56 |
| 2:AA:1928:A:C8 | 2:AA:1928:A:H3' | 2.41 | 0.56 |
| 2:AA:1936:A:C5' | 2:AA:1937:A:N3 | 2.66 | 0.56 |
| 2:AA:1937:A:N7 | 2:AA:1939:U:N3 | 2.53 | 0.56 |
| 2:AA:1996:C:C2 | 2:AA:1997:G:O4' | 2.57 | 0.56 |
| 2:AA:2124:G:O6 | 3:AC:129:ARG:NH1 | 2.38 | 0.56 |
| 2:AA:2142:C:N3 | 2:AA:2143:C:C5 | 2.73 | 0.56 |
| 2:AA:2299:G:H1 | 2:AA:2317:C:H42 | 1.53 | 0.56 |
| 2:AA:2333:A:C1' | 2:AA:2335:A:C2 | 2.88 | 0.56 |
| 2:AA:2354:G:H4' | 27:A3:31:VAL:HG11 | 1.87 | 0.56 |
| 2:AA:2624:G:C1' | 29:A5:22:HIS:HE2 | 1.95 | 0.56 |
| 2:AA:2821:A:OP1 | 5:AE:207:GLY:N | 2.38 | 0.56 |
| 3:AC:197:GLU:HA | 3:AC:208:PHE:HE2 | 1.70 | 0.56 |
| 4:AD:141:HIS:HA | 4:AD:143:ILE:HG13 | 1.88 | 0.56 |
| 5:AE:44:TYR:HE1 | 5:AE:308:VAL:HG13 | 1.66 | 0.56 |
| 5:AE:211:GLN:NE2 | 5:AE:215:LYS:HG3 | 2.20 | 0.56 |
| 6:AF:81:PRO:HA | 6:AF:87:ARG:CG | 2.34 | 0.56 |
| 6:AF:225:PRO:HB2 | 6:AF:231:ARG:NE | 2.16 | 0.56 |
| 7:AG:28:GLY:O | 7:AG:69:ILE:CD1 | 2.54 | 0.56 |
| 7:AG:49:PRO:HB2 | 7:AG:72:LYS:C | 2.25 | 0.56 |
| 9:AJ:80:ILE:HG22 | 9:AJ:81:THR:N | 2.20 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:63:ALA:O | 10:AK:64:ASN:C | 2.44 | 0.56 |
| 10:AK:98:ILE:CG2 | 10:AK:102:LEU:HD23 | 2.35 | 0.56 |
| 10:AK:145:VAL:HG12 | 10:AK:146:THR:N | 2.20 | 0.56 |
| 11:AL:56:VAL:CG2 | 11:AL:70:ILE:HG12 | 2.35 | 0.56 |
| 12:AM:4:ALA:O | 12:AM:5:GLU:O | 2.23 | 0.56 |
| 12:AM:43:ARG:O | 12:AM:43:ARG:HG2 | 2.05 | 0.56 |
| 13:AN:1:MET:H3 | 13:AN:32:TYR:HB3 | 1.67 | 0.56 |
| 13:AN:7:ARG:CB | 13:AN:44:LYS:HZ2 | 2.18 | 0.56 |
| 15:AP:73:GLN:HB3 | 21:AV:175:ARG:HD2 | 1.86 | 0.56 |
| 16:AQ:18:THR:OG1 | 16:AQ:20:TYR:HD1 | 1.86 | 0.56 |
| 16:AQ:35:VAL:CG2 | 16:AQ:103:ASP:OD1 | 2.53 | 0.56 |
| 20:AU:19:ARG:O | 20:AU:22:GLN:N | 2.38 | 0.56 |
| 20:AU:19:ARG:HA | 20:AU:21:LYS:NZ | 2.21 | 0.56 |
| 21:AV:3:LEU:CD2 | 21:AV:38:ALA:HB3 | 2.32 | 0.56 |
| 23:AX:57:GLU:OE1 | 23:AX:59:VAL:CG2 | 2.54 | 0.56 |
| 24:A0:44:LEU:HD22 | 24:A0:48:VAL:HG23 | 1.87 | 0.56 |
| 24:A0:104:ARG:HA | 24:A0:105:ARG:NH2 | 2.19 | 0.56 |
| 24:A0:105:ARG:CZ | 24:A0:105:ARG:H | 2.17 | 0.56 |
| 26:A2:2:PHE:O | 26:A2:44:GLN:OE1 | 2.24 | 0.56 |
| 26:A2:79:GLN:O | 26:A2:81:ARG:N | 2.37 | 0.56 |
| 31:A7:42:LEU:O | 31:A7:43:THR:O | 2.23 | 0.56 |
| 32:A8:10:ALA:HA | 32:A8:60:LEU:HD12 | 1.86 | 0.56 |
| 34:BA:110:C:O2 | 34:BA:111:G:C1' | 2.53 | 0.56 |
| 34:BA:236:G:C4 | 34:BA:237:C:C5 | 2.93 | 0.56 |
| 34:BA:459:G:C2 | 34:BA:463:A:N6 | 2.73 | 0.56 |
| 34:BA:802:A:H2' | 34:BA:803:G:O4' | 2.05 | 0.56 |
| 34:BA:1134:G:N1 | 34:BA:1140:C:N4 | 2.09 | 0.56 |
| 34:BA:1138:G:H3' | 34:BA:1138:G:N3 | 2.20 | 0.56 |
| 34:BA:1320:C:O2 | 54:BV:73:GLU:HA | 2.05 | 0.56 |
| 34:BA:1390:U:N3 | 34:BA:1391:U:C4 | 2.73 | 0.56 |
| 35:BB:29:A:C5 | 35:BB:42:G:N1 | 2.74 | 0.56 |
| 35:BB:59:U:C2 | 35:BB:60:C:N3 | 2.74 | 0.56 |
| 37:BE:82:ARG:HB2 | 37:BE:94:ASN:HD21 | 1.71 | 0.56 |
| 37:BE:102:LEU:O | 37:BE:180:LEU:CD1 | 2.53 | 0.56 |
| 37:BE:167:PRO:HG2 | 37:BE:168:THR:N | 2.17 | 0.56 |
| 37:BE:193:ASP:O | 37:BE:194:PRO:O | 2.22 | 0.56 |
| 37:BE:234:PRO:O | 37:BE:238:LEU:CD2 | 2.53 | 0.56 |
| 38:BF:18:TRP:N | 38:BF:18:TRP:CE3 | 2.64 | 0.56 |
| 39:BG:148:VAL:CG1 | 39:BG:152:SER:HB3 | 2.35 | 0.56 |
| 40:BH:149:GLU:HA | 40:BH:152:ARG:CB | 2.33 | 0.56 |
| 42:BJ:42:ILE:HG22 | 42:BJ:120:ILE:HD12 | 1.88 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:50:ILE:CD1 | 42:BJ:58:PRO:CB | 2.70 | 0.56 |
| 42:BJ:126:ASP:HA | 42:BJ:129:GLU:HG3 | 1.86 | 0.56 |
| 43:BK:4:ASP:HB3 | 43:BK:6:ILE:HG23 | 1.88 | 0.56 |
| 43:BK:40:ALA:HB2 | 43:BK:45:ILE:HG23 | 1.86 | 0.56 |
| 43:BK:89:PRO:CB | 43:BK:92:ARG:HH21 | 2.19 | 0.56 |
| 43:BK:100:ILE:CB | 43:BK:125:ARG:NH2 | 2.68 | 0.56 |
| 44:BL:5:TYR:CD2 | 44:BL:6:GLY:N | 2.73 | 0.56 |
| 44:BL:111:ARG:O | 44:BL:113:LYS:NZ | 2.38 | 0.56 |
| 46:BN:46:GLY:N | 46:BN:55:LYS:CD | 2.69 | 0.56 |
| 47:BO:119:LYS:C | 47:BO:121:GLY:N | 2.53 | 0.56 |
| 51:BS:68:ASP:O | 51:BS:69:THR:C | 2.44 | 0.56 |
| 52:BT:60:ILE:HG12 | 52:BT:61:GLU:N | 2.19 | 0.56 |
| 53:BU:39:VAL:O | 53:BU:43:PHE:CE1 | 2.59 | 0.56 |
| 55:BW:33:ILE:CG2 | 55:BW:63:ILE:HG13 | 2.35 | 0.56 |
| 1:AB:73:A:N7 | 1:AB:104:A:C6 | 2.74 | 0.56 |
| 2:AA:83:G:O2' | 2:AA:84:A:OP2 | 2.24 | 0.56 |
| 2:AA:124:G:H2' | 31:A7:19:ARG:NH1 | 2.20 | 0.56 |
| 2:AA:134:C:C2 | 2:AA:146:G:C2 | 2.94 | 0.56 |
| 2:AA:209:C:C2' | 2:AA:210:C:C5' | 2.82 | 0.56 |
| 2:AA:246:C:N4 | 2:AA:252:G:C6 | 2.72 | 0.56 |
| 2:AA:250:G:H3' | 32:A8:8:LYS:NZ | 2.20 | 0.56 |
| 2:AA:304:G:N2 | 2:AA:305:U:H1' | 2.20 | 0.56 |
| 2:AA:401:A:C4 | 2:AA:402:A:C8 | 2.93 | 0.56 |
| 2:AA:445:C:H3' | 25:A1:3:ARG:HE | 1.70 | 0.56 |
| 2:AA:491:G:C2 | 2:AA:492:A:C4 | 2.94 | 0.56 |
| 2:AA:701:G:C2 | 2:AA:732:C:N3 | 2.74 | 0.56 |
| 2:AA:785:G:N2 | 2:AA:786:C:C2 | 2.73 | 0.56 |
| 2:AA:786:C:C2' | 2:AA:787:U:H5' | 2.35 | 0.56 |
| 2:AA:819:A:C2 | 2:AA:943:U:O2 | 2.59 | 0.56 |
| 2:AA:851:U:O2' | 23:AX:45:GLY:CA | 2.50 | 0.56 |
| 2:AA:866:A:N6 | 2:AA:914:C:C4 | 2.74 | 0.56 |
| 2:AA:971:C:O2' | 2:AA:972:G:O5' | 2.23 | 0.56 |
| 2:AA:1000:A:N1 | 2:AA:1155:A:C4 | 2.73 | 0.56 |
| 2:AA:1020:A:O2' | 12:AM:49:ARG:CZ | 2.53 | 0.56 |
| 2:AA:1021:A:C8 | 2:AA:1021:A:H3' | 2.41 | 0.56 |
| 2:AA:1035:U:C2 | 2:AA:1036:G:C8 | 2.93 | 0.56 |
| 2:AA:1078:U:OP1 | 11:AL:93:LYS:HE3 | 2.06 | 0.56 |
| 2:AA:1082:U:H3' | 2:AA:1083:U:C6 | 2.40 | 0.56 |
| 2:AA:1104:C:H1' | 9:AI:29:PHE:CE2 | 2.40 | 0.56 |
| 2:AA:1105:U:H1' | 9:AI:27:ASP:O | 2.04 | 0.56 |
| 2:AA:1156:A:C5' | 2:AA:1157:G:N7 | 2.57 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1209:G:O3' | 2:AA:1212:G:H5' | 2.04 | 0.56 |
| 2:AA:1426:G:N2 | 2:AA:1571:A:C2 | 2.73 | 0.56 |
| 2:AA:1567:A:O2' | 2:AA:1568:G:C6 | 2.58 | 0.56 |
| 2:AA:1661:G:C6 | 2:AA:2000:G:C6 | 2.94 | 0.56 |
| 2:AA:1768:U:C2 | 2:AA:1985:G:N1 | 2.73 | 0.56 |
| 2:AA:1783:A:O5' | 2:AA:1784:A:OP2 | 2.24 | 0.56 |
| 2:AA:1789:A:H5" | 4:AD:224:VAL:CG1 | 2.35 | 0.56 |
| 2:AA:1809:A:HO2' | 2:AA:1810:A:P | 2.25 | 0.56 |
| 2:AA:1934:C:H5' | 2:AA:1974:C:O2' | 2.05 | 0.56 |
| 2:AA:2047:U:O2' | 2:AA:2048:G:O5' | 2.23 | 0.56 |
| 2:AA:2176:A:H2' | 2:AA:2177:C:C6 | 2.37 | 0.56 |
| 2:AA:2452:C:N4 | 2:AA:2453:A:C6 | 2.73 | 0.56 |
| 2:AA:2483:C:N3 | 2:AA:2484:G:C8 | 2.73 | 0.56 |
| 2:AA:2520:C:N4 | 2:AA:2567:G:N7 | 2.54 | 0.56 |
| 2:AA:2565:A:O3' | 2:AA:2566:A:C4' | 2.54 | 0.56 |
| 2:AA:2603:G:O6 | 2:AA:2604:U:O4 | 2.24 | 0.56 |
| 2:AA:2606:C:H6 | 2:AA:2606:C:C5' | 2.17 | 0.56 |
| 2:AA:2619:C:C4' | 5:AE:247:ARG:O | 2.52 | 0.56 |
| 2:AA:2730:C:O3' | 5:AE:265:ASN:CG | 2.44 | 0.56 |
| 2:AA:2742:C:OP1 | 33:A9:35:ARG:NE | 2.38 | 0.56 |
| 2:AA:2776:A:C6 | 2:AA:2782:G:H1' | 2.41 | 0.56 |
| 2:AA:2784:C:C5' | 5:AE:95:PRO:O | 2.53 | 0.56 |
| 2:AA:2792:G:H1 | 2:AA:2803:C:N4 | 2.03 | 0.56 |
| 2:AA:2839:G:H2' | 2:AA:2840:C:C6 | 2.41 | 0.56 |
| 3:AC:21:THR:N | 3:AC:24:GLU:OE1 | 2.35 | 0.56 |
| 3:AC:50:ASP:OD1 | 3:AC:52:ARG:N | 2.39 | 0.56 |
| 3:AC:103:ILE:HD13 | 3:AC:110:PHE:CE2 | 2.39 | 0.56 |
| 3:AC:133:PRO:CG | 3:AC:134:ARG:N | 2.68 | 0.56 |
| 4:AD:118:GLY:O | 4:AD:129:LEU:CD1 | 2.52 | 0.56 |
| 4:AD:140:VAL:CG1 | 4:AD:189:ALA:HB1 | 2.35 | 0.56 |
| 5:AE:39:GLN:CD | 5:AE:174:LEU:CD1 | 2.64 | 0.56 |
| 5:AE:212:GLY:C | 5:AE:216:ARG:HG3 | 2.26 | 0.56 |
| 6:AF:243:VAL:O | 6:AF:246:ARG:N | 2.39 | 0.56 |
| 8:AH:75:VAL:O | 8:AH:76:GLU:C | 2.43 | 0.56 |
| 8:AH:98:GLN:CB | 8:AH:103:VAL:CG2 | 2.78 | 0.56 |
| 9:AI:30:GLY:O | 9:AI:34:ALA:HB3 | 2.04 | 0.56 |
| 9:AI:69:ASN:CB | 9:AI:122:GLY:HA3 | 2.30 | 0.56 |
| 9:AI:81:THR:HG22 | 9:AI:103:LYS:HG2 | 1.88 | 0.56 |
| 9:AJ:5:GLU:HA | 9:AJ:8:GLU:OE2 | 2.06 | 0.56 |
| 9:AJ:81:THR:HG21 | 9:AJ:102:ILE:O | 2.06 | 0.56 |
| 11:AL:132:ALA:HA | 11:AL:137:ILE:HD12 | 1.86 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:84:ARG:CD | 12:AM:98:PHE:CD2 | 2.77 | 0.56 |
| 13:AN:11:ALA:HB1 | 13:AN:99:PHE:CB | 2.33 | 0.56 |
| 13:AN:120:GLU:HG2 | 13:AN:121:VAL:N | 2.21 | 0.56 |
| 14:AO:62:ALA:O | 14:AO:107:LYS:CG | 2.53 | 0.56 |
| 14:AO:124:ASP:CB | 14:AO:130:ARG:NH2 | 2.65 | 0.56 |
| 16:AQ:21:HIS:O | 16:AQ:23:ARG:N | 2.37 | 0.56 |
| 16:AQ:22:GLN:O | 16:AQ:25:ARG:CB | 2.37 | 0.56 |
| 18:AS:3:ALA:HB2 | 18:AS:62:HIS:CG | 2.39 | 0.56 |
| 20:AU:71:VAL:HA | 20:AU:93:THR:CG2 | 2.35 | 0.56 |
| 21:AV:1:MET:H1 | 21:AV:54:ILE:HD12 | 1.70 | 0.56 |
| 21:AV:19:ILE:CG1 | 21:AV:79:ILE:HG23 | 2.33 | 0.56 |
| 21:AV:99:HIS:O | 21:AV:137:ASP:OD1 | 2.23 | 0.56 |
| 23:AX:1:MET:O | 23:AX:2:PRO:C | 2.44 | 0.56 |
| 23:AX:23:LEU:HD22 | 23:AX:53:LEU:HD11 | 1.87 | 0.56 |
| 23:AX:53:LEU:C | 23:AX:54:VAL:HG13 | 2.26 | 0.56 |
| 25:A1:111:ASP:CA | 25:A1:114:ARG:HG3 | 2.36 | 0.56 |
| 26:A2:33:VAL:CG1 | 26:A2:34:GLU:N | 2.68 | 0.56 |
| 28:A4:5:LEU:O | 28:A4:7:PRO:CD | 2.54 | 0.56 |
| 32:A8:50:LEU:CD2 | 32:A8:51:ALA:N | 2.55 | 0.56 |
| 34:BA:60:A:O2' | 34:BA:61:G:OP2 | 2.22 | 0.56 |
| 34:BA:109:A:C5' | 34:BA:110:C:OP2 | 2.53 | 0.56 |
| 34:BA:238:G:C6 | 34:BA:239:U:C4 | 2.93 | 0.56 |
| 34:BA:280:C:H1' | 52:BT:38:ARG:CZ | 2.36 | 0.56 |
| 34:BA:286:G:C4 | 34:BA:287:U:C6 | 2.94 | 0.56 |
| 34:BA:407:G:O2' | 39:BG:116:GLN:CG | 2.53 | 0.56 |
| 34:BA:418:C:H1' | 34:BA:540:G:O2' | 2.04 | 0.56 |
| 34:BA:454:C:H3' | 34:BA:455:C:H6 | 1.71 | 0.56 |
| 34:BA:520:A:C8 | 34:BA:521:G:O4' | 2.58 | 0.56 |
| 34:BA:616:G:O2' | 34:BA:617:G:H5' | 2.04 | 0.56 |
| 34:BA:753:A:H4' | 34:BA:754:C:H5" | 1.88 | 0.56 |
| 34:BA:795:C:H5" | 34:BA:796:C:OP2 | 2.04 | 0.56 |
| 34:BA:874:G:C2 | 34:BA:875:C:C6 | 2.94 | 0.56 |
| 34:BA:931:C:N3 | 34:BA:1387:G:C6 | 2.73 | 0.56 |
| 34:BA:936:C:H2' | 34:BA:937:A:C5' | 2.35 | 0.56 |
| 34:BA:952:U:C4 | 48:BP:104:ARG:NH1 | 2.74 | 0.56 |
| 34:BA:1226:C:O5' | 48:BP:103:THR:HB | 2.04 | 0.56 |
| 34:BA:1291:G:P | 42:BJ:37:ASN:HD21 | 2.28 | 0.56 |
| 34:BA:1324:A:C6 | 34:BA:1325:C:C5 | 2.93 | 0.56 |
| 34:BA:1484:C:C2 | 34:BA:1485:U:C6 | 2.94 | 0.56 |
| 34:BA:1515:C:O2 | 34:BA:1516:G:C8 | 2.59 | 0.56 |
| 35:BB:67:A:C4 | 35:BB:68:U:C5 | 2.94 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BC:9:A:C2 | 35:BC:46:G:C8 | 2.92 | 0.56 |
| 35:BC:54:U:H2' | 35:BC:55:U:C5' | 2.34 | 0.56 |
| 38:BF:67:THR:HG21 | 38:BF:104:GLN:OE1 | 2.06 | 0.56 |
| 38:BF:121:ALA:O | 38:BF:124:ILE:N | 2.38 | 0.56 |
| 39:BG:123:HIS:HB3 | 39:BG:125:HIS:CE1 | 2.41 | 0.56 |
| 39:BG:150:GLU:CD | 39:BG:150:GLU:N | 2.57 | 0.56 |
| 40:BH:127:ASN:O | 40:BH:128:PRO:C | 2.42 | 0.56 |
| 41:BI:73:ASN:O | 41:BI:76:ALA:HB3 | 2.05 | 0.56 |
| 42:BJ:13:GLN:O | 42:BJ:14:PRO:O | 2.23 | 0.56 |
| 43:BK:13:ILE:HG22 | 43:BK:14:ARG:N | 2.20 | 0.56 |
| 44:BL:78:LYS:HE3 | 44:BL:101:PHE:CE2 | 2.41 | 0.56 |
| 45:BM:47:PHE:N | 45:BM:47:PHE:CD1 | 2.73 | 0.56 |
| 45:BM:51:ARG:NH2 | 45:BM:61:GLU:CD | 2.59 | 0.56 |
| 46:BN:84:VAL:HG22 | 46:BN:109:VAL:O | 2.05 | 0.56 |
| 50:BR:63:ARG:O | 50:BR:66:LEU:HB2 | 2.04 | 0.56 |
| 52:BT:17:LYS:HZ3 | 52:BT:47:PRO:HA | 1.69 | 0.56 |
| 52:BT:27:PHE:C | 52:BT:35:VAL:HG13 | 2.26 | 0.56 |
| 52:BT:75:ARG:HH12 | 52:BT:77:VAL:CA | 2.17 | 0.56 |
| 53:BU:53:ARG:C | 53:BU:55:ARG:N | 2.53 | 0.56 |
| 55:BW:40:ALA:HA | 55:BW:55:ILE:CD1 | 2.34 | 0.56 |
| 1:AB:6:C:H5' | 1:AB:27:C:O2' | 2.05 | 0.56 |
| 1:AB:90:C:O2' | 1:AB:91:C:C5' | 2.53 | 0.56 |
| 2:AA:19:C:H2' | 2:AA:19:C:O2 | 2.06 | 0.56 |
| 2:AA:238:C:N3 | 2:AA:239:U:C6 | 2.74 | 0.56 |
| 2:AA:383:U:C2 | 2:AA:385:C:C4 | 2.94 | 0.56 |
| 2:AA:430:G:C8 | 2:AA:430:G:OP2 | 2.58 | 0.56 |
| 2:AA:530:G:HO2' | 2:AA:531:C:C3' | 2.18 | 0.56 |
| 2:AA:568:U:O2 | 2:AA:570:G:N7 | 2.38 | 0.56 |
| 2:AA:572:A:C6 | 2:AA:573:G:N1 | 2.73 | 0.56 |
| 2:AA:580:C:C4 | 2:AA:581:C:N4 | 2.73 | 0.56 |
| 2:AA:643:A:C2' | 2:AA:644:A:C8 | 2.89 | 0.56 |
| 2:AA:696:G:O2' | 2:AA:697:C:H5' | 2.05 | 0.56 |
| 2:AA:751:A:N1 | 2:AA:789:A:C5 | 2.73 | 0.56 |
| 2:AA:751:A:H2' | 2:AA:751:A:N3 | 2.21 | 0.56 |
| 2:AA:800:A:O2' | 2:AA:801:G:C5' | 2.53 | 0.56 |
| 2:AA:806:C:O2' | 2:AA:2445:G:C4' | 2.50 | 0.56 |
| 2:AA:832:G:O2' | 2:AA:833:U:O5' | 2.24 | 0.56 |
| 2:AA:857:C:C6 | 2:AA:857:C:C3' | 2.88 | 0.56 |
| 2:AA:881:G:C6 | 2:AA:882:G:C4 | 2.93 | 0.56 |
| 2:AA:1029:A:C2' | 2:AA:1030:G:C5' | 2.83 | 0.56 |
| 2:AA:1068:G:N1 | 2:AA:1073:A:H2 | 2.02 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1078:U:C2 | 2:AA:1088:A:H1' | 2.40 | 0.56 |
| 2:AA:1152:C:H2' | 2:AA:1153:C:C5' | 2.34 | 0.56 |
| 2:AA:1162:G:H21 | 26:A2:90:PHE:HD2 | 1.54 | 0.56 |
| 2:AA:1274:A:C2 | 2:AA:1297:C:O2 | 2.58 | 0.56 |
| 2:AA:1314:C:H42 | 2:AA:1338:G:H1 | 1.53 | 0.56 |
| 2:AA:1341:U:C5 | 2:AA:1397:U:O2 | 2.59 | 0.56 |
| 2:AA:1519:G:OP1 | 2:AA:1519:G:C4' | 2.51 | 0.56 |
| 2:AA:1526:G:OP2 | 2:AA:1527:G:OP1 | 2.24 | 0.56 |
| 2:AA:1539:G:H4' | 2:AA:1539:G:OP1 | 2.06 | 0.56 |
| 2:AA:1695:G:H2' | 2:AA:1696:G:O5' | 2.03 | 0.56 |
| 2:AA:1764:G:C6 | 2:AA:1989:G:C2 | 2.93 | 0.56 |
| 2:AA:1771:C:O2 | 2:AA:1772:G:C8 | 2.59 | 0.56 |
| 2:AA:1856:G:C6 | 2:AA:1887:C:N4 | 2.74 | 0.56 |
| 2:AA:1936:A:H1' | 2:AA:1940:U:C4 | 2.37 | 0.56 |
| 2:AA:1996:C:H2' | 2:AA:1997:G:C4' | 2.36 | 0.56 |
| 2:AA:2014:A:C4 | 2:AA:2015:A:N1 | 2.74 | 0.56 |
| 2:AA:2143:C:C2 | 2:AA:2149:G:N2 | 2.74 | 0.56 |
| 2:AA:2687:U:O2 | 2:AA:2688:U:H6 | 1.89 | 0.56 |
| 3:AC:20:TYR:CZ | 3:AC:222:VAL:HG22 | 2.40 | 0.56 |
| 3:AC:27:HIS:CE1 | 3:AC:182:PRO:CG | 2.88 | 0.56 |
| 3:AC:39:GLU:OE2 | 3:AC:218:MET:O | 2.24 | 0.56 |
| 3:AC:127:LEU:HA | 3:AC:130:ILE:CD1 | 2.34 | 0.56 |
| 5:AE:85:ALA:HB1 | 5:AE:87:GLU:CD | 2.25 | 0.56 |
| 6:AF:164:ALA:O | 6:AF:167:ASP:CB | 2.51 | 0.56 |
| 7:AG:106:PHE:O | 7:AG:130:VAL:CG2 | 2.47 | 0.56 |
| 8:AH:32:LEU:HB3 | 8:AH:78:VAL:CG2 | 2.34 | 0.56 |
| 8:AH:93:TYR:C | 8:AH:94:ARG:HG3 | 2.26 | 0.56 |
| 9:AI:80:ILE:HG23 | 9:AI:103:LYS:CD | 2.24 | 0.56 |
| 10:AK:6:LEU:HD12 | 10:AK:35:LEU:CA | 2.29 | 0.56 |
| 11:AL:71:LYS:O | 11:AL:72:THR:C | 2.44 | 0.56 |
| 11:AL:104:GLN:C | 11:AL:107:GLU:HG3 | 2.26 | 0.56 |
| 12:AM:15:ARG:HA | 12:AM:44:ALA:CA | 2.36 | 0.56 |
| 12:AM:39:VAL:HG12 | 12:AM:104:TYR:C | 2.26 | 0.56 |
| 12:AM:51:GLU:O | 12:AM:54:VAL:HG23 | 2.05 | 0.56 |
| 14:AO:67:ARG:NH2 | 14:AO:109:LEU:O | 2.39 | 0.56 |
| 15:AP:28:ILE:HG23 | 15:AP:62:GLU:OE2 | 2.06 | 0.56 |
| 15:AP:140:TYR:C | 15:AP:142:LYS:N | 2.54 | 0.56 |
| 16:AQ:98:GLU:HG3 | 16:AQ:99:GLU:H | 1.70 | 0.56 |
| 19:AT:5:ILE:HD11 | 19:AT:41:VAL:HA | 1.88 | 0.56 |
| 19:AT:13:LYS:O | 19:AT:17:ASP:OD1 | 2.22 | 0.56 |
| 20:AU:92:ASP:O | 20:AU:94:SER:N | 2.38 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:99:THR:O | 20:AU:101:LEU:N | 2.39 | 0.56 |
| 21:AV:16:GLU:N | 21:AV:36:ARG:NH1 | 2.46 | 0.56 |
| 24:A0:58:GLY:O | 24:A0:59:ASP:CB | 2.54 | 0.56 |
| 24:A0:83:ILE:HA | 24:A0:86:ARG:CG | 2.28 | 0.56 |
| 25:A1:99:ALA:HB2 | 25:A1:106:PHE:CD1 | 2.41 | 0.56 |
| 25:A1:114:ARG:O | 25:A1:117:ARG:CD | 2.54 | 0.56 |
| 26:A2:20:ILE:O | 26:A2:21:ARG:CZ | 2.54 | 0.56 |
| 26:A2:62:GLU:HB2 | 26:A2:96:LEU:CG | 2.35 | 0.56 |
| 27:A3:28:GLY:N | 27:A3:60:PHE:CB | 2.68 | 0.56 |
| 27:A3:67:VAL:HG11 | 27:A3:74:LYS:CA | 2.26 | 0.56 |
| 30:A6:19:GLY:C | 30:A6:42:PRO:CB | 2.74 | 0.56 |
| 30:A6:54:LYS:O | 30:A6:54:LYS:HG3 | 2.06 | 0.56 |
| 31:A7:24:THR:HG23 | 31:A7:27:GLY:H | 1.71 | 0.56 |
| 32:A8:16:ILE:CD1 | 32:A8:64:ARG:OXT | 2.46 | 0.56 |
| 34:BA:55:A:C4 | 34:BA:56:U:C6 | 2.94 | 0.56 |
| 34:BA:88:A:C2 | 34:BA:89:C:H1' | 2.41 | 0.56 |
| 34:BA:232:G:H2' | 34:BA:233:C:O4' | 2.05 | 0.56 |
| 34:BA:492:G:H2' | 34:BA:494:G:H5' | 1.87 | 0.56 |
| 34:BA:627:G:C2 | 34:BA:628:G:C5 | 2.94 | 0.56 |
| 34:BA:653:A:O4' | 43:BK:56:LYS:NZ | 2.33 | 0.56 |
| 34:BA:767:A:N6 | 34:BA:813:U:N3 | 2.53 | 0.56 |
| 34:BA:838:G:N1 | 34:BA:849:C:C4 | 2.73 | 0.56 |
| 34:BA:921:U:OP1 | 34:BA:1082:G:H5" | 2.06 | 0.56 |
| 34:BA:923:A:P | 40:BH:21:ALA:HB2 | 2.46 | 0.56 |
| 34:BA:961:U:C4 | 34:BA:974:A:N1 | 2.64 | 0.56 |
| 34:BA:1206:G:C6 | 34:BA:1207:G:C5 | 2.94 | 0.56 |
| 34:BA:1227:A:C8 | 34:BA:1228:C:O4' | 2.58 | 0.56 |
| 36:B1:10:U:H3 | 36:B1:46:A:H61 | 1.54 | 0.56 |
| 37:BE:82:ARG:NH1 | 37:BE:92:TYR:OH | 2.39 | 0.56 |
| 37:BE:97:TRP:CZ2 | 37:BE:176:GLU:OE1 | 2.58 | 0.56 |
| 38:BF:20:SER:HA | 38:BF:57:ILE:O | 2.06 | 0.56 |
| 38:BF:138:VAL:HG22 | 38:BF:151:VAL:HG21 | 1.84 | 0.56 |
| 38:BF:157:ILE:CD1 | 38:BF:164:ARG:CZ | 2.80 | 0.56 |
| 39:BG:187:ARG:HH21 | 39:BG:188:LEU:CD1 | 2.19 | 0.56 |
| 40:BH:91:LEU:HD11 | 40:BH:110:LEU:HD11 | 1.87 | 0.56 |
| 41:BI:100:ASN:ND2 | 53:BU:23:LYS:O | 2.39 | 0.56 |
| 42:BJ:10:ARG:HG2 | 42:BJ:10:ARG:NH1 | 2.19 | 0.56 |
| 43:BK:37:ARG:HD2 | 43:BK:38:ILE:CD1 | 2.26 | 0.56 |
| 43:BK:98:LYS:NZ | 43:BK:98:LYS:C | 2.59 | 0.56 |
| 44:BL:37:PHE:C | 44:BL:40:LEU:HD12 | 2.25 | 0.56 |
| 44:BL:102:LEU:O | 44:BL:103:THR:CB | 2.53 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:75:ILE:O | 45:BM:76:ASN:HB2 | 2.06 | 0.56 |
| 46:BN:29:ILE:HG22 | 46:BN:44:SER:CB | 2.36 | 0.56 |
| 48:BP:34:LEU:HD13 | 48:BP:41:PRO:HB3 | 1.85 | 0.56 |
| 48:BP:96:LEU:N | 48:BP:96:LEU:HD23 | 2.20 | 0.56 |
| 51:BS:52:ASP:OD1 | 51:BS:55:ARG:HB2 | 2.06 | 0.56 |
| 51:BS:68:ASP:C | 51:BS:70:ALA:N | 2.57 | 0.56 |
| 52:BT:67:LYS:O | 52:BT:68:ARG:CB | 2.54 | 0.56 |
| 53:BU:46:GLU:CB | 53:BU:85:LEU:CD1 | 2.76 | 0.56 |
| 54:BV:13:ASP:HA | 54:BV:16:LEU:HB3 | 1.87 | 0.56 |
| 54:BV:36:ARG:NH2 | 54:BV:72:GLY:CA | 2.69 | 0.56 |
| 1:AB:12:C:H6 | 27:A3:53:MET:SD | 2.29 | 0.56 |
| 1:AB:37:C:H42 | 1:AB:48:A:HO2' | 1.48 | 0.56 |
| 2:AA:29:U:H6 | 2:AA:29:U:O5' | 1.89 | 0.56 |
| 2:AA:134:C:C2' | 2:AA:135:G:H5' | 2.35 | 0.56 |
| 2:AA:225:A:N6 | 2:AA:226:G:C6 | 2.74 | 0.56 |
| 2:AA:234:C:N4 | 2:AA:430:G:N2 | 2.54 | 0.56 |
| 2:AA:270(Q):C:HO2' | 2:AA:270(R):G:H5' | 1.70 | 0.56 |
| 2:AA:281:G:O2' | 2:AA:282:A:O4' | 2.24 | 0.56 |
| 2:AA:295:G:N2 | 2:AA:344:G:C4 | 2.71 | 0.56 |
| 2:AA:397:G:OP1 | 28:A4:41:PRO:CG | 2.53 | 0.56 |
| 2:AA:408:G:H8 | 2:AA:408:G:O5' | 1.89 | 0.56 |
| 2:AA:447:A:N6 | 2:AA:473:G:C4 | 2.73 | 0.56 |
| 2:AA:600:G:O2' | 6:AF:109:LEU:CD1 | 2.53 | 0.56 |
| 2:AA:627:A:N7 | 14:AO:109:LEU:HD21 | 2.21 | 0.56 |
| 2:AA:653:A:C5' | 2:AA:654:A:H4' | 2.35 | 0.56 |
| 2:AA:886:C:H5" | 2:AA:887:A:OP1 | 2.06 | 0.56 |
| 2:AA:1061:U:H5' | 2:AA:1070:A:H4' | 1.85 | 0.56 |
| 2:AA:1087:G:C2 | 2:AA:1103:A:C4 | 2.94 | 0.56 |
| 2:AA:1233:C:C2' | 2:AA:1234:U:O5' | 2.53 | 0.56 |
| 2:AA:1355:G:H2' | 2:AA:1356:G:C8 | 2.37 | 0.56 |
| 2:AA:1434:A:C4 | 2:AA:1560:G:N2 | 2.74 | 0.56 |
| 2:AA:1450:C:O2 | 2:AA:1450:C:H2' | 2.05 | 0.56 |
| 2:AA:1498:C:C6 | 2:AA:1576:U:O2' | 2.57 | 0.56 |
| 2:AA:1693:U:O4 | 2:AA:1829:A:N6 | 2.38 | 0.56 |
| 2:AA:1829:A:N3 | 2:AA:1830:C:O4' | 2.39 | 0.56 |
| 2:AA:1879:C:H2' | 2:AA:1880:C:C6 | 2.40 | 0.56 |
| 2:AA:1913:A:N6 | 2:AA:1916:A:H3' | 2.21 | 0.56 |
| 2:AA:1920:C:P | 34:BA:1517:G:H1' | 2.46 | 0.56 |
| 2:AA:1971:A:H3' | 2:AA:1971:A:C8 | 2.40 | 0.56 |
| 2:AA:2000:G:N3 | 2:AA:2001:A:C8 | 2.73 | 0.56 |
| 2:AA:2080:G:O3' | 28:A4:33:VAL:HG22 | 2.05 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2090:G:C5 | 2:AA:2230:G:O6 | 2.59 | 0.56 |
| 2:AA:2122:U:H2' | 2:AA:2123:G:H5" | 1.87 | 0.56 |
| 2:AA:2183:C:C2 | 2:AA:2184:G:C8 | 2.93 | 0.56 |
| 2:AA:2277:G:N3 | 2:AA:2277:G:H2' | 2.20 | 0.56 |
| 2:AA:2283:C:C2 | 2:AA:2284:C:H1' | 2.40 | 0.56 |
| 2:AA:2316:C:C4' | 7:AG:151:ILE:CD1 | 2.79 | 0.56 |
| 2:AA:2328:A:H2' | 2:AA:2329:G:H8 | 1.70 | 0.56 |
| 2:AA:2344:U:O2 | 2:AA:2344:U:C2' | 2.53 | 0.56 |
| 2:AA:2416:C:C2 | 2:AA:2417:C:C5 | 2.93 | 0.56 |
| 2:AA:2596:U:O3' | 2:AA:2597:G:O4' | 2.24 | 0.56 |
| 2:AA:2657:A:C8 | 2:AA:2657:A:H3' | 2.40 | 0.56 |
| 2:AA:2830:G:C2 | 2:AA:2883:A:H2 | 2.24 | 0.56 |
| 3:AC:127:LEU:CB | 3:AC:130:ILE:HB | 2.36 | 0.56 |
| 4:AD:90:ILE:HG23 | 4:AD:91:ALA:N | 2.20 | 0.56 |
| 4:AD:112:GLY:O | 4:AD:113:MET:C | 2.44 | 0.56 |
| 4:AD:210:LYS:O | 4:AD:213:LYS:CA | 2.54 | 0.56 |
| 8:AH:19:ASN:O | 8:AH:21:ASN:N | 2.34 | 0.56 |
| 8:AH:116:PRO:HB3 | 8:AH:122:ILE:HD11 | 1.86 | 0.56 |
| 11:AL:29:GLY:HA2 | 11:AL:33:VAL:O | 2.06 | 0.56 |
| 14:AO:105:TYR:CD2 | 14:AO:105:TYR:N | 2.72 | 0.56 |
| 15:AP:67:ALA:CB | 15:AP:70:ARG:NH1 | 2.65 | 0.56 |
| 16:AQ:54:GLY:O | 16:AQ:55:ASP:O | 2.23 | 0.56 |
| 18:AS:69:LEU:HA | 18:AS:108:GLY:O | 2.05 | 0.56 |
| 20:AU:81:LYS:HG2 | 20:AU:82:THR:N | 2.18 | 0.56 |
| 20:AU:102:ASP:HB3 | 20:AU:108:ARG:NH1 | 2.20 | 0.56 |
| 23:AX:17:LYS:O | 23:AX:18:ASP:C | 2.42 | 0.56 |
| 24:A0:67:LEU:HD23 | 24:A0:76:VAL:HG21 | 1.87 | 0.56 |
| 25:A1:50:ARG:NH1 | 26:A2:74:TYR:CD2 | 2.74 | 0.56 |
| 25:A1:63:GLN:C | 25:A1:65:ILE:N | 2.52 | 0.56 |
| 27:A3:19:LYS:HB2 | 27:A3:21:LEU:HD11 | 1.86 | 0.56 |
| 27:A3:40:GLN:N | 27:A3:69:PHE:CE1 | 2.74 | 0.56 |
| 34:BA:64:G:N2 | 34:BA:67:C:C4 | 2.73 | 0.56 |
| 34:BA:84:U:C4 | 34:BA:88:A:N7 | 2.74 | 0.56 |
| 34:BA:109:A:N7 | 34:BA:326:G:C4 | 2.74 | 0.56 |
| 34:BA:166:G:O2' | 34:BA:167:G:C5' | 2.52 | 0.56 |
| 34:BA:171:A:O2' | 34:BA:172:A:H5' | 2.06 | 0.56 |
| 34:BA:188:C:H2' | 34:BA:189:G:H5' | 1.87 | 0.56 |
| 34:BA:225:C:H2' | 34:BA:225:C:O2 | 2.06 | 0.56 |
| 34:BA:491:G:H8 | 34:BA:491:G:O5' | 1.88 | 0.56 |
| 34:BA:507:C:H2' | 34:BA:508:C:C5 | 2.36 | 0.56 |
| 34:BA:619:U:O2 | 39:BG:133:VAL:HA | 2.05 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:687:A:HO2' | 34:BA:688:G:P | 2.29 | 0.56 |
| 34:BA:824:C:H1' | 43:BK:1:MET:N | 2.21 | 0.56 |
| 34:BA:962:C:C5 | 34:BA:963:G:N7 | 2.74 | 0.56 |
| 34:BA:970:C:C4 | 48:BP:126:LYS:HD3 | 2.41 | 0.56 |
| 34:BA:1030:C:H2' | 34:BA:30(A):G:H8 | 1.71 | 0.56 |
| 34:BA:1048:G:OP1 | 49:BQ:3:ARG:HG3 | 2.06 | 0.56 |
| 34:BA:1094:G:O2' | 34:BA:1095:U:OP2 | 2.23 | 0.56 |
| 34:BA:1174:G:C2' | 34:BA:1175:G:H5' | 2.36 | 0.56 |
| 34:BA:1195:C:N3 | 34:BA:1197:G:C8 | 2.74 | 0.56 |
| 34:BA:1301:U:C4 | 34:BA:1303:C:N1 | 2.74 | 0.56 |
| 34:BA:1358:U:OP2 | 34:BA:1359:C:C5 | 2.59 | 0.56 |
| 34:BA:1374:A:O3' | 42:BJ:28:ASN:OD1 | 2.22 | 0.56 |
| 34:BA:1470:G:C4 | 34:BA:1471:G:C8 | 2.93 | 0.56 |
| 34:BA:1503:A:C8 | 36:B1:57:A:N6 | 2.74 | 0.56 |
| 34:BA:1531:A:H2' | 34:BA:1532:U:C6 | 2.40 | 0.56 |
| 35:BB:40:C:O2' | 48:BP:120:LYS:HE2 | 2.06 | 0.56 |
| 37:BE:24:TRP:CE3 | 37:BE:26:PRO:HA | 2.41 | 0.56 |
| 37:BE:212:GLN:HE21 | 37:BE:215:LEU:HB3 | 1.71 | 0.56 |
| 37:BE:222:ILE:CD1 | 37:BE:226:ARG:HE | 2.19 | 0.56 |
| 38:BF:38:ARG:HB3 | 38:BF:94:LEU:HD11 | 1.86 | 0.56 |
| 38:BF:41:GLY:O | 38:BF:45:LYS:HG3 | 2.06 | 0.56 |
| 38:BF:147:LYS:HB3 | 38:BF:203:PHE:HD2 | 1.71 | 0.56 |
| 38:BF:156:ARG:HB2 | 38:BF:196:LEU:HD22 | 1.88 | 0.56 |
| 43:BK:29:SER:CB | 43:BK:32:LYS:HZ2 | 2.09 | 0.56 |
| 44:BL:98:PRO:C | 44:BL:100:GLY:N | 2.54 | 0.56 |
| 46:BN:99:GLN:HA | 46:BN:105:VAL:HG22 | 1.87 | 0.56 |
| 47:BO:28:LYS:HD2 | 47:BO:33:ARG:NH1 | 2.20 | 0.56 |
| 47:BO:85:ILE:HG12 | 47:BO:87:GLY:H | 1.70 | 0.56 |
| 48:BP:105:THR:O | 48:BP:106:ASN:O | 2.23 | 0.56 |
| 50:BR:74:ASP:O | 50:BR:76:GLU:N | 2.39 | 0.56 |
| 51:BS:32:TYR:HE2 | 51:BS:35:LYS:HB2 | 1.66 | 0.56 |
| 53:BU:74:ARG:CG | 53:BU:81:PHE:HB3 | 2.35 | 0.56 |
| 2:AA:10:G:H2' | 2:AA:11:G:H8 | 1.68 | 0.56 |
| 2:AA:29:U:H2' | 2:AA:30:G:H8 | 1.63 | 0.56 |
| 2:AA:65:C:N4 | 2:AA:66:C:H41 | 2.03 | 0.56 |
| 2:AA:89:G:N1 | 2:AA:90:U:O4 | 2.39 | 0.56 |
| 2:AA:112:U:C5 | 2:AA:113:G:N9 | 2.74 | 0.56 |
| 2:AA:178:G:C6 | 2:AA:179:G:C8 | 2.94 | 0.56 |
| 2:AA:270(C):C:P | 2:AA:365:C:O2' | 2.64 | 0.56 |
| 2:AA:273(F):C:O2' | 2:AA:363(A):A:C2 | 2.52 | 0.56 |
| 2:AA:365:C:O5' | 2:AA:365:C:H6 | 1.87 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:447:A:H1' | 2:AA:449:A:H62 | 0.58 | 0.56 |
| 2:AA:460:A:H3' | 2:AA:461:C:C6 | 2.41 | 0.56 |
| 2:AA:530:G:O6 | 2:AA:2022:U:OP1 | 2.22 | 0.56 |
| 2:AA:540:G:C6 | 2:AA:541:C:C4 | 2.94 | 0.56 |
| 2:AA:583:G:C2' | 2:AA:584:C:O5' | 2.53 | 0.56 |
| 2:AA:653:A:N7 | 2:AA:655:A:C8 | 2.74 | 0.56 |
| 2:AA:693:C:H2' | 2:AA:694:U:C6 | 2.41 | 0.56 |
| 2:AA:697:C:O2' | 2:AA:698:C:C5' | 2.40 | 0.56 |
| 2:AA:744:G:C2' | 2:AA:745:G:O5' | 2.54 | 0.56 |
| 2:AA:799:G:C5 | 2:AA:800:A:N1 | 2.73 | 0.56 |
| 2:AA:818:G:N2 | 2:AA:1189:A:N6 | 2.29 | 0.56 |
| 2:AA:850:C:C4' | 23:AX:18:ASP:OD1 | 2.30 | 0.56 |
| 2:AA:909:A:O2' | 2:AA:911:A:OP2 | 2.24 | 0.56 |
| 2:AA:946:G:C2' | 2:AA:947:G:O4' | 2.53 | 0.56 |
| 2:AA:1044:G:H4' | 2:AA:1047:G:C4' | 2.36 | 0.56 |
| 2:AA:1063:G:O2' | 11:AL:90:SER:O | 2.21 | 0.56 |
| 2:AA:1143:A:O2' | 2:AA:1144:G:O5' | 2.24 | 0.56 |
| 2:AA:1194:A:C6 | 2:AA:1195:G:C5 | 2.94 | 0.56 |
| 2:AA:1305:C:C2' | 2:AA:1306:C:O5' | 2.54 | 0.56 |
| 2:AA:1403:C:O3' | 2:AA:1471:A:H4' | 2.05 | 0.56 |
| 2:AA:1439:A:H2' | 2:AA:1440:G:O4' | 2.06 | 0.56 |
| 2:AA:1491:G:O2' | 2:AA:1492:G:C5' | 2.54 | 0.56 |
| 2:AA:1530:G:OP2 | 2:AA:1539:G:N1 | 2.39 | 0.56 |
| 2:AA:545(A):A:C8 | 2:AA:545(A):A:H3' | 2.41 | 0.56 |
| 2:AA:545(A):A:OP2 | 2:AA:1546:C:C5 | 2.58 | 0.56 |
| 2:AA:1778:U:C6 | 2:AA:1784:A:C2 | 2.94 | 0.56 |
| 2:AA:1812:A:C2' | 2:AA:1813:G:H5' | 2.35 | 0.56 |
| 2:AA:1891:G:H3' | 2:AA:1892:C:C6 | 2.39 | 0.56 |
| 2:AA:1996:C:O2 | 2:AA:1997:G:C4' | 2.54 | 0.56 |
| 2:AA:1999:C:H2' | 2:AA:2000:G:O5' | 2.05 | 0.56 |
| 2:AA:2074:U:H3' | 2:AA:2075:U:H5 | 1.71 | 0.56 |
| 2:AA:2258:C:C4 | 2:AA:2426:A:O4' | 2.58 | 0.56 |
| 2:AA:2273:A:C2' | 2:AA:2274:A:H5' | 2.36 | 0.56 |
| 2:AA:2295:C:H2' | 2:AA:2296:U:C5' | 2.35 | 0.56 |
| 2:AA:2320:A:O5' | 2:AA:2320:A:C8 | 2.57 | 0.56 |
| 2:AA:2649:U:H2' | 2:AA:2650:U:C5 | 2.39 | 0.56 |
| 2:AA:2675:A:O2' | 2:AA:2676:C:C5' | 2.52 | 0.56 |
| 2:AA:2747:G:C2 | 2:AA:2754:U:N3 | 2.73 | 0.56 |
| 4:AD:92:LEU:HD11 | 4:AD:102:TYR:CD2 | 2.41 | 0.56 |
| 4:AD:128:ALA:HB1 | 4:AD:189:ALA:O | 2.06 | 0.56 |
| 4:AD:174:ARG:HD3 | 4:AD:179:GLU:O | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:213:LYS:CB | 4:AD:215:LYS:H | 2.17 | 0.56 |
| 6:AF:56:THR:O | 6:AF:79:ARG:CD | 2.54 | 0.56 |
| 6:AF:155:SER:O | 6:AF:156:LEU:C | 2.44 | 0.56 |
| 8:AH:58:LYS:HA | 8:AH:61:ARG:CZ | 2.35 | 0.56 |
| 10:AK:56:ARG:O | 10:AK:60:GLU:CB | 2.54 | 0.56 |
| 10:AK:133:LEU:H | 10:AK:138:THR:HG22 | 1.70 | 0.56 |
| 11:AL:19:THR:HA | 11:AL:39:CYS:SG | 2.46 | 0.56 |
| 12:AM:45:VAL:HG13 | 12:AM:131:THR:CB | 2.36 | 0.56 |
| 12:AM:45:VAL:CG1 | 12:AM:131:THR:N | 2.67 | 0.56 |
| 12:AM:60:ARG:CB | 12:AM:71:TYR:HD2 | 2.18 | 0.56 |
| 13:AN:35:ILE:CD1 | 13:AN:35:ILE:H | 2.18 | 0.56 |
| 13:AN:87:ILE:HA | 13:AN:92:SER:O | 2.06 | 0.56 |
| 13:AN:119:PRO:CD | 13:AN:120:GLU:H | 2.17 | 0.56 |
| 15:AP:26:LYS:NZ | 15:AP:88:PHE:CB | 2.69 | 0.56 |
| 15:AP:57:ARG:C | 15:AP:61:LEU:HD11 | 2.26 | 0.56 |
| 15:AP:94:ARG:NH1 | 15:AP:104:PRO:HB2 | 2.21 | 0.56 |
| 16:AQ:89:GLY:HA3 | 16:AQ:125:ALA:CB | 2.35 | 0.56 |
| 16:AQ:122:ALA:HB2 | 16:AQ:127:LEU:HD13 | 1.88 | 0.56 |
| 17:AR:4:ARG:HE | 17:AR:4:ARG:N | 2.03 | 0.56 |
| 18:AS:19:LEU:HB3 | 29:A5:25:LEU:HD11 | 1.86 | 0.56 |
| 20:AU:19:ARG:HA | 20:AU:21:LYS:HZ3 | 1.71 | 0.56 |
| 20:AU:31:LEU:HD13 | 20:AU:101:LEU:HD12 | 1.87 | 0.56 |
| 20:AU:101:LEU:HD22 | 20:AU:103:LEU:CD1 | 2.35 | 0.56 |
| 21:AV:118:HIS:CD2 | 21:AV:168:VAL:CA | 2.79 | 0.56 |
| 22:AW:55:ARG:O | 22:AW:58:THR:N | 2.39 | 0.56 |
| 23:AX:55:ARG:CB | 23:AX:55:ARG:CZ | 2.84 | 0.56 |
| 24:A0:20:LEU:HD21 | 24:A0:24:GLN:CG | 2.36 | 0.56 |
| 24:A0:77:ARG:O | 24:A0:78:LYS:C | 2.42 | 0.56 |
| 25:A1:74:MET:HG3 | 25:A1:117:ARG:HH12 | 1.69 | 0.56 |
| 26:A2:3:ALA:CA | 26:A2:44:GLN:OE1 | 2.53 | 0.56 |
| 27:A3:44:LYS:CD | 27:A3:78:PHE:CE2 | 2.79 | 0.56 |
| 27:A3:52:GLY:O | 27:A3:53:MET:CB | 2.54 | 0.56 |
| 34:BA:131:C:O2 | 34:BA:131:C:C2' | 2.52 | 0.56 |
| 34:BA:258:G:O2' | 34:BA:259:G:O5' | 2.23 | 0.56 |
| 34:BA:303:A:H2' | 34:BA:304:U:O4' | 2.06 | 0.56 |
| 34:BA:513:C:C4 | 34:BA:514:C:N4 | 2.73 | 0.56 |
| 34:BA:519:C:O2' | 34:BA:520:A:H5' | 2.06 | 0.56 |
| 34:BA:658:G:H2' | 34:BA:659:U:C5' | 2.36 | 0.56 |
| 34:BA:748:C:C6 | 34:BA:748:C:P | 2.99 | 0.56 |
| 34:BA:826:C:C1' | 43:BK:15:ASN:HD22 | 2.17 | 0.56 |
| 34:BA:862:C:C5 | 34:BA:863:U:C5 | 2.94 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:877:C:O2 | 34:BA:877:C:C2' | 2.52 | 0.56 |
| 34:BA:952:U:H5" | 34:BA:972:C:H41 | 1.68 | 0.56 |
| 34:BA:1014:A:H4' | 54:BV:14:HIS:CE1 | 2.41 | 0.56 |
| 34:BA:1147:C:C2 | 34:BA:1148:U:C5 | 2.93 | 0.56 |
| 34:BA:1168:A:C6 | 34:BA:1169:A:C2 | 2.93 | 0.56 |
| 34:BA:1346:A:N6 | 34:BA:1374:A:H3' | 2.21 | 0.56 |
| 34:BA:1428:A:C5 | 34:BA:1429:C:C4 | 2.94 | 0.56 |
| 34:BA:1524:C:C2 | 34:BA:1525:G:C8 | 2.93 | 0.56 |
| 35:BC:34:G:H22 | 36:B1:62:G:N2 | 2.00 | 0.56 |
| 35:BC:54:U:O2' | 35:BC:55:U:H5' | 2.06 | 0.56 |
| 37:BE:80:ILE:CD1 | 37:BE:208:ILE:HG23 | 2.31 | 0.56 |
| 37:BE:96:ARG:HD2 | 37:BE:96:ARG:H | 1.69 | 0.56 |
| 37:BE:162:ILE:HD13 | 37:BE:162:ILE:N | 2.20 | 0.56 |
| 37:BE:221:LEU:O | 37:BE:224:GLN:HB2 | 2.05 | 0.56 |
| 38:BF:22:TRP:CH2 | 38:BF:32:LEU:HB3 | 2.41 | 0.56 |
| 38:BF:77:ILE:C | 38:BF:83:ARG:HB3 | 2.26 | 0.56 |
| 38:BF:152:ILE:HD12 | 38:BF:201:TYR:CE1 | 2.37 | 0.56 |
| 39:BG:65:ARG:CD | 39:BG:72:GLU:OE2 | 2.52 | 0.56 |
| 40:BH:42:GLY:CA | 40:BH:66:MET:SD | 2.93 | 0.56 |
| 42:BJ:68:ASN:O | 42:BJ:138:LYS:HD2 | 2.05 | 0.56 |
| 44:BL:10:ARG:CZ | 44:BL:75:ASP:OD2 | 2.54 | 0.56 |
| 45:BM:75:ILE:HG22 | 45:BM:76:ASN:ND2 | 2.20 | 0.56 |
| 46:BN:92:GLU:O | 46:BN:93:GLN:C | 2.43 | 0.56 |
| 49:BQ:29:ARG:O | 49:BQ:33:VAL:CG1 | 2.53 | 0.56 |
| 53:BU:56:THR:O | 53:BU:58:LEU:HG | 2.05 | 0.56 |
| 53:BU:60:GLY:O | 53:BU:61:LYS:C | 2.44 | 0.56 |
| 55:BW:84:LEU:HD13 | 55:BW:84:LEU:C | 2.26 | 0.56 |
| 1:AB:6:C:H2' | 1:AB:7:G:H8 | 1.70 | 0.56 |
| 1:AB:78:A:P | 21:AV:73:LYS:HZ1 | 2.29 | 0.56 |
| 2:AA:10:G:C2 | 2:AA:11:G:C5 | 2.93 | 0.56 |
| 2:AA:250:G:N3 | 2:AA:250:G:C2' | 2.69 | 0.56 |
| 2:AA:270(Q):C:C2 | 2:AA:270(R):G:H8 | 2.24 | 0.56 |
| 2:AA:365:C:C2 | 2:AA:366:C:C5 | 2.94 | 0.56 |
| 2:AA:401:A:C2' | 2:AA:402:A:H8 | 2.08 | 0.56 |
| 2:AA:585:G:C2 | 2:AA:1251:C:N4 | 2.71 | 0.56 |
| 2:AA:612:G:N2 | 2:AA:617:G:O6 | 2.39 | 0.56 |
| 2:AA:679:C:O2 | 2:AA:680:G:C8 | 2.59 | 0.56 |
| 2:AA:987:G:C5 | 2:AA:988:A:C8 | 2.93 | 0.56 |
| 2:AA:1024:G:N7 | 2:AA:1025:G:N9 | 2.53 | 0.56 |
| 2:AA:1082:U:H3' | 2:AA:1082:U:C6 | 2.41 | 0.56 |
| 2:AA:1085:A:H5' | 9:AI:29:PHE:CB | 2.35 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1139:G:HO2' | 2:AA:1140:C:H5' | 1.70 | 0.56 |
| 2:AA:1233:C:H2' | 2:AA:1234:U:C5' | 2.35 | 0.56 |
| 2:AA:1327:C:C6 | 2:AA:1328:G:N7 | 2.74 | 0.56 |
| 2:AA:1335:U:O2' | 2:AA:1336:A:H5' | 2.06 | 0.56 |
| 2:AA:1369:G:H2' | 2:AA:1370:C:O4' | 2.06 | 0.56 |
| 2:AA:1466:G:H2' | 2:AA:1547:C:N4 | 2.18 | 0.56 |
| 2:AA:1468:C:O2 | 2:AA:1468:C:C2' | 2.54 | 0.56 |
| 2:AA:1604:C:O2 | 2:AA:1604:C:C2' | 2.53 | 0.56 |
| 2:AA:1652:A:H2' | 2:AA:1652:A:N3 | 2.19 | 0.56 |
| 2:AA:1685:C:C2' | 2:AA:1686:C:H5' | 2.35 | 0.56 |
| 2:AA:1703:G:C2 | 2:AA:1704:G:C4 | 2.94 | 0.56 |
| 2:AA:1707:G:C2 | 2:AA:1708:C:C4 | 2.94 | 0.56 |
| 2:AA:1765:C:H2' | 2:AA:1766:U:H6 | 1.70 | 0.56 |
| 2:AA:1800:C:C2 | 2:AA:1817:G:N2 | 2.73 | 0.56 |
| 2:AA:1889:A:H4' | 2:AA:2087:G:H5' | 1.88 | 0.56 |
| 2:AA:1936:A:C5 | 2:AA:1945:G:C5 | 2.93 | 0.56 |
| 2:AA:1937:A:N7 | 2:AA:1939:U:C4 | 2.73 | 0.56 |
| 2:AA:1954:G:N2 | 2:AA:2551:C:H5" | 2.20 | 0.56 |
| 2:AA:2023:G:H4' | 2:AA:2618:G:OP1 | 2.06 | 0.56 |
| 2:AA:2043:C:N3 | 2:AA:2044:C:H5 | 2.04 | 0.56 |
| 2:AA:2081:C:C2 | 2:AA:2082:A:H8 | 2.24 | 0.56 |
| 2:AA:2212:A:N1 | 2:AA:2215:G:O4' | 2.39 | 0.56 |
| 2:AA:2226:C:N4 | 2:AA:2227:A:N3 | 2.54 | 0.56 |
| 2:AA:2412:A:H8 | 2:AA:2412:A:O5' | 1.89 | 0.56 |
| 2:AA:2414:G:N3 | 2:AA:2415:G:C8 | 2.74 | 0.56 |
| 2:AA:2623:G:H4' | 2:AA:2826:A:C1' | 2.35 | 0.56 |
| 2:AA:2631:G:H1' | 2:AA:2892:A:H1' | 1.88 | 0.56 |
| 2:AA:2659:G:O2' | 2:AA:2661:G:N7 | 2.39 | 0.56 |
| 2:AA:2714:G:O6 | 2:AA:2715:C:N4 | 2.38 | 0.56 |
| 2:AA:2740:A:C6 | 2:AA:2764:A:N9 | 2.74 | 0.56 |
| 2:AA:2808:U:C2 | 2:AA:2892:A:C6 | 2.94 | 0.56 |
| 2:AA:2809:A:O4' | 2:AA:2809:A:N3 | 2.38 | 0.56 |
| 2:AA:2824:C:N3 | 2:AA:2825:C:C1' | 2.69 | 0.56 |
| 2:AA:2840:C:C4 | 2:AA:2841:C:C5 | 2.93 | 0.56 |
| 3:AC:42:GLU:OE2 | 3:AC:173:ALA:HA | 2.06 | 0.56 |
| 3:AC:80:GLY:O | 3:AC:83:ILE:N | 2.39 | 0.56 |
| 3:AC:89:ALA:CA | 3:AC:154:ARG:NH1 | 2.67 | 0.56 |
| 3:AC:114:VAL:CG1 | 3:AC:153:ILE:HG12 | 2.35 | 0.56 |
| 5:AE:100:TRP:O | 5:AE:102:ASP:N | 2.39 | 0.56 |
| 5:AE:225:LYS:O | 5:AE:226:HIS:ND1 | 2.39 | 0.56 |
| 6:AF:150:THR:O | 6:AF:153:VAL:HB | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:AG:45:THR:CA | 7:AG:83:PHE:CZ | 2.89 | 0.56 |
| 7:AG:139:TYR:CE1 | 7:AG:156:ARG:HG3 | 2.40 | 0.56 |
| 8:AH:116:PRO:HB2 | 8:AH:120:LEU:C | 2.27 | 0.56 |
| 9:AI:63:LEU:HD13 | 9:AI:66:PHE:CE1 | 2.41 | 0.56 |
| 9:AI:77:VAL:CG2 | 9:AI:102:ILE:HD11 | 2.34 | 0.56 |
| 10:AK:68:LEU:O | 10:AK:72:LEU:HG | 2.06 | 0.56 |
| 12:AM:21:ARG:HD2 | 12:AM:21:ARG:N | 2.12 | 0.56 |
| 14:AO:125:PHE:N | 14:AO:125:PHE:CD1 | 2.73 | 0.56 |
| 17:AR:23:HIS:CE1 | 17:AR:24:LYS:O | 2.59 | 0.56 |
| 18:AS:13:SER:O | 18:AS:14:PRO:O | 2.24 | 0.56 |
| 18:AS:19:LEU:CB | 29:A5:25:LEU:HG | 2.36 | 0.56 |
| 20:AU:77:VAL:HG21 | 20:AU:91:LEU:HD13 | 1.87 | 0.56 |
| 21:AV:1:MET:H2 | 21:AV:54:ILE:CD1 | 2.19 | 0.56 |
| 21:AV:4:THR:O | 21:AV:5:ALA:CB | 2.54 | 0.56 |
| 21:AV:67:LYS:O | 21:AV:67:LYS:HG3 | 2.05 | 0.56 |
| 21:AV:138:VAL:O | 21:AV:140:LYS:HE3 | 2.06 | 0.56 |
| 21:AV:152:ILE:O | 21:AV:153:LYS:HB2 | 2.05 | 0.56 |
| 23:AX:21:ALA:O | 23:AX:25:ALA:CB | 2.54 | 0.56 |
| 23:AX:50:VAL:HG11 | 23:AX:53:LEU:HD12 | 1.88 | 0.56 |
| 25:A1:61:TRP:HZ3 | 25:A1:94:VAL:CA | 2.18 | 0.56 |
| 25:A1:117:ARG:HD3 | 25:A1:118:GLN:HG2 | 1.88 | 0.56 |
| 27:A3:45:PHE:CE1 | 27:A3:78:PHE:CD2 | 2.94 | 0.56 |
| 31:A7:30:ILE:HD13 | 31:A7:33:ARG:NE | 2.20 | 0.56 |
| 34:BA:16:A:H2' | 34:BA:16:A:N3 | 2.20 | 0.56 |
| 34:BA:190:C:O2' | 34:BA:190(A):C:C5' | 2.54 | 0.56 |
| 34:BA:195:A:H5' | 34:BA:195:A:C8 | 2.32 | 0.56 |
| 34:BA:196:A:H1' | 34:BA:222:U:C1' | 2.35 | 0.56 |
| 34:BA:204:U:H4' | 34:BA:216:G:O4' | 2.06 | 0.56 |
| 34:BA:247:G:H2' | 34:BA:248:C:O5' | 2.05 | 0.56 |
| 34:BA:301:G:C2 | 34:BA:302:G:C4 | 2.93 | 0.56 |
| 34:BA:412:A:H4' | 34:BA:413:G:H8 | 1.71 | 0.56 |
| 34:BA:463:A:C1' | 51:BS:82:GLN:NE2 | 2.69 | 0.56 |
| 34:BA:481:G:C4' | 34:BA:482:A:OP1 | 2.46 | 0.56 |
| 34:BA:601:C:O2' | 34:BA:602:A:H5' | 2.05 | 0.56 |
| 34:BA:620:C:C4 | 39:BG:135:LEU:HD13 | 2.41 | 0.56 |
| 34:BA:771:G:O2' | 34:BA:772:U:H5' | 2.05 | 0.56 |
| 34:BA:900:A:H2' | 34:BA:901:A:H8 | 1.71 | 0.56 |
| 34:BA:1125:U:C2' | 34:BA:1126:U:OP2 | 2.53 | 0.56 |
| 34:BA:1126:U:C2' | 34:BA:1127:G:O5' | 2.54 | 0.56 |
| 34:BA:1154:G:C4 | 34:BA:1155:G:C8 | 2.92 | 0.56 |
| 34:BA:1188:A:C4 | 34:BA:1189:C:C6 | 2.94 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1329:A:O2' | 34:BA:1330:U:H5' | 2.06 | 0.56 |
| 34:BA:1496:C:N4 | 34:BA:1497:G:C5 | 2.74 | 0.56 |
| 35:BC:19:G:C6 | 35:BC:57:G:N2 | 2.74 | 0.56 |
| 37:BE:19:HIS:O | 37:BE:20:GLU:O | 2.22 | 0.56 |
| 37:BE:44:LEU:O | 37:BE:47:THR:N | 2.39 | 0.56 |
| 37:BE:152:PHE:C | 37:BE:152:PHE:HD1 | 2.09 | 0.56 |
| 37:BE:200:ILE:O | 37:BE:202:PRO:CD | 2.54 | 0.56 |
| 40:BH:101:ILE:HD13 | 40:BH:101:ILE:N | 2.21 | 0.56 |
| 42:BJ:75:VAL:HG12 | 42:BJ:76:ARG:N | 2.19 | 0.56 |
| 43:BK:97:VAL:HG13 | 43:BK:98:LYS:N | 2.21 | 0.56 |
| 44:BL:115:GLY:O | 44:BL:117:HIS:N | 2.38 | 0.56 |
| 45:BM:15:THR:OG1 | 45:BM:94:VAL:CG2 | 2.53 | 0.56 |
| 47:BO:38:THR:C | 47:BO:39:VAL:HG23 | 2.25 | 0.56 |
| 47:BO:58:VAL:HG12 | 47:BO:60:LEU:CD1 | 2.36 | 0.56 |
| 47:BO:102:ARG:CB | 47:BO:109:GLY:HA2 | 2.36 | 0.56 |
| 49:BQ:26:ARG:C | 49:BQ:28:GLY:H | 2.09 | 0.56 |
| 50:BR:55:GLY:O | 50:BR:56:LEU:C | 2.43 | 0.56 |
| 50:BR:74:ASP:C | 50:BR:76:GLU:H | 2.08 | 0.56 |
| 51:BS:58:TYR:HD1 | 51:BS:59:TRP:HA | 1.71 | 0.56 |
| 52:BT:51:TYR:CD1 | 52:BT:51:TYR:N | 2.65 | 0.56 |
| 52:BT:59:ILE:HD12 | 52:BT:72:ARG:O | 2.05 | 0.56 |
| 1:AB:82:G:O2' | 1:AB:83:G:O5' | 2.24 | 0.56 |
| 2:AA:139:G:H2' | 2:AA:141(A):C:H2' | 1.84 | 0.56 |
| 2:AA:154:G:N3 | 2:AA:155:C:C1' | 2.68 | 0.56 |
| 2:AA:296:C:C2 | 2:AA:297:C:C5 | 2.93 | 0.56 |
| 2:AA:455:C:OP1 | 2:AA:472:A:N1 | 2.39 | 0.56 |
| 2:AA:514:A:H4' | 25:A1:32:TYR:OH | 2.06 | 0.56 |
| 2:AA:527:C:C6 | 2:AA:2779:U:C6 | 2.94 | 0.56 |
| 2:AA:588:U:C4 | 2:AA:589:C:H5 | 2.24 | 0.56 |
| 2:AA:650:C:OP1 | 32:A8:17:THR:OG1 | 2.24 | 0.56 |
| 2:AA:701:G:O2' | 2:AA:702:G:H5' | 2.04 | 0.56 |
| 2:AA:864:G:O2' | 2:AA:865:C:C1' | 2.54 | 0.56 |
| 2:AA:865:C:O2 | 2:AA:865:C:C2' | 2.54 | 0.56 |
| 2:AA:928:G:N2 | 2:AA:929:G:N1 | 2.52 | 0.56 |
| 2:AA:1058:G:C2 | 9:AI:3:ILE:HD11 | 2.41 | 0.56 |
| 2:AA:1082:U:O5' | 2:AA:1082:U:H6 | 1.89 | 0.56 |
| 2:AA:1085:A:C5' | 9:AI:29:PHE:CG | 2.88 | 0.56 |
| 2:AA:1143:A:C4 | 2:AA:1144:G:C8 | 2.94 | 0.56 |
| 2:AA:1451:C:H5 | 2:AA:1453:A:O3' | 1.88 | 0.56 |
| 2:AA:1455:G:C8 | 2:AA:1455:G:C3' | 2.89 | 0.56 |
| 2:AA:1509:C:OP2 | 2:AA:1510:A:O4' | 2.24 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1608:A:C8 | 2:AA:1611:C:C4 | 2.94 | 0.56 |
| 2:AA:1668:A:O2' | 2:AA:1669:A:H5' | 2.06 | 0.56 |
| 2:AA:1727:U:H2' | 2:AA:1730:U:H3 | 1.71 | 0.56 |
| 2:AA:1809:A:H5" | 2:AA:1810:A:N1 | 2.21 | 0.56 |
| 2:AA:1883:G:C4 | 2:AA:1884:A:C2 | 2.94 | 0.56 |
| 2:AA:1944:U:C4' | 2:AA:1955:U:H1' | 2.36 | 0.56 |
| 2:AA:1977:A:N3 | 2:AA:1978:A:C8 | 2.74 | 0.56 |
| 2:AA:1996:C:H5" | 2:AA:1996:C:C6 | 2.33 | 0.56 |
| 2:AA:2023:G:N2 | 2:AA:2041:U:C2 | 2.74 | 0.56 |
| 2:AA:2033:A:C2 | 2:AA:2036:C:C5 | 2.94 | 0.56 |
| 2:AA:2033:A:OP2 | 2:AA:2033:A:O4' | 2.24 | 0.56 |
| 2:AA:2144:U:OP2 | 2:AA:2144:U:C6 | 2.59 | 0.56 |
| 2:AA:2227:A:C6 | 2:AA:2228:G:C6 | 2.94 | 0.56 |
| 2:AA:2241:A:O2' | 2:AA:2242:G:H5' | 2.06 | 0.56 |
| 2:AA:2306:C:H42 | 7:AG:53:LYS:HD3 | 1.71 | 0.56 |
| 2:AA:2333:A:H1' | 2:AA:2335:A:C6 | 2.41 | 0.56 |
| 2:AA:2469:A:C5 | 2:AA:2470:G:C8 | 2.93 | 0.56 |
| 2:AA:2503:A:H5' | 2:AA:2504:U:P | 2.46 | 0.56 |
| 2:AA:2509:G:H2' | 2:AA:2510:C:C5' | 2.36 | 0.56 |
| 2:AA:2680:C:OP2 | 5:AE:206:LYS:HD2 | 2.05 | 0.56 |
| 2:AA:2712:U:OP1 | 2:AA:2714:G:H4' | 2.06 | 0.56 |
| 2:AA:2791:C:C2 | 2:AA:2805:G:N1 | 2.74 | 0.56 |
| 3:AC:77:ILE:HG22 | 3:AC:119:VAL:CG2 | 2.34 | 0.56 |
| 3:AC:104:LEU:HB2 | 3:AC:127:LEU:CD2 | 2.36 | 0.56 |
| 3:AC:120:MET:SD | 3:AC:123:VAL:HB | 2.46 | 0.56 |
| 4:AD:144:GLU:CB | 4:AD:188:ARG:O | 2.51 | 0.56 |
| 5:AE:77:PRO:O | 5:AE:79:ARG:N | 2.39 | 0.56 |
| 5:AE:81:VAL:CB | 5:AE:100:TRP:HZ3 | 2.19 | 0.56 |
| 5:AE:301:PRO:O | 5:AE:303:PRO:HD2 | 2.06 | 0.56 |
| 6:AF:5:ILE:O | 6:AF:6:TYR:O | 2.24 | 0.56 |
| 6:AF:81:PRO:O | 6:AF:82:GLN:CG | 2.54 | 0.56 |
| 6:AF:89:ALA:C | 6:AF:90:HIS:CG | 2.79 | 0.56 |
| 6:AF:230:GLY:C | 6:AF:231:ARG:HG3 | 2.26 | 0.56 |
| 7:AG:28:GLY:CA | 7:AG:69:ILE:HG21 | 2.26 | 0.56 |
| 7:AG:60:GLU:O | 7:AG:61:PHE:HB2 | 2.06 | 0.56 |
| 8:AH:26:LYS:HE3 | 8:AH:33:THR:HG23 | 1.88 | 0.56 |
| 8:AH:120:LEU:HD13 | 8:AH:143:LEU:CD1 | 2.34 | 0.56 |
| 9:AI:15:VAL:HG22 | 9:AI:48:ALA:HB3 | 1.88 | 0.56 |
| 9:AI:74:ILE:HG12 | 9:AI:92:VAL:HG11 | 1.88 | 0.56 |
| 9:AI:118:LEU:HB2 | 9:AI:125:VAL:CG2 | 2.35 | 0.56 |
| 11:AL:93:LYS:N | 11:AL:96:ILE:HG13 | 2.20 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:77:GLY:HA2 | 12:AM:80:LYS:CG | 2.36 | 0.56 |
| 12:AM:134:GLU:O | 12:AM:138:THR:HG23 | 2.06 | 0.56 |
| 13:AN:43:VAL:HG12 | 13:AN:54:LYS:HA | 1.82 | 0.56 |
| 15:AP:139:ALA:O | 15:AP:142:LYS:CB | 2.46 | 0.56 |
| 16:AQ:103:ASP:OD2 | 16:AQ:103:ASP:O | 2.23 | 0.56 |
| 16:AQ:124:ASP:O | 16:AQ:126:GLY:N | 2.39 | 0.56 |
| 19:AT:9:HIS:CE1 | 19:AT:61:GLU:CD | 2.79 | 0.56 |
| 20:AU:18:GLU:O | 20:AU:21:LYS:CB | 2.54 | 0.56 |
| 20:AU:41:ARG:CB | 20:AU:111:ARG:O | 2.54 | 0.56 |
| 21:AV:46:GLN:HG3 | 21:AV:50:GLY:HA3 | 1.87 | 0.56 |
| 21:AV:149:ALA:HB3 | 21:AV:164:PRO:C | 2.26 | 0.56 |
| 23:AX:11:SER:CB | 23:AX:13:ILE:HG12 | 2.36 | 0.56 |
| 25:A1:99:ALA:HB2 | 25:A1:106:PHE:CD2 | 2.40 | 0.56 |
| 26:A2:50:ASP:CG | 26:A2:53:LYS:HE3 | 2.27 | 0.56 |
| 30:A6:29:ARG:O | 30:A6:31:THR:N | 2.39 | 0.56 |
| 34:BA:91:C:N3 | 34:BA:92:C:C5 | 2.74 | 0.56 |
| 34:BA:317:G:C2' | 34:BA:318:G:O5' | 2.54 | 0.56 |
| 34:BA:410:G:N3 | 34:BA:432:A:C6 | 2.73 | 0.56 |
| 34:BA:577:G:C2 | 34:BA:765:G:C2 | 2.94 | 0.56 |
| 34:BA:596:C:C4 | 34:BA:645:C:O2 | 2.59 | 0.56 |
| 34:BA:665:A:C2' | 34:BA:725:G:H22 | 2.07 | 0.56 |
| 34:BA:864:A:C8 | 34:BA:864:A:H3' | 2.41 | 0.56 |
| 34:BA:952:U:C5 | 48:BP:104:ARG:NH1 | 2.74 | 0.56 |
| 34:BA:1052:U:O3' | 34:BA:1055:A:OP1 | 2.24 | 0.56 |
| 34:BA:1123:A:H2' | 34:BA:1124:G:O4' | 2.04 | 0.56 |
| 34:BA:1125:U:OP2 | 34:BA:1145:C:N4 | 2.39 | 0.56 |
| 34:BA:1295:G:N2 | 34:BA:1302:U:H3 | 2.04 | 0.56 |
| 34:BA:1319:A:N7 | 34:BA:1323:G:C5 | 2.74 | 0.56 |
| 34:BA:1376:U:C2 | 34:BA:1377:A:N7 | 2.74 | 0.56 |
| 34:BA:1468:A:H8 | 34:BA:1468:A:O5' | 1.89 | 0.56 |
| 34:BA:1534:A:P | 34:BA:1535:C:C5 | 2.98 | 0.56 |
| 35:BB:37:G:C6 | 35:BB:38:A:N6 | 2.74 | 0.56 |
| 35:BC:51:G:C6 | 35:BC:64:A:N6 | 2.74 | 0.56 |
| 37:BE:88:ALA:HA | 37:BE:222:ILE:HD11 | 1.88 | 0.56 |
| 37:BE:135:GLN:HB3 | 37:BE:139:LYS:CE | 2.34 | 0.56 |
| 38:BF:112:SER:CB | 38:BF:115:LEU:HB2 | 2.36 | 0.56 |
| 38:BF:112:SER:HB3 | 38:BF:115:LEU:HB2 | 1.88 | 0.56 |
| 39:BG:56:VAL:CG1 | 39:BG:57:ARG:N | 2.53 | 0.56 |
| 39:BG:60:GLU:OE2 | 39:BG:199:ASN:O | 2.23 | 0.56 |
| 39:BG:150:GLU:O | 39:BG:153:ARG:HG3 | 2.06 | 0.56 |
| 40:BH:71:LEU:HD23 | 40:BH:75:THR:N | 2.20 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:96:PRO:HA | 53:BU:32:ARG:HD2 | 1.87 | 0.56 |
| 42:BJ:45:ASP:O | 42:BJ:48:LYS:HB2 | 2.06 | 0.56 |
| 42:BJ:115:ARG:HB2 | 42:BJ:118:VAL:CG2 | 2.35 | 0.56 |
| 45:BM:26:ALA:HB1 | 45:BM:84:GLN:HB3 | 1.87 | 0.56 |
| 49:BQ:55:GLY:O | 49:BQ:56:VAL:O | 2.24 | 0.56 |
| 51:BS:22:THR:HG22 | 51:BS:32:TYR:CB | 2.35 | 0.56 |
| 52:BT:59:ILE:O | 52:BT:59:ILE:CG2 | 2.53 | 0.56 |
| 53:BU:67:ALA:HA | 53:BU:70:ILE:CG1 | 2.36 | 0.56 |
| 54:BV:20:LEU:HD12 | 54:BV:20:LEU:C | 2.26 | 0.56 |
| 54:BV:47:HIS:N | 54:BV:62:ILE:HG22 | 2.21 | 0.56 |
| 55:BW:59:ALA:O | 55:BW:62:LEU:N | 2.39 | 0.56 |
| 1:AB:104:A:C2' | 1:AB:105:G:H5' | 2.36 | 0.55 |
| 1:AB:110:G:C6 | 1:AB:111:U:C2 | 2.93 | 0.55 |
| 2:AA:107:C:C2 | 2:AA:108:U:C5 | 2.95 | 0.55 |
| 2:AA:115:C:O2 | 2:AA:116:C:C6 | 2.59 | 0.55 |
| 2:AA:225:A:H62 | 2:AA:419:C:H4' | 1.68 | 0.55 |
| 2:AA:447:A:C6 | 2:AA:473:G:C8 | 2.93 | 0.55 |
| 2:AA:508:G:H4' | 2:AA:509:C:H5" | 1.88 | 0.55 |
| 2:AA:529:A:O4' | 2:AA:529:A:OP2 | 2.24 | 0.55 |
| 2:AA:533:G:C5 | 2:AA:534:U:N3 | 2.74 | 0.55 |
| 2:AA:572:A:C8 | 2:AA:573:G:C4 | 2.94 | 0.55 |
| 2:AA:604:G:C2 | 2:AA:657:U:H4' | 2.42 | 0.55 |
| 2:AA:684:G:N3 | 2:AA:775:G:C6 | 2.74 | 0.55 |
| 2:AA:701:G:N3 | 2:AA:702:G:C8 | 2.74 | 0.55 |
| 2:AA:716:A:H3' | 2:AA:716:A:H8 | 1.71 | 0.55 |
| 2:AA:910:A:C2 | 2:AA:2264:C:O2 | 2.59 | 0.55 |
| 2:AA:980:A:C6 | 2:AA:1135:C:H4' | 2.41 | 0.55 |
| 2:AA:1011:G:OP1 | 25:A1:75:ASN:HB3 | 2.05 | 0.55 |
| 2:AA:1024:G:H3' | 2:AA:1024:G:C8 | 2.41 | 0.55 |
| 2:AA:1086:A:H3' | 2:AA:1087:G:C5' | 2.36 | 0.55 |
| 2:AA:1144:G:H2' | 2:AA:1145:C:O4' | 2.06 | 0.55 |
| 2:AA:1332:G:C4 | 2:AA:1609:A:C6 | 2.93 | 0.55 |
| 2:AA:1364:G:N2 | 2:AA:1366:A:H3' | 2.20 | 0.55 |
| 2:AA:1365:A:OP2 | 2:AA:1809:A:N6 | 2.40 | 0.55 |
| 2:AA:1431:U:H2' | 2:AA:1432:C:H6 | 1.70 | 0.55 |
| 2:AA:1441:G:H4' | 2:AA:1628:G:OP1 | 2.06 | 0.55 |
| 2:AA:1453:A:O4' | 2:AA:1453:A:OP2 | 2.23 | 0.55 |
| 2:AA:1498:C:C2 | 2:AA:1499:C:C4 | 2.94 | 0.55 |
| 2:AA:1509:C:OP1 | 2:AA:1510:A:H5" | 2.06 | 0.55 |
| 2:AA:1554:A:O3' | 2:AA:1555:G:C8 | 2.58 | 0.55 |
| 2:AA:1812:A:O2' | 2:AA:1813:G:H5' | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1889:A:H1' | 2:AA:2087:G:O4' | 2.06 | 0.55 |
| 2:AA:1953:A:N3 | 2:AA:2560:C:H1' | 2.21 | 0.55 |
| 2:AA:2051:A:C4' | 5:AE:238:LEU:HD23 | 2.34 | 0.55 |
| 2:AA:2069:G:C5 | 2:AA:2443:C:N4 | 2.74 | 0.55 |
| 2:AA:2079:U:H3 | 2:AA:2241:A:H2 | 1.54 | 0.55 |
| 2:AA:2294:C:H2' | 2:AA:2295:C:H5' | 1.88 | 0.55 |
| 2:AA:2466:C:N4 | 2:AA:2467:C:C4 | 2.75 | 0.55 |
| 3:AC:148:ASN:ND2 | 3:AC:151:GLU:HB2 | 2.21 | 0.55 |
| 5:AE:66:GLU:O | 5:AE:67:THR:CG2 | 2.48 | 0.55 |
| 5:AE:85:ALA:HB1 | 5:AE:87:GLU:HG3 | 1.85 | 0.55 |
| 5:AE:109:ASP:OD1 | 5:AE:112:LEU:HG | 2.05 | 0.55 |
| 5:AE:201:VAL:N | 5:AE:266:LYS:CD | 2.61 | 0.55 |
| 5:AE:211:GLN:OE1 | 5:AE:216:ARG:N | 2.39 | 0.55 |
| 5:AE:234:ARG:O | 5:AE:235:ILE:C | 2.42 | 0.55 |
| 6:AF:83:ALA:C | 6:AF:84:VAL:CG2 | 2.75 | 0.55 |
| 6:AF:244:ALA:O | 6:AF:245:GLU:C | 2.45 | 0.55 |
| 7:AG:11:HIS:CD2 | 7:AG:15:GLU:OE2 | 2.59 | 0.55 |
| 8:AH:18:VAL:CG2 | 8:AH:44:VAL:HG11 | 2.35 | 0.55 |
| 8:AH:25:VAL:HG23 | 8:AH:74:MET:HE1 | 1.88 | 0.55 |
| 8:AH:51:VAL:CG2 | 8:AH:68:ARG:CG | 2.83 | 0.55 |
| 8:AH:101:LYS:HG2 | 8:AH:115:GLU:CB | 2.36 | 0.55 |
| 9:AJ:53:GLN:HA | 9:AJ:128:LYS:HZ3 | 1.70 | 0.55 |
| 9:AJ:62:VAL:HA | 9:AJ:100:ALA:O | 2.07 | 0.55 |
| 10:AK:109:LYS:HE2 | 10:AK:109:LYS:N | 2.20 | 0.55 |
| 10:AK:114:LYS:O | 10:AK:115:ILE:O | 2.23 | 0.55 |
| 12:AM:58:GLU:O | 12:AM:59:LYS:C | 2.43 | 0.55 |
| 13:AN:65:THR:HA | 13:AN:81:GLU:O | 2.06 | 0.55 |
| 14:AO:73:VAL:HA | 14:AO:76:LEU:CB | 2.29 | 0.55 |
| 14:AO:120:LEU:HD12 | 14:AO:121:ILE:C | 2.26 | 0.55 |
| 14:AO:123:ASP:O | 14:AO:124:ASP:CG | 2.44 | 0.55 |
| 15:AP:28:ILE:CD1 | 15:AP:89:PRO:CG | 2.81 | 0.55 |
| 15:AP:36:ASN:CB | 21:AV:114:ASP:O | 2.53 | 0.55 |
| 15:AP:45:GLN:HB3 | 15:AP:152:SER:HB3 | 1.87 | 0.55 |
| 16:AQ:47:LEU:O | 16:AQ:56:ASP:O | 2.24 | 0.55 |
| 19:AT:33:SER:OG | 19:AT:34:LYS:N | 2.39 | 0.55 |
| 21:AV:50:GLY:O | 21:AV:51:LEU:CB | 2.55 | 0.55 |
| 21:AV:134:LEU:HD22 | 21:AV:136:VAL:HG23 | 1.88 | 0.55 |
| 25:A1:38:THR:O | 25:A1:41:ASN:OD1 | 2.24 | 0.55 |
| 27:A3:19:LYS:HD3 | 27:A3:21:LEU:CD2 | 2.34 | 0.55 |
| 28:A4:5:LEU:HD21 | 28:A4:9:ALA:CA | 2.34 | 0.55 |
| 31:A7:30:ILE:CD1 | 31:A7:33:ARG:CZ | 2.84 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:145:G:N1 | 34:BA:178:C:C5 | 2.74 | 0.55 |
| 34:BA:295:C:C2 | 34:BA:296:U:C6 | 2.94 | 0.55 |
| 34:BA:329:A:C5 | 34:BA:332:G:C6 | 2.94 | 0.55 |
| 34:BA:577:G:N1 | 34:BA:765:G:C2 | 2.74 | 0.55 |
| 34:BA:607:A:O2' | 34:BA:608:A:H5' | 2.06 | 0.55 |
| 34:BA:682:G:C6 | 34:BA:683:G:N7 | 2.74 | 0.55 |
| 34:BA:718:G:C8 | 34:BA:719:C:C5 | 2.94 | 0.55 |
| 34:BA:806:C:N4 | 34:BA:807:A:H62 | 2.04 | 0.55 |
| 34:BA:855:G:O2' | 34:BA:856:C:H5' | 2.07 | 0.55 |
| 34:BA:909:A:N3 | 34:BA:910:C:O4' | 2.40 | 0.55 |
| 34:BA:934:C:C5 | 34:BA:1344:C:C6 | 2.94 | 0.55 |
| 34:BA:942:G:C2 | 34:BA:943:U:C6 | 2.94 | 0.55 |
| 34:BA:959:A:H1' | 34:BA:985:C:H1' | 1.87 | 0.55 |
| 34:BA:1071:C:N4 | 34:BA:1084:G:H21 | 2.04 | 0.55 |
| 34:BA:1161:C:H2' | 34:BA:1162:C:C6 | 2.40 | 0.55 |
| 34:BA:1305:G:H5' | 56:BX:4:GLY:CA | 2.34 | 0.55 |
| 34:BA:1315:U:C5 | 34:BA:1316:G:C6 | 2.93 | 0.55 |
| 34:BA:1329:A:H5" | 48:BP:29:ARG:CG | 2.31 | 0.55 |
| 35:BB:7:U:H5' | 35:BB:8:U:OP2 | 2.06 | 0.55 |
| 35:BB:50:U:N3 | 35:BB:65:G:N1 | 2.54 | 0.55 |
| 35:BC:44:A:H2' | 35:BC:44:A:N3 | 2.19 | 0.55 |
| 36:B1:36:A:C4 | 36:B1:37:C:H1' | 2.41 | 0.55 |
| 37:BE:102:LEU:HB2 | 37:BE:176:GLU:CD | 2.26 | 0.55 |
| 37:BE:167:PRO:CG | 37:BE:192:SER:HB3 | 2.36 | 0.55 |
| 38:BF:139:GLN:HE21 | 38:BF:139:GLN:CA | 2.04 | 0.55 |
| 39:BG:8:VAL:CG1 | 39:BG:11:LEU:CD1 | 2.75 | 0.55 |
| 39:BG:132:ARG:HH11 | 39:BG:132:ARG:CG | 2.18 | 0.55 |
| 43:BK:69:ARG:HG2 | 43:BK:74:PRO:O | 2.06 | 0.55 |
| 44:BL:3:GLN:HB2 | 44:BL:20:ARG:HG2 | 1.87 | 0.55 |
| 47:BO:43:VAL:CG1 | 47:BO:44:THR:N | 2.69 | 0.55 |
| 47:BO:88:GLY:H | 47:BO:98:TYR:HA | 1.71 | 0.55 |
| 48:BP:120:LYS:HG2 | 48:BP:121:LYS:H | 1.71 | 0.55 |
| 49:BQ:48:ALA:O | 49:BQ:49:HIS:C | 2.42 | 0.55 |
| 50:BR:33:THR:CG2 | 50:BR:63:ARG:NH1 | 2.59 | 0.55 |
| 55:BW:16:HIS:O | 55:BW:17:ARG:C | 2.43 | 0.55 |
| 1:AB:5:C:C2 | 1:AB:6:C:C5 | 2.94 | 0.55 |
| 2:AA:16:G:O6 | 2:AA:525:U:C4 | 2.60 | 0.55 |
| 2:AA:18:C:H4' | 25:A1:23:GLY:O | 2.06 | 0.55 |
| 2:AA:33:U:H2' | 2:AA:34:C:OP2 | 2.07 | 0.55 |
| 2:AA:150:C:C4 | 2:AA:151:C:C5 | 2.94 | 0.55 |
| 2:AA:155:C:O2' | 2:AA:161:U:OP1 | 2.25 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:218:A:C8 | 2:AA:219:G:C8 | 2.94 | 0.55 |
| 2:AA:278:A:C6 | 2:AA:362:U:O4 | 2.59 | 0.55 |
| 2:AA:414:C:H1' | 2:AA:1864:U:C1' | 2.36 | 0.55 |
| 2:AA:530:G:HO2' | 2:AA:531:C:C5' | 2.14 | 0.55 |
| 2:AA:593:G:O2' | 2:AA:594:U:H5' | 2.06 | 0.55 |
| 2:AA:629:G:O2' | 2:AA:630:G:H5' | 2.05 | 0.55 |
| 2:AA:664:C:H1' | 2:AA:940:G:OP1 | 2.06 | 0.55 |
| 2:AA:783:A:H2' | 2:AA:784:A:O5' | 2.05 | 0.55 |
| 2:AA:814:C:OP2 | 26:A2:84:THR:HG22 | 2.05 | 0.55 |
| 2:AA:881:G:C4 | 2:AA:882:G:C8 | 2.94 | 0.55 |
| 2:AA:954:G:OP2 | 15:AP:10:ILE:HG22 | 2.06 | 0.55 |
| 2:AA:987:G:C8 | 2:AA:987:G:H3' | 2.42 | 0.55 |
| 2:AA:1162:G:O2' | 26:A2:23:GLU:HB2 | 2.06 | 0.55 |
| 2:AA:1165:U:C2' | 2:AA:1166:C:H6 | 2.18 | 0.55 |
| 2:AA:1287:A:H8 | 24:A0:104:ARG:HG2 | 1.71 | 0.55 |
| 2:AA:1423:G:C2 | 2:AA:1424:G:C4 | 2.94 | 0.55 |
| 2:AA:1499:C:O2' | 2:AA:1500:G:H5' | 2.07 | 0.55 |
| 2:AA:1608:A:H2' | 2:AA:1611:C:H41 | 1.71 | 0.55 |
| 2:AA:1614:A:C8 | 18:AS:88:ARG:HD2 | 2.40 | 0.55 |
| 2:AA:1693:U:O4 | 2:AA:1977:A:C5 | 2.58 | 0.55 |
| 2:AA:1717:G:C5 | 2:AA:1743:G:C6 | 2.94 | 0.55 |
| 2:AA:1754:C:C2 | 2:AA:2717:G:H5' | 2.41 | 0.55 |
| 2:AA:1781:C:H5' | 2:AA:1782:C:P | 2.47 | 0.55 |
| 2:AA:1789:A:OP2 | 2:AA:1828:G:O6 | 2.23 | 0.55 |
| 2:AA:1807:G:C1' | 2:AA:1811:G:H22 | 2.19 | 0.55 |
| 2:AA:1829:A:H5" | 2:AA:1830:C:H5 | 1.71 | 0.55 |
| 2:AA:1832:C:C4 | 2:AA:1833:U:C4 | 2.94 | 0.55 |
| 2:AA:1859:A:C8 | 2:AA:1859:A:H3' | 2.41 | 0.55 |
| 2:AA:1991:U:C2' | 2:AA:1992:G:H5" | 2.28 | 0.55 |
| 2:AA:2179:C:H3' | 2:AA:2180:U:C5 | 2.42 | 0.55 |
| 2:AA:2206:C:C2' | 2:AA:2207:C:H5' | 2.37 | 0.55 |
| 2:AA:2305:A:N3 | 7:AG:129:ASP:OD1 | 2.38 | 0.55 |
| 2:AA:2349:G:C3' | 2:AA:2350:C:H5" | 2.35 | 0.55 |
| 2:AA:2509:G:C2' | 2:AA:2510:C:C5' | 2.82 | 0.55 |
| 2:AA:2592:G:N7 | 2:AA:2593:U:C5 | 2.75 | 0.55 |
| 2:AA:2605:U:O2 | 2:AA:2606:C:H5 | 1.88 | 0.55 |
| 2:AA:2607:G:C2' | 2:AA:2608:G:C5' | 2.79 | 0.55 |
| 2:AA:2631:G:N2 | 2:AA:2632:A:H1' | 2.21 | 0.55 |
| 4:AD:85:ASN:CG | 4:AD:86:ARG:CZ | 2.75 | 0.55 |
| 5:AE:269:ILE:CA | 5:AE:297:LYS:HZ3 | 2.09 | 0.55 |
| 6:AF:1:MET:H3 | 6:AF:18:LEU:CD1 | 2.17 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:232:LEU:C | 6:AF:233:THR:CG2 | 2.74 | 0.55 |
| 7:AG:81:GLU:O | 7:AG:85:GLN:HG2 | 2.06 | 0.55 |
| 7:AG:128:LEU:O | 7:AG:129:ASP:CB | 2.54 | 0.55 |
| 8:AH:16:VAL:O | 8:AH:16:VAL:HG12 | 2.06 | 0.55 |
| 8:AH:52:THR:O | 8:AH:53:ARG:HD3 | 2.06 | 0.55 |
| 8:AH:84:LYS:HE3 | 8:AH:141:GLY:HA2 | 1.88 | 0.55 |
| 8:AH:102:LEU:CD1 | 8:AH:114:ILE:HB | 2.35 | 0.55 |
| 8:AH:163:TYR:O | 8:AH:166:GLU:OE1 | 2.24 | 0.55 |
| 9:AI:62:VAL:HG22 | 9:AI:101:VAL:CA | 2.35 | 0.55 |
| 10:AK:114:LYS:NZ | 10:AK:133:LEU:CD2 | 2.69 | 0.55 |
| 12:AM:54:VAL:CG1 | 12:AM:138:THR:OG1 | 2.54 | 0.55 |
| 13:AN:22:ILE:CD1 | 13:AN:41:ALA:HA | 2.36 | 0.55 |
| 15:AP:36:ASN:CB | 21:AV:114:ASP:OD1 | 2.52 | 0.55 |
| 15:AP:41:THR:HB | 15:AP:126:VAL:HA | 1.87 | 0.55 |
| 16:AQ:119:GLN:O | 16:AQ:120:GLU:C | 2.41 | 0.55 |
| 18:AS:19:LEU:HB3 | 29:A5:25:LEU:CD1 | 2.37 | 0.55 |
| 20:AU:51:LEU:CA | 20:AU:97:ARG:HH21 | 2.03 | 0.55 |
| 21:AV:70:GLN:CG | 21:AV:72:ASP:HB3 | 2.31 | 0.55 |
| 21:AV:103:ARG:NH1 | 21:AV:137:ASP:O | 2.34 | 0.55 |
| 23:AX:6:VAL:O | 23:AX:34:GLU:HA | 2.06 | 0.55 |
| 24:A0:28:LEU:C | 24:A0:28:LEU:CD1 | 2.74 | 0.55 |
| 28:A4:67:TYR:C | 28:A4:68:ARG:CG | 2.74 | 0.55 |
| 29:A5:40:LYS:HZ3 | 29:A5:46:CYS:HB2 | 1.68 | 0.55 |
| 29:A5:43:HIS:C | 29:A5:44:HIS:HD1 | 2.10 | 0.55 |
| 32:A8:26:LYS:HG3 | 32:A8:45:GLY:C | 2.27 | 0.55 |
| 34:BA:22:G:H2' | 34:BA:23:C:H6 | 1.57 | 0.55 |
| 34:BA:61:G:C8 | 34:BA:62:U:C5 | 2.94 | 0.55 |
| 34:BA:92:C:O2' | 34:BA:93:G:C5' | 2.52 | 0.55 |
| 34:BA:97:G:H2' | 34:BA:98:U:C6 | 2.41 | 0.55 |
| 34:BA:130:A:H4' | 34:BA:190(F):G:N3 | 2.20 | 0.55 |
| 34:BA:264:U:O2' | 52:BT:63:ARG:HG2 | 2.06 | 0.55 |
| 34:BA:296:U:C5 | 34:BA:297:G:N7 | 2.75 | 0.55 |
| 34:BA:313:A:C4 | 34:BA:314:C:C5 | 2.94 | 0.55 |
| 34:BA:405:U:H5' | 34:BA:496:A:H2 | 1.71 | 0.55 |
| 34:BA:426:G:H4' | 39:BG:41:GLY:O | 2.07 | 0.55 |
| 34:BA:519:C:OP2 | 47:BO:50:SER:O | 2.24 | 0.55 |
| 34:BA:538:G:H5" | 47:BO:114:LYS:HD3 | 1.88 | 0.55 |
| 34:BA:545:C:C2' | 34:BA:546:G:H5' | 2.34 | 0.55 |
| 34:BA:558:G:O5' | 34:BA:559:A:H3' | 2.06 | 0.55 |
| 34:BA:787:A:H2' | 34:BA:788:U:O5' | 2.06 | 0.55 |
| 34:BA:1007:C:C4 | 34:BA:1022:G:N2 | 2.74 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1047:G:C2' | 34:BA:1048:G:H5' | 2.35 | 0.55 |
| 34:BA:1049:U:O2' | 34:BA:1050:G:OP2 | 2.23 | 0.55 |
| 34:BA:1084:G:H5' | 34:BA:1102:A:OP2 | 2.06 | 0.55 |
| 34:BA:1160:G:O6 | 34:BA:1181:G:O6 | 2.24 | 0.55 |
| 34:BA:1301:U:C4 | 34:BA:1303:C:H1' | 2.41 | 0.55 |
| 34:BA:1412:C:C2' | 34:BA:1413:A:H8 | 2.19 | 0.55 |
| 34:BA:1451:A:C8 | 34:BA:1451:A:C3' | 2.90 | 0.55 |
| 34:BA:1516:G:N2 | 34:BA:1518:A:OP2 | 2.38 | 0.55 |
| 35:BB:19:G:HO2' | 35:BB:20:G:P | 2.23 | 0.55 |
| 35:BB:34:G:N1 | 35:BB:35:A:N1 | 2.52 | 0.55 |
| 35:BC:20:G:H21 | 35:BC:21:A:C4' | 2.20 | 0.55 |
| 37:BE:18:GLY:HA3 | 37:BE:41:ILE:HG13 | 1.87 | 0.55 |
| 38:BF:30:ARG:HG3 | 38:BF:31:HIS:H | 1.70 | 0.55 |
| 38:BF:89:GLU:O | 38:BF:90:GLU:C | 2.44 | 0.55 |
| 38:BF:91:LEU:CD2 | 38:BF:92:ALA:N | 2.68 | 0.55 |
| 39:BG:18:LYS:CG | 39:BG:33:MET:SD | 2.92 | 0.55 |
| 39:BG:106:TYR:CD1 | 39:BG:111:ALA:O | 2.59 | 0.55 |
| 39:BG:187:ARG:HH21 | 39:BG:188:LEU:HD11 | 1.71 | 0.55 |
| 39:BG:206:PHE:HD2 | 39:BG:207:TYR:CD1 | 2.25 | 0.55 |
| 40:BH:76:ILE:HG21 | 40:BH:142:LEU:HD21 | 1.86 | 0.55 |
| 41:BI:80:ARG:N | 41:BI:88:VAL:HG21 | 2.21 | 0.55 |
| 43:BK:24:THR:H | 43:BK:60:ARG:HD2 | 1.72 | 0.55 |
| 45:BM:28:ARG:CZ | 45:BM:33:GLN:O | 2.55 | 0.55 |
| 46:BN:23:ALA:HB3 | 46:BN:88:GLY:HA3 | 1.88 | 0.55 |
| 46:BN:66:LEU:O | 46:BN:67:ASP:C | 2.44 | 0.55 |
| 47:BO:28:LYS:CG | 47:BO:33:ARG:HH12 | 2.20 | 0.55 |
| 50:BR:3:ILE:HG23 | 50:BR:38:ARG:NE | 2.22 | 0.55 |
| 53:BU:72:ARG:HA | 53:BU:75:ILE:HD13 | 1.89 | 0.55 |
| 55:BW:12:ALA:H | 55:BW:13:LEU:CD1 | 2.17 | 0.55 |
| 55:BW:33:ILE:HG21 | 55:BW:63:ILE:HG13 | 1.87 | 0.55 |
| 1:AB:79:C:N4 | 1:AB:97:G:H1 | 2.01 | 0.55 |
| 2:AA:49:A:H2 | 2:AA:118:A:N7 | 2.03 | 0.55 |
| 2:AA:84:A:H5' | 2:AA:85:G:OP1 | 2.05 | 0.55 |
| 2:AA:152:G:O6 | 2:AA:175:G:N1 | 2.37 | 0.55 |
| 2:AA:245:G:O2' | 2:AA:246:C:C5' | 2.53 | 0.55 |
| 2:AA:249:C:O2' | 32:A8:8:LYS:HE3 | 2.06 | 0.55 |
| 2:AA:270(S):G:N3 | 2:AA:270(T):G:N7 | 2.54 | 0.55 |
| 2:AA:272:G:N2 | 2:AA:366:C:C5 | 2.75 | 0.55 |
| 2:AA:276:A:H2' | 2:AA:276:A:N3 | 2.21 | 0.55 |
| 2:AA:322:A:O2' | 2:AA:340:A:H2' | 2.05 | 0.55 |
| 2:AA:430:G:H8 | 2:AA:430:G:O5' | 1.89 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:513:A:C2 | 2:AA:514:A:C8 | 2.94 | 0.55 |
| 2:AA:552:G:C5 | 2:AA:553:U:C4 | 2.95 | 0.55 |
| 2:AA:552:G:H2' | 2:AA:553:U:H6 | 1.72 | 0.55 |
| 2:AA:603:A:N6 | 2:AA:624:C:H42 | 2.04 | 0.55 |
| 2:AA:625:G:C2' | 2:AA:626:U:H5' | 2.36 | 0.55 |
| 2:AA:729:G:H8 | 2:AA:764:A:P | 2.29 | 0.55 |
| 2:AA:979:G:C5 | 2:AA:981:A:OP2 | 2.59 | 0.55 |
| 2:AA:1000:A:C2 | 2:AA:1155:A:C4 | 2.94 | 0.55 |
| 2:AA:1058:G:C6 | 2:AA:1081:U:C2 | 2.94 | 0.55 |
| 2:AA:1085:A:OP1 | 9:AI:34:ALA:C | 2.45 | 0.55 |
| 2:AA:1314:C:H2' | 2:AA:1315:C:H6 | 1.71 | 0.55 |
| 2:AA:1340:U:C2 | 2:AA:1602:U:C5 | 2.94 | 0.55 |
| 2:AA:1356:G:O2' | 2:AA:1357:U:C5' | 2.55 | 0.55 |
| 2:AA:1422:G:O6 | 2:AA:1576:U:O4 | 2.25 | 0.55 |
| 2:AA:1472:A:H2 | 2:AA:1519:G:H1 | 1.54 | 0.55 |
| 2:AA:1540:G:H2' | 2:AA:1541:U:O5' | 2.06 | 0.55 |
| 2:AA:1549:C:O2' | 2:AA:1550:C:H5' | 2.07 | 0.55 |
| 2:AA:1560:G:C2' | 2:AA:1561:G:O5' | 2.54 | 0.55 |
| 2:AA:1609:A:N6 | 2:AA:1616:A:H2 | 2.05 | 0.55 |
| 2:AA:1648:C:H2' | 2:AA:1649:G:C8 | 2.41 | 0.55 |
| 2:AA:1665:A:C2 | 2:AA:1666:G:N9 | 2.75 | 0.55 |
| 2:AA:1669:A:O3' | 2:AA:2550:G:P | 2.64 | 0.55 |
| 2:AA:1699:G:O6 | 2:AA:1763:G:C4 | 2.60 | 0.55 |
| 2:AA:1958:C:O2' | 2:AA:1959:G:C5' | 2.53 | 0.55 |
| 2:AA:2069:G:C2 | 2:AA:2070:G:C8 | 2.95 | 0.55 |
| 2:AA:2183:C:C4 | 2:AA:2184:G:N7 | 2.74 | 0.55 |
| 2:AA:2190:G:H2' | 2:AA:2191:G:H8 | 1.70 | 0.55 |
| 2:AA:2199:A:N3 | 2:AA:2225:A:C2 | 2.74 | 0.55 |
| 2:AA:2255:G:C2 | 2:AA:2256:G:C1' | 2.87 | 0.55 |
| 2:AA:2280:G:N1 | 2:AA:2281:C:C4 | 2.74 | 0.55 |
| 2:AA:2285:C:OP2 | 30:A6:30:ASN:ND2 | 2.37 | 0.55 |
| 2:AA:2328:A:N6 | 2:AA:2329:G:O6 | 2.39 | 0.55 |
| 2:AA:2350:C:C2' | 2:AA:2351:G:O5' | 2.54 | 0.55 |
| 2:AA:2359:C:C2 | 2:AA:2360:A:C2 | 2.94 | 0.55 |
| 2:AA:2448:A:OP1 | 2:AA:2499:C:OP1 | 2.25 | 0.55 |
| 2:AA:2491:U:O2' | 2:AA:2492:U:C5' | 2.53 | 0.55 |
| 2:AA:2515:C:N4 | 2:AA:2569:G:N1 | 1.91 | 0.55 |
| 2:AA:2646:C:C2' | 2:AA:2647:U:H5' | 2.36 | 0.55 |
| 2:AA:2674:G:C5 | 2:AA:2675:A:N7 | 2.75 | 0.55 |
| 2:AA:2758:A:H2' | 2:AA:2759:G:O5' | 2.06 | 0.55 |
| 2:AA:2862:G:C2' | 2:AA:2863:C:C6 | 2.79 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:99:ILE:HG23 | 3:AC:107:TRP:CH2 | 2.39 | 0.55 |
| 3:AC:100:ILE:C | 3:AC:126:LYS:HD3 | 2.27 | 0.55 |
| 3:AC:126:LYS:CG | 3:AC:127:LEU:HG | 2.33 | 0.55 |
| 3:AC:139:ASN:HB3 | 3:AC:162:GLU:OE1 | 2.05 | 0.55 |
| 3:AC:172:HIS:O | 3:AC:173:ALA:HB2 | 2.06 | 0.55 |
| 3:AC:177:LYS:HB2 | 3:AC:180:PHE:H | 1.72 | 0.55 |
| 4:AD:157:ALA:C | 4:AD:194:VAL:HG11 | 2.26 | 0.55 |
| 4:AD:210:LYS:CA | 4:AD:213:LYS:HD3 | 2.37 | 0.55 |
| 4:AD:222:PRO:C | 4:AD:224:VAL:N | 2.47 | 0.55 |
| 5:AE:198:TYR:HD2 | 5:AE:265:ASN:CA | 2.18 | 0.55 |
| 5:AE:216:ARG:NH1 | 5:AE:253:GLN:CB | 2.64 | 0.55 |
| 6:AF:213:ALA:CB | 6:AF:218:VAL:CG1 | 2.85 | 0.55 |
| 8:AH:10:ILE:HD13 | 8:AH:16:VAL:HG21 | 1.86 | 0.55 |
| 8:AH:148:ARG:HD3 | 8:AH:163:TYR:CD2 | 2.40 | 0.55 |
| 9:AI:22:VAL:HA | 9:AI:38:ALA:HB1 | 1.87 | 0.55 |
| 10:AK:114:LYS:HE2 | 10:AK:133:LEU:CA | 2.34 | 0.55 |
| 12:AM:29:GLN:O | 12:AM:30:ALA:C | 2.44 | 0.55 |
| 13:AN:28:SER:O | 13:AN:30:ARG:N | 2.39 | 0.55 |
| 14:AO:52:LYS:CE | 14:AO:53:ARG:NH1 | 2.70 | 0.55 |
| 14:AO:55:GLN:CG | 14:AO:56:LYS:N | 2.65 | 0.55 |
| 15:AP:46:VAL:CG2 | 15:AP:156:ASN:ND2 | 2.66 | 0.55 |
| 15:AP:47:GLU:OE2 | 15:AP:152:SER:CB | 2.51 | 0.55 |
| 15:AP:57:ARG:HB2 | 15:AP:61:LEU:HD21 | 1.87 | 0.55 |
| 15:AP:64:ALA:HB1 | 15:AP:142:LYS:CG | 2.36 | 0.55 |
| 15:AP:84:ARG:CZ | 15:AP:86:ARG:HH21 | 2.19 | 0.55 |
| 16:AQ:17:ARG:CZ | 16:AQ:106:LEU:CD2 | 2.84 | 0.55 |
| 16:AQ:34:LEU:HD23 | 16:AQ:100:ALA:HB1 | 1.86 | 0.55 |
| 17:AR:4:ARG:O | 17:AR:5:GLU:HG3 | 2.06 | 0.55 |
| 17:AR:9:CYS:C | 17:AR:11:THR:N | 2.56 | 0.55 |
| 18:AS:24:ILE:CD1 | 18:AS:36:LEU:HD11 | 2.37 | 0.55 |
| 18:AS:75:TYR:O | 18:AS:104:THR:OG1 | 2.25 | 0.55 |
| 19:AT:32:ALA:CB | 19:AT:36:GLU:HB2 | 2.36 | 0.55 |
| 20:AU:90:PRO:C | 20:AU:91:LEU:HD23 | 2.25 | 0.55 |
| 21:AV:116:VAL:CA | 21:AV:169:VAL:HG22 | 2.37 | 0.55 |
| 23:AX:23:LEU:HD21 | 23:AX:50:VAL:HG11 | 1.88 | 0.55 |
| 23:AX:42:ALA:HB3 | 23:AX:43:ILE:HD12 | 1.89 | 0.55 |
| 23:AX:45:GLY:O | 23:AX:46:ASN:C | 2.45 | 0.55 |
| 24:A0:38:VAL:CB | 24:A0:39:PRO:CD | 2.78 | 0.55 |
| 25:A1:33:ARG:C | 25:A1:35:ALA:H | 2.09 | 0.55 |
| 25:A1:84:LYS:HE3 | 25:A1:92:ARG:NH2 | 2.22 | 0.55 |
| 25:A1:88:ILE:HD13 | 25:A1:88:ILE:N | 2.22 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:104:GLU:O | 25:A1:107:LYS:N | 2.39 | 0.55 |
| 26:A2:11:GLN:NE2 | 26:A2:22:VAL:HG23 | 2.22 | 0.55 |
| 26:A2:22:VAL:CG1 | 26:A2:23:GLU:N | 2.68 | 0.55 |
| 34:BA:74:C:H2' | 34:BA:75:G:H8 | 1.70 | 0.55 |
| 34:BA:410:G:H1' | 34:BA:432:A:N6 | 2.17 | 0.55 |
| 34:BA:587:G:C6 | 34:BA:755:G:C6 | 2.94 | 0.55 |
| 34:BA:592:G:H2' | 34:BA:593:G:H5' | 1.89 | 0.55 |
| 34:BA:890:G:C2 | 34:BA:906:G:N7 | 2.74 | 0.55 |
| 34:BA:923:A:OP1 | 40:BH:21:ALA:CB | 2.52 | 0.55 |
| 34:BA:923:A:H2' | 34:BA:924:C:O4' | 2.07 | 0.55 |
| 34:BA:932:C:H5" | 42:BJ:3:ARG:CD | 2.31 | 0.55 |
| 34:BA:962:C:C2' | 34:BA:963:G:H5' | 2.37 | 0.55 |
| 34:BA:1286:A:H2' | 34:BA:1287:A:O5' | 2.07 | 0.55 |
| 34:BA:1296:C:H3' | 34:BA:1297:C:C5 | 2.40 | 0.55 |
| 34:BA:1305:G:H22 | 34:BA:1331:G:H2' | 1.71 | 0.55 |
| 34:BA:1305:G:OP1 | 56:BX:2:GLY:N | 2.39 | 0.55 |
| 34:BA:1308:U:C2 | 34:BA:1309:G:C8 | 2.94 | 0.55 |
| 34:BA:1321:C:N4 | 54:BV:37:ARG:NH1 | 2.54 | 0.55 |
| 34:BA:1342:C:H4' | 44:BL:125:TYR:CD1 | 2.41 | 0.55 |
| 34:BA:1376:U:H2' | 34:BA:1377:A:C8 | 2.42 | 0.55 |
| 34:BA:1464:G:H2' | 34:BA:1465:C:H6 | 1.72 | 0.55 |
| 34:BA:1530:G:N2 | 34:BA:1531:A:C2 | 2.74 | 0.55 |
| 35:BB:15:G:O6 | 35:BB:48:C:O2 | 2.24 | 0.55 |
| 35:BC:69:U:O2' | 35:BC:70:C:C5' | 2.53 | 0.55 |
| 37:BE:21:ARG:CD | 37:BE:21:ARG:N | 2.59 | 0.55 |
| 37:BE:21:ARG:O | 37:BE:23:ARG:N | 2.40 | 0.55 |
| 37:BE:70:PHE:CE2 | 37:BE:163:PHE:CB | 2.88 | 0.55 |
| 37:BE:88:ALA:CA | 37:BE:222:ILE:CD1 | 2.83 | 0.55 |
| 37:BE:91:PRO:CG | 37:BE:154:LEU:HB3 | 2.35 | 0.55 |
| 38:BF:125:GLU:OE2 | 38:BF:125:GLU:HA | 2.06 | 0.55 |
| 40:BH:9:LYS:HB2 | 40:BH:33:VAL:HB | 1.86 | 0.55 |
| 40:BH:42:GLY:N | 40:BH:66:MET:HE3 | 2.21 | 0.55 |
| 41:BI:10:LEU:HD11 | 41:BI:61:LEU:HD12 | 1.89 | 0.55 |
| 41:BI:62:TRP:CZ2 | 41:BI:64:GLN:HB2 | 2.41 | 0.55 |
| 42:BJ:6:ARG:O | 42:BJ:6:ARG:HG2 | 2.06 | 0.55 |
| 43:BK:24:THR:O | 43:BK:60:ARG:CB | 2.54 | 0.55 |
| 43:BK:26:VAL:N | 43:BK:58:TYR:CE2 | 2.75 | 0.55 |
| 43:BK:78:GLN:OE1 | 43:BK:78:GLN:HA | 2.07 | 0.55 |
| 45:BM:56:HIS:C | 45:BM:58:ASP:H | 2.09 | 0.55 |
| 47:BO:79:GLU:HB3 | 47:BO:80:HIS:ND1 | 2.20 | 0.55 |
| 47:BO:113:ARG:NH1 | 47:BO:115:LYS:HB2 | 2.22 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BR:15:PHE:O | 50:BR:16:ALA:C | 2.44 | 0.55 |
| 1:AB:33:G:H1 | 1:AB:49:C:N4 | 2.05 | 0.55 |
| 1:AB:49:C:OP1 | 16:AQ:110:THR:OG1 | 2.24 | 0.55 |
| 2:AA:19:C:N3 | 2:AA:20:C:C5 | 2.75 | 0.55 |
| 2:AA:64:A:C8 | 2:AA:64:A:O5' | 2.59 | 0.55 |
| 2:AA:146:G:N2 | 2:AA:147:U:H1' | 2.21 | 0.55 |
| 2:AA:179:G:C4 | 2:AA:180:G:N7 | 2.74 | 0.55 |
| 2:AA:185:U:C2 | 2:AA:212:G:N2 | 2.74 | 0.55 |
| 2:AA:242:G:O2' | 2:AA:243:U:P | 2.64 | 0.55 |
| 2:AA:270(A):A:H62 | 2:AA:270(Z):U:C5' | 2.06 | 0.55 |
| 2:AA:270(D):C:N3 | 2:AA:270(E):G:C5 | 2.74 | 0.55 |
| 2:AA:285:C:H2' | 2:AA:286:C:C6 | 2.40 | 0.55 |
| 2:AA:479:A:O2' | 2:AA:480:A:C3' | 2.54 | 0.55 |
| 2:AA:730:C:OP2 | 2:AA:761:A:OP1 | 2.25 | 0.55 |
| 2:AA:735:A:N6 | 2:AA:760:G:H22 | 2.04 | 0.55 |
| 2:AA:751:A:C8 | 18:AS:90:ARG:NH2 | 2.74 | 0.55 |
| 2:AA:819:A:H2' | 2:AA:820:A:O5' | 2.06 | 0.55 |
| 2:AA:856:C:H5' | 27:A3:25:LYS:CE | 2.36 | 0.55 |
| 2:AA:929:G:H1' | 23:AX:43:ILE:CG1 | 2.36 | 0.55 |
| 2:AA:1012:U:H2' | 2:AA:1142:U:C5 | 2.40 | 0.55 |
| 2:AA:1124:C:N4 | 2:AA:1125:G:C6 | 2.75 | 0.55 |
| 2:AA:1163:G:C5' | 26:A2:23:GLU:OE2 | 2.55 | 0.55 |
| 2:AA:1195:G:C1' | 2:AA:1226:G:H22 | 2.19 | 0.55 |
| 2:AA:1222:C:H2' | 2:AA:1223:C:C5' | 2.36 | 0.55 |
| 2:AA:1252:G:H3' | 2:AA:1253:A:C1' | 2.37 | 0.55 |
| 2:AA:1263:U:H5' | 2:AA:1264:G:OP2 | 2.06 | 0.55 |
| 2:AA:1312:U:C1' | 2:AA:1313:U:C5 | 2.90 | 0.55 |
| 2:AA:1529:A:C2' | 2:AA:1530:G:H5' | 2.35 | 0.55 |
| 2:AA:1540:G:C2 | 2:AA:1541:U:H1' | 2.42 | 0.55 |
| 2:AA:1552:G:C5' | 2:AA:1553:A:OP1 | 2.53 | 0.55 |
| 2:AA:1617:C:C5' | 2:AA:1618:A:OP2 | 2.42 | 0.55 |
| 2:AA:1709:U:H6 | 2:AA:1709:U:H3' | 1.72 | 0.55 |
| 2:AA:1749:A:C2' | 2:AA:1750:G:H5' | 2.36 | 0.55 |
| 2:AA:1773:A:OP1 | 2:AA:1828:G:H3' | 2.05 | 0.55 |
| 2:AA:1796:U:H2' | 2:AA:1797:C:C6 | 2.41 | 0.55 |
| 2:AA:1939:U:O4' | 2:AA:2592:G:C4' | 2.54 | 0.55 |
| 2:AA:1992:G:O6 | 2:AA:1997:G:C2 | 2.59 | 0.55 |
| 2:AA:2034:U:O2 | 2:AA:2034:U:H2' | 2.05 | 0.55 |
| 2:AA:2081:C:C2 | 2:AA:2082:A:C8 | 2.94 | 0.55 |
| 2:AA:2139:C:O2 | 2:AA:2139:C:H2' | 2.06 | 0.55 |
| 2:AA:2142:C:O2 | 2:AA:2142:C:C2' | 2.54 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2210:G:O6 | 4:AD:148:GLY:CA | 2.55 | 0.55 |
| 2:AA:2261:C:H1' | 2:AA:2388:A:N3 | 2.21 | 0.55 |
| 2:AA:2287:A:C2 | 2:AA:2346:A:N7 | 2.75 | 0.55 |
| 2:AA:2386:C:O2' | 2:AA:2387:U:O5' | 2.23 | 0.55 |
| 2:AA:2400:G:C2 | 2:AA:2417:C:C2 | 2.95 | 0.55 |
| 2:AA:2525:G:N1 | 2:AA:2539:C:N4 | 2.55 | 0.55 |
| 2:AA:2671:A:O2' | 2:AA:2672:G:H5' | 2.07 | 0.55 |
| 2:AA:2769:C:O2' | 2:AA:2770:G:H5' | 2.06 | 0.55 |
| 2:AA:2817:G:H1 | 2:AA:2829:C:N4 | 2.04 | 0.55 |
| 2:AA:2824:C:N3 | 2:AA:2825:C:H1' | 2.22 | 0.55 |
| 4:AD:158:GLY:HA2 | 4:AD:194:VAL:HG22 | 1.88 | 0.55 |
| 5:AE:267:ARG:C | 5:AE:297:LYS:HG3 | 2.26 | 0.55 |
| 6:AF:31:ILE:O | 6:AF:35:VAL:HG23 | 2.05 | 0.55 |
| 7:AG:63:ILE:HG23 | 7:AG:64:ARG:N | 2.20 | 0.55 |
| 7:AG:77:ASP:O | 7:AG:80:ALA:HB3 | 2.06 | 0.55 |
| 8:AH:36:PHE:CD2 | 8:AH:71:LEU:HD21 | 2.41 | 0.55 |
| 9:AI:19:ALA:C | 9:AJ:46:GLY:HA2 | 2.27 | 0.55 |
| 10:AK:88:ARG:HE | 10:AK:123:ALA:CB | 2.18 | 0.55 |
| 10:AK:95:SER:OG | 10:AK:98:ILE:HB | 2.07 | 0.55 |
| 11:AL:52:MET:SD | 11:AL:81:LYS:HG2 | 2.46 | 0.55 |
| 11:AL:93:LYS:HD2 | 21:AV:108:VAL:HG12 | 1.88 | 0.55 |
| 12:AM:58:GLU:HA | 12:AM:61:VAL:CB | 2.24 | 0.55 |
| 12:AM:138:THR:OG1 | 12:AM:139:LEU:HD13 | 2.06 | 0.55 |
| 13:AN:26:GLY:HA3 | 13:AN:30:ARG:NE | 2.21 | 0.55 |
| 15:AP:17:ARG:O | 15:AP:23:ILE:HG13 | 2.07 | 0.55 |
| 15:AP:45:GLN:CD | 15:AP:153:PRO:HB2 | 2.25 | 0.55 |
| 16:AQ:89:GLY:O | 16:AQ:92:ALA:HB3 | 2.06 | 0.55 |
| 17:AR:45:GLU:CG | 17:AR:48:ASN:OD1 | 2.47 | 0.55 |
| 20:AU:16:LEU:O | 20:AU:19:ARG:N | 2.39 | 0.55 |
| 20:AU:59:GLU:O | 20:AU:59:GLU:HG3 | 2.06 | 0.55 |
| 20:AU:71:VAL:CG2 | 20:AU:91:LEU:O | 2.54 | 0.55 |
| 20:AU:77:VAL:CG1 | 20:AU:89:ARG:HH11 | 2.19 | 0.55 |
| 20:AU:105:ASP:HB2 | 20:AU:108:ARG:HG3 | 1.88 | 0.55 |
| 20:AU:112:LEU:HD23 | 20:AU:112:LEU:N | 2.22 | 0.55 |
| 21:AV:37:LYS:CD | 21:AV:41:ARG:HH12 | 2.19 | 0.55 |
| 21:AV:64:ALA:O | 21:AV:65:LEU:CB | 2.55 | 0.55 |
| 21:AV:125:PRO:CG | 21:AV:130:ILE:HG22 | 2.36 | 0.55 |
| 22:AW:43:PRO:O | 22:AW:45:ARG:N | 2.40 | 0.55 |
| 23:AX:6:VAL:HA | 23:AX:55:ARG:O | 2.05 | 0.55 |
| 23:AX:20:LYS:C | 23:AX:23:LEU:HG | 2.27 | 0.55 |
| 24:A0:45:ARG:HD3 | 24:A0:97:VAL:HG21 | 1.87 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:5:ILE:O | 26:A2:6:GLN:CB | 2.54 | 0.55 |
| 30:A6:42:PRO:HB2 | 30:A6:44:ALA:H | 1.71 | 0.55 |
| 34:BA:106:C:H2' | 34:BA:107:G:H8 | 1.71 | 0.55 |
| 34:BA:281:G:C2' | 34:BA:282:A:OP2 | 2.55 | 0.55 |
| 34:BA:404:U:O5' | 34:BA:404:U:H6 | 1.90 | 0.55 |
| 34:BA:463:A:H5" | 51:BS:75:ARG:HH12 | 1.72 | 0.55 |
| 34:BA:591:U:O5' | 34:BA:591:U:H6 | 1.89 | 0.55 |
| 34:BA:754:C:H2' | 34:BA:755:G:OP1 | 2.06 | 0.55 |
| 34:BA:814:A:C8 | 34:BA:816:A:N7 | 2.75 | 0.55 |
| 34:BA:934:C:H5 | 34:BA:1344:C:H3' | 1.70 | 0.55 |
| 34:BA:1048:G:H5" | 49:BQ:3:ARG:CD | 2.37 | 0.55 |
| 34:BA:1053:G:C6 | 34:BA:1199:U:H2' | 2.42 | 0.55 |
| 34:BA:1150:U:C4' | 34:BA:1280:A:N1 | 2.70 | 0.55 |
| 34:BA:1316:G:C4 | 34:BA:1318:A:OP2 | 2.59 | 0.55 |
| 34:BA:1350:A:OP2 | 44:BL:118:LYS:HD3 | 2.05 | 0.55 |
| 34:BA:1423:G:O2' | 34:BA:1424:C:C5' | 2.54 | 0.55 |
| 34:BA:1443:G:C4' | 34:BA:1446:A:H5' | 2.36 | 0.55 |
| 34:BA:1535:C:N3 | 36:B1:55:U:C4 | 2.74 | 0.55 |
| 35:BB:15:G:N2 | 35:BB:48:C:H42 | 2.01 | 0.55 |
| 35:BB:21:A:C5 | 35:BB:46:G:N1 | 2.75 | 0.55 |
| 35:BC:38:A:C2' | 35:BC:39:U:H5' | 2.32 | 0.55 |
| 37:BE:103:THR:OG1 | 37:BE:180:LEU:HD11 | 2.07 | 0.55 |
| 38:BF:48:TYR:HA | 38:BF:52:LEU:CD2 | 2.36 | 0.55 |
| 38:BF:58:GLU:HB2 | 38:BF:65:ALA:HB3 | 1.88 | 0.55 |
| 39:BG:35:ARG:C | 39:BG:37:PRO:HD3 | 2.26 | 0.55 |
| 39:BG:58:LEU:HD22 | 39:BG:58:LEU:C | 2.26 | 0.55 |
| 39:BG:61:LYS:HG3 | 39:BG:206:PHE:CD2 | 2.42 | 0.55 |
| 39:BG:133:VAL:HG13 | 39:BG:135:LEU:HD12 | 1.88 | 0.55 |
| 39:BG:150:GLU:O | 39:BG:152:SER:N | 2.39 | 0.55 |
| 41:BI:1:MET:HG2 | 41:BI:68:PRO:HA | 1.89 | 0.55 |
| 41:BI:33:TYR:CE2 | 41:BI:75:LEU:HB2 | 2.41 | 0.55 |
| 41:BI:78:GLU:O | 41:BI:81:ILE:CD1 | 2.55 | 0.55 |
| 43:BK:77:GLU:O | 43:BK:78:GLN:HG2 | 2.07 | 0.55 |
| 43:BK:122:ARG:O | 43:BK:123:GLU:C | 2.42 | 0.55 |
| 44:BL:7:THR:H | 44:BL:83:ARG:CG | 2.19 | 0.55 |
| 45:BM:38:ILE:HG12 | 45:BM:72:VAL:H | 1.72 | 0.55 |
| 46:BN:58:PRO:O | 46:BN:61:ALA:CB | 2.48 | 0.55 |
| 47:BO:36:VAL:O | 47:BO:58:VAL:CG1 | 2.47 | 0.55 |
| 47:BO:82:VAL:O | 47:BO:83:VAL:HB | 2.06 | 0.55 |
| 50:BR:33:THR:O | 50:BR:36:ILE:HG22 | 2.07 | 0.55 |
| 51:BS:5:ARG:CA | 51:BS:6:LEU:HD13 | 2.36 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BU:74:ARG:CA | 53:BU:79:LEU:HD21 | 2.35 | 0.55 |
| 54:BV:11:VAL:HG22 | 54:BV:39:THR:O | 2.06 | 0.55 |
| 55:BW:20:LEU:O | 55:BW:24:LEU:HD23 | 2.06 | 0.55 |
| 55:BW:94:ALA:O | 55:BW:95:ALA:HB3 | 2.06 | 0.55 |
| 1:AB:30:C:O4' | 1:AB:58:A:C2 | 2.60 | 0.55 |
| 1:AB:99:A:H5" | 1:AB:99:A:C8 | 2.41 | 0.55 |
| 2:AA:66:C:H5' | 2:AA:456:C:O2' | 2.07 | 0.55 |
| 2:AA:95:G:H1' | 22:AW:42:ASN:HB3 | 1.89 | 0.55 |
| 2:AA:99:U:O2 | 2:AA:99:U:H2' | 2.06 | 0.55 |
| 2:AA:196:A:O2' | 2:AA:197:A:P | 2.64 | 0.55 |
| 2:AA:206:U:OP2 | 2:AA:206:U:C5 | 2.59 | 0.55 |
| 2:AA:270(D):C:C2 | 2:AA:270(E):G:C8 | 2.95 | 0.55 |
| 2:AA:270(Q):C:N1 | 2:AA:270(R):G:H8 | 2.05 | 0.55 |
| 2:AA:500:G:H2' | 2:AA:502:A:OP2 | 2.06 | 0.55 |
| 2:AA:594:U:H5" | 32:A8:61:MET:CE | 2.36 | 0.55 |
| 2:AA:611:C:C2' | 2:AA:616:A:H2 | 2.20 | 0.55 |
| 2:AA:623:G:C8 | 2:AA:624:C:H5 | 2.25 | 0.55 |
| 2:AA:724:U:O2 | 2:AA:724:U:C2' | 2.52 | 0.55 |
| 2:AA:752:A:C6 | 2:AA:1781:C:C1' | 2.79 | 0.55 |
| 2:AA:852:G:O6 | 2:AA:926:A:C6 | 2.60 | 0.55 |
| 2:AA:1142:U:C6 | 2:AA:142(A):A:C5' | 2.78 | 0.55 |
| 2:AA:1378:A:H4' | 2:AA:1379:A:OP1 | 2.05 | 0.55 |
| 2:AA:1426:G:H3' | 2:AA:1427:A:H8 | 1.70 | 0.55 |
| 2:AA:1520:U:H3' | 2:AA:1521:G:H5" | 1.88 | 0.55 |
| 2:AA:1646:C:C3' | 2:AA:1647:G:H5' | 2.36 | 0.55 |
| 2:AA:1670:C:OP2 | 2:AA:1671:U:C5 | 2.59 | 0.55 |
| 2:AA:1670:C:C5 | 2:AA:1671:U:C5 | 2.93 | 0.55 |
| 2:AA:1799:G:C4 | 2:AA:1819:A:N6 | 2.75 | 0.55 |
| 2:AA:2124:G:O5' | 3:AC:133:PRO:HB3 | 2.07 | 0.55 |
| 2:AA:2190:G:C2 | 2:AA:2191:G:C8 | 2.94 | 0.55 |
| 2:AA:2212:A:O2' | 2:AA:2213:U:C5 | 2.59 | 0.55 |
| 2:AA:2255:G:C6 | 2:AA:2256:G:C4 | 2.94 | 0.55 |
| 2:AA:2423:U:O2' | 2:AA:2425:A:H3' | 2.06 | 0.55 |
| 2:AA:2469:A:C8 | 2:AA:2469:A:C5' | 2.82 | 0.55 |
| 2:AA:2479:G:OP1 | 2:AA:2537:U:C4' | 2.55 | 0.55 |
| 2:AA:2514:U:O4' | 5:AE:247:ARG:NH1 | 2.39 | 0.55 |
| 2:AA:2531:A:C2' | 2:AA:2532:G:H5' | 2.37 | 0.55 |
| 2:AA:2599:G:C4 | 2:AA:2600:A:C8 | 2.94 | 0.55 |
| 2:AA:2739:U:H2' | 2:AA:2740:A:O5' | 2.07 | 0.55 |
| 2:AA:2790:A:H5' | 2:AA:2791:C:OP1 | 2.06 | 0.55 |
| 4:AD:77:VAL:HA | 4:AD:93:ILE:CD1 | 2.37 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:78:ALA:HA | 4:AD:113:MET:SD | 2.46 | 0.55 |
| 4:AD:89:ASN:CG | 4:AD:199:ARG:HH21 | 2.10 | 0.55 |
| 4:AD:162:GLN:CD | 4:AD:162:GLN:N | 2.60 | 0.55 |
| 4:AD:175:LEU:HD21 | 4:AD:181:ARG:N | 2.21 | 0.55 |
| 5:AE:175:ASP:HA | 5:AE:178:LEU:CG | 2.32 | 0.55 |
| 5:AE:198:TYR:HA | 5:AE:266:LYS:O | 2.05 | 0.55 |
| 5:AE:201:VAL:CG1 | 5:AE:310:PHE:O | 2.38 | 0.55 |
| 5:AE:222:ARG:NH2 | 5:AE:234:ARG:CB | 2.65 | 0.55 |
| 5:AE:263:GLU:C | 5:AE:266:LYS:HE3 | 2.26 | 0.55 |
| 6:AF:56:THR:CB | 6:AF:57:PRO:CD | 2.84 | 0.55 |
| 6:AF:206:ASN:C | 6:AF:207:LEU:HG | 2.27 | 0.55 |
| 7:AG:23:VAL:HG12 | 7:AG:130:VAL:CG1 | 2.36 | 0.55 |
| 7:AG:69:ILE:CG2 | 7:AG:69:ILE:O | 2.54 | 0.55 |
| 7:AG:71:ALA:O | 7:AG:72:LYS:CD | 2.53 | 0.55 |
| 7:AG:93:LEU:CB | 7:AG:97:GLN:HE22 | 2.19 | 0.55 |
| 8:AH:86:LEU:CD2 | 8:AH:148:ARG:HE | 2.19 | 0.55 |
| 8:AH:87:GLU:CD | 8:AH:162:ARG:HB2 | 2.27 | 0.55 |
| 9:AI:80:ILE:HG22 | 9:AI:81:THR:N | 2.20 | 0.55 |
| 9:AJ:34:ALA:O | 9:AJ:35:ALA:HB2 | 2.06 | 0.55 |
| 12:AM:69:TYR:HD2 | 12:AM:71:TYR:CE1 | 2.25 | 0.55 |
| 14:AO:127:GLU:O | 14:AO:128:GLY:C | 2.44 | 0.55 |
| 16:AQ:83:LEU:O | 16:AQ:84:THR:C | 2.43 | 0.55 |
| 17:AR:47:ARG:O | 17:AR:48:ASN:OD1 | 2.25 | 0.55 |
| 18:AS:40:ASN:HD22 | 18:AS:41:LYS:CG | 2.19 | 0.55 |
| 19:AT:55:GLN:HG2 | 19:AT:56:ASN:H | 1.69 | 0.55 |
| 20:AU:44:ALA:HB1 | 20:AU:65:VAL:CG1 | 2.37 | 0.55 |
| 20:AU:68:ASP:C | 20:AU:70:ALA:N | 2.60 | 0.55 |
| 21:AV:25:ASN:O | 21:AV:26:LYS:O | 2.25 | 0.55 |
| 21:AV:70:GLN:O | 21:AV:72:ASP:OD2 | 2.23 | 0.55 |
| 24:A0:73:VAL:O | 24:A0:74:LYS:C | 2.44 | 0.55 |
| 25:A1:8:ILE:HA | 25:A1:11:ARG:HH11 | 1.72 | 0.55 |
| 25:A1:40:LEU:HD11 | 26:A2:83:ARG:HE | 1.68 | 0.55 |
| 25:A1:61:TRP:O | 25:A1:63:GLN:N | 2.40 | 0.55 |
| 26:A2:65:ARG:HH11 | 26:A2:94:LYS:HZ2 | 1.54 | 0.55 |
| 27:A3:33:ALA:HB3 | 27:A3:66:LYS:O | 2.05 | 0.55 |
| 27:A3:48:GLY:N | 27:A3:49:GLN:NE2 | 2.55 | 0.55 |
| 29:A5:12:SER:HB3 | 29:A5:15:LYS:NZ | 2.20 | 0.55 |
| 30:A6:16:ALA:HB2 | 30:A6:50:PHE:CE2 | 2.41 | 0.55 |
| 30:A6:36:GLU:C | 30:A6:52:GLU:OE1 | 2.45 | 0.55 |
| 34:BA:60:A:N1 | 34:BA:107:G:O2' | 2.27 | 0.55 |
| 34:BA:67:C:C1' | 34:BA:172:A:H1' | 2.37 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:124:G:C6 | 34:BA:125:U:N3 | 2.74 | 0.55 |
| 34:BA:166:G:C2' | 34:BA:167:G:O5' | 2.54 | 0.55 |
| 34:BA:315:A:C2' | 34:BA:316:G:OP2 | 2.54 | 0.55 |
| 34:BA:350:G:N1 | 34:BA:351:G:N1 | 2.55 | 0.55 |
| 34:BA:393:A:OP2 | 51:BS:12:LYS:HD3 | 2.07 | 0.55 |
| 34:BA:453:A:C2 | 34:BA:454:C:C2 | 2.94 | 0.55 |
| 34:BA:463:A:C1' | 51:BS:82:GLN:HE21 | 2.14 | 0.55 |
| 34:BA:495:U:H2' | 34:BA:496:A:O5' | 2.07 | 0.55 |
| 34:BA:609:A:N3 | 34:BA:610:G:C1' | 2.69 | 0.55 |
| 34:BA:698:G:O2' | 34:BA:699:C:C5' | 2.54 | 0.55 |
| 34:BA:714:G:N3 | 34:BA:777:A:C8 | 2.75 | 0.55 |
| 34:BA:716:A:H1' | 46:BN:118:GLY:HA2 | 1.89 | 0.55 |
| 34:BA:761:G:C5' | 52:BT:103:GLY:N | 2.69 | 0.55 |
| 34:BA:897:C:O2 | 34:BA:903:G:C2 | 2.59 | 0.55 |
| 34:BA:972:C:H2' | 34:BA:973:G:H8 | 1.71 | 0.55 |
| 34:BA:979:C:OP1 | 34:BA:1222:G:O6 | 2.25 | 0.55 |
| 34:BA:1336:C:O2' | 34:BA:1337:G:OP2 | 2.23 | 0.55 |
| 34:BA:1509:C:O2 | 34:BA:1509:C:H2' | 2.04 | 0.55 |
| 35:BC:36:A:H61 | 36:B1:60:A:H61 | 1.54 | 0.55 |
| 36:B1:14:U:H2' | 36:B1:15:A:O4' | 2.06 | 0.55 |
| 37:BE:70:PHE:HD1 | 37:BE:90:MET:HB2 | 1.70 | 0.55 |
| 37:BE:87:ARG:O | 37:BE:89:GLY:N | 2.39 | 0.55 |
| 38:BF:12:LEU:HD22 | 38:BF:16:ARG:O | 2.07 | 0.55 |
| 38:BF:29:TYR:HE2 | 38:BF:33:LEU:CD1 | 2.20 | 0.55 |
| 39:BG:19:LEU:H | 39:BG:33:MET:CE | 2.19 | 0.55 |
| 39:BG:128:VAL:HB | 39:BG:132:ARG:HA | 1.88 | 0.55 |
| 39:BG:153:ARG:HA | 39:BG:158:ILE:HG21 | 1.87 | 0.55 |
| 40:BH:51:VAL:O | 40:BH:52:PRO:C | 2.43 | 0.55 |
| 42:BJ:111:ARG:CZ | 42:BJ:122:HIS:CB | 2.85 | 0.55 |
| 43:BK:6:ILE:CD1 | 43:BK:85:ARG:CD | 2.78 | 0.55 |
| 47:BO:101:VAL:O | 47:BO:104:VAL:HB | 2.06 | 0.55 |
| 48:BP:24:GLY:HA3 | 48:BP:66:LEU:CG | 2.36 | 0.55 |
| 50:BR:87:ILE:N | 50:BR:87:ILE:CD1 | 2.69 | 0.55 |
| 52:BT:11:VAL:HG22 | 52:BT:20:THR:HB | 1.88 | 0.55 |
| 53:BU:63:GLN:CA | 53:BU:66:LEU:HD21 | 2.35 | 0.55 |
| 53:BU:74:ARG:HA | 53:BU:79:LEU:HD22 | 1.88 | 0.55 |
| 55:BW:36:LEU:O | 55:BW:39:LYS:HB3 | 2.06 | 0.55 |
| 55:BW:46:GLU:HB2 | 55:BW:48:LYS:CE | 2.36 | 0.55 |
| 55:BW:53:LEU:HA | 55:BW:56:MET:HG3 | 1.87 | 0.55 |
| 55:BW:59:ALA:O | 55:BW:60:GLU:C | 2.45 | 0.55 |
| 55:BW:100:ILE:C | 55:BW:102:GLY:H | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:42:C:H5' | 7:AG:48:MET:HB2 | 1.88 | 0.55 |
| 2:AA:8:A:N3 | 2:AA:9:U:C6 | 2.74 | 0.55 |
| 2:AA:18:C:O5' | 2:AA:18:C:H6 | 1.89 | 0.55 |
| 2:AA:66:C:N3 | 2:AA:88:G:O6 | 2.40 | 0.55 |
| 2:AA:188:G:C2' | 2:AA:189:G:H5' | 2.37 | 0.55 |
| 2:AA:270(E):G:N2 | 2:AA:270(U):C:C2 | 2.65 | 0.55 |
| 2:AA:302:C:C2 | 2:AA:303:U:C5 | 2.95 | 0.55 |
| 2:AA:410:G:H8 | 2:AA:410:G:O5' | 1.89 | 0.55 |
| 2:AA:441:U:H5 | 20:AU:3:GLN:NE2 | 2.04 | 0.55 |
| 2:AA:533:G:H2' | 2:AA:534:U:O4' | 2.07 | 0.55 |
| 2:AA:552:G:C6 | 2:AA:553:U:C4 | 2.95 | 0.55 |
| 2:AA:564:C:H5 | 2:AA:573:G:OP1 | 1.89 | 0.55 |
| 2:AA:619:G:C8 | 2:AA:619:G:H3' | 2.41 | 0.55 |
| 2:AA:675:A:N6 | 2:AA:804:A:C4 | 2.74 | 0.55 |
| 2:AA:743:G:O2' | 2:AA:744:G:C5' | 2.54 | 0.55 |
| 2:AA:823:G:C4 | 2:AA:824:A:N7 | 2.75 | 0.55 |
| 2:AA:979:G:N2 | 2:AA:985:C:C4 | 2.74 | 0.55 |
| 2:AA:996:A:N3 | 2:AA:997:G:C8 | 2.75 | 0.55 |
| 2:AA:1042:G:H1 | 2:AA:1113:U:H3 | 1.55 | 0.55 |
| 2:AA:1078:U:P | 11:AL:93:LYS:HG3 | 2.47 | 0.55 |
| 2:AA:1128:A:OP2 | 2:AA:1128:A:O4' | 2.23 | 0.55 |
| 2:AA:1168:G:H2' | 2:AA:1169:G:H5' | 1.88 | 0.55 |
| 2:AA:1227:A:P | 25:A1:16:LYS:HE2 | 2.47 | 0.55 |
| 2:AA:1502:C:O2' | 2:AA:1503:U:H5' | 2.06 | 0.55 |
| 2:AA:1534:G:H21 | 2:AA:1536:A:C1' | 2.20 | 0.55 |
| 2:AA:1614:A:H61 | 18:AS:88:ARG:N | 2.04 | 0.55 |
| 2:AA:1657:C:C4 | 2:AA:1658:C:H5 | 2.24 | 0.55 |
| 2:AA:1743:G:H2' | 2:AA:1746:G:O4' | 2.06 | 0.55 |
| 2:AA:1753:G:C8 | 2:AA:1753:G:C3' | 2.89 | 0.55 |
| 2:AA:1799:G:N2 | 2:AA:1819:A:OP2 | 2.39 | 0.55 |
| 2:AA:1805:U:OP2 | 2:AA:1805:U:H3' | 2.05 | 0.55 |
| 2:AA:1909:C:O2' | 2:AA:1910:G:H5' | 2.07 | 0.55 |
| 2:AA:1942:C:H3' | 2:AA:1942:C:P | 2.46 | 0.55 |
| 2:AA:1964:G:N1 | 2:AA:1967:C:C5 | 2.75 | 0.55 |
| 2:AA:1996:C:OP2 | 13:AN:31:ARG:NH2 | 2.39 | 0.55 |
| 2:AA:2052:G:C5' | 5:AE:239:GLY:H | 2.13 | 0.55 |
| 2:AA:2096:U:C2 | 2:AA:2097:C:C5 | 2.95 | 0.55 |
| 2:AA:2133:G:N3 | 2:AA:2133:G:H3' | 2.22 | 0.55 |
| 2:AA:2187:G:H2' | 2:AA:2188:C:C6 | 2.42 | 0.55 |
| 2:AA:2332:U:C1' | 2:AA:2336:A:N6 | 2.69 | 0.55 |
| 2:AA:2458:G:O2' | 2:AA:2459:A:C8 | 2.60 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2468:G:C8 | 2:AA:2476:A:N1 | 2.75 | 0.55 |
| 2:AA:2558:C:C2 | 2:AA:2559:C:C5 | 2.94 | 0.55 |
| 2:AA:2627:G:C2 | 2:AA:2628:C:C2 | 2.94 | 0.55 |
| 2:AA:2633:G:N1 | 2:AA:2634:G:C5 | 2.74 | 0.55 |
| 2:AA:2691:C:N4 | 2:AA:2719:G:N2 | 2.55 | 0.55 |
| 2:AA:2730:C:O3' | 5:AE:265:ASN:ND2 | 2.40 | 0.55 |
| 2:AA:2734:A:N6 | 5:AE:316:ARG:NH1 | 2.55 | 0.55 |
| 2:AA:2850:A:C6 | 2:AA:2869:G:H5' | 2.41 | 0.55 |
| 2:AA:2892:A:C2' | 2:AA:2893:G:C8 | 2.90 | 0.55 |
| 4:AD:84:PRO:C | 4:AD:85:ASN:ND2 | 2.58 | 0.55 |
| 4:AD:131:LEU:HD11 | 4:AD:183:ILE:CG2 | 2.36 | 0.55 |
| 4:AD:131:LEU:HB2 | 4:AD:171:VAL:HG21 | 1.88 | 0.55 |
| 4:AD:198:GLY:O | 4:AD:200:THR:N | 2.38 | 0.55 |
| 5:AE:212:GLY:O | 5:AE:214:VAL:N | 2.40 | 0.55 |
| 7:AG:105:SER:O | 7:AG:106:PHE:CG | 2.59 | 0.55 |
| 7:AG:136:ARG:HG2 | 7:AG:136:ARG:HH11 | 1.70 | 0.55 |
| 9:AI:34:ALA:O | 9:AI:35:ALA:HB2 | 2.06 | 0.55 |
| 10:AK:13:GLY:O | 10:AK:17:GLU:OE2 | 2.25 | 0.55 |
| 10:AK:95:SER:C | 10:AK:98:ILE:H | 2.10 | 0.55 |
| 11:AL:56:VAL:HG22 | 11:AL:70:ILE:HA | 1.87 | 0.55 |
| 12:AM:63:ILE:O | 12:AM:69:TYR:O | 2.24 | 0.55 |
| 12:AM:97:ALA:O | 12:AM:100:SER:N | 2.39 | 0.55 |
| 14:AO:94:ARG:CG | 14:AO:120:LEU:HD22 | 2.36 | 0.55 |
| 15:AP:26:LYS:HG3 | 15:AP:28:ILE:CD1 | 2.37 | 0.55 |
| 15:AP:133:GLU:OE1 | 15:AP:134:PHE:HA | 2.07 | 0.55 |
| 17:AR:44:ARG:HG3 | 17:AR:45:GLU:H | 1.71 | 0.55 |
| 21:AV:69:VAL:HG13 | 21:AV:81:VAL:HG13 | 1.87 | 0.55 |
| 21:AV:70:GLN:HG3 | 21:AV:72:ASP:CB | 2.32 | 0.55 |
| 22:AW:46:ILE:H | 22:AW:46:ILE:HD13 | 1.72 | 0.55 |
| 22:AW:62:GLU:O | 22:AW:63:GLU:C | 2.44 | 0.55 |
| 24:A0:44:LEU:HD11 | 24:A0:48:VAL:HG21 | 1.86 | 0.55 |
| 24:A0:75:LEU:O | 24:A0:76:VAL:C | 2.45 | 0.55 |
| 30:A6:5:GLY:C | 30:A6:7:ARG:N | 2.55 | 0.55 |
| 34:BA:135:C:C5 | 34:BA:136:C:H5 | 2.25 | 0.55 |
| 34:BA:194:C:O2' | 34:BA:195:A:H5" | 2.06 | 0.55 |
| 34:BA:204:U:H4' | 34:BA:216:G:OP1 | 2.07 | 0.55 |
| 34:BA:236:G:H3' | 34:BA:237:C:C6 | 2.42 | 0.55 |
| 34:BA:483:C:H3' | 34:BA:483:C:H6 | 1.72 | 0.55 |
| 34:BA:518:C:H42 | 35:BB:34:G:H21 | 1.52 | 0.55 |
| 34:BA:555:C:O2 | 34:BA:555:C:C2' | 2.53 | 0.55 |
| 34:BA:771:G:C6 | 34:BA:809:G:C6 | 2.95 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:790:A:C5 | 34:BA:791:G:C5 | 2.95 | 0.55 |
| 34:BA:817:C:O2 | 34:BA:817:C:H2' | 2.05 | 0.55 |
| 34:BA:823:G:H2' | 34:BA:824:C:C6 | 2.42 | 0.55 |
| 34:BA:841:U:H3 | 37:BE:37:ASN:HD22 | 1.52 | 0.55 |
| 34:BA:900:A:H2' | 34:BA:901:A:C8 | 2.41 | 0.55 |
| 34:BA:962:C:C4 | 34:BA:963:G:C8 | 2.94 | 0.55 |
| 34:BA:1122:U:O2' | 34:BA:1123:A:H5' | 2.07 | 0.55 |
| 34:BA:1298:C:N3 | 42:BJ:114:ARG:HB3 | 2.20 | 0.55 |
| 34:BA:1308:U:O2 | 34:BA:1309:G:C8 | 2.59 | 0.55 |
| 34:BA:1371:G:OP1 | 44:BL:12:GLU:HG2 | 2.07 | 0.55 |
| 34:BA:1418:A:N1 | 34:BA:1483:A:C5 | 2.75 | 0.55 |
| 35:BB:4:G:C4 | 35:BB:5:A:C8 | 2.95 | 0.55 |
| 35:BB:64:A:C4 | 35:BB:65:G:C8 | 2.95 | 0.55 |
| 35:BC:36:A:C2 | 35:BC:37:G:C4 | 2.94 | 0.55 |
| 37:BE:101:MET:CA | 37:BE:108:ILE:HG13 | 2.29 | 0.55 |
| 37:BE:124:SER:O | 37:BE:127:ILE:HG13 | 2.06 | 0.55 |
| 37:BE:153:ARG:O | 37:BE:154:LEU:C | 2.44 | 0.55 |
| 38:BF:157:ILE:C | 38:BF:159:GLY:N | 2.60 | 0.55 |
| 39:BG:50:ARG:HD3 | 39:BG:51:PRO:HD2 | 1.88 | 0.55 |
| 40:BH:100:VAL:HG11 | 40:BH:107:ARG:CD | 2.37 | 0.55 |
| 41:BI:57:GLN:CD | 41:BI:57:GLN:N | 2.60 | 0.55 |
| 42:BJ:100:ALA:O | 42:BJ:101:LEU:C | 2.45 | 0.55 |
| 43:BK:14:ARG:O | 43:BK:18:ARG:HD2 | 2.05 | 0.55 |
| 43:BK:40:ALA:CB | 43:BK:45:ILE:HG23 | 2.37 | 0.55 |
| 44:BL:85:LEU:CD1 | 44:BL:89:ASN:ND2 | 2.69 | 0.55 |
| 45:BM:75:ILE:HG22 | 45:BM:76:ASN:CG | 2.27 | 0.55 |
| 46:BN:21:ILE:HG13 | 46:BN:83:ILE:O | 2.06 | 0.55 |
| 46:BN:31:THR:CB | 46:BN:42:TRP:HB3 | 2.36 | 0.55 |
| 47:BO:28:LYS:CE | 47:BO:33:ARG:NH1 | 2.65 | 0.55 |
| 47:BO:41:ARG:NH2 | 47:BO:57:LYS:HZ2 | 1.94 | 0.55 |
| 47:BO:85:ILE:CG2 | 47:BO:85:ILE:O | 2.55 | 0.55 |
| 48:BP:4:ILE:O | 48:BP:6:GLY:N | 2.39 | 0.55 |
| 49:BQ:37:PHE:HD1 | 49:BQ:39:LEU:HD12 | 1.71 | 0.55 |
| 51:BS:26:ARG:HG2 | 51:BS:26:ARG:NH1 | 2.22 | 0.55 |
| 54:BV:14:HIS:HB2 | 54:BV:15:LEU:HD23 | 1.89 | 0.55 |
| 55:BW:31:SER:OG | 55:BW:32:ALA:N | 2.40 | 0.55 |
| 1:AB:13:A:H2 | 1:AB:69:G:N2 | 2.02 | 0.55 |
| 1:AB:20:C:H2' | 1:AB:21:G:C5' | 2.37 | 0.55 |
| 1:AB:45:A:C1' | 7:AG:76:ARG:NH1 | 2.67 | 0.55 |
| 1:AB:75:G:N3 | 21:AV:22:VAL:CG2 | 2.70 | 0.55 |
| 2:AA:66:C:N3 | 2:AA:89:G:N1 | 2.54 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:145:G:H2' | 2:AA:146:G:O4' | 2.07 | 0.55 |
| 2:AA:154:G:H3' | 2:AA:155:C:C6 | 2.41 | 0.55 |
| 2:AA:269:U:H5 | 2:AA:270(Z):U:OP2 | 1.89 | 0.55 |
| 2:AA:270(Z):U:O2 | 2:AA:271(B):G:OP1 | 2.24 | 0.55 |
| 2:AA:273(D):C:C4 | 2:AA:363(B):G:N2 | 2.74 | 0.55 |
| 2:AA:374:A:C2 | 2:AA:375:C:C1' | 2.89 | 0.55 |
| 2:AA:428:A:C5 | 2:AA:429:A:C5 | 2.94 | 0.55 |
| 2:AA:443:A:O4' | 2:AA:1201:C:H5' | 2.06 | 0.55 |
| 2:AA:542:C:H2' | 2:AA:543:C:C6 | 2.42 | 0.55 |
| 2:AA:553:U:H2' | 2:AA:554:U:O4' | 2.07 | 0.55 |
| 2:AA:562:U:O5' | 2:AA:562:U:H6 | 1.90 | 0.55 |
| 2:AA:597:U:H2' | 2:AA:598:G:H8 | 1.72 | 0.55 |
| 2:AA:731:C:H2' | 2:AA:732:C:H5' | 1.88 | 0.55 |
| 2:AA:775:G:H21 | 2:AA:788:A:P | 2.27 | 0.55 |
| 2:AA:903:C:C2 | 2:AA:904:C:C5 | 2.95 | 0.55 |
| 2:AA:1031:G:H4' | 33:A9:8:LYS:CE | 2.36 | 0.55 |
| 2:AA:1130:U:HO2' | 2:AA:1131:G:P | 2.25 | 0.55 |
| 2:AA:1343:G:N2 | 2:AA:1405:U:N1 | 2.55 | 0.55 |
| 2:AA:1399:C:H2' | 2:AA:1400:G:C8 | 2.41 | 0.55 |
| 2:AA:1416:G:C2 | 2:AA:1583:A:N6 | 2.75 | 0.55 |
| 2:AA:1498:C:O2 | 2:AA:1499:C:C6 | 2.60 | 0.55 |
| 2:AA:1527:G:C2' | 2:AA:1528:A:C5' | 2.71 | 0.55 |
| 2:AA:1539:G:C2' | 2:AA:1540:G:C8 | 2.88 | 0.55 |
| 2:AA:1569:A:N1 | 2:AA:1570:A:C6 | 2.75 | 0.55 |
| 2:AA:1672:C:HO2' | 2:AA:1673:U:P | 2.30 | 0.55 |
| 2:AA:1718:G:C2 | 2:AA:1741:C:C4 | 2.95 | 0.55 |
| 2:AA:1935:G:O2' | 2:AA:1937:A:C2 | 2.59 | 0.55 |
| 2:AA:2024:G:C5 | 2:AA:2025:C:C5 | 2.95 | 0.55 |
| 2:AA:2111:C:H6 | 2:AA:2117:A:H62 | 1.55 | 0.55 |
| 2:AA:2186:G:N1 | 2:AA:2187:G:O6 | 2.39 | 0.55 |
| 2:AA:2212:A:N3 | 2:AA:2212:A:C2' | 2.69 | 0.55 |
| 2:AA:2262:U:C4' | 2:AA:2328:A:C2 | 2.90 | 0.55 |
| 2:AA:2282:G:N2 | 2:AA:2427:C:C2 | 2.70 | 0.55 |
| 2:AA:2348:U:C2' | 2:AA:2349:G:O5' | 2.55 | 0.55 |
| 2:AA:2356:C:H4' | 27:A3:17:ASN:CG | 2.27 | 0.55 |
| 2:AA:2377:A:H2' | 2:AA:2378:A:N7 | 2.21 | 0.55 |
| 2:AA:2405:G:C2' | 2:AA:2411:A:H61 | 2.16 | 0.55 |
| 2:AA:2462:U:C2' | 2:AA:2463:C:H5' | 2.36 | 0.55 |
| 2:AA:2475:C:O2' | 2:AA:2477:C:P | 2.65 | 0.55 |
| 2:AA:2493:U:N3 | 2:AA:2494:G:C8 | 2.75 | 0.55 |
| 2:AA:2589:A:C2 | 2:AA:2606:C:C4 | 2.94 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2706:G:C6 | 2:AA:2707:G:N7 | 2.74 | 0.55 |
| 2:AA:2841:C:H2' | 2:AA:2842:G:N7 | 2.21 | 0.55 |
| 3:AC:88:GLU:O | 3:AC:89:ALA:C | 2.45 | 0.55 |
| 3:AC:146:GLY:C | 3:AC:148:ASN:H | 2.08 | 0.55 |
| 4:AD:118:GLY:O | 4:AD:120:ASP:N | 2.40 | 0.55 |
| 4:AD:131:LEU:CD1 | 4:AD:183:ILE:HG21 | 2.37 | 0.55 |
| 4:AD:139:LEU:HD13 | 4:AD:192:GLY:CA | 2.36 | 0.55 |
| 4:AD:139:LEU:HD13 | 4:AD:192:GLY:N | 2.20 | 0.55 |
| 4:AD:154:VAL:CA | 4:AD:157:ALA:HB3 | 2.35 | 0.55 |
| 4:AD:156:ALA:C | 4:AD:196:ASN:ND2 | 2.60 | 0.55 |
| 4:AD:174:ARG:HE | 4:AD:180:VAL:CG1 | 2.20 | 0.55 |
| 5:AE:201:VAL:H | 5:AE:266:LYS:HZ2 | 1.54 | 0.55 |
| 5:AE:252:GLN:HA | 5:AE:252:GLN:NE2 | 2.16 | 0.55 |
| 5:AE:269:ILE:HA | 5:AE:297:LYS:HZ2 | 1.68 | 0.55 |
| 8:AH:27:GLY:O | 8:AH:28:PRO:O | 2.25 | 0.55 |
| 8:AH:36:PHE:CE1 | 8:AH:74:MET:SD | 2.99 | 0.55 |
| 8:AH:100:LYS:O | 8:AH:100:LYS:CG | 2.53 | 0.55 |
| 10:AK:36:ALA:O | 10:AK:37:ILE:HD12 | 2.07 | 0.55 |
| 11:AL:91:GLU:O | 11:AL:95:LYS:HB3 | 2.07 | 0.55 |
| 12:AM:42:GLU:HA | 12:AM:133:GLY:CA | 2.37 | 0.55 |
| 14:AO:60:GLU:O | 14:AO:61:ALA:HB2 | 2.06 | 0.55 |
| 14:AO:69:ILE:HG13 | 14:AO:70:ASP:N | 2.22 | 0.55 |
| 15:AP:50:VAL:HG12 | 15:AP:51:GLU:OE1 | 2.07 | 0.55 |
| 15:AP:72:VAL:CG2 | 15:AP:135:ALA:HB1 | 2.37 | 0.55 |
| 16:AQ:15:GLU:O | 16:AQ:16:ALA:HB2 | 2.07 | 0.55 |
| 16:AQ:17:ARG:NH2 | 16:AQ:106:LEU:HD13 | 2.22 | 0.55 |
| 20:AU:20:HIS:CD2 | 20:AU:23:VAL:HB | 2.35 | 0.55 |
| 21:AV:41:ARG:O | 21:AV:45:GLN:NE2 | 2.40 | 0.55 |
| 23:AX:1:MET:O | 23:AX:1:MET:SD | 2.65 | 0.55 |
| 25:A1:48:ARG:O | 25:A1:52:ASN:CG | 2.45 | 0.55 |
| 25:A1:55:ARG:O | 25:A1:56:ASP:C | 2.45 | 0.55 |
| 25:A1:84:LYS:C | 25:A1:86:ALA:N | 2.57 | 0.55 |
| 26:A2:5:ILE:O | 26:A2:6:GLN:HB2 | 2.06 | 0.55 |
| 26:A2:11:GLN:OE1 | 26:A2:21:ARG:NE | 2.40 | 0.55 |
| 34:BA:47:C:C5 | 34:BA:365:U:H2' | 2.41 | 0.55 |
| 34:BA:47:C:C6 | 34:BA:365:U:H2' | 2.42 | 0.55 |
| 34:BA:166:G:N2 | 34:BA:167:G:C1' | 2.70 | 0.55 |
| 34:BA:197:A:N7 | 34:BA:221:C:H4' | 2.21 | 0.55 |
| 34:BA:259:G:N2 | 34:BA:260:G:H1' | 2.22 | 0.55 |
| 34:BA:284:G:O2' | 34:BA:285:G:C5' | 2.54 | 0.55 |
| 34:BA:522:C:H2' | 34:BA:523:A:C8 | 2.42 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:522:C:H2' | 34:BA:523:A:H8 | 1.72 | 0.55 |
| 34:BA:750:G:N3 | 50:BR:23:GLY:CA | 2.70 | 0.55 |
| 34:BA:817:C:N3 | 34:BA:1529:G:N1 | 2.49 | 0.55 |
| 34:BA:890:G:H2' | 34:BA:891:U:OP2 | 2.07 | 0.55 |
| 34:BA:1102:A:C4 | 34:BA:1103:C:C5 | 2.95 | 0.55 |
| 34:BA:1129:C:C4' | 34:BA:1131:G:N7 | 2.53 | 0.55 |
| 34:BA:1250:A:C6 | 34:BA:1251:A:C6 | 2.95 | 0.55 |
| 34:BA:1305:G:OP2 | 34:BA:1305:G:C8 | 2.60 | 0.55 |
| 34:BA:1344:C:H5' | 44:BL:120:ARG:O | 2.06 | 0.55 |
| 35:BB:35:A:N1 | 36:B1:65:U:C2' | 2.70 | 0.55 |
| 35:BC:29:A:H5' | 48:BP:118:ALA:O | 2.05 | 0.55 |
| 37:BE:15:VAL:HG21 | 37:BE:209:ARG:CB | 2.35 | 0.55 |
| 37:BE:50:GLU:O | 37:BE:51:LEU:C | 2.45 | 0.55 |
| 37:BE:149:LEU:C | 37:BE:151:GLY:N | 2.59 | 0.55 |
| 38:BF:88:ARG:HG3 | 38:BF:101:LEU:HB2 | 1.89 | 0.55 |
| 39:BG:31:CYS:C | 39:BG:33:MET:N | 2.59 | 0.55 |
| 39:BG:78:LEU:O | 39:BG:79:PHE:C | 2.45 | 0.55 |
| 40:BH:79:GLU:CG | 40:BH:93:PRO:HD2 | 2.36 | 0.55 |
| 40:BH:127:ASN:O | 40:BH:127:ASN:OD1 | 2.24 | 0.55 |
| 42:BJ:62:PHE:HA | 42:BJ:124:LEU:CD2 | 2.36 | 0.55 |
| 42:BJ:69:VAL:HG21 | 42:BJ:104:LEU:HD13 | 1.87 | 0.55 |
| 43:BK:22:GLU:O | 43:BK:63:LEU:CD1 | 2.55 | 0.55 |
| 43:BK:24:THR:O | 43:BK:60:ARG:CA | 2.55 | 0.55 |
| 43:BK:82:HIS:C | 43:BK:137:VAL:HG13 | 2.26 | 0.55 |
| 43:BK:120:THR:O | 43:BK:121:ASP:C | 2.45 | 0.55 |
| 44:BL:98:PRO:O | 44:BL:100:GLY:N | 2.37 | 0.55 |
| 47:BO:34:ARG:HH21 | 47:BO:61:THR:CG2 | 2.07 | 0.55 |
| 48:BP:20:THR:CG2 | 48:BP:20:THR:O | 2.54 | 0.55 |
| 50:BR:71:GLN:HG3 | 50:BR:75:PRO:HB3 | 1.86 | 0.55 |
| 52:BT:5:VAL:HG13 | 52:BT:59:ILE:N | 2.22 | 0.55 |
| 55:BW:63:ILE:HG12 | 55:BW:72:LEU:HD11 | 1.89 | 0.55 |
| 1:AB:82:G:C6 | 1:AB:95:U:N3 | 2.75 | 0.55 |
| 2:AA:14:A:C8 | 2:AA:15:G:N9 | 2.74 | 0.55 |
| 2:AA:31:C:H42 | 2:AA:474:G:H1 | 1.55 | 0.55 |
| 2:AA:136:G:C8 | 2:AA:136:G:OP2 | 2.59 | 0.55 |
| 2:AA:192:C:H5" | 2:AA:193:U:OP2 | 2.07 | 0.55 |
| 2:AA:246:C:O2' | 2:AA:385:C:H5' | 2.07 | 0.55 |
| 2:AA:283:A:C8 | 2:AA:284:U:C6 | 2.94 | 0.55 |
| 2:AA:387:U:C5 | 2:AA:387:U:OP2 | 2.60 | 0.55 |
| 2:AA:388:G:C2' | 2:AA:390:A:C5 | 2.88 | 0.55 |
| 2:AA:417:C:O2' | 2:AA:418:G:H5' | 2.07 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:465:G:H2' | 2:AA:466:A:H8 | 1.71 | 0.55 |
| 2:AA:638:G:C8 | 2:AA:639:U:C2 | 2.95 | 0.55 |
| 2:AA:640:C:N4 | 2:AA:647:G:C6 | 2.71 | 0.55 |
| 2:AA:661:C:H2' | 2:AA:661:C:O2 | 2.06 | 0.55 |
| 2:AA:716:A:C8 | 2:AA:716:A:C3' | 2.90 | 0.55 |
| 2:AA:727:A:C2' | 2:AA:728:G:O5' | 2.55 | 0.55 |
| 2:AA:731:C:OP2 | 2:AA:761:A:OP1 | 2.23 | 0.55 |
| 2:AA:749:C:H2' | 2:AA:750:A:C8 | 2.36 | 0.55 |
| 2:AA:783:A:H5" | 4:AD:230:ASN:ND2 | 2.22 | 0.55 |
| 2:AA:929:G:O2' | 23:AX:43:ILE:CG1 | 2.55 | 0.55 |
| 2:AA:1044:G:O6 | 2:AA:1112:G:N3 | 2.39 | 0.55 |
| 2:AA:1044:G:OP1 | 2:AA:1047:G:H5" | 2.07 | 0.55 |
| 2:AA:1070:A:C8 | 2:AA:1097:U:O5' | 2.60 | 0.55 |
| 2:AA:1077:A:C8 | 2:AA:1078:U:C4 | 2.95 | 0.55 |
| 2:AA:1102:C:O2' | 2:AA:1103:A:H8 | 1.89 | 0.55 |
| 2:AA:1198:U:C2 | 2:AA:1199:U:C5 | 2.95 | 0.55 |
| 2:AA:1201:C:H2' | 2:AA:1202:C:O5' | 2.07 | 0.55 |
| 2:AA:1272:A:OP2 | 2:AA:1647:G:OP1 | 2.24 | 0.55 |
| 2:AA:1327:C:C2' | 2:AA:1328:G:C8 | 2.88 | 0.55 |
| 2:AA:1387:C:C2 | 2:AA:1388:G:C8 | 2.94 | 0.55 |
| 2:AA:1399:C:OP1 | 19:AT:67:ARG:NH1 | 2.40 | 0.55 |
| 2:AA:1437:C:O2' | 2:AA:1438:U:OP1 | 2.25 | 0.55 |
| 2:AA:1582:C:H2' | 2:AA:1583:A:H1' | 1.88 | 0.55 |
| 2:AA:1656:C:P | 5:AE:212:GLY:HA3 | 2.47 | 0.55 |
| 2:AA:1718:G:N2 | 2:AA:1741:C:C2 | 2.74 | 0.55 |
| 2:AA:1768:U:H1' | 2:AA:1985:G:N2 | 2.20 | 0.55 |
| 2:AA:1786:A:C6 | 2:AA:1938:A:C6 | 2.95 | 0.55 |
| 2:AA:1831:G:C5 | 2:AA:1832:C:C4 | 2.95 | 0.55 |
| 2:AA:2153:G:C2 | 2:AA:2154:G:H1' | 2.41 | 0.55 |
| 2:AA:2396:G:N2 | 2:AA:2397:G:C8 | 2.75 | 0.55 |
| 2:AA:2444:G:C6 | 2:AA:2445:G:C6 | 2.95 | 0.55 |
| 2:AA:2495:G:O2' | 15:AP:101:MET:HG3 | 2.06 | 0.55 |
| 2:AA:2537:U:H2' | 2:AA:2538:C:C6 | 2.42 | 0.55 |
| 2:AA:2583:G:H2' | 2:AA:2584:U:O2 | 2.06 | 0.55 |
| 2:AA:2694:G:H2' | 2:AA:2695:C:O5' | 2.07 | 0.55 |
| 2:AA:2699:C:H2' | 2:AA:2699:C:O2 | 2.05 | 0.55 |
| 2:AA:2777:G:C8 | 2:AA:2777:G:C3' | 2.89 | 0.55 |
| 2:AA:2777:G:C8 | 2:AA:2777:G:H3' | 2.42 | 0.55 |
| 2:AA:2850:A:C4 | 2:AA:2851:A:N7 | 2.74 | 0.55 |
| 2:AA:2851:A:N9 | 24:A0:61:HIS:NE2 | 2.54 | 0.55 |
| 3:AC:20:TYR:HB3 | 3:AC:24:GLU:CD | 2.26 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:103:ILE:HG22 | 3:AC:130:ILE:HG21 | 1.87 | 0.55 |
| 3:AC:127:LEU:CA | 3:AC:130:ILE:HB | 2.37 | 0.55 |
| 4:AD:62:ARG:NH2 | 4:AD:85:ASN:OD1 | 2.40 | 0.55 |
| 4:AD:164:LEU:CD1 | 4:AD:174:ARG:HH12 | 2.16 | 0.55 |
| 5:AE:41:PHE:O | 5:AE:311:PHE:CE1 | 2.60 | 0.55 |
| 5:AE:105:HIS:CG | 5:AE:108:LEU:HG | 2.41 | 0.55 |
| 5:AE:175:ASP:O | 5:AE:178:LEU:HG | 2.07 | 0.55 |
| 5:AE:215:LYS:O | 5:AE:216:ARG:C | 2.44 | 0.55 |
| 6:AF:90:HIS:H | 6:AF:91:PRO:HD3 | 1.72 | 0.55 |
| 6:AF:140:VAL:CG1 | 6:AF:236:THR:HG22 | 2.27 | 0.55 |
| 8:AH:102:LEU:HD11 | 8:AH:114:ILE:HB | 1.88 | 0.55 |
| 9:AI:31:VAL:HG12 | 9:AI:31:VAL:O | 2.07 | 0.55 |
| 9:AI:55:GLU:O | 9:AI:56:LYS:HG3 | 2.06 | 0.55 |
| 9:AI:61:VAL:HG13 | 9:AI:115:LYS:HG2 | 1.89 | 0.55 |
| 10:AK:110:LEU:HD21 | 10:AK:114:LYS:NZ | 2.21 | 0.55 |
| 11:AL:28:LEU:C | 11:AL:33:VAL:HB | 2.27 | 0.55 |
| 12:AM:58:GLU:HG2 | 12:AM:139:LEU:HB3 | 1.84 | 0.55 |
| 12:AM:60:ARG:HB3 | 12:AM:71:TYR:HD2 | 1.72 | 0.55 |
| 12:AM:65:ASN:O | 12:AM:68:GLY:O | 2.24 | 0.55 |
| 15:AP:16:ARG:HD3 | 15:AP:19:TYR:CD2 | 2.42 | 0.55 |
| 18:AS:13:SER:HG | 18:AS:17:VAL:H | 1.55 | 0.55 |
| 18:AS:30:GLU:O | 18:AS:33:ARG:CB | 2.53 | 0.55 |
| 18:AS:76:VAL:CG2 | 18:AS:102:HIS:O | 2.54 | 0.55 |
| 20:AU:105:ASP:HB2 | 20:AU:108:ARG:HD2 | 1.87 | 0.55 |
| 21:AV:35:ASP:OD1 | 21:AV:37:LYS:HB3 | 2.07 | 0.55 |
| 22:AW:30:ALA:O | 22:AW:34:GLN:CB | 2.55 | 0.55 |
| 25:A1:93:LYS:H | 26:A2:10:LYS:HZ3 | 1.55 | 0.55 |
| 26:A2:76:SER:HG | 26:A2:84:THR:H | 1.55 | 0.55 |
| 27:A3:4:LYS:HZ3 | 27:A3:11:LYS:HZ2 | 1.54 | 0.55 |
| 27:A3:63:SER:OG | 27:A3:64:ASP:N | 2.37 | 0.55 |
| 31:A7:35:ARG:NH1 | 31:A7:35:ARG:CB | 2.51 | 0.55 |
| 33:A9:3:VAL:O | 33:A9:3:VAL:HG12 | 2.06 | 0.55 |
| 34:BA:135:C:C6 | 34:BA:135:C:C3' | 2.90 | 0.55 |
| 34:BA:153:C:O2' | 34:BA:154:C:H5' | 2.07 | 0.55 |
| 34:BA:292:G:C5 | 34:BA:293:G:H1' | 2.42 | 0.55 |
| 34:BA:313:A:C2' | 34:BA:314:C:H6 | 2.04 | 0.55 |
| 34:BA:484:G:H4' | 34:BA:485:G:O5' | 2.07 | 0.55 |
| 34:BA:599:C:O2' | 43:BK:129:VAL:C | 2.45 | 0.55 |
| 34:BA:872:A:C2 | 34:BA:874:G:N7 | 2.75 | 0.55 |
| 34:BA:880:C:C2' | 34:BA:881:G:C5' | 2.85 | 0.55 |
| 34:BA:925:G:N1 | 34:BA:1392:G:C6 | 2.74 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1136:U:C5' | 34:BA:1137:C:OP2 | 2.50 | 0.55 |
| 34:BA:1218:C:H2' | 34:BA:1219:U:C6 | 2.41 | 0.55 |
| 34:BA:1436:U:C4 | 34:BA:1437:C:C5 | 2.94 | 0.55 |
| 34:BA:1468:A:C8 | 34:BA:1469:G:C8 | 2.95 | 0.55 |
| 34:BA:1539:C:C2 | 34:BA:1540:U:C5 | 2.95 | 0.55 |
| 35:BB:22:G:O2' | 35:BB:23:A:H8 | 1.90 | 0.55 |
| 37:BE:136:VAL:N | 37:BE:139:LYS:NZ | 2.55 | 0.55 |
| 38:BF:205:GLY:O | 38:BF:206:GLU:HB2 | 2.07 | 0.55 |
| 39:BG:4:TYR:O | 39:BG:5:ILE:CB | 2.55 | 0.55 |
| 39:BG:15:GLU:OE1 | 39:BG:15:GLU:HA | 2.06 | 0.55 |
| 39:BG:26:CYS:CA | 39:BG:31:CYS:HA | 2.35 | 0.55 |
| 39:BG:93:PHE:O | 39:BG:96:LEU:N | 2.39 | 0.55 |
| 40:BH:76:ILE:CB | 40:BH:77:PRO:HD2 | 2.36 | 0.55 |
| 40:BH:103:GLY:HA2 | 40:BH:107:ARG:HH22 | 1.70 | 0.55 |
| 42:BJ:111:ARG:CD | 42:BJ:123:GLU:OE2 | 2.54 | 0.55 |
| 43:BK:4:ASP:CG | 43:BK:6:ILE:CG2 | 2.75 | 0.55 |
| 43:BK:67:PRO:HG2 | 43:BK:76:PRO:HA | 1.88 | 0.55 |
| 43:BK:98:LYS:H | 43:BK:98:LYS:NZ | 2.02 | 0.55 |
| 47:BO:58:VAL:O | 47:BO:60:LEU:HD11 | 2.07 | 0.55 |
| 47:BO:84:LEU:HB2 | 47:BO:105:TYR:CE1 | 2.42 | 0.55 |
| 54:BV:39:THR:HA | 54:BV:70:LYS:HA | 1.89 | 0.55 |
| 55:BW:83:ARG:HA | 55:BW:86:ARG:CD | 2.32 | 0.55 |
| 56:BX:18:TYR:H | 56:BX:18:TYR:HD1 | 1.49 | 0.55 |
| 1:AB:3:C:N3 | 1:AB:118:G:C2 | 2.74 | 0.55 |
| 2:AA:173:G:N2 | 2:AA:174:C:C2 | 2.74 | 0.55 |
| 2:AA:196:A:O2' | 2:AA:197:A:OP1 | 2.25 | 0.55 |
| 2:AA:302:C:H2' | 2:AA:303:U:C6 | 2.42 | 0.55 |
| 2:AA:540:G:C5 | 2:AA:541:C:C5 | 2.95 | 0.55 |
| 2:AA:640:C:H3' | 2:AA:640:C:C6 | 2.38 | 0.55 |
| 2:AA:685:A:C2 | 2:AA:689:A:C6 | 2.95 | 0.55 |
| 2:AA:727:A:N6 | 2:AA:728:G:N1 | 2.55 | 0.55 |
| 2:AA:754:C:N3 | 2:AA:755:C:C5 | 2.75 | 0.55 |
| 2:AA:988:A:O2' | 2:AA:1157:G:H5' | 2.06 | 0.55 |
| 2:AA:1144:G:C4 | 2:AA:1145:C:C5 | 2.95 | 0.55 |
| 2:AA:1225:C:OP2 | 26:A2:87:ARG:NH2 | 2.40 | 0.55 |
| 2:AA:1275:A:N1 | 24:A0:16:HIS:CA | 2.64 | 0.55 |
| 2:AA:1278:A:H61 | 2:AA:1292:U:H3 | 1.54 | 0.55 |
| 2:AA:1534:G:N2 | 2:AA:1536:A:H8 | 2.05 | 0.55 |
| 2:AA:1565:C:O2' | 2:AA:1566:A:C8 | 2.59 | 0.55 |
| 2:AA:1771:C:C2 | 2:AA:1772:G:N7 | 2.75 | 0.55 |
| 2:AA:1838:C:H2' | 2:AA:1898:U:C5 | 2.42 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1977:A:O2' | 2:AA:1978:A:O4' | 2.18 | 0.55 |
| 2:AA:2107:C:C2 | 2:AA:2182:G:N2 | 2.75 | 0.55 |
| 2:AA:2126:A:H2 | 2:AA:2127:G:C4 | 2.25 | 0.55 |
| 2:AA:2131:G:O4' | 2:AA:2131:G:OP1 | 2.24 | 0.55 |
| 2:AA:2262:U:C4' | 2:AA:2328:A:H2 | 2.20 | 0.55 |
| 2:AA:2302:G:O2' | 2:AA:2303:G:H5' | 2.06 | 0.55 |
| 2:AA:2370:G:C4 | 2:AA:2371:G:C8 | 2.95 | 0.55 |
| 2:AA:2408:U:H2' | 2:AA:2409:G:C8 | 2.42 | 0.55 |
| 2:AA:2602:A:OP1 | 35:BC:75:C:OP2 | 2.24 | 0.55 |
| 2:AA:2635:C:O2 | 2:AA:2635:C:C2' | 2.44 | 0.55 |
| 2:AA:2679:A:N3 | 5:AE:300:VAL:CG1 | 2.61 | 0.55 |
| 2:AA:2790:A:O4' | 2:AA:2893:G:N2 | 2.39 | 0.55 |
| 2:AA:2824:C:H2' | 2:AA:2825:C:H5' | 1.89 | 0.55 |
| 2:AA:2834:G:H3' | 2:AA:2834:G:H8 | 1.72 | 0.55 |
| 2:AA:2852:G:H2' | 2:AA:2853:C:C6 | 2.41 | 0.55 |
| 5:AE:109:ASP:OD1 | 5:AE:112:LEU:CG | 2.54 | 0.55 |
| 5:AE:317:PRO:HB2 | 5:AE:320:GLN:HA | 1.88 | 0.55 |
| 6:AF:61:PHE:O | 6:AF:65:ARG:NH2 | 2.40 | 0.55 |
| 6:AF:168:ARG:NE | 6:AF:209:GLY:CA | 2.70 | 0.55 |
| 7:AG:98:PHE:CA | 7:AG:104:PHE:CD2 | 2.66 | 0.55 |
| 8:AH:8:ILE:HG22 | 8:AH:9:GLU:O | 2.06 | 0.55 |
| 9:AI:22:VAL:HA | 9:AI:38:ALA:CB | 2.37 | 0.55 |
| 9:AJ:30:GLY:O | 9:AJ:34:ALA:HB3 | 2.07 | 0.55 |
| 9:AJ:55:GLU:O | 9:AJ:56:LYS:HG3 | 2.06 | 0.55 |
| 10:AK:110:LEU:HG | 10:AK:114:LYS:HZ1 | 1.71 | 0.55 |
| 11:AL:55:PRO:HD2 | 11:AL:73:PRO:HD3 | 1.89 | 0.55 |
| 12:AM:25:GLN:O | 12:AM:27:ALA:N | 2.40 | 0.55 |
| 12:AM:131:THR:O | 12:AM:131:THR:OG1 | 2.24 | 0.55 |
| 14:AO:73:VAL:O | 14:AO:76:LEU:N | 2.39 | 0.55 |
| 15:AP:11:LYS:NZ | 15:AP:55:GLN:HG2 | 2.22 | 0.55 |
| 15:AP:63:ALA:O | 15:AP:70:ARG:NH2 | 2.40 | 0.55 |
| 17:AR:7:ASP:OD2 | 17:AR:31:PHE:CE2 | 2.58 | 0.55 |
| 18:AS:74:ALA:CB | 18:AS:105:VAL:HG12 | 2.36 | 0.55 |
| 20:AU:20:HIS:HD2 | 20:AU:23:VAL:CB | 2.17 | 0.55 |
| 20:AU:81:LYS:HD2 | 20:AU:83:ASP:CB | 2.37 | 0.55 |
| 21:AV:2:GLU:N | 21:AV:54:ILE:HG13 | 2.22 | 0.55 |
| 21:AV:53:ASP:OD2 | 21:AV:62:PHE:O | 2.25 | 0.55 |
| 23:AX:19:GLN:O | 23:AX:23:LEU:HG | 2.06 | 0.55 |
| 24:A0:64:ARG:CG | 24:A0:65:LEU:N | 2.69 | 0.55 |
| 25:A1:50:ARG:HH22 | 26:A2:73:LYS:C | 2.10 | 0.55 |
| 25:A1:114:ARG:C | 25:A1:117:ARG:HG3 | 2.26 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:52:GLY:HA2 | 26:A2:55:THR:OG1 | 2.07 | 0.55 |
| 26:A2:96:LEU:O | 26:A2:96:LEU:HG | 2.06 | 0.55 |
| 27:A3:8:GLY:O | 27:A3:9:SER:C | 2.45 | 0.55 |
| 27:A3:25:LYS:CE | 27:A3:57:HIS:O | 2.54 | 0.55 |
| 27:A3:35:ASN:OD1 | 27:A3:35:ASN:C | 2.44 | 0.55 |
| 28:A4:26:SER:O | 28:A4:27:THR:OG1 | 2.20 | 0.55 |
| 28:A4:33:VAL:CG1 | 28:A4:35:VAL:HG23 | 2.37 | 0.55 |
| 34:BA:8:A:H4' | 34:BA:9:G:OP1 | 2.04 | 0.55 |
| 34:BA:13:U:H5" | 34:BA:13:U:C6 | 2.27 | 0.55 |
| 34:BA:120:A:H2' | 34:BA:122:G:N7 | 2.22 | 0.55 |
| 34:BA:192:U:C1' | 55:BW:103:GLY:CA | 2.71 | 0.55 |
| 34:BA:294:U:H3 | 34:BA:303:A:H61 | 1.54 | 0.55 |
| 34:BA:295:C:C2' | 34:BA:296:U:O5' | 2.55 | 0.55 |
| 34:BA:306:G:N3 | 34:BA:307:C:C6 | 2.74 | 0.55 |
| 34:BA:655:A:O5' | 34:BA:655:A:H8 | 1.90 | 0.55 |
| 34:BA:690:G:C6 | 34:BA:691:G:C2 | 2.95 | 0.55 |
| 34:BA:742:G:C2 | 34:BA:743:U:C2 | 2.95 | 0.55 |
| 34:BA:806:C:O2' | 34:BA:807:A:H5' | 2.07 | 0.55 |
| 34:BA:976:G:N2 | 34:BA:1363:A:C8 | 2.75 | 0.55 |
| 34:BA:980:C:H2' | 34:BA:981:U:O4' | 2.07 | 0.55 |
| 34:BA:1016:A:N6 | 34:BA:1017:G:N2 | 2.54 | 0.55 |
| 34:BA:1077:G:N2 | 34:BA:1079:G:C2' | 2.70 | 0.55 |
| 34:BA:1121:U:O5' | 34:BA:1121:U:C6 | 2.59 | 0.55 |
| 34:BA:1349:A:OP2 | 44:BL:118:LYS:HG2 | 2.07 | 0.55 |
| 34:BA:1371:G:OP2 | 44:BL:12:GLU:OE1 | 2.25 | 0.55 |
| 34:BA:1390:U:N3 | 34:BA:1391:U:O4 | 2.40 | 0.55 |
| 34:BA:1441:G:H5" | 34:BA:1442:G:H5' | 1.89 | 0.55 |
| 35:BB:11:C:C4 | 35:BB:12:U:C5 | 2.95 | 0.55 |
| 35:BB:33:U:N3 | 35:BB:35:A:P | 2.75 | 0.55 |
| 35:BC:16:U:C5' | 35:BC:18:G:H5" | 2.32 | 0.55 |
| 37:BE:15:VAL:HG11 | 37:BE:209:ARG:HB3 | 1.89 | 0.55 |
| 38:BF:121:ALA:HB2 | 38:BF:187:ALA:CB | 2.37 | 0.55 |
| 39:BG:172:PRO:HG3 | 39:BG:193:ASP:HB2 | 1.87 | 0.55 |
| 41:BI:95:GLU:N | 41:BI:95:GLU:OE2 | 2.40 | 0.55 |
| 43:BK:29:SER:N | 43:BK:32:LYS:NZ | 2.55 | 0.55 |
| 44:BL:96:LEU:O | 44:BL:101:PHE:HD1 | 1.90 | 0.55 |
| 45:BM:51:ARG:NH2 | 45:BM:61:GLU:OE1 | 2.40 | 0.55 |
| 46:BN:12:ARG:HB3 | 46:BN:75:TYR:CG | 2.41 | 0.55 |
| 47:BO:88:GLY:CA | 47:BO:99:HIS:CE1 | 2.90 | 0.55 |
| 47:BO:89:ARG:C | 47:BO:90:VAL:HG23 | 2.26 | 0.55 |
| 48:BP:81:LEU:HB2 | 48:BP:86:CYS:HG | 1.65 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:BP:81:LEU:CD2 | 48:BP:82:MET:N | 2.70 | 0.55 |
| 50:BR:70:LEU:HD12 | 50:BR:70:LEU:O | 2.06 | 0.55 |
| 54:BV:24:ALA:HB3 | 54:BV:25:LYS:NZ | 2.22 | 0.55 |
| 55:BW:27:LYS:O | 55:BW:28:ALA:C | 2.43 | 0.55 |
| 55:BW:72:LEU:CD2 | 55:BW:77:ALA:N | 2.66 | 0.55 |
| 56:BX:9:ARG:NH1 | 56:BX:21:TYR:HB3 | 2.22 | 0.55 |
| 1:AB:14:U:O2' | 1:AB:107:U:C4' | 2.55 | 0.55 |
| 2:AA:20:C:O2' | 2:AA:21:A:C5' | 2.51 | 0.55 |
| 2:AA:121:G:O2' | 2:AA:122:G:H5' | 2.06 | 0.55 |
| 2:AA:153:C:N3 | 2:AA:174:C:N3 | 2.54 | 0.55 |
| 2:AA:178:G:C8 | 2:AA:178:G:H3' | 2.41 | 0.55 |
| 2:AA:197:A:H3' | 2:AA:198:C:C6 | 2.42 | 0.55 |
| 2:AA:209:C:H2' | 2:AA:210:C:C5' | 2.37 | 0.55 |
| 2:AA:297:C:C2' | 2:AA:298:G:O4' | 2.54 | 0.55 |
| 2:AA:301:G:H5" | 2:AA:335:C:OP1 | 2.07 | 0.55 |
| 2:AA:373:U:N3 | 2:AA:400:G:N2 | 2.54 | 0.55 |
| 2:AA:499:U:H2' | 2:AA:500:G:C5' | 2.35 | 0.55 |
| 2:AA:611:C:C6 | 2:AA:618:G:N2 | 2.69 | 0.55 |
| 2:AA:628:G:N1 | 2:AA:635:C:N4 | 2.22 | 0.55 |
| 2:AA:654:A:C2 | 2:AA:655:A:C8 | 2.95 | 0.55 |
| 2:AA:701:G:C2 | 2:AA:732:C:C4 | 2.95 | 0.55 |
| 2:AA:736:C:O2' | 2:AA:737:C:H5' | 2.07 | 0.55 |
| 2:AA:737:C:H2' | 2:AA:738:G:H5' | 1.89 | 0.55 |
| 2:AA:862:G:C2 | 2:AA:863:A:H1' | 2.41 | 0.55 |
| 2:AA:887:A:OP1 | 48:BP:93:ARG:NH2 | 2.37 | 0.55 |
| 2:AA:933:A:C2' | 2:AA:934:G:H5' | 2.37 | 0.55 |
| 2:AA:1084:A:C2 | 2:AA:1085:A:C2 | 2.95 | 0.55 |
| 2:AA:1285:G:H8 | 2:AA:1285:G:O5' | 1.90 | 0.55 |
| 2:AA:1315:C:O2' | 2:AA:1392:A:H1' | 2.06 | 0.55 |
| 2:AA:1358:G:C3' | 2:AA:1371:G:H22 | 2.20 | 0.55 |
| 2:AA:1446:C:O2' | 2:AA:1447:G:H5' | 2.06 | 0.55 |
| 2:AA:1582:C:O3' | 2:AA:1586:A:H4' | 2.07 | 0.55 |
| 2:AA:1698:A:HO2' | 2:AA:1699:G:P | 2.29 | 0.55 |
| 2:AA:1710:C:H5' | 2:AA:2859:G:H1' | 1.89 | 0.55 |
| 2:AA:1757:U:H2' | 2:AA:1757:U:O2 | 2.07 | 0.55 |
| 2:AA:1805:U:H5" | 4:AD:235:PRO:CB | 2.36 | 0.55 |
| 2:AA:1864:U:O2' | 2:AA:1869:G:H5' | 2.05 | 0.55 |
| 2:AA:2010:G:H2' | 2:AA:2011:U:C5' | 2.28 | 0.55 |
| 2:AA:2055:C:H2' | 2:AA:2504:U:C5' | 2.22 | 0.55 |
| 2:AA:2086:U:C4 | 2:AA:2233:U:O4 | 2.60 | 0.55 |
| 2:AA:2097:C:N4 | 2:AA:2192:G:N1 | 2.13 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2098:U:N3 | 2:AA:2191:G:N1 | 2.50 | 0.55 |
| 2:AA:2239:G:C4 | 2:AA:2240:C:C6 | 2.94 | 0.55 |
| 2:AA:2241:A:H2' | 2:AA:2242:G:H8 | 1.70 | 0.55 |
| 2:AA:2333:A:H1' | 2:AA:2335:A:C2 | 2.41 | 0.55 |
| 2:AA:2349:G:C2 | 2:AA:2369:A:C2 | 2.95 | 0.55 |
| 2:AA:2372:G:P | 30:A6:47:HIS:HE2 | 2.29 | 0.55 |
| 2:AA:2770:G:N7 | 2:AA:2771:C:H5 | 2.05 | 0.55 |
| 2:AA:2781:A:C5' | 2:AA:2782:G:C5' | 2.83 | 0.55 |
| 2:AA:2784:C:O2' | 5:AE:98:GLU:O | 2.21 | 0.55 |
| 2:AA:2877:G:N2 | 2:AA:2878:U:C2 | 2.75 | 0.55 |
| 3:AC:21:THR:HG22 | 3:AC:228:SER:OG | 2.05 | 0.55 |
| 3:AC:45:ALA:HB1 | 3:AC:211:SER:O | 2.06 | 0.55 |
| 4:AD:130:PRO:CA | 4:AD:187:CYS:O | 2.55 | 0.55 |
| 4:AD:186:LYS:O | 4:AD:187:CYS:O | 2.24 | 0.55 |
| 4:AD:210:LYS:CA | 4:AD:213:LYS:CD | 2.83 | 0.55 |
| 5:AE:76:PRO:HB3 | 5:AE:292:PRO:CG | 2.35 | 0.55 |
| 7:AG:29:HIS:CE1 | 7:AG:69:ILE:HD11 | 2.42 | 0.55 |
| 7:AG:55:LYS:C | 7:AG:56:ARG:HG2 | 2.27 | 0.55 |
| 7:AG:151:ILE:CD1 | 7:AG:156:ARG:NH2 | 2.65 | 0.55 |
| 8:AH:71:LEU:O | 8:AH:72:ALA:C | 2.46 | 0.55 |
| 9:AI:78:ARG:NH2 | 9:AI:89:LYS:HG3 | 2.11 | 0.55 |
| 9:AJ:62:VAL:O | 9:AJ:125:VAL:HG13 | 2.06 | 0.55 |
| 9:AJ:86:LYS:HZ1 | 11:AL:10:LYS:HD2 | 1.72 | 0.55 |
| 10:AK:5:PHE:CD2 | 10:AK:17:GLU:C | 2.80 | 0.55 |
| 10:AK:130:PRO:HA | 10:AK:140:THR:HA | 1.89 | 0.55 |
| 11:AL:89:SER:OG | 11:AL:90:SER:N | 2.40 | 0.55 |
| 12:AM:53:ILE:HG23 | 12:AM:135:ILE:HD11 | 1.89 | 0.55 |
| 13:AN:99:PHE:O | 13:AN:100:GLY:O | 2.24 | 0.55 |
| 13:AN:103:ALA:C | 13:AN:105:GLU:HG2 | 2.27 | 0.55 |
| 13:AN:107:ARG:CA | 13:AN:115:ILE:CD1 | 2.84 | 0.55 |
| 14:AO:61:ALA:O | 14:AO:62:ALA:HB2 | 2.06 | 0.55 |
| 15:AP:16:ARG:HB3 | 15:AP:19:TYR:HB2 | 1.87 | 0.55 |
| 15:AP:82:LYS:HZ2 | 15:AP:84:ARG:NE | 2.02 | 0.55 |
| 16:AQ:110:THR:O | 16:AQ:114:LYS:N | 2.39 | 0.55 |
| 17:AR:48:ASN:O | 17:AR:49:LEU:C | 2.46 | 0.55 |
| 18:AS:89:ALA:H | 18:AS:92:ARG:C | 2.10 | 0.55 |
| 21:AV:43:PHE:HA | 21:AV:47:SER:OG | 2.07 | 0.55 |
| 21:AV:92:VAL:HG13 | 21:AV:124:ALA:CB | 2.37 | 0.55 |
| 21:AV:103:ARG:NH1 | 21:AV:139:THR:HG22 | 2.22 | 0.55 |
| 24:A0:52:ILE:HG21 | 24:A0:94:TYR:CD1 | 2.42 | 0.55 |
| 25:A1:8:ILE:CA | 25:A1:11:ARG:HH11 | 2.20 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:50:ARG:N | 25:A1:53:LYS:NZ | 2.55 | 0.55 |
| 26:A2:4:ILE:HD11 | 26:A2:13:ARG:CZ | 2.36 | 0.55 |
| 26:A2:12:TYR:CG | 26:A2:13:ARG:N | 2.75 | 0.55 |
| 31:A7:17:GLY:O | 31:A7:18:PHE:C | 2.45 | 0.55 |
| 34:BA:27:G:N2 | 34:BA:557:G:H1' | 2.22 | 0.55 |
| 34:BA:112:G:N2 | 34:BA:330:C:H41 | 2.04 | 0.55 |
| 34:BA:243:A:H4' | 34:BA:244:U:H5' | 1.89 | 0.55 |
| 34:BA:245:C:C2 | 34:BA:284:G:C6 | 2.95 | 0.55 |
| 34:BA:307:C:O2 | 34:BA:307:C:C2' | 2.55 | 0.55 |
| 34:BA:551:U:H2' | 34:BA:552:U:C5 | 2.39 | 0.55 |
| 34:BA:622:A:H2' | 34:BA:623:C:C5' | 2.37 | 0.55 |
| 34:BA:626:U:OP1 | 51:BS:38:TYR:CB | 2.54 | 0.55 |
| 34:BA:663:A:N6 | 34:BA:664:G:O6 | 2.40 | 0.55 |
| 34:BA:764:C:C2' | 34:BA:765:G:H8 | 2.17 | 0.55 |
| 34:BA:782:A:C6 | 34:BA:801:U:C2 | 2.95 | 0.55 |
| 34:BA:790:A:C2' | 34:BA:791:G:O5' | 2.54 | 0.55 |
| 34:BA:1105:A:C4 | 34:BA:1106:G:C8 | 2.94 | 0.55 |
| 34:BA:1329:A:H5' | 48:BP:29:ARG:HE | 1.68 | 0.55 |
| 34:BA:1366:C:O2' | 34:BA:1367:C:H5' | 2.06 | 0.55 |
| 34:BA:1413:A:H2' | 34:BA:1413:A:N3 | 2.20 | 0.55 |
| 34:BA:1504:G:OP2 | 34:BA:1504:G:H8 | 1.90 | 0.55 |
| 35:BB:38:A:C3' | 35:BB:39:U:H5' | 2.37 | 0.55 |
| 35:BB:47:U:O4 | 35:BB:49:C:H4' | 2.07 | 0.55 |
| 35:BC:11:C:H2' | 35:BC:12:U:H6 | 1.72 | 0.55 |
| 35:BC:18:G:C5 | 35:BC:58:A:C2 | 2.94 | 0.55 |
| 37:BE:61:LEU:N | 37:BE:64:ARG:HH11 | 2.05 | 0.55 |
| 37:BE:69:LEU:HB3 | 37:BE:162:ILE:HA | 1.89 | 0.55 |
| 37:BE:193:ASP:O | 37:BE:194:PRO:C | 2.46 | 0.55 |
| 38:BF:12:LEU:CG | 38:BF:17:ASP:HA | 2.37 | 0.55 |
| 38:BF:73:PRO:O | 38:BF:76:VAL:N | 2.34 | 0.55 |
| 39:BG:17:VAL:O | 39:BG:18:LYS:O | 2.24 | 0.55 |
| 39:BG:110:PHE:CZ | 39:BG:147:ALA:HA | 2.42 | 0.55 |
| 43:BK:14:ARG:HA | 43:BK:17:THR:OG1 | 2.07 | 0.55 |
| 43:BK:90:GLY:O | 52:BT:34:LYS:CD | 2.53 | 0.55 |
| 44:BL:2:GLU:O | 44:BL:21:PRO:HD3 | 2.07 | 0.55 |
| 44:BL:15:ALA:HB2 | 44:BL:76:ALA:CB | 2.36 | 0.55 |
| 45:BM:15:THR:HG23 | 45:BM:16:LEU:HD22 | 1.88 | 0.55 |
| 47:BO:41:ARG:NH2 | 47:BO:57:LYS:HZ1 | 2.05 | 0.55 |
| 48:BP:81:LEU:HG | 48:BP:88:ARG:NE | 2.21 | 0.55 |
| 49:BQ:42:ILE:O | 49:BQ:44:LEU:N | 2.40 | 0.55 |
| 50:BR:4:THR:C | 50:BR:6:GLU:OE2 | 2.44 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BR:56:LEU:HD12 | 50:BR:59:MET:CE | 2.36 | 0.55 |
| 54:BV:36:ARG:NE | 54:BV:72:GLY:CA | 2.68 | 0.55 |
| 1:AB:16:G:OP2 | 1:AB:16:G:C3' | 2.39 | 0.54 |
| 1:AB:65:C:C5 | 1:AB:108:C:N4 | 2.75 | 0.54 |
| 2:AA:84:A:H1' | 2:AA:103:A:N6 | 2.22 | 0.54 |
| 2:AA:137:C:O2 | 2:AA:137(A):G:C5 | 2.59 | 0.54 |
| 2:AA:138:G:H1' | 19:AT:42:GLU:CG | 2.36 | 0.54 |
| 2:AA:204:A:H2 | 2:AA:205:G:N2 | 2.05 | 0.54 |
| 2:AA:225:A:H61 | 2:AA:419:C:H4' | 1.71 | 0.54 |
| 2:AA:265:A:N7 | 2:AA:428:A:C6 | 2.75 | 0.54 |
| 2:AA:309:G:H5' | 2:AA:310:A:OP2 | 2.07 | 0.54 |
| 2:AA:340:A:C8 | 2:AA:340:A:OP2 | 2.60 | 0.54 |
| 2:AA:357:A:H8 | 2:AA:357:A:O5' | 1.90 | 0.54 |
| 2:AA:424:G:N2 | 2:AA:425:G:H1' | 2.23 | 0.54 |
| 2:AA:543:C:H2' | 2:AA:544:C:O5' | 2.07 | 0.54 |
| 2:AA:552:G:H2' | 2:AA:553:U:C6 | 2.42 | 0.54 |
| 2:AA:554:U:O2' | 2:AA:556:G:C8 | 2.53 | 0.54 |
| 2:AA:559:G:H4' | 2:AA:560:C:OP1 | 2.07 | 0.54 |
| 2:AA:575:A:H2 | 2:AA:576:U:C2 | 2.25 | 0.54 |
| 2:AA:589:C:O2' | 6:AF:96:LYS:HG2 | 2.07 | 0.54 |
| 2:AA:673:C:C5' | 6:AF:82:GLN:HE22 | 2.19 | 0.54 |
| 2:AA:722:A:O2' | 2:AA:723:G:H5' | 2.07 | 0.54 |
| 2:AA:849:A:C4 | 2:AA:850:C:C6 | 2.94 | 0.54 |
| 2:AA:912:C:O2' | 2:AA:913:U:H5' | 2.07 | 0.54 |
| 2:AA:1040:C:C4 | 2:AA:1115:G:N1 | 2.75 | 0.54 |
| 2:AA:1059:G:H1' | 11:AL:127:ILE:CG2 | 2.37 | 0.54 |
| 2:AA:1059:G:N3 | 11:AL:127:ILE:CG2 | 2.70 | 0.54 |
| 2:AA:1068:G:C6 | 2:AA:1073:A:C2 | 2.94 | 0.54 |
| 2:AA:1074:G:C5 | 2:AA:1075:C:H5 | 2.25 | 0.54 |
| 2:AA:1286:A:N3 | 2:AA:1329:U:N3 | 2.54 | 0.54 |
| 2:AA:1323:U:OP1 | 18:AS:84:ARG:HD3 | 2.07 | 0.54 |
| 2:AA:1381:G:H2' | 2:AA:1382:G:O4' | 2.06 | 0.54 |
| 2:AA:1417:C:C4 | 2:AA:1581:G:N2 | 2.71 | 0.54 |
| 2:AA:1459:G:C6 | 2:AA:1461:G:C5 | 2.94 | 0.54 |
| 2:AA:1620:G:O2' | 2:AA:1621:U:C5' | 2.54 | 0.54 |
| 2:AA:1677:A:H2' | 2:AA:1678:G:H8 | 1.61 | 0.54 |
| 2:AA:1699:G:C6 | 2:AA:1763:G:C4 | 2.95 | 0.54 |
| 2:AA:1907:G:H1 | 2:AA:1923:U:H3 | 0.65 | 0.54 |
| 2:AA:2023:G:OP1 | 2:AA:2034:U:O2' | 2.23 | 0.54 |
| 2:AA:2071:A:C2 | 2:AA:2441:C:N3 | 2.75 | 0.54 |
| 2:AA:2287:A:C2 | 2:AA:2289:G:C1' | 2.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2356:C:OP1 | 27:A3:21:LEU:CD2 | 2.53 | 0.54 |
| 2:AA:2395:C:O5' | 2:AA:2395:C:H6 | 1.90 | 0.54 |
| 2:AA:2654:A:H8 | 2:AA:2654:A:O5' | 1.90 | 0.54 |
| 2:AA:2805:G:N7 | 2:AA:2807:G:C8 | 2.74 | 0.54 |
| 2:AA:2869:G:O2' | 2:AA:2870:C:H5' | 2.07 | 0.54 |
| 3:AC:117:PRO:HG3 | 3:AC:145:VAL:CG1 | 2.37 | 0.54 |
| 4:AD:167:GLU:HB2 | 4:AD:170:TYR:CD1 | 2.37 | 0.54 |
| 5:AE:210:THR:HG22 | 5:AE:255:GLN:HE21 | 1.72 | 0.54 |
| 5:AE:211:GLN:H | 5:AE:216:ARG:NE | 2.06 | 0.54 |
| 5:AE:222:ARG:HH21 | 5:AE:234:ARG:CA | 2.18 | 0.54 |
| 6:AF:83:ALA:O | 6:AF:84:VAL:CG2 | 2.53 | 0.54 |
| 6:AF:111:VAL:CA | 6:AF:220:THR:HG23 | 2.25 | 0.54 |
| 6:AF:239:ALA:CB | 6:AF:242:GLU:OE2 | 2.45 | 0.54 |
| 7:AG:51:ARG:HH11 | 7:AG:72:LYS:CB | 2.09 | 0.54 |
| 8:AH:76:GLU:O | 8:AH:79:SER:OG | 2.21 | 0.54 |
| 8:AH:94:ARG:HB3 | 8:AH:127:GLN:NE2 | 2.14 | 0.54 |
| 8:AH:117:GLU:HG2 | 8:AH:118:GLU:N | 2.21 | 0.54 |
| 8:AH:148:ARG:CA | 8:AH:161:ILE:HD12 | 2.36 | 0.54 |
| 11:AL:33:VAL:HG22 | 11:AL:60:VAL:CG1 | 2.37 | 0.54 |
| 11:AL:72:THR:HG23 | 11:AL:115:ASP:H | 1.70 | 0.54 |
| 12:AM:13:ASP:CA | 12:AM:38:VAL:HG13 | 2.37 | 0.54 |
| 12:AM:18:ILE:O | 12:AM:22:VAL:HG23 | 2.07 | 0.54 |
| 14:AO:125:PHE:O | 14:AO:130:ARG:NE | 2.40 | 0.54 |
| 15:AP:26:LYS:O | 15:AP:27:GLY:C | 2.44 | 0.54 |
| 15:AP:28:ILE:HG22 | 15:AP:29:ALA:H | 1.72 | 0.54 |
| 15:AP:32:LYS:HE2 | 15:AP:32:LYS:O | 2.07 | 0.54 |
| 19:AT:18:MET:HE3 | 19:AT:25:GLN:O | 2.06 | 0.54 |
| 19:AT:33:SER:N | 19:AT:37:VAL:HG23 | 2.22 | 0.54 |
| 21:AV:118:HIS:CG | 21:AV:167:THR:O | 2.60 | 0.54 |
| 21:AV:147:ILE:HG13 | 21:AV:168:VAL:CG1 | 2.37 | 0.54 |
| 24:A0:36:THR:HB | 24:A0:40:LYS:CB | 2.37 | 0.54 |
| 24:A0:70:LEU:N | 24:A0:70:LEU:HD23 | 2.23 | 0.54 |
| 27:A3:29:GLU:O | 27:A3:31:VAL:HG23 | 2.07 | 0.54 |
| 27:A3:40:GLN:N | 27:A3:69:PHE:HE1 | 2.05 | 0.54 |
| 27:A3:44:LYS:C | 27:A3:45:PHE:HD1 | 2.11 | 0.54 |
| 27:A3:48:GLY:CA | 27:A3:55:ARG:HA | 2.37 | 0.54 |
| 28:A4:6:HIS:HB2 | 28:A4:56:VAL:CG2 | 2.36 | 0.54 |
| 32:A8:15:LYS:HA | 32:A8:16:ILE:HD12 | 1.89 | 0.54 |
| 34:BA:90:U:O2 | 34:BA:91:C:C5 | 2.61 | 0.54 |
| 34:BA:132:C:O2' | 34:BA:133:U:O4' | 2.25 | 0.54 |
| 34:BA:173:U:H5" | 34:BA:197:A:H5' | 1.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:234:C:O2 | 34:BA:234:C:H2' | 2.06 | 0.54 |
| 34:BA:319:G:H4' | 34:BA:1468:A:C4' | 2.36 | 0.54 |
| 34:BA:522:C:N4 | 34:BA:528:C:H42 | 2.05 | 0.54 |
| 34:BA:610:G:H2' | 34:BA:611:A:C5' | 2.34 | 0.54 |
| 34:BA:695:A:H2 | 34:BA:787:A:C4' | 2.20 | 0.54 |
| 34:BA:717:C:C2' | 34:BA:718:G:OP2 | 2.55 | 0.54 |
| 34:BA:801:U:H2' | 34:BA:801:U:O2 | 2.07 | 0.54 |
| 34:BA:859:A:H2' | 34:BA:860:A:C5' | 2.37 | 0.54 |
| 34:BA:877:C:OP1 | 43:BK:88:LYS:HD3 | 2.07 | 0.54 |
| 34:BA:939:G:C2 | 34:BA:940:C:N3 | 2.74 | 0.54 |
| 34:BA:959:A:C5' | 34:BA:960:U:OP2 | 2.54 | 0.54 |
| 34:BA:971:G:C5 | 34:BA:1365:G:H5' | 2.43 | 0.54 |
| 34:BA:1049:U:C5 | 34:BA:1201:A:O4' | 2.60 | 0.54 |
| 34:BA:1074:G:C5 | 34:BA:1075:C:C6 | 2.95 | 0.54 |
| 34:BA:1160:G:N3 | 34:BA:1160:G:C2' | 2.69 | 0.54 |
| 34:BA:1276:G:O2' | 34:BA:1277:C:H5' | 2.07 | 0.54 |
| 35:BB:63:C:H2' | 35:BB:64:A:H8 | 1.72 | 0.54 |
| 35:BC:36:A:N1 | 36:B1:60:A:N1 | 2.55 | 0.54 |
| 36:B1:64:C:C6 | 36:B1:64:C:OP2 | 2.60 | 0.54 |
| 37:BE:70:PHE:HE2 | 37:BE:163:PHE:HB3 | 1.67 | 0.54 |
| 37:BE:116:GLU:O | 37:BE:117:GLU:C | 2.45 | 0.54 |
| 39:BG:191:ARG:HG3 | 39:BG:192:GLU:OE1 | 2.07 | 0.54 |
| 41:BI:45:LEU:HD23 | 41:BI:58:GLY:C | 2.27 | 0.54 |
| 42:BJ:17:VAL:HG12 | 42:BJ:17:VAL:O | 2.07 | 0.54 |
| 43:BK:64:LYS:CB | 43:BK:79:VAL:HG21 | 2.37 | 0.54 |
| 44:BL:87:GLN:O | 44:BL:90:PRO:HD3 | 2.07 | 0.54 |
| 46:BN:69:ALA:O | 46:BN:70:LYS:C | 2.43 | 0.54 |
| 47:BO:117:ARG:NE | 47:BO:123:LYS:C | 2.60 | 0.54 |
| 51:BS:56:ALA:O | 51:BS:57:ARG:C | 2.45 | 0.54 |
| 55:BW:8:ARG:HB2 | 55:BW:8:ARG:CZ | 2.35 | 0.54 |
| 55:BW:79:ARG:HG3 | 55:BW:79:ARG:HH11 | 1.71 | 0.54 |
| 1:AB:38:C:N4 | 1:AB:39:A:N6 | 2.54 | 0.54 |
| 2:AA:90:U:H4' | 2:AA:91:A:C5' | 2.38 | 0.54 |
| 2:AA:126:A:P | 31:A7:44:VAL:HG21 | 2.47 | 0.54 |
| 2:AA:209:C:H2' | 2:AA:210:C:H6 | 1.72 | 0.54 |
| 2:AA:220:G:H1 | 2:AA:427:U:H3' | 1.72 | 0.54 |
| 2:AA:348:G:H3' | 2:AA:349:G:H8 | 1.73 | 0.54 |
| 2:AA:398:G:C2 | 2:AA:399:G:C1' | 2.90 | 0.54 |
| 2:AA:424:G:H21 | 2:AA:425:G:H1' | 1.71 | 0.54 |
| 2:AA:465:G:O6 | 2:AA:466:A:N6 | 2.40 | 0.54 |
| 2:AA:506:G:HO2' | 2:AA:507:A:H8 | 1.54 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:508:G:C5' | 2:AA:509:C:OP1 | 2.55 | 0.54 |
| 2:AA:606:U:OP1 | 6:AF:105:LYS:HD2 | 2.06 | 0.54 |
| 2:AA:652:C:O5' | 2:AA:652:C:H6 | 1.90 | 0.54 |
| 2:AA:654:A:H2 | 2:AA:655:A:C8 | 2.24 | 0.54 |
| 2:AA:687:C:H4' | 31:A7:4:THR:HG23 | 1.88 | 0.54 |
| 2:AA:729:G:OP1 | 4:AD:206:LYS:HD3 | 2.07 | 0.54 |
| 2:AA:873:G:P | 15:AP:31:PHE:H | 2.30 | 0.54 |
| 2:AA:946:G:H3' | 2:AA:946:G:C8 | 2.43 | 0.54 |
| 2:AA:1006:C:C6 | 2:AA:1137:G:N2 | 2.75 | 0.54 |
| 2:AA:1022:G:H5" | 12:AM:56:LYS:HZ1 | 1.72 | 0.54 |
| 2:AA:1055:G:C2 | 9:AI:28:LYS:CD | 2.76 | 0.54 |
| 2:AA:1077:A:N7 | 2:AA:1078:U:N3 | 2.55 | 0.54 |
| 2:AA:1083:U:C4' | 9:AI:40:ALA:CB | 2.69 | 0.54 |
| 2:AA:1087:G:C5 | 2:AA:1103:A:C6 | 2.95 | 0.54 |
| 2:AA:1212:G:C2 | 2:AA:1236:G:N1 | 2.75 | 0.54 |
| 2:AA:1218:C:OP2 | 25:A1:15:LYS:NZ | 2.40 | 0.54 |
| 2:AA:1259:G:H2' | 2:AA:1260:G:C8 | 2.30 | 0.54 |
| 2:AA:1305:C:O2' | 2:AA:1306:C:H5' | 2.06 | 0.54 |
| 2:AA:1308:A:H2 | 2:AA:1608:A:H61 | 1.54 | 0.54 |
| 2:AA:1364:G:C5' | 2:AA:1364:G:H8 | 2.18 | 0.54 |
| 2:AA:1467:C:O2' | 2:AA:1468:C:H5' | 2.06 | 0.54 |
| 2:AA:1518:C:C3' | 2:AA:1519:G:C4' | 2.83 | 0.54 |
| 2:AA:1640:C:O2' | 2:AA:1641:A:O5' | 2.19 | 0.54 |
| 2:AA:1642:G:O2' | 2:AA:1643:G:H5' | 2.08 | 0.54 |
| 2:AA:1707:G:C6 | 2:AA:1708:C:N4 | 2.76 | 0.54 |
| 2:AA:1767:C:H2' | 2:AA:1768:U:O4' | 2.08 | 0.54 |
| 2:AA:1906:G:C4 | 2:AA:1929:G:N7 | 2.75 | 0.54 |
| 2:AA:1940:U:C5' | 2:AA:1941:C:OP1 | 2.50 | 0.54 |
| 2:AA:1942:C:C6 | 2:AA:1943:U:H5 | 2.25 | 0.54 |
| 2:AA:1944:U:C1' | 2:AA:1955:U:H1' | 2.36 | 0.54 |
| 2:AA:1975:G:C5 | 2:AA:1976:U:C5 | 2.95 | 0.54 |
| 2:AA:1984:G:C2 | 2:AA:1985:G:C8 | 2.95 | 0.54 |
| 2:AA:2010:G:C5 | 2:AA:2011:U:C5 | 2.96 | 0.54 |
| 2:AA:2093:G:H1 | 2:AA:2196:C:N4 | 2.05 | 0.54 |
| 2:AA:2256:G:O5' | 27:A3:5:LYS:CE | 2.55 | 0.54 |
| 2:AA:2283:C:C5 | 2:AA:2389:G:C4 | 2.96 | 0.54 |
| 2:AA:2352:A:C8 | 2:AA:2366:A:C6 | 2.95 | 0.54 |
| 2:AA:2409:G:H21 | 2:AA:2410:G:H1' | 1.72 | 0.54 |
| 2:AA:2526:G:O6 | 2:AA:2538:C:N4 | 2.40 | 0.54 |
| 2:AA:2577:A:O2' | 29:A5:4:HIS:CG | 2.60 | 0.54 |
| 2:AA:2602:A:P | 35:BC:75:C:OP1 | 2.65 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2619:C:O2' | 2:AA:2620:C:O5' | 2.24 | 0.54 |
| 2:AA:2634:G:C2 | 2:AA:2635:C:C6 | 2.96 | 0.54 |
| 2:AA:2734:A:H61 | 5:AE:316:ARG:CZ | 2.19 | 0.54 |
| 2:AA:2779:U:C5' | 2:AA:2780:G:O5' | 2.49 | 0.54 |
| 2:AA:2845:G:O2' | 2:AA:2846:G:O4' | 2.19 | 0.54 |
| 2:AA:2880:C:O2 | 24:A0:93:GLY:CA | 2.54 | 0.54 |
| 2:AA:2888:C:H6 | 2:AA:2888:C:O5' | 1.89 | 0.54 |
| 3:AC:100:ILE:HA | 3:AC:127:LEU:HD11 | 1.88 | 0.54 |
| 4:AD:140:VAL:CA | 4:AD:191:VAL:HG12 | 2.37 | 0.54 |
| 5:AE:81:VAL:O | 5:AE:82:ALA:CB | 2.55 | 0.54 |
| 5:AE:189:MET:O | 5:AE:190:ASN:CB | 2.56 | 0.54 |
| 6:AF:93:LYS:HG3 | 6:AF:96:LYS:HE3 | 1.88 | 0.54 |
| 7:AG:103:ASN:HA | 7:AG:104:PHE:CE1 | 2.42 | 0.54 |
| 7:AG:135:VAL:HA | 7:AG:139:TYR:CD2 | 2.41 | 0.54 |
| 8:AH:35:THR:O | 8:AH:36:PHE:CD1 | 2.59 | 0.54 |
| 8:AH:41:THR:C | 8:AH:52:THR:CG2 | 2.75 | 0.54 |
| 8:AH:43:THR:OG1 | 8:AH:50:THR:CA | 2.55 | 0.54 |
| 9:AI:7:ILE:HD11 | 11:AL:118:ALA:H | 1.70 | 0.54 |
| 9:AI:62:VAL:O | 9:AI:125:VAL:HG13 | 2.07 | 0.54 |
| 10:AK:4:ILE:HD12 | 10:AK:37:ILE:HG22 | 1.89 | 0.54 |
| 10:AK:108:LEU:CD2 | 10:AK:109:LYS:N | 2.68 | 0.54 |
| 12:AM:88:PRO:O | 12:AM:88:PRO:CG | 2.54 | 0.54 |
| 13:AN:87:ILE:HG22 | 13:AN:88:ARG:C | 2.28 | 0.54 |
| 14:AO:61:ALA:HB1 | 14:AO:107:LYS:HE2 | 1.89 | 0.54 |
| 14:AO:62:ALA:H | 14:AO:107:LYS:HE3 | 1.67 | 0.54 |
| 14:AO:104:ASP:O | 14:AO:105:TYR:CD1 | 2.60 | 0.54 |
| 14:AO:117:GLU:OE2 | 14:AO:136:ALA:O | 2.25 | 0.54 |
| 15:AP:82:LYS:HZ3 | 15:AP:84:ARG:CZ | 2.18 | 0.54 |
| 15:AP:86:ARG:NH2 | 15:AP:123:ILE:CD1 | 2.71 | 0.54 |
| 16:AQ:23:ARG:NH2 | 16:AQ:35:VAL:HG21 | 2.20 | 0.54 |
| 16:AQ:34:LEU:HA | 16:AQ:47:LEU:HD23 | 1.88 | 0.54 |
| 16:AQ:39:SER:O | 16:AQ:40:ASN:C | 2.46 | 0.54 |
| 16:AQ:118:ILE:HG23 | 16:AQ:119:GLN:N | 2.22 | 0.54 |
| 18:AS:74:ALA:HB1 | 18:AS:105:VAL:HG12 | 1.90 | 0.54 |
| 20:AU:20:HIS:O | 20:AU:21:LYS:C | 2.45 | 0.54 |
| 21:AV:69:VAL:HG13 | 21:AV:81:VAL:CA | 2.36 | 0.54 |
| 22:AW:7:GLU:O | 22:AW:10:ASP:HB2 | 2.06 | 0.54 |
| 24:A0:36:THR:HG21 | 24:A0:40:LYS:HB3 | 1.90 | 0.54 |
| 24:A0:76:VAL:CG1 | 24:A0:77:ARG:N | 2.69 | 0.54 |
| 25:A1:58:ARG:C | 25:A1:62:ILE:HG12 | 2.27 | 0.54 |
| 27:A3:7:VAL:HG22 | 35:BC:64:A:P | 2.47 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 27:A3:42:GLY:CA | 27:A3:65:GLY:O | 2.55 | 0.54 |
| 27:A3:65:GLY:HA2 | 27:A3:66:LYS:HZ1 | 1.72 | 0.54 |
| 28:A4:18:GLY:H | 28:A4:33:VAL:CG2 | 2.21 | 0.54 |
| 31:A7:19:ARG:O | 31:A7:20:ALA:C | 2.45 | 0.54 |
| 34:BA:271:C:H2' | 34:BA:272:C:H6 | 1.71 | 0.54 |
| 34:BA:330:C:H2' | 34:BA:331:G:H8 | 1.72 | 0.54 |
| 34:BA:373:A:C6 | 34:BA:482:A:N6 | 2.75 | 0.54 |
| 34:BA:434:U:H2' | 34:BA:435:C:H6 | 1.70 | 0.54 |
| 34:BA:451:A:C8 | 34:BA:481:G:N1 | 2.75 | 0.54 |
| 34:BA:532:A:O2' | 34:BA:533:A:OP1 | 2.23 | 0.54 |
| 34:BA:658:G:O6 | 34:BA:747:C:N3 | 2.41 | 0.54 |
| 34:BA:663:A:H2 | 34:BA:742:G:H22 | 1.48 | 0.54 |
| 34:BA:938:A:C2 | 34:BA:939:G:C4 | 2.96 | 0.54 |
| 34:BA:942:G:N2 | 44:BL:124:GLN:NE2 | 2.47 | 0.54 |
| 34:BA:988:G:C6 | 34:BA:1217:C:N3 | 2.76 | 0.54 |
| 34:BA:1025:U:H2' | 34:BA:1026:G:N7 | 2.21 | 0.54 |
| 34:BA:1053:G:C4' | 34:BA:1054:C:H5' | 2.37 | 0.54 |
| 34:BA:1214:C:O2' | 34:BA:1215:G:OP1 | 2.25 | 0.54 |
| 34:BA:1260:C:O5' | 34:BA:1284:C:H4' | 2.06 | 0.54 |
| 34:BA:1273:G:H2' | 34:BA:1274:G:O4' | 2.07 | 0.54 |
| 34:BA:1279:A:H5" | 34:BA:1280:A:OP1 | 2.06 | 0.54 |
| 34:BA:1349:A:C2' | 34:BA:1350:A:H5' | 2.37 | 0.54 |
| 34:BA:1373:G:C4' | 42:BJ:36:LYS:HZ3 | 2.19 | 0.54 |
| 34:BA:1422:G:C2 | 34:BA:1479:C:N3 | 2.75 | 0.54 |
| 34:BA:1464:G:C4 | 34:BA:1465:C:H5 | 2.24 | 0.54 |
| 35:BC:36:A:C2 | 35:BC:37:G:N9 | 2.76 | 0.54 |
| 38:BF:30:ARG:HG3 | 38:BF:31:HIS:N | 2.22 | 0.54 |
| 39:BG:43:HIS:ND1 | 39:BG:46:LYS:CE | 2.68 | 0.54 |
| 39:BG:60:GLU:OE2 | 39:BG:199:ASN:HB3 | 2.08 | 0.54 |
| 39:BG:92:VAL:O | 39:BG:96:LEU:CD1 | 2.55 | 0.54 |
| 39:BG:163:GLU:CG | 39:BG:164:ALA:N | 2.56 | 0.54 |
| 40:BH:125:SER:C | 40:BH:127:ASN:H | 2.07 | 0.54 |
| 41:BI:28:ARG:HH11 | 41:BI:28:ARG:HG3 | 1.73 | 0.54 |
| 41:BI:79:LEU:N | 41:BI:79:LEU:HD23 | 2.22 | 0.54 |
| 42:BJ:156:TRP:CD1 | 42:BJ:156:TRP:OXT | 2.60 | 0.54 |
| 45:BM:12:ASP:C | 45:BM:14:LYS:H | 2.10 | 0.54 |
| 45:BM:75:ILE:O | 45:BM:76:ASN:CB | 2.55 | 0.54 |
| 46:BN:12:ARG:HD2 | 46:BN:75:TYR:CE2 | 2.43 | 0.54 |
| 46:BN:22:HIS:ND1 | 46:BN:29:ILE:HD11 | 2.21 | 0.54 |
| 47:BO:43:VAL:CG2 | 47:BO:55:VAL:HG21 | 2.36 | 0.54 |
| 50:BR:9:GLN:C | 50:BR:11:VAL:N | 2.59 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BR:39:LEU:HD22 | 50:BR:56:LEU:CD1 | 2.36 | 0.54 |
| 51:BS:60:LEU:O | 51:BS:62:VAL:O | 2.26 | 0.54 |
| 52:BT:91:ARG:HA | 52:BT:94:ASN:HD22 | 1.72 | 0.54 |
| 52:BT:96:GLN:NE2 | 52:BT:97:SER:CA | 2.70 | 0.54 |
| 2:AA:182:A:O2' | 2:AA:183:C:H5' | 2.06 | 0.54 |
| 2:AA:270(I):G:H1 | 2:AA:270(Q):C:H42 | 0.73 | 0.54 |
| 2:AA:273:G:C6 | 2:AA:273(A):G:O6 | 2.60 | 0.54 |
| 2:AA:285:C:C3' | 2:AA:286:C:C6 | 2.91 | 0.54 |
| 2:AA:338:G:N7 | 20:AU:18:GLU:HG3 | 2.22 | 0.54 |
| 2:AA:519:U:H5' | 18:AS:75:TYR:HB2 | 1.89 | 0.54 |
| 2:AA:535:C:O3' | 2:AA:994:C:N3 | 2.40 | 0.54 |
| 2:AA:653:A:H5' | 2:AA:654:A:H4' | 1.90 | 0.54 |
| 2:AA:858:U:H3' | 2:AA:859:G:O4' | 2.07 | 0.54 |
| 2:AA:875:G:H2' | 2:AA:876:C:C6 | 2.42 | 0.54 |
| 2:AA:876:C:C4 | 2:AA:877:U:C4 | 2.95 | 0.54 |
| 2:AA:885:C:H6 | 2:AA:885:C:H3' | 1.71 | 0.54 |
| 2:AA:974:G:O3' | 26:A2:82:ARG:NH2 | 2.40 | 0.54 |
| 2:AA:988:A:H4' | 2:AA:1155:A:C2 | 2.42 | 0.54 |
| 2:AA:1021:A:N7 | 2:AA:1140:C:N4 | 2.52 | 0.54 |
| 2:AA:1022:G:P | 12:AM:52:GLN:NE2 | 2.81 | 0.54 |
| 2:AA:1137:G:O2' | 12:AM:82:THR:HA | 2.08 | 0.54 |
| 2:AA:1143:A:N3 | 2:AA:1144:G:C8 | 2.75 | 0.54 |
| 2:AA:1247:A:HO2' | 2:AA:1248:G:P | 2.30 | 0.54 |
| 2:AA:1339:G:N2 | 2:AA:1603:A:C8 | 2.72 | 0.54 |
| 2:AA:1392:A:H2' | 2:AA:1393:A:N9 | 2.22 | 0.54 |
| 2:AA:1467:C:O4' | 2:AA:1467:C:OP1 | 2.25 | 0.54 |
| 2:AA:1492:G:H22 | 2:AA:1499:C:N4 | 2.03 | 0.54 |
| 2:AA:1605:C:C5 | 2:AA:1606:G:C4 | 2.96 | 0.54 |
| 2:AA:1658:C:OP1 | 5:AE:230:GLY:CA | 2.56 | 0.54 |
| 2:AA:1789:A:H2' | 2:AA:1790:C:O4' | 2.07 | 0.54 |
| 2:AA:1913:A:N3 | 2:AA:1913:A:C2' | 2.70 | 0.54 |
| 2:AA:2018:G:C6 | 2:AA:2019:A:C5 | 2.95 | 0.54 |
| 2:AA:2049:G:N2 | 2:AA:2620:C:C2 | 2.75 | 0.54 |
| 2:AA:2254:C:H2' | 2:AA:2255:G:C5' | 2.36 | 0.54 |
| 2:AA:2302:G:C6 | 2:AA:2315:G:C6 | 2.96 | 0.54 |
| 2:AA:2338:G:O5' | 2:AA:2338:G:H8 | 1.91 | 0.54 |
| 2:AA:2340:G:C2 | 2:AA:2341:G:C8 | 2.95 | 0.54 |
| 2:AA:2460:U:C6 | 2:AA:2461:C:C5 | 2.95 | 0.54 |
| 2:AA:2492:U:N3 | 2:AA:2493:U:C5 | 2.76 | 0.54 |
| 2:AA:2691:C:C4 | 2:AA:2719:G:N2 | 2.76 | 0.54 |
| 2:AA:2706:G:C2 | 2:AA:2707:G:C5 | 2.96 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:56:GLN:HG3 | 3:AC:201:PRO:CG | 2.36 | 0.54 |
| 5:AE:201:VAL:H | 5:AE:266:LYS:CD | 2.18 | 0.54 |
| 5:AE:211:GLN:NE2 | 5:AE:216:ARG:N | 2.54 | 0.54 |
| 9:AI:1:MET:CE | 11:AL:10:LYS:NZ | 2.70 | 0.54 |
| 9:AI:17:GLU:O | 9:AI:21:LEU:HB2 | 2.07 | 0.54 |
| 9:AI:25:LEU:HA | 9:AI:28:LYS:HG3 | 1.90 | 0.54 |
| 9:AI:25:LEU:O | 9:AI:28:LYS:HB2 | 2.07 | 0.54 |
| 9:AJ:42:ALA:HB3 | 9:AJ:43:PRO:CD | 2.35 | 0.54 |
| 12:AM:15:ARG:NE | 12:AM:40:ASN:CG | 2.61 | 0.54 |
| 12:AM:15:ARG:HD3 | 12:AM:43:ARG:HH11 | 1.71 | 0.54 |
| 18:AS:81:ALA:CB | 18:AS:99:ARG:HH11 | 2.20 | 0.54 |
| 19:AT:16:ASN:HD22 | 19:AT:20:PHE:HZ | 1.54 | 0.54 |
| 21:AV:3:LEU:HB3 | 21:AV:34:LEU:CB | 2.25 | 0.54 |
| 21:AV:26:LYS:CD | 21:AV:27:GLU:OE2 | 2.52 | 0.54 |
| 21:AV:103:ARG:NH1 | 21:AV:137:ASP:HB2 | 2.23 | 0.54 |
| 21:AV:138:VAL:O | 21:AV:140:LYS:HG3 | 2.08 | 0.54 |
| 25:A1:63:GLN:O | 25:A1:66:ASN:N | 2.39 | 0.54 |
| 25:A1:65:ILE:CG1 | 25:A1:96:ALA:HB2 | 2.37 | 0.54 |
| 26:A2:6:GLN:OE1 | 26:A2:10:LYS:CG | 2.55 | 0.54 |
| 28:A4:26:SER:C | 28:A4:27:THR:HG23 | 2.27 | 0.54 |
| 32:A8:26:LYS:HE3 | 32:A8:45:GLY:N | 2.23 | 0.54 |
| 34:BA:15:G:C2 | 34:BA:16:A:N7 | 2.75 | 0.54 |
| 34:BA:152:A:H62 | 34:BA:169:C:N4 | 2.05 | 0.54 |
| 34:BA:242:C:H2' | 34:BA:243:A:H5' | 1.90 | 0.54 |
| 34:BA:246:A:N6 | 34:BA:281:G:N2 | 2.55 | 0.54 |
| 34:BA:296:U:C2 | 34:BA:297:G:C8 | 2.94 | 0.54 |
| 34:BA:378:G:H2' | 34:BA:379:C:H6 | 1.72 | 0.54 |
| 34:BA:499:A:C4 | 34:BA:547:A:C6 | 2.95 | 0.54 |
| 34:BA:523:A:N6 | 47:BO:53:ARG:NH2 | 2.49 | 0.54 |
| 34:BA:581:G:HO2' | 34:BA:582:U:P | 2.29 | 0.54 |
| 34:BA:596:C:N4 | 34:BA:645:C:C2 | 2.75 | 0.54 |
| 34:BA:671:G:H2' | 34:BA:671:G:N3 | 2.22 | 0.54 |
| 34:BA:838:G:C2 | 34:BA:849:C:N3 | 2.76 | 0.54 |
| 34:BA:858:G:H1 | 34:BA:869:G:H3' | 1.73 | 0.54 |
| 34:BA:902:G:H2' | 34:BA:903:G:O4' | 2.08 | 0.54 |
| 34:BA:909:A:O5' | 34:BA:909:A:C8 | 2.61 | 0.54 |
| 34:BA:924:C:H2' | 34:BA:925:G:C8 | 2.42 | 0.54 |
| 34:BA:1026:G:H2' | 34:BA:1027:C:C5' | 2.31 | 0.54 |
| 34:BA:1032:G:C2' | 34:BA:1033:G:O4' | 2.55 | 0.54 |
| 34:BA:1137:C:H5' | 34:BA:1138:G:N1 | 2.22 | 0.54 |
| 34:BA:1148:U:C4 | 34:BA:1149:C:N3 | 2.76 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1308:U:C5' | 48:BP:110:ARG:HH22 | 2.20 | 0.54 |
| 34:BA:1392:G:O2' | 34:BA:1502:A:H5' | 2.06 | 0.54 |
| 34:BA:1441:G:H2' | 34:BA:1460:A:H61 | 1.72 | 0.54 |
| 34:BA:1476:G:C8 | 34:BA:1476:G:O5' | 2.60 | 0.54 |
| 34:BA:1532:U:C6 | 34:BA:1532:U:C3' | 2.81 | 0.54 |
| 35:BB:74:C:H2' | 35:BB:75:C:C4' | 2.36 | 0.54 |
| 35:BC:24:G:O2' | 35:BC:25:C:H5' | 2.07 | 0.54 |
| 35:BC:71:G:O2' | 35:BC:72:C:H5' | 2.08 | 0.54 |
| 37:BE:77:ALA:HB2 | 37:BE:211:ILE:CD1 | 2.37 | 0.54 |
| 39:BG:101:LEU:CB | 39:BG:138:TYR:O | 2.55 | 0.54 |
| 39:BG:191:ARG:NH1 | 39:BG:194:LEU:O | 2.40 | 0.54 |
| 42:BJ:5:ARG:O | 42:BJ:6:ARG:CB | 2.53 | 0.54 |
| 42:BJ:108:ALA:O | 42:BJ:109:ASN:C | 2.45 | 0.54 |
| 43:BK:28:ALA:HA | 43:BK:59:LEU:HB2 | 1.89 | 0.54 |
| 43:BK:47:GLY:O | 43:BK:61:VAL:CG1 | 2.50 | 0.54 |
| 43:BK:82:HIS:HB3 | 43:BK:138:TRP:CD1 | 2.42 | 0.54 |
| 44:BL:53:VAL:HG12 | 44:BL:53:VAL:O | 2.08 | 0.54 |
| 46:BN:65:ALA:HB1 | 46:BN:98:LEU:HG | 1.88 | 0.54 |
| 47:BO:76:ASN:O | 47:BO:77:LEU:CB | 2.54 | 0.54 |
| 47:BO:84:LEU:H | 47:BO:104:VAL:CG1 | 2.14 | 0.54 |
| 49:BQ:6:LEU:C | 49:BQ:8:GLU:N | 2.57 | 0.54 |
| 49:BQ:14:PRO:HB2 | 49:BQ:16:PHE:O | 2.07 | 0.54 |
| 49:BQ:36:PHE:HD1 | 49:BQ:36:PHE:C | 2.10 | 0.54 |
| 49:BQ:58:LYS:NZ | 49:BQ:59:ALA:O | 2.40 | 0.54 |
| 52:BT:43:LEU:CD2 | 52:BT:44:ALA:N | 2.69 | 0.54 |
| 56:BX:7:ARG:O | 56:BX:7:ARG:HG3 | 2.07 | 0.54 |
| 1:AB:38:C:O5' | 1:AB:38:C:H6 | 1.91 | 0.54 |
| 2:AA:9:U:H2' | 2:AA:9:U:O2 | 2.06 | 0.54 |
| 2:AA:145:G:H21 | 2:AA:146:G:H1' | 1.72 | 0.54 |
| 2:AA:244:A:OP1 | 14:AO:52:LYS:NZ | 2.40 | 0.54 |
| 2:AA:452:G:N2 | 2:AA:457:A:H2 | 2.03 | 0.54 |
| 2:AA:583:G:H2' | 2:AA:584:C:O5' | 2.08 | 0.54 |
| 2:AA:585:G:H2' | 2:AA:586:A:N7 | 2.22 | 0.54 |
| 2:AA:627:A:N7 | 14:AO:109:LEU:CD2 | 2.70 | 0.54 |
| 2:AA:643:A:H3' | 2:AA:643:A:H8 | 1.72 | 0.54 |
| 2:AA:785:G:N2 | 2:AA:786:C:C1' | 2.70 | 0.54 |
| 2:AA:835:A:C4' | 2:AA:2358:G:H1' | 2.38 | 0.54 |
| 2:AA:1020:A:C2' | 2:AA:1021:A:OP2 | 2.56 | 0.54 |
| 2:AA:1023:U:O4 | 2:AA:1024:G:N3 | 2.40 | 0.54 |
| 2:AA:1031:G:H4' | 33:A9:8:LYS:HZ3 | 1.73 | 0.54 |
| 2:AA:1050:A:N6 | 2:AA:2751:G:C5 | 2.76 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1085:A:O2' | 2:AA:1086:A:C5' | 2.55 | 0.54 |
| 2:AA:1248:G:O2' | 2:AA:1249:U:P | 2.66 | 0.54 |
| 2:AA:1281:G:O2' | 2:AA:1282:U:H5' | 2.07 | 0.54 |
| 2:AA:1341:U:C2' | 19:AT:53:ASN:OD1 | 2.55 | 0.54 |
| 2:AA:1353:A:C6 | 2:AA:1354:A:N7 | 2.76 | 0.54 |
| 2:AA:1381:G:C6 | 2:AA:1382:G:C5 | 2.96 | 0.54 |
| 2:AA:1413:G:C6 | 2:AA:1414:G:N7 | 2.76 | 0.54 |
| 2:AA:1414:G:C2 | 2:AA:1415:U:N3 | 2.75 | 0.54 |
| 2:AA:1527:G:N2 | 2:AA:1544:C:C2 | 2.75 | 0.54 |
| 2:AA:1567:A:N1 | 4:AD:84:PRO:HD3 | 2.22 | 0.54 |
| 2:AA:1741:C:H2' | 2:AA:1741:C:O2 | 2.06 | 0.54 |
| 2:AA:1773:A:H3' | 2:AA:1773:A:C8 | 2.43 | 0.54 |
| 2:AA:1961:C:H2' | 2:AA:1962:C:O4' | 2.07 | 0.54 |
| 2:AA:1970:A:O2' | 2:AA:1971:A:P | 2.65 | 0.54 |
| 2:AA:2022:U:O4 | 29:A5:9:LYS:NZ | 2.40 | 0.54 |
| 2:AA:2329:G:O2' | 2:AA:2330:G:H5' | 2.08 | 0.54 |
| 2:AA:2391:G:O2' | 2:AA:2392:A:C5' | 2.51 | 0.54 |
| 2:AA:2656:U:N3 | 2:AA:2665:A:N6 | 2.55 | 0.54 |
| 2:AA:2877:G:C2 | 2:AA:2878:U:C2 | 2.96 | 0.54 |
| 4:AD:149:ARG:H | 4:AD:152:GLN:HE22 | 1.55 | 0.54 |
| 5:AE:70:VAL:CG1 | 5:AE:296:VAL:O | 2.49 | 0.54 |
| 5:AE:101:THR:OG1 | 5:AE:103:GLU:OE2 | 2.24 | 0.54 |
| 5:AE:222:ARG:CZ | 5:AE:232:ARG:O | 2.56 | 0.54 |
| 6:AF:89:ALA:HB1 | 6:AF:90:HIS:NE2 | 2.22 | 0.54 |
| 7:AG:24:HIS:HB2 | 7:AG:72:LYS:CD | 2.38 | 0.54 |
| 8:AH:34:ARG:CG | 8:AH:35:THR:H | 2.17 | 0.54 |
| 8:AH:43:THR:OG1 | 8:AH:50:THR:C | 2.46 | 0.54 |
| 8:AH:66:THR:HG22 | 8:AH:67:THR:N | 2.22 | 0.54 |
| 9:AJ:71:ILE:HG12 | 11:AL:62:GLU:N | 2.21 | 0.54 |
| 10:AK:2:LYS:HG3 | 10:AK:18:ILE:HD12 | 1.89 | 0.54 |
| 10:AK:12:LYS:NZ | 10:AK:14:LYS:CE | 2.70 | 0.54 |
| 10:AK:133:LEU:HD11 | 10:AK:139:ALA:CB | 2.37 | 0.54 |
| 11:AL:52:MET:CA | 11:AL:81:LYS:HE3 | 2.37 | 0.54 |
| 11:AL:92:PRO:C | 11:AL:94:ARG:N | 2.61 | 0.54 |
| 12:AM:60:ARG:HA | 12:AM:71:TYR:CE2 | 2.42 | 0.54 |
| 13:AN:20:LEU:HB2 | 13:AN:44:LYS:HZ3 | 1.71 | 0.54 |
| 13:AN:74:GLY:O | 17:AR:17:THR:HG21 | 2.08 | 0.54 |
| 15:AP:136:TRP:HA | 15:AP:136:TRP:HE3 | 1.71 | 0.54 |
| 17:AR:14:GLU:O | 17:AR:18:GLY:N | 2.35 | 0.54 |
| 17:AR:53:ASP:C | 17:AR:56:ARG:HG3 | 2.28 | 0.54 |
| 20:AU:14:ALA:CB | 20:AU:15:PRO:CD | 2.85 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:46:ASP:O | 20:AU:62:VAL:CB | 2.53 | 0.54 |
| 21:AV:18:MET:N | 21:AV:36:ARG:NE | 2.55 | 0.54 |
| 21:AV:166:LEU:HD13 | 21:AV:167:THR:HG23 | 1.89 | 0.54 |
| 23:AX:17:LYS:O | 23:AX:20:LYS:N | 2.41 | 0.54 |
| 23:AX:18:ASP:O | 23:AX:21:ALA:CA | 2.56 | 0.54 |
| 23:AX:38:GLU:OE1 | 23:AX:40:THR:CG2 | 2.56 | 0.54 |
| 23:AX:50:VAL:O | 23:AX:53:LEU:HB2 | 2.06 | 0.54 |
| 26:A2:3:ALA:HB2 | 26:A2:44:GLN:CD | 2.27 | 0.54 |
| 26:A2:6:GLN:CD | 26:A2:10:LYS:HG2 | 2.28 | 0.54 |
| 26:A2:30:GLY:O | 26:A2:31:ASP:O | 2.25 | 0.54 |
| 26:A2:36:LYS:HA | 26:A2:60:VAL:HG22 | 1.90 | 0.54 |
| 26:A2:69:ILE:CA | 26:A2:90:PHE:O | 2.55 | 0.54 |
| 29:A5:43:HIS:C | 29:A5:44:HIS:ND1 | 2.61 | 0.54 |
| 34:BA:70:G:C6 | 34:BA:73:C:N4 | 2.75 | 0.54 |
| 34:BA:328:C:O2' | 34:BA:329:A:P | 2.66 | 0.54 |
| 34:BA:350:G:C2 | 34:BA:351:G:C2 | 2.96 | 0.54 |
| 34:BA:463:A:N7 | 34:BA:474:G:N7 | 2.55 | 0.54 |
| 34:BA:463:A:P | 51:BS:75:ARG:HH22 | 2.31 | 0.54 |
| 34:BA:511:C:O2' | 34:BA:512:U:P | 2.65 | 0.54 |
| 34:BA:596:C:H2' | 34:BA:596:C:O2 | 2.07 | 0.54 |
| 34:BA:664:G:H1' | 34:BA:726:C:H4' | 1.90 | 0.54 |
| 34:BA:729:A:C2' | 34:BA:730:G:O5' | 2.55 | 0.54 |
| 34:BA:787:A:C2' | 34:BA:788:U:O5' | 2.56 | 0.54 |
| 34:BA:889:A:C5' | 34:BA:890:G:OP1 | 2.53 | 0.54 |
| 34:BA:1037:C:O2' | 34:BA:1038:C:H5' | 2.08 | 0.54 |
| 34:BA:1052:U:H5" | 34:BA:1053:G:OP2 | 2.07 | 0.54 |
| 34:BA:1119:C:O5' | 34:BA:1119:C:H6 | 1.90 | 0.54 |
| 34:BA:1224:G:O2' | 34:BA:1225:A:OP1 | 2.24 | 0.54 |
| 34:BA:1264:C:O2' | 34:BA:1265:G:H5' | 2.07 | 0.54 |
| 34:BA:1292:U:O2' | 34:BA:1293:G:O4' | 2.21 | 0.54 |
| 34:BA:1392:G:H2' | 34:BA:1393:U:C5 | 2.36 | 0.54 |
| 35:BB:11:C:C2 | 35:BB:12:U:C4 | 2.96 | 0.54 |
| 35:BB:56:C:C4' | 35:BB:56:C:H6 | 2.19 | 0.54 |
| 35:BC:21:A:N7 | 35:BC:46:G:O6 | 2.41 | 0.54 |
| 35:BC:55:U:C2 | 35:BC:58:A:OP2 | 2.61 | 0.54 |
| 37:BE:19:HIS:CD2 | 37:BE:20:GLU:CD | 2.80 | 0.54 |
| 37:BE:69:LEU:HD13 | 37:BE:70:PHE:N | 2.22 | 0.54 |
| 37:BE:170:GLU:C | 37:BE:174:VAL:HG23 | 2.27 | 0.54 |
| 37:BE:199:TYR:O | 37:BE:201:ILE:HD13 | 2.08 | 0.54 |
| 38:BF:152:ILE:HB | 38:BF:199:LYS:HB2 | 1.88 | 0.54 |
| 38:BF:173:VAL:O | 38:BF:175:LEU:N | 2.40 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:20:ALA:O | 41:BI:24:GLU:HB3 | 2.06 | 0.54 |
| 42:BJ:12:LEU:O | 42:BJ:14:PRO:CD | 2.55 | 0.54 |
| 42:BJ:14:PRO:HD3 | 42:BJ:21:VAL:CG1 | 2.38 | 0.54 |
| 42:BJ:49:ILE:HG22 | 42:BJ:125:MET:CE | 2.38 | 0.54 |
| 43:BK:14:ARG:O | 43:BK:17:THR:CB | 2.55 | 0.54 |
| 44:BL:99:LEU:N | 44:BL:99:LEU:HD22 | 2.22 | 0.54 |
| 45:BM:40:LEU:CD1 | 45:BM:71:LEU:HG | 2.38 | 0.54 |
| 45:BM:51:ARG:HB2 | 45:BM:59:SER:CB | 2.18 | 0.54 |
| 47:BO:55:VAL:C | 47:BO:70:ILE:HD11 | 2.28 | 0.54 |
| 47:BO:93:LEU:HG | 47:BO:96:VAL:CG2 | 2.37 | 0.54 |
| 48:BP:81:LEU:HD23 | 48:BP:89:GLY:CA | 2.37 | 0.54 |
| 48:BP:108:ARG:CZ | 48:BP:111:LYS:HB3 | 2.37 | 0.54 |
| 55:BW:57:ARG:HH21 | 55:BW:100:ILE:CB | 2.20 | 0.54 |
| 1:AB:17:C:C2' | 1:AB:18:G:C8 | 2.90 | 0.54 |
| 2:AA:17:G:OP1 | 29:A5:13:LYS:NZ | 2.41 | 0.54 |
| 2:AA:135:G:H1 | 2:AA:144:C:H42 | 0.63 | 0.54 |
| 2:AA:137:C:O4' | 2:AA:137:C:P | 2.66 | 0.54 |
| 2:AA:197:A:H2' | 2:AA:198:C:H6 | 1.71 | 0.54 |
| 2:AA:272:G:H2' | 2:AA:273:G:C8 | 2.42 | 0.54 |
| 2:AA:273(D):C:H2' | 2:AA:273(E):U:H5' | 1.88 | 0.54 |
| 2:AA:286:C:C4 | 2:AA:287:C:C5 | 2.96 | 0.54 |
| 2:AA:339:U:C4 | 2:AA:340:A:N6 | 2.75 | 0.54 |
| 2:AA:528:A:N6 | 2:AA:2042:A:H8 | 2.05 | 0.54 |
| 2:AA:543:C:C4 | 2:AA:551:G:N1 | 2.76 | 0.54 |
| 2:AA:604:G:N2 | 2:AA:657:U:H5" | 2.22 | 0.54 |
| 2:AA:715:G:H3' | 2:AA:715:G:P | 2.44 | 0.54 |
| 2:AA:792:G:HO2' | 2:AA:793:A:P | 2.29 | 0.54 |
| 2:AA:965:C:H4' | 2:AA:2273:A:N3 | 2.22 | 0.54 |
| 2:AA:1021:A:C2 | 2:AA:1122:G:C5' | 2.89 | 0.54 |
| 2:AA:1024:G:N7 | 2:AA:1025:G:C4 | 2.76 | 0.54 |
| 2:AA:1111:A:H4' | 2:AA:1112:G:O5' | 2.08 | 0.54 |
| 2:AA:1245:G:H2' | 2:AA:1246:A:H5' | 1.89 | 0.54 |
| 2:AA:1248:G:C8 | 25:A1:2:PRO:CB | 2.90 | 0.54 |
| 2:AA:1300:U:HO2' | 2:AA:1301:A:P | 2.31 | 0.54 |
| 2:AA:1342:A:N7 | 2:AA:1601:G:O6 | 2.40 | 0.54 |
| 2:AA:1362:C:H2' | 2:AA:1363:C:C6 | 2.41 | 0.54 |
| 2:AA:1453:A:C6 | 24:A0:77:ARG:HD3 | 2.42 | 0.54 |
| 2:AA:1454:U:O2 | 2:AA:1454:U:C2' | 2.47 | 0.54 |
| 2:AA:1680:U:O2 | 2:AA:1764:G:C5' | 2.56 | 0.54 |
| 2:AA:1776:G:C2 | 2:AA:1777:U:C2 | 2.95 | 0.54 |
| 2:AA:1782:C:H41 | 2:AA:2587:A:N6 | 2.00 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1805:U:H3' | 2:AA:1805:U:P | 2.48 | 0.54 |
| 2:AA:1881:C:H6 | 2:AA:1881:C:H5" | 1.73 | 0.54 |
| 2:AA:2003:G:O6 | 2:AA:2004:G:C6 | 2.61 | 0.54 |
| 2:AA:2045:C:H2' | 2:AA:2046:G:O4' | 2.08 | 0.54 |
| 2:AA:2065:C:H2' | 2:AA:2066:C:C6 | 2.42 | 0.54 |
| 2:AA:2108:C:H3' | 2:AA:2109:U:C6 | 2.42 | 0.54 |
| 2:AA:2307:G:C1' | 2:AA:2311:A:N6 | 2.68 | 0.54 |
| 2:AA:2309:A:H5" | 2:AA:2310:A:OP2 | 2.08 | 0.54 |
| 2:AA:2376:A:H61 | 16:AQ:109:PRO:CG | 2.20 | 0.54 |
| 2:AA:2396:G:N3 | 2:AA:2396:G:C2' | 2.70 | 0.54 |
| 2:AA:2403:C:C2 | 2:AA:2404:C:C6 | 2.96 | 0.54 |
| 2:AA:2450:A:C2 | 2:AA:2451:A:H1' | 2.42 | 0.54 |
| 2:AA:2527:C:O3' | 33:A9:30:VAL:CG1 | 2.56 | 0.54 |
| 2:AA:2569:G:N3 | 2:AA:2570:G:C8 | 2.75 | 0.54 |
| 2:AA:2570:G:H3' | 2:AA:2571:C:H6 | 1.72 | 0.54 |
| 2:AA:2634:G:H2' | 2:AA:2635:C:O5' | 2.07 | 0.54 |
| 2:AA:2653:U:OP2 | 2:AA:2654:A:H3' | 2.07 | 0.54 |
| 2:AA:2678:C:H42 | 2:AA:2729:G:H1 | 1.55 | 0.54 |
| 2:AA:2811:G:O2' | 2:AA:2812:G:H5' | 2.08 | 0.54 |
| 5:AE:200:ASP:HA | 5:AE:266:LYS:CG | 2.38 | 0.54 |
| 5:AE:205:THR:HG21 | 5:AE:259:HIS:H | 1.72 | 0.54 |
| 5:AE:225:LYS:HA | 5:AE:228:ARG:HH12 | 1.72 | 0.54 |
| 6:AF:111:VAL:O | 6:AF:115:LEU:HD23 | 2.08 | 0.54 |
| 7:AG:11:HIS:C | 7:AG:13:MET:H | 2.11 | 0.54 |
| 8:AH:83:GLU:OE2 | 8:AH:84:LYS:N | 2.40 | 0.54 |
| 8:AH:114:ILE:HG21 | 8:AH:147:ILE:HD13 | 1.89 | 0.54 |
| 9:AJ:61:VAL:HG13 | 9:AJ:115:LYS:HG2 | 1.89 | 0.54 |
| 9:AJ:63:LEU:HD13 | 9:AJ:66:PHE:CE1 | 2.42 | 0.54 |
| 10:AK:76:THR:HG22 | 10:AK:142:LYS:HE2 | 1.88 | 0.54 |
| 10:AK:124:LEU:HG | 10:AK:145:VAL:C | 2.27 | 0.54 |
| 11:AL:65:SER:O | 11:AL:66:PHE:HB2 | 2.08 | 0.54 |
| 13:AN:23:LYS:HB3 | 13:AN:40:VAL:HB | 1.89 | 0.54 |
| 13:AN:43:VAL:HB | 13:AN:55:GLY:N | 2.23 | 0.54 |
| 13:AN:64:ARG:NH1 | 13:AN:100:GLY:HA3 | 2.22 | 0.54 |
| 13:AN:97:ARG:HA | 13:AN:117:LEU:CD1 | 2.24 | 0.54 |
| 14:AO:94:ARG:CZ | 14:AO:118:LEU:C | 2.76 | 0.54 |
| 15:AP:16:ARG:NH1 | 15:AP:19:TYR:CD1 | 2.76 | 0.54 |
| 16:AQ:100:ALA:CB | 16:AQ:127:LEU:HD21 | 2.34 | 0.54 |
| 19:AT:54:THR:HG22 | 19:AT:64:ALA:CB | 2.36 | 0.54 |
| 19:AT:56:ASN:N | 19:AT:56:ASN:ND2 | 2.56 | 0.54 |
| 20:AU:29:ALA:O | 20:AU:33:GLU:OE2 | 2.25 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:86:GLU:O | 20:AU:87:VAL:HG23 | 2.08 | 0.54 |
| 20:AU:103:LEU:HA | 20:AU:108:ARG:CB | 2.37 | 0.54 |
| 21:AV:55:THR:HG23 | 21:AV:61:THR:HG21 | 1.89 | 0.54 |
| 21:AV:95:SER:HA | 21:AV:121:GLN:O | 2.06 | 0.54 |
| 21:AV:159:THR:C | 21:AV:160:LEU:HD12 | 2.28 | 0.54 |
| 24:A0:20:LEU:HD13 | 24:A0:24:GLN:HG3 | 1.88 | 0.54 |
| 26:A2:20:ILE:CG1 | 26:A2:67:LYS:HZ3 | 2.20 | 0.54 |
| 32:A8:26:LYS:NZ | 32:A8:43:GLY:HA2 | 2.21 | 0.54 |
| 33:A9:30:VAL:O | 33:A9:32:HIS:N | 2.40 | 0.54 |
| 34:BA:25:C:H4' | 34:BA:524:G:N2 | 2.21 | 0.54 |
| 34:BA:35:G:O2' | 34:BA:36:C:H5' | 2.08 | 0.54 |
| 34:BA:144:G:C2 | 34:BA:179:A:C2 | 2.95 | 0.54 |
| 34:BA:187:C:H2' | 34:BA:188:C:H6 | 1.72 | 0.54 |
| 34:BA:280:C:C1' | 52:BT:38:ARG:NE | 2.66 | 0.54 |
| 34:BA:293:G:H4' | 34:BA:609:A:N1 | 2.22 | 0.54 |
| 34:BA:319:G:C5' | 34:BA:1468:A:H4' | 2.37 | 0.54 |
| 34:BA:449:C:C2 | 34:BA:450:G:C1' | 2.88 | 0.54 |
| 34:BA:597:G:C8 | 34:BA:644:G:N2 | 2.76 | 0.54 |
| 34:BA:789:U:O2' | 34:BA:791:G:N7 | 2.41 | 0.54 |
| 34:BA:1054:C:C2' | 34:BA:1055:A:H5" | 2.38 | 0.54 |
| 34:BA:1108:G:N7 | 34:BA:1109:C:C4 | 2.75 | 0.54 |
| 34:BA:1111:A:C2 | 34:BA:1112:C:N3 | 2.76 | 0.54 |
| 34:BA:1128:C:O2 | 34:BA:1130:A:C5 | 2.61 | 0.54 |
| 34:BA:1306:A:H2' | 34:BA:1307:U:H5' | 1.88 | 0.54 |
| 34:BA:1326:C:O2' | 34:BA:1327:C:O4' | 2.19 | 0.54 |
| 34:BA:1430:C:C2 | 34:BA:1471:G:C2 | 2.95 | 0.54 |
| 34:BA:1531:A:C8 | 34:BA:1531:A:OP2 | 2.61 | 0.54 |
| 34:BA:1535:C:N4 | 36:B1:55:U:O4 | 2.38 | 0.54 |
| 35:BB:3:G:O2' | 35:BB:4:G:H5' | 2.07 | 0.54 |
| 35:BB:53:G:N2 | 35:BB:54:U:C2 | 2.75 | 0.54 |
| 35:BB:65:G:C2 | 35:BB:66:A:N7 | 2.75 | 0.54 |
| 35:BC:55:U:C2' | 35:BC:57:G:N7 | 2.70 | 0.54 |
| 37:BE:9:GLU:CG | 37:BE:217:ARG:NH2 | 2.60 | 0.54 |
| 37:BE:131:PRO:HA | 37:BE:132:LYS:HE2 | 1.89 | 0.54 |
| 37:BE:131:PRO:HB2 | 37:BE:133:LYS:HG2 | 1.90 | 0.54 |
| 37:BE:160:ASP:O | 37:BE:161:ALA:CB | 2.55 | 0.54 |
| 37:BE:163:PHE:CD2 | 37:BE:164:VAL:N | 2.76 | 0.54 |
| 37:BE:213:LEU:O | 37:BE:217:ARG:HG2 | 2.07 | 0.54 |
| 38:BF:116:VAL:HG21 | 38:BF:141:VAL:HG22 | 1.88 | 0.54 |
| 38:BF:182:ILE:CG2 | 38:BF:202:ILE:O | 2.56 | 0.54 |
| 39:BG:19:LEU:HA | 39:BG:21:LEU:HG | 1.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:127:ASN:OD1 | 40:BH:130:ASN:N | 2.41 | 0.54 |
| 40:BH:141:GLN:CA | 40:BH:143:ARG:NH2 | 2.66 | 0.54 |
| 40:BH:144:THR:HG22 | 40:BH:146:ALA:H | 1.72 | 0.54 |
| 44:BL:43:ALA:O | 44:BL:45:ALA:N | 2.40 | 0.54 |
| 45:BM:14:LYS:O | 45:BM:17:ASP:HB2 | 2.08 | 0.54 |
| 45:BM:87:THR:O | 45:BM:88:LEU:HD23 | 2.08 | 0.54 |
| 47:BO:29:GLY:O | 47:BO:30:ALA:O | 2.25 | 0.54 |
| 48:BP:98:VAL:HG23 | 48:BP:110:ARG:HH21 | 1.72 | 0.54 |
| 50:BR:4:THR:HB | 50:BR:6:GLU:OE2 | 2.08 | 0.54 |
| 51:BS:43:LYS:HG3 | 51:BS:48:TRP:CZ3 | 2.42 | 0.54 |
| 51:BS:51:VAL:O | 51:BS:52:ASP:C | 2.45 | 0.54 |
| 51:BS:54:GLU:O | 51:BS:57:ARG:N | 2.41 | 0.54 |
| 54:BV:5:LEU:O | 54:BV:6:LYS:HB2 | 2.08 | 0.54 |
| 55:BW:25:ARG:O | 55:BW:28:ALA:HB3 | 2.06 | 0.54 |
| 56:BX:16:GLY:O | 56:BX:17:THR:C | 2.46 | 0.54 |
| 1:AB:24:G:C6 | 1:AB:56:G:N3 | 2.75 | 0.54 |
| 1:AB:31:C:C2 | 1:AB:32:C:C5 | 2.94 | 0.54 |
| 2:AA:27:G:C8 | 2:AA:27:G:H3' | 2.43 | 0.54 |
| 2:AA:126:A:C4' | 31:A7:19:ARG:HE | 2.19 | 0.54 |
| 2:AA:205:G:O2' | 2:AA:206:U:OP2 | 2.26 | 0.54 |
| 2:AA:398:G:OP2 | 28:A4:59:PHE:CZ | 2.61 | 0.54 |
| 2:AA:587:C:O2' | 2:AA:588:U:P | 2.66 | 0.54 |
| 2:AA:638:G:C4 | 2:AA:639:U:O2 | 2.60 | 0.54 |
| 2:AA:859:G:N2 | 2:AA:917:A:OP2 | 2.40 | 0.54 |
| 2:AA:874:G:N3 | 2:AA:874:G:H2' | 2.21 | 0.54 |
| 2:AA:999:U:C2' | 2:AA:1000:A:H5' | 2.38 | 0.54 |
| 2:AA:1005:C:C5 | 2:AA:1143:A:H5" | 2.42 | 0.54 |
| 2:AA:1026:U:C6 | 2:AA:1026:U:C3' | 2.90 | 0.54 |
| 2:AA:1061:U:H2' | 11:AL:12:GLN:NE2 | 2.23 | 0.54 |
| 2:AA:1064:C:H3' | 2:AA:1065:U:C5 | 2.42 | 0.54 |
| 2:AA:1155:A:C4' | 25:A1:55:ARG:HH12 | 2.17 | 0.54 |
| 2:AA:1203:G:C5 | 2:AA:1206:G:N7 | 2.75 | 0.54 |
| 2:AA:1243:G:C4 | 2:AA:1244:G:N7 | 2.75 | 0.54 |
| 2:AA:1426:G:N7 | 2:AA:1427:A:N7 | 2.55 | 0.54 |
| 2:AA:1496:A:H2' | 2:AA:1497:U:C6 | 2.42 | 0.54 |
| 2:AA:1521:G:H5' | 2:AA:1522:G:N7 | 2.22 | 0.54 |
| 2:AA:1523:U:N3 | 2:AA:1524:G:C4 | 2.75 | 0.54 |
| 2:AA:1624:G:C5 | 2:AA:1625:C:N4 | 2.73 | 0.54 |
| 2:AA:1633:G:O6 | 2:AA:1635:G:N2 | 2.41 | 0.54 |
| 2:AA:1655:A:H5' | 5:AE:211:GLN:HA | 1.85 | 0.54 |
| 2:AA:1696:G:H2' | 2:AA:1697:G:O4' | 2.08 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1785:A:H3' | 2:AA:1785:A:H8 | 1.71 | 0.54 |
| 2:AA:1856:G:N7 | 2:AA:1857:G:C2 | 2.75 | 0.54 |
| 2:AA:1914:C:OP1 | 2:AA:1915:U:OP2 | 2.26 | 0.54 |
| 2:AA:1926:U:N3 | 2:AA:1929:G:C2 | 2.76 | 0.54 |
| 2:AA:1975:G:C2' | 2:AA:1976:U:O5' | 2.56 | 0.54 |
| 2:AA:2070:G:C6 | 2:AA:2071:A:C6 | 2.95 | 0.54 |
| 2:AA:2078:C:H5' | 2:AA:2434:A:C4' | 2.38 | 0.54 |
| 2:AA:2146:C:C2' | 2:AA:2147:G:N3 | 2.61 | 0.54 |
| 2:AA:2256:G:O5' | 27:A3:5:LYS:HE2 | 2.07 | 0.54 |
| 2:AA:2308:G:C5' | 2:AA:2309:A:OP1 | 2.44 | 0.54 |
| 2:AA:2312:U:O2' | 7:AG:72:LYS:CE | 2.56 | 0.54 |
| 2:AA:2349:G:C6 | 2:AA:2369:A:C6 | 2.95 | 0.54 |
| 2:AA:2354:G:O4' | 27:A3:31:VAL:CG2 | 2.53 | 0.54 |
| 2:AA:2355:C:C4 | 2:AA:2356:C:C4 | 2.95 | 0.54 |
| 2:AA:2357:U:O5' | 2:AA:2357:U:H6 | 1.91 | 0.54 |
| 2:AA:2385:C:HO2' | 2:AA:2386:C:P | 2.31 | 0.54 |
| 2:AA:2396:G:N2 | 2:AA:2397:G:C4 | 2.76 | 0.54 |
| 2:AA:2400:G:O2' | 30:A6:20:PHE:CE1 | 2.59 | 0.54 |
| 2:AA:2461:C:C2 | 2:AA:2462:U:C5 | 2.96 | 0.54 |
| 2:AA:2476:A:C2 | 2:AA:2481:G:N2 | 2.75 | 0.54 |
| 2:AA:2492:U:O2' | 2:AA:2493:U:C5' | 2.56 | 0.54 |
| 2:AA:2538:C:O2' | 2:AA:2539:C:C5' | 2.56 | 0.54 |
| 2:AA:2554:U:H3' | 2:AA:2554:U:C6 | 2.42 | 0.54 |
| 2:AA:2563:U:H4' | 13:AN:27:GLY:HA2 | 1.87 | 0.54 |
| 2:AA:2588:G:C2' | 2:AA:2589:A:H5' | 2.37 | 0.54 |
| 2:AA:2633:G:C2 | 2:AA:2634:G:C4 | 2.96 | 0.54 |
| 2:AA:2845:G:H3' | 2:AA:2845:G:OP2 | 2.07 | 0.54 |
| 3:AC:72:VAL:O | 3:AC:72:VAL:HG12 | 2.08 | 0.54 |
| 3:AC:84:LYS:HD3 | 3:AC:87:GLU:OE1 | 2.08 | 0.54 |
| 4:AD:154:VAL:CG2 | 4:AD:160:SER:HA | 2.29 | 0.54 |
| 4:AD:210:LYS:HG3 | 4:AD:211:HIS:N | 2.14 | 0.54 |
| 5:AE:41:PHE:HZ | 5:AE:173:ARG:CD | 2.20 | 0.54 |
| 5:AE:247:ARG:HB2 | 5:AE:249:THR:HG1 | 1.73 | 0.54 |
| 6:AF:161:ASP:O | 6:AF:162:VAL:CG2 | 2.45 | 0.54 |
| 7:AG:41:LEU:HA | 7:AG:44:ILE:HD12 | 1.90 | 0.54 |
| 7:AG:107:GLY:C | 7:AG:129:ASP:H | 2.11 | 0.54 |
| 9:AJ:89:LYS:HE2 | 11:AL:61:TYR:CD2 | 2.43 | 0.54 |
| 10:AK:100:GLU:O | 10:AK:104:ALA:CB | 2.55 | 0.54 |
| 11:AL:15:ALA:HA | 11:AL:46:THR:HG21 | 1.89 | 0.54 |
| 12:AM:65:ASN:ND2 | 12:AM:69:TYR:CD1 | 2.73 | 0.54 |
| 13:AN:34:ASN:CA | 13:AN:62:VAL:HG11 | 2.37 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:82:LYS:CB | 15:AP:125:TRP:H | 2.19 | 0.54 |
| 16:AQ:34:LEU:HD21 | 16:AQ:129:ILE:CD1 | 2.30 | 0.54 |
| 18:AS:81:ALA:C | 18:AS:82:LEU:HD13 | 2.28 | 0.54 |
| 19:AT:6:LYS:CG | 19:AT:27:ALA:HB1 | 2.38 | 0.54 |
| 20:AU:66:ASP:O | 20:AU:71:VAL:O | 2.24 | 0.54 |
| 21:AV:105:GLN:HB2 | 21:AV:141:MET:CG | 2.30 | 0.54 |
| 21:AV:105:GLN:O | 21:AV:142:ASN:ND2 | 2.38 | 0.54 |
| 23:AX:3:ARG:HD3 | 23:AX:60:GLU:HG2 | 1.89 | 0.54 |
| 23:AX:11:SER:HB3 | 23:AX:13:ILE:HG12 | 1.89 | 0.54 |
| 23:AX:26:LEU:HD12 | 23:AX:28:LEU:HD11 | 1.89 | 0.54 |
| 25:A1:13:ARG:CD | 25:A1:16:LYS:HZ3 | 2.12 | 0.54 |
| 25:A1:34:ASN:O | 25:A1:35:ALA:O | 2.25 | 0.54 |
| 26:A2:19:VAL:O | 26:A2:20:ILE:O | 2.26 | 0.54 |
| 26:A2:42:GLY:N | 26:A2:54:TYR:CZ | 2.73 | 0.54 |
| 27:A3:19:LYS:O | 27:A3:72:LYS:NZ | 2.34 | 0.54 |
| 27:A3:32:LYS:NZ | 27:A3:40:GLN:OE1 | 2.33 | 0.54 |
| 30:A6:16:ALA:HB1 | 30:A6:42:PRO:HD3 | 1.89 | 0.54 |
| 34:BA:44:G:O2' | 34:BA:45:U:H5' | 2.07 | 0.54 |
| 34:BA:142:G:H2' | 34:BA:143:A:C8 | 2.43 | 0.54 |
| 34:BA:254:G:OP1 | 52:BT:67:LYS:O | 2.26 | 0.54 |
| 34:BA:363:A:C5 | 47:BO:31:PRO:CD | 2.88 | 0.54 |
| 34:BA:399:G:C5 | 34:BA:400:C:C5 | 2.95 | 0.54 |
| 34:BA:499:A:N1 | 34:BA:546:G:O2' | 2.30 | 0.54 |
| 34:BA:604:G:N2 | 34:BA:605:U:H1' | 2.22 | 0.54 |
| 34:BA:658:G:C5 | 34:BA:659:U:C5 | 2.96 | 0.54 |
| 34:BA:694:A:N1 | 34:BA:695:A:C4 | 2.75 | 0.54 |
| 34:BA:995:C:C2' | 49:BQ:4:LYS:HZ3 | 2.20 | 0.54 |
| 34:BA:1050:G:C2 | 34:BA:1209:C:C2 | 2.96 | 0.54 |
| 34:BA:1244:C:C2 | 34:BA:1245:A:C8 | 2.96 | 0.54 |
| 34:BA:1352:C:N3 | 34:BA:1353:G:C5 | 2.75 | 0.54 |
| 34:BA:1373:G:H1' | 42:BJ:34:GLY:HA2 | 1.89 | 0.54 |
| 34:BA:1387:G:H2' | 34:BA:1388:C:H6 | 1.72 | 0.54 |
| 34:BA:1400:C:C2 | 35:BC:34:G:N2 | 2.75 | 0.54 |
| 34:BA:1441:G:H1' | 34:BA:1461:G:H1 | 1.72 | 0.54 |
| 35:BC:8:U:H1' | 35:BC:48:C:H1' | 1.90 | 0.54 |
| 35:BC:13:C:H2' | 35:BC:13:C:O2 | 2.07 | 0.54 |
| 35:BC:27:C:O2 | 35:BC:28:C:C5 | 2.60 | 0.54 |
| 35:BC:57:G:C2' | 35:BC:58:A:H5" | 2.37 | 0.54 |
| 36:B1:71:A:N3 | 36:B1:71:A:H2' | 2.22 | 0.54 |
| 40:BH:144:THR:O | 40:BH:145:LYS:C | 2.46 | 0.54 |
| 42:BJ:50:ILE:O | 42:BJ:54:THR:N | 2.33 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:111:ARG:HD2 | 42:BJ:123:GLU:CB | 2.36 | 0.54 |
| 42:BJ:136:LYS:HZ1 | 42:BJ:137:LYS:CG | 2.16 | 0.54 |
| 44:BL:15:ALA:HB1 | 44:BL:77:ILE:HA | 1.90 | 0.54 |
| 45:BM:24:VAL:HA | 45:BM:34:VAL:CG2 | 2.35 | 0.54 |
| 45:BM:28:ARG:C | 45:BM:29:ARG:HG3 | 2.28 | 0.54 |
| 47:BO:53:ARG:HH22 | 47:BO:92:ASP:CB | 2.21 | 0.54 |
| 48:BP:13:LYS:CD | 48:BP:17:VAL:HG12 | 2.32 | 0.54 |
| 49:BQ:20:ALA:O | 49:BQ:21:TYR:CB | 2.53 | 0.54 |
| 52:BT:75:ARG:HH11 | 52:BT:75:ARG:CG | 2.05 | 0.54 |
| 1:AB:37:C:H42 | 1:AB:44:G:H22 | 1.55 | 0.54 |
| 2:AA:18:C:C4 | 2:AA:19:C:C5 | 2.95 | 0.54 |
| 2:AA:28:A:O2' | 2:AA:583:G:C5' | 2.56 | 0.54 |
| 2:AA:154:G:C5 | 2:AA:155:C:H1' | 2.42 | 0.54 |
| 2:AA:195:A:C4 | 2:AA:198:C:N4 | 2.76 | 0.54 |
| 2:AA:270(S):G:C2 | 2:AA:270(T):G:C5 | 2.96 | 0.54 |
| 2:AA:311:A:O2' | 2:AA:312:G:OP2 | 2.24 | 0.54 |
| 2:AA:530:G:C6 | 2:AA:2022:U:OP1 | 2.61 | 0.54 |
| 2:AA:558:G:C2 | 2:AA:559:G:C5 | 2.95 | 0.54 |
| 2:AA:570:G:C5 | 2:AA:2030:A:C2 | 2.96 | 0.54 |
| 2:AA:611:C:O2 | 2:AA:617:G:N1 | 2.41 | 0.54 |
| 2:AA:806:C:C2' | 2:AA:807:U:H6 | 2.18 | 0.54 |
| 2:AA:911:A:C6 | 15:AP:16:ARG:HG2 | 2.43 | 0.54 |
| 2:AA:932:G:C2' | 2:AA:933:A:C8 | 2.90 | 0.54 |
| 2:AA:1022:G:O2' | 2:AA:1023:U:P | 2.66 | 0.54 |
| 2:AA:1024:G:OP2 | 2:AA:1026:U:OP1 | 2.25 | 0.54 |
| 2:AA:1052:C:C2 | 2:AA:1053:C:H5 | 2.26 | 0.54 |
| 2:AA:1106:G:C6 | 2:AA:1107:G:O6 | 2.61 | 0.54 |
| 2:AA:1107:G:C2' | 2:AA:1108:U:H5' | 2.38 | 0.54 |
| 2:AA:1131:G:N2 | 12:AM:69:TYR:CE2 | 2.75 | 0.54 |
| 2:AA:1256:G:C4 | 2:AA:1257:C:C5 | 2.95 | 0.54 |
| 2:AA:1364:G:N7 | 28:A4:3:LYS:HE2 | 2.23 | 0.54 |
| 2:AA:1395:A:OP1 | 2:AA:1602:U:O2' | 2.25 | 0.54 |
| 2:AA:1567:A:H4' | 2:AA:1568:G:N2 | 2.23 | 0.54 |
| 2:AA:1571:A:H3' | 2:AA:1571:A:C4 | 2.41 | 0.54 |
| 2:AA:1665:A:H1' | 13:AN:67:ARG:HD3 | 1.90 | 0.54 |
| 2:AA:1779:U:H6 | 2:AA:1779:U:O5' | 1.89 | 0.54 |
| 2:AA:1842:G:C6 | 2:AA:1843:C:C4 | 2.95 | 0.54 |
| 2:AA:1850:G:H2' | 2:AA:1851:U:O4' | 2.07 | 0.54 |
| 2:AA:1960:A:C2 | 2:AA:1961:C:C2 | 2.96 | 0.54 |
| 2:AA:2053:G:O2' | 2:AA:2054:A:C5' | 2.53 | 0.54 |
| 2:AA:2136:C:N3 | 2:AA:2155:G:C4 | 2.75 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2150:U:O2' | 2:AA:2151:G:C8 | 2.60 | 0.54 |
| 2:AA:2301:C:C4 | 2:AA:2302:G:N7 | 2.76 | 0.54 |
| 2:AA:2312:U:O2' | 7:AG:72:LYS:NZ | 2.39 | 0.54 |
| 2:AA:2355:C:C4 | 2:AA:2356:C:N3 | 2.76 | 0.54 |
| 2:AA:2486:G:N1 | 2:AA:2487:G:C8 | 2.75 | 0.54 |
| 2:AA:2508:G:C2' | 2:AA:2509:G:H5' | 2.37 | 0.54 |
| 2:AA:2568:C:O2 | 2:AA:2568:C:H2' | 2.08 | 0.54 |
| 2:AA:2600:A:C2 | 2:AA:2601:C:C5 | 2.96 | 0.54 |
| 2:AA:2676:C:H2' | 2:AA:2677:G:C8 | 2.43 | 0.54 |
| 2:AA:2726:U:O3' | 2:AA:2727:G:C8 | 2.59 | 0.54 |
| 3:AC:14:VAL:HG12 | 3:AC:15:ASP:N | 2.22 | 0.54 |
| 3:AC:28:LEU:HA | 3:AC:31:GLU:HB2 | 1.88 | 0.54 |
| 3:AC:108:MET:SD | 3:AC:136:LEU:CD1 | 2.96 | 0.54 |
| 4:AD:88:ALA:HB1 | 4:AD:90:ILE:CD1 | 2.37 | 0.54 |
| 4:AD:131:LEU:HD12 | 4:AD:184:LEU:O | 2.08 | 0.54 |
| 4:AD:154:VAL:HA | 4:AD:157:ALA:CB | 2.37 | 0.54 |
| 5:AE:75:THR:N | 5:AE:293:TYR:HE2 | 2.05 | 0.54 |
| 5:AE:107:GLU:O | 5:AE:110:ARG:CG | 2.55 | 0.54 |
| 5:AE:176:HIS:O | 5:AE:179:ASP:CB | 2.46 | 0.54 |
| 5:AE:300:VAL:N | 5:AE:301:PRO:HD3 | 2.23 | 0.54 |
| 6:AF:63:SER:O | 6:AF:65:ARG:N | 2.38 | 0.54 |
| 6:AF:83:ALA:O | 6:AF:84:VAL:HG13 | 2.08 | 0.54 |
| 8:AH:41:THR:CB | 8:AH:52:THR:OG1 | 2.54 | 0.54 |
| 8:AH:90:GLY:O | 8:AH:93:TYR:N | 2.41 | 0.54 |
| 9:AJ:111:ALA:C | 9:AJ:115:LYS:HE3 | 2.28 | 0.54 |
| 10:AK:47:LEU:HD13 | 10:AK:51:LYS:HZ2 | 1.72 | 0.54 |
| 10:AK:147:GLU:O | 10:AK:148:GLN:C | 2.45 | 0.54 |
| 14:AO:113:GLN:CB | 14:AO:115:ARG:CZ | 2.81 | 0.54 |
| 15:AP:17:ARG:HD3 | 15:AP:17:ARG:N | 2.22 | 0.54 |
| 15:AP:58:HIS:O | 15:AP:59:ASN:C | 2.46 | 0.54 |
| 15:AP:147:VAL:CG1 | 15:AP:148:ASN:N | 2.69 | 0.54 |
| 16:AQ:46:GLN:NE2 | 16:AQ:57:THR:HG21 | 2.23 | 0.54 |
| 16:AQ:90:LEU:HD21 | 16:AQ:125:ALA:O | 2.08 | 0.54 |
| 16:AQ:120:GLU:CA | 16:AQ:123:ILE:HB | 2.38 | 0.54 |
| 17:AR:50:GLU:CA | 17:AR:55:ALA:CB | 2.80 | 0.54 |
| 18:AS:70:TYR:HE1 | 18:AS:109:GLU:O | 1.90 | 0.54 |
| 19:AT:18:MET:HE1 | 19:AT:25:GLN:HB2 | 1.90 | 0.54 |
| 19:AT:28:VAL:O | 19:AT:29:ASP:C | 2.46 | 0.54 |
| 19:AT:45:TYR:O | 19:AT:46:ASP:C | 2.46 | 0.54 |
| 22:AW:33:VAL:HB | 22:AW:34:GLN:OE1 | 2.08 | 0.54 |
| 24:A0:59:ASP:HB2 | 24:A0:60:LEU:CD2 | 2.37 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:80:PHE:O | 24:A0:84:ALA:CB | 2.56 | 0.54 |
| 24:A0:100:LEU:HD23 | 24:A0:113:LEU:N | 2.22 | 0.54 |
| 27:A3:73:GLY:O | 27:A3:75:GLY:N | 2.41 | 0.54 |
| 29:A5:44:HIS:HB3 | 29:A5:45:ILE:HD12 | 1.89 | 0.54 |
| 30:A6:28:ARG:HD3 | 30:A6:30:ASN:ND2 | 2.23 | 0.54 |
| 33:A9:17:VAL:HG12 | 33:A9:18:ARG:N | 2.22 | 0.54 |
| 34:BA:13:U:H5' | 34:BA:14:U:OP2 | 2.07 | 0.54 |
| 34:BA:28:G:HO2' | 34:BA:296:U:P | 2.30 | 0.54 |
| 34:BA:32:A:H2' | 34:BA:33:A:C8 | 2.42 | 0.54 |
| 34:BA:160:A:H1' | 34:BA:344:A:H62 | 1.72 | 0.54 |
| 34:BA:193:C:H2' | 34:BA:194:C:C5 | 2.42 | 0.54 |
| 34:BA:202:U:H2' | 34:BA:202:U:O2 | 2.07 | 0.54 |
| 34:BA:329:A:N6 | 34:BA:332:G:C2 | 2.76 | 0.54 |
| 34:BA:370:C:C2' | 34:BA:371:G:C5' | 2.85 | 0.54 |
| 34:BA:373:A:N7 | 34:BA:482:A:C8 | 2.76 | 0.54 |
| 34:BA:377:G:OP1 | 51:BS:5:ARG:NH1 | 2.40 | 0.54 |
| 34:BA:448:A:H2' | 34:BA:449:C:H6 | 1.72 | 0.54 |
| 34:BA:521:G:C6 | 34:BA:529:G:C2 | 2.96 | 0.54 |
| 34:BA:562:C:O2' | 47:BO:15:ARG:CD | 2.55 | 0.54 |
| 34:BA:573:A:C2 | 34:BA:574:A:C5 | 2.96 | 0.54 |
| 34:BA:582:U:C2' | 34:BA:583:A:O5' | 2.56 | 0.54 |
| 34:BA:780:A:C8 | 34:BA:780:A:C3' | 2.90 | 0.54 |
| 34:BA:866:C:C5 | 34:BA:867:G:C1' | 2.91 | 0.54 |
| 34:BA:895:G:H2' | 34:BA:896:C:H6 | 1.72 | 0.54 |
| 34:BA:942:G:N2 | 44:BL:124:GLN:OE1 | 2.40 | 0.54 |
| 34:BA:959:A:H1' | 34:BA:985:C:C1' | 2.38 | 0.54 |
| 34:BA:1056:U:O2' | 38:BF:156:ARG:HG3 | 2.08 | 0.54 |
| 34:BA:1088:G:C2 | 34:BA:1089:G:C8 | 2.96 | 0.54 |
| 34:BA:1256:A:H61 | 34:BA:1278:U:H1' | 1.73 | 0.54 |
| 34:BA:1256:A:N6 | 34:BA:1278:U:O2' | 2.37 | 0.54 |
| 34:BA:1313:U:C5 | 54:BV:4:SER:HB3 | 2.42 | 0.54 |
| 34:BA:1431:C:O2' | 34:BA:1432:G:H5' | 2.08 | 0.54 |
| 35:BB:9:A:H5" | 35:BB:10:G:OP2 | 2.07 | 0.54 |
| 35:BC:49:C:C2 | 35:BC:50:U:C5 | 2.95 | 0.54 |
| 35:BC:56:C:N4 | 35:BC:57:G:C2 | 2.76 | 0.54 |
| 36:B1:15:A:N1 | 36:B1:41:U:O2 | 2.41 | 0.54 |
| 36:B1:70:U:O4 | 38:BF:131:ARG:NH1 | 2.41 | 0.54 |
| 38:BF:126:ARG:C | 38:BF:127:ARG:HG3 | 2.28 | 0.54 |
| 40:BH:58:ALA:O | 40:BH:59:GLY:C | 2.46 | 0.54 |
| 40:BH:78:HIS:CE1 | 40:BH:142:LEU:HA | 2.41 | 0.54 |
| 40:BH:116:THR:C | 40:BH:117:ASP:CG | 2.66 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:141:GLN:HG3 | 40:BH:143:ARG:HH22 | 1.71 | 0.54 |
| 40:BH:144:THR:O | 40:BH:146:ALA:N | 2.41 | 0.54 |
| 41:BI:4:TYR:OH | 41:BI:67:MET:HE2 | 2.06 | 0.54 |
| 41:BI:42:GLU:C | 41:BI:44:GLY:N | 2.61 | 0.54 |
| 41:BI:52:ILE:HD13 | 41:BI:87:ARG:HH22 | 1.72 | 0.54 |
| 41:BI:75:LEU:CD2 | 41:BI:78:GLU:HB3 | 2.33 | 0.54 |
| 41:BI:80:ARG:NH1 | 41:BI:88:VAL:CG1 | 2.71 | 0.54 |
| 43:BK:40:ALA:N | 43:BK:45:ILE:CG2 | 2.65 | 0.54 |
| 43:BK:104:ARG:O | 43:BK:107:LEU:CD2 | 2.56 | 0.54 |
| 44:BL:5:TYR:CG | 44:BL:18:PHE:CE2 | 2.96 | 0.54 |
| 45:BM:53:PRO:O | 45:BM:54:PHE:HB3 | 2.07 | 0.54 |
| 47:BO:83:VAL:HG21 | 47:BO:107:ALA:HB3 | 1.88 | 0.54 |
| 48:BP:65:LYS:C | 48:BP:66:LEU:HD23 | 2.27 | 0.54 |
| 48:BP:108:ARG:NH1 | 48:BP:108:ARG:HB3 | 2.23 | 0.54 |
| 49:BQ:27:CYS:SG | 49:BQ:43:CYS:N | 2.65 | 0.54 |
| 50:BR:13:GLN:O | 50:BR:14:GLU:C | 2.46 | 0.54 |
| 50:BR:24:SER:O | 50:BR:28:GLN:NE2 | 2.34 | 0.54 |
| 50:BR:29:VAL:HG12 | 50:BR:30:ALA:N | 2.23 | 0.54 |
| 51:BS:72:ARG:CZ | 51:BS:73:LEU:HD21 | 2.38 | 0.54 |
| 54:BV:11:VAL:O | 54:BV:11:VAL:CG1 | 2.55 | 0.54 |
| 55:BW:57:ARG:HG2 | 55:BW:57:ARG:HH11 | 1.72 | 0.54 |
| 55:BW:102:GLY:C | 55:BW:104:LEU:H | 2.11 | 0.54 |
| 1:AB:57:A:H1' | 7:AG:13:MET:HE1 | 1.86 | 0.54 |
| 1:AB:110:G:H2' | 1:AB:111:U:O4' | 2.08 | 0.54 |
| 2:AA:24:G:O2' | 18:AS:102:HIS:CD2 | 2.61 | 0.54 |
| 2:AA:35:G:O4' | 2:AA:454:A:O4' | 2.26 | 0.54 |
| 2:AA:99:U:N3 | 20:AU:107:LYS:HD2 | 2.19 | 0.54 |
| 2:AA:146:G:H2' | 2:AA:147:U:H5' | 1.89 | 0.54 |
| 2:AA:226:G:O2' | 2:AA:227:A:H5' | 2.07 | 0.54 |
| 2:AA:243:U:H5" | 2:AA:244:A:OP2 | 2.07 | 0.54 |
| 2:AA:247:G:H4' | 2:AA:386:G:C4 | 2.41 | 0.54 |
| 2:AA:311:A:OP1 | 20:AU:52:ARG:NH2 | 2.40 | 0.54 |
| 2:AA:371:A:H5" | 2:AA:423:A:N7 | 2.22 | 0.54 |
| 2:AA:372:G:OP2 | 2:AA:373:U:OP2 | 2.26 | 0.54 |
| 2:AA:412:A:C2' | 2:AA:413:C:H5' | 2.37 | 0.54 |
| 2:AA:455:C:P | 2:AA:472:A:N1 | 2.81 | 0.54 |
| 2:AA:482:A:C6 | 2:AA:506:G:C2 | 2.96 | 0.54 |
| 2:AA:563:G:O6 | 2:AA:2018:G:N7 | 2.41 | 0.54 |
| 2:AA:660:G:N3 | 2:AA:661:C:C6 | 2.76 | 0.54 |
| 2:AA:709:U:H2' | 2:AA:710:G:O4' | 2.08 | 0.54 |
| 2:AA:744:G:O2' | 2:AA:745:G:H5' | 2.08 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:809:G:C4 | 2:AA:810:U:C5 | 2.95 | 0.54 |
| 2:AA:962:G:H2' | 2:AA:963:U:O4' | 2.07 | 0.54 |
| 2:AA:1072:C:H2' | 2:AA:1093:G:O6 | 2.07 | 0.54 |
| 2:AA:1077:A:OP1 | 11:AL:94:ARG:HB2 | 2.08 | 0.54 |
| 2:AA:1222:C:C2' | 2:AA:1223:C:C5' | 2.86 | 0.54 |
| 2:AA:1274:A:N6 | 2:AA:1644:C:O2' | 2.40 | 0.54 |
| 2:AA:1291:C:H2' | 2:AA:1292:U:C5' | 2.38 | 0.54 |
| 2:AA:1530:G:H21 | 2:AA:1531:C:H5 | 1.56 | 0.54 |
| 2:AA:1566:A:N6 | 4:AD:212:HIS:CE1 | 2.75 | 0.54 |
| 2:AA:1613:G:O4' | 31:A7:3:ARG:CZ | 2.55 | 0.54 |
| 2:AA:1729:A:C6 | 2:AA:1731:G:O6 | 2.61 | 0.54 |
| 2:AA:1770:G:C6 | 2:AA:1983:C:N4 | 2.75 | 0.54 |
| 2:AA:1872:A:O2' | 2:AA:1878:G:H5' | 2.08 | 0.54 |
| 2:AA:2116:G:OP2 | 3:AC:126:LYS:N | 2.41 | 0.54 |
| 2:AA:2143:C:OP2 | 2:AA:2143:C:C6 | 2.56 | 0.54 |
| 2:AA:2150:U:C2' | 2:AA:2151:G:C8 | 2.91 | 0.54 |
| 2:AA:2213:U:C5' | 2:AA:2215:G:N7 | 2.69 | 0.54 |
| 2:AA:2224:G:H8 | 2:AA:2224:G:O5' | 1.91 | 0.54 |
| 2:AA:2268:A:H4' | 2:AA:2269:A:OP2 | 2.07 | 0.54 |
| 2:AA:2351:G:H5' | 2:AA:2352:A:OP1 | 2.08 | 0.54 |
| 2:AA:2435:A:H2' | 2:AA:2436:G:C5' | 2.38 | 0.54 |
| 2:AA:2554:U:C6 | 2:AA:2554:U:C3' | 2.91 | 0.54 |
| 2:AA:2681:C:N4 | 2:AA:2725:A:N7 | 2.56 | 0.54 |
| 2:AA:2779:U:O4' | 2:AA:2781:A:C5 | 2.61 | 0.54 |
| 2:AA:2836:U:C2' | 2:AA:2837:G:C8 | 2.75 | 0.54 |
| 2:AA:2864:G:O2' | 2:AA:2865:U:O4' | 2.23 | 0.54 |
| 2:AA:2899:G:HO2' | 2:AA:2900:A:C5' | 2.20 | 0.54 |
| 4:AD:71:ASP:HB3 | 4:AD:119:PRO:CD | 2.38 | 0.54 |
| 4:AD:84:PRO:C | 4:AD:85:ASN:HD22 | 2.10 | 0.54 |
| 6:AF:86:GLY:O | 6:AF:87:ARG:CB | 2.56 | 0.54 |
| 7:AG:24:HIS:CB | 7:AG:72:LYS:CD | 2.82 | 0.54 |
| 7:AG:139:TYR:CZ | 7:AG:156:ARG:HG3 | 2.43 | 0.54 |
| 7:AG:139:TYR:OH | 7:AG:156:ARG:HG3 | 2.08 | 0.54 |
| 8:AH:117:GLU:CG | 8:AH:118:GLU:N | 2.70 | 0.54 |
| 9:AI:15:VAL:HG22 | 9:AI:49:ALA:N | 2.23 | 0.54 |
| 9:AI:17:GLU:HG2 | 9:AJ:104:SER:OG | 2.08 | 0.54 |
| 9:AJ:15:VAL:HG21 | 9:AJ:49:ALA:CA | 2.38 | 0.54 |
| 10:AK:6:LEU:CB | 10:AK:36:ALA:HB2 | 2.38 | 0.54 |
| 10:AK:115:ILE:HA | 10:AK:131:VAL:CA | 2.37 | 0.54 |
| 11:AL:11:LEU:HD11 | 11:AL:28:LEU:HD11 | 1.90 | 0.54 |
| 12:AM:15:ARG:HH11 | 12:AM:43:ARG:NE | 2.06 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:54:VAL:N | 12:AM:135:ILE:HG13 | 2.23 | 0.54 |
| 13:AN:21:VAL:HG13 | 13:AN:39:VAL:HG11 | 1.89 | 0.54 |
| 14:AO:102:ASP:O | 14:AO:103:ALA:HB2 | 2.08 | 0.54 |
| 15:AP:143:VAL:HG21 | 15:AP:147:VAL:HG21 | 1.88 | 0.54 |
| 18:AS:89:ALA:N | 18:AS:92:ARG:O | 2.41 | 0.54 |
| 19:AT:9:HIS:O | 19:AT:14:ALA:CB | 2.54 | 0.54 |
| 21:AV:51:LEU:HD23 | 21:AV:52:PHE:N | 2.23 | 0.54 |
| 21:AV:159:THR:O | 21:AV:160:LEU:HB2 | 2.07 | 0.54 |
| 25:A1:50:ARG:N | 25:A1:53:LYS:HZ1 | 2.05 | 0.54 |
| 28:A4:41:PRO:CD | 28:A4:57:ASP:OD2 | 2.56 | 0.54 |
| 28:A4:43:TRP:O | 28:A4:44:THR:HG23 | 2.08 | 0.54 |
| 29:A5:10:LYS:HG3 | 29:A5:11:THR:N | 2.23 | 0.54 |
| 30:A6:29:ARG:O | 30:A6:31:THR:O | 2.25 | 0.54 |
| 32:A8:22:VAL:HG13 | 32:A8:23:MET:H | 1.73 | 0.54 |
| 32:A8:58:MET:O | 32:A8:59:LYS:C | 2.45 | 0.54 |
| 34:BA:12:U:C5' | 34:BA:526:C:O2' | 2.56 | 0.54 |
| 34:BA:52:G:O2' | 34:BA:53:A:C5' | 2.55 | 0.54 |
| 34:BA:136:C:H4' | 51:BS:65:GLN:OE1 | 2.07 | 0.54 |
| 34:BA:155:C:C2 | 34:BA:167:G:C2 | 2.96 | 0.54 |
| 34:BA:266:G:C2' | 34:BA:267:C:OP2 | 2.55 | 0.54 |
| 34:BA:403:C:H2' | 34:BA:404:U:C6 | 2.42 | 0.54 |
| 34:BA:404:U:H2' | 34:BA:405:U:C6 | 2.43 | 0.54 |
| 34:BA:484:G:C8 | 34:BA:486:U:N3 | 2.76 | 0.54 |
| 34:BA:690:G:C2' | 34:BA:691:G:H5' | 2.38 | 0.54 |
| 34:BA:760:G:C2' | 34:BA:761:G:H5' | 2.38 | 0.54 |
| 34:BA:803:G:N1 | 34:BA:804:U:C2 | 2.76 | 0.54 |
| 34:BA:837:G:N1 | 34:BA:838:G:C5 | 2.76 | 0.54 |
| 34:BA:960:U:H4' | 34:BA:961:U:OP2 | 2.08 | 0.54 |
| 34:BA:1035:A:C2 | 34:BA:1036:G:C8 | 2.96 | 0.54 |
| 34:BA:1045:C:C4 | 34:BA:1046:A:C8 | 2.95 | 0.54 |
| 34:BA:1193:G:O2' | 34:BA:1194:U:H5' | 2.06 | 0.54 |
| 34:BA:1216:G:H5" | 49:BQ:5:ALA:HB2 | 1.90 | 0.54 |
| 34:BA:1254:C:OP1 | 45:BM:45:ARG:NE | 2.41 | 0.54 |
| 34:BA:1306:A:C2' | 34:BA:1307:U:H5' | 2.38 | 0.54 |
| 34:BA:1334:G:H2' | 34:BA:1335:C:H5' | 1.90 | 0.54 |
| 35:BB:34:G:C2 | 36:B1:65:U:H2' | 2.42 | 0.54 |
| 35:BB:66:A:C4 | 35:BB:67:A:N7 | 2.76 | 0.54 |
| 35:BC:35:A:H8 | 35:BC:35:A:C5' | 2.13 | 0.54 |
| 37:BE:10:LEU:HD23 | 37:BE:11:LEU:HD23 | 1.90 | 0.54 |
| 37:BE:80:ILE:CD1 | 37:BE:208:ILE:HG12 | 2.37 | 0.54 |
| 37:BE:221:LEU:CD1 | 37:BE:221:LEU:C | 2.76 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:186:PHE:CE1 | 38:BF:187:ALA:O | 2.61 | 0.54 |
| 40:BH:48:ALA:HB1 | 40:BH:53:LEU:HB3 | 1.88 | 0.54 |
| 42:BJ:104:LEU:HD13 | 42:BJ:134:ALA:CB | 2.37 | 0.54 |
| 43:BK:22:GLU:N | 43:BK:63:LEU:HD11 | 2.21 | 0.54 |
| 45:BM:56:HIS:O | 45:BM:58:ASP:N | 2.40 | 0.54 |
| 45:BM:65:LEU:HD12 | 49:BQ:56:VAL:CG2 | 2.38 | 0.54 |
| 46:BN:25:TYR:CD1 | 46:BN:89:ALA:HB2 | 2.43 | 0.54 |
| 50:BR:36:ILE:CG2 | 50:BR:37:ASN:HD22 | 2.21 | 0.54 |
| 52:BT:10:VAL:HG21 | 52:BT:55:ASP:HB2 | 1.88 | 0.54 |
| 53:BU:73:ALA:C | 53:BU:79:LEU:HD11 | 2.28 | 0.54 |
| 53:BU:74:ARG:HA | 53:BU:79:LEU:CD2 | 2.38 | 0.54 |
| 1:AB:12:C:C5 | 27:A3:53:MET:O | 2.54 | 0.54 |
| 1:AB:44:G:H2' | 1:AB:48:A:C2 | 2.43 | 0.54 |
| 1:AB:71:C:C2' | 1:AB:72:G:O4' | 2.52 | 0.54 |
| 1:AB:81:G:C6 | 1:AB:96:G:C6 | 2.96 | 0.54 |
| 2:AA:81:G:N2 | 2:AA:106:C:C6 | 2.75 | 0.54 |
| 2:AA:150:C:N3 | 2:AA:151:C:C6 | 2.76 | 0.54 |
| 2:AA:199:A:C6 | 2:AA:2433:A:N7 | 2.76 | 0.54 |
| 2:AA:506:G:C2' | 2:AA:507:A:OP2 | 2.55 | 0.54 |
| 2:AA:854:G:C4 | 2:AA:855:G:C8 | 2.96 | 0.54 |
| 2:AA:933:A:H2' | 2:AA:934:G:H5' | 1.89 | 0.54 |
| 2:AA:993:G:C6 | 2:AA:1161:C:N3 | 2.76 | 0.54 |
| 2:AA:1020:A:O2' | 12:AM:49:ARG:HD3 | 2.07 | 0.54 |
| 2:AA:1054:A:H61 | 2:AA:1105:U:H3 | 0.69 | 0.54 |
| 2:AA:1059:G:N7 | 2:AA:1060:U:O4' | 2.41 | 0.54 |
| 2:AA:1085:A:OP1 | 9:AI:34:ALA:HA | 2.08 | 0.54 |
| 2:AA:1177:A:C6 | 2:AA:1178:C:N4 | 2.76 | 0.54 |
| 2:AA:1248:G:OP1 | 25:A1:2:PRO:HG3 | 2.07 | 0.54 |
| 2:AA:1319:G:C5 | 2:AA:1334:G:C6 | 2.95 | 0.54 |
| 2:AA:1352:U:O2' | 2:AA:1570:A:C2' | 2.55 | 0.54 |
| 2:AA:1430:C:C2 | 2:AA:1431:U:C5 | 2.96 | 0.54 |
| 2:AA:1439:A:C8 | 2:AA:1440:G:C8 | 2.92 | 0.54 |
| 2:AA:1480:G:H2' | 2:AA:1480:G:N3 | 2.23 | 0.54 |
| 2:AA:1664:A:H8 | 2:AA:1664:A:C5' | 2.20 | 0.54 |
| 2:AA:1692:U:C4 | 2:AA:1694:C:O2 | 2.61 | 0.54 |
| 2:AA:1703:G:H2' | 2:AA:1704:G:O4' | 2.07 | 0.54 |
| 2:AA:1806:C:N3 | 2:AA:1807:G:C8 | 2.76 | 0.54 |
| 2:AA:1924:C:H5' | 35:BC:12:U:O2 | 2.07 | 0.54 |
| 2:AA:1973:G:C2 | 2:AA:1974:C:C4 | 2.96 | 0.54 |
| 2:AA:1988:C:H2' | 2:AA:1989:G:O5' | 2.08 | 0.54 |
| 2:AA:1989:G:C2' | 2:AA:1990:C:H5' | 2.38 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1999:C:C2' | 2:AA:2000:G:O5' | 2.55 | 0.54 |
| 2:AA:2022:U:O4 | 29:A5:9:LYS:CE | 2.56 | 0.54 |
| 2:AA:2227:A:C6 | 2:AA:2228:G:C5 | 2.96 | 0.54 |
| 2:AA:2259:G:H2' | 2:AA:2260:C:H6 | 1.71 | 0.54 |
| 2:AA:2361:A:H2' | 2:AA:2362:G:H5' | 1.90 | 0.54 |
| 2:AA:2384:G:H3' | 2:AA:2386:C:OP1 | 2.08 | 0.54 |
| 2:AA:2455:G:C6 | 2:AA:2456:C:C4 | 2.96 | 0.54 |
| 2:AA:2462:U:H2' | 2:AA:2463:C:H5' | 1.90 | 0.54 |
| 2:AA:2474:C:H2' | 2:AA:2475:C:C5' | 2.38 | 0.54 |
| 2:AA:2488:A:N1 | 2:AA:2489:G:C5 | 2.76 | 0.54 |
| 2:AA:2536:G:C6 | 2:AA:2537:U:C4 | 2.95 | 0.54 |
| 2:AA:2633:G:H1 | 2:AA:2785:C:H42 | 1.55 | 0.54 |
| 2:AA:2684:U:C4' | 13:AN:76:TYR:CZ | 2.90 | 0.54 |
| 2:AA:2710:C:C2' | 2:AA:2711:A:H5' | 2.38 | 0.54 |
| 2:AA:2755:C:O5' | 2:AA:2755:C:C6 | 2.54 | 0.54 |
| 2:AA:2791:C:C5 | 2:AA:2807:G:N1 | 2.76 | 0.54 |
| 2:AA:2792:G:H1 | 2:AA:2804:C:H42 | 1.54 | 0.54 |
| 2:AA:2824:C:C4 | 2:AA:2825:C:C2 | 2.95 | 0.54 |
| 2:AA:2839:G:O2' | 2:AA:2840:C:C5' | 2.56 | 0.54 |
| 2:AA:2848:G:C2 | 2:AA:2867:G:N3 | 2.76 | 0.54 |
| 2:AA:2895:U:H2' | 2:AA:2896:C:C5 | 2.43 | 0.54 |
| 4:AD:66:PHE:O | 4:AD:67:LYS:HB3 | 2.08 | 0.54 |
| 4:AD:70:LYS:O | 4:AD:73:ILE:HG13 | 2.08 | 0.54 |
| 4:AD:93:ILE:HG22 | 4:AD:101:ARG:HB2 | 1.90 | 0.54 |
| 4:AD:116:MET:C | 4:AD:117:SER:HG | 1.98 | 0.54 |
| 5:AE:47:GLY:O | 5:AE:72:VAL:HG22 | 2.08 | 0.54 |
| 6:AF:83:ALA:N | 6:AF:87:ARG:NH2 | 2.56 | 0.54 |
| 6:AF:163:HIS:HA | 6:AF:166:ILE:CG1 | 2.37 | 0.54 |
| 6:AF:197:SER:HB2 | 6:AF:215:ALA:HB2 | 1.90 | 0.54 |
| 7:AG:104:PHE:O | 7:AG:105:SER:OG | 2.22 | 0.54 |
| 9:AI:1:MET:HE2 | 11:AL:10:LYS:NZ | 2.22 | 0.54 |
| 9:AI:5:GLU:HA | 9:AI:8:GLU:OE2 | 2.08 | 0.54 |
| 9:AJ:77:VAL:CG2 | 9:AJ:102:ILE:HD11 | 2.34 | 0.54 |
| 11:AL:67:THR:O | 11:AL:68:PHE:CB | 2.47 | 0.54 |
| 12:AM:15:ARG:HG3 | 12:AM:40:ASN:HD22 | 1.72 | 0.54 |
| 12:AM:63:ILE:HB | 12:AM:71:TYR:CE1 | 2.43 | 0.54 |
| 12:AM:96:GLU:O | 12:AM:97:ALA:C | 2.45 | 0.54 |
| 13:AN:73:ASP:C | 13:AN:75:SER:N | 2.59 | 0.54 |
| 17:AR:8:TYR:O | 17:AR:10:GLY:N | 2.41 | 0.54 |
| 17:AR:45:GLU:CA | 17:AR:48:ASN:HD21 | 2.21 | 0.54 |
| 18:AS:45:TYR:CD2 | 18:AS:46:PHE:HD1 | 2.26 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:14:LEU:CD1 | 21:AV:80:HIS:NE2 | 2.71 | 0.54 |
| 21:AV:34:LEU:HB2 | 21:AV:39:PHE:HE2 | 1.73 | 0.54 |
| 22:AW:22:ASP:N | 22:AW:22:ASP:OD1 | 2.40 | 0.54 |
| 22:AW:43:PRO:O | 22:AW:46:ILE:N | 2.41 | 0.54 |
| 29:A5:11:THR:CB | 29:A5:16:ARG:NE | 2.41 | 0.54 |
| 33:A9:11:CYS:N | 33:A9:32:HIS:NE2 | 2.50 | 0.54 |
| 34:BA:14:U:N3 | 34:BA:16:A:O5' | 2.41 | 0.54 |
| 34:BA:74:C:H2' | 34:BA:75:G:C8 | 2.43 | 0.54 |
| 34:BA:101:A:C2 | 34:BA:102:G:C5 | 2.96 | 0.54 |
| 34:BA:411:A:N7 | 34:BA:413:G:C4 | 2.76 | 0.54 |
| 34:BA:527:G:N1 | 34:BA:528:C:C4 | 2.75 | 0.54 |
| 34:BA:617:G:H4' | 51:BS:45:THR:HG22 | 1.90 | 0.54 |
| 34:BA:646:U:O2' | 34:BA:647:C:C5' | 2.56 | 0.54 |
| 34:BA:657:G:H2' | 34:BA:658:G:C5' | 2.31 | 0.54 |
| 34:BA:757:U:OP1 | 34:BA:823:G:H5' | 2.07 | 0.54 |
| 34:BA:762:C:N3 | 34:BA:763:G:C5 | 2.76 | 0.54 |
| 34:BA:777:A:C4 | 34:BA:778:G:C8 | 2.96 | 0.54 |
| 34:BA:880:C:C2' | 34:BA:881:G:H5' | 2.37 | 0.54 |
| 34:BA:887:G:O6 | 34:BA:888:G:C6 | 2.61 | 0.54 |
| 34:BA:901:A:H2' | 34:BA:902:G:C4' | 2.38 | 0.54 |
| 34:BA:994:A:N6 | 34:BA:1046:A:H2 | 2.06 | 0.54 |
| 34:BA:1054:C:H2' | 34:BA:1055:A:H5" | 1.90 | 0.54 |
| 34:BA:1125:U:C5 | 45:BM:5:ARG:NH2 | 2.76 | 0.54 |
| 34:BA:1130:A:N3 | 34:BA:1146:A:C2 | 2.76 | 0.54 |
| 34:BA:1152:A:O2' | 34:BA:1153:C:H5' | 2.07 | 0.54 |
| 34:BA:1284:C:C2' | 34:BA:1285:A:C8 | 2.90 | 0.54 |
| 34:BA:1346:A:C2 | 42:BJ:10:ARG:NE | 2.76 | 0.54 |
| 34:BA:1355:G:H1 | 34:BA:1367:C:N4 | 2.05 | 0.54 |
| 35:BB:32:C:N3 | 35:BB:33:U:C2 | 2.76 | 0.54 |
| 36:B1:10:U:H2' | 36:B1:11:U:C6 | 2.40 | 0.54 |
| 36:B1:46:A:OP2 | 36:B1:47:U:C5 | 2.61 | 0.54 |
| 37:BE:18:GLY:CA | 37:BE:41:ILE:HA | 2.38 | 0.54 |
| 37:BE:92:TYR:O | 37:BE:152:PHE:N | 2.41 | 0.54 |
| 37:BE:131:PRO:HG2 | 37:BE:134:GLU:CG | 2.32 | 0.54 |
| 37:BE:169:LYS:CE | 37:BE:169:LYS:C | 2.76 | 0.54 |
| 37:BE:221:LEU:HA | 37:BE:224:GLN:OE1 | 2.07 | 0.54 |
| 38:BF:10:PHE:CE2 | 38:BF:176:HIS:O | 2.61 | 0.54 |
| 38:BF:141:VAL:HG13 | 38:BF:202:ILE:HD13 | 1.89 | 0.54 |
| 39:BG:148:VAL:CG1 | 39:BG:153:ARG:HG2 | 2.38 | 0.54 |
| 44:BL:8:GLY:O | 44:BL:76:ALA:HB1 | 2.08 | 0.54 |
| 45:BM:5:ARG:NH1 | 45:BM:5:ARG:CB | 2.71 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:49:VAL:O | 45:BM:60:ARG:HG3 | 2.08 | 0.54 |
| 47:BO:90:VAL:CG2 | 47:BO:96:VAL:CG1 | 2.84 | 0.54 |
| 48:BP:10:PRO:HB2 | 48:BP:18:ALA:CB | 2.38 | 0.54 |
| 48:BP:74:VAL:O | 48:BP:78:ILE:HD12 | 2.07 | 0.54 |
| 48:BP:119:GLY:O | 48:BP:121:LYS:NZ | 2.38 | 0.54 |
| 50:BR:36:ILE:HG22 | 50:BR:37:ASN:ND2 | 2.22 | 0.54 |
| 52:BT:74:LEU:HD13 | 52:BT:75:ARG:N | 2.22 | 0.54 |
| 55:BW:16:HIS:O | 55:BW:19:SER:N | 2.41 | 0.54 |
| 2:AA:175:G:C4 | 2:AA:176:G:H8 | 2.24 | 0.54 |
| 2:AA:185:U:N3 | 2:AA:212:G:N2 | 2.56 | 0.54 |
| 2:AA:204:A:C2 | 2:AA:205:G:N2 | 2.76 | 0.54 |
| 2:AA:244:A:C6 | 2:AA:255:A:N7 | 2.76 | 0.54 |
| 2:AA:246:C:O2' | 2:AA:385:C:C4' | 2.54 | 0.54 |
| 2:AA:299:A:N3 | 2:AA:319:C:O2' | 2.35 | 0.54 |
| 2:AA:359:A:C2 | 2:AA:361:G:N1 | 2.76 | 0.54 |
| 2:AA:533:G:N7 | 2:AA:534:U:C4 | 2.76 | 0.54 |
| 2:AA:601:C:H2' | 2:AA:602:G:C5' | 2.32 | 0.54 |
| 2:AA:609:A:N6 | 2:AA:609(A):G:O6 | 2.40 | 0.54 |
| 2:AA:616:A:H2' | 2:AA:617:G:N2 | 2.22 | 0.54 |
| 2:AA:644:A:H5" | 2:AA:2369:A:H1' | 1.89 | 0.54 |
| 2:AA:729:G:C6 | 2:AA:1775:U:C2 | 2.96 | 0.54 |
| 2:AA:742:G:H4' | 2:AA:1675:C:O2' | 2.07 | 0.54 |
| 2:AA:774:A:H5' | 2:AA:778:G:C4' | 2.38 | 0.54 |
| 2:AA:786:C:O2' | 2:AA:787:U:C4' | 2.54 | 0.54 |
| 2:AA:871:U:HO2' | 15:AP:90:PHE:HZ | 1.55 | 0.54 |
| 2:AA:1000:A:C2 | 2:AA:1155:A:C2 | 2.96 | 0.54 |
| 2:AA:1011:G:C5 | 2:AA:1013:C:C5 | 2.96 | 0.54 |
| 2:AA:1022:G:N3 | 2:AA:1139:G:C2 | 2.76 | 0.54 |
| 2:AA:1053:C:C2' | 2:AA:1054:A:H5' | 2.37 | 0.54 |
| 2:AA:1127:A:C6 | 2:AA:2518:A:H2 | 2.26 | 0.54 |
| 2:AA:1137:G:N7 | 2:AA:1138:G:C8 | 2.76 | 0.54 |
| 2:AA:1194:A:C5 | 2:AA:1195:G:N7 | 2.76 | 0.54 |
| 2:AA:1231:G:C5 | 2:AA:1232:G:N7 | 2.76 | 0.54 |
| 2:AA:1291:C:C2' | 2:AA:1292:U:C5' | 2.86 | 0.54 |
| 2:AA:1315:C:C2 | 2:AA:1316:U:C5 | 2.96 | 0.54 |
| 2:AA:1353:A:N6 | 2:AA:1354:A:N6 | 2.56 | 0.54 |
| 2:AA:1565:C:O2' | 2:AA:1566:A:H8 | 1.91 | 0.54 |
| 2:AA:1613:G:OP1 | 31:A7:5:TYR:CD1 | 2.60 | 0.54 |
| 2:AA:1754:C:C3' | 17:AR:44:ARG:HH22 | 2.20 | 0.54 |
| 2:AA:1777:U:C5 | 2:AA:1778:U:H5 | 2.26 | 0.54 |
| 2:AA:1793:C:C2 | 2:AA:1794:U:C5 | 2.96 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1815:A:O2' | 2:AA:1816:G:H4' | 2.08 | 0.54 |
| 2:AA:1913:A:C5 | 2:AA:1918:A:C6 | 2.96 | 0.54 |
| 2:AA:1933:G:O6 | 2:AA:1967:C:N4 | 2.38 | 0.54 |
| 2:AA:1935:G:C4 | 2:AA:1962:C:N4 | 2.75 | 0.54 |
| 2:AA:2076:U:C6 | 2:AA:2076:U:C3' | 2.91 | 0.54 |
| 2:AA:2110:G:C2 | 2:AA:2179:C:O2 | 2.61 | 0.54 |
| 2:AA:2303:G:N1 | 2:AA:2304:G:C6 | 2.76 | 0.54 |
| 2:AA:2411:A:H2' | 2:AA:2412:A:C8 | 2.43 | 0.54 |
| 2:AA:2419:U:HO2' | 2:AA:2420:C:C5' | 2.22 | 0.54 |
| 2:AA:2520:C:C5 | 2:AA:2567:G:N9 | 2.76 | 0.54 |
| 2:AA:2538:C:C2 | 2:AA:2539:C:C5 | 2.96 | 0.54 |
| 2:AA:2550:G:H2' | 2:AA:2551:C:C6 | 2.43 | 0.54 |
| 2:AA:2562:U:O2' | 13:AN:23:LYS:HD3 | 2.07 | 0.54 |
| 2:AA:2589:A:N6 | 2:AA:2605:U:H3 | 2.05 | 0.54 |
| 2:AA:2733:A:N7 | 2:AA:2734:A:N7 | 2.56 | 0.54 |
| 2:AA:2745:C:C4 | 2:AA:2746:U:C4 | 2.96 | 0.54 |
| 2:AA:2748:A:C8 | 2:AA:2749:A:C4 | 2.96 | 0.54 |
| 2:AA:2848:G:N2 | 2:AA:2867:G:O2' | 2.41 | 0.54 |
| 4:AD:64:ILE:HG12 | 4:AD:102:TYR:CB | 2.38 | 0.54 |
| 4:AD:148:GLY:C | 4:AD:149:ARG:NH1 | 2.61 | 0.54 |
| 6:AF:55:ARG:CA | 6:AF:79:ARG:CZ | 2.86 | 0.54 |
| 7:AG:64:ARG:HB2 | 7:AG:67:ASP:OD2 | 2.07 | 0.54 |
| 8:AH:52:THR:OG1 | 8:AH:54:PRO:HD3 | 2.07 | 0.54 |
| 9:AI:64:LYS:HE2 | 9:AI:125:VAL:O | 2.08 | 0.54 |
| 10:AK:66:LYS:CA | 10:AK:69:LYS:HD3 | 2.36 | 0.54 |
| 10:AK:141:LEU:HD13 | 10:AK:141:LEU:O | 2.08 | 0.54 |
| 10:AK:145:VAL:CG1 | 10:AK:146:THR:N | 2.71 | 0.54 |
| 12:AM:58:GLU:HG3 | 12:AM:139:LEU:CD1 | 2.37 | 0.54 |
| 14:AO:94:ARG:CB | 14:AO:120:LEU:HD13 | 2.34 | 0.54 |
| 15:AP:67:ALA:CA | 15:AP:70:ARG:CZ | 2.85 | 0.54 |
| 15:AP:97:ASP:HB2 | 15:AP:107:LYS:CD | 2.31 | 0.54 |
| 20:AU:29:ALA:C | 20:AU:33:GLU:OE2 | 2.47 | 0.54 |
| 21:AV:70:GLN:C | 21:AV:72:ASP:N | 2.51 | 0.54 |
| 23:AX:33:GLN:HG2 | 23:AX:34:GLU:H | 1.72 | 0.54 |
| 23:AX:41:PRO:O | 23:AX:44:ARG:N | 2.41 | 0.54 |
| 24:A0:67:LEU:HD22 | 24:A0:71:GLN:HA | 1.89 | 0.54 |
| 25:A1:14:HIS:CD2 | 25:A1:36:PHE:CZ | 2.96 | 0.54 |
| 26:A2:20:ILE:HG23 | 26:A2:94:LYS:HG2 | 1.89 | 0.54 |
| 27:A3:31:VAL:O | 27:A3:33:ALA:N | 2.41 | 0.54 |
| 28:A4:7:PRO:CG | 28:A4:56:VAL:HG11 | 2.37 | 0.54 |
| 31:A7:8:ASN:O | 31:A7:9:ASN:C | 2.46 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:A8:6:THR:O | 32:A8:7:HIS:C | 2.47 | 0.54 |
| 34:BA:28:G:H2' | 34:BA:296:U:OP1 | 2.07 | 0.54 |
| 34:BA:66:G:H4' | 34:BA:173:U:C5 | 2.43 | 0.54 |
| 34:BA:148:G:C2 | 34:BA:175:C:C4 | 2.96 | 0.54 |
| 34:BA:193:C:O2' | 34:BA:194:C:C5' | 2.55 | 0.54 |
| 34:BA:236:G:C3' | 34:BA:237:C:C6 | 2.90 | 0.54 |
| 34:BA:267:C:C4 | 34:BA:268:C:N4 | 2.73 | 0.54 |
| 34:BA:270:A:H8 | 34:BA:270:A:O5' | 1.90 | 0.54 |
| 34:BA:293:G:OP2 | 34:BA:293:G:C8 | 2.62 | 0.54 |
| 34:BA:478:A:C8 | 34:BA:478:A:H3' | 2.43 | 0.54 |
| 34:BA:520:A:N6 | 34:BA:529:G:N2 | 2.40 | 0.54 |
| 34:BA:551:U:C2 | 34:BA:552:U:C5 | 2.96 | 0.54 |
| 34:BA:701:C:H1' | 34:BA:703:G:C6 | 2.43 | 0.54 |
| 34:BA:936:C:O2' | 34:BA:937:A:H5' | 2.07 | 0.54 |
| 34:BA:979:C:OP2 | 34:BA:980:C:C5 | 2.60 | 0.54 |
| 34:BA:1067:A:H2 | 34:BA:1068:G:N3 | 2.06 | 0.54 |
| 34:BA:1348:U:N3 | 34:BA:1349:A:N7 | 2.56 | 0.54 |
| 34:BA:1355:G:H2' | 34:BA:1356:G:H8 | 1.73 | 0.54 |
| 34:BA:1359:C:C6 | 49:BQ:35:ARG:NH2 | 2.76 | 0.54 |
| 34:BA:1396:A:C4' | 34:BA:1398:A:O4' | 2.56 | 0.54 |
| 34:BA:1541:U:HO2' | 34:BA:1542:U:HO3' | 1.55 | 0.54 |
| 37:BE:28:PHE:CD1 | 37:BE:31:TYR:C | 2.81 | 0.54 |
| 37:BE:91:PRO:HD3 | 37:BE:154:LEU:HB3 | 1.89 | 0.54 |
| 38:BF:18:TRP:N | 38:BF:18:TRP:HE3 | 2.03 | 0.54 |
| 38:BF:23:TYR:CE1 | 45:BM:11:PHE:CD2 | 2.96 | 0.54 |
| 38:BF:52:LEU:N | 38:BF:52:LEU:CD2 | 2.71 | 0.54 |
| 38:BF:58:GLU:O | 38:BF:64:VAL:HA | 2.08 | 0.54 |
| 38:BF:91:LEU:HD11 | 38:BF:99:VAL:CG2 | 2.34 | 0.54 |
| 39:BG:13:ARG:HG2 | 39:BG:32:ALA:HB1 | 1.90 | 0.54 |
| 39:BG:26:CYS:O | 39:BG:31:CYS:CB | 2.44 | 0.54 |
| 40:BH:106:PRO:HG2 | 40:BH:122:GLU:OE2 | 2.08 | 0.54 |
| 43:BK:44:PHE:O | 43:BK:79:VAL:HG11 | 2.08 | 0.54 |
| 43:BK:79:VAL:HG12 | 43:BK:80:ILE:N | 2.23 | 0.54 |
| 45:BM:25:GLU:C | 45:BM:28:ARG:HB2 | 2.28 | 0.54 |
| 46:BN:14:VAL:HG12 | 46:BN:14:VAL:O | 2.06 | 0.54 |
| 47:BO:89:ARG:O | 47:BO:90:VAL:CG2 | 2.56 | 0.54 |
| 47:BO:117:ARG:HH21 | 47:BO:123:LYS:C | 2.11 | 0.54 |
| 48:BP:8:GLU:HG3 | 48:BP:22:ILE:CG1 | 2.38 | 0.54 |
| 48:BP:114:ARG:O | 48:BP:115:LYS:HG3 | 2.08 | 0.54 |
| 50:BR:29:VAL:O | 50:BR:30:ALA:C | 2.44 | 0.54 |
| 52:BT:35:VAL:HG12 | 52:BT:36:ILE:N | 2.23 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BU:40:LEU:O | 53:BU:42:ARG:N | 2.40 | 0.54 |
| 54:BV:67:VAL:C | 54:BV:69:HIS:H | 2.11 | 0.54 |
| 55:BW:12:ALA:O | 55:BW:15:ARG:HB2 | 2.08 | 0.54 |
| 2:AA:119:A:O2' | 2:AA:120:U:OP2 | 2.24 | 0.53 |
| 2:AA:129:C:H5' | 2:AA:1599:C:O2' | 2.07 | 0.53 |
| 2:AA:197:A:C2' | 2:AA:198:C:H6 | 2.21 | 0.53 |
| 2:AA:244:A:C5 | 2:AA:255:A:N7 | 2.76 | 0.53 |
| 2:AA:291:C:C4 | 2:AA:349:G:N1 | 2.76 | 0.53 |
| 2:AA:322:A:N3 | 2:AA:341:G:C8 | 2.76 | 0.53 |
| 2:AA:450:G:N2 | 2:AA:454:A:H2 | 2.07 | 0.53 |
| 2:AA:451:C:C2 | 2:AA:453:C:C5 | 2.96 | 0.53 |
| 2:AA:503:A:C1' | 2:AA:505:A:H8 | 2.20 | 0.53 |
| 2:AA:542:C:O2 | 2:AA:543:C:C5 | 2.61 | 0.53 |
| 2:AA:630:G:HO2' | 2:AA:631:A:H8 | 1.55 | 0.53 |
| 2:AA:640:C:N4 | 2:AA:647:G:O6 | 2.41 | 0.53 |
| 2:AA:640:C:C6 | 2:AA:640:C:C3' | 2.91 | 0.53 |
| 2:AA:659:C:C2 | 2:AA:660:G:C8 | 2.96 | 0.53 |
| 2:AA:858:U:H1' | 2:AA:2269:A:H5" | 1.89 | 0.53 |
| 2:AA:911:A:C8 | 2:AA:2264:C:C1' | 2.73 | 0.53 |
| 2:AA:976:C:N4 | 2:AA:988:A:C4 | 2.75 | 0.53 |
| 2:AA:1063:G:OP2 | 11:AL:77:PHE:HE1 | 1.91 | 0.53 |
| 2:AA:1089:G:O5' | 2:AA:1089:G:C8 | 2.57 | 0.53 |
| 2:AA:1138:G:C2 | 2:AA:1139:G:C5 | 2.96 | 0.53 |
| 2:AA:1152:C:H5" | 25:A1:80:ILE:CB | 2.38 | 0.53 |
| 2:AA:1252:G:N2 | 25:A1:37:GLN:NE2 | 2.40 | 0.53 |
| 2:AA:1252:G:N7 | 2:AA:1253:A:N3 | 2.55 | 0.53 |
| 2:AA:1268:A:C2' | 2:AA:1269:A:H8 | 2.15 | 0.53 |
| 2:AA:1271:G:H3' | 2:AA:1271:G:C8 | 2.43 | 0.53 |
| 2:AA:1272:A:O2' | 2:AA:1273:U:P | 2.66 | 0.53 |
| 2:AA:1473:G:O2' | 2:AA:1474:C:H5' | 2.09 | 0.53 |
| 2:AA:1542:G:C2 | 2:AA:1543:A:H5" | 2.43 | 0.53 |
| 2:AA:1569:A:N1 | 2:AA:1570:A:C5 | 2.76 | 0.53 |
| 2:AA:1770:G:C5 | 2:AA:1771:C:C5 | 2.96 | 0.53 |
| 2:AA:1802:A:P | 2:AA:1814:G:H22 | 2.28 | 0.53 |
| 2:AA:1912:A:O2' | 34:BA:1494:G:O2' | 2.24 | 0.53 |
| 2:AA:2043:C:H2' | 2:AA:2044:C:O5' | 2.09 | 0.53 |
| 2:AA:2110:G:H2' | 2:AA:2111:C:C4 | 2.43 | 0.53 |
| 2:AA:2330:G:C2 | 2:AA:2331:G:N3 | 2.75 | 0.53 |
| 2:AA:2334:G:O6 | 16:AQ:10:MET:HE1 | 2.08 | 0.53 |
| 2:AA:2344:U:O2 | 2:AA:2344:U:H2' | 2.06 | 0.53 |
| 2:AA:2349:G:O6 | 2:AA:2350:C:C4 | 2.62 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2521:C:N4 | 2:AA:2544:G:N1 | 2.29 | 0.53 |
| 2:AA:2674:G:C4 | 2:AA:2675:A:N7 | 2.75 | 0.53 |
| 2:AA:2821:A:P | 5:AE:207:GLY:HA3 | 2.47 | 0.53 |
| 2:AA:2834:G:H5' | 2:AA:2835:A:OP2 | 2.07 | 0.53 |
| 3:AC:61:THR:HG22 | 3:AC:162:GLU:HG2 | 1.91 | 0.53 |
| 3:AC:103:ILE:HG12 | 3:AC:107:TRP:CE3 | 2.42 | 0.53 |
| 3:AC:131:LEU:CA | 3:AC:136:LEU:HB2 | 2.38 | 0.53 |
| 4:AD:109:LEU:HD11 | 4:AD:125:ILE:O | 2.07 | 0.53 |
| 4:AD:143:ILE:HG21 | 4:AD:153:LEU:HB2 | 1.90 | 0.53 |
| 4:AD:160:SER:O | 4:AD:176:ALA:CA | 2.55 | 0.53 |
| 4:AD:208:GLY:CA | 4:AD:210:LYS:HZ3 | 2.21 | 0.53 |
| 5:AE:314:ALA:O | 5:AE:315:VAL:O | 2.26 | 0.53 |
| 6:AF:157:LEU:O | 6:AF:158:GLU:C | 2.45 | 0.53 |
| 7:AG:59:GLY:O | 7:AG:60:GLU:HG3 | 2.07 | 0.53 |
| 7:AG:96:SER:C | 7:AG:98:PHE:N | 2.54 | 0.53 |
| 11:AL:79:LEU:CD1 | 11:AL:137:ILE:HD13 | 2.37 | 0.53 |
| 12:AM:38:VAL:C | 12:AM:103:VAL:HG13 | 2.29 | 0.53 |
| 13:AN:7:ARG:HB3 | 13:AN:44:LYS:HZ1 | 1.66 | 0.53 |
| 14:AO:141:GLU:HB2 | 14:AO:145:LEU:CD1 | 2.38 | 0.53 |
| 15:AP:32:LYS:CE | 21:AV:172:LEU:HD11 | 2.38 | 0.53 |
| 15:AP:75:SER:O | 15:AP:132:VAL:CG2 | 2.54 | 0.53 |
| 15:AP:126:VAL:CG1 | 15:AP:127:ASN:N | 2.70 | 0.53 |
| 16:AQ:43:VAL:C | 16:AQ:44:ARG:HG3 | 2.28 | 0.53 |
| 17:AR:49:LEU:CD1 | 17:AR:54:THR:HG22 | 2.38 | 0.53 |
| 17:AR:54:THR:C | 17:AR:56:ARG:N | 2.59 | 0.53 |
| 19:AT:3:ASP:HA | 22:AW:24:LYS:HG3 | 1.89 | 0.53 |
| 19:AT:31:ARG:O | 19:AT:32:ALA:O | 2.26 | 0.53 |
| 19:AT:32:ALA:CA | 19:AT:36:GLU:HG3 | 2.38 | 0.53 |
| 19:AT:68:LEU:HD22 | 19:AT:73:ASP:OD2 | 2.08 | 0.53 |
| 20:AU:62:VAL:HA | 20:AU:74:VAL:CG2 | 2.35 | 0.53 |
| 22:AW:60:GLN:O | 22:AW:61:GLY:C | 2.46 | 0.53 |
| 23:AX:4:LEU:HD11 | 23:AX:39:ASP:HA | 1.90 | 0.53 |
| 23:AX:8:LEU:HD12 | 23:AX:54:VAL:CG1 | 2.38 | 0.53 |
| 24:A0:28:LEU:O | 24:A0:29:LEU:C | 2.44 | 0.53 |
| 24:A0:34:ILE:C | 24:A0:113:LEU:HD22 | 2.28 | 0.53 |
| 24:A0:51:LEU:HD22 | 24:A0:70:LEU:HD11 | 1.90 | 0.53 |
| 26:A2:93:ILE:O | 26:A2:95:ILE:HD11 | 2.07 | 0.53 |
| 27:A3:36:ILE:N | 27:A3:68:VAL:CG2 | 2.68 | 0.53 |
| 28:A4:59:PHE:HA | 28:A4:62:ARG:CZ | 2.38 | 0.53 |
| 30:A6:18:THR:O | 30:A6:19:GLY:C | 2.45 | 0.53 |
| 31:A7:1:MET:O | 31:A7:2:LYS:C | 2.46 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:A7:5:TYR:O | 31:A7:6:GLN:C | 2.47 | 0.53 |
| 34:BA:117:G:C2' | 34:BA:118:U:H5' | 2.35 | 0.53 |
| 34:BA:186:C:H2' | 34:BA:187:C:H6 | 1.73 | 0.53 |
| 34:BA:254:G:H4' | 52:BT:18:THR:CG2 | 2.38 | 0.53 |
| 34:BA:281:G:H2' | 34:BA:282:A:OP2 | 2.08 | 0.53 |
| 34:BA:294:U:H2' | 34:BA:295:C:H6 | 1.71 | 0.53 |
| 34:BA:405:U:O4 | 39:BG:2:GLY:HA3 | 2.08 | 0.53 |
| 34:BA:444:C:H2' | 34:BA:445:G:C8 | 2.42 | 0.53 |
| 34:BA:563:A:C2 | 47:BO:15:ARG:NH1 | 2.72 | 0.53 |
| 34:BA:564:C:H2' | 34:BA:565:U:O4' | 2.07 | 0.53 |
| 34:BA:737:A:O2' | 34:BA:738:C:H5' | 2.07 | 0.53 |
| 34:BA:908:A:H5" | 47:BO:21:LYS:NZ | 2.23 | 0.53 |
| 34:BA:956:U:O2 | 34:BA:957:U:N1 | 2.41 | 0.53 |
| 34:BA:990:C:H42 | 34:BA:1215:G:H1 | 1.56 | 0.53 |
| 34:BA:1013:G:HO2' | 34:BA:1014:A:H8 | 1.56 | 0.53 |
| 34:BA:1026:G:N7 | 34:BA:1027:C:C5 | 2.77 | 0.53 |
| 34:BA:1045:C:C2 | 34:BA:1046:A:H8 | 2.26 | 0.53 |
| 34:BA:1196:U:C3' | 34:BA:1196:U:C6 | 2.91 | 0.53 |
| 34:BA:1226:C:OP2 | 48:BP:103:THR:HG21 | 2.08 | 0.53 |
| 34:BA:1314:C:C2 | 34:BA:1315:U:C4 | 2.95 | 0.53 |
| 34:BA:1319:A:N6 | 34:BA:1323:G:N3 | 2.56 | 0.53 |
| 34:BA:1493:A:O2' | 34:BA:1494:G:C5' | 2.56 | 0.53 |
| 35:BB:34:G:C8 | 35:BB:34:G:H5' | 2.43 | 0.53 |
| 35:BB:49:C:N4 | 35:BB:50:U:O4 | 2.41 | 0.53 |
| 35:BB:59:U:O4 | 35:BB:60:C:N4 | 2.41 | 0.53 |
| 35:BC:5:A:O2' | 35:BC:6:U:O5' | 2.27 | 0.53 |
| 36:B1:66:G:H2' | 36:B1:67:U:C5' | 2.38 | 0.53 |
| 37:BE:61:LEU:N | 37:BE:64:ARG:NH1 | 2.56 | 0.53 |
| 37:BE:71:VAL:HG12 | 37:BE:72:GLY:N | 2.23 | 0.53 |
| 37:BE:79:ASP:HA | 37:BE:82:ARG:HB2 | 1.91 | 0.53 |
| 37:BE:85:ALA:O | 37:BE:86:GLU:C | 2.44 | 0.53 |
| 37:BE:201:ILE:HG22 | 37:BE:201:ILE:O | 2.07 | 0.53 |
| 37:BE:215:LEU:O | 37:BE:218:ALA:HB3 | 2.07 | 0.53 |
| 38:BF:30:ARG:NH1 | 38:BF:30:ARG:CG | 2.71 | 0.53 |
| 38:BF:123:GLN:HB3 | 38:BF:128:PHE:CE2 | 2.42 | 0.53 |
| 38:BF:157:ILE:CG2 | 38:BF:164:ARG:HE | 2.18 | 0.53 |
| 40:BH:20:GLN:NE2 | 40:BH:20:GLN:HA | 2.23 | 0.53 |
| 40:BH:84:PHE:CE2 | 40:BH:130:ASN:OD1 | 2.61 | 0.53 |
| 43:BK:85:ARG:HD2 | 43:BK:134:ILE:O | 2.07 | 0.53 |
| 44:BL:70:LYS:O | 44:BL:71:SER:C | 2.46 | 0.53 |
| 47:BO:35:GLY:C | 47:BO:82:VAL:HG13 | 2.28 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:97:ARG:C | 47:BO:98:TYR:CD1 | 2.82 | 0.53 |
| 47:BO:117:ARG:NE | 47:BO:124:LYS:HA | 2.23 | 0.53 |
| 48:BP:2:ALA:C | 48:BP:4:ILE:HG13 | 2.29 | 0.53 |
| 48:BP:97:PRO:N | 48:BP:110:ARG:HG2 | 2.23 | 0.53 |
| 50:BR:49:ASP:OD1 | 50:BR:52:SER:OG | 2.22 | 0.53 |
| 50:BR:75:PRO:HA | 50:BR:78:TYR:HB3 | 1.90 | 0.53 |
| 53:BU:20:ALA:O | 53:BU:21:LYS:HB3 | 2.08 | 0.53 |
| 53:BU:76:LEU:HD22 | 53:BU:76:LEU:N | 2.23 | 0.53 |
| 55:BW:42:GLN:HE21 | 55:BW:42:GLN:C | 2.12 | 0.53 |
| 55:BW:50:GLU:N | 55:BW:99:LEU:HB2 | 2.23 | 0.53 |
| 1:AB:71:C:C2 | 1:AB:72:G:C8 | 2.96 | 0.53 |
| 2:AA:110:G:C6 | 2:AA:111:A:C6 | 2.97 | 0.53 |
| 2:AA:131:G:C2 | 2:AA:132:G:N7 | 2.76 | 0.53 |
| 2:AA:138:G:N2 | 2:AA:139:G:OP2 | 2.35 | 0.53 |
| 2:AA:153:C:C4 | 2:AA:174:C:N4 | 2.76 | 0.53 |
| 2:AA:197:A:C5 | 2:AA:2430:A:C8 | 2.96 | 0.53 |
| 2:AA:215:G:H4' | 2:AA:216:A:H4' | 1.89 | 0.53 |
| 2:AA:312:G:N3 | 2:AA:312:G:H2' | 2.23 | 0.53 |
| 2:AA:348:G:H3' | 2:AA:349:G:C8 | 2.43 | 0.53 |
| 2:AA:372:G:H4' | 28:A4:63:PHE:CE2 | 2.43 | 0.53 |
| 2:AA:446:G:OP2 | 25:A1:3:ARG:HB3 | 2.08 | 0.53 |
| 2:AA:464:U:C2 | 2:AA:465:G:C8 | 2.95 | 0.53 |
| 2:AA:502:A:C8 | 2:AA:502:A:O5' | 2.61 | 0.53 |
| 2:AA:552:G:O2' | 2:AA:553:U:C5' | 2.53 | 0.53 |
| 2:AA:557:U:H2' | 2:AA:558:G:H8 | 1.71 | 0.53 |
| 2:AA:571:A:N9 | 2:AA:2030:A:N6 | 2.56 | 0.53 |
| 2:AA:580:C:C2 | 2:AA:581:C:C5 | 2.97 | 0.53 |
| 2:AA:718:A:H3' | 2:AA:719:C:O4' | 2.07 | 0.53 |
| 2:AA:729:G:C8 | 2:AA:764:A:OP1 | 2.54 | 0.53 |
| 2:AA:1000:A:OP2 | 2:AA:1154:G:N1 | 2.31 | 0.53 |
| 2:AA:1012:U:O2 | 12:AM:21:ARG:CG | 2.52 | 0.53 |
| 2:AA:1058:G:O2' | 9:AI:3:ILE:CG1 | 2.56 | 0.53 |
| 2:AA:1095:A:C8 | 2:AA:1096:A:C8 | 2.96 | 0.53 |
| 2:AA:1128:A:C2 | 2:AA:1129:A:C6 | 2.92 | 0.53 |
| 2:AA:1148:A:C6 | 2:AA:1149:G:C6 | 2.96 | 0.53 |
| 2:AA:1398:C:O5' | 2:AA:1398:C:H6 | 1.92 | 0.53 |
| 2:AA:1496:A:C2 | 2:AA:1577:C:O2' | 2.58 | 0.53 |
| 2:AA:1678:G:N2 | 2:AA:1989:G:N2 | 2.57 | 0.53 |
| 2:AA:1815:A:O2' | 2:AA:1816:G:C5' | 2.56 | 0.53 |
| 2:AA:1827:C:C2 | 2:AA:1828:G:C1' | 2.92 | 0.53 |
| 2:AA:1860:G:H2' | 2:AA:1861:G:H8 | 1.73 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1913:A:N6 | 2:AA:1917:U:C5 | 2.76 | 0.53 |
| 2:AA:1935:G:C5 | 2:AA:1962:C:C5 | 2.96 | 0.53 |
| 2:AA:1947:C:C2' | 2:AA:1948:G:H5' | 2.39 | 0.53 |
| 2:AA:2027:G:N3 | 2:AA:2037:G:N2 | 2.56 | 0.53 |
| 2:AA:2209:C:C1' | 4:AD:149:ARG:NH2 | 2.71 | 0.53 |
| 2:AA:2277:G:O3' | 15:AP:15:THR:HG23 | 2.09 | 0.53 |
| 2:AA:2278:A:P | 15:AP:15:THR:HG21 | 2.48 | 0.53 |
| 2:AA:2309:A:H3' | 2:AA:2310:A:H8 | 1.73 | 0.53 |
| 2:AA:2359:C:C3' | 32:A8:52:LYS:HZ1 | 2.21 | 0.53 |
| 2:AA:2419:U:H5" | 30:A6:24:THR:CG2 | 2.38 | 0.53 |
| 2:AA:2522:U:O2 | 2:AA:2765:A:C6 | 2.62 | 0.53 |
| 2:AA:2662:A:C2 | 2:AA:2663:G:C4' | 2.91 | 0.53 |
| 2:AA:2687:U:O2 | 2:AA:2688:U:C6 | 2.61 | 0.53 |
| 2:AA:2748:A:C2 | 2:AA:2758:A:N7 | 2.76 | 0.53 |
| 2:AA:2812:G:H2' | 2:AA:2813:A:H8 | 1.74 | 0.53 |
| 2:AA:2828:C:N3 | 2:AA:2829:C:C5 | 2.76 | 0.53 |
| 3:AC:100:ILE:HG22 | 3:AC:127:LEU:HG | 1.90 | 0.53 |
| 3:AC:104:LEU:HB2 | 3:AC:127:LEU:HD23 | 1.90 | 0.53 |
| 3:AC:129:ARG:C | 3:AC:130:ILE:HD12 | 2.29 | 0.53 |
| 3:AC:171:ILE:HD12 | 3:AC:196:LEU:HD13 | 1.90 | 0.53 |
| 4:AD:60:GLN:O | 4:AD:62:ARG:N | 2.41 | 0.53 |
| 4:AD:142:ASN:CG | 4:AD:190:THR:HG23 | 2.28 | 0.53 |
| 9:AI:22:VAL:CG1 | 9:AI:38:ALA:HB1 | 2.33 | 0.53 |
| 9:AI:111:ALA:C | 9:AI:115:LYS:HE3 | 2.28 | 0.53 |
| 9:AJ:30:GLY:C | 9:AJ:32:THR:H | 2.12 | 0.53 |
| 10:AK:94:THR:HG23 | 10:AK:94:THR:O | 2.06 | 0.53 |
| 10:AK:112:LYS:C | 10:AK:114:LYS:H | 2.12 | 0.53 |
| 10:AK:133:LEU:H | 10:AK:138:THR:CG2 | 2.21 | 0.53 |
| 12:AM:72:PRO:CB | 12:AM:77:GLY:HA3 | 2.38 | 0.53 |
| 12:AM:92:GLN:O | 12:AM:95:ARG:HB2 | 2.08 | 0.53 |
| 14:AO:117:GLU:CD | 14:AO:136:ALA:C | 2.67 | 0.53 |
| 15:AP:50:VAL:CG1 | 15:AP:147:VAL:HG22 | 2.39 | 0.53 |
| 15:AP:61:LEU:HD23 | 15:AP:61:LEU:H | 1.72 | 0.53 |
| 15:AP:71:PHE:N | 15:AP:71:PHE:CD1 | 2.76 | 0.53 |
| 16:AQ:46:GLN:HB3 | 16:AQ:57:THR:HG21 | 1.90 | 0.53 |
| 19:AT:6:LYS:HE2 | 19:AT:29:ASP:HA | 1.90 | 0.53 |
| 21:AV:3:LEU:HD13 | 21:AV:34:LEU:HD22 | 1.88 | 0.53 |
| 21:AV:68:ALA:HB3 | 21:AV:82:ASP:CG | 2.29 | 0.53 |
| 21:AV:112:LEU:HD13 | 21:AV:142:ASN:HA | 1.90 | 0.53 |
| 23:AX:55:ARG:HH11 | 23:AX:55:ARG:CB | 2.10 | 0.53 |
| 24:A0:100:LEU:HD23 | 24:A0:112:ALA:HA | 1.89 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:22:VAL:HG12 | 26:A2:23:GLU:H | 1.73 | 0.53 |
| 27:A3:33:ALA:CB | 27:A3:66:LYS:H | 2.20 | 0.53 |
| 27:A3:36:ILE:CB | 27:A3:68:VAL:CG1 | 2.80 | 0.53 |
| 27:A3:36:ILE:O | 27:A3:37:LEU:CG | 2.56 | 0.53 |
| 29:A5:35:GLN:C | 29:A5:37:HIS:H | 2.11 | 0.53 |
| 30:A6:41:ASP:O | 30:A6:42:PRO:O | 2.26 | 0.53 |
| 34:BA:36:C:OP1 | 47:BO:123:LYS:HE2 | 2.08 | 0.53 |
| 34:BA:68:G:H8 | 34:BA:68:G:O5' | 1.91 | 0.53 |
| 34:BA:767:A:C8 | 34:BA:767:A:O5' | 2.61 | 0.53 |
| 34:BA:859:A:N7 | 34:BA:860:A:C5 | 2.76 | 0.53 |
| 34:BA:894:G:C2' | 34:BA:895:G:H8 | 2.17 | 0.53 |
| 34:BA:974:A:C4 | 49:BQ:31:ARG:NH2 | 2.77 | 0.53 |
| 34:BA:987:G:H2' | 34:BA:988:G:C5' | 2.34 | 0.53 |
| 34:BA:995:C:C2' | 49:BQ:4:LYS:NZ | 2.70 | 0.53 |
| 34:BA:1077:G:H22 | 34:BA:1079:G:C3' | 2.22 | 0.53 |
| 34:BA:1078:U:O4 | 34:BA:1079:G:C6 | 2.61 | 0.53 |
| 34:BA:1137:C:H5' | 34:BA:1138:G:C2 | 2.43 | 0.53 |
| 34:BA:1193:G:C8 | 34:BA:1193:G:C3' | 2.91 | 0.53 |
| 34:BA:1350:A:N6 | 34:BA:1373:G:C2 | 2.76 | 0.53 |
| 34:BA:1451:A:C5' | 34:BA:1452:C:H41 | 2.21 | 0.53 |
| 34:BA:1496:C:N4 | 34:BA:1497:G:C6 | 2.76 | 0.53 |
| 35:BB:33:U:C5 | 35:BB:35:A:P | 2.99 | 0.53 |
| 35:BB:49:C:N3 | 35:BB:65:G:C2 | 2.75 | 0.53 |
| 35:BC:31:A:C8 | 35:BC:32:C:H5 | 2.26 | 0.53 |
| 37:BE:54:THR:CG2 | 37:BE:201:ILE:HD11 | 2.34 | 0.53 |
| 38:BF:19:GLU:CB | 38:BF:54:ARG:HE | 2.20 | 0.53 |
| 38:BF:126:ARG:HB2 | 38:BF:128:PHE:CE1 | 2.43 | 0.53 |
| 38:BF:174:PRO:HB2 | 38:BF:177:THR:HG22 | 1.91 | 0.53 |
| 39:BG:14:ARG:HD3 | 39:BG:14:ARG:C | 2.27 | 0.53 |
| 39:BG:191:ARG:HH22 | 39:BG:196:LEU:HB2 | 1.71 | 0.53 |
| 39:BG:195:ALA:O | 39:BG:196:LEU:C | 2.43 | 0.53 |
| 43:BK:14:ARG:HH11 | 43:BK:14:ARG:H | 1.56 | 0.53 |
| 45:BM:32:ALA:CB | 45:BM:76:ASN:ND2 | 2.56 | 0.53 |
| 46:BN:11:LYS:N | 46:BN:13:GLN:NE2 | 2.56 | 0.53 |
| 48:BP:51:ALA:O | 48:BP:54:VAL:HB | 2.08 | 0.53 |
| 48:BP:55:ARG:O | 48:BP:56:LEU:C | 2.46 | 0.53 |
| 50:BR:36:ILE:HG22 | 50:BR:37:ASN:HD22 | 1.73 | 0.53 |
| 50:BR:64:ARG:CG | 50:BR:65:ARG:H | 2.21 | 0.53 |
| 53:BU:67:ALA:O | 53:BU:70:ILE:HB | 2.08 | 0.53 |
| 53:BU:70:ILE:CG2 | 53:BU:74:ARG:NE | 2.63 | 0.53 |
| 56:BX:14:TRP:CE3 | 56:BX:15:ARG:HG3 | 2.43 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:54:G:C5 | 1:AB:55:U:C5 | 2.96 | 0.53 |
| 1:AB:61:G:N3 | 1:AB:62:C:C5 | 2.76 | 0.53 |
| 1:AB:82:G:O2' | 1:AB:83:G:C5' | 2.57 | 0.53 |
| 2:AA:83:G:N1 | 2:AA:102:G:H2' | 2.23 | 0.53 |
| 2:AA:90:U:H5' | 2:AA:91:A:OP1 | 2.08 | 0.53 |
| 2:AA:138:G:H1' | 19:AT:42:GLU:CD | 2.29 | 0.53 |
| 2:AA:189:G:O6 | 2:AA:205:G:C4 | 2.61 | 0.53 |
| 2:AA:215:G:C1' | 2:AA:216:A:H4' | 2.38 | 0.53 |
| 2:AA:270(H):C:N4 | 2:AA:270(R):G:C2 | 2.77 | 0.53 |
| 2:AA:280:C:O2' | 2:AA:281:G:C5 | 2.61 | 0.53 |
| 2:AA:301:G:O6 | 2:AA:316:C:N3 | 2.41 | 0.53 |
| 2:AA:359:A:O2' | 2:AA:360:G:C8 | 2.48 | 0.53 |
| 2:AA:445:C:H2' | 25:A1:3:ARG:HH21 | 1.71 | 0.53 |
| 2:AA:548:A:C5' | 2:AA:549:G:C8 | 2.87 | 0.53 |
| 2:AA:688:U:O2' | 2:AA:689:A:H5' | 2.07 | 0.53 |
| 2:AA:792:G:O6 | 2:AA:2440:C:O4' | 2.24 | 0.53 |
| 2:AA:821:A:N6 | 2:AA:946:G:N3 | 2.56 | 0.53 |
| 2:AA:908:C:O2' | 2:AA:909:A:H5' | 2.08 | 0.53 |
| 2:AA:978:G:C6 | 2:AA:979:G:N1 | 2.77 | 0.53 |
| 2:AA:986:C:H6 | 2:AA:986:C:C3' | 2.07 | 0.53 |
| 2:AA:1044:G:N2 | 2:AA:1111:A:O4' | 2.41 | 0.53 |
| 2:AA:1050:A:H2' | 2:AA:1051:G:H5' | 1.90 | 0.53 |
| 2:AA:1139:G:H8 | 2:AA:1139:G:O5' | 1.92 | 0.53 |
| 2:AA:1141:U:O2' | 2:AA:1142:U:OP2 | 2.27 | 0.53 |
| 2:AA:142(A):A:C3' | 2:AA:1143:A:H5' | 2.38 | 0.53 |
| 2:AA:1254:A:N7 | 2:AA:1256:G:C1' | 2.71 | 0.53 |
| 2:AA:1274:A:C2 | 2:AA:1302:A:H2 | 2.26 | 0.53 |
| 2:AA:1286:A:C2 | 2:AA:1329:U:N3 | 2.76 | 0.53 |
| 2:AA:1296:G:OP1 | 2:AA:2709:G:H4' | 2.08 | 0.53 |
| 2:AA:1392:A:C2 | 2:AA:1393:A:N1 | 2.76 | 0.53 |
| 2:AA:1668:A:N3 | 2:AA:1670:C:N4 | 2.55 | 0.53 |
| 2:AA:1827:C:C5' | 2:AA:1971:A:H4' | 2.39 | 0.53 |
| 2:AA:1838:C:O2 | 2:AA:1898:U:C4 | 2.62 | 0.53 |
| 2:AA:1920:C:C2' | 2:AA:1921:G:O5' | 2.56 | 0.53 |
| 2:AA:1932:A:N1 | 2:AA:1933:G:C4 | 2.76 | 0.53 |
| 2:AA:2010:G:C5 | 2:AA:2011:U:C6 | 2.96 | 0.53 |
| 2:AA:2051:A:H5' | 2:AA:2578:G:H5" | 1.90 | 0.53 |
| 2:AA:2131:G:OP1 | 2:AA:2131:G:C4 | 2.62 | 0.53 |
| 2:AA:2275:C:O2' | 15:AP:103:ALA:CA | 2.55 | 0.53 |
| 2:AA:2320:A:H61 | 16:AQ:13:ARG:HG2 | 1.73 | 0.53 |
| 2:AA:2345:G:C8 | 2:AA:2371:G:N2 | 2.76 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2352:A:N1 | 27:A3:30:VAL:HG12 | 2.24 | 0.53 |
| 2:AA:2481:G:O2' | 2:AA:2482:G:H8 | 1.92 | 0.53 |
| 2:AA:2684:U:C4' | 13:AN:76:TYR:CE2 | 2.90 | 0.53 |
| 2:AA:2825:C:H6 | 2:AA:2825:C:O5' | 1.90 | 0.53 |
| 2:AA:2845:G:HO2' | 2:AA:2846:G:C4' | 2.21 | 0.53 |
| 4:AD:95:TYR:HB3 | 4:AD:99:GLU:HG3 | 1.89 | 0.53 |
| 4:AD:209:ASN:O | 4:AD:212:HIS:N | 2.41 | 0.53 |
| 5:AE:250:VAL:O | 5:AE:251:PRO:C | 2.38 | 0.53 |
| 6:AF:210:ALA:O | 6:AF:211:ASP:HB3 | 2.08 | 0.53 |
| 6:AF:219:ASN:H | 6:AF:222:ASP:CB | 2.20 | 0.53 |
| 7:AG:134:LEU:HD13 | 7:AG:136:ARG:CZ | 2.38 | 0.53 |
| 7:AG:134:LEU:HD13 | 7:AG:136:ARG:NH2 | 2.22 | 0.53 |
| 8:AH:29:LYS:HE3 | 8:AH:80:LYS:CA | 2.39 | 0.53 |
| 8:AH:93:TYR:CD1 | 8:AH:106:VAL:HG22 | 2.43 | 0.53 |
| 9:AJ:15:VAL:HG22 | 9:AJ:49:ALA:N | 2.22 | 0.53 |
| 10:AK:34:GLY:O | 10:AK:35:LEU:HG | 2.07 | 0.53 |
| 10:AK:44:LEU:HA | 10:AK:47:LEU:HD23 | 1.90 | 0.53 |
| 11:AL:96:ILE:HG23 | 11:AL:138:GLU:OE2 | 2.08 | 0.53 |
| 11:AL:132:ALA:C | 11:AL:137:ILE:O | 2.47 | 0.53 |
| 12:AM:45:VAL:CG2 | 12:AM:131:THR:N | 2.66 | 0.53 |
| 12:AM:95:ARG:O | 12:AM:96:GLU:C | 2.46 | 0.53 |
| 12:AM:139:LEU:HD13 | 12:AM:139:LEU:H | 1.73 | 0.53 |
| 13:AN:25:LEU:HD21 | 13:AN:40:VAL:CG2 | 2.39 | 0.53 |
| 13:AN:106:LEU:HD12 | 13:AN:114:ILE:CG2 | 2.37 | 0.53 |
| 14:AO:94:ARG:O | 14:AO:120:LEU:CD1 | 2.56 | 0.53 |
| 16:AQ:12:ARG:CZ | 16:AQ:20:TYR:CZ | 2.91 | 0.53 |
| 16:AQ:27:LEU:O | 16:AQ:27:LEU:CD1 | 2.55 | 0.53 |
| 18:AS:28:SER:CB | 18:AS:31:GLU:HB3 | 2.37 | 0.53 |
| 19:AT:5:ILE:HD11 | 19:AT:41:VAL:CA | 2.38 | 0.53 |
| 21:AV:3:LEU:HD12 | 21:AV:54:ILE:CD1 | 2.39 | 0.53 |
| 21:AV:18:MET:H | 21:AV:36:ARG:NH2 | 2.06 | 0.53 |
| 21:AV:26:LYS:CB | 21:AV:27:GLU:OE2 | 2.53 | 0.53 |
| 22:AW:19:GLU:HA | 22:AW:22:ASP:OD2 | 2.08 | 0.53 |
| 22:AW:36:ALA:O | 22:AW:37:GLY:C | 2.46 | 0.53 |
| 23:AX:6:VAL:HG22 | 23:AX:54:VAL:CG2 | 2.39 | 0.53 |
| 23:AX:14:GLY:O | 23:AX:15:TYR:C | 2.45 | 0.53 |
| 25:A1:74:MET:HE3 | 25:A1:75:ASN:N | 2.24 | 0.53 |
| 25:A1:110:VAL:O | 25:A1:114:ARG:CG | 2.54 | 0.53 |
| 26:A2:39:PHE:O | 26:A2:40:VAL:CG1 | 2.52 | 0.53 |
| 27:A3:63:SER:O | 27:A3:64:ASP:CG | 2.47 | 0.53 |
| 32:A8:18:GLY:O | 32:A8:20:GLY:N | 2.40 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:A8:32:GLN:O | 32:A8:33:ASN:O | 2.27 | 0.53 |
| 34:BA:21:G:H21 | 34:BA:915:A:N6 | 2.05 | 0.53 |
| 34:BA:108:G:C2 | 34:BA:109:A:N1 | 2.76 | 0.53 |
| 34:BA:109:A:N6 | 34:BA:326:G:C6 | 2.74 | 0.53 |
| 34:BA:114:U:O2 | 34:BA:114:U:C2' | 2.56 | 0.53 |
| 34:BA:233:C:C2 | 34:BA:234:C:C6 | 2.97 | 0.53 |
| 34:BA:236:G:C6 | 34:BA:237:C:N4 | 2.77 | 0.53 |
| 34:BA:242:C:H2' | 34:BA:243:A:C5' | 2.37 | 0.53 |
| 34:BA:327:A:N6 | 34:BA:329:A:C6 | 2.77 | 0.53 |
| 34:BA:339:C:C2' | 34:BA:340:U:O5' | 2.57 | 0.53 |
| 34:BA:517:G:H5" | 34:BA:518:C:OP1 | 2.08 | 0.53 |
| 34:BA:529:G:O6 | 47:BO:49:ASN:CG | 2.46 | 0.53 |
| 34:BA:560:U:H4' | 34:BA:561:U:H5" | 1.89 | 0.53 |
| 34:BA:579:G:C6 | 34:BA:763:G:N1 | 2.76 | 0.53 |
| 34:BA:606:G:N2 | 34:BA:631:G:C2 | 2.76 | 0.53 |
| 34:BA:620:C:C5 | 34:BA:621:A:C8 | 2.95 | 0.53 |
| 34:BA:648:A:N1 | 34:BA:649:G:C5 | 2.76 | 0.53 |
| 34:BA:659:U:H2' | 34:BA:660:G:H8 | 1.72 | 0.53 |
| 34:BA:662:G:O2' | 34:BA:836:G:C5' | 2.57 | 0.53 |
| 34:BA:719:C:H3' | 34:BA:720:C:C5 | 2.43 | 0.53 |
| 34:BA:809:G:C2' | 34:BA:810:C:C5' | 2.86 | 0.53 |
| 34:BA:866:C:H5 | 34:BA:867:G:N9 | 2.06 | 0.53 |
| 34:BA:885:G:C2 | 34:BA:886:G:N7 | 2.77 | 0.53 |
| 34:BA:930:C:C4 | 34:BA:931:C:C5 | 2.95 | 0.53 |
| 34:BA:1098:C:H2' | 34:BA:1099:G:C5' | 2.37 | 0.53 |
| 34:BA:1106:G:N1 | 34:BA:1107:C:C4 | 2.77 | 0.53 |
| 34:BA:1213:A:C2 | 34:BA:1215:G:C1' | 2.89 | 0.53 |
| 34:BA:1347:G:N7 | 44:BL:107:ARG:NH1 | 2.55 | 0.53 |
| 34:BA:1347:G:N1 | 34:BA:1374:A:OP2 | 2.40 | 0.53 |
| 34:BA:1419:G:O2' | 34:BA:1420:C:O5' | 2.25 | 0.53 |
| 35:BC:20:G:N2 | 35:BC:21:A:C5' | 2.47 | 0.53 |
| 35:BC:72:C:C6 | 35:BC:73:A:N7 | 2.76 | 0.53 |
| 37:BE:88:ALA:HA | 37:BE:219:VAL:HG13 | 1.90 | 0.53 |
| 37:BE:104:ASN:OD1 | 37:BE:107:THR:HB | 2.09 | 0.53 |
| 38:BF:131:ARG:NH2 | 38:BF:164:ARG:HH22 | 2.05 | 0.53 |
| 38:BF:186:PHE:CE1 | 38:BF:187:ALA:C | 2.82 | 0.53 |
| 39:BG:89:THR:O | 39:BG:90:GLY:C | 2.45 | 0.53 |
| 39:BG:121:VAL:HA | 39:BG:126:ILE:HD11 | 1.88 | 0.53 |
| 42:BJ:17:VAL:HG21 | 42:BJ:44:TYR:CZ | 2.43 | 0.53 |
| 42:BJ:122:HIS:O | 42:BJ:123:GLU:C | 2.46 | 0.53 |
| 43:BK:21:LYS:O | 43:BK:63:LEU:CD1 | 2.56 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:31:PHE:CD2 | 43:BK:31:PHE:C | 2.82 | 0.53 |
| 43:BK:89:PRO:CA | 43:BK:92:ARG:HH21 | 2.22 | 0.53 |
| 43:BK:93:VAL:CB | 43:BK:133:LEU:HD12 | 2.38 | 0.53 |
| 43:BK:126:LYS:NZ | 43:BK:127:LEU:CG | 2.69 | 0.53 |
| 47:BO:117:ARG:NE | 47:BO:123:LYS:O | 2.38 | 0.53 |
| 47:BO:120:TYR:O | 47:BO:121:GLY:O | 2.26 | 0.53 |
| 48:BP:22:ILE:HD12 | 48:BP:25:ILE:HD12 | 1.87 | 0.53 |
| 52:BT:22:LEU:HD12 | 52:BT:40:LYS:O | 2.07 | 0.53 |
| 52:BT:91:ARG:HA | 52:BT:94:ASN:ND2 | 2.23 | 0.53 |
| 53:BU:39:VAL:HA | 53:BU:42:ARG:CD | 2.38 | 0.53 |
| 53:BU:63:GLN:O | 53:BU:67:ALA:HB2 | 2.09 | 0.53 |
| 55:BW:23:ARG:O | 55:BW:24:LEU:C | 2.46 | 0.53 |
| 55:BW:88:VAL:O | 55:BW:91:LEU:HB2 | 2.09 | 0.53 |
| 56:BX:9:ARG:NH2 | 56:BX:21:TYR:HB3 | 2.23 | 0.53 |
| 2:AA:6:A:O3' | 12:AM:6:PHE:CE2 | 2.62 | 0.53 |
| 2:AA:59:U:C2 | 2:AA:73:A:C2 | 2.97 | 0.53 |
| 2:AA:82:G:N2 | 2:AA:105:C:N4 | 2.55 | 0.53 |
| 2:AA:179:G:C5 | 2:AA:180:G:N7 | 2.77 | 0.53 |
| 2:AA:188:G:H2' | 2:AA:189:G:C5' | 2.39 | 0.53 |
| 2:AA:271:G:N2 | 2:AA:404:C:N4 | 2.56 | 0.53 |
| 2:AA:300:A:N3 | 2:AA:319:C:H1' | 2.23 | 0.53 |
| 2:AA:513:A:C6 | 2:AA:514:A:N7 | 2.77 | 0.53 |
| 2:AA:619:G:N7 | 2:AA:620:G:C2 | 2.77 | 0.53 |
| 2:AA:646:A:H2 | 2:AA:647:G:C4 | 2.27 | 0.53 |
| 2:AA:717:G:N2 | 2:AA:718:A:H1' | 2.23 | 0.53 |
| 2:AA:729:G:O6 | 2:AA:1775:U:N3 | 2.40 | 0.53 |
| 2:AA:740:U:H2' | 2:AA:741:G:C8 | 2.34 | 0.53 |
| 2:AA:748:G:C6 | 2:AA:750:A:C2 | 2.97 | 0.53 |
| 2:AA:783:A:C2' | 2:AA:784:A:C5' | 2.86 | 0.53 |
| 2:AA:929:G:O2' | 23:AX:37:LEU:HD13 | 2.08 | 0.53 |
| 2:AA:942:G:H2' | 2:AA:943:U:C1' | 2.38 | 0.53 |
| 2:AA:975:G:C5 | 2:AA:990:A:C5 | 2.97 | 0.53 |
| 2:AA:996:A:C6 | 2:AA:997:G:N7 | 2.76 | 0.53 |
| 2:AA:1070:A:N6 | 2:AA:1096:A:H2 | 2.04 | 0.53 |
| 2:AA:1334:G:H2' | 2:AA:1335:U:H6 | 1.73 | 0.53 |
| 2:AA:1352:U:H1' | 2:AA:1570:A:H2 | 1.71 | 0.53 |
| 2:AA:1467:C:C5 | 2:AA:1468:C:C5 | 2.92 | 0.53 |
| 2:AA:1483:G:C2 | 2:AA:1507:A:O2' | 2.61 | 0.53 |
| 2:AA:1627:G:OP2 | 2:AA:1627:G:C8 | 2.62 | 0.53 |
| 2:AA:1858:G:OP2 | 2:AA:1858:G:H8 | 1.92 | 0.53 |
| 2:AA:1918:A:C5 | 2:AA:1919:A:N6 | 2.76 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1977:A:N3 | 2:AA:1978:A:N9 | 2.56 | 0.53 |
| 2:AA:1980:G:O2' | 2:AA:1981:A:P | 2.67 | 0.53 |
| 2:AA:2047:U:O2 | 2:AA:2048:G:C8 | 2.61 | 0.53 |
| 2:AA:2057:A:C2' | 2:AA:2058:A:O5' | 2.57 | 0.53 |
| 2:AA:2079:U:C4 | 2:AA:2080:G:N7 | 2.77 | 0.53 |
| 2:AA:2094:G:O2' | 2:AA:2095:C:H5' | 2.09 | 0.53 |
| 2:AA:2108:C:H3' | 2:AA:2109:U:C5 | 2.43 | 0.53 |
| 2:AA:2132:U:O3' | 3:AC:5:LYS:N | 2.41 | 0.53 |
| 2:AA:2183:C:N3 | 2:AA:2184:G:N7 | 2.55 | 0.53 |
| 2:AA:2250:G:H5" | 2:AA:2250:G:C8 | 2.43 | 0.53 |
| 2:AA:2306:C:N4 | 7:AG:53:LYS:NZ | 2.56 | 0.53 |
| 2:AA:2456:C:H2' | 2:AA:2457:U:O4' | 2.08 | 0.53 |
| 2:AA:2604:U:C2' | 2:AA:2605:U:O5' | 2.56 | 0.53 |
| 2:AA:2619:C:C2' | 2:AA:2620:C:O5' | 2.56 | 0.53 |
| 2:AA:2628:C:O2' | 2:AA:2781:A:H2' | 2.09 | 0.53 |
| 2:AA:2646:C:N4 | 2:AA:2732:G:C2 | 2.76 | 0.53 |
| 2:AA:2654:A:H61 | 2:AA:2667:C:N4 | 2.06 | 0.53 |
| 2:AA:2742:C:O2 | 2:AA:2743:C:C6 | 2.61 | 0.53 |
| 2:AA:2817:G:H1 | 2:AA:2829:C:H42 | 1.56 | 0.53 |
| 2:AA:2822:G:OP1 | 5:AE:258:TYR:HE2 | 1.90 | 0.53 |
| 2:AA:2831:G:C1' | 2:AA:2883:A:C2 | 2.92 | 0.53 |
| 2:AA:2859:G:H8 | 2:AA:2859:G:O5' | 1.91 | 0.53 |
| 4:AD:70:LYS:CD | 4:AD:73:ILE:HD12 | 2.38 | 0.53 |
| 4:AD:97:ASP:OD2 | 4:AD:97:ASP:O | 2.27 | 0.53 |
| 5:AE:39:GLN:OE1 | 5:AE:174:LEU:HD11 | 2.05 | 0.53 |
| 5:AE:41:PHE:HB2 | 5:AE:311:PHE:HE1 | 1.71 | 0.53 |
| 5:AE:194:ARG:HG3 | 5:AE:197:GLU:CD | 2.29 | 0.53 |
| 5:AE:234:ARG:O | 5:AE:235:ILE:O | 2.25 | 0.53 |
| 6:AF:25:PRO:O | 6:AF:26:VAL:HB | 2.08 | 0.53 |
| 6:AF:84:VAL:CG2 | 6:AF:85:LYS:HZ2 | 2.14 | 0.53 |
| 6:AF:96:LYS:O | 6:AF:98:ARG:CD | 2.57 | 0.53 |
| 6:AF:111:VAL:HA | 6:AF:220:THR:CG2 | 2.26 | 0.53 |
| 6:AF:220:THR:O | 6:AF:225:PRO:CD | 2.48 | 0.53 |
| 7:AG:146:LYS:CE | 16:AQ:15:GLU:OE2 | 2.56 | 0.53 |
| 8:AH:85:ALA:O | 8:AH:148:ARG:NH2 | 2.40 | 0.53 |
| 9:AI:30:GLY:C | 9:AI:32:THR:H | 2.12 | 0.53 |
| 9:AI:41:ALA:O | 9:AI:44:VAL:HB | 2.08 | 0.53 |
| 10:AK:26:ALA:HA | 10:AK:30:LEU:CD1 | 2.39 | 0.53 |
| 10:AK:94:THR:O | 10:AK:97:GLN:HB2 | 2.08 | 0.53 |
| 12:AM:36:VAL:HG12 | 12:AM:38:VAL:CG2 | 2.36 | 0.53 |
| 12:AM:74:ARG:HG3 | 12:AM:141:ALA:O | 2.07 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:64:ARG:HG3 | 13:AN:79:PHE:CD1 | 2.30 | 0.53 |
| 13:AN:86:ILE:HG23 | 13:AN:87:ILE:N | 2.23 | 0.53 |
| 15:AP:69:ASN:C | 15:AP:69:ASN:HD22 | 2.12 | 0.53 |
| 20:AU:103:LEU:HD22 | 20:AU:109:GLU:CA | 2.36 | 0.53 |
| 20:AU:103:LEU:C | 20:AU:105:ASP:H | 2.10 | 0.53 |
| 21:AV:118:HIS:ND1 | 21:AV:167:THR:C | 2.62 | 0.53 |
| 22:AW:30:ALA:O | 22:AW:34:GLN:HG2 | 2.09 | 0.53 |
| 22:AW:52:ALA:HA | 22:AW:55:ARG:HH11 | 1.70 | 0.53 |
| 24:A0:93:GLY:C | 24:A0:95:THR:H | 2.10 | 0.53 |
| 25:A1:33:ARG:O | 25:A1:35:ALA:N | 2.41 | 0.53 |
| 25:A1:89:ASP:OD1 | 26:A2:52:GLY:CA | 2.57 | 0.53 |
| 26:A2:65:ARG:NH1 | 26:A2:94:LYS:HZ2 | 2.07 | 0.53 |
| 27:A3:69:PHE:C | 27:A3:70:ILE:CG1 | 2.76 | 0.53 |
| 31:A7:33:ARG:C | 31:A7:37:LYS:HD2 | 2.29 | 0.53 |
| 34:BA:11:G:O5' | 34:BA:11:G:H8 | 1.92 | 0.53 |
| 34:BA:52:G:N3 | 34:BA:53:A:C8 | 2.76 | 0.53 |
| 34:BA:97:G:H2' | 34:BA:98:U:H6 | 1.74 | 0.53 |
| 34:BA:129(A):G:O2' | 34:BA:190(E):U:H3' | 2.08 | 0.53 |
| 34:BA:264:U:H2' | 34:BA:265:G:C5' | 2.37 | 0.53 |
| 34:BA:280:C:H1' | 52:BT:38:ARG:HD3 | 1.90 | 0.53 |
| 34:BA:342:C:N1 | 34:BA:348:G:N2 | 2.56 | 0.53 |
| 34:BA:475:G:N3 | 34:BA:476:G:C8 | 2.77 | 0.53 |
| 34:BA:683:G:N2 | 46:BN:39:PRO:CD | 2.71 | 0.53 |
| 34:BA:684:A:C2' | 46:BN:39:PRO:HG2 | 2.39 | 0.53 |
| 34:BA:750:G:H4' | 50:BR:20:GLY:O | 2.08 | 0.53 |
| 34:BA:774:G:H5" | 34:BA:774:G:C8 | 2.44 | 0.53 |
| 34:BA:781:A:O2' | 34:BA:782:A:OP1 | 2.26 | 0.53 |
| 34:BA:915:A:H2' | 34:BA:916:G:H5' | 1.90 | 0.53 |
| 34:BA:1006:C:N3 | 34:BA:1023:G:O6 | 2.41 | 0.53 |
| 34:BA:1030:C:H2' | 34:BA:30(A):G:C8 | 2.43 | 0.53 |
| 34:BA:1041:A:H2' | 34:BA:1042:G:O5' | 2.08 | 0.53 |
| 34:BA:1089:G:C6 | 34:BA:1090:U:C5 | 2.96 | 0.53 |
| 34:BA:1129:C:H4' | 34:BA:1131:G:C5 | 2.39 | 0.53 |
| 34:BA:1222:G:P | 54:BV:77:THR:HG21 | 2.49 | 0.53 |
| 34:BA:1267:C:N4 | 34:BA:1268:A:N1 | 2.56 | 0.53 |
| 34:BA:1462:G:H2' | 34:BA:1463:C:H6 | 1.72 | 0.53 |
| 34:BA:1480:G:O2' | 34:BA:1481:U:H5' | 2.09 | 0.53 |
| 34:BA:1533:C:HO2' | 34:BA:1535:C:H5 | 1.56 | 0.53 |
| 35:BC:17:U:C5' | 35:BC:18:G:O5' | 2.56 | 0.53 |
| 36:B1:50:G:C2 | 36:B1:51:G:C5 | 2.97 | 0.53 |
| 37:BE:46:LYS:O | 37:BE:49:GLU:N | 2.41 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:53:ARG:HA | 37:BE:56:ARG:NH1 | 2.23 | 0.53 |
| 37:BE:156:LYS:O | 37:BE:156:LYS:HG2 | 2.09 | 0.53 |
| 37:BE:163:PHE:CA | 37:BE:185:ILE:HD12 | 2.38 | 0.53 |
| 38:BF:71:ALA:HA | 38:BF:106:VAL:HB | 1.89 | 0.53 |
| 38:BF:115:LEU:O | 38:BF:117:ALA:N | 2.41 | 0.53 |
| 39:BG:110:PHE:HE1 | 39:BG:148:VAL:HG23 | 1.71 | 0.53 |
| 39:BG:122:ARG:HE | 39:BG:122:ARG:CA | 2.16 | 0.53 |
| 39:BG:156:GLU:O | 39:BG:160:GLN:HG2 | 2.09 | 0.53 |
| 39:BG:175:SER:OG | 39:BG:184:LYS:O | 2.23 | 0.53 |
| 41:BI:84:ASN:HA | 41:BI:86:ARG:NH2 | 2.24 | 0.53 |
| 43:BK:17:THR:CG2 | 43:BK:80:ILE:HD13 | 2.37 | 0.53 |
| 43:BK:65:TYR:N | 43:BK:65:TYR:CD1 | 2.75 | 0.53 |
| 45:BM:6:ILE:HG22 | 45:BM:98:ILE:CD1 | 2.38 | 0.53 |
| 49:BQ:29:ARG:O | 49:BQ:33:VAL:HG13 | 2.08 | 0.53 |
| 51:BS:20:VAL:HG13 | 51:BS:21:VAL:H | 1.72 | 0.53 |
| 53:BU:53:ARG:HH11 | 53:BU:59:SER:CA | 2.21 | 0.53 |
| 54:BV:72:GLY:O | 54:BV:74:PHE:N | 2.41 | 0.53 |
| 55:BW:40:ALA:O | 55:BW:43:LEU:N | 2.41 | 0.53 |
| 55:BW:44:ALA:CB | 55:BW:92:LEU:HD21 | 2.38 | 0.53 |
| 1:AB:57:A:H1' | 7:AG:13:MET:SD | 2.48 | 0.53 |
| 1:AB:117:G:C6 | 1:AB:118:G:C5 | 2.96 | 0.53 |
| 2:AA:28:A:H1' | 2:AA:513:A:N1 | 2.23 | 0.53 |
| 2:AA:138:G:C2' | 2:AA:140:A:OP2 | 2.57 | 0.53 |
| 2:AA:193:U:H2' | 2:AA:194:G:H8 | 1.74 | 0.53 |
| 2:AA:227:A:H61 | 2:AA:2407:G:H8 | 1.57 | 0.53 |
| 2:AA:236:C:H4' | 2:AA:431:U:H1' | 1.89 | 0.53 |
| 2:AA:243:U:O4 | 2:AA:255:A:C8 | 2.61 | 0.53 |
| 2:AA:281:G:H2' | 2:AA:282:A:O4' | 2.07 | 0.53 |
| 2:AA:443:A:H1' | 2:AA:1201:C:H5' | 1.90 | 0.53 |
| 2:AA:445:C:C3' | 25:A1:3:ARG:NH2 | 2.68 | 0.53 |
| 2:AA:451:C:H2' | 2:AA:452:G:N7 | 2.23 | 0.53 |
| 2:AA:597:U:H2' | 2:AA:598:G:C8 | 2.44 | 0.53 |
| 2:AA:665:C:H2' | 2:AA:666:G:C8 | 2.44 | 0.53 |
| 2:AA:684:G:C2 | 2:AA:794:G:C2 | 2.97 | 0.53 |
| 2:AA:684:G:C4 | 2:AA:775:G:C6 | 2.95 | 0.53 |
| 2:AA:766:C:H2' | 2:AA:767:U:O4' | 2.09 | 0.53 |
| 2:AA:811:U:H6 | 2:AA:811:U:H3' | 1.72 | 0.53 |
| 2:AA:989:G:C2' | 2:AA:990:A:OP2 | 2.56 | 0.53 |
| 2:AA:1219:G:N1 | 2:AA:1230:C:O2 | 2.28 | 0.53 |
| 2:AA:1261:C:OP2 | 2:AA:1261:C:C3' | 2.55 | 0.53 |
| 2:AA:1266:G:O2' | 2:AA:2012:G:N1 | 2.41 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1381:G:C5 | 2:AA:1382:G:C5 | 2.96 | 0.53 |
| 2:AA:1432:C:H2' | 2:AA:1433:U:C6 | 2.43 | 0.53 |
| 2:AA:1628:G:N2 | 2:AA:1629:U:C2 | 2.76 | 0.53 |
| 2:AA:1801:G:OP1 | 2:AA:1801:G:C8 | 2.58 | 0.53 |
| 2:AA:1815:A:OP1 | 2:AA:1822:G:H4' | 2.08 | 0.53 |
| 2:AA:1824:G:C2 | 2:AA:1825:A:H1' | 2.42 | 0.53 |
| 2:AA:1833:U:H2' | 2:AA:1834:U:C6 | 2.41 | 0.53 |
| 2:AA:1916:A:H2' | 2:AA:1917:U:C4 | 2.43 | 0.53 |
| 2:AA:1959:G:H1' | 34:BA:1418:A:C2 | 2.44 | 0.53 |
| 2:AA:1981:A:C3' | 2:AA:1982:C:C5' | 2.86 | 0.53 |
| 2:AA:2012:G:H5' | 18:AS:98:LYS:HZ3 | 1.72 | 0.53 |
| 2:AA:2032:G:H4' | 2:AA:2033:A:OP1 | 2.09 | 0.53 |
| 2:AA:2052:G:C5 | 2:AA:2053:G:N7 | 2.77 | 0.53 |
| 2:AA:2093:G:OP2 | 10:AK:25:TYR:CZ | 2.62 | 0.53 |
| 2:AA:2132:U:O2 | 2:AA:2133:G:C4 | 2.61 | 0.53 |
| 2:AA:2179:C:H2' | 2:AA:2180:U:C5 | 2.44 | 0.53 |
| 2:AA:2484:G:C2' | 2:AA:2485:G:C5' | 2.80 | 0.53 |
| 2:AA:2528:U:O2 | 2:AA:2536:G:N2 | 2.42 | 0.53 |
| 2:AA:2597:G:H8 | 2:AA:2597:G:OP2 | 1.91 | 0.53 |
| 2:AA:2677:G:HO2' | 2:AA:2678:C:H5' | 1.70 | 0.53 |
| 2:AA:2680:C:H3' | 5:AE:206:LYS:HZ2 | 1.71 | 0.53 |
| 2:AA:2727:G:O2' | 13:AN:70:ARG:NH2 | 2.40 | 0.53 |
| 2:AA:2870:C:O2 | 2:AA:2871:C:C1' | 2.56 | 0.53 |
| 3:AC:96:GLY:C | 3:AC:98:GLU:N | 2.59 | 0.53 |
| 4:AD:71:ASP:CG | 4:AD:72:GLY:H | 2.11 | 0.53 |
| 4:AD:128:ALA:HB2 | 4:AD:190:THR:HA | 1.90 | 0.53 |
| 4:AD:152:GLN:O | 4:AD:153:LEU:CB | 2.53 | 0.53 |
| 4:AD:208:GLY:O | 4:AD:211:HIS:CG | 2.62 | 0.53 |
| 9:AI:7:ILE:HD13 | 11:AL:118:ALA:CA | 2.28 | 0.53 |
| 9:AI:38:ALA:HA | 9:AI:41:ALA:CB | 2.38 | 0.53 |
| 10:AK:94:THR:HG23 | 10:AK:96:LYS:CB | 2.31 | 0.53 |
| 10:AK:110:LEU:CD1 | 10:AK:133:LEU:HD22 | 2.25 | 0.53 |
| 12:AM:14:ALA:H | 12:AM:40:ASN:CG | 2.11 | 0.53 |
| 13:AN:87:ILE:CG2 | 13:AN:88:ARG:O | 2.55 | 0.53 |
| 14:AO:67:ARG:H | 14:AO:67:ARG:CD | 2.21 | 0.53 |
| 15:AP:48:ASN:HD21 | 15:AP:122:PHE:N | 2.04 | 0.53 |
| 15:AP:54:VAL:N | 15:AP:115:SER:OG | 2.42 | 0.53 |
| 20:AU:81:LYS:CE | 20:AU:83:ASP:HB2 | 2.38 | 0.53 |
| 21:AV:1:MET:H2 | 21:AV:54:ILE:HD11 | 1.73 | 0.53 |
| 21:AV:16:GLU:C | 21:AV:36:ARG:CZ | 2.77 | 0.53 |
| 21:AV:33:ALA:O | 21:AV:34:LEU:CD1 | 2.49 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:39:PHE:O | 21:AV:40:ASP:O | 2.26 | 0.53 |
| 21:AV:90:GLU:O | 21:AV:91:PRO:C | 2.47 | 0.53 |
| 21:AV:134:LEU:HD23 | 21:AV:135:VAL:N | 2.24 | 0.53 |
| 23:AX:3:ARG:HE | 23:AX:60:GLU:C | 2.09 | 0.53 |
| 24:A0:45:ARG:O | 24:A0:49:ASP:HB2 | 2.09 | 0.53 |
| 25:A1:14:HIS:CG | 25:A1:36:PHE:HZ | 2.26 | 0.53 |
| 26:A2:60:VAL:HG12 | 26:A2:98:ILE:HD12 | 1.90 | 0.53 |
| 28:A4:41:PRO:HG2 | 28:A4:57:ASP:HB3 | 1.90 | 0.53 |
| 28:A4:48:ARG:HG2 | 28:A4:49:PHE:CG | 2.43 | 0.53 |
| 29:A5:4:HIS:HB2 | 29:A5:5:PRO:CD | 2.38 | 0.53 |
| 29:A5:42:SER:HG | 29:A5:43:HIS:CE1 | 2.24 | 0.53 |
| 31:A7:41:GLN:O | 31:A7:42:LEU:CG | 2.51 | 0.53 |
| 31:A7:43:THR:HA | 31:A7:46:ASP:OD1 | 2.09 | 0.53 |
| 32:A8:63:PRO:HG2 | 32:A8:64:ARG:H | 1.74 | 0.53 |
| 34:BA:22:G:C4 | 34:BA:23:C:C5 | 2.97 | 0.53 |
| 34:BA:42:G:C6 | 34:BA:43:C:N4 | 2.77 | 0.53 |
| 34:BA:50:A:H62 | 34:BA:361:G:H4' | 1.66 | 0.53 |
| 34:BA:183:G:N3 | 34:BA:223:U:O2' | 2.41 | 0.53 |
| 34:BA:192:U:O4' | 55:BW:102:GLY:C | 2.47 | 0.53 |
| 34:BA:279:A:C5' | 34:BA:280:C:H3' | 2.37 | 0.53 |
| 34:BA:282:A:C5 | 34:BA:283:C:C5 | 2.97 | 0.53 |
| 34:BA:405:U:H2' | 34:BA:405:U:O2 | 2.07 | 0.53 |
| 34:BA:530:G:C6 | 35:BB:34:G:N3 | 2.77 | 0.53 |
| 34:BA:640:A:C5 | 34:BA:641:U:C6 | 2.97 | 0.53 |
| 34:BA:670:G:N2 | 34:BA:737:A:C4 | 2.76 | 0.53 |
| 34:BA:688:G:H2' | 34:BA:689:C:H5' | 1.90 | 0.53 |
| 34:BA:785:G:N2 | 34:BA:786:G:H1' | 2.23 | 0.53 |
| 34:BA:793:U:H5' | 34:BA:794:A:N7 | 2.23 | 0.53 |
| 34:BA:808:C:OP2 | 50:BR:48:LYS:NZ | 2.36 | 0.53 |
| 34:BA:972:C:OP2 | 45:BM:57:LYS:HE3 | 2.09 | 0.53 |
| 34:BA:1051:C:H2' | 34:BA:1052:U:C6 | 2.44 | 0.53 |
| 34:BA:1073:U:O2 | 34:BA:1102:A:C2 | 2.61 | 0.53 |
| 34:BA:1189:C:H5" | 34:BA:1190:G:OP2 | 2.09 | 0.53 |
| 34:BA:1236:A:C6 | 34:BA:1237:C:N4 | 2.77 | 0.53 |
| 34:BA:1288:A:H2' | 34:BA:1289:A:C8 | 2.38 | 0.53 |
| 34:BA:1327:C:H5 | 56:BX:6:ARG:NH2 | 2.07 | 0.53 |
| 34:BA:1401:G:C6 | 34:BA:1504:G:N2 | 2.76 | 0.53 |
| 35:BB:19:G:C3' | 35:BB:20:G:N7 | 2.72 | 0.53 |
| 37:BE:44:LEU:O | 37:BE:48:MET:SD | 2.67 | 0.53 |
| 37:BE:97:TRP:CZ3 | 37:BE:173:ALA:N | 2.76 | 0.53 |
| 37:BE:150:SER:O | 37:BE:151:GLY:O | 2.26 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:18:TRP:NE1 | 49:BQ:55:GLY:O | 2.32 | 0.53 |
| 38:BF:88:ARG:HE | 38:BF:100:ALA:HA | 1.73 | 0.53 |
| 38:BF:155:GLY:O | 38:BF:156:ARG:HB2 | 2.09 | 0.53 |
| 38:BF:175:LEU:HD11 | 38:BF:201:TYR:CE2 | 2.43 | 0.53 |
| 39:BG:100:ARG:HH22 | 39:BG:137:SER:HA | 1.73 | 0.53 |
| 39:BG:144:ASP:C | 39:BG:184:LYS:HG2 | 2.29 | 0.53 |
| 39:BG:152:SER:O | 39:BG:158:ILE:CD1 | 2.56 | 0.53 |
| 40:BH:60:TYR:CE1 | 40:BH:64:ARG:NE | 2.76 | 0.53 |
| 40:BH:110:LEU:O | 40:BH:115:VAL:HG23 | 2.09 | 0.53 |
| 41:BI:19:LEU:HG | 41:BI:23:LYS:HD2 | 1.89 | 0.53 |
| 41:BI:46:ARG:NH1 | 53:BU:37:VAL:HG11 | 2.24 | 0.53 |
| 42:BJ:50:ILE:HG22 | 42:BJ:56:GLN:O | 2.08 | 0.53 |
| 42:BJ:72:ARG:NH1 | 42:BJ:138:LYS:CE | 2.71 | 0.53 |
| 42:BJ:80:VAL:HG21 | 42:BJ:85:TYR:CB | 2.39 | 0.53 |
| 43:BK:25:ASP:CB | 43:BK:58:TYR:CD2 | 2.92 | 0.53 |
| 43:BK:64:LYS:HD3 | 43:BK:79:VAL:HG11 | 1.90 | 0.53 |
| 43:BK:67:PRO:HD2 | 43:BK:76:PRO:CB | 2.22 | 0.53 |
| 43:BK:97:VAL:HG22 | 43:BK:98:LYS:CD | 2.28 | 0.53 |
| 43:BK:97:VAL:CG2 | 43:BK:98:LYS:HD3 | 2.29 | 0.53 |
| 48:BP:34:LEU:HD22 | 48:BP:39:ILE:O | 2.08 | 0.53 |
| 50:BR:25:THR:CA | 50:BR:28:GLN:HG2 | 2.26 | 0.53 |
| 50:BR:36:ILE:HA | 50:BR:59:MET:HE1 | 1.90 | 0.53 |
| 52:BT:17:LYS:HZ1 | 52:BT:47:PRO:C | 2.12 | 0.53 |
| 53:BU:27:GLY:O | 53:BU:28:GLU:C | 2.45 | 0.53 |
| 53:BU:62:GLU:O | 53:BU:66:LEU:CG | 2.56 | 0.53 |
| 1:AB:47:C:O3' | 16:AQ:107:ASN:CG | 2.46 | 0.53 |
| 1:AB:84:C:N4 | 1:AB:92:G:N1 | 2.27 | 0.53 |
| 1:AB:115:G:H5' | 16:AQ:59:ALA:HB1 | 1.85 | 0.53 |
| 2:AA:10:G:HO2' | 2:AA:11:G:C5' | 2.21 | 0.53 |
| 2:AA:36:G:O2' | 2:AA:451:C:C6 | 2.61 | 0.53 |
| 2:AA:92:G:OP2 | 2:AA:92:G:H3' | 2.09 | 0.53 |
| 2:AA:176:G:H2' | 2:AA:177:G:C1' | 2.39 | 0.53 |
| 2:AA:189:G:N2 | 2:AA:206:U:C4 | 2.77 | 0.53 |
| 2:AA:234:C:C4 | 2:AA:430:G:N2 | 2.68 | 0.53 |
| 2:AA:238:C:C2' | 2:AA:239:U:O5' | 2.57 | 0.53 |
| 2:AA:244:A:O2' | 14:AO:56:LYS:HB3 | 2.08 | 0.53 |
| 2:AA:289:A:H2' | 2:AA:351:G:N7 | 2.23 | 0.53 |
| 2:AA:290:G:C8 | 2:AA:290:G:H3' | 2.44 | 0.53 |
| 2:AA:320:A:O2' | 2:AA:322:A:OP2 | 2.24 | 0.53 |
| 2:AA:337:C:N4 | 2:AA:339:U:O4 | 2.42 | 0.53 |
| 2:AA:339:U:OP1 | 2:AA:339:U:C6 | 2.60 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:412:A:H2' | 2:AA:413:C:C5' | 2.38 | 0.53 |
| 2:AA:441:U:OP2 | 20:AU:3:GLN:HG2 | 2.09 | 0.53 |
| 2:AA:489:G:C2 | 2:AA:491:G:N9 | 2.77 | 0.53 |
| 2:AA:589:C:O2' | 2:AA:590:A:H5' | 2.08 | 0.53 |
| 2:AA:595:C:C2' | 2:AA:596:G:O5' | 2.57 | 0.53 |
| 2:AA:646:A:O2' | 2:AA:647:G:O4' | 2.24 | 0.53 |
| 2:AA:673:C:N3 | 2:AA:808:G:C2 | 2.77 | 0.53 |
| 2:AA:675:A:C5 | 2:AA:676:A:N1 | 2.76 | 0.53 |
| 2:AA:721:C:H2' | 2:AA:722:A:C8 | 2.42 | 0.53 |
| 2:AA:771:G:N1 | 2:AA:772:C:C4 | 2.77 | 0.53 |
| 2:AA:778:G:C6 | 2:AA:779:U:C2 | 2.97 | 0.53 |
| 2:AA:786:C:C2' | 2:AA:787:U:C5' | 2.86 | 0.53 |
| 2:AA:969:U:O3' | 23:AX:14:GLY:HA2 | 2.09 | 0.53 |
| 2:AA:1019:U:O2 | 2:AA:1143:A:N1 | 2.42 | 0.53 |
| 2:AA:1022:G:OP1 | 2:AA:1022:G:H4' | 2.09 | 0.53 |
| 2:AA:1042:G:N2 | 2:AA:1113:U:O2 | 2.41 | 0.53 |
| 2:AA:1061:U:H2' | 2:AA:1061:U:O2 | 2.08 | 0.53 |
| 2:AA:1063:G:N2 | 2:AA:1076:C:C2 | 2.76 | 0.53 |
| 2:AA:1070:A:H8 | 2:AA:1097:U:O5' | 1.91 | 0.53 |
| 2:AA:1076:C:O4' | 11:AL:91:GLU:OE2 | 2.25 | 0.53 |
| 2:AA:1146:C:H2' | 2:AA:1147:C:C6 | 2.43 | 0.53 |
| 2:AA:1154:G:H8 | 2:AA:1154:G:O5' | 1.91 | 0.53 |
| 2:AA:1212:G:C2' | 2:AA:1213:A:OP2 | 2.57 | 0.53 |
| 2:AA:1215:G:O3' | 25:A1:8:ILE:HG22 | 2.08 | 0.53 |
| 2:AA:1255:U:OP1 | 2:AA:1256:G:C5' | 2.49 | 0.53 |
| 2:AA:1340:U:H2' | 2:AA:1341:U:OP1 | 2.08 | 0.53 |
| 2:AA:1341:U:C6 | 2:AA:1397:U:O2 | 2.61 | 0.53 |
| 2:AA:1387:C:H2' | 2:AA:1388:G:H8 | 1.74 | 0.53 |
| 2:AA:1416:G:C2 | 2:AA:1583:A:C6 | 2.96 | 0.53 |
| 2:AA:1484:G:C6 | 2:AA:1506:C:N4 | 2.77 | 0.53 |
| 2:AA:1518:C:H3' | 2:AA:1519:G:H4' | 1.89 | 0.53 |
| 2:AA:1595:G:O2' | 2:AA:1596:A:H5' | 2.09 | 0.53 |
| 2:AA:1599:C:P | 19:AT:33:SER:OG | 2.66 | 0.53 |
| 2:AA:1688:U:O4' | 2:AA:1701:A:N6 | 2.41 | 0.53 |
| 2:AA:1701:A:H2' | 2:AA:1702:G:C5' | 2.39 | 0.53 |
| 2:AA:1772:G:O2' | 2:AA:1773:A:H5' | 2.09 | 0.53 |
| 2:AA:1792:G:O2' | 2:AA:1793:C:H5' | 2.07 | 0.53 |
| 2:AA:1845:G:N3 | 2:AA:1896:G:C2 | 2.77 | 0.53 |
| 2:AA:1890:A:N3 | 2:AA:1891:G:H1' | 2.23 | 0.53 |
| 2:AA:1928:A:H3' | 2:AA:1929:G:H5' | 1.91 | 0.53 |
| 2:AA:1930:G:C4 | 2:AA:1968:G:O6 | 2.62 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1970:A:C5 | 2:AA:1972:A:C5 | 2.97 | 0.53 |
| 2:AA:1983:C:O2' | 2:AA:1984:G:C5' | 2.56 | 0.53 |
| 2:AA:2013:A:H2' | 2:AA:2014:A:C4' | 2.38 | 0.53 |
| 2:AA:2082:A:N7 | 2:AA:2239:G:N1 | 2.57 | 0.53 |
| 2:AA:2115:G:H4' | 3:AC:126:LYS:NZ | 2.24 | 0.53 |
| 2:AA:2138:C:C2 | 2:AA:2139:C:C5 | 2.96 | 0.53 |
| 2:AA:2277:G:N3 | 2:AA:2277:G:C2' | 2.70 | 0.53 |
| 2:AA:2403:C:O2 | 2:AA:2404:C:C6 | 2.61 | 0.53 |
| 2:AA:2497:A:O5' | 2:AA:2497:A:C8 | 2.62 | 0.53 |
| 2:AA:2519:U:N3 | 2:AA:2542:A:C5 | 2.77 | 0.53 |
| 2:AA:2547:U:C5 | 2:AA:2566:A:C4 | 2.97 | 0.53 |
| 2:AA:2611:U:O2' | 29:A5:2:ALA:HB2 | 2.09 | 0.53 |
| 2:AA:2633:G:C4 | 2:AA:2634:G:C8 | 2.97 | 0.53 |
| 2:AA:2648:C:C4 | 2:AA:2649:U:C4 | 2.96 | 0.53 |
| 2:AA:2737:G:N1 | 2:AA:2767:C:N4 | 2.31 | 0.53 |
| 2:AA:2811:G:C6 | 2:AA:2891:G:N2 | 2.77 | 0.53 |
| 2:AA:2856:C:N4 | 2:AA:2862:G:C6 | 2.76 | 0.53 |
| 3:AC:39:GLU:CG | 3:AC:216:THR:HB | 2.31 | 0.53 |
| 3:AC:190:ARG:HH21 | 3:AC:228:SER:C | 2.11 | 0.53 |
| 4:AD:141:HIS:HB3 | 4:AD:154:VAL:CG1 | 2.37 | 0.53 |
| 5:AE:180:ILE:CB | 5:AE:187:HIS:HB3 | 2.36 | 0.53 |
| 6:AF:245:GLU:N | 6:AF:245:GLU:OE2 | 2.41 | 0.53 |
| 7:AG:103:ASN:O | 7:AG:104:PHE:CD2 | 2.61 | 0.53 |
| 7:AG:105:SER:O | 7:AG:106:PHE:CD1 | 2.62 | 0.53 |
| 8:AH:73:ASN:CB | 8:AH:137:LYS:HZ2 | 2.12 | 0.53 |
| 8:AH:104:LEU:O | 8:AH:151:ARG:NH1 | 2.40 | 0.53 |
| 9:AJ:2:THR:O | 9:AJ:5:GLU:HB2 | 2.08 | 0.53 |
| 11:AL:13:LEU:HB3 | 11:AL:14:PRO:HD2 | 1.90 | 0.53 |
| 11:AL:15:ALA:CA | 11:AL:46:THR:HB | 2.39 | 0.53 |
| 11:AL:79:LEU:HD13 | 11:AL:137:ILE:CD1 | 2.38 | 0.53 |
| 12:AM:69:TYR:HD2 | 12:AM:71:TYR:HH | 1.57 | 0.53 |
| 12:AM:82:THR:O | 12:AM:85:GLY:CA | 2.56 | 0.53 |
| 13:AN:7:ARG:HA | 13:AN:19:VAL:O | 2.08 | 0.53 |
| 13:AN:35:ILE:HG13 | 13:AN:65:THR:CG2 | 2.39 | 0.53 |
| 14:AO:94:ARG:CD | 14:AO:119:THR:O | 2.45 | 0.53 |
| 16:AQ:32:PRO:O | 16:AQ:101:VAL:HG13 | 2.09 | 0.53 |
| 19:AT:9:HIS:CE1 | 19:AT:61:GLU:OE1 | 2.61 | 0.53 |
| 19:AT:69:SER:O | 19:AT:70:GLU:CB | 2.57 | 0.53 |
| 20:AU:51:LEU:CA | 20:AU:97:ARG:HE | 2.21 | 0.53 |
| 21:AV:4:THR:CG2 | 21:AV:56:VAL:HG22 | 2.38 | 0.53 |
| 21:AV:110:GLY:C | 21:AV:112:LEU:H | 2.11 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:134:LEU:CD2 | 21:AV:136:VAL:HG23 | 2.38 | 0.53 |
| 22:AW:51:LYS:O | 22:AW:54:ALA:N | 2.41 | 0.53 |
| 23:AX:11:SER:OG | 23:AX:13:ILE:HG12 | 2.08 | 0.53 |
| 24:A0:25:ALA:HA | 24:A0:48:VAL:CG2 | 2.39 | 0.53 |
| 24:A0:51:LEU:HD23 | 24:A0:66:VAL:HG13 | 1.89 | 0.53 |
| 25:A1:36:PHE:O | 25:A1:39:LEU:HB2 | 2.08 | 0.53 |
| 25:A1:64:ARG:CZ | 25:A1:101:ARG:HH21 | 2.21 | 0.53 |
| 25:A1:74:MET:O | 25:A1:79:PHE:CE1 | 2.62 | 0.53 |
| 26:A2:4:ILE:HD11 | 26:A2:13:ARG:NE | 2.24 | 0.53 |
| 26:A2:35:LEU:O | 26:A2:60:VAL:HG22 | 2.07 | 0.53 |
| 28:A4:48:ARG:CB | 28:A4:71:SER:HB3 | 2.37 | 0.53 |
| 32:A8:15:LYS:O | 32:A8:22:VAL:HG22 | 2.08 | 0.53 |
| 34:BA:115:G:C4 | 34:BA:289:G:C8 | 2.97 | 0.53 |
| 34:BA:184:G:C5' | 34:BA:224:C:H4' | 2.38 | 0.53 |
| 34:BA:335:C:H4' | 34:BA:1434:A:C4' | 2.37 | 0.53 |
| 34:BA:419:C:H2' | 34:BA:420:U:O4' | 2.08 | 0.53 |
| 34:BA:869:G:H4' | 34:BA:872:A:C8 | 2.44 | 0.53 |
| 34:BA:1081:G:C2' | 34:BA:1082:G:H5' | 2.39 | 0.53 |
| 34:BA:1104:G:O2' | 37:BE:111:ARG:NH2 | 2.41 | 0.53 |
| 34:BA:1194:U:H2' | 34:BA:1195:C:O5' | 2.09 | 0.53 |
| 34:BA:1241:G:C6 | 34:BA:1242:C:C4 | 2.97 | 0.53 |
| 34:BA:1306:A:H8 | 34:BA:1306:A:O5' | 1.91 | 0.53 |
| 34:BA:1331:G:HO2' | 34:BA:1332:A:P | 2.30 | 0.53 |
| 34:BA:1352:C:N4 | 34:BA:1370:G:N1 | 2.03 | 0.53 |
| 34:BA:1413:A:N6 | 34:BA:1488:G:N1 | 2.56 | 0.53 |
| 34:BA:1424:C:O2' | 34:BA:1425:U:H5' | 2.08 | 0.53 |
| 34:BA:1459:C:C4 | 34:BA:1460:A:N7 | 2.77 | 0.53 |
| 35:BB:9:A:C5' | 35:BB:10:G:OP2 | 2.57 | 0.53 |
| 35:BB:55:U:O2 | 35:BB:57:G:C8 | 2.62 | 0.53 |
| 35:BB:74:C:C5 | 35:BB:75:C:H1' | 2.38 | 0.53 |
| 36:B1:14:U:H2' | 36:B1:15:A:H8 | 1.72 | 0.53 |
| 37:BE:18:GLY:CA | 37:BE:41:ILE:HG23 | 2.38 | 0.53 |
| 37:BE:77:ALA:HB1 | 37:BE:80:ILE:CB | 2.37 | 0.53 |
| 37:BE:228:GLY:O | 37:BE:229:VAL:O | 2.27 | 0.53 |
| 38:BF:150:LYS:HB2 | 38:BF:173:VAL:HG21 | 1.91 | 0.53 |
| 39:BG:20:TYR:HA | 39:BG:26:CYS:HB3 | 1.90 | 0.53 |
| 39:BG:29:PRO:O | 39:BG:30:LYS:CG | 2.43 | 0.53 |
| 40:BH:43:LEU:HD13 | 40:BH:133:TYR:CE2 | 2.43 | 0.53 |
| 40:BH:112:LEU:O | 40:BH:114:GLY:N | 2.41 | 0.53 |
| 44:BL:17:VAL:HA | 44:BL:63:ILE:HG23 | 1.89 | 0.53 |
| 44:BL:74:ILE:O | 44:BL:77:ILE:CB | 2.55 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:85:ILE:O | 47:BO:85:ILE:HG23 | 2.09 | 0.53 |
| 47:BO:87:GLY:HA2 | 47:BO:98:TYR:CA | 2.38 | 0.53 |
| 48:BP:109:THR:CG2 | 48:BP:110:ARG:N | 2.71 | 0.53 |
| 50:BR:40:SER:O | 50:BR:43:LEU:N | 2.41 | 0.53 |
| 52:BT:12:SER:OG | 52:BT:14:LYS:HG3 | 2.07 | 0.53 |
| 54:BV:11:VAL:HG22 | 54:BV:39:THR:H | 1.74 | 0.53 |
| 55:BW:58:LYS:O | 55:BW:62:LEU:HG | 2.08 | 0.53 |
| 1:AB:89:G:C2' | 1:AB:89(A):A:C8 | 2.87 | 0.53 |
| 2:AA:38:A:H1' | 6:AF:46:TYR:HE2 | 1.74 | 0.53 |
| 2:AA:139:G:C8 | 2:AA:142:G:C1' | 2.91 | 0.53 |
| 2:AA:202:U:C5 | 2:AA:203:C:N3 | 2.76 | 0.53 |
| 2:AA:244:A:N6 | 2:AA:245:G:C2 | 2.77 | 0.53 |
| 2:AA:574:C:HO2' | 2:AA:575:A:P | 2.25 | 0.53 |
| 2:AA:617:G:C8 | 2:AA:618:G:C5 | 2.96 | 0.53 |
| 2:AA:662:G:O2' | 2:AA:663:G:H8 | 1.91 | 0.53 |
| 2:AA:695:G:N3 | 2:AA:696:G:C8 | 2.77 | 0.53 |
| 2:AA:729:G:H3' | 2:AA:729:G:C2 | 2.38 | 0.53 |
| 2:AA:763:G:C5 | 2:AA:765:G:C8 | 2.96 | 0.53 |
| 2:AA:874:G:N2 | 2:AA:903:C:C2 | 2.72 | 0.53 |
| 2:AA:910:A:C5 | 2:AA:911:A:N6 | 2.77 | 0.53 |
| 2:AA:921:G:C6 | 2:AA:922:U:N3 | 2.76 | 0.53 |
| 2:AA:956:G:OP1 | 15:AP:94:ARG:NH1 | 2.40 | 0.53 |
| 2:AA:973:A:C5 | 26:A2:80:TYR:CA | 2.78 | 0.53 |
| 2:AA:1105:U:H4' | 9:AI:30:GLY:H | 1.70 | 0.53 |
| 2:AA:1319:G:O2' | 2:AA:1320:C:C5' | 2.52 | 0.53 |
| 2:AA:1335:U:H2' | 2:AA:1336:A:O5' | 2.08 | 0.53 |
| 2:AA:1432:C:C2 | 2:AA:1562:A:C2 | 2.96 | 0.53 |
| 2:AA:1466:G:H2' | 2:AA:1547:C:C5 | 2.43 | 0.53 |
| 2:AA:1492:G:H4' | 4:AD:97:ASP:OD1 | 2.07 | 0.53 |
| 2:AA:1543:A:H2' | 2:AA:1544:C:O5' | 2.09 | 0.53 |
| 2:AA:1625:C:C4 | 2:AA:1626:G:C8 | 2.97 | 0.53 |
| 2:AA:1630:G:C4 | 2:AA:630(A):C:C5 | 2.97 | 0.53 |
| 2:AA:1796:U:C2' | 2:AA:1797:C:C5 | 2.83 | 0.53 |
| 2:AA:2077:A:C4 | 2:AA:2435:A:N7 | 2.76 | 0.53 |
| 2:AA:2078:C:N3 | 2:AA:2079:U:C4 | 2.77 | 0.53 |
| 2:AA:2093:G:N9 | 2:AA:2225:A:N6 | 2.57 | 0.53 |
| 2:AA:2301:C:N3 | 2:AA:2302:G:N7 | 2.57 | 0.53 |
| 2:AA:2305:A:H2 | 7:AG:72:LYS:NZ | 2.07 | 0.53 |
| 2:AA:2407:G:C2 | 2:AA:2408:U:N3 | 2.77 | 0.53 |
| 2:AA:2474:C:C2' | 2:AA:2475:C:H5' | 2.39 | 0.53 |
| 2:AA:2657:A:N6 | 2:AA:2664:G:N2 | 2.29 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2758:A:OP2 | 2:AA:2758:A:C8 | 2.62 | 0.53 |
| 2:AA:2795:G:H5" | 2:AA:2799:A:C6 | 2.44 | 0.53 |
| 2:AA:2892:A:C3' | 2:AA:2893:G:H8 | 2.21 | 0.53 |
| 4:AD:73:ILE:HB | 4:AD:95:TYR:CE2 | 2.44 | 0.53 |
| 4:AD:83:ASP:HB3 | 4:AD:85:ASN:HD21 | 1.73 | 0.53 |
| 4:AD:89:ASN:CG | 4:AD:199:ARG:NH2 | 2.61 | 0.53 |
| 4:AD:167:GLU:O | 4:AD:170:TYR:CD1 | 2.62 | 0.53 |
| 4:AD:211:HIS:O | 4:AD:212:HIS:C | 2.46 | 0.53 |
| 5:AE:83:LEU:CD1 | 5:AE:178:LEU:HA | 2.38 | 0.53 |
| 5:AE:107:GLU:CB | 5:AE:110:ARG:CZ | 2.84 | 0.53 |
| 5:AE:216:ARG:HH11 | 5:AE:253:GLN:CA | 2.20 | 0.53 |
| 6:AF:1:MET:N | 6:AF:1:MET:SD | 2.81 | 0.53 |
| 7:AG:28:GLY:O | 7:AG:29:HIS:ND1 | 2.42 | 0.53 |
| 8:AH:60:HIS:O | 8:AH:63:LEU:CB | 2.54 | 0.53 |
| 8:AH:66:THR:CG2 | 8:AH:67:THR:N | 2.71 | 0.53 |
| 8:AH:86:LEU:HD21 | 8:AH:161:ILE:CG2 | 2.33 | 0.53 |
| 9:AI:73:VAL:HG11 | 9:AI:123:ALA:CB | 2.38 | 0.53 |
| 9:AJ:22:VAL:HA | 9:AJ:38:ALA:HB1 | 1.91 | 0.53 |
| 10:AK:128:ASN:HB2 | 10:AK:141:LEU:O | 2.08 | 0.53 |
| 11:AL:19:THR:H | 11:AL:20:PRO:HD2 | 1.73 | 0.53 |
| 13:AN:93:PRO:HD2 | 13:AN:113:LYS:CD | 2.31 | 0.53 |
| 15:AP:42:TYR:HA | 21:AV:119:ASN:CG | 2.29 | 0.53 |
| 15:AP:50:VAL:CG1 | 15:AP:51:GLU:H | 2.09 | 0.53 |
| 20:AU:71:VAL:HA | 20:AU:93:THR:HG23 | 1.90 | 0.53 |
| 21:AV:19:ILE:CG2 | 21:AV:20:ALA:N | 2.71 | 0.53 |
| 21:AV:54:ILE:HG23 | 21:AV:55:THR:H | 1.73 | 0.53 |
| 21:AV:124:ALA:O | 21:AV:159:THR:HB | 2.08 | 0.53 |
| 21:AV:138:VAL:CB | 21:AV:140:LYS:HZ1 | 2.22 | 0.53 |
| 23:AX:50:VAL:HG12 | 23:AX:53:LEU:HD12 | 1.91 | 0.53 |
| 25:A1:96:ALA:O | 25:A1:98:ILE:N | 2.41 | 0.53 |
| 25:A1:111:ASP:O | 25:A1:114:ARG:N | 2.41 | 0.53 |
| 26:A2:5:ILE:HA | 26:A2:39:PHE:CD2 | 2.43 | 0.53 |
| 26:A2:18:ASP:OD2 | 26:A2:94:LYS:CE | 2.57 | 0.53 |
| 26:A2:60:VAL:CG1 | 26:A2:61:VAL:N | 2.72 | 0.53 |
| 34:BA:52:G:C4 | 34:BA:53:A:C8 | 2.96 | 0.53 |
| 34:BA:342:C:C4 | 34:BA:348:G:N1 | 2.76 | 0.53 |
| 34:BA:343:U:H2' | 34:BA:345:C:H5 | 1.73 | 0.53 |
| 34:BA:500:G:C5 | 34:BA:546:G:C2 | 2.97 | 0.53 |
| 34:BA:506:G:O6 | 34:BA:507:C:N4 | 2.41 | 0.53 |
| 34:BA:528:C:H1' | 34:BA:535:A:C2 | 2.43 | 0.53 |
| 34:BA:583:A:O2' | 34:BA:584:G:O4' | 2.26 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:658:G:C2' | 34:BA:659:U:C5' | 2.85 | 0.53 |
| 34:BA:750:G:O2' | 50:BR:21:ASP:HA | 2.09 | 0.53 |
| 34:BA:794:A:C6 | 34:BA:795:C:N4 | 2.77 | 0.53 |
| 34:BA:859:A:C2' | 34:BA:860:A:C5' | 2.86 | 0.53 |
| 34:BA:922:G:H2' | 34:BA:923:A:O4' | 2.09 | 0.53 |
| 34:BA:1240:U:N3 | 42:BJ:32:ARG:NH2 | 2.57 | 0.53 |
| 34:BA:1430:C:H2' | 34:BA:1431:C:H6 | 1.74 | 0.53 |
| 34:BA:1446:A:O2' | 34:BA:1447:G:H5' | 2.08 | 0.53 |
| 34:BA:1498:U:O2' | 34:BA:1499:A:H5' | 2.09 | 0.53 |
| 35:BB:7:U:C5' | 35:BB:8:U:OP2 | 2.56 | 0.53 |
| 35:BC:7:U:C4' | 35:BC:8:U:OP2 | 2.43 | 0.53 |
| 35:BC:21:A:C5 | 35:BC:46:G:N1 | 2.76 | 0.53 |
| 37:BE:212:GLN:NE2 | 37:BE:212:GLN:HA | 2.23 | 0.53 |
| 38:BF:50:ALA:O | 38:BF:70:VAL:CG1 | 2.57 | 0.53 |
| 39:BG:120:LEU:HD23 | 39:BG:120:LEU:C | 2.29 | 0.53 |
| 40:BH:9:LYS:O | 40:BH:32:VAL:HG22 | 2.09 | 0.53 |
| 41:BI:8:ILE:CG2 | 41:BI:88:VAL:HG22 | 2.38 | 0.53 |
| 41:BI:15:ASP:H | 41:BI:18:GLN:NE2 | 2.07 | 0.53 |
| 41:BI:75:LEU:HD13 | 41:BI:79:LEU:HD11 | 1.89 | 0.53 |
| 45:BM:48:THR:CG2 | 45:BM:60:ARG:HG3 | 2.38 | 0.53 |
| 46:BN:77:MET:CE | 46:BN:79:SER:O | 2.55 | 0.53 |
| 46:BN:116:HIS:O | 46:BN:117:ASN:ND2 | 2.41 | 0.53 |
| 47:BO:27:LEU:HG | 47:BO:28:LYS:HG3 | 1.90 | 0.53 |
| 47:BO:92:ASP:O | 47:BO:92:ASP:OD1 | 2.26 | 0.53 |
| 52:BT:97:SER:O | 52:BT:98:LEU:CB | 2.56 | 0.53 |
| 52:BT:99:SER:OG | 52:BT:100:LYS:N | 2.41 | 0.53 |
| 54:BV:40:ILE:N | 54:BV:69:HIS:O | 2.42 | 0.53 |
| 55:BW:54:LYS:HA | 55:BW:57:ARG:CD | 2.18 | 0.53 |
| 56:BX:2:GLY:O | 56:BX:4:GLY:N | 2.41 | 0.53 |
| 1:AB:16:G:N2 | 1:AB:69:G:H1' | 2.22 | 0.53 |
| 1:AB:63:G:C2 | 1:AB:64:C:N3 | 2.77 | 0.53 |
| 1:AB:118:G:C6 | 1:AB:119:A:N7 | 2.76 | 0.53 |
| 2:AA:7:G:C2 | 2:AA:8:A:C4 | 2.96 | 0.53 |
| 2:AA:11:G:C6 | 2:AA:12:U:C4 | 2.97 | 0.53 |
| 2:AA:20:C:H2' | 2:AA:21:A:H8 | 1.74 | 0.53 |
| 2:AA:35:G:C2 | 2:AA:454:A:H2 | 2.25 | 0.53 |
| 2:AA:121:G:H4' | 2:AA:150:C:H5' | 1.91 | 0.53 |
| 2:AA:139:G:H8 | 2:AA:142:G:O4' | 1.89 | 0.53 |
| 2:AA:148:C:H2' | 2:AA:149:A:H8 | 1.71 | 0.53 |
| 2:AA:222:A:OP2 | 2:AA:271(A):C:O2 | 2.27 | 0.53 |
| 2:AA:222:A:H2' | 2:AA:223:A:OP2 | 2.09 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:246:C:O2 | 2:AA:246:C:H2' | 2.09 | 0.53 |
| 2:AA:270(A):A:H3' | 2:AA:270(A):A:N3 | 2.24 | 0.53 |
| 2:AA:271:G:N2 | 2:AA:404:C:H42 | 2.07 | 0.53 |
| 2:AA:310:A:P | 20:AU:53:GLY:N | 2.79 | 0.53 |
| 2:AA:364:C:C2 | 2:AA:365:C:N4 | 2.76 | 0.53 |
| 2:AA:372:G:P | 2:AA:373:U:OP2 | 2.66 | 0.53 |
| 2:AA:476:G:N2 | 2:AA:478:A:H2' | 2.23 | 0.53 |
| 2:AA:483:A:OP2 | 2:AA:484:C:N4 | 2.38 | 0.53 |
| 2:AA:510:C:P | 2:AA:512:G:H1 | 2.31 | 0.53 |
| 2:AA:598:G:N2 | 6:AF:33:LYS:NZ | 2.57 | 0.53 |
| 2:AA:631:A:H2' | 2:AA:632:A:O4' | 2.08 | 0.53 |
| 2:AA:669:G:HO2' | 2:AA:801:G:N2 | 2.06 | 0.53 |
| 2:AA:771:G:C2 | 2:AA:772:C:C4 | 2.97 | 0.53 |
| 2:AA:811:U:C6 | 2:AA:811:U:O5' | 2.62 | 0.53 |
| 2:AA:841:A:N6 | 2:AA:938:G:C6 | 2.76 | 0.53 |
| 2:AA:855:G:H2' | 2:AA:855:G:N3 | 2.24 | 0.53 |
| 2:AA:882:G:C5' | 35:BB:19:G:O6 | 2.57 | 0.53 |
| 2:AA:995:C:H1' | 25:A1:57:PHE:CE2 | 2.44 | 0.53 |
| 2:AA:1034:G:O5' | 33:A9:18:ARG:NH2 | 2.42 | 0.53 |
| 2:AA:1057:A:C4 | 2:AA:1058:G:C8 | 2.96 | 0.53 |
| 2:AA:1102:C:H1' | 2:AA:1103:A:H8 | 1.70 | 0.53 |
| 2:AA:1183:G:O2' | 2:AA:1184:G:C1' | 2.56 | 0.53 |
| 2:AA:1194:A:C6 | 2:AA:1195:G:N7 | 2.77 | 0.53 |
| 2:AA:1224:G:O2' | 26:A2:86:HIS:CB | 2.57 | 0.53 |
| 2:AA:1365:A:C6 | 2:AA:1366:A:C5 | 2.97 | 0.53 |
| 2:AA:1527:G:O2' | 2:AA:1545:A:N6 | 2.42 | 0.53 |
| 2:AA:1572:A:H2' | 2:AA:1573:G:OP1 | 2.09 | 0.53 |
| 2:AA:1660:C:N3 | 2:AA:2001:A:N1 | 2.57 | 0.53 |
| 2:AA:1661:G:C6 | 2:AA:1662:C:C5 | 2.96 | 0.53 |
| 2:AA:1811:G:O2' | 2:AA:1812:A:H5' | 2.09 | 0.53 |
| 2:AA:1848:A:C5 | 34:BA:702:A:C2 | 2.97 | 0.53 |
| 2:AA:1903:G:C2 | 2:AA:1904:G:C8 | 2.97 | 0.53 |
| 2:AA:1909:C:C4 | 2:AA:1922:G:C2 | 2.97 | 0.53 |
| 2:AA:1986:A:N3 | 2:AA:1986:A:H2' | 2.24 | 0.53 |
| 2:AA:2019:A:C2 | 2:AA:2020:A:N3 | 2.77 | 0.53 |
| 2:AA:2192:G:C6 | 2:AA:2193:G:N7 | 2.77 | 0.53 |
| 2:AA:2199:A:C2 | 2:AA:2225:A:C2 | 2.96 | 0.53 |
| 2:AA:2269:A:C2' | 2:AA:2270:G:O5' | 2.57 | 0.53 |
| 2:AA:2481:G:O2' | 2:AA:2482:G:C5' | 2.57 | 0.53 |
| 2:AA:2495:G:O3' | 15:AP:101:MET:HE2 | 2.09 | 0.53 |
| 2:AA:2525:G:N2 | 2:AA:2539:C:C4 | 2.77 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2538:C:O2' | 2:AA:2539:C:H5' | 2.09 | 0.53 |
| 2:AA:2572:A:C8 | 5:AE:241:TRP:CD1 | 2.97 | 0.53 |
| 2:AA:2584:U:C2' | 2:AA:2585:U:C6 | 2.83 | 0.53 |
| 2:AA:2686:G:C5 | 2:AA:2687:U:C6 | 2.96 | 0.53 |
| 3:AC:62:VAL:HG12 | 3:AC:163:PHE:CD2 | 2.44 | 0.53 |
| 3:AC:112:ALA:HB3 | 3:AC:156:ILE:HD13 | 1.90 | 0.53 |
| 3:AC:163:PHE:CD1 | 3:AC:171:ILE:HD11 | 2.44 | 0.53 |
| 4:AD:61:TYR:OH | 4:AD:214:MET:SD | 2.56 | 0.53 |
| 5:AE:93:GLN:O | 5:AE:94:ARG:HG3 | 2.08 | 0.53 |
| 6:AF:56:THR:N | 6:AF:79:ARG:HE | 2.00 | 0.53 |
| 6:AF:90:HIS:N | 6:AF:91:PRO:HD3 | 2.24 | 0.53 |
| 7:AG:28:GLY:C | 7:AG:69:ILE:HG12 | 2.30 | 0.53 |
| 8:AH:87:GLU:OE1 | 8:AH:89:VAL:N | 2.42 | 0.53 |
| 9:AI:55:GLU:O | 9:AI:56:LYS:CB | 2.56 | 0.53 |
| 9:AI:61:VAL:O | 9:AI:102:ILE:HG22 | 2.09 | 0.53 |
| 11:AL:14:PRO:HG2 | 11:AL:17:LYS:HB2 | 1.90 | 0.53 |
| 12:AM:15:ARG:HB3 | 12:AM:43:ARG:HD2 | 1.90 | 0.53 |
| 12:AM:45:VAL:O | 12:AM:46:ILE:CG1 | 2.41 | 0.53 |
| 12:AM:74:ARG:HG2 | 12:AM:74:ARG:NH1 | 2.23 | 0.53 |
| 14:AO:116:HIS:HD2 | 14:AO:118:LEU:HD11 | 1.74 | 0.53 |
| 15:AP:43:PRO:HD3 | 21:AV:99:HIS:CD2 | 2.44 | 0.53 |
| 15:AP:49:VAL:HG22 | 15:AP:121:ASP:N | 2.23 | 0.53 |
| 15:AP:130:PRO:HB2 | 15:AP:134:PHE:HZ | 1.67 | 0.53 |
| 15:AP:135:ALA:HA | 15:AP:138:ARG:CD | 2.39 | 0.53 |
| 16:AQ:26:LEU:O | 16:AQ:28:LYS:N | 2.41 | 0.53 |
| 16:AQ:86:LEU:O | 16:AQ:90:LEU:HG | 2.07 | 0.53 |
| 18:AS:11:ARG:C | 18:AS:12:ILE:HG13 | 2.29 | 0.53 |
| 18:AS:12:ILE:HG22 | 18:AS:13:SER:N | 2.24 | 0.53 |
| 21:AV:96:VAL:CG2 | 21:AV:130:ILE:HD13 | 2.29 | 0.53 |
| 21:AV:142:ASN:N | 21:AV:171:VAL:HG21 | 2.23 | 0.53 |
| 25:A1:93:LYS:O | 26:A2:10:LYS:HD3 | 2.09 | 0.53 |
| 27:A3:14:ARG:HH11 | 27:A3:14:ARG:HG3 | 1.73 | 0.53 |
| 28:A4:46:GLU:O | 28:A4:53:GLU:CA | 2.57 | 0.53 |
| 29:A5:40:LYS:HE2 | 29:A5:48:ASN:HD22 | 1.74 | 0.53 |
| 34:BA:22:G:N9 | 34:BA:914:A:N6 | 2.56 | 0.53 |
| 34:BA:80:G:C3' | 34:BA:81:U:H5' | 2.34 | 0.53 |
| 34:BA:232:G:H2' | 34:BA:233:C:C6 | 2.42 | 0.53 |
| 34:BA:241:C:H42 | 34:BA:285:G:H1 | 1.56 | 0.53 |
| 34:BA:317:G:O2' | 34:BA:318:G:C5' | 2.57 | 0.53 |
| 34:BA:318:G:C6 | 34:BA:319:G:N7 | 2.77 | 0.53 |
| 34:BA:458:C:C4 | 34:BA:475:G:N1 | 2.77 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:497:A:O2' | 34:BA:498:U:OP1 | 2.21 | 0.53 |
| 34:BA:728:A:C8 | 50:BR:54:ARG:CZ | 2.92 | 0.53 |
| 34:BA:790:A:N1 | 34:BA:791:G:C2 | 2.76 | 0.53 |
| 34:BA:878:G:O4' | 43:BK:3:THR:CG2 | 2.54 | 0.53 |
| 34:BA:922:G:H2' | 34:BA:923:A:C8 | 2.43 | 0.53 |
| 34:BA:956:U:C2 | 34:BA:960:U:O4 | 2.61 | 0.53 |
| 34:BA:975:A:N7 | 34:BA:1365:G:N2 | 2.56 | 0.53 |
| 34:BA:1163:C:N4 | 34:BA:1174:G:C6 | 2.77 | 0.53 |
| 34:BA:1250:A:N3 | 34:BA:1370:G:O2' | 2.40 | 0.53 |
| 34:BA:1257:U:C2' | 34:BA:1258:G:OP2 | 2.57 | 0.53 |
| 34:BA:1263:C:O2' | 34:BA:1264:C:C5' | 2.55 | 0.53 |
| 34:BA:1320:C:C5 | 34:BA:1321:C:C4 | 2.97 | 0.53 |
| 34:BA:1369:C:OP2 | 44:BL:111:ARG:HA | 2.09 | 0.53 |
| 35:BB:26:G:N3 | 35:BB:26:G:C2' | 2.71 | 0.53 |
| 35:BB:41:U:C3' | 35:BB:42:G:O4' | 2.56 | 0.53 |
| 35:BC:57:G:C8 | 35:BC:57:G:C3' | 2.91 | 0.53 |
| 36:B1:69:A:N3 | 36:B1:69:A:C2' | 2.71 | 0.53 |
| 37:BE:15:VAL:HG22 | 37:BE:209:ARG:CD | 2.31 | 0.53 |
| 37:BE:61:LEU:HD23 | 37:BE:61:LEU:C | 2.29 | 0.53 |
| 37:BE:64:ARG:HG2 | 37:BE:65:GLY:N | 2.23 | 0.53 |
| 37:BE:77:ALA:HB3 | 37:BE:211:ILE:HD13 | 1.90 | 0.53 |
| 37:BE:140:HIS:CA | 37:BE:143:GLU:HB2 | 2.37 | 0.53 |
| 37:BE:177:ALA:O | 37:BE:180:LEU:N | 2.42 | 0.53 |
| 38:BF:117:ALA:O | 38:BF:119:ARG:N | 2.41 | 0.53 |
| 38:BF:147:LYS:HB2 | 38:BF:203:PHE:HB3 | 1.91 | 0.53 |
| 39:BG:3:ARG:NH2 | 39:BG:74:GLN:OE1 | 2.42 | 0.53 |
| 40:BH:8:GLU:OE2 | 40:BH:32:VAL:HG11 | 2.09 | 0.53 |
| 40:BH:104:ALA:N | 40:BH:107:ARG:NH1 | 2.57 | 0.53 |
| 41:BI:18:GLN:O | 41:BI:19:LEU:C | 2.46 | 0.53 |
| 41:BI:52:ILE:HD13 | 41:BI:87:ARG:NH2 | 2.24 | 0.53 |
| 42:BJ:113:GLU:O | 42:BJ:115:ARG:N | 2.40 | 0.53 |
| 43:BK:96:GLY:N | 43:BK:99:GLU:OE2 | 2.39 | 0.53 |
| 46:BN:50:TYR:CE1 | 46:BN:54:ARG:HB3 | 2.44 | 0.53 |
| 47:BO:37:CYS:SG | 47:BO:58:VAL:HG22 | 2.49 | 0.53 |
| 47:BO:102:ARG:HB3 | 47:BO:108:ALA:O | 2.09 | 0.53 |
| 47:BO:117:ARG:NH1 | 47:BO:124:LYS:HD2 | 2.24 | 0.53 |
| 48:BP:15:VAL:HG11 | 48:BP:39:ILE:CD1 | 2.39 | 0.53 |
| 50:BR:81:LEU:CD2 | 50:BR:85:LEU:HG | 2.38 | 0.53 |
| 52:BT:29:HIS:ND1 | 52:BT:31:LEU:N | 2.42 | 0.53 |
| 52:BT:82:MET:O | 52:BT:85:VAL:N | 2.41 | 0.53 |
| 53:BU:42:ARG:O | 53:BU:43:PHE:CG | 2.62 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:18:G:H1' | 1:AB:67:G:H22 | 1.74 | 0.53 |
| 2:AA:8:A:OP1 | 12:AM:102:ARG:NH2 | 2.41 | 0.53 |
| 2:AA:71:A:C3' | 2:AA:72:U:H5" | 2.39 | 0.53 |
| 2:AA:76:C:H4' | 22:AW:55:ARG:CD | 2.39 | 0.53 |
| 2:AA:112:U:O4 | 2:AA:113:G:N3 | 2.42 | 0.53 |
| 2:AA:146:G:C2' | 2:AA:147:U:C5' | 2.84 | 0.53 |
| 2:AA:151:C:N3 | 2:AA:152:G:C2 | 2.77 | 0.53 |
| 2:AA:176:G:C3' | 2:AA:177:G:H8 | 2.20 | 0.53 |
| 2:AA:270:A:OP2 | 2:AA:270(Y):G:O2' | 2.27 | 0.53 |
| 2:AA:290:G:H3' | 2:AA:290:G:H8 | 1.74 | 0.53 |
| 2:AA:354:G:N2 | 2:AA:355:G:O6 | 2.42 | 0.53 |
| 2:AA:414:C:H1' | 2:AA:1864:U:O2' | 2.09 | 0.53 |
| 2:AA:459:U:C5 | 2:AA:469:G:N2 | 2.76 | 0.53 |
| 2:AA:648:G:C2 | 2:AA:649:G:C5 | 2.96 | 0.53 |
| 2:AA:684:G:C5 | 2:AA:775:G:N7 | 2.77 | 0.53 |
| 2:AA:685:A:C2 | 2:AA:774:A:N1 | 2.77 | 0.53 |
| 2:AA:723:G:C2 | 2:AA:724:U:H1' | 2.43 | 0.53 |
| 2:AA:784:A:OP1 | 2:AA:2588:G:C5' | 2.57 | 0.53 |
| 2:AA:821:A:N7 | 2:AA:946:G:N7 | 2.57 | 0.53 |
| 2:AA:917:A:C2' | 2:AA:918:A:H5" | 2.39 | 0.53 |
| 2:AA:954:G:OP1 | 15:AP:10:ILE:CA | 2.52 | 0.53 |
| 2:AA:1065:U:C3' | 2:AA:1066:U:C5' | 2.80 | 0.53 |
| 2:AA:1072:C:H2' | 2:AA:1093:G:C6 | 2.44 | 0.53 |
| 2:AA:1080:C:O2' | 2:AA:1081:U:H5' | 2.08 | 0.53 |
| 2:AA:1084:A:N7 | 9:AI:37:VAL:HG11 | 2.24 | 0.53 |
| 2:AA:1108:U:O4 | 2:AA:1109:C:N4 | 2.42 | 0.53 |
| 2:AA:1129:A:N1 | 2:AA:2570:G:H1' | 2.24 | 0.53 |
| 2:AA:1324:G:N2 | 2:AA:1331:A:C4 | 2.77 | 0.53 |
| 2:AA:1350:C:C2 | 2:AA:1381:G:N2 | 2.69 | 0.53 |
| 2:AA:1514:U:O2 | 2:AA:1514:U:C2' | 2.54 | 0.53 |
| 2:AA:1555:G:H5" | 2:AA:1556:C:H5 | 1.74 | 0.53 |
| 2:AA:1754:C:C2 | 2:AA:1755:A:C4 | 2.97 | 0.53 |
| 2:AA:1909:C:H2' | 2:AA:1910:G:H5' | 1.89 | 0.53 |
| 2:AA:1993:U:C4' | 5:AE:228:ARG:NH2 | 2.55 | 0.53 |
| 2:AA:2015:A:H2' | 2:AA:2016:U:C6 | 2.44 | 0.53 |
| 2:AA:2078:C:C4' | 2:AA:2434:A:H5' | 2.38 | 0.53 |
| 2:AA:2100:G:C1' | 2:AA:2190:G:N2 | 2.69 | 0.53 |
| 2:AA:2354:G:C2' | 27:A3:31:VAL:HG13 | 2.39 | 0.53 |
| 2:AA:2431:U:O2 | 2:AA:2433:A:C8 | 2.62 | 0.53 |
| 2:AA:2469:A:H2 | 2:AA:2482:G:C1' | 2.19 | 0.53 |
| 2:AA:2495:G:H4' | 15:AP:101:MET:HB2 | 1.90 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2509:G:HO2' | 2:AA:2510:C:H5' | 1.73 | 0.53 |
| 2:AA:2602:A:H3' | 35:BC:74:C:H5" | 1.91 | 0.53 |
| 2:AA:2680:C:H3' | 5:AE:206:LYS:HZ1 | 1.72 | 0.53 |
| 2:AA:2718:G:C5 | 2:AA:2719:G:C5 | 2.96 | 0.53 |
| 2:AA:2771:C:H2' | 2:AA:2771:C:O2 | 2.07 | 0.53 |
| 2:AA:2840:C:N4 | 2:AA:2841:C:N4 | 2.57 | 0.53 |
| 2:AA:2850:A:H2' | 2:AA:2851:A:C8 | 2.43 | 0.53 |
| 3:AC:42:GLU:HG2 | 3:AC:174:PRO:HA | 1.90 | 0.53 |
| 3:AC:47:LEU:HD21 | 3:AC:196:LEU:HD11 | 1.91 | 0.53 |
| 3:AC:68:LEU:CB | 3:AC:72:VAL:CG2 | 2.84 | 0.53 |
| 3:AC:74:VAL:CG1 | 3:AC:153:ILE:HG23 | 2.38 | 0.53 |
| 3:AC:131:LEU:HB3 | 3:AC:136:LEU:CA | 2.38 | 0.53 |
| 3:AC:190:ARG:NH2 | 3:AC:228:SER:O | 2.42 | 0.53 |
| 4:AD:66:PHE:CD2 | 4:AD:66:PHE:O | 2.62 | 0.53 |
| 6:AF:16:VAL:CG1 | 6:AF:17:ASP:N | 2.72 | 0.53 |
| 6:AF:242:GLU:O | 6:AF:245:GLU:HB2 | 2.09 | 0.53 |
| 7:AG:71:ALA:C | 7:AG:72:LYS:HG2 | 2.29 | 0.53 |
| 7:AG:95:THR:HG22 | 7:AG:96:SER:N | 2.24 | 0.53 |
| 7:AG:97:GLN:CD | 7:AG:106:PHE:CD2 | 2.82 | 0.53 |
| 8:AH:115:GLU:O | 8:AH:115:GLU:CD | 2.47 | 0.53 |
| 8:AH:143:LEU:CD2 | 8:AH:144:ALA:N | 2.67 | 0.53 |
| 9:AJ:25:LEU:HA | 9:AJ:28:LYS:HG3 | 1.90 | 0.53 |
| 9:AJ:55:GLU:O | 9:AJ:56:LYS:CB | 2.57 | 0.53 |
| 9:AJ:71:ILE:HG21 | 11:AL:66:PHE:CE1 | 2.44 | 0.53 |
| 10:AK:107:GLY:O | 10:AK:109:LYS:CE | 2.56 | 0.53 |
| 12:AM:15:ARG:HD3 | 12:AM:43:ARG:HD2 | 1.89 | 0.53 |
| 12:AM:25:GLN:C | 12:AM:27:ALA:N | 2.59 | 0.53 |
| 15:AP:122:PHE:N | 15:AP:122:PHE:CD2 | 2.76 | 0.53 |
| 16:AQ:94:GLU:O | 16:AQ:95:ALA:C | 2.47 | 0.53 |
| 17:AR:10:GLY:HA2 | 17:AR:53:ASP:OD2 | 2.09 | 0.53 |
| 19:AT:73:ASP:O | 19:AT:78:ALA:O | 2.26 | 0.53 |
| 20:AU:57:GLY:CA | 20:AU:97:ARG:NH2 | 2.60 | 0.53 |
| 21:AV:103:ARG:H | 21:AV:103:ARG:CD | 2.19 | 0.53 |
| 22:AW:2:VAL:HG12 | 22:AW:3:LEU:N | 2.23 | 0.53 |
| 24:A0:34:ILE:CG2 | 24:A0:35:THR:H | 2.21 | 0.53 |
| 29:A5:6:VAL:HG13 | 29:A5:7:PRO:HG2 | 1.91 | 0.53 |
| 30:A6:16:ALA:C | 30:A6:19:GLY:H | 2.12 | 0.53 |
| 30:A6:34:LYS:HG3 | 30:A6:35:LEU:HD23 | 1.90 | 0.53 |
| 34:BA:68:G:C5 | 34:BA:69:G:C8 | 2.97 | 0.53 |
| 34:BA:277:C:N4 | 34:BA:278:G:C6 | 2.75 | 0.53 |
| 34:BA:301:G:C2 | 34:BA:302:G:N9 | 2.77 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:328:C:O2 | 34:BA:328:C:C2' | 2.57 | 0.53 |
| 34:BA:389:A:C4 | 34:BA:390:C:O4' | 2.62 | 0.53 |
| 34:BA:439:A:H5" | 34:BA:494:G:N2 | 2.23 | 0.53 |
| 34:BA:452:A:N7 | 34:BA:480:U:O4 | 2.41 | 0.53 |
| 34:BA:460:A:N6 | 34:BA:462:G:N3 | 2.56 | 0.53 |
| 34:BA:483:C:H41 | 34:BA:484:G:N2 | 2.07 | 0.53 |
| 34:BA:564:C:OP1 | 47:BO:15:ARG:NE | 2.42 | 0.53 |
| 34:BA:586:C:OP1 | 52:BT:34:LYS:CD | 2.57 | 0.53 |
| 34:BA:665:A:N9 | 34:BA:725:G:N2 | 2.57 | 0.53 |
| 34:BA:791:G:H5" | 34:BA:792:A:P | 2.49 | 0.53 |
| 34:BA:830:G:C6 | 34:BA:857:C:N3 | 2.77 | 0.53 |
| 34:BA:834:C:N4 | 34:BA:853:G:O6 | 2.41 | 0.53 |
| 34:BA:897:C:C2 | 34:BA:903:G:C2 | 2.97 | 0.53 |
| 34:BA:949:A:C4 | 34:BA:1233:G:C2 | 2.97 | 0.53 |
| 34:BA:962:C:N4 | 34:BA:963:G:C5 | 2.77 | 0.53 |
| 34:BA:1010:G:N2 | 34:BA:1020:U:H1' | 2.24 | 0.53 |
| 34:BA:1065:U:HO2' | 34:BA:1066:C:P | 2.32 | 0.53 |
| 34:BA:1097:C:H2' | 34:BA:1098:C:C6 | 2.37 | 0.53 |
| 34:BA:1107:C:P | 38:BF:172:ARG:HG2 | 2.48 | 0.53 |
| 34:BA:1125:U:O3' | 34:BA:1126:U:H6 | 1.91 | 0.53 |
| 34:BA:1151:A:OP1 | 45:BM:42:THR:N | 2.42 | 0.53 |
| 34:BA:1182:G:C4' | 34:BA:1183:A:O5' | 2.42 | 0.53 |
| 34:BA:1226:C:H4' | 34:BA:1227:A:OP1 | 2.09 | 0.53 |
| 34:BA:1310:G:C2 | 34:BA:1328:C:C2 | 2.96 | 0.53 |
| 35:BB:60:C:OP1 | 35:BB:61:C:C5 | 2.62 | 0.53 |
| 35:BB:74:C:H2' | 35:BB:75:C:O4' | 2.09 | 0.53 |
| 35:BC:62:A:C2 | 35:BC:63:C:C2 | 2.97 | 0.53 |
| 38:BF:89:GLU:O | 38:BF:91:LEU:N | 2.42 | 0.53 |
| 39:BG:94:LEU:HD12 | 39:BG:200:GLU:OE2 | 2.08 | 0.53 |
| 40:BH:20:GLN:HE21 | 40:BH:20:GLN:HA | 1.73 | 0.53 |
| 40:BH:31:LEU:C | 40:BH:31:LEU:CD2 | 2.77 | 0.53 |
| 40:BH:76:ILE:CG2 | 40:BH:142:LEU:CD2 | 2.87 | 0.53 |
| 40:BH:91:LEU:CD1 | 40:BH:110:LEU:HD11 | 2.39 | 0.53 |
| 41:BI:8:ILE:HG23 | 41:BI:88:VAL:HG22 | 1.90 | 0.53 |
| 42:BJ:17:VAL:O | 42:BJ:18:TYR:CD1 | 2.62 | 0.53 |
| 42:BJ:64:GLN:HG3 | 42:BJ:128:ALA:HB1 | 1.90 | 0.53 |
| 42:BJ:93:PRO:O | 42:BJ:96:GLN:N | 2.41 | 0.53 |
| 43:BK:22:GLU:O | 43:BK:63:LEU:HD11 | 2.09 | 0.53 |
| 43:BK:84:ARG:HD3 | 43:BK:136:GLU:OE1 | 2.09 | 0.53 |
| 43:BK:126:LYS:NZ | 43:BK:127:LEU:CB | 2.70 | 0.53 |
| 44:BL:15:ALA:CB | 44:BL:77:ILE:N | 2.72 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:111:ARG:NH2 | 45:BM:62:HIS:NE2 | 2.56 | 0.53 |
| 51:BS:59:TRP:O | 51:BS:60:LEU:C | 2.48 | 0.53 |
| 51:BS:70:ALA:O | 51:BS:71:ARG:C | 2.47 | 0.53 |
| 52:BT:6:LEU:CB | 52:BT:23:VAL:HG21 | 2.38 | 0.53 |
| 52:BT:27:PHE:CZ | 52:BT:36:ILE:HD11 | 2.44 | 0.53 |
| 52:BT:81:ARG:CG | 52:BT:84:LEU:HD11 | 2.32 | 0.53 |
| 53:BU:30:ASP:OD2 | 53:BU:32:ARG:HB2 | 2.08 | 0.53 |
| 55:BW:13:LEU:O | 55:BW:16:HIS:CB | 2.57 | 0.53 |
| 1:AB:5:C:C4 | 1:AB:6:C:N4 | 2.76 | 0.53 |
| 1:AB:75:G:H2' | 1:AB:76:G:O4' | 2.08 | 0.53 |
| 1:AB:85:G:C2 | 1:AB:86:G:C8 | 2.97 | 0.53 |
| 2:AA:146:G:N1 | 2:AA:147:U:C2 | 2.77 | 0.53 |
| 2:AA:152:G:N2 | 2:AA:176:G:C5 | 2.66 | 0.53 |
| 2:AA:215:G:H4' | 2:AA:216:A:C5' | 2.36 | 0.53 |
| 2:AA:237:C:C2 | 2:AA:260:G:N2 | 2.73 | 0.53 |
| 2:AA:244:A:H2' | 2:AA:244:A:N3 | 2.23 | 0.53 |
| 2:AA:262:A:H2 | 2:AA:430:G:H1' | 1.73 | 0.53 |
| 2:AA:311:A:N6 | 2:AA:328:U:O2 | 2.42 | 0.53 |
| 2:AA:319:C:C2' | 2:AA:320:A:H8 | 2.21 | 0.53 |
| 2:AA:410:G:C2' | 2:AA:411:G:OP2 | 2.56 | 0.53 |
| 2:AA:428:A:H3' | 2:AA:429:A:C8 | 2.43 | 0.53 |
| 2:AA:487:C:N4 | 2:AA:488:G:C6 | 2.76 | 0.53 |
| 2:AA:599:G:H2' | 2:AA:600:G:C8 | 2.44 | 0.53 |
| 2:AA:627:A:C2 | 2:AA:637:A:N3 | 2.77 | 0.53 |
| 2:AA:636:G:O6 | 14:AO:107:LYS:HD3 | 2.09 | 0.53 |
| 2:AA:722:A:C2 | 2:AA:723:G:C8 | 2.97 | 0.53 |
| 2:AA:723:G:H2' | 2:AA:724:U:C6 | 2.40 | 0.53 |
| 2:AA:764:A:H5' | 2:AA:765:G:OP2 | 2.09 | 0.53 |
| 2:AA:839:U:H4' | 2:AA:1191:G:C2 | 2.43 | 0.53 |
| 2:AA:864:G:C2' | 2:AA:865:C:H1' | 2.38 | 0.53 |
| 2:AA:922:U:H2' | 2:AA:923:C:C6 | 2.43 | 0.53 |
| 2:AA:962:G:C2' | 2:AA:963:U:O4' | 2.57 | 0.53 |
| 2:AA:1015:G:C6 | 2:AA:1148:A:C5 | 2.97 | 0.53 |
| 2:AA:1020:A:C2 | 2:AA:1141:U:OP2 | 2.62 | 0.53 |
| 2:AA:1157:G:C6 | 2:AA:1158:C:N4 | 2.77 | 0.53 |
| 2:AA:1222:C:C2 | 2:AA:1223:C:C6 | 2.97 | 0.53 |
| 2:AA:1276:A:OP2 | 2:AA:1645:G:O2' | 2.22 | 0.53 |
| 2:AA:1317:A:C4 | 2:AA:1318:C:C6 | 2.97 | 0.53 |
| 2:AA:1353:A:C4 | 2:AA:1354:A:C8 | 2.97 | 0.53 |
| 2:AA:1451:C:H3' | 2:AA:1451:C:H6 | 1.73 | 0.53 |
| 2:AA:1555:G:O5' | 2:AA:1555:G:C8 | 2.62 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1558:A:O2' | 2:AA:1559:G:N7 | 2.36 | 0.53 |
| 2:AA:1657:C:O5' | 2:AA:1657:C:H6 | 1.92 | 0.53 |
| 2:AA:1695:G:N3 | 2:AA:1696:G:O4' | 2.42 | 0.53 |
| 2:AA:1777:U:O2' | 2:AA:1778:U:H5' | 2.09 | 0.53 |
| 2:AA:1918:A:C3' | 2:AA:1918:A:P | 2.95 | 0.53 |
| 2:AA:1944:U:C1' | 2:AA:1955:U:C1' | 2.87 | 0.53 |
| 2:AA:2015:A:C6 | 29:A5:6:VAL:HG21 | 2.43 | 0.53 |
| 2:AA:2055:C:C2' | 2:AA:2055:C:O2 | 2.54 | 0.53 |
| 2:AA:2072:G:O6 | 2:AA:2073:C:N4 | 2.42 | 0.53 |
| 2:AA:2076:U:C6 | 2:AA:2076:U:H3' | 2.45 | 0.53 |
| 2:AA:2115:G:O2' | 3:AC:126:LYS:CD | 2.37 | 0.53 |
| 2:AA:2115:G:C4' | 3:AC:126:LYS:HE2 | 2.27 | 0.53 |
| 2:AA:2123:G:OP2 | 2:AA:2124:G:OP2 | 2.26 | 0.53 |
| 2:AA:2141:G:N1 | 2:AA:2151:G:C5 | 2.76 | 0.53 |
| 2:AA:2147:G:C2' | 2:AA:2148:G:C8 | 2.90 | 0.53 |
| 2:AA:2243:U:O2 | 2:AA:2244:U:C1' | 2.56 | 0.53 |
| 2:AA:2521:C:C2' | 2:AA:2522:U:O5' | 2.57 | 0.53 |
| 2:AA:2602:A:OP1 | 2:AA:2602:A:H3' | 2.09 | 0.53 |
| 2:AA:2654:A:O2' | 2:AA:2655:G:C4' | 2.57 | 0.53 |
| 2:AA:2686:G:C2' | 2:AA:2687:U:O4' | 2.57 | 0.53 |
| 2:AA:2792:G:H1 | 2:AA:2803:C:H42 | 1.57 | 0.53 |
| 3:AC:29:VAL:CG1 | 3:AC:30:LYS:N | 2.71 | 0.53 |
| 3:AC:59:ARG:C | 3:AC:199:HIS:HE2 | 2.12 | 0.53 |
| 4:AD:85:ASN:OD1 | 4:AD:86:ARG:CZ | 2.57 | 0.53 |
| 4:AD:123:ILE:O | 4:AD:123:ILE:CG2 | 2.56 | 0.53 |
| 4:AD:133:ASN:O | 4:AD:134:ILE:HG13 | 2.08 | 0.53 |
| 4:AD:141:HIS:HE1 | 4:AD:192:GLY:N | 2.07 | 0.53 |
| 4:AD:142:ASN:CG | 4:AD:190:THR:OG1 | 2.48 | 0.53 |
| 4:AD:157:ALA:O | 4:AD:158:GLY:O | 2.26 | 0.53 |
| 7:AG:56:ARG:CG | 7:AG:65:GLU:HG3 | 2.38 | 0.53 |
| 7:AG:76:ARG:HB3 | 7:AG:77:ASP:OD1 | 2.09 | 0.53 |
| 8:AH:10:ILE:O | 8:AH:10:ILE:HG22 | 2.09 | 0.53 |
| 8:AH:24:THR:HG22 | 8:AH:33:THR:HG22 | 1.91 | 0.53 |
| 8:AH:96:SER:HA | 8:AH:124:VAL:HG21 | 1.91 | 0.53 |
| 10:AK:35:LEU:O | 10:AK:36:ALA:HB2 | 2.09 | 0.53 |
| 10:AK:47:LEU:HD13 | 10:AK:51:LYS:HZ1 | 1.71 | 0.53 |
| 11:AL:104:GLN:O | 11:AL:107:GLU:OE2 | 2.25 | 0.53 |
| 12:AM:37:ALA:HA | 12:AM:102:ARG:O | 2.09 | 0.53 |
| 13:AN:24:VAL:HG21 | 13:AN:32:TYR:N | 2.23 | 0.53 |
| 16:AQ:27:LEU:CD1 | 16:AQ:27:LEU:C | 2.78 | 0.53 |
| 18:AS:84:ARG:NE | 18:AS:84:ARG:CA | 2.59 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:AT:55:GLN:CG | 19:AT:56:ASN:N | 2.70 | 0.53 |
| 20:AU:28:SER:HB3 | 20:AU:99:THR:CB | 2.39 | 0.53 |
| 22:AW:51:LYS:HB3 | 22:AW:55:ARG:NE | 2.21 | 0.53 |
| 24:A0:67:LEU:HD23 | 24:A0:76:VAL:CG2 | 2.39 | 0.53 |
| 24:A0:97:VAL:HA | 24:A0:114:VAL:HG22 | 1.91 | 0.53 |
| 27:A3:46:LYS:HD2 | 27:A3:46:LYS:N | 2.23 | 0.53 |
| 28:A4:48:ARG:O | 28:A4:49:PHE:C | 2.47 | 0.53 |
| 28:A4:48:ARG:NE | 28:A4:71:SER:OG | 2.41 | 0.53 |
| 34:BA:47:C:O2' | 34:BA:48:C:P | 2.67 | 0.53 |
| 34:BA:220:G:HO2' | 34:BA:221:C:H5' | 1.71 | 0.53 |
| 34:BA:290:C:C2 | 34:BA:291:C:H6 | 2.26 | 0.53 |
| 34:BA:302:G:H2' | 34:BA:556:C:H5" | 1.91 | 0.53 |
| 34:BA:309:G:O2' | 34:BA:310:G:O4' | 2.25 | 0.53 |
| 34:BA:382:A:H2' | 34:BA:383:A:C8 | 2.44 | 0.53 |
| 34:BA:382:A:O2' | 34:BA:383:A:H5' | 2.09 | 0.53 |
| 34:BA:458:C:C2 | 34:BA:475:G:C2 | 2.97 | 0.53 |
| 34:BA:553:A:O2' | 34:BA:554:C:O4' | 2.19 | 0.53 |
| 34:BA:598:U:H4' | 43:BK:94:TYR:HB2 | 1.90 | 0.53 |
| 34:BA:657:G:N2 | 50:BR:22:THR:OG1 | 2.42 | 0.53 |
| 34:BA:657:G:C2 | 34:BA:750:G:C5 | 2.97 | 0.53 |
| 34:BA:719:C:H2' | 53:BU:50:ILE:HB | 1.91 | 0.53 |
| 34:BA:750:G:H21 | 50:BR:23:GLY:C | 2.11 | 0.53 |
| 34:BA:830:G:N1 | 34:BA:857:C:C2 | 2.77 | 0.53 |
| 34:BA:862:C:N4 | 34:BA:863:U:O4 | 2.42 | 0.53 |
| 34:BA:988:G:H22 | 34:BA:1016:A:H1' | 1.72 | 0.53 |
| 34:BA:1095:U:OP1 | 34:BA:1108:G:N2 | 2.42 | 0.53 |
| 34:BA:1098:C:O2 | 34:BA:1099:G:O4' | 2.27 | 0.53 |
| 34:BA:1156:G:H1' | 34:BA:1179:A:N6 | 2.18 | 0.53 |
| 34:BA:1157:A:C2 | 34:BA:1180:A:C4 | 2.97 | 0.53 |
| 34:BA:1256:A:H2 | 34:BA:1258:G:C2 | 2.26 | 0.53 |
| 34:BA:1271:G:OP1 | 34:BA:1314:C:C5' | 2.50 | 0.53 |
| 34:BA:1290:G:C6 | 34:BA:1291:G:C8 | 2.97 | 0.53 |
| 34:BA:1433:A:O2' | 34:BA:1434:A:H5' | 2.08 | 0.53 |
| 35:BB:15:G:H8 | 35:BB:15:G:P | 2.30 | 0.53 |
| 35:BB:23:A:C2 | 35:BB:24:G:C6 | 2.97 | 0.53 |
| 35:BB:27:C:H42 | 35:BB:43:G:H1 | 1.55 | 0.53 |
| 35:BB:41:U:N3 | 35:BB:42:G:C8 | 2.77 | 0.53 |
| 35:BB:53:G:N1 | 35:BB:54:U:C4 | 2.77 | 0.53 |
| 35:BB:58:A:C6 | 35:BB:61:C:C2 | 2.97 | 0.53 |
| 35:BC:19:G:O3' | 35:BC:20:G:C8 | 2.62 | 0.53 |
| 35:BC:44:A:H61 | 35:BC:45:G:H21 | 1.52 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 36:B1:59:A:P | 36:B1:59:A:O4' | 2.67 | 0.53 |
| 36:B1:61:U:H2' | 36:B1:61:U:O2 | 2.09 | 0.53 |
| 37:BE:24:TRP:CE3 | 37:BE:32:ILE:HD12 | 2.44 | 0.53 |
| 38:BF:52:LEU:CA | 38:BF:70:VAL:HG13 | 2.39 | 0.53 |
| 38:BF:88:ARG:O | 38:BF:91:LEU:HD13 | 2.09 | 0.53 |
| 40:BH:99:GLY:HA2 | 40:BH:116:THR:O | 2.08 | 0.53 |
| 40:BH:107:ARG:HG2 | 40:BH:111:GLU:OE2 | 2.09 | 0.53 |
| 44:BL:56:LEU:C | 44:BL:58:ARG:H | 2.12 | 0.53 |
| 44:BL:112:LYS:C | 44:BL:113:LYS:HD2 | 2.28 | 0.53 |
| 45:BM:38:ILE:O | 45:BM:40:LEU:HG | 2.09 | 0.53 |
| 45:BM:57:LYS:HG2 | 45:BM:57:LYS:O | 2.09 | 0.53 |
| 47:BO:16:GLU:HG2 | 47:BO:17:LYS:O | 2.08 | 0.53 |
| 48:BP:11:ARG:HH11 | 48:BP:11:ARG:CG | 2.11 | 0.53 |
| 50:BR:75:PRO:O | 50:BR:78:TYR:HB3 | 2.08 | 0.53 |
| 55:BW:55:ILE:C | 55:BW:57:ARG:N | 2.61 | 0.53 |
| 55:BW:65:LYS:O | 55:BW:68:LYS:CB | 2.57 | 0.53 |
| 1:AB:27:C:C4 | 1:AB:28:C:C4 | 2.96 | 0.52 |
| 1:AB:69:G:C5' | 1:AB:70:C:OP2 | 2.45 | 0.52 |
| 2:AA:55:G:C2 | 2:AA:56:A:C8 | 2.97 | 0.52 |
| 2:AA:72:U:C2' | 2:AA:73:A:OP1 | 2.57 | 0.52 |
| 2:AA:273(F):C:O2 | 2:AA:363(A):A:C6 | 2.61 | 0.52 |
| 2:AA:360:G:H3' | 2:AA:360:G:OP2 | 2.08 | 0.52 |
| 2:AA:458:G:H2' | 2:AA:469:G:H1 | 1.74 | 0.52 |
| 2:AA:492:A:C2' | 2:AA:493:G:C5' | 2.87 | 0.52 |
| 2:AA:501:A:C5 | 2:AA:502:A:N6 | 2.77 | 0.52 |
| 2:AA:506:G:H2' | 2:AA:507:A:OP2 | 2.09 | 0.52 |
| 2:AA:628:G:H8 | 2:AA:628:G:P | 2.32 | 0.52 |
| 2:AA:658:C:O2' | 6:AF:103:ASN:ND2 | 2.42 | 0.52 |
| 2:AA:687:C:O2' | 2:AA:1780:A:N6 | 2.40 | 0.52 |
| 2:AA:706:A:H8 | 2:AA:706:A:O5' | 1.91 | 0.52 |
| 2:AA:707:G:H1 | 2:AA:724:U:H3 | 1.49 | 0.52 |
| 2:AA:819:A:C8 | 2:AA:819:A:H3' | 2.43 | 0.52 |
| 2:AA:874:G:OP1 | 21:AV:172:LEU:HD11 | 2.09 | 0.52 |
| 2:AA:879:G:N2 | 2:AA:880:G:C1' | 2.72 | 0.52 |
| 2:AA:936:C:O2' | 2:AA:937:U:O5' | 2.26 | 0.52 |
| 2:AA:945:A:C6 | 2:AA:2448:A:C2 | 2.96 | 0.52 |
| 2:AA:1028:A:C2 | 2:AA:1029:A:N7 | 2.77 | 0.52 |
| 2:AA:1156:A:C2 | 25:A1:51:ARG:NE | 2.77 | 0.52 |
| 2:AA:1171:G:O4' | 2:AA:1171:G:P | 2.66 | 0.52 |
| 2:AA:1289:C:H2' | 2:AA:1290:C:O5' | 2.08 | 0.52 |
| 2:AA:1346:G:C4 | 2:AA:1347:G:N7 | 2.77 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1444:G:H3' | 2:AA:1445:C:C5 | 2.44 | 0.52 |
| 2:AA:1525:G:C5 | 2:AA:1526:G:C5 | 2.97 | 0.52 |
| 2:AA:1568:G:C5' | 4:AD:60:GLN:CG | 2.80 | 0.52 |
| 2:AA:1580:A:C2 | 2:AA:1581:G:C2 | 2.97 | 0.52 |
| 2:AA:1650:G:N2 | 2:AA:1651:G:C1' | 2.73 | 0.52 |
| 2:AA:1650:G:C6 | 2:AA:2008:C:C4 | 2.97 | 0.52 |
| 2:AA:1741:C:H2' | 2:AA:1742:C:C5' | 2.37 | 0.52 |
| 2:AA:1796:U:C2 | 2:AA:1797:C:C4 | 2.96 | 0.52 |
| 2:AA:1825:A:C6 | 2:AA:1826:G:O6 | 2.62 | 0.52 |
| 2:AA:1854:A:H1' | 2:AA:2087:G:N2 | 2.24 | 0.52 |
| 2:AA:2013:A:C2' | 2:AA:2014:A:C5' | 2.86 | 0.52 |
| 2:AA:2053:G:C1' | 5:AE:245:ARG:HG2 | 2.39 | 0.52 |
| 2:AA:2069:G:O2' | 2:AA:2070:G:H5' | 2.08 | 0.52 |
| 2:AA:2127:G:N7 | 2:AA:2174:C:C5 | 2.77 | 0.52 |
| 2:AA:2213:U:H3' | 2:AA:2213:U:C2 | 2.44 | 0.52 |
| 2:AA:2305:A:H8 | 2:AA:2306:C:H5" | 1.72 | 0.52 |
| 2:AA:2396:G:OP1 | 28:A4:28:ARG:CZ | 2.58 | 0.52 |
| 2:AA:2484:G:C2 | 2:AA:2485:G:C1' | 2.93 | 0.52 |
| 2:AA:2485:G:C2' | 2:AA:2486:G:H5' | 2.39 | 0.52 |
| 2:AA:2515:C:H2' | 2:AA:2515:C:O2 | 2.08 | 0.52 |
| 2:AA:2520:C:C5 | 2:AA:2567:G:C4 | 2.96 | 0.52 |
| 2:AA:2532:G:C6 | 2:AA:2533:A:C6 | 2.97 | 0.52 |
| 2:AA:2704:C:C2' | 2:AA:2705:A:O4' | 2.55 | 0.52 |
| 2:AA:2706:G:N2 | 2:AA:2707:G:C4 | 2.77 | 0.52 |
| 2:AA:2743:C:C2' | 2:AA:2744:G:O5' | 2.57 | 0.52 |
| 2:AA:2807:G:O6 | 2:AA:2892:A:C8 | 2.62 | 0.52 |
| 3:AC:29:VAL:HG13 | 3:AC:30:LYS:N | 2.24 | 0.52 |
| 4:AD:74:PRO:HA | 4:AD:116:MET:HE2 | 1.89 | 0.52 |
| 5:AE:79:ARG:NH1 | 5:AE:104:PHE:C | 2.63 | 0.52 |
| 5:AE:256:THR:CB | 5:AE:259:HIS:CE1 | 2.91 | 0.52 |
| 6:AF:24:THR:HB | 6:AF:25:PRO:HD2 | 1.91 | 0.52 |
| 7:AG:56:ARG:HA | 7:AG:63:ILE:HA | 1.91 | 0.52 |
| 8:AH:84:LYS:HE3 | 8:AH:141:GLY:HA3 | 1.90 | 0.52 |
| 9:AJ:13:LEU:HD23 | 9:AJ:17:GLU:CD | 2.29 | 0.52 |
| 11:AL:8:GLN:O | 11:AL:9:ILE:HG13 | 2.09 | 0.52 |
| 11:AL:105:ILE:HG22 | 11:AL:106:GLU:N | 2.22 | 0.52 |
| 13:AN:9:LYS:O | 13:AN:83:ALA:CB | 2.54 | 0.52 |
| 14:AO:119:THR:HG22 | 14:AO:138:GLY:C | 2.29 | 0.52 |
| 16:AQ:38:LYS:HZ2 | 16:AQ:114:LYS:CB | 2.21 | 0.52 |
| 18:AS:66:GLU:CG | 18:AS:67:ASP:N | 2.70 | 0.52 |
| 21:AV:37:LYS:HD2 | 21:AV:41:ARG:HH12 | 1.74 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:90:GLU:N | 21:AV:91:PRO:CD | 2.72 | 0.52 |
| 21:AV:98:VAL:CG2 | 21:AV:134:LEU:HB3 | 2.39 | 0.52 |
| 21:AV:123:VAL:CG1 | 21:AV:161:ALA:H | 2.21 | 0.52 |
| 23:AX:27:GLY:C | 23:AX:28:LEU:CG | 2.74 | 0.52 |
| 24:A0:54:LEU:O | 24:A0:57:ARG:HB2 | 2.10 | 0.52 |
| 25:A1:22:LYS:N | 25:A1:24:PHE:HE2 | 2.07 | 0.52 |
| 25:A1:95:LEU:C | 25:A1:106:PHE:HE1 | 2.13 | 0.52 |
| 25:A1:98:ILE:CD1 | 25:A1:98:ILE:N | 2.71 | 0.52 |
| 25:A1:111:ASP:O | 25:A1:112:ALA:C | 2.47 | 0.52 |
| 27:A3:27:GLY:CA | 27:A3:60:PHE:CE2 | 2.92 | 0.52 |
| 27:A3:48:GLY:O | 27:A3:54:GLY:O | 2.26 | 0.52 |
| 30:A6:36:GLU:CA | 30:A6:52:GLU:OE1 | 2.57 | 0.52 |
| 31:A7:25:LYS:N | 31:A7:25:LYS:CE | 2.72 | 0.52 |
| 32:A8:30:ARG:H | 32:A8:34:THR:HG21 | 1.74 | 0.52 |
| 33:A9:19:ARG:CD | 33:A9:24:LEU:HD12 | 2.37 | 0.52 |
| 34:BA:19:C:O4' | 34:BA:864:A:H1' | 2.09 | 0.52 |
| 34:BA:80:G:C3' | 34:BA:81:U:C5' | 2.87 | 0.52 |
| 34:BA:154:C:O2' | 34:BA:155:C:H5' | 2.09 | 0.52 |
| 34:BA:165:C:H2' | 34:BA:166:G:H8 | 1.74 | 0.52 |
| 34:BA:190(F):G:C4' | 34:BA:190(G):G:OP2 | 2.42 | 0.52 |
| 34:BA:255:G:C2 | 34:BA:256:U:C5 | 2.97 | 0.52 |
| 34:BA:280:C:C1' | 52:BT:38:ARG:CZ | 2.87 | 0.52 |
| 34:BA:328:C:O2 | 34:BA:328:C:H3' | 2.08 | 0.52 |
| 34:BA:509:A:O2' | 34:BA:510:A:C5' | 2.57 | 0.52 |
| 34:BA:585:G:O2' | 34:BA:879:C:H5" | 2.08 | 0.52 |
| 34:BA:598:U:O2 | 34:BA:599:C:C6 | 2.61 | 0.52 |
| 34:BA:667:G:H4' | 50:BR:51:HIS:CG | 2.44 | 0.52 |
| 34:BA:682:G:C6 | 34:BA:709:G:C6 | 2.96 | 0.52 |
| 34:BA:809:G:N2 | 34:BA:810:C:C1' | 2.72 | 0.52 |
| 34:BA:821:G:O2' | 34:BA:822:C:H5' | 2.08 | 0.52 |
| 34:BA:855:G:H2' | 34:BA:856:C:O5' | 2.09 | 0.52 |
| 34:BA:867:G:H2' | 34:BA:868:C:C6 | 2.44 | 0.52 |
| 34:BA:939:G:N1 | 34:BA:1344:C:N4 | 2.22 | 0.52 |
| 34:BA:1117:G:N3 | 34:BA:1184:G:C2 | 2.77 | 0.52 |
| 34:BA:1163:C:H42 | 34:BA:1173:G:H1 | 0.70 | 0.52 |
| 34:BA:1202:G:H1' | 49:BQ:42:ILE:HD13 | 1.90 | 0.52 |
| 34:BA:1330:U:H3' | 34:BA:1331:G:C8 | 2.44 | 0.52 |
| 34:BA:1366:C:P | 44:BL:117:HIS:HE2 | 2.32 | 0.52 |
| 34:BA:1418:A:C2 | 34:BA:1483:A:C2 | 2.97 | 0.52 |
| 35:BB:47:U:H2' | 35:BB:48:C:H5' | 1.91 | 0.52 |
| 35:BC:50:U:C2 | 35:BC:65:G:N2 | 2.77 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BC:55:U:O2' | 35:BC:57:G:N7 | 2.40 | 0.52 |
| 37:BE:223:ILE:HA | 37:BE:226:ARG:HB2 | 1.91 | 0.52 |
| 38:BF:182:ILE:CD1 | 38:BF:203:PHE:HD1 | 2.21 | 0.52 |
| 39:BG:120:LEU:HG | 39:BG:125:HIS:HD2 | 1.67 | 0.52 |
| 40:BH:71:LEU:HD11 | 40:BH:114:GLY:O | 2.10 | 0.52 |
| 41:BI:97:PHE:N | 53:BU:32:ARG:HG3 | 2.24 | 0.52 |
| 45:BM:36:GLY:O | 45:BM:72:VAL:HA | 2.09 | 0.52 |
| 45:BM:48:THR:HG22 | 45:BM:49:VAL:N | 2.23 | 0.52 |
| 50:BR:28:GLN:O | 50:BR:31:LEU:HB2 | 2.09 | 0.52 |
| 52:BT:97:SER:CB | 52:BT:103:GLY:CA | 2.88 | 0.52 |
| 55:BW:73:HIS:HD2 | 55:BW:74:LYS:HE2 | 1.74 | 0.52 |
| 1:AB:18:G:O5' | 7:AG:149:ARG:NE | 2.43 | 0.52 |
| 2:AA:216:A:N6 | 2:AA:432:A:C8 | 2.77 | 0.52 |
| 2:AA:252:G:N2 | 2:AA:253:C:N1 | 2.57 | 0.52 |
| 2:AA:270(I):G:N1 | 2:AA:270(Q):C:N4 | 2.30 | 0.52 |
| 2:AA:287:C:N3 | 2:AA:353:G:C6 | 2.77 | 0.52 |
| 2:AA:311:A:C6 | 2:AA:328:U:N3 | 2.74 | 0.52 |
| 2:AA:329:G:H5' | 2:AA:330:A:OP2 | 2.08 | 0.52 |
| 2:AA:383:U:C2 | 2:AA:385:C:N4 | 2.77 | 0.52 |
| 2:AA:422:A:O2' | 2:AA:423:A:P | 2.67 | 0.52 |
| 2:AA:576:U:H2' | 2:AA:577:G:H8 | 1.74 | 0.52 |
| 2:AA:775:G:C5' | 2:AA:777:A:C1' | 2.69 | 0.52 |
| 2:AA:783:A:N6 | 2:AA:785:G:C8 | 2.77 | 0.52 |
| 2:AA:873:G:C2 | 2:AA:874:G:H1' | 2.44 | 0.52 |
| 2:AA:909:A:C2 | 2:AA:912:C:C1' | 2.93 | 0.52 |
| 2:AA:965:C:H1' | 2:AA:2273:A:C2 | 2.44 | 0.52 |
| 2:AA:1095:A:C8 | 2:AA:1096:A:H8 | 2.26 | 0.52 |
| 2:AA:1265:A:C8 | 2:AA:1267:U:O4 | 2.63 | 0.52 |
| 2:AA:1301:A:N6 | 2:AA:1303:G:C4 | 2.73 | 0.52 |
| 2:AA:1304:C:N3 | 2:AA:1624:G:N2 | 2.45 | 0.52 |
| 2:AA:1345:C:C2 | 2:AA:1346:G:C8 | 2.97 | 0.52 |
| 2:AA:1357:U:C4 | 2:AA:1358:G:C5 | 2.97 | 0.52 |
| 2:AA:1444:G:H3' | 2:AA:1445:C:H5 | 1.73 | 0.52 |
| 2:AA:1499:C:C2' | 2:AA:1500:G:O5' | 2.58 | 0.52 |
| 2:AA:1630:G:H8 | 2:AA:1630:G:O5' | 1.92 | 0.52 |
| 2:AA:1679:U:O2' | 2:AA:1990:C:H4' | 2.08 | 0.52 |
| 2:AA:1797:C:C6 | 2:AA:1797:C:C3' | 2.93 | 0.52 |
| 2:AA:1805:U:N3 | 2:AA:1813:G:N2 | 2.56 | 0.52 |
| 2:AA:1818:U:C4 | 4:AD:155:ARG:NH1 | 2.77 | 0.52 |
| 2:AA:1819:A:O2' | 2:AA:1820:U:P | 2.68 | 0.52 |
| 2:AA:2101:G:H2' | 2:AA:2102:U:O4' | 2.09 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2147:G:C4 | 2:AA:2148:G:N7 | 2.77 | 0.52 |
| 2:AA:2236:C:N4 | 2:AA:2237:G:C2 | 2.77 | 0.52 |
| 2:AA:2348:U:C2 | 2:AA:2349:G:C8 | 2.97 | 0.52 |
| 2:AA:2361:A:H2' | 2:AA:2362:G:O4' | 2.09 | 0.52 |
| 2:AA:2465:C:O3' | 33:A9:5:SER:OG | 2.24 | 0.52 |
| 2:AA:2468:G:HO2' | 2:AA:2469:A:H5' | 1.70 | 0.52 |
| 2:AA:2470:G:N2 | 2:AA:2471:C:C2 | 2.77 | 0.52 |
| 2:AA:2476:A:H2' | 2:AA:2477:C:H5' | 1.91 | 0.52 |
| 2:AA:2511:U:O2 | 5:AE:236:GLY:HA3 | 2.10 | 0.52 |
| 2:AA:2579:C:C4' | 5:AE:231:TRP:HH2 | 2.21 | 0.52 |
| 2:AA:2631:G:C1' | 2:AA:2892:A:H1' | 2.38 | 0.52 |
| 2:AA:2646:C:H2' | 2:AA:2647:U:O4' | 2.08 | 0.52 |
| 2:AA:2707:G:C2' | 2:AA:2708:G:O5' | 2.57 | 0.52 |
| 2:AA:2785:C:C4' | 5:AE:99:VAL:HG22 | 2.39 | 0.52 |
| 2:AA:2799:A:O2' | 2:AA:2802:G:C4 | 2.60 | 0.52 |
| 2:AA:2821:A:H2' | 2:AA:2822:G:C8 | 2.44 | 0.52 |
| 2:AA:2831:G:H1' | 2:AA:2883:A:C2 | 2.43 | 0.52 |
| 4:AD:85:ASN:HB2 | 4:AD:86:ARG:NE | 2.23 | 0.52 |
| 4:AD:172:ILE:O | 4:AD:172:ILE:HG22 | 2.07 | 0.52 |
| 5:AE:205:THR:HG21 | 5:AE:259:HIS:N | 2.25 | 0.52 |
| 6:AF:39:GLN:CD | 6:AF:39:GLN:N | 2.63 | 0.52 |
| 6:AF:233:THR:OG1 | 6:AF:234:VAL:N | 2.41 | 0.52 |
| 9:AJ:25:LEU:O | 9:AJ:28:LYS:HB2 | 2.10 | 0.52 |
| 9:AJ:115:LYS:HZ1 | 9:AJ:127:LEU:HD13 | 1.74 | 0.52 |
| 10:AK:6:LEU:O | 10:AK:14:LYS:HE2 | 2.09 | 0.52 |
| 10:AK:130:PRO:HA | 10:AK:140:THR:HG23 | 1.90 | 0.52 |
| 13:AN:1:MET:O | 13:AN:33:ALA:O | 2.28 | 0.52 |
| 15:AP:11:LYS:NZ | 15:AP:55:GLN:CG | 2.71 | 0.52 |
| 15:AP:41:THR:O | 15:AP:125:TRP:CZ3 | 2.58 | 0.52 |
| 15:AP:53:PRO:O | 15:AP:53:PRO:HG2 | 2.10 | 0.52 |
| 16:AQ:120:GLU:HA | 16:AQ:123:ILE:CB | 2.39 | 0.52 |
| 18:AS:45:TYR:HD2 | 18:AS:46:PHE:HD1 | 1.57 | 0.52 |
| 21:AV:141:MET:HA | 21:AV:171:VAL:HG11 | 1.90 | 0.52 |
| 25:A1:37:GLN:C | 25:A1:39:LEU:N | 2.61 | 0.52 |
| 25:A1:62:ILE:O | 25:A1:66:ASN:OD1 | 2.27 | 0.52 |
| 25:A1:65:ILE:HG22 | 25:A1:76:TYR:CE2 | 2.44 | 0.52 |
| 26:A2:36:LYS:CA | 26:A2:60:VAL:HG22 | 2.40 | 0.52 |
| 26:A2:87:ARG:HB3 | 26:A2:87:ARG:NH1 | 2.19 | 0.52 |
| 27:A3:24:LYS:HD3 | 27:A3:56:ASP:OD2 | 2.09 | 0.52 |
| 27:A3:25:LYS:NZ | 27:A3:57:HIS:ND1 | 2.56 | 0.52 |
| 28:A4:43:TRP:CB | 28:A4:56:VAL:O | 2.57 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:A6:42:PRO:HD3 | 30:A6:50:PHE:CZ | 2.44 | 0.52 |
| 32:A8:6:THR:O | 32:A8:8:LYS:N | 2.42 | 0.52 |
| 34:BA:42:G:C6 | 34:BA:43:C:C4 | 2.97 | 0.52 |
| 34:BA:155:C:H2' | 34:BA:156:G:C8 | 2.43 | 0.52 |
| 34:BA:317:G:H2' | 34:BA:318:G:O5' | 2.10 | 0.52 |
| 34:BA:360:A:C2' | 34:BA:361:G:H5' | 2.40 | 0.52 |
| 34:BA:380:G:N1 | 34:BA:384:G:C6 | 2.77 | 0.52 |
| 34:BA:414:A:C2' | 34:BA:415:A:H8 | 2.19 | 0.52 |
| 34:BA:415:A:C2 | 34:BA:416:G:H1' | 2.44 | 0.52 |
| 34:BA:445:G:O2' | 34:BA:446:G:C5' | 2.57 | 0.52 |
| 34:BA:499:A:O2' | 34:BA:500:G:O5' | 2.27 | 0.52 |
| 34:BA:499:A:H1' | 34:BA:500:G:O4' | 2.09 | 0.52 |
| 34:BA:673:G:C4 | 34:BA:734:G:C2 | 2.98 | 0.52 |
| 34:BA:706:A:N3 | 34:BA:707:C:C6 | 2.77 | 0.52 |
| 34:BA:740:U:O2' | 34:BA:741:G:C5' | 2.57 | 0.52 |
| 34:BA:781:A:HO2' | 34:BA:782:A:P | 2.33 | 0.52 |
| 34:BA:838:G:H2' | 34:BA:839:U:H5" | 1.91 | 0.52 |
| 34:BA:954:G:N2 | 34:BA:1228:C:C5 | 2.77 | 0.52 |
| 34:BA:964:A:C5' | 34:BA:1199:U:OP1 | 2.58 | 0.52 |
| 34:BA:1025:U:C2' | 34:BA:1026:G:C8 | 2.91 | 0.52 |
| 34:BA:1067:A:H2 | 34:BA:1068:G:C4 | 2.27 | 0.52 |
| 34:BA:1074:G:C4 | 34:BA:1075:C:C6 | 2.97 | 0.52 |
| 34:BA:1127:G:H21 | 34:BA:1146:A:H62 | 1.55 | 0.52 |
| 34:BA:1505:G:C4' | 34:BA:1506:U:O5' | 2.56 | 0.52 |
| 35:BB:19:G:O3' | 35:BB:20:G:N9 | 2.42 | 0.52 |
| 35:BB:21:A:H3' | 35:BB:21:A:H8 | 1.75 | 0.52 |
| 35:BC:30:G:N2 | 35:BC:41:U:C6 | 2.77 | 0.52 |
| 35:BC:36:A:H2' | 35:BC:36:A:N3 | 2.24 | 0.52 |
| 35:BC:70:C:O2' | 35:BC:71:G:H5' | 2.10 | 0.52 |
| 37:BE:48:MET:O | 37:BE:49:GLU:C | 2.47 | 0.52 |
| 37:BE:201:ILE:N | 37:BE:201:ILE:HD13 | 2.23 | 0.52 |
| 38:BF:121:ALA:O | 38:BF:124:ILE:CB | 2.55 | 0.52 |
| 38:BF:138:VAL:HG13 | 38:BF:149:ALA:HB3 | 1.92 | 0.52 |
| 39:BG:4:TYR:CD2 | 39:BG:5:ILE:N | 2.77 | 0.52 |
| 39:BG:71:SER:O | 39:BG:75:PHE:HB3 | 2.10 | 0.52 |
| 39:BG:159:ARG:O | 39:BG:160:GLN:C | 2.46 | 0.52 |
| 39:BG:173:TRP:C | 39:BG:186:LEU:HD12 | 2.29 | 0.52 |
| 40:BH:33:VAL:HG21 | 40:BH:108:ALA:CB | 2.39 | 0.52 |
| 40:BH:57:LYS:HG2 | 40:BH:61:TYR:CE2 | 2.38 | 0.52 |
| 40:BH:91:LEU:C | 40:BH:91:LEU:CD2 | 2.76 | 0.52 |
| 41:BI:5:GLU:HB3 | 41:BI:62:TRP:NE1 | 2.22 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:49:ALA:HB3 | 53:BU:79:LEU:N | 2.25 | 0.52 |
| 41:BI:53:ALA:O | 41:BI:55:ASP:N | 2.42 | 0.52 |
| 42:BJ:45:ASP:O | 42:BJ:49:ILE:HD12 | 2.09 | 0.52 |
| 42:BJ:143:ARG:O | 42:BJ:144:MET:C | 2.48 | 0.52 |
| 44:BL:110:GLU:O | 44:BL:111:ARG:HB2 | 2.10 | 0.52 |
| 45:BM:31:GLY:HA2 | 45:BM:76:ASN:O | 2.09 | 0.52 |
| 1:AB:85:G:C4 | 1:AB:92:G:N2 | 2.76 | 0.52 |
| 2:AA:110:G:O6 | 2:AA:111:A:N6 | 2.43 | 0.52 |
| 2:AA:142:G:H2' | 2:AA:143:C:OP1 | 2.08 | 0.52 |
| 2:AA:161:U:H6 | 2:AA:161:U:P | 2.32 | 0.52 |
| 2:AA:363(B):G:H2' | 2:AA:363(C):G:C8 | 2.44 | 0.52 |
| 2:AA:399:G:C3' | 2:AA:400:G:H5' | 2.39 | 0.52 |
| 2:AA:467:G:O2' | 2:AA:468:G:H5' | 2.08 | 0.52 |
| 2:AA:570:G:C6 | 2:AA:2030:A:C2 | 2.97 | 0.52 |
| 2:AA:917:A:C2 | 2:AA:918:A:C4 | 2.96 | 0.52 |
| 2:AA:943:U:H5" | 2:AA:944:G:O6 | 2.09 | 0.52 |
| 2:AA:979:G:H3' | 2:AA:979:G:H8 | 1.67 | 0.52 |
| 2:AA:993:G:C1' | 2:AA:1162:G:H22 | 2.21 | 0.52 |
| 2:AA:993:G:O6 | 2:AA:1160:G:O6 | 2.26 | 0.52 |
| 2:AA:1013:C:O2' | 2:AA:1014:U:H5' | 2.10 | 0.52 |
| 2:AA:1031:G:C6 | 2:AA:1032:A:C6 | 2.98 | 0.52 |
| 2:AA:1120:G:H2' | 2:AA:1121:C:H6 | 1.74 | 0.52 |
| 2:AA:1208:C:C4 | 2:AA:1240:U:O4 | 2.63 | 0.52 |
| 2:AA:1336:A:O2' | 2:AA:1337:G:H5' | 2.09 | 0.52 |
| 2:AA:1376:C:O2 | 2:AA:1376:C:C2' | 2.55 | 0.52 |
| 2:AA:1515:C:P | 2:AA:1515:C:O4' | 2.68 | 0.52 |
| 2:AA:1543:A:C3' | 2:AA:1544:C:C6 | 2.78 | 0.52 |
| 2:AA:1742:C:N3 | 2:AA:1743:G:N7 | 2.57 | 0.52 |
| 2:AA:1805:U:C4 | 2:AA:1813:G:N2 | 2.77 | 0.52 |
| 2:AA:1838:C:C5 | 2:AA:1899:G:C6 | 2.97 | 0.52 |
| 2:AA:1855:G:C6 | 2:AA:1856:G:N7 | 2.77 | 0.52 |
| 2:AA:1894:C:O2 | 2:AA:1895:C:C6 | 2.63 | 0.52 |
| 2:AA:1910:G:N2 | 2:AA:1921:G:H1' | 2.24 | 0.52 |
| 2:AA:1934:C:O4' | 2:AA:1974:C:H4' | 2.10 | 0.52 |
| 2:AA:1954:G:C2 | 2:AA:2551:C:H5" | 2.45 | 0.52 |
| 2:AA:1982:C:C2 | 2:AA:1983:C:C5 | 2.97 | 0.52 |
| 2:AA:2085:C:H2' | 2:AA:2086:U:O5' | 2.09 | 0.52 |
| 2:AA:2112:G:O2' | 2:AA:2116:G:H8 | 1.91 | 0.52 |
| 2:AA:2213:U:H4' | 2:AA:2215:G:N7 | 2.25 | 0.52 |
| 2:AA:2306:C:H3' | 2:AA:2306:C:C6 | 2.44 | 0.52 |
| 2:AA:2321:G:H21 | 2:AA:2322:A:C1' | 2.15 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2334:G:N1 | 16:AQ:10:MET:CE | 2.64 | 0.52 |
| 2:AA:2346:A:H2' | 2:AA:2347:C:OP1 | 2.10 | 0.52 |
| 2:AA:2481:G:C2' | 2:AA:2482:G:OP2 | 2.57 | 0.52 |
| 2:AA:2488:A:C2' | 2:AA:2489:G:O5' | 2.56 | 0.52 |
| 2:AA:2489:G:H2' | 2:AA:2490:G:O4' | 2.09 | 0.52 |
| 2:AA:2582:G:H2' | 2:AA:2583:G:H5' | 1.90 | 0.52 |
| 2:AA:2611:U:HO2' | 2:AA:2612:C:P | 2.32 | 0.52 |
| 2:AA:2694:G:N1 | 2:AA:2695:C:C4 | 2.78 | 0.52 |
| 2:AA:2714:G:H2' | 2:AA:2715:C:C5' | 2.39 | 0.52 |
| 2:AA:2822:G:C5' | 5:AE:258:TYR:OH | 2.45 | 0.52 |
| 2:AA:2838:G:C6 | 2:AA:2839:G:C5 | 2.97 | 0.52 |
| 2:AA:2853:C:H2' | 2:AA:2854:G:O4' | 2.08 | 0.52 |
| 2:AA:2866:U:O2' | 2:AA:2867:G:P | 2.68 | 0.52 |
| 3:AC:79:LYS:NZ | 3:AC:79:LYS:CB | 2.72 | 0.52 |
| 3:AC:171:ILE:HG12 | 3:AC:172:HIS:N | 2.24 | 0.52 |
| 4:AD:130:PRO:CB | 4:AD:186:LYS:O | 2.58 | 0.52 |
| 4:AD:158:GLY:H | 4:AD:196:ASN:HD21 | 1.55 | 0.52 |
| 6:AF:36:ARG:O | 6:AF:39:GLN:OE1 | 2.27 | 0.52 |
| 6:AF:241:ALA:O | 6:AF:244:ALA:N | 2.42 | 0.52 |
| 7:AG:51:ARG:HH22 | 7:AG:74:THR:HG21 | 1.73 | 0.52 |
| 7:AG:146:LYS:O | 7:AG:148:SER:N | 2.42 | 0.52 |
| 8:AH:21:ASN:CB | 8:AH:38:PRO:HB3 | 2.40 | 0.52 |
| 8:AH:90:GLY:HA2 | 8:AH:159:LYS:HG3 | 1.92 | 0.52 |
| 9:AI:99:ASP:O | 9:AI:101:VAL:N | 2.41 | 0.52 |
| 11:AL:8:GLN:C | 11:AL:9:ILE:HG13 | 2.29 | 0.52 |
| 12:AM:140:GLY:O | 12:AM:141:ALA:C | 2.46 | 0.52 |
| 18:AS:12:ILE:HG23 | 18:AS:13:SER:H | 1.75 | 0.52 |
| 19:AT:56:ASN:OD1 | 19:AT:62:LYS:NZ | 2.42 | 0.52 |
| 20:AU:61:GLU:HB2 | 20:AU:75:GLU:CD | 2.29 | 0.52 |
| 21:AV:75:LYS:CD | 21:AV:77:ALA:HB3 | 2.39 | 0.52 |
| 21:AV:150:GLY:O | 21:AV:152:ILE:N | 2.43 | 0.52 |
| 23:AX:23:LEU:HD22 | 23:AX:53:LEU:CD1 | 2.40 | 0.52 |
| 24:A0:34:ILE:O | 24:A0:113:LEU:HA | 2.10 | 0.52 |
| 24:A0:37:THR:O | 24:A0:38:VAL:C | 2.48 | 0.52 |
| 26:A2:80:TYR:O | 26:A2:82:ARG:N | 2.43 | 0.52 |
| 27:A3:2:ALA:C | 27:A3:3:HIS:ND1 | 2.63 | 0.52 |
| 27:A3:37:LEU:HB2 | 27:A3:69:PHE:N | 2.23 | 0.52 |
| 27:A3:46:LYS:NZ | 27:A3:60:PHE:O | 2.38 | 0.52 |
| 27:A3:68:VAL:HG21 | 27:A3:72:LYS:CD | 2.39 | 0.52 |
| 28:A4:17:GLN:O | 28:A4:19:GLN:NE2 | 2.42 | 0.52 |
| 34:BA:44:G:C5 | 34:BA:399:G:N1 | 2.78 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:59:A:C1' | 34:BA:388:G:H5" | 2.39 | 0.52 |
| 34:BA:190:C:H6 | 34:BA:190:C:O5' | 1.91 | 0.52 |
| 34:BA:190(K):G:H2' | 34:BA:190(L):U:C6 | 2.43 | 0.52 |
| 34:BA:226:G:N2 | 34:BA:227:G:H1' | 2.24 | 0.52 |
| 34:BA:261:U:H3' | 34:BA:263:A:OP2 | 2.09 | 0.52 |
| 34:BA:267:C:H2' | 34:BA:268:C:H6 | 1.73 | 0.52 |
| 34:BA:271:C:C2' | 34:BA:272:C:O5' | 2.57 | 0.52 |
| 34:BA:306:G:H2' | 34:BA:307:C:C5 | 2.44 | 0.52 |
| 34:BA:330:C:H2' | 34:BA:331:G:O5' | 2.09 | 0.52 |
| 34:BA:376:G:C2 | 34:BA:377:G:C8 | 2.97 | 0.52 |
| 34:BA:686:U:OP1 | 34:BA:686:U:H4' | 2.09 | 0.52 |
| 34:BA:737:A:H5' | 41:BI:90:VAL:HG12 | 1.90 | 0.52 |
| 34:BA:859:A:O2' | 34:BA:860:A:C5' | 2.56 | 0.52 |
| 34:BA:934:C:N4 | 34:BA:939:G:N2 | 2.57 | 0.52 |
| 34:BA:945:G:N2 | 34:BA:1337:G:C2 | 2.77 | 0.52 |
| 34:BA:973:G:C3' | 34:BA:974:A:H5" | 2.38 | 0.52 |
| 34:BA:1006:C:N4 | 34:BA:1024:G:N2 | 2.53 | 0.52 |
| 34:BA:1234:C:O2' | 56:BX:14:TRP:HZ2 | 1.92 | 0.52 |
| 34:BA:1241:G:O2' | 34:BA:1242:C:H5' | 2.09 | 0.52 |
| 34:BA:1272:G:H2' | 34:BA:1273:G:O4' | 2.09 | 0.52 |
| 34:BA:1285:A:O2' | 34:BA:1286:A:P | 2.67 | 0.52 |
| 34:BA:1290:G:N1 | 34:BA:1291:G:C8 | 2.77 | 0.52 |
| 34:BA:1316:G:O6 | 54:BV:6:LYS:CE | 2.52 | 0.52 |
| 34:BA:1404:C:C2 | 34:BA:1405:G:N7 | 2.78 | 0.52 |
| 34:BA:1497:G:H2' | 34:BA:1498:U:C5 | 2.44 | 0.52 |
| 34:BA:1503:A:O2' | 34:BA:1507:A:H4' | 2.10 | 0.52 |
| 35:BB:21:A:C8 | 35:BB:21:A:C3' | 2.92 | 0.52 |
| 35:BB:23:A:C2 | 35:BB:24:G:C5 | 2.97 | 0.52 |
| 35:BB:33:U:H2' | 35:BB:34:G:C8 | 2.45 | 0.52 |
| 35:BC:31:A:O5' | 44:BL:127:LYS:HD2 | 2.09 | 0.52 |
| 35:BC:63:C:C2' | 35:BC:64:A:O5' | 2.58 | 0.52 |
| 36:B1:25:U:C5 | 36:B1:27:G:OP2 | 2.62 | 0.52 |
| 37:BE:17:PHE:HA | 37:BE:42:ILE:CG2 | 2.36 | 0.52 |
| 37:BE:41:ILE:HD12 | 37:BE:41:ILE:N | 2.25 | 0.52 |
| 37:BE:61:LEU:CA | 37:BE:64:ARG:HH11 | 2.23 | 0.52 |
| 38:BF:28:GLN:O | 38:BF:30:ARG:N | 2.43 | 0.52 |
| 39:BG:172:PRO:HG3 | 39:BG:193:ASP:HB3 | 1.91 | 0.52 |
| 41:BI:31:GLU:O | 41:BI:32:ASN:C | 2.47 | 0.52 |
| 42:BJ:54:THR:C | 42:BJ:56:GLN:N | 2.55 | 0.52 |
| 42:BJ:126:ASP:CA | 42:BJ:129:GLU:HB2 | 2.39 | 0.52 |
| 44:BL:97:LYS:HZ3 | 44:BL:102:LEU:HD11 | 1.71 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:65:LEU:HD12 | 49:BQ:56:VAL:HG22 | 1.89 | 0.52 |
| 46:BN:12:ARG:CD | 46:BN:75:TYR:CD2 | 2.93 | 0.52 |
| 48:BP:15:VAL:HG21 | 48:BP:39:ILE:HD12 | 1.91 | 0.52 |
| 49:BQ:23:ARG:HE | 49:BQ:30:ALA:HB2 | 1.69 | 0.52 |
| 50:BR:83:GLU:O | 50:BR:83:GLU:OE1 | 2.28 | 0.52 |
| 52:BT:57:VAL:HG23 | 52:BT:58:GLU:H | 1.74 | 0.52 |
| 54:BV:61:TYR:HD2 | 54:BV:62:ILE:N | 2.07 | 0.52 |
| 1:AB:17:C:C2' | 1:AB:18:G:O4' | 2.56 | 0.52 |
| 1:AB:32:C:C2' | 1:AB:33:G:C8 | 2.88 | 0.52 |
| 1:AB:43:C:H1' | 7:AG:47:GLN:HG2 | 1.92 | 0.52 |
| 2:AA:7:G:N1 | 2:AA:2896:C:O2 | 2.27 | 0.52 |
| 2:AA:51:G:C5' | 2:AA:52:A:OP1 | 2.45 | 0.52 |
| 2:AA:126:A:H4' | 31:A7:19:ARG:NE | 2.22 | 0.52 |
| 2:AA:137(A):G:O6 | 2:AA:139:G:C4 | 2.63 | 0.52 |
| 2:AA:138:G:C2 | 2:AA:139:G:O4' | 2.63 | 0.52 |
| 2:AA:266:G:H3' | 2:AA:266:G:C8 | 2.44 | 0.52 |
| 2:AA:273(D):C:C4 | 2:AA:363(B):G:C2 | 2.97 | 0.52 |
| 2:AA:318:C:OP2 | 2:AA:318:C:C5 | 2.63 | 0.52 |
| 2:AA:322:A:O4' | 2:AA:341:G:C5' | 2.52 | 0.52 |
| 2:AA:324:A:N3 | 2:AA:324:A:C2' | 2.70 | 0.52 |
| 2:AA:349:G:N1 | 2:AA:350:U:C5 | 2.78 | 0.52 |
| 2:AA:464:U:OP2 | 31:A7:5:TYR:HE2 | 1.91 | 0.52 |
| 2:AA:469:G:OP2 | 6:AF:56:THR:HG22 | 2.09 | 0.52 |
| 2:AA:504:U:O5' | 2:AA:504:U:H6 | 1.92 | 0.52 |
| 2:AA:848:G:N1 | 2:AA:849:A:N6 | 2.56 | 0.52 |
| 2:AA:945:A:H61 | 2:AA:2448:A:H2 | 1.55 | 0.52 |
| 2:AA:965:C:O2' | 2:AA:966:G:H5' | 2.09 | 0.52 |
| 2:AA:1022:G:C5 | 2:AA:1139:G:N1 | 2.78 | 0.52 |
| 2:AA:1026:U:C6 | 2:AA:1026:U:H3' | 2.44 | 0.52 |
| 2:AA:1099:G:H2' | 2:AA:1100:C:H6 | 1.73 | 0.52 |
| 2:AA:1127:A:C2' | 2:AA:1128:A:OP2 | 2.57 | 0.52 |
| 2:AA:1255:U:C5' | 2:AA:1256:G:C5' | 2.83 | 0.52 |
| 2:AA:1335:U:C2' | 2:AA:1336:A:O5' | 2.57 | 0.52 |
| 2:AA:1412:A:H2' | 2:AA:1413:G:H8 | 1.71 | 0.52 |
| 2:AA:1418:G:H3' | 2:AA:1418:G:OP2 | 2.10 | 0.52 |
| 2:AA:1422:G:N2 | 2:AA:1423:G:C4 | 2.78 | 0.52 |
| 2:AA:1444:G:C2' | 2:AA:1445:C:H5 | 2.22 | 0.52 |
| 2:AA:1449:A:H5' | 2:AA:1528:A:N1 | 2.24 | 0.52 |
| 2:AA:1486:A:H2' | 2:AA:1487:G:O4' | 2.09 | 0.52 |
| 2:AA:1491:G:C8 | 2:AA:1491:G:OP2 | 2.63 | 0.52 |
| 2:AA:1525:G:C2 | 2:AA:1526:G:C4 | 2.97 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1624:G:H2' | 2:AA:1625:C:C5 | 2.45 | 0.52 |
| 2:AA:1630:G:C5 | 2:AA:630(A):C:H5 | 2.27 | 0.52 |
| 2:AA:1701:A:H2 | 34:BA:1474:G:H4' | 1.74 | 0.52 |
| 2:AA:1709:U:O2' | 2:AA:2859:G:H1' | 2.09 | 0.52 |
| 2:AA:1799:G:C2 | 4:AD:153:LEU:HD11 | 2.45 | 0.52 |
| 2:AA:1916:A:C8 | 2:AA:1916:A:OP2 | 2.62 | 0.52 |
| 2:AA:1928:A:C3' | 2:AA:1929:G:H5' | 2.38 | 0.52 |
| 2:AA:1931:U:C5 | 2:AA:1932:A:N7 | 2.78 | 0.52 |
| 2:AA:2064:C:H5' | 2:AA:2065:C:OP2 | 2.10 | 0.52 |
| 2:AA:2133:G:N3 | 2:AA:2133:G:C2' | 2.73 | 0.52 |
| 2:AA:2327:A:C5 | 2:AA:2388:A:N1 | 2.78 | 0.52 |
| 2:AA:2353:G:C2 | 2:AA:2364:C:N3 | 2.76 | 0.52 |
| 2:AA:2666:C:C2' | 2:AA:2667:C:H5' | 2.39 | 0.52 |
| 2:AA:2729:G:C6 | 2:AA:2730:C:C4 | 2.97 | 0.52 |
| 2:AA:2759:G:O2' | 2:AA:2760:C:C5' | 2.57 | 0.52 |
| 2:AA:2816:C:H2' | 2:AA:2817:G:H5' | 1.92 | 0.52 |
| 2:AA:2892:A:C3' | 2:AA:2893:G:C8 | 2.93 | 0.52 |
| 5:AE:41:PHE:C | 5:AE:311:PHE:CE1 | 2.83 | 0.52 |
| 5:AE:80:ALA:H | 5:AE:185:GLY:C | 2.13 | 0.52 |
| 5:AE:229:GLN:O | 5:AE:231:TRP:N | 2.42 | 0.52 |
| 6:AF:32:GLY:O | 6:AF:35:VAL:HG23 | 2.09 | 0.52 |
| 7:AG:54:ALA:O | 7:AG:55:LYS:HB2 | 2.09 | 0.52 |
| 8:AH:23:VAL:HG12 | 8:AH:25:VAL:HG23 | 1.91 | 0.52 |
| 10:AK:84:GLY:O | 10:AK:85:GLU:HG3 | 2.10 | 0.52 |
| 10:AK:88:ARG:CZ | 10:AK:122:ARG:H | 2.22 | 0.52 |
| 11:AL:12:GLN:NE2 | 11:AL:74:PRO:HG2 | 2.23 | 0.52 |
| 11:AL:45:GLU:CD | 11:AL:70:ILE:HD12 | 2.30 | 0.52 |
| 14:AO:64:ILE:O | 14:AO:107:LYS:O | 2.28 | 0.52 |
| 14:AO:72:ASN:O | 14:AO:75:LEU:HB2 | 2.09 | 0.52 |
| 15:AP:26:LYS:CD | 15:AP:90:PHE:CE1 | 2.92 | 0.52 |
| 15:AP:142:LYS:HE3 | 15:AP:142:LYS:C | 2.28 | 0.52 |
| 16:AQ:17:ARG:NH2 | 16:AQ:106:LEU:HD22 | 2.24 | 0.52 |
| 16:AQ:66:LEU:CB | 16:AQ:69:TYR:OH | 2.58 | 0.52 |
| 17:AR:5:GLU:HB3 | 17:AR:8:TYR:O | 2.08 | 0.52 |
| 18:AS:3:ALA:CB | 18:AS:62:HIS:ND1 | 2.70 | 0.52 |
| 18:AS:84:ARG:O | 18:AS:95:ILE:CA | 2.56 | 0.52 |
| 19:AT:23:LYS:C | 19:AT:24:LEU:HG | 2.29 | 0.52 |
| 21:AV:24:TYR:CB | 21:AV:83:PHE:O | 2.55 | 0.52 |
| 21:AV:34:LEU:O | 21:AV:35:ASP:CB | 2.45 | 0.52 |
| 21:AV:69:VAL:HG22 | 21:AV:81:VAL:HG13 | 1.90 | 0.52 |
| 24:A0:60:LEU:HG | 24:A0:61:HIS:H | 1.73 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:108:ALA:HA | 25:A1:111:ASP:OD1 | 2.10 | 0.52 |
| 26:A2:5:ILE:O | 26:A2:40:VAL:HG23 | 2.10 | 0.52 |
| 26:A2:20:ILE:HG21 | 26:A2:67:LYS:CD | 2.39 | 0.52 |
| 26:A2:49:GLU:O | 26:A2:54:TYR:CZ | 2.62 | 0.52 |
| 27:A3:64:ASP:O | 27:A3:66:LYS:NZ | 2.37 | 0.52 |
| 28:A4:15:ILE:N | 28:A4:15:ILE:CD1 | 2.72 | 0.52 |
| 29:A5:18:MET:O | 29:A5:21:SER:N | 2.42 | 0.52 |
| 30:A6:42:PRO:CD | 30:A6:47:HIS:O | 2.55 | 0.52 |
| 34:BA:89:C:H2' | 34:BA:90:U:C6 | 2.44 | 0.52 |
| 34:BA:110:C:H3' | 34:BA:111:G:C8 | 2.45 | 0.52 |
| 34:BA:125:U:H2' | 34:BA:126:G:H8 | 1.70 | 0.52 |
| 34:BA:246:A:C6 | 34:BA:279:A:C5 | 2.97 | 0.52 |
| 34:BA:319:G:C2' | 34:BA:320:C:O5' | 2.57 | 0.52 |
| 34:BA:327:A:C6 | 34:BA:329:A:C5 | 2.98 | 0.52 |
| 34:BA:597:G:O5' | 34:BA:597:G:C8 | 2.62 | 0.52 |
| 34:BA:694:A:C2 | 34:BA:695:A:C1' | 2.93 | 0.52 |
| 34:BA:828:A:O2' | 34:BA:829:G:O5' | 2.16 | 0.52 |
| 34:BA:905:U:O4 | 34:BA:906:G:C2 | 2.63 | 0.52 |
| 34:BA:920:U:C2 | 34:BA:921:U:C5 | 2.97 | 0.52 |
| 34:BA:960:U:C2 | 34:BA:1225:A:C5 | 2.98 | 0.52 |
| 34:BA:1015:A:C6 | 34:BA:1016:A:C6 | 2.98 | 0.52 |
| 34:BA:1055:A:N3 | 38:BF:156:ARG:NH1 | 2.58 | 0.52 |
| 34:BA:1059:C:O2 | 34:BA:1059:C:C2' | 2.56 | 0.52 |
| 34:BA:1120:G:H1 | 34:BA:1153:C:N4 | 2.08 | 0.52 |
| 34:BA:1265:G:O6 | 34:BA:1266:G:C2 | 2.62 | 0.52 |
| 34:BA:1373:G:H1' | 42:BJ:34:GLY:CA | 2.40 | 0.52 |
| 34:BA:1381:U:H2' | 34:BA:1381:U:O2 | 2.09 | 0.52 |
| 34:BA:1401:G:H2' | 34:BA:1402:C:C5' | 2.39 | 0.52 |
| 34:BA:1529:G:C5' | 34:BA:1530:G:OP2 | 2.55 | 0.52 |
| 37:BE:110:GLN:O | 37:BE:113:HIS:HB2 | 2.09 | 0.52 |
| 37:BE:140:HIS:O | 37:BE:143:GLU:CB | 2.56 | 0.52 |
| 37:BE:219:VAL:C | 37:BE:222:ILE:HG23 | 2.29 | 0.52 |
| 38:BF:29:TYR:CE1 | 45:BM:65:LEU:HD11 | 2.32 | 0.52 |
| 41:BI:4:TYR:OH | 41:BI:69:GLU:HA | 2.09 | 0.52 |
| 41:BI:60:PHE:HZ | 53:BU:78:LEU:HD21 | 1.74 | 0.52 |
| 42:BJ:94:ARG:HH11 | 42:BJ:94:ARG:HG3 | 1.75 | 0.52 |
| 43:BK:104:ARG:NE | 43:BK:138:TRP:CZ3 | 2.77 | 0.52 |
| 44:BL:37:PHE:CA | 44:BL:40:LEU:HD12 | 2.39 | 0.52 |
| 44:BL:62:TYR:C | 44:BL:63:ILE:CD1 | 2.75 | 0.52 |
| 50:BR:81:LEU:HD23 | 50:BR:81:LEU:C | 2.29 | 0.52 |
| 51:BS:7:ALA:HB3 | 51:BS:18:ARG:HB2 | 1.92 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:BT:59:ILE:CG2 | 52:BT:71:PHE:HD2 | 2.22 | 0.52 |
| 53:BU:45:SER:HB3 | 53:BU:51:LEU:CD1 | 2.32 | 0.52 |
| 1:AB:24:G:N1 | 1:AB:56:G:C2 | 2.77 | 0.52 |
| 1:AB:73:A:N6 | 1:AB:104:A:C8 | 2.78 | 0.52 |
| 2:AA:33:U:C2' | 2:AA:34:C:OP2 | 2.57 | 0.52 |
| 2:AA:53:A:O5' | 2:AA:53:A:C8 | 2.62 | 0.52 |
| 2:AA:137(A):G:N1 | 2:AA:139:G:N2 | 2.57 | 0.52 |
| 2:AA:145:G:N2 | 2:AA:146:G:H1' | 2.24 | 0.52 |
| 2:AA:222:A:C2' | 2:AA:223:A:OP2 | 2.57 | 0.52 |
| 2:AA:332:A:C8 | 2:AA:335:C:N4 | 2.78 | 0.52 |
| 2:AA:358:U:O2 | 2:AA:359:A:H5' | 2.10 | 0.52 |
| 2:AA:586:A:N1 | 2:AA:809:G:C2' | 2.72 | 0.52 |
| 2:AA:600:G:H5' | 6:AF:30:LEU:HD12 | 1.84 | 0.52 |
| 2:AA:702:G:N2 | 2:AA:703:U:C2 | 2.78 | 0.52 |
| 2:AA:832:G:H8 | 2:AA:944:G:H21 | 1.58 | 0.52 |
| 2:AA:907:U:C2 | 2:AA:908:C:C5 | 2.97 | 0.52 |
| 2:AA:1022:G:N1 | 2:AA:1139:G:N3 | 2.58 | 0.52 |
| 2:AA:1061:U:H4' | 2:AA:1070:A:C4' | 2.39 | 0.52 |
| 2:AA:1084:A:N3 | 2:AA:1084:A:H2' | 2.23 | 0.52 |
| 2:AA:1203:G:H2' | 2:AA:1206:G:C8 | 2.43 | 0.52 |
| 2:AA:1288:U:H2' | 2:AA:1327:C:O2 | 2.09 | 0.52 |
| 2:AA:1299:G:N2 | 2:AA:1642:G:O6 | 2.43 | 0.52 |
| 2:AA:1333:C:H6 | 2:AA:1333:C:C5' | 2.17 | 0.52 |
| 2:AA:1356:G:C2 | 2:AA:1357:U:C2 | 2.97 | 0.52 |
| 2:AA:1380:G:C6 | 2:AA:1381:G:N7 | 2.78 | 0.52 |
| 2:AA:1399:C:O2' | 2:AA:1400:G:H5' | 2.10 | 0.52 |
| 2:AA:1570:A:C2 | 2:AA:1571:A:C8 | 2.97 | 0.52 |
| 2:AA:1591:G:C6 | 2:AA:1592:C:N4 | 2.77 | 0.52 |
| 2:AA:1594:G:C2' | 2:AA:1595:G:H5' | 2.39 | 0.52 |
| 2:AA:1603:A:N3 | 2:AA:1604:C:C5 | 2.77 | 0.52 |
| 2:AA:1605:C:H3' | 2:AA:1606:G:C8 | 2.45 | 0.52 |
| 2:AA:1608:A:C6 | 2:AA:1611:C:N1 | 2.78 | 0.52 |
| 2:AA:1657:C:C6 | 2:AA:1657:C:C3' | 2.93 | 0.52 |
| 2:AA:1799:G:N2 | 4:AD:153:LEU:CG | 2.73 | 0.52 |
| 2:AA:1819:A:OP1 | 4:AD:157:ALA:HB2 | 2.10 | 0.52 |
| 2:AA:1861:G:C2 | 2:AA:1862:G:C4 | 2.98 | 0.52 |
| 2:AA:1913:A:C2 | 2:AA:1916:A:C4 | 2.97 | 0.52 |
| 2:AA:1984:G:C6 | 2:AA:1985:G:C8 | 2.97 | 0.52 |
| 2:AA:2057:A:C4 | 2:AA:2058:A:C8 | 2.97 | 0.52 |
| 2:AA:2143:C:H2' | 2:AA:2144:U:OP1 | 2.09 | 0.52 |
| 2:AA:2407:G:C2 | 2:AA:2408:U:C4 | 2.98 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2432:A:H2 | 2:AA:2433:A:C6 | 2.27 | 0.52 |
| 2:AA:2568:C:H2' | 2:AA:2569:G:C5' | 2.40 | 0.52 |
| 2:AA:2737:G:H8 | 2:AA:2737:G:O5' | 1.92 | 0.52 |
| 2:AA:2821:A:O2' | 2:AA:2822:G:O4' | 2.25 | 0.52 |
| 2:AA:2822:G:OP1 | 5:AE:207:GLY:C | 2.48 | 0.52 |
| 2:AA:2856:C:H2' | 2:AA:2857:G:O5' | 2.10 | 0.52 |
| 3:AC:10:LEU:HD23 | 3:AC:220:PRO:CG | 2.40 | 0.52 |
| 3:AC:70:LYS:HG2 | 3:AC:157:LYS:CE | 2.40 | 0.52 |
| 4:AD:77:VAL:H | 4:AD:114:GLU:H | 1.57 | 0.52 |
| 4:AD:142:ASN:H | 4:AD:143:ILE:CD1 | 2.20 | 0.52 |
| 4:AD:154:VAL:HG22 | 4:AD:157:ALA:HB3 | 1.87 | 0.52 |
| 5:AE:222:ARG:CB | 5:AE:227:ALA:HA | 2.39 | 0.52 |
| 6:AF:197:SER:HB2 | 6:AF:238:SER:CA | 2.39 | 0.52 |
| 6:AF:218:VAL:CG1 | 6:AF:222:ASP:OD2 | 2.53 | 0.52 |
| 7:AG:49:PRO:HB2 | 7:AG:72:LYS:N | 2.25 | 0.52 |
| 8:AH:151:ARG:O | 8:AH:161:ILE:CG1 | 2.49 | 0.52 |
| 9:AI:15:VAL:HG21 | 9:AI:49:ALA:CA | 2.39 | 0.52 |
| 9:AI:62:VAL:HA | 9:AI:100:ALA:O | 2.09 | 0.52 |
| 9:AJ:41:ALA:O | 9:AJ:44:VAL:HB | 2.09 | 0.52 |
| 10:AK:26:ALA:CB | 10:AK:30:LEU:HD12 | 2.39 | 0.52 |
| 10:AK:68:LEU:HD13 | 10:AK:108:LEU:HD21 | 1.92 | 0.52 |
| 10:AK:75:LEU:CD1 | 10:AK:76:THR:N | 2.59 | 0.52 |
| 12:AM:15:ARG:CD | 12:AM:40:ASN:ND2 | 2.73 | 0.52 |
| 12:AM:52:GLN:CB | 12:AM:55:GLU:OE2 | 2.58 | 0.52 |
| 15:AP:54:VAL:HG22 | 15:AP:55:GLN:N | 2.25 | 0.52 |
| 15:AP:82:LYS:HD2 | 15:AP:125:TRP:CB | 2.39 | 0.52 |
| 16:AQ:18:THR:OG1 | 16:AQ:19:ASP:N | 2.42 | 0.52 |
| 18:AS:67:ASP:OD1 | 18:AS:67:ASP:C | 2.47 | 0.52 |
| 20:AU:40:VAL:HG12 | 20:AU:41:ARG:CG | 2.37 | 0.52 |
| 21:AV:21:ALA:O | 21:AV:32:PHE:CB | 2.58 | 0.52 |
| 21:AV:115:ILE:O | 21:AV:169:VAL:HA | 2.10 | 0.52 |
| 21:AV:153:LYS:HD2 | 21:AV:153:LYS:N | 2.24 | 0.52 |
| 22:AW:20:LEU:O | 22:AW:21:ASP:C | 2.46 | 0.52 |
| 24:A0:88:ARG:HB2 | 24:A0:88:ARG:NH1 | 2.23 | 0.52 |
| 26:A2:38:LEU:HA | 26:A2:58:ALA:CB | 2.40 | 0.52 |
| 27:A3:46:LYS:HG3 | 27:A3:58:THR:HG23 | 1.91 | 0.52 |
| 28:A4:61:LYS:O | 28:A4:63:PHE:N | 2.43 | 0.52 |
| 31:A7:27:GLY:O | 31:A7:31:LEU:CG | 2.39 | 0.52 |
| 32:A8:16:ILE:HG23 | 32:A8:22:VAL:HG23 | 1.91 | 0.52 |
| 34:BA:8:A:H5" | 40:BH:121:LYS:HD2 | 1.91 | 0.52 |
| 34:BA:88:A:H2' | 34:BA:89:C:O4' | 2.09 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:129(A):G:N2 | 34:BA:190(G):G:C8 | 2.77 | 0.52 |
| 34:BA:345:C:C4' | 34:BA:346:G:O5' | 2.49 | 0.52 |
| 34:BA:448:A:H2' | 34:BA:449:C:C6 | 2.45 | 0.52 |
| 34:BA:530:G:O6 | 35:BB:34:G:C2 | 2.61 | 0.52 |
| 34:BA:627:G:H2' | 34:BA:628:G:H8 | 1.71 | 0.52 |
| 34:BA:679:C:C6 | 34:BA:679:C:O5' | 2.58 | 0.52 |
| 34:BA:954:G:H21 | 34:BA:1227:A:N6 | 1.99 | 0.52 |
| 34:BA:968:A:OP1 | 34:BA:968:A:O4' | 2.27 | 0.52 |
| 34:BA:979:C:P | 34:BA:981:U:O4 | 2.67 | 0.52 |
| 34:BA:1089:G:N1 | 34:BA:1097:C:C4 | 2.77 | 0.52 |
| 34:BA:1157:A:H61 | 34:BA:1178:G:H1' | 1.75 | 0.52 |
| 34:BA:1483:A:OP2 | 34:BA:1484:C:C5 | 2.63 | 0.52 |
| 34:BA:1502:A:N3 | 34:BA:1502:A:H2' | 2.24 | 0.52 |
| 35:BB:56:C:C6 | 35:BB:56:C:H3' | 2.45 | 0.52 |
| 35:BC:19:G:C3' | 35:BC:20:G:C8 | 2.92 | 0.52 |
| 35:BC:29:A:C2 | 35:BC:30:G:C8 | 2.98 | 0.52 |
| 37:BE:68:ILE:CG2 | 37:BE:70:PHE:CZ | 2.93 | 0.52 |
| 37:BE:91:PRO:CD | 37:BE:154:LEU:HB3 | 2.39 | 0.52 |
| 38:BF:160:ALA:O | 38:BF:161:GLU:C | 2.46 | 0.52 |
| 40:BH:76:ILE:CG2 | 40:BH:142:LEU:HD22 | 2.40 | 0.52 |
| 42:BJ:113:GLU:HG3 | 42:BJ:118:VAL:CG1 | 2.40 | 0.52 |
| 43:BK:64:LYS:HD3 | 43:BK:79:VAL:HG21 | 1.92 | 0.52 |
| 44:BL:50:LEU:CD2 | 44:BL:58:ARG:NH1 | 2.72 | 0.52 |
| 45:BM:24:VAL:HG21 | 45:BM:37:PRO:CD | 2.18 | 0.52 |
| 45:BM:65:LEU:HD13 | 49:BQ:36:PHE:HZ | 1.75 | 0.52 |
| 47:BO:6:THR:N | 47:BO:9:GLN:OE1 | 2.42 | 0.52 |
| 47:BO:46:LYS:O | 47:BO:48:PRO:N | 2.42 | 0.52 |
| 47:BO:87:GLY:HA2 | 47:BO:99:HIS:H | 1.74 | 0.52 |
| 50:BR:64:ARG:HG2 | 50:BR:65:ARG:N | 2.23 | 0.52 |
| 53:BU:30:ASP:CG | 53:BU:32:ARG:HB2 | 2.29 | 0.52 |
| 53:BU:53:ARG:HH12 | 53:BU:60:GLY:N | 2.07 | 0.52 |
| 54:BV:5:LEU:CB | 54:BV:9:VAL:HG22 | 2.40 | 0.52 |
| 1:AB:62:C:O2' | 1:AB:63:G:H5' | 2.09 | 0.52 |
| 2:AA:26:G:H4' | 2:AA:1260:G:O2' | 2.09 | 0.52 |
| 2:AA:58:G:C3' | 2:AA:73:A:N6 | 2.73 | 0.52 |
| 2:AA:71:A:C2' | 2:AA:72:U:H5" | 2.40 | 0.52 |
| 2:AA:223:A:C2 | 2:AA:408:G:N9 | 2.78 | 0.52 |
| 2:AA:270(X):G:C4 | 2:AA:270(Y):G:O4' | 2.62 | 0.52 |
| 2:AA:326:G:C4 | 2:AA:327:G:C8 | 2.97 | 0.52 |
| 2:AA:361:G:C2' | 2:AA:362:U:C6 | 2.87 | 0.52 |
| 2:AA:387:U:OP2 | 28:A4:31:ILE:HD11 | 2.10 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:590:A:C6 | 2:AA:591:C:N4 | 2.78 | 0.52 |
| 2:AA:610:C:N3 | 2:AA:618(A):C:N3 | 2.58 | 0.52 |
| 2:AA:742:G:O2' | 2:AA:743:G:H5' | 2.10 | 0.52 |
| 2:AA:746:A:O2' | 2:AA:747:U:P | 2.68 | 0.52 |
| 2:AA:811:U:HO2' | 2:AA:812:C:P | 2.32 | 0.52 |
| 2:AA:959:A:N6 | 2:AA:960:A:N6 | 2.57 | 0.52 |
| 2:AA:1013:C:OP2 | 2:AA:1014:U:P | 2.68 | 0.52 |
| 2:AA:1027:A:N3 | 2:AA:1028:A:N7 | 2.58 | 0.52 |
| 2:AA:1091:G:N1 | 2:AA:1100:C:N4 | 2.57 | 0.52 |
| 2:AA:1102:C:C2' | 2:AA:1103:A:O5' | 2.57 | 0.52 |
| 2:AA:1152:C:H4' | 25:A1:80:ILE:HB | 1.92 | 0.52 |
| 2:AA:1202:C:C5 | 2:AA:1243:G:N1 | 2.72 | 0.52 |
| 2:AA:1202:C:H3' | 2:AA:1203:G:H4' | 1.92 | 0.52 |
| 2:AA:1222:C:H2' | 2:AA:1223:C:H5' | 1.91 | 0.52 |
| 2:AA:1227:A:OP2 | 25:A1:16:LYS:HE2 | 2.10 | 0.52 |
| 2:AA:1234:U:N3 | 2:AA:1235:G:C2 | 2.77 | 0.52 |
| 2:AA:1299:G:H21 | 2:AA:1641:A:N6 | 2.07 | 0.52 |
| 2:AA:1350:C:H2' | 2:AA:1351:C:O5' | 2.09 | 0.52 |
| 2:AA:1451:C:H3' | 2:AA:1453:A:H5' | 1.91 | 0.52 |
| 2:AA:1455:G:OP2 | 2:AA:1456:G:OP2 | 2.28 | 0.52 |
| 2:AA:1455:G:OP2 | 2:AA:1456:G:P | 2.67 | 0.52 |
| 2:AA:1637:A:C2 | 2:AA:1638:C:C2 | 2.97 | 0.52 |
| 2:AA:1657:C:H2' | 2:AA:1658:C:H6 | 1.74 | 0.52 |
| 2:AA:1680:U:H2' | 2:AA:1681:G:H1' | 1.91 | 0.52 |
| 2:AA:1701:A:C2 | 34:BA:1474:G:H4' | 2.45 | 0.52 |
| 2:AA:1780:A:O5' | 2:AA:1782:C:P | 2.68 | 0.52 |
| 2:AA:1850:G:C5 | 2:AA:1851:U:C5 | 2.96 | 0.52 |
| 2:AA:1938:A:HO2' | 2:AA:1939:U:P | 2.28 | 0.52 |
| 2:AA:1973:G:N3 | 2:AA:1974:C:C5 | 2.78 | 0.52 |
| 2:AA:2029:G:N1 | 2:AA:2033:A:C8 | 2.78 | 0.52 |
| 2:AA:2033:A:HO2' | 2:AA:2034:U:P | 2.33 | 0.52 |
| 2:AA:2122:U:H5 | 3:AC:129:ARG:NH2 | 2.06 | 0.52 |
| 2:AA:2182:G:C2' | 2:AA:2183:C:C6 | 2.84 | 0.52 |
| 2:AA:2239:G:C2 | 2:AA:2240:C:C2 | 2.97 | 0.52 |
| 2:AA:2346:A:H1' | 2:AA:2383:G:N9 | 2.25 | 0.52 |
| 2:AA:2354:G:C4' | 27:A3:31:VAL:HG21 | 2.40 | 0.52 |
| 2:AA:2415:G:N2 | 2:AA:2416:C:N1 | 2.57 | 0.52 |
| 2:AA:2519:U:C2 | 2:AA:2542:A:C5 | 2.97 | 0.52 |
| 2:AA:2588:G:C6 | 2:AA:2589:A:C4 | 2.98 | 0.52 |
| 2:AA:2611:U:O2' | 29:A5:2:ALA:CB | 2.58 | 0.52 |
| 3:AC:44:HIS:ND1 | 3:AC:172:HIS:HB2 | 2.24 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:93:TYR:CE2 | 3:AC:110:PHE:CA | 2.92 | 0.52 |
| 3:AC:193:ILE:HD13 | 3:AC:226:PRO:C | 2.30 | 0.52 |
| 4:AD:124:LYS:O | 4:AD:125:ILE:C | 2.47 | 0.52 |
| 5:AE:76:PRO:HA | 5:AE:292:PRO:HB2 | 1.88 | 0.52 |
| 6:AF:167:ASP:OD2 | 6:AF:232:LEU:HG | 2.10 | 0.52 |
| 6:AF:215:ALA:O | 6:AF:242:GLU:HG2 | 2.09 | 0.52 |
| 7:AG:82:GLU:O | 7:AG:85:GLN:CG | 2.57 | 0.52 |
| 8:AH:37:HIS:HE1 | 8:AH:67:THR:CG2 | 2.20 | 0.52 |
| 8:AH:61:ARG:O | 8:AH:62:ALA:C | 2.48 | 0.52 |
| 8:AH:168:VAL:O | 8:AH:169:ARG:CG | 2.55 | 0.52 |
| 9:AI:81:THR:HG21 | 9:AI:102:ILE:O | 2.08 | 0.52 |
| 10:AK:26:ALA:CA | 10:AK:30:LEU:HD12 | 2.39 | 0.52 |
| 12:AM:57:TYR:CB | 12:AM:135:ILE:CG2 | 2.85 | 0.52 |
| 13:AN:45:ASP:HA | 13:AN:54:LYS:HE2 | 1.90 | 0.52 |
| 14:AO:55:GLN:NE2 | 14:AO:56:LYS:HD3 | 2.25 | 0.52 |
| 14:AO:101:ASP:O | 14:AO:102:ASP:CB | 2.57 | 0.52 |
| 15:AP:64:ALA:CB | 15:AP:142:LYS:CG | 2.88 | 0.52 |
| 16:AQ:91:ARG:O | 16:AQ:94:GLU:CG | 2.55 | 0.52 |
| 18:AS:18:ARG:HG3 | 18:AS:76:VAL:HG11 | 1.91 | 0.52 |
| 18:AS:84:ARG:O | 18:AS:95:ILE:HG12 | 2.09 | 0.52 |
| 21:AV:52:PHE:CA | 21:AV:65:LEU:HD11 | 2.39 | 0.52 |
| 23:AX:23:LEU:CD2 | 23:AX:53:LEU:HD11 | 2.39 | 0.52 |
| 25:A1:41:ASN:O | 25:A1:42:ALA:C | 2.48 | 0.52 |
| 26:A2:11:GLN:OE1 | 26:A2:21:ARG:CD | 2.57 | 0.52 |
| 26:A2:19:VAL:O | 26:A2:20:ILE:C | 2.48 | 0.52 |
| 26:A2:74:TYR:HE2 | 26:A2:88:GLN:NE2 | 2.06 | 0.52 |
| 27:A3:24:LYS:CG | 27:A3:56:ASP:OD1 | 2.58 | 0.52 |
| 30:A6:19:GLY:C | 30:A6:42:PRO:HB2 | 2.30 | 0.52 |
| 32:A8:18:GLY:C | 32:A8:20:GLY:H | 2.12 | 0.52 |
| 33:A9:6:SER:HA | 33:A9:8:LYS:HZ1 | 1.73 | 0.52 |
| 34:BA:159:G:N1 | 34:BA:163:C:N4 | 2.57 | 0.52 |
| 34:BA:343:U:O2' | 34:BA:344:A:O5' | 2.14 | 0.52 |
| 34:BA:379:C:N3 | 34:BA:384:G:N2 | 2.53 | 0.52 |
| 34:BA:394:G:C5 | 34:BA:395:C:C5 | 2.97 | 0.52 |
| 34:BA:410:G:OP2 | 39:BG:25:ARG:HG3 | 2.10 | 0.52 |
| 34:BA:432:A:C8 | 34:BA:433:C:C6 | 2.98 | 0.52 |
| 34:BA:538:G:C2' | 34:BA:539:A:O5' | 2.57 | 0.52 |
| 34:BA:600:C:H5' | 43:BK:129:VAL:CA | 2.35 | 0.52 |
| 34:BA:600:C:OP1 | 43:BK:97:VAL:CA | 2.58 | 0.52 |
| 34:BA:652:U:O2' | 34:BA:653:A:N3 | 2.32 | 0.52 |
| 34:BA:701:C:C2 | 34:BA:703:G:N2 | 2.78 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:727:G:C8 | 34:BA:727:G:C3' | 2.91 | 0.52 |
| 34:BA:872:A:O2' | 34:BA:873:A:C5' | 2.55 | 0.52 |
| 34:BA:909:A:C2' | 34:BA:910:C:O5' | 2.57 | 0.52 |
| 34:BA:913:A:O2' | 34:BA:914:A:O5' | 2.27 | 0.52 |
| 34:BA:939:G:C5' | 42:BJ:102:ARG:HH12 | 2.20 | 0.52 |
| 34:BA:983:A:O2' | 34:BA:1049:U:O2' | 2.28 | 0.52 |
| 34:BA:1006:C:O2 | 34:BA:1006:C:H2' | 2.08 | 0.52 |
| 34:BA:1007:C:O2' | 34:BA:1008:C:C5' | 2.58 | 0.52 |
| 34:BA:1053:G:OP1 | 34:BA:1054:C:H3' | 2.10 | 0.52 |
| 34:BA:1259:C:O2' | 34:BA:1283:G:N2 | 2.40 | 0.52 |
| 34:BA:1269:A:C2 | 34:BA:1312:G:N3 | 2.78 | 0.52 |
| 34:BA:1312:G:H2' | 34:BA:1313:U:H6 | 1.74 | 0.52 |
| 35:BB:29:A:N3 | 35:BB:29:A:H2' | 2.25 | 0.52 |
| 35:BB:50:U:O5' | 35:BB:50:U:C6 | 2.58 | 0.52 |
| 35:BB:72:C:C2' | 35:BB:73:A:O5' | 2.57 | 0.52 |
| 35:BB:74:C:N4 | 35:BB:75:C:H1' | 2.18 | 0.52 |
| 35:BC:74:C:H3' | 35:BC:75:C:C5' | 2.39 | 0.52 |
| 37:BE:19:HIS:CG | 37:BE:20:GLU:H | 2.27 | 0.52 |
| 37:BE:69:LEU:HD22 | 37:BE:70:PHE:H | 1.75 | 0.52 |
| 37:BE:175:ARG:CG | 37:BE:179:LYS:HE3 | 2.39 | 0.52 |
| 38:BF:28:GLN:HA | 38:BF:30:ARG:HH12 | 1.74 | 0.52 |
| 38:BF:108:ASN:O | 38:BF:111:LEU:HG | 2.10 | 0.52 |
| 38:BF:157:ILE:C | 38:BF:159:GLY:H | 2.12 | 0.52 |
| 38:BF:206:GLU:OE2 | 38:BF:207:VAL:HG22 | 2.10 | 0.52 |
| 39:BG:25:ARG:NH2 | 39:BG:30:LYS:CD | 2.71 | 0.52 |
| 40:BH:40:ARG:HA | 40:BH:68:GLU:OE2 | 2.09 | 0.52 |
| 40:BH:41:VAL:HA | 40:BH:66:MET:HE3 | 1.91 | 0.52 |
| 41:BI:98:LEU:HD23 | 41:BI:99:ALA:O | 2.09 | 0.52 |
| 43:BK:7:ALA:HA | 43:BK:10:LEU:CD1 | 2.40 | 0.52 |
| 43:BK:84:ARG:HG2 | 43:BK:85:ARG:O | 2.10 | 0.52 |
| 44:BL:46:ALA:HA | 44:BL:78:LYS:HB2 | 1.90 | 0.52 |
| 45:BM:30:SER:CB | 45:BM:81:THR:HA | 2.38 | 0.52 |
| 46:BN:78:GLN:CA | 46:BN:103:LEU:HD13 | 2.22 | 0.52 |
| 47:BO:33:ARG:HB3 | 47:BO:85:ILE:HG22 | 1.91 | 0.52 |
| 47:BO:113:ARG:O | 47:BO:114:LYS:CG | 2.58 | 0.52 |
| 48:BP:14:ARG:CG | 48:BP:17:VAL:HG23 | 2.40 | 0.52 |
| 48:BP:36:LYS:HB3 | 48:BP:59:TYR:CZ | 2.45 | 0.52 |
| 54:BV:5:LEU:HB2 | 54:BV:9:VAL:HG22 | 1.92 | 0.52 |
| 54:BV:81:ARG:HG2 | 54:BV:81:ARG:O | 2.09 | 0.52 |
| 55:BW:61:SER:O | 55:BW:62:LEU:C | 2.46 | 0.52 |
| 1:AB:35:U:C6 | 1:AB:35:U:C3' | 2.93 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:66:A:C2 | 1:AB:107:U:C4 | 2.98 | 0.52 |
| 2:AA:30:G:C4 | 2:AA:31:C:C5 | 2.98 | 0.52 |
| 2:AA:218:A:H61 | 2:AA:235:U:C1' | 2.23 | 0.52 |
| 2:AA:228:A:H2' | 2:AA:229:A:H5' | 1.92 | 0.52 |
| 2:AA:242:G:C2' | 2:AA:254:G:N1 | 2.72 | 0.52 |
| 2:AA:251:A:HO2' | 2:AA:252:G:P | 2.33 | 0.52 |
| 2:AA:444:C:O4' | 6:AF:46:TYR:CD1 | 2.63 | 0.52 |
| 2:AA:464:U:C6 | 2:AA:788:A:C2 | 2.98 | 0.52 |
| 2:AA:590:A:C6 | 2:AA:591:C:C4 | 2.97 | 0.52 |
| 2:AA:601:C:O2 | 2:AA:604:G:H4' | 2.09 | 0.52 |
| 2:AA:617:G:P | 6:AF:221:GLU:CD | 2.88 | 0.52 |
| 2:AA:659:C:C5' | 6:AF:103:ASN:OD1 | 2.52 | 0.52 |
| 2:AA:971:C:O2' | 2:AA:972:G:P | 2.68 | 0.52 |
| 2:AA:990:A:H5' | 2:AA:1157:G:OP1 | 2.10 | 0.52 |
| 2:AA:1011:G:C2' | 2:AA:1013:C:H5' | 2.40 | 0.52 |
| 2:AA:1020:A:C4' | 12:AM:49:ARG:NH1 | 2.66 | 0.52 |
| 2:AA:1054:A:N1 | 2:AA:1105:U:C2 | 2.78 | 0.52 |
| 2:AA:1175:U:O2 | 2:AA:1176:G:H1' | 2.10 | 0.52 |
| 2:AA:1469:A:N6 | 2:AA:1470:G:N1 | 2.58 | 0.52 |
| 2:AA:1707:G:C4 | 2:AA:1708:C:C5 | 2.97 | 0.52 |
| 2:AA:1768:U:N3 | 2:AA:1985:G:C6 | 2.78 | 0.52 |
| 2:AA:1827:C:O2 | 2:AA:1828:G:C1' | 2.57 | 0.52 |
| 2:AA:1851:U:C2 | 2:AA:1852:C:C5 | 2.97 | 0.52 |
| 2:AA:1933:G:N7 | 2:AA:1934:C:C5 | 2.78 | 0.52 |
| 2:AA:1937:A:N3 | 2:AA:1937:A:O4' | 2.40 | 0.52 |
| 2:AA:1960:A:H1' | 34:BA:1483:A:H2 | 1.75 | 0.52 |
| 2:AA:2049:G:O2' | 2:AA:2050:C:O5' | 2.28 | 0.52 |
| 2:AA:2074:U:HO2' | 2:AA:2598:A:C4' | 2.23 | 0.52 |
| 2:AA:2195:C:C2' | 2:AA:2196:C:C4' | 2.87 | 0.52 |
| 2:AA:2340:G:C2 | 2:AA:2341:G:N7 | 2.77 | 0.52 |
| 2:AA:2348:U:H3' | 32:A8:42:ARG:CZ | 2.39 | 0.52 |
| 2:AA:2378:A:H1' | 16:AQ:101:VAL:CG2 | 2.39 | 0.52 |
| 2:AA:2528:U:O2' | 2:AA:2529:G:H8 | 1.92 | 0.52 |
| 2:AA:2564:A:C8 | 2:AA:2648:C:H5" | 2.45 | 0.52 |
| 2:AA:2585:U:H1' | 35:BC:76:A:C5 | 2.44 | 0.52 |
| 2:AA:2618:G:O2' | 5:AE:246:VAL:HB | 2.10 | 0.52 |
| 2:AA:2700:C:H2' | 2:AA:2701:C:O4' | 2.10 | 0.52 |
| 2:AA:2720:U:O4 | 2:AA:2873:A:N6 | 2.43 | 0.52 |
| 2:AA:2797:U:P | 2:AA:2797:U:O4' | 2.68 | 0.52 |
| 3:AC:110:PHE:HE1 | 3:AC:136:LEU:HB3 | 1.74 | 0.52 |
| 3:AC:129:ARG:O | 3:AC:130:ILE:CD1 | 2.55 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:131:LEU:HB3 | 3:AC:137:LEU:N | 2.23 | 0.52 |
| 3:AC:139:ASN:OD1 | 3:AC:142:ALA:HB3 | 2.09 | 0.52 |
| 5:AE:77:PRO:CB | 5:AE:186:GLU:HB2 | 2.39 | 0.52 |
| 5:AE:222:ARG:O | 5:AE:223:LYS:O | 2.27 | 0.52 |
| 6:AF:11:ASN:O | 6:AF:13:ASP:N | 2.43 | 0.52 |
| 6:AF:16:VAL:CG1 | 6:AF:17:ASP:H | 2.23 | 0.52 |
| 6:AF:220:THR:HG22 | 6:AF:224:ALA:HB2 | 1.91 | 0.52 |
| 6:AF:223:LEU:C | 6:AF:225:PRO:N | 2.59 | 0.52 |
| 7:AG:44:ILE:HG22 | 7:AG:83:PHE:HE2 | 1.74 | 0.52 |
| 8:AH:10:ILE:CD1 | 8:AH:49:ILE:HG12 | 2.39 | 0.52 |
| 8:AH:34:ARG:HH11 | 8:AH:36:PHE:HZ | 1.57 | 0.52 |
| 8:AH:53:ARG:HB3 | 8:AH:53:ARG:HH11 | 1.73 | 0.52 |
| 9:AJ:71:ILE:HA | 11:AL:61:TYR:CD2 | 2.44 | 0.52 |
| 9:AJ:89:LYS:NZ | 11:AL:60:VAL:O | 2.43 | 0.52 |
| 10:AK:133:LEU:N | 10:AK:138:THR:HB | 2.24 | 0.52 |
| 12:AM:15:ARG:HE | 12:AM:40:ASN:ND2 | 2.06 | 0.52 |
| 13:AN:80:ASP:OD2 | 17:AR:22:VAL:O | 2.28 | 0.52 |
| 14:AO:55:GLN:HE21 | 14:AO:56:LYS:CD | 2.22 | 0.52 |
| 15:AP:45:GLN:NE2 | 15:AP:153:PRO:CB | 2.60 | 0.52 |
| 15:AP:98:GLY:HA2 | 35:BC:1:G:O2' | 2.09 | 0.52 |
| 15:AP:123:ILE:CG2 | 15:AP:124:ALA:N | 2.71 | 0.52 |
| 17:AR:49:LEU:HD13 | 17:AR:54:THR:CG2 | 2.40 | 0.52 |
| 18:AS:11:ARG:O | 18:AS:12:ILE:CG1 | 2.58 | 0.52 |
| 18:AS:23:LEU:HD11 | 29:A5:26:THR:CA | 2.40 | 0.52 |
| 19:AT:10:VAL:HG12 | 19:AT:15:MET:HG2 | 1.92 | 0.52 |
| 20:AU:19:ARG:O | 20:AU:67:LEU:HD22 | 2.08 | 0.52 |
| 21:AV:16:GLU:N | 21:AV:16:GLU:OE1 | 2.43 | 0.52 |
| 21:AV:16:GLU:N | 21:AV:36:ARG:HH22 | 2.08 | 0.52 |
| 21:AV:51:LEU:CG | 21:AV:64:ALA:O | 2.57 | 0.52 |
| 21:AV:92:VAL:HA | 21:AV:124:ALA:CB | 2.40 | 0.52 |
| 21:AV:106:GLY:HA2 | 21:AV:142:ASN:ND2 | 2.24 | 0.52 |
| 24:A0:45:ARG:CD | 24:A0:97:VAL:HG23 | 2.32 | 0.52 |
| 24:A0:99:LYS:CB | 29:A5:44:HIS:NE2 | 2.73 | 0.52 |
| 25:A1:43:ALA:HB1 | 26:A2:75:LYS:HB3 | 1.88 | 0.52 |
| 25:A1:99:ALA:CB | 25:A1:106:PHE:CD2 | 2.93 | 0.52 |
| 26:A2:7:THR:OG1 | 26:A2:11:GLN:NE2 | 2.43 | 0.52 |
| 26:A2:80:TYR:O | 26:A2:82:ARG:HG3 | 2.10 | 0.52 |
| 27:A3:5:LYS:NZ | 35:BC:3:G:H5" | 2.25 | 0.52 |
| 34:BA:35:G:C6 | 34:BA:36:C:C4 | 2.98 | 0.52 |
| 34:BA:157:G:N1 | 34:BA:165:C:N4 | 2.58 | 0.52 |
| 34:BA:301:G:N2 | 34:BA:302:G:C4 | 2.77 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:311:C:O5' | 34:BA:311:C:H6 | 1.93 | 0.52 |
| 34:BA:378:G:H2' | 34:BA:379:C:C6 | 2.44 | 0.52 |
| 34:BA:442:C:C2' | 34:BA:443:C:H5' | 2.40 | 0.52 |
| 34:BA:572:A:C2 | 34:BA:864:A:N1 | 2.77 | 0.52 |
| 34:BA:586:C:H42 | 34:BA:755:G:H1 | 1.58 | 0.52 |
| 34:BA:594:G:H1 | 34:BA:645:C:N4 | 2.08 | 0.52 |
| 34:BA:611:A:N6 | 34:BA:629:G:C6 | 2.77 | 0.52 |
| 34:BA:752:G:O2' | 34:BA:753:A:OP2 | 2.28 | 0.52 |
| 34:BA:771:G:O6 | 34:BA:808:C:N3 | 2.43 | 0.52 |
| 34:BA:776:G:N2 | 34:BA:802:A:P | 2.79 | 0.52 |
| 34:BA:909:A:C2 | 34:BA:910:C:C1' | 2.92 | 0.52 |
| 34:BA:976:G:N2 | 34:BA:1363:A:N7 | 2.58 | 0.52 |
| 34:BA:1005:A:C2' | 34:BA:1006:C:H5' | 2.39 | 0.52 |
| 34:BA:1104:G:H2' | 34:BA:1105:A:O5' | 2.10 | 0.52 |
| 34:BA:1124:G:P | 45:BM:35:SER:O | 2.68 | 0.52 |
| 34:BA:1130:A:N7 | 34:BA:1131:G:N7 | 2.58 | 0.52 |
| 34:BA:1150:U:O4' | 34:BA:1280:A:N1 | 2.42 | 0.52 |
| 34:BA:1269:A:C2 | 34:BA:1312:G:H1' | 2.44 | 0.52 |
| 34:BA:1317:C:OP1 | 34:BA:1317:C:C6 | 2.63 | 0.52 |
| 34:BA:1326:C:C2 | 34:BA:1327:C:C5 | 2.98 | 0.52 |
| 34:BA:1386:G:N1 | 34:BA:1387:G:C5 | 2.78 | 0.52 |
| 35:BB:51:G:N1 | 35:BB:63:C:N4 | 2.38 | 0.52 |
| 35:BC:44:A:C2 | 35:BC:45:G:N3 | 2.78 | 0.52 |
| 38:BF:19:GLU:HG2 | 38:BF:54:ARG:HG3 | 1.91 | 0.52 |
| 39:BG:60:GLU:CB | 39:BG:202:LEU:HB3 | 2.39 | 0.52 |
| 39:BG:88:VAL:HG13 | 40:BH:97:GLY:HA3 | 1.91 | 0.52 |
| 39:BG:151:LYS:C | 39:BG:154:ASN:ND2 | 2.63 | 0.52 |
| 42:BJ:28:ASN:OD1 | 42:BJ:31:MET:HE1 | 2.10 | 0.52 |
| 42:BJ:113:GLU:O | 42:BJ:113:GLU:CG | 2.44 | 0.52 |
| 43:BK:45:ILE:HD12 | 43:BK:61:VAL:HG11 | 1.92 | 0.52 |
| 45:BM:37:PRO:HA | 45:BM:72:VAL:HG22 | 1.91 | 0.52 |
| 46:BN:111:ASP:OD2 | 46:BN:111:ASP:O | 2.27 | 0.52 |
| 47:BO:24:VAL:HG13 | 47:BO:98:TYR:CE2 | 2.45 | 0.52 |
| 48:BP:27:LYS:O | 48:BP:28:ALA:HB2 | 2.10 | 0.52 |
| 52:BT:92:ARG:O | 52:BT:95:TYR:CB | 2.48 | 0.52 |
| 55:BW:63:ILE:CG2 | 55:BW:64:ASP:N | 2.67 | 0.52 |
| 2:AA:23:G:N2 | 2:AA:24:G:C1' | 2.68 | 0.52 |
| 2:AA:52:A:H8 | 2:AA:52:A:O5' | 1.93 | 0.52 |
| 2:AA:72:U:O4 | 2:AA:112:U:O4' | 2.27 | 0.52 |
| 2:AA:118:A:N9 | 2:AA:177:G:N2 | 2.57 | 0.52 |
| 2:AA:138:G:OP2 | 2:AA:139:G:OP2 | 2.28 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:242:G:H3' | 32:A8:5:LYS:HZ3 | 1.74 | 0.52 |
| 2:AA:492:A:C2' | 2:AA:493:G:O5' | 2.58 | 0.52 |
| 2:AA:571:A:HO2' | 2:AA:572:A:P | 2.32 | 0.52 |
| 2:AA:586:A:C2 | 2:AA:810:U:O4' | 2.63 | 0.52 |
| 2:AA:731:C:C2' | 2:AA:732:C:H5' | 2.40 | 0.52 |
| 2:AA:737:C:H2' | 2:AA:738:G:C5' | 2.40 | 0.52 |
| 2:AA:749:C:C6 | 2:AA:749:C:C3' | 2.92 | 0.52 |
| 2:AA:818:G:O2' | 2:AA:819:A:H5" | 2.10 | 0.52 |
| 2:AA:827:U:C4 | 2:AA:2430:A:C6 | 2.97 | 0.52 |
| 2:AA:830:G:C8 | 2:AA:2448:A:N7 | 2.78 | 0.52 |
| 2:AA:972:G:OP2 | 2:AA:974(A):C:H5" | 2.10 | 0.52 |
| 2:AA:996:A:C8 | 2:AA:1160:G:N2 | 2.78 | 0.52 |
| 2:AA:1174:A:H2' | 2:AA:1175:U:H5" | 1.92 | 0.52 |
| 2:AA:1209:G:H4' | 2:AA:1212:G:H5" | 1.92 | 0.52 |
| 2:AA:1303:G:O6 | 2:AA:1624:G:C6 | 2.63 | 0.52 |
| 2:AA:1358:G:C6 | 2:AA:1371:G:H2' | 2.44 | 0.52 |
| 2:AA:1389:G:H2' | 2:AA:1390:U:C6 | 2.44 | 0.52 |
| 2:AA:1434:A:C5 | 2:AA:1560:G:C2 | 2.97 | 0.52 |
| 2:AA:1469:A:C6 | 2:AA:1470:G:N1 | 2.78 | 0.52 |
| 2:AA:1494:A:N6 | 2:AA:1495:A:C2 | 2.78 | 0.52 |
| 2:AA:1655:A:C2' | 2:AA:1656:C:C6 | 2.88 | 0.52 |
| 2:AA:1743:G:C3' | 2:AA:1746:G:H5' | 2.37 | 0.52 |
| 2:AA:2043:C:C2 | 2:AA:2044:C:C5 | 2.98 | 0.52 |
| 2:AA:2054:A:N1 | 2:AA:2615:U:C4 | 2.73 | 0.52 |
| 2:AA:2137:C:H5" | 2:AA:2138:C:H5 | 1.75 | 0.52 |
| 2:AA:2224:G:O2' | 2:AA:2225:A:C5' | 2.57 | 0.52 |
| 2:AA:2236:C:H2' | 2:AA:2237:G:O4' | 2.09 | 0.52 |
| 2:AA:2298:A:H2' | 2:AA:2299:G:O4' | 2.10 | 0.52 |
| 2:AA:2522:U:H5' | 2:AA:2523:G:OP2 | 2.10 | 0.52 |
| 2:AA:2581:G:N1 | 2:AA:2610:C:C1' | 2.57 | 0.52 |
| 2:AA:2690:C:H2' | 2:AA:2691:C:OP2 | 2.09 | 0.52 |
| 2:AA:2699:C:N3 | 2:AA:2708:G:C2 | 2.77 | 0.52 |
| 2:AA:2707:G:H2' | 2:AA:2708:G:O5' | 2.09 | 0.52 |
| 2:AA:2746:U:C4' | 8:AH:138:GLN:HA | 2.37 | 0.52 |
| 2:AA:2813:A:H2' | 2:AA:2814:C:C6 | 2.44 | 0.52 |
| 3:AC:46:LYS:HB3 | 3:AC:210:ARG:CD | 2.39 | 0.52 |
| 3:AC:74:VAL:HA | 3:AC:112:ALA:O | 2.10 | 0.52 |
| 4:AD:92:LEU:CD1 | 4:AD:92:LEU:N | 2.73 | 0.52 |
| 4:AD:94:ASN:OD1 | 4:AD:100:LYS:CD | 2.57 | 0.52 |
| 6:AF:34:ALA:CB | 6:AF:110:ALA:HB1 | 2.28 | 0.52 |
| 6:AF:55:ARG:HA | 6:AF:79:ARG:CZ | 2.38 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:AG:56:ARG:HD3 | 35:BC:56:C:C2' | 2.38 | 0.52 |
| 8:AH:59:HIS:C | 8:AH:61:ARG:N | 2.59 | 0.52 |
| 8:AH:72:ALA:O | 8:AH:75:VAL:CB | 2.57 | 0.52 |
| 8:AH:82:TYR:CD1 | 8:AH:137:LYS:N | 2.78 | 0.52 |
| 8:AH:117:GLU:O | 8:AH:118:GLU:C | 2.49 | 0.52 |
| 10:AK:38:GLU:O | 10:AK:39:ALA:C | 2.48 | 0.52 |
| 10:AK:125:GLY:CA | 10:AK:145:VAL:O | 2.58 | 0.52 |
| 12:AM:18:ILE:HG21 | 12:AM:21:ARG:NH1 | 2.25 | 0.52 |
| 12:AM:54:VAL:HG11 | 12:AM:138:THR:HG21 | 1.92 | 0.52 |
| 15:AP:65:ARG:NH2 | 15:AP:85:ILE:O | 2.43 | 0.52 |
| 16:AQ:34:LEU:HG | 16:AQ:101:VAL:C | 2.29 | 0.52 |
| 18:AS:4:LYS:CE | 18:AS:106:ILE:HG12 | 2.39 | 0.52 |
| 18:AS:18:ARG:HE | 18:AS:76:VAL:HG12 | 1.73 | 0.52 |
| 18:AS:32:ALA:HA | 18:AS:35:ILE:CD1 | 2.40 | 0.52 |
| 20:AU:66:ASP:HB2 | 20:AU:71:VAL:O | 2.09 | 0.52 |
| 21:AV:19:ILE:HD11 | 21:AV:79:ILE:HG12 | 1.92 | 0.52 |
| 22:AW:20:LEU:O | 22:AW:23:LEU:N | 2.43 | 0.52 |
| 25:A1:69:ALA:CB | 25:A1:76:TYR:CE2 | 2.92 | 0.52 |
| 27:A3:45:PHE:HE2 | 27:A3:80:SER:HB2 | 1.75 | 0.52 |
| 28:A4:64:GLY:O | 28:A4:67:TYR:C | 2.48 | 0.52 |
| 29:A5:6:VAL:HG13 | 29:A5:7:PRO:CD | 2.40 | 0.52 |
| 29:A5:13:LYS:O | 29:A5:16:ARG:HB2 | 2.10 | 0.52 |
| 30:A6:28:ARG:HD3 | 30:A6:30:ASN:HD22 | 1.73 | 0.52 |
| 34:BA:29:G:H4' | 34:BA:295:C:O3' | 2.09 | 0.52 |
| 34:BA:52:G:H1 | 34:BA:359:U:H3 | 1.57 | 0.52 |
| 34:BA:57:G:H2' | 34:BA:58:C:C6 | 2.44 | 0.52 |
| 34:BA:65:U:C5 | 34:BA:381:C:N4 | 2.78 | 0.52 |
| 34:BA:80:G:N2 | 34:BA:88:A:H61 | 2.08 | 0.52 |
| 34:BA:130:A:OP2 | 34:BA:190(E):U:C4 | 2.63 | 0.52 |
| 34:BA:290:C:N3 | 34:BA:291:C:C6 | 2.78 | 0.52 |
| 34:BA:294:U:O2 | 34:BA:295:C:C5 | 2.63 | 0.52 |
| 34:BA:430:A:C4' | 39:BG:7:PRO:HB3 | 2.36 | 0.52 |
| 34:BA:509:A:OP2 | 34:BA:509:A:O3' | 2.27 | 0.52 |
| 34:BA:527:G:C6 | 34:BA:528:C:C4 | 2.98 | 0.52 |
| 34:BA:632:A:H2' | 34:BA:633:G:O5' | 2.10 | 0.52 |
| 34:BA:877:C:OP1 | 43:BK:88:LYS:HE3 | 2.10 | 0.52 |
| 34:BA:1065:U:C5 | 34:BA:1190:G:N3 | 2.77 | 0.52 |
| 34:BA:1071:C:C4 | 34:BA:1084:G:N2 | 2.77 | 0.52 |
| 34:BA:1091:U:O2 | 34:BA:1095:U:C4 | 2.62 | 0.52 |
| 34:BA:1231:G:H2' | 34:BA:1232:U:O4' | 2.09 | 0.52 |
| 34:BA:1248:A:C2 | 34:BA:1249:C:N3 | 2.78 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1267:C:H6 | 34:BA:1267:C:H3' | 1.74 | 0.52 |
| 34:BA:1269:A:H2' | 34:BA:1270:C:C5' | 2.40 | 0.52 |
| 34:BA:1364:U:O2' | 34:BA:1365:G:OP1 | 2.25 | 0.52 |
| 34:BA:1370:G:H8 | 34:BA:1370:G:OP2 | 1.93 | 0.52 |
| 34:BA:1518:A:N1 | 34:BA:1519:A:N1 | 2.58 | 0.52 |
| 35:BC:17:U:C5' | 35:BC:19:G:OP2 | 2.57 | 0.52 |
| 35:BC:33:U:H6 | 35:BC:33:U:O5' | 1.93 | 0.52 |
| 37:BE:115:LEU:C | 37:BE:118:LEU:HB2 | 2.30 | 0.52 |
| 37:BE:182:ILE:HG23 | 37:BE:183:PRO:HD2 | 1.92 | 0.52 |
| 37:BE:193:ASP:OD2 | 37:BE:196:LEU:HG | 2.09 | 0.52 |
| 41:BI:76:ALA:C | 41:BI:80:ARG:HE | 2.12 | 0.52 |
| 42:BJ:38:LEU:HD12 | 42:BJ:41:ARG:HB2 | 1.91 | 0.52 |
| 43:BK:24:THR:H | 43:BK:60:ARG:CD | 2.22 | 0.52 |
| 43:BK:100:ILE:HG22 | 43:BK:101:PRO:CD | 2.35 | 0.52 |
| 44:BL:93:ARG:NH2 | 44:BL:102:LEU:HD13 | 2.22 | 0.52 |
| 46:BN:12:ARG:HD3 | 46:BN:75:TYR:CD2 | 2.45 | 0.52 |
| 49:BQ:14:PRO:HG3 | 49:BQ:17:LYS:HA | 1.92 | 0.52 |
| 49:BQ:40:CYS:O | 49:BQ:42:ILE:N | 2.43 | 0.52 |
| 51:BS:67:THR:CB | 51:BS:70:ALA:HB2 | 2.32 | 0.52 |
| 52:BT:40:LYS:HB3 | 52:BT:42:TYR:HE1 | 1.74 | 0.52 |
| 54:BV:19:VAL:CG2 | 54:BV:43:GLU:O | 2.52 | 0.52 |
| 55:BW:20:LEU:O | 55:BW:21:LYS:C | 2.48 | 0.52 |
| 1:AB:21:G:C6 | 1:AB:22:U:N3 | 2.78 | 0.52 |
| 1:AB:35:U:H3' | 1:AB:35:U:H6 | 1.75 | 0.52 |
| 1:AB:75:G:C4 | 21:AV:22:VAL:HG21 | 2.44 | 0.52 |
| 2:AA:52:A:O2' | 2:AA:53:A:H5' | 2.10 | 0.52 |
| 2:AA:283:A:C8 | 2:AA:284:U:H6 | 2.27 | 0.52 |
| 2:AA:285:C:H1' | 2:AA:356:G:N2 | 2.25 | 0.52 |
| 2:AA:350:U:H2' | 2:AA:351:G:OP1 | 2.09 | 0.52 |
| 2:AA:459:U:OP1 | 31:A7:40:HIS:HA | 2.10 | 0.52 |
| 2:AA:461:C:H42 | 2:AA:469:G:H21 | 1.53 | 0.52 |
| 2:AA:463:G:N2 | 2:AA:467:G:C4 | 2.78 | 0.52 |
| 2:AA:476:G:H22 | 2:AA:478:A:H2' | 1.75 | 0.52 |
| 2:AA:625:G:C3' | 2:AA:626:U:H5' | 2.38 | 0.52 |
| 2:AA:684:G:N2 | 2:AA:794:G:N3 | 2.56 | 0.52 |
| 2:AA:693:C:C4 | 2:AA:694:U:C4 | 2.98 | 0.52 |
| 2:AA:707:G:N2 | 2:AA:724:U:O2 | 2.40 | 0.52 |
| 2:AA:729:G:OP1 | 4:AD:206:LYS:HB2 | 2.09 | 0.52 |
| 2:AA:768:G:C4 | 2:AA:769:G:C8 | 2.97 | 0.52 |
| 2:AA:918:A:H5' | 2:AA:919:G:H8 | 1.73 | 0.52 |
| 2:AA:941:A:N1 | 2:AA:942:G:N3 | 2.58 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:969:U:O2' | 2:AA:970:C:C5' | 2.58 | 0.52 |
| 2:AA:1020:A:C4' | 12:AM:49:ARG:HH22 | 2.22 | 0.52 |
| 2:AA:1097:U:H2' | 2:AA:1098:A:C5' | 2.40 | 0.52 |
| 2:AA:1152:C:H5" | 25:A1:80:ILE:HB | 1.90 | 0.52 |
| 2:AA:1193:G:N2 | 2:AA:1194:A:H1' | 2.24 | 0.52 |
| 2:AA:1232:G:C2 | 2:AA:1233:C:C6 | 2.98 | 0.52 |
| 2:AA:1348:G:N2 | 2:AA:1599:C:C2 | 2.78 | 0.52 |
| 2:AA:1375:C:H2' | 2:AA:1376:C:C6 | 2.41 | 0.52 |
| 2:AA:1424:G:H2' | 2:AA:1425:G:H5' | 1.91 | 0.52 |
| 2:AA:1551:C:N4 | 2:AA:1552:G:O6 | 2.42 | 0.52 |
| 2:AA:1567:A:N1 | 4:AD:82:TYR:O | 2.43 | 0.52 |
| 2:AA:1674:G:O2' | 2:AA:1677:A:N6 | 2.42 | 0.52 |
| 2:AA:1707:G:N2 | 2:AA:1751:C:N3 | 2.49 | 0.52 |
| 2:AA:1726:G:H2' | 2:AA:1726:G:N3 | 2.23 | 0.52 |
| 2:AA:1743:G:C5 | 2:AA:1746:G:N7 | 2.78 | 0.52 |
| 2:AA:1757:U:O4 | 2:AA:1762:A:C2 | 2.63 | 0.52 |
| 2:AA:1796:U:H2' | 2:AA:1797:C:H5 | 1.64 | 0.52 |
| 2:AA:1834:U:O3' | 2:AA:1835:G:C8 | 2.63 | 0.52 |
| 2:AA:1846:G:O2' | 2:AA:1847:A:H5' | 2.10 | 0.52 |
| 2:AA:1904:G:N2 | 2:AA:1905:C:C1' | 2.73 | 0.52 |
| 2:AA:1934:C:H2' | 2:AA:1935:G:O5' | 2.10 | 0.52 |
| 2:AA:1936:A:C6 | 2:AA:1945:G:C4 | 2.97 | 0.52 |
| 2:AA:1944:U:H1' | 2:AA:1955:U:C1' | 2.39 | 0.52 |
| 2:AA:1964:G:O2' | 2:AA:1967:C:OP1 | 2.28 | 0.52 |
| 2:AA:2093:G:C4 | 2:AA:2225:A:N6 | 2.77 | 0.52 |
| 2:AA:2243:U:O2' | 2:AA:2244:U:C5' | 2.49 | 0.52 |
| 2:AA:2312:U:H2' | 7:AG:72:LYS:NZ | 2.18 | 0.52 |
| 2:AA:2333:A:C1' | 2:AA:2335:A:C4 | 2.92 | 0.52 |
| 2:AA:2430:A:H2' | 2:AA:2431:U:C5' | 2.39 | 0.52 |
| 2:AA:2682:U:C4 | 2:AA:2683:C:C4 | 2.98 | 0.52 |
| 2:AA:2686:G:C4 | 2:AA:2687:U:C6 | 2.98 | 0.52 |
| 2:AA:2698:U:C2 | 2:AA:2699:C:H5 | 2.26 | 0.52 |
| 2:AA:2712:U:O2' | 2:AA:712(A):A:OP1 | 2.26 | 0.52 |
| 2:AA:2817:G:N2 | 2:AA:2830:G:C4 | 2.78 | 0.52 |
| 2:AA:2822:G:OP1 | 5:AE:258:TYR:CE2 | 2.62 | 0.52 |
| 2:AA:2825:C:O5' | 2:AA:2825:C:C6 | 2.63 | 0.52 |
| 3:AC:19:ILE:HG23 | 3:AC:224:ILE:C | 2.30 | 0.52 |
| 4:AD:112:GLY:O | 4:AD:113:MET:O | 2.28 | 0.52 |
| 5:AE:268:LEU:N | 5:AE:297:LYS:HE2 | 2.24 | 0.52 |
| 5:AE:269:ILE:CA | 5:AE:297:LYS:HZ2 | 2.20 | 0.52 |
| 6:AF:112:ARG:HH12 | 6:AF:246:ARG:C | 2.14 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:196:THR:CB | 6:AF:200:PRO:HA | 2.40 | 0.52 |
| 6:AF:215:ALA:CB | 6:AF:239:ALA:HA | 2.40 | 0.52 |
| 7:AG:151:ILE:HG21 | 7:AG:156:ARG:NH1 | 2.25 | 0.52 |
| 8:AH:14:VAL:O | 8:AH:14:VAL:HG12 | 2.09 | 0.52 |
| 8:AH:95:ALA:O | 8:AH:127:GLN:O | 2.28 | 0.52 |
| 10:AK:31:PHE:CE2 | 10:AK:37:ILE:N | 2.78 | 0.52 |
| 11:AL:130:GLY:O | 11:AL:133:LYS:HB2 | 2.10 | 0.52 |
| 12:AM:102:ARG:HB3 | 12:AM:104:TYR:HH | 1.72 | 0.52 |
| 13:AN:7:ARG:HE | 13:AN:44:LYS:HD3 | 1.73 | 0.52 |
| 13:AN:21:VAL:HA | 13:AN:41:ALA:CB | 2.39 | 0.52 |
| 14:AO:114:VAL:HG21 | 14:AO:133:VAL:CA | 2.40 | 0.52 |
| 14:AO:132:LYS:N | 14:AO:132:LYS:CD | 2.72 | 0.52 |
| 15:AP:26:LYS:O | 15:AP:27:GLY:O | 2.27 | 0.52 |
| 15:AP:60:ALA:HB3 | 15:AP:61:LEU:HD23 | 1.92 | 0.52 |
| 16:AQ:35:VAL:HG12 | 16:AQ:37:ARG:HD3 | 1.92 | 0.52 |
| 19:AT:18:MET:HB3 | 19:AT:24:LEU:HB3 | 1.92 | 0.52 |
| 19:AT:48:THR:O | 19:AT:50:GLU:CD | 2.49 | 0.52 |
| 21:AV:152:ILE:HG22 | 21:AV:153:LYS:N | 2.23 | 0.52 |
| 24:A0:113:LEU:CD1 | 24:A0:114:VAL:N | 2.72 | 0.52 |
| 26:A2:40:VAL:HG12 | 26:A2:55:THR:HG23 | 1.90 | 0.52 |
| 28:A4:61:LYS:C | 28:A4:63:PHE:N | 2.61 | 0.52 |
| 31:A7:42:LEU:O | 31:A7:43:THR:C | 2.47 | 0.52 |
| 32:A8:60:LEU:HD22 | 32:A8:64:ARG:HB2 | 1.91 | 0.52 |
| 34:BA:106:C:C2' | 34:BA:107:G:O5' | 2.57 | 0.52 |
| 34:BA:119:A:C8 | 34:BA:240:C:N4 | 2.78 | 0.52 |
| 34:BA:160:A:H2' | 34:BA:161:A:O4' | 2.09 | 0.52 |
| 34:BA:184:G:O2' | 34:BA:185:A:H5' | 2.10 | 0.52 |
| 34:BA:198:G:N3 | 34:BA:199:G:C8 | 2.78 | 0.52 |
| 34:BA:246:A:H62 | 34:BA:281:G:H21 | 1.56 | 0.52 |
| 34:BA:269:C:O2' | 34:BA:270:A:C5' | 2.55 | 0.52 |
| 34:BA:450:G:N2 | 34:BA:483:C:N3 | 2.57 | 0.52 |
| 34:BA:564:C:OP1 | 47:BO:15:ARG:CZ | 2.58 | 0.52 |
| 34:BA:579:G:N1 | 34:BA:763:G:C6 | 2.78 | 0.52 |
| 34:BA:632:A:H2' | 34:BA:633:G:O4' | 2.10 | 0.52 |
| 34:BA:782:A:N1 | 34:BA:801:U:C1' | 2.69 | 0.52 |
| 34:BA:792:A:C2 | 34:BA:794:A:N1 | 2.78 | 0.52 |
| 34:BA:848:C:HO2' | 34:BA:849:C:H6 | 1.58 | 0.52 |
| 34:BA:898:G:H21 | 34:BA:900:A:H3' | 1.75 | 0.52 |
| 34:BA:901:A:O5' | 34:BA:901:A:H8 | 1.91 | 0.52 |
| 34:BA:945:G:C2 | 34:BA:946:A:C8 | 2.98 | 0.52 |
| 34:BA:989:C:H4' | 34:BA:1016:A:H2 | 1.75 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1115:C:N4 | 34:BA:1185:G:H1 | 2.06 | 0.52 |
| 34:BA:1228:C:O2 | 34:BA:1228:C:C2' | 2.58 | 0.52 |
| 34:BA:1239:A:C3' | 34:BA:1298:C:H42 | 2.23 | 0.52 |
| 34:BA:1412:C:C4 | 34:BA:1489:G:N1 | 2.78 | 0.52 |
| 34:BA:1451:A:H8 | 34:BA:1451:A:O5' | 1.93 | 0.52 |
| 34:BA:1471:G:H2' | 34:BA:1472:U:H6 | 1.73 | 0.52 |
| 34:BA:1480:G:C2' | 34:BA:1481:U:O5' | 2.55 | 0.52 |
| 35:BB:34:G:C4 | 36:B1:66:G:O6 | 2.62 | 0.52 |
| 35:BB:53:G:C5 | 35:BB:54:U:O4 | 2.62 | 0.52 |
| 35:BC:18:G:C2 | 35:BC:58:A:C5 | 2.98 | 0.52 |
| 37:BE:109:SER:O | 37:BE:112:VAL:HB | 2.10 | 0.52 |
| 37:BE:238:LEU:HG | 37:BE:238:LEU:O | 2.10 | 0.52 |
| 38:BF:115:LEU:O | 38:BF:118:GLN:N | 2.42 | 0.52 |
| 38:BF:162:GLN:OE1 | 38:BF:163:ALA:N | 2.43 | 0.52 |
| 39:BG:148:VAL:HG12 | 39:BG:152:SER:CB | 2.40 | 0.52 |
| 40:BH:37:ARG:NH1 | 40:BH:112:LEU:HD22 | 2.25 | 0.52 |
| 40:BH:57:LYS:HG3 | 40:BH:61:TYR:HE2 | 1.75 | 0.52 |
| 40:BH:143:ARG:HB3 | 40:BH:147:ASP:HB3 | 1.92 | 0.52 |
| 40:BH:145:LYS:HA | 40:BH:148:VAL:CG2 | 2.39 | 0.52 |
| 40:BH:147:ASP:O | 40:BH:150:ARG:N | 2.43 | 0.52 |
| 41:BI:12:PRO:HG2 | 41:BI:13:ASN:ND2 | 2.25 | 0.52 |
| 42:BJ:49:ILE:HG22 | 42:BJ:125:MET:HE1 | 1.92 | 0.52 |
| 42:BJ:87:VAL:HB | 42:BJ:156:TRP:CE3 | 2.45 | 0.52 |
| 43:BK:21:LYS:O | 43:BK:63:LEU:HD11 | 2.09 | 0.52 |
| 43:BK:109:ILE:HD13 | 43:BK:137:VAL:HB | 1.92 | 0.52 |
| 43:BK:118:VAL:O | 43:BK:119:LEU:HD22 | 2.10 | 0.52 |
| 44:BL:32:ASP:CA | 44:BL:35:GLU:HB2 | 2.38 | 0.52 |
| 44:BL:67:GLY:C | 44:BL:73:GLN:NE2 | 2.63 | 0.52 |
| 45:BM:62:HIS:ND1 | 45:BM:62:HIS:N | 2.57 | 0.52 |
| 46:BN:111:ASP:OD2 | 46:BN:111:ASP:C | 2.48 | 0.52 |
| 47:BO:70:ILE:CG2 | 47:BO:77:LEU:HD11 | 2.38 | 0.52 |
| 48:BP:70:LEU:HD23 | 48:BP:70:LEU:C | 2.30 | 0.52 |
| 48:BP:88:ARG:O | 48:BP:91:ARG:N | 2.43 | 0.52 |
| 54:BV:36:ARG:HH21 | 54:BV:72:GLY:CA | 2.23 | 0.52 |
| 54:BV:52:TYR:OH | 54:BV:55:LYS:HA | 2.10 | 0.52 |
| 55:BW:76:ALA:O | 55:BW:77:ALA:C | 2.46 | 0.52 |
| 2:AA:134:C:C4 | 2:AA:135:G:C8 | 2.98 | 0.52 |
| 2:AA:135:G:C4 | 2:AA:145:G:C6 | 2.98 | 0.52 |
| 2:AA:139:G:C3' | 2:AA:141(A):C:O2 | 2.51 | 0.52 |
| 2:AA:145:G:C2 | 2:AA:146:G:C4 | 2.98 | 0.52 |
| 2:AA:237:C:H2' | 2:AA:238:C:C6 | 2.40 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:240:G:C6 | 2:AA:241:A:C6 | 2.98 | 0.52 |
| 2:AA:273(B):C:C4 | 2:AA:363(D):G:O6 | 2.63 | 0.52 |
| 2:AA:382:G:C2' | 2:AA:383:U:H5' | 2.40 | 0.52 |
| 2:AA:459:U:OP1 | 31:A7:40:HIS:CA | 2.58 | 0.52 |
| 2:AA:500:G:O2' | 2:AA:502:A:OP2 | 2.28 | 0.52 |
| 2:AA:598:G:N2 | 6:AF:33:LYS:HZ1 | 2.08 | 0.52 |
| 2:AA:610:C:H2' | 2:AA:611:C:C5 | 2.44 | 0.52 |
| 2:AA:661:C:O2 | 2:AA:662:G:C8 | 2.63 | 0.52 |
| 2:AA:763:G:N7 | 2:AA:765:G:C8 | 2.77 | 0.52 |
| 2:AA:818:G:O2' | 2:AA:838:C:H4' | 2.10 | 0.52 |
| 2:AA:899:A:N1 | 2:AA:900:A:C4 | 2.78 | 0.52 |
| 2:AA:996:A:C6 | 2:AA:1160:G:N1 | 2.78 | 0.52 |
| 2:AA:1032:A:O3' | 33:A9:16:VAL:HG11 | 2.10 | 0.52 |
| 2:AA:1057:A:C2 | 2:AA:1058:G:C5 | 2.97 | 0.52 |
| 2:AA:1083:U:H5' | 9:AI:40:ALA:CB | 2.35 | 0.52 |
| 2:AA:1137:G:P | 12:AM:60:ARG:HH22 | 2.29 | 0.52 |
| 2:AA:1298:C:H5' | 2:AA:1302:A:N6 | 2.25 | 0.52 |
| 2:AA:1343:G:H1' | 2:AA:1597:A:C2 | 2.44 | 0.52 |
| 2:AA:1441:G:H2' | 2:AA:1442:G:C5' | 2.40 | 0.52 |
| 2:AA:1509:C:H5' | 2:AA:1509:C:H6 | 1.73 | 0.52 |
| 2:AA:1518:C:C3' | 2:AA:1519:G:H4' | 2.40 | 0.52 |
| 2:AA:1522:G:C2 | 2:AA:1523:U:C6 | 2.98 | 0.52 |
| 2:AA:1565:C:N3 | 2:AA:1567:A:C1' | 2.73 | 0.52 |
| 2:AA:1638:C:H2' | 2:AA:1639:U:O4' | 2.09 | 0.52 |
| 2:AA:1694:C:C2' | 2:AA:1695:G:OP2 | 2.58 | 0.52 |
| 2:AA:1771:C:N3 | 2:AA:1772:G:C5 | 2.78 | 0.52 |
| 2:AA:1790:C:O2 | 2:AA:1790:C:H2' | 2.10 | 0.52 |
| 2:AA:1826:G:P | 4:AD:227:VAL:HG11 | 2.50 | 0.52 |
| 2:AA:1948:G:N1 | 2:AA:1949:G:C5 | 2.78 | 0.52 |
| 2:AA:1984:G:O2' | 2:AA:1985:G:H5' | 2.10 | 0.52 |
| 2:AA:1987:G:H2' | 2:AA:1988:C:C6 | 2.45 | 0.52 |
| 2:AA:1993:U:H2' | 2:AA:1993:U:O2 | 2.10 | 0.52 |
| 2:AA:2023:G:H5" | 2:AA:2617:C:HO2' | 1.73 | 0.52 |
| 2:AA:2061:G:H2' | 2:AA:2063:C:H41 | 1.75 | 0.52 |
| 2:AA:2206:C:H2' | 2:AA:2207:C:H6 | 1.74 | 0.52 |
| 2:AA:2215:G:C2 | 2:AA:2216:G:C4 | 2.98 | 0.52 |
| 2:AA:2255:G:N2 | 2:AA:2256:G:H1' | 2.24 | 0.52 |
| 2:AA:2421:G:OP2 | 30:A6:2:ALA:N | 2.43 | 0.52 |
| 2:AA:2482:G:N7 | 2:AA:2483:C:H5 | 2.08 | 0.52 |
| 2:AA:2519:U:C2 | 2:AA:2542:A:C6 | 2.98 | 0.52 |
| 2:AA:2528:U:H1' | 2:AA:2536:G:N2 | 2.25 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2552:U:C2 | 2:AA:2554:U:C5' | 2.93 | 0.52 |
| 2:AA:2654:A:H1' | 2:AA:2656:U:C5 | 2.45 | 0.52 |
| 2:AA:2654:A:O2' | 2:AA:2655:G:H4' | 2.09 | 0.52 |
| 2:AA:2720:U:O4 | 2:AA:2872:G:C5 | 2.63 | 0.52 |
| 2:AA:2746:U:C5 | 2:AA:2747:G:N7 | 2.78 | 0.52 |
| 2:AA:2792:G:C2 | 2:AA:2804:C:N3 | 2.77 | 0.52 |
| 3:AC:146:GLY:C | 3:AC:148:ASN:N | 2.64 | 0.52 |
| 3:AC:196:LEU:O | 3:AC:199:HIS:N | 2.43 | 0.52 |
| 4:AD:119:PRO:C | 4:AD:129:LEU:HD21 | 2.29 | 0.52 |
| 4:AD:143:ILE:HB | 4:AD:152:GLN:C | 2.31 | 0.52 |
| 4:AD:166:LYS:CG | 4:AD:171:VAL:HG12 | 2.40 | 0.52 |
| 5:AE:45:LYS:HE2 | 5:AE:301:PRO:HB2 | 1.91 | 0.52 |
| 5:AE:269:ILE:HD12 | 5:AE:295:LEU:O | 2.10 | 0.52 |
| 6:AF:11:ASN:ND2 | 6:AF:160:LEU:HD21 | 2.17 | 0.52 |
| 7:AG:22:VAL:HG23 | 7:AG:131:THR:OG1 | 2.10 | 0.52 |
| 9:AJ:99:ASP:O | 9:AJ:101:VAL:N | 2.41 | 0.52 |
| 10:AK:7:LYS:HB2 | 10:AK:14:LYS:HE2 | 1.91 | 0.52 |
| 10:AK:88:ARG:NE | 10:AK:123:ALA:N | 2.58 | 0.52 |
| 11:AL:93:LYS:HA | 11:AL:96:ILE:HG13 | 1.92 | 0.52 |
| 11:AL:104:GLN:O | 11:AL:108:ILE:HG13 | 2.09 | 0.52 |
| 12:AM:26:VAL:HG11 | 12:AM:83:ILE:HG21 | 1.92 | 0.52 |
| 12:AM:45:VAL:O | 12:AM:132:LEU:CD1 | 2.52 | 0.52 |
| 12:AM:82:THR:O | 12:AM:85:GLY:HA3 | 2.10 | 0.52 |
| 13:AN:47:THR:CB | 13:AN:48:PRO:CD | 2.83 | 0.52 |
| 13:AN:49:GLY:HA3 | 13:AN:53:LYS:CE | 2.40 | 0.52 |
| 16:AQ:57:THR:C | 16:AQ:58:LEU:HD23 | 2.29 | 0.52 |
| 16:AQ:118:ILE:O | 16:AQ:121:GLY:CA | 2.58 | 0.52 |
| 17:AR:45:GLU:CB | 17:AR:48:ASN:HD21 | 2.23 | 0.52 |
| 19:AT:23:LYS:HD3 | 19:AT:65:VAL:CG1 | 2.40 | 0.52 |
| 20:AU:29:ALA:O | 20:AU:30:ASP:C | 2.49 | 0.52 |
| 21:AV:86:VAL:HG11 | 21:AV:91:PRO:CG | 2.36 | 0.52 |
| 21:AV:108:VAL:O | 21:AV:109:GLN:HG3 | 2.10 | 0.52 |
| 21:AV:124:ALA:H | 21:AV:159:THR:CB | 2.23 | 0.52 |
| 23:AX:12:PRO:CG | 23:AX:20:LYS:NZ | 2.72 | 0.52 |
| 24:A0:107:ASP:OD2 | 24:A0:109:ALA:CB | 2.58 | 0.52 |
| 25:A1:104:GLU:HA | 25:A1:107:LYS:HG2 | 1.92 | 0.52 |
| 26:A2:6:GLN:HE22 | 26:A2:10:LYS:CA | 2.22 | 0.52 |
| 26:A2:39:PHE:CE1 | 26:A2:42:GLY:CA | 2.90 | 0.52 |
| 26:A2:46:VAL:O | 26:A2:46:VAL:HG12 | 2.10 | 0.52 |
| 27:A3:43:THR:OG1 | 27:A3:75:GLY:O | 2.27 | 0.52 |
| 30:A6:40:TYR:HB2 | 30:A6:50:PHE:CD2 | 2.45 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:A6:50:PHE:CD1 | 30:A6:50:PHE:N | 2.75 | 0.52 |
| 31:A7:25:LYS:NZ | 31:A7:28:ARG:HH22 | 2.08 | 0.52 |
| 33:A9:24:LEU:CD1 | 33:A9:35:ARG:HG3 | 2.39 | 0.52 |
| 34:BA:68:G:C4' | 34:BA:171:A:C1' | 2.87 | 0.52 |
| 34:BA:118:U:H3 | 34:BA:289:G:C4' | 2.16 | 0.52 |
| 34:BA:173:U:H5" | 34:BA:197:A:C4' | 2.40 | 0.52 |
| 34:BA:177:C:O2' | 34:BA:178:C:H5' | 2.10 | 0.52 |
| 34:BA:407:G:C5 | 34:BA:408:A:N7 | 2.78 | 0.52 |
| 34:BA:435:C:C2' | 34:BA:436:C:H5' | 2.40 | 0.52 |
| 34:BA:437:U:C2' | 34:BA:438:G:C5' | 2.80 | 0.52 |
| 34:BA:460:A:N6 | 34:BA:462:G:C2 | 2.78 | 0.52 |
| 34:BA:484:G:C8 | 34:BA:486:U:C2 | 2.98 | 0.52 |
| 34:BA:508:C:H4' | 34:BA:509:A:O5' | 2.10 | 0.52 |
| 34:BA:573:A:H3' | 34:BA:573:A:P | 2.50 | 0.52 |
| 34:BA:575:G:O2' | 34:BA:576:G:C5' | 2.58 | 0.52 |
| 34:BA:575:G:O2' | 34:BA:576:G:P | 2.67 | 0.52 |
| 34:BA:581:G:C2' | 34:BA:582:U:OP2 | 2.58 | 0.52 |
| 34:BA:582:U:O4 | 34:BA:583:A:C6 | 2.63 | 0.52 |
| 34:BA:819:A:C4' | 34:BA:820:U:OP2 | 2.58 | 0.52 |
| 34:BA:826:C:H1' | 43:BK:15:ASN:HD21 | 1.68 | 0.52 |
| 34:BA:885:G:O2' | 34:BA:915:A:C2 | 2.63 | 0.52 |
| 34:BA:891:U:C6 | 34:BA:892:A:N7 | 2.78 | 0.52 |
| 34:BA:1047:G:C2 | 34:BA:1048:G:C8 | 2.98 | 0.52 |
| 34:BA:1157:A:H1' | 34:BA:1181:G:C2 | 2.45 | 0.52 |
| 34:BA:1196:U:C6 | 34:BA:1196:U:H3' | 2.44 | 0.52 |
| 34:BA:1240:U:P | 42:BJ:119:ARG:HH22 | 2.32 | 0.52 |
| 34:BA:1348:U:N3 | 34:BA:1349:A:C8 | 2.77 | 0.52 |
| 35:BB:34:G:C6 | 35:BB:35:A:N6 | 2.78 | 0.52 |
| 35:BB:37:G:H2' | 35:BB:38:A:H5' | 1.90 | 0.52 |
| 35:BB:49:C:N3 | 35:BB:50:U:C4 | 2.78 | 0.52 |
| 36:B1:64:C:OP2 | 36:B1:64:C:H6 | 1.93 | 0.52 |
| 38:BF:193:TYR:N | 38:BF:193:TYR:HD2 | 2.08 | 0.52 |
| 39:BG:148:VAL:CB | 39:BG:153:ARG:HG2 | 2.39 | 0.52 |
| 40:BH:95:ALA:O | 40:BH:96:PRO:C | 2.48 | 0.52 |
| 40:BH:96:PRO:O | 40:BH:98:THR:N | 2.42 | 0.52 |
| 40:BH:133:TYR:O | 40:BH:136:MET:HB2 | 2.10 | 0.52 |
| 41:BI:56:PRO:HG2 | 41:BI:57:GLN:OE1 | 2.10 | 0.52 |
| 41:BI:77:ARG:N | 41:BI:80:ARG:HE | 2.08 | 0.52 |
| 42:BJ:78:ARG:N | 42:BJ:156:TRP:HZ3 | 2.08 | 0.52 |
| 43:BK:122:ARG:O | 43:BK:125:ARG:N | 2.42 | 0.52 |
| 44:BL:4:TYR:N | 44:BL:4:TYR:CD1 | 2.78 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:38:THR:HG23 | 47:BO:39:VAL:CG2 | 2.36 | 0.52 |
| 47:BO:38:THR:HG22 | 47:BO:57:LYS:HB3 | 1.92 | 0.52 |
| 47:BO:92:ASP:C | 47:BO:93:LEU:CD2 | 2.75 | 0.52 |
| 48:BP:48:LEU:CD2 | 48:BP:49:THR:O | 2.58 | 0.52 |
| 51:BS:58:TYR:CD1 | 51:BS:59:TRP:HA | 2.45 | 0.52 |
| 52:BT:29:HIS:HB3 | 52:BT:32:TYR:CA | 2.40 | 0.52 |
| 53:BU:30:ASP:OD1 | 53:BU:32:ARG:HG3 | 2.10 | 0.52 |
| 54:BV:8:GLY:O | 54:BV:9:VAL:C | 2.48 | 0.52 |
| 1:AB:31:C:H2' | 1:AB:32:C:C6 | 2.45 | 0.51 |
| 1:AB:35:U:O4 | 1:AB:36:C:N4 | 2.43 | 0.51 |
| 1:AB:44:G:H21 | 1:AB:48:A:C1' | 2.23 | 0.51 |
| 1:AB:75:G:C2' | 1:AB:76:G:H5' | 2.39 | 0.51 |
| 1:AB:99:A:H2' | 1:AB:100:G:H8 | 1.73 | 0.51 |
| 2:AA:30:G:OP1 | 25:A1:8:ILE:HG13 | 2.10 | 0.51 |
| 2:AA:77:C:H6 | 2:AA:77:C:OP2 | 1.93 | 0.51 |
| 2:AA:176:G:C2 | 2:AA:177:G:H1' | 2.45 | 0.51 |
| 2:AA:242:G:C8 | 32:A8:3:LYS:O | 2.63 | 0.51 |
| 2:AA:262:A:C5 | 2:AA:263:C:C5 | 2.98 | 0.51 |
| 2:AA:270(B):A:P | 2:AA:270(B):A:O4' | 2.68 | 0.51 |
| 2:AA:288:C:H5' | 2:AA:288:C:C6 | 2.35 | 0.51 |
| 2:AA:300:A:C6 | 2:AA:334:C:H4' | 2.45 | 0.51 |
| 2:AA:307:G:N2 | 2:AA:310:A:O5' | 2.42 | 0.51 |
| 2:AA:311:A:N6 | 2:AA:329:G:H5" | 2.25 | 0.51 |
| 2:AA:329:G:H8 | 2:AA:329:G:OP2 | 1.92 | 0.51 |
| 2:AA:526:A:C2 | 2:AA:2626:C:O4' | 2.63 | 0.51 |
| 2:AA:576:U:O5' | 2:AA:576:U:H6 | 1.93 | 0.51 |
| 2:AA:586:A:C5 | 2:AA:1254:A:C2 | 2.95 | 0.51 |
| 2:AA:589:C:N4 | 2:AA:668:G:N1 | 2.20 | 0.51 |
| 2:AA:627:A:H2 | 2:AA:638:G:H21 | 1.49 | 0.51 |
| 2:AA:700:G:C6 | 2:AA:733:G:N2 | 2.78 | 0.51 |
| 2:AA:721:C:N4 | 2:AA:722:A:H62 | 2.05 | 0.51 |
| 2:AA:742:G:H2' | 2:AA:743:G:O5' | 2.09 | 0.51 |
| 2:AA:783:A:O2' | 2:AA:784:A:OP1 | 2.29 | 0.51 |
| 2:AA:861:A:C6 | 2:AA:917:A:C5 | 2.98 | 0.51 |
| 2:AA:1080:C:C4' | 11:AL:126:LYS:HB3 | 2.38 | 0.51 |
| 2:AA:1137:G:H21 | 12:AM:86:MET:HE1 | 1.74 | 0.51 |
| 2:AA:1210:A:H4' | 2:AA:1211:U:O5' | 2.10 | 0.51 |
| 2:AA:1216:G:N1 | 2:AA:1234:U:C6 | 2.78 | 0.51 |
| 2:AA:1310:G:H2' | 2:AA:1311:G:H4' | 1.91 | 0.51 |
| 2:AA:1334:G:C5 | 2:AA:1335:U:C5 | 2.98 | 0.51 |
| 2:AA:1350:C:C2' | 2:AA:1351:C:O5' | 2.58 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1389:G:C5 | 2:AA:1390:U:C4 | 2.98 | 0.51 |
| 2:AA:1392:A:C6 | 2:AA:1393:A:N6 | 2.78 | 0.51 |
| 2:AA:1464:C:C2 | 2:AA:1465:G:C8 | 2.97 | 0.51 |
| 2:AA:1465:G:H21 | 2:AA:1466:G:H1' | 1.75 | 0.51 |
| 2:AA:1495:A:C8 | 2:AA:1495:A:OP2 | 2.63 | 0.51 |
| 2:AA:1568:G:P | 4:AD:60:GLN:HA | 2.49 | 0.51 |
| 2:AA:1582:C:H5" | 2:AA:1583:A:OP2 | 2.10 | 0.51 |
| 2:AA:1672:C:O2' | 2:AA:1673:U:OP1 | 2.28 | 0.51 |
| 2:AA:1794:U:H5' | 2:AA:1900:A:C6 | 2.45 | 0.51 |
| 2:AA:1827:C:OP1 | 2:AA:1971:A:O2' | 2.28 | 0.51 |
| 2:AA:1919:A:H2' | 2:AA:1920:C:H6 | 1.75 | 0.51 |
| 2:AA:1954:G:O2' | 2:AA:1955:U:C5' | 2.58 | 0.51 |
| 2:AA:1995:U:C5 | 2:AA:1996:C:N4 | 2.78 | 0.51 |
| 2:AA:2000:G:C5 | 2:AA:2001:A:N7 | 2.77 | 0.51 |
| 2:AA:2043:C:N3 | 2:AA:2044:C:C5 | 2.78 | 0.51 |
| 2:AA:2078:C:H5' | 2:AA:2434:A:H4' | 1.92 | 0.51 |
| 2:AA:2225:A:H5" | 2:AA:2226:C:C4' | 2.39 | 0.51 |
| 2:AA:2294:C:H2' | 2:AA:2295:C:C5' | 2.40 | 0.51 |
| 2:AA:2313:C:H4' | 7:AG:72:LYS:CB | 2.40 | 0.51 |
| 2:AA:2349:G:H3' | 2:AA:2350:C:H5" | 1.92 | 0.51 |
| 2:AA:2416:C:N3 | 2:AA:2417:C:C5 | 2.78 | 0.51 |
| 2:AA:2485:G:C2' | 2:AA:2486:G:C5' | 2.88 | 0.51 |
| 2:AA:2523:G:O2' | 2:AA:2524:G:H5' | 2.11 | 0.51 |
| 2:AA:2631:G:H5" | 2:AA:2892:A:OP1 | 2.09 | 0.51 |
| 2:AA:2825:C:N4 | 2:AA:2826:A:N7 | 2.57 | 0.51 |
| 2:AA:2884:U:C6 | 2:AA:2885:C:C6 | 2.99 | 0.51 |
| 3:AC:131:LEU:HA | 3:AC:136:LEU:HD12 | 1.93 | 0.51 |
| 3:AC:133:PRO:O | 3:AC:172:HIS:NE2 | 2.43 | 0.51 |
| 5:AE:189:MET:SD | 5:AE:311:PHE:CZ | 3.03 | 0.51 |
| 5:AE:218:GLY:O | 5:AE:219:VAL:CG2 | 2.58 | 0.51 |
| 6:AF:87:ARG:O | 6:AF:88:SER:CB | 2.58 | 0.51 |
| 7:AG:12:GLU:O | 7:AG:12:GLU:OE1 | 2.28 | 0.51 |
| 7:AG:87:ALA:C | 7:AG:89:PRO:CD | 2.79 | 0.51 |
| 7:AG:140:ARG:HH11 | 7:AG:144:ARG:HH22 | 1.59 | 0.51 |
| 7:AG:142:ALA:HB2 | 7:AG:151:ILE:CG1 | 2.41 | 0.51 |
| 8:AH:55:SER:HB2 | 8:AH:60:HIS:HB2 | 1.90 | 0.51 |
| 9:AI:26:GLU:O | 9:AI:29:PHE:N | 2.44 | 0.51 |
| 9:AJ:50:GLY:O | 9:AJ:53:GLN:HB2 | 2.10 | 0.51 |
| 10:AK:34:GLY:C | 10:AK:35:LEU:HG | 2.30 | 0.51 |
| 10:AK:98:ILE:HG22 | 10:AK:99:ALA:N | 2.25 | 0.51 |
| 12:AM:105:LEU:HG | 12:AM:106:GLY:H | 1.74 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:5:GLU:CB | 13:AN:20:LEU:HG | 2.40 | 0.51 |
| 13:AN:15:GLY:HA3 | 13:AN:52:VAL:CG2 | 2.40 | 0.51 |
| 16:AQ:86:LEU:HD23 | 16:AQ:121:GLY:HA2 | 1.91 | 0.51 |
| 19:AT:50:GLU:HB3 | 19:AT:68:LEU:O | 2.10 | 0.51 |
| 21:AV:19:ILE:CD1 | 21:AV:36:ARG:HG2 | 2.40 | 0.51 |
| 21:AV:125:PRO:CB | 21:AV:157:GLY:HA3 | 2.40 | 0.51 |
| 22:AW:30:ALA:C | 22:AW:34:GLN:HG2 | 2.31 | 0.51 |
| 24:A0:67:LEU:C | 24:A0:67:LEU:CD1 | 2.73 | 0.51 |
| 24:A0:100:LEU:CD2 | 24:A0:113:LEU:N | 2.73 | 0.51 |
| 25:A1:10:ARG:HA | 25:A1:13:ARG:HH12 | 1.75 | 0.51 |
| 25:A1:98:ILE:O | 25:A1:100:ALA:N | 2.43 | 0.51 |
| 30:A6:21:TYR:OH | 30:A6:43:VAL:CA | 2.59 | 0.51 |
| 31:A7:21:ARG:HH22 | 31:A7:42:LEU:C | 2.13 | 0.51 |
| 34:BA:49:U:N1 | 34:BA:364:A:N6 | 2.58 | 0.51 |
| 34:BA:52:G:H2' | 34:BA:53:A:O4' | 2.10 | 0.51 |
| 34:BA:192:U:H4' | 55:BW:57:ARG:HH12 | 1.76 | 0.51 |
| 34:BA:292:G:C6 | 34:BA:308:C:N4 | 2.75 | 0.51 |
| 34:BA:294:U:H2' | 34:BA:295:C:C5 | 2.45 | 0.51 |
| 34:BA:318:G:H1' | 34:BA:1468:A:O2' | 2.10 | 0.51 |
| 34:BA:330:C:C2' | 34:BA:331:G:O5' | 2.58 | 0.51 |
| 34:BA:383:A:O5' | 34:BA:383:A:H8 | 1.92 | 0.51 |
| 34:BA:528:C:H41 | 47:BO:49:ASN:ND2 | 2.07 | 0.51 |
| 34:BA:632:A:H2' | 34:BA:633:G:H8 | 1.75 | 0.51 |
| 34:BA:672:U:O2 | 34:BA:672:U:C2' | 2.55 | 0.51 |
| 34:BA:735:C:C2' | 34:BA:736:C:O5' | 2.57 | 0.51 |
| 34:BA:761:G:H4' | 52:BT:103:GLY:H | 1.67 | 0.51 |
| 34:BA:772:U:O2' | 34:BA:773:G:O5' | 2.27 | 0.51 |
| 34:BA:1021:G:H2' | 34:BA:1022:G:O4' | 2.10 | 0.51 |
| 34:BA:1182:G:HO2' | 34:BA:1183:A:P | 2.33 | 0.51 |
| 34:BA:1440:C:C2 | 34:BA:1441:G:C1' | 2.93 | 0.51 |
| 34:BA:1508:G:O2' | 34:BA:1509:C:C5' | 2.58 | 0.51 |
| 34:BA:1516:G:N2 | 34:BA:1518:A:P | 2.83 | 0.51 |
| 35:BB:14:A:C2 | 35:BB:22:G:C2 | 2.98 | 0.51 |
| 35:BB:35:A:N7 | 36:B1:65:U:N3 | 2.53 | 0.51 |
| 35:BB:36:A:H62 | 36:B1:65:U:H3 | 1.51 | 0.51 |
| 35:BC:21:A:C6 | 35:BC:48:C:C5 | 2.98 | 0.51 |
| 37:BE:87:ARG:O | 37:BE:88:ALA:C | 2.48 | 0.51 |
| 38:BF:122:GLU:O | 38:BF:125:GLU:N | 2.43 | 0.51 |
| 38:BF:170:GLN:HG3 | 38:BF:170:GLN:O | 2.08 | 0.51 |
| 39:BG:13:ARG:HH12 | 39:BG:38:TYR:HE1 | 1.54 | 0.51 |
| 39:BG:61:LYS:HZ1 | 39:BG:65:ARG:HB2 | 1.75 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:124:GLY:O | 39:BG:132:ARG:CD | 2.53 | 0.51 |
| 42:BJ:107:ALA:CB | 42:BJ:123:GLU:OE1 | 2.52 | 0.51 |
| 42:BJ:111:ARG:NH2 | 42:BJ:122:HIS:CB | 2.73 | 0.51 |
| 44:BL:20:ARG:O | 44:BL:21:PRO:C | 2.47 | 0.51 |
| 44:BL:110:GLU:CD | 44:BL:111:ARG:N | 2.63 | 0.51 |
| 46:BN:12:ARG:HD3 | 46:BN:75:TYR:HD2 | 1.75 | 0.51 |
| 48:BP:58:GLU:O | 48:BP:61:GLU:HB2 | 2.10 | 0.51 |
| 52:BT:9:VAL:HG11 | 52:BT:84:LEU:CD1 | 2.40 | 0.51 |
| 53:BU:40:LEU:HA | 53:BU:43:PHE:CD1 | 2.44 | 0.51 |
| 53:BU:47:THR:OG1 | 53:BU:85:LEU:HB2 | 2.10 | 0.51 |
| 55:BW:85:MET:O | 55:BW:86:ARG:C | 2.48 | 0.51 |
| 56:BX:12:LYS:HZ2 | 56:BX:19:GLY:H | 1.58 | 0.51 |
| 1:AB:23:G:H2' | 1:AB:24:G:C8 | 2.45 | 0.51 |
| 2:AA:10:G:O2' | 2:AA:11:G:O5' | 2.26 | 0.51 |
| 2:AA:92:G:H2' | 2:AA:93:C:C6 | 2.41 | 0.51 |
| 2:AA:120:U:O2 | 2:AA:120:U:C2' | 2.53 | 0.51 |
| 2:AA:153:C:N4 | 2:AA:173:G:H1 | 2.08 | 0.51 |
| 2:AA:221:A:C2' | 2:AA:222:A:OP2 | 2.58 | 0.51 |
| 2:AA:239:U:H2' | 2:AA:240:G:C8 | 2.45 | 0.51 |
| 2:AA:265:A:O2' | 2:AA:266:G:OP2 | 2.28 | 0.51 |
| 2:AA:273(B):C:C2 | 2:AA:363(D):G:C6 | 2.98 | 0.51 |
| 2:AA:302:C:H42 | 2:AA:315:G:H1 | 0.64 | 0.51 |
| 2:AA:307:G:N2 | 2:AA:310:A:C8 | 2.78 | 0.51 |
| 2:AA:332:A:H4' | 2:AA:333:G:OP1 | 2.10 | 0.51 |
| 2:AA:412:A:N3 | 2:AA:413:C:H1' | 2.24 | 0.51 |
| 2:AA:465:G:N2 | 2:AA:683:C:C2' | 2.72 | 0.51 |
| 2:AA:486:C:N3 | 2:AA:495:G:C6 | 2.79 | 0.51 |
| 2:AA:729:G:C6 | 4:AD:206:LYS:O | 2.64 | 0.51 |
| 2:AA:749:C:H3' | 2:AA:749:C:C6 | 2.41 | 0.51 |
| 2:AA:754:C:C2' | 2:AA:755:C:C5' | 2.88 | 0.51 |
| 2:AA:831:G:C2' | 2:AA:832:G:H5' | 2.40 | 0.51 |
| 2:AA:848:G:H3' | 2:AA:848:G:H8 | 1.71 | 0.51 |
| 2:AA:856:C:OP1 | 27:A3:57:HIS:CE1 | 2.58 | 0.51 |
| 2:AA:923:C:O4' | 27:A3:26:PHE:HD2 | 1.90 | 0.51 |
| 2:AA:957:A:C2' | 2:AA:958:U:OP1 | 2.58 | 0.51 |
| 2:AA:1029:A:O2' | 2:AA:1030:G:C5' | 2.56 | 0.51 |
| 2:AA:1087:G:C4 | 2:AA:1103:A:C2 | 2.98 | 0.51 |
| 2:AA:1136:G:H21 | 2:AA:1137:G:H1' | 1.75 | 0.51 |
| 2:AA:1186:G:H3' | 2:AA:1187:G:C8 | 2.45 | 0.51 |
| 2:AA:1203:G:C8 | 2:AA:1206:G:N7 | 2.78 | 0.51 |
| 2:AA:1221:C:C2 | 2:AA:1229:G:C2 | 2.98 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1249:U:H5" | 25:A1:4:ALA:CB | 2.39 | 0.51 |
| 2:AA:1279:G:H2' | 2:AA:1280:G:C8 | 2.45 | 0.51 |
| 2:AA:1283:G:H21 | 2:AA:1285:G:H2' | 1.73 | 0.51 |
| 2:AA:1441:G:O2' | 2:AA:1442:G:H5' | 2.09 | 0.51 |
| 2:AA:1510:A:H3' | 2:AA:1511:A:C5 | 2.44 | 0.51 |
| 2:AA:1511:A:H2' | 2:AA:1512:G:H5" | 1.91 | 0.51 |
| 2:AA:1520:U:O5' | 2:AA:1520:U:C6 | 2.57 | 0.51 |
| 2:AA:1526:G:H22 | 2:AA:1546:C:H42 | 1.56 | 0.51 |
| 2:AA:1717:G:N7 | 2:AA:1743:G:C6 | 2.78 | 0.51 |
| 2:AA:1805:U:C4 | 2:AA:1813:G:C2 | 2.98 | 0.51 |
| 2:AA:1829:A:N3 | 2:AA:1829:A:H2' | 2.26 | 0.51 |
| 2:AA:1869:G:N3 | 2:AA:1878:G:C6 | 2.79 | 0.51 |
| 2:AA:1904:G:H2' | 2:AA:1905:C:O5' | 2.10 | 0.51 |
| 2:AA:1918:A:OP2 | 2:AA:1918:A:N9 | 2.44 | 0.51 |
| 2:AA:1973:G:C4 | 2:AA:1974:C:C5 | 2.98 | 0.51 |
| 2:AA:2027:G:H1' | 2:AA:2037:G:H21 | 1.72 | 0.51 |
| 2:AA:2052:G:H21 | 5:AE:245:ARG:CG | 2.23 | 0.51 |
| 2:AA:2174:C:H4' | 3:AC:218:MET:HG3 | 1.92 | 0.51 |
| 2:AA:2208:U:C2 | 2:AA:2217:G:C2 | 2.97 | 0.51 |
| 2:AA:2215:G:O2' | 2:AA:2216:G:O4' | 2.20 | 0.51 |
| 2:AA:2230:G:C4 | 2:AA:2231:C:C5 | 2.97 | 0.51 |
| 2:AA:2246:G:N9 | 2:AA:2426:A:C2 | 2.78 | 0.51 |
| 2:AA:2268:A:C5' | 2:AA:2269:A:OP2 | 2.58 | 0.51 |
| 2:AA:2278:A:C2 | 2:AA:2279:G:C4 | 2.98 | 0.51 |
| 2:AA:2305:A:H2 | 7:AG:72:LYS:HZ1 | 1.54 | 0.51 |
| 2:AA:2331:G:C2' | 2:AA:2332:U:O4' | 2.58 | 0.51 |
| 2:AA:2335:A:N7 | 2:AA:2337:G:C6 | 2.78 | 0.51 |
| 2:AA:2356:C:H2' | 2:AA:2357:U:C5' | 2.40 | 0.51 |
| 2:AA:2391:G:N2 | 2:AA:2424:C:H2' | 2.25 | 0.51 |
| 2:AA:2586:C:H3' | 2:AA:2586:C:C6 | 2.46 | 0.51 |
| 2:AA:2653:U:H5" | 2:AA:2654:A:OP2 | 2.11 | 0.51 |
| 2:AA:2655:G:N3 | 2:AA:2664:G:O6 | 2.43 | 0.51 |
| 2:AA:2693:A:N1 | 2:AA:2717:G:C6 | 2.78 | 0.51 |
| 2:AA:2740:A:N6 | 2:AA:2741:A:N6 | 2.58 | 0.51 |
| 2:AA:2741:A:C2' | 2:AA:2742:C:H5' | 2.40 | 0.51 |
| 4:AD:63:ILE:C | 4:AD:64:ILE:HG13 | 2.30 | 0.51 |
| 5:AE:206:LYS:O | 5:AE:257:GLY:HA2 | 2.10 | 0.51 |
| 6:AF:33:LYS:O | 6:AF:36:ARG:HG2 | 2.10 | 0.51 |
| 6:AF:214:THR:C | 6:AF:216:SER:H | 2.14 | 0.51 |
| 8:AH:12:ALA:C | 8:AH:14:VAL:H | 2.13 | 0.51 |
| 9:AI:50:GLY:O | 9:AI:53:GLN:HB2 | 2.10 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:40:THR:HB | 10:AK:43:ASN:H | 1.75 | 0.51 |
| 10:AK:88:ARG:HH22 | 10:AK:121:ILE:HG23 | 1.75 | 0.51 |
| 11:AL:15:ALA:HA | 11:AL:46:THR:HB | 1.92 | 0.51 |
| 11:AL:100:VAL:CG1 | 11:AL:101:THR:N | 2.69 | 0.51 |
| 12:AM:84:ARG:CA | 12:AM:87:LEU:HD12 | 2.40 | 0.51 |
| 12:AM:87:LEU:CD2 | 12:AM:98:PHE:CE1 | 2.83 | 0.51 |
| 13:AN:79:PHE:C | 13:AN:81:GLU:N | 2.62 | 0.51 |
| 15:AP:57:ARG:CB | 15:AP:61:LEU:HD21 | 2.40 | 0.51 |
| 15:AP:64:ALA:CA | 15:AP:142:LYS:HG2 | 2.40 | 0.51 |
| 16:AQ:26:LEU:HD22 | 16:AQ:101:VAL:HG21 | 1.91 | 0.51 |
| 16:AQ:115:VAL:HG12 | 16:AQ:119:GLN:CD | 2.29 | 0.51 |
| 18:AS:5:ALA:HB1 | 18:AS:50:VAL:HG12 | 1.93 | 0.51 |
| 18:AS:68:ARG:CZ | 18:AS:110:LYS:HB3 | 2.40 | 0.51 |
| 18:AS:75:TYR:CD1 | 18:AS:104:THR:OG1 | 2.56 | 0.51 |
| 22:AW:51:LYS:O | 22:AW:54:ALA:CB | 2.57 | 0.51 |
| 23:AX:3:ARG:HB2 | 23:AX:60:GLU:HG2 | 1.91 | 0.51 |
| 26:A2:4:ILE:CA | 26:A2:12:TYR:CD2 | 2.86 | 0.51 |
| 26:A2:12:TYR:CE2 | 26:A2:14:VAL:N | 2.78 | 0.51 |
| 27:A3:45:PHE:C | 27:A3:46:LYS:HD2 | 2.30 | 0.51 |
| 28:A4:44:THR:H | 28:A4:61:LYS:NZ | 2.08 | 0.51 |
| 28:A4:46:GLU:CD | 28:A4:54:GLY:HA3 | 2.30 | 0.51 |
| 28:A4:59:PHE:N | 28:A4:62:ARG:HE | 2.09 | 0.51 |
| 29:A5:46:CYS:O | 29:A5:48:ASN:N | 2.40 | 0.51 |
| 34:BA:52:G:C2 | 34:BA:53:A:C4 | 2.98 | 0.51 |
| 34:BA:54:C:N3 | 34:BA:357:G:N2 | 2.58 | 0.51 |
| 34:BA:191:G:HO2' | 55:BW:102:GLY:CA | 2.23 | 0.51 |
| 34:BA:243:A:N6 | 34:BA:246:A:C6 | 2.79 | 0.51 |
| 34:BA:404:U:C2 | 34:BA:405:U:C5 | 2.98 | 0.51 |
| 34:BA:404:U:C2 | 34:BA:405:U:H5 | 2.28 | 0.51 |
| 34:BA:452:A:C6 | 34:BA:453:A:C6 | 2.98 | 0.51 |
| 34:BA:515:G:N2 | 34:BA:536:C:N3 | 2.50 | 0.51 |
| 34:BA:689:C:OP1 | 46:BN:27:ASN:ND2 | 2.42 | 0.51 |
| 34:BA:754:C:H4' | 50:BR:72:ARG:HH22 | 1.71 | 0.51 |
| 34:BA:834:C:C4 | 34:BA:853:G:C6 | 2.98 | 0.51 |
| 34:BA:854:G:P | 34:BA:871:U:O2 | 2.69 | 0.51 |
| 34:BA:881:G:C5 | 34:BA:882:C:C5 | 2.98 | 0.51 |
| 34:BA:1202:G:C1' | 49:BQ:29:ARG:HD3 | 2.40 | 0.51 |
| 34:BA:1236:A:C4' | 34:BA:1304:G:H4' | 2.15 | 0.51 |
| 34:BA:1250:A:C5 | 34:BA:1251:A:C5 | 2.99 | 0.51 |
| 34:BA:1342:C:O2' | 44:BL:124:GLN:CA | 2.58 | 0.51 |
| 34:BA:1348:U:C2 | 34:BA:1349:A:C8 | 2.98 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1509:C:C2 | 34:BA:1510:U:C6 | 2.98 | 0.51 |
| 34:BA:1520:G:O2' | 34:BA:1521:G:C5' | 2.58 | 0.51 |
| 35:BB:51:G:C4 | 35:BB:52:U:C6 | 2.98 | 0.51 |
| 35:BC:8:U:C4 | 35:BC:13:C:N4 | 2.78 | 0.51 |
| 36:B1:20:A:C6 | 36:B1:21:U:C2 | 2.98 | 0.51 |
| 37:BE:187:LEU:CA | 37:BE:201:ILE:HB | 2.33 | 0.51 |
| 38:BF:28:GLN:HA | 38:BF:30:ARG:NH1 | 2.25 | 0.51 |
| 38:BF:83:ARG:C | 38:BF:87:LEU:HG | 2.30 | 0.51 |
| 38:BF:164:ARG:CG | 38:BF:164:ARG:HH11 | 2.23 | 0.51 |
| 39:BG:177:ASP:C | 39:BG:179:GLU:N | 2.64 | 0.51 |
| 40:BH:148:VAL:O | 40:BH:152:ARG:HG2 | 2.10 | 0.51 |
| 42:BJ:41:ARG:O | 42:BJ:44:TYR:HB2 | 2.10 | 0.51 |
| 43:BK:63:LEU:CB | 43:BK:65:TYR:OH | 2.58 | 0.51 |
| 44:BL:78:LYS:O | 44:BL:78:LYS:HD2 | 2.09 | 0.51 |
| 47:BO:104:VAL:O | 47:BO:105:TYR:C | 2.48 | 0.51 |
| 48:BP:14:ARG:CG | 48:BP:44:ARG:NH1 | 2.73 | 0.51 |
| 51:BS:4:ILE:HG23 | 51:BS:21:VAL:CG1 | 2.41 | 0.51 |
| 51:BS:57:ARG:HD3 | 51:BS:79:VAL:HG12 | 1.92 | 0.51 |
| 53:BU:63:GLN:O | 53:BU:67:ALA:CB | 2.59 | 0.51 |
| 54:BV:47:HIS:H | 54:BV:62:ILE:HG22 | 1.73 | 0.51 |
| 55:BW:38:LYS:O | 55:BW:39:LYS:C | 2.46 | 0.51 |
| 55:BW:63:ILE:HD13 | 55:BW:80:ARG:CB | 2.40 | 0.51 |
| 1:AB:30:C:H4' | 1:AB:58:A:H2 | 1.75 | 0.51 |
| 1:AB:83:G:N1 | 1:AB:84:C:C5 | 2.77 | 0.51 |
| 2:AA:58:G:OP1 | 19:AT:60:GLY:HA2 | 2.10 | 0.51 |
| 2:AA:137(A):G:C8 | 2:AA:138:G:O6 | 2.63 | 0.51 |
| 2:AA:238:C:C2 | 2:AA:239:U:C6 | 2.98 | 0.51 |
| 2:AA:273(A):G:H2' | 2:AA:273(B):C:C6 | 2.44 | 0.51 |
| 2:AA:273(D):C:N4 | 2:AA:363(B):G:C6 | 2.78 | 0.51 |
| 2:AA:297:C:C5 | 2:AA:298:G:C4 | 2.98 | 0.51 |
| 2:AA:494:G:H4' | 18:AS:6:ILE:CG2 | 2.38 | 0.51 |
| 2:AA:529:A:C2 | 2:AA:2022:U:OP1 | 2.63 | 0.51 |
| 2:AA:574:C:C2 | 2:AA:2055:C:C6 | 2.98 | 0.51 |
| 2:AA:681:G:H2' | 2:AA:682:G:O4' | 2.11 | 0.51 |
| 2:AA:686:G:H8 | 31:A7:8:ASN:HD22 | 1.58 | 0.51 |
| 2:AA:700:G:C6 | 2:AA:733:G:C2 | 2.99 | 0.51 |
| 2:AA:736:C:C4 | 2:AA:737:C:C5 | 2.98 | 0.51 |
| 2:AA:777:A:C2' | 2:AA:778:G:C5' | 2.88 | 0.51 |
| 2:AA:786:C:C2' | 2:AA:787:U:O4' | 2.57 | 0.51 |
| 2:AA:906:G:C3' | 2:AA:907:U:H5" | 2.40 | 0.51 |
| 2:AA:950:G:H2' | 2:AA:951:C:C5 | 2.39 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:950:G:C5 | 2:AA:951:C:C5 | 2.98 | 0.51 |
| 2:AA:962:G:O2' | 2:AA:963:U:O4' | 2.27 | 0.51 |
| 2:AA:987:G:O2' | 2:AA:1000:A:H1' | 2.10 | 0.51 |
| 2:AA:1114:G:C2 | 2:AA:1115:G:C8 | 2.98 | 0.51 |
| 2:AA:1139:G:OP1 | 12:AM:46:ILE:HG12 | 2.10 | 0.51 |
| 2:AA:1248:G:H8 | 25:A1:2:PRO:HB3 | 1.75 | 0.51 |
| 2:AA:1364:G:P | 28:A4:3:LYS:HG3 | 2.51 | 0.51 |
| 2:AA:1364:G:C1' | 2:AA:1368:G:N2 | 2.73 | 0.51 |
| 2:AA:1449:A:H2' | 2:AA:449(A):G:O5' | 2.11 | 0.51 |
| 2:AA:1678:G:N2 | 2:AA:1989:G:H22 | 2.08 | 0.51 |
| 2:AA:1754:C:H5' | 17:AR:39:ASN:ND2 | 2.25 | 0.51 |
| 2:AA:1800:C:N4 | 2:AA:1817:G:C6 | 2.78 | 0.51 |
| 2:AA:1903:G:N2 | 2:AA:1904:G:C5 | 2.78 | 0.51 |
| 2:AA:1908:C:O2 | 2:AA:1909:C:C6 | 2.63 | 0.51 |
| 2:AA:1909:C:H2' | 2:AA:1910:G:C5' | 2.40 | 0.51 |
| 2:AA:1944:U:O4' | 2:AA:1955:U:H1' | 2.09 | 0.51 |
| 2:AA:1993:U:HO2' | 2:AA:1994:C:H5' | 1.72 | 0.51 |
| 2:AA:2009:G:C1' | 24:A0:107:ASP:O | 2.56 | 0.51 |
| 2:AA:2040:C:O2 | 2:AA:2040:C:C2' | 2.53 | 0.51 |
| 2:AA:2051:A:C6 | 2:AA:2614:A:N7 | 2.79 | 0.51 |
| 2:AA:2060:A:O2' | 2:AA:2061:G:OP2 | 2.23 | 0.51 |
| 2:AA:2088:G:H2' | 2:AA:2089:U:O5' | 2.11 | 0.51 |
| 2:AA:2234:G:C6 | 2:AA:2235:G:C5 | 2.99 | 0.51 |
| 2:AA:2242:G:C2' | 2:AA:2243:U:O5' | 2.58 | 0.51 |
| 2:AA:2298:A:H1' | 2:AA:2321:G:N2 | 2.25 | 0.51 |
| 2:AA:2602:A:OP1 | 35:BC:75:C:OP1 | 2.27 | 0.51 |
| 2:AA:2655:G:O2' | 2:AA:2656:U:C5 | 2.63 | 0.51 |
| 2:AA:2768:C:O2' | 2:AA:2769:C:H5' | 2.10 | 0.51 |
| 2:AA:2837:G:H1 | 2:AA:2881:C:N4 | 2.08 | 0.51 |
| 2:AA:2859:G:O2' | 2:AA:2860:A:H5' | 2.10 | 0.51 |
| 7:AG:90:LEU:CD2 | 48:BP:3:ARG:NH1 | 2.70 | 0.51 |
| 9:AI:24:LYS:O | 9:AI:27:ASP:N | 2.43 | 0.51 |
| 9:AI:25:LEU:HA | 9:AI:28:LYS:HD2 | 1.91 | 0.51 |
| 9:AJ:61:VAL:O | 9:AJ:102:ILE:N | 2.44 | 0.51 |
| 10:AK:77:VAL:O | 10:AK:144:HIS:ND1 | 2.44 | 0.51 |
| 11:AL:113:MET:N | 11:AL:114:PRO:HD2 | 2.24 | 0.51 |
| 14:AO:142:LEU:O | 14:AO:145:LEU:CD1 | 2.58 | 0.51 |
| 15:AP:31:PHE:CE1 | 15:AP:87:LYS:O | 2.63 | 0.51 |
| 16:AQ:31:LYS:O | 16:AQ:49:THR:HG23 | 2.10 | 0.51 |
| 16:AQ:32:PRO:CG | 16:AQ:100:ALA:HB1 | 2.40 | 0.51 |
| 18:AS:40:ASN:CG | 18:AS:41:LYS:N | 2.58 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:73:HIS:CE1 | 20:AU:89:ARG:O | 2.63 | 0.51 |
| 20:AU:81:LYS:NZ | 20:AU:84:GLY:N | 2.58 | 0.51 |
| 20:AU:103:LEU:O | 20:AU:104:GLU:C | 2.49 | 0.51 |
| 20:AU:105:ASP:CB | 20:AU:108:ARG:HD2 | 2.40 | 0.51 |
| 21:AV:40:ASP:HB2 | 21:AV:41:ARG:NE | 2.26 | 0.51 |
| 21:AV:68:ALA:O | 21:AV:82:ASP:CB | 2.58 | 0.51 |
| 23:AX:31:LEU:O | 23:AX:32:GLN:OE1 | 2.27 | 0.51 |
| 23:AX:38:GLU:OE1 | 23:AX:40:THR:HG21 | 2.10 | 0.51 |
| 26:A2:69:ILE:N | 26:A2:91:THR:CG2 | 2.45 | 0.51 |
| 29:A5:33:CYS:SG | 29:A5:40:LYS:HE3 | 2.51 | 0.51 |
| 29:A5:45:ILE:HB | 29:A5:57:VAL:HG21 | 1.91 | 0.51 |
| 30:A6:32:GLN:HB3 | 30:A6:35:LEU:HD12 | 1.91 | 0.51 |
| 32:A8:15:LYS:C | 32:A8:22:VAL:HG22 | 2.31 | 0.51 |
| 32:A8:54:GLU:O | 32:A8:58:MET:HB2 | 2.10 | 0.51 |
| 34:BA:28:G:N1 | 34:BA:556:C:N4 | 2.59 | 0.51 |
| 34:BA:149:A:H2' | 34:BA:150:C:C6 | 2.46 | 0.51 |
| 34:BA:163:C:O2' | 34:BA:164:U:C4' | 2.58 | 0.51 |
| 34:BA:183:G:O6 | 34:BA:194:C:N3 | 2.44 | 0.51 |
| 34:BA:225:C:C2' | 34:BA:226:G:O5' | 2.53 | 0.51 |
| 34:BA:247:G:N3 | 34:BA:282:A:C2 | 2.76 | 0.51 |
| 34:BA:376:G:OP1 | 51:BS:6:LEU:HD11 | 2.10 | 0.51 |
| 34:BA:508:C:H5" | 34:BA:509:A:OP1 | 2.10 | 0.51 |
| 34:BA:550:G:C6 | 34:BA:551:U:C4 | 2.98 | 0.51 |
| 34:BA:575:G:N1 | 34:BA:821:G:N7 | 2.58 | 0.51 |
| 34:BA:582:U:C4 | 34:BA:583:A:C5 | 2.98 | 0.51 |
| 34:BA:745:C:H1' | 34:BA:836:G:O2' | 2.10 | 0.51 |
| 34:BA:774:G:H5" | 34:BA:774:G:H8 | 1.76 | 0.51 |
| 34:BA:817:C:C4 | 34:BA:819:A:O4' | 2.63 | 0.51 |
| 34:BA:859:A:C5 | 34:BA:860:A:C4 | 2.98 | 0.51 |
| 34:BA:872:A:C4 | 34:BA:874:G:N7 | 2.78 | 0.51 |
| 34:BA:929:G:H5' | 34:BA:1533:C:N4 | 2.26 | 0.51 |
| 34:BA:950:U:H1' | 34:BA:971:G:C4 | 2.45 | 0.51 |
| 34:BA:961:U:O2 | 34:BA:1201:A:N1 | 2.43 | 0.51 |
| 34:BA:1125:U:HO2' | 34:BA:1126:U:P | 2.33 | 0.51 |
| 34:BA:1128:C:O2 | 34:BA:1130:A:N7 | 2.43 | 0.51 |
| 34:BA:1157:A:N6 | 34:BA:1178:G:H1' | 2.25 | 0.51 |
| 34:BA:1169:A:C2' | 34:BA:1171:G:H5' | 2.40 | 0.51 |
| 34:BA:1236:A:C2 | 34:BA:1237:C:N3 | 2.78 | 0.51 |
| 34:BA:1284:C:C6 | 34:BA:1285:A:C8 | 2.99 | 0.51 |
| 34:BA:1407:C:C2' | 34:BA:1408:A:C5' | 2.89 | 0.51 |
| 34:BA:1408:A:C4 | 34:BA:1494:G:N2 | 2.78 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1415:G:O2' | 34:BA:1416:G:H5' | 2.10 | 0.51 |
| 34:BA:1418:A:H2' | 34:BA:1419:G:H5' | 1.92 | 0.51 |
| 34:BA:1470:G:C2' | 34:BA:1471:G:O5' | 2.57 | 0.51 |
| 35:BC:18:G:N1 | 35:BC:57:G:C6 | 2.77 | 0.51 |
| 35:BC:18:G:C6 | 35:BC:58:A:C2 | 2.97 | 0.51 |
| 35:BC:36:A:N1 | 36:B1:60:A:C2 | 2.78 | 0.51 |
| 35:BC:47:U:O2 | 35:BC:50:U:OP1 | 2.27 | 0.51 |
| 35:BC:74:C:C3' | 35:BC:75:C:C5' | 2.82 | 0.51 |
| 39:BG:190:ASP:O | 39:BG:194:LEU:CD2 | 2.57 | 0.51 |
| 40:BH:143:ARG:HB3 | 40:BH:147:ASP:CB | 2.41 | 0.51 |
| 41:BI:39:LYS:HG3 | 41:BI:64:GLN:CB | 2.36 | 0.51 |
| 42:BJ:112:PRO:O | 42:BJ:113:GLU:O | 2.28 | 0.51 |
| 46:BN:31:THR:OG1 | 46:BN:42:TRP:HB3 | 2.11 | 0.51 |
| 46:BN:40:ILE:O | 46:BN:41:THR:CG2 | 2.58 | 0.51 |
| 48:BP:77:ASN:O | 48:BP:81:LEU:CD1 | 2.56 | 0.51 |
| 49:BQ:25:VAL:HG12 | 49:BQ:39:LEU:HD23 | 1.93 | 0.51 |
| 49:BQ:36:PHE:CD1 | 49:BQ:36:PHE:C | 2.82 | 0.51 |
| 50:BR:8:LYS:O | 50:BR:12:ILE:HG13 | 2.11 | 0.51 |
| 50:BR:42:HIS:CG | 50:BR:43:LEU:N | 2.78 | 0.51 |
| 51:BS:4:ILE:HG23 | 51:BS:21:VAL:HG13 | 1.89 | 0.51 |
| 51:BS:26:ARG:HB3 | 51:BS:30:GLY:HA3 | 1.91 | 0.51 |
| 52:BT:9:VAL:O | 52:BT:11:VAL:CG1 | 2.58 | 0.51 |
| 54:BV:20:LEU:CD1 | 54:BV:21:GLU:N | 2.72 | 0.51 |
| 55:BW:89:ARG:HB2 | 55:BW:104:LEU:CD1 | 2.40 | 0.51 |
| 1:AB:41:U:H6 | 1:AB:41:U:H3' | 1.74 | 0.51 |
| 1:AB:82:G:C2' | 1:AB:83:G:H8 | 2.17 | 0.51 |
| 2:AA:152:G:H2' | 2:AA:153:C:H5' | 1.93 | 0.51 |
| 2:AA:262:A:N7 | 2:AA:263:C:C5 | 2.78 | 0.51 |
| 2:AA:270(H):C:H2' | 2:AA:270(I):G:C8 | 2.45 | 0.51 |
| 2:AA:297:C:N3 | 2:AA:342:G:C2 | 2.78 | 0.51 |
| 2:AA:502:A:C8 | 2:AA:502:A:H3' | 2.45 | 0.51 |
| 2:AA:531:C:H3' | 2:AA:532:A:O4' | 2.09 | 0.51 |
| 2:AA:587:C:HO2' | 2:AA:588:U:P | 2.33 | 0.51 |
| 2:AA:685:A:N3 | 2:AA:688:U:C4 | 2.78 | 0.51 |
| 2:AA:696:G:C6 | 2:AA:697:C:C4 | 2.98 | 0.51 |
| 2:AA:729:G:O6 | 2:AA:1775:U:C4 | 2.64 | 0.51 |
| 2:AA:823:G:C6 | 2:AA:835:A:C6 | 2.98 | 0.51 |
| 2:AA:956:G:H2' | 2:AA:957:A:H5" | 1.93 | 0.51 |
| 2:AA:1044:G:O2' | 2:AA:1111:A:C2 | 2.63 | 0.51 |
| 2:AA:1064:C:H3' | 2:AA:1065:U:H5 | 1.76 | 0.51 |
| 2:AA:1113:U:C2' | 2:AA:1114:G:H8 | 2.16 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1128:A:O2' | 2:AA:1129:A:P | 2.68 | 0.51 |
| 2:AA:1182:A:C2' | 2:AA:1183:G:O5' | 2.58 | 0.51 |
| 2:AA:1215:G:H1 | 2:AA:1234:U:H3 | 1.56 | 0.51 |
| 2:AA:1247:A:O2' | 2:AA:1248:G:OP1 | 2.28 | 0.51 |
| 2:AA:1392:A:C4 | 2:AA:1393:A:C6 | 2.99 | 0.51 |
| 2:AA:1404:C:C2 | 2:AA:1405:U:C5 | 2.98 | 0.51 |
| 2:AA:1417:C:C5 | 2:AA:1418:G:C5 | 2.98 | 0.51 |
| 2:AA:1418:G:C2' | 2:AA:1579:A:H61 | 2.24 | 0.51 |
| 2:AA:1455:G:H2' | 2:AA:1456:G:O4' | 2.10 | 0.51 |
| 2:AA:1457:A:C2' | 2:AA:1458:C:H5' | 2.41 | 0.51 |
| 2:AA:1480:G:N1 | 2:AA:1513:C:O2 | 2.40 | 0.51 |
| 2:AA:1492:G:O2' | 2:AA:1493:C:C6 | 2.54 | 0.51 |
| 2:AA:1507:A:H5' | 2:AA:1508:A:OP1 | 2.09 | 0.51 |
| 2:AA:1579:A:O2' | 2:AA:1580:A:H5' | 2.10 | 0.51 |
| 2:AA:1580:A:C2 | 2:AA:1581:G:N1 | 2.78 | 0.51 |
| 2:AA:1615:C:OP2 | 2:AA:1615:C:H6 | 1.93 | 0.51 |
| 2:AA:1630:G:O4' | 2:AA:2698:U:OP1 | 2.29 | 0.51 |
| 2:AA:1669:A:O2' | 2:AA:1670:C:P | 2.68 | 0.51 |
| 2:AA:1725:G:O6 | 2:AA:1741:C:N4 | 2.44 | 0.51 |
| 2:AA:1897:G:H2' | 2:AA:1898:U:O4' | 2.09 | 0.51 |
| 2:AA:2103:C:N3 | 2:AA:2187:G:C6 | 2.79 | 0.51 |
| 2:AA:2217:G:C2 | 2:AA:2218:G:C8 | 2.98 | 0.51 |
| 2:AA:2217:G:O2' | 2:AA:2218:G:H5' | 2.10 | 0.51 |
| 2:AA:2225:A:C5' | 2:AA:2226:C:O4' | 2.59 | 0.51 |
| 2:AA:2269:A:H2' | 2:AA:2270:G:O4' | 2.10 | 0.51 |
| 2:AA:2269:A:N7 | 2:AA:2270:G:N7 | 2.58 | 0.51 |
| 2:AA:2317:C:H4' | 7:AG:150:SER:HB3 | 1.92 | 0.51 |
| 2:AA:2360:A:P | 32:A8:49:VAL:HG13 | 2.50 | 0.51 |
| 2:AA:2483:C:C4 | 2:AA:2484:G:C8 | 2.98 | 0.51 |
| 2:AA:2524:G:O2' | 2:AA:2741:A:N1 | 2.42 | 0.51 |
| 2:AA:2531:A:C2' | 2:AA:2532:G:C5' | 2.87 | 0.51 |
| 2:AA:2543:G:C6 | 2:AA:2544:G:N1 | 2.78 | 0.51 |
| 2:AA:2558:C:N3 | 2:AA:2559:C:C4 | 2.79 | 0.51 |
| 2:AA:2562:U:H1' | 13:AN:23:LYS:HD3 | 1.92 | 0.51 |
| 2:AA:2696:U:O2' | 2:AA:2697:G:H5' | 2.10 | 0.51 |
| 2:AA:2866:U:H4' | 2:AA:2867:G:O5' | 2.09 | 0.51 |
| 2:AA:2868:A:H2' | 2:AA:2869:G:C8 | 2.44 | 0.51 |
| 2:AA:2878:U:OP2 | 2:AA:2878:U:H6 | 1.89 | 0.51 |
| 3:AC:113:VAL:HG12 | 3:AC:138:PRO:HG3 | 1.92 | 0.51 |
| 4:AD:174:ARG:NE | 4:AD:180:VAL:HG22 | 2.24 | 0.51 |
| 4:AD:213:LYS:HB3 | 4:AD:215:LYS:H | 1.75 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:84:ARG:O | 5:AE:85:ALA:HB2 | 2.11 | 0.51 |
| 5:AE:228:ARG:O | 5:AE:231:TRP:N | 2.26 | 0.51 |
| 5:AE:239:GLY:O | 5:AE:240:PRO:O | 2.28 | 0.51 |
| 5:AE:251:PRO:O | 5:AE:252:GLN:NE2 | 2.44 | 0.51 |
| 6:AF:197:SER:CB | 6:AF:236:THR:OG1 | 2.58 | 0.51 |
| 7:AG:21:VAL:HG11 | 7:AG:84:LEU:HD21 | 1.93 | 0.51 |
| 8:AH:34:ARG:CG | 8:AH:35:THR:N | 2.73 | 0.51 |
| 10:AK:61:GLU:O | 10:AK:62:LEU:C | 2.47 | 0.51 |
| 10:AK:93:ILE:O | 10:AK:93:ILE:CG1 | 2.56 | 0.51 |
| 10:AK:114:LYS:NZ | 10:AK:133:LEU:HD23 | 2.25 | 0.51 |
| 12:AM:69:TYR:HD2 | 12:AM:71:TYR:HE1 | 1.58 | 0.51 |
| 13:AN:1:MET:O | 13:AN:33:ALA:N | 2.43 | 0.51 |
| 13:AN:16:ALA:O | 13:AN:17:ARG:HG3 | 2.10 | 0.51 |
| 13:AN:87:ILE:HD12 | 13:AN:87:ILE:N | 2.26 | 0.51 |
| 15:AP:25:GLY:C | 15:AP:27:GLY:N | 2.64 | 0.51 |
| 15:AP:41:THR:HG23 | 15:AP:127:ASN:OD1 | 2.10 | 0.51 |
| 15:AP:42:TYR:C | 21:AV:119:ASN:HD21 | 2.13 | 0.51 |
| 15:AP:64:ALA:HA | 15:AP:142:LYS:CG | 2.41 | 0.51 |
| 16:AQ:41:LYS:NZ | 16:AQ:68:GLU:OE2 | 2.42 | 0.51 |
| 18:AS:18:ARG:O | 18:AS:21:VAL:HG22 | 2.11 | 0.51 |
| 19:AT:49:VAL:O | 19:AT:50:GLU:O | 2.28 | 0.51 |
| 20:AU:30:ASP:OD1 | 20:AU:30:ASP:N | 2.43 | 0.51 |
| 20:AU:48:VAL:CG2 | 20:AU:98:VAL:HA | 2.31 | 0.51 |
| 20:AU:49:GLU:CD | 20:AU:58:GLU:O | 2.48 | 0.51 |
| 20:AU:51:LEU:CD1 | 20:AU:95:ASN:O | 2.59 | 0.51 |
| 21:AV:116:VAL:C | 21:AV:118:HIS:N | 2.62 | 0.51 |
| 22:AW:31:ARG:O | 22:AW:33:VAL:C | 2.47 | 0.51 |
| 23:AX:23:LEU:HA | 23:AX:28:LEU:CD1 | 2.22 | 0.51 |
| 26:A2:7:THR:C | 26:A2:9:GLY:N | 2.59 | 0.51 |
| 27:A3:27:GLY:O | 27:A3:28:GLY:O | 2.28 | 0.51 |
| 28:A4:15:ILE:HG12 | 28:A4:36:TRP:CE3 | 2.45 | 0.51 |
| 34:BA:76:C:H2' | 34:BA:77:G:C8 | 2.45 | 0.51 |
| 34:BA:193:C:H5' | 55:BW:60:GLU:HB3 | 1.92 | 0.51 |
| 34:BA:233:C:N3 | 34:BA:234:C:C5 | 2.79 | 0.51 |
| 34:BA:247:G:C2' | 34:BA:248:C:O5' | 2.59 | 0.51 |
| 34:BA:359:U:C4 | 34:BA:360:A:N7 | 2.78 | 0.51 |
| 34:BA:421:U:C6 | 34:BA:421:U:P | 3.03 | 0.51 |
| 34:BA:522:C:C5 | 34:BA:523:A:N6 | 2.69 | 0.51 |
| 34:BA:556:C:C2' | 34:BA:557:G:H5' | 2.41 | 0.51 |
| 34:BA:571:U:O4 | 34:BA:865:A:N1 | 2.44 | 0.51 |
| 34:BA:616:G:C2' | 34:BA:617:G:H5' | 2.40 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:737:A:OP1 | 41:BI:91:VAL:HG13 | 2.11 | 0.51 |
| 34:BA:826:C:H5' | 43:BK:12:ARG:NE | 2.24 | 0.51 |
| 34:BA:922:G:H2' | 34:BA:923:A:H8 | 1.74 | 0.51 |
| 34:BA:1317:C:C6 | 49:BQ:16:PHE:CD2 | 2.99 | 0.51 |
| 34:BA:1338:G:H2' | 34:BA:1339:A:C8 | 2.46 | 0.51 |
| 34:BA:1377:A:H4' | 34:BA:1378:C:C5 | 2.46 | 0.51 |
| 34:BA:1400:C:H4' | 34:BA:1401:G:OP2 | 2.10 | 0.51 |
| 34:BA:1463:C:H2' | 34:BA:1464:G:O4' | 2.09 | 0.51 |
| 35:BB:1:G:N1 | 35:BB:73:A:C4 | 2.79 | 0.51 |
| 35:BB:24:G:H8 | 35:BB:24:G:O5' | 1.94 | 0.51 |
| 35:BB:51:G:C5 | 35:BB:52:U:C5 | 2.98 | 0.51 |
| 35:BC:28:C:O5' | 35:BC:28:C:C6 | 2.63 | 0.51 |
| 37:BE:217:ARG:CA | 37:BE:220:ASP:OD2 | 2.44 | 0.51 |
| 38:BF:172:ARG:NH2 | 38:BF:203:PHE:HE2 | 2.04 | 0.51 |
| 38:BF:204:LEU:O | 38:BF:205:GLY:C | 2.48 | 0.51 |
| 39:BG:190:ASP:O | 39:BG:193:ASP:CG | 2.49 | 0.51 |
| 40:BH:125:SER:C | 40:BH:127:ASN:N | 2.60 | 0.51 |
| 41:BI:67:MET:HB2 | 41:BI:68:PRO:CD | 2.39 | 0.51 |
| 42:BJ:87:VAL:HB | 42:BJ:156:TRP:HE3 | 1.75 | 0.51 |
| 42:BJ:93:PRO:O | 42:BJ:94:ARG:C | 2.48 | 0.51 |
| 44:BL:28:VAL:HG23 | 44:BL:31:GLN:O | 2.10 | 0.51 |
| 47:BO:84:LEU:CB | 47:BO:104:VAL:HG11 | 2.40 | 0.51 |
| 47:BO:88:GLY:O | 47:BO:97:ARG:C | 2.48 | 0.51 |
| 47:BO:117:ARG:CZ | 47:BO:124:LYS:N | 2.73 | 0.51 |
| 47:BO:117:ARG:NH1 | 47:BO:124:LYS:CD | 2.74 | 0.51 |
| 48:BP:14:ARG:NE | 48:BP:44:ARG:NH1 | 2.59 | 0.51 |
| 48:BP:108:ARG:NH1 | 48:BP:108:ARG:CB | 2.73 | 0.51 |
| 49:BQ:39:LEU:HD13 | 49:BQ:44:LEU:HA | 1.92 | 0.51 |
| 51:BS:43:LYS:CG | 51:BS:48:TRP:CE3 | 2.94 | 0.51 |
| 51:BS:75:ARG:HG3 | 51:BS:80:PHE:HB2 | 1.90 | 0.51 |
| 56:BX:12:LYS:HG3 | 56:BX:18:TYR:CA | 2.40 | 0.51 |
| 1:AB:2:C:O5' | 1:AB:2:C:H6 | 1.94 | 0.51 |
| 1:AB:52:A:N3 | 1:AB:53:A:C1' | 2.73 | 0.51 |
| 1:AB:79:C:H2' | 1:AB:80:U:C5' | 2.41 | 0.51 |
| 2:AA:29:U:O5' | 2:AA:29:U:C6 | 2.63 | 0.51 |
| 2:AA:191:A:C2 | 2:AA:192:C:N3 | 2.79 | 0.51 |
| 2:AA:300:A:C6 | 2:AA:334:C:C4' | 2.93 | 0.51 |
| 2:AA:391:G:C4 | 2:AA:411:G:C2 | 2.98 | 0.51 |
| 2:AA:452:G:P | 6:AF:52:ALA:HB2 | 2.50 | 0.51 |
| 2:AA:643:A:H3' | 2:AA:643:A:C8 | 2.46 | 0.51 |
| 2:AA:681:G:N2 | 2:AA:682:G:N3 | 2.58 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:699:A:N6 | 2:AA:734:A:C8 | 2.78 | 0.51 |
| 2:AA:811:U:O2' | 2:AA:812:C:OP1 | 2.22 | 0.51 |
| 2:AA:815:C:N3 | 2:AA:1193:G:C6 | 2.79 | 0.51 |
| 2:AA:864:G:H2' | 2:AA:865:C:O4' | 2.09 | 0.51 |
| 2:AA:940:G:N1 | 2:AA:941:A:H8 | 2.08 | 0.51 |
| 2:AA:994:C:C2 | 25:A1:53:LYS:HD3 | 2.45 | 0.51 |
| 2:AA:1034:G:OP1 | 33:A9:18:ARG:NH2 | 2.42 | 0.51 |
| 2:AA:1058:G:HO2' | 2:AA:1059:G:C5' | 2.22 | 0.51 |
| 2:AA:1062:G:C6 | 2:AA:1077:A:C4 | 2.99 | 0.51 |
| 2:AA:1165:U:O2' | 2:AA:1166:C:H6 | 1.91 | 0.51 |
| 2:AA:1266:G:C4 | 18:AS:15:ARG:NH1 | 2.79 | 0.51 |
| 2:AA:1348:G:C2' | 2:AA:1349:A:O5' | 2.58 | 0.51 |
| 2:AA:1392:A:C5 | 2:AA:1393:A:C6 | 2.98 | 0.51 |
| 2:AA:1442:G:O2' | 2:AA:1443:G:H5' | 2.11 | 0.51 |
| 2:AA:1478:G:N2 | 2:AA:1515:C:N3 | 2.56 | 0.51 |
| 2:AA:1508:A:H3' | 2:AA:1508:A:H8 | 1.67 | 0.51 |
| 2:AA:1518:C:C4 | 2:AA:1519:G:C8 | 2.97 | 0.51 |
| 2:AA:1571:A:H2 | 2:AA:1572:A:C8 | 2.27 | 0.51 |
| 2:AA:1636:C:C2' | 2:AA:1761:C:H1' | 2.41 | 0.51 |
| 2:AA:1694:C:O2' | 2:AA:1695:G:H5" | 2.10 | 0.51 |
| 2:AA:1753:G:C8 | 2:AA:1755:A:OP2 | 2.63 | 0.51 |
| 2:AA:1777:U:C4 | 2:AA:1778:U:C5 | 2.99 | 0.51 |
| 2:AA:1858:G:C2 | 2:AA:1885:A:C5 | 2.98 | 0.51 |
| 2:AA:1892:C:C2 | 2:AA:1893:C:C5 | 2.99 | 0.51 |
| 2:AA:1941:C:O2 | 2:AA:1942:C:C5' | 2.58 | 0.51 |
| 2:AA:1970:A:C2' | 2:AA:1971:A:OP2 | 2.59 | 0.51 |
| 2:AA:2000:G:O6 | 2:AA:2001:A:N6 | 2.43 | 0.51 |
| 2:AA:2018:G:N2 | 2:AA:2019:A:H1' | 2.24 | 0.51 |
| 2:AA:2098:U:H2' | 2:AA:2099:U:C6 | 2.45 | 0.51 |
| 2:AA:2108:C:H5" | 2:AA:2109:U:C5 | 2.43 | 0.51 |
| 2:AA:2183:C:C2 | 2:AA:2184:G:N7 | 2.78 | 0.51 |
| 2:AA:2191:G:C2 | 2:AA:2192:G:H1' | 2.46 | 0.51 |
| 2:AA:2215:G:N2 | 2:AA:2216:G:C2 | 2.79 | 0.51 |
| 2:AA:2268:A:C4' | 2:AA:2269:A:OP2 | 2.59 | 0.51 |
| 2:AA:2373:G:C2 | 2:AA:2374:C:C4 | 2.99 | 0.51 |
| 2:AA:2495:G:H2' | 2:AA:2496:C:O4' | 2.10 | 0.51 |
| 2:AA:2595:G:H3' | 2:AA:2595:G:C8 | 2.46 | 0.51 |
| 2:AA:2661:G:C2' | 2:AA:2662:A:H8 | 2.20 | 0.51 |
| 2:AA:2730:C:O3' | 5:AE:265:ASN:OD1 | 2.29 | 0.51 |
| 2:AA:2746:U:C4 | 2:AA:2747:G:N7 | 2.79 | 0.51 |
| 2:AA:2774:C:H2' | 2:AA:2774:C:O2 | 2.10 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:32:LEU:CD1 | 3:AC:220:PRO:HB2 | 2.32 | 0.51 |
| 3:AC:95:GLY:N | 3:AC:99:ILE:HD12 | 2.25 | 0.51 |
| 3:AC:194:ARG:HG3 | 3:AC:194:ARG:HH11 | 1.76 | 0.51 |
| 4:AD:66:PHE:H | 4:AD:67:LYS:HZ3 | 1.58 | 0.51 |
| 4:AD:196:ASN:CB | 4:AD:199:ARG:HD2 | 2.39 | 0.51 |
| 5:AE:45:LYS:CE | 5:AE:303:PRO:O | 2.59 | 0.51 |
| 5:AE:99:VAL:C | 5:AE:100:TRP:CG | 2.84 | 0.51 |
| 5:AE:212:GLY:C | 5:AE:214:VAL:N | 2.62 | 0.51 |
| 5:AE:222:ARG:HH21 | 5:AE:233:ARG:C | 2.12 | 0.51 |
| 5:AE:267:ARG:HD3 | 5:AE:297:LYS:HD2 | 1.91 | 0.51 |
| 5:AE:302:GLY:O | 5:AE:303:PRO:O | 2.27 | 0.51 |
| 6:AF:95:GLU:O | 6:AF:96:LYS:HG3 | 2.10 | 0.51 |
| 7:AG:24:HIS:HB2 | 7:AG:129:ASP:OD2 | 2.11 | 0.51 |
| 8:AH:43:THR:CG2 | 8:AH:52:THR:HG22 | 2.27 | 0.51 |
| 10:AK:76:THR:HA | 10:AK:142:LYS:HE2 | 1.91 | 0.51 |
| 12:AM:14:ALA:C | 12:AM:40:ASN:ND2 | 2.52 | 0.51 |
| 12:AM:44:ALA:HB1 | 12:AM:132:LEU:HD22 | 1.90 | 0.51 |
| 13:AN:1:MET:N | 13:AN:32:TYR:CG | 2.77 | 0.51 |
| 13:AN:113:LYS:O | 13:AN:117:LEU:HD23 | 2.10 | 0.51 |
| 15:AP:46:VAL:HG22 | 15:AP:156:ASN:HD22 | 1.71 | 0.51 |
| 15:AP:96:GLN:O | 15:AP:107:LYS:HD2 | 2.11 | 0.51 |
| 19:AT:6:LYS:NZ | 19:AT:62:LYS:H | 2.08 | 0.51 |
| 19:AT:14:ALA:HA | 19:AT:17:ASP:OD2 | 2.11 | 0.51 |
| 20:AU:41:ARG:O | 20:AU:112:LEU:CB | 2.59 | 0.51 |
| 25:A1:99:ALA:CA | 25:A1:106:PHE:CD1 | 2.93 | 0.51 |
| 26:A2:24:SER:OG | 26:A2:28:GLU:CG | 2.59 | 0.51 |
| 26:A2:74:TYR:CD1 | 26:A2:86:HIS:O | 2.64 | 0.51 |
| 28:A4:59:PHE:CA | 28:A4:62:ARG:NE | 2.74 | 0.51 |
| 28:A4:59:PHE:CG | 28:A4:62:ARG:NH2 | 2.79 | 0.51 |
| 29:A5:10:LYS:HG3 | 29:A5:11:THR:H | 1.76 | 0.51 |
| 29:A5:42:SER:O | 29:A5:43:HIS:CB | 2.57 | 0.51 |
| 32:A8:15:LYS:C | 32:A8:16:ILE:HD12 | 2.31 | 0.51 |
| 33:A9:12:ASP:O | 33:A9:13:ASN:OD1 | 2.28 | 0.51 |
| 33:A9:17:VAL:HG12 | 33:A9:18:ARG:H | 1.75 | 0.51 |
| 34:BA:188:C:C2' | 34:BA:189:G:H5' | 2.41 | 0.51 |
| 34:BA:439:A:H3' | 34:BA:440:A:H8 | 1.73 | 0.51 |
| 34:BA:463:A:C5 | 34:BA:474:G:C5 | 2.99 | 0.51 |
| 34:BA:476:G:N2 | 34:BA:477:G:H1' | 2.24 | 0.51 |
| 34:BA:489:C:N4 | 34:BA:490:G:O6 | 2.44 | 0.51 |
| 34:BA:548:G:H2' | 34:BA:549:C:C6 | 2.45 | 0.51 |
| 34:BA:690:G:O6 | 34:BA:691:G:C2 | 2.64 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:746:A:H8 | 34:BA:746:A:O5' | 1.93 | 0.51 |
| 34:BA:818:G:C3' | 34:BA:819:A:C5' | 2.87 | 0.51 |
| 34:BA:865:A:H2' | 34:BA:866:C:O4' | 2.10 | 0.51 |
| 34:BA:886:G:H2' | 34:BA:887:G:C8 | 2.36 | 0.51 |
| 34:BA:984:C:H2' | 34:BA:984:C:O2 | 2.10 | 0.51 |
| 34:BA:1063:C:C4 | 34:BA:1064:G:N7 | 2.78 | 0.51 |
| 34:BA:1147:C:C4 | 34:BA:1148:U:C5 | 2.98 | 0.51 |
| 34:BA:1240:U:C6 | 42:BJ:32:ARG:NH2 | 2.78 | 0.51 |
| 34:BA:1278:U:H5' | 34:BA:1279:A:O4' | 2.10 | 0.51 |
| 34:BA:1343:G:N2 | 34:BA:1344:C:C2 | 2.78 | 0.51 |
| 34:BA:1360:A:N1 | 34:BA:1361:G:N2 | 2.59 | 0.51 |
| 34:BA:1371:G:OP1 | 44:BL:68:GLY:CA | 2.58 | 0.51 |
| 34:BA:1464:G:C4 | 34:BA:1465:C:C5 | 2.99 | 0.51 |
| 34:BA:1512:U:C2 | 34:BA:1513:A:N7 | 2.79 | 0.51 |
| 35:BB:32:C:H42 | 35:BB:33:U:H3 | 1.57 | 0.51 |
| 35:BC:34:G:H2' | 35:BC:35:A:C5' | 2.40 | 0.51 |
| 35:BC:36:A:C2' | 35:BC:37:G:O5' | 2.57 | 0.51 |
| 36:B1:26:C:H2' | 36:B1:27:G:C8 | 2.46 | 0.51 |
| 37:BE:169:LYS:C | 37:BE:169:LYS:CD | 2.79 | 0.51 |
| 38:BF:130:VAL:O | 38:BF:134:ILE:CD1 | 2.57 | 0.51 |
| 38:BF:186:PHE:CD1 | 38:BF:187:ALA:N | 2.79 | 0.51 |
| 39:BG:194:LEU:HD22 | 39:BG:194:LEU:N | 2.25 | 0.51 |
| 40:BH:45:PHE:O | 40:BH:45:PHE:CG | 2.64 | 0.51 |
| 40:BH:51:VAL:CB | 40:BH:52:PRO:HD3 | 2.32 | 0.51 |
| 40:BH:80:ILE:HD12 | 40:BH:80:ILE:H | 1.74 | 0.51 |
| 41:BI:23:LYS:CE | 41:BI:61:LEU:HD11 | 2.25 | 0.51 |
| 41:BI:81:ILE:CG2 | 41:BI:82:ARG:H | 2.03 | 0.51 |
| 42:BJ:71:PRO:CG | 42:BJ:96:GLN:HA | 2.40 | 0.51 |
| 43:BK:114:THR:OG1 | 43:BK:116:LYS:HB2 | 2.11 | 0.51 |
| 44:BL:63:ILE:HD12 | 44:BL:63:ILE:N | 2.25 | 0.51 |
| 44:BL:104:ARG:O | 44:BL:105:ASP:OD2 | 2.28 | 0.51 |
| 49:BQ:48:ALA:O | 49:BQ:50:LYS:N | 2.43 | 0.51 |
| 51:BS:9:PHE:CZ | 51:BS:18:ARG:HG3 | 2.46 | 0.51 |
| 52:BT:86:GLU:CD | 52:BT:89:LEU:HD12 | 2.31 | 0.51 |
| 53:BU:53:ARG:HH11 | 53:BU:60:GLY:N | 1.99 | 0.51 |
| 54:BV:4:SER:C | 54:BV:5:LEU:HD23 | 2.31 | 0.51 |
| 54:BV:45:VAL:HG22 | 54:BV:67:VAL:CG2 | 2.36 | 0.51 |
| 54:BV:58:VAL:O | 54:BV:58:VAL:CG2 | 2.59 | 0.51 |
| 2:AA:83:G:O6 | 2:AA:102:G:C2' | 2.57 | 0.51 |
| 2:AA:105:C:H2' | 2:AA:105:C:O2 | 2.11 | 0.51 |
| 2:AA:123:G:C2 | 2:AA:124:G:C4 | 2.98 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:131:G:C2 | 2:AA:149:A:C6 | 2.99 | 0.51 |
| 2:AA:242:G:C4 | 2:AA:254:G:C6 | 2.99 | 0.51 |
| 2:AA:257:A:C8 | 2:AA:257:A:H3' | 2.44 | 0.51 |
| 2:AA:304:G:H21 | 2:AA:305:U:H1' | 1.74 | 0.51 |
| 2:AA:323:G:H5' | 2:AA:324:A:OP1 | 2.10 | 0.51 |
| 2:AA:397:G:H5' | 28:A4:40:HIS:O | 2.10 | 0.51 |
| 2:AA:410:G:O2' | 2:AA:411:G:OP2 | 2.27 | 0.51 |
| 2:AA:593:G:C6 | 2:AA:594:U:C4 | 2.99 | 0.51 |
| 2:AA:677:A:H4' | 2:AA:2070:G:O2' | 2.11 | 0.51 |
| 2:AA:685:A:H2' | 2:AA:686:G:OP2 | 2.10 | 0.51 |
| 2:AA:689:A:C5 | 2:AA:690:G:C8 | 2.98 | 0.51 |
| 2:AA:697:C:C2 | 2:AA:698:C:C5 | 2.99 | 0.51 |
| 2:AA:815:C:O2' | 2:AA:816:C:C5' | 2.56 | 0.51 |
| 2:AA:838:C:C2' | 2:AA:839:U:O5' | 2.58 | 0.51 |
| 2:AA:973:A:O2' | 2:AA:974:G:H5" | 2.09 | 0.51 |
| 2:AA:976:C:H2' | 2:AA:976:C:O2 | 2.11 | 0.51 |
| 2:AA:987:G:C6 | 2:AA:988:A:C8 | 2.98 | 0.51 |
| 2:AA:1068:G:C4 | 2:AA:1069:A:N6 | 2.79 | 0.51 |
| 2:AA:1169:G:N1 | 2:AA:1180:C:N4 | 2.34 | 0.51 |
| 2:AA:1274:A:OP1 | 2:AA:1646:C:N4 | 2.44 | 0.51 |
| 2:AA:1310:G:C5 | 2:AA:1311:G:H1' | 2.45 | 0.51 |
| 2:AA:1353:A:C6 | 2:AA:1354:A:C5 | 2.98 | 0.51 |
| 2:AA:1364:G:OP1 | 28:A4:3:LYS:HG2 | 2.11 | 0.51 |
| 2:AA:1382:G:H2' | 2:AA:1383:C:C6 | 2.45 | 0.51 |
| 2:AA:1576:U:C6 | 2:AA:1577:C:C2 | 2.99 | 0.51 |
| 2:AA:1591:G:C5 | 2:AA:1592:C:N4 | 2.78 | 0.51 |
| 2:AA:1591:G:C4 | 2:AA:1592:C:C4 | 2.98 | 0.51 |
| 2:AA:1603:A:N3 | 2:AA:1604:C:H5 | 2.08 | 0.51 |
| 2:AA:1613:G:OP1 | 31:A7:5:TYR:CD2 | 2.64 | 0.51 |
| 2:AA:1636:C:O3' | 2:AA:1760:A:O2' | 2.29 | 0.51 |
| 2:AA:1702:G:C6 | 2:AA:1703:G:C8 | 2.98 | 0.51 |
| 2:AA:1729:A:N7 | 2:AA:1731:G:O6 | 2.44 | 0.51 |
| 2:AA:1841:U:C2 | 2:AA:1842:G:N7 | 2.78 | 0.51 |
| 2:AA:1904:G:C2' | 2:AA:1905:C:H5' | 2.39 | 0.51 |
| 2:AA:1959:G:C4 | 2:AA:1960:A:C8 | 2.99 | 0.51 |
| 2:AA:2074:U:H5" | 2:AA:2075:U:P | 2.50 | 0.51 |
| 2:AA:2089:U:H2' | 2:AA:2090:G:C8 | 2.32 | 0.51 |
| 2:AA:2116:G:H2' | 2:AA:2117:A:H5" | 1.92 | 0.51 |
| 2:AA:2243:U:O2 | 2:AA:2244:U:N1 | 2.44 | 0.51 |
| 2:AA:2330:G:HO2' | 2:AA:2331:G:H5' | 1.75 | 0.51 |
| 2:AA:2331:G:N2 | 2:AA:2385:C:C5 | 2.76 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2354:G:H1' | 27:A3:31:VAL:HG13 | 1.92 | 0.51 |
| 2:AA:2358:G:OP1 | 2:AA:2358:G:C8 | 2.63 | 0.51 |
| 2:AA:2501:C:O2 | 2:AA:2501:C:O4' | 2.21 | 0.51 |
| 2:AA:2506:U:H5" | 2:AA:2506:U:H6 | 1.75 | 0.51 |
| 2:AA:2633:G:H4' | 2:AA:2812:G:OP1 | 2.11 | 0.51 |
| 2:AA:2688:U:O4 | 2:AA:2719:G:C3' | 2.49 | 0.51 |
| 2:AA:2701:C:H3' | 2:AA:2702:U:H5" | 1.93 | 0.51 |
| 2:AA:2717:G:H2' | 2:AA:2718:G:H5" | 1.93 | 0.51 |
| 2:AA:2757:A:C2' | 2:AA:2758:A:O5' | 2.58 | 0.51 |
| 2:AA:2817:G:C6 | 2:AA:2818:G:C5 | 2.98 | 0.51 |
| 2:AA:2886:G:C6 | 2:AA:2887:U:C4 | 2.99 | 0.51 |
| 2:AA:2893:G:N3 | 2:AA:2893:G:C2' | 2.73 | 0.51 |
| 3:AC:62:VAL:HG23 | 3:AC:195:ALA:HB2 | 1.93 | 0.51 |
| 3:AC:131:LEU:HD22 | 3:AC:136:LEU:HB2 | 1.93 | 0.51 |
| 4:AD:121:ALA:HA | 4:AD:129:LEU:CD1 | 2.38 | 0.51 |
| 4:AD:186:LYS:C | 4:AD:187:CYS:O | 2.49 | 0.51 |
| 5:AE:63:GLU:OE1 | 5:AE:64:GLY:N | 2.43 | 0.51 |
| 5:AE:107:GLU:OE2 | 5:AE:110:ARG:NH1 | 2.43 | 0.51 |
| 5:AE:242:ASN:N | 5:AE:243:PRO:HD2 | 2.25 | 0.51 |
| 8:AH:122:ILE:C | 8:AH:123:GLU:CD | 2.69 | 0.51 |
| 9:AJ:89:LYS:CE | 11:AL:59:THR:HB | 2.39 | 0.51 |
| 10:AK:111:ASP:OD1 | 10:AK:114:LYS:N | 2.44 | 0.51 |
| 11:AL:56:VAL:CG1 | 11:AL:57:VAL:N | 2.74 | 0.51 |
| 11:AL:73:PRO:HG2 | 11:AL:78:LEU:CD1 | 2.40 | 0.51 |
| 12:AM:15:ARG:CG | 12:AM:43:ARG:HD2 | 2.41 | 0.51 |
| 12:AM:19:MET:CE | 12:AM:22:VAL:HG21 | 2.41 | 0.51 |
| 15:AP:28:ILE:CG1 | 15:AP:62:GLU:OE2 | 2.59 | 0.51 |
| 15:AP:47:GLU:N | 15:AP:47:GLU:CD | 2.64 | 0.51 |
| 16:AQ:14:ARG:O | 16:AQ:14:ARG:HG2 | 2.10 | 0.51 |
| 16:AQ:24:LEU:O | 16:AQ:25:ARG:C | 2.48 | 0.51 |
| 16:AQ:63:SER:O | 16:AQ:68:GLU:HG2 | 2.11 | 0.51 |
| 19:AT:56:ASN:ND2 | 19:AT:62:LYS:NZ | 2.59 | 0.51 |
| 20:AU:6:LYS:HA | 20:AU:9:LYS:HB2 | 1.92 | 0.51 |
| 23:AX:1:MET:N | 23:AX:2:PRO:CD | 2.74 | 0.51 |
| 23:AX:8:LEU:HD12 | 23:AX:9:VAL:N | 2.26 | 0.51 |
| 25:A1:98:ILE:HA | 25:A1:101:ARG:CG | 2.41 | 0.51 |
| 26:A2:20:ILE:CG2 | 26:A2:67:LYS:CD | 2.88 | 0.51 |
| 27:A3:26:PHE:N | 27:A3:60:PHE:CD1 | 2.78 | 0.51 |
| 28:A4:21:VAL:CG1 | 28:A4:22:MET:N | 2.63 | 0.51 |
| 30:A6:11:LYS:HE2 | 30:A6:26:LYS:CE | 2.36 | 0.51 |
| 34:BA:15:G:N3 | 34:BA:16:A:N7 | 2.57 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:39:G:H2' | 34:BA:40:C:O5' | 2.11 | 0.51 |
| 34:BA:115:G:H4' | 34:BA:116:A:O5' | 2.10 | 0.51 |
| 34:BA:145:G:C6 | 34:BA:178:C:N4 | 2.79 | 0.51 |
| 34:BA:153:C:C2 | 34:BA:154:C:C5 | 2.99 | 0.51 |
| 34:BA:265:G:C2 | 34:BA:267:C:O4' | 2.63 | 0.51 |
| 34:BA:313:A:C5 | 34:BA:314:C:N4 | 2.79 | 0.51 |
| 34:BA:386:C:O2' | 34:BA:387:U:H5' | 2.11 | 0.51 |
| 34:BA:421:U:O2 | 38:BF:127:ARG:NE | 2.44 | 0.51 |
| 34:BA:648:A:C6 | 34:BA:649:G:N7 | 2.78 | 0.51 |
| 34:BA:706:A:O4' | 46:BN:29:ILE:HD12 | 2.09 | 0.51 |
| 34:BA:962:C:O2 | 34:BA:1201:A:C2 | 2.64 | 0.51 |
| 34:BA:964:A:C2 | 34:BA:969:A:C1' | 2.87 | 0.51 |
| 34:BA:979:C:N4 | 49:BQ:18:VAL:O | 2.43 | 0.51 |
| 34:BA:1000:U:N3 | 34:BA:1041:A:C2 | 2.74 | 0.51 |
| 34:BA:1052:U:N3 | 34:BA:1207:G:N1 | 2.59 | 0.51 |
| 34:BA:1117:G:O5' | 44:BL:104:ARG:NH1 | 2.44 | 0.51 |
| 34:BA:1284:C:C2 | 34:BA:1285:A:N7 | 2.79 | 0.51 |
| 34:BA:1483:A:C3' | 34:BA:1484:C:C5' | 2.89 | 0.51 |
| 34:BA:1508:G:H1 | 34:BA:1527:C:N4 | 2.08 | 0.51 |
| 35:BB:54:U:H6 | 35:BB:54:U:C5' | 2.24 | 0.51 |
| 35:BB:64:A:N6 | 35:BB:65:G:O6 | 2.43 | 0.51 |
| 35:BC:35:A:N1 | 36:B1:61:U:O4 | 2.43 | 0.51 |
| 35:BC:59:U:H2' | 35:BC:59:U:O2 | 2.11 | 0.51 |
| 35:BC:72:C:C4 | 35:BC:73:A:N6 | 2.79 | 0.51 |
| 37:BE:54:THR:O | 37:BE:58:ILE:CG1 | 2.43 | 0.51 |
| 37:BE:69:LEU:CG | 37:BE:162:ILE:HG22 | 2.41 | 0.51 |
| 37:BE:91:PRO:HA | 37:BE:152:PHE:O | 2.09 | 0.51 |
| 37:BE:140:HIS:ND1 | 37:BE:143:GLU:HG3 | 2.24 | 0.51 |
| 37:BE:211:ILE:CG2 | 37:BE:212:GLN:N | 2.71 | 0.51 |
| 37:BE:212:GLN:HE22 | 37:BE:216:SER:N | 2.09 | 0.51 |
| 38:BF:58:GLU:N | 38:BF:65:ALA:HB3 | 2.24 | 0.51 |
| 38:BF:83:ARG:C | 38:BF:85:ARG:N | 2.62 | 0.51 |
| 39:BG:54:TYR:C | 39:BG:56:VAL:N | 2.61 | 0.51 |
| 39:BG:157:LEU:O | 39:BG:160:GLN:N | 2.43 | 0.51 |
| 40:BH:37:ARG:O | 40:BH:38:GLN:HG3 | 2.11 | 0.51 |
| 41:BI:8:ILE:CG2 | 41:BI:87:ARG:O | 2.58 | 0.51 |
| 42:BJ:15:ASP:OD1 | 42:BJ:17:VAL:CA | 2.59 | 0.51 |
| 42:BJ:123:GLU:O | 42:BJ:124:LEU:C | 2.47 | 0.51 |
| 43:BK:45:ILE:HD11 | 43:BK:48:TYR:HB3 | 1.91 | 0.51 |
| 44:BL:16:ARG:HB3 | 44:BL:64:THR:HB | 1.92 | 0.51 |
| 44:BL:101:PHE:H | 44:BL:102:LEU:HD23 | 1.75 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:7:LYS:HZ3 | 45:BM:71:LEU:HD21 | 1.76 | 0.51 |
| 47:BO:28:LYS:C | 47:BO:30:ALA:H | 2.11 | 0.51 |
| 47:BO:76:ASN:ND2 | 47:BO:77:LEU:N | 2.58 | 0.51 |
| 48:BP:47:ASP:N | 48:BP:47:ASP:OD1 | 2.43 | 0.51 |
| 48:BP:81:LEU:HD21 | 48:BP:88:ARG:HE | 1.74 | 0.51 |
| 48:BP:91:ARG:HD2 | 48:BP:97:PRO:O | 2.10 | 0.51 |
| 51:BS:49:LEU:HD21 | 51:BS:51:VAL:HG23 | 1.93 | 0.51 |
| 52:BT:74:LEU:HD13 | 52:BT:75:ARG:CB | 2.30 | 0.51 |
| 55:BW:13:LEU:HB2 | 55:BW:17:ARG:HH21 | 1.75 | 0.51 |
| 55:BW:28:ALA:O | 55:BW:31:SER:OG | 2.19 | 0.51 |
| 2:AA:10:G:O2' | 2:AA:11:G:C5' | 2.58 | 0.51 |
| 2:AA:25:U:C2 | 2:AA:515:A:N1 | 2.77 | 0.51 |
| 2:AA:51:G:O2' | 2:AA:118:A:N6 | 2.42 | 0.51 |
| 2:AA:90:U:OP1 | 2:AA:90:U:C6 | 2.64 | 0.51 |
| 2:AA:121:G:C2' | 2:AA:122:G:O5' | 2.59 | 0.51 |
| 2:AA:134:C:O2 | 2:AA:146:G:N2 | 2.43 | 0.51 |
| 2:AA:247:G:O6 | 32:A8:11:LYS:NZ | 2.44 | 0.51 |
| 2:AA:248:G:N2 | 2:AA:2431:U:C5' | 2.74 | 0.51 |
| 2:AA:299:A:C2 | 2:AA:322:A:N6 | 2.78 | 0.51 |
| 2:AA:319:C:H2' | 2:AA:320:A:H8 | 1.76 | 0.51 |
| 2:AA:361:G:H2' | 2:AA:362:U:C5 | 2.43 | 0.51 |
| 2:AA:442:G:C4' | 6:AF:44:GLN:OE1 | 2.49 | 0.51 |
| 2:AA:470:A:N3 | 2:AA:471:A:H1' | 2.24 | 0.51 |
| 2:AA:641:C:C5 | 2:AA:642:G:N3 | 2.79 | 0.51 |
| 2:AA:673:C:H5' | 6:AF:82:GLN:HE22 | 1.75 | 0.51 |
| 2:AA:750:A:H4' | 2:AA:1617:C:O2 | 2.11 | 0.51 |
| 2:AA:830:G:C8 | 2:AA:2448:A:C8 | 2.98 | 0.51 |
| 2:AA:842:G:C6 | 2:AA:843:G:C6 | 2.99 | 0.51 |
| 2:AA:961:C:HO2' | 2:AA:962:G:P | 2.33 | 0.51 |
| 2:AA:1011:G:O2' | 2:AA:1013:C:C4' | 2.59 | 0.51 |
| 2:AA:1055:G:N2 | 9:AI:28:LYS:HB3 | 2.26 | 0.51 |
| 2:AA:1091:G:N1 | 2:AA:1101:U:N3 | 2.58 | 0.51 |
| 2:AA:1105:U:O2' | 9:AI:27:ASP:C | 2.49 | 0.51 |
| 2:AA:1156:A:OP1 | 25:A1:55:ARG:CZ | 2.59 | 0.51 |
| 2:AA:1166:C:C2 | 2:AA:1184:G:N2 | 2.77 | 0.51 |
| 2:AA:1196:C:O4' | 2:AA:1226:G:C2 | 2.63 | 0.51 |
| 2:AA:1197:G:C5 | 2:AA:1198:U:C5 | 2.98 | 0.51 |
| 2:AA:1248:G:OP1 | 25:A1:2:PRO:HA | 2.11 | 0.51 |
| 2:AA:1272:A:C2 | 2:AA:1618:A:C2 | 2.99 | 0.51 |
| 2:AA:1322:A:C2' | 2:AA:1323:U:C5' | 2.84 | 0.51 |
| 2:AA:1348:G:O2' | 2:AA:1349:A:C5' | 2.58 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1379:A:H61 | 31:A7:10:ARG:NH1 | 2.08 | 0.51 |
| 2:AA:1429:G:C5 | 2:AA:1430:C:C4 | 2.99 | 0.51 |
| 2:AA:1568:G:P | 4:AD:60:GLN:CA | 2.98 | 0.51 |
| 2:AA:1582:C:N1 | 2:AA:1583:A:H1' | 2.25 | 0.51 |
| 2:AA:1642:G:C2 | 2:AA:1643:G:C8 | 2.99 | 0.51 |
| 2:AA:1794:U:C4 | 2:AA:1825:A:N6 | 2.79 | 0.51 |
| 2:AA:1799:G:N2 | 4:AD:153:LEU:HD11 | 2.24 | 0.51 |
| 2:AA:1995:U:C5 | 2:AA:1996:C:C4 | 2.99 | 0.51 |
| 2:AA:2013:A:N6 | 2:AA:2014:A:C2 | 2.79 | 0.51 |
| 2:AA:2067:G:N2 | 2:AA:2443:C:C2 | 2.71 | 0.51 |
| 2:AA:2116:G:OP2 | 3:AC:126:LYS:HB3 | 2.09 | 0.51 |
| 2:AA:2294:C:N3 | 2:AA:2295:C:C5 | 2.78 | 0.51 |
| 2:AA:2300:G:C2 | 2:AA:2301:C:C2 | 2.99 | 0.51 |
| 2:AA:2488:A:N6 | 2:AA:2489:G:C6 | 2.79 | 0.51 |
| 2:AA:2511:U:C4 | 2:AA:2512:C:C4 | 2.99 | 0.51 |
| 2:AA:2606:C:C2' | 2:AA:2607:G:O5' | 2.58 | 0.51 |
| 2:AA:2697:G:O2' | 2:AA:2698:U:O5' | 2.29 | 0.51 |
| 2:AA:2714:G:H5" | 2:AA:2714:G:C8 | 2.44 | 0.51 |
| 2:AA:2738:A:C2 | 2:AA:2739:U:O2 | 2.63 | 0.51 |
| 2:AA:2742:C:O2 | 2:AA:2742:C:H2' | 2.09 | 0.51 |
| 2:AA:2745:C:N4 | 2:AA:2759:G:H1 | 2.04 | 0.51 |
| 2:AA:2830:G:C2 | 2:AA:2883:A:C2 | 2.98 | 0.51 |
| 3:AC:193:ILE:CG2 | 3:AC:226:PRO:HB2 | 2.41 | 0.51 |
| 4:AD:132:GLU:HB2 | 4:AD:186:LYS:HA | 1.93 | 0.51 |
| 5:AE:99:VAL:HG12 | 5:AE:100:TRP:N | 2.26 | 0.51 |
| 5:AE:105:HIS:ND1 | 5:AE:108:LEU:CG | 2.73 | 0.51 |
| 6:AF:5:ILE:CG1 | 6:AF:16:VAL:HG23 | 2.40 | 0.51 |
| 6:AF:85:LYS:HD2 | 6:AF:85:LYS:N | 2.25 | 0.51 |
| 6:AF:103:ASN:O | 6:AF:106:GLU:HB2 | 2.11 | 0.51 |
| 6:AF:202:THR:HG22 | 6:AF:203:ALA:H | 1.75 | 0.51 |
| 6:AF:206:ASN:HA | 6:AF:210:ALA:HB2 | 1.92 | 0.51 |
| 7:AG:56:ARG:HD2 | 7:AG:65:GLU:CG | 2.41 | 0.51 |
| 7:AG:103:ASN:CA | 7:AG:104:PHE:CE1 | 2.94 | 0.51 |
| 8:AH:86:LEU:HD22 | 8:AH:87:GLU:N | 2.25 | 0.51 |
| 8:AH:93:TYR:CE2 | 8:AH:106:VAL:HG13 | 2.43 | 0.51 |
| 8:AH:102:LEU:HD21 | 8:AH:114:ILE:CG2 | 2.40 | 0.51 |
| 8:AH:124:VAL:O | 8:AH:124:VAL:HG13 | 2.11 | 0.51 |
| 10:AK:21:VAL:C | 10:AK:26:ALA:HB2 | 2.31 | 0.51 |
| 13:AN:1:MET:O | 13:AN:33:ALA:HB3 | 2.10 | 0.51 |
| 13:AN:19:VAL:HG13 | 13:AN:42:THR:CA | 2.40 | 0.51 |
| 13:AN:105:GLU:O | 13:AN:106:LEU:C | 2.49 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:48:ASN:ND2 | 15:AP:122:PHE:CG | 2.77 | 0.51 |
| 16:AQ:97:VAL:HG12 | 16:AQ:98:GLU:H | 1.75 | 0.51 |
| 17:AR:53:ASP:HA | 17:AR:56:ARG:CG | 2.28 | 0.51 |
| 18:AS:59:VAL:HG21 | 18:AS:66:GLU:H | 1.75 | 0.51 |
| 20:AU:31:LEU:CD2 | 20:AU:113:GLU:OE2 | 2.59 | 0.51 |
| 21:AV:13:LYS:HZ1 | 21:AV:33:ALA:CA | 1.99 | 0.51 |
| 21:AV:15:ASP:O | 21:AV:36:ARG:NH2 | 2.34 | 0.51 |
| 21:AV:42:ALA:C | 21:AV:44:ARG:N | 2.56 | 0.51 |
| 21:AV:78:PRO:O | 21:AV:79:ILE:CG1 | 2.58 | 0.51 |
| 26:A2:14:VAL:CG1 | 26:A2:15:SER:N | 2.68 | 0.51 |
| 26:A2:35:LEU:O | 26:A2:60:VAL:HG13 | 2.11 | 0.51 |
| 30:A6:42:PRO:HB2 | 30:A6:44:ALA:CB | 2.39 | 0.51 |
| 34:BA:38:G:C4 | 34:BA:397:A:N1 | 2.79 | 0.51 |
| 34:BA:46:G:C2 | 34:BA:366:C:C2 | 2.99 | 0.51 |
| 34:BA:55:A:H2' | 34:BA:56:U:C6 | 2.40 | 0.51 |
| 34:BA:60:A:O2' | 34:BA:61:G:P | 2.69 | 0.51 |
| 34:BA:61:G:C5 | 34:BA:62:U:C4 | 2.98 | 0.51 |
| 34:BA:69:G:H1 | 34:BA:99:C:N4 | 2.09 | 0.51 |
| 34:BA:113:G:H2' | 34:BA:114:U:C6 | 2.40 | 0.51 |
| 34:BA:142:G:H2' | 34:BA:143:A:H8 | 1.74 | 0.51 |
| 34:BA:148:G:C2 | 34:BA:175:C:N3 | 2.79 | 0.51 |
| 34:BA:290:C:O5' | 34:BA:290:C:H6 | 1.92 | 0.51 |
| 34:BA:318:G:C2' | 34:BA:319:G:C5' | 2.89 | 0.51 |
| 34:BA:395:C:O2 | 34:BA:396:G:C8 | 2.64 | 0.51 |
| 34:BA:495:U:O2 | 34:BA:495:U:C2' | 2.54 | 0.51 |
| 34:BA:562:C:C2' | 34:BA:562:C:O2 | 2.59 | 0.51 |
| 34:BA:582:U:C2 | 34:BA:583:A:C8 | 2.99 | 0.51 |
| 34:BA:712:A:O2' | 34:BA:713:G:C5' | 2.58 | 0.51 |
| 34:BA:742:G:C2' | 34:BA:743:U:H5' | 2.41 | 0.51 |
| 34:BA:888:G:H3' | 34:BA:889:A:H8 | 1.75 | 0.51 |
| 34:BA:901:A:H2' | 34:BA:902:G:O5' | 2.11 | 0.51 |
| 34:BA:962:C:C4 | 34:BA:963:G:C5 | 2.99 | 0.51 |
| 34:BA:1087:G:N3 | 34:BA:1088:G:C8 | 2.79 | 0.51 |
| 34:BA:1159:U:C5' | 34:BA:1160:G:OP1 | 2.48 | 0.51 |
| 34:BA:1163:C:C4 | 34:BA:1174:G:N1 | 2.78 | 0.51 |
| 34:BA:1182:G:H5' | 34:BA:1184:G:H5' | 1.92 | 0.51 |
| 34:BA:1197:G:OP1 | 34:BA:1197:G:H3' | 2.09 | 0.51 |
| 34:BA:1294:G:H2' | 34:BA:1295:G:C8 | 2.46 | 0.51 |
| 34:BA:1343:G:H2' | 34:BA:1344:C:H6 | 1.74 | 0.51 |
| 34:BA:1376:U:O2 | 34:BA:1377:A:N7 | 2.44 | 0.51 |
| 34:BA:1378:C:N3 | 34:BA:1379:G:O4' | 2.43 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1412:C:N4 | 34:BA:1488:G:H1 | 2.05 | 0.51 |
| 34:BA:1415:G:C6 | 34:BA:1486:G:C6 | 2.99 | 0.51 |
| 34:BA:1451:A:C5' | 34:BA:1452:C:C5 | 2.87 | 0.51 |
| 35:BB:22:G:N3 | 35:BB:23:A:N7 | 2.58 | 0.51 |
| 35:BB:59:U:O2 | 35:BB:59:U:H2' | 2.11 | 0.51 |
| 35:BC:1:G:C2 | 35:BC:2:C:C6 | 2.98 | 0.51 |
| 35:BC:5:A:H2' | 35:BC:6:U:O5' | 2.10 | 0.51 |
| 36:B1:69:A:N3 | 36:B1:69:A:H2' | 2.26 | 0.51 |
| 37:BE:25:ASN:ND2 | 37:BE:27:LYS:H | 2.09 | 0.51 |
| 37:BE:63:MET:HG2 | 37:BE:64:ARG:H | 1.75 | 0.51 |
| 38:BF:192:THR:HG22 | 38:BF:192:THR:O | 2.11 | 0.51 |
| 39:BG:80:GLU:O | 39:BG:83:SER:N | 2.44 | 0.51 |
| 39:BG:148:VAL:CG2 | 39:BG:181:MET:HE2 | 2.41 | 0.51 |
| 40:BH:45:PHE:CE1 | 40:BH:47:LYS:CE | 2.93 | 0.51 |
| 40:BH:109:ILE:HG23 | 40:BH:110:LEU:HD23 | 1.93 | 0.51 |
| 42:BJ:10:ARG:CG | 42:BJ:10:ARG:NH1 | 2.72 | 0.51 |
| 42:BJ:126:ASP:HA | 42:BJ:129:GLU:HB2 | 1.93 | 0.51 |
| 43:BK:46:LYS:CB | 43:BK:63:LEU:O | 2.55 | 0.51 |
| 43:BK:49:GLU:OE1 | 43:BK:60:ARG:HB3 | 2.11 | 0.51 |
| 44:BL:3:GLN:HA | 44:BL:20:ARG:HG2 | 1.91 | 0.51 |
| 46:BN:26:ASN:O | 46:BN:27:ASN:CB | 2.59 | 0.51 |
| 46:BN:66:LEU:CD2 | 46:BN:97:ALA:HB1 | 2.41 | 0.51 |
| 46:BN:122:LYS:O | 46:BN:123:LYS:C | 2.49 | 0.51 |
| 47:BO:97:ARG:HD2 | 47:BO:98:TYR:HE1 | 1.74 | 0.51 |
| 47:BO:126:LYS:NZ | 47:BO:128:ALA:CB | 2.58 | 0.51 |
| 48:BP:16:ASP:CA | 48:BP:19:LEU:HG | 2.38 | 0.51 |
| 49:BQ:23:ARG:HD3 | 49:BQ:28:GLY:O | 2.11 | 0.51 |
| 51:BS:3:LYS:O | 51:BS:21:VAL:HA | 2.11 | 0.51 |
| 53:BU:52:PRO:O | 53:BU:53:ARG:C | 2.49 | 0.51 |
| 55:BW:53:LEU:HD21 | 55:BW:92:LEU:HD11 | 1.93 | 0.51 |
| 56:BX:6:ARG:O | 56:BX:12:LYS:HE2 | 2.11 | 0.51 |
| 1:AB:14:U:O2' | 1:AB:107:U:O2' | 2.20 | 0.51 |
| 1:AB:105:G:H2' | 1:AB:106:G:H8 | 1.76 | 0.51 |
| 2:AA:6:A:H4' | 12:AM:4:ALA:O | 2.11 | 0.51 |
| 2:AA:137(A):G:N3 | 2:AA:137(A):G:C4' | 2.73 | 0.51 |
| 2:AA:161:U:P | 2:AA:161:U:C6 | 3.04 | 0.51 |
| 2:AA:270:A:N6 | 2:AA:370:G:C8 | 2.79 | 0.51 |
| 2:AA:270(J):G:H2' | 2:AA:270(J):G:N3 | 2.25 | 0.51 |
| 2:AA:288:C:N4 | 2:AA:289:A:H1' | 2.26 | 0.51 |
| 2:AA:311:A:N3 | 2:AA:311:A:C2' | 2.71 | 0.51 |
| 2:AA:332:A:N7 | 2:AA:335:C:C4 | 2.79 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:425:G:C2 | 2:AA:426:C:C5 | 2.98 | 0.51 |
| 2:AA:440:G:H3' | 20:AU:3:GLN:HE21 | 1.75 | 0.51 |
| 2:AA:529:A:O2' | 2:AA:530:G:P | 2.69 | 0.51 |
| 2:AA:542:C:N4 | 2:AA:552:G:H1 | 2.08 | 0.51 |
| 2:AA:587:C:O2' | 2:AA:588:U:OP1 | 2.27 | 0.51 |
| 2:AA:612:G:N2 | 2:AA:617:G:C6 | 2.79 | 0.51 |
| 2:AA:636:G:H2' | 14:AO:109:LEU:CD2 | 2.41 | 0.51 |
| 2:AA:830:G:N9 | 2:AA:2448:A:N7 | 2.58 | 0.51 |
| 2:AA:906:G:N2 | 2:AA:907:U:C1' | 2.74 | 0.51 |
| 2:AA:969:U:N3 | 2:AA:970:C:C5 | 2.79 | 0.51 |
| 2:AA:1022:G:H5" | 12:AM:56:LYS:HZ3 | 1.73 | 0.51 |
| 2:AA:1129:A:N1 | 2:AA:2570:G:C1' | 2.73 | 0.51 |
| 2:AA:1176:G:H2' | 2:AA:1177:A:H5' | 1.92 | 0.51 |
| 2:AA:1259:G:C5 | 2:AA:1260:G:N7 | 2.79 | 0.51 |
| 2:AA:1268:A:N9 | 2:AA:2013:A:N6 | 2.58 | 0.51 |
| 2:AA:1339:G:O4' | 2:AA:1393:A:C2 | 2.64 | 0.51 |
| 2:AA:1395:A:O2' | 2:AA:1397:U:C5 | 2.64 | 0.51 |
| 2:AA:1429:G:C2 | 2:AA:1568:G:N1 | 2.79 | 0.51 |
| 2:AA:1480:G:N1 | 2:AA:1513:C:C2 | 2.79 | 0.51 |
| 2:AA:1535:U:O4' | 2:AA:1538:G:N2 | 2.31 | 0.51 |
| 2:AA:1703:G:O2' | 34:BA:1429:C:C4' | 2.44 | 0.51 |
| 2:AA:1754:C:C4 | 2:AA:2717:G:H5' | 2.46 | 0.51 |
| 2:AA:1814:G:N2 | 2:AA:1815:A:H62 | 2.08 | 0.51 |
| 2:AA:1856:G:H2' | 2:AA:1857:G:O5' | 2.11 | 0.51 |
| 2:AA:1892:C:N3 | 2:AA:1893:C:C5 | 2.79 | 0.51 |
| 2:AA:1914:C:O2 | 2:AA:1914:C:C2' | 2.58 | 0.51 |
| 2:AA:1951:U:O2 | 2:AA:1953:A:O5' | 2.29 | 0.51 |
| 2:AA:1956:U:O2 | 2:AA:1956:U:C3' | 2.58 | 0.51 |
| 2:AA:1995:U:C6 | 2:AA:1995:U:C3' | 2.94 | 0.51 |
| 2:AA:2007:C:C2' | 2:AA:2008:C:H5' | 2.37 | 0.51 |
| 2:AA:2123:G:O2' | 3:AC:133:PRO:CA | 2.57 | 0.51 |
| 2:AA:2218:G:O2' | 4:AD:146:LYS:HD2 | 2.11 | 0.51 |
| 2:AA:2327:A:O2' | 2:AA:2328:A:O4' | 2.22 | 0.51 |
| 2:AA:2349:G:C2' | 2:AA:2350:C:H5" | 2.41 | 0.51 |
| 2:AA:2492:U:H2' | 2:AA:2492:U:O2 | 2.11 | 0.51 |
| 2:AA:2523:G:O4' | 2:AA:2765:A:N7 | 2.44 | 0.51 |
| 2:AA:2532:G:N2 | 2:AA:2662:A:C6 | 2.79 | 0.51 |
| 2:AA:2573:C:H6 | 2:AA:2573:C:C3' | 2.18 | 0.51 |
| 2:AA:2619:C:C5' | 5:AE:247:ARG:O | 2.59 | 0.51 |
| 2:AA:2666:C:C3' | 2:AA:2667:C:H5' | 2.40 | 0.51 |
| 2:AA:2690:C:O5' | 2:AA:2690:C:C6 | 2.53 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2856:C:N4 | 2:AA:2862:G:H1 | 2.08 | 0.51 |
| 3:AC:62:VAL:CG1 | 3:AC:163:PHE:HD2 | 2.24 | 0.51 |
| 3:AC:131:LEU:CD2 | 3:AC:136:LEU:HB2 | 2.40 | 0.51 |
| 3:AC:163:PHE:HE1 | 3:AC:199:HIS:CD2 | 2.29 | 0.51 |
| 4:AD:129:LEU:HD23 | 4:AD:133:ASN:HD22 | 1.75 | 0.51 |
| 5:AE:196:GLY:CA | 5:AE:268:LEU:O | 2.36 | 0.51 |
| 5:AE:317:PRO:C | 5:AE:320:GLN:HG3 | 2.30 | 0.51 |
| 6:AF:51:TYR:O | 6:AF:55:ARG:HG2 | 2.11 | 0.51 |
| 6:AF:55:ARG:HG3 | 6:AF:56:THR:OG1 | 2.11 | 0.51 |
| 6:AF:107:ARG:O | 6:AF:110:ALA:CB | 2.57 | 0.51 |
| 6:AF:219:ASN:H | 6:AF:222:ASP:HB2 | 1.76 | 0.51 |
| 6:AF:241:ALA:O | 6:AF:244:ALA:CB | 2.57 | 0.51 |
| 8:AH:10:ILE:CG2 | 8:AH:14:VAL:HG11 | 2.40 | 0.51 |
| 8:AH:112:VAL:HB | 8:AH:151:ARG:CZ | 2.41 | 0.51 |
| 8:AH:145:ALA:O | 8:AH:148:ARG:N | 2.44 | 0.51 |
| 8:AH:168:VAL:O | 8:AH:169:ARG:NE | 2.44 | 0.51 |
| 10:AK:29:PHE:CE2 | 10:AK:30:LEU:HD11 | 2.45 | 0.51 |
| 11:AL:24:VAL:HG12 | 11:AL:35:ILE:CG2 | 2.34 | 0.51 |
| 11:AL:77:PHE:CD2 | 11:AL:80:LYS:NZ | 2.76 | 0.51 |
| 11:AL:96:ILE:HD13 | 11:AL:138:GLU:OE2 | 2.10 | 0.51 |
| 11:AL:99:LYS:HD2 | 11:AL:99:LYS:N | 2.25 | 0.51 |
| 11:AL:104:GLN:O | 11:AL:107:GLU:CG | 2.54 | 0.51 |
| 12:AM:10:VAL:CB | 12:AM:36:VAL:HG22 | 2.40 | 0.51 |
| 13:AN:9:LYS:N | 13:AN:9:LYS:CD | 2.74 | 0.51 |
| 13:AN:31:ARG:C | 13:AN:32:TYR:CG | 2.84 | 0.51 |
| 13:AN:121:VAL:C | 13:AN:122:ILE:CD1 | 2.79 | 0.51 |
| 15:AP:41:THR:O | 21:AV:116:VAL:CG1 | 2.55 | 0.51 |
| 15:AP:69:ASN:CG | 15:AP:70:ARG:N | 2.64 | 0.51 |
| 20:AU:33:GLU:OE1 | 20:AU:34:GLU:HG3 | 2.11 | 0.51 |
| 20:AU:51:LEU:HD22 | 20:AU:52:ARG:HG3 | 1.92 | 0.51 |
| 20:AU:77:VAL:HG11 | 20:AU:91:LEU:HD22 | 1.92 | 0.51 |
| 21:AV:37:LYS:C | 21:AV:40:ASP:OD1 | 2.49 | 0.51 |
| 23:AX:33:GLN:OE1 | 23:AX:34:GLU:N | 2.44 | 0.51 |
| 24:A0:85:PRO:O | 24:A0:86:ARG:C | 2.48 | 0.51 |
| 25:A1:10:ARG:CA | 25:A1:13:ARG:HH12 | 2.23 | 0.51 |
| 25:A1:57:PHE:CD2 | 25:A1:60:LEU:HD13 | 2.46 | 0.51 |
| 25:A1:108:ALA:O | 25:A1:109:LEU:C | 2.49 | 0.51 |
| 26:A2:21:ARG:HB2 | 26:A2:95:ILE:HD13 | 1.92 | 0.51 |
| 26:A2:49:GLU:N | 26:A2:49:GLU:CD | 2.64 | 0.51 |
| 26:A2:70:TYR:O | 26:A2:71:ILE:O | 2.28 | 0.51 |
| 29:A5:23:HIS:N | 29:A5:23:HIS:ND1 | 2.59 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:A5:34:PRO:HD2 | 29:A5:35:GLN:H | 1.75 | 0.51 |
| 34:BA:61:G:C5 | 34:BA:62:U:N3 | 2.79 | 0.51 |
| 34:BA:96:G:C2 | 34:BA:97:G:C4 | 2.99 | 0.51 |
| 34:BA:245:C:C2 | 34:BA:284:G:N1 | 2.78 | 0.51 |
| 34:BA:254:G:N2 | 52:BT:16:GLN:NE2 | 2.59 | 0.51 |
| 34:BA:264:U:O2' | 52:BT:63:ARG:CG | 2.59 | 0.51 |
| 34:BA:308:C:H2' | 34:BA:308:C:O2 | 2.11 | 0.51 |
| 34:BA:360:A:N1 | 34:BA:361:G:C2 | 2.79 | 0.51 |
| 34:BA:406:G:N2 | 34:BA:407:G:C5 | 2.79 | 0.51 |
| 34:BA:483:C:N4 | 34:BA:484:G:C2 | 2.79 | 0.51 |
| 34:BA:538:G:OP2 | 47:BO:115:LYS:CB | 2.55 | 0.51 |
| 34:BA:538:G:OP1 | 47:BO:113:ARG:CD | 2.59 | 0.51 |
| 34:BA:593:G:H2' | 34:BA:594:G:C5' | 2.40 | 0.51 |
| 34:BA:761:G:H5" | 52:BT:102:GLY:C | 2.28 | 0.51 |
| 34:BA:913:A:H4' | 34:BA:914:A:O5' | 2.11 | 0.51 |
| 34:BA:965:A:O2' | 34:BA:966:G:O5' | 2.16 | 0.51 |
| 34:BA:1001:A:N1 | 34:BA:1040:U:C4 | 2.76 | 0.51 |
| 34:BA:1060:C:H5" | 45:BM:51:ARG:HD3 | 1.91 | 0.51 |
| 34:BA:1112:C:H6 | 34:BA:1112:C:O5' | 1.93 | 0.51 |
| 34:BA:1169:A:H2' | 34:BA:1171:G:H5' | 1.92 | 0.51 |
| 34:BA:1392:G:N2 | 34:BA:1502:A:H8 | 2.08 | 0.51 |
| 34:BA:1401:G:N7 | 34:BA:1402:C:C5 | 2.78 | 0.51 |
| 34:BA:1492:A:N7 | 34:BA:1493:A:N3 | 2.59 | 0.51 |
| 34:BA:1539:C:H2' | 34:BA:1540:U:C5' | 2.38 | 0.51 |
| 35:BB:5:A:N6 | 35:BB:68:U:H3 | 2.09 | 0.51 |
| 35:BC:44:A:N1 | 35:BC:45:G:C2 | 2.79 | 0.51 |
| 35:BC:47:U:O4 | 35:BC:49:C:H4' | 2.10 | 0.51 |
| 35:BC:71:G:H2' | 35:BC:72:C:C5' | 2.38 | 0.51 |
| 37:BE:16:HIS:HA | 37:BE:204:ASN:CB | 2.41 | 0.51 |
| 37:BE:28:PHE:CE1 | 37:BE:31:TYR:C | 2.84 | 0.51 |
| 37:BE:44:LEU:O | 37:BE:47:THR:HB | 2.09 | 0.51 |
| 37:BE:59:GLU:CA | 37:BE:221:LEU:HD11 | 2.38 | 0.51 |
| 37:BE:74:LYS:CG | 37:BE:76:GLN:HB2 | 2.40 | 0.51 |
| 37:BE:103:THR:O | 37:BE:104:ASN:CB | 2.59 | 0.51 |
| 38:BF:95:THR:O | 38:BF:95:THR:OG1 | 2.27 | 0.51 |
| 38:BF:164:ARG:HG3 | 38:BF:164:ARG:NH1 | 2.26 | 0.51 |
| 39:BG:4:TYR:CG | 39:BG:5:ILE:N | 2.78 | 0.51 |
| 39:BG:100:ARG:HH11 | 39:BG:100:ARG:HG2 | 1.76 | 0.51 |
| 39:BG:157:LEU:O | 39:BG:158:ILE:C | 2.49 | 0.51 |
| 41:BI:24:GLU:HG3 | 41:BI:25:ILE:N | 2.25 | 0.51 |
| 41:BI:26:ILE:HG22 | 41:BI:30:LEU:CD1 | 2.38 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:69:VAL:CB | 42:BJ:104:LEU:HD21 | 2.40 | 0.51 |
| 43:BK:102:ARG:O | 43:BK:106:GLY:N | 2.43 | 0.51 |
| 44:BL:15:ALA:CB | 44:BL:76:ALA:CB | 2.89 | 0.51 |
| 45:BM:50:ILE:HG22 | 45:BM:51:ARG:O | 2.11 | 0.51 |
| 46:BN:54:ARG:CG | 46:BN:54:ARG:NH1 | 2.68 | 0.51 |
| 47:BO:79:GLU:CB | 47:BO:80:HIS:ND1 | 2.74 | 0.51 |
| 47:BO:91:LYS:HD2 | 47:BO:91:LYS:O | 2.10 | 0.51 |
| 48:BP:22:ILE:HB | 48:BP:25:ILE:CD1 | 2.41 | 0.51 |
| 48:BP:42:ALA:O | 48:BP:44:ARG:N | 2.42 | 0.51 |
| 48:BP:48:LEU:CD2 | 48:BP:48:LEU:C | 2.79 | 0.51 |
| 48:BP:92:HIS:CD2 | 48:BP:98:VAL:HG21 | 2.44 | 0.51 |
| 50:BR:67:LEU:HB3 | 50:BR:78:TYR:HE1 | 1.76 | 0.51 |
| 51:BS:25:ARG:O | 51:BS:26:ARG:C | 2.49 | 0.51 |
| 52:BT:29:HIS:HB3 | 52:BT:32:TYR:H | 1.76 | 0.51 |
| 53:BU:37:VAL:HG12 | 53:BU:41:LYS:HD2 | 1.91 | 0.51 |
| 1:AB:33:G:H2' | 1:AB:34:U:C5 | 2.41 | 0.51 |
| 1:AB:85:G:C2 | 1:AB:92:G:N3 | 2.79 | 0.51 |
| 2:AA:123:G:N1 | 2:AA:124:G:C2 | 2.79 | 0.51 |
| 2:AA:184:C:C2 | 2:AA:185:U:C5 | 2.99 | 0.51 |
| 2:AA:270(Z):U:OP1 | 2:AA:270(Z):U:C4' | 2.58 | 0.51 |
| 2:AA:295:G:C2 | 2:AA:344:G:C2 | 2.92 | 0.51 |
| 2:AA:330:A:H4' | 2:AA:1210:A:N6 | 2.25 | 0.51 |
| 2:AA:371:A:HO2' | 2:AA:372:G:P | 2.30 | 0.51 |
| 2:AA:388:G:H5' | 2:AA:389:G:OP2 | 2.11 | 0.51 |
| 2:AA:464:U:C4 | 2:AA:465:G:N7 | 2.79 | 0.51 |
| 2:AA:465:G:C5 | 2:AA:466:A:C6 | 2.99 | 0.51 |
| 2:AA:627:A:HO2' | 2:AA:628:G:C4' | 2.24 | 0.51 |
| 2:AA:721:C:C2 | 2:AA:722:A:N7 | 2.79 | 0.51 |
| 2:AA:783:A:O3' | 2:AA:2589:A:P | 2.69 | 0.51 |
| 2:AA:783:A:C5' | 4:AD:230:ASN:ND2 | 2.74 | 0.51 |
| 2:AA:826:U:N3 | 2:AA:832:G:N1 | 2.58 | 0.51 |
| 2:AA:840:C:H4' | 2:AA:1192:G:C1' | 2.41 | 0.51 |
| 2:AA:862:G:N2 | 2:AA:863:A:H1' | 2.26 | 0.51 |
| 2:AA:871:U:H2' | 2:AA:872:A:C8 | 2.46 | 0.51 |
| 2:AA:899:A:N6 | 2:AA:900:A:C6 | 2.79 | 0.51 |
| 2:AA:975:G:C6 | 2:AA:976:C:C5 | 2.99 | 0.51 |
| 2:AA:1020:A:H2 | 2:AA:1141:U:OP2 | 1.93 | 0.51 |
| 2:AA:1025:G:H8 | 2:AA:1134:G:C2' | 2.24 | 0.51 |
| 2:AA:1063:G:C4 | 2:AA:1064:C:C5 | 2.98 | 0.51 |
| 2:AA:1294:U:HO2' | 24:A0:26:LYS:HD2 | 1.75 | 0.51 |
| 2:AA:1422:G:N2 | 2:AA:1576:U:C2 | 2.79 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1450:C:H2' | 2:AA:1451:C:H4' | 1.92 | 0.51 |
| 2:AA:1479:G:C6 | 2:AA:1514:U:N3 | 2.77 | 0.51 |
| 2:AA:1492:G:C2 | 2:AA:1493:C:C4 | 2.98 | 0.51 |
| 2:AA:1527:G:C2 | 2:AA:1544:C:N3 | 2.75 | 0.51 |
| 2:AA:1591:G:C2 | 2:AA:1592:C:C2 | 2.99 | 0.51 |
| 2:AA:1634:A:H3' | 2:AA:1634:A:C8 | 2.46 | 0.51 |
| 2:AA:1668:A:N6 | 2:AA:1674:G:C2 | 2.79 | 0.51 |
| 2:AA:1668:A:N3 | 2:AA:1670:C:C4 | 2.79 | 0.51 |
| 2:AA:1780:A:P | 2:AA:1782:C:P | 3.09 | 0.51 |
| 2:AA:1793:C:C2 | 2:AA:1794:U:C6 | 2.99 | 0.51 |
| 2:AA:1841:U:O4 | 2:AA:1842:G:O6 | 2.29 | 0.51 |
| 2:AA:1857:G:C6 | 2:AA:1884:A:N6 | 2.79 | 0.51 |
| 2:AA:1935:G:N3 | 2:AA:1962:C:C4 | 2.79 | 0.51 |
| 2:AA:1951:U:C2 | 2:AA:1953:A:C5' | 2.94 | 0.51 |
| 2:AA:2015:A:H8 | 2:AA:2016:U:C5 | 2.28 | 0.51 |
| 2:AA:2043:C:C5 | 2:AA:2777:G:C1' | 2.80 | 0.51 |
| 2:AA:2063:C:C2' | 2:AA:2064:C:O5' | 2.59 | 0.51 |
| 2:AA:2278:A:C6 | 2:AA:2279:G:C5 | 2.99 | 0.51 |
| 2:AA:2305:A:H1' | 7:AG:129:ASP:OD1 | 2.10 | 0.51 |
| 2:AA:2454:G:H2' | 2:AA:2455:G:H5' | 1.93 | 0.51 |
| 2:AA:2460:U:H2' | 2:AA:2461:C:C6 | 2.46 | 0.51 |
| 2:AA:2627:G:O2' | 2:AA:2781:A:C2 | 2.59 | 0.51 |
| 2:AA:2628:C:C1' | 2:AA:2781:A:H2' | 2.40 | 0.51 |
| 2:AA:2713:A:C3' | 2:AA:2714:G:C5' | 2.88 | 0.51 |
| 2:AA:2834:G:C6 | 2:AA:2879:C:C2 | 2.99 | 0.51 |
| 2:AA:2885:C:O2 | 2:AA:2885:C:H2' | 2.10 | 0.51 |
| 3:AC:5:LYS:O | 3:AC:6:ARG:CG | 2.59 | 0.51 |
| 3:AC:19:ILE:CG2 | 3:AC:225:ASN:HB2 | 2.41 | 0.51 |
| 3:AC:214:VAL:HG23 | 3:AC:224:ILE:CD1 | 2.41 | 0.51 |
| 4:AD:65:ASP:CG | 4:AD:66:PHE:N | 2.63 | 0.51 |
| 4:AD:167:GLU:HG2 | 4:AD:182:MET:HE3 | 1.88 | 0.51 |
| 4:AD:213:LYS:CG | 4:AD:215:LYS:HB2 | 2.40 | 0.51 |
| 5:AE:41:PHE:CD1 | 5:AE:193:PHE:CE1 | 2.99 | 0.51 |
| 6:AF:36:ARG:O | 6:AF:38:ALA:N | 2.44 | 0.51 |
| 8:AH:10:ILE:HG23 | 8:AH:14:VAL:HB | 1.93 | 0.51 |
| 8:AH:153:PRO:HA | 8:AH:160:GLY:HA3 | 1.93 | 0.51 |
| 9:AJ:71:ILE:CG1 | 11:AL:62:GLU:N | 2.71 | 0.51 |
| 10:AK:6:LEU:CD2 | 10:AK:14:LYS:NZ | 2.74 | 0.51 |
| 10:AK:111:ASP:HB3 | 10:AK:114:LYS:HG3 | 1.90 | 0.51 |
| 11:AL:116:LEU:HD13 | 11:AL:116:LEU:C | 2.31 | 0.51 |
| 12:AM:139:LEU:HD13 | 12:AM:139:LEU:N | 2.26 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:34:ASN:C | 13:AN:35:ILE:HD12 | 2.31 | 0.51 |
| 18:AS:23:LEU:HD12 | 29:A5:25:LEU:C | 2.30 | 0.51 |
| 21:AV:16:GLU:H | 21:AV:36:ARG:HH12 | 1.53 | 0.51 |
| 22:AW:9:ARG:CZ | 22:AW:59:ILE:CG1 | 2.89 | 0.51 |
| 23:AX:5:LYS:CB | 23:AX:36:VAL:HG12 | 2.41 | 0.51 |
| 24:A0:55:ALA:HB2 | 24:A0:79:LEU:HD11 | 1.93 | 0.51 |
| 24:A0:105:ARG:NE | 24:A0:105:ARG:HA | 2.25 | 0.51 |
| 26:A2:61:VAL:HA | 26:A2:98:ILE:CG1 | 2.33 | 0.51 |
| 28:A4:18:GLY:H | 28:A4:33:VAL:CB | 2.24 | 0.51 |
| 29:A5:6:VAL:HG13 | 29:A5:7:PRO:HD2 | 1.93 | 0.51 |
| 29:A5:11:THR:CG2 | 29:A5:16:ARG:HG2 | 2.41 | 0.51 |
| 34:BA:10:A:O2' | 34:BA:11:G:C5' | 2.59 | 0.51 |
| 34:BA:20:U:O2 | 34:BA:21:G:C4 | 2.64 | 0.51 |
| 34:BA:106:C:O2' | 34:BA:107:G:H5' | 2.11 | 0.51 |
| 34:BA:194:C:C3' | 34:BA:195:A:H5" | 2.41 | 0.51 |
| 34:BA:280:C:O2' | 52:BT:38:ARG:HD3 | 2.10 | 0.51 |
| 34:BA:316:G:N3 | 34:BA:317:G:C8 | 2.79 | 0.51 |
| 34:BA:327:A:O3' | 34:BA:328:C:O4' | 2.29 | 0.51 |
| 34:BA:361:G:O6 | 34:BA:362:G:N1 | 2.43 | 0.51 |
| 34:BA:518:C:N4 | 35:BB:35:A:H2 | 2.08 | 0.51 |
| 34:BA:616:G:N1 | 34:BA:617:G:N7 | 2.59 | 0.51 |
| 34:BA:659:U:O4 | 34:BA:746:A:N1 | 2.44 | 0.51 |
| 34:BA:665:A:N7 | 34:BA:733:A:N3 | 2.58 | 0.51 |
| 34:BA:665:A:O4' | 34:BA:733:A:H1' | 2.11 | 0.51 |
| 34:BA:687:A:N7 | 34:BA:701:C:C4 | 2.79 | 0.51 |
| 34:BA:745:C:OP1 | 34:BA:851:G:O2' | 2.17 | 0.51 |
| 34:BA:757:U:C1' | 34:BA:879:C:H1' | 2.40 | 0.51 |
| 34:BA:767:A:H1' | 34:BA:1525:G:H1' | 1.92 | 0.51 |
| 34:BA:877:C:C2' | 34:BA:878:G:H5' | 2.41 | 0.51 |
| 34:BA:887:G:C6 | 34:BA:888:G:C6 | 2.98 | 0.51 |
| 34:BA:984:C:N3 | 34:BA:985:C:C5 | 2.79 | 0.51 |
| 34:BA:1261:A:H3' | 34:BA:1262:C:C6 | 2.45 | 0.51 |
| 34:BA:1280:A:C8 | 45:BM:41:PRO:CD | 2.94 | 0.51 |
| 34:BA:1298:C:H1' | 34:BA:1299:A:C2 | 2.46 | 0.51 |
| 34:BA:1520:G:O2' | 34:BA:1521:G:O5' | 2.29 | 0.51 |
| 35:BC:9:A:H5' | 35:BC:46:G:O2' | 2.11 | 0.51 |
| 35:BC:30:G:N1 | 35:BC:40:C:N4 | 2.20 | 0.51 |
| 35:BC:36:A:H61 | 36:B1:60:A:N6 | 2.08 | 0.51 |
| 35:BC:56:C:C4 | 35:BC:57:G:C2 | 2.99 | 0.51 |
| 36:B1:31:G:H2' | 36:B1:32:G:H8 | 1.76 | 0.51 |
| 37:BE:18:GLY:HA2 | 37:BE:41:ILE:HA | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:69:LEU:HD22 | 37:BE:91:PRO:O | 2.11 | 0.51 |
| 37:BE:136:VAL:N | 37:BE:139:LYS:HZ1 | 2.09 | 0.51 |
| 39:BG:11:LEU:C | 39:BG:13:ARG:N | 2.58 | 0.51 |
| 39:BG:59:ARG:HH12 | 39:BG:62:GLN:HB2 | 1.76 | 0.51 |
| 39:BG:77:ASN:O | 39:BG:80:GLU:CB | 2.58 | 0.51 |
| 39:BG:78:LEU:HD21 | 39:BG:96:LEU:HB3 | 1.93 | 0.51 |
| 39:BG:98:GLU:CD | 39:BG:103:ASN:ND2 | 2.52 | 0.51 |
| 39:BG:133:VAL:HG21 | 39:BG:138:TYR:CD1 | 2.45 | 0.51 |
| 40:BH:72:GLN:HG3 | 40:BH:77:PRO:HD3 | 1.92 | 0.51 |
| 41:BI:9:VAL:HG12 | 41:BI:59:TYR:O | 2.11 | 0.51 |
| 43:BK:6:ILE:O | 43:BK:10:LEU:HG | 2.11 | 0.51 |
| 43:BK:85:ARG:C | 43:BK:86:ILE:HD12 | 2.31 | 0.51 |
| 44:BL:17:VAL:HG22 | 44:BL:63:ILE:HG21 | 1.91 | 0.51 |
| 46:BN:19:ALA:CB | 46:BN:80:VAL:HG11 | 2.38 | 0.51 |
| 47:BO:24:VAL:HG13 | 47:BO:98:TYR:CZ | 2.46 | 0.51 |
| 48:BP:34:LEU:CD2 | 48:BP:39:ILE:HG13 | 2.26 | 0.51 |
| 48:BP:37:THR:HG21 | 48:BP:56:LEU:HD22 | 1.92 | 0.51 |
| 48:BP:91:ARG:HB2 | 48:BP:98:VAL:HG13 | 1.93 | 0.51 |
| 50:BR:41:GLU:OE2 | 50:BR:41:GLU:CA | 2.58 | 0.51 |
| 51:BS:1:MET:HE1 | 51:BS:2:VAL:O | 2.11 | 0.51 |
| 52:BT:50:LYS:HG2 | 52:BT:51:TYR:N | 2.24 | 0.51 |
| 53:BU:30:ASP:OD1 | 53:BU:32:ARG:CB | 2.58 | 0.51 |
| 1:AB:52:A:N3 | 1:AB:53:A:H1' | 2.26 | 0.51 |
| 2:AA:13:A:C2' | 2:AA:14:A:OP2 | 2.58 | 0.51 |
| 2:AA:38:A:C2' | 2:AA:39:C:C6 | 2.91 | 0.51 |
| 2:AA:61:G:C6 | 2:AA:62:C:N4 | 2.79 | 0.51 |
| 2:AA:73:A:H5' | 22:AW:50:ARG:NH2 | 2.25 | 0.51 |
| 2:AA:135:G:C2 | 2:AA:145:G:C6 | 2.99 | 0.51 |
| 2:AA:135:G:N3 | 2:AA:145:G:C6 | 2.79 | 0.51 |
| 2:AA:272:G:O2' | 2:AA:273:G:H5' | 2.11 | 0.51 |
| 2:AA:286:C:C6 | 2:AA:286:C:C3' | 2.93 | 0.51 |
| 2:AA:322:A:H1' | 2:AA:341:G:C8 | 2.45 | 0.51 |
| 2:AA:422:A:C2 | 2:AA:423:A:C4 | 2.98 | 0.51 |
| 2:AA:539:G:H2' | 2:AA:540:G:C8 | 2.46 | 0.51 |
| 2:AA:562:U:C5 | 2:AA:2036:C:C4' | 2.94 | 0.51 |
| 2:AA:564:C:O2' | 2:AA:1252:G:C6 | 2.56 | 0.51 |
| 2:AA:592:G:C6 | 2:AA:593:G:N7 | 2.79 | 0.51 |
| 2:AA:641:C:C5 | 2:AA:642:G:C2 | 2.99 | 0.51 |
| 2:AA:643:A:C8 | 2:AA:643:A:C3' | 2.94 | 0.51 |
| 2:AA:652:C:H2' | 2:AA:653:A:OP1 | 2.11 | 0.51 |
| 2:AA:676:A:C2' | 2:AA:677:A:H5' | 2.40 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:735:A:C2' | 2:AA:736:C:H5' | 2.39 | 0.51 |
| 2:AA:784:A:C6 | 2:AA:792:G:N9 | 2.78 | 0.51 |
| 2:AA:818:G:N2 | 2:AA:1190:G:C2 | 2.79 | 0.51 |
| 2:AA:886:C:C1' | 2:AA:887:A:C8 | 2.94 | 0.51 |
| 2:AA:955:C:H2' | 2:AA:956:G:H5' | 1.92 | 0.51 |
| 2:AA:1007:C:C4' | 12:AM:86:MET:O | 2.59 | 0.51 |
| 2:AA:1029:A:C2' | 2:AA:1030:G:H5' | 2.41 | 0.51 |
| 2:AA:1044:G:N2 | 2:AA:1111:A:C1' | 2.74 | 0.51 |
| 2:AA:1084:A:H5" | 9:AI:37:VAL:CA | 2.41 | 0.51 |
| 2:AA:1111:A:C5' | 2:AA:1112:G:OP1 | 2.54 | 0.51 |
| 2:AA:1132:A:N7 | 2:AA:1133:U:N3 | 2.57 | 0.51 |
| 2:AA:1173:G:H22 | 2:AA:1175:U:C3' | 2.24 | 0.51 |
| 2:AA:1212:G:N1 | 2:AA:1236:G:C6 | 2.79 | 0.51 |
| 2:AA:1264:G:N7 | 2:AA:1265:A:C8 | 2.79 | 0.51 |
| 2:AA:1272:A:C8 | 2:AA:1618:A:H1' | 2.45 | 0.51 |
| 2:AA:1510:A:C3' | 2:AA:1511:A:C8 | 2.93 | 0.51 |
| 2:AA:1530:G:O6 | 2:AA:1540:G:O6 | 2.28 | 0.51 |
| 2:AA:1717:G:N7 | 2:AA:1743:G:N1 | 2.59 | 0.51 |
| 2:AA:1757:U:O4 | 2:AA:1762:A:H2 | 1.94 | 0.51 |
| 2:AA:1901:A:O2' | 2:AA:1902:C:H5' | 2.11 | 0.51 |
| 2:AA:1915:U:H2' | 2:AA:1915:U:O2 | 2.10 | 0.51 |
| 2:AA:1918:A:OP2 | 2:AA:1918:A:C2' | 2.58 | 0.51 |
| 2:AA:2000:G:C4 | 2:AA:2001:A:C8 | 2.99 | 0.51 |
| 2:AA:2042:A:C2' | 2:AA:2043:C:H5' | 2.40 | 0.51 |
| 2:AA:2119:A:C2 | 2:AA:2147:G:OP1 | 2.64 | 0.51 |
| 2:AA:2126:A:N1 | 2:AA:2127:G:C2 | 2.79 | 0.51 |
| 2:AA:2246:G:N2 | 2:AA:2247:A:C6 | 2.79 | 0.51 |
| 2:AA:2278:A:C1' | 15:AP:19:TYR:HD2 | 2.24 | 0.51 |
| 2:AA:2282:G:N2 | 2:AA:2427:C:N3 | 2.55 | 0.51 |
| 2:AA:2324:C:O2' | 2:AA:2325:G:OP1 | 2.18 | 0.51 |
| 2:AA:2348:U:C5' | 32:A8:42:ARG:NH2 | 2.74 | 0.51 |
| 2:AA:2354:G:C4' | 27:A3:31:VAL:CG2 | 2.89 | 0.51 |
| 2:AA:2393:A:H5' | 32:A8:13:ARG:NH2 | 2.26 | 0.51 |
| 2:AA:2458:G:O2' | 2:AA:2459:A:N7 | 2.44 | 0.51 |
| 2:AA:2555:U:H2' | 2:AA:2556:C:O4' | 2.12 | 0.51 |
| 2:AA:2612:C:H5" | 29:A5:2:ALA:CB | 2.41 | 0.51 |
| 2:AA:2687:U:N3 | 2:AA:2688:U:C6 | 2.79 | 0.51 |
| 2:AA:2709:G:C2' | 2:AA:2710:C:C5' | 2.88 | 0.51 |
| 2:AA:2785:C:O2' | 5:AE:100:TRP:HD1 | 1.92 | 0.51 |
| 3:AC:5:LYS:HB3 | 3:AC:5:LYS:HZ2 | 1.76 | 0.51 |
| 4:AD:131:LEU:CD1 | 4:AD:183:ILE:CG2 | 2.89 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:60:SER:HB3 | 6:AF:69:HIS:HB3 | 1.92 | 0.51 |
| 6:AF:206:ASN:O | 6:AF:207:LEU:HG | 2.11 | 0.51 |
| 7:AG:49:PRO:HB2 | 7:AG:72:LYS:O | 2.10 | 0.51 |
| 7:AG:142:ALA:CB | 7:AG:151:ILE:HD11 | 2.41 | 0.51 |
| 8:AH:37:HIS:CB | 8:AH:40:MET:SD | 2.99 | 0.51 |
| 8:AH:41:THR:C | 8:AH:52:THR:OG1 | 2.49 | 0.51 |
| 9:AI:20:GLU:OE1 | 9:AJ:53:GLN:OE1 | 2.29 | 0.51 |
| 9:AJ:85:LEU:HD12 | 11:AL:57:VAL:HB | 1.91 | 0.51 |
| 10:AK:64:ASN:N | 10:AK:64:ASN:HD22 | 2.08 | 0.51 |
| 10:AK:95:SER:O | 10:AK:98:ILE:N | 2.44 | 0.51 |
| 12:AM:83:ILE:O | 12:AM:86:MET:N | 2.41 | 0.51 |
| 12:AM:93:ARG:O | 12:AM:94:GLY:C | 2.47 | 0.51 |
| 14:AO:113:GLN:O | 14:AO:115:ARG:HD2 | 2.11 | 0.51 |
| 15:AP:36:ASN:OD1 | 21:AV:115:ILE:C | 2.50 | 0.51 |
| 16:AQ:33:ARG:O | 16:AQ:47:LEU:HA | 2.11 | 0.51 |
| 16:AQ:87:LEU:H | 16:AQ:87:LEU:CD2 | 2.24 | 0.51 |
| 17:AR:30:HIS:O | 17:AR:31:PHE:HD2 | 1.91 | 0.51 |
| 19:AT:56:ASN:ND2 | 19:AT:62:LYS:CG | 2.74 | 0.51 |
| 20:AU:20:HIS:O | 20:AU:23:VAL:CB | 2.58 | 0.51 |
| 20:AU:27:LEU:O | 20:AU:28:SER:O | 2.29 | 0.51 |
| 20:AU:52:ARG:HB2 | 20:AU:95:ASN:ND2 | 2.26 | 0.51 |
| 20:AU:53:GLY:O | 20:AU:56:ALA:HB2 | 2.10 | 0.51 |
| 20:AU:54:ASP:C | 20:AU:56:ALA:H | 2.14 | 0.51 |
| 22:AW:56:ILE:O | 22:AW:59:ILE:HG22 | 2.11 | 0.51 |
| 23:AX:20:LYS:HA | 23:AX:23:LEU:CG | 2.41 | 0.51 |
| 24:A0:50:HIS:CE1 | 24:A0:54:LEU:CD1 | 2.93 | 0.51 |
| 24:A0:97:VAL:O | 24:A0:98:LEU:HD23 | 2.11 | 0.51 |
| 25:A1:8:ILE:HD13 | 25:A1:9:VAL:CG2 | 2.40 | 0.51 |
| 27:A3:62:LEU:O | 27:A3:63:SER:C | 2.50 | 0.51 |
| 31:A7:32:ALA:O | 31:A7:35:ARG:HB2 | 2.11 | 0.51 |
| 33:A9:11:CYS:SG | 33:A9:11:CYS:O | 2.68 | 0.51 |
| 34:BA:41:G:O2' | 34:BA:42:G:C5' | 2.60 | 0.51 |
| 34:BA:43:C:C5' | 51:BS:12:LYS:CB | 2.88 | 0.51 |
| 34:BA:128:G:O2' | 34:BA:129:U:H5' | 2.11 | 0.51 |
| 34:BA:242:C:C2 | 34:BA:285:G:C2 | 2.98 | 0.51 |
| 34:BA:261:U:H5 | 55:BW:79:ARG:NH2 | 2.08 | 0.51 |
| 34:BA:319:G:H5' | 34:BA:1468:A:H4' | 1.92 | 0.51 |
| 34:BA:333:G:H2' | 34:BA:334:C:C6 | 2.46 | 0.51 |
| 34:BA:340:U:O2' | 34:BA:341:C:C5' | 2.58 | 0.51 |
| 34:BA:673:G:N2 | 34:BA:674:G:N2 | 2.58 | 0.51 |
| 34:BA:675:A:H2' | 34:BA:676:A:C8 | 2.46 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:687:A:C2 | 34:BA:704:A:C5 | 2.99 | 0.51 |
| 34:BA:750:G:H1' | 50:BR:23:GLY:N | 2.26 | 0.51 |
| 34:BA:779:C:H4' | 46:BN:121:PRO:O | 2.11 | 0.51 |
| 34:BA:841:U:H3' | 34:BA:848:C:C5' | 2.36 | 0.51 |
| 34:BA:944:G:C3' | 34:BA:945:G:C5' | 2.90 | 0.51 |
| 34:BA:978:A:H62 | 34:BA:1361:G:N2 | 2.07 | 0.51 |
| 34:BA:1072:G:C6 | 34:BA:1104:G:N1 | 2.78 | 0.51 |
| 34:BA:1128:C:H2' | 34:BA:1130:A:C8 | 2.45 | 0.51 |
| 34:BA:1157:A:C8 | 34:BA:1181:G:N2 | 2.79 | 0.51 |
| 34:BA:1212:U:O2' | 34:BA:1213:A:O5' | 2.28 | 0.51 |
| 34:BA:1240:U:H1' | 42:BJ:42:ILE:HD11 | 1.93 | 0.51 |
| 34:BA:1248:A:H2' | 44:BL:70:LYS:HZ1 | 1.76 | 0.51 |
| 34:BA:1252:A:C6 | 34:BA:1253:G:N7 | 2.79 | 0.51 |
| 34:BA:1256:A:C2 | 34:BA:1258:G:N1 | 2.79 | 0.51 |
| 34:BA:1342:C:H4' | 44:BL:125:TYR:HD1 | 1.75 | 0.51 |
| 34:BA:1351:U:H4' | 42:BJ:33:ASP:OD2 | 2.11 | 0.51 |
| 34:BA:1539:C:C2' | 34:BA:1540:U:C5' | 2.88 | 0.51 |
| 35:BC:31:A:H5' | 35:BC:32:C:OP2 | 2.11 | 0.51 |
| 36:B1:12:U:O5' | 36:B1:12:U:H6 | 1.94 | 0.51 |
| 37:BE:42:ILE:HG23 | 37:BE:43:ASP:H | 1.72 | 0.51 |
| 37:BE:50:GLU:CG | 37:BE:200:ILE:HB | 2.41 | 0.51 |
| 37:BE:80:ILE:HG21 | 37:BE:211:ILE:CG2 | 2.40 | 0.51 |
| 38:BF:16:ARG:HH21 | 38:BF:184:TYR:H | 1.52 | 0.51 |
| 38:BF:160:ALA:HB3 | 38:BF:162:GLN:O | 2.11 | 0.51 |
| 38:BF:162:GLN:CD | 38:BF:163:ALA:N | 2.64 | 0.51 |
| 38:BF:196:LEU:HD23 | 38:BF:196:LEU:N | 2.25 | 0.51 |
| 39:BG:13:ARG:NH1 | 39:BG:38:TYR:CE1 | 2.78 | 0.51 |
| 39:BG:99:SER:O | 39:BG:140:VAL:HG23 | 2.10 | 0.51 |
| 39:BG:100:ARG:CZ | 39:BG:137:SER:HA | 2.41 | 0.51 |
| 41:BI:14:LEU:HA | 41:BI:18:GLN:NE2 | 2.26 | 0.51 |
| 42:BJ:76:ARG:CZ | 42:BJ:89:MET:HE2 | 2.41 | 0.51 |
| 43:BK:46:LYS:CE | 43:BK:64:LYS:HA | 2.41 | 0.51 |
| 44:BL:24:GLY:C | 44:BL:25:LYS:HG3 | 2.31 | 0.51 |
| 44:BL:32:ASP:OD1 | 44:BL:35:GLU:N | 2.43 | 0.51 |
| 44:BL:49:PRO:HD3 | 44:BL:78:LYS:HD3 | 1.93 | 0.51 |
| 45:BM:60:ARG:O | 45:BM:61:GLU:CB | 2.57 | 0.51 |
| 47:BO:102:ARG:NH2 | 47:BO:110:VAL:HA | 2.26 | 0.51 |
| 47:BO:115:LYS:O | 47:BO:117:ARG:HG3 | 2.10 | 0.51 |
| 47:BO:117:ARG:CZ | 47:BO:124:LYS:CA | 2.88 | 0.51 |
| 48:BP:69:GLU:HA | 48:BP:72:ALA:HB3 | 1.91 | 0.51 |
| 50:BR:15:PHE:O | 50:BR:16:ALA:O | 2.29 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 51:BS:1:MET:CE | 51:BS:3:LYS:HE2 | 2.41 | 0.51 |
| 51:BS:1:MET:HE2 | 51:BS:3:LYS:HE2 | 1.92 | 0.51 |
| 54:BV:72:GLY:C | 54:BV:74:PHE:H | 2.15 | 0.51 |
| 55:BW:63:ILE:HG23 | 55:BW:77:ALA:CB | 2.34 | 0.51 |
| 1:AB:89:G:N3 | 1:AB:89(A):A:C6 | 2.79 | 0.50 |
| 2:AA:76:C:H4' | 22:AW:55:ARG:NE | 2.25 | 0.50 |
| 2:AA:84:A:C5' | 2:AA:85:G:OP1 | 2.59 | 0.50 |
| 2:AA:115:C:O2' | 2:AA:116:C:C5' | 2.59 | 0.50 |
| 2:AA:249:C:O3' | 32:A8:8:LYS:HG2 | 2.11 | 0.50 |
| 2:AA:284:U:H2' | 2:AA:285:C:C5 | 2.47 | 0.50 |
| 2:AA:296:C:H2' | 2:AA:297:C:H6 | 1.76 | 0.50 |
| 2:AA:330:A:O4' | 2:AA:1210:A:N6 | 2.44 | 0.50 |
| 2:AA:446:G:P | 25:A1:3:ARG:HB3 | 2.51 | 0.50 |
| 2:AA:448:U:H2' | 2:AA:448:U:O2 | 2.11 | 0.50 |
| 2:AA:574:C:C4' | 2:AA:575:A:H5" | 2.41 | 0.50 |
| 2:AA:604:G:N2 | 2:AA:624:C:C2 | 2.77 | 0.50 |
| 2:AA:685:A:C8 | 2:AA:774:A:N6 | 2.79 | 0.50 |
| 2:AA:752:A:N6 | 2:AA:1781:C:H1' | 2.26 | 0.50 |
| 2:AA:835:A:N6 | 2:AA:836:G:C6 | 2.79 | 0.50 |
| 2:AA:836:G:C6 | 2:AA:837:C:C4 | 2.99 | 0.50 |
| 2:AA:870:A:H4' | 15:AP:23:ILE:HG23 | 1.92 | 0.50 |
| 2:AA:874:G:N1 | 2:AA:903:C:N4 | 2.13 | 0.50 |
| 2:AA:955:C:H2' | 2:AA:956:G:O4' | 2.11 | 0.50 |
| 2:AA:1174:A:N6 | 2:AA:1177:A:C2 | 2.79 | 0.50 |
| 2:AA:1249:U:H3' | 2:AA:1249:U:C6 | 2.46 | 0.50 |
| 2:AA:1296:G:C6 | 2:AA:1297:C:N4 | 2.79 | 0.50 |
| 2:AA:1346:G:O2' | 2:AA:1347:G:O5' | 2.29 | 0.50 |
| 2:AA:1347:G:HO2' | 2:AA:1348:G:H5' | 1.75 | 0.50 |
| 2:AA:1364:G:N9 | 2:AA:1368:G:N2 | 2.60 | 0.50 |
| 2:AA:1596:A:O2' | 2:AA:1597:A:H5' | 2.11 | 0.50 |
| 2:AA:1604:C:HO2' | 2:AA:1605:C:C5' | 2.18 | 0.50 |
| 2:AA:1704:G:C2 | 2:AA:1705:G:C1' | 2.93 | 0.50 |
| 2:AA:1823:G:C2 | 2:AA:1824:G:C8 | 2.99 | 0.50 |
| 2:AA:1832:C:C5 | 2:AA:1833:U:C5 | 2.99 | 0.50 |
| 2:AA:1846:G:C2 | 2:AA:1895:C:C4 | 2.99 | 0.50 |
| 2:AA:1935:G:C4 | 2:AA:1962:C:C5 | 2.99 | 0.50 |
| 2:AA:1984:G:C4 | 2:AA:1985:G:C8 | 2.99 | 0.50 |
| 2:AA:1992:G:C6 | 2:AA:1997:G:C5 | 2.98 | 0.50 |
| 2:AA:2014:A:H2 | 2:AA:2613:U:H3 | 1.57 | 0.50 |
| 2:AA:2088:G:O6 | 2:AA:2089:U:C4 | 2.64 | 0.50 |
| 2:AA:2096:U:N3 | 2:AA:2097:C:H5 | 2.09 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2098:U:O4 | 2:AA:2191:G:O6 | 2.29 | 0.50 |
| 2:AA:2127:G:O6 | 2:AA:2174:C:OP1 | 2.29 | 0.50 |
| 2:AA:2130:U:C5 | 2:AA:2131:G:N2 | 2.75 | 0.50 |
| 2:AA:2135:A:C8 | 2:AA:2152:G:H8 | 2.29 | 0.50 |
| 2:AA:2184:G:O2' | 2:AA:2185:C:H5' | 2.11 | 0.50 |
| 2:AA:2217:G:H8 | 2:AA:2217:G:OP2 | 1.94 | 0.50 |
| 2:AA:2291:U:H5' | 2:AA:2380:C:O2 | 2.11 | 0.50 |
| 2:AA:2346:A:C2' | 2:AA:2347:C:OP1 | 2.59 | 0.50 |
| 2:AA:2407:G:N2 | 2:AA:2408:U:N3 | 2.58 | 0.50 |
| 2:AA:2419:U:OP1 | 32:A8:41:ILE:CD1 | 2.59 | 0.50 |
| 2:AA:2457:U:H2' | 2:AA:2458:G:C4' | 2.41 | 0.50 |
| 2:AA:2476:A:H8 | 2:AA:2476:A:H3' | 1.75 | 0.50 |
| 2:AA:2481:G:H2' | 2:AA:2482:G:OP2 | 2.10 | 0.50 |
| 2:AA:2567:G:C4 | 2:AA:2568:C:C5 | 2.99 | 0.50 |
| 2:AA:2666:C:H2' | 2:AA:2667:C:H5' | 1.93 | 0.50 |
| 2:AA:2689:U:C5' | 2:AA:2690:C:H5' | 2.31 | 0.50 |
| 2:AA:2706:G:C2' | 2:AA:2707:G:O5' | 2.54 | 0.50 |
| 2:AA:2728:U:H2' | 2:AA:2729:G:C8 | 2.45 | 0.50 |
| 2:AA:2745:C:O2' | 8:AH:142:GLU:HG3 | 2.11 | 0.50 |
| 2:AA:2840:C:C4 | 2:AA:2841:C:C4 | 2.99 | 0.50 |
| 4:AD:184:LEU:HB2 | 4:AD:187:CYS:SG | 2.51 | 0.50 |
| 5:AE:71:THR:OG1 | 5:AE:299:SER:HB2 | 2.11 | 0.50 |
| 5:AE:83:LEU:HD11 | 5:AE:178:LEU:HA | 1.93 | 0.50 |
| 5:AE:109:ASP:CG | 5:AE:112:LEU:CG | 2.79 | 0.50 |
| 5:AE:180:ILE:O | 5:AE:183:ASP:CB | 2.49 | 0.50 |
| 5:AE:204:VAL:O | 5:AE:303:PRO:HB3 | 2.10 | 0.50 |
| 5:AE:235:ILE:HG23 | 5:AE:236:GLY:N | 2.25 | 0.50 |
| 6:AF:240:LEU:CA | 6:AF:243:VAL:HG23 | 2.35 | 0.50 |
| 7:AG:56:ARG:C | 7:AG:63:ILE:HG13 | 2.32 | 0.50 |
| 7:AG:57:THR:HG22 | 7:AG:58:VAL:H | 1.77 | 0.50 |
| 8:AH:21:ASN:HB3 | 8:AH:38:PRO:HB3 | 1.93 | 0.50 |
| 8:AH:90:GLY:O | 8:AH:93:TYR:O | 2.29 | 0.50 |
| 12:AM:45:VAL:CA | 12:AM:131:THR:O | 2.57 | 0.50 |
| 13:AN:1:MET:CE | 13:AN:67:ARG:HB3 | 2.41 | 0.50 |
| 13:AN:3:GLN:HG2 | 13:AN:4:GLN:CB | 2.41 | 0.50 |
| 14:AO:94:ARG:C | 14:AO:120:LEU:HD13 | 2.31 | 0.50 |
| 14:AO:141:GLU:O | 14:AO:145:LEU:HD13 | 2.11 | 0.50 |
| 15:AP:86:ARG:CB | 15:AP:121:ASP:O | 2.50 | 0.50 |
| 15:AP:101:MET:SD | 15:AP:101:MET:C | 2.89 | 0.50 |
| 17:AR:53:ASP:O | 17:AR:56:ARG:HD2 | 2.10 | 0.50 |
| 18:AS:32:ALA:O | 18:AS:35:ILE:N | 2.45 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:48:VAL:HG11 | 20:AU:96:VAL:CG1 | 2.31 | 0.50 |
| 20:AU:102:ASP:O | 20:AU:108:ARG:HB3 | 2.11 | 0.50 |
| 21:AV:24:TYR:HA | 21:AV:29:ASN:OD1 | 2.11 | 0.50 |
| 21:AV:47:SER:O | 21:AV:49:THR:OG1 | 2.28 | 0.50 |
| 21:AV:148:THR:HB | 21:AV:166:LEU:H | 1.77 | 0.50 |
| 24:A0:36:THR:HB | 24:A0:40:LYS:HB2 | 1.92 | 0.50 |
| 24:A0:37:THR:HA | 24:A0:111:LEU:HA | 1.92 | 0.50 |
| 24:A0:72:ASP:CG | 24:A0:74:LYS:HD3 | 2.30 | 0.50 |
| 26:A2:19:VAL:O | 26:A2:21:ARG:NH1 | 2.44 | 0.50 |
| 27:A3:42:GLY:O | 27:A3:43:THR:HG22 | 2.11 | 0.50 |
| 29:A5:33:CYS:CB | 29:A5:34:PRO:CD | 2.88 | 0.50 |
| 31:A7:32:ALA:O | 31:A7:33:ARG:C | 2.49 | 0.50 |
| 34:BA:9:G:OP2 | 40:BH:121:LYS:HD2 | 2.11 | 0.50 |
| 34:BA:22:G:H4' | 34:BA:885:G:N9 | 2.26 | 0.50 |
| 34:BA:150:C:C2' | 34:BA:151:A:O4' | 2.58 | 0.50 |
| 34:BA:173:U:C5' | 34:BA:197:A:C4' | 2.89 | 0.50 |
| 34:BA:190(E):U:H3 | 52:BT:63:ARG:HB3 | 1.76 | 0.50 |
| 34:BA:246:A:O2' | 34:BA:247:G:O4' | 2.23 | 0.50 |
| 34:BA:271:C:H2' | 34:BA:272:C:O5' | 2.10 | 0.50 |
| 34:BA:296:U:O2 | 34:BA:302:G:C2 | 2.65 | 0.50 |
| 34:BA:304:U:H2' | 34:BA:305:G:C8 | 2.46 | 0.50 |
| 34:BA:321:A:N7 | 34:BA:328:C:C6 | 2.79 | 0.50 |
| 34:BA:409:G:OP1 | 39:BG:24:GLU:N | 2.43 | 0.50 |
| 34:BA:618:C:H3' | 34:BA:620:C:OP2 | 2.11 | 0.50 |
| 34:BA:683:G:N2 | 46:BN:39:PRO:HD3 | 2.25 | 0.50 |
| 34:BA:686:U:O4 | 34:BA:703:G:H1' | 2.11 | 0.50 |
| 34:BA:761:G:H5" | 52:BT:103:GLY:N | 2.27 | 0.50 |
| 34:BA:828:A:N1 | 34:BA:859:A:C4' | 2.74 | 0.50 |
| 34:BA:948:C:O2 | 34:BA:949:A:C8 | 2.64 | 0.50 |
| 34:BA:974:A:O4' | 34:BA:974:A:OP1 | 2.30 | 0.50 |
| 34:BA:1011:G:H2' | 34:BA:1012:U:C5' | 2.41 | 0.50 |
| 34:BA:1016:A:N6 | 34:BA:1017:G:C2 | 2.79 | 0.50 |
| 34:BA:1196:U:C5' | 34:BA:1197:G:O5' | 2.58 | 0.50 |
| 34:BA:1227:A:O2' | 48:BP:115:LYS:CG | 2.59 | 0.50 |
| 34:BA:1269:A:C8 | 34:BA:1270:C:O4' | 2.46 | 0.50 |
| 34:BA:1308:U:C4' | 48:BP:99:ARG:HH12 | 2.24 | 0.50 |
| 34:BA:1320:C:H2' | 34:BA:1321:C:O4' | 2.12 | 0.50 |
| 34:BA:1419:G:H2' | 34:BA:1420:C:C5 | 2.46 | 0.50 |
| 34:BA:1493:A:O2' | 34:BA:1494:G:H5' | 2.11 | 0.50 |
| 34:BA:1500:A:OP1 | 34:BA:1505:G:P | 2.69 | 0.50 |
| 34:BA:1501:C:OP1 | 34:BA:1508:G:H4' | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:35:A:C5 | 36:B1:65:U:N3 | 2.63 | 0.50 |
| 35:BC:8:U:C1' | 35:BC:48:C:HO2' | 2.23 | 0.50 |
| 35:BC:56:C:H42 | 35:BC:57:G:N2 | 2.10 | 0.50 |
| 38:BF:67:THR:CA | 38:BF:102:ASN:O | 2.43 | 0.50 |
| 38:BF:122:GLU:O | 38:BF:123:GLN:C | 2.48 | 0.50 |
| 39:BG:60:GLU:HG2 | 39:BG:203:VAL:HG23 | 1.93 | 0.50 |
| 40:BH:7:GLU:OE1 | 40:BH:112:LEU:HD21 | 2.11 | 0.50 |
| 41:BI:11:ASN:ND2 | 41:BI:13:ASN:HB2 | 2.24 | 0.50 |
| 42:BJ:30:ILE:O | 42:BJ:31:MET:O | 2.29 | 0.50 |
| 43:BK:18:ARG:HH11 | 43:BK:18:ARG:CG | 2.24 | 0.50 |
| 44:BL:5:TYR:CZ | 44:BL:18:PHE:CZ | 2.99 | 0.50 |
| 44:BL:111:ARG:HG2 | 44:BL:112:LYS:O | 2.11 | 0.50 |
| 45:BM:6:ILE:O | 45:BM:71:LEU:HD13 | 2.11 | 0.50 |
| 46:BN:53:SER:OG | 46:BN:54:ARG:CD | 2.59 | 0.50 |
| 48:BP:24:GLY:CA | 48:BP:66:LEU:HD13 | 2.41 | 0.50 |
| 48:BP:91:ARG:NH1 | 48:BP:96:LEU:CD1 | 2.70 | 0.50 |
| 48:BP:91:ARG:NH1 | 48:BP:97:PRO:HG2 | 2.25 | 0.50 |
| 49:BQ:12:ARG:C | 49:BQ:14:PRO:N | 2.64 | 0.50 |
| 52:BT:11:VAL:HG22 | 52:BT:20:THR:OG1 | 2.12 | 0.50 |
| 53:BU:67:ALA:O | 53:BU:68:LYS:C | 2.49 | 0.50 |
| 1:AB:58:A:H1' | 7:AG:140:ARG:NH2 | 2.26 | 0.50 |
| 1:AB:104:A:H2' | 1:AB:105:G:O4' | 2.12 | 0.50 |
| 2:AA:1:G:H2' | 2:AA:2:G:C8 | 2.46 | 0.50 |
| 2:AA:21:A:H2' | 2:AA:22:C:H6 | 1.76 | 0.50 |
| 2:AA:26:G:H21 | 2:AA:513:A:N6 | 2.09 | 0.50 |
| 2:AA:81:G:H2' | 2:AA:82:G:C5' | 2.41 | 0.50 |
| 2:AA:122:G:N2 | 2:AA:130:C:C1' | 2.74 | 0.50 |
| 2:AA:126:A:N7 | 2:AA:127:A:C2 | 2.80 | 0.50 |
| 2:AA:261:G:C4' | 2:AA:608:A:C2 | 2.89 | 0.50 |
| 2:AA:270:A:C8 | 2:AA:270(A):A:H1' | 2.46 | 0.50 |
| 2:AA:281:G:H2' | 2:AA:281:G:N3 | 2.26 | 0.50 |
| 2:AA:317:G:N1 | 2:AA:318:C:N3 | 2.59 | 0.50 |
| 2:AA:380:U:O2' | 28:A4:15:ILE:HB | 2.12 | 0.50 |
| 2:AA:391:G:C4 | 2:AA:411:G:N2 | 2.79 | 0.50 |
| 2:AA:442:G:C2 | 2:AA:444:C:C5 | 3.00 | 0.50 |
| 2:AA:503:A:C2 | 2:AA:505:A:N6 | 2.79 | 0.50 |
| 2:AA:624:C:H2' | 2:AA:657:U:OP1 | 2.11 | 0.50 |
| 2:AA:666:G:C2' | 2:AA:667:U:O5' | 2.59 | 0.50 |
| 2:AA:724:U:O2 | 2:AA:725:G:O4' | 2.29 | 0.50 |
| 2:AA:976:C:O2 | 2:AA:977:G:H8 | 1.94 | 0.50 |
| 2:AA:1027:A:C2 | 2:AA:2488:A:H5' | 2.46 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1082:U:C6 | 2:AA:1082:U:C3' | 2.95 | 0.50 |
| 2:AA:1189:A:C3' | 2:AA:1190:G:C5' | 2.89 | 0.50 |
| 2:AA:1189:A:N7 | 2:AA:1190:G:C8 | 2.79 | 0.50 |
| 2:AA:1223:C:C2 | 2:AA:1227:A:C2 | 2.99 | 0.50 |
| 2:AA:1239:G:H1' | 2:AA:1240:U:C5 | 2.46 | 0.50 |
| 2:AA:1376:C:C2' | 2:AA:1377:G:C8 | 2.91 | 0.50 |
| 2:AA:1379:A:N6 | 31:A7:10:ARG:HH22 | 2.06 | 0.50 |
| 2:AA:1472:A:H2' | 2:AA:1473:G:O5' | 2.11 | 0.50 |
| 2:AA:1483:G:C6 | 2:AA:1484:G:N7 | 2.80 | 0.50 |
| 2:AA:1486:A:H2' | 2:AA:1487:G:C8 | 2.46 | 0.50 |
| 2:AA:1522:G:C2 | 2:AA:1523:U:C5 | 2.99 | 0.50 |
| 2:AA:1529:A:H5" | 2:AA:1530:G:H8 | 1.76 | 0.50 |
| 2:AA:1554:A:C2' | 2:AA:1555:G:N7 | 2.75 | 0.50 |
| 2:AA:1629:U:O2 | 2:AA:2698:U:C5' | 2.60 | 0.50 |
| 2:AA:1780:A:C2' | 2:AA:1781:C:OP1 | 2.59 | 0.50 |
| 2:AA:1850:G:C4 | 2:AA:1851:U:C6 | 2.99 | 0.50 |
| 2:AA:1894:C:C2 | 2:AA:1895:C:H5 | 2.28 | 0.50 |
| 2:AA:1936:A:N9 | 2:AA:1940:U:C4 | 2.79 | 0.50 |
| 2:AA:1999:C:C2 | 2:AA:2000:G:C8 | 2.99 | 0.50 |
| 2:AA:2009:G:H2' | 2:AA:2010:G:O5' | 2.11 | 0.50 |
| 2:AA:2012:G:C5' | 18:AS:98:LYS:NZ | 2.74 | 0.50 |
| 2:AA:2022:U:H1' | 2:AA:2034:U:C2 | 2.45 | 0.50 |
| 2:AA:2110:G:C6 | 2:AA:2179:C:N3 | 2.79 | 0.50 |
| 2:AA:2228:G:C6 | 2:AA:2229:C:C2 | 2.99 | 0.50 |
| 2:AA:2250:G:C8 | 15:AP:102:ARG:HA | 2.41 | 0.50 |
| 2:AA:2255:G:C5 | 2:AA:2256:G:C8 | 3.00 | 0.50 |
| 2:AA:2276:G:O2' | 2:AA:2277:G:O5' | 2.15 | 0.50 |
| 2:AA:2349:G:H2' | 2:AA:2350:C:H5" | 1.93 | 0.50 |
| 2:AA:2357:U:C2' | 2:AA:2358:G:O5' | 2.59 | 0.50 |
| 2:AA:2396:G:OP1 | 28:A4:28:ARG:NE | 2.43 | 0.50 |
| 2:AA:2466:C:OP1 | 33:A9:6:SER:CB | 2.58 | 0.50 |
| 2:AA:2507:C:C6 | 2:AA:2508:G:N7 | 2.79 | 0.50 |
| 2:AA:2528:U:H5" | 33:A9:31:LYS:HE2 | 1.93 | 0.50 |
| 2:AA:2568:C:O2 | 2:AA:2569:G:O4' | 2.29 | 0.50 |
| 2:AA:2653:U:O2 | 2:AA:2668:G:C2 | 2.65 | 0.50 |
| 2:AA:2776:A:N3 | 2:AA:2778:A:N7 | 2.59 | 0.50 |
| 2:AA:2784:C:O2 | 5:AE:98:GLU:CD | 2.49 | 0.50 |
| 2:AA:2789:C:N3 | 2:AA:2790:A:C2 | 2.80 | 0.50 |
| 3:AC:163:PHE:CB | 3:AC:171:ILE:HD11 | 2.36 | 0.50 |
| 4:AD:71:ASP:HB3 | 4:AD:119:PRO:HD2 | 1.94 | 0.50 |
| 5:AE:43:GLY:O | 5:AE:44:TYR:HD1 | 1.93 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:107:GLU:HB3 | 5:AE:110:ARG:NH1 | 2.26 | 0.50 |
| 5:AE:213:PRO:CB | 5:AE:235:ILE:HG12 | 2.41 | 0.50 |
| 5:AE:265:ASN:ND2 | 5:AE:265:ASN:O | 2.44 | 0.50 |
| 5:AE:307:LEU:O | 5:AE:309:PRO:CD | 2.49 | 0.50 |
| 6:AF:80:VAL:CG1 | 6:AF:81:PRO:CD | 2.84 | 0.50 |
| 9:AI:29:PHE:O | 9:AI:33:ALA:HB3 | 2.11 | 0.50 |
| 10:AK:1:MET:HE1 | 10:AK:23:ASP:HA | 1.93 | 0.50 |
| 10:AK:6:LEU:O | 10:AK:14:LYS:NZ | 2.44 | 0.50 |
| 10:AK:66:LYS:HA | 10:AK:69:LYS:CB | 2.40 | 0.50 |
| 10:AK:117:LEU:HD22 | 10:AK:121:ILE:HD11 | 1.93 | 0.50 |
| 11:AL:24:VAL:HG12 | 11:AL:24:VAL:O | 2.11 | 0.50 |
| 12:AM:45:VAL:HG13 | 12:AM:131:THR:CG2 | 2.41 | 0.50 |
| 12:AM:77:GLY:O | 12:AM:80:LYS:N | 2.43 | 0.50 |
| 14:AO:67:ARG:HD3 | 14:AO:112:GLY:HA3 | 1.93 | 0.50 |
| 14:AO:141:GLU:O | 14:AO:141:GLU:OE1 | 2.29 | 0.50 |
| 16:AQ:126:GLY:O | 16:AQ:127:LEU:C | 2.50 | 0.50 |
| 17:AR:49:LEU:HD23 | 17:AR:50:GLU:HA | 1.94 | 0.50 |
| 20:AU:27:LEU:CA | 20:AU:98:VAL:O | 2.59 | 0.50 |
| 21:AV:127:PRO:O | 21:AV:129:ARG:N | 2.44 | 0.50 |
| 24:A0:83:ILE:HG22 | 24:A0:86:ARG:NE | 2.24 | 0.50 |
| 24:A0:89:ASP:CG | 24:A0:90:ARG:H | 2.13 | 0.50 |
| 25:A1:33:ARG:O | 25:A1:34:ASN:C | 2.50 | 0.50 |
| 25:A1:61:TRP:O | 25:A1:65:ILE:HB | 2.11 | 0.50 |
| 25:A1:109:LEU:O | 25:A1:109:LEU:HD23 | 2.11 | 0.50 |
| 26:A2:74:TYR:OH | 26:A2:90:PHE:CE1 | 2.65 | 0.50 |
| 27:A3:37:LEU:HB2 | 27:A3:68:VAL:HA | 1.92 | 0.50 |
| 29:A5:58:LEU:O | 29:A5:59:ALA:HB2 | 2.10 | 0.50 |
| 30:A6:21:TYR:C | 30:A6:22:TYR:CD1 | 2.85 | 0.50 |
| 30:A6:48:VAL:O | 30:A6:50:PHE:HD1 | 1.92 | 0.50 |
| 31:A7:4:THR:H | 31:A7:6:GLN:NE2 | 2.07 | 0.50 |
| 33:A9:15:LYS:O | 33:A9:25:VAL:HG13 | 2.11 | 0.50 |
| 34:BA:29:G:C4' | 34:BA:296:U:OP1 | 2.59 | 0.50 |
| 34:BA:44:G:C2 | 34:BA:45:U:O4' | 2.64 | 0.50 |
| 34:BA:130:A:H5' | 52:BT:63:ARG:HH21 | 1.76 | 0.50 |
| 34:BA:244:U:O4 | 34:BA:893:C:N3 | 2.43 | 0.50 |
| 34:BA:314:C:O2' | 34:BA:353:A:N1 | 2.39 | 0.50 |
| 34:BA:355:C:H1' | 34:BA:388:G:H2' | 1.93 | 0.50 |
| 34:BA:425:G:O2' | 34:BA:426:G:H5' | 2.10 | 0.50 |
| 34:BA:458:C:H3' | 34:BA:459:G:H8 | 1.75 | 0.50 |
| 34:BA:597:G:H2' | 34:BA:598:U:C5' | 2.41 | 0.50 |
| 34:BA:598:U:C2 | 34:BA:599:C:C5 | 2.99 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:616:G:OP2 | 39:BG:141:ARG:NH2 | 2.40 | 0.50 |
| 34:BA:667:G:H1 | 34:BA:739:C:N4 | 2.03 | 0.50 |
| 34:BA:702:A:C2' | 34:BA:703:G:OP1 | 2.59 | 0.50 |
| 34:BA:754:C:P | 50:BR:72:ARG:HH12 | 2.33 | 0.50 |
| 34:BA:950:U:O5' | 34:BA:950:U:H6 | 1.94 | 0.50 |
| 34:BA:978:A:N1 | 34:BA:1318:A:C6 | 2.80 | 0.50 |
| 34:BA:1002:G:C4 | 34:BA:1003:G:H1' | 2.46 | 0.50 |
| 34:BA:1030:C:C2 | 34:BA:30(A):G:N7 | 2.80 | 0.50 |
| 34:BA:1038:C:C2 | 34:BA:1039:C:C5 | 2.99 | 0.50 |
| 34:BA:1051:C:C4 | 34:BA:1052:U:C4 | 2.99 | 0.50 |
| 34:BA:1181:G:C5 | 34:BA:1182:G:C2 | 2.99 | 0.50 |
| 34:BA:1206:G:H4' | 38:BF:194:GLY:N | 2.27 | 0.50 |
| 34:BA:1213:A:H2' | 34:BA:1215:G:C8 | 2.46 | 0.50 |
| 34:BA:1227:A:O2' | 48:BP:115:LYS:CD | 2.59 | 0.50 |
| 34:BA:1296:C:H5" | 34:BA:1297:C:OP2 | 2.11 | 0.50 |
| 34:BA:1297:C:H5" | 34:BA:1298:C:OP1 | 2.11 | 0.50 |
| 34:BA:1405:G:H1' | 34:BA:1519:A:C5' | 2.39 | 0.50 |
| 34:BA:1428:A:C6 | 34:BA:1429:C:N4 | 2.79 | 0.50 |
| 34:BA:1511:G:O2' | 34:BA:1512:U:H5' | 2.10 | 0.50 |
| 35:BB:2:C:H2' | 35:BB:3:G:H5' | 1.93 | 0.50 |
| 35:BC:4:G:C4 | 35:BC:5:A:C8 | 2.98 | 0.50 |
| 35:BC:63:C:HO2' | 35:BC:64:A:C4' | 2.24 | 0.50 |
| 37:BE:7:VAL:CG2 | 37:BE:8:LYS:H | 2.11 | 0.50 |
| 37:BE:44:LEU:HD12 | 37:BE:44:LEU:N | 2.25 | 0.50 |
| 37:BE:77:ALA:O | 37:BE:80:ILE:CA | 2.59 | 0.50 |
| 37:BE:162:ILE:O | 37:BE:185:ILE:HG13 | 2.10 | 0.50 |
| 37:BE:196:LEU:HD12 | 37:BE:196:LEU:C | 2.30 | 0.50 |
| 38:BF:33:LEU:HD13 | 49:BQ:53:LEU:HA | 1.94 | 0.50 |
| 39:BG:15:GLU:HG2 | 39:BG:63:LYS:HB2 | 1.93 | 0.50 |
| 39:BG:78:LEU:CD2 | 39:BG:96:LEU:HB3 | 2.42 | 0.50 |
| 39:BG:119:GLN:O | 39:BG:123:HIS:CD2 | 2.64 | 0.50 |
| 40:BH:71:LEU:HD21 | 40:BH:115:VAL:HG12 | 1.91 | 0.50 |
| 41:BI:23:LYS:HZ2 | 41:BI:59:TYR:HE2 | 1.59 | 0.50 |
| 41:BI:31:GLU:O | 41:BI:33:TYR:N | 2.44 | 0.50 |
| 41:BI:45:LEU:HD21 | 41:BI:59:TYR:CD1 | 2.46 | 0.50 |
| 44:BL:32:ASP:HB3 | 44:BL:35:GLU:CB | 2.17 | 0.50 |
| 44:BL:93:ARG:C | 44:BL:95:LYS:H | 2.15 | 0.50 |
| 45:BM:8:LEU:HD21 | 45:BM:96:ILE:HG23 | 1.93 | 0.50 |
| 47:BO:120:TYR:O | 47:BO:121:GLY:C | 2.49 | 0.50 |
| 48:BP:4:ILE:O | 48:BP:4:ILE:HG22 | 2.10 | 0.50 |
| 48:BP:120:LYS:O | 48:BP:121:LYS:HD2 | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 49:BQ:44:LEU:CG | 49:BQ:45:ARG:N | 2.65 | 0.50 |
| 51:BS:10:GLY:HA2 | 51:BS:14:ASN:ND2 | 2.26 | 0.50 |
| 51:BS:21:VAL:HG22 | 51:BS:36:ILE:HD11 | 1.90 | 0.50 |
| 51:BS:81:ARG:HG2 | 51:BS:83:GLU:CG | 2.40 | 0.50 |
| 54:BV:34:TRP:O | 54:BV:36:ARG:N | 2.44 | 0.50 |
| 55:BW:45:GLN:CA | 55:BW:91:LEU:HD13 | 2.41 | 0.50 |
| 55:BW:76:ALA:C | 55:BW:78:ALA:N | 2.62 | 0.50 |
| 1:AB:23:G:O2' | 1:AB:26:A:N6 | 2.44 | 0.50 |
| 1:AB:33:G:C4 | 1:AB:34:U:C5 | 3.00 | 0.50 |
| 1:AB:61:G:C2 | 1:AB:62:C:C5 | 2.98 | 0.50 |
| 1:AB:70:C:C2 | 1:AB:71:C:C6 | 2.99 | 0.50 |
| 2:AA:7:G:OP1 | 12:AM:102:ARG:NH1 | 2.45 | 0.50 |
| 2:AA:92:G:O2' | 2:AA:93:C:C5' | 2.58 | 0.50 |
| 2:AA:104:U:OP2 | 2:AA:105:C:H5 | 1.94 | 0.50 |
| 2:AA:108:U:C2 | 2:AA:109:G:C8 | 2.99 | 0.50 |
| 2:AA:133:C:C2 | 2:AA:134:C:C5 | 2.98 | 0.50 |
| 2:AA:214:G:C2 | 2:AA:215:G:C2 | 2.97 | 0.50 |
| 2:AA:217:G:C2' | 2:AA:218:A:H5' | 2.21 | 0.50 |
| 2:AA:234:C:H2' | 2:AA:235:U:H5' | 1.93 | 0.50 |
| 2:AA:363(B):G:H2' | 2:AA:363(C):G:H8 | 1.77 | 0.50 |
| 2:AA:568:U:O2 | 2:AA:570:G:H8 | 1.87 | 0.50 |
| 2:AA:675:A:N3 | 2:AA:2443:C:O2' | 2.44 | 0.50 |
| 2:AA:686:G:OP1 | 31:A7:11:LYS:CD | 2.59 | 0.50 |
| 2:AA:781:A:H5' | 2:AA:782:A:OP1 | 2.11 | 0.50 |
| 2:AA:910:A:H1' | 2:AA:2264:C:O2' | 2.12 | 0.50 |
| 2:AA:950:G:C6 | 2:AA:968:G:C6 | 2.99 | 0.50 |
| 2:AA:981:A:OP2 | 2:AA:982:C:N4 | 2.43 | 0.50 |
| 2:AA:1011:G:C2' | 2:AA:1013:C:C5' | 2.89 | 0.50 |
| 2:AA:1047:G:N2 | 2:AA:1110:G:H2' | 2.25 | 0.50 |
| 2:AA:1055:G:N3 | 9:AI:28:LYS:CD | 2.71 | 0.50 |
| 2:AA:1195:G:H1' | 2:AA:1226:G:H22 | 1.76 | 0.50 |
| 2:AA:1202:C:C6 | 2:AA:1244:G:N1 | 2.79 | 0.50 |
| 2:AA:1293:C:O2 | 2:AA:1294:U:H6 | 1.94 | 0.50 |
| 2:AA:1317:A:C8 | 2:AA:1317:A:H3' | 2.46 | 0.50 |
| 2:AA:1346:G:C2' | 2:AA:1347:G:O5' | 2.60 | 0.50 |
| 2:AA:1353:A:H2' | 2:AA:1354:A:O4' | 2.11 | 0.50 |
| 2:AA:1358:G:C2' | 2:AA:1373:A:N6 | 2.73 | 0.50 |
| 2:AA:1366:A:O2' | 2:AA:1367:A:H5' | 2.11 | 0.50 |
| 2:AA:1434:A:C2 | 2:AA:1435:G:N9 | 2.80 | 0.50 |
| 2:AA:1518:C:C5 | 2:AA:1519:G:C8 | 2.99 | 0.50 |
| 2:AA:1527:G:C8 | 2:AA:1527:G:O5' | 2.64 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1544:C:C2' | 2:AA:1545:A:C4' | 2.89 | 0.50 |
| 2:AA:1681:G:H2' | 2:AA:1762:A:C8 | 2.46 | 0.50 |
| 2:AA:1843:C:H2' | 2:AA:1844:C:H6 | 1.75 | 0.50 |
| 2:AA:1857:G:C8 | 2:AA:1857:G:C3' | 2.93 | 0.50 |
| 2:AA:1966:A:C2 | 2:AA:2593:U:C5' | 2.88 | 0.50 |
| 2:AA:2075:U:H2' | 2:AA:2076:U:O3' | 2.11 | 0.50 |
| 2:AA:2103:C:N3 | 2:AA:2187:G:O6 | 2.43 | 0.50 |
| 2:AA:2406:U:H3 | 14:AO:55:GLN:CG | 2.23 | 0.50 |
| 2:AA:2476:A:O2' | 2:AA:2477:C:H5' | 2.11 | 0.50 |
| 2:AA:2492:U:H2' | 2:AA:2493:U:C5' | 2.41 | 0.50 |
| 2:AA:2568:C:C2 | 2:AA:2569:G:C8 | 3.00 | 0.50 |
| 2:AA:2647:U:O2 | 2:AA:2648:C:C5 | 2.64 | 0.50 |
| 2:AA:2789:C:O2' | 2:AA:2893:G:N2 | 2.43 | 0.50 |
| 2:AA:2805:G:C3' | 2:AA:2807:G:C5' | 2.86 | 0.50 |
| 2:AA:2807:G:C4 | 2:AA:2808:U:C5 | 3.00 | 0.50 |
| 3:AC:91:ALA:HB2 | 3:AC:153:ILE:HD13 | 1.93 | 0.50 |
| 4:AD:209:ASN:O | 4:AD:213:LYS:HD3 | 2.11 | 0.50 |
| 5:AE:200:ASP:HA | 5:AE:266:LYS:CD | 2.41 | 0.50 |
| 5:AE:222:ARG:NH1 | 5:AE:222:ARG:CG | 2.50 | 0.50 |
| 6:AF:239:ALA:O | 6:AF:240:LEU:C | 2.50 | 0.50 |
| 7:AG:82:GLU:O | 7:AG:85:GLN:OE1 | 2.28 | 0.50 |
| 10:AK:57:GLN:O | 10:AK:60:GLU:HB3 | 2.11 | 0.50 |
| 10:AK:81:ALA:CB | 10:AK:89:LEU:CD2 | 2.85 | 0.50 |
| 10:AK:94:THR:O | 10:AK:95:SER:C | 2.48 | 0.50 |
| 10:AK:121:ILE:HG22 | 10:AK:122:ARG:H | 1.75 | 0.50 |
| 12:AM:16:ASP:N | 12:AM:44:ALA:HA | 2.27 | 0.50 |
| 12:AM:19:MET:HB2 | 12:AM:45:VAL:O | 2.11 | 0.50 |
| 13:AN:35:ILE:HD12 | 13:AN:35:ILE:H | 1.73 | 0.50 |
| 13:AN:37:ASP:C | 13:AN:62:VAL:HG23 | 2.32 | 0.50 |
| 13:AN:71:ARG:HG3 | 13:AN:72:PRO:HD2 | 1.92 | 0.50 |
| 16:AQ:72:GLU:CB | 16:AQ:74:PRO:HD2 | 2.42 | 0.50 |
| 20:AU:77:VAL:C | 20:AU:89:ARG:HD2 | 2.32 | 0.50 |
| 22:AW:19:GLU:O | 22:AW:23:LEU:CG | 2.45 | 0.50 |
| 23:AX:7:LYS:HA | 23:AX:33:GLN:O | 2.10 | 0.50 |
| 25:A1:37:GLN:O | 25:A1:39:LEU:N | 2.44 | 0.50 |
| 25:A1:47:TYR:CZ | 26:A2:76:SER:HA | 2.42 | 0.50 |
| 25:A1:57:PHE:HA | 25:A1:60:LEU:HB2 | 1.93 | 0.50 |
| 25:A1:85:ARG:CD | 25:A1:116:ALA:O | 2.58 | 0.50 |
| 30:A6:21:TYR:OH | 30:A6:43:VAL:CG2 | 2.60 | 0.50 |
| 34:BA:133:U:O2' | 34:BA:134:A:N7 | 2.31 | 0.50 |
| 34:BA:148:G:O2' | 34:BA:149:A:H5' | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:237:C:H5" | 52:BT:25:ARG:CZ | 2.41 | 0.50 |
| 34:BA:544:G:C5 | 34:BA:545:C:C5 | 2.99 | 0.50 |
| 34:BA:544:G:H2' | 34:BA:545:C:H6 | 1.76 | 0.50 |
| 34:BA:714:G:N2 | 34:BA:777:A:H1' | 2.26 | 0.50 |
| 34:BA:773:G:C2 | 34:BA:774:G:C8 | 3.00 | 0.50 |
| 34:BA:791:G:O6 | 34:BA:792:A:N6 | 2.41 | 0.50 |
| 34:BA:952:U:C5' | 34:BA:972:C:N4 | 2.70 | 0.50 |
| 34:BA:1065:U:O2' | 34:BA:1066:C:O5' | 2.27 | 0.50 |
| 34:BA:1077:G:H22 | 34:BA:1079:G:H3' | 1.73 | 0.50 |
| 34:BA:1078:U:C4 | 34:BA:1079:G:C6 | 3.00 | 0.50 |
| 34:BA:1234:C:C4' | 34:BA:1364:U:H1' | 2.41 | 0.50 |
| 34:BA:1257:U:O2' | 34:BA:1258:G:P | 2.69 | 0.50 |
| 34:BA:1342:C:C1' | 44:BL:124:GLN:HB2 | 2.39 | 0.50 |
| 34:BA:1508:G:N3 | 34:BA:1509:C:C6 | 2.78 | 0.50 |
| 35:BB:6:U:C4 | 35:BB:68:U:N3 | 2.77 | 0.50 |
| 35:BC:1:G:N3 | 35:BC:1:G:H2' | 2.27 | 0.50 |
| 35:BC:34:G:C3' | 35:BC:35:A:C5' | 2.85 | 0.50 |
| 35:BC:62:A:O2' | 35:BC:63:C:H5' | 2.11 | 0.50 |
| 37:BE:14:GLY:O | 37:BE:15:VAL:CG1 | 2.51 | 0.50 |
| 37:BE:54:THR:HG22 | 37:BE:58:ILE:HD11 | 1.93 | 0.50 |
| 37:BE:192:SER:C | 37:BE:194:PRO:HD2 | 2.31 | 0.50 |
| 38:BF:89:GLU:C | 38:BF:91:LEU:N | 2.62 | 0.50 |
| 39:BG:3:ARG:HG3 | 39:BG:3:ARG:NH1 | 2.26 | 0.50 |
| 39:BG:123:HIS:HB3 | 39:BG:125:HIS:NE2 | 2.26 | 0.50 |
| 40:BH:34:VAL:HG23 | 40:BH:62:ALA:HB1 | 1.93 | 0.50 |
| 40:BH:137:GLU:O | 40:BH:140:ARG:N | 2.45 | 0.50 |
| 41:BI:4:TYR:O | 41:BI:65:VAL:O | 2.29 | 0.50 |
| 42:BJ:129:GLU:OE1 | 42:BJ:131:LYS:HD3 | 2.11 | 0.50 |
| 43:BK:18:ARG:HH12 | 43:BK:78:GLN:NE2 | 2.08 | 0.50 |
| 43:BK:27:PRO:O | 43:BK:32:LYS:HD2 | 2.10 | 0.50 |
| 44:BL:4:TYR:CD2 | 44:BL:88:TYR:HB2 | 2.45 | 0.50 |
| 44:BL:19:LEU:HD22 | 44:BL:59:PHE:HB2 | 1.93 | 0.50 |
| 44:BL:47:LEU:CD2 | 44:BL:50:LEU:HD12 | 2.35 | 0.50 |
| 45:BM:30:SER:OG | 45:BM:81:THR:CA | 2.56 | 0.50 |
| 45:BM:49:VAL:CG2 | 49:BQ:44:LEU:HD21 | 2.41 | 0.50 |
| 47:BO:92:ASP:CA | 47:BO:93:LEU:HD23 | 2.40 | 0.50 |
| 48:BP:24:GLY:HA3 | 48:BP:66:LEU:HD13 | 1.93 | 0.50 |
| 52:BT:4:LYS:HD2 | 52:BT:5:VAL:H | 1.76 | 0.50 |
| 52:BT:27:PHE:O | 52:BT:35:VAL:HG13 | 2.12 | 0.50 |
| 52:BT:44:ALA:CB | 52:BT:59:ILE:HD11 | 2.41 | 0.50 |
| 53:BU:48:GLY:N | 53:BU:49:LYS:HZ1 | 2.10 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BU:71:LYS:O | 53:BU:75:ILE:HD12 | 2.11 | 0.50 |
| 2:AA:14:A:H62 | 2:AA:15:G:N2 | 2.08 | 0.50 |
| 2:AA:181:A:N6 | 2:AA:182:A:N6 | 2.59 | 0.50 |
| 2:AA:204:A:OP1 | 2:AA:204:A:C8 | 2.65 | 0.50 |
| 2:AA:206:U:OP2 | 2:AA:206:U:H5 | 1.93 | 0.50 |
| 2:AA:210:C:O2' | 2:AA:211:A:H5' | 2.11 | 0.50 |
| 2:AA:221:A:C4' | 2:AA:222:A:H5' | 2.35 | 0.50 |
| 2:AA:224:G:N7 | 2:AA:420:C:H5' | 2.26 | 0.50 |
| 2:AA:270:A:N7 | 2:AA:270(A):A:C8 | 2.74 | 0.50 |
| 2:AA:290:G:OP2 | 2:AA:290:G:N7 | 2.45 | 0.50 |
| 2:AA:331:A:C5 | 2:AA:1209:G:N2 | 2.79 | 0.50 |
| 2:AA:370:G:O2' | 2:AA:371:A:O4' | 2.29 | 0.50 |
| 2:AA:385:C:O2' | 2:AA:386:G:H5" | 2.11 | 0.50 |
| 2:AA:408:G:H2' | 2:AA:409:C:C5' | 2.41 | 0.50 |
| 2:AA:410:G:N2 | 2:AA:2407:G:C5 | 2.80 | 0.50 |
| 2:AA:522:G:H2' | 2:AA:523:C:H6 | 1.76 | 0.50 |
| 2:AA:557:U:H5" | 12:AM:92:GLN:HB2 | 1.92 | 0.50 |
| 2:AA:703:U:C3' | 2:AA:704:G:C8 | 2.92 | 0.50 |
| 2:AA:742:G:N3 | 2:AA:743:G:C8 | 2.79 | 0.50 |
| 2:AA:778:G:H22 | 2:AA:787:U:H1' | 1.75 | 0.50 |
| 2:AA:861:A:N7 | 2:AA:862:G:C8 | 2.79 | 0.50 |
| 2:AA:898:C:C5' | 2:AA:899:A:OP2 | 2.58 | 0.50 |
| 2:AA:968:G:C6 | 2:AA:969:U:C4 | 3.00 | 0.50 |
| 2:AA:980:A:H2' | 2:AA:981:A:N9 | 2.25 | 0.50 |
| 2:AA:1053:C:H2' | 2:AA:1053:C:O2 | 2.10 | 0.50 |
| 2:AA:1064:C:C4 | 2:AA:1075:C:N4 | 2.80 | 0.50 |
| 2:AA:1081:U:C1' | 11:AL:117:ASN:HD22 | 2.23 | 0.50 |
| 2:AA:1173:G:O2' | 2:AA:1174:A:N7 | 2.41 | 0.50 |
| 2:AA:1178:C:N4 | 2:AA:1179:C:H41 | 2.10 | 0.50 |
| 2:AA:1179:C:C2 | 2:AA:1180:C:C5 | 2.99 | 0.50 |
| 2:AA:1199:U:H6 | 2:AA:1199:U:OP2 | 1.95 | 0.50 |
| 2:AA:1400:G:C6 | 2:AA:1401:G:C6 | 2.99 | 0.50 |
| 2:AA:1472:A:N7 | 2:AA:1474:C:C5 | 2.80 | 0.50 |
| 2:AA:1536:A:H2' | 2:AA:1537:C:C5' | 2.35 | 0.50 |
| 2:AA:1558:A:C2 | 2:AA:1560:G:O4' | 2.65 | 0.50 |
| 2:AA:1571:A:C3' | 2:AA:1571:A:C4 | 2.91 | 0.50 |
| 2:AA:1572:A:P | 2:AA:1572:A:O4' | 2.70 | 0.50 |
| 2:AA:1578:U:H2' | 2:AA:1579:A:C8 | 2.46 | 0.50 |
| 2:AA:1620:G:O4' | 31:A7:1:MET:N | 2.44 | 0.50 |
| 2:AA:1697:G:C8 | 2:AA:1698:A:C5' | 2.95 | 0.50 |
| 2:AA:1709:U:H2' | 2:AA:1710:C:O5' | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1933:G:C2' | 2:AA:1934:C:H5' | 2.41 | 0.50 |
| 2:AA:2028:U:N3 | 2:AA:2029:G:C6 | 2.80 | 0.50 |
| 2:AA:2032:G:N7 | 5:AE:242:ASN:OD1 | 2.44 | 0.50 |
| 2:AA:2226:C:N4 | 2:AA:2227:A:C2 | 2.79 | 0.50 |
| 2:AA:2266:A:H5" | 2:AA:2267:A:OP1 | 2.10 | 0.50 |
| 2:AA:2356:C:N4 | 2:AA:2357:U:O4 | 2.45 | 0.50 |
| 2:AA:2408:U:O2' | 2:AA:2409:G:O5' | 2.30 | 0.50 |
| 2:AA:2460:U:H2' | 2:AA:2461:C:H6 | 1.77 | 0.50 |
| 2:AA:2599:G:O2' | 2:AA:2600:A:O4' | 2.30 | 0.50 |
| 2:AA:2605:U:O5' | 2:AA:2605:U:H6 | 1.94 | 0.50 |
| 2:AA:2624:G:C2 | 2:AA:2625:G:C1' | 2.95 | 0.50 |
| 2:AA:2675:A:H61 | 2:AA:2732:G:H1 | 1.58 | 0.50 |
| 2:AA:2720:U:C5 | 2:AA:2872:G:C6 | 3.00 | 0.50 |
| 2:AA:2748:A:N6 | 2:AA:2757:A:C8 | 2.80 | 0.50 |
| 2:AA:2753:A:C2' | 2:AA:2754:U:H5' | 2.41 | 0.50 |
| 2:AA:2821:A:C2 | 2:AA:2822:G:C5 | 2.99 | 0.50 |
| 3:AC:19:ILE:CD1 | 3:AC:223:ARG:HB3 | 2.41 | 0.50 |
| 3:AC:22:ILE:HG23 | 3:AC:189:ILE:CG2 | 2.41 | 0.50 |
| 4:AD:145:LEU:CD2 | 4:AD:183:ILE:HG12 | 2.38 | 0.50 |
| 5:AE:81:VAL:CG1 | 5:AE:100:TRP:HZ3 | 2.25 | 0.50 |
| 5:AE:201:VAL:HG12 | 5:AE:202:ALA:N | 2.27 | 0.50 |
| 5:AE:229:GLN:C | 5:AE:231:TRP:N | 2.65 | 0.50 |
| 5:AE:243:PRO:O | 5:AE:244:SER:HB3 | 2.11 | 0.50 |
| 6:AF:91:PRO:O | 6:AF:93:LYS:N | 2.45 | 0.50 |
| 6:AF:115:LEU:CB | 6:AF:246:ARG:NH1 | 2.74 | 0.50 |
| 6:AF:161:ASP:HA | 6:AF:165:ASP:OD2 | 2.10 | 0.50 |
| 6:AF:239:ALA:HA | 6:AF:242:GLU:HG3 | 1.92 | 0.50 |
| 7:AG:41:LEU:O | 7:AG:44:ILE:N | 2.44 | 0.50 |
| 7:AG:56:ARG:NH2 | 35:BC:19:G:N2 | 2.59 | 0.50 |
| 7:AG:140:ARG:HD2 | 7:AG:144:ARG:CZ | 2.41 | 0.50 |
| 7:AG:141:VAL:HG11 | 7:AG:149:ARG:HB2 | 1.91 | 0.50 |
| 8:AH:10:ILE:C | 8:AH:14:VAL:HG21 | 2.31 | 0.50 |
| 8:AH:44:VAL:C | 8:AH:45:GLU:OE1 | 2.50 | 0.50 |
| 9:AJ:111:ALA:HA | 9:AJ:114:ILE:HD12 | 1.93 | 0.50 |
| 10:AK:94:THR:C | 10:AK:96:LYS:H | 2.14 | 0.50 |
| 10:AK:131:VAL:HG12 | 10:AK:133:LEU:CD2 | 2.41 | 0.50 |
| 12:AM:19:MET:HB3 | 12:AM:46:ILE:HG13 | 1.91 | 0.50 |
| 12:AM:75:PRO:O | 12:AM:78:ILE:N | 2.43 | 0.50 |
| 13:AN:22:ILE:CG2 | 13:AN:23:LYS:H | 2.19 | 0.50 |
| 14:AO:94:ARG:HD2 | 14:AO:94:ARG:H | 1.76 | 0.50 |
| 18:AS:70:TYR:N | 18:AS:70:TYR:CD1 | 2.79 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:71:VAL:CG1 | 20:AU:91:LEU:O | 2.59 | 0.50 |
| 21:AV:51:LEU:HD22 | 21:AV:63:PRO:HB2 | 1.93 | 0.50 |
| 22:AW:43:PRO:HB2 | 22:AW:46:ILE:CD1 | 2.41 | 0.50 |
| 24:A0:39:PRO:O | 24:A0:40:LYS:C | 2.49 | 0.50 |
| 25:A1:30:LYS:O | 25:A1:32:TYR:HD2 | 1.93 | 0.50 |
| 27:A3:68:VAL:CG2 | 27:A3:72:LYS:HG3 | 2.41 | 0.50 |
| 31:A7:21:ARG:HH12 | 31:A7:42:LEU:CB | 2.20 | 0.50 |
| 32:A8:2:PRO:O | 32:A8:3:LYS:HG3 | 2.12 | 0.50 |
| 32:A8:26:LYS:CG | 32:A8:44:LYS:HA | 2.41 | 0.50 |
| 34:BA:33:A:H2' | 47:BO:32:PHE:HE2 | 1.77 | 0.50 |
| 34:BA:44:G:N3 | 34:BA:45:U:O4' | 2.44 | 0.50 |
| 34:BA:49:U:O4 | 34:BA:362:G:C2 | 2.64 | 0.50 |
| 34:BA:101:A:C2' | 34:BA:102:G:C5' | 2.89 | 0.50 |
| 34:BA:137:C:H42 | 34:BA:226:G:H1 | 1.58 | 0.50 |
| 34:BA:176:C:H5" | 55:BW:29:LYS:NZ | 2.26 | 0.50 |
| 34:BA:195:A:C4' | 55:BW:68:LYS:HZ3 | 2.17 | 0.50 |
| 34:BA:233:C:O2' | 34:BA:234:C:H5' | 2.12 | 0.50 |
| 34:BA:291:C:N4 | 34:BA:305:G:O2' | 2.44 | 0.50 |
| 34:BA:336:C:O2' | 34:BA:337:C:H5' | 2.12 | 0.50 |
| 34:BA:383:A:C2' | 34:BA:384:G:H5' | 2.41 | 0.50 |
| 34:BA:511:C:O2' | 34:BA:512:U:O4' | 2.29 | 0.50 |
| 34:BA:518:C:C5 | 34:BA:530:G:C5 | 2.99 | 0.50 |
| 34:BA:571:U:P | 34:BA:819:A:H2' | 2.52 | 0.50 |
| 34:BA:595:G:H2' | 34:BA:641:U:H3 | 1.77 | 0.50 |
| 34:BA:606:G:H22 | 34:BA:631:G:H2' | 1.76 | 0.50 |
| 34:BA:652:U:C5 | 34:BA:752:G:C4 | 3.00 | 0.50 |
| 34:BA:658:G:C6 | 34:BA:749:C:N4 | 2.80 | 0.50 |
| 34:BA:670:G:O2' | 41:BI:77:ARG:NH2 | 2.43 | 0.50 |
| 34:BA:679:C:C2 | 34:BA:680:C:C5 | 3.00 | 0.50 |
| 34:BA:685:G:H5' | 46:BN:12:ARG:NH1 | 2.27 | 0.50 |
| 34:BA:702:A:O2' | 34:BA:703:G:OP1 | 2.22 | 0.50 |
| 34:BA:778:G:C2' | 34:BA:779:C:O5' | 2.60 | 0.50 |
| 34:BA:1045:C:N3 | 34:BA:1046:A:H8 | 2.08 | 0.50 |
| 34:BA:1054:C:C6 | 34:BA:1054:C:C3' | 2.93 | 0.50 |
| 34:BA:1103:C:O2' | 37:BE:111:ARG:HD2 | 2.11 | 0.50 |
| 34:BA:1291:G:H2' | 34:BA:1292:U:C5 | 2.45 | 0.50 |
| 34:BA:1324:A:C5 | 34:BA:1325:C:C5 | 2.99 | 0.50 |
| 34:BA:1539:C:C2 | 36:B1:50:G:N2 | 2.71 | 0.50 |
| 35:BB:28:C:C2 | 35:BB:29:A:N7 | 2.79 | 0.50 |
| 35:BB:65:G:N2 | 35:BB:66:A:C4 | 2.80 | 0.50 |
| 36:B1:39:A:H2' | 36:B1:39:A:N3 | 2.27 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:20:GLU:CG | 37:BE:189:ASP:CB | 2.90 | 0.50 |
| 37:BE:50:GLU:O | 37:BE:53:ARG:N | 2.44 | 0.50 |
| 38:BF:15:THR:O | 38:BF:16:ARG:CB | 2.57 | 0.50 |
| 39:BG:18:LYS:O | 39:BG:19:LEU:HG | 2.11 | 0.50 |
| 39:BG:157:LEU:HA | 39:BG:160:GLN:HG3 | 1.93 | 0.50 |
| 40:BH:15:ARG:HG3 | 40:BH:15:ARG:NH1 | 2.21 | 0.50 |
| 40:BH:21:ALA:C | 40:BH:23:GLY:H | 2.14 | 0.50 |
| 41:BI:78:GLU:O | 41:BI:81:ILE:HB | 2.12 | 0.50 |
| 41:BI:89:MET:SD | 41:BI:91:VAL:HG23 | 2.52 | 0.50 |
| 42:BJ:123:GLU:O | 42:BJ:125:MET:N | 2.44 | 0.50 |
| 42:BJ:133:GLY:O | 42:BJ:136:LYS:HE3 | 2.11 | 0.50 |
| 43:BK:11:THR:C | 43:BK:13:ILE:H | 2.15 | 0.50 |
| 44:BL:37:PHE:CD1 | 44:BL:43:ALA:HA | 2.46 | 0.50 |
| 47:BO:37:CYS:HA | 47:BO:58:VAL:HG22 | 1.94 | 0.50 |
| 52:BT:10:VAL:HG11 | 52:BT:53:LEU:CA | 2.41 | 0.50 |
| 52:BT:97:SER:HB2 | 52:BT:102:GLY:C | 2.31 | 0.50 |
| 52:BT:97:SER:OG | 52:BT:103:GLY:HA3 | 2.12 | 0.50 |
| 53:BU:26:LEU:HG | 53:BU:29:PHE:HB2 | 1.94 | 0.50 |
| 53:BU:62:GLU:O | 53:BU:63:GLN:C | 2.47 | 0.50 |
| 54:BV:11:VAL:CG2 | 54:BV:39:THR:O | 2.60 | 0.50 |
| 55:BW:50:GLU:H | 55:BW:99:LEU:HG | 1.76 | 0.50 |
| 1:AB:6:C:O2 | 1:AB:114:G:N1 | 2.32 | 0.50 |
| 1:AB:21:G:C2 | 1:AB:22:U:C2 | 3.00 | 0.50 |
| 1:AB:100:G:C4 | 1:AB:101:A:N7 | 2.79 | 0.50 |
| 2:AA:197:A:H3' | 2:AA:198:C:H6 | 1.76 | 0.50 |
| 2:AA:218:A:H61 | 2:AA:235:U:H1' | 1.76 | 0.50 |
| 2:AA:233:A:H2' | 2:AA:234:C:O5' | 2.11 | 0.50 |
| 2:AA:338:G:P | 20:AU:21:LYS:HG3 | 2.52 | 0.50 |
| 2:AA:363(D):G:C2 | 2:AA:363(E):U:H1' | 2.47 | 0.50 |
| 2:AA:387:U:H5" | 28:A4:29:PRO:HG3 | 1.93 | 0.50 |
| 2:AA:503:A:OP2 | 2:AA:503:A:C8 | 2.63 | 0.50 |
| 2:AA:504:U:O5' | 2:AA:504:U:C6 | 2.65 | 0.50 |
| 2:AA:531:C:H42 | 25:A1:38:THR:CG2 | 2.25 | 0.50 |
| 2:AA:686:G:N2 | 2:AA:788:A:C6 | 2.79 | 0.50 |
| 2:AA:744:G:H2' | 2:AA:745:G:H8 | 1.73 | 0.50 |
| 2:AA:786:C:H2' | 2:AA:787:U:O4' | 2.12 | 0.50 |
| 2:AA:787:U:O4 | 2:AA:791:C:C4 | 2.65 | 0.50 |
| 2:AA:988:A:OP2 | 23:AX:11:SER:CB | 2.57 | 0.50 |
| 2:AA:995:C:O2 | 2:AA:995:C:C2' | 2.57 | 0.50 |
| 2:AA:1021:A:C6 | 2:AA:1023:U:C2 | 3.00 | 0.50 |
| 2:AA:1022:G:C6 | 2:AA:1139:G:C5 | 2.99 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1086:A:H2' | 2:AA:1087:G:H5' | 1.94 | 0.50 |
| 2:AA:1094:U:C5 | 2:AA:1096:A:OP2 | 2.63 | 0.50 |
| 2:AA:1141:U:H2' | 2:AA:1141:U:O2 | 2.11 | 0.50 |
| 2:AA:1226:G:C8 | 2:AA:1226:G:C3' | 2.95 | 0.50 |
| 2:AA:1293:C:C2' | 2:AA:1294:U:O5' | 2.60 | 0.50 |
| 2:AA:1304:C:C2' | 2:AA:1304:C:O2 | 2.58 | 0.50 |
| 2:AA:1324:G:C2' | 2:AA:1616:A:H62 | 2.23 | 0.50 |
| 2:AA:1419:A:C4 | 2:AA:1578:U:C4 | 3.00 | 0.50 |
| 2:AA:1496:A:N1 | 2:AA:1577:C:O2' | 2.38 | 0.50 |
| 2:AA:1567:A:N1 | 4:AD:83:ASP:HA | 2.27 | 0.50 |
| 2:AA:1630:G:H2' | 2:AA:630(A):C:H6 | 1.77 | 0.50 |
| 2:AA:1630:G:C6 | 2:AA:630(A):C:N4 | 2.80 | 0.50 |
| 2:AA:1752:C:N4 | 2:AA:1756:G:N1 | 2.37 | 0.50 |
| 2:AA:1789:A:C4 | 2:AA:1790:C:C6 | 2.99 | 0.50 |
| 2:AA:1826:G:N1 | 2:AA:1827:C:C5 | 2.78 | 0.50 |
| 2:AA:1912:A:C8 | 2:AA:1913:A:H1' | 2.46 | 0.50 |
| 2:AA:1931:U:O4 | 2:AA:1969:A:N7 | 2.45 | 0.50 |
| 2:AA:1982:C:C6 | 2:AA:1982:C:O5' | 2.64 | 0.50 |
| 2:AA:2093:G:O2' | 2:AA:2094:G:H5' | 2.10 | 0.50 |
| 2:AA:2137:C:H41 | 2:AA:2155:G:H1' | 1.76 | 0.50 |
| 2:AA:2199:A:H8 | 2:AA:2199:A:O5' | 1.94 | 0.50 |
| 2:AA:2330:G:N1 | 2:AA:2331:G:C4 | 2.80 | 0.50 |
| 2:AA:2356:C:C2' | 2:AA:2357:U:O5' | 2.59 | 0.50 |
| 2:AA:2363:C:O2' | 2:AA:2364:C:H5' | 2.12 | 0.50 |
| 2:AA:2378:A:N3 | 16:AQ:26:LEU:CG | 2.74 | 0.50 |
| 2:AA:2397:G:N1 | 2:AA:2420:C:C2 | 2.80 | 0.50 |
| 2:AA:2411:A:O5' | 2:AA:2411:A:H8 | 1.94 | 0.50 |
| 4:AD:73:ILE:HB | 4:AD:95:TYR:CD2 | 2.46 | 0.50 |
| 4:AD:171:VAL:C | 4:AD:182:MET:SD | 2.90 | 0.50 |
| 5:AE:44:TYR:C | 5:AE:74:GLU:CD | 2.71 | 0.50 |
| 5:AE:45:LYS:NZ | 5:AE:302:GLY:O | 2.44 | 0.50 |
| 5:AE:71:THR:HG1 | 5:AE:299:SER:HA | 1.73 | 0.50 |
| 5:AE:221:LYS:HZ1 | 5:AE:233:ARG:CG | 2.18 | 0.50 |
| 5:AE:233:ARG:O | 5:AE:234:ARG:CG | 2.55 | 0.50 |
| 6:AF:19:PRO:O | 6:AF:23:GLU:HG3 | 2.12 | 0.50 |
| 6:AF:61:PHE:HB2 | 6:AF:67:GLN:OE1 | 2.12 | 0.50 |
| 6:AF:163:HIS:HA | 6:AF:166:ILE:HD12 | 1.93 | 0.50 |
| 7:AG:47:GLN:HE21 | 7:AG:79:MET:HG3 | 1.77 | 0.50 |
| 8:AH:151:ARG:O | 8:AH:152:PRO:O | 2.30 | 0.50 |
| 9:AJ:77:VAL:HG13 | 9:AJ:102:ILE:HD11 | 1.93 | 0.50 |
| 9:AJ:78:ARG:NH2 | 9:AJ:89:LYS:HG3 | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:100:GLU:O | 10:AK:104:ALA:HB2 | 2.12 | 0.50 |
| 12:AM:58:GLU:HG3 | 12:AM:139:LEU:CG | 2.41 | 0.50 |
| 12:AM:75:PRO:O | 12:AM:76:ASP:C | 2.49 | 0.50 |
| 13:AN:40:VAL:O | 13:AN:41:ALA:HB2 | 2.11 | 0.50 |
| 14:AO:66:VAL:CG1 | 14:AO:67:ARG:N | 2.56 | 0.50 |
| 15:AP:57:ARG:CB | 15:AP:60:ALA:HB3 | 2.42 | 0.50 |
| 16:AQ:40:ASN:O | 16:AQ:41:LYS:C | 2.50 | 0.50 |
| 16:AQ:89:GLY:O | 16:AQ:93:GLN:HG3 | 2.12 | 0.50 |
| 19:AT:49:VAL:O | 19:AT:49:VAL:CG1 | 2.55 | 0.50 |
| 20:AU:19:ARG:HH22 | 20:AU:68:ASP:HA | 1.68 | 0.50 |
| 21:AV:19:ILE:HD11 | 21:AV:79:ILE:CG1 | 2.42 | 0.50 |
| 24:A0:18:LEU:O | 24:A0:19:ALA:C | 2.50 | 0.50 |
| 24:A0:83:ILE:HD13 | 24:A0:83:ILE:N | 2.26 | 0.50 |
| 25:A1:8:ILE:HD12 | 25:A1:9:VAL:HG23 | 1.93 | 0.50 |
| 26:A2:42:GLY:CA | 26:A2:54:TYR:CZ | 2.94 | 0.50 |
| 34:BA:18:C:H4' | 34:BA:1078:U:O2 | 2.12 | 0.50 |
| 34:BA:41:G:C2' | 34:BA:42:G:H8 | 2.19 | 0.50 |
| 34:BA:67:C:O4' | 34:BA:172:A:H1' | 2.11 | 0.50 |
| 34:BA:68:G:C6 | 34:BA:69:G:C5 | 2.99 | 0.50 |
| 34:BA:225:C:C2' | 34:BA:226:G:C5' | 2.83 | 0.50 |
| 34:BA:298:A:H3' | 34:BA:299:G:C8 | 2.32 | 0.50 |
| 34:BA:411:A:H2 | 34:BA:431:A:N6 | 2.09 | 0.50 |
| 34:BA:434:U:H2' | 34:BA:435:C:C6 | 2.45 | 0.50 |
| 34:BA:521:G:C6 | 34:BA:529:G:N2 | 2.79 | 0.50 |
| 34:BA:553:A:H2' | 34:BA:554:C:H6 | 1.74 | 0.50 |
| 34:BA:666:G:OP2 | 34:BA:726:C:H1' | 2.12 | 0.50 |
| 34:BA:685:G:C2 | 34:BA:686:U:C5 | 2.99 | 0.50 |
| 34:BA:691:G:H1 | 46:BN:52:GLY:HA2 | 1.77 | 0.50 |
| 34:BA:696:A:C4 | 34:BA:697:U:C5 | 3.00 | 0.50 |
| 34:BA:792:A:C4 | 34:BA:794:A:N6 | 2.79 | 0.50 |
| 34:BA:997:U:C4 | 34:BA:1044:A:N1 | 2.79 | 0.50 |
| 34:BA:1055:A:N7 | 34:BA:1200:C:N4 | 2.60 | 0.50 |
| 34:BA:1151:A:C2' | 34:BA:1152:A:O5' | 2.60 | 0.50 |
| 34:BA:1288:A:O2' | 34:BA:1289:A:O5' | 2.21 | 0.50 |
| 34:BA:1324:A:N6 | 34:BA:1325:C:N4 | 2.60 | 0.50 |
| 34:BA:1347:G:C2' | 34:BA:1348:U:OP2 | 2.59 | 0.50 |
| 34:BA:361(A):C:O2' | 34:BA:1362:C:O4' | 2.29 | 0.50 |
| 34:BA:1436:U:C5 | 34:BA:1437:C:C5 | 2.99 | 0.50 |
| 34:BA:1493:A:C2' | 34:BA:1494:G:O5' | 2.60 | 0.50 |
| 35:BB:1:G:N1 | 35:BB:73:A:C2 | 2.79 | 0.50 |
| 35:BC:16:U:P | 35:BC:60:C:HO2' | 2.28 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:23:ARG:HH11 | 37:BE:24:TRP:CA | 2.24 | 0.50 |
| 37:BE:102:LEU:O | 37:BE:180:LEU:HD13 | 2.11 | 0.50 |
| 38:BF:130:VAL:O | 38:BF:134:ILE:HD12 | 2.11 | 0.50 |
| 39:BG:19:LEU:O | 39:BG:20:TYR:O | 2.29 | 0.50 |
| 39:BG:63:LYS:HG2 | 39:BG:64:LEU:N | 2.22 | 0.50 |
| 39:BG:200:GLU:O | 39:BG:204:ILE:HD12 | 2.11 | 0.50 |
| 40:BH:12:LEU:CD1 | 40:BH:31:LEU:CB | 2.89 | 0.50 |
| 40:BH:36:ASP:OD2 | 40:BH:38:GLN:HB2 | 2.10 | 0.50 |
| 41:BI:27:GLN:O | 41:BI:28:ARG:C | 2.48 | 0.50 |
| 42:BJ:95:ARG:O | 42:BJ:97:GLN:N | 2.44 | 0.50 |
| 43:BK:28:ALA:O | 43:BK:29:SER:CB | 2.60 | 0.50 |
| 43:BK:98:LYS:C | 43:BK:100:ILE:HD12 | 2.31 | 0.50 |
| 45:BM:24:VAL:HA | 45:BM:34:VAL:HG11 | 1.93 | 0.50 |
| 45:BM:27:ALA:CB | 45:BM:85:LEU:HD11 | 2.30 | 0.50 |
| 47:BO:117:ARG:NH2 | 47:BO:123:LYS:C | 2.65 | 0.50 |
| 48:BP:78:ILE:HG12 | 48:BP:88:ARG:NH2 | 2.26 | 0.50 |
| 49:BQ:4:LYS:HA | 49:BQ:7:ILE:HG13 | 1.93 | 0.50 |
| 49:BQ:9:LYS:CA | 49:BQ:21:TYR:HE1 | 2.19 | 0.50 |
| 50:BR:66:LEU:N | 50:BR:66:LEU:CD2 | 2.74 | 0.50 |
| 52:BT:57:VAL:CB | 52:BT:75:ARG:O | 2.55 | 0.50 |
| 54:BV:40:ILE:HG12 | 54:BV:71:LEU:CD2 | 2.25 | 0.50 |
| 55:BW:56:MET:CG | 55:BW:88:VAL:HG11 | 2.41 | 0.50 |
| 1:AB:32:C:N4 | 1:AB:51:G:C6 | 2.80 | 0.50 |
| 1:AB:52:A:C2 | 1:AB:53:A:C1' | 2.89 | 0.50 |
| 1:AB:79:C:H2' | 1:AB:80:U:H5' | 1.93 | 0.50 |
| 1:AB:113:C:H4' | 16:AQ:56:ASP:OD2 | 2.12 | 0.50 |
| 2:AA:54:G:H8 | 2:AA:54:G:O5' | 1.94 | 0.50 |
| 2:AA:221:A:N7 | 2:AA:266:G:C5 | 2.79 | 0.50 |
| 2:AA:262:A:H2' | 2:AA:263:C:H5' | 1.93 | 0.50 |
| 2:AA:271:G:H1 | 2:AA:404:C:H41 | 1.59 | 0.50 |
| 2:AA:422:A:N1 | 2:AA:423:A:C4 | 2.80 | 0.50 |
| 2:AA:565:C:C4' | 2:AA:1252:G:O6 | 2.59 | 0.50 |
| 2:AA:673:C:H2' | 2:AA:674:G:O5' | 2.10 | 0.50 |
| 2:AA:686:G:H4' | 2:AA:687:C:OP2 | 2.11 | 0.50 |
| 2:AA:787:U:O4 | 2:AA:791:C:C5 | 2.65 | 0.50 |
| 2:AA:801:G:HO2' | 2:AA:802:A:P | 2.27 | 0.50 |
| 2:AA:863:A:C2 | 2:AA:864:G:C5 | 2.99 | 0.50 |
| 2:AA:1009:A:O4' | 25:A1:59:ARG:CD | 2.59 | 0.50 |
| 2:AA:1071:G:C2' | 2:AA:1072:C:H5' | 2.41 | 0.50 |
| 2:AA:1203:G:N3 | 2:AA:1203:G:C3' | 2.71 | 0.50 |
| 2:AA:1364:G:OP1 | 28:A4:3:LYS:CG | 2.60 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1442:G:C2 | 2:AA:1550:C:C2 | 3.00 | 0.50 |
| 2:AA:1534:G:N2 | 2:AA:1536:A:C1' | 2.74 | 0.50 |
| 2:AA:1557:C:C3' | 2:AA:1558:A:H5" | 2.36 | 0.50 |
| 2:AA:1710:C:C1' | 2:AA:2858:C:H42 | 2.25 | 0.50 |
| 2:AA:1746:G:C3' | 2:AA:1747:G:C8 | 2.95 | 0.50 |
| 2:AA:1758:G:N7 | 2:AA:2695:C:C4' | 2.74 | 0.50 |
| 2:AA:1798:U:C2' | 2:AA:1799:G:H5' | 2.41 | 0.50 |
| 2:AA:1858:G:C2 | 2:AA:1885:A:N7 | 2.78 | 0.50 |
| 2:AA:1913:A:C5 | 2:AA:1918:A:N1 | 2.80 | 0.50 |
| 2:AA:1956:U:O2 | 2:AA:1957:C:C6 | 2.65 | 0.50 |
| 2:AA:1965:C:H5" | 2:AA:1966:A:H3' | 1.93 | 0.50 |
| 2:AA:1965:C:H5' | 2:AA:1966:A:O5' | 2.10 | 0.50 |
| 2:AA:1992:G:C5 | 2:AA:1997:G:C6 | 2.99 | 0.50 |
| 2:AA:2018:G:N2 | 2:AA:2019:A:O4' | 2.44 | 0.50 |
| 2:AA:2027:G:C4 | 2:AA:2037:G:C2 | 3.00 | 0.50 |
| 2:AA:2032:G:O6 | 2:AA:2572:A:N3 | 2.44 | 0.50 |
| 2:AA:2192:G:C2 | 2:AA:2193:G:N7 | 2.79 | 0.50 |
| 2:AA:2207:C:N3 | 2:AA:2208:U:C5 | 2.80 | 0.50 |
| 2:AA:2213:U:C2 | 2:AA:2213:U:C3' | 2.95 | 0.50 |
| 2:AA:2217:G:OP2 | 2:AA:2217:G:C8 | 2.65 | 0.50 |
| 2:AA:2260:C:O2' | 2:AA:2388:A:O2' | 2.27 | 0.50 |
| 2:AA:2334:G:O4' | 2:AA:2334:G:OP1 | 2.30 | 0.50 |
| 2:AA:2576:G:OP1 | 2:AA:2577:A:P | 2.70 | 0.50 |
| 2:AA:2634:G:O2' | 2:AA:2635:C:C5' | 2.53 | 0.50 |
| 2:AA:2748:A:N1 | 2:AA:2757:A:N7 | 2.60 | 0.50 |
| 2:AA:2759:G:O2' | 2:AA:2760:C:O5' | 2.29 | 0.50 |
| 2:AA:2797:U:H1' | 2:AA:2799:A:C8 | 2.45 | 0.50 |
| 2:AA:2807:G:N9 | 2:AA:2808:U:H5 | 2.10 | 0.50 |
| 2:AA:2838:G:O2' | 24:A0:45:ARG:NH1 | 2.32 | 0.50 |
| 2:AA:2862:G:C6 | 2:AA:2863:C:N4 | 2.79 | 0.50 |
| 2:AA:2883:A:H3' | 2:AA:2884:U:H5' | 1.92 | 0.50 |
| 3:AC:14:VAL:HG11 | 3:AC:222:VAL:CG2 | 2.38 | 0.50 |
| 3:AC:59:ARG:HB2 | 3:AC:164:ARG:CB | 2.40 | 0.50 |
| 3:AC:75:LEU:O | 3:AC:114:VAL:HG22 | 2.11 | 0.50 |
| 5:AE:44:TYR:O | 5:AE:74:GLU:OE2 | 2.29 | 0.50 |
| 5:AE:81:VAL:CB | 5:AE:100:TRP:CZ3 | 2.90 | 0.50 |
| 6:AF:84:VAL:HB | 6:AF:85:LYS:CE | 2.41 | 0.50 |
| 7:AG:56:ARG:CD | 35:BC:56:C:O2' | 2.47 | 0.50 |
| 7:AG:79:MET:HA | 7:AG:82:GLU:OE2 | 2.11 | 0.50 |
| 7:AG:146:LYS:HE3 | 16:AQ:15:GLU:OE2 | 2.12 | 0.50 |
| 8:AH:34:ARG:HD2 | 8:AH:36:PHE:HE1 | 1.69 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:40:MET:HA | 8:AH:54:PRO:CG | 2.42 | 0.50 |
| 9:AI:3:ILE:HD13 | 11:AL:117:ASN:OD1 | 2.12 | 0.50 |
| 9:AJ:26:GLU:O | 9:AJ:29:PHE:N | 2.45 | 0.50 |
| 10:AK:19:LYS:CE | 10:AK:20:ASN:N | 2.73 | 0.50 |
| 10:AK:83:ALA:CA | 10:AK:90:PHE:CE1 | 2.94 | 0.50 |
| 10:AK:115:ILE:HA | 10:AK:131:VAL:CG1 | 2.36 | 0.50 |
| 11:AL:96:ILE:O | 11:AL:96:ILE:CG2 | 2.59 | 0.50 |
| 11:AL:105:ILE:HG23 | 11:AL:128:ILE:HD13 | 1.93 | 0.50 |
| 12:AM:10:VAL:CG1 | 12:AM:36:VAL:HG22 | 2.40 | 0.50 |
| 13:AN:5:GLU:HA | 13:AN:20:LEU:HD23 | 1.93 | 0.50 |
| 13:AN:7:ARG:HG2 | 13:AN:44:LYS:HZ2 | 1.75 | 0.50 |
| 13:AN:10:VAL:HG12 | 13:AN:12:ASP:O | 2.10 | 0.50 |
| 13:AN:35:ILE:HA | 13:AN:62:VAL:HB | 1.94 | 0.50 |
| 13:AN:65:THR:OG1 | 13:AN:67:ARG:CG | 2.59 | 0.50 |
| 13:AN:66:LYS:HD2 | 13:AN:66:LYS:O | 2.11 | 0.50 |
| 14:AO:120:LEU:HG | 14:AO:122:ALA:HB2 | 1.92 | 0.50 |
| 14:AO:141:GLU:CG | 14:AO:145:LEU:HB2 | 2.41 | 0.50 |
| 15:AP:42:TYR:OH | 21:AV:100:THR:HG23 | 2.11 | 0.50 |
| 16:AQ:120:GLU:HG3 | 16:AQ:123:ILE:HD12 | 1.92 | 0.50 |
| 17:AR:6:CYS:O | 17:AR:9:CYS:HB3 | 2.11 | 0.50 |
| 20:AU:46:ASP:OD1 | 20:AU:100:ASP:O | 2.30 | 0.50 |
| 20:AU:77:VAL:HB | 20:AU:91:LEU:CD2 | 2.42 | 0.50 |
| 21:AV:3:LEU:HD12 | 21:AV:54:ILE:HD11 | 1.94 | 0.50 |
| 21:AV:107:GLU:C | 21:AV:109:GLN:H | 2.12 | 0.50 |
| 23:AX:40:THR:HG23 | 23:AX:43:ILE:CG1 | 2.42 | 0.50 |
| 26:A2:15:SER:CA | 26:A2:99:GLN:CD | 2.80 | 0.50 |
| 26:A2:68:LYS:HG2 | 26:A2:69:ILE:HD12 | 1.92 | 0.50 |
| 29:A5:34:PRO:HD2 | 29:A5:36:CYS:H | 1.77 | 0.50 |
| 30:A6:40:TYR:HB2 | 30:A6:50:PHE:CE2 | 2.47 | 0.50 |
| 30:A6:41:ASP:N | 30:A6:41:ASP:OD1 | 2.43 | 0.50 |
| 34:BA:9:G:N7 | 40:BH:126:ARG:NH1 | 2.58 | 0.50 |
| 34:BA:12:U:H5" | 34:BA:526:C:O2' | 2.12 | 0.50 |
| 34:BA:27:G:C6 | 34:BA:557:G:C2 | 2.99 | 0.50 |
| 34:BA:77:G:N1 | 34:BA:78:G:C5 | 2.80 | 0.50 |
| 34:BA:127:G:O2' | 52:BT:2:PRO:HD2 | 2.12 | 0.50 |
| 34:BA:128:G:O2' | 52:BT:3:LYS:HE3 | 2.12 | 0.50 |
| 34:BA:130:A:C5 | 34:BA:264:U:H1' | 2.47 | 0.50 |
| 34:BA:134:A:C8 | 34:BA:325:A:C2 | 3.00 | 0.50 |
| 34:BA:299:G:C5 | 34:BA:300:A:N6 | 2.79 | 0.50 |
| 34:BA:308:C:C2 | 34:BA:309:G:C8 | 3.00 | 0.50 |
| 34:BA:377:G:H2' | 34:BA:378:G:C8 | 2.46 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:404:U:P | 39:BG:118:ARG:HH11 | 2.34 | 0.50 |
| 34:BA:499:A:H2' | 34:BA:546:G:N2 | 2.27 | 0.50 |
| 34:BA:747:C:H2' | 34:BA:748:C:H1' | 1.93 | 0.50 |
| 34:BA:765:G:O6 | 34:BA:812:C:C5 | 2.65 | 0.50 |
| 34:BA:834:C:O2' | 34:BA:835:U:H5' | 2.12 | 0.50 |
| 34:BA:901:A:C2' | 34:BA:902:G:O5' | 2.60 | 0.50 |
| 34:BA:946:A:N6 | 34:BA:1235:U:H3 | 2.10 | 0.50 |
| 34:BA:986:A:O2' | 54:BV:55:LYS:HA | 2.10 | 0.50 |
| 34:BA:1128:C:O2 | 34:BA:1130:A:C6 | 2.64 | 0.50 |
| 34:BA:1195:C:O2 | 34:BA:1197:G:C1' | 2.59 | 0.50 |
| 34:BA:1202:G:N2 | 34:BA:1203:C:O4' | 2.44 | 0.50 |
| 34:BA:1373:G:C1' | 42:BJ:34:GLY:CA | 2.89 | 0.50 |
| 34:BA:1406:U:O2 | 34:BA:1406:U:C2' | 2.52 | 0.50 |
| 34:BA:1440:C:H2' | 34:BA:1441:G:C8 | 2.45 | 0.50 |
| 34:BA:1521:G:O2' | 34:BA:1522:U:H5' | 2.12 | 0.50 |
| 35:BB:15:G:N1 | 35:BB:48:C:N3 | 2.46 | 0.50 |
| 35:BB:18:G:O2' | 35:BB:19:G:P | 2.69 | 0.50 |
| 35:BB:49:C:N4 | 35:BB:66:A:N6 | 2.60 | 0.50 |
| 35:BB:58:A:HO2' | 35:BB:59:U:P | 2.32 | 0.50 |
| 35:BC:10:G:O6 | 35:BC:25:C:N3 | 2.45 | 0.50 |
| 36:B1:10:U:O2' | 36:B1:11:U:H5' | 2.12 | 0.50 |
| 36:B1:30:U:C2' | 36:B1:31:G:H5' | 2.38 | 0.50 |
| 36:B1:59:A:C8 | 36:B1:59:A:C3' | 2.91 | 0.50 |
| 37:BE:12:GLU:C | 37:BE:14:GLY:N | 2.64 | 0.50 |
| 37:BE:25:ASN:HD21 | 37:BE:27:LYS:HG3 | 1.77 | 0.50 |
| 37:BE:74:LYS:HE2 | 37:BE:76:GLN:CG | 2.41 | 0.50 |
| 37:BE:102:LEU:N | 37:BE:176:GLU:OE1 | 2.45 | 0.50 |
| 37:BE:167:PRO:O | 37:BE:170:GLU:N | 2.45 | 0.50 |
| 39:BG:163:GLU:O | 39:BG:164:ALA:C | 2.48 | 0.50 |
| 42:BJ:6:ARG:O | 42:BJ:7:ALA:O | 2.30 | 0.50 |
| 42:BJ:29:LYS:HZ2 | 42:BJ:102:ARG:HB2 | 1.76 | 0.50 |
| 42:BJ:118:VAL:O | 42:BJ:122:HIS:CD2 | 2.64 | 0.50 |
| 44:BL:85:LEU:HD11 | 44:BL:92:TYR:CD1 | 2.46 | 0.50 |
| 45:BM:39:PRO:O | 45:BM:40:LEU:HB2 | 2.12 | 0.50 |
| 45:BM:56:HIS:CB | 45:BM:59:SER:OG | 2.59 | 0.50 |
| 46:BN:101:SER:O | 46:BN:101:SER:OG | 2.16 | 0.50 |
| 47:BO:32:PHE:HB3 | 47:BO:84:LEU:HD11 | 1.92 | 0.50 |
| 47:BO:70:ILE:HA | 47:BO:100:ILE:CG1 | 2.41 | 0.50 |
| 49:BQ:12:ARG:C | 49:BQ:14:PRO:CD | 2.80 | 0.50 |
| 52:BT:45:HIS:CE1 | 52:BT:47:PRO:CG | 2.93 | 0.50 |
| 53:BU:54:ARG:O | 53:BU:55:ARG:HG2 | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:28:A:H1' | 2:AA:582:G:O2' | 2.12 | 0.50 |
| 2:AA:144:C:C2' | 2:AA:145:G:H8 | 2.16 | 0.50 |
| 2:AA:226:G:N1 | 2:AA:227:A:C2 | 2.80 | 0.50 |
| 2:AA:270(N):G:H2' | 2:AA:270(O):U:C5' | 2.38 | 0.50 |
| 2:AA:304:G:H2' | 2:AA:305:U:O4' | 2.12 | 0.50 |
| 2:AA:336:C:C2' | 2:AA:337:C:C5' | 2.89 | 0.50 |
| 2:AA:338:G:OP1 | 2:AA:338:G:C3' | 2.60 | 0.50 |
| 2:AA:408:G:C2' | 2:AA:409:C:C5' | 2.90 | 0.50 |
| 2:AA:481:G:HO2' | 2:AA:482:A:H8 | 1.56 | 0.50 |
| 2:AA:492:A:C2 | 2:AA:493:G:H1' | 2.47 | 0.50 |
| 2:AA:627:A:N6 | 2:AA:637:A:H1' | 2.24 | 0.50 |
| 2:AA:682:G:C6 | 2:AA:683:C:C4 | 2.99 | 0.50 |
| 2:AA:689:A:H2' | 2:AA:690:G:C5' | 2.41 | 0.50 |
| 2:AA:749:C:N3 | 2:AA:1618:A:C6 | 2.80 | 0.50 |
| 2:AA:790:C:OP1 | 2:AA:1781:C:N4 | 2.43 | 0.50 |
| 2:AA:819:A:C4 | 2:AA:1189:A:C2 | 3.00 | 0.50 |
| 2:AA:979:G:H8 | 2:AA:979:G:O5' | 1.94 | 0.50 |
| 2:AA:1013:C:H2' | 2:AA:1014:U:O4' | 2.11 | 0.50 |
| 2:AA:1031:G:H8 | 2:AA:1031:G:H5" | 1.76 | 0.50 |
| 2:AA:1082:U:O2 | 9:AI:3:ILE:CG2 | 2.44 | 0.50 |
| 2:AA:1086:A:C2' | 2:AA:1087:G:H5' | 2.42 | 0.50 |
| 2:AA:1156:A:O2' | 2:AA:1157:G:OP1 | 2.25 | 0.50 |
| 2:AA:1221:C:N3 | 2:AA:1229:G:N1 | 2.59 | 0.50 |
| 2:AA:1356:G:H21 | 2:AA:1357:U:H1' | 1.76 | 0.50 |
| 2:AA:1364:G:O6 | 28:A4:2:GLN:CG | 2.60 | 0.50 |
| 2:AA:1476:C:C5 | 2:AA:1477:A:C2 | 2.92 | 0.50 |
| 2:AA:1520:U:C6 | 2:AA:1520:U:P | 3.05 | 0.50 |
| 2:AA:1634:A:C8 | 2:AA:1634:A:C3' | 2.94 | 0.50 |
| 2:AA:1664:A:N6 | 2:AA:1667:G:H22 | 2.10 | 0.50 |
| 2:AA:1840:G:H2' | 2:AA:1841:U:H5' | 1.93 | 0.50 |
| 2:AA:1861:G:N1 | 2:AA:1862:G:C4 | 2.79 | 0.50 |
| 2:AA:1982:C:N4 | 2:AA:1983:C:H41 | 2.10 | 0.50 |
| 2:AA:2142:C:C2 | 2:AA:2143:C:C5 | 2.98 | 0.50 |
| 2:AA:2482:G:C5 | 2:AA:2483:C:C5 | 3.00 | 0.50 |
| 2:AA:2599:G:O2' | 2:AA:2600:A:C5' | 2.58 | 0.50 |
| 2:AA:2627:G:N2 | 2:AA:2628:C:O2 | 2.44 | 0.50 |
| 2:AA:2639:A:H1' | 2:AA:2778:A:H2 | 1.77 | 0.50 |
| 2:AA:2683:C:C4 | 2:AA:2684:U:C4 | 3.00 | 0.50 |
| 2:AA:2829:C:O2' | 2:AA:2830:G:O5' | 2.13 | 0.50 |
| 2:AA:2877:G:H3' | 2:AA:2878:U:C6 | 2.47 | 0.50 |
| 2:AA:2881:C:C5' | 24:A0:90:ARG:NH1 | 2.74 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:71:ASP:OD2 | 4:AD:117:SER:O | 2.30 | 0.50 |
| 4:AD:124:LYS:O | 4:AD:127:ASN:ND2 | 2.39 | 0.50 |
| 4:AD:213:LYS:HB3 | 4:AD:215:LYS:N | 2.26 | 0.50 |
| 5:AE:200:ASP:C | 5:AE:201:VAL:HG23 | 2.32 | 0.50 |
| 5:AE:222:ARG:HE | 5:AE:233:ARG:CA | 2.25 | 0.50 |
| 5:AE:269:ILE:HD13 | 5:AE:295:LEU:O | 2.11 | 0.50 |
| 6:AF:49:ASP:HB3 | 6:AF:52:ALA:HB3 | 1.92 | 0.50 |
| 7:AG:44:ILE:O | 7:AG:83:PHE:CZ | 2.65 | 0.50 |
| 7:AG:65:GLU:O | 7:AG:65:GLU:OE1 | 2.30 | 0.50 |
| 9:AI:6:ILE:O | 9:AI:10:ILE:HG13 | 2.11 | 0.50 |
| 9:AI:22:VAL:HG11 | 9:AJ:42:ALA:HB1 | 1.94 | 0.50 |
| 9:AI:106:VAL:HG21 | 9:AI:114:ILE:HD11 | 1.92 | 0.50 |
| 9:AJ:106:VAL:HG21 | 9:AJ:114:ILE:HD11 | 1.94 | 0.50 |
| 10:AK:4:ILE:CD1 | 10:AK:38:GLU:C | 2.80 | 0.50 |
| 10:AK:6:LEU:HD22 | 10:AK:14:LYS:NZ | 2.27 | 0.50 |
| 10:AK:25:TYR:O | 10:AK:29:PHE:CD1 | 2.65 | 0.50 |
| 10:AK:52:GLN:N | 10:AK:55:GLN:HE21 | 2.10 | 0.50 |
| 10:AK:88:ARG:HB3 | 10:AK:122:ARG:CB | 2.41 | 0.50 |
| 10:AK:104:ALA:HB1 | 10:AK:105:GLN:NE2 | 2.26 | 0.50 |
| 10:AK:130:PRO:HG2 | 10:AK:130:PRO:O | 2.12 | 0.50 |
| 11:AL:66:PHE:O | 11:AL:67:THR:CG2 | 2.60 | 0.50 |
| 12:AM:53:ILE:CG2 | 12:AM:135:ILE:CD1 | 2.89 | 0.50 |
| 13:AN:60:ALA:HA | 13:AN:87:ILE:CD1 | 2.42 | 0.50 |
| 14:AO:71:GLU:CG | 14:AO:72:ASN:H | 2.20 | 0.50 |
| 16:AQ:104:ILE:CG2 | 16:AQ:107:ASN:O | 2.59 | 0.50 |
| 20:AU:27:LEU:CD1 | 20:AU:31:LEU:HD12 | 2.35 | 0.50 |
| 20:AU:42:VAL:C | 20:AU:112:LEU:HD13 | 2.32 | 0.50 |
| 20:AU:55:PHE:HB3 | 20:AU:58:GLU:OE2 | 2.11 | 0.50 |
| 20:AU:72:ILE:HG23 | 20:AU:73:HIS:H | 1.76 | 0.50 |
| 21:AV:2:GLU:O | 21:AV:54:ILE:CG2 | 2.59 | 0.50 |
| 21:AV:40:ASP:HB2 | 21:AV:41:ARG:CZ | 2.42 | 0.50 |
| 21:AV:71:MET:C | 21:AV:78:PRO:HA | 2.31 | 0.50 |
| 21:AV:92:VAL:HG13 | 21:AV:124:ALA:HB2 | 1.94 | 0.50 |
| 21:AV:94:VAL:CG2 | 21:AV:124:ALA:HA | 2.42 | 0.50 |
| 21:AV:98:VAL:HG13 | 21:AV:136:VAL:N | 2.26 | 0.50 |
| 21:AV:103:ARG:NH1 | 21:AV:137:ASP:CB | 2.75 | 0.50 |
| 21:AV:139:THR:O | 21:AV:140:LYS:HB2 | 2.12 | 0.50 |
| 23:AX:33:GLN:CG | 23:AX:34:GLU:H | 2.25 | 0.50 |
| 25:A1:20:ARG:HH12 | 26:A2:75:LYS:CD | 2.25 | 0.50 |
| 25:A1:104:GLU:HA | 25:A1:107:LYS:CG | 2.42 | 0.50 |
| 26:A2:61:VAL:HG11 | 26:A2:95:ILE:HB | 1.93 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 28:A4:41:PRO:HG2 | 28:A4:57:ASP:CB | 2.42 | 0.50 |
| 30:A6:37:LEU:O | 30:A6:38:LYS:HG3 | 2.12 | 0.50 |
| 30:A6:47:HIS:O | 30:A6:48:VAL:CB | 2.59 | 0.50 |
| 34:BA:59:A:H4' | 34:BA:388:G:O5' | 2.12 | 0.50 |
| 34:BA:65:U:C6 | 34:BA:381:C:N4 | 2.80 | 0.50 |
| 34:BA:163:C:C2' | 34:BA:164:U:O4' | 2.60 | 0.50 |
| 34:BA:166:G:C2 | 34:BA:167:G:N9 | 2.80 | 0.50 |
| 34:BA:172:A:N7 | 34:BA:174:C:C4 | 2.80 | 0.50 |
| 34:BA:246:A:N3 | 34:BA:282:A:C6 | 2.80 | 0.50 |
| 34:BA:439:A:C2' | 34:BA:440:A:O5' | 2.60 | 0.50 |
| 34:BA:463:A:N6 | 34:BA:474:G:C6 | 2.80 | 0.50 |
| 34:BA:483:C:H3' | 34:BA:483:C:C6 | 2.47 | 0.50 |
| 34:BA:608:A:C4 | 34:BA:609:A:C8 | 2.99 | 0.50 |
| 34:BA:727:G:H5' | 34:BA:741:G:H22 | 1.77 | 0.50 |
| 34:BA:766:A:H2' | 34:BA:767:A:O5' | 2.11 | 0.50 |
| 34:BA:956:U:H2' | 34:BA:957:U:H6 | 1.72 | 0.50 |
| 34:BA:1048:G:O4' | 34:BA:1215:G:H4' | 2.12 | 0.50 |
| 34:BA:1054:C:N3 | 35:BB:34:G:H5" | 2.11 | 0.50 |
| 34:BA:1105:A:N3 | 34:BA:1106:G:C8 | 2.80 | 0.50 |
| 34:BA:1177:G:OP2 | 44:BL:97:LYS:HE2 | 2.12 | 0.50 |
| 34:BA:1248:A:C2' | 44:BL:70:LYS:HZ1 | 2.24 | 0.50 |
| 34:BA:1287:A:H2 | 34:BA:1353:G:N3 | 2.09 | 0.50 |
| 34:BA:1313:U:C5 | 54:BV:4:SER:CB | 2.94 | 0.50 |
| 34:BA:1314:C:N3 | 34:BA:1315:U:O4 | 2.45 | 0.50 |
| 34:BA:1352:C:C2 | 34:BA:1370:G:N2 | 2.72 | 0.50 |
| 34:BA:1419:G:O2' | 34:BA:1420:C:O4' | 2.29 | 0.50 |
| 34:BA:1447:G:N1 | 34:BA:1448:C:C4 | 2.79 | 0.50 |
| 34:BA:1528:U:O2' | 34:BA:1529:G:O5' | 2.28 | 0.50 |
| 34:BA:1533:C:H2' | 34:BA:1534:A:O5' | 2.12 | 0.50 |
| 35:BC:18:G:C6 | 35:BC:58:A:N1 | 2.80 | 0.50 |
| 36:B1:41:U:O2' | 36:B1:42:G:H5' | 2.11 | 0.50 |
| 37:BE:70:PHE:HD1 | 37:BE:90:MET:CB | 2.25 | 0.50 |
| 37:BE:112:VAL:O | 37:BE:116:GLU:OE2 | 2.29 | 0.50 |
| 37:BE:146:GLN:HE21 | 37:BE:150:SER:CB | 2.23 | 0.50 |
| 37:BE:163:PHE:HD1 | 37:BE:185:ILE:HB | 1.73 | 0.50 |
| 38:BF:135:LYS:O | 38:BF:139:GLN:HG2 | 2.11 | 0.50 |
| 39:BG:92:VAL:CG1 | 39:BG:96:LEU:HD11 | 2.42 | 0.50 |
| 39:BG:119:GLN:CG | 39:BG:123:HIS:CD2 | 2.95 | 0.50 |
| 40:BH:115:VAL:CG1 | 40:BH:118:ILE:HD11 | 2.41 | 0.50 |
| 41:BI:11:ASN:CG | 41:BI:14:LEU:HD23 | 2.32 | 0.50 |
| 41:BI:83:ASP:C | 41:BI:85:VAL:N | 2.64 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:9:VAL:CG2 | 42:BJ:94:ARG:HD3 | 2.42 | 0.50 |
| 43:BK:21:LYS:C | 43:BK:63:LEU:HD11 | 2.32 | 0.50 |
| 43:BK:89:PRO:HA | 43:BK:92:ARG:HE | 1.75 | 0.50 |
| 43:BK:104:ARG:NH2 | 43:BK:138:TRP:CZ2 | 2.80 | 0.50 |
| 43:BK:112:LEU:CD2 | 43:BK:131:GLY:HA3 | 2.42 | 0.50 |
| 45:BM:16:LEU:HD22 | 45:BM:94:VAL:HG21 | 1.93 | 0.50 |
| 47:BO:76:ASN:HD22 | 47:BO:77:LEU:H | 1.60 | 0.50 |
| 48:BP:15:VAL:HG12 | 48:BP:19:LEU:HD23 | 1.92 | 0.50 |
| 49:BQ:13:THR:O | 49:BQ:15:LYS:N | 2.45 | 0.50 |
| 49:BQ:15:LYS:O | 49:BQ:16:PHE:CD1 | 2.65 | 0.50 |
| 49:BQ:24:CYS:HB3 | 49:BQ:28:GLY:CA | 2.41 | 0.50 |
| 53:BU:70:ILE:O | 53:BU:74:ARG:CD | 2.59 | 0.50 |
| 55:BW:48:LYS:O | 55:BW:49:ALA:C | 2.50 | 0.50 |
| 55:BW:81:LYS:O | 55:BW:82:SER:C | 2.50 | 0.50 |
| 1:AB:1:U:H5" | 1:AB:1:U:C6 | 2.46 | 0.50 |
| 1:AB:35:U:H6 | 1:AB:35:U:O5' | 1.95 | 0.50 |
| 2:AA:16:G:O6 | 2:AA:524:U:C2 | 2.65 | 0.50 |
| 2:AA:155:C:N4 | 2:AA:171:G:O6 | 2.45 | 0.50 |
| 2:AA:186:G:C6 | 2:AA:211:A:C6 | 3.00 | 0.50 |
| 2:AA:199:A:C6 | 2:AA:2433:A:C8 | 3.00 | 0.50 |
| 2:AA:336:C:O2' | 2:AA:337:C:C5' | 2.52 | 0.50 |
| 2:AA:336:C:H2' | 2:AA:337:C:O4' | 2.12 | 0.50 |
| 2:AA:443:A:H2 | 2:AA:1245:G:C2 | 2.29 | 0.50 |
| 2:AA:443:A:C2 | 2:AA:1245:G:N3 | 2.74 | 0.50 |
| 2:AA:445:C:OP1 | 25:A1:3:ARG:HG2 | 2.12 | 0.50 |
| 2:AA:445:C:C2' | 25:A1:3:ARG:NH2 | 2.74 | 0.50 |
| 2:AA:448:U:C4 | 2:AA:583:G:H1' | 2.47 | 0.50 |
| 2:AA:452:G:N3 | 2:AA:458:G:N2 | 2.60 | 0.50 |
| 2:AA:464:U:C5 | 2:AA:464:U:P | 3.05 | 0.50 |
| 2:AA:507:A:H5' | 2:AA:509:C:O4' | 2.12 | 0.50 |
| 2:AA:673:C:C5' | 6:AF:82:GLN:NE2 | 2.75 | 0.50 |
| 2:AA:774:A:H5" | 2:AA:778:G:C4' | 2.32 | 0.50 |
| 2:AA:818:G:C5 | 2:AA:1187:G:N2 | 2.80 | 0.50 |
| 2:AA:940:G:H2' | 2:AA:941:A:H5" | 1.93 | 0.50 |
| 2:AA:961:C:C2' | 2:AA:962:G:OP1 | 2.59 | 0.50 |
| 2:AA:996:A:O3' | 26:A2:10:LYS:NZ | 2.45 | 0.50 |
| 2:AA:1024:G:H21 | 2:AA:1139:G:N2 | 2.04 | 0.50 |
| 2:AA:1028:A:OP2 | 2:AA:1126:A:N6 | 2.45 | 0.50 |
| 2:AA:1057:A:C8 | 2:AA:1085:A:C6 | 3.00 | 0.50 |
| 2:AA:1063:G:N7 | 2:AA:1070:A:OP2 | 2.45 | 0.50 |
| 2:AA:1293:C:N3 | 2:AA:1294:U:H5 | 2.10 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1301:A:O2' | 2:AA:1302:A:C8 | 2.60 | 0.50 |
| 2:AA:1338:G:N3 | 2:AA:1339:G:C8 | 2.80 | 0.50 |
| 2:AA:1353:A:C6 | 2:AA:1378:A:N6 | 2.79 | 0.50 |
| 2:AA:1364:G:C5 | 28:A4:3:LYS:NZ | 2.79 | 0.50 |
| 2:AA:1364:G:H22 | 2:AA:1366:A:H3' | 1.76 | 0.50 |
| 2:AA:1379:A:N6 | 31:A7:10:ARG:CZ | 2.74 | 0.50 |
| 2:AA:1419:A:C5 | 2:AA:1421:G:C5 | 2.99 | 0.50 |
| 2:AA:1508:A:C2' | 2:AA:1509:C:H5 | 2.19 | 0.50 |
| 2:AA:1510:A:H8 | 2:AA:1511:A:N6 | 2.10 | 0.50 |
| 2:AA:1522:G:N2 | 2:AA:1523:U:C6 | 2.80 | 0.50 |
| 2:AA:1699:G:C2' | 2:AA:1700:A:H4' | 2.41 | 0.50 |
| 2:AA:1707:G:O4' | 2:AA:1756:G:O2' | 2.17 | 0.50 |
| 2:AA:1823:G:C2 | 2:AA:1824:G:N7 | 2.80 | 0.50 |
| 2:AA:1919:A:OP1 | 2:AA:1920:C:OP2 | 2.28 | 0.50 |
| 2:AA:1997:G:C2 | 2:AA:1998:G:C4 | 3.00 | 0.50 |
| 2:AA:2010:G:C6 | 2:AA:2011:U:C5 | 3.00 | 0.50 |
| 2:AA:2106:G:H2' | 2:AA:2107:C:C6 | 2.47 | 0.50 |
| 2:AA:2215:G:C2 | 2:AA:2216:G:C5 | 3.00 | 0.50 |
| 2:AA:2256:G:C4' | 27:A3:5:LYS:HE2 | 2.42 | 0.50 |
| 2:AA:2261:C:O2' | 2:AA:2262:U:H5' | 2.12 | 0.50 |
| 2:AA:2330:G:C2' | 2:AA:2331:G:H5' | 2.42 | 0.50 |
| 2:AA:2356:C:C4 | 2:AA:2357:U:C4 | 3.00 | 0.50 |
| 2:AA:2456:C:H2' | 2:AA:2457:U:C6 | 2.47 | 0.50 |
| 2:AA:2472:G:C2' | 2:AA:2475:C:N4 | 2.46 | 0.50 |
| 2:AA:2522:U:O2 | 2:AA:2765:A:C5 | 2.65 | 0.50 |
| 2:AA:2603:G:C6 | 2:AA:2604:U:O4 | 2.65 | 0.50 |
| 2:AA:2716:U:H2' | 2:AA:2717:G:O5' | 2.12 | 0.50 |
| 2:AA:2740:A:N6 | 2:AA:2741:A:N1 | 2.59 | 0.50 |
| 2:AA:2758:A:H3' | 2:AA:2758:A:OP2 | 2.12 | 0.50 |
| 2:AA:2808:U:C2 | 2:AA:2892:A:N6 | 2.80 | 0.50 |
| 2:AA:2881:C:N4 | 2:AA:2882:A:N6 | 2.59 | 0.50 |
| 2:AA:2886:G:N1 | 2:AA:2887:U:C4 | 2.79 | 0.50 |
| 3:AC:59:ARG:HE | 3:AC:139:ASN:ND2 | 2.10 | 0.50 |
| 4:AD:85:ASN:CA | 4:AD:86:ARG:HE | 2.25 | 0.50 |
| 4:AD:109:LEU:CD1 | 4:AD:126:GLY:HA3 | 2.41 | 0.50 |
| 4:AD:170:TYR:HA | 4:AD:183:ILE:O | 2.12 | 0.50 |
| 4:AD:174:ARG:NH1 | 4:AD:174:ARG:CB | 2.74 | 0.50 |
| 4:AD:174:ARG:NE | 4:AD:180:VAL:HG13 | 2.27 | 0.50 |
| 5:AE:45:LYS:HZ1 | 5:AE:302:GLY:N | 2.09 | 0.50 |
| 5:AE:47:GLY:HA2 | 5:AE:305:LYS:HE2 | 1.94 | 0.50 |
| 5:AE:70:VAL:HG22 | 5:AE:296:VAL:C | 2.32 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:205:THR:CG2 | 5:AE:259:HIS:CB | 2.88 | 0.50 |
| 6:AF:40:ALA:HB1 | 6:AF:100:LEU:CB | 2.41 | 0.50 |
| 6:AF:54:LEU:O | 6:AF:79:ARG:HD3 | 2.11 | 0.50 |
| 6:AF:81:PRO:CA | 6:AF:87:ARG:NH1 | 2.70 | 0.50 |
| 6:AF:242:GLU:CA | 6:AF:245:GLU:OE1 | 2.57 | 0.50 |
| 6:AF:245:GLU:O | 6:AF:246:ARG:OXT | 2.29 | 0.50 |
| 7:AG:53:LYS:CG | 7:AG:54:ALA:H | 2.23 | 0.50 |
| 7:AG:97:GLN:CB | 7:AG:106:PHE:CD2 | 2.91 | 0.50 |
| 8:AH:34:ARG:NH2 | 8:AH:74:MET:N | 2.54 | 0.50 |
| 9:AJ:61:VAL:O | 9:AJ:102:ILE:HG22 | 2.11 | 0.50 |
| 9:AJ:74:ILE:CG2 | 11:AL:61:TYR:HE2 | 2.24 | 0.50 |
| 10:AK:62:LEU:C | 10:AK:66:LYS:CE | 2.80 | 0.50 |
| 11:AL:63:ASP:O | 11:AL:64:LYS:HB2 | 2.12 | 0.50 |
| 11:AL:113:MET:O | 11:AL:114:PRO:O | 2.28 | 0.50 |
| 13:AN:38:VAL:HG13 | 13:AN:61:VAL:HG22 | 1.93 | 0.50 |
| 13:AN:112:MET:O | 13:AN:115:ILE:HB | 2.12 | 0.50 |
| 17:AR:6:CYS:O | 17:AR:7:ASP:OD2 | 2.29 | 0.50 |
| 19:AT:4:VAL:HB | 19:AT:40:ALA:CB | 2.42 | 0.50 |
| 19:AT:50:GLU:CD | 19:AT:69:SER:HB2 | 2.32 | 0.50 |
| 21:AV:52:PHE:O | 21:AV:65:LEU:HD21 | 2.11 | 0.50 |
| 21:AV:66:VAL:HG21 | 21:AV:69:VAL:HG21 | 1.93 | 0.50 |
| 21:AV:111:GLY:O | 21:AV:113:VAL:HG22 | 2.11 | 0.50 |
| 21:AV:112:LEU:HD22 | 21:AV:142:ASN:HA | 1.93 | 0.50 |
| 24:A0:20:LEU:O | 24:A0:21:TYR:C | 2.51 | 0.50 |
| 25:A1:49:ASP:CA | 25:A1:52:ASN:ND2 | 2.69 | 0.50 |
| 25:A1:61:TRP:CZ3 | 25:A1:97:ASP:OD2 | 2.64 | 0.50 |
| 27:A3:37:LEU:HG | 27:A3:71:ASN:HD22 | 1.77 | 0.50 |
| 29:A5:14:SER:O | 29:A5:15:LYS:C | 2.49 | 0.50 |
| 30:A6:35:LEU:N | 30:A6:35:LEU:CD2 | 2.75 | 0.50 |
| 32:A8:29:LYS:HZ3 | 32:A8:36:LYS:HZ1 | 1.60 | 0.50 |
| 34:BA:83:U:C4 | 34:BA:84:U:C4 | 3.00 | 0.50 |
| 34:BA:101:A:C2 | 34:BA:102:G:C8 | 2.99 | 0.50 |
| 34:BA:229:U:C4 | 34:BA:230:G:C6 | 3.00 | 0.50 |
| 34:BA:258:G:O2' | 34:BA:259:G:C5' | 2.60 | 0.50 |
| 34:BA:362:G:N3 | 34:BA:364:A:N7 | 2.60 | 0.50 |
| 34:BA:666:G:C2' | 34:BA:667:G:H5' | 2.42 | 0.50 |
| 34:BA:755:G:C2' | 34:BA:756:C:C6 | 2.93 | 0.50 |
| 34:BA:769:G:N2 | 34:BA:900:A:H61 | 2.08 | 0.50 |
| 34:BA:861:G:O2' | 34:BA:862:C:H5' | 2.12 | 0.50 |
| 34:BA:885:G:C2 | 34:BA:913:A:C2 | 3.00 | 0.50 |
| 34:BA:921:U:H2' | 34:BA:921:U:O2 | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1073:U:C2 | 34:BA:1102:A:N1 | 2.79 | 0.50 |
| 34:BA:1108:G:C8 | 34:BA:1109:C:C5 | 2.99 | 0.50 |
| 34:BA:1113:C:O5' | 34:BA:1113:C:C6 | 2.52 | 0.50 |
| 34:BA:1117:G:C4 | 34:BA:1184:G:C2 | 3.00 | 0.50 |
| 34:BA:1144:G:C2 | 34:BA:1145:C:O2 | 2.64 | 0.50 |
| 34:BA:1175:G:N1 | 34:BA:1176:A:C6 | 2.80 | 0.50 |
| 34:BA:1246:C:H2' | 34:BA:1247:U:H6 | 1.77 | 0.50 |
| 34:BA:1280:A:C8 | 45:BM:41:PRO:HG3 | 2.47 | 0.50 |
| 34:BA:1288:A:N1 | 34:BA:1371:G:H1' | 2.26 | 0.50 |
| 34:BA:1295:G:H21 | 34:BA:1302:U:H3 | 1.59 | 0.50 |
| 34:BA:1308:U:P | 48:BP:99:ARG:HG3 | 2.52 | 0.50 |
| 34:BA:1354:C:O5' | 34:BA:1354:C:H6 | 1.93 | 0.50 |
| 34:BA:1368:G:OP1 | 44:BL:112:LYS:O | 2.29 | 0.50 |
| 34:BA:1375:A:N3 | 34:BA:1376:U:C6 | 2.80 | 0.50 |
| 34:BA:1516:G:C2 | 34:BA:1518:A:OP2 | 2.64 | 0.50 |
| 35:BB:37:G:H8 | 35:BB:38:A:OP2 | 1.94 | 0.50 |
| 37:BE:23:ARG:NH1 | 37:BE:24:TRP:CA | 2.75 | 0.50 |
| 37:BE:93:VAL:HG21 | 37:BE:101:MET:HE1 | 1.93 | 0.50 |
| 37:BE:207:ALA:C | 37:BE:209:ARG:N | 2.65 | 0.50 |
| 38:BF:28:GLN:O | 38:BF:29:TYR:C | 2.50 | 0.50 |
| 38:BF:52:LEU:O | 38:BF:53:ALA:CB | 2.59 | 0.50 |
| 38:BF:73:PRO:O | 38:BF:76:VAL:CB | 2.59 | 0.50 |
| 38:BF:98:ASN:C | 38:BF:99:VAL:HG13 | 2.32 | 0.50 |
| 39:BG:52:SER:O | 39:BG:53:ASP:C | 2.49 | 0.50 |
| 40:BH:141:GLN:CA | 40:BH:143:ARG:HH21 | 2.07 | 0.50 |
| 41:BI:2:ARG:HG3 | 41:BI:69:GLU:HG2 | 1.94 | 0.50 |
| 41:BI:75:LEU:HD13 | 41:BI:75:LEU:C | 2.32 | 0.50 |
| 42:BJ:136:LYS:O | 42:BJ:137:LYS:C | 2.48 | 0.50 |
| 44:BL:9:ARG:HG2 | 44:BL:14:VAL:HG13 | 1.92 | 0.50 |
| 44:BL:11:LYS:NZ | 44:BL:108:VAL:HG11 | 2.26 | 0.50 |
| 47:BO:76:ASN:O | 47:BO:77:LEU:HB2 | 2.11 | 0.50 |
| 47:BO:101:VAL:O | 47:BO:104:VAL:CB | 2.60 | 0.50 |
| 48:BP:88:ARG:HA | 48:BP:91:ARG:HB2 | 1.94 | 0.50 |
| 55:BW:91:LEU:C | 55:BW:93:GLU:N | 2.64 | 0.50 |
| 1:AB:12:C:H5" | 27:A3:53:MET:CE | 2.39 | 0.50 |
| 1:AB:42:C:C2' | 1:AB:43:C:C6 | 2.93 | 0.50 |
| 1:AB:117:G:N1 | 1:AB:118:G:C5 | 2.80 | 0.50 |
| 2:AA:23:G:C2 | 2:AA:24:G:H1' | 2.47 | 0.50 |
| 2:AA:34:C:O4' | 20:AU:8:ARG:NH1 | 2.40 | 0.50 |
| 2:AA:270(F):U:C2 | 2:AA:270(U):C:N3 | 2.79 | 0.50 |
| 2:AA:270(W):G:C3' | 2:AA:270(X):G:H8 | 2.24 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:428:A:H3' | 2:AA:429:A:H8 | 1.75 | 0.50 |
| 2:AA:435:C:C2' | 2:AA:436:C:H5' | 2.42 | 0.50 |
| 2:AA:445:C:OP1 | 25:A1:2:PRO:N | 2.45 | 0.50 |
| 2:AA:461:C:N4 | 2:AA:469:G:N2 | 2.58 | 0.50 |
| 2:AA:514:A:O3' | 25:A1:32:TYR:OH | 2.19 | 0.50 |
| 2:AA:522:G:H2' | 2:AA:523:C:C6 | 2.46 | 0.50 |
| 2:AA:527:C:C5 | 2:AA:2779:U:H3' | 2.47 | 0.50 |
| 2:AA:592:G:H21 | 32:A8:3:LYS:HE3 | 1.76 | 0.50 |
| 2:AA:595:C:H2' | 2:AA:596:G:O5' | 2.12 | 0.50 |
| 2:AA:671:C:N4 | 2:AA:809:G:C6 | 2.77 | 0.50 |
| 2:AA:729:G:C6 | 2:AA:1775:U:C4 | 2.99 | 0.50 |
| 2:AA:752:A:N7 | 2:AA:1781:C:H1' | 2.23 | 0.50 |
| 2:AA:762:U:H4' | 2:AA:763:G:O5' | 2.12 | 0.50 |
| 2:AA:911:A:N9 | 2:AA:2264:C:H1' | 2.21 | 0.50 |
| 2:AA:960:A:H5" | 2:AA:961:C:OP1 | 2.11 | 0.50 |
| 2:AA:992:C:N3 | 2:AA:993:G:H8 | 2.10 | 0.50 |
| 2:AA:1024:G:O6 | 2:AA:1134:G:H1' | 2.12 | 0.50 |
| 2:AA:1170:G:N1 | 2:AA:1180:C:N4 | 2.60 | 0.50 |
| 2:AA:1180:C:O2' | 2:AA:1181:C:C5' | 2.60 | 0.50 |
| 2:AA:1203:G:N7 | 2:AA:1206:G:N7 | 2.60 | 0.50 |
| 2:AA:1219:G:C5 | 2:AA:1231:G:N1 | 2.79 | 0.50 |
| 2:AA:1475:G:C4 | 2:AA:1475:G:H3' | 2.47 | 0.50 |
| 2:AA:1527:G:O5' | 2:AA:1527:G:H8 | 1.95 | 0.50 |
| 2:AA:1608:A:C6 | 2:AA:1611:C:H1' | 2.47 | 0.50 |
| 2:AA:1640:C:H3' | 2:AA:1640:C:OP2 | 2.11 | 0.50 |
| 2:AA:1670:C:H6 | 2:AA:1670:C:O5' | 1.95 | 0.50 |
| 2:AA:1673:U:C5 | 2:AA:1675:C:H6 | 2.29 | 0.50 |
| 2:AA:1685:C:N3 | 2:AA:1703:G:O6 | 2.45 | 0.50 |
| 2:AA:1690:A:C2 | 2:AA:1691:C:C1' | 2.94 | 0.50 |
| 2:AA:1965:C:C5' | 2:AA:1966:A:H3' | 2.41 | 0.50 |
| 2:AA:1993:U:H5" | 5:AE:228:ARG:HE | 1.75 | 0.50 |
| 2:AA:2018:G:N3 | 2:AA:2018:G:H2' | 2.26 | 0.50 |
| 2:AA:2117:A:N3 | 2:AA:2118:U:H4' | 2.27 | 0.50 |
| 2:AA:2119:A:OP1 | 2:AA:2120:G:H5" | 2.11 | 0.50 |
| 2:AA:2347:C:H4' | 30:A6:40:TYR:CZ | 2.46 | 0.50 |
| 2:AA:2353:G:O2' | 27:A3:30:VAL:O | 2.29 | 0.50 |
| 2:AA:2354:G:H4' | 27:A3:31:VAL:HG21 | 1.94 | 0.50 |
| 2:AA:2356:C:H3' | 2:AA:2356:C:C6 | 2.47 | 0.50 |
| 2:AA:2384:G:C2' | 2:AA:2385:C:OP1 | 2.59 | 0.50 |
| 2:AA:2400:G:H8 | 2:AA:2400:G:O5' | 1.94 | 0.50 |
| 2:AA:2489:G:C8 | 2:AA:2490:G:N7 | 2.79 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2604:U:N3 | 2:AA:2605:U:C5 | 2.80 | 0.50 |
| 2:AA:2785:C:HO2' | 5:AE:100:TRP:N | 2.10 | 0.50 |
| 2:AA:2893:G:P | 2:AA:2893:G:O4' | 2.69 | 0.50 |
| 3:AC:22:ILE:HD12 | 3:AC:190:ARG:NH1 | 2.27 | 0.50 |
| 3:AC:42:GLU:CB | 3:AC:173:ALA:O | 2.60 | 0.50 |
| 3:AC:123:VAL:HG11 | 3:AC:138:PRO:CG | 2.41 | 0.50 |
| 3:AC:127:LEU:HA | 3:AC:130:ILE:HB | 1.93 | 0.50 |
| 4:AD:66:PHE:C | 4:AD:67:LYS:CD | 2.71 | 0.50 |
| 4:AD:104:ILE:CD1 | 4:AD:106:PRO:HG2 | 2.41 | 0.50 |
| 4:AD:175:LEU:CG | 4:AD:180:VAL:HA | 2.37 | 0.50 |
| 5:AE:74:GLU:OE2 | 5:AE:74:GLU:N | 2.45 | 0.50 |
| 5:AE:174:LEU:C | 5:AE:177:ALA:HB3 | 2.24 | 0.50 |
| 5:AE:211:GLN:NE2 | 5:AE:215:LYS:CG | 2.74 | 0.50 |
| 5:AE:214:VAL:CG1 | 5:AE:221:LYS:HD2 | 2.32 | 0.50 |
| 7:AG:56:ARG:HG2 | 7:AG:65:GLU:HG3 | 1.93 | 0.50 |
| 8:AH:48:VAL:C | 8:AH:49:ILE:HG13 | 2.32 | 0.50 |
| 8:AH:163:TYR:CD1 | 8:AH:163:TYR:N | 2.62 | 0.50 |
| 9:AI:7:ILE:HD11 | 11:AL:118:ALA:N | 2.26 | 0.50 |
| 9:AJ:62:VAL:HG22 | 9:AJ:101:VAL:CG2 | 2.39 | 0.50 |
| 10:AK:19:LYS:CE | 10:AK:20:ASN:H | 2.25 | 0.50 |
| 10:AK:77:VAL:HG12 | 10:AK:143:VAL:HG13 | 1.92 | 0.50 |
| 10:AK:79:ILE:CD1 | 10:AK:144:HIS:O | 2.59 | 0.50 |
| 12:AM:4:ALA:O | 12:AM:6:PHE:CE1 | 2.64 | 0.50 |
| 13:AN:58:VAL:CG1 | 13:AN:59:LYS:N | 2.71 | 0.50 |
| 14:AO:81:VAL:HG22 | 14:AO:92:ASP:OD2 | 2.12 | 0.50 |
| 14:AO:92:ASP:H | 14:AO:118:LEU:HA | 1.76 | 0.50 |
| 14:AO:132:LYS:CD | 14:AO:132:LYS:H | 2.25 | 0.50 |
| 15:AP:67:ALA:N | 15:AP:70:ARG:NH1 | 2.59 | 0.50 |
| 16:AQ:24:LEU:HA | 16:AQ:27:LEU:CB | 2.42 | 0.50 |
| 17:AR:5:GLU:CD | 17:AR:56:ARG:NH2 | 2.65 | 0.50 |
| 19:AT:7:HIS:N | 19:AT:27:ALA:HB3 | 2.26 | 0.50 |
| 20:AU:22:GLN:O | 20:AU:23:VAL:C | 2.50 | 0.50 |
| 20:AU:31:LEU:HB3 | 20:AU:101:LEU:CD1 | 2.35 | 0.50 |
| 20:AU:49:GLU:CD | 20:AU:58:GLU:C | 2.71 | 0.50 |
| 21:AV:117:VAL:HG11 | 21:AV:167:THR:CG2 | 2.42 | 0.50 |
| 22:AW:3:LEU:CB | 22:AW:8:ILE:HD11 | 2.26 | 0.50 |
| 24:A0:33:ARG:HB2 | 24:A0:113:LEU:HD11 | 1.94 | 0.50 |
| 24:A0:67:LEU:C | 24:A0:69:ASP:N | 2.64 | 0.50 |
| 25:A1:55:ARG:CA | 25:A1:58:ARG:HG3 | 2.34 | 0.50 |
| 26:A2:49:GLU:O | 26:A2:54:TYR:CE1 | 2.64 | 0.50 |
| 27:A3:26:PHE:HD1 | 27:A3:26:PHE:N | 2.07 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 28:A4:58:LYS:HG2 | 28:A4:62:ARG:HE | 1.76 | 0.50 |
| 30:A6:19:GLY:CA | 30:A6:42:PRO:CG | 2.72 | 0.50 |
| 30:A6:26:LYS:CE | 32:A8:35:GLY:CA | 2.83 | 0.50 |
| 34:BA:25:C:C4' | 34:BA:524:G:H21 | 2.24 | 0.50 |
| 34:BA:130:A:H8 | 52:BT:63:ARG:HG3 | 1.66 | 0.50 |
| 34:BA:219:C:C4 | 34:BA:220:G:C8 | 3.00 | 0.50 |
| 34:BA:286:G:C4 | 34:BA:287:U:C5 | 2.99 | 0.50 |
| 34:BA:383:A:H2' | 34:BA:384:G:C5' | 2.42 | 0.50 |
| 34:BA:445:G:H2' | 34:BA:446:G:C8 | 2.41 | 0.50 |
| 34:BA:684:A:H1' | 46:BN:39:PRO:HD2 | 1.94 | 0.50 |
| 34:BA:715:A:O4' | 34:BA:777:A:N6 | 2.45 | 0.50 |
| 34:BA:757:U:H1' | 34:BA:879:C:C1' | 2.40 | 0.50 |
| 34:BA:809:G:N2 | 34:BA:810:C:H1' | 2.27 | 0.50 |
| 34:BA:922:G:O2' | 34:BA:923:A:C5' | 2.56 | 0.50 |
| 34:BA:945:G:C2 | 34:BA:1337:G:C2 | 3.00 | 0.50 |
| 34:BA:1117:G:H1' | 34:BA:1184:G:N2 | 2.26 | 0.50 |
| 34:BA:1149:C:H2' | 34:BA:1280:A:N1 | 2.27 | 0.50 |
| 34:BA:1379:G:O2' | 34:BA:1380:U:H5' | 2.12 | 0.50 |
| 34:BA:1421:G:C6 | 34:BA:1480:G:C6 | 3.00 | 0.50 |
| 34:BA:1451:A:C8 | 34:BA:1451:A:P | 3.04 | 0.50 |
| 34:BA:1451:A:C5' | 34:BA:1452:C:H5 | 2.24 | 0.50 |
| 34:BA:1486:G:C6 | 34:BA:1487:G:C5 | 3.00 | 0.50 |
| 34:BA:1538:C:H2' | 34:BA:1539:C:H6 | 1.77 | 0.50 |
| 35:BB:15:G:C2' | 35:BB:16:U:H5" | 2.41 | 0.50 |
| 35:BB:53:G:N3 | 35:BB:54:U:C5 | 2.78 | 0.50 |
| 36:B1:23:U:O2 | 36:B1:31:G:N2 | 2.29 | 0.50 |
| 37:BE:135:GLN:N | 37:BE:135:GLN:NE2 | 2.60 | 0.50 |
| 38:BF:159:GLY:O | 38:BF:160:ALA:C | 2.50 | 0.50 |
| 39:BG:118:ARG:HG3 | 39:BG:118:ARG:NH2 | 2.26 | 0.50 |
| 39:BG:119:GLN:HG2 | 39:BG:123:HIS:HD2 | 1.76 | 0.50 |
| 39:BG:191:ARG:HH22 | 39:BG:196:LEU:HB3 | 1.76 | 0.50 |
| 40:BH:39:GLY:HA2 | 40:BH:69:VAL:CG2 | 2.42 | 0.50 |
| 40:BH:95:ALA:CB | 40:BH:96:PRO:HD2 | 2.38 | 0.50 |
| 40:BH:121:LYS:HG3 | 40:BH:122:GLU:N | 2.27 | 0.50 |
| 41:BI:10:LEU:CD2 | 41:BI:26:ILE:HD11 | 2.40 | 0.50 |
| 41:BI:97:PHE:CD2 | 41:BI:97:PHE:O | 2.65 | 0.50 |
| 42:BJ:122:HIS:O | 42:BJ:123:GLU:O | 2.30 | 0.50 |
| 42:BJ:150:ALA:C | 42:BJ:152:ALA:N | 2.62 | 0.50 |
| 43:BK:24:THR:N | 43:BK:60:ARG:HD2 | 2.27 | 0.50 |
| 43:BK:39:LEU:HB3 | 43:BK:45:ILE:HG22 | 1.85 | 0.50 |
| 43:BK:40:ALA:C | 43:BK:42:GLU:H | 2.14 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:129:VAL:HG22 | 43:BK:130:GLY:N | 2.22 | 0.50 |
| 44:BL:52:ALA:O | 44:BL:95:LYS:CE | 2.60 | 0.50 |
| 48:BP:8:GLU:C | 48:BP:10:PRO:HD2 | 2.32 | 0.50 |
| 48:BP:39:ILE:O | 48:BP:40:ASN:C | 2.50 | 0.50 |
| 49:BQ:4:LYS:HA | 49:BQ:7:ILE:CD1 | 2.42 | 0.50 |
| 49:BQ:25:VAL:CB | 49:BQ:38:GLY:O | 2.60 | 0.50 |
| 53:BU:73:ALA:O | 53:BU:74:ARG:C | 2.45 | 0.50 |
| 54:BV:24:ALA:C | 54:BV:26:GLY:N | 2.65 | 0.50 |
| 54:BV:46:GLY:N | 54:BV:62:ILE:CG2 | 2.70 | 0.50 |
| 54:BV:53:ASN:ND2 | 54:BV:53:ASN:N | 2.59 | 0.50 |
| 55:BW:50:GLU:O | 55:BW:54:LYS:HG3 | 2.12 | 0.50 |
| 1:AB:27:C:N3 | 1:AB:28:C:N3 | 2.60 | 0.49 |
| 1:AB:28:C:O2' | 1:AB:29:A:O4' | 2.24 | 0.49 |
| 2:AA:30:G:H2' | 2:AA:31:C:O4' | 2.12 | 0.49 |
| 2:AA:30:G:OP1 | 25:A1:8:ILE:HD11 | 2.12 | 0.49 |
| 2:AA:71:A:O2' | 19:AT:2:TRP:HZ2 | 1.95 | 0.49 |
| 2:AA:138:G:H2' | 2:AA:140:A:OP2 | 2.12 | 0.49 |
| 2:AA:194:G:N3 | 2:AA:194:G:H2' | 2.27 | 0.49 |
| 2:AA:221:A:O2' | 2:AA:271(B):G:N1 | 2.44 | 0.49 |
| 2:AA:343:C:H2' | 2:AA:344:G:O4' | 2.11 | 0.49 |
| 2:AA:459:U:OP1 | 31:A7:40:HIS:N | 2.45 | 0.49 |
| 2:AA:564:C:H41 | 2:AA:573:G:C5' | 2.25 | 0.49 |
| 2:AA:576:U:H2' | 2:AA:577:G:C8 | 2.46 | 0.49 |
| 2:AA:588:U:C5 | 2:AA:589:C:C5 | 2.90 | 0.49 |
| 2:AA:606:U:OP1 | 6:AF:104:ASP:CB | 2.53 | 0.49 |
| 2:AA:650:C:C2' | 2:AA:651:G:H5' | 2.42 | 0.49 |
| 2:AA:702:G:N1 | 2:AA:731:C:C4 | 2.80 | 0.49 |
| 2:AA:776:G:N3 | 2:AA:793:A:C6 | 2.80 | 0.49 |
| 2:AA:779:U:C4 | 2:AA:780:G:C6 | 3.00 | 0.49 |
| 2:AA:806:C:O3' | 2:AA:830:G:N2 | 2.45 | 0.49 |
| 2:AA:857:C:N4 | 2:AA:920:G:N1 | 2.43 | 0.49 |
| 2:AA:914:C:C2' | 2:AA:915:C:H5' | 2.37 | 0.49 |
| 2:AA:943:U:C6 | 2:AA:943:U:C3' | 2.95 | 0.49 |
| 2:AA:1021:A:C8 | 12:AM:49:ARG:NH1 | 2.80 | 0.49 |
| 2:AA:1062:G:C4 | 11:AL:134:SER:OG | 2.65 | 0.49 |
| 2:AA:1104:C:H1' | 9:AI:29:PHE:CD2 | 2.46 | 0.49 |
| 2:AA:1152:C:C5' | 25:A1:80:ILE:HB | 2.42 | 0.49 |
| 2:AA:1279:G:H5' | 24:A0:31:HIS:CD2 | 2.46 | 0.49 |
| 2:AA:1341:U:H2' | 19:AT:53:ASN:OD1 | 2.12 | 0.49 |
| 2:AA:1517:G:H2' | 2:AA:1518:C:H5' | 1.93 | 0.49 |
| 2:AA:1518:C:N3 | 2:AA:1519:G:H1' | 2.27 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1608:A:C4 | 2:AA:1611:C:C5 | 2.99 | 0.49 |
| 2:AA:1672:C:C5 | 2:AA:1673:U:C5 | 3.00 | 0.49 |
| 2:AA:1772:G:C2 | 2:AA:1980:G:C2 | 3.00 | 0.49 |
| 2:AA:1807:G:H21 | 2:AA:1809:A:C4' | 2.25 | 0.49 |
| 2:AA:1829:A:H5' | 2:AA:1830:C:OP2 | 2.11 | 0.49 |
| 2:AA:1843:C:C2 | 2:AA:1844:C:H5 | 2.29 | 0.49 |
| 2:AA:1846:G:H2' | 2:AA:1847:A:O4' | 2.12 | 0.49 |
| 2:AA:1939:U:OP2 | 2:AA:1939:U:O3' | 2.30 | 0.49 |
| 2:AA:2018:G:C2' | 2:AA:2019:A:O5' | 2.59 | 0.49 |
| 2:AA:2074:U:O2 | 2:AA:2074:U:C2' | 2.59 | 0.49 |
| 2:AA:2074:U:N3 | 2:AA:2075:U:O4 | 2.45 | 0.49 |
| 2:AA:2095:C:N3 | 2:AA:2194:G:C6 | 2.75 | 0.49 |
| 2:AA:2135:A:C2' | 2:AA:2152:G:N7 | 2.64 | 0.49 |
| 2:AA:2138:C:C2 | 2:AA:2139:C:C6 | 3.00 | 0.49 |
| 2:AA:2218:G:C4 | 2:AA:2219:G:C8 | 3.00 | 0.49 |
| 2:AA:2250:G:H5' | 15:AP:102:ARG:CD | 2.39 | 0.49 |
| 2:AA:2364:C:H5' | 27:A3:38:VAL:HG13 | 1.94 | 0.49 |
| 2:AA:2478:A:C8 | 2:AA:2478:A:H3' | 2.47 | 0.49 |
| 2:AA:2515:C:N4 | 2:AA:2570:G:O6 | 2.45 | 0.49 |
| 2:AA:2553:G:C6 | 2:AA:2554:U:O2 | 2.65 | 0.49 |
| 2:AA:2688:U:H1' | 2:AA:2721:A:N6 | 2.27 | 0.49 |
| 3:AC:41:VAL:HA | 3:AC:215:THR:O | 2.12 | 0.49 |
| 3:AC:116:THR:HG22 | 3:AC:149:ILE:CB | 2.37 | 0.49 |
| 3:AC:184:LYS:HA | 3:AC:187:ASP:HB2 | 1.94 | 0.49 |
| 4:AD:81:GLU:O | 4:AD:90:ILE:O | 2.28 | 0.49 |
| 4:AD:174:ARG:NE | 4:AD:180:VAL:CG1 | 2.75 | 0.49 |
| 5:AE:222:ARG:HD3 | 5:AE:232:ARG:HA | 1.94 | 0.49 |
| 5:AE:269:ILE:HD12 | 5:AE:296:VAL:HA | 1.93 | 0.49 |
| 5:AE:319:ASP:O | 5:AE:320:GLN:O | 2.29 | 0.49 |
| 6:AF:195:VAL:HG21 | 6:AF:235:PHE:CG | 2.47 | 0.49 |
| 6:AF:197:SER:CB | 6:AF:239:ALA:H | 2.17 | 0.49 |
| 8:AH:12:ALA:O | 8:AH:14:VAL:N | 2.45 | 0.49 |
| 8:AH:121:GLU:OE2 | 8:AH:133:LYS:O | 2.30 | 0.49 |
| 8:AH:164:GLU:OE1 | 8:AH:164:GLU:HA | 1.93 | 0.49 |
| 9:AI:2:THR:OG1 | 9:AI:5:GLU:HG3 | 2.12 | 0.49 |
| 9:AI:111:ALA:HA | 9:AI:114:ILE:HD12 | 1.94 | 0.49 |
| 9:AJ:86:LYS:HE3 | 11:AL:10:LYS:CG | 2.30 | 0.49 |
| 10:AK:141:LEU:CD1 | 10:AK:143:VAL:HG23 | 2.41 | 0.49 |
| 11:AL:51:GLY:O | 11:AL:81:LYS:CE | 2.60 | 0.49 |
| 11:AL:75:ALA:O | 11:AL:76:SER:C | 2.49 | 0.49 |
| 11:AL:99:LYS:HD2 | 11:AL:99:LYS:H | 1.76 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AM:29:GLN:O | 12:AM:30:ALA:O | 2.30 | 0.49 |
| 13:AN:7:ARG:HA | 13:AN:44:LYS:HZ1 | 1.76 | 0.49 |
| 14:AO:62:ALA:H | 14:AO:107:LYS:HG3 | 1.77 | 0.49 |
| 15:AP:26:LYS:O | 15:AP:28:ILE:HG12 | 2.12 | 0.49 |
| 15:AP:72:VAL:HG22 | 15:AP:135:ALA:HB1 | 1.94 | 0.49 |
| 15:AP:129:ASP:OD1 | 15:AP:129:ASP:O | 2.30 | 0.49 |
| 16:AQ:22:GLN:OE1 | 16:AQ:22:GLN:C | 2.49 | 0.49 |
| 17:AR:14:GLU:CB | 17:AR:15:PRO:HD2 | 2.31 | 0.49 |
| 18:AS:66:GLU:HG2 | 18:AS:67:ASP:N | 2.26 | 0.49 |
| 18:AS:69:LEU:HD23 | 18:AS:109:GLU:CB | 2.40 | 0.49 |
| 18:AS:86:LEU:HB3 | 18:AS:87:PRO:HD2 | 1.93 | 0.49 |
| 19:AT:24:LEU:HD12 | 19:AT:24:LEU:N | 2.27 | 0.49 |
| 21:AV:142:ASN:O | 21:AV:171:VAL:CG2 | 2.56 | 0.49 |
| 25:A1:49:ASP:C | 25:A1:53:LYS:CE | 2.78 | 0.49 |
| 25:A1:50:ARG:CZ | 26:A2:74:TYR:CD2 | 2.92 | 0.49 |
| 25:A1:79:PHE:HB3 | 25:A1:83:LEU:CD1 | 2.42 | 0.49 |
| 25:A1:115:ASN:ND2 | 25:A1:115:ASN:H | 2.10 | 0.49 |
| 26:A2:5:ILE:O | 26:A2:40:VAL:CG2 | 2.60 | 0.49 |
| 27:A3:24:LYS:O | 27:A3:25:LYS:HB2 | 2.12 | 0.49 |
| 31:A7:38:GLY:C | 31:A7:40:HIS:CE1 | 2.85 | 0.49 |
| 34:BA:67:C:H4' | 34:BA:172:A:O4' | 2.12 | 0.49 |
| 34:BA:115:G:C2 | 34:BA:289:G:C8 | 3.00 | 0.49 |
| 34:BA:118:U:C3' | 34:BA:288:A:H61 | 2.13 | 0.49 |
| 34:BA:300:A:C2' | 34:BA:301:G:C5' | 2.80 | 0.49 |
| 34:BA:409:G:H4' | 39:BG:24:GLU:OE2 | 2.12 | 0.49 |
| 34:BA:478:A:C8 | 34:BA:478:A:C3' | 2.95 | 0.49 |
| 34:BA:486:U:O2 | 34:BA:486:U:C2' | 2.61 | 0.49 |
| 34:BA:499:A:C4 | 34:BA:547:A:N1 | 2.80 | 0.49 |
| 34:BA:541:G:H2' | 34:BA:542:G:C8 | 2.46 | 0.49 |
| 34:BA:620:C:O2' | 34:BA:621:A:H5' | 2.12 | 0.49 |
| 34:BA:689:C:H2' | 34:BA:690:G:O5' | 2.12 | 0.49 |
| 34:BA:691:G:H22 | 46:BN:52:GLY:HA2 | 1.76 | 0.49 |
| 34:BA:975:A:O5' | 34:BA:976:G:H5' | 2.12 | 0.49 |
| 34:BA:1064:G:H1' | 34:BA:1066:C:C2 | 2.46 | 0.49 |
| 34:BA:1068:G:N7 | 34:BA:1094:G:N7 | 2.60 | 0.49 |
| 34:BA:1226:C:O2' | 34:BA:1227:A:P | 2.70 | 0.49 |
| 34:BA:1240:U:C4 | 42:BJ:32:ARG:NH2 | 2.80 | 0.49 |
| 34:BA:1256:A:H2 | 34:BA:1258:G:N1 | 2.10 | 0.49 |
| 34:BA:1400:C:C1' | 35:BC:34:G:N2 | 2.72 | 0.49 |
| 36:B1:14:U:H5" | 36:B1:38:C:N3 | 2.27 | 0.49 |
| 37:BE:68:ILE:HG21 | 37:BE:70:PHE:CZ | 2.47 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:180:LEU:O | 37:BE:181:PHE:CB | 2.52 | 0.49 |
| 38:BF:49:SER:C | 38:BF:51:GLY:H | 2.14 | 0.49 |
| 38:BF:188:LEU:HD13 | 38:BF:189:ALA:H | 1.77 | 0.49 |
| 38:BF:191:THR:C | 38:BF:193:TYR:H | 2.15 | 0.49 |
| 39:BG:8:VAL:C | 39:BG:10:ARG:H | 2.14 | 0.49 |
| 39:BG:170:VAL:HG12 | 39:BG:174:LEU:HB2 | 1.94 | 0.49 |
| 40:BH:95:ALA:O | 40:BH:96:PRO:O | 2.29 | 0.49 |
| 40:BH:114:GLY:C | 40:BH:115:VAL:HG22 | 2.31 | 0.49 |
| 41:BI:75:LEU:HD22 | 41:BI:79:LEU:HD21 | 1.93 | 0.49 |
| 42:BJ:45:ASP:C | 42:BJ:49:ILE:HD12 | 2.33 | 0.49 |
| 42:BJ:146:GLU:CG | 42:BJ:149:ARG:NH2 | 2.58 | 0.49 |
| 43:BK:6:ILE:HG13 | 43:BK:85:ARG:CZ | 2.42 | 0.49 |
| 43:BK:9:MET:CG | 43:BK:26:VAL:HG21 | 2.41 | 0.49 |
| 43:BK:11:THR:O | 43:BK:12:ARG:C | 2.49 | 0.49 |
| 43:BK:111:ILE:HB | 43:BK:135:CYS:O | 2.11 | 0.49 |
| 44:BL:3:GLN:HB2 | 44:BL:20:ARG:CG | 2.42 | 0.49 |
| 46:BN:40:ILE:C | 46:BN:41:THR:HG23 | 2.33 | 0.49 |
| 48:BP:96:LEU:CA | 48:BP:110:ARG:HG2 | 2.42 | 0.49 |
| 52:BT:19:VAL:HG21 | 52:BT:46:ASP:HB2 | 1.93 | 0.49 |
| 52:BT:36:ILE:HG12 | 52:BT:36:ILE:O | 2.11 | 0.49 |
| 52:BT:75:ARG:NH1 | 52:BT:76:LEU:C | 2.65 | 0.49 |
| 1:AB:9:G:OP1 | 16:AQ:37:ARG:NH2 | 2.45 | 0.49 |
| 1:AB:72:G:H21 | 1:AB:104:A:H62 | 1.60 | 0.49 |
| 2:AA:247:G:N2 | 32:A8:8:LYS:CE | 2.75 | 0.49 |
| 2:AA:250:G:H3' | 32:A8:8:LYS:HZ3 | 1.76 | 0.49 |
| 2:AA:270:A:N6 | 2:AA:424:G:C5 | 2.80 | 0.49 |
| 2:AA:310:A:OP1 | 20:AU:52:ARG:HB3 | 2.12 | 0.49 |
| 2:AA:385:C:H42 | 2:AA:391:G:H1 | 1.59 | 0.49 |
| 2:AA:447:A:O2' | 2:AA:448:U:C5' | 2.61 | 0.49 |
| 2:AA:502:A:C2' | 2:AA:503:A:H5' | 2.42 | 0.49 |
| 2:AA:583:G:C6 | 2:AA:584:C:C5 | 3.00 | 0.49 |
| 2:AA:878:A:C4 | 2:AA:879:G:C8 | 2.99 | 0.49 |
| 2:AA:892:G:C6 | 2:AA:893:C:C4 | 3.00 | 0.49 |
| 2:AA:899:A:N1 | 2:AA:900:A:C2 | 2.80 | 0.49 |
| 2:AA:911:A:OP1 | 2:AA:912:C:H6 | 1.95 | 0.49 |
| 2:AA:950:G:C4 | 2:AA:951:C:C5 | 3.00 | 0.49 |
| 2:AA:1087:G:N3 | 2:AA:1103:A:C4 | 2.80 | 0.49 |
| 2:AA:1287:A:C6 | 2:AA:1649:G:C1' | 2.95 | 0.49 |
| 2:AA:1395:A:C6 | 2:AA:1398:C:C2 | 3.00 | 0.49 |
| 2:AA:1472:A:C6 | 2:AA:1473:G:O6 | 2.65 | 0.49 |
| 2:AA:1529:A:C4 | 2:AA:1530:G:O4' | 2.65 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1572:A:OP1 | 2:AA:1572:A:O4' | 2.31 | 0.49 |
| 2:AA:1668:A:C3' | 2:AA:1669:A:H5' | 2.43 | 0.49 |
| 2:AA:1683:C:C4 | 2:AA:1684:C:N4 | 2.79 | 0.49 |
| 2:AA:1792:G:C6 | 2:AA:1793:C:C5 | 3.00 | 0.49 |
| 2:AA:1806:C:C4 | 2:AA:1807:G:C8 | 2.99 | 0.49 |
| 2:AA:1818:U:C5 | 4:AD:155:ARG:NH2 | 2.80 | 0.49 |
| 2:AA:1819:A:H1' | 2:AA:1821:A:N7 | 2.27 | 0.49 |
| 2:AA:1918:A:H8 | 2:AA:1918:A:P | 2.34 | 0.49 |
| 2:AA:1921:G:O2' | 2:AA:1922:G:H5' | 2.12 | 0.49 |
| 2:AA:1978:A:C6 | 2:AA:1979:C:C4 | 3.00 | 0.49 |
| 2:AA:2030:A:O2' | 2:AA:2031:A:O5' | 2.29 | 0.49 |
| 2:AA:2148:G:OP2 | 2:AA:2149:G:OP2 | 2.30 | 0.49 |
| 2:AA:2156:G:O5' | 2:AA:2156:G:H8 | 1.91 | 0.49 |
| 2:AA:2253:G:H2' | 2:AA:2254:C:C5 | 2.43 | 0.49 |
| 2:AA:2287:A:C2' | 2:AA:2288:A:O5' | 2.60 | 0.49 |
| 2:AA:2306:C:C2 | 7:AG:27:ILE:HA | 2.47 | 0.49 |
| 2:AA:2376:A:H61 | 16:AQ:109:PRO:HG2 | 1.77 | 0.49 |
| 2:AA:2424:C:H5' | 2:AA:2425:A:C5' | 2.37 | 0.49 |
| 2:AA:2489:G:O2' | 2:AA:2490:G:O4' | 2.29 | 0.49 |
| 2:AA:2553:G:C8 | 2:AA:2554:U:O4' | 2.65 | 0.49 |
| 2:AA:2603:G:H2' | 2:AA:2604:U:O4' | 2.12 | 0.49 |
| 2:AA:2611:U:O2 | 29:A5:2:ALA:HA | 2.12 | 0.49 |
| 2:AA:2616:C:HO2' | 2:AA:2617:C:H5' | 1.75 | 0.49 |
| 2:AA:2649:U:C2 | 2:AA:2672:G:N2 | 2.80 | 0.49 |
| 2:AA:2783:G:O2' | 2:AA:2784:C:H5' | 2.11 | 0.49 |
| 2:AA:2844:G:C4 | 2:AA:2845:G:C8 | 2.99 | 0.49 |
| 5:AE:71:THR:OG1 | 5:AE:299:SER:CB | 2.61 | 0.49 |
| 5:AE:109:ASP:OD1 | 5:AE:112:LEU:CB | 2.60 | 0.49 |
| 5:AE:228:ARG:O | 5:AE:229:GLN:C | 2.51 | 0.49 |
| 5:AE:256:THR:HB | 5:AE:259:HIS:CE1 | 2.47 | 0.49 |
| 6:AF:145:GLU:HG3 | 6:AF:196:THR:CG2 | 2.41 | 0.49 |
| 7:AG:13:MET:HG3 | 7:AG:137:PRO:CG | 2.41 | 0.49 |
| 7:AG:13:MET:HB3 | 7:AG:14:ARG:HD2 | 1.94 | 0.49 |
| 7:AG:63:ILE:CG2 | 7:AG:64:ARG:N | 2.75 | 0.49 |
| 7:AG:105:SER:OG | 7:AG:131:THR:CA | 2.56 | 0.49 |
| 9:AI:106:VAL:CG1 | 9:AI:110:GLU:HB2 | 2.42 | 0.49 |
| 10:AK:21:VAL:O | 10:AK:22:ALA:O | 2.30 | 0.49 |
| 10:AK:83:ALA:O | 10:AK:90:PHE:CZ | 2.65 | 0.49 |
| 10:AK:126:TYR:HD1 | 10:AK:126:TYR:H | 1.60 | 0.49 |
| 10:AK:148:GLN:OE1 | 10:AK:149:LYS:N | 2.45 | 0.49 |
| 13:AN:106:LEU:H | 13:AN:106:LEU:CD2 | 2.20 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:AQ:16:ALA:O | 16:AQ:18:THR:N | 2.30 | 0.49 |
| 16:AQ:61:ALA:O | 16:AQ:62:HIS:ND1 | 2.45 | 0.49 |
| 16:AQ:87:LEU:O | 16:AQ:88:ALA:C | 2.51 | 0.49 |
| 18:AS:96:ILE:O | 18:AS:96:ILE:HD12 | 2.12 | 0.49 |
| 19:AT:32:ALA:HB1 | 19:AT:36:GLU:HB2 | 1.93 | 0.49 |
| 19:AT:56:ASN:ND2 | 19:AT:62:LYS:HE3 | 2.19 | 0.49 |
| 19:AT:72:ASP:HB2 | 19:AT:75:GLN:HE21 | 1.75 | 0.49 |
| 21:AV:44:ARG:O | 21:AV:45:GLN:C | 2.49 | 0.49 |
| 21:AV:86:VAL:O | 21:AV:128:ARG:HD3 | 2.12 | 0.49 |
| 21:AV:99:HIS:O | 21:AV:137:ASP:CG | 2.51 | 0.49 |
| 22:AW:4:HIS:O | 22:AW:7:GLU:OE2 | 2.30 | 0.49 |
| 22:AW:6:GLN:O | 22:AW:9:ARG:CB | 2.60 | 0.49 |
| 24:A0:101:ALA:HB2 | 29:A5:44:HIS:CB | 2.40 | 0.49 |
| 25:A1:79:PHE:O | 25:A1:83:LEU:CB | 2.47 | 0.49 |
| 26:A2:15:SER:HB2 | 26:A2:99:GLN:CD | 2.32 | 0.49 |
| 26:A2:38:LEU:HA | 26:A2:58:ALA:HB2 | 1.92 | 0.49 |
| 27:A3:4:LYS:HZ1 | 27:A3:11:LYS:HZ1 | 1.58 | 0.49 |
| 28:A4:18:GLY:N | 28:A4:33:VAL:HB | 2.27 | 0.49 |
| 31:A7:33:ARG:O | 31:A7:37:LYS:CB | 2.59 | 0.49 |
| 34:BA:50:A:C6 | 34:BA:361:G:O4' | 2.66 | 0.49 |
| 34:BA:61:G:C6 | 34:BA:62:U:N3 | 2.80 | 0.49 |
| 34:BA:101:A:C2 | 34:BA:102:G:N7 | 2.80 | 0.49 |
| 34:BA:161:A:O2' | 34:BA:162:A:H5' | 2.12 | 0.49 |
| 34:BA:195:A:H4' | 55:BW:68:LYS:CE | 2.42 | 0.49 |
| 34:BA:238:G:C2 | 34:BA:239:U:C2 | 3.01 | 0.49 |
| 34:BA:276:G:O3' | 52:BT:68:ARG:NH1 | 2.38 | 0.49 |
| 34:BA:319:G:O2' | 34:BA:320:C:C5' | 2.59 | 0.49 |
| 34:BA:325:A:H2' | 34:BA:326:G:C5' | 2.43 | 0.49 |
| 34:BA:439:A:H2' | 34:BA:440:A:O5' | 2.12 | 0.49 |
| 34:BA:575:G:N2 | 34:BA:880:C:N3 | 2.45 | 0.49 |
| 34:BA:597:G:C5 | 34:BA:598:U:C5 | 3.00 | 0.49 |
| 34:BA:614:A:H2' | 34:BA:615:C:O4' | 2.12 | 0.49 |
| 34:BA:627:G:O2' | 34:BA:628:G:C5' | 2.60 | 0.49 |
| 34:BA:670:G:C2' | 34:BA:671:G:O5' | 2.60 | 0.49 |
| 34:BA:673:G:O2' | 34:BA:674:G:C8 | 2.63 | 0.49 |
| 34:BA:708:C:C2' | 34:BA:709:G:H5' | 2.41 | 0.49 |
| 34:BA:735:C:H2' | 34:BA:736:C:O5' | 2.12 | 0.49 |
| 34:BA:812:C:O2' | 34:BA:813:U:P | 2.70 | 0.49 |
| 34:BA:929:G:C6 | 34:BA:930:C:C4 | 3.00 | 0.49 |
| 34:BA:952:U:H5' | 34:BA:972:C:N4 | 2.21 | 0.49 |
| 34:BA:1062:U:C2 | 34:BA:1063:C:N4 | 2.80 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1240:U:N1 | 42:BJ:32:ARG:NH2 | 2.55 | 0.49 |
| 34:BA:1334:G:H2' | 34:BA:1335:C:C5' | 2.42 | 0.49 |
| 34:BA:1440:C:C2' | 34:BA:1441:G:H8 | 2.25 | 0.49 |
| 34:BA:1468:A:C8 | 34:BA:1468:A:H3' | 2.47 | 0.49 |
| 34:BA:1475:G:C2 | 34:BA:1476:G:C4 | 3.00 | 0.49 |
| 35:BB:74:C:C5 | 35:BB:75:C:C1' | 2.94 | 0.49 |
| 37:BE:135:GLN:N | 37:BE:135:GLN:HE21 | 2.09 | 0.49 |
| 38:BF:43:LEU:HD21 | 38:BF:68:VAL:HG21 | 1.94 | 0.49 |
| 38:BF:121:ALA:HB2 | 38:BF:187:ALA:HB3 | 1.94 | 0.49 |
| 39:BG:19:LEU:HB3 | 39:BG:21:LEU:HD12 | 1.94 | 0.49 |
| 40:BH:50:GLU:HB2 | 40:BH:53:LEU:CD2 | 2.42 | 0.49 |
| 40:BH:78:HIS:CD2 | 40:BH:142:LEU:HD23 | 2.46 | 0.49 |
| 40:BH:143:ARG:NH1 | 43:BK:77:GLU:OE1 | 2.45 | 0.49 |
| 42:BJ:146:GLU:HG2 | 42:BJ:149:ARG:NE | 2.26 | 0.49 |
| 45:BM:32:ALA:O | 45:BM:33:GLN:CG | 2.56 | 0.49 |
| 45:BM:72:VAL:HG12 | 45:BM:73:ASP:N | 2.26 | 0.49 |
| 46:BN:14:VAL:O | 46:BN:15:ALA:HB3 | 2.12 | 0.49 |
| 47:BO:53:ARG:NH1 | 47:BO:93:LEU:CD2 | 2.53 | 0.49 |
| 48:BP:9:ILE:N | 48:BP:10:PRO:CD | 2.74 | 0.49 |
| 48:BP:19:LEU:CD1 | 48:BP:25:ILE:HG21 | 2.42 | 0.49 |
| 48:BP:29:ARG:HH11 | 48:BP:66:LEU:CD2 | 2.26 | 0.49 |
| 48:BP:36:LYS:CB | 48:BP:59:TYR:OH | 2.60 | 0.49 |
| 49:BQ:13:THR:C | 49:BQ:15:LYS:N | 2.65 | 0.49 |
| 50:BR:26:GLU:N | 50:BR:26:GLU:OE2 | 2.45 | 0.49 |
| 50:BR:49:ASP:OD1 | 50:BR:49:ASP:O | 2.30 | 0.49 |
| 50:BR:75:PRO:HA | 50:BR:78:TYR:CB | 2.42 | 0.49 |
| 51:BS:28:ARG:CD | 51:BS:29:ASP:OD2 | 2.46 | 0.49 |
| 52:BT:10:VAL:O | 52:BT:53:LEU:CD1 | 2.58 | 0.49 |
| 54:BV:47:HIS:N | 54:BV:62:ILE:CG2 | 2.75 | 0.49 |
| 55:BW:48:LYS:O | 55:BW:49:ALA:O | 2.30 | 0.49 |
| 1:AB:53:A:N3 | 1:AB:53:A:H2' | 2.25 | 0.49 |
| 1:AB:70:C:C4 | 1:AB:71:C:C5 | 3.00 | 0.49 |
| 1:AB:71:C:C2 | 1:AB:105:G:N2 | 2.76 | 0.49 |
| 2:AA:68:G:C5 | 2:AA:69:C:C5 | 3.00 | 0.49 |
| 2:AA:89:G:OP2 | 2:AA:91:A:OP1 | 2.29 | 0.49 |
| 2:AA:270(A):A:C5' | 2:AA:270(B):A:OP2 | 2.59 | 0.49 |
| 2:AA:270(L):U:C4' | 2:AA:270(M):U:OP1 | 2.57 | 0.49 |
| 2:AA:316:C:OP2 | 2:AA:316:C:H6 | 1.95 | 0.49 |
| 2:AA:482:A:C5 | 2:AA:506:G:N2 | 2.80 | 0.49 |
| 2:AA:506:G:O2' | 2:AA:507:A:H8 | 1.93 | 0.49 |
| 2:AA:540:G:C6 | 2:AA:541:C:N4 | 2.81 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:551:G:H5' | 2:AA:552:G:OP2 | 2.12 | 0.49 |
| 2:AA:570:G:C6 | 2:AA:2030:A:H2 | 2.30 | 0.49 |
| 2:AA:693:C:C2' | 2:AA:694:U:O5' | 2.61 | 0.49 |
| 2:AA:701:G:C2 | 2:AA:731:C:N3 | 2.75 | 0.49 |
| 2:AA:763:G:O2' | 2:AA:765:G:H5' | 2.11 | 0.49 |
| 2:AA:772:C:C2 | 2:AA:773:U:C5 | 3.00 | 0.49 |
| 2:AA:808:G:O2' | 2:AA:809:G:O5' | 2.30 | 0.49 |
| 2:AA:827:U:P | 2:AA:2429:G:OP2 | 2.70 | 0.49 |
| 2:AA:890:A:C4' | 2:AA:892:G:H5' | 2.40 | 0.49 |
| 2:AA:899:A:O2' | 2:AA:900:A:H5' | 2.11 | 0.49 |
| 2:AA:941:A:H2' | 2:AA:942:G:C8 | 2.47 | 0.49 |
| 2:AA:980:A:C2 | 2:AA:2037:G:O2' | 2.56 | 0.49 |
| 2:AA:1022:G:P | 12:AM:52:GLN:HE22 | 2.35 | 0.49 |
| 2:AA:1034:G:C6 | 2:AA:1035:U:C4 | 3.00 | 0.49 |
| 2:AA:1071:G:H2' | 2:AA:1072:C:H5" | 1.94 | 0.49 |
| 2:AA:1179:C:H3' | 2:AA:1179:C:P | 2.52 | 0.49 |
| 2:AA:1281:G:C4 | 2:AA:1282:U:C5 | 3.00 | 0.49 |
| 2:AA:1283:G:N2 | 2:AA:1285:G:H3' | 2.27 | 0.49 |
| 2:AA:1363:C:C1' | 2:AA:1810:A:H1' | 2.33 | 0.49 |
| 2:AA:1365:A:C5 | 2:AA:1366:A:N7 | 2.79 | 0.49 |
| 2:AA:1368:G:C2' | 2:AA:1369:G:H5' | 2.42 | 0.49 |
| 2:AA:1388:G:C2 | 2:AA:1389:G:C1' | 2.95 | 0.49 |
| 2:AA:1403:C:C2' | 2:AA:1404:C:O5' | 2.58 | 0.49 |
| 2:AA:1444:G:C2' | 2:AA:1445:C:C5 | 2.95 | 0.49 |
| 2:AA:1535:U:H5" | 2:AA:1536:A:C5' | 2.42 | 0.49 |
| 2:AA:1612:C:C2' | 31:A7:3:ARG:NE | 2.62 | 0.49 |
| 2:AA:1625:C:O2' | 2:AA:1626:G:C5' | 2.59 | 0.49 |
| 2:AA:1665:A:C2 | 2:AA:1666:G:C5 | 3.00 | 0.49 |
| 2:AA:1702:G:C6 | 2:AA:1703:G:N7 | 2.80 | 0.49 |
| 2:AA:1775:U:H2' | 2:AA:1776:G:O4' | 2.12 | 0.49 |
| 2:AA:1782:C:N4 | 2:AA:2587:A:H62 | 2.09 | 0.49 |
| 2:AA:1965:C:C4 | 2:AA:1966:A:N6 | 2.80 | 0.49 |
| 2:AA:2121:G:OP2 | 2:AA:2121:G:H8 | 1.95 | 0.49 |
| 2:AA:2146:C:O4' | 2:AA:2146:C:P | 2.70 | 0.49 |
| 2:AA:2331:G:C3' | 27:A3:70:ILE:HB | 2.42 | 0.49 |
| 2:AA:2348:U:O2' | 2:AA:2349:G:H5' | 2.12 | 0.49 |
| 2:AA:2422:A:O2' | 2:AA:2424:C:C6 | 2.65 | 0.49 |
| 2:AA:2460:U:C4 | 2:AA:2461:C:N4 | 2.79 | 0.49 |
| 2:AA:2584:U:C2' | 2:AA:2585:U:OP1 | 2.60 | 0.49 |
| 2:AA:2709:G:H2' | 2:AA:2710:C:C5' | 2.42 | 0.49 |
| 2:AA:2714:G:C2' | 2:AA:2715:C:H5' | 2.42 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2720:U:C2' | 2:AA:2721:A:H8 | 2.25 | 0.49 |
| 2:AA:2752:C:O2 | 2:AA:2752:C:C2' | 2.61 | 0.49 |
| 2:AA:2761:G:H2' | 2:AA:2762:G:C5' | 2.43 | 0.49 |
| 2:AA:2834:G:C5 | 2:AA:2879:C:C2 | 3.00 | 0.49 |
| 2:AA:2848:G:H22 | 2:AA:2867:G:C2' | 2.24 | 0.49 |
| 2:AA:2851:A:C2 | 2:AA:2852:G:C1' | 2.95 | 0.49 |
| 3:AC:20:TYR:CE1 | 3:AC:222:VAL:HG13 | 2.47 | 0.49 |
| 3:AC:83:ILE:HG23 | 3:AC:94:VAL:HG11 | 1.94 | 0.49 |
| 4:AD:141:HIS:CE1 | 4:AD:191:VAL:C | 2.85 | 0.49 |
| 4:AD:181:ARG:NH1 | 4:AD:181:ARG:CB | 2.56 | 0.49 |
| 5:AE:179:ASP:O | 5:AE:183:ASP:OD1 | 2.29 | 0.49 |
| 5:AE:247:ARG:CD | 5:AE:249:THR:HG21 | 2.42 | 0.49 |
| 6:AF:93:LYS:O | 6:AF:94:THR:C | 2.49 | 0.49 |
| 7:AG:78:GLU:O | 7:AG:82:GLU:OE2 | 2.30 | 0.49 |
| 8:AH:101:LYS:NZ | 8:AH:115:GLU:CB | 2.75 | 0.49 |
| 9:AI:20:GLU:OE1 | 9:AJ:53:GLN:CD | 2.51 | 0.49 |
| 9:AI:61:VAL:O | 9:AI:102:ILE:N | 2.45 | 0.49 |
| 9:AJ:106:VAL:CG1 | 9:AJ:110:GLU:HB2 | 2.42 | 0.49 |
| 10:AK:26:ALA:HA | 10:AK:30:LEU:HD12 | 1.95 | 0.49 |
| 10:AK:110:LEU:HD21 | 10:AK:114:LYS:HZ2 | 1.77 | 0.49 |
| 11:AL:117:ASN:CG | 11:AL:127:ILE:CD1 | 2.80 | 0.49 |
| 12:AM:10:VAL:CG2 | 12:AM:36:VAL:HG22 | 2.42 | 0.49 |
| 12:AM:41:ALA:HB1 | 12:AM:75:PRO:CG | 2.42 | 0.49 |
| 13:AN:21:VAL:CG1 | 13:AN:22:ILE:H | 2.23 | 0.49 |
| 16:AQ:24:LEU:HA | 16:AQ:33:ARG:NH2 | 2.17 | 0.49 |
| 16:AQ:26:LEU:O | 16:AQ:27:LEU:C | 2.50 | 0.49 |
| 17:AR:10:GLY:N | 17:AR:52:THR:CB | 2.68 | 0.49 |
| 18:AS:8:ARG:HD2 | 18:AS:9:TYR:CD1 | 2.47 | 0.49 |
| 20:AU:68:ASP:O | 20:AU:70:ALA:N | 2.44 | 0.49 |
| 20:AU:101:LEU:HD22 | 20:AU:103:LEU:CD2 | 2.42 | 0.49 |
| 21:AV:48:THR:O | 21:AV:49:THR:HG23 | 2.11 | 0.49 |
| 21:AV:103:ARG:CZ | 21:AV:139:THR:HA | 2.42 | 0.49 |
| 24:A0:14:SER:O | 24:A0:17:ARG:N | 2.45 | 0.49 |
| 24:A0:87:TYR:CD1 | 24:A0:94:TYR:CD2 | 3.00 | 0.49 |
| 24:A0:93:GLY:C | 24:A0:95:THR:N | 2.66 | 0.49 |
| 25:A1:21:ALA:CB | 25:A1:24:PHE:CZ | 2.93 | 0.49 |
| 26:A2:68:LYS:O | 26:A2:69:ILE:C | 2.51 | 0.49 |
| 27:A3:24:LYS:O | 27:A3:26:PHE:CE1 | 2.64 | 0.49 |
| 28:A4:45:GLY:O | 28:A4:73:LYS:NZ | 2.45 | 0.49 |
| 34:BA:16:A:O2' | 40:BH:16:THR:HA | 2.12 | 0.49 |
| 34:BA:74:C:N3 | 34:BA:97:G:C2 | 2.80 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:78:G:C2 | 34:BA:92:C:N3 | 2.80 | 0.49 |
| 34:BA:102:G:H2' | 34:BA:103:C:C6 | 2.47 | 0.49 |
| 34:BA:175:C:O2 | 34:BA:176:C:C6 | 2.65 | 0.49 |
| 34:BA:225:C:O2 | 34:BA:226:G:O4' | 2.29 | 0.49 |
| 34:BA:292:G:P | 34:BA:305:G:H22 | 2.34 | 0.49 |
| 34:BA:523:A:O2' | 34:BA:524:G:H3' | 2.11 | 0.49 |
| 34:BA:542:G:N1 | 34:BA:543:C:C4 | 2.80 | 0.49 |
| 34:BA:564:C:O4' | 52:BT:32:TYR:CE2 | 2.66 | 0.49 |
| 34:BA:566:G:H4' | 34:BA:567:G:C5' | 2.43 | 0.49 |
| 34:BA:590:C:C5' | 43:BK:30:ARG:HG3 | 2.42 | 0.49 |
| 34:BA:592:G:H2' | 34:BA:593:G:C5' | 2.41 | 0.49 |
| 34:BA:675:A:H1' | 46:BN:116:HIS:CE1 | 2.48 | 0.49 |
| 34:BA:688:G:N1 | 34:BA:699:C:N4 | 2.56 | 0.49 |
| 34:BA:703:G:H8 | 34:BA:703:G:P | 2.35 | 0.49 |
| 34:BA:706:A:C4' | 46:BN:29:ILE:CD1 | 2.90 | 0.49 |
| 34:BA:814:A:HO2' | 34:BA:815:A:C5' | 2.24 | 0.49 |
| 34:BA:878:G:H2' | 34:BA:879:C:O4' | 2.11 | 0.49 |
| 34:BA:1125:U:O4 | 45:BM:5:ARG:CZ | 2.60 | 0.49 |
| 34:BA:1148:U:C5 | 34:BA:1149:C:C4 | 3.00 | 0.49 |
| 34:BA:1165:C:C5 | 34:BA:1166:G:N7 | 2.80 | 0.49 |
| 34:BA:1169:A:N7 | 34:BA:1171:G:C4 | 2.80 | 0.49 |
| 34:BA:1237:C:C4' | 34:BA:1334:G:H21 | 2.23 | 0.49 |
| 34:BA:1342:C:O2' | 44:BL:124:GLN:CB | 2.59 | 0.49 |
| 34:BA:1344:C:H4' | 44:BL:120:ARG:HB3 | 1.94 | 0.49 |
| 34:BA:1363:A:N3 | 34:BA:1365:G:O6 | 2.46 | 0.49 |
| 34:BA:1450:U:C2 | 34:BA:1454:G:N1 | 2.80 | 0.49 |
| 35:BC:33:U:C6 | 35:BC:33:U:O5' | 2.65 | 0.49 |
| 35:BC:42:G:H2' | 35:BC:43:G:O4' | 2.13 | 0.49 |
| 35:BC:59:U:O2 | 35:BC:59:U:C2' | 2.60 | 0.49 |
| 36:B1:41:U:O2 | 36:B1:42:G:C8 | 2.65 | 0.49 |
| 37:BE:32:ILE:CD1 | 37:BE:40:HIS:CD2 | 2.94 | 0.49 |
| 37:BE:82:ARG:CD | 37:BE:92:TYR:OH | 2.56 | 0.49 |
| 37:BE:93:VAL:HG11 | 37:BE:97:TRP:HA | 1.94 | 0.49 |
| 37:BE:104:ASN:HD22 | 37:BE:108:ILE:HD11 | 1.78 | 0.49 |
| 38:BF:38:ARG:HG3 | 38:BF:38:ARG:NH1 | 2.26 | 0.49 |
| 38:BF:39:ILE:O | 38:BF:43:LEU:HB2 | 2.13 | 0.49 |
| 40:BH:18:ARG:HH21 | 40:BH:25:ARG:HB2 | 1.77 | 0.49 |
| 42:BJ:100:ALA:HA | 42:BJ:103:TRP:HE3 | 1.77 | 0.49 |
| 43:BK:6:ILE:CG2 | 43:BK:85:ARG:NH1 | 2.76 | 0.49 |
| 43:BK:39:LEU:O | 43:BK:44:PHE:HB2 | 2.12 | 0.49 |
| 44:BL:37:PHE:HD1 | 44:BL:43:ALA:HA | 1.77 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:111:ARG:O | 44:BL:119:ALA:CB | 2.57 | 0.49 |
| 45:BM:5:ARG:HA | 45:BM:73:ASP:OD1 | 2.12 | 0.49 |
| 45:BM:24:VAL:CG1 | 45:BM:34:VAL:HG11 | 2.40 | 0.49 |
| 46:BN:62:GLN:O | 46:BN:64:ALA:N | 2.45 | 0.49 |
| 48:BP:14:ARG:HG2 | 48:BP:44:ARG:CZ | 2.41 | 0.49 |
| 48:BP:81:LEU:HD11 | 48:BP:88:ARG:HH21 | 1.69 | 0.49 |
| 50:BR:17:ARG:HD3 | 50:BR:77:ARG:HE | 1.77 | 0.49 |
| 51:BS:75:ARG:HG3 | 51:BS:80:PHE:CG | 2.47 | 0.49 |
| 53:BU:30:ASP:C | 53:BU:32:ARG:N | 2.65 | 0.49 |
| 53:BU:45:SER:N | 53:BU:51:LEU:HD11 | 2.27 | 0.49 |
| 55:BW:14:LYS:O | 55:BW:18:GLN:HG3 | 2.12 | 0.49 |
| 1:AB:7:G:H2' | 1:AB:8:U:O4' | 2.12 | 0.49 |
| 1:AB:70:C:N3 | 1:AB:71:C:C5 | 2.80 | 0.49 |
| 1:AB:96:G:C6 | 1:AB:97:G:C5 | 3.01 | 0.49 |
| 1:AB:97:G:C2 | 2:AA:918:A:O2' | 2.65 | 0.49 |
| 1:AB:112:G:C5' | 1:AB:113:C:OP2 | 2.59 | 0.49 |
| 1:AB:117:G:C2 | 1:AB:118:G:C8 | 3.00 | 0.49 |
| 2:AA:16:G:C6 | 2:AA:525:U:N3 | 2.80 | 0.49 |
| 2:AA:60:G:C2' | 2:AA:61:G:OP1 | 2.60 | 0.49 |
| 2:AA:215:G:HO2' | 2:AA:216:A:P | 2.36 | 0.49 |
| 2:AA:269:U:C5 | 2:AA:270(Z):U:P | 3.03 | 0.49 |
| 2:AA:332:A:C2' | 2:AA:334:C:OP2 | 2.60 | 0.49 |
| 2:AA:349:G:H2' | 2:AA:349:G:N3 | 2.27 | 0.49 |
| 2:AA:364:C:C4 | 2:AA:365:C:N4 | 2.80 | 0.49 |
| 2:AA:414:C:H5' | 2:AA:1863:G:N2 | 2.27 | 0.49 |
| 2:AA:467:G:OP1 | 31:A7:30:ILE:HG22 | 2.13 | 0.49 |
| 2:AA:489:G:N1 | 2:AA:491:G:C4 | 2.80 | 0.49 |
| 2:AA:514:A:N3 | 2:AA:581:C:O2' | 2.45 | 0.49 |
| 2:AA:515:A:O4' | 2:AA:581:C:O4' | 2.31 | 0.49 |
| 2:AA:529:A:C2' | 2:AA:530:G:OP2 | 2.60 | 0.49 |
| 2:AA:558:G:C2' | 2:AA:559:G:C5' | 2.90 | 0.49 |
| 2:AA:650:C:H5' | 32:A8:17:THR:HG21 | 1.94 | 0.49 |
| 2:AA:709:U:C2' | 2:AA:710:G:H8 | 2.21 | 0.49 |
| 2:AA:717:G:C6 | 2:AA:718:A:C4 | 3.01 | 0.49 |
| 2:AA:724:U:C2' | 2:AA:725:G:O5' | 2.59 | 0.49 |
| 2:AA:822:U:H2' | 2:AA:823:G:C8 | 2.39 | 0.49 |
| 2:AA:836:G:C5 | 2:AA:837:C:C4 | 3.00 | 0.49 |
| 2:AA:860:U:H1' | 2:AA:2267:A:H5' | 1.95 | 0.49 |
| 2:AA:917:A:H2' | 2:AA:918:A:H5" | 1.94 | 0.49 |
| 2:AA:931:G:C2 | 2:AA:932:G:N3 | 2.81 | 0.49 |
| 2:AA:1006:C:HO2' | 12:AM:86:MET:CB | 2.18 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1012:U:O2 | 12:AM:21:ARG:NH1 | 2.46 | 0.49 |
| 2:AA:1061:U:H2' | 11:AL:12:GLN:HE22 | 1.76 | 0.49 |
| 2:AA:1080:C:O2' | 11:AL:127:ILE:HG13 | 2.13 | 0.49 |
| 2:AA:1080:C:O3' | 11:AL:126:LYS:HB3 | 2.11 | 0.49 |
| 2:AA:1166:C:O2' | 2:AA:1167:U:H5' | 2.12 | 0.49 |
| 2:AA:1169:G:C6 | 2:AA:1170:G:C6 | 3.00 | 0.49 |
| 2:AA:1208:C:O5' | 2:AA:1208:C:H6 | 1.95 | 0.49 |
| 2:AA:1273:U:H5" | 2:AA:1274:A:OP1 | 2.12 | 0.49 |
| 2:AA:1529:A:H5" | 2:AA:1530:G:C8 | 2.46 | 0.49 |
| 2:AA:1605:C:C4' | 2:AA:1610:A:N6 | 2.75 | 0.49 |
| 2:AA:1612:C:N4 | 2:AA:1619:G:C6 | 2.80 | 0.49 |
| 2:AA:1614:A:N3 | 2:AA:1614:A:C3' | 2.72 | 0.49 |
| 2:AA:1687:G:H2' | 2:AA:1701:A:H61 | 1.77 | 0.49 |
| 2:AA:1689:A:H4' | 34:BA:1475:G:H5" | 1.95 | 0.49 |
| 2:AA:1829:A:C2 | 2:AA:1830:C:O4' | 2.65 | 0.49 |
| 2:AA:1906:G:N9 | 2:AA:1929:G:N7 | 2.61 | 0.49 |
| 2:AA:1941:C:H41 | 2:AA:1965:C:C1' | 2.22 | 0.49 |
| 2:AA:2020:A:P | 25:A1:31:GLN:HE22 | 2.35 | 0.49 |
| 2:AA:2105:C:C2 | 2:AA:2106:G:N7 | 2.81 | 0.49 |
| 2:AA:2326:C:N4 | 2:AA:2389:G:O6 | 2.42 | 0.49 |
| 2:AA:2376:A:H2' | 2:AA:2377:A:H8 | 1.73 | 0.49 |
| 2:AA:2436:G:O2' | 2:AA:2437:U:C5' | 2.60 | 0.49 |
| 2:AA:2459:A:N7 | 2:AA:2460:U:C4 | 2.79 | 0.49 |
| 2:AA:2526:G:O2' | 2:AA:2527:C:C5' | 2.58 | 0.49 |
| 2:AA:2685:G:H1 | 2:AA:2724:C:N4 | 2.09 | 0.49 |
| 2:AA:2725:A:O2' | 2:AA:2726:U:C6 | 2.65 | 0.49 |
| 2:AA:2772:C:C4 | 2:AA:2773:C:N4 | 2.81 | 0.49 |
| 2:AA:2888:C:O5' | 2:AA:2888:C:C6 | 2.64 | 0.49 |
| 3:AC:36:LYS:CG | 3:AC:37:PHE:HD2 | 2.16 | 0.49 |
| 3:AC:103:ILE:HD12 | 3:AC:127:LEU:CD1 | 2.42 | 0.49 |
| 3:AC:177:LYS:HG3 | 3:AC:180:PHE:CD1 | 2.47 | 0.49 |
| 4:AD:178:GLY:O | 4:AD:179:GLU:HG2 | 2.13 | 0.49 |
| 5:AE:268:LEU:C | 5:AE:297:LYS:HE2 | 2.32 | 0.49 |
| 6:AF:115:LEU:HA | 6:AF:118:THR:CG2 | 2.43 | 0.49 |
| 6:AF:167:ASP:HB2 | 6:AF:232:LEU:HB2 | 1.95 | 0.49 |
| 7:AG:83:PHE:O | 7:AG:84:LEU:C | 2.50 | 0.49 |
| 8:AH:159:LYS:O | 8:AH:162:ARG:CZ | 2.58 | 0.49 |
| 9:AJ:7:ILE:O | 9:AJ:11:GLU:HG3 | 2.12 | 0.49 |
| 9:AJ:59:PHE:CE1 | 9:AJ:108:LYS:HG2 | 2.48 | 0.49 |
| 10:AK:47:LEU:HD12 | 10:AK:48:GLU:N | 2.27 | 0.49 |
| 10:AK:110:LEU:CD1 | 10:AK:114:LYS:NZ | 2.74 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:116:GLU:CB | 10:AK:130:PRO:O | 2.59 | 0.49 |
| 10:AK:119:ASP:OD1 | 10:AK:120:ALA:O | 2.31 | 0.49 |
| 11:AL:18:ALA:O | 11:AL:19:THR:CG2 | 2.60 | 0.49 |
| 11:AL:38:PHE:CZ | 11:AL:60:VAL:HG12 | 2.48 | 0.49 |
| 11:AL:93:LYS:NZ | 21:AV:108:VAL:CG1 | 2.76 | 0.49 |
| 12:AM:31:LEU:O | 12:AM:33:GLY:N | 2.44 | 0.49 |
| 17:AR:24:LYS:O | 17:AR:25:ASP:HB2 | 2.10 | 0.49 |
| 19:AT:23:LYS:O | 19:AT:24:LEU:CG | 2.47 | 0.49 |
| 19:AT:25:GLN:C | 19:AT:26:PHE:CG | 2.84 | 0.49 |
| 19:AT:50:GLU:CB | 19:AT:67:ARG:O | 2.55 | 0.49 |
| 21:AV:26:LYS:O | 21:AV:27:GLU:CD | 2.51 | 0.49 |
| 21:AV:39:PHE:O | 21:AV:40:ASP:C | 2.50 | 0.49 |
| 21:AV:138:VAL:HG21 | 21:AV:140:LYS:NZ | 2.26 | 0.49 |
| 21:AV:139:THR:O | 21:AV:140:LYS:CB | 2.60 | 0.49 |
| 21:AV:159:THR:OG1 | 21:AV:160:LEU:N | 2.43 | 0.49 |
| 25:A1:108:ALA:CA | 25:A1:111:ASP:OD1 | 2.61 | 0.49 |
| 26:A2:4:ILE:HG23 | 26:A2:12:TYR:HD2 | 1.77 | 0.49 |
| 27:A3:19:LYS:HB3 | 27:A3:21:LEU:CG | 2.30 | 0.49 |
| 29:A5:10:LYS:CB | 29:A5:10:LYS:HZ3 | 2.20 | 0.49 |
| 29:A5:15:LYS:O | 29:A5:18:MET:CG | 2.55 | 0.49 |
| 29:A5:44:HIS:CG | 29:A5:52:TYR:OH | 2.65 | 0.49 |
| 32:A8:15:LYS:H | 32:A8:22:VAL:HG13 | 1.76 | 0.49 |
| 33:A9:10:MET:CB | 33:A9:32:HIS:CD2 | 2.89 | 0.49 |
| 34:BA:129:U:O5' | 34:BA:129:U:H6 | 1.95 | 0.49 |
| 34:BA:134:A:H2' | 34:BA:135:C:C6 | 2.48 | 0.49 |
| 34:BA:229:U:C2 | 34:BA:230:G:C8 | 3.00 | 0.49 |
| 34:BA:274:A:O2' | 34:BA:275:G:O5' | 2.30 | 0.49 |
| 34:BA:292:G:C2 | 34:BA:309:G:C2 | 3.01 | 0.49 |
| 34:BA:449:C:O2 | 51:BS:42:ARG:CD | 2.59 | 0.49 |
| 34:BA:563:A:C2 | 34:BA:567:G:C5 | 2.99 | 0.49 |
| 34:BA:579:G:C4 | 34:BA:580:U:C5 | 3.00 | 0.49 |
| 34:BA:701:C:C2 | 34:BA:703:G:C2 | 3.00 | 0.49 |
| 34:BA:706:A:H2 | 34:BA:707:C:N1 | 2.09 | 0.49 |
| 34:BA:738:C:H5' | 41:BI:72:VAL:CG2 | 2.43 | 0.49 |
| 34:BA:760:G:C3' | 34:BA:761:G:H5' | 2.43 | 0.49 |
| 34:BA:763:G:N3 | 34:BA:764:C:C6 | 2.80 | 0.49 |
| 34:BA:810:C:O2' | 34:BA:811:C:O5' | 2.30 | 0.49 |
| 34:BA:886:G:N2 | 34:BA:912:C:H1' | 2.28 | 0.49 |
| 34:BA:898:G:C6 | 34:BA:902:G:C6 | 3.01 | 0.49 |
| 34:BA:934:C:H42 | 34:BA:939:G:N2 | 2.09 | 0.49 |
| 34:BA:968:A:OP1 | 34:BA:968:A:C8 | 2.64 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:985:C:C2 | 34:BA:1221:G:N2 | 2.81 | 0.49 |
| 34:BA:991:U:OP2 | 34:BA:991:U:H6 | 1.95 | 0.49 |
| 34:BA:1011:G:H2' | 34:BA:1012:U:O5' | 2.12 | 0.49 |
| 34:BA:1202:G:N2 | 34:BA:1203:C:H1' | 2.28 | 0.49 |
| 34:BA:1250:A:H4' | 44:BL:67:GLY:CA | 2.42 | 0.49 |
| 34:BA:1256:A:O2' | 34:BA:1257:U:C1' | 2.61 | 0.49 |
| 34:BA:1298:C:C4' | 34:BA:1299:A:C2 | 2.94 | 0.49 |
| 34:BA:1321:C:C4 | 34:BA:1322:C:C2 | 3.00 | 0.49 |
| 34:BA:1349:A:OP2 | 44:BL:118:LYS:HD3 | 2.12 | 0.49 |
| 35:BB:74:C:N3 | 35:BB:75:C:C1' | 2.74 | 0.49 |
| 37:BE:78:GLN:HG3 | 37:BE:94:ASN:CG | 2.32 | 0.49 |
| 37:BE:93:VAL:HG21 | 37:BE:101:MET:HE3 | 1.95 | 0.49 |
| 38:BF:33:LEU:HD13 | 49:BQ:53:LEU:HD22 | 1.94 | 0.49 |
| 38:BF:52:LEU:HA | 38:BF:70:VAL:CG1 | 2.43 | 0.49 |
| 38:BF:74:GLY:C | 38:BF:76:VAL:H | 2.16 | 0.49 |
| 39:BG:43:HIS:HA | 39:BG:46:LYS:HG3 | 1.94 | 0.49 |
| 39:BG:190:ASP:O | 39:BG:191:ARG:C | 2.51 | 0.49 |
| 41:BI:12:PRO:HG3 | 41:BI:57:GLN:O | 2.12 | 0.49 |
| 41:BI:27:GLN:OE1 | 41:BI:30:LEU:HD22 | 2.13 | 0.49 |
| 42:BJ:51:GLN:OE1 | 42:BJ:58:PRO:HD3 | 2.13 | 0.49 |
| 42:BJ:143:ARG:O | 42:BJ:145:ALA:O | 2.31 | 0.49 |
| 43:BK:69:ARG:NH2 | 43:BK:75:ARG:O | 2.45 | 0.49 |
| 45:BM:16:LEU:CD1 | 45:BM:70:ARG:HG2 | 2.40 | 0.49 |
| 46:BN:90:GLY:C | 46:BN:92:GLU:N | 2.63 | 0.49 |
| 49:BQ:17:LYS:CG | 49:BQ:18:VAL:H | 2.08 | 0.49 |
| 50:BR:81:LEU:HD21 | 50:BR:85:LEU:HG | 1.94 | 0.49 |
| 52:BT:86:GLU:O | 52:BT:89:LEU:HB2 | 2.12 | 0.49 |
| 1:AB:30:C:O4' | 1:AB:58:A:H2 | 1.96 | 0.49 |
| 1:AB:66:A:C2 | 1:AB:107:U:N3 | 2.80 | 0.49 |
| 2:AA:30:G:OP1 | 25:A1:8:ILE:CG1 | 2.61 | 0.49 |
| 2:AA:60:G:O6 | 2:AA:63:U:O4 | 2.31 | 0.49 |
| 2:AA:66:C:N4 | 2:AA:89:G:O6 | 2.45 | 0.49 |
| 2:AA:94:G:N2 | 2:AA:95:G:N3 | 2.61 | 0.49 |
| 2:AA:137:C:H2' | 2:AA:137(A):G:C4 | 2.47 | 0.49 |
| 2:AA:176:G:N3 | 2:AA:176:G:C2' | 2.72 | 0.49 |
| 2:AA:179:G:C6 | 2:AA:180:G:C5 | 3.01 | 0.49 |
| 2:AA:198:C:O2 | 2:AA:198:C:C2' | 2.59 | 0.49 |
| 2:AA:262:A:H2' | 2:AA:263:C:O5' | 2.12 | 0.49 |
| 2:AA:358:U:O2 | 2:AA:358:U:C2' | 2.61 | 0.49 |
| 2:AA:518:G:H2' | 2:AA:519:U:C6 | 2.47 | 0.49 |
| 2:AA:558:G:O2' | 2:AA:559:G:H5" | 2.13 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:609:A:N6 | 2:AA:619:G:H21 | 2.02 | 0.49 |
| 2:AA:612:G:N3 | 2:AA:615:G:N2 | 2.61 | 0.49 |
| 2:AA:629:G:O6 | 2:AA:630:G:C6 | 2.66 | 0.49 |
| 2:AA:652:C:OP1 | 2:AA:653:A:O2' | 2.31 | 0.49 |
| 2:AA:746:A:OP1 | 2:AA:2612:C:C4 | 2.65 | 0.49 |
| 2:AA:783:A:C5' | 2:AA:2589:A:OP1 | 2.43 | 0.49 |
| 2:AA:814:C:O2' | 2:AA:815:C:C5' | 2.60 | 0.49 |
| 2:AA:818:G:C4 | 2:AA:1187:G:N2 | 2.80 | 0.49 |
| 2:AA:860:U:H2' | 2:AA:861:A:C5' | 2.37 | 0.49 |
| 2:AA:875:G:H2' | 2:AA:876:C:H6 | 1.76 | 0.49 |
| 2:AA:981:A:OP2 | 2:AA:982:C:C5 | 2.65 | 0.49 |
| 2:AA:1028:A:C2 | 2:AA:2486:G:O2' | 2.64 | 0.49 |
| 2:AA:1047:G:C2 | 2:AA:1110:G:C8 | 3.00 | 0.49 |
| 2:AA:1083:U:H2' | 9:AI:37:VAL:CG1 | 2.43 | 0.49 |
| 2:AA:1274:A:N1 | 2:AA:1644:C:O2' | 2.32 | 0.49 |
| 2:AA:1317:A:H2' | 2:AA:1318:C:O4' | 2.12 | 0.49 |
| 2:AA:1322:A:H8 | 2:AA:1322:A:O5' | 1.95 | 0.49 |
| 2:AA:1391:U:O4 | 2:AA:1394:U:OP2 | 2.30 | 0.49 |
| 2:AA:1411:C:H2' | 2:AA:1412:A:H8 | 1.78 | 0.49 |
| 2:AA:1439:A:C8 | 2:AA:1440:G:N9 | 2.80 | 0.49 |
| 2:AA:1612:C:C4 | 31:A7:3:ARG:NH1 | 2.80 | 0.49 |
| 2:AA:1629:U:H2' | 2:AA:1630:G:C8 | 2.47 | 0.49 |
| 2:AA:1671:U:O2 | 2:AA:1673:U:H3' | 2.12 | 0.49 |
| 2:AA:1680:U:O2 | 2:AA:1764:G:H5" | 2.13 | 0.49 |
| 2:AA:1750:G:HO2' | 2:AA:2860:A:H2 | 1.60 | 0.49 |
| 2:AA:1948:G:O2' | 2:AA:1949:G:H5' | 2.12 | 0.49 |
| 2:AA:1961:C:H2' | 2:AA:1962:C:H5' | 1.94 | 0.49 |
| 2:AA:1984:G:C5 | 2:AA:1985:G:C8 | 3.00 | 0.49 |
| 2:AA:2020:A:N6 | 2:AA:2022:U:H3 | 2.08 | 0.49 |
| 2:AA:2074:U:H3' | 2:AA:2075:U:C5 | 2.46 | 0.49 |
| 2:AA:2284:C:O2' | 2:AA:2325:G:N2 | 2.45 | 0.49 |
| 2:AA:2300:G:N2 | 2:AA:2301:C:C2 | 2.81 | 0.49 |
| 2:AA:2317:C:OP1 | 7:AG:149:ARG:O | 2.31 | 0.49 |
| 2:AA:2468:G:O5' | 2:AA:2468:G:C8 | 2.65 | 0.49 |
| 2:AA:2503:A:C4' | 2:AA:2504:U:OP1 | 2.59 | 0.49 |
| 2:AA:2533:A:OP1 | 2:AA:2665:A:C1' | 2.59 | 0.49 |
| 2:AA:2545:G:O2' | 2:AA:2546:U:H5' | 2.11 | 0.49 |
| 2:AA:2677:G:O2' | 2:AA:2678:C:C5' | 2.56 | 0.49 |
| 2:AA:2742:C:N3 | 2:AA:2743:C:C5 | 2.81 | 0.49 |
| 2:AA:2791:C:H2' | 2:AA:2792:G:H8 | 1.77 | 0.49 |
| 3:AC:130:ILE:HG22 | 3:AC:131:LEU:CD2 | 2.43 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:199:HIS:O | 3:AC:200:LYS:C | 2.49 | 0.49 |
| 4:AD:71:ASP:CG | 4:AD:72:GLY:N | 2.66 | 0.49 |
| 4:AD:76:ARG:HG2 | 4:AD:114:GLU:N | 2.27 | 0.49 |
| 4:AD:115:ILE:HB | 4:AD:127:ASN:CG | 2.31 | 0.49 |
| 4:AD:129:LEU:CD2 | 4:AD:133:ASN:ND2 | 2.75 | 0.49 |
| 4:AD:143:ILE:C | 4:AD:152:GLN:H | 2.16 | 0.49 |
| 5:AE:74:GLU:CB | 5:AE:293:TYR:CE2 | 2.95 | 0.49 |
| 6:AF:239:ALA:O | 6:AF:242:GLU:CB | 2.61 | 0.49 |
| 7:AG:90:LEU:CD1 | 48:BP:3:ARG:NH1 | 2.66 | 0.49 |
| 8:AH:24:THR:HB | 8:AH:26:LYS:HZ2 | 1.78 | 0.49 |
| 9:AJ:24:LYS:O | 9:AJ:27:ASP:N | 2.46 | 0.49 |
| 9:AJ:40:ALA:C | 9:AJ:43:PRO:HD2 | 2.33 | 0.49 |
| 10:AK:66:LYS:HB3 | 10:AK:69:LYS:HZ3 | 1.78 | 0.49 |
| 10:AK:131:VAL:HG12 | 10:AK:132:LYS:O | 2.12 | 0.49 |
| 11:AL:14:PRO:HB2 | 11:AL:17:LYS:CD | 2.19 | 0.49 |
| 11:AL:79:LEU:HD22 | 11:AL:137:ILE:CD1 | 2.34 | 0.49 |
| 11:AL:96:ILE:HG12 | 11:AL:138:GLU:CD | 2.33 | 0.49 |
| 11:AL:105:ILE:CG2 | 11:AL:128:ILE:HG21 | 2.25 | 0.49 |
| 11:AL:113:MET:C | 11:AL:116:LEU:HB3 | 2.32 | 0.49 |
| 11:AL:135:MET:HB3 | 11:AL:137:ILE:HG13 | 1.95 | 0.49 |
| 12:AM:94:GLY:O | 12:AM:97:ALA:HB3 | 2.13 | 0.49 |
| 13:AN:1:MET:O | 13:AN:2:ILE:HD12 | 2.13 | 0.49 |
| 13:AN:1:MET:HB2 | 13:AN:2:ILE:HD12 | 1.95 | 0.49 |
| 13:AN:112:MET:HA | 13:AN:115:ILE:HB | 1.93 | 0.49 |
| 14:AO:119:THR:HG22 | 14:AO:138:GLY:HA3 | 1.92 | 0.49 |
| 14:AO:124:ASP:C | 14:AO:125:PHE:CD1 | 2.85 | 0.49 |
| 15:AP:50:VAL:HG21 | 15:AP:147:VAL:HG22 | 1.95 | 0.49 |
| 15:AP:125:TRP:O | 15:AP:126:VAL:CG2 | 2.54 | 0.49 |
| 18:AS:27:LYS:H | 18:AS:71:VAL:CG2 | 2.22 | 0.49 |
| 18:AS:37:ARG:HH22 | 29:A5:48:ASN:HD21 | 1.52 | 0.49 |
| 19:AT:9:HIS:CD2 | 19:AT:27:ALA:HB2 | 2.47 | 0.49 |
| 19:AT:13:LYS:C | 19:AT:17:ASP:OD1 | 2.51 | 0.49 |
| 19:AT:18:MET:HB3 | 19:AT:24:LEU:HA | 1.94 | 0.49 |
| 19:AT:28:VAL:HG11 | 19:AT:64:ALA:CB | 2.39 | 0.49 |
| 20:AU:29:ALA:O | 20:AU:30:ASP:O | 2.30 | 0.49 |
| 20:AU:78:THR:C | 20:AU:89:ARG:HG3 | 2.31 | 0.49 |
| 21:AV:106:GLY:N | 21:AV:141:MET:O | 2.45 | 0.49 |
| 21:AV:107:GLU:OE2 | 21:AV:141:MET:HG3 | 2.13 | 0.49 |
| 22:AW:28:LEU:O | 22:AW:29:ASN:C | 2.51 | 0.49 |
| 25:A1:88:ILE:HG22 | 26:A2:55:THR:OG1 | 2.12 | 0.49 |
| 26:A2:27:GLY:C | 26:A2:28:GLU:O | 2.48 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:69:ILE:CG2 | 26:A2:88:GLN:HB3 | 2.42 | 0.49 |
| 27:A3:59:LEU:HD23 | 27:A3:81:ILE:HG23 | 1.94 | 0.49 |
| 28:A4:42:PHE:H | 28:A4:57:ASP:CG | 2.16 | 0.49 |
| 29:A5:35:GLN:HG2 | 29:A5:35:GLN:O | 2.12 | 0.49 |
| 30:A6:9:ILE:HG22 | 30:A6:9:ILE:O | 2.13 | 0.49 |
| 30:A6:48:VAL:CG1 | 30:A6:49:VAL:N | 2.75 | 0.49 |
| 34:BA:255:G:C4' | 52:BT:16:GLN:O | 2.61 | 0.49 |
| 34:BA:449:C:O3' | 51:BS:43:LYS:NZ | 2.46 | 0.49 |
| 34:BA:453:A:N6 | 34:BA:480:U:C2 | 2.80 | 0.49 |
| 34:BA:547:A:H4' | 34:BA:548:G:C5' | 2.42 | 0.49 |
| 34:BA:553:A:H8 | 34:BA:553:A:OP2 | 1.94 | 0.49 |
| 34:BA:588:G:N9 | 34:BA:753:A:C2 | 2.80 | 0.49 |
| 34:BA:669:U:O4' | 50:BR:46:HIS:HE1 | 1.95 | 0.49 |
| 34:BA:689:C:O2' | 34:BA:705:U:H1' | 2.13 | 0.49 |
| 34:BA:809:G:H2' | 34:BA:810:C:C5' | 2.42 | 0.49 |
| 34:BA:853:G:N2 | 34:BA:854:G:H1' | 2.28 | 0.49 |
| 34:BA:874:G:C2 | 34:BA:875:C:N1 | 2.80 | 0.49 |
| 34:BA:935:A:H2' | 34:BA:936:C:H6 | 1.77 | 0.49 |
| 34:BA:1042:G:H2' | 34:BA:1042:G:N3 | 2.27 | 0.49 |
| 34:BA:1092:A:C2 | 34:BA:1183:A:C2 | 3.01 | 0.49 |
| 34:BA:1128:C:N4 | 34:BA:1143:G:H1 | 2.09 | 0.49 |
| 34:BA:1143:G:O5' | 34:BA:1143:G:C8 | 2.64 | 0.49 |
| 34:BA:1178:G:OP2 | 44:BL:93:ARG:NH2 | 2.46 | 0.49 |
| 34:BA:1190:G:C2' | 34:BA:1191:A:OP2 | 2.61 | 0.49 |
| 34:BA:1327:C:OP1 | 56:BX:20:LYS:HB3 | 2.12 | 0.49 |
| 34:BA:1437:C:O2 | 34:BA:1438:G:C8 | 2.65 | 0.49 |
| 34:BA:1515:C:C2' | 34:BA:1516:G:O5' | 2.61 | 0.49 |
| 34:BA:1517:G:C2 | 34:BA:1518:A:C4 | 3.00 | 0.49 |
| 34:BA:1542:U:O2 | 34:BA:1542:U:H2' | 2.13 | 0.49 |
| 35:BB:6:U:O4 | 35:BB:7:U:C4 | 2.66 | 0.49 |
| 35:BB:41:U:C6 | 35:BB:41:U:O5' | 2.66 | 0.49 |
| 36:B1:57:A:OP2 | 36:B1:57:A:O4' | 2.29 | 0.49 |
| 37:BE:25:ASN:C | 37:BE:27:LYS:N | 2.66 | 0.49 |
| 37:BE:74:LYS:CE | 37:BE:76:GLN:HB2 | 2.37 | 0.49 |
| 37:BE:178:ARG:NE | 37:BE:196:LEU:HD13 | 2.28 | 0.49 |
| 37:BE:217:ARG:NH1 | 37:BE:217:ARG:HG3 | 2.27 | 0.49 |
| 38:BF:59:ARG:HG3 | 38:BF:64:VAL:H | 1.78 | 0.49 |
| 38:BF:115:LEU:C | 38:BF:117:ALA:N | 2.66 | 0.49 |
| 38:BF:116:VAL:HG21 | 38:BF:141:VAL:HG21 | 1.94 | 0.49 |
| 38:BF:191:THR:HB | 38:BF:193:TYR:CE2 | 2.47 | 0.49 |
| 39:BG:121:VAL:HA | 39:BG:126:ILE:CD1 | 2.42 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:35:GLY:N | 40:BH:112:LEU:HD12 | 2.27 | 0.49 |
| 41:BI:82:ARG:O | 41:BI:84:ASN:N | 2.45 | 0.49 |
| 41:BI:98:LEU:HD22 | 41:BI:101:ALA:CB | 2.41 | 0.49 |
| 42:BJ:26:PHE:CE1 | 42:BJ:105:VAL:HG22 | 2.44 | 0.49 |
| 42:BJ:126:ASP:HA | 42:BJ:129:GLU:CG | 2.42 | 0.49 |
| 43:BK:46:LYS:CG | 43:BK:64:LYS:HG3 | 2.40 | 0.49 |
| 44:BL:72:GLY:CA | 44:BL:75:ASP:OD1 | 2.59 | 0.49 |
| 45:BM:39:PRO:HB3 | 45:BM:70:ARG:NH1 | 2.27 | 0.49 |
| 48:BP:10:PRO:HB2 | 48:BP:18:ALA:HB1 | 1.94 | 0.49 |
| 48:BP:11:ARG:C | 48:BP:13:LYS:H | 2.16 | 0.49 |
| 48:BP:95:GLY:C | 48:BP:96:LEU:HD23 | 2.33 | 0.49 |
| 49:BQ:29:ARG:CB | 49:BQ:40:CYS:SG | 3.01 | 0.49 |
| 49:BQ:41:ARG:HA | 49:BQ:44:LEU:CD2 | 2.41 | 0.49 |
| 51:BS:19:ILE:HD12 | 51:BS:37:GLY:C | 2.32 | 0.49 |
| 51:BS:78:GLY:C | 51:BS:79:VAL:CG2 | 2.81 | 0.49 |
| 52:BT:8:GLY:O | 52:BT:56:VAL:HG13 | 2.13 | 0.49 |
| 53:BU:58:LEU:HD22 | 53:BU:62:GLU:HG2 | 1.95 | 0.49 |
| 53:BU:72:ARG:NH1 | 53:BU:72:ARG:CG | 2.65 | 0.49 |
| 55:BW:76:ALA:O | 55:BW:78:ALA:N | 2.45 | 0.49 |
| 1:AB:7:G:H21 | 16:AQ:46:GLN:CD | 2.16 | 0.49 |
| 1:AB:12:C:H42 | 27:A3:50:GLY:H | 1.59 | 0.49 |
| 1:AB:73:A:N6 | 1:AB:104:A:N9 | 2.61 | 0.49 |
| 2:AA:71:A:C2 | 2:AA:73:A:N7 | 2.81 | 0.49 |
| 2:AA:118:A:N3 | 2:AA:178:G:H1' | 2.28 | 0.49 |
| 2:AA:252:G:C2 | 2:AA:253:C:C5 | 3.00 | 0.49 |
| 2:AA:262:A:C2' | 2:AA:263:C:H5' | 2.43 | 0.49 |
| 2:AA:493:G:C4 | 2:AA:494:G:C8 | 3.01 | 0.49 |
| 2:AA:562:U:C4 | 2:AA:2036:C:O4' | 2.66 | 0.49 |
| 2:AA:678:C:C2 | 2:AA:799:G:N2 | 2.75 | 0.49 |
| 2:AA:729:G:C2 | 2:AA:1775:U:N1 | 2.80 | 0.49 |
| 2:AA:1038:C:O2 | 2:AA:1038:C:H2' | 2.12 | 0.49 |
| 2:AA:1085:A:C5' | 9:AI:29:PHE:CB | 2.90 | 0.49 |
| 2:AA:1208:C:N3 | 2:AA:1240:U:C4 | 2.81 | 0.49 |
| 2:AA:1274:A:H8 | 2:AA:1646:C:N4 | 2.11 | 0.49 |
| 2:AA:1385:G:H1 | 2:AA:1402:C:H42 | 1.60 | 0.49 |
| 2:AA:1471:A:O2' | 2:AA:1472:A:H5' | 2.11 | 0.49 |
| 2:AA:1612:C:H5" | 2:AA:1613:G:OP2 | 2.12 | 0.49 |
| 2:AA:1704:G:C6 | 2:AA:1705:G:C8 | 3.01 | 0.49 |
| 2:AA:1837:C:HO2' | 2:AA:1928:A:H1' | 1.74 | 0.49 |
| 2:AA:1846:G:H2' | 2:AA:1847:A:H5' | 1.93 | 0.49 |
| 2:AA:1891:G:C3' | 2:AA:1892:C:H6 | 2.25 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1920:C:H5" | 34:BA:1517:G:C8 | 2.46 | 0.49 |
| 2:AA:1935:G:H3' | 2:AA:1962:C:H42 | 1.77 | 0.49 |
| 2:AA:2020:A:C6 | 2:AA:2022:U:N3 | 2.81 | 0.49 |
| 2:AA:2043:C:C2 | 2:AA:2044:C:H5 | 2.31 | 0.49 |
| 2:AA:2045:C:N4 | 2:AA:2623:G:H1 | 2.09 | 0.49 |
| 2:AA:2056:G:C8 | 2:AA:2577:A:C5 | 3.00 | 0.49 |
| 2:AA:2102:U:C2 | 2:AA:2103:C:C4 | 3.01 | 0.49 |
| 2:AA:2122:U:O2 | 2:AA:2122:U:C2' | 2.59 | 0.49 |
| 2:AA:2136:C:H2' | 2:AA:2137:C:C4 | 2.47 | 0.49 |
| 2:AA:2217:G:C2 | 2:AA:2218:G:C5 | 3.00 | 0.49 |
| 2:AA:2266:A:N3 | 2:AA:2272:U:C4 | 2.81 | 0.49 |
| 2:AA:2275:C:O2' | 2:AA:2276:G:P | 2.70 | 0.49 |
| 2:AA:2280:G:C4 | 2:AA:2281:C:C5 | 3.00 | 0.49 |
| 2:AA:2285:C:C2 | 2:AA:2384:G:N2 | 2.81 | 0.49 |
| 2:AA:2326:C:N3 | 2:AA:2389:G:O6 | 2.45 | 0.49 |
| 2:AA:2414:G:O2' | 2:AA:2415:G:H5' | 2.13 | 0.49 |
| 2:AA:2520:C:N4 | 2:AA:2567:G:C5 | 2.80 | 0.49 |
| 2:AA:2567:G:C4 | 2:AA:2568:C:H5 | 2.30 | 0.49 |
| 2:AA:2618:G:C2 | 2:AA:2619:C:C5 | 3.01 | 0.49 |
| 2:AA:2654:A:O2' | 2:AA:2655:G:O2' | 2.22 | 0.49 |
| 2:AA:2686:G:O2' | 2:AA:2687:U:C4' | 2.61 | 0.49 |
| 2:AA:2746:U:O4 | 2:AA:2756:U:H5 | 1.94 | 0.49 |
| 2:AA:2768:C:H2' | 2:AA:2769:C:C5' | 2.42 | 0.49 |
| 2:AA:2791:C:C5 | 2:AA:2807:G:C6 | 3.00 | 0.49 |
| 2:AA:2842:G:C2 | 2:AA:2876:G:C2 | 3.01 | 0.49 |
| 2:AA:2842:G:N1 | 2:AA:2875:C:N4 | 2.36 | 0.49 |
| 2:AA:2852:G:N1 | 2:AA:2865:U:N3 | 2.22 | 0.49 |
| 5:AE:41:PHE:O | 5:AE:311:PHE:CZ | 2.66 | 0.49 |
| 5:AE:80:ALA:CB | 5:AE:181:VAL:HG22 | 2.42 | 0.49 |
| 5:AE:107:GLU:CG | 5:AE:110:ARG:CZ | 2.90 | 0.49 |
| 6:AF:51:TYR:O | 6:AF:55:ARG:CG | 2.59 | 0.49 |
| 7:AG:28:GLY:O | 7:AG:69:ILE:HD11 | 2.12 | 0.49 |
| 7:AG:53:LYS:HB3 | 7:AG:69:ILE:HB | 1.94 | 0.49 |
| 8:AH:123:GLU:O | 8:AH:125:PRO:HD2 | 2.11 | 0.49 |
| 10:AK:10:LYS:HG2 | 10:AK:11:GLY:H | 1.75 | 0.49 |
| 11:AL:112:LYS:O | 11:AL:114:PRO:N | 2.45 | 0.49 |
| 12:AM:105:LEU:CD2 | 12:AM:105:LEU:H | 2.24 | 0.49 |
| 13:AN:17:ARG:CZ | 13:AN:46:ALA:O | 2.61 | 0.49 |
| 13:AN:40:VAL:O | 13:AN:40:VAL:HG12 | 2.12 | 0.49 |
| 13:AN:98:ILE:CG2 | 13:AN:118:ALA:HA | 2.40 | 0.49 |
| 14:AO:116:HIS:HD2 | 14:AO:118:LEU:HD21 | 1.68 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:35:ASN:HD21 | 21:AV:113:VAL:HB | 1.64 | 0.49 |
| 15:AP:56:ILE:HG13 | 15:AP:115:SER:HB3 | 1.92 | 0.49 |
| 16:AQ:49:THR:N | 16:AQ:55:ASP:CG | 2.66 | 0.49 |
| 16:AQ:67:ALA:O | 16:AQ:69:TYR:CE1 | 2.65 | 0.49 |
| 16:AQ:83:LEU:C | 16:AQ:87:LEU:HD23 | 2.29 | 0.49 |
| 20:AU:35:TYR:CD1 | 20:AU:35:TYR:N | 2.78 | 0.49 |
| 20:AU:55:PHE:CE1 | 20:AU:89:ARG:CZ | 2.95 | 0.49 |
| 20:AU:80:GLU:HG2 | 20:AU:86:GLU:CG | 2.40 | 0.49 |
| 21:AV:18:MET:C | 21:AV:36:ARG:HE | 2.15 | 0.49 |
| 21:AV:173:PRO:CB | 21:AV:177:THR:HG23 | 2.38 | 0.49 |
| 22:AW:34:GLN:O | 22:AW:35:ALA:C | 2.51 | 0.49 |
| 23:AX:23:LEU:O | 23:AX:28:LEU:HD12 | 2.13 | 0.49 |
| 23:AX:31:LEU:HD22 | 23:AX:32:GLN:CA | 2.37 | 0.49 |
| 24:A0:79:LEU:HD23 | 24:A0:80:PHE:CB | 2.41 | 0.49 |
| 25:A1:43:ALA:CB | 26:A2:75:LYS:HB3 | 2.42 | 0.49 |
| 28:A4:12:CYS:O | 28:A4:14:ILE:HG12 | 2.12 | 0.49 |
| 30:A6:8:ILE:HG22 | 30:A6:28:ARG:HB2 | 1.94 | 0.49 |
| 31:A7:8:ASN:ND2 | 31:A7:8:ASN:N | 2.60 | 0.49 |
| 31:A7:21:ARG:NE | 31:A7:43:THR:OG1 | 2.46 | 0.49 |
| 34:BA:52:G:N2 | 34:BA:53:A:H1' | 2.28 | 0.49 |
| 34:BA:79:G:O6 | 34:BA:90:U:O2 | 2.31 | 0.49 |
| 34:BA:105:G:H2' | 34:BA:106:C:C6 | 2.47 | 0.49 |
| 34:BA:264:U:C2' | 52:BT:64:PRO:HB2 | 2.42 | 0.49 |
| 34:BA:287:U:O2 | 34:BA:288:A:C8 | 2.66 | 0.49 |
| 34:BA:376:G:OP1 | 51:BS:6:LEU:HD13 | 2.11 | 0.49 |
| 34:BA:413:G:H22 | 34:BA:428:G:H1' | 1.77 | 0.49 |
| 34:BA:582:U:C6 | 52:BT:105:ALA:HB1 | 2.48 | 0.49 |
| 34:BA:608:A:H2' | 34:BA:608:A:N3 | 2.27 | 0.49 |
| 34:BA:795:C:C4' | 34:BA:1506:U:C2 | 2.96 | 0.49 |
| 34:BA:803:G:H2' | 34:BA:804:U:O5' | 2.12 | 0.49 |
| 34:BA:803:G:C2' | 34:BA:804:U:O5' | 2.60 | 0.49 |
| 34:BA:948:C:O2' | 34:BA:949:A:H5' | 2.12 | 0.49 |
| 34:BA:1054:C:H3' | 34:BA:1054:C:C6 | 2.47 | 0.49 |
| 34:BA:1103:C:O2' | 37:BE:111:ARG:CD | 2.61 | 0.49 |
| 34:BA:1108:G:C2' | 34:BA:1109:C:H5' | 2.43 | 0.49 |
| 34:BA:1158:C:O2 | 34:BA:1158:C:C2' | 2.61 | 0.49 |
| 34:BA:1199:U:C4' | 45:BM:54:PHE:CE2 | 2.95 | 0.49 |
| 34:BA:1236:A:C2 | 34:BA:1237:C:C4 | 3.01 | 0.49 |
| 34:BA:1246:C:N3 | 34:BA:1291:G:C6 | 2.81 | 0.49 |
| 34:BA:1300:G:O2' | 34:BA:1301:U:O5' | 2.29 | 0.49 |
| 34:BA:1343:G:C2 | 34:BA:1344:C:N3 | 2.81 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1373:G:O2' | 42:BJ:34:GLY:HA2 | 2.12 | 0.49 |
| 34:BA:1376:U:O2 | 34:BA:1377:A:C5 | 2.66 | 0.49 |
| 34:BA:1401:G:C8 | 34:BA:1402:C:C5 | 3.01 | 0.49 |
| 34:BA:1509:C:O2 | 34:BA:1509:C:C2' | 2.60 | 0.49 |
| 35:BB:53:G:C8 | 35:BB:53:G:H3' | 2.47 | 0.49 |
| 35:BC:3:G:H2' | 35:BC:4:G:O5' | 2.12 | 0.49 |
| 37:BE:207:ALA:O | 37:BE:209:ARG:N | 2.46 | 0.49 |
| 39:BG:128:VAL:HG13 | 39:BG:129:ASN:N | 2.25 | 0.49 |
| 39:BG:195:ALA:O | 39:BG:196:LEU:O | 2.29 | 0.49 |
| 40:BH:53:LEU:CD2 | 40:BH:53:LEU:H | 2.25 | 0.49 |
| 40:BH:68:GLU:OE2 | 40:BH:68:GLU:HA | 2.11 | 0.49 |
| 40:BH:79:GLU:O | 43:BK:104:ARG:CZ | 2.60 | 0.49 |
| 44:BL:88:TYR:CD2 | 44:BL:89:ASN:ND2 | 2.81 | 0.49 |
| 45:BM:15:THR:HG23 | 45:BM:94:VAL:HG22 | 1.94 | 0.49 |
| 46:BN:54:ARG:O | 46:BN:55:LYS:C | 2.51 | 0.49 |
| 46:BN:65:ALA:CB | 46:BN:98:LEU:HD21 | 2.42 | 0.49 |
| 48:BP:13:LYS:HB3 | 48:BP:17:VAL:HB | 1.93 | 0.49 |
| 50:BR:34:LEU:HD23 | 50:BR:35:ARG:CA | 2.42 | 0.49 |
| 51:BS:9:PHE:N | 51:BS:9:PHE:CD2 | 2.79 | 0.49 |
| 1:AB:1:U:C6 | 1:AB:1:U:C3' | 2.96 | 0.49 |
| 1:AB:18:G:N3 | 1:AB:19:G:C8 | 2.80 | 0.49 |
| 1:AB:28:C:H2' | 1:AB:29:A:C8 | 2.47 | 0.49 |
| 1:AB:33:G:C6 | 1:AB:34:U:O4 | 2.66 | 0.49 |
| 1:AB:45:A:C4 | 1:AB:46:A:N7 | 2.81 | 0.49 |
| 2:AA:31:C:O2' | 2:AA:32:C:H5' | 2.12 | 0.49 |
| 2:AA:108:U:O2' | 2:AA:109:G:P | 2.71 | 0.49 |
| 2:AA:134:C:O2 | 2:AA:146:G:C2 | 2.65 | 0.49 |
| 2:AA:138:G:C3' | 2:AA:139:G:H4' | 2.42 | 0.49 |
| 2:AA:152:G:N2 | 2:AA:176:G:C2 | 2.80 | 0.49 |
| 2:AA:215:G:H1' | 2:AA:216:A:C4' | 2.43 | 0.49 |
| 2:AA:270(D):C:O2 | 2:AA:270(E):G:C8 | 2.66 | 0.49 |
| 2:AA:273(D):C:N3 | 2:AA:363(B):G:C2 | 2.79 | 0.49 |
| 2:AA:296:C:H2' | 2:AA:297:C:C6 | 2.47 | 0.49 |
| 2:AA:429:A:C6 | 2:AA:430:G:O6 | 2.66 | 0.49 |
| 2:AA:448:U:O2' | 6:AF:84:VAL:HG12 | 2.13 | 0.49 |
| 2:AA:593:G:H1' | 32:A8:3:LYS:HZ1 | 1.74 | 0.49 |
| 2:AA:594:U:C2 | 2:AA:595:C:C5 | 3.00 | 0.49 |
| 2:AA:701:G:N2 | 2:AA:731:C:C2 | 2.71 | 0.49 |
| 2:AA:715:G:H3' | 2:AA:715:G:C8 | 2.47 | 0.49 |
| 2:AA:784:A:O2' | 2:AA:785:G:C5' | 2.45 | 0.49 |
| 2:AA:826:U:H5" | 2:AA:2428:G:C3' | 2.42 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:917:A:C8 | 2:AA:2268:A:N6 | 2.73 | 0.49 |
| 2:AA:958:U:H2' | 2:AA:959:A:OP2 | 2.13 | 0.49 |
| 2:AA:976:C:O2 | 2:AA:977:G:C8 | 2.66 | 0.49 |
| 2:AA:1057:A:N1 | 2:AA:1058:G:C5 | 2.80 | 0.49 |
| 2:AA:1429:G:N3 | 2:AA:1568:G:C2 | 2.81 | 0.49 |
| 2:AA:1477:A:H5" | 2:AA:1478:G:OP2 | 2.13 | 0.49 |
| 2:AA:1582:C:H2' | 2:AA:1583:A:C1' | 2.42 | 0.49 |
| 2:AA:1746:G:C3' | 2:AA:1747:G:H8 | 2.24 | 0.49 |
| 2:AA:1905:C:H3' | 2:AA:1930:G:O6 | 2.13 | 0.49 |
| 2:AA:1906:G:C6 | 2:AA:1907:G:C6 | 3.00 | 0.49 |
| 2:AA:1920:C:P | 34:BA:1517:G:C1' | 3.01 | 0.49 |
| 2:AA:1986:A:C2 | 2:AA:1987:G:C4 | 3.01 | 0.49 |
| 2:AA:2023:G:H5" | 2:AA:2617:C:O2' | 2.11 | 0.49 |
| 2:AA:2065:C:N4 | 2:AA:2445:G:H1 | 2.11 | 0.49 |
| 2:AA:2133:G:N3 | 2:AA:2133:G:H2' | 2.27 | 0.49 |
| 2:AA:2187:G:H2' | 2:AA:2188:C:O4' | 2.12 | 0.49 |
| 2:AA:2230:G:O2' | 2:AA:2231:C:H5' | 2.12 | 0.49 |
| 2:AA:2364:C:N4 | 2:AA:2365:G:N1 | 2.61 | 0.49 |
| 2:AA:2397:G:N2 | 2:AA:2420:C:C1' | 2.63 | 0.49 |
| 2:AA:2423:U:C2' | 2:AA:2424:C:OP2 | 2.61 | 0.49 |
| 2:AA:2459:A:N7 | 2:AA:2460:U:C5 | 2.80 | 0.49 |
| 2:AA:2466:C:C4 | 2:AA:2467:C:C4 | 3.00 | 0.49 |
| 2:AA:2575:C:O2 | 2:AA:2575:C:H2' | 2.11 | 0.49 |
| 2:AA:2584:U:H2' | 2:AA:2585:U:C5 | 2.44 | 0.49 |
| 2:AA:2605:U:C2' | 2:AA:2606:C:H5' | 2.42 | 0.49 |
| 2:AA:2766:G:N3 | 2:AA:2766:G:C2' | 2.75 | 0.49 |
| 2:AA:2820:A:O2' | 2:AA:2821:A:P | 2.70 | 0.49 |
| 2:AA:2834:G:C8 | 2:AA:2834:G:C3' | 2.96 | 0.49 |
| 2:AA:2856:C:H2' | 2:AA:2857:G:H8 | 1.78 | 0.49 |
| 2:AA:2881:C:OP1 | 24:A0:90:ARG:NH1 | 2.46 | 0.49 |
| 2:AA:2888:C:O2' | 2:AA:2889:C:H5' | 2.13 | 0.49 |
| 3:AC:41:VAL:HA | 3:AC:216:THR:HG22 | 1.94 | 0.49 |
| 3:AC:91:ALA:HB2 | 3:AC:153:ILE:CD1 | 2.43 | 0.49 |
| 4:AD:120:ASP:OD1 | 4:AD:121:ALA:O | 2.31 | 0.49 |
| 4:AD:130:PRO:CA | 4:AD:188:ARG:HG2 | 2.43 | 0.49 |
| 4:AD:154:VAL:O | 4:AD:154:VAL:CG1 | 2.60 | 0.49 |
| 5:AE:41:PHE:CB | 5:AE:311:PHE:CE1 | 2.92 | 0.49 |
| 5:AE:263:GLU:O | 5:AE:266:LYS:HE3 | 2.13 | 0.49 |
| 5:AE:299:SER:C | 5:AE:301:PRO:CD | 2.81 | 0.49 |
| 8:AH:87:GLU:N | 8:AH:148:ARG:HH21 | 2.09 | 0.49 |
| 8:AH:89:VAL:O | 8:AH:159:LYS:HA | 2.13 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:148:ARG:O | 8:AH:161:ILE:HG13 | 2.13 | 0.49 |
| 9:AI:4:ASP:OD1 | 11:AL:116:LEU:O | 2.30 | 0.49 |
| 9:AI:40:ALA:C | 9:AI:43:PRO:HD2 | 2.33 | 0.49 |
| 10:AK:81:ALA:HB1 | 10:AK:89:LEU:HD22 | 1.89 | 0.49 |
| 10:AK:114:LYS:CD | 10:AK:133:LEU:HA | 2.42 | 0.49 |
| 10:AK:124:LEU:HG | 10:AK:125:GLY:H | 1.77 | 0.49 |
| 12:AM:15:ARG:HA | 12:AM:44:ALA:N | 2.28 | 0.49 |
| 13:AN:68:GLY:HA3 | 13:AN:78:ARG:CD | 2.32 | 0.49 |
| 13:AN:70:ARG:HG2 | 13:AN:76:TYR:CE2 | 2.46 | 0.49 |
| 14:AO:104:ASP:O | 14:AO:105:TYR:CB | 2.60 | 0.49 |
| 15:AP:28:ILE:HG23 | 15:AP:62:GLU:HG2 | 1.94 | 0.49 |
| 15:AP:35:ASN:HD21 | 21:AV:114:ASP:H | 1.57 | 0.49 |
| 15:AP:42:TYR:HB2 | 21:AV:99:HIS:CE1 | 2.47 | 0.49 |
| 16:AQ:46:GLN:CG | 16:AQ:57:THR:HG21 | 2.42 | 0.49 |
| 16:AQ:116:PHE:O | 16:AQ:120:GLU:OE1 | 2.31 | 0.49 |
| 19:AT:32:ALA:HB3 | 19:AT:37:VAL:CG2 | 2.42 | 0.49 |
| 19:AT:76:GLU:O | 19:AT:78:ALA:N | 2.46 | 0.49 |
| 21:AV:26:LYS:O | 21:AV:27:GLU:CB | 2.61 | 0.49 |
| 21:AV:52:PHE:H | 21:AV:65:LEU:HD12 | 1.70 | 0.49 |
| 23:AX:39:ASP:O | 23:AX:40:THR:C | 2.50 | 0.49 |
| 26:A2:74:TYR:OH | 26:A2:89:ASN:ND2 | 2.45 | 0.49 |
| 27:A3:38:VAL:C | 27:A3:40:GLN:N | 2.47 | 0.49 |
| 27:A3:39:ARG:N | 27:A3:69:PHE:CZ | 2.76 | 0.49 |
| 31:A7:28:ARG:CA | 31:A7:31:LEU:CD1 | 2.87 | 0.49 |
| 34:BA:28:G:C2 | 34:BA:556:C:N3 | 2.80 | 0.49 |
| 34:BA:132:C:C2 | 34:BA:231:G:C2 | 3.01 | 0.49 |
| 34:BA:147:G:N2 | 34:BA:176:C:C2 | 2.81 | 0.49 |
| 34:BA:175:C:H2' | 34:BA:176:C:C6 | 2.40 | 0.49 |
| 34:BA:312:C:O2 | 34:BA:312:C:C2' | 2.54 | 0.49 |
| 34:BA:314:C:H2' | 34:BA:315:A:N9 | 2.28 | 0.49 |
| 34:BA:315:A:N1 | 34:BA:330:C:C6 | 2.81 | 0.49 |
| 34:BA:452:A:C4 | 34:BA:453:A:N7 | 2.81 | 0.49 |
| 34:BA:529:G:C8 | 34:BA:529:G:H3' | 2.48 | 0.49 |
| 34:BA:530:G:C5 | 35:BB:35:A:C1' | 2.88 | 0.49 |
| 34:BA:603:U:O2' | 34:BA:604:G:H5' | 2.13 | 0.49 |
| 34:BA:632:A:H2' | 34:BA:633:G:C8 | 2.47 | 0.49 |
| 34:BA:698:G:O2' | 34:BA:699:C:O4' | 2.25 | 0.49 |
| 34:BA:761:G:H4' | 52:BT:103:GLY:C | 2.32 | 0.49 |
| 34:BA:802:A:N6 | 34:BA:803:G:N3 | 2.61 | 0.49 |
| 34:BA:833:U:C2 | 34:BA:834:C:C5 | 3.00 | 0.49 |
| 34:BA:894:G:C4 | 34:BA:895:G:N7 | 2.81 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:909:A:O2' | 34:BA:910:C:H5' | 2.12 | 0.49 |
| 34:BA:930:C:H42 | 34:BA:1387:G:H1 | 1.59 | 0.49 |
| 34:BA:948:C:C2' | 34:BA:949:A:O5' | 2.61 | 0.49 |
| 34:BA:970:C:H4' | 34:BA:972:C:C6 | 2.47 | 0.49 |
| 34:BA:983:A:C2 | 34:BA:984:C:C6 | 2.93 | 0.49 |
| 34:BA:1027:C:N4 | 34:BA:1028:C:N4 | 2.61 | 0.49 |
| 34:BA:1054:C:P | 34:BA:1196:U:O3' | 2.71 | 0.49 |
| 34:BA:1072:G:N1 | 34:BA:1104:G:C2 | 2.81 | 0.49 |
| 34:BA:1150:U:C2 | 34:BA:1151:A:N7 | 2.81 | 0.49 |
| 34:BA:1171:G:O2' | 34:BA:1172:C:O4' | 2.29 | 0.49 |
| 34:BA:1178:G:H8 | 34:BA:1178:G:O5' | 1.96 | 0.49 |
| 34:BA:1368:G:N2 | 34:BA:1369:C:H1' | 2.27 | 0.49 |
| 34:BA:1399:C:C4 | 34:BA:1502:A:N7 | 2.80 | 0.49 |
| 34:BA:1537:U:H2' | 34:BA:1538:C:H1' | 1.95 | 0.49 |
| 35:BB:11:C:O2 | 35:BB:12:U:C2 | 2.66 | 0.49 |
| 35:BB:29:A:C6 | 35:BB:30:G:N7 | 2.81 | 0.49 |
| 37:BE:28:PHE:CD1 | 37:BE:31:TYR:HB3 | 2.47 | 0.49 |
| 37:BE:44:LEU:HD12 | 37:BE:45:GLN:OE1 | 2.13 | 0.49 |
| 37:BE:132:LYS:O | 37:BE:135:GLN:HB2 | 2.12 | 0.49 |
| 37:BE:193:ASP:HB2 | 37:BE:196:LEU:HD23 | 1.94 | 0.49 |
| 39:BG:121:VAL:HA | 39:BG:126:ILE:HG13 | 1.95 | 0.49 |
| 40:BH:15:ARG:HD2 | 40:BH:27:ARG:O | 2.12 | 0.49 |
| 40:BH:92:LYS:HG3 | 40:BH:93:PRO:HD2 | 1.95 | 0.49 |
| 43:BK:120:THR:H | 43:BK:123:GLU:CG | 2.26 | 0.49 |
| 44:BL:19:LEU:HD23 | 44:BL:61:ALA:CA | 2.40 | 0.49 |
| 44:BL:51:ARG:O | 44:BL:52:ALA:C | 2.50 | 0.49 |
| 44:BL:102:LEU:HD23 | 44:BL:102:LEU:N | 2.26 | 0.49 |
| 44:BL:121:ARG:HH11 | 44:BL:121:ARG:HG2 | 1.77 | 0.49 |
| 45:BM:21:GLN:CG | 45:BM:25:GLU:OE2 | 2.60 | 0.49 |
| 47:BO:34:ARG:HE | 47:BO:61:THR:HG21 | 1.78 | 0.49 |
| 48:BP:59:TYR:CD2 | 48:BP:60:VAL:HG23 | 2.47 | 0.49 |
| 49:BQ:27:CYS:O | 49:BQ:40:CYS:SG | 2.71 | 0.49 |
| 51:BS:78:GLY:O | 51:BS:79:VAL:CG2 | 2.61 | 0.49 |
| 52:BT:5:VAL:CB | 52:BT:59:ILE:O | 2.61 | 0.49 |
| 53:BU:21:LYS:HZ1 | 53:BU:23:LYS:CB | 2.18 | 0.49 |
| 55:BW:89:ARG:O | 55:BW:90:GLN:C | 2.50 | 0.49 |
| 1:AB:74:U:C2' | 1:AB:75:G:C8 | 2.87 | 0.49 |
| 2:AA:17:G:P | 29:A5:13:LYS:NZ | 2.86 | 0.49 |
| 2:AA:137:C:C4 | 2:AA:142:G:N1 | 2.80 | 0.49 |
| 2:AA:154:G:O6 | 2:AA:172:C:N3 | 2.46 | 0.49 |
| 2:AA:270(C):C:C6 | 2:AA:270(D):C:H5 | 2.30 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:271(C):U:O4 | 2:AA:421:U:H2' | 2.13 | 0.49 |
| 2:AA:282:A:H8 | 2:AA:282:A:OP2 | 1.96 | 0.49 |
| 2:AA:449:A:N3 | 2:AA:450:G:C8 | 2.80 | 0.49 |
| 2:AA:468:G:C2' | 2:AA:469:G:C5' | 2.91 | 0.49 |
| 2:AA:811:U:C6 | 2:AA:811:U:C3' | 2.96 | 0.49 |
| 2:AA:846:C:H42 | 2:AA:932:G:H1 | 1.61 | 0.49 |
| 2:AA:914:C:H2' | 2:AA:915:C:C5' | 2.38 | 0.49 |
| 2:AA:916:G:O5' | 2:AA:916:G:C8 | 2.57 | 0.49 |
| 2:AA:939:G:O2' | 2:AA:940:G:C5' | 2.58 | 0.49 |
| 2:AA:955:C:C2' | 2:AA:956:G:C5' | 2.86 | 0.49 |
| 2:AA:974:G:H3' | 26:A2:82:ARG:NH2 | 2.27 | 0.49 |
| 2:AA:985:C:H2' | 2:AA:985:C:O2 | 2.12 | 0.49 |
| 2:AA:1021:A:N1 | 2:AA:1023:U:C2 | 2.81 | 0.49 |
| 2:AA:1028:A:H2' | 2:AA:1029:A:C8 | 2.45 | 0.49 |
| 2:AA:1212:G:C2 | 2:AA:1236:G:O6 | 2.66 | 0.49 |
| 2:AA:1237:A:O2' | 2:AA:1238:G:P | 2.70 | 0.49 |
| 2:AA:1416:G:H22 | 2:AA:1582:C:H42 | 1.61 | 0.49 |
| 2:AA:1436:G:C6 | 2:AA:1437:C:C4 | 3.01 | 0.49 |
| 2:AA:1526:G:C5' | 2:AA:1527:G:OP1 | 2.60 | 0.49 |
| 2:AA:1529:A:N7 | 2:AA:1542:G:C6 | 2.81 | 0.49 |
| 2:AA:1614:A:N7 | 18:AS:88:ARG:CD | 2.59 | 0.49 |
| 2:AA:1668:A:C6 | 2:AA:1674:G:N3 | 2.81 | 0.49 |
| 2:AA:1693:U:C5' | 2:AA:1694:C:OP2 | 2.60 | 0.49 |
| 2:AA:1695:G:C2 | 2:AA:1696:G:O4' | 2.66 | 0.49 |
| 2:AA:1758:G:N1 | 2:AA:2696:U:H5' | 2.28 | 0.49 |
| 2:AA:1796:U:C2' | 2:AA:1797:C:C6 | 2.96 | 0.49 |
| 2:AA:1803:A:C8 | 2:AA:1804:C:H5 | 2.29 | 0.49 |
| 2:AA:1830:C:C2 | 2:AA:1831:G:C8 | 3.01 | 0.49 |
| 2:AA:1861:G:C5' | 3:AC:205:LYS:CE | 2.89 | 0.49 |
| 2:AA:1894:C:H2' | 2:AA:1895:C:C6 | 2.47 | 0.49 |
| 2:AA:1928:A:C8 | 2:AA:1928:A:C3' | 2.95 | 0.49 |
| 2:AA:1943:U:C1' | 2:AA:1945:G:H5' | 2.39 | 0.49 |
| 2:AA:1945:G:C2 | 2:AA:1946:U:C5 | 3.01 | 0.49 |
| 2:AA:1969:A:C5' | 2:AA:1970:A:H5' | 2.42 | 0.49 |
| 2:AA:2010:G:OP1 | 18:AS:41:LYS:HB3 | 2.12 | 0.49 |
| 2:AA:2022:U:H4' | 2:AA:2023:G:OP1 | 2.08 | 0.49 |
| 2:AA:2040:C:N3 | 2:AA:2041:U:C4 | 2.81 | 0.49 |
| 2:AA:2081:C:H5' | 28:A4:35:VAL:CG2 | 2.43 | 0.49 |
| 2:AA:2082:A:H2' | 2:AA:2083:G:C8 | 2.48 | 0.49 |
| 2:AA:2093:G:C4' | 10:AK:29:PHE:CE1 | 2.91 | 0.49 |
| 2:AA:2217:G:N3 | 2:AA:2218:G:C8 | 2.80 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2331:G:H4' | 27:A3:70:ILE:HB | 1.95 | 0.49 |
| 2:AA:2458:G:H2' | 2:AA:2490:G:H1 | 1.78 | 0.49 |
| 2:AA:2560:C:O2 | 2:AA:2560:C:C2' | 2.36 | 0.49 |
| 2:AA:2623:G:H2' | 2:AA:2624:G:O5' | 2.12 | 0.49 |
| 3:AC:95:GLY:HA3 | 3:AC:99:ILE:CG1 | 2.42 | 0.49 |
| 4:AD:140:VAL:CG1 | 4:AD:191:VAL:HG12 | 2.42 | 0.49 |
| 5:AE:65:MET:SD | 5:AE:65:MET:C | 2.91 | 0.49 |
| 5:AE:175:ASP:C | 5:AE:177:ALA:N | 2.65 | 0.49 |
| 5:AE:205:THR:OG1 | 5:AE:258:TYR:C | 2.50 | 0.49 |
| 5:AE:222:ARG:O | 5:AE:227:ALA:CA | 2.58 | 0.49 |
| 5:AE:222:ARG:HE | 5:AE:233:ARG:HA | 1.77 | 0.49 |
| 5:AE:227:ALA:O | 5:AE:231:TRP:O | 2.29 | 0.49 |
| 6:AF:164:ALA:HB1 | 6:AF:232:LEU:CD1 | 2.42 | 0.49 |
| 7:AG:19:GLU:OE2 | 7:AG:139:TYR:HD2 | 1.95 | 0.49 |
| 8:AH:34:ARG:HH11 | 8:AH:70:LEU:CD2 | 2.25 | 0.49 |
| 9:AI:39:VAL:HG13 | 9:AJ:39:VAL:HG22 | 1.94 | 0.49 |
| 9:AI:58:GLU:O | 9:AI:128:LYS:NZ | 2.46 | 0.49 |
| 10:AK:45:LYS:O | 10:AK:46:ALA:C | 2.50 | 0.49 |
| 10:AK:110:LEU:HD11 | 10:AK:114:LYS:HZ2 | 1.78 | 0.49 |
| 10:AK:115:ILE:N | 10:AK:131:VAL:HG13 | 2.27 | 0.49 |
| 10:AK:141:LEU:CD2 | 10:AK:142:LYS:N | 2.70 | 0.49 |
| 11:AL:15:ALA:HA | 11:AL:46:THR:CG2 | 2.43 | 0.49 |
| 11:AL:37:GLU:HB3 | 11:AL:41:ARG:NH1 | 2.28 | 0.49 |
| 11:AL:117:ASN:O | 11:AL:118:ALA:C | 2.51 | 0.49 |
| 13:AN:13:ASN:C | 13:AN:15:GLY:N | 2.65 | 0.49 |
| 14:AO:110:GLY:N | 14:AO:126:SER:OG | 2.45 | 0.49 |
| 15:AP:49:VAL:HA | 15:AP:121:ASP:CB | 2.43 | 0.49 |
| 18:AS:30:GLU:N | 18:AS:33:ARG:CD | 2.76 | 0.49 |
| 18:AS:69:LEU:HD23 | 18:AS:109:GLU:HA | 1.94 | 0.49 |
| 21:AV:116:VAL:C | 21:AV:118:HIS:H | 2.16 | 0.49 |
| 22:AW:60:GLN:C | 22:AW:60:GLN:OE1 | 2.51 | 0.49 |
| 23:AX:6:VAL:HG22 | 23:AX:54:VAL:HG21 | 1.94 | 0.49 |
| 25:A1:59:ARG:O | 25:A1:60:LEU:C | 2.51 | 0.49 |
| 27:A3:87:GLU:N | 27:A3:87:GLU:OE2 | 2.45 | 0.49 |
| 34:BA:15:G:C2 | 34:BA:16:A:C5 | 3.01 | 0.49 |
| 34:BA:67:C:H1' | 34:BA:172:A:H1' | 1.94 | 0.49 |
| 34:BA:162:A:H2' | 34:BA:163:C:C4' | 2.43 | 0.49 |
| 34:BA:384:G:H2' | 34:BA:385:C:O4' | 2.11 | 0.49 |
| 34:BA:405:U:O4 | 39:BG:2:GLY:CA | 2.61 | 0.49 |
| 34:BA:462:G:N2 | 34:BA:463:A:C4 | 2.81 | 0.49 |
| 34:BA:501:C:N4 | 34:BA:502:G:O6 | 2.45 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:533:A:C6 | 34:BA:536:C:C5 | 3.00 | 0.49 |
| 34:BA:538:G:P | 47:BO:115:LYS:CG | 3.01 | 0.49 |
| 34:BA:553:A:H2' | 34:BA:554:C:O4' | 2.13 | 0.49 |
| 34:BA:586:C:OP1 | 52:BT:34:LYS:HD3 | 2.13 | 0.49 |
| 34:BA:670:G:H2' | 34:BA:671:G:O5' | 2.13 | 0.49 |
| 34:BA:792:A:C2' | 34:BA:794:A:N6 | 2.68 | 0.49 |
| 34:BA:857:C:O2' | 34:BA:858:G:H5' | 2.13 | 0.49 |
| 34:BA:862:C:C1' | 34:BA:874:G:H5" | 2.34 | 0.49 |
| 34:BA:890:G:C2' | 34:BA:891:U:OP2 | 2.61 | 0.49 |
| 34:BA:892:A:C6 | 34:BA:907:A:C8 | 3.00 | 0.49 |
| 34:BA:1074:G:N7 | 34:BA:1075:C:C5 | 2.80 | 0.49 |
| 34:BA:1098:C:C2' | 34:BA:1099:G:H5' | 2.40 | 0.49 |
| 34:BA:1126:U:H2' | 34:BA:1127:G:O5' | 2.13 | 0.49 |
| 34:BA:1232:U:OP1 | 44:BL:126:SER:CB | 2.61 | 0.49 |
| 34:BA:1238:A:C2 | 34:BA:1241:G:N3 | 2.81 | 0.49 |
| 34:BA:1336:C:H1' | 34:BA:1337:G:N1 | 2.28 | 0.49 |
| 34:BA:1406:U:C2 | 34:BA:1407:C:C5 | 3.00 | 0.49 |
| 34:BA:1454:G:O2' | 34:BA:1455:G:O5' | 2.30 | 0.49 |
| 34:BA:1494:G:N3 | 34:BA:1495:U:C5 | 2.80 | 0.49 |
| 34:BA:1528:U:HO2' | 34:BA:1529:G:P | 2.35 | 0.49 |
| 35:BB:32:C:C5 | 35:BB:33:U:C4 | 3.01 | 0.49 |
| 35:BC:58:A:H3' | 35:BC:61:C:H41 | 1.78 | 0.49 |
| 37:BE:45:GLN:O | 37:BE:49:GLU:OE1 | 2.30 | 0.49 |
| 37:BE:97:TRP:CD2 | 37:BE:173:ALA:HB2 | 2.48 | 0.49 |
| 37:BE:126:GLU:O | 37:BE:127:ILE:O | 2.30 | 0.49 |
| 37:BE:141:GLU:HG2 | 37:BE:145:LEU:HD23 | 1.93 | 0.49 |
| 37:BE:181:PHE:CD1 | 43:BK:71:GLY:HA3 | 2.47 | 0.49 |
| 38:BF:88:ARG:HH21 | 38:BF:100:ALA:CB | 2.25 | 0.49 |
| 38:BF:97:LYS:O | 38:BF:98:ASN:OD1 | 2.30 | 0.49 |
| 39:BG:31:CYS:O | 39:BG:32:ALA:HB3 | 2.12 | 0.49 |
| 39:BG:94:LEU:HD11 | 39:BG:200:GLU:CD | 2.33 | 0.49 |
| 39:BG:105:VAL:CG1 | 39:BG:117:ALA:HA | 2.43 | 0.49 |
| 40:BH:76:ILE:HG21 | 40:BH:142:LEU:HD22 | 1.94 | 0.49 |
| 41:BI:45:LEU:CD2 | 41:BI:59:TYR:CD1 | 2.94 | 0.49 |
| 41:BI:48:LEU:HD22 | 41:BI:60:PHE:CZ | 2.48 | 0.49 |
| 43:BK:44:PHE:HA | 43:BK:79:VAL:HG13 | 1.95 | 0.49 |
| 44:BL:49:PRO:HG3 | 44:BL:78:LYS:CD | 2.42 | 0.49 |
| 46:BN:84:VAL:O | 46:BN:84:VAL:HG23 | 2.12 | 0.49 |
| 47:BO:37:CYS:O | 47:BO:79:GLU:HA | 2.12 | 0.49 |
| 47:BO:58:VAL:O | 47:BO:60:LEU:CD1 | 2.61 | 0.49 |
| 48:BP:58:GLU:C | 48:BP:61:GLU:HB2 | 2.33 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 51:BS:54:GLU:O | 51:BS:56:ALA:N | 2.46 | 0.49 |
| 52:BT:74:LEU:C | 52:BT:74:LEU:CD1 | 2.75 | 0.49 |
| 53:BU:79:LEU:HD13 | 53:BU:79:LEU:N | 2.28 | 0.49 |
| 55:BW:20:LEU:O | 55:BW:23:ARG:HB3 | 2.13 | 0.49 |
| 2:AA:36:G:H2' | 2:AA:37:C:O4' | 2.13 | 0.49 |
| 2:AA:71:A:C2 | 2:AA:73:A:H8 | 2.28 | 0.49 |
| 2:AA:181:A:H2' | 2:AA:182:A:C8 | 2.47 | 0.49 |
| 2:AA:204:A:O2' | 2:AA:205:G:C5' | 2.61 | 0.49 |
| 2:AA:244:A:C4 | 2:AA:255:A:N6 | 2.81 | 0.49 |
| 2:AA:370:G:C2 | 2:AA:424:G:C8 | 3.01 | 0.49 |
| 2:AA:572:A:N7 | 2:AA:573:G:C6 | 2.81 | 0.49 |
| 2:AA:646:A:C2 | 2:AA:647:G:C4 | 3.01 | 0.49 |
| 2:AA:881:G:C2 | 2:AA:882:G:H1' | 2.48 | 0.49 |
| 2:AA:929:G:O3' | 23:AX:37:LEU:CD2 | 2.61 | 0.49 |
| 2:AA:975:G:N1 | 2:AA:976:C:C5 | 2.80 | 0.49 |
| 2:AA:1021:A:H3' | 2:AA:1021:A:H8 | 1.77 | 0.49 |
| 2:AA:1021:A:H5" | 12:AM:49:ARG:HH11 | 1.77 | 0.49 |
| 2:AA:1024:G:O6 | 2:AA:1025:G:C8 | 2.64 | 0.49 |
| 2:AA:1081:U:H5" | 11:AL:123:ALA:CA | 2.40 | 0.49 |
| 2:AA:1084:A:H1' | 9:AI:25:LEU:CB | 2.43 | 0.49 |
| 2:AA:1150:C:H2' | 2:AA:1151:G:C8 | 2.48 | 0.49 |
| 2:AA:1214:A:H2' | 2:AA:1214:A:N3 | 2.27 | 0.49 |
| 2:AA:1255:U:H6 | 2:AA:2502:G:H21 | 1.61 | 0.49 |
| 2:AA:1284:A:H2' | 2:AA:1285:G:C8 | 2.47 | 0.49 |
| 2:AA:1326:U:H5' | 2:AA:2010:G:N2 | 2.27 | 0.49 |
| 2:AA:1342:A:N3 | 2:AA:1345:C:C5 | 2.81 | 0.49 |
| 2:AA:1404:C:H2' | 2:AA:1404:C:O2 | 2.12 | 0.49 |
| 2:AA:1427:A:C8 | 2:AA:1427:A:OP1 | 2.66 | 0.49 |
| 2:AA:1439:A:C8 | 2:AA:1440:G:O4' | 2.66 | 0.49 |
| 2:AA:1769:G:N1 | 2:AA:1984:G:C6 | 2.81 | 0.49 |
| 2:AA:1890:A:H2 | 2:AA:2235:G:H4' | 1.78 | 0.49 |
| 2:AA:1926:U:C6 | 2:AA:1926:U:C3' | 2.95 | 0.49 |
| 2:AA:1947:C:C4 | 2:AA:1948:G:N7 | 2.81 | 0.49 |
| 2:AA:1956:U:C2 | 2:AA:1957:C:C6 | 3.00 | 0.49 |
| 2:AA:1995:U:C6 | 2:AA:1995:U:H3' | 2.48 | 0.49 |
| 2:AA:2038:G:O5' | 2:AA:2038:G:C8 | 2.58 | 0.49 |
| 2:AA:2069:G:N2 | 2:AA:2070:G:C4 | 2.81 | 0.49 |
| 2:AA:2227:A:C2 | 2:AA:2228:G:C6 | 3.01 | 0.49 |
| 2:AA:2250:G:H5" | 15:AP:102:ARG:CG | 2.42 | 0.49 |
| 2:AA:2317:C:N4 | 2:AA:2318:G:O6 | 2.46 | 0.49 |
| 2:AA:2324:C:N4 | 2:AA:2331:G:N1 | 2.07 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2437:U:HO2' | 2:AA:2438:U:C5' | 2.26 | 0.49 |
| 2:AA:2472:G:H1' | 2:AA:2478:A:H61 | 1.77 | 0.49 |
| 2:AA:2478:A:C8 | 2:AA:2478:A:C3' | 2.96 | 0.49 |
| 2:AA:2485:G:H2' | 2:AA:2486:G:O4' | 2.13 | 0.49 |
| 2:AA:2631:G:C6 | 2:AA:2632:A:C8 | 3.01 | 0.49 |
| 2:AA:2660:A:H2' | 2:AA:2661:G:O4' | 2.13 | 0.49 |
| 2:AA:2712:U:OP1 | 2:AA:2714:G:C4' | 2.61 | 0.49 |
| 2:AA:2789:C:C2 | 2:AA:2790:A:C2 | 3.01 | 0.49 |
| 2:AA:2808:U:C3' | 2:AA:2809:A:H5" | 2.42 | 0.49 |
| 3:AC:10:LEU:HG | 3:AC:32:LEU:HB3 | 1.94 | 0.49 |
| 4:AD:68:ARG:NH2 | 4:AD:128:ALA:HB3 | 2.27 | 0.49 |
| 4:AD:73:ILE:O | 4:AD:116:MET:HG3 | 2.13 | 0.49 |
| 4:AD:76:ARG:HD3 | 4:AD:113:MET:HB2 | 1.90 | 0.49 |
| 4:AD:90:ILE:CD1 | 4:AD:105:ALA:H | 2.25 | 0.49 |
| 4:AD:132:GLU:O | 4:AD:134:ILE:N | 2.46 | 0.49 |
| 4:AD:141:HIS:C | 4:AD:143:ILE:N | 2.61 | 0.49 |
| 4:AD:161:ALA:HA | 4:AD:174:ARG:O | 2.13 | 0.49 |
| 4:AD:166:LYS:HB2 | 4:AD:171:VAL:CG1 | 2.40 | 0.49 |
| 4:AD:174:ARG:HH21 | 4:AD:180:VAL:HG11 | 1.77 | 0.49 |
| 4:AD:234:HIS:HB3 | 4:AD:235:PRO:HD2 | 1.95 | 0.49 |
| 5:AE:222:ARG:NH1 | 5:AE:234:ARG:NH2 | 2.61 | 0.49 |
| 5:AE:226:HIS:CB | 5:AE:229:GLN:OE1 | 2.61 | 0.49 |
| 6:AF:153:VAL:HG13 | 6:AF:157:LEU:HD21 | 1.94 | 0.49 |
| 7:AG:21:VAL:HG21 | 7:AG:80:ALA:HB1 | 1.94 | 0.49 |
| 8:AH:10:ILE:O | 8:AH:14:VAL:CB | 2.60 | 0.49 |
| 8:AH:55:SER:O | 8:AH:57:GLU:HG2 | 2.13 | 0.49 |
| 9:AI:125:VAL:HG12 | 9:AI:126:GLU:N | 2.28 | 0.49 |
| 9:AJ:42:ALA:O | 9:AJ:43:PRO:C | 2.51 | 0.49 |
| 9:AJ:71:ILE:CB | 11:AL:61:TYR:HB2 | 2.41 | 0.49 |
| 9:AJ:74:ILE:HB | 11:AL:61:TYR:CE2 | 2.48 | 0.49 |
| 12:AM:50:GLU:O | 12:AM:54:VAL:CG2 | 2.60 | 0.49 |
| 12:AM:70:PHE:O | 12:AM:71:TYR:HB2 | 2.12 | 0.49 |
| 14:AO:60:GLU:N | 14:AO:60:GLU:OE1 | 2.46 | 0.49 |
| 14:AO:71:GLU:HA | 14:AO:74:THR:CG2 | 2.38 | 0.49 |
| 16:AQ:53:ASN:O | 16:AQ:53:ASN:CG | 2.50 | 0.49 |
| 18:AS:23:LEU:HD11 | 29:A5:27:ALA:H | 1.73 | 0.49 |
| 18:AS:55:ALA:HA | 18:AS:58:ALA:HB3 | 1.94 | 0.49 |
| 19:AT:9:HIS:CE1 | 19:AT:27:ALA:HA | 2.48 | 0.49 |
| 21:AV:55:THR:HG23 | 21:AV:61:THR:CG2 | 2.42 | 0.49 |
| 22:AW:62:GLU:N | 22:AW:62:GLU:CD | 2.65 | 0.49 |
| 25:A1:86:ALA:CB | 25:A1:90:LEU:HD23 | 2.43 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:99:ALA:CB | 25:A1:106:PHE:CG | 2.96 | 0.49 |
| 27:A3:18:PRO:O | 27:A3:19:LYS:CB | 2.60 | 0.49 |
| 27:A3:44:LYS:C | 27:A3:45:PHE:CD1 | 2.86 | 0.49 |
| 27:A3:82:GLU:C | 27:A3:84:ALA:H | 2.16 | 0.49 |
| 28:A4:5:LEU:CD1 | 28:A4:10:VAL:HG23 | 2.43 | 0.49 |
| 29:A5:46:CYS:O | 29:A5:49:CYS:N | 2.46 | 0.49 |
| 32:A8:19:THR:CB | 32:A8:21:LYS:HZ2 | 2.25 | 0.49 |
| 34:BA:77:G:H1 | 34:BA:92:C:H42 | 0.65 | 0.49 |
| 34:BA:99:C:H3' | 34:BA:99:C:C6 | 2.48 | 0.49 |
| 34:BA:128:G:H5' | 52:BT:2:PRO:HD2 | 1.94 | 0.49 |
| 34:BA:166:G:N2 | 34:BA:167:G:H1' | 2.28 | 0.49 |
| 34:BA:245:C:C2 | 34:BA:284:G:C2 | 3.01 | 0.49 |
| 34:BA:247:G:H1 | 34:BA:277:C:H42 | 1.58 | 0.49 |
| 34:BA:315:A:N1 | 34:BA:330:C:C5 | 2.81 | 0.49 |
| 34:BA:319:G:H2' | 34:BA:320:C:O5' | 2.13 | 0.49 |
| 34:BA:342:C:C2 | 34:BA:348:G:C2 | 3.01 | 0.49 |
| 34:BA:398:C:O5' | 34:BA:398:C:H6 | 1.95 | 0.49 |
| 34:BA:511:C:N1 | 34:BA:512:U:C5 | 2.80 | 0.49 |
| 34:BA:539:A:OP1 | 47:BO:114:LYS:CE | 2.59 | 0.49 |
| 34:BA:568:G:C2 | 34:BA:569:C:C5 | 3.00 | 0.49 |
| 34:BA:583:A:H61 | 34:BA:758:G:H1' | 1.78 | 0.49 |
| 34:BA:621:A:N6 | 34:BA:622:A:N6 | 2.61 | 0.49 |
| 34:BA:625:G:H4' | 51:BS:16:HIS:CD2 | 2.48 | 0.49 |
| 34:BA:701:C:H5" | 34:BA:702:A:H3' | 1.94 | 0.49 |
| 34:BA:703:G:C8 | 34:BA:703:G:P | 3.05 | 0.49 |
| 34:BA:715:A:C5' | 34:BA:777:A:N6 | 2.75 | 0.49 |
| 34:BA:734:G:H2' | 34:BA:735:C:H6 | 1.66 | 0.49 |
| 34:BA:750:G:H1' | 50:BR:22:THR:OG1 | 2.13 | 0.49 |
| 34:BA:922:G:C5' | 40:BH:20:GLN:HE21 | 2.23 | 0.49 |
| 34:BA:947:G:C2 | 34:BA:948:C:C2 | 3.01 | 0.49 |
| 34:BA:970:C:H4' | 34:BA:972:C:C5 | 2.48 | 0.49 |
| 34:BA:979:C:N3 | 49:BQ:19:ARG:HG3 | 2.28 | 0.49 |
| 34:BA:1281:U:H6 | 34:BA:1281:U:H3' | 1.76 | 0.49 |
| 34:BA:1455:G:OP1 | 55:BW:32:ALA:HA | 2.13 | 0.49 |
| 35:BC:36:A:H2' | 35:BC:37:G:O5' | 2.13 | 0.49 |
| 36:B1:21:U:H2' | 36:B1:22:C:C6 | 2.47 | 0.49 |
| 37:BE:62:ALA:CB | 37:BE:225:ALA:HB3 | 2.43 | 0.49 |
| 37:BE:121:LEU:O | 37:BE:122:PHE:HD1 | 1.94 | 0.49 |
| 37:BE:207:ALA:O | 37:BE:208:ILE:C | 2.50 | 0.49 |
| 38:BF:23:TYR:CD1 | 45:BM:11:PHE:CG | 3.01 | 0.49 |
| 38:BF:59:ARG:CD | 38:BF:64:VAL:HG22 | 2.43 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:193:ASP:O | 39:BG:194:LEU:HD22 | 2.13 | 0.49 |
| 40:BH:15:ARG:HH11 | 40:BH:15:ARG:CG | 2.21 | 0.49 |
| 40:BH:35:GLY:HA3 | 40:BH:41:VAL:CG1 | 2.43 | 0.49 |
| 42:BJ:8:GLU:O | 42:BJ:9:VAL:C | 2.50 | 0.49 |
| 42:BJ:138:LYS:O | 42:BJ:139:GLU:C | 2.50 | 0.49 |
| 43:BK:6:ILE:CG2 | 43:BK:7:ALA:N | 2.63 | 0.49 |
| 43:BK:51:VAL:HG12 | 43:BK:52:ASP:H | 1.76 | 0.49 |
| 43:BK:60:ARG:HG3 | 43:BK:61:VAL:H | 1.77 | 0.49 |
| 43:BK:82:HIS:O | 43:BK:137:VAL:CA | 2.54 | 0.49 |
| 47:BO:114:LYS:O | 47:BO:117:ARG:CG | 2.58 | 0.49 |
| 48:BP:29:ARG:NH1 | 48:BP:64:TRP:CD1 | 2.80 | 0.49 |
| 49:BQ:12:ARG:O | 49:BQ:13:THR:C | 2.51 | 0.49 |
| 51:BS:4:ILE:HG13 | 51:BS:66:PRO:CA | 2.43 | 0.49 |
| 51:BS:14:ASN:HA | 51:BS:42:ARG:HH22 | 1.75 | 0.49 |
| 51:BS:23:ASP:OD1 | 51:BS:25:ARG:NE | 2.46 | 0.49 |
| 52:BT:53:LEU:CD1 | 52:BT:54:GLY:N | 2.73 | 0.49 |
| 52:BT:97:SER:HB2 | 52:BT:102:GLY:O | 2.13 | 0.49 |
| 54:BV:10:PHE:O | 54:BV:11:VAL:CG2 | 2.60 | 0.49 |
| 54:BV:36:ARG:NH2 | 54:BV:72:GLY:O | 2.44 | 0.49 |
| 54:BV:63:THR:H | 54:BV:66:MET:CG | 2.26 | 0.49 |
| 1:AB:11:C:N3 | 1:AB:109:G:C6 | 2.77 | 0.49 |
| 1:AB:34:U:C4 | 1:AB:48:A:N1 | 2.81 | 0.49 |
| 1:AB:76:G:H2' | 1:AB:77:U:C4 | 2.48 | 0.49 |
| 2:AA:2:G:H2' | 2:AA:3:U:C6 | 2.47 | 0.49 |
| 2:AA:13:A:O2' | 2:AA:14:A:OP2 | 2.29 | 0.49 |
| 2:AA:30:G:O2' | 2:AA:31:C:C5' | 2.60 | 0.49 |
| 2:AA:38:A:C2' | 2:AA:39:C:H6 | 2.26 | 0.49 |
| 2:AA:46:C:C5 | 2:AA:215:G:N7 | 2.81 | 0.49 |
| 2:AA:61:G:C5 | 2:AA:62:C:C4 | 3.01 | 0.49 |
| 2:AA:109:G:C2' | 2:AA:110:G:O5' | 2.61 | 0.49 |
| 2:AA:139:G:H3' | 2:AA:141(A):C:C2 | 2.46 | 0.49 |
| 2:AA:182:A:H2' | 2:AA:183:C:C5 | 2.48 | 0.49 |
| 2:AA:247:G:C2 | 32:A8:8:LYS:HE3 | 2.48 | 0.49 |
| 2:AA:262:A:H5" | 2:AA:609(A):G:H5' | 1.95 | 0.49 |
| 2:AA:290:G:C8 | 2:AA:290:G:C3' | 2.96 | 0.49 |
| 2:AA:374:A:O2' | 2:AA:375:C:H5' | 2.13 | 0.49 |
| 2:AA:457:A:H8 | 2:AA:471:A:N6 | 2.06 | 0.49 |
| 2:AA:459:U:OP2 | 31:A7:40:HIS:CD2 | 2.66 | 0.49 |
| 2:AA:645:C:OP2 | 2:AA:2369:A:C4' | 2.60 | 0.49 |
| 2:AA:685:A:O5' | 2:AA:774:A:N6 | 2.46 | 0.49 |
| 2:AA:748:G:C5 | 2:AA:750:A:C5 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:804:A:C2' | 2:AA:806:C:H42 | 2.26 | 0.49 |
| 2:AA:847:U:N3 | 2:AA:934:G:N3 | 2.54 | 0.49 |
| 2:AA:863:A:C4 | 2:AA:864:G:N7 | 2.81 | 0.49 |
| 2:AA:957:A:H5" | 2:AA:957:A:H8 | 1.78 | 0.49 |
| 2:AA:975:G:N3 | 2:AA:975:G:H2' | 2.28 | 0.49 |
| 2:AA:1037:G:N1 | 2:AA:1119:C:C2 | 2.81 | 0.49 |
| 2:AA:1076:C:H5' | 11:AL:94:ARG:CZ | 2.43 | 0.49 |
| 2:AA:1151:G:H2' | 2:AA:1152:C:H6 | 1.77 | 0.49 |
| 2:AA:1177:A:C4 | 2:AA:1178:C:C5 | 3.01 | 0.49 |
| 2:AA:1206:G:H1' | 2:AA:1242:A:C6 | 2.46 | 0.49 |
| 2:AA:1212:G:C4 | 2:AA:1236:G:N1 | 2.80 | 0.49 |
| 2:AA:1321:A:C2 | 2:AA:1322:A:C4 | 3.01 | 0.49 |
| 2:AA:1324:G:O2' | 2:AA:1616:A:N6 | 2.46 | 0.49 |
| 2:AA:1346:G:C2 | 2:AA:1347:G:N7 | 2.80 | 0.49 |
| 2:AA:1386:C:C2 | 2:AA:1387:C:C5 | 3.01 | 0.49 |
| 2:AA:1414:G:C6 | 2:AA:1415:U:O4 | 2.65 | 0.49 |
| 2:AA:1439:A:O2' | 2:AA:1440:G:H5' | 2.13 | 0.49 |
| 2:AA:1534:G:O6 | 2:AA:1539:G:H1' | 2.12 | 0.49 |
| 2:AA:1578:U:H3' | 2:AA:1579:A:C8 | 2.47 | 0.49 |
| 2:AA:1776:G:N2 | 2:AA:1777:U:C2 | 2.81 | 0.49 |
| 2:AA:1889:A:O4' | 2:AA:2087:G:C4' | 2.61 | 0.49 |
| 2:AA:1933:G:H2' | 2:AA:1934:C:C5' | 2.43 | 0.49 |
| 2:AA:1995:U:C4 | 2:AA:1996:C:N4 | 2.80 | 0.49 |
| 2:AA:2004:G:C8 | 2:AA:2005:A:N7 | 2.80 | 0.49 |
| 2:AA:2023:G:N2 | 2:AA:2040:C:C2 | 2.73 | 0.49 |
| 2:AA:2078:C:H2' | 2:AA:2079:U:O4' | 2.13 | 0.49 |
| 2:AA:2246:G:C2' | 2:AA:2247:A:C8 | 2.95 | 0.49 |
| 2:AA:2295:C:O2' | 2:AA:2296:U:H5' | 2.13 | 0.49 |
| 2:AA:2423:U:C6 | 2:AA:2423:U:C5' | 2.93 | 0.49 |
| 2:AA:2464:C:C2 | 2:AA:2465:C:C6 | 3.00 | 0.49 |
| 2:AA:2468:G:H22 | 2:AA:2481:G:C1' | 2.23 | 0.49 |
| 2:AA:2509:G:C2 | 2:AA:2510:C:N1 | 2.81 | 0.49 |
| 2:AA:2589:A:N6 | 2:AA:2590:A:C6 | 2.81 | 0.49 |
| 2:AA:2781:A:O4' | 2:AA:2781:A:OP1 | 2.30 | 0.49 |
| 2:AA:2832:U:O2' | 2:AA:2834:G:C4 | 2.63 | 0.49 |
| 2:AA:2862:G:O2' | 2:AA:2863:C:H5' | 2.13 | 0.49 |
| 3:AC:45:ALA:CB | 3:AC:212:VAL:HA | 2.43 | 0.49 |
| 3:AC:56:GLN:O | 3:AC:201:PRO:HB3 | 2.13 | 0.49 |
| 3:AC:96:GLY:O | 3:AC:99:ILE:N | 2.46 | 0.49 |
| 3:AC:129:ARG:O | 3:AC:129:ARG:HG2 | 2.13 | 0.49 |
| 4:AD:175:LEU:O | 4:AD:176:ALA:C | 2.51 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:35:VAL:HG12 | 6:AF:39:GLN:NE2 | 2.27 | 0.49 |
| 6:AF:142:ASP:O | 6:AF:143:ASP:C | 2.50 | 0.49 |
| 6:AF:166:ILE:O | 6:AF:167:ASP:C | 2.50 | 0.49 |
| 6:AF:206:ASN:O | 6:AF:207:LEU:HD23 | 2.13 | 0.49 |
| 6:AF:216:SER:O | 6:AF:217:GLU:HB2 | 2.13 | 0.49 |
| 7:AG:78:GLU:O | 7:AG:81:GLU:CB | 2.61 | 0.49 |
| 9:AI:64:LYS:O | 9:AI:65:SER:CB | 2.61 | 0.49 |
| 9:AI:91:LEU:O | 9:AI:94:LYS:N | 2.45 | 0.49 |
| 11:AL:117:ASN:OD1 | 11:AL:127:ILE:HD13 | 2.13 | 0.49 |
| 11:AL:131:THR:O | 11:AL:132:ALA:C | 2.51 | 0.49 |
| 12:AM:42:GLU:C | 12:AM:132:LEU:O | 2.51 | 0.49 |
| 13:AN:3:GLN:C | 13:AN:4:GLN:O | 2.49 | 0.49 |
| 14:AO:57:VAL:HG12 | 14:AO:58:GLN:N | 2.28 | 0.49 |
| 14:AO:62:ALA:HB2 | 14:AO:105:TYR:HB2 | 1.93 | 0.49 |
| 14:AO:94:ARG:HD3 | 14:AO:120:LEU:HB2 | 1.94 | 0.49 |
| 15:AP:45:GLN:HG2 | 15:AP:125:TRP:CE2 | 2.48 | 0.49 |
| 15:AP:54:VAL:O | 15:AP:56:ILE:N | 2.46 | 0.49 |
| 15:AP:57:ARG:C | 15:AP:61:LEU:CG | 2.81 | 0.49 |
| 15:AP:76:GLY:O | 15:AP:82:LYS:C | 2.50 | 0.49 |
| 15:AP:135:ALA:O | 15:AP:138:ARG:CB | 2.61 | 0.49 |
| 16:AQ:99:GLU:OE2 | 16:AQ:128:ASP:OD2 | 2.31 | 0.49 |
| 18:AS:26:GLY:O | 18:AS:27:LYS:CG | 2.60 | 0.49 |
| 19:AT:34:LYS:HZ2 | 19:AT:52:VAL:CG1 | 2.25 | 0.49 |
| 21:AV:98:VAL:HB | 21:AV:121:GLN:HE22 | 1.77 | 0.49 |
| 24:A0:32:GLY:HA2 | 24:A0:116:LEU:HD21 | 0.80 | 0.49 |
| 24:A0:89:ASP:OD1 | 24:A0:90:ARG:N | 2.46 | 0.49 |
| 25:A1:89:ASP:OD2 | 26:A2:52:GLY:CA | 2.61 | 0.49 |
| 26:A2:72:ARG:CB | 26:A2:88:GLN:CG | 2.84 | 0.49 |
| 27:A3:47:ALA:HB1 | 27:A3:73:GLY:O | 2.13 | 0.49 |
| 28:A4:2:GLN:C | 28:A4:3:LYS:HG3 | 2.29 | 0.49 |
| 28:A4:6:HIS:ND1 | 28:A4:6:HIS:N | 2.61 | 0.49 |
| 30:A6:2:ALA:N | 30:A6:11:LYS:CD | 2.74 | 0.49 |
| 33:A9:7:VAL:HG13 | 33:A9:25:VAL:CG2 | 2.43 | 0.49 |
| 34:BA:38:G:C4 | 34:BA:397:A:C2 | 3.00 | 0.49 |
| 34:BA:38:G:N1 | 34:BA:397:A:C2 | 2.81 | 0.49 |
| 34:BA:115:G:H4' | 34:BA:116:A:H8 | 1.78 | 0.49 |
| 34:BA:151:A:C6 | 34:BA:152:A:C2 | 3.01 | 0.49 |
| 34:BA:190(E):U:H6 | 34:BA:190(E):U:H5" | 1.78 | 0.49 |
| 34:BA:321:A:N6 | 34:BA:322:C:N4 | 2.60 | 0.49 |
| 34:BA:520:A:C3' | 34:BA:521:G:C5' | 2.84 | 0.49 |
| 34:BA:538:G:OP2 | 47:BO:115:LYS:CG | 2.61 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:585:G:C2' | 47:BO:8:ASN:HD21 | 2.25 | 0.49 |
| 34:BA:604:G:N1 | 34:BA:605:U:C2 | 2.81 | 0.49 |
| 34:BA:662:G:O2' | 34:BA:836:G:OP1 | 2.30 | 0.49 |
| 34:BA:738:C:H5' | 41:BI:72:VAL:HG21 | 1.95 | 0.49 |
| 34:BA:817:C:N4 | 34:BA:1529:G:C6 | 2.61 | 0.49 |
| 34:BA:979:C:C6 | 34:BA:980:C:C6 | 3.01 | 0.49 |
| 34:BA:979:C:H3' | 34:BA:980:C:H6 | 1.77 | 0.49 |
| 34:BA:1158:C:N3 | 34:BA:1181:G:N2 | 2.61 | 0.49 |
| 34:BA:1163:C:H2' | 34:BA:1164:G:C5' | 2.43 | 0.49 |
| 34:BA:1214:C:O2 | 34:BA:1214:C:C2' | 2.61 | 0.49 |
| 34:BA:1292:U:O2' | 34:BA:1293:G:C5' | 2.61 | 0.49 |
| 34:BA:1374:A:H4' | 42:BJ:31:MET:HE1 | 1.95 | 0.49 |
| 34:BA:1540:U:C4 | 34:BA:1541:U:C4 | 3.01 | 0.49 |
| 35:BB:29:A:N3 | 35:BB:30:G:C8 | 2.81 | 0.49 |
| 35:BC:75:C:OP1 | 35:BC:76:A:OP2 | 2.31 | 0.49 |
| 36:B1:14:U:H2' | 36:B1:15:A:C8 | 2.48 | 0.49 |
| 36:B1:23:U:OP2 | 36:B1:24:A:N7 | 2.46 | 0.49 |
| 37:BE:19:HIS:CG | 37:BE:20:GLU:N | 2.81 | 0.49 |
| 37:BE:30:ARG:HG2 | 37:BE:31:TYR:HD1 | 1.78 | 0.49 |
| 37:BE:203:GLY:O | 37:BE:204:ASN:C | 2.51 | 0.49 |
| 38:BF:28:GLN:CA | 38:BF:30:ARG:HH12 | 2.25 | 0.49 |
| 38:BF:119:ARG:HG2 | 38:BF:140:ARG:HH22 | 1.78 | 0.49 |
| 38:BF:182:ILE:HG23 | 38:BF:203:PHE:N | 2.28 | 0.49 |
| 39:BG:8:VAL:C | 39:BG:10:ARG:N | 2.67 | 0.49 |
| 39:BG:182:LYS:HB3 | 39:BG:182:LYS:NZ | 2.28 | 0.49 |
| 40:BH:151:LEU:O | 43:BK:64:LYS:HE2 | 2.13 | 0.49 |
| 41:BI:12:PRO:HG3 | 41:BI:57:GLN:NE2 | 2.28 | 0.49 |
| 41:BI:91:VAL:CG2 | 53:BU:72:ARG:NH1 | 2.52 | 0.49 |
| 42:BJ:121:ALA:O | 42:BJ:122:HIS:C | 2.52 | 0.49 |
| 43:BK:67:PRO:CG | 43:BK:77:GLU:H | 2.26 | 0.49 |
| 44:BL:5:TYR:O | 44:BL:84:ALA:HA | 2.12 | 0.49 |
| 45:BM:45:ARG:HH11 | 45:BM:45:ARG:CG | 2.26 | 0.49 |
| 46:BN:101:SER:O | 46:BN:102:GLY:C | 2.51 | 0.49 |
| 46:BN:105:VAL:O | 46:BN:105:VAL:HG12 | 2.13 | 0.49 |
| 48:BP:25:ILE:HG12 | 48:BP:66:LEU:HD11 | 1.94 | 0.49 |
| 48:BP:48:LEU:HD22 | 48:BP:53:VAL:CG2 | 2.37 | 0.49 |
| 51:BS:21:VAL:HG23 | 51:BS:34:GLU:HB3 | 1.93 | 0.49 |
| 51:BS:49:LEU:HD12 | 51:BS:50:LYS:N | 2.28 | 0.49 |
| 52:BT:29:HIS:CG | 52:BT:32:TYR:H | 2.31 | 0.49 |
| 54:BV:33:THR:CG2 | 54:BV:34:TRP:H | 2.24 | 0.49 |
| 1:AB:62:C:H2' | 1:AB:63:G:H8 | 1.78 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:79:C:O2' | 1:AB:80:U:H5' | 2.13 | 0.48 |
| 2:AA:27:G:H2' | 2:AA:28:A:OP2 | 2.13 | 0.48 |
| 2:AA:59:U:C6 | 2:AA:73:A:C6 | 3.00 | 0.48 |
| 2:AA:85:G:N2 | 2:AA:97:C:N3 | 2.51 | 0.48 |
| 2:AA:135:G:N3 | 2:AA:135:G:H2' | 2.27 | 0.48 |
| 2:AA:202:U:C2' | 2:AA:203:C:O4' | 2.60 | 0.48 |
| 2:AA:242:G:C3' | 32:A8:5:LYS:NZ | 2.74 | 0.48 |
| 2:AA:243:U:P | 32:A8:5:LYS:HZ3 | 2.35 | 0.48 |
| 2:AA:253:C:H2' | 2:AA:254:G:O5' | 2.13 | 0.48 |
| 2:AA:270(X):G:H4' | 2:AA:273:G:P | 2.52 | 0.48 |
| 2:AA:270(Z):U:HO2' | 2:AA:271(A):C:P | 2.34 | 0.48 |
| 2:AA:322:A:N3 | 2:AA:341:G:N9 | 2.61 | 0.48 |
| 2:AA:443:A:N7 | 6:AF:43:LYS:HD3 | 2.28 | 0.48 |
| 2:AA:444:C:O2' | 2:AA:445:C:C5' | 2.50 | 0.48 |
| 2:AA:479:A:O2' | 2:AA:480:A:H5' | 2.13 | 0.48 |
| 2:AA:534:U:H5' | 25:A1:46:GLU:HG2 | 1.95 | 0.48 |
| 2:AA:544:C:C2 | 2:AA:549:G:N1 | 2.77 | 0.48 |
| 2:AA:707:G:N1 | 2:AA:724:U:N3 | 2.53 | 0.48 |
| 2:AA:740:U:C2' | 2:AA:741:G:O5' | 2.61 | 0.48 |
| 2:AA:756:C:C4 | 2:AA:757:U:C5 | 3.01 | 0.48 |
| 2:AA:776:G:C6 | 2:AA:793:A:N7 | 2.81 | 0.48 |
| 2:AA:957:A:C2 | 2:AA:2459:A:O4' | 2.66 | 0.48 |
| 2:AA:969:U:H4' | 23:AX:14:GLY:HA2 | 1.94 | 0.48 |
| 2:AA:1022:G:H1' | 2:AA:1023:U:H5 | 1.77 | 0.48 |
| 2:AA:1071:G:C3' | 2:AA:1072:C:H5' | 2.43 | 0.48 |
| 2:AA:1140:C:O2' | 2:AA:1141:U:P | 2.70 | 0.48 |
| 2:AA:1181:C:N1 | 2:AA:1182:A:C8 | 2.81 | 0.48 |
| 2:AA:1201:C:C2' | 2:AA:1202:C:O5' | 2.61 | 0.48 |
| 2:AA:1406:U:H2' | 2:AA:1407:C:O5' | 2.13 | 0.48 |
| 2:AA:1427:A:O2' | 2:AA:1428:C:P | 2.71 | 0.48 |
| 2:AA:1649:G:C6 | 2:AA:2009:G:C6 | 3.01 | 0.48 |
| 2:AA:1693:U:O2 | 2:AA:1693:U:C2' | 2.60 | 0.48 |
| 2:AA:1695:G:C2 | 2:AA:1696:G:N9 | 2.81 | 0.48 |
| 2:AA:1790:C:OP1 | 4:AD:224:VAL:HA | 2.13 | 0.48 |
| 2:AA:1819:A:C1' | 2:AA:1821:A:N7 | 2.76 | 0.48 |
| 2:AA:1853:A:H2 | 2:AA:2087:G:N3 | 2.11 | 0.48 |
| 2:AA:1860:G:H2' | 2:AA:1861:G:C8 | 2.48 | 0.48 |
| 2:AA:1982:C:O5' | 2:AA:1982:C:H6 | 1.96 | 0.48 |
| 2:AA:1995:U:O3' | 13:AN:31:ARG:NH1 | 2.44 | 0.48 |
| 2:AA:2033:A:C2' | 2:AA:2034:U:O5' | 2.61 | 0.48 |
| 2:AA:2053:G:N3 | 2:AA:2054:A:C8 | 2.80 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2089:U:O2 | 2:AA:2231:C:N3 | 2.46 | 0.48 |
| 2:AA:2152:G:C4 | 2:AA:2153:G:C8 | 3.01 | 0.48 |
| 2:AA:2292:C:H2' | 2:AA:2293:C:C6 | 2.48 | 0.48 |
| 2:AA:2292:C:H2' | 2:AA:2293:C:H6 | 1.78 | 0.48 |
| 2:AA:2462:U:H2' | 2:AA:2463:C:C5' | 2.43 | 0.48 |
| 2:AA:2474:C:H2' | 2:AA:2475:C:H5' | 1.94 | 0.48 |
| 2:AA:2513:G:C6 | 2:AA:2514:U:N3 | 2.81 | 0.48 |
| 2:AA:2585:U:OP1 | 2:AA:2585:U:O4' | 2.31 | 0.48 |
| 2:AA:2689:U:O2 | 2:AA:2713:A:OP2 | 2.31 | 0.48 |
| 2:AA:2726:U:H5" | 2:AA:2727:G:OP2 | 2.14 | 0.48 |
| 2:AA:2768:C:C4 | 2:AA:2769:C:C5 | 3.01 | 0.48 |
| 3:AC:79:LYS:CD | 3:AC:119:VAL:HG12 | 2.43 | 0.48 |
| 3:AC:148:ASN:ND2 | 3:AC:151:GLU:CB | 2.76 | 0.48 |
| 5:AE:41:PHE:CZ | 5:AE:173:ARG:CD | 2.96 | 0.48 |
| 5:AE:45:LYS:NZ | 5:AE:301:PRO:O | 2.40 | 0.48 |
| 6:AF:54:LEU:O | 6:AF:79:ARG:CD | 2.61 | 0.48 |
| 6:AF:149:LYS:HB2 | 6:AF:152:GLU:CG | 2.36 | 0.48 |
| 6:AF:149:LYS:N | 6:AF:152:GLU:OE2 | 2.46 | 0.48 |
| 6:AF:218:VAL:C | 6:AF:219:ASN:CG | 2.72 | 0.48 |
| 8:AH:93:TYR:CG | 8:AH:159:LYS:HE2 | 2.48 | 0.48 |
| 9:AI:12:LYS:HD2 | 9:AJ:82:GLY:CA | 2.35 | 0.48 |
| 10:AK:40:THR:C | 10:AK:42:ALA:N | 2.64 | 0.48 |
| 10:AK:94:THR:HG22 | 10:AK:97:GLN:CD | 2.32 | 0.48 |
| 13:AN:7:ARG:C | 13:AN:8:LEU:CD2 | 2.77 | 0.48 |
| 13:AN:58:VAL:CG1 | 13:AN:59:LYS:H | 2.19 | 0.48 |
| 15:AP:35:ASN:CG | 21:AV:113:VAL:CB | 2.75 | 0.48 |
| 15:AP:36:ASN:ND2 | 15:AP:41:THR:N | 2.59 | 0.48 |
| 15:AP:49:VAL:CG2 | 15:AP:120:HIS:CA | 2.90 | 0.48 |
| 15:AP:123:ILE:HG22 | 15:AP:125:TRP:N | 2.28 | 0.48 |
| 15:AP:123:ILE:C | 15:AP:136:TRP:NE1 | 2.67 | 0.48 |
| 18:AS:65:LEU:O | 18:AS:66:GLU:C | 2.51 | 0.48 |
| 18:AS:83:LYS:O | 18:AS:84:ARG:CZ | 2.61 | 0.48 |
| 19:AT:42:GLU:CB | 19:AT:49:VAL:HG23 | 2.42 | 0.48 |
| 20:AU:78:THR:O | 20:AU:89:ARG:CZ | 2.61 | 0.48 |
| 21:AV:175:ARG:CZ | 21:AV:175:ARG:HA | 2.42 | 0.48 |
| 24:A0:23:ASN:O | 24:A0:26:LYS:HB2 | 2.13 | 0.48 |
| 24:A0:43:GLU:C | 24:A0:45:ARG:N | 2.62 | 0.48 |
| 24:A0:104:ARG:O | 24:A0:107:ASP:HB3 | 2.13 | 0.48 |
| 25:A1:61:TRP:CZ3 | 25:A1:93:LYS:HB3 | 2.47 | 0.48 |
| 26:A2:10:LYS:C | 26:A2:12:TYR:N | 2.64 | 0.48 |
| 26:A2:11:GLN:CD | 26:A2:21:ARG:HD3 | 2.33 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:42:GLY:HA3 | 26:A2:54:TYR:CZ | 2.48 | 0.48 |
| 28:A4:22:MET:O | 28:A4:28:ARG:O | 2.31 | 0.48 |
| 29:A5:46:CYS:HB3 | 29:A5:48:ASN:ND2 | 2.27 | 0.48 |
| 34:BA:124:G:C5 | 34:BA:125:U:C4 | 3.00 | 0.48 |
| 34:BA:188:C:O2' | 34:BA:189:G:H5' | 2.13 | 0.48 |
| 34:BA:257:G:C2' | 34:BA:258:G:O5' | 2.61 | 0.48 |
| 34:BA:460:A:N7 | 34:BA:462:G:C5 | 2.81 | 0.48 |
| 34:BA:553:A:C2' | 34:BA:554:C:O4' | 2.61 | 0.48 |
| 34:BA:692:U:O4 | 46:BN:52:GLY:C | 2.51 | 0.48 |
| 34:BA:714:G:C1' | 34:BA:777:A:N7 | 2.72 | 0.48 |
| 34:BA:752:G:C2' | 34:BA:753:A:OP2 | 2.61 | 0.48 |
| 34:BA:775:G:C2' | 34:BA:776:G:O5' | 2.61 | 0.48 |
| 34:BA:778:G:C2 | 34:BA:779:C:C6 | 3.01 | 0.48 |
| 34:BA:819:A:N1 | 34:BA:1529:G:C5 | 2.81 | 0.48 |
| 34:BA:854:G:N1 | 34:BA:855:G:C5 | 2.81 | 0.48 |
| 34:BA:943:U:C2 | 34:BA:944:G:C8 | 3.01 | 0.48 |
| 34:BA:1025:U:H4' | 34:BA:1025:U:OP1 | 2.12 | 0.48 |
| 34:BA:1130:A:N6 | 34:BA:1144:G:N3 | 2.57 | 0.48 |
| 34:BA:1194:U:C2' | 34:BA:1195:C:O5' | 2.60 | 0.48 |
| 34:BA:1261:A:N6 | 34:BA:1274:G:C1' | 2.70 | 0.48 |
| 34:BA:1268:A:C2' | 34:BA:1269:A:O5' | 2.61 | 0.48 |
| 34:BA:1327:C:H5" | 56:BX:20:LYS:CE | 2.35 | 0.48 |
| 34:BA:1407:C:HO2' | 34:BA:1408:A:H5' | 1.77 | 0.48 |
| 34:BA:1418:A:C6 | 34:BA:1483:A:C5 | 3.00 | 0.48 |
| 34:BA:1449:C:H2' | 34:BA:1450:U:H5' | 1.95 | 0.48 |
| 35:BB:1:G:N1 | 35:BB:73:A:C5 | 2.81 | 0.48 |
| 35:BB:67:A:C6 | 35:BB:68:U:C4 | 3.01 | 0.48 |
| 35:BC:21:A:N7 | 35:BC:46:G:N1 | 2.61 | 0.48 |
| 36:B1:70:U:O4 | 38:BF:131:ARG:NH2 | 2.45 | 0.48 |
| 37:BE:115:LEU:CD2 | 37:BE:149:LEU:HB3 | 2.41 | 0.48 |
| 38:BF:16:ARG:O | 38:BF:17:ASP:CG | 2.51 | 0.48 |
| 38:BF:94:LEU:C | 38:BF:95:THR:CG2 | 2.81 | 0.48 |
| 38:BF:156:ARG:H | 38:BF:163:ALA:HB1 | 1.78 | 0.48 |
| 39:BG:50:ARG:NH1 | 39:BG:52:SER:HA | 2.28 | 0.48 |
| 41:BI:16:GLN:O | 41:BI:18:GLN:N | 2.46 | 0.48 |
| 41:BI:70:ASP:CG | 41:BI:71:ARG:HG2 | 2.33 | 0.48 |
| 41:BI:75:LEU:O | 41:BI:79:LEU:CG | 2.55 | 0.48 |
| 42:BJ:138:LYS:CE | 42:BJ:142:GLU:OE1 | 2.50 | 0.48 |
| 43:BK:4:ASP:CB | 43:BK:6:ILE:CG2 | 2.91 | 0.48 |
| 43:BK:64:LYS:C | 43:BK:65:TYR:CG | 2.87 | 0.48 |
| 43:BK:93:VAL:HG12 | 43:BK:95:VAL:HG13 | 1.95 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:22:LYS:NZ | 45:BM:90:LEU:HD12 | 2.27 | 0.48 |
| 46:BN:18:ARG:HD3 | 46:BN:18:ARG:N | 2.27 | 0.48 |
| 48:BP:29:ARG:CD | 48:BP:64:TRP:NE1 | 2.76 | 0.48 |
| 48:BP:72:ALA:O | 48:BP:75:ALA:HB3 | 2.12 | 0.48 |
| 50:BR:3:ILE:CG2 | 50:BR:34:LEU:HD11 | 2.43 | 0.48 |
| 55:BW:73:HIS:O | 55:BW:76:ALA:CB | 2.58 | 0.48 |
| 1:AB:49:C:P | 16:AQ:110:THR:OG1 | 2.72 | 0.48 |
| 1:AB:81:G:C4 | 1:AB:82:G:C8 | 3.01 | 0.48 |
| 2:AA:14:A:C2' | 2:AA:15:G:O5' | 2.61 | 0.48 |
| 2:AA:109:G:H21 | 2:AA:110:G:H1' | 1.71 | 0.48 |
| 2:AA:120:U:H1' | 2:AA:150:C:C6 | 2.48 | 0.48 |
| 2:AA:197:A:C6 | 2:AA:2430:A:C8 | 3.01 | 0.48 |
| 2:AA:337:C:H5" | 2:AA:338:G:OP2 | 2.13 | 0.48 |
| 2:AA:397:G:P | 28:A4:10:VAL:CG1 | 3.01 | 0.48 |
| 2:AA:448:U:N3 | 2:AA:583:G:H1' | 2.28 | 0.48 |
| 2:AA:530:G:N2 | 2:AA:2021:C:O4' | 2.46 | 0.48 |
| 2:AA:531:C:N4 | 25:A1:38:THR:HA | 2.25 | 0.48 |
| 2:AA:666:G:HO2' | 2:AA:667:U:C5' | 2.26 | 0.48 |
| 2:AA:696:G:C5 | 2:AA:697:C:C5 | 3.01 | 0.48 |
| 2:AA:908:C:O2 | 2:AA:908:C:C2' | 2.60 | 0.48 |
| 2:AA:910:A:H2 | 2:AA:2264:C:O2 | 1.93 | 0.48 |
| 2:AA:1180:C:N3 | 2:AA:1181:C:C4 | 2.81 | 0.48 |
| 2:AA:1203:G:C4 | 2:AA:1206:G:C8 | 3.01 | 0.48 |
| 2:AA:1272:A:C2' | 2:AA:1273:U:OP1 | 2.60 | 0.48 |
| 2:AA:1324:G:H4' | 2:AA:1616:A:N6 | 2.28 | 0.48 |
| 2:AA:1364:G:H22 | 2:AA:1367:A:P | 2.35 | 0.48 |
| 2:AA:1410:G:N1 | 2:AA:1593:G:C6 | 2.81 | 0.48 |
| 2:AA:1442:G:H2' | 2:AA:1443:G:H8 | 1.77 | 0.48 |
| 2:AA:1462:C:C5' | 2:AA:1463:C:OP2 | 2.61 | 0.48 |
| 2:AA:1491:G:H22 | 2:AA:1497:U:P | 2.36 | 0.48 |
| 2:AA:1523:U:H2' | 2:AA:1524:G:C5' | 2.43 | 0.48 |
| 2:AA:1652:A:N7 | 2:AA:1653:G:C2 | 2.81 | 0.48 |
| 2:AA:1726:G:N1 | 2:AA:1734:C:C2 | 2.80 | 0.48 |
| 2:AA:1754:C:N4 | 2:AA:1755:A:C6 | 2.81 | 0.48 |
| 2:AA:1769:G:O2' | 2:AA:1770:G:H5' | 2.12 | 0.48 |
| 2:AA:1815:A:N3 | 2:AA:1817:G:C6 | 2.81 | 0.48 |
| 2:AA:1858:G:O2' | 2:AA:1859:A:C5' | 2.61 | 0.48 |
| 2:AA:2004:G:C5 | 2:AA:2005:A:C4 | 3.01 | 0.48 |
| 2:AA:2042:A:H62 | 12:AM:90:LYS:HZ3 | 1.60 | 0.48 |
| 2:AA:2070:G:H2' | 2:AA:2071:A:C8 | 2.48 | 0.48 |
| 2:AA:2082:A:C2 | 2:AA:2083:G:N9 | 2.81 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2218:G:H4' | 4:AD:184:LEU:HD13 | 1.95 | 0.48 |
| 2:AA:2294:C:N3 | 2:AA:2295:C:C6 | 2.81 | 0.48 |
| 2:AA:2309:A:H2' | 2:AA:2309:A:N3 | 2.28 | 0.48 |
| 2:AA:2334:G:H1' | 16:AQ:21:HIS:CE1 | 2.47 | 0.48 |
| 2:AA:2396:G:N2 | 2:AA:2397:G:C5 | 2.81 | 0.48 |
| 2:AA:2549:G:N1 | 2:AA:2560:C:C5 | 2.81 | 0.48 |
| 2:AA:2573:C:OP1 | 2:AA:2575:C:P | 2.70 | 0.48 |
| 2:AA:2606:C:C6 | 2:AA:2606:C:C3' | 2.96 | 0.48 |
| 2:AA:2620:C:HO2' | 2:AA:2621:A:P | 2.36 | 0.48 |
| 2:AA:2652:C:H2' | 2:AA:2653:U:O4' | 2.13 | 0.48 |
| 2:AA:2734:A:N6 | 5:AE:316:ARG:CZ | 2.76 | 0.48 |
| 2:AA:2779:U:O5' | 2:AA:2779:U:H6 | 1.96 | 0.48 |
| 2:AA:2868:A:C4 | 2:AA:2869:G:C8 | 3.01 | 0.48 |
| 4:AD:94:ASN:HA | 4:AD:100:LYS:HG2 | 1.94 | 0.48 |
| 4:AD:131:LEU:CD1 | 4:AD:171:VAL:CG2 | 2.87 | 0.48 |
| 5:AE:72:VAL:CG1 | 5:AE:295:LEU:CD2 | 2.90 | 0.48 |
| 5:AE:97:THR:C | 5:AE:98:GLU:HG3 | 2.34 | 0.48 |
| 5:AE:269:ILE:CG2 | 5:AE:297:LYS:HZ2 | 2.25 | 0.48 |
| 5:AE:271:ILE:CG2 | 5:AE:272:GLY:H | 2.26 | 0.48 |
| 7:AG:38:GLU:HG2 | 7:AG:41:LEU:CD1 | 2.43 | 0.48 |
| 7:AG:139:TYR:HE1 | 7:AG:156:ARG:HA | 1.76 | 0.48 |
| 8:AH:40:MET:HG2 | 8:AH:64:HIS:CE1 | 2.48 | 0.48 |
| 8:AH:163:TYR:O | 8:AH:164:GLU:C | 2.51 | 0.48 |
| 9:AI:1:MET:CB | 11:AL:10:LYS:HZ1 | 2.24 | 0.48 |
| 9:AI:23:LYS:CG | 9:AJ:46:GLY:HA3 | 2.33 | 0.48 |
| 9:AI:62:VAL:HG22 | 9:AI:101:VAL:CG2 | 2.41 | 0.48 |
| 9:AJ:58:GLU:O | 9:AJ:128:LYS:NZ | 2.46 | 0.48 |
| 10:AK:77:VAL:C | 10:AK:144:HIS:CE1 | 2.86 | 0.48 |
| 10:AK:111:ASP:OD2 | 10:AK:112:LYS:CD | 2.61 | 0.48 |
| 11:AL:45:GLU:O | 11:AL:47:ALA:N | 2.46 | 0.48 |
| 11:AL:112:LYS:HG2 | 11:AL:116:LEU:HB2 | 1.94 | 0.48 |
| 12:AM:77:GLY:HA2 | 12:AM:80:LYS:HG2 | 1.95 | 0.48 |
| 15:AP:82:LYS:HZ2 | 15:AP:84:ARG:NH2 | 2.11 | 0.48 |
| 16:AQ:97:VAL:O | 16:AQ:98:GLU:CB | 2.61 | 0.48 |
| 18:AS:17:VAL:CG1 | 18:AS:76:VAL:HG21 | 2.43 | 0.48 |
| 19:AT:34:LYS:O | 19:AT:38:ALA:HB3 | 2.13 | 0.48 |
| 20:AU:77:VAL:CG2 | 20:AU:91:LEU:HD13 | 2.44 | 0.48 |
| 21:AV:98:VAL:CB | 21:AV:121:GLN:HE22 | 2.26 | 0.48 |
| 21:AV:103:ARG:NH1 | 21:AV:139:THR:H | 2.11 | 0.48 |
| 22:AW:20:LEU:O | 22:AW:23:LEU:HB2 | 2.12 | 0.48 |
| 23:AX:31:LEU:CD2 | 23:AX:32:GLN:N | 2.43 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:50:VAL:O | 23:AX:51:ALA:C | 2.52 | 0.48 |
| 24:A0:20:LEU:HD22 | 24:A0:24:GLN:CG | 2.39 | 0.48 |
| 24:A0:90:ARG:HB2 | 24:A0:94:TYR:HE2 | 1.72 | 0.48 |
| 25:A1:8:ILE:N | 25:A1:11:ARG:HH11 | 2.11 | 0.48 |
| 25:A1:21:ALA:CA | 25:A1:24:PHE:CE2 | 2.94 | 0.48 |
| 25:A1:35:ALA:O | 25:A1:36:PHE:C | 2.51 | 0.48 |
| 26:A2:43:GLU:O | 26:A2:44:GLN:CD | 2.51 | 0.48 |
| 27:A3:26:PHE:N | 27:A3:60:PHE:CE1 | 2.82 | 0.48 |
| 28:A4:38:GLY:O | 28:A4:39:VAL:CG2 | 2.52 | 0.48 |
| 34:BA:44:G:C6 | 34:BA:45:U:C2 | 3.01 | 0.48 |
| 34:BA:98:U:C2' | 34:BA:99:C:O5' | 2.61 | 0.48 |
| 34:BA:109:A:N7 | 34:BA:326:G:N3 | 2.61 | 0.48 |
| 34:BA:184:G:H4' | 34:BA:224:C:O3' | 2.13 | 0.48 |
| 34:BA:192:U:O4' | 55:BW:103:GLY:N | 2.46 | 0.48 |
| 34:BA:202:U:H4' | 34:BA:203:U:OP1 | 2.13 | 0.48 |
| 34:BA:242:C:N3 | 34:BA:285:G:N2 | 2.60 | 0.48 |
| 34:BA:401:C:H2' | 34:BA:402:G:H8 | 1.78 | 0.48 |
| 34:BA:432:A:N7 | 34:BA:433:C:C6 | 2.81 | 0.48 |
| 34:BA:459:G:H3' | 34:BA:460:A:C5' | 2.43 | 0.48 |
| 34:BA:506:G:C6 | 34:BA:507:C:C4 | 3.01 | 0.48 |
| 34:BA:511:C:N4 | 34:BA:541:G:N2 | 2.61 | 0.48 |
| 34:BA:538:G:OP2 | 47:BO:115:LYS:HG3 | 2.12 | 0.48 |
| 34:BA:549:C:C2' | 34:BA:550:G:O5' | 2.60 | 0.48 |
| 34:BA:656:C:H2' | 34:BA:657:G:O4' | 2.12 | 0.48 |
| 34:BA:741:G:C4 | 34:BA:742:G:C8 | 3.01 | 0.48 |
| 34:BA:761:G:H1' | 52:BT:104:LYS:O | 2.13 | 0.48 |
| 34:BA:768:A:H3' | 34:BA:768:A:C8 | 2.48 | 0.48 |
| 34:BA:815:A:H1' | 34:BA:1529:G:C6 | 2.48 | 0.48 |
| 34:BA:828:A:C2' | 34:BA:829:G:O5' | 2.60 | 0.48 |
| 34:BA:877:C:O2' | 43:BK:89:PRO:HG2 | 2.12 | 0.48 |
| 34:BA:889:A:C4' | 34:BA:890:G:H4' | 2.31 | 0.48 |
| 34:BA:973:G:O5' | 34:BA:974:A:H5" | 2.13 | 0.48 |
| 34:BA:3(A):G:O5' | 34:BA:3(A):G:C8 | 2.60 | 0.48 |
| 34:BA:1041:A:C6 | 34:BA:1042:G:N7 | 2.81 | 0.48 |
| 34:BA:1081:G:OP1 | 40:BH:17:ALA:O | 2.31 | 0.48 |
| 34:BA:1206:G:C4' | 38:BF:194:GLY:N | 2.77 | 0.48 |
| 34:BA:1298:C:H5" | 34:BA:1299:A:OP1 | 2.12 | 0.48 |
| 34:BA:1324:A:C4' | 34:BA:361(A):C:H4' | 2.43 | 0.48 |
| 34:BA:1329:A:C5' | 48:BP:29:ARG:HG3 | 2.35 | 0.48 |
| 34:BA:1330:U:H5" | 34:BA:1331:G:OP2 | 2.13 | 0.48 |
| 34:BA:1401:G:C2' | 34:BA:1402:C:H5' | 2.42 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1470:G:H2' | 34:BA:1471:G:O5' | 2.13 | 0.48 |
| 35:BB:19:G:C1' | 35:BB:57:G:N2 | 2.74 | 0.48 |
| 35:BB:53:G:C2 | 35:BB:54:U:C2 | 3.00 | 0.48 |
| 35:BC:8:U:H1' | 35:BC:48:C:O2' | 2.12 | 0.48 |
| 35:BC:72:C:N4 | 35:BC:73:A:N6 | 2.61 | 0.48 |
| 36:B1:26:C:N4 | 36:B1:27:G:O6 | 2.46 | 0.48 |
| 37:BE:41:ILE:O | 37:BE:42:ILE:O | 2.30 | 0.48 |
| 37:BE:102:LEU:CD2 | 37:BE:173:ALA:HB1 | 2.37 | 0.48 |
| 37:BE:108:ILE:O | 37:BE:112:VAL:CG2 | 2.48 | 0.48 |
| 37:BE:164:VAL:HG22 | 37:BE:165:VAL:N | 2.27 | 0.48 |
| 38:BF:91:LEU:HD23 | 38:BF:91:LEU:C | 2.32 | 0.48 |
| 38:BF:98:ASN:C | 38:BF:99:VAL:CG1 | 2.81 | 0.48 |
| 39:BG:198:VAL:O | 39:BG:199:ASN:CB | 2.60 | 0.48 |
| 40:BH:52:PRO:O | 40:BH:55:VAL:N | 2.47 | 0.48 |
| 41:BI:62:TRP:CE3 | 41:BI:62:TRP:O | 2.66 | 0.48 |
| 43:BK:28:ALA:HB2 | 43:BK:58:TYR:CA | 2.43 | 0.48 |
| 44:BL:75:ASP:O | 44:BL:76:ALA:C | 2.51 | 0.48 |
| 44:BL:103:THR:HG22 | 44:BL:105:ASP:H | 1.78 | 0.48 |
| 45:BM:3:LYS:HG2 | 45:BM:75:ILE:HG12 | 1.95 | 0.48 |
| 45:BM:34:VAL:CG1 | 45:BM:36:GLY:H | 2.12 | 0.48 |
| 47:BO:84:LEU:O | 47:BO:101:VAL:HG23 | 2.12 | 0.48 |
| 50:BR:53:HIS:HD2 | 50:BR:56:LEU:HD23 | 1.77 | 0.48 |
| 51:BS:9:PHE:HD2 | 51:BS:9:PHE:N | 2.10 | 0.48 |
| 53:BU:39:VAL:O | 53:BU:42:ARG:CB | 2.60 | 0.48 |
| 53:BU:80:PRO:O | 53:BU:82:THR:O | 2.31 | 0.48 |
| 54:BV:19:VAL:HG23 | 54:BV:47:HIS:HE2 | 1.78 | 0.48 |
| 55:BW:21:LYS:O | 55:BW:24:LEU:HB2 | 2.13 | 0.48 |
| 1:AB:27:C:N4 | 1:AB:28:C:N4 | 2.62 | 0.48 |
| 1:AB:84:C:C2 | 1:AB:85:G:C8 | 3.02 | 0.48 |
| 2:AA:67:U:O2 | 2:AA:88:G:O6 | 2.30 | 0.48 |
| 2:AA:89:G:C2 | 2:AA:90:U:O4 | 2.67 | 0.48 |
| 2:AA:123:G:H2' | 2:AA:124:G:O4' | 2.11 | 0.48 |
| 2:AA:137(A):G:H3' | 2:AA:138:G:N2 | 2.29 | 0.48 |
| 2:AA:178:G:O5' | 2:AA:178:G:H8 | 1.95 | 0.48 |
| 2:AA:209:C:HO2' | 2:AA:210:C:H5' | 1.74 | 0.48 |
| 2:AA:288:C:N4 | 2:AA:289:A:O2' | 2.46 | 0.48 |
| 2:AA:299:A:C5 | 2:AA:322:A:N6 | 2.81 | 0.48 |
| 2:AA:311:A:H5" | 2:AA:312:G:N7 | 2.29 | 0.48 |
| 2:AA:331:A:N7 | 2:AA:1209:G:N2 | 2.61 | 0.48 |
| 2:AA:403:U:H5" | 2:AA:404:C:OP1 | 2.13 | 0.48 |
| 2:AA:425:G:C2 | 2:AA:426:C:C6 | 3.01 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:511:U:H5" | 2:AA:1235:G:H4' | 1.95 | 0.48 |
| 2:AA:558:G:P | 12:AM:92:GLN:HB3 | 2.54 | 0.48 |
| 2:AA:783:A:P | 4:AD:230:ASN:ND2 | 2.86 | 0.48 |
| 2:AA:785:G:C2 | 2:AA:786:C:C6 | 3.01 | 0.48 |
| 2:AA:791:C:C2' | 2:AA:792:G:C5' | 2.90 | 0.48 |
| 2:AA:814:C:H4' | 2:AA:1224:G:C2 | 2.48 | 0.48 |
| 2:AA:863:A:N3 | 2:AA:864:G:C8 | 2.81 | 0.48 |
| 2:AA:918:A:C2 | 2:AA:2268:A:N7 | 2.82 | 0.48 |
| 2:AA:932:G:C5' | 23:AX:24:LYS:NZ | 2.74 | 0.48 |
| 2:AA:1000:A:N7 | 2:AA:1001:A:C5 | 2.81 | 0.48 |
| 2:AA:1071:G:C2' | 2:AA:1072:C:C5' | 2.91 | 0.48 |
| 2:AA:1071:G:C5 | 2:AA:1089:G:C2 | 3.01 | 0.48 |
| 2:AA:1083:U:C3' | 9:AI:37:VAL:N | 2.74 | 0.48 |
| 2:AA:1151:G:H2' | 2:AA:1152:C:C6 | 2.48 | 0.48 |
| 2:AA:1221:C:N3 | 2:AA:1229:G:C2 | 2.81 | 0.48 |
| 2:AA:1348:G:C2 | 2:AA:1599:C:C2 | 3.00 | 0.48 |
| 2:AA:1475:G:N2 | 2:AA:1477:A:N7 | 2.60 | 0.48 |
| 2:AA:1496:A:H2' | 2:AA:1496:A:N3 | 2.26 | 0.48 |
| 2:AA:1501:C:O4' | 4:AD:98:GLY:CA | 2.61 | 0.48 |
| 2:AA:1605:C:H4' | 2:AA:1610:A:N6 | 2.28 | 0.48 |
| 2:AA:1620:G:C2' | 2:AA:1621:U:O5' | 2.62 | 0.48 |
| 2:AA:1666:G:H4' | 13:AN:67:ARG:NH2 | 2.28 | 0.48 |
| 2:AA:1792:G:H3' | 2:AA:1792:G:C8 | 2.48 | 0.48 |
| 2:AA:1954:G:HO2' | 2:AA:1955:U:C5' | 2.23 | 0.48 |
| 2:AA:1969:A:H5" | 2:AA:1970:A:OP1 | 2.12 | 0.48 |
| 2:AA:2014:A:C5 | 2:AA:2015:A:C6 | 3.02 | 0.48 |
| 2:AA:2141:G:N2 | 2:AA:2151:G:C4 | 2.82 | 0.48 |
| 2:AA:2141:G:H2' | 2:AA:2142:C:H6 | 1.77 | 0.48 |
| 2:AA:2152:G:C5 | 2:AA:2153:G:N7 | 2.81 | 0.48 |
| 2:AA:2319:G:H4' | 16:AQ:9:PRO:CD | 2.43 | 0.48 |
| 2:AA:2367:G:H2' | 2:AA:2368:C:H6 | 1.78 | 0.48 |
| 2:AA:2423:U:H1' | 2:AA:2425:A:C4 | 2.48 | 0.48 |
| 2:AA:2493:U:C2 | 2:AA:2494:G:C8 | 3.02 | 0.48 |
| 2:AA:2504:U:O2' | 2:AA:2505:G:H5' | 2.12 | 0.48 |
| 2:AA:2531:A:O2' | 2:AA:2532:G:H5' | 2.14 | 0.48 |
| 2:AA:2635:C:C4 | 2:AA:2783:G:N1 | 2.79 | 0.48 |
| 2:AA:2784:C:C2 | 5:AE:98:GLU:OE1 | 2.66 | 0.48 |
| 2:AA:2822:G:C5' | 5:AE:258:TYR:CZ | 2.96 | 0.48 |
| 2:AA:2881:C:H5" | 24:A0:90:ARG:HH12 | 1.78 | 0.48 |
| 2:AA:2887:U:H2' | 2:AA:2888:C:O5' | 2.14 | 0.48 |
| 3:AC:84:LYS:HA | 3:AC:87:GLU:OE1 | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:156:ILE:O | 3:AC:157:LYS:CB | 2.59 | 0.48 |
| 4:AD:95:TYR:O | 4:AD:96:ALA:O | 2.31 | 0.48 |
| 5:AE:221:LYS:CE | 5:AE:233:ARG:HA | 2.44 | 0.48 |
| 5:AE:304:ASP:O | 5:AE:307:LEU:HB2 | 2.13 | 0.48 |
| 6:AF:51:TYR:C | 6:AF:55:ARG:HB3 | 2.32 | 0.48 |
| 7:AG:24:HIS:ND1 | 7:AG:24:HIS:N | 2.61 | 0.48 |
| 8:AH:58:LYS:HG3 | 8:AH:59:HIS:ND1 | 2.28 | 0.48 |
| 9:AI:42:ALA:O | 9:AI:43:PRO:C | 2.49 | 0.48 |
| 9:AI:59:PHE:C | 9:AI:128:LYS:HE3 | 2.34 | 0.48 |
| 11:AL:132:ALA:CB | 11:AL:137:ILE:HB | 2.43 | 0.48 |
| 13:AN:3:GLN:HA | 13:AN:21:VAL:CG1 | 2.23 | 0.48 |
| 13:AN:17:ARG:HB2 | 13:AN:45:ASP:O | 2.13 | 0.48 |
| 15:AP:148:ASN:HD22 | 15:AP:149:ILE:H | 1.61 | 0.48 |
| 16:AQ:38:LYS:HZ2 | 16:AQ:114:LYS:HB2 | 1.77 | 0.48 |
| 16:AQ:59:ALA:CB | 16:AQ:91:ARG:HH12 | 2.26 | 0.48 |
| 21:AV:154:LEU:CD1 | 21:AV:160:LEU:CD1 | 2.90 | 0.48 |
| 24:A0:20:LEU:C | 24:A0:22:ARG:N | 2.64 | 0.48 |
| 24:A0:77:ARG:CB | 24:A0:77:ARG:NH1 | 2.65 | 0.48 |
| 25:A1:61:TRP:CZ3 | 25:A1:93:LYS:C | 2.87 | 0.48 |
| 26:A2:59:GLU:OE1 | 26:A2:98:ILE:C | 2.51 | 0.48 |
| 27:A3:43:THR:HG21 | 27:A3:74:LYS:C | 2.33 | 0.48 |
| 28:A4:11:PRO:HA | 28:A4:40:HIS:NE2 | 2.27 | 0.48 |
| 28:A4:41:PRO:HB2 | 28:A4:57:ASP:HB3 | 1.93 | 0.48 |
| 28:A4:60:ASN:O | 28:A4:63:PHE:CB | 2.61 | 0.48 |
| 34:BA:66:G:H4' | 34:BA:173:U:C4 | 2.49 | 0.48 |
| 34:BA:105:G:C6 | 34:BA:106:C:N4 | 2.81 | 0.48 |
| 34:BA:144:G:N1 | 34:BA:178:C:N4 | 1.97 | 0.48 |
| 34:BA:332:G:H2' | 34:BA:333:G:C8 | 2.47 | 0.48 |
| 34:BA:421:U:N3 | 38:BF:127:ARG:CZ | 2.75 | 0.48 |
| 34:BA:452:A:O2' | 34:BA:453:A:O5' | 2.30 | 0.48 |
| 34:BA:505:G:C2 | 34:BA:535:A:C6 | 3.01 | 0.48 |
| 34:BA:632:A:C2' | 34:BA:633:G:O5' | 2.62 | 0.48 |
| 34:BA:706:A:O4' | 46:BN:29:ILE:CD1 | 2.62 | 0.48 |
| 34:BA:757:U:H1' | 34:BA:879:C:HO2' | 1.79 | 0.48 |
| 34:BA:772:U:H2' | 34:BA:773:G:O5' | 2.11 | 0.48 |
| 34:BA:813:U:C5' | 34:BA:814:A:OP2 | 2.59 | 0.48 |
| 34:BA:823:G:N1 | 34:BA:878:G:C6 | 2.81 | 0.48 |
| 34:BA:935:A:N1 | 42:BJ:3:ARG:NH1 | 2.61 | 0.48 |
| 34:BA:959:A:C3' | 34:BA:960:U:C5' | 2.89 | 0.48 |
| 34:BA:982:U:H3 | 34:BA:1223:C:N4 | 2.11 | 0.48 |
| 34:BA:1091:U:O2 | 34:BA:1093:A:C8 | 2.66 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1117:G:P | 44:BL:104:ARG:NH1 | 2.86 | 0.48 |
| 34:BA:1167:A:C8 | 34:BA:1167:A:OP1 | 2.65 | 0.48 |
| 34:BA:1384:C:N3 | 34:BA:1385:G:C5 | 2.81 | 0.48 |
| 34:BA:1494:G:N1 | 34:BA:1495:U:H5 | 2.11 | 0.48 |
| 34:BA:1536:C:N3 | 36:B1:53:G:N2 | 2.62 | 0.48 |
| 35:BB:63:C:H2' | 35:BB:64:A:C8 | 2.49 | 0.48 |
| 35:BC:72:C:C5 | 35:BC:73:A:N6 | 2.82 | 0.48 |
| 36:B1:14:U:N3 | 36:B1:42:G:N1 | 2.35 | 0.48 |
| 37:BE:77:ALA:HB2 | 37:BE:208:ILE:HG12 | 1.94 | 0.48 |
| 37:BE:97:TRP:HE1 | 37:BE:102:LEU:CD1 | 2.26 | 0.48 |
| 37:BE:130:ARG:CA | 37:BE:130:ARG:HE | 2.23 | 0.48 |
| 38:BF:98:ASN:O | 38:BF:99:VAL:HG12 | 2.13 | 0.48 |
| 39:BG:3:ARG:NH1 | 39:BG:70:ILE:HD13 | 2.28 | 0.48 |
| 40:BH:86:ALA:C | 40:BH:125:SER:HB3 | 2.34 | 0.48 |
| 40:BH:147:ASP:CA | 40:BH:150:ARG:HB2 | 2.36 | 0.48 |
| 42:BJ:126:ASP:O | 42:BJ:131:LYS:O | 2.31 | 0.48 |
| 43:BK:87:SER:O | 43:BK:88:LYS:C | 2.51 | 0.48 |
| 44:BL:38:GLN:C | 44:BL:40:LEU:N | 2.65 | 0.48 |
| 47:BO:26:ALA:HB2 | 47:BO:98:TYR:HE2 | 1.79 | 0.48 |
| 50:BR:29:VAL:CG1 | 50:BR:81:LEU:HD21 | 2.40 | 0.48 |
| 51:BS:75:ARG:HG2 | 51:BS:80:PHE:HB2 | 1.95 | 0.48 |
| 54:BV:39:THR:O | 54:BV:40:ILE:C | 2.51 | 0.48 |
| 54:BV:44:MET:HA | 54:BV:47:HIS:HD2 | 1.69 | 0.48 |
| 55:BW:79:ARG:O | 55:BW:80:ARG:C | 2.48 | 0.48 |
| 56:BX:6:ARG:HH11 | 56:BX:15:ARG:NH2 | 2.02 | 0.48 |
| 1:AB:101:A:C4 | 1:AB:102:G:C8 | 3.01 | 0.48 |
| 2:AA:72:U:C5 | 2:AA:112:U:O2' | 2.62 | 0.48 |
| 2:AA:135:G:H1' | 2:AA:145:G:C2 | 2.49 | 0.48 |
| 2:AA:175:G:C6 | 2:AA:176:G:N7 | 2.81 | 0.48 |
| 2:AA:200:U:C5 | 2:AA:201:C:O2 | 2.66 | 0.48 |
| 2:AA:243:U:P | 32:A8:5:LYS:NZ | 2.87 | 0.48 |
| 2:AA:255:A:C2 | 2:AA:256:A:N9 | 2.81 | 0.48 |
| 2:AA:263:C:C2 | 2:AA:264:C:C6 | 3.02 | 0.48 |
| 2:AA:270(I):G:C5 | 2:AA:270(J):G:C8 | 3.01 | 0.48 |
| 2:AA:350:U:C2' | 2:AA:351:G:OP1 | 2.60 | 0.48 |
| 2:AA:452:G:H8 | 6:AF:55:ARG:HH22 | 1.61 | 0.48 |
| 2:AA:487:C:C4 | 2:AA:488:G:C5 | 3.02 | 0.48 |
| 2:AA:524:U:OP1 | 2:AA:540:G:N2 | 2.47 | 0.48 |
| 2:AA:569:U:C4 | 2:AA:570:G:C6 | 3.02 | 0.48 |
| 2:AA:687:C:C5' | 31:A7:4:THR:HG22 | 2.43 | 0.48 |
| 2:AA:734:A:HO2' | 2:AA:735:A:C5' | 2.25 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:777:A:HO2' | 2:AA:778:G:H5' | 1.75 | 0.48 |
| 2:AA:784:A:N7 | 2:AA:792:G:C4 | 2.81 | 0.48 |
| 2:AA:819:A:H2' | 2:AA:820:A:H8 | 1.79 | 0.48 |
| 2:AA:820:A:H1' | 2:AA:943:U:C2 | 2.48 | 0.48 |
| 2:AA:839:U:O2 | 2:AA:940:G:C2 | 2.66 | 0.48 |
| 2:AA:840:C:H42 | 2:AA:938:G:H1 | 1.59 | 0.48 |
| 2:AA:1001:A:C8 | 2:AA:1002:G:C8 | 3.02 | 0.48 |
| 2:AA:1009:A:O2' | 25:A1:62:ILE:HG21 | 2.13 | 0.48 |
| 2:AA:1014:U:N3 | 2:AA:1015:G:C8 | 2.81 | 0.48 |
| 2:AA:1034:G:H5' | 33:A9:18:ARG:CD | 2.43 | 0.48 |
| 2:AA:1087:G:O6 | 2:AA:1102:C:N3 | 2.47 | 0.48 |
| 2:AA:1238:G:H2' | 2:AA:1239:G:C4' | 2.43 | 0.48 |
| 2:AA:1268:A:OP1 | 2:AA:2006:C:OP1 | 2.31 | 0.48 |
| 2:AA:1277:G:H2' | 2:AA:1278:A:H8 | 1.78 | 0.48 |
| 2:AA:1279:G:H2' | 2:AA:1280:G:H8 | 1.79 | 0.48 |
| 2:AA:1419:A:H3' | 2:AA:1420:U:C2 | 2.48 | 0.48 |
| 2:AA:1465:G:N2 | 2:AA:1466:G:H1' | 2.28 | 0.48 |
| 2:AA:1551:C:C2' | 2:AA:1552:G:H8 | 2.24 | 0.48 |
| 2:AA:1570:A:N3 | 2:AA:1571:A:N7 | 2.60 | 0.48 |
| 2:AA:1698:A:O2' | 2:AA:1699:G:C3' | 2.47 | 0.48 |
| 2:AA:1806:C:C2 | 2:AA:1807:G:H8 | 2.31 | 0.48 |
| 2:AA:1856:G:C6 | 2:AA:1887:C:C4 | 3.01 | 0.48 |
| 2:AA:1889:A:C1' | 2:AA:2087:G:O4' | 2.62 | 0.48 |
| 2:AA:2012:G:HO2' | 2:AA:2013:A:P | 2.37 | 0.48 |
| 2:AA:2075:U:H2' | 2:AA:2075:U:O2 | 2.13 | 0.48 |
| 2:AA:2075:U:O4 | 2:AA:2435:A:N1 | 2.46 | 0.48 |
| 2:AA:2075:U:C4 | 2:AA:2238:G:C6 | 3.02 | 0.48 |
| 2:AA:2101:G:N1 | 2:AA:2189:U:N3 | 2.61 | 0.48 |
| 2:AA:2128:C:N4 | 3:AC:134:ARG:HH21 | 2.11 | 0.48 |
| 2:AA:2142:C:N3 | 2:AA:2143:C:C4 | 2.82 | 0.48 |
| 2:AA:2293:C:N3 | 2:AA:2339:G:O6 | 2.47 | 0.48 |
| 2:AA:2316:C:H5' | 7:AG:142:ALA:CB | 2.40 | 0.48 |
| 2:AA:2378:A:C8 | 2:AA:2378:A:O5' | 2.63 | 0.48 |
| 2:AA:2468:G:C8 | 2:AA:2468:G:OP2 | 2.66 | 0.48 |
| 2:AA:2513:G:H1 | 2:AA:2571:C:N4 | 2.11 | 0.48 |
| 2:AA:2595:G:C6 | 2:AA:2597:G:OP1 | 2.67 | 0.48 |
| 2:AA:2633:G:C2' | 2:AA:2634:G:O5' | 2.62 | 0.48 |
| 2:AA:2675:A:OP1 | 13:AN:30:ARG:HA | 2.14 | 0.48 |
| 2:AA:2682:U:C2' | 2:AA:2683:C:H5' | 2.43 | 0.48 |
| 2:AA:2726:U:H3' | 2:AA:2727:G:H8 | 1.77 | 0.48 |
| 2:AA:2748:A:O2' | 8:AH:62:ALA:O | 2.12 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2812:G:H2' | 2:AA:2813:A:C8 | 2.48 | 0.48 |
| 2:AA:2855:C:N3 | 2:AA:2862:G:N2 | 2.50 | 0.48 |
| 2:AA:2876:G:C2 | 2:AA:2877:G:N7 | 2.81 | 0.48 |
| 2:AA:2881:C:C5 | 2:AA:2882:A:N7 | 2.82 | 0.48 |
| 3:AC:75:LEU:HD21 | 3:AC:99:ILE:CG2 | 2.42 | 0.48 |
| 3:AC:133:PRO:CG | 3:AC:134:ARG:HH11 | 2.26 | 0.48 |
| 5:AE:44:TYR:CB | 5:AE:74:GLU:OE1 | 2.61 | 0.48 |
| 5:AE:226:HIS:CG | 5:AE:229:GLN:NE2 | 2.82 | 0.48 |
| 5:AE:241:TRP:C | 5:AE:243:PRO:HD2 | 2.34 | 0.48 |
| 6:AF:81:PRO:O | 6:AF:82:GLN:CB | 2.62 | 0.48 |
| 8:AH:15:THR:HG23 | 8:AH:26:LYS:H | 1.78 | 0.48 |
| 8:AH:170:LEU:CD1 | 8:AH:170:LEU:O | 2.61 | 0.48 |
| 9:AJ:6:ILE:O | 9:AJ:10:ILE:HG13 | 2.13 | 0.48 |
| 9:AJ:77:VAL:HG13 | 9:AJ:102:ILE:CD1 | 2.44 | 0.48 |
| 10:AK:116:GLU:CD | 10:AK:130:PRO:O | 2.52 | 0.48 |
| 11:AL:123:ALA:O | 11:AL:127:ILE:HG13 | 2.14 | 0.48 |
| 12:AM:104:TYR:O | 12:AM:105:LEU:O | 2.31 | 0.48 |
| 14:AO:69:ILE:O | 14:AO:70:ASP:C | 2.48 | 0.48 |
| 15:AP:59:ASN:O | 15:AP:62:GLU:N | 2.46 | 0.48 |
| 15:AP:67:ALA:O | 15:AP:68:ALA:C | 2.50 | 0.48 |
| 15:AP:82:LYS:HD2 | 15:AP:125:TRP:HB3 | 1.95 | 0.48 |
| 16:AQ:90:LEU:O | 16:AQ:91:ARG:C | 2.51 | 0.48 |
| 16:AQ:117:ALA:HA | 16:AQ:120:GLU:OE1 | 2.13 | 0.48 |
| 18:AS:30:GLU:HG2 | 18:AS:31:GLU:N | 2.24 | 0.48 |
| 18:AS:85:VAL:CA | 18:AS:95:ILE:HG12 | 2.39 | 0.48 |
| 19:AT:23:LYS:C | 19:AT:24:LEU:CG | 2.82 | 0.48 |
| 19:AT:23:LYS:CB | 19:AT:67:ARG:HA | 2.42 | 0.48 |
| 20:AU:27:LEU:HD23 | 20:AU:98:VAL:CG1 | 2.44 | 0.48 |
| 20:AU:49:GLU:HB3 | 20:AU:97:ARG:CD | 2.38 | 0.48 |
| 20:AU:91:LEU:HD23 | 20:AU:91:LEU:N | 2.27 | 0.48 |
| 24:A0:37:THR:OG1 | 24:A0:40:LYS:HD2 | 2.13 | 0.48 |
| 24:A0:65:LEU:O | 24:A0:68:ARG:N | 2.47 | 0.48 |
| 26:A2:38:LEU:N | 26:A2:38:LEU:CD2 | 2.68 | 0.48 |
| 26:A2:69:ILE:HG22 | 26:A2:88:GLN:HB3 | 1.95 | 0.48 |
| 28:A4:5:LEU:HD11 | 28:A4:10:VAL:HG23 | 1.95 | 0.48 |
| 28:A4:23:GLU:C | 28:A4:25:MET:H | 2.16 | 0.48 |
| 28:A4:57:ASP:C | 28:A4:61:LYS:HD2 | 2.34 | 0.48 |
| 34:BA:66:G:H5' | 34:BA:173:U:O4 | 2.13 | 0.48 |
| 34:BA:73:C:N3 | 34:BA:74:C:C4 | 2.81 | 0.48 |
| 34:BA:91:C:O2' | 34:BA:92:C:C5' | 2.61 | 0.48 |
| 34:BA:126:G:H1 | 34:BA:235:C:H42 | 1.62 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:183:G:O2' | 34:BA:224:C:H1' | 2.13 | 0.48 |
| 34:BA:185:A:N6 | 34:BA:186:C:N4 | 2.61 | 0.48 |
| 34:BA:190(E):U:C2 | 52:BT:72:ARG:NH2 | 2.78 | 0.48 |
| 34:BA:196:A:H1' | 34:BA:222:U:H1' | 1.95 | 0.48 |
| 34:BA:226:G:C2 | 34:BA:227:G:N9 | 2.82 | 0.48 |
| 34:BA:228:A:H2' | 34:BA:229:U:C5' | 2.43 | 0.48 |
| 34:BA:245:C:O2 | 34:BA:284:G:C5 | 2.66 | 0.48 |
| 34:BA:390:C:H2' | 34:BA:391:G:O5' | 2.13 | 0.48 |
| 34:BA:597:G:C5 | 34:BA:644:G:N1 | 2.81 | 0.48 |
| 34:BA:707:C:C4' | 46:BN:20:TYR:CD2 | 2.96 | 0.48 |
| 34:BA:712:A:C2 | 34:BA:713:G:C4 | 3.02 | 0.48 |
| 34:BA:762:C:N3 | 34:BA:763:G:C6 | 2.82 | 0.48 |
| 34:BA:938:A:C6 | 34:BA:939:G:C5 | 3.01 | 0.48 |
| 34:BA:1026:G:N1 | 34:BA:1036:G:C2 | 2.81 | 0.48 |
| 34:BA:1082:G:C6 | 34:BA:1083:U:C4 | 3.01 | 0.48 |
| 34:BA:1122:U:O4 | 34:BA:1123:A:N6 | 2.46 | 0.48 |
| 34:BA:1132:C:O2' | 34:BA:1133:G:H5' | 2.12 | 0.48 |
| 34:BA:1253:G:H21 | 34:BA:1254:C:H1' | 1.78 | 0.48 |
| 34:BA:1253:G:N2 | 34:BA:1254:C:C2 | 2.81 | 0.48 |
| 34:BA:1461:G:C2' | 34:BA:1462:G:O5' | 2.61 | 0.48 |
| 34:BA:1503:A:C4 | 36:B1:57:A:N1 | 2.82 | 0.48 |
| 35:BB:66:A:C5' | 35:BB:67:A:OP2 | 2.60 | 0.48 |
| 36:B1:15:A:N6 | 36:B1:41:U:N3 | 2.61 | 0.48 |
| 37:BE:15:VAL:HG11 | 37:BE:209:ARG:HG3 | 1.94 | 0.48 |
| 37:BE:164:VAL:O | 37:BE:186:ALA:CB | 2.58 | 0.48 |
| 38:BF:39:ILE:HG21 | 38:BF:57:ILE:HD13 | 1.95 | 0.48 |
| 38:BF:42:LEU:HD12 | 38:BF:94:LEU:CD1 | 2.38 | 0.48 |
| 38:BF:142:MET:CA | 38:BF:146:ALA:HB3 | 2.33 | 0.48 |
| 39:BG:19:LEU:CD2 | 39:BG:21:LEU:HD11 | 2.40 | 0.48 |
| 39:BG:59:ARG:HA | 39:BG:59:ARG:NE | 2.18 | 0.48 |
| 40:BH:50:GLU:HB2 | 40:BH:53:LEU:HG | 1.95 | 0.48 |
| 40:BH:81:GLU:CA | 40:BH:89:ILE:O | 2.50 | 0.48 |
| 44:BL:5:TYR:CE2 | 44:BL:18:PHE:CE1 | 3.01 | 0.48 |
| 47:BO:53:ARG:NH1 | 47:BO:92:ASP:OD2 | 2.45 | 0.48 |
| 47:BO:72:GLY:O | 47:BO:74:GLY:N | 2.46 | 0.48 |
| 48:BP:19:LEU:O | 48:BP:22:ILE:HG13 | 2.13 | 0.48 |
| 51:BS:4:ILE:CG1 | 51:BS:66:PRO:HA | 2.43 | 0.48 |
| 52:BT:18:THR:HG23 | 52:BT:69:LYS:HZ2 | 1.77 | 0.48 |
| 56:BX:3:LYS:HD3 | 56:BX:14:TRP:HD1 | 1.77 | 0.48 |
| 1:AB:71:C:O2 | 1:AB:72:G:H1' | 2.14 | 0.48 |
| 2:AA:26:G:N1 | 2:AA:27:G:C2 | 2.79 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:46:C:N3 | 2:AA:179:G:O6 | 2.45 | 0.48 |
| 2:AA:48:G:O5' | 2:AA:48:G:C8 | 2.61 | 0.48 |
| 2:AA:88:G:N3 | 2:AA:88:G:C2' | 2.76 | 0.48 |
| 2:AA:203:C:OP2 | 2:AA:203:C:C5 | 2.67 | 0.48 |
| 2:AA:253:C:O2' | 2:AA:254:G:H5' | 2.13 | 0.48 |
| 2:AA:290:G:C6 | 2:AA:350:U:C4 | 3.01 | 0.48 |
| 2:AA:350:U:C6 | 2:AA:350:U:OP2 | 2.66 | 0.48 |
| 2:AA:447:A:O2' | 2:AA:448:U:H5' | 2.13 | 0.48 |
| 2:AA:483:A:C2 | 2:AA:484:C:H1' | 2.48 | 0.48 |
| 2:AA:751:A:C2 | 2:AA:789:A:C6 | 3.01 | 0.48 |
| 2:AA:818:G:O4' | 2:AA:839:U:OP1 | 2.32 | 0.48 |
| 2:AA:820:A:H2 | 2:AA:944:G:OP1 | 1.97 | 0.48 |
| 2:AA:824:A:N1 | 2:AA:834:C:C2 | 2.81 | 0.48 |
| 2:AA:826:U:C5' | 2:AA:2429:G:P | 2.97 | 0.48 |
| 2:AA:1009:A:C6 | 2:AA:1010:A:C6 | 3.01 | 0.48 |
| 2:AA:1029:A:H2' | 2:AA:1030:G:O4' | 2.13 | 0.48 |
| 2:AA:1063:G:C2 | 2:AA:1075:C:C4 | 3.02 | 0.48 |
| 2:AA:1131:G:N2 | 2:AA:1132:A:C5 | 2.81 | 0.48 |
| 2:AA:1131:G:N1 | 12:AM:69:TYR:CE1 | 2.81 | 0.48 |
| 2:AA:1247:A:O2' | 2:AA:1248:G:P | 2.71 | 0.48 |
| 2:AA:1252:G:N2 | 25:A1:37:GLN:HB2 | 2.28 | 0.48 |
| 2:AA:1264:G:C3' | 2:AA:1265:A:C5' | 2.78 | 0.48 |
| 2:AA:1266:G:C5 | 18:AS:16:LYS:HE3 | 2.48 | 0.48 |
| 2:AA:1414:G:C2' | 2:AA:1415:U:C6 | 2.90 | 0.48 |
| 2:AA:1473:G:C2' | 2:AA:1474:C:H6 | 2.24 | 0.48 |
| 2:AA:1604:C:O2 | 2:AA:1605:C:C6 | 2.66 | 0.48 |
| 2:AA:1626:G:H2' | 2:AA:1626:G:N3 | 2.28 | 0.48 |
| 2:AA:1636:C:O2' | 2:AA:1760:A:O2' | 2.22 | 0.48 |
| 2:AA:1735:C:O2' | 2:AA:1741:C:H6 | 1.96 | 0.48 |
| 2:AA:1773:A:C8 | 2:AA:1773:A:C3' | 2.96 | 0.48 |
| 2:AA:2056:G:N2 | 2:AA:2057:A:N9 | 2.61 | 0.48 |
| 2:AA:2121:G:OP2 | 2:AA:2121:G:H3' | 2.12 | 0.48 |
| 2:AA:2207:C:C2 | 2:AA:2208:U:C6 | 3.01 | 0.48 |
| 2:AA:2210:G:N7 | 4:AD:148:GLY:O | 2.47 | 0.48 |
| 2:AA:2283:C:N3 | 2:AA:2325:G:N2 | 2.56 | 0.48 |
| 2:AA:2309:A:OP2 | 2:AA:2309:A:C4' | 2.60 | 0.48 |
| 2:AA:2462:U:N3 | 2:AA:2463:C:C4 | 2.82 | 0.48 |
| 2:AA:2462:U:O2' | 2:AA:2463:C:H5' | 2.14 | 0.48 |
| 2:AA:2493:U:O2 | 2:AA:2494:G:O4' | 2.32 | 0.48 |
| 2:AA:2495:G:O3' | 15:AP:101:MET:CE | 2.61 | 0.48 |
| 2:AA:2595:G:N2 | 2:AA:2597:G:C5' | 2.76 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2634:G:C2' | 2:AA:2635:C:O5' | 2.61 | 0.48 |
| 2:AA:2661:G:H8 | 2:AA:2661:G:O5' | 1.96 | 0.48 |
| 2:AA:2735:G:H1 | 2:AA:2769:C:H42 | 1.62 | 0.48 |
| 2:AA:2756:U:HO2' | 2:AA:2757:A:C5' | 2.25 | 0.48 |
| 2:AA:2854:G:C6 | 2:AA:2855:C:C4 | 3.01 | 0.48 |
| 3:AC:82:LYS:NZ | 3:AC:147:PHE:O | 2.47 | 0.48 |
| 3:AC:86:ALA:O | 3:AC:87:GLU:O | 2.30 | 0.48 |
| 3:AC:103:ILE:CD1 | 3:AC:110:PHE:HE2 | 2.25 | 0.48 |
| 3:AC:104:LEU:HD22 | 3:AC:126:LYS:HZ1 | 1.78 | 0.48 |
| 4:AD:71:ASP:CG | 4:AD:119:PRO:HD2 | 2.34 | 0.48 |
| 5:AE:180:ILE:CG2 | 5:AE:186:GLU:O | 2.62 | 0.48 |
| 5:AE:267:ARG:CD | 5:AE:297:LYS:HD2 | 2.43 | 0.48 |
| 5:AE:268:LEU:HD21 | 5:AE:270:ASP:O | 2.13 | 0.48 |
| 6:AF:32:GLY:O | 6:AF:33:LYS:C | 2.51 | 0.48 |
| 6:AF:236:THR:O | 6:AF:239:ALA:N | 2.46 | 0.48 |
| 7:AG:37:ALA:O | 7:AG:40:ILE:HB | 2.14 | 0.48 |
| 7:AG:142:ALA:HB2 | 7:AG:151:ILE:HG12 | 1.95 | 0.48 |
| 8:AH:17:THR:CG2 | 8:AH:19:ASN:OD1 | 2.61 | 0.48 |
| 8:AH:121:GLU:CG | 8:AH:133:LYS:O | 2.58 | 0.48 |
| 9:AJ:102:ILE:HD13 | 9:AJ:118:LEU:CD1 | 2.43 | 0.48 |
| 10:AK:7:LYS:CE | 10:AK:12:LYS:HZ3 | 2.07 | 0.48 |
| 10:AK:25:TYR:HB3 | 10:AK:29:PHE:CZ | 2.48 | 0.48 |
| 10:AK:88:ARG:HB3 | 10:AK:122:ARG:HD3 | 1.95 | 0.48 |
| 11:AL:105:ILE:HD13 | 11:AL:139:VAL:HG12 | 1.94 | 0.48 |
| 12:AM:6:PHE:CE1 | 12:AM:109:TYR:CZ | 3.01 | 0.48 |
| 12:AM:7:ASP:O | 12:AM:8:ALA:HB2 | 2.13 | 0.48 |
| 12:AM:74:ARG:HG2 | 12:AM:74:ARG:HH11 | 1.78 | 0.48 |
| 13:AN:1:MET:CB | 13:AN:67:ARG:HD2 | 2.42 | 0.48 |
| 14:AO:66:VAL:N | 14:AO:108:VAL:HG13 | 2.28 | 0.48 |
| 15:AP:22:GLY:O | 15:AP:23:ILE:CG1 | 2.61 | 0.48 |
| 15:AP:52:LYS:O | 15:AP:117:GLY:HA2 | 2.13 | 0.48 |
| 15:AP:148:ASN:HD22 | 15:AP:149:ILE:N | 2.11 | 0.48 |
| 16:AQ:110:THR:C | 16:AQ:114:LYS:N | 2.67 | 0.48 |
| 18:AS:5:ALA:CB | 18:AS:50:VAL:HG12 | 2.44 | 0.48 |
| 20:AU:30:ASP:OD2 | 20:AU:31:LEU:CD2 | 2.62 | 0.48 |
| 20:AU:48:VAL:HG22 | 20:AU:98:VAL:HG22 | 1.96 | 0.48 |
| 20:AU:71:VAL:HG22 | 20:AU:93:THR:N | 2.17 | 0.48 |
| 20:AU:72:ILE:CG2 | 20:AU:73:HIS:H | 2.26 | 0.48 |
| 21:AV:20:ALA:HB1 | 21:AV:32:PHE:CD2 | 2.49 | 0.48 |
| 21:AV:116:VAL:O | 21:AV:118:HIS:N | 2.46 | 0.48 |
| 25:A1:21:ALA:CB | 25:A1:24:PHE:HZ | 2.18 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:74:MET:HE3 | 25:A1:78:THR:OG1 | 2.13 | 0.48 |
| 27:A3:68:VAL:HG21 | 27:A3:72:LYS:HG3 | 1.96 | 0.48 |
| 28:A4:56:VAL:O | 28:A4:61:LYS:CE | 2.50 | 0.48 |
| 28:A4:59:PHE:O | 28:A4:61:LYS:N | 2.45 | 0.48 |
| 29:A5:40:LYS:HZ3 | 29:A5:46:CYS:CB | 2.24 | 0.48 |
| 31:A7:20:ALA:O | 31:A7:23:LYS:CB | 2.60 | 0.48 |
| 32:A8:12:ARG:C | 32:A8:13:ARG:O | 2.52 | 0.48 |
| 32:A8:50:LEU:O | 32:A8:52:LYS:N | 2.47 | 0.48 |
| 34:BA:115:G:H1' | 34:BA:116:A:N7 | 2.28 | 0.48 |
| 34:BA:270:A:C6 | 34:BA:271:C:N4 | 2.81 | 0.48 |
| 34:BA:292:G:H1 | 34:BA:308:C:H42 | 0.50 | 0.48 |
| 34:BA:293:G:H2' | 34:BA:293:G:N3 | 2.27 | 0.48 |
| 34:BA:407:G:C4 | 34:BA:408:A:C8 | 3.02 | 0.48 |
| 34:BA:410:G:N2 | 34:BA:429:U:N3 | 2.60 | 0.48 |
| 34:BA:442:C:H2' | 34:BA:443:C:H5' | 1.95 | 0.48 |
| 34:BA:491:G:C2' | 34:BA:492:G:H5' | 2.42 | 0.48 |
| 34:BA:511:C:O2' | 34:BA:512:U:O5' | 2.31 | 0.48 |
| 34:BA:636:U:O2' | 34:BA:637:G:H5' | 2.13 | 0.48 |
| 34:BA:820:U:O2 | 34:BA:820:U:C2' | 2.61 | 0.48 |
| 34:BA:861:G:H2' | 34:BA:862:C:C6 | 2.48 | 0.48 |
| 34:BA:874:G:N3 | 34:BA:874:G:H2' | 2.28 | 0.48 |
| 34:BA:937:A:H2 | 34:BA:1377:A:H1' | 1.78 | 0.48 |
| 34:BA:1256:A:H8 | 38:BF:27:LYS:NZ | 2.09 | 0.48 |
| 34:BA:1308:U:P | 48:BP:99:ARG:HH11 | 2.36 | 0.48 |
| 34:BA:1346:A:C2 | 42:BJ:10:ARG:CD | 2.96 | 0.48 |
| 34:BA:1384:C:H2' | 34:BA:1385:G:C8 | 2.48 | 0.48 |
| 34:BA:1459:C:O5' | 55:BW:27:LYS:NZ | 2.45 | 0.48 |
| 34:BA:1501:C:O5' | 34:BA:1501:C:H6 | 1.96 | 0.48 |
| 35:BB:53:G:C2 | 35:BB:54:U:C6 | 3.01 | 0.48 |
| 35:BC:57:G:H3' | 35:BC:57:G:H8 | 1.79 | 0.48 |
| 37:BE:15:VAL:HG11 | 37:BE:209:ARG:CG | 2.44 | 0.48 |
| 37:BE:74:LYS:HE2 | 37:BE:76:GLN:HG3 | 1.96 | 0.48 |
| 37:BE:220:ASP:O | 37:BE:221:LEU:C | 2.51 | 0.48 |
| 38:BF:156:ARG:O | 38:BF:193:TYR:CE1 | 2.63 | 0.48 |
| 38:BF:190:ARG:NH1 | 38:BF:190:ARG:CB | 2.72 | 0.48 |
| 39:BG:75:PHE:CE1 | 39:BG:93:PHE:HZ | 2.30 | 0.48 |
| 39:BG:101:LEU:O | 39:BG:104:VAL:HB | 2.13 | 0.48 |
| 41:BI:6:VAL:CG2 | 41:BI:8:ILE:HG13 | 2.43 | 0.48 |
| 42:BJ:62:PHE:HA | 42:BJ:124:LEU:HD22 | 1.95 | 0.48 |
| 43:BK:104:ARG:O | 43:BK:106:GLY:N | 2.46 | 0.48 |
| 43:BK:112:LEU:HA | 43:BK:134:ILE:HG13 | 1.95 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:10:ARG:N | 44:BL:104:ARG:HE | 2.12 | 0.48 |
| 44:BL:74:ILE:CA | 44:BL:77:ILE:HD12 | 2.29 | 0.48 |
| 46:BN:23:ALA:CB | 46:BN:88:GLY:HA3 | 2.44 | 0.48 |
| 46:BN:60:ALA:O | 46:BN:62:GLN:N | 2.47 | 0.48 |
| 47:BO:36:VAL:N | 47:BO:58:VAL:HG13 | 2.29 | 0.48 |
| 47:BO:73:GLU:OE2 | 47:BO:73:GLU:HA | 2.12 | 0.48 |
| 47:BO:76:ASN:ND2 | 47:BO:77:LEU:H | 2.11 | 0.48 |
| 47:BO:119:LYS:O | 47:BO:120:TYR:C | 2.49 | 0.48 |
| 48:BP:8:GLU:CD | 48:BP:22:ILE:CG1 | 2.82 | 0.48 |
| 49:BQ:15:LYS:O | 49:BQ:16:PHE:CD2 | 2.67 | 0.48 |
| 52:BT:43:LEU:HD23 | 52:BT:44:ALA:H | 1.77 | 0.48 |
| 52:BT:50:LYS:O | 52:BT:52:LYS:HG3 | 2.14 | 0.48 |
| 52:BT:83:ASP:C | 52:BT:86:GLU:HB2 | 2.29 | 0.48 |
| 53:BU:55:ARG:NH1 | 53:BU:55:ARG:O | 2.47 | 0.48 |
| 1:AB:18:G:HO2' | 1:AB:19:G:C5' | 2.25 | 0.48 |
| 1:AB:58:A:O2' | 7:AG:140:ARG:NE | 2.46 | 0.48 |
| 2:AA:67:U:N3 | 2:AA:68:G:N7 | 2.61 | 0.48 |
| 2:AA:128:C:C4 | 2:AA:129:C:N4 | 2.82 | 0.48 |
| 2:AA:364:C:C2' | 2:AA:365:C:C5 | 2.87 | 0.48 |
| 2:AA:378:C:O2 | 2:AA:397:G:C2 | 2.67 | 0.48 |
| 2:AA:416:C:H2' | 2:AA:417:C:O5' | 2.14 | 0.48 |
| 2:AA:458:G:OP1 | 31:A7:39:ARG:NE | 2.46 | 0.48 |
| 2:AA:483:A:H1' | 20:AU:83:ASP:HA | 1.95 | 0.48 |
| 2:AA:630:G:H1 | 2:AA:634:C:N4 | 2.11 | 0.48 |
| 2:AA:744:G:O2' | 2:AA:745:G:C5' | 2.61 | 0.48 |
| 2:AA:747:U:O2 | 2:AA:2015:A:C2 | 2.64 | 0.48 |
| 2:AA:791:C:N3 | 2:AA:794:G:C5' | 2.73 | 0.48 |
| 2:AA:818:G:C2' | 2:AA:819:A:H5" | 2.43 | 0.48 |
| 2:AA:874:G:C2 | 2:AA:904:C:N4 | 2.81 | 0.48 |
| 2:AA:876:C:N4 | 2:AA:877:U:N3 | 2.61 | 0.48 |
| 2:AA:888:C:H1' | 2:AA:890:A:C2 | 2.49 | 0.48 |
| 2:AA:911:A:C1' | 2:AA:2264:C:H1' | 2.44 | 0.48 |
| 2:AA:969:U:H4' | 23:AX:14:GLY:C | 2.33 | 0.48 |
| 2:AA:990:A:N1 | 2:AA:1186:G:H1' | 2.27 | 0.48 |
| 2:AA:1024:G:OP2 | 2:AA:1025:G:C2 | 2.67 | 0.48 |
| 2:AA:1084:A:C1' | 9:AI:25:LEU:HB3 | 2.43 | 0.48 |
| 2:AA:1166:C:N3 | 2:AA:1184:G:N1 | 2.61 | 0.48 |
| 2:AA:1202:C:N4 | 2:AA:1241:A:N3 | 2.59 | 0.48 |
| 2:AA:1299:G:H5' | 2:AA:1301:A:H1' | 1.95 | 0.48 |
| 2:AA:1321:A:N3 | 2:AA:1321:A:H2' | 2.29 | 0.48 |
| 2:AA:1482:U:C2' | 2:AA:1512:G:N2 | 2.76 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1582:C:C3' | 2:AA:1583:A:C4' | 2.90 | 0.48 |
| 2:AA:1854:A:H1' | 2:AA:2087:G:H21 | 1.78 | 0.48 |
| 2:AA:1879:C:C2 | 2:AA:1880:C:C5 | 3.01 | 0.48 |
| 2:AA:1924:C:C2 | 2:AA:1925:C:C6 | 3.01 | 0.48 |
| 2:AA:2013:A:H3' | 2:AA:2013:A:H8 | 1.78 | 0.48 |
| 2:AA:2052:G:C4 | 2:AA:2053:G:N7 | 2.81 | 0.48 |
| 2:AA:2085:C:C2 | 2:AA:2086:U:C6 | 3.01 | 0.48 |
| 2:AA:2102:U:C4 | 2:AA:2103:C:N4 | 2.81 | 0.48 |
| 2:AA:2118:U:H2' | 2:AA:2119:A:C4' | 2.42 | 0.48 |
| 2:AA:2185:C:C2 | 2:AA:2186:G:C8 | 3.02 | 0.48 |
| 2:AA:2335:A:C8 | 2:AA:2337:G:C5 | 3.01 | 0.48 |
| 2:AA:2339:G:C2 | 2:AA:2340:G:C4 | 3.02 | 0.48 |
| 2:AA:2417:C:C2' | 2:AA:2418:A:H5' | 2.43 | 0.48 |
| 2:AA:2469:A:C8 | 2:AA:2469:A:C4' | 2.97 | 0.48 |
| 2:AA:2488:A:C5 | 2:AA:2489:G:N7 | 2.82 | 0.48 |
| 2:AA:2511:U:O2' | 2:AA:2512:C:H5' | 2.14 | 0.48 |
| 2:AA:2621:A:C5 | 2:AA:2622:C:C5 | 3.02 | 0.48 |
| 2:AA:2737:G:H1 | 2:AA:2768:C:N4 | 2.11 | 0.48 |
| 2:AA:2768:C:C2' | 2:AA:2769:C:O5' | 2.61 | 0.48 |
| 2:AA:2884:U:O4 | 29:A5:43:HIS:HA | 2.13 | 0.48 |
| 3:AC:44:HIS:ND1 | 3:AC:172:HIS:CB | 2.76 | 0.48 |
| 4:AD:140:VAL:HG12 | 4:AD:141:HIS:O | 2.13 | 0.48 |
| 4:AD:169:LYS:NZ | 4:AD:169:LYS:CB | 2.76 | 0.48 |
| 5:AE:109:ASP:CG | 5:AE:112:LEU:CB | 2.82 | 0.48 |
| 8:AH:34:ARG:NH1 | 8:AH:74:MET:HG2 | 2.29 | 0.48 |
| 9:AI:13:LEU:HD23 | 9:AI:17:GLU:CD | 2.34 | 0.48 |
| 9:AJ:29:PHE:O | 9:AJ:33:ALA:HB3 | 2.13 | 0.48 |
| 10:AK:31:PHE:N | 10:AK:31:PHE:CD1 | 2.81 | 0.48 |
| 10:AK:135:PRO:C | 10:AK:136:GLU:HG3 | 2.34 | 0.48 |
| 11:AL:88:GLY:O | 11:AL:89:SER:C | 2.51 | 0.48 |
| 13:AN:11:ALA:CB | 13:AN:99:PHE:CB | 2.91 | 0.48 |
| 15:AP:16:ARG:HD3 | 15:AP:19:TYR:CG | 2.49 | 0.48 |
| 18:AS:41:LYS:H | 18:AS:41:LYS:CD | 2.26 | 0.48 |
| 19:AT:36:GLU:O | 19:AT:39:ASP:HB2 | 2.14 | 0.48 |
| 20:AU:105:ASP:O | 20:AU:108:ARG:N | 2.46 | 0.48 |
| 21:AV:3:LEU:CB | 21:AV:34:LEU:HB3 | 2.28 | 0.48 |
| 24:A0:105:ARG:N | 24:A0:105:ARG:NE | 2.62 | 0.48 |
| 27:A3:23:VAL:O | 27:A3:26:PHE:CD1 | 2.66 | 0.48 |
| 27:A3:37:LEU:HD12 | 27:A3:68:VAL:C | 2.34 | 0.48 |
| 29:A5:40:LYS:NZ | 29:A5:49:CYS:SG | 2.86 | 0.48 |
| 30:A6:21:TYR:CZ | 30:A6:43:VAL:N | 2.82 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:A6:21:TYR:O | 30:A6:22:TYR:CG | 2.66 | 0.48 |
| 31:A7:10:ARG:O | 31:A7:14:LYS:CG | 2.58 | 0.48 |
| 31:A7:21:ARG:HH22 | 31:A7:43:THR:N | 2.12 | 0.48 |
| 33:A9:10:MET:O | 33:A9:11:CYS:C | 2.51 | 0.48 |
| 34:BA:12:U:H5' | 34:BA:526:C:O2' | 2.14 | 0.48 |
| 34:BA:283:C:C4 | 34:BA:284:G:N7 | 2.82 | 0.48 |
| 34:BA:319:G:H4' | 34:BA:1468:A:H4' | 1.95 | 0.48 |
| 34:BA:363:A:N1 | 34:BA:364:A:N3 | 2.61 | 0.48 |
| 34:BA:533:A:C6 | 34:BA:536:C:C4 | 3.01 | 0.48 |
| 34:BA:593:G:H2' | 34:BA:594:G:H5' | 1.95 | 0.48 |
| 34:BA:609:A:C2' | 34:BA:610:G:O5' | 2.61 | 0.48 |
| 34:BA:622:A:H3' | 34:BA:623:C:C5 | 2.48 | 0.48 |
| 34:BA:718:G:N7 | 34:BA:719:C:C4 | 2.81 | 0.48 |
| 34:BA:773:G:N1 | 34:BA:774:G:C5 | 2.82 | 0.48 |
| 34:BA:867:G:H2' | 34:BA:868:C:H6 | 1.77 | 0.48 |
| 34:BA:931:C:N3 | 34:BA:1387:G:N1 | 2.61 | 0.48 |
| 34:BA:995:C:O2' | 49:BQ:4:LYS:CE | 2.62 | 0.48 |
| 34:BA:1044:A:H2' | 34:BA:1045:C:H5' | 1.92 | 0.48 |
| 34:BA:1182:G:H5' | 34:BA:1184:G:C5' | 2.43 | 0.48 |
| 34:BA:1237:C:H3' | 34:BA:1238:A:H5' | 1.95 | 0.48 |
| 35:BB:8:U:O4' | 35:BB:48:C:O2' | 2.28 | 0.48 |
| 35:BB:64:A:C5 | 35:BB:65:G:N7 | 2.81 | 0.48 |
| 35:BB:74:C:C2 | 35:BB:75:C:O4' | 2.66 | 0.48 |
| 35:BC:6:U:O2' | 35:BC:7:U:O5' | 2.30 | 0.48 |
| 35:BC:26:G:C5 | 35:BC:27:C:C5 | 3.02 | 0.48 |
| 35:BC:55:U:H2' | 35:BC:57:G:N7 | 2.28 | 0.48 |
| 37:BE:77:ALA:O | 37:BE:78:GLN:C | 2.51 | 0.48 |
| 37:BE:221:LEU:C | 37:BE:221:LEU:HD22 | 2.34 | 0.48 |
| 38:BF:60:ALA:CB | 45:BM:92:THR:OG1 | 2.62 | 0.48 |
| 38:BF:155:GLY:O | 38:BF:156:ARG:CB | 2.62 | 0.48 |
| 38:BF:185:GLY:O | 38:BF:199:LYS:HA | 2.14 | 0.48 |
| 39:BG:107:ARG:HB3 | 39:BG:174:LEU:HD11 | 1.95 | 0.48 |
| 39:BG:120:LEU:HG | 39:BG:125:HIS:CB | 2.42 | 0.48 |
| 39:BG:167:GLY:O | 39:BG:168:ARG:O | 2.31 | 0.48 |
| 40:BH:48:ALA:HB3 | 40:BH:54:ALA:HB2 | 1.96 | 0.48 |
| 43:BK:82:HIS:NE2 | 43:BK:84:ARG:HD2 | 2.27 | 0.48 |
| 44:BL:10:ARG:CA | 44:BL:104:ARG:NE | 2.56 | 0.48 |
| 46:BN:58:PRO:HB3 | 46:BN:90:GLY:HA2 | 1.95 | 0.48 |
| 47:BO:110:VAL:HG12 | 47:BO:111:LYS:O | 2.14 | 0.48 |
| 49:BQ:36:PHE:CD1 | 49:BQ:37:PHE:N | 2.81 | 0.48 |
| 50:BR:29:VAL:CG1 | 50:BR:85:LEU:HD11 | 2.42 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BR:33:THR:HG21 | 50:BR:87:ILE:HD11 | 1.96 | 0.48 |
| 51:BS:21:VAL:CG2 | 51:BS:34:GLU:HB3 | 2.43 | 0.48 |
| 53:BU:63:GLN:C | 53:BU:66:LEU:HG | 2.34 | 0.48 |
| 53:BU:69:THR:O | 53:BU:72:ARG:N | 2.47 | 0.48 |
| 53:BU:86:VAL:O | 53:BU:87:ARG:CB | 2.62 | 0.48 |
| 54:BV:25:LYS:O | 54:BV:27:GLU:N | 2.44 | 0.48 |
| 54:BV:36:ARG:HH21 | 54:BV:72:GLY:HA2 | 1.79 | 0.48 |
| 55:BW:79:ARG:CA | 55:BW:82:SER:HB3 | 2.38 | 0.48 |
| 1:AB:8:U:O2' | 1:AB:9:G:H8 | 1.96 | 0.48 |
| 1:AB:90:C:C2' | 1:AB:91:C:O5' | 2.61 | 0.48 |
| 2:AA:72:U:H2' | 2:AA:73:A:OP1 | 2.14 | 0.48 |
| 2:AA:81:G:N1 | 2:AA:106:C:C4 | 2.82 | 0.48 |
| 2:AA:85:G:O2' | 2:AA:103:A:H2 | 1.96 | 0.48 |
| 2:AA:99:U:H4' | 2:AA:102:G:OP1 | 2.14 | 0.48 |
| 2:AA:118:A:O5' | 2:AA:119:A:H8 | 1.96 | 0.48 |
| 2:AA:163:U:C6 | 2:AA:163:U:OP2 | 2.66 | 0.48 |
| 2:AA:247:G:N2 | 32:A8:8:LYS:NZ | 2.59 | 0.48 |
| 2:AA:270(Q):C:C6 | 2:AA:270(R):G:C8 | 3.01 | 0.48 |
| 2:AA:322:A:N3 | 2:AA:341:G:C4 | 2.82 | 0.48 |
| 2:AA:388:G:C1' | 2:AA:390:A:N6 | 2.75 | 0.48 |
| 2:AA:451:C:H41 | 2:AA:453:C:H3' | 1.77 | 0.48 |
| 2:AA:473:G:H2' | 2:AA:474:G:C5' | 2.43 | 0.48 |
| 2:AA:547:A:C2' | 2:AA:547:A:N3 | 2.76 | 0.48 |
| 2:AA:763:G:C8 | 2:AA:765:G:C8 | 3.00 | 0.48 |
| 2:AA:843:G:H2' | 2:AA:844:C:C6 | 2.48 | 0.48 |
| 2:AA:866:A:N6 | 2:AA:914:C:C6 | 2.82 | 0.48 |
| 2:AA:878:A:C2 | 2:AA:879:G:C8 | 3.01 | 0.48 |
| 2:AA:886:C:H2' | 2:AA:886:C:O2 | 2.13 | 0.48 |
| 2:AA:931:G:OP1 | 23:AX:27:GLY:HA3 | 2.14 | 0.48 |
| 2:AA:1013:C:C2 | 2:AA:1014:U:C6 | 3.02 | 0.48 |
| 2:AA:1082:U:C5 | 2:AA:1083:U:C5 | 3.02 | 0.48 |
| 2:AA:1114:G:N2 | 2:AA:1115:G:N9 | 2.62 | 0.48 |
| 2:AA:1133:U:O2' | 2:AA:1134:G:C5' | 2.60 | 0.48 |
| 2:AA:1180:C:HO2' | 2:AA:1181:C:C5' | 2.27 | 0.48 |
| 2:AA:1196:C:C2 | 2:AA:1197:G:C8 | 3.01 | 0.48 |
| 2:AA:1208:C:N4 | 2:AA:1240:U:O4 | 2.47 | 0.48 |
| 2:AA:1287:A:C5 | 2:AA:1649:G:H1' | 2.48 | 0.48 |
| 2:AA:1315:C:C2 | 2:AA:1316:U:C6 | 3.02 | 0.48 |
| 2:AA:1379:A:H62 | 31:A7:10:ARG:NH2 | 2.12 | 0.48 |
| 2:AA:1421:G:C6 | 2:AA:1577:C:N3 | 2.82 | 0.48 |
| 2:AA:1426:G:H3' | 2:AA:1427:A:C8 | 2.47 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1520:U:OP2 | 2:AA:1520:U:C6 | 2.66 | 0.48 |
| 2:AA:1535:U:C5' | 2:AA:1536:A:O5' | 2.53 | 0.48 |
| 2:AA:1549:C:H2' | 2:AA:1550:C:H5' | 1.94 | 0.48 |
| 2:AA:1608:A:C6 | 2:AA:1611:C:C2 | 3.01 | 0.48 |
| 2:AA:1672:C:H5 | 2:AA:1673:U:C6 | 2.31 | 0.48 |
| 2:AA:1709:U:C2' | 2:AA:1710:C:O5' | 2.62 | 0.48 |
| 2:AA:1827:C:N3 | 2:AA:1828:G:C1' | 2.76 | 0.48 |
| 2:AA:1839:G:O6 | 2:AA:1927:A:C2 | 2.66 | 0.48 |
| 2:AA:1848:A:N7 | 2:AA:1849:G:N7 | 2.62 | 0.48 |
| 2:AA:1850:G:C6 | 2:AA:1851:U:C4 | 3.02 | 0.48 |
| 2:AA:1892:C:C4 | 2:AA:1893:C:C5 | 3.01 | 0.48 |
| 2:AA:2141:G:C6 | 2:AA:2150:U:C2 | 3.02 | 0.48 |
| 2:AA:2432:A:C2 | 2:AA:2433:A:C5 | 3.02 | 0.48 |
| 2:AA:2458:G:C6 | 2:AA:2490:G:H2' | 2.48 | 0.48 |
| 2:AA:2554:U:C4 | 2:AA:2555:U:O4 | 2.67 | 0.48 |
| 2:AA:2563:U:O2 | 2:AA:2566:A:C8 | 2.66 | 0.48 |
| 2:AA:2568:C:O2 | 2:AA:2569:G:N9 | 2.46 | 0.48 |
| 2:AA:2607:G:H2' | 2:AA:2608:G:O5' | 2.13 | 0.48 |
| 2:AA:2612:C:O2' | 2:AA:2613:U:O5' | 2.31 | 0.48 |
| 2:AA:2634:G:C6 | 2:AA:2635:C:C5 | 3.01 | 0.48 |
| 2:AA:2729:G:H2' | 2:AA:2730:C:O4' | 2.14 | 0.48 |
| 2:AA:2742:C:C2 | 2:AA:2743:C:C5 | 3.01 | 0.48 |
| 2:AA:2792:G:N2 | 2:AA:2793:G:N1 | 2.62 | 0.48 |
| 2:AA:2820:A:N6 | 5:AE:304:ASP:CB | 2.76 | 0.48 |
| 3:AC:22:ILE:HG22 | 3:AC:186:ALA:CA | 2.16 | 0.48 |
| 3:AC:59:ARG:CD | 3:AC:164:ARG:HD3 | 2.43 | 0.48 |
| 3:AC:69:GLY:C | 3:AC:71:GLN:N | 2.67 | 0.48 |
| 4:AD:94:ASN:OD1 | 4:AD:100:LYS:CE | 2.62 | 0.48 |
| 4:AD:142:ASN:CG | 4:AD:190:THR:CG2 | 2.82 | 0.48 |
| 4:AD:143:ILE:CG2 | 4:AD:153:LEU:HB2 | 2.43 | 0.48 |
| 5:AE:75:THR:C | 5:AE:292:PRO:HB2 | 2.34 | 0.48 |
| 5:AE:192:ILE:O | 5:AE:194:ARG:HG2 | 2.13 | 0.48 |
| 5:AE:296:VAL:HG12 | 5:AE:297:LYS:N | 2.28 | 0.48 |
| 6:AF:197:SER:O | 6:AF:238:SER:CB | 2.61 | 0.48 |
| 7:AG:22:VAL:O | 7:AG:24:HIS:CE1 | 2.66 | 0.48 |
| 7:AG:69:ILE:O | 7:AG:69:ILE:HG22 | 2.14 | 0.48 |
| 9:AI:25:LEU:HA | 9:AI:28:LYS:CG | 2.44 | 0.48 |
| 9:AI:77:VAL:HG13 | 9:AI:102:ILE:HD11 | 1.96 | 0.48 |
| 9:AJ:75:LYS:HE2 | 11:AL:66:PHE:CE2 | 2.48 | 0.48 |
| 10:AK:89:LEU:HD11 | 10:AK:124:LEU:HD13 | 1.94 | 0.48 |
| 10:AK:116:GLU:HG3 | 10:AK:132:LYS:HG3 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:AL:93:LYS:HD3 | 11:AL:96:ILE:CD1 | 2.42 | 0.48 |
| 13:AN:5:GLU:HB3 | 13:AN:20:LEU:CD2 | 2.44 | 0.48 |
| 13:AN:15:GLY:C | 13:AN:52:VAL:HG21 | 2.33 | 0.48 |
| 14:AO:72:ASN:O | 14:AO:75:LEU:HB3 | 2.14 | 0.48 |
| 18:AS:68:ARG:HB3 | 18:AS:110:LYS:H | 1.79 | 0.48 |
| 18:AS:70:TYR:CE2 | 18:AS:72:LYS:HA | 2.49 | 0.48 |
| 18:AS:75:TYR:CE1 | 18:AS:104:THR:CB | 2.96 | 0.48 |
| 18:AS:84:ARG:O | 18:AS:95:ILE:CG2 | 2.61 | 0.48 |
| 18:AS:86:LEU:CB | 18:AS:87:PRO:CD | 2.91 | 0.48 |
| 20:AU:30:ASP:O | 20:AU:31:LEU:C | 2.50 | 0.48 |
| 20:AU:49:GLU:O | 20:AU:97:ARG:CG | 2.61 | 0.48 |
| 20:AU:63:ILE:HG22 | 20:AU:64:ASN:OD1 | 2.13 | 0.48 |
| 21:AV:154:LEU:HD23 | 21:AV:155:PRO:N | 2.29 | 0.48 |
| 22:AW:16:ARG:HA | 22:AW:19:GLU:OE1 | 2.13 | 0.48 |
| 27:A3:29:GLU:O | 27:A3:31:VAL:HB | 2.13 | 0.48 |
| 28:A4:42:PHE:N | 28:A4:57:ASP:CG | 2.66 | 0.48 |
| 31:A7:8:ASN:O | 31:A7:11:LYS:N | 2.45 | 0.48 |
| 32:A8:23:MET:HA | 32:A8:23:MET:CE | 2.44 | 0.48 |
| 33:A9:32:HIS:O | 33:A9:34:GLN:N | 2.47 | 0.48 |
| 34:BA:83:U:H2' | 34:BA:84:U:H6 | 1.77 | 0.48 |
| 34:BA:128:G:H8 | 34:BA:128:G:O5' | 1.96 | 0.48 |
| 34:BA:130:A:N7 | 52:BT:64:PRO:HD2 | 2.27 | 0.48 |
| 34:BA:145:G:C6 | 34:BA:178:C:C4 | 3.02 | 0.48 |
| 34:BA:196:A:N3 | 34:BA:222:U:H1' | 2.29 | 0.48 |
| 34:BA:240:C:C2 | 34:BA:241:C:C5 | 3.01 | 0.48 |
| 34:BA:262:A:C2' | 34:BA:263:A:C8 | 2.96 | 0.48 |
| 34:BA:327:A:C4 | 34:BA:329:A:C8 | 3.02 | 0.48 |
| 34:BA:392:G:H5" | 51:BS:12:LYS:NZ | 2.29 | 0.48 |
| 34:BA:392:G:O2' | 34:BA:483:C:O4' | 2.31 | 0.48 |
| 34:BA:478:A:C5 | 34:BA:479:C:N4 | 2.81 | 0.48 |
| 34:BA:528:C:H4' | 34:BA:535:A:C6 | 2.48 | 0.48 |
| 34:BA:545:C:OP2 | 39:BG:62:GLN:OE1 | 2.31 | 0.48 |
| 34:BA:587:G:N1 | 34:BA:755:G:C6 | 2.81 | 0.48 |
| 34:BA:643:C:HO2' | 43:BK:132:GLU:CD | 2.17 | 0.48 |
| 34:BA:682:G:C2 | 34:BA:683:G:C8 | 3.00 | 0.48 |
| 34:BA:712:A:H2' | 34:BA:713:G:O4' | 2.13 | 0.48 |
| 34:BA:762:C:C4 | 34:BA:763:G:O6 | 2.67 | 0.48 |
| 34:BA:771:G:O6 | 34:BA:809:G:C5 | 2.67 | 0.48 |
| 34:BA:832:C:O2' | 34:BA:833:U:H5' | 2.13 | 0.48 |
| 34:BA:887:G:C6 | 34:BA:888:G:C5 | 3.01 | 0.48 |
| 34:BA:939:G:H2' | 34:BA:940:C:C6 | 2.48 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:982:U:H5" | 34:BA:983:A:OP1 | 2.13 | 0.48 |
| 34:BA:1028:C:C4 | 34:BA:1029:C:N4 | 2.82 | 0.48 |
| 34:BA:1087:G:C4 | 34:BA:1088:G:C8 | 3.02 | 0.48 |
| 34:BA:1213:A:H2' | 34:BA:1215:G:N7 | 2.28 | 0.48 |
| 34:BA:1231:G:C2' | 34:BA:1232:U:H6 | 2.24 | 0.48 |
| 34:BA:1301:U:C4 | 34:BA:1303:C:C1' | 2.97 | 0.48 |
| 34:BA:1308:U:H4' | 48:BP:92:HIS:HE1 | 1.79 | 0.48 |
| 34:BA:1370:G:O2' | 34:BA:1371:G:H5' | 2.14 | 0.48 |
| 34:BA:1418:A:N1 | 34:BA:1483:A:N1 | 2.62 | 0.48 |
| 34:BA:1419:G:C2' | 34:BA:1420:C:C6 | 2.96 | 0.48 |
| 34:BA:1419:G:N1 | 34:BA:1482:G:C4 | 2.81 | 0.48 |
| 35:BB:31:A:H5" | 35:BB:31:A:H8 | 1.73 | 0.48 |
| 35:BB:66:A:C6 | 35:BB:67:A:C6 | 3.01 | 0.48 |
| 36:B1:54:G:C2 | 36:B1:55:U:C5 | 3.01 | 0.48 |
| 37:BE:188:ALA:HB1 | 37:BE:192:SER:CB | 2.44 | 0.48 |
| 37:BE:222:ILE:HG13 | 37:BE:223:ILE:N | 2.27 | 0.48 |
| 38:BF:35:GLU:O | 38:BF:39:ILE:HG13 | 2.13 | 0.48 |
| 38:BF:173:VAL:N | 38:BF:174:PRO:CD | 2.76 | 0.48 |
| 40:BH:9:LYS:HD3 | 40:BH:108:ALA:CA | 2.44 | 0.48 |
| 41:BI:33:TYR:CE2 | 41:BI:75:LEU:N | 2.81 | 0.48 |
| 41:BI:52:ILE:O | 41:BI:55:ASP:CB | 2.58 | 0.48 |
| 42:BJ:75:VAL:HG13 | 42:BJ:87:VAL:C | 2.34 | 0.48 |
| 42:BJ:100:ALA:O | 42:BJ:104:LEU:CD2 | 2.41 | 0.48 |
| 44:BL:17:VAL:C | 44:BL:18:PHE:CD1 | 2.87 | 0.48 |
| 44:BL:72:GLY:O | 44:BL:75:ASP:CG | 2.52 | 0.48 |
| 45:BM:48:THR:HG22 | 45:BM:60:ARG:HG3 | 1.95 | 0.48 |
| 46:BN:69:ALA:O | 46:BN:72:ALA:CB | 2.60 | 0.48 |
| 46:BN:112:THR:O | 46:BN:112:THR:HG22 | 2.14 | 0.48 |
| 47:BO:45:PRO:CB | 47:BO:49:ASN:O | 2.60 | 0.48 |
| 48:BP:92:HIS:CE1 | 48:BP:98:VAL:HG21 | 2.48 | 0.48 |
| 49:BQ:27:CYS:C | 49:BQ:29:ARG:H | 2.12 | 0.48 |
| 49:BQ:27:CYS:H | 49:BQ:43:CYS:HB3 | 1.79 | 0.48 |
| 49:BQ:29:ARG:NH1 | 49:BQ:29:ARG:HG2 | 2.27 | 0.48 |
| 50:BR:37:ASN:N | 50:BR:37:ASN:HD22 | 2.10 | 0.48 |
| 50:BR:45:VAL:O | 50:BR:46:HIS:CB | 2.60 | 0.48 |
| 50:BR:59:MET:O | 50:BR:60:VAL:C | 2.52 | 0.48 |
| 51:BS:80:PHE:O | 51:BS:82:GLN:N | 2.47 | 0.48 |
| 52:BT:31:LEU:O | 52:BT:31:LEU:CD1 | 2.56 | 0.48 |
| 55:BW:16:HIS:O | 55:BW:18:GLN:N | 2.47 | 0.48 |
| 2:AA:8:A:N6 | 2:AA:2895:U:H3 | 2.08 | 0.48 |
| 2:AA:35:G:C2 | 2:AA:454:A:C2 | 3.00 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:225:A:C6 | 2:AA:226:G:C5 | 3.02 | 0.48 |
| 2:AA:251:A:C4 | 2:AA:252:G:H1' | 2.49 | 0.48 |
| 2:AA:298:G:C8 | 2:AA:298:G:OP2 | 2.67 | 0.48 |
| 2:AA:352:G:C5 | 2:AA:353:G:C8 | 3.02 | 0.48 |
| 2:AA:447:A:C5 | 2:AA:454:A:N6 | 2.81 | 0.48 |
| 2:AA:627:A:N6 | 2:AA:637:A:C1' | 2.76 | 0.48 |
| 2:AA:662:G:N3 | 2:AA:663:G:N7 | 2.61 | 0.48 |
| 2:AA:693:C:C2 | 2:AA:694:U:C6 | 3.02 | 0.48 |
| 2:AA:746:A:O2' | 2:AA:747:U:OP2 | 2.30 | 0.48 |
| 2:AA:802:A:C2' | 2:AA:803:U:H6 | 2.17 | 0.48 |
| 2:AA:809:G:C4' | 2:AA:1254:A:H1' | 2.43 | 0.48 |
| 2:AA:811:U:H3' | 2:AA:811:U:C6 | 2.48 | 0.48 |
| 2:AA:958:U:O2' | 2:AA:959:A:H5" | 2.12 | 0.48 |
| 2:AA:1031:G:N1 | 2:AA:1032:A:C6 | 2.82 | 0.48 |
| 2:AA:1083:U:C6 | 2:AA:1083:U:H5" | 2.49 | 0.48 |
| 2:AA:1205:U:O2 | 6:AF:232:LEU:HD12 | 2.14 | 0.48 |
| 2:AA:1429:G:C2' | 2:AA:1430:C:O4' | 2.62 | 0.48 |
| 2:AA:1497:U:C4 | 2:AA:1498:C:C5 | 3.02 | 0.48 |
| 2:AA:1527:G:H2' | 2:AA:1528:A:O5' | 2.13 | 0.48 |
| 2:AA:1574:C:C2 | 2:AA:1575:C:N3 | 2.82 | 0.48 |
| 2:AA:1636:C:O2 | 2:AA:1636:C:C2' | 2.61 | 0.48 |
| 2:AA:1707:G:C2' | 2:AA:1708:C:C6 | 2.94 | 0.48 |
| 2:AA:1754:C:N3 | 2:AA:1755:A:C4 | 2.81 | 0.48 |
| 2:AA:1789:A:O3' | 4:AD:224:VAL:HG22 | 2.13 | 0.48 |
| 2:AA:1842:G:C4 | 2:AA:1843:C:C6 | 3.02 | 0.48 |
| 2:AA:1907:G:N3 | 2:AA:1908:C:C5 | 2.81 | 0.48 |
| 2:AA:1916:A:O5' | 2:AA:1916:A:C8 | 2.66 | 0.48 |
| 2:AA:1986:A:C2 | 2:AA:1987:G:C5 | 3.01 | 0.48 |
| 2:AA:2004:G:C6 | 2:AA:2005:A:C4 | 3.02 | 0.48 |
| 2:AA:2020:A:N7 | 2:AA:2022:U:O4 | 2.47 | 0.48 |
| 2:AA:2027:G:C1' | 2:AA:2037:G:N2 | 2.72 | 0.48 |
| 2:AA:2058:A:N1 | 2:AA:2059:A:N6 | 2.61 | 0.48 |
| 2:AA:2117:A:C2 | 2:AA:2118:U:H4' | 2.49 | 0.48 |
| 2:AA:2123:G:H4' | 3:AC:172:HIS:CE1 | 2.49 | 0.48 |
| 2:AA:2151:G:N1 | 2:AA:2152:G:N3 | 2.61 | 0.48 |
| 2:AA:2209:C:H2' | 2:AA:2210:G:H3' | 0.77 | 0.48 |
| 2:AA:2244:U:C2' | 2:AA:2245:U:O5' | 2.62 | 0.48 |
| 2:AA:2333:A:N9 | 2:AA:2335:A:C2 | 2.81 | 0.48 |
| 2:AA:2364:C:C5' | 27:A3:38:VAL:CG1 | 2.88 | 0.48 |
| 2:AA:2407:G:N3 | 2:AA:2408:U:C4 | 2.82 | 0.48 |
| 2:AA:2417:C:HO2' | 2:AA:2418:A:H5' | 1.77 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2434:A:O2' | 2:AA:2435:A:C5' | 2.62 | 0.48 |
| 2:AA:2680:C:OP2 | 5:AE:261:ARG:NH1 | 2.47 | 0.48 |
| 2:AA:2707:G:O2' | 2:AA:2708:G:H5' | 2.13 | 0.48 |
| 2:AA:2838:G:C2' | 2:AA:2839:G:O5' | 2.62 | 0.48 |
| 2:AA:2851:A:C2 | 2:AA:2852:G:O4' | 2.65 | 0.48 |
| 2:AA:2876:G:H2' | 2:AA:2877:G:OP2 | 2.13 | 0.48 |
| 3:AC:68:LEU:CD2 | 3:AC:72:VAL:HG21 | 2.43 | 0.48 |
| 3:AC:215:THR:CB | 3:AC:220:PRO:O | 2.62 | 0.48 |
| 4:AD:107:LYS:HB2 | 4:AD:195:GLY:HA2 | 1.95 | 0.48 |
| 4:AD:122:ASP:OD2 | 4:AD:124:LYS:HB2 | 2.14 | 0.48 |
| 4:AD:128:ALA:CB | 4:AD:190:THR:HA | 2.43 | 0.48 |
| 4:AD:174:ARG:HA | 4:AD:180:VAL:CG1 | 2.23 | 0.48 |
| 5:AE:46:ALA:CB | 5:AE:72:VAL:CG2 | 2.80 | 0.48 |
| 5:AE:63:GLU:HB2 | 5:AE:64:GLY:H | 1.30 | 0.48 |
| 5:AE:174:LEU:N | 5:AE:174:LEU:CD1 | 2.68 | 0.48 |
| 6:AF:33:LYS:O | 6:AF:34:ALA:C | 2.52 | 0.48 |
| 6:AF:231:ARG:C | 6:AF:232:LEU:HG | 2.33 | 0.48 |
| 7:AG:27:ILE:C | 7:AG:29:HIS:N | 2.67 | 0.48 |
| 8:AH:34:ARG:HB3 | 8:AH:74:MET:CE | 2.44 | 0.48 |
| 8:AH:70:LEU:O | 8:AH:73:ASN:CB | 2.60 | 0.48 |
| 9:AJ:64:LYS:O | 9:AJ:65:SER:CB | 2.61 | 0.48 |
| 9:AJ:125:VAL:HG12 | 9:AJ:126:GLU:N | 2.28 | 0.48 |
| 10:AK:19:LYS:CD | 10:AK:20:ASN:H | 2.25 | 0.48 |
| 10:AK:88:ARG:HG2 | 10:AK:123:ALA:HA | 1.96 | 0.48 |
| 11:AL:72:THR:HG1 | 11:AL:115:ASP:HB3 | 1.72 | 0.48 |
| 12:AM:136:SER:HA | 12:AM:139:LEU:CD2 | 2.44 | 0.48 |
| 13:AN:22:ILE:N | 13:AN:41:ALA:HB2 | 2.28 | 0.48 |
| 14:AO:67:ARG:CD | 14:AO:111:ALA:O | 2.61 | 0.48 |
| 15:AP:17:ARG:O | 15:AP:23:ILE:CD1 | 2.62 | 0.48 |
| 15:AP:32:LYS:CE | 21:AV:172:LEU:CD1 | 2.91 | 0.48 |
| 15:AP:35:ASN:ND2 | 21:AV:114:ASP:H | 2.10 | 0.48 |
| 15:AP:94:ARG:HD3 | 15:AP:106:GLY:HA2 | 1.96 | 0.48 |
| 16:AQ:23:ARG:HH21 | 16:AQ:35:VAL:CG2 | 2.20 | 0.48 |
| 16:AQ:23:ARG:HG2 | 16:AQ:33:ARG:NH2 | 2.28 | 0.48 |
| 16:AQ:31:LYS:HD2 | 16:AQ:99:GLU:O | 2.13 | 0.48 |
| 16:AQ:84:THR:O | 16:AQ:87:LEU:HB2 | 2.14 | 0.48 |
| 16:AQ:90:LEU:HA | 16:AQ:93:GLN:CG | 2.43 | 0.48 |
| 16:AQ:127:LEU:HD22 | 16:AQ:129:ILE:HG12 | 1.96 | 0.48 |
| 18:AS:55:ALA:CA | 18:AS:107:LEU:CD1 | 2.86 | 0.48 |
| 19:AT:75:GLN:O | 19:AT:76:GLU:C | 2.51 | 0.48 |
| 20:AU:19:ARG:C | 20:AU:67:LEU:HD22 | 2.34 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:107:GLU:N | 21:AV:107:GLU:OE2 | 2.44 | 0.48 |
| 22:AW:19:GLU:CG | 22:AW:23:LEU:HD11 | 2.42 | 0.48 |
| 24:A0:22:ARG:HH21 | 24:A0:69:ASP:HB3 | 1.79 | 0.48 |
| 24:A0:44:LEU:HD13 | 24:A0:44:LEU:O | 2.14 | 0.48 |
| 24:A0:55:ALA:HB1 | 24:A0:79:LEU:CD2 | 2.43 | 0.48 |
| 25:A1:14:HIS:CD2 | 25:A1:36:PHE:HZ | 2.32 | 0.48 |
| 25:A1:47:TYR:CE1 | 26:A2:76:SER:CA | 2.80 | 0.48 |
| 25:A1:84:LYS:CE | 25:A1:92:ARG:NH2 | 2.77 | 0.48 |
| 25:A1:94:VAL:HG12 | 25:A1:98:ILE:CD1 | 2.43 | 0.48 |
| 25:A1:111:ASP:HA | 25:A1:114:ARG:CG | 2.44 | 0.48 |
| 26:A2:4:ILE:HG23 | 26:A2:13:ARG:HA | 1.96 | 0.48 |
| 27:A3:79:ILE:O | 27:A3:81:ILE:CD1 | 2.61 | 0.48 |
| 32:A8:23:MET:HA | 32:A8:23:MET:HE2 | 1.95 | 0.48 |
| 32:A8:26:LYS:CG | 32:A8:45:GLY:N | 2.76 | 0.48 |
| 34:BA:46:G:N1 | 34:BA:366:C:C2 | 2.82 | 0.48 |
| 34:BA:99:C:O2' | 34:BA:101:A:P | 2.71 | 0.48 |
| 34:BA:128:G:C6 | 34:BA:129:U:C4 | 3.02 | 0.48 |
| 34:BA:157:G:C6 | 34:BA:165:C:N4 | 2.82 | 0.48 |
| 34:BA:201:C:H42 | 34:BA:216:G:H1 | 1.62 | 0.48 |
| 34:BA:247:G:C6 | 34:BA:278:G:N1 | 2.81 | 0.48 |
| 34:BA:321:A:C2 | 34:BA:333:G:C2 | 3.02 | 0.48 |
| 34:BA:721:G:H4' | 34:BA:722:A:O4' | 2.14 | 0.48 |
| 34:BA:753:A:H4' | 34:BA:754:C:C5' | 2.44 | 0.48 |
| 34:BA:892:A:C6 | 34:BA:893:C:C4 | 3.02 | 0.48 |
| 34:BA:920:U:H4' | 34:BA:1080:A:N6 | 2.29 | 0.48 |
| 34:BA:949:A:H4' | 34:BA:1364:U:O4 | 2.13 | 0.48 |
| 34:BA:1103:C:N3 | 34:BA:1104:G:C5 | 2.81 | 0.48 |
| 34:BA:1131:G:P | 44:BL:20:ARG:NH2 | 2.87 | 0.48 |
| 34:BA:1276:G:H1' | 34:BA:1282:C:HO2' | 1.77 | 0.48 |
| 34:BA:1310:G:C6 | 34:BA:1328:C:C4 | 3.01 | 0.48 |
| 34:BA:1418:A:C3' | 34:BA:1419:G:H5' | 2.44 | 0.48 |
| 34:BA:1441:G:H5" | 34:BA:1442:G:C5' | 2.44 | 0.48 |
| 34:BA:1514:C:C2 | 34:BA:1515:C:C5 | 3.02 | 0.48 |
| 34:BA:1538:C:C2 | 34:BA:1539:C:C6 | 3.01 | 0.48 |
| 35:BC:11:C:HO2' | 35:BC:12:U:H5' | 1.78 | 0.48 |
| 36:B1:9:C:H2' | 36:B1:10:U:H6 | 1.79 | 0.48 |
| 37:BE:45:GLN:O | 37:BE:46:LYS:C | 2.50 | 0.48 |
| 39:BG:57:ARG:HG2 | 39:BG:205:GLU:HB2 | 1.96 | 0.48 |
| 39:BG:155:LEU:HB2 | 39:BG:158:ILE:CG1 | 2.34 | 0.48 |
| 40:BH:32:VAL:HG13 | 40:BH:33:VAL:N | 2.27 | 0.48 |
| 40:BH:84:PHE:O | 40:BH:86:ALA:N | 2.46 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:105:VAL:CG1 | 40:BH:106:PRO:N | 2.77 | 0.48 |
| 40:BH:107:ARG:NH1 | 40:BH:107:ARG:HB2 | 2.29 | 0.48 |
| 40:BH:109:ILE:HD12 | 40:BH:139:LEU:HD11 | 1.96 | 0.48 |
| 42:BJ:106:GLN:CA | 42:BJ:109:ASN:ND2 | 2.59 | 0.48 |
| 45:BM:16:LEU:HD13 | 45:BM:94:VAL:HG11 | 1.95 | 0.48 |
| 46:BN:22:HIS:O | 46:BN:28:THR:HG23 | 2.13 | 0.48 |
| 46:BN:59:TYR:CE2 | 46:BN:63:LEU:HD11 | 2.49 | 0.48 |
| 47:BO:54:LYS:CD | 47:BO:54:LYS:N | 2.76 | 0.48 |
| 47:BO:89:ARG:C | 47:BO:90:VAL:CG2 | 2.82 | 0.48 |
| 48:BP:29:ARG:HD3 | 48:BP:64:TRP:NE1 | 2.28 | 0.48 |
| 48:BP:91:ARG:HB3 | 48:BP:98:VAL:HG13 | 1.95 | 0.48 |
| 48:BP:100:GLY:O | 48:BP:101:GLN:C | 2.52 | 0.48 |
| 50:BR:69:TYR:O | 50:BR:72:ARG:N | 2.47 | 0.48 |
| 51:BS:67:THR:N | 51:BS:70:ALA:HB3 | 2.29 | 0.48 |
| 54:BV:48:THR:HA | 54:BV:60:VAL:O | 2.13 | 0.48 |
| 55:BW:65:LYS:O | 55:BW:68:LYS:HB2 | 2.13 | 0.48 |
| 55:BW:73:HIS:C | 55:BW:76:ALA:HB3 | 2.34 | 0.48 |
| 1:AB:8:U:O2 | 1:AB:112:G:C6 | 2.64 | 0.48 |
| 1:AB:32:C:H3' | 1:AB:33:G:H8 | 1.78 | 0.48 |
| 1:AB:78:A:H2' | 1:AB:79:C:C5' | 2.44 | 0.48 |
| 1:AB:82:G:O6 | 1:AB:95:U:C4 | 2.67 | 0.48 |
| 2:AA:39:C:N3 | 2:AA:40:C:C4 | 2.82 | 0.48 |
| 2:AA:59:U:C6 | 2:AA:73:A:N6 | 2.81 | 0.48 |
| 2:AA:114:U:H2' | 2:AA:115:C:H6 | 1.78 | 0.48 |
| 2:AA:125:G:O2' | 31:A7:13:ALA:HB1 | 2.13 | 0.48 |
| 2:AA:296:C:H6 | 2:AA:338:G:N2 | 2.10 | 0.48 |
| 2:AA:357:A:C6 | 2:AA:358:U:C5 | 3.02 | 0.48 |
| 2:AA:521:G:H2' | 2:AA:522:G:H8 | 1.79 | 0.48 |
| 2:AA:540:G:O6 | 2:AA:541:C:N4 | 2.47 | 0.48 |
| 2:AA:673:C:C1' | 6:AF:82:GLN:OE1 | 2.62 | 0.48 |
| 2:AA:723:G:O2' | 2:AA:724:U:O4' | 2.30 | 0.48 |
| 2:AA:738:G:C5 | 2:AA:739:G:C2 | 3.00 | 0.48 |
| 2:AA:827:U:H4' | 2:AA:828:U:O2 | 2.14 | 0.48 |
| 2:AA:858:U:H2' | 2:AA:2268:A:O2' | 2.13 | 0.48 |
| 2:AA:906:G:N3 | 2:AA:906:G:C2' | 2.76 | 0.48 |
| 2:AA:972:G:C5 | 2:AA:1188:U:O4 | 2.62 | 0.48 |
| 2:AA:974:G:OP1 | 2:AA:1188:U:C5 | 2.66 | 0.48 |
| 2:AA:975:G:C8 | 2:AA:990:A:N1 | 2.82 | 0.48 |
| 2:AA:993:G:O6 | 2:AA:1160:G:C6 | 2.67 | 0.48 |
| 2:AA:1009:A:C6 | 2:AA:1010:A:N1 | 2.81 | 0.48 |
| 2:AA:1080:C:HO2' | 11:AL:127:ILE:HG13 | 1.79 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1183:G:OP1 | 23:AX:29:ARG:CG | 2.46 | 0.48 |
| 2:AA:1224:G:O2' | 26:A2:86:HIS:CA | 2.62 | 0.48 |
| 2:AA:1326:U:H2' | 2:AA:1327:C:O4' | 2.14 | 0.48 |
| 2:AA:1397:U:O2 | 2:AA:1397:U:C2' | 2.61 | 0.48 |
| 2:AA:1410:G:C2 | 2:AA:1593:G:C2 | 3.01 | 0.48 |
| 2:AA:444(A):A:C2' | 2:AA:1460:A:O2' | 2.58 | 0.48 |
| 2:AA:1579:A:H2' | 2:AA:1580:A:C5' | 2.44 | 0.48 |
| 2:AA:1579:A:OP2 | 2:AA:1580:A:N7 | 2.47 | 0.48 |
| 2:AA:1650:G:O2' | 2:AA:1651:G:O5' | 2.31 | 0.48 |
| 2:AA:1710:C:H4' | 2:AA:2858:C:N3 | 2.29 | 0.48 |
| 2:AA:1790:C:O2 | 2:AA:1791:A:C8 | 2.67 | 0.48 |
| 2:AA:1812:A:C2 | 2:AA:1813:G:H1' | 2.48 | 0.48 |
| 2:AA:1818:U:C2' | 2:AA:1819:A:OP2 | 2.62 | 0.48 |
| 2:AA:1829:A:N1 | 2:AA:1830:C:H1' | 2.29 | 0.48 |
| 2:AA:1861:G:O2' | 2:AA:1862:G:H5' | 2.14 | 0.48 |
| 2:AA:1872:A:C2' | 2:AA:1878:G:C5' | 2.87 | 0.48 |
| 2:AA:2018:G:H2' | 2:AA:2019:A:O5' | 2.13 | 0.48 |
| 2:AA:2041:U:H2' | 2:AA:2042:A:O4' | 2.14 | 0.48 |
| 2:AA:2048:G:C2 | 2:AA:2049:G:C4 | 3.02 | 0.48 |
| 2:AA:2125:G:H5' | 3:AC:130:ILE:HG13 | 1.95 | 0.48 |
| 2:AA:2286:A:C4' | 2:AA:2287:A:O4' | 2.62 | 0.48 |
| 2:AA:2298:A:C2 | 2:AA:2299:G:C1' | 2.97 | 0.48 |
| 2:AA:2344:U:OP1 | 30:A6:39:LYS:HE2 | 2.13 | 0.48 |
| 2:AA:2356:C:C6 | 2:AA:2356:C:C3' | 2.97 | 0.48 |
| 2:AA:2414:G:C4 | 2:AA:2415:G:N7 | 2.82 | 0.48 |
| 2:AA:2476:A:C8 | 2:AA:2477:C:H6 | 2.32 | 0.48 |
| 2:AA:2558:C:O2 | 2:AA:2559:C:C6 | 2.67 | 0.48 |
| 2:AA:2575:C:C5' | 2:AA:2576:G:OP2 | 2.60 | 0.48 |
| 2:AA:2681:C:H1' | 2:AA:2682:U:C5 | 2.48 | 0.48 |
| 2:AA:2737:G:N1 | 2:AA:2768:C:N4 | 2.61 | 0.48 |
| 2:AA:2753:A:O2' | 33:A9:15:LYS:NZ | 2.47 | 0.48 |
| 2:AA:2817:G:C6 | 2:AA:2818:G:N7 | 2.81 | 0.48 |
| 3:AC:112:ALA:HB1 | 3:AC:156:ILE:HD13 | 1.94 | 0.48 |
| 3:AC:127:LEU:O | 3:AC:128:GLY:C | 2.52 | 0.48 |
| 5:AE:199:ALA:HB1 | 5:AE:311:PHE:HB2 | 1.95 | 0.48 |
| 6:AF:3:ALA:CB | 6:AF:18:LEU:HD23 | 2.42 | 0.48 |
| 6:AF:6:TYR:CD1 | 6:AF:139:VAL:O | 2.67 | 0.48 |
| 6:AF:22:PHE:CZ | 6:AF:115:LEU:HD12 | 2.49 | 0.48 |
| 6:AF:102:LEU:HB3 | 6:AF:107:ARG:HE | 1.79 | 0.48 |
| 6:AF:149:LYS:O | 6:AF:152:GLU:N | 2.47 | 0.48 |
| 8:AH:117:GLU:OE1 | 8:AH:117:GLU:C | 2.52 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:121:GLU:OE2 | 8:AH:134:GLY:CA | 2.48 | 0.48 |
| 10:AK:1:MET:HB2 | 10:AK:22:ALA:HA | 1.95 | 0.48 |
| 10:AK:77:VAL:HB | 10:AK:142:LYS:O | 2.14 | 0.48 |
| 10:AK:114:LYS:NZ | 10:AK:133:LEU:HA | 2.27 | 0.48 |
| 13:AN:21:VAL:HG12 | 13:AN:22:ILE:C | 2.33 | 0.48 |
| 13:AN:23:LYS:O | 13:AN:39:VAL:HG13 | 2.14 | 0.48 |
| 15:AP:35:ASN:HD21 | 21:AV:113:VAL:C | 2.17 | 0.48 |
| 15:AP:57:ARG:O | 15:AP:61:LEU:CD2 | 2.62 | 0.48 |
| 15:AP:148:ASN:ND2 | 15:AP:149:ILE:N | 2.62 | 0.48 |
| 16:AQ:87:LEU:CD2 | 16:AQ:87:LEU:N | 2.75 | 0.48 |
| 17:AR:50:GLU:HG3 | 17:AR:55:ALA:HB3 | 1.92 | 0.48 |
| 18:AS:5:ALA:HB1 | 18:AS:50:VAL:CG1 | 2.44 | 0.48 |
| 20:AU:9:LYS:HA | 20:AU:13:ARG:HD2 | 1.96 | 0.48 |
| 20:AU:31:LEU:HD22 | 20:AU:113:GLU:CD | 2.33 | 0.48 |
| 21:AV:103:ARG:HH11 | 21:AV:139:THR:HG22 | 1.79 | 0.48 |
| 21:AV:112:LEU:CD1 | 21:AV:142:ASN:HA | 2.43 | 0.48 |
| 23:AX:30:ARG:HH21 | 23:AX:33:GLN:HB2 | 1.77 | 0.48 |
| 23:AX:41:PRO:CA | 23:AX:44:ARG:HB3 | 2.41 | 0.48 |
| 24:A0:16:HIS:ND1 | 24:A0:16:HIS:N | 2.54 | 0.48 |
| 26:A2:35:LEU:N | 26:A2:60:VAL:CG1 | 2.70 | 0.48 |
| 26:A2:69:ILE:CG2 | 26:A2:89:ASN:O | 2.61 | 0.48 |
| 27:A3:6:GLY:O | 27:A3:8:GLY:N | 2.46 | 0.48 |
| 29:A5:16:ARG:O | 29:A5:19:ARG:HB3 | 2.14 | 0.48 |
| 32:A8:3:LYS:C | 32:A8:4:MET:SD | 2.92 | 0.48 |
| 32:A8:58:MET:O | 32:A8:61:MET:N | 2.47 | 0.48 |
| 33:A9:7:VAL:C | 33:A9:8:LYS:HE3 | 2.34 | 0.48 |
| 34:BA:21:G:O2' | 34:BA:22:G:H5' | 2.14 | 0.48 |
| 34:BA:38:G:C2 | 34:BA:397:A:N3 | 2.81 | 0.48 |
| 34:BA:145:G:N1 | 34:BA:178:C:C4 | 2.82 | 0.48 |
| 34:BA:258:G:H1 | 34:BA:268:C:N4 | 2.08 | 0.48 |
| 34:BA:277:C:N4 | 34:BA:278:G:C5 | 2.82 | 0.48 |
| 34:BA:321:A:N6 | 34:BA:328:C:H1' | 2.17 | 0.48 |
| 34:BA:362:G:OP1 | 47:BO:34:ARG:NH2 | 2.47 | 0.48 |
| 34:BA:392:G:H2' | 34:BA:393:A:O4' | 2.14 | 0.48 |
| 34:BA:476:G:O2' | 34:BA:477:G:C5' | 2.61 | 0.48 |
| 34:BA:505:G:N2 | 34:BA:535:A:N6 | 2.61 | 0.48 |
| 34:BA:623:C:O2' | 34:BA:624:C:H5' | 2.13 | 0.48 |
| 34:BA:667:G:C2 | 34:BA:740:U:C2 | 3.02 | 0.48 |
| 34:BA:673:G:C5 | 34:BA:734:G:C2 | 3.02 | 0.48 |
| 34:BA:707:C:O2' | 34:BA:708:C:H5' | 2.14 | 0.48 |
| 34:BA:757:U:O2 | 34:BA:879:C:O2' | 2.31 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1039:C:O2' | 34:BA:1040:U:H5' | 2.13 | 0.48 |
| 34:BA:1140:C:H2' | 34:BA:1141:C:H5' | 1.95 | 0.48 |
| 34:BA:1157:A:H5" | 34:BA:1158:C:OP1 | 2.13 | 0.48 |
| 34:BA:1190:G:OP1 | 38:BF:5:ILE:CG1 | 2.50 | 0.48 |
| 34:BA:1201:A:C2' | 34:BA:1202:G:OP2 | 2.62 | 0.48 |
| 34:BA:1220:G:C2 | 34:BA:1221:G:C4 | 3.02 | 0.48 |
| 34:BA:1269:A:C2' | 34:BA:1270:C:H5' | 2.43 | 0.48 |
| 34:BA:1347:G:C8 | 44:BL:107:ARG:O | 2.67 | 0.48 |
| 34:BA:1472:U:H2' | 34:BA:1473:A:C5' | 2.44 | 0.48 |
| 34:BA:1528:U:O2 | 34:BA:1530:G:C5' | 2.61 | 0.48 |
| 36:B1:15:A:OP2 | 36:B1:17:G:O6 | 2.32 | 0.48 |
| 36:B1:21:U:H2' | 36:B1:22:C:N1 | 2.28 | 0.48 |
| 36:B1:52:A:H8 | 36:B1:52:A:O5' | 1.97 | 0.48 |
| 36:B1:63:C:C4' | 36:B1:63:C:OP2 | 2.61 | 0.48 |
| 37:BE:158:LEU:O | 37:BE:160:ASP:N | 2.47 | 0.48 |
| 37:BE:167:PRO:C | 37:BE:169:LYS:N | 2.64 | 0.48 |
| 37:BE:222:ILE:HD12 | 37:BE:226:ARG:NH2 | 2.21 | 0.48 |
| 38:BF:44:GLU:HA | 38:BF:52:LEU:CD1 | 2.43 | 0.48 |
| 38:BF:134:ILE:HG23 | 38:BF:151:VAL:HB | 1.96 | 0.48 |
| 39:BG:38:TYR:OH | 39:BG:45:GLN:NE2 | 2.46 | 0.48 |
| 42:BJ:31:MET:O | 42:BJ:32:ARG:CB | 2.61 | 0.48 |
| 42:BJ:118:VAL:CG1 | 42:BJ:122:HIS:NE2 | 2.66 | 0.48 |
| 43:BK:14:ARG:HD2 | 43:BK:15:ASN:H | 1.78 | 0.48 |
| 43:BK:24:THR:C | 43:BK:60:ARG:HG3 | 2.30 | 0.48 |
| 44:BL:50:LEU:CD2 | 44:BL:55:ALA:O | 2.62 | 0.48 |
| 45:BM:49:VAL:O | 45:BM:60:ARG:CG | 2.62 | 0.48 |
| 45:BM:51:ARG:HH22 | 45:BM:61:GLU:CD | 2.16 | 0.48 |
| 45:BM:84:GLN:O | 45:BM:85:LEU:HD23 | 2.13 | 0.48 |
| 46:BN:71:LYS:O | 46:BN:74:ALA:N | 2.46 | 0.48 |
| 47:BO:70:ILE:HD13 | 47:BO:77:LEU:HD13 | 1.96 | 0.48 |
| 50:BR:43:LEU:HD23 | 50:BR:43:LEU:HA | 1.70 | 0.48 |
| 50:BR:54:ARG:HA | 50:BR:57:LEU:HD22 | 1.95 | 0.48 |
| 50:BR:62:GLN:HA | 50:BR:65:ARG:CZ | 2.43 | 0.48 |
| 51:BS:55:ARG:NH2 | 51:BS:58:TYR:CG | 2.82 | 0.48 |
| 51:BS:75:ARG:HG3 | 51:BS:80:PHE:CB | 2.44 | 0.48 |
| 52:BT:23:VAL:O | 52:BT:23:VAL:HG12 | 2.14 | 0.48 |
| 54:BV:21:GLU:O | 54:BV:24:ALA:HB3 | 2.14 | 0.48 |
| 54:BV:24:ALA:O | 54:BV:26:GLY:N | 2.46 | 0.48 |
| 54:BV:50:ALA:HA | 54:BV:58:VAL:O | 2.14 | 0.48 |
| 1:AB:81:G:C6 | 1:AB:82:G:C5 | 3.01 | 0.48 |
| 1:AB:115:G:O2' | 1:AB:116:G:H5' | 2.14 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:125:G:H3' | 31:A7:19:ARG:NH1 | 2.29 | 0.48 |
| 2:AA:135:G:C4 | 2:AA:145:G:N1 | 2.82 | 0.48 |
| 2:AA:138:G:O2' | 2:AA:140:A:C5' | 2.54 | 0.48 |
| 2:AA:146:G:H2' | 2:AA:147:U:C4' | 2.44 | 0.48 |
| 2:AA:223:A:C2 | 2:AA:408:G:C8 | 3.02 | 0.48 |
| 2:AA:270(Q):C:H2' | 2:AA:270(R):G:O4' | 2.14 | 0.48 |
| 2:AA:279:C:OP2 | 2:AA:279:C:O4' | 2.31 | 0.48 |
| 2:AA:312:G:OP2 | 2:AA:332:A:H5' | 2.14 | 0.48 |
| 2:AA:352:G:O6 | 2:AA:353:G:C6 | 2.67 | 0.48 |
| 2:AA:445:C:H3' | 25:A1:3:ARG:NE | 2.28 | 0.48 |
| 2:AA:533:G:C6 | 2:AA:534:U:N3 | 2.81 | 0.48 |
| 2:AA:728:G:C2 | 2:AA:730:C:C2 | 3.01 | 0.48 |
| 2:AA:728:G:C6 | 2:AA:730:C:N3 | 2.82 | 0.48 |
| 2:AA:849:A:H2' | 2:AA:850:C:O4' | 2.14 | 0.48 |
| 2:AA:864:G:H2' | 2:AA:865:C:H1' | 1.92 | 0.48 |
| 2:AA:871:U:H2' | 2:AA:872:A:H8 | 1.78 | 0.48 |
| 2:AA:930:U:H2' | 2:AA:931:G:N9 | 2.29 | 0.48 |
| 2:AA:957:A:C2 | 2:AA:2459:A:C5' | 2.96 | 0.48 |
| 2:AA:1047:G:H2' | 2:AA:1110:G:C2 | 2.49 | 0.48 |
| 2:AA:1057:A:N1 | 2:AA:1081:U:O2 | 2.47 | 0.48 |
| 2:AA:1080:C:C3' | 11:AL:126:LYS:HB3 | 2.44 | 0.48 |
| 2:AA:1084:A:C8 | 9:AI:25:LEU:HD13 | 2.48 | 0.48 |
| 2:AA:1091:G:N2 | 2:AA:1101:U:N1 | 2.62 | 0.48 |
| 2:AA:1131:G:N2 | 2:AA:1132:A:C2 | 2.81 | 0.48 |
| 2:AA:1147:C:C6 | 2:AA:1147:C:H3' | 2.48 | 0.48 |
| 2:AA:1209:G:H4' | 2:AA:1212:G:C5' | 2.43 | 0.48 |
| 2:AA:1265:A:P | 2:AA:2615:U:OP1 | 2.72 | 0.48 |
| 2:AA:1315:C:H2' | 2:AA:1316:U:C6 | 2.47 | 0.48 |
| 2:AA:1327:C:N4 | 2:AA:1647:G:H21 | 2.11 | 0.48 |
| 2:AA:1422:G:C2 | 2:AA:1423:G:C4 | 3.02 | 0.48 |
| 2:AA:1497:U:H3 | 2:AA:1577:C:H4' | 1.77 | 0.48 |
| 2:AA:1542:G:N3 | 2:AA:1542:G:H2' | 2.29 | 0.48 |
| 2:AA:1612:C:N1 | 31:A7:3:ARG:CZ | 2.77 | 0.48 |
| 2:AA:1682:G:C4 | 2:AA:1757:U:H1' | 2.49 | 0.48 |
| 2:AA:1682:G:C6 | 2:AA:1757:U:H1' | 2.49 | 0.48 |
| 2:AA:1726:G:N3 | 2:AA:1727:U:H5' | 2.29 | 0.48 |
| 2:AA:1732:A:O2' | 2:AA:1733:G:OP1 | 2.23 | 0.48 |
| 2:AA:1766:U:H3 | 2:AA:1986:A:H61 | 1.62 | 0.48 |
| 2:AA:1799:G:N1 | 4:AD:177:SER:CB | 2.77 | 0.48 |
| 2:AA:1809:A:H61 | 28:A4:3:LYS:HG2 | 1.65 | 0.48 |
| 2:AA:1809:A:H61 | 28:A4:3:LYS:HB3 | 1.77 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1856:G:C2' | 2:AA:1857:G:O5' | 2.62 | 0.48 |
| 2:AA:1920:C:H4' | 34:BA:1496:C:O2' | 2.14 | 0.48 |
| 2:AA:2020:A:H62 | 29:A5:9:LYS:HE2 | 1.79 | 0.48 |
| 2:AA:2075:U:C4 | 2:AA:2238:G:O6 | 2.66 | 0.48 |
| 2:AA:2076:U:O2' | 2:AA:2077:A:P | 2.72 | 0.48 |
| 2:AA:2280:G:C6 | 2:AA:2281:C:C4 | 3.01 | 0.48 |
| 2:AA:2295:C:C4 | 2:AA:2337:G:N1 | 2.68 | 0.48 |
| 2:AA:2305:A:C3' | 2:AA:2305:A:C8 | 2.97 | 0.48 |
| 2:AA:2326:C:O2 | 2:AA:2326:C:C2' | 2.62 | 0.48 |
| 2:AA:2345:G:OP1 | 30:A6:39:LYS:O | 2.31 | 0.48 |
| 2:AA:2353:G:O2' | 27:A3:31:VAL:CG2 | 2.60 | 0.48 |
| 2:AA:2356:C:H6 | 2:AA:2356:C:O5' | 1.96 | 0.48 |
| 2:AA:2423:U:C1' | 2:AA:2425:A:C4 | 2.97 | 0.48 |
| 2:AA:2461:C:N3 | 2:AA:2462:U:C5 | 2.82 | 0.48 |
| 2:AA:2521:C:C2 | 2:AA:2522:U:C6 | 3.01 | 0.48 |
| 2:AA:2629:A:H61 | 2:AA:2801:A:H2 | 1.61 | 0.48 |
| 2:AA:2677:G:C2 | 2:AA:2678:C:C5 | 3.02 | 0.48 |
| 2:AA:2685:G:C2 | 2:AA:2686:G:N7 | 2.82 | 0.48 |
| 2:AA:2706:G:C2 | 2:AA:2707:G:N7 | 2.81 | 0.48 |
| 2:AA:2733:A:C2' | 2:AA:2734:A:O5' | 2.59 | 0.48 |
| 2:AA:2784:C:O4' | 5:AE:97:THR:OG1 | 2.32 | 0.48 |
| 2:AA:2808:U:O2 | 2:AA:2810:A:C6 | 2.67 | 0.48 |
| 3:AC:139:ASN:HA | 3:AC:140:PRO:HD2 | 1.76 | 0.48 |
| 4:AD:68:ARG:HG2 | 4:AD:68:ARG:HH11 | 1.79 | 0.48 |
| 4:AD:83:ASP:HA | 4:AD:84:PRO:HD3 | 1.70 | 0.48 |
| 4:AD:130:PRO:HA | 4:AD:188:ARG:HG2 | 1.95 | 0.48 |
| 4:AD:143:ILE:HB | 4:AD:153:LEU:HB2 | 1.95 | 0.48 |
| 5:AE:102:ASP:CG | 5:AE:104:PHE:CE1 | 2.87 | 0.48 |
| 5:AE:267:ARG:CB | 5:AE:297:LYS:HD2 | 2.39 | 0.48 |
| 5:AE:269:ILE:N | 5:AE:269:ILE:CD1 | 2.61 | 0.48 |
| 6:AF:47:GLY:CA | 6:AF:92:PRO:HG2 | 2.43 | 0.48 |
| 6:AF:147:LEU:HD11 | 6:AF:156:LEU:HD21 | 1.96 | 0.48 |
| 6:AF:221:GLU:O | 6:AF:225:PRO:HG3 | 2.13 | 0.48 |
| 9:AJ:59:PHE:C | 9:AJ:128:LYS:HE3 | 2.34 | 0.48 |
| 10:AK:28:ASN:O | 10:AK:29:PHE:C | 2.51 | 0.48 |
| 10:AK:88:ARG:HB3 | 10:AK:122:ARG:HB3 | 1.96 | 0.48 |
| 10:AK:111:ASP:OD2 | 10:AK:112:LYS:HD3 | 2.14 | 0.48 |
| 10:AK:124:LEU:CD1 | 10:AK:146:THR:HA | 2.43 | 0.48 |
| 11:AL:109:ALA:O | 11:AL:110:LYS:C | 2.50 | 0.48 |
| 12:AM:17:CYS:SG | 12:AM:44:ALA:CB | 3.02 | 0.48 |
| 12:AM:41:ALA:CB | 12:AM:75:PRO:HB2 | 2.44 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:97:ARG:HH22 | 34:BA:339:C:P | 2.37 | 0.48 |
| 14:AO:120:LEU:CD1 | 14:AO:121:ILE:N | 2.75 | 0.48 |
| 16:AQ:82:TYR:O | 16:AQ:86:LEU:HG | 2.14 | 0.48 |
| 16:AQ:115:VAL:HG12 | 16:AQ:119:GLN:CG | 2.43 | 0.48 |
| 18:AS:85:VAL:CG1 | 18:AS:95:ILE:HD11 | 2.37 | 0.48 |
| 20:AU:49:GLU:OE2 | 20:AU:58:GLU:N | 2.47 | 0.48 |
| 21:AV:123:VAL:CB | 21:AV:161:ALA:H | 2.27 | 0.48 |
| 24:A0:41:ALA:O | 24:A0:42:LYS:C | 2.53 | 0.48 |
| 24:A0:84:ALA:O | 24:A0:85:PRO:C | 2.51 | 0.48 |
| 25:A1:30:LYS:O | 25:A1:32:TYR:N | 2.44 | 0.48 |
| 26:A2:6:GLN:NE2 | 26:A2:10:LYS:CB | 2.71 | 0.48 |
| 26:A2:24:SER:O | 26:A2:28:GLU:HG3 | 2.14 | 0.48 |
| 26:A2:74:TYR:CZ | 26:A2:88:GLN:CA | 2.90 | 0.48 |
| 27:A3:44:LYS:HD3 | 27:A3:78:PHE:CD2 | 2.46 | 0.48 |
| 31:A7:3:ARG:C | 31:A7:4:THR:OG1 | 2.52 | 0.48 |
| 31:A7:46:ASP:OD2 | 31:A7:46:ASP:O | 2.31 | 0.48 |
| 32:A8:10:ALA:HA | 32:A8:14:ILE:CG2 | 2.22 | 0.48 |
| 32:A8:19:THR:CB | 32:A8:21:LYS:NZ | 2.77 | 0.48 |
| 32:A8:25:PHE:O | 32:A8:26:LYS:C | 2.51 | 0.48 |
| 33:A9:9:LYS:NZ | 33:A9:16:VAL:CG2 | 2.77 | 0.48 |
| 34:BA:196:A:H1' | 34:BA:222:U:O4' | 2.13 | 0.48 |
| 34:BA:404:U:OP1 | 39:BG:118:ARG:NH1 | 2.47 | 0.48 |
| 34:BA:409:G:N3 | 34:BA:410:G:C8 | 2.82 | 0.48 |
| 34:BA:428:G:O2' | 34:BA:429:U:OP2 | 2.31 | 0.48 |
| 34:BA:673:G:C2 | 34:BA:674:G:N1 | 2.81 | 0.48 |
| 34:BA:754:C:C2' | 34:BA:755:G:OP1 | 2.62 | 0.48 |
| 34:BA:978:A:C6 | 34:BA:1318:A:C6 | 3.02 | 0.48 |
| 34:BA:1126:U:O2' | 34:BA:1127:G:H5' | 2.13 | 0.48 |
| 34:BA:1150:U:C4' | 34:BA:1280:A:C2 | 2.96 | 0.48 |
| 34:BA:1257:U:O2' | 34:BA:1258:G:H8 | 1.93 | 0.48 |
| 34:BA:1348:U:C2 | 34:BA:1349:A:H8 | 2.32 | 0.48 |
| 34:BA:1351:U:O2' | 34:BA:1352:C:H5' | 2.14 | 0.48 |
| 34:BA:1358:U:H5" | 34:BA:1359:C:OP2 | 2.14 | 0.48 |
| 34:BA:1422:G:O6 | 34:BA:1423:G:O6 | 2.31 | 0.48 |
| 34:BA:1514:C:N4 | 34:BA:1515:C:H41 | 2.11 | 0.48 |
| 35:BB:9:A:HO2' | 35:BB:45:G:C2' | 2.25 | 0.48 |
| 35:BB:15:G:N2 | 35:BB:60:C:O2 | 2.47 | 0.48 |
| 35:BC:15:G:N1 | 35:BC:21:A:H2 | 2.12 | 0.48 |
| 35:BC:36:A:HO2' | 35:BC:37:G:P | 2.37 | 0.48 |
| 35:BC:47:U:C5 | 35:BC:49:C:H4' | 2.49 | 0.48 |
| 38:BF:43:LEU:O | 38:BF:44:GLU:C | 2.52 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:141:VAL:HG11 | 38:BF:202:ILE:HD13 | 1.96 | 0.48 |
| 38:BF:175:LEU:O | 38:BF:176:HIS:O | 2.32 | 0.48 |
| 39:BG:56:VAL:HG12 | 39:BG:57:ARG:CD | 2.44 | 0.48 |
| 39:BG:62:GLN:HA | 39:BG:62:GLN:NE2 | 2.29 | 0.48 |
| 40:BH:75:THR:CA | 40:BH:115:VAL:HG12 | 2.44 | 0.48 |
| 43:BK:25:ASP:C | 43:BK:58:TYR:CE2 | 2.85 | 0.48 |
| 43:BK:73:ASP:OD2 | 43:BK:73:ASP:C | 2.51 | 0.48 |
| 43:BK:126:LYS:CD | 43:BK:126:LYS:C | 2.82 | 0.48 |
| 44:BL:93:ARG:O | 44:BL:95:LYS:N | 2.42 | 0.48 |
| 44:BL:113:LYS:HD2 | 44:BL:113:LYS:N | 2.29 | 0.48 |
| 45:BM:8:LEU:HD22 | 45:BM:94:VAL:HG12 | 1.95 | 0.48 |
| 45:BM:75:ILE:O | 45:BM:76:ASN:ND2 | 2.47 | 0.48 |
| 47:BO:100:ILE:H | 47:BO:100:ILE:CD1 | 2.15 | 0.48 |
| 49:BQ:29:ARG:HB3 | 49:BQ:40:CYS:SG | 2.53 | 0.48 |
| 49:BQ:29:ARG:CB | 49:BQ:40:CYS:HB3 | 2.37 | 0.48 |
| 50:BR:27:VAL:O | 50:BR:31:LEU:CD1 | 2.57 | 0.48 |
| 50:BR:64:ARG:HA | 50:BR:67:LEU:HD12 | 1.95 | 0.48 |
| 50:BR:69:TYR:CE1 | 50:BR:73:GLU:HG2 | 2.49 | 0.48 |
| 51:BS:71:ARG:HB3 | 51:BS:71:ARG:HH11 | 1.78 | 0.48 |
| 53:BU:82:THR:O | 53:BU:83:GLU:HB2 | 2.13 | 0.48 |
| 54:BV:38:SER:O | 54:BV:70:LYS:CA | 2.62 | 0.48 |
| 55:BW:18:GLN:O | 55:BW:19:SER:C | 2.51 | 0.48 |
| 2:AA:25:U:C3' | 2:AA:26:G:C8 | 2.97 | 0.47 |
| 2:AA:35:G:C4 | 2:AA:454:A:N3 | 2.82 | 0.47 |
| 2:AA:66:C:C4 | 2:AA:89:G:C6 | 3.02 | 0.47 |
| 2:AA:118:A:OP2 | 2:AA:119:A:C8 | 2.67 | 0.47 |
| 2:AA:136:G:C6 | 2:AA:143:C:N3 | 2.81 | 0.47 |
| 2:AA:137(A):G:N7 | 2:AA:142:G:N3 | 2.62 | 0.47 |
| 2:AA:139:G:C2' | 2:AA:141(A):C:C2' | 2.82 | 0.47 |
| 2:AA:148:C:C2' | 2:AA:149:A:C8 | 2.94 | 0.47 |
| 2:AA:181:A:N3 | 2:AA:182:A:C8 | 2.82 | 0.47 |
| 2:AA:272:G:C2 | 2:AA:273:G:C4 | 3.02 | 0.47 |
| 2:AA:274:G:O2' | 2:AA:275:G:H5' | 2.13 | 0.47 |
| 2:AA:331:A:C2 | 2:AA:1209:G:C6 | 3.02 | 0.47 |
| 2:AA:364:C:C6 | 2:AA:364:C:OP2 | 2.67 | 0.47 |
| 2:AA:507:A:C5' | 2:AA:509:C:O4' | 2.62 | 0.47 |
| 2:AA:535:C:H42 | 2:AA:558:G:H1 | 1.61 | 0.47 |
| 2:AA:541:C:O2' | 2:AA:542:C:O5' | 2.32 | 0.47 |
| 2:AA:593:G:C1' | 32:A8:3:LYS:NZ | 2.63 | 0.47 |
| 2:AA:602:G:O3' | 2:AA:603:A:C4' | 2.35 | 0.47 |
| 2:AA:602:G:H5' | 2:AA:604:G:H5' | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:742:G:C2 | 2:AA:743:G:N9 | 2.82 | 0.47 |
| 2:AA:742:G:C4 | 2:AA:743:G:C8 | 3.02 | 0.47 |
| 2:AA:743:G:N1 | 2:AA:744:G:C5 | 2.82 | 0.47 |
| 2:AA:827:U:O5' | 2:AA:828:U:N3 | 2.47 | 0.47 |
| 2:AA:878:A:N3 | 2:AA:878:A:C2' | 2.77 | 0.47 |
| 2:AA:908:C:C2' | 2:AA:909:A:H5' | 2.44 | 0.47 |
| 2:AA:959:A:N3 | 2:AA:960:A:N7 | 2.61 | 0.47 |
| 2:AA:960:A:H2' | 2:AA:962:G:H8 | 1.79 | 0.47 |
| 2:AA:974:G:C4' | 2:AA:974(A):C:OP1 | 2.49 | 0.47 |
| 2:AA:1046:A:N3 | 9:AI:32:THR:HG21 | 2.29 | 0.47 |
| 2:AA:1059:G:N7 | 2:AA:1060:U:C1' | 2.77 | 0.47 |
| 2:AA:1116:C:H2' | 2:AA:1117:G:H8 | 1.79 | 0.47 |
| 2:AA:1131:G:HO2' | 2:AA:1132:A:P | 2.35 | 0.47 |
| 2:AA:1181:C:O2' | 2:AA:1182:A:O4' | 2.31 | 0.47 |
| 2:AA:1238:G:O2' | 2:AA:1239:G:H5' | 2.13 | 0.47 |
| 2:AA:1309:G:OP1 | 31:A7:9:ASN:N | 2.47 | 0.47 |
| 2:AA:1311:G:H3' | 2:AA:1311:G:H8 | 1.78 | 0.47 |
| 2:AA:545(A):A:H8 | 2:AA:545(A):A:O5' | 1.97 | 0.47 |
| 2:AA:1589:C:H2' | 2:AA:1590:U:O4' | 2.14 | 0.47 |
| 2:AA:1612:C:H42 | 2:AA:1619:G:H1 | 0.53 | 0.47 |
| 2:AA:1613:G:C2' | 2:AA:1617:C:N4 | 2.67 | 0.47 |
| 2:AA:1634:A:O2' | 2:AA:1635:G:P | 2.71 | 0.47 |
| 2:AA:1791:A:H5" | 2:AA:1792:G:C8 | 2.49 | 0.47 |
| 2:AA:1916:A:O2' | 2:AA:1917:U:N3 | 2.46 | 0.47 |
| 2:AA:2069:G:H2' | 2:AA:2069:G:N3 | 2.29 | 0.47 |
| 2:AA:2078:C:H5' | 2:AA:2434:A:C5' | 2.44 | 0.47 |
| 2:AA:2213:U:C4' | 2:AA:2215:G:N7 | 2.77 | 0.47 |
| 2:AA:2232:U:C2' | 2:AA:2233:U:H5' | 2.43 | 0.47 |
| 2:AA:2304:G:C2 | 2:AA:2313:C:O2 | 2.67 | 0.47 |
| 2:AA:2360:A:H5" | 32:A8:49:VAL:CG2 | 2.43 | 0.47 |
| 2:AA:2360:A:C2' | 2:AA:2361:A:O5' | 2.56 | 0.47 |
| 2:AA:2538:C:O2' | 2:AA:2539:C:O5' | 2.32 | 0.47 |
| 2:AA:2543:G:C5 | 2:AA:2544:G:C5 | 3.02 | 0.47 |
| 2:AA:2633:G:H2' | 2:AA:2634:G:O5' | 2.14 | 0.47 |
| 2:AA:2699:C:N4 | 2:AA:2708:G:C6 | 2.82 | 0.47 |
| 2:AA:2706:G:H8 | 2:AA:2706:G:O5' | 1.97 | 0.47 |
| 2:AA:2720:U:C4 | 2:AA:2872:G:C6 | 3.02 | 0.47 |
| 2:AA:2722:G:O2' | 2:AA:2723:C:H5' | 2.14 | 0.47 |
| 2:AA:2810:A:H3' | 2:AA:2810:A:C8 | 2.49 | 0.47 |
| 2:AA:2838:G:H2' | 2:AA:2839:G:O5' | 2.13 | 0.47 |
| 2:AA:2862:G:O2' | 2:AA:2863:C:O4' | 2.22 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:141:LYS:O | 3:AC:141:LYS:HD3 | 2.14 | 0.47 |
| 3:AC:163:PHE:CD2 | 3:AC:192:PHE:HE1 | 2.31 | 0.47 |
| 4:AD:63:ILE:HD13 | 4:AD:86:ARG:HH22 | 1.74 | 0.47 |
| 5:AE:226:HIS:HA | 5:AE:229:GLN:CD | 2.34 | 0.47 |
| 6:AF:110:ALA:O | 6:AF:111:VAL:C | 2.51 | 0.47 |
| 7:AG:149:ARG:O | 7:AG:151:ILE:N | 2.39 | 0.47 |
| 9:AI:52:ALA:HB1 | 9:AI:58:GLU:CB | 2.42 | 0.47 |
| 9:AI:99:ASP:C | 9:AI:101:VAL:H | 2.17 | 0.47 |
| 9:AJ:70:LYS:HD2 | 11:AL:62:GLU:OE1 | 2.13 | 0.47 |
| 10:AK:70:GLU:CD | 10:AK:70:GLU:C | 2.73 | 0.47 |
| 11:AL:15:ALA:C | 11:AL:17:LYS:H | 2.17 | 0.47 |
| 11:AL:51:GLY:O | 11:AL:81:LYS:HE3 | 2.14 | 0.47 |
| 11:AL:52:MET:SD | 11:AL:81:LYS:CG | 3.02 | 0.47 |
| 12:AM:23:ALA:CA | 12:AM:26:VAL:CG2 | 2.87 | 0.47 |
| 12:AM:46:ILE:O | 12:AM:47:THR:O | 2.31 | 0.47 |
| 13:AN:31:ARG:O | 13:AN:32:TYR:CD2 | 2.67 | 0.47 |
| 13:AN:119:PRO:HG2 | 13:AN:120:GLU:N | 2.29 | 0.47 |
| 15:AP:45:GLN:HA | 15:AP:125:TRP:NE1 | 2.29 | 0.47 |
| 15:AP:48:ASN:O | 15:AP:121:ASP:CB | 2.56 | 0.47 |
| 15:AP:58:HIS:CE1 | 15:AP:59:ASN:CG | 2.87 | 0.47 |
| 16:AQ:17:ARG:NH1 | 16:AQ:106:LEU:CD2 | 2.75 | 0.47 |
| 16:AQ:42:HIS:NE2 | 16:AQ:44:ARG:NH2 | 2.62 | 0.47 |
| 16:AQ:99:GLU:OE1 | 16:AQ:128:ASP:CG | 2.53 | 0.47 |
| 17:AR:13:ILE:HG13 | 17:AR:33:SER:HA | 1.95 | 0.47 |
| 19:AT:28:VAL:O | 19:AT:29:ASP:O | 2.31 | 0.47 |
| 20:AU:78:THR:C | 20:AU:89:ARG:NE | 2.67 | 0.47 |
| 21:AV:7:PRO:CG | 21:AV:8:ARG:N | 2.70 | 0.47 |
| 21:AV:26:LYS:HD2 | 21:AV:27:GLU:CD | 2.33 | 0.47 |
| 21:AV:136:VAL:C | 21:AV:137:ASP:CG | 2.72 | 0.47 |
| 21:AV:148:THR:O | 21:AV:149:ALA:O | 2.32 | 0.47 |
| 23:AX:22:ALA:O | 23:AX:26:LEU:CG | 2.54 | 0.47 |
| 24:A0:24:GLN:O | 24:A0:26:LYS:N | 2.47 | 0.47 |
| 24:A0:81:ASP:O | 24:A0:85:PRO:HG2 | 2.14 | 0.47 |
| 26:A2:28:GLU:O | 26:A2:29:ALA:HB3 | 2.13 | 0.47 |
| 27:A3:7:VAL:O | 27:A3:7:VAL:HG12 | 2.14 | 0.47 |
| 28:A4:43:TRP:HA | 28:A4:56:VAL:O | 2.14 | 0.47 |
| 29:A5:34:PRO:CD | 29:A5:49:CYS:SG | 3.02 | 0.47 |
| 31:A7:39:ARG:C | 31:A7:40:HIS:ND1 | 2.67 | 0.47 |
| 34:BA:77:G:C6 | 34:BA:78:G:N7 | 2.82 | 0.47 |
| 34:BA:128:G:C2' | 34:BA:129:U:H5' | 2.44 | 0.47 |
| 34:BA:153:C:O2' | 34:BA:154:C:C5' | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:161:A:H2' | 34:BA:162:A:C8 | 2.49 | 0.47 |
| 34:BA:188:C:C2 | 34:BA:189:G:C8 | 3.01 | 0.47 |
| 34:BA:191:G:C6 | 34:BA:192:U:O4 | 2.67 | 0.47 |
| 34:BA:257:G:O2' | 34:BA:258:G:H5' | 2.13 | 0.47 |
| 34:BA:258:G:N3 | 34:BA:259:G:N7 | 2.61 | 0.47 |
| 34:BA:276:G:O2' | 52:BT:68:ARG:NH1 | 2.46 | 0.47 |
| 34:BA:292:G:C4 | 34:BA:309:G:C2 | 3.02 | 0.47 |
| 34:BA:314:C:H2' | 34:BA:315:A:H1' | 1.95 | 0.47 |
| 34:BA:393:A:O2' | 34:BA:394:G:H5' | 2.14 | 0.47 |
| 34:BA:483:C:C6 | 34:BA:483:C:C3' | 2.97 | 0.47 |
| 34:BA:597:G:N9 | 34:BA:644:G:N2 | 2.62 | 0.47 |
| 34:BA:688:G:H2' | 34:BA:689:C:C5' | 2.44 | 0.47 |
| 34:BA:748:C:O2' | 34:BA:749:C:C6 | 2.63 | 0.47 |
| 34:BA:817:C:H1' | 34:BA:819:A:H5" | 1.96 | 0.47 |
| 34:BA:887:G:C5 | 34:BA:888:G:N7 | 2.82 | 0.47 |
| 34:BA:900:A:N7 | 34:BA:901:A:N7 | 2.62 | 0.47 |
| 34:BA:1004:A:C3' | 34:BA:1025:U:C4 | 2.95 | 0.47 |
| 34:BA:1018:C:N3 | 34:BA:1019:C:C5 | 2.82 | 0.47 |
| 34:BA:1123:A:O2' | 45:BM:38:ILE:HG22 | 2.14 | 0.47 |
| 34:BA:1124:G:N2 | 34:BA:1149:C:N3 | 2.58 | 0.47 |
| 34:BA:1128:C:H2' | 34:BA:1128:C:O2 | 2.14 | 0.47 |
| 34:BA:1148:U:H5' | 44:BL:16:ARG:HD2 | 1.96 | 0.47 |
| 34:BA:1180:A:OP1 | 44:BL:102:LEU:HG | 2.13 | 0.47 |
| 34:BA:1280:A:O4' | 45:BM:41:PRO:CG | 2.56 | 0.47 |
| 34:BA:1407:C:H2' | 34:BA:1408:A:C5' | 2.44 | 0.47 |
| 34:BA:1514:C:N4 | 34:BA:1515:C:N4 | 2.61 | 0.47 |
| 34:BA:1517:G:N1 | 34:BA:1518:A:N3 | 2.62 | 0.47 |
| 34:BA:1536:C:C2 | 36:B1:54:G:C2 | 3.02 | 0.47 |
| 35:BB:23:A:H2' | 35:BB:24:G:C8 | 2.49 | 0.47 |
| 35:BC:7:U:N3 | 35:BC:67:A:C2 | 2.82 | 0.47 |
| 37:BE:9:GLU:OE2 | 37:BE:12:GLU:HG2 | 2.14 | 0.47 |
| 37:BE:32:ILE:HD13 | 37:BE:40:HIS:CD2 | 2.48 | 0.47 |
| 37:BE:32:ILE:HD13 | 37:BE:40:HIS:HD2 | 1.79 | 0.47 |
| 37:BE:77:ALA:CB | 37:BE:211:ILE:CD1 | 2.92 | 0.47 |
| 39:BG:155:LEU:O | 39:BG:158:ILE:CB | 2.62 | 0.47 |
| 39:BG:187:ARG:HG3 | 39:BG:188:LEU:H | 1.78 | 0.47 |
| 40:BH:35:GLY:HA3 | 40:BH:41:VAL:HG13 | 1.96 | 0.47 |
| 41:BI:26:ILE:C | 41:BI:30:LEU:CD1 | 2.82 | 0.47 |
| 41:BI:33:TYR:CG | 41:BI:75:LEU:HB2 | 2.49 | 0.47 |
| 42:BJ:50:ILE:CD1 | 42:BJ:58:PRO:HA | 2.44 | 0.47 |
| 42:BJ:112:PRO:O | 42:BJ:113:GLU:C | 2.51 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:138:LYS:O | 42:BJ:140:ASP:N | 2.47 | 0.47 |
| 42:BJ:155:ARG:HA | 42:BJ:155:ARG:HD3 | 1.49 | 0.47 |
| 43:BK:32:LYS:O | 43:BK:33:GLU:C | 2.50 | 0.47 |
| 44:BL:93:ARG:HE | 44:BL:97:LYS:HB2 | 1.79 | 0.47 |
| 45:BM:12:ASP:O | 45:BM:14:LYS:N | 2.46 | 0.47 |
| 48:BP:96:LEU:O | 48:BP:97:PRO:C | 2.52 | 0.47 |
| 51:BS:20:VAL:HA | 51:BS:36:ILE:HG13 | 1.94 | 0.47 |
| 52:BT:11:VAL:CG2 | 52:BT:20:THR:CB | 2.91 | 0.47 |
| 53:BU:73:ALA:HB1 | 53:BU:79:LEU:CD1 | 2.44 | 0.47 |
| 1:AB:87:G:H3' | 1:AB:88:C:C5' | 2.44 | 0.47 |
| 2:AA:31:C:C2 | 2:AA:32:C:C6 | 3.02 | 0.47 |
| 2:AA:41:C:O2' | 2:AA:43:G:H5' | 2.13 | 0.47 |
| 2:AA:76:C:H4' | 22:AW:55:ARG:HG3 | 1.95 | 0.47 |
| 2:AA:122:G:O2' | 2:AA:123:G:H5' | 2.14 | 0.47 |
| 2:AA:137:C:H5' | 2:AA:137(A):G:OP2 | 2.13 | 0.47 |
| 2:AA:202:U:O2' | 2:AA:203:C:O4' | 2.29 | 0.47 |
| 2:AA:270(O):U:H5" | 2:AA:270(P):C:C6 | 2.38 | 0.47 |
| 2:AA:278:A:C8 | 2:AA:278:A:C3' | 2.97 | 0.47 |
| 2:AA:285:C:C2 | 2:AA:286:C:C4 | 3.02 | 0.47 |
| 2:AA:401:A:C4 | 2:AA:402:A:N7 | 2.82 | 0.47 |
| 2:AA:442:G:C2 | 6:AF:46:TYR:OH | 2.59 | 0.47 |
| 2:AA:466:A:C2 | 2:AA:796:C:C1' | 2.97 | 0.47 |
| 2:AA:480:A:N3 | 2:AA:499:U:O2' | 2.31 | 0.47 |
| 2:AA:533:G:N2 | 2:AA:560:C:C2 | 2.74 | 0.47 |
| 2:AA:534:U:C4' | 25:A1:46:GLU:HG2 | 2.44 | 0.47 |
| 2:AA:618:G:C5 | 2:AA:618(A):C:C4 | 3.02 | 0.47 |
| 2:AA:652:C:C2' | 2:AA:653:A:OP1 | 2.62 | 0.47 |
| 2:AA:684:G:N1 | 2:AA:794:G:N1 | 2.62 | 0.47 |
| 2:AA:831:G:N1 | 2:AA:832:G:C4 | 2.82 | 0.47 |
| 2:AA:873:G:O2' | 21:AV:115:ILE:CD1 | 2.62 | 0.47 |
| 2:AA:929:G:O5' | 2:AA:929:G:H8 | 1.96 | 0.47 |
| 2:AA:952:G:C6 | 2:AA:966:G:C6 | 3.02 | 0.47 |
| 2:AA:969:U:H4' | 23:AX:14:GLY:CA | 2.43 | 0.47 |
| 2:AA:1006:C:H2' | 2:AA:1007:C:C6 | 2.49 | 0.47 |
| 2:AA:1054:A:C5 | 2:AA:1055:G:O6 | 2.67 | 0.47 |
| 2:AA:1069:A:H2 | 2:AA:1096:A:H5' | 1.78 | 0.47 |
| 2:AA:1109:C:H5 | 2:AA:1110:G:C6 | 2.32 | 0.47 |
| 2:AA:1260:G:C6 | 2:AA:1261:C:C4 | 3.02 | 0.47 |
| 2:AA:1288:U:H4' | 2:AA:1289:C:OP1 | 2.13 | 0.47 |
| 2:AA:1331:A:H2' | 2:AA:1333:C:C5 | 2.49 | 0.47 |
| 2:AA:1413:G:H2' | 2:AA:1414:G:H5' | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:449(A):G:H2' | 2:AA:1450:C:O5' | 2.14 | 0.47 |
| 2:AA:1455:G:C2' | 2:AA:1456:G:H5' | 2.44 | 0.47 |
| 2:AA:1551:C:C2' | 2:AA:1552:G:C8 | 2.89 | 0.47 |
| 2:AA:1563:G:C5 | 2:AA:1564:C:C5 | 3.02 | 0.47 |
| 2:AA:1606:G:H4' | 2:AA:1608:A:N3 | 2.29 | 0.47 |
| 2:AA:1635:G:P | 2:AA:1635:G:C8 | 3.07 | 0.47 |
| 2:AA:1670:C:H3' | 2:AA:1671:U:C5 | 2.49 | 0.47 |
| 2:AA:1670:C:C4' | 2:AA:1670:C:C6 | 2.97 | 0.47 |
| 2:AA:1729:A:C5 | 2:AA:1731:G:O6 | 2.67 | 0.47 |
| 2:AA:1777:U:C2 | 2:AA:1778:U:C5 | 3.01 | 0.47 |
| 2:AA:1823:G:O2' | 2:AA:1824:G:C5' | 2.62 | 0.47 |
| 2:AA:1827:C:H5' | 2:AA:1971:A:H4' | 1.95 | 0.47 |
| 2:AA:1916:A:H2' | 2:AA:1917:U:N3 | 2.28 | 0.47 |
| 2:AA:1960:A:O2' | 34:BA:1484:C:H4' | 2.14 | 0.47 |
| 2:AA:2013:A:H3' | 2:AA:2013:A:C8 | 2.49 | 0.47 |
| 2:AA:2053:G:N2 | 2:AA:2616:C:N3 | 2.51 | 0.47 |
| 2:AA:2199:A:C4 | 2:AA:2225:A:H2 | 2.28 | 0.47 |
| 2:AA:2246:G:O2' | 2:AA:2247:A:C5' | 2.63 | 0.47 |
| 2:AA:2285:C:C5 | 30:A6:28:ARG:NH2 | 2.64 | 0.47 |
| 2:AA:2303:G:N2 | 2:AA:2304:G:C4 | 2.82 | 0.47 |
| 2:AA:2316:C:O2' | 7:AG:151:ILE:HD12 | 2.13 | 0.47 |
| 2:AA:2334:G:C1' | 16:AQ:21:HIS:HD1 | 2.26 | 0.47 |
| 2:AA:2441:C:C2' | 2:AA:2442:C:O5' | 2.62 | 0.47 |
| 2:AA:2526:G:C4 | 2:AA:2527:C:C6 | 3.02 | 0.47 |
| 2:AA:2545:G:O2' | 2:AA:2565:A:N1 | 2.41 | 0.47 |
| 2:AA:2569:G:C2 | 2:AA:2570:G:C8 | 3.02 | 0.47 |
| 2:AA:2742:C:C5' | 33:A9:35:ARG:CZ | 2.92 | 0.47 |
| 2:AA:2817:G:C4 | 2:AA:2818:G:C8 | 3.02 | 0.47 |
| 2:AA:2828:C:C2' | 2:AA:2829:C:O5' | 2.63 | 0.47 |
| 2:AA:2868:A:H8 | 2:AA:2868:A:O5' | 1.97 | 0.47 |
| 3:AC:14:VAL:HG22 | 3:AC:28:LEU:CG | 2.44 | 0.47 |
| 3:AC:75:LEU:HD11 | 3:AC:99:ILE:CG2 | 2.44 | 0.47 |
| 4:AD:166:LYS:HB2 | 4:AD:171:VAL:CA | 2.38 | 0.47 |
| 4:AD:169:LYS:HZ3 | 4:AD:169:LYS:N | 1.99 | 0.47 |
| 5:AE:48:MET:C | 5:AE:49:THR:CG2 | 2.82 | 0.47 |
| 5:AE:84:ARG:HB2 | 5:AE:174:LEU:CD2 | 2.44 | 0.47 |
| 6:AF:28:SER:O | 6:AF:31:ILE:N | 2.47 | 0.47 |
| 6:AF:45:ASP:O | 6:AF:46:TYR:CD1 | 2.67 | 0.47 |
| 6:AF:166:ILE:O | 6:AF:168:ARG:CG | 2.47 | 0.47 |
| 6:AF:168:ARG:C | 6:AF:193:LEU:HG | 2.33 | 0.47 |
| 6:AF:219:ASN:O | 6:AF:222:ASP:N | 2.47 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:AG:21:VAL:HG23 | 7:AG:75:LEU:O | 2.15 | 0.47 |
| 7:AG:47:GLN:NE2 | 7:AG:79:MET:HG3 | 2.28 | 0.47 |
| 8:AH:83:GLU:CB | 8:AH:133:LYS:HG2 | 2.34 | 0.47 |
| 8:AH:136:ASP:OD1 | 8:AH:136:ASP:N | 2.47 | 0.47 |
| 9:AI:110:GLU:OE1 | 9:AJ:57:THR:HG21 | 2.14 | 0.47 |
| 9:AJ:19:ALA:O | 9:AJ:22:VAL:HB | 2.14 | 0.47 |
| 10:AK:43:ASN:N | 10:AK:43:ASN:HD22 | 2.10 | 0.47 |
| 12:AM:15:ARG:C | 12:AM:17:CYS:H | 2.17 | 0.47 |
| 12:AM:45:VAL:HG13 | 12:AM:131:THR:CA | 2.43 | 0.47 |
| 14:AO:65:ASP:N | 14:AO:65:ASP:OD1 | 2.47 | 0.47 |
| 15:AP:42:TYR:O | 15:AP:125:TRP:CH2 | 2.65 | 0.47 |
| 15:AP:66:ASN:O | 15:AP:69:ASN:CG | 2.53 | 0.47 |
| 16:AQ:86:LEU:HD22 | 16:AQ:124:ASP:HB2 | 1.95 | 0.47 |
| 18:AS:86:LEU:HB3 | 18:AS:87:PRO:CD | 2.44 | 0.47 |
| 20:AU:49:GLU:CB | 20:AU:97:ARG:HD2 | 2.38 | 0.47 |
| 20:AU:87:VAL:CG1 | 20:AU:88:PRO:CD | 2.87 | 0.47 |
| 21:AV:94:VAL:HG21 | 21:AV:125:PRO:HD2 | 1.95 | 0.47 |
| 22:AW:48:GLU:O | 22:AW:49:LEU:C | 2.52 | 0.47 |
| 23:AX:39:ASP:CA | 23:AX:44:ARG:NH2 | 2.75 | 0.47 |
| 24:A0:67:LEU:CD2 | 24:A0:72:ASP:N | 2.70 | 0.47 |
| 25:A1:94:VAL:O | 25:A1:98:ILE:HD13 | 2.14 | 0.47 |
| 25:A1:94:VAL:CG1 | 25:A1:98:ILE:HD13 | 2.44 | 0.47 |
| 25:A1:96:ALA:O | 25:A1:97:ASP:C | 2.53 | 0.47 |
| 27:A3:65:GLY:C | 27:A3:66:LYS:HE3 | 2.34 | 0.47 |
| 29:A5:43:HIS:O | 29:A5:44:HIS:ND1 | 2.47 | 0.47 |
| 30:A6:16:ALA:HB3 | 30:A6:19:GLY:HA3 | 1.96 | 0.47 |
| 34:BA:14:U:C4 | 34:BA:16:A:O5' | 2.67 | 0.47 |
| 34:BA:15:G:H4' | 40:BH:24:ARG:NH2 | 2.28 | 0.47 |
| 34:BA:253:U:OP2 | 34:BA:253:U:H3' | 2.14 | 0.47 |
| 34:BA:330:C:O2' | 34:BA:331:G:C5' | 2.61 | 0.47 |
| 34:BA:405:U:O4 | 39:BG:2:GLY:N | 2.48 | 0.47 |
| 34:BA:418:C:O2' | 34:BA:540:G:H1' | 2.14 | 0.47 |
| 34:BA:455:C:O2 | 34:BA:455:C:H2' | 2.12 | 0.47 |
| 34:BA:738:C:C2 | 34:BA:739:C:C5 | 3.03 | 0.47 |
| 34:BA:784:C:N3 | 34:BA:785:G:N7 | 2.61 | 0.47 |
| 34:BA:786:G:C6 | 34:BA:797:C:N4 | 2.83 | 0.47 |
| 34:BA:880:C:C2 | 34:BA:881:G:C8 | 3.02 | 0.47 |
| 34:BA:967:C:C5 | 34:BA:968:A:H2' | 2.49 | 0.47 |
| 34:BA:970:C:H42 | 48:BP:126:LYS:HZ3 | 1.55 | 0.47 |
| 34:BA:1195:C:H3' | 34:BA:1195:C:P | 2.54 | 0.47 |
| 34:BA:1203:C:O2' | 34:BA:1204:A:C5' | 2.60 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1205:U:O2' | 38:BF:195:VAL:HG23 | 2.13 | 0.47 |
| 34:BA:1226:C:C6 | 48:BP:103:THR:O | 2.68 | 0.47 |
| 34:BA:1234:C:C5' | 34:BA:1364:U:O2' | 2.61 | 0.47 |
| 34:BA:1274:G:C2' | 34:BA:1275:A:H8 | 2.19 | 0.47 |
| 34:BA:1371:G:C2' | 34:BA:1372:U:O5' | 2.62 | 0.47 |
| 34:BA:1413:A:C2 | 34:BA:1414:U:N1 | 2.82 | 0.47 |
| 34:BA:1431:C:O2 | 34:BA:1431:C:C2' | 2.61 | 0.47 |
| 34:BA:1433:A:H2' | 34:BA:1434:A:H5' | 1.95 | 0.47 |
| 34:BA:1465:C:H2' | 34:BA:1466:C:O5' | 2.15 | 0.47 |
| 35:BB:56:C:C6 | 35:BB:56:C:O5' | 2.65 | 0.47 |
| 35:BC:19:G:C2 | 35:BC:57:G:N2 | 2.83 | 0.47 |
| 35:BC:27:C:N3 | 35:BC:28:C:N4 | 2.61 | 0.47 |
| 37:BE:25:ASN:C | 37:BE:27:LYS:H | 2.17 | 0.47 |
| 37:BE:127:ILE:C | 37:BE:129:GLU:H | 2.16 | 0.47 |
| 37:BE:196:LEU:HD12 | 37:BE:197:VAL:HA | 1.96 | 0.47 |
| 37:BE:208:ILE:O | 37:BE:211:ILE:HB | 2.14 | 0.47 |
| 41:BI:52:ILE:O | 41:BI:53:ALA:HB3 | 2.14 | 0.47 |
| 42:BJ:4:ARG:O | 42:BJ:5:ARG:O | 2.32 | 0.47 |
| 42:BJ:42:ILE:CG2 | 42:BJ:120:ILE:HD11 | 2.41 | 0.47 |
| 43:BK:16:ALA:HB1 | 43:BK:21:LYS:HB2 | 1.96 | 0.47 |
| 43:BK:44:PHE:O | 43:BK:64:LYS:CD | 2.63 | 0.47 |
| 43:BK:70:GLN:HE21 | 43:BK:70:GLN:HA | 1.78 | 0.47 |
| 43:BK:103:VAL:HG11 | 43:BK:109:ILE:O | 2.14 | 0.47 |
| 44:BL:30:GLY:O | 44:BL:31:GLN:OE1 | 2.32 | 0.47 |
| 45:BM:24:VAL:O | 45:BM:28:ARG:CD | 2.62 | 0.47 |
| 47:BO:47:LYS:HB2 | 47:BO:48:PRO:HD3 | 1.95 | 0.47 |
| 48:BP:9:ILE:O | 48:BP:11:ARG:N | 2.47 | 0.47 |
| 48:BP:23:TYR:O | 48:BP:66:LEU:HB2 | 2.13 | 0.47 |
| 48:BP:51:ALA:O | 48:BP:55:ARG:HG3 | 2.14 | 0.47 |
| 48:BP:69:GLU:HA | 48:BP:72:ALA:HB2 | 1.95 | 0.47 |
| 50:BR:56:LEU:CD1 | 50:BR:59:MET:HE1 | 2.44 | 0.47 |
| 53:BU:60:GLY:O | 53:BU:62:GLU:N | 2.47 | 0.47 |
| 55:BW:11:SER:HA | 55:BW:13:LEU:HD13 | 1.96 | 0.47 |
| 1:AB:82:G:HO2' | 1:AB:83:G:C4' | 2.27 | 0.47 |
| 1:AB:100:G:H8 | 1:AB:100:G:O5' | 1.96 | 0.47 |
| 1:AB:105:G:H2' | 1:AB:106:G:C8 | 2.48 | 0.47 |
| 2:AA:17:G:O3' | 25:A1:26:GLY:HA3 | 2.14 | 0.47 |
| 2:AA:27:G:C8 | 2:AA:27:G:C3' | 2.96 | 0.47 |
| 2:AA:64:A:C2 | 2:AA:65:C:C2 | 3.02 | 0.47 |
| 2:AA:118:A:H2' | 2:AA:177:G:H21 | 1.78 | 0.47 |
| 2:AA:203:C:OP2 | 2:AA:203:C:C6 | 2.67 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:336:C:H2' | 2:AA:337:C:C5' | 2.44 | 0.47 |
| 2:AA:388:G:OP2 | 28:A4:29:PRO:CB | 2.61 | 0.47 |
| 2:AA:412:A:N3 | 2:AA:413:C:C1' | 2.76 | 0.47 |
| 2:AA:432:A:O2' | 2:AA:433:C:H5' | 2.13 | 0.47 |
| 2:AA:452:G:N2 | 2:AA:458:G:C2 | 2.83 | 0.47 |
| 2:AA:458:G:C5' | 31:A7:39:ARG:HD2 | 2.44 | 0.47 |
| 2:AA:527:C:H5 | 2:AA:2779:U:H3' | 1.79 | 0.47 |
| 2:AA:580:C:O5' | 2:AA:580:C:H6 | 1.98 | 0.47 |
| 2:AA:776:G:C2 | 2:AA:793:A:N7 | 2.82 | 0.47 |
| 2:AA:819:A:H62 | 2:AA:1188:U:H3 | 1.62 | 0.47 |
| 2:AA:879:G:N2 | 2:AA:880:G:H1' | 2.29 | 0.47 |
| 2:AA:941:A:C2 | 2:AA:942:G:C1' | 2.97 | 0.47 |
| 2:AA:946:G:C8 | 2:AA:946:G:C3' | 2.98 | 0.47 |
| 2:AA:969:U:HO2' | 2:AA:970:C:C4' | 2.26 | 0.47 |
| 2:AA:974:G:P | 2:AA:1188:U:C5 | 3.07 | 0.47 |
| 2:AA:1034:G:O5' | 33:A9:18:ARG:CZ | 2.63 | 0.47 |
| 2:AA:1054:A:C6 | 2:AA:1055:G:O6 | 2.66 | 0.47 |
| 2:AA:1062:G:H22 | 11:AL:92:PRO:CG | 2.25 | 0.47 |
| 2:AA:1111:A:H8 | 2:AA:1111:A:O5' | 1.97 | 0.47 |
| 2:AA:1156:A:H2 | 25:A1:51:ARG:HH21 | 1.59 | 0.47 |
| 2:AA:1193:G:H2' | 2:AA:1194:A:H5' | 1.95 | 0.47 |
| 2:AA:1270:C:C4' | 2:AA:1271:G:C5' | 2.64 | 0.47 |
| 2:AA:1346:G:H2' | 2:AA:1347:G:H8 | 1.79 | 0.47 |
| 2:AA:1424:G:C2' | 2:AA:1425:G:O5' | 2.61 | 0.47 |
| 2:AA:1458:C:O2' | 2:AA:1459:G:N1 | 2.45 | 0.47 |
| 2:AA:1474:C:H2' | 2:AA:1475:G:N7 | 2.29 | 0.47 |
| 2:AA:1479:G:N1 | 2:AA:1514:U:N3 | 2.60 | 0.47 |
| 2:AA:1518:C:O2 | 2:AA:1519:G:H1' | 2.14 | 0.47 |
| 2:AA:1571:A:H2' | 2:AA:1572:A:OP2 | 2.14 | 0.47 |
| 2:AA:1605:C:H3' | 2:AA:1606:G:H8 | 1.79 | 0.47 |
| 2:AA:1612:C:N3 | 31:A7:3:ARG:NH1 | 2.63 | 0.47 |
| 2:AA:1630:G:H1 | 2:AA:1636:C:N4 | 2.12 | 0.47 |
| 2:AA:1648:C:C2 | 2:AA:1649:G:N7 | 2.83 | 0.47 |
| 2:AA:1701:A:C2' | 2:AA:1702:G:C5' | 2.88 | 0.47 |
| 2:AA:1708:C:H42 | 2:AA:1750:G:H1 | 1.62 | 0.47 |
| 2:AA:1771:C:C2' | 2:AA:1772:G:O5' | 2.62 | 0.47 |
| 2:AA:1815:A:O2' | 2:AA:1816:G:C4' | 2.63 | 0.47 |
| 2:AA:1820:U:O2' | 2:AA:1821:A:OP2 | 2.31 | 0.47 |
| 2:AA:1827:C:O2 | 2:AA:1828:G:C4' | 2.62 | 0.47 |
| 2:AA:1864:U:C2' | 2:AA:1869:G:C5' | 2.83 | 0.47 |
| 2:AA:1915:U:O2 | 2:AA:1915:U:C2' | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1916:A:H8 | 2:AA:1916:A:OP2 | 1.97 | 0.47 |
| 2:AA:2103:C:H2' | 2:AA:2104:G:C8 | 2.36 | 0.47 |
| 2:AA:2151:G:N1 | 2:AA:2152:G:C2 | 2.82 | 0.47 |
| 2:AA:2188:C:H5" | 2:AA:2189:U:OP2 | 2.14 | 0.47 |
| 2:AA:2193:G:C6 | 2:AA:2194:G:N7 | 2.82 | 0.47 |
| 2:AA:2195:C:C5' | 2:AA:2195:C:H6 | 2.27 | 0.47 |
| 2:AA:2206:C:H2' | 2:AA:2207:C:C6 | 2.49 | 0.47 |
| 2:AA:2231:C:C2' | 2:AA:2232:U:H6 | 2.09 | 0.47 |
| 2:AA:2259:G:O4' | 2:AA:2427:C:C6 | 2.66 | 0.47 |
| 2:AA:2266:A:H5' | 2:AA:2267:A:C5 | 2.49 | 0.47 |
| 2:AA:2287:A:C4 | 2:AA:2289:G:C8 | 3.02 | 0.47 |
| 2:AA:2349:G:C6 | 2:AA:2350:C:C6 | 3.02 | 0.47 |
| 2:AA:2415:G:H2' | 2:AA:2415:G:N3 | 2.30 | 0.47 |
| 2:AA:2589:A:C6 | 2:AA:2590:A:C5 | 3.02 | 0.47 |
| 2:AA:2645:G:O2' | 2:AA:2733:A:P | 2.72 | 0.47 |
| 2:AA:2657:A:C8 | 2:AA:2658:C:C6 | 3.02 | 0.47 |
| 2:AA:2694:G:H2' | 2:AA:2695:C:C5' | 2.44 | 0.47 |
| 2:AA:2707:G:H21 | 2:AA:2708:G:H1' | 1.78 | 0.47 |
| 2:AA:2759:G:C2 | 2:AA:2760:C:C4 | 3.02 | 0.47 |
| 2:AA:2795:G:HO2' | 2:AA:2797:U:H6 | 1.56 | 0.47 |
| 2:AA:2888:C:C2 | 2:AA:2889:C:C6 | 3.03 | 0.47 |
| 4:AD:211:HIS:HD1 | 4:AD:212:HIS:N | 2.12 | 0.47 |
| 5:AE:105:HIS:CE1 | 5:AE:108:LEU:HD21 | 2.49 | 0.47 |
| 5:AE:186:GLU:C | 5:AE:187:HIS:CG | 2.87 | 0.47 |
| 5:AE:226:HIS:ND1 | 5:AE:226:HIS:N | 2.62 | 0.47 |
| 5:AE:270:ASP:O | 5:AE:271:ILE:HG13 | 2.14 | 0.47 |
| 5:AE:299:SER:C | 5:AE:301:PRO:N | 2.64 | 0.47 |
| 7:AG:14:ARG:H | 7:AG:14:ARG:CD | 2.25 | 0.47 |
| 7:AG:88:LEU:N | 7:AG:89:PRO:CD | 2.74 | 0.47 |
| 8:AH:36:PHE:CD2 | 8:AH:71:LEU:CD2 | 2.97 | 0.47 |
| 8:AH:41:THR:CG2 | 8:AH:52:THR:HG21 | 2.39 | 0.47 |
| 8:AH:87:GLU:OE2 | 8:AH:162:ARG:HD2 | 2.14 | 0.47 |
| 8:AH:107:GLY:O | 8:AH:109:SER:N | 2.39 | 0.47 |
| 12:AM:4:ALA:HA | 12:AM:109:TYR:OH | 2.13 | 0.47 |
| 12:AM:14:ALA:O | 12:AM:15:ARG:CG | 2.62 | 0.47 |
| 12:AM:74:ARG:O | 12:AM:75:PRO:C | 2.52 | 0.47 |
| 15:AP:48:ASN:OD1 | 15:AP:121:ASP:CB | 2.61 | 0.47 |
| 15:AP:49:VAL:HG23 | 15:AP:121:ASP:H | 1.78 | 0.47 |
| 15:AP:51:GLU:OE2 | 15:AP:148:ASN:HB2 | 2.15 | 0.47 |
| 15:AP:57:ARG:HB3 | 15:AP:60:ALA:HB2 | 1.96 | 0.47 |
| 15:AP:98:GLY:CA | 35:BC:1:G:O2' | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:121:ASP:OD2 | 15:AP:122:PHE:CE2 | 2.67 | 0.47 |
| 16:AQ:35:VAL:HG22 | 16:AQ:103:ASP:CG | 2.34 | 0.47 |
| 16:AQ:90:LEU:CD2 | 16:AQ:93:GLN:NE2 | 2.78 | 0.47 |
| 18:AS:18:ARG:CG | 18:AS:76:VAL:HG12 | 2.43 | 0.47 |
| 18:AS:59:VAL:CG2 | 18:AS:63:ASP:O | 2.63 | 0.47 |
| 18:AS:69:LEU:HD23 | 18:AS:109:GLU:CA | 2.43 | 0.47 |
| 19:AT:53:ASN:O | 19:AT:54:THR:CG2 | 2.62 | 0.47 |
| 19:AT:73:ASP:O | 19:AT:75:GLN:OE1 | 2.32 | 0.47 |
| 20:AU:41:ARG:C | 20:AU:112:LEU:HB3 | 2.35 | 0.47 |
| 21:AV:100:THR:CA | 21:AV:137:ASP:CG | 2.71 | 0.47 |
| 21:AV:175:ARG:O | 21:AV:176:LEU:HB2 | 2.14 | 0.47 |
| 23:AX:3:ARG:O | 23:AX:59:VAL:O | 2.32 | 0.47 |
| 23:AX:49:LYS:C | 23:AX:51:ALA:N | 2.68 | 0.47 |
| 24:A0:16:HIS:O | 24:A0:17:ARG:C | 2.51 | 0.47 |
| 24:A0:20:LEU:HD13 | 24:A0:21:TYR:N | 2.30 | 0.47 |
| 24:A0:29:LEU:HD22 | 24:A0:29:LEU:N | 2.28 | 0.47 |
| 24:A0:76:VAL:HG12 | 24:A0:77:ARG:CG | 2.44 | 0.47 |
| 24:A0:79:LEU:CD2 | 24:A0:80:PHE:HA | 2.32 | 0.47 |
| 24:A0:83:ILE:O | 24:A0:86:ARG:N | 2.47 | 0.47 |
| 25:A1:107:LYS:O | 25:A1:111:ASP:OD1 | 2.32 | 0.47 |
| 26:A2:61:VAL:CG1 | 26:A2:95:ILE:CG2 | 2.87 | 0.47 |
| 26:A2:72:ARG:O | 26:A2:88:GLN:NE2 | 2.35 | 0.47 |
| 26:A2:90:PHE:CD1 | 26:A2:90:PHE:N | 2.80 | 0.47 |
| 27:A3:11:LYS:O | 27:A3:12:ASN:O | 2.32 | 0.47 |
| 27:A3:28:GLY:HA3 | 27:A3:60:PHE:CB | 2.39 | 0.47 |
| 28:A4:5:LEU:O | 28:A4:7:PRO:HD2 | 2.14 | 0.47 |
| 28:A4:63:PHE:O | 28:A4:66:SER:N | 2.48 | 0.47 |
| 29:A5:51:TYR:O | 29:A5:52:TYR:HB2 | 2.13 | 0.47 |
| 31:A7:11:LYS:O | 31:A7:14:LYS:N | 2.47 | 0.47 |
| 34:BA:38:G:C6 | 34:BA:397:A:C2 | 3.02 | 0.47 |
| 34:BA:55:A:C2' | 34:BA:56:U:H5' | 2.44 | 0.47 |
| 34:BA:190(C):C:N3 | 34:BA:190(D):U:O2 | 2.46 | 0.47 |
| 34:BA:253:U:C4 | 34:BA:273:A:N1 | 2.81 | 0.47 |
| 34:BA:306:G:C4 | 34:BA:307:C:C6 | 3.01 | 0.47 |
| 34:BA:373:A:N1 | 34:BA:482:A:N6 | 2.62 | 0.47 |
| 34:BA:528:C:H4' | 34:BA:535:A:N6 | 2.29 | 0.47 |
| 34:BA:544:G:N3 | 34:BA:545:C:C6 | 2.82 | 0.47 |
| 34:BA:667:G:H2' | 34:BA:668:G:C8 | 2.48 | 0.47 |
| 34:BA:922:G:C5' | 40:BH:19:MET:O | 2.58 | 0.47 |
| 34:BA:1160:G:N1 | 34:BA:1161:C:C5 | 2.83 | 0.47 |
| 34:BA:1223:C:C5' | 34:BA:1224:G:H5" | 2.44 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1288:A:C5 | 34:BA:1289:A:N7 | 2.82 | 0.47 |
| 34:BA:1310:G:C6 | 34:BA:1328:C:N4 | 2.82 | 0.47 |
| 34:BA:1326:C:OP2 | 56:BX:6:ARG:NE | 2.47 | 0.47 |
| 34:BA:1371:G:H5" | 44:BL:68:GLY:HA2 | 1.96 | 0.47 |
| 34:BA:1426:C:N3 | 34:BA:1427:U:C4 | 2.82 | 0.47 |
| 34:BA:1524:C:N3 | 34:BA:1525:G:N7 | 2.62 | 0.47 |
| 35:BB:11:C:H42 | 35:BB:23:A:H61 | 1.63 | 0.47 |
| 35:BB:49:C:O4' | 35:BB:49:C:OP2 | 2.32 | 0.47 |
| 37:BE:54:THR:HG23 | 37:BE:199:TYR:HB3 | 1.95 | 0.47 |
| 38:BF:15:THR:HG21 | 38:BF:181:ASN:CB | 2.43 | 0.47 |
| 39:BG:20:TYR:O | 39:BG:31:CYS:SG | 2.72 | 0.47 |
| 39:BG:126:ILE:HB | 39:BG:132:ARG:HB2 | 1.97 | 0.47 |
| 39:BG:140:VAL:HG11 | 39:BG:185:PHE:HB2 | 1.96 | 0.47 |
| 39:BG:152:SER:O | 39:BG:158:ILE:CG1 | 2.61 | 0.47 |
| 39:BG:205:GLU:O | 39:BG:206:PHE:C | 2.52 | 0.47 |
| 40:BH:72:GLN:O | 40:BH:73:ASN:HB2 | 2.14 | 0.47 |
| 40:BH:84:PHE:HB3 | 40:BH:87:SER:O | 2.14 | 0.47 |
| 42:BJ:6:ARG:O | 42:BJ:7:ALA:C | 2.52 | 0.47 |
| 42:BJ:22:LEU:HD21 | 42:BJ:66:VAL:HG21 | 1.97 | 0.47 |
| 42:BJ:100:ALA:O | 42:BJ:103:TRP:HB2 | 2.14 | 0.47 |
| 42:BJ:113:GLU:OE1 | 42:BJ:118:VAL:C | 2.52 | 0.47 |
| 42:BJ:129:GLU:CD | 42:BJ:131:LYS:HE2 | 2.35 | 0.47 |
| 42:BJ:146:GLU:O | 42:BJ:147:ALA:C | 2.51 | 0.47 |
| 43:BK:44:PHE:CZ | 43:BK:109:ILE:HG21 | 2.48 | 0.47 |
| 43:BK:82:HIS:NE2 | 43:BK:84:ARG:HB3 | 2.30 | 0.47 |
| 43:BK:89:PRO:CA | 43:BK:92:ARG:NH2 | 2.77 | 0.47 |
| 43:BK:92:ARG:HB3 | 43:BK:94:TYR:CE1 | 2.49 | 0.47 |
| 44:BL:47:LEU:CD2 | 44:BL:50:LEU:HB2 | 2.41 | 0.47 |
| 44:BL:78:LYS:CD | 44:BL:101:PHE:HE2 | 2.26 | 0.47 |
| 46:BN:59:TYR:O | 46:BN:62:GLN:HB3 | 2.14 | 0.47 |
| 47:BO:104:VAL:O | 47:BO:104:VAL:HG12 | 2.13 | 0.47 |
| 48:BP:77:ASN:HA | 48:BP:80:ARG:CD | 2.43 | 0.47 |
| 49:BQ:17:LYS:HG3 | 49:BQ:18:VAL:HG13 | 1.96 | 0.47 |
| 50:BR:49:ASP:CG | 50:BR:52:SER:HB2 | 2.34 | 0.47 |
| 51:BS:51:VAL:O | 51:BS:51:VAL:HG12 | 2.14 | 0.47 |
| 54:BV:15:LEU:CD1 | 54:BV:44:MET:HE1 | 2.45 | 0.47 |
| 54:BV:66:MET:HA | 54:BV:69:HIS:CD2 | 2.50 | 0.47 |
| 54:BV:74:PHE:N | 54:BV:74:PHE:CD1 | 2.82 | 0.47 |
| 1:AB:32:C:C3' | 1:AB:33:G:H8 | 2.27 | 0.47 |
| 1:AB:77:U:H2' | 1:AB:78:A:H8 | 1.76 | 0.47 |
| 1:AB:79:C:C2' | 1:AB:80:U:H5' | 2.44 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:83:G:C5' | 23:AX:52:HIS:CD2 | 2.98 | 0.47 |
| 2:AA:71:A:P | 2:AA:112:U:H2' | 2.55 | 0.47 |
| 2:AA:143:C:C2 | 2:AA:143:C:OP2 | 2.67 | 0.47 |
| 2:AA:154:G:N7 | 2:AA:173:G:N1 | 2.62 | 0.47 |
| 2:AA:234:C:H42 | 2:AA:430:G:H21 | 1.59 | 0.47 |
| 2:AA:240:G:OP1 | 2:AA:623:G:H5' | 2.15 | 0.47 |
| 2:AA:458:G:C2' | 2:AA:469:G:C6 | 2.96 | 0.47 |
| 2:AA:717:G:N1 | 2:AA:718:A:C4 | 2.82 | 0.47 |
| 2:AA:967:C:H2' | 2:AA:968:G:H8 | 1.80 | 0.47 |
| 2:AA:1019:U:P | 2:AA:1120:G:H22 | 2.36 | 0.47 |
| 2:AA:1024:G:H8 | 2:AA:1025:G:H5" | 1.79 | 0.47 |
| 2:AA:1050:A:N1 | 2:AA:2751:G:C5 | 2.82 | 0.47 |
| 2:AA:1054:A:N6 | 2:AA:1104:C:H42 | 2.11 | 0.47 |
| 2:AA:1066:U:N3 | 2:AA:1069:A:OP1 | 2.47 | 0.47 |
| 2:AA:1163:G:N2 | 2:AA:1164:G:C8 | 2.82 | 0.47 |
| 2:AA:1168:G:C2 | 2:AA:1182:A:C2 | 3.02 | 0.47 |
| 2:AA:1199:U:OP2 | 2:AA:1199:U:O4' | 2.33 | 0.47 |
| 2:AA:1255:U:H3 | 6:AF:66:GLY:HA2 | 1.80 | 0.47 |
| 2:AA:1301:A:C3' | 2:AA:1607:C:H41 | 2.26 | 0.47 |
| 2:AA:1353:A:N6 | 2:AA:1354:A:H62 | 2.13 | 0.47 |
| 2:AA:1478:G:O2' | 2:AA:1479:G:C5' | 2.62 | 0.47 |
| 2:AA:1638:C:OP1 | 2:AA:2710:C:O2' | 2.33 | 0.47 |
| 2:AA:1664:A:C8 | 2:AA:1664:A:P | 3.07 | 0.47 |
| 2:AA:1670:C:C6 | 2:AA:1671:U:C5 | 3.02 | 0.47 |
| 2:AA:1672:C:O2' | 2:AA:1673:U:P | 2.73 | 0.47 |
| 2:AA:1794:U:C2 | 2:AA:1825:A:N1 | 2.82 | 0.47 |
| 2:AA:1805:U:OP2 | 2:AA:1805:U:C6 | 2.53 | 0.47 |
| 2:AA:1806:C:C2 | 2:AA:1807:G:C8 | 3.03 | 0.47 |
| 2:AA:1809:A:O2' | 2:AA:1810:A:C5' | 2.57 | 0.47 |
| 2:AA:1946:U:C2 | 2:AA:1947:C:C6 | 3.02 | 0.47 |
| 2:AA:2105:C:N3 | 2:AA:2106:G:N7 | 2.62 | 0.47 |
| 2:AA:2236:C:C5 | 2:AA:2237:G:C5 | 3.02 | 0.47 |
| 2:AA:2244:U:H2' | 2:AA:2245:U:O5' | 2.14 | 0.47 |
| 2:AA:2450:A:H2 | 2:AA:2451:A:H1' | 1.80 | 0.47 |
| 2:AA:2568:C:O2' | 2:AA:2569:G:H5' | 2.13 | 0.47 |
| 2:AA:2579:C:H5" | 2:AA:2579:C:H6 | 1.78 | 0.47 |
| 2:AA:2580:U:H5" | 2:AA:2581:G:OP2 | 2.15 | 0.47 |
| 2:AA:2605:U:C2 | 2:AA:2606:C:H5 | 2.33 | 0.47 |
| 2:AA:2645:G:C4' | 2:AA:2732:G:O2' | 2.55 | 0.47 |
| 2:AA:2795:G:H3' | 2:AA:2795:G:P | 2.54 | 0.47 |
| 2:AA:2815:C:O2' | 29:A5:43:HIS:CE1 | 2.68 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:5:LYS:NZ | 3:AC:8:ARG:CB | 2.71 | 0.47 |
| 3:AC:43:VAL:O | 3:AC:172:HIS:HA | 2.14 | 0.47 |
| 3:AC:62:VAL:HB | 3:AC:163:PHE:CE2 | 2.47 | 0.47 |
| 3:AC:214:VAL:CG2 | 3:AC:224:ILE:CD1 | 2.91 | 0.47 |
| 4:AD:108:ASN:O | 4:AD:109:LEU:C | 2.51 | 0.47 |
| 4:AD:130:PRO:HB2 | 4:AD:132:GLU:CB | 2.45 | 0.47 |
| 4:AD:134:ILE:HG23 | 4:AD:163:VAL:HG21 | 1.97 | 0.47 |
| 5:AE:202:ALA:O | 5:AE:309:PRO:HA | 2.14 | 0.47 |
| 5:AE:239:GLY:O | 5:AE:240:PRO:C | 2.51 | 0.47 |
| 6:AF:22:PHE:HZ | 6:AF:115:LEU:HD12 | 1.79 | 0.47 |
| 6:AF:52:ALA:HA | 6:AF:55:ARG:HH21 | 1.80 | 0.47 |
| 6:AF:93:LYS:C | 6:AF:95:GLU:H | 2.07 | 0.47 |
| 6:AF:240:LEU:O | 6:AF:243:VAL:CA | 2.63 | 0.47 |
| 8:AH:168:VAL:CG1 | 8:AH:169:ARG:H | 2.14 | 0.47 |
| 11:AL:55:PRO:CD | 11:AL:73:PRO:HA | 2.44 | 0.47 |
| 12:AM:53:ILE:HG22 | 12:AM:54:VAL:N | 2.28 | 0.47 |
| 15:AP:41:THR:HG21 | 15:AP:126:VAL:C | 2.35 | 0.47 |
| 15:AP:45:GLN:OE1 | 15:AP:153:PRO:HD2 | 2.14 | 0.47 |
| 16:AQ:74:PRO:HG3 | 16:AQ:114:LYS:CE | 2.40 | 0.47 |
| 18:AS:14:PRO:HG3 | 18:AS:101:SER:OG | 2.13 | 0.47 |
| 18:AS:43:GLY:O | 18:AS:44:ALA:C | 2.52 | 0.47 |
| 20:AU:42:VAL:CG1 | 20:AU:43:ASN:N | 2.58 | 0.47 |
| 20:AU:43:ASN:ND2 | 20:AU:101:LEU:CD2 | 2.77 | 0.47 |
| 20:AU:55:PHE:CD1 | 20:AU:89:ARG:NH1 | 2.82 | 0.47 |
| 22:AW:30:ALA:O | 22:AW:34:GLN:N | 2.47 | 0.47 |
| 24:A0:74:LYS:HE2 | 24:A0:74:LYS:HB2 | 1.62 | 0.47 |
| 25:A1:14:HIS:O | 25:A1:15:LYS:C | 2.50 | 0.47 |
| 25:A1:43:ALA:CA | 25:A1:46:GLU:OE2 | 2.59 | 0.47 |
| 25:A1:65:ILE:HG12 | 25:A1:96:ALA:HB2 | 1.96 | 0.47 |
| 25:A1:99:ALA:HB2 | 25:A1:106:PHE:CG | 2.49 | 0.47 |
| 26:A2:7:THR:N | 26:A2:9:GLY:O | 2.44 | 0.47 |
| 26:A2:22:VAL:CG1 | 26:A2:23:GLU:H | 2.27 | 0.47 |
| 27:A3:4:LYS:HZ3 | 27:A3:11:LYS:NZ | 2.11 | 0.47 |
| 28:A4:16:TYR:CE1 | 28:A4:37:SER:OG | 2.61 | 0.47 |
| 29:A5:45:ILE:HG23 | 29:A5:52:TYR:HD1 | 1.77 | 0.47 |
| 30:A6:46:LYS:HB2 | 30:A6:47:HIS:ND1 | 2.30 | 0.47 |
| 34:BA:11:G:N2 | 34:BA:24:U:C6 | 2.82 | 0.47 |
| 34:BA:22:G:C4' | 34:BA:885:G:C1' | 2.93 | 0.47 |
| 34:BA:108:G:OP1 | 34:BA:326:G:N2 | 2.48 | 0.47 |
| 34:BA:120:A:C8 | 34:BA:120:A:O5' | 2.67 | 0.47 |
| 34:BA:160:A:H62 | 34:BA:161:A:N6 | 2.12 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:162:A:C3' | 34:BA:163:C:H5' | 2.43 | 0.47 |
| 34:BA:176:C:C2 | 34:BA:177:C:C6 | 3.03 | 0.47 |
| 34:BA:218:C:H5' | 34:BA:461:C:N4 | 2.30 | 0.47 |
| 34:BA:228:A:C2' | 34:BA:229:U:C5' | 2.91 | 0.47 |
| 34:BA:258:G:C2 | 34:BA:259:G:C8 | 3.01 | 0.47 |
| 34:BA:279:A:H1' | 34:BA:281:G:N2 | 2.24 | 0.47 |
| 34:BA:299:G:N2 | 34:BA:300:A:C2 | 2.82 | 0.47 |
| 34:BA:323:U:H4' | 55:BW:22:ARG:HB2 | 1.96 | 0.47 |
| 34:BA:398:C:O2' | 34:BA:399:G:H5' | 2.15 | 0.47 |
| 34:BA:551:U:H5' | 47:BO:119:LYS:HE3 | 1.94 | 0.47 |
| 34:BA:621:A:C6 | 34:BA:622:A:N6 | 2.82 | 0.47 |
| 34:BA:717:C:H2' | 34:BA:734:G:H5' | 1.95 | 0.47 |
| 34:BA:763:G:O2' | 34:BA:764:C:C5' | 2.62 | 0.47 |
| 34:BA:783:C:O2' | 34:BA:784:C:H5' | 2.12 | 0.47 |
| 34:BA:803:G:C6 | 34:BA:804:U:C2 | 3.02 | 0.47 |
| 34:BA:819:A:C5' | 34:BA:820:U:OP2 | 2.62 | 0.47 |
| 34:BA:824:C:C1' | 43:BK:1:MET:N | 2.78 | 0.47 |
| 34:BA:908:A:N1 | 34:BA:909:A:N6 | 2.63 | 0.47 |
| 34:BA:1048:G:N1 | 34:BA:1209:C:N4 | 2.26 | 0.47 |
| 34:BA:1134:G:C2 | 34:BA:1141:C:C4 | 3.02 | 0.47 |
| 34:BA:1145:C:O2' | 34:BA:1146:A:P | 2.69 | 0.47 |
| 34:BA:1226:C:H2' | 48:BP:104:ARG:O | 2.15 | 0.47 |
| 34:BA:1256:A:C2 | 34:BA:1258:G:C2 | 3.02 | 0.47 |
| 34:BA:1316:G:H8 | 34:BA:1316:G:P | 2.36 | 0.47 |
| 34:BA:1323:G:O2' | 34:BA:1324:A:H5' | 2.15 | 0.47 |
| 34:BA:1376:U:O5' | 34:BA:1376:U:H6 | 1.97 | 0.47 |
| 34:BA:1433:A:C6 | 34:BA:1434:A:C4 | 3.02 | 0.47 |
| 35:BB:1:G:N3 | 35:BB:1:G:H2' | 2.28 | 0.47 |
| 35:BC:34:G:N2 | 36:B1:62:G:N1 | 2.59 | 0.47 |
| 35:BC:63:C:O2' | 35:BC:64:A:O5' | 2.32 | 0.47 |
| 36:B1:60:A:HO2' | 36:B1:61:U:P | 2.36 | 0.47 |
| 36:B1:69:A:N3 | 36:B1:69:A:C3' | 2.77 | 0.47 |
| 37:BE:87:ARG:C | 37:BE:89:GLY:N | 2.67 | 0.47 |
| 38:BF:38:ARG:HG3 | 38:BF:38:ARG:HH11 | 1.79 | 0.47 |
| 38:BF:182:ILE:CA | 38:BF:204:LEU:HG | 2.42 | 0.47 |
| 39:BG:19:LEU:N | 39:BG:33:MET:HE1 | 2.30 | 0.47 |
| 39:BG:52:SER:O | 39:BG:54:TYR:N | 2.47 | 0.47 |
| 41:BI:10:LEU:N | 41:BI:10:LEU:CD1 | 2.73 | 0.47 |
| 41:BI:15:ASP:N | 41:BI:18:GLN:NE2 | 2.62 | 0.47 |
| 41:BI:28:ARG:CG | 41:BI:28:ARG:NH1 | 2.74 | 0.47 |
| 41:BI:100:ASN:HD21 | 53:BU:23:LYS:C | 2.18 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:26:VAL:HG13 | 43:BK:27:PRO:CD | 2.44 | 0.47 |
| 45:BM:8:LEU:HD22 | 45:BM:94:VAL:HG11 | 1.94 | 0.47 |
| 46:BN:27:ASN:OD1 | 46:BN:45:GLY:HA3 | 2.14 | 0.47 |
| 46:BN:48:ILE:HD13 | 46:BN:63:LEU:HB3 | 1.96 | 0.47 |
| 47:BO:61:THR:C | 47:BO:62:SER:HG | 2.16 | 0.47 |
| 47:BO:93:LEU:O | 47:BO:93:LEU:HG | 2.14 | 0.47 |
| 48:BP:90:LEU:O | 48:BP:93:ARG:N | 2.47 | 0.47 |
| 49:BQ:14:PRO:CG | 49:BQ:17:LYS:HA | 2.44 | 0.47 |
| 49:BQ:26:ARG:HH11 | 49:BQ:47:LEU:HG | 1.79 | 0.47 |
| 51:BS:8:ARG:CG | 51:BS:15:PRO:HB3 | 2.44 | 0.47 |
| 52:BT:33:GLY:O | 52:BT:34:LYS:C | 2.53 | 0.47 |
| 52:BT:74:LEU:O | 52:BT:74:LEU:HD22 | 2.14 | 0.47 |
| 53:BU:67:ALA:HA | 53:BU:70:ILE:HG13 | 1.95 | 0.47 |
| 53:BU:76:LEU:H | 53:BU:76:LEU:CD2 | 2.26 | 0.47 |
| 53:BU:82:THR:O | 53:BU:83:GLU:CB | 2.62 | 0.47 |
| 55:BW:45:GLN:NE2 | 55:BW:91:LEU:HD21 | 2.28 | 0.47 |
| 55:BW:79:ARG:HH11 | 55:BW:79:ARG:CG | 2.27 | 0.47 |
| 56:BX:12:LYS:HD2 | 56:BX:12:LYS:N | 2.29 | 0.47 |
| 1:AB:27:C:N3 | 1:AB:28:C:C2 | 2.82 | 0.47 |
| 2:AA:36:G:N3 | 2:AA:450:G:O2' | 2.39 | 0.47 |
| 2:AA:38:A:C4 | 2:AA:39:C:C5 | 3.03 | 0.47 |
| 2:AA:48:G:H1' | 2:AA:178:G:N2 | 2.30 | 0.47 |
| 2:AA:69:C:H6 | 2:AA:69:C:OP2 | 1.96 | 0.47 |
| 2:AA:80:G:H2' | 2:AA:81:G:H5' | 1.96 | 0.47 |
| 2:AA:83:G:C6 | 2:AA:102:G:C2' | 2.95 | 0.47 |
| 2:AA:84:A:H2 | 2:AA:102:G:HO2' | 1.62 | 0.47 |
| 2:AA:178:G:C6 | 2:AA:179:G:N7 | 2.82 | 0.47 |
| 2:AA:242:G:C2 | 2:AA:254:G:N7 | 2.82 | 0.47 |
| 2:AA:270(J):G:C6 | 2:AA:270(K):C:C4 | 3.02 | 0.47 |
| 2:AA:270(R):G:H2' | 2:AA:270(R):G:N3 | 2.28 | 0.47 |
| 2:AA:280:C:HO2' | 2:AA:281:G:H3' | 1.79 | 0.47 |
| 2:AA:326:G:C2' | 2:AA:327:G:O5' | 2.63 | 0.47 |
| 2:AA:426:C:H2' | 2:AA:427:U:C5' | 2.44 | 0.47 |
| 2:AA:443:A:H1' | 2:AA:1201:C:C5' | 2.43 | 0.47 |
| 2:AA:481:G:O2' | 2:AA:482:A:C8 | 2.66 | 0.47 |
| 2:AA:489:G:N2 | 2:AA:491:G:C4 | 2.82 | 0.47 |
| 2:AA:697:C:P | 2:AA:1555:G:H22 | 2.38 | 0.47 |
| 2:AA:753:C:H2' | 2:AA:754:C:H6 | 1.79 | 0.47 |
| 2:AA:774:A:O2' | 2:AA:775:G:O5' | 2.25 | 0.47 |
| 2:AA:782:A:C5' | 2:AA:783:A:OP1 | 2.58 | 0.47 |
| 2:AA:823:G:N3 | 2:AA:824:A:N7 | 2.63 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:850:C:H2' | 2:AA:851:U:C6 | 2.49 | 0.47 |
| 2:AA:852:G:C2' | 2:AA:853:G:O5' | 2.63 | 0.47 |
| 2:AA:901:A:N7 | 2:AA:902:C:N4 | 2.62 | 0.47 |
| 2:AA:910:A:O2' | 2:AA:911:A:H5' | 2.14 | 0.47 |
| 2:AA:967:C:H2' | 2:AA:968:G:C8 | 2.49 | 0.47 |
| 2:AA:969:U:H6 | 2:AA:969:U:O5' | 1.97 | 0.47 |
| 2:AA:992:C:H2' | 2:AA:993:G:H5" | 1.96 | 0.47 |
| 2:AA:1006:C:H2' | 2:AA:1006:C:O2 | 2.13 | 0.47 |
| 2:AA:1041:C:C5 | 2:AA:1042:G:N7 | 2.82 | 0.47 |
| 2:AA:1057:A:C2 | 2:AA:1058:G:N7 | 2.83 | 0.47 |
| 2:AA:1189:A:OP2 | 2:AA:1190:G:N7 | 2.48 | 0.47 |
| 2:AA:1223:C:N4 | 2:AA:1227:A:H61 | 2.12 | 0.47 |
| 2:AA:1271:G:C8 | 2:AA:1271:G:C3' | 2.97 | 0.47 |
| 2:AA:1317:A:C8 | 2:AA:1317:A:C3' | 2.98 | 0.47 |
| 2:AA:1344:G:C6 | 2:AA:1385:G:C8 | 3.03 | 0.47 |
| 2:AA:1475:G:H21 | 2:AA:1476:C:C5' | 2.28 | 0.47 |
| 2:AA:1582:C:C2 | 2:AA:1583:A:N3 | 2.83 | 0.47 |
| 2:AA:1625:C:H2' | 2:AA:1626:G:H4' | 1.85 | 0.47 |
| 2:AA:1637:A:C2 | 2:AA:1638:C:N3 | 2.82 | 0.47 |
| 2:AA:1799:G:C6 | 4:AD:177:SER:CB | 2.89 | 0.47 |
| 2:AA:1818:U:O4 | 4:AD:66:PHE:CE1 | 2.66 | 0.47 |
| 2:AA:1855:G:O5' | 2:AA:1855:G:C8 | 2.57 | 0.47 |
| 2:AA:1904:G:C2' | 2:AA:1905:C:O5' | 2.63 | 0.47 |
| 2:AA:1926:U:C5 | 2:AA:1928:A:OP2 | 2.68 | 0.47 |
| 2:AA:1955:U:C2' | 2:AA:1956:U:OP1 | 2.61 | 0.47 |
| 2:AA:2026:C:O2 | 2:AA:2026:C:H2' | 2.15 | 0.47 |
| 2:AA:2067:G:C5' | 2:AA:2068:U:OP2 | 2.59 | 0.47 |
| 2:AA:2207:C:O2' | 2:AA:2208:U:H5" | 2.14 | 0.47 |
| 2:AA:2256:G:C2 | 2:AA:2257:U:C2 | 3.03 | 0.47 |
| 2:AA:2259:G:H2' | 2:AA:2260:C:C6 | 2.49 | 0.47 |
| 2:AA:2283:C:C6 | 2:AA:2389:G:N3 | 2.82 | 0.47 |
| 2:AA:2295:C:C6 | 2:AA:2338:G:N2 | 2.83 | 0.47 |
| 2:AA:2470:G:O6 | 2:AA:2481:G:N2 | 2.47 | 0.47 |
| 2:AA:2473:U:O2 | 2:AA:2473:U:C2' | 2.63 | 0.47 |
| 2:AA:2478:A:N7 | 2:AA:2479:G:C8 | 2.83 | 0.47 |
| 2:AA:2551:C:H2' | 2:AA:2552:U:O4' | 2.15 | 0.47 |
| 2:AA:2595:G:H1' | 2:AA:2599:G:N2 | 2.23 | 0.47 |
| 2:AA:2756:U:N3 | 2:AA:2758:A:N6 | 2.62 | 0.47 |
| 2:AA:2825:C:N3 | 2:AA:2826:A:C8 | 2.82 | 0.47 |
| 2:AA:2866:U:O2 | 2:AA:2868:A:C4' | 2.61 | 0.47 |
| 3:AC:29:VAL:HG11 | 3:AC:41:VAL:HG21 | 1.96 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:73:ARG:NE | 3:AC:111:ASP:OD2 | 2.47 | 0.47 |
| 3:AC:127:LEU:HD22 | 3:AC:130:ILE:CG2 | 2.41 | 0.47 |
| 4:AD:143:ILE:O | 4:AD:152:GLN:C | 2.53 | 0.47 |
| 5:AE:310:PHE:N | 5:AE:310:PHE:CD1 | 2.81 | 0.47 |
| 5:AE:315:VAL:O | 5:AE:316:ARG:C | 2.53 | 0.47 |
| 6:AF:103:ASN:C | 6:AF:107:ARG:HG3 | 2.35 | 0.47 |
| 6:AF:151:GLN:O | 6:AF:154:VAL:CB | 2.63 | 0.47 |
| 8:AH:35:THR:C | 8:AH:36:PHE:CD1 | 2.88 | 0.47 |
| 9:AI:55:GLU:O | 9:AI:56:LYS:HB2 | 2.14 | 0.47 |
| 10:AK:25:TYR:CA | 10:AK:29:PHE:CE1 | 2.97 | 0.47 |
| 10:AK:79:ILE:HB | 10:AK:145:VAL:CG2 | 2.32 | 0.47 |
| 11:AL:132:ALA:HB1 | 11:AL:137:ILE:HB | 1.97 | 0.47 |
| 12:AM:44:ALA:O | 12:AM:132:LEU:N | 2.47 | 0.47 |
| 12:AM:58:GLU:CB | 12:AM:61:VAL:HB | 2.44 | 0.47 |
| 12:AM:87:LEU:CB | 12:AM:98:PHE:CE1 | 2.98 | 0.47 |
| 12:AM:108:PRO:CD | 12:AM:109:TYR:H | 2.28 | 0.47 |
| 13:AN:46:ALA:H | 13:AN:54:LYS:HE2 | 1.80 | 0.47 |
| 16:AQ:41:LYS:HD3 | 16:AQ:41:LYS:O | 2.15 | 0.47 |
| 20:AU:48:VAL:HG13 | 20:AU:97:ARG:N | 2.29 | 0.47 |
| 21:AV:7:PRO:HG2 | 21:AV:9:THR:OG1 | 2.15 | 0.47 |
| 21:AV:62:PHE:O | 21:AV:85:MET:SD | 2.72 | 0.47 |
| 21:AV:88:TYR:O | 21:AV:91:PRO:HD3 | 2.15 | 0.47 |
| 21:AV:98:VAL:CG2 | 21:AV:134:LEU:HD22 | 2.44 | 0.47 |
| 23:AX:40:THR:CG2 | 23:AX:43:ILE:HG12 | 2.44 | 0.47 |
| 24:A0:87:TYR:N | 24:A0:87:TYR:CD2 | 2.80 | 0.47 |
| 24:A0:92:GLY:HA2 | 24:A0:94:TYR:CE1 | 2.49 | 0.47 |
| 25:A1:20:ARG:HH12 | 26:A2:75:LYS:CE | 2.27 | 0.47 |
| 25:A1:101:ARG:HB2 | 26:A2:13:ARG:HH21 | 1.80 | 0.47 |
| 27:A3:24:LYS:HG2 | 27:A3:56:ASP:CG | 2.34 | 0.47 |
| 27:A3:36:ILE:O | 27:A3:36:ILE:CG2 | 2.62 | 0.47 |
| 27:A3:39:ARG:NH1 | 27:A3:69:PHE:CE1 | 2.83 | 0.47 |
| 28:A4:56:VAL:CG1 | 28:A4:57:ASP:N | 2.48 | 0.47 |
| 29:A5:4:HIS:CB | 29:A5:5:PRO:CD | 2.92 | 0.47 |
| 34:BA:33:A:O2' | 47:BO:31:PRO:HB3 | 2.15 | 0.47 |
| 34:BA:271:C:O2' | 34:BA:272:C:C5' | 2.62 | 0.47 |
| 34:BA:277:C:H5" | 52:BT:68:ARG:NH1 | 2.29 | 0.47 |
| 34:BA:287:U:O2' | 34:BA:288:A:C5' | 2.62 | 0.47 |
| 34:BA:539:A:H2' | 34:BA:540:G:C8 | 2.50 | 0.47 |
| 34:BA:560:U:C6 | 34:BA:566:G:C2 | 3.03 | 0.47 |
| 34:BA:594:G:O6 | 34:BA:595:G:N2 | 2.47 | 0.47 |
| 34:BA:597:G:C2' | 34:BA:598:U:C5' | 2.92 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:708:C:C5' | 46:BN:37:GLY:CA | 2.91 | 0.47 |
| 34:BA:790:A:C6 | 34:BA:791:G:C6 | 3.03 | 0.47 |
| 34:BA:803:G:O2' | 34:BA:804:U:H5' | 2.14 | 0.47 |
| 34:BA:816:A:H2' | 34:BA:817:C:OP2 | 2.15 | 0.47 |
| 34:BA:878:G:OP1 | 43:BK:88:LYS:HB2 | 2.14 | 0.47 |
| 34:BA:950:U:C2' | 34:BA:951:G:C5' | 2.87 | 0.47 |
| 34:BA:1044:A:C2' | 34:BA:1045:C:C5' | 2.92 | 0.47 |
| 34:BA:1057:G:H1' | 38:BF:195:VAL:HG12 | 1.96 | 0.47 |
| 34:BA:1253:G:H2' | 34:BA:1254:C:O4' | 2.14 | 0.47 |
| 34:BA:1326:C:H5" | 56:BX:19:GLY:CA | 2.45 | 0.47 |
| 34:BA:1426:C:H2' | 34:BA:1427:U:O5' | 2.14 | 0.47 |
| 34:BA:1451:A:C8 | 34:BA:1451:A:O5' | 2.67 | 0.47 |
| 34:BA:1502:A:C6 | 34:BA:1504:G:N2 | 2.83 | 0.47 |
| 34:BA:1536:C:N3 | 36:B1:54:G:C2 | 2.83 | 0.47 |
| 35:BB:66:A:N6 | 35:BB:67:A:N6 | 2.62 | 0.47 |
| 35:BC:9:A:N3 | 35:BC:46:G:C8 | 2.82 | 0.47 |
| 35:BC:20:G:N3 | 35:BC:20:G:C3' | 2.72 | 0.47 |
| 36:B1:17:G:N2 | 36:B1:39:A:N6 | 2.59 | 0.47 |
| 37:BE:154:LEU:HB3 | 37:BE:155:LEU:H | 1.62 | 0.47 |
| 37:BE:189:ASP:OD1 | 37:BE:205:ASP:CG | 2.53 | 0.47 |
| 37:BE:217:ARG:O | 37:BE:220:ASP:CB | 2.39 | 0.47 |
| 38:BF:95:THR:C | 38:BF:97:LYS:N | 2.68 | 0.47 |
| 38:BF:191:THR:C | 38:BF:193:TYR:N | 2.66 | 0.47 |
| 39:BG:20:TYR:C | 39:BG:31:CYS:SG | 2.93 | 0.47 |
| 39:BG:94:LEU:CD1 | 39:BG:200:GLU:OE1 | 2.60 | 0.47 |
| 41:BI:3:ARG:HG3 | 41:BI:65:VAL:C | 2.35 | 0.47 |
| 41:BI:41:GLU:CG | 41:BI:62:TRP:CE3 | 2.92 | 0.47 |
| 41:BI:53:ALA:HB3 | 41:BI:55:ASP:CG | 2.34 | 0.47 |
| 41:BI:76:ALA:HA | 41:BI:79:LEU:HD11 | 1.96 | 0.47 |
| 42:BJ:42:ILE:HG23 | 42:BJ:117:ALA:N | 2.30 | 0.47 |
| 42:BJ:51:GLN:OE1 | 42:BJ:51:GLN:HA | 2.15 | 0.47 |
| 42:BJ:114:ARG:O | 42:BJ:115:ARG:HG3 | 2.13 | 0.47 |
| 45:BM:33:GLN:O | 45:BM:34:VAL:HB | 2.13 | 0.47 |
| 45:BM:49:VAL:HG13 | 45:BM:50:ILE:H | 1.79 | 0.47 |
| 47:BO:7:ILE:HG22 | 52:BT:34:LYS:HE2 | 1.97 | 0.47 |
| 47:BO:86:ARG:HB3 | 47:BO:101:VAL:HG21 | 1.96 | 0.47 |
| 47:BO:117:ARG:HH11 | 47:BO:124:LYS:HD2 | 1.79 | 0.47 |
| 50:BR:64:ARG:O | 50:BR:66:LEU:N | 2.47 | 0.47 |
| 50:BR:70:LEU:O | 50:BR:71:GLN:C | 2.51 | 0.47 |
| 50:BR:76:GLU:C | 50:BR:78:TYR:N | 2.67 | 0.47 |
| 52:BT:59:ILE:CD1 | 52:BT:73:VAL:CA | 2.92 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BU:51:LEU:HD12 | 53:BU:51:LEU:N | 2.27 | 0.47 |
| 55:BW:86:ARG:CG | 55:BW:87:LYS:HG3 | 2.45 | 0.47 |
| 56:BX:5:ASP:OD1 | 56:BX:7:ARG:HG2 | 2.15 | 0.47 |
| 1:AB:12:C:H3' | 27:A3:53:MET:CE | 2.44 | 0.47 |
| 1:AB:49:C:OP1 | 16:AQ:111:PRO:CD | 2.62 | 0.47 |
| 1:AB:92:G:C6 | 1:AB:93:C:C4 | 3.02 | 0.47 |
| 2:AA:72:U:O2' | 22:AW:54:ALA:CB | 2.63 | 0.47 |
| 2:AA:72:U:O2 | 22:AW:54:ALA:HB1 | 2.15 | 0.47 |
| 2:AA:270(W):G:C2' | 2:AA:270(X):G:H8 | 2.28 | 0.47 |
| 2:AA:336:C:C2' | 2:AA:337:C:H5' | 2.43 | 0.47 |
| 2:AA:358:U:H5' | 2:AA:358:U:C6 | 2.49 | 0.47 |
| 2:AA:412:A:H61 | 2:AA:2410:G:N2 | 2.11 | 0.47 |
| 2:AA:533:G:OP2 | 25:A1:25:TRP:CD1 | 2.68 | 0.47 |
| 2:AA:599:G:C4 | 2:AA:600:G:N7 | 2.82 | 0.47 |
| 2:AA:701:G:O2' | 2:AA:702:G:C5' | 2.63 | 0.47 |
| 2:AA:780:G:C6 | 2:AA:782:A:N1 | 2.83 | 0.47 |
| 2:AA:799:G:C8 | 2:AA:799:G:OP2 | 2.68 | 0.47 |
| 2:AA:800:A:HO2' | 2:AA:801:G:P | 2.37 | 0.47 |
| 2:AA:917:A:N7 | 2:AA:2268:A:C6 | 2.83 | 0.47 |
| 2:AA:974(A):C:H1' | 2:AA:989:G:C2 | 2.49 | 0.47 |
| 2:AA:1118:C:C2' | 2:AA:1119:C:O4' | 2.48 | 0.47 |
| 2:AA:1143:A:C2' | 2:AA:1144:G:O5' | 2.62 | 0.47 |
| 2:AA:1144:G:C4 | 2:AA:1145:C:C6 | 3.03 | 0.47 |
| 2:AA:1344:G:H22 | 2:AA:1404:C:H1' | 1.79 | 0.47 |
| 2:AA:1366:A:N3 | 2:AA:1367:A:C8 | 2.82 | 0.47 |
| 2:AA:1472:A:H62 | 2:AA:1474:C:H42 | 1.61 | 0.47 |
| 2:AA:1492:G:N2 | 2:AA:1493:C:C4 | 2.83 | 0.47 |
| 2:AA:1640:C:H2' | 2:AA:1641:A:O5' | 2.13 | 0.47 |
| 2:AA:1668:A:C2 | 2:AA:1674:G:H1' | 2.49 | 0.47 |
| 2:AA:1672:C:C2' | 2:AA:1673:U:C5' | 2.90 | 0.47 |
| 2:AA:1798:U:H3 | 2:AA:1821:A:N6 | 2.13 | 0.47 |
| 2:AA:1802:A:C8 | 2:AA:1817:G:N2 | 2.83 | 0.47 |
| 2:AA:1900:A:HO2' | 2:AA:1901:A:P | 2.35 | 0.47 |
| 2:AA:1907:G:H2' | 2:AA:1908:C:H6 | 1.78 | 0.47 |
| 2:AA:2059:A:C2 | 2:AA:2503:A:C6 | 3.02 | 0.47 |
| 2:AA:2072:G:H2' | 2:AA:2073:C:C6 | 2.44 | 0.47 |
| 2:AA:2104:G:N2 | 2:AA:2105:C:C2 | 2.82 | 0.47 |
| 2:AA:2132:U:C2 | 2:AA:2133:G:C2 | 3.03 | 0.47 |
| 2:AA:2276:G:C2 | 2:AA:2277:G:C8 | 3.02 | 0.47 |
| 2:AA:2371:G:HO2' | 30:A6:47:HIS:CE1 | 2.23 | 0.47 |
| 2:AA:2403:C:O2 | 2:AA:2403:C:H2' | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2463:C:O2 | 2:AA:2487:G:N1 | 2.36 | 0.47 |
| 2:AA:2489:G:C5 | 2:AA:2490:G:C5 | 3.03 | 0.47 |
| 2:AA:2521:C:C2 | 2:AA:2544:G:N2 | 2.75 | 0.47 |
| 2:AA:2539:C:O2' | 2:AA:2540:C:C5' | 2.61 | 0.47 |
| 2:AA:2626:C:C6 | 2:AA:2626:C:H3' | 2.49 | 0.47 |
| 2:AA:2714:G:O6 | 2:AA:2715:C:C4 | 2.67 | 0.47 |
| 2:AA:2834:G:C6 | 2:AA:2879:C:O2 | 2.67 | 0.47 |
| 2:AA:2843:G:C4 | 2:AA:2844:G:C8 | 3.02 | 0.47 |
| 3:AC:214:VAL:CG2 | 3:AC:224:ILE:HD11 | 2.45 | 0.47 |
| 4:AD:80:ILE:CB | 4:AD:82:TYR:CE1 | 2.91 | 0.47 |
| 5:AE:42:ALA:N | 5:AE:311:PHE:CZ | 2.82 | 0.47 |
| 5:AE:44:TYR:CG | 5:AE:307:LEU:O | 2.68 | 0.47 |
| 6:AF:1:MET:SD | 6:AF:23:GLU:OE2 | 2.72 | 0.47 |
| 6:AF:156:LEU:O | 6:AF:159:ALA:CB | 2.56 | 0.47 |
| 6:AF:158:GLU:H | 6:AF:158:GLU:CD | 2.18 | 0.47 |
| 7:AG:28:GLY:CA | 7:AG:69:ILE:CG2 | 2.89 | 0.47 |
| 7:AG:53:LYS:HG2 | 7:AG:54:ALA:N | 2.29 | 0.47 |
| 7:AG:103:ASN:OD1 | 7:AG:133:ASN:CA | 2.63 | 0.47 |
| 8:AH:98:GLN:O | 8:AH:99:GLY:C | 2.53 | 0.47 |
| 9:AI:102:ILE:HD13 | 9:AI:118:LEU:CD1 | 2.44 | 0.47 |
| 9:AJ:15:VAL:CG2 | 9:AJ:49:ALA:N | 2.78 | 0.47 |
| 9:AJ:85:LEU:HD12 | 11:AL:57:VAL:CB | 2.44 | 0.47 |
| 11:AL:12:GLN:C | 11:AL:13:LEU:HG | 2.34 | 0.47 |
| 11:AL:102:ARG:O | 11:AL:103:LYS:C | 2.52 | 0.47 |
| 12:AM:19:MET:HE1 | 12:AM:22:VAL:CG1 | 2.42 | 0.47 |
| 12:AM:58:GLU:HG2 | 12:AM:61:VAL:HG11 | 1.97 | 0.47 |
| 13:AN:119:PRO:CG | 13:AN:120:GLU:N | 2.77 | 0.47 |
| 15:AP:9:SER:O | 15:AP:11:LYS:HG2 | 2.14 | 0.47 |
| 15:AP:54:VAL:HG22 | 15:AP:55:GLN:H | 1.79 | 0.47 |
| 15:AP:60:ALA:HB3 | 15:AP:61:LEU:CD2 | 2.45 | 0.47 |
| 15:AP:72:VAL:O | 15:AP:73:GLN:HB2 | 2.15 | 0.47 |
| 16:AQ:66:LEU:O | 16:AQ:67:ALA:O | 2.32 | 0.47 |
| 16:AQ:119:GLN:C | 16:AQ:121:GLY:N | 2.65 | 0.47 |
| 19:AT:23:LYS:CG | 19:AT:67:ARG:HA | 2.43 | 0.47 |
| 19:AT:33:SER:N | 19:AT:36:GLU:HG3 | 2.29 | 0.47 |
| 19:AT:52:VAL:HG22 | 19:AT:66:VAL:HA | 1.95 | 0.47 |
| 19:AT:53:ASN:C | 19:AT:54:THR:HG23 | 2.35 | 0.47 |
| 20:AU:61:GLU:N | 20:AU:74:VAL:HG13 | 2.30 | 0.47 |
| 20:AU:101:LEU:CD2 | 20:AU:103:LEU:HD21 | 2.44 | 0.47 |
| 21:AV:2:GLU:O | 21:AV:54:ILE:HG23 | 2.14 | 0.47 |
| 21:AV:10:PRO:CG | 21:AV:11:LYS:N | 2.70 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:36:ARG:O | 21:AV:37:LYS:HB2 | 2.15 | 0.47 |
| 21:AV:37:LYS:O | 21:AV:40:ASP:HB2 | 2.14 | 0.47 |
| 25:A1:41:ASN:ND2 | 25:A1:42:ALA:N | 2.63 | 0.47 |
| 25:A1:47:TYR:OH | 26:A2:76:SER:CA | 2.63 | 0.47 |
| 26:A2:69:ILE:CG1 | 26:A2:89:ASN:O | 2.63 | 0.47 |
| 27:A3:24:LYS:CE | 27:A3:56:ASP:OD2 | 2.63 | 0.47 |
| 28:A4:11:PRO:O | 28:A4:12:CYS:HB2 | 2.13 | 0.47 |
| 32:A8:9:MET:O | 32:A8:14:ILE:CG1 | 2.63 | 0.47 |
| 32:A8:55:TRP:CZ3 | 32:A8:59:LYS:HE3 | 2.49 | 0.47 |
| 34:BA:81:U:C2' | 34:BA:83:U:OP2 | 2.56 | 0.47 |
| 34:BA:191:G:H8 | 34:BA:191:G:O5' | 1.98 | 0.47 |
| 34:BA:275:G:H4' | 52:BT:14:LYS:HB3 | 1.97 | 0.47 |
| 34:BA:320:C:O2 | 34:BA:321:A:C1' | 2.63 | 0.47 |
| 34:BA:463:A:OP2 | 51:BS:75:ARG:NH2 | 2.43 | 0.47 |
| 34:BA:503:C:O2 | 34:BA:510:A:H2 | 1.97 | 0.47 |
| 34:BA:644:G:C2' | 34:BA:645:C:H5' | 2.44 | 0.47 |
| 34:BA:694:A:C2 | 34:BA:695:A:H1' | 2.50 | 0.47 |
| 34:BA:876:G:C4 | 34:BA:877:C:C5 | 3.01 | 0.47 |
| 34:BA:877:C:O2' | 34:BA:878:G:H5' | 2.14 | 0.47 |
| 34:BA:883:C:C4 | 34:BA:884:U:C4 | 3.03 | 0.47 |
| 34:BA:886:G:O6 | 34:BA:912:C:C4 | 2.67 | 0.47 |
| 34:BA:893:C:H2' | 34:BA:894:G:C8 | 2.42 | 0.47 |
| 34:BA:935:A:H2' | 34:BA:936:C:C6 | 2.49 | 0.47 |
| 34:BA:958:A:N3 | 54:BV:55:LYS:HB2 | 2.30 | 0.47 |
| 34:BA:1049:U:C6 | 34:BA:1201:A:O4' | 2.67 | 0.47 |
| 34:BA:1117:G:C5 | 34:BA:1184:G:N1 | 2.83 | 0.47 |
| 34:BA:1196:U:H3' | 34:BA:1196:U:H6 | 1.80 | 0.47 |
| 34:BA:1202:G:H2' | 34:BA:1202:G:N3 | 2.29 | 0.47 |
| 34:BA:1209:C:C2' | 34:BA:1210:C:C5' | 2.90 | 0.47 |
| 34:BA:1251:A:O4' | 34:BA:1370:G:H4' | 2.15 | 0.47 |
| 34:BA:1305:G:N2 | 34:BA:1331:G:N3 | 2.63 | 0.47 |
| 34:BA:1330:U:H3' | 34:BA:1331:G:H8 | 1.79 | 0.47 |
| 34:BA:1336:C:C4' | 34:BA:1337:G:C2 | 2.97 | 0.47 |
| 34:BA:1412:C:N3 | 34:BA:1489:G:C2 | 2.82 | 0.47 |
| 34:BA:1454:G:O2' | 34:BA:1455:G:C5' | 2.62 | 0.47 |
| 34:BA:1518:A:C2 | 34:BA:1519:A:C2 | 3.02 | 0.47 |
| 35:BB:9:A:N3 | 35:BB:45:G:C4 | 2.82 | 0.47 |
| 35:BB:53:G:C4 | 35:BB:54:U:C6 | 3.01 | 0.47 |
| 37:BE:115:LEU:CD1 | 37:BE:145:LEU:HB3 | 2.37 | 0.47 |
| 37:BE:164:VAL:HG22 | 37:BE:165:VAL:HG22 | 1.96 | 0.47 |
| 37:BE:187:LEU:O | 37:BE:187:LEU:HD13 | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:213:LEU:CD2 | 37:BE:213:LEU:C | 2.83 | 0.47 |
| 38:BF:98:ASN:O | 38:BF:99:VAL:CG1 | 2.62 | 0.47 |
| 38:BF:179:ARG:O | 38:BF:180:ALA:C | 2.51 | 0.47 |
| 39:BG:8:VAL:HG12 | 39:BG:11:LEU:HD12 | 1.95 | 0.47 |
| 39:BG:71:SER:O | 39:BG:75:PHE:CB | 2.62 | 0.47 |
| 39:BG:122:ARG:HA | 39:BG:134:ASP:HB2 | 1.96 | 0.47 |
| 39:BG:131:ARG:HB2 | 39:BG:132:ARG:H | 1.53 | 0.47 |
| 40:BH:99:GLY:H | 40:BH:117:ASP:HA | 1.80 | 0.47 |
| 40:BH:131:ILE:O | 40:BH:132:ALA:C | 2.52 | 0.47 |
| 41:BI:8:ILE:HG23 | 41:BI:87:ARG:O | 2.15 | 0.47 |
| 41:BI:11:ASN:ND2 | 41:BI:13:ASN:ND2 | 2.53 | 0.47 |
| 41:BI:40:VAL:HG22 | 41:BI:40:VAL:O | 2.14 | 0.47 |
| 41:BI:75:LEU:HD22 | 41:BI:75:LEU:O | 2.14 | 0.47 |
| 41:BI:99:ALA:O | 41:BI:100:ASN:O | 2.32 | 0.47 |
| 42:BJ:85:TYR:HD2 | 42:BJ:85:TYR:N | 2.13 | 0.47 |
| 42:BJ:115:ARG:O | 42:BJ:118:VAL:HG23 | 2.15 | 0.47 |
| 43:BK:74:PRO:O | 43:BK:75:ARG:O | 2.32 | 0.47 |
| 43:BK:109:ILE:CD1 | 43:BK:137:VAL:HB | 2.45 | 0.47 |
| 44:BL:71:SER:O | 44:BL:74:ILE:N | 2.47 | 0.47 |
| 44:BL:73:GLN:O | 44:BL:77:ILE:HG13 | 2.14 | 0.47 |
| 45:BM:25:GLU:CA | 45:BM:28:ARG:HB2 | 2.44 | 0.47 |
| 46:BN:116:HIS:O | 46:BN:117:ASN:CB | 2.63 | 0.47 |
| 51:BS:49:LEU:HD21 | 51:BS:51:VAL:CG2 | 2.44 | 0.47 |
| 51:BS:52:ASP:OD2 | 51:BS:54:GLU:N | 2.47 | 0.47 |
| 51:BS:58:TYR:O | 51:BS:61:SER:HB3 | 2.15 | 0.47 |
| 52:BT:82:MET:O | 52:BT:85:VAL:HB | 2.14 | 0.47 |
| 52:BT:95:TYR:C | 52:BT:97:SER:N | 2.67 | 0.47 |
| 1:AB:8:U:O2' | 1:AB:9:G:C8 | 2.67 | 0.47 |
| 1:AB:57:A:H2' | 1:AB:58:A:O4' | 2.15 | 0.47 |
| 1:AB:58:A:O5' | 1:AB:58:A:C8 | 2.57 | 0.47 |
| 1:AB:75:G:H1' | 21:AV:22:VAL:CG2 | 2.44 | 0.47 |
| 2:AA:7:G:H5' | 12:AM:6:PHE:HD2 | 1.79 | 0.47 |
| 2:AA:20:C:N4 | 2:AA:521:G:O6 | 2.48 | 0.47 |
| 2:AA:23:G:C2 | 2:AA:24:G:N9 | 2.82 | 0.47 |
| 2:AA:56:A:H3' | 2:AA:57:C:C6 | 2.50 | 0.47 |
| 2:AA:59:U:C1' | 2:AA:73:A:C5 | 2.98 | 0.47 |
| 2:AA:77:C:OP2 | 2:AA:77:C:C6 | 2.68 | 0.47 |
| 2:AA:107:C:O2' | 2:AA:108:U:O5' | 2.32 | 0.47 |
| 2:AA:109:G:C2 | 2:AA:110:G:C1' | 2.97 | 0.47 |
| 2:AA:143:C:C6 | 2:AA:143:C:C3' | 2.97 | 0.47 |
| 2:AA:182:A:N3 | 2:AA:183:C:C6 | 2.83 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:187:G:H2' | 2:AA:188:G:H5' | 1.97 | 0.47 |
| 2:AA:222:A:O2' | 2:AA:223:A:P | 2.72 | 0.47 |
| 2:AA:270(H):C:H2' | 2:AA:270(I):G:O4' | 2.15 | 0.47 |
| 2:AA:271(C):U:H4' | 2:AA:271:G:H5' | 1.97 | 0.47 |
| 2:AA:283:A:C5 | 2:AA:284:U:H5 | 2.32 | 0.47 |
| 2:AA:285:C:H5" | 2:AA:286:C:OP2 | 2.14 | 0.47 |
| 2:AA:319:C:C4 | 2:AA:320:A:C5 | 3.03 | 0.47 |
| 2:AA:332:A:OP2 | 2:AA:332:A:H3' | 2.15 | 0.47 |
| 2:AA:340:A:P | 2:AA:340:A:H8 | 2.37 | 0.47 |
| 2:AA:357:A:C5 | 2:AA:358:U:C6 | 3.03 | 0.47 |
| 2:AA:388:G:N3 | 2:AA:390:A:C6 | 2.82 | 0.47 |
| 2:AA:390:A:C5' | 2:AA:391:G:OP1 | 2.55 | 0.47 |
| 2:AA:451:C:P | 6:AF:49:ASP:HB2 | 2.55 | 0.47 |
| 2:AA:470:A:N3 | 2:AA:471:A:C1' | 2.78 | 0.47 |
| 2:AA:495:G:C2 | 2:AA:496:G:H1' | 2.50 | 0.47 |
| 2:AA:501:A:C5 | 2:AA:502:A:C6 | 3.03 | 0.47 |
| 2:AA:530:G:C2 | 2:AA:2021:C:C6 | 3.03 | 0.47 |
| 2:AA:576:U:C2 | 2:AA:577:G:N7 | 2.83 | 0.47 |
| 2:AA:576:U:C2' | 2:AA:577:G:H5' | 2.44 | 0.47 |
| 2:AA:585:G:C2' | 2:AA:586:A:H8 | 2.26 | 0.47 |
| 2:AA:587:C:C4 | 2:AA:671:C:C6 | 3.03 | 0.47 |
| 2:AA:648:G:C2 | 2:AA:649:G:C8 | 3.03 | 0.47 |
| 2:AA:656:G:C2' | 2:AA:657:U:O4' | 2.56 | 0.47 |
| 2:AA:668:G:C5 | 2:AA:670:A:C8 | 3.03 | 0.47 |
| 2:AA:669:G:O2' | 2:AA:801:G:N2 | 2.48 | 0.47 |
| 2:AA:672:C:O5' | 2:AA:672:C:H6 | 1.98 | 0.47 |
| 2:AA:675:A:OP2 | 2:AA:804:A:N6 | 2.42 | 0.47 |
| 2:AA:687:C:C4 | 2:AA:788:A:C8 | 3.02 | 0.47 |
| 2:AA:692:C:N4 | 2:AA:771:G:C6 | 2.83 | 0.47 |
| 2:AA:702:G:C2 | 2:AA:703:U:C2 | 3.02 | 0.47 |
| 2:AA:714:U:C6 | 2:AA:714:U:O5' | 2.67 | 0.47 |
| 2:AA:734:A:C2 | 2:AA:735:A:N9 | 2.83 | 0.47 |
| 2:AA:747:U:OP1 | 29:A5:2:ALA:HB3 | 2.15 | 0.47 |
| 2:AA:784:A:C5 | 2:AA:792:G:C4 | 3.03 | 0.47 |
| 2:AA:812:C:H1' | 2:AA:1250:G:C2 | 2.50 | 0.47 |
| 2:AA:874:G:H5' | 21:AV:115:ILE:CD1 | 2.45 | 0.47 |
| 2:AA:895:U:O2 | 2:AA:896:A:N6 | 2.48 | 0.47 |
| 2:AA:906:G:C2 | 2:AA:907:U:C6 | 3.02 | 0.47 |
| 2:AA:922:U:H2' | 2:AA:923:C:C5 | 2.50 | 0.47 |
| 2:AA:924:C:O2' | 2:AA:925:C:C5' | 2.63 | 0.47 |
| 2:AA:932:G:H5' | 23:AX:24:LYS:CE | 2.45 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:970:C:O2 | 2:AA:971:C:C6 | 2.66 | 0.47 |
| 2:AA:973:A:N1 | 26:A2:81:ARG:N | 2.63 | 0.47 |
| 2:AA:1006:C:N1 | 2:AA:1137:G:N2 | 2.63 | 0.47 |
| 2:AA:1021:A:C8 | 2:AA:1021:A:C3' | 2.97 | 0.47 |
| 2:AA:1026:U:H6 | 2:AA:1026:U:C4' | 2.27 | 0.47 |
| 2:AA:1058:G:C2' | 2:AA:1059:G:O5' | 2.63 | 0.47 |
| 2:AA:1059:G:N2 | 11:AL:131:THR:N | 2.63 | 0.47 |
| 2:AA:1059:G:H21 | 11:AL:131:THR:HG23 | 1.79 | 0.47 |
| 2:AA:1084:A:O4' | 9:AI:38:ALA:HB2 | 2.13 | 0.47 |
| 2:AA:1108:U:O4 | 2:AA:1109:C:C4 | 2.67 | 0.47 |
| 2:AA:1136:G:H21 | 2:AA:1137:G:C1' | 2.26 | 0.47 |
| 2:AA:1179:C:O2' | 2:AA:1180:C:C5' | 2.62 | 0.47 |
| 2:AA:1254:A:C8 | 2:AA:1256:G:O4' | 2.67 | 0.47 |
| 2:AA:1264:G:OP1 | 29:A5:19:ARG:NH1 | 2.47 | 0.47 |
| 2:AA:1266:G:C2' | 2:AA:1267:U:OP2 | 2.62 | 0.47 |
| 2:AA:1288:U:O2 | 2:AA:1327:C:N3 | 2.48 | 0.47 |
| 2:AA:1294:U:O2' | 24:A0:26:LYS:CD | 2.60 | 0.47 |
| 2:AA:1294:U:C6 | 2:AA:1294:U:H5" | 2.50 | 0.47 |
| 2:AA:1314:C:N4 | 2:AA:1338:G:H1 | 2.12 | 0.47 |
| 2:AA:1340:U:C2' | 2:AA:1341:U:OP1 | 2.63 | 0.47 |
| 2:AA:1342:A:C3' | 2:AA:1342:A:C8 | 2.98 | 0.47 |
| 2:AA:1344:G:N1 | 2:AA:1404:C:C2 | 2.82 | 0.47 |
| 2:AA:1366:A:C4 | 2:AA:1367:A:C8 | 3.02 | 0.47 |
| 2:AA:1372:U:H2' | 2:AA:1373:A:O4' | 2.14 | 0.47 |
| 2:AA:1375:C:C6 | 2:AA:1376:C:H5 | 2.33 | 0.47 |
| 2:AA:1435:G:H2' | 2:AA:1436:G:O4' | 2.15 | 0.47 |
| 2:AA:1444:G:O3' | 2:AA:444(A):A:O4' | 2.32 | 0.47 |
| 2:AA:1465:G:C2' | 2:AA:1466:G:O5' | 2.62 | 0.47 |
| 2:AA:1553:A:C2 | 2:AA:1555:G:H5" | 2.50 | 0.47 |
| 2:AA:1587:A:C2 | 2:AA:1588:C:N3 | 2.83 | 0.47 |
| 2:AA:1594:G:H2' | 2:AA:1595:G:O4' | 2.15 | 0.47 |
| 2:AA:1609:A:N6 | 2:AA:1616:A:C2 | 2.82 | 0.47 |
| 2:AA:1642:G:C6 | 2:AA:1643:G:N7 | 2.83 | 0.47 |
| 2:AA:1666:G:H2' | 2:AA:1667:G:O4' | 2.15 | 0.47 |
| 2:AA:1694:C:H2' | 2:AA:1695:G:OP2 | 2.15 | 0.47 |
| 2:AA:1697:G:OP2 | 2:AA:1698:A:H3' | 2.14 | 0.47 |
| 2:AA:1788:C:C6 | 2:AA:1788:C:O5' | 2.64 | 0.47 |
| 2:AA:1795:C:N4 | 2:AA:1824:G:N1 | 2.32 | 0.47 |
| 2:AA:1838:C:H2' | 2:AA:1898:U:O4 | 2.13 | 0.47 |
| 2:AA:1859:A:H2' | 2:AA:1860:G:C5' | 2.38 | 0.47 |
| 2:AA:1886:C:H2' | 2:AA:1887:C:H6 | 1.79 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1935:G:C3' | 2:AA:1962:C:H42 | 2.28 | 0.47 |
| 2:AA:1964:G:C6 | 2:AA:1967:C:H5 | 2.33 | 0.47 |
| 2:AA:1969:A:C5' | 2:AA:1970:A:OP1 | 2.63 | 0.47 |
| 2:AA:1996:C:H2' | 2:AA:1997:G:H4' | 1.97 | 0.47 |
| 2:AA:2025:C:O2 | 2:AA:2025:C:C2' | 2.62 | 0.47 |
| 2:AA:2027:G:H2' | 2:AA:2028:U:C6 | 2.47 | 0.47 |
| 2:AA:2036:C:H5' | 2:AA:2036:C:C6 | 2.46 | 0.47 |
| 2:AA:2078:C:H1' | 2:AA:2434:A:C2 | 2.50 | 0.47 |
| 2:AA:2082:A:N3 | 2:AA:2083:G:C8 | 2.83 | 0.47 |
| 2:AA:2122:U:C6 | 2:AA:2122:U:OP2 | 2.67 | 0.47 |
| 2:AA:2135:A:OP1 | 2:AA:2136:C:C6 | 2.67 | 0.47 |
| 2:AA:2140:C:OP2 | 2:AA:2140:C:O4' | 2.32 | 0.47 |
| 2:AA:2225:A:H5" | 2:AA:2226:C:O4' | 2.15 | 0.47 |
| 2:AA:2243:U:C2' | 2:AA:2244:U:H5' | 2.43 | 0.47 |
| 2:AA:2284:C:HO2' | 2:AA:2325:G:N2 | 2.12 | 0.47 |
| 2:AA:2287:A:C5 | 2:AA:2289:G:C4 | 3.02 | 0.47 |
| 2:AA:2317:C:C5' | 7:AG:150:SER:CA | 2.86 | 0.47 |
| 2:AA:2356:C:H4' | 27:A3:17:ASN:HB3 | 1.95 | 0.47 |
| 2:AA:2404:C:C4 | 2:AA:2414:G:N2 | 2.83 | 0.47 |
| 2:AA:2408:U:C2 | 2:AA:2409:G:N7 | 2.82 | 0.47 |
| 2:AA:2456:C:C2' | 2:AA:2457:U:H5' | 2.45 | 0.47 |
| 2:AA:2460:U:C5 | 2:AA:2461:C:C4 | 3.02 | 0.47 |
| 2:AA:2478:A:H3' | 2:AA:2478:A:H8 | 1.80 | 0.47 |
| 2:AA:2492:U:O2' | 2:AA:2493:U:H5' | 2.14 | 0.47 |
| 2:AA:2497:A:O2' | 2:AA:2498:C:C6 | 2.68 | 0.47 |
| 2:AA:2532:G:N2 | 2:AA:2662:A:N6 | 2.63 | 0.47 |
| 2:AA:2536:G:C5 | 2:AA:2537:U:C4 | 3.02 | 0.47 |
| 2:AA:2551:C:H2' | 2:AA:2552:U:C6 | 2.49 | 0.47 |
| 2:AA:2569:G:H2' | 2:AA:2570:G:H8 | 1.79 | 0.47 |
| 2:AA:2582:G:C2' | 2:AA:2583:G:C5' | 2.88 | 0.47 |
| 2:AA:2606:C:C6 | 2:AA:2606:C:C4' | 2.98 | 0.47 |
| 2:AA:2617:C:C2 | 2:AA:2618:G:H8 | 2.32 | 0.47 |
| 2:AA:2634:G:H5' | 5:AE:111:THR:CG2 | 2.45 | 0.47 |
| 2:AA:2658:C:C2' | 2:AA:2659:G:C5' | 2.75 | 0.47 |
| 2:AA:2670:A:H5" | 2:AA:2670:A:C8 | 2.50 | 0.47 |
| 2:AA:2740:A:C5 | 2:AA:2741:A:C6 | 3.03 | 0.47 |
| 2:AA:2865:U:C4 | 2:AA:2866:U:C5 | 3.02 | 0.47 |
| 3:AC:73:ARG:O | 3:AC:111:ASP:N | 2.37 | 0.47 |
| 3:AC:200:LYS:HG3 | 3:AC:208:PHE:CE1 | 2.50 | 0.47 |
| 4:AD:65:ASP:OD2 | 4:AD:101:ARG:HD3 | 2.14 | 0.47 |
| 4:AD:142:ASN:HB2 | 4:AD:190:THR:N | 2.28 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:153:LEU:O | 4:AD:154:VAL:C | 2.53 | 0.47 |
| 4:AD:169:LYS:NZ | 4:AD:169:LYS:HB2 | 2.28 | 0.47 |
| 5:AE:41:PHE:CZ | 5:AE:173:ARG:HD2 | 2.49 | 0.47 |
| 5:AE:94:ARG:HB3 | 5:AE:95:PRO:CD | 2.44 | 0.47 |
| 5:AE:205:THR:HG23 | 5:AE:259:HIS:O | 2.14 | 0.47 |
| 5:AE:222:ARG:C | 5:AE:223:LYS:O | 2.53 | 0.47 |
| 6:AF:32:GLY:HA2 | 6:AF:35:VAL:CG2 | 2.44 | 0.47 |
| 6:AF:82:GLN:N | 6:AF:87:ARG:CD | 2.68 | 0.47 |
| 6:AF:167:ASP:O | 6:AF:168:ARG:HG3 | 2.15 | 0.47 |
| 6:AF:197:SER:CA | 6:AF:215:ALA:HB2 | 2.44 | 0.47 |
| 6:AF:241:ALA:O | 6:AF:242:GLU:C | 2.52 | 0.47 |
| 7:AG:135:VAL:HA | 7:AG:139:TYR:CE2 | 2.50 | 0.47 |
| 8:AH:108:TYR:O | 8:AH:109:SER:CB | 2.62 | 0.47 |
| 9:AJ:2:THR:OG1 | 9:AJ:5:GLU:HG3 | 2.14 | 0.47 |
| 9:AJ:91:LEU:O | 9:AJ:94:LYS:N | 2.47 | 0.47 |
| 10:AK:7:LYS:O | 10:AK:12:LYS:C | 2.52 | 0.47 |
| 10:AK:76:THR:CA | 10:AK:142:LYS:HE2 | 2.44 | 0.47 |
| 10:AK:105:GLN:N | 10:AK:105:GLN:CD | 2.68 | 0.47 |
| 10:AK:129:VAL:HB | 10:AK:131:VAL:HG23 | 1.96 | 0.47 |
| 11:AL:75:ALA:CA | 11:AL:112:LYS:NZ | 2.76 | 0.47 |
| 11:AL:96:ILE:O | 11:AL:97:VAL:CG1 | 2.62 | 0.47 |
| 12:AM:41:ALA:O | 12:AM:132:LEU:O | 2.32 | 0.47 |
| 13:AN:11:ALA:O | 13:AN:98:ILE:C | 2.53 | 0.47 |
| 13:AN:35:ILE:CA | 13:AN:62:VAL:HB | 2.45 | 0.47 |
| 13:AN:45:ASP:HA | 13:AN:54:LYS:CG | 2.39 | 0.47 |
| 14:AO:70:ASP:O | 14:AO:74:THR:CG2 | 2.59 | 0.47 |
| 14:AO:96:VAL:HG23 | 14:AO:100:ALA:N | 2.30 | 0.47 |
| 15:AP:22:GLY:C | 15:AP:23:ILE:HG13 | 2.34 | 0.47 |
| 15:AP:49:VAL:HG13 | 15:AP:50:VAL:H | 1.77 | 0.47 |
| 15:AP:56:ILE:C | 15:AP:61:LEU:HD11 | 2.34 | 0.47 |
| 15:AP:67:ALA:HB2 | 15:AP:70:ARG:HH11 | 1.76 | 0.47 |
| 15:AP:101:MET:HE2 | 15:AP:101:MET:HB3 | 1.87 | 0.47 |
| 15:AP:121:ASP:C | 15:AP:122:PHE:CD2 | 2.88 | 0.47 |
| 15:AP:124:ALA:HB2 | 15:AP:136:TRP:CD1 | 2.49 | 0.47 |
| 16:AQ:22:GLN:O | 16:AQ:23:ARG:C | 2.51 | 0.47 |
| 16:AQ:97:VAL:O | 16:AQ:98:GLU:CG | 2.62 | 0.47 |
| 16:AQ:117:ALA:O | 16:AQ:118:ILE:C | 2.51 | 0.47 |
| 19:AT:1:SER:O | 19:AT:2:TRP:HB3 | 2.14 | 0.47 |
| 19:AT:23:LYS:HD3 | 19:AT:65:VAL:HG11 | 1.97 | 0.47 |
| 20:AU:11:GLN:HG3 | 20:AU:21:LYS:HZ2 | 1.79 | 0.47 |
| 20:AU:16:LEU:O | 20:AU:19:ARG:CB | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:30:ASP:OD2 | 20:AU:31:LEU:HD21 | 2.14 | 0.47 |
| 20:AU:74:VAL:HB | 20:AU:91:LEU:CD1 | 2.44 | 0.47 |
| 20:AU:77:VAL:HB | 20:AU:91:LEU:HD21 | 1.96 | 0.47 |
| 20:AU:98:VAL:HG12 | 20:AU:99:THR:N | 2.29 | 0.47 |
| 21:AV:16:GLU:OE1 | 21:AV:16:GLU:CA | 2.61 | 0.47 |
| 21:AV:53:ASP:CB | 21:AV:62:PHE:O | 2.61 | 0.47 |
| 21:AV:100:THR:CG2 | 21:AV:137:ASP:CG | 2.83 | 0.47 |
| 21:AV:125:PRO:HG3 | 21:AV:130:ILE:HG22 | 1.96 | 0.47 |
| 21:AV:131:PRO:C | 21:AV:133:GLU:N | 2.67 | 0.47 |
| 21:AV:131:PRO:C | 21:AV:133:GLU:H | 2.16 | 0.47 |
| 21:AV:145:ASP:C | 21:AV:146:HIS:CD2 | 2.88 | 0.47 |
| 23:AX:23:LEU:CD2 | 23:AX:53:LEU:CD1 | 2.93 | 0.47 |
| 23:AX:25:ALA:O | 23:AX:26:LEU:C | 2.53 | 0.47 |
| 24:A0:20:LEU:HD13 | 24:A0:20:LEU:O | 2.14 | 0.47 |
| 24:A0:24:GLN:HE22 | 24:A0:36:THR:HG23 | 1.78 | 0.47 |
| 24:A0:93:GLY:O | 24:A0:95:THR:N | 2.47 | 0.47 |
| 25:A1:41:ASN:CG | 25:A1:42:ALA:N | 2.68 | 0.47 |
| 25:A1:74:MET:HE2 | 25:A1:117:ARG:NH2 | 2.29 | 0.47 |
| 25:A1:93:LYS:N | 26:A2:10:LYS:NZ | 2.56 | 0.47 |
| 26:A2:20:ILE:HG12 | 26:A2:67:LYS:HZ2 | 1.75 | 0.47 |
| 26:A2:75:LYS:HA | 26:A2:75:LYS:CE | 2.18 | 0.47 |
| 27:A3:47:ALA:HB1 | 27:A3:49:GLN:HE22 | 1.80 | 0.47 |
| 27:A3:51:VAL:HG12 | 27:A3:51:VAL:O | 2.14 | 0.47 |
| 28:A4:5:LEU:CA | 28:A4:56:VAL:HA | 2.42 | 0.47 |
| 28:A4:51:ASP:O | 28:A4:52:THR:HG23 | 2.15 | 0.47 |
| 28:A4:58:LYS:HB3 | 28:A4:59:PHE:CD1 | 2.50 | 0.47 |
| 29:A5:28:PRO:O | 29:A5:30:LEU:HG | 2.15 | 0.47 |
| 29:A5:33:CYS:SG | 29:A5:40:LYS:HG3 | 2.55 | 0.47 |
| 30:A6:2:ALA:N | 30:A6:11:LYS:CE | 2.78 | 0.47 |
| 30:A6:12:MET:O | 30:A6:13:GLU:HG3 | 2.14 | 0.47 |
| 30:A6:37:LEU:HD23 | 30:A6:51:ARG:HA | 1.97 | 0.47 |
| 31:A7:12:ARG:O | 31:A7:13:ALA:C | 2.50 | 0.47 |
| 31:A7:26:SER:OG | 31:A7:27:GLY:N | 2.47 | 0.47 |
| 32:A8:23:MET:HE2 | 32:A8:48:PHE:HA | 1.95 | 0.47 |
| 34:BA:17:U:H1' | 34:BA:1079:G:N2 | 2.30 | 0.47 |
| 34:BA:17:U:H3 | 34:BA:918:A:H61 | 1.62 | 0.47 |
| 34:BA:28:G:H1 | 34:BA:555:C:N4 | 2.11 | 0.47 |
| 34:BA:29:G:N1 | 34:BA:555:C:N4 | 2.62 | 0.47 |
| 34:BA:67:C:O2 | 34:BA:171:A:C2 | 2.67 | 0.47 |
| 34:BA:110:C:C3' | 34:BA:111:G:H8 | 2.27 | 0.47 |
| 34:BA:176:C:H5" | 55:BW:29:LYS:HZ3 | 1.79 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:217:C:H2' | 34:BA:218:C:C6 | 2.48 | 0.47 |
| 34:BA:250:A:O2' | 34:BA:251:G:OP2 | 2.27 | 0.47 |
| 34:BA:285:G:C2 | 34:BA:286:G:C8 | 3.03 | 0.47 |
| 34:BA:377:G:HO2' | 34:BA:378:G:C5' | 2.24 | 0.47 |
| 34:BA:402:G:O2' | 34:BA:620:C:N4 | 2.40 | 0.47 |
| 34:BA:457:C:N3 | 34:BA:458:C:C5 | 2.83 | 0.47 |
| 34:BA:458:C:C5 | 34:BA:459:G:N7 | 2.82 | 0.47 |
| 34:BA:507:C:OP2 | 34:BA:508:C:H3' | 2.14 | 0.47 |
| 34:BA:544:G:C4 | 34:BA:545:C:C5 | 3.02 | 0.47 |
| 34:BA:579:G:C2' | 34:BA:580:U:C5' | 2.80 | 0.47 |
| 34:BA:592:G:C6 | 34:BA:593:G:N7 | 2.83 | 0.47 |
| 34:BA:595:G:C4 | 34:BA:641:U:N3 | 2.82 | 0.47 |
| 34:BA:622:A:C8 | 34:BA:623:C:C6 | 3.02 | 0.47 |
| 34:BA:642:A:C2 | 43:BK:114:THR:CA | 2.98 | 0.47 |
| 34:BA:691:G:C5 | 46:BN:26:ASN:OD1 | 2.68 | 0.47 |
| 34:BA:691:G:C6 | 46:BN:26:ASN:OD1 | 2.68 | 0.47 |
| 34:BA:718:G:C5 | 46:BN:116:HIS:CD2 | 3.02 | 0.47 |
| 34:BA:723:U:O5' | 34:BA:723:U:C5 | 2.68 | 0.47 |
| 34:BA:726:C:C2 | 34:BA:731:G:N2 | 2.79 | 0.47 |
| 34:BA:789:U:O2' | 36:B1:59:A:C2 | 2.63 | 0.47 |
| 34:BA:827:U:C2 | 34:BA:870:U:C4 | 3.03 | 0.47 |
| 34:BA:864:A:C8 | 34:BA:864:A:C3' | 2.98 | 0.47 |
| 34:BA:939:G:OP1 | 42:BJ:102:ARG:NH1 | 2.47 | 0.47 |
| 34:BA:943:U:H2' | 34:BA:944:G:C5' | 2.45 | 0.47 |
| 34:BA:959:A:C2 | 34:BA:1222:G:O4' | 2.67 | 0.47 |
| 34:BA:969:A:C8 | 34:BA:969:A:C5' | 2.96 | 0.47 |
| 34:BA:1045:C:C2 | 34:BA:1046:A:C8 | 3.03 | 0.47 |
| 34:BA:1068:G:HO2' | 34:BA:1069:C:H5' | 1.79 | 0.47 |
| 34:BA:1116:C:H2' | 34:BA:1117:G:O4' | 2.14 | 0.47 |
| 34:BA:1154:G:C4 | 34:BA:1155:G:N7 | 2.83 | 0.47 |
| 34:BA:1154:G:N3 | 34:BA:1155:G:C8 | 2.82 | 0.47 |
| 34:BA:1220:G:N2 | 34:BA:1221:G:C4 | 2.82 | 0.47 |
| 34:BA:1268:A:O2' | 34:BA:1326:C:H4' | 2.15 | 0.47 |
| 34:BA:1298:C:H3' | 42:BJ:114:ARG:NH1 | 2.26 | 0.47 |
| 34:BA:1325:C:C2' | 34:BA:1326:C:O5' | 2.63 | 0.47 |
| 34:BA:1380:U:O2' | 34:BA:1381:U:C5' | 2.62 | 0.47 |
| 34:BA:1399:C:N3 | 34:BA:1401:G:C2 | 2.83 | 0.47 |
| 34:BA:1427:U:H2' | 34:BA:1428:A:O5' | 2.13 | 0.47 |
| 34:BA:1438:G:C6 | 34:BA:1439:C:C4 | 3.02 | 0.47 |
| 34:BA:1468:A:C8 | 34:BA:1468:A:C3' | 2.98 | 0.47 |
| 34:BA:1494:G:N1 | 34:BA:1495:U:O4 | 2.47 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1507:A:C2 | 34:BA:1530:G:H1' | 2.49 | 0.47 |
| 34:BA:1534:A:OP1 | 34:BA:1535:C:C5 | 2.68 | 0.47 |
| 34:BA:1539:C:N3 | 34:BA:1540:U:C5 | 2.83 | 0.47 |
| 35:BB:18:G:C6 | 35:BB:57:G:C2 | 2.88 | 0.47 |
| 35:BB:49:C:C2 | 35:BB:66:A:N1 | 2.83 | 0.47 |
| 35:BB:57:G:O2' | 35:BB:58:A:C5' | 2.62 | 0.47 |
| 35:BC:49:C:H2' | 35:BC:49:C:O2 | 2.15 | 0.47 |
| 35:BC:75:C:H2' | 35:BC:76:A:O3' | 2.14 | 0.47 |
| 37:BE:135:GLN:C | 37:BE:139:LYS:CE | 2.82 | 0.47 |
| 38:BF:12:LEU:CB | 38:BF:18:TRP:CZ3 | 2.98 | 0.47 |
| 38:BF:123:GLN:HB3 | 38:BF:128:PHE:CD2 | 2.50 | 0.47 |
| 38:BF:142:MET:SD | 38:BF:142:MET:O | 2.73 | 0.47 |
| 38:BF:157:ILE:HG21 | 38:BF:164:ARG:NE | 2.23 | 0.47 |
| 38:BF:187:ALA:CB | 38:BF:198:VAL:HG23 | 2.42 | 0.47 |
| 39:BG:15:GLU:CG | 39:BG:63:LYS:HB3 | 2.43 | 0.47 |
| 39:BG:26:CYS:HA | 39:BG:31:CYS:CA | 2.40 | 0.47 |
| 39:BG:64:LEU:CD2 | 39:BG:67:ILE:HD12 | 2.40 | 0.47 |
| 39:BG:100:ARG:NH1 | 39:BG:137:SER:HA | 2.30 | 0.47 |
| 39:BG:102:ASP:OD1 | 39:BG:136:PRO:O | 2.32 | 0.47 |
| 39:BG:155:LEU:O | 39:BG:158:ILE:N | 2.48 | 0.47 |
| 39:BG:177:ASP:OD1 | 39:BG:177:ASP:O | 2.33 | 0.47 |
| 40:BH:79:GLU:CD | 40:BH:79:GLU:N | 2.67 | 0.47 |
| 42:BJ:85:TYR:N | 42:BJ:85:TYR:CD2 | 2.82 | 0.47 |
| 42:BJ:151:TYR:O | 42:BJ:152:ALA:C | 2.52 | 0.47 |
| 43:BK:4:ASP:CB | 43:BK:6:ILE:HG22 | 2.44 | 0.47 |
| 43:BK:77:GLU:O | 43:BK:78:GLN:CB | 2.62 | 0.47 |
| 43:BK:77:GLU:O | 43:BK:78:GLN:CG | 2.63 | 0.47 |
| 43:BK:114:THR:HG23 | 43:BK:119:LEU:CD2 | 2.37 | 0.47 |
| 44:BL:2:GLU:O | 44:BL:21:PRO:CD | 2.63 | 0.47 |
| 44:BL:33:PHE:CZ | 44:BL:37:PHE:CE1 | 3.01 | 0.47 |
| 44:BL:40:LEU:O | 44:BL:42:ARG:N | 2.47 | 0.47 |
| 44:BL:48:GLU:O | 44:BL:49:PRO:C | 2.51 | 0.47 |
| 45:BM:5:ARG:NH2 | 45:BM:73:ASP:OD2 | 2.48 | 0.47 |
| 45:BM:9:ARG:CB | 45:BM:9:ARG:HH11 | 2.28 | 0.47 |
| 47:BO:62:SER:HB3 | 47:BO:64:TYR:CD1 | 2.50 | 0.47 |
| 47:BO:84:LEU:HB3 | 47:BO:104:VAL:HG11 | 1.97 | 0.47 |
| 48:BP:58:GLU:O | 48:BP:61:GLU:CB | 2.63 | 0.47 |
| 48:BP:74:VAL:O | 48:BP:78:ILE:CD1 | 2.62 | 0.47 |
| 48:BP:99:ARG:HG3 | 48:BP:99:ARG:HH11 | 1.80 | 0.47 |
| 49:BQ:10:ALA:C | 49:BQ:12:ARG:N | 2.68 | 0.47 |
| 50:BR:64:ARG:O | 50:BR:65:ARG:C | 2.51 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 51:BS:46:PRO:CG | 51:BS:47:ASP:N | 2.59 | 0.47 |
| 52:BT:29:HIS:CG | 52:BT:30:PRO:HD2 | 2.50 | 0.47 |
| 52:BT:45:HIS:CE1 | 52:BT:47:PRO:CA | 2.97 | 0.47 |
| 52:BT:60:ILE:HD13 | 52:BT:62:SER:CB | 2.45 | 0.47 |
| 53:BU:58:LEU:HD22 | 53:BU:62:GLU:CG | 2.44 | 0.47 |
| 53:BU:65:ILE:HG13 | 53:BU:66:LEU:N | 2.30 | 0.47 |
| 53:BU:86:VAL:O | 53:BU:87:ARG:CG | 2.61 | 0.47 |
| 54:BV:36:ARG:HH21 | 54:BV:72:GLY:C | 2.17 | 0.47 |
| 54:BV:64:GLU:O | 54:BV:67:VAL:HG23 | 2.14 | 0.47 |
| 55:BW:28:ALA:O | 55:BW:31:SER:CB | 2.63 | 0.47 |
| 55:BW:34:LYS:HA | 55:BW:37:SER:OG | 2.15 | 0.47 |
| 55:BW:41:VAL:O | 55:BW:91:LEU:CD1 | 2.63 | 0.47 |
| 55:BW:83:ARG:O | 55:BW:84:LEU:C | 2.52 | 0.47 |
| 56:BX:20:LYS:HE3 | 56:BX:21:TYR:CZ | 2.50 | 0.47 |
| 1:AB:29:A:H2' | 1:AB:30:C:C6 | 2.50 | 0.47 |
| 1:AB:42:C:H5' | 7:AG:48:MET:CB | 2.45 | 0.47 |
| 2:AA:135:G:C2 | 2:AA:144:C:N3 | 2.77 | 0.47 |
| 2:AA:270(E):G:C2' | 2:AA:270(F):U:H5' | 2.45 | 0.47 |
| 2:AA:270(X):G:N3 | 2:AA:270(Y):G:C4' | 2.78 | 0.47 |
| 2:AA:339:U:C2' | 2:AA:340:A:C8 | 2.81 | 0.47 |
| 2:AA:475:U:H5' | 2:AA:510:C:OP2 | 2.15 | 0.47 |
| 2:AA:617:G:OP2 | 6:AF:221:GLU:OE1 | 2.33 | 0.47 |
| 2:AA:674:G:H5" | 6:AF:69:HIS:CA | 2.44 | 0.47 |
| 2:AA:784:A:C6 | 2:AA:792:G:C4 | 3.03 | 0.47 |
| 2:AA:819:A:H8 | 2:AA:819:A:H5' | 1.79 | 0.47 |
| 2:AA:892:G:C6 | 2:AA:893:C:C5 | 3.03 | 0.47 |
| 2:AA:910:A:C2 | 2:AA:911:A:N7 | 2.83 | 0.47 |
| 2:AA:1002:G:C6 | 2:AA:1153:C:N4 | 2.82 | 0.47 |
| 2:AA:1006:C:O2' | 12:AM:86:MET:SD | 2.70 | 0.47 |
| 2:AA:1122:G:C2 | 2:AA:1123:C:C4 | 3.03 | 0.47 |
| 2:AA:1129:A:N1 | 2:AA:2570:G:O4' | 2.47 | 0.47 |
| 2:AA:1138:G:OP1 | 12:AM:82:THR:HA | 2.13 | 0.47 |
| 2:AA:1140:C:C2' | 2:AA:1141:U:OP2 | 2.62 | 0.47 |
| 2:AA:1144:G:C2' | 2:AA:1145:C:H5' | 2.45 | 0.47 |
| 2:AA:1168:G:C2' | 2:AA:1169:G:C5' | 2.87 | 0.47 |
| 2:AA:1173:G:H1' | 2:AA:1177:A:C6 | 2.49 | 0.47 |
| 2:AA:1187:G:O4' | 26:A2:82:ARG:NH2 | 2.48 | 0.47 |
| 2:AA:1300:U:O2' | 2:AA:1301:A:P | 2.73 | 0.47 |
| 2:AA:1338:G:O2' | 19:AT:13:LYS:NZ | 2.47 | 0.47 |
| 2:AA:1344:G:O4' | 2:AA:1384:A:C2 | 2.68 | 0.47 |
| 2:AA:1394:U:O3' | 2:AA:1603:A:H5' | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1524:G:C5 | 2:AA:1525:G:C8 | 3.03 | 0.47 |
| 2:AA:1615:C:H5 | 2:AA:1617:C:C5 | 2.31 | 0.47 |
| 2:AA:1633:G:C6 | 2:AA:1635:G:C2 | 3.03 | 0.47 |
| 2:AA:1637:A:C6 | 2:AA:1638:C:C4 | 3.03 | 0.47 |
| 2:AA:1689:A:N7 | 2:AA:1698:A:C2 | 2.82 | 0.47 |
| 2:AA:1692:U:C4 | 2:AA:1694:C:C2 | 3.03 | 0.47 |
| 2:AA:1704:G:C5 | 2:AA:1705:G:C8 | 3.03 | 0.47 |
| 2:AA:1786:A:C6 | 2:AA:1938:A:N6 | 2.82 | 0.47 |
| 2:AA:1799:G:H22 | 4:AD:153:LEU:HG | 1.79 | 0.47 |
| 2:AA:1863:G:O6 | 2:AA:1879:C:N3 | 2.48 | 0.47 |
| 2:AA:1886:C:O2' | 2:AA:1887:C:C5' | 2.63 | 0.47 |
| 2:AA:1894:C:H2' | 2:AA:1895:C:H6 | 1.80 | 0.47 |
| 2:AA:1956:U:O2 | 2:AA:1956:U:H3' | 2.14 | 0.47 |
| 2:AA:2033:A:N1 | 2:AA:2036:C:C6 | 2.83 | 0.47 |
| 2:AA:2086:U:O4 | 2:AA:2233:U:O4 | 2.33 | 0.47 |
| 2:AA:2093:G:P | 10:AK:25:TYR:CE2 | 3.08 | 0.47 |
| 2:AA:2119:A:C5 | 2:AA:2147:G:O5' | 2.67 | 0.47 |
| 2:AA:2120:G:H2' | 2:AA:2121:G:C8 | 2.50 | 0.47 |
| 2:AA:2126:A:C2 | 2:AA:2127:G:C2 | 3.03 | 0.47 |
| 2:AA:2212:A:C2 | 2:AA:2213:U:C5' | 2.96 | 0.47 |
| 2:AA:2248:C:H2' | 2:AA:2249:U:H5' | 1.95 | 0.47 |
| 2:AA:2273:A:N7 | 2:AA:2274:A:N9 | 2.63 | 0.47 |
| 2:AA:2395:C:H2' | 2:AA:2396:G:C8 | 2.50 | 0.47 |
| 2:AA:2416:C:OP1 | 14:AO:51:PHE:CD2 | 2.66 | 0.47 |
| 2:AA:2468:G:N2 | 2:AA:2481:G:N9 | 2.62 | 0.47 |
| 2:AA:2489:G:N7 | 2:AA:2490:G:N7 | 2.62 | 0.47 |
| 2:AA:2543:G:C8 | 2:AA:2544:G:N7 | 2.83 | 0.47 |
| 2:AA:2567:G:H2' | 2:AA:2568:C:C6 | 2.50 | 0.47 |
| 2:AA:2578:G:H21 | 2:AA:2579:C:H1' | 1.80 | 0.47 |
| 2:AA:2579:C:C4 | 2:AA:2580:U:C5 | 3.03 | 0.47 |
| 2:AA:2586:C:C6 | 2:AA:2586:C:C3' | 2.97 | 0.47 |
| 2:AA:2586:C:H2' | 2:AA:2587:A:C8 | 2.50 | 0.47 |
| 2:AA:2621:A:C6 | 2:AA:2622:C:C4 | 3.02 | 0.47 |
| 2:AA:2638:G:C8 | 2:AA:2775:A:C6 | 3.03 | 0.47 |
| 2:AA:2654:A:H61 | 2:AA:2667:C:H41 | 1.61 | 0.47 |
| 2:AA:2712:U:C6 | 2:AA:712(A):A:H8 | 2.29 | 0.47 |
| 2:AA:2792:G:N2 | 2:AA:2793:G:N2 | 2.62 | 0.47 |
| 2:AA:2873:A:C2' | 2:AA:2874:C:O5' | 2.62 | 0.47 |
| 2:AA:2875:C:C2 | 2:AA:2876:G:C8 | 3.02 | 0.47 |
| 2:AA:2881:C:H2' | 2:AA:2882:A:H8 | 1.80 | 0.47 |
| 3:AC:16:PRO:HG2 | 3:AC:17:ASN:OD1 | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:192:PHE:O | 3:AC:193:ILE:C | 2.52 | 0.47 |
| 4:AD:143:ILE:O | 4:AD:152:GLN:N | 2.48 | 0.47 |
| 4:AD:146:LYS:HD3 | 4:AD:146:LYS:HA | 1.36 | 0.47 |
| 5:AE:43:GLY:O | 5:AE:44:TYR:CD1 | 2.68 | 0.47 |
| 5:AE:211:GLN:N | 5:AE:216:ARG:CZ | 2.59 | 0.47 |
| 6:AF:142:ASP:HB2 | 6:AF:237:GLU:OE1 | 2.15 | 0.47 |
| 6:AF:150:THR:HB | 6:AF:207:LEU:HD21 | 1.97 | 0.47 |
| 9:AI:26:GLU:C | 9:AI:28:LYS:N | 2.68 | 0.47 |
| 9:AJ:29:PHE:O | 9:AJ:34:ALA:N | 2.48 | 0.47 |
| 9:AJ:68:GLN:O | 9:AJ:69:ASN:CG | 2.53 | 0.47 |
| 10:AK:6:LEU:CD2 | 10:AK:14:LYS:HZ3 | 2.27 | 0.47 |
| 10:AK:7:LYS:CE | 10:AK:12:LYS:NZ | 2.74 | 0.47 |
| 10:AK:10:LYS:HG3 | 10:AK:11:GLY:H | 1.80 | 0.47 |
| 10:AK:119:ASP:OD2 | 10:AK:120:ALA:N | 2.47 | 0.47 |
| 11:AL:36:MET:HE1 | 11:AL:40:LYS:HE3 | 1.97 | 0.47 |
| 11:AL:52:MET:SD | 11:AL:81:LYS:HB2 | 2.55 | 0.47 |
| 11:AL:116:LEU:O | 11:AL:117:ASN:C | 2.53 | 0.47 |
| 13:AN:81:GLU:CG | 13:AN:82:ASN:N | 2.28 | 0.47 |
| 13:AN:110:ASP:O | 13:AN:111:PHE:CD2 | 2.68 | 0.47 |
| 13:AN:112:MET:HA | 13:AN:115:ILE:CG1 | 2.45 | 0.47 |
| 14:AO:55:GLN:HE21 | 14:AO:56:LYS:CG | 2.27 | 0.47 |
| 14:AO:59:GLU:OE1 | 14:AO:60:GLU:OE1 | 2.32 | 0.47 |
| 14:AO:108:VAL:O | 14:AO:125:PHE:HB3 | 2.15 | 0.47 |
| 15:AP:135:ALA:O | 15:AP:138:ARG:N | 2.48 | 0.47 |
| 18:AS:13:SER:OG | 18:AS:16:LYS:HB2 | 2.15 | 0.47 |
| 18:AS:89:ALA:O | 18:AS:90:ARG:NH1 | 2.47 | 0.47 |
| 18:AS:103:ILE:O | 18:AS:103:ILE:HG22 | 2.15 | 0.47 |
| 19:AT:44:GLN:OE1 | 19:AT:45:TYR:CD1 | 2.68 | 0.47 |
| 20:AU:9:LYS:HE3 | 20:AU:13:ARG:CZ | 2.45 | 0.47 |
| 20:AU:18:GLU:HB3 | 20:AU:21:LYS:HD3 | 1.96 | 0.47 |
| 20:AU:27:LEU:HD13 | 20:AU:31:LEU:CD1 | 2.38 | 0.47 |
| 20:AU:27:LEU:HA | 20:AU:98:VAL:O | 2.15 | 0.47 |
| 20:AU:74:VAL:H | 20:AU:91:LEU:CD1 | 2.27 | 0.47 |
| 24:A0:33:ARG:O | 24:A0:34:ILE:CG1 | 2.57 | 0.47 |
| 24:A0:63:ARG:NH1 | 24:A0:80:PHE:CG | 2.83 | 0.47 |
| 25:A1:82:GLY:O | 25:A1:85:ARG:N | 2.47 | 0.47 |
| 25:A1:93:LYS:N | 26:A2:10:LYS:HZ3 | 2.12 | 0.47 |
| 26:A2:5:ILE:O | 26:A2:6:GLN:CG | 2.63 | 0.47 |
| 28:A4:48:ARG:CG | 28:A4:49:PHE:CG | 2.98 | 0.47 |
| 29:A5:12:SER:O | 29:A5:15:LYS:N | 2.47 | 0.47 |
| 29:A5:46:CYS:HB3 | 29:A5:48:ASN:HD22 | 1.80 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:A6:21:TYR:CD2 | 30:A6:22:TYR:N | 2.82 | 0.47 |
| 30:A6:46:LYS:HE2 | 30:A6:46:LYS:HA | 1.95 | 0.47 |
| 31:A7:30:ILE:HD13 | 31:A7:33:ARG:HH11 | 1.79 | 0.47 |
| 32:A8:50:LEU:HD23 | 32:A8:51:ALA:CA | 2.42 | 0.47 |
| 33:A9:30:VAL:C | 33:A9:32:HIS:H | 2.18 | 0.47 |
| 34:BA:34:C:H2' | 34:BA:35:G:H8 | 1.80 | 0.47 |
| 34:BA:98:U:H2' | 34:BA:99:C:O5' | 2.15 | 0.47 |
| 34:BA:247:G:O2' | 34:BA:248:C:C5' | 2.57 | 0.47 |
| 34:BA:311:C:C2' | 34:BA:312:C:H5' | 2.45 | 0.47 |
| 34:BA:363:A:C2 | 47:BO:31:PRO:HG2 | 2.50 | 0.47 |
| 34:BA:570:G:O3' | 34:BA:819:A:H2' | 2.15 | 0.47 |
| 34:BA:614:A:N1 | 34:BA:627:G:C6 | 2.83 | 0.47 |
| 34:BA:673:G:H5" | 41:BI:87:ARG:HH21 | 1.80 | 0.47 |
| 34:BA:685:G:C2 | 34:BA:686:U:H5 | 2.31 | 0.47 |
| 34:BA:707:C:C2' | 34:BA:708:C:O5' | 2.62 | 0.47 |
| 34:BA:792:A:H2' | 34:BA:794:A:N6 | 2.21 | 0.47 |
| 34:BA:817:C:C6 | 34:BA:819:A:C4' | 2.98 | 0.47 |
| 34:BA:838:G:C6 | 34:BA:849:C:N4 | 2.82 | 0.47 |
| 34:BA:1081:G:OP1 | 40:BH:18:ARG:HB2 | 2.15 | 0.47 |
| 34:BA:1088:G:C6 | 34:BA:1089:G:N7 | 2.83 | 0.47 |
| 34:BA:1093:A:C6 | 34:BA:1095:U:O4' | 2.68 | 0.47 |
| 34:BA:1148:U:O2' | 34:BA:1149:C:C5' | 2.63 | 0.47 |
| 34:BA:1253:G:C2 | 34:BA:1254:C:C2 | 3.03 | 0.47 |
| 34:BA:1323:G:C6 | 34:BA:1324:A:C6 | 3.03 | 0.47 |
| 34:BA:1324:A:N1 | 34:BA:1325:C:C4 | 2.83 | 0.47 |
| 34:BA:1355:G:C2 | 34:BA:1356:G:C8 | 3.03 | 0.47 |
| 34:BA:1419:G:C2 | 34:BA:1420:C:N3 | 2.83 | 0.47 |
| 35:BB:5:A:N1 | 35:BB:68:U:O2 | 2.48 | 0.47 |
| 35:BB:62:A:C2 | 35:BB:63:C:N3 | 2.82 | 0.47 |
| 35:BC:57:G:C2' | 35:BC:58:A:C5' | 2.91 | 0.47 |
| 37:BE:19:HIS:HD2 | 37:BE:189:ASP:OD2 | 1.98 | 0.47 |
| 37:BE:73:THR:CA | 37:BE:94:ASN:O | 2.57 | 0.47 |
| 38:BF:20:SER:HG | 38:BF:36:ASP:CG | 2.18 | 0.47 |
| 38:BF:29:TYR:HE2 | 38:BF:33:LEU:HD11 | 1.80 | 0.47 |
| 39:BG:43:HIS:CE1 | 39:BG:46:LYS:HE3 | 2.48 | 0.47 |
| 39:BG:122:ARG:O | 39:BG:134:ASP:CB | 2.57 | 0.47 |
| 39:BG:157:LEU:HA | 39:BG:160:GLN:CG | 2.45 | 0.47 |
| 39:BG:187:ARG:O | 39:BG:188:LEU:C | 2.53 | 0.47 |
| 40:BH:32:VAL:O | 40:BH:43:LEU:HD23 | 2.14 | 0.47 |
| 40:BH:124:GLY:O | 40:BH:126:ARG:N | 2.48 | 0.47 |
| 42:BJ:14:PRO:CB | 42:BJ:19:GLY:O | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:17:VAL:HG21 | 42:BJ:44:TYR:CE2 | 2.50 | 0.47 |
| 42:BJ:113:GLU:OE1 | 42:BJ:119:ARG:N | 2.47 | 0.47 |
| 43:BK:69:ARG:HG3 | 43:BK:70:GLN:N | 2.30 | 0.47 |
| 44:BL:99:LEU:N | 44:BL:99:LEU:CD2 | 2.77 | 0.47 |
| 45:BM:7:LYS:NZ | 45:BM:71:LEU:HD21 | 2.29 | 0.47 |
| 46:BN:62:GLN:CD | 46:BN:62:GLN:C | 2.73 | 0.47 |
| 48:BP:91:ARG:HH12 | 48:BP:97:PRO:HG2 | 1.79 | 0.47 |
| 53:BU:63:GLN:CA | 53:BU:66:LEU:CG | 2.91 | 0.47 |
| 55:BW:88:VAL:O | 55:BW:92:LEU:CG | 2.59 | 0.47 |
| 1:AB:11:C:N3 | 1:AB:15:A:N6 | 2.63 | 0.47 |
| 1:AB:53:A:C5 | 1:AB:54:G:C8 | 3.02 | 0.47 |
| 1:AB:78:A:OP1 | 21:AV:73:LYS:HE3 | 2.15 | 0.47 |
| 2:AA:4:C:C2' | 2:AA:5:A:O5' | 2.63 | 0.47 |
| 2:AA:38:A:C2 | 2:AA:39:C:C4 | 3.03 | 0.47 |
| 2:AA:179:G:H2' | 2:AA:179:G:N3 | 2.29 | 0.47 |
| 2:AA:238:C:C4 | 2:AA:239:U:C5 | 3.03 | 0.47 |
| 2:AA:247:G:C8 | 2:AA:249:C:O2 | 2.68 | 0.47 |
| 2:AA:273(B):C:O2 | 2:AA:363(D):G:C2 | 2.68 | 0.47 |
| 2:AA:273(F):C:C5 | 2:AA:274:G:C8 | 3.03 | 0.47 |
| 2:AA:296:C:N3 | 2:AA:297:C:C5 | 2.83 | 0.47 |
| 2:AA:297:C:N4 | 2:AA:298:G:N3 | 2.63 | 0.47 |
| 2:AA:304:G:C2' | 2:AA:305:U:H5' | 2.45 | 0.47 |
| 2:AA:332:A:C6 | 2:AA:335:C:C2 | 3.03 | 0.47 |
| 2:AA:387:U:OP2 | 28:A4:31:ILE:CD1 | 2.62 | 0.47 |
| 2:AA:452:G:C2' | 2:AA:453:C:H5" | 2.44 | 0.47 |
| 2:AA:487:C:C5 | 2:AA:488:G:C8 | 3.03 | 0.47 |
| 2:AA:498:G:C8 | 2:AA:498:G:C3' | 2.97 | 0.47 |
| 2:AA:605:C:O2 | 2:AA:606:U:C5 | 2.68 | 0.47 |
| 2:AA:621:A:N3 | 2:AA:621:A:H5' | 2.29 | 0.47 |
| 2:AA:679:C:N3 | 2:AA:680:G:N7 | 2.62 | 0.47 |
| 2:AA:749:C:C2 | 2:AA:1618:A:N7 | 2.83 | 0.47 |
| 2:AA:754:C:C2' | 2:AA:755:C:O5' | 2.62 | 0.47 |
| 2:AA:821:A:N7 | 2:AA:946:G:C8 | 2.83 | 0.47 |
| 2:AA:829:A:OP1 | 2:AA:831:G:H1' | 2.15 | 0.47 |
| 2:AA:849:A:H2' | 2:AA:850:C:H5' | 1.95 | 0.47 |
| 2:AA:974:G:C3' | 26:A2:82:ARG:NH2 | 2.77 | 0.47 |
| 2:AA:1036:G:C6 | 2:AA:1120:G:O6 | 2.68 | 0.47 |
| 2:AA:1102:C:C1' | 2:AA:1103:A:H8 | 2.23 | 0.47 |
| 2:AA:1111:A:H8 | 2:AA:1111:A:P | 2.38 | 0.47 |
| 2:AA:1152:C:C2 | 2:AA:1153:C:H6 | 2.33 | 0.47 |
| 2:AA:1191:G:C5 | 2:AA:1192:G:N7 | 2.83 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1197:G:C5 | 2:AA:1198:U:H5 | 2.33 | 0.47 |
| 2:AA:1244:G:H2' | 2:AA:1245:G:H8 | 1.79 | 0.47 |
| 2:AA:1260:G:H2' | 2:AA:1260:G:N3 | 2.30 | 0.47 |
| 2:AA:1266:G:C2' | 2:AA:2012:G:O6 | 2.53 | 0.47 |
| 2:AA:1275:A:C2 | 24:A0:16:HIS:CB | 2.91 | 0.47 |
| 2:AA:1298:C:C4 | 2:AA:1643:G:C6 | 3.03 | 0.47 |
| 2:AA:1309:G:O5' | 31:A7:9:ASN:ND2 | 2.47 | 0.47 |
| 2:AA:1334:G:O2' | 2:AA:1335:U:H5' | 2.14 | 0.47 |
| 2:AA:1350:C:O2' | 2:AA:1351:C:H5' | 2.15 | 0.47 |
| 2:AA:1379:A:H2 | 2:AA:1380:G:OP1 | 1.98 | 0.47 |
| 2:AA:1507:A:H4' | 2:AA:1510:A:H61 | 1.80 | 0.47 |
| 2:AA:1576:U:H2' | 2:AA:1577:C:C1' | 2.44 | 0.47 |
| 2:AA:1655:A:O2' | 2:AA:1656:C:C5' | 2.56 | 0.47 |
| 2:AA:1664:A:C8 | 2:AA:1664:A:H3' | 2.50 | 0.47 |
| 2:AA:1670:C:OP2 | 2:AA:1671:U:H5 | 1.98 | 0.47 |
| 2:AA:1684:C:N3 | 2:AA:1705:G:C2 | 2.83 | 0.47 |
| 2:AA:1893:C:C5 | 2:AA:1894:C:N4 | 2.82 | 0.47 |
| 2:AA:1966:A:O2' | 2:AA:1967:C:O5' | 2.32 | 0.47 |
| 2:AA:2002:G:C6 | 2:AA:2003:G:C8 | 3.03 | 0.47 |
| 2:AA:2014:A:H2 | 2:AA:2613:U:N3 | 2.12 | 0.47 |
| 2:AA:2053:G:N2 | 2:AA:2054:A:C4 | 2.83 | 0.47 |
| 2:AA:2065:C:H2' | 2:AA:2066:C:H6 | 1.79 | 0.47 |
| 2:AA:2180:U:C2' | 2:AA:2181:G:C8 | 2.77 | 0.47 |
| 2:AA:2262:U:O4' | 2:AA:2328:A:C2 | 2.67 | 0.47 |
| 2:AA:2264:C:C5 | 2:AA:2265:U:H5 | 2.32 | 0.47 |
| 2:AA:2269:A:H2' | 2:AA:2270:G:C8 | 2.48 | 0.47 |
| 2:AA:2278:A:H1' | 15:AP:19:TYR:HD2 | 1.79 | 0.47 |
| 2:AA:2320:A:C2 | 2:AA:2333:A:C2 | 3.03 | 0.47 |
| 2:AA:2330:G:N2 | 2:AA:2331:G:H1' | 2.30 | 0.47 |
| 2:AA:2344:U:H2' | 2:AA:2345:G:OP2 | 2.15 | 0.47 |
| 2:AA:2349:G:C6 | 2:AA:2369:A:N1 | 2.83 | 0.47 |
| 2:AA:2349:G:N3 | 2:AA:2369:A:C2 | 2.82 | 0.47 |
| 2:AA:2460:U:C6 | 2:AA:2461:C:H5 | 2.33 | 0.47 |
| 2:AA:2585:U:C1' | 35:BC:76:A:N7 | 2.77 | 0.47 |
| 2:AA:2628:C:O2' | 2:AA:2781:A:C2' | 2.62 | 0.47 |
| 2:AA:2694:G:H8 | 2:AA:2694:G:O5' | 1.98 | 0.47 |
| 2:AA:2731:G:H2' | 2:AA:2732:G:C8 | 2.50 | 0.47 |
| 2:AA:2810:A:H2 | 2:AA:2892:A:N3 | 2.12 | 0.47 |
| 2:AA:2875:C:N3 | 2:AA:2876:G:C5 | 2.82 | 0.47 |
| 2:AA:2881:C:C4 | 2:AA:2882:A:N7 | 2.83 | 0.47 |
| 3:AC:200:LYS:CG | 3:AC:208:PHE:CE1 | 2.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:213:TYR:N | 3:AC:213:TYR:CD1 | 2.83 | 0.47 |
| 6:AF:94:THR:C | 6:AF:98:ARG:HH21 | 2.18 | 0.47 |
| 6:AF:162:VAL:CB | 6:AF:165:ASP:OD1 | 2.41 | 0.47 |
| 7:AG:56:ARG:CG | 7:AG:65:GLU:HB2 | 2.45 | 0.47 |
| 8:AH:161:ILE:C | 8:AH:162:ARG:CG | 2.83 | 0.47 |
| 9:AI:3:ILE:HG22 | 9:AI:7:ILE:HD11 | 1.97 | 0.47 |
| 10:AK:6:LEU:O | 10:AK:6:LEU:CG | 2.63 | 0.47 |
| 10:AK:35:LEU:O | 10:AK:36:ALA:CB | 2.63 | 0.47 |
| 14:AO:71:GLU:CA | 14:AO:74:THR:HG23 | 2.39 | 0.47 |
| 14:AO:114:VAL:HG11 | 14:AO:133:VAL:CA | 2.41 | 0.47 |
| 16:AQ:66:LEU:HB2 | 16:AQ:69:TYR:OH | 2.14 | 0.47 |
| 16:AQ:102:LEU:HD12 | 16:AQ:102:LEU:N | 2.11 | 0.47 |
| 19:AT:16:ASN:O | 19:AT:17:ASP:C | 2.53 | 0.47 |
| 20:AU:31:LEU:HD23 | 20:AU:113:GLU:OE2 | 2.14 | 0.47 |
| 20:AU:44:ALA:C | 20:AU:65:VAL:HG22 | 2.35 | 0.47 |
| 20:AU:46:ASP:OD1 | 20:AU:98:VAL:CG1 | 2.63 | 0.47 |
| 21:AV:91:PRO:CG | 21:AV:127:PRO:HB3 | 2.45 | 0.47 |
| 21:AV:138:VAL:HG21 | 21:AV:140:LYS:HZ2 | 1.80 | 0.47 |
| 21:AV:138:VAL:CG2 | 21:AV:140:LYS:NZ | 2.78 | 0.47 |
| 22:AW:41:GLU:O | 22:AW:43:PRO:HD3 | 2.15 | 0.47 |
| 23:AX:35:ARG:C | 23:AX:36:VAL:HG13 | 2.34 | 0.47 |
| 23:AX:53:LEU:HD23 | 23:AX:53:LEU:C | 2.35 | 0.47 |
| 24:A0:96:ARG:HG3 | 24:A0:98:LEU:CD1 | 2.39 | 0.47 |
| 25:A1:98:ILE:HD12 | 25:A1:98:ILE:N | 2.30 | 0.47 |
| 26:A2:17:GLY:O | 26:A2:18:ASP:C | 2.53 | 0.47 |
| 28:A4:7:PRO:CD | 28:A4:56:VAL:HG21 | 2.40 | 0.47 |
| 28:A4:63:PHE:HE2 | 28:A4:69:ARG:HH22 | 1.61 | 0.47 |
| 30:A6:54:LYS:O | 30:A6:54:LYS:CG | 2.62 | 0.47 |
| 32:A8:28:GLY:C | 32:A8:29:LYS:HG3 | 2.34 | 0.47 |
| 34:BA:9:G:N1 | 34:BA:26:A:C6 | 2.83 | 0.47 |
| 34:BA:15:G:O6 | 34:BA:1396:A:N6 | 2.47 | 0.47 |
| 34:BA:44:G:H2' | 34:BA:45:U:C5' | 2.45 | 0.47 |
| 34:BA:52:G:C2 | 34:BA:53:A:N9 | 2.83 | 0.47 |
| 34:BA:64:G:C5' | 34:BA:66:G:OP1 | 2.61 | 0.47 |
| 34:BA:114:U:O2 | 34:BA:115:G:C8 | 2.68 | 0.47 |
| 34:BA:190(C):C:H1' | 34:BA:190(G):G:H22 | 1.80 | 0.47 |
| 34:BA:229:U:N3 | 34:BA:230:G:C5 | 2.82 | 0.47 |
| 34:BA:251:G:C5' | 34:BA:252:U:OP1 | 2.62 | 0.47 |
| 34:BA:258:G:C2 | 34:BA:259:G:C5 | 3.02 | 0.47 |
| 34:BA:269:C:H2' | 34:BA:270:A:O5' | 2.15 | 0.47 |
| 34:BA:304:U:H2' | 34:BA:305:G:H8 | 1.80 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:345:C:O4' | 34:BA:346:G:C2 | 2.68 | 0.47 |
| 34:BA:373:A:O2' | 34:BA:374:A:C5' | 2.54 | 0.47 |
| 34:BA:437:U:H2' | 34:BA:438:G:C4' | 2.44 | 0.47 |
| 34:BA:448:A:C2 | 34:BA:449:C:C5 | 3.02 | 0.47 |
| 34:BA:498:U:O2' | 34:BA:499:A:H5' | 2.15 | 0.47 |
| 34:BA:616:G:C2 | 34:BA:625:G:C6 | 3.03 | 0.47 |
| 34:BA:625:G:O2' | 34:BA:626:U:H5' | 2.14 | 0.47 |
| 34:BA:634:C:H2' | 34:BA:635:G:H8 | 1.80 | 0.47 |
| 34:BA:716:A:H2' | 34:BA:717:C:O4' | 2.15 | 0.47 |
| 34:BA:763:G:O2' | 34:BA:764:C:O5' | 2.33 | 0.47 |
| 34:BA:891:U:OP2 | 34:BA:906:G:N1 | 2.37 | 0.47 |
| 34:BA:930:C:H2' | 34:BA:931:C:O5' | 2.15 | 0.47 |
| 34:BA:946:A:H2' | 34:BA:947:G:N7 | 2.23 | 0.47 |
| 34:BA:950:U:C2 | 34:BA:951:G:C8 | 3.03 | 0.47 |
| 34:BA:1068:G:C8 | 34:BA:1094:G:H8 | 2.31 | 0.47 |
| 34:BA:1122:U:O4 | 34:BA:1123:A:C6 | 2.68 | 0.47 |
| 34:BA:1227:A:O3' | 48:BP:115:LYS:HD3 | 2.15 | 0.47 |
| 34:BA:1258:G:H1 | 34:BA:1277:C:N4 | 2.12 | 0.47 |
| 34:BA:1297:C:H4' | 34:BA:1298:C:O5' | 2.14 | 0.47 |
| 34:BA:1319:A:H2' | 34:BA:1320:C:OP2 | 2.15 | 0.47 |
| 34:BA:1330:U:OP1 | 48:BP:25:ILE:N | 2.47 | 0.47 |
| 34:BA:1339:A:H2' | 34:BA:1340:A:C5' | 2.30 | 0.47 |
| 34:BA:1351:U:O4 | 44:BL:118:LYS:HE2 | 2.15 | 0.47 |
| 34:BA:1374:A:H2' | 34:BA:1375:A:H8 | 1.78 | 0.47 |
| 34:BA:1478:C:O2 | 34:BA:1478:C:H2' | 2.15 | 0.47 |
| 35:BB:62:A:H2' | 35:BB:63:C:O5' | 2.13 | 0.47 |
| 36:B1:21:U:C2 | 36:B1:33:G:O6 | 2.63 | 0.47 |
| 37:BE:12:GLU:OE2 | 37:BE:12:GLU:HA | 2.13 | 0.47 |
| 37:BE:168:THR:HG21 | 37:BE:192:SER:HA | 1.97 | 0.47 |
| 38:BF:11:ARG:C | 38:BF:13:GLY:H | 2.18 | 0.47 |
| 42:BJ:20:ASP:HB3 | 42:BJ:23:VAL:HG23 | 1.96 | 0.47 |
| 42:BJ:107:ALA:HB1 | 42:BJ:133:GLY:HA3 | 1.97 | 0.47 |
| 43:BK:6:ILE:HD11 | 43:BK:85:ARG:CG | 2.45 | 0.47 |
| 43:BK:39:LEU:HA | 43:BK:39:LEU:HD13 | 1.56 | 0.47 |
| 44:BL:28:VAL:C | 44:BL:30:GLY:N | 2.67 | 0.47 |
| 44:BL:49:PRO:HG3 | 44:BL:78:LYS:HD3 | 1.97 | 0.47 |
| 45:BM:54:PHE:O | 45:BM:55:LYS:O | 2.32 | 0.47 |
| 46:BN:57:THR:OG1 | 46:BN:58:PRO:HD2 | 2.15 | 0.47 |
| 48:BP:81:LEU:CA | 48:BP:84:ILE:HG12 | 2.44 | 0.47 |
| 48:BP:121:LYS:HD2 | 48:BP:121:LYS:N | 2.27 | 0.47 |
| 49:BQ:24:CYS:SG | 49:BQ:27:CYS:C | 2.93 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BR:21:ASP:OD2 | 50:BR:24:SER:HB3 | 2.15 | 0.47 |
| 53:BU:36:ASN:HB3 | 53:BU:40:LEU:HD11 | 1.97 | 0.47 |
| 54:BV:24:ALA:HB3 | 54:BV:25:LYS:HZ2 | 1.80 | 0.47 |
| 54:BV:36:ARG:NH2 | 54:BV:72:GLY:HA2 | 2.30 | 0.47 |
| 54:BV:70:LYS:O | 54:BV:71:LEU:C | 2.54 | 0.47 |
| 55:BW:65:LYS:O | 55:BW:66:ALA:C | 2.51 | 0.47 |
| 55:BW:77:ALA:HA | 55:BW:80:ARG:HG3 | 1.97 | 0.47 |
| 1:AB:9:G:C2 | 1:AB:112:G:C8 | 3.03 | 0.47 |
| 1:AB:24:G:C6 | 1:AB:56:G:C4 | 3.03 | 0.47 |
| 1:AB:24:G:C2 | 1:AB:56:G:C2 | 3.02 | 0.47 |
| 1:AB:53:A:N1 | 1:AB:54:G:C8 | 2.82 | 0.47 |
| 1:AB:73:A:C2 | 1:AB:74:U:C5 | 3.03 | 0.47 |
| 1:AB:78:A:H2' | 1:AB:79:C:H5' | 1.96 | 0.47 |
| 1:AB:117:G:C2 | 1:AB:118:G:N9 | 2.83 | 0.47 |
| 2:AA:162:U:H4' | 2:AA:171:G:N3 | 2.30 | 0.47 |
| 2:AA:212:G:H2' | 2:AA:213:A:H8 | 1.80 | 0.47 |
| 2:AA:280:C:C2' | 2:AA:281:G:O5' | 2.63 | 0.47 |
| 2:AA:280:C:H2' | 2:AA:281:G:H3' | 1.94 | 0.47 |
| 2:AA:285:C:H2' | 2:AA:286:C:C4 | 2.50 | 0.47 |
| 2:AA:290:G:N2 | 2:AA:350:U:C2' | 2.75 | 0.47 |
| 2:AA:331:A:HO2' | 2:AA:332:A:P | 2.31 | 0.47 |
| 2:AA:468:G:H2' | 2:AA:469:G:C4' | 2.44 | 0.47 |
| 2:AA:479:A:C5 | 2:AA:481:G:C4 | 3.03 | 0.47 |
| 2:AA:502:A:O5' | 2:AA:502:A:H8 | 1.98 | 0.47 |
| 2:AA:643:A:HO2' | 2:AA:644:A:C1' | 2.28 | 0.47 |
| 2:AA:685:A:N9 | 2:AA:774:A:N6 | 2.63 | 0.47 |
| 2:AA:711:G:C2 | 2:AA:712:G:C8 | 3.02 | 0.47 |
| 2:AA:809:G:C4 | 2:AA:810:U:C6 | 3.03 | 0.47 |
| 2:AA:819:A:C2' | 2:AA:820:A:O5' | 2.64 | 0.47 |
| 2:AA:867:C:O2 | 2:AA:867:C:C2' | 2.61 | 0.47 |
| 2:AA:890:A:H4' | 2:AA:892:G:H8 | 1.79 | 0.47 |
| 2:AA:895:U:C6 | 2:AA:895:U:O5' | 2.68 | 0.47 |
| 2:AA:906:G:H3' | 2:AA:907:U:H5" | 1.96 | 0.47 |
| 2:AA:993:G:O4' | 26:A2:90:PHE:CE2 | 2.67 | 0.47 |
| 2:AA:1213:A:C5 | 2:AA:1214:A:N7 | 2.83 | 0.47 |
| 2:AA:1234:U:C4 | 2:AA:1235:G:N1 | 2.83 | 0.47 |
| 2:AA:1334:G:O2' | 2:AA:1335:U:C5' | 2.63 | 0.47 |
| 2:AA:1355:G:N1 | 2:AA:1377:G:C2 | 2.83 | 0.47 |
| 2:AA:1363:C:P | 28:A4:55:ARG:NH2 | 2.88 | 0.47 |
| 2:AA:1387:C:O2' | 2:AA:1388:G:O5' | 2.29 | 0.47 |
| 2:AA:1401:G:C6 | 2:AA:1402:C:N4 | 2.83 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1422:G:C4 | 2:AA:1423:G:N7 | 2.82 | 0.47 |
| 2:AA:1509:C:P | 2:AA:1510:A:O4' | 2.74 | 0.47 |
| 2:AA:1535:U:C1' | 2:AA:1538:G:H21 | 2.25 | 0.47 |
| 2:AA:1608:A:C8 | 2:AA:1611:C:N4 | 2.82 | 0.47 |
| 2:AA:1658:C:H2' | 2:AA:1658:C:O2 | 2.15 | 0.47 |
| 2:AA:1665:A:HO2' | 2:AA:1666:G:C5' | 2.24 | 0.47 |
| 2:AA:1747:G:HO2' | 2:AA:1748:G:H5' | 1.79 | 0.47 |
| 2:AA:1754:C:C2' | 2:AA:1755:A:O4' | 2.63 | 0.47 |
| 2:AA:1812:A:N1 | 2:AA:1813:G:C4 | 2.83 | 0.47 |
| 2:AA:1932:A:C2 | 2:AA:1933:G:C1' | 2.98 | 0.47 |
| 2:AA:2019:A:H4' | 2:AA:2020:A:OP1 | 2.15 | 0.47 |
| 2:AA:2020:A:C2 | 2:AA:2035:G:C6 | 3.03 | 0.47 |
| 2:AA:2033:A:N1 | 2:AA:2036:C:C4 | 2.83 | 0.47 |
| 2:AA:2103:C:C2 | 2:AA:2104:G:C8 | 3.03 | 0.47 |
| 2:AA:2273:A:N7 | 2:AA:2274:A:C8 | 2.83 | 0.47 |
| 2:AA:2349:G:O6 | 2:AA:2350:C:C5 | 2.68 | 0.47 |
| 2:AA:2361:A:OP2 | 32:A8:27:SER:O | 2.32 | 0.47 |
| 2:AA:2380:C:O2' | 2:AA:2381:C:H5' | 2.14 | 0.47 |
| 2:AA:2392:A:N7 | 2:AA:2393:A:C4 | 2.83 | 0.47 |
| 2:AA:2619:C:HO2' | 2:AA:2620:C:H5' | 1.76 | 0.47 |
| 2:AA:2657:A:C8 | 2:AA:2657:A:C3' | 2.98 | 0.47 |
| 2:AA:2691:C:H6 | 2:AA:2691:C:C3' | 2.23 | 0.47 |
| 2:AA:2737:G:H3' | 2:AA:2737:G:C8 | 2.50 | 0.47 |
| 2:AA:2741:A:C8 | 2:AA:2742:C:C6 | 3.03 | 0.47 |
| 2:AA:2756:U:H3 | 2:AA:2758:A:N6 | 2.13 | 0.47 |
| 2:AA:2799:A:C5' | 2:AA:2801:A:OP2 | 2.62 | 0.47 |
| 2:AA:2839:G:H2' | 2:AA:2840:C:H6 | 1.79 | 0.47 |
| 3:AC:36:LYS:HZ2 | 3:AC:36:LYS:C | 2.19 | 0.47 |
| 3:AC:103:ILE:HB | 3:AC:127:LEU:HD11 | 1.95 | 0.47 |
| 3:AC:117:PRO:O | 3:AC:118:ASP:OD1 | 2.32 | 0.47 |
| 3:AC:148:ASN:HB2 | 3:AC:151:GLU:HB2 | 1.95 | 0.47 |
| 4:AD:170:TYR:C | 4:AD:182:MET:SD | 2.93 | 0.47 |
| 4:AD:197:GLY:O | 4:AD:199:ARG:N | 2.44 | 0.47 |
| 5:AE:42:ALA:O | 5:AE:189:MET:SD | 2.73 | 0.47 |
| 5:AE:99:VAL:HG12 | 5:AE:100:TRP:H | 1.79 | 0.47 |
| 5:AE:175:ASP:O | 5:AE:176:HIS:C | 2.52 | 0.47 |
| 5:AE:221:LYS:HZ3 | 5:AE:233:ARG:CG | 2.23 | 0.47 |
| 6:AF:106:GLU:CA | 6:AF:109:LEU:HD12 | 2.40 | 0.47 |
| 6:AF:168:ARG:O | 6:AF:168:ARG:CD | 2.50 | 0.47 |
| 6:AF:197:SER:HB3 | 6:AF:236:THR:OG1 | 2.14 | 0.47 |
| 7:AG:19:GLU:OE2 | 7:AG:139:TYR:CD2 | 2.68 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:AG:28:GLY:CA | 7:AG:69:ILE:HD13 | 2.45 | 0.47 |
| 7:AG:140:ARG:HH11 | 7:AG:144:ARG:NH2 | 2.13 | 0.47 |
| 8:AH:11:PRO:O | 8:AH:14:VAL:CB | 2.63 | 0.47 |
| 8:AH:41:THR:HB | 8:AH:54:PRO:HD3 | 1.96 | 0.47 |
| 8:AH:58:LYS:HB3 | 8:AH:61:ARG:NH1 | 2.30 | 0.47 |
| 9:AI:23:LYS:CD | 9:AJ:47:ALA:N | 2.74 | 0.47 |
| 9:AI:26:GLU:OE2 | 9:AJ:43:PRO:CG | 2.60 | 0.47 |
| 9:AI:72:GLN:O | 9:AI:75:LYS:HB2 | 2.14 | 0.47 |
| 9:AI:76:VAL:O | 9:AI:80:ILE:HB | 2.15 | 0.47 |
| 9:AJ:86:LYS:CE | 11:AL:10:LYS:HE3 | 2.45 | 0.47 |
| 10:AK:2:LYS:HE3 | 10:AK:2:LYS:HB2 | 1.73 | 0.47 |
| 11:AL:107:GLU:O | 11:AL:108:ILE:C | 2.53 | 0.47 |
| 12:AM:10:VAL:HG11 | 12:AM:36:VAL:CG2 | 2.43 | 0.47 |
| 12:AM:53:ILE:HG23 | 12:AM:135:ILE:HG12 | 1.89 | 0.47 |
| 14:AO:76:LEU:HD21 | 14:AO:96:VAL:HG12 | 1.97 | 0.47 |
| 14:AO:81:VAL:HA | 14:AO:92:ASP:OD2 | 2.15 | 0.47 |
| 15:AP:17:ARG:HD3 | 15:AP:17:ARG:H | 1.80 | 0.47 |
| 16:AQ:49:THR:O | 16:AQ:49:THR:HG22 | 2.14 | 0.47 |
| 18:AS:49:LYS:HD3 | 18:AS:50:VAL:CA | 2.44 | 0.47 |
| 19:AT:2:TRP:N | 19:AT:2:TRP:CD1 | 2.82 | 0.47 |
| 19:AT:31:ARG:C | 19:AT:32:ALA:O | 2.53 | 0.47 |
| 19:AT:31:ARG:HE | 19:AT:31:ARG:N | 2.12 | 0.47 |
| 22:AW:34:GLN:O | 22:AW:37:GLY:N | 2.48 | 0.47 |
| 22:AW:45:ARG:HH21 | 22:AW:49:LEU:HD21 | 1.74 | 0.47 |
| 23:AX:15:TYR:N | 23:AX:15:TYR:CD1 | 2.78 | 0.47 |
| 24:A0:53:HIS:HA | 24:A0:56:LYS:CG | 2.37 | 0.47 |
| 24:A0:53:HIS:C | 24:A0:56:LYS:HG3 | 2.36 | 0.47 |
| 25:A1:40:LEU:HD11 | 26:A2:83:ARG:CZ | 2.44 | 0.47 |
| 25:A1:74:MET:CE | 25:A1:78:THR:CG2 | 2.88 | 0.47 |
| 25:A1:76:TYR:O | 25:A1:80:ILE:HD12 | 2.14 | 0.47 |
| 26:A2:61:VAL:CG1 | 26:A2:62:GLU:N | 2.78 | 0.47 |
| 26:A2:83:ARG:O | 26:A2:84:THR:HG23 | 2.14 | 0.47 |
| 27:A3:71:ASN:O | 27:A3:72:LYS:C | 2.52 | 0.47 |
| 30:A6:21:TYR:O | 30:A6:22:TYR:CD2 | 2.68 | 0.47 |
| 31:A7:5:TYR:O | 31:A7:7:PRO:HD3 | 2.15 | 0.47 |
| 31:A7:25:LYS:CA | 31:A7:25:LYS:CE | 2.81 | 0.47 |
| 32:A8:23:MET:CE | 32:A8:23:MET:CA | 2.91 | 0.47 |
| 32:A8:64:ARG:HG2 | 32:A8:64:ARG:NH1 | 2.30 | 0.47 |
| 33:A9:10:MET:C | 33:A9:11:CYS:O | 2.50 | 0.47 |
| 34:BA:5:U:O4 | 39:BG:86:LYS:CE | 2.61 | 0.47 |
| 34:BA:51:A:C2' | 34:BA:52:G:OP2 | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:65:U:C5 | 34:BA:381:C:C4 | 3.03 | 0.47 |
| 34:BA:130:A:C2 | 34:BA:263:A:H2 | 2.16 | 0.47 |
| 34:BA:131:C:O2' | 34:BA:132:C:H5' | 2.15 | 0.47 |
| 34:BA:160:A:H8 | 34:BA:160:A:O5' | 1.99 | 0.47 |
| 34:BA:265:G:H4' | 52:BT:66:SER:H | 1.80 | 0.47 |
| 34:BA:303:A:HO2' | 34:BA:555:C:HO2' | 1.52 | 0.47 |
| 34:BA:394:G:C4 | 34:BA:395:C:H5 | 2.28 | 0.47 |
| 34:BA:511:C:H42 | 34:BA:541:G:N2 | 2.13 | 0.47 |
| 34:BA:515:G:N3 | 34:BA:537:G:C2 | 2.83 | 0.47 |
| 34:BA:580:U:C2 | 34:BA:581:G:C8 | 3.03 | 0.47 |
| 34:BA:581:G:O3' | 50:BR:64:ARG:NH1 | 2.48 | 0.47 |
| 34:BA:618:C:H5 | 34:BA:621:A:OP2 | 1.98 | 0.47 |
| 34:BA:629:G:H2' | 34:BA:630:G:C8 | 2.46 | 0.47 |
| 34:BA:701:C:O2 | 34:BA:703:G:N1 | 2.48 | 0.47 |
| 34:BA:781:A:H2' | 34:BA:782:A:O4' | 2.15 | 0.47 |
| 34:BA:790:A:N6 | 34:BA:791:G:C2 | 2.82 | 0.47 |
| 34:BA:815:A:N9 | 34:BA:1529:G:C6 | 2.83 | 0.47 |
| 34:BA:855:G:H2' | 34:BA:856:C:C5' | 2.45 | 0.47 |
| 34:BA:865:A:H2' | 34:BA:866:C:C1' | 2.45 | 0.47 |
| 34:BA:960:U:C2 | 34:BA:1225:A:N7 | 2.83 | 0.47 |
| 34:BA:970:C:N3 | 48:BP:126:LYS:CD | 2.76 | 0.47 |
| 34:BA:991:U:C4 | 34:BA:1212:U:O2 | 2.68 | 0.47 |
| 34:BA:1033:G:N1 | 34:BA:1034:G:C5 | 2.83 | 0.47 |
| 34:BA:1033:G:N3 | 34:BA:1034:G:C8 | 2.83 | 0.47 |
| 34:BA:1118:C:O4' | 34:BA:1179:A:C1' | 2.63 | 0.47 |
| 34:BA:1128:C:N4 | 34:BA:1139:G:N1 | 2.63 | 0.47 |
| 34:BA:1179:A:O3' | 44:BL:103:THR:OG1 | 2.24 | 0.47 |
| 34:BA:1378:C:N4 | 34:BA:1379:G:C4 | 2.83 | 0.47 |
| 34:BA:1470:G:HO2' | 34:BA:1471:G:H5' | 1.77 | 0.47 |
| 34:BA:1510:U:H3 | 34:BA:1525:G:H1 | 1.63 | 0.47 |
| 34:BA:1536:C:N4 | 36:B1:53:G:H1 | 2.12 | 0.47 |
| 35:BB:33:U:H6 | 35:BB:33:U:O5' | 1.98 | 0.47 |
| 35:BC:27:C:C2 | 35:BC:28:C:C5 | 3.02 | 0.47 |
| 37:BE:57:PHE:HD1 | 37:BE:199:TYR:HE1 | 1.59 | 0.47 |
| 37:BE:96:ARG:H | 37:BE:96:ARG:CD | 2.28 | 0.47 |
| 37:BE:123:ALA:O | 37:BE:124:SER:O | 2.33 | 0.47 |
| 37:BE:147:LYS:HB2 | 37:BE:147:LYS:HZ2 | 1.80 | 0.47 |
| 38:BF:20:SER:OG | 38:BF:40:ARG:NH2 | 2.43 | 0.47 |
| 38:BF:78:GLY:HA3 | 38:BF:83:ARG:H | 1.80 | 0.47 |
| 39:BG:94:LEU:CD1 | 39:BG:200:GLU:OE2 | 2.63 | 0.47 |
| 40:BH:88:LYS:CB | 40:BH:123:LEU:O | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:BJ:70:LYS:HA | 42:BJ:100:ALA:HB2 | 1.97 | 0.47 |
| 42:BJ:126:ASP:HB2 | 42:BJ:131:LYS:O | 2.15 | 0.47 |
| 43:BK:1:MET:O | 43:BK:3:THR:N | 2.47 | 0.47 |
| 43:BK:35:ILE:O | 43:BK:36:LEU:C | 2.53 | 0.47 |
| 43:BK:36:LEU:HA | 43:BK:39:LEU:HD23 | 1.97 | 0.47 |
| 43:BK:44:PHE:O | 43:BK:64:LYS:HD3 | 2.14 | 0.47 |
| 44:BL:3:GLN:CA | 44:BL:20:ARG:HG2 | 2.45 | 0.47 |
| 44:BL:74:ILE:HA | 44:BL:77:ILE:CG1 | 2.45 | 0.47 |
| 45:BM:51:ARG:O | 45:BM:52:GLY:O | 2.32 | 0.47 |
| 46:BN:50:TYR:CD1 | 46:BN:54:ARG:CB | 2.94 | 0.47 |
| 48:BP:49:THR:O | 48:BP:52:GLU:N | 2.48 | 0.47 |
| 50:BR:56:LEU:HD12 | 50:BR:59:MET:HE1 | 1.96 | 0.47 |
| 52:BT:55:ASP:HA | 52:BT:79:SER:HA | 1.97 | 0.47 |
| 53:BU:23:LYS:HD2 | 53:BU:57:GLY:O | 2.14 | 0.47 |
| 54:BV:32:LYS:HB2 | 54:BV:57:HIS:CE1 | 2.50 | 0.47 |
| 55:BW:40:ALA:O | 55:BW:41:VAL:C | 2.52 | 0.47 |
| 55:BW:73:HIS:O | 55:BW:76:ALA:N | 2.48 | 0.47 |
| 55:BW:86:ARG:CG | 55:BW:87:LYS:H | 2.17 | 0.47 |
| 56:BX:6:ARG:HD3 | 56:BX:15:ARG:HH12 | 1.80 | 0.47 |
| 56:BX:10:ARG:HH21 | 56:BX:13:ILE:CD1 | 2.22 | 0.47 |
| 1:AB:18:G:H2' | 1:AB:19:G:C8 | 2.50 | 0.46 |
| 2:AA:6:A:H4' | 12:AM:5:GLU:O | 2.16 | 0.46 |
| 2:AA:7:G:C5' | 12:AM:6:PHE:HD2 | 2.28 | 0.46 |
| 2:AA:33:U:O2' | 2:AA:34:C:H6 | 1.92 | 0.46 |
| 2:AA:33:U:H1' | 2:AA:34:C:C5 | 2.50 | 0.46 |
| 2:AA:44:A:H2 | 2:AA:435:C:H41 | 1.62 | 0.46 |
| 2:AA:89:G:C4 | 2:AA:90:U:H5 | 2.33 | 0.46 |
| 2:AA:118:A:H1' | 2:AA:178:G:O4' | 2.15 | 0.46 |
| 2:AA:122:G:H21 | 2:AA:130:C:H1' | 1.80 | 0.46 |
| 2:AA:134:C:N3 | 2:AA:135:G:C8 | 2.83 | 0.46 |
| 2:AA:137(A):G:H5" | 2:AA:137(A):G:N2 | 2.29 | 0.46 |
| 2:AA:181:A:H2 | 2:AA:434:U:O2' | 1.92 | 0.46 |
| 2:AA:199:A:C2' | 2:AA:2433:A:N6 | 2.78 | 0.46 |
| 2:AA:243:U:H3' | 2:AA:244:A:H8 | 1.80 | 0.46 |
| 2:AA:274:G:H2' | 2:AA:275:G:C5' | 2.38 | 0.46 |
| 2:AA:352:G:C4 | 2:AA:353:G:C8 | 3.03 | 0.46 |
| 2:AA:447:A:N7 | 2:AA:454:A:N6 | 2.62 | 0.46 |
| 2:AA:543:C:C2 | 2:AA:551:G:N2 | 2.84 | 0.46 |
| 2:AA:548:A:H5" | 2:AA:549:G:O5' | 2.14 | 0.46 |
| 2:AA:579:G:O2' | 2:AA:2019:A:OP1 | 2.33 | 0.46 |
| 2:AA:655:A:O4' | 2:AA:655:A:OP1 | 2.32 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:656:G:OP2 | 2:AA:656:G:H8 | 1.94 | 0.46 |
| 2:AA:659:C:H4' | 6:AF:102:LEU:O | 2.15 | 0.46 |
| 2:AA:711:G:C2' | 2:AA:712:G:H5' | 2.46 | 0.46 |
| 2:AA:721:C:N3 | 2:AA:722:A:N7 | 2.63 | 0.46 |
| 2:AA:744:G:H2' | 2:AA:745:G:O5' | 2.15 | 0.46 |
| 2:AA:744:G:N2 | 2:AA:754:C:C2 | 2.83 | 0.46 |
| 2:AA:766:C:C2' | 2:AA:767:U:H5' | 2.45 | 0.46 |
| 2:AA:837:C:H6 | 2:AA:837:C:O5' | 1.98 | 0.46 |
| 2:AA:952:G:C2' | 2:AA:953:A:O5' | 2.63 | 0.46 |
| 2:AA:984:A:C5' | 2:AA:985:C:H41 | 2.27 | 0.46 |
| 2:AA:1004:C:C2' | 2:AA:1005:C:OP2 | 2.63 | 0.46 |
| 2:AA:1009:A:N1 | 2:AA:1010:A:C2 | 2.82 | 0.46 |
| 2:AA:1012:U:C2 | 12:AM:21:ARG:NH1 | 2.84 | 0.46 |
| 2:AA:1017:G:C2 | 2:AA:1146:C:C2 | 3.03 | 0.46 |
| 2:AA:1044:G:OP1 | 2:AA:1046:A:H3' | 2.15 | 0.46 |
| 2:AA:1085:A:OP2 | 9:AI:37:VAL:HG23 | 2.15 | 0.46 |
| 2:AA:1127:A:C6 | 2:AA:2518:A:C2 | 3.03 | 0.46 |
| 2:AA:1136:G:O2' | 2:AA:1137:G:H5' | 2.15 | 0.46 |
| 2:AA:1339:G:C1' | 2:AA:1393:A:C2 | 2.98 | 0.46 |
| 2:AA:1341:U:C4 | 2:AA:1395:A:H2 | 2.33 | 0.46 |
| 2:AA:1439:A:C2' | 2:AA:1440:G:C5' | 2.81 | 0.46 |
| 2:AA:1520:U:C3' | 2:AA:1521:G:C5' | 2.86 | 0.46 |
| 2:AA:1565:C:N3 | 2:AA:1567:A:H1' | 2.31 | 0.46 |
| 2:AA:1568:G:C5' | 4:AD:60:GLN:NE2 | 2.44 | 0.46 |
| 2:AA:1569:A:H2' | 2:AA:1570:A:H8 | 1.81 | 0.46 |
| 2:AA:1613:G:C6 | 2:AA:1619:G:C6 | 3.03 | 0.46 |
| 2:AA:1690:A:N6 | 2:AA:1697:G:C2 | 2.83 | 0.46 |
| 2:AA:1754:C:N3 | 2:AA:1755:A:C5 | 2.83 | 0.46 |
| 2:AA:1799:G:N2 | 4:AD:153:LEU:CD1 | 2.78 | 0.46 |
| 2:AA:1911:U:C2' | 2:AA:1912:A:H5' | 2.43 | 0.46 |
| 2:AA:1924:C:H2' | 2:AA:1925:C:H6 | 1.80 | 0.46 |
| 2:AA:2004:G:C6 | 2:AA:2005:A:C2 | 3.03 | 0.46 |
| 2:AA:2018:G:O2' | 2:AA:2019:A:C5' | 2.61 | 0.46 |
| 2:AA:2076:U:OP2 | 2:AA:2238:G:N2 | 2.46 | 0.46 |
| 2:AA:2092:U:C2 | 2:AA:2225:A:O2' | 2.67 | 0.46 |
| 2:AA:2180:U:O2' | 2:AA:2181:G:O4' | 2.31 | 0.46 |
| 2:AA:2306:C:C6 | 2:AA:2306:C:C3' | 2.98 | 0.46 |
| 2:AA:2325:G:HO2' | 2:AA:2326:C:H5' | 1.77 | 0.46 |
| 2:AA:2346:A:O2' | 2:AA:2347:C:P | 2.72 | 0.46 |
| 2:AA:2452:C:H2' | 2:AA:2453:A:O4' | 2.14 | 0.46 |
| 2:AA:2623:G:C2' | 2:AA:2624:G:O5' | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2633:G:N1 | 2:AA:2634:G:C6 | 2.82 | 0.46 |
| 2:AA:2700:C:C3' | 2:AA:2701:C:C5' | 2.88 | 0.46 |
| 2:AA:2717:G:C4 | 2:AA:2718:G:C8 | 3.04 | 0.46 |
| 2:AA:2718:G:H2' | 2:AA:2719:G:O5' | 2.15 | 0.46 |
| 2:AA:2794:C:H2' | 2:AA:2794:C:O2 | 2.14 | 0.46 |
| 3:AC:29:VAL:CG2 | 3:AC:216:THR:HG23 | 2.45 | 0.46 |
| 3:AC:139:ASN:OD1 | 3:AC:142:ALA:CB | 2.62 | 0.46 |
| 3:AC:163:PHE:CG | 3:AC:192:PHE:HE1 | 2.33 | 0.46 |
| 4:AD:93:ILE:HD12 | 4:AD:93:ILE:HA | 1.68 | 0.46 |
| 4:AD:168:GLY:C | 4:AD:170:TYR:H | 2.18 | 0.46 |
| 4:AD:205:VAL:HG23 | 4:AD:206:LYS:H | 1.80 | 0.46 |
| 5:AE:196:GLY:CA | 5:AE:297:LYS:HZ3 | 2.27 | 0.46 |
| 8:AH:7:PRO:CA | 8:AH:50:THR:OG1 | 2.63 | 0.46 |
| 8:AH:117:GLU:OE1 | 8:AH:118:GLU:N | 2.48 | 0.46 |
| 8:AH:132:VAL:CG1 | 8:AH:140:VAL:HG13 | 2.44 | 0.46 |
| 9:AI:29:PHE:O | 9:AI:34:ALA:N | 2.49 | 0.46 |
| 9:AI:103:LYS:HD3 | 9:AI:114:ILE:CD1 | 2.45 | 0.46 |
| 14:AO:113:GLN:HB2 | 14:AO:115:ARG:NH2 | 2.30 | 0.46 |
| 15:AP:67:ALA:O | 15:AP:70:ARG:CB | 2.62 | 0.46 |
| 16:AQ:27:LEU:HD13 | 16:AQ:27:LEU:C | 2.35 | 0.46 |
| 16:AQ:38:LYS:HZ1 | 16:AQ:114:LYS:CD | 2.21 | 0.46 |
| 19:AT:39:ASP:C | 19:AT:43:GLU:OE1 | 2.53 | 0.46 |
| 21:AV:19:ILE:HG23 | 21:AV:20:ALA:N | 2.30 | 0.46 |
| 21:AV:39:PHE:N | 21:AV:39:PHE:CD2 | 2.81 | 0.46 |
| 22:AW:43:PRO:HG2 | 22:AW:46:ILE:HG12 | 1.94 | 0.46 |
| 25:A1:104:GLU:O | 25:A1:105:ALA:C | 2.54 | 0.46 |
| 26:A2:4:ILE:HG12 | 26:A2:13:ARG:HD3 | 1.96 | 0.46 |
| 26:A2:29:ALA:O | 26:A2:30:GLY:C | 2.52 | 0.46 |
| 26:A2:49:GLU:HB2 | 26:A2:54:TYR:CE2 | 2.49 | 0.46 |
| 26:A2:71:ILE:O | 26:A2:72:ARG:HG3 | 2.14 | 0.46 |
| 28:A4:43:TRP:HB2 | 28:A4:55:ARG:O | 2.14 | 0.46 |
| 30:A6:28:ARG:CG | 30:A6:30:ASN:HB3 | 2.42 | 0.46 |
| 30:A6:42:PRO:O | 30:A6:43:VAL:C | 2.53 | 0.46 |
| 32:A8:30:ARG:CG | 32:A8:31:HIS:H | 2.24 | 0.46 |
| 33:A9:17:VAL:HG21 | 33:A9:26:ILE:CD1 | 2.45 | 0.46 |
| 34:BA:55:A:H61 | 34:BA:357:G:H1' | 1.78 | 0.46 |
| 34:BA:61:G:C2' | 34:BA:62:U:O4' | 2.49 | 0.46 |
| 34:BA:81:U:C2 | 34:BA:83:U:P | 3.08 | 0.46 |
| 34:BA:189:G:C6 | 34:BA:190:C:N4 | 2.83 | 0.46 |
| 34:BA:232:G:C5 | 34:BA:233:C:C5 | 3.03 | 0.46 |
| 34:BA:322:C:O2' | 55:BW:23:ARG:HB2 | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:451:A:O2' | 34:BA:452:A:O4' | 2.33 | 0.46 |
| 34:BA:452:A:C4 | 34:BA:453:A:C8 | 3.03 | 0.46 |
| 34:BA:540:G:H8 | 34:BA:540:G:O5' | 1.96 | 0.46 |
| 34:BA:741:G:O2' | 34:BA:742:G:C5' | 2.58 | 0.46 |
| 34:BA:830:G:C2' | 34:BA:831:U:H5' | 2.46 | 0.46 |
| 34:BA:872:A:C4 | 34:BA:874:G:C8 | 3.04 | 0.46 |
| 34:BA:910:C:O2' | 34:BA:911:U:H5' | 2.15 | 0.46 |
| 34:BA:922:G:C6 | 34:BA:923:A:C6 | 3.03 | 0.46 |
| 34:BA:952:U:HO2' | 34:BA:953:G:H5' | 1.80 | 0.46 |
| 34:BA:960:U:N3 | 34:BA:1225:A:C6 | 2.83 | 0.46 |
| 34:BA:977:A:N3 | 34:BA:977:A:C2' | 2.75 | 0.46 |
| 34:BA:977:A:N1 | 34:BA:1224:G:C4 | 2.83 | 0.46 |
| 34:BA:1089:G:C2 | 34:BA:1097:C:N3 | 2.83 | 0.46 |
| 34:BA:1104:G:C2' | 34:BA:1105:A:H5' | 2.46 | 0.46 |
| 34:BA:1108:G:H2' | 34:BA:1109:C:H5' | 1.98 | 0.46 |
| 34:BA:1125:U:O2' | 34:BA:1126:U:P | 2.73 | 0.46 |
| 34:BA:1153:C:H2' | 34:BA:1154:G:O4' | 2.15 | 0.46 |
| 34:BA:1227:A:C8 | 34:BA:1228:C:C1' | 2.98 | 0.46 |
| 34:BA:1351:U:O4 | 44:BL:118:LYS:HE3 | 2.15 | 0.46 |
| 34:BA:1367:C:OP2 | 44:BL:117:HIS:CE1 | 2.69 | 0.46 |
| 34:BA:1401:G:C2' | 34:BA:1402:C:C5' | 2.93 | 0.46 |
| 34:BA:1465:C:N3 | 34:BA:1466:C:C4 | 2.83 | 0.46 |
| 34:BA:1503:A:C8 | 36:B1:57:A:C6 | 3.03 | 0.46 |
| 34:BA:1504:G:C8 | 34:BA:1504:G:C3' | 2.97 | 0.46 |
| 34:BA:1539:C:O2' | 34:BA:1540:U:H5" | 2.15 | 0.46 |
| 34:BA:1540:U:H2' | 34:BA:1541:U:C4' | 2.46 | 0.46 |
| 34:BA:1541:U:C2' | 34:BA:1542:U:HO3' | 2.28 | 0.46 |
| 36:B1:9:C:C2 | 36:B1:10:U:C5 | 3.03 | 0.46 |
| 37:BE:21:ARG:HA | 37:BE:39:ILE:CG1 | 2.18 | 0.46 |
| 37:BE:48:MET:SD | 37:BE:51:LEU:HD12 | 2.55 | 0.46 |
| 37:BE:69:LEU:HD22 | 37:BE:70:PHE:N | 2.30 | 0.46 |
| 37:BE:77:ALA:HB1 | 37:BE:211:ILE:HG21 | 1.97 | 0.46 |
| 37:BE:223:ILE:HA | 37:BE:226:ARG:CD | 2.45 | 0.46 |
| 38:BF:130:VAL:HG12 | 38:BF:134:ILE:CD1 | 2.45 | 0.46 |
| 39:BG:114:ARG:HA | 39:BG:114:ARG:HD3 | 1.71 | 0.46 |
| 40:BH:48:ALA:HB3 | 40:BH:54:ALA:N | 2.30 | 0.46 |
| 41:BI:82:ARG:C | 41:BI:83:ASP:OD2 | 2.53 | 0.46 |
| 42:BJ:14:PRO:HB2 | 42:BJ:19:GLY:O | 2.15 | 0.46 |
| 42:BJ:16:LEU:HD23 | 42:BJ:16:LEU:N | 2.30 | 0.46 |
| 43:BK:83:ILE:HB | 43:BK:137:VAL:CG2 | 2.45 | 0.46 |
| 43:BK:89:PRO:CB | 43:BK:92:ARG:NH2 | 2.77 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:30:SER:HG | 45:BM:81:THR:HA | 1.80 | 0.46 |
| 46:BN:30:VAL:O | 46:BN:42:TRP:HB2 | 2.15 | 0.46 |
| 47:BO:72:GLY:CA | 47:BO:102:ARG:NH1 | 2.70 | 0.46 |
| 47:BO:84:LEU:HG | 47:BO:85:ILE:H | 1.80 | 0.46 |
| 47:BO:88:GLY:N | 47:BO:98:TYR:HA | 2.30 | 0.46 |
| 47:BO:120:TYR:O | 47:BO:122:THR:OG1 | 2.33 | 0.46 |
| 49:BQ:4:LYS:O | 49:BQ:7:ILE:HG13 | 2.14 | 0.46 |
| 49:BQ:14:PRO:CB | 49:BQ:17:LYS:O | 2.62 | 0.46 |
| 52:BT:34:LYS:CG | 52:BT:35:VAL:N | 2.78 | 0.46 |
| 53:BU:31:LEU:HD13 | 53:BU:65:ILE:CD1 | 2.45 | 0.46 |
| 56:BX:6:ARG:C | 56:BX:8:THR:N | 2.68 | 0.46 |
| 1:AB:10:C:O2' | 1:AB:11:C:H5' | 2.15 | 0.46 |
| 2:AA:8:A:C4 | 2:AA:9:U:C5 | 3.03 | 0.46 |
| 2:AA:136:G:OP2 | 2:AA:136:G:H8 | 1.97 | 0.46 |
| 2:AA:163:U:OP2 | 2:AA:163:U:H6 | 1.98 | 0.46 |
| 2:AA:221:A:N6 | 2:AA:266:G:C4 | 2.80 | 0.46 |
| 2:AA:222:A:O5' | 2:AA:271(B):G:N2 | 2.48 | 0.46 |
| 2:AA:257:A:C8 | 2:AA:257:A:C3' | 2.99 | 0.46 |
| 2:AA:266:G:C8 | 2:AA:266:G:C3' | 2.98 | 0.46 |
| 2:AA:270(W):G:H2' | 2:AA:270(X):G:H8 | 1.79 | 0.46 |
| 2:AA:271(C):U:O4 | 2:AA:421:U:C2' | 2.64 | 0.46 |
| 2:AA:432:A:C2 | 2:AA:433:C:N1 | 2.83 | 0.46 |
| 2:AA:487:C:N4 | 2:AA:488:G:C5 | 2.83 | 0.46 |
| 2:AA:532:A:OP2 | 2:AA:2021:C:C4 | 2.68 | 0.46 |
| 2:AA:542:C:H2' | 2:AA:543:C:H6 | 1.79 | 0.46 |
| 2:AA:562:U:C6 | 2:AA:2036:C:H5" | 2.50 | 0.46 |
| 2:AA:563:G:C6 | 2:AA:2018:G:C5 | 3.03 | 0.46 |
| 2:AA:569:U:C4' | 2:AA:946:G:H1' | 2.45 | 0.46 |
| 2:AA:627:A:O2' | 2:AA:628:G:O4' | 2.33 | 0.46 |
| 2:AA:669:G:N3 | 2:AA:801:G:C6 | 2.83 | 0.46 |
| 2:AA:717:G:C2 | 2:AA:718:A:C1' | 2.88 | 0.46 |
| 2:AA:780:G:C5 | 2:AA:782:A:N6 | 2.83 | 0.46 |
| 2:AA:855:G:O2' | 27:A3:25:LYS:HD2 | 2.15 | 0.46 |
| 2:AA:943:U:C2' | 2:AA:944:G:OP1 | 2.63 | 0.46 |
| 2:AA:950:G:C5 | 2:AA:951:C:C4 | 3.03 | 0.46 |
| 2:AA:1058:G:H21 | 11:AL:117:ASN:ND2 | 2.08 | 0.46 |
| 2:AA:1069:A:C3' | 2:AA:1070:A:H5" | 2.45 | 0.46 |
| 2:AA:1074:G:C4 | 2:AA:1075:C:H5 | 2.33 | 0.46 |
| 2:AA:1109:C:C5 | 2:AA:1110:G:C6 | 3.04 | 0.46 |
| 2:AA:1138:G:OP1 | 12:AM:57:TYR:OH | 2.33 | 0.46 |
| 2:AA:1159:U:H2' | 2:AA:1160:G:O5' | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1206:G:C1' | 2:AA:1242:A:N6 | 2.72 | 0.46 |
| 2:AA:1212:G:N7 | 2:AA:1235:G:C6 | 2.83 | 0.46 |
| 2:AA:1212:G:O2' | 2:AA:1213:A:O5' | 2.32 | 0.46 |
| 2:AA:1218:C:C2 | 2:AA:1219:G:C8 | 3.03 | 0.46 |
| 2:AA:1224:G:H1' | 26:A2:86:HIS:HD2 | 1.80 | 0.46 |
| 2:AA:1464:C:H2' | 2:AA:1465:G:C8 | 2.49 | 0.46 |
| 2:AA:1472:A:N1 | 2:AA:1519:G:C6 | 2.84 | 0.46 |
| 2:AA:1535:U:O4' | 2:AA:1535:U:O2 | 2.29 | 0.46 |
| 2:AA:1544:C:H2' | 2:AA:1545:A:C4' | 2.45 | 0.46 |
| 2:AA:1750:G:O2' | 2:AA:1751:C:C5' | 2.63 | 0.46 |
| 2:AA:1992:G:N2 | 2:AA:1995:U:C4 | 2.83 | 0.46 |
| 2:AA:2026:C:O2' | 2:AA:2027:G:H5' | 2.16 | 0.46 |
| 2:AA:2029:G:C8 | 2:AA:2029:G:O5' | 2.55 | 0.46 |
| 2:AA:2030:A:O3' | 2:AA:2031:A:O4' | 2.32 | 0.46 |
| 2:AA:2057:A:C5 | 2:AA:2058:A:N7 | 2.82 | 0.46 |
| 2:AA:2108:C:C5 | 2:AA:2109:U:C4 | 3.03 | 0.46 |
| 2:AA:2246:G:C2 | 2:AA:2247:A:N7 | 2.83 | 0.46 |
| 2:AA:2265:U:O2 | 2:AA:2265:U:H2' | 2.15 | 0.46 |
| 2:AA:2340:G:N1 | 2:AA:2341:G:C5 | 2.84 | 0.46 |
| 2:AA:2378:A:C4 | 16:AQ:26:LEU:HD21 | 2.48 | 0.46 |
| 2:AA:2577:A:H8 | 2:AA:2577:A:O5' | 1.98 | 0.46 |
| 2:AA:2620:C:P | 5:AE:248:SER:HA | 2.55 | 0.46 |
| 2:AA:2652:C:O2' | 2:AA:2653:U:H5' | 2.15 | 0.46 |
| 2:AA:2694:G:N1 | 2:AA:2695:C:C5 | 2.84 | 0.46 |
| 2:AA:2697:G:O2' | 2:AA:2698:U:H5' | 2.14 | 0.46 |
| 2:AA:2745:C:C2' | 8:AH:142:GLU:OE2 | 2.64 | 0.46 |
| 2:AA:2817:G:C2' | 2:AA:2818:G:O5' | 2.63 | 0.46 |
| 2:AA:2888:C:C2 | 2:AA:2889:C:C5 | 3.03 | 0.46 |
| 3:AC:42:GLU:CG | 3:AC:173:ALA:O | 2.63 | 0.46 |
| 4:AD:76:ARG:HB3 | 4:AD:113:MET:CB | 2.45 | 0.46 |
| 4:AD:131:LEU:CB | 4:AD:171:VAL:HG21 | 2.45 | 0.46 |
| 4:AD:164:LEU:HD13 | 4:AD:174:ARG:HB2 | 1.97 | 0.46 |
| 5:AE:75:THR:H | 5:AE:293:TYR:HE2 | 1.63 | 0.46 |
| 5:AE:205:THR:OG1 | 5:AE:258:TYR:CA | 2.63 | 0.46 |
| 5:AE:221:LYS:HB2 | 5:AE:222:ARG:HD2 | 1.97 | 0.46 |
| 6:AF:203:ALA:O | 6:AF:204:ALA:C | 2.53 | 0.46 |
| 7:AG:38:GLU:HG2 | 7:AG:71:ALA:HB1 | 1.98 | 0.46 |
| 7:AG:49:PRO:HB2 | 7:AG:72:LYS:CA | 2.45 | 0.46 |
| 7:AG:82:GLU:C | 7:AG:85:GLN:HG3 | 2.34 | 0.46 |
| 9:AI:43:PRO:HG3 | 9:AJ:26:GLU:OE1 | 2.15 | 0.46 |
| 9:AI:92:VAL:O | 9:AI:95:ALA:HB3 | 2.14 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:6:LEU:HB3 | 10:AK:36:ALA:HB2 | 1.98 | 0.46 |
| 10:AK:48:GLU:O | 10:AK:52:GLN:HG3 | 2.15 | 0.46 |
| 10:AK:103:GLN:NE2 | 10:AK:109:LYS:HA | 2.30 | 0.46 |
| 10:AK:115:ILE:H | 10:AK:131:VAL:HG13 | 1.81 | 0.46 |
| 11:AL:38:PHE:HZ | 11:AL:60:VAL:HG12 | 1.80 | 0.46 |
| 12:AM:59:LYS:O | 12:AM:60:ARG:C | 2.51 | 0.46 |
| 12:AM:61:VAL:CG1 | 12:AM:62:ASP:N | 2.78 | 0.46 |
| 12:AM:73:LYS:O | 12:AM:141:ALA:N | 2.48 | 0.46 |
| 14:AO:117:GLU:OE1 | 14:AO:136:ALA:C | 2.53 | 0.46 |
| 14:AO:125:PHE:H | 14:AO:130:ARG:NE | 2.08 | 0.46 |
| 15:AP:91:HIS:O | 15:AP:111:THR:HA | 2.16 | 0.46 |
| 19:AT:42:GLU:CG | 19:AT:49:VAL:HG23 | 2.45 | 0.46 |
| 20:AU:33:GLU:CG | 20:AU:34:GLU:N | 2.77 | 0.46 |
| 20:AU:47:THR:HG22 | 20:AU:100:ASP:N | 2.29 | 0.46 |
| 21:AV:6:LYS:HA | 21:AV:32:PHE:O | 2.15 | 0.46 |
| 21:AV:142:ASN:C | 21:AV:171:VAL:HG21 | 2.35 | 0.46 |
| 22:AW:30:ALA:O | 22:AW:34:GLN:HB2 | 2.15 | 0.46 |
| 23:AX:3:ARG:CG | 23:AX:60:GLU:HG2 | 2.45 | 0.46 |
| 23:AX:53:LEU:CD2 | 23:AX:54:VAL:HG13 | 2.45 | 0.46 |
| 24:A0:34:ILE:HG23 | 24:A0:35:THR:H | 1.79 | 0.46 |
| 24:A0:67:LEU:O | 24:A0:69:ASP:N | 2.48 | 0.46 |
| 24:A0:107:ASP:CG | 24:A0:109:ALA:H | 2.18 | 0.46 |
| 25:A1:34:ASN:O | 25:A1:35:ALA:C | 2.51 | 0.46 |
| 26:A2:23:GLU:OE1 | 26:A2:25:LEU:HG | 2.16 | 0.46 |
| 27:A3:26:PHE:C | 27:A3:60:PHE:CD1 | 2.89 | 0.46 |
| 30:A6:42:PRO:C | 30:A6:44:ALA:H | 2.13 | 0.46 |
| 33:A9:7:VAL:HG13 | 33:A9:25:VAL:HG21 | 1.98 | 0.46 |
| 34:BA:14:U:O2 | 34:BA:16:A:C5 | 2.68 | 0.46 |
| 34:BA:35:G:N2 | 47:BO:118:SER:OG | 2.48 | 0.46 |
| 34:BA:75:G:H2' | 34:BA:76:C:C6 | 2.50 | 0.46 |
| 34:BA:126:G:C2 | 34:BA:127:G:C4 | 3.03 | 0.46 |
| 34:BA:132:C:N3 | 34:BA:231:G:N2 | 2.63 | 0.46 |
| 34:BA:181:G:C2 | 34:BA:195:A:C5 | 3.03 | 0.46 |
| 34:BA:190(A):C:C2' | 34:BA:190(B):C:H5' | 2.45 | 0.46 |
| 34:BA:320:C:H42 | 34:BA:333:G:H1 | 0.58 | 0.46 |
| 34:BA:459:G:C5 | 34:BA:461:C:OP2 | 2.68 | 0.46 |
| 34:BA:531:U:OP2 | 34:BA:531:U:H6 | 1.97 | 0.46 |
| 34:BA:570:G:C4' | 34:BA:820:U:C6 | 2.97 | 0.46 |
| 34:BA:578:C:O2 | 34:BA:728:A:C2 | 2.68 | 0.46 |
| 34:BA:626:U:H5" | 51:BS:38:TYR:CE2 | 2.49 | 0.46 |
| 34:BA:654:G:H8 | 34:BA:654:G:O5' | 1.97 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:668:G:H2' | 34:BA:669:U:C6 | 2.46 | 0.46 |
| 34:BA:851:G:O2' | 34:BA:852:G:H5' | 2.16 | 0.46 |
| 34:BA:898:G:H2' | 34:BA:900:A:OP2 | 2.15 | 0.46 |
| 34:BA:924:C:H5' | 34:BA:1399:C:OP2 | 2.16 | 0.46 |
| 34:BA:950:U:OP2 | 48:BP:102:ARG:NH2 | 2.49 | 0.46 |
| 34:BA:979:C:OP1 | 34:BA:1223:C:N4 | 2.48 | 0.46 |
| 34:BA:991:U:O2' | 34:BA:993:G:C1' | 2.53 | 0.46 |
| 34:BA:1068:G:C6 | 34:BA:1108:G:N3 | 2.83 | 0.46 |
| 34:BA:1086:U:C4 | 34:BA:1099:G:C6 | 3.03 | 0.46 |
| 34:BA:1113:C:H2' | 34:BA:1114:C:H6 | 1.81 | 0.46 |
| 34:BA:1128:C:O2' | 34:BA:1130:A:C8 | 2.67 | 0.46 |
| 34:BA:1206:G:O2' | 34:BA:1207:G:H5' | 2.15 | 0.46 |
| 34:BA:1294:G:N1 | 34:BA:1295:G:C6 | 2.84 | 0.46 |
| 34:BA:1428:A:C5 | 34:BA:1429:C:N4 | 2.83 | 0.46 |
| 35:BB:75:C:C6 | 35:BB:76:A:C2 | 2.86 | 0.46 |
| 35:BC:4:G:C5 | 35:BC:5:A:C8 | 3.02 | 0.46 |
| 35:BC:10:G:C8 | 35:BC:26:G:N2 | 2.83 | 0.46 |
| 36:B1:10:U:H2' | 36:B1:11:U:O4' | 2.15 | 0.46 |
| 36:B1:36:A:C6 | 36:B1:37:C:H1' | 2.50 | 0.46 |
| 37:BE:71:VAL:HG22 | 37:BE:93:VAL:H | 1.80 | 0.46 |
| 37:BE:145:LEU:O | 37:BE:149:LEU:CB | 2.29 | 0.46 |
| 37:BE:178:ARG:O | 43:BK:71:GLY:O | 2.34 | 0.46 |
| 38:BF:153:VAL:CG2 | 38:BF:166:GLU:HB3 | 2.44 | 0.46 |
| 39:BG:148:VAL:HG12 | 39:BG:152:SER:HB2 | 1.97 | 0.46 |
| 40:BH:122:GLU:OE1 | 40:BH:126:ARG:HG2 | 2.16 | 0.46 |
| 41:BI:47:ARG:CG | 41:BI:47:ARG:HH11 | 2.28 | 0.46 |
| 42:BJ:8:GLU:O | 42:BJ:8:GLU:OE1 | 2.34 | 0.46 |
| 42:BJ:25:ALA:O | 42:BJ:28:ASN:CB | 2.63 | 0.46 |
| 42:BJ:121:ALA:O | 42:BJ:125:MET:HG2 | 2.15 | 0.46 |
| 42:BJ:137:LYS:O | 42:BJ:140:ASP:HB2 | 2.14 | 0.46 |
| 44:BL:50:LEU:HD21 | 44:BL:55:ALA:O | 2.15 | 0.46 |
| 45:BM:39:PRO:O | 45:BM:40:LEU:CB | 2.64 | 0.46 |
| 45:BM:48:THR:HA | 45:BM:62:HIS:HB3 | 1.96 | 0.46 |
| 46:BN:21:ILE:HD13 | 46:BN:95:ILE:HG23 | 1.98 | 0.46 |
| 46:BN:54:ARG:N | 46:BN:54:ARG:HD3 | 2.29 | 0.46 |
| 47:BO:70:ILE:HA | 47:BO:100:ILE:HG12 | 1.97 | 0.46 |
| 48:BP:34:LEU:HD13 | 48:BP:41:PRO:CB | 2.45 | 0.46 |
| 48:BP:55:ARG:O | 48:BP:57:ARG:N | 2.47 | 0.46 |
| 51:BS:3:LYS:CE | 51:BS:24:ALA:HB2 | 2.44 | 0.46 |
| 51:BS:75:ARG:O | 51:BS:76:GLN:C | 2.53 | 0.46 |
| 53:BU:56:THR:C | 53:BU:58:LEU:HG | 2.36 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 54:BV:11:VAL:CG1 | 54:BV:38:SER:OG | 2.58 | 0.46 |
| 1:AB:1:U:C6 | 1:AB:1:U:H3' | 2.50 | 0.46 |
| 1:AB:8:U:O2 | 1:AB:9:G:N7 | 2.49 | 0.46 |
| 1:AB:56:G:C4' | 1:AB:57:A:H5' | 2.35 | 0.46 |
| 1:AB:61:G:N1 | 1:AB:62:C:N4 | 2.63 | 0.46 |
| 1:AB:69:G:N1 | 1:AB:70:C:C4 | 2.84 | 0.46 |
| 2:AA:131:G:H1 | 2:AA:149:A:N6 | 2.11 | 0.46 |
| 2:AA:145:G:C4 | 2:AA:146:G:C8 | 3.04 | 0.46 |
| 2:AA:175:G:O2' | 2:AA:176:G:H5' | 2.15 | 0.46 |
| 2:AA:195:A:P | 2:AA:196:A:H4' | 2.53 | 0.46 |
| 2:AA:202:U:H6 | 2:AA:202:U:H3' | 1.80 | 0.46 |
| 2:AA:221:A:C8 | 2:AA:221:A:C3' | 2.94 | 0.46 |
| 2:AA:270:A:C2' | 2:AA:270(A):A:H4' | 2.37 | 0.46 |
| 2:AA:271(C):U:O2' | 2:AA:271:G:O5' | 2.33 | 0.46 |
| 2:AA:302:C:C2' | 2:AA:303:U:O5' | 2.63 | 0.46 |
| 2:AA:332:A:O2' | 2:AA:333:G:P | 2.73 | 0.46 |
| 2:AA:500:G:H8 | 2:AA:500:G:O5' | 1.99 | 0.46 |
| 2:AA:558:G:P | 12:AM:92:GLN:N | 2.88 | 0.46 |
| 2:AA:614:U:C5 | 2:AA:615:G:O2' | 2.68 | 0.46 |
| 2:AA:670:A:H4' | 2:AA:671:C:OP1 | 2.14 | 0.46 |
| 2:AA:725:G:C2 | 2:AA:726:G:N2 | 2.83 | 0.46 |
| 2:AA:777:A:C2 | 2:AA:778:G:C5 | 3.03 | 0.46 |
| 2:AA:777:A:H2' | 2:AA:778:G:C5' | 2.45 | 0.46 |
| 2:AA:817:C:H6 | 2:AA:817:C:O5' | 1.99 | 0.46 |
| 2:AA:822:U:C2 | 2:AA:823:G:C8 | 3.03 | 0.46 |
| 2:AA:856:C:H4' | 27:A3:24:LYS:HB2 | 1.96 | 0.46 |
| 2:AA:879:G:C2 | 2:AA:880:G:C8 | 3.03 | 0.46 |
| 2:AA:885:C:C3' | 2:AA:885:C:C6 | 2.98 | 0.46 |
| 2:AA:928:G:C2' | 2:AA:929:G:C4 | 2.97 | 0.46 |
| 2:AA:1080:C:O2' | 11:AL:126:LYS:CB | 2.64 | 0.46 |
| 2:AA:1138:G:OP1 | 12:AM:82:THR:CA | 2.63 | 0.46 |
| 2:AA:1252:G:H1' | 25:A1:33:ARG:HD3 | 1.97 | 0.46 |
| 2:AA:1343:G:H5' | 2:AA:1598:C:OP2 | 2.15 | 0.46 |
| 2:AA:1365:A:N6 | 2:AA:1366:A:N6 | 2.63 | 0.46 |
| 2:AA:1378:A:C8 | 2:AA:1380:G:C5 | 3.03 | 0.46 |
| 2:AA:1447:G:H1' | 2:AA:545(A):A:C1' | 2.45 | 0.46 |
| 2:AA:545(A):A:C8 | 2:AA:545(A):A:C3' | 2.99 | 0.46 |
| 2:AA:1578:U:C2' | 2:AA:1579:A:O5' | 2.63 | 0.46 |
| 2:AA:1670:C:H2' | 2:AA:1671:U:C4' | 2.46 | 0.46 |
| 2:AA:1673:U:H2' | 2:AA:1674:G:O5' | 2.13 | 0.46 |
| 2:AA:1708:C:H2' | 2:AA:1709:U:H5' | 1.97 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1717:G:N3 | 2:AA:1717:G:H2' | 2.30 | 0.46 |
| 2:AA:1819:A:H2' | 4:AD:177:SER:HA | 1.96 | 0.46 |
| 2:AA:1910:G:C6 | 2:AA:1911:U:C4 | 3.03 | 0.46 |
| 2:AA:1920:C:H5" | 34:BA:1517:G:C5 | 2.50 | 0.46 |
| 2:AA:2014:A:N7 | 2:AA:2015:A:C6 | 2.83 | 0.46 |
| 2:AA:2026:C:O2 | 2:AA:2027:G:O4' | 2.33 | 0.46 |
| 2:AA:2047:U:O2' | 2:AA:2048:G:P | 2.73 | 0.46 |
| 2:AA:2078:C:H5" | 2:AA:2434:A:H5' | 1.93 | 0.46 |
| 2:AA:2126:A:C4' | 2:AA:2126:A:OP2 | 2.63 | 0.46 |
| 2:AA:2313:C:H2' | 2:AA:2314:C:C6 | 2.51 | 0.46 |
| 2:AA:2331:G:H2' | 2:AA:2332:U:N1 | 2.31 | 0.46 |
| 2:AA:2400:G:O3' | 30:A6:20:PHE:HZ | 1.98 | 0.46 |
| 2:AA:2443:C:O2' | 2:AA:2444:G:H5' | 2.13 | 0.46 |
| 2:AA:2464:C:C2 | 2:AA:2486:G:N2 | 2.78 | 0.46 |
| 2:AA:2488:A:O2' | 2:AA:2489:G:C5' | 2.60 | 0.46 |
| 2:AA:2550:G:H2' | 2:AA:2551:C:H6 | 1.79 | 0.46 |
| 2:AA:2553:G:C2 | 2:AA:2583:G:C1' | 2.95 | 0.46 |
| 2:AA:2579:C:C4 | 2:AA:2580:U:C6 | 3.03 | 0.46 |
| 2:AA:2604:U:O2 | 2:AA:2605:U:C6 | 2.67 | 0.46 |
| 2:AA:2631:G:H21 | 2:AA:2810:A:H1' | 1.80 | 0.46 |
| 2:AA:2638:G:C8 | 2:AA:2775:A:N1 | 2.83 | 0.46 |
| 2:AA:2664:G:H2' | 2:AA:2665:A:OP2 | 2.15 | 0.46 |
| 2:AA:2679:A:C5' | 5:AE:261:ARG:CZ | 2.90 | 0.46 |
| 2:AA:2683:C:C4 | 2:AA:2684:U:C5 | 3.03 | 0.46 |
| 2:AA:2687:U:O2 | 2:AA:2688:U:O4' | 2.34 | 0.46 |
| 2:AA:2736:G:H2' | 2:AA:2737:G:O5' | 2.15 | 0.46 |
| 2:AA:2754:U:H2' | 2:AA:2756:U:OP2 | 2.14 | 0.46 |
| 3:AC:22:ILE:HD13 | 3:AC:189:ILE:HG22 | 1.97 | 0.46 |
| 3:AC:177:LYS:C | 3:AC:179:SER:H | 2.17 | 0.46 |
| 4:AD:201:ASP:HB2 | 4:AD:202:LYS:H | 1.55 | 0.46 |
| 5:AE:82:ALA:CB | 5:AE:99:VAL:H | 2.25 | 0.46 |
| 6:AF:115:LEU:O | 6:AF:118:THR:N | 2.48 | 0.46 |
| 6:AF:193:LEU:HD11 | 6:AF:231:ARG:HB2 | 1.96 | 0.46 |
| 6:AF:195:VAL:CG1 | 6:AF:235:PHE:CD2 | 2.89 | 0.46 |
| 6:AF:221:GLU:O | 6:AF:222:ASP:C | 2.51 | 0.46 |
| 6:AF:233:THR:OG1 | 6:AF:235:PHE:CE1 | 2.67 | 0.46 |
| 6:AF:237:GLU:C | 6:AF:239:ALA:N | 2.67 | 0.46 |
| 7:AG:10:PHE:C | 7:AG:12:GLU:N | 2.67 | 0.46 |
| 7:AG:19:GLU:CD | 7:AG:135:VAL:HG13 | 2.33 | 0.46 |
| 7:AG:61:PHE:HD1 | 7:AG:61:PHE:N | 2.14 | 0.46 |
| 7:AG:98:PHE:C | 7:AG:104:PHE:HD2 | 2.18 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:7:PRO:CA | 8:AH:50:THR:HG1 | 2.28 | 0.46 |
| 8:AH:37:HIS:CE1 | 8:AH:67:THR:HG1 | 2.30 | 0.46 |
| 8:AH:96:SER:HA | 8:AH:124:VAL:CG2 | 2.45 | 0.46 |
| 9:AI:38:ALA:HA | 9:AI:41:ALA:HB3 | 1.96 | 0.46 |
| 9:AJ:78:ARG:HH22 | 11:AL:59:THR:CB | 2.29 | 0.46 |
| 11:AL:46:THR:CG2 | 11:AL:54:LEU:HD12 | 2.29 | 0.46 |
| 11:AL:55:PRO:CD | 11:AL:73:PRO:CA | 2.93 | 0.46 |
| 11:AL:132:ALA:C | 11:AL:137:ILE:HB | 2.34 | 0.46 |
| 12:AM:5:GLU:CD | 12:AM:6:PHE:N | 2.68 | 0.46 |
| 12:AM:18:ILE:HG21 | 12:AM:21:ARG:HD3 | 1.96 | 0.46 |
| 12:AM:21:ARG:CA | 12:AM:24:SER:OG | 2.63 | 0.46 |
| 12:AM:52:GLN:HA | 12:AM:55:GLU:OE2 | 2.16 | 0.46 |
| 12:AM:65:ASN:ND2 | 12:AM:69:TYR:CG | 2.83 | 0.46 |
| 12:AM:82:THR:O | 12:AM:85:GLY:N | 2.47 | 0.46 |
| 13:AN:17:ARG:HE | 13:AN:47:THR:CA | 2.27 | 0.46 |
| 13:AN:101:PRO:CD | 17:AR:26:GLY:HA2 | 2.44 | 0.46 |
| 14:AO:61:ALA:HB1 | 14:AO:107:LYS:CE | 2.44 | 0.46 |
| 15:AP:35:ASN:OD1 | 21:AV:114:ASP:OD1 | 2.33 | 0.46 |
| 15:AP:86:ARG:CZ | 15:AP:123:ILE:CD1 | 2.85 | 0.46 |
| 16:AQ:118:ILE:CG2 | 16:AQ:119:GLN:N | 2.78 | 0.46 |
| 18:AS:88:ARG:HB3 | 18:AS:91:GLY:H | 1.81 | 0.46 |
| 19:AT:7:HIS:ND1 | 19:AT:8:PRO:O | 2.48 | 0.46 |
| 20:AU:34:GLU:HB3 | 20:AU:35:TYR:CE2 | 2.51 | 0.46 |
| 20:AU:81:LYS:HD2 | 20:AU:83:ASP:CG | 2.35 | 0.46 |
| 20:AU:105:ASP:HB2 | 20:AU:108:ARG:CD | 2.46 | 0.46 |
| 21:AV:46:GLN:O | 21:AV:47:SER:O | 2.32 | 0.46 |
| 21:AV:79:ILE:HG22 | 21:AV:80:HIS:CE1 | 2.50 | 0.46 |
| 22:AW:10:ASP:O | 22:AW:12:THR:N | 2.49 | 0.46 |
| 22:AW:39:ALA:CB | 22:AW:40:PRO:CD | 2.78 | 0.46 |
| 23:AX:37:LEU:CD1 | 23:AX:43:ILE:HG23 | 2.45 | 0.46 |
| 25:A1:20:ARG:NH1 | 26:A2:75:LYS:HG2 | 2.30 | 0.46 |
| 25:A1:31:GLN:C | 25:A1:35:ALA:HB2 | 2.36 | 0.46 |
| 25:A1:34:ASN:O | 25:A1:38:THR:OG1 | 2.33 | 0.46 |
| 25:A1:54:LYS:O | 25:A1:57:PHE:HB2 | 2.15 | 0.46 |
| 26:A2:18:ASP:O | 26:A2:18:ASP:CG | 2.54 | 0.46 |
| 26:A2:39:PHE:CZ | 26:A2:41:GLY:C | 2.88 | 0.46 |
| 26:A2:95:ILE:N | 26:A2:95:ILE:CD1 | 2.70 | 0.46 |
| 27:A3:35:ASN:HD22 | 27:A3:40:GLN:NE2 | 2.13 | 0.46 |
| 28:A4:7:PRO:HG2 | 28:A4:56:VAL:CG1 | 2.44 | 0.46 |
| 29:A5:17:ASP:O | 29:A5:18:MET:C | 2.54 | 0.46 |
| 29:A5:35:GLN:HA | 29:A5:37:HIS:CD2 | 2.51 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:A8:52:LYS:HB2 | 32:A8:52:LYS:HE3 | 1.63 | 0.46 |
| 33:A9:11:CYS:SG | 33:A9:11:CYS:C | 2.94 | 0.46 |
| 34:BA:17:U:H1' | 34:BA:1079:G:H21 | 1.80 | 0.46 |
| 34:BA:20:U:N3 | 34:BA:21:G:C6 | 2.84 | 0.46 |
| 34:BA:22:G:C5' | 34:BA:885:G:O4' | 2.57 | 0.46 |
| 34:BA:28:G:C6 | 34:BA:29:G:N7 | 2.83 | 0.46 |
| 34:BA:47:C:H4' | 34:BA:48:C:H5" | 1.92 | 0.46 |
| 34:BA:113:G:C8 | 34:BA:114:U:C5 | 3.00 | 0.46 |
| 34:BA:149:A:C2 | 34:BA:150:C:C4 | 3.02 | 0.46 |
| 34:BA:152:A:C8 | 34:BA:153:C:C6 | 3.04 | 0.46 |
| 34:BA:225:C:O2' | 34:BA:226:G:H5' | 2.15 | 0.46 |
| 34:BA:248:C:H4' | 34:BA:283:C:H1' | 1.96 | 0.46 |
| 34:BA:259:G:N2 | 34:BA:260:G:N3 | 2.62 | 0.46 |
| 34:BA:264:U:O2 | 34:BA:264:U:C2' | 2.63 | 0.46 |
| 34:BA:265:G:O2' | 34:BA:266:G:C5' | 2.61 | 0.46 |
| 34:BA:285:G:N3 | 34:BA:286:G:C8 | 2.84 | 0.46 |
| 34:BA:315:A:H2' | 34:BA:315:A:N3 | 2.30 | 0.46 |
| 34:BA:449:C:N4 | 34:BA:450:G:N3 | 2.63 | 0.46 |
| 34:BA:579:G:C5' | 34:BA:728:A:O2' | 2.60 | 0.46 |
| 34:BA:687:A:C5 | 34:BA:701:C:C5 | 3.04 | 0.46 |
| 34:BA:695:A:H2' | 34:BA:696:A:C8 | 2.49 | 0.46 |
| 34:BA:695:A:N6 | 34:BA:696:A:C6 | 2.84 | 0.46 |
| 34:BA:696:A:O2' | 34:BA:697:U:H5' | 2.14 | 0.46 |
| 34:BA:714:G:O2' | 34:BA:715:A:H5' | 2.16 | 0.46 |
| 34:BA:750:G:C2 | 34:BA:751:U:C6 | 3.03 | 0.46 |
| 34:BA:768:A:N6 | 34:BA:769:G:C6 | 2.84 | 0.46 |
| 34:BA:784:C:H2' | 34:BA:785:G:H8 | 1.81 | 0.46 |
| 34:BA:894:G:C6 | 34:BA:895:G:C5 | 3.03 | 0.46 |
| 34:BA:922:G:H4' | 40:BH:20:GLN:HA | 1.97 | 0.46 |
| 34:BA:990:C:O2' | 34:BA:991:U:O4' | 2.27 | 0.46 |
| 34:BA:1057:G:H2' | 34:BA:1058:G:C8 | 2.44 | 0.46 |
| 34:BA:1064:G:N3 | 34:BA:1066:C:N3 | 2.64 | 0.46 |
| 34:BA:1269:A:H5' | 34:BA:1326:C:C5' | 2.44 | 0.46 |
| 34:BA:1441:G:H1' | 34:BA:1461:G:H22 | 1.81 | 0.46 |
| 35:BB:10:G:O2' | 35:BB:11:C:H5' | 2.15 | 0.46 |
| 35:BB:15:G:C2 | 35:BB:60:C:O2 | 2.67 | 0.46 |
| 35:BB:48:C:C4 | 35:BB:59:U:C2 | 3.03 | 0.46 |
| 35:BB:59:U:H3 | 35:BB:60:C:N4 | 2.07 | 0.46 |
| 35:BC:33:U:H6 | 35:BC:33:U:C3' | 2.27 | 0.46 |
| 36:B1:14:U:OP1 | 36:B1:38:C:N4 | 2.48 | 0.46 |
| 37:BE:124:SER:OG | 37:BE:126:GLU:CD | 2.53 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:170:GLU:HG3 | 37:BE:173:ALA:HB3 | 1.96 | 0.46 |
| 38:BF:28:GLN:CA | 38:BF:30:ARG:NH1 | 2.78 | 0.46 |
| 38:BF:87:LEU:HB2 | 38:BF:101:LEU:CD1 | 2.45 | 0.46 |
| 39:BG:50:ARG:HD3 | 39:BG:51:PRO:CD | 2.44 | 0.46 |
| 39:BG:124:GLY:O | 39:BG:126:ILE:N | 2.40 | 0.46 |
| 39:BG:167:GLY:O | 39:BG:168:ARG:C | 2.54 | 0.46 |
| 41:BI:45:LEU:HD23 | 41:BI:59:TYR:HA | 1.97 | 0.46 |
| 41:BI:47:ARG:HH11 | 41:BI:47:ARG:HG2 | 1.79 | 0.46 |
| 41:BI:52:ILE:HD13 | 41:BI:87:ARG:NH1 | 2.31 | 0.46 |
| 42:BJ:17:VAL:O | 42:BJ:17:VAL:CG1 | 2.63 | 0.46 |
| 42:BJ:69:VAL:CG2 | 42:BJ:104:LEU:HD11 | 2.46 | 0.46 |
| 43:BK:9:MET:C | 43:BK:13:ILE:CD1 | 2.83 | 0.46 |
| 43:BK:133:LEU:HD23 | 43:BK:133:LEU:N | 2.31 | 0.46 |
| 44:BL:16:ARG:HH11 | 44:BL:64:THR:HG21 | 1.80 | 0.46 |
| 44:BL:17:VAL:HA | 44:BL:63:ILE:HG13 | 1.95 | 0.46 |
| 45:BM:65:LEU:HD13 | 49:BQ:36:PHE:CZ | 2.50 | 0.46 |
| 46:BN:44:SER:OG | 46:BN:47:VAL:HG23 | 2.14 | 0.46 |
| 50:BR:39:LEU:CD1 | 50:BR:56:LEU:HD13 | 2.43 | 0.46 |
| 50:BR:41:GLU:HA | 50:BR:44:LYS:NZ | 2.30 | 0.46 |
| 50:BR:59:MET:SD | 50:BR:59:MET:C | 2.94 | 0.46 |
| 51:BS:22:THR:HA | 51:BS:33:ILE:HG13 | 1.97 | 0.46 |
| 54:BV:63:THR:HB | 54:BV:66:MET:HE3 | 1.97 | 0.46 |
| 55:BW:57:ARG:HG2 | 55:BW:57:ARG:NH1 | 2.30 | 0.46 |
| 1:AB:12:C:H41 | 27:A3:50:GLY:N | 2.11 | 0.46 |
| 2:AA:7:G:OP1 | 12:AM:6:PHE:HE2 | 1.99 | 0.46 |
| 2:AA:18:C:C2 | 2:AA:19:C:C5 | 3.03 | 0.46 |
| 2:AA:66:C:N3 | 2:AA:89:G:C6 | 2.84 | 0.46 |
| 2:AA:222:A:C8 | 2:AA:271(B):G:N2 | 2.84 | 0.46 |
| 2:AA:243:U:O2 | 2:AA:243:U:C2' | 2.61 | 0.46 |
| 2:AA:253:C:C2' | 2:AA:254:G:C5' | 2.87 | 0.46 |
| 2:AA:271(C):U:O4 | 2:AA:421:U:C1' | 2.63 | 0.46 |
| 2:AA:354:G:N2 | 2:AA:355:G:N7 | 2.63 | 0.46 |
| 2:AA:384:U:C2' | 2:AA:385:C:O5' | 2.64 | 0.46 |
| 2:AA:412:A:C2 | 2:AA:413:C:C1' | 2.89 | 0.46 |
| 2:AA:419:C:C2 | 2:AA:420:C:C6 | 3.04 | 0.46 |
| 2:AA:464:U:C2' | 2:AA:465:G:H5' | 2.45 | 0.46 |
| 2:AA:542:C:O2' | 2:AA:543:C:C5' | 2.63 | 0.46 |
| 2:AA:547:A:N3 | 2:AA:547:A:H2' | 2.31 | 0.46 |
| 2:AA:566:U:OP2 | 26:A2:81:ARG:CZ | 2.63 | 0.46 |
| 2:AA:630:G:N1 | 2:AA:634:C:C4 | 2.84 | 0.46 |
| 2:AA:697:C:HO2' | 2:AA:698:C:H5" | 1.69 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:780:G:N3 | 2:AA:785:G:O6 | 2.48 | 0.46 |
| 2:AA:890:A:H5' | 2:AA:892:G:C5' | 2.45 | 0.46 |
| 2:AA:919:G:C2 | 2:AA:920:G:C5 | 3.03 | 0.46 |
| 2:AA:996:A:H4' | 26:A2:10:LYS:HD2 | 1.96 | 0.46 |
| 2:AA:1164:G:C2' | 2:AA:1165:U:O5' | 2.64 | 0.46 |
| 2:AA:1213:A:C6 | 2:AA:1214:A:N7 | 2.84 | 0.46 |
| 2:AA:1219:G:C2 | 2:AA:1229:G:O6 | 2.67 | 0.46 |
| 2:AA:1279:G:C5 | 2:AA:1280:G:N7 | 2.84 | 0.46 |
| 2:AA:1291:C:H4' | 2:AA:1537:C:O2' | 2.15 | 0.46 |
| 2:AA:1340:U:H4' | 2:AA:1394:U:H1' | 1.97 | 0.46 |
| 2:AA:1403:C:C2 | 2:AA:1404:C:C6 | 3.03 | 0.46 |
| 2:AA:1403:C:H2' | 2:AA:1404:C:O5' | 2.15 | 0.46 |
| 2:AA:1428:C:O2' | 2:AA:1429:G:P | 2.72 | 0.46 |
| 2:AA:1442:G:C2 | 2:AA:1443:G:C5 | 3.04 | 0.46 |
| 2:AA:1492:G:C2' | 2:AA:1493:C:C6 | 2.99 | 0.46 |
| 2:AA:1540:G:C2' | 2:AA:1541:U:O5' | 2.63 | 0.46 |
| 2:AA:1649:G:N2 | 2:AA:1650:G:N7 | 2.63 | 0.46 |
| 2:AA:1707:G:C1' | 2:AA:1756:G:H1' | 2.43 | 0.46 |
| 2:AA:1717:G:N1 | 2:AA:1718:G:N3 | 2.64 | 0.46 |
| 2:AA:1916:A:P | 2:AA:1916:A:C8 | 3.03 | 0.46 |
| 2:AA:1935:G:C2 | 2:AA:1962:C:N1 | 2.83 | 0.46 |
| 2:AA:1935:G:C2' | 2:AA:1962:C:H42 | 2.28 | 0.46 |
| 2:AA:2058:A:C4 | 2:AA:2059:A:C8 | 3.04 | 0.46 |
| 2:AA:2115:G:H2' | 2:AA:2116:G:OP1 | 2.15 | 0.46 |
| 2:AA:2128:C:C3' | 2:AA:2129:C:H5' | 2.45 | 0.46 |
| 2:AA:2150:U:H5" | 2:AA:2151:G:OP1 | 2.16 | 0.46 |
| 2:AA:2244:U:O2' | 2:AA:2434:A:N7 | 2.33 | 0.46 |
| 2:AA:2255:G:N3 | 2:AA:2255:G:H2' | 2.30 | 0.46 |
| 2:AA:2289:G:OP1 | 2:AA:2385:C:OP1 | 2.33 | 0.46 |
| 2:AA:2310:A:N1 | 7:AG:55:LYS:HD3 | 2.31 | 0.46 |
| 2:AA:2316:C:C5' | 7:AG:142:ALA:CB | 2.82 | 0.46 |
| 2:AA:2338:G:C8 | 2:AA:2338:G:H3' | 2.50 | 0.46 |
| 2:AA:2569:G:C4 | 2:AA:2570:G:C8 | 3.04 | 0.46 |
| 2:AA:2626:C:N3 | 2:AA:2627:G:N7 | 2.62 | 0.46 |
| 2:AA:2637:U:O2 | 2:AA:2782:G:C2 | 2.68 | 0.46 |
| 2:AA:2720:U:O4 | 2:AA:2872:G:C6 | 2.69 | 0.46 |
| 2:AA:2724:C:C2' | 2:AA:2724:C:O2 | 2.62 | 0.46 |
| 2:AA:2786:U:H6 | 2:AA:2786:U:O5' | 1.98 | 0.46 |
| 2:AA:2786:U:H2' | 2:AA:2787:C:C6 | 2.50 | 0.46 |
| 2:AA:2831:G:H5" | 2:AA:2834:G:O2' | 2.15 | 0.46 |
| 3:AC:19:ILE:HG23 | 3:AC:224:ILE:HA | 1.96 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:22:ILE:HD11 | 3:AC:193:ILE:CD1 | 2.36 | 0.46 |
| 4:AD:117:SER:OG | 4:AD:127:ASN:HA | 2.15 | 0.46 |
| 5:AE:70:VAL:HG13 | 5:AE:296:VAL:C | 2.34 | 0.46 |
| 5:AE:193:PHE:CD2 | 5:AE:199:ALA:HB2 | 2.49 | 0.46 |
| 5:AE:309:PRO:HG2 | 5:AE:309:PRO:O | 2.16 | 0.46 |
| 6:AF:114:ALA:O | 6:AF:117:ALA:N | 2.48 | 0.46 |
| 9:AI:7:ILE:O | 9:AI:11:GLU:HG3 | 2.15 | 0.46 |
| 9:AI:24:LYS:O | 9:AI:27:ASP:CB | 2.62 | 0.46 |
| 9:AI:59:PHE:CE1 | 9:AI:108:LYS:HG2 | 2.50 | 0.46 |
| 9:AI:80:ILE:CG2 | 9:AI:81:THR:HG23 | 2.37 | 0.46 |
| 9:AJ:99:ASP:C | 9:AJ:101:VAL:H | 2.17 | 0.46 |
| 9:AJ:112:GLU:O | 9:AJ:116:LYS:HG3 | 2.16 | 0.46 |
| 10:AK:66:LYS:HB3 | 10:AK:69:LYS:NZ | 2.29 | 0.46 |
| 10:AK:114:LYS:HZ2 | 10:AK:133:LEU:CD2 | 2.28 | 0.46 |
| 10:AK:134:HIS:CG | 10:AK:135:PRO:HD2 | 2.51 | 0.46 |
| 11:AL:54:LEU:CD2 | 11:AL:73:PRO:HG3 | 2.46 | 0.46 |
| 12:AM:42:GLU:HA | 12:AM:133:GLY:HA2 | 1.96 | 0.46 |
| 13:AN:10:VAL:CG2 | 13:AN:17:ARG:N | 2.78 | 0.46 |
| 13:AN:17:ARG:O | 13:AN:18:GLU:HG3 | 2.15 | 0.46 |
| 15:AP:97:ASP:OD2 | 15:AP:97:ASP:O | 2.33 | 0.46 |
| 15:AP:102:ARG:O | 15:AP:104:PRO:HD3 | 2.15 | 0.46 |
| 16:AQ:68:GLU:O | 16:AQ:69:TYR:C | 2.53 | 0.46 |
| 16:AQ:76:GLY:O | 16:AQ:82:TYR:N | 2.48 | 0.46 |
| 17:AR:7:ASP:OD1 | 17:AR:30:HIS:N | 2.48 | 0.46 |
| 19:AT:33:SER:O | 19:AT:37:VAL:CB | 2.45 | 0.46 |
| 20:AU:69:LYS:O | 20:AU:70:ALA:HB3 | 2.15 | 0.46 |
| 21:AV:3:LEU:CD2 | 21:AV:38:ALA:CB | 2.93 | 0.46 |
| 21:AV:78:PRO:O | 21:AV:79:ILE:HG12 | 2.15 | 0.46 |
| 21:AV:106:GLY:CA | 21:AV:141:MET:O | 2.63 | 0.46 |
| 24:A0:73:VAL:C | 24:A0:77:ARG:NH1 | 2.68 | 0.46 |
| 25:A1:95:LEU:O | 25:A1:96:ALA:C | 2.52 | 0.46 |
| 26:A2:20:ILE:O | 26:A2:21:ARG:NE | 2.48 | 0.46 |
| 26:A2:73:LYS:HG2 | 26:A2:87:ARG:CG | 2.46 | 0.46 |
| 26:A2:76:SER:OG | 26:A2:76:SER:O | 2.34 | 0.46 |
| 28:A4:6:HIS:CB | 28:A4:56:VAL:HG22 | 2.43 | 0.46 |
| 28:A4:17:GLN:HG2 | 28:A4:33:VAL:CG1 | 2.41 | 0.46 |
| 29:A5:13:LYS:CD | 29:A5:14:SER:N | 2.78 | 0.46 |
| 29:A5:42:SER:O | 29:A5:42:SER:OG | 2.34 | 0.46 |
| 30:A6:12:MET:SD | 30:A6:54:LYS:HB3 | 2.56 | 0.46 |
| 32:A8:19:THR:HB | 32:A8:21:LYS:HZ1 | 1.78 | 0.46 |
| 34:BA:29:G:O2' | 34:BA:30:U:H5' | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:191:G:C4 | 55:BW:105:SER:HB2 | 2.51 | 0.46 |
| 34:BA:270:A:C6 | 34:BA:271:C:C4 | 3.03 | 0.46 |
| 34:BA:404:U:H2' | 34:BA:405:U:H6 | 1.80 | 0.46 |
| 34:BA:529:G:C6 | 47:BO:49:ASN:CG | 2.89 | 0.46 |
| 34:BA:530:G:N1 | 35:BB:34:G:H1' | 2.29 | 0.46 |
| 34:BA:568:G:N2 | 34:BA:883:C:H1' | 2.31 | 0.46 |
| 34:BA:750:G:N3 | 50:BR:23:GLY:C | 2.69 | 0.46 |
| 34:BA:841:U:O2' | 34:BA:848:C:OP1 | 2.32 | 0.46 |
| 34:BA:900:A:N7 | 34:BA:901:A:N6 | 2.61 | 0.46 |
| 34:BA:969:A:O2' | 34:BA:970:C:H5' | 2.16 | 0.46 |
| 34:BA:978:A:C6 | 34:BA:1319:A:H2 | 2.32 | 0.46 |
| 34:BA:988:G:N1 | 34:BA:989:C:C2 | 2.83 | 0.46 |
| 34:BA:1057:G:C2' | 34:BA:1058:G:O5' | 2.64 | 0.46 |
| 34:BA:1067:A:H3' | 34:BA:1093:A:H4' | 1.97 | 0.46 |
| 34:BA:1101:A:O2' | 34:BA:1102:A:O4' | 2.30 | 0.46 |
| 34:BA:1118:C:H1' | 34:BA:1179:A:C8 | 2.51 | 0.46 |
| 34:BA:1226:C:N3 | 48:BP:104:ARG:HG3 | 2.30 | 0.46 |
| 34:BA:1248:A:N1 | 34:BA:1249:C:N3 | 2.63 | 0.46 |
| 34:BA:1480:G:C6 | 34:BA:1481:U:O2 | 2.68 | 0.46 |
| 35:BB:22:G:C4 | 35:BB:23:A:C8 | 3.04 | 0.46 |
| 35:BB:37:G:C2' | 35:BB:38:A:H5' | 2.46 | 0.46 |
| 35:BC:3:G:C6 | 35:BC:70:C:N3 | 2.79 | 0.46 |
| 35:BC:75:C:H3' | 35:BC:75:C:C6 | 2.51 | 0.46 |
| 36:B1:50:G:N1 | 36:B1:51:G:C6 | 2.83 | 0.46 |
| 37:BE:58:ILE:CG2 | 37:BE:221:LEU:HD12 | 2.43 | 0.46 |
| 37:BE:167:PRO:CG | 37:BE:192:SER:CB | 2.94 | 0.46 |
| 37:BE:193:ASP:OD2 | 37:BE:196:LEU:CG | 2.63 | 0.46 |
| 37:BE:218:ALA:O | 37:BE:219:VAL:C | 2.54 | 0.46 |
| 38:BF:59:ARG:HG3 | 38:BF:64:VAL:N | 2.31 | 0.46 |
| 38:BF:115:LEU:O | 38:BF:116:VAL:C | 2.54 | 0.46 |
| 38:BF:182:ILE:CG2 | 38:BF:203:PHE:HA | 2.26 | 0.46 |
| 39:BG:83:SER:N | 39:BG:89:THR:CG2 | 2.76 | 0.46 |
| 39:BG:105:VAL:HG12 | 39:BG:111:ALA:HB3 | 1.98 | 0.46 |
| 40:BH:105:VAL:O | 40:BH:109:ILE:HB | 2.16 | 0.46 |
| 42:BJ:76:ARG:HB3 | 42:BJ:156:TRP:CH2 | 2.50 | 0.46 |
| 42:BJ:87:VAL:HG13 | 42:BJ:154:TYR:CB | 2.42 | 0.46 |
| 43:BK:82:HIS:CB | 43:BK:138:TRP:NE1 | 2.78 | 0.46 |
| 43:BK:85:ARG:NH1 | 43:BK:85:ARG:CG | 2.76 | 0.46 |
| 44:BL:99:LEU:O | 44:BL:101:PHE:CD1 | 2.68 | 0.46 |
| 46:BN:73:MET:O | 46:BN:76:GLY:N | 2.49 | 0.46 |
| 46:BN:82:VAL:HB | 46:BN:108:ILE:HG12 | 1.98 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:102:ARG:HB3 | 47:BO:108:ALA:C | 2.36 | 0.46 |
| 50:BR:15:PHE:N | 50:BR:15:PHE:CD1 | 2.83 | 0.46 |
| 51:BS:7:ALA:CB | 51:BS:9:PHE:CE2 | 2.97 | 0.46 |
| 53:BU:26:LEU:HD22 | 53:BU:39:VAL:HG13 | 1.97 | 0.46 |
| 53:BU:56:THR:OG1 | 53:BU:63:GLN:NE2 | 2.49 | 0.46 |
| 53:BU:61:LYS:HD2 | 53:BU:64:ARG:NH2 | 2.31 | 0.46 |
| 53:BU:74:ARG:HH11 | 53:BU:74:ARG:CG | 2.26 | 0.46 |
| 54:BV:36:ARG:CZ | 54:BV:72:GLY:CA | 2.93 | 0.46 |
| 55:BW:30:LYS:CB | 55:BW:30:LYS:HZ3 | 2.22 | 0.46 |
| 1:AB:33:G:C2' | 1:AB:34:U:H6 | 2.23 | 0.46 |
| 1:AB:57:A:N3 | 7:AG:17:ARG:NH1 | 2.64 | 0.46 |
| 1:AB:89:G:C4 | 1:AB:89(A):A:N6 | 2.84 | 0.46 |
| 2:AA:24:G:O6 | 2:AA:516:C:N3 | 2.49 | 0.46 |
| 2:AA:54:G:C2' | 31:A7:35:ARG:HH22 | 2.28 | 0.46 |
| 2:AA:90:U:OP1 | 2:AA:90:U:H6 | 1.97 | 0.46 |
| 2:AA:106:C:O2' | 2:AA:107:C:H5" | 2.14 | 0.46 |
| 2:AA:144:C:C5' | 19:AT:36:GLU:CD | 2.81 | 0.46 |
| 2:AA:241:A:O4' | 2:AA:241:A:OP1 | 2.33 | 0.46 |
| 2:AA:242:G:C2' | 2:AA:254:G:H1 | 2.26 | 0.46 |
| 2:AA:278:A:N1 | 2:AA:363:G:C2 | 2.83 | 0.46 |
| 2:AA:284:U:N3 | 2:AA:357:A:C6 | 2.83 | 0.46 |
| 2:AA:448:U:O2 | 2:AA:448:U:C2' | 2.64 | 0.46 |
| 2:AA:464:U:N1 | 2:AA:788:A:N1 | 2.64 | 0.46 |
| 2:AA:482:A:N7 | 2:AA:506:G:C2 | 2.83 | 0.46 |
| 2:AA:535:C:C2' | 2:AA:536:A:H5' | 2.46 | 0.46 |
| 2:AA:616:A:C2 | 2:AA:617:G:N2 | 2.83 | 0.46 |
| 2:AA:628:G:O5' | 2:AA:628:G:C8 | 2.65 | 0.46 |
| 2:AA:674:G:N1 | 2:AA:807:U:C4 | 2.83 | 0.46 |
| 2:AA:684:G:N1 | 2:AA:775:G:N7 | 2.63 | 0.46 |
| 2:AA:814:C:N3 | 2:AA:815:C:C5 | 2.84 | 0.46 |
| 2:AA:820:A:H1' | 2:AA:943:U:O2 | 2.15 | 0.46 |
| 2:AA:846:C:O2' | 2:AA:847:U:O5' | 2.34 | 0.46 |
| 2:AA:857:C:OP1 | 27:A3:56:ASP:OD2 | 2.33 | 0.46 |
| 2:AA:881:G:C5 | 2:AA:882:G:C8 | 3.04 | 0.46 |
| 2:AA:881:G:C2' | 2:AA:882:G:H5' | 2.46 | 0.46 |
| 2:AA:932:G:O2' | 2:AA:933:A:C8 | 2.65 | 0.46 |
| 2:AA:959:A:N6 | 2:AA:960:A:H62 | 2.06 | 0.46 |
| 2:AA:961:C:O2' | 2:AA:962:G:OP1 | 2.31 | 0.46 |
| 2:AA:1055:G:N9 | 9:AI:28:LYS:NZ | 2.51 | 0.46 |
| 2:AA:1152:C:C2' | 2:AA:1153:C:C5' | 2.87 | 0.46 |
| 2:AA:1156:A:C2' | 2:AA:1157:G:OP1 | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1195:G:C2 | 2:AA:1196:C:C6 | 3.03 | 0.46 |
| 2:AA:1229:G:C5 | 2:AA:1230:C:C2 | 3.03 | 0.46 |
| 2:AA:1232:G:C6 | 2:AA:1233:C:C4 | 3.03 | 0.46 |
| 2:AA:1265:A:H8 | 2:AA:1267:U:N3 | 2.11 | 0.46 |
| 2:AA:1324:G:C4' | 2:AA:1616:A:N6 | 2.77 | 0.46 |
| 2:AA:1394:U:C4' | 2:AA:1603:A:H4' | 2.43 | 0.46 |
| 2:AA:1397:U:C2' | 2:AA:1398:C:OP1 | 2.63 | 0.46 |
| 2:AA:1429:G:C2' | 2:AA:1430:C:C6 | 2.83 | 0.46 |
| 2:AA:1484:G:N1 | 2:AA:1506:C:N4 | 2.64 | 0.46 |
| 2:AA:1594:G:HO2' | 2:AA:1595:G:H5' | 1.81 | 0.46 |
| 2:AA:1603:A:C2 | 2:AA:1604:C:H5 | 2.34 | 0.46 |
| 2:AA:1649:G:N2 | 2:AA:1650:G:C8 | 2.83 | 0.46 |
| 2:AA:1664:A:C2 | 2:AA:2726:U:N3 | 2.83 | 0.46 |
| 2:AA:1664:A:H8 | 2:AA:1664:A:P | 2.37 | 0.46 |
| 2:AA:1687:G:C2 | 2:AA:1688:U:C4 | 3.03 | 0.46 |
| 2:AA:1911:U:HO2' | 2:AA:1912:A:H5' | 1.76 | 0.46 |
| 2:AA:1941:C:N4 | 2:AA:1942:C:C4 | 2.83 | 0.46 |
| 2:AA:2004:G:C6 | 2:AA:2005:A:C5 | 3.04 | 0.46 |
| 2:AA:2008:C:N4 | 2:AA:2009:G:C6 | 2.83 | 0.46 |
| 2:AA:2010:G:C6 | 2:AA:2011:U:C6 | 3.03 | 0.46 |
| 2:AA:2021:C:OP1 | 29:A5:15:LYS:HE3 | 2.16 | 0.46 |
| 2:AA:2078:C:C2 | 2:AA:2079:U:C5 | 3.04 | 0.46 |
| 2:AA:2132:U:P | 3:AC:5:LYS:HA | 2.55 | 0.46 |
| 2:AA:2320:A:N7 | 16:AQ:9:PRO:HD3 | 2.31 | 0.46 |
| 2:AA:2450:A:C2' | 2:AA:2451:A:C5' | 2.84 | 0.46 |
| 2:AA:2468:G:N2 | 2:AA:2481:G:C4 | 2.83 | 0.46 |
| 2:AA:2494:G:C2 | 2:AA:2495:G:C5 | 3.04 | 0.46 |
| 2:AA:2542:A:H4' | 2:AA:2543:G:OP1 | 2.14 | 0.46 |
| 2:AA:2578:G:HO2' | 2:AA:2579:C:P | 2.34 | 0.46 |
| 2:AA:2611:U:H5' | 2:AA:2611:U:C6 | 2.43 | 0.46 |
| 2:AA:2660:A:N6 | 2:AA:2661:G:C2 | 2.83 | 0.46 |
| 2:AA:2717:G:O2' | 2:AA:2718:G:O5' | 2.24 | 0.46 |
| 2:AA:2745:C:O2' | 8:AH:142:GLU:N | 2.49 | 0.46 |
| 2:AA:2745:C:O2' | 8:AH:142:GLU:OE2 | 2.29 | 0.46 |
| 2:AA:2756:U:O2' | 2:AA:2757:A:O5' | 2.33 | 0.46 |
| 2:AA:2811:G:N1 | 2:AA:2891:G:C2 | 2.83 | 0.46 |
| 2:AA:2842:G:O2' | 2:AA:2843:G:H5' | 2.15 | 0.46 |
| 3:AC:15:ASP:OD2 | 3:AC:18:LYS:HB3 | 2.15 | 0.46 |
| 3:AC:104:LEU:HD13 | 3:AC:126:LYS:HZ2 | 1.80 | 0.46 |
| 3:AC:139:ASN:CG | 3:AC:162:GLU:OE2 | 2.53 | 0.46 |
| 3:AC:210:ARG:HH11 | 3:AC:210:ARG:CG | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:76:ARG:CD | 4:AD:113:MET:CB | 2.76 | 0.46 |
| 5:AE:46:ALA:CB | 5:AE:72:VAL:O | 2.62 | 0.46 |
| 5:AE:205:THR:C | 5:AE:206:LYS:HG3 | 2.31 | 0.46 |
| 5:AE:207:GLY:N | 5:AE:257:GLY:O | 2.49 | 0.46 |
| 5:AE:269:ILE:HB | 5:AE:270:ASP:OD2 | 2.14 | 0.46 |
| 6:AF:37:ALA:O | 6:AF:40:ALA:HB3 | 2.15 | 0.46 |
| 6:AF:239:ALA:CA | 6:AF:242:GLU:HG3 | 2.46 | 0.46 |
| 7:AG:61:PHE:CD1 | 7:AG:61:PHE:N | 2.84 | 0.46 |
| 8:AH:101:LYS:CE | 8:AH:115:GLU:HB2 | 2.45 | 0.46 |
| 9:AI:15:VAL:CG2 | 9:AI:49:ALA:N | 2.79 | 0.46 |
| 9:AI:68:GLN:O | 9:AI:69:ASN:CG | 2.54 | 0.46 |
| 9:AJ:55:GLU:O | 9:AJ:56:LYS:HB2 | 2.15 | 0.46 |
| 10:AK:59:ALA:O | 10:AK:62:LEU:CB | 2.63 | 0.46 |
| 11:AL:112:LYS:C | 11:AL:114:PRO:CD | 2.83 | 0.46 |
| 12:AM:60:ARG:HD2 | 12:AM:71:TYR:CE2 | 2.51 | 0.46 |
| 12:AM:94:GLY:C | 12:AM:98:PHE:CD1 | 2.89 | 0.46 |
| 12:AM:108:PRO:CD | 12:AM:109:TYR:N | 2.79 | 0.46 |
| 13:AN:104:ARG:NH2 | 13:AN:121:VAL:O | 2.49 | 0.46 |
| 14:AO:59:GLU:CD | 14:AO:60:GLU:OE1 | 2.54 | 0.46 |
| 14:AO:67:ARG:HH12 | 14:AO:111:ALA:HB3 | 1.73 | 0.46 |
| 15:AP:133:GLU:OE1 | 15:AP:134:PHE:N | 2.49 | 0.46 |
| 16:AQ:70:GLY:C | 16:AQ:71:TRP:HE3 | 2.19 | 0.46 |
| 16:AQ:92:ALA:O | 16:AQ:93:GLN:C | 2.52 | 0.46 |
| 18:AS:29:LEU:HD23 | 18:AS:69:LEU:HB2 | 1.98 | 0.46 |
| 21:AV:96:VAL:HG11 | 21:AV:131:PRO:O | 2.15 | 0.46 |
| 21:AV:173:PRO:HB2 | 21:AV:176:LEU:HA | 1.96 | 0.46 |
| 22:AW:13:PRO:HD3 | 22:AW:16:ARG:NH1 | 2.30 | 0.46 |
| 22:AW:59:ILE:O | 22:AW:60:GLN:C | 2.54 | 0.46 |
| 23:AX:31:LEU:O | 23:AX:33:GLN:N | 2.48 | 0.46 |
| 24:A0:105:ARG:CG | 24:A0:105:ARG:HH11 | 2.29 | 0.46 |
| 25:A1:52:ASN:O | 25:A1:55:ARG:HG3 | 2.16 | 0.46 |
| 26:A2:31:ASP:O | 26:A2:63:HIS:HB2 | 2.15 | 0.46 |
| 26:A2:60:VAL:HG12 | 26:A2:61:VAL:N | 2.30 | 0.46 |
| 26:A2:69:ILE:CG2 | 26:A2:89:ASN:C | 2.81 | 0.46 |
| 28:A4:59:PHE:C | 28:A4:61:LYS:N | 2.69 | 0.46 |
| 30:A6:21:TYR:CE1 | 30:A6:43:VAL:CG2 | 2.92 | 0.46 |
| 34:BA:50:A:H5" | 34:BA:51:A:O3' | 2.16 | 0.46 |
| 34:BA:65:U:H2' | 34:BA:381:C:C5 | 2.50 | 0.46 |
| 34:BA:171:A:C2 | 34:BA:172:A:C4 | 3.04 | 0.46 |
| 34:BA:190(E):U:C2 | 52:BT:72:ARG:NH1 | 2.81 | 0.46 |
| 34:BA:291:C:H3' | 34:BA:305:G:N2 | 2.31 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:490:G:H2' | 34:BA:491:G:H8 | 1.81 | 0.46 |
| 34:BA:494:G:O2' | 34:BA:495:U:H5 | 1.97 | 0.46 |
| 34:BA:644:G:H2' | 34:BA:645:C:C5' | 2.46 | 0.46 |
| 34:BA:658:G:C6 | 34:BA:659:U:C4 | 3.03 | 0.46 |
| 34:BA:706:A:H2 | 34:BA:707:C:C2 | 2.33 | 0.46 |
| 34:BA:773:G:C2' | 34:BA:774:G:O5' | 2.63 | 0.46 |
| 34:BA:782:A:C6 | 34:BA:801:U:N1 | 2.84 | 0.46 |
| 34:BA:920:U:C4' | 34:BA:1080:A:N6 | 2.79 | 0.46 |
| 34:BA:998:G:N2 | 34:BA:999:C:O4' | 2.49 | 0.46 |
| 34:BA:1137:C:H5' | 34:BA:1138:G:C6 | 2.51 | 0.46 |
| 34:BA:1148:U:N3 | 34:BA:1149:C:C2 | 2.83 | 0.46 |
| 34:BA:1240:U:C1' | 42:BJ:42:ILE:HD11 | 2.46 | 0.46 |
| 34:BA:1375:A:H2' | 34:BA:1376:U:C6 | 2.51 | 0.46 |
| 34:BA:1538:C:C2 | 36:B1:51:G:N2 | 2.74 | 0.46 |
| 35:BB:70:C:C2' | 35:BB:71:G:H8 | 2.10 | 0.46 |
| 35:BC:3:G:C2' | 35:BC:4:G:O5' | 2.63 | 0.46 |
| 35:BC:67:A:O2' | 35:BC:68:U:H5' | 2.16 | 0.46 |
| 35:BC:75:C:C6 | 35:BC:76:A:H4' | 2.51 | 0.46 |
| 37:BE:20:GLU:CG | 37:BE:189:ASP:HB3 | 2.45 | 0.46 |
| 37:BE:74:LYS:HG2 | 37:BE:76:GLN:H | 1.80 | 0.46 |
| 37:BE:135:GLN:CB | 37:BE:139:LYS:HE3 | 2.42 | 0.46 |
| 37:BE:144:ARG:HD2 | 37:BE:148:TYR:CZ | 2.50 | 0.46 |
| 37:BE:179:LYS:O | 37:BE:181:PHE:N | 2.49 | 0.46 |
| 38:BF:123:GLN:O | 38:BF:124:ILE:C | 2.53 | 0.46 |
| 39:BG:19:LEU:H | 39:BG:33:MET:HE1 | 1.79 | 0.46 |
| 39:BG:124:GLY:C | 39:BG:126:ILE:H | 2.17 | 0.46 |
| 41:BI:67:MET:HE1 | 41:BI:69:GLU:C | 2.35 | 0.46 |
| 41:BI:78:GLU:O | 41:BI:81:ILE:CG1 | 2.63 | 0.46 |
| 43:BK:14:ARG:HH11 | 43:BK:14:ARG:N | 2.14 | 0.46 |
| 44:BL:91:ASP:OD1 | 44:BL:91:ASP:O | 2.33 | 0.46 |
| 45:BM:79:ARG:HG2 | 45:BM:79:ARG:NH1 | 2.30 | 0.46 |
| 46:BN:18:ARG:NE | 46:BN:34:ASP:O | 2.48 | 0.46 |
| 46:BN:121:PRO:HB2 | 46:BN:125:PHE:HB2 | 1.97 | 0.46 |
| 47:BO:60:LEU:N | 47:BO:60:LEU:CD1 | 2.55 | 0.46 |
| 52:BT:3:LYS:O | 52:BT:4:LYS:C | 2.52 | 0.46 |
| 53:BU:46:GLU:CB | 53:BU:85:LEU:HD11 | 2.44 | 0.46 |
| 53:BU:48:GLY:H | 53:BU:49:LYS:HZ1 | 1.63 | 0.46 |
| 54:BV:63:THR:N | 54:BV:66:MET:SD | 2.89 | 0.46 |
| 55:BW:42:GLN:CA | 55:BW:42:GLN:NE2 | 2.79 | 0.46 |
| 55:BW:43:LEU:HD23 | 55:BW:43:LEU:HA | 1.81 | 0.46 |
| 55:BW:90:GLN:O | 55:BW:93:GLU:N | 2.48 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 55:BW:105:SER:O | 55:BW:106:ALA:C | 2.52 | 0.46 |
| 1:AB:17:C:OP1 | 7:AG:147:ALA:CB | 2.64 | 0.46 |
| 1:AB:63:G:C2 | 1:AB:64:C:C2 | 3.03 | 0.46 |
| 1:AB:67:G:H2' | 1:AB:68:C:C6 | 2.51 | 0.46 |
| 2:AA:23:G:H21 | 2:AA:24:G:H1' | 1.77 | 0.46 |
| 2:AA:104:U:O2 | 20:AU:16:LEU:HD13 | 2.15 | 0.46 |
| 2:AA:276:A:C4' | 2:AA:276:A:OP2 | 2.63 | 0.46 |
| 2:AA:298:G:P | 2:AA:298:G:H8 | 2.39 | 0.46 |
| 2:AA:372:G:H8 | 2:AA:372:G:O5' | 1.98 | 0.46 |
| 2:AA:464:U:C6 | 2:AA:464:U:P | 3.09 | 0.46 |
| 2:AA:466:A:H8 | 2:AA:466:A:O5' | 1.97 | 0.46 |
| 2:AA:466:A:H2' | 2:AA:467:G:H5' | 1.94 | 0.46 |
| 2:AA:550:G:C2' | 2:AA:1220:A:H2 | 2.28 | 0.46 |
| 2:AA:558:G:C4 | 2:AA:559:G:N7 | 2.84 | 0.46 |
| 2:AA:610:C:C2' | 2:AA:611:C:H6 | 2.27 | 0.46 |
| 2:AA:625:G:H3' | 2:AA:626:U:H5' | 1.96 | 0.46 |
| 2:AA:662:G:N1 | 2:AA:663:G:O6 | 2.48 | 0.46 |
| 2:AA:674:G:C2 | 2:AA:807:U:C4 | 3.04 | 0.46 |
| 2:AA:693:C:O2' | 2:AA:694:U:C5' | 2.62 | 0.46 |
| 2:AA:720:C:C4 | 2:AA:721:C:C5 | 3.03 | 0.46 |
| 2:AA:779:U:C2 | 2:AA:785:G:O6 | 2.69 | 0.46 |
| 2:AA:780:G:N7 | 2:AA:782:A:N6 | 2.64 | 0.46 |
| 2:AA:781:A:O2' | 2:AA:1789:A:O4' | 2.32 | 0.46 |
| 2:AA:792:G:N7 | 2:AA:2440:C:H1' | 2.31 | 0.46 |
| 2:AA:858:U:C2' | 2:AA:2268:A:H2' | 2.37 | 0.46 |
| 2:AA:963:U:C2' | 2:AA:2250:G:H21 | 2.28 | 0.46 |
| 2:AA:980:A:H3' | 2:AA:981:A:H8 | 1.81 | 0.46 |
| 2:AA:995:C:OP1 | 2:AA:996:A:OP1 | 2.34 | 0.46 |
| 2:AA:1024:G:C8 | 2:AA:1024:G:C3' | 2.99 | 0.46 |
| 2:AA:1124:C:C4 | 2:AA:1125:G:C5 | 3.04 | 0.46 |
| 2:AA:1339:G:H1' | 2:AA:1393:A:C2 | 2.50 | 0.46 |
| 2:AA:1394:U:H5" | 2:AA:1395:A:OP2 | 2.15 | 0.46 |
| 2:AA:1433:U:C2 | 2:AA:1560:G:O6 | 2.69 | 0.46 |
| 2:AA:449(A):G:C2 | 2:AA:1450:C:C6 | 3.03 | 0.46 |
| 2:AA:1501:C:C4' | 4:AD:98:GLY:HA2 | 2.46 | 0.46 |
| 2:AA:1505:C:O2 | 2:AA:1505:C:C2' | 2.63 | 0.46 |
| 2:AA:1598:C:O5' | 2:AA:1598:C:H6 | 1.98 | 0.46 |
| 2:AA:1646:C:C3' | 2:AA:1647:G:C5' | 2.91 | 0.46 |
| 2:AA:1729:A:C2' | 2:AA:1730:U:H5' | 2.44 | 0.46 |
| 2:AA:1814:G:N2 | 2:AA:1815:A:N6 | 2.64 | 0.46 |
| 2:AA:1935:G:N3 | 2:AA:1962:C:C2 | 2.83 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1970:A:O2' | 2:AA:1971:A:C5' | 2.63 | 0.46 |
| 2:AA:2053:G:N1 | 2:AA:2054:A:C5 | 2.83 | 0.46 |
| 2:AA:2065:C:C2 | 2:AA:2066:C:C5 | 3.03 | 0.46 |
| 2:AA:2082:A:N6 | 2:AA:2239:G:C6 | 2.84 | 0.46 |
| 2:AA:2090:G:H1 | 2:AA:2227:A:H62 | 1.61 | 0.46 |
| 2:AA:2130:U:H5 | 2:AA:2131:G:H22 | 1.61 | 0.46 |
| 2:AA:2135:A:C8 | 2:AA:2152:G:C8 | 3.04 | 0.46 |
| 2:AA:2190:G:C5 | 2:AA:2191:G:N7 | 2.84 | 0.46 |
| 2:AA:2328:A:H2' | 2:AA:2329:G:C8 | 2.50 | 0.46 |
| 2:AA:2476:A:C5 | 2:AA:2477:C:C5 | 3.02 | 0.46 |
| 2:AA:2478:A:C8 | 2:AA:2479:G:C8 | 3.02 | 0.46 |
| 2:AA:2569:G:O2' | 2:AA:2570:G:O5' | 2.32 | 0.46 |
| 2:AA:2602:A:OP2 | 35:BC:75:C:OP1 | 2.34 | 0.46 |
| 2:AA:2646:C:C2' | 2:AA:2647:U:C5' | 2.93 | 0.46 |
| 2:AA:2740:A:N1 | 2:AA:2764:A:C4 | 2.84 | 0.46 |
| 2:AA:2746:U:H3' | 2:AA:2746:U:C6 | 2.51 | 0.46 |
| 2:AA:2791:C:O2' | 2:AA:2792:G:H5' | 2.15 | 0.46 |
| 2:AA:2853:C:H6 | 2:AA:2853:C:O5' | 1.99 | 0.46 |
| 4:AD:63:ILE:HA | 4:AD:86:ARG:NH2 | 2.13 | 0.46 |
| 5:AE:223:LYS:O | 5:AE:227:ALA:HB2 | 2.16 | 0.46 |
| 6:AF:201:SER:O | 6:AF:202:THR:C | 2.54 | 0.46 |
| 6:AF:213:ALA:HB1 | 6:AF:218:VAL:CG1 | 2.46 | 0.46 |
| 6:AF:216:SER:O | 6:AF:217:GLU:CB | 2.63 | 0.46 |
| 7:AG:45:THR:CB | 7:AG:83:PHE:CZ | 2.99 | 0.46 |
| 8:AH:87:GLU:HB3 | 8:AH:164:GLU:OE2 | 2.15 | 0.46 |
| 9:AI:77:VAL:HG13 | 9:AI:102:ILE:CD1 | 2.45 | 0.46 |
| 9:AJ:72:GLN:O | 9:AJ:75:LYS:HB2 | 2.15 | 0.46 |
| 11:AL:56:VAL:HG11 | 11:AL:58:ILE:HG12 | 1.98 | 0.46 |
| 11:AL:73:PRO:HG2 | 11:AL:78:LEU:CD2 | 2.46 | 0.46 |
| 12:AM:15:ARG:C | 12:AM:44:ALA:HA | 2.36 | 0.46 |
| 12:AM:69:TYR:CD2 | 12:AM:71:TYR:HE1 | 2.34 | 0.46 |
| 14:AO:66:VAL:CB | 14:AO:110:GLY:O | 2.62 | 0.46 |
| 14:AO:76:LEU:CD2 | 14:AO:96:VAL:HG12 | 2.45 | 0.46 |
| 14:AO:106:VAL:HG21 | 14:AO:122:ALA:HA | 1.98 | 0.46 |
| 14:AO:128:GLY:O | 14:AO:129:ALA:C | 2.54 | 0.46 |
| 17:AR:17:THR:C | 17:AR:18:GLY:O | 2.51 | 0.46 |
| 18:AS:24:ILE:HD12 | 18:AS:51:LEU:HD21 | 1.98 | 0.46 |
| 20:AU:49:GLU:CD | 20:AU:97:ARG:NH1 | 2.69 | 0.46 |
| 21:AV:145:ASP:O | 21:AV:146:HIS:CD2 | 2.68 | 0.46 |
| 21:AV:168:VAL:C | 21:AV:169:VAL:HG23 | 2.36 | 0.46 |
| 22:AW:24:LYS:O | 22:AW:25:THR:C | 2.54 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:21:TYR:CD2 | 24:A0:21:TYR:N | 2.80 | 0.46 |
| 24:A0:29:LEU:HA | 24:A0:29:LEU:HD13 | 1.68 | 0.46 |
| 25:A1:50:ARG:CA | 25:A1:53:LYS:HZ2 | 2.10 | 0.46 |
| 25:A1:66:ASN:O | 25:A1:67:ALA:C | 2.54 | 0.46 |
| 27:A3:42:GLY:C | 27:A3:43:THR:HG22 | 2.35 | 0.46 |
| 29:A5:6:VAL:HG22 | 29:A5:7:PRO:HD2 | 1.98 | 0.46 |
| 31:A7:5:TYR:N | 31:A7:6:GLN:HE22 | 2.12 | 0.46 |
| 33:A9:11:CYS:SG | 33:A9:11:CYS:CA | 2.96 | 0.46 |
| 34:BA:24:U:HO2' | 34:BA:525:C:C1' | 2.28 | 0.46 |
| 34:BA:33:A:C5' | 34:BA:34:C:OP2 | 2.62 | 0.46 |
| 34:BA:184:G:O4' | 34:BA:224:C:H4' | 2.15 | 0.46 |
| 34:BA:290:C:O5' | 34:BA:290:C:C6 | 2.68 | 0.46 |
| 34:BA:392:G:C5' | 51:BS:12:LYS:CE | 2.90 | 0.46 |
| 34:BA:419:C:H2' | 34:BA:420:U:C5' | 2.45 | 0.46 |
| 34:BA:440:A:C2' | 34:BA:442:C:H5' | 2.46 | 0.46 |
| 34:BA:503:C:O2' | 34:BA:504:C:H5' | 2.16 | 0.46 |
| 34:BA:539:A:P | 47:BO:114:LYS:NZ | 2.89 | 0.46 |
| 34:BA:623:C:C2' | 34:BA:624:C:H5' | 2.46 | 0.46 |
| 34:BA:671:G:N3 | 34:BA:672:U:C6 | 2.83 | 0.46 |
| 34:BA:924:C:O2' | 34:BA:925:G:C5' | 2.64 | 0.46 |
| 34:BA:945:G:C2 | 34:BA:946:A:N7 | 2.84 | 0.46 |
| 34:BA:1029:C:N3 | 34:BA:1030:C:C5 | 2.83 | 0.46 |
| 34:BA:1057:G:H2' | 34:BA:1058:G:O5' | 2.15 | 0.46 |
| 34:BA:1097:C:H5' | 34:BA:1169:A:H4' | 1.97 | 0.46 |
| 34:BA:1114:C:H1' | 49:BQ:60:SER:HB3 | 1.98 | 0.46 |
| 34:BA:1125:U:O3' | 34:BA:1126:U:C6 | 2.69 | 0.46 |
| 34:BA:1284:C:C2' | 34:BA:1285:A:H8 | 2.24 | 0.46 |
| 34:BA:1296:C:O4' | 34:BA:1302:U:O4 | 2.34 | 0.46 |
| 34:BA:1399:C:C4' | 34:BA:1400:C:O5' | 2.46 | 0.46 |
| 34:BA:1435:G:H8 | 34:BA:1435:G:OP2 | 1.97 | 0.46 |
| 35:BB:29:A:N1 | 35:BB:41:U:O2 | 2.49 | 0.46 |
| 35:BC:48:C:H5' | 35:BC:49:C:P | 2.56 | 0.46 |
| 36:B1:17:G:N1 | 36:B1:37:C:O2 | 2.28 | 0.46 |
| 36:B1:27:G:H2' | 36:B1:28:U:C5 | 2.51 | 0.46 |
| 36:B1:39:A:N3 | 36:B1:39:A:C2' | 2.79 | 0.46 |
| 37:BE:78:GLN:HE22 | 37:BE:96:ARG:HH12 | 1.64 | 0.46 |
| 37:BE:236:TYR:O | 37:BE:239:VAL:O | 2.32 | 0.46 |
| 39:BG:30:LYS:N | 39:BG:34:GLU:HB3 | 2.30 | 0.46 |
| 39:BG:102:ASP:HB2 | 39:BG:121:VAL:HG21 | 1.91 | 0.46 |
| 40:BH:18:ARG:N | 40:BH:26:PHE:HB3 | 2.30 | 0.46 |
| 40:BH:52:PRO:O | 40:BH:55:VAL:HG23 | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:107:ARG:O | 40:BH:111:GLU:HG3 | 2.15 | 0.46 |
| 40:BH:120:THR:O | 40:BH:120:THR:HG22 | 2.15 | 0.46 |
| 42:BJ:12:LEU:HD23 | 42:BJ:24:THR:HG22 | 1.97 | 0.46 |
| 45:BM:68:HIS:N | 45:BM:68:HIS:CD2 | 2.82 | 0.46 |
| 46:BN:23:ALA:HB2 | 46:BN:28:THR:CG2 | 2.45 | 0.46 |
| 46:BN:85:ARG:CZ | 46:BN:111:ASP:CG | 2.84 | 0.46 |
| 46:BN:128:ALA:O | 46:BN:129:SER:CB | 2.63 | 0.46 |
| 47:BO:58:VAL:HG12 | 47:BO:60:LEU:HD13 | 1.96 | 0.46 |
| 49:BQ:9:LYS:HD3 | 49:BQ:9:LYS:C | 2.36 | 0.46 |
| 50:BR:78:TYR:CD2 | 50:BR:82:ILE:HD11 | 2.50 | 0.46 |
| 52:BT:18:THR:CG2 | 52:BT:43:LEU:HD21 | 2.15 | 0.46 |
| 53:BU:33:ASP:O | 53:BU:35:ARG:N | 2.48 | 0.46 |
| 53:BU:40:LEU:HA | 53:BU:43:PHE:HD1 | 1.81 | 0.46 |
| 53:BU:69:THR:O | 53:BU:71:LYS:N | 2.48 | 0.46 |
| 54:BV:19:VAL:HG23 | 54:BV:47:HIS:NE2 | 2.30 | 0.46 |
| 54:BV:36:ARG:C | 54:BV:38:SER:N | 2.69 | 0.46 |
| 54:BV:42:PRO:O | 54:BV:45:VAL:HG23 | 2.14 | 0.46 |
| 1:AB:7:G:O2' | 16:AQ:37:ARG:HG3 | 2.16 | 0.46 |
| 1:AB:11:C:C2 | 1:AB:109:G:N1 | 2.73 | 0.46 |
| 1:AB:43:C:H1' | 7:AG:47:GLN:CD | 2.36 | 0.46 |
| 1:AB:53:A:C2 | 1:AB:54:G:O4' | 2.69 | 0.46 |
| 2:AA:2:G:C2 | 2:AA:3:U:C2 | 3.04 | 0.46 |
| 2:AA:83:G:O3' | 20:AU:20:HIS:CE1 | 2.69 | 0.46 |
| 2:AA:121:G:N2 | 2:AA:131:G:C8 | 2.83 | 0.46 |
| 2:AA:124:G:N2 | 2:AA:128:C:N4 | 2.64 | 0.46 |
| 2:AA:137(A):G:H2' | 2:AA:138:G:C6 | 2.51 | 0.46 |
| 2:AA:199:A:N1 | 2:AA:2434:A:C2 | 2.83 | 0.46 |
| 2:AA:224:G:C2 | 2:AA:225:A:C1' | 2.99 | 0.46 |
| 2:AA:270:A:H2 | 2:AA:371:A:C8 | 2.34 | 0.46 |
| 2:AA:294:A:C2' | 2:AA:295:G:H5' | 2.45 | 0.46 |
| 2:AA:352:G:H8 | 2:AA:352:G:P | 2.39 | 0.46 |
| 2:AA:412:A:C2' | 2:AA:413:C:C5' | 2.93 | 0.46 |
| 2:AA:459:U:C2' | 2:AA:460:A:O5' | 2.63 | 0.46 |
| 2:AA:564:C:OP2 | 26:A2:79:GLN:OE1 | 2.34 | 0.46 |
| 2:AA:722:A:C4 | 2:AA:723:G:C8 | 3.04 | 0.46 |
| 2:AA:812:C:N4 | 2:AA:1195:G:H1 | 2.13 | 0.46 |
| 2:AA:814:C:O2' | 2:AA:815:C:H5' | 2.16 | 0.46 |
| 2:AA:1029:A:H2 | 2:AA:2466:C:H5' | 1.80 | 0.46 |
| 2:AA:1058:G:N3 | 9:AI:3:ILE:CG1 | 2.78 | 0.46 |
| 2:AA:1058:G:HO2' | 2:AA:1059:G:H5' | 1.73 | 0.46 |
| 2:AA:1069:A:O2' | 2:AA:1070:A:H5" | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1084:A:OP1 | 9:AI:35:ALA:O | 2.34 | 0.46 |
| 2:AA:1111:A:C8 | 2:AA:1111:A:P | 3.08 | 0.46 |
| 2:AA:1143:A:HO2' | 2:AA:1144:G:C5' | 2.28 | 0.46 |
| 2:AA:1203:G:O2' | 2:AA:1241:A:C2 | 2.56 | 0.46 |
| 2:AA:1239:G:H1' | 2:AA:1240:U:C6 | 2.50 | 0.46 |
| 2:AA:1280:G:C2 | 2:AA:1281:G:C8 | 3.03 | 0.46 |
| 2:AA:1283:G:N3 | 2:AA:1285:G:C8 | 2.84 | 0.46 |
| 2:AA:1478:G:O2' | 2:AA:1479:G:H5' | 2.16 | 0.46 |
| 2:AA:1492:G:C2 | 2:AA:1493:C:N3 | 2.83 | 0.46 |
| 2:AA:1499:C:H2' | 2:AA:1500:G:O5' | 2.15 | 0.46 |
| 2:AA:1648:C:N4 | 2:AA:1649:G:O6 | 2.49 | 0.46 |
| 2:AA:1652:A:N3 | 2:AA:1652:A:C2' | 2.78 | 0.46 |
| 2:AA:1677:A:O2' | 2:AA:1678:G:O5' | 2.33 | 0.46 |
| 2:AA:1693:U:O4 | 2:AA:1977:A:C6 | 2.69 | 0.46 |
| 2:AA:1858:G:C6 | 2:AA:1884:A:N3 | 2.84 | 0.46 |
| 2:AA:1859:A:C8 | 2:AA:1860:G:C8 | 3.03 | 0.46 |
| 2:AA:1861:G:C4' | 3:AC:205:LYS:HZ3 | 2.29 | 0.46 |
| 2:AA:1913:A:C2 | 2:AA:1916:A:C5 | 3.03 | 0.46 |
| 2:AA:1930:G:C8 | 2:AA:1930:G:C3' | 2.99 | 0.46 |
| 2:AA:1954:G:O2' | 2:AA:1955:U:H5' | 2.16 | 0.46 |
| 2:AA:2041:U:HO2' | 2:AA:2042:A:H5' | 1.74 | 0.46 |
| 2:AA:2062:A:O2' | 2:AA:2063:C:OP1 | 2.31 | 0.46 |
| 2:AA:2107:C:N4 | 2:AA:2182:G:C6 | 2.80 | 0.46 |
| 2:AA:2137:C:C4 | 2:AA:2155:G:O2' | 2.69 | 0.46 |
| 2:AA:2210:G:C2 | 4:AD:69:ASP:OD2 | 2.68 | 0.46 |
| 2:AA:2305:A:C2 | 7:AG:72:LYS:NZ | 2.80 | 0.46 |
| 2:AA:2395:C:H2' | 2:AA:2396:G:H8 | 1.80 | 0.46 |
| 2:AA:2403:C:N3 | 2:AA:2404:C:C5 | 2.84 | 0.46 |
| 2:AA:2408:U:H2' | 2:AA:2409:G:H8 | 1.80 | 0.46 |
| 2:AA:2588:G:N1 | 2:AA:2607:G:C6 | 2.84 | 0.46 |
| 2:AA:2604:U:H2' | 2:AA:2604:U:O2 | 2.15 | 0.46 |
| 2:AA:2626:C:C6 | 2:AA:2626:C:C3' | 2.98 | 0.46 |
| 2:AA:2697:G:C2' | 2:AA:2698:U:O5' | 2.63 | 0.46 |
| 2:AA:2734:A:N6 | 5:AE:316:ARG:HH12 | 2.14 | 0.46 |
| 2:AA:2854:G:C6 | 2:AA:2864:G:C6 | 3.04 | 0.46 |
| 2:AA:2875:C:H2' | 2:AA:2876:G:O4' | 2.15 | 0.46 |
| 3:AC:10:LEU:CG | 3:AC:32:LEU:HB3 | 2.46 | 0.46 |
| 3:AC:28:LEU:HA | 3:AC:31:GLU:CG | 2.46 | 0.46 |
| 3:AC:56:GLN:HA | 3:AC:201:PRO:HB3 | 1.92 | 0.46 |
| 3:AC:78:ALA:HB2 | 3:AC:116:THR:CG2 | 2.46 | 0.46 |
| 4:AD:66:PHE:N | 4:AD:67:LYS:HZ2 | 2.14 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:183:ILE:HG22 | 4:AD:187:CYS:SG | 2.56 | 0.46 |
| 5:AE:190:ASN:O | 5:AE:193:PHE:O | 2.33 | 0.46 |
| 5:AE:216:ARG:O | 5:AE:217:TRP:CD1 | 2.69 | 0.46 |
| 5:AE:256:THR:CA | 5:AE:259:HIS:CE1 | 2.84 | 0.46 |
| 6:AF:213:ALA:HB2 | 6:AF:218:VAL:HG13 | 1.98 | 0.46 |
| 6:AF:238:SER:O | 6:AF:241:ALA:CA | 2.64 | 0.46 |
| 7:AG:75:LEU:C | 7:AG:80:ALA:HB2 | 2.36 | 0.46 |
| 7:AG:134:LEU:C | 7:AG:135:VAL:CG2 | 2.84 | 0.46 |
| 7:AG:140:ARG:O | 7:AG:141:VAL:C | 2.53 | 0.46 |
| 8:AH:51:VAL:C | 8:AH:52:THR:O | 2.53 | 0.46 |
| 8:AH:84:LYS:HG3 | 8:AH:140:VAL:HG12 | 1.97 | 0.46 |
| 8:AH:98:GLN:C | 8:AH:99:GLY:O | 2.52 | 0.46 |
| 8:AH:130:ILE:HG22 | 8:AH:131:ILE:N | 2.31 | 0.46 |
| 9:AI:18:LEU:HD22 | 9:AI:44:VAL:HB | 1.96 | 0.46 |
| 9:AJ:92:VAL:O | 9:AJ:95:ALA:HB3 | 2.15 | 0.46 |
| 9:AJ:106:VAL:HG12 | 9:AJ:111:ALA:N | 2.31 | 0.46 |
| 10:AK:7:LYS:CD | 10:AK:12:LYS:NZ | 2.79 | 0.46 |
| 10:AK:21:VAL:O | 10:AK:21:VAL:HG12 | 2.16 | 0.46 |
| 10:AK:57:GLN:HA | 10:AK:60:GLU:OE1 | 2.15 | 0.46 |
| 11:AL:14:PRO:O | 11:AL:17:LYS:HB2 | 2.16 | 0.46 |
| 12:AM:4:ALA:O | 12:AM:6:PHE:CZ | 2.68 | 0.46 |
| 12:AM:19:MET:HE1 | 12:AM:22:VAL:HG21 | 1.97 | 0.46 |
| 12:AM:96:GLU:O | 12:AM:99:GLU:N | 2.49 | 0.46 |
| 13:AN:22:ILE:HG13 | 13:AN:41:ALA:CB | 2.45 | 0.46 |
| 13:AN:48:PRO:O | 13:AN:49:GLY:C | 2.53 | 0.46 |
| 13:AN:77:ILE:CD1 | 13:AN:78:ARG:N | 2.60 | 0.46 |
| 14:AO:101:ASP:O | 14:AO:101:ASP:OD2 | 2.34 | 0.46 |
| 16:AQ:16:ALA:C | 16:AQ:18:THR:H | 2.18 | 0.46 |
| 16:AQ:33:ARG:CG | 16:AQ:48:VAL:HB | 2.45 | 0.46 |
| 16:AQ:104:ILE:HD13 | 16:AQ:109:PRO:CD | 2.45 | 0.46 |
| 17:AR:46:ALA:O | 17:AR:48:ASN:N | 2.49 | 0.46 |
| 18:AS:89:ALA:HB3 | 18:AS:92:ARG:H | 1.81 | 0.46 |
| 19:AT:34:LYS:CE | 19:AT:52:VAL:O | 2.58 | 0.46 |
| 20:AU:32:ARG:O | 20:AU:33:GLU:C | 2.52 | 0.46 |
| 20:AU:81:LYS:NZ | 20:AU:81:LYS:CB | 2.77 | 0.46 |
| 21:AV:19:ILE:CG2 | 21:AV:39:PHE:CE1 | 2.96 | 0.46 |
| 21:AV:46:GLN:O | 21:AV:47:SER:C | 2.54 | 0.46 |
| 23:AX:30:ARG:HH21 | 23:AX:33:GLN:CB | 2.28 | 0.46 |
| 23:AX:40:THR:OG1 | 23:AX:43:ILE:CD1 | 2.61 | 0.46 |
| 24:A0:90:ARG:NH2 | 24:A0:117:VAL:CG2 | 2.71 | 0.46 |
| 26:A2:35:LEU:CB | 26:A2:63:HIS:CE1 | 2.93 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:61:VAL:HG12 | 26:A2:62:GLU:N | 2.31 | 0.46 |
| 27:A3:4:LYS:NZ | 27:A3:11:LYS:HZ1 | 2.11 | 0.46 |
| 29:A5:52:TYR:O | 29:A5:53:ASP:CG | 2.54 | 0.46 |
| 32:A8:10:ALA:O | 32:A8:14:ILE:HG22 | 2.16 | 0.46 |
| 33:A9:19:ARG:O | 33:A9:19:ARG:HG3 | 2.16 | 0.46 |
| 34:BA:33:A:H2' | 47:BO:32:PHE:CE2 | 2.50 | 0.46 |
| 34:BA:110:C:H2' | 34:BA:111:G:C8 | 2.51 | 0.46 |
| 34:BA:241:C:O2' | 34:BA:242:C:H5' | 2.15 | 0.46 |
| 34:BA:250:A:N3 | 34:BA:252:U:N3 | 2.64 | 0.46 |
| 34:BA:257:G:H2' | 34:BA:258:G:O5' | 2.15 | 0.46 |
| 34:BA:280:C:O4' | 52:BT:38:ARG:CZ | 2.64 | 0.46 |
| 34:BA:419:C:OP1 | 34:BA:513:C:H1' | 2.15 | 0.46 |
| 34:BA:444:C:H2' | 34:BA:445:G:H8 | 1.81 | 0.46 |
| 34:BA:568:G:N3 | 34:BA:569:C:C5 | 2.84 | 0.46 |
| 34:BA:624:C:O2 | 34:BA:625:G:C8 | 2.68 | 0.46 |
| 34:BA:717:C:N3 | 34:BA:734:G:C8 | 2.83 | 0.46 |
| 34:BA:826:C:N3 | 34:BA:827:U:C5 | 2.83 | 0.46 |
| 34:BA:858:G:C2 | 34:BA:869:G:H2' | 2.44 | 0.46 |
| 34:BA:920:U:N3 | 34:BA:921:U:C5 | 2.84 | 0.46 |
| 34:BA:971:G:H5" | 34:BA:972:C:H5" | 1.97 | 0.46 |
| 34:BA:991:U:H2' | 34:BA:993:G:C8 | 2.51 | 0.46 |
| 34:BA:1024:G:H2' | 34:BA:1025:U:O5' | 2.16 | 0.46 |
| 34:BA:1104:G:C2' | 34:BA:1105:A:O5' | 2.63 | 0.46 |
| 34:BA:1127:G:N2 | 34:BA:1147:C:N4 | 2.63 | 0.46 |
| 34:BA:1145:C:OP2 | 34:BA:1145:C:O4' | 2.34 | 0.46 |
| 34:BA:1164:G:H1 | 34:BA:1172:C:H42 | 0.61 | 0.46 |
| 34:BA:1166:G:C2 | 34:BA:1171:G:C6 | 3.03 | 0.46 |
| 34:BA:1179:A:H2' | 34:BA:1180:A:C8 | 2.51 | 0.46 |
| 34:BA:1224:G:O2' | 34:BA:1225:A:P | 2.74 | 0.46 |
| 34:BA:1273:G:H3' | 34:BA:1274:G:H8 | 1.81 | 0.46 |
| 34:BA:1325:C:O2' | 34:BA:1326:C:H5' | 2.16 | 0.46 |
| 34:BA:1425:U:C2 | 34:BA:1476:G:N2 | 2.84 | 0.46 |
| 34:BA:1430:C:O2' | 34:BA:1431:C:H5' | 2.16 | 0.46 |
| 34:BA:1523:G:C5 | 34:BA:1524:C:C5 | 3.04 | 0.46 |
| 34:BA:1539:C:P | 53:BU:54:ARG:NH1 | 2.88 | 0.46 |
| 35:BB:32:C:O5' | 35:BB:32:C:H6 | 1.96 | 0.46 |
| 36:B1:67:U:OP1 | 36:B1:68:U:H5 | 1.99 | 0.46 |
| 37:BE:15:VAL:CG1 | 37:BE:209:ARG:HG3 | 2.46 | 0.46 |
| 37:BE:103:THR:O | 37:BE:104:ASN:HB3 | 2.14 | 0.46 |
| 37:BE:175:ARG:HA | 37:BE:178:ARG:HB3 | 1.97 | 0.46 |
| 37:BE:218:ALA:O | 37:BE:220:ASP:N | 2.49 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:221:LEU:HD13 | 37:BE:222:ILE:N | 2.30 | 0.46 |
| 38:BF:67:THR:CG2 | 38:BF:69:HIS:CE1 | 2.98 | 0.46 |
| 38:BF:75:VAL:O | 38:BF:75:VAL:CG1 | 2.64 | 0.46 |
| 38:BF:84:ILE:O | 38:BF:101:LEU:CD1 | 2.57 | 0.46 |
| 38:BF:132:ARG:CG | 38:BF:136:GLN:NE2 | 2.60 | 0.46 |
| 38:BF:135:LYS:NZ | 40:BH:52:PRO:HD2 | 2.31 | 0.46 |
| 39:BG:148:VAL:HG21 | 39:BG:181:MET:HE2 | 1.98 | 0.46 |
| 42:BJ:69:VAL:HG22 | 42:BJ:134:ALA:C | 2.36 | 0.46 |
| 44:BL:15:ALA:HB3 | 44:BL:76:ALA:C | 2.36 | 0.46 |
| 44:BL:111:ARG:O | 44:BL:113:LYS:CE | 2.64 | 0.46 |
| 48:BP:40:ASN:HD22 | 48:BP:41:PRO:HD2 | 1.81 | 0.46 |
| 48:BP:96:LEU:O | 48:BP:110:ARG:NE | 2.49 | 0.46 |
| 49:BQ:39:LEU:CD1 | 49:BQ:47:LEU:HD12 | 2.43 | 0.46 |
| 52:BT:7:THR:HA | 52:BT:57:VAL:O | 2.16 | 0.46 |
| 52:BT:29:HIS:ND1 | 52:BT:30:PRO:HD2 | 2.30 | 0.46 |
| 54:BV:36:ARG:CZ | 54:BV:72:GLY:HA2 | 2.45 | 0.46 |
| 54:BV:80:TYR:CG | 54:BV:81:ARG:N | 2.83 | 0.46 |
| 2:AA:16:G:C6 | 2:AA:525:U:C2 | 3.04 | 0.46 |
| 2:AA:25:U:C3' | 2:AA:26:G:H8 | 2.28 | 0.46 |
| 2:AA:27:G:H3' | 2:AA:27:G:H8 | 1.81 | 0.46 |
| 2:AA:83:G:O2' | 2:AA:84:A:O5' | 2.33 | 0.46 |
| 2:AA:197:A:O2' | 2:AA:2244:U:OP1 | 2.33 | 0.46 |
| 2:AA:238:C:O2 | 2:AA:239:U:O4' | 2.34 | 0.46 |
| 2:AA:246:C:C4 | 2:AA:247:G:C5 | 3.04 | 0.46 |
| 2:AA:268:C:N3 | 2:AA:424:G:O6 | 2.48 | 0.46 |
| 2:AA:270(Q):C:C5 | 2:AA:270(R):G:N7 | 2.84 | 0.46 |
| 2:AA:285:C:H2' | 2:AA:286:C:N3 | 2.27 | 0.46 |
| 2:AA:299:A:C6 | 2:AA:322:A:C6 | 3.04 | 0.46 |
| 2:AA:421:U:O4' | 2:AA:421:U:OP2 | 2.33 | 0.46 |
| 2:AA:518:G:C6 | 2:AA:519:U:O4 | 2.69 | 0.46 |
| 2:AA:532:A:OP2 | 2:AA:2021:C:N4 | 2.49 | 0.46 |
| 2:AA:580:C:N3 | 2:AA:581:C:N4 | 2.64 | 0.46 |
| 2:AA:676:A:H2' | 2:AA:677:A:C5' | 2.43 | 0.46 |
| 2:AA:685:A:N3 | 2:AA:774:A:N1 | 2.64 | 0.46 |
| 2:AA:692:C:N3 | 2:AA:693:C:C5 | 2.84 | 0.46 |
| 2:AA:705:A:N3 | 2:AA:705:A:C2' | 2.79 | 0.46 |
| 2:AA:764:A:C6 | 2:AA:781:A:H2 | 2.33 | 0.46 |
| 2:AA:776:G:H1' | 2:AA:793:A:C6 | 2.51 | 0.46 |
| 2:AA:783:A:H3' | 2:AA:783:A:H8 | 1.80 | 0.46 |
| 2:AA:818:G:N2 | 2:AA:1190:G:C6 | 2.84 | 0.46 |
| 2:AA:843:G:N2 | 2:AA:936:C:C2 | 2.84 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:933:A:H2' | 2:AA:934:G:O5' | 2.16 | 0.46 |
| 2:AA:975:G:C6 | 2:AA:976:C:H5 | 2.34 | 0.46 |
| 2:AA:1002:G:N2 | 2:AA:1153:C:C2 | 2.75 | 0.46 |
| 2:AA:1003:G:N2 | 2:AA:1153:C:C6 | 2.83 | 0.46 |
| 2:AA:1084:A:C5 | 9:AI:37:VAL:HG11 | 2.50 | 0.46 |
| 2:AA:1114:G:C2 | 2:AA:1115:G:N9 | 2.84 | 0.46 |
| 2:AA:1117:G:O2' | 2:AA:1118:C:H5' | 2.16 | 0.46 |
| 2:AA:142(A):A:OP1 | 2:AA:142(A):A:H3' | 2.16 | 0.46 |
| 2:AA:1152:C:H4' | 25:A1:80:ILE:HD12 | 1.97 | 0.46 |
| 2:AA:1249:U:O2' | 2:AA:1250:G:O4' | 2.31 | 0.46 |
| 2:AA:1299:G:O2' | 2:AA:1301:A:H2 | 1.92 | 0.46 |
| 2:AA:1326:U:OP1 | 2:AA:1327:C:OP2 | 2.34 | 0.46 |
| 2:AA:1336:A:O2' | 2:AA:1337:G:C5' | 2.64 | 0.46 |
| 2:AA:1498:C:H2' | 2:AA:1499:C:C6 | 2.50 | 0.46 |
| 2:AA:1508:A:C8 | 2:AA:1509:C:C5 | 3.04 | 0.46 |
| 2:AA:1568:G:H3' | 4:AD:60:GLN:HG3 | 1.97 | 0.46 |
| 2:AA:1592:C:O2' | 2:AA:1593:G:C5' | 2.64 | 0.46 |
| 2:AA:1637:A:C6 | 2:AA:1638:C:N4 | 2.83 | 0.46 |
| 2:AA:1641:A:N6 | 2:AA:1642:G:C2 | 2.83 | 0.46 |
| 2:AA:1785:A:H8 | 2:AA:1785:A:C5' | 2.26 | 0.46 |
| 2:AA:1787:A:H5' | 2:AA:2590:A:H5' | 1.97 | 0.46 |
| 2:AA:1812:A:H2' | 2:AA:1813:G:H5' | 1.98 | 0.46 |
| 2:AA:1912:A:H8 | 2:AA:1913:A:O4' | 1.99 | 0.46 |
| 2:AA:1926:U:H3 | 2:AA:1929:G:N2 | 2.13 | 0.46 |
| 2:AA:1955:U:O2 | 2:AA:1955:U:C2' | 2.63 | 0.46 |
| 2:AA:2003:G:C6 | 2:AA:2004:G:C5 | 3.04 | 0.46 |
| 2:AA:2091:U:H3' | 2:AA:2092:U:H5' | 1.98 | 0.46 |
| 2:AA:2132:U:H2' | 2:AA:2132:U:O2 | 2.16 | 0.46 |
| 2:AA:2190:G:C2' | 2:AA:2191:G:H5' | 2.45 | 0.46 |
| 2:AA:2228:G:O6 | 2:AA:2229:C:O2 | 2.34 | 0.46 |
| 2:AA:2259:G:C5 | 2:AA:2427:C:N4 | 2.84 | 0.46 |
| 2:AA:2270:G:C6 | 2:AA:2271:G:N3 | 2.83 | 0.46 |
| 2:AA:2332:U:H5' | 27:A3:70:ILE:CG2 | 2.44 | 0.46 |
| 2:AA:2360:A:C8 | 2:AA:2361:A:C8 | 3.02 | 0.46 |
| 2:AA:2378:A:H1' | 16:AQ:26:LEU:HD22 | 1.97 | 0.46 |
| 2:AA:2396:G:O2' | 28:A4:27:THR:N | 2.49 | 0.46 |
| 2:AA:2410:G:N2 | 2:AA:2411:A:H1' | 2.31 | 0.46 |
| 2:AA:2456:C:O2' | 2:AA:2457:U:C5' | 2.56 | 0.46 |
| 2:AA:2458:G:H2' | 2:AA:2490:G:N1 | 2.31 | 0.46 |
| 2:AA:2496:C:C5' | 2:AA:2497:A:OP2 | 2.58 | 0.46 |
| 2:AA:2539:C:C2' | 2:AA:2540:C:O5' | 2.64 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2617:C:C4 | 2:AA:2618:G:C8 | 3.04 | 0.46 |
| 2:AA:2886:G:C2 | 2:AA:2887:U:C2 | 3.04 | 0.46 |
| 2:AA:2899:G:C2' | 2:AA:2900:A:H8 | 2.25 | 0.46 |
| 4:AD:89:ASN:ND2 | 4:AD:199:ARG:HE | 2.08 | 0.46 |
| 4:AD:131:LEU:H | 4:AD:131:LEU:HG | 1.47 | 0.46 |
| 4:AD:142:ASN:N | 4:AD:143:ILE:CD1 | 2.65 | 0.46 |
| 4:AD:148:GLY:O | 4:AD:149:ARG:NH2 | 2.48 | 0.46 |
| 4:AD:176:ALA:O | 4:AD:177:SER:C | 2.54 | 0.46 |
| 4:AD:201:ASP:OD1 | 4:AD:201:ASP:N | 2.48 | 0.46 |
| 4:AD:213:LYS:HB2 | 4:AD:215:LYS:O | 2.16 | 0.46 |
| 5:AE:81:VAL:HB | 5:AE:100:TRP:CH2 | 2.50 | 0.46 |
| 6:AF:36:ARG:CA | 6:AF:39:GLN:HE22 | 2.29 | 0.46 |
| 6:AF:105:LYS:O | 6:AF:109:LEU:CG | 2.57 | 0.46 |
| 6:AF:210:ALA:O | 6:AF:211:ASP:CB | 2.63 | 0.46 |
| 6:AF:225:PRO:O | 6:AF:230:GLY:C | 2.53 | 0.46 |
| 7:AG:10:PHE:N | 7:AG:10:PHE:CD1 | 2.84 | 0.46 |
| 8:AH:88:LEU:HD11 | 8:AH:95:ALA:H | 1.75 | 0.46 |
| 9:AI:1:MET:CE | 9:AJ:86:LYS:CD | 2.86 | 0.46 |
| 9:AI:1:MET:SD | 9:AJ:86:LYS:HB2 | 2.55 | 0.46 |
| 9:AI:60:ASP:HB2 | 9:AI:128:LYS:CE | 2.46 | 0.46 |
| 9:AJ:15:VAL:HG22 | 9:AJ:48:ALA:C | 2.36 | 0.46 |
| 9:AJ:76:VAL:O | 9:AJ:80:ILE:HB | 2.15 | 0.46 |
| 10:AK:3:VAL:HG21 | 10:AK:21:VAL:CG2 | 2.43 | 0.46 |
| 10:AK:44:LEU:O | 10:AK:47:LEU:CG | 2.58 | 0.46 |
| 10:AK:78:THR:HA | 10:AK:144:HIS:CE1 | 2.50 | 0.46 |
| 10:AK:141:LEU:HD13 | 10:AK:142:LYS:N | 2.30 | 0.46 |
| 11:AL:72:THR:CG2 | 11:AL:115:ASP:N | 2.79 | 0.46 |
| 13:AN:66:LYS:HE3 | 13:AN:82:ASN:OD1 | 2.14 | 0.46 |
| 14:AO:119:THR:HG22 | 14:AO:138:GLY:CA | 2.46 | 0.46 |
| 15:AP:12:PRO:CG | 15:AP:91:HIS:HB2 | 2.39 | 0.46 |
| 15:AP:130:PRO:HB2 | 15:AP:134:PHE:CE1 | 2.49 | 0.46 |
| 15:AP:137:ARG:HD3 | 15:AP:138:ARG:CA | 2.45 | 0.46 |
| 16:AQ:20:TYR:CD2 | 16:AQ:21:HIS:N | 2.84 | 0.46 |
| 16:AQ:35:VAL:HG13 | 16:AQ:103:ASP:OD1 | 2.13 | 0.46 |
| 16:AQ:120:GLU:O | 16:AQ:121:GLY:C | 2.52 | 0.46 |
| 18:AS:65:LEU:HB2 | 18:AS:109:GLU:OE1 | 2.15 | 0.46 |
| 20:AU:78:THR:N | 20:AU:89:ARG:CZ | 2.79 | 0.46 |
| 20:AU:78:THR:O | 20:AU:89:ARG:NH2 | 2.49 | 0.46 |
| 21:AV:70:GLN:O | 21:AV:72:ASP:N | 2.49 | 0.46 |
| 21:AV:120:LEU:HD23 | 21:AV:120:LEU:N | 2.25 | 0.46 |
| 23:AX:33:GLN:CG | 23:AX:34:GLU:N | 2.78 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:77:ARG:O | 24:A0:80:PHE:N | 2.49 | 0.46 |
| 27:A3:40:GLN:CA | 27:A3:69:PHE:CE1 | 2.97 | 0.46 |
| 29:A5:7:PRO:O | 29:A5:8:LYS:HD3 | 2.16 | 0.46 |
| 31:A7:4:THR:C | 31:A7:6:GLN:NE2 | 2.66 | 0.46 |
| 33:A9:6:SER:C | 33:A9:8:LYS:HE3 | 2.36 | 0.46 |
| 34:BA:27:G:H8 | 34:BA:27:G:P | 2.38 | 0.46 |
| 34:BA:28:G:C5 | 34:BA:29:G:N7 | 2.84 | 0.46 |
| 34:BA:53:A:C6 | 34:BA:54:C:C5 | 3.04 | 0.46 |
| 34:BA:96:G:N1 | 34:BA:97:G:C5 | 2.83 | 0.46 |
| 34:BA:137:C:H2' | 34:BA:138:G:O5' | 2.16 | 0.46 |
| 34:BA:179:A:H61 | 34:BA:196:A:H62 | 1.63 | 0.46 |
| 34:BA:224:C:H2' | 34:BA:225:C:H6 | 1.80 | 0.46 |
| 34:BA:254:G:C6 | 34:BA:273:A:C6 | 3.04 | 0.46 |
| 34:BA:259:G:O2' | 34:BA:260:G:C5' | 2.64 | 0.46 |
| 34:BA:260:G:C5 | 34:BA:261:U:N3 | 2.84 | 0.46 |
| 34:BA:286:G:HO2' | 34:BA:287:U:H5' | 1.80 | 0.46 |
| 34:BA:300:A:H2' | 34:BA:301:G:C4' | 2.45 | 0.46 |
| 34:BA:356:A:O2' | 34:BA:357:G:H5' | 2.15 | 0.46 |
| 34:BA:424:G:C2 | 34:BA:425:G:C8 | 3.03 | 0.46 |
| 34:BA:451:A:H1' | 34:BA:452:A:N9 | 2.30 | 0.46 |
| 34:BA:460:A:C5 | 34:BA:462:G:C5 | 3.03 | 0.46 |
| 34:BA:495:U:H2' | 34:BA:496:A:C5' | 2.46 | 0.46 |
| 34:BA:528:C:H5' | 34:BA:535:A:H61 | 1.81 | 0.46 |
| 34:BA:582:U:O4 | 34:BA:583:A:N6 | 2.49 | 0.46 |
| 34:BA:582:U:N3 | 34:BA:583:A:N7 | 2.63 | 0.46 |
| 34:BA:586:C:OP1 | 52:BT:34:LYS:HD2 | 2.16 | 0.46 |
| 34:BA:594:G:N2 | 34:BA:596:C:N4 | 2.63 | 0.46 |
| 34:BA:612:C:O2' | 34:BA:613:C:H5' | 2.15 | 0.46 |
| 34:BA:620:C:O2 | 39:BG:135:LEU:HB2 | 2.15 | 0.46 |
| 34:BA:686:U:H2' | 34:BA:687:A:O5' | 2.16 | 0.46 |
| 34:BA:708:C:H5' | 46:BN:37:GLY:CA | 2.45 | 0.46 |
| 34:BA:841:U:C3' | 34:BA:848:C:O4' | 2.64 | 0.46 |
| 34:BA:976:G:N7 | 34:BA:361(A):C:C4 | 2.84 | 0.46 |
| 34:BA:978:A:H62 | 34:BA:1360:A:N6 | 2.13 | 0.46 |
| 34:BA:999:C:O2' | 34:BA:1000:U:H5' | 2.16 | 0.46 |
| 34:BA:1084:G:HO2' | 34:BA:1085:U:P | 2.38 | 0.46 |
| 34:BA:1151:A:N3 | 45:BM:39:PRO:HG3 | 2.31 | 0.46 |
| 34:BA:1157:A:H1' | 34:BA:1181:G:H21 | 1.80 | 0.46 |
| 34:BA:1161:C:OP2 | 34:BA:1161:C:H6 | 1.99 | 0.46 |
| 34:BA:1226:C:H5" | 48:BP:103:THR:CB | 2.41 | 0.46 |
| 34:BA:1241:G:C4 | 34:BA:1242:C:C5 | 3.04 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1258:G:O2' | 34:BA:1259:C:H5' | 2.15 | 0.46 |
| 34:BA:1307:U:O5' | 34:BA:1307:U:H6 | 1.98 | 0.46 |
| 34:BA:1357:A:P | 34:BA:1357:A:H8 | 2.39 | 0.46 |
| 34:BA:1368:G:P | 44:BL:112:LYS:O | 2.74 | 0.46 |
| 34:BA:1440:C:C2 | 34:BA:1441:G:H1' | 2.50 | 0.46 |
| 35:BB:5:A:N1 | 35:BB:69:U:O2 | 2.46 | 0.46 |
| 35:BB:28:C:N4 | 35:BB:43:G:C2 | 2.84 | 0.46 |
| 35:BB:53:G:C3' | 35:BB:54:U:H5' | 2.37 | 0.46 |
| 35:BC:72:C:O2' | 35:BC:73:A:C1' | 2.63 | 0.46 |
| 37:BE:9:GLU:CB | 37:BE:217:ARG:HH22 | 2.29 | 0.46 |
| 37:BE:42:ILE:HD11 | 37:BE:202:PRO:C | 2.36 | 0.46 |
| 37:BE:77:ALA:CB | 37:BE:211:ILE:HG21 | 2.46 | 0.46 |
| 37:BE:88:ALA:CB | 37:BE:219:VAL:HG22 | 2.21 | 0.46 |
| 38:BF:10:PHE:CE2 | 38:BF:11:ARG:NH2 | 2.83 | 0.46 |
| 38:BF:29:TYR:CE2 | 49:BQ:54:PRO:CG | 2.83 | 0.46 |
| 38:BF:53:ALA:HB2 | 38:BF:115:LEU:CG | 2.46 | 0.46 |
| 38:BF:190:ARG:CB | 38:BF:190:ARG:HH11 | 2.29 | 0.46 |
| 39:BG:58:LEU:HD13 | 39:BG:59:ARG:HD2 | 1.97 | 0.46 |
| 39:BG:105:VAL:HG11 | 39:BG:117:ALA:CA | 2.46 | 0.46 |
| 40:BH:33:VAL:HG21 | 40:BH:108:ALA:HB3 | 1.97 | 0.46 |
| 41:BI:45:LEU:HD23 | 41:BI:58:GLY:O | 2.16 | 0.46 |
| 41:BI:62:TRP:HZ2 | 41:BI:64:GLN:HB2 | 1.80 | 0.46 |
| 42:BJ:27:ILE:HG21 | 42:BJ:40:ALA:CA | 2.43 | 0.46 |
| 43:BK:15:ASN:O | 43:BK:16:ALA:C | 2.53 | 0.46 |
| 43:BK:29:SER:CA | 43:BK:32:LYS:NZ | 2.79 | 0.46 |
| 44:BL:11:LYS:NZ | 44:BL:108:VAL:CG1 | 2.78 | 0.46 |
| 45:BM:20:ALA:HB2 | 45:BM:70:ARG:HB3 | 1.97 | 0.46 |
| 46:BN:23:ALA:CB | 46:BN:28:THR:OG1 | 2.62 | 0.46 |
| 46:BN:25:TYR:HD1 | 46:BN:89:ALA:HB2 | 1.79 | 0.46 |
| 46:BN:32:ILE:CD1 | 46:BN:72:ALA:HB2 | 2.45 | 0.46 |
| 46:BN:81:ASP:OD1 | 46:BN:106:LYS:HB3 | 2.15 | 0.46 |
| 48:BP:15:VAL:CG2 | 48:BP:34:LEU:HD21 | 2.45 | 0.46 |
| 49:BQ:40:CYS:O | 49:BQ:41:ARG:C | 2.52 | 0.46 |
| 50:BR:5:LYS:O | 50:BR:8:LYS:HB3 | 2.16 | 0.46 |
| 50:BR:54:ARG:O | 50:BR:55:GLY:C | 2.54 | 0.46 |
| 50:BR:87:ILE:N | 50:BR:87:ILE:HD12 | 2.30 | 0.46 |
| 1:AB:52:A:C4' | 1:AB:52:A:OP1 | 2.64 | 0.46 |
| 1:AB:57:A:H1' | 7:AG:13:MET:HE3 | 1.95 | 0.46 |
| 1:AB:97:G:C6 | 1:AB:98:G:N7 | 2.84 | 0.46 |
| 2:AA:14:A:C8 | 2:AA:15:G:C8 | 3.04 | 0.46 |
| 2:AA:109:G:C2 | 2:AA:110:G:H1' | 2.46 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:126:A:N7 | 2:AA:127:A:C6 | 2.84 | 0.46 |
| 2:AA:140:A:O5' | 19:AT:48:THR:HG22 | 2.15 | 0.46 |
| 2:AA:155:C:C2' | 2:AA:161:U:O5' | 2.64 | 0.46 |
| 2:AA:223:A:N1 | 2:AA:408:G:O4' | 2.49 | 0.46 |
| 2:AA:270(Q):C:N1 | 2:AA:270(R):G:C8 | 2.84 | 0.46 |
| 2:AA:288:C:C6 | 2:AA:288:C:C4' | 2.98 | 0.46 |
| 2:AA:303:U:N3 | 2:AA:315:G:N2 | 2.63 | 0.46 |
| 2:AA:319:C:N3 | 2:AA:323:G:N2 | 2.59 | 0.46 |
| 2:AA:332:A:N6 | 2:AA:335:C:C2 | 2.84 | 0.46 |
| 2:AA:372:G:H3' | 2:AA:372:G:C8 | 2.51 | 0.46 |
| 2:AA:495:G:H4' | 18:AS:57:ASN:OD1 | 2.16 | 0.46 |
| 2:AA:583:G:O2' | 2:AA:584:C:C5' | 2.61 | 0.46 |
| 2:AA:583:G:OP1 | 25:A1:10:ARG:NH1 | 2.49 | 0.46 |
| 2:AA:608:A:C2' | 2:AA:609:A:C5' | 2.89 | 0.46 |
| 2:AA:611:C:O2' | 2:AA:616:A:C2 | 2.53 | 0.46 |
| 2:AA:637:A:OP2 | 14:AO:110:GLY:N | 2.42 | 0.46 |
| 2:AA:701:G:C2 | 2:AA:702:G:N7 | 2.84 | 0.46 |
| 2:AA:769:G:N1 | 2:AA:770:G:C5 | 2.84 | 0.46 |
| 2:AA:806:C:N1 | 2:AA:807:U:C5 | 2.82 | 0.46 |
| 2:AA:821:A:C8 | 2:AA:946:G:C8 | 3.03 | 0.46 |
| 2:AA:825:C:H4' | 2:AA:2428:G:C5 | 2.51 | 0.46 |
| 2:AA:895:U:O2' | 2:AA:896:A:C8 | 2.63 | 0.46 |
| 2:AA:941:A:C2 | 2:AA:942:G:N9 | 2.84 | 0.46 |
| 2:AA:957:A:C2 | 2:AA:2459:A:C4' | 2.99 | 0.46 |
| 2:AA:991:C:H5" | 2:AA:1186:G:OP2 | 2.13 | 0.46 |
| 2:AA:1019:U:H3 | 2:AA:1143:A:N6 | 2.14 | 0.46 |
| 2:AA:1023:U:N3 | 2:AA:1024:G:H1' | 2.31 | 0.46 |
| 2:AA:1036:G:P | 8:AH:58:LYS:HD2 | 2.55 | 0.46 |
| 2:AA:1050:A:C6 | 2:AA:2751:G:C6 | 3.04 | 0.46 |
| 2:AA:1078:U:N3 | 2:AA:1088:A:O2' | 2.45 | 0.46 |
| 2:AA:1087:G:N9 | 2:AA:1103:A:C2 | 2.84 | 0.46 |
| 2:AA:1096:A:N7 | 2:AA:1097:U:C6 | 2.84 | 0.46 |
| 2:AA:1097:U:C2' | 2:AA:1098:A:O5' | 2.64 | 0.46 |
| 2:AA:1134:G:H5' | 2:AA:1135:C:OP2 | 2.16 | 0.46 |
| 2:AA:1194:A:C4 | 2:AA:1195:G:C8 | 3.04 | 0.46 |
| 2:AA:1238:G:C2 | 2:AA:1239:G:C1' | 2.96 | 0.46 |
| 2:AA:1419:A:C3' | 2:AA:1420:U:O4' | 2.63 | 0.46 |
| 2:AA:1513:C:C6 | 2:AA:1513:C:C3' | 2.99 | 0.46 |
| 2:AA:1528:A:N6 | 2:AA:1543:A:C5 | 2.83 | 0.46 |
| 2:AA:1603:A:H3' | 2:AA:1603:A:P | 2.53 | 0.46 |
| 2:AA:1634:A:O3' | 2:AA:1635:G:C8 | 2.69 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1702:G:H4' | 34:BA:1473:A:O2' | 2.16 | 0.46 |
| 2:AA:1725:G:C2 | 2:AA:1726:G:N7 | 2.84 | 0.46 |
| 2:AA:1780:A:C3' | 2:AA:1781:C:C5' | 2.93 | 0.46 |
| 2:AA:1791:A:O2' | 4:AD:204:PHE:CB | 2.47 | 0.46 |
| 2:AA:1815:A:C4' | 2:AA:1817:G:O4' | 2.64 | 0.46 |
| 2:AA:1941:C:C6 | 2:AA:1965:C:C4 | 3.04 | 0.46 |
| 2:AA:2013:A:OP1 | 18:AS:96:ILE:CA | 2.64 | 0.46 |
| 2:AA:2080:G:N1 | 2:AA:2241:A:C6 | 2.84 | 0.46 |
| 2:AA:2090:G:N1 | 2:AA:2227:A:N6 | 2.64 | 0.46 |
| 2:AA:2097:C:C2' | 2:AA:2098:U:C5' | 2.86 | 0.46 |
| 2:AA:2180:U:C2 | 2:AA:2181:G:C8 | 3.03 | 0.46 |
| 2:AA:2262:U:O4' | 2:AA:2328:A:N3 | 2.48 | 0.46 |
| 2:AA:2302:G:O2' | 2:AA:2303:G:C5' | 2.64 | 0.46 |
| 2:AA:2313:C:P | 7:AG:51:ARG:HB3 | 2.56 | 0.46 |
| 2:AA:2325:G:O2' | 2:AA:2326:C:C5' | 2.54 | 0.46 |
| 2:AA:2352:A:C2 | 27:A3:30:VAL:HG12 | 2.50 | 0.46 |
| 2:AA:2471:C:N4 | 2:AA:2479:G:N1 | 2.29 | 0.46 |
| 2:AA:2507:C:C4 | 2:AA:2583:G:C2 | 3.04 | 0.46 |
| 2:AA:2568:C:C2' | 2:AA:2569:G:H5' | 2.46 | 0.46 |
| 2:AA:2597:G:C6 | 2:AA:2598:A:C6 | 3.03 | 0.46 |
| 2:AA:2647:U:H1' | 2:AA:2674:G:H22 | 1.79 | 0.46 |
| 2:AA:2720:U:C2 | 2:AA:2721:A:C8 | 3.04 | 0.46 |
| 2:AA:2732:G:H3' | 2:AA:2733:A:C5' | 2.46 | 0.46 |
| 2:AA:2783:G:C4 | 2:AA:2784:C:C5 | 3.03 | 0.46 |
| 2:AA:2804:C:C6 | 2:AA:2805:G:C2 | 3.04 | 0.46 |
| 2:AA:2832:U:C6 | 2:AA:2832:U:C4' | 2.98 | 0.46 |
| 3:AC:75:LEU:HB2 | 3:AC:110:PHE:CD2 | 2.51 | 0.46 |
| 3:AC:148:ASN:CG | 3:AC:151:GLU:HB2 | 2.37 | 0.46 |
| 4:AD:84:PRO:O | 4:AD:84:PRO:HG2 | 2.15 | 0.46 |
| 4:AD:131:LEU:HD12 | 4:AD:171:VAL:CG2 | 2.46 | 0.46 |
| 4:AD:131:LEU:HD13 | 4:AD:171:VAL:CG2 | 2.45 | 0.46 |
| 4:AD:156:ALA:O | 4:AD:194:VAL:HB | 2.16 | 0.46 |
| 4:AD:166:LYS:C | 4:AD:167:GLU:OE2 | 2.54 | 0.46 |
| 5:AE:46:ALA:O | 5:AE:305:LYS:HB3 | 2.16 | 0.46 |
| 5:AE:77:PRO:HB2 | 5:AE:186:GLU:HB2 | 1.97 | 0.46 |
| 5:AE:210:THR:HG22 | 5:AE:255:GLN:CG | 2.46 | 0.46 |
| 5:AE:213:PRO:HG3 | 5:AE:235:ILE:N | 2.30 | 0.46 |
| 5:AE:269:ILE:HB | 5:AE:270:ASP:CG | 2.36 | 0.46 |
| 6:AF:235:PHE:HB3 | 6:AF:239:ALA:CB | 2.46 | 0.46 |
| 8:AH:112:VAL:H | 8:AH:151:ARG:HH12 | 1.64 | 0.46 |
| 8:AH:143:LEU:O | 8:AH:146:ASN:HB2 | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AI:66:PHE:CD2 | 9:AI:73:VAL:HB | 2.50 | 0.46 |
| 10:AK:4:ILE:HD11 | 10:AK:39:ALA:N | 2.30 | 0.46 |
| 10:AK:79:ILE:CD1 | 10:AK:79:ILE:N | 2.61 | 0.46 |
| 10:AK:104:ALA:CB | 10:AK:105:GLN:OE1 | 2.60 | 0.46 |
| 11:AL:52:MET:SD | 11:AL:81:LYS:CB | 3.04 | 0.46 |
| 11:AL:72:THR:HG21 | 11:AL:115:ASP:N | 2.30 | 0.46 |
| 11:AL:105:ILE:HG23 | 11:AL:128:ILE:CD1 | 2.46 | 0.46 |
| 11:AL:107:GLU:HA | 11:AL:110:LYS:CE | 2.46 | 0.46 |
| 13:AN:21:VAL:HA | 13:AN:41:ALA:HB2 | 1.97 | 0.46 |
| 13:AN:81:GLU:C | 13:AN:82:ASN:OD1 | 2.54 | 0.46 |
| 14:AO:113:GLN:O | 14:AO:115:ARG:CD | 2.64 | 0.46 |
| 15:AP:42:TYR:HB2 | 21:AV:99:HIS:NE2 | 2.31 | 0.46 |
| 15:AP:133:GLU:OE1 | 15:AP:134:PHE:CA | 2.63 | 0.46 |
| 16:AQ:66:LEU:HB3 | 16:AQ:69:TYR:OH | 2.15 | 0.46 |
| 20:AU:33:GLU:O | 20:AU:34:GLU:C | 2.54 | 0.46 |
| 21:AV:21:ALA:HB3 | 21:AV:34:LEU:CD1 | 2.34 | 0.46 |
| 22:AW:28:LEU:HA | 22:AW:31:ARG:HE | 1.80 | 0.46 |
| 22:AW:43:PRO:HB2 | 22:AW:46:ILE:HD13 | 1.97 | 0.46 |
| 22:AW:49:LEU:O | 22:AW:53:ILE:HG13 | 2.15 | 0.46 |
| 24:A0:23:ASN:CG | 24:A0:24:GLN:N | 2.68 | 0.46 |
| 24:A0:47:PHE:C | 24:A0:49:ASP:N | 2.65 | 0.46 |
| 24:A0:49:ASP:OD1 | 24:A0:94:TYR:HB2 | 2.15 | 0.46 |
| 25:A1:93:LYS:O | 25:A1:94:VAL:CG2 | 2.60 | 0.46 |
| 26:A2:20:ILE:HG21 | 26:A2:67:LYS:HD3 | 1.96 | 0.46 |
| 27:A3:61:ALA:HB3 | 27:A3:80:SER:HA | 1.98 | 0.46 |
| 32:A8:23:MET:HE1 | 32:A8:48:PHE:CG | 2.51 | 0.46 |
| 32:A8:41:ILE:C | 32:A8:43:GLY:N | 2.67 | 0.46 |
| 32:A8:55:TRP:HZ3 | 32:A8:59:LYS:HE3 | 1.80 | 0.46 |
| 34:BA:7:G:N2 | 40:BH:121:LYS:HG2 | 2.31 | 0.46 |
| 34:BA:9:G:OP2 | 40:BH:121:LYS:HA | 2.16 | 0.46 |
| 34:BA:20:U:O2' | 34:BA:21:G:H5' | 2.16 | 0.46 |
| 34:BA:23:C:O2 | 34:BA:23:C:C2' | 2.62 | 0.46 |
| 34:BA:62:U:O2' | 34:BA:379:C:O2 | 2.32 | 0.46 |
| 34:BA:246:A:N6 | 34:BA:279:A:C4 | 2.84 | 0.46 |
| 34:BA:249:U:N3 | 34:BA:276:G:C6 | 2.84 | 0.46 |
| 34:BA:321:A:C8 | 34:BA:328:C:C4 | 3.04 | 0.46 |
| 34:BA:343:U:C2' | 34:BA:344:A:O5' | 2.63 | 0.46 |
| 34:BA:389:A:C2' | 34:BA:390:C:O5' | 2.59 | 0.46 |
| 34:BA:390:C:C2 | 34:BA:391:G:C8 | 3.04 | 0.46 |
| 34:BA:499:A:N9 | 34:BA:547:A:N6 | 2.64 | 0.46 |
| 34:BA:608:A:H2' | 34:BA:609:A:O5' | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:729:A:O2' | 34:BA:730:G:O5' | 2.33 | 0.46 |
| 34:BA:738:C:C2 | 34:BA:739:C:C6 | 3.04 | 0.46 |
| 34:BA:743:U:H2' | 34:BA:744:C:H6 | 1.80 | 0.46 |
| 34:BA:791:G:N2 | 34:BA:1497:G:H5" | 2.31 | 0.46 |
| 34:BA:834:C:H2' | 34:BA:835:U:O4' | 2.16 | 0.46 |
| 34:BA:892:A:H2' | 34:BA:893:C:C6 | 2.50 | 0.46 |
| 34:BA:932:C:O2 | 34:BA:932:C:C2' | 2.55 | 0.46 |
| 34:BA:953:G:C6 | 34:BA:1229:A:N6 | 2.84 | 0.46 |
| 34:BA:1015:A:C5 | 34:BA:1016:A:C5 | 3.04 | 0.46 |
| 34:BA:1128:C:H1' | 34:BA:1146:A:C6 | 2.50 | 0.46 |
| 34:BA:1258:G:O2' | 34:BA:1259:C:O4' | 2.33 | 0.46 |
| 34:BA:1289:A:O2' | 34:BA:1290:G:H5' | 2.15 | 0.46 |
| 34:BA:1306:A:C4 | 34:BA:1332:A:C8 | 3.04 | 0.46 |
| 34:BA:1311:G:H8 | 34:BA:1311:G:O5' | 1.99 | 0.46 |
| 34:BA:1375:A:H2' | 34:BA:1376:U:H6 | 1.81 | 0.46 |
| 34:BA:1407:C:H2' | 34:BA:1408:A:H5' | 1.95 | 0.46 |
| 34:BA:1512:U:O2' | 34:BA:1513:A:H5' | 2.16 | 0.46 |
| 35:BB:34:G:N1 | 36:B1:66:G:OP2 | 2.49 | 0.46 |
| 35:BC:7:U:C4 | 35:BC:67:A:N1 | 2.84 | 0.46 |
| 35:BC:9:A:C5' | 35:BC:10:G:OP2 | 2.64 | 0.46 |
| 35:BC:14:A:C2 | 35:BC:22:G:C4 | 3.04 | 0.46 |
| 36:B1:27:G:C6 | 36:B1:28:U:O4 | 2.69 | 0.46 |
| 37:BE:75:LYS:CG | 37:BE:78:GLN:NE2 | 2.74 | 0.46 |
| 37:BE:82:ARG:CZ | 37:BE:92:TYR:OH | 2.64 | 0.46 |
| 37:BE:193:ASP:O | 37:BE:196:LEU:HG | 2.16 | 0.46 |
| 38:BF:29:TYR:CZ | 49:BQ:54:PRO:HG2 | 2.44 | 0.46 |
| 38:BF:110:ASN:HB3 | 38:BF:144:SER:OG | 2.15 | 0.46 |
| 38:BF:117:ALA:C | 38:BF:119:ARG:N | 2.66 | 0.46 |
| 39:BG:155:LEU:CB | 39:BG:158:ILE:HG12 | 2.36 | 0.46 |
| 41:BI:23:LYS:HA | 41:BI:26:ILE:CG1 | 2.43 | 0.46 |
| 41:BI:52:ILE:HD13 | 41:BI:87:ARG:HH12 | 1.81 | 0.46 |
| 42:BJ:31:MET:CG | 42:BJ:32:ARG:N | 2.77 | 0.46 |
| 42:BJ:46:ALA:O | 42:BJ:47:CYS:C | 2.54 | 0.46 |
| 42:BJ:122:HIS:CD2 | 42:BJ:122:HIS:N | 2.80 | 0.46 |
| 44:BL:11:LYS:C | 44:BL:12:GLU:CD | 2.75 | 0.46 |
| 45:BM:54:PHE:CE2 | 45:BM:55:LYS:HE3 | 2.50 | 0.46 |
| 46:BN:53:SER:OG | 46:BN:54:ARG:HD3 | 2.16 | 0.46 |
| 48:BP:77:ASN:C | 48:BP:80:ARG:HD3 | 2.35 | 0.46 |
| 50:BR:41:GLU:HA | 50:BR:44:LYS:HZ1 | 1.79 | 0.46 |
| 51:BS:19:ILE:HB | 51:BS:37:GLY:CA | 2.46 | 0.46 |
| 51:BS:43:LYS:HG3 | 51:BS:48:TRP:HE3 | 1.78 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 51:BS:67:THR:HG22 | 51:BS:68:ASP:N | 2.31 | 0.46 |
| 52:BT:86:GLU:O | 52:BT:87:LYS:C | 2.53 | 0.46 |
| 52:BT:87:LYS:O | 52:BT:88:TYR:C | 2.50 | 0.46 |
| 53:BU:60:GLY:C | 53:BU:62:GLU:N | 2.67 | 0.46 |
| 53:BU:64:ARG:HG3 | 53:BU:64:ARG:HH11 | 1.81 | 0.46 |
| 55:BW:26:ASN:CB | 55:BW:71:THR:HG23 | 2.46 | 0.46 |
| 1:AB:62:C:N3 | 1:AB:63:G:N7 | 2.64 | 0.46 |
| 1:AB:75:G:C6 | 1:AB:76:G:C2 | 3.04 | 0.46 |
| 1:AB:75:G:O3' | 21:AV:32:PHE:CE2 | 2.69 | 0.46 |
| 2:AA:2:G:C2 | 2:AA:2902:C:N3 | 2.84 | 0.46 |
| 2:AA:18:C:C2 | 2:AA:19:C:C6 | 3.04 | 0.46 |
| 2:AA:65:C:C4 | 2:AA:66:C:H5 | 2.33 | 0.46 |
| 2:AA:111:A:C4' | 22:AW:62:GLU:OE2 | 2.63 | 0.46 |
| 2:AA:139:G:C8 | 2:AA:142:G:H1' | 2.51 | 0.46 |
| 2:AA:143:C:OP2 | 2:AA:143:C:N1 | 2.49 | 0.46 |
| 2:AA:264:C:O2' | 2:AA:265:A:H3' | 2.16 | 0.46 |
| 2:AA:289:A:C2' | 2:AA:351:G:N7 | 2.79 | 0.46 |
| 2:AA:298:G:O6 | 20:AU:24:ARG:NH1 | 2.49 | 0.46 |
| 2:AA:319:C:N4 | 2:AA:320:A:N6 | 2.63 | 0.46 |
| 2:AA:452:G:C3' | 2:AA:453:C:C5' | 2.88 | 0.46 |
| 2:AA:566:U:C6 | 2:AA:567:A:C8 | 3.03 | 0.46 |
| 2:AA:603:A:C2 | 2:AA:625:G:C4 | 3.04 | 0.46 |
| 2:AA:606:U:H5' | 6:AF:103:ASN:ND2 | 2.31 | 0.46 |
| 2:AA:628:G:C8 | 2:AA:628:G:OP2 | 2.69 | 0.46 |
| 2:AA:639:U:N3 | 2:AA:649:G:N1 | 2.63 | 0.46 |
| 2:AA:640:C:C5 | 2:AA:641:C:C5 | 3.04 | 0.46 |
| 2:AA:771:G:N2 | 2:AA:772:C:C2 | 2.84 | 0.46 |
| 2:AA:818:G:C6 | 2:AA:1187:G:N3 | 2.84 | 0.46 |
| 2:AA:830:G:N7 | 2:AA:2448:A:H8 | 2.12 | 0.46 |
| 2:AA:945:A:O2' | 2:AA:946:G:OP1 | 2.27 | 0.46 |
| 2:AA:954:G:C2' | 2:AA:955:C:H5' | 2.45 | 0.46 |
| 2:AA:983:A:N9 | 2:AA:984:A:H1' | 2.22 | 0.46 |
| 2:AA:983:A:C3' | 2:AA:984:A:O4' | 2.53 | 0.46 |
| 2:AA:1077:A:H3' | 2:AA:1078:U:C6 | 2.51 | 0.46 |
| 2:AA:1110:G:H5" | 2:AA:1111:A:OP1 | 2.15 | 0.46 |
| 2:AA:1138:G:N2 | 2:AA:1139:G:N9 | 2.63 | 0.46 |
| 2:AA:1155:A:C3' | 2:AA:1156:A:H5" | 2.43 | 0.46 |
| 2:AA:1163:G:O2' | 2:AA:1164:G:H5' | 2.16 | 0.46 |
| 2:AA:1213:A:C5 | 2:AA:1237:A:C4 | 3.04 | 0.46 |
| 2:AA:1241:A:H5" | 2:AA:1242:A:OP2 | 2.16 | 0.46 |
| 2:AA:1265:A:C8 | 2:AA:1267:U:N3 | 2.77 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1271:G:O5' | 2:AA:1272:A:OP1 | 2.33 | 0.46 |
| 2:AA:1289:C:C2' | 2:AA:1290:C:O5' | 2.63 | 0.46 |
| 2:AA:1303:G:O6 | 2:AA:1624:G:O6 | 2.33 | 0.46 |
| 2:AA:1401:G:C6 | 2:AA:1402:C:C4 | 3.04 | 0.46 |
| 2:AA:1410:G:C6 | 2:AA:1593:G:C6 | 3.04 | 0.46 |
| 2:AA:1536:A:H8 | 2:AA:1538:G:O4' | 1.92 | 0.46 |
| 2:AA:1569:A:C6 | 2:AA:1570:A:N6 | 2.84 | 0.46 |
| 2:AA:1581:G:N1 | 2:AA:1582:C:N4 | 2.63 | 0.46 |
| 2:AA:1726:G:O6 | 2:AA:1727:U:N3 | 2.49 | 0.46 |
| 2:AA:1797:C:O2' | 2:AA:1798:U:H5' | 2.15 | 0.46 |
| 2:AA:1819:A:OP1 | 4:AD:157:ALA:CB | 2.63 | 0.46 |
| 2:AA:1848:A:C5 | 34:BA:702:A:N1 | 2.84 | 0.46 |
| 2:AA:1938:A:C2' | 2:AA:1939:U:O5' | 2.64 | 0.46 |
| 2:AA:1941:C:C5 | 2:AA:1965:C:N1 | 2.84 | 0.46 |
| 2:AA:2020:A:H62 | 2:AA:2022:U:H3 | 1.64 | 0.46 |
| 2:AA:2063:C:C2 | 2:AA:2451:A:C2 | 3.04 | 0.46 |
| 2:AA:2075:U:C5 | 2:AA:2597:G:N2 | 2.84 | 0.46 |
| 2:AA:2094:G:C6 | 2:AA:2196:C:C4 | 3.04 | 0.46 |
| 2:AA:2115:G:O3' | 2:AA:2117:A:OP2 | 2.32 | 0.46 |
| 2:AA:2115:G:N3 | 2:AA:2116:G:OP1 | 2.49 | 0.46 |
| 2:AA:2180:U:N1 | 2:AA:2181:G:C8 | 2.84 | 0.46 |
| 2:AA:2276:G:P | 15:AP:104:PRO:HD2 | 2.55 | 0.46 |
| 2:AA:2291:U:OP1 | 2:AA:2381:C:C5' | 2.64 | 0.46 |
| 2:AA:2316:C:O2' | 7:AG:151:ILE:CD1 | 2.64 | 0.46 |
| 2:AA:2355:C:C5 | 2:AA:2356:C:C4 | 3.03 | 0.46 |
| 2:AA:2385:C:O2 | 2:AA:2386:C:C6 | 2.69 | 0.46 |
| 2:AA:2457:U:C3' | 2:AA:2458:G:H5' | 2.33 | 0.46 |
| 2:AA:2512:C:OP1 | 5:AE:219:VAL:HG13 | 2.16 | 0.46 |
| 2:AA:2617:C:C4 | 2:AA:2618:G:N7 | 2.84 | 0.46 |
| 2:AA:2785:C:H4' | 5:AE:99:VAL:HG22 | 1.97 | 0.46 |
| 2:AA:2877:G:C6 | 2:AA:2878:U:O4 | 2.69 | 0.46 |
| 3:AC:36:LYS:HZ1 | 3:AC:37:PHE:H | 1.62 | 0.46 |
| 3:AC:56:GLN:HG3 | 3:AC:201:PRO:HG2 | 1.97 | 0.46 |
| 3:AC:68:LEU:HD11 | 3:AC:160:ARG:O | 2.15 | 0.46 |
| 3:AC:91:ALA:O | 3:AC:92:ASP:OD1 | 2.34 | 0.46 |
| 3:AC:196:LEU:O | 3:AC:197:GLU:C | 2.53 | 0.46 |
| 4:AD:65:ASP:HA | 4:AD:67:LYS:NZ | 2.31 | 0.46 |
| 4:AD:78:ALA:HA | 4:AD:113:MET:CG | 2.45 | 0.46 |
| 4:AD:170:TYR:HD1 | 4:AD:182:MET:HE3 | 1.81 | 0.46 |
| 5:AE:205:THR:HG22 | 5:AE:261:ARG:HD2 | 1.98 | 0.46 |
| 5:AE:269:ILE:HG23 | 5:AE:297:LYS:NZ | 2.28 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:83:ALA:HB3 | 6:AF:87:ARG:NH2 | 1.99 | 0.46 |
| 7:AG:19:GLU:O | 7:AG:20:LYS:HB2 | 2.16 | 0.46 |
| 7:AG:105:SER:C | 7:AG:106:PHE:CG | 2.89 | 0.46 |
| 8:AH:93:TYR:CD2 | 8:AH:106:VAL:HG22 | 2.51 | 0.46 |
| 8:AH:161:ILE:O | 8:AH:162:ARG:CG | 2.63 | 0.46 |
| 9:AI:3:ILE:HG22 | 9:AI:4:ASP:N | 2.30 | 0.46 |
| 9:AJ:25:LEU:HA | 9:AJ:28:LYS:CG | 2.46 | 0.46 |
| 11:AL:28:LEU:CD1 | 11:AL:58:ILE:HD12 | 2.33 | 0.46 |
| 11:AL:35:ILE:H | 11:AL:35:ILE:HG13 | 1.56 | 0.46 |
| 11:AL:104:GLN:HA | 11:AL:107:GLU:HG2 | 1.97 | 0.46 |
| 12:AM:11:ILE:O | 12:AM:11:ILE:HG22 | 2.16 | 0.46 |
| 12:AM:21:ARG:HA | 12:AM:24:SER:CB | 2.46 | 0.46 |
| 12:AM:50:GLU:O | 12:AM:53:ILE:CG2 | 2.41 | 0.46 |
| 13:AN:22:ILE:CB | 13:AN:40:VAL:O | 2.53 | 0.46 |
| 13:AN:89:ASP:O | 13:AN:90:ASP:C | 2.52 | 0.46 |
| 13:AN:99:PHE:O | 13:AN:100:GLY:C | 2.55 | 0.46 |
| 14:AO:112:GLY:C | 14:AO:113:GLN:CD | 2.75 | 0.46 |
| 14:AO:116:HIS:O | 14:AO:117:GLU:C | 2.55 | 0.46 |
| 15:AP:26:LYS:HZ2 | 15:AP:88:PHE:HB3 | 1.77 | 0.46 |
| 15:AP:28:ILE:CD1 | 15:AP:89:PRO:CD | 2.94 | 0.46 |
| 15:AP:48:ASN:O | 15:AP:48:ASN:CG | 2.54 | 0.46 |
| 16:AQ:26:LEU:HD23 | 16:AQ:26:LEU:HA | 1.52 | 0.46 |
| 17:AR:51:TRP:HA | 17:AR:51:TRP:CE3 | 2.50 | 0.46 |
| 18:AS:32:ALA:HA | 18:AS:35:ILE:HD12 | 1.98 | 0.46 |
| 21:AV:112:LEU:CD2 | 21:AV:142:ASN:HA | 2.46 | 0.46 |
| 23:AX:53:LEU:HD22 | 23:AX:54:VAL:HG13 | 1.98 | 0.46 |
| 26:A2:4:ILE:HA | 26:A2:12:TYR:HD2 | 1.74 | 0.46 |
| 27:A3:5:LYS:HZ3 | 35:BC:3:G:H5” | 1.80 | 0.46 |
| 27:A3:19:LYS:O | 27:A3:35:ASN:O | 2.33 | 0.46 |
| 29:A5:11:THR:H | 29:A5:16:ARG:NH2 | 2.07 | 0.46 |
| 30:A6:48:VAL:HG12 | 30:A6:49:VAL:N | 2.30 | 0.46 |
| 32:A8:17:THR:O | 32:A8:19:THR:N | 2.48 | 0.46 |
| 32:A8:22:VAL:HG13 | 32:A8:23:MET:N | 2.23 | 0.46 |
| 34:BA:65:U:H2’ | 34:BA:381:C:H5 | 1.81 | 0.46 |
| 34:BA:68:G:O4’ | 34:BA:171:A:H1’ | 2.16 | 0.46 |
| 34:BA:161:A:C6 | 34:BA:162:A:C6 | 3.04 | 0.46 |
| 34:BA:188:C:C2’ | 34:BA:189:G:O5’ | 2.64 | 0.46 |
| 34:BA:272:C:C2 | 34:BA:273:A:N7 | 2.84 | 0.46 |
| 34:BA:391:G:O3’ | 51:BS:8:ARG:NH2 | 2.48 | 0.46 |
| 34:BA:409:G:OP2 | 39:BG:22:LYS:HG2 | 2.16 | 0.46 |
| 34:BA:627:G:C2 | 34:BA:628:G:N7 | 2.84 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:668:G:N3 | 50:BR:46:HIS:CE1 | 2.83 | 0.46 |
| 34:BA:716:A:H2' | 34:BA:717:C:C5' | 2.46 | 0.46 |
| 34:BA:728:A:C6 | 34:BA:729:A:C5 | 3.04 | 0.46 |
| 34:BA:735:C:O2' | 53:BU:75:ILE:CD1 | 2.64 | 0.46 |
| 34:BA:748:C:C6 | 34:BA:748:C:H3' | 2.51 | 0.46 |
| 34:BA:790:A:C6 | 34:BA:791:G:C4 | 3.04 | 0.46 |
| 34:BA:818:G:N2 | 34:BA:820:U:H3 | 2.11 | 0.46 |
| 34:BA:892:A:C2 | 34:BA:893:C:C2 | 3.04 | 0.46 |
| 34:BA:3(A):G:O6 | 34:BA:1037:C:N3 | 2.49 | 0.46 |
| 34:BA:1068:G:H5' | 34:BA:1388:C:OP1 | 2.16 | 0.46 |
| 34:BA:1160:G:C2 | 34:BA:1161:C:C6 | 3.04 | 0.46 |
| 34:BA:1169:A:N7 | 34:BA:1171:G:C5 | 2.84 | 0.46 |
| 34:BA:1195:C:N3 | 34:BA:1197:G:N7 | 2.64 | 0.46 |
| 34:BA:1206:G:O6 | 34:BA:1207:G:C6 | 2.69 | 0.46 |
| 34:BA:1283:G:H2' | 34:BA:1284:C:H5' | 1.97 | 0.46 |
| 34:BA:1286:A:C2' | 34:BA:1287:A:O5' | 2.64 | 0.46 |
| 34:BA:1290:G:O3' | 42:BJ:37:ASN:CG | 2.55 | 0.46 |
| 34:BA:1290:G:H2' | 34:BA:1291:G:H5' | 1.97 | 0.46 |
| 34:BA:1343:G:H4' | 44:BL:122:ALA:CB | 2.27 | 0.46 |
| 34:BA:1404:C:H42 | 34:BA:1497:G:H1 | 1.64 | 0.46 |
| 34:BA:1419:G:O2' | 34:BA:1420:C:H5' | 2.15 | 0.46 |
| 34:BA:1488:G:C4 | 34:BA:1489:G:C8 | 3.03 | 0.46 |
| 35:BB:51:G:C8 | 35:BB:52:U:C5 | 3.04 | 0.46 |
| 35:BB:53:G:C8 | 35:BB:53:G:C3' | 2.99 | 0.46 |
| 35:BB:58:A:C2 | 35:BB:61:C:C1' | 3.00 | 0.46 |
| 35:BC:58:A:H3' | 35:BC:58:A:C8 | 2.50 | 0.46 |
| 37:BE:32:ILE:HD11 | 37:BE:40:HIS:CB | 2.46 | 0.46 |
| 37:BE:193:ASP:HB2 | 37:BE:196:LEU:HD21 | 1.98 | 0.46 |
| 38:BF:65:ALA:O | 38:BF:66:VAL:CB | 2.64 | 0.46 |
| 38:BF:182:ILE:CG2 | 38:BF:202:ILE:C | 2.85 | 0.46 |
| 38:BF:206:GLU:OE2 | 38:BF:207:VAL:CG2 | 2.64 | 0.46 |
| 39:BG:13:ARG:NH2 | 39:BG:36:ARG:HD3 | 2.31 | 0.46 |
| 40:BH:144:THR:CG2 | 40:BH:145:LYS:N | 2.78 | 0.46 |
| 40:BH:151:LEU:HD21 | 43:BK:67:PRO:CD | 2.35 | 0.46 |
| 42:BJ:102:ARG:HG2 | 42:BJ:103:TRP:N | 2.31 | 0.46 |
| 43:BK:32:LYS:HG2 | 43:BK:33:GLU:N | 2.29 | 0.46 |
| 43:BK:45:ILE:HD12 | 43:BK:48:TYR:HB3 | 1.93 | 0.46 |
| 45:BM:13:HIS:HB2 | 45:BM:68:HIS:HD1 | 1.81 | 0.46 |
| 45:BM:26:ALA:C | 45:BM:28:ARG:N | 2.68 | 0.46 |
| 45:BM:99:LYS:C | 45:BM:100:THR:CG2 | 2.85 | 0.46 |
| 46:BN:12:ARG:O | 46:BN:13:GLN:O | 2.32 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BN:50:TYR:CG | 46:BN:54:ARG:HB2 | 2.51 | 0.46 |
| 46:BN:71:LYS:O | 46:BN:74:ALA:HB3 | 2.16 | 0.46 |
| 47:BO:93:LEU:O | 47:BO:96:VAL:CG2 | 2.60 | 0.46 |
| 48:BP:13:LYS:HA | 48:BP:44:ARG:CZ | 2.43 | 0.46 |
| 48:BP:16:ASP:HA | 48:BP:19:LEU:CD2 | 2.45 | 0.46 |
| 49:BQ:48:ALA:C | 49:BQ:50:LYS:N | 2.69 | 0.46 |
| 52:BT:29:HIS:ND1 | 52:BT:32:TYR:N | 2.64 | 0.46 |
| 52:BT:45:HIS:O | 52:BT:73:VAL:CG2 | 2.48 | 0.46 |
| 52:BT:57:VAL:CG2 | 52:BT:58:GLU:N | 2.77 | 0.46 |
| 52:BT:63:ARG:O | 52:BT:64:PRO:C | 2.54 | 0.46 |
| 55:BW:39:LYS:O | 55:BW:42:GLN:HB2 | 2.16 | 0.46 |
| 55:BW:44:ALA:HB3 | 55:BW:91:LEU:CD1 | 2.46 | 0.46 |
| 55:BW:57:ARG:HH21 | 55:BW:100:ILE:HB | 1.81 | 0.46 |
| 1:AB:0:A:N3 | 1:AB:0:A:O4' | 2.48 | 0.45 |
| 1:AB:109:G:C2' | 1:AB:110:G:O5' | 2.64 | 0.45 |
| 2:AA:52:A:H2' | 2:AA:53:A:C8 | 2.51 | 0.45 |
| 2:AA:105:C:O2 | 2:AA:106:C:C6 | 2.69 | 0.45 |
| 2:AA:111:A:H3' | 2:AA:112:U:H5" | 1.92 | 0.45 |
| 2:AA:204:A:C4 | 2:AA:206:U:C4 | 3.03 | 0.45 |
| 2:AA:270(I):G:C6 | 2:AA:270(J):G:N7 | 2.84 | 0.45 |
| 2:AA:338:G:OP1 | 2:AA:338:G:C8 | 2.68 | 0.45 |
| 2:AA:467:G:OP1 | 31:A7:30:ILE:CG2 | 2.64 | 0.45 |
| 2:AA:510:C:OP1 | 2:AA:512:G:N2 | 2.49 | 0.45 |
| 2:AA:606:U:OP2 | 6:AF:105:LYS:NZ | 2.48 | 0.45 |
| 2:AA:611:C:C2 | 2:AA:617:G:N1 | 2.85 | 0.45 |
| 2:AA:641:C:N3 | 2:AA:647:G:C2 | 2.84 | 0.45 |
| 2:AA:658:C:O2 | 2:AA:659:C:N1 | 2.49 | 0.45 |
| 2:AA:752:A:C5 | 2:AA:1781:C:C1' | 2.76 | 0.45 |
| 2:AA:904:C:H2' | 2:AA:905:U:H6 | 1.82 | 0.45 |
| 2:AA:954:G:O2' | 2:AA:955:C:H5' | 2.16 | 0.45 |
| 2:AA:981:A:C5' | 2:AA:982:C:OP2 | 2.61 | 0.45 |
| 2:AA:1022:G:O6 | 12:AM:47:THR:CG2 | 2.60 | 0.45 |
| 2:AA:1280:G:O2' | 2:AA:1281:G:O5' | 2.35 | 0.45 |
| 2:AA:1318:C:O2 | 2:AA:1318:C:H2' | 2.15 | 0.45 |
| 2:AA:1358:G:H1 | 2:AA:1371:G:H2' | 1.78 | 0.45 |
| 2:AA:1477:A:C2 | 2:AA:1516:U:O2 | 2.69 | 0.45 |
| 2:AA:1660:C:N3 | 2:AA:2001:A:C6 | 2.85 | 0.45 |
| 2:AA:1709:U:C6 | 2:AA:1709:U:C3' | 2.99 | 0.45 |
| 2:AA:1741:C:C2' | 2:AA:1742:C:C5' | 2.85 | 0.45 |
| 2:AA:1903:G:C2' | 2:AA:1904:G:H8 | 2.01 | 0.45 |
| 2:AA:1906:G:C4 | 2:AA:1907:G:N7 | 2.84 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1937:A:HO2' | 2:AA:1938:A:P | 2.40 | 0.45 |
| 2:AA:1999:C:O2' | 2:AA:2000:G:C5' | 2.62 | 0.45 |
| 2:AA:2014:A:H2' | 2:AA:2015:A:N3 | 2.30 | 0.45 |
| 2:AA:2028:U:C2' | 2:AA:2029:G:C8 | 2.90 | 0.45 |
| 2:AA:2287:A:N6 | 2:AA:2289:G:C2 | 2.85 | 0.45 |
| 2:AA:2302:G:C2' | 2:AA:2303:G:O5' | 2.64 | 0.45 |
| 2:AA:2450:A:N3 | 2:AA:2451:A:O4' | 2.49 | 0.45 |
| 2:AA:2457:U:H2' | 2:AA:2458:G:O4' | 2.17 | 0.45 |
| 2:AA:2573:C:P | 2:AA:2574:G:OP1 | 2.73 | 0.45 |
| 2:AA:2615:U:O2' | 2:AA:2616:C:P | 2.74 | 0.45 |
| 2:AA:2748:A:H2 | 2:AA:2758:A:N7 | 2.14 | 0.45 |
| 2:AA:2836:U:C2 | 2:AA:2837:G:C8 | 3.04 | 0.45 |
| 3:AC:5:LYS:HZ1 | 3:AC:8:ARG:CB | 2.18 | 0.45 |
| 3:AC:89:ALA:HA | 3:AC:154:ARG:NH2 | 2.31 | 0.45 |
| 3:AC:116:THR:CG2 | 3:AC:149:ILE:HD12 | 2.40 | 0.45 |
| 3:AC:137:LEU:HG | 3:AC:164:ARG:HH21 | 1.80 | 0.45 |
| 4:AD:115:ILE:HG21 | 4:AD:127:ASN:ND2 | 2.31 | 0.45 |
| 4:AD:166:LYS:C | 4:AD:167:GLU:CD | 2.75 | 0.45 |
| 5:AE:198:TYR:O | 5:AE:314:ALA:CB | 2.63 | 0.45 |
| 5:AE:216:ARG:NH2 | 5:AE:255:GLN:N | 2.64 | 0.45 |
| 5:AE:221:LYS:CB | 5:AE:222:ARG:HD2 | 2.46 | 0.45 |
| 5:AE:222:ARG:CD | 5:AE:232:ARG:C | 2.84 | 0.45 |
| 6:AF:35:VAL:O | 6:AF:36:ARG:C | 2.55 | 0.45 |
| 6:AF:56:THR:HG22 | 6:AF:57:PRO:HD3 | 1.97 | 0.45 |
| 7:AG:25:MET:N | 7:AG:129:ASP:OD2 | 2.49 | 0.45 |
| 10:AK:49:ALA:O | 10:AK:52:GLN:HB2 | 2.16 | 0.45 |
| 12:AM:14:ALA:CA | 12:AM:40:ASN:HD22 | 2.28 | 0.45 |
| 13:AN:5:GLU:HB3 | 13:AN:20:LEU:HD21 | 1.98 | 0.45 |
| 13:AN:25:LEU:O | 13:AN:30:ARG:NH1 | 2.48 | 0.45 |
| 13:AN:31:ARG:O | 13:AN:32:TYR:CD1 | 2.69 | 0.45 |
| 13:AN:79:PHE:O | 13:AN:81:GLU:N | 2.49 | 0.45 |
| 14:AO:65:ASP:OD1 | 14:AO:68:GLU:CD | 2.54 | 0.45 |
| 15:AP:82:LYS:HB2 | 15:AP:125:TRP:CA | 2.45 | 0.45 |
| 16:AQ:87:LEU:O | 16:AQ:90:LEU:N | 2.49 | 0.45 |
| 18:AS:11:ARG:CG | 18:AS:11:ARG:HH11 | 2.29 | 0.45 |
| 18:AS:63:ASP:N | 18:AS:63:ASP:OD1 | 2.49 | 0.45 |
| 19:AT:34:LYS:O | 19:AT:35:GLY:O | 2.34 | 0.45 |
| 19:AT:43:GLU:H | 19:AT:43:GLU:CD | 2.19 | 0.45 |
| 21:AV:163:ASP:OD2 | 21:AV:164:PRO:CD | 2.64 | 0.45 |
| 23:AX:8:LEU:C | 23:AX:54:VAL:HG12 | 2.30 | 0.45 |
| 23:AX:16:PRO:HB3 | 23:AX:19:GLN:OE1 | 2.15 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:66:VAL:HG13 | 24:A0:70:LEU:HD11 | 1.98 | 0.45 |
| 24:A0:105:ARG:CZ | 24:A0:105:ARG:CB | 2.94 | 0.45 |
| 25:A1:115:ASN:HA | 25:A1:118:GLN:O | 2.16 | 0.45 |
| 26:A2:42:GLY:HA3 | 26:A2:54:TYR:CE2 | 2.51 | 0.45 |
| 26:A2:62:GLU:C | 26:A2:95:ILE:HG22 | 2.36 | 0.45 |
| 28:A4:14:ILE:HG21 | 28:A4:38:GLY:O | 2.16 | 0.45 |
| 30:A6:11:LYS:CE | 30:A6:26:LYS:HE2 | 2.38 | 0.45 |
| 34:BA:33:A:H2' | 34:BA:33:A:N3 | 2.30 | 0.45 |
| 34:BA:83:U:C2 | 34:BA:84:U:C6 | 3.04 | 0.45 |
| 34:BA:90:U:C6 | 34:BA:90:U:OP2 | 2.69 | 0.45 |
| 34:BA:91:C:C2 | 34:BA:92:C:C6 | 3.05 | 0.45 |
| 34:BA:108:G:C6 | 55:BW:15:ARG:CD | 2.99 | 0.45 |
| 34:BA:219:C:H6 | 34:BA:219:C:C3' | 2.14 | 0.45 |
| 34:BA:238:G:O2' | 34:BA:239:U:H5' | 2.16 | 0.45 |
| 34:BA:255:G:OP2 | 52:BT:66:SER:HB3 | 2.17 | 0.45 |
| 34:BA:261:U:H5" | 34:BA:262:A:OP2 | 2.16 | 0.45 |
| 34:BA:376:G:N2 | 34:BA:387:U:O2 | 2.44 | 0.45 |
| 34:BA:392:G:H5' | 51:BS:12:LYS:NZ | 2.30 | 0.45 |
| 34:BA:428:G:N2 | 34:BA:430:A:N6 | 2.63 | 0.45 |
| 34:BA:510:A:O2' | 34:BA:542:G:C2' | 2.64 | 0.45 |
| 34:BA:522:C:OP1 | 47:BO:120:TYR:HE2 | 1.99 | 0.45 |
| 34:BA:673:G:C6 | 34:BA:734:G:C6 | 3.04 | 0.45 |
| 34:BA:690:G:C2' | 34:BA:691:G:C5' | 2.94 | 0.45 |
| 34:BA:715:A:O4' | 34:BA:777:A:C6 | 2.69 | 0.45 |
| 34:BA:888:G:OP2 | 34:BA:889:A:C2' | 2.63 | 0.45 |
| 34:BA:1033:G:C2 | 34:BA:1034:G:C5 | 3.04 | 0.45 |
| 34:BA:1072:G:C2 | 34:BA:1104:G:N2 | 2.84 | 0.45 |
| 34:BA:1128:C:N4 | 34:BA:1139:G:H1 | 2.14 | 0.45 |
| 34:BA:1196:U:C4' | 34:BA:1197:G:O5' | 2.64 | 0.45 |
| 34:BA:1298:C:H4' | 34:BA:1299:A:N3 | 2.30 | 0.45 |
| 34:BA:1351:U:O2' | 42:BJ:33:ASP:OD2 | 2.23 | 0.45 |
| 34:BA:1378:C:H42 | 34:BA:1379:G:H1' | 1.81 | 0.45 |
| 34:BA:1392:G:H21 | 34:BA:1502:A:H8 | 1.63 | 0.45 |
| 34:BA:1393:U:H2' | 34:BA:1394:A:OP2 | 2.16 | 0.45 |
| 34:BA:1407:C:O5' | 34:BA:1407:C:H6 | 1.99 | 0.45 |
| 34:BA:1414:U:H2' | 34:BA:1415:G:H8 | 1.81 | 0.45 |
| 34:BA:1418:A:C2 | 34:BA:1483:A:C6 | 3.03 | 0.45 |
| 34:BA:1427:U:C2' | 34:BA:1428:A:O5' | 2.64 | 0.45 |
| 34:BA:1519:A:H3' | 34:BA:1519:A:C8 | 2.51 | 0.45 |
| 34:BA:1520:G:H2' | 34:BA:1521:G:C8 | 2.49 | 0.45 |
| 34:BA:1525:G:H2' | 34:BA:1526:G:O4' | 2.17 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:7:U:O4 | 35:BB:67:A:C6 | 2.69 | 0.45 |
| 35:BB:7:U:C4' | 35:BB:8:U:OP2 | 2.64 | 0.45 |
| 35:BC:26:G:H2' | 35:BC:26:G:N3 | 2.31 | 0.45 |
| 35:BC:71:G:N2 | 35:BC:72:C:O2 | 2.50 | 0.45 |
| 37:BE:21:ARG:N | 37:BE:39:ILE:HG12 | 2.31 | 0.45 |
| 37:BE:57:PHE:O | 37:BE:60:ASP:HB3 | 2.17 | 0.45 |
| 37:BE:60:ASP:HB3 | 37:BE:64:ARG:HH12 | 1.82 | 0.45 |
| 37:BE:61:LEU:HD23 | 37:BE:62:ALA:N | 2.31 | 0.45 |
| 37:BE:102:LEU:HD23 | 37:BE:176:GLU:HB2 | 1.92 | 0.45 |
| 37:BE:175:ARG:HD3 | 37:BE:179:LYS:HZ1 | 1.78 | 0.45 |
| 38:BF:29:TYR:HA | 38:BF:32:LEU:HD12 | 1.98 | 0.45 |
| 38:BF:52:LEU:HA | 38:BF:70:VAL:HG13 | 1.98 | 0.45 |
| 38:BF:101:LEU:HD23 | 38:BF:101:LEU:C | 2.36 | 0.45 |
| 39:BG:120:LEU:CG | 39:BG:125:HIS:HD2 | 2.30 | 0.45 |
| 39:BG:193:ASP:OD2 | 39:BG:194:LEU:CD2 | 2.63 | 0.45 |
| 40:BH:71:LEU:HD21 | 40:BH:114:GLY:O | 2.16 | 0.45 |
| 40:BH:109:ILE:CD1 | 40:BH:135:THR:HG22 | 2.46 | 0.45 |
| 41:BI:49:ALA:CB | 53:BU:79:LEU:N | 2.79 | 0.45 |
| 41:BI:80:ARG:O | 41:BI:85:VAL:HB | 2.16 | 0.45 |
| 42:BJ:12:LEU:HD12 | 42:BJ:12:LEU:N | 2.31 | 0.45 |
| 42:BJ:18:TYR:HD2 | 42:BJ:59:LEU:HD22 | 1.80 | 0.45 |
| 42:BJ:72:ARG:NH2 | 42:BJ:138:LYS:HZ3 | 2.06 | 0.45 |
| 44:BL:47:LEU:HD13 | 44:BL:50:LEU:CB | 2.46 | 0.45 |
| 45:BM:51:ARG:H | 45:BM:59:SER:CB | 2.29 | 0.45 |
| 48:BP:29:ARG:HD3 | 48:BP:64:TRP:CD2 | 2.51 | 0.45 |
| 48:BP:29:ARG:CD | 48:BP:64:TRP:CE2 | 2.99 | 0.45 |
| 48:BP:63:THR:HG22 | 48:BP:64:TRP:H | 1.80 | 0.45 |
| 50:BR:40:SER:C | 50:BR:44:LYS:HZ1 | 2.20 | 0.45 |
| 51:BS:39:TYR:CD1 | 51:BS:39:TYR:C | 2.90 | 0.45 |
| 53:BU:50:ILE:HD11 | 53:BU:74:ARG:NH2 | 2.30 | 0.45 |
| 53:BU:65:ILE:CG1 | 53:BU:66:LEU:N | 2.80 | 0.45 |
| 1:AB:52:A:OP1 | 1:AB:52:A:H4' | 2.15 | 0.45 |
| 1:AB:56:G:H8 | 1:AB:56:G:O5' | 1.99 | 0.45 |
| 2:AA:52:A:H2' | 2:AA:53:A:H8 | 1.80 | 0.45 |
| 2:AA:143:C:OP2 | 2:AA:143:C:O4' | 2.33 | 0.45 |
| 2:AA:200:U:C4 | 2:AA:201:C:O2 | 2.70 | 0.45 |
| 2:AA:280:C:C2 | 2:AA:360:G:N1 | 2.79 | 0.45 |
| 2:AA:326:G:O2' | 2:AA:327:G:H5' | 2.16 | 0.45 |
| 2:AA:339:U:H6 | 2:AA:339:U:H5" | 1.82 | 0.45 |
| 2:AA:364:C:C2' | 2:AA:365:C:C6 | 2.98 | 0.45 |
| 2:AA:398:G:OP1 | 28:A4:58:LYS:CD | 2.64 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:466:A:O3' | 31:A7:30:ILE:HG21 | 2.16 | 0.45 |
| 2:AA:502:A:H3' | 2:AA:502:A:H8 | 1.80 | 0.45 |
| 2:AA:519:U:C4' | 18:AS:75:TYR:CB | 2.88 | 0.45 |
| 2:AA:531:C:O2 | 2:AA:531:C:C2' | 2.54 | 0.45 |
| 2:AA:629:G:C1' | 2:AA:639:U:O2' | 2.43 | 0.45 |
| 2:AA:630:G:O2' | 2:AA:631:A:H8 | 1.99 | 0.45 |
| 2:AA:637:A:OP2 | 14:AO:109:LEU:CD2 | 2.60 | 0.45 |
| 2:AA:658:C:H2' | 2:AA:659:C:C6 | 2.51 | 0.45 |
| 2:AA:709:U:C2' | 2:AA:710:G:C8 | 2.89 | 0.45 |
| 2:AA:729:G:N2 | 2:AA:1775:U:O4' | 2.50 | 0.45 |
| 2:AA:799:G:OP2 | 2:AA:799:G:H8 | 1.99 | 0.45 |
| 2:AA:814:C:N3 | 2:AA:1193:G:O6 | 2.48 | 0.45 |
| 2:AA:819:A:N3 | 2:AA:1189:A:C2 | 2.84 | 0.45 |
| 2:AA:885:C:H3' | 2:AA:885:C:C6 | 2.49 | 0.45 |
| 2:AA:885:C:H5" | 2:AA:887:A:C2 | 2.51 | 0.45 |
| 2:AA:904:C:O2' | 2:AA:905:U:H5' | 2.15 | 0.45 |
| 2:AA:944:G:O2' | 2:AA:945:A:OP2 | 2.29 | 0.45 |
| 2:AA:996:A:O3' | 25:A1:93:LYS:CG | 2.57 | 0.45 |
| 2:AA:1151:G:C5' | 25:A1:81:ASN:HD21 | 2.29 | 0.45 |
| 2:AA:1163:G:H4' | 26:A2:23:GLU:OE2 | 2.16 | 0.45 |
| 2:AA:1360:A:N6 | 2:AA:1372:U:C6 | 2.84 | 0.45 |
| 2:AA:1364:G:P | 2:AA:1809:A:N6 | 2.89 | 0.45 |
| 2:AA:1439:A:C8 | 2:AA:1440:G:C1' | 2.99 | 0.45 |
| 2:AA:1475:G:O6 | 2:AA:1517:G:C2 | 2.69 | 0.45 |
| 2:AA:1565:C:C2 | 2:AA:1567:A:O4' | 2.69 | 0.45 |
| 2:AA:1625:C:C5 | 2:AA:1626:G:H8 | 2.34 | 0.45 |
| 2:AA:1636:C:O2' | 2:AA:1760:A:C2' | 2.65 | 0.45 |
| 2:AA:1637:A:O2' | 2:AA:2711:A:H1' | 2.15 | 0.45 |
| 2:AA:1666:G:C2 | 2:AA:1995:U:O2 | 2.69 | 0.45 |
| 2:AA:1699:G:C5 | 2:AA:1763:G:C2 | 3.04 | 0.45 |
| 2:AA:1717:G:C2 | 2:AA:1718:G:N3 | 2.84 | 0.45 |
| 2:AA:1741:C:C2' | 2:AA:1741:C:O2 | 2.64 | 0.45 |
| 2:AA:1755:A:OP2 | 2:AA:1755:A:H8 | 1.98 | 0.45 |
| 2:AA:1926:U:O5' | 2:AA:1926:U:H6 | 1.99 | 0.45 |
| 2:AA:2010:G:O2' | 2:AA:2011:U:H5' | 2.17 | 0.45 |
| 2:AA:2019:A:O2' | 2:AA:2020:A:C4' | 2.65 | 0.45 |
| 2:AA:2137:C:C4' | 2:AA:2137:C:OP1 | 2.65 | 0.45 |
| 2:AA:2206:C:C2 | 2:AA:2207:C:C6 | 3.04 | 0.45 |
| 2:AA:2218:G:C2 | 2:AA:2219:G:C4 | 3.04 | 0.45 |
| 2:AA:2306:C:N4 | 2:AA:2311:A:C2 | 2.67 | 0.45 |
| 2:AA:2312:U:O4 | 2:AA:2313:C:N4 | 2.49 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2404:C:C4 | 2:AA:2405:G:C5 | 3.03 | 0.45 |
| 2:AA:2519:U:OP1 | 2:AA:2519:U:C3' | 2.56 | 0.45 |
| 2:AA:2548:G:C3' | 2:AA:2548:G:C8 | 2.99 | 0.45 |
| 2:AA:2587:A:C2' | 2:AA:2588:G:C5' | 2.89 | 0.45 |
| 2:AA:2669:G:H2' | 2:AA:2670:A:O5' | 2.16 | 0.45 |
| 2:AA:2767:C:C4 | 2:AA:2768:C:N4 | 2.84 | 0.45 |
| 2:AA:2818:G:N1 | 2:AA:2829:C:C4 | 2.84 | 0.45 |
| 4:AD:70:LYS:HG3 | 4:AD:73:ILE:HD12 | 1.99 | 0.45 |
| 4:AD:146:LYS:HE3 | 4:AD:184:LEU:HD11 | 1.98 | 0.45 |
| 6:AF:21:VAL:HG11 | 6:AF:246:ARG:O | 2.17 | 0.45 |
| 6:AF:108:GLN:O | 6:AF:109:LEU:C | 2.52 | 0.45 |
| 6:AF:116:ALA:O | 6:AF:117:ALA:C | 2.54 | 0.45 |
| 6:AF:213:ALA:HB1 | 6:AF:218:VAL:CB | 2.45 | 0.45 |
| 7:AG:12:GLU:O | 7:AG:12:GLU:CD | 2.55 | 0.45 |
| 7:AG:47:GLN:O | 7:AG:48:MET:O | 2.34 | 0.45 |
| 8:AH:58:LYS:CA | 8:AH:61:ARG:CZ | 2.95 | 0.45 |
| 8:AH:75:VAL:C | 8:AH:77:GLY:N | 2.63 | 0.45 |
| 9:AI:19:ALA:HB1 | 9:AJ:45:ALA:O | 2.16 | 0.45 |
| 9:AI:20:GLU:OE1 | 9:AJ:53:GLN:NE2 | 2.49 | 0.45 |
| 10:AK:66:LYS:O | 10:AK:69:LYS:CB | 2.62 | 0.45 |
| 11:AL:45:GLU:CD | 11:AL:70:ILE:CD1 | 2.85 | 0.45 |
| 11:AL:104:GLN:HA | 11:AL:107:GLU:CD | 2.36 | 0.45 |
| 12:AM:53:ILE:O | 12:AM:54:VAL:C | 2.55 | 0.45 |
| 12:AM:74:ARG:CD | 12:AM:141:ALA:O | 2.64 | 0.45 |
| 13:AN:5:GLU:HA | 13:AN:20:LEU:CD2 | 2.46 | 0.45 |
| 13:AN:68:GLY:CA | 13:AN:78:ARG:CG | 2.94 | 0.45 |
| 13:AN:68:GLY:N | 13:AN:78:ARG:HE | 2.04 | 0.45 |
| 15:AP:62:GLU:HG3 | 15:AP:62:GLU:H | 1.46 | 0.45 |
| 16:AQ:26:LEU:HD13 | 16:AQ:101:VAL:HG22 | 1.97 | 0.45 |
| 16:AQ:34:LEU:HD23 | 16:AQ:100:ALA:HB3 | 1.97 | 0.45 |
| 18:AS:11:ARG:O | 18:AS:12:ILE:HG13 | 2.16 | 0.45 |
| 21:AV:40:ASP:HB2 | 21:AV:41:ARG:HE | 1.81 | 0.45 |
| 22:AW:20:LEU:HD11 | 22:AW:53:ILE:CG2 | 2.46 | 0.45 |
| 22:AW:27:LEU:HD12 | 22:AW:53:ILE:HD12 | 1.99 | 0.45 |
| 24:A0:52:ILE:CD1 | 24:A0:94:TYR:CB | 2.79 | 0.45 |
| 25:A1:49:ASP:HB3 | 25:A1:53:LYS:HE3 | 1.98 | 0.45 |
| 25:A1:87:ASN:HB3 | 25:A1:88:ILE:HD13 | 1.97 | 0.45 |
| 26:A2:40:VAL:HA | 26:A2:51:ALA:O | 2.16 | 0.45 |
| 27:A3:5:LYS:NZ | 35:BC:3:G:OP1 | 2.45 | 0.45 |
| 29:A5:30:LEU:HD23 | 29:A5:41:LEU:HA | 1.97 | 0.45 |
| 31:A7:22:MET:O | 31:A7:28:ARG:CG | 2.62 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:A8:54:GLU:O | 32:A8:55:TRP:O | 2.34 | 0.45 |
| 32:A8:64:ARG:CG | 32:A8:64:ARG:HH11 | 2.29 | 0.45 |
| 34:BA:13:U:H6 | 34:BA:13:U:C5' | 2.18 | 0.45 |
| 34:BA:20:U:C6 | 34:BA:20:U:O5' | 2.69 | 0.45 |
| 34:BA:30:U:O2' | 34:BA:31:G:P | 2.74 | 0.45 |
| 34:BA:58:C:C6 | 34:BA:58:C:H5" | 2.51 | 0.45 |
| 34:BA:108:G:N2 | 34:BA:108:G:OP2 | 2.50 | 0.45 |
| 34:BA:112:G:H2' | 34:BA:113:G:H5' | 1.99 | 0.45 |
| 34:BA:228:A:HO2' | 34:BA:229:U:H5' | 1.78 | 0.45 |
| 34:BA:269:C:C2' | 34:BA:270:A:O5' | 2.65 | 0.45 |
| 34:BA:325:A:OP2 | 55:BW:70:SER:HB2 | 2.15 | 0.45 |
| 34:BA:359:U:H2' | 34:BA:360:A:C8 | 2.46 | 0.45 |
| 34:BA:379:C:H2' | 34:BA:380:G:H5' | 1.97 | 0.45 |
| 34:BA:391:G:H2' | 34:BA:392:G:O5' | 2.17 | 0.45 |
| 34:BA:411:A:C8 | 34:BA:411:A:H3' | 2.52 | 0.45 |
| 34:BA:421:U:O5' | 34:BA:422:C:H5 | 1.98 | 0.45 |
| 34:BA:517:G:O2' | 34:BA:530:G:C4' | 2.41 | 0.45 |
| 34:BA:540:G:N3 | 34:BA:541:G:H1' | 2.31 | 0.45 |
| 34:BA:543:C:C2 | 34:BA:544:G:N7 | 2.85 | 0.45 |
| 34:BA:698:G:H3' | 34:BA:698:G:P | 2.55 | 0.45 |
| 34:BA:731:G:H2' | 34:BA:732:C:H6 | 1.81 | 0.45 |
| 34:BA:746:A:C8 | 34:BA:746:A:O5' | 2.69 | 0.45 |
| 34:BA:810:C:H2' | 34:BA:811:C:O5' | 2.16 | 0.45 |
| 34:BA:834:C:C4 | 34:BA:853:G:N1 | 2.84 | 0.45 |
| 34:BA:932:C:H4' | 42:BJ:4:ARG:NH1 | 2.30 | 0.45 |
| 34:BA:958:A:C1' | 54:BV:55:LYS:HD2 | 2.45 | 0.45 |
| 34:BA:989:C:O2' | 34:BA:990:C:H5' | 2.16 | 0.45 |
| 34:BA:995:C:H2' | 49:BQ:4:LYS:HZ2 | 1.80 | 0.45 |
| 34:BA:1017:G:O2' | 34:BA:1018:C:H5' | 2.16 | 0.45 |
| 34:BA:1025:U:H2' | 34:BA:1026:G:C5 | 2.51 | 0.45 |
| 34:BA:1032:G:O2' | 34:BA:1033:G:O4' | 2.31 | 0.45 |
| 34:BA:1091:U:C4 | 34:BA:1093:A:P | 3.09 | 0.45 |
| 34:BA:1095:U:P | 34:BA:1108:G:H1 | 2.34 | 0.45 |
| 34:BA:1104:G:O2' | 34:BA:1105:A:C5' | 2.54 | 0.45 |
| 34:BA:1138:G:C2 | 34:BA:1140:C:C5 | 3.04 | 0.45 |
| 34:BA:1158:C:O2 | 34:BA:1158:C:H2' | 2.16 | 0.45 |
| 34:BA:1168:A:N1 | 34:BA:1169:A:C2 | 2.84 | 0.45 |
| 34:BA:1190:G:O2' | 34:BA:1191:A:OP2 | 2.32 | 0.45 |
| 34:BA:1206:G:O4' | 38:BF:194:GLY:HA2 | 2.17 | 0.45 |
| 34:BA:1211:U:O2' | 34:BA:1213:A:N3 | 2.45 | 0.45 |
| 34:BA:1281:U:H3' | 34:BA:1281:U:C6 | 2.49 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1284:C:H2' | 34:BA:1285:A:N7 | 2.28 | 0.45 |
| 34:BA:1315:U:C3' | 34:BA:1316:G:C8 | 2.94 | 0.45 |
| 34:BA:1353:G:C6 | 34:BA:1354:C:N4 | 2.84 | 0.45 |
| 34:BA:1386:G:H2' | 34:BA:1387:G:O5' | 2.16 | 0.45 |
| 34:BA:1412:C:C2 | 34:BA:1413:A:C8 | 3.04 | 0.45 |
| 34:BA:1496:C:C4 | 34:BA:1497:G:C5 | 3.04 | 0.45 |
| 35:BC:2:C:H2' | 35:BC:3:G:O5' | 2.16 | 0.45 |
| 35:BC:50:U:N3 | 35:BC:65:G:N2 | 2.64 | 0.45 |
| 37:BE:25:ASN:ND2 | 37:BE:25:ASN:C | 2.68 | 0.45 |
| 37:BE:57:PHE:O | 37:BE:57:PHE:HD2 | 2.00 | 0.45 |
| 37:BE:59:GLU:CA | 37:BE:221:LEU:HD21 | 2.43 | 0.45 |
| 38:BF:12:LEU:CD1 | 38:BF:18:TRP:N | 2.65 | 0.45 |
| 38:BF:183:ASP:OD2 | 38:BF:184:TYR:N | 2.50 | 0.45 |
| 38:BF:188:LEU:HD22 | 38:BF:189:ALA:H | 1.81 | 0.45 |
| 40:BH:11:ILE:CB | 40:BH:31:LEU:HD22 | 2.45 | 0.45 |
| 40:BH:109:ILE:HD12 | 40:BH:135:THR:CG2 | 2.47 | 0.45 |
| 41:BI:21:LEU:O | 41:BI:24:GLU:CG | 2.61 | 0.45 |
| 41:BI:33:TYR:CZ | 41:BI:75:LEU:CA | 2.97 | 0.45 |
| 41:BI:46:ARG:NH1 | 53:BU:37:VAL:CG2 | 2.78 | 0.45 |
| 42:BJ:10:ARG:HH11 | 42:BJ:10:ARG:CB | 2.29 | 0.45 |
| 42:BJ:64:GLN:HG3 | 42:BJ:68:ASN:HD21 | 1.81 | 0.45 |
| 42:BJ:76:ARG:CZ | 42:BJ:89:MET:CE | 2.94 | 0.45 |
| 44:BL:114:TYR:N | 44:BL:114:TYR:HD2 | 2.13 | 0.45 |
| 45:BM:16:LEU:HB3 | 45:BM:70:ARG:HE | 1.81 | 0.45 |
| 46:BN:99:GLN:HB3 | 46:BN:105:VAL:HG11 | 1.98 | 0.45 |
| 48:BP:108:ARG:NH1 | 48:BP:111:LYS:HB3 | 2.30 | 0.45 |
| 49:BQ:57:ARG:O | 49:BQ:58:LYS:C | 2.54 | 0.45 |
| 50:BR:42:HIS:CE1 | 50:BR:46:HIS:CD2 | 3.03 | 0.45 |
| 50:BR:67:LEU:HB3 | 50:BR:78:TYR:CE1 | 2.50 | 0.45 |
| 51:BS:5:ARG:HA | 51:BS:67:THR:OG1 | 2.16 | 0.45 |
| 51:BS:21:VAL:HG21 | 51:BS:59:TRP:NE1 | 2.30 | 0.45 |
| 52:BT:53:LEU:CG | 52:BT:54:GLY:N | 2.79 | 0.45 |
| 52:BT:86:GLU:OE2 | 52:BT:89:LEU:CD1 | 2.63 | 0.45 |
| 54:BV:53:ASN:ND2 | 54:BV:58:VAL:HG13 | 2.28 | 0.45 |
| 55:BW:81:LYS:O | 55:BW:84:LEU:N | 2.49 | 0.45 |
| 55:BW:83:ARG:HB3 | 55:BW:87:LYS:HE3 | 1.99 | 0.45 |
| 1:AB:20:C:O2' | 1:AB:21:G:H5' | 2.17 | 0.45 |
| 2:AA:43:G:N2 | 2:AA:44:A:H1' | 2.31 | 0.45 |
| 2:AA:94:G:H22 | 22:AW:42:ASN:ND2 | 2.09 | 0.45 |
| 2:AA:124:G:O2' | 31:A7:19:ARG:NH1 | 2.49 | 0.45 |
| 2:AA:326:G:C5 | 2:AA:327:G:N7 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:499:U:C2' | 2:AA:500:G:C5' | 2.90 | 0.45 |
| 2:AA:503:A:C2 | 2:AA:506:G:N3 | 2.84 | 0.45 |
| 2:AA:586:A:H5" | 2:AA:587:C:OP1 | 2.16 | 0.45 |
| 2:AA:603:A:H61 | 2:AA:624:C:H41 | 1.62 | 0.45 |
| 2:AA:625:G:N1 | 2:AA:626:U:O4' | 2.49 | 0.45 |
| 2:AA:650:C:N3 | 2:AA:651:G:C4 | 2.84 | 0.45 |
| 2:AA:666:G:C4 | 2:AA:667:U:C5 | 3.04 | 0.45 |
| 2:AA:684:G:H2' | 2:AA:775:G:O6 | 2.15 | 0.45 |
| 2:AA:740:U:O2' | 2:AA:741:G:C5' | 2.63 | 0.45 |
| 2:AA:771:G:N3 | 2:AA:772:C:C5 | 2.85 | 0.45 |
| 2:AA:881:G:C5 | 2:AA:882:G:C5 | 3.04 | 0.45 |
| 2:AA:955:C:N4 | 2:AA:962:G:N1 | 2.18 | 0.45 |
| 2:AA:1001:A:N7 | 2:AA:1002:G:C4 | 2.84 | 0.45 |
| 2:AA:1011:G:O2' | 2:AA:1013:C:H5" | 2.16 | 0.45 |
| 2:AA:1033:U:O5' | 2:AA:1034:G:OP1 | 2.33 | 0.45 |
| 2:AA:1044:G:N1 | 2:AA:1048:A:C6 | 2.85 | 0.45 |
| 2:AA:1092:C:H3' | 2:AA:1092:C:H6 | 1.80 | 0.45 |
| 2:AA:1121:C:C2 | 2:AA:1122:G:C8 | 3.05 | 0.45 |
| 2:AA:1179:C:C2 | 2:AA:1180:C:H5 | 2.35 | 0.45 |
| 2:AA:1270:C:H1' | 2:AA:1325:G:C6 | 2.51 | 0.45 |
| 2:AA:1326:U:O2' | 2:AA:2010:G:O2' | 2.20 | 0.45 |
| 2:AA:1342:A:H2' | 2:AA:1345:C:H41 | 1.81 | 0.45 |
| 2:AA:1351:C:C4 | 2:AA:1381:G:C2 | 3.05 | 0.45 |
| 2:AA:1418:G:N2 | 2:AA:1580:A:C2 | 2.85 | 0.45 |
| 2:AA:1566:A:C2 | 4:AD:212:HIS:HB3 | 2.49 | 0.45 |
| 2:AA:1629:U:O2 | 2:AA:2698:U:H5" | 2.17 | 0.45 |
| 2:AA:1644:C:O2 | 2:AA:1644:C:H2' | 2.17 | 0.45 |
| 2:AA:1668:A:C8 | 2:AA:1993:U:O4 | 2.69 | 0.45 |
| 2:AA:1671:U:O2' | 5:AE:225:LYS:HE3 | 2.16 | 0.45 |
| 2:AA:1780:A:P | 2:AA:1782:C:OP1 | 2.74 | 0.45 |
| 2:AA:1785:A:H8 | 2:AA:1785:A:C3' | 2.29 | 0.45 |
| 2:AA:1818:U:O2 | 2:AA:1818:U:H2' | 2.16 | 0.45 |
| 2:AA:1885:A:C8 | 2:AA:1886:C:C5 | 3.04 | 0.45 |
| 2:AA:1935:G:C6 | 2:AA:1962:C:C5 | 3.04 | 0.45 |
| 2:AA:1953:A:O2' | 2:AA:2559:C:O2' | 2.21 | 0.45 |
| 2:AA:2131:G:H2' | 3:AC:5:LYS:O | 2.17 | 0.45 |
| 2:AA:2195:C:O2' | 2:AA:2196:C:C4' | 2.64 | 0.45 |
| 2:AA:2261:C:O5' | 2:AA:2261:C:H6 | 1.99 | 0.45 |
| 2:AA:2318:G:O2' | 2:AA:2319:G:OP2 | 2.28 | 0.45 |
| 2:AA:2345:G:N2 | 2:AA:2382:G:P | 2.82 | 0.45 |
| 2:AA:2349:G:N1 | 2:AA:2369:A:C6 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2351:G:C5' | 2:AA:2352:A:OP1 | 2.64 | 0.45 |
| 2:AA:2466:C:C6 | 2:AA:2466:C:C3' | 3.00 | 0.45 |
| 2:AA:2476:A:C8 | 2:AA:2476:A:H3' | 2.51 | 0.45 |
| 2:AA:2767:C:H2' | 2:AA:2768:C:O5' | 2.15 | 0.45 |
| 2:AA:2853:C:C2' | 2:AA:2854:G:C5' | 2.91 | 0.45 |
| 2:AA:2862:G:O2' | 2:AA:2863:C:C5' | 2.64 | 0.45 |
| 2:AA:2900:A:H2' | 2:AA:2901:C:C6 | 2.48 | 0.45 |
| 3:AC:28:LEU:HA | 3:AC:31:GLU:OE1 | 2.14 | 0.45 |
| 3:AC:29:VAL:HG22 | 3:AC:216:THR:HG23 | 1.98 | 0.45 |
| 3:AC:110:PHE:CE1 | 3:AC:136:LEU:HD13 | 2.51 | 0.45 |
| 3:AC:180:PHE:HD2 | 3:AC:184:LYS:CB | 2.29 | 0.45 |
| 4:AD:174:ARG:CZ | 4:AD:174:ARG:CB | 2.90 | 0.45 |
| 4:AD:179:GLU:C | 4:AD:180:VAL:CG2 | 2.82 | 0.45 |
| 5:AE:61:PRO:CB | 5:AE:69:PRO:CA | 2.74 | 0.45 |
| 5:AE:109:ASP:CG | 5:AE:112:LEU:HB3 | 2.36 | 0.45 |
| 6:AF:138:VAL:O | 6:AF:139:VAL:HB | 2.16 | 0.45 |
| 6:AF:144:PHE:CD2 | 6:AF:156:LEU:HD11 | 2.52 | 0.45 |
| 6:AF:193:LEU:CD1 | 6:AF:223:LEU:HB2 | 2.47 | 0.45 |
| 7:AG:38:GLU:HA | 7:AG:41:LEU:CG | 2.45 | 0.45 |
| 9:AJ:13:LEU:HD13 | 9:AJ:21:LEU:HD12 | 1.99 | 0.45 |
| 9:AJ:111:ALA:HB1 | 9:AJ:115:LYS:HE3 | 1.97 | 0.45 |
| 10:AK:94:THR:CG2 | 10:AK:94:THR:O | 2.64 | 0.45 |
| 11:AL:20:PRO:O | 11:AL:21:ALA:C | 2.54 | 0.45 |
| 12:AM:42:GLU:O | 12:AM:132:LEU:O | 2.35 | 0.45 |
| 15:AP:35:ASN:CB | 15:AP:75:SER:HA | 2.47 | 0.45 |
| 15:AP:47:GLU:O | 15:AP:140:TYR:OH | 2.26 | 0.45 |
| 15:AP:72:VAL:O | 15:AP:73:GLN:CB | 2.64 | 0.45 |
| 16:AQ:34:LEU:HA | 16:AQ:47:LEU:CD2 | 2.46 | 0.45 |
| 16:AQ:99:GLU:CD | 16:AQ:128:ASP:CB | 2.84 | 0.45 |
| 16:AQ:124:ASP:C | 16:AQ:126:GLY:N | 2.65 | 0.45 |
| 17:AR:49:LEU:HD13 | 17:AR:54:THR:HG21 | 1.98 | 0.45 |
| 18:AS:4:LYS:HE3 | 18:AS:106:ILE:CG1 | 2.46 | 0.45 |
| 19:AT:6:LYS:NZ | 19:AT:28:VAL:O | 2.43 | 0.45 |
| 19:AT:23:LYS:HG2 | 19:AT:67:ARG:CG | 2.45 | 0.45 |
| 19:AT:50:GLU:HB2 | 19:AT:51:GLN:H | 1.57 | 0.45 |
| 20:AU:65:VAL:HA | 20:AU:72:ILE:CG1 | 2.47 | 0.45 |
| 20:AU:92:ASP:OD2 | 20:AU:94:SER:HB3 | 2.15 | 0.45 |
| 20:AU:101:LEU:HD22 | 20:AU:103:LEU:HG | 1.97 | 0.45 |
| 21:AV:51:LEU:CD2 | 21:AV:65:LEU:HG | 2.47 | 0.45 |
| 24:A0:57:ARG:NE | 24:A0:62:ALA:HB2 | 2.29 | 0.45 |
| 24:A0:65:LEU:O | 24:A0:68:ARG:CB | 2.64 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:27:SER:C | 25:A1:31:GLN:HG3 | 2.33 | 0.45 |
| 26:A2:5:ILE:HD12 | 26:A2:39:PHE:CE2 | 2.51 | 0.45 |
| 26:A2:95:ILE:HD12 | 26:A2:95:ILE:H | 1.80 | 0.45 |
| 27:A3:74:LYS:O | 27:A3:75:GLY:O | 2.33 | 0.45 |
| 29:A5:6:VAL:HG13 | 29:A5:7:PRO:CG | 2.47 | 0.45 |
| 34:BA:97:G:C5 | 34:BA:98:U:C5 | 3.04 | 0.45 |
| 34:BA:101:A:C4 | 34:BA:102:G:N7 | 2.84 | 0.45 |
| 34:BA:134:A:H1' | 34:BA:325:A:N1 | 2.31 | 0.45 |
| 34:BA:161:A:C2' | 34:BA:162:A:O5' | 2.64 | 0.45 |
| 34:BA:285:G:C5 | 34:BA:286:G:N7 | 2.85 | 0.45 |
| 34:BA:341:C:O2' | 34:BA:342:C:C5' | 2.65 | 0.45 |
| 34:BA:359:U:O2' | 34:BA:360:A:H5' | 2.16 | 0.45 |
| 34:BA:397:A:N6 | 34:BA:548:G:C5 | 2.84 | 0.45 |
| 34:BA:575:G:C6 | 34:BA:821:G:N7 | 2.84 | 0.45 |
| 34:BA:582:U:N1 | 52:BT:105:ALA:HB1 | 2.31 | 0.45 |
| 34:BA:608:A:N3 | 34:BA:609:A:C8 | 2.85 | 0.45 |
| 34:BA:707:C:H2' | 34:BA:708:C:C5' | 2.47 | 0.45 |
| 34:BA:739:C:N3 | 34:BA:740:U:C6 | 2.84 | 0.45 |
| 34:BA:751:U:OP1 | 50:BR:18:PHE:CZ | 2.69 | 0.45 |
| 34:BA:806:C:N3 | 34:BA:807:A:C5 | 2.85 | 0.45 |
| 34:BA:934:C:C5 | 34:BA:1344:C:C5 | 3.04 | 0.45 |
| 34:BA:947:G:C4 | 34:BA:948:C:C5 | 3.05 | 0.45 |
| 34:BA:1017:G:H2' | 34:BA:1018:C:C6 | 2.49 | 0.45 |
| 34:BA:1030:C:C4 | 34:BA:1032:G:C6 | 3.05 | 0.45 |
| 34:BA:1047:G:H2' | 34:BA:1048:G:H5' | 1.98 | 0.45 |
| 34:BA:1422:G:C6 | 34:BA:1423:G:C5 | 3.04 | 0.45 |
| 34:BA:1494:G:N3 | 34:BA:1495:U:H5 | 2.15 | 0.45 |
| 34:BA:1514:C:C4 | 34:BA:1515:C:N4 | 2.84 | 0.45 |
| 34:BA:1539:C:OP1 | 53:BU:54:ARG:NH1 | 2.49 | 0.45 |
| 35:BC:11:C:H2' | 35:BC:12:U:C6 | 2.51 | 0.45 |
| 35:BC:34:G:N1 | 36:B1:62:G:N1 | 2.47 | 0.45 |
| 36:B1:14:U:OP2 | 36:B1:14:U:H6 | 1.99 | 0.45 |
| 36:B1:15:A:C2 | 36:B1:41:U:O2 | 2.68 | 0.45 |
| 37:BE:39:ILE:CG2 | 37:BE:40:HIS:N | 2.80 | 0.45 |
| 37:BE:61:LEU:HD21 | 37:BE:66:GLY:O | 2.16 | 0.45 |
| 37:BE:70:PHE:CD1 | 37:BE:90:MET:HB2 | 2.49 | 0.45 |
| 37:BE:71:VAL:CG2 | 37:BE:93:VAL:HB | 2.46 | 0.45 |
| 37:BE:193:ASP:CB | 37:BE:196:LEU:HD21 | 2.46 | 0.45 |
| 37:BE:221:LEU:HD13 | 37:BE:221:LEU:O | 2.17 | 0.45 |
| 38:BF:20:SER:OG | 38:BF:57:ILE:HB | 2.17 | 0.45 |
| 38:BF:20:SER:HB2 | 38:BF:40:ARG:HH22 | 1.75 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:121:ALA:CB | 38:BF:187:ALA:HB1 | 2.47 | 0.45 |
| 39:BG:38:TYR:CB | 39:BG:39:PRO:HD2 | 2.25 | 0.45 |
| 39:BG:40:PRO:O | 39:BG:44:GLY:CA | 2.62 | 0.45 |
| 40:BH:9:LYS:NZ | 40:BH:108:ALA:HA | 2.32 | 0.45 |
| 40:BH:62:ALA:O | 40:BH:64:ARG:O | 2.34 | 0.45 |
| 41:BI:12:PRO:HG3 | 41:BI:57:GLN:HE22 | 1.82 | 0.45 |
| 42:BJ:31:MET:O | 42:BJ:32:ARG:HB3 | 2.16 | 0.45 |
| 46:BN:31:THR:HG23 | 46:BN:42:TRP:CB | 2.33 | 0.45 |
| 46:BN:32:ILE:HG12 | 46:BN:41:THR:O | 2.16 | 0.45 |
| 47:BO:33:ARG:HA | 47:BO:33:ARG:NE | 2.24 | 0.45 |
| 48:BP:91:ARG:HD2 | 48:BP:98:VAL:HA | 1.98 | 0.45 |
| 49:BQ:24:CYS:CA | 49:BQ:33:VAL:HG11 | 2.46 | 0.45 |
| 51:BS:6:LEU:CD2 | 51:BS:17:TYR:HD2 | 2.08 | 0.45 |
| 53:BU:74:ARG:CA | 53:BU:79:LEU:CD2 | 2.93 | 0.45 |
| 54:BV:33:THR:CG2 | 54:BV:34:TRP:N | 2.79 | 0.45 |
| 55:BW:43:LEU:HD22 | 55:BW:48:LYS:HG2 | 1.99 | 0.45 |
| 56:BX:5:ASP:OD1 | 56:BX:7:ARG:N | 2.46 | 0.45 |
| 1:AB:32:C:N3 | 1:AB:51:G:C2 | 2.85 | 0.45 |
| 1:AB:73:A:N3 | 1:AB:74:U:C6 | 2.84 | 0.45 |
| 2:AA:21:A:C5 | 2:AA:22:C:C5 | 3.04 | 0.45 |
| 2:AA:25:U:C4 | 2:AA:26:G:C5 | 3.04 | 0.45 |
| 2:AA:27:G:H1' | 2:AA:513:A:N6 | 2.32 | 0.45 |
| 2:AA:54:G:O2' | 31:A7:35:ARG:NH2 | 2.49 | 0.45 |
| 2:AA:124:G:OP1 | 2:AA:1376:C:O4' | 2.34 | 0.45 |
| 2:AA:239:U:H2' | 2:AA:240:G:H8 | 1.80 | 0.45 |
| 2:AA:289:A:C8 | 2:AA:350:U:O4 | 2.69 | 0.45 |
| 2:AA:319:C:C4 | 2:AA:333:G:C2 | 3.04 | 0.45 |
| 2:AA:319:C:N1 | 2:AA:320:A:C8 | 2.85 | 0.45 |
| 2:AA:339:U:C4 | 2:AA:340:A:C6 | 3.04 | 0.45 |
| 2:AA:372:G:O6 | 2:AA:424:G:OP2 | 2.35 | 0.45 |
| 2:AA:388:G:OP2 | 28:A4:23:GLU:CB | 2.54 | 0.45 |
| 2:AA:390:A:O2' | 2:AA:391:G:C8 | 2.68 | 0.45 |
| 2:AA:424:G:C2 | 2:AA:425:G:C8 | 3.04 | 0.45 |
| 2:AA:499:U:H3' | 2:AA:500:G:C8 | 2.52 | 0.45 |
| 2:AA:645:C:OP2 | 2:AA:2369:A:H4' | 2.16 | 0.45 |
| 2:AA:747:U:O5' | 2:AA:747:U:H6 | 2.00 | 0.45 |
| 2:AA:778:G:C2 | 2:AA:787:U:C2 | 3.04 | 0.45 |
| 2:AA:863:A:N3 | 2:AA:864:G:N7 | 2.65 | 0.45 |
| 2:AA:879:G:N1 | 2:AA:880:G:C5 | 2.85 | 0.45 |
| 2:AA:930:U:O3' | 2:AA:931:G:H4' | 2.16 | 0.45 |
| 2:AA:936:C:C2' | 2:AA:937:U:O5' | 2.65 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:968:G:H8 | 2:AA:968:G:O5' | 2.00 | 0.45 |
| 2:AA:1003:G:N1 | 2:AA:1153:C:C5 | 2.85 | 0.45 |
| 2:AA:1021:A:C2 | 2:AA:1122:G:C4' | 3.00 | 0.45 |
| 2:AA:1104:C:O2' | 9:AI:29:PHE:CD2 | 2.62 | 0.45 |
| 2:AA:1147:C:C6 | 2:AA:1147:C:C3' | 3.00 | 0.45 |
| 2:AA:1151:G:O2' | 2:AA:1152:C:H5' | 2.17 | 0.45 |
| 2:AA:1216:G:OP1 | 25:A1:8:ILE:HG22 | 2.16 | 0.45 |
| 2:AA:1303:G:N7 | 2:AA:1304:C:N4 | 2.64 | 0.45 |
| 2:AA:1308:A:N1 | 2:AA:1608:A:N1 | 2.64 | 0.45 |
| 2:AA:1359:A:O2' | 2:AA:1360:A:H5' | 2.16 | 0.45 |
| 2:AA:1425:G:H2' | 2:AA:1426:G:C4 | 2.51 | 0.45 |
| 2:AA:1538:G:C8 | 2:AA:1539:G:O4' | 2.69 | 0.45 |
| 2:AA:1561:G:O5' | 2:AA:1561:G:H8 | 1.99 | 0.45 |
| 2:AA:1664:A:C8 | 2:AA:1664:A:C3' | 3.00 | 0.45 |
| 2:AA:1669:A:H4' | 2:AA:2550:G:P | 2.57 | 0.45 |
| 2:AA:1669:A:N3 | 2:AA:1670:C:H5' | 2.31 | 0.45 |
| 2:AA:1788:C:H2' | 2:AA:1789:A:H8 | 1.81 | 0.45 |
| 2:AA:1834:U:O2 | 2:AA:1834:U:C2' | 2.60 | 0.45 |
| 2:AA:1856:G:H2' | 2:AA:1857:G:C5' | 2.46 | 0.45 |
| 2:AA:1948:G:C2 | 2:AA:1949:G:C5 | 3.04 | 0.45 |
| 2:AA:1975:G:C6 | 2:AA:1976:U:C4 | 3.04 | 0.45 |
| 2:AA:2000:G:N1 | 2:AA:2001:A:C5 | 2.84 | 0.45 |
| 2:AA:2044:C:C2' | 2:AA:2045:C:H5' | 2.46 | 0.45 |
| 2:AA:2056:G:P | 2:AA:2057:A:OP2 | 2.74 | 0.45 |
| 2:AA:2079:U:O3' | 28:A4:32:HIS:CD2 | 2.70 | 0.45 |
| 2:AA:2206:C:C4 | 2:AA:2207:C:C5 | 3.04 | 0.45 |
| 2:AA:2228:G:N7 | 2:AA:2229:C:C5 | 2.84 | 0.45 |
| 2:AA:2246:G:C4 | 2:AA:2426:A:N3 | 2.85 | 0.45 |
| 2:AA:2254:C:C2' | 2:AA:2255:G:C5' | 2.86 | 0.45 |
| 2:AA:2269:A:O2' | 2:AA:2270:G:C5' | 2.65 | 0.45 |
| 2:AA:2275:C:HO2' | 2:AA:2276:G:P | 2.37 | 0.45 |
| 2:AA:2498:C:C2' | 2:AA:2498:C:O2 | 2.57 | 0.45 |
| 2:AA:2505:G:H2' | 2:AA:2576:G:H21 | 1.74 | 0.45 |
| 2:AA:2516:G:H2' | 2:AA:2517:C:C6 | 2.51 | 0.45 |
| 2:AA:2528:U:P | 33:A9:30:VAL:HG11 | 2.57 | 0.45 |
| 2:AA:2532:G:H21 | 2:AA:2663:G:H1' | 1.81 | 0.45 |
| 2:AA:2564:A:O2' | 2:AA:2565:A:C5' | 2.62 | 0.45 |
| 2:AA:2638:G:N7 | 2:AA:2775:A:C6 | 2.85 | 0.45 |
| 2:AA:2736:G:N1 | 2:AA:2769:C:C4 | 2.85 | 0.45 |
| 2:AA:2794:C:N4 | 2:AA:2802:G:N1 | 2.42 | 0.45 |
| 3:AC:16:PRO:C | 3:AC:17:ASN:OD1 | 2.54 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:70:LYS:HA | 3:AC:157:LYS:HE2 | 1.98 | 0.45 |
| 4:AD:74:PRO:O | 4:AD:74:PRO:HG2 | 2.16 | 0.45 |
| 4:AD:171:VAL:C | 4:AD:182:MET:HG2 | 2.37 | 0.45 |
| 4:AD:176:ALA:C | 4:AD:178:GLY:N | 2.70 | 0.45 |
| 5:AE:72:VAL:CG1 | 5:AE:295:LEU:HD21 | 2.47 | 0.45 |
| 5:AE:180:ILE:HG21 | 5:AE:187:HIS:HA | 1.98 | 0.45 |
| 6:AF:24:THR:HB | 6:AF:25:PRO:CD | 2.45 | 0.45 |
| 6:AF:89:ALA:HB3 | 6:AF:90:HIS:CE1 | 2.51 | 0.45 |
| 6:AF:194:PHE:CE1 | 6:AF:210:ALA:HA | 2.52 | 0.45 |
| 6:AF:217:GLU:C | 6:AF:218:VAL:HG23 | 2.36 | 0.45 |
| 6:AF:232:LEU:O | 6:AF:233:THR:HG22 | 2.16 | 0.45 |
| 8:AH:59:HIS:O | 8:AH:60:HIS:C | 2.50 | 0.45 |
| 10:AK:6:LEU:HD22 | 10:AK:6:LEU:O | 2.17 | 0.45 |
| 10:AK:32:LYS:O | 10:AK:33:GLN:O | 2.34 | 0.45 |
| 10:AK:69:LYS:CG | 10:AK:73:GLU:OE1 | 2.65 | 0.45 |
| 10:AK:77:VAL:CG1 | 10:AK:143:VAL:HG22 | 2.43 | 0.45 |
| 10:AK:115:ILE:CG2 | 10:AK:129:VAL:HG11 | 2.47 | 0.45 |
| 11:AL:9:ILE:HD13 | 11:AL:28:LEU:HD22 | 1.97 | 0.45 |
| 11:AL:79:LEU:O | 11:AL:82:ALA:HB3 | 2.17 | 0.45 |
| 11:AL:96:ILE:HG21 | 21:AV:109:GLN:CD | 2.37 | 0.45 |
| 11:AL:97:VAL:O | 11:AL:99:LYS:HD2 | 2.16 | 0.45 |
| 12:AM:17:CYS:HB2 | 12:AM:22:VAL:CG2 | 2.43 | 0.45 |
| 15:AP:21:SER:OG | 15:AP:92:VAL:HG21 | 2.16 | 0.45 |
| 15:AP:36:ASN:HD22 | 15:AP:41:THR:N | 2.08 | 0.45 |
| 15:AP:76:GLY:HA2 | 15:AP:126:VAL:CG2 | 2.46 | 0.45 |
| 15:AP:82:LYS:O | 15:AP:123:ILE:C | 2.55 | 0.45 |
| 17:AR:40:ALA:O | 17:AR:41:ASP:C | 2.54 | 0.45 |
| 18:AS:18:ARG:NE | 18:AS:76:VAL:HG12 | 2.32 | 0.45 |
| 21:AV:37:LYS:O | 21:AV:40:ASP:CG | 2.55 | 0.45 |
| 21:AV:43:PHE:HB3 | 21:AV:47:SER:OG | 2.16 | 0.45 |
| 21:AV:174:PRO:C | 21:AV:175:ARG:HG2 | 2.36 | 0.45 |
| 24:A0:25:ALA:O | 24:A0:28:LEU:HB3 | 2.16 | 0.45 |
| 24:A0:100:LEU:HB2 | 24:A0:111:LEU:C | 2.34 | 0.45 |
| 25:A1:15:LYS:O | 25:A1:18:LEU:CB | 2.53 | 0.45 |
| 27:A3:39:ARG:HG2 | 27:A3:69:PHE:CE1 | 2.48 | 0.45 |
| 28:A4:73:LYS:OXT | 28:A4:73:LYS:CG | 2.61 | 0.45 |
| 29:A5:49:CYS:HB3 | 29:A5:50:GLY:H | 1.35 | 0.45 |
| 30:A6:32:GLN:OE1 | 30:A6:35:LEU:HD12 | 2.17 | 0.45 |
| 33:A9:10:MET:H | 33:A9:14:CYS:HB2 | 1.82 | 0.45 |
| 34:BA:6:G:H4' | 34:BA:298:A:O2' | 2.16 | 0.45 |
| 34:BA:51:A:N1 | 34:BA:353:A:N1 | 2.64 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:130:A:H5" | 34:BA:190(F):G:C2' | 2.37 | 0.45 |
| 34:BA:190(D):U:OP2 | 34:BA:190(D):U:C6 | 2.70 | 0.45 |
| 34:BA:263:A:C2' | 34:BA:264:U:C5' | 2.91 | 0.45 |
| 34:BA:494:G:O2' | 34:BA:495:U:C6 | 2.63 | 0.45 |
| 34:BA:549:C:C2 | 34:BA:550:G:C8 | 3.03 | 0.45 |
| 34:BA:640:A:N3 | 43:BK:115:SER:HB2 | 2.31 | 0.45 |
| 34:BA:643:C:O2' | 43:BK:132:GLU:CD | 2.55 | 0.45 |
| 34:BA:814:A:N7 | 34:BA:816:A:C6 | 2.84 | 0.45 |
| 34:BA:990:C:H2' | 34:BA:991:U:O4' | 2.17 | 0.45 |
| 34:BA:1033:G:H2' | 34:BA:1034:G:H8 | 1.81 | 0.45 |
| 34:BA:1050:G:H2' | 34:BA:1051:C:C6 | 2.51 | 0.45 |
| 34:BA:1057:G:C5 | 34:BA:1204:A:C2 | 3.05 | 0.45 |
| 34:BA:1118:C:H1' | 34:BA:1179:A:N9 | 2.32 | 0.45 |
| 34:BA:1151:A:H2' | 34:BA:1152:A:O5' | 2.16 | 0.45 |
| 34:BA:1241:G:H2' | 34:BA:1242:C:C6 | 2.51 | 0.45 |
| 34:BA:1290:G:C2 | 34:BA:1291:G:C8 | 3.05 | 0.45 |
| 34:BA:1317:C:C2 | 49:BQ:16:PHE:CE2 | 3.04 | 0.45 |
| 34:BA:1319:A:H8 | 34:BA:1319:A:H3' | 1.82 | 0.45 |
| 34:BA:1324:A:H5' | 34:BA:361(A):C:O2' | 2.17 | 0.45 |
| 34:BA:1389:C:O2' | 34:BA:1390:U:H5' | 2.16 | 0.45 |
| 34:BA:1516:G:N3 | 34:BA:1518:A:OP2 | 2.49 | 0.45 |
| 35:BB:41:U:C6 | 35:BB:41:U:C5' | 2.97 | 0.45 |
| 35:BC:18:G:N1 | 35:BC:58:A:C6 | 2.84 | 0.45 |
| 35:BC:47:U:C5 | 35:BC:49:C:C4' | 3.00 | 0.45 |
| 37:BE:102:LEU:C | 37:BE:103:THR:OG1 | 2.55 | 0.45 |
| 37:BE:109:SER:O | 37:BE:110:GLN:C | 2.55 | 0.45 |
| 37:BE:121:LEU:H | 37:BE:121:LEU:HG | 1.30 | 0.45 |
| 37:BE:187:LEU:HD23 | 37:BE:201:ILE:CG2 | 2.23 | 0.45 |
| 38:BF:84:ILE:HA | 38:BF:87:LEU:CD1 | 2.21 | 0.45 |
| 39:BG:154:ASN:N | 39:BG:154:ASN:ND2 | 2.64 | 0.45 |
| 40:BH:103:GLY:CA | 40:BH:107:ARG:NH2 | 2.79 | 0.45 |
| 40:BH:143:ARG:HG3 | 40:BH:143:ARG:HH11 | 1.81 | 0.45 |
| 41:BI:4:TYR:OH | 41:BI:67:MET:CE | 2.64 | 0.45 |
| 41:BI:67:MET:HB2 | 41:BI:68:PRO:HD2 | 1.98 | 0.45 |
| 42:BJ:99:LEU:HD23 | 42:BJ:102:ARG:CD | 2.44 | 0.45 |
| 43:BK:32:LYS:HG2 | 43:BK:33:GLU:H | 1.81 | 0.45 |
| 43:BK:40:ALA:HB2 | 43:BK:45:ILE:CG2 | 2.45 | 0.45 |
| 44:BL:33:PHE:CE1 | 44:BL:37:PHE:CE1 | 3.05 | 0.45 |
| 45:BM:79:ARG:O | 45:BM:82:ILE:HG13 | 2.16 | 0.45 |
| 46:BN:72:ALA:O | 46:BN:77:MET:CB | 2.63 | 0.45 |
| 46:BN:103:LEU:HD22 | 46:BN:103:LEU:HA | 1.62 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:BP:109:THR:HG22 | 48:BP:110:ARG:N | 2.32 | 0.45 |
| 50:BR:29:VAL:CG1 | 50:BR:85:LEU:CD1 | 2.94 | 0.45 |
| 52:BT:62:SER:CB | 52:BT:72:ARG:HG3 | 2.47 | 0.45 |
| 52:BT:83:ASP:HA | 52:BT:86:GLU:HG2 | 1.98 | 0.45 |
| 52:BT:96:GLN:OE1 | 52:BT:97:SER:HB3 | 2.17 | 0.45 |
| 53:BU:52:PRO:O | 53:BU:55:ARG:N | 2.50 | 0.45 |
| 53:BU:76:LEU:N | 53:BU:76:LEU:CD2 | 2.79 | 0.45 |
| 54:BV:15:LEU:HD13 | 54:BV:71:LEU:HD11 | 1.99 | 0.45 |
| 55:BW:68:LYS:O | 55:BW:69:GLY:O | 2.34 | 0.45 |
| 1:AB:13:A:N1 | 1:AB:69:G:H2' | 2.31 | 0.45 |
| 1:AB:71:C:O2' | 1:AB:72:G:C5' | 2.62 | 0.45 |
| 1:AB:81:G:C5 | 1:AB:82:G:C8 | 3.04 | 0.45 |
| 1:AB:90:C:H2' | 1:AB:91:C:O5' | 2.15 | 0.45 |
| 1:AB:117:G:N3 | 1:AB:117:G:H2' | 2.31 | 0.45 |
| 2:AA:139:G:O4' | 2:AA:139:G:N3 | 2.49 | 0.45 |
| 2:AA:152:G:N2 | 2:AA:176:G:N3 | 2.64 | 0.45 |
| 2:AA:191:A:C2 | 2:AA:192:C:C4 | 3.04 | 0.45 |
| 2:AA:195:A:C2 | 2:AA:198:C:C4 | 3.04 | 0.45 |
| 2:AA:249:C:O2' | 32:A8:8:LYS:CE | 2.64 | 0.45 |
| 2:AA:281:G:C2' | 2:AA:282:A:O4' | 2.64 | 0.45 |
| 2:AA:324:A:C6 | 2:AA:339:U:O2 | 2.70 | 0.45 |
| 2:AA:389:G:N3 | 2:AA:389:G:C2' | 2.77 | 0.45 |
| 2:AA:414:C:C5' | 2:AA:1863:G:N2 | 2.80 | 0.45 |
| 2:AA:431:U:H6 | 2:AA:431:U:C3' | 2.18 | 0.45 |
| 2:AA:518:G:C4' | 18:AS:18:ARG:NH2 | 2.77 | 0.45 |
| 2:AA:601:C:C2' | 2:AA:601:C:O2 | 2.64 | 0.45 |
| 2:AA:654:A:N1 | 2:AA:655:A:H3' | 2.32 | 0.45 |
| 2:AA:685:A:C1' | 2:AA:688:U:C4 | 2.99 | 0.45 |
| 2:AA:687:C:C4' | 31:A7:4:THR:CG2 | 2.94 | 0.45 |
| 2:AA:692:C:C2' | 2:AA:693:C:H5' | 2.47 | 0.45 |
| 2:AA:698:C:C5' | 2:AA:698:C:C6 | 2.90 | 0.45 |
| 2:AA:701:G:C2 | 2:AA:702:G:C8 | 3.04 | 0.45 |
| 2:AA:768:G:C2' | 2:AA:769:G:H8 | 2.12 | 0.45 |
| 2:AA:782:A:O4' | 2:AA:783:A:N6 | 2.49 | 0.45 |
| 2:AA:792:G:C4 | 2:AA:2440:C:C2 | 3.05 | 0.45 |
| 2:AA:963:U:H1' | 2:AA:2250:G:H21 | 1.80 | 0.45 |
| 2:AA:988:A:C5 | 23:AX:13:ILE:HG21 | 2.52 | 0.45 |
| 2:AA:996:A:C2 | 2:AA:997:G:C5 | 3.05 | 0.45 |
| 2:AA:996:A:C4 | 2:AA:997:G:C8 | 3.05 | 0.45 |
| 2:AA:1000:A:C5 | 2:AA:1001:A:C2 | 3.04 | 0.45 |
| 2:AA:1063:G:N1 | 2:AA:1075:C:C4 | 2.84 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1084:A:O3' | 9:AI:34:ALA:CB | 2.60 | 0.45 |
| 2:AA:1120:G:C6 | 2:AA:1121:C:C4 | 3.04 | 0.45 |
| 2:AA:1181:C:HO2' | 2:AA:1182:A:C1' | 2.28 | 0.45 |
| 2:AA:1232:G:N3 | 2:AA:1232:G:H2' | 2.31 | 0.45 |
| 2:AA:1235:G:C2' | 2:AA:1236:G:O5' | 2.65 | 0.45 |
| 2:AA:1360:A:H2' | 2:AA:1360:A:N3 | 2.31 | 0.45 |
| 2:AA:1418:G:H5' | 2:AA:1587:A:O2' | 2.16 | 0.45 |
| 2:AA:1424:G:N3 | 2:AA:1424:G:C2' | 2.78 | 0.45 |
| 2:AA:1462:C:O2 | 2:AA:1462:C:C2' | 2.61 | 0.45 |
| 2:AA:1466:G:H5" | 2:AA:1467:C:OP1 | 2.17 | 0.45 |
| 2:AA:1498:C:O2 | 2:AA:1499:C:C2 | 2.69 | 0.45 |
| 2:AA:1609:A:O2' | 2:AA:1616:A:C4' | 2.65 | 0.45 |
| 2:AA:1690:A:C5 | 2:AA:1697:G:N2 | 2.84 | 0.45 |
| 2:AA:1718:G:C2' | 2:AA:1725:G:H8 | 2.09 | 0.45 |
| 2:AA:1818:U:C5' | 4:AD:155:ARG:HG3 | 2.44 | 0.45 |
| 2:AA:1844:C:O2' | 2:AA:1845:G:H5' | 2.15 | 0.45 |
| 2:AA:1853:A:C2 | 2:AA:2087:G:N3 | 2.84 | 0.45 |
| 2:AA:1861:G:C5' | 3:AC:205:LYS:HE2 | 2.46 | 0.45 |
| 2:AA:1952:A:H2' | 2:AA:1953:A:O4' | 2.16 | 0.45 |
| 2:AA:2019:A:C2' | 2:AA:2020:A:H5" | 2.46 | 0.45 |
| 2:AA:2027:G:N3 | 2:AA:2037:G:C2 | 2.85 | 0.45 |
| 2:AA:2049:G:C2 | 2:AA:2620:C:N3 | 2.85 | 0.45 |
| 2:AA:2054:A:C6 | 2:AA:2615:U:O4 | 2.66 | 0.45 |
| 2:AA:2075:U:H3' | 2:AA:2238:G:N2 | 2.31 | 0.45 |
| 2:AA:2077:A:C4 | 2:AA:2435:A:C8 | 3.04 | 0.45 |
| 2:AA:2137:C:N4 | 2:AA:2155:G:H1' | 2.32 | 0.45 |
| 2:AA:2182:G:C2 | 2:AA:2183:C:C4 | 3.05 | 0.45 |
| 2:AA:2255:G:N1 | 2:AA:2256:G:H1' | 2.30 | 0.45 |
| 2:AA:2256:G:OP1 | 27:A3:5:LYS:HD3 | 2.16 | 0.45 |
| 2:AA:2263:C:H3' | 2:AA:2263:C:C6 | 2.50 | 0.45 |
| 2:AA:2283:C:C2 | 2:AA:2284:C:C1' | 2.99 | 0.45 |
| 2:AA:2350:C:H2' | 2:AA:2351:G:O4' | 2.16 | 0.45 |
| 2:AA:2466:C:O2 | 2:AA:2485:G:C4 | 2.70 | 0.45 |
| 2:AA:2492:U:C2' | 2:AA:2493:U:C5' | 2.95 | 0.45 |
| 2:AA:2509:G:C2 | 2:AA:2510:C:H1' | 2.39 | 0.45 |
| 2:AA:2520:C:HO2' | 2:AA:2521:C:H5' | 1.71 | 0.45 |
| 2:AA:2535:G:H5' | 2:AA:2536:G:OP2 | 2.17 | 0.45 |
| 2:AA:2648:C:C4 | 2:AA:2649:U:O4 | 2.70 | 0.45 |
| 2:AA:2662:A:C2 | 2:AA:2663:G:H4' | 2.52 | 0.45 |
| 2:AA:2742:C:H5" | 33:A9:35:ARG:NH2 | 2.32 | 0.45 |
| 2:AA:2797:U:H1' | 2:AA:2799:A:H8 | 1.81 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2814:C:H2' | 2:AA:2815:C:C6 | 2.52 | 0.45 |
| 2:AA:2838:G:C4 | 2:AA:2839:G:C8 | 3.04 | 0.45 |
| 2:AA:2844:G:N3 | 2:AA:2845:G:C8 | 2.84 | 0.45 |
| 2:AA:2849:U:H4' | 2:AA:2850:A:C5' | 2.43 | 0.45 |
| 2:AA:2852:G:O6 | 2:AA:2866:U:O4 | 2.33 | 0.45 |
| 2:AA:2873:A:HO2' | 2:AA:2874:C:P | 2.40 | 0.45 |
| 3:AC:69:GLY:C | 3:AC:157:LYS:HG2 | 2.37 | 0.45 |
| 3:AC:163:PHE:CE1 | 3:AC:199:HIS:CD2 | 3.04 | 0.45 |
| 5:AE:211:GLN:N | 5:AE:216:ARG:NH2 | 2.63 | 0.45 |
| 6:AF:114:ALA:O | 6:AF:115:LEU:C | 2.55 | 0.45 |
| 7:AG:19:GLU:HB3 | 7:AG:135:VAL:HG11 | 1.98 | 0.45 |
| 7:AG:95:THR:HG22 | 7:AG:96:SER:H | 1.80 | 0.45 |
| 8:AH:102:LEU:HD21 | 8:AH:114:ILE:HG22 | 1.98 | 0.45 |
| 8:AH:158:GLY:O | 8:AH:159:LYS:HB2 | 2.16 | 0.45 |
| 9:AJ:103:LYS:HD3 | 9:AJ:114:ILE:CD1 | 2.47 | 0.45 |
| 10:AK:116:GLU:OE1 | 10:AK:130:PRO:CB | 2.65 | 0.45 |
| 10:AK:119:ASP:O | 10:AK:121:ILE:HD12 | 2.17 | 0.45 |
| 11:AL:79:LEU:O | 11:AL:80:LYS:C | 2.54 | 0.45 |
| 11:AL:114:PRO:HB2 | 11:AL:115:ASP:H | 1.67 | 0.45 |
| 12:AM:45:VAL:CA | 12:AM:132:LEU:HD13 | 2.46 | 0.45 |
| 13:AN:106:LEU:N | 13:AN:106:LEU:CD2 | 2.64 | 0.45 |
| 14:AO:116:HIS:HD2 | 14:AO:118:LEU:CD2 | 2.28 | 0.45 |
| 15:AP:49:VAL:HG22 | 15:AP:120:HIS:CA | 2.47 | 0.45 |
| 15:AP:59:ASN:CG | 15:AP:60:ALA:H | 2.15 | 0.45 |
| 15:AP:65:ARG:NH2 | 15:AP:122:PHE:CD2 | 2.79 | 0.45 |
| 18:AS:51:LEU:N | 18:AS:51:LEU:CD1 | 2.78 | 0.45 |
| 19:AT:18:MET:SD | 19:AT:24:LEU:HA | 2.57 | 0.45 |
| 21:AV:15:ASP:O | 21:AV:16:GLU:HG2 | 2.16 | 0.45 |
| 21:AV:112:LEU:HD23 | 21:AV:113:VAL:N | 2.31 | 0.45 |
| 21:AV:123:VAL:CG1 | 21:AV:160:LEU:HA | 2.47 | 0.45 |
| 24:A0:82:GLU:HB3 | 24:A0:83:ILE:HD11 | 1.94 | 0.45 |
| 25:A1:35:ALA:HB3 | 25:A1:36:PHE:HD1 | 1.82 | 0.45 |
| 25:A1:39:LEU:O | 25:A1:42:ALA:N | 2.50 | 0.45 |
| 25:A1:111:ASP:C | 25:A1:114:ARG:HG3 | 2.36 | 0.45 |
| 26:A2:80:TYR:O | 26:A2:81:ARG:C | 2.54 | 0.45 |
| 27:A3:25:LYS:HZ1 | 27:A3:57:HIS:HE1 | 1.62 | 0.45 |
| 28:A4:20:VAL:O | 28:A4:21:VAL:O | 2.35 | 0.45 |
| 28:A4:48:ARG:HD3 | 28:A4:49:PHE:CD2 | 2.51 | 0.45 |
| 30:A6:12:MET:O | 30:A6:25:THR:O | 2.35 | 0.45 |
| 31:A7:30:ILE:CD1 | 31:A7:33:ARG:HD2 | 2.44 | 0.45 |
| 32:A8:18:GLY:O | 32:A8:19:THR:C | 2.54 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:A8:40:GLU:O | 32:A8:41:ILE:C | 2.55 | 0.45 |
| 34:BA:109:A:N3 | 34:BA:109:A:O4' | 2.49 | 0.45 |
| 34:BA:129(A):G:C2 | 34:BA:190(G):G:C4 | 3.05 | 0.45 |
| 34:BA:227:G:H2' | 34:BA:228:A:H8 | 1.79 | 0.45 |
| 34:BA:238:G:N1 | 34:BA:239:U:C4 | 2.85 | 0.45 |
| 34:BA:260:G:C6 | 34:BA:261:U:N3 | 2.85 | 0.45 |
| 34:BA:271:C:C2 | 34:BA:272:C:C6 | 3.05 | 0.45 |
| 34:BA:410:G:C2 | 34:BA:429:U:N3 | 2.85 | 0.45 |
| 34:BA:522:C:H5 | 34:BA:523:A:H62 | 1.56 | 0.45 |
| 34:BA:542:G:H2' | 34:BA:542:G:N3 | 2.30 | 0.45 |
| 34:BA:560:U:C5' | 34:BA:566:G:N2 | 2.79 | 0.45 |
| 34:BA:685:G:H2' | 34:BA:686:U:H6 | 1.81 | 0.45 |
| 34:BA:818:G:C3' | 34:BA:819:A:H5" | 2.32 | 0.45 |
| 34:BA:840:C:C5' | 34:BA:841:U:O5' | 2.59 | 0.45 |
| 34:BA:881:G:H2' | 34:BA:882:C:C6 | 2.51 | 0.45 |
| 34:BA:895:G:C4 | 34:BA:896:C:C5 | 3.05 | 0.45 |
| 34:BA:951:G:C2' | 34:BA:970:C:O2' | 2.65 | 0.45 |
| 34:BA:961:U:O2' | 34:BA:962:C:C5' | 2.59 | 0.45 |
| 34:BA:976:G:C8 | 34:BA:361(A):C:N4 | 2.85 | 0.45 |
| 34:BA:988:G:C2 | 34:BA:989:C:H1' | 2.52 | 0.45 |
| 34:BA:3(A):G:N1 | 34:BA:1037:C:O2 | 2.49 | 0.45 |
| 34:BA:1091:U:C4 | 34:BA:1093:A:OP2 | 2.69 | 0.45 |
| 34:BA:1128:C:C4 | 34:BA:1139:G:C6 | 3.04 | 0.45 |
| 34:BA:1150:U:C1' | 34:BA:1280:A:N6 | 2.79 | 0.45 |
| 34:BA:1215:G:C2 | 34:BA:1216:G:N7 | 2.84 | 0.45 |
| 34:BA:1329:A:H5' | 48:BP:29:ARG:CZ | 2.45 | 0.45 |
| 34:BA:1518:A:O5' | 34:BA:1518:A:C8 | 2.57 | 0.45 |
| 35:BB:53:G:C2 | 35:BB:54:U:C4 | 3.04 | 0.45 |
| 35:BB:64:A:C2 | 35:BB:65:G:C4 | 3.04 | 0.45 |
| 36:B1:67:U:C3' | 36:B1:68:U:H5' | 2.46 | 0.45 |
| 37:BE:16:HIS:H | 37:BE:210:SER:HB2 | 1.81 | 0.45 |
| 37:BE:39:ILE:O | 37:BE:41:ILE:CD1 | 2.65 | 0.45 |
| 37:BE:90:MET:O | 37:BE:91:PRO:C | 2.54 | 0.45 |
| 38:BF:44:GLU:HG2 | 38:BF:52:LEU:CD1 | 2.46 | 0.45 |
| 38:BF:53:ALA:HB2 | 38:BF:115:LEU:HD11 | 1.98 | 0.45 |
| 39:BG:62:GLN:HB3 | 39:BG:66:ARG:CZ | 2.47 | 0.45 |
| 39:BG:100:ARG:HG2 | 39:BG:100:ARG:NH1 | 2.31 | 0.45 |
| 39:BG:173:TRP:CD1 | 39:BG:189:PRO:HD3 | 2.51 | 0.45 |
| 40:BH:103:GLY:O | 40:BH:104:ALA:C | 2.54 | 0.45 |
| 40:BH:146:ALA:O | 40:BH:149:GLU:N | 2.50 | 0.45 |
| 40:BH:152:ARG:HA | 43:BK:64:LYS:NZ | 2.31 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:6:VAL:HG11 | 41:BI:63:TYR:HB2 | 1.96 | 0.45 |
| 41:BI:80:ARG:HG3 | 41:BI:80:ARG:H | 1.43 | 0.45 |
| 41:BI:80:ARG:NH1 | 41:BI:88:VAL:HG12 | 2.31 | 0.45 |
| 42:BJ:2:ALA:O | 42:BJ:3:ARG:C | 2.54 | 0.45 |
| 42:BJ:16:LEU:O | 42:BJ:17:VAL:CG2 | 2.63 | 0.45 |
| 42:BJ:29:LYS:HZ3 | 42:BJ:102:ARG:HH21 | 1.64 | 0.45 |
| 42:BJ:54:THR:O | 42:BJ:54:THR:CG2 | 2.59 | 0.45 |
| 42:BJ:86:GLN:CB | 42:BJ:148:ASN:HD22 | 2.29 | 0.45 |
| 42:BJ:149:ARG:O | 42:BJ:152:ALA:HB2 | 2.17 | 0.45 |
| 43:BK:24:THR:CG2 | 43:BK:61:VAL:H | 2.28 | 0.45 |
| 47:BO:27:LEU:HD13 | 47:BO:62:SER:HB3 | 1.98 | 0.45 |
| 48:BP:67:GLU:HG2 | 48:BP:68:GLY:N | 2.32 | 0.45 |
| 48:BP:77:ASN:HD21 | 48:BP:88:ARG:HH12 | 1.64 | 0.45 |
| 49:BQ:57:ARG:HG2 | 49:BQ:58:LYS:N | 2.32 | 0.45 |
| 50:BR:66:LEU:HA | 50:BR:66:LEU:HD13 | 1.49 | 0.45 |
| 50:BR:70:LEU:CG | 50:BR:78:TYR:HB2 | 2.46 | 0.45 |
| 52:BT:11:VAL:O | 52:BT:11:VAL:HG23 | 2.16 | 0.45 |
| 55:BW:89:ARG:HB2 | 55:BW:104:LEU:HD13 | 1.99 | 0.45 |
| 56:BX:9:ARG:O | 56:BX:11:GLY:N | 2.49 | 0.45 |
| 56:BX:22:ARG:HG2 | 56:BX:22:ARG:O | 2.17 | 0.45 |
| 1:AB:21:G:N1 | 1:AB:62:C:N4 | 2.28 | 0.45 |
| 2:AA:23:G:O2' | 2:AA:24:G:H5' | 2.17 | 0.45 |
| 2:AA:123:G:O2' | 2:AA:124:G:H5' | 2.17 | 0.45 |
| 2:AA:150:C:N4 | 2:AA:151:C:C4 | 2.85 | 0.45 |
| 2:AA:205:G:C2' | 2:AA:206:U:OP2 | 2.65 | 0.45 |
| 2:AA:265:A:N6 | 2:AA:281:G:H5' | 2.32 | 0.45 |
| 2:AA:270(D):C:H1' | 2:AA:273(A):G:OP1 | 2.16 | 0.45 |
| 2:AA:271(B):G:C4' | 2:AA:271(C):U:H5' | 2.43 | 0.45 |
| 2:AA:273(A):G:H1 | 2:AA:363(E):U:H3 | 1.62 | 0.45 |
| 2:AA:273(D):C:H2' | 2:AA:273(E):U:C5' | 2.47 | 0.45 |
| 2:AA:281:G:OP1 | 2:AA:281:G:C8 | 2.69 | 0.45 |
| 2:AA:287:C:C2 | 2:AA:353:G:N1 | 2.83 | 0.45 |
| 2:AA:445:C:H3' | 25:A1:3:ARG:CZ | 2.47 | 0.45 |
| 2:AA:541:C:N4 | 2:AA:552:G:N1 | 2.43 | 0.45 |
| 2:AA:547:A:N3 | 2:AA:547:A:H3' | 2.31 | 0.45 |
| 2:AA:571:A:C4 | 2:AA:2030:A:N6 | 2.84 | 0.45 |
| 2:AA:595:C:O2' | 2:AA:596:G:C5' | 2.64 | 0.45 |
| 2:AA:693:C:H2' | 2:AA:694:U:O5' | 2.16 | 0.45 |
| 2:AA:786:C:O2' | 2:AA:787:U:O4' | 2.35 | 0.45 |
| 2:AA:823:G:N1 | 2:AA:835:A:C4 | 2.84 | 0.45 |
| 2:AA:907:U:O2 | 2:AA:908:C:C6 | 2.69 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:969:U:N1 | 2:AA:970:C:C6 | 2.85 | 0.45 |
| 2:AA:974:G:HO2' | 2:AA:974(A):C:C5' | 2.22 | 0.45 |
| 2:AA:981:A:H3' | 2:AA:982:C:H6 | 1.82 | 0.45 |
| 2:AA:1058:G:H4' | 9:AI:3:ILE:N | 2.28 | 0.45 |
| 2:AA:1106:G:O4' | 9:AI:27:ASP:CB | 2.64 | 0.45 |
| 2:AA:1161:C:HO2' | 26:A2:22:VAL:HG11 | 1.79 | 0.45 |
| 2:AA:1183:G:O2' | 2:AA:1184:G:C8 | 2.69 | 0.45 |
| 2:AA:1270:C:O2 | 2:AA:1325:G:C5 | 2.69 | 0.45 |
| 2:AA:1285:G:O5' | 2:AA:1285:G:C8 | 2.69 | 0.45 |
| 2:AA:1298:C:N4 | 2:AA:1643:G:C6 | 2.85 | 0.45 |
| 2:AA:1324:G:N1 | 2:AA:1331:A:C6 | 2.84 | 0.45 |
| 2:AA:1438:U:O4' | 2:AA:1517:G:OP1 | 2.34 | 0.45 |
| 2:AA:1492:G:N2 | 2:AA:1493:C:N4 | 2.61 | 0.45 |
| 2:AA:1582:C:C4 | 2:AA:1583:A:C4 | 3.05 | 0.45 |
| 2:AA:1656:C:OP2 | 5:AE:233:ARG:HD3 | 2.17 | 0.45 |
| 2:AA:1658:C:P | 5:AE:230:GLY:C | 2.94 | 0.45 |
| 2:AA:1684:C:O2' | 2:AA:1685:C:C5' | 2.65 | 0.45 |
| 2:AA:1695:G:N3 | 2:AA:1695:G:C3' | 2.74 | 0.45 |
| 2:AA:1971:A:O2' | 2:AA:1972:A:OP2 | 2.34 | 0.45 |
| 2:AA:2148:G:O6 | 2:AA:2149:G:C6 | 2.70 | 0.45 |
| 2:AA:2174:C:OP2 | 3:AC:7:TYR:CE2 | 2.70 | 0.45 |
| 2:AA:2175:C:OP1 | 3:AC:219:GLY:O | 2.34 | 0.45 |
| 2:AA:2252:G:N2 | 35:BC:74:C:H42 | 2.15 | 0.45 |
| 2:AA:2356:C:H4' | 27:A3:17:ASN:CB | 2.46 | 0.45 |
| 2:AA:2376:A:C8 | 2:AA:2376:A:OP1 | 2.69 | 0.45 |
| 2:AA:2447:G:O6 | 2:AA:2501:C:O2 | 2.35 | 0.45 |
| 2:AA:2476:A:C8 | 2:AA:2476:A:C3' | 2.99 | 0.45 |
| 2:AA:2511:U:C2' | 2:AA:2512:C:H5' | 2.47 | 0.45 |
| 2:AA:2537:U:C4 | 2:AA:2538:C:N4 | 2.85 | 0.45 |
| 2:AA:2575:C:C2' | 2:AA:2575:C:O2 | 2.62 | 0.45 |
| 2:AA:2586:C:C2 | 2:AA:2587:A:N7 | 2.84 | 0.45 |
| 2:AA:2592:G:C2 | 2:AA:2603:G:N1 | 2.85 | 0.45 |
| 2:AA:2626:C:O2' | 2:AA:2627:G:C5' | 2.63 | 0.45 |
| 2:AA:2761:G:H2' | 2:AA:2762:G:H5' | 1.99 | 0.45 |
| 2:AA:2785:C:H4' | 5:AE:99:VAL:CG2 | 2.46 | 0.45 |
| 2:AA:2857:G:C6 | 2:AA:2861:G:N1 | 2.85 | 0.45 |
| 2:AA:2898:U:O2 | 2:AA:2898:U:C2' | 2.64 | 0.45 |
| 3:AC:54:SER:HA | 3:AC:57:ASN:HD22 | 1.80 | 0.45 |
| 4:AD:144:GLU:HA | 4:AD:152:GLN:HB2 | 1.97 | 0.45 |
| 4:AD:209:ASN:C | 4:AD:213:LYS:HD3 | 2.37 | 0.45 |
| 5:AE:201:VAL:CG1 | 5:AE:202:ALA:N | 2.79 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:226:HIS:HB3 | 5:AE:229:GLN:OE1 | 2.16 | 0.45 |
| 6:AF:28:SER:CA | 6:AF:31:ILE:HG13 | 2.46 | 0.45 |
| 6:AF:219:ASN:N | 6:AF:222:ASP:OD1 | 2.50 | 0.45 |
| 8:AH:147:ILE:CG2 | 8:AH:148:ARG:N | 2.71 | 0.45 |
| 9:AI:40:ALA:O | 9:AI:41:ALA:C | 2.54 | 0.45 |
| 9:AI:50:GLY:O | 9:AI:53:GLN:N | 2.50 | 0.45 |
| 9:AI:74:ILE:CD1 | 9:AI:89:LYS:HG2 | 2.32 | 0.45 |
| 9:AI:106:VAL:CG1 | 9:AI:110:GLU:CB | 2.95 | 0.45 |
| 9:AJ:69:ASN:HB3 | 9:AJ:72:GLN:CG | 2.47 | 0.45 |
| 10:AK:1:MET:CB | 10:AK:22:ALA:HA | 2.47 | 0.45 |
| 11:AL:105:ILE:HG23 | 11:AL:128:ILE:CG2 | 2.28 | 0.45 |
| 15:AP:32:LYS:HE3 | 21:AV:172:LEU:HD13 | 1.97 | 0.45 |
| 15:AP:156:ASN:O | 15:AP:157:ALA:HB2 | 2.17 | 0.45 |
| 16:AQ:32:PRO:CB | 16:AQ:49:THR:OG1 | 2.64 | 0.45 |
| 16:AQ:40:ASN:C | 16:AQ:42:HIS:N | 2.69 | 0.45 |
| 16:AQ:98:GLU:CG | 16:AQ:99:GLU:H | 2.29 | 0.45 |
| 18:AS:83:LYS:O | 18:AS:84:ARG:NH2 | 2.49 | 0.45 |
| 20:AU:18:GLU:CB | 20:AU:21:LYS:HD3 | 2.46 | 0.45 |
| 21:AV:6:LYS:N | 21:AV:7:PRO:CD | 2.79 | 0.45 |
| 21:AV:34:LEU:CD2 | 21:AV:83:PHE:CZ | 3.00 | 0.45 |
| 21:AV:70:GLN:HG2 | 21:AV:72:ASP:CG | 2.37 | 0.45 |
| 23:AX:20:LYS:HD3 | 23:AX:23:LEU:HD12 | 1.98 | 0.45 |
| 24:A0:19:ALA:O | 24:A0:22:ARG:CB | 2.60 | 0.45 |
| 24:A0:36:THR:HB | 24:A0:40:LYS:HB3 | 1.98 | 0.45 |
| 27:A3:35:ASN:C | 27:A3:72:LYS:HE3 | 2.37 | 0.45 |
| 28:A4:5:LEU:O | 28:A4:56:VAL:HG22 | 2.17 | 0.45 |
| 28:A4:19:GLN:N | 28:A4:19:GLN:CD | 2.69 | 0.45 |
| 34:BA:80:G:H2' | 34:BA:81:U:C5' | 2.45 | 0.45 |
| 34:BA:115:G:C1' | 34:BA:116:A:N7 | 2.79 | 0.45 |
| 34:BA:261:U:H5 | 55:BW:79:ARG:CZ | 2.28 | 0.45 |
| 34:BA:306:G:C5 | 34:BA:307:C:C5 | 3.05 | 0.45 |
| 34:BA:336:C:H2' | 34:BA:337:C:H6 | 1.82 | 0.45 |
| 34:BA:429:U:O2' | 34:BA:430:A:H5" | 2.17 | 0.45 |
| 34:BA:502:G:C2' | 34:BA:503:C:H5' | 2.46 | 0.45 |
| 34:BA:545:C:HO2' | 34:BA:546:G:H5' | 1.71 | 0.45 |
| 34:BA:587:G:C4 | 34:BA:755:G:C2 | 3.04 | 0.45 |
| 34:BA:722:A:N6 | 34:BA:733:A:C2 | 2.79 | 0.45 |
| 34:BA:754:C:OP2 | 34:BA:755:G:N7 | 2.49 | 0.45 |
| 34:BA:761:G:C5' | 52:BT:102:GLY:HA3 | 2.29 | 0.45 |
| 34:BA:889:A:C4' | 34:BA:890:G:OP1 | 2.64 | 0.45 |
| 34:BA:899:C:O5' | 34:BA:899:C:H6 | 1.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:919:A:H2' | 34:BA:920:U:H6 | 1.82 | 0.45 |
| 34:BA:921:U:C2' | 34:BA:922:G:H5' | 2.46 | 0.45 |
| 34:BA:971:G:C8 | 34:BA:1365:G:H4' | 2.52 | 0.45 |
| 34:BA:980:C:H3' | 34:BA:981:U:C6 | 2.51 | 0.45 |
| 34:BA:981:U:C6 | 34:BA:981:U:H3' | 2.52 | 0.45 |
| 34:BA:1044:A:O2' | 34:BA:1045:C:H5' | 2.16 | 0.45 |
| 34:BA:1117:G:C2 | 34:BA:1184:G:C2 | 3.05 | 0.45 |
| 34:BA:1228:C:OP2 | 48:BP:111:LYS:NZ | 2.28 | 0.45 |
| 34:BA:1241:G:N1 | 34:BA:1242:C:C4 | 2.85 | 0.45 |
| 34:BA:1259:C:C5 | 34:BA:1260:C:C6 | 3.04 | 0.45 |
| 34:BA:1262:C:C2 | 34:BA:1263:C:C5 | 3.05 | 0.45 |
| 34:BA:1349:A:C5 | 34:BA:1374:A:C8 | 3.04 | 0.45 |
| 34:BA:1394:A:O5' | 34:BA:1394:A:C8 | 2.66 | 0.45 |
| 34:BA:1419:G:C6 | 34:BA:1482:G:N1 | 2.84 | 0.45 |
| 34:BA:1472:U:C2' | 34:BA:1473:A:C5' | 2.93 | 0.45 |
| 35:BB:6:U:O4 | 35:BB:7:U:C5 | 2.70 | 0.45 |
| 35:BB:26:G:H22 | 35:BB:27:C:H1' | 1.77 | 0.45 |
| 35:BB:49:C:C4 | 35:BB:66:A:N6 | 2.85 | 0.45 |
| 35:BB:64:A:N3 | 35:BB:65:G:C8 | 2.85 | 0.45 |
| 35:BC:9:A:H62 | 35:BC:22:G:H8 | 1.63 | 0.45 |
| 35:BC:52:U:O2 | 35:BC:62:A:N1 | 2.50 | 0.45 |
| 37:BE:97:TRP:CD1 | 37:BE:101:MET:HE1 | 2.51 | 0.45 |
| 37:BE:144:ARG:HD3 | 37:BE:148:TYR:OH | 2.15 | 0.45 |
| 38:BF:47:LEU:N | 38:BF:47:LEU:CD2 | 2.76 | 0.45 |
| 39:BG:58:LEU:HD13 | 39:BG:58:LEU:C | 2.36 | 0.45 |
| 39:BG:66:ARG:O | 39:BG:68:TYR:N | 2.50 | 0.45 |
| 41:BI:64:GLN:O | 41:BI:65:VAL:HG13 | 2.16 | 0.45 |
| 41:BI:76:ALA:HA | 41:BI:79:LEU:HD12 | 1.98 | 0.45 |
| 42:BJ:44:TYR:O | 42:BJ:46:ALA:N | 2.50 | 0.45 |
| 44:BL:99:LEU:O | 44:BL:100:GLY:O | 2.34 | 0.45 |
| 45:BM:19:SER:O | 45:BM:23:ILE:HD13 | 2.17 | 0.45 |
| 45:BM:60:ARG:HH11 | 45:BM:60:ARG:CB | 2.26 | 0.45 |
| 46:BN:18:ARG:HG2 | 46:BN:18:ARG:NH1 | 2.29 | 0.45 |
| 46:BN:48:ILE:C | 46:BN:50:TYR:H | 2.20 | 0.45 |
| 46:BN:110:ASP:HA | 53:BU:88:LYS:NZ | 2.15 | 0.45 |
| 47:BO:56:ALA:HB3 | 47:BO:100:ILE:HD12 | 1.97 | 0.45 |
| 47:BO:117:ARG:NH1 | 47:BO:117:ARG:HB2 | 2.32 | 0.45 |
| 48:BP:108:ARG:O | 48:BP:109:THR:C | 2.55 | 0.45 |
| 52:BT:84:LEU:C | 52:BT:86:GLU:N | 2.68 | 0.45 |
| 52:BT:84:LEU:O | 52:BT:87:LYS:N | 2.50 | 0.45 |
| 55:BW:64:ASP:HA | 55:BW:67:ALA:HB2 | 1.97 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:43:C:C6 | 1:AB:43:C:OP2 | 2.70 | 0.45 |
| 1:AB:58:A:H2' | 7:AG:140:ARG:NH1 | 2.31 | 0.45 |
| 1:AB:83:G:C5' | 23:AX:52:HIS:HD2 | 2.29 | 0.45 |
| 2:AA:41:C:O2' | 2:AA:43:G:C5' | 2.65 | 0.45 |
| 2:AA:246:C:O2 | 2:AA:246:C:C2' | 2.64 | 0.45 |
| 2:AA:258:G:O5' | 2:AA:258:G:C8 | 2.66 | 0.45 |
| 2:AA:297:C:H3' | 2:AA:298:G:H8 | 1.75 | 0.45 |
| 2:AA:311:A:C5' | 2:AA:312:G:N7 | 2.79 | 0.45 |
| 2:AA:315:G:H2' | 2:AA:316:C:C1' | 2.46 | 0.45 |
| 2:AA:358:U:C3' | 2:AA:359:A:C5' | 2.92 | 0.45 |
| 2:AA:465:G:N2 | 2:AA:683:C:HO2' | 2.11 | 0.45 |
| 2:AA:476:G:O4' | 2:AA:505:A:C2 | 2.64 | 0.45 |
| 2:AA:523:C:HO2' | 2:AA:524:U:H5' | 1.79 | 0.45 |
| 2:AA:530:G:O2' | 2:AA:531:C:O3' | 2.30 | 0.45 |
| 2:AA:574:C:C2' | 2:AA:575:A:OP2 | 2.64 | 0.45 |
| 2:AA:611:C:N3 | 2:AA:617:G:C6 | 2.85 | 0.45 |
| 2:AA:652:C:H3' | 2:AA:653:A:O3' | 2.16 | 0.45 |
| 2:AA:680:G:C5 | 2:AA:798:G:C2 | 3.05 | 0.45 |
| 2:AA:836:G:O6 | 2:AA:943:U:O4 | 2.35 | 0.45 |
| 2:AA:997:G:C2 | 2:AA:998:C:C5 | 3.05 | 0.45 |
| 2:AA:1047:G:C6 | 2:AA:1110:G:N7 | 2.84 | 0.45 |
| 2:AA:1159:U:C2' | 2:AA:1160:G:O5' | 2.64 | 0.45 |
| 2:AA:1170:G:N2 | 2:AA:1180:C:C4 | 2.85 | 0.45 |
| 2:AA:1179:C:C2' | 2:AA:1180:C:C6 | 3.00 | 0.45 |
| 2:AA:1183:G:C3' | 2:AA:1183:G:P | 2.99 | 0.45 |
| 2:AA:1297:C:O2' | 2:AA:1302:A:N6 | 2.50 | 0.45 |
| 2:AA:1342:A:C4 | 2:AA:1345:C:C4 | 3.05 | 0.45 |
| 2:AA:1353:A:H61 | 2:AA:1354:A:N6 | 2.14 | 0.45 |
| 2:AA:1394:U:C4' | 2:AA:1603:A:C5' | 2.93 | 0.45 |
| 2:AA:1447:G:H1' | 2:AA:545(A):A:H1' | 1.99 | 0.45 |
| 2:AA:1525:G:O2' | 2:AA:1526:G:O5' | 2.35 | 0.45 |
| 2:AA:1605:C:C6 | 2:AA:1606:G:C8 | 3.03 | 0.45 |
| 2:AA:1614:A:H61 | 18:AS:88:ARG:H | 1.57 | 0.45 |
| 2:AA:1652:A:H62 | 2:AA:1653:G:H21 | 1.65 | 0.45 |
| 2:AA:1658:C:P | 5:AE:230:GLY:HA2 | 2.57 | 0.45 |
| 2:AA:1754:C:C4 | 2:AA:1755:A:C6 | 3.05 | 0.45 |
| 2:AA:1779:U:H1' | 2:AA:1783:A:N6 | 2.31 | 0.45 |
| 2:AA:1779:U:C1' | 2:AA:1783:A:H62 | 2.29 | 0.45 |
| 2:AA:1794:U:C4' | 2:AA:1900:A:C5 | 2.99 | 0.45 |
| 2:AA:1843:C:H2' | 2:AA:1844:C:C5 | 2.51 | 0.45 |
| 2:AA:1936:A:C4 | 2:AA:1945:G:N7 | 2.84 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1975:G:C4 | 2:AA:1976:U:C6 | 3.05 | 0.45 |
| 2:AA:2021:C:H5 | 25:A1:25:TRP:CZ2 | 2.33 | 0.45 |
| 2:AA:2040:C:O2 | 2:AA:2041:U:N1 | 2.50 | 0.45 |
| 2:AA:2051:A:O2' | 2:AA:2052:G:P | 2.75 | 0.45 |
| 2:AA:2113:U:O2' | 2:AA:2114:A:OP2 | 2.27 | 0.45 |
| 2:AA:2123:G:HO2' | 3:AC:172:HIS:CD2 | 2.34 | 0.45 |
| 2:AA:2124:G:OP1 | 3:AC:132:GLY:N | 2.50 | 0.45 |
| 2:AA:2234:G:H2' | 2:AA:2235:G:O4' | 2.16 | 0.45 |
| 2:AA:2329:G:N3 | 2:AA:2330:G:C8 | 2.85 | 0.45 |
| 2:AA:2393:A:H5' | 32:A8:13:ARG:HH21 | 1.81 | 0.45 |
| 2:AA:2408:U:O2' | 2:AA:2409:G:C5' | 2.64 | 0.45 |
| 2:AA:2417:C:C2' | 2:AA:2418:A:C5' | 2.95 | 0.45 |
| 2:AA:2458:G:C8 | 2:AA:2490:G:C5 | 3.04 | 0.45 |
| 2:AA:2478:A:C2 | 2:AA:2529:G:C4 | 3.04 | 0.45 |
| 2:AA:2517:C:C2' | 2:AA:2518:A:O5' | 2.64 | 0.45 |
| 2:AA:2543:G:C6 | 2:AA:2544:G:C6 | 3.05 | 0.45 |
| 2:AA:2570:G:H3' | 2:AA:2571:C:C6 | 2.52 | 0.45 |
| 2:AA:2617:C:C2' | 2:AA:2618:G:H5' | 2.46 | 0.45 |
| 2:AA:2653:U:C2' | 2:AA:2654:A:N7 | 2.78 | 0.45 |
| 2:AA:2675:A:HO2' | 2:AA:2676:C:H5' | 1.78 | 0.45 |
| 2:AA:2677:G:N3 | 2:AA:2678:C:C6 | 2.85 | 0.45 |
| 2:AA:2718:G:C2' | 2:AA:2719:G:C8 | 2.93 | 0.45 |
| 2:AA:2721:A:C2' | 2:AA:2722:G:C8 | 2.99 | 0.45 |
| 2:AA:2726:U:H3' | 2:AA:2727:G:C8 | 2.51 | 0.45 |
| 3:AC:141:LYS:HD3 | 3:AC:141:LYS:C | 2.37 | 0.45 |
| 4:AD:73:ILE:CG2 | 4:AD:96:ALA:HB3 | 2.47 | 0.45 |
| 4:AD:117:SER:HB3 | 4:AD:128:ALA:C | 2.34 | 0.45 |
| 5:AE:207:GLY:HA2 | 5:AE:257:GLY:C | 2.37 | 0.45 |
| 5:AE:222:ARG:NH2 | 5:AE:234:ARG:CA | 2.80 | 0.45 |
| 5:AE:271:ILE:HG23 | 5:AE:272:GLY:H | 1.81 | 0.45 |
| 6:AF:61:PHE:O | 6:AF:65:ARG:NE | 2.50 | 0.45 |
| 7:AG:36:ASN:O | 7:AG:37:ALA:C | 2.55 | 0.45 |
| 7:AG:91:ALA:O | 7:AG:92:GLU:OE2 | 2.34 | 0.45 |
| 8:AH:51:VAL:HG22 | 8:AH:68:ARG:HG3 | 1.98 | 0.45 |
| 8:AH:67:THR:O | 8:AH:71:LEU:CD1 | 2.62 | 0.45 |
| 9:AI:23:LYS:O | 9:AI:27:ASP:OD1 | 2.35 | 0.45 |
| 9:AJ:66:PHE:CD2 | 9:AJ:73:VAL:HB | 2.52 | 0.45 |
| 10:AK:76:THR:CG2 | 10:AK:142:LYS:HE2 | 2.47 | 0.45 |
| 14:AO:61:ALA:CB | 14:AO:107:LYS:CE | 2.94 | 0.45 |
| 14:AO:62:ALA:HB3 | 14:AO:105:TYR:HB2 | 1.97 | 0.45 |
| 14:AO:65:ASP:HB3 | 14:AO:109:LEU:CB | 2.45 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:67:ARG:HH11 | 14:AO:111:ALA:CB | 2.24 | 0.45 |
| 15:AP:22:GLY:O | 15:AP:23:ILE:CD1 | 2.65 | 0.45 |
| 15:AP:32:LYS:HE3 | 21:AV:172:LEU:HD22 | 1.99 | 0.45 |
| 15:AP:65:ARG:CZ | 15:AP:85:ILE:CB | 2.84 | 0.45 |
| 15:AP:117:GLY:O | 15:AP:118:ALA:CB | 2.61 | 0.45 |
| 16:AQ:38:LYS:NZ | 16:AQ:114:LYS:HB2 | 2.32 | 0.45 |
| 18:AS:22:ASP:HA | 18:AS:25:ARG:HD2 | 1.99 | 0.45 |
| 18:AS:23:LEU:HD11 | 29:A5:26:THR:C | 2.36 | 0.45 |
| 18:AS:84:ARG:HB3 | 18:AS:96:ILE:HG13 | 1.97 | 0.45 |
| 22:AW:15:GLU:O | 22:AW:16:ARG:C | 2.55 | 0.45 |
| 22:AW:45:ARG:HH21 | 22:AW:49:LEU:HD23 | 1.78 | 0.45 |
| 23:AX:24:LYS:O | 23:AX:27:GLY:HA2 | 2.17 | 0.45 |
| 24:A0:63:ARG:NH2 | 24:A0:77:ARG:CG | 2.71 | 0.45 |
| 24:A0:90:ARG:HH12 | 24:A0:117:VAL:HG21 | 1.81 | 0.45 |
| 24:A0:97:VAL:CA | 24:A0:114:VAL:HG13 | 2.42 | 0.45 |
| 25:A1:57:PHE:O | 25:A1:60:LEU:HB2 | 2.17 | 0.45 |
| 25:A1:70:ARG:O | 25:A1:71:LEU:C | 2.55 | 0.45 |
| 26:A2:41:GLY:N | 26:A2:54:TYR:CD1 | 2.85 | 0.45 |
| 27:A3:7:VAL:HG22 | 35:BC:64:A:OP2 | 2.17 | 0.45 |
| 27:A3:47:ALA:HB2 | 27:A3:75:GLY:CA | 2.47 | 0.45 |
| 29:A5:18:MET:CA | 29:A5:21:SER:HB3 | 2.42 | 0.45 |
| 30:A6:16:ALA:HB2 | 30:A6:42:PRO:HD3 | 1.97 | 0.45 |
| 30:A6:26:LYS:HZ1 | 32:A8:36:LYS:H | 1.65 | 0.45 |
| 30:A6:31:THR:O | 30:A6:32:GLN:O | 2.34 | 0.45 |
| 32:A8:5:LYS:HD2 | 32:A8:7:HIS:CE1 | 2.52 | 0.45 |
| 34:BA:12:U:O2 | 34:BA:22:G:N2 | 2.41 | 0.45 |
| 34:BA:132:C:C2' | 34:BA:133:U:C6 | 2.99 | 0.45 |
| 34:BA:133:U:O3' | 34:BA:134:A:H8 | 1.99 | 0.45 |
| 34:BA:197:A:N6 | 34:BA:221:C:H5" | 2.28 | 0.45 |
| 34:BA:226:G:N2 | 34:BA:227:G:C4 | 2.84 | 0.45 |
| 34:BA:255:G:OP1 | 52:BT:69:LYS:NZ | 2.50 | 0.45 |
| 34:BA:447:G:O2' | 34:BA:448:A:O5' | 2.28 | 0.45 |
| 34:BA:451:A:C2 | 34:BA:480:U:C4 | 3.05 | 0.45 |
| 34:BA:501:C:H3' | 34:BA:501:C:C6 | 2.52 | 0.45 |
| 34:BA:602:A:C6 | 34:BA:603:U:N3 | 2.84 | 0.45 |
| 34:BA:668:G:C4 | 34:BA:669:U:C5 | 3.05 | 0.45 |
| 34:BA:751:U:OP1 | 50:BR:18:PHE:CE1 | 2.69 | 0.45 |
| 34:BA:768:A:C8 | 34:BA:768:A:C3' | 3.00 | 0.45 |
| 34:BA:932:C:H5' | 42:BJ:3:ARG:HB3 | 1.98 | 0.45 |
| 34:BA:934:C:C5 | 34:BA:1344:C:H3' | 2.51 | 0.45 |
| 34:BA:934:C:C4 | 34:BA:1344:C:C4 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:976:G:C5 | 34:BA:361(A):C:C4 | 3.05 | 0.45 |
| 34:BA:30(D):A:H3' | 34:BA:1031:G:O4' | 2.17 | 0.45 |
| 34:BA:1065:U:C2' | 34:BA:1066:C:OP2 | 2.64 | 0.45 |
| 34:BA:1126:U:O2' | 34:BA:1127:G:C5' | 2.65 | 0.45 |
| 34:BA:1133:G:C4 | 34:BA:1134:G:C8 | 3.05 | 0.45 |
| 34:BA:1226:C:C4' | 34:BA:1227:A:OP1 | 2.65 | 0.45 |
| 34:BA:1287:A:H2' | 34:BA:1288:A:N7 | 2.26 | 0.45 |
| 34:BA:361(A):C:H2' | 34:BA:1362:C:H5" | 1.99 | 0.45 |
| 34:BA:1368:G:C5 | 34:BA:1369:C:C5 | 3.04 | 0.45 |
| 34:BA:1507:A:N1 | 34:BA:1528:U:C4 | 2.83 | 0.45 |
| 35:BB:1:G:N1 | 35:BB:73:A:C6 | 2.82 | 0.45 |
| 35:BB:48:C:N4 | 35:BB:60:C:C2 | 2.84 | 0.45 |
| 35:BC:15:G:H1 | 35:BC:21:A:H2 | 1.64 | 0.45 |
| 35:BC:43:G:N3 | 35:BC:44:A:C8 | 2.85 | 0.45 |
| 35:BC:51:G:C2' | 35:BC:52:U:O5' | 2.65 | 0.45 |
| 35:BC:54:U:O4 | 35:BC:55:U:N3 | 2.49 | 0.45 |
| 36:B1:46:A:H5" | 36:B1:47:U:H5 | 1.76 | 0.45 |
| 37:BE:97:TRP:CH2 | 37:BE:173:ALA:CA | 3.00 | 0.45 |
| 37:BE:207:ALA:O | 37:BE:210:SER:N | 2.50 | 0.45 |
| 38:BF:10:PHE:HE1 | 38:BF:178:LEU:CD2 | 2.23 | 0.45 |
| 38:BF:27:LYS:C | 38:BF:30:ARG:HH12 | 2.19 | 0.45 |
| 38:BF:33:LEU:HD11 | 49:BQ:53:LEU:HA | 1.98 | 0.45 |
| 39:BG:13:ARG:HH22 | 39:BG:36:ARG:HD3 | 1.82 | 0.45 |
| 39:BG:83:SER:HA | 39:BG:89:THR:CB | 2.46 | 0.45 |
| 41:BI:1:MET:SD | 41:BI:67:MET:C | 2.95 | 0.45 |
| 42:BJ:15:ASP:OD1 | 42:BJ:17:VAL:CB | 2.64 | 0.45 |
| 43:BK:10:LEU:C | 43:BK:13:ILE:HB | 2.26 | 0.45 |
| 43:BK:38:ILE:HD13 | 43:BK:38:ILE:H | 1.82 | 0.45 |
| 44:BL:45:ALA:O | 44:BL:78:LYS:HG3 | 2.16 | 0.45 |
| 44:BL:62:TYR:CA | 44:BL:63:ILE:HD12 | 2.47 | 0.45 |
| 44:BL:124:GLN:O | 44:BL:124:GLN:HG3 | 2.16 | 0.45 |
| 45:BM:51:ARG:N | 45:BM:59:SER:HB3 | 2.31 | 0.45 |
| 46:BN:45:GLY:C | 46:BN:55:LYS:HG2 | 2.37 | 0.45 |
| 47:BO:27:LEU:CD1 | 47:BO:64:TYR:CE1 | 3.00 | 0.45 |
| 47:BO:117:ARG:CB | 47:BO:117:ARG:NH1 | 2.79 | 0.45 |
| 48:BP:22:ILE:CG2 | 48:BP:66:LEU:HD12 | 2.47 | 0.45 |
| 49:BQ:42:ILE:O | 49:BQ:43:CYS:C | 2.54 | 0.45 |
| 53:BU:63:GLN:CA | 53:BU:66:LEU:HG | 2.46 | 0.45 |
| 54:BV:11:VAL:HG21 | 54:BV:41:VAL:HG13 | 1.98 | 0.45 |
| 54:BV:66:MET:O | 54:BV:74:PHE:HZ | 1.99 | 0.45 |
| 1:AB:44:G:C2 | 1:AB:48:A:H1' | 2.50 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:13:A:N1 | 2:AA:525:U:C2' | 2.66 | 0.45 |
| 2:AA:72:U:H5' | 19:AT:2:TRP:CZ2 | 2.51 | 0.45 |
| 2:AA:262:A:O2' | 2:AA:263:C:H5' | 2.16 | 0.45 |
| 2:AA:273(B):C:O5' | 2:AA:273(B):C:H6 | 2.00 | 0.45 |
| 2:AA:274:G:P | 2:AA:274:G:H21 | 2.40 | 0.45 |
| 2:AA:283:A:H2 | 2:AA:360:G:C2 | 2.35 | 0.45 |
| 2:AA:285:C:C2 | 2:AA:286:C:N4 | 2.85 | 0.45 |
| 2:AA:300:A:N1 | 2:AA:334:C:O4' | 2.50 | 0.45 |
| 2:AA:303:U:N3 | 2:AA:304:G:N7 | 2.64 | 0.45 |
| 2:AA:325:G:H2' | 2:AA:326:G:O5' | 2.17 | 0.45 |
| 2:AA:449:A:OP1 | 6:AF:84:VAL:HG12 | 2.16 | 0.45 |
| 2:AA:511:U:O4 | 2:AA:512:G:N3 | 2.49 | 0.45 |
| 2:AA:619:G:O6 | 2:AA:620:G:N2 | 2.50 | 0.45 |
| 2:AA:621:A:N6 | 2:AA:622:G:N3 | 2.65 | 0.45 |
| 2:AA:715:G:C3' | 2:AA:715:G:C8 | 2.99 | 0.45 |
| 2:AA:737:C:C2 | 2:AA:759:G:N2 | 2.85 | 0.45 |
| 2:AA:764:A:H5" | 2:AA:765:G:H5' | 1.98 | 0.45 |
| 2:AA:825:C:H4' | 2:AA:2428:G:N7 | 2.31 | 0.45 |
| 2:AA:880:G:H2' | 2:AA:881:G:O4' | 2.16 | 0.45 |
| 2:AA:911:A:N1 | 15:AP:17:ARG:NH1 | 2.64 | 0.45 |
| 2:AA:929:G:H8 | 2:AA:929:G:P | 2.39 | 0.45 |
| 2:AA:965:C:C4' | 2:AA:2273:A:N3 | 2.78 | 0.45 |
| 2:AA:1022:G:O5' | 12:AM:52:GLN:CD | 2.55 | 0.45 |
| 2:AA:1023:U:OP2 | 2:AA:1025:G:C2 | 2.69 | 0.45 |
| 2:AA:1080:C:O3' | 11:AL:126:LYS:HD3 | 2.17 | 0.45 |
| 2:AA:1083:U:O2 | 9:AI:37:VAL:HG13 | 2.17 | 0.45 |
| 2:AA:1120:G:O2' | 2:AA:1121:C:H5' | 2.16 | 0.45 |
| 2:AA:1152:C:H4' | 25:A1:80:ILE:CD1 | 2.47 | 0.45 |
| 2:AA:1173:G:N2 | 2:AA:1175:U:H3' | 2.31 | 0.45 |
| 2:AA:1334:G:C2' | 2:AA:1335:U:O5' | 2.65 | 0.45 |
| 2:AA:1366:A:P | 28:A4:3:LYS:NZ | 2.90 | 0.45 |
| 2:AA:1406:U:C2 | 2:AA:1407:C:C5 | 3.04 | 0.45 |
| 2:AA:1475:G:C4 | 2:AA:1475:G:C3' | 2.97 | 0.45 |
| 2:AA:1489:U:H5" | 2:AA:1490:A:OP2 | 2.16 | 0.45 |
| 2:AA:1508:A:C6 | 2:AA:1510:A:C2 | 3.05 | 0.45 |
| 2:AA:1570:A:N3 | 2:AA:1571:A:C8 | 2.85 | 0.45 |
| 2:AA:1589:C:O2' | 2:AA:1590:U:H5' | 2.16 | 0.45 |
| 2:AA:1659:U:HO2' | 2:AA:1660:C:H5' | 1.80 | 0.45 |
| 2:AA:1742:C:H2' | 2:AA:1743:G:N9 | 2.30 | 0.45 |
| 2:AA:1770:G:C6 | 2:AA:1771:C:C4 | 3.05 | 0.45 |
| 2:AA:1782:C:O2 | 2:AA:2609:U:C6 | 2.70 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1801:G:C6 | 2:AA:2207:C:H4' | 2.50 | 0.45 |
| 2:AA:1826:G:O2' | 2:AA:1971:A:O5' | 2.35 | 0.45 |
| 2:AA:1858:G:N1 | 2:AA:1885:A:N7 | 2.65 | 0.45 |
| 2:AA:1919:A:C2' | 2:AA:1920:C:H5' | 2.47 | 0.45 |
| 2:AA:2026:C:O2 | 2:AA:2026:C:C2' | 2.65 | 0.45 |
| 2:AA:2118:U:H2' | 2:AA:2119:A:C5' | 2.47 | 0.45 |
| 2:AA:2256:G:H5' | 27:A3:5:LYS:CG | 2.34 | 0.45 |
| 2:AA:2356:C:O2' | 2:AA:2357:U:H5' | 2.17 | 0.45 |
| 2:AA:2367:G:C4 | 2:AA:2368:C:C5 | 3.05 | 0.45 |
| 2:AA:2373:G:C6 | 2:AA:2374:C:N4 | 2.84 | 0.45 |
| 2:AA:2419:U:P | 32:A8:41:ILE:HD12 | 2.56 | 0.45 |
| 2:AA:2432:A:N6 | 28:A4:31:ILE:H | 2.15 | 0.45 |
| 2:AA:2465:C:HO2' | 2:AA:2466:C:C5' | 2.29 | 0.45 |
| 2:AA:2491:U:H5' | 2:AA:2570:G:H4' | 1.99 | 0.45 |
| 2:AA:2554:U:C4 | 2:AA:2555:U:C4 | 3.05 | 0.45 |
| 2:AA:2602:A:OP1 | 35:BC:74:C:O3' | 2.35 | 0.45 |
| 2:AA:2605:U:H2' | 2:AA:2606:C:H5' | 1.98 | 0.45 |
| 2:AA:2623:G:C5' | 2:AA:2826:A:H1' | 2.46 | 0.45 |
| 2:AA:2626:C:O2 | 2:AA:2627:G:C8 | 2.69 | 0.45 |
| 2:AA:2670:A:N6 | 2:AA:2671:A:N6 | 2.65 | 0.45 |
| 2:AA:2721:A:C2' | 2:AA:2722:G:H8 | 2.29 | 0.45 |
| 2:AA:2758:A:N3 | 2:AA:2758:A:C2' | 2.75 | 0.45 |
| 2:AA:2824:C:C2 | 2:AA:2825:C:O4' | 2.70 | 0.45 |
| 2:AA:2836:U:C2 | 2:AA:2883:A:C6 | 3.05 | 0.45 |
| 2:AA:2841:C:C2 | 2:AA:2842:G:C5 | 3.05 | 0.45 |
| 3:AC:91:ALA:C | 3:AC:92:ASP:OD1 | 2.55 | 0.45 |
| 3:AC:103:ILE:HB | 3:AC:127:LEU:HD13 | 1.97 | 0.45 |
| 3:AC:126:LYS:O | 3:AC:130:ILE:HD13 | 2.15 | 0.45 |
| 5:AE:102:ASP:HA | 5:AE:104:PHE:CZ | 2.50 | 0.45 |
| 5:AE:211:GLN:OE1 | 5:AE:215:LYS:N | 2.50 | 0.45 |
| 5:AE:214:VAL:O | 5:AE:217:TRP:C | 2.55 | 0.45 |
| 7:AG:100:ASP:C | 7:AG:102:GLY:N | 2.69 | 0.45 |
| 9:AI:91:LEU:O | 9:AI:92:VAL:C | 2.54 | 0.45 |
| 9:AI:106:VAL:HG12 | 9:AI:111:ALA:N | 2.31 | 0.45 |
| 12:AM:5:GLU:CA | 12:AM:109:TYR:CE2 | 2.75 | 0.45 |
| 12:AM:45:VAL:HG13 | 12:AM:131:THR:OG1 | 2.17 | 0.45 |
| 12:AM:53:ILE:HG22 | 12:AM:135:ILE:HD11 | 1.93 | 0.45 |
| 14:AO:126:SER:N | 14:AO:129:ALA:HB3 | 2.32 | 0.45 |
| 14:AO:133:VAL:O | 14:AO:134:GLU:C | 2.53 | 0.45 |
| 16:AQ:90:LEU:HD23 | 16:AQ:93:GLN:HE21 | 1.82 | 0.45 |
| 17:AR:23:HIS:ND1 | 17:AR:23:HIS:C | 2.70 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:AT:18:MET:CB | 19:AT:24:LEU:HA | 2.46 | 0.45 |
| 19:AT:36:GLU:H | 19:AT:36:GLU:HG2 | 1.48 | 0.45 |
| 21:AV:46:GLN:HG3 | 21:AV:50:GLY:CA | 2.47 | 0.45 |
| 21:AV:98:VAL:HG23 | 21:AV:121:GLN:HE22 | 1.82 | 0.45 |
| 22:AW:60:GLN:CD | 22:AW:61:GLY:N | 2.70 | 0.45 |
| 23:AX:12:PRO:HG3 | 23:AX:20:LYS:HZ1 | 1.81 | 0.45 |
| 24:A0:63:ARG:NH1 | 24:A0:80:PHE:CD2 | 2.85 | 0.45 |
| 24:A0:77:ARG:CG | 24:A0:77:ARG:NH1 | 2.59 | 0.45 |
| 25:A1:42:ALA:O | 25:A1:46:GLU:CG | 2.60 | 0.45 |
| 25:A1:87:ASN:HB3 | 25:A1:88:ILE:CD1 | 2.46 | 0.45 |
| 26:A2:49:GLU:H | 26:A2:54:TYR:HH | 1.56 | 0.45 |
| 26:A2:74:TYR:HD1 | 26:A2:86:HIS:HB2 | 1.81 | 0.45 |
| 27:A3:33:ALA:HB2 | 27:A3:65:GLY:CA | 2.43 | 0.45 |
| 28:A4:4:ASP:OD1 | 28:A4:11:PRO:CG | 2.63 | 0.45 |
| 28:A4:40:HIS:CB | 28:A4:41:PRO:CD | 2.85 | 0.45 |
| 28:A4:57:ASP:CA | 28:A4:61:LYS:HE2 | 2.46 | 0.45 |
| 30:A6:35:LEU:O | 30:A6:36:GLU:CG | 2.64 | 0.45 |
| 30:A6:50:PHE:N | 30:A6:50:PHE:HD1 | 2.15 | 0.45 |
| 31:A7:33:ARG:HB3 | 31:A7:37:LYS:HD2 | 1.98 | 0.45 |
| 32:A8:16:ILE:HA | 32:A8:21:LYS:O | 2.17 | 0.45 |
| 34:BA:33:A:C6 | 34:BA:34:C:C4 | 3.05 | 0.45 |
| 34:BA:35:G:C2' | 34:BA:36:C:H5' | 2.47 | 0.45 |
| 34:BA:156:G:H1 | 34:BA:165:C:H42 | 1.64 | 0.45 |
| 34:BA:237:C:OP1 | 52:BT:40:LYS:HD2 | 2.16 | 0.45 |
| 34:BA:360:A:N1 | 34:BA:361:G:N3 | 2.65 | 0.45 |
| 34:BA:422:C:H5' | 34:BA:423:G:C4 | 2.52 | 0.45 |
| 34:BA:579:G:N1 | 34:BA:763:G:N1 | 2.64 | 0.45 |
| 34:BA:593:G:C6 | 34:BA:594:G:C5 | 3.05 | 0.45 |
| 34:BA:675:A:C2 | 34:BA:716:A:H2 | 2.35 | 0.45 |
| 34:BA:676:A:C6 | 34:BA:677:U:O4 | 2.70 | 0.45 |
| 34:BA:710:G:C2' | 34:BA:711:G:C5' | 2.94 | 0.45 |
| 34:BA:731:G:OP1 | 34:BA:766:A:H1' | 2.16 | 0.45 |
| 34:BA:755:G:C2' | 34:BA:756:C:H6 | 2.30 | 0.45 |
| 34:BA:836:G:P | 53:BU:61:LYS:NZ | 2.90 | 0.45 |
| 34:BA:926:G:C2 | 34:BA:1505:G:C4 | 3.05 | 0.45 |
| 34:BA:947:G:O3' | 48:BP:109:THR:CB | 2.64 | 0.45 |
| 34:BA:953:G:C2' | 34:BA:954:G:H5' | 2.46 | 0.45 |
| 34:BA:1007:C:O2 | 34:BA:1008:C:C6 | 2.70 | 0.45 |
| 34:BA:30(D):A:H2' | 34:BA:1031:G:O4' | 2.17 | 0.45 |
| 34:BA:1076:C:C4 | 34:BA:1082:G:C2 | 3.05 | 0.45 |
| 34:BA:1104:G:C2' | 34:BA:1105:A:C5' | 2.95 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1110:A:N7 | 34:BA:1111:A:N7 | 2.65 | 0.45 |
| 34:BA:1149:C:O5' | 34:BA:1149:C:H6 | 2.00 | 0.45 |
| 34:BA:1188:A:H2' | 34:BA:1189:C:O4' | 2.17 | 0.45 |
| 34:BA:1237:C:O4' | 34:BA:1334:G:N2 | 2.49 | 0.45 |
| 34:BA:1253:G:N2 | 34:BA:1254:C:H1' | 2.32 | 0.45 |
| 34:BA:1298:C:H1' | 34:BA:1299:A:N1 | 2.32 | 0.45 |
| 34:BA:1346:A:C2 | 42:BJ:10:ARG:HD3 | 2.51 | 0.45 |
| 34:BA:1465:C:O2 | 34:BA:1465:C:C2' | 2.63 | 0.45 |
| 34:BA:1499:A:C6 | 34:BA:1500:A:N7 | 2.85 | 0.45 |
| 34:BA:1529:G:C4' | 34:BA:1530:G:OP2 | 2.65 | 0.45 |
| 34:BA:1532:U:O2' | 34:BA:1533:C:C5 | 2.68 | 0.45 |
| 34:BA:1534:A:N3 | 34:BA:1534:A:H5' | 2.31 | 0.45 |
| 35:BC:14:A:C2 | 35:BC:22:G:C2 | 3.05 | 0.45 |
| 35:BC:55:U:H3 | 35:BC:58:A:P | 2.33 | 0.45 |
| 35:BC:75:C:C3' | 35:BC:76:A:O3' | 2.64 | 0.45 |
| 37:BE:14:GLY:CA | 37:BE:209:ARG:CZ | 2.91 | 0.45 |
| 37:BE:19:HIS:NE2 | 37:BE:206:ASP:HB2 | 2.31 | 0.45 |
| 37:BE:131:PRO:O | 37:BE:135:GLN:NE2 | 2.50 | 0.45 |
| 37:BE:152:PHE:O | 37:BE:153:ARG:C | 2.55 | 0.45 |
| 37:BE:171:ALA:O | 37:BE:174:VAL:CB | 2.65 | 0.45 |
| 37:BE:197:VAL:HG12 | 37:BE:198:ASP:N | 2.32 | 0.45 |
| 38:BF:88:ARG:CD | 38:BF:101:LEU:HB2 | 2.46 | 0.45 |
| 39:BG:18:LYS:HE3 | 39:BG:33:MET:HG3 | 1.98 | 0.45 |
| 40:BH:47:LYS:N | 40:BH:47:LYS:CD | 2.62 | 0.45 |
| 40:BH:107:ARG:NH1 | 40:BH:107:ARG:CB | 2.80 | 0.45 |
| 40:BH:117:ASP:O | 40:BH:118:ILE:HG12 | 2.17 | 0.45 |
| 42:BJ:48:LYS:O | 42:BJ:51:GLN:HB2 | 2.17 | 0.45 |
| 43:BK:70:GLN:HA | 43:BK:70:GLN:NE2 | 2.31 | 0.45 |
| 43:BK:83:ILE:HG12 | 43:BK:84:ARG:N | 2.32 | 0.45 |
| 45:BM:29:ARG:O | 45:BM:30:SER:HB3 | 2.17 | 0.45 |
| 46:BN:102:GLY:O | 46:BN:105:VAL:CG2 | 2.64 | 0.45 |
| 48:BP:33:ALA:HA | 48:BP:59:TYR:HE2 | 1.82 | 0.45 |
| 48:BP:81:LEU:HD13 | 48:BP:81:LEU:N | 2.17 | 0.45 |
| 48:BP:91:ARG:O | 48:BP:96:LEU:CD2 | 2.65 | 0.45 |
| 50:BR:49:ASP:OD1 | 50:BR:52:SER:CB | 2.65 | 0.45 |
| 50:BR:55:GLY:O | 50:BR:58:MET:HG3 | 2.17 | 0.45 |
| 50:BR:62:GLN:O | 50:BR:66:LEU:CD2 | 2.58 | 0.45 |
| 51:BS:57:ARG:O | 51:BS:58:TYR:C | 2.53 | 0.45 |
| 52:BT:52:LYS:O | 52:BT:53:LEU:O | 2.35 | 0.45 |
| 54:BV:11:VAL:HA | 54:BV:38:SER:CB | 2.47 | 0.45 |
| 54:BV:22:LEU:CD2 | 54:BV:25:LYS:HD3 | 2.42 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 55:BW:13:LEU:O | 55:BW:16:HIS:HB2 | 2.16 | 0.45 |
| 1:AB:59:A:C4' | 7:AG:144:ARG:NE | 2.80 | 0.45 |
| 1:AB:83:G:C2 | 1:AB:84:C:C5 | 3.04 | 0.45 |
| 1:AB:100:G:N2 | 2:AA:863:A:H4' | 2.32 | 0.45 |
| 2:AA:14:A:C2 | 2:AA:2625:G:O2' | 2.70 | 0.45 |
| 2:AA:14:A:H2' | 2:AA:15:G:O5' | 2.16 | 0.45 |
| 2:AA:59:U:C2' | 2:AA:60:G:H4' | 2.47 | 0.45 |
| 2:AA:77:C:C2 | 2:AA:78:A:C8 | 3.05 | 0.45 |
| 2:AA:108:U:HO2' | 2:AA:109:G:P | 2.39 | 0.45 |
| 2:AA:182:A:O2' | 2:AA:183:C:O5' | 2.35 | 0.45 |
| 2:AA:239:U:C1' | 2:AA:259:G:H22 | 2.28 | 0.45 |
| 2:AA:270:A:C6 | 2:AA:370:G:C4 | 3.05 | 0.45 |
| 2:AA:270(E):G:H8 | 2:AA:270(E):G:OP2 | 2.00 | 0.45 |
| 2:AA:329:G:C6 | 2:AA:477:A:C2 | 3.05 | 0.45 |
| 2:AA:413:C:N4 | 2:AA:2410:G:C6 | 2.85 | 0.45 |
| 2:AA:475:U:C6 | 2:AA:509:C:C4 | 3.05 | 0.45 |
| 2:AA:492:A:C2' | 2:AA:493:G:H5' | 2.46 | 0.45 |
| 2:AA:515:A:H2' | 2:AA:516:C:O4' | 2.17 | 0.45 |
| 2:AA:562:U:O2' | 2:AA:563:G:C5' | 2.44 | 0.45 |
| 2:AA:569:U:OP1 | 2:AA:945:A:C6 | 2.69 | 0.45 |
| 2:AA:593:G:H2' | 2:AA:594:U:O4' | 2.17 | 0.45 |
| 2:AA:685:A:N3 | 2:AA:688:U:N3 | 2.65 | 0.45 |
| 2:AA:704:G:HO2' | 2:AA:705:A:P | 2.40 | 0.45 |
| 2:AA:784:A:H2' | 2:AA:785:G:H5" | 1.93 | 0.45 |
| 2:AA:819:A:N3 | 2:AA:820:A:C8 | 2.85 | 0.45 |
| 2:AA:860:U:C5 | 2:AA:861:A:O4' | 2.69 | 0.45 |
| 2:AA:1011:G:C6 | 2:AA:1150:C:N3 | 2.85 | 0.45 |
| 2:AA:1011:G:OP2 | 25:A1:75:ASN:OD1 | 2.35 | 0.45 |
| 2:AA:1053:C:C2 | 2:AA:1106:G:N2 | 2.77 | 0.45 |
| 2:AA:1063:G:N7 | 2:AA:1070:A:OP1 | 2.50 | 0.45 |
| 2:AA:142(A):A:N6 | 2:AA:1143:A:C5 | 2.85 | 0.45 |
| 2:AA:142(A):A:C2' | 2:AA:1143:A:H5' | 2.46 | 0.45 |
| 2:AA:1233:C:C2' | 2:AA:1234:U:H5' | 2.47 | 0.45 |
| 2:AA:1246:A:C6 | 2:AA:1247:A:C2 | 3.05 | 0.45 |
| 2:AA:1269:A:H2' | 2:AA:1325:G:O6 | 2.17 | 0.45 |
| 2:AA:1270:C:C5' | 2:AA:1271:G:H5" | 2.43 | 0.45 |
| 2:AA:1293:C:C2 | 2:AA:1294:U:C6 | 3.05 | 0.45 |
| 2:AA:1295:C:C2 | 2:AA:1296:G:C8 | 3.05 | 0.45 |
| 2:AA:1341:U:O2' | 19:AT:53:ASN:CG | 2.54 | 0.45 |
| 2:AA:1352:U:HO2' | 2:AA:1570:A:H2' | 1.82 | 0.45 |
| 2:AA:1379:A:OP1 | 2:AA:1379:A:C6 | 2.70 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1515:C:O2' | 2:AA:1516:U:OP1 | 2.23 | 0.45 |
| 2:AA:1538:G:C5 | 2:AA:1539:G:C4 | 3.05 | 0.45 |
| 2:AA:1651:G:N2 | 2:AA:2006:C:C2 | 2.73 | 0.45 |
| 2:AA:1652:A:N6 | 2:AA:1653:G:H21 | 2.14 | 0.45 |
| 2:AA:1663:C:C4 | 2:AA:1992:G:C8 | 3.05 | 0.45 |
| 2:AA:1695:G:C2' | 2:AA:1696:G:O5' | 2.62 | 0.45 |
| 2:AA:1707:G:O4' | 2:AA:1756:G:C2' | 2.64 | 0.45 |
| 2:AA:1778:U:H2' | 2:AA:1784:A:C2 | 2.51 | 0.45 |
| 2:AA:1780:A:OP2 | 2:AA:1782:C:O5' | 2.35 | 0.45 |
| 2:AA:1802:A:C5' | 2:AA:1803:A:OP2 | 2.64 | 0.45 |
| 2:AA:1805:U:C5' | 4:AD:235:PRO:CB | 2.94 | 0.45 |
| 2:AA:1840:G:H2' | 2:AA:1841:U:C5' | 2.47 | 0.45 |
| 2:AA:1853:A:C4 | 2:AA:1854:A:C8 | 3.05 | 0.45 |
| 2:AA:1859:A:H3' | 2:AA:1859:A:H8 | 1.81 | 0.45 |
| 2:AA:1893:C:C6 | 2:AA:1894:C:C5 | 3.05 | 0.45 |
| 2:AA:1904:G:C2' | 2:AA:1905:C:C5' | 2.95 | 0.45 |
| 2:AA:2000:G:C2 | 2:AA:2001:A:C8 | 3.05 | 0.45 |
| 2:AA:2009:G:H1' | 24:A0:106:GLY:O | 2.17 | 0.45 |
| 2:AA:2083:G:C4 | 2:AA:2084:C:C5 | 3.05 | 0.45 |
| 2:AA:2094:G:N2 | 2:AA:2196:C:C2 | 2.84 | 0.45 |
| 2:AA:2136:C:O5' | 2:AA:2136:C:C6 | 2.66 | 0.45 |
| 2:AA:2143:C:H42 | 2:AA:2147:G:H1 | 1.65 | 0.45 |
| 2:AA:2177:C:H5" | 3:AC:46:LYS:CD | 2.45 | 0.45 |
| 2:AA:2241:A:O2' | 2:AA:2242:G:C5' | 2.65 | 0.45 |
| 2:AA:2262:U:H2' | 2:AA:2263:C:H5' | 1.96 | 0.45 |
| 2:AA:2270:G:C6 | 2:AA:2271:G:C2 | 3.04 | 0.45 |
| 2:AA:2310:A:C5 | 7:AG:55:LYS:HD3 | 2.52 | 0.45 |
| 2:AA:2328:A:C5 | 2:AA:2329:G:N7 | 2.85 | 0.45 |
| 2:AA:2348:U:OP2 | 32:A8:42:ARG:NH1 | 2.44 | 0.45 |
| 2:AA:2352:A:N3 | 2:AA:2353:G:O4' | 2.50 | 0.45 |
| 2:AA:2380:C:C2' | 2:AA:2381:C:C5' | 2.91 | 0.45 |
| 2:AA:2432:A:H62 | 28:A4:31:ILE:H | 1.64 | 0.45 |
| 2:AA:2436:G:O2' | 2:AA:2598:A:C2 | 2.60 | 0.45 |
| 2:AA:2450:A:C2 | 2:AA:2451:A:C4 | 3.05 | 0.45 |
| 2:AA:2468:G:O6 | 2:AA:2481:G:C6 | 2.70 | 0.45 |
| 2:AA:2548:G:N1 | 2:AA:2560:C:N4 | 2.57 | 0.45 |
| 2:AA:2550:G:C2 | 2:AA:2559:C:C2 | 3.05 | 0.45 |
| 2:AA:2571:C:H2' | 2:AA:2571:C:O2 | 2.16 | 0.45 |
| 2:AA:2592:G:C2 | 2:AA:2603:G:C6 | 3.04 | 0.45 |
| 2:AA:2661:G:H2' | 2:AA:2662:A:N7 | 2.30 | 0.45 |
| 2:AA:2694:G:C5 | 2:AA:2695:C:C5 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2699:C:O2 | 2:AA:2699:C:C2' | 2.65 | 0.45 |
| 2:AA:2767:C:C2 | 2:AA:2768:C:C5 | 3.04 | 0.45 |
| 2:AA:2816:C:H2' | 2:AA:2817:G:C5' | 2.46 | 0.45 |
| 2:AA:2839:G:HO2' | 24:A0:92:GLY:HA3 | 1.81 | 0.45 |
| 2:AA:2870:C:H2' | 2:AA:2871:C:O5' | 2.17 | 0.45 |
| 2:AA:2873:A:H3' | 2:AA:2874:C:C5 | 2.52 | 0.45 |
| 2:AA:2877:G:H2' | 2:AA:2878:U:C6 | 2.52 | 0.45 |
| 2:AA:2881:C:P | 24:A0:90:ARG:NH1 | 2.90 | 0.45 |
| 3:AC:115:ALA:HB3 | 3:AC:138:PRO:CB | 2.46 | 0.45 |
| 3:AC:198:ALA:O | 3:AC:200:LYS:N | 2.50 | 0.45 |
| 4:AD:65:ASP:HA | 4:AD:67:LYS:HZ3 | 1.82 | 0.45 |
| 4:AD:107:LYS:CA | 4:AD:194:VAL:O | 2.63 | 0.45 |
| 4:AD:134:ILE:HA | 4:AD:135:PRO:HD2 | 1.85 | 0.45 |
| 4:AD:143:ILE:HG12 | 4:AD:153:LEU:HB3 | 1.99 | 0.45 |
| 4:AD:172:ILE:HG13 | 4:AD:182:MET:CE | 2.47 | 0.45 |
| 4:AD:174:ARG:NH2 | 4:AD:180:VAL:HG11 | 2.32 | 0.45 |
| 5:AE:197:GLU:O | 5:AE:267:ARG:HA | 2.16 | 0.45 |
| 5:AE:243:PRO:O | 5:AE:244:SER:CB | 2.64 | 0.45 |
| 6:AF:1:MET:N | 6:AF:18:LEU:HD12 | 2.23 | 0.45 |
| 6:AF:196:THR:HG22 | 6:AF:197:SER:N | 2.28 | 0.45 |
| 6:AF:214:THR:C | 6:AF:216:SER:N | 2.70 | 0.45 |
| 7:AG:56:ARG:HH22 | 35:BC:19:G:N2 | 2.15 | 0.45 |
| 9:AI:111:ALA:HB1 | 9:AI:115:LYS:HE3 | 1.98 | 0.45 |
| 13:AN:10:VAL:HG12 | 13:AN:12:ASP:OD1 | 2.16 | 0.45 |
| 13:AN:45:ASP:CA | 13:AN:54:LYS:HE2 | 2.47 | 0.45 |
| 13:AN:110:ASP:C | 13:AN:111:PHE:CG | 2.91 | 0.45 |
| 13:AN:120:GLU:CG | 13:AN:121:VAL:H | 2.28 | 0.45 |
| 15:AP:41:THR:HG23 | 15:AP:43:PRO:HD2 | 1.98 | 0.45 |
| 15:AP:61:LEU:H | 15:AP:61:LEU:CD2 | 2.09 | 0.45 |
| 15:AP:139:ALA:O | 15:AP:143:VAL:HG13 | 2.16 | 0.45 |
| 16:AQ:53:ASN:O | 16:AQ:54:GLY:C | 2.55 | 0.45 |
| 16:AQ:57:THR:O | 16:AQ:58:LEU:HB3 | 2.16 | 0.45 |
| 17:AR:54:THR:C | 17:AR:56:ARG:H | 2.19 | 0.45 |
| 18:AS:51:LEU:O | 18:AS:54:ALA:HB3 | 2.17 | 0.45 |
| 19:AT:3:ASP:O | 22:AW:24:LYS:HD2 | 2.16 | 0.45 |
| 21:AV:51:LEU:HD23 | 21:AV:51:LEU:C | 2.37 | 0.45 |
| 21:AV:92:VAL:O | 21:AV:123:VAL:O | 2.34 | 0.45 |
| 25:A1:8:ILE:O | 25:A1:11:ARG:CG | 2.59 | 0.45 |
| 25:A1:12:ARG:O | 25:A1:13:ARG:C | 2.53 | 0.45 |
| 26:A2:67:LYS:HZ1 | 26:A2:94:LYS:CD | 2.28 | 0.45 |
| 26:A2:90:PHE:O | 26:A2:91:THR:CG2 | 2.65 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 27:A3:78:PHE:C | 27:A3:79:ILE:HG13 | 2.33 | 0.45 |
| 28:A4:23:GLU:C | 28:A4:25:MET:N | 2.70 | 0.45 |
| 29:A5:9:LYS:C | 29:A5:10:LYS:O | 2.50 | 0.45 |
| 30:A6:52:GLU:O | 30:A6:53:LYS:C | 2.56 | 0.45 |
| 32:A8:23:MET:HE3 | 32:A8:23:MET:HB2 | 1.39 | 0.45 |
| 32:A8:34:THR:C | 32:A8:36:LYS:N | 2.57 | 0.45 |
| 32:A8:38:GLY:HA2 | 32:A8:41:ILE:HG13 | 1.98 | 0.45 |
| 33:A9:11:CYS:CB | 33:A9:32:HIS:CE1 | 2.78 | 0.45 |
| 34:BA:8:A:N6 | 39:BG:209:ARG:CA | 2.80 | 0.45 |
| 34:BA:40:C:C2' | 34:BA:41:G:O5' | 2.65 | 0.45 |
| 34:BA:134:A:C6 | 34:BA:135:C:N4 | 2.85 | 0.45 |
| 34:BA:183:G:N2 | 34:BA:223:U:H4' | 2.31 | 0.45 |
| 34:BA:190(F):G:OP1 | 34:BA:190(F):G:H8 | 1.97 | 0.45 |
| 34:BA:237:C:H2' | 34:BA:238:G:C8 | 2.50 | 0.45 |
| 34:BA:321:A:N3 | 34:BA:333:G:N2 | 2.65 | 0.45 |
| 34:BA:359:U:C5 | 34:BA:360:A:N7 | 2.85 | 0.45 |
| 34:BA:404:U:OP1 | 39:BG:118:ARG:CZ | 2.64 | 0.45 |
| 34:BA:448:A:O2' | 34:BA:449:C:C5' | 2.65 | 0.45 |
| 34:BA:563:A:C2 | 34:BA:567:G:C4 | 3.04 | 0.45 |
| 34:BA:634:C:HO2' | 34:BA:635:G:H5' | 1.79 | 0.45 |
| 34:BA:676:A:O2' | 34:BA:677:U:C5' | 2.65 | 0.45 |
| 34:BA:763:G:C4 | 34:BA:764:C:C5 | 3.05 | 0.45 |
| 34:BA:833:U:HO2' | 34:BA:834:C:H6 | 1.65 | 0.45 |
| 34:BA:958:A:H5' | 54:BV:55:LYS:NZ | 2.31 | 0.45 |
| 34:BA:974:A:OP2 | 49:BQ:31:ARG:HG2 | 2.17 | 0.45 |
| 34:BA:1007:C:N4 | 34:BA:1022:G:H1 | 2.11 | 0.45 |
| 34:BA:1015:A:H2' | 34:BA:1016:A:O5' | 2.17 | 0.45 |
| 34:BA:30(A):G:H21 | 34:BA:30(C):G:H3' | 1.82 | 0.45 |
| 34:BA:1033:G:C2 | 34:BA:1034:G:C8 | 3.05 | 0.45 |
| 34:BA:1308:U:N3 | 34:BA:1309:G:N7 | 2.65 | 0.45 |
| 34:BA:1349:A:H2' | 34:BA:1350:A:O4' | 2.17 | 0.45 |
| 34:BA:1402:C:H2' | 34:BA:1403:C:O5' | 2.17 | 0.45 |
| 34:BA:1428:A:C6 | 34:BA:1473:A:N6 | 2.85 | 0.45 |
| 34:BA:1459:C:P | 55:BW:27:LYS:NZ | 2.89 | 0.45 |
| 34:BA:1533:C:N3 | 34:BA:1534:A:O2' | 2.50 | 0.45 |
| 35:BB:74:C:OP1 | 35:BB:74:C:C4' | 2.60 | 0.45 |
| 35:BC:16:U:P | 35:BC:60:C:O2' | 2.75 | 0.45 |
| 35:BC:18:G:C4 | 35:BC:58:A:C2 | 3.05 | 0.45 |
| 35:BC:29:A:H61 | 35:BC:41:U:H3 | 1.64 | 0.45 |
| 35:BC:75:C:O5' | 35:BC:76:A:O5' | 2.35 | 0.45 |
| 36:B1:37:C:C4 | 36:B1:38:C:C4 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 36:B1:47:U:H2' | 36:B1:48:A:O5' | 2.17 | 0.45 |
| 37:BE:32:ILE:HD11 | 37:BE:40:HIS:HB3 | 1.99 | 0.45 |
| 37:BE:145:LEU:CD1 | 37:BE:149:LEU:CD1 | 2.95 | 0.45 |
| 37:BE:213:LEU:HD23 | 37:BE:213:LEU:O | 2.17 | 0.45 |
| 38:BF:28:GLN:C | 38:BF:30:ARG:N | 2.70 | 0.45 |
| 38:BF:107:GLN:H | 38:BF:107:GLN:NE2 | 2.15 | 0.45 |
| 38:BF:184:TYR:CG | 38:BF:185:GLY:N | 2.85 | 0.45 |
| 38:BF:186:PHE:CA | 38:BF:198:VAL:O | 2.64 | 0.45 |
| 39:BG:128:VAL:HG13 | 39:BG:129:ASN:H | 1.82 | 0.45 |
| 40:BH:79:GLU:HB3 | 40:BH:91:LEU:O | 2.16 | 0.45 |
| 40:BH:94:ALA:HB1 | 40:BH:98:THR:CG2 | 2.32 | 0.45 |
| 40:BH:102:ALA:HB2 | 40:BH:120:THR:HG22 | 1.98 | 0.45 |
| 41:BI:9:VAL:HG13 | 41:BI:60:PHE:CA | 2.43 | 0.45 |
| 42:BJ:9:VAL:O | 42:BJ:10:ARG:O | 2.35 | 0.45 |
| 43:BK:26:VAL:HG13 | 43:BK:27:PRO:HD2 | 1.99 | 0.45 |
| 43:BK:44:PHE:HE2 | 43:BK:109:ILE:HG21 | 1.75 | 0.45 |
| 43:BK:67:PRO:O | 43:BK:68:ARG:C | 2.54 | 0.45 |
| 43:BK:134:ILE:HG22 | 43:BK:135:CYS:CB | 2.47 | 0.45 |
| 44:BL:30:GLY:O | 44:BL:31:GLN:CB | 2.65 | 0.45 |
| 46:BN:123:LYS:O | 46:BN:125:PHE:N | 2.50 | 0.45 |
| 47:BO:45:PRO:HD2 | 47:BO:51:ALA:H | 1.79 | 0.45 |
| 47:BO:90:VAL:HB | 47:BO:96:VAL:HB | 1.99 | 0.45 |
| 50:BR:29:VAL:HG21 | 50:BR:81:LEU:CD1 | 2.44 | 0.45 |
| 50:BR:39:LEU:CD2 | 50:BR:39:LEU:C | 2.81 | 0.45 |
| 50:BR:44:LYS:C | 50:BR:45:VAL:O | 2.49 | 0.45 |
| 52:BT:43:LEU:HD13 | 52:BT:69:LYS:HB2 | 1.99 | 0.45 |
| 52:BT:96:GLN:NE2 | 52:BT:97:SER:HA | 2.31 | 0.45 |
| 53:BU:53:ARG:HA | 53:BU:56:THR:OG1 | 2.16 | 0.45 |
| 54:BV:32:LYS:HB2 | 54:BV:57:HIS:NE2 | 2.31 | 0.45 |
| 1:AB:44:G:H8 | 1:AB:44:G:P | 2.39 | 0.45 |
| 1:AB:61:G:H2' | 1:AB:62:C:C5 | 2.52 | 0.45 |
| 2:AA:68:G:C2' | 2:AA:69:C:C6 | 2.77 | 0.45 |
| 2:AA:195:A:H4' | 2:AA:251:A:C4' | 2.47 | 0.45 |
| 2:AA:247:G:H4' | 2:AA:386:G:C2 | 2.48 | 0.45 |
| 2:AA:270(H):C:H2' | 2:AA:270(I):G:H8 | 1.82 | 0.45 |
| 2:AA:273(E):U:C4 | 2:AA:363(A):A:N1 | 2.85 | 0.45 |
| 2:AA:324:A:N1 | 2:AA:325:G:C4 | 2.85 | 0.45 |
| 2:AA:460:A:N7 | 2:AA:461:C:C5 | 2.85 | 0.45 |
| 2:AA:541:C:O2' | 2:AA:542:C:C5' | 2.64 | 0.45 |
| 2:AA:570:G:H22 | 2:AA:2498:C:H4' | 1.82 | 0.45 |
| 2:AA:585:G:C2' | 2:AA:586:A:N7 | 2.80 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:610:C:N1 | 2:AA:611:C:H5 | 2.15 | 0.45 |
| 2:AA:715:G:H3' | 2:AA:715:G:H8 | 1.82 | 0.45 |
| 2:AA:789:A:HO2' | 2:AA:1781:C:H42 | 1.64 | 0.45 |
| 2:AA:819:A:H2 | 2:AA:943:U:H1' | 1.82 | 0.45 |
| 2:AA:832:G:O2' | 2:AA:833:U:C5' | 2.65 | 0.45 |
| 2:AA:946:G:O2' | 2:AA:947:G:O4' | 2.35 | 0.45 |
| 2:AA:969:U:C5' | 23:AX:14:GLY:O | 2.65 | 0.45 |
| 2:AA:1049:C:H42 | 2:AA:1050:A:H62 | 1.64 | 0.45 |
| 2:AA:1281:G:C5 | 2:AA:1282:U:C5 | 3.05 | 0.45 |
| 2:AA:1358:G:C2' | 2:AA:1371:G:N2 | 2.78 | 0.45 |
| 2:AA:1394:U:O3' | 2:AA:1603:A:C5' | 2.65 | 0.45 |
| 2:AA:1395:A:N1 | 2:AA:1398:C:C2 | 2.85 | 0.45 |
| 2:AA:1408:C:H2' | 2:AA:1409:C:H6 | 1.82 | 0.45 |
| 2:AA:1478:G:N1 | 2:AA:1515:C:N4 | 2.65 | 0.45 |
| 2:AA:1510:A:C8 | 2:AA:1511:A:N6 | 2.85 | 0.45 |
| 2:AA:1748:G:C2 | 2:AA:1749:A:C5 | 3.05 | 0.45 |
| 2:AA:1750:G:C4 | 2:AA:1751:C:C5 | 3.05 | 0.45 |
| 2:AA:1782:C:C5 | 2:AA:2587:A:N6 | 2.85 | 0.45 |
| 2:AA:1838:C:O2' | 2:AA:1898:U:O4 | 2.28 | 0.45 |
| 2:AA:1887:C:O2' | 2:AA:1888:G:C5' | 2.61 | 0.45 |
| 2:AA:1900:A:C2 | 2:AA:1970:A:N6 | 2.84 | 0.45 |
| 2:AA:1928:A:H3' | 2:AA:1929:G:C5' | 2.47 | 0.45 |
| 2:AA:1937:A:C5 | 2:AA:1939:U:C4 | 3.04 | 0.45 |
| 2:AA:2012:G:OP1 | 18:AS:98:LYS:HD2 | 2.17 | 0.45 |
| 2:AA:2027:G:C1' | 2:AA:2037:G:H22 | 2.30 | 0.45 |
| 2:AA:2139:C:N3 | 2:AA:2152:G:C6 | 2.82 | 0.45 |
| 2:AA:2216:G:H2' | 2:AA:2217:G:O4' | 2.17 | 0.45 |
| 2:AA:2268:A:OP1 | 2:AA:2268:A:C4' | 2.63 | 0.45 |
| 2:AA:2278:A:H1' | 15:AP:19:TYR:CD2 | 2.52 | 0.45 |
| 2:AA:2279:G:C4 | 2:AA:2280:G:C8 | 3.05 | 0.45 |
| 2:AA:2306:C:N4 | 7:AG:53:LYS:HZ2 | 2.15 | 0.45 |
| 2:AA:2386:C:C4' | 27:A3:39:ARG:HH21 | 2.28 | 0.45 |
| 2:AA:2515:C:N4 | 2:AA:2569:G:C6 | 2.77 | 0.45 |
| 2:AA:2520:C:C6 | 2:AA:2567:G:C1' | 3.00 | 0.45 |
| 2:AA:2558:C:C2 | 2:AA:2559:C:C6 | 3.05 | 0.45 |
| 2:AA:2590:A:C5 | 2:AA:2591:C:C5 | 3.04 | 0.45 |
| 2:AA:2623:G:C4' | 2:AA:2826:A:H1' | 2.41 | 0.45 |
| 2:AA:2655:G:H2' | 2:AA:2656:U:OP2 | 2.17 | 0.45 |
| 2:AA:2727:G:C4' | 13:AN:70:ARG:CZ | 2.89 | 0.45 |
| 2:AA:2731:G:C2 | 2:AA:2732:G:C2 | 3.05 | 0.45 |
| 2:AA:2737:G:N1 | 2:AA:2768:C:C4 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2816:C:C2 | 2:AA:2817:G:C8 | 3.05 | 0.45 |
| 2:AA:2837:G:C6 | 2:AA:2882:A:N1 | 2.84 | 0.45 |
| 2:AA:2839:G:C6 | 2:AA:2840:C:N3 | 2.85 | 0.45 |
| 3:AC:91:ALA:O | 3:AC:92:ASP:CG | 2.56 | 0.45 |
| 3:AC:128:GLY:CA | 3:AC:137:LEU:HD21 | 2.43 | 0.45 |
| 3:AC:137:LEU:HG | 3:AC:164:ARG:NH2 | 2.32 | 0.45 |
| 3:AC:225:ASN:OD1 | 3:AC:227:HIS:HB2 | 2.17 | 0.45 |
| 4:AD:202:LYS:O | 4:AD:204:PHE:HE1 | 2.00 | 0.45 |
| 4:AD:213:LYS:CA | 4:AD:215:LYS:H | 2.19 | 0.45 |
| 8:AH:10:ILE:HD12 | 8:AH:49:ILE:HG12 | 1.97 | 0.45 |
| 8:AH:32:LEU:HD23 | 8:AH:32:LEU:C | 2.38 | 0.45 |
| 8:AH:116:PRO:C | 8:AH:120:LEU:HG | 2.37 | 0.45 |
| 9:AI:15:VAL:HG22 | 9:AI:48:ALA:C | 2.38 | 0.45 |
| 9:AI:110:GLU:OE2 | 9:AJ:57:THR:HG21 | 2.16 | 0.45 |
| 9:AJ:38:ALA:HA | 9:AJ:41:ALA:CB | 2.46 | 0.45 |
| 10:AK:69:LYS:HG2 | 10:AK:70:GLU:H | 1.76 | 0.45 |
| 11:AL:32:GLY:O | 11:AL:60:VAL:HG21 | 2.17 | 0.45 |
| 11:AL:79:LEU:CD2 | 11:AL:79:LEU:C | 2.85 | 0.45 |
| 12:AM:4:ALA:CA | 12:AM:109:TYR:OH | 2.65 | 0.45 |
| 12:AM:61:VAL:CG2 | 12:AM:139:LEU:CB | 2.64 | 0.45 |
| 12:AM:98:PHE:HD1 | 12:AM:98:PHE:H | 1.63 | 0.45 |
| 14:AO:56:LYS:O | 14:AO:57:VAL:CB | 2.65 | 0.45 |
| 14:AO:120:LEU:CD1 | 14:AO:122:ALA:HB2 | 2.46 | 0.45 |
| 15:AP:34:GLY:CA | 15:AP:83:PHE:HD1 | 2.30 | 0.45 |
| 15:AP:49:VAL:HG22 | 15:AP:121:ASP:H | 1.80 | 0.45 |
| 15:AP:66:ASN:O | 15:AP:70:ARG:NE | 2.50 | 0.45 |
| 16:AQ:60:SER:HB2 | 16:AQ:88:ALA:HB1 | 1.99 | 0.45 |
| 16:AQ:67:ALA:O | 16:AQ:69:TYR:CD1 | 2.71 | 0.45 |
| 18:AS:30:GLU:CG | 18:AS:31:GLU:N | 2.78 | 0.45 |
| 19:AT:28:VAL:HG23 | 19:AT:28:VAL:O | 2.17 | 0.45 |
| 20:AU:46:ASP:CA | 20:AU:102:ASP:OD1 | 2.62 | 0.45 |
| 21:AV:16:GLU:CA | 21:AV:36:ARG:HH12 | 2.30 | 0.45 |
| 21:AV:66:VAL:O | 21:AV:67:LYS:NZ | 2.50 | 0.45 |
| 21:AV:104:SER:CB | 21:AV:108:VAL:HB | 2.38 | 0.45 |
| 24:A0:18:LEU:CD1 | 24:A0:22:ARG:CZ | 2.80 | 0.45 |
| 24:A0:38:VAL:CG1 | 24:A0:39:PRO:HD3 | 2.47 | 0.45 |
| 24:A0:87:TYR:N | 24:A0:87:TYR:HD2 | 2.14 | 0.45 |
| 24:A0:105:ARG:N | 24:A0:105:ARG:NH2 | 2.65 | 0.45 |
| 25:A1:5:LYS:C | 25:A1:7:GLY:N | 2.68 | 0.45 |
| 25:A1:6:THR:O | 25:A1:9:VAL:CG2 | 2.64 | 0.45 |
| 25:A1:9:VAL:C | 25:A1:13:ARG:NH2 | 2.67 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:28:ARG:HH11 | 25:A1:28:ARG:CG | 2.30 | 0.45 |
| 25:A1:46:GLU:O | 25:A1:49:ASP:HB2 | 2.17 | 0.45 |
| 26:A2:29:ALA:O | 26:A2:31:ASP:N | 2.49 | 0.45 |
| 27:A3:14:ARG:HH11 | 27:A3:14:ARG:CG | 2.30 | 0.45 |
| 32:A8:28:GLY:O | 32:A8:29:LYS:CG | 2.55 | 0.45 |
| 33:A9:11:CYS:H | 33:A9:32:HIS:CD2 | 2.34 | 0.45 |
| 33:A9:29:ASN:HB3 | 33:A9:31:LYS:HB2 | 1.99 | 0.45 |
| 34:BA:15:G:C5' | 40:BH:24:ARG:HH22 | 2.29 | 0.45 |
| 34:BA:51:A:H4' | 34:BA:52:G:OP2 | 2.16 | 0.45 |
| 34:BA:120:A:C4 | 34:BA:122:G:C5 | 3.05 | 0.45 |
| 34:BA:130:A:C2 | 34:BA:264:U:C6 | 3.05 | 0.45 |
| 34:BA:150:C:O5' | 34:BA:150:C:H6 | 1.99 | 0.45 |
| 34:BA:150:C:O2' | 34:BA:151:A:O4' | 2.30 | 0.45 |
| 34:BA:190(C):C:H1' | 34:BA:190(G):G:N2 | 2.32 | 0.45 |
| 34:BA:292:G:C4 | 34:BA:309:G:N2 | 2.85 | 0.45 |
| 34:BA:321:A:C6 | 34:BA:322:C:C4 | 3.05 | 0.45 |
| 34:BA:378:G:C2 | 34:BA:385:C:N3 | 2.75 | 0.45 |
| 34:BA:382:A:O2' | 34:BA:383:A:C5' | 2.65 | 0.45 |
| 34:BA:448:A:O2' | 34:BA:449:C:O4' | 2.24 | 0.45 |
| 34:BA:594:G:O2' | 34:BA:595:G:H5' | 2.16 | 0.45 |
| 34:BA:608:A:C2 | 34:BA:609:A:O4' | 2.70 | 0.45 |
| 34:BA:626:U:H5" | 51:BS:38:TYR:CG | 2.52 | 0.45 |
| 34:BA:716:A:C2' | 34:BA:717:C:C5' | 2.95 | 0.45 |
| 34:BA:760:G:H1 | 52:BT:105:ALA:CB | 2.12 | 0.45 |
| 34:BA:791:G:N2 | 34:BA:1497:G:C5' | 2.80 | 0.45 |
| 34:BA:1041:A:C2' | 34:BA:1042:G:O5' | 2.65 | 0.45 |
| 34:BA:1103:C:O2' | 37:BE:111:ARG:HG3 | 2.16 | 0.45 |
| 34:BA:1222:G:C2 | 34:BA:1223:C:C2 | 3.05 | 0.45 |
| 34:BA:1223:C:OP1 | 34:BA:1224:G:H3' | 2.17 | 0.45 |
| 34:BA:1286:A:H5' | 56:BX:25:LYS:CG | 2.44 | 0.45 |
| 34:BA:1291:G:P | 42:BJ:37:ASN:ND2 | 2.90 | 0.45 |
| 34:BA:1363:A:OP1 | 34:BA:1363:A:C8 | 2.65 | 0.45 |
| 34:BA:1480:G:C2' | 34:BA:1481:U:C5' | 2.95 | 0.45 |
| 34:BA:1519:A:C3' | 34:BA:1520:G:H5' | 2.46 | 0.45 |
| 37:BE:28:PHE:HE1 | 37:BE:31:TYR:O | 1.95 | 0.45 |
| 37:BE:55:PHE:CE2 | 37:BE:218:ALA:CA | 2.93 | 0.45 |
| 37:BE:77:ALA:HB2 | 37:BE:211:ILE:HD12 | 1.98 | 0.45 |
| 37:BE:124:SER:OG | 37:BE:126:GLU:CG | 2.65 | 0.45 |
| 37:BE:133:LYS:N | 37:BE:133:LYS:CE | 2.78 | 0.45 |
| 38:BF:5:ILE:HD12 | 38:BF:5:ILE:O | 2.17 | 0.45 |
| 38:BF:43:LEU:O | 38:BF:47:LEU:HD23 | 2.17 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:51:GLY:O | 38:BF:70:VAL:HG13 | 2.16 | 0.45 |
| 38:BF:160:ALA:C | 38:BF:162:GLN:N | 2.67 | 0.45 |
| 39:BG:62:GLN:HE21 | 39:BG:62:GLN:CA | 2.23 | 0.45 |
| 39:BG:94:LEU:O | 39:BG:97:LEU:HB2 | 2.17 | 0.45 |
| 39:BG:95:GLY:O | 39:BG:98:GLU:N | 2.50 | 0.45 |
| 39:BG:191:ARG:C | 39:BG:191:ARG:CD | 2.73 | 0.45 |
| 40:BH:76:ILE:CG1 | 40:BH:77:PRO:HD2 | 2.47 | 0.45 |
| 43:BK:104:ARG:HB2 | 43:BK:108:GLY:N | 2.32 | 0.45 |
| 45:BM:31:GLY:N | 45:BM:81:THR:OG1 | 2.50 | 0.45 |
| 45:BM:48:THR:CG2 | 45:BM:49:VAL:N | 2.79 | 0.45 |
| 46:BN:16:SER:C | 46:BN:35:PRO:HG3 | 2.37 | 0.45 |
| 46:BN:105:VAL:O | 46:BN:106:LYS:C | 2.55 | 0.45 |
| 47:BO:9:GLN:O | 47:BO:10:LEU:C | 2.53 | 0.45 |
| 47:BO:68:ALA:HA | 47:BO:98:TYR:O | 2.17 | 0.45 |
| 51:BS:53:VAL:HG23 | 51:BS:54:GLU:H | 1.81 | 0.45 |
| 53:BU:31:LEU:HD13 | 53:BU:65:ILE:CG1 | 2.46 | 0.45 |
| 55:BW:67:ALA:O | 55:BW:68:LYS:C | 2.56 | 0.45 |
| 1:AB:42:C:H5' | 7:AG:48:MET:HG3 | 1.97 | 0.44 |
| 1:AB:59:A:O5' | 7:AG:144:ARG:CZ | 2.65 | 0.44 |
| 1:AB:83:G:C2 | 1:AB:84:C:C6 | 3.05 | 0.44 |
| 2:AA:56:A:C3' | 2:AA:57:C:C6 | 3.00 | 0.44 |
| 2:AA:60:G:C6 | 2:AA:63:U:O4 | 2.70 | 0.44 |
| 2:AA:80:G:O5' | 2:AA:80:G:C8 | 2.69 | 0.44 |
| 2:AA:155:C:O2' | 2:AA:161:U:O5' | 2.35 | 0.44 |
| 2:AA:197:A:C3' | 2:AA:198:C:H6 | 2.30 | 0.44 |
| 2:AA:245:G:N1 | 2:AA:254:G:N3 | 2.65 | 0.44 |
| 2:AA:283:A:C8 | 2:AA:284:U:C5 | 3.04 | 0.44 |
| 2:AA:302:C:C4 | 2:AA:303:U:O4 | 2.70 | 0.44 |
| 2:AA:319:C:C3' | 2:AA:320:A:H8 | 2.30 | 0.44 |
| 2:AA:397:G:OP1 | 28:A4:40:HIS:C | 2.56 | 0.44 |
| 2:AA:458:G:H2' | 2:AA:469:G:O6 | 2.16 | 0.44 |
| 2:AA:552:G:C5 | 2:AA:553:U:C5 | 3.04 | 0.44 |
| 2:AA:612:G:O3' | 2:AA:616:A:N6 | 2.50 | 0.44 |
| 2:AA:664:C:H4' | 2:AA:941:A:OP1 | 2.17 | 0.44 |
| 2:AA:677:A:C2 | 2:AA:678:C:C5 | 3.05 | 0.44 |
| 2:AA:701:G:N1 | 2:AA:732:C:N4 | 2.65 | 0.44 |
| 2:AA:745:G:C2' | 2:AA:746:A:H5' | 2.47 | 0.44 |
| 2:AA:820:A:H2' | 2:AA:820:A:N3 | 2.32 | 0.44 |
| 2:AA:880:G:C2 | 2:AA:881:G:H1' | 2.51 | 0.44 |
| 2:AA:969:U:O2' | 2:AA:970:C:O4' | 2.35 | 0.44 |
| 2:AA:973:A:H2' | 2:AA:974:G:C5' | 2.14 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:996:A:C5' | 25:A1:93:LYS:CG | 2.92 | 0.44 |
| 2:AA:1027:A:O2' | 2:AA:1028:A:O5' | 2.34 | 0.44 |
| 2:AA:1050:A:N6 | 2:AA:2751:G:C6 | 2.85 | 0.44 |
| 2:AA:1059:G:O6 | 2:AA:1060:U:H1' | 2.18 | 0.44 |
| 2:AA:1153:C:C4 | 2:AA:1154:G:C6 | 3.06 | 0.44 |
| 2:AA:1179:C:C2' | 2:AA:1180:C:H6 | 2.30 | 0.44 |
| 2:AA:1181:C:O2' | 2:AA:1182:A:OP2 | 2.36 | 0.44 |
| 2:AA:1196:C:C2 | 2:AA:1197:G:N7 | 2.85 | 0.44 |
| 2:AA:1249:U:O2' | 2:AA:1250:G:C5' | 2.65 | 0.44 |
| 2:AA:1405:U:C2' | 2:AA:1406:U:C6 | 2.95 | 0.44 |
| 2:AA:1436:G:C6 | 2:AA:1437:C:C5 | 3.05 | 0.44 |
| 2:AA:1456:G:N3 | 2:AA:1457:A:C8 | 2.86 | 0.44 |
| 2:AA:1475:G:C6 | 2:AA:1517:G:N2 | 2.85 | 0.44 |
| 2:AA:1508:A:C8 | 2:AA:1509:C:OP2 | 2.64 | 0.44 |
| 2:AA:1656:C:H2' | 2:AA:1657:C:OP2 | 2.17 | 0.44 |
| 2:AA:1665:A:O2' | 2:AA:1666:G:C5' | 2.59 | 0.44 |
| 2:AA:1717:G:N1 | 2:AA:1718:G:C2 | 2.81 | 0.44 |
| 2:AA:1754:C:O2' | 17:AR:44:ARG:NH2 | 2.50 | 0.44 |
| 2:AA:1829:A:N6 | 2:AA:1977:A:H62 | 2.14 | 0.44 |
| 2:AA:1891:G:N3 | 2:AA:1891:G:C2' | 2.80 | 0.44 |
| 2:AA:1955:U:H3 | 2:AA:2552:U:HO2' | 1.63 | 0.44 |
| 2:AA:1988:C:C2' | 2:AA:1989:G:H5' | 2.47 | 0.44 |
| 2:AA:2082:A:C5 | 2:AA:2239:G:N1 | 2.85 | 0.44 |
| 2:AA:2116:G:OP2 | 3:AC:126:LYS:HB2 | 2.14 | 0.44 |
| 2:AA:2143:C:C4 | 2:AA:2149:G:N1 | 2.83 | 0.44 |
| 2:AA:2150:U:C2' | 2:AA:2151:G:N7 | 2.79 | 0.44 |
| 2:AA:2264:C:H2' | 2:AA:2265:U:O5' | 2.16 | 0.44 |
| 2:AA:2302:G:O6 | 2:AA:2315:G:O6 | 2.35 | 0.44 |
| 2:AA:2364:C:N4 | 2:AA:2365:G:C2 | 2.86 | 0.44 |
| 2:AA:2388:A:N7 | 2:AA:2389:G:C6 | 2.85 | 0.44 |
| 2:AA:2406:U:O4 | 14:AO:55:GLN:HB3 | 2.16 | 0.44 |
| 2:AA:2615:U:C2 | 29:A5:7:PRO:HA | 2.51 | 0.44 |
| 2:AA:2637:U:C2 | 2:AA:2782:G:C2 | 3.05 | 0.44 |
| 2:AA:2684:U:H5' | 13:AN:76:TYR:CZ | 2.52 | 0.44 |
| 2:AA:2754:U:C2' | 2:AA:2756:U:OP2 | 2.64 | 0.44 |
| 2:AA:2761:G:C2' | 2:AA:2762:G:C5' | 2.94 | 0.44 |
| 2:AA:2808:U:H5" | 2:AA:2809:A:OP2 | 2.17 | 0.44 |
| 2:AA:2856:C:C4 | 2:AA:2862:G:N1 | 2.84 | 0.44 |
| 2:AA:2874:C:O5' | 2:AA:2874:C:H6 | 2.00 | 0.44 |
| 3:AC:36:LYS:CG | 3:AC:37:PHE:CD2 | 2.94 | 0.44 |
| 3:AC:130:ILE:HG22 | 3:AC:131:LEU:HD23 | 1.97 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:107:LYS:CB | 4:AD:193:GLU:HB2 | 2.44 | 0.44 |
| 4:AD:116:MET:N | 4:AD:127:ASN:OD1 | 2.34 | 0.44 |
| 5:AE:201:VAL:O | 5:AE:262:THR:OG1 | 2.19 | 0.44 |
| 6:AF:33:LYS:N | 6:AF:36:ARG:HE | 2.14 | 0.44 |
| 6:AF:46:TYR:H | 6:AF:98:ARG:NH1 | 2.15 | 0.44 |
| 6:AF:82:GLN:HE21 | 6:AF:82:GLN:HB3 | 1.53 | 0.44 |
| 6:AF:155:SER:C | 6:AF:157:LEU:N | 2.70 | 0.44 |
| 7:AG:147:ALA:O | 7:AG:149:ARG:N | 2.50 | 0.44 |
| 8:AH:70:LEU:O | 8:AH:71:LEU:C | 2.55 | 0.44 |
| 8:AH:108:TYR:N | 8:AH:108:TYR:HD2 | 2.12 | 0.44 |
| 8:AH:121:GLU:OE2 | 8:AH:121:GLU:N | 2.48 | 0.44 |
| 10:AK:8:ASP:O | 10:AK:9:VAL:HB | 2.16 | 0.44 |
| 10:AK:58:ALA:O | 10:AK:59:ALA:C | 2.54 | 0.44 |
| 10:AK:79:ILE:HD13 | 10:AK:145:VAL:HG23 | 1.99 | 0.44 |
| 10:AK:84:GLY:C | 10:AK:147:GLU:OE2 | 2.55 | 0.44 |
| 10:AK:133:LEU:HD12 | 10:AK:139:ALA:N | 2.32 | 0.44 |
| 13:AN:43:VAL:CG1 | 13:AN:54:LYS:CA | 2.75 | 0.44 |
| 14:AO:52:LYS:CE | 14:AO:53:ARG:CZ | 2.94 | 0.44 |
| 14:AO:66:VAL:CG2 | 14:AO:110:GLY:O | 2.65 | 0.44 |
| 15:AP:11:LYS:HD2 | 15:AP:91:HIS:NE2 | 2.31 | 0.44 |
| 15:AP:67:ALA:HA | 15:AP:70:ARG:NE | 2.32 | 0.44 |
| 16:AQ:32:PRO:HD3 | 16:AQ:100:ALA:HA | 1.97 | 0.44 |
| 16:AQ:90:LEU:HD23 | 16:AQ:93:GLN:NE2 | 2.32 | 0.44 |
| 18:AS:11:ARG:HE | 18:AS:82:LEU:HD21 | 1.82 | 0.44 |
| 19:AT:17:ASP:O | 19:AT:22:ASN:O | 2.35 | 0.44 |
| 19:AT:33:SER:O | 19:AT:34:LYS:C | 2.56 | 0.44 |
| 21:AV:45:GLN:NE2 | 21:AV:45:GLN:CA | 2.79 | 0.44 |
| 21:AV:56:VAL:CG1 | 21:AV:57:GLU:HG2 | 2.45 | 0.44 |
| 22:AW:12:THR:C | 22:AW:16:ARG:CZ | 2.85 | 0.44 |
| 23:AX:5:LYS:HA | 23:AX:35:ARG:O | 2.17 | 0.44 |
| 23:AX:12:PRO:HG2 | 23:AX:13:ILE:N | 2.32 | 0.44 |
| 24:A0:29:LEU:N | 24:A0:29:LEU:CD2 | 2.80 | 0.44 |
| 24:A0:45:ARG:HG2 | 24:A0:45:ARG:NH1 | 2.31 | 0.44 |
| 25:A1:64:ARG:O | 25:A1:67:ALA:CB | 2.65 | 0.44 |
| 25:A1:94:VAL:O | 25:A1:97:ASP:HB2 | 2.17 | 0.44 |
| 26:A2:59:GLU:CD | 26:A2:99:GLN:CA | 2.65 | 0.44 |
| 26:A2:78:VAL:CB | 26:A2:80:TYR:CD1 | 2.77 | 0.44 |
| 26:A2:96:LEU:HD23 | 26:A2:96:LEU:N | 2.28 | 0.44 |
| 27:A3:29:GLU:O | 27:A3:31:VAL:CG2 | 2.65 | 0.44 |
| 29:A5:51:TYR:HB3 | 29:A5:52:TYR:H | 1.37 | 0.44 |
| 30:A6:37:LEU:HD23 | 30:A6:50:PHE:O | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:A7:24:THR:HG23 | 31:A7:27:GLY:N | 2.31 | 0.44 |
| 31:A7:38:GLY:C | 31:A7:40:HIS:ND1 | 2.71 | 0.44 |
| 33:A9:9:LYS:CE | 33:A9:16:VAL:CG2 | 2.93 | 0.44 |
| 34:BA:61:G:N7 | 34:BA:62:U:C5 | 2.85 | 0.44 |
| 34:BA:131:C:C2' | 34:BA:132:C:O5' | 2.66 | 0.44 |
| 34:BA:191:G:H2' | 34:BA:192:U:C6 | 2.49 | 0.44 |
| 34:BA:386:C:H3' | 34:BA:386:C:C6 | 2.52 | 0.44 |
| 34:BA:424:G:N3 | 34:BA:425:G:C8 | 2.86 | 0.44 |
| 34:BA:516:U:C5 | 34:BA:517:G:C6 | 3.05 | 0.44 |
| 34:BA:583:A:O2' | 34:BA:584:G:H5' | 2.17 | 0.44 |
| 34:BA:597:G:H2' | 34:BA:598:U:H5' | 1.98 | 0.44 |
| 34:BA:630:G:C2 | 34:BA:631:G:C8 | 3.04 | 0.44 |
| 34:BA:767:A:N1 | 34:BA:768:A:C2 | 2.85 | 0.44 |
| 34:BA:781:A:H2' | 34:BA:782:A:O5' | 2.15 | 0.44 |
| 34:BA:802:A:N6 | 34:BA:803:G:N2 | 2.64 | 0.44 |
| 34:BA:817:C:HO2' | 34:BA:818:G:H5" | 1.78 | 0.44 |
| 34:BA:849:C:C2' | 34:BA:850:U:H5' | 2.46 | 0.44 |
| 34:BA:915:A:C2' | 34:BA:916:G:H5' | 2.47 | 0.44 |
| 34:BA:979:C:OP2 | 34:BA:980:C:N4 | 2.51 | 0.44 |
| 34:BA:1018:C:N3 | 34:BA:1019:C:C6 | 2.85 | 0.44 |
| 34:BA:1101:A:C2 | 37:BE:99:GLY:HA3 | 2.52 | 0.44 |
| 34:BA:1153:C:N4 | 34:BA:1154:G:C6 | 2.85 | 0.44 |
| 34:BA:1156:G:C1' | 34:BA:1179:A:H61 | 2.19 | 0.44 |
| 34:BA:1192:C:C4 | 34:BA:1193:G:C4 | 3.04 | 0.44 |
| 34:BA:1217:C:H6 | 34:BA:1217:C:O5' | 2.00 | 0.44 |
| 34:BA:1239:A:H2' | 34:BA:1298:C:H41 | 1.72 | 0.44 |
| 34:BA:1245:A:H2' | 34:BA:1246:C:H6 | 1.72 | 0.44 |
| 34:BA:1327:C:O2' | 34:BA:1328:C:C5' | 2.65 | 0.44 |
| 34:BA:1390:U:C2 | 34:BA:1391:U:C5 | 3.05 | 0.44 |
| 34:BA:1419:G:H2' | 34:BA:1420:C:C6 | 2.52 | 0.44 |
| 34:BA:1433:A:C4 | 34:BA:1468:A:C2 | 3.05 | 0.44 |
| 34:BA:1513:A:H2' | 34:BA:1514:C:H6 | 1.73 | 0.44 |
| 35:BC:21:A:N1 | 35:BC:48:C:C4 | 2.85 | 0.44 |
| 37:BE:7:VAL:O | 37:BE:9:GLU:N | 2.50 | 0.44 |
| 37:BE:67:THR:HB | 37:BE:90:MET:SD | 2.57 | 0.44 |
| 37:BE:102:LEU:O | 37:BE:180:LEU:HD11 | 2.17 | 0.44 |
| 37:BE:189:ASP:OD2 | 37:BE:205:ASP:N | 2.45 | 0.44 |
| 38:BF:33:LEU:CG | 49:BQ:54:PRO:HD2 | 2.44 | 0.44 |
| 38:BF:91:LEU:HD23 | 38:BF:92:ALA:CA | 2.47 | 0.44 |
| 38:BF:179:ARG:O | 38:BF:181:ASN:N | 2.50 | 0.44 |
| 39:BG:127:THR:C | 39:BG:128:VAL:O | 2.50 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BG:145:GLU:CG | 39:BG:184:LYS:HE2 | 2.26 | 0.44 |
| 40:BH:76:ILE:HG23 | 40:BH:77:PRO:CG | 2.47 | 0.44 |
| 40:BH:112:LEU:HD22 | 40:BH:112:LEU:HA | 1.80 | 0.44 |
| 41:BI:76:ALA:O | 41:BI:79:LEU:HG | 2.16 | 0.44 |
| 42:BJ:105:VAL:C | 42:BJ:109:ASN:ND2 | 2.71 | 0.44 |
| 42:BJ:146:GLU:HG3 | 42:BJ:149:ARG:NH2 | 2.24 | 0.44 |
| 43:BK:18:ARG:HH11 | 43:BK:18:ARG:N | 2.08 | 0.44 |
| 43:BK:56:LYS:HA | 43:BK:57:PRO:HD2 | 1.77 | 0.44 |
| 43:BK:114:THR:HB | 43:BK:130:GLY:O | 2.16 | 0.44 |
| 44:BL:102:LEU:O | 44:BL:103:THR:HB | 2.17 | 0.44 |
| 45:BM:24:VAL:C | 45:BM:34:VAL:HG21 | 2.37 | 0.44 |
| 45:BM:75:ILE:C | 45:BM:76:ASN:ND2 | 2.70 | 0.44 |
| 46:BN:33:THR:CA | 46:BN:40:ILE:HG13 | 2.48 | 0.44 |
| 47:BO:30:ALA:CB | 47:BO:31:PRO:CD | 2.92 | 0.44 |
| 48:BP:44:ARG:O | 48:BP:47:ASP:CG | 2.56 | 0.44 |
| 48:BP:74:VAL:HG12 | 48:BP:78:ILE:HD12 | 1.93 | 0.44 |
| 48:BP:90:LEU:O | 48:BP:91:ARG:C | 2.55 | 0.44 |
| 49:BQ:47:LEU:HB3 | 49:BQ:53:LEU:HD21 | 1.97 | 0.44 |
| 54:BV:62:ILE:CG1 | 54:BV:63:THR:N | 2.73 | 0.44 |
| 55:BW:34:LYS:O | 55:BW:35:THR:C | 2.54 | 0.44 |
| 56:BX:14:TRP:CZ3 | 56:BX:15:ARG:HG3 | 2.53 | 0.44 |
| 2:AA:14:A:N7 | 2:AA:15:G:C5 | 2.82 | 0.44 |
| 2:AA:25:U:H3' | 2:AA:26:G:C8 | 2.52 | 0.44 |
| 2:AA:185:U:O2' | 2:AA:186:G:C5' | 2.65 | 0.44 |
| 2:AA:200:U:H2' | 2:AA:201:C:H5' | 1.99 | 0.44 |
| 2:AA:203:C:P | 2:AA:204:A:H3' | 2.57 | 0.44 |
| 2:AA:269:U:O4 | 2:AA:370:G:N7 | 2.50 | 0.44 |
| 2:AA:270(O):U:H5 | 10:AK:53:LYS:HZ1 | 1.64 | 0.44 |
| 2:AA:280:C:HO2' | 2:AA:281:G:P | 2.35 | 0.44 |
| 2:AA:356:G:H2' | 2:AA:357:A:C4 | 2.51 | 0.44 |
| 2:AA:374:A:N3 | 2:AA:375:C:O4' | 2.50 | 0.44 |
| 2:AA:396:G:O2' | 28:A4:39:VAL:CG1 | 2.65 | 0.44 |
| 2:AA:519:U:H5' | 18:AS:75:TYR:CB | 2.47 | 0.44 |
| 2:AA:565:C:C4 | 2:AA:566:U:C4 | 3.05 | 0.44 |
| 2:AA:578:A:H2' | 2:AA:579:G:C5' | 2.47 | 0.44 |
| 2:AA:668:G:H5' | 2:AA:669:G:P | 2.56 | 0.44 |
| 2:AA:831:G:O6 | 2:AA:832:G:C6 | 2.70 | 0.44 |
| 2:AA:846:C:H1' | 2:AA:847:U:H5 | 1.82 | 0.44 |
| 2:AA:892:G:N1 | 2:AA:893:C:C4 | 2.86 | 0.44 |
| 2:AA:917:A:H5" | 2:AA:2268:A:N6 | 2.33 | 0.44 |
| 2:AA:971:C:O2' | 2:AA:972:G:H4' | 2.17 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1008:C:O5' | 2:AA:1008:C:H6 | 2.00 | 0.44 |
| 2:AA:1084:A:N1 | 2:AA:1085:A:C2 | 2.86 | 0.44 |
| 2:AA:1106:G:O6 | 2:AA:1107:G:O6 | 2.35 | 0.44 |
| 2:AA:1173:G:H2' | 2:AA:1174:A:N7 | 2.32 | 0.44 |
| 2:AA:1311:G:C8 | 2:AA:1311:G:C3' | 3.00 | 0.44 |
| 2:AA:1349:A:C2' | 2:AA:1350:C:OP1 | 2.65 | 0.44 |
| 2:AA:1353:A:N7 | 2:AA:1377:G:N2 | 2.65 | 0.44 |
| 2:AA:1364:G:O5' | 2:AA:1809:A:C5 | 2.69 | 0.44 |
| 2:AA:1380:G:C6 | 2:AA:1381:G:C5 | 3.05 | 0.44 |
| 2:AA:1381:G:O6 | 2:AA:1382:G:C6 | 2.71 | 0.44 |
| 2:AA:1425:G:H2' | 2:AA:1426:G:C5 | 2.52 | 0.44 |
| 2:AA:1451:C:C3' | 2:AA:1453:A:H5' | 2.47 | 0.44 |
| 2:AA:1650:G:C2 | 2:AA:1651:G:N9 | 2.84 | 0.44 |
| 2:AA:1657:C:C2 | 2:AA:1658:C:C6 | 3.06 | 0.44 |
| 2:AA:1663:C:C4 | 2:AA:1992:G:N7 | 2.85 | 0.44 |
| 2:AA:1707:G:C3' | 2:AA:1708:C:H6 | 2.30 | 0.44 |
| 2:AA:1839:G:N3 | 2:AA:1839:G:C2' | 2.80 | 0.44 |
| 2:AA:1857:G:C6 | 2:AA:1884:A:N1 | 2.85 | 0.44 |
| 2:AA:2004:G:C6 | 2:AA:2005:A:C6 | 3.05 | 0.44 |
| 2:AA:2018:G:N1 | 2:AA:2019:A:C4 | 2.85 | 0.44 |
| 2:AA:2032:G:O6 | 2:AA:2454:G:C4' | 2.66 | 0.44 |
| 2:AA:2053:G:C2 | 2:AA:2054:A:C4 | 3.05 | 0.44 |
| 2:AA:2069:G:C4 | 2:AA:2443:C:N3 | 2.84 | 0.44 |
| 2:AA:2107:C:C6 | 2:AA:2107:C:H3' | 2.53 | 0.44 |
| 2:AA:2115:G:N3 | 2:AA:2115:G:C2' | 2.80 | 0.44 |
| 2:AA:2135:A:H62 | 2:AA:2150:U:C2' | 2.30 | 0.44 |
| 2:AA:2654:A:O2' | 2:AA:2655:G:C1' | 2.65 | 0.44 |
| 2:AA:2694:G:H2' | 2:AA:2695:C:H5' | 1.99 | 0.44 |
| 2:AA:2746:U:O4 | 2:AA:2756:U:C5 | 2.71 | 0.44 |
| 2:AA:2765:A:H3' | 2:AA:2765:A:N3 | 2.33 | 0.44 |
| 2:AA:2766:G:C2 | 2:AA:2767:C:C5 | 3.06 | 0.44 |
| 2:AA:2785:C:H1' | 5:AE:100:TRP:NE1 | 2.32 | 0.44 |
| 2:AA:2850:A:O2' | 2:AA:2851:A:O5' | 2.31 | 0.44 |
| 3:AC:70:LYS:CB | 3:AC:157:LYS:NZ | 2.80 | 0.44 |
| 3:AC:91:ALA:CB | 3:AC:153:ILE:HD13 | 2.47 | 0.44 |
| 4:AD:73:ILE:C | 4:AD:116:MET:HE1 | 2.37 | 0.44 |
| 4:AD:76:ARG:HB3 | 4:AD:113:MET:CG | 2.45 | 0.44 |
| 4:AD:110:LYS:O | 4:AD:111:VAL:C | 2.56 | 0.44 |
| 4:AD:144:GLU:OE1 | 4:AD:187:CYS:HB3 | 2.17 | 0.44 |
| 5:AE:43:GLY:O | 5:AE:309:PRO:HG2 | 2.17 | 0.44 |
| 5:AE:68:VAL:CG1 | 5:AE:69:PRO:N | 2.78 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:107:GLU:CD | 5:AE:110:ARG:NH1 | 2.71 | 0.44 |
| 5:AE:196:GLY:HA2 | 5:AE:297:LYS:NZ | 2.31 | 0.44 |
| 6:AF:93:LYS:HB2 | 6:AF:96:LYS:HE3 | 1.99 | 0.44 |
| 6:AF:102:LEU:HB2 | 6:AF:107:ARG:NE | 2.23 | 0.44 |
| 6:AF:144:PHE:CD2 | 6:AF:156:LEU:CD1 | 3.01 | 0.44 |
| 7:AG:58:VAL:CG1 | 7:AG:61:PHE:CD1 | 3.00 | 0.44 |
| 8:AH:40:MET:HE3 | 8:AH:64:HIS:HE1 | 1.76 | 0.44 |
| 8:AH:123:GLU:O | 8:AH:130:ILE:HG23 | 2.17 | 0.44 |
| 9:AI:45:ALA:C | 9:AJ:19:ALA:HB1 | 2.38 | 0.44 |
| 9:AI:63:LEU:HB3 | 9:AI:95:ALA:HB1 | 1.98 | 0.44 |
| 10:AK:4:ILE:CG1 | 10:AK:37:ILE:O | 2.64 | 0.44 |
| 10:AK:99:ALA:HA | 10:AK:102:LEU:HG | 1.99 | 0.44 |
| 10:AK:114:LYS:NZ | 10:AK:133:LEU:HD22 | 2.32 | 0.44 |
| 10:AK:131:VAL:HG12 | 10:AK:133:LEU:HD21 | 1.99 | 0.44 |
| 11:AL:21:ALA:HB3 | 11:AL:22:PRO:HD3 | 1.97 | 0.44 |
| 11:AL:113:MET:CA | 11:AL:116:LEU:HB3 | 2.47 | 0.44 |
| 12:AM:19:MET:CB | 12:AM:46:ILE:HG13 | 2.47 | 0.44 |
| 12:AM:108:PRO:HD2 | 12:AM:109:TYR:H | 1.81 | 0.44 |
| 13:AN:41:ALA:C | 13:AN:42:THR:HG23 | 2.38 | 0.44 |
| 15:AP:50:VAL:HG11 | 15:AP:147:VAL:HG22 | 1.99 | 0.44 |
| 15:AP:98:GLY:C | 35:BC:1:G:O2' | 2.54 | 0.44 |
| 18:AS:12:ILE:HD12 | 18:AS:46:PHE:CD2 | 2.52 | 0.44 |
| 18:AS:21:VAL:O | 18:AS:22:ASP:C | 2.55 | 0.44 |
| 18:AS:25:ARG:O | 18:AS:26:GLY:C | 2.55 | 0.44 |
| 19:AT:3:ASP:HA | 22:AW:24:LYS:CD | 2.48 | 0.44 |
| 19:AT:16:ASN:O | 19:AT:19:ASP:OD1 | 2.35 | 0.44 |
| 19:AT:44:GLN:OE1 | 19:AT:45:TYR:HD1 | 1.99 | 0.44 |
| 19:AT:56:ASN:HD21 | 19:AT:62:LYS:HZ1 | 1.65 | 0.44 |
| 21:AV:2:GLU:C | 21:AV:54:ILE:HG13 | 2.38 | 0.44 |
| 21:AV:141:MET:O | 21:AV:142:ASN:CG | 2.56 | 0.44 |
| 22:AW:8:ILE:O | 22:AW:11:MET:CB | 2.63 | 0.44 |
| 22:AW:45:ARG:HG3 | 22:AW:46:ILE:N | 2.32 | 0.44 |
| 24:A0:16:HIS:O | 24:A0:19:ALA:HB3 | 2.16 | 0.44 |
| 24:A0:67:LEU:CD2 | 24:A0:71:GLN:CA | 2.91 | 0.44 |
| 25:A1:14:HIS:CD2 | 25:A1:36:PHE:CE2 | 3.05 | 0.44 |
| 25:A1:111:ASP:HA | 25:A1:114:ARG:HG3 | 1.98 | 0.44 |
| 27:A3:16:SER:O | 27:A3:17:ASN:CG | 2.56 | 0.44 |
| 27:A3:39:ARG:NH1 | 27:A3:69:PHE:CD1 | 2.86 | 0.44 |
| 28:A4:32:HIS:O | 28:A4:33:VAL:O | 2.35 | 0.44 |
| 29:A5:49:CYS:O | 29:A5:57:VAL:HG11 | 2.17 | 0.44 |
| 33:A9:9:LYS:N | 33:A9:34:GLN:HE22 | 2.14 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:25:C:H4' | 34:BA:524:G:N3 | 2.33 | 0.44 |
| 34:BA:116:A:C6 | 34:BA:117:G:C5 | 3.05 | 0.44 |
| 34:BA:188:C:N3 | 34:BA:189:G:N7 | 2.65 | 0.44 |
| 34:BA:240:C:N3 | 34:BA:241:C:H5 | 2.14 | 0.44 |
| 34:BA:293:G:C6 | 34:BA:305:G:C2 | 3.05 | 0.44 |
| 34:BA:315:A:O2' | 34:BA:316:G:OP2 | 2.33 | 0.44 |
| 34:BA:386:C:C2' | 34:BA:387:U:C5' | 2.69 | 0.44 |
| 34:BA:442:C:C2 | 34:BA:443:C:C6 | 3.04 | 0.44 |
| 34:BA:463:A:C8 | 34:BA:474:G:N7 | 2.85 | 0.44 |
| 34:BA:532:A:HO2' | 34:BA:533:A:P | 2.38 | 0.44 |
| 34:BA:730:G:C5 | 34:BA:731:G:H1' | 2.52 | 0.44 |
| 34:BA:740:U:OP2 | 50:BR:2:PRO:CG | 2.64 | 0.44 |
| 34:BA:742:G:H2' | 34:BA:743:U:O4' | 2.17 | 0.44 |
| 34:BA:838:G:C2 | 34:BA:849:C:C2 | 3.06 | 0.44 |
| 34:BA:939:G:H5" | 42:BJ:102:ARG:NH1 | 2.26 | 0.44 |
| 34:BA:957:U:H3 | 34:BA:960:U:C5' | 2.29 | 0.44 |
| 34:BA:974:A:C1' | 49:BQ:31:ARG:NH2 | 2.62 | 0.44 |
| 34:BA:1026:G:C5 | 34:BA:1027:C:C6 | 3.05 | 0.44 |
| 34:BA:1075:C:H4' | 34:BA:1101:A:N6 | 2.32 | 0.44 |
| 34:BA:1113:C:OP2 | 34:BA:1113:C:C5 | 2.69 | 0.44 |
| 34:BA:1117:G:C4 | 34:BA:1184:G:N1 | 2.86 | 0.44 |
| 34:BA:1127:G:H1' | 34:BA:1148:U:C4 | 2.51 | 0.44 |
| 34:BA:1129:C:C5 | 34:BA:1133:G:O6 | 2.70 | 0.44 |
| 34:BA:1130:A:C2 | 34:BA:1146:A:C4 | 3.06 | 0.44 |
| 34:BA:1188:A:H4' | 49:BQ:58:LYS:HZ1 | 1.82 | 0.44 |
| 34:BA:1249:C:C1' | 44:BL:70:LYS:NZ | 2.80 | 0.44 |
| 34:BA:1269:A:N9 | 34:BA:1313:U:H1' | 2.33 | 0.44 |
| 34:BA:1288:A:C4 | 34:BA:1289:A:N7 | 2.84 | 0.44 |
| 34:BA:1317:C:OP1 | 34:BA:1317:C:H6 | 1.99 | 0.44 |
| 34:BA:1321:C:H41 | 54:BV:37:ARG:NH1 | 2.15 | 0.44 |
| 34:BA:1386:G:C2' | 34:BA:1387:G:O5' | 2.65 | 0.44 |
| 34:BA:1402:C:H2' | 34:BA:1403:C:O4' | 2.17 | 0.44 |
| 34:BA:1435:G:H1 | 34:BA:1466:C:H42 | 1.65 | 0.44 |
| 34:BA:1468:A:N7 | 34:BA:1469:G:N7 | 2.65 | 0.44 |
| 35:BB:16:U:H4' | 35:BB:18:G:H5" | 1.99 | 0.44 |
| 35:BB:58:A:C4 | 35:BB:61:C:C5 | 3.05 | 0.44 |
| 35:BB:60:C:OP2 | 35:BB:61:C:H6 | 1.88 | 0.44 |
| 35:BC:10:G:N1 | 35:BC:11:C:C4 | 2.85 | 0.44 |
| 35:BC:21:A:C2 | 35:BC:48:C:C4 | 3.06 | 0.44 |
| 37:BE:39:ILE:CG2 | 37:BE:40:HIS:O | 2.66 | 0.44 |
| 37:BE:152:PHE:CD1 | 37:BE:153:ARG:N | 2.85 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:166:ASP:HA | 37:BE:187:LEU:O | 2.17 | 0.44 |
| 37:BE:182:ILE:HG22 | 37:BE:183:PRO:HD2 | 1.98 | 0.44 |
| 38:BF:18:TRP:HZ2 | 49:BQ:57:ARG:HB2 | 1.82 | 0.44 |
| 38:BF:21:ARG:O | 38:BF:22:TRP:CD1 | 2.70 | 0.44 |
| 38:BF:23:TYR:CD2 | 38:BF:24:ALA:N | 2.83 | 0.44 |
| 38:BF:145:GLY:O | 38:BF:146:ALA:HB2 | 2.16 | 0.44 |
| 39:BG:8:VAL:CA | 39:BG:11:LEU:HG | 2.46 | 0.44 |
| 39:BG:47:ARG:NH2 | 39:BG:48:ALA:O | 2.47 | 0.44 |
| 39:BG:60:GLU:HB3 | 39:BG:202:LEU:HB3 | 1.97 | 0.44 |
| 40:BH:43:LEU:HD13 | 40:BH:133:TYR:HE2 | 1.80 | 0.44 |
| 41:BI:89:MET:HG2 | 53:BU:76:LEU:HD11 | 1.98 | 0.44 |
| 42:BJ:38:LEU:HA | 42:BJ:41:ARG:CG | 2.29 | 0.44 |
| 42:BJ:76:ARG:HD2 | 42:BJ:89:MET:CE | 2.44 | 0.44 |
| 42:BJ:91:VAL:O | 42:BJ:92:SER:C | 2.54 | 0.44 |
| 42:BJ:122:HIS:O | 42:BJ:125:MET:HB2 | 2.18 | 0.44 |
| 43:BK:4:ASP:O | 43:BK:5:PRO:C | 2.56 | 0.44 |
| 43:BK:38:ILE:CA | 43:BK:41:ARG:HB3 | 2.41 | 0.44 |
| 44:BL:116:LYS:HB3 | 44:BL:122:ALA:CA | 2.41 | 0.44 |
| 45:BM:3:LYS:HG3 | 45:BM:75:ILE:HG23 | 1.99 | 0.44 |
| 45:BM:8:LEU:HD23 | 45:BM:95:GLU:O | 2.16 | 0.44 |
| 45:BM:30:SER:CB | 45:BM:81:THR:CA | 2.95 | 0.44 |
| 47:BO:39:VAL:CG1 | 47:BO:41:ARG:HB2 | 2.47 | 0.44 |
| 47:BO:126:LYS:O | 47:BO:127:GLU:C | 2.55 | 0.44 |
| 50:BR:63:ARG:O | 50:BR:67:LEU:HG | 2.17 | 0.44 |
| 51:BS:5:ARG:C | 51:BS:6:LEU:CD1 | 2.80 | 0.44 |
| 51:BS:60:LEU:O | 51:BS:61:SER:C | 2.55 | 0.44 |
| 52:BT:28:PRO:CA | 52:BT:35:VAL:HA | 2.41 | 0.44 |
| 53:BU:36:ASN:HB3 | 53:BU:40:LEU:CG | 2.47 | 0.44 |
| 55:BW:26:ASN:HB3 | 55:BW:71:THR:HG23 | 1.99 | 0.44 |
| 55:BW:92:LEU:HG | 55:BW:92:LEU:H | 1.48 | 0.44 |
| 1:AB:17:C:C3' | 1:AB:18:G:H8 | 2.29 | 0.44 |
| 1:AB:83:G:H5" | 23:AX:52:HIS:CD2 | 2.53 | 0.44 |
| 2:AA:60:G:N7 | 2:AA:63:U:C5 | 2.86 | 0.44 |
| 2:AA:62:C:P | 2:AA:63:U:OP1 | 2.75 | 0.44 |
| 2:AA:72:U:H1' | 22:AW:54:ALA:CA | 2.46 | 0.44 |
| 2:AA:136:G:C6 | 2:AA:143:C:C2 | 3.05 | 0.44 |
| 2:AA:143:C:H6 | 2:AA:143:C:C3' | 2.30 | 0.44 |
| 2:AA:261:G:N2 | 2:AA:262:A:C4 | 2.85 | 0.44 |
| 2:AA:322:A:C4' | 2:AA:341:G:H5' | 2.46 | 0.44 |
| 2:AA:354:G:O5' | 2:AA:354:G:H8 | 2.00 | 0.44 |
| 2:AA:391:G:N7 | 2:AA:411:G:N2 | 2.65 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:435:C:H2' | 2:AA:436:C:C5' | 2.46 | 0.44 |
| 2:AA:438:G:H2' | 2:AA:439:G:O5' | 2.17 | 0.44 |
| 2:AA:449:A:C2 | 2:AA:450:G:C5 | 3.04 | 0.44 |
| 2:AA:531:C:H2' | 2:AA:532:A:OP1 | 2.17 | 0.44 |
| 2:AA:556:G:C2' | 2:AA:557:U:O4' | 2.64 | 0.44 |
| 2:AA:561:G:O2' | 25:A1:45:TYR:OH | 2.26 | 0.44 |
| 2:AA:674:G:C2 | 2:AA:804:A:C2 | 3.05 | 0.44 |
| 2:AA:680:G:C6 | 2:AA:681:G:C6 | 3.06 | 0.44 |
| 2:AA:684:G:N1 | 2:AA:775:G:C8 | 2.85 | 0.44 |
| 2:AA:729:G:N1 | 2:AA:1775:U:C6 | 2.85 | 0.44 |
| 2:AA:819:A:C2 | 2:AA:1189:A:N3 | 2.86 | 0.44 |
| 2:AA:834:C:C1' | 2:AA:2358:G:C2 | 2.99 | 0.44 |
| 2:AA:851:U:N3 | 2:AA:928:G:N2 | 2.65 | 0.44 |
| 2:AA:852:G:N1 | 2:AA:853:G:C5 | 2.86 | 0.44 |
| 2:AA:958:U:C4 | 15:AP:9:SER:HA | 2.52 | 0.44 |
| 2:AA:988:A:OP1 | 23:AX:11:SER:CB | 2.51 | 0.44 |
| 2:AA:1024:G:H3' | 2:AA:1024:G:H8 | 1.80 | 0.44 |
| 2:AA:1024:G:C6 | 2:AA:1025:G:C8 | 3.06 | 0.44 |
| 2:AA:1063:G:C2 | 2:AA:1075:C:N4 | 2.84 | 0.44 |
| 2:AA:1064:C:N4 | 2:AA:1075:C:N4 | 2.65 | 0.44 |
| 2:AA:1085:A:P | 9:AI:34:ALA:HA | 2.57 | 0.44 |
| 2:AA:1154:G:O2' | 2:AA:1155:A:C5' | 2.64 | 0.44 |
| 2:AA:1198:U:H2' | 2:AA:1199:U:C5 | 2.52 | 0.44 |
| 2:AA:1233:C:H2' | 2:AA:1233:C:O2 | 2.16 | 0.44 |
| 2:AA:1256:G:H2' | 2:AA:1257:C:C6 | 2.45 | 0.44 |
| 2:AA:1342:A:C8 | 2:AA:1342:A:H3' | 2.52 | 0.44 |
| 2:AA:1351:C:C4 | 2:AA:1381:G:N1 | 2.86 | 0.44 |
| 2:AA:1365:A:N6 | 2:AA:1366:A:C6 | 2.85 | 0.44 |
| 2:AA:1413:G:C4 | 2:AA:1414:G:C8 | 3.06 | 0.44 |
| 2:AA:1522:G:H8 | 2:AA:1522:G:O5' | 2.00 | 0.44 |
| 2:AA:1566:A:O4' | 2:AA:1566:A:P | 2.75 | 0.44 |
| 2:AA:1571:A:H2 | 2:AA:1572:A:H8 | 1.66 | 0.44 |
| 2:AA:1625:C:H6 | 2:AA:1625:C:O5' | 2.01 | 0.44 |
| 2:AA:1657:C:C6 | 2:AA:1657:C:O5' | 2.70 | 0.44 |
| 2:AA:1660:C:H2' | 2:AA:1661:G:H8 | 1.82 | 0.44 |
| 2:AA:1668:A:N7 | 2:AA:1993:U:O4 | 2.49 | 0.44 |
| 2:AA:1684:C:N4 | 2:AA:1705:G:N1 | 2.66 | 0.44 |
| 2:AA:1767:C:C4 | 2:AA:1768:U:C5 | 3.05 | 0.44 |
| 2:AA:1778:U:N3 | 2:AA:1784:A:N3 | 2.65 | 0.44 |
| 2:AA:1803:A:C8 | 2:AA:1803:A:H3' | 2.52 | 0.44 |
| 2:AA:1881:C:H2' | 2:AA:1882:C:O4' | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1891:G:C6 | 2:AA:1892:C:C4 | 3.05 | 0.44 |
| 2:AA:1999:C:H4' | 2:AA:2723:C:O2 | 2.16 | 0.44 |
| 2:AA:2044:C:HO2' | 2:AA:2045:C:H5' | 1.83 | 0.44 |
| 2:AA:2078:C:C4 | 2:AA:2079:U:C5 | 3.05 | 0.44 |
| 2:AA:2110:G:O6 | 2:AA:2179:C:N3 | 2.50 | 0.44 |
| 2:AA:2193:G:N1 | 2:AA:2194:G:N7 | 2.65 | 0.44 |
| 2:AA:2197:U:O2' | 2:AA:2198:A:C8 | 2.64 | 0.44 |
| 2:AA:2261:C:H5' | 2:AA:2388:A:C4' | 2.47 | 0.44 |
| 2:AA:2284:C:N4 | 2:AA:2285:C:N4 | 2.65 | 0.44 |
| 2:AA:2345:G:N2 | 2:AA:2381:C:H2' | 2.32 | 0.44 |
| 2:AA:2385:C:C2 | 2:AA:2386:C:C6 | 3.06 | 0.44 |
| 2:AA:2461:C:O2 | 2:AA:2462:U:C6 | 2.71 | 0.44 |
| 2:AA:2468:G:O2' | 2:AA:2469:A:H8 | 1.88 | 0.44 |
| 2:AA:2600:A:N3 | 2:AA:2601:C:C5 | 2.85 | 0.44 |
| 2:AA:2624:G:N1 | 2:AA:2625:G:C4 | 2.86 | 0.44 |
| 2:AA:2635:C:N3 | 2:AA:2636:U:C6 | 2.85 | 0.44 |
| 2:AA:2637:U:C2 | 2:AA:2782:G:N2 | 2.86 | 0.44 |
| 2:AA:2639:A:H1' | 2:AA:2778:A:C2 | 2.52 | 0.44 |
| 2:AA:2737:G:N2 | 2:AA:2768:C:C2 | 2.86 | 0.44 |
| 2:AA:2781:A:H5' | 2:AA:2782:G:O4' | 2.16 | 0.44 |
| 2:AA:2785:C:H1' | 5:AE:100:TRP:HD1 | 1.76 | 0.44 |
| 2:AA:2804:C:H5 | 2:AA:2805:G:O6 | 1.98 | 0.44 |
| 2:AA:2825:C:C4 | 2:AA:2826:A:C8 | 3.06 | 0.44 |
| 2:AA:2836:U:C2' | 2:AA:2837:G:O5' | 2.66 | 0.44 |
| 2:AA:2873:A:O2' | 2:AA:2874:C:OP1 | 2.33 | 0.44 |
| 2:AA:2877:G:C2 | 2:AA:2878:U:C4 | 3.05 | 0.44 |
| 3:AC:62:VAL:HG21 | 3:AC:192:PHE:HA | 1.99 | 0.44 |
| 6:AF:89:ALA:O | 6:AF:90:HIS:CD2 | 2.71 | 0.44 |
| 6:AF:200:PRO:HD3 | 6:AF:214:THR:HG22 | 1.99 | 0.44 |
| 8:AH:13:GLY:O | 8:AH:15:THR:N | 2.51 | 0.44 |
| 10:AK:7:LYS:N | 10:AK:14:LYS:CG | 2.79 | 0.44 |
| 11:AL:85:ILE:HG23 | 11:AL:85:ILE:O | 2.16 | 0.44 |
| 11:AL:93:LYS:HZ2 | 21:AV:108:VAL:CG1 | 2.28 | 0.44 |
| 13:AN:65:THR:OG1 | 13:AN:67:ARG:HG2 | 2.17 | 0.44 |
| 13:AN:112:MET:N | 13:AN:115:ILE:HD12 | 2.32 | 0.44 |
| 15:AP:132:VAL:O | 15:AP:133:GLU:C | 2.54 | 0.44 |
| 15:AP:133:GLU:C | 15:AP:133:GLU:CD | 2.75 | 0.44 |
| 15:AP:143:VAL:HG21 | 15:AP:147:VAL:CG2 | 2.47 | 0.44 |
| 16:AQ:80:SER:OG | 16:AQ:81:ALA:N | 2.51 | 0.44 |
| 20:AU:53:GLY:O | 20:AU:54:ASP:C | 2.54 | 0.44 |
| 20:AU:80:GLU:HA | 20:AU:86:GLU:HA | 1.99 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:101:LEU:HD13 | 20:AU:113:GLU:CB | 2.47 | 0.44 |
| 24:A0:64:ARG:NH1 | 24:A0:65:LEU:HG | 2.31 | 0.44 |
| 24:A0:67:LEU:CB | 24:A0:76:VAL:HG21 | 2.43 | 0.44 |
| 24:A0:100:LEU:HD23 | 24:A0:113:LEU:H | 1.81 | 0.44 |
| 25:A1:15:LYS:C | 25:A1:18:LEU:HB2 | 2.33 | 0.44 |
| 25:A1:19:LYS:HB2 | 25:A1:19:LYS:HE3 | 1.56 | 0.44 |
| 32:A8:23:MET:CE | 32:A8:48:PHE:CB | 2.94 | 0.44 |
| 34:BA:25:C:N4 | 34:BA:558:G:N2 | 2.65 | 0.44 |
| 34:BA:32:A:N3 | 34:BA:33:A:H1' | 2.33 | 0.44 |
| 34:BA:67:C:O2 | 34:BA:171:A:H2 | 2.01 | 0.44 |
| 34:BA:89:C:C5 | 34:BA:90:U:C5 | 3.06 | 0.44 |
| 34:BA:120:A:C6 | 34:BA:122:G:C2 | 3.06 | 0.44 |
| 34:BA:376:G:C6 | 34:BA:377:G:N7 | 2.86 | 0.44 |
| 34:BA:381:C:H2' | 34:BA:382:A:C8 | 2.51 | 0.44 |
| 34:BA:405:U:H3' | 34:BA:406:G:H5' | 1.98 | 0.44 |
| 34:BA:484:G:O2' | 34:BA:485:G:OP2 | 2.33 | 0.44 |
| 34:BA:557:G:H5" | 34:BA:558:G:OP2 | 2.18 | 0.44 |
| 34:BA:586:C:N3 | 34:BA:755:G:N2 | 2.61 | 0.44 |
| 34:BA:628:G:C2' | 34:BA:629:G:H8 | 2.17 | 0.44 |
| 34:BA:673:G:O2' | 34:BA:674:G:O4' | 2.30 | 0.44 |
| 34:BA:683:G:N2 | 46:BN:39:PRO:HD2 | 2.33 | 0.44 |
| 34:BA:685:G:O5' | 34:BA:685:G:H8 | 2.00 | 0.44 |
| 34:BA:722:A:N1 | 34:BA:724:G:C6 | 2.85 | 0.44 |
| 34:BA:886:G:C6 | 34:BA:912:C:N3 | 2.86 | 0.44 |
| 34:BA:946:A:N3 | 34:BA:947:G:C8 | 2.85 | 0.44 |
| 34:BA:951:G:C2 | 34:BA:952:U:N1 | 2.85 | 0.44 |
| 34:BA:959:A:C2 | 34:BA:1221:G:N3 | 2.81 | 0.44 |
| 34:BA:1005:A:H3' | 34:BA:1006:C:H6 | 1.82 | 0.44 |
| 34:BA:1104:G:C4 | 34:BA:1105:A:C8 | 3.06 | 0.44 |
| 34:BA:1178:G:H8 | 34:BA:1178:G:P | 2.40 | 0.44 |
| 34:BA:1186:G:OP2 | 34:BA:1186:G:H8 | 2.00 | 0.44 |
| 34:BA:1189:C:H5" | 38:BF:5:ILE:HG12 | 1.99 | 0.44 |
| 34:BA:1193:G:C6 | 34:BA:1194:U:C4 | 3.06 | 0.44 |
| 34:BA:1216:G:H5" | 49:BQ:5:ALA:HB1 | 1.97 | 0.44 |
| 34:BA:1265:G:O6 | 34:BA:1266:G:N2 | 2.51 | 0.44 |
| 34:BA:1412:C:C2 | 34:BA:1489:G:N2 | 2.85 | 0.44 |
| 34:BA:1485:U:O2 | 34:BA:1486:G:C8 | 2.71 | 0.44 |
| 34:BA:1490:C:C6 | 34:BA:1490:C:C4' | 2.97 | 0.44 |
| 36:B1:12:U:H2' | 36:B1:13:G:O5' | 2.17 | 0.44 |
| 36:B1:25:U:O4 | 36:B1:28:U:OP2 | 2.34 | 0.44 |
| 36:B1:66:G:H2' | 36:B1:66:G:N3 | 2.31 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:97:TRP:CZ2 | 37:BE:173:ALA:HB2 | 2.53 | 0.44 |
| 37:BE:217:ARG:HG3 | 37:BE:217:ARG:HH11 | 1.81 | 0.44 |
| 38:BF:21:ARG:HH21 | 38:BF:54:ARG:NH2 | 2.10 | 0.44 |
| 38:BF:77:ILE:O | 38:BF:81:GLY:HA2 | 2.18 | 0.44 |
| 38:BF:83:ARG:CZ | 38:BF:87:LEU:HD21 | 2.43 | 0.44 |
| 38:BF:107:GLN:O | 38:BF:108:ASN:HB2 | 2.16 | 0.44 |
| 38:BF:156:ARG:N | 38:BF:163:ALA:CB | 2.76 | 0.44 |
| 38:BF:162:GLN:CD | 38:BF:163:ALA:H | 2.20 | 0.44 |
| 40:BH:28:PHE:HE1 | 40:BH:49:PRO:O | 2.01 | 0.44 |
| 40:BH:39:GLY:CA | 40:BH:69:VAL:HG23 | 2.47 | 0.44 |
| 40:BH:137:GLU:O | 40:BH:138:ALA:C | 2.55 | 0.44 |
| 42:BJ:26:PHE:CE2 | 42:BJ:30:ILE:HD11 | 2.52 | 0.44 |
| 42:BJ:76:ARG:NH1 | 42:BJ:89:MET:HE1 | 2.33 | 0.44 |
| 42:BJ:80:VAL:O | 42:BJ:80:VAL:HG12 | 2.18 | 0.44 |
| 43:BK:14:ARG:HD2 | 43:BK:15:ASN:N | 2.33 | 0.44 |
| 43:BK:92:ARG:HB3 | 43:BK:94:TYR:HE1 | 1.83 | 0.44 |
| 44:BL:36:TYR:C | 44:BL:38:GLN:H | 2.21 | 0.44 |
| 44:BL:48:GLU:N | 44:BL:49:PRO:CD | 2.80 | 0.44 |
| 45:BM:56:HIS:C | 45:BM:58:ASP:N | 2.71 | 0.44 |
| 46:BN:42:TRP:CE3 | 46:BN:43:SER:HA | 2.45 | 0.44 |
| 46:BN:43:SER:OG | 46:BN:44:SER:N | 2.50 | 0.44 |
| 46:BN:68:ALA:O | 46:BN:69:ALA:C | 2.56 | 0.44 |
| 47:BO:113:ARG:C | 47:BO:114:LYS:CG | 2.79 | 0.44 |
| 48:BP:71:ARG:HA | 48:BP:74:VAL:CG2 | 2.45 | 0.44 |
| 49:BQ:43:CYS:O | 49:BQ:47:LEU:CG | 2.62 | 0.44 |
| 50:BR:21:ASP:O | 50:BR:21:ASP:CG | 2.56 | 0.44 |
| 50:BR:74:ASP:CG | 50:BR:74:ASP:O | 2.52 | 0.44 |
| 50:BR:79:ARG:O | 50:BR:82:ILE:HB | 2.16 | 0.44 |
| 51:BS:14:ASN:OD1 | 51:BS:16:HIS:CE1 | 2.70 | 0.44 |
| 52:BT:2:PRO:C | 52:BT:4:LYS:N | 2.70 | 0.44 |
| 54:BV:41:VAL:O | 54:BV:42:PRO:C | 2.55 | 0.44 |
| 55:BW:67:ALA:O | 55:BW:68:LYS:O | 2.35 | 0.44 |
| 1:AB:29:A:OP1 | 16:AQ:39:SER:HB3 | 2.18 | 0.44 |
| 1:AB:45:A:H3' | 1:AB:46:A:C8 | 2.53 | 0.44 |
| 2:AA:71:A:H3' | 2:AA:71:A:OP2 | 2.18 | 0.44 |
| 2:AA:147:U:C2 | 2:AA:148:C:C6 | 3.05 | 0.44 |
| 2:AA:147:U:N3 | 2:AA:148:C:C4 | 2.85 | 0.44 |
| 2:AA:270(V):G:C5 | 2:AA:270(W):G:N7 | 2.85 | 0.44 |
| 2:AA:298:G:H1 | 2:AA:338:G:H4' | 1.82 | 0.44 |
| 2:AA:325:G:O2' | 2:AA:326:G:C5' | 2.63 | 0.44 |
| 2:AA:342:G:C2' | 2:AA:343:C:H6 | 2.21 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:449:A:H4' | 2:AA:1248:G:H22 | 1.82 | 0.44 |
| 2:AA:541:C:C2' | 2:AA:542:C:H6 | 2.22 | 0.44 |
| 2:AA:630:G:N1 | 2:AA:634:C:N4 | 2.66 | 0.44 |
| 2:AA:638:G:O2' | 2:AA:639:U:C5' | 2.57 | 0.44 |
| 2:AA:645:C:OP2 | 2:AA:2369:A:O4' | 2.35 | 0.44 |
| 2:AA:679:C:H2' | 2:AA:680:G:O5' | 2.18 | 0.44 |
| 2:AA:706:A:C2' | 2:AA:707:G:H5' | 2.47 | 0.44 |
| 2:AA:720:C:H2' | 2:AA:721:C:O4' | 2.17 | 0.44 |
| 2:AA:917:A:C8 | 2:AA:917:A:H5" | 2.53 | 0.44 |
| 2:AA:1068:G:C2 | 2:AA:1073:A:C2 | 3.06 | 0.44 |
| 2:AA:1073:A:OP2 | 2:AA:1094:U:O4 | 2.36 | 0.44 |
| 2:AA:1206:G:H1' | 2:AA:1242:A:H61 | 1.81 | 0.44 |
| 2:AA:1215:G:H2' | 2:AA:1216:G:O4' | 2.18 | 0.44 |
| 2:AA:1243:G:C5 | 2:AA:1244:G:N7 | 2.86 | 0.44 |
| 2:AA:1255:U:H6 | 2:AA:2502:G:N2 | 2.15 | 0.44 |
| 2:AA:1300:U:O2 | 2:AA:1634:A:H1' | 2.18 | 0.44 |
| 2:AA:1342:A:H5' | 19:AT:53:ASN:OD1 | 2.17 | 0.44 |
| 2:AA:1576:U:C5 | 2:AA:1577:C:C4 | 2.90 | 0.44 |
| 2:AA:1682:G:OP1 | 2:AA:1699:G:N1 | 2.50 | 0.44 |
| 2:AA:1725:G:N1 | 2:AA:1735:C:C2 | 2.79 | 0.44 |
| 2:AA:1800:C:H1' | 2:AA:1802:A:H1' | 1.99 | 0.44 |
| 2:AA:1845:G:C2 | 2:AA:1896:G:C2 | 3.06 | 0.44 |
| 2:AA:1855:G:N2 | 2:AA:1887:C:C2 | 2.73 | 0.44 |
| 2:AA:1878:G:C2' | 2:AA:1879:C:O5' | 2.66 | 0.44 |
| 2:AA:1913:A:C8 | 2:AA:1918:A:C6 | 3.03 | 0.44 |
| 2:AA:2051:A:OP2 | 2:AA:2051:A:O4' | 2.36 | 0.44 |
| 2:AA:2052:G:H5' | 5:AE:239:GLY:N | 2.15 | 0.44 |
| 2:AA:2100:G:O6 | 2:AA:2101:G:C6 | 2.70 | 0.44 |
| 2:AA:2120:G:C2 | 2:AA:2179:C:N3 | 2.85 | 0.44 |
| 2:AA:2320:A:H8 | 2:AA:2320:A:P | 2.40 | 0.44 |
| 2:AA:2334:G:C2' | 2:AA:2335:A:C5' | 2.90 | 0.44 |
| 2:AA:2357:U:H2' | 2:AA:2358:G:O5' | 2.17 | 0.44 |
| 2:AA:2418:A:C6 | 2:AA:2419:U:N3 | 2.86 | 0.44 |
| 2:AA:2584:U:C2' | 2:AA:2585:U:C5 | 3.01 | 0.44 |
| 2:AA:2657:A:C5 | 2:AA:2664:G:N2 | 2.85 | 0.44 |
| 2:AA:2682:U:O2 | 5:AE:61:PRO:HG3 | 2.17 | 0.44 |
| 2:AA:2711:A:OP1 | 2:AA:2712:U:O3' | 2.35 | 0.44 |
| 2:AA:2779:U:H5" | 2:AA:2780:G:C5' | 2.46 | 0.44 |
| 2:AA:2873:A:O2' | 2:AA:2874:C:P | 2.74 | 0.44 |
| 5:AE:86:TYR:CD1 | 5:AE:86:TYR:N | 2.86 | 0.44 |
| 5:AE:173:ARG:O | 5:AE:174:LEU:C | 2.56 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:217:TRP:CZ2 | 5:AE:251:PRO:CB | 3.00 | 0.44 |
| 6:AF:20:ASP:O | 6:AF:23:GLU:HB2 | 2.16 | 0.44 |
| 6:AF:68:ALA:O | 6:AF:69:HIS:CG | 2.70 | 0.44 |
| 6:AF:154:VAL:O | 6:AF:157:LEU:CB | 2.64 | 0.44 |
| 6:AF:194:PHE:HE1 | 6:AF:210:ALA:HA | 1.82 | 0.44 |
| 6:AF:245:GLU:CD | 6:AF:245:GLU:N | 2.71 | 0.44 |
| 7:AG:134:LEU:O | 7:AG:139:TYR:CE2 | 2.70 | 0.44 |
| 8:AH:37:HIS:ND1 | 8:AH:37:HIS:N | 2.63 | 0.44 |
| 9:AI:53:GLN:HA | 9:AI:128:LYS:NZ | 2.31 | 0.44 |
| 9:AJ:18:LEU:HD22 | 9:AJ:44:VAL:HB | 1.98 | 0.44 |
| 9:AJ:52:ALA:HB1 | 9:AJ:58:GLU:CB | 2.42 | 0.44 |
| 9:AJ:60:ASP:HB2 | 9:AJ:128:LYS:CE | 2.47 | 0.44 |
| 9:AJ:73:VAL:HG21 | 9:AJ:122:GLY:C | 2.36 | 0.44 |
| 9:AJ:91:LEU:O | 9:AJ:92:VAL:C | 2.56 | 0.44 |
| 9:AJ:110:GLU:O | 9:AJ:114:ILE:HG13 | 2.18 | 0.44 |
| 10:AK:10:LYS:HG3 | 10:AK:11:GLY:N | 2.32 | 0.44 |
| 10:AK:132:LYS:HG3 | 10:AK:132:LYS:H | 1.51 | 0.44 |
| 12:AM:108:PRO:HG2 | 12:AM:109:TYR:CE1 | 2.51 | 0.44 |
| 13:AN:1:MET:H1 | 13:AN:32:TYR:HB3 | 1.72 | 0.44 |
| 14:AO:92:ASP:N | 14:AO:118:LEU:CD2 | 2.80 | 0.44 |
| 14:AO:94:ARG:NE | 14:AO:118:LEU:CB | 2.76 | 0.44 |
| 15:AP:41:THR:CB | 15:AP:126:VAL:HA | 2.47 | 0.44 |
| 15:AP:57:ARG:C | 15:AP:61:LEU:CD1 | 2.85 | 0.44 |
| 15:AP:65:ARG:C | 15:AP:67:ALA:N | 2.70 | 0.44 |
| 15:AP:94:ARG:HA | 15:AP:107:LYS:O | 2.18 | 0.44 |
| 15:AP:130:PRO:O | 15:AP:134:PHE:CD2 | 2.70 | 0.44 |
| 16:AQ:11:ARG:HG3 | 16:AQ:12:ARG:CG | 2.42 | 0.44 |
| 16:AQ:90:LEU:HG | 16:AQ:90:LEU:H | 1.53 | 0.44 |
| 19:AT:23:LYS:CA | 19:AT:66:VAL:O | 2.66 | 0.44 |
| 20:AU:81:LYS:CD | 20:AU:83:ASP:OD1 | 2.65 | 0.44 |
| 21:AV:16:GLU:OE1 | 21:AV:16:GLU:HA | 2.17 | 0.44 |
| 21:AV:26:LYS:O | 21:AV:27:GLU:HB2 | 2.17 | 0.44 |
| 21:AV:37:LYS:CA | 21:AV:40:ASP:CG | 2.85 | 0.44 |
| 22:AW:48:GLU:O | 22:AW:51:LYS:N | 2.51 | 0.44 |
| 25:A1:56:ASP:O | 25:A1:60:LEU:HD12 | 2.17 | 0.44 |
| 27:A3:24:LYS:O | 27:A3:25:LYS:CB | 2.66 | 0.44 |
| 27:A3:36:ILE:O | 27:A3:37:LEU:HD23 | 2.18 | 0.44 |
| 28:A4:7:PRO:O | 28:A4:60:ASN:ND2 | 2.51 | 0.44 |
| 31:A7:33:ARG:O | 31:A7:37:LYS:CG | 2.66 | 0.44 |
| 33:A9:24:LEU:HD22 | 33:A9:35:ARG:HA | 1.98 | 0.44 |
| 34:BA:147:G:C2 | 34:BA:176:C:C2 | 3.05 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:246:A:HO2' | 34:BA:247:G:P | 2.41 | 0.44 |
| 34:BA:259:G:C2' | 34:BA:260:G:O5' | 2.66 | 0.44 |
| 34:BA:291:C:O2 | 34:BA:292:G:C8 | 2.70 | 0.44 |
| 34:BA:313:A:C6 | 34:BA:314:C:N4 | 2.85 | 0.44 |
| 34:BA:392:G:H5" | 51:BS:12:LYS:HZ3 | 1.82 | 0.44 |
| 34:BA:448:A:C5 | 34:BA:487:A:C2 | 3.06 | 0.44 |
| 34:BA:483:C:OP2 | 34:BA:484:G:H2' | 2.17 | 0.44 |
| 34:BA:565:U:C6 | 34:BA:566:G:C8 | 3.05 | 0.44 |
| 34:BA:577:G:C1' | 34:BA:816:A:N3 | 2.79 | 0.44 |
| 34:BA:606:G:C2 | 34:BA:631:G:C2 | 3.05 | 0.44 |
| 34:BA:659:U:O2' | 34:BA:660:G:O5' | 2.36 | 0.44 |
| 34:BA:731:G:H2' | 34:BA:732:C:C6 | 2.52 | 0.44 |
| 34:BA:775:G:C4 | 34:BA:776:G:C8 | 3.04 | 0.44 |
| 34:BA:821:G:O2' | 34:BA:822:C:C5' | 2.65 | 0.44 |
| 34:BA:872:A:O2' | 34:BA:873:A:C3' | 2.60 | 0.44 |
| 34:BA:1026:G:N7 | 34:BA:1027:C:C6 | 2.85 | 0.44 |
| 34:BA:1080:A:H4' | 40:BH:16:THR:HB | 1.98 | 0.44 |
| 34:BA:1128:C:N3 | 34:BA:1144:G:C2 | 2.86 | 0.44 |
| 34:BA:1188:A:H4' | 49:BQ:58:LYS:NZ | 2.32 | 0.44 |
| 34:BA:1193:G:C6 | 34:BA:1194:U:C5 | 3.04 | 0.44 |
| 34:BA:1236:A:C5' | 34:BA:1304:G:H5" | 2.45 | 0.44 |
| 34:BA:1237:C:H1' | 34:BA:1334:G:H21 | 1.81 | 0.44 |
| 34:BA:1288:A:C2 | 34:BA:1352:C:O2 | 2.68 | 0.44 |
| 34:BA:1418:A:N6 | 34:BA:1483:A:C5 | 2.85 | 0.44 |
| 34:BA:1523:G:C4 | 34:BA:1524:C:C5 | 3.05 | 0.44 |
| 35:BC:52:U:C2 | 35:BC:53:G:C8 | 3.05 | 0.44 |
| 36:B1:60:A:H2' | 36:B1:61:U:O5' | 2.17 | 0.44 |
| 37:BE:19:HIS:O | 37:BE:39:ILE:HG23 | 2.18 | 0.44 |
| 37:BE:75:LYS:HD3 | 37:BE:75:LYS:HA | 1.80 | 0.44 |
| 37:BE:126:GLU:O | 37:BE:127:ILE:C | 2.55 | 0.44 |
| 38:BF:29:TYR:C | 38:BF:29:TYR:CD2 | 2.91 | 0.44 |
| 38:BF:88:ARG:NH2 | 38:BF:101:LEU:N | 2.65 | 0.44 |
| 38:BF:134:ILE:O | 38:BF:135:LYS:C | 2.55 | 0.44 |
| 38:BF:164:ARG:CG | 38:BF:164:ARG:NH1 | 2.80 | 0.44 |
| 39:BG:170:VAL:CG2 | 39:BG:176:LEU:HD13 | 2.47 | 0.44 |
| 40:BH:141:GLN:CB | 40:BH:143:ARG:NH2 | 2.80 | 0.44 |
| 40:BH:149:GLU:O | 40:BH:150:ARG:C | 2.54 | 0.44 |
| 41:BI:2:ARG:HH21 | 50:BR:2:PRO:HD2 | 1.83 | 0.44 |
| 41:BI:45:LEU:HD23 | 41:BI:59:TYR:N | 2.33 | 0.44 |
| 41:BI:97:PHE:CD2 | 53:BU:31:LEU:HD12 | 2.49 | 0.44 |
| 43:BK:5:PRO:O | 43:BK:6:ILE:C | 2.55 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:21:LYS:O | 43:BK:22:GLU:C | 2.56 | 0.44 |
| 43:BK:109:ILE:CG1 | 43:BK:137:VAL:O | 2.54 | 0.44 |
| 46:BN:29:ILE:HG22 | 46:BN:44:SER:HB3 | 1.99 | 0.44 |
| 46:BN:63:LEU:HA | 46:BN:63:LEU:HD23 | 1.74 | 0.44 |
| 46:BN:75:TYR:O | 46:BN:76:GLY:C | 2.56 | 0.44 |
| 47:BO:84:LEU:HB3 | 47:BO:104:VAL:CG1 | 2.46 | 0.44 |
| 47:BO:93:LEU:O | 47:BO:94:PRO:O | 2.36 | 0.44 |
| 48:BP:126:LYS:O | 48:BP:126:LYS:HG2 | 2.18 | 0.44 |
| 50:BR:9:GLN:CD | 50:BR:12:ILE:HD12 | 2.35 | 0.44 |
| 50:BR:11:VAL:O | 50:BR:12:ILE:C | 2.55 | 0.44 |
| 51:BS:4:ILE:HG13 | 51:BS:66:PRO:HA | 1.99 | 0.44 |
| 51:BS:9:PHE:CZ | 51:BS:18:ARG:NE | 2.86 | 0.44 |
| 51:BS:39:TYR:CE2 | 51:BS:73:LEU:HD11 | 2.52 | 0.44 |
| 51:BS:55:ARG:HH21 | 51:BS:58:TYR:CB | 2.30 | 0.44 |
| 52:BT:15:MET:CB | 52:BT:18:THR:CB | 2.93 | 0.44 |
| 53:BU:38:GLU:N | 53:BU:38:GLU:CD | 2.70 | 0.44 |
| 53:BU:51:LEU:H | 53:BU:51:LEU:CD1 | 2.27 | 0.44 |
| 54:BV:15:LEU:CG | 54:BV:16:LEU:H | 2.29 | 0.44 |
| 56:BX:20:LYS:HD2 | 56:BX:21:TYR:CE2 | 2.52 | 0.44 |
| 1:AB:25:A:C2' | 1:AB:26:A:C5' | 2.96 | 0.44 |
| 1:AB:32:C:N4 | 1:AB:51:G:N1 | 2.66 | 0.44 |
| 1:AB:50:G:N1 | 1:AB:51:G:C5 | 2.85 | 0.44 |
| 1:AB:113:C:O2' | 16:AQ:56:ASP:CG | 2.54 | 0.44 |
| 2:AA:81:G:O6 | 2:AA:82:G:C2 | 2.70 | 0.44 |
| 2:AA:123:G:N2 | 2:AA:124:G:N3 | 2.65 | 0.44 |
| 2:AA:164:U:C2 | 2:AA:171:G:H4' | 2.45 | 0.44 |
| 2:AA:196:A:HO2' | 2:AA:197:A:P | 2.41 | 0.44 |
| 2:AA:200:U:C5 | 2:AA:201:C:C2 | 3.06 | 0.44 |
| 2:AA:289:A:N7 | 2:AA:350:U:O4 | 2.51 | 0.44 |
| 2:AA:312:G:OP2 | 2:AA:332:A:C5' | 2.65 | 0.44 |
| 2:AA:329:G:H4' | 2:AA:330:A:OP1 | 2.10 | 0.44 |
| 2:AA:332:A:C5 | 2:AA:335:C:C4 | 3.05 | 0.44 |
| 2:AA:342:G:O2' | 2:AA:343:C:O4' | 2.29 | 0.44 |
| 2:AA:372:G:O4' | 28:A4:69:ARG:NH2 | 2.51 | 0.44 |
| 2:AA:459:U:H2' | 2:AA:460:A:O5' | 2.18 | 0.44 |
| 2:AA:489:G:N1 | 2:AA:491:G:C5 | 2.85 | 0.44 |
| 2:AA:535:C:O2' | 2:AA:536:A:H5' | 2.17 | 0.44 |
| 2:AA:563:G:N1 | 2:AA:564:C:C2 | 2.86 | 0.44 |
| 2:AA:570:G:OP1 | 2:AA:973:A:OP2 | 2.36 | 0.44 |
| 2:AA:583:G:H1 | 2:AA:1257:C:N4 | 2.09 | 0.44 |
| 2:AA:607:U:H2' | 2:AA:608:A:H8 | 1.82 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:685:A:C6 | 2:AA:774:A:C2 | 3.05 | 0.44 |
| 2:AA:722:A:O2' | 2:AA:723:G:O5' | 2.35 | 0.44 |
| 2:AA:752:A:N1 | 2:AA:1781:C:O2' | 2.46 | 0.44 |
| 2:AA:818:G:N2 | 2:AA:1190:G:N1 | 2.66 | 0.44 |
| 2:AA:885:C:N3 | 2:AA:892:G:C2 | 2.86 | 0.44 |
| 2:AA:939:G:C2' | 2:AA:940:G:O5' | 2.66 | 0.44 |
| 2:AA:970:C:O2 | 2:AA:970:C:C2' | 2.62 | 0.44 |
| 2:AA:1000:A:C2 | 2:AA:1155:A:C5 | 3.06 | 0.44 |
| 2:AA:1020:A:O2' | 12:AM:49:ARG:NH1 | 2.50 | 0.44 |
| 2:AA:1040:C:C2 | 2:AA:1115:G:C2 | 3.06 | 0.44 |
| 2:AA:1057:A:C8 | 2:AA:1085:A:C2 | 3.06 | 0.44 |
| 2:AA:1075:C:O2 | 2:AA:1075:C:H2' | 2.17 | 0.44 |
| 2:AA:1224:G:O2' | 2:AA:1225:C:H5' | 2.17 | 0.44 |
| 2:AA:1229:G:O6 | 2:AA:1230:C:O2 | 2.35 | 0.44 |
| 2:AA:1257:C:H2' | 2:AA:1258:C:H5' | 1.99 | 0.44 |
| 2:AA:1266:G:H2' | 2:AA:1267:U:OP2 | 2.17 | 0.44 |
| 2:AA:1293:C:O2 | 2:AA:1294:U:C6 | 2.70 | 0.44 |
| 2:AA:1297:C:P | 2:AA:2710:C:H4' | 2.58 | 0.44 |
| 2:AA:1314:C:O5' | 2:AA:1314:C:H6 | 2.00 | 0.44 |
| 2:AA:1395:A:C2 | 2:AA:1398:C:C6 | 3.05 | 0.44 |
| 2:AA:1423:G:N2 | 2:AA:1424:G:N3 | 2.66 | 0.44 |
| 2:AA:1429:G:O4' | 2:AA:1568:G:H1' | 2.18 | 0.44 |
| 2:AA:1498:C:C2 | 2:AA:1499:C:C5 | 3.04 | 0.44 |
| 2:AA:1506:C:N4 | 2:AA:1507:A:C8 | 2.86 | 0.44 |
| 2:AA:1525:G:H2' | 2:AA:1526:G:H8 | 1.81 | 0.44 |
| 2:AA:1645:G:C5' | 2:AA:1646:C:O4' | 2.60 | 0.44 |
| 2:AA:1650:G:C6 | 2:AA:2008:C:C2 | 3.05 | 0.44 |
| 2:AA:1665:A:N1 | 2:AA:1666:G:C5 | 2.85 | 0.44 |
| 2:AA:1666:G:O2' | 13:AN:6:SER:HB3 | 2.18 | 0.44 |
| 2:AA:1835:G:C2 | 2:AA:1836:C:C5 | 3.06 | 0.44 |
| 2:AA:1840:G:N2 | 2:AA:1841:U:C1' | 2.81 | 0.44 |
| 2:AA:1901:A:N3 | 2:AA:1901:A:H2' | 2.32 | 0.44 |
| 2:AA:1908:C:O2' | 2:AA:1909:C:C5' | 2.65 | 0.44 |
| 2:AA:1998:G:C5 | 2:AA:1999:C:C5 | 3.06 | 0.44 |
| 2:AA:2006:C:H4' | 2:AA:2048:G:H4' | 1.99 | 0.44 |
| 2:AA:2116:G:P | 3:AC:126:LYS:CB | 3.03 | 0.44 |
| 2:AA:2126:A:OP2 | 2:AA:2126:A:O4' | 2.36 | 0.44 |
| 2:AA:2215:G:H2' | 2:AA:2216:G:O4' | 2.18 | 0.44 |
| 2:AA:2239:G:C4 | 2:AA:2240:C:C5 | 3.06 | 0.44 |
| 2:AA:2246:G:C2 | 2:AA:2247:A:C6 | 3.05 | 0.44 |
| 2:AA:2303:G:H4' | 7:AG:99:ASP:HB2 | 1.99 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2391:G:N2 | 2:AA:2424:C:O2 | 2.50 | 0.44 |
| 2:AA:2414:G:C4 | 2:AA:2415:G:C8 | 3.06 | 0.44 |
| 2:AA:2465:C:N3 | 2:AA:2485:G:C6 | 2.83 | 0.44 |
| 2:AA:2489:G:C2' | 2:AA:2490:G:O4' | 2.65 | 0.44 |
| 2:AA:2491:U:H5' | 2:AA:2570:G:C4' | 2.46 | 0.44 |
| 2:AA:2588:G:O6 | 2:AA:2589:A:C6 | 2.70 | 0.44 |
| 2:AA:2618:G:C4 | 2:AA:2619:C:C5 | 3.06 | 0.44 |
| 2:AA:2789:C:HO2' | 2:AA:2790:A:P | 2.40 | 0.44 |
| 2:AA:2795:G:C2' | 2:AA:2797:U:O5' | 2.66 | 0.44 |
| 2:AA:2805:G:C8 | 2:AA:2807:G:C1' | 3.00 | 0.44 |
| 2:AA:2888:C:N3 | 2:AA:2889:C:C5 | 2.85 | 0.44 |
| 3:AC:56:GLN:O | 3:AC:57:ASN:C | 2.55 | 0.44 |
| 3:AC:100:ILE:HG23 | 3:AC:127:LEU:HG | 1.99 | 0.44 |
| 4:AD:65:ASP:C | 4:AD:67:LYS:NZ | 2.71 | 0.44 |
| 4:AD:114:GLU:O | 4:AD:115:ILE:HG23 | 2.16 | 0.44 |
| 4:AD:118:GLY:O | 4:AD:129:LEU:HD21 | 2.17 | 0.44 |
| 4:AD:210:LYS:HE2 | 4:AD:211:HIS:HD2 | 1.82 | 0.44 |
| 6:AF:50:GLU:H | 6:AF:50:GLU:HG3 | 1.32 | 0.44 |
| 6:AF:193:LEU:HD11 | 6:AF:231:ARG:CD | 2.47 | 0.44 |
| 6:AF:215:ALA:O | 6:AF:242:GLU:CG | 2.65 | 0.44 |
| 8:AH:43:THR:HG23 | 8:AH:52:THR:HG23 | 2.00 | 0.44 |
| 8:AH:66:THR:HG22 | 8:AH:67:THR:H | 1.83 | 0.44 |
| 9:AI:73:VAL:CA | 9:AI:121:ALA:HB1 | 2.35 | 0.44 |
| 11:AL:18:ALA:HB1 | 11:AL:39:CYS:CA | 2.48 | 0.44 |
| 11:AL:113:MET:O | 11:AL:116:LEU:HB3 | 2.17 | 0.44 |
| 12:AM:103:VAL:O | 12:AM:104:TYR:CG | 2.70 | 0.44 |
| 14:AO:101:ASP:C | 14:AO:102:ASP:OD1 | 2.55 | 0.44 |
| 15:AP:25:GLY:C | 15:AP:27:GLY:H | 2.20 | 0.44 |
| 15:AP:142:LYS:CE | 15:AP:143:VAL:HA | 2.41 | 0.44 |
| 16:AQ:12:ARG:NE | 16:AQ:20:TYR:OH | 2.51 | 0.44 |
| 17:AR:34:SER:O | 17:AR:35:LYS:C | 2.54 | 0.44 |
| 18:AS:11:ARG:NE | 18:AS:82:LEU:HD21 | 2.32 | 0.44 |
| 18:AS:45:TYR:O | 18:AS:46:PHE:C | 2.55 | 0.44 |
| 18:AS:66:GLU:OE2 | 18:AS:67:ASP:HB3 | 2.18 | 0.44 |
| 19:AT:46:ASP:HB2 | 19:AT:47:VAL:H | 1.60 | 0.44 |
| 19:AT:55:GLN:HG2 | 19:AT:56:ASN:O | 2.18 | 0.44 |
| 20:AU:31:LEU:CA | 20:AU:34:GLU:CD | 2.86 | 0.44 |
| 21:AV:20:ALA:HB1 | 21:AV:32:PHE:CG | 2.52 | 0.44 |
| 22:AW:6:GLN:O | 22:AW:7:GLU:C | 2.56 | 0.44 |
| 23:AX:1:MET:H3 | 23:AX:2:PRO:HD3 | 1.80 | 0.44 |
| 23:AX:37:LEU:HD12 | 23:AX:43:ILE:HG23 | 2.00 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:53:LEU:O | 23:AX:54:VAL:HG12 | 2.18 | 0.44 |
| 25:A1:107:LYS:O | 25:A1:108:ALA:C | 2.55 | 0.44 |
| 26:A2:15:SER:CB | 26:A2:99:GLN:NE2 | 2.80 | 0.44 |
| 28:A4:35:VAL:CG1 | 28:A4:36:TRP:N | 2.80 | 0.44 |
| 28:A4:57:ASP:HA | 28:A4:61:LYS:CE | 2.45 | 0.44 |
| 29:A5:40:LYS:HZ3 | 29:A5:45:ILE:C | 2.21 | 0.44 |
| 30:A6:22:TYR:CD1 | 30:A6:22:TYR:N | 2.85 | 0.44 |
| 32:A8:58:MET:O | 32:A8:61:MET:HB2 | 2.17 | 0.44 |
| 34:BA:89:C:H2' | 34:BA:90:U:O4' | 2.18 | 0.44 |
| 34:BA:133:U:N3 | 34:BA:230:G:C2 | 2.86 | 0.44 |
| 34:BA:321:A:N1 | 34:BA:322:C:C4 | 2.86 | 0.44 |
| 34:BA:563:A:O2' | 34:BA:566:G:C2' | 2.66 | 0.44 |
| 34:BA:579:G:C6 | 34:BA:580:U:C5 | 3.06 | 0.44 |
| 34:BA:608:A:C2 | 34:BA:609:A:C1' | 3.01 | 0.44 |
| 34:BA:626:U:C2 | 34:BA:627:G:N7 | 2.85 | 0.44 |
| 34:BA:650:G:O2' | 34:BA:651:C:C5' | 2.63 | 0.44 |
| 34:BA:674:G:H4' | 53:BU:81:PHE:HZ | 1.83 | 0.44 |
| 34:BA:739:C:H2' | 34:BA:739:C:O2 | 2.16 | 0.44 |
| 34:BA:790:A:C6 | 34:BA:791:G:C5 | 3.06 | 0.44 |
| 34:BA:946:A:N3 | 34:BA:947:G:N7 | 2.65 | 0.44 |
| 34:BA:1085:U:H6 | 34:BA:1094:G:N2 | 2.15 | 0.44 |
| 34:BA:1088:G:N3 | 34:BA:1088:G:H2' | 2.32 | 0.44 |
| 34:BA:1104:G:H2' | 34:BA:1105:A:C5' | 2.48 | 0.44 |
| 34:BA:1267:C:H3' | 34:BA:1267:C:C6 | 2.51 | 0.44 |
| 34:BA:1326:C:C2 | 34:BA:1327:C:C6 | 3.05 | 0.44 |
| 34:BA:1336:C:O4' | 34:BA:1337:G:C2 | 2.71 | 0.44 |
| 34:BA:1369:C:H2' | 34:BA:1370:G:C8 | 2.52 | 0.44 |
| 34:BA:1386:G:C2 | 34:BA:1387:G:C8 | 3.05 | 0.44 |
| 34:BA:1414:U:C2 | 34:BA:1415:G:C8 | 3.05 | 0.44 |
| 34:BA:1419:G:N2 | 34:BA:1420:C:O2 | 2.49 | 0.44 |
| 35:BB:2:C:C4 | 35:BB:71:G:N1 | 2.80 | 0.44 |
| 37:BE:28:PHE:O | 37:BE:31:TYR:HB2 | 2.18 | 0.44 |
| 38:BF:34:LEU:C | 38:BF:34:LEU:CD2 | 2.85 | 0.44 |
| 38:BF:121:ALA:O | 38:BF:122:GLU:C | 2.54 | 0.44 |
| 39:BG:9:CYS:O | 39:BG:13:ARG:HG2 | 2.18 | 0.44 |
| 40:BH:56:GLN:O | 40:BH:57:LYS:C | 2.55 | 0.44 |
| 41:BI:1:MET:SD | 41:BI:68:PRO:N | 2.91 | 0.44 |
| 42:BJ:76:ARG:CG | 42:BJ:89:MET:SD | 3.05 | 0.44 |
| 42:BJ:85:TYR:O | 42:BJ:87:VAL:HG23 | 2.16 | 0.44 |
| 43:BK:36:LEU:HA | 43:BK:39:LEU:CB | 2.43 | 0.44 |
| 43:BK:69:ARG:HG3 | 43:BK:69:ARG:HH11 | 1.83 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:5:TYR:CE2 | 44:BL:18:PHE:CZ | 3.06 | 0.44 |
| 44:BL:12:GLU:N | 44:BL:12:GLU:CD | 2.71 | 0.44 |
| 46:BN:21:ILE:HA | 46:BN:30:VAL:HG22 | 1.99 | 0.44 |
| 47:BO:36:VAL:O | 47:BO:58:VAL:HA | 2.17 | 0.44 |
| 48:BP:77:ASN:CB | 48:BP:80:ARG:NH1 | 2.64 | 0.44 |
| 49:BQ:45:ARG:O | 49:BQ:49:HIS:HD2 | 2.00 | 0.44 |
| 50:BR:81:LEU:O | 50:BR:84:LYS:N | 2.50 | 0.44 |
| 50:BR:82:ILE:O | 50:BR:83:GLU:C | 2.55 | 0.44 |
| 51:BS:32:TYR:HE2 | 51:BS:35:LYS:HD3 | 1.82 | 0.44 |
| 53:BU:45:SER:OG | 53:BU:46:GLU:N | 2.50 | 0.44 |
| 54:BV:52:TYR:CZ | 54:BV:54:GLY:C | 2.91 | 0.44 |
| 55:BW:45:GLN:HG2 | 55:BW:91:LEU:CD2 | 2.41 | 0.44 |
| 1:AB:88:C:H6 | 1:AB:88:C:O5' | 2.00 | 0.44 |
| 1:AB:118:G:C2' | 1:AB:119:A:O5' | 2.65 | 0.44 |
| 2:AA:55:G:N3 | 2:AA:56:A:C8 | 2.85 | 0.44 |
| 2:AA:58:G:C4 | 2:AA:73:A:C2 | 3.05 | 0.44 |
| 2:AA:154:G:C6 | 2:AA:155:C:O2 | 2.71 | 0.44 |
| 2:AA:226:G:C2 | 2:AA:227:A:C4 | 3.04 | 0.44 |
| 2:AA:237:C:C4 | 2:AA:238:C:H5 | 2.32 | 0.44 |
| 2:AA:242:G:O2' | 2:AA:243:U:OP2 | 2.35 | 0.44 |
| 2:AA:270(M):U:O2 | 2:AA:270(M):U:C3' | 2.66 | 0.44 |
| 2:AA:287:C:C2' | 2:AA:288:C:H5' | 2.48 | 0.44 |
| 2:AA:311:A:C3' | 2:AA:312:G:C8 | 2.99 | 0.44 |
| 2:AA:603:A:N1 | 2:AA:625:G:C5 | 2.85 | 0.44 |
| 2:AA:625:G:H3' | 2:AA:626:U:C5' | 2.47 | 0.44 |
| 2:AA:668:G:C2 | 2:AA:670:A:C5 | 3.05 | 0.44 |
| 2:AA:695:G:C2 | 2:AA:696:G:C8 | 3.06 | 0.44 |
| 2:AA:699:A:H62 | 2:AA:733:G:H21 | 1.65 | 0.44 |
| 2:AA:818:G:N7 | 2:AA:1187:G:C2 | 2.85 | 0.44 |
| 2:AA:836:G:C6 | 2:AA:837:C:N3 | 2.85 | 0.44 |
| 2:AA:940:G:C2 | 2:AA:941:A:H8 | 2.34 | 0.44 |
| 2:AA:1164:G:C5 | 2:AA:1165:U:C5 | 3.06 | 0.44 |
| 2:AA:1186:G:C2' | 2:AA:1187:G:H8 | 2.29 | 0.44 |
| 2:AA:1189:A:H3' | 2:AA:1190:G:C5' | 2.47 | 0.44 |
| 2:AA:1255:U:O2 | 2:AA:1255:U:C2' | 2.60 | 0.44 |
| 2:AA:1263:U:C6 | 2:AA:1264:G:C6 | 3.06 | 0.44 |
| 2:AA:1399:C:P | 19:AT:67:ARG:NH2 | 2.91 | 0.44 |
| 2:AA:1405:U:HO2' | 2:AA:1406:U:C5' | 2.31 | 0.44 |
| 2:AA:1408:C:H2' | 2:AA:1409:C:C6 | 2.53 | 0.44 |
| 2:AA:1414:G:C4 | 2:AA:1415:U:C4 | 3.06 | 0.44 |
| 2:AA:1483:G:C6 | 2:AA:1484:G:C8 | 3.06 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1500:G:O2' | 4:AD:98:GLY:HA3 | 2.18 | 0.44 |
| 2:AA:1536:A:O2' | 2:AA:1537:C:OP1 | 2.33 | 0.44 |
| 2:AA:1555:G:O4' | 2:AA:1555:G:P | 2.76 | 0.44 |
| 2:AA:1577:C:P | 2:AA:1577:C:O4' | 2.76 | 0.44 |
| 2:AA:1588:C:O2' | 2:AA:1589:C:C5' | 2.58 | 0.44 |
| 2:AA:1591:G:C2 | 2:AA:1592:C:N3 | 2.86 | 0.44 |
| 2:AA:1642:G:H2' | 2:AA:1643:G:O5' | 2.18 | 0.44 |
| 2:AA:1649:G:H1 | 2:AA:2008:C:H42 | 1.66 | 0.44 |
| 2:AA:1668:A:C2 | 2:AA:1670:C:C4 | 3.05 | 0.44 |
| 2:AA:1766:U:H3 | 2:AA:1986:A:N6 | 2.16 | 0.44 |
| 2:AA:1848:A:C4 | 34:BA:702:A:C2 | 3.06 | 0.44 |
| 2:AA:1935:G:N3 | 2:AA:1962:C:N3 | 2.65 | 0.44 |
| 2:AA:1955:U:H2' | 2:AA:1956:U:OP1 | 2.17 | 0.44 |
| 2:AA:1961:C:H2' | 2:AA:1962:C:C4' | 2.48 | 0.44 |
| 2:AA:1975:G:H2' | 2:AA:1976:U:O5' | 2.17 | 0.44 |
| 2:AA:2022:U:O2' | 2:AA:2023:G:P | 2.75 | 0.44 |
| 2:AA:2033:A:O2' | 2:AA:2034:U:OP1 | 2.36 | 0.44 |
| 2:AA:2049:G:O2' | 2:AA:2050:C:OP1 | 2.36 | 0.44 |
| 2:AA:2054:A:H62 | 2:AA:2577:A:H61 | 1.65 | 0.44 |
| 2:AA:2132:U:OP2 | 3:AC:5:LYS:HB3 | 2.18 | 0.44 |
| 2:AA:2211:G:O5' | 2:AA:2211:G:C8 | 2.70 | 0.44 |
| 2:AA:2218:G:C4' | 4:AD:184:LEU:HD13 | 2.48 | 0.44 |
| 2:AA:2234:G:C2' | 2:AA:2235:G:H5' | 2.47 | 0.44 |
| 2:AA:2246:G:O2' | 2:AA:2247:A:O5' | 2.36 | 0.44 |
| 2:AA:2291:U:H4' | 2:AA:2380:C:O2 | 2.18 | 0.44 |
| 2:AA:2308:G:H5' | 2:AA:2309:A:P | 2.55 | 0.44 |
| 2:AA:2355:C:N4 | 2:AA:2362:G:N1 | 2.22 | 0.44 |
| 2:AA:2386:C:H1' | 27:A3:39:ARG:HH21 | 1.81 | 0.44 |
| 2:AA:2457:U:O4 | 2:AA:2458:G:N1 | 2.51 | 0.44 |
| 2:AA:2589:A:C5 | 2:AA:2590:A:C8 | 3.05 | 0.44 |
| 2:AA:2606:C:O2 | 2:AA:2607:G:C8 | 2.71 | 0.44 |
| 2:AA:2633:G:C5' | 2:AA:2812:G:H5' | 2.47 | 0.44 |
| 2:AA:2653:U:C3' | 2:AA:2654:A:C8 | 2.98 | 0.44 |
| 2:AA:2682:U:O2' | 5:AE:61:PRO:HD3 | 2.18 | 0.44 |
| 2:AA:2693:A:C2 | 2:AA:2717:G:C6 | 3.05 | 0.44 |
| 2:AA:2698:U:O2 | 2:AA:2709:G:O6 | 2.35 | 0.44 |
| 2:AA:2735:G:N1 | 2:AA:2736:G:C5 | 2.86 | 0.44 |
| 2:AA:2745:C:H2' | 8:AH:142:GLU:OE2 | 2.17 | 0.44 |
| 2:AA:2747:G:O2' | 2:AA:2748:A:H5" | 2.18 | 0.44 |
| 2:AA:2795:G:O2' | 2:AA:2797:U:C6 | 2.66 | 0.44 |
| 3:AC:10:LEU:HA | 3:AC:10:LEU:HD12 | 1.69 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:148:ASN:CB | 3:AC:151:GLU:HB2 | 2.48 | 0.44 |
| 4:AD:68:ARG:HH21 | 4:AD:190:THR:HG22 | 1.82 | 0.44 |
| 4:AD:139:LEU:O | 4:AD:139:LEU:HD13 | 2.14 | 0.44 |
| 4:AD:167:GLU:CB | 4:AD:170:TYR:HE1 | 2.11 | 0.44 |
| 4:AD:168:GLY:HA3 | 4:AD:170:TYR:CZ | 2.52 | 0.44 |
| 5:AE:87:GLU:OE1 | 5:AE:96:LEU:CB | 2.64 | 0.44 |
| 5:AE:200:ASP:HA | 5:AE:266:LYS:HB2 | 2.00 | 0.44 |
| 5:AE:205:THR:CG2 | 5:AE:259:HIS:N | 2.81 | 0.44 |
| 5:AE:220:GLN:HE22 | 5:AE:223:LYS:NZ | 2.15 | 0.44 |
| 5:AE:222:ARG:NH2 | 5:AE:233:ARG:C | 2.71 | 0.44 |
| 5:AE:315:VAL:O | 5:AE:317:PRO:N | 2.51 | 0.44 |
| 6:AF:34:ALA:O | 6:AF:35:VAL:C | 2.56 | 0.44 |
| 7:AG:105:SER:OG | 7:AG:131:THR:CG2 | 2.63 | 0.44 |
| 8:AH:59:HIS:O | 8:AH:61:ARG:N | 2.51 | 0.44 |
| 8:AH:106:VAL:O | 8:AH:108:TYR:CE2 | 2.70 | 0.44 |
| 9:AI:112:GLU:O | 9:AI:116:LYS:HG3 | 2.18 | 0.44 |
| 9:AJ:23:LYS:O | 9:AJ:27:ASP:OD1 | 2.36 | 0.44 |
| 9:AJ:74:ILE:CG1 | 9:AJ:92:VAL:HG11 | 2.47 | 0.44 |
| 10:AK:7:LYS:HA | 10:AK:12:LYS:O | 2.18 | 0.44 |
| 10:AK:8:ASP:O | 10:AK:10:LYS:HG2 | 2.18 | 0.44 |
| 10:AK:8:ASP:HB3 | 10:AK:9:VAL:H | 1.35 | 0.44 |
| 10:AK:114:LYS:HZ3 | 10:AK:133:LEU:CD2 | 2.31 | 0.44 |
| 11:AL:19:THR:N | 11:AL:20:PRO:CD | 2.72 | 0.44 |
| 11:AL:73:PRO:CG | 11:AL:78:LEU:HD11 | 2.45 | 0.44 |
| 12:AM:15:ARG:HE | 12:AM:40:ASN:CG | 2.20 | 0.44 |
| 12:AM:101:VAL:O | 12:AM:101:VAL:HG12 | 2.17 | 0.44 |
| 13:AN:62:VAL:HA | 13:AN:84:CYS:SG | 2.57 | 0.44 |
| 14:AO:54:PRO:O | 14:AO:55:GLN:HB2 | 2.17 | 0.44 |
| 14:AO:70:ASP:OD2 | 14:AO:115:ARG:HB2 | 2.17 | 0.44 |
| 15:AP:82:LYS:HZ3 | 15:AP:84:ARG:CD | 2.31 | 0.44 |
| 16:AQ:32:PRO:CD | 16:AQ:101:VAL:HG12 | 2.45 | 0.44 |
| 17:AR:21:PHE:O | 17:AR:22:VAL:HG13 | 2.17 | 0.44 |
| 18:AS:56:ALA:O | 18:AS:60:ASN:CG | 2.56 | 0.44 |
| 18:AS:97:LYS:HB3 | 18:AS:99:ARG:CD | 2.47 | 0.44 |
| 20:AU:77:VAL:CG1 | 20:AU:91:LEU:HD22 | 2.48 | 0.44 |
| 21:AV:34:LEU:HD21 | 21:AV:83:PHE:CZ | 2.52 | 0.44 |
| 21:AV:165:GLU:O | 21:AV:166:LEU:HB2 | 2.17 | 0.44 |
| 22:AW:19:GLU:OE2 | 22:AW:23:LEU:CD1 | 2.65 | 0.44 |
| 23:AX:52:HIS:O | 23:AX:53:LEU:C | 2.55 | 0.44 |
| 24:A0:29:LEU:CB | 24:A0:75:LEU:HD11 | 2.48 | 0.44 |
| 24:A0:97:VAL:C | 24:A0:98:LEU:CG | 2.83 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:20:ARG:NH1 | 26:A2:75:LYS:CG | 2.81 | 0.44 |
| 26:A2:6:GLN:NE2 | 26:A2:10:LYS:HG2 | 2.32 | 0.44 |
| 26:A2:16:GLU:O | 26:A2:18:ASP:N | 2.51 | 0.44 |
| 26:A2:33:VAL:C | 26:A2:63:HIS:CE1 | 2.90 | 0.44 |
| 26:A2:49:GLU:CB | 26:A2:53:LYS:HD2 | 2.44 | 0.44 |
| 27:A3:39:ARG:HG2 | 27:A3:39:ARG:NH1 | 2.32 | 0.44 |
| 30:A6:19:GLY:CA | 30:A6:44:ALA:CB | 2.95 | 0.44 |
| 33:A9:25:VAL:HG23 | 33:A9:34:GLN:HB3 | 1.99 | 0.44 |
| 34:BA:27:G:N1 | 34:BA:557:G:C2 | 2.86 | 0.44 |
| 34:BA:38:G:C5 | 34:BA:397:A:C2 | 3.06 | 0.44 |
| 34:BA:43:C:C2 | 34:BA:44:G:H8 | 2.32 | 0.44 |
| 34:BA:78:G:N1 | 34:BA:92:C:C4 | 2.85 | 0.44 |
| 34:BA:119:A:H4' | 34:BA:120:A:C8 | 2.53 | 0.44 |
| 34:BA:193:C:C2' | 34:BA:194:C:C6 | 2.89 | 0.44 |
| 34:BA:203:U:C4' | 34:BA:204:U:OP1 | 2.65 | 0.44 |
| 34:BA:299:G:C2' | 34:BA:300:A:N7 | 2.76 | 0.44 |
| 34:BA:321:A:N7 | 34:BA:328:C:C5 | 2.85 | 0.44 |
| 34:BA:328:C:HO2' | 34:BA:329:A:P | 2.39 | 0.44 |
| 34:BA:370:C:H2' | 34:BA:371:G:C8 | 2.50 | 0.44 |
| 34:BA:462:G:N1 | 34:BA:463:A:C5 | 2.85 | 0.44 |
| 34:BA:495:U:C2' | 34:BA:496:A:O5' | 2.66 | 0.44 |
| 34:BA:551:U:H4' | 47:BO:119:LYS:HE2 | 2.00 | 0.44 |
| 34:BA:591:U:H3 | 34:BA:648:A:N6 | 2.13 | 0.44 |
| 34:BA:625:G:OP1 | 51:BS:9:PHE:CB | 2.33 | 0.44 |
| 34:BA:642:A:C2 | 43:BK:114:THR:HA | 2.53 | 0.44 |
| 34:BA:662:G:N1 | 34:BA:663:A:C2 | 2.86 | 0.44 |
| 34:BA:836:G:P | 53:BU:61:LYS:HZ3 | 2.40 | 0.44 |
| 34:BA:881:G:H2' | 34:BA:882:C:H6 | 1.82 | 0.44 |
| 34:BA:1083:U:C4 | 34:BA:1084:G:C6 | 3.06 | 0.44 |
| 34:BA:1154:G:C2 | 34:BA:1155:G:C5 | 3.05 | 0.44 |
| 34:BA:1235:U:OP1 | 56:BX:3:LYS:HD2 | 2.15 | 0.44 |
| 34:BA:1292:U:OP2 | 34:BA:1292:U:H3' | 2.18 | 0.44 |
| 34:BA:1319:A:P | 54:BV:5:LEU:HD22 | 2.57 | 0.44 |
| 34:BA:1348:U:O2' | 44:BL:120:ARG:HD2 | 2.18 | 0.44 |
| 34:BA:1355:G:H2' | 34:BA:1356:G:O5' | 2.18 | 0.44 |
| 34:BA:1360:A:C2 | 34:BA:1361:G:N3 | 2.86 | 0.44 |
| 34:BA:1417:G:C5 | 34:BA:1482:G:O6 | 2.70 | 0.44 |
| 34:BA:1426:C:C2' | 34:BA:1427:U:O5' | 2.65 | 0.44 |
| 34:BA:1538:C:H2' | 34:BA:1539:C:O4' | 2.17 | 0.44 |
| 35:BB:51:G:C4 | 35:BB:52:U:C4 | 3.06 | 0.44 |
| 35:BB:53:G:C2 | 35:BB:54:U:C5 | 3.06 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:56:C:H6 | 35:BB:56:C:C5' | 2.31 | 0.44 |
| 37:BE:25:ASN:OD1 | 37:BE:192:SER:O | 2.36 | 0.44 |
| 37:BE:97:TRP:HE3 | 37:BE:172:ILE:HD12 | 1.81 | 0.44 |
| 37:BE:219:VAL:O | 37:BE:222:ILE:HG12 | 2.17 | 0.44 |
| 38:BF:23:TYR:CZ | 45:BM:11:PHE:CE2 | 3.05 | 0.44 |
| 38:BF:58:GLU:O | 38:BF:59:ARG:CB | 2.65 | 0.44 |
| 39:BG:104:VAL:HG11 | 39:BG:146:ILE:CD1 | 2.48 | 0.44 |
| 39:BG:157:LEU:O | 39:BG:160:GLN:HB2 | 2.18 | 0.44 |
| 43:BK:63:LEU:O | 43:BK:64:LYS:HB2 | 2.16 | 0.44 |
| 44:BL:23:ASN:O | 44:BL:57:GLY:C | 2.56 | 0.44 |
| 44:BL:38:GLN:C | 44:BL:40:LEU:H | 2.19 | 0.44 |
| 44:BL:78:LYS:HE3 | 44:BL:101:PHE:HE2 | 1.82 | 0.44 |
| 45:BM:27:ALA:HB1 | 45:BM:81:THR:CG2 | 2.48 | 0.44 |
| 46:BN:102:GLY:O | 46:BN:105:VAL:HG22 | 2.18 | 0.44 |
| 49:BQ:37:PHE:HB3 | 49:BQ:39:LEU:HG | 1.99 | 0.44 |
| 51:BS:18:ARG:HH11 | 51:BS:35:LYS:HD3 | 1.83 | 0.44 |
| 51:BS:26:ARG:HD2 | 51:BS:31:LYS:N | 2.32 | 0.44 |
| 51:BS:53:VAL:O | 51:BS:56:ALA:HB3 | 2.17 | 0.44 |
| 51:BS:78:GLY:C | 51:BS:79:VAL:HG23 | 2.37 | 0.44 |
| 53:BU:51:LEU:HA | 53:BU:52:PRO:HD2 | 1.72 | 0.44 |
| 54:BV:5:LEU:HD23 | 54:BV:5:LEU:N | 2.32 | 0.44 |
| 55:BW:50:GLU:HB2 | 55:BW:99:LEU:HB3 | 2.00 | 0.44 |
| 1:AB:96:G:N1 | 1:AB:97:G:C5 | 2.85 | 0.44 |
| 2:AA:85:G:H2' | 2:AA:86:C:C6 | 2.52 | 0.44 |
| 2:AA:131:G:C2 | 2:AA:149:A:N1 | 2.86 | 0.44 |
| 2:AA:225:A:C2 | 2:AA:230:U:N3 | 2.86 | 0.44 |
| 2:AA:270(T):G:N3 | 2:AA:270(T):G:H2' | 2.33 | 0.44 |
| 2:AA:285:C:C1' | 2:AA:356:G:H22 | 2.30 | 0.44 |
| 2:AA:303:U:HO2' | 2:AA:304:G:H5' | 1.82 | 0.44 |
| 2:AA:447:A:C5 | 2:AA:473:G:N7 | 2.86 | 0.44 |
| 2:AA:460:A:C6 | 2:AA:470:A:C8 | 3.05 | 0.44 |
| 2:AA:462:C:C2' | 2:AA:463:G:H5' | 2.38 | 0.44 |
| 2:AA:511:U:C4 | 2:AA:512:G:H1' | 2.52 | 0.44 |
| 2:AA:573:G:C2' | 2:AA:574:C:O5' | 2.66 | 0.44 |
| 2:AA:638:G:C2' | 2:AA:639:U:C5' | 2.96 | 0.44 |
| 2:AA:770:G:C5' | 31:A7:10:ARG:NH1 | 2.72 | 0.44 |
| 2:AA:783:A:O2' | 2:AA:784:A:H5' | 2.17 | 0.44 |
| 2:AA:797:C:C6 | 2:AA:797:C:H3' | 2.52 | 0.44 |
| 2:AA:870:A:N6 | 2:AA:907:U:N3 | 2.27 | 0.44 |
| 2:AA:976:C:C5' | 2:AA:1156:A:H61 | 2.19 | 0.44 |
| 2:AA:1011:G:N1 | 2:AA:1150:C:C2 | 2.78 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1014:U:OP1 | 2:AA:1142:U:O2 | 2.35 | 0.44 |
| 2:AA:1022:G:O2' | 2:AA:1023:U:C5 | 2.70 | 0.44 |
| 2:AA:1056:G:H21 | 2:AA:1104:C:N4 | 2.15 | 0.44 |
| 2:AA:1062:G:O6 | 2:AA:1077:A:C4 | 2.70 | 0.44 |
| 2:AA:1077:A:C5 | 2:AA:1078:U:C2 | 3.06 | 0.44 |
| 2:AA:1122:G:N2 | 2:AA:1123:C:C4 | 2.86 | 0.44 |
| 2:AA:1197:G:N1 | 2:AA:1198:U:C5 | 2.85 | 0.44 |
| 2:AA:1268:A:C8 | 2:AA:2013:A:N6 | 2.86 | 0.44 |
| 2:AA:1309:G:H4' | 31:A7:7:PRO:O | 2.18 | 0.44 |
| 2:AA:1414:G:C5 | 2:AA:1415:U:O4 | 2.71 | 0.44 |
| 2:AA:1422:G:C2 | 2:AA:1423:G:C8 | 3.05 | 0.44 |
| 2:AA:1451:C:C6 | 2:AA:1451:C:C3' | 3.00 | 0.44 |
| 2:AA:1491:G:H2' | 2:AA:1492:G:OP2 | 2.18 | 0.44 |
| 2:AA:1529:A:N3 | 2:AA:1530:G:C4' | 2.81 | 0.44 |
| 2:AA:1565:C:C4 | 2:AA:1567:A:C8 | 3.05 | 0.44 |
| 2:AA:1592:C:O2' | 2:AA:1593:G:H5' | 2.16 | 0.44 |
| 2:AA:1612:C:H2' | 31:A7:3:ARG:CZ | 2.43 | 0.44 |
| 2:AA:1614:A:N3 | 2:AA:1614:A:C2' | 2.80 | 0.44 |
| 2:AA:1650:G:C5' | 24:A0:104:ARG:NH2 | 2.76 | 0.44 |
| 2:AA:1734:C:H2' | 2:AA:1735:C:O4' | 2.17 | 0.44 |
| 2:AA:1829:A:H5" | 2:AA:1830:C:C5 | 2.51 | 0.44 |
| 2:AA:1848:A:C6 | 34:BA:702:A:N1 | 2.86 | 0.44 |
| 2:AA:1930:G:C8 | 2:AA:1930:G:H3' | 2.53 | 0.44 |
| 2:AA:2000:G:C6 | 2:AA:2001:A:C6 | 3.06 | 0.44 |
| 2:AA:2012:G:P | 18:AS:98:LYS:HZ2 | 2.41 | 0.44 |
| 2:AA:2019:A:C2' | 2:AA:2020:A:C5' | 2.95 | 0.44 |
| 2:AA:2127:G:C5 | 2:AA:2174:C:C5 | 3.05 | 0.44 |
| 2:AA:2199:A:N3 | 2:AA:2225:A:H2 | 2.13 | 0.44 |
| 2:AA:2212:A:H2 | 2:AA:2213:U:H3' | 1.83 | 0.44 |
| 2:AA:2269:A:O2' | 2:AA:2270:G:H5' | 2.18 | 0.44 |
| 2:AA:2303:G:H2' | 2:AA:2304:G:H8 | 1.81 | 0.44 |
| 2:AA:2333:A:C1' | 2:AA:2335:A:N3 | 2.81 | 0.44 |
| 2:AA:2336:A:O2' | 2:AA:2337:G:OP1 | 2.33 | 0.44 |
| 2:AA:2408:U:O2' | 2:AA:2409:G:H5' | 2.17 | 0.44 |
| 2:AA:2432:A:C2 | 2:AA:2433:A:C4 | 3.06 | 0.44 |
| 2:AA:2462:U:C2 | 2:AA:2463:C:C5 | 3.06 | 0.44 |
| 2:AA:2513:G:C6 | 2:AA:2514:U:C4 | 3.06 | 0.44 |
| 2:AA:2539:C:H2' | 2:AA:2540:C:O5' | 2.18 | 0.44 |
| 2:AA:2566:A:O4' | 2:AA:2566:A:P | 2.76 | 0.44 |
| 2:AA:2636:U:O2' | 2:AA:2637:U:O5' | 2.36 | 0.44 |
| 2:AA:2657:A:C6 | 2:AA:2665:A:N7 | 2.86 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2674:G:C6 | 2:AA:2675:A:C6 | 3.06 | 0.44 |
| 2:AA:2740:A:C6 | 2:AA:2764:A:C4 | 3.06 | 0.44 |
| 2:AA:2770:G:O2' | 5:AE:316:ARG:NH2 | 2.48 | 0.44 |
| 2:AA:2771:C:C2 | 2:AA:2772:C:C5 | 3.06 | 0.44 |
| 2:AA:2784:C:O2 | 5:AE:98:GLU:OE1 | 2.35 | 0.44 |
| 2:AA:2789:C:HO2' | 2:AA:2893:G:H22 | 1.65 | 0.44 |
| 3:AC:10:LEU:HD11 | 3:AC:32:LEU:C | 2.37 | 0.44 |
| 3:AC:76:ALA:CB | 3:AC:86:ALA:CB | 2.88 | 0.44 |
| 4:AD:66:PHE:O | 4:AD:67:LYS:CB | 2.66 | 0.44 |
| 4:AD:140:VAL:HA | 4:AD:191:VAL:HG12 | 1.99 | 0.44 |
| 4:AD:143:ILE:CB | 4:AD:153:LEU:HB2 | 2.47 | 0.44 |
| 4:AD:144:GLU:CD | 4:AD:148:GLY:H | 2.21 | 0.44 |
| 5:AE:176:HIS:O | 5:AE:179:ASP:N | 2.51 | 0.44 |
| 5:AE:213:PRO:O | 5:AE:214:VAL:O | 2.36 | 0.44 |
| 6:AF:19:PRO:HB2 | 6:AF:21:VAL:HG23 | 2.00 | 0.44 |
| 6:AF:38:ALA:HB2 | 6:AF:221:GLU:CG | 2.45 | 0.44 |
| 6:AF:38:ALA:HB1 | 6:AF:221:GLU:HG2 | 1.97 | 0.44 |
| 6:AF:230:GLY:O | 6:AF:231:ARG:HG3 | 2.17 | 0.44 |
| 6:AF:243:VAL:O | 6:AF:244:ALA:C | 2.55 | 0.44 |
| 8:AH:41:THR:CA | 8:AH:52:THR:OG1 | 2.66 | 0.44 |
| 8:AH:43:THR:OG1 | 8:AH:43:THR:O | 2.36 | 0.44 |
| 8:AH:83:GLU:C | 8:AH:83:GLU:OE2 | 2.56 | 0.44 |
| 8:AH:151:ARG:CA | 8:AH:161:ILE:HD11 | 2.48 | 0.44 |
| 9:AJ:63:LEU:HD13 | 9:AJ:66:PHE:HZ | 1.81 | 0.44 |
| 9:AJ:63:LEU:HB3 | 9:AJ:95:ALA:HB1 | 1.99 | 0.44 |
| 9:AJ:64:LYS:O | 9:AJ:65:SER:HB3 | 2.18 | 0.44 |
| 11:AL:11:LEU:HD21 | 11:AL:28:LEU:CD2 | 2.48 | 0.44 |
| 11:AL:12:GLN:O | 11:AL:13:LEU:CD2 | 2.64 | 0.44 |
| 12:AM:5:GLU:O | 12:AM:6:PHE:CG | 2.71 | 0.44 |
| 12:AM:26:VAL:HG11 | 12:AM:83:ILE:CG2 | 2.48 | 0.44 |
| 13:AN:1:MET:HE3 | 13:AN:67:ARG:HB3 | 2.00 | 0.44 |
| 14:AO:117:GLU:O | 14:AO:118:LEU:CD2 | 2.52 | 0.44 |
| 16:AQ:49:THR:H | 16:AQ:55:ASP:CB | 2.31 | 0.44 |
| 16:AQ:104:ILE:C | 16:AQ:106:LEU:N | 2.71 | 0.44 |
| 17:AR:35:LYS:O | 17:AR:36:CYS:C | 2.54 | 0.44 |
| 18:AS:8:ARG:NH1 | 18:AS:8:ARG:HB2 | 2.33 | 0.44 |
| 18:AS:69:LEU:HB3 | 18:AS:107:LEU:HD22 | 1.99 | 0.44 |
| 18:AS:89:ALA:N | 18:AS:92:ARG:N | 2.66 | 0.44 |
| 19:AT:29:ASP:O | 19:AT:30:ASP:OD2 | 2.36 | 0.44 |
| 20:AU:5:ASP:C | 20:AU:7:GLN:N | 2.71 | 0.44 |
| 20:AU:28:SER:CB | 20:AU:99:THR:HG23 | 2.41 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AU:63:ILE:CG1 | 20:AU:75:GLU:OE2 | 2.66 | 0.44 |
| 21:AV:19:ILE:CD1 | 21:AV:79:ILE:HG12 | 2.48 | 0.44 |
| 21:AV:25:ASN:OD1 | 21:AV:25:ASN:C | 2.56 | 0.44 |
| 21:AV:76:ARG:HA | 21:AV:76:ARG:HD2 | 1.86 | 0.44 |
| 21:AV:92:VAL:O | 21:AV:94:VAL:N | 2.51 | 0.44 |
| 21:AV:118:HIS:O | 21:AV:120:LEU:HD23 | 2.18 | 0.44 |
| 21:AV:172:LEU:HD23 | 21:AV:173:PRO:C | 2.38 | 0.44 |
| 24:A0:50:HIS:ND1 | 24:A0:54:LEU:HD11 | 2.32 | 0.44 |
| 24:A0:114:VAL:CG1 | 24:A0:115:GLU:N | 2.81 | 0.44 |
| 25:A1:47:TYR:CE2 | 25:A1:50:ARG:NH1 | 2.86 | 0.44 |
| 25:A1:107:LYS:O | 25:A1:110:VAL:N | 2.51 | 0.44 |
| 26:A2:60:VAL:O | 26:A2:98:ILE:O | 2.36 | 0.44 |
| 26:A2:65:ARG:HH11 | 26:A2:94:LYS:NZ | 2.10 | 0.44 |
| 27:A3:7:VAL:HG22 | 35:BC:64:A:OP1 | 2.17 | 0.44 |
| 27:A3:55:ARG:CZ | 27:A3:55:ARG:HB3 | 2.34 | 0.44 |
| 28:A4:31:ILE:O | 28:A4:32:HIS:ND1 | 2.51 | 0.44 |
| 30:A6:41:ASP:O | 30:A6:42:PRO:C | 2.56 | 0.44 |
| 31:A7:21:ARG:CZ | 31:A7:43:THR:N | 2.81 | 0.44 |
| 34:BA:22:G:H4' | 34:BA:885:G:C1' | 2.47 | 0.44 |
| 34:BA:58:C:C6 | 34:BA:58:C:C4' | 3.00 | 0.44 |
| 34:BA:127:G:N2 | 34:BA:235:C:C2 | 2.85 | 0.44 |
| 34:BA:203:U:C6 | 34:BA:203:U:OP2 | 2.71 | 0.44 |
| 34:BA:241:C:H2' | 34:BA:242:C:O5' | 2.17 | 0.44 |
| 34:BA:258:G:H2' | 34:BA:259:G:H8 | 1.82 | 0.44 |
| 34:BA:380:G:N2 | 34:BA:383:A:C8 | 2.81 | 0.44 |
| 34:BA:484:G:O2' | 34:BA:485:G:P | 2.76 | 0.44 |
| 34:BA:530:G:N1 | 35:BB:34:G:N3 | 2.66 | 0.44 |
| 34:BA:560:U:P | 34:BA:566:G:H22 | 2.41 | 0.44 |
| 34:BA:582:U:H5' | 50:BR:64:ARG:HH21 | 1.74 | 0.44 |
| 34:BA:607:A:H2' | 34:BA:608:A:O4' | 2.18 | 0.44 |
| 34:BA:656:C:O5' | 34:BA:656:C:H6 | 2.01 | 0.44 |
| 34:BA:686:U:C2' | 34:BA:687:A:O5' | 2.66 | 0.44 |
| 34:BA:769:G:H22 | 34:BA:811:C:H1' | 1.82 | 0.44 |
| 34:BA:891:U:C5 | 34:BA:906:G:C2 | 3.05 | 0.44 |
| 34:BA:898:G:N2 | 34:BA:900:A:H3' | 2.33 | 0.44 |
| 34:BA:1005:A:H2' | 34:BA:1006:C:C4' | 2.48 | 0.44 |
| 34:BA:1043:C:N3 | 34:BA:1044:A:C8 | 2.86 | 0.44 |
| 34:BA:1132:C:N3 | 34:BA:1142:G:N2 | 2.59 | 0.44 |
| 34:BA:1145:C:O2' | 34:BA:1146:A:H8 | 2.00 | 0.44 |
| 34:BA:1165:C:C5 | 34:BA:1166:G:C8 | 3.05 | 0.44 |
| 34:BA:1250:A:C5 | 34:BA:1251:A:C6 | 3.06 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1261:A:C4 | 34:BA:1262:C:C5 | 3.06 | 0.44 |
| 34:BA:1270:C:C4' | 34:BA:1313:U:O2' | 2.65 | 0.44 |
| 34:BA:1291:G:OP1 | 42:BJ:37:ASN:ND2 | 2.47 | 0.44 |
| 34:BA:1300:G:H2' | 34:BA:1301:U:OP2 | 2.17 | 0.44 |
| 34:BA:1325:C:H2' | 34:BA:1326:C:O5' | 2.18 | 0.44 |
| 34:BA:1336:C:H4' | 34:BA:1337:G:C2 | 2.53 | 0.44 |
| 34:BA:1391:U:C2' | 34:BA:1392:G:H8 | 2.25 | 0.44 |
| 34:BA:1402:C:H2' | 34:BA:1403:C:C6 | 2.43 | 0.44 |
| 34:BA:1505:G:H3' | 34:BA:1505:G:C8 | 2.53 | 0.44 |
| 34:BA:1533:C:C2' | 34:BA:1534:A:O5' | 2.65 | 0.44 |
| 35:BB:7:U:H4' | 35:BB:8:U:OP2 | 2.15 | 0.44 |
| 35:BB:16:U:C2' | 35:BB:17:U:OP2 | 2.66 | 0.44 |
| 35:BB:66:A:H5' | 35:BB:67:A:OP2 | 2.18 | 0.44 |
| 37:BE:12:GLU:OE1 | 37:BE:209:ARG:NH1 | 2.45 | 0.44 |
| 37:BE:13:ALA:HA | 37:BE:17:PHE:CE2 | 2.52 | 0.44 |
| 37:BE:88:ALA:CA | 37:BE:219:VAL:HG13 | 2.46 | 0.44 |
| 37:BE:168:THR:CB | 37:BE:192:SER:HA | 2.48 | 0.44 |
| 38:BF:2:GLY:C | 38:BF:3:ASN:OD1 | 2.56 | 0.44 |
| 38:BF:202:ILE:O | 38:BF:204:LEU:CD2 | 2.65 | 0.44 |
| 39:BG:12:CYS:CB | 39:BG:33:MET:SD | 2.87 | 0.44 |
| 39:BG:42:GLN:O | 39:BG:43:HIS:CG | 2.71 | 0.44 |
| 41:BI:46:ARG:O | 41:BI:57:GLN:HA | 2.18 | 0.44 |
| 41:BI:49:ALA:HB3 | 53:BU:79:LEU:H | 1.82 | 0.44 |
| 41:BI:57:GLN:NE2 | 41:BI:57:GLN:H | 2.15 | 0.44 |
| 41:BI:80:ARG:HA | 41:BI:85:VAL:HG11 | 1.99 | 0.44 |
| 42:BJ:37:ASN:HD22 | 42:BJ:37:ASN:C | 2.17 | 0.44 |
| 43:BK:28:ALA:CB | 43:BK:57:PRO:C | 2.86 | 0.44 |
| 43:BK:31:PHE:HD2 | 43:BK:32:LYS:N | 2.16 | 0.44 |
| 46:BN:22:HIS:HB3 | 46:BN:29:ILE:CG1 | 2.48 | 0.44 |
| 46:BN:62:GLN:OE1 | 46:BN:63:LEU:CA | 2.63 | 0.44 |
| 47:BO:27:LEU:HD23 | 47:BO:33:ARG:HD3 | 1.99 | 0.44 |
| 47:BO:59:ARG:CD | 47:BO:65:GLU:HG3 | 2.47 | 0.44 |
| 47:BO:119:LYS:O | 47:BO:120:TYR:HB2 | 2.17 | 0.44 |
| 48:BP:19:LEU:HD13 | 48:BP:25:ILE:HG21 | 1.99 | 0.44 |
| 48:BP:64:TRP:HD1 | 48:BP:65:LYS:H | 1.64 | 0.44 |
| 52:BT:62:SER:HG | 52:BT:72:ARG:HG3 | 1.74 | 0.44 |
| 54:BV:16:LEU:O | 54:BV:19:VAL:HG13 | 2.17 | 0.44 |
| 55:BW:40:ALA:HB2 | 55:BW:55:ILE:CB | 2.44 | 0.44 |
| 1:AB:116:G:H2' | 1:AB:117:G:C1' | 2.48 | 0.44 |
| 1:AB:119:A:C8 | 1:AB:119:A:H3' | 2.52 | 0.44 |
| 2:AA:26:G:N2 | 2:AA:513:A:N6 | 2.66 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:52:A:C6 | 2:AA:118:A:C2 | 3.06 | 0.44 |
| 2:AA:116:C:H2' | 2:AA:117:G:O5' | 2.18 | 0.44 |
| 2:AA:124:G:C2' | 31:A7:19:ARG:NH1 | 2.81 | 0.44 |
| 2:AA:285:C:C1' | 2:AA:356:G:N2 | 2.81 | 0.44 |
| 2:AA:365:C:C6 | 2:AA:365:C:H3' | 2.53 | 0.44 |
| 2:AA:675:A:C5 | 2:AA:676:A:C2 | 3.05 | 0.44 |
| 2:AA:774:A:C8 | 2:AA:775:G:N7 | 2.86 | 0.44 |
| 2:AA:783:A:C8 | 2:AA:783:A:C3' | 3.01 | 0.44 |
| 2:AA:786:C:H6 | 2:AA:786:C:O5' | 2.01 | 0.44 |
| 2:AA:799:G:N7 | 2:AA:800:A:C2 | 2.86 | 0.44 |
| 2:AA:832:G:C6 | 2:AA:833:U:O4 | 2.71 | 0.44 |
| 2:AA:907:U:N3 | 2:AA:908:C:H5 | 2.15 | 0.44 |
| 2:AA:917:A:N3 | 2:AA:918:A:O4' | 2.50 | 0.44 |
| 2:AA:929:G:H2' | 23:AX:37:LEU:CD1 | 2.46 | 0.44 |
| 2:AA:971:C:O2 | 2:AA:971:C:O2' | 2.34 | 0.44 |
| 2:AA:993:G:O4' | 26:A2:90:PHE:HE2 | 2.01 | 0.44 |
| 2:AA:997:G:N3 | 2:AA:998:C:C6 | 2.86 | 0.44 |
| 2:AA:1083:U:H2' | 9:AI:37:VAL:HG13 | 1.99 | 0.44 |
| 2:AA:1097:U:C2 | 2:AA:1098:A:O4' | 2.70 | 0.44 |
| 2:AA:1136:G:O4' | 2:AA:2038:G:O2' | 2.33 | 0.44 |
| 2:AA:1138:G:N3 | 2:AA:1138:G:C2' | 2.73 | 0.44 |
| 2:AA:1189:A:N7 | 2:AA:1190:G:N9 | 2.66 | 0.44 |
| 2:AA:1274:A:N3 | 2:AA:1297:C:H1' | 2.33 | 0.44 |
| 2:AA:1300:U:H3' | 2:AA:1635:G:OP1 | 2.18 | 0.44 |
| 2:AA:1366:A:H8 | 2:AA:1366:A:OP2 | 1.96 | 0.44 |
| 2:AA:449(A):G:N3 | 2:AA:1450:C:C6 | 2.86 | 0.44 |
| 2:AA:1525:G:O2' | 2:AA:1526:G:P | 2.75 | 0.44 |
| 2:AA:1639:U:H6 | 2:AA:1639:U:O5' | 2.01 | 0.44 |
| 2:AA:1641:A:C6 | 2:AA:1642:G:C4 | 3.06 | 0.44 |
| 2:AA:1650:G:H21 | 2:AA:1651:G:C1' | 2.28 | 0.44 |
| 2:AA:1657:C:C2 | 2:AA:1658:C:C5 | 3.06 | 0.44 |
| 2:AA:1670:C:H6 | 2:AA:1670:C:C4' | 2.31 | 0.44 |
| 2:AA:1783:A:C6 | 2:AA:2587:A:H2 | 2.34 | 0.44 |
| 2:AA:1814:G:C3' | 2:AA:1815:A:C8 | 2.99 | 0.44 |
| 2:AA:1827:C:H5" | 2:AA:1971:A:H4' | 1.99 | 0.44 |
| 2:AA:1970:A:O2' | 2:AA:1971:A:OP2 | 2.36 | 0.44 |
| 2:AA:1979:C:O2 | 2:AA:1979:C:C2' | 2.66 | 0.44 |
| 2:AA:1999:C:C4 | 2:AA:2000:G:C8 | 3.06 | 0.44 |
| 2:AA:2043:C:HO2' | 2:AA:2044:C:P | 2.41 | 0.44 |
| 2:AA:2121:G:H21 | 3:AC:168:THR:CG2 | 2.30 | 0.44 |
| 2:AA:2123:G:O6 | 2:AA:2175:C:C2 | 2.71 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2184:G:C2 | 2:AA:2185:C:C2 | 3.06 | 0.44 |
| 2:AA:2196:C:O2 | 2:AA:2197:U:O2 | 2.36 | 0.44 |
| 2:AA:2224:G:H3' | 2:AA:2224:G:C8 | 2.53 | 0.44 |
| 2:AA:2250:G:H5" | 2:AA:2250:G:H8 | 1.83 | 0.44 |
| 2:AA:2376:A:C2' | 2:AA:2377:A:O4' | 2.66 | 0.44 |
| 2:AA:2415:G:H21 | 2:AA:2416:C:C1' | 2.27 | 0.44 |
| 2:AA:2484:G:N2 | 2:AA:2485:G:O4' | 2.49 | 0.44 |
| 2:AA:2527:C:O3' | 33:A9:30:VAL:HG11 | 2.17 | 0.44 |
| 2:AA:2638:G:N2 | 2:AA:2776:A:C8 | 2.86 | 0.44 |
| 2:AA:2741:A:OP2 | 2:AA:2742:C:H5 | 2.00 | 0.44 |
| 2:AA:2875:C:N4 | 2:AA:2876:G:C6 | 2.86 | 0.44 |
| 3:AC:126:LYS:HG3 | 3:AC:127:LEU:HD23 | 1.99 | 0.44 |
| 4:AD:83:ASP:N | 4:AD:89:ASN:HA | 2.19 | 0.44 |
| 4:AD:162:GLN:C | 4:AD:164:LEU:N | 2.71 | 0.44 |
| 4:AD:184:LEU:O | 4:AD:187:CYS:SG | 2.74 | 0.44 |
| 4:AD:210:LYS:CA | 4:AD:213:LYS:HE2 | 2.43 | 0.44 |
| 4:AD:213:LYS:CB | 4:AD:215:LYS:O | 2.66 | 0.44 |
| 5:AE:177:ALA:O | 5:AE:181:VAL:CB | 2.64 | 0.44 |
| 5:AE:218:GLY:C | 5:AE:219:VAL:HG23 | 2.38 | 0.44 |
| 6:AF:224:ALA:H | 6:AF:225:PRO:HD2 | 1.76 | 0.44 |
| 8:AH:88:LEU:HD21 | 8:AH:93:TYR:O | 2.18 | 0.44 |
| 9:AI:73:VAL:HG21 | 9:AI:122:GLY:C | 2.38 | 0.44 |
| 9:AJ:77:VAL:HG21 | 9:AJ:92:VAL:HG22 | 2.00 | 0.44 |
| 10:AK:7:LYS:CD | 10:AK:12:LYS:HZ2 | 2.30 | 0.44 |
| 10:AK:77:VAL:O | 10:AK:144:HIS:CE1 | 2.71 | 0.44 |
| 10:AK:79:ILE:HA | 10:AK:80:PRO:HD3 | 1.52 | 0.44 |
| 11:AL:19:THR:HG23 | 11:AL:39:CYS:HB2 | 2.00 | 0.44 |
| 11:AL:78:LEU:O | 11:AL:79:LEU:C | 2.55 | 0.44 |
| 11:AL:99:LYS:HB3 | 11:AL:140:VAL:HB | 2.00 | 0.44 |
| 12:AM:63:ILE:O | 12:AM:71:TYR:CE1 | 2.71 | 0.44 |
| 13:AN:8:LEU:HB2 | 13:AN:83:ALA:HA | 1.98 | 0.44 |
| 13:AN:34:ASN:C | 13:AN:62:VAL:CG1 | 2.82 | 0.44 |
| 13:AN:68:GLY:HA2 | 13:AN:78:ARG:CG | 2.41 | 0.44 |
| 13:AN:101:PRO:HB3 | 13:AN:120:GLU:HB3 | 1.99 | 0.44 |
| 14:AO:52:LYS:HG2 | 14:AO:53:ARG:CZ | 2.48 | 0.44 |
| 15:AP:47:GLU:HG2 | 15:AP:150:ASP:OD1 | 2.18 | 0.44 |
| 15:AP:93:ILE:O | 15:AP:109:VAL:O | 2.35 | 0.44 |
| 16:AQ:22:GLN:OE1 | 16:AQ:22:GLN:CA | 2.66 | 0.44 |
| 16:AQ:66:LEU:O | 16:AQ:69:TYR:CZ | 2.71 | 0.44 |
| 18:AS:29:LEU:HD12 | 18:AS:33:ARG:HG2 | 1.99 | 0.44 |
| 19:AT:29:ASP:OD2 | 19:AT:30:ASP:OD1 | 2.35 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 19:AT:32:ALA:HA | 19:AT:36:GLU:CD | 2.38 | 0.44 |
| 19:AT:38:ALA:HB1 | 19:AT:49:VAL:HG22 | 2.00 | 0.44 |
| 21:AV:98:VAL:CG1 | 21:AV:99:HIS:N | 2.81 | 0.44 |
| 22:AW:27:LEU:HD21 | 22:AW:49:LEU:HB3 | 2.00 | 0.44 |
| 23:AX:26:LEU:HD11 | 23:AX:47:VAL:HG22 | 1.90 | 0.44 |
| 24:A0:45:ARG:HG3 | 24:A0:95:THR:CG2 | 2.48 | 0.44 |
| 24:A0:46:GLY:O | 24:A0:49:ASP:HB3 | 2.18 | 0.44 |
| 25:A1:11:ARG:O | 25:A1:12:ARG:C | 2.55 | 0.44 |
| 25:A1:25:TRP:O | 25:A1:27:SER:N | 2.51 | 0.44 |
| 25:A1:49:ASP:O | 25:A1:53:LYS:HG3 | 2.18 | 0.44 |
| 25:A1:99:ALA:N | 25:A1:106:PHE:CD1 | 2.86 | 0.44 |
| 26:A2:71:ILE:O | 26:A2:72:ARG:HG2 | 2.17 | 0.44 |
| 27:A3:37:LEU:CG | 27:A3:71:ASN:HD22 | 2.31 | 0.44 |
| 27:A3:45:PHE:CE2 | 27:A3:80:SER:HB2 | 2.51 | 0.44 |
| 28:A4:17:GLN:CG | 28:A4:33:VAL:C | 2.78 | 0.44 |
| 28:A4:48:ARG:N | 28:A4:52:THR:HG1 | 2.07 | 0.44 |
| 33:A9:19:ARG:HD2 | 33:A9:24:LEU:CG | 2.47 | 0.44 |
| 34:BA:59:A:N7 | 34:BA:354:G:C6 | 2.86 | 0.44 |
| 34:BA:181:G:N2 | 34:BA:195:A:C4 | 2.86 | 0.44 |
| 34:BA:246:A:N1 | 34:BA:279:A:C8 | 2.86 | 0.44 |
| 34:BA:250:A:H5' | 34:BA:252:U:O4' | 2.18 | 0.44 |
| 34:BA:313:A:C8 | 34:BA:314:C:H5 | 2.36 | 0.44 |
| 34:BA:325:A:C2' | 34:BA:326:G:H5' | 2.48 | 0.44 |
| 34:BA:429:U:C3' | 39:BG:22:LYS:NZ | 2.80 | 0.44 |
| 34:BA:437:U:C5 | 34:BA:438:G:C8 | 3.06 | 0.44 |
| 34:BA:462:G:C2 | 34:BA:463:A:C5 | 3.05 | 0.44 |
| 34:BA:475:G:N3 | 34:BA:476:G:N7 | 2.66 | 0.44 |
| 34:BA:587:G:C2 | 34:BA:755:G:C5 | 3.05 | 0.44 |
| 34:BA:590:C:P | 43:BK:29:SER:OG | 2.75 | 0.44 |
| 34:BA:602:A:C6 | 34:BA:637:G:C6 | 3.05 | 0.44 |
| 34:BA:627:G:OP1 | 51:BS:38:TYR:HE2 | 2.00 | 0.44 |
| 34:BA:671:G:C6 | 34:BA:672:U:C4 | 3.06 | 0.44 |
| 34:BA:787:A:O2' | 34:BA:788:U:C5' | 2.63 | 0.44 |
| 34:BA:830:G:H2' | 34:BA:831:U:H5' | 1.99 | 0.44 |
| 34:BA:924:C:H2' | 34:BA:925:G:H8 | 1.81 | 0.44 |
| 34:BA:970:C:H42 | 48:BP:126:LYS:HE2 | 1.80 | 0.44 |
| 34:BA:1053:G:C3' | 34:BA:1054:C:H5' | 2.48 | 0.44 |
| 34:BA:1057:G:H1' | 38:BF:195:VAL:CG1 | 2.48 | 0.44 |
| 34:BA:1085:U:H5' | 34:BA:1094:G:N2 | 2.33 | 0.44 |
| 34:BA:1174:G:H2' | 34:BA:1175:G:H5' | 1.99 | 0.44 |
| 34:BA:1261:A:H3' | 34:BA:1262:C:C5 | 2.53 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1400:C:P | 34:BA:1400:C:H6 | 2.39 | 0.44 |
| 34:BA:1402:C:O2' | 34:BA:1403:C:H5' | 2.17 | 0.44 |
| 34:BA:1430:C:O2' | 34:BA:1431:C:C5' | 2.66 | 0.44 |
| 34:BA:1436:U:H2' | 34:BA:1437:C:H6 | 1.83 | 0.44 |
| 34:BA:1446:A:O2' | 34:BA:1447:G:C5' | 2.65 | 0.44 |
| 34:BA:1519:A:H3' | 34:BA:1519:A:H8 | 1.81 | 0.44 |
| 37:BE:15:VAL:HG23 | 37:BE:16:HIS:N | 2.32 | 0.44 |
| 37:BE:44:LEU:O | 37:BE:45:GLN:C | 2.55 | 0.44 |
| 37:BE:48:MET:CA | 37:BE:51:LEU:HD12 | 2.42 | 0.44 |
| 37:BE:79:ASP:O | 37:BE:83:MET:HE2 | 2.17 | 0.44 |
| 37:BE:146:GLN:NE2 | 37:BE:150:SER:HB2 | 2.32 | 0.44 |
| 38:BF:147:LYS:HB3 | 38:BF:203:PHE:CD2 | 2.52 | 0.44 |
| 39:BG:54:TYR:O | 39:BG:56:VAL:N | 2.51 | 0.44 |
| 39:BG:132:ARG:CG | 39:BG:132:ARG:NH1 | 2.78 | 0.44 |
| 39:BG:140:VAL:HG11 | 39:BG:185:PHE:CB | 2.47 | 0.44 |
| 40:BH:65:ASN:HD21 | 40:BH:136:MET:HE1 | 1.76 | 0.44 |
| 40:BH:78:HIS:NE2 | 40:BH:142:LEU:CD2 | 2.66 | 0.44 |
| 41:BI:96:PRO:C | 53:BU:32:ARG:HE | 2.21 | 0.44 |
| 42:BJ:104:LEU:HD13 | 42:BJ:134:ALA:HB3 | 1.99 | 0.44 |
| 43:BK:35:ILE:CD1 | 43:BK:134:ILE:HG21 | 2.48 | 0.44 |
| 44:BL:78:LYS:HE2 | 44:BL:79:LEU:CD2 | 2.46 | 0.44 |
| 44:BL:97:LYS:O | 44:BL:100:GLY:CA | 2.65 | 0.44 |
| 44:BL:114:TYR:CB | 45:BM:60:ARG:NH1 | 2.69 | 0.44 |
| 45:BM:66:ARG:CD | 45:BM:68:HIS:NE2 | 2.77 | 0.44 |
| 46:BN:12:ARG:CB | 46:BN:75:TYR:CD2 | 3.01 | 0.44 |
| 47:BO:60:LEU:CD2 | 47:BO:64:TYR:CB | 2.96 | 0.44 |
| 49:BQ:7:ILE:O | 49:BQ:7:ILE:HG22 | 2.18 | 0.44 |
| 50:BR:15:PHE:CZ | 50:BR:30:ALA:HB2 | 2.53 | 0.44 |
| 50:BR:33:THR:HA | 50:BR:36:ILE:HB | 2.00 | 0.44 |
| 51:BS:7:ALA:HB3 | 51:BS:18:ARG:CB | 2.48 | 0.44 |
| 51:BS:22:THR:OG1 | 51:BS:23:ASP:N | 2.49 | 0.44 |
| 55:BW:42:GLN:O | 55:BW:45:GLN:HB2 | 2.18 | 0.44 |
| 55:BW:58:LYS:O | 55:BW:61:SER:HB2 | 2.18 | 0.44 |
| 1:AB:9:G:N2 | 1:AB:10:C:C2 | 2.86 | 0.44 |
| 2:AA:39:C:C2 | 2:AA:40:C:C5 | 3.06 | 0.44 |
| 2:AA:81:G:C2 | 2:AA:106:C:N3 | 2.86 | 0.44 |
| 2:AA:136:G:H8 | 2:AA:136:G:P | 2.40 | 0.44 |
| 2:AA:150:C:H2' | 2:AA:151:C:H5' | 2.00 | 0.44 |
| 2:AA:154:G:C4 | 2:AA:155:C:N1 | 2.86 | 0.44 |
| 2:AA:204:A:O2' | 2:AA:205:G:H4' | 2.18 | 0.44 |
| 2:AA:233:A:C2' | 2:AA:234:C:O5' | 2.66 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:241:A:O3' | 2:AA:242:G:H4' | 2.17 | 0.44 |
| 2:AA:269:U:O2 | 2:AA:270:A:N6 | 2.51 | 0.44 |
| 2:AA:285:C:C4 | 2:AA:286:C:N4 | 2.86 | 0.44 |
| 2:AA:307:G:H21 | 2:AA:330:A:H61 | 1.66 | 0.44 |
| 2:AA:313:C:C5 | 2:AA:314:A:N7 | 2.86 | 0.44 |
| 2:AA:422:A:N3 | 2:AA:422:A:C2' | 2.69 | 0.44 |
| 2:AA:519:U:O4' | 18:AS:75:TYR:HB3 | 2.17 | 0.44 |
| 2:AA:541:C:OP2 | 2:AA:541:C:O4' | 2.35 | 0.44 |
| 2:AA:556:G:O2' | 2:AA:557:U:C5' | 2.65 | 0.44 |
| 2:AA:619:G:C8 | 2:AA:619:G:C3' | 3.01 | 0.44 |
| 2:AA:646:A:C2 | 2:AA:647:G:C5 | 3.06 | 0.44 |
| 2:AA:660:G:N3 | 2:AA:661:C:C5 | 2.86 | 0.44 |
| 2:AA:679:C:N3 | 2:AA:798:G:N2 | 2.48 | 0.44 |
| 2:AA:688:U:O2' | 2:AA:689:A:C5' | 2.65 | 0.44 |
| 2:AA:692:C:C4 | 2:AA:693:C:C5 | 3.06 | 0.44 |
| 2:AA:714:U:C6 | 2:AA:714:U:H3' | 2.53 | 0.44 |
| 2:AA:741:G:H1 | 2:AA:756:C:H42 | 1.65 | 0.44 |
| 2:AA:742:G:H5' | 2:AA:1675:C:O2' | 2.18 | 0.44 |
| 2:AA:752:A:C4' | 2:AA:753:C:H5' | 2.40 | 0.44 |
| 2:AA:752:A:C2' | 2:AA:753:C:OP2 | 2.66 | 0.44 |
| 2:AA:780:G:O5' | 2:AA:780:G:H8 | 2.01 | 0.44 |
| 2:AA:799:G:OP1 | 2:AA:800:A:C5' | 2.64 | 0.44 |
| 2:AA:806:C:H6 | 2:AA:806:C:H3' | 1.82 | 0.44 |
| 2:AA:917:A:C8 | 2:AA:917:A:C5' | 3.01 | 0.44 |
| 2:AA:929:G:C8 | 2:AA:929:G:P | 3.11 | 0.44 |
| 2:AA:948:G:N2 | 2:AA:970:C:H1' | 2.33 | 0.44 |
| 2:AA:988:A:C6 | 23:AX:13:ILE:HG21 | 2.53 | 0.44 |
| 2:AA:996:A:C6 | 2:AA:997:G:C5 | 3.06 | 0.44 |
| 2:AA:1078:U:C5' | 2:AA:1079:C:OP1 | 2.64 | 0.44 |
| 2:AA:1080:C:O2' | 11:AL:127:ILE:N | 2.51 | 0.44 |
| 2:AA:1155:A:H2' | 2:AA:1157:G:C8 | 2.53 | 0.44 |
| 2:AA:1173:G:H2' | 2:AA:1173:G:N3 | 2.33 | 0.44 |
| 2:AA:1213:A:H1' | 2:AA:1238:G:H1' | 2.00 | 0.44 |
| 2:AA:1229:G:C6 | 2:AA:1230:C:C2 | 3.06 | 0.44 |
| 2:AA:1269:A:O2' | 2:AA:1325:G:O6 | 2.29 | 0.44 |
| 2:AA:1343:G:N3 | 2:AA:1384:A:C2 | 2.79 | 0.44 |
| 2:AA:1494:A:N6 | 2:AA:1495:A:N3 | 2.66 | 0.44 |
| 2:AA:1545:A:C2 | 2:AA:545(A):A:C2 | 3.06 | 0.44 |
| 2:AA:1559:G:C4 | 2:AA:1559:G:C3' | 2.63 | 0.44 |
| 2:AA:1578:U:H3' | 2:AA:1579:A:H8 | 1.83 | 0.44 |
| 2:AA:1632:A:C6 | 2:AA:1633:G:N1 | 2.86 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1636:C:C2' | 2:AA:1760:A:HO2' | 2.29 | 0.44 |
| 2:AA:1678:G:H8 | 2:AA:1678:G:O5' | 2.01 | 0.44 |
| 2:AA:1807:G:N2 | 2:AA:1809:A:H5' | 2.30 | 0.44 |
| 2:AA:1835:G:N3 | 2:AA:1931:U:N3 | 2.66 | 0.44 |
| 2:AA:1903:G:C4 | 2:AA:1904:G:C8 | 3.06 | 0.44 |
| 2:AA:1913:A:H61 | 2:AA:1916:A:C3' | 2.30 | 0.44 |
| 2:AA:1917:U:H2' | 2:AA:1918:A:O5' | 2.16 | 0.44 |
| 2:AA:1945:G:N1 | 2:AA:1946:U:C4 | 2.86 | 0.44 |
| 2:AA:2042:A:N6 | 12:AM:90:LYS:NZ | 2.66 | 0.44 |
| 2:AA:2044:C:C2' | 2:AA:2044:C:O2 | 2.65 | 0.44 |
| 2:AA:2093:G:C5' | 10:AK:25:TYR:CD1 | 2.95 | 0.44 |
| 2:AA:2099:U:O2' | 2:AA:2100:G:H5' | 2.17 | 0.44 |
| 2:AA:2133:G:N3 | 2:AA:2133:G:C3' | 2.80 | 0.44 |
| 2:AA:2178:C:O2 | 2:AA:2178:C:H2' | 2.18 | 0.44 |
| 2:AA:2273:A:C8 | 2:AA:2274:A:C8 | 3.06 | 0.44 |
| 2:AA:2283:C:O2 | 2:AA:2283:C:C2' | 2.63 | 0.44 |
| 2:AA:2306:C:N4 | 7:AG:53:LYS:HD3 | 2.33 | 0.44 |
| 2:AA:2333:A:O4' | 2:AA:2335:A:N3 | 2.51 | 0.44 |
| 2:AA:2418:A:H2' | 2:AA:2419:U:C6 | 2.53 | 0.44 |
| 2:AA:2468:G:C6 | 2:AA:2481:G:N1 | 2.86 | 0.44 |
| 2:AA:2478:A:H2' | 2:AA:2479:G:O5' | 2.17 | 0.44 |
| 2:AA:2509:G:H1 | 2:AA:2579:C:N4 | 2.15 | 0.44 |
| 2:AA:2564:A:C8 | 2:AA:2648:C:C5' | 3.01 | 0.44 |
| 2:AA:2578:G:C2' | 2:AA:2579:C:O5' | 2.66 | 0.44 |
| 2:AA:2646:C:C2 | 2:AA:2647:U:C6 | 3.06 | 0.44 |
| 2:AA:2684:U:H4' | 13:AN:76:TYR:CZ | 2.53 | 0.44 |
| 2:AA:2733:A:H2' | 2:AA:2734:A:O4' | 2.18 | 0.44 |
| 2:AA:2745:C:N4 | 2:AA:2746:U:C4 | 2.86 | 0.44 |
| 2:AA:2754:U:O2 | 2:AA:2756:U:OP1 | 2.36 | 0.44 |
| 2:AA:2825:C:C6 | 2:AA:2825:C:C3' | 3.01 | 0.44 |
| 3:AC:89:ALA:CB | 3:AC:154:ARG:NH1 | 2.81 | 0.44 |
| 4:AD:74:PRO:HG2 | 4:AD:96:ALA:N | 2.33 | 0.44 |
| 4:AD:120:ASP:O | 4:AD:121:ALA:HB2 | 2.18 | 0.44 |
| 5:AE:43:GLY:O | 5:AE:309:PRO:CG | 2.65 | 0.44 |
| 5:AE:107:GLU:HG2 | 5:AE:110:ARG:NH2 | 2.32 | 0.44 |
| 5:AE:208:LYS:CB | 5:AE:256:THR:O | 2.65 | 0.44 |
| 5:AE:264:LEU:C | 5:AE:265:ASN:CG | 2.76 | 0.44 |
| 6:AF:155:SER:O | 6:AF:157:LEU:N | 2.51 | 0.44 |
| 6:AF:157:LEU:N | 6:AF:157:LEU:HD23 | 2.32 | 0.44 |
| 8:AH:60:HIS:HA | 8:AH:63:LEU:CB | 2.44 | 0.44 |
| 8:AH:70:LEU:O | 8:AH:73:ASN:N | 2.51 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:85:ALA:HA | 8:AH:131:ILE:HG21 | 1.91 | 0.44 |
| 8:AH:86:LEU:HD23 | 8:AH:148:ARG:CG | 2.47 | 0.44 |
| 8:AH:153:PRO:O | 8:AH:154:GLU:C | 2.55 | 0.44 |
| 9:AI:61:VAL:HG12 | 9:AI:102:ILE:HG22 | 2.00 | 0.44 |
| 9:AI:76:VAL:CG1 | 9:AI:118:LEU:HD23 | 2.48 | 0.44 |
| 9:AJ:50:GLY:O | 9:AJ:53:GLN:N | 2.50 | 0.44 |
| 10:AK:10:LYS:NZ | 10:AK:17:GLU:OE2 | 2.51 | 0.44 |
| 10:AK:32:LYS:NZ | 28:A4:73:LYS:HD3 | 2.32 | 0.44 |
| 10:AK:64:ASN:HD22 | 10:AK:64:ASN:H | 1.65 | 0.44 |
| 10:AK:135:PRO:O | 10:AK:136:GLU:HG3 | 2.18 | 0.44 |
| 11:AL:93:LYS:O | 21:AV:109:GLN:HA | 2.18 | 0.44 |
| 12:AM:60:ARG:O | 12:AM:71:TYR:CD2 | 2.71 | 0.44 |
| 12:AM:87:LEU:CD1 | 12:AM:98:PHE:CZ | 2.97 | 0.44 |
| 13:AN:41:ALA:O | 13:AN:58:VAL:O | 2.36 | 0.44 |
| 13:AN:110:ASP:O | 13:AN:111:PHE:CG | 2.70 | 0.44 |
| 15:AP:45:GLN:OE1 | 15:AP:153:PRO:CD | 2.66 | 0.44 |
| 15:AP:51:GLU:H | 15:AP:51:GLU:CD | 2.08 | 0.44 |
| 15:AP:64:ALA:HA | 15:AP:142:LYS:HD3 | 1.99 | 0.44 |
| 15:AP:65:ARG:O | 15:AP:66:ASN:C | 2.56 | 0.44 |
| 15:AP:145:PRO:O | 15:AP:147:VAL:N | 2.47 | 0.44 |
| 16:AQ:32:PRO:HD2 | 16:AQ:100:ALA:HA | 1.97 | 0.44 |
| 16:AQ:67:ALA:O | 16:AQ:69:TYR:N | 2.50 | 0.44 |
| 16:AQ:87:LEU:HD23 | 16:AQ:87:LEU:H | 1.82 | 0.44 |
| 18:AS:12:ILE:HD13 | 18:AS:42:ARG:CD | 2.48 | 0.44 |
| 18:AS:19:LEU:O | 29:A5:25:LEU:CD1 | 2.63 | 0.44 |
| 19:AT:7:HIS:ND1 | 19:AT:8:PRO:N | 2.66 | 0.44 |
| 20:AU:19:ARG:NH1 | 20:AU:67:LEU:C | 2.71 | 0.44 |
| 21:AV:98:VAL:CG2 | 21:AV:121:GLN:HE22 | 2.30 | 0.44 |
| 21:AV:148:THR:O | 21:AV:149:ALA:C | 2.56 | 0.44 |
| 22:AW:9:ARG:HB2 | 22:AW:59:ILE:CD1 | 2.47 | 0.44 |
| 22:AW:13:PRO:O | 22:AW:16:ARG:HB2 | 2.18 | 0.44 |
| 24:A0:20:LEU:CD1 | 24:A0:21:TYR:N | 2.81 | 0.44 |
| 24:A0:20:LEU:O | 24:A0:22:ARG:N | 2.51 | 0.44 |
| 24:A0:27:SER:O | 24:A0:30:THR:HB | 2.18 | 0.44 |
| 26:A2:2:PHE:O | 26:A2:43:GLU:O | 2.36 | 0.44 |
| 26:A2:56:VAL:HG12 | 26:A2:57:GLN:N | 2.33 | 0.44 |
| 28:A4:5:LEU:CG | 28:A4:8:LYS:O | 2.64 | 0.44 |
| 28:A4:58:LYS:HB3 | 28:A4:59:PHE:H | 1.63 | 0.44 |
| 31:A7:26:SER:O | 31:A7:27:GLY:C | 2.56 | 0.44 |
| 32:A8:31:HIS:O | 32:A8:32:GLN:CG | 2.50 | 0.44 |
| 32:A8:64:ARG:HG2 | 32:A8:64:ARG:HH11 | 1.83 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 33:A9:27:CYS:HB3 | 33:A9:32:HIS:CG | 2.53 | 0.44 |
| 34:BA:22:G:C2 | 34:BA:23:C:C2 | 3.06 | 0.44 |
| 34:BA:140:A:N1 | 34:BA:224:C:N3 | 2.66 | 0.44 |
| 34:BA:146:G:H1 | 34:BA:176:C:N4 | 2.13 | 0.44 |
| 34:BA:220:G:C2' | 34:BA:221:C:H5' | 2.46 | 0.44 |
| 34:BA:266:G:O2' | 34:BA:268:C:OP2 | 2.36 | 0.44 |
| 34:BA:716:A:H1' | 46:BN:118:GLY:HA3 | 1.99 | 0.44 |
| 34:BA:744:C:H2' | 34:BA:745:C:C6 | 2.53 | 0.44 |
| 34:BA:812:C:HO2' | 34:BA:813:U:P | 2.41 | 0.44 |
| 34:BA:856:C:C2 | 34:BA:857:C:C5 | 3.06 | 0.44 |
| 34:BA:952:U:H5" | 34:BA:972:C:N4 | 2.32 | 0.44 |
| 34:BA:1033:G:C4 | 34:BA:1034:G:N7 | 2.85 | 0.44 |
| 34:BA:1038:C:O2 | 34:BA:1039:C:C6 | 2.71 | 0.44 |
| 34:BA:1084:G:O2' | 34:BA:1085:U:P | 2.76 | 0.44 |
| 34:BA:1124:G:H21 | 34:BA:1126:U:H3 | 1.66 | 0.44 |
| 34:BA:1141:C:H2' | 34:BA:1142:G:H8 | 1.83 | 0.44 |
| 34:BA:1216:G:H2' | 34:BA:1217:C:C5 | 2.52 | 0.44 |
| 34:BA:1380:U:O2' | 34:BA:1381:U:P | 2.75 | 0.44 |
| 34:BA:1400:C:C1' | 35:BC:34:G:H22 | 2.23 | 0.44 |
| 35:BB:29:A:H2' | 35:BB:30:G:H8 | 1.82 | 0.44 |
| 35:BB:31:A:H61 | 35:BB:39:U:H3 | 1.66 | 0.44 |
| 35:BB:37:G:H2' | 35:BB:38:A:H8 | 1.83 | 0.44 |
| 37:BE:36:ARG:O | 37:BE:38:GLY:N | 2.50 | 0.44 |
| 37:BE:95:GLN:CB | 37:BE:148:TYR:HB3 | 2.46 | 0.44 |
| 37:BE:107:THR:O | 37:BE:108:ILE:C | 2.54 | 0.44 |
| 38:BF:73:PRO:O | 38:BF:74:GLY:C | 2.54 | 0.44 |
| 38:BF:173:VAL:O | 38:BF:174:PRO:C | 2.56 | 0.44 |
| 39:BG:105:VAL:HB | 39:BG:117:ALA:HB1 | 2.00 | 0.44 |
| 39:BG:191:ARG:NH2 | 39:BG:196:LEU:O | 2.49 | 0.44 |
| 40:BH:51:VAL:CB | 40:BH:52:PRO:CD | 2.91 | 0.44 |
| 41:BI:42:GLU:HG3 | 41:BI:61:LEU:HD23 | 1.96 | 0.44 |
| 41:BI:52:ILE:CD1 | 41:BI:87:ARG:NH2 | 2.81 | 0.44 |
| 42:BJ:15:ASP:HB2 | 42:BJ:23:VAL:CB | 2.47 | 0.44 |
| 42:BJ:22:LEU:HG | 42:BJ:62:PHE:HE2 | 1.83 | 0.44 |
| 43:BK:14:ARG:O | 43:BK:18:ARG:CD | 2.64 | 0.44 |
| 43:BK:24:THR:N | 43:BK:60:ARG:CD | 2.81 | 0.44 |
| 43:BK:42:GLU:CD | 43:BK:122:ARG:HH22 | 2.22 | 0.44 |
| 43:BK:54:ASP:C | 43:BK:56:LYS:H | 2.19 | 0.44 |
| 43:BK:73:ASP:OD2 | 43:BK:74:PRO:N | 2.51 | 0.44 |
| 43:BK:114:THR:C | 43:BK:116:LYS:N | 2.67 | 0.44 |
| 46:BN:29:ILE:HA | 46:BN:44:SER:HB3 | 2.00 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BO:83:VAL:HG22 | 47:BO:84:LEU:N | 2.27 | 0.44 |
| 48:BP:23:TYR:CE2 | 48:BP:70:LEU:HD22 | 2.52 | 0.44 |
| 48:BP:108:ARG:CZ | 48:BP:111:LYS:CB | 2.94 | 0.44 |
| 49:BQ:53:LEU:O | 49:BQ:54:PRO:C | 2.57 | 0.44 |
| 50:BR:27:VAL:O | 50:BR:28:GLN:C | 2.55 | 0.44 |
| 50:BR:53:HIS:CD2 | 50:BR:57:LEU:HD13 | 2.52 | 0.44 |
| 50:BR:64:ARG:HG3 | 50:BR:65:ARG:N | 2.32 | 0.44 |
| 52:BT:76:LEU:HD23 | 52:BT:77:VAL:N | 2.32 | 0.44 |
| 53:BU:74:ARG:HB3 | 53:BU:81:PHE:HD2 | 1.82 | 0.44 |
| 1:AB:24:G:H2' | 1:AB:27:C:H41 | 1.82 | 0.43 |
| 2:AA:143:C:H3' | 2:AA:143:C:C6 | 2.51 | 0.43 |
| 2:AA:162:U:O5' | 2:AA:171:G:N3 | 2.51 | 0.43 |
| 2:AA:181:A:C5 | 2:AA:182:A:N7 | 2.86 | 0.43 |
| 2:AA:260:G:N1 | 2:AA:261:G:N7 | 2.66 | 0.43 |
| 2:AA:270(G):C:O2 | 2:AA:270(H):C:C6 | 2.71 | 0.43 |
| 2:AA:270(I):G:C6 | 2:AA:270(J):G:C8 | 3.05 | 0.43 |
| 2:AA:295:G:H3' | 2:AA:338:G:H22 | 1.83 | 0.43 |
| 2:AA:309:G:C5 | 2:AA:330:A:C6 | 3.06 | 0.43 |
| 2:AA:319:C:C6 | 2:AA:320:A:N7 | 2.86 | 0.43 |
| 2:AA:371:A:C5' | 2:AA:423:A:N7 | 2.81 | 0.43 |
| 2:AA:398:G:P | 28:A4:58:LYS:HD2 | 2.57 | 0.43 |
| 2:AA:458:G:H2' | 2:AA:469:G:C6 | 2.53 | 0.43 |
| 2:AA:527:C:C5 | 2:AA:2779:U:C6 | 3.06 | 0.43 |
| 2:AA:581:C:H5" | 25:A1:32:TYR:CG | 2.53 | 0.43 |
| 2:AA:625:G:C3' | 2:AA:626:U:C5' | 2.95 | 0.43 |
| 2:AA:629:G:C6 | 2:AA:630:G:C5 | 3.06 | 0.43 |
| 2:AA:674:G:C4' | 6:AF:69:HIS:HA | 2.48 | 0.43 |
| 2:AA:700:G:N1 | 2:AA:701:G:C5 | 2.86 | 0.43 |
| 2:AA:713:G:H22 | 2:AA:714:U:H1' | 1.82 | 0.43 |
| 2:AA:740:U:O4 | 2:AA:758:C:O2 | 2.36 | 0.43 |
| 2:AA:823:G:N1 | 2:AA:824:A:C6 | 2.86 | 0.43 |
| 2:AA:823:G:N1 | 2:AA:824:A:N6 | 2.66 | 0.43 |
| 2:AA:842:G:N2 | 2:AA:937:U:C2 | 2.86 | 0.43 |
| 2:AA:852:G:H2' | 2:AA:853:G:O5' | 2.18 | 0.43 |
| 2:AA:855:G:H22 | 27:A3:26:PHE:HZ | 1.65 | 0.43 |
| 2:AA:933:A:C2' | 2:AA:934:G:C5' | 2.96 | 0.43 |
| 2:AA:957:A:C5' | 2:AA:957:A:H8 | 2.31 | 0.43 |
| 2:AA:997:G:P | 25:A1:93:LYS:HE2 | 2.58 | 0.43 |
| 2:AA:1021:A:C2 | 2:AA:1122:G:H4' | 2.53 | 0.43 |
| 2:AA:1072:C:H42 | 2:AA:1100:C:H41 | 1.66 | 0.43 |
| 2:AA:1173:G:N2 | 2:AA:1175:U:C3' | 2.81 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1178:C:H2' | 2:AA:1179:C:OP2 | 2.17 | 0.43 |
| 2:AA:1208:C:C4 | 2:AA:1209:G:N7 | 2.86 | 0.43 |
| 2:AA:1224:G:C8 | 2:AA:1224:G:OP1 | 2.70 | 0.43 |
| 2:AA:1263:U:C5 | 2:AA:1264:G:C6 | 3.06 | 0.43 |
| 2:AA:1277:G:N3 | 24:A0:23:ASN:ND2 | 2.66 | 0.43 |
| 2:AA:1283:G:C2 | 2:AA:1285:G:C8 | 3.06 | 0.43 |
| 2:AA:1342:A:C5 | 2:AA:1345:C:N4 | 2.86 | 0.43 |
| 2:AA:1375:C:C4 | 2:AA:1376:C:C5 | 3.06 | 0.43 |
| 2:AA:1419:A:N7 | 2:AA:1421:G:C6 | 2.86 | 0.43 |
| 2:AA:1446:C:N3 | 2:AA:1466:G:C2 | 2.86 | 0.43 |
| 2:AA:1451:C:C3' | 2:AA:1453:A:C5' | 2.95 | 0.43 |
| 2:AA:1568:G:N3 | 2:AA:1568:G:O4' | 2.50 | 0.43 |
| 2:AA:1637:A:N1 | 2:AA:1638:C:C4 | 2.86 | 0.43 |
| 2:AA:1657:C:N3 | 2:AA:1658:C:C5 | 2.86 | 0.43 |
| 2:AA:1742:C:C2' | 2:AA:1743:G:C1' | 2.93 | 0.43 |
| 2:AA:1934:C:C2' | 2:AA:1935:G:O5' | 2.65 | 0.43 |
| 2:AA:2021:C:OP2 | 29:A5:15:LYS:HE3 | 2.17 | 0.43 |
| 2:AA:2069:G:C6 | 2:AA:2443:C:N4 | 2.86 | 0.43 |
| 2:AA:2113:U:OP2 | 2:AA:2116:G:C2' | 2.55 | 0.43 |
| 2:AA:2192:G:C2 | 2:AA:2193:G:C8 | 3.05 | 0.43 |
| 2:AA:2218:G:O2' | 4:AD:184:LEU:HD11 | 2.17 | 0.43 |
| 2:AA:2227:A:C6 | 2:AA:2228:G:N7 | 2.86 | 0.43 |
| 2:AA:2266:A:C2 | 2:AA:2272:U:C5 | 3.06 | 0.43 |
| 2:AA:2312:U:N3 | 2:AA:2313:C:N3 | 2.65 | 0.43 |
| 2:AA:2363:C:C2' | 2:AA:2364:C:H5' | 2.47 | 0.43 |
| 2:AA:2364:C:H5" | 27:A3:38:VAL:HG12 | 1.99 | 0.43 |
| 2:AA:2376:A:H2' | 2:AA:2377:A:O4' | 2.18 | 0.43 |
| 2:AA:2404:C:O2 | 2:AA:2404:C:H2' | 2.18 | 0.43 |
| 2:AA:2418:A:C8 | 2:AA:2419:U:C5 | 3.06 | 0.43 |
| 2:AA:2528:U:OP1 | 33:A9:30:VAL:HB | 2.18 | 0.43 |
| 2:AA:2538:C:O2 | 2:AA:2539:C:C6 | 2.71 | 0.43 |
| 2:AA:2595:G:C2 | 2:AA:2597:G:P | 3.10 | 0.43 |
| 2:AA:2603:G:O2' | 2:AA:2604:U:H5' | 2.18 | 0.43 |
| 2:AA:2620:C:H2' | 2:AA:2621:A:H5" | 1.99 | 0.43 |
| 2:AA:2650:U:O2 | 2:AA:2650:U:H2' | 2.18 | 0.43 |
| 2:AA:2759:G:C4 | 2:AA:2760:C:C5 | 3.06 | 0.43 |
| 2:AA:2804:C:C6 | 2:AA:2805:G:N1 | 2.86 | 0.43 |
| 3:AC:133:PRO:CD | 3:AC:134:ARG:H | 2.30 | 0.43 |
| 3:AC:214:VAL:HG23 | 3:AC:224:ILE:HD11 | 2.01 | 0.43 |
| 4:AD:129:LEU:CD2 | 4:AD:133:ASN:HB2 | 2.47 | 0.43 |
| 4:AD:170:TYR:N | 4:AD:170:TYR:CD2 | 2.86 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:179:GLU:C | 4:AD:180:VAL:HG22 | 2.38 | 0.43 |
| 5:AE:268:LEU:CD1 | 5:AE:296:VAL:HG22 | 2.48 | 0.43 |
| 5:AE:292:PRO:O | 5:AE:293:TYR:CE2 | 2.69 | 0.43 |
| 6:AF:30:LEU:O | 6:AF:31:ILE:C | 2.56 | 0.43 |
| 6:AF:149:LYS:O | 6:AF:152:GLU:CB | 2.63 | 0.43 |
| 7:AG:38:GLU:HG2 | 7:AG:41:LEU:HD12 | 2.00 | 0.43 |
| 7:AG:96:SER:OG | 7:AG:97:GLN:N | 2.51 | 0.43 |
| 8:AH:41:THR:C | 8:AH:52:THR:HG21 | 2.38 | 0.43 |
| 9:AJ:22:VAL:HA | 9:AJ:38:ALA:CB | 2.48 | 0.43 |
| 9:AJ:53:GLN:HA | 9:AJ:128:LYS:NZ | 2.32 | 0.43 |
| 9:AJ:60:ASP:OD2 | 9:AJ:101:VAL:HG21 | 2.17 | 0.43 |
| 10:AK:8:ASP:C | 10:AK:10:LYS:N | 2.64 | 0.43 |
| 10:AK:51:LYS:O | 10:AK:52:GLN:C | 2.56 | 0.43 |
| 12:AM:84:ARG:O | 12:AM:87:LEU:N | 2.50 | 0.43 |
| 13:AN:10:VAL:HG21 | 13:AN:17:ARG:N | 2.33 | 0.43 |
| 15:AP:56:ILE:CD1 | 15:AP:115:SER:CB | 2.80 | 0.43 |
| 15:AP:94:ARG:HG2 | 15:AP:107:LYS:C | 2.32 | 0.43 |
| 16:AQ:60:SER:O | 16:AQ:88:ALA:CB | 2.66 | 0.43 |
| 16:AQ:72:GLU:O | 16:AQ:74:PRO:C | 2.56 | 0.43 |
| 18:AS:8:ARG:HD2 | 18:AS:9:TYR:HD1 | 1.82 | 0.43 |
| 18:AS:59:VAL:HG21 | 18:AS:66:GLU:N | 2.33 | 0.43 |
| 19:AT:34:LYS:O | 19:AT:38:ALA:CB | 2.65 | 0.43 |
| 21:AV:14:LEU:HD21 | 21:AV:80:HIS:CE1 | 2.53 | 0.43 |
| 21:AV:51:LEU:HA | 21:AV:65:LEU:HD12 | 1.99 | 0.43 |
| 21:AV:57:GLU:N | 21:AV:57:GLU:OE1 | 2.51 | 0.43 |
| 22:AW:20:LEU:HD22 | 22:AW:20:LEU:HA | 1.73 | 0.43 |
| 24:A0:67:LEU:O | 24:A0:68:ARG:C | 2.56 | 0.43 |
| 24:A0:76:VAL:HG12 | 24:A0:77:ARG:HG2 | 1.99 | 0.43 |
| 25:A1:46:GLU:HG3 | 25:A1:46:GLU:H | 1.41 | 0.43 |
| 27:A3:36:ILE:O | 27:A3:37:LEU:CD2 | 2.66 | 0.43 |
| 29:A5:46:CYS:CB | 29:A5:48:ASN:HD22 | 2.30 | 0.43 |
| 32:A8:26:LYS:HB2 | 32:A8:44:LYS:CG | 2.48 | 0.43 |
| 34:BA:16:A:H2' | 34:BA:17:U:C5' | 2.48 | 0.43 |
| 34:BA:34:C:H2' | 34:BA:35:G:C8 | 2.53 | 0.43 |
| 34:BA:247:G:OP1 | 52:BT:100:LYS:HG3 | 2.18 | 0.43 |
| 34:BA:257:G:H1 | 34:BA:269:C:H42 | 1.66 | 0.43 |
| 34:BA:440:A:C6 | 34:BA:495:U:C4 | 3.05 | 0.43 |
| 34:BA:452:A:C2' | 34:BA:453:A:C8 | 2.89 | 0.43 |
| 34:BA:509:A:C2 | 34:BA:510:A:C2 | 3.06 | 0.43 |
| 34:BA:597:G:C5 | 34:BA:644:G:C2 | 3.05 | 0.43 |
| 34:BA:620:C:H2' | 34:BA:621:A:C4' | 2.46 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:699:C:H2' | 34:BA:700:G:H8 | 1.82 | 0.43 |
| 34:BA:723:U:H3' | 34:BA:723:U:C2 | 2.53 | 0.43 |
| 34:BA:767:A:C2 | 34:BA:768:A:C4 | 3.06 | 0.43 |
| 34:BA:827:U:C2 | 34:BA:870:U:O4 | 2.71 | 0.43 |
| 34:BA:841:U:C3' | 34:BA:848:C:C5' | 2.94 | 0.43 |
| 34:BA:859:A:C2' | 34:BA:860:A:O4' | 2.60 | 0.43 |
| 34:BA:931:C:C2 | 34:BA:1387:G:C2 | 3.06 | 0.43 |
| 34:BA:1054:C:OP2 | 34:BA:1197:G:P | 2.75 | 0.43 |
| 34:BA:1056:U:OP1 | 38:BF:162:GLN:NE2 | 2.51 | 0.43 |
| 34:BA:1171:G:HO2' | 34:BA:1172:C:H6 | 1.60 | 0.43 |
| 34:BA:1234:C:H4' | 34:BA:1364:U:C1' | 2.48 | 0.43 |
| 34:BA:1273:G:C2' | 34:BA:1274:G:H5' | 2.49 | 0.43 |
| 34:BA:1305:G:OP2 | 34:BA:1305:G:O4' | 2.36 | 0.43 |
| 34:BA:1314:C:C4 | 34:BA:1315:U:O4 | 2.71 | 0.43 |
| 34:BA:1350:A:N1 | 34:BA:1372:U:C2 | 2.86 | 0.43 |
| 34:BA:1355:G:C2' | 34:BA:1356:G:O5' | 2.66 | 0.43 |
| 34:BA:1374:A:O2' | 42:BJ:31:MET:CE | 2.66 | 0.43 |
| 34:BA:1422:G:N1 | 34:BA:1423:G:C5 | 2.85 | 0.43 |
| 34:BA:1531:A:HO2' | 34:BA:1532:U:C1' | 2.29 | 0.43 |
| 34:BA:1539:C:C2' | 34:BA:1539:C:O2 | 2.62 | 0.43 |
| 35:BB:7:U:C4 | 35:BB:67:A:C6 | 3.04 | 0.43 |
| 35:BB:75:C:O2 | 35:BB:75:C:H2' | 2.18 | 0.43 |
| 37:BE:25:ASN:O | 37:BE:26:PRO:C | 2.57 | 0.43 |
| 37:BE:118:LEU:C | 37:BE:120:ALA:N | 2.71 | 0.43 |
| 37:BE:162:ILE:CD1 | 37:BE:183:PRO:O | 2.62 | 0.43 |
| 38:BF:6:HIS:ND1 | 38:BF:7:PRO:HD2 | 2.33 | 0.43 |
| 38:BF:36:ASP:HA | 38:BF:39:ILE:CD1 | 2.24 | 0.43 |
| 39:BG:204:ILE:HD12 | 39:BG:204:ILE:N | 2.30 | 0.43 |
| 43:BK:9:MET:C | 43:BK:11:THR:N | 2.68 | 0.43 |
| 43:BK:31:PHE:O | 43:BK:34:GLU:HB2 | 2.18 | 0.43 |
| 43:BK:98:LYS:C | 43:BK:98:LYS:HZ3 | 2.20 | 0.43 |
| 44:BL:47:LEU:HD11 | 44:BL:50:LEU:HD12 | 1.99 | 0.43 |
| 44:BL:66:ARG:C | 44:BL:73:GLN:NE2 | 2.64 | 0.43 |
| 44:BL:75:ASP:O | 44:BL:78:LYS:N | 2.50 | 0.43 |
| 44:BL:125:TYR:HE2 | 44:BL:128:ARG:HH22 | 1.63 | 0.43 |
| 45:BM:63:PHE:C | 49:BQ:59:ALA:HB2 | 2.39 | 0.43 |
| 46:BN:57:THR:HG23 | 46:BN:60:ALA:CB | 2.47 | 0.43 |
| 47:BO:32:PHE:HB2 | 47:BO:84:LEU:HD11 | 2.00 | 0.43 |
| 49:BQ:42:ILE:CG2 | 49:BQ:46:GLU:OE2 | 2.65 | 0.43 |
| 52:BT:45:HIS:CE1 | 52:BT:47:PRO:HA | 2.52 | 0.43 |
| 53:BU:61:LYS:HD2 | 53:BU:64:ARG:HH22 | 1.83 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 55:BW:73:HIS:CD2 | 55:BW:74:LYS:NZ | 2.86 | 0.43 |
| 1:AB:89(A):A:C3' | 1:AB:90:C:C5' | 2.96 | 0.43 |
| 2:AA:83:G:C2' | 2:AA:84:A:OP2 | 2.65 | 0.43 |
| 2:AA:84:A:P | 20:AU:111:ARG:HH12 | 2.38 | 0.43 |
| 2:AA:110:G:C6 | 2:AA:111:A:N6 | 2.86 | 0.43 |
| 2:AA:112:U:C4 | 2:AA:113:G:C4 | 3.06 | 0.43 |
| 2:AA:116:C:C2' | 2:AA:117:G:O5' | 2.67 | 0.43 |
| 2:AA:215:G:C4' | 2:AA:216:A:O5' | 2.39 | 0.43 |
| 2:AA:242:G:H8 | 32:A8:3:LYS:O | 2.00 | 0.43 |
| 2:AA:244:A:N9 | 2:AA:255:A:N6 | 2.64 | 0.43 |
| 2:AA:319:C:H3' | 2:AA:320:A:H8 | 1.82 | 0.43 |
| 2:AA:363(F):A:N3 | 2:AA:363(F):A:H2' | 2.33 | 0.43 |
| 2:AA:439:G:H2' | 2:AA:440:G:C8 | 2.53 | 0.43 |
| 2:AA:467:G:O2' | 2:AA:796:C:O2' | 2.16 | 0.43 |
| 2:AA:515:A:O4' | 2:AA:581:C:C1' | 2.66 | 0.43 |
| 2:AA:529:A:H2' | 2:AA:530:G:OP2 | 2.18 | 0.43 |
| 2:AA:539:G:N2 | 2:AA:540:G:C5 | 2.86 | 0.43 |
| 2:AA:592:G:HO2' | 32:A8:2:PRO:C | 2.17 | 0.43 |
| 2:AA:617:G:C8 | 2:AA:618:G:C8 | 3.05 | 0.43 |
| 2:AA:668:G:N3 | 2:AA:670:A:C5 | 2.86 | 0.43 |
| 2:AA:678:C:C2 | 2:AA:679:C:C6 | 3.06 | 0.43 |
| 2:AA:717:G:O6 | 2:AA:718:A:C5 | 2.72 | 0.43 |
| 2:AA:729:G:N2 | 2:AA:1775:U:C1' | 2.82 | 0.43 |
| 2:AA:742:G:C5' | 2:AA:1675:C:O2' | 2.66 | 0.43 |
| 2:AA:776:G:C4 | 2:AA:793:A:C6 | 3.06 | 0.43 |
| 2:AA:819:A:C8 | 2:AA:819:A:C3' | 3.01 | 0.43 |
| 2:AA:928:G:H2' | 2:AA:929:G:N9 | 2.33 | 0.43 |
| 2:AA:932:G:C5' | 23:AX:24:LYS:HZ1 | 2.27 | 0.43 |
| 2:AA:935:C:H2' | 2:AA:936:C:H6 | 1.84 | 0.43 |
| 2:AA:958:U:H6 | 2:AA:958:U:H3' | 1.84 | 0.43 |
| 2:AA:1001:A:H2' | 2:AA:1002:G:O4' | 2.18 | 0.43 |
| 2:AA:1025:G:C8 | 2:AA:1134:G:H4' | 2.52 | 0.43 |
| 2:AA:1025:G:N3 | 2:AA:1025:G:H3' | 2.33 | 0.43 |
| 2:AA:1057:A:H2 | 2:AA:1082:U:H3 | 1.65 | 0.43 |
| 2:AA:1170:G:N1 | 2:AA:1180:C:C4 | 2.86 | 0.43 |
| 2:AA:1233:C:N3 | 2:AA:1234:U:C6 | 2.86 | 0.43 |
| 2:AA:1258:C:C2' | 2:AA:1259:G:H5' | 2.49 | 0.43 |
| 2:AA:1267:U:H2' | 2:AA:1268:A:C5' | 2.48 | 0.43 |
| 2:AA:1268:A:C2 | 2:AA:1269:A:C4 | 3.06 | 0.43 |
| 2:AA:1283:G:N2 | 2:AA:1285:G:C8 | 2.86 | 0.43 |
| 2:AA:1333:C:C6 | 2:AA:1333:C:C5' | 2.96 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1405:U:O2' | 2:AA:1406:U:O5' | 2.36 | 0.43 |
| 2:AA:1472:A:C8 | 2:AA:1473:G:C8 | 3.05 | 0.43 |
| 2:AA:1484:G:H2' | 2:AA:1485:G:OP2 | 2.18 | 0.43 |
| 2:AA:1538:G:O6 | 2:AA:1539:G:C6 | 2.71 | 0.43 |
| 2:AA:1568:G:C3' | 4:AD:60:GLN:HG2 | 2.47 | 0.43 |
| 2:AA:1599:C:O5' | 2:AA:1599:C:H6 | 2.01 | 0.43 |
| 2:AA:1657:C:OP1 | 5:AE:232:ARG:O | 2.36 | 0.43 |
| 2:AA:1661:G:O2' | 2:AA:1662:C:C5' | 2.63 | 0.43 |
| 2:AA:1747:G:N3 | 2:AA:1748:G:C8 | 2.86 | 0.43 |
| 2:AA:1758:G:O6 | 2:AA:2695:C:O3' | 2.36 | 0.43 |
| 2:AA:1774:C:HO2' | 2:AA:1979:C:HO2' | 1.64 | 0.43 |
| 2:AA:1789:A:H4' | 4:AD:224:VAL:CG1 | 2.45 | 0.43 |
| 2:AA:1909:C:O2' | 35:BC:11:C:H4' | 2.18 | 0.43 |
| 2:AA:1935:G:N2 | 2:AA:1962:C:O2' | 2.50 | 0.43 |
| 2:AA:1941:C:C2' | 2:AA:1942:C:O5' | 2.58 | 0.43 |
| 2:AA:1945:G:C2 | 2:AA:1946:U:C6 | 3.06 | 0.43 |
| 2:AA:2009:G:O3' | 18:AS:41:LYS:HG3 | 2.18 | 0.43 |
| 2:AA:2046:G:H1' | 29:A5:22:HIS:CE1 | 2.53 | 0.43 |
| 2:AA:2049:G:C6 | 2:AA:2050:C:N4 | 2.86 | 0.43 |
| 2:AA:2077:A:N7 | 2:AA:2238:G:O6 | 2.51 | 0.43 |
| 2:AA:2082:A:N3 | 2:AA:2082:A:C2' | 2.81 | 0.43 |
| 2:AA:2135:A:N7 | 2:AA:2151:G:OP2 | 2.52 | 0.43 |
| 2:AA:2185:C:N4 | 2:AA:2186:G:O6 | 2.51 | 0.43 |
| 2:AA:2233:U:O2' | 2:AA:2234:G:C5' | 2.58 | 0.43 |
| 2:AA:2294:C:H2' | 2:AA:2295:C:O5' | 2.18 | 0.43 |
| 2:AA:2386:C:H1' | 27:A3:39:ARG:NH2 | 2.32 | 0.43 |
| 2:AA:2464:C:N3 | 2:AA:2486:G:C2 | 2.77 | 0.43 |
| 2:AA:2640:G:C2 | 2:AA:2641:G:C8 | 3.06 | 0.43 |
| 2:AA:2648:C:N3 | 2:AA:2673:G:C2 | 2.86 | 0.43 |
| 2:AA:2734:A:N6 | 5:AE:316:ARG:NH2 | 2.53 | 0.43 |
| 2:AA:2753:A:H2' | 2:AA:2754:U:H6 | 1.83 | 0.43 |
| 2:AA:2820:A:O2' | 5:AE:207:GLY:O | 2.35 | 0.43 |
| 2:AA:2838:G:O2' | 2:AA:2839:G:C5' | 2.64 | 0.43 |
| 3:AC:72:VAL:O | 3:AC:74:VAL:HG23 | 2.18 | 0.43 |
| 3:AC:190:ARG:O | 3:AC:193:ILE:HB | 2.18 | 0.43 |
| 5:AE:44:TYR:HB2 | 5:AE:74:GLU:HG2 | 2.00 | 0.43 |
| 5:AE:218:GLY:O | 5:AE:219:VAL:HG23 | 2.17 | 0.43 |
| 6:AF:93:LYS:CB | 6:AF:95:GLU:O | 2.66 | 0.43 |
| 6:AF:111:VAL:HG13 | 6:AF:220:THR:H | 1.83 | 0.43 |
| 6:AF:162:VAL:N | 6:AF:165:ASP:CG | 2.71 | 0.43 |
| 8:AH:10:ILE:CD1 | 8:AH:49:ILE:CG1 | 2.93 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:107:GLY:C | 8:AH:109:SER:H | 2.20 | 0.43 |
| 8:AH:116:PRO:CA | 8:AH:120:LEU:HD12 | 2.38 | 0.43 |
| 9:AI:23:LYS:HD2 | 9:AJ:47:ALA:CA | 2.49 | 0.43 |
| 9:AJ:1:MET:N | 9:AJ:5:GLU:OE1 | 2.50 | 0.43 |
| 9:AJ:26:GLU:C | 9:AJ:28:LYS:N | 2.71 | 0.43 |
| 10:AK:4:ILE:CD1 | 10:AK:39:ALA:N | 2.82 | 0.43 |
| 11:AL:15:ALA:O | 11:AL:17:LYS:HG3 | 2.18 | 0.43 |
| 11:AL:18:ALA:O | 11:AL:19:THR:CB | 2.67 | 0.43 |
| 11:AL:19:THR:HG23 | 11:AL:39:CYS:HB3 | 1.99 | 0.43 |
| 11:AL:103:LYS:O | 11:AL:104:GLN:C | 2.55 | 0.43 |
| 13:AN:17:ARG:HH12 | 13:AN:54:LYS:HZ3 | 1.65 | 0.43 |
| 13:AN:112:MET:O | 13:AN:114:ILE:N | 2.51 | 0.43 |
| 14:AO:132:LYS:O | 14:AO:133:VAL:C | 2.54 | 0.43 |
| 15:AP:63:ALA:C | 15:AP:70:ARG:HH22 | 2.21 | 0.43 |
| 15:AP:67:ALA:HA | 15:AP:70:ARG:NH1 | 2.33 | 0.43 |
| 16:AQ:21:HIS:C | 16:AQ:23:ARG:H | 2.21 | 0.43 |
| 20:AU:15:PRO:C | 20:AU:17:HIS:N | 2.69 | 0.43 |
| 20:AU:49:GLU:O | 20:AU:97:ARG:CD | 2.66 | 0.43 |
| 20:AU:51:LEU:CB | 20:AU:97:ARG:HE | 2.30 | 0.43 |
| 20:AU:87:VAL:CG1 | 20:AU:88:PRO:N | 2.81 | 0.43 |
| 21:AV:63:PRO:O | 21:AV:64:ALA:CB | 2.66 | 0.43 |
| 21:AV:79:ILE:HG22 | 21:AV:80:HIS:CG | 2.53 | 0.43 |
| 22:AW:57:LYS:O | 22:AW:58:THR:C | 2.56 | 0.43 |
| 23:AX:4:LEU:N | 23:AX:4:LEU:HD23 | 2.33 | 0.43 |
| 25:A1:65:ILE:O | 25:A1:66:ASN:C | 2.56 | 0.43 |
| 25:A1:93:LYS:CA | 26:A2:10:LYS:HZ3 | 2.31 | 0.43 |
| 25:A1:101:ARG:HG2 | 25:A1:101:ARG:H | 1.53 | 0.43 |
| 26:A2:62:GLU:C | 26:A2:95:ILE:CG2 | 2.86 | 0.43 |
| 27:A3:75:GLY:O | 27:A3:76:ALA:CB | 2.66 | 0.43 |
| 28:A4:52:THR:O | 28:A4:53:GLU:CB | 2.64 | 0.43 |
| 32:A8:5:LYS:HE2 | 32:A8:63:PRO:HG3 | 1.98 | 0.43 |
| 32:A8:10:ALA:O | 32:A8:14:ILE:CG2 | 2.66 | 0.43 |
| 33:A9:3:VAL:C | 33:A9:5:SER:H | 2.22 | 0.43 |
| 34:BA:34:C:N3 | 34:BA:35:G:N7 | 2.67 | 0.43 |
| 34:BA:66:G:C4' | 34:BA:173:U:C4 | 3.01 | 0.43 |
| 34:BA:97:G:O2' | 34:BA:98:U:H5' | 2.18 | 0.43 |
| 34:BA:122:G:O2' | 34:BA:123:C:H5' | 2.18 | 0.43 |
| 34:BA:325:A:C8 | 34:BA:326:G:N7 | 2.86 | 0.43 |
| 34:BA:394:G:C5 | 34:BA:395:C:N4 | 2.86 | 0.43 |
| 34:BA:432:A:H2' | 34:BA:433:C:O4' | 2.18 | 0.43 |
| 34:BA:442:C:N3 | 34:BA:443:C:C6 | 2.86 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:443:C:N3 | 34:BA:491:G:N2 | 2.61 | 0.43 |
| 34:BA:485:G:O2' | 34:BA:486:U:C6 | 2.71 | 0.43 |
| 34:BA:529:G:C8 | 34:BA:529:G:C3' | 3.01 | 0.43 |
| 34:BA:585:G:C2 | 34:BA:586:C:C2 | 3.06 | 0.43 |
| 34:BA:596:C:O2 | 34:BA:596:C:C2' | 2.66 | 0.43 |
| 34:BA:643:C:N3 | 34:BA:644:G:N7 | 2.66 | 0.43 |
| 34:BA:671:G:C2' | 34:BA:671:G:N3 | 2.79 | 0.43 |
| 34:BA:706:A:H4' | 46:BN:22:HIS:ND1 | 2.33 | 0.43 |
| 34:BA:720:C:N4 | 34:BA:721:G:N3 | 2.65 | 0.43 |
| 34:BA:728:A:C6 | 34:BA:729:A:C6 | 3.06 | 0.43 |
| 34:BA:744:C:C2 | 34:BA:745:C:C5 | 3.06 | 0.43 |
| 34:BA:858:G:C6 | 34:BA:869:G:C8 | 3.06 | 0.43 |
| 34:BA:883:C:N3 | 34:BA:884:U:C4 | 2.87 | 0.43 |
| 34:BA:997:U:C4 | 34:BA:998:G:N7 | 2.86 | 0.43 |
| 34:BA:1051:C:H3' | 34:BA:1052:U:C6 | 2.53 | 0.43 |
| 34:BA:1134:G:H1 | 34:BA:1140:C:H42 | 0.56 | 0.43 |
| 34:BA:1277:C:O4' | 34:BA:1282:C:H1' | 2.18 | 0.43 |
| 34:BA:1414:U:O2' | 34:BA:1415:G:C5' | 2.66 | 0.43 |
| 34:BA:1433:A:H2' | 34:BA:1434:A:C5' | 2.48 | 0.43 |
| 34:BA:1505:G:H3' | 34:BA:1505:G:H8 | 1.83 | 0.43 |
| 34:BA:1533:C:O2' | 34:BA:1535:C:H5 | 1.99 | 0.43 |
| 35:BB:26:G:N1 | 35:BB:27:C:N1 | 2.66 | 0.43 |
| 35:BB:41:U:H3' | 35:BB:42:G:O4' | 2.18 | 0.43 |
| 35:BC:7:U:HO2' | 35:BC:8:U:P | 2.41 | 0.43 |
| 35:BC:35:A:C2 | 36:B1:62:G:C5 | 3.06 | 0.43 |
| 36:B1:61:U:N3 | 36:B1:62:G:C8 | 2.86 | 0.43 |
| 37:BE:48:MET:CG | 37:BE:51:LEU:HD12 | 2.48 | 0.43 |
| 37:BE:219:VAL:HG12 | 37:BE:223:ILE:HD11 | 2.00 | 0.43 |
| 38:BF:23:TYR:HD2 | 38:BF:24:ALA:H | 1.62 | 0.43 |
| 38:BF:70:VAL:HG12 | 38:BF:71:ALA:N | 2.33 | 0.43 |
| 39:BG:56:VAL:CG1 | 39:BG:57:ARG:HD2 | 2.47 | 0.43 |
| 39:BG:100:ARG:HB2 | 39:BG:103:ASN:CB | 2.49 | 0.43 |
| 41:BI:23:LYS:NZ | 41:BI:42:GLU:OE1 | 2.52 | 0.43 |
| 41:BI:80:ARG:CA | 41:BI:88:VAL:HG21 | 2.48 | 0.43 |
| 42:BJ:36:LYS:NZ | 42:BJ:36:LYS:CB | 2.75 | 0.43 |
| 42:BJ:146:GLU:C | 42:BJ:146:GLU:CD | 2.77 | 0.43 |
| 43:BK:4:ASP:O | 43:BK:7:ALA:HB3 | 2.18 | 0.43 |
| 44:BL:101:PHE:N | 44:BL:102:LEU:HD23 | 2.33 | 0.43 |
| 45:BM:9:ARG:O | 45:BM:94:VAL:CG1 | 2.65 | 0.43 |
| 46:BN:15:ALA:HA | 46:BN:78:GLN:HE22 | 1.74 | 0.43 |
| 47:BO:24:VAL:HG22 | 47:BO:98:TYR:OH | 2.18 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:BP:55:ARG:NH2 | 48:BP:56:LEU:CD2 | 2.66 | 0.43 |
| 48:BP:92:HIS:CE1 | 48:BP:98:VAL:HB | 2.53 | 0.43 |
| 49:BQ:25:VAL:CG1 | 49:BQ:38:GLY:O | 2.66 | 0.43 |
| 50:BR:3:ILE:CA | 50:BR:38:ARG:HH21 | 2.30 | 0.43 |
| 50:BR:39:LEU:HD22 | 50:BR:56:LEU:HD22 | 1.93 | 0.43 |
| 50:BR:81:LEU:CD2 | 50:BR:81:LEU:C | 2.85 | 0.43 |
| 52:BT:5:VAL:HG13 | 52:BT:59:ILE:H | 1.82 | 0.43 |
| 54:BV:32:LYS:O | 54:BV:57:HIS:CE1 | 2.71 | 0.43 |
| 55:BW:50:GLU:HA | 55:BW:100:ILE:HG13 | 1.99 | 0.43 |
| 1:AB:9:G:C6 | 1:AB:112:G:N7 | 2.86 | 0.43 |
| 1:AB:17:C:N4 | 1:AB:68:C:H42 | 2.16 | 0.43 |
| 1:AB:70:C:C4 | 1:AB:71:C:H5 | 2.37 | 0.43 |
| 2:AA:25:U:C6 | 2:AA:26:G:N7 | 2.86 | 0.43 |
| 2:AA:76:C:H4' | 22:AW:55:ARG:CG | 2.48 | 0.43 |
| 2:AA:97:C:C2' | 2:AA:98:G:O5' | 2.66 | 0.43 |
| 2:AA:126:A:H5" | 31:A7:18:PHE:HD1 | 1.83 | 0.43 |
| 2:AA:137(A):G:C8 | 2:AA:138:G:C6 | 3.07 | 0.43 |
| 2:AA:164:U:H2' | 2:AA:171:G:C5' | 2.49 | 0.43 |
| 2:AA:215:G:O2' | 2:AA:216:A:P | 2.76 | 0.43 |
| 2:AA:234:C:H2' | 2:AA:235:U:C5' | 2.48 | 0.43 |
| 2:AA:292:C:N3 | 2:AA:348:G:C6 | 2.84 | 0.43 |
| 2:AA:297:C:C4 | 2:AA:298:G:N3 | 2.86 | 0.43 |
| 2:AA:298:G:O6 | 2:AA:338:G:H4' | 2.17 | 0.43 |
| 2:AA:311:A:O5' | 2:AA:312:G:N7 | 2.52 | 0.43 |
| 2:AA:370:G:C6 | 2:AA:424:G:N7 | 2.87 | 0.43 |
| 2:AA:371:A:C2' | 2:AA:372:G:N7 | 2.74 | 0.43 |
| 2:AA:413:C:N4 | 2:AA:2410:G:N1 | 2.66 | 0.43 |
| 2:AA:421:U:OP2 | 2:AA:421:U:H6 | 2.00 | 0.43 |
| 2:AA:462:C:O5' | 2:AA:462:C:H6 | 2.01 | 0.43 |
| 2:AA:502:A:C8 | 2:AA:502:A:C3' | 3.01 | 0.43 |
| 2:AA:583:G:H8 | 2:AA:583:G:O5' | 2.01 | 0.43 |
| 2:AA:607:U:H5' | 2:AA:608:A:OP2 | 2.18 | 0.43 |
| 2:AA:636:G:H5' | 2:AA:639:U:OP1 | 2.18 | 0.43 |
| 2:AA:682:G:H5' | 31:A7:26:SER:HB3 | 2.00 | 0.43 |
| 2:AA:711:G:N2 | 2:AA:720:C:C2 | 2.83 | 0.43 |
| 2:AA:721:C:C4 | 2:AA:722:A:N7 | 2.86 | 0.43 |
| 2:AA:729:G:H1' | 2:AA:763:G:C4' | 2.46 | 0.43 |
| 2:AA:744:G:OP1 | 5:AE:229:GLN:O | 2.37 | 0.43 |
| 2:AA:799:G:C6 | 2:AA:800:A:C6 | 3.07 | 0.43 |
| 2:AA:810:U:OP1 | 2:AA:1253:A:C8 | 2.71 | 0.43 |
| 2:AA:831:G:N1 | 2:AA:832:G:N3 | 2.66 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:850:C:H5" | 23:AX:18:ASP:CB | 2.46 | 0.43 |
| 2:AA:920:G:N2 | 2:AA:921:G:C4 | 2.87 | 0.43 |
| 2:AA:979:G:C4 | 2:AA:982:C:N4 | 2.86 | 0.43 |
| 2:AA:1022:G:N1 | 2:AA:1139:G:C2 | 2.86 | 0.43 |
| 2:AA:1221:C:H2' | 2:AA:1222:C:O5' | 2.17 | 0.43 |
| 2:AA:1233:C:C2' | 2:AA:1234:U:C5' | 2.96 | 0.43 |
| 2:AA:1298:C:C5' | 2:AA:1302:A:N6 | 2.81 | 0.43 |
| 2:AA:1301:A:O2' | 2:AA:1302:A:P | 2.77 | 0.43 |
| 2:AA:1320:C:H42 | 2:AA:1330:C:N4 | 2.15 | 0.43 |
| 2:AA:1324:G:N2 | 2:AA:1328:G:N2 | 2.63 | 0.43 |
| 2:AA:1356:G:N2 | 2:AA:1357:U:C2 | 2.86 | 0.43 |
| 2:AA:1379:A:N3 | 2:AA:1379:A:H2' | 2.32 | 0.43 |
| 2:AA:444(A):A:H2' | 2:AA:1460:A:HO2' | 1.83 | 0.43 |
| 2:AA:1497:U:O4 | 2:AA:1498:C:H5 | 2.00 | 0.43 |
| 2:AA:1526:G:O3' | 2:AA:1527:G:O4' | 2.37 | 0.43 |
| 2:AA:1534:G:H21 | 2:AA:1535:U:C5' | 2.27 | 0.43 |
| 2:AA:1559:G:C6 | 2:AA:1560:G:O5' | 2.70 | 0.43 |
| 2:AA:1625:C:C2' | 2:AA:1626:G:H5' | 2.45 | 0.43 |
| 2:AA:1663:C:H6 | 2:AA:1663:C:H3' | 1.83 | 0.43 |
| 2:AA:1689:A:C2 | 2:AA:1690:A:N7 | 2.86 | 0.43 |
| 2:AA:1730:U:O2' | 2:AA:1731:G:C8 | 2.70 | 0.43 |
| 2:AA:1769:G:C6 | 2:AA:1984:G:O6 | 2.71 | 0.43 |
| 2:AA:1785:A:C8 | 2:AA:1785:A:C4' | 3.01 | 0.43 |
| 2:AA:1787:A:C2 | 2:AA:1788:C:C2 | 3.07 | 0.43 |
| 2:AA:1878:G:H2' | 2:AA:1879:C:O5' | 2.19 | 0.43 |
| 2:AA:1917:U:C5 | 2:AA:1918:A:C8 | 3.06 | 0.43 |
| 2:AA:1927:A:C5 | 2:AA:1928:A:C2 | 3.06 | 0.43 |
| 2:AA:1939:U:O2' | 2:AA:1940:U:OP1 | 2.26 | 0.43 |
| 2:AA:1978:A:N6 | 2:AA:1979:C:N4 | 2.66 | 0.43 |
| 2:AA:2008:C:N4 | 2:AA:2009:G:O6 | 2.51 | 0.43 |
| 2:AA:2021:C:OP2 | 29:A5:15:LYS:CE | 2.66 | 0.43 |
| 2:AA:2040:C:C2 | 2:AA:2041:U:C6 | 3.07 | 0.43 |
| 2:AA:2044:C:OP2 | 2:AA:2044:C:H3' | 2.18 | 0.43 |
| 2:AA:2046:G:OP1 | 29:A5:19:ARG:N | 2.51 | 0.43 |
| 2:AA:2056:G:N7 | 2:AA:2577:A:C4 | 2.87 | 0.43 |
| 2:AA:2074:U:C2 | 2:AA:2075:U:C5 | 3.07 | 0.43 |
| 2:AA:2075:U:O2' | 2:AA:2076:U:H3' | 2.17 | 0.43 |
| 2:AA:2124:G:C5' | 2:AA:2125:G:OP2 | 2.67 | 0.43 |
| 2:AA:2131:G:H5" | 3:AC:6:ARG:HB3 | 1.98 | 0.43 |
| 2:AA:2132:U:OP2 | 3:AC:5:LYS:CA | 2.66 | 0.43 |
| 2:AA:2174:C:OP2 | 3:AC:7:TYR:HE2 | 2.01 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2199:A:OP2 | 2:AA:2205:C:H5 | 2.00 | 0.43 |
| 2:AA:2228:G:C5 | 2:AA:2229:C:C2 | 3.06 | 0.43 |
| 2:AA:2232:U:O2' | 2:AA:2233:U:C5' | 2.56 | 0.43 |
| 2:AA:2235:G:HO2' | 2:AA:2236:C:C5' | 2.31 | 0.43 |
| 2:AA:2259:G:O4' | 2:AA:2427:C:C5 | 2.72 | 0.43 |
| 2:AA:2300:G:C2' | 2:AA:2301:C:H5' | 2.48 | 0.43 |
| 2:AA:2312:U:O2 | 7:AG:72:LYS:NZ | 2.50 | 0.43 |
| 2:AA:2314:C:C5' | 7:AG:22:VAL:HG11 | 2.37 | 0.43 |
| 2:AA:2347:C:C4' | 30:A6:40:TYR:OH | 2.59 | 0.43 |
| 2:AA:2379:G:C2 | 2:AA:2380:C:C2 | 3.06 | 0.43 |
| 2:AA:2524:G:H2' | 2:AA:2525:G:O4' | 2.18 | 0.43 |
| 2:AA:2552:U:N3 | 2:AA:2554:U:H5' | 2.33 | 0.43 |
| 2:AA:2562:U:O4 | 2:AA:2563:U:C4 | 2.71 | 0.43 |
| 2:AA:2588:G:N2 | 2:AA:2607:G:C4 | 2.86 | 0.43 |
| 2:AA:2682:U:C4 | 2:AA:2683:C:C5 | 3.06 | 0.43 |
| 2:AA:2758:A:OP2 | 2:AA:2758:A:N9 | 2.51 | 0.43 |
| 2:AA:2794:C:C2 | 2:AA:2802:G:N2 | 2.84 | 0.43 |
| 2:AA:2811:G:O2' | 2:AA:2812:G:C5' | 2.66 | 0.43 |
| 3:AC:103:ILE:CG2 | 3:AC:130:ILE:CG2 | 2.95 | 0.43 |
| 3:AC:156:ILE:O | 3:AC:157:LYS:HB2 | 2.18 | 0.43 |
| 4:AD:71:ASP:CB | 4:AD:119:PRO:HD2 | 2.48 | 0.43 |
| 4:AD:154:VAL:HG13 | 4:AD:157:ALA:O | 2.18 | 0.43 |
| 4:AD:194:VAL:HG21 | 4:AD:196:ASN:HD21 | 1.78 | 0.43 |
| 5:AE:44:TYR:HB2 | 5:AE:74:GLU:CG | 2.48 | 0.43 |
| 5:AE:61:PRO:HB3 | 5:AE:69:PRO:HB3 | 1.97 | 0.43 |
| 5:AE:73:ILE:HG22 | 5:AE:74:GLU:N | 2.34 | 0.43 |
| 6:AF:48:SER:O | 6:AF:48:SER:OG | 2.28 | 0.43 |
| 6:AF:141:SER:OG | 6:AF:144:PHE:HE1 | 2.01 | 0.43 |
| 6:AF:231:ARG:O | 6:AF:232:LEU:CG | 2.66 | 0.43 |
| 6:AF:240:LEU:HD22 | 6:AF:243:VAL:HG21 | 2.00 | 0.43 |
| 7:AG:87:ALA:O | 7:AG:88:LEU:C | 2.54 | 0.43 |
| 7:AG:141:VAL:CA | 7:AG:144:ARG:HH11 | 2.30 | 0.43 |
| 8:AH:30:GLY:HA3 | 8:AH:78:VAL:O | 2.18 | 0.43 |
| 8:AH:57:GLU:HG2 | 8:AH:57:GLU:H | 1.62 | 0.43 |
| 8:AH:168:VAL:C | 8:AH:169:ARG:HG2 | 2.38 | 0.43 |
| 9:AI:64:LYS:O | 9:AI:65:SER:HB3 | 2.18 | 0.43 |
| 9:AJ:64:LYS:HE2 | 9:AJ:125:VAL:C | 2.38 | 0.43 |
| 9:AJ:106:VAL:CG1 | 9:AJ:110:GLU:CB | 2.95 | 0.43 |
| 10:AK:40:THR:O | 10:AK:42:ALA:N | 2.51 | 0.43 |
| 10:AK:47:LEU:CD1 | 10:AK:48:GLU:N | 2.81 | 0.43 |
| 11:AL:48:ASP:C | 11:AL:49:LYS:HG3 | 2.38 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:AL:125:MET:O | 11:AL:128:ILE:CB | 2.59 | 0.43 |
| 12:AM:44:ALA:HB3 | 12:AM:132:LEU:HB3 | 2.00 | 0.43 |
| 12:AM:75:PRO:HG2 | 12:AM:76:ASP:OD2 | 2.18 | 0.43 |
| 13:AN:49:GLY:CA | 13:AN:53:LYS:HG2 | 2.48 | 0.43 |
| 13:AN:114:ILE:O | 13:AN:115:ILE:C | 2.56 | 0.43 |
| 14:AO:62:ALA:CB | 14:AO:104:ASP:O | 2.66 | 0.43 |
| 14:AO:77:ALA:HA | 14:AO:81:VAL:CG1 | 2.48 | 0.43 |
| 14:AO:94:ARG:HD3 | 14:AO:120:LEU:CA | 2.48 | 0.43 |
| 15:AP:48:ASN:ND2 | 15:AP:122:PHE:O | 2.52 | 0.43 |
| 15:AP:135:ALA:HA | 15:AP:138:ARG:HD2 | 1.99 | 0.43 |
| 16:AQ:10:MET:O | 16:AQ:11:ARG:C | 2.57 | 0.43 |
| 16:AQ:22:GLN:CA | 16:AQ:25:ARG:HB3 | 2.47 | 0.43 |
| 16:AQ:34:LEU:HD23 | 16:AQ:101:VAL:N | 2.33 | 0.43 |
| 16:AQ:47:LEU:CD1 | 16:AQ:58:LEU:HD21 | 2.46 | 0.43 |
| 16:AQ:49:THR:O | 16:AQ:52:PRO:C | 2.56 | 0.43 |
| 18:AS:19:LEU:HD22 | 29:A5:25:LEU:CB | 2.47 | 0.43 |
| 20:AU:47:THR:O | 20:AU:98:VAL:HG13 | 2.17 | 0.43 |
| 21:AV:19:ILE:CG1 | 21:AV:79:ILE:HA | 2.43 | 0.43 |
| 22:AW:2:VAL:N | 22:AW:4:HIS:HE1 | 2.16 | 0.43 |
| 22:AW:19:GLU:HG2 | 22:AW:23:LEU:HD21 | 2.00 | 0.43 |
| 23:AX:42:ALA:HB3 | 23:AX:43:ILE:CD1 | 2.47 | 0.43 |
| 24:A0:100:LEU:O | 29:A5:44:HIS:CD2 | 2.71 | 0.43 |
| 25:A1:58:ARG:O | 25:A1:62:ILE:CG1 | 2.59 | 0.43 |
| 26:A2:88:GLN:O | 26:A2:89:ASN:CG | 2.56 | 0.43 |
| 27:A3:25:LYS:HG2 | 27:A3:59:LEU:H | 1.82 | 0.43 |
| 28:A4:10:VAL:H | 28:A4:11:PRO:HD3 | 1.83 | 0.43 |
| 28:A4:39:VAL:O | 28:A4:40:HIS:CG | 2.70 | 0.43 |
| 28:A4:59:PHE:N | 28:A4:62:ARG:NE | 2.66 | 0.43 |
| 34:BA:37:U:H5' | 34:BA:501:C:OP1 | 2.19 | 0.43 |
| 34:BA:68:G:H5' | 34:BA:171:A:O2' | 2.18 | 0.43 |
| 34:BA:84:U:O2' | 34:BA:88:A:H5' | 2.18 | 0.43 |
| 34:BA:98:U:O2' | 34:BA:99:C:C5' | 2.65 | 0.43 |
| 34:BA:102:G:H2' | 34:BA:103:C:H6 | 1.83 | 0.43 |
| 34:BA:134:A:H1' | 34:BA:325:A:C6 | 2.53 | 0.43 |
| 34:BA:145:G:O2' | 34:BA:146:G:H5' | 2.19 | 0.43 |
| 34:BA:149:A:C2 | 34:BA:150:C:C2 | 3.06 | 0.43 |
| 34:BA:163:C:O2' | 34:BA:164:U:O4' | 2.37 | 0.43 |
| 34:BA:191:G:C4 | 34:BA:192:U:C5 | 3.06 | 0.43 |
| 34:BA:197:A:H62 | 34:BA:221:C:C5' | 2.30 | 0.43 |
| 34:BA:229:U:C4 | 34:BA:230:G:C5 | 3.06 | 0.43 |
| 34:BA:311:C:C2 | 34:BA:312:C:C6 | 3.07 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:430:A:P | 39:BG:9:CYS:H | 2.40 | 0.43 |
| 34:BA:444:C:C2 | 34:BA:491:G:N2 | 2.86 | 0.43 |
| 34:BA:445:G:H8 | 34:BA:445:G:O5' | 2.01 | 0.43 |
| 34:BA:564:C:OP2 | 34:BA:565:U:OP2 | 2.36 | 0.43 |
| 34:BA:597:G:C5 | 34:BA:598:U:C6 | 3.06 | 0.43 |
| 34:BA:609:A:O2' | 34:BA:610:G:C5' | 2.67 | 0.43 |
| 34:BA:626:U:C2' | 34:BA:627:G:C8 | 2.83 | 0.43 |
| 34:BA:627:G:C2' | 34:BA:628:G:O5' | 2.67 | 0.43 |
| 34:BA:645:C:C4 | 34:BA:646:U:C4 | 3.06 | 0.43 |
| 34:BA:682:G:H1 | 34:BA:708:C:H42 | 1.67 | 0.43 |
| 34:BA:720:C:C5 | 34:BA:720:C:OP2 | 2.70 | 0.43 |
| 34:BA:766:A:C8 | 34:BA:814:A:C6 | 3.04 | 0.43 |
| 34:BA:778:G:C2 | 34:BA:779:C:C5 | 3.07 | 0.43 |
| 34:BA:821:G:C4 | 34:BA:822:C:C6 | 3.06 | 0.43 |
| 34:BA:922:G:C2 | 34:BA:923:A:C4 | 3.06 | 0.43 |
| 34:BA:950:U:N3 | 34:BA:951:G:C8 | 2.86 | 0.43 |
| 34:BA:964:A:H5' | 34:BA:1199:U:OP1 | 2.19 | 0.43 |
| 34:BA:981:U:C6 | 34:BA:981:U:C3' | 3.02 | 0.43 |
| 34:BA:1052:U:H3 | 34:BA:1207:G:H1 | 1.59 | 0.43 |
| 34:BA:1076:C:C4 | 34:BA:1082:G:N1 | 2.85 | 0.43 |
| 34:BA:1114:C:C2 | 34:BA:1187:G:C2 | 3.07 | 0.43 |
| 34:BA:1281:U:O2' | 34:BA:1282:C:OP1 | 2.32 | 0.43 |
| 34:BA:1292:U:O2' | 34:BA:1293:G:H5' | 2.18 | 0.43 |
| 34:BA:1329:A:C5' | 48:BP:29:ARG:CG | 2.95 | 0.43 |
| 34:BA:1334:G:H2' | 34:BA:1335:C:O5' | 2.18 | 0.43 |
| 34:BA:1386:G:C6 | 34:BA:1387:G:N7 | 2.87 | 0.43 |
| 34:BA:1500:A:OP1 | 34:BA:1505:G:OP1 | 2.36 | 0.43 |
| 35:BB:23:A:C2 | 35:BB:24:G:N1 | 2.86 | 0.43 |
| 35:BB:57:G:O2' | 35:BB:58:A:H5" | 2.17 | 0.43 |
| 37:BE:208:ILE:CA | 37:BE:211:ILE:HB | 2.47 | 0.43 |
| 37:BE:215:LEU:HA | 37:BE:215:LEU:HD22 | 1.50 | 0.43 |
| 38:BF:35:GLU:O | 38:BF:38:ARG:N | 2.51 | 0.43 |
| 38:BF:122:GLU:O | 38:BF:125:GLU:CB | 2.63 | 0.43 |
| 38:BF:180:ALA:O | 38:BF:181:ASN:HB3 | 2.18 | 0.43 |
| 39:BG:34:GLU:O | 39:BG:35:ARG:CB | 2.66 | 0.43 |
| 39:BG:70:ILE:O | 39:BG:71:SER:O | 2.35 | 0.43 |
| 39:BG:88:VAL:O | 39:BG:89:THR:C | 2.55 | 0.43 |
| 39:BG:125:HIS:ND1 | 39:BG:125:HIS:N | 2.65 | 0.43 |
| 39:BG:170:VAL:CG1 | 39:BG:174:LEU:HB2 | 2.48 | 0.43 |
| 39:BG:189:PRO:HB2 | 39:BG:194:LEU:HD21 | 1.99 | 0.43 |
| 41:BI:25:ILE:O | 41:BI:26:ILE:C | 2.55 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:29:ALA:HA | 41:BI:32:ASN:OD1 | 2.18 | 0.43 |
| 42:BJ:50:ILE:O | 42:BJ:54:THR:O | 2.35 | 0.43 |
| 42:BJ:102:ARG:HE | 42:BJ:102:ARG:HB2 | 1.52 | 0.43 |
| 44:BL:28:VAL:CG2 | 44:BL:33:PHE:HA | 2.46 | 0.43 |
| 44:BL:55:ALA:HB3 | 44:BL:58:ARG:NH2 | 2.32 | 0.43 |
| 45:BM:51:ARG:H | 45:BM:59:SER:HB3 | 1.82 | 0.43 |
| 45:BM:60:ARG:NH1 | 45:BM:60:ARG:CG | 2.81 | 0.43 |
| 46:BN:12:ARG:HH11 | 46:BN:75:TYR:HE2 | 1.65 | 0.43 |
| 46:BN:53:SER:O | 46:BN:54:ARG:C | 2.57 | 0.43 |
| 46:BN:83:ILE:N | 46:BN:83:ILE:CD1 | 2.81 | 0.43 |
| 47:BO:42:THR:HG21 | 47:BO:52:LEU:HD13 | 2.00 | 0.43 |
| 48:BP:81:LEU:HA | 48:BP:84:ILE:CG1 | 2.45 | 0.43 |
| 48:BP:98:VAL:H | 48:BP:110:ARG:NH2 | 2.16 | 0.43 |
| 51:BS:31:LYS:HB3 | 51:BS:31:LYS:HE2 | 1.70 | 0.43 |
| 52:BT:29:HIS:HB3 | 52:BT:32:TYR:N | 2.32 | 0.43 |
| 52:BT:67:LYS:O | 52:BT:68:ARG:HB3 | 2.18 | 0.43 |
| 55:BW:101:GLY:O | 55:BW:104:LEU:O | 2.37 | 0.43 |
| 1:AB:9:G:N7 | 1:AB:112:G:O6 | 2.51 | 0.43 |
| 1:AB:38:C:H2' | 1:AB:39:A:C8 | 2.53 | 0.43 |
| 2:AA:14:A:N7 | 2:AA:15:G:N9 | 2.67 | 0.43 |
| 2:AA:16:G:C5' | 29:A5:18:MET:SD | 3.06 | 0.43 |
| 2:AA:69:C:O2 | 2:AA:69:C:C2' | 2.56 | 0.43 |
| 2:AA:134:C:H2' | 2:AA:135:G:C5' | 2.48 | 0.43 |
| 2:AA:162:U:H4' | 2:AA:171:G:C2 | 2.53 | 0.43 |
| 2:AA:201:C:C4 | 2:AA:202:U:C4 | 3.07 | 0.43 |
| 2:AA:260:G:O2' | 2:AA:608:A:N1 | 2.51 | 0.43 |
| 2:AA:270(Q):C:C4 | 2:AA:270(R):G:C8 | 3.05 | 0.43 |
| 2:AA:270(R):G:N2 | 2:AA:270(S):G:C4 | 2.86 | 0.43 |
| 2:AA:281:G:C8 | 2:AA:281:G:P | 3.11 | 0.43 |
| 2:AA:336:C:H2' | 2:AA:337:C:O5' | 2.18 | 0.43 |
| 2:AA:361:G:H5" | 2:AA:362:U:OP1 | 2.19 | 0.43 |
| 2:AA:389:G:O4' | 2:AA:2413:G:H4' | 2.19 | 0.43 |
| 2:AA:396:G:OP1 | 28:A4:10:VAL:HA | 2.18 | 0.43 |
| 2:AA:461:C:H42 | 2:AA:469:G:N2 | 2.14 | 0.43 |
| 2:AA:478:A:C6 | 2:AA:480:A:C5 | 3.06 | 0.43 |
| 2:AA:484:C:C2 | 2:AA:485:C:C5 | 3.06 | 0.43 |
| 2:AA:535:C:O2' | 25:A1:53:LYS:HG2 | 2.18 | 0.43 |
| 2:AA:556:G:H2' | 2:AA:557:U:H6 | 1.83 | 0.43 |
| 2:AA:591:C:C5 | 2:AA:592:G:N7 | 2.86 | 0.43 |
| 2:AA:656:G:C5 | 2:AA:657:U:C4 | 3.06 | 0.43 |
| 2:AA:668:G:C2 | 2:AA:670:A:C6 | 3.07 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:672:C:C2' | 2:AA:673:C:O5' | 2.67 | 0.43 |
| 2:AA:729:G:C8 | 4:AD:207:ALA:HB1 | 2.53 | 0.43 |
| 2:AA:729:G:C5 | 4:AD:207:ALA:HA | 2.52 | 0.43 |
| 2:AA:785:G:N3 | 2:AA:786:C:C5 | 2.86 | 0.43 |
| 2:AA:827:U:C5 | 2:AA:2430:A:C6 | 3.06 | 0.43 |
| 2:AA:858:U:C2' | 2:AA:2268:A:C2' | 2.93 | 0.43 |
| 2:AA:861:A:N7 | 2:AA:862:G:N7 | 2.66 | 0.43 |
| 2:AA:874:G:OP1 | 21:AV:172:LEU:HD12 | 2.18 | 0.43 |
| 2:AA:879:G:C2 | 2:AA:880:G:N9 | 2.87 | 0.43 |
| 2:AA:893:C:C2 | 2:AA:894:C:C5 | 3.06 | 0.43 |
| 2:AA:910:A:N6 | 15:AP:12:PRO:O | 2.52 | 0.43 |
| 2:AA:935:C:HO2' | 2:AA:936:C:C5' | 2.30 | 0.43 |
| 2:AA:974:G:H3' | 26:A2:82:ARG:NH1 | 2.33 | 0.43 |
| 2:AA:997:G:O3' | 25:A1:92:ARG:NH1 | 2.51 | 0.43 |
| 2:AA:1080:C:C2' | 2:AA:1081:U:H5' | 2.49 | 0.43 |
| 2:AA:1082:U:H3' | 2:AA:1083:U:H6 | 1.83 | 0.43 |
| 2:AA:1129:A:N3 | 2:AA:2570:G:H1' | 2.30 | 0.43 |
| 2:AA:1152:C:O2' | 25:A1:80:ILE:CD1 | 2.67 | 0.43 |
| 2:AA:1160:G:C5 | 2:AA:1161:C:N4 | 2.86 | 0.43 |
| 2:AA:1171:G:H2' | 2:AA:1173:G:C4' | 2.46 | 0.43 |
| 2:AA:1257:C:N3 | 2:AA:1258:C:C5 | 2.86 | 0.43 |
| 2:AA:1398:C:H4' | 19:AT:23:LYS:HZ3 | 1.83 | 0.43 |
| 2:AA:1425:G:H2' | 2:AA:1426:G:N7 | 2.29 | 0.43 |
| 2:AA:1455:G:C5 | 2:AA:1456:G:C8 | 3.07 | 0.43 |
| 2:AA:1522:G:N2 | 2:AA:1523:U:N1 | 2.66 | 0.43 |
| 2:AA:1587:A:C5 | 2:AA:1588:C:N4 | 2.86 | 0.43 |
| 2:AA:1591:G:C6 | 2:AA:1592:C:C4 | 3.06 | 0.43 |
| 2:AA:1689:A:N1 | 2:AA:1700:A:N1 | 2.67 | 0.43 |
| 2:AA:1757:U:O2 | 2:AA:1757:U:C2' | 2.65 | 0.43 |
| 2:AA:1766:U:H2' | 2:AA:1767:C:C6 | 2.54 | 0.43 |
| 2:AA:1824:G:H2' | 2:AA:1825:A:C4' | 2.48 | 0.43 |
| 2:AA:1858:G:N2 | 2:AA:1885:A:N7 | 2.66 | 0.43 |
| 2:AA:1891:G:H2' | 2:AA:1892:C:C6 | 2.54 | 0.43 |
| 2:AA:1919:A:O3' | 34:BA:1517:G:C1' | 2.62 | 0.43 |
| 2:AA:1944:U:H4' | 2:AA:1955:U:H1' | 1.99 | 0.43 |
| 2:AA:1989:G:C5 | 2:AA:1990:C:C6 | 3.05 | 0.43 |
| 2:AA:2000:G:C6 | 2:AA:2001:A:C5 | 3.06 | 0.43 |
| 2:AA:2032:G:C6 | 2:AA:2454:G:H4' | 2.54 | 0.43 |
| 2:AA:2046:G:C6 | 2:AA:2623:G:C6 | 3.06 | 0.43 |
| 2:AA:2051:A:C5 | 2:AA:2614:A:C5 | 3.06 | 0.43 |
| 2:AA:2122:U:C2' | 2:AA:2123:G:H5' | 2.46 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2178:C:OP2 | 2:AA:2178:C:H6 | 2.01 | 0.43 |
| 2:AA:2179:C:OP1 | 2:AA:2180:U:OP2 | 2.36 | 0.43 |
| 2:AA:2195:C:O2' | 2:AA:2196:C:H4' | 2.17 | 0.43 |
| 2:AA:2273:A:C8 | 2:AA:2274:A:O4' | 2.63 | 0.43 |
| 2:AA:2303:G:N1 | 2:AA:2304:G:C5 | 2.86 | 0.43 |
| 2:AA:2307:G:C2' | 2:AA:2311:A:N6 | 2.81 | 0.43 |
| 2:AA:2312:U:C4 | 2:AA:2313:C:C4 | 3.06 | 0.43 |
| 2:AA:2453:A:O2' | 2:AA:2572:A:H1' | 2.19 | 0.43 |
| 2:AA:2508:G:OP1 | 35:BB:75:C:O2 | 2.36 | 0.43 |
| 2:AA:2551:C:O2' | 2:AA:2552:U:H5' | 2.18 | 0.43 |
| 2:AA:2563:U:O2 | 2:AA:2566:A:N7 | 2.52 | 0.43 |
| 2:AA:2589:A:N1 | 2:AA:2606:C:C4 | 2.87 | 0.43 |
| 2:AA:2618:G:O2' | 2:AA:2619:C:C5' | 2.66 | 0.43 |
| 2:AA:2628:C:O4' | 2:AA:2781:A:C2 | 2.72 | 0.43 |
| 2:AA:2756:U:C4 | 2:AA:2759:G:O6 | 2.71 | 0.43 |
| 2:AA:2825:C:N3 | 2:AA:2826:A:C5 | 2.86 | 0.43 |
| 2:AA:2838:G:H4' | 24:A0:45:ARG:HH22 | 1.83 | 0.43 |
| 2:AA:2850:A:C2 | 24:A0:61:HIS:CE1 | 3.06 | 0.43 |
| 2:AA:2851:A:C8 | 24:A0:61:HIS:NE2 | 2.84 | 0.43 |
| 3:AC:20:TYR:CE1 | 3:AC:222:VAL:CG2 | 2.97 | 0.43 |
| 3:AC:89:ALA:CA | 3:AC:154:ARG:HH12 | 2.24 | 0.43 |
| 3:AC:208:PHE:HB3 | 3:AC:209:LEU:H | 1.65 | 0.43 |
| 4:AD:85:ASN:O | 4:AD:86:ARG:HB3 | 2.19 | 0.43 |
| 5:AE:268:LEU:HG | 5:AE:296:VAL:CG2 | 2.23 | 0.43 |
| 6:AF:1:MET:HB2 | 6:AF:2:GLU:H | 1.56 | 0.43 |
| 8:AH:43:THR:CB | 8:AH:50:THR:O | 2.67 | 0.43 |
| 8:AH:102:LEU:CG | 8:AH:104:LEU:HD11 | 2.48 | 0.43 |
| 9:AI:69:ASN:HB3 | 9:AI:72:GLN:CG | 2.47 | 0.43 |
| 10:AK:23:ASP:HB3 | 10:AK:24:GLY:H | 1.52 | 0.43 |
| 10:AK:69:LYS:O | 10:AK:73:GLU:CG | 2.63 | 0.43 |
| 10:AK:88:ARG:HG2 | 10:AK:123:ALA:CA | 2.49 | 0.43 |
| 10:AK:132:LYS:C | 10:AK:138:THR:HB | 2.38 | 0.43 |
| 11:AL:79:LEU:HD11 | 11:AL:132:ALA:HB2 | 2.00 | 0.43 |
| 11:AL:96:ILE:CG2 | 11:AL:138:GLU:OE2 | 2.66 | 0.43 |
| 11:AL:113:MET:HA | 11:AL:116:LEU:HB3 | 1.99 | 0.43 |
| 12:AM:47:THR:O | 12:AM:48:GLY:O | 2.36 | 0.43 |
| 12:AM:52:GLN:HB3 | 12:AM:55:GLU:OE2 | 2.18 | 0.43 |
| 12:AM:54:VAL:CA | 12:AM:135:ILE:HD12 | 2.49 | 0.43 |
| 12:AM:58:GLU:O | 12:AM:61:VAL:CA | 2.66 | 0.43 |
| 12:AM:83:ILE:C | 12:AM:87:LEU:HD12 | 2.38 | 0.43 |
| 12:AM:135:ILE:HG23 | 12:AM:139:LEU:CD1 | 2.48 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:88:ARG:O | 13:AN:90:ASP:O | 2.36 | 0.43 |
| 13:AN:92:SER:HB3 | 13:AN:113:LYS:HZ2 | 1.82 | 0.43 |
| 14:AO:123:ASP:O | 14:AO:124:ASP:OD2 | 2.36 | 0.43 |
| 15:AP:17:ARG:HA | 15:AP:22:GLY:CA | 2.41 | 0.43 |
| 15:AP:35:ASN:HB2 | 15:AP:75:SER:HA | 2.00 | 0.43 |
| 16:AQ:11:ARG:HG3 | 16:AQ:12:ARG:H | 1.82 | 0.43 |
| 16:AQ:55:ASP:HB2 | 16:AQ:56:ASP:H | 1.59 | 0.43 |
| 18:AS:84:ARG:N | 18:AS:95:ILE:HG23 | 2.33 | 0.43 |
| 19:AT:4:VAL:HB | 19:AT:5:ILE:H | 1.44 | 0.43 |
| 20:AU:49:GLU:HB3 | 20:AU:97:ARG:HH11 | 1.83 | 0.43 |
| 20:AU:90:PRO:HG2 | 20:AU:90:PRO:O | 2.17 | 0.43 |
| 20:AU:93:THR:OG1 | 20:AU:94:SER:N | 2.52 | 0.43 |
| 21:AV:3:LEU:CD2 | 21:AV:34:LEU:O | 2.66 | 0.43 |
| 21:AV:126:GLY:O | 21:AV:129:ARG:CB | 2.61 | 0.43 |
| 23:AX:57:GLU:HG2 | 23:AX:58:VAL:N | 2.32 | 0.43 |
| 27:A3:81:ILE:HD12 | 27:A3:81:ILE:N | 2.34 | 0.43 |
| 28:A4:11:PRO:HA | 28:A4:40:HIS:HD2 | 1.78 | 0.43 |
| 30:A6:17:GLY:O | 30:A6:18:THR:CG2 | 2.63 | 0.43 |
| 31:A7:27:GLY:C | 31:A7:31:LEU:CG | 2.84 | 0.43 |
| 31:A7:34:ARG:HH11 | 31:A7:42:LEU:HA | 1.81 | 0.43 |
| 32:A8:5:LYS:N | 32:A8:5:LYS:CD | 2.74 | 0.43 |
| 34:BA:20:U:H6 | 34:BA:20:U:O5' | 2.00 | 0.43 |
| 34:BA:145:G:C2' | 34:BA:146:G:H5' | 2.49 | 0.43 |
| 34:BA:161:A:H2' | 34:BA:162:A:H8 | 1.83 | 0.43 |
| 34:BA:241:C:C2' | 34:BA:242:C:O5' | 2.66 | 0.43 |
| 34:BA:246:A:C4 | 34:BA:282:A:N6 | 2.87 | 0.43 |
| 34:BA:261:U:C5 | 55:BW:79:ARG:NH2 | 2.87 | 0.43 |
| 34:BA:320:C:O2' | 34:BA:321:A:O5' | 2.37 | 0.43 |
| 34:BA:510:A:O2' | 34:BA:542:G:H2' | 2.18 | 0.43 |
| 34:BA:522:C:O3' | 47:BO:120:TYR:OH | 2.36 | 0.43 |
| 34:BA:544:G:N2 | 34:BA:549:C:H4' | 2.34 | 0.43 |
| 34:BA:569:C:O4' | 34:BA:574:A:N1 | 2.51 | 0.43 |
| 34:BA:573:A:H2' | 34:BA:574:A:H8 | 1.68 | 0.43 |
| 34:BA:608:A:C2 | 34:BA:609:A:N9 | 2.86 | 0.43 |
| 34:BA:658:G:C5 | 34:BA:659:U:C6 | 3.06 | 0.43 |
| 34:BA:682:G:C8 | 34:BA:682:G:O5' | 2.72 | 0.43 |
| 34:BA:723:U:C5 | 34:BA:723:U:P | 3.12 | 0.43 |
| 34:BA:757:U:H5' | 34:BA:878:G:H22 | 1.76 | 0.43 |
| 34:BA:761:G:C4' | 52:BT:103:GLY:H | 2.28 | 0.43 |
| 34:BA:860:A:N6 | 34:BA:869:G:O2' | 2.52 | 0.43 |
| 34:BA:920:U:C4 | 34:BA:921:U:C5 | 3.06 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:947:G:H21 | 34:BA:948:C:H1' | 1.83 | 0.43 |
| 34:BA:959:A:N1 | 34:BA:1221:G:O2' | 2.36 | 0.43 |
| 34:BA:964:A:H2' | 34:BA:965:A:C8 | 2.53 | 0.43 |
| 34:BA:976:G:P | 34:BA:1358:U:HO2' | 2.41 | 0.43 |
| 34:BA:979:C:OP1 | 34:BA:981:U:O4 | 2.37 | 0.43 |
| 34:BA:982:U:OP1 | 34:BA:982:U:H6 | 2.02 | 0.43 |
| 34:BA:993:G:C2' | 34:BA:994:A:OP1 | 2.66 | 0.43 |
| 34:BA:1060:C:C5' | 45:BM:52:GLY:H | 2.27 | 0.43 |
| 34:BA:1066:C:H3' | 34:BA:1067:A:H8 | 1.83 | 0.43 |
| 34:BA:1068:G:O6 | 34:BA:1108:G:C2 | 2.72 | 0.43 |
| 34:BA:1091:U:C5 | 34:BA:1093:A:OP2 | 2.71 | 0.43 |
| 34:BA:1109:C:OP1 | 38:BF:176:HIS:NE2 | 2.51 | 0.43 |
| 34:BA:1239:A:H62 | 34:BA:1299:A:H61 | 1.61 | 0.43 |
| 34:BA:1260:C:H4' | 34:BA:1284:C:C5' | 2.47 | 0.43 |
| 34:BA:1300:G:O2' | 34:BA:1301:U:H6 | 2.02 | 0.43 |
| 34:BA:1421:G:C2' | 34:BA:1422:G:H5' | 2.48 | 0.43 |
| 34:BA:1438:G:H2' | 34:BA:1439:C:H6 | 1.83 | 0.43 |
| 34:BA:1459:C:P | 55:BW:27:LYS:HZ3 | 2.42 | 0.43 |
| 34:BA:1479:C:H3' | 34:BA:1479:C:C6 | 2.53 | 0.43 |
| 34:BA:1480:G:H2' | 34:BA:1481:U:H5' | 2.01 | 0.43 |
| 35:BB:1:G:C2 | 35:BB:73:A:C4 | 3.06 | 0.43 |
| 35:BB:56:C:N4 | 35:BB:57:G:C6 | 2.87 | 0.43 |
| 35:BB:58:A:H2' | 35:BB:59:U:H5" | 1.99 | 0.43 |
| 35:BC:4:G:H2' | 35:BC:5:A:H8 | 1.83 | 0.43 |
| 35:BC:4:G:N7 | 35:BC:5:A:N7 | 2.66 | 0.43 |
| 37:BE:28:PHE:HD1 | 37:BE:31:TYR:CB | 2.30 | 0.43 |
| 37:BE:60:ASP:CG | 37:BE:64:ARG:NH2 | 2.71 | 0.43 |
| 37:BE:105:PHE:HA | 37:BE:108:ILE:HG12 | 2.00 | 0.43 |
| 37:BE:189:ASP:HB2 | 37:BE:191:ASP:OD1 | 2.19 | 0.43 |
| 38:BF:16:ARG:NH2 | 38:BF:184:TYR:N | 2.42 | 0.43 |
| 38:BF:51:GLY:C | 38:BF:70:VAL:HG13 | 2.38 | 0.43 |
| 38:BF:71:ALA:CB | 38:BF:109:PRO:HG3 | 2.49 | 0.43 |
| 38:BF:113:ALA:O | 38:BF:114:PRO:C | 2.57 | 0.43 |
| 38:BF:191:THR:CG2 | 38:BF:196:LEU:HD11 | 2.48 | 0.43 |
| 39:BG:98:GLU:C | 39:BG:100:ARG:N | 2.72 | 0.43 |
| 39:BG:120:LEU:HA | 39:BG:125:HIS:CD2 | 2.54 | 0.43 |
| 40:BH:109:ILE:HG21 | 40:BH:135:THR:CG2 | 2.47 | 0.43 |
| 41:BI:27:GLN:HA | 41:BI:27:GLN:OE1 | 2.19 | 0.43 |
| 42:BJ:126:ASP:C | 42:BJ:131:LYS:O | 2.56 | 0.43 |
| 43:BK:6:ILE:CD1 | 43:BK:10:LEU:CD1 | 2.94 | 0.43 |
| 44:BL:5:TYR:CZ | 44:BL:16:ARG:HG3 | 2.51 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BL:26:VAL:HG13 | 44:BL:61:ALA:O | 2.18 | 0.43 |
| 44:BL:66:ARG:HG2 | 44:BL:67:GLY:H | 1.83 | 0.43 |
| 46:BN:111:ASP:OD2 | 46:BN:113:PRO:CG | 2.66 | 0.43 |
| 47:BO:38:THR:C | 47:BO:39:VAL:CG2 | 2.87 | 0.43 |
| 48:BP:21:TYR:N | 48:BP:21:TYR:CD2 | 2.84 | 0.43 |
| 48:BP:48:LEU:HD23 | 48:BP:49:THR:N | 2.32 | 0.43 |
| 50:BR:10:LYS:HZ2 | 50:BR:14:GLU:CD | 2.21 | 0.43 |
| 50:BR:27:VAL:O | 50:BR:31:LEU:CB | 2.64 | 0.43 |
| 51:BS:20:VAL:CG2 | 51:BS:32:TYR:CD2 | 2.86 | 0.43 |
| 52:BT:44:ALA:HA | 52:BT:71:PHE:O | 2.18 | 0.43 |
| 54:BV:11:VAL:HG12 | 54:BV:16:LEU:HD13 | 2.00 | 0.43 |
| 54:BV:63:THR:HB | 54:BV:66:MET:CE | 2.47 | 0.43 |
| 55:BW:73:HIS:HD2 | 55:BW:74:LYS:CE | 2.30 | 0.43 |
| 55:BW:74:LYS:C | 55:BW:76:ALA:N | 2.68 | 0.43 |
| 2:AA:136:G:C4 | 2:AA:137:C:O2' | 2.72 | 0.43 |
| 2:AA:181:A:H2 | 2:AA:434:U:HO2' | 1.59 | 0.43 |
| 2:AA:201:C:H4' | 2:AA:386:G:C6 | 2.54 | 0.43 |
| 2:AA:206:U:C2' | 2:AA:207:A:H5' | 2.48 | 0.43 |
| 2:AA:252:G:C2 | 2:AA:253:C:N1 | 2.86 | 0.43 |
| 2:AA:265:A:N6 | 2:AA:428:A:C8 | 2.87 | 0.43 |
| 2:AA:272:G:C2 | 2:AA:273:G:N3 | 2.87 | 0.43 |
| 2:AA:301:G:C5' | 2:AA:334:C:HO2' | 2.31 | 0.43 |
| 2:AA:434:U:H6 | 2:AA:434:U:P | 2.42 | 0.43 |
| 2:AA:458:G:H2' | 31:A7:40:HIS:NE2 | 2.34 | 0.43 |
| 2:AA:475:U:OP2 | 2:AA:475:U:C6 | 2.69 | 0.43 |
| 2:AA:475:U:O4 | 2:AA:481:G:N1 | 2.51 | 0.43 |
| 2:AA:605:C:P | 6:AF:105:LYS:HD3 | 2.59 | 0.43 |
| 2:AA:612:G:C2 | 2:AA:615:G:N2 | 2.86 | 0.43 |
| 2:AA:744:G:N2 | 2:AA:754:C:N1 | 2.67 | 0.43 |
| 2:AA:747:U:O5' | 2:AA:747:U:C6 | 2.71 | 0.43 |
| 2:AA:793:A:OP2 | 2:AA:793:A:O4' | 2.36 | 0.43 |
| 2:AA:806:C:H6 | 2:AA:806:C:OP2 | 2.01 | 0.43 |
| 2:AA:814:C:H4' | 2:AA:1224:G:N2 | 2.33 | 0.43 |
| 2:AA:980:A:C6 | 2:AA:1135:C:C4' | 3.01 | 0.43 |
| 2:AA:1052:C:O2 | 2:AA:1053:C:C6 | 2.72 | 0.43 |
| 2:AA:1053:C:H2' | 2:AA:1054:A:O4' | 2.18 | 0.43 |
| 2:AA:1055:G:C1' | 9:AI:28:LYS:HZ3 | 2.29 | 0.43 |
| 2:AA:1162:G:N2 | 26:A2:90:PHE:CD2 | 2.86 | 0.43 |
| 2:AA:1231:G:H3' | 2:AA:1231:G:C8 | 2.54 | 0.43 |
| 2:AA:1300:U:O2' | 2:AA:1301:A:OP2 | 2.34 | 0.43 |
| 2:AA:1466:G:H2' | 2:AA:1547:C:H5 | 1.80 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1524:G:C6 | 2:AA:1525:G:C5 | 3.06 | 0.43 |
| 2:AA:1579:A:C2' | 2:AA:1580:A:H5' | 2.49 | 0.43 |
| 2:AA:1605:C:O2 | 2:AA:1610:A:H2' | 2.18 | 0.43 |
| 2:AA:1746:G:O5' | 2:AA:1747:G:P | 2.76 | 0.43 |
| 2:AA:1812:A:C6 | 2:AA:1813:G:C5 | 3.07 | 0.43 |
| 2:AA:1942:C:N1 | 2:AA:1943:U:H5 | 2.17 | 0.43 |
| 2:AA:2004:G:O6 | 2:AA:2005:A:N1 | 2.51 | 0.43 |
| 2:AA:2009:G:C2' | 2:AA:2010:G:H5' | 2.49 | 0.43 |
| 2:AA:2044:C:C5 | 2:AA:2625:G:C2 | 3.07 | 0.43 |
| 2:AA:2140:C:C2 | 2:AA:2152:G:N2 | 2.87 | 0.43 |
| 2:AA:2208:U:O5' | 2:AA:2208:U:O3' | 2.35 | 0.43 |
| 2:AA:2216:G:H2' | 2:AA:2217:G:H5' | 1.98 | 0.43 |
| 2:AA:2218:G:N1 | 2:AA:2219:G:C5 | 2.86 | 0.43 |
| 2:AA:2274:A:O5' | 2:AA:2275:C:OP2 | 2.37 | 0.43 |
| 2:AA:2295:C:N4 | 2:AA:2337:G:C6 | 2.85 | 0.43 |
| 2:AA:2371:G:HO2' | 30:A6:47:HIS:CD2 | 2.27 | 0.43 |
| 2:AA:2432:A:H2 | 2:AA:2433:A:C5 | 2.37 | 0.43 |
| 2:AA:2472:G:H2' | 2:AA:2475:C:C4 | 2.46 | 0.43 |
| 2:AA:2478:A:N7 | 2:AA:2479:G:C5 | 2.86 | 0.43 |
| 2:AA:2509:G:C6 | 2:AA:2580:U:N3 | 2.87 | 0.43 |
| 2:AA:2522:U:C5' | 2:AA:2523:G:OP2 | 2.66 | 0.43 |
| 2:AA:2547:U:C6 | 2:AA:2566:A:C5 | 3.06 | 0.43 |
| 2:AA:2681:C:O4' | 5:AE:48:MET:HE1 | 2.18 | 0.43 |
| 2:AA:2711:A:P | 2:AA:712(A):A:OP2 | 2.77 | 0.43 |
| 2:AA:2732:G:C5' | 2:AA:2733:A:O5' | 2.64 | 0.43 |
| 2:AA:2743:C:C4 | 2:AA:2762:G:C6 | 3.06 | 0.43 |
| 2:AA:2782:G:C8 | 2:AA:2782:G:O5' | 2.71 | 0.43 |
| 2:AA:2840:C:H4' | 24:A0:53:HIS:NE2 | 2.33 | 0.43 |
| 2:AA:2845:G:C6 | 2:AA:2871:C:N3 | 2.86 | 0.43 |
| 3:AC:117:PRO:HG3 | 3:AC:145:VAL:HG13 | 2.00 | 0.43 |
| 4:AD:62:ARG:HD3 | 4:AD:62:ARG:N | 2.34 | 0.43 |
| 4:AD:90:ILE:HG23 | 4:AD:91:ALA:H | 1.81 | 0.43 |
| 4:AD:202:LYS:HG3 | 4:AD:203:PRO:HD2 | 2.00 | 0.43 |
| 5:AE:73:ILE:O | 5:AE:293:TYR:CD2 | 2.71 | 0.43 |
| 5:AE:222:ARG:HG2 | 5:AE:232:ARG:N | 2.33 | 0.43 |
| 7:AG:15:GLU:HA | 7:AG:16:PRO:HD2 | 1.61 | 0.43 |
| 7:AG:19:GLU:O | 7:AG:19:GLU:CG | 2.65 | 0.43 |
| 7:AG:134:LEU:O | 7:AG:135:VAL:HG22 | 2.18 | 0.43 |
| 8:AH:22:THR:CG2 | 8:AH:34:ARG:O | 2.56 | 0.43 |
| 8:AH:36:PHE:O | 8:AH:37:HIS:O | 2.37 | 0.43 |
| 8:AH:73:ASN:C | 8:AH:75:VAL:N | 2.72 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:143:LEU:CA | 8:AH:146:ASN:HB2 | 2.47 | 0.43 |
| 10:AK:84:GLY:C | 10:AK:85:GLU:HG3 | 2.38 | 0.43 |
| 10:AK:94:THR:CG2 | 10:AK:97:GLN:H | 2.23 | 0.43 |
| 10:AK:114:LYS:HB3 | 10:AK:115:ILE:H | 1.44 | 0.43 |
| 11:AL:39:CYS:O | 11:AL:42:PHE:CB | 2.56 | 0.43 |
| 11:AL:42:PHE:CZ | 11:AL:58:ILE:CD1 | 3.02 | 0.43 |
| 11:AL:110:LYS:C | 11:AL:113:MET:HG2 | 2.39 | 0.43 |
| 14:AO:144:ASP:C | 14:AO:145:LEU:HD12 | 2.39 | 0.43 |
| 15:AP:15:THR:N | 15:AP:20:ILE:CD1 | 2.78 | 0.43 |
| 15:AP:36:ASN:O | 15:AP:41:THR:HB | 2.19 | 0.43 |
| 17:AR:54:THR:HG23 | 17:AR:55:ALA:N | 2.33 | 0.43 |
| 18:AS:49:LYS:CD | 18:AS:50:VAL:N | 2.77 | 0.43 |
| 20:AU:20:HIS:HA | 20:AU:67:LEU:CD2 | 2.48 | 0.43 |
| 20:AU:31:LEU:HA | 20:AU:34:GLU:OE1 | 2.16 | 0.43 |
| 21:AV:106:GLY:H | 21:AV:141:MET:HG2 | 1.84 | 0.43 |
| 24:A0:36:THR:CB | 24:A0:40:LYS:HB3 | 2.48 | 0.43 |
| 24:A0:44:LEU:HD13 | 24:A0:48:VAL:CG2 | 2.49 | 0.43 |
| 24:A0:54:LEU:HD13 | 24:A0:54:LEU:N | 2.25 | 0.43 |
| 24:A0:57:ARG:NH2 | 24:A0:59:ASP:OD1 | 2.51 | 0.43 |
| 24:A0:59:ASP:C | 24:A0:63:ARG:HG3 | 2.38 | 0.43 |
| 25:A1:13:ARG:HD2 | 25:A1:16:LYS:NZ | 2.33 | 0.43 |
| 26:A2:11:GLN:HB3 | 26:A2:21:ARG:NE | 2.33 | 0.43 |
| 26:A2:49:GLU:O | 26:A2:54:TYR:OH | 2.36 | 0.43 |
| 26:A2:69:ILE:CG2 | 26:A2:88:GLN:CB | 2.96 | 0.43 |
| 26:A2:85:GLY:C | 26:A2:86:HIS:ND1 | 2.71 | 0.43 |
| 28:A4:39:VAL:C | 28:A4:40:HIS:CG | 2.91 | 0.43 |
| 29:A5:16:ARG:O | 29:A5:17:ASP:C | 2.54 | 0.43 |
| 29:A5:18:MET:O | 29:A5:19:ARG:O | 2.37 | 0.43 |
| 30:A6:11:LYS:HZ1 | 32:A8:35:GLY:H | 1.66 | 0.43 |
| 30:A6:28:ARG:NH1 | 30:A6:28:ARG:CB | 2.52 | 0.43 |
| 34:BA:29:G:O4' | 34:BA:296:U:OP1 | 2.37 | 0.43 |
| 34:BA:70:G:C6 | 34:BA:73:C:C4 | 3.06 | 0.43 |
| 34:BA:118:U:O4 | 34:BA:289:G:C5' | 2.66 | 0.43 |
| 34:BA:130:A:C2 | 34:BA:263:A:C2 | 2.89 | 0.43 |
| 34:BA:290:C:C2 | 34:BA:291:C:C6 | 3.06 | 0.43 |
| 34:BA:308:C:H2' | 34:BA:309:G:H5' | 1.98 | 0.43 |
| 34:BA:335:C:O4' | 34:BA:1434:A:H4' | 2.19 | 0.43 |
| 34:BA:602:A:C6 | 34:BA:603:U:C4 | 3.07 | 0.43 |
| 34:BA:604:G:C2 | 34:BA:605:U:H1' | 2.54 | 0.43 |
| 34:BA:644:G:C5 | 34:BA:645:C:C6 | 3.06 | 0.43 |
| 34:BA:756:C:N3 | 34:BA:757:U:C5 | 2.86 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:828:A:N6 | 34:BA:859:A:O4' | 2.50 | 0.43 |
| 34:BA:839:U:O2 | 34:BA:839:U:C2' | 2.64 | 0.43 |
| 34:BA:946:A:C2 | 34:BA:947:G:C5 | 3.06 | 0.43 |
| 34:BA:952:U:O4 | 48:BP:104:ARG:NH1 | 2.52 | 0.43 |
| 34:BA:953:G:H2' | 34:BA:954:G:O5' | 2.18 | 0.43 |
| 34:BA:964:A:C6 | 34:BA:965:A:N6 | 2.86 | 0.43 |
| 34:BA:1011:G:H2' | 34:BA:1012:U:H5' | 1.99 | 0.43 |
| 34:BA:1026:G:OP2 | 34:BA:1026:G:H8 | 2.01 | 0.43 |
| 34:BA:1123:A:H2' | 34:BA:1124:G:C1' | 2.49 | 0.43 |
| 34:BA:1236:A:H5' | 34:BA:1305:G:OP1 | 2.19 | 0.43 |
| 34:BA:1243:C:O2' | 34:BA:1244:C:H5' | 2.18 | 0.43 |
| 34:BA:1271:G:O2' | 34:BA:1272:G:H5' | 2.18 | 0.43 |
| 34:BA:1283:G:H2' | 34:BA:1284:C:C5' | 2.48 | 0.43 |
| 34:BA:1319:A:O3' | 54:BV:70:LYS:NZ | 2.51 | 0.43 |
| 34:BA:1349:A:OP2 | 44:BL:118:LYS:CD | 2.66 | 0.43 |
| 34:BA:1378:C:O2 | 34:BA:1379:G:O5' | 2.35 | 0.43 |
| 34:BA:1423:G:O2' | 34:BA:1424:C:O4' | 2.33 | 0.43 |
| 35:BB:11:C:H2' | 35:BB:12:U:O5' | 2.18 | 0.43 |
| 35:BB:12:U:O4 | 35:BB:23:A:N1 | 2.52 | 0.43 |
| 35:BB:26:G:C2 | 35:BB:27:C:N1 | 2.87 | 0.43 |
| 36:B1:6:U:O3' | 36:B1:7:A:O4' | 2.37 | 0.43 |
| 36:B1:28:U:N3 | 36:B1:29:G:C6 | 2.86 | 0.43 |
| 36:B1:31:G:H2' | 36:B1:32:G:C8 | 2.53 | 0.43 |
| 36:B1:68:U:H5" | 36:B1:69:A:P | 2.58 | 0.43 |
| 37:BE:20:GLU:N | 37:BE:39:ILE:HD13 | 2.33 | 0.43 |
| 37:BE:20:GLU:C | 37:BE:39:ILE:HG12 | 2.39 | 0.43 |
| 37:BE:80:ILE:HD12 | 37:BE:211:ILE:CG2 | 2.48 | 0.43 |
| 37:BE:133:LYS:HE2 | 37:BE:133:LYS:CA | 2.48 | 0.43 |
| 38:BF:30:ARG:CG | 38:BF:31:HIS:H | 2.30 | 0.43 |
| 38:BF:30:ARG:CG | 38:BF:31:HIS:N | 2.81 | 0.43 |
| 38:BF:59:ARG:O | 38:BF:60:ALA:CB | 2.65 | 0.43 |
| 38:BF:84:ILE:O | 38:BF:88:ARG:HB2 | 2.18 | 0.43 |
| 38:BF:155:GLY:O | 38:BF:196:LEU:HB3 | 2.19 | 0.43 |
| 39:BG:28:SER:O | 39:BG:30:LYS:N | 2.51 | 0.43 |
| 39:BG:29:PRO:CA | 39:BG:34:GLU:HG2 | 2.44 | 0.43 |
| 39:BG:63:LYS:HB3 | 39:BG:63:LYS:HE3 | 1.83 | 0.43 |
| 40:BH:61:TYR:O | 40:BH:64:ARG:O | 2.36 | 0.43 |
| 40:BH:102:ALA:HB2 | 40:BH:120:THR:O | 2.17 | 0.43 |
| 40:BH:107:ARG:C | 40:BH:109:ILE:N | 2.69 | 0.43 |
| 40:BH:144:THR:O | 40:BH:148:VAL:HG23 | 2.18 | 0.43 |
| 41:BI:7:ASN:ND2 | 41:BI:62:TRP:HD1 | 2.16 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BI:50:TYR:CE1 | 53:BU:81:PHE:CE2 | 3.06 | 0.43 |
| 41:BI:91:VAL:O | 41:BI:92:LYS:C | 2.57 | 0.43 |
| 42:BJ:110:GLN:O | 42:BJ:111:ARG:O | 2.35 | 0.43 |
| 43:BK:27:PRO:O | 43:BK:32:LYS:CE | 2.65 | 0.43 |
| 43:BK:97:VAL:HG13 | 43:BK:98:LYS:H | 1.83 | 0.43 |
| 44:BL:81:ILE:O | 44:BL:82:ALA:C | 2.55 | 0.43 |
| 44:BL:113:LYS:NZ | 44:BL:119:ALA:CB | 2.73 | 0.43 |
| 45:BM:40:LEU:HD12 | 45:BM:71:LEU:HD23 | 2.01 | 0.43 |
| 45:BM:60:ARG:HH11 | 45:BM:60:ARG:CG | 2.31 | 0.43 |
| 45:BM:63:PHE:CA | 49:BQ:59:ALA:HB2 | 2.49 | 0.43 |
| 47:BO:28:LYS:HD2 | 47:BO:33:ARG:CZ | 2.48 | 0.43 |
| 48:BP:14:ARG:CG | 48:BP:16:ASP:OD2 | 2.60 | 0.43 |
| 48:BP:60:VAL:HA | 48:BP:63:THR:HG21 | 1.97 | 0.43 |
| 48:BP:81:LEU:HD21 | 48:BP:88:ARG:HH21 | 1.84 | 0.43 |
| 49:BQ:13:THR:O | 49:BQ:13:THR:CG2 | 2.57 | 0.43 |
| 49:BQ:29:ARG:O | 49:BQ:33:VAL:HG11 | 2.18 | 0.43 |
| 50:BR:25:THR:HG23 | 50:BR:66:LEU:HD12 | 2.00 | 0.43 |
| 50:BR:52:SER:O | 50:BR:53:HIS:C | 2.57 | 0.43 |
| 50:BR:55:GLY:HA2 | 50:BR:58:MET:HG3 | 2.01 | 0.43 |
| 51:BS:10:GLY:CA | 51:BS:14:ASN:ND2 | 2.82 | 0.43 |
| 52:BT:32:TYR:O | 52:BT:34:LYS:N | 2.51 | 0.43 |
| 55:BW:16:HIS:C | 55:BW:18:GLN:N | 2.70 | 0.43 |
| 1:AB:8:U:O2 | 1:AB:9:G:C8 | 2.71 | 0.43 |
| 1:AB:40:U:C4 | 1:AB:43:C:P | 3.12 | 0.43 |
| 1:AB:73:A:N3 | 1:AB:73:A:C2' | 2.82 | 0.43 |
| 2:AA:6:A:H5' | 12:AM:4:ALA:CB | 2.41 | 0.43 |
| 2:AA:30:G:C4 | 2:AA:31:C:C6 | 3.06 | 0.43 |
| 2:AA:49:A:N1 | 2:AA:177:G:C2 | 2.86 | 0.43 |
| 2:AA:89:G:OP2 | 2:AA:90:U:H5' | 2.19 | 0.43 |
| 2:AA:115:C:C2 | 2:AA:116:C:C6 | 3.06 | 0.43 |
| 2:AA:120:U:C2' | 2:AA:121:G:OP2 | 2.66 | 0.43 |
| 2:AA:134:C:C2' | 2:AA:135:G:C5' | 2.96 | 0.43 |
| 2:AA:209:C:H2' | 2:AA:210:C:O5' | 2.19 | 0.43 |
| 2:AA:214:G:C2 | 2:AA:215:G:C4 | 3.07 | 0.43 |
| 2:AA:216:A:C2 | 2:AA:217:G:C6 | 3.07 | 0.43 |
| 2:AA:312:G:O4' | 2:AA:312:G:P | 2.77 | 0.43 |
| 2:AA:332:A:C8 | 2:AA:335:C:C4 | 3.06 | 0.43 |
| 2:AA:340:A:H8 | 2:AA:340:A:O5' | 2.02 | 0.43 |
| 2:AA:348:G:H2' | 2:AA:348:G:N3 | 2.33 | 0.43 |
| 2:AA:473:G:O2' | 2:AA:474:G:H5' | 2.18 | 0.43 |
| 2:AA:512:G:H3' | 2:AA:512:G:C8 | 2.54 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:556:G:H2' | 2:AA:557:U:C6 | 2.52 | 0.43 |
| 2:AA:614:U:H3' | 2:AA:615:G:C5' | 2.49 | 0.43 |
| 2:AA:614:U:P | 2:AA:615:G:O4' | 2.77 | 0.43 |
| 2:AA:705:A:O2' | 2:AA:706:A:O5' | 2.37 | 0.43 |
| 2:AA:791:C:O2 | 2:AA:794:G:H5' | 2.12 | 0.43 |
| 2:AA:806:C:HO2' | 2:AA:2445:G:C4' | 2.31 | 0.43 |
| 2:AA:831:G:C6 | 2:AA:832:G:C5 | 3.07 | 0.43 |
| 2:AA:839:U:C4' | 2:AA:1191:G:H21 | 2.32 | 0.43 |
| 2:AA:869:G:H2' | 2:AA:870:A:O4' | 2.19 | 0.43 |
| 2:AA:918:A:C5' | 2:AA:918:A:N3 | 2.81 | 0.43 |
| 2:AA:997:G:C4 | 2:AA:998:C:C5 | 3.07 | 0.43 |
| 2:AA:1007:C:O5' | 2:AA:1007:C:H6 | 2.01 | 0.43 |
| 2:AA:1017:G:C2 | 2:AA:1146:C:N3 | 2.87 | 0.43 |
| 2:AA:1047:G:C2 | 2:AA:1110:G:N7 | 2.87 | 0.43 |
| 2:AA:1080:C:HO2' | 2:AA:1081:U:H5' | 1.80 | 0.43 |
| 2:AA:1161:C:H4' | 26:A2:8:GLY:HA3 | 2.01 | 0.43 |
| 2:AA:1171:G:C3' | 2:AA:1173:G:C5' | 2.91 | 0.43 |
| 2:AA:1173:G:C2' | 2:AA:1174:A:N7 | 2.81 | 0.43 |
| 2:AA:1213:A:C2 | 2:AA:1237:A:O2' | 2.68 | 0.43 |
| 2:AA:1224:G:H1' | 26:A2:86:HIS:CD2 | 2.54 | 0.43 |
| 2:AA:1272:A:C8 | 2:AA:1618:A:C1' | 3.01 | 0.43 |
| 2:AA:1286:A:C4 | 2:AA:1329:U:C4 | 3.06 | 0.43 |
| 2:AA:1419:A:C8 | 2:AA:1420:U:O2 | 2.71 | 0.43 |
| 2:AA:1422:G:C6 | 2:AA:1576:U:C4 | 3.05 | 0.43 |
| 2:AA:1440:G:O2' | 2:AA:1441:G:H5' | 2.19 | 0.43 |
| 2:AA:1527:G:C1' | 2:AA:1545:A:H62 | 2.28 | 0.43 |
| 2:AA:1566:A:C2 | 4:AD:212:HIS:HA | 2.53 | 0.43 |
| 2:AA:1670:C:P | 2:AA:2550:G:OP2 | 2.75 | 0.43 |
| 2:AA:1768:U:C2 | 2:AA:1985:G:C6 | 3.05 | 0.43 |
| 2:AA:1835:G:N2 | 2:AA:1836:C:C2 | 2.86 | 0.43 |
| 2:AA:1912:A:C5 | 2:AA:1918:A:C2 | 3.07 | 0.43 |
| 2:AA:1917:U:H5" | 2:AA:1918:A:N7 | 2.33 | 0.43 |
| 2:AA:1973:G:C6 | 2:AA:1974:C:N4 | 2.86 | 0.43 |
| 2:AA:2067:G:C6 | 2:AA:2444:G:C6 | 3.07 | 0.43 |
| 2:AA:2090:G:C5 | 2:AA:2230:G:C6 | 3.07 | 0.43 |
| 2:AA:2119:A:N6 | 2:AA:2147:G:H5" | 2.33 | 0.43 |
| 2:AA:2124:G:H21 | 2:AA:2175:C:N4 | 2.16 | 0.43 |
| 2:AA:2196:C:C2 | 2:AA:2197:U:O2 | 2.72 | 0.43 |
| 2:AA:2290:G:C2 | 2:AA:2291:U:C2 | 3.06 | 0.43 |
| 2:AA:2294:C:O2 | 2:AA:2294:C:C2' | 2.57 | 0.43 |
| 2:AA:2321:G:N3 | 2:AA:2321:G:C2' | 2.80 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2349:G:C4 | 2:AA:2369:A:C2 | 3.06 | 0.43 |
| 2:AA:2364:C:O2' | 27:A3:32:LYS:NZ | 2.41 | 0.43 |
| 2:AA:2478:A:N7 | 2:AA:2479:G:N7 | 2.66 | 0.43 |
| 2:AA:2478:A:C4 | 2:AA:2529:G:C5 | 3.06 | 0.43 |
| 2:AA:2737:G:N2 | 2:AA:2768:C:C4 | 2.86 | 0.43 |
| 2:AA:2779:U:H5" | 2:AA:2780:G:H3' | 2.00 | 0.43 |
| 2:AA:2873:A:H2' | 2:AA:2874:C:O5' | 2.19 | 0.43 |
| 3:AC:8:ARG:HD2 | 3:AC:8:ARG:C | 2.38 | 0.43 |
| 3:AC:27:HIS:O | 3:AC:31:GLU:CG | 2.65 | 0.43 |
| 4:AD:199:ARG:NH1 | 4:AD:199:ARG:CG | 2.73 | 0.43 |
| 5:AE:48:MET:O | 5:AE:49:THR:CG2 | 2.62 | 0.43 |
| 5:AE:107:GLU:HG2 | 5:AE:110:ARG:CZ | 2.49 | 0.43 |
| 5:AE:214:VAL:CG1 | 5:AE:221:LYS:NZ | 2.71 | 0.43 |
| 6:AF:32:GLY:HA3 | 6:AF:36:ARG:CZ | 2.44 | 0.43 |
| 6:AF:237:GLU:O | 6:AF:240:LEU:HB2 | 2.19 | 0.43 |
| 7:AG:23:VAL:HG23 | 7:AG:73:VAL:O | 2.18 | 0.43 |
| 7:AG:29:HIS:CE1 | 7:AG:64:ARG:NH1 | 2.87 | 0.43 |
| 7:AG:37:ALA:O | 7:AG:40:ILE:N | 2.52 | 0.43 |
| 8:AH:36:PHE:CE2 | 8:AH:71:LEU:HG | 2.53 | 0.43 |
| 9:AI:66:PHE:CE2 | 9:AI:73:VAL:CG1 | 3.01 | 0.43 |
| 9:AJ:60:ASP:CG | 9:AJ:101:VAL:HG11 | 2.38 | 0.43 |
| 9:AJ:72:GLN:HA | 9:AJ:75:LYS:CE | 2.49 | 0.43 |
| 9:AJ:80:ILE:CG2 | 9:AJ:81:THR:HG23 | 2.39 | 0.43 |
| 10:AK:72:LEU:HD21 | 10:AK:108:LEU:HD12 | 2.01 | 0.43 |
| 10:AK:127:THR:O | 10:AK:143:VAL:O | 2.36 | 0.43 |
| 10:AK:135:PRO:C | 10:AK:136:GLU:CG | 2.87 | 0.43 |
| 11:AL:72:THR:HA | 11:AL:73:PRO:HD2 | 1.80 | 0.43 |
| 12:AM:41:ALA:C | 12:AM:132:LEU:O | 2.57 | 0.43 |
| 13:AN:17:ARG:NH1 | 13:AN:54:LYS:HZ3 | 2.17 | 0.43 |
| 13:AN:17:ARG:NH2 | 13:AN:46:ALA:O | 2.52 | 0.43 |
| 15:AP:26:LYS:HD2 | 15:AP:89:PRO:HG2 | 2.00 | 0.43 |
| 16:AQ:33:ARG:HG2 | 16:AQ:48:VAL:O | 2.18 | 0.43 |
| 16:AQ:40:ASN:HA | 16:AQ:114:LYS:NZ | 2.34 | 0.43 |
| 16:AQ:110:THR:CG2 | 16:AQ:115:VAL:HG23 | 2.36 | 0.43 |
| 18:AS:11:ARG:HB3 | 18:AS:11:ARG:CZ | 2.48 | 0.43 |
| 18:AS:48:ALA:O | 18:AS:52:GLU:HG2 | 2.18 | 0.43 |
| 20:AU:23:VAL:O | 20:AU:24:ARG:O | 2.37 | 0.43 |
| 20:AU:81:LYS:HD2 | 20:AU:83:ASP:N | 2.31 | 0.43 |
| 21:AV:26:LYS:C | 21:AV:27:GLU:CG | 2.87 | 0.43 |
| 21:AV:52:PHE:N | 21:AV:65:LEU:CD1 | 2.57 | 0.43 |
| 22:AW:13:PRO:N | 22:AW:16:ARG:NH1 | 2.66 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:6:VAL:HG23 | 23:AX:56:VAL:HG23 | 2.00 | 0.43 |
| 25:A1:21:ALA:CA | 25:A1:24:PHE:CZ | 3.01 | 0.43 |
| 25:A1:39:LEU:O | 25:A1:40:LEU:C | 2.56 | 0.43 |
| 25:A1:55:ARG:HH11 | 25:A1:55:ARG:HD3 | 1.69 | 0.43 |
| 25:A1:89:ASP:HB3 | 26:A2:51:ALA:HB3 | 2.00 | 0.43 |
| 26:A2:15:SER:CA | 26:A2:99:GLN:NE2 | 2.80 | 0.43 |
| 26:A2:46:VAL:C | 26:A2:47:PHE:CD1 | 2.92 | 0.43 |
| 26:A2:65:ARG:O | 26:A2:93:ILE:CG1 | 2.64 | 0.43 |
| 27:A3:69:PHE:C | 27:A3:70:ILE:CD1 | 2.84 | 0.43 |
| 27:A3:85:GLN:O | 27:A3:86:THR:C | 2.55 | 0.43 |
| 31:A7:17:GLY:O | 31:A7:20:ALA:HB3 | 2.19 | 0.43 |
| 32:A8:39:ASP:O | 32:A8:42:ARG:CB | 2.67 | 0.43 |
| 34:BA:19:C:C1' | 34:BA:864:A:N3 | 2.68 | 0.43 |
| 34:BA:20:U:O2 | 34:BA:21:G:N9 | 2.52 | 0.43 |
| 34:BA:43:C:C5' | 51:BS:12:LYS:HB2 | 2.48 | 0.43 |
| 34:BA:46:G:N2 | 34:BA:366:C:H1' | 2.34 | 0.43 |
| 34:BA:58:C:H5" | 34:BA:58:C:H6 | 1.83 | 0.43 |
| 34:BA:65:U:H5" | 34:BA:66:G:OP1 | 2.18 | 0.43 |
| 34:BA:90:U:H2' | 34:BA:91:C:C6 | 2.53 | 0.43 |
| 34:BA:115:G:H4' | 34:BA:116:A:C8 | 2.53 | 0.43 |
| 34:BA:132:C:C6 | 34:BA:133:U:H5 | 2.35 | 0.43 |
| 34:BA:258:G:C2 | 34:BA:269:C:N3 | 2.87 | 0.43 |
| 34:BA:282:A:N7 | 34:BA:283:C:H5 | 2.16 | 0.43 |
| 34:BA:314:C:C2' | 34:BA:315:A:H1' | 2.49 | 0.43 |
| 34:BA:352:C:O2 | 34:BA:352:C:C2' | 2.65 | 0.43 |
| 34:BA:397:A:N7 | 34:BA:547:A:O2' | 2.51 | 0.43 |
| 34:BA:413:G:H2' | 34:BA:413:G:N3 | 2.33 | 0.43 |
| 34:BA:463:A:C5' | 51:BS:75:ARG:HH12 | 2.31 | 0.43 |
| 34:BA:478:A:N7 | 34:BA:479:C:N4 | 2.66 | 0.43 |
| 34:BA:559:A:HO2' | 34:BA:560:U:P | 2.40 | 0.43 |
| 34:BA:581:G:C4' | 50:BR:64:ARG:NH1 | 2.72 | 0.43 |
| 34:BA:597:G:N2 | 34:BA:643:C:C2 | 2.83 | 0.43 |
| 34:BA:629:G:N3 | 34:BA:630:G:C8 | 2.86 | 0.43 |
| 34:BA:694:A:C2 | 34:BA:695:A:N9 | 2.86 | 0.43 |
| 34:BA:698:G:C2 | 34:BA:699:C:C2 | 3.06 | 0.43 |
| 34:BA:781:A:C2' | 34:BA:782:A:O5' | 2.66 | 0.43 |
| 34:BA:841:U:O3' | 34:BA:848:C:O4' | 2.36 | 0.43 |
| 34:BA:886:G:C6 | 34:BA:912:C:C2 | 3.06 | 0.43 |
| 34:BA:930:C:N4 | 34:BA:1387:G:H1 | 2.16 | 0.43 |
| 34:BA:969:A:C2 | 34:BA:970:C:C2 | 3.07 | 0.43 |
| 34:BA:979:C:C3' | 34:BA:980:C:H5' | 2.49 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:994:A:N1 | 34:BA:1047:G:C4' | 2.81 | 0.43 |
| 34:BA:996:A:C2 | 34:BA:997:U:C5 | 3.06 | 0.43 |
| 34:BA:30(A):G:C4 | 34:BA:1031:G:N1 | 2.87 | 0.43 |
| 34:BA:1057:G:OP1 | 38:BF:155:GLY:HA3 | 2.18 | 0.43 |
| 34:BA:1064:G:O6 | 34:BA:1193:G:O6 | 2.37 | 0.43 |
| 34:BA:1122:U:C4 | 34:BA:1123:A:C6 | 3.06 | 0.43 |
| 34:BA:1148:U:C2' | 34:BA:1149:C:O4' | 2.66 | 0.43 |
| 34:BA:1165:C:N4 | 34:BA:1166:G:C5 | 2.86 | 0.43 |
| 34:BA:1203:C:H2' | 34:BA:1204:A:H8 | 1.83 | 0.43 |
| 34:BA:1240:U:H2' | 42:BJ:32:ARG:HH21 | 1.83 | 0.43 |
| 34:BA:1339:A:C3' | 34:BA:1340:A:H5' | 2.48 | 0.43 |
| 34:BA:1346:A:C8 | 34:BA:1348:U:C5 | 3.06 | 0.43 |
| 34:BA:1368:G:C4 | 34:BA:1369:C:C6 | 3.06 | 0.43 |
| 34:BA:1442:G:N3 | 34:BA:1442:G:H3' | 2.34 | 0.43 |
| 34:BA:1523:G:C6 | 34:BA:1524:C:N4 | 2.86 | 0.43 |
| 34:BA:1530:G:C2 | 34:BA:1531:A:C2 | 3.06 | 0.43 |
| 35:BB:8:U:C6 | 35:BB:8:U:H3' | 2.54 | 0.43 |
| 37:BE:67:THR:HG21 | 37:BE:155:LEU:CD1 | 2.39 | 0.43 |
| 37:BE:116:GLU:C | 37:BE:118:LEU:N | 2.68 | 0.43 |
| 38:BF:42:LEU:C | 38:BF:45:LYS:HB2 | 2.38 | 0.43 |
| 38:BF:77:ILE:HD13 | 38:BF:77:ILE:HA | 1.84 | 0.43 |
| 40:BH:78:HIS:CD2 | 40:BH:78:HIS:H | 2.37 | 0.43 |
| 42:BJ:26:PHE:CZ | 42:BJ:30:ILE:HD11 | 2.54 | 0.43 |
| 42:BJ:69:VAL:HG21 | 42:BJ:104:LEU:HD11 | 1.99 | 0.43 |
| 42:BJ:150:ALA:O | 42:BJ:151:TYR:C | 2.57 | 0.43 |
| 43:BK:75:ARG:HA | 43:BK:76:PRO:HD3 | 1.88 | 0.43 |
| 44:BL:10:ARG:O | 44:BL:11:LYS:C | 2.55 | 0.43 |
| 44:BL:78:LYS:HA | 44:BL:81:ILE:CD1 | 2.47 | 0.43 |
| 44:BL:97:LYS:HD2 | 44:BL:102:LEU:HD21 | 1.99 | 0.43 |
| 45:BM:3:LYS:CG | 45:BM:75:ILE:HG12 | 2.48 | 0.43 |
| 45:BM:16:LEU:HB3 | 45:BM:70:ARG:NE | 2.33 | 0.43 |
| 45:BM:71:LEU:O | 45:BM:73:ASP:N | 2.51 | 0.43 |
| 47:BO:21:LYS:O | 47:BO:22:SER:O | 2.37 | 0.43 |
| 47:BO:27:LEU:HD23 | 47:BO:33:ARG:CD | 2.47 | 0.43 |
| 47:BO:42:THR:HG23 | 47:BO:43:VAL:N | 2.32 | 0.43 |
| 47:BO:58:VAL:CG1 | 47:BO:59:ARG:N | 2.82 | 0.43 |
| 47:BO:89:ARG:O | 47:BO:90:VAL:HG22 | 2.18 | 0.43 |
| 48:BP:14:ARG:HG3 | 48:BP:17:VAL:HG23 | 2.00 | 0.43 |
| 48:BP:73:GLU:C | 48:BP:73:GLU:CD | 2.77 | 0.43 |
| 54:BV:15:LEU:HD11 | 54:BV:38:SER:OG | 2.18 | 0.43 |
| 54:BV:58:VAL:HG21 | 54:BV:75:ALA:CB | 2.49 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 55:BW:14:LYS:C | 55:BW:16:HIS:N | 2.69 | 0.43 |
| 1:AB:73:A:N6 | 1:AB:104:A:C5 | 2.86 | 0.43 |
| 1:AB:112:G:C6 | 1:AB:113:C:C4 | 3.06 | 0.43 |
| 2:AA:23:G:N3 | 2:AA:24:G:O4' | 2.52 | 0.43 |
| 2:AA:107:C:C2' | 2:AA:108:U:C6 | 2.96 | 0.43 |
| 2:AA:126:A:C6 | 31:A7:18:PHE:CE2 | 3.07 | 0.43 |
| 2:AA:147:U:C2' | 2:AA:148:C:H5' | 2.49 | 0.43 |
| 2:AA:178:G:C8 | 2:AA:178:G:C3' | 3.01 | 0.43 |
| 2:AA:197:A:N3 | 2:AA:198:C:H1' | 2.33 | 0.43 |
| 2:AA:222:A:N6 | 2:AA:224:G:C2 | 2.87 | 0.43 |
| 2:AA:233:A:O2' | 2:AA:234:C:H5' | 2.18 | 0.43 |
| 2:AA:270(S):G:O2' | 2:AA:270(T):G:H8 | 2.01 | 0.43 |
| 2:AA:285:C:H3' | 2:AA:286:C:C6 | 2.54 | 0.43 |
| 2:AA:321:G:H5' | 6:AF:150:THR:CG2 | 2.41 | 0.43 |
| 2:AA:382:G:H2' | 2:AA:383:U:O4' | 2.19 | 0.43 |
| 2:AA:434:U:C2' | 2:AA:435:C:OP2 | 2.66 | 0.43 |
| 2:AA:462:C:N3 | 2:AA:468:G:C2 | 2.84 | 0.43 |
| 2:AA:489:G:N2 | 2:AA:491:G:N3 | 2.67 | 0.43 |
| 2:AA:533:G:H5" | 2:AA:534:U:OP2 | 2.18 | 0.43 |
| 2:AA:571:A:O2' | 2:AA:572:A:P | 2.77 | 0.43 |
| 2:AA:642:G:H3' | 2:AA:642:G:C8 | 2.53 | 0.43 |
| 2:AA:717:G:N1 | 2:AA:718:A:H1' | 2.30 | 0.43 |
| 2:AA:744:G:H5' | 2:AA:1659:U:OP1 | 2.17 | 0.43 |
| 2:AA:750:A:C5' | 2:AA:1617:C:O2 | 2.67 | 0.43 |
| 2:AA:776:G:N1 | 2:AA:793:A:N7 | 2.66 | 0.43 |
| 2:AA:791:C:C2 | 2:AA:794:G:C5' | 2.78 | 0.43 |
| 2:AA:939:G:H2' | 2:AA:940:G:H8 | 1.82 | 0.43 |
| 2:AA:1071:G:O5' | 2:AA:1089:G:O6 | 2.36 | 0.43 |
| 2:AA:1077:A:C8 | 2:AA:1078:U:N3 | 2.87 | 0.43 |
| 2:AA:1085:A:H5' | 9:AI:29:PHE:CD1 | 2.53 | 0.43 |
| 2:AA:1197:G:N3 | 2:AA:1197:G:H2' | 2.34 | 0.43 |
| 2:AA:1197:G:O6 | 2:AA:1198:U:O4 | 2.37 | 0.43 |
| 2:AA:1199:U:O4 | 2:AA:1246:A:N1 | 2.52 | 0.43 |
| 2:AA:1210:A:OP1 | 2:AA:1212:G:OP1 | 2.36 | 0.43 |
| 2:AA:1222:C:H2' | 2:AA:1223:C:O5' | 2.18 | 0.43 |
| 2:AA:1366:A:C2 | 2:AA:1367:A:C8 | 3.07 | 0.43 |
| 2:AA:1403:C:H4' | 2:AA:1471:A:H5" | 1.92 | 0.43 |
| 2:AA:1405:U:C2 | 2:AA:1406:U:C4 | 3.07 | 0.43 |
| 2:AA:1420:U:H1' | 2:AA:1421:G:C8 | 2.53 | 0.43 |
| 2:AA:1459:G:C6 | 2:AA:1461:G:C4 | 3.06 | 0.43 |
| 2:AA:1468:C:C2' | 2:AA:1469:A:O5' | 2.66 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1508:A:H5' | 2:AA:1510:A:N7 | 2.34 | 0.43 |
| 2:AA:1514:U:H2' | 2:AA:1515:C:OP2 | 2.19 | 0.43 |
| 2:AA:1534:G:C2 | 2:AA:1536:A:H1' | 2.53 | 0.43 |
| 2:AA:1604:C:HO2' | 2:AA:1605:C:C4' | 2.32 | 0.43 |
| 2:AA:1617:C:C2' | 2:AA:1617:C:O2 | 2.67 | 0.43 |
| 2:AA:1707:G:C2 | 2:AA:1756:G:C2 | 3.06 | 0.43 |
| 2:AA:1707:G:C4' | 2:AA:1756:G:HO2' | 2.27 | 0.43 |
| 2:AA:1799:G:N9 | 2:AA:1819:A:N6 | 2.67 | 0.43 |
| 2:AA:1839:G:C8 | 2:AA:1927:A:H1' | 2.54 | 0.43 |
| 2:AA:1871:A:C2 | 2:AA:1872:A:C5 | 3.07 | 0.43 |
| 2:AA:1937:A:C6 | 2:AA:1939:U:C5 | 3.07 | 0.43 |
| 2:AA:1944:U:O4' | 2:AA:1955:U:H6 | 1.98 | 0.43 |
| 2:AA:2131:G:O4' | 2:AA:2131:G:P | 2.76 | 0.43 |
| 2:AA:2131:G:C5' | 3:AC:6:ARG:HB2 | 2.47 | 0.43 |
| 2:AA:2147:G:HO2' | 2:AA:2148:G:H5' | 1.80 | 0.43 |
| 2:AA:2150:U:O3' | 2:AA:2151:G:C8 | 2.69 | 0.43 |
| 2:AA:2278:A:C6 | 2:AA:2279:G:N7 | 2.86 | 0.43 |
| 2:AA:2299:G:H2' | 2:AA:2300:G:H8 | 1.84 | 0.43 |
| 2:AA:2331:G:H21 | 2:AA:2385:C:N4 | 2.10 | 0.43 |
| 2:AA:2389:G:OP2 | 2:AA:2390:U:H5' | 2.18 | 0.43 |
| 2:AA:2551:C:C2 | 2:AA:2552:U:C6 | 3.06 | 0.43 |
| 2:AA:2563:U:C4' | 13:AN:27:GLY:HA2 | 2.49 | 0.43 |
| 2:AA:2680:C:OP1 | 5:AE:302:GLY:C | 2.56 | 0.43 |
| 2:AA:2715:C:C2 | 2:AA:2716:U:C6 | 3.07 | 0.43 |
| 2:AA:2718:G:N2 | 2:AA:2719:G:H1' | 2.34 | 0.43 |
| 2:AA:2746:U:O2 | 2:AA:2759:G:C2 | 2.71 | 0.43 |
| 2:AA:2754:U:O2' | 2:AA:2756:U:OP2 | 2.30 | 0.43 |
| 2:AA:2803:C:O2 | 2:AA:2804:C:O2 | 2.36 | 0.43 |
| 3:AC:20:TYR:HB3 | 3:AC:24:GLU:OE1 | 2.18 | 0.43 |
| 3:AC:50:ASP:OD1 | 3:AC:50:ASP:C | 2.57 | 0.43 |
| 3:AC:108:MET:CE | 3:AC:136:LEU:HD11 | 2.48 | 0.43 |
| 4:AD:131:LEU:O | 4:AD:166:LYS:NZ | 2.28 | 0.43 |
| 5:AE:200:ASP:C | 5:AE:201:VAL:CG2 | 2.86 | 0.43 |
| 5:AE:261:ARG:O | 5:AE:262:THR:HB | 2.18 | 0.43 |
| 6:AF:30:LEU:O | 6:AF:33:LYS:N | 2.52 | 0.43 |
| 6:AF:218:VAL:HA | 6:AF:222:ASP:CG | 2.38 | 0.43 |
| 6:AF:223:LEU:O | 6:AF:225:PRO:O | 2.37 | 0.43 |
| 6:AF:224:ALA:O | 6:AF:225:PRO:C | 2.56 | 0.43 |
| 7:AG:10:PHE:N | 7:AG:10:PHE:HD1 | 2.17 | 0.43 |
| 7:AG:97:GLN:CD | 7:AG:106:PHE:HD2 | 2.21 | 0.43 |
| 8:AH:32:LEU:HD21 | 8:AH:74:MET:HE2 | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:44:VAL:O | 8:AH:44:VAL:HG13 | 2.19 | 0.43 |
| 9:AI:35:ALA:CB | 9:AI:36:PRO:CD | 2.75 | 0.43 |
| 9:AI:110:GLU:O | 9:AI:114:ILE:HG13 | 2.18 | 0.43 |
| 9:AJ:40:ALA:O | 9:AJ:41:ALA:C | 2.57 | 0.43 |
| 9:AJ:63:LEU:HD11 | 9:AJ:102:ILE:CD1 | 2.33 | 0.43 |
| 9:AJ:80:ILE:HD11 | 9:AJ:117:LYS:HD2 | 2.01 | 0.43 |
| 10:AK:23:ASP:HB2 | 10:AK:25:TYR:CD2 | 2.53 | 0.43 |
| 10:AK:31:PHE:O | 10:AK:32:LYS:C | 2.54 | 0.43 |
| 10:AK:70:GLU:HG3 | 10:AK:71:GLN:N | 2.33 | 0.43 |
| 10:AK:76:THR:HG22 | 10:AK:142:LYS:HE3 | 1.99 | 0.43 |
| 11:AL:79:LEU:HD13 | 11:AL:132:ALA:HA | 2.01 | 0.43 |
| 13:AN:76:TYR:CB | 17:AR:19:THR:OG1 | 2.67 | 0.43 |
| 14:AO:104:ASP:C | 14:AO:105:TYR:CD2 | 2.92 | 0.43 |
| 15:AP:68:ALA:O | 15:AP:72:VAL:HG23 | 2.18 | 0.43 |
| 15:AP:90:PHE:CD1 | 15:AP:90:PHE:N | 2.86 | 0.43 |
| 16:AQ:46:GLN:HE21 | 16:AQ:57:THR:CB | 2.32 | 0.43 |
| 16:AQ:122:ALA:HB1 | 16:AQ:127:LEU:HB3 | 1.99 | 0.43 |
| 19:AT:14:ALA:O | 19:AT:15:MET:C | 2.57 | 0.43 |
| 19:AT:31:ARG:N | 19:AT:31:ARG:NE | 2.67 | 0.43 |
| 20:AU:17:HIS:O | 20:AU:20:HIS:N | 2.51 | 0.43 |
| 20:AU:61:GLU:HB2 | 20:AU:75:GLU:OE2 | 2.19 | 0.43 |
| 21:AV:21:ALA:C | 21:AV:32:PHE:HB3 | 2.39 | 0.43 |
| 23:AX:1:MET:O | 23:AX:3:ARG:HG3 | 2.18 | 0.43 |
| 23:AX:39:ASP:O | 23:AX:44:ARG:HB2 | 2.19 | 0.43 |
| 24:A0:44:LEU:HD13 | 24:A0:48:VAL:HG21 | 1.99 | 0.43 |
| 24:A0:104:ARG:N | 24:A0:111:LEU:HD11 | 2.33 | 0.43 |
| 25:A1:70:ARG:O | 25:A1:73:GLY:N | 2.51 | 0.43 |
| 25:A1:98:ILE:HA | 25:A1:101:ARG:HG2 | 2.00 | 0.43 |
| 25:A1:109:LEU:C | 25:A1:109:LEU:HD23 | 2.39 | 0.43 |
| 26:A2:69:ILE:HG22 | 26:A2:88:GLN:CB | 2.48 | 0.43 |
| 27:A3:26:PHE:O | 27:A3:60:PHE:CD1 | 2.72 | 0.43 |
| 27:A3:33:ALA:HB3 | 27:A3:66:LYS:H | 1.83 | 0.43 |
| 28:A4:5:LEU:HB2 | 28:A4:56:VAL:HG13 | 2.00 | 0.43 |
| 28:A4:11:PRO:CA | 28:A4:40:HIS:CD2 | 2.95 | 0.43 |
| 28:A4:42:PHE:C | 28:A4:57:ASP:OD1 | 2.57 | 0.43 |
| 28:A4:44:THR:H | 28:A4:61:LYS:HZ1 | 1.66 | 0.43 |
| 33:A9:19:ARG:O | 33:A9:19:ARG:CG | 2.67 | 0.43 |
| 33:A9:27:CYS:HB3 | 33:A9:32:HIS:HB2 | 2.01 | 0.43 |
| 34:BA:173:U:H5" | 34:BA:197:A:C5' | 2.47 | 0.43 |
| 34:BA:198:G:HO2' | 34:BA:199:G:C5' | 2.29 | 0.43 |
| 34:BA:262:A:C2 | 34:BA:263:A:C5 | 3.07 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:293:G:C2 | 34:BA:294:U:C6 | 3.06 | 0.43 |
| 34:BA:391:G:C2' | 34:BA:392:G:O5' | 2.67 | 0.43 |
| 34:BA:499:A:C8 | 34:BA:547:A:C6 | 3.07 | 0.43 |
| 34:BA:499:A:HO2' | 34:BA:500:G:C1' | 2.31 | 0.43 |
| 34:BA:540:G:C4 | 34:BA:541:G:C8 | 3.06 | 0.43 |
| 34:BA:608:A:C2' | 34:BA:609:A:O5' | 2.66 | 0.43 |
| 34:BA:609:A:C2 | 34:BA:610:G:N9 | 2.87 | 0.43 |
| 34:BA:646:U:C2' | 34:BA:647:C:O5' | 2.66 | 0.43 |
| 34:BA:664:G:N2 | 34:BA:741:G:H1 | 2.16 | 0.43 |
| 34:BA:718:G:H4' | 46:BN:117:ASN:ND2 | 2.33 | 0.43 |
| 34:BA:878:G:P | 43:BK:88:LYS:HB3 | 2.58 | 0.43 |
| 34:BA:913:A:O2' | 34:BA:914:A:C5' | 2.66 | 0.43 |
| 34:BA:925:G:N1 | 34:BA:1392:G:C5 | 2.86 | 0.43 |
| 34:BA:953:G:H2' | 34:BA:954:G:C5' | 2.48 | 0.43 |
| 34:BA:987:G:C2' | 34:BA:988:G:C5' | 2.91 | 0.43 |
| 34:BA:988:G:H2' | 34:BA:989:C:C6 | 2.53 | 0.43 |
| 34:BA:1047:G:O6 | 34:BA:1210:C:N3 | 2.52 | 0.43 |
| 34:BA:1118:C:H4' | 34:BA:1179:A:O4' | 2.19 | 0.43 |
| 34:BA:1226:C:O3' | 48:BP:111:LYS:HE3 | 2.19 | 0.43 |
| 34:BA:1236:A:C5' | 56:BX:2:GLY:N | 2.80 | 0.43 |
| 34:BA:1266:G:N2 | 34:BA:1270:C:H42 | 2.16 | 0.43 |
| 34:BA:1327:C:OP1 | 56:BX:20:LYS:HE2 | 2.19 | 0.43 |
| 34:BA:1331:G:O2' | 34:BA:1332:A:P | 2.76 | 0.43 |
| 34:BA:1353:G:C2 | 34:BA:1370:G:C2 | 3.06 | 0.43 |
| 34:BA:1398:A:C8 | 34:BA:1398:A:H3' | 2.53 | 0.43 |
| 34:BA:1415:G:H2' | 34:BA:1416:G:O5' | 2.19 | 0.43 |
| 35:BB:2:C:N4 | 35:BB:71:G:N1 | 2.66 | 0.43 |
| 35:BB:22:G:C2 | 35:BB:23:A:C8 | 3.07 | 0.43 |
| 35:BB:29:A:N1 | 35:BB:30:G:C4 | 2.87 | 0.43 |
| 35:BB:65:G:N3 | 35:BB:66:A:N7 | 2.67 | 0.43 |
| 35:BB:67:A:N3 | 35:BB:68:U:C6 | 2.86 | 0.43 |
| 35:BB:72:C:HO2' | 35:BB:73:A:H5' | 1.82 | 0.43 |
| 35:BC:21:A:C6 | 35:BC:46:G:N1 | 2.86 | 0.43 |
| 37:BE:103:THR:OG1 | 37:BE:180:LEU:HD21 | 2.18 | 0.43 |
| 37:BE:167:PRO:CG | 37:BE:192:SER:OG | 2.67 | 0.43 |
| 37:BE:169:LYS:NZ | 37:BE:169:LYS:O | 2.48 | 0.43 |
| 37:BE:219:VAL:HG13 | 37:BE:222:ILE:HD13 | 2.01 | 0.43 |
| 38:BF:119:ARG:O | 38:BF:120:VAL:C | 2.57 | 0.43 |
| 38:BF:182:ILE:CD1 | 38:BF:203:PHE:CD1 | 3.01 | 0.43 |
| 39:BG:80:GLU:O | 39:BG:81:GLU:C | 2.56 | 0.43 |
| 40:BH:74:GLY:O | 40:BH:115:VAL:HA | 2.18 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:129:ILE:O | 40:BH:130:ASN:C | 2.55 | 0.43 |
| 43:BK:45:ILE:HD12 | 43:BK:61:VAL:CG1 | 2.49 | 0.43 |
| 43:BK:104:ARG:HB2 | 43:BK:108:GLY:H | 1.83 | 0.43 |
| 43:BK:116:LYS:HB2 | 43:BK:119:LEU:HD21 | 2.01 | 0.43 |
| 44:BL:11:LYS:HG2 | 44:BL:12:GLU:OE1 | 2.19 | 0.43 |
| 44:BL:32:ASP:OD1 | 44:BL:34:ASN:N | 2.51 | 0.43 |
| 45:BM:16:LEU:O | 45:BM:70:ARG:HG3 | 2.19 | 0.43 |
| 45:BM:24:VAL:O | 45:BM:28:ARG:CG | 2.66 | 0.43 |
| 45:BM:26:ALA:O | 45:BM:84:GLN:OE1 | 2.37 | 0.43 |
| 46:BN:22:HIS:HB3 | 46:BN:29:ILE:HG13 | 1.99 | 0.43 |
| 47:BO:59:ARG:HA | 47:BO:64:TYR:O | 2.18 | 0.43 |
| 48:BP:81:LEU:CD2 | 48:BP:88:ARG:HE | 2.31 | 0.43 |
| 49:BQ:12:ARG:O | 49:BQ:14:PRO:CD | 2.67 | 0.43 |
| 52:BT:29:HIS:HB3 | 52:BT:32:TYR:C | 2.39 | 0.43 |
| 53:BU:53:ARG:HG2 | 53:BU:63:GLN:CD | 2.39 | 0.43 |
| 54:BV:20:LEU:CG | 54:BV:21:GLU:N | 2.81 | 0.43 |
| 56:BX:3:LYS:O | 56:BX:4:GLY:C | 2.57 | 0.43 |
| 56:BX:12:LYS:N | 56:BX:12:LYS:CD | 2.81 | 0.43 |
| 1:AB:24:G:H2' | 1:AB:27:C:N4 | 2.33 | 0.43 |
| 1:AB:77:U:O5' | 1:AB:77:U:C6 | 2.72 | 0.43 |
| 1:AB:115:G:O3' | 16:AQ:65:ASP:OD1 | 2.35 | 0.43 |
| 2:AA:133:C:C2' | 2:AA:134:C:O5' | 2.67 | 0.43 |
| 2:AA:186:G:N1 | 2:AA:211:A:C6 | 2.87 | 0.43 |
| 2:AA:336:C:C2' | 2:AA:337:C:O5' | 2.66 | 0.43 |
| 2:AA:374:A:N3 | 2:AA:375:C:C1' | 2.82 | 0.43 |
| 2:AA:377:C:H2' | 2:AA:378:C:C6 | 2.53 | 0.43 |
| 2:AA:427:U:O5' | 2:AA:427:U:C6 | 2.63 | 0.43 |
| 2:AA:443:A:C2 | 2:AA:1245:G:N2 | 2.84 | 0.43 |
| 2:AA:448:U:O2' | 6:AF:84:VAL:CG1 | 2.67 | 0.43 |
| 2:AA:482:A:N3 | 2:AA:482:A:C2' | 2.70 | 0.43 |
| 2:AA:536:A:O2' | 2:AA:537:C:H5' | 2.19 | 0.43 |
| 2:AA:539:G:H2' | 2:AA:540:G:H8 | 1.82 | 0.43 |
| 2:AA:543:C:O2' | 2:AA:544:C:P | 2.76 | 0.43 |
| 2:AA:599:G:N2 | 2:AA:658:C:C2 | 2.73 | 0.43 |
| 2:AA:602:G:H2' | 2:AA:655:A:H2 | 1.84 | 0.43 |
| 2:AA:729:G:C5 | 4:AD:207:ALA:CB | 3.02 | 0.43 |
| 2:AA:729:G:C1' | 2:AA:763:G:H4' | 2.47 | 0.43 |
| 2:AA:743:G:C2' | 2:AA:744:G:O5' | 2.67 | 0.43 |
| 2:AA:771:G:C2 | 2:AA:772:C:C2 | 3.06 | 0.43 |
| 2:AA:813:U:O4' | 2:AA:1226:G:O4' | 2.36 | 0.43 |
| 2:AA:934:G:N1 | 2:AA:935:C:C4 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1022:G:C2 | 2:AA:1139:G:N3 | 2.85 | 0.43 |
| 2:AA:1050:A:C2' | 2:AA:1051:G:C5' | 2.90 | 0.43 |
| 2:AA:1084:A:H1' | 9:AI:25:LEU:HB3 | 1.99 | 0.43 |
| 2:AA:1107:G:C8 | 2:AA:1108:U:C5 | 3.06 | 0.43 |
| 2:AA:1185:C:O5' | 2:AA:1186:G:OP1 | 2.37 | 0.43 |
| 2:AA:1195:G:O2' | 2:AA:1196:C:H5' | 2.19 | 0.43 |
| 2:AA:1264:G:N7 | 2:AA:1265:A:N7 | 2.64 | 0.43 |
| 2:AA:1275:A:N6 | 24:A0:19:ALA:CB | 2.81 | 0.43 |
| 2:AA:1364:G:O5' | 2:AA:1809:A:N6 | 2.51 | 0.43 |
| 2:AA:1384:A:H1' | 2:AA:1405:U:C4' | 2.49 | 0.43 |
| 2:AA:1417:C:C2' | 2:AA:1418:G:O5' | 2.63 | 0.43 |
| 2:AA:1438:U:C2' | 2:AA:1439:A:H5' | 2.17 | 0.43 |
| 2:AA:1506:C:C4 | 2:AA:1507:A:C8 | 3.07 | 0.43 |
| 2:AA:1523:U:H2' | 2:AA:1524:G:O5' | 2.19 | 0.43 |
| 2:AA:1529:A:C3' | 2:AA:1530:G:H5' | 2.49 | 0.43 |
| 2:AA:1683:C:N3 | 2:AA:1684:C:C5 | 2.87 | 0.43 |
| 2:AA:1767:C:C2' | 2:AA:1768:U:H5' | 2.49 | 0.43 |
| 2:AA:1905:C:N3 | 2:AA:1930:G:C2 | 2.87 | 0.43 |
| 2:AA:1906:G:O4' | 2:AA:1929:G:C8 | 2.72 | 0.43 |
| 2:AA:1913:A:C6 | 2:AA:1917:U:C5 | 3.07 | 0.43 |
| 2:AA:1916:A:C2' | 2:AA:1917:U:N3 | 2.81 | 0.43 |
| 2:AA:1942:C:OP2 | 2:AA:1942:C:C3' | 2.54 | 0.43 |
| 2:AA:1954:G:HO2' | 2:AA:1955:U:P | 2.40 | 0.43 |
| 2:AA:1965:C:H3' | 2:AA:1966:A:N7 | 2.28 | 0.43 |
| 2:AA:1975:G:C5 | 2:AA:1976:U:C6 | 3.07 | 0.43 |
| 2:AA:2019:A:O2' | 2:AA:2020:A:O5' | 2.36 | 0.43 |
| 2:AA:2044:C:P | 2:AA:2044:C:H3' | 2.58 | 0.43 |
| 2:AA:2045:C:O2' | 2:AA:2046:G:O5' | 2.36 | 0.43 |
| 2:AA:2051:A:O2' | 5:AE:238:LEU:HD23 | 2.18 | 0.43 |
| 2:AA:2085:C:C2' | 2:AA:2086:U:O5' | 2.67 | 0.43 |
| 2:AA:2104:G:N2 | 2:AA:2105:C:O2 | 2.51 | 0.43 |
| 2:AA:2190:G:N3 | 2:AA:2191:G:C8 | 2.87 | 0.43 |
| 2:AA:2262:U:C1' | 2:AA:2328:A:N3 | 2.82 | 0.43 |
| 2:AA:2282:G:N2 | 2:AA:2425:A:N7 | 2.67 | 0.43 |
| 2:AA:2322:A:C5 | 2:AA:2323:G:C8 | 3.06 | 0.43 |
| 2:AA:2350:C:O2' | 2:AA:2351:G:O5' | 2.36 | 0.43 |
| 2:AA:2437:U:H5' | 2:AA:2598:A:N1 | 2.34 | 0.43 |
| 2:AA:2458:G:N7 | 2:AA:2490:G:C5 | 2.86 | 0.43 |
| 2:AA:2479:G:C2 | 2:AA:2480:C:O2 | 2.72 | 0.43 |
| 2:AA:2502:G:O2' | 2:AA:2503:A:P | 2.77 | 0.43 |
| 2:AA:2507:C:C4 | 2:AA:2582:G:C2 | 3.06 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2568:C:H2' | 2:AA:2569:G:H5' | 2.00 | 0.43 |
| 2:AA:2648:C:C2 | 2:AA:2673:G:N2 | 2.86 | 0.43 |
| 2:AA:2657:A:C6 | 2:AA:2664:G:N2 | 2.82 | 0.43 |
| 2:AA:2692:C:N3 | 2:AA:2717:G:N2 | 2.57 | 0.43 |
| 2:AA:2717:G:H2' | 2:AA:2718:G:C5' | 2.49 | 0.43 |
| 2:AA:2737:G:C2 | 2:AA:2768:C:C4 | 3.07 | 0.43 |
| 2:AA:2772:C:C2 | 2:AA:2773:C:C5 | 3.07 | 0.43 |
| 3:AC:148:ASN:HD22 | 3:AC:151:GLU:CD | 2.21 | 0.43 |
| 3:AC:216:THR:O | 3:AC:218:MET:N | 2.52 | 0.43 |
| 4:AD:72:GLY:O | 4:AD:116:MET:HE1 | 2.18 | 0.43 |
| 4:AD:78:ALA:HA | 4:AD:113:MET:HG3 | 2.01 | 0.43 |
| 4:AD:172:ILE:N | 4:AD:182:MET:HG2 | 2.33 | 0.43 |
| 5:AE:44:TYR:O | 5:AE:74:GLU:CD | 2.57 | 0.43 |
| 5:AE:205:THR:HG23 | 5:AE:261:ARG:HG3 | 2.00 | 0.43 |
| 5:AE:225:LYS:O | 5:AE:229:GLN:CD | 2.57 | 0.43 |
| 6:AF:111:VAL:HG13 | 6:AF:220:THR:N | 2.33 | 0.43 |
| 6:AF:153:VAL:HG12 | 6:AF:157:LEU:CD2 | 2.46 | 0.43 |
| 6:AF:162:VAL:CG1 | 6:AF:163:HIS:H | 2.29 | 0.43 |
| 7:AG:56:ARG:NH2 | 7:AG:63:ILE:CG1 | 2.77 | 0.43 |
| 7:AG:93:LEU:CD2 | 7:AG:106:PHE:CD2 | 3.01 | 0.43 |
| 9:AJ:3:ILE:HG22 | 9:AJ:7:ILE:HD11 | 2.01 | 0.43 |
| 11:AL:116:LEU:HD13 | 11:AL:117:ASN:O | 2.19 | 0.43 |
| 12:AM:52:GLN:O | 12:AM:56:LYS:HE2 | 2.19 | 0.43 |
| 13:AN:17:ARG:HH12 | 13:AN:54:LYS:NZ | 2.17 | 0.43 |
| 13:AN:43:VAL:HG23 | 13:AN:56:GLN:O | 2.19 | 0.43 |
| 14:AO:75:LEU:C | 14:AO:77:ALA:H | 2.22 | 0.43 |
| 14:AO:92:ASP:HB3 | 14:AO:118:LEU:CG | 2.44 | 0.43 |
| 15:AP:31:PHE:HE1 | 15:AP:87:LYS:O | 2.02 | 0.43 |
| 15:AP:33:MET:HE2 | 15:AP:34:GLY:H | 1.76 | 0.43 |
| 15:AP:43:PRO:O | 15:AP:125:TRP:CZ2 | 2.72 | 0.43 |
| 15:AP:123:ILE:CA | 15:AP:136:TRP:HE1 | 2.32 | 0.43 |
| 16:AQ:102:LEU:CD1 | 16:AQ:129:ILE:HD12 | 2.47 | 0.43 |
| 16:AQ:118:ILE:O | 16:AQ:121:GLY:N | 2.52 | 0.43 |
| 18:AS:103:ILE:O | 18:AS:103:ILE:CG2 | 2.67 | 0.43 |
| 19:AT:52:VAL:CG1 | 19:AT:53:ASN:N | 2.81 | 0.43 |
| 20:AU:72:ILE:O | 20:AU:91:LEU:CB | 2.59 | 0.43 |
| 20:AU:81:LYS:HD2 | 20:AU:83:ASP:HB2 | 1.99 | 0.43 |
| 21:AV:100:THR:HG23 | 21:AV:137:ASP:OD1 | 2.19 | 0.43 |
| 21:AV:138:VAL:HB | 21:AV:140:LYS:HE3 | 2.01 | 0.43 |
| 22:AW:20:LEU:HD13 | 22:AW:20:LEU:O | 2.18 | 0.43 |
| 22:AW:20:LEU:O | 22:AW:23:LEU:CB | 2.67 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:8:LEU:CA | 23:AX:54:VAL:HG12 | 2.45 | 0.43 |
| 23:AX:18:ASP:OD1 | 23:AX:18:ASP:C | 2.57 | 0.43 |
| 23:AX:35:ARG:O | 23:AX:36:VAL:CG1 | 2.66 | 0.43 |
| 24:A0:23:ASN:OD1 | 24:A0:24:GLN:N | 2.52 | 0.43 |
| 25:A1:9:VAL:O | 25:A1:13:ARG:CZ | 2.66 | 0.43 |
| 25:A1:13:ARG:O | 25:A1:16:LYS:N | 2.52 | 0.43 |
| 26:A2:3:ALA:N | 26:A2:44:GLN:OE1 | 2.52 | 0.43 |
| 26:A2:30:GLY:HA3 | 26:A2:33:VAL:HG21 | 2.00 | 0.43 |
| 26:A2:89:ASN:O | 26:A2:90:PHE:O | 2.36 | 0.43 |
| 28:A4:54:GLY:O | 28:A4:55:ARG:HB2 | 2.19 | 0.43 |
| 29:A5:12:SER:CB | 29:A5:15:LYS:NZ | 2.82 | 0.43 |
| 30:A6:32:GLN:HB3 | 30:A6:35:LEU:CG | 2.49 | 0.43 |
| 32:A8:21:LYS:HD2 | 32:A8:48:PHE:CZ | 2.53 | 0.43 |
| 34:BA:39:G:N1 | 34:BA:40:C:C5 | 2.87 | 0.43 |
| 34:BA:115:G:N3 | 34:BA:289:G:C8 | 2.87 | 0.43 |
| 34:BA:173:U:C2 | 34:BA:197:A:C2 | 3.06 | 0.43 |
| 34:BA:301:G:N2 | 34:BA:302:G:C1' | 2.81 | 0.43 |
| 34:BA:355:C:C1' | 34:BA:388:G:H2' | 2.49 | 0.43 |
| 34:BA:377:G:H1 | 34:BA:386:C:H42 | 1.65 | 0.43 |
| 34:BA:513:C:N3 | 34:BA:514:C:C4 | 2.87 | 0.43 |
| 34:BA:558:G:C5 | 34:BA:559:A:C2 | 3.07 | 0.43 |
| 34:BA:597:G:C6 | 34:BA:644:G:C6 | 3.06 | 0.43 |
| 34:BA:695:A:C5 | 34:BA:696:A:C5 | 3.06 | 0.43 |
| 34:BA:738:C:N4 | 34:BA:739:C:N4 | 2.67 | 0.43 |
| 34:BA:747:C:H2' | 34:BA:748:C:C1' | 2.49 | 0.43 |
| 34:BA:751:U:H5' | 50:BR:24:SER:HB2 | 2.01 | 0.43 |
| 34:BA:762:C:N3 | 34:BA:763:G:N7 | 2.67 | 0.43 |
| 34:BA:1041:A:N1 | 34:BA:1042:G:N7 | 2.66 | 0.43 |
| 34:BA:1060:C:N4 | 38:BF:2:GLY:HA3 | 2.33 | 0.43 |
| 34:BA:1106:G:OP1 | 38:BF:172:ARG:HD3 | 2.19 | 0.43 |
| 34:BA:1121:U:H3 | 34:BA:1152:A:H2 | 1.62 | 0.43 |
| 34:BA:1123:A:O3' | 45:BM:38:ILE:CG2 | 2.67 | 0.43 |
| 34:BA:1188:A:C4 | 34:BA:1189:C:C5 | 3.07 | 0.43 |
| 34:BA:1295:G:N2 | 34:BA:1302:U:C2 | 2.87 | 0.43 |
| 34:BA:1348:U:O3' | 44:BL:120:ARG:HD2 | 2.17 | 0.43 |
| 34:BA:1400:C:C2 | 35:BC:34:G:C2 | 3.07 | 0.43 |
| 34:BA:1515:C:HO2' | 34:BA:1516:G:C5' | 2.30 | 0.43 |
| 35:BB:59:U:OP1 | 35:BB:59:U:C4 | 2.68 | 0.43 |
| 35:BC:29:A:C5 | 35:BC:42:G:C2 | 3.06 | 0.43 |
| 36:B1:52:A:C6 | 36:B1:53:G:O6 | 2.71 | 0.43 |
| 37:BE:74:LYS:C | 37:BE:76:GLN:N | 2.72 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:81:VAL:O | 37:BE:82:ARG:C | 2.56 | 0.43 |
| 37:BE:82:ARG:HD2 | 37:BE:92:TYR:HE1 | 1.82 | 0.43 |
| 37:BE:97:TRP:CZ2 | 37:BE:102:LEU:CD1 | 2.97 | 0.43 |
| 38:BF:179:ARG:C | 38:BF:181:ASN:N | 2.72 | 0.43 |
| 39:BG:20:TYR:CA | 39:BG:26:CYS:HB3 | 2.48 | 0.43 |
| 41:BI:11:ASN:OD1 | 41:BI:11:ASN:C | 2.57 | 0.43 |
| 42:BJ:40:ALA:O | 42:BJ:43:PHE:HB3 | 2.19 | 0.43 |
| 42:BJ:46:ALA:HA | 42:BJ:49:ILE:CD1 | 2.37 | 0.43 |
| 42:BJ:80:VAL:HG23 | 42:BJ:85:TYR:HB2 | 1.99 | 0.43 |
| 42:BJ:128:ALA:O | 42:BJ:129:GLU:C | 2.57 | 0.43 |
| 43:BK:1:MET:HG2 | 43:BK:2:LEU:H | 1.83 | 0.43 |
| 44:BL:11:LYS:O | 44:BL:13:ALA:N | 2.52 | 0.43 |
| 44:BL:26:VAL:CG2 | 44:BL:61:ALA:HB3 | 2.29 | 0.43 |
| 45:BM:51:ARG:HG2 | 49:BQ:45:ARG:CZ | 2.49 | 0.43 |
| 48:BP:12:ASN:OD1 | 48:BP:12:ASN:O | 2.37 | 0.43 |
| 48:BP:51:ALA:HA | 48:BP:54:VAL:CG2 | 2.49 | 0.43 |
| 48:BP:91:ARG:CB | 48:BP:98:VAL:HG22 | 2.20 | 0.43 |
| 49:BQ:36:PHE:CD1 | 49:BQ:37:PHE:CD2 | 3.05 | 0.43 |
| 50:BR:70:LEU:HG | 50:BR:78:TYR:CG | 2.53 | 0.43 |
| 51:BS:49:LEU:HD12 | 51:BS:50:LYS:H | 1.82 | 0.43 |
| 52:BT:97:SER:CB | 52:BT:103:GLY:HA2 | 2.49 | 0.43 |
| 54:BV:19:VAL:CG2 | 54:BV:47:HIS:HE2 | 2.31 | 0.43 |
| 1:AB:110:G:O2' | 1:AB:111:U:H5' | 2.19 | 0.43 |
| 2:AA:77:C:N4 | 2:AA:78:A:N6 | 2.66 | 0.43 |
| 2:AA:262:A:C2' | 2:AA:263:C:O5' | 2.67 | 0.43 |
| 2:AA:270(C):C:C5 | 2:AA:270(D):C:C5 | 3.01 | 0.43 |
| 2:AA:272:G:O2' | 2:AA:273:G:O4' | 2.37 | 0.43 |
| 2:AA:294:A:C8 | 2:AA:294:A:C3' | 3.02 | 0.43 |
| 2:AA:303:U:C2' | 2:AA:304:G:H5' | 2.49 | 0.43 |
| 2:AA:337:C:N4 | 2:AA:339:U:C4 | 2.87 | 0.43 |
| 2:AA:452:G:H5" | 2:AA:453:C:OP2 | 2.18 | 0.43 |
| 2:AA:512:G:C8 | 2:AA:512:G:C3' | 3.02 | 0.43 |
| 2:AA:527:C:O2' | 2:AA:528:A:C5 | 2.67 | 0.43 |
| 2:AA:575:A:H2' | 2:AA:576:U:H5' | 2.01 | 0.43 |
| 2:AA:605:C:OP2 | 6:AF:105:LYS:HE2 | 2.19 | 0.43 |
| 2:AA:675:A:C4 | 2:AA:676:A:C2 | 3.07 | 0.43 |
| 2:AA:681:G:N2 | 2:AA:682:G:C4 | 2.87 | 0.43 |
| 2:AA:768:G:H5' | 2:AA:1622:G:H4' | 2.01 | 0.43 |
| 2:AA:857:C:OP1 | 27:A3:24:LYS:NZ | 2.34 | 0.43 |
| 2:AA:919:G:O2' | 2:AA:920:G:H8 | 2.02 | 0.43 |
| 2:AA:930:U:H3' | 2:AA:931:G:O4' | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:932:G:H4' | 23:AX:24:LYS:HD3 | 2.01 | 0.43 |
| 2:AA:957:A:N6 | 2:AA:959:A:C4 | 2.86 | 0.43 |
| 2:AA:1001:A:N7 | 2:AA:1002:G:C5 | 2.87 | 0.43 |
| 2:AA:1002:G:N1 | 2:AA:1153:C:C4 | 2.77 | 0.43 |
| 2:AA:1011:G:O6 | 2:AA:1151:G:C6 | 2.71 | 0.43 |
| 2:AA:1027:A:O2' | 2:AA:1028:A:C5' | 2.67 | 0.43 |
| 2:AA:1029:A:C6 | 2:AA:1125:G:N2 | 2.87 | 0.43 |
| 2:AA:1029:A:N6 | 2:AA:1125:G:N2 | 2.67 | 0.43 |
| 2:AA:1127:A:C5 | 2:AA:2518:A:H2 | 2.37 | 0.43 |
| 2:AA:1155:A:HO2' | 2:AA:1156:A:H8 | 1.67 | 0.43 |
| 2:AA:1199:U:N3 | 2:AA:1200:C:C5 | 2.87 | 0.43 |
| 2:AA:1210:A:C8 | 2:AA:1237:A:N6 | 2.87 | 0.43 |
| 2:AA:1263:U:C6 | 2:AA:1264:G:C2 | 3.07 | 0.43 |
| 2:AA:1296:G:N1 | 2:AA:1297:C:C4 | 2.86 | 0.43 |
| 2:AA:1317:A:C6 | 2:AA:1318:C:C4 | 3.07 | 0.43 |
| 2:AA:1364:G:C8 | 28:A4:3:LYS:CE | 3.02 | 0.43 |
| 2:AA:1422:G:C2' | 2:AA:1423:G:H8 | 2.10 | 0.43 |
| 2:AA:1464:C:C2 | 2:AA:1465:G:N7 | 2.87 | 0.43 |
| 2:AA:1543:A:C8 | 2:AA:1544:C:C2 | 3.07 | 0.43 |
| 2:AA:1630:G:O6 | 2:AA:630(A):C:N4 | 2.52 | 0.43 |
| 2:AA:1674:G:C6 | 2:AA:1989:G:O6 | 2.72 | 0.43 |
| 2:AA:1725:G:N3 | 2:AA:1725:G:H2' | 2.34 | 0.43 |
| 2:AA:1819:A:O4' | 2:AA:1821:A:C8 | 2.72 | 0.43 |
| 2:AA:1856:G:O6 | 2:AA:1886:C:N3 | 2.51 | 0.43 |
| 2:AA:1879:C:C4 | 2:AA:1880:C:H5 | 2.36 | 0.43 |
| 2:AA:2020:A:OP1 | 25:A1:31:GLN:NE2 | 2.42 | 0.43 |
| 2:AA:2044:C:O2 | 2:AA:2044:C:H2' | 2.17 | 0.43 |
| 2:AA:2052:G:H2' | 2:AA:2053:G:C8 | 2.41 | 0.43 |
| 2:AA:2176:A:C4 | 2:AA:2177:C:C5 | 3.07 | 0.43 |
| 2:AA:2226:C:C2' | 2:AA:2227:A:C4' | 2.82 | 0.43 |
| 2:AA:2228:G:O6 | 2:AA:2229:C:C2 | 2.71 | 0.43 |
| 2:AA:2262:U:H4' | 2:AA:2328:A:C2 | 2.52 | 0.43 |
| 2:AA:2274:A:C5 | 2:AA:2276:G:C8 | 3.06 | 0.43 |
| 2:AA:2276:G:OP2 | 15:AP:104:PRO:CD | 2.52 | 0.43 |
| 2:AA:2332:U:O4' | 2:AA:2336:A:N6 | 2.52 | 0.43 |
| 2:AA:2519:U:O4 | 2:AA:2542:A:C8 | 2.72 | 0.43 |
| 2:AA:2536:G:C5 | 2:AA:2537:U:C5 | 3.07 | 0.43 |
| 2:AA:2562:U:O2 | 2:AA:2562:U:H2' | 2.19 | 0.43 |
| 2:AA:2632:A:H2' | 2:AA:2632:A:N3 | 2.34 | 0.43 |
| 2:AA:2714:G:O2' | 2:AA:2715:C:H5' | 2.19 | 0.43 |
| 2:AA:2717:G:N3 | 2:AA:2718:G:C8 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2749:A:C6 | 2:AA:2750:A:N7 | 2.85 | 0.43 |
| 2:AA:2765:A:C5' | 2:AA:2766:G:OP2 | 2.63 | 0.43 |
| 2:AA:2820:A:H62 | 5:AE:304:ASP:HB3 | 1.83 | 0.43 |
| 2:AA:2835:A:H61 | 2:AA:2878:U:C3' | 2.32 | 0.43 |
| 2:AA:2866:U:C2' | 2:AA:2867:G:O5' | 2.66 | 0.43 |
| 3:AC:131:LEU:HB3 | 3:AC:136:LEU:CB | 2.45 | 0.43 |
| 5:AE:39:GLN:OE1 | 5:AE:174:LEU:CD2 | 2.55 | 0.43 |
| 5:AE:45:LYS:HB2 | 5:AE:305:LYS:HA | 1.95 | 0.43 |
| 5:AE:200:ASP:O | 5:AE:201:VAL:CG2 | 2.66 | 0.43 |
| 5:AE:201:VAL:HA | 5:AE:310:PHE:O | 2.19 | 0.43 |
| 6:AF:35:VAL:O | 6:AF:38:ALA:CB | 2.61 | 0.43 |
| 6:AF:154:VAL:O | 6:AF:158:GLU:CD | 2.56 | 0.43 |
| 6:AF:225:PRO:CB | 6:AF:231:ARG:HH21 | 2.31 | 0.43 |
| 6:AF:235:PHE:HB3 | 6:AF:239:ALA:HB1 | 2.01 | 0.43 |
| 6:AF:242:GLU:O | 6:AF:245:GLU:N | 2.51 | 0.43 |
| 7:AG:13:MET:O | 7:AG:14:ARG:C | 2.57 | 0.43 |
| 7:AG:93:LEU:HD12 | 7:AG:94:ALA:CA | 2.42 | 0.43 |
| 7:AG:136:ARG:HB3 | 7:AG:137:PRO:HD2 | 1.99 | 0.43 |
| 8:AH:147:ILE:HA | 8:AH:150:VAL:HB | 2.00 | 0.43 |
| 9:AJ:97:SER:HB2 | 9:AJ:98:PRO:HD2 | 2.01 | 0.43 |
| 10:AK:5:PHE:HE1 | 10:AK:16:GLY:N | 2.16 | 0.43 |
| 11:AL:36:MET:CE | 11:AL:40:LYS:HE3 | 2.49 | 0.43 |
| 11:AL:79:LEU:CD1 | 11:AL:137:ILE:HG21 | 2.48 | 0.43 |
| 12:AM:108:PRO:O | 12:AM:109:TYR:CG | 2.72 | 0.43 |
| 13:AN:17:ARG:NH1 | 13:AN:54:LYS:NZ | 2.66 | 0.43 |
| 13:AN:31:ARG:HB2 | 13:AN:32:TYR:CZ | 2.50 | 0.43 |
| 15:AP:31:PHE:HZ | 15:AP:88:PHE:CE2 | 2.36 | 0.43 |
| 15:AP:49:VAL:HG12 | 15:AP:50:VAL:N | 2.33 | 0.43 |
| 15:AP:134:PHE:O | 15:AP:135:ALA:C | 2.57 | 0.43 |
| 16:AQ:86:LEU:HA | 16:AQ:121:GLY:O | 2.19 | 0.43 |
| 18:AS:10:VAL:CB | 18:AS:101:SER:O | 2.58 | 0.43 |
| 19:AT:73:ASP:C | 19:AT:75:GLN:CD | 2.78 | 0.43 |
| 21:AV:51:LEU:HD23 | 21:AV:52:PHE:O | 2.18 | 0.43 |
| 21:AV:73:LYS:HA | 21:AV:73:LYS:HD3 | 1.78 | 0.43 |
| 21:AV:123:VAL:HB | 21:AV:159:THR:CG2 | 2.49 | 0.43 |
| 22:AW:13:PRO:N | 22:AW:16:ARG:CZ | 2.82 | 0.43 |
| 23:AX:8:LEU:HD12 | 23:AX:54:VAL:HG12 | 2.00 | 0.43 |
| 23:AX:8:LEU:HG | 23:AX:31:LEU:HD23 | 2.00 | 0.43 |
| 23:AX:19:GLN:CD | 23:AX:19:GLN:N | 2.69 | 0.43 |
| 25:A1:48:ARG:O | 25:A1:52:ASN:OD1 | 2.37 | 0.43 |
| 26:A2:40:VAL:CG1 | 26:A2:55:THR:CG2 | 2.96 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 27:A3:30:VAL:CG2 | 27:A3:62:LEU:HB3 | 2.46 | 0.43 |
| 31:A7:9:ASN:O | 31:A7:10:ARG:O | 2.37 | 0.43 |
| 31:A7:38:GLY:O | 31:A7:40:HIS:ND1 | 2.51 | 0.43 |
| 31:A7:40:HIS:N | 31:A7:40:HIS:ND1 | 2.66 | 0.43 |
| 32:A8:26:LYS:HB2 | 32:A8:44:LYS:HG2 | 2.00 | 0.43 |
| 34:BA:62:U:OP1 | 34:BA:386:C:H5' | 2.18 | 0.43 |
| 34:BA:68:G:H2' | 34:BA:69:G:O5' | 2.19 | 0.43 |
| 34:BA:96:G:N2 | 34:BA:97:G:C4 | 2.87 | 0.43 |
| 34:BA:108:G:O6 | 55:BW:15:ARG:CD | 2.65 | 0.43 |
| 34:BA:119:A:O2' | 34:BA:120:A:OP2 | 2.29 | 0.43 |
| 34:BA:297:G:O2' | 34:BA:299:G:N7 | 2.41 | 0.43 |
| 34:BA:427:U:H5' | 39:BG:41:GLY:HA2 | 2.01 | 0.43 |
| 34:BA:491:G:C8 | 34:BA:491:G:O5' | 2.69 | 0.43 |
| 34:BA:528:C:C4' | 34:BA:535:A:C6 | 3.01 | 0.43 |
| 34:BA:602:A:C2 | 34:BA:637:G:C5 | 3.07 | 0.43 |
| 34:BA:665:A:C1' | 34:BA:733:A:H1' | 2.48 | 0.43 |
| 34:BA:723:U:C2 | 34:BA:723:U:C3' | 3.02 | 0.43 |
| 34:BA:752:G:O2' | 34:BA:753:A:P | 2.77 | 0.43 |
| 34:BA:801:U:O2 | 34:BA:801:U:C2' | 2.62 | 0.43 |
| 34:BA:815:A:C2 | 34:BA:1529:G:N3 | 2.87 | 0.43 |
| 34:BA:937:A:N6 | 34:BA:938:A:N6 | 2.67 | 0.43 |
| 34:BA:956:U:C2' | 34:BA:957:U:O5' | 2.67 | 0.43 |
| 34:BA:1027:C:C4 | 34:BA:1028:C:C4 | 3.07 | 0.43 |
| 34:BA:1142:G:C2 | 34:BA:1143:G:H1' | 2.54 | 0.43 |
| 34:BA:1231:G:OP1 | 44:BL:126:SER:HB2 | 2.18 | 0.43 |
| 34:BA:1362:C:C5' | 34:BA:1363:A:O5' | 2.67 | 0.43 |
| 34:BA:1410:G:N1 | 34:BA:1490:C:N4 | 2.35 | 0.43 |
| 34:BA:1414:U:O2' | 34:BA:1415:G:O5' | 2.36 | 0.43 |
| 34:BA:1435:G:C2 | 34:BA:1436:U:O4 | 2.72 | 0.43 |
| 34:BA:1459:C:OP1 | 55:BW:27:LYS:HD3 | 2.18 | 0.43 |
| 34:BA:1503:A:C4 | 36:B1:57:A:C6 | 3.07 | 0.43 |
| 34:BA:1506:U:OP1 | 34:BA:1506:U:O4' | 2.37 | 0.43 |
| 35:BB:6:U:O2 | 35:BB:68:U:C2 | 2.69 | 0.43 |
| 35:BB:15:G:C8 | 35:BB:15:G:OP2 | 2.72 | 0.43 |
| 35:BC:35:A:C2 | 36:B1:62:G:C2 | 3.07 | 0.43 |
| 36:B1:24:A:O5' | 36:B1:24:A:H8 | 2.02 | 0.43 |
| 36:B1:34:U:O2' | 36:B1:35:C:H5' | 2.19 | 0.43 |
| 36:B1:60:A:C2' | 36:B1:61:U:O5' | 2.67 | 0.43 |
| 37:BE:120:ALA:O | 37:BE:121:LEU:C | 2.58 | 0.43 |
| 37:BE:182:ILE:HA | 37:BE:183:PRO:HD3 | 1.91 | 0.43 |
| 37:BE:197:VAL:CG1 | 37:BE:198:ASP:N | 2.82 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:17:ASP:O | 38:BF:18:TRP:C | 2.57 | 0.43 |
| 38:BF:50:ALA:O | 38:BF:70:VAL:HG11 | 2.19 | 0.43 |
| 39:BG:121:VAL:HB | 39:BG:136:PRO:HG3 | 2.01 | 0.43 |
| 39:BG:144:ASP:O | 39:BG:184:LYS:CA | 2.43 | 0.43 |
| 41:BI:6:VAL:HG13 | 41:BI:63:TYR:N | 2.31 | 0.43 |
| 41:BI:16:GLN:OE1 | 41:BI:16:GLN:HA | 2.18 | 0.43 |
| 41:BI:26:ILE:O | 41:BI:29:ALA:HB3 | 2.19 | 0.43 |
| 42:BJ:142:GLU:O | 42:BJ:145:ALA:N | 2.52 | 0.43 |
| 43:BK:44:PHE:HD1 | 43:BK:79:VAL:CG1 | 2.31 | 0.43 |
| 43:BK:86:ILE:HG21 | 43:BK:133:LEU:HB2 | 2.01 | 0.43 |
| 44:BL:15:ALA:CB | 44:BL:76:ALA:C | 2.87 | 0.43 |
| 44:BL:16:ARG:C | 44:BL:63:ILE:HG23 | 2.36 | 0.43 |
| 45:BM:51:ARG:CA | 45:BM:59:SER:HB3 | 2.48 | 0.43 |
| 46:BN:51:LYS:O | 46:BN:52:GLY:C | 2.55 | 0.43 |
| 46:BN:95:ILE:CG2 | 46:BN:108:ILE:HD11 | 2.37 | 0.43 |
| 47:BO:27:LEU:C | 47:BO:29:GLY:H | 2.14 | 0.43 |
| 47:BO:41:ARG:HH11 | 47:BO:41:ARG:HB3 | 1.83 | 0.43 |
| 47:BO:123:LYS:O | 47:BO:125:PRO:CD | 2.66 | 0.43 |
| 48:BP:19:LEU:HD12 | 48:BP:20:THR:H | 1.82 | 0.43 |
| 48:BP:102:ARG:O | 48:BP:103:THR:HG23 | 2.18 | 0.43 |
| 52:BT:53:LEU:HG | 52:BT:54:GLY:N | 2.32 | 0.43 |
| 54:BV:51:VAL:HB | 54:BV:58:VAL:CG2 | 2.49 | 0.43 |
| 55:BW:66:ALA:HB1 | 55:BW:72:LEU:HB2 | 1.98 | 0.43 |
| 2:AA:32:C:C4 | 2:AA:33:U:O4 | 2.71 | 0.43 |
| 2:AA:70:G:OP1 | 2:AA:112:U:C2 | 2.71 | 0.43 |
| 2:AA:200:U:H5" | 2:AA:201:C:OP2 | 2.19 | 0.43 |
| 2:AA:226:G:O2' | 2:AA:227:A:C5' | 2.66 | 0.43 |
| 2:AA:270(D):C:H42 | 2:AA:270(V):G:H1 | 1.67 | 0.43 |
| 2:AA:344:G:H2' | 2:AA:345:A:N9 | 2.33 | 0.43 |
| 2:AA:422:A:O2' | 2:AA:423:A:O5' | 2.37 | 0.43 |
| 2:AA:447:A:N7 | 2:AA:473:G:C6 | 2.87 | 0.43 |
| 2:AA:507:A:H1' | 2:AA:509:C:C4 | 2.54 | 0.43 |
| 2:AA:589:C:H42 | 2:AA:668:G:H1 | 0.59 | 0.43 |
| 2:AA:604:G:C8 | 2:AA:605:C:H5 | 2.37 | 0.43 |
| 2:AA:609(A):G:C8 | 2:AA:610:C:C5 | 3.06 | 0.43 |
| 2:AA:631:A:C8 | 2:AA:632:A:C8 | 3.07 | 0.43 |
| 2:AA:632:A:H2' | 2:AA:633:A:C8 | 2.54 | 0.43 |
| 2:AA:718:A:H3' | 2:AA:719:C:H6 | 1.84 | 0.43 |
| 2:AA:840:C:H4' | 2:AA:1192:G:H1' | 2.01 | 0.43 |
| 2:AA:969:U:C2' | 2:AA:970:C:H5' | 2.49 | 0.43 |
| 2:AA:1006:C:O4' | 12:AM:24:SER:HB2 | 2.18 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1025:G:N9 | 2:AA:1134:G:H4' | 2.33 | 0.43 |
| 2:AA:1050:A:C6 | 2:AA:2751:G:C5 | 3.06 | 0.43 |
| 2:AA:1106:G:H2' | 2:AA:1107:G:C8 | 2.54 | 0.43 |
| 2:AA:1120:G:C6 | 2:AA:1121:C:C5 | 3.07 | 0.43 |
| 2:AA:1130:U:H6 | 2:AA:1130:U:O5' | 2.01 | 0.43 |
| 2:AA:1137:G:C5 | 2:AA:1138:G:H1' | 2.54 | 0.43 |
| 2:AA:1148:A:C2 | 2:AA:1149:G:C5 | 3.07 | 0.43 |
| 2:AA:1164:G:C4 | 2:AA:1165:U:C6 | 3.07 | 0.43 |
| 2:AA:1174:A:N1 | 2:AA:1176:G:C5' | 2.82 | 0.43 |
| 2:AA:1266:G:H5" | 18:AS:15:ARG:NH2 | 2.34 | 0.43 |
| 2:AA:1278:A:N6 | 2:AA:1292:U:H3 | 2.17 | 0.43 |
| 2:AA:1395:A:P | 2:AA:1603:A:C5' | 3.05 | 0.43 |
| 2:AA:1489:U:H4' | 2:AA:1490:A:OP2 | 2.19 | 0.43 |
| 2:AA:1580:A:H2' | 2:AA:1581:G:C1' | 2.48 | 0.43 |
| 2:AA:1612:C:C2 | 31:A7:3:ARG:CZ | 3.01 | 0.43 |
| 2:AA:1635:G:C8 | 2:AA:1635:G:O5' | 2.72 | 0.43 |
| 2:AA:1856:G:C5 | 2:AA:1857:G:C2 | 3.07 | 0.43 |
| 2:AA:2027:G:C5 | 2:AA:2028:U:C5 | 3.07 | 0.43 |
| 2:AA:2036:C:H2' | 2:AA:2037:G:O5' | 2.19 | 0.43 |
| 2:AA:2055:C:H5' | 2:AA:2056:G:OP1 | 2.18 | 0.43 |
| 2:AA:2230:G:C6 | 2:AA:2231:C:N4 | 2.87 | 0.43 |
| 2:AA:2248:C:OP2 | 2:AA:2249:U:H5 | 2.02 | 0.43 |
| 2:AA:2255:G:C6 | 2:AA:2256:G:C5 | 3.07 | 0.43 |
| 2:AA:2313:C:O2' | 2:AA:2314:C:C5' | 2.66 | 0.43 |
| 2:AA:2392:A:C8 | 2:AA:2393:A:C8 | 3.07 | 0.43 |
| 2:AA:2443:C:C5 | 2:AA:2444:G:N7 | 2.87 | 0.43 |
| 2:AA:2576:G:H4' | 2:AA:2577:A:H5' | 1.97 | 0.43 |
| 2:AA:2619:C:C4' | 5:AE:246:VAL:HG12 | 2.49 | 0.43 |
| 2:AA:2652:C:C4 | 2:AA:2653:U:C4 | 3.07 | 0.43 |
| 2:AA:2727:G:O2' | 13:AN:70:ARG:CZ | 2.66 | 0.43 |
| 2:AA:2810:A:C8 | 2:AA:2810:A:C3' | 3.02 | 0.43 |
| 2:AA:2862:G:C2 | 2:AA:2863:C:C4 | 3.07 | 0.43 |
| 2:AA:2882:A:H5" | 24:A0:98:LEU:CD2 | 2.41 | 0.43 |
| 2:AA:2889:C:O2 | 2:AA:2891:G:C1' | 2.67 | 0.43 |
| 4:AD:87:SER:OG | 4:AD:87:SER:O | 2.35 | 0.43 |
| 4:AD:208:GLY:HA2 | 4:AD:210:LYS:HZ3 | 1.83 | 0.43 |
| 4:AD:211:HIS:HD1 | 4:AD:212:HIS:CD2 | 2.37 | 0.43 |
| 5:AE:40:GLY:C | 5:AE:41:PHE:CG | 2.92 | 0.43 |
| 5:AE:43:GLY:O | 5:AE:309:PRO:O | 2.36 | 0.43 |
| 5:AE:44:TYR:CE2 | 5:AE:308:VAL:HG22 | 2.54 | 0.43 |
| 5:AE:61:PRO:CA | 5:AE:69:PRO:HA | 2.49 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:201:VAL:C | 5:AE:266:LYS:HZ3 | 2.20 | 0.43 |
| 5:AE:216:ARG:NH1 | 5:AE:253:GLN:C | 2.72 | 0.43 |
| 5:AE:300:VAL:O | 5:AE:300:VAL:HG12 | 2.19 | 0.43 |
| 6:AF:84:VAL:C | 6:AF:86:GLY:N | 2.63 | 0.43 |
| 6:AF:153:VAL:O | 6:AF:155:SER:N | 2.52 | 0.43 |
| 7:AG:24:HIS:CD2 | 7:AG:72:LYS:HB3 | 2.54 | 0.43 |
| 7:AG:44:ILE:HG13 | 7:AG:44:ILE:H | 1.68 | 0.43 |
| 9:AJ:25:LEU:HA | 9:AJ:28:LYS:HD2 | 2.01 | 0.43 |
| 9:AJ:115:LYS:NZ | 9:AJ:127:LEU:HB3 | 2.34 | 0.43 |
| 10:AK:66:LYS:HG2 | 10:AK:69:LYS:HZ2 | 1.83 | 0.43 |
| 10:AK:115:ILE:HG21 | 10:AK:129:VAL:HG11 | 2.01 | 0.43 |
| 11:AL:116:LEU:HD22 | 11:AL:117:ASN:H | 1.84 | 0.43 |
| 12:AM:54:VAL:O | 12:AM:55:GLU:C | 2.56 | 0.43 |
| 13:AN:66:LYS:HZ1 | 13:AN:82:ASN:ND2 | 2.17 | 0.43 |
| 14:AO:71:GLU:O | 14:AO:72:ASN:C | 2.56 | 0.43 |
| 14:AO:94:ARG:HH21 | 14:AO:118:LEU:CB | 2.20 | 0.43 |
| 14:AO:132:LYS:O | 14:AO:135:GLY:N | 2.52 | 0.43 |
| 17:AR:49:LEU:HD21 | 17:AR:54:THR:HG22 | 1.91 | 0.43 |
| 18:AS:27:LYS:HB3 | 18:AS:31:GLU:OE2 | 2.19 | 0.43 |
| 18:AS:36:LEU:O | 18:AS:39:THR:HG22 | 2.18 | 0.43 |
| 19:AT:18:MET:HE1 | 19:AT:25:GLN:CB | 2.49 | 0.43 |
| 21:AV:6:LYS:HZ2 | 21:AV:30:VAL:HG11 | 1.82 | 0.43 |
| 21:AV:94:VAL:HG13 | 21:AV:130:ILE:HG21 | 1.95 | 0.43 |
| 21:AV:151:ASP:HB3 | 21:AV:153:LYS:HZ2 | 1.83 | 0.43 |
| 21:AV:176:LEU:HD23 | 21:AV:177:THR:N | 2.34 | 0.43 |
| 23:AX:13:ILE:H | 23:AX:13:ILE:CD1 | 2.13 | 0.43 |
| 23:AX:26:LEU:CD1 | 23:AX:28:LEU:HD11 | 2.48 | 0.43 |
| 23:AX:30:ARG:CZ | 23:AX:33:GLN:HB2 | 2.49 | 0.43 |
| 24:A0:56:LYS:HB3 | 24:A0:56:LYS:HE3 | 1.60 | 0.43 |
| 28:A4:7:PRO:CB | 28:A4:60:ASN:HB3 | 2.49 | 0.43 |
| 28:A4:33:VAL:HG12 | 28:A4:34:ASP:H | 1.76 | 0.43 |
| 30:A6:17:GLY:O | 30:A6:18:THR:CB | 2.67 | 0.43 |
| 33:A9:9:LYS:O | 33:A9:10:MET:SD | 2.77 | 0.43 |
| 34:BA:37:U:OP2 | 47:BO:123:LYS:NZ | 2.27 | 0.43 |
| 34:BA:140:A:N1 | 34:BA:224:C:C4 | 2.87 | 0.43 |
| 34:BA:230:G:O2' | 34:BA:231:G:H5' | 2.19 | 0.43 |
| 34:BA:251:G:C2 | 34:BA:266:G:C6 | 3.07 | 0.43 |
| 34:BA:292:G:C2 | 34:BA:309:G:C4 | 3.07 | 0.43 |
| 34:BA:377:G:H1 | 34:BA:386:C:N4 | 2.17 | 0.43 |
| 34:BA:492:G:N7 | 34:BA:494:G:N7 | 2.67 | 0.43 |
| 34:BA:523:A:HO2' | 34:BA:524:G:H8 | 1.66 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:550:G:C6 | 34:BA:551:U:O4 | 2.71 | 0.43 |
| 34:BA:658:G:C4 | 34:BA:659:U:C6 | 3.07 | 0.43 |
| 34:BA:684:A:HO2' | 46:BN:39:PRO:HG2 | 1.84 | 0.43 |
| 34:BA:685:G:N2 | 34:BA:686:U:C5 | 2.87 | 0.43 |
| 34:BA:730:G:H2' | 34:BA:731:G:O5' | 2.18 | 0.43 |
| 34:BA:785:G:C6 | 34:BA:798:G:C6 | 3.07 | 0.43 |
| 34:BA:945:G:C6 | 34:BA:1337:G:C5 | 3.07 | 0.43 |
| 34:BA:975:A:O2' | 34:BA:976:G:P | 2.77 | 0.43 |
| 34:BA:1160:G:N2 | 34:BA:1161:C:N1 | 2.67 | 0.43 |
| 34:BA:1180:A:O2' | 34:BA:1181:G:H5' | 2.19 | 0.43 |
| 34:BA:1181:G:C6 | 34:BA:1182:G:N2 | 2.87 | 0.43 |
| 34:BA:1239:A:H1' | 34:BA:1241:G:C8 | 2.54 | 0.43 |
| 34:BA:1256:A:H61 | 34:BA:1278:U:C1' | 2.32 | 0.43 |
| 34:BA:1259:C:N4 | 34:BA:1276:G:N1 | 2.48 | 0.43 |
| 34:BA:1296:C:O4' | 34:BA:1302:U:C4 | 2.72 | 0.43 |
| 34:BA:1333:A:H2' | 34:BA:1334:G:O4' | 2.19 | 0.43 |
| 34:BA:1399:C:O2 | 34:BA:1401:G:C8 | 2.72 | 0.43 |
| 34:BA:1472:U:C2 | 34:BA:1473:A:C8 | 3.07 | 0.43 |
| 34:BA:1488:G:N3 | 34:BA:1489:G:C8 | 2.87 | 0.43 |
| 34:BA:1492:A:N7 | 34:BA:1493:A:C4 | 2.87 | 0.43 |
| 35:BB:64:A:C4 | 35:BB:65:G:N7 | 2.87 | 0.43 |
| 35:BB:64:A:N1 | 35:BB:65:G:C5 | 2.87 | 0.43 |
| 35:BC:56:C:N3 | 35:BC:57:G:N3 | 2.67 | 0.43 |
| 36:B1:50:G:C6 | 36:B1:51:G:C6 | 3.06 | 0.43 |
| 37:BE:45:GLN:O | 37:BE:48:MET:N | 2.49 | 0.43 |
| 37:BE:74:LYS:NZ | 37:BE:206:ASP:OD1 | 2.52 | 0.43 |
| 37:BE:107:THR:C | 37:BE:109:SER:N | 2.70 | 0.43 |
| 38:BF:147:LYS:HG3 | 38:BF:205:GLY:N | 2.34 | 0.43 |
| 38:BF:205:GLY:O | 38:BF:206:GLU:CB | 2.67 | 0.43 |
| 39:BG:3:ARG:NE | 39:BG:71:SER:H | 2.17 | 0.43 |
| 39:BG:8:VAL:O | 39:BG:11:LEU:HG | 2.19 | 0.43 |
| 41:BI:48:LEU:HD21 | 41:BI:58:GLY:N | 2.34 | 0.43 |
| 44:BL:50:LEU:O | 44:BL:51:ARG:C | 2.55 | 0.43 |
| 46:BN:60:ALA:C | 46:BN:62:GLN:N | 2.70 | 0.43 |
| 47:BO:75:HIS:CG | 47:BO:77:LEU:HD12 | 2.54 | 0.43 |
| 51:BS:45:THR:HB | 51:BS:46:PRO:CD | 2.42 | 0.43 |
| 51:BS:71:ARG:HB3 | 51:BS:71:ARG:NH1 | 2.34 | 0.43 |
| 52:BT:27:PHE:CE2 | 52:BT:36:ILE:HD11 | 2.54 | 0.43 |
| 52:BT:40:LYS:HB3 | 52:BT:42:TYR:CE1 | 2.52 | 0.43 |
| 52:BT:54:GLY:O | 52:BT:55:ASP:C | 2.57 | 0.43 |
| 52:BT:96:GLN:HE22 | 52:BT:97:SER:CB | 2.32 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BU:34:TYR:CD2 | 53:BU:34:TYR:N | 2.87 | 0.43 |
| 54:BV:28:LYS:HG2 | 54:BV:29:ARG:N | 2.32 | 0.43 |
| 54:BV:30:LEU:HD23 | 54:BV:31:ILE:H | 1.80 | 0.43 |
| 55:BW:62:LEU:O | 55:BW:63:ILE:C | 2.56 | 0.43 |
| 55:BW:62:LEU:O | 55:BW:65:LYS:HG2 | 2.19 | 0.43 |
| 55:BW:72:LEU:CD2 | 55:BW:76:ALA:CB | 2.95 | 0.43 |
| 1:AB:65:C:C6 | 1:AB:108:C:N4 | 2.87 | 0.42 |
| 2:AA:59:U:H6 | 2:AA:59:U:C5' | 2.25 | 0.42 |
| 2:AA:72:U:H4' | 22:AW:57:LYS:NZ | 2.35 | 0.42 |
| 2:AA:121:G:O5' | 2:AA:121:G:H8 | 2.02 | 0.42 |
| 2:AA:135:G:N1 | 2:AA:144:C:C4 | 2.80 | 0.42 |
| 2:AA:138:G:C3' | 2:AA:138:G:C4 | 2.99 | 0.42 |
| 2:AA:194:G:C6 | 2:AA:195:A:C6 | 3.06 | 0.42 |
| 2:AA:243:U:OP2 | 2:AA:254:G:N1 | 2.36 | 0.42 |
| 2:AA:270(R):G:N1 | 2:AA:270(S):G:C6 | 2.87 | 0.42 |
| 2:AA:270(U):C:H2' | 2:AA:270(V):G:C8 | 2.54 | 0.42 |
| 2:AA:279:C:C6 | 2:AA:280:C:N4 | 2.85 | 0.42 |
| 2:AA:285:C:N3 | 2:AA:286:C:N4 | 2.67 | 0.42 |
| 2:AA:295:G:N2 | 2:AA:296:C:C2 | 2.87 | 0.42 |
| 2:AA:333:G:N1 | 2:AA:334:C:C4 | 2.88 | 0.42 |
| 2:AA:526:A:H5" | 2:AA:527:C:P | 2.59 | 0.42 |
| 2:AA:533:G:N1 | 2:AA:560:C:N4 | 1.92 | 0.42 |
| 2:AA:548:A:H5' | 2:AA:549:G:N7 | 2.30 | 0.42 |
| 2:AA:561:G:C2' | 25:A1:45:TYR:OH | 2.67 | 0.42 |
| 2:AA:579:G:C2 | 2:AA:580:C:C5 | 3.07 | 0.42 |
| 2:AA:627:A:C5 | 2:AA:637:A:H1' | 2.47 | 0.42 |
| 2:AA:653:A:H3' | 2:AA:654:A:C4' | 2.49 | 0.42 |
| 2:AA:839:U:H4' | 2:AA:1191:G:N2 | 2.34 | 0.42 |
| 2:AA:878:A:C4 | 2:AA:879:G:N7 | 2.87 | 0.42 |
| 2:AA:880:G:O2' | 2:AA:881:G:H5' | 2.18 | 0.42 |
| 2:AA:976:C:O2 | 2:AA:976:C:C2' | 2.67 | 0.42 |
| 2:AA:1022:G:O6 | 12:AM:47:THR:CB | 2.66 | 0.42 |
| 2:AA:1122:G:N3 | 2:AA:1123:C:C5 | 2.87 | 0.42 |
| 2:AA:1139:G:H2' | 12:AM:47:THR:HG23 | 2.00 | 0.42 |
| 2:AA:1157:G:C6 | 2:AA:1158:C:C4 | 3.07 | 0.42 |
| 2:AA:1164:G:O2' | 2:AA:1165:U:C5' | 2.67 | 0.42 |
| 2:AA:1278:A:C2 | 2:AA:1279:G:C4 | 3.07 | 0.42 |
| 2:AA:1294:U:H5' | 2:AA:1295:C:OP2 | 2.19 | 0.42 |
| 2:AA:1429:G:O2' | 2:AA:1430:C:O4' | 2.33 | 0.42 |
| 2:AA:1544:C:H2' | 2:AA:1545:A:O4' | 2.19 | 0.42 |
| 2:AA:1690:A:N3 | 2:AA:1691:C:O4' | 2.52 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1693:U:C4' | 2:AA:1694:C:OP2 | 2.67 | 0.42 |
| 2:AA:1803:A:N7 | 2:AA:1804:C:H5 | 2.15 | 0.42 |
| 2:AA:1805:U:C2 | 2:AA:1813:G:N2 | 2.86 | 0.42 |
| 2:AA:1818:U:C3' | 4:AD:155:ARG:HG3 | 2.46 | 0.42 |
| 2:AA:1829:A:C3' | 2:AA:1830:C:H5' | 2.49 | 0.42 |
| 2:AA:1840:G:C2' | 2:AA:1841:U:C5' | 2.97 | 0.42 |
| 2:AA:1911:U:O2' | 2:AA:1912:A:C5' | 2.48 | 0.42 |
| 2:AA:2007:C:H4' | 2:AA:2824:C:O2' | 2.19 | 0.42 |
| 2:AA:2013:A:C8 | 2:AA:2013:A:C3' | 3.02 | 0.42 |
| 2:AA:2034:U:O2 | 2:AA:2034:U:C2' | 2.66 | 0.42 |
| 2:AA:2069:G:N2 | 2:AA:2070:G:C1' | 2.81 | 0.42 |
| 2:AA:2102:U:N3 | 2:AA:2103:C:C4 | 2.87 | 0.42 |
| 2:AA:2103:C:C2 | 2:AA:2187:G:N1 | 2.87 | 0.42 |
| 2:AA:2197:U:C6 | 2:AA:2224:G:C2 | 3.07 | 0.42 |
| 2:AA:2205:C:O2' | 2:AA:2228:G:N2 | 2.52 | 0.42 |
| 2:AA:2230:G:C5 | 2:AA:2231:C:C5 | 3.07 | 0.42 |
| 2:AA:2252:G:H2' | 2:AA:2253:G:O5' | 2.18 | 0.42 |
| 2:AA:2276:G:OP2 | 15:AP:103:ALA:HA | 2.19 | 0.42 |
| 2:AA:2334:G:C2' | 2:AA:2335:A:H5' | 2.27 | 0.42 |
| 2:AA:2380:C:C4 | 2:AA:2381:C:C5 | 3.07 | 0.42 |
| 2:AA:2476:A:C8 | 2:AA:2477:C:C5 | 3.04 | 0.42 |
| 2:AA:2556:C:C2' | 2:AA:2557:G:H5' | 2.49 | 0.42 |
| 2:AA:2628:C:C2' | 2:AA:2781:A:H2' | 2.49 | 0.42 |
| 2:AA:2680:C:H5' | 5:AE:302:GLY:CA | 2.46 | 0.42 |
| 2:AA:2791:C:O2 | 2:AA:2805:G:C2 | 2.71 | 0.42 |
| 2:AA:2807:G:C4 | 2:AA:2808:U:H5 | 2.37 | 0.42 |
| 3:AC:96:GLY:C | 3:AC:98:GLU:H | 2.23 | 0.42 |
| 3:AC:120:MET:HE3 | 3:AC:123:VAL:HB | 2.00 | 0.42 |
| 4:AD:60:GLN:O | 4:AD:62:ARG:CD | 2.55 | 0.42 |
| 4:AD:100:LYS:O | 4:AD:101:ARG:HG3 | 2.19 | 0.42 |
| 4:AD:145:LEU:CB | 4:AD:152:GLN:HG2 | 2.48 | 0.42 |
| 4:AD:167:GLU:O | 4:AD:170:TYR:CG | 2.72 | 0.42 |
| 4:AD:174:ARG:HE | 4:AD:180:VAL:HG21 | 1.78 | 0.42 |
| 4:AD:222:PRO:O | 4:AD:224:VAL:HG23 | 2.19 | 0.42 |
| 5:AE:44:TYR:HA | 5:AE:309:PRO:HG3 | 1.97 | 0.42 |
| 5:AE:104:PHE:CD2 | 5:AE:104:PHE:N | 2.86 | 0.42 |
| 5:AE:174:LEU:O | 5:AE:177:ALA:CA | 2.67 | 0.42 |
| 5:AE:308:VAL:CG1 | 5:AE:310:PHE:HE1 | 2.27 | 0.42 |
| 6:AF:1:MET:O | 6:AF:3:ALA:N | 2.52 | 0.42 |
| 6:AF:140:VAL:HB | 6:AF:235:PHE:C | 2.39 | 0.42 |
| 6:AF:155:SER:O | 6:AF:158:GLU:N | 2.50 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:167:ASP:C | 6:AF:168:ARG:HG3 | 2.40 | 0.42 |
| 7:AG:87:ALA:O | 7:AG:89:PRO:N | 2.53 | 0.42 |
| 7:AG:93:LEU:CG | 7:AG:94:ALA:H | 2.26 | 0.42 |
| 7:AG:105:SER:CB | 7:AG:131:THR:HG22 | 2.48 | 0.42 |
| 8:AH:8:ILE:CG2 | 8:AH:9:GLU:H | 2.31 | 0.42 |
| 8:AH:20:GLY:O | 8:AH:21:ASN:OD1 | 2.37 | 0.42 |
| 8:AH:53:ARG:O | 8:AH:56:ASP:OD1 | 2.37 | 0.42 |
| 9:AI:50:GLY:HA2 | 9:AI:53:GLN:OE1 | 2.19 | 0.42 |
| 9:AI:63:LEU:HD21 | 9:AI:118:LEU:HB3 | 2.01 | 0.42 |
| 10:AK:7:LYS:CA | 10:AK:14:LYS:HE2 | 2.48 | 0.42 |
| 10:AK:30:LEU:HG | 10:AK:30:LEU:H | 1.45 | 0.42 |
| 10:AK:52:GLN:O | 10:AK:55:GLN:N | 2.52 | 0.42 |
| 11:AL:15:ALA:CB | 11:AL:50:ALA:HA | 2.49 | 0.42 |
| 11:AL:18:ALA:HB1 | 11:AL:39:CYS:HB3 | 2.00 | 0.42 |
| 12:AM:53:ILE:HG23 | 12:AM:54:VAL:N | 2.32 | 0.42 |
| 12:AM:54:VAL:HA | 12:AM:135:ILE:CD1 | 2.49 | 0.42 |
| 12:AM:77:GLY:O | 12:AM:79:PHE:N | 2.51 | 0.42 |
| 14:AO:59:GLU:C | 14:AO:60:GLU:HG3 | 2.39 | 0.42 |
| 14:AO:65:ASP:OD2 | 14:AO:68:GLU:HB2 | 2.18 | 0.42 |
| 14:AO:66:VAL:CB | 14:AO:67:ARG:NH2 | 2.78 | 0.42 |
| 15:AP:41:THR:CG2 | 15:AP:42:TYR:N | 2.82 | 0.42 |
| 15:AP:149:ILE:H | 15:AP:149:ILE:HD12 | 1.84 | 0.42 |
| 16:AQ:28:LYS:O | 16:AQ:29:SER:HB2 | 2.19 | 0.42 |
| 21:AV:116:VAL:O | 21:AV:116:VAL:CG2 | 2.62 | 0.42 |
| 21:AV:117:VAL:HG12 | 21:AV:117:VAL:O | 2.19 | 0.42 |
| 22:AW:12:THR:C | 22:AW:16:ARG:NE | 2.72 | 0.42 |
| 26:A2:31:ASP:O | 26:A2:32:LYS:C | 2.57 | 0.42 |
| 26:A2:67:LYS:NZ | 26:A2:94:LYS:CD | 2.79 | 0.42 |
| 29:A5:4:HIS:CB | 29:A5:5:PRO:HD3 | 2.49 | 0.42 |
| 32:A8:15:LYS:O | 32:A8:22:VAL:CG1 | 2.53 | 0.42 |
| 32:A8:22:VAL:CG1 | 32:A8:23:MET:H | 2.26 | 0.42 |
| 34:BA:40:C:O2' | 34:BA:41:G:C5' | 2.67 | 0.42 |
| 34:BA:58:C:H6 | 34:BA:58:C:C5' | 2.32 | 0.42 |
| 34:BA:101:A:H2' | 34:BA:102:G:C5' | 2.48 | 0.42 |
| 34:BA:146:G:C2' | 34:BA:147:G:H5' | 2.49 | 0.42 |
| 34:BA:190:C:H2' | 34:BA:190(A):C:O4' | 2.17 | 0.42 |
| 34:BA:192:U:H4' | 55:BW:57:ARG:NH1 | 2.33 | 0.42 |
| 34:BA:258:G:O2' | 34:BA:259:G:H5' | 2.19 | 0.42 |
| 34:BA:378:G:O5' | 34:BA:378:G:C8 | 2.65 | 0.42 |
| 34:BA:393:A:C6 | 34:BA:394:G:C5 | 3.07 | 0.42 |
| 34:BA:559:A:O2' | 34:BA:560:U:P | 2.77 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:570:G:C2 | 34:BA:873:A:C6 | 3.07 | 0.42 |
| 34:BA:687:A:H4' | 34:BA:688:G:O5' | 2.18 | 0.42 |
| 34:BA:761:G:N7 | 34:BA:762:C:C5 | 2.87 | 0.42 |
| 34:BA:769:G:N2 | 34:BA:811:C:H1' | 2.33 | 0.42 |
| 34:BA:815:A:C1' | 34:BA:1529:G:C6 | 3.02 | 0.42 |
| 34:BA:836:G:C5 | 34:BA:851:G:C6 | 3.07 | 0.42 |
| 34:BA:840:C:H5' | 34:BA:848:C:O2 | 2.19 | 0.42 |
| 34:BA:996:A:C2 | 34:BA:997:U:C4 | 3.07 | 0.42 |
| 34:BA:1013:G:O2' | 34:BA:1014:A:C8 | 2.72 | 0.42 |
| 34:BA:1061:G:H2' | 34:BA:1062:U:O4' | 2.19 | 0.42 |
| 34:BA:1268:A:C2 | 34:BA:1269:A:C2 | 3.07 | 0.42 |
| 34:BA:1422:G:O2' | 34:BA:1423:G:H5' | 2.19 | 0.42 |
| 34:BA:1428:A:C4 | 34:BA:1429:C:C4 | 3.07 | 0.42 |
| 34:BA:1440:C:O2 | 34:BA:1441:G:H1' | 2.19 | 0.42 |
| 34:BA:1442:G:N2 | 34:BA:1446:A:C4 | 2.87 | 0.42 |
| 34:BA:1451:A:C8 | 34:BA:1451:A:OP1 | 2.72 | 0.42 |
| 35:BB:10:G:N3 | 35:BB:10:G:H2' | 2.33 | 0.42 |
| 35:BC:35:A:C8 | 35:BC:35:A:C5' | 2.96 | 0.42 |
| 35:BC:75:C:C6 | 35:BC:75:C:C3' | 3.02 | 0.42 |
| 36:B1:66:G:OP2 | 36:B1:66:G:C8 | 2.72 | 0.42 |
| 37:BE:88:ALA:CB | 37:BE:222:ILE:HD13 | 2.49 | 0.42 |
| 39:BG:63:LYS:O | 39:BG:64:LEU:C | 2.57 | 0.42 |
| 39:BG:98:GLU:CA | 39:BG:103:ASN:ND2 | 2.78 | 0.42 |
| 39:BG:101:LEU:HD22 | 39:BG:138:TYR:CB | 2.47 | 0.42 |
| 40:BH:131:ILE:HA | 40:BH:131:ILE:HD13 | 1.82 | 0.42 |
| 41:BI:57:GLN:NE2 | 41:BI:57:GLN:CA | 2.80 | 0.42 |
| 43:BK:103:VAL:O | 43:BK:108:GLY:N | 2.49 | 0.42 |
| 44:BL:99:LEU:HD13 | 44:BL:99:LEU:HA | 1.89 | 0.42 |
| 46:BN:26:ASN:O | 46:BN:27:ASN:HB3 | 2.19 | 0.42 |
| 46:BN:105:VAL:O | 46:BN:106:LYS:O | 2.37 | 0.42 |
| 46:BN:108:ILE:CG2 | 46:BN:109:VAL:N | 2.82 | 0.42 |
| 47:BO:28:LYS:HG3 | 47:BO:33:ARG:HH12 | 1.84 | 0.42 |
| 47:BO:68:ALA:HB1 | 47:BO:98:TYR:O | 2.18 | 0.42 |
| 47:BO:89:ARG:HB3 | 47:BO:90:VAL:H | 1.64 | 0.42 |
| 48:BP:60:VAL:O | 48:BP:63:THR:HG22 | 2.19 | 0.42 |
| 48:BP:108:ARG:HD2 | 48:BP:111:LYS:HD2 | 2.01 | 0.42 |
| 50:BR:31:LEU:O | 50:BR:34:LEU:HB3 | 2.18 | 0.42 |
| 51:BS:21:VAL:O | 51:BS:22:THR:HG22 | 2.19 | 0.42 |
| 52:BT:87:LYS:O | 52:BT:88:TYR:O | 2.37 | 0.42 |
| 53:BU:33:ASP:O | 53:BU:34:TYR:C | 2.57 | 0.42 |
| 53:BU:78:LEU:C | 53:BU:79:LEU:CD1 | 2.87 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 54:BV:61:TYR:HD2 | 54:BV:62:ILE:H | 1.67 | 0.42 |
| 54:BV:77:THR:CG2 | 54:BV:78:ARG:HG3 | 2.41 | 0.42 |
| 55:BW:50:GLU:CB | 55:BW:99:LEU:CB | 2.96 | 0.42 |
| 56:BX:9:ARG:C | 56:BX:11:GLY:N | 2.70 | 0.42 |
| 1:AB:15:A:C2' | 1:AB:16:G:OP1 | 2.67 | 0.42 |
| 1:AB:59:A:O4' | 7:AG:144:ARG:NE | 2.52 | 0.42 |
| 1:AB:70:C:N4 | 1:AB:106:G:N1 | 2.05 | 0.42 |
| 1:AB:70:C:C2' | 1:AB:71:C:H5' | 2.48 | 0.42 |
| 1:AB:78:A:C2 | 1:AB:99:A:C6 | 3.07 | 0.42 |
| 2:AA:72:U:H1' | 22:AW:57:LYS:HD2 | 2.01 | 0.42 |
| 2:AA:104:U:O2' | 2:AA:105:C:H5' | 2.19 | 0.42 |
| 2:AA:145:G:C2 | 2:AA:146:G:N9 | 2.87 | 0.42 |
| 2:AA:225:A:N1 | 2:AA:230:U:C4 | 2.87 | 0.42 |
| 2:AA:239:U:C2' | 2:AA:240:G:O5' | 2.67 | 0.42 |
| 2:AA:270:A:C8 | 2:AA:270(A):A:C8 | 3.07 | 0.42 |
| 2:AA:270(D):C:H2' | 2:AA:270(E):G:C8 | 2.55 | 0.42 |
| 2:AA:360:G:HO2' | 2:AA:361:G:C4' | 2.32 | 0.42 |
| 2:AA:382:G:H1 | 2:AA:392:C:N4 | 2.17 | 0.42 |
| 2:AA:410:G:C2 | 2:AA:2407:G:C5 | 3.07 | 0.42 |
| 2:AA:482:A:N6 | 2:AA:506:G:N3 | 2.66 | 0.42 |
| 2:AA:528:A:H62 | 2:AA:2042:A:H8 | 1.64 | 0.42 |
| 2:AA:532:A:OP1 | 25:A1:25:TRP:NE1 | 2.52 | 0.42 |
| 2:AA:579:G:H1' | 2:AA:2017:U:N3 | 2.34 | 0.42 |
| 2:AA:705:A:C2' | 2:AA:706:A:O5' | 2.67 | 0.42 |
| 2:AA:715:G:N3 | 2:AA:716:A:C2 | 2.87 | 0.42 |
| 2:AA:723:G:O2' | 2:AA:724:U:C5' | 2.67 | 0.42 |
| 2:AA:723:G:C4 | 2:AA:724:U:C6 | 3.07 | 0.42 |
| 2:AA:734:A:C2 | 2:AA:735:A:C4 | 3.06 | 0.42 |
| 2:AA:771:G:N3 | 2:AA:772:C:C6 | 2.87 | 0.42 |
| 2:AA:808:G:O2' | 2:AA:809:G:C5' | 2.67 | 0.42 |
| 2:AA:899:A:C2' | 2:AA:900:A:H5' | 2.49 | 0.42 |
| 2:AA:943:U:H3' | 2:AA:944:G:N7 | 2.34 | 0.42 |
| 2:AA:951:C:O2' | 2:AA:952:G:O5' | 2.37 | 0.42 |
| 2:AA:987:G:C8 | 2:AA:987:G:C3' | 3.01 | 0.42 |
| 2:AA:1019:U:N3 | 2:AA:1143:A:N6 | 2.66 | 0.42 |
| 2:AA:1031:G:H4' | 33:A9:8:LYS:HE2 | 2.01 | 0.42 |
| 2:AA:1055:G:C1' | 9:AI:28:LYS:NZ | 2.82 | 0.42 |
| 2:AA:1082:U:C5 | 2:AA:1083:U:C4 | 3.07 | 0.42 |
| 2:AA:1183:G:O2' | 2:AA:1184:G:N9 | 2.52 | 0.42 |
| 2:AA:1221:C:C2' | 2:AA:1222:C:O5' | 2.67 | 0.42 |
| 2:AA:1319:G:N3 | 2:AA:1319:G:H2' | 2.34 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1365:A:C4 | 2:AA:1366:A:C8 | 3.06 | 0.42 |
| 2:AA:1380:G:N1 | 2:AA:1381:G:C5 | 2.87 | 0.42 |
| 2:AA:1381:G:C5 | 2:AA:1382:G:N7 | 2.87 | 0.42 |
| 2:AA:1422:G:O6 | 2:AA:1576:U:C4 | 2.73 | 0.42 |
| 2:AA:1429:G:H2' | 2:AA:1430:C:H6 | 1.70 | 0.42 |
| 2:AA:1608:A:C5 | 2:AA:1611:C:C2 | 3.08 | 0.42 |
| 2:AA:1656:C:C2' | 2:AA:1657:C:OP2 | 2.63 | 0.42 |
| 2:AA:1712:C:N4 | 2:AA:1746:G:H1 | 2.18 | 0.42 |
| 2:AA:1769:G:C2 | 2:AA:1984:G:C6 | 3.07 | 0.42 |
| 2:AA:1815:A:O4' | 2:AA:1817:G:C1' | 2.67 | 0.42 |
| 2:AA:1818:U:OP1 | 4:AD:155:ARG:CB | 2.67 | 0.42 |
| 2:AA:1829:A:N6 | 2:AA:1977:A:N6 | 2.67 | 0.42 |
| 2:AA:1883:G:N3 | 2:AA:1884:A:C2 | 2.87 | 0.42 |
| 2:AA:1906:G:O4' | 2:AA:1929:G:H8 | 2.02 | 0.42 |
| 2:AA:1926:U:H3' | 2:AA:1926:U:H6 | 1.83 | 0.42 |
| 2:AA:1996:C:C6 | 2:AA:1996:C:C4' | 3.02 | 0.42 |
| 2:AA:2019:A:H2' | 2:AA:2020:A:H5" | 2.00 | 0.42 |
| 2:AA:2128:C:H3' | 2:AA:2129:C:H5' | 2.02 | 0.42 |
| 2:AA:2354:G:HO2' | 27:A3:31:VAL:CG1 | 2.32 | 0.42 |
| 2:AA:2404:C:N4 | 2:AA:2405:G:C6 | 2.87 | 0.42 |
| 2:AA:2423:U:O2' | 2:AA:2424:C:OP2 | 2.28 | 0.42 |
| 2:AA:2526:G:C6 | 2:AA:2538:C:N3 | 2.88 | 0.42 |
| 2:AA:2528:U:C2 | 2:AA:2536:G:C2 | 3.07 | 0.42 |
| 2:AA:2603:G:H5' | 2:AA:2603:G:C8 | 2.46 | 0.42 |
| 2:AA:2604:U:C2 | 2:AA:2605:U:C6 | 3.07 | 0.42 |
| 2:AA:2648:C:N4 | 2:AA:2672:G:N1 | 2.36 | 0.42 |
| 2:AA:2790:A:C5' | 2:AA:2791:C:OP1 | 2.68 | 0.42 |
| 2:AA:2820:A:N6 | 5:AE:304:ASP:HB3 | 2.33 | 0.42 |
| 2:AA:2851:A:H2' | 2:AA:2852:G:O5' | 2.18 | 0.42 |
| 2:AA:2899:G:C2' | 2:AA:2900:A:O5' | 2.67 | 0.42 |
| 3:AC:119:VAL:O | 3:AC:122:ALA:HB3 | 2.19 | 0.42 |
| 3:AC:172:HIS:O | 3:AC:173:ALA:CB | 2.67 | 0.42 |
| 4:AD:68:ARG:HH21 | 4:AD:128:ALA:HB3 | 1.84 | 0.42 |
| 4:AD:71:ASP:CB | 4:AD:119:PRO:CD | 2.97 | 0.42 |
| 4:AD:140:VAL:CG1 | 4:AD:190:THR:O | 2.66 | 0.42 |
| 4:AD:231:ALA:HB1 | 4:AD:232:VAL:H | 1.50 | 0.42 |
| 5:AE:45:LYS:CE | 5:AE:301:PRO:O | 2.66 | 0.42 |
| 5:AE:45:LYS:HB2 | 5:AE:307:LEU:H | 1.85 | 0.42 |
| 5:AE:198:TYR:CD2 | 5:AE:265:ASN:CA | 3.00 | 0.42 |
| 5:AE:222:ARG:HD2 | 5:AE:222:ARG:H | 1.75 | 0.42 |
| 5:AE:222:ARG:CD | 5:AE:232:ARG:CA | 2.97 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:222:ARG:HB2 | 5:AE:227:ALA:HA | 2.00 | 0.42 |
| 6:AF:145:GLU:OE2 | 6:AF:196:THR:HG22 | 2.19 | 0.42 |
| 6:AF:193:LEU:CD1 | 6:AF:231:ARG:CB | 2.94 | 0.42 |
| 7:AG:19:GLU:CD | 7:AG:135:VAL:CG1 | 2.87 | 0.42 |
| 8:AH:27:GLY:O | 8:AH:30:GLY:C | 2.58 | 0.42 |
| 8:AH:104:LEU:HB2 | 8:AH:151:ARG:NH2 | 2.28 | 0.42 |
| 9:AI:18:LEU:HD13 | 9:AI:45:ALA:CA | 2.49 | 0.42 |
| 9:AI:63:LEU:HD11 | 9:AI:102:ILE:CD1 | 2.36 | 0.42 |
| 9:AI:97:SER:HB2 | 9:AI:98:PRO:HD2 | 2.01 | 0.42 |
| 10:AK:13:GLY:C | 10:AK:15:LYS:H | 2.22 | 0.42 |
| 10:AK:15:LYS:O | 10:AK:17:GLU:HG3 | 2.19 | 0.42 |
| 10:AK:99:ALA:O | 10:AK:103:GLN:HG3 | 2.18 | 0.42 |
| 10:AK:133:LEU:HG | 10:AK:138:THR:HB | 2.02 | 0.42 |
| 11:AL:66:PHE:O | 11:AL:67:THR:CB | 2.67 | 0.42 |
| 11:AL:79:LEU:CD1 | 11:AL:132:ALA:HA | 2.49 | 0.42 |
| 11:AL:139:VAL:O | 11:AL:139:VAL:HG23 | 2.19 | 0.42 |
| 13:AN:63:VAL:CG2 | 13:AN:84:CYS:CA | 2.90 | 0.42 |
| 13:AN:99:PHE:HB3 | 13:AN:100:GLY:H | 1.44 | 0.42 |
| 15:AP:60:ALA:O | 15:AP:61:LEU:C | 2.57 | 0.42 |
| 15:AP:67:ALA:O | 15:AP:71:PHE:CD1 | 2.69 | 0.42 |
| 17:AR:13:ILE:HG12 | 17:AR:33:SER:HB2 | 1.95 | 0.42 |
| 18:AS:43:GLY:O | 18:AS:45:TYR:N | 2.52 | 0.42 |
| 20:AU:11:GLN:HG2 | 20:AU:12:ARG:N | 2.34 | 0.42 |
| 20:AU:15:PRO:HB2 | 20:AU:18:GLU:CD | 2.39 | 0.42 |
| 20:AU:30:ASP:C | 20:AU:34:GLU:OE2 | 2.58 | 0.42 |
| 20:AU:41:ARG:HD2 | 20:AU:111:ARG:O | 2.19 | 0.42 |
| 20:AU:65:VAL:HA | 20:AU:72:ILE:HG12 | 2.01 | 0.42 |
| 21:AV:26:LYS:O | 21:AV:27:GLU:OE2 | 2.37 | 0.42 |
| 21:AV:88:TYR:O | 21:AV:91:PRO:CD | 2.66 | 0.42 |
| 21:AV:116:VAL:CB | 21:AV:169:VAL:HG22 | 2.49 | 0.42 |
| 21:AV:122:ILE:C | 21:AV:123:VAL:HG13 | 2.40 | 0.42 |
| 21:AV:159:THR:C | 21:AV:160:LEU:CD1 | 2.87 | 0.42 |
| 22:AW:51:LYS:C | 22:AW:55:ARG:NE | 2.73 | 0.42 |
| 23:AX:52:HIS:C | 23:AX:54:VAL:N | 2.72 | 0.42 |
| 24:A0:28:LEU:HD13 | 24:A0:28:LEU:O | 2.19 | 0.42 |
| 24:A0:31:HIS:ND1 | 24:A0:31:HIS:N | 2.67 | 0.42 |
| 24:A0:39:PRO:O | 24:A0:42:LYS:N | 2.52 | 0.42 |
| 26:A2:2:PHE:N | 26:A2:2:PHE:CD1 | 2.87 | 0.42 |
| 26:A2:69:ILE:CG2 | 26:A2:89:ASN:N | 2.82 | 0.42 |
| 26:A2:78:VAL:C | 26:A2:80:TYR:N | 2.71 | 0.42 |
| 26:A2:87:ARG:HB2 | 26:A2:87:ARG:NH1 | 2.33 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 27:A3:78:PHE:CD1 | 27:A3:78:PHE:N | 2.78 | 0.42 |
| 29:A5:32:GLU:O | 29:A5:33:CYS:O | 2.36 | 0.42 |
| 32:A8:12:ARG:O | 32:A8:13:ARG:O | 2.37 | 0.42 |
| 33:A9:9:LYS:NZ | 33:A9:16:VAL:HG21 | 2.34 | 0.42 |
| 34:BA:119:A:C5 | 34:BA:240:C:C5 | 3.07 | 0.42 |
| 34:BA:197:A:C6 | 34:BA:220:G:O2' | 2.72 | 0.42 |
| 34:BA:197:A:N1 | 34:BA:220:G:O2' | 2.52 | 0.42 |
| 34:BA:242:C:H2' | 34:BA:243:A:O5' | 2.20 | 0.42 |
| 34:BA:267:C:C2 | 34:BA:268:C:C5 | 3.07 | 0.42 |
| 34:BA:463:A:O3' | 51:BS:80:PHE:O | 2.37 | 0.42 |
| 34:BA:566:G:C4' | 34:BA:567:G:OP1 | 2.61 | 0.42 |
| 34:BA:570:G:C2 | 34:BA:873:A:N1 | 2.87 | 0.42 |
| 34:BA:592:G:C2' | 34:BA:593:G:C5' | 2.96 | 0.42 |
| 34:BA:618:C:H3' | 34:BA:619:U:H5" | 2.01 | 0.42 |
| 34:BA:654:G:O6 | 34:BA:655:A:C6 | 2.72 | 0.42 |
| 34:BA:682:G:O5' | 34:BA:682:G:H8 | 2.02 | 0.42 |
| 34:BA:719:C:OP2 | 34:BA:720:C:N4 | 2.52 | 0.42 |
| 34:BA:720:C:C6 | 34:BA:720:C:H3' | 2.54 | 0.42 |
| 34:BA:764:C:H2' | 34:BA:765:G:O4' | 2.20 | 0.42 |
| 34:BA:856:C:N3 | 34:BA:857:C:C5 | 2.87 | 0.42 |
| 34:BA:885:G:C2 | 34:BA:913:A:N1 | 2.87 | 0.42 |
| 34:BA:905:U:O4 | 34:BA:906:G:C4 | 2.72 | 0.42 |
| 34:BA:998:G:H2' | 34:BA:998:G:N3 | 2.34 | 0.42 |
| 34:BA:1060:C:H5' | 45:BM:52:GLY:N | 2.26 | 0.42 |
| 34:BA:1061:G:C2 | 34:BA:1197:G:N3 | 2.87 | 0.42 |
| 34:BA:1125:U:C4 | 45:BM:5:ARG:NH2 | 2.87 | 0.42 |
| 34:BA:1191:A:OP1 | 38:BF:3:ASN:ND2 | 2.52 | 0.42 |
| 34:BA:1208:C:O2' | 34:BA:1209:C:C5' | 2.67 | 0.42 |
| 34:BA:1216:G:OP1 | 49:BQ:3:ARG:HD2 | 2.18 | 0.42 |
| 34:BA:1227:A:N7 | 34:BA:1228:C:C6 | 2.88 | 0.42 |
| 34:BA:1261:A:C5 | 34:BA:1262:C:C4 | 3.07 | 0.42 |
| 34:BA:1288:A:H61 | 34:BA:1371:G:H1' | 1.84 | 0.42 |
| 34:BA:1299:A:N7 | 34:BA:1301:U:C1' | 2.59 | 0.42 |
| 34:BA:1341:U:H5' | 35:BC:32:C:OP1 | 2.19 | 0.42 |
| 34:BA:1382:C:O2' | 34:BA:1383:C:H5' | 2.18 | 0.42 |
| 34:BA:1414:U:O2 | 34:BA:1415:G:C8 | 2.72 | 0.42 |
| 34:BA:1469:G:N2 | 34:BA:1470:G:C4 | 2.87 | 0.42 |
| 34:BA:1530:G:C6 | 34:BA:1531:A:C6 | 3.07 | 0.42 |
| 35:BB:37:G:O5' | 35:BB:37:G:C1' | 2.67 | 0.42 |
| 35:BB:49:C:OP2 | 35:BB:49:C:C4' | 2.67 | 0.42 |
| 35:BB:60:C:H5' | 35:BB:61:C:OP2 | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BC:35:A:C2 | 36:B1:62:G:N1 | 2.87 | 0.42 |
| 36:B1:37:C:O2' | 36:B1:39:A:N6 | 2.51 | 0.42 |
| 37:BE:15:VAL:CG2 | 37:BE:209:ARG:CD | 2.76 | 0.42 |
| 37:BE:17:PHE:CA | 37:BE:42:ILE:CG2 | 2.97 | 0.42 |
| 37:BE:135:GLN:O | 37:BE:136:VAL:C | 2.58 | 0.42 |
| 38:BF:91:LEU:O | 38:BF:92:ALA:C | 2.57 | 0.42 |
| 39:BG:4:TYR:CE1 | 39:BG:5:ILE:O | 2.71 | 0.42 |
| 39:BG:31:CYS:CB | 39:BG:33:MET:HG2 | 2.35 | 0.42 |
| 39:BG:106:TYR:O | 39:BG:107:ARG:C | 2.57 | 0.42 |
| 39:BG:120:LEU:O | 39:BG:121:VAL:C | 2.58 | 0.42 |
| 39:BG:122:ARG:NH2 | 39:BG:134:ASP:OD2 | 2.52 | 0.42 |
| 40:BH:152:ARG:HD3 | 43:BK:64:LYS:HZ3 | 1.83 | 0.42 |
| 41:BI:19:LEU:HG | 41:BI:23:LYS:CD | 2.49 | 0.42 |
| 41:BI:50:TYR:CE2 | 41:BI:52:ILE:CD1 | 2.99 | 0.42 |
| 41:BI:76:ALA:O | 41:BI:80:ARG:CG | 2.60 | 0.42 |
| 42:BJ:42:ILE:O | 42:BJ:43:PHE:C | 2.57 | 0.42 |
| 43:BK:36:LEU:HD12 | 43:BK:48:TYR:HB2 | 2.00 | 0.42 |
| 43:BK:46:LYS:NZ | 43:BK:65:TYR:H | 2.04 | 0.42 |
| 43:BK:97:VAL:CG2 | 43:BK:98:LYS:H | 2.15 | 0.42 |
| 44:BL:23:ASN:OD1 | 44:BL:25:LYS:HE3 | 2.18 | 0.42 |
| 44:BL:36:TYR:CZ | 44:BL:70:LYS:HE3 | 2.53 | 0.42 |
| 45:BM:82:ILE:HG13 | 45:BM:82:ILE:H | 1.67 | 0.42 |
| 46:BN:57:THR:HG23 | 46:BN:60:ALA:HB2 | 2.00 | 0.42 |
| 46:BN:61:ALA:CB | 46:BN:90:GLY:O | 2.68 | 0.42 |
| 47:BO:37:CYS:CA | 47:BO:58:VAL:HG22 | 2.48 | 0.42 |
| 49:BQ:27:CYS:C | 49:BQ:40:CYS:SG | 2.97 | 0.42 |
| 50:BR:5:LYS:O | 50:BR:8:LYS:N | 2.52 | 0.42 |
| 51:BS:75:ARG:HG3 | 51:BS:75:ARG:HH11 | 1.84 | 0.42 |
| 52:BT:95:TYR:O | 52:BT:96:GLN:C | 2.57 | 0.42 |
| 53:BU:48:GLY:C | 53:BU:49:LYS:HE3 | 2.31 | 0.42 |
| 53:BU:56:THR:CB | 53:BU:58:LEU:HD12 | 2.47 | 0.42 |
| 55:BW:57:ARG:NH2 | 55:BW:102:GLY:HA3 | 2.34 | 0.42 |
| 55:BW:62:LEU:H | 55:BW:62:LEU:CD2 | 2.15 | 0.42 |
| 1:AB:18:G:P | 7:AG:149:ARG:NE | 2.91 | 0.42 |
| 1:AB:21:G:C2 | 1:AB:22:U:O2 | 2.72 | 0.42 |
| 1:AB:44:G:C5' | 1:AB:45:A:OP1 | 2.59 | 0.42 |
| 2:AA:36:G:N1 | 2:AA:445:C:C2 | 2.88 | 0.42 |
| 2:AA:61:G:H2' | 2:AA:62:C:O5' | 2.19 | 0.42 |
| 2:AA:69:C:OP2 | 2:AA:69:C:O4' | 2.36 | 0.42 |
| 2:AA:120:U:H1' | 2:AA:150:C:N1 | 2.35 | 0.42 |
| 2:AA:262:A:C2' | 2:AA:263:C:C5' | 2.97 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:270(X):G:C5 | 2:AA:270(Y):G:C1' | 3.02 | 0.42 |
| 2:AA:276:A:OP2 | 2:AA:276:A:O4' | 2.37 | 0.42 |
| 2:AA:307:G:H1 | 2:AA:310:A:H5" | 1.84 | 0.42 |
| 2:AA:318:C:O2 | 2:AA:334:C:O2 | 2.37 | 0.42 |
| 2:AA:365:C:C6 | 2:AA:365:C:C3' | 3.02 | 0.42 |
| 2:AA:373:U:H2' | 2:AA:374:A:OP2 | 2.19 | 0.42 |
| 2:AA:418:G:H2' | 2:AA:419:C:O5' | 2.19 | 0.42 |
| 2:AA:460:A:H3' | 2:AA:461:C:C5 | 2.55 | 0.42 |
| 2:AA:461:C:N3 | 2:AA:468:G:O6 | 2.53 | 0.42 |
| 2:AA:489:G:C6 | 2:AA:491:G:C5 | 3.07 | 0.42 |
| 2:AA:499:U:H2' | 2:AA:500:G:O4' | 2.19 | 0.42 |
| 2:AA:507:A:O4' | 2:AA:509:C:C2 | 2.71 | 0.42 |
| 2:AA:529:A:H2 | 2:AA:2022:U:P | 2.42 | 0.42 |
| 2:AA:550:G:C2' | 2:AA:1220:A:C2 | 3.02 | 0.42 |
| 2:AA:563:G:C5' | 2:AA:564:C:OP2 | 2.67 | 0.42 |
| 2:AA:579:G:N1 | 2:AA:580:C:C4 | 2.88 | 0.42 |
| 2:AA:587:C:H4' | 2:AA:588:U:OP2 | 2.19 | 0.42 |
| 2:AA:593:G:C2 | 2:AA:594:U:N1 | 2.88 | 0.42 |
| 2:AA:641:C:H5 | 2:AA:642:G:C2 | 2.36 | 0.42 |
| 2:AA:653:A:N6 | 2:AA:655:A:N3 | 2.66 | 0.42 |
| 2:AA:671:C:C2 | 2:AA:809:G:N2 | 2.81 | 0.42 |
| 2:AA:703:U:H2' | 2:AA:704:G:C1' | 2.49 | 0.42 |
| 2:AA:778:G:C5 | 2:AA:779:U:C2 | 3.08 | 0.42 |
| 2:AA:815:C:N4 | 2:AA:816:C:H41 | 2.17 | 0.42 |
| 2:AA:851:U:H4' | 23:AX:46:ASN:HA | 2.02 | 0.42 |
| 2:AA:929:G:C1' | 23:AX:43:ILE:HG13 | 2.49 | 0.42 |
| 2:AA:974:G:C8 | 26:A2:80:TYR:CD1 | 3.06 | 0.42 |
| 2:AA:1013:C:OP2 | 2:AA:1014:U:OP1 | 2.37 | 0.42 |
| 2:AA:1079:C:O2' | 11:AL:129:GLU:CD | 2.57 | 0.42 |
| 2:AA:1259:G:O2' | 2:AA:1260:G:O4' | 2.33 | 0.42 |
| 2:AA:1301:A:O3' | 2:AA:1607:C:N4 | 2.52 | 0.42 |
| 2:AA:1305:C:H2' | 2:AA:1306:C:C6 | 2.54 | 0.42 |
| 2:AA:1326:U:H5' | 2:AA:2010:G:H21 | 1.84 | 0.42 |
| 2:AA:1358:G:H3' | 2:AA:1371:G:H22 | 1.84 | 0.42 |
| 2:AA:1380:G:C2 | 2:AA:1381:G:C8 | 3.07 | 0.42 |
| 2:AA:449(A):G:C6 | 2:AA:1450:C:C5 | 3.06 | 0.42 |
| 2:AA:1555:G:C8 | 2:AA:1555:G:P | 3.12 | 0.42 |
| 2:AA:1615:C:N4 | 2:AA:1617:C:N1 | 2.67 | 0.42 |
| 2:AA:1655:A:O3' | 5:AE:212:GLY:CA | 2.67 | 0.42 |
| 2:AA:1681:G:C5' | 2:AA:1682:G:OP2 | 2.67 | 0.42 |
| 2:AA:1686:C:O2 | 2:AA:1702:G:N1 | 2.47 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1767:C:C2 | 2:AA:1768:U:C6 | 3.07 | 0.42 |
| 2:AA:1779:U:C4 | 2:AA:1784:A:C2 | 3.08 | 0.42 |
| 2:AA:1817:G:C5' | 2:AA:1817:G:C8 | 3.00 | 0.42 |
| 2:AA:1900:A:O2' | 2:AA:1901:A:P | 2.77 | 0.42 |
| 2:AA:1968:G:C2' | 2:AA:1969:A:OP2 | 2.61 | 0.42 |
| 2:AA:1990:C:N3 | 2:AA:1991:U:O2 | 2.52 | 0.42 |
| 2:AA:2027:G:N9 | 2:AA:2037:G:N2 | 2.62 | 0.42 |
| 2:AA:2055:C:C5' | 2:AA:2056:G:OP1 | 2.67 | 0.42 |
| 2:AA:2121:G:H2' | 2:AA:2122:U:C5 | 2.46 | 0.42 |
| 2:AA:2124:G:H2' | 2:AA:2125:G:C4 | 2.55 | 0.42 |
| 2:AA:2219:G:OP1 | 4:AD:184:LEU:HD22 | 2.18 | 0.42 |
| 2:AA:2269:A:C8 | 2:AA:2270:G:N7 | 2.87 | 0.42 |
| 2:AA:2396:G:P | 28:A4:28:ARG:CZ | 3.07 | 0.42 |
| 2:AA:2517:C:H42 | 2:AA:2567:G:H1 | 1.65 | 0.42 |
| 2:AA:2594:C:H2' | 2:AA:2595:G:O4' | 2.17 | 0.42 |
| 2:AA:2606:C:C2 | 2:AA:2607:G:C8 | 3.07 | 0.42 |
| 2:AA:2628:C:O2' | 2:AA:2781:A:H3' | 2.18 | 0.42 |
| 2:AA:2634:G:C2 | 2:AA:2635:C:H6 | 2.37 | 0.42 |
| 2:AA:2662:A:N1 | 2:AA:2663:G:H1' | 2.34 | 0.42 |
| 2:AA:2700:C:C2' | 2:AA:2701:C:C5' | 2.87 | 0.42 |
| 2:AA:2807:G:C8 | 2:AA:2808:U:H5 | 2.36 | 0.42 |
| 2:AA:2817:G:C5 | 2:AA:2818:G:N7 | 2.87 | 0.42 |
| 3:AC:19:ILE:HD12 | 3:AC:223:ARG:HG2 | 2.01 | 0.42 |
| 4:AD:132:GLU:HB3 | 4:AD:133:ASN:H | 1.62 | 0.42 |
| 5:AE:111:THR:O | 5:AE:112:LEU:O | 2.37 | 0.42 |
| 5:AE:268:LEU:HD23 | 5:AE:268:LEU:C | 2.39 | 0.42 |
| 6:AF:206:ASN:O | 6:AF:207:LEU:CG | 2.67 | 0.42 |
| 6:AF:225:PRO:CB | 6:AF:231:ARG:HE | 2.20 | 0.42 |
| 6:AF:239:ALA:C | 6:AF:241:ALA:N | 2.69 | 0.42 |
| 7:AG:20:LYS:HB3 | 7:AG:133:ASN:ND2 | 2.34 | 0.42 |
| 7:AG:25:MET:O | 7:AG:71:ALA:O | 2.37 | 0.42 |
| 8:AH:25:VAL:HG11 | 8:AH:74:MET:CB | 2.47 | 0.42 |
| 8:AH:86:LEU:C | 8:AH:86:LEU:CD1 | 2.87 | 0.42 |
| 8:AH:137:LYS:CD | 8:AH:138:GLN:H | 2.20 | 0.42 |
| 9:AI:19:ALA:O | 9:AI:22:VAL:HB | 2.19 | 0.42 |
| 9:AI:118:LEU:HD12 | 9:AI:125:VAL:HG21 | 2.01 | 0.42 |
| 10:AK:23:ASP:C | 10:AK:25:TYR:N | 2.73 | 0.42 |
| 10:AK:43:ASN:O | 10:AK:46:ALA:HB3 | 2.20 | 0.42 |
| 12:AM:18:ILE:HG21 | 12:AM:21:ARG:HH11 | 1.84 | 0.42 |
| 12:AM:66:ASP:C | 12:AM:68:GLY:N | 2.73 | 0.42 |
| 13:AN:22:ILE:CB | 13:AN:40:VAL:HG12 | 2.44 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:22:GLY:O | 15:AP:23:ILE:CB | 2.67 | 0.42 |
| 15:AP:142:LYS:CE | 15:AP:143:VAL:N | 2.74 | 0.42 |
| 16:AQ:23:ARG:NH2 | 16:AQ:48:VAL:HG21 | 2.23 | 0.42 |
| 16:AQ:59:ALA:CB | 16:AQ:91:ARG:NH1 | 2.79 | 0.42 |
| 18:AS:28:SER:OG | 18:AS:31:GLU:CB | 2.57 | 0.42 |
| 20:AU:31:LEU:CD1 | 20:AU:101:LEU:HB2 | 2.49 | 0.42 |
| 20:AU:61:GLU:HB2 | 20:AU:75:GLU:CG | 2.49 | 0.42 |
| 21:AV:51:LEU:HD21 | 21:AV:65:LEU:HG | 2.01 | 0.42 |
| 21:AV:66:VAL:CG2 | 21:AV:69:VAL:CG2 | 2.93 | 0.42 |
| 21:AV:71:MET:O | 21:AV:78:PRO:CA | 2.67 | 0.42 |
| 21:AV:81:VAL:CG1 | 21:AV:82:ASP:N | 2.83 | 0.42 |
| 24:A0:54:LEU:N | 24:A0:54:LEU:HD12 | 2.31 | 0.42 |
| 24:A0:90:ARG:NH2 | 24:A0:117:VAL:CG1 | 2.82 | 0.42 |
| 25:A1:48:ARG:O | 25:A1:52:ASN:ND2 | 2.52 | 0.42 |
| 25:A1:50:ARG:HH22 | 26:A2:74:TYR:N | 2.17 | 0.42 |
| 25:A1:102:GLU:HA | 25:A1:103:PRO:HD2 | 1.44 | 0.42 |
| 28:A4:17:GLN:CB | 28:A4:33:VAL:HB | 2.49 | 0.42 |
| 29:A5:40:LYS:HZ1 | 29:A5:46:CYS:N | 2.17 | 0.42 |
| 30:A6:21:TYR:HD2 | 30:A6:22:TYR:H | 1.60 | 0.42 |
| 33:A9:7:VAL:O | 33:A9:8:LYS:HE3 | 2.19 | 0.42 |
| 33:A9:27:CYS:HB3 | 33:A9:32:HIS:CB | 2.49 | 0.42 |
| 34:BA:46:G:C2 | 34:BA:396:G:C6 | 3.07 | 0.42 |
| 34:BA:110:C:H2' | 34:BA:111:G:H8 | 1.85 | 0.42 |
| 34:BA:167:G:O2' | 34:BA:168:G:C5' | 2.61 | 0.42 |
| 34:BA:325:A:H2' | 34:BA:326:G:O5' | 2.18 | 0.42 |
| 34:BA:332:G:C2' | 34:BA:333:G:O5' | 2.67 | 0.42 |
| 34:BA:373:A:C5 | 34:BA:482:A:C5 | 3.06 | 0.42 |
| 34:BA:411:A:C8 | 34:BA:413:G:C8 | 3.07 | 0.42 |
| 34:BA:449:C:C5 | 34:BA:450:G:C4 | 3.07 | 0.42 |
| 34:BA:571:U:OP1 | 34:BA:819:A:C2' | 2.67 | 0.42 |
| 34:BA:690:G:C6 | 34:BA:691:G:N3 | 2.87 | 0.42 |
| 34:BA:748:C:C6 | 34:BA:748:C:C3' | 3.02 | 0.42 |
| 34:BA:770:C:H1' | 34:BA:900:A:C2 | 2.54 | 0.42 |
| 34:BA:860:A:N6 | 34:BA:861:G:C2 | 2.88 | 0.42 |
| 34:BA:925:G:O2' | 34:BA:927:G:H5" | 2.19 | 0.42 |
| 34:BA:926:G:C2' | 34:BA:1505:G:H21 | 2.28 | 0.42 |
| 34:BA:926:G:N3 | 34:BA:1505:G:C2 | 2.87 | 0.42 |
| 34:BA:962:C:C5 | 34:BA:963:G:C8 | 3.07 | 0.42 |
| 34:BA:969:A:C2 | 34:BA:970:C:N1 | 2.88 | 0.42 |
| 34:BA:992:U:C4' | 34:BA:993:G:O5' | 2.57 | 0.42 |
| 34:BA:995:C:O2' | 49:BQ:4:LYS:NZ | 2.52 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1021:G:N3 | 34:BA:1022:G:H1' | 2.33 | 0.42 |
| 34:BA:1024:G:C2' | 34:BA:1025:U:O5' | 2.67 | 0.42 |
| 34:BA:1060:C:OP1 | 45:BM:51:ARG:HD3 | 2.19 | 0.42 |
| 34:BA:1160:G:C2 | 34:BA:1161:C:C5 | 3.07 | 0.42 |
| 34:BA:1224:G:O6 | 34:BA:1322:C:O4' | 2.37 | 0.42 |
| 34:BA:1255:G:N2 | 34:BA:1259:C:O2 | 2.52 | 0.42 |
| 34:BA:1274:G:H21 | 34:BA:1275:A:N6 | 2.14 | 0.42 |
| 34:BA:1357:A:H61 | 34:BA:1363:A:H2 | 1.61 | 0.42 |
| 34:BA:1373:G:H5" | 42:BJ:36:LYS:HB2 | 1.98 | 0.42 |
| 34:BA:1511:G:C5 | 34:BA:1512:U:C5 | 3.06 | 0.42 |
| 34:BA:1524:C:OP1 | 46:BN:120:ARG:NH2 | 2.52 | 0.42 |
| 35:BB:37:G:C8 | 35:BB:39:U:O4 | 2.73 | 0.42 |
| 35:BB:50:U:C2 | 35:BB:65:G:N2 | 2.87 | 0.42 |
| 35:BB:51:G:C2 | 35:BB:52:U:C2 | 3.07 | 0.42 |
| 37:BE:18:GLY:HA2 | 37:BE:42:ILE:N | 2.25 | 0.42 |
| 37:BE:32:ILE:HD11 | 37:BE:40:HIS:CG | 2.54 | 0.42 |
| 37:BE:59:GLU:O | 37:BE:62:ALA:HB3 | 2.19 | 0.42 |
| 37:BE:61:LEU:CD2 | 37:BE:66:GLY:O | 2.67 | 0.42 |
| 37:BE:153:ARG:HH22 | 37:BE:156:LYS:HB2 | 1.84 | 0.42 |
| 37:BE:223:ILE:C | 37:BE:226:ARG:HB2 | 2.39 | 0.42 |
| 38:BF:77:ILE:CG2 | 38:BF:81:GLY:HA2 | 2.49 | 0.42 |
| 41:BI:7:ASN:HD21 | 41:BI:62:TRP:HD1 | 1.66 | 0.42 |
| 41:BI:32:ASN:ND2 | 41:BI:32:ASN:H | 2.17 | 0.42 |
| 41:BI:57:GLN:HE21 | 41:BI:57:GLN:CA | 2.31 | 0.42 |
| 42:BJ:28:ASN:O | 42:BJ:31:MET:CB | 2.67 | 0.42 |
| 42:BJ:42:ILE:HG21 | 42:BJ:116:ALA:HB1 | 2.01 | 0.42 |
| 45:BM:26:ALA:C | 45:BM:28:ARG:H | 2.22 | 0.42 |
| 46:BN:84:VAL:CG2 | 53:BU:88:LYS:HZ1 | 2.31 | 0.42 |
| 48:BP:24:GLY:CA | 48:BP:66:LEU:HB3 | 2.34 | 0.42 |
| 48:BP:37:THR:O | 48:BP:37:THR:HG23 | 2.20 | 0.42 |
| 48:BP:90:LEU:CD2 | 48:BP:93:ARG:NH1 | 2.78 | 0.42 |
| 49:BQ:41:ARG:CA | 49:BQ:44:LEU:HD23 | 2.46 | 0.42 |
| 50:BR:11:VAL:HB | 50:BR:12:ILE:H | 1.61 | 0.42 |
| 50:BR:62:GLN:O | 50:BR:63:ARG:C | 2.57 | 0.42 |
| 50:BR:71:GLN:HB2 | 50:BR:78:TYR:CD2 | 2.54 | 0.42 |
| 53:BU:45:SER:C | 53:BU:46:GLU:CD | 2.77 | 0.42 |
| 1:AB:16:G:C5 | 1:AB:17:C:C5 | 3.07 | 0.42 |
| 2:AA:131:G:N3 | 2:AA:131:G:H2' | 2.34 | 0.42 |
| 2:AA:270:A:H8 | 2:AA:270:A:O5' | 2.03 | 0.42 |
| 2:AA:387:U:O3' | 28:A4:23:GLU:CD | 2.57 | 0.42 |
| 2:AA:430:G:C8 | 2:AA:430:G:O5' | 2.71 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:514:A:C4 | 2:AA:515:A:N7 | 2.88 | 0.42 |
| 2:AA:529:A:C2 | 2:AA:2022:U:H5" | 2.54 | 0.42 |
| 2:AA:533:G:H2' | 2:AA:534:U:C1' | 2.49 | 0.42 |
| 2:AA:534:U:H5" | 25:A1:46:GLU:HG2 | 1.99 | 0.42 |
| 2:AA:558:G:H2' | 2:AA:559:G:H8 | 1.85 | 0.42 |
| 2:AA:565:C:O4' | 2:AA:1252:G:O6 | 2.37 | 0.42 |
| 2:AA:598:G:H21 | 6:AF:33:LYS:CE | 2.32 | 0.42 |
| 2:AA:611:C:O2 | 2:AA:611:C:C2' | 2.66 | 0.42 |
| 2:AA:693:C:C2 | 2:AA:694:U:C5 | 3.07 | 0.42 |
| 2:AA:711:G:H2' | 2:AA:712:G:C5' | 2.49 | 0.42 |
| 2:AA:741:G:C2 | 2:AA:757:U:H1' | 2.54 | 0.42 |
| 2:AA:751:A:C2 | 2:AA:789:A:C5 | 3.08 | 0.42 |
| 2:AA:785:G:C2 | 2:AA:786:C:C4 | 3.08 | 0.42 |
| 2:AA:809:G:C6 | 2:AA:810:U:C4 | 3.07 | 0.42 |
| 2:AA:873:G:C2 | 2:AA:905:U:C2 | 3.07 | 0.42 |
| 2:AA:935:C:H2' | 2:AA:936:C:C6 | 2.54 | 0.42 |
| 2:AA:969:U:C4' | 23:AX:14:GLY:O | 2.66 | 0.42 |
| 2:AA:1031:G:O6 | 2:AA:1032:A:N6 | 2.52 | 0.42 |
| 2:AA:1044:G:C5' | 2:AA:1047:G:H4' | 2.49 | 0.42 |
| 2:AA:1105:U:H4' | 9:AI:30:GLY:CA | 2.46 | 0.42 |
| 2:AA:1155:A:OP1 | 25:A1:55:ARG:HD3 | 2.18 | 0.42 |
| 2:AA:1213:A:C6 | 2:AA:1237:A:N9 | 2.87 | 0.42 |
| 2:AA:1237:A:C2' | 2:AA:1238:G:OP2 | 2.67 | 0.42 |
| 2:AA:1286:A:C4 | 2:AA:1329:U:N3 | 2.87 | 0.42 |
| 2:AA:1303:G:N2 | 2:AA:1626:G:H1' | 2.34 | 0.42 |
| 2:AA:1424:G:OP2 | 2:AA:1424:G:H8 | 2.01 | 0.42 |
| 2:AA:1528:A:C2' | 2:AA:1529:A:H4' | 2.49 | 0.42 |
| 2:AA:1568:G:C3' | 4:AD:60:GLN:CG | 2.97 | 0.42 |
| 2:AA:1613:G:N2 | 2:AA:1619:G:N9 | 2.67 | 0.42 |
| 2:AA:1818:U:H5 | 4:AD:155:ARG:NH2 | 2.18 | 0.42 |
| 2:AA:1858:G:C8 | 2:AA:1858:G:OP2 | 2.73 | 0.42 |
| 2:AA:1972:A:N3 | 2:AA:1973:G:N7 | 2.67 | 0.42 |
| 2:AA:1998:G:H2' | 2:AA:1999:C:O5' | 2.18 | 0.42 |
| 2:AA:2015:A:N7 | 29:A5:6:VAL:HG21 | 2.33 | 0.42 |
| 2:AA:2052:G:N3 | 5:AE:246:VAL:HG23 | 2.34 | 0.42 |
| 2:AA:2259:G:N7 | 2:AA:2260:C:C5 | 2.88 | 0.42 |
| 2:AA:2263:C:C6 | 2:AA:2263:C:C3' | 3.01 | 0.42 |
| 2:AA:2295:C:H2' | 2:AA:2296:U:C4' | 2.50 | 0.42 |
| 2:AA:2309:A:O4' | 2:AA:2309:A:P | 2.77 | 0.42 |
| 2:AA:2392:A:C2 | 2:AA:2429:G:C5 | 3.08 | 0.42 |
| 2:AA:2417:C:H2' | 2:AA:2418:A:C5' | 2.50 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2431:U:C2 | 2:AA:2433:A:OP2 | 2.73 | 0.42 |
| 2:AA:2509:G:H2' | 2:AA:2510:C:O4' | 2.19 | 0.42 |
| 2:AA:2513:G:C2 | 2:AA:2514:U:C2 | 3.07 | 0.42 |
| 2:AA:2514:U:C4' | 5:AE:247:ARG:NH1 | 2.82 | 0.42 |
| 2:AA:2548:G:N2 | 2:AA:2560:C:N3 | 2.46 | 0.42 |
| 2:AA:2565:A:O5' | 2:AA:2566:A:OP2 | 2.38 | 0.42 |
| 2:AA:2640:G:H4' | 12:AM:70:PHE:CD2 | 2.54 | 0.42 |
| 2:AA:2653:U:H3' | 2:AA:2654:A:N7 | 2.35 | 0.42 |
| 2:AA:2657:A:N1 | 2:AA:2665:A:C8 | 2.87 | 0.42 |
| 2:AA:2694:G:C2 | 2:AA:2695:C:C6 | 3.07 | 0.42 |
| 2:AA:2695:C:O2' | 2:AA:2696:U:O4' | 2.38 | 0.42 |
| 2:AA:2733:A:N6 | 2:AA:2734:A:C6 | 2.87 | 0.42 |
| 2:AA:2795:G:N3 | 2:AA:2795:G:C2' | 2.79 | 0.42 |
| 2:AA:2799:A:H2' | 2:AA:2802:G:C6 | 2.54 | 0.42 |
| 2:AA:2868:A:O2' | 2:AA:2869:G:C5' | 2.61 | 0.42 |
| 2:AA:2888:C:H2' | 2:AA:2889:C:C6 | 2.53 | 0.42 |
| 3:AC:100:ILE:O | 3:AC:126:LYS:HD3 | 2.19 | 0.42 |
| 3:AC:155:GLU:O | 3:AC:156:ILE:C | 2.57 | 0.42 |
| 4:AD:85:ASN:HD22 | 4:AD:85:ASN:H | 1.55 | 0.42 |
| 5:AE:194:ARG:HB2 | 5:AE:195:ALA:H | 1.31 | 0.42 |
| 6:AF:138:VAL:C | 6:AF:139:VAL:HG23 | 2.39 | 0.42 |
| 7:AG:18:ILE:O | 7:AG:18:ILE:HG22 | 2.17 | 0.42 |
| 7:AG:139:TYR:CE1 | 7:AG:156:ARG:HA | 2.54 | 0.42 |
| 8:AH:119:GLY:O | 8:AH:121:GLU:CD | 2.57 | 0.42 |
| 8:AH:167:LEU:CD1 | 8:AH:169:ARG:HH12 | 2.31 | 0.42 |
| 9:AI:13:LEU:HD13 | 9:AI:21:LEU:HD12 | 2.01 | 0.42 |
| 9:AI:103:LYS:HD3 | 9:AI:114:ILE:HD13 | 2.02 | 0.42 |
| 9:AJ:13:LEU:CD2 | 9:AJ:17:GLU:CD | 2.88 | 0.42 |
| 9:AJ:76:VAL:CG1 | 9:AJ:118:LEU:HD23 | 2.50 | 0.42 |
| 10:AK:91:GLY:O | 10:AK:92:SER:O | 2.38 | 0.42 |
| 11:AL:19:THR:H | 11:AL:20:PRO:HD3 | 1.82 | 0.42 |
| 11:AL:93:LYS:CA | 11:AL:96:ILE:HG13 | 2.48 | 0.42 |
| 11:AL:132:ALA:HA | 11:AL:137:ILE:CD1 | 2.50 | 0.42 |
| 12:AM:42:GLU:OE2 | 12:AM:105:LEU:O | 2.37 | 0.42 |
| 12:AM:60:ARG:O | 12:AM:71:TYR:CB | 2.68 | 0.42 |
| 13:AN:7:ARG:CB | 13:AN:44:LYS:HZ1 | 2.29 | 0.42 |
| 13:AN:77:ILE:HG23 | 13:AN:77:ILE:O | 2.19 | 0.42 |
| 15:AP:83:PHE:HA | 15:AP:136:TRP:CZ2 | 2.55 | 0.42 |
| 15:AP:101:MET:C | 15:AP:101:MET:CE | 2.88 | 0.42 |
| 16:AQ:19:ASP:HB2 | 16:AQ:22:GLN:CG | 2.49 | 0.42 |
| 18:AS:15:ARG:O | 18:AS:18:ARG:N | 2.53 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:5:ALA:C | 21:AV:33:ALA:HB2 | 2.32 | 0.42 |
| 21:AV:68:ALA:C | 21:AV:69:VAL:CG2 | 2.87 | 0.42 |
| 21:AV:74:ARG:C | 21:AV:76:ARG:H | 2.22 | 0.42 |
| 21:AV:90:GLU:H | 21:AV:91:PRO:CD | 2.32 | 0.42 |
| 22:AW:49:LEU:HD23 | 22:AW:49:LEU:HA | 1.80 | 0.42 |
| 23:AX:11:SER:OG | 23:AX:13:ILE:HD11 | 2.19 | 0.42 |
| 26:A2:10:LYS:O | 26:A2:11:GLN:C | 2.57 | 0.42 |
| 26:A2:35:LEU:HD12 | 26:A2:63:HIS:NE2 | 2.34 | 0.42 |
| 27:A3:24:LYS:HE2 | 27:A3:56:ASP:CG | 2.40 | 0.42 |
| 27:A3:33:ALA:CB | 27:A3:66:LYS:N | 2.83 | 0.42 |
| 27:A3:44:LYS:CB | 27:A3:45:PHE:CD1 | 2.98 | 0.42 |
| 29:A5:33:CYS:CB | 29:A5:34:PRO:HD2 | 2.42 | 0.42 |
| 30:A6:16:ALA:CB | 30:A6:19:GLY:HA3 | 2.50 | 0.42 |
| 30:A6:40:TYR:N | 30:A6:50:PHE:CD1 | 2.87 | 0.42 |
| 30:A6:40:TYR:CB | 30:A6:50:PHE:CE2 | 3.03 | 0.42 |
| 31:A7:22:MET:O | 31:A7:23:LYS:C | 2.57 | 0.42 |
| 31:A7:39:ARG:O | 31:A7:40:HIS:HB2 | 2.19 | 0.42 |
| 34:BA:22:G:C2 | 34:BA:23:C:N3 | 2.87 | 0.42 |
| 34:BA:138:G:N2 | 34:BA:226:G:C1' | 2.83 | 0.42 |
| 34:BA:162:A:H2' | 34:BA:163:C:H5' | 2.01 | 0.42 |
| 34:BA:229:U:O3' | 51:BS:33:ILE:HD13 | 2.19 | 0.42 |
| 34:BA:257:G:C6 | 34:BA:258:G:N7 | 2.88 | 0.42 |
| 34:BA:293:G:H4' | 34:BA:609:A:C2 | 2.54 | 0.42 |
| 34:BA:306:G:C2 | 34:BA:307:C:C6 | 3.07 | 0.42 |
| 34:BA:392:G:C6 | 34:BA:393:A:N7 | 2.88 | 0.42 |
| 34:BA:408:A:H5' | 39:BG:116:GLN:HG3 | 2.01 | 0.42 |
| 34:BA:444:C:N3 | 34:BA:491:G:C2 | 2.87 | 0.42 |
| 34:BA:501:C:C6 | 34:BA:501:C:C3' | 3.02 | 0.42 |
| 34:BA:594:G:N2 | 34:BA:596:C:H41 | 2.18 | 0.42 |
| 34:BA:607:A:C5 | 34:BA:608:A:C8 | 3.08 | 0.42 |
| 34:BA:629:G:C4 | 34:BA:630:G:C8 | 3.07 | 0.42 |
| 34:BA:643:C:C4 | 34:BA:644:G:N7 | 2.87 | 0.42 |
| 34:BA:666:G:O2' | 34:BA:667:G:H5' | 2.20 | 0.42 |
| 34:BA:766:A:C5 | 34:BA:814:A:N1 | 2.87 | 0.42 |
| 34:BA:769:G:H5' | 34:BA:1513:A:H4' | 2.01 | 0.42 |
| 34:BA:790:A:C6 | 34:BA:791:G:N1 | 2.87 | 0.42 |
| 34:BA:809:G:C2' | 34:BA:810:C:O5' | 2.67 | 0.42 |
| 34:BA:836:G:C2 | 34:BA:837:G:N9 | 2.88 | 0.42 |
| 34:BA:837:G:C2 | 34:BA:838:G:C4 | 3.06 | 0.42 |
| 34:BA:964:A:N3 | 34:BA:969:A:C1' | 2.74 | 0.42 |
| 34:BA:970:C:H2' | 34:BA:1231:G:H1' | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1034:G:C2' | 34:BA:1035:A:H8 | 2.29 | 0.42 |
| 34:BA:1093:A:C2 | 34:BA:1095:U:O4' | 2.73 | 0.42 |
| 34:BA:1111:A:N1 | 38:BF:177:THR:OG1 | 2.39 | 0.42 |
| 34:BA:1267:C:C6 | 34:BA:1267:C:C3' | 3.02 | 0.42 |
| 34:BA:1294:G:C2 | 34:BA:1295:G:C5 | 3.08 | 0.42 |
| 34:BA:1305:G:O4' | 34:BA:1305:G:P | 2.77 | 0.42 |
| 34:BA:1326:C:OP2 | 56:BX:6:ARG:HD2 | 2.19 | 0.42 |
| 34:BA:1409:C:N4 | 34:BA:1410:G:O6 | 2.52 | 0.42 |
| 34:BA:1410:G:H2' | 34:BA:1411:C:C6 | 2.54 | 0.42 |
| 34:BA:1531:A:C4 | 34:BA:1532:U:C4 | 3.08 | 0.42 |
| 34:BA:1538:C:O2 | 36:B1:52:A:C2 | 2.72 | 0.42 |
| 35:BB:22:G:H2' | 35:BB:23:A:N7 | 2.28 | 0.42 |
| 35:BB:54:U:H5' | 35:BB:54:U:H6 | 1.84 | 0.42 |
| 35:BC:51:G:N2 | 35:BC:63:C:C2 | 2.82 | 0.42 |
| 36:B1:35:C:H2' | 36:B1:36:A:C8 | 2.54 | 0.42 |
| 37:BE:145:LEU:CD1 | 37:BE:149:LEU:HD12 | 2.49 | 0.42 |
| 37:BE:192:SER:C | 37:BE:194:PRO:CD | 2.87 | 0.42 |
| 38:BF:26:LYS:N | 38:BF:26:LYS:CD | 2.70 | 0.42 |
| 38:BF:120:VAL:HG22 | 38:BF:137:ALA:HB2 | 2.01 | 0.42 |
| 39:BG:33:MET:HE2 | 39:BG:33:MET:HB3 | 1.92 | 0.42 |
| 39:BG:53:ASP:O | 39:BG:56:VAL:CB | 2.47 | 0.42 |
| 39:BG:58:LEU:HD22 | 39:BG:62:GLN:HG2 | 2.00 | 0.42 |
| 39:BG:76:ARG:O | 39:BG:79:PHE:N | 2.53 | 0.42 |
| 39:BG:85:LYS:O | 39:BG:86:LYS:C | 2.58 | 0.42 |
| 39:BG:187:ARG:CG | 39:BG:188:LEU:N | 2.80 | 0.42 |
| 41:BI:10:LEU:HD21 | 41:BI:26:ILE:CD1 | 2.42 | 0.42 |
| 41:BI:85:VAL:CG1 | 41:BI:88:VAL:CG2 | 2.96 | 0.42 |
| 42:BJ:28:ASN:OD1 | 42:BJ:31:MET:CE | 2.67 | 0.42 |
| 42:BJ:65:ALA:O | 42:BJ:68:ASN:HB2 | 2.19 | 0.42 |
| 42:BJ:114:ARG:NH1 | 42:BJ:114:ARG:CG | 2.74 | 0.42 |
| 42:BJ:136:LYS:O | 42:BJ:138:LYS:N | 2.52 | 0.42 |
| 43:BK:29:SER:N | 43:BK:32:LYS:HZ3 | 2.17 | 0.42 |
| 43:BK:60:ARG:HG2 | 43:BK:61:VAL:N | 2.35 | 0.42 |
| 43:BK:65:TYR:HA | 43:BK:79:VAL:HG23 | 2.00 | 0.42 |
| 44:BL:5:TYR:CD1 | 44:BL:18:PHE:CE2 | 3.07 | 0.42 |
| 44:BL:17:VAL:HA | 44:BL:63:ILE:CG1 | 2.49 | 0.42 |
| 44:BL:22:GLY:H | 44:BL:59:PHE:HA | 1.84 | 0.42 |
| 44:BL:65:VAL:O | 44:BL:66:ARG:HB2 | 2.19 | 0.42 |
| 44:BL:116:LYS:N | 44:BL:116:LYS:CD | 2.79 | 0.42 |
| 44:BL:116:LYS:O | 44:BL:117:HIS:C | 2.57 | 0.42 |
| 46:BN:11:LYS:N | 46:BN:13:GLN:HE21 | 2.18 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BN:16:SER:HA | 46:BN:79:SER:O | 2.20 | 0.42 |
| 46:BN:28:THR:O | 46:BN:44:SER:CB | 2.59 | 0.42 |
| 46:BN:99:GLN:HA | 46:BN:105:VAL:HG21 | 1.98 | 0.42 |
| 47:BO:44:THR:HG22 | 47:BO:45:PRO:N | 2.34 | 0.42 |
| 48:BP:48:LEU:HD23 | 48:BP:48:LEU:C | 2.39 | 0.42 |
| 48:BP:55:ARG:C | 48:BP:57:ARG:N | 2.71 | 0.42 |
| 48:BP:81:LEU:HA | 48:BP:84:ILE:CD1 | 2.49 | 0.42 |
| 50:BR:12:ILE:HG23 | 50:BR:27:VAL:HG11 | 2.01 | 0.42 |
| 50:BR:25:THR:CG2 | 50:BR:66:LEU:HD12 | 2.49 | 0.42 |
| 50:BR:29:VAL:HG11 | 50:BR:81:LEU:CD2 | 2.44 | 0.42 |
| 50:BR:36:ILE:CG2 | 50:BR:37:ASN:ND2 | 2.81 | 0.42 |
| 50:BR:36:ILE:O | 50:BR:39:LEU:HB3 | 2.19 | 0.42 |
| 50:BR:40:SER:O | 50:BR:44:LYS:CE | 2.67 | 0.42 |
| 50:BR:76:GLU:C | 50:BR:78:TYR:H | 2.21 | 0.42 |
| 52:BT:52:LYS:HE3 | 52:BT:52:LYS:HB2 | 1.78 | 0.42 |
| 53:BU:25:THR:HG22 | 53:BU:42:ARG:HH22 | 1.80 | 0.42 |
| 1:AB:69:G:C6 | 1:AB:70:C:C4 | 3.08 | 0.42 |
| 2:AA:33:U:H1' | 2:AA:34:C:H5 | 1.84 | 0.42 |
| 2:AA:103:A:C2' | 2:AA:104:U:O5' | 2.68 | 0.42 |
| 2:AA:122:G:N2 | 2:AA:130:C:N1 | 2.67 | 0.42 |
| 2:AA:126:A:O2' | 2:AA:127:A:H5' | 2.19 | 0.42 |
| 2:AA:138:G:C8 | 19:AT:39:ASP:OD1 | 2.73 | 0.42 |
| 2:AA:196:A:C2 | 2:AA:2068:U:C5 | 3.07 | 0.42 |
| 2:AA:242:G:C8 | 2:AA:254:G:O6 | 2.72 | 0.42 |
| 2:AA:300:A:C4 | 2:AA:319:C:H1' | 2.54 | 0.42 |
| 2:AA:301:G:H5" | 2:AA:334:C:H2' | 2.02 | 0.42 |
| 2:AA:303:U:C2 | 2:AA:304:G:N7 | 2.87 | 0.42 |
| 2:AA:462:C:C4 | 2:AA:468:G:C2 | 3.06 | 0.42 |
| 2:AA:498:G:C8 | 2:AA:498:G:OP2 | 2.71 | 0.42 |
| 2:AA:568:U:O4 | 2:AA:973:A:H5' | 2.20 | 0.42 |
| 2:AA:618:G:C6 | 2:AA:618(A):C:N4 | 2.87 | 0.42 |
| 2:AA:670:A:C4' | 2:AA:671:C:OP1 | 2.66 | 0.42 |
| 2:AA:683:C:O5' | 2:AA:683:C:H6 | 2.01 | 0.42 |
| 2:AA:684:G:HO2' | 2:AA:788:A:H62 | 1.63 | 0.42 |
| 2:AA:729:G:C2 | 2:AA:1775:U:C2 | 3.07 | 0.42 |
| 2:AA:768:G:HO2' | 2:AA:769:G:H5' | 1.84 | 0.42 |
| 2:AA:778:G:N2 | 2:AA:787:U:N1 | 2.67 | 0.42 |
| 2:AA:850:C:C5' | 23:AX:18:ASP:HB2 | 2.49 | 0.42 |
| 2:AA:859:G:H2' | 2:AA:2268:A:C2 | 2.54 | 0.42 |
| 2:AA:864:G:N3 | 2:AA:865:C:C6 | 2.87 | 0.42 |
| 2:AA:877:U:O5' | 2:AA:877:U:C6 | 2.66 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:882:G:N1 | 2:AA:894:C:N4 | 2.30 | 0.42 |
| 2:AA:910:A:C2' | 2:AA:911:A:O5' | 2.68 | 0.42 |
| 2:AA:911:A:OP1 | 2:AA:912:C:C6 | 2.73 | 0.42 |
| 2:AA:974(A):C:C1' | 2:AA:989:G:H1 | 2.23 | 0.42 |
| 2:AA:1000:A:H2' | 2:AA:1001:A:C1' | 2.49 | 0.42 |
| 2:AA:1370:C:N3 | 2:AA:1371:G:C8 | 2.88 | 0.42 |
| 2:AA:1427:A:O2' | 2:AA:1428:C:OP2 | 2.37 | 0.42 |
| 2:AA:1490:A:N3 | 2:AA:1490:A:H2' | 2.34 | 0.42 |
| 2:AA:1495:A:C5 | 2:AA:1496:A:N6 | 2.88 | 0.42 |
| 2:AA:1502:C:C2 | 2:AA:1503:U:C6 | 3.07 | 0.42 |
| 2:AA:1527:G:C8 | 2:AA:1527:G:P | 3.13 | 0.42 |
| 2:AA:1534:G:H2' | 2:AA:1535:U:H5' | 2.01 | 0.42 |
| 2:AA:1694:C:HO2' | 2:AA:1695:G:H5" | 1.83 | 0.42 |
| 2:AA:1779:U:C5 | 2:AA:1784:A:N1 | 2.75 | 0.42 |
| 2:AA:1788:C:C2' | 2:AA:1789:A:O5' | 2.67 | 0.42 |
| 2:AA:1819:A:O4' | 2:AA:1821:A:N7 | 2.51 | 0.42 |
| 2:AA:1927:A:H2' | 2:AA:1928:A:C1' | 2.49 | 0.42 |
| 2:AA:1932:A:C2 | 2:AA:1933:G:N9 | 2.88 | 0.42 |
| 2:AA:2004:G:N7 | 2:AA:2005:A:C5 | 2.87 | 0.42 |
| 2:AA:2014:A:C5 | 2:AA:2015:A:N6 | 2.88 | 0.42 |
| 2:AA:2038:G:C5 | 2:AA:2039:C:C5 | 3.08 | 0.42 |
| 2:AA:2088:G:C2' | 2:AA:2089:U:O5' | 2.66 | 0.42 |
| 2:AA:2090:G:C6 | 2:AA:2091:U:O4 | 2.72 | 0.42 |
| 2:AA:2108:C:C5 | 2:AA:2109:U:O4 | 2.73 | 0.42 |
| 2:AA:2119:A:P | 2:AA:2120:G:C5' | 3.04 | 0.42 |
| 2:AA:2210:G:N2 | 4:AD:69:ASP:HB3 | 2.35 | 0.42 |
| 2:AA:2217:G:C2 | 2:AA:2218:G:N7 | 2.87 | 0.42 |
| 2:AA:2269:A:H2' | 2:AA:2270:G:O5' | 2.19 | 0.42 |
| 2:AA:2287:A:N6 | 2:AA:2289:G:C4 | 2.88 | 0.42 |
| 2:AA:2436:G:H2' | 2:AA:2437:U:C5' | 2.49 | 0.42 |
| 2:AA:2467:C:N3 | 2:AA:2484:G:O6 | 2.52 | 0.42 |
| 2:AA:2472:G:C2 | 2:AA:2475:C:C2 | 3.08 | 0.42 |
| 2:AA:2476:A:H2' | 2:AA:2477:C:C5' | 2.49 | 0.42 |
| 2:AA:2494:G:C2 | 2:AA:2495:G:C8 | 3.08 | 0.42 |
| 2:AA:2522:U:O2 | 2:AA:2522:U:H2' | 2.19 | 0.42 |
| 2:AA:2734:A:H8 | 2:AA:2734:A:C5' | 2.32 | 0.42 |
| 2:AA:2740:A:C5 | 2:AA:2741:A:C5 | 3.07 | 0.42 |
| 2:AA:2769:C:C2' | 2:AA:2770:G:C5' | 2.93 | 0.42 |
| 2:AA:2771:C:O2 | 2:AA:2771:C:C2' | 2.66 | 0.42 |
| 2:AA:2836:U:H5' | 2:AA:2836:U:H6 | 1.85 | 0.42 |
| 2:AA:2863:C:HO2' | 2:AA:2864:G:H5' | 1.82 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2889:C:C2 | 2:AA:2891:G:C8 | 3.08 | 0.42 |
| 3:AC:108:MET:HE1 | 3:AC:130:ILE:O | 2.19 | 0.42 |
| 3:AC:118:ASP:O | 3:AC:119:VAL:CG1 | 2.68 | 0.42 |
| 4:AD:64:ILE:CG1 | 4:AD:102:TYR:HB2 | 2.49 | 0.42 |
| 5:AE:226:HIS:CD2 | 5:AE:229:GLN:OE1 | 2.72 | 0.42 |
| 6:AF:98:ARG:H | 6:AF:98:ARG:HG2 | 1.45 | 0.42 |
| 6:AF:154:VAL:O | 6:AF:158:GLU:OE2 | 2.37 | 0.42 |
| 6:AF:167:ASP:OD2 | 6:AF:231:ARG:HA | 2.19 | 0.42 |
| 6:AF:194:PHE:HB3 | 6:AF:212:VAL:HG22 | 2.01 | 0.42 |
| 7:AG:71:ALA:C | 7:AG:72:LYS:CG | 2.88 | 0.42 |
| 8:AH:34:ARG:NH1 | 8:AH:36:PHE:HZ | 2.17 | 0.42 |
| 9:AI:39:VAL:CG2 | 9:AJ:39:VAL:HG13 | 2.47 | 0.42 |
| 9:AI:74:ILE:CG1 | 9:AI:92:VAL:HG11 | 2.49 | 0.42 |
| 9:AJ:59:PHE:HZ | 9:AJ:108:LYS:HE2 | 1.83 | 0.42 |
| 9:AJ:73:VAL:O | 9:AJ:77:VAL:HG23 | 2.19 | 0.42 |
| 10:AK:108:LEU:O | 10:AK:109:LYS:HE2 | 2.19 | 0.42 |
| 10:AK:116:GLU:OE2 | 10:AK:130:PRO:C | 2.57 | 0.42 |
| 10:AK:117:LEU:O | 10:AK:118:ALA:C | 2.56 | 0.42 |
| 11:AL:32:GLY:O | 11:AL:60:VAL:CG1 | 2.62 | 0.42 |
| 11:AL:53:ILE:H | 11:AL:53:ILE:HG13 | 1.60 | 0.42 |
| 11:AL:79:LEU:HD11 | 11:AL:132:ALA:CB | 2.50 | 0.42 |
| 11:AL:93:LYS:HD2 | 21:AV:108:VAL:O | 2.19 | 0.42 |
| 11:AL:121:LEU:O | 11:AL:125:MET:HG2 | 2.20 | 0.42 |
| 12:AM:31:LEU:C | 12:AM:33:GLY:N | 2.72 | 0.42 |
| 12:AM:98:PHE:O | 12:AM:99:GLU:C | 2.56 | 0.42 |
| 13:AN:38:VAL:HG22 | 13:AN:61:VAL:HG22 | 2.02 | 0.42 |
| 13:AN:63:VAL:N | 13:AN:84:CYS:SG | 2.86 | 0.42 |
| 14:AO:61:ALA:CB | 14:AO:107:LYS:HE2 | 2.50 | 0.42 |
| 14:AO:69:ILE:HA | 14:AO:73:VAL:HG23 | 2.01 | 0.42 |
| 15:AP:35:ASN:O | 15:AP:126:VAL:HG23 | 2.19 | 0.42 |
| 15:AP:42:TYR:HB2 | 15:AP:43:PRO:HD3 | 2.02 | 0.42 |
| 15:AP:44:ALA:HB1 | 15:AP:156:ASN:O | 2.20 | 0.42 |
| 15:AP:45:GLN:CG | 15:AP:152:SER:O | 2.67 | 0.42 |
| 17:AR:29:THR:HB | 17:AR:31:PHE:CE1 | 2.54 | 0.42 |
| 19:AT:19:ASP:OD1 | 19:AT:20:PHE:N | 2.53 | 0.42 |
| 19:AT:23:LYS:CA | 19:AT:67:ARG:HA | 2.50 | 0.42 |
| 19:AT:56:ASN:O | 19:AT:57:THR:CG2 | 2.61 | 0.42 |
| 20:AU:19:ARG:N | 20:AU:21:LYS:NZ | 2.66 | 0.42 |
| 20:AU:23:VAL:O | 20:AU:24:ARG:C | 2.57 | 0.42 |
| 21:AV:79:ILE:C | 21:AV:80:HIS:CG | 2.92 | 0.42 |
| 21:AV:118:HIS:CD2 | 21:AV:168:VAL:CG2 | 3.03 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 22:AW:19:GLU:O | 22:AW:20:LEU:C | 2.54 | 0.42 |
| 25:A1:86:ALA:HB1 | 25:A1:90:LEU:HD23 | 2.00 | 0.42 |
| 26:A2:50:ASP:N | 26:A2:50:ASP:OD1 | 2.52 | 0.42 |
| 26:A2:61:VAL:HG22 | 26:A2:98:ILE:H | 1.85 | 0.42 |
| 27:A3:31:VAL:HG13 | 27:A3:32:LYS:N | 2.33 | 0.42 |
| 28:A4:58:LYS:CB | 28:A4:62:ARG:HH21 | 2.31 | 0.42 |
| 29:A5:40:LYS:HE3 | 29:A5:49:CYS:SG | 2.59 | 0.42 |
| 31:A7:28:ARG:O | 31:A7:31:LEU:N | 2.53 | 0.42 |
| 34:BA:49:U:O4 | 34:BA:362:G:N3 | 2.53 | 0.42 |
| 34:BA:52:G:HO2' | 34:BA:53:A:H5' | 1.82 | 0.42 |
| 34:BA:266:G:O2' | 34:BA:267:C:P | 2.77 | 0.42 |
| 34:BA:276:G:OP1 | 52:BT:20:THR:HG21 | 2.20 | 0.42 |
| 34:BA:292:G:N7 | 34:BA:293:G:H1' | 2.34 | 0.42 |
| 34:BA:386:C:C6 | 34:BA:386:C:C3' | 3.02 | 0.42 |
| 34:BA:389:A:C6 | 34:BA:390:C:C1' | 3.02 | 0.42 |
| 34:BA:399:G:O2' | 34:BA:400:C:H5' | 2.19 | 0.42 |
| 34:BA:401:C:OP2 | 39:BG:73:ARG:NH2 | 2.49 | 0.42 |
| 34:BA:410:G:C2 | 34:BA:429:U:C2 | 3.07 | 0.42 |
| 34:BA:445:G:N1 | 34:BA:490:G:C6 | 2.88 | 0.42 |
| 34:BA:456:C:N4 | 34:BA:476:G:H1 | 2.18 | 0.42 |
| 34:BA:517:G:N2 | 34:BA:532:A:O3' | 2.36 | 0.42 |
| 34:BA:521:G:N2 | 34:BA:522:C:C2 | 2.88 | 0.42 |
| 34:BA:577:G:O2' | 34:BA:578:C:H5' | 2.19 | 0.42 |
| 34:BA:583:A:O2' | 34:BA:584:G:C5' | 2.67 | 0.42 |
| 34:BA:616:G:H2' | 34:BA:617:G:H5' | 2.01 | 0.42 |
| 34:BA:694:A:C2 | 34:BA:695:A:C4 | 3.07 | 0.42 |
| 34:BA:976:G:OP1 | 49:BQ:32:SER:HA | 2.18 | 0.42 |
| 34:BA:1043:C:N3 | 34:BA:1044:A:N7 | 2.67 | 0.42 |
| 34:BA:1108:G:H4' | 34:BA:1191:A:H1' | 2.01 | 0.42 |
| 34:BA:1117:G:N1 | 34:BA:1184:G:C6 | 2.88 | 0.42 |
| 34:BA:1166:G:H1' | 34:BA:1169:A:N6 | 2.32 | 0.42 |
| 34:BA:1226:C:H5" | 48:BP:103:THR:O | 2.20 | 0.42 |
| 34:BA:1432:G:N1 | 34:BA:1467:G:C6 | 2.88 | 0.42 |
| 35:BB:18:G:N1 | 35:BB:57:G:N2 | 2.58 | 0.42 |
| 35:BB:36:A:N6 | 36:B1:65:U:O2 | 2.44 | 0.42 |
| 35:BB:50:U:C4 | 35:BB:65:G:N1 | 2.88 | 0.42 |
| 35:BC:31:A:C5 | 35:BC:32:C:C5 | 3.07 | 0.42 |
| 36:B1:49:A:O2' | 36:B1:50:G:H5' | 2.20 | 0.42 |
| 37:BE:16:HIS:CE1 | 37:BE:209:ARG:HH11 | 2.37 | 0.42 |
| 37:BE:56:ARG:NH1 | 37:BE:56:ARG:HB2 | 2.33 | 0.42 |
| 37:BE:155:LEU:HB3 | 37:BE:159:PRO:HG3 | 1.98 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:219:VAL:O | 37:BE:222:ILE:HG23 | 2.20 | 0.42 |
| 38:BF:76:VAL:O | 38:BF:83:ARG:CG | 2.67 | 0.42 |
| 39:BG:43:HIS:HB3 | 39:BG:46:LYS:CG | 2.41 | 0.42 |
| 40:BH:65:ASN:ND2 | 40:BH:136:MET:HE2 | 2.18 | 0.42 |
| 40:BH:105:VAL:CG1 | 40:BH:106:PRO:HD3 | 2.48 | 0.42 |
| 41:BI:96:PRO:O | 53:BU:32:ARG:NH2 | 2.52 | 0.42 |
| 42:BJ:97:GLN:O | 42:BJ:98:SER:C | 2.57 | 0.42 |
| 43:BK:8:ASP:OD2 | 43:BK:8:ASP:C | 2.57 | 0.42 |
| 44:BL:5:TYR:CE1 | 44:BL:18:PHE:CZ | 3.07 | 0.42 |
| 44:BL:116:LYS:HA | 44:BL:121:ARG:O | 2.20 | 0.42 |
| 45:BM:7:LYS:HG3 | 45:BM:71:LEU:HD22 | 1.98 | 0.42 |
| 47:BO:7:ILE:O | 47:BO:10:LEU:HB2 | 2.20 | 0.42 |
| 47:BO:126:LYS:C | 47:BO:127:GLU:HG3 | 2.39 | 0.42 |
| 49:BQ:29:ARG:HH11 | 49:BQ:42:ILE:CD1 | 2.25 | 0.42 |
| 50:BR:50:HIS:O | 50:BR:51:HIS:C | 2.57 | 0.42 |
| 2:AA:48:G:N2 | 2:AA:178:G:C6 | 2.87 | 0.42 |
| 2:AA:175:G:C4 | 2:AA:176:G:C8 | 3.06 | 0.42 |
| 2:AA:215:G:O2' | 2:AA:216:A:OP2 | 2.35 | 0.42 |
| 2:AA:270(C):C:C6 | 2:AA:270(D):C:C5 | 3.07 | 0.42 |
| 2:AA:338:G:C8 | 20:AU:21:LYS:HD2 | 2.51 | 0.42 |
| 2:AA:432:A:C2 | 2:AA:433:C:C1' | 3.02 | 0.42 |
| 2:AA:447:A:C8 | 2:AA:454:A:N6 | 2.88 | 0.42 |
| 2:AA:458:G:H2' | 2:AA:469:G:N1 | 2.29 | 0.42 |
| 2:AA:571:A:C2 | 2:AA:573:G:N7 | 2.88 | 0.42 |
| 2:AA:603:A:C6 | 2:AA:604:G:C6 | 3.07 | 0.42 |
| 2:AA:794:G:C2' | 2:AA:795:C:O5' | 2.67 | 0.42 |
| 2:AA:846:C:N4 | 2:AA:932:G:H1 | 2.18 | 0.42 |
| 2:AA:928:G:C2 | 2:AA:929:G:N1 | 2.88 | 0.42 |
| 2:AA:969:U:C5 | 2:AA:970:C:H5 | 2.37 | 0.42 |
| 2:AA:993:G:O6 | 2:AA:1161:C:N3 | 2.52 | 0.42 |
| 2:AA:1027:A:H2 | 2:AA:2487:G:O2' | 2.02 | 0.42 |
| 2:AA:1078:U:O2 | 2:AA:1088:A:H4' | 2.20 | 0.42 |
| 2:AA:1090:U:OP2 | 2:AA:1090:U:H6 | 2.01 | 0.42 |
| 2:AA:1128:A:HO2' | 2:AA:1129:A:P | 2.42 | 0.42 |
| 2:AA:1136:G:C2 | 2:AA:1137:G:N9 | 2.88 | 0.42 |
| 2:AA:1153:C:O2 | 2:AA:1153:C:C2' | 2.64 | 0.42 |
| 2:AA:1249:U:C6 | 2:AA:1249:U:C3' | 3.02 | 0.42 |
| 2:AA:1303:G:N7 | 2:AA:1304:C:C5 | 2.87 | 0.42 |
| 2:AA:1330:C:O2 | 2:AA:1330:C:H2' | 2.18 | 0.42 |
| 2:AA:1409:C:C2 | 2:AA:1594:G:N2 | 2.87 | 0.42 |
| 2:AA:1414:G:N1 | 2:AA:1588:C:C4 | 2.73 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1443:G:O6 | 2:AA:1548:C:N3 | 2.53 | 0.42 |
| 2:AA:1483:G:N1 | 2:AA:1507:A:H1' | 2.34 | 0.42 |
| 2:AA:1526:G:P | 2:AA:1527:G:OP1 | 2.77 | 0.42 |
| 2:AA:1568:G:P | 4:AD:60:GLN:CB | 3.08 | 0.42 |
| 2:AA:1609:A:C8 | 2:AA:1616:A:N3 | 2.87 | 0.42 |
| 2:AA:1625:C:C5 | 2:AA:1626:G:C8 | 3.07 | 0.42 |
| 2:AA:1649:G:O6 | 2:AA:2009:G:C6 | 2.73 | 0.42 |
| 2:AA:1660:C:C2 | 2:AA:2001:A:C2 | 3.08 | 0.42 |
| 2:AA:1805:U:C5' | 4:AD:235:PRO:HB3 | 2.50 | 0.42 |
| 2:AA:1806:C:C4 | 2:AA:1807:G:N7 | 2.88 | 0.42 |
| 2:AA:1943:U:N3 | 2:AA:1945:G:O4' | 2.53 | 0.42 |
| 2:AA:2018:G:C2 | 2:AA:2019:A:C1' | 3.03 | 0.42 |
| 2:AA:2031:A:O4' | 2:AA:2031:A:P | 2.78 | 0.42 |
| 2:AA:2092:U:H5 | 2:AA:2227:A:C6 | 2.32 | 0.42 |
| 2:AA:2101:G:O2' | 2:AA:2102:U:C5' | 2.62 | 0.42 |
| 2:AA:2119:A:C6 | 2:AA:2147:G:P | 3.12 | 0.42 |
| 2:AA:2147:G:P | 2:AA:2147:G:O4' | 2.78 | 0.42 |
| 2:AA:2181:G:N1 | 2:AA:2182:G:C8 | 2.87 | 0.42 |
| 2:AA:2196:C:O2 | 2:AA:2196:C:C2' | 2.66 | 0.42 |
| 2:AA:2260:C:H2' | 2:AA:2261:C:C6 | 2.55 | 0.42 |
| 2:AA:2289:G:H5" | 2:AA:2384:G:H1' | 2.02 | 0.42 |
| 2:AA:2296:U:H3 | 16:AQ:16:ALA:HB2 | 1.85 | 0.42 |
| 2:AA:2360:A:H5" | 32:A8:49:VAL:HG22 | 2.01 | 0.42 |
| 2:AA:2505:G:C2' | 2:AA:2576:G:N2 | 2.65 | 0.42 |
| 2:AA:2508:G:HO2' | 2:AA:2554:U:HO2' | 1.67 | 0.42 |
| 2:AA:2580:U:H2' | 2:AA:2581:G:O4' | 2.20 | 0.42 |
| 2:AA:2585:U:C6 | 2:AA:2585:U:OP1 | 2.63 | 0.42 |
| 2:AA:2593:U:C2 | 2:AA:2600:A:N1 | 2.88 | 0.42 |
| 2:AA:2596:U:C3' | 2:AA:2597:G:O4' | 2.68 | 0.42 |
| 2:AA:2615:U:HO2' | 2:AA:2616:C:C5' | 2.32 | 0.42 |
| 2:AA:2637:U:C2' | 2:AA:2638:G:O4' | 2.61 | 0.42 |
| 2:AA:2747:G:O6 | 2:AA:2755:C:C5' | 2.64 | 0.42 |
| 2:AA:2748:A:N7 | 2:AA:2749:A:C4 | 2.88 | 0.42 |
| 2:AA:2785:C:O2' | 5:AE:100:TRP:N | 2.53 | 0.42 |
| 2:AA:2808:U:N1 | 2:AA:2892:A:N6 | 2.68 | 0.42 |
| 2:AA:2836:U:C5 | 2:AA:2883:A:N6 | 2.88 | 0.42 |
| 3:AC:104:LEU:HD13 | 3:AC:126:LYS:HZ1 | 1.85 | 0.42 |
| 4:AD:70:LYS:HB3 | 4:AD:70:LYS:HZ2 | 1.84 | 0.42 |
| 4:AD:213:LYS:HB3 | 4:AD:215:LYS:CG | 2.46 | 0.42 |
| 5:AE:76:PRO:CA | 5:AE:292:PRO:HB2 | 2.49 | 0.42 |
| 5:AE:211:GLN:NE2 | 5:AE:215:LYS:CB | 2.81 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AF:107:ARG:O | 6:AF:110:ALA:N | 2.52 | 0.42 |
| 6:AF:151:GLN:OE1 | 6:AF:154:VAL:CG2 | 2.65 | 0.42 |
| 7:AG:86:THR:H | 7:AG:86:THR:HG1 | 1.63 | 0.42 |
| 7:AG:95:THR:O | 7:AG:97:GLN:N | 2.51 | 0.42 |
| 7:AG:134:LEU:CD1 | 7:AG:136:ARG:HE | 2.12 | 0.42 |
| 8:AH:34:ARG:HB3 | 8:AH:74:MET:HE2 | 2.01 | 0.42 |
| 9:AJ:18:LEU:HD13 | 9:AJ:45:ALA:CA | 2.50 | 0.42 |
| 10:AK:20:ASN:C | 10:AK:22:ALA:H | 2.22 | 0.42 |
| 10:AK:29:PHE:CD2 | 10:AK:30:LEU:HD21 | 2.51 | 0.42 |
| 10:AK:70:GLU:OE1 | 10:AK:74:LYS:HD2 | 2.19 | 0.42 |
| 10:AK:78:THR:CA | 10:AK:144:HIS:NE2 | 2.79 | 0.42 |
| 10:AK:88:ARG:CB | 10:AK:122:ARG:O | 2.68 | 0.42 |
| 10:AK:115:ILE:CG2 | 10:AK:116:GLU:N | 2.57 | 0.42 |
| 10:AK:130:PRO:CA | 10:AK:140:THR:HG23 | 2.50 | 0.42 |
| 10:AK:130:PRO:HB3 | 10:AK:140:THR:HG23 | 2.02 | 0.42 |
| 12:AM:5:GLU:C | 12:AM:6:PHE:CG | 2.92 | 0.42 |
| 12:AM:13:ASP:HA | 12:AM:38:VAL:HG13 | 2.00 | 0.42 |
| 13:AN:23:LYS:HE3 | 13:AN:24:VAL:O | 2.20 | 0.42 |
| 13:AN:107:ARG:HG2 | 13:AN:115:ILE:HG21 | 2.01 | 0.42 |
| 14:AO:116:HIS:HB3 | 14:AO:118:LEU:CD1 | 2.49 | 0.42 |
| 15:AP:42:TYR:O | 21:AV:119:ASN:ND2 | 2.50 | 0.42 |
| 15:AP:47:GLU:C | 15:AP:150:ASP:OD1 | 2.58 | 0.42 |
| 16:AQ:22:GLN:HA | 16:AQ:25:ARG:HB2 | 2.02 | 0.42 |
| 16:AQ:31:LYS:HB2 | 16:AQ:31:LYS:HE3 | 1.86 | 0.42 |
| 16:AQ:81:ALA:O | 16:AQ:82:TYR:C | 2.57 | 0.42 |
| 18:AS:69:LEU:CD1 | 18:AS:107:LEU:HD13 | 2.44 | 0.42 |
| 19:AT:23:LYS:C | 19:AT:24:LEU:HD12 | 2.40 | 0.42 |
| 19:AT:39:ASP:O | 19:AT:43:GLU:OE2 | 2.37 | 0.42 |
| 20:AU:1:SER:N | 20:AU:6:LYS:HD3 | 2.35 | 0.42 |
| 21:AV:43:PHE:N | 21:AV:43:PHE:CD2 | 2.86 | 0.42 |
| 21:AV:79:ILE:O | 21:AV:80:HIS:CB | 2.68 | 0.42 |
| 21:AV:166:LEU:CD1 | 21:AV:167:THR:OG1 | 2.68 | 0.42 |
| 22:AW:12:THR:O | 22:AW:16:ARG:CD | 2.67 | 0.42 |
| 23:AX:11:SER:OG | 23:AX:13:ILE:CG1 | 2.67 | 0.42 |
| 24:A0:27:SER:O | 24:A0:30:THR:CB | 2.67 | 0.42 |
| 24:A0:105:ARG:NH1 | 24:A0:105:ARG:CB | 2.80 | 0.42 |
| 24:A0:113:LEU:CD1 | 24:A0:113:LEU:C | 2.88 | 0.42 |
| 25:A1:23:GLY:O | 25:A1:24:PHE:O | 2.38 | 0.42 |
| 25:A1:28:ARG:CZ | 25:A1:28:ARG:HB3 | 2.47 | 0.42 |
| 26:A2:39:PHE:CZ | 26:A2:42:GLY:HA2 | 2.54 | 0.42 |
| 26:A2:63:HIS:N | 26:A2:95:ILE:HG23 | 2.34 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:76:SER:HG | 26:A2:84:THR:C | 2.16 | 0.42 |
| 26:A2:78:VAL:O | 26:A2:80:TYR:N | 2.52 | 0.42 |
| 27:A3:29:GLU:O | 27:A3:31:VAL:CB | 2.67 | 0.42 |
| 27:A3:36:ILE:HG12 | 27:A3:72:LYS:CE | 2.49 | 0.42 |
| 27:A3:60:PHE:CA | 27:A3:81:ILE:HD13 | 2.50 | 0.42 |
| 28:A4:5:LEU:O | 28:A4:56:VAL:CG1 | 2.54 | 0.42 |
| 29:A5:14:SER:OG | 29:A5:15:LYS:N | 2.53 | 0.42 |
| 31:A7:44:VAL:C | 31:A7:46:ASP:N | 2.69 | 0.42 |
| 32:A8:21:LYS:O | 32:A8:22:VAL:HG23 | 2.20 | 0.42 |
| 34:BA:25:C:N4 | 34:BA:558:G:C2 | 2.87 | 0.42 |
| 34:BA:40:C:C4 | 34:BA:403:C:N3 | 2.88 | 0.42 |
| 34:BA:116:A:C2' | 34:BA:117:G:H5' | 2.49 | 0.42 |
| 34:BA:118:U:H2' | 34:BA:288:A:C6 | 2.51 | 0.42 |
| 34:BA:134:A:N9 | 34:BA:325:A:C2 | 2.88 | 0.42 |
| 34:BA:145:G:H5" | 34:BA:145:G:H8 | 1.85 | 0.42 |
| 34:BA:181:G:O2' | 34:BA:182:U:P | 2.77 | 0.42 |
| 34:BA:226:G:N2 | 34:BA:227:G:N3 | 2.66 | 0.42 |
| 34:BA:276:G:N1 | 34:BA:277:C:C6 | 2.87 | 0.42 |
| 34:BA:341:C:O2' | 34:BA:342:C:H5' | 2.20 | 0.42 |
| 34:BA:411:A:C8 | 34:BA:413:G:H1' | 2.54 | 0.42 |
| 34:BA:440:A:O2' | 34:BA:442:C:H5' | 2.20 | 0.42 |
| 34:BA:459:G:C3' | 34:BA:460:A:H5" | 2.50 | 0.42 |
| 34:BA:463:A:C5 | 34:BA:474:G:N7 | 2.88 | 0.42 |
| 34:BA:519:C:C2' | 34:BA:520:A:C5' | 2.84 | 0.42 |
| 34:BA:550:G:C2 | 34:BA:551:U:C6 | 3.07 | 0.42 |
| 34:BA:572:A:H2 | 34:BA:916:G:H22 | 1.68 | 0.42 |
| 34:BA:598:U:H4' | 43:BK:94:TYR:CG | 2.54 | 0.42 |
| 34:BA:689:C:C2' | 34:BA:690:G:O5' | 2.68 | 0.42 |
| 34:BA:696:A:C2' | 34:BA:697:U:O5' | 2.68 | 0.42 |
| 34:BA:701:C:C2 | 34:BA:703:G:N1 | 2.87 | 0.42 |
| 34:BA:710:G:HO2' | 34:BA:711:G:H5' | 1.79 | 0.42 |
| 34:BA:718:G:C5 | 46:BN:116:HIS:NE2 | 2.88 | 0.42 |
| 34:BA:724:G:H21 | 34:BA:725:G:H1' | 1.84 | 0.42 |
| 34:BA:727:G:C5' | 34:BA:741:G:N2 | 2.82 | 0.42 |
| 34:BA:815:A:H1' | 34:BA:1529:G:O6 | 2.17 | 0.42 |
| 34:BA:877:C:OP1 | 43:BK:88:LYS:CD | 2.68 | 0.42 |
| 34:BA:883:C:O2 | 34:BA:883:C:H2' | 2.18 | 0.42 |
| 34:BA:909:A:H2' | 34:BA:910:C:O4' | 2.20 | 0.42 |
| 34:BA:938:A:H2' | 34:BA:939:G:O5' | 2.20 | 0.42 |
| 34:BA:948:C:H5' | 34:BA:1306:A:O2' | 2.19 | 0.42 |
| 34:BA:979:C:C6 | 34:BA:980:C:C5 | 3.07 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:985:C:N4 | 34:BA:1220:G:N1 | 2.28 | 0.42 |
| 34:BA:1001:A:C2 | 34:BA:1040:U:N3 | 2.73 | 0.42 |
| 34:BA:1073:U:C2' | 34:BA:1074:G:C8 | 2.86 | 0.42 |
| 34:BA:1102:A:N3 | 34:BA:1103:C:C6 | 2.88 | 0.42 |
| 34:BA:1115:C:C4 | 34:BA:1116:C:C5 | 3.07 | 0.42 |
| 34:BA:1249:C:O2 | 44:BL:70:LYS:NZ | 2.42 | 0.42 |
| 34:BA:1352:C:C4 | 34:BA:1371:G:O6 | 2.72 | 0.42 |
| 34:BA:1391:U:O2' | 34:BA:1392:G:O5' | 2.38 | 0.42 |
| 34:BA:1497:G:C4 | 34:BA:1498:U:C5 | 3.07 | 0.42 |
| 34:BA:1531:A:C4 | 34:BA:1532:U:N3 | 2.87 | 0.42 |
| 35:BC:31:A:H5' | 44:BL:127:LYS:O | 2.19 | 0.42 |
| 35:BC:36:A:C6 | 36:B1:60:A:N1 | 2.87 | 0.42 |
| 36:B1:46:A:C8 | 36:B1:47:U:C4 | 3.08 | 0.42 |
| 37:BE:9:GLU:HB2 | 37:BE:217:ARG:CZ | 2.48 | 0.42 |
| 37:BE:42:ILE:HD11 | 37:BE:202:PRO:O | 2.20 | 0.42 |
| 37:BE:84:GLU:O | 37:BE:88:ALA:N | 2.46 | 0.42 |
| 37:BE:169:LYS:NZ | 37:BE:170:GLU:OE1 | 2.45 | 0.42 |
| 38:BF:3:ASN:HB2 | 38:BF:4:LYS:H | 1.54 | 0.42 |
| 38:BF:73:PRO:CG | 38:BF:74:GLY:N | 2.82 | 0.42 |
| 38:BF:85:ARG:C | 38:BF:87:LEU:N | 2.72 | 0.42 |
| 39:BG:43:HIS:O | 39:BG:46:LYS:HB2 | 2.20 | 0.42 |
| 39:BG:98:GLU:O | 39:BG:99:SER:C | 2.58 | 0.42 |
| 39:BG:104:VAL:O | 39:BG:107:ARG:N | 2.52 | 0.42 |
| 39:BG:153:ARG:CB | 39:BG:181:MET:HE3 | 2.40 | 0.42 |
| 39:BG:180:GLY:HA3 | 39:BG:182:LYS:HE2 | 2.01 | 0.42 |
| 40:BH:15:ARG:NH1 | 40:BH:15:ARG:CG | 2.78 | 0.42 |
| 40:BH:79:GLU:CG | 40:BH:92:LYS:HA | 2.50 | 0.42 |
| 41:BI:24:GLU:HG3 | 41:BI:25:ILE:H | 1.84 | 0.42 |
| 41:BI:67:MET:HA | 41:BI:68:PRO:HD3 | 1.91 | 0.42 |
| 41:BI:86:ARG:HG2 | 41:BI:86:ARG:H | 1.70 | 0.42 |
| 42:BJ:24:THR:O | 42:BJ:28:ASN:HB2 | 2.20 | 0.42 |
| 42:BJ:72:ARG:HH11 | 42:BJ:72:ARG:CG | 2.23 | 0.42 |
| 42:BJ:95:ARG:C | 42:BJ:97:GLN:N | 2.71 | 0.42 |
| 42:BJ:111:ARG:HD2 | 42:BJ:123:GLU:CD | 2.40 | 0.42 |
| 42:BJ:144:MET:O | 42:BJ:145:ALA:C | 2.55 | 0.42 |
| 43:BK:17:THR:CG2 | 43:BK:78:GLN:OE1 | 2.68 | 0.42 |
| 43:BK:104:ARG:CG | 43:BK:138:TRP:CE3 | 3.00 | 0.42 |
| 44:BL:47:LEU:CD1 | 44:BL:50:LEU:HB3 | 2.49 | 0.42 |
| 44:BL:49:PRO:CD | 44:BL:78:LYS:HD3 | 2.49 | 0.42 |
| 44:BL:55:ALA:CB | 44:BL:58:ARG:HE | 2.17 | 0.42 |
| 45:BM:4:ILE:HA | 45:BM:100:THR:HA | 2.02 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BM:5:ARG:HG3 | 45:BM:6:ILE:N | 2.34 | 0.42 |
| 45:BM:60:ARG:HD3 | 45:BM:60:ARG:H | 1.85 | 0.42 |
| 46:BN:62:GLN:CD | 46:BN:63:LEU:CA | 2.88 | 0.42 |
| 47:BO:93:LEU:CD2 | 47:BO:93:LEU:N | 2.69 | 0.42 |
| 50:BR:70:LEU:HD11 | 50:BR:74:ASP:O | 2.20 | 0.42 |
| 52:BT:29:HIS:CB | 52:BT:32:TYR:H | 2.32 | 0.42 |
| 52:BT:60:ILE:HG22 | 52:BT:72:ARG:O | 2.19 | 0.42 |
| 52:BT:96:GLN:NE2 | 52:BT:97:SER:N | 2.66 | 0.42 |
| 53:BU:81:PHE:O | 53:BU:82:THR:CB | 2.67 | 0.42 |
| 54:BV:17:GLU:O | 54:BV:21:GLU:HG3 | 2.20 | 0.42 |
| 55:BW:54:LYS:HG2 | 55:BW:100:ILE:HD12 | 1.99 | 0.42 |
| 55:BW:59:ALA:O | 55:BW:61:SER:N | 2.53 | 0.42 |
| 1:AB:43:C:C5 | 1:AB:43:C:OP2 | 2.73 | 0.42 |
| 1:AB:73:A:C6 | 1:AB:104:A:C4 | 3.08 | 0.42 |
| 1:AB:88:C:H6 | 1:AB:88:C:C3' | 2.27 | 0.42 |
| 2:AA:29:U:H4' | 25:A1:11:ARG:CZ | 2.47 | 0.42 |
| 2:AA:99:U:O2 | 2:AA:99:U:C2' | 2.66 | 0.42 |
| 2:AA:123:G:N2 | 2:AA:128:C:N3 | 2.56 | 0.42 |
| 2:AA:189:G:O6 | 2:AA:205:G:N9 | 2.53 | 0.42 |
| 2:AA:200:U:C2' | 2:AA:201:C:H5' | 2.50 | 0.42 |
| 2:AA:270(X):G:C2' | 2:AA:270(Y):G:C5' | 2.69 | 0.42 |
| 2:AA:359:A:O2' | 2:AA:360:G:N9 | 2.52 | 0.42 |
| 2:AA:372:G:H8 | 2:AA:372:G:H3' | 1.83 | 0.42 |
| 2:AA:387:U:O3' | 28:A4:23:GLU:OE1 | 2.37 | 0.42 |
| 2:AA:418:G:C2 | 2:AA:419:C:C6 | 3.08 | 0.42 |
| 2:AA:444:C:HO2' | 2:AA:445:C:H5' | 1.76 | 0.42 |
| 2:AA:449:A:H4' | 2:AA:1248:G:H1 | 1.84 | 0.42 |
| 2:AA:464:U:O2 | 2:AA:465:G:C1' | 2.67 | 0.42 |
| 2:AA:503:A:H5" | 2:AA:504:U:OP1 | 2.18 | 0.42 |
| 2:AA:549:G:C2' | 2:AA:550:G:O5' | 2.68 | 0.42 |
| 2:AA:585:G:O2' | 2:AA:586:A:N7 | 2.48 | 0.42 |
| 2:AA:600:G:C5' | 6:AF:27:ARG:HH11 | 2.23 | 0.42 |
| 2:AA:607:U:H2' | 2:AA:608:A:C8 | 2.55 | 0.42 |
| 2:AA:611:C:C6 | 2:AA:618:G:N1 | 2.83 | 0.42 |
| 2:AA:641:C:O2' | 2:AA:642:G:C5' | 2.66 | 0.42 |
| 2:AA:651:G:H8 | 2:AA:652:C:C6 | 2.38 | 0.42 |
| 2:AA:658:C:N3 | 2:AA:659:C:C4 | 2.88 | 0.42 |
| 2:AA:660:G:C2 | 2:AA:661:C:C5 | 3.08 | 0.42 |
| 2:AA:706:A:H2' | 2:AA:707:G:H5' | 2.02 | 0.42 |
| 2:AA:772:C:H2' | 2:AA:773:U:C5 | 2.55 | 0.42 |
| 2:AA:783:A:O2' | 2:AA:784:A:C5' | 2.68 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:783:A:C8 | 2:AA:783:A:O5' | 2.72 | 0.42 |
| 2:AA:851:U:O2 | 2:AA:929:G:N2 | 2.53 | 0.42 |
| 2:AA:1019:U:H1' | 2:AA:1144:G:N2 | 2.35 | 0.42 |
| 2:AA:1246:A:N6 | 2:AA:1247:A:N1 | 2.61 | 0.42 |
| 2:AA:1312:U:O2' | 2:AA:1313:U:O5' | 2.31 | 0.42 |
| 2:AA:1353:A:C2 | 2:AA:1354:A:C4 | 3.07 | 0.42 |
| 2:AA:1364:G:C5 | 28:A4:2:GLN:OE1 | 2.73 | 0.42 |
| 2:AA:1398:C:O2' | 2:AA:1399:C:H5' | 2.20 | 0.42 |
| 2:AA:1453:A:C6 | 24:A0:77:ARG:CD | 3.03 | 0.42 |
| 2:AA:1523:U:C2' | 2:AA:1524:G:C5' | 2.97 | 0.42 |
| 2:AA:1569:A:H2' | 2:AA:1570:A:C8 | 2.55 | 0.42 |
| 2:AA:1635:G:H2' | 2:AA:1636:C:O4' | 2.20 | 0.42 |
| 2:AA:1669:A:C4' | 2:AA:2550:G:OP1 | 2.66 | 0.42 |
| 2:AA:1814:G:C2' | 2:AA:1815:A:C8 | 3.02 | 0.42 |
| 2:AA:1899:G:N2 | 2:AA:1902:C:N4 | 2.59 | 0.42 |
| 2:AA:1925:C:C2 | 2:AA:1929:G:O6 | 2.70 | 0.42 |
| 2:AA:1935:G:N1 | 2:AA:1962:C:C6 | 2.88 | 0.42 |
| 2:AA:1948:G:N1 | 2:AA:1949:G:C6 | 2.87 | 0.42 |
| 2:AA:1997:G:C2 | 2:AA:1998:G:C5 | 3.07 | 0.42 |
| 2:AA:2004:G:N7 | 2:AA:2005:A:N7 | 2.67 | 0.42 |
| 2:AA:2019:A:O2' | 2:AA:2020:A:C5' | 2.68 | 0.42 |
| 2:AA:2029:G:N1 | 2:AA:2033:A:N7 | 2.66 | 0.42 |
| 2:AA:2042:A:N6 | 12:AM:90:LYS:HZ1 | 2.18 | 0.42 |
| 2:AA:2072:G:O5' | 2:AA:2072:G:H8 | 2.01 | 0.42 |
| 2:AA:2134:A:OP1 | 2:AA:2135:A:OP2 | 2.37 | 0.42 |
| 2:AA:2146:C:C6 | 2:AA:2147:G:N2 | 2.88 | 0.42 |
| 2:AA:2274:A:N6 | 2:AA:2276:G:N9 | 2.68 | 0.42 |
| 2:AA:2279:G:H2' | 2:AA:2280:G:H8 | 1.85 | 0.42 |
| 2:AA:2301:C:N4 | 2:AA:2302:G:O6 | 2.53 | 0.42 |
| 2:AA:2335:A:C8 | 2:AA:2337:G:C6 | 3.08 | 0.42 |
| 2:AA:2344:U:C2' | 2:AA:2345:G:OP2 | 2.67 | 0.42 |
| 2:AA:2370:G:N3 | 2:AA:2371:G:C8 | 2.87 | 0.42 |
| 2:AA:2783:G:C2' | 2:AA:2784:C:O4' | 2.63 | 0.42 |
| 2:AA:2819:G:O5' | 2:AA:2819:G:H8 | 2.02 | 0.42 |
| 2:AA:2848:G:N2 | 2:AA:2849:U:O2 | 2.52 | 0.42 |
| 3:AC:19:ILE:HG23 | 3:AC:224:ILE:CA | 2.50 | 0.42 |
| 3:AC:211:SER:HB2 | 3:AC:213:TYR:CE1 | 2.55 | 0.42 |
| 5:AE:40:GLY:O | 5:AE:41:PHE:CD2 | 2.72 | 0.42 |
| 5:AE:190:ASN:O | 5:AE:192:ILE:C | 2.57 | 0.42 |
| 6:AF:144:PHE:C | 6:AF:146:ASP:H | 2.22 | 0.42 |
| 6:AF:219:ASN:O | 6:AF:222:ASP:CB | 2.58 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:AG:56:ARG:HE | 7:AG:65:GLU:CB | 2.28 | 0.42 |
| 9:AJ:61:VAL:HG12 | 9:AJ:102:ILE:HG22 | 2.01 | 0.42 |
| 9:AJ:66:PHE:CE2 | 9:AJ:73:VAL:CG1 | 3.02 | 0.42 |
| 9:AJ:71:ILE:CA | 11:AL:61:TYR:HB2 | 2.49 | 0.42 |
| 10:AK:54:GLU:OE1 | 10:AK:54:GLU:CA | 2.63 | 0.42 |
| 10:AK:88:ARG:NH2 | 10:AK:121:ILE:CG2 | 2.82 | 0.42 |
| 11:AL:63:ASP:O | 11:AL:64:LYS:CB | 2.67 | 0.42 |
| 12:AM:94:GLY:C | 12:AM:98:PHE:CE1 | 2.93 | 0.42 |
| 14:AO:61:ALA:CB | 14:AO:107:LYS:HE3 | 2.50 | 0.42 |
| 14:AO:73:VAL:C | 14:AO:75:LEU:N | 2.70 | 0.42 |
| 15:AP:25:GLY:O | 15:AP:26:LYS:C | 2.58 | 0.42 |
| 15:AP:140:TYR:CE1 | 15:AP:149:ILE:HA | 2.54 | 0.42 |
| 16:AQ:22:GLN:OE1 | 16:AQ:22:GLN:N | 2.52 | 0.42 |
| 16:AQ:41:LYS:HB3 | 16:AQ:42:HIS:NE2 | 2.34 | 0.42 |
| 16:AQ:41:LYS:NZ | 16:AQ:68:GLU:CD | 2.73 | 0.42 |
| 16:AQ:104:ILE:CG2 | 16:AQ:106:LEU:O | 2.63 | 0.42 |
| 20:AU:9:LYS:HZ1 | 20:AU:13:ARG:NH2 | 2.18 | 0.42 |
| 20:AU:30:ASP:HB2 | 20:AU:34:GLU:OE2 | 2.19 | 0.42 |
| 20:AU:55:PHE:CE1 | 20:AU:89:ARG:HD3 | 2.55 | 0.42 |
| 21:AV:105:GLN:CB | 21:AV:141:MET:HG2 | 2.34 | 0.42 |
| 23:AX:16:PRO:CB | 23:AX:19:GLN:OE1 | 2.68 | 0.42 |
| 24:A0:54:LEU:CD1 | 24:A0:54:LEU:H | 2.27 | 0.42 |
| 24:A0:59:ASP:O | 24:A0:60:LEU:C | 2.58 | 0.42 |
| 24:A0:84:ALA:N | 24:A0:85:PRO:CD | 2.83 | 0.42 |
| 25:A1:59:ARG:HH11 | 25:A1:59:ARG:CG | 2.32 | 0.42 |
| 25:A1:61:TRP:CH2 | 25:A1:93:LYS:HB3 | 2.54 | 0.42 |
| 25:A1:69:ALA:HB1 | 25:A1:79:PHE:CD1 | 2.53 | 0.42 |
| 27:A3:33:ALA:HB3 | 27:A3:66:LYS:N | 2.35 | 0.42 |
| 27:A3:36:ILE:C | 27:A3:37:LEU:HG | 2.39 | 0.42 |
| 32:A8:55:TRP:O | 32:A8:56:ALA:C | 2.58 | 0.42 |
| 34:BA:22:G:O2' | 34:BA:23:C:O4' | 2.38 | 0.42 |
| 34:BA:23:C:O2 | 34:BA:23:C:H2' | 2.19 | 0.42 |
| 34:BA:28:G:N2 | 34:BA:556:C:C4 | 2.88 | 0.42 |
| 34:BA:110:C:C2' | 34:BA:111:G:H8 | 2.33 | 0.42 |
| 34:BA:131:C:H2' | 34:BA:132:C:O5' | 2.20 | 0.42 |
| 34:BA:186:C:C2 | 34:BA:187:C:C5 | 3.08 | 0.42 |
| 34:BA:186:C:C2' | 55:BW:85:MET:SD | 3.07 | 0.42 |
| 34:BA:272:C:C2 | 34:BA:273:A:C8 | 3.07 | 0.42 |
| 34:BA:303:A:N7 | 34:BA:304:U:C5 | 2.87 | 0.42 |
| 34:BA:316:G:N7 | 34:BA:351:G:C2 | 2.88 | 0.42 |
| 34:BA:371:G:N1 | 34:BA:390:C:N4 | 2.22 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:428:G:O2' | 34:BA:429:U:P | 2.78 | 0.42 |
| 34:BA:499:A:C4' | 34:BA:500:G:OP1 | 2.63 | 0.42 |
| 34:BA:509:A:C8 | 34:BA:509:A:H3' | 2.55 | 0.42 |
| 34:BA:548:G:H2' | 34:BA:549:C:H6 | 1.84 | 0.42 |
| 34:BA:551:U:C4' | 47:BO:119:LYS:HE2 | 2.50 | 0.42 |
| 34:BA:571:U:C3' | 34:BA:572:A:C5' | 2.79 | 0.42 |
| 34:BA:582:U:O4' | 52:BT:105:ALA:O | 2.38 | 0.42 |
| 34:BA:595:G:C8 | 34:BA:641:U:C4 | 3.07 | 0.42 |
| 34:BA:598:U:C1' | 43:BK:94:TYR:HD2 | 2.33 | 0.42 |
| 34:BA:599:C:O2' | 43:BK:130:GLY:N | 2.53 | 0.42 |
| 34:BA:643:C:O2' | 43:BK:132:GLU:OE2 | 2.37 | 0.42 |
| 34:BA:688:G:C2' | 34:BA:689:C:C5' | 2.96 | 0.42 |
| 34:BA:790:A:H2' | 34:BA:791:G:O4' | 2.20 | 0.42 |
| 34:BA:881:G:O2' | 34:BA:882:C:C5' | 2.66 | 0.42 |
| 34:BA:881:G:C5 | 34:BA:882:C:C4 | 3.08 | 0.42 |
| 34:BA:1057:G:C1' | 38:BF:195:VAL:HG12 | 2.49 | 0.42 |
| 34:BA:1099:G:C6 | 34:BA:1100:C:C2 | 3.07 | 0.42 |
| 34:BA:1125:U:H5" | 34:BA:1126:U:C5 | 2.39 | 0.42 |
| 34:BA:1150:U:O2 | 34:BA:1151:A:C8 | 2.73 | 0.42 |
| 34:BA:1157:A:C1' | 34:BA:1181:G:C2 | 3.03 | 0.42 |
| 34:BA:1240:U:C2' | 42:BJ:32:ARG:HH21 | 2.33 | 0.42 |
| 34:BA:1331:G:O2' | 34:BA:1332:A:O5' | 2.38 | 0.42 |
| 34:BA:1428:A:C4 | 34:BA:1429:C:C5 | 3.07 | 0.42 |
| 34:BA:1436:U:C2 | 34:BA:1437:C:C6 | 3.07 | 0.42 |
| 34:BA:1463:C:H2' | 34:BA:1464:G:H5' | 2.02 | 0.42 |
| 35:BC:37:G:O6 | 35:BC:38:A:N6 | 2.53 | 0.42 |
| 35:BC:53:G:C5 | 35:BC:62:A:N6 | 2.88 | 0.42 |
| 37:BE:52:GLU:O | 37:BE:53:ARG:C | 2.57 | 0.42 |
| 37:BE:68:ILE:O | 37:BE:90:MET:CG | 2.68 | 0.42 |
| 37:BE:114:ARG:HD3 | 37:BE:114:ARG:O | 2.20 | 0.42 |
| 37:BE:124:SER:C | 37:BE:126:GLU:N | 2.73 | 0.42 |
| 37:BE:169:LYS:HD3 | 37:BE:169:LYS:C | 2.39 | 0.42 |
| 37:BE:236:TYR:HA | 37:BE:240:GLN:NE2 | 2.35 | 0.42 |
| 37:BE:239:VAL:C | 37:BE:240:GLN:HG3 | 2.40 | 0.42 |
| 38:BF:50:ALA:HB1 | 38:BF:72:LYS:O | 2.19 | 0.42 |
| 38:BF:73:PRO:CD | 38:BF:105:GLU:OE2 | 2.68 | 0.42 |
| 38:BF:120:VAL:HG11 | 38:BF:134:ILE:HG13 | 2.00 | 0.42 |
| 39:BG:4:TYR:HE2 | 39:BG:8:VAL:CG2 | 2.14 | 0.42 |
| 39:BG:121:VAL:O | 39:BG:134:ASP:CA | 2.65 | 0.42 |
| 40:BH:43:LEU:H | 40:BH:65:ASN:ND2 | 2.17 | 0.42 |
| 40:BH:92:LYS:CG | 40:BH:93:PRO:HD2 | 2.49 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BH:107:ARG:O | 40:BH:109:ILE:N | 2.53 | 0.42 |
| 42:BJ:20:ASP:OD1 | 42:BJ:63:LYS:NZ | 2.50 | 0.42 |
| 42:BJ:50:ILE:CD1 | 42:BJ:58:PRO:CA | 2.98 | 0.42 |
| 42:BJ:74:GLU:CG | 42:BJ:75:VAL:H | 2.25 | 0.42 |
| 43:BK:45:ILE:CG1 | 43:BK:47:GLY:N | 2.81 | 0.42 |
| 43:BK:54:ASP:O | 43:BK:56:LYS:HD2 | 2.19 | 0.42 |
| 43:BK:103:VAL:HG21 | 43:BK:109:ILE:C | 2.40 | 0.42 |
| 44:BL:48:GLU:O | 44:BL:51:ARG:CB | 2.63 | 0.42 |
| 47:BO:58:VAL:HG12 | 47:BO:60:LEU:HD12 | 2.01 | 0.42 |
| 47:BO:83:VAL:CG2 | 47:BO:107:ALA:HB3 | 2.50 | 0.42 |
| 48:BP:32:GLU:HB3 | 48:BP:64:TRP:CZ3 | 2.47 | 0.42 |
| 49:BQ:23:ARG:HA | 49:BQ:33:VAL:HG21 | 2.02 | 0.42 |
| 52:BT:24:GLU:CG | 52:BT:38:ARG:O | 2.65 | 0.42 |
| 53:BU:36:ASN:O | 53:BU:37:VAL:C | 2.58 | 0.42 |
| 55:BW:51:GLU:HG2 | 55:BW:52:ALA:H | 1.84 | 0.42 |
| 1:AB:9:G:N1 | 1:AB:112:G:N7 | 2.68 | 0.42 |
| 1:AB:77:U:H5' | 21:AV:80:HIS:ND1 | 2.34 | 0.42 |
| 2:AA:15:G:C2' | 2:AA:16:G:C5' | 2.91 | 0.42 |
| 2:AA:56:A:H3' | 2:AA:57:C:H5 | 1.80 | 0.42 |
| 2:AA:137(A):G:C5' | 2:AA:137(A):G:C2 | 2.91 | 0.42 |
| 2:AA:153:C:H1' | 2:AA:175:G:C2 | 2.55 | 0.42 |
| 2:AA:190:A:C6 | 2:AA:191:A:N6 | 2.87 | 0.42 |
| 2:AA:244:A:N6 | 2:AA:245:G:N2 | 2.67 | 0.42 |
| 2:AA:270(E):G:C2 | 2:AA:270(F):U:C6 | 3.07 | 0.42 |
| 2:AA:290:G:N2 | 2:AA:350:U:C1' | 2.82 | 0.42 |
| 2:AA:341:G:C2' | 2:AA:342:G:O4' | 2.49 | 0.42 |
| 2:AA:346:A:O2' | 2:AA:347:A:C8 | 2.72 | 0.42 |
| 2:AA:372:G:O2' | 28:A4:63:PHE:CZ | 2.60 | 0.42 |
| 2:AA:387:U:P | 28:A4:31:ILE:HD11 | 2.60 | 0.42 |
| 2:AA:440:G:OP1 | 20:AU:6:LYS:HD2 | 2.18 | 0.42 |
| 2:AA:489:G:N2 | 2:AA:491:G:C1' | 2.77 | 0.42 |
| 2:AA:492:A:H2' | 2:AA:493:G:C4' | 2.49 | 0.42 |
| 2:AA:574:C:C2 | 2:AA:2055:C:C5 | 3.08 | 0.42 |
| 2:AA:605:C:O2' | 2:AA:658:C:H4' | 2.20 | 0.42 |
| 2:AA:613:U:H5' | 2:AA:614:U:C6 | 2.55 | 0.42 |
| 2:AA:636:G:H4' | 2:AA:638:G:O2' | 2.19 | 0.42 |
| 2:AA:691:C:N3 | 2:AA:692:C:C5 | 2.88 | 0.42 |
| 2:AA:828:U:C2' | 2:AA:829:A:O4' | 2.67 | 0.42 |
| 2:AA:842:G:N1 | 2:AA:937:U:N3 | 2.68 | 0.42 |
| 2:AA:852:G:C6 | 2:AA:853:G:C6 | 3.08 | 0.42 |
| 2:AA:868:U:H3 | 2:AA:909:A:N6 | 2.14 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:934:G:N3 | 2:AA:934:G:H2' | 2.35 | 0.42 |
| 2:AA:952:G:O6 | 2:AA:966:G:C6 | 2.72 | 0.42 |
| 2:AA:955:C:H2' | 2:AA:956:G:C5' | 2.49 | 0.42 |
| 2:AA:960:A:C2 | 2:AA:962:G:C1' | 3.02 | 0.42 |
| 2:AA:1058:G:C4' | 9:AI:2:THR:CA | 2.83 | 0.42 |
| 2:AA:1193:G:N1 | 2:AA:1194:A:C4 | 2.88 | 0.42 |
| 2:AA:1254:A:N7 | 2:AA:1256:G:H1' | 2.34 | 0.42 |
| 2:AA:1266:G:O6 | 18:AS:16:LYS:NZ | 2.49 | 0.42 |
| 2:AA:1269:A:C2' | 2:AA:1325:G:O6 | 2.68 | 0.42 |
| 2:AA:1421:G:N3 | 2:AA:1422:G:C8 | 2.88 | 0.42 |
| 2:AA:1456:G:C8 | 2:AA:1456:G:O5' | 2.73 | 0.42 |
| 2:AA:1465:G:C2 | 2:AA:1466:G:N9 | 2.87 | 0.42 |
| 2:AA:1466:G:C4 | 2:AA:1547:C:N4 | 2.88 | 0.42 |
| 2:AA:1491:G:C2' | 2:AA:1492:G:OP2 | 2.68 | 0.42 |
| 2:AA:1535:U:H5' | 2:AA:1536:A:O4' | 2.17 | 0.42 |
| 2:AA:1569:A:C4 | 2:AA:1570:A:N7 | 2.88 | 0.42 |
| 2:AA:1572:A:O2' | 2:AA:1573:G:P | 2.78 | 0.42 |
| 2:AA:1689:A:N7 | 2:AA:1698:A:H2 | 2.17 | 0.42 |
| 2:AA:1764:G:C2 | 2:AA:1765:C:C2 | 3.07 | 0.42 |
| 2:AA:1789:A:N3 | 2:AA:1790:C:H1' | 2.35 | 0.42 |
| 2:AA:2083:G:N2 | 2:AA:2084:C:C2 | 2.88 | 0.42 |
| 2:AA:2131:G:H3' | 3:AC:6:ARG:CB | 2.30 | 0.42 |
| 2:AA:2135:A:H2' | 2:AA:2152:G:C8 | 2.51 | 0.42 |
| 2:AA:2329:G:C4 | 2:AA:2330:G:C8 | 3.07 | 0.42 |
| 2:AA:2329:G:H1 | 2:AA:2386:C:N4 | 2.15 | 0.42 |
| 2:AA:2399:G:H1' | 30:A6:22:TYR:OH | 2.19 | 0.42 |
| 2:AA:2448:A:H3' | 2:AA:2449:U:H6 | 1.84 | 0.42 |
| 2:AA:2450:A:C2 | 2:AA:2451:A:N9 | 2.87 | 0.42 |
| 2:AA:2458:G:C8 | 2:AA:2490:G:N1 | 2.87 | 0.42 |
| 2:AA:2460:U:C4 | 2:AA:2461:C:C5 | 3.08 | 0.42 |
| 2:AA:2462:U:C2 | 2:AA:2463:C:C6 | 3.08 | 0.42 |
| 2:AA:2524:G:C2' | 2:AA:2741:A:H2 | 2.32 | 0.42 |
| 2:AA:2638:G:H21 | 2:AA:2778:A:N6 | 2.11 | 0.42 |
| 2:AA:2695:C:O2 | 2:AA:2696:U:C4 | 2.72 | 0.42 |
| 2:AA:2765:A:N3 | 2:AA:2765:A:C2' | 2.83 | 0.42 |
| 2:AA:2795:G:O5' | 2:AA:2799:A:C2 | 2.72 | 0.42 |
| 2:AA:2831:G:C5' | 2:AA:2834:G:O2' | 2.68 | 0.42 |
| 2:AA:2836:U:C6 | 2:AA:2883:A:N6 | 2.88 | 0.42 |
| 3:AC:82:LYS:HA | 3:AC:82:LYS:HD3 | 1.74 | 0.42 |
| 3:AC:89:ALA:CB | 3:AC:150:GLY:HA2 | 2.50 | 0.42 |
| 3:AC:89:ALA:HB1 | 3:AC:154:ARG:NH1 | 2.35 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:93:TYR:CE2 | 3:AC:110:PHE:HA | 2.54 | 0.42 |
| 3:AC:146:GLY:O | 3:AC:149:ILE:N | 2.53 | 0.42 |
| 4:AD:110:LYS:H | 4:AD:110:LYS:HG2 | 1.60 | 0.42 |
| 4:AD:140:VAL:HA | 4:AD:191:VAL:CA | 2.44 | 0.42 |
| 4:AD:156:ALA:O | 4:AD:157:ALA:C | 2.58 | 0.42 |
| 4:AD:167:GLU:C | 4:AD:170:TYR:CE1 | 2.93 | 0.42 |
| 5:AE:172:ASP:O | 5:AE:173:ARG:C | 2.58 | 0.42 |
| 5:AE:206:LYS:O | 5:AE:208:LYS:N | 2.53 | 0.42 |
| 6:AF:51:TYR:O | 6:AF:52:ALA:C | 2.57 | 0.42 |
| 6:AF:80:VAL:HA | 6:AF:81:PRO:HD3 | 1.88 | 0.42 |
| 6:AF:84:VAL:HG21 | 6:AF:85:LYS:HZ1 | 1.85 | 0.42 |
| 6:AF:115:LEU:O | 6:AF:116:ALA:C | 2.57 | 0.42 |
| 6:AF:151:GLN:HA | 6:AF:151:GLN:OE1 | 2.18 | 0.42 |
| 6:AF:194:PHE:CD1 | 6:AF:211:ASP:O | 2.73 | 0.42 |
| 7:AG:73:VAL:HG12 | 7:AG:75:LEU:HG | 2.02 | 0.42 |
| 9:AI:49:ALA:O | 9:AI:52:ALA:HB3 | 2.19 | 0.42 |
| 9:AI:80:ILE:CG2 | 9:AI:81:THR:N | 2.82 | 0.42 |
| 12:AM:16:ASP:O | 12:AM:17:CYS:O | 2.38 | 0.42 |
| 13:AN:52:VAL:O | 13:AN:53:LYS:CB | 2.64 | 0.42 |
| 13:AN:120:GLU:CD | 13:AN:122:ILE:HD11 | 2.40 | 0.42 |
| 15:AP:17:ARG:H | 15:AP:17:ARG:CD | 2.32 | 0.42 |
| 15:AP:42:TYR:CB | 21:AV:99:HIS:CE1 | 3.02 | 0.42 |
| 15:AP:67:ALA:CA | 15:AP:70:ARG:NE | 2.83 | 0.42 |
| 15:AP:156:ASN:OD1 | 15:AP:156:ASN:C | 2.58 | 0.42 |
| 16:AQ:11:ARG:O | 16:AQ:14:ARG:HD2 | 2.20 | 0.42 |
| 16:AQ:17:ARG:HH22 | 16:AQ:106:LEU:HD21 | 1.85 | 0.42 |
| 16:AQ:33:ARG:CB | 16:AQ:35:VAL:CG2 | 2.95 | 0.42 |
| 17:AR:8:TYR:O | 17:AR:9:CYS:C | 2.58 | 0.42 |
| 18:AS:23:LEU:HD21 | 29:A5:27:ALA:H | 1.85 | 0.42 |
| 18:AS:25:ARG:HG3 | 18:AS:26:GLY:H | 1.81 | 0.42 |
| 18:AS:36:LEU:HD23 | 18:AS:36:LEU:HA | 1.86 | 0.42 |
| 19:AT:3:ASP:C | 22:AW:24:LYS:HD2 | 2.40 | 0.42 |
| 20:AU:66:ASP:C | 20:AU:71:VAL:O | 2.58 | 0.42 |
| 22:AW:60:GLN:O | 22:AW:61:GLY:O | 2.38 | 0.42 |
| 23:AX:26:LEU:HD21 | 23:AX:46:ASN:HD22 | 1.80 | 0.42 |
| 24:A0:22:ARG:O | 24:A0:23:ASN:C | 2.58 | 0.42 |
| 24:A0:79:LEU:CD2 | 24:A0:80:PHE:CD1 | 3.03 | 0.42 |
| 25:A1:114:ARG:HB2 | 25:A1:115:ASN:ND2 | 2.34 | 0.42 |
| 26:A2:7:THR:O | 26:A2:7:THR:OG1 | 2.37 | 0.42 |
| 26:A2:15:SER:CB | 26:A2:99:GLN:OE1 | 2.67 | 0.42 |
| 26:A2:20:ILE:HG23 | 26:A2:94:LYS:CG | 2.48 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:A2:62:GLU:O | 26:A2:95:ILE:CG2 | 2.68 | 0.42 |
| 28:A4:7:PRO:HB2 | 28:A4:60:ASN:HB3 | 2.00 | 0.42 |
| 30:A6:19:GLY:C | 30:A6:42:PRO:HB3 | 2.40 | 0.42 |
| 31:A7:33:ARG:CA | 31:A7:37:LYS:HD2 | 2.49 | 0.42 |
| 32:A8:9:MET:O | 32:A8:10:ALA:C | 2.57 | 0.42 |
| 33:A9:7:VAL:O | 33:A9:8:LYS:CE | 2.68 | 0.42 |
| 34:BA:43:C:N3 | 34:BA:44:G:N7 | 2.67 | 0.42 |
| 34:BA:45:U:O2 | 34:BA:398:C:N3 | 2.52 | 0.42 |
| 34:BA:149:A:C2 | 34:BA:150:C:N3 | 2.88 | 0.42 |
| 34:BA:292:G:C8 | 34:BA:293:G:C8 | 3.08 | 0.42 |
| 34:BA:295:C:H2' | 34:BA:296:U:O5' | 2.19 | 0.42 |
| 34:BA:302:G:N2 | 34:BA:556:C:H4' | 2.33 | 0.42 |
| 34:BA:371:G:C2 | 34:BA:372:C:C5 | 3.07 | 0.42 |
| 34:BA:408:A:N6 | 34:BA:435:C:H42 | 2.17 | 0.42 |
| 34:BA:499:A:N9 | 34:BA:547:A:C6 | 2.88 | 0.42 |
| 34:BA:567:G:N2 | 34:BA:568:G:H1' | 2.34 | 0.42 |
| 34:BA:647:C:C2 | 34:BA:648:A:C8 | 3.07 | 0.42 |
| 34:BA:673:G:C6 | 34:BA:734:G:C5 | 3.08 | 0.42 |
| 34:BA:687:A:C2 | 34:BA:704:A:C6 | 3.08 | 0.42 |
| 34:BA:692:U:O2 | 34:BA:694:A:C5 | 2.73 | 0.42 |
| 34:BA:715:A:H5' | 34:BA:777:A:H62 | 1.83 | 0.42 |
| 34:BA:948:C:OP1 | 48:BP:109:THR:CG2 | 2.68 | 0.42 |
| 34:BA:990:C:C2' | 34:BA:991:U:O4' | 2.68 | 0.42 |
| 34:BA:1060:C:O2' | 34:BA:1061:G:H5' | 2.19 | 0.42 |
| 34:BA:1196:U:C3' | 34:BA:1196:U:H6 | 2.32 | 0.42 |
| 34:BA:1203:C:C2' | 34:BA:1204:A:O4' | 2.65 | 0.42 |
| 34:BA:1298:C:C1' | 42:BJ:114:ARG:NH1 | 2.83 | 0.42 |
| 34:BA:1399:C:N4 | 34:BA:1502:A:C5 | 2.87 | 0.42 |
| 34:BA:1427:U:C2 | 34:BA:1474:G:N2 | 2.88 | 0.42 |
| 34:BA:1450:U:C1' | 34:BA:1454:G:N2 | 2.79 | 0.42 |
| 34:BA:1465:C:N3 | 34:BA:1466:C:C5 | 2.88 | 0.42 |
| 35:BB:2:C:H2' | 35:BB:3:G:C5' | 2.50 | 0.42 |
| 35:BC:40:C:O2 | 35:BC:41:U:H5" | 2.19 | 0.42 |
| 35:BC:46:G:OP2 | 35:BC:46:G:C8 | 2.60 | 0.42 |
| 36:B1:69:A:O2' | 36:B1:70:U:C5 | 2.72 | 0.42 |
| 37:BE:19:HIS:CD2 | 37:BE:20:GLU:CG | 3.02 | 0.42 |
| 37:BE:42:ILE:CD1 | 37:BE:202:PRO:O | 2.67 | 0.42 |
| 37:BE:63:MET:HG2 | 37:BE:64:ARG:N | 2.35 | 0.42 |
| 37:BE:68:ILE:HB | 37:BE:90:MET:HG3 | 2.01 | 0.42 |
| 37:BE:95:GLN:OE1 | 37:BE:95:GLN:HA | 2.19 | 0.42 |
| 37:BE:97:TRP:CE3 | 37:BE:172:ILE:HB | 2.47 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:155:LEU:CG | 37:BE:159:PRO:HG3 | 2.48 | 0.42 |
| 37:BE:155:LEU:HG | 37:BE:159:PRO:HG3 | 2.01 | 0.42 |
| 38:BF:12:LEU:CD2 | 38:BF:16:ARG:O | 2.67 | 0.42 |
| 38:BF:76:VAL:CG1 | 38:BF:103:VAL:HG11 | 2.39 | 0.42 |
| 38:BF:88:ARG:HH21 | 38:BF:100:ALA:CA | 2.33 | 0.42 |
| 38:BF:172:ARG:NH1 | 38:BF:203:PHE:CE2 | 2.87 | 0.42 |
| 39:BG:20:TYR:C | 39:BG:22:LYS:N | 2.67 | 0.42 |
| 39:BG:64:LEU:CD1 | 39:BG:65:ARG:N | 2.82 | 0.42 |
| 40:BH:122:GLU:C | 40:BH:123:LEU:HD22 | 2.34 | 0.42 |
| 41:BI:15:ASP:N | 41:BI:18:GLN:HE21 | 2.18 | 0.42 |
| 42:BJ:16:LEU:C | 42:BJ:17:VAL:HG23 | 2.39 | 0.42 |
| 42:BJ:64:GLN:HG2 | 42:BJ:128:ALA:HB1 | 1.99 | 0.42 |
| 42:BJ:69:VAL:HG12 | 42:BJ:100:ALA:CB | 2.49 | 0.42 |
| 42:BJ:89:MET:O | 42:BJ:90:GLU:O | 2.38 | 0.42 |
| 43:BK:104:ARG:CZ | 43:BK:138:TRP:CH2 | 3.02 | 0.42 |
| 44:BL:47:LEU:O | 44:BL:48:GLU:C | 2.58 | 0.42 |
| 45:BM:24:VAL:CB | 45:BM:34:VAL:HG11 | 2.49 | 0.42 |
| 45:BM:30:SER:C | 45:BM:81:THR:OG1 | 2.58 | 0.42 |
| 45:BM:65:LEU:CD1 | 49:BQ:36:PHE:HZ | 2.31 | 0.42 |
| 47:BO:54:LYS:N | 47:BO:54:LYS:HD2 | 2.34 | 0.42 |
| 49:BQ:25:VAL:HG12 | 49:BQ:38:GLY:O | 2.20 | 0.42 |
| 50:BR:10:LYS:NZ | 50:BR:14:GLU:CD | 2.73 | 0.42 |
| 51:BS:21:VAL:CG2 | 51:BS:36:ILE:HD13 | 2.33 | 0.42 |
| 51:BS:30:GLY:C | 51:BS:31:LYS:O | 2.53 | 0.42 |
| 52:BT:92:ARG:O | 52:BT:93:GLN:C | 2.58 | 0.42 |
| 55:BW:34:LYS:O | 55:BW:36:LEU:N | 2.52 | 0.42 |
| 56:BX:16:GLY:C | 56:BX:18:TYR:N | 2.67 | 0.42 |
| 1:AB:74:U:C3' | 1:AB:75:G:H8 | 2.32 | 0.42 |
| 2:AA:81:G:N2 | 2:AA:106:C:C5 | 2.88 | 0.42 |
| 2:AA:121:G:O2' | 2:AA:122:G:C5' | 2.68 | 0.42 |
| 2:AA:137(A):G:C5' | 2:AA:137(A):G:H21 | 2.33 | 0.42 |
| 2:AA:171:G:H3' | 2:AA:171:G:C8 | 2.55 | 0.42 |
| 2:AA:279:C:C6 | 2:AA:279:C:H3' | 2.55 | 0.42 |
| 2:AA:297:C:C2' | 2:AA:298:G:H5' | 2.50 | 0.42 |
| 2:AA:310:A:C5 | 2:AA:312:G:C4 | 3.07 | 0.42 |
| 2:AA:311:A:C8 | 2:AA:332:A:C6 | 3.08 | 0.42 |
| 2:AA:339:U:H2' | 2:AA:340:A:N7 | 2.28 | 0.42 |
| 2:AA:388:G:P | 28:A4:29:PRO:HG3 | 2.60 | 0.42 |
| 2:AA:405:U:H5" | 2:AA:406:G:O5' | 2.20 | 0.42 |
| 2:AA:530:G:C4 | 2:AA:2021:C:C4 | 3.08 | 0.42 |
| 2:AA:595:C:N3 | 2:AA:663:G:O6 | 2.52 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:610:C:O2' | 2:AA:611:C:H5' | 2.19 | 0.42 |
| 2:AA:716:A:H8 | 2:AA:716:A:O5' | 2.03 | 0.42 |
| 2:AA:740:U:O2 | 2:AA:1981:A:N9 | 2.53 | 0.42 |
| 2:AA:752:A:O2' | 2:AA:753:C:C5 | 2.72 | 0.42 |
| 2:AA:853:G:O2' | 2:AA:854:G:C4' | 2.67 | 0.42 |
| 2:AA:867:C:OP1 | 2:AA:868:U:OP2 | 2.37 | 0.42 |
| 2:AA:879:G:N2 | 2:AA:880:G:N9 | 2.68 | 0.42 |
| 2:AA:885:C:H5" | 2:AA:887:A:N1 | 2.34 | 0.42 |
| 2:AA:934:G:N2 | 2:AA:935:C:C2 | 2.88 | 0.42 |
| 2:AA:993:G:N2 | 25:A1:54:LYS:NZ | 2.68 | 0.42 |
| 2:AA:1152:C:H5" | 25:A1:80:ILE:HG21 | 1.99 | 0.42 |
| 2:AA:1155:A:H8 | 2:AA:1155:A:C5' | 2.29 | 0.42 |
| 2:AA:1166:C:N4 | 2:AA:1184:G:O6 | 2.53 | 0.42 |
| 2:AA:1186:G:H2' | 2:AA:1187:G:C8 | 2.51 | 0.42 |
| 2:AA:1247:A:C2' | 2:AA:1248:G:O5' | 2.68 | 0.42 |
| 2:AA:1275:A:HO2' | 2:AA:1276:A:C5' | 2.18 | 0.42 |
| 2:AA:1300:U:O2 | 2:AA:1626:G:C2 | 2.72 | 0.42 |
| 2:AA:1309:G:P | 31:A7:9:ASN:ND2 | 2.70 | 0.42 |
| 2:AA:1344:G:C2 | 2:AA:1404:C:C2 | 3.08 | 0.42 |
| 2:AA:1364:G:O5' | 28:A4:3:LYS:HG2 | 2.20 | 0.42 |
| 2:AA:1440:G:H2' | 2:AA:1441:G:O4' | 2.20 | 0.42 |
| 2:AA:1444:G:C2' | 2:AA:444(A):A:OP1 | 2.68 | 0.42 |
| 2:AA:1484:G:C2 | 2:AA:1506:C:C4 | 3.07 | 0.42 |
| 2:AA:1492:G:N3 | 2:AA:1493:C:C5 | 2.87 | 0.42 |
| 2:AA:1500:G:O2' | 4:AD:98:GLY:CA | 2.68 | 0.42 |
| 2:AA:1529:A:C5' | 2:AA:1530:G:C8 | 3.02 | 0.42 |
| 2:AA:1543:A:H3' | 2:AA:1544:C:C5 | 2.48 | 0.42 |
| 2:AA:1608:A:O2' | 2:AA:1609:A:C5' | 2.67 | 0.42 |
| 2:AA:1672:C:H5 | 2:AA:1673:U:C5 | 2.37 | 0.42 |
| 2:AA:1685:C:O2 | 2:AA:1704:G:C2 | 2.73 | 0.42 |
| 2:AA:1882:C:O5' | 2:AA:1883:G:OP2 | 2.36 | 0.42 |
| 2:AA:1907:G:N1 | 2:AA:1908:C:C4 | 2.88 | 0.42 |
| 2:AA:1913:A:H2' | 2:AA:1916:A:N6 | 2.35 | 0.42 |
| 2:AA:1913:A:N6 | 2:AA:1916:A:C3' | 2.82 | 0.42 |
| 2:AA:1961:C:H2' | 2:AA:1962:C:C5' | 2.50 | 0.42 |
| 2:AA:2059:A:C2 | 2:AA:2503:A:C5 | 3.08 | 0.42 |
| 2:AA:2106:G:N1 | 2:AA:2184:G:C6 | 2.87 | 0.42 |
| 2:AA:2124:G:N7 | 3:AC:129:ARG:HG2 | 2.35 | 0.42 |
| 2:AA:2199:A:N7 | 2:AA:2205:C:C5 | 2.88 | 0.42 |
| 2:AA:2239:G:C2' | 2:AA:2240:C:O4' | 2.61 | 0.42 |
| 2:AA:2287:A:C5 | 2:AA:2289:G:C5 | 3.08 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2315:G:C2' | 2:AA:2316:C:O5' | 2.68 | 0.42 |
| 2:AA:2330:G:N2 | 2:AA:2385:C:C4 | 2.84 | 0.42 |
| 2:AA:2406:U:O2 | 14:AO:56:LYS:HG2 | 2.20 | 0.42 |
| 2:AA:2436:G:O6 | 2:AA:2437:U:O4 | 2.37 | 0.42 |
| 2:AA:2509:G:H21 | 2:AA:2510:C:H1' | 1.78 | 0.42 |
| 2:AA:2525:G:N2 | 2:AA:2539:C:C2 | 2.88 | 0.42 |
| 2:AA:2549:G:C4 | 2:AA:2550:G:C8 | 3.08 | 0.42 |
| 2:AA:2631:G:N2 | 2:AA:2810:A:H1' | 2.35 | 0.42 |
| 2:AA:2649:U:N3 | 2:AA:2672:G:C2 | 2.88 | 0.42 |
| 2:AA:2652:C:N3 | 2:AA:2669:G:C2 | 2.88 | 0.42 |
| 2:AA:2678:C:C2' | 2:AA:2679:A:H5' | 2.50 | 0.42 |
| 2:AA:2687:U:O2 | 2:AA:2687:U:C2' | 2.61 | 0.42 |
| 2:AA:2887:U:H2' | 2:AA:2888:C:C6 | 2.52 | 0.42 |
| 3:AC:56:GLN:NE2 | 3:AC:203:GLY:O | 2.52 | 0.42 |
| 3:AC:59:ARG:NE | 3:AC:139:ASN:ND2 | 2.67 | 0.42 |
| 3:AC:132:GLY:N | 3:AC:133:PRO:CD | 2.83 | 0.42 |
| 4:AD:81:GLU:HG3 | 4:AD:92:LEU:HD11 | 2.00 | 0.42 |
| 4:AD:147:PRO:C | 4:AD:149:ARG:HH12 | 2.23 | 0.42 |
| 4:AD:161:ALA:CB | 4:AD:173:VAL:HG12 | 2.34 | 0.42 |
| 4:AD:227:VAL:HG22 | 4:AD:227:VAL:O | 2.19 | 0.42 |
| 5:AE:256:THR:HG22 | 5:AE:259:HIS:CE1 | 2.55 | 0.42 |
| 6:AF:115:LEU:HD13 | 6:AF:118:THR:CG2 | 2.49 | 0.42 |
| 8:AH:7:PRO:O | 8:AH:8:ILE:HG13 | 2.19 | 0.42 |
| 8:AH:43:THR:HG1 | 8:AH:50:THR:CA | 2.33 | 0.42 |
| 9:AI:103:LYS:HB2 | 9:AI:114:ILE:HG21 | 2.02 | 0.42 |
| 9:AJ:40:ALA:O | 9:AJ:43:PRO:CD | 2.65 | 0.42 |
| 9:AJ:49:ALA:O | 9:AJ:52:ALA:HB3 | 2.19 | 0.42 |
| 9:AJ:63:LEU:HD21 | 9:AJ:118:LEU:HB3 | 2.02 | 0.42 |
| 9:AJ:80:ILE:CG2 | 9:AJ:81:THR:N | 2.82 | 0.42 |
| 10:AK:62:LEU:HB3 | 10:AK:66:LYS:HZ3 | 1.85 | 0.42 |
| 10:AK:78:THR:HG22 | 10:AK:144:HIS:NE2 | 2.34 | 0.42 |
| 10:AK:95:SER:OG | 10:AK:115:ILE:CD1 | 2.64 | 0.42 |
| 10:AK:124:LEU:HD11 | 10:AK:146:THR:C | 2.40 | 0.42 |
| 11:AL:93:LYS:CD | 21:AV:108:VAL:HG12 | 2.50 | 0.42 |
| 11:AL:124:ALA:O | 11:AL:125:MET:C | 2.58 | 0.42 |
| 12:AM:6:PHE:HE1 | 12:AM:109:TYR:CZ | 2.36 | 0.42 |
| 12:AM:15:ARG:CB | 12:AM:43:ARG:HD2 | 2.49 | 0.42 |
| 13:AN:63:VAL:CG2 | 13:AN:85:VAL:HG23 | 2.32 | 0.42 |
| 14:AO:64:ILE:CB | 14:AO:107:LYS:O | 2.65 | 0.42 |
| 15:AP:71:PHE:O | 15:AP:138:ARG:NH1 | 2.52 | 0.42 |
| 15:AP:84:ARG:C | 15:AP:85:ILE:HG23 | 2.41 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AP:85:ILE:HA | 15:AP:122:PHE:HB3 | 2.02 | 0.42 |
| 15:AP:132:VAL:O | 15:AP:135:ALA:N | 2.52 | 0.42 |
| 18:AS:18:ARG:O | 18:AS:19:LEU:C | 2.59 | 0.42 |
| 18:AS:50:VAL:HG12 | 18:AS:105:VAL:CG2 | 2.50 | 0.42 |
| 19:AT:5:ILE:CG1 | 19:AT:40:ALA:CB | 2.94 | 0.42 |
| 20:AU:22:GLN:O | 20:AU:24:ARG:N | 2.53 | 0.42 |
| 20:AU:77:VAL:CA | 20:AU:89:ARG:NH1 | 2.65 | 0.42 |
| 20:AU:105:ASP:O | 20:AU:108:ARG:HB2 | 2.19 | 0.42 |
| 21:AV:56:VAL:HG12 | 21:AV:56:VAL:O | 2.20 | 0.42 |
| 21:AV:79:ILE:CG2 | 21:AV:80:HIS:CE1 | 3.02 | 0.42 |
| 21:AV:138:VAL:HB | 21:AV:140:LYS:NZ | 2.33 | 0.42 |
| 22:AW:19:GLU:CD | 22:AW:20:LEU:N | 2.73 | 0.42 |
| 24:A0:38:VAL:O | 24:A0:39:PRO:C | 2.58 | 0.42 |
| 24:A0:49:ASP:O | 24:A0:52:ILE:CB | 2.67 | 0.42 |
| 25:A1:28:ARG:HB3 | 25:A1:38:THR:HG21 | 2.01 | 0.42 |
| 26:A2:5:ILE:O | 26:A2:6:GLN:HG2 | 2.19 | 0.42 |
| 27:A3:46:LYS:HG2 | 27:A3:58:THR:HG23 | 2.01 | 0.42 |
| 28:A4:49:PHE:HZ | 28:A4:70:GLY:O | 2.01 | 0.42 |
| 28:A4:59:PHE:N | 28:A4:59:PHE:CD1 | 2.76 | 0.42 |
| 29:A5:6:VAL:O | 29:A5:7:PRO:C | 2.57 | 0.42 |
| 29:A5:15:LYS:HA | 29:A5:18:MET:HG3 | 1.92 | 0.42 |
| 29:A5:50:GLY:HA3 | 29:A5:57:VAL:HB | 2.00 | 0.42 |
| 34:BA:14:U:H3 | 34:BA:16:A:H3' | 1.85 | 0.42 |
| 34:BA:16:A:N6 | 34:BA:920:U:N3 | 2.68 | 0.42 |
| 34:BA:46:G:OP1 | 34:BA:307:C:O4' | 2.37 | 0.42 |
| 34:BA:197:A:C6 | 34:BA:221:C:H5' | 2.55 | 0.42 |
| 34:BA:255:G:H5' | 52:BT:16:GLN:O | 2.20 | 0.42 |
| 34:BA:270:A:N6 | 34:BA:271:C:N4 | 2.68 | 0.42 |
| 34:BA:330:C:H2' | 34:BA:331:G:C8 | 2.53 | 0.42 |
| 34:BA:422:C:OP2 | 34:BA:422:C:C6 | 2.72 | 0.42 |
| 34:BA:436:C:O2' | 39:BG:157:LEU:HD11 | 2.20 | 0.42 |
| 34:BA:463:A:H1' | 51:BS:82:GLN:HG2 | 2.01 | 0.42 |
| 34:BA:490:G:H8 | 34:BA:490:G:O5' | 2.02 | 0.42 |
| 34:BA:502:G:C2 | 34:BA:503:C:C2 | 3.07 | 0.42 |
| 34:BA:545:C:OP1 | 39:BG:72:GLU:HG2 | 2.20 | 0.42 |
| 34:BA:587:G:C2 | 34:BA:755:G:C4 | 3.08 | 0.42 |
| 34:BA:690:G:C6 | 34:BA:691:G:C4 | 3.08 | 0.42 |
| 34:BA:696:A:N3 | 34:BA:697:U:C6 | 2.88 | 0.42 |
| 34:BA:730:G:N2 | 34:BA:765:G:C5' | 2.83 | 0.42 |
| 34:BA:748:C:O2 | 34:BA:749:C:H5 | 2.03 | 0.42 |
| 34:BA:768:A:N6 | 34:BA:769:G:C5 | 2.87 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:784:C:N3 | 34:BA:785:G:C8 | 2.87 | 0.42 |
| 34:BA:874:G:N2 | 34:BA:875:C:N1 | 2.67 | 0.42 |
| 34:BA:878:G:OP1 | 43:BK:88:LYS:CB | 2.68 | 0.42 |
| 34:BA:920:U:O2' | 34:BA:921:U:H5' | 2.20 | 0.42 |
| 34:BA:930:C:C2' | 34:BA:931:C:O5' | 2.68 | 0.42 |
| 34:BA:954:G:N2 | 34:BA:1228:C:C4 | 2.87 | 0.42 |
| 34:BA:1003:G:N3 | 34:BA:1003:G:C2' | 2.83 | 0.42 |
| 34:BA:3(A):G:C6 | 34:BA:1004:A:H1' | 2.54 | 0.42 |
| 34:BA:1005:A:H5' | 34:BA:1037:C:H1' | 2.01 | 0.42 |
| 34:BA:1089:G:C2 | 34:BA:1097:C:C2 | 3.08 | 0.42 |
| 34:BA:1089:G:C5 | 34:BA:1090:U:C5 | 3.08 | 0.42 |
| 34:BA:1128:C:N4 | 34:BA:1143:G:N1 | 2.67 | 0.42 |
| 34:BA:1227:A:O2' | 48:BP:115:LYS:HD3 | 2.19 | 0.42 |
| 34:BA:1229:A:O2' | 34:BA:1230:C:O4' | 2.38 | 0.42 |
| 34:BA:1252:A:C6 | 34:BA:1253:G:C8 | 3.07 | 0.42 |
| 34:BA:1275:A:N3 | 34:BA:1275:A:H2' | 2.35 | 0.42 |
| 34:BA:1394:A:C5 | 34:BA:1501:C:O4' | 2.73 | 0.42 |
| 34:BA:1476:G:H2' | 34:BA:1477:C:C6 | 2.54 | 0.42 |
| 34:BA:1479:C:H2' | 34:BA:1480:G:O4' | 2.19 | 0.42 |
| 34:BA:1497:G:O2' | 34:BA:1519:A:H2 | 1.95 | 0.42 |
| 34:BA:1507:A:H2' | 34:BA:1508:G:O4' | 2.18 | 0.42 |
| 34:BA:1507:A:C2 | 34:BA:1530:G:C1' | 3.02 | 0.42 |
| 34:BA:1509:C:O2' | 34:BA:1510:U:H5' | 2.20 | 0.42 |
| 35:BC:75:C:H3' | 35:BC:75:C:H6 | 1.84 | 0.42 |
| 36:B1:59:A:O4' | 36:B1:59:A:OP1 | 2.38 | 0.42 |
| 37:BE:162:ILE:HD11 | 37:BE:177:ALA:HB1 | 2.00 | 0.42 |
| 38:BF:29:TYR:O | 38:BF:29:TYR:HD2 | 2.03 | 0.42 |
| 38:BF:49:SER:O | 38:BF:51:GLY:N | 2.53 | 0.42 |
| 38:BF:153:VAL:HB | 38:BF:166:GLU:CB | 2.29 | 0.42 |
| 39:BG:19:LEU:HA | 39:BG:19:LEU:HD23 | 1.83 | 0.42 |
| 40:BH:57:LYS:CG | 40:BH:61:TYR:CE2 | 2.91 | 0.42 |
| 40:BH:146:ALA:O | 40:BH:147:ASP:C | 2.57 | 0.42 |
| 41:BI:57:GLN:NE2 | 41:BI:57:GLN:N | 2.67 | 0.42 |
| 43:BK:103:VAL:CB | 43:BK:108:GLY:C | 2.85 | 0.42 |
| 43:BK:122:ARG:CD | 43:BK:122:ARG:H | 2.29 | 0.42 |
| 44:BL:62:TYR:O | 44:BL:63:ILE:HG13 | 2.19 | 0.42 |
| 46:BN:11:LYS:CA | 46:BN:13:GLN:HE21 | 2.33 | 0.42 |
| 46:BN:84:VAL:CG2 | 46:BN:109:VAL:O | 2.67 | 0.42 |
| 47:BO:27:LEU:HD22 | 47:BO:62:SER:HB3 | 2.00 | 0.42 |
| 48:BP:45:VAL:O | 48:BP:47:ASP:N | 2.53 | 0.42 |
| 48:BP:55:ARG:HE | 48:BP:55:ARG:HB2 | 1.55 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 51:BS:58:TYR:CD1 | 51:BS:59:TRP:CA | 2.93 | 0.42 |
| 53:BU:17:SER:OG | 53:BU:55:ARG:HD2 | 2.20 | 0.42 |
| 53:BU:28:GLU:O | 53:BU:28:GLU:OE1 | 2.38 | 0.42 |
| 54:BV:15:LEU:H | 54:BV:15:LEU:CD2 | 2.12 | 0.42 |
| 55:BW:22:ARG:O | 55:BW:25:ARG:N | 2.53 | 0.42 |
| 55:BW:89:ARG:HH11 | 55:BW:89:ARG:HD3 | 1.74 | 0.42 |
| 1:AB:48:A:H2' | 1:AB:49:C:C5 | 2.55 | 0.42 |
| 1:AB:59:A:C5' | 7:AG:144:ARG:NE | 2.83 | 0.42 |
| 1:AB:62:C:C2 | 1:AB:63:G:N7 | 2.88 | 0.42 |
| 1:AB:71:C:C2 | 1:AB:72:G:N9 | 2.87 | 0.42 |
| 1:AB:73:A:C2 | 1:AB:74:U:C6 | 3.08 | 0.42 |
| 1:AB:91:C:HO2' | 1:AB:92:G:H5' | 1.83 | 0.42 |
| 2:AA:18:C:H4' | 25:A1:24:PHE:O | 2.20 | 0.42 |
| 2:AA:115:C:C2' | 2:AA:116:C:O5' | 2.68 | 0.42 |
| 2:AA:140:A:H2' | 2:AA:141:A:OP1 | 2.20 | 0.42 |
| 2:AA:143:C:C6 | 2:AA:143:C:P | 3.13 | 0.42 |
| 2:AA:270(D):C:C2 | 2:AA:270(E):G:N7 | 2.88 | 0.42 |
| 2:AA:270(J):G:C6 | 2:AA:270(P):C:N3 | 2.84 | 0.42 |
| 2:AA:270(V):G:OP2 | 2:AA:270(V):G:H8 | 2.02 | 0.42 |
| 2:AA:271(C):U:O5' | 2:AA:271(C):U:C6 | 2.73 | 0.42 |
| 2:AA:271:G:C2' | 2:AA:272:G:H8 | 2.16 | 0.42 |
| 2:AA:297:C:N4 | 2:AA:342:G:N1 | 2.67 | 0.42 |
| 2:AA:325:G:C2 | 2:AA:326:G:C4 | 3.08 | 0.42 |
| 2:AA:360:G:O2' | 2:AA:361:G:C4' | 2.67 | 0.42 |
| 2:AA:364:C:OP2 | 2:AA:364:C:H6 | 2.03 | 0.42 |
| 2:AA:373:U:C2' | 2:AA:374:A:OP2 | 2.67 | 0.42 |
| 2:AA:566:U:C2' | 2:AA:567:A:H8 | 2.32 | 0.42 |
| 2:AA:576:U:C2 | 2:AA:577:G:C8 | 3.08 | 0.42 |
| 2:AA:596:G:C6 | 2:AA:597:U:C2 | 3.08 | 0.42 |
| 2:AA:612:G:O3' | 2:AA:615:G:C2' | 2.68 | 0.42 |
| 2:AA:613:U:O5' | 2:AA:615:G:C8 | 2.73 | 0.42 |
| 2:AA:617:G:OP1 | 6:AF:219:ASN:ND2 | 2.53 | 0.42 |
| 2:AA:673:C:H4' | 6:AF:82:GLN:CD | 2.41 | 0.42 |
| 2:AA:711:G:H2' | 2:AA:712:G:O5' | 2.20 | 0.42 |
| 2:AA:756:C:H2' | 2:AA:757:U:H5' | 2.02 | 0.42 |
| 2:AA:764:A:OP1 | 4:AD:212:HIS:NE2 | 2.53 | 0.42 |
| 2:AA:797:C:H6 | 2:AA:797:C:O5' | 2.02 | 0.42 |
| 2:AA:816:C:N3 | 2:AA:1191:G:O6 | 2.53 | 0.42 |
| 2:AA:852:G:C6 | 2:AA:853:G:C5 | 3.08 | 0.42 |
| 2:AA:874:G:N2 | 2:AA:875:G:C4 | 2.88 | 0.42 |
| 2:AA:958:U:O2' | 2:AA:959:A:C5' | 2.68 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1094:U:N3 | 2:AA:1096:A:H5" | 2.35 | 0.42 |
| 2:AA:1191:G:H2' | 2:AA:1192:G:C8 | 2.47 | 0.42 |
| 2:AA:1210:A:H5' | 2:AA:1211:U:C3' | 2.42 | 0.42 |
| 2:AA:1233:C:C2 | 2:AA:1234:U:H6 | 2.38 | 0.42 |
| 2:AA:1331:A:H2' | 2:AA:1333:C:H5 | 1.85 | 0.42 |
| 2:AA:1416:G:N2 | 2:AA:1582:C:N4 | 2.63 | 0.42 |
| 2:AA:1439:A:H2' | 2:AA:1440:G:C4' | 2.47 | 0.42 |
| 2:AA:1444:G:C8 | 2:AA:1445:C:N4 | 2.88 | 0.42 |
| 2:AA:1570:A:C4 | 2:AA:1571:A:N7 | 2.88 | 0.42 |
| 2:AA:1578:U:H2' | 2:AA:1578:U:O2 | 2.20 | 0.42 |
| 2:AA:1792:G:C8 | 2:AA:1792:G:C3' | 3.02 | 0.42 |
| 2:AA:1815:A:O2' | 2:AA:1816:G:P | 2.75 | 0.42 |
| 2:AA:1922:G:C8 | 2:AA:1922:G:H3' | 2.54 | 0.42 |
| 2:AA:1943:U:C2' | 2:AA:1944:U:OP2 | 2.68 | 0.42 |
| 2:AA:2000:G:C6 | 2:AA:2001:A:N6 | 2.88 | 0.42 |
| 2:AA:2009:G:C2' | 2:AA:2010:G:O5' | 2.68 | 0.42 |
| 2:AA:2076:U:H3' | 2:AA:2076:U:H6 | 1.84 | 0.42 |
| 2:AA:2078:C:H1' | 2:AA:2434:A:N3 | 2.35 | 0.42 |
| 2:AA:2099:U:H2' | 2:AA:2100:G:O5' | 2.20 | 0.42 |
| 2:AA:2103:C:O2' | 2:AA:2104:G:C5' | 2.62 | 0.42 |
| 2:AA:2238:G:H4' | 2:AA:2240:C:H5 | 1.85 | 0.42 |
| 2:AA:2282:G:H5" | 2:AA:2283:C:O5' | 2.20 | 0.42 |
| 2:AA:2284:C:C4 | 2:AA:2285:C:C4 | 3.08 | 0.42 |
| 2:AA:2298:A:C2' | 2:AA:2299:G:H5' | 2.50 | 0.42 |
| 2:AA:2361:A:C4 | 2:AA:2362:G:C8 | 3.07 | 0.42 |
| 2:AA:2463:C:N3 | 2:AA:2487:G:C6 | 2.85 | 0.42 |
| 2:AA:2467:C:C5 | 2:AA:2468:G:C6 | 3.08 | 0.42 |
| 2:AA:2492:U:C2 | 2:AA:2493:U:C5 | 3.07 | 0.42 |
| 2:AA:2495:G:O2' | 15:AP:101:MET:CG | 2.68 | 0.42 |
| 2:AA:2529:G:O5' | 2:AA:2530:A:H5" | 2.20 | 0.42 |
| 2:AA:2578:G:C2 | 2:AA:2579:C:C6 | 3.08 | 0.42 |
| 2:AA:2583:G:N3 | 2:AA:2584:U:O2 | 2.53 | 0.42 |
| 2:AA:2619:C:O2 | 2:AA:2620:C:C6 | 2.73 | 0.42 |
| 2:AA:2625:G:H3' | 2:AA:2626:C:C6 | 2.54 | 0.42 |
| 2:AA:2688:U:C5 | 2:AA:2720:U:OP2 | 2.72 | 0.42 |
| 2:AA:2718:G:C2 | 2:AA:2719:G:C4 | 3.08 | 0.42 |
| 2:AA:2740:A:H61 | 2:AA:2764:A:H1' | 1.85 | 0.42 |
| 2:AA:2754:U:C2 | 2:AA:2756:U:OP1 | 2.73 | 0.42 |
| 2:AA:2763:G:H8 | 2:AA:2763:G:O5' | 2.02 | 0.42 |
| 2:AA:2881:C:O2' | 24:A0:96:ARG:HA | 2.20 | 0.42 |
| 3:AC:10:LEU:HG | 3:AC:32:LEU:CD2 | 2.44 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:63:ILE:HD12 | 4:AD:63:ILE:HG23 | 1.68 | 0.42 |
| 4:AD:66:PHE:HB3 | 4:AD:67:LYS:HZ2 | 1.85 | 0.42 |
| 4:AD:104:ILE:O | 4:AD:104:ILE:CD1 | 2.66 | 0.42 |
| 4:AD:107:LYS:HB3 | 4:AD:193:GLU:OE1 | 2.19 | 0.42 |
| 4:AD:130:PRO:HA | 4:AD:188:ARG:HA | 2.00 | 0.42 |
| 4:AD:191:VAL:HB | 4:AD:192:GLY:H | 1.66 | 0.42 |
| 4:AD:198:GLY:C | 4:AD:200:THR:H | 2.23 | 0.42 |
| 5:AE:80:ALA:HB2 | 5:AE:185:GLY:O | 2.20 | 0.42 |
| 6:AF:87:ARG:NH1 | 6:AF:87:ARG:CG | 2.78 | 0.42 |
| 6:AF:217:GLU:C | 6:AF:218:VAL:CG2 | 2.88 | 0.42 |
| 7:AG:151:ILE:HD13 | 7:AG:156:ARG:NH1 | 2.34 | 0.42 |
| 8:AH:39:ASP:O | 8:AH:39:ASP:CG | 2.58 | 0.42 |
| 8:AH:43:THR:CG2 | 8:AH:52:THR:HG23 | 2.49 | 0.42 |
| 10:AK:78:THR:OG1 | 10:AK:106:HIS:HE1 | 2.02 | 0.42 |
| 11:AL:72:THR:HG23 | 11:AL:115:ASP:CB | 2.50 | 0.42 |
| 11:AL:100:VAL:HG12 | 11:AL:104:GLN:OE1 | 2.19 | 0.42 |
| 11:AL:140:VAL:O | 11:AL:140:VAL:HG12 | 2.19 | 0.42 |
| 12:AM:24:SER:CB | 12:AM:86:MET:CE | 2.86 | 0.42 |
| 13:AN:19:VAL:CG1 | 13:AN:20:LEU:N | 2.83 | 0.42 |
| 14:AO:55:GLN:NE2 | 14:AO:56:LYS:HB3 | 2.34 | 0.42 |
| 14:AO:142:LEU:O | 14:AO:143:THR:C | 2.58 | 0.42 |
| 15:AP:48:ASN:OD1 | 15:AP:121:ASP:OD1 | 2.37 | 0.42 |
| 15:AP:133:GLU:OE1 | 15:AP:133:GLU:O | 2.37 | 0.42 |
| 16:AQ:38:LYS:NZ | 16:AQ:114:LYS:CD | 2.80 | 0.42 |
| 18:AS:6:ILE:CG1 | 18:AS:104:THR:CG2 | 2.96 | 0.42 |
| 18:AS:15:ARG:O | 18:AS:16:LYS:C | 2.59 | 0.42 |
| 18:AS:76:VAL:HG23 | 18:AS:103:ILE:HA | 2.02 | 0.42 |
| 19:AT:6:LYS:CE | 19:AT:29:ASP:HA | 2.50 | 0.42 |
| 19:AT:9:HIS:NE2 | 19:AT:61:GLU:CD | 2.74 | 0.42 |
| 20:AU:18:GLU:CA | 20:AU:21:LYS:HD3 | 2.49 | 0.42 |
| 20:AU:19:ARG:HA | 20:AU:22:GLN:HE21 | 1.81 | 0.42 |
| 21:AV:19:ILE:HG13 | 21:AV:79:ILE:CA | 2.43 | 0.42 |
| 21:AV:37:LYS:O | 21:AV:40:ASP:CB | 2.67 | 0.42 |
| 21:AV:116:VAL:CG2 | 21:AV:169:VAL:HG22 | 2.50 | 0.42 |
| 23:AX:20:LYS:O | 23:AX:23:LEU:HG | 2.20 | 0.42 |
| 23:AX:37:LEU:HA | 23:AX:37:LEU:HD23 | 1.44 | 0.42 |
| 24:A0:25:ALA:CB | 24:A0:48:VAL:HG22 | 2.50 | 0.42 |
| 26:A2:74:TYR:OH | 26:A2:88:GLN:CA | 2.58 | 0.42 |
| 27:A3:39:ARG:O | 27:A3:39:ARG:CG | 2.65 | 0.42 |
| 27:A3:45:PHE:CE1 | 27:A3:78:PHE:HD2 | 2.38 | 0.42 |
| 28:A4:43:TRP:C | 28:A4:61:LYS:HE3 | 2.39 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:A6:8:ILE:H | 30:A6:8:ILE:HG12 | 1.66 | 0.42 |
| 30:A6:46:LYS:HE2 | 30:A6:46:LYS:CA | 2.45 | 0.42 |
| 30:A6:54:LYS:NZ | 30:A6:54:LYS:CA | 2.76 | 0.42 |
| 31:A7:21:ARG:CZ | 31:A7:43:THR:CB | 2.98 | 0.42 |
| 34:BA:8:A:C8 | 34:BA:8:A:OP2 | 2.73 | 0.42 |
| 34:BA:32:A:H2' | 34:BA:33:A:H8 | 1.82 | 0.42 |
| 34:BA:158:G:C2 | 34:BA:164:U:O2 | 2.73 | 0.42 |
| 34:BA:233:C:C4 | 34:BA:234:C:C5 | 3.07 | 0.42 |
| 34:BA:307:C:H3' | 34:BA:307:C:C2 | 2.54 | 0.42 |
| 34:BA:371:G:C3' | 34:BA:372:C:H5' | 2.49 | 0.42 |
| 34:BA:372:C:C4 | 34:BA:389:A:N6 | 2.76 | 0.42 |
| 34:BA:373:A:C8 | 34:BA:482:A:C8 | 3.07 | 0.42 |
| 34:BA:411:A:C5 | 34:BA:429:U:C4 | 3.08 | 0.42 |
| 34:BA:440:A:N6 | 34:BA:495:U:C4 | 2.86 | 0.42 |
| 34:BA:497:A:H4' | 34:BA:498:U:OP1 | 2.19 | 0.42 |
| 34:BA:539:A:H2' | 34:BA:540:G:H8 | 1.83 | 0.42 |
| 34:BA:558:G:O5' | 34:BA:559:A:O3' | 2.38 | 0.42 |
| 34:BA:673:G:O2' | 34:BA:674:G:N9 | 2.53 | 0.42 |
| 34:BA:761:G:C5 | 34:BA:762:C:C5 | 3.08 | 0.42 |
| 34:BA:774:G:C6 | 34:BA:775:G:N7 | 2.88 | 0.42 |
| 34:BA:791:G:C5 | 34:BA:792:A:N7 | 2.88 | 0.42 |
| 34:BA:913:A:HO2' | 34:BA:914:A:C4' | 2.15 | 0.42 |
| 34:BA:920:U:C2 | 34:BA:921:U:H6 | 2.37 | 0.42 |
| 34:BA:975:A:C4 | 34:BA:1357:A:H2 | 2.38 | 0.42 |
| 34:BA:994:A:H2 | 49:BQ:4:LYS:CB | 2.31 | 0.42 |
| 34:BA:30(D):A:H2' | 34:BA:1031:G:C4' | 2.50 | 0.42 |
| 34:BA:1076:C:N4 | 34:BA:1082:G:C6 | 2.88 | 0.42 |
| 34:BA:1086:U:C4 | 34:BA:1099:G:N1 | 2.82 | 0.42 |
| 34:BA:1129:C:O2' | 34:BA:1131:G:C3' | 2.63 | 0.42 |
| 34:BA:1129:C:O2 | 34:BA:1132:C:OP2 | 2.37 | 0.42 |
| 34:BA:1171:G:C2 | 34:BA:1172:C:C4 | 3.08 | 0.42 |
| 34:BA:1309:G:OP1 | 48:BP:88:ARG:HD2 | 2.19 | 0.42 |
| 34:BA:1498:U:O2 | 34:BA:1498:U:C2' | 2.67 | 0.42 |
| 34:BA:1537:U:N3 | 36:B1:53:G:C6 | 2.87 | 0.42 |
| 35:BB:22:G:C2 | 35:BB:23:A:N7 | 2.87 | 0.42 |
| 36:B1:50:G:C6 | 36:B1:51:G:O6 | 2.73 | 0.42 |
| 37:BE:18:GLY:HA3 | 37:BE:41:ILE:CG2 | 2.45 | 0.42 |
| 37:BE:29:ALA:O | 37:BE:31:TYR:N | 2.53 | 0.42 |
| 37:BE:70:PHE:HE2 | 37:BE:163:PHE:CB | 2.29 | 0.42 |
| 37:BE:186:ALA:O | 37:BE:201:ILE:CB | 2.58 | 0.42 |
| 38:BF:16:ARG:C | 38:BF:17:ASP:OD1 | 2.58 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:94:LEU:O | 38:BF:95:THR:CG2 | 2.66 | 0.42 |
| 38:BF:120:VAL:CG2 | 38:BF:137:ALA:CB | 2.98 | 0.42 |
| 39:BG:79:PHE:O | 39:BG:80:GLU:C | 2.56 | 0.42 |
| 40:BH:65:ASN:ND2 | 40:BH:136:MET:CE | 2.71 | 0.42 |
| 41:BI:73:ASN:O | 41:BI:76:ALA:N | 2.52 | 0.42 |
| 41:BI:77:ARG:O | 41:BI:78:GLU:C | 2.57 | 0.42 |
| 42:BJ:13:GLN:HA | 42:BJ:14:PRO:HD2 | 1.87 | 0.42 |
| 42:BJ:44:TYR:C | 42:BJ:46:ALA:N | 2.69 | 0.42 |
| 42:BJ:62:PHE:HA | 42:BJ:124:LEU:HD21 | 2.02 | 0.42 |
| 42:BJ:149:ARG:O | 42:BJ:150:ALA:C | 2.57 | 0.42 |
| 43:BK:6:ILE:CG1 | 43:BK:85:ARG:HD3 | 2.50 | 0.42 |
| 43:BK:18:ARG:NH1 | 43:BK:18:ARG:HG3 | 2.34 | 0.42 |
| 43:BK:102:ARG:HB2 | 43:BK:105:ARG:HH11 | 1.85 | 0.42 |
| 44:BL:24:GLY:HA3 | 44:BL:57:GLY:HA2 | 2.02 | 0.42 |
| 44:BL:27:THR:HG22 | 44:BL:30:GLY:H | 1.85 | 0.42 |
| 44:BL:97:LYS:O | 44:BL:100:GLY:N | 2.53 | 0.42 |
| 44:BL:111:ARG:HB3 | 44:BL:113:LYS:HE3 | 2.02 | 0.42 |
| 47:BO:8:ASN:C | 47:BO:12:ARG:HH21 | 2.23 | 0.42 |
| 50:BR:3:ILE:CG2 | 50:BR:34:LEU:HD21 | 2.45 | 0.42 |
| 52:BT:45:HIS:C | 52:BT:73:VAL:HG23 | 2.33 | 0.42 |
| 52:BT:97:SER:C | 52:BT:98:LEU:CG | 2.82 | 0.42 |
| 55:BW:13:LEU:O | 55:BW:14:LYS:O | 2.38 | 0.42 |
| 55:BW:44:ALA:HB3 | 55:BW:91:LEU:HD12 | 2.02 | 0.42 |
| 2:AA:71:A:P | 2:AA:71:A:H3' | 2.60 | 0.41 |
| 2:AA:84:A:C6 | 2:AA:99:U:H1' | 2.55 | 0.41 |
| 2:AA:135:G:C6 | 2:AA:144:C:N4 | 2.85 | 0.41 |
| 2:AA:197:A:O4' | 2:AA:2068:U:C2 | 2.73 | 0.41 |
| 2:AA:231:C:N3 | 2:AA:232:G:N2 | 2.51 | 0.41 |
| 2:AA:245:G:O6 | 2:AA:253:C:N4 | 2.53 | 0.41 |
| 2:AA:247:G:N2 | 32:A8:8:LYS:HE3 | 2.35 | 0.41 |
| 2:AA:270(C):C:N3 | 2:AA:270(W):G:C2 | 2.88 | 0.41 |
| 2:AA:298:G:H8 | 2:AA:298:G:O5' | 2.03 | 0.41 |
| 2:AA:337:C:C3' | 2:AA:338:G:H5" | 2.36 | 0.41 |
| 2:AA:344:G:O3' | 2:AA:345:A:O4' | 2.38 | 0.41 |
| 2:AA:388:G:N3 | 2:AA:390:A:N1 | 2.68 | 0.41 |
| 2:AA:397:G:OP1 | 28:A4:41:PRO:CD | 2.68 | 0.41 |
| 2:AA:495:G:C2' | 2:AA:496:G:O5' | 2.68 | 0.41 |
| 2:AA:526:A:N1 | 2:AA:2626:C:O4' | 2.53 | 0.41 |
| 2:AA:531:C:C2 | 2:AA:532:A:O2' | 2.65 | 0.41 |
| 2:AA:661:C:C2 | 2:AA:662:G:C8 | 3.08 | 0.41 |
| 2:AA:673:C:H2' | 2:AA:674:G:C5' | 2.50 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:749:C:C5 | 2:AA:750:A:N7 | 2.88 | 0.41 |
| 2:AA:861:A:C2 | 2:AA:917:A:C2 | 3.08 | 0.41 |
| 2:AA:864:G:N2 | 2:AA:865:C:C4 | 2.88 | 0.41 |
| 2:AA:876:C:H6 | 2:AA:876:C:O5' | 2.02 | 0.41 |
| 2:AA:931:G:C3' | 2:AA:932:G:C8 | 3.03 | 0.41 |
| 2:AA:962:G:C2 | 2:AA:963:U:N3 | 2.88 | 0.41 |
| 2:AA:1028:A:C2 | 2:AA:1029:A:C5 | 3.08 | 0.41 |
| 2:AA:1044:G:C5 | 2:AA:1048:A:C4 | 3.08 | 0.41 |
| 2:AA:1175:U:O2 | 2:AA:1175:U:C2' | 2.67 | 0.41 |
| 2:AA:1267:U:H2' | 2:AA:1268:A:H5' | 2.02 | 0.41 |
| 2:AA:1287:A:C6 | 2:AA:1649:G:O4' | 2.73 | 0.41 |
| 2:AA:1314:C:P | 2:AA:1332:G:H5' | 2.59 | 0.41 |
| 2:AA:1338:G:N2 | 2:AA:1339:G:C4 | 2.88 | 0.41 |
| 2:AA:1342:A:C2 | 2:AA:1345:C:C5 | 3.08 | 0.41 |
| 2:AA:1343:G:C2 | 2:AA:1405:U:C4 | 3.07 | 0.41 |
| 2:AA:1365:A:OP2 | 28:A4:3:LYS:HD2 | 2.19 | 0.41 |
| 2:AA:1376:C:C2' | 2:AA:1377:G:H8 | 2.30 | 0.41 |
| 2:AA:1378:A:C8 | 2:AA:1380:G:C6 | 3.08 | 0.41 |
| 2:AA:1388:G:C5 | 2:AA:1389:G:C8 | 3.08 | 0.41 |
| 2:AA:1463:C:HO2' | 2:AA:1464:C:C5' | 2.33 | 0.41 |
| 2:AA:1599:C:H3' | 2:AA:1599:C:C6 | 2.55 | 0.41 |
| 2:AA:1613:G:N9 | 2:AA:1617:C:N4 | 2.68 | 0.41 |
| 2:AA:1633:G:C6 | 2:AA:1635:G:N2 | 2.88 | 0.41 |
| 2:AA:1685:C:C2 | 2:AA:1704:G:C2 | 3.08 | 0.41 |
| 2:AA:1709:U:C5 | 2:AA:1710:C:C5 | 3.08 | 0.41 |
| 2:AA:1726:G:N1 | 2:AA:1734:C:O2 | 2.51 | 0.41 |
| 2:AA:1779:U:OP2 | 2:AA:1784:A:N6 | 2.48 | 0.41 |
| 2:AA:1807:G:N3 | 2:AA:1809:A:H5' | 2.35 | 0.41 |
| 2:AA:1818:U:H2' | 4:AD:153:LEU:HA | 2.01 | 0.41 |
| 2:AA:1861:G:C2' | 2:AA:1862:G:H5' | 2.50 | 0.41 |
| 2:AA:1893:C:C6 | 2:AA:1894:C:H5 | 2.38 | 0.41 |
| 2:AA:1918:A:OP2 | 2:AA:1918:A:O4' | 2.37 | 0.41 |
| 2:AA:1941:C:C4 | 2:AA:1965:C:C2 | 3.08 | 0.41 |
| 2:AA:1959:G:N1 | 2:AA:1960:A:C5 | 2.87 | 0.41 |
| 2:AA:1999:C:C4 | 2:AA:2000:G:N7 | 2.88 | 0.41 |
| 2:AA:2049:G:C2 | 2:AA:2620:C:C4 | 3.08 | 0.41 |
| 2:AA:2110:G:H3' | 2:AA:2120:G:OP2 | 2.20 | 0.41 |
| 2:AA:2138:C:N3 | 2:AA:2139:C:C5 | 2.88 | 0.41 |
| 2:AA:2263:C:H2' | 2:AA:2264:C:H6 | 1.85 | 0.41 |
| 2:AA:2273:A:C8 | 2:AA:2274:A:N9 | 2.88 | 0.41 |
| 2:AA:2278:A:OP1 | 15:AP:20:ILE:HG23 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2282:G:C4' | 2:AA:2283:C:O5' | 2.68 | 0.41 |
| 2:AA:2313:C:H4' | 7:AG:72:LYS:HB3 | 2.02 | 0.41 |
| 2:AA:2332:U:C2' | 2:AA:2336:A:H62 | 2.29 | 0.41 |
| 2:AA:2333:A:O4' | 2:AA:2335:A:C4 | 2.72 | 0.41 |
| 2:AA:2443:C:C4 | 2:AA:2444:G:N7 | 2.87 | 0.41 |
| 2:AA:2458:G:N7 | 2:AA:2490:G:C4 | 2.87 | 0.41 |
| 2:AA:2461:C:C6 | 2:AA:2461:C:O5' | 2.73 | 0.41 |
| 2:AA:2589:A:N7 | 2:AA:2590:A:N7 | 2.68 | 0.41 |
| 2:AA:2667:C:O2 | 8:AH:108:TYR:HA | 2.18 | 0.41 |
| 2:AA:2688:U:O4 | 2:AA:2720:U:OP2 | 2.38 | 0.41 |
| 2:AA:2718:G:C2' | 2:AA:2719:G:O5' | 2.67 | 0.41 |
| 2:AA:2731:G:OP1 | 5:AE:265:ASN:CG | 2.58 | 0.41 |
| 3:AC:49:ILE:HB | 3:AC:56:GLN:HG2 | 2.02 | 0.41 |
| 3:AC:74:VAL:HG13 | 3:AC:112:ALA:O | 2.20 | 0.41 |
| 3:AC:163:PHE:CG | 3:AC:171:ILE:HD11 | 2.55 | 0.41 |
| 4:AD:77:VAL:HA | 4:AD:93:ILE:HD12 | 2.02 | 0.41 |
| 4:AD:81:GLU:CG | 4:AD:92:LEU:CD1 | 2.94 | 0.41 |
| 6:AF:158:GLU:OE2 | 6:AF:158:GLU:CA | 2.67 | 0.41 |
| 7:AG:53:LYS:HD2 | 7:AG:69:ILE:CG2 | 2.50 | 0.41 |
| 8:AH:34:ARG:HB3 | 8:AH:36:PHE:HE1 | 1.85 | 0.41 |
| 8:AH:163:TYR:O | 8:AH:166:GLU:HG2 | 2.20 | 0.41 |
| 9:AI:18:LEU:CD1 | 9:AI:45:ALA:HA | 2.50 | 0.41 |
| 9:AJ:103:LYS:HD3 | 9:AJ:114:ILE:CG2 | 2.50 | 0.41 |
| 10:AK:25:TYR:C | 10:AK:29:PHE:CZ | 2.93 | 0.41 |
| 10:AK:95:SER:OG | 10:AK:98:ILE:CB | 2.68 | 0.41 |
| 10:AK:99:ALA:O | 10:AK:100:GLU:C | 2.58 | 0.41 |
| 11:AL:72:THR:HG21 | 11:AL:115:ASP:H | 1.85 | 0.41 |
| 12:AM:46:ILE:CG2 | 12:AM:53:ILE:HD11 | 2.42 | 0.41 |
| 12:AM:103:VAL:HG12 | 12:AM:104:TYR:N | 2.35 | 0.41 |
| 13:AN:77:ILE:O | 13:AN:78:ARG:HG2 | 2.20 | 0.41 |
| 14:AO:66:VAL:N | 14:AO:67:ARG:NH2 | 2.48 | 0.41 |
| 14:AO:67:ARG:NH1 | 14:AO:111:ALA:CB | 2.69 | 0.41 |
| 15:AP:27:GLY:O | 15:AP:28:ILE:HG12 | 2.19 | 0.41 |
| 16:AQ:72:GLU:HB3 | 16:AQ:74:PRO:HD2 | 2.01 | 0.41 |
| 16:AQ:76:GLY:O | 16:AQ:80:SER:C | 2.59 | 0.41 |
| 18:AS:11:ARG:HH11 | 18:AS:11:ARG:HG3 | 1.85 | 0.41 |
| 18:AS:84:ARG:C | 18:AS:95:ILE:HG23 | 2.40 | 0.41 |
| 19:AT:7:HIS:CD2 | 19:AT:27:ALA:CB | 3.03 | 0.41 |
| 19:AT:18:MET:HA | 19:AT:24:LEU:HA | 2.01 | 0.41 |
| 20:AU:50:VAL:CG1 | 20:AU:52:ARG:H | 2.33 | 0.41 |
| 20:AU:71:VAL:O | 20:AU:72:ILE:HG13 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AV:36:ARG:HG3 | 21:AV:36:ARG:H | 1.27 | 0.41 |
| 21:AV:46:GLN:HE21 | 21:AV:50:GLY:HA2 | 1.75 | 0.41 |
| 21:AV:103:ARG:HH12 | 21:AV:137:ASP:C | 2.22 | 0.41 |
| 21:AV:163:ASP:OD2 | 21:AV:164:PRO:HG2 | 2.20 | 0.41 |
| 22:AW:19:GLU:OE2 | 22:AW:56:ILE:HD13 | 2.20 | 0.41 |
| 22:AW:51:LYS:O | 22:AW:52:ALA:C | 2.57 | 0.41 |
| 24:A0:83:ILE:O | 24:A0:86:ARG:HG3 | 2.19 | 0.41 |
| 25:A1:89:ASP:CG | 26:A2:51:ALA:HB3 | 2.41 | 0.41 |
| 25:A1:113:SER:HA | 25:A1:116:ALA:HB2 | 2.01 | 0.41 |
| 26:A2:46:VAL:O | 26:A2:47:PHE:CG | 2.73 | 0.41 |
| 27:A3:11:LYS:C | 27:A3:12:ASN:O | 2.57 | 0.41 |
| 27:A3:26:PHE:CA | 27:A3:60:PHE:CE1 | 3.03 | 0.41 |
| 28:A4:41:PRO:HB2 | 28:A4:42:PHE:H | 1.63 | 0.41 |
| 31:A7:4:THR:O | 31:A7:6:GLN:OE1 | 2.37 | 0.41 |
| 32:A8:5:LYS:HB3 | 32:A8:60:LEU:HA | 2.02 | 0.41 |
| 32:A8:13:ARG:CB | 32:A8:24:ALA:HB1 | 2.35 | 0.41 |
| 32:A8:40:GLU:C | 32:A8:42:ARG:N | 2.70 | 0.41 |
| 34:BA:41:G:C2 | 34:BA:42:G:C5 | 3.08 | 0.41 |
| 34:BA:105:G:N2 | 34:BA:379:C:O2' | 2.53 | 0.41 |
| 34:BA:137:C:H2' | 34:BA:138:G:C5' | 2.50 | 0.41 |
| 34:BA:166:G:N1 | 34:BA:167:G:C8 | 2.88 | 0.41 |
| 34:BA:380:G:N2 | 34:BA:383:A:OP2 | 2.52 | 0.41 |
| 34:BA:411:A:H3' | 34:BA:411:A:H8 | 1.84 | 0.41 |
| 34:BA:428:G:C2 | 34:BA:430:A:C6 | 3.07 | 0.41 |
| 34:BA:483:C:N4 | 34:BA:484:G:N2 | 2.67 | 0.41 |
| 34:BA:584:G:N1 | 34:BA:585:G:C5 | 2.88 | 0.41 |
| 34:BA:606:G:N2 | 34:BA:632:A:H62 | 2.17 | 0.41 |
| 34:BA:667:G:N2 | 34:BA:740:U:N1 | 2.67 | 0.41 |
| 34:BA:696:A:H2' | 34:BA:697:U:H6 | 1.84 | 0.41 |
| 34:BA:830:G:C2 | 34:BA:857:C:O2 | 2.73 | 0.41 |
| 34:BA:859:A:H2' | 34:BA:860:A:C4' | 2.48 | 0.41 |
| 34:BA:859:A:N7 | 34:BA:860:A:C4 | 2.88 | 0.41 |
| 34:BA:905:U:C4 | 34:BA:906:G:C4 | 3.08 | 0.41 |
| 34:BA:937:A:H2' | 34:BA:938:A:C8 | 2.55 | 0.41 |
| 34:BA:961:U:C5 | 34:BA:983:A:N6 | 2.88 | 0.41 |
| 34:BA:981:U:C2' | 34:BA:982:U:C5 | 3.00 | 0.41 |
| 34:BA:1051:C:C5 | 34:BA:1052:U:C4 | 3.08 | 0.41 |
| 34:BA:1061:G:C6 | 34:BA:1197:G:C6 | 3.07 | 0.41 |
| 34:BA:1163:C:C4 | 34:BA:1174:G:C2 | 3.08 | 0.41 |
| 34:BA:1193:G:N1 | 34:BA:1194:U:C2 | 2.88 | 0.41 |
| 34:BA:1283:G:C2' | 34:BA:1284:C:C5' | 2.95 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1300:G:C2' | 34:BA:1301:U:OP2 | 2.68 | 0.41 |
| 34:BA:1508:G:C2' | 34:BA:1509:C:O5' | 2.68 | 0.41 |
| 35:BB:65:G:C4 | 35:BB:66:A:N7 | 2.88 | 0.41 |
| 35:BB:72:C:H2' | 35:BB:73:A:O5' | 2.20 | 0.41 |
| 35:BC:23:A:C6 | 35:BC:24:G:C6 | 3.08 | 0.41 |
| 36:B1:66:G:C8 | 36:B1:66:G:P | 3.13 | 0.41 |
| 37:BE:32:ILE:HD11 | 37:BE:40:HIS:CD2 | 2.54 | 0.41 |
| 37:BE:35:GLU:C | 37:BE:36:ARG:NE | 2.73 | 0.41 |
| 37:BE:56:ARG:O | 37:BE:59:GLU:HG3 | 2.20 | 0.41 |
| 37:BE:150:SER:CA | 37:BE:153:ARG:CB | 2.84 | 0.41 |
| 37:BE:167:PRO:HG3 | 37:BE:188:ALA:HB2 | 2.02 | 0.41 |
| 37:BE:217:ARG:HH11 | 37:BE:217:ARG:CG | 2.33 | 0.41 |
| 38:BF:21:ARG:O | 38:BF:22:TRP:HD1 | 2.03 | 0.41 |
| 38:BF:59:ARG:HD3 | 38:BF:64:VAL:HG22 | 2.02 | 0.41 |
| 38:BF:70:VAL:C | 38:BF:106:VAL:HG23 | 2.37 | 0.41 |
| 38:BF:110:ASN:CB | 38:BF:144:SER:OG | 2.68 | 0.41 |
| 38:BF:157:ILE:O | 38:BF:158:GLY:C | 2.59 | 0.41 |
| 38:BF:172:ARG:NH2 | 38:BF:203:PHE:CE2 | 2.83 | 0.41 |
| 39:BG:134:ASP:C | 39:BG:136:PRO:HD3 | 2.39 | 0.41 |
| 39:BG:151:LYS:C | 39:BG:154:ASN:HD22 | 2.23 | 0.41 |
| 39:BG:173:TRP:NE1 | 39:BG:189:PRO:HD3 | 2.34 | 0.41 |
| 40:BH:39:GLY:HA2 | 40:BH:69:VAL:HB | 2.01 | 0.41 |
| 40:BH:95:ALA:HB3 | 40:BH:96:PRO:HD2 | 2.02 | 0.41 |
| 41:BI:80:ARG:CA | 41:BI:85:VAL:HG11 | 2.50 | 0.41 |
| 41:BI:83:ASP:O | 41:BI:84:ASN:C | 2.57 | 0.41 |
| 41:BI:97:PHE:CD2 | 53:BU:31:LEU:HB2 | 2.55 | 0.41 |
| 42:BJ:14:PRO:HB3 | 42:BJ:21:VAL:N | 2.35 | 0.41 |
| 42:BJ:69:VAL:CG2 | 42:BJ:134:ALA:HB1 | 2.41 | 0.41 |
| 42:BJ:146:GLU:HG2 | 42:BJ:149:ARG:CZ | 2.50 | 0.41 |
| 43:BK:39:LEU:HD12 | 43:BK:44:PHE:HB3 | 2.02 | 0.41 |
| 43:BK:93:VAL:HB | 43:BK:133:LEU:CD1 | 2.47 | 0.41 |
| 43:BK:97:VAL:HG12 | 43:BK:99:GLU:HG3 | 2.02 | 0.41 |
| 44:BL:10:ARG:HB2 | 44:BL:104:ARG:O | 2.20 | 0.41 |
| 44:BL:53:VAL:O | 44:BL:54:ASP:HB3 | 2.20 | 0.41 |
| 44:BL:99:LEU:O | 44:BL:101:PHE:CE1 | 2.73 | 0.41 |
| 46:BN:40:ILE:C | 46:BN:41:THR:CG2 | 2.89 | 0.41 |
| 46:BN:43:SER:CA | 46:BN:47:VAL:HG11 | 2.48 | 0.41 |
| 46:BN:45:GLY:HA3 | 46:BN:55:LYS:CG | 2.50 | 0.41 |
| 46:BN:66:LEU:O | 46:BN:68:ALA:N | 2.53 | 0.41 |
| 48:BP:29:ARG:HD3 | 48:BP:64:TRP:CD1 | 2.55 | 0.41 |
| 49:BQ:54:PRO:O | 49:BQ:56:VAL:N | 2.53 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BR:3:ILE:CA | 50:BR:38:ARG:NH2 | 2.83 | 0.41 |
| 50:BR:32:LEU:N | 50:BR:32:LEU:HD23 | 2.34 | 0.41 |
| 50:BR:71:GLN:HA | 50:BR:75:PRO:HA | 2.01 | 0.41 |
| 52:BT:5:VAL:HG22 | 52:BT:59:ILE:O | 2.20 | 0.41 |
| 52:BT:43:LEU:CD2 | 52:BT:43:LEU:C | 2.88 | 0.41 |
| 52:BT:52:LYS:O | 52:BT:55:ASP:OD2 | 2.38 | 0.41 |
| 53:BU:36:ASN:CG | 53:BU:39:VAL:HB | 2.40 | 0.41 |
| 53:BU:63:GLN:CA | 53:BU:66:LEU:CD2 | 2.96 | 0.41 |
| 53:BU:79:LEU:O | 53:BU:79:LEU:CD2 | 2.55 | 0.41 |
| 54:BV:53:ASN:HD21 | 54:BV:58:VAL:CG1 | 2.28 | 0.41 |
| 1:AB:21:G:C2 | 1:AB:63:G:C6 | 3.08 | 0.41 |
| 1:AB:94:C:H6 | 1:AB:94:C:O5' | 2.02 | 0.41 |
| 2:AA:72:U:OP2 | 19:AT:2:TRP:NE1 | 2.53 | 0.41 |
| 2:AA:72:U:O2' | 2:AA:73:A:OP2 | 2.32 | 0.41 |
| 2:AA:97:C:C5 | 2:AA:98:G:N7 | 2.88 | 0.41 |
| 2:AA:133:C:C2 | 2:AA:134:C:C6 | 3.09 | 0.41 |
| 2:AA:172:C:C2 | 2:AA:173:G:N7 | 2.88 | 0.41 |
| 2:AA:199:A:C5 | 2:AA:2433:A:N7 | 2.88 | 0.41 |
| 2:AA:207:A:N3 | 2:AA:208:C:C1' | 2.82 | 0.41 |
| 2:AA:221:A:C6 | 2:AA:266:G:N7 | 2.88 | 0.41 |
| 2:AA:271(B):G:OP1 | 2:AA:271(C):U:O4' | 2.38 | 0.41 |
| 2:AA:358:U:OP2 | 2:AA:359:A:N7 | 2.53 | 0.41 |
| 2:AA:422:A:C2 | 2:AA:423:A:O4' | 2.73 | 0.41 |
| 2:AA:438:G:C6 | 2:AA:439:G:N7 | 2.88 | 0.41 |
| 2:AA:528:A:N7 | 2:AA:2042:A:N7 | 2.68 | 0.41 |
| 2:AA:570:G:C5 | 2:AA:2030:A:N1 | 2.89 | 0.41 |
| 2:AA:614:U:OP2 | 2:AA:615:G:O4' | 2.39 | 0.41 |
| 2:AA:624:C:O2 | 2:AA:657:U:OP1 | 2.38 | 0.41 |
| 2:AA:627:A:N3 | 2:AA:637:A:C2 | 2.87 | 0.41 |
| 2:AA:656:G:H8 | 2:AA:656:G:P | 2.43 | 0.41 |
| 2:AA:675:A:N7 | 2:AA:804:A:N1 | 2.69 | 0.41 |
| 2:AA:705:A:C2 | 2:AA:706:A:C4 | 3.08 | 0.41 |
| 2:AA:759:G:N3 | 2:AA:760:G:C8 | 2.88 | 0.41 |
| 2:AA:804:A:C3' | 2:AA:806:C:H42 | 2.33 | 0.41 |
| 2:AA:859:G:O4' | 2:AA:859:G:P | 2.78 | 0.41 |
| 2:AA:879:G:C2 | 2:AA:880:G:C4 | 3.09 | 0.41 |
| 2:AA:956:G:H2' | 2:AA:957:A:H5' | 2.00 | 0.41 |
| 2:AA:962:G:C2 | 2:AA:963:U:C2 | 3.08 | 0.41 |
| 2:AA:987:G:C2' | 2:AA:988:A:C5' | 2.82 | 0.41 |
| 2:AA:990:A:N6 | 2:AA:1186:G:H1' | 2.35 | 0.41 |
| 2:AA:997:G:N3 | 2:AA:998:C:C5 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1020:A:H4' | 12:AM:49:ARG:NH2 | 2.33 | 0.41 |
| 2:AA:1062:G:H21 | 11:AL:92:PRO:HG3 | 1.77 | 0.41 |
| 2:AA:1071:G:C3' | 2:AA:1072:C:C5' | 2.98 | 0.41 |
| 2:AA:1082:U:O2' | 11:AL:118:ALA:HB2 | 2.19 | 0.41 |
| 2:AA:1164:G:O2' | 2:AA:1165:U:H5' | 2.19 | 0.41 |
| 2:AA:1316:U:C2 | 2:AA:1337:G:N2 | 2.88 | 0.41 |
| 2:AA:1387:C:N4 | 2:AA:1400:G:H1 | 2.14 | 0.41 |
| 2:AA:1468:C:N3 | 2:AA:1469:A:C5 | 2.88 | 0.41 |
| 2:AA:1506:C:H2' | 2:AA:1507:A:O5' | 2.20 | 0.41 |
| 2:AA:1628:G:H2' | 2:AA:1629:U:C6 | 2.54 | 0.41 |
| 2:AA:1640:C:C5 | 2:AA:1641:A:N7 | 2.88 | 0.41 |
| 2:AA:1670:C:O5' | 2:AA:1671:U:H5 | 2.03 | 0.41 |
| 2:AA:1679:U:O2 | 2:AA:1989:G:N2 | 2.39 | 0.41 |
| 2:AA:1791:A:O5' | 2:AA:1791:A:C8 | 2.62 | 0.41 |
| 2:AA:1798:U:H1' | 2:AA:1802:A:C2 | 2.55 | 0.41 |
| 2:AA:1802:A:N3 | 2:AA:1802:A:C2' | 2.77 | 0.41 |
| 2:AA:1805:U:C5' | 4:AD:235:PRO:HG2 | 2.50 | 0.41 |
| 2:AA:1807:G:N2 | 2:AA:1809:A:OP2 | 2.53 | 0.41 |
| 2:AA:1935:G:O2' | 2:AA:1936:A:OP2 | 2.29 | 0.41 |
| 2:AA:1957:C:C2 | 2:AA:1958:C:C5 | 3.08 | 0.41 |
| 2:AA:1957:C:H3' | 2:AA:1958:C:C6 | 2.55 | 0.41 |
| 2:AA:1986:A:C2 | 2:AA:1987:G:N9 | 2.88 | 0.41 |
| 2:AA:2052:G:H4' | 5:AE:239:GLY:O | 2.20 | 0.41 |
| 2:AA:2097:C:C2 | 2:AA:2192:G:N2 | 2.76 | 0.41 |
| 2:AA:2122:U:N3 | 2:AA:2123:G:C8 | 2.88 | 0.41 |
| 2:AA:2148:G:H2' | 2:AA:2149:G:C4' | 2.45 | 0.41 |
| 2:AA:2181:G:N3 | 2:AA:2182:G:H5" | 2.35 | 0.41 |
| 2:AA:2266:A:C2 | 2:AA:2272:U:C6 | 3.08 | 0.41 |
| 2:AA:2280:G:N3 | 2:AA:2281:C:C5 | 2.87 | 0.41 |
| 2:AA:2348:U:H5" | 32:A8:42:ARG:NH2 | 2.31 | 0.41 |
| 2:AA:2391:G:H22 | 2:AA:2424:C:H3' | 1.84 | 0.41 |
| 2:AA:2393:A:O2' | 2:AA:2394:C:H5' | 2.20 | 0.41 |
| 2:AA:2453:A:C4' | 2:AA:2572:A:O2' | 2.57 | 0.41 |
| 2:AA:2516:G:C5 | 2:AA:2517:C:C4 | 3.09 | 0.41 |
| 2:AA:2525:G:C6 | 2:AA:2539:C:N4 | 2.88 | 0.41 |
| 2:AA:2558:C:O2 | 2:AA:2558:C:H2' | 2.20 | 0.41 |
| 2:AA:2578:G:N3 | 2:AA:2579:C:C6 | 2.88 | 0.41 |
| 2:AA:2694:G:C2' | 2:AA:2695:C:O5' | 2.68 | 0.41 |
| 2:AA:2779:U:C6 | 2:AA:2779:U:C3' | 3.03 | 0.41 |
| 2:AA:2792:G:C2 | 2:AA:2793:G:C6 | 3.08 | 0.41 |
| 3:AC:110:PHE:CE1 | 3:AC:113:VAL:HG23 | 2.54 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:133:PRO:HG3 | 3:AC:134:ARG:HH12 | 1.81 | 0.41 |
| 3:AC:148:ASN:HB2 | 3:AC:151:GLU:CD | 2.41 | 0.41 |
| 3:AC:167:LYS:HB2 | 3:AC:167:LYS:HE3 | 1.71 | 0.41 |
| 4:AD:134:ILE:CG2 | 4:AD:163:VAL:HG21 | 2.51 | 0.41 |
| 4:AD:141:HIS:O | 4:AD:142:ASN:CB | 2.69 | 0.41 |
| 4:AD:204:PHE:HB3 | 4:AD:209:ASN:HB2 | 2.01 | 0.41 |
| 5:AE:198:TYR:HD2 | 5:AE:265:ASN:HA | 1.85 | 0.41 |
| 6:AF:138:VAL:O | 6:AF:139:VAL:CB | 2.68 | 0.41 |
| 6:AF:141:SER:O | 6:AF:144:PHE:HD1 | 2.03 | 0.41 |
| 6:AF:206:ASN:O | 6:AF:207:LEU:CD2 | 2.69 | 0.41 |
| 7:AG:93:LEU:CD1 | 7:AG:106:PHE:CD2 | 2.99 | 0.41 |
| 8:AH:58:LYS:CA | 8:AH:61:ARG:NH1 | 2.83 | 0.41 |
| 8:AH:77:GLY:C | 8:AH:79:SER:N | 2.71 | 0.41 |
| 8:AH:115:GLU:O | 8:AH:115:GLU:OE2 | 2.37 | 0.41 |
| 9:AI:61:VAL:CG1 | 9:AI:125:VAL:HG11 | 2.51 | 0.41 |
| 9:AI:103:LYS:HD3 | 9:AI:114:ILE:CG2 | 2.50 | 0.41 |
| 9:AJ:72:GLN:H | 9:AJ:72:GLN:HG2 | 1.59 | 0.41 |
| 9:AJ:74:ILE:HD12 | 11:AL:61:TYR:CD2 | 2.38 | 0.41 |
| 11:AL:61:TYR:CD1 | 11:AL:61:TYR:N | 2.87 | 0.41 |
| 12:AM:45:VAL:CG1 | 12:AM:131:THR:OG1 | 2.69 | 0.41 |
| 14:AO:92:ASP:CB | 14:AO:118:LEU:CG | 2.98 | 0.41 |
| 14:AO:92:ASP:OD1 | 14:AO:93:VAL:C | 2.59 | 0.41 |
| 15:AP:34:GLY:CA | 15:AP:83:PHE:CD1 | 3.03 | 0.41 |
| 15:AP:43:PRO:HD2 | 15:AP:127:ASN:OD1 | 2.20 | 0.41 |
| 15:AP:64:ALA:CB | 15:AP:142:LYS:HG3 | 2.48 | 0.41 |
| 15:AP:89:PRO:CG | 15:AP:89:PRO:O | 2.67 | 0.41 |
| 15:AP:94:ARG:NH1 | 15:AP:105:PHE:O | 2.52 | 0.41 |
| 15:AP:153:PRO:O | 15:AP:154:ALA:CB | 2.67 | 0.41 |
| 18:AS:29:LEU:CD1 | 18:AS:33:ARG:CD | 2.91 | 0.41 |
| 18:AS:47:VAL:O | 18:AS:50:VAL:HB | 2.20 | 0.41 |
| 18:AS:79:GLY:O | 18:AS:80:PRO:C | 2.57 | 0.41 |
| 20:AU:80:GLU:CD | 20:AU:86:GLU:HG2 | 2.40 | 0.41 |
| 20:AU:101:LEU:CD2 | 20:AU:112:LEU:HD11 | 2.47 | 0.41 |
| 21:AV:52:PHE:O | 21:AV:65:LEU:CG | 2.68 | 0.41 |
| 22:AW:28:LEU:O | 22:AW:31:ARG:N | 2.53 | 0.41 |
| 22:AW:62:GLU:C | 22:AW:64:GLY:N | 2.67 | 0.41 |
| 25:A1:19:LYS:C | 25:A1:21:ALA:N | 2.71 | 0.41 |
| 25:A1:47:TYR:CZ | 26:A2:75:LYS:C | 2.94 | 0.41 |
| 25:A1:50:ARG:NH2 | 26:A2:74:TYR:CD2 | 2.79 | 0.41 |
| 25:A1:102:GLU:O | 25:A1:105:ALA:HB3 | 2.20 | 0.41 |
| 27:A3:24:LYS:C | 27:A3:26:PHE:CE1 | 2.93 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 27:A3:35:ASN:O | 27:A3:36:ILE:CG1 | 2.67 | 0.41 |
| 28:A4:10:VAL:O | 28:A4:10:VAL:CG1 | 2.65 | 0.41 |
| 32:A8:16:ILE:CD1 | 32:A8:64:ARG:HB3 | 2.50 | 0.41 |
| 34:BA:237:C:OP2 | 52:BT:40:LYS:NZ | 2.52 | 0.41 |
| 34:BA:252:U:C2 | 34:BA:253:U:C5 | 3.08 | 0.41 |
| 34:BA:259:G:C2 | 34:BA:260:G:N3 | 2.88 | 0.41 |
| 34:BA:265:G:H5" | 52:BT:65:ILE:HA | 2.02 | 0.41 |
| 34:BA:332:G:H2' | 34:BA:333:G:O5' | 2.20 | 0.41 |
| 34:BA:395:C:C2 | 34:BA:396:G:C8 | 3.09 | 0.41 |
| 34:BA:413:G:C2' | 34:BA:414:A:OP2 | 2.68 | 0.41 |
| 34:BA:446:G:C6 | 34:BA:447:G:C5 | 3.08 | 0.41 |
| 34:BA:463:A:H2' | 34:BA:474:G:O5' | 2.20 | 0.41 |
| 34:BA:495:U:H2' | 34:BA:496:A:H5' | 2.02 | 0.41 |
| 34:BA:499:A:C2 | 34:BA:547:A:C2 | 3.09 | 0.41 |
| 34:BA:541:G:C2 | 34:BA:542:G:C8 | 3.08 | 0.41 |
| 34:BA:582:U:H1' | 52:BT:105:ALA:HA | 2.02 | 0.41 |
| 34:BA:690:G:H2' | 34:BA:691:G:H5' | 2.01 | 0.41 |
| 34:BA:713:G:C2 | 34:BA:714:G:N1 | 2.88 | 0.41 |
| 34:BA:917:G:HO2' | 34:BA:918:A:H5' | 1.84 | 0.41 |
| 34:BA:939:G:H5" | 42:BJ:102:ARG:HH22 | 1.86 | 0.41 |
| 34:BA:944:G:O6 | 34:BA:1337:G:H8 | 2.03 | 0.41 |
| 34:BA:958:A:H5' | 54:BV:55:LYS:HZ2 | 1.85 | 0.41 |
| 34:BA:962:C:N4 | 34:BA:963:G:C6 | 2.88 | 0.41 |
| 34:BA:988:G:N1 | 34:BA:1217:C:C2 | 2.82 | 0.41 |
| 34:BA:1015:A:O2' | 34:BA:1218:C:H4' | 2.20 | 0.41 |
| 34:BA:1108:G:H2' | 34:BA:1109:C:C5' | 2.49 | 0.41 |
| 34:BA:1160:G:N2 | 34:BA:1161:C:C6 | 2.87 | 0.41 |
| 34:BA:1164:G:C6 | 34:BA:1165:C:C4 | 3.08 | 0.41 |
| 34:BA:1167:A:H2' | 34:BA:1168:A:C8 | 2.55 | 0.41 |
| 34:BA:1199:U:C4' | 45:BM:54:PHE:HE2 | 2.34 | 0.41 |
| 34:BA:1338:G:N3 | 35:BC:41:U:O2' | 2.53 | 0.41 |
| 34:BA:1343:G:H2' | 34:BA:1344:C:O4' | 2.19 | 0.41 |
| 34:BA:1348:U:O2 | 34:BA:1349:A:H8 | 2.03 | 0.41 |
| 34:BA:1350:A:C5 | 34:BA:1351:U:C4 | 3.08 | 0.41 |
| 34:BA:1415:G:C4 | 34:BA:1416:G:C8 | 3.08 | 0.41 |
| 34:BA:1438:G:C4 | 34:BA:1439:C:C6 | 3.08 | 0.41 |
| 34:BA:1530:G:N1 | 34:BA:1531:A:C6 | 2.88 | 0.41 |
| 35:BB:4:G:H2' | 35:BB:5:A:O4' | 2.20 | 0.41 |
| 35:BB:5:A:N1 | 35:BB:69:U:C2 | 2.88 | 0.41 |
| 35:BB:31:A:C2 | 35:BB:40:C:N3 | 2.88 | 0.41 |
| 35:BC:73:A:O2' | 35:BC:74:C:OP2 | 2.37 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BC:74:C:H2' | 35:BC:75:C:C4' | 2.50 | 0.41 |
| 37:BE:74:LYS:C | 37:BE:76:GLN:H | 2.23 | 0.41 |
| 39:BG:64:LEU:HD13 | 39:BG:65:ARG:CA | 2.50 | 0.41 |
| 39:BG:170:VAL:CG2 | 39:BG:176:LEU:CB | 2.92 | 0.41 |
| 41:BI:7:ASN:O | 41:BI:89:MET:O | 2.38 | 0.41 |
| 42:BJ:15:ASP:C | 42:BJ:17:VAL:N | 2.71 | 0.41 |
| 42:BJ:38:LEU:O | 42:BJ:41:ARG:HB2 | 2.20 | 0.41 |
| 42:BJ:69:VAL:HG22 | 42:BJ:135:VAL:N | 2.35 | 0.41 |
| 42:BJ:94:ARG:HH11 | 42:BJ:94:ARG:CG | 2.30 | 0.41 |
| 43:BK:18:ARG:H | 43:BK:18:ARG:CD | 2.29 | 0.41 |
| 43:BK:84:ARG:C | 43:BK:135:CYS:HG | 2.24 | 0.41 |
| 45:BM:52:GLY:HA2 | 45:BM:53:PRO:HD2 | 1.85 | 0.41 |
| 46:BN:90:GLY:O | 46:BN:92:GLU:N | 2.53 | 0.41 |
| 47:BO:46:LYS:HE3 | 47:BO:47:LYS:CE | 2.37 | 0.41 |
| 47:BO:70:ILE:HG21 | 47:BO:70:ILE:HD13 | 1.86 | 0.41 |
| 47:BO:73:GLU:OE2 | 47:BO:73:GLU:CA | 2.67 | 0.41 |
| 47:BO:102:ARG:C | 47:BO:104:VAL:N | 2.74 | 0.41 |
| 48:BP:69:GLU:CA | 48:BP:72:ALA:HB3 | 2.50 | 0.41 |
| 49:BQ:26:ARG:O | 49:BQ:28:GLY:N | 2.47 | 0.41 |
| 50:BR:67:LEU:O | 50:BR:68:ARG:C | 2.58 | 0.41 |
| 51:BS:10:GLY:HA2 | 51:BS:14:ASN:HD21 | 1.84 | 0.41 |
| 51:BS:18:ARG:HA | 51:BS:35:LYS:HZ2 | 1.83 | 0.41 |
| 52:BT:75:ARG:NH1 | 52:BT:75:ARG:CG | 2.70 | 0.41 |
| 2:AA:55:G:C4 | 2:AA:56:A:C8 | 3.08 | 0.41 |
| 2:AA:107:C:HO2' | 2:AA:108:U:C5' | 2.33 | 0.41 |
| 2:AA:122:G:C2 | 2:AA:130:C:N1 | 2.89 | 0.41 |
| 2:AA:150:C:H2' | 2:AA:151:C:C5' | 2.49 | 0.41 |
| 2:AA:181:A:C4 | 2:AA:182:A:C8 | 3.09 | 0.41 |
| 2:AA:226:G:O2' | 2:AA:227:A:O4' | 2.37 | 0.41 |
| 2:AA:269:U:C2 | 2:AA:424:G:C6 | 3.08 | 0.41 |
| 2:AA:289:A:O2' | 2:AA:351:G:N7 | 2.51 | 0.41 |
| 2:AA:300:A:C4 | 2:AA:334:C:H1' | 2.56 | 0.41 |
| 2:AA:382:G:H2' | 2:AA:383:U:H5' | 2.03 | 0.41 |
| 2:AA:451:C:H2' | 2:AA:452:G:C8 | 2.55 | 0.41 |
| 2:AA:470:A:H3' | 2:AA:471:A:H8 | 1.85 | 0.41 |
| 2:AA:485:C:N3 | 2:AA:495:G:O6 | 2.53 | 0.41 |
| 2:AA:537:C:O2' | 2:AA:539:G:H5' | 2.19 | 0.41 |
| 2:AA:558:G:C6 | 2:AA:559:G:O6 | 2.73 | 0.41 |
| 2:AA:588:U:O4 | 2:AA:589:C:N4 | 2.51 | 0.41 |
| 2:AA:592:G:C2 | 2:AA:593:G:C8 | 3.09 | 0.41 |
| 2:AA:612:G:O4' | 2:AA:612:G:OP2 | 2.39 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:640:C:C2' | 2:AA:641:C:C5' | 2.90 | 0.41 |
| 2:AA:659:C:N3 | 2:AA:660:G:N7 | 2.68 | 0.41 |
| 2:AA:673:C:C2' | 2:AA:674:G:O5' | 2.68 | 0.41 |
| 2:AA:686:G:C8 | 31:A7:8:ASN:ND2 | 2.87 | 0.41 |
| 2:AA:700:G:C2 | 2:AA:701:G:C4 | 3.09 | 0.41 |
| 2:AA:735:A:C6 | 2:AA:736:C:C2 | 3.08 | 0.41 |
| 2:AA:892:G:O6 | 2:AA:893:C:N4 | 2.53 | 0.41 |
| 2:AA:993:G:H1' | 2:AA:1162:G:C2 | 2.51 | 0.41 |
| 2:AA:1034:G:C5 | 2:AA:1035:U:C5 | 3.08 | 0.41 |
| 2:AA:1061:U:O4' | 2:AA:1070:A:O2' | 2.36 | 0.41 |
| 2:AA:1083:U:H2' | 2:AA:1083:U:O2 | 2.19 | 0.41 |
| 2:AA:1181:C:C2 | 2:AA:1182:A:N7 | 2.88 | 0.41 |
| 2:AA:1219:G:N2 | 2:AA:1229:G:O6 | 2.53 | 0.41 |
| 2:AA:1224:G:O2' | 26:A2:86:HIS:HB3 | 2.20 | 0.41 |
| 2:AA:1233:C:N3 | 2:AA:1234:U:C5 | 2.88 | 0.41 |
| 2:AA:1276:A:P | 2:AA:1645:G:HO2' | 2.37 | 0.41 |
| 2:AA:1364:G:C4 | 2:AA:1368:G:C2 | 3.08 | 0.41 |
| 2:AA:1410:G:C6 | 2:AA:1593:G:N1 | 2.87 | 0.41 |
| 2:AA:1424:G:C6 | 2:AA:1425:G:C1' | 3.03 | 0.41 |
| 2:AA:1447:G:H1' | 2:AA:545(A):A:O4' | 2.20 | 0.41 |
| 2:AA:1484:G:C2 | 2:AA:1485:G:C5 | 3.08 | 0.41 |
| 2:AA:1535:U:O5' | 2:AA:1535:U:C2 | 2.73 | 0.41 |
| 2:AA:1661:G:H2' | 2:AA:1662:C:O5' | 2.20 | 0.41 |
| 2:AA:1769:G:C2' | 2:AA:1770:G:O5' | 2.68 | 0.41 |
| 2:AA:1841:U:H3 | 2:AA:1901:A:H61 | 1.68 | 0.41 |
| 2:AA:1851:U:C2' | 2:AA:1852:C:H6 | 2.26 | 0.41 |
| 2:AA:1859:A:C8 | 2:AA:1859:A:C3' | 3.03 | 0.41 |
| 2:AA:1919:A:P | 2:AA:1920:C:OP2 | 2.78 | 0.41 |
| 2:AA:1935:G:C5 | 2:AA:1962:C:C4 | 3.04 | 0.41 |
| 2:AA:2020:A:H62 | 29:A5:9:LYS:CE | 2.32 | 0.41 |
| 2:AA:2053:G:OP1 | 5:AE:241:TRP:HA | 2.20 | 0.41 |
| 2:AA:2061:G:C4 | 2:AA:2503:A:C2 | 3.08 | 0.41 |
| 2:AA:2086:U:H3 | 2:AA:2233:U:H3 | 1.67 | 0.41 |
| 2:AA:2101:G:C6 | 2:AA:2102:U:C4 | 3.08 | 0.41 |
| 2:AA:2278:A:N1 | 2:AA:2279:G:C4 | 2.88 | 0.41 |
| 2:AA:2404:C:C4 | 2:AA:2414:G:C2 | 3.08 | 0.41 |
| 2:AA:2421:G:C5' | 30:A6:4:ASP:OD1 | 2.54 | 0.41 |
| 2:AA:2455:G:C2 | 2:AA:2456:C:C2 | 3.09 | 0.41 |
| 2:AA:2475:C:HO2' | 2:AA:2477:C:P | 2.43 | 0.41 |
| 2:AA:2540:C:O2' | 2:AA:2541:A:H5' | 2.19 | 0.41 |
| 2:AA:2635:C:H2' | 2:AA:2636:U:O5' | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2720:U:C6 | 2:AA:2721:A:N7 | 2.88 | 0.41 |
| 2:AA:2733:A:H1' | 5:AE:318:ASN:ND2 | 2.36 | 0.41 |
| 2:AA:2747:G:N1 | 2:AA:2754:U:N3 | 2.68 | 0.41 |
| 2:AA:2804:C:O2 | 2:AA:2804:C:O4' | 2.37 | 0.41 |
| 2:AA:2838:G:C2 | 2:AA:2839:G:C8 | 3.09 | 0.41 |
| 2:AA:2889:C:O2' | 2:AA:2891:G:H5' | 2.20 | 0.41 |
| 3:AC:56:GLN:CA | 3:AC:201:PRO:CB | 2.90 | 0.41 |
| 3:AC:143:GLY:C | 3:AC:152:ILE:HG23 | 2.41 | 0.41 |
| 4:AD:169:LYS:HZ3 | 4:AD:169:LYS:HB2 | 1.86 | 0.41 |
| 4:AD:181:ARG:HB3 | 4:AD:181:ARG:HH11 | 1.72 | 0.41 |
| 5:AE:45:LYS:N | 5:AE:74:GLU:OE1 | 2.53 | 0.41 |
| 5:AE:66:GLU:HB2 | 5:AE:67:THR:H | 1.73 | 0.41 |
| 5:AE:76:PRO:CA | 5:AE:292:PRO:CG | 2.82 | 0.41 |
| 5:AE:269:ILE:CB | 5:AE:297:LYS:HZ2 | 2.33 | 0.41 |
| 6:AF:115:LEU:HD23 | 6:AF:246:ARG:HH22 | 1.81 | 0.41 |
| 7:AG:35:ALA:O | 7:AG:36:ASN:ND2 | 2.53 | 0.41 |
| 7:AG:142:ALA:HB2 | 7:AG:151:ILE:HD11 | 2.02 | 0.41 |
| 8:AH:27:GLY:HA3 | 8:AH:28:PRO:HD2 | 1.94 | 0.41 |
| 9:AJ:5:GLU:O | 9:AJ:8:GLU:HB2 | 2.20 | 0.41 |
| 10:AK:25:TYR:HB2 | 10:AK:26:ALA:H | 1.55 | 0.41 |
| 10:AK:111:ASP:OD2 | 10:AK:112:LYS:N | 2.53 | 0.41 |
| 12:AM:19:MET:CE | 12:AM:19:MET:HA | 2.28 | 0.41 |
| 12:AM:52:GLN:HB3 | 12:AM:56:LYS:HE2 | 2.01 | 0.41 |
| 12:AM:63:ILE:CB | 12:AM:71:TYR:CZ | 3.03 | 0.41 |
| 14:AO:65:ASP:OD1 | 14:AO:68:GLU:OE1 | 2.37 | 0.41 |
| 14:AO:75:LEU:C | 14:AO:77:ALA:N | 2.71 | 0.41 |
| 14:AO:81:VAL:HG12 | 14:AO:116:HIS:NE2 | 2.33 | 0.41 |
| 15:AP:67:ALA:CB | 15:AP:70:ARG:HH11 | 2.31 | 0.41 |
| 16:AQ:9:PRO:HB2 | 16:AQ:10:MET:H | 1.37 | 0.41 |
| 16:AQ:12:ARG:CD | 16:AQ:20:TYR:CZ | 3.03 | 0.41 |
| 16:AQ:22:GLN:HA | 16:AQ:25:ARG:CB | 2.50 | 0.41 |
| 16:AQ:41:LYS:C | 16:AQ:41:LYS:HD3 | 2.41 | 0.41 |
| 18:AS:82:LEU:HD13 | 18:AS:82:LEU:N | 2.35 | 0.41 |
| 19:AT:13:LYS:HE2 | 19:AT:13:LYS:HB2 | 1.75 | 0.41 |
| 19:AT:24:LEU:HD12 | 19:AT:66:VAL:O | 2.20 | 0.41 |
| 19:AT:51:GLN:O | 19:AT:52:VAL:HG23 | 2.19 | 0.41 |
| 19:AT:56:ASN:ND2 | 19:AT:62:LYS:HZ1 | 2.17 | 0.41 |
| 21:AV:52:PHE:C | 21:AV:65:LEU:HD21 | 2.41 | 0.41 |
| 21:AV:114:ASP:HA | 21:AV:170:SER:O | 2.20 | 0.41 |
| 21:AV:124:ALA:C | 21:AV:159:THR:HB | 2.40 | 0.41 |
| 23:AX:6:VAL:CG2 | 23:AX:55:ARG:O | 2.68 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:58:VAL:C | 23:AX:59:VAL:HG22 | 2.40 | 0.41 |
| 24:A0:97:VAL:HG13 | 24:A0:114:VAL:HG21 | 1.92 | 0.41 |
| 25:A1:76:TYR:O | 25:A1:80:ILE:CD1 | 2.68 | 0.41 |
| 25:A1:89:ASP:CG | 26:A2:52:GLY:CA | 2.89 | 0.41 |
| 25:A1:98:ILE:HD11 | 26:A2:13:ARG:NE | 2.11 | 0.41 |
| 29:A5:43:HIS:O | 29:A5:52:TYR:CE2 | 2.73 | 0.41 |
| 29:A5:56:GLN:O | 29:A5:57:VAL:CG2 | 2.65 | 0.41 |
| 31:A7:35:ARG:HB2 | 31:A7:36:ALA:H | 1.68 | 0.41 |
| 34:BA:10:A:C2' | 34:BA:11:G:O5' | 2.69 | 0.41 |
| 34:BA:27:G:H22 | 34:BA:557:G:H1' | 1.84 | 0.41 |
| 34:BA:39:G:C2 | 34:BA:40:C:C6 | 3.08 | 0.41 |
| 34:BA:49:U:C2' | 34:BA:50:A:OP1 | 2.68 | 0.41 |
| 34:BA:152:A:H62 | 34:BA:169:C:H42 | 1.67 | 0.41 |
| 34:BA:250:A:O4' | 34:BA:252:U:C6 | 2.73 | 0.41 |
| 34:BA:280:C:H4' | 34:BA:281:G:OP2 | 2.18 | 0.41 |
| 34:BA:363:A:N7 | 47:BO:30:ALA:HB1 | 2.35 | 0.41 |
| 34:BA:447:G:H21 | 34:BA:487:A:H62 | 1.68 | 0.41 |
| 34:BA:483:C:C6 | 34:BA:483:C:O5' | 2.74 | 0.41 |
| 34:BA:542:G:H5' | 39:BG:41:GLY:HA3 | 2.02 | 0.41 |
| 34:BA:544:G:H2' | 34:BA:545:C:O4' | 2.20 | 0.41 |
| 34:BA:582:U:C1' | 52:BT:105:ALA:O | 2.68 | 0.41 |
| 34:BA:600:C:P | 43:BK:97:VAL:H | 2.40 | 0.41 |
| 34:BA:604:G:C2 | 34:BA:605:U:C2 | 3.08 | 0.41 |
| 34:BA:627:G:O2' | 34:BA:628:G:H5' | 2.20 | 0.41 |
| 34:BA:703:G:O2' | 34:BA:704:A:P | 2.78 | 0.41 |
| 34:BA:729:A:H2' | 34:BA:730:G:O5' | 2.20 | 0.41 |
| 34:BA:786:G:C6 | 34:BA:787:A:C5 | 3.08 | 0.41 |
| 34:BA:819:A:O3' | 34:BA:820:U:H6 | 2.02 | 0.41 |
| 34:BA:820:U:O4 | 34:BA:873:A:N7 | 2.53 | 0.41 |
| 34:BA:887:G:O2' | 34:BA:888:G:H5' | 2.20 | 0.41 |
| 34:BA:892:A:C2 | 34:BA:907:A:C4 | 3.08 | 0.41 |
| 34:BA:931:C:C4 | 34:BA:1387:G:C6 | 3.08 | 0.41 |
| 34:BA:996:A:N1 | 34:BA:997:U:C5 | 2.87 | 0.41 |
| 34:BA:1085:U:P | 34:BA:1086:U:H5 | 2.43 | 0.41 |
| 34:BA:1145:C:H1' | 34:BA:1146:A:H8 | 1.83 | 0.41 |
| 34:BA:1347:G:N2 | 34:BA:1373:G:H2' | 2.36 | 0.41 |
| 34:BA:1499:A:C2' | 34:BA:1500:A:H5' | 2.50 | 0.41 |
| 34:BA:1534:A:C3' | 34:BA:1534:A:C4 | 2.93 | 0.41 |
| 35:BB:2:C:C2' | 35:BB:3:G:H5' | 2.50 | 0.41 |
| 35:BC:60:C:O4' | 35:BC:60:C:OP2 | 2.38 | 0.41 |
| 36:B1:62:G:OP1 | 36:B1:62:G:O4' | 2.38 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:88:ALA:O | 37:BE:222:ILE:HD12 | 2.19 | 0.41 |
| 37:BE:102:LEU:HD13 | 37:BE:102:LEU:H | 1.83 | 0.41 |
| 38:BF:22:TRP:HB2 | 38:BF:23:TYR:H | 1.68 | 0.41 |
| 38:BF:52:LEU:O | 38:BF:70:VAL:HG13 | 2.19 | 0.41 |
| 39:BG:56:VAL:O | 39:BG:59:ARG:N | 2.53 | 0.41 |
| 40:BH:11:ILE:CG2 | 40:BH:31:LEU:HD22 | 2.50 | 0.41 |
| 40:BH:19:MET:SD | 40:BH:20:GLN:N | 2.93 | 0.41 |
| 41:BI:47:ARG:CG | 41:BI:47:ARG:NH1 | 2.83 | 0.41 |
| 42:BJ:65:ALA:HB3 | 42:BJ:124:LEU:HD23 | 1.98 | 0.41 |
| 43:BK:14:ARG:NH1 | 43:BK:14:ARG:H | 2.17 | 0.41 |
| 43:BK:17:THR:O | 43:BK:20:TYR:CD1 | 2.73 | 0.41 |
| 43:BK:63:LEU:N | 43:BK:63:LEU:HD22 | 2.34 | 0.41 |
| 46:BN:44:SER:N | 46:BN:47:VAL:HG21 | 2.35 | 0.41 |
| 46:BN:85:ARG:HD3 | 46:BN:85:ARG:HA | 1.85 | 0.41 |
| 47:BO:109:GLY:HA3 | 47:BO:122:THR:HG23 | 2.01 | 0.41 |
| 48:BP:44:ARG:O | 48:BP:45:VAL:C | 2.58 | 0.41 |
| 48:BP:88:ARG:O | 48:BP:89:GLY:C | 2.59 | 0.41 |
| 48:BP:94:ARG:HD3 | 48:BP:94:ARG:HA | 1.89 | 0.41 |
| 49:BQ:40:CYS:O | 49:BQ:44:LEU:CB | 2.64 | 0.41 |
| 50:BR:46:HIS:C | 50:BR:48:LYS:N | 2.74 | 0.41 |
| 51:BS:17:TYR:N | 51:BS:17:TYR:CD1 | 2.88 | 0.41 |
| 52:BT:40:LYS:HE2 | 52:BT:40:LYS:HB3 | 1.42 | 0.41 |
| 52:BT:40:LYS:CE | 52:BT:42:TYR:HE1 | 2.27 | 0.41 |
| 53:BU:66:LEU:CG | 53:BU:67:ALA:N | 2.83 | 0.41 |
| 53:BU:81:PHE:O | 53:BU:82:THR:CG2 | 2.68 | 0.41 |
| 54:BV:21:GLU:O | 54:BV:24:ALA:CB | 2.68 | 0.41 |
| 54:BV:52:TYR:CE2 | 54:BV:54:GLY:C | 2.93 | 0.41 |
| 55:BW:35:THR:HA | 55:BW:38:LYS:HE3 | 2.02 | 0.41 |
| 55:BW:52:ALA:O | 55:BW:55:ILE:HB | 2.20 | 0.41 |
| 55:BW:90:GLN:O | 55:BW:91:LEU:C | 2.58 | 0.41 |
| 1:AB:78:A:OP1 | 21:AV:73:LYS:CE | 2.68 | 0.41 |
| 1:AB:85:G:C2 | 1:AB:86:G:N7 | 2.88 | 0.41 |
| 2:AA:7:G:O2' | 2:AA:8:A:O4' | 2.26 | 0.41 |
| 2:AA:15:G:O2' | 2:AA:16:G:H5' | 2.20 | 0.41 |
| 2:AA:49:A:H5' | 2:AA:50:U:P | 2.60 | 0.41 |
| 2:AA:132:G:C8 | 2:AA:132:G:OP2 | 2.74 | 0.41 |
| 2:AA:162:U:H5' | 2:AA:171:G:N3 | 2.35 | 0.41 |
| 2:AA:233:A:N6 | 2:AA:430:G:N1 | 2.68 | 0.41 |
| 2:AA:298:G:O6 | 2:AA:338:G:C4' | 2.68 | 0.41 |
| 2:AA:315:G:H2' | 2:AA:316:C:O4' | 2.19 | 0.41 |
| 2:AA:440:G:H3' | 20:AU:3:GLN:NE2 | 2.35 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:497:A:N1 | 2:AA:498:G:C2 | 2.89 | 0.41 |
| 2:AA:628:G:C2 | 2:AA:629:G:C6 | 3.09 | 0.41 |
| 2:AA:659:C:H2' | 2:AA:660:G:C8 | 2.48 | 0.41 |
| 2:AA:684:G:C2 | 2:AA:775:G:C6 | 3.08 | 0.41 |
| 2:AA:699:A:H1' | 2:AA:1634:A:N7 | 2.35 | 0.41 |
| 2:AA:800:A:O2' | 2:AA:801:G:P | 2.79 | 0.41 |
| 2:AA:861:A:C6 | 2:AA:917:A:C6 | 3.08 | 0.41 |
| 2:AA:981:A:H1' | 2:AA:2037:G:C4' | 2.50 | 0.41 |
| 2:AA:997:G:H2' | 2:AA:998:C:C6 | 2.56 | 0.41 |
| 2:AA:1151:G:N2 | 2:AA:1152:C:C2 | 2.88 | 0.41 |
| 2:AA:1188:U:O2 | 2:AA:1188:U:C2' | 2.61 | 0.41 |
| 2:AA:1198:U:C2' | 2:AA:1199:U:OP2 | 2.69 | 0.41 |
| 2:AA:1227:A:OP1 | 25:A1:16:LYS:HE2 | 2.20 | 0.41 |
| 2:AA:1238:G:N1 | 2:AA:1240:U:C5 | 2.82 | 0.41 |
| 2:AA:1243:G:C2 | 2:AA:1244:G:C6 | 3.08 | 0.41 |
| 2:AA:1313:U:O2' | 2:AA:1610:A:C2 | 2.68 | 0.41 |
| 2:AA:1333:C:C6 | 2:AA:1333:C:C4' | 3.04 | 0.41 |
| 2:AA:1353:A:C5 | 2:AA:1354:A:N7 | 2.88 | 0.41 |
| 2:AA:1494:A:C4 | 2:AA:1494:A:C3' | 2.91 | 0.41 |
| 2:AA:1529:A:C5' | 2:AA:1530:G:H8 | 2.33 | 0.41 |
| 2:AA:1566:A:N1 | 4:AD:212:HIS:CD2 | 2.89 | 0.41 |
| 2:AA:1574:C:C4 | 2:AA:1575:C:N4 | 2.88 | 0.41 |
| 2:AA:1670:C:P | 2:AA:1671:U:H5 | 2.44 | 0.41 |
| 2:AA:1702:G:N1 | 2:AA:1703:G:C8 | 2.88 | 0.41 |
| 2:AA:1817:G:C8 | 2:AA:1817:G:C4' | 3.03 | 0.41 |
| 2:AA:1827:C:C2 | 2:AA:1828:G:O4' | 2.73 | 0.41 |
| 2:AA:1863:G:C2 | 2:AA:1864:U:C2 | 3.09 | 0.41 |
| 2:AA:1894:C:C2' | 2:AA:1895:C:O5' | 2.68 | 0.41 |
| 2:AA:1897:G:O2' | 2:AA:1898:U:H5' | 2.20 | 0.41 |
| 2:AA:1919:A:OP2 | 2:AA:1920:C:H5 | 2.03 | 0.41 |
| 2:AA:1935:G:N9 | 2:AA:1962:C:C4 | 2.86 | 0.41 |
| 2:AA:1957:C:H3' | 2:AA:1958:C:H6 | 1.84 | 0.41 |
| 2:AA:1966:A:C2' | 2:AA:1967:C:OP2 | 2.68 | 0.41 |
| 2:AA:1969:A:H5' | 2:AA:1970:A:H5' | 2.01 | 0.41 |
| 2:AA:2054:A:H2 | 2:AA:2615:U:H3 | 1.68 | 0.41 |
| 2:AA:2107:C:H6 | 2:AA:2107:C:P | 2.42 | 0.41 |
| 2:AA:2146:C:O3' | 2:AA:2147:G:O4' | 2.37 | 0.41 |
| 2:AA:2218:G:H2' | 2:AA:2219:G:O5' | 2.20 | 0.41 |
| 2:AA:2276:G:C4 | 2:AA:2277:G:C8 | 3.08 | 0.41 |
| 2:AA:2283:C:H42 | 2:AA:2325:G:H1 | 1.67 | 0.41 |
| 2:AA:2312:U:C4 | 2:AA:2313:C:N4 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2331:G:C6 | 2:AA:2332:U:N3 | 2.88 | 0.41 |
| 2:AA:2336:A:H2' | 2:AA:2337:G:C5' | 2.39 | 0.41 |
| 2:AA:2409:G:C2 | 2:AA:2410:G:C8 | 3.08 | 0.41 |
| 2:AA:2418:A:C5 | 2:AA:2419:U:C4 | 3.09 | 0.41 |
| 2:AA:2442:C:C2' | 2:AA:2443:C:H5' | 2.50 | 0.41 |
| 2:AA:2466:C:H41 | 2:AA:2467:C:N4 | 2.16 | 0.41 |
| 2:AA:2509:G:H2' | 2:AA:2510:C:H5' | 1.89 | 0.41 |
| 2:AA:2525:G:N1 | 2:AA:2539:C:C4 | 2.89 | 0.41 |
| 2:AA:2574:G:C2' | 2:AA:2575:C:H6 | 2.21 | 0.41 |
| 2:AA:2681:C:H1' | 2:AA:2682:U:H5 | 1.85 | 0.41 |
| 2:AA:2682:U:O4 | 2:AA:2728:U:O4' | 2.39 | 0.41 |
| 2:AA:2861:G:O2' | 2:AA:2862:G:O5' | 2.38 | 0.41 |
| 3:AC:10:LEU:CD2 | 3:AC:220:PRO:CD | 2.97 | 0.41 |
| 3:AC:90:GLY:O | 3:AC:91:ALA:O | 2.37 | 0.41 |
| 3:AC:139:ASN:O | 3:AC:144:THR:OG1 | 2.39 | 0.41 |
| 4:AD:97:ASP:HB3 | 4:AD:99:GLU:HG2 | 2.02 | 0.41 |
| 6:AF:23:GLU:O | 6:AF:24:THR:C | 2.58 | 0.41 |
| 6:AF:89:ALA:C | 6:AF:90:HIS:CD2 | 2.93 | 0.41 |
| 6:AF:141:SER:OG | 6:AF:144:PHE:CE1 | 2.71 | 0.41 |
| 7:AG:44:ILE:O | 7:AG:83:PHE:HZ | 2.03 | 0.41 |
| 8:AH:71:LEU:O | 8:AH:74:MET:N | 2.53 | 0.41 |
| 8:AH:88:LEU:HD21 | 8:AH:94:ARG:HA | 2.01 | 0.41 |
| 9:AI:103:LYS:HB3 | 9:AI:114:ILE:HD13 | 2.02 | 0.41 |
| 9:AJ:18:LEU:CD1 | 9:AJ:45:ALA:HA | 2.51 | 0.41 |
| 10:AK:79:ILE:CB | 10:AK:145:VAL:HG22 | 2.33 | 0.41 |
| 10:AK:82:LYS:N | 10:AK:89:LEU:CD2 | 2.83 | 0.41 |
| 10:AK:82:LYS:N | 10:AK:89:LEU:HD23 | 2.34 | 0.41 |
| 10:AK:124:LEU:CD1 | 10:AK:146:THR:CA | 2.99 | 0.41 |
| 11:AL:13:LEU:HD22 | 11:AL:24:VAL:CG2 | 2.50 | 0.41 |
| 12:AM:40:ASN:O | 12:AM:42:GLU:HG2 | 2.20 | 0.41 |
| 13:AN:34:ASN:H | 13:AN:62:VAL:HG21 | 1.84 | 0.41 |
| 15:AP:48:ASN:ND2 | 15:AP:122:PHE:CD1 | 2.88 | 0.41 |
| 15:AP:49:VAL:CG2 | 15:AP:121:ASP:N | 2.83 | 0.41 |
| 15:AP:129:ASP:OD1 | 15:AP:129:ASP:C | 2.57 | 0.41 |
| 18:AS:82:LEU:HD23 | 18:AS:98:LYS:HB3 | 1.97 | 0.41 |
| 20:AU:51:LEU:HD21 | 20:AU:95:ASN:OD1 | 2.20 | 0.41 |
| 21:AV:56:VAL:O | 21:AV:57:GLU:HB2 | 2.20 | 0.41 |
| 21:AV:72:ASP:HB2 | 21:AV:73:LYS:H | 1.61 | 0.41 |
| 21:AV:103:ARG:O | 21:AV:141:MET:HE2 | 2.20 | 0.41 |
| 22:AW:27:LEU:HD23 | 22:AW:27:LEU:HA | 1.61 | 0.41 |
| 23:AX:1:MET:HE3 | 23:AX:3:ARG:HD2 | 2.01 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:AX:33:GLN:OE1 | 23:AX:34:GLU:C | 2.58 | 0.41 |
| 24:A0:14:SER:O | 24:A0:16:HIS:N | 2.53 | 0.41 |
| 24:A0:58:GLY:CA | 24:A0:80:PHE:CZ | 3.00 | 0.41 |
| 24:A0:107:ASP:OD2 | 24:A0:109:ALA:N | 2.46 | 0.41 |
| 25:A1:9:VAL:CG1 | 25:A1:13:ARG:NH2 | 2.63 | 0.41 |
| 26:A2:50:ASP:OD1 | 26:A2:53:LYS:CE | 2.63 | 0.41 |
| 28:A4:31:ILE:HD13 | 28:A4:31:ILE:N | 2.35 | 0.41 |
| 28:A4:48:ARG:CG | 28:A4:49:PHE:N | 2.80 | 0.41 |
| 30:A6:2:ALA:N | 30:A6:11:LYS:HZ2 | 2.19 | 0.41 |
| 30:A6:38:LYS:HD2 | 30:A6:52:GLU:OE2 | 2.20 | 0.41 |
| 31:A7:20:ALA:HA | 31:A7:23:LYS:CE | 2.50 | 0.41 |
| 34:BA:19:C:C2 | 34:BA:20:U:C5 | 3.08 | 0.41 |
| 34:BA:27:G:N1 | 34:BA:557:G:N3 | 2.68 | 0.41 |
| 34:BA:37:U:C2' | 34:BA:38:G:H5' | 2.51 | 0.41 |
| 34:BA:43:C:N3 | 34:BA:44:G:C8 | 2.88 | 0.41 |
| 34:BA:128:G:H5' | 52:BT:2:PRO:CD | 2.51 | 0.41 |
| 34:BA:135:C:H6 | 34:BA:135:C:O5' | 2.04 | 0.41 |
| 34:BA:281:G:O2' | 34:BA:282:A:C8 | 2.61 | 0.41 |
| 34:BA:372:C:N4 | 34:BA:390:C:C2 | 2.87 | 0.41 |
| 34:BA:445:G:N3 | 34:BA:446:G:C8 | 2.89 | 0.41 |
| 34:BA:459:G:N2 | 34:BA:462:G:C6 | 2.88 | 0.41 |
| 34:BA:528:C:O4' | 34:BA:535:A:N1 | 2.54 | 0.41 |
| 34:BA:574:A:H8 | 34:BA:574:A:O5' | 2.03 | 0.41 |
| 34:BA:595:G:C8 | 34:BA:641:U:O4 | 2.73 | 0.41 |
| 34:BA:673:G:N2 | 34:BA:674:G:N1 | 2.68 | 0.41 |
| 34:BA:781:A:N1 | 34:BA:802:A:N3 | 2.68 | 0.41 |
| 34:BA:946:A:N6 | 34:BA:1236:A:N1 | 2.68 | 0.41 |
| 34:BA:978:A:N6 | 34:BA:1361:G:H21 | 2.17 | 0.41 |
| 34:BA:996:A:N1 | 34:BA:997:U:O4 | 2.52 | 0.41 |
| 34:BA:1003:G:C8 | 34:BA:1003:G:OP2 | 2.74 | 0.41 |
| 34:BA:1051:C:C4 | 34:BA:1052:U:O4 | 2.74 | 0.41 |
| 34:BA:1140:C:C2' | 34:BA:1141:C:H5' | 2.51 | 0.41 |
| 34:BA:1185:G:C2' | 34:BA:1186:G:O4' | 2.59 | 0.41 |
| 34:BA:1201:A:O2' | 34:BA:1202:G:P | 2.78 | 0.41 |
| 34:BA:1330:U:H4' | 48:BP:23:TYR:OH | 2.18 | 0.41 |
| 34:BA:1365:G:C5 | 34:BA:1366:C:C5 | 3.08 | 0.41 |
| 34:BA:1367:C:OP1 | 44:BL:114:TYR:CA | 2.61 | 0.41 |
| 34:BA:1379:G:C4 | 34:BA:1380:U:C5 | 3.09 | 0.41 |
| 34:BA:1494:G:C5 | 34:BA:1495:U:H5 | 2.38 | 0.41 |
| 35:BB:21:A:C6 | 35:BB:46:G:N2 | 2.88 | 0.41 |
| 35:BB:22:G:C2 | 35:BB:23:A:C5 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:BB:28:C:C2 | 35:BB:29:A:H8 | 2.23 | 0.41 |
| 35:BB:31:A:N3 | 35:BB:31:A:C2' | 2.83 | 0.41 |
| 35:BB:35:A:H2' | 35:BB:36:A:H8 | 1.85 | 0.41 |
| 36:B1:18:U:C4 | 36:B1:19:G:C5 | 3.09 | 0.41 |
| 36:B1:48:A:C2 | 36:B1:49:A:C5 | 3.08 | 0.41 |
| 37:BE:67:THR:OG1 | 37:BE:155:LEU:HD11 | 2.21 | 0.41 |
| 37:BE:112:VAL:O | 37:BE:113:HIS:C | 2.58 | 0.41 |
| 37:BE:130:ARG:HB3 | 37:BE:134:GLU:HG2 | 1.99 | 0.41 |
| 37:BE:131:PRO:HG2 | 37:BE:134:GLU:OE2 | 2.21 | 0.41 |
| 38:BF:12:LEU:HB3 | 38:BF:17:ASP:HA | 2.03 | 0.41 |
| 38:BF:138:VAL:HG13 | 38:BF:149:ALA:CB | 2.50 | 0.41 |
| 38:BF:189:ALA:HB1 | 38:BF:196:LEU:HG | 2.02 | 0.41 |
| 39:BG:56:VAL:O | 39:BG:57:ARG:C | 2.57 | 0.41 |
| 39:BG:165:MET:O | 39:BG:165:MET:CE | 2.68 | 0.41 |
| 39:BG:196:LEU:HB3 | 39:BG:198:VAL:HG23 | 2.02 | 0.41 |
| 40:BH:15:ARG:NH2 | 40:BH:26:PHE:CE2 | 2.88 | 0.41 |
| 40:BH:109:ILE:HG13 | 40:BH:135:THR:CG2 | 2.42 | 0.41 |
| 41:BI:96:PRO:HA | 53:BU:32:ARG:HG3 | 2.00 | 0.41 |
| 42:BJ:40:ALA:O | 42:BJ:44:TYR:CD1 | 2.73 | 0.41 |
| 42:BJ:44:TYR:O | 42:BJ:47:CYS:N | 2.53 | 0.41 |
| 43:BK:13:ILE:O | 43:BK:14:ARG:C | 2.58 | 0.41 |
| 43:BK:112:LEU:HD22 | 43:BK:114:THR:HG22 | 2.01 | 0.41 |
| 44:BL:28:VAL:HG21 | 44:BL:33:PHE:CA | 2.48 | 0.41 |
| 47:BO:79:GLU:OE1 | 47:BO:80:HIS:CE1 | 2.68 | 0.41 |
| 47:BO:110:VAL:O | 47:BO:113:ARG:HB2 | 2.20 | 0.41 |
| 49:BQ:26:ARG:NH1 | 49:BQ:47:LEU:CD2 | 2.83 | 0.41 |
| 52:BT:17:LYS:NZ | 52:BT:47:PRO:HA | 2.35 | 0.41 |
| 53:BU:26:LEU:CD2 | 53:BU:39:VAL:HG13 | 2.51 | 0.41 |
| 53:BU:83:GLU:OE1 | 53:BU:83:GLU:HA | 2.21 | 0.41 |
| 54:BV:20:LEU:HD12 | 54:BV:21:GLU:CA | 2.50 | 0.41 |
| 55:BW:53:LEU:HG | 55:BW:53:LEU:H | 1.57 | 0.41 |
| 55:BW:65:LYS:O | 55:BW:68:LYS:N | 2.53 | 0.41 |
| 55:BW:96:GLY:O | 55:BW:97:ALA:HB3 | 2.20 | 0.41 |
| 56:BX:20:LYS:HE3 | 56:BX:21:TYR:CE1 | 2.55 | 0.41 |
| 1:AB:14:U:O2' | 1:AB:107:U:C1' | 2.69 | 0.41 |
| 1:AB:61:G:C2 | 1:AB:62:C:N3 | 2.85 | 0.41 |
| 1:AB:68:C:C5 | 1:AB:69:G:C8 | 3.07 | 0.41 |
| 1:AB:100:G:C2' | 1:AB:101:A:H8 | 2.21 | 0.41 |
| 2:AA:70:G:C6 | 2:AA:114:U:O4 | 2.73 | 0.41 |
| 2:AA:75:G:O2' | 22:AW:51:LYS:HE2 | 2.20 | 0.41 |
| 2:AA:189:G:N3 | 2:AA:189:G:H2' | 2.36 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:270(C):C:C4 | 2:AA:270(W):G:N2 | 2.83 | 0.41 |
| 2:AA:273:G:H2' | 2:AA:273(A):G:H8 | 1.85 | 0.41 |
| 2:AA:290:G:O2' | 2:AA:291:C:H5' | 2.19 | 0.41 |
| 2:AA:326:G:C4 | 2:AA:327:G:N7 | 2.89 | 0.41 |
| 2:AA:330:A:O4' | 2:AA:1210:A:C6 | 2.73 | 0.41 |
| 2:AA:335:C:C2' | 2:AA:336:C:O5' | 2.69 | 0.41 |
| 2:AA:338:G:P | 2:AA:338:G:C3' | 2.96 | 0.41 |
| 2:AA:414:C:H1' | 2:AA:1864:U:HO2' | 1.84 | 0.41 |
| 2:AA:426:C:O2' | 2:AA:427:U:H5' | 2.21 | 0.41 |
| 2:AA:429:A:C5 | 2:AA:430:G:O6 | 2.73 | 0.41 |
| 2:AA:449:A:H2 | 2:AA:450:G:N9 | 2.10 | 0.41 |
| 2:AA:449:A:N3 | 2:AA:449:A:H2' | 2.35 | 0.41 |
| 2:AA:508:G:H4' | 2:AA:509:C:C5' | 2.51 | 0.41 |
| 2:AA:514:A:C2 | 2:AA:515:A:C8 | 3.08 | 0.41 |
| 2:AA:733:G:N7 | 2:AA:761:A:N6 | 2.67 | 0.41 |
| 2:AA:778:G:N2 | 2:AA:787:U:C1' | 2.83 | 0.41 |
| 2:AA:804:A:C5' | 2:AA:805:G:OP1 | 2.65 | 0.41 |
| 2:AA:817:C:O2 | 2:AA:839:U:C5' | 2.68 | 0.41 |
| 2:AA:839:U:H4' | 2:AA:1191:G:H21 | 1.85 | 0.41 |
| 2:AA:843:G:H2' | 2:AA:844:C:H6 | 1.85 | 0.41 |
| 2:AA:854:G:N3 | 2:AA:855:G:C8 | 2.89 | 0.41 |
| 2:AA:920:G:N3 | 2:AA:921:G:C8 | 2.89 | 0.41 |
| 2:AA:936:C:N3 | 2:AA:937:U:C4 | 2.89 | 0.41 |
| 2:AA:939:G:HO2' | 2:AA:940:G:H5' | 1.84 | 0.41 |
| 2:AA:990:A:C5' | 2:AA:1157:G:OP1 | 2.68 | 0.41 |
| 2:AA:1075:C:O2 | 2:AA:1075:C:C2' | 2.69 | 0.41 |
| 2:AA:1081:U:O4 | 2:AA:1086:A:C4 | 2.73 | 0.41 |
| 2:AA:1134:G:O6 | 2:AA:1137:G:N7 | 2.53 | 0.41 |
| 2:AA:1191:G:C8 | 2:AA:1191:G:H3' | 2.55 | 0.41 |
| 2:AA:1364:G:OP1 | 28:A4:43:TRP:HH2 | 2.04 | 0.41 |
| 2:AA:1420:U:O2 | 2:AA:1421:G:N7 | 2.53 | 0.41 |
| 2:AA:1472:A:N6 | 2:AA:1474:C:N4 | 2.62 | 0.41 |
| 2:AA:1513:C:H6 | 2:AA:1513:C:C3' | 2.34 | 0.41 |
| 2:AA:1660:C:C2 | 2:AA:2001:A:N1 | 2.88 | 0.41 |
| 2:AA:1748:G:N3 | 2:AA:1749:A:C8 | 2.89 | 0.41 |
| 2:AA:1812:A:C2' | 2:AA:1813:G:C5' | 2.96 | 0.41 |
| 2:AA:1844:C:C6 | 2:AA:1897:G:N2 | 2.89 | 0.41 |
| 2:AA:1897:G:H2' | 2:AA:1898:U:C5' | 2.50 | 0.41 |
| 2:AA:1910:G:C6 | 2:AA:1911:U:N3 | 2.88 | 0.41 |
| 2:AA:1913:A:N6 | 2:AA:1917:U:P | 2.93 | 0.41 |
| 2:AA:1936:A:C6 | 2:AA:1945:G:C5 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1959:G:C6 | 2:AA:1960:A:N7 | 2.89 | 0.41 |
| 2:AA:1959:G:C2 | 2:AA:1960:A:C8 | 3.09 | 0.41 |
| 2:AA:2016:U:O2' | 2:AA:2017:U:H5' | 2.20 | 0.41 |
| 2:AA:2033:A:O4' | 2:AA:2033:A:P | 2.78 | 0.41 |
| 2:AA:2098:U:C4 | 2:AA:2191:G:O6 | 2.73 | 0.41 |
| 2:AA:2262:U:OP2 | 27:A3:14:ARG:NE | 2.51 | 0.41 |
| 2:AA:2265:U:O2 | 2:AA:2265:U:C2' | 2.67 | 0.41 |
| 2:AA:2275:C:O2' | 15:AP:103:ALA:HB1 | 2.18 | 0.41 |
| 2:AA:2291:U:O2' | 2:AA:2374:C:H1' | 2.20 | 0.41 |
| 2:AA:2309:A:H5' | 2:AA:2310:A:OP2 | 2.19 | 0.41 |
| 2:AA:2311:A:H2' | 2:AA:2312:U:H6 | 1.85 | 0.41 |
| 2:AA:2320:A:N1 | 16:AQ:13:ARG:HD2 | 2.36 | 0.41 |
| 2:AA:2373:G:O2' | 2:AA:2374:C:C5' | 2.68 | 0.41 |
| 2:AA:2430:A:C3' | 2:AA:2431:U:H5' | 2.50 | 0.41 |
| 2:AA:2456:C:C2' | 2:AA:2457:U:C5' | 2.98 | 0.41 |
| 2:AA:2544:G:C8 | 2:AA:2544:G:O5' | 2.67 | 0.41 |
| 2:AA:2762:G:C5 | 2:AA:2763:G:C5 | 3.08 | 0.41 |
| 2:AA:2791:C:H5 | 2:AA:2893:G:O6 | 2.03 | 0.41 |
| 2:AA:2811:G:N1 | 2:AA:2891:G:N3 | 2.68 | 0.41 |
| 2:AA:2836:U:O2' | 2:AA:2837:G:O5' | 2.38 | 0.41 |
| 4:AD:213:LYS:HG3 | 4:AD:215:LYS:HB2 | 2.03 | 0.41 |
| 5:AE:42:ALA:O | 5:AE:189:MET:HE1 | 2.19 | 0.41 |
| 5:AE:44:TYR:CE1 | 5:AE:308:VAL:CG1 | 2.88 | 0.41 |
| 5:AE:44:TYR:C | 5:AE:74:GLU:OE1 | 2.59 | 0.41 |
| 5:AE:261:ARG:C | 5:AE:262:THR:HG22 | 2.41 | 0.41 |
| 5:AE:271:ILE:HG12 | 5:AE:294:THR:CB | 2.49 | 0.41 |
| 6:AF:103:ASN:O | 6:AF:104:ASP:C | 2.57 | 0.41 |
| 6:AF:118:THR:O | 6:AF:119:ALA:C | 2.59 | 0.41 |
| 7:AG:136:ARG:O | 7:AG:139:TYR:CD1 | 2.73 | 0.41 |
| 8:AH:20:GLY:C | 8:AH:21:ASN:OD1 | 2.59 | 0.41 |
| 8:AH:32:LEU:HD12 | 8:AH:136:ASP:OD2 | 2.21 | 0.41 |
| 8:AH:40:MET:CA | 8:AH:54:PRO:CG | 2.97 | 0.41 |
| 8:AH:53:ARG:CB | 8:AH:56:ASP:OD1 | 2.59 | 0.41 |
| 8:AH:55:SER:C | 8:AH:57:GLU:HG2 | 2.41 | 0.41 |
| 8:AH:55:SER:OG | 8:AH:60:HIS:HB2 | 2.20 | 0.41 |
| 8:AH:98:GLN:O | 8:AH:99:GLY:O | 2.38 | 0.41 |
| 9:AI:63:LEU:HD13 | 9:AI:66:PHE:HZ | 1.82 | 0.41 |
| 9:AJ:3:ILE:HG22 | 9:AJ:4:ASP:N | 2.36 | 0.41 |
| 10:AK:44:LEU:HA | 10:AK:47:LEU:CD2 | 2.49 | 0.41 |
| 11:AL:18:ALA:CB | 11:AL:39:CYS:O | 2.69 | 0.41 |
| 12:AM:54:VAL:CA | 12:AM:135:ILE:CD1 | 2.99 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AN:14:SER:OG | 13:AN:95:GLY:N | 2.52 | 0.41 |
| 14:AO:56:LYS:H | 14:AO:56:LYS:HG2 | 1.72 | 0.41 |
| 15:AP:32:LYS:O | 15:AP:32:LYS:HG3 | 2.19 | 0.41 |
| 15:AP:57:ARG:CB | 15:AP:60:ALA:CB | 2.97 | 0.41 |
| 16:AQ:48:VAL:CG1 | 16:AQ:55:ASP:OD2 | 2.68 | 0.41 |
| 16:AQ:97:VAL:O | 16:AQ:98:GLU:HG2 | 2.21 | 0.41 |
| 16:AQ:110:THR:HG23 | 16:AQ:115:VAL:H | 1.84 | 0.41 |
| 17:AR:35:LYS:HE2 | 17:AR:35:LYS:HB3 | 1.53 | 0.41 |
| 18:AS:19:LEU:HA | 18:AS:19:LEU:HD23 | 1.87 | 0.41 |
| 18:AS:84:ARG:O | 18:AS:95:ILE:CB | 2.69 | 0.41 |
| 19:AT:25:GLN:C | 19:AT:26:PHE:CD1 | 2.93 | 0.41 |
| 19:AT:34:LYS:NZ | 19:AT:52:VAL:CG1 | 2.73 | 0.41 |
| 21:AV:46:GLN:HG3 | 21:AV:50:GLY:N | 2.36 | 0.41 |
| 21:AV:70:GLN:CG | 21:AV:72:ASP:CB | 2.97 | 0.41 |
| 21:AV:160:LEU:HD12 | 21:AV:160:LEU:N | 2.35 | 0.41 |
| 23:AX:3:ARG:CB | 23:AX:60:GLU:HG2 | 2.50 | 0.41 |
| 23:AX:44:ARG:O | 23:AX:48:GLU:OE1 | 2.39 | 0.41 |
| 24:A0:116:LEU:HG | 24:A0:116:LEU:H | 1.01 | 0.41 |
| 25:A1:27:SER:O | 25:A1:29:SER:N | 2.53 | 0.41 |
| 30:A6:26:LYS:C | 30:A6:27:ASN:CG | 2.79 | 0.41 |
| 31:A7:25:LYS:O | 31:A7:26:SER:C | 2.59 | 0.41 |
| 34:BA:8:A:C5' | 40:BH:121:LYS:HA | 2.51 | 0.41 |
| 34:BA:22:G:H3' | 34:BA:23:C:C6 | 2.49 | 0.41 |
| 34:BA:28:G:N1 | 34:BA:556:C:C4 | 2.89 | 0.41 |
| 34:BA:36:C:C5' | 47:BO:122:THR:O | 2.65 | 0.41 |
| 34:BA:37:U:H2' | 34:BA:38:G:H5' | 2.01 | 0.41 |
| 34:BA:231:G:N1 | 34:BA:232:G:C5 | 2.88 | 0.41 |
| 34:BA:354:G:H2' | 34:BA:355:C:O5' | 2.20 | 0.41 |
| 34:BA:354:G:C2' | 34:BA:355:C:O5' | 2.67 | 0.41 |
| 34:BA:384:G:C5 | 34:BA:385:C:C5 | 3.09 | 0.41 |
| 34:BA:423:G:N2 | 34:BA:424:G:C5 | 2.88 | 0.41 |
| 34:BA:437:U:N3 | 34:BA:496:A:N7 | 2.69 | 0.41 |
| 34:BA:476:G:H2' | 34:BA:477:G:H8 | 1.84 | 0.41 |
| 34:BA:509:A:H5' | 39:BG:54:TYR:HD2 | 1.84 | 0.41 |
| 34:BA:522:C:O4' | 34:BA:536:C:H4' | 2.20 | 0.41 |
| 34:BA:538:G:O2' | 47:BO:114:LYS:NZ | 2.53 | 0.41 |
| 34:BA:540:G:N3 | 34:BA:541:G:C1' | 2.83 | 0.41 |
| 34:BA:591:U:O2 | 34:BA:648:A:N1 | 2.53 | 0.41 |
| 34:BA:628:G:H2' | 34:BA:629:G:O4' | 2.21 | 0.41 |
| 34:BA:707:C:C4 | 34:BA:708:C:C5 | 3.09 | 0.41 |
| 34:BA:722:A:O3' | 34:BA:723:U:C4 | 2.73 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:791:G:N2 | 34:BA:1497:G:C4' | 2.84 | 0.41 |
| 34:BA:926:G:C4 | 34:BA:1505:G:N2 | 2.88 | 0.41 |
| 34:BA:938:A:C2' | 34:BA:939:G:O5' | 2.68 | 0.41 |
| 34:BA:976:G:C2' | 34:BA:977:A:OP2 | 2.68 | 0.41 |
| 34:BA:982:U:H3 | 34:BA:1223:C:H42 | 1.67 | 0.41 |
| 34:BA:990:C:H2' | 34:BA:991:U:N1 | 2.31 | 0.41 |
| 34:BA:992:U:O2' | 34:BA:993:G:P | 2.79 | 0.41 |
| 34:BA:3(A):G:C6 | 34:BA:1038:C:C2 | 3.09 | 0.41 |
| 34:BA:1020:U:H2' | 34:BA:1021:G:H8 | 1.82 | 0.41 |
| 34:BA:1055:A:H2' | 34:BA:1056:U:O5' | 2.20 | 0.41 |
| 34:BA:1057:G:H5' | 38:BF:196:LEU:HA | 2.02 | 0.41 |
| 34:BA:1058:G:C4 | 34:BA:1059:C:C6 | 3.08 | 0.41 |
| 34:BA:1062:U:O4 | 38:BF:3:ASN:OD1 | 2.37 | 0.41 |
| 34:BA:1255:G:HO2' | 34:BA:1258:G:H1' | 1.84 | 0.41 |
| 34:BA:1353:G:C6 | 34:BA:1370:G:C2 | 3.09 | 0.41 |
| 34:BA:1412:C:C2 | 34:BA:1489:G:C2 | 3.08 | 0.41 |
| 34:BA:1477:C:C4 | 34:BA:1478:C:C5 | 3.09 | 0.41 |
| 35:BB:8:U:C6 | 35:BB:8:U:C3' | 3.04 | 0.41 |
| 35:BB:29:A:C6 | 35:BB:42:G:C2 | 3.09 | 0.41 |
| 35:BC:11:C:O2' | 35:BC:12:U:C5' | 2.64 | 0.41 |
| 36:B1:36:A:O5' | 36:B1:36:A:C8 | 2.66 | 0.41 |
| 37:BE:20:GLU:C | 37:BE:39:ILE:CD1 | 2.89 | 0.41 |
| 37:BE:72:GLY:HA3 | 37:BE:165:VAL:HG13 | 2.01 | 0.41 |
| 37:BE:92:TYR:CE2 | 37:BE:151:GLY:HA2 | 2.54 | 0.41 |
| 37:BE:114:ARG:HA | 37:BE:117:GLU:OE2 | 2.20 | 0.41 |
| 39:BG:57:ARG:HG3 | 39:BG:202:LEU:O | 2.20 | 0.41 |
| 40:BH:57:LYS:O | 40:BH:61:TYR:CD2 | 2.74 | 0.41 |
| 40:BH:78:HIS:CD2 | 40:BH:78:HIS:N | 2.87 | 0.41 |
| 40:BH:151:LEU:CD2 | 43:BK:65:TYR:O | 2.62 | 0.41 |
| 41:BI:39:LYS:HB3 | 41:BI:39:LYS:HE3 | 1.60 | 0.41 |
| 41:BI:52:ILE:CD1 | 41:BI:87:ARG:HH22 | 2.31 | 0.41 |
| 43:BK:91:ARG:HA | 52:BT:34:LYS:HB2 | 2.02 | 0.41 |
| 43:BK:136:GLU:O | 43:BK:137:VAL:CG2 | 2.69 | 0.41 |
| 44:BL:26:VAL:HA | 44:BL:61:ALA:O | 2.21 | 0.41 |
| 44:BL:48:GLU:CA | 44:BL:51:ARG:CZ | 2.98 | 0.41 |
| 44:BL:82:ALA:CB | 44:BL:101:PHE:CD2 | 3.04 | 0.41 |
| 44:BL:103:THR:CG2 | 44:BL:104:ARG:N | 2.83 | 0.41 |
| 44:BL:110:GLU:OE2 | 44:BL:111:ARG:O | 2.39 | 0.41 |
| 45:BM:3:LYS:N | 45:BM:3:LYS:CD | 2.59 | 0.41 |
| 45:BM:89:ASP:O | 45:BM:90:LEU:HG | 2.21 | 0.41 |
| 46:BN:44:SER:O | 46:BN:48:ILE:HG13 | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BN:92:GLU:O | 46:BN:96:ARG:HB2 | 2.20 | 0.41 |
| 47:BO:56:ALA:HB3 | 47:BO:100:ILE:CD1 | 2.51 | 0.41 |
| 47:BO:69:TYR:O | 47:BO:100:ILE:CD1 | 2.68 | 0.41 |
| 48:BP:20:THR:OG1 | 48:BP:25:ILE:HG22 | 2.20 | 0.41 |
| 48:BP:38:GLY:O | 48:BP:55:ARG:NH2 | 2.53 | 0.41 |
| 50:BR:7:GLU:O | 50:BR:10:LYS:N | 2.53 | 0.41 |
| 50:BR:43:LEU:CD2 | 50:BR:49:ASP:HB3 | 2.50 | 0.41 |
| 51:BS:14:ASN:CA | 51:BS:42:ARG:NH2 | 2.72 | 0.41 |
| 52:BT:96:GLN:HE22 | 52:BT:97:SER:CA | 2.33 | 0.41 |
| 53:BU:34:TYR:CE1 | 53:BU:35:ARG:NE | 2.88 | 0.41 |
| 54:BV:55:LYS:O | 54:BV:55:LYS:HG2 | 2.20 | 0.41 |
| 1:AB:44:G:N2 | 1:AB:48:A:C1' | 2.75 | 0.41 |
| 1:AB:59:A:C5 | 1:AB:60:C:C6 | 3.09 | 0.41 |
| 1:AB:78:A:C2' | 1:AB:79:C:C5' | 2.98 | 0.41 |
| 1:AB:105:G:O2' | 1:AB:106:G:H5' | 2.20 | 0.41 |
| 2:AA:7:G:N3 | 2:AA:8:A:C8 | 2.89 | 0.41 |
| 2:AA:14:A:H2 | 2:AA:2625:G:HO2' | 1.61 | 0.41 |
| 2:AA:99:U:C4 | 20:AU:107:LYS:HD2 | 2.56 | 0.41 |
| 2:AA:155:C:O2 | 2:AA:162:U:OP1 | 2.38 | 0.41 |
| 2:AA:188:G:C2' | 2:AA:189:G:C5' | 2.97 | 0.41 |
| 2:AA:241:A:H1' | 2:AA:243:U:N1 | 2.35 | 0.41 |
| 2:AA:250:G:OP2 | 32:A8:8:LYS:HB3 | 2.21 | 0.41 |
| 2:AA:259:G:N3 | 2:AA:621:A:H1' | 2.36 | 0.41 |
| 2:AA:298:G:C6 | 2:AA:338:G:H4' | 2.56 | 0.41 |
| 2:AA:352:G:C8 | 2:AA:352:G:P | 3.14 | 0.41 |
| 2:AA:372:G:C8 | 2:AA:372:G:C3' | 3.03 | 0.41 |
| 2:AA:419:C:N3 | 2:AA:420:C:C5 | 2.88 | 0.41 |
| 2:AA:493:G:C2 | 2:AA:494:G:C8 | 3.09 | 0.41 |
| 2:AA:514:A:C4 | 2:AA:515:A:C8 | 3.08 | 0.41 |
| 2:AA:575:A:H2' | 2:AA:576:U:C6 | 2.55 | 0.41 |
| 2:AA:657:U:C2 | 2:AA:658:C:C5 | 3.09 | 0.41 |
| 2:AA:663:G:N2 | 2:AA:940:G:P | 2.81 | 0.41 |
| 2:AA:668:G:C4 | 2:AA:670:A:C8 | 3.08 | 0.41 |
| 2:AA:695:G:C4 | 2:AA:768:G:N1 | 2.88 | 0.41 |
| 2:AA:809:G:C2' | 2:AA:810:U:H5' | 2.50 | 0.41 |
| 2:AA:814:C:C2 | 2:AA:815:C:C5 | 3.09 | 0.41 |
| 2:AA:817:C:H2' | 2:AA:818:G:C8 | 2.55 | 0.41 |
| 2:AA:824:A:C5 | 2:AA:825:C:N4 | 2.89 | 0.41 |
| 2:AA:827:U:C5 | 2:AA:2430:A:C5 | 3.09 | 0.41 |
| 2:AA:864:G:H22 | 2:AA:909:A:N6 | 2.18 | 0.41 |
| 2:AA:924:C:H2' | 2:AA:925:C:C6 | 2.56 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:993:G:C4' | 26:A2:90:PHE:CE2 | 3.04 | 0.41 |
| 2:AA:1021:A:C6 | 2:AA:1023:U:N1 | 2.89 | 0.41 |
| 2:AA:1050:A:H2' | 2:AA:1051:G:C5' | 2.49 | 0.41 |
| 2:AA:1084:A:C8 | 9:AI:37:VAL:CB | 2.93 | 0.41 |
| 2:AA:1084:A:N9 | 9:AI:25:LEU:CB | 2.83 | 0.41 |
| 2:AA:1087:G:C2' | 2:AA:1103:A:C2 | 3.03 | 0.41 |
| 2:AA:1097:U:C6 | 2:AA:1098:A:C8 | 3.09 | 0.41 |
| 2:AA:1116:C:H2' | 2:AA:1117:G:C8 | 2.56 | 0.41 |
| 2:AA:1120:G:C4 | 2:AA:1121:C:C5 | 3.09 | 0.41 |
| 2:AA:1222:C:C4 | 2:AA:1227:A:N6 | 2.78 | 0.41 |
| 2:AA:1263:U:C5' | 2:AA:1264:G:OP2 | 2.69 | 0.41 |
| 2:AA:1370:C:H2' | 2:AA:1371:G:C5' | 2.51 | 0.41 |
| 2:AA:1398:C:C2' | 2:AA:1399:C:O5' | 2.69 | 0.41 |
| 2:AA:1465:G:C4 | 2:AA:1466:G:N7 | 2.89 | 0.41 |
| 2:AA:1517:G:H2' | 2:AA:1518:C:C5' | 2.51 | 0.41 |
| 2:AA:1572:A:N6 | 2:AA:1573:G:H21 | 2.18 | 0.41 |
| 2:AA:1791:A:OP1 | 4:AD:210:LYS:HD3 | 2.20 | 0.41 |
| 2:AA:1800:C:N3 | 2:AA:1817:G:C2 | 2.88 | 0.41 |
| 2:AA:1831:G:H2' | 2:AA:1832:C:H6 | 1.81 | 0.41 |
| 2:AA:1908:C:C2' | 2:AA:1909:C:O5' | 2.67 | 0.41 |
| 2:AA:1910:G:O6 | 2:AA:1911:U:C4 | 2.73 | 0.41 |
| 2:AA:1924:C:O2 | 2:AA:1925:C:C6 | 2.74 | 0.41 |
| 2:AA:1964:G:C2 | 2:AA:1967:C:C6 | 3.08 | 0.41 |
| 2:AA:1988:C:H2' | 2:AA:1988:C:O2 | 2.21 | 0.41 |
| 2:AA:1995:U:C6 | 2:AA:1995:U:C4' | 3.03 | 0.41 |
| 2:AA:1996:C:C6 | 2:AA:1996:C:C3' | 3.03 | 0.41 |
| 2:AA:2151:G:N1 | 2:AA:2152:G:C4 | 2.88 | 0.41 |
| 2:AA:2199:A:OP2 | 2:AA:2199:A:C8 | 2.74 | 0.41 |
| 2:AA:2310:A:C4 | 7:AG:55:LYS:HD3 | 2.56 | 0.41 |
| 2:AA:2415:G:N1 | 2:AA:2416:C:C5 | 2.89 | 0.41 |
| 2:AA:2417:C:H2' | 2:AA:2418:A:O4' | 2.20 | 0.41 |
| 2:AA:2512:C:C5' | 5:AE:219:VAL:CG1 | 2.98 | 0.41 |
| 2:AA:2562:U:O2' | 13:AN:23:LYS:CD | 2.69 | 0.41 |
| 2:AA:2579:C:N3 | 2:AA:2580:U:C6 | 2.89 | 0.41 |
| 2:AA:2654:A:C8 | 2:AA:2654:A:O5' | 2.73 | 0.41 |
| 2:AA:2705:A:H2' | 2:AA:2706:G:O5' | 2.21 | 0.41 |
| 2:AA:2712:U:O2 | 2:AA:2712:U:O4' | 2.39 | 0.41 |
| 2:AA:2724:C:O2 | 2:AA:2724:C:H2' | 2.20 | 0.41 |
| 2:AA:2816:C:C4 | 2:AA:2817:G:N7 | 2.89 | 0.41 |
| 2:AA:2856:C:C2' | 2:AA:2857:G:O5' | 2.69 | 0.41 |
| 2:AA:2886:G:C2 | 2:AA:2887:U:C6 | 3.07 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:89:ALA:CB | 3:AC:150:GLY:CA | 2.98 | 0.41 |
| 3:AC:103:ILE:CG2 | 3:AC:130:ILE:HG21 | 2.50 | 0.41 |
| 5:AE:201:VAL:HG13 | 5:AE:310:PHE:C | 2.32 | 0.41 |
| 5:AE:219:VAL:HG21 | 5:AE:235:ILE:HD11 | 2.02 | 0.41 |
| 7:AG:24:HIS:HB3 | 7:AG:71:ALA:O | 2.20 | 0.41 |
| 7:AG:59:GLY:C | 7:AG:60:GLU:HG3 | 2.41 | 0.41 |
| 9:AI:49:ALA:O | 9:AI:50:GLY:C | 2.58 | 0.41 |
| 10:AK:82:LYS:O | 10:AK:89:LEU:HB3 | 2.21 | 0.41 |
| 10:AK:93:ILE:O | 10:AK:120:ALA:HA | 2.20 | 0.41 |
| 10:AK:110:LEU:CD1 | 10:AK:114:LYS:HZ1 | 2.33 | 0.41 |
| 11:AL:24:VAL:O | 11:AL:35:ILE:HG23 | 2.21 | 0.41 |
| 11:AL:45:GLU:O | 11:AL:46:THR:C | 2.58 | 0.41 |
| 12:AM:106:GLY:O | 12:AM:107:ASN:OD1 | 2.39 | 0.41 |
| 13:AN:53:LYS:O | 13:AN:56:GLN:CG | 2.68 | 0.41 |
| 13:AN:86:ILE:CA | 13:AN:87:ILE:HD12 | 2.50 | 0.41 |
| 15:AP:63:ALA:O | 15:AP:66:ASN:N | 2.53 | 0.41 |
| 15:AP:64:ALA:CB | 15:AP:142:LYS:HE2 | 2.31 | 0.41 |
| 16:AQ:41:LYS:HD2 | 16:AQ:42:HIS:HD2 | 1.81 | 0.41 |
| 16:AQ:114:LYS:O | 16:AQ:117:ALA:CB | 2.59 | 0.41 |
| 16:AQ:120:GLU:CD | 16:AQ:120:GLU:H | 2.24 | 0.41 |
| 19:AT:17:ASP:CA | 19:AT:20:PHE:CE1 | 3.04 | 0.41 |
| 20:AU:87:VAL:HG13 | 20:AU:88:PRO:CG | 2.51 | 0.41 |
| 21:AV:67:LYS:HZ2 | 21:AV:67:LYS:CA | 2.28 | 0.41 |
| 21:AV:71:MET:C | 21:AV:78:PRO:CA | 2.89 | 0.41 |
| 25:A1:48:ARG:C | 25:A1:52:ASN:ND2 | 2.74 | 0.41 |
| 25:A1:53:LYS:HG3 | 25:A1:53:LYS:H | 1.70 | 0.41 |
| 25:A1:111:ASP:C | 25:A1:115:ASN:HD22 | 2.18 | 0.41 |
| 26:A2:19:VAL:CG1 | 26:A2:21:ARG:NH1 | 2.83 | 0.41 |
| 27:A3:29:GLU:O | 27:A3:31:VAL:N | 2.52 | 0.41 |
| 27:A3:35:ASN:CA | 27:A3:68:VAL:CG2 | 2.93 | 0.41 |
| 29:A5:45:ILE:N | 29:A5:52:TYR:CE1 | 2.87 | 0.41 |
| 31:A7:14:LYS:O | 31:A7:16:HIS:O | 2.39 | 0.41 |
| 31:A7:25:LYS:HZ1 | 31:A7:28:ARG:NH2 | 2.15 | 0.41 |
| 32:A8:4:MET:HB2 | 32:A8:5:LYS:H | 1.73 | 0.41 |
| 34:BA:43:C:O2 | 34:BA:44:G:C8 | 2.73 | 0.41 |
| 34:BA:51:A:N6 | 34:BA:116:A:C4 | 2.88 | 0.41 |
| 34:BA:51:A:N6 | 34:BA:116:A:C5 | 2.89 | 0.41 |
| 34:BA:175:C:C2 | 34:BA:176:C:C5 | 3.08 | 0.41 |
| 34:BA:188:C:C2' | 34:BA:189:G:C5' | 2.96 | 0.41 |
| 34:BA:413:G:H22 | 34:BA:428:G:C1' | 2.33 | 0.41 |
| 34:BA:507:C:P | 34:BA:508:C:H3' | 2.61 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:529:G:O6 | 47:BO:49:ASN:HA | 2.19 | 0.41 |
| 34:BA:689:C:O2 | 34:BA:689:C:C2' | 2.64 | 0.41 |
| 34:BA:774:G:C5 | 34:BA:775:G:N7 | 2.88 | 0.41 |
| 34:BA:853:G:C2 | 34:BA:854:G:C8 | 3.09 | 0.41 |
| 34:BA:890:G:C6 | 34:BA:906:G:N7 | 2.88 | 0.41 |
| 34:BA:891:U:C5 | 34:BA:892:A:N7 | 2.88 | 0.41 |
| 34:BA:927:G:O6 | 34:BA:1391:U:O4 | 2.39 | 0.41 |
| 34:BA:958:A:C6 | 34:BA:959:A:C6 | 3.09 | 0.41 |
| 34:BA:991:U:HO2' | 34:BA:993:G:H1' | 1.80 | 0.41 |
| 34:BA:999:C:C2 | 34:BA:1042:G:N1 | 2.80 | 0.41 |
| 34:BA:1010:G:C2 | 34:BA:1011:G:C8 | 3.08 | 0.41 |
| 34:BA:1090:U:C2' | 34:BA:1091:U:O5' | 2.68 | 0.41 |
| 34:BA:1133:G:O2' | 34:BA:1134:G:H5' | 2.20 | 0.41 |
| 34:BA:1137:C:C4' | 34:BA:1138:G:C2 | 2.97 | 0.41 |
| 34:BA:1244:C:O2' | 34:BA:1245:A:H5' | 2.20 | 0.41 |
| 34:BA:1250:A:H5' | 44:BL:67:GLY:O | 2.20 | 0.41 |
| 34:BA:1340:A:H4' | 35:BC:31:A:O2' | 2.20 | 0.41 |
| 34:BA:1353:G:H5' | 56:BX:13:ILE:CG2 | 2.50 | 0.41 |
| 34:BA:1370:G:N2 | 34:BA:1371:G:C5 | 2.88 | 0.41 |
| 34:BA:1437:C:C6 | 34:BA:1437:C:OP2 | 2.74 | 0.41 |
| 34:BA:1541:U:H2' | 34:BA:1542:U:O3' | 2.21 | 0.41 |
| 35:BB:38:A:H3' | 35:BB:39:U:C6 | 2.56 | 0.41 |
| 36:B1:60:A:N3 | 36:B1:61:U:C6 | 2.89 | 0.41 |
| 37:BE:16:HIS:NE2 | 37:BE:213:LEU:HB3 | 2.34 | 0.41 |
| 37:BE:74:LYS:O | 37:BE:76:GLN:N | 2.53 | 0.41 |
| 37:BE:80:ILE:HD13 | 37:BE:211:ILE:HG22 | 2.03 | 0.41 |
| 38:BF:24:ALA:CB | 38:BF:28:GLN:HE22 | 2.33 | 0.41 |
| 38:BF:50:ALA:C | 38:BF:70:VAL:HG11 | 2.41 | 0.41 |
| 38:BF:53:ALA:CB | 38:BF:115:LEU:HD21 | 2.41 | 0.41 |
| 38:BF:86:VAL:O | 38:BF:86:VAL:HG12 | 2.20 | 0.41 |
| 39:BG:58:LEU:HD21 | 39:BG:62:GLN:CG | 2.47 | 0.41 |
| 39:BG:149:ALA:O | 39:BG:150:GLU:C | 2.59 | 0.41 |
| 40:BH:15:ARG:NE | 40:BH:26:PHE:CE2 | 2.88 | 0.41 |
| 40:BH:109:ILE:HG22 | 40:BH:110:LEU:HG | 2.02 | 0.41 |
| 41:BI:33:TYR:CE2 | 41:BI:75:LEU:CA | 3.03 | 0.41 |
| 41:BI:87:ARG:NH1 | 41:BI:87:ARG:CG | 2.84 | 0.41 |
| 42:BJ:23:VAL:O | 42:BJ:24:THR:C | 2.59 | 0.41 |
| 42:BJ:45:ASP:O | 42:BJ:49:ILE:CD1 | 2.69 | 0.41 |
| 42:BJ:111:ARG:CD | 42:BJ:123:GLU:HB2 | 2.44 | 0.41 |
| 43:BK:110:ALA:O | 43:BK:120:THR:HA | 2.21 | 0.41 |
| 44:BL:37:PHE:CZ | 44:BL:74:ILE:HG23 | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BN:59:TYR:O | 46:BN:60:ALA:C | 2.56 | 0.41 |
| 47:BO:82:VAL:CG1 | 47:BO:83:VAL:H | 2.24 | 0.41 |
| 48:BP:2:ALA:N | 48:BP:4:ILE:HG13 | 2.35 | 0.41 |
| 48:BP:6:GLY:O | 48:BP:7:VAL:C | 2.59 | 0.41 |
| 48:BP:36:LYS:HE2 | 48:BP:59:TYR:HE1 | 1.86 | 0.41 |
| 49:BQ:6:LEU:CD2 | 49:BQ:8:GLU:OE2 | 2.67 | 0.41 |
| 52:BT:76:LEU:C | 52:BT:76:LEU:HD23 | 2.41 | 0.41 |
| 54:BV:38:SER:O | 54:BV:70:LYS:CB | 2.69 | 0.41 |
| 54:BV:43:GLU:O | 54:BV:47:HIS:NE2 | 2.53 | 0.41 |
| 55:BW:24:LEU:O | 55:BW:27:LYS:HB3 | 2.20 | 0.41 |
| 55:BW:50:GLU:HG2 | 55:BW:100:ILE:HD11 | 2.02 | 0.41 |
| 1:AB:1:U:H6 | 1:AB:1:U:H3' | 1.83 | 0.41 |
| 1:AB:6:C:C2 | 1:AB:115:G:C2 | 3.09 | 0.41 |
| 1:AB:54:G:C4 | 1:AB:55:U:C6 | 3.08 | 0.41 |
| 1:AB:61:G:H2' | 1:AB:62:C:H6 | 1.82 | 0.41 |
| 1:AB:113:C:O2' | 16:AQ:56:ASP:OD2 | 2.38 | 0.41 |
| 2:AA:7:G:OP1 | 12:AM:6:PHE:CE2 | 2.74 | 0.41 |
| 2:AA:68:G:N2 | 2:AA:74:A:O4' | 2.54 | 0.41 |
| 2:AA:71:A:OP2 | 2:AA:113:G:H4' | 2.20 | 0.41 |
| 2:AA:72:U:C4 | 2:AA:112:U:O4' | 2.73 | 0.41 |
| 2:AA:76:C:H4' | 22:AW:55:ARG:HE | 1.85 | 0.41 |
| 2:AA:88:G:C2 | 2:AA:89:G:C8 | 3.08 | 0.41 |
| 2:AA:128:C:O2' | 2:AA:129:C:O5' | 2.32 | 0.41 |
| 2:AA:199:A:N1 | 2:AA:2433:A:C8 | 2.89 | 0.41 |
| 2:AA:239:U:C2 | 2:AA:259:G:N1 | 2.89 | 0.41 |
| 2:AA:294:A:H2' | 2:AA:295:G:H5" | 1.98 | 0.41 |
| 2:AA:323:G:N1 | 2:AA:333:G:C4 | 2.89 | 0.41 |
| 2:AA:352:G:C6 | 2:AA:353:G:N7 | 2.88 | 0.41 |
| 2:AA:372:G:O2' | 28:A4:63:PHE:CE2 | 2.71 | 0.41 |
| 2:AA:393:C:C2' | 2:AA:394:A:H5' | 2.50 | 0.41 |
| 2:AA:396:G:O2' | 28:A4:39:VAL:HG13 | 2.19 | 0.41 |
| 2:AA:398:G:OP2 | 28:A4:59:PHE:CE2 | 2.74 | 0.41 |
| 2:AA:410:G:H1 | 2:AA:417:C:N4 | 2.19 | 0.41 |
| 2:AA:417:C:O2 | 2:AA:2407:G:C2 | 2.74 | 0.41 |
| 2:AA:443:A:H2 | 2:AA:1245:G:N2 | 2.19 | 0.41 |
| 2:AA:493:G:C2 | 2:AA:494:G:C5 | 3.08 | 0.41 |
| 2:AA:530:G:O6 | 2:AA:2021:C:C3' | 2.64 | 0.41 |
| 2:AA:531:C:C2' | 2:AA:532:A:OP1 | 2.69 | 0.41 |
| 2:AA:543:C:HO2' | 2:AA:544:C:P | 2.44 | 0.41 |
| 2:AA:583:G:C5 | 2:AA:584:C:C5 | 3.09 | 0.41 |
| 2:AA:592:G:O2' | 32:A8:3:LYS:CG | 2.69 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:629:G:C6 | 2:AA:630:G:C6 | 3.08 | 0.41 |
| 2:AA:666:G:O2' | 2:AA:667:U:C5' | 2.68 | 0.41 |
| 2:AA:713:G:C6 | 2:AA:714:U:C4 | 3.08 | 0.41 |
| 2:AA:762:U:H5" | 2:AA:763:G:P | 2.61 | 0.41 |
| 2:AA:769:G:N1 | 2:AA:770:G:N7 | 2.68 | 0.41 |
| 2:AA:808:G:O2' | 2:AA:809:G:H5' | 2.20 | 0.41 |
| 2:AA:908:C:H2' | 2:AA:909:A:H5' | 2.02 | 0.41 |
| 2:AA:1006:C:H4' | 12:AM:28:GLU:OE2 | 2.21 | 0.41 |
| 2:AA:1066:U:C2 | 2:AA:1069:A:P | 3.13 | 0.41 |
| 2:AA:1078:U:H3 | 2:AA:1088:A:HO2' | 1.62 | 0.41 |
| 2:AA:1097:U:O2 | 2:AA:1098:A:O4' | 2.38 | 0.41 |
| 2:AA:1099:G:C4 | 2:AA:1100:C:C5 | 3.09 | 0.41 |
| 2:AA:1102:C:C2 | 2:AA:1103:A:N7 | 2.88 | 0.41 |
| 2:AA:1143:A:N3 | 2:AA:1144:G:N9 | 2.69 | 0.41 |
| 2:AA:1168:G:N1 | 2:AA:1182:A:C6 | 2.88 | 0.41 |
| 2:AA:1203:G:N7 | 2:AA:1207:C:C2 | 2.89 | 0.41 |
| 2:AA:1224:G:C2' | 2:AA:1225:C:H5' | 2.50 | 0.41 |
| 2:AA:1287:A:C2 | 2:AA:1648:C:O2' | 2.67 | 0.41 |
| 2:AA:1311:G:H3' | 2:AA:1311:G:C8 | 2.55 | 0.41 |
| 2:AA:1315:C:O2' | 2:AA:1392:A:C1' | 2.68 | 0.41 |
| 2:AA:1334:G:O2' | 2:AA:1335:U:O5' | 2.38 | 0.41 |
| 2:AA:1356:G:N2 | 2:AA:1357:U:H1' | 2.35 | 0.41 |
| 2:AA:1467:C:OP1 | 2:AA:1467:C:C4' | 2.69 | 0.41 |
| 2:AA:1529:A:C3' | 2:AA:1530:G:O4' | 2.68 | 0.41 |
| 2:AA:1658:C:O5' | 2:AA:1659:U:OP2 | 2.39 | 0.41 |
| 2:AA:1707:G:C2 | 2:AA:1756:G:N2 | 2.89 | 0.41 |
| 2:AA:1762:A:C5' | 2:AA:1763:G:OP2 | 2.69 | 0.41 |
| 2:AA:1789:A:C6 | 2:AA:1790:C:C5 | 3.08 | 0.41 |
| 2:AA:1803:A:C8 | 2:AA:1803:A:C3' | 3.03 | 0.41 |
| 2:AA:1841:U:C4 | 2:AA:1842:G:O6 | 2.73 | 0.41 |
| 2:AA:1845:G:C2' | 2:AA:1846:G:C5' | 2.99 | 0.41 |
| 2:AA:1845:G:H1' | 2:AA:1896:G:N2 | 2.36 | 0.41 |
| 2:AA:1846:G:C2 | 2:AA:1895:C:N3 | 2.88 | 0.41 |
| 2:AA:1904:G:N2 | 2:AA:1905:C:H1' | 2.35 | 0.41 |
| 2:AA:1905:C:C4 | 2:AA:1930:G:C2 | 3.08 | 0.41 |
| 2:AA:1930:G:H2' | 2:AA:1968:G:C6 | 2.56 | 0.41 |
| 2:AA:2032:G:C6 | 2:AA:2572:A:N3 | 2.88 | 0.41 |
| 2:AA:2062:A:C2' | 2:AA:2063:C:OP1 | 2.69 | 0.41 |
| 2:AA:2068:U:C2 | 2:AA:2430:A:N1 | 2.87 | 0.41 |
| 2:AA:2105:C:C2 | 2:AA:2106:G:C8 | 3.09 | 0.41 |
| 2:AA:2106:G:C6 | 2:AA:2184:G:O6 | 2.73 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2177:C:C2 | 2:AA:2178:C:C5 | 3.09 | 0.41 |
| 2:AA:2195:C:N3 | 2:AA:2196:C:C6 | 2.88 | 0.41 |
| 2:AA:2245:U:H1' | 2:AA:2435:A:H3' | 2.03 | 0.41 |
| 2:AA:2262:U:H2' | 2:AA:2263:C:C5' | 2.51 | 0.41 |
| 2:AA:2280:G:O6 | 2:AA:2281:C:N4 | 2.54 | 0.41 |
| 2:AA:2319:G:H4' | 16:AQ:9:PRO:N | 2.36 | 0.41 |
| 2:AA:2327:A:C6 | 2:AA:2388:A:C2 | 3.09 | 0.41 |
| 2:AA:2371:G:C2 | 2:AA:2372:G:C4 | 3.08 | 0.41 |
| 2:AA:2421:G:OP1 | 30:A6:2:ALA:O | 2.39 | 0.41 |
| 2:AA:2484:G:H2' | 2:AA:2484:G:N3 | 2.35 | 0.41 |
| 2:AA:2516:G:C6 | 2:AA:2517:C:N4 | 2.88 | 0.41 |
| 2:AA:2541:A:C2 | 2:AA:2765:A:N6 | 2.58 | 0.41 |
| 2:AA:2717:G:C2' | 2:AA:2718:G:O5' | 2.69 | 0.41 |
| 2:AA:2758:A:OP2 | 2:AA:2758:A:C3' | 2.69 | 0.41 |
| 2:AA:2767:C:O2' | 2:AA:2768:C:H5' | 2.21 | 0.41 |
| 2:AA:2791:C:C4 | 2:AA:2805:G:O6 | 2.73 | 0.41 |
| 2:AA:2795:G:O2' | 2:AA:2797:U:O5' | 2.38 | 0.41 |
| 2:AA:2810:A:N6 | 2:AA:2891:G:N3 | 2.68 | 0.41 |
| 2:AA:2837:G:C6 | 2:AA:2882:A:C6 | 3.08 | 0.41 |
| 2:AA:2837:G:N1 | 2:AA:2882:A:C6 | 2.88 | 0.41 |
| 2:AA:2839:G:C5 | 2:AA:2840:C:C4 | 3.08 | 0.41 |
| 3:AC:19:ILE:HG21 | 3:AC:225:ASN:HB2 | 2.02 | 0.41 |
| 3:AC:27:HIS:C | 3:AC:31:GLU:OE2 | 2.59 | 0.41 |
| 3:AC:133:PRO:HA | 3:AC:172:HIS:CE1 | 2.53 | 0.41 |
| 3:AC:148:ASN:CG | 3:AC:148:ASN:O | 2.57 | 0.41 |
| 3:AC:177:LYS:C | 3:AC:179:SER:N | 2.73 | 0.41 |
| 4:AD:227:VAL:O | 4:AD:227:VAL:HG13 | 2.17 | 0.41 |
| 5:AE:172:ASP:O | 5:AE:175:ASP:N | 2.53 | 0.41 |
| 5:AE:200:ASP:O | 5:AE:311:PHE:CA | 2.61 | 0.41 |
| 5:AE:304:ASP:OD1 | 5:AE:307:LEU:HD11 | 2.19 | 0.41 |
| 6:AF:202:THR:O | 6:AF:203:ALA:C | 2.57 | 0.41 |
| 6:AF:219:ASN:ND2 | 6:AF:222:ASP:OD1 | 2.54 | 0.41 |
| 6:AF:225:PRO:CG | 6:AF:231:ARG:NH2 | 2.84 | 0.41 |
| 7:AG:134:LEU:C | 7:AG:135:VAL:HG23 | 2.40 | 0.41 |
| 9:AI:80:ILE:HD11 | 9:AI:117:LYS:HD2 | 2.02 | 0.41 |
| 10:AK:78:THR:OG1 | 10:AK:78:THR:O | 2.24 | 0.41 |
| 11:AL:14:PRO:CG | 11:AL:17:LYS:HD2 | 2.50 | 0.41 |
| 11:AL:25:GLY:O | 11:AL:35:ILE:HD11 | 2.21 | 0.41 |
| 11:AL:120:SER:O | 11:AL:121:LEU:C | 2.59 | 0.41 |
| 13:AN:34:ASN:CA | 13:AN:35:ILE:HD12 | 2.51 | 0.41 |
| 13:AN:109:LYS:O | 13:AN:110:ASP:CB | 2.68 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AO:64:ILE:HG22 | 14:AO:108:VAL:CG2 | 2.44 | 0.41 |
| 14:AO:71:GLU:CG | 14:AO:72:ASN:N | 2.76 | 0.41 |
| 15:AP:67:ALA:HA | 15:AP:70:ARG:HH11 | 1.86 | 0.41 |
| 18:AS:23:LEU:CD1 | 29:A5:26:THR:N | 2.84 | 0.41 |
| 18:AS:82:LEU:CG | 18:AS:98:LYS:HB2 | 2.50 | 0.41 |
| 19:AT:11:THR:N | 19:AT:14:ALA:CB | 2.60 | 0.41 |
| 19:AT:19:ASP:OD1 | 19:AT:20:PHE:CD2 | 2.74 | 0.41 |
| 20:AU:48:VAL:CG1 | 20:AU:49:GLU:H | 2.33 | 0.41 |
| 21:AV:40:ASP:C | 21:AV:44:ARG:CG | 2.85 | 0.41 |
| 21:AV:155:PRO:O | 21:AV:156:GLU:C | 2.59 | 0.41 |
| 22:AW:15:GLU:O | 22:AW:18:ALA:N | 2.54 | 0.41 |
| 22:AW:22:ASP:O | 22:AW:25:THR:N | 2.53 | 0.41 |
| 24:A0:25:ALA:CA | 24:A0:48:VAL:HG22 | 2.50 | 0.41 |
| 24:A0:26:LYS:HE2 | 24:A0:70:LEU:HA | 2.02 | 0.41 |
| 25:A1:15:LYS:O | 25:A1:15:LYS:HG2 | 2.20 | 0.41 |
| 25:A1:22:LYS:H | 25:A1:24:PHE:HE2 | 1.68 | 0.41 |
| 28:A4:5:LEU:N | 28:A4:5:LEU:CD2 | 2.67 | 0.41 |
| 28:A4:7:PRO:O | 28:A4:8:LYS:HB2 | 2.21 | 0.41 |
| 30:A6:28:ARG:CG | 30:A6:30:ASN:CB | 2.98 | 0.41 |
| 33:A9:12:ASP:C | 33:A9:13:ASN:OD1 | 2.58 | 0.41 |
| 34:BA:149:A:N1 | 34:BA:172:A:N6 | 2.68 | 0.41 |
| 34:BA:198:G:C6 | 34:BA:220:G:N3 | 2.89 | 0.41 |
| 34:BA:218:C:H5' | 34:BA:461:C:H41 | 1.86 | 0.41 |
| 34:BA:224:C:C2 | 34:BA:225:C:C5 | 3.09 | 0.41 |
| 34:BA:225:C:C2' | 34:BA:225:C:O2 | 2.67 | 0.41 |
| 34:BA:258:G:C5 | 34:BA:259:G:N7 | 2.89 | 0.41 |
| 34:BA:310:G:C5 | 34:BA:311:C:C4 | 3.09 | 0.41 |
| 34:BA:361:G:C6 | 34:BA:362:G:C2 | 3.09 | 0.41 |
| 34:BA:406:G:C2 | 34:BA:407:G:C5 | 3.08 | 0.41 |
| 34:BA:445:G:N2 | 34:BA:489:C:N3 | 2.54 | 0.41 |
| 34:BA:486:U:C2 | 34:BA:487:A:C8 | 3.09 | 0.41 |
| 34:BA:529:G:H3' | 34:BA:529:G:H8 | 1.85 | 0.41 |
| 34:BA:572:A:O5' | 34:BA:573:A:P | 2.79 | 0.41 |
| 34:BA:574:A:H5" | 34:BA:575:G:OP2 | 2.20 | 0.41 |
| 34:BA:655:A:C2 | 34:BA:754:C:N4 | 2.88 | 0.41 |
| 34:BA:665:A:C2 | 34:BA:732:C:C2 | 3.08 | 0.41 |
| 34:BA:678:U:O4 | 34:BA:712:A:N1 | 2.54 | 0.41 |
| 34:BA:704:A:N6 | 46:BN:42:TRP:HZ2 | 2.19 | 0.41 |
| 34:BA:715:A:H5' | 34:BA:777:A:N6 | 2.36 | 0.41 |
| 34:BA:764:C:H3' | 34:BA:765:G:C8 | 2.36 | 0.41 |
| 34:BA:826:C:C5' | 43:BK:12:ARG:HG2 | 2.51 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:968:A:H5" | 34:BA:969:A:P | 2.55 | 0.41 |
| 34:BA:1038:C:HO2' | 34:BA:1039:C:C5' | 2.34 | 0.41 |
| 34:BA:1057:G:C4 | 34:BA:1204:A:C2 | 3.09 | 0.41 |
| 34:BA:1240:U:OP1 | 42:BJ:119:ARG:NH2 | 2.50 | 0.41 |
| 34:BA:1271:G:H2' | 34:BA:1272:G:O5' | 2.20 | 0.41 |
| 34:BA:1419:G:C6 | 34:BA:1482:G:C2 | 3.09 | 0.41 |
| 34:BA:1464:G:N3 | 34:BA:1465:C:C5 | 2.89 | 0.41 |
| 34:BA:1528:U:H2' | 34:BA:1530:G:C5' | 2.50 | 0.41 |
| 35:BB:51:G:C6 | 35:BB:52:U:C4 | 3.08 | 0.41 |
| 37:BE:25:ASN:HB2 | 37:BE:191:ASP:O | 2.20 | 0.41 |
| 37:BE:28:PHE:HD1 | 37:BE:31:TYR:HB2 | 1.85 | 0.41 |
| 38:BF:184:TYR:CD1 | 38:BF:185:GLY:N | 2.88 | 0.41 |
| 41:BI:80:ARG:CZ | 41:BI:88:VAL:HG11 | 2.51 | 0.41 |
| 41:BI:97:PHE:HD2 | 53:BU:31:LEU:HB2 | 1.85 | 0.41 |
| 42:BJ:110:GLN:O | 42:BJ:111:ARG:C | 2.58 | 0.41 |
| 43:BK:23:SER:HA | 43:BK:62:TYR:CD1 | 2.55 | 0.41 |
| 43:BK:87:SER:OG | 43:BK:93:VAL:HG23 | 2.21 | 0.41 |
| 43:BK:103:VAL:CG2 | 43:BK:108:GLY:C | 2.89 | 0.41 |
| 45:BM:24:VAL:O | 45:BM:28:ARG:HG3 | 2.21 | 0.41 |
| 45:BM:54:PHE:CE1 | 45:BM:55:LYS:CG | 3.03 | 0.41 |
| 45:BM:86:MET:O | 45:BM:86:MET:HG3 | 2.19 | 0.41 |
| 46:BN:103:LEU:O | 46:BN:104:GLN:C | 2.57 | 0.41 |
| 47:BO:7:ILE:CG2 | 52:BT:34:LYS:HE2 | 2.51 | 0.41 |
| 47:BO:68:ALA:CB | 47:BO:98:TYR:O | 2.69 | 0.41 |
| 47:BO:118:SER:O | 47:BO:121:GLY:HA2 | 2.20 | 0.41 |
| 48:BP:23:TYR:CE2 | 48:BP:70:LEU:CD2 | 3.03 | 0.41 |
| 51:BS:14:ASN:HA | 51:BS:42:ARG:CZ | 2.49 | 0.41 |
| 52:BT:11:VAL:O | 52:BT:12:SER:CB | 2.63 | 0.41 |
| 53:BU:66:LEU:CD1 | 53:BU:67:ALA:H | 2.26 | 0.41 |
| 54:BV:36:ARG:HB2 | 54:BV:72:GLY:H | 1.85 | 0.41 |
| 55:BW:50:GLU:HG3 | 55:BW:100:ILE:HG12 | 2.02 | 0.41 |
| 1:AB:43:C:H3' | 1:AB:44:G:H5' | 2.02 | 0.41 |
| 1:AB:46:A:C2' | 1:AB:47:C:O5' | 2.69 | 0.41 |
| 1:AB:75:G:H1' | 21:AV:22:VAL:HG22 | 2.03 | 0.41 |
| 2:AA:26:G:N2 | 2:AA:513:A:C5 | 2.89 | 0.41 |
| 2:AA:49:A:C5' | 2:AA:50:U:OP1 | 2.68 | 0.41 |
| 2:AA:59:U:N1 | 2:AA:73:A:C6 | 2.89 | 0.41 |
| 2:AA:119:A:O2' | 2:AA:120:U:O5' | 2.38 | 0.41 |
| 2:AA:126:A:N7 | 2:AA:127:A:N3 | 2.67 | 0.41 |
| 2:AA:163:U:C6 | 2:AA:164:U:C4 | 3.08 | 0.41 |
| 2:AA:181:A:C6 | 2:AA:182:A:N6 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:222:A:N1 | 2:AA:224:G:N3 | 2.68 | 0.41 |
| 2:AA:238:C:O2 | 2:AA:238:C:C2' | 2.69 | 0.41 |
| 2:AA:270:A:N6 | 2:AA:424:G:C8 | 2.88 | 0.41 |
| 2:AA:458:G:H3' | 31:A7:38:GLY:O | 2.21 | 0.41 |
| 2:AA:461:C:O2 | 2:AA:461:C:C2' | 2.65 | 0.41 |
| 2:AA:463:G:C2 | 2:AA:467:G:C4 | 3.09 | 0.41 |
| 2:AA:467:G:O3' | 2:AA:797:C:H5' | 2.21 | 0.41 |
| 2:AA:534:U:H2' | 2:AA:535:C:C6 | 2.55 | 0.41 |
| 2:AA:604:G:N2 | 2:AA:624:C:N3 | 2.69 | 0.41 |
| 2:AA:622:G:N1 | 2:AA:623:G:C2 | 2.89 | 0.41 |
| 2:AA:628:G:H8 | 2:AA:628:G:OP2 | 2.03 | 0.41 |
| 2:AA:650:C:O2 | 2:AA:650:C:C2' | 2.68 | 0.41 |
| 2:AA:684:G:C3' | 2:AA:684:G:C8 | 3.04 | 0.41 |
| 2:AA:686:G:H8 | 31:A7:8:ASN:ND2 | 2.18 | 0.41 |
| 2:AA:709:U:H6 | 2:AA:709:U:O5' | 2.04 | 0.41 |
| 2:AA:956:G:C2 | 2:AA:962:G:O6 | 2.73 | 0.41 |
| 2:AA:974:G:C5 | 26:A2:80:TYR:CZ | 3.09 | 0.41 |
| 2:AA:1027:A:H2' | 2:AA:1028:A:C8 | 2.56 | 0.41 |
| 2:AA:1055:G:C4 | 9:AI:28:LYS:NZ | 2.74 | 0.41 |
| 2:AA:1069:A:N7 | 2:AA:1073:A:C5 | 2.89 | 0.41 |
| 2:AA:1084:A:C5' | 9:AI:35:ALA:O | 2.62 | 0.41 |
| 2:AA:1143:A:C2 | 2:AA:1144:G:N9 | 2.89 | 0.41 |
| 2:AA:1254:A:C8 | 2:AA:1254:A:C3' | 3.03 | 0.41 |
| 2:AA:1276:A:N1 | 2:AA:1294:U:O4 | 2.54 | 0.41 |
| 2:AA:1283:G:H2' | 2:AA:1285:G:N7 | 2.35 | 0.41 |
| 2:AA:1389:G:N2 | 2:AA:1390:U:H1' | 2.35 | 0.41 |
| 2:AA:1491:G:O5' | 2:AA:1491:G:H8 | 2.03 | 0.41 |
| 2:AA:1493:C:O2 | 2:AA:1493:C:C2' | 2.69 | 0.41 |
| 2:AA:1624:G:C4 | 2:AA:1625:C:N4 | 2.89 | 0.41 |
| 2:AA:1655:A:C5 | 2:AA:1656:C:C2 | 3.08 | 0.41 |
| 2:AA:1658:C:P | 5:AE:230:GLY:O | 2.79 | 0.41 |
| 2:AA:1706:U:O2 | 2:AA:1706:U:C2' | 2.69 | 0.41 |
| 2:AA:1806:C:C2' | 2:AA:1807:G:H5' | 2.44 | 0.41 |
| 2:AA:1809:A:H4' | 2:AA:1809:A:OP1 | 2.20 | 0.41 |
| 2:AA:1811:G:O2' | 2:AA:1812:A:C5' | 2.69 | 0.41 |
| 2:AA:1819:A:C8 | 4:AD:177:SER:CB | 3.04 | 0.41 |
| 2:AA:1835:G:C2 | 2:AA:1836:C:C6 | 3.09 | 0.41 |
| 2:AA:1906:G:C6 | 2:AA:1907:G:O6 | 2.74 | 0.41 |
| 2:AA:1923:U:OP1 | 35:BC:25:C:O4' | 2.39 | 0.41 |
| 2:AA:1935:G:C2' | 2:AA:1936:A:OP2 | 2.69 | 0.41 |
| 2:AA:1944:U:C1' | 2:AA:1955:U:H6 | 2.33 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1945:G:C2 | 2:AA:1946:U:C4 | 3.08 | 0.41 |
| 2:AA:2042:A:C2' | 2:AA:2043:C:OP2 | 2.68 | 0.41 |
| 2:AA:2092:U:O2 | 2:AA:2092:U:C2' | 2.67 | 0.41 |
| 2:AA:2192:G:N1 | 2:AA:2193:G:C5 | 2.89 | 0.41 |
| 2:AA:2233:U:H2' | 2:AA:2234:G:O4' | 2.20 | 0.41 |
| 2:AA:2263:C:H6 | 2:AA:2263:C:O5' | 2.03 | 0.41 |
| 2:AA:2283:C:C4 | 2:AA:2284:C:H1' | 2.50 | 0.41 |
| 2:AA:2287:A:N7 | 2:AA:2289:G:C5 | 2.89 | 0.41 |
| 2:AA:2352:A:HO2' | 2:AA:2353:G:H5' | 1.83 | 0.41 |
| 2:AA:2367:G:C2' | 2:AA:2368:C:H5' | 2.50 | 0.41 |
| 2:AA:2438:U:O3' | 2:AA:2440:C:OP1 | 2.38 | 0.41 |
| 2:AA:2528:U:C1' | 2:AA:2536:G:N2 | 2.83 | 0.41 |
| 2:AA:2615:U:H2' | 2:AA:2616:C:O5' | 2.21 | 0.41 |
| 2:AA:2799:A:O2' | 2:AA:2802:G:N3 | 2.49 | 0.41 |
| 2:AA:2815:C:H5' | 29:A5:29:ASN:HD22 | 1.77 | 0.41 |
| 2:AA:2816:C:N3 | 2:AA:2817:G:N7 | 2.69 | 0.41 |
| 2:AA:2832:U:O2 | 2:AA:2832:U:H2' | 2.20 | 0.41 |
| 2:AA:2853:C:H2' | 2:AA:2854:G:C5' | 2.51 | 0.41 |
| 2:AA:2875:C:C4 | 2:AA:2876:G:C5 | 3.08 | 0.41 |
| 3:AC:132:GLY:O | 3:AC:172:HIS:HE1 | 2.03 | 0.41 |
| 3:AC:163:PHE:CD2 | 3:AC:192:PHE:CE1 | 3.08 | 0.41 |
| 4:AD:92:LEU:CD1 | 4:AD:102:TYR:CD2 | 3.03 | 0.41 |
| 6:AF:198:ASP:O | 6:AF:199:GLU:HB2 | 2.20 | 0.41 |
| 7:AG:14:ARG:CA | 7:AG:137:PRO:HG3 | 2.50 | 0.41 |
| 7:AG:56:ARG:HD2 | 7:AG:65:GLU:HG3 | 2.02 | 0.41 |
| 8:AH:142:GLU:O | 8:AH:143:LEU:C | 2.59 | 0.41 |
| 8:AH:151:ARG:HA | 8:AH:152:PRO:HD2 | 1.83 | 0.41 |
| 9:AI:92:VAL:O | 9:AI:95:ALA:CB | 2.69 | 0.41 |
| 9:AJ:61:VAL:HG22 | 9:AJ:115:LYS:CE | 2.51 | 0.41 |
| 9:AJ:102:ILE:HD13 | 9:AJ:118:LEU:HD13 | 2.02 | 0.41 |
| 10:AK:78:THR:HG22 | 10:AK:144:HIS:HE1 | 1.84 | 0.41 |
| 10:AK:88:ARG:CA | 10:AK:122:ARG:HG2 | 2.50 | 0.41 |
| 11:AL:133:LYS:O | 11:AL:134:SER:C | 2.58 | 0.41 |
| 12:AM:12:VAL:HG12 | 12:AM:13:ASP:H | 1.83 | 0.41 |
| 13:AN:3:GLN:HG2 | 13:AN:4:GLN:HB2 | 2.03 | 0.41 |
| 14:AO:60:GLU:O | 14:AO:61:ALA:CB | 2.67 | 0.41 |
| 14:AO:65:ASP:HB3 | 14:AO:109:LEU:H | 1.85 | 0.41 |
| 14:AO:94:ARG:NH2 | 14:AO:118:LEU:CB | 2.78 | 0.41 |
| 15:AP:11:LYS:HD2 | 15:AP:91:HIS:HD2 | 1.73 | 0.41 |
| 16:AQ:35:VAL:HG22 | 16:AQ:103:ASP:CB | 2.51 | 0.41 |
| 18:AS:35:ILE:O | 18:AS:39:THR:CB | 2.69 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 18:AS:52:GLU:OE2 | 18:AS:52:GLU:HA | 2.21 | 0.41 |
| 20:AU:66:ASP:OD2 | 20:AU:73:HIS:N | 2.54 | 0.41 |
| 21:AV:39:PHE:HA | 21:AV:43:PHE:CD2 | 2.55 | 0.41 |
| 21:AV:81:VAL:CG1 | 21:AV:82:ASP:H | 2.31 | 0.41 |
| 21:AV:123:VAL:HB | 21:AV:159:THR:HG23 | 2.03 | 0.41 |
| 23:AX:23:LEU:O | 23:AX:24:LYS:C | 2.58 | 0.41 |
| 24:A0:14:SER:OG | 24:A0:15:SER:N | 2.48 | 0.41 |
| 24:A0:109:ALA:HA | 24:A0:110:PRO:HD2 | 1.49 | 0.41 |
| 25:A1:64:ARG:NH1 | 25:A1:97:ASP:OD1 | 2.54 | 0.41 |
| 26:A2:1:MET:C | 26:A2:2:PHE:CD1 | 2.91 | 0.41 |
| 26:A2:11:GLN:NE2 | 26:A2:22:VAL:CG2 | 2.84 | 0.41 |
| 26:A2:59:GLU:OE1 | 26:A2:99:GLN:CA | 2.65 | 0.41 |
| 26:A2:65:ARG:O | 26:A2:93:ILE:CA | 2.67 | 0.41 |
| 26:A2:65:ARG:O | 26:A2:93:ILE:HG23 | 2.20 | 0.41 |
| 27:A3:39:ARG:CG | 27:A3:39:ARG:HH11 | 2.34 | 0.41 |
| 27:A3:45:PHE:HD2 | 27:A3:80:SER:HA | 1.86 | 0.41 |
| 27:A3:74:LYS:C | 27:A3:75:GLY:O | 2.59 | 0.41 |
| 28:A4:4:ASP:OD1 | 28:A4:11:PRO:CD | 2.69 | 0.41 |
| 29:A5:21:SER:C | 29:A5:23:HIS:N | 2.73 | 0.41 |
| 32:A8:16:ILE:HG23 | 32:A8:21:LYS:O | 2.20 | 0.41 |
| 34:BA:48:C:HO2' | 34:BA:49:U:P | 2.35 | 0.41 |
| 34:BA:53:A:C2 | 34:BA:54:C:C2 | 3.09 | 0.41 |
| 34:BA:59:A:C5 | 34:BA:354:G:C6 | 3.08 | 0.41 |
| 34:BA:77:G:C2 | 34:BA:78:G:C4 | 3.09 | 0.41 |
| 34:BA:192:U:C4 | 34:BA:193:C:N4 | 2.89 | 0.41 |
| 34:BA:204:U:H4' | 34:BA:216:G:O5' | 2.18 | 0.41 |
| 34:BA:265:G:H5' | 52:BT:64:PRO:HB2 | 2.03 | 0.41 |
| 34:BA:320:C:N4 | 34:BA:333:G:C6 | 2.86 | 0.41 |
| 34:BA:327:A:C2 | 34:BA:329:A:C4 | 3.08 | 0.41 |
| 34:BA:373:A:C2 | 34:BA:482:A:N6 | 2.89 | 0.41 |
| 34:BA:374:A:C6 | 34:BA:375:U:C4 | 3.09 | 0.41 |
| 34:BA:445:G:C6 | 34:BA:490:G:N1 | 2.89 | 0.41 |
| 34:BA:463:A:H4' | 51:BS:80:PHE:O | 2.20 | 0.41 |
| 34:BA:565:U:C6 | 34:BA:566:G:N7 | 2.89 | 0.41 |
| 34:BA:577:G:C4 | 34:BA:765:G:N2 | 2.88 | 0.41 |
| 34:BA:582:U:H5' | 50:BR:64:ARG:CZ | 2.47 | 0.41 |
| 34:BA:637:G:H2' | 34:BA:638:G:O4' | 2.20 | 0.41 |
| 34:BA:676:A:N1 | 34:BA:715:A:H2 | 2.18 | 0.41 |
| 34:BA:676:A:C2 | 34:BA:715:A:H2 | 2.39 | 0.41 |
| 34:BA:748:C:H2' | 34:BA:749:C:OP2 | 2.20 | 0.41 |
| 34:BA:920:U:H2' | 34:BA:921:U:H6 | 1.85 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:947:G:C4 | 34:BA:948:C:C6 | 3.08 | 0.41 |
| 34:BA:1015:A:C2' | 34:BA:1016:A:O5' | 2.69 | 0.41 |
| 34:BA:1030:C:N4 | 34:BA:30(A):G:O6 | 2.53 | 0.41 |
| 34:BA:1069:C:C5 | 34:BA:1094:G:O6 | 2.74 | 0.41 |
| 34:BA:1092:A:N3 | 34:BA:1183:A:C2 | 2.88 | 0.41 |
| 34:BA:1167:A:OP1 | 34:BA:1167:A:H8 | 2.01 | 0.41 |
| 34:BA:1257:U:O2' | 34:BA:1258:G:N7 | 2.51 | 0.41 |
| 34:BA:1302:U:P | 48:BP:13:LYS:HZ2 | 2.41 | 0.41 |
| 34:BA:1308:U:C6 | 48:BP:99:ARG:NH1 | 2.89 | 0.41 |
| 34:BA:1327:C:C5' | 56:BX:20:LYS:HB3 | 2.50 | 0.41 |
| 34:BA:1381:U:H2' | 34:BA:1382:C:C5' | 2.50 | 0.41 |
| 34:BA:1383:C:O2' | 34:BA:1384:C:H5' | 2.20 | 0.41 |
| 34:BA:1486:G:H2' | 34:BA:1487:G:O4' | 2.20 | 0.41 |
| 34:BA:1502:A:N6 | 34:BA:1504:G:N2 | 2.69 | 0.41 |
| 34:BA:1509:C:N3 | 34:BA:1510:U:C6 | 2.89 | 0.41 |
| 35:BB:19:G:H5' | 35:BB:20:G:C5 | 2.55 | 0.41 |
| 35:BB:23:A:C6 | 35:BB:24:G:O6 | 2.74 | 0.41 |
| 36:B1:11:U:C2 | 36:B1:45:A:N1 | 2.89 | 0.41 |
| 36:B1:18:U:O5' | 36:B1:18:U:C6 | 2.65 | 0.41 |
| 36:B1:19:G:HO2' | 36:B1:20:A:H5' | 1.81 | 0.41 |
| 37:BE:23:ARG:C | 37:BE:24:TRP:HD1 | 2.24 | 0.41 |
| 37:BE:76:GLN:OE1 | 37:BE:76:GLN:HA | 2.21 | 0.41 |
| 37:BE:79:ASP:HA | 37:BE:82:ARG:CB | 2.50 | 0.41 |
| 37:BE:104:ASN:O | 37:BE:108:ILE:HG12 | 2.20 | 0.41 |
| 38:BF:112:SER:HB2 | 38:BF:115:LEU:HB2 | 2.02 | 0.41 |
| 38:BF:119:ARG:O | 38:BF:121:ALA:N | 2.54 | 0.41 |
| 38:BF:188:LEU:HD12 | 38:BF:190:ARG:CG | 2.51 | 0.41 |
| 39:BG:32:ALA:O | 39:BG:34:GLU:O | 2.38 | 0.41 |
| 39:BG:94:LEU:CD1 | 39:BG:200:GLU:CD | 2.88 | 0.41 |
| 39:BG:175:SER:O | 39:BG:183:GLY:CA | 2.66 | 0.41 |
| 42:BJ:69:VAL:HG12 | 42:BJ:100:ALA:HB1 | 2.02 | 0.41 |
| 42:BJ:88:PRO:HG2 | 42:BJ:152:ALA:HA | 2.00 | 0.41 |
| 42:BJ:150:ALA:O | 42:BJ:153:HIS:ND1 | 2.50 | 0.41 |
| 47:BO:16:GLU:HG2 | 47:BO:17:LYS:N | 2.36 | 0.41 |
| 47:BO:46:LYS:O | 47:BO:47:LYS:C | 2.59 | 0.41 |
| 47:BO:75:HIS:HB2 | 47:BO:76:ASN:H | 1.46 | 0.41 |
| 47:BO:112:ASP:N | 47:BO:112:ASP:OD2 | 2.52 | 0.41 |
| 47:BO:124:LYS:O | 47:BO:125:PRO:C | 2.59 | 0.41 |
| 48:BP:16:ASP:O | 48:BP:18:ALA:N | 2.53 | 0.41 |
| 48:BP:96:LEU:HA | 48:BP:110:ARG:HG2 | 2.03 | 0.41 |
| 49:BQ:54:PRO:O | 49:BQ:55:GLY:C | 2.59 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BR:5:LYS:HB3 | 50:BR:5:LYS:HE3 | 1.84 | 0.41 |
| 50:BR:34:LEU:O | 50:BR:38:ARG:HD3 | 2.20 | 0.41 |
| 50:BR:53:HIS:NE2 | 50:BR:57:LEU:HD11 | 2.36 | 0.41 |
| 51:BS:26:ARG:O | 51:BS:27:LYS:O | 2.38 | 0.41 |
| 52:BT:18:THR:HG23 | 52:BT:69:LYS:HE3 | 2.01 | 0.41 |
| 52:BT:59:ILE:HG21 | 52:BT:71:PHE:HD2 | 1.84 | 0.41 |
| 53:BU:21:LYS:H | 53:BU:55:ARG:CZ | 2.34 | 0.41 |
| 1:AB:9:G:N3 | 1:AB:9:G:H2' | 2.36 | 0.41 |
| 1:AB:15:A:N1 | 1:AB:109:G:C2 | 2.89 | 0.41 |
| 1:AB:50:G:O6 | 1:AB:51:G:O6 | 2.39 | 0.41 |
| 1:AB:57:A:C2' | 7:AG:13:MET:SD | 3.07 | 0.41 |
| 1:AB:74:U:H3' | 1:AB:75:G:H8 | 1.85 | 0.41 |
| 1:AB:83:G:C4' | 23:AX:52:HIS:CD2 | 2.90 | 0.41 |
| 1:AB:89:G:C2 | 1:AB:89(A):A:N1 | 2.89 | 0.41 |
| 1:AB:104:A:H1' | 21:AV:24:TYR:CZ | 2.51 | 0.41 |
| 2:AA:20:C:H6 | 2:AA:20:C:O5' | 2.04 | 0.41 |
| 2:AA:67:U:O5' | 2:AA:67:U:C6 | 2.67 | 0.41 |
| 2:AA:185:U:N3 | 2:AA:212:G:C2 | 2.89 | 0.41 |
| 2:AA:194:G:C6 | 2:AA:195:A:C5 | 3.09 | 0.41 |
| 2:AA:236:C:O2' | 2:AA:431:U:C1' | 2.68 | 0.41 |
| 2:AA:242:G:H2' | 2:AA:254:G:O6 | 2.21 | 0.41 |
| 2:AA:262:A:C5 | 2:AA:263:C:C6 | 3.08 | 0.41 |
| 2:AA:270(C):C:P | 2:AA:270(C):C:O4' | 2.79 | 0.41 |
| 2:AA:276:A:C2 | 2:AA:277:C:H5" | 2.56 | 0.41 |
| 2:AA:285:C:N1 | 2:AA:356:G:N2 | 2.65 | 0.41 |
| 2:AA:288:C:H6 | 2:AA:288:C:C4' | 2.32 | 0.41 |
| 2:AA:291:C:H2' | 2:AA:292:C:H6 | 1.86 | 0.41 |
| 2:AA:302:C:O2' | 2:AA:303:U:O5' | 2.38 | 0.41 |
| 2:AA:306:U:H3' | 2:AA:306:U:H6 | 1.85 | 0.41 |
| 2:AA:353:G:H2' | 2:AA:354:G:C5' | 2.51 | 0.41 |
| 2:AA:434:U:C6 | 2:AA:434:U:OP2 | 2.74 | 0.41 |
| 2:AA:543:C:N1 | 2:AA:551:G:N2 | 2.68 | 0.41 |
| 2:AA:590:A:N6 | 2:AA:591:C:N4 | 2.69 | 0.41 |
| 2:AA:592:G:C2 | 2:AA:593:G:C4 | 3.09 | 0.41 |
| 2:AA:631:A:O2' | 2:AA:632:A:H5' | 2.21 | 0.41 |
| 2:AA:638:G:H2' | 2:AA:639:U:C5' | 2.50 | 0.41 |
| 2:AA:638:G:O6 | 2:AA:650:C:C4 | 2.74 | 0.41 |
| 2:AA:640:C:O2 | 2:AA:648:G:N1 | 2.54 | 0.41 |
| 2:AA:662:G:C2 | 2:AA:663:G:O6 | 2.74 | 0.41 |
| 2:AA:662:G:H2' | 2:AA:663:G:C8 | 2.56 | 0.41 |
| 2:AA:668:G:C2' | 2:AA:670:A:N7 | 2.80 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:684:G:C8 | 2:AA:684:G:H3' | 2.56 | 0.41 |
| 2:AA:718:A:H5' | 2:AA:719:C:OP2 | 2.20 | 0.41 |
| 2:AA:727:A:N6 | 2:AA:728:G:C2 | 2.88 | 0.41 |
| 2:AA:729:G:C8 | 4:AD:207:ALA:CB | 3.03 | 0.41 |
| 2:AA:783:A:H3' | 2:AA:783:A:C8 | 2.56 | 0.41 |
| 2:AA:785:G:C2 | 2:AA:786:C:N1 | 2.88 | 0.41 |
| 2:AA:789:A:H4' | 2:AA:790:C:OP2 | 2.21 | 0.41 |
| 2:AA:799:G:C5 | 2:AA:800:A:C6 | 3.09 | 0.41 |
| 2:AA:814:C:N3 | 2:AA:815:C:C4 | 2.89 | 0.41 |
| 2:AA:826:U:O2 | 2:AA:832:G:C2 | 2.74 | 0.41 |
| 2:AA:826:U:C2 | 2:AA:832:G:C2 | 3.09 | 0.41 |
| 2:AA:953:A:H1' | 2:AA:2266:A:OP2 | 2.20 | 0.41 |
| 2:AA:976:C:C2 | 2:AA:977:G:C8 | 3.09 | 0.41 |
| 2:AA:978:G:N1 | 2:AA:985:C:N4 | 2.22 | 0.41 |
| 2:AA:1017:G:C6 | 2:AA:1146:C:N4 | 2.88 | 0.41 |
| 2:AA:1020:A:O2' | 12:AM:49:ARG:CD | 2.68 | 0.41 |
| 2:AA:1027:A:O2' | 2:AA:1028:A:H5' | 2.21 | 0.41 |
| 2:AA:1055:G:C2 | 9:AI:28:LYS:HB3 | 2.55 | 0.41 |
| 2:AA:1071:G:N2 | 2:AA:1089:G:H2' | 2.36 | 0.41 |
| 2:AA:1085:A:OP1 | 9:AI:34:ALA:CA | 2.69 | 0.41 |
| 2:AA:1094:U:H3 | 2:AA:1096:A:H5" | 1.85 | 0.41 |
| 2:AA:1104:C:O2' | 9:AI:29:PHE:HA | 2.20 | 0.41 |
| 2:AA:1143:A:C4 | 2:AA:1144:G:N7 | 2.89 | 0.41 |
| 2:AA:1144:G:N7 | 2:AA:1145:C:C5 | 2.89 | 0.41 |
| 2:AA:1163:G:C4' | 26:A2:23:GLU:OE2 | 2.69 | 0.41 |
| 2:AA:1180:C:H2' | 2:AA:1181:C:C6 | 2.55 | 0.41 |
| 2:AA:1208:C:C5 | 2:AA:1209:G:N7 | 2.89 | 0.41 |
| 2:AA:1222:C:C2 | 2:AA:1223:C:H6 | 2.39 | 0.41 |
| 2:AA:1248:G:OP1 | 25:A1:2:PRO:CB | 2.68 | 0.41 |
| 2:AA:1252:G:H22 | 25:A1:37:GLN:HB2 | 1.85 | 0.41 |
| 2:AA:1265:A:N3 | 2:AA:1265:A:C2' | 2.83 | 0.41 |
| 2:AA:1306:C:O5' | 2:AA:1306:C:H6 | 2.03 | 0.41 |
| 2:AA:1339:G:H4' | 19:AT:13:LYS:HE3 | 2.02 | 0.41 |
| 2:AA:1343:G:C6 | 2:AA:1344:G:N7 | 2.89 | 0.41 |
| 2:AA:1364:G:C2 | 2:AA:1367:A:OP2 | 2.74 | 0.41 |
| 2:AA:1370:C:H2' | 2:AA:1371:G:H5' | 2.03 | 0.41 |
| 2:AA:1377:G:H8 | 2:AA:1377:G:O5' | 2.04 | 0.41 |
| 2:AA:1386:C:H2' | 2:AA:1387:C:C6 | 2.56 | 0.41 |
| 2:AA:1388:G:C4 | 2:AA:1389:G:C8 | 3.09 | 0.41 |
| 2:AA:1400:G:C6 | 2:AA:1401:G:O6 | 2.74 | 0.41 |
| 2:AA:1413:G:H2' | 2:AA:1414:G:C5' | 2.50 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1456:G:C2 | 2:AA:2704:C:N3 | 2.89 | 0.41 |
| 2:AA:1491:G:OP1 | 2:AA:1491:G:C3' | 2.67 | 0.41 |
| 2:AA:1535:U:C1' | 2:AA:1538:G:N2 | 2.83 | 0.41 |
| 2:AA:1600:C:O5' | 2:AA:1600:C:H6 | 2.04 | 0.41 |
| 2:AA:1608:A:C6 | 2:AA:1611:C:C1' | 3.04 | 0.41 |
| 2:AA:1626:G:C5' | 2:AA:1627:G:OP1 | 2.69 | 0.41 |
| 2:AA:1630:G:N2 | 2:AA:1636:C:N3 | 2.68 | 0.41 |
| 2:AA:1651:G:C2 | 2:AA:1652:A:C5 | 3.09 | 0.41 |
| 2:AA:1680:U:H6 | 2:AA:1680:U:O5' | 2.04 | 0.41 |
| 2:AA:1696:G:H2' | 2:AA:1697:G:H8 | 1.84 | 0.41 |
| 2:AA:1703:G:C6 | 2:AA:1704:G:C5 | 3.09 | 0.41 |
| 2:AA:1718:G:C2 | 2:AA:1742:C:O2 | 2.74 | 0.41 |
| 2:AA:1777:U:C4 | 2:AA:1778:U:H5 | 2.37 | 0.41 |
| 2:AA:1844:C:N1 | 2:AA:1897:G:N2 | 2.69 | 0.41 |
| 2:AA:1870:C:C4 | 2:AA:1871:A:C6 | 3.08 | 0.41 |
| 2:AA:1922:G:C8 | 2:AA:1922:G:C3' | 3.04 | 0.41 |
| 2:AA:1984:G:C2 | 2:AA:1985:G:N9 | 2.89 | 0.41 |
| 2:AA:1988:C:C2' | 2:AA:1989:G:O5' | 2.69 | 0.41 |
| 2:AA:1993:U:C2 | 2:AA:1994:C:C6 | 3.09 | 0.41 |
| 2:AA:2019:A:N1 | 2:AA:2035:G:O6 | 2.53 | 0.41 |
| 2:AA:2042:A:H2' | 2:AA:2043:C:OP2 | 2.21 | 0.41 |
| 2:AA:2048:G:N2 | 2:AA:2620:C:C2 | 2.77 | 0.41 |
| 2:AA:2049:G:C2 | 2:AA:2620:C:C2 | 3.09 | 0.41 |
| 2:AA:2061:G:N7 | 2:AA:2501:C:C1' | 2.80 | 0.41 |
| 2:AA:2080:G:C6 | 2:AA:2241:A:C6 | 3.09 | 0.41 |
| 2:AA:2099:U:O4 | 2:AA:2190:G:O6 | 2.39 | 0.41 |
| 2:AA:2107:C:C6 | 2:AA:2107:C:C3' | 3.03 | 0.41 |
| 2:AA:2128:C:O2 | 2:AA:2128:C:H2' | 2.21 | 0.41 |
| 2:AA:2136:C:C5' | 2:AA:2137:C:OP2 | 2.66 | 0.41 |
| 2:AA:2152:G:H2' | 2:AA:2153:G:O4' | 2.21 | 0.41 |
| 2:AA:2179:C:C3' | 2:AA:2180:U:C5 | 3.04 | 0.41 |
| 2:AA:2259:G:O2' | 2:AA:2260:C:H5' | 2.21 | 0.41 |
| 2:AA:2316:C:H5" | 2:AA:2316:C:H6 | 1.86 | 0.41 |
| 2:AA:2323:G:H2' | 2:AA:2324:C:C5 | 2.52 | 0.41 |
| 2:AA:2415:G:C2 | 2:AA:2416:C:C5 | 3.08 | 0.41 |
| 2:AA:2436:G:C2' | 2:AA:2437:U:C5' | 2.99 | 0.41 |
| 2:AA:2474:C:C2' | 2:AA:2475:C:C5' | 2.97 | 0.41 |
| 2:AA:2492:U:N3 | 2:AA:2493:U:H5 | 2.16 | 0.41 |
| 2:AA:2511:U:H2' | 2:AA:2512:C:C5' | 2.51 | 0.41 |
| 2:AA:2521:C:H2' | 2:AA:2522:U:O5' | 2.19 | 0.41 |
| 2:AA:2533:A:H2' | 2:AA:2534:A:O4' | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:2555:U:C5 | 2:AA:2556:C:C6 | 3.09 | 0.41 |
| 2:AA:2564:A:N6 | 2:AA:2565:A:N6 | 2.68 | 0.41 |
| 2:AA:2570:G:H2' | 2:AA:2570:G:N3 | 2.35 | 0.41 |
| 2:AA:2596:U:O5' | 2:AA:2596:U:H6 | 2.03 | 0.41 |
| 2:AA:2630:G:C8 | 2:AA:2894:G:C6 | 3.09 | 0.41 |
| 2:AA:2634:G:C6 | 2:AA:2635:C:H5 | 2.39 | 0.41 |
| 2:AA:2645:G:C8 | 2:AA:2645:G:OP2 | 2.74 | 0.41 |
| 2:AA:2731:G:N2 | 2:AA:2732:G:N3 | 2.68 | 0.41 |
| 2:AA:2748:A:H2' | 2:AA:2749:A:O5' | 2.21 | 0.41 |
| 2:AA:2748:A:H2' | 8:AH:62:ALA:HA | 2.03 | 0.41 |
| 2:AA:2762:G:C6 | 2:AA:2763:G:C6 | 3.09 | 0.41 |
| 2:AA:2797:U:OP1 | 2:AA:2797:U:O4' | 2.38 | 0.41 |
| 2:AA:2838:G:C5 | 2:AA:2839:G:C8 | 3.09 | 0.41 |
| 3:AC:16:PRO:O | 3:AC:17:ASN:HB3 | 2.21 | 0.41 |
| 3:AC:22:ILE:HG21 | 3:AC:22:ILE:HD13 | 1.83 | 0.41 |
| 3:AC:25:ALA:O | 3:AC:28:LEU:N | 2.53 | 0.41 |
| 3:AC:34:THR:O | 3:AC:34:THR:HG22 | 2.21 | 0.41 |
| 3:AC:100:ILE:HD12 | 3:AC:122:ALA:HB1 | 2.02 | 0.41 |
| 3:AC:114:VAL:CG2 | 3:AC:153:ILE:HG12 | 2.48 | 0.41 |
| 3:AC:163:PHE:HZ | 3:AC:199:HIS:ND1 | 2.18 | 0.41 |
| 4:AD:64:ILE:HD12 | 4:AD:64:ILE:N | 2.35 | 0.41 |
| 4:AD:70:LYS:HG3 | 4:AD:73:ILE:CD1 | 2.51 | 0.41 |
| 4:AD:130:PRO:N | 4:AD:188:ARG:HG2 | 2.36 | 0.41 |
| 6:AF:6:TYR:HB2 | 6:AF:141:SER:OG | 2.20 | 0.41 |
| 6:AF:52:ALA:CA | 6:AF:55:ARG:HH21 | 2.34 | 0.41 |
| 6:AF:56:THR:C | 6:AF:79:ARG:HG3 | 2.41 | 0.41 |
| 6:AF:112:ARG:O | 6:AF:113:SER:C | 2.56 | 0.41 |
| 6:AF:158:GLU:HA | 6:AF:161:ASP:OD2 | 2.21 | 0.41 |
| 6:AF:207:LEU:C | 6:AF:209:GLY:H | 2.15 | 0.41 |
| 7:AG:13:MET:HE2 | 7:AG:137:PRO:HB3 | 2.02 | 0.41 |
| 7:AG:54:ALA:HB1 | 7:AG:55:LYS:H | 1.61 | 0.41 |
| 7:AG:63:ILE:O | 7:AG:64:ARG:C | 2.59 | 0.41 |
| 7:AG:67:ASP:HB2 | 7:AG:69:ILE:CD1 | 2.49 | 0.41 |
| 7:AG:138:GLY:O | 7:AG:139:TYR:C | 2.59 | 0.41 |
| 8:AH:104:LEU:HD13 | 8:AH:151:ARG:HH21 | 1.86 | 0.41 |
| 9:AI:77:VAL:HG21 | 9:AI:92:VAL:HG22 | 2.03 | 0.41 |
| 9:AI:115:LYS:NZ | 9:AI:127:LEU:HB3 | 2.35 | 0.41 |
| 9:AI:127:LEU:H | 9:AI:127:LEU:HD23 | 1.85 | 0.41 |
| 9:AJ:78:ARG:NH2 | 9:AJ:89:LYS:HE3 | 2.36 | 0.41 |
| 9:AJ:81:THR:CG2 | 9:AJ:103:LYS:HG2 | 2.50 | 0.41 |
| 9:AJ:103:LYS:HD3 | 9:AJ:114:ILE:HD13 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AJ:118:LEU:HD12 | 9:AJ:125:VAL:HG21 | 2.02 | 0.41 |
| 10:AK:83:ALA:O | 10:AK:90:PHE:CE1 | 2.74 | 0.41 |
| 10:AK:88:ARG:CB | 10:AK:122:ARG:HG2 | 2.47 | 0.41 |
| 10:AK:133:LEU:HB2 | 10:AK:138:THR:HA | 2.03 | 0.41 |
| 11:AL:14:PRO:O | 11:AL:15:ALA:O | 2.39 | 0.41 |
| 11:AL:33:VAL:HG13 | 11:AL:38:PHE:CD2 | 2.56 | 0.41 |
| 11:AL:89:SER:HB2 | 11:AL:95:LYS:HG2 | 2.02 | 0.41 |
| 11:AL:118:ALA:O | 11:AL:119:ASN:OD1 | 2.38 | 0.41 |
| 12:AM:12:VAL:O | 12:AM:38:VAL:CG1 | 2.64 | 0.41 |
| 12:AM:23:ALA:C | 12:AM:26:VAL:HB | 2.36 | 0.41 |
| 12:AM:58:GLU:O | 12:AM:61:VAL:HB | 2.21 | 0.41 |
| 12:AM:103:VAL:C | 12:AM:104:TYR:CG | 2.93 | 0.41 |
| 13:AN:10:VAL:HG23 | 13:AN:17:ARG:C | 2.39 | 0.41 |
| 13:AN:63:VAL:CG1 | 13:AN:102:VAL:HG11 | 2.49 | 0.41 |
| 14:AO:67:ARG:CZ | 14:AO:111:ALA:O | 2.68 | 0.41 |
| 15:AP:35:ASN:CG | 21:AV:114:ASP:H | 2.25 | 0.41 |
| 15:AP:138:ARG:O | 15:AP:139:ALA:C | 2.58 | 0.41 |
| 16:AQ:31:LYS:HZ2 | 16:AQ:99:GLU:CB | 2.33 | 0.41 |
| 16:AQ:33:ARG:CB | 16:AQ:35:VAL:HG23 | 2.51 | 0.41 |
| 16:AQ:41:LYS:NZ | 16:AQ:68:GLU:OE1 | 2.53 | 0.41 |
| 16:AQ:61:ALA:O | 16:AQ:62:HIS:CG | 2.74 | 0.41 |
| 16:AQ:70:GLY:C | 16:AQ:71:TRP:CE3 | 2.95 | 0.41 |
| 16:AQ:93:GLN:O | 16:AQ:94:GLU:C | 2.59 | 0.41 |
| 16:AQ:126:GLY:O | 16:AQ:128:ASP:N | 2.53 | 0.41 |
| 17:AR:47:ARG:H | 17:AR:47:ARG:HG3 | 1.64 | 0.41 |
| 18:AS:38:TYR:HB2 | 29:A5:30:LEU:HD21 | 2.03 | 0.41 |
| 18:AS:55:ALA:CB | 18:AS:107:LEU:CD1 | 2.98 | 0.41 |
| 18:AS:65:LEU:O | 18:AS:66:GLU:O | 2.38 | 0.41 |
| 19:AT:16:ASN:O | 19:AT:20:PHE:CE1 | 2.74 | 0.41 |
| 19:AT:22:ASN:C | 19:AT:23:LYS:O | 2.59 | 0.41 |
| 19:AT:24:LEU:CB | 19:AT:26:PHE:CZ | 2.87 | 0.41 |
| 20:AU:15:PRO:O | 20:AU:16:LEU:C | 2.57 | 0.41 |
| 20:AU:54:ASP:C | 20:AU:56:ALA:N | 2.73 | 0.41 |
| 21:AV:30:VAL:HG12 | 21:AV:31:SER:N | 2.35 | 0.41 |
| 21:AV:37:LYS:CA | 21:AV:40:ASP:OD1 | 2.68 | 0.41 |
| 21:AV:135:VAL:O | 21:AV:136:VAL:HG23 | 2.21 | 0.41 |
| 21:AV:148:THR:CA | 21:AV:168:VAL:CG2 | 2.92 | 0.41 |
| 21:AV:172:LEU:CD2 | 21:AV:173:PRO:O | 2.64 | 0.41 |
| 22:AW:12:THR:CB | 22:AW:13:PRO:HD2 | 2.48 | 0.41 |
| 22:AW:30:ALA:O | 22:AW:34:GLN:CG | 2.69 | 0.41 |
| 22:AW:42:ASN:OD1 | 22:AW:42:ASN:C | 2.58 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 24:A0:37:THR:O | 24:A0:40:LYS:HB2 | 2.20 | 0.41 |
| 24:A0:72:ASP:O | 24:A0:76:VAL:HB | 2.21 | 0.41 |
| 24:A0:84:ALA:HB3 | 24:A0:85:PRO:CD | 2.45 | 0.41 |
| 24:A0:103:ARG:HB2 | 24:A0:108:GLY:C | 2.41 | 0.41 |
| 24:A0:104:ARG:CA | 24:A0:105:ARG:NH2 | 2.84 | 0.41 |
| 25:A1:57:PHE:O | 25:A1:61:TRP:HD1 | 2.04 | 0.41 |
| 25:A1:87:ASN:C | 25:A1:88:ILE:HD13 | 2.42 | 0.41 |
| 25:A1:91:ASN:O | 25:A1:95:LEU:CD2 | 2.58 | 0.41 |
| 26:A2:4:ILE:HG23 | 26:A2:13:ARG:CA | 2.51 | 0.41 |
| 26:A2:89:ASN:O | 26:A2:91:THR:HG23 | 2.20 | 0.41 |
| 27:A3:18:PRO:O | 27:A3:19:LYS:HG3 | 2.20 | 0.41 |
| 27:A3:24:LYS:C | 27:A3:25:LYS:HG3 | 2.41 | 0.41 |
| 27:A3:54:GLY:O | 27:A3:55:ARG:HB3 | 2.21 | 0.41 |
| 28:A4:26:SER:O | 28:A4:27:THR:HG23 | 2.20 | 0.41 |
| 28:A4:42:PHE:CE2 | 28:A4:43:TRP:O | 2.73 | 0.41 |
| 32:A8:33:ASN:O | 32:A8:34:THR:CB | 2.69 | 0.41 |
| 32:A8:53:ALA:HA | 32:A8:56:ALA:HB3 | 2.02 | 0.41 |
| 33:A9:2:LYS:CD | 33:A9:33:LYS:O | 2.58 | 0.41 |
| 34:BA:22:G:OP1 | 34:BA:561:U:O2 | 2.39 | 0.41 |
| 34:BA:51:A:C2 | 34:BA:353:A:N1 | 2.87 | 0.41 |
| 34:BA:90:U:H2' | 34:BA:91:C:H6 | 1.85 | 0.41 |
| 34:BA:117:G:C6 | 34:BA:118:U:C2 | 3.09 | 0.41 |
| 34:BA:118:U:O2' | 34:BA:119:A:H5' | 2.21 | 0.41 |
| 34:BA:129(A):G:N1 | 34:BA:190(D):U:H4' | 2.32 | 0.41 |
| 34:BA:138:G:C2 | 34:BA:226:G:C4 | 3.09 | 0.41 |
| 34:BA:182:U:C6 | 34:BA:182:U:H3' | 2.56 | 0.41 |
| 34:BA:183:G:N2 | 34:BA:223:U:O2' | 2.53 | 0.41 |
| 34:BA:202:U:O2' | 34:BA:203:U:OP1 | 2.35 | 0.41 |
| 34:BA:236:G:C5 | 34:BA:237:C:N4 | 2.88 | 0.41 |
| 34:BA:254:G:C6 | 34:BA:273:A:N1 | 2.89 | 0.41 |
| 34:BA:262:A:C2 | 34:BA:263:A:N1 | 2.89 | 0.41 |
| 34:BA:301:G:C2' | 34:BA:302:G:O5' | 2.69 | 0.41 |
| 34:BA:333:G:C2 | 34:BA:334:C:N3 | 2.89 | 0.41 |
| 34:BA:384:G:H2' | 34:BA:385:C:H6 | 1.86 | 0.41 |
| 34:BA:384:G:C2' | 34:BA:385:C:O4' | 2.68 | 0.41 |
| 34:BA:399:G:C4 | 34:BA:400:C:C6 | 3.09 | 0.41 |
| 34:BA:458:C:N4 | 34:BA:459:G:C6 | 2.88 | 0.41 |
| 34:BA:485:G:O2' | 34:BA:486:U:C5 | 2.71 | 0.41 |
| 34:BA:502:G:O6 | 34:BA:544:G:O6 | 2.39 | 0.41 |
| 34:BA:587:G:O2' | 43:BK:1:MET:SD | 2.70 | 0.41 |
| 34:BA:597:G:C4 | 34:BA:598:U:C6 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:640:A:N7 | 34:BA:641:U:C5 | 2.89 | 0.41 |
| 34:BA:641:U:O3' | 34:BA:642:A:C8 | 2.74 | 0.41 |
| 34:BA:655:A:O2' | 34:BA:656:C:H5' | 2.21 | 0.41 |
| 34:BA:665:A:C4 | 34:BA:725:G:N2 | 2.89 | 0.41 |
| 34:BA:666:G:C5 | 34:BA:741:G:C6 | 3.09 | 0.41 |
| 34:BA:698:G:N1 | 34:BA:699:C:C4 | 2.89 | 0.41 |
| 34:BA:706:A:N3 | 34:BA:706:A:H2' | 2.36 | 0.41 |
| 34:BA:774:G:C5 | 34:BA:775:G:C8 | 3.09 | 0.41 |
| 34:BA:783:C:C2' | 34:BA:784:C:C5' | 2.89 | 0.41 |
| 34:BA:783:C:N4 | 34:BA:800:G:N2 | 2.69 | 0.41 |
| 34:BA:785:G:C2 | 34:BA:798:G:C5 | 3.09 | 0.41 |
| 34:BA:792:A:O2' | 34:BA:793:U:H5" | 2.21 | 0.41 |
| 34:BA:854:G:C6 | 34:BA:855:G:N7 | 2.89 | 0.41 |
| 34:BA:876:G:C2 | 34:BA:877:C:C5 | 3.09 | 0.41 |
| 34:BA:888:G:C4 | 34:BA:889:A:N7 | 2.89 | 0.41 |
| 34:BA:914:A:O2' | 34:BA:915:A:O5' | 2.39 | 0.41 |
| 34:BA:944:G:OP2 | 34:BA:945:G:N7 | 2.54 | 0.41 |
| 34:BA:958:A:H1' | 34:BA:985:C:O2' | 2.20 | 0.41 |
| 34:BA:974:A:OP2 | 49:BQ:31:ARG:CG | 2.69 | 0.41 |
| 34:BA:988:G:C5 | 34:BA:989:C:C4 | 3.08 | 0.41 |
| 34:BA:992:U:H4' | 34:BA:993:G:C5' | 2.51 | 0.41 |
| 34:BA:1054:C:N3 | 35:BB:34:G:C5' | 2.82 | 0.41 |
| 34:BA:1060:C:H5" | 45:BM:51:ARG:CD | 2.51 | 0.41 |
| 34:BA:1085:U:O3' | 34:BA:1086:U:H6 | 2.02 | 0.41 |
| 34:BA:1086:U:H2' | 34:BA:1087:G:C8 | 2.55 | 0.41 |
| 34:BA:1107:C:OP1 | 38:BF:172:ARG:HA | 2.21 | 0.41 |
| 34:BA:1124:G:H3' | 34:BA:1145:C:C5 | 2.54 | 0.41 |
| 34:BA:1133:G:C6 | 34:BA:1134:G:N7 | 2.88 | 0.41 |
| 34:BA:1145:C:C2' | 34:BA:1146:A:OP2 | 2.69 | 0.41 |
| 34:BA:1148:U:H5' | 44:BL:16:ARG:CD | 2.50 | 0.41 |
| 34:BA:1157:A:H1' | 34:BA:1181:G:N2 | 2.32 | 0.41 |
| 34:BA:1166:G:N2 | 34:BA:1171:G:O6 | 2.53 | 0.41 |
| 34:BA:1213:A:C6 | 34:BA:1215:G:C2 | 3.09 | 0.41 |
| 34:BA:1256:A:O2' | 34:BA:1257:U:H1' | 2.21 | 0.41 |
| 34:BA:1261:A:C2 | 34:BA:1262:C:N1 | 2.89 | 0.41 |
| 34:BA:1330:U:C4 | 34:BA:1331:G:C6 | 3.08 | 0.41 |
| 34:BA:1336:C:O2 | 34:BA:1336:C:C2' | 2.69 | 0.41 |
| 34:BA:1364:U:OP1 | 34:BA:1364:U:H6 | 2.04 | 0.41 |
| 34:BA:1480:G:C2' | 34:BA:1481:U:H5' | 2.51 | 0.41 |
| 34:BA:1494:G:N1 | 34:BA:1495:U:C4 | 2.89 | 0.41 |
| 34:BA:1496:C:H2' | 34:BA:1497:G:O4' | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1503:A:O2' | 34:BA:1504:G:OP1 | 2.38 | 0.41 |
| 34:BA:1506:U:N3 | 34:BA:1522:U:OP1 | 2.50 | 0.41 |
| 34:BA:1519:A:C8 | 34:BA:1519:A:C3' | 3.04 | 0.41 |
| 34:BA:1533:C:O4' | 34:BA:1533:C:OP1 | 2.38 | 0.41 |
| 35:BB:35:A:H61 | 36:B1:65:U:H2' | 1.86 | 0.41 |
| 35:BB:58:A:C2 | 35:BB:61:C:O4' | 2.74 | 0.41 |
| 35:BB:62:A:C2' | 35:BB:63:C:C5' | 2.99 | 0.41 |
| 35:BC:2:C:C2' | 35:BC:3:G:O5' | 2.69 | 0.41 |
| 35:BC:9:A:H2 | 35:BC:45:G:N7 | 2.12 | 0.41 |
| 35:BC:18:G:N2 | 35:BC:58:A:C4 | 2.89 | 0.41 |
| 35:BC:53:G:C2 | 35:BC:62:A:C6 | 3.09 | 0.41 |
| 35:BC:60:C:C4' | 35:BC:61:C:OP2 | 2.67 | 0.41 |
| 35:BC:60:C:C5' | 35:BC:61:C:O5' | 2.69 | 0.41 |
| 36:B1:56:A:N3 | 36:B1:56:A:C2' | 2.83 | 0.41 |
| 36:B1:65:U:O3' | 36:B1:66:G:C8 | 2.69 | 0.41 |
| 36:B1:69:A:O2' | 36:B1:70:U:C6 | 2.74 | 0.41 |
| 37:BE:11:LEU:N | 37:BE:11:LEU:HD23 | 2.36 | 0.41 |
| 37:BE:72:GLY:HA2 | 37:BE:165:VAL:HG21 | 2.01 | 0.41 |
| 37:BE:72:GLY:C | 37:BE:74:LYS:H | 2.23 | 0.41 |
| 37:BE:96:ARG:N | 37:BE:96:ARG:CD | 2.82 | 0.41 |
| 37:BE:124:SER:OG | 37:BE:126:GLU:HB2 | 2.20 | 0.41 |
| 37:BE:179:LYS:O | 37:BE:180:LEU:C | 2.59 | 0.41 |
| 38:BF:22:TRP:O | 38:BF:23:TYR:HB2 | 2.21 | 0.41 |
| 38:BF:30:ARG:HB3 | 49:BQ:36:PHE:O | 2.21 | 0.41 |
| 38:BF:43:LEU:HA | 38:BF:47:LEU:HD23 | 2.03 | 0.41 |
| 38:BF:88:ARG:N | 38:BF:101:LEU:HD12 | 2.36 | 0.41 |
| 38:BF:175:LEU:HD21 | 38:BF:201:TYR:CE2 | 2.55 | 0.41 |
| 39:BG:10:ARG:C | 39:BG:13:ARG:HB2 | 2.32 | 0.41 |
| 39:BG:25:ARG:HE | 39:BG:30:LYS:CD | 2.21 | 0.41 |
| 39:BG:112:VAL:HG23 | 39:BG:161:ASN:HD21 | 1.85 | 0.41 |
| 39:BG:127:THR:OG1 | 39:BG:149:ALA:HA | 2.20 | 0.41 |
| 39:BG:148:VAL:CB | 39:BG:181:MET:HE1 | 2.28 | 0.41 |
| 40:BH:43:LEU:HB3 | 40:BH:136:MET:HE2 | 2.03 | 0.41 |
| 40:BH:57:LYS:O | 40:BH:58:ALA:C | 2.59 | 0.41 |
| 40:BH:75:THR:CB | 40:BH:118:ILE:HG12 | 2.42 | 0.41 |
| 40:BH:86:ALA:O | 40:BH:125:SER:HB2 | 2.20 | 0.41 |
| 41:BI:13:ASN:ND2 | 41:BI:13:ASN:H | 2.18 | 0.41 |
| 41:BI:42:GLU:OE1 | 41:BI:59:TYR:OH | 2.31 | 0.41 |
| 42:BJ:22:LEU:HD12 | 42:BJ:101:LEU:HD11 | 2.03 | 0.41 |
| 42:BJ:35:LYS:C | 42:BJ:37:ASN:N | 2.71 | 0.41 |
| 42:BJ:121:ALA:HB1 | 42:BJ:125:MET:HE3 | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BK:4:ASP:OD1 | 43:BK:6:ILE:CG2 | 2.62 | 0.41 |
| 43:BK:18:ARG:NH1 | 43:BK:18:ARG:CG | 2.84 | 0.41 |
| 43:BK:49:GLU:CG | 43:BK:62:TYR:OH | 2.67 | 0.41 |
| 44:BL:67:GLY:CA | 44:BL:73:GLN:HE21 | 2.31 | 0.41 |
| 44:BL:71:SER:O | 44:BL:72:GLY:C | 2.57 | 0.41 |
| 45:BM:38:ILE:HA | 45:BM:39:PRO:HD2 | 1.81 | 0.41 |
| 46:BN:16:SER:CA | 46:BN:77:MET:SD | 3.09 | 0.41 |
| 46:BN:57:THR:HG23 | 46:BN:60:ALA:N | 2.18 | 0.41 |
| 46:BN:67:ASP:HA | 46:BN:70:LYS:HE3 | 2.00 | 0.41 |
| 46:BN:69:ALA:HA | 46:BN:72:ALA:HB3 | 2.02 | 0.41 |
| 47:BO:17:LYS:HZ3 | 47:BO:17:LYS:HG2 | 1.68 | 0.41 |
| 47:BO:24:VAL:HG22 | 47:BO:98:TYR:CE1 | 2.56 | 0.41 |
| 47:BO:46:LYS:C | 47:BO:48:PRO:HD2 | 2.41 | 0.41 |
| 47:BO:56:ALA:O | 47:BO:67:THR:HA | 2.21 | 0.41 |
| 47:BO:102:ARG:HH21 | 47:BO:109:GLY:C | 2.23 | 0.41 |
| 48:BP:11:ARG:HA | 48:BP:11:ARG:HD2 | 1.93 | 0.41 |
| 48:BP:12:ASN:O | 48:BP:44:ARG:HG2 | 2.21 | 0.41 |
| 48:BP:14:ARG:O | 48:BP:15:VAL:C | 2.59 | 0.41 |
| 48:BP:48:LEU:HD13 | 48:BP:53:VAL:CG2 | 2.41 | 0.41 |
| 48:BP:69:GLU:HG3 | 48:BP:72:ALA:HB3 | 2.03 | 0.41 |
| 48:BP:96:LEU:O | 48:BP:98:VAL:HG23 | 2.20 | 0.41 |
| 50:BR:4:THR:O | 50:BR:5:LYS:C | 2.58 | 0.41 |
| 50:BR:38:ARG:O | 50:BR:41:GLU:HB3 | 2.21 | 0.41 |
| 50:BR:70:LEU:HG | 50:BR:78:TYR:HA | 2.01 | 0.41 |
| 51:BS:32:TYR:CE2 | 51:BS:35:LYS:CB | 3.00 | 0.41 |
| 51:BS:53:VAL:HG23 | 51:BS:54:GLU:N | 2.36 | 0.41 |
| 52:BT:11:VAL:CG2 | 52:BT:20:THR:OG1 | 2.68 | 0.41 |
| 52:BT:12:SER:CB | 52:BT:20:THR:OG1 | 2.68 | 0.41 |
| 52:BT:65:ILE:O | 52:BT:66:SER:CB | 2.69 | 0.41 |
| 53:BU:21:LYS:CA | 53:BU:55:ARG:NH1 | 2.77 | 0.41 |
| 53:BU:53:ARG:HG2 | 53:BU:63:GLN:OE1 | 2.21 | 0.41 |
| 53:BU:62:GLU:C | 53:BU:66:LEU:CD2 | 2.89 | 0.41 |
| 54:BV:11:VAL:HG21 | 54:BV:41:VAL:CG1 | 2.51 | 0.41 |
| 54:BV:38:SER:O | 54:BV:70:LYS:CG | 2.66 | 0.41 |
| 54:BV:61:TYR:CD2 | 54:BV:62:ILE:N | 2.88 | 0.41 |
| 54:BV:63:THR:H | 54:BV:66:MET:HG3 | 1.86 | 0.41 |
| 55:BW:15:ARG:HA | 55:BW:15:ARG:HD3 | 1.77 | 0.41 |
| 55:BW:43:LEU:HB3 | 55:BW:52:ALA:CB | 2.46 | 0.41 |
| 56:BX:20:LYS:O | 56:BX:21:TYR:O | 2.39 | 0.41 |
| 1:AB:15:A:C6 | 1:AB:109:G:C6 | 3.09 | 0.41 |
| 1:AB:73:A:N6 | 21:AV:24:TYR:HH | 2.18 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:73:A:C2 | 1:AB:74:U:C4 | 3.09 | 0.41 |
| 1:AB:77:U:O3' | 21:AV:73:LYS:NZ | 2.52 | 0.41 |
| 2:AA:18:C:P | 25:A1:26:GLY:HA2 | 2.61 | 0.41 |
| 2:AA:50:U:H6 | 2:AA:50:U:C3' | 2.16 | 0.41 |
| 2:AA:57:C:H6 | 2:AA:57:C:P | 2.43 | 0.41 |
| 2:AA:109:G:OP2 | 2:AA:109:G:H3' | 2.21 | 0.41 |
| 2:AA:151:C:N3 | 2:AA:152:G:N3 | 2.69 | 0.41 |
| 2:AA:172:C:C2' | 2:AA:173:G:C8 | 2.80 | 0.41 |
| 2:AA:241:A:O2' | 2:AA:242:G:H1' | 2.21 | 0.41 |
| 2:AA:294:A:H4' | 20:AU:15:PRO:CD | 2.50 | 0.41 |
| 2:AA:303:U:C4 | 2:AA:304:G:N7 | 2.89 | 0.41 |
| 2:AA:326:G:O2' | 2:AA:327:G:C5' | 2.69 | 0.41 |
| 2:AA:352:G:C2 | 2:AA:353:G:H1' | 2.56 | 0.41 |
| 2:AA:372:G:O5' | 2:AA:372:G:C8 | 2.73 | 0.41 |
| 2:AA:434:U:O2' | 2:AA:435:C:P | 2.78 | 0.41 |
| 2:AA:448:U:O2' | 2:AA:449:A:P | 2.78 | 0.41 |
| 2:AA:472:A:H2' | 2:AA:473:G:H5' | 2.03 | 0.41 |
| 2:AA:542:C:C2 | 2:AA:543:C:H5 | 2.37 | 0.41 |
| 2:AA:580:C:C2 | 2:AA:581:C:C4 | 3.09 | 0.41 |
| 2:AA:592:G:O2' | 32:A8:3:LYS:HB2 | 2.20 | 0.41 |
| 2:AA:635:C:C2' | 2:AA:636:G:H8 | 2.19 | 0.41 |
| 2:AA:673:C:H1' | 6:AF:82:GLN:OE1 | 2.21 | 0.41 |
| 2:AA:675:A:C6 | 2:AA:676:A:C6 | 3.08 | 0.41 |
| 2:AA:702:G:H1 | 2:AA:730:C:N4 | 2.19 | 0.41 |
| 2:AA:855:G:N2 | 27:A3:26:PHE:CZ | 2.89 | 0.41 |
| 2:AA:856:C:H5' | 27:A3:25:LYS:NZ | 2.35 | 0.41 |
| 2:AA:950:G:O6 | 2:AA:968:G:O6 | 2.39 | 0.41 |
| 2:AA:1022:G:C5 | 2:AA:1139:G:C2 | 3.09 | 0.41 |
| 2:AA:1025:G:C8 | 2:AA:1134:G:O2' | 2.57 | 0.41 |
| 2:AA:1066:U:HO2' | 2:AA:1068:G:H8 | 1.63 | 0.41 |
| 2:AA:1085:A:O2' | 2:AA:1086:A:O5' | 2.39 | 0.41 |
| 2:AA:1109:C:H5 | 2:AA:1110:G:N1 | 2.16 | 0.41 |
| 2:AA:1139:G:H2' | 12:AM:47:THR:CG2 | 2.51 | 0.41 |
| 2:AA:1164:G:H2' | 2:AA:1165:U:H6 | 1.84 | 0.41 |
| 2:AA:1183:G:H2' | 2:AA:1184:G:C8 | 2.55 | 0.41 |
| 2:AA:1288:U:H5" | 2:AA:1289:C:P | 2.57 | 0.41 |
| 2:AA:1486:A:C2' | 2:AA:1487:G:O4' | 2.69 | 0.41 |
| 2:AA:1524:G:C4 | 2:AA:1525:G:C8 | 3.09 | 0.41 |
| 2:AA:1569:A:C6 | 2:AA:1570:A:C6 | 3.08 | 0.41 |
| 2:AA:1689:A:C2 | 2:AA:1700:A:N1 | 2.89 | 0.41 |
| 2:AA:1718:G:N2 | 2:AA:1742:C:N1 | 2.68 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1742:C:H3' | 2:AA:1742:C:C6 | 2.56 | 0.41 |
| 2:AA:1787:A:C2 | 2:AA:1788:C:C5 | 3.09 | 0.41 |
| 2:AA:1788:C:C2' | 2:AA:1789:A:H5' | 2.48 | 0.41 |
| 2:AA:1838:C:C2' | 2:AA:1898:U:O4 | 2.69 | 0.41 |
| 2:AA:1933:G:C2' | 2:AA:1934:C:C5' | 2.98 | 0.41 |
| 2:AA:1933:G:N2 | 2:AA:1973:G:O2' | 2.48 | 0.41 |
| 2:AA:2004:G:H2' | 2:AA:2005:A:C8 | 2.56 | 0.41 |
| 2:AA:2052:G:N3 | 2:AA:2053:G:C8 | 2.89 | 0.41 |
| 2:AA:2106:G:C2 | 2:AA:2182:G:N2 | 2.89 | 0.41 |
| 2:AA:2125:G:N7 | 2:AA:2128:C:C6 | 2.89 | 0.41 |
| 2:AA:2140:C:OP2 | 2:AA:2140:C:C6 | 2.73 | 0.41 |
| 2:AA:2147:G:O6 | 2:AA:2150:U:O4 | 2.39 | 0.41 |
| 2:AA:2177:C:H5" | 3:AC:46:LYS:CG | 2.50 | 0.41 |
| 2:AA:2278:A:O2' | 2:AA:2279:G:C5' | 2.59 | 0.41 |
| 2:AA:2383:G:C2 | 2:AA:2384:G:C4 | 3.09 | 0.41 |
| 2:AA:2439:A:N6 | 35:BC:76:A:OP2 | 2.53 | 0.41 |
| 2:AA:2581:G:P | 5:AE:226:HIS:HE2 | 2.44 | 0.41 |
| 2:AA:2606:C:C6 | 2:AA:2606:C:H3' | 2.56 | 0.41 |
| 2:AA:2679:A:O2' | 5:AE:302:GLY:HA2 | 2.20 | 0.41 |
| 2:AA:2868:A:C2' | 2:AA:2869:G:O5' | 2.69 | 0.41 |
| 2:AA:2881:C:H2' | 2:AA:2882:A:C8 | 2.56 | 0.41 |
| 3:AC:23:ASP:HA | 3:AC:186:ALA:HB2 | 2.02 | 0.41 |
| 3:AC:28:LEU:HD13 | 3:AC:31:GLU:OE1 | 2.21 | 0.41 |
| 3:AC:52:ARG:O | 3:AC:53:ARG:HG3 | 2.21 | 0.41 |
| 3:AC:53:ARG:C | 3:AC:55:ASP:N | 2.74 | 0.41 |
| 3:AC:74:VAL:HG21 | 3:AC:156:ILE:CD1 | 2.51 | 0.41 |
| 3:AC:133:PRO:CA | 3:AC:172:HIS:NE2 | 2.75 | 0.41 |
| 4:AD:142:ASN:O | 4:AD:144:GLU:N | 2.54 | 0.41 |
| 4:AD:206:LYS:H | 4:AD:206:LYS:HG3 | 1.14 | 0.41 |
| 5:AE:73:ILE:CG2 | 5:AE:74:GLU:N | 2.84 | 0.41 |
| 6:AF:94:THR:CA | 6:AF:98:ARG:NH2 | 2.84 | 0.41 |
| 6:AF:205:ARG:HG2 | 6:AF:212:VAL:HB | 2.00 | 0.41 |
| 7:AG:85:GLN:HG3 | 7:AG:85:GLN:H | 1.66 | 0.41 |
| 7:AG:133:ASN:C | 7:AG:134:LEU:O | 2.58 | 0.41 |
| 7:AG:138:GLY:O | 7:AG:141:VAL:HG23 | 2.21 | 0.41 |
| 7:AG:152:PRO:C | 7:AG:154:LYS:N | 2.72 | 0.41 |
| 8:AH:18:VAL:HG12 | 8:AH:42:ILE:HD12 | 2.00 | 0.41 |
| 8:AH:24:THR:HA | 8:AH:33:THR:HA | 2.02 | 0.41 |
| 8:AH:92:GLY:HA2 | 8:AH:94:ARG:HH21 | 1.86 | 0.41 |
| 9:AI:72:GLN:HA | 9:AI:75:LYS:CE | 2.51 | 0.41 |
| 10:AK:2:LYS:CG | 10:AK:39:ALA:HB2 | 2.50 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AK:29:PHE:HE2 | 10:AK:30:LEU:HD11 | 1.85 | 0.41 |
| 10:AK:69:LYS:HG3 | 10:AK:73:GLU:OE1 | 2.21 | 0.41 |
| 10:AK:97:GLN:O | 10:AK:98:ILE:C | 2.59 | 0.41 |
| 10:AK:110:LEU:CD2 | 10:AK:110:LEU:C | 2.88 | 0.41 |
| 10:AK:121:ILE:N | 10:AK:121:ILE:CD1 | 2.84 | 0.41 |
| 10:AK:133:LEU:CD1 | 10:AK:139:ALA:CB | 2.99 | 0.41 |
| 11:AL:28:LEU:HD22 | 11:AL:33:VAL:HG21 | 2.03 | 0.41 |
| 11:AL:95:LYS:O | 11:AL:96:ILE:C | 2.60 | 0.41 |
| 11:AL:117:ASN:N | 11:AL:117:ASN:OD1 | 2.44 | 0.41 |
| 12:AM:108:PRO:C | 12:AM:109:TYR:CG | 2.94 | 0.41 |
| 13:AN:63:VAL:HG23 | 13:AN:84:CYS:SG | 2.61 | 0.41 |
| 13:AN:77:ILE:HD13 | 13:AN:78:ARG:CA | 2.48 | 0.41 |
| 15:AP:32:LYS:HE3 | 21:AV:172:LEU:HD11 | 1.98 | 0.41 |
| 15:AP:67:ALA:CA | 15:AP:70:ARG:HH11 | 2.32 | 0.41 |
| 15:AP:95:GLU:OE2 | 15:AP:109:VAL:HG23 | 2.21 | 0.41 |
| 16:AQ:48:VAL:HG13 | 16:AQ:55:ASP:OD1 | 2.21 | 0.41 |
| 16:AQ:103:ASP:O | 16:AQ:105:GLY:N | 2.54 | 0.41 |
| 16:AQ:109:PRO:HA | 16:AQ:115:VAL:HB | 2.02 | 0.41 |
| 16:AQ:121:GLY:O | 16:AQ:125:ALA:HB2 | 2.21 | 0.41 |
| 16:AQ:124:ASP:N | 16:AQ:124:ASP:OD1 | 2.54 | 0.41 |
| 18:AS:12:ILE:O | 18:AS:14:PRO:HD3 | 2.21 | 0.41 |
| 18:AS:28:SER:OG | 18:AS:31:GLU:N | 2.54 | 0.41 |
| 18:AS:29:LEU:C | 18:AS:33:ARG:HD2 | 2.42 | 0.41 |
| 18:AS:32:ALA:O | 18:AS:35:ILE:CB | 2.66 | 0.41 |
| 19:AT:3:ASP:HA | 22:AW:24:LYS:CG | 2.51 | 0.41 |
| 20:AU:30:ASP:HA | 20:AU:33:GLU:OE1 | 2.21 | 0.41 |
| 21:AV:3:LEU:O | 21:AV:56:VAL:CG2 | 2.69 | 0.41 |
| 21:AV:19:ILE:HG13 | 21:AV:79:ILE:CB | 2.51 | 0.41 |
| 21:AV:91:PRO:O | 21:AV:127:PRO:HG3 | 2.21 | 0.41 |
| 22:AW:12:THR:HA | 22:AW:16:ARG:NH2 | 2.36 | 0.41 |
| 23:AX:12:PRO:O | 23:AX:14:GLY:N | 2.53 | 0.41 |
| 24:A0:29:LEU:HB2 | 24:A0:75:LEU:HD11 | 2.03 | 0.41 |
| 24:A0:79:LEU:CG | 24:A0:80:PHE:N | 2.84 | 0.41 |
| 24:A0:87:TYR:O | 24:A0:89:ASP:N | 2.54 | 0.41 |
| 26:A2:57:GLN:O | 26:A2:58:ALA:CB | 2.60 | 0.41 |
| 27:A3:28:GLY:N | 27:A3:60:PHE:CG | 2.89 | 0.41 |
| 27:A3:39:ARG:CZ | 27:A3:69:PHE:CE2 | 3.04 | 0.41 |
| 28:A4:63:PHE:CD2 | 28:A4:69:ARG:NH2 | 2.89 | 0.41 |
| 30:A6:40:TYR:HB3 | 30:A6:41:ASP:H | 1.61 | 0.41 |
| 31:A7:1:MET:O | 31:A7:1:MET:CG | 2.68 | 0.41 |
| 31:A7:29:ASN:O | 31:A7:30:ILE:C | 2.59 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:A8:36:LYS:HG2 | 32:A8:40:GLU:OE2 | 2.21 | 0.41 |
| 34:BA:22:G:C4' | 34:BA:885:G:H1' | 2.51 | 0.41 |
| 34:BA:40:C:N4 | 34:BA:403:C:N3 | 2.69 | 0.41 |
| 34:BA:49:U:C2 | 34:BA:364:A:N6 | 2.89 | 0.41 |
| 34:BA:64:G:N2 | 34:BA:67:C:N4 | 2.69 | 0.41 |
| 34:BA:77:G:C2 | 34:BA:78:G:C8 | 3.09 | 0.41 |
| 34:BA:136:C:C6 | 34:BA:136:C:O5' | 2.74 | 0.41 |
| 34:BA:138:G:N2 | 34:BA:226:G:N9 | 2.68 | 0.41 |
| 34:BA:175:C:O2' | 34:BA:176:C:C5' | 2.68 | 0.41 |
| 34:BA:279:A:O2' | 34:BA:280:C:OP2 | 2.35 | 0.41 |
| 34:BA:309:G:H2' | 34:BA:310:G:H8 | 1.85 | 0.41 |
| 34:BA:325:A:C8 | 34:BA:326:G:C8 | 3.09 | 0.41 |
| 34:BA:346:G:C2' | 34:BA:347:G:O4' | 2.67 | 0.41 |
| 34:BA:407:G:H2' | 34:BA:408:A:O5' | 2.21 | 0.41 |
| 34:BA:408:A:H5' | 39:BG:116:GLN:HE21 | 1.85 | 0.41 |
| 34:BA:580:U:C2 | 34:BA:761:G:O6 | 2.74 | 0.41 |
| 34:BA:602:A:C5 | 34:BA:603:U:C4 | 3.09 | 0.41 |
| 34:BA:653:A:C4' | 43:BK:56:LYS:NZ | 2.84 | 0.41 |
| 34:BA:664:G:H22 | 34:BA:741:G:H1 | 1.69 | 0.41 |
| 34:BA:665:A:H2' | 34:BA:732:C:O2 | 2.21 | 0.41 |
| 34:BA:665:A:H2 | 34:BA:732:C:C4 | 2.35 | 0.41 |
| 34:BA:698:G:H2' | 34:BA:699:C:H6 | 1.84 | 0.41 |
| 34:BA:797:C:O2' | 34:BA:798:G:C5' | 2.64 | 0.41 |
| 34:BA:830:G:O2' | 34:BA:831:U:H5' | 2.21 | 0.41 |
| 34:BA:876:G:H2' | 34:BA:877:C:H6 | 1.86 | 0.41 |
| 34:BA:893:C:C2 | 34:BA:894:G:N7 | 2.89 | 0.41 |
| 34:BA:960:U:O2' | 34:BA:1223:C:H5' | 2.21 | 0.41 |
| 34:BA:962:C:N4 | 34:BA:963:G:N7 | 2.68 | 0.41 |
| 34:BA:965:A:N3 | 34:BA:969:A:C4 | 2.89 | 0.41 |
| 34:BA:1027:C:C4 | 34:BA:1028:C:C5 | 3.09 | 0.41 |
| 34:BA:1045:C:C2' | 34:BA:1046:A:O5' | 2.69 | 0.41 |
| 34:BA:1048:G:OP1 | 49:BQ:3:ARG:CA | 2.69 | 0.41 |
| 34:BA:1073:U:N3 | 34:BA:1102:A:C6 | 2.80 | 0.41 |
| 34:BA:1117:G:C4 | 34:BA:1184:G:N2 | 2.89 | 0.41 |
| 34:BA:1150:U:H5' | 34:BA:1280:A:C2 | 2.56 | 0.41 |
| 34:BA:1152:A:O2' | 34:BA:1153:C:O5' | 2.38 | 0.41 |
| 34:BA:1152:A:C2 | 34:BA:1153:C:C5 | 3.08 | 0.41 |
| 34:BA:1153:C:N4 | 34:BA:1154:G:O6 | 2.54 | 0.41 |
| 34:BA:1181:G:C2' | 34:BA:1182:G:O4' | 2.67 | 0.41 |
| 34:BA:1238:A:N6 | 34:BA:1301:U:C2 | 2.87 | 0.41 |
| 34:BA:1251:A:H8 | 34:BA:1251:A:O5' | 2.04 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1256:A:H4' | 34:BA:1257:U:O2' | 2.21 | 0.41 |
| 34:BA:1286:A:O2' | 56:BX:22:ARG:NH2 | 2.54 | 0.41 |
| 34:BA:1308:U:C3' | 48:BP:99:ARG:NH1 | 2.45 | 0.41 |
| 34:BA:1449:C:H2' | 34:BA:1450:U:C5' | 2.50 | 0.41 |
| 34:BA:1494:G:C6 | 34:BA:1495:U:H5 | 2.39 | 0.41 |
| 35:BB:32:C:C4 | 35:BB:33:U:C2 | 3.09 | 0.41 |
| 35:BB:58:A:C2' | 35:BB:59:U:O5' | 2.68 | 0.41 |
| 35:BC:13:C:O2 | 35:BC:13:C:C2' | 2.69 | 0.41 |
| 35:BC:47:U:C2 | 35:BC:50:U:P | 3.14 | 0.41 |
| 37:BE:28:PHE:CD1 | 37:BE:31:TYR:HB2 | 2.56 | 0.41 |
| 37:BE:53:ARG:CG | 37:BE:199:TYR:CE2 | 3.01 | 0.41 |
| 37:BE:63:MET:O | 37:BE:64:ARG:C | 2.58 | 0.41 |
| 37:BE:80:ILE:CD1 | 37:BE:211:ILE:CG2 | 2.98 | 0.41 |
| 37:BE:132:LYS:C | 37:BE:133:LYS:HE2 | 2.40 | 0.41 |
| 38:BF:77:ILE:HG22 | 38:BF:78:GLY:N | 2.35 | 0.41 |
| 38:BF:134:ILE:HD12 | 38:BF:134:ILE:N | 2.36 | 0.41 |
| 39:BG:177:ASP:OD2 | 39:BG:179:GLU:HG3 | 2.20 | 0.41 |
| 40:BH:110:LEU:O | 40:BH:115:VAL:CG2 | 2.68 | 0.41 |
| 40:BH:121:LYS:HG3 | 40:BH:123:LEU:HD23 | 2.03 | 0.41 |
| 41:BI:10:LEU:O | 41:BI:59:TYR:HB3 | 2.21 | 0.41 |
| 41:BI:44:GLY:C | 41:BI:45:LEU:HG | 2.41 | 0.41 |
| 42:BJ:44:TYR:HE1 | 44:BL:41:VAL:HG21 | 1.86 | 0.41 |
| 43:BK:22:GLU:O | 43:BK:63:LEU:HD13 | 2.22 | 0.41 |
| 43:BK:29:SER:HG | 43:BK:30:ARG:N | 2.19 | 0.41 |
| 43:BK:79:VAL:O | 43:BK:81:HIS:N | 2.54 | 0.41 |
| 43:BK:97:VAL:HG13 | 43:BK:98:LYS:HZ1 | 1.80 | 0.41 |
| 46:BN:40:ILE:O | 46:BN:41:THR:HG22 | 2.21 | 0.41 |
| 46:BN:95:ILE:C | 46:BN:98:LEU:HB2 | 2.36 | 0.41 |
| 46:BN:121:PRO:CB | 46:BN:125:PHE:HB2 | 2.51 | 0.41 |
| 46:BN:126:ARG:O | 46:BN:127:LYS:C | 2.59 | 0.41 |
| 47:BO:24:VAL:HA | 47:BO:25:PRO:HD3 | 1.76 | 0.41 |
| 47:BO:44:THR:HA | 47:BO:45:PRO:HD3 | 1.77 | 0.41 |
| 48:BP:89:GLY:O | 48:BP:93:ARG:CB | 2.58 | 0.41 |
| 49:BQ:4:LYS:O | 49:BQ:6:LEU:N | 2.53 | 0.41 |
| 51:BS:55:ARG:HE | 51:BS:55:ARG:CA | 2.24 | 0.41 |
| 52:BT:90:ILE:HA | 52:BT:93:GLN:HB2 | 2.03 | 0.41 |
| 52:BT:91:ARG:HE | 52:BT:91:ARG:HB3 | 1.59 | 0.41 |
| 53:BU:70:ILE:CG2 | 53:BU:74:ARG:HH21 | 2.34 | 0.41 |
| 53:BU:78:LEU:C | 53:BU:79:LEU:HD13 | 2.41 | 0.41 |
| 54:BV:13:ASP:O | 54:BV:14:HIS:C | 2.59 | 0.41 |
| 54:BV:29:ARG:O | 54:BV:30:LEU:O | 2.39 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 55:BW:59:ALA:C | 55:BW:61:SER:N | 2.73 | 0.41 |
| 1:AB:68:C:C3' | 1:AB:69:G:H8 | 2.29 | 0.40 |
| 1:AB:113:C:H2' | 1:AB:114:G:O4' | 2.20 | 0.40 |
| 2:AA:48:G:C2 | 2:AA:178:G:C6 | 3.09 | 0.40 |
| 2:AA:49:A:N3 | 2:AA:51:G:N3 | 2.69 | 0.40 |
| 2:AA:82:G:C5' | 2:AA:296:C:OP1 | 2.69 | 0.40 |
| 2:AA:196:A:C2 | 2:AA:805:G:C2 | 3.09 | 0.40 |
| 2:AA:215:G:C1' | 2:AA:216:A:C4' | 2.99 | 0.40 |
| 2:AA:233:A:H2' | 2:AA:234:C:C6 | 2.48 | 0.40 |
| 2:AA:270(T):G:H2' | 2:AA:270(U):C:O5' | 2.21 | 0.40 |
| 2:AA:271(C):U:O2' | 2:AA:271:G:C5' | 2.68 | 0.40 |
| 2:AA:285:C:C2' | 2:AA:286:C:C6 | 3.03 | 0.40 |
| 2:AA:311:A:C6 | 2:AA:328:U:O2 | 2.74 | 0.40 |
| 2:AA:318:C:OP2 | 2:AA:318:C:H6 | 2.04 | 0.40 |
| 2:AA:340:A:H8 | 2:AA:340:A:C5' | 2.33 | 0.40 |
| 2:AA:342:G:C2 | 2:AA:344:G:C2 | 3.07 | 0.40 |
| 2:AA:346:A:O2' | 2:AA:347:A:O5' | 2.38 | 0.40 |
| 2:AA:384:U:H6 | 2:AA:384:U:O5' | 2.04 | 0.40 |
| 2:AA:446:G:H8 | 25:A1:3:ARG:HH22 | 1.65 | 0.40 |
| 2:AA:498:G:H3' | 2:AA:498:G:H8 | 1.82 | 0.40 |
| 2:AA:518:G:C4 | 2:AA:519:U:C5 | 3.09 | 0.40 |
| 2:AA:542:C:C4 | 2:AA:552:G:N2 | 2.89 | 0.40 |
| 2:AA:563:G:H2' | 25:A1:37:GLN:OE1 | 2.20 | 0.40 |
| 2:AA:628:G:N1 | 2:AA:629:G:C6 | 2.89 | 0.40 |
| 2:AA:654:A:C2 | 2:AA:655:A:H3' | 2.56 | 0.40 |
| 2:AA:656:G:C8 | 2:AA:656:G:P | 3.13 | 0.40 |
| 2:AA:687:C:H2' | 2:AA:688:U:O4' | 2.19 | 0.40 |
| 2:AA:688:U:O2' | 2:AA:689:A:O4' | 2.34 | 0.40 |
| 2:AA:729:G:C3' | 2:AA:729:G:C4 | 2.97 | 0.40 |
| 2:AA:817:C:C2 | 2:AA:1191:G:N2 | 2.89 | 0.40 |
| 2:AA:825:C:H2' | 2:AA:826:U:C6 | 2.56 | 0.40 |
| 2:AA:880:G:C8 | 2:AA:880:G:H3' | 2.56 | 0.40 |
| 2:AA:929:G:C2' | 23:AX:43:ILE:CG1 | 2.99 | 0.40 |
| 2:AA:933:A:C6 | 2:AA:934:G:C8 | 3.08 | 0.40 |
| 2:AA:955:C:C2 | 2:AA:962:G:N2 | 2.76 | 0.40 |
| 2:AA:1006:C:O2' | 12:AM:86:MET:CB | 2.54 | 0.40 |
| 2:AA:1013:C:C2 | 2:AA:1014:U:C5 | 3.09 | 0.40 |
| 2:AA:1102:C:HO2' | 2:AA:1103:A:H8 | 1.69 | 0.40 |
| 2:AA:1140:C:C5' | 2:AA:142(A):A:C4 | 3.04 | 0.40 |
| 2:AA:1157:G:H3' | 2:AA:1157:G:P | 2.56 | 0.40 |
| 2:AA:1191:G:C8 | 2:AA:1191:G:C3' | 3.04 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1194:A:N6 | 2:AA:1195:G:C6 | 2.89 | 0.40 |
| 2:AA:1212:G:O2' | 2:AA:1213:A:P | 2.78 | 0.40 |
| 2:AA:1309:G:N1 | 2:AA:1310:G:C4 | 2.89 | 0.40 |
| 2:AA:1368:G:H8 | 2:AA:1368:G:H5" | 1.86 | 0.40 |
| 2:AA:1539:G:O3' | 2:AA:1540:G:O4' | 2.39 | 0.40 |
| 2:AA:1559:G:N3 | 2:AA:1559:G:C3' | 2.82 | 0.40 |
| 2:AA:1599:C:OP1 | 19:AT:33:SER:HB2 | 2.21 | 0.40 |
| 2:AA:1628:G:C2 | 2:AA:1629:U:C5 | 3.09 | 0.40 |
| 2:AA:1647:G:H3' | 2:AA:1647:G:P | 2.61 | 0.40 |
| 2:AA:1664:A:H61 | 2:AA:1667:G:H22 | 1.67 | 0.40 |
| 2:AA:1709:U:N3 | 2:AA:1750:G:C2 | 2.89 | 0.40 |
| 2:AA:1729:A:H62 | 2:AA:1731:G:H1 | 1.68 | 0.40 |
| 2:AA:1754:C:H2' | 2:AA:1754:C:O2 | 2.20 | 0.40 |
| 2:AA:1786:A:H2 | 2:AA:2590:A:H1' | 1.86 | 0.40 |
| 2:AA:1791:A:C2 | 2:AA:1829:A:C1' | 3.04 | 0.40 |
| 2:AA:1859:A:C2 | 2:AA:1884:A:O2' | 2.71 | 0.40 |
| 2:AA:1924:C:H4' | 35:BC:13:C:O2' | 2.21 | 0.40 |
| 2:AA:1932:A:C5 | 2:AA:1969:A:N6 | 2.89 | 0.40 |
| 2:AA:1971:A:O2' | 2:AA:1972:A:P | 2.76 | 0.40 |
| 2:AA:1998:G:C6 | 2:AA:1999:C:C4 | 3.09 | 0.40 |
| 2:AA:2020:A:C6 | 2:AA:2022:U:C2 | 3.09 | 0.40 |
| 2:AA:2091:U:H3' | 2:AA:2092:U:C5' | 2.51 | 0.40 |
| 2:AA:2113:U:O2 | 2:AA:2113:U:H2' | 2.21 | 0.40 |
| 2:AA:2141:G:N1 | 2:AA:2151:G:C6 | 2.89 | 0.40 |
| 2:AA:2290:G:H21 | 2:AA:2374:C:H5' | 1.86 | 0.40 |
| 2:AA:2302:G:H2' | 2:AA:2303:G:H8 | 1.84 | 0.40 |
| 2:AA:2422:A:O2' | 2:AA:2424:C:C5 | 2.73 | 0.40 |
| 2:AA:2439:A:N6 | 2:AA:2585:U:H5' | 2.37 | 0.40 |
| 2:AA:2461:C:H6 | 2:AA:2461:C:O5' | 2.04 | 0.40 |
| 2:AA:2510:C:C2 | 2:AA:2578:G:N1 | 2.82 | 0.40 |
| 2:AA:2512:C:H5" | 5:AE:219:VAL:HG11 | 2.02 | 0.40 |
| 2:AA:2512:C:H3' | 2:AA:2513:G:H5" | 2.03 | 0.40 |
| 2:AA:2569:G:N1 | 2:AA:2570:G:N7 | 2.69 | 0.40 |
| 2:AA:2582:G:H2' | 2:AA:2583:G:C5' | 2.50 | 0.40 |
| 2:AA:2619:C:C2' | 2:AA:2619:C:O2 | 2.68 | 0.40 |
| 2:AA:2712:U:C3' | 2:AA:2714:G:OP2 | 2.50 | 0.40 |
| 2:AA:2721:A:H3' | 2:AA:2722:G:C8 | 2.56 | 0.40 |
| 2:AA:2742:C:C5' | 33:A9:35:ARG:NH2 | 2.84 | 0.40 |
| 2:AA:2815:C:H2' | 2:AA:2816:C:H6 | 1.86 | 0.40 |
| 3:AC:5:LYS:O | 3:AC:6:ARG:CB | 2.69 | 0.40 |
| 3:AC:76:ALA:HA | 3:AC:114:VAL:CG2 | 2.50 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:200:LYS:CA | 3:AC:208:PHE:HZ | 2.34 | 0.40 |
| 5:AE:79:ARG:HA | 5:AE:186:GLU:N | 2.37 | 0.40 |
| 5:AE:304:ASP:N | 5:AE:304:ASP:OD1 | 2.53 | 0.40 |
| 6:AF:163:HIS:O | 6:AF:166:ILE:CB | 2.67 | 0.40 |
| 7:AG:56:ARG:HG2 | 7:AG:65:GLU:HB2 | 2.03 | 0.40 |
| 7:AG:64:ARG:O | 7:AG:66:GLY:N | 2.52 | 0.40 |
| 7:AG:76:ARG:O | 7:AG:77:ASP:O | 2.38 | 0.40 |
| 8:AH:88:LEU:C | 8:AH:88:LEU:HD23 | 2.42 | 0.40 |
| 8:AH:141:GLY:O | 8:AH:144:ALA:HB3 | 2.21 | 0.40 |
| 9:AI:78:ARG:NH1 | 9:AI:85:LEU:HB3 | 2.35 | 0.40 |
| 9:AJ:50:GLY:HA2 | 9:AJ:53:GLN:OE1 | 2.21 | 0.40 |
| 9:AJ:55:GLU:O | 9:AJ:56:LYS:CG | 2.69 | 0.40 |
| 9:AJ:73:VAL:CA | 9:AJ:121:ALA:HB1 | 2.34 | 0.40 |
| 9:AJ:92:VAL:O | 9:AJ:95:ALA:CB | 2.69 | 0.40 |
| 9:AJ:127:LEU:H | 9:AJ:127:LEU:HD23 | 1.86 | 0.40 |
| 10:AK:43:ASN:HA | 10:AK:46:ALA:CB | 2.51 | 0.40 |
| 10:AK:47:LEU:HD11 | 10:AK:48:GLU:OE1 | 2.21 | 0.40 |
| 11:AL:15:ALA:HB1 | 11:AL:50:ALA:HA | 2.02 | 0.40 |
| 11:AL:28:LEU:CD1 | 11:AL:33:VAL:HG21 | 2.42 | 0.40 |
| 11:AL:56:VAL:HG12 | 11:AL:57:VAL:N | 2.36 | 0.40 |
| 11:AL:97:VAL:HA | 11:AL:99:LYS:NZ | 2.36 | 0.40 |
| 11:AL:117:ASN:ND2 | 11:AL:127:ILE:HG12 | 2.36 | 0.40 |
| 15:AP:28:ILE:HD13 | 15:AP:62:GLU:OE2 | 2.20 | 0.40 |
| 18:AS:11:ARG:C | 18:AS:12:ILE:CG1 | 2.90 | 0.40 |
| 19:AT:28:VAL:HG22 | 19:AT:62:LYS:O | 2.21 | 0.40 |
| 21:AV:66:VAL:O | 21:AV:66:VAL:CG1 | 2.68 | 0.40 |
| 21:AV:123:VAL:CA | 21:AV:161:ALA:H | 2.29 | 0.40 |
| 22:AW:14:ALA:O | 22:AW:17:GLU:HB2 | 2.20 | 0.40 |
| 23:AX:43:ILE:H | 23:AX:43:ILE:HD13 | 1.77 | 0.40 |
| 25:A1:115:ASN:ND2 | 25:A1:115:ASN:N | 2.69 | 0.40 |
| 27:A3:9:SER:OG | 27:A3:10:SER:N | 2.54 | 0.40 |
| 27:A3:24:LYS:CG | 27:A3:58:THR:HG22 | 2.51 | 0.40 |
| 27:A3:24:LYS:CD | 27:A3:56:ASP:OD2 | 2.67 | 0.40 |
| 27:A3:31:VAL:O | 27:A3:32:LYS:C | 2.59 | 0.40 |
| 27:A3:36:ILE:CA | 27:A3:68:VAL:HG13 | 2.50 | 0.40 |
| 28:A4:17:GLN:CG | 28:A4:33:VAL:HG12 | 2.43 | 0.40 |
| 28:A4:42:PHE:O | 28:A4:57:ASP:CA | 2.62 | 0.40 |
| 28:A4:44:THR:N | 28:A4:61:LYS:NZ | 2.69 | 0.40 |
| 30:A6:36:GLU:HB3 | 30:A6:52:GLU:HB2 | 2.03 | 0.40 |
| 32:A8:38:GLY:O | 32:A8:41:ILE:CG1 | 2.62 | 0.40 |
| 34:BA:20:U:C2 | 34:BA:21:G:C5 | 3.09 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:128:G:O5' | 34:BA:128:G:C8 | 2.74 | 0.40 |
| 34:BA:129(A):G:C2' | 34:BA:190(E):U:C6 | 2.98 | 0.40 |
| 34:BA:150:C:H2' | 34:BA:151:A:O5' | 2.21 | 0.40 |
| 34:BA:258:G:C4 | 34:BA:259:G:C8 | 3.09 | 0.40 |
| 34:BA:292:G:OP2 | 34:BA:293:G:N7 | 2.54 | 0.40 |
| 34:BA:360:A:N1 | 34:BA:361:G:C4 | 2.89 | 0.40 |
| 34:BA:401:C:H2' | 34:BA:402:G:C8 | 2.54 | 0.40 |
| 34:BA:460:A:C6 | 34:BA:462:G:C4 | 3.08 | 0.40 |
| 34:BA:560:U:O5' | 34:BA:566:G:N2 | 2.55 | 0.40 |
| 34:BA:579:G:O5' | 34:BA:579:G:C8 | 2.68 | 0.40 |
| 34:BA:598:U:O4' | 43:BK:94:TYR:CD2 | 2.62 | 0.40 |
| 34:BA:663:A:N6 | 34:BA:664:G:C6 | 2.89 | 0.40 |
| 34:BA:689:C:N3 | 34:BA:690:G:C4 | 2.89 | 0.40 |
| 34:BA:815:A:N3 | 34:BA:1529:G:C2 | 2.89 | 0.40 |
| 34:BA:823:G:C8 | 34:BA:823:G:H3' | 2.56 | 0.40 |
| 34:BA:828:A:H5' | 34:BA:859:A:N1 | 2.36 | 0.40 |
| 34:BA:859:A:N7 | 34:BA:860:A:C8 | 2.88 | 0.40 |
| 34:BA:905:U:O5' | 34:BA:905:U:H6 | 2.03 | 0.40 |
| 34:BA:980:C:C4 | 34:BA:981:U:C2 | 3.09 | 0.40 |
| 34:BA:986:A:C6 | 34:BA:987:G:C6 | 3.09 | 0.40 |
| 34:BA:1006:C:C5 | 34:BA:1006:C:OP2 | 2.74 | 0.40 |
| 34:BA:1011:G:C5 | 34:BA:1012:U:C6 | 3.09 | 0.40 |
| 34:BA:1021:G:H2' | 34:BA:1022:G:C4' | 2.51 | 0.40 |
| 34:BA:1102:A:O2' | 37:BE:98:LEU:HD12 | 2.22 | 0.40 |
| 34:BA:1139:G:H4' | 34:BA:1139:G:OP2 | 2.21 | 0.40 |
| 34:BA:1298:C:H2' | 42:BJ:114:ARG:NH1 | 2.35 | 0.40 |
| 34:BA:1346:A:HO2' | 34:BA:1347:G:P | 2.40 | 0.40 |
| 34:BA:1406:U:O2 | 34:BA:1407:C:O4' | 2.40 | 0.40 |
| 34:BA:1431:C:N3 | 34:BA:1432:G:H1' | 2.36 | 0.40 |
| 34:BA:1436:U:O5' | 34:BA:1436:U:H6 | 2.03 | 0.40 |
| 34:BA:1454:G:C4 | 34:BA:1455:G:N7 | 2.89 | 0.40 |
| 34:BA:1468:A:O5' | 34:BA:1468:A:C8 | 2.71 | 0.40 |
| 34:BA:1470:G:C6 | 34:BA:1471:G:C5 | 3.10 | 0.40 |
| 34:BA:1490:C:H2' | 34:BA:1491:G:C5' | 2.51 | 0.40 |
| 35:BB:12:U:N3 | 35:BB:24:G:N1 | 2.66 | 0.40 |
| 35:BB:60:C:OP1 | 35:BB:61:C:C6 | 2.74 | 0.40 |
| 35:BC:37:G:C4 | 35:BC:38:A:C8 | 3.09 | 0.40 |
| 36:B1:46:A:H3' | 36:B1:47:U:C5' | 2.52 | 0.40 |
| 36:B1:65:U:HO2' | 36:B1:66:G:H8 | 1.60 | 0.40 |
| 37:BE:35:GLU:N | 37:BE:36:ARG:NH1 | 2.69 | 0.40 |
| 37:BE:42:ILE:HG12 | 37:BE:43:ASP:H | 1.86 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BE:55:PHE:HD2 | 37:BE:221:LEU:HB2 | 1.86 | 0.40 |
| 37:BE:80:ILE:CD1 | 37:BE:211:ILE:HG21 | 2.47 | 0.40 |
| 37:BE:165:VAL:CG2 | 37:BE:166:ASP:H | 2.26 | 0.40 |
| 38:BF:32:LEU:O | 38:BF:35:GLU:HB3 | 2.20 | 0.40 |
| 38:BF:43:LEU:O | 38:BF:47:LEU:CD2 | 2.69 | 0.40 |
| 38:BF:59:ARG:CZ | 38:BF:64:VAL:CG2 | 2.93 | 0.40 |
| 39:BG:12:CYS:CA | 39:BG:33:MET:HE1 | 2.51 | 0.40 |
| 39:BG:41:GLY:C | 39:BG:43:HIS:H | 2.24 | 0.40 |
| 39:BG:43:HIS:C | 39:BG:45:GLN:N | 2.75 | 0.40 |
| 39:BG:76:ARG:O | 39:BG:79:PHE:CB | 2.59 | 0.40 |
| 39:BG:154:ASN:O | 39:BG:159:ARG:NH1 | 2.54 | 0.40 |
| 40:BH:106:PRO:O | 40:BH:109:ILE:HG22 | 2.21 | 0.40 |
| 40:BH:147:ASP:O | 40:BH:148:VAL:C | 2.59 | 0.40 |
| 41:BI:3:ARG:HA | 41:BI:66:GLU:HA | 2.02 | 0.40 |
| 43:BK:26:VAL:CG2 | 43:BK:27:PRO:CD | 2.86 | 0.40 |
| 43:BK:36:LEU:HD11 | 43:BK:59:LEU:CD2 | 2.51 | 0.40 |
| 43:BK:43:GLY:O | 43:BK:44:PHE:C | 2.60 | 0.40 |
| 43:BK:46:LYS:HD2 | 43:BK:63:LEU:O | 2.21 | 0.40 |
| 43:BK:95:VAL:HG23 | 43:BK:99:GLU:HB2 | 2.04 | 0.40 |
| 43:BK:96:GLY:C | 43:BK:97:VAL:HG12 | 2.40 | 0.40 |
| 43:BK:97:VAL:CG1 | 43:BK:99:GLU:HG3 | 2.50 | 0.40 |
| 44:BL:47:LEU:O | 44:BL:50:LEU:N | 2.53 | 0.40 |
| 44:BL:50:LEU:HD23 | 44:BL:58:ARG:HH11 | 1.86 | 0.40 |
| 45:BM:76:ASN:N | 45:BM:77:PRO:HD3 | 2.36 | 0.40 |
| 45:BM:82:ILE:O | 45:BM:82:ILE:HG22 | 2.21 | 0.40 |
| 46:BN:14:VAL:O | 46:BN:14:VAL:CG1 | 2.70 | 0.40 |
| 46:BN:21:ILE:CG2 | 46:BN:30:VAL:HG22 | 2.48 | 0.40 |
| 47:BO:97:ARG:HB3 | 47:BO:98:TYR:CD1 | 2.55 | 0.40 |
| 48:BP:52:GLU:O | 48:BP:56:LEU:CG | 2.56 | 0.40 |
| 48:BP:53:VAL:O | 48:BP:55:ARG:N | 2.53 | 0.40 |
| 48:BP:66:LEU:C | 48:BP:70:LEU:HB2 | 2.39 | 0.40 |
| 48:BP:73:GLU:CD | 48:BP:74:VAL:N | 2.75 | 0.40 |
| 49:BQ:58:LYS:HE3 | 49:BQ:59:ALA:O | 2.22 | 0.40 |
| 51:BS:8:ARG:C | 51:BS:9:PHE:CD2 | 2.92 | 0.40 |
| 51:BS:38:TYR:O | 51:BS:49:LEU:HD12 | 2.20 | 0.40 |
| 51:BS:57:ARG:HG2 | 51:BS:79:VAL:HG13 | 2.03 | 0.40 |
| 54:BV:22:LEU:HD23 | 54:BV:25:LYS:CE | 2.51 | 0.40 |
| 54:BV:55:LYS:HG2 | 54:BV:56:GLN:HE21 | 1.86 | 0.40 |
| 55:BW:72:LEU:HD13 | 55:BW:77:ALA:CA | 2.50 | 0.40 |
| 56:BX:9:ARG:NH1 | 56:BX:21:TYR:CB | 2.83 | 0.40 |
| 1:AB:81:G:H2' | 1:AB:82:G:H5' | 2.03 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:48:G:H1' | 2:AA:178:G:H21 | 1.86 | 0.40 |
| 2:AA:95:G:C1' | 22:AW:42:ASN:HB3 | 2.50 | 0.40 |
| 2:AA:243:U:O4 | 2:AA:255:A:N7 | 2.54 | 0.40 |
| 2:AA:270(E):G:C6 | 2:AA:270(U):C:N4 | 2.87 | 0.40 |
| 2:AA:292:C:C5 | 2:AA:293:U:O4 | 2.72 | 0.40 |
| 2:AA:324:A:H61 | 2:AA:339:U:H1' | 1.62 | 0.40 |
| 2:AA:352:G:C5 | 2:AA:353:G:N7 | 2.89 | 0.40 |
| 2:AA:412:A:H2' | 2:AA:413:C:C4' | 2.49 | 0.40 |
| 2:AA:428:A:C5 | 2:AA:429:A:N7 | 2.89 | 0.40 |
| 2:AA:434:U:H2' | 2:AA:435:C:OP2 | 2.20 | 0.40 |
| 2:AA:479:A:O2' | 2:AA:480:A:C4' | 2.69 | 0.40 |
| 2:AA:521:G:H2' | 2:AA:522:G:C8 | 2.57 | 0.40 |
| 2:AA:578:A:H2' | 2:AA:579:G:H5" | 2.02 | 0.40 |
| 2:AA:586:A:N1 | 2:AA:1254:A:C2 | 2.88 | 0.40 |
| 2:AA:659:C:C2 | 2:AA:660:G:N7 | 2.90 | 0.40 |
| 2:AA:673:C:C4' | 6:AF:82:GLN:OE1 | 2.69 | 0.40 |
| 2:AA:716:A:H2' | 2:AA:717:G:O4' | 2.21 | 0.40 |
| 2:AA:775:G:N2 | 2:AA:787:U:O2' | 2.55 | 0.40 |
| 2:AA:777:A:H2' | 2:AA:778:G:O5' | 2.21 | 0.40 |
| 2:AA:826:U:H2' | 2:AA:828:U:C2 | 2.56 | 0.40 |
| 2:AA:835:A:C6 | 2:AA:836:G:C5 | 3.08 | 0.40 |
| 2:AA:860:U:C4 | 2:AA:917:A:N6 | 2.78 | 0.40 |
| 2:AA:911:A:H8 | 2:AA:2264:C:C1' | 2.22 | 0.40 |
| 2:AA:957:A:C8 | 2:AA:957:A:H5" | 2.56 | 0.40 |
| 2:AA:1019:U:P | 2:AA:1120:G:N2 | 2.95 | 0.40 |
| 2:AA:1056:G:H21 | 2:AA:1104:C:H42 | 1.69 | 0.40 |
| 2:AA:1057:A:C4 | 2:AA:1058:G:N7 | 2.90 | 0.40 |
| 2:AA:1058:G:C6 | 2:AA:1081:U:O2 | 2.75 | 0.40 |
| 2:AA:1072:C:OP2 | 2:AA:1073:A:OP1 | 2.38 | 0.40 |
| 2:AA:1082:U:O4' | 11:AL:118:ALA:HB2 | 2.21 | 0.40 |
| 2:AA:1140:C:N4 | 12:AM:49:ARG:NH1 | 2.69 | 0.40 |
| 2:AA:1186:G:C8 | 2:AA:1187:G:N7 | 2.89 | 0.40 |
| 2:AA:1197:G:C6 | 2:AA:1198:U:H5 | 2.30 | 0.40 |
| 2:AA:1265:A:O4' | 2:AA:1267:U:N3 | 2.54 | 0.40 |
| 2:AA:1364:G:C8 | 28:A4:3:LYS:HE2 | 2.56 | 0.40 |
| 2:AA:1387:C:O2 | 2:AA:1388:G:C8 | 2.75 | 0.40 |
| 2:AA:1450:C:C2 | 2:AA:1461:G:N2 | 2.77 | 0.40 |
| 2:AA:1472:A:C8 | 2:AA:1474:C:H5 | 2.40 | 0.40 |
| 2:AA:1545:A:H3' | 2:AA:545(A):A:C8 | 2.56 | 0.40 |
| 2:AA:1561:G:H2' | 2:AA:1562:A:O5' | 2.22 | 0.40 |
| 2:AA:1579:A:H2' | 2:AA:1580:A:C4' | 2.50 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1623:G:H2' | 2:AA:1624:G:H5' | 2.03 | 0.40 |
| 2:AA:1650:G:H2' | 2:AA:1651:G:O5' | 2.22 | 0.40 |
| 2:AA:1664:A:C8 | 2:AA:1664:A:OP2 | 2.74 | 0.40 |
| 2:AA:1672:C:N4 | 2:AA:1673:U:C4 | 2.89 | 0.40 |
| 2:AA:1673:U:O2' | 2:AA:1674:G:P | 2.79 | 0.40 |
| 2:AA:1702:G:O2' | 34:BA:1473:A:H1' | 2.22 | 0.40 |
| 2:AA:1754:C:O2 | 2:AA:1754:C:C2' | 2.67 | 0.40 |
| 2:AA:1768:U:C2 | 2:AA:1985:G:C2 | 3.09 | 0.40 |
| 2:AA:1831:G:C6 | 2:AA:1832:C:N4 | 2.89 | 0.40 |
| 2:AA:1914:C:N3 | 2:AA:1915:U:H5 | 2.18 | 0.40 |
| 2:AA:1918:A:O2' | 2:AA:1919:A:N7 | 2.53 | 0.40 |
| 2:AA:2004:G:C8 | 2:AA:2005:A:C8 | 3.09 | 0.40 |
| 2:AA:2042:A:H2' | 2:AA:2043:C:H5' | 2.02 | 0.40 |
| 2:AA:2056:G:C2 | 2:AA:2057:A:N9 | 2.89 | 0.40 |
| 2:AA:2177:C:H2' | 2:AA:2178:C:H6 | 1.81 | 0.40 |
| 2:AA:2190:G:C2 | 2:AA:2191:G:N7 | 2.89 | 0.40 |
| 2:AA:2210:G:H8 | 4:AD:149:ARG:HH22 | 1.68 | 0.40 |
| 2:AA:2215:G:N1 | 2:AA:2216:G:C6 | 2.89 | 0.40 |
| 2:AA:2256:G:O5' | 27:A3:5:LYS:NZ | 2.55 | 0.40 |
| 2:AA:2256:G:N2 | 2:AA:2257:U:H1' | 2.36 | 0.40 |
| 2:AA:2277:G:C6 | 2:AA:2278:A:C5 | 3.10 | 0.40 |
| 2:AA:2473:U:C4 | 2:AA:2474:C:C4 | 3.09 | 0.40 |
| 2:AA:2523:G:N1 | 2:AA:2541:A:C2 | 2.90 | 0.40 |
| 2:AA:2528:U:O2 | 2:AA:2536:G:C2 | 2.73 | 0.40 |
| 2:AA:2588:G:O6 | 2:AA:2589:A:C5 | 2.75 | 0.40 |
| 2:AA:2592:G:N2 | 2:AA:2603:G:C5 | 2.90 | 0.40 |
| 2:AA:2681:C:HO2' | 2:AA:2682:U:H6 | 1.67 | 0.40 |
| 2:AA:2743:C:O2' | 2:AA:2744:G:O5' | 2.38 | 0.40 |
| 2:AA:2746:U:O4' | 8:AH:142:GLU:OE2 | 2.38 | 0.40 |
| 2:AA:2792:G:C6 | 2:AA:2804:C:N4 | 2.88 | 0.40 |
| 2:AA:2807:G:C2' | 2:AA:2808:U:O5' | 2.68 | 0.40 |
| 2:AA:2814:C:H2' | 2:AA:2815:C:H6 | 1.84 | 0.40 |
| 2:AA:2818:G:C2 | 2:AA:2829:C:C4 | 3.09 | 0.40 |
| 2:AA:2853:C:H2' | 2:AA:2854:G:H8 | 1.87 | 0.40 |
| 3:AC:20:TYR:CD1 | 3:AC:222:VAL:HG13 | 2.57 | 0.40 |
| 3:AC:24:GLU:HG2 | 3:AC:25:ALA:N | 2.33 | 0.40 |
| 3:AC:29:VAL:HG21 | 3:AC:41:VAL:HG22 | 2.03 | 0.40 |
| 3:AC:77:ILE:CD1 | 3:AC:123:VAL:CG2 | 2.99 | 0.40 |
| 3:AC:164:ARG:O | 3:AC:164:ARG:HG3 | 2.21 | 0.40 |
| 3:AC:200:LYS:CB | 3:AC:208:PHE:CE1 | 3.03 | 0.40 |
| 4:AD:90:ILE:CD1 | 4:AD:105:ALA:HB2 | 2.48 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:AD:140:VAL:O | 4:AD:160:SER:OG | 2.39 | 0.40 |
| 4:AD:164:LEU:O | 4:AD:172:ILE:CG2 | 2.69 | 0.40 |
| 5:AE:80:ALA:N | 5:AE:185:GLY:O | 2.54 | 0.40 |
| 6:AF:68:ALA:C | 6:AF:69:HIS:ND1 | 2.75 | 0.40 |
| 8:AH:34:ARG:HH11 | 8:AH:70:LEU:HD22 | 1.85 | 0.40 |
| 8:AH:36:PHE:CE2 | 8:AH:71:LEU:CD2 | 3.04 | 0.40 |
| 8:AH:58:LYS:HA | 8:AH:61:ARG:NH1 | 2.36 | 0.40 |
| 9:AI:61:VAL:HG22 | 9:AI:115:LYS:CE | 2.51 | 0.40 |
| 9:AI:72:GLN:H | 9:AI:72:GLN:HG2 | 1.59 | 0.40 |
| 10:AK:43:ASN:O | 10:AK:44:LEU:C | 2.59 | 0.40 |
| 10:AK:69:LYS:HG2 | 10:AK:73:GLU:OE1 | 2.21 | 0.40 |
| 10:AK:78:THR:HA | 10:AK:144:HIS:CD2 | 2.55 | 0.40 |
| 10:AK:110:LEU:O | 10:AK:111:ASP:O | 2.40 | 0.40 |
| 12:AM:76:ASP:C | 12:AM:80:LYS:HG2 | 2.37 | 0.40 |
| 13:AN:15:GLY:HA3 | 13:AN:52:VAL:HG23 | 2.02 | 0.40 |
| 13:AN:17:ARG:NE | 13:AN:46:ALA:C | 2.74 | 0.40 |
| 13:AN:85:VAL:HG11 | 13:AN:93:PRO:HB3 | 2.02 | 0.40 |
| 13:AN:111:PHE:O | 13:AN:114:ILE:HB | 2.22 | 0.40 |
| 14:AO:52:LYS:HE2 | 14:AO:53:ARG:NH1 | 2.34 | 0.40 |
| 14:AO:113:GLN:CB | 14:AO:115:ARG:NH2 | 2.85 | 0.40 |
| 15:AP:17:ARG:N | 15:AP:17:ARG:CD | 2.84 | 0.40 |
| 15:AP:53:PRO:O | 15:AP:53:PRO:CG | 2.68 | 0.40 |
| 15:AP:116:HIS:CD2 | 15:AP:119:ASN:HB3 | 2.56 | 0.40 |
| 16:AQ:120:GLU:HA | 16:AQ:123:ILE:HG13 | 2.00 | 0.40 |
| 18:AS:19:LEU:C | 29:A5:25:LEU:CD1 | 2.90 | 0.40 |
| 18:AS:59:VAL:HA | 18:AS:63:ASP:CA | 2.47 | 0.40 |
| 18:AS:86:LEU:HD13 | 18:AS:87:PRO:HD3 | 2.02 | 0.40 |
| 19:AT:47:VAL:HG11 | 19:AT:69:SER:HB3 | 2.02 | 0.40 |
| 20:AU:41:ARG:HD3 | 20:AU:111:ARG:HG3 | 2.03 | 0.40 |
| 21:AV:66:VAL:HG21 | 21:AV:69:VAL:HG22 | 1.98 | 0.40 |
| 21:AV:125:PRO:N | 21:AV:159:THR:HG21 | 2.36 | 0.40 |
| 21:AV:132:GLN:O | 21:AV:133:GLU:OE2 | 2.40 | 0.40 |
| 22:AW:12:THR:O | 22:AW:16:ARG:HG3 | 2.21 | 0.40 |
| 24:A0:26:LYS:O | 24:A0:27:SER:C | 2.59 | 0.40 |
| 24:A0:47:PHE:O | 24:A0:48:VAL:C | 2.60 | 0.40 |
| 24:A0:59:ASP:HB2 | 24:A0:60:LEU:HD23 | 2.03 | 0.40 |
| 25:A1:92:ARG:CA | 25:A1:95:LEU:HG | 2.51 | 0.40 |
| 26:A2:68:LYS:HA | 26:A2:91:THR:HG22 | 2.03 | 0.40 |
| 27:A3:18:PRO:O | 27:A3:19:LYS:HB2 | 2.21 | 0.40 |
| 27:A3:28:GLY:CA | 27:A3:60:PHE:CB | 2.96 | 0.40 |
| 29:A5:56:GLN:O | 29:A5:57:VAL:CB | 2.69 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:43:C:C5' | 51:BS:12:LYS:HB3 | 2.43 | 0.40 |
| 34:BA:110:C:C2 | 34:BA:111:G:C1' | 3.04 | 0.40 |
| 34:BA:291:C:O2' | 34:BA:292:G:H5' | 2.21 | 0.40 |
| 34:BA:314:C:C2' | 34:BA:315:A:C1' | 2.98 | 0.40 |
| 34:BA:382:A:C2' | 34:BA:383:A:O5' | 2.69 | 0.40 |
| 34:BA:419:C:C2' | 34:BA:420:U:H5' | 2.49 | 0.40 |
| 34:BA:434:U:O2' | 34:BA:435:C:H5' | 2.21 | 0.40 |
| 34:BA:522:C:H3' | 34:BA:522:C:C6 | 2.56 | 0.40 |
| 34:BA:529:G:C5 | 47:BO:49:ASN:ND2 | 2.89 | 0.40 |
| 34:BA:538:G:O5' | 47:BO:115:LYS:HG2 | 2.21 | 0.40 |
| 34:BA:570:G:H2' | 34:BA:571:U:C5 | 2.56 | 0.40 |
| 34:BA:617:G:C6 | 34:BA:624:C:C4 | 3.10 | 0.40 |
| 34:BA:640:A:C2' | 34:BA:641:U:C5' | 2.84 | 0.40 |
| 34:BA:652:U:C4 | 34:BA:752:G:N3 | 2.89 | 0.40 |
| 34:BA:668:G:C2' | 50:BR:46:HIS:CE1 | 3.05 | 0.40 |
| 34:BA:675:A:H2' | 34:BA:676:A:O4' | 2.20 | 0.40 |
| 34:BA:784:C:H2' | 34:BA:785:G:O5' | 2.21 | 0.40 |
| 34:BA:816:A:O2' | 34:BA:817:C:OP2 | 2.34 | 0.40 |
| 34:BA:827:U:H2' | 34:BA:870:U:O4 | 2.21 | 0.40 |
| 34:BA:894:G:H2' | 34:BA:895:G:O4' | 2.22 | 0.40 |
| 34:BA:943:U:C2' | 34:BA:944:G:H5' | 2.49 | 0.40 |
| 34:BA:963:G:C6 | 34:BA:973:G:O6 | 2.74 | 0.40 |
| 34:BA:971:G:C2' | 34:BA:1365:G:O2' | 2.68 | 0.40 |
| 34:BA:1102:A:C6 | 34:BA:1103:C:C4 | 3.09 | 0.40 |
| 34:BA:1157:A:N9 | 34:BA:1181:G:C2 | 2.89 | 0.40 |
| 34:BA:1166:G:C2 | 34:BA:1168:A:P | 3.15 | 0.40 |
| 34:BA:1257:U:H2' | 34:BA:1258:G:OP2 | 2.22 | 0.40 |
| 34:BA:1269:A:C4 | 34:BA:1313:U:H1' | 2.56 | 0.40 |
| 34:BA:1319:A:H3' | 34:BA:1319:A:C8 | 2.56 | 0.40 |
| 34:BA:1352:C:C2 | 34:BA:1353:G:C5 | 3.10 | 0.40 |
| 34:BA:1413:A:N6 | 34:BA:1488:G:C6 | 2.89 | 0.40 |
| 34:BA:1429:C:H2' | 34:BA:1430:C:C6 | 2.56 | 0.40 |
| 34:BA:1462:G:C6 | 34:BA:1463:C:N4 | 2.89 | 0.40 |
| 34:BA:1474:G:C6 | 34:BA:1475:G:N7 | 2.90 | 0.40 |
| 34:BA:1503:A:O2' | 34:BA:1504:G:P | 2.77 | 0.40 |
| 34:BA:1516:G:C4 | 34:BA:1520:G:N2 | 2.89 | 0.40 |
| 35:BB:11:C:C2' | 35:BB:12:U:O5' | 2.70 | 0.40 |
| 35:BC:29:A:N6 | 35:BC:41:U:H3 | 2.19 | 0.40 |
| 37:BE:97:TRP:NE1 | 37:BE:102:LEU:HD11 | 2.34 | 0.40 |
| 38:BF:8:ILE:CG2 | 49:BQ:50:LYS:O | 2.68 | 0.40 |
| 38:BF:35:GLU:OE1 | 38:BF:95:THR:CG2 | 2.69 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BF:59:ARG:HB2 | 38:BF:59:ARG:HE | 1.56 | 0.40 |
| 38:BF:188:LEU:CD1 | 38:BF:190:ARG:HG2 | 2.51 | 0.40 |
| 39:BG:110:PHE:HZ | 39:BG:181:MET:O | 2.04 | 0.40 |
| 39:BG:153:ARG:HG3 | 39:BG:153:ARG:H | 1.54 | 0.40 |
| 39:BG:171:GLY:C | 39:BG:173:TRP:H | 2.24 | 0.40 |
| 40:BH:28:PHE:HE1 | 40:BH:49:PRO:C | 2.25 | 0.40 |
| 40:BH:48:ALA:HB1 | 40:BH:53:LEU:CB | 2.51 | 0.40 |
| 42:BJ:69:VAL:HB | 42:BJ:104:LEU:HD11 | 2.04 | 0.40 |
| 43:BK:1:MET:HG2 | 43:BK:2:LEU:N | 2.36 | 0.40 |
| 43:BK:20:TYR:HE1 | 43:BK:78:GLN:NE2 | 2.18 | 0.40 |
| 43:BK:22:GLU:HA | 43:BK:63:LEU:CG | 2.50 | 0.40 |
| 43:BK:87:SER:O | 43:BK:92:ARG:HD2 | 2.21 | 0.40 |
| 44:BL:22:GLY:N | 44:BL:59:PHE:HA | 2.36 | 0.40 |
| 44:BL:28:VAL:HG21 | 44:BL:32:ASP:C | 2.42 | 0.40 |
| 44:BL:48:GLU:OE1 | 44:BL:51:ARG:NE | 2.42 | 0.40 |
| 44:BL:54:ASP:O | 44:BL:55:ALA:HB2 | 2.20 | 0.40 |
| 44:BL:82:ALA:HB2 | 44:BL:101:PHE:CD2 | 2.56 | 0.40 |
| 45:BM:12:ASP:C | 45:BM:14:LYS:N | 2.75 | 0.40 |
| 46:BN:20:TYR:O | 46:BN:30:VAL:HA | 2.21 | 0.40 |
| 46:BN:81:ASP:OD1 | 46:BN:106:LYS:CB | 2.69 | 0.40 |
| 46:BN:110:ASP:CB | 53:BU:88:LYS:HG3 | 2.29 | 0.40 |
| 47:BO:75:HIS:CG | 47:BO:77:LEU:CD1 | 3.04 | 0.40 |
| 47:BO:117:ARG:CZ | 47:BO:124:LYS:HB2 | 2.51 | 0.40 |
| 48:BP:69:GLU:O | 48:BP:69:GLU:HG2 | 2.21 | 0.40 |
| 48:BP:91:ARG:O | 48:BP:96:LEU:HD23 | 2.21 | 0.40 |
| 48:BP:100:GLY:O | 48:BP:101:GLN:O | 2.39 | 0.40 |
| 52:BT:31:LEU:C | 52:BT:32:TYR:CD2 | 2.94 | 0.40 |
| 52:BT:84:LEU:O | 52:BT:85:VAL:C | 2.58 | 0.40 |
| 52:BT:101:ARG:HB2 | 52:BT:102:GLY:H | 1.73 | 0.40 |
| 54:BV:11:VAL:CG1 | 54:BV:16:LEU:HD13 | 2.51 | 0.40 |
| 55:BW:50:GLU:CB | 55:BW:99:LEU:HB2 | 2.50 | 0.40 |
| 1:AB:12:C:H5" | 27:A3:53:MET:SD | 2.62 | 0.40 |
| 1:AB:24:G:H4' | 1:AB:25:A:C8 | 2.56 | 0.40 |
| 1:AB:24:G:C2' | 1:AB:25:A:OP2 | 2.69 | 0.40 |
| 1:AB:28:C:OP2 | 16:AQ:42:HIS:NE2 | 2.54 | 0.40 |
| 1:AB:62:C:O2 | 1:AB:63:G:C8 | 2.75 | 0.40 |
| 1:AB:69:G:C2 | 1:AB:70:C:C5 | 3.09 | 0.40 |
| 1:AB:89:G:N2 | 1:AB:89(A):A:N1 | 2.70 | 0.40 |
| 2:AA:23:G:C2' | 2:AA:24:G:C5' | 2.84 | 0.40 |
| 2:AA:41:C:C2 | 2:AA:43:G:C8 | 3.09 | 0.40 |
| 2:AA:107:C:O3' | 2:AA:293:U:O2 | 2.39 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:131:G:N2 | 2:AA:132:G:C5 | 2.90 | 0.40 |
| 2:AA:252:G:H21 | 2:AA:253:C:H1' | 1.86 | 0.40 |
| 2:AA:270(M):U:O3' | 2:AA:270(N):G:C4' | 2.69 | 0.40 |
| 2:AA:273(D):C:C2' | 2:AA:273(E):U:C5' | 2.94 | 0.40 |
| 2:AA:279:C:C6 | 2:AA:279:C:C3' | 3.05 | 0.40 |
| 2:AA:306:U:C5 | 2:AA:307:G:C4 | 3.09 | 0.40 |
| 2:AA:398:G:N3 | 2:AA:399:G:H1' | 2.36 | 0.40 |
| 2:AA:461:C:N3 | 2:AA:468:G:C6 | 2.90 | 0.40 |
| 2:AA:552:G:HO2' | 2:AA:553:U:H5' | 1.81 | 0.40 |
| 2:AA:581:C:H2' | 2:AA:582:G:H8 | 1.82 | 0.40 |
| 2:AA:602:G:C4' | 2:AA:603:A:O2' | 2.67 | 0.40 |
| 2:AA:609:A:N1 | 2:AA:619:G:C2 | 2.90 | 0.40 |
| 2:AA:696:G:C4 | 2:AA:697:C:C5 | 3.09 | 0.40 |
| 2:AA:751:A:N1 | 2:AA:789:A:N6 | 2.70 | 0.40 |
| 2:AA:793:A:C2' | 2:AA:794:G:OP2 | 2.69 | 0.40 |
| 2:AA:850:C:H2' | 2:AA:850:C:O2 | 2.21 | 0.40 |
| 2:AA:858:U:C2' | 2:AA:2268:A:O2' | 2.70 | 0.40 |
| 2:AA:858:U:C3' | 2:AA:858:U:C6 | 3.05 | 0.40 |
| 2:AA:868:U:O2 | 2:AA:909:A:N1 | 2.54 | 0.40 |
| 2:AA:1063:G:H2' | 2:AA:1064:C:C5 | 2.56 | 0.40 |
| 2:AA:1087:G:O3' | 2:AA:1089:G:H5' | 2.21 | 0.40 |
| 2:AA:1097:U:C2 | 2:AA:1098:A:C8 | 3.09 | 0.40 |
| 2:AA:1143:A:N1 | 2:AA:1144:G:C5 | 2.89 | 0.40 |
| 2:AA:1160:G:N7 | 2:AA:1161:C:N4 | 2.70 | 0.40 |
| 2:AA:1180:C:O2' | 2:AA:1181:C:P | 2.80 | 0.40 |
| 2:AA:1180:C:C2 | 2:AA:1181:C:C5 | 3.09 | 0.40 |
| 2:AA:1202:C:H1' | 2:AA:1244:G:H22 | 1.84 | 0.40 |
| 2:AA:1309:G:HO2' | 2:AA:1310:G:H5' | 1.84 | 0.40 |
| 2:AA:1326:U:C6 | 2:AA:1326:U:OP2 | 2.73 | 0.40 |
| 2:AA:1370:C:C4 | 2:AA:1371:G:C8 | 3.09 | 0.40 |
| 2:AA:1407:C:C2' | 2:AA:1408:C:O5' | 2.69 | 0.40 |
| 2:AA:1499:C:O2' | 2:AA:1500:G:C5' | 2.70 | 0.40 |
| 2:AA:1560:G:C6 | 2:AA:1561:G:C4 | 3.09 | 0.40 |
| 2:AA:1566:A:C2 | 4:AD:212:HIS:CA | 3.04 | 0.40 |
| 2:AA:1582:C:N3 | 2:AA:1583:A:N3 | 2.68 | 0.40 |
| 2:AA:1615:C:H5 | 2:AA:1617:C:C4 | 2.39 | 0.40 |
| 2:AA:1764:G:C2' | 2:AA:1765:C:O5' | 2.70 | 0.40 |
| 2:AA:1779:U:O2 | 2:AA:1783:A:N6 | 2.55 | 0.40 |
| 2:AA:1825:A:N6 | 2:AA:1826:G:O6 | 2.54 | 0.40 |
| 2:AA:1854:A:H2' | 2:AA:1855:G:C5' | 2.42 | 0.40 |
| 2:AA:1889:A:C2 | 2:AA:2234:G:H1' | 2.56 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1904:G:H2' | 2:AA:1905:C:C5' | 2.51 | 0.40 |
| 2:AA:1950:G:C6 | 2:AA:1951:U:C5 | 2.97 | 0.40 |
| 2:AA:1995:U:H5 | 2:AA:1996:C:C5 | 2.31 | 0.40 |
| 2:AA:2074:U:O2' | 2:AA:2598:A:C1' | 2.69 | 0.40 |
| 2:AA:2075:U:N3 | 2:AA:2238:G:N1 | 2.70 | 0.40 |
| 2:AA:2090:G:H2' | 2:AA:2091:U:C5 | 2.56 | 0.40 |
| 2:AA:2093:G:O2' | 10:AK:29:PHE:CZ | 2.67 | 0.40 |
| 2:AA:2093:G:C8 | 2:AA:2225:A:C5 | 3.10 | 0.40 |
| 2:AA:2122:U:C2' | 2:AA:2123:G:C5' | 2.94 | 0.40 |
| 2:AA:2125:G:OP1 | 3:AC:108:MET:CE | 2.70 | 0.40 |
| 2:AA:2179:C:O5' | 2:AA:2179:C:H6 | 2.03 | 0.40 |
| 2:AA:2224:G:C8 | 2:AA:2224:G:C3' | 3.05 | 0.40 |
| 2:AA:2295:C:H2' | 2:AA:2296:U:H4' | 2.03 | 0.40 |
| 2:AA:2341:G:C6 | 2:AA:2342:C:N4 | 2.89 | 0.40 |
| 2:AA:2378:A:C2' | 16:AQ:26:LEU:HD21 | 2.51 | 0.40 |
| 2:AA:2415:G:C2 | 2:AA:2416:C:N1 | 2.89 | 0.40 |
| 2:AA:2449:U:O4' | 2:AA:2449:U:P | 2.76 | 0.40 |
| 2:AA:2466:C:O2 | 2:AA:2485:G:N3 | 2.54 | 0.40 |
| 2:AA:2472:G:C3' | 2:AA:2475:C:H42 | 2.30 | 0.40 |
| 2:AA:2507:C:C4 | 2:AA:2582:G:N2 | 2.84 | 0.40 |
| 2:AA:2556:C:HO2' | 2:AA:2557:G:H5' | 1.85 | 0.40 |
| 2:AA:2560:C:H42 | 2:AA:2561:A:N6 | 2.20 | 0.40 |
| 2:AA:2583:G:H8 | 2:AA:2583:G:O5' | 2.04 | 0.40 |
| 2:AA:2588:G:C3' | 2:AA:2589:A:H5' | 2.51 | 0.40 |
| 2:AA:2617:C:O2' | 5:AE:245:ARG:NH1 | 2.54 | 0.40 |
| 2:AA:2627:G:O2' | 2:AA:2781:A:N1 | 2.52 | 0.40 |
| 2:AA:2736:G:C6 | 2:AA:2737:G:C6 | 3.08 | 0.40 |
| 2:AA:2742:C:O2 | 2:AA:2742:C:C2' | 2.69 | 0.40 |
| 2:AA:2759:G:O2' | 2:AA:2760:C:H5' | 2.22 | 0.40 |
| 2:AA:2776:A:N7 | 2:AA:2782:G:C8 | 2.89 | 0.40 |
| 2:AA:2791:C:H5 | 2:AA:2807:G:N1 | 2.19 | 0.40 |
| 2:AA:2867:G:H4' | 2:AA:2868:A:O5' | 2.22 | 0.40 |
| 2:AA:2878:U:O2' | 2:AA:2879:C:P | 2.79 | 0.40 |
| 3:AC:19:ILE:CD1 | 3:AC:223:ARG:HG2 | 2.51 | 0.40 |
| 3:AC:104:LEU:HD22 | 3:AC:126:LYS:CE | 2.51 | 0.40 |
| 3:AC:149:ILE:HG23 | 3:AC:150:GLY:N | 2.35 | 0.40 |
| 3:AC:190:ARG:O | 3:AC:193:ILE:N | 2.54 | 0.40 |
| 4:AD:78:ALA:CB | 4:AD:94:ASN:HD21 | 2.32 | 0.40 |
| 4:AD:85:ASN:HB2 | 4:AD:86:ARG:CZ | 2.51 | 0.40 |
| 4:AD:202:LYS:O | 4:AD:204:PHE:CE1 | 2.74 | 0.40 |
| 5:AE:69:PRO:C | 5:AE:70:VAL:HG23 | 2.42 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AH:11:PRO:O | 8:AH:14:VAL:HB | 2.22 | 0.40 |
| 8:AH:12:ALA:C | 8:AH:14:VAL:N | 2.75 | 0.40 |
| 8:AH:37:HIS:C | 8:AH:40:MET:SD | 2.99 | 0.40 |
| 8:AH:88:LEU:CD1 | 8:AH:95:ALA:HB3 | 2.43 | 0.40 |
| 8:AH:158:GLY:O | 8:AH:159:LYS:HB3 | 2.19 | 0.40 |
| 9:AI:115:LYS:HZ1 | 9:AI:127:LEU:HD13 | 1.79 | 0.40 |
| 9:AJ:113:GLU:O | 9:AJ:116:LYS:HB2 | 2.20 | 0.40 |
| 10:AK:11:GLY:O | 10:AK:12:LYS:HB2 | 2.20 | 0.40 |
| 11:AL:38:PHE:HD2 | 11:AL:58:ILE:HG21 | 1.86 | 0.40 |
| 11:AL:112:LYS:O | 11:AL:114:PRO:CD | 2.70 | 0.40 |
| 12:AM:52:GLN:CG | 12:AM:55:GLU:OE2 | 2.68 | 0.40 |
| 12:AM:56:LYS:O | 12:AM:59:LYS:N | 2.55 | 0.40 |
| 13:AN:46:ALA:N | 13:AN:54:LYS:HE2 | 2.36 | 0.40 |
| 15:AP:28:ILE:CG2 | 15:AP:62:GLU:HG2 | 2.51 | 0.40 |
| 15:AP:45:GLN:OE1 | 15:AP:152:SER:HB3 | 2.20 | 0.40 |
| 15:AP:94:ARG:CD | 15:AP:106:GLY:HA2 | 2.52 | 0.40 |
| 15:AP:146:THR:O | 15:AP:147:VAL:O | 2.39 | 0.40 |
| 16:AQ:38:LYS:NZ | 16:AQ:114:LYS:CB | 2.84 | 0.40 |
| 16:AQ:46:GLN:CB | 16:AQ:57:THR:HG21 | 2.51 | 0.40 |
| 16:AQ:47:LEU:HD12 | 16:AQ:58:LEU:HD23 | 2.02 | 0.40 |
| 16:AQ:87:LEU:N | 16:AQ:87:LEU:HD22 | 2.36 | 0.40 |
| 16:AQ:114:LYS:O | 16:AQ:115:VAL:C | 2.60 | 0.40 |
| 18:AS:54:ALA:O | 18:AS:57:ASN:HB3 | 2.21 | 0.40 |
| 18:AS:88:ARG:CB | 18:AS:91:GLY:H | 2.35 | 0.40 |
| 19:AT:8:PRO:HA | 19:AT:26:PHE:HD2 | 1.87 | 0.40 |
| 19:AT:18:MET:CA | 19:AT:24:LEU:HA | 2.51 | 0.40 |
| 19:AT:57:THR:O | 19:AT:59:ASP:CG | 2.60 | 0.40 |
| 20:AU:15:PRO:C | 20:AU:18:GLU:H | 2.19 | 0.40 |
| 20:AU:50:VAL:O | 20:AU:57:GLY:N | 2.55 | 0.40 |
| 20:AU:74:VAL:HG12 | 20:AU:76:ASP:H | 1.87 | 0.40 |
| 20:AU:81:LYS:NZ | 20:AU:83:ASP:HB2 | 2.37 | 0.40 |
| 21:AV:51:LEU:HD11 | 21:AV:64:ALA:CA | 2.46 | 0.40 |
| 21:AV:72:ASP:OD2 | 21:AV:79:ILE:N | 2.51 | 0.40 |
| 21:AV:127:PRO:C | 21:AV:129:ARG:N | 2.73 | 0.40 |
| 22:AW:60:GLN:OE1 | 22:AW:61:GLY:N | 2.54 | 0.40 |
| 23:AX:4:LEU:O | 23:AX:36:VAL:HA | 2.22 | 0.40 |
| 24:A0:73:VAL:HG12 | 24:A0:77:ARG:HD3 | 2.01 | 0.40 |
| 24:A0:111:LEU:H | 24:A0:111:LEU:HG | 1.65 | 0.40 |
| 25:A1:114:ARG:O | 25:A1:117:ARG:HD2 | 2.21 | 0.40 |
| 26:A2:11:GLN:HB3 | 26:A2:21:ARG:CZ | 2.51 | 0.40 |
| 26:A2:88:GLN:O | 26:A2:89:ASN:OD1 | 2.38 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 27:A3:65:GLY:C | 27:A3:66:LYS:CE | 2.90 | 0.40 |
| 28:A4:18:GLY:C | 28:A4:19:GLN:NE2 | 2.75 | 0.40 |
| 28:A4:21:VAL:O | 28:A4:22:MET:HB2 | 2.20 | 0.40 |
| 28:A4:23:GLU:HB2 | 28:A4:24:THR:H | 1.57 | 0.40 |
| 28:A4:57:ASP:O | 28:A4:58:LYS:C | 2.60 | 0.40 |
| 29:A5:46:CYS:C | 29:A5:48:ASN:N | 2.74 | 0.40 |
| 31:A7:20:ALA:HA | 31:A7:23:LYS:HE3 | 2.04 | 0.40 |
| 31:A7:28:ARG:C | 31:A7:31:LEU:HG | 2.41 | 0.40 |
| 32:A8:26:LYS:CD | 32:A8:43:GLY:C | 2.75 | 0.40 |
| 34:BA:27:G:C8 | 34:BA:27:G:OP2 | 2.74 | 0.40 |
| 34:BA:39:G:N7 | 34:BA:547:A:H8 | 2.19 | 0.40 |
| 34:BA:58:C:C2 | 34:BA:59:A:C8 | 3.09 | 0.40 |
| 34:BA:59:A:O2' | 34:BA:388:G:H5' | 2.22 | 0.40 |
| 34:BA:66:G:O2' | 34:BA:67:C:H5' | 2.22 | 0.40 |
| 34:BA:132:C:H2' | 34:BA:133:U:C6 | 2.57 | 0.40 |
| 34:BA:142:G:C6 | 34:BA:222:U:C4 | 3.09 | 0.40 |
| 34:BA:223:U:C2 | 34:BA:224:C:C5 | 3.09 | 0.40 |
| 34:BA:255:G:P | 52:BT:69:LYS:NZ | 2.95 | 0.40 |
| 34:BA:285:G:N1 | 34:BA:286:G:C5 | 2.89 | 0.40 |
| 34:BA:321:A:N7 | 34:BA:328:C:C4 | 2.90 | 0.40 |
| 34:BA:392:G:C2 | 34:BA:393:A:N9 | 2.89 | 0.40 |
| 34:BA:409:G:C4 | 34:BA:410:G:N7 | 2.89 | 0.40 |
| 34:BA:446:G:O2' | 34:BA:447:G:H5' | 2.21 | 0.40 |
| 34:BA:523:A:H8 | 34:BA:523:A:C5' | 2.34 | 0.40 |
| 34:BA:560:U:C6 | 34:BA:566:G:N3 | 2.90 | 0.40 |
| 34:BA:601:C:N3 | 34:BA:637:G:O6 | 2.55 | 0.40 |
| 34:BA:609:A:O2' | 34:BA:610:G:H5' | 2.21 | 0.40 |
| 34:BA:660:G:O2' | 34:BA:661:G:O4' | 2.32 | 0.40 |
| 34:BA:696:A:H2' | 34:BA:697:U:O5' | 2.21 | 0.40 |
| 34:BA:729:A:C2 | 34:BA:730:G:C4 | 3.09 | 0.40 |
| 34:BA:750:G:C2 | 50:BR:23:GLY:O | 2.74 | 0.40 |
| 34:BA:771:G:N1 | 34:BA:808:C:O2 | 2.44 | 0.40 |
| 34:BA:773:G:N1 | 34:BA:774:G:N7 | 2.69 | 0.40 |
| 34:BA:791:G:H21 | 34:BA:1497:G:C5' | 2.34 | 0.40 |
| 34:BA:794:A:C2 | 34:BA:795:C:C4 | 3.09 | 0.40 |
| 34:BA:962:C:H2' | 34:BA:963:G:C5' | 2.52 | 0.40 |
| 34:BA:1003:G:N2 | 34:BA:3(A):G:C5 | 2.90 | 0.40 |
| 34:BA:1087:G:H1 | 34:BA:1098:C:H42 | 1.70 | 0.40 |
| 34:BA:1175:G:C2 | 34:BA:1176:A:C5 | 3.10 | 0.40 |
| 34:BA:1178:G:OP2 | 34:BA:1178:G:C8 | 2.74 | 0.40 |
| 34:BA:1232:U:P | 44:BL:126:SER:HB3 | 2.61 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1244:C:N3 | 34:BA:1293:G:N2 | 2.47 | 0.40 |
| 34:BA:1270:C:O3' | 34:BA:1314:C:H5' | 2.21 | 0.40 |
| 34:BA:1319:A:OP1 | 54:BV:70:LYS:HE2 | 2.21 | 0.40 |
| 34:BA:1381:U:C2' | 34:BA:1382:C:O5' | 2.61 | 0.40 |
| 34:BA:1384:C:C2 | 34:BA:1385:G:C8 | 3.10 | 0.40 |
| 35:BB:6:U:N3 | 35:BB:7:U:C6 | 2.90 | 0.40 |
| 35:BB:29:A:C6 | 35:BB:42:G:N1 | 2.89 | 0.40 |
| 36:B1:20:A:C2 | 36:B1:35:C:C2 | 3.10 | 0.40 |
| 37:BE:84:GLU:OE2 | 37:BE:87:ARG:NH2 | 2.54 | 0.40 |
| 37:BE:135:GLN:CA | 37:BE:139:LYS:HE3 | 2.50 | 0.40 |
| 38:BF:30:ARG:HD3 | 49:BQ:36:PHE:O | 2.21 | 0.40 |
| 38:BF:60:ALA:O | 38:BF:61:ALA:HB2 | 2.21 | 0.40 |
| 38:BF:157:ILE:HD12 | 38:BF:164:ARG:CD | 2.50 | 0.40 |
| 39:BG:16:GLY:O | 39:BG:17:VAL:C | 2.59 | 0.40 |
| 39:BG:42:GLN:O | 39:BG:43:HIS:ND1 | 2.54 | 0.40 |
| 39:BG:53:ASP:OD1 | 39:BG:53:ASP:N | 2.38 | 0.40 |
| 39:BG:79:PHE:C | 39:BG:79:PHE:CD1 | 2.92 | 0.40 |
| 39:BG:172:PRO:CG | 39:BG:193:ASP:HB2 | 2.51 | 0.40 |
| 39:BG:177:ASP:OD2 | 39:BG:179:GLU:CG | 2.70 | 0.40 |
| 42:BJ:106:GLN:HE21 | 42:BJ:106:GLN:HB2 | 1.50 | 0.40 |
| 43:BK:28:ALA:HB2 | 43:BK:57:PRO:C | 2.42 | 0.40 |
| 43:BK:31:PHE:CD2 | 43:BK:32:LYS:N | 2.89 | 0.40 |
| 43:BK:63:LEU:H | 43:BK:63:LEU:HD22 | 1.86 | 0.40 |
| 44:BL:38:GLN:C | 44:BL:40:LEU:HG | 2.35 | 0.40 |
| 45:BM:46:ARG:HD3 | 45:BM:64:GLU:CB | 2.49 | 0.40 |
| 46:BN:45:GLY:HA3 | 46:BN:55:LYS:HD2 | 2.03 | 0.40 |
| 46:BN:50:TYR:O | 46:BN:55:LYS:HG3 | 2.22 | 0.40 |
| 46:BN:70:LYS:O | 46:BN:73:MET:HB2 | 2.20 | 0.40 |
| 47:BO:78:GLN:HB2 | 47:BO:81:SER:OG | 2.20 | 0.40 |
| 47:BO:127:GLU:O | 47:BO:127:GLU:CD | 2.60 | 0.40 |
| 48:BP:14:ARG:CD | 48:BP:41:PRO:O | 2.66 | 0.40 |
| 49:BQ:17:LYS:CG | 49:BQ:18:VAL:N | 2.76 | 0.40 |
| 51:BS:39:TYR:CZ | 51:BS:41:PRO:CG | 2.83 | 0.40 |
| 52:BT:9:VAL:CG1 | 52:BT:84:LEU:HD12 | 2.45 | 0.40 |
| 52:BT:10:VAL:HG23 | 52:BT:55:ASP:HB2 | 2.02 | 0.40 |
| 52:BT:17:LYS:HA | 52:BT:17:LYS:HE2 | 2.03 | 0.40 |
| 52:BT:95:TYR:C | 52:BT:97:SER:H | 2.25 | 0.40 |
| 53:BU:63:GLN:O | 53:BU:66:LEU:CD1 | 2.69 | 0.40 |
| 55:BW:63:ILE:HG12 | 55:BW:72:LEU:CD1 | 2.50 | 0.40 |
| 1:AB:2:C:C2 | 1:AB:3:C:C5 | 3.09 | 0.40 |
| 1:AB:7:G:C6 | 1:AB:114:G:C6 | 3.10 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:13:A:C2 | 1:AB:69:G:N2 | 2.68 | 0.40 |
| 1:AB:75:G:O6 | 1:AB:76:G:C2 | 2.75 | 0.40 |
| 2:AA:10:G:N2 | 2:AA:11:G:C4 | 2.89 | 0.40 |
| 2:AA:31:C:O2 | 2:AA:31:C:H2' | 2.21 | 0.40 |
| 2:AA:35:G:N9 | 2:AA:454:A:N3 | 2.69 | 0.40 |
| 2:AA:116:C:H1' | 2:AA:127:A:H1' | 2.04 | 0.40 |
| 2:AA:202:U:C3' | 2:AA:202:U:C6 | 3.04 | 0.40 |
| 2:AA:207:A:N1 | 2:AA:208:C:C2 | 2.89 | 0.40 |
| 2:AA:215:G:H4' | 2:AA:216:A:C4' | 2.52 | 0.40 |
| 2:AA:270(J):G:C2 | 2:AA:270(K):C:H1' | 2.55 | 0.40 |
| 2:AA:271(C):U:C4' | 2:AA:271:G:H5' | 2.51 | 0.40 |
| 2:AA:285:C:N3 | 2:AA:356:G:N1 | 2.69 | 0.40 |
| 2:AA:363(B):G:H2' | 2:AA:363(C):G:O4' | 2.22 | 0.40 |
| 2:AA:389:G:C8 | 2:AA:2413:G:H4' | 2.56 | 0.40 |
| 2:AA:424:G:N2 | 2:AA:425:G:C1' | 2.84 | 0.40 |
| 2:AA:466:A:H2' | 2:AA:467:G:C4' | 2.51 | 0.40 |
| 2:AA:476:G:N2 | 2:AA:478:A:H3' | 2.36 | 0.40 |
| 2:AA:627:A:H2 | 2:AA:638:G:N2 | 2.16 | 0.40 |
| 2:AA:671:C:C4 | 2:AA:809:G:N1 | 2.81 | 0.40 |
| 2:AA:687:C:C2' | 2:AA:688:U:O4' | 2.69 | 0.40 |
| 2:AA:699:A:C8 | 2:AA:700:G:C8 | 3.09 | 0.40 |
| 2:AA:735:A:N7 | 2:AA:736:C:C6 | 2.90 | 0.40 |
| 2:AA:800:A:C8 | 2:AA:802:A:H5' | 2.57 | 0.40 |
| 2:AA:806:C:C6 | 2:AA:806:C:P | 3.15 | 0.40 |
| 2:AA:824:A:N1 | 2:AA:834:C:N3 | 2.70 | 0.40 |
| 2:AA:826:U:OP1 | 2:AA:2428:G:H3' | 2.20 | 0.40 |
| 2:AA:872:A:O3' | 15:AP:31:PHE:HB2 | 2.20 | 0.40 |
| 2:AA:894:C:H3' | 2:AA:895:U:H5 | 1.86 | 0.40 |
| 2:AA:962:G:H4' | 2:AA:2496:C:O2' | 2.21 | 0.40 |
| 2:AA:1024:G:C2 | 2:AA:1139:G:C2 | 3.08 | 0.40 |
| 2:AA:1091:G:C2 | 2:AA:1101:U:N3 | 2.89 | 0.40 |
| 2:AA:1138:G:OP1 | 12:AM:82:THR:CG2 | 2.59 | 0.40 |
| 2:AA:1152:C:OP1 | 25:A1:84:LYS:HD2 | 2.22 | 0.40 |
| 2:AA:1168:G:H2' | 2:AA:1169:G:C4' | 2.50 | 0.40 |
| 2:AA:1181:C:H2' | 2:AA:1182:A:C8 | 2.53 | 0.40 |
| 2:AA:1261:C:C2 | 2:AA:1262:A:C8 | 3.10 | 0.40 |
| 2:AA:1265:A:C8 | 2:AA:1267:U:C4 | 3.10 | 0.40 |
| 2:AA:1283:G:N2 | 2:AA:1285:G:C3' | 2.84 | 0.40 |
| 2:AA:1342:A:O4' | 2:AA:1397:U:O2' | 2.39 | 0.40 |
| 2:AA:1364:G:C5' | 2:AA:1364:G:C8 | 2.99 | 0.40 |
| 2:AA:1364:G:C4' | 2:AA:1809:A:N7 | 2.83 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1471:A:C5 | 2:AA:1472:A:N3 | 2.89 | 0.40 |
| 2:AA:1560:G:C5 | 2:AA:1561:G:C5 | 3.10 | 0.40 |
| 2:AA:1569:A:C2 | 2:AA:1570:A:C4 | 3.10 | 0.40 |
| 2:AA:1649:G:N2 | 24:A0:107:ASP:HA | 2.36 | 0.40 |
| 2:AA:1661:G:C2' | 2:AA:1662:C:O5' | 2.70 | 0.40 |
| 2:AA:1673:U:O2' | 2:AA:1674:G:C5' | 2.70 | 0.40 |
| 2:AA:1684:C:H2' | 2:AA:1685:C:C5 | 2.57 | 0.40 |
| 2:AA:1693:U:H4' | 2:AA:1694:C:OP2 | 2.22 | 0.40 |
| 2:AA:1717:G:C8 | 2:AA:1743:G:N1 | 2.90 | 0.40 |
| 2:AA:1765:C:H2' | 2:AA:1766:U:C6 | 2.52 | 0.40 |
| 2:AA:1793:C:N3 | 2:AA:1794:U:C5 | 2.90 | 0.40 |
| 2:AA:1812:A:C2 | 2:AA:1813:G:C1' | 3.05 | 0.40 |
| 2:AA:1818:U:O2 | 2:AA:1818:U:C2' | 2.67 | 0.40 |
| 2:AA:1845:G:H2' | 2:AA:1846:G:C5' | 2.52 | 0.40 |
| 2:AA:1861:G:H5' | 3:AC:205:LYS:NZ | 2.36 | 0.40 |
| 2:AA:1878:G:O2' | 2:AA:1879:C:C5' | 2.63 | 0.40 |
| 2:AA:1930:G:H3' | 2:AA:1930:G:H8 | 1.87 | 0.40 |
| 2:AA:2082:A:N6 | 2:AA:2239:G:O6 | 2.55 | 0.40 |
| 2:AA:2097:C:C5 | 2:AA:2193:G:N1 | 2.90 | 0.40 |
| 2:AA:2111:C:H5 | 2:AA:2120:G:C4' | 2.34 | 0.40 |
| 2:AA:2135:A:N6 | 2:AA:2150:U:H2' | 2.37 | 0.40 |
| 2:AA:2135:A:O2' | 2:AA:2154:G:O6 | 2.36 | 0.40 |
| 2:AA:2139:C:O2 | 2:AA:2139:C:C2' | 2.68 | 0.40 |
| 2:AA:2383:G:H2' | 2:AA:2384:G:C8 | 2.57 | 0.40 |
| 2:AA:2397:G:H22 | 2:AA:2420:C:C1' | 2.30 | 0.40 |
| 2:AA:2495:G:O5' | 2:AA:2495:G:H8 | 2.04 | 0.40 |
| 2:AA:2603:G:C4 | 2:AA:2604:U:C6 | 3.10 | 0.40 |
| 2:AA:2653:U:N3 | 2:AA:2654:A:C6 | 2.90 | 0.40 |
| 2:AA:2696:U:O2' | 2:AA:2697:G:C5' | 2.70 | 0.40 |
| 2:AA:2725:A:O2' | 2:AA:2726:U:O5' | 2.32 | 0.40 |
| 2:AA:2779:U:H4' | 2:AA:2781:A:N7 | 2.33 | 0.40 |
| 2:AA:2786:U:H2' | 2:AA:2787:C:O4' | 2.22 | 0.40 |
| 2:AA:2817:G:C5 | 2:AA:2818:G:C8 | 3.10 | 0.40 |
| 3:AC:61:THR:CG2 | 3:AC:162:GLU:HG2 | 2.52 | 0.40 |
| 3:AC:133:PRO:HG2 | 3:AC:134:ARG:HH11 | 1.86 | 0.40 |
| 3:AC:171:ILE:HG21 | 3:AC:196:LEU:CD2 | 2.52 | 0.40 |
| 3:AC:177:LYS:HB2 | 3:AC:180:PHE:HB2 | 2.02 | 0.40 |
| 3:AC:194:ARG:HG3 | 3:AC:194:ARG:NH1 | 2.36 | 0.40 |
| 4:AD:141:HIS:C | 4:AD:143:ILE:H | 2.12 | 0.40 |
| 4:AD:205:VAL:HG23 | 4:AD:206:LYS:HG3 | 2.04 | 0.40 |
| 4:AD:208:GLY:C | 4:AD:210:LYS:N | 2.75 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AE:69:PRO:O | 5:AE:70:VAL:CG2 | 2.66 | 0.40 |
| 5:AE:211:GLN:HG3 | 5:AE:215:LYS:HE2 | 2.03 | 0.40 |
| 5:AE:299:SER:O | 5:AE:300:VAL:C | 2.59 | 0.40 |
| 6:AF:56:THR:O | 6:AF:79:ARG:HG3 | 2.22 | 0.40 |
| 6:AF:59:GLU:HB2 | 6:AF:61:PHE:HE2 | 1.80 | 0.40 |
| 6:AF:80:VAL:O | 6:AF:87:ARG:HG2 | 2.22 | 0.40 |
| 6:AF:142:ASP:H | 6:AF:237:GLU:CD | 2.25 | 0.40 |
| 6:AF:193:LEU:CA | 6:AF:233:THR:HB | 2.51 | 0.40 |
| 6:AF:223:LEU:C | 6:AF:225:PRO:CD | 2.89 | 0.40 |
| 7:AG:56:ARG:CD | 35:BC:56:C:H1' | 2.52 | 0.40 |
| 8:AH:7:PRO:HD2 | 8:AH:68:ARG:HD3 | 2.03 | 0.40 |
| 8:AH:8:ILE:O | 8:AH:49:ILE:CD1 | 2.63 | 0.40 |
| 8:AH:88:LEU:HD13 | 8:AH:127:GLN:O | 2.22 | 0.40 |
| 8:AH:102:LEU:HD12 | 8:AH:104:LEU:CD2 | 2.51 | 0.40 |
| 9:AI:42:ALA:CB | 9:AJ:42:ALA:HB2 | 2.46 | 0.40 |
| 9:AI:81:THR:OG1 | 9:AI:83:LEU:HG | 2.22 | 0.40 |
| 9:AI:101:VAL:CG1 | 9:AI:104:SER:HB3 | 2.50 | 0.40 |
| 9:AI:113:GLU:O | 9:AI:116:LYS:HB2 | 2.21 | 0.40 |
| 9:AJ:62:VAL:HG13 | 9:AJ:100:ALA:HB3 | 2.04 | 0.40 |
| 9:AJ:86:LYS:NZ | 11:AL:10:LYS:CD | 2.82 | 0.40 |
| 10:AK:113:ARG:O | 10:AK:114:LYS:O | 2.39 | 0.40 |
| 11:AL:116:LEU:HD11 | 11:AL:124:ALA:HA | 2.02 | 0.40 |
| 13:AN:78:ARG:HD3 | 17:AR:21:PHE:HE1 | 1.87 | 0.40 |
| 14:AO:120:LEU:HG | 14:AO:122:ALA:CB | 2.52 | 0.40 |
| 15:AP:142:LYS:CG | 15:AP:143:VAL:H | 2.20 | 0.40 |
| 16:AQ:20:TYR:CG | 16:AQ:21:HIS:N | 2.89 | 0.40 |
| 16:AQ:23:ARG:HG3 | 16:AQ:33:ARG:CZ | 2.52 | 0.40 |
| 16:AQ:83:LEU:H | 16:AQ:83:LEU:HD12 | 1.86 | 0.40 |
| 18:AS:24:ILE:O | 18:AS:25:ARG:O | 2.40 | 0.40 |
| 20:AU:20:HIS:C | 20:AU:22:GLN:N | 2.72 | 0.40 |
| 20:AU:51:LEU:HD22 | 20:AU:51:LEU:C | 2.42 | 0.40 |
| 21:AV:62:PHE:C | 21:AV:85:MET:SD | 3.00 | 0.40 |
| 21:AV:92:VAL:O | 21:AV:124:ALA:CB | 2.67 | 0.40 |
| 21:AV:94:VAL:O | 21:AV:122:ILE:HA | 2.21 | 0.40 |
| 22:AW:8:ILE:O | 22:AW:11:MET:N | 2.54 | 0.40 |
| 23:AX:58:VAL:O | 23:AX:59:VAL:HG22 | 2.22 | 0.40 |
| 24:A0:14:SER:O | 24:A0:15:SER:C | 2.59 | 0.40 |
| 24:A0:52:ILE:CG2 | 24:A0:94:TYR:CD1 | 3.04 | 0.40 |
| 25:A1:16:LYS:O | 25:A1:17:VAL:C | 2.60 | 0.40 |
| 25:A1:36:PHE:O | 25:A1:39:LEU:CB | 2.70 | 0.40 |
| 25:A1:42:ALA:O | 25:A1:45:TYR:CB | 2.64 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:44:THR:HG1 | 26:A2:77:GLY:C | 2.21 | 0.40 |
| 26:A2:49:GLU:N | 26:A2:49:GLU:OE1 | 2.55 | 0.40 |
| 26:A2:78:VAL:O | 26:A2:79:GLN:C | 2.60 | 0.40 |
| 28:A4:10:VAL:N | 28:A4:11:PRO:CD | 2.85 | 0.40 |
| 29:A5:31:THR:CG2 | 29:A5:42:SER:HA | 2.47 | 0.40 |
| 30:A6:48:VAL:O | 30:A6:50:PHE:HE1 | 2.04 | 0.40 |
| 31:A7:30:ILE:CB | 31:A7:33:ARG:HD2 | 2.51 | 0.40 |
| 32:A8:15:LYS:CA | 32:A8:16:ILE:HD12 | 2.51 | 0.40 |
| 34:BA:5:U:O4 | 39:BG:86:LYS:HD3 | 2.21 | 0.40 |
| 34:BA:40:C:N4 | 34:BA:403:C:N4 | 2.69 | 0.40 |
| 34:BA:109:A:N7 | 34:BA:326:G:C2 | 2.89 | 0.40 |
| 34:BA:129(A):G:O2' | 34:BA:130:A:P | 2.79 | 0.40 |
| 34:BA:129(A):G:C8 | 34:BA:190(E):U:OP1 | 2.74 | 0.40 |
| 34:BA:150:C:O2 | 34:BA:151:A:C8 | 2.75 | 0.40 |
| 34:BA:192:U:O2 | 34:BA:193:C:C5 | 2.74 | 0.40 |
| 34:BA:246:A:C6 | 34:BA:279:A:C4 | 3.10 | 0.40 |
| 34:BA:253:U:N3 | 34:BA:274:A:C2 | 2.89 | 0.40 |
| 34:BA:263:A:H2' | 34:BA:264:U:C5' | 2.51 | 0.40 |
| 34:BA:339:C:O2' | 34:BA:340:U:C5' | 2.68 | 0.40 |
| 34:BA:377:G:H2' | 34:BA:378:G:N7 | 2.37 | 0.40 |
| 34:BA:377:G:C6 | 34:BA:378:G:O6 | 2.74 | 0.40 |
| 34:BA:404:U:O2 | 34:BA:498:U:O4 | 2.40 | 0.40 |
| 34:BA:455:C:O2 | 34:BA:455:C:C2' | 2.70 | 0.40 |
| 34:BA:455:C:C2 | 34:BA:478:A:C2 | 3.10 | 0.40 |
| 34:BA:560:U:N3 | 34:BA:566:G:O4' | 2.55 | 0.40 |
| 34:BA:579:G:C2 | 34:BA:580:U:C6 | 3.10 | 0.40 |
| 34:BA:582:U:N3 | 34:BA:583:A:C8 | 2.89 | 0.40 |
| 34:BA:622:A:H3' | 34:BA:623:C:H5 | 1.86 | 0.40 |
| 34:BA:628:G:O2' | 34:BA:629:G:O4' | 2.33 | 0.40 |
| 34:BA:657:G:C4' | 50:BR:28:GLN:OE1 | 2.69 | 0.40 |
| 34:BA:717:C:O2' | 34:BA:718:G:P | 2.79 | 0.40 |
| 34:BA:754:C:H3' | 34:BA:754:C:O2 | 2.22 | 0.40 |
| 34:BA:921:U:O2 | 34:BA:921:U:C2' | 2.69 | 0.40 |
| 34:BA:945:G:N1 | 34:BA:1337:G:C6 | 2.90 | 0.40 |
| 34:BA:959:A:H1' | 34:BA:985:C:O4' | 2.20 | 0.40 |
| 34:BA:988:G:C4 | 34:BA:989:C:C6 | 3.09 | 0.40 |
| 34:BA:1012:U:N3 | 34:BA:1013:G:C6 | 2.90 | 0.40 |
| 34:BA:1058:G:H2' | 34:BA:1059:C:H6 | 1.86 | 0.40 |
| 34:BA:1079:G:O2' | 40:BH:14:ARG:NH2 | 2.52 | 0.40 |
| 34:BA:1090:U:O2' | 34:BA:1091:U:O4' | 2.34 | 0.40 |
| 34:BA:1099:G:H2' | 34:BA:1100:C:O5' | 2.22 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1206:G:C5 | 34:BA:1207:G:C5 | 3.10 | 0.40 |
| 34:BA:1210:C:C5 | 34:BA:1211:U:C4 | 3.09 | 0.40 |
| 34:BA:1263:C:C4 | 34:BA:1264:C:N4 | 2.89 | 0.40 |
| 34:BA:1308:U:H3' | 48:BP:99:ARG:CZ | 2.38 | 0.40 |
| 34:BA:1326:C:H5" | 56:BX:19:GLY:HA3 | 2.02 | 0.40 |
| 34:BA:1329:A:N1 | 34:BA:1330:U:C2 | 2.90 | 0.40 |
| 34:BA:1367:C:OP2 | 44:BL:117:HIS:ND1 | 2.55 | 0.40 |
| 34:BA:1376:U:C6 | 34:BA:1376:U:O5' | 2.74 | 0.40 |
| 34:BA:1410:G:C6 | 34:BA:1411:C:N4 | 2.90 | 0.40 |
| 34:BA:1428:A:C6 | 34:BA:1429:C:C4 | 3.10 | 0.40 |
| 34:BA:1508:G:H2' | 34:BA:1509:C:H6 | 1.87 | 0.40 |
| 34:BA:1517:G:N1 | 34:BA:1518:A:C4 | 2.89 | 0.40 |
| 34:BA:1531:A:OP2 | 34:BA:1531:A:O4' | 2.39 | 0.40 |
| 35:BB:34:G:N1 | 35:BB:35:A:C6 | 2.89 | 0.40 |
| 35:BB:55:U:O2 | 35:BB:57:G:N7 | 2.54 | 0.40 |
| 37:BE:99:GLY:C | 37:BE:101:MET:H | 2.25 | 0.40 |
| 37:BE:127:ILE:HG22 | 37:BE:128:GLU:H | 1.85 | 0.40 |
| 38:BF:13:GLY:C | 38:BF:14:ILE:CG1 | 2.88 | 0.40 |
| 38:BF:121:ALA:HB2 | 38:BF:198:VAL:HG21 | 2.02 | 0.40 |
| 39:BG:50:ARG:HD3 | 39:BG:51:PRO:N | 2.36 | 0.40 |
| 39:BG:190:ASP:C | 39:BG:194:LEU:HD23 | 2.41 | 0.40 |
| 40:BH:39:GLY:HA2 | 40:BH:69:VAL:HG23 | 2.04 | 0.40 |
| 40:BH:43:LEU:HB2 | 40:BH:136:MET:SD | 2.62 | 0.40 |
| 40:BH:102:ALA:CB | 40:BH:120:THR:O | 2.69 | 0.40 |
| 42:BJ:28:ASN:O | 42:BJ:31:MET:HB3 | 2.22 | 0.40 |
| 42:BJ:29:LYS:NZ | 42:BJ:102:ARG:NH2 | 2.69 | 0.40 |
| 44:BL:19:LEU:HD23 | 44:BL:60:ASP:O | 2.20 | 0.40 |
| 44:BL:23:ASN:O | 44:BL:59:PHE:O | 2.39 | 0.40 |
| 44:BL:47:LEU:HD12 | 44:BL:51:ARG:NH1 | 2.37 | 0.40 |
| 44:BL:52:ALA:O | 44:BL:95:LYS:HE3 | 2.21 | 0.40 |
| 44:BL:82:ALA:HB2 | 44:BL:101:PHE:CE2 | 2.56 | 0.40 |
| 45:BM:3:LYS:CG | 45:BM:75:ILE:HG23 | 2.51 | 0.40 |
| 45:BM:49:VAL:HG13 | 49:BQ:41:ARG:HB2 | 2.03 | 0.40 |
| 46:BN:24:SER:O | 46:BN:88:GLY:HA2 | 2.22 | 0.40 |
| 46:BN:78:GLN:O | 46:BN:104:GLN:HB3 | 2.22 | 0.40 |
| 46:BN:79:SER:HA | 46:BN:104:GLN:CG | 2.49 | 0.40 |
| 47:BO:85:ILE:CG1 | 47:BO:98:TYR:HB3 | 2.47 | 0.40 |
| 48:BP:8:GLU:C | 48:BP:10:PRO:CD | 2.90 | 0.40 |
| 49:BQ:26:ARG:HG2 | 49:BQ:27:CYS:N | 2.36 | 0.40 |
| 50:BR:39:LEU:HD13 | 50:BR:56:LEU:CD1 | 2.49 | 0.40 |
| 52:BT:7:THR:CG2 | 52:BT:56:VAL:HG12 | 2.51 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:BT:60:ILE:CD1 | 52:BT:62:SER:CB | 3.00 | 0.40 |
| 53:BU:26:LEU:HD21 | 53:BU:29:PHE:CE1 | 2.57 | 0.40 |
| 53:BU:34:TYR:HE1 | 53:BU:35:ARG:HG3 | 1.80 | 0.40 |
| 53:BU:73:ALA:HB1 | 53:BU:79:LEU:HG | 2.03 | 0.40 |
| 54:BV:72:GLY:C | 54:BV:74:PHE:N | 2.74 | 0.40 |
| 55:BW:89:ARG:HB2 | 55:BW:104:LEU:HD11 | 2.02 | 0.40 |
| 1:AB:53:A:C2 | 1:AB:54:G:C8 | 3.09 | 0.40 |
| 1:AB:91:C:C2' | 1:AB:92:G:H5' | 2.52 | 0.40 |
| 1:AB:99:A:C4 | 1:AB:100:G:N7 | 2.90 | 0.40 |
| 2:AA:16:G:O4' | 29:A5:18:MET:HE3 | 2.21 | 0.40 |
| 2:AA:30:G:OP1 | 25:A1:8:ILE:CD1 | 2.70 | 0.40 |
| 2:AA:47:C:O2 | 2:AA:179:G:C2 | 2.74 | 0.40 |
| 2:AA:48:G:N3 | 2:AA:178:G:N2 | 2.69 | 0.40 |
| 2:AA:139:G:C8 | 2:AA:141(A):C:O2 | 2.74 | 0.40 |
| 2:AA:195:A:N7 | 2:AA:197:A:OP2 | 2.55 | 0.40 |
| 2:AA:221:A:N6 | 2:AA:266:G:N7 | 2.69 | 0.40 |
| 2:AA:248:G:C2 | 2:AA:2431:U:C5' | 3.04 | 0.40 |
| 2:AA:290:G:N1 | 2:AA:350:U:C4 | 2.90 | 0.40 |
| 2:AA:293:U:C2' | 2:AA:294:A:C8 | 2.86 | 0.40 |
| 2:AA:387:U:C5' | 2:AA:388:G:OP1 | 2.65 | 0.40 |
| 2:AA:398:G:N3 | 2:AA:399:G:C1' | 2.84 | 0.40 |
| 2:AA:408:G:C4 | 2:AA:409:C:C6 | 3.10 | 0.40 |
| 2:AA:592:G:C2 | 2:AA:593:G:N9 | 2.89 | 0.40 |
| 2:AA:616:A:OP2 | 6:AF:42:ARG:NH2 | 2.54 | 0.40 |
| 2:AA:689:A:H2' | 2:AA:690:G:H5" | 2.02 | 0.40 |
| 2:AA:698:C:C6 | 2:AA:698:C:C4' | 3.04 | 0.40 |
| 2:AA:702:G:H1 | 2:AA:730:C:H42 | 1.69 | 0.40 |
| 2:AA:713:G:N2 | 2:AA:714:U:H1' | 2.35 | 0.40 |
| 2:AA:769:G:C4 | 2:AA:770:G:C8 | 3.09 | 0.40 |
| 2:AA:785:G:C4 | 2:AA:786:C:C5 | 3.08 | 0.40 |
| 2:AA:821:A:H2' | 2:AA:946:G:C5' | 2.49 | 0.40 |
| 2:AA:876:C:C4 | 2:AA:877:U:N3 | 2.90 | 0.40 |
| 2:AA:906:G:N2 | 2:AA:907:U:H1' | 2.37 | 0.40 |
| 2:AA:918:A:H5' | 2:AA:918:A:N3 | 2.35 | 0.40 |
| 2:AA:979:G:C5 | 2:AA:982:C:N4 | 2.89 | 0.40 |
| 2:AA:986:C:C6 | 2:AA:986:C:O5' | 2.75 | 0.40 |
| 2:AA:994:C:H1' | 25:A1:53:LYS:HB2 | 2.04 | 0.40 |
| 2:AA:996:A:H61 | 2:AA:1159:U:H3 | 1.69 | 0.40 |
| 2:AA:1058:G:H21 | 9:AI:3:ILE:HD11 | 1.87 | 0.40 |
| 2:AA:1076:C:C4' | 11:AL:94:ARG:CZ | 2.97 | 0.40 |
| 2:AA:1085:A:C2' | 2:AA:1086:A:O4' | 2.66 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:1138:G:P | 12:AM:57:TYR:OH | 2.80 | 0.40 |
| 2:AA:1414:G:C5 | 2:AA:1415:U:C4 | 3.10 | 0.40 |
| 2:AA:1434:A:C6 | 2:AA:1560:G:C2 | 3.10 | 0.40 |
| 2:AA:1438:U:C5' | 2:AA:1438:U:H6 | 2.34 | 0.40 |
| 2:AA:1506:C:N3 | 2:AA:1507:A:H1' | 2.37 | 0.40 |
| 2:AA:1530:G:H1' | 2:AA:1542:G:O6 | 2.20 | 0.40 |
| 2:AA:1628:G:N2 | 2:AA:1629:U:N3 | 2.69 | 0.40 |
| 2:AA:1708:C:H2' | 2:AA:1708:C:O2 | 2.22 | 0.40 |
| 2:AA:1717:G:C5 | 2:AA:1743:G:N1 | 2.90 | 0.40 |
| 2:AA:1777:U:N3 | 2:AA:1778:U:C5 | 2.89 | 0.40 |
| 2:AA:1832:C:N4 | 2:AA:1833:U:C4 | 2.89 | 0.40 |
| 2:AA:1848:A:C2 | 34:BA:702:A:N6 | 2.90 | 0.40 |
| 2:AA:1886:C:C2 | 2:AA:1887:C:C5 | 3.09 | 0.40 |
| 2:AA:1930:G:H2' | 2:AA:1968:G:O6 | 2.20 | 0.40 |
| 2:AA:1993:U:C4' | 5:AE:228:ARG:HE | 2.26 | 0.40 |
| 2:AA:2003:G:N1 | 2:AA:2004:G:C2 | 2.90 | 0.40 |
| 2:AA:2022:U:C3' | 2:AA:2617:C:H5" | 2.49 | 0.40 |
| 2:AA:2029:G:H2' | 2:AA:2030:A:H3' | 2.04 | 0.40 |
| 2:AA:2093:G:OP2 | 10:AK:25:TYR:CE2 | 2.74 | 0.40 |
| 2:AA:2120:G:H3' | 2:AA:2121:G:H8 | 1.86 | 0.40 |
| 2:AA:2139:C:C2 | 2:AA:2152:G:N1 | 2.81 | 0.40 |
| 2:AA:2236:C:C4 | 2:AA:2237:G:C5 | 3.09 | 0.40 |
| 2:AA:2259:G:C4 | 2:AA:2427:C:C4 | 3.09 | 0.40 |
| 2:AA:2287:A:C6 | 2:AA:2289:G:N9 | 2.90 | 0.40 |
| 2:AA:2320:A:C2 | 2:AA:2333:A:N3 | 2.89 | 0.40 |
| 2:AA:2331:G:C5 | 2:AA:2332:U:C2 | 3.09 | 0.40 |
| 2:AA:2355:C:O2' | 27:A3:21:LEU:HD13 | 2.22 | 0.40 |
| 2:AA:2408:U:H2' | 2:AA:2409:G:O5' | 2.22 | 0.40 |
| 2:AA:2420:C:N3 | 2:AA:2421:G:N7 | 2.70 | 0.40 |
| 2:AA:2436:G:C4 | 2:AA:2437:U:C6 | 3.09 | 0.40 |
| 2:AA:2439:A:H2' | 2:AA:2439:A:N3 | 2.36 | 0.40 |
| 2:AA:2454:G:H2' | 2:AA:2455:G:C5' | 2.50 | 0.40 |
| 2:AA:2579:C:C6 | 2:AA:2579:C:C4' | 3.04 | 0.40 |
| 2:AA:2606:C:N3 | 2:AA:2607:G:N7 | 2.69 | 0.40 |
| 2:AA:2617:C:H2' | 2:AA:2618:G:C5' | 2.52 | 0.40 |
| 2:AA:2640:G:OP1 | 12:AM:73:LYS:HD2 | 2.20 | 0.40 |
| 2:AA:2740:A:C8 | 2:AA:2741:A:N7 | 2.90 | 0.40 |
| 2:AA:2745:C:O2' | 8:AH:142:GLU:CG | 2.69 | 0.40 |
| 2:AA:2749:A:C1' | 8:AH:62:ALA:CB | 2.85 | 0.40 |
| 2:AA:2808:U:C3' | 2:AA:2810:A:OP1 | 2.67 | 0.40 |
| 2:AA:2840:C:H5" | 24:A0:53:HIS:NE2 | 2.36 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AC:43:VAL:O | 3:AC:172:HIS:CA | 2.69 | 0.40 |
| 3:AC:56:GLN:CB | 3:AC:201:PRO:HG3 | 2.51 | 0.40 |
| 3:AC:132:GLY:N | 3:AC:133:PRO:HD3 | 2.36 | 0.40 |
| 3:AC:146:GLY:O | 3:AC:148:ASN:N | 2.55 | 0.40 |
| 4:AD:143:ILE:N | 4:AD:143:ILE:CD1 | 2.59 | 0.40 |
| 4:AD:146:LYS:HA | 4:AD:147:PRO:HD2 | 1.62 | 0.40 |
| 4:AD:164:LEU:HD22 | 4:AD:174:ARG:HH22 | 1.86 | 0.40 |
| 5:AE:109:ASP:HA | 5:AE:112:LEU:CB | 2.51 | 0.40 |
| 5:AE:217:TRP:O | 5:AE:218:GLY:C | 2.60 | 0.40 |
| 6:AF:32:GLY:CA | 6:AF:36:ARG:HE | 2.32 | 0.40 |
| 6:AF:243:VAL:O | 6:AF:246:ARG:CB | 2.69 | 0.40 |
| 7:AG:87:ALA:C | 7:AG:89:PRO:N | 2.74 | 0.40 |
| 8:AH:52:THR:O | 8:AH:53:ARG:CD | 2.68 | 0.40 |
| 8:AH:71:LEU:HA | 8:AH:74:MET:HG3 | 2.02 | 0.40 |
| 8:AH:116:PRO:HD3 | 8:AH:122:ILE:CD1 | 2.51 | 0.40 |
| 9:AI:34:ALA:O | 9:AI:35:ALA:CB | 2.69 | 0.40 |
| 9:AI:55:GLU:O | 9:AI:56:LYS:CG | 2.68 | 0.40 |
| 9:AI:118:LEU:HD23 | 9:AI:118:LEU:N | 2.37 | 0.40 |
| 9:AJ:81:THR:OG1 | 9:AJ:83:LEU:HG | 2.21 | 0.40 |
| 10:AK:39:ALA:HA | 10:AK:44:LEU:HD21 | 2.03 | 0.40 |
| 10:AK:95:SER:O | 10:AK:96:LYS:C | 2.59 | 0.40 |
| 11:AL:93:LYS:CD | 21:AV:108:VAL:O | 2.69 | 0.40 |
| 12:AM:15:ARG:CG | 12:AM:40:ASN:ND2 | 2.83 | 0.40 |
| 12:AM:54:VAL:CG1 | 12:AM:138:THR:HG21 | 2.52 | 0.40 |
| 13:AN:17:ARG:HH21 | 13:AN:47:THR:HA | 1.85 | 0.40 |
| 13:AN:121:VAL:C | 13:AN:122:ILE:CG1 | 2.89 | 0.40 |
| 14:AO:64:ILE:HG22 | 14:AO:65:ASP:N | 2.37 | 0.40 |
| 14:AO:74:THR:OG1 | 14:AO:75:LEU:N | 2.55 | 0.40 |
| 15:AP:36:ASN:OD1 | 21:AV:116:VAL:N | 2.54 | 0.40 |
| 15:AP:85:ILE:HG22 | 15:AP:122:PHE:CG | 2.57 | 0.40 |
| 16:AQ:31:LYS:NZ | 16:AQ:99:GLU:CB | 2.65 | 0.40 |
| 16:AQ:35:VAL:CG1 | 16:AQ:37:ARG:NE | 2.81 | 0.40 |
| 18:AS:85:VAL:O | 18:AS:85:VAL:CG2 | 2.69 | 0.40 |
| 20:AU:20:HIS:O | 20:AU:23:VAL:CA | 2.69 | 0.40 |
| 20:AU:43:ASN:HD22 | 20:AU:101:LEU:HD23 | 1.85 | 0.40 |
| 20:AU:57:GLY:H | 20:AU:97:ARG:NH2 | 2.20 | 0.40 |
| 21:AV:13:LYS:HE2 | 21:AV:18:MET:CG | 2.50 | 0.40 |
| 21:AV:66:VAL:CG2 | 21:AV:69:VAL:HG22 | 2.52 | 0.40 |
| 22:AW:2:VAL:O | 22:AW:4:HIS:ND1 | 2.54 | 0.40 |
| 24:A0:33:ARG:HA | 24:A0:115:GLU:HA | 2.04 | 0.40 |
| 24:A0:73:VAL:CG1 | 24:A0:77:ARG:NE | 2.79 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:A1:81:ASN:O | 25:A1:82:GLY:C | 2.57 | 0.40 |
| 26:A2:35:LEU:H | 26:A2:60:VAL:CG1 | 2.21 | 0.40 |
| 27:A3:35:ASN:H | 27:A3:72:LYS:NZ | 2.19 | 0.40 |
| 27:A3:41:ARG:C | 27:A3:42:GLY:O | 2.59 | 0.40 |
| 27:A3:80:SER:O | 27:A3:81:ILE:HD12 | 2.21 | 0.40 |
| 28:A4:58:LYS:HB3 | 28:A4:62:ARG:HH21 | 1.87 | 0.40 |
| 34:BA:22:G:O4' | 34:BA:914:A:N6 | 2.55 | 0.40 |
| 34:BA:123:C:O2' | 34:BA:290:C:C1' | 2.68 | 0.40 |
| 34:BA:228:A:H2' | 34:BA:229:U:O5' | 2.22 | 0.40 |
| 34:BA:238:G:P | 52:BT:25:ARG:NH1 | 2.95 | 0.40 |
| 34:BA:275:G:H2' | 34:BA:276:G:O5' | 2.22 | 0.40 |
| 34:BA:291:C:H2' | 34:BA:292:G:O5' | 2.21 | 0.40 |
| 34:BA:296:U:N3 | 34:BA:297:G:N7 | 2.70 | 0.40 |
| 34:BA:414:A:H2' | 34:BA:415:A:O4' | 2.22 | 0.40 |
| 34:BA:435:C:H2' | 34:BA:436:C:O4' | 2.21 | 0.40 |
| 34:BA:440:A:N1 | 34:BA:495:U:C5 | 2.88 | 0.40 |
| 34:BA:453:A:H2' | 34:BA:454:C:H6 | 1.86 | 0.40 |
| 34:BA:459:G:N2 | 34:BA:462:G:N7 | 2.68 | 0.40 |
| 34:BA:462:G:C6 | 34:BA:463:A:C6 | 3.09 | 0.40 |
| 34:BA:584:G:H1 | 34:BA:757:U:H3 | 1.70 | 0.40 |
| 34:BA:646:U:N3 | 34:BA:647:C:C5 | 2.89 | 0.40 |
| 34:BA:671:G:C2' | 34:BA:672:U:C6 | 2.76 | 0.40 |
| 34:BA:720:C:C4 | 34:BA:721:G:N3 | 2.89 | 0.40 |
| 34:BA:759:A:N6 | 34:BA:760:G:C2 | 2.90 | 0.40 |
| 34:BA:766:A:O2' | 34:BA:767:A:C5' | 2.69 | 0.40 |
| 34:BA:772:U:C2 | 34:BA:773:G:C8 | 3.10 | 0.40 |
| 34:BA:830:G:H2' | 34:BA:831:U:C5' | 2.51 | 0.40 |
| 34:BA:836:G:N2 | 34:BA:837:G:C1' | 2.82 | 0.40 |
| 34:BA:963:G:N1 | 34:BA:973:G:C6 | 2.89 | 0.40 |
| 34:BA:994:A:C8 | 34:BA:994:A:O5' | 2.74 | 0.40 |
| 34:BA:1010:G:C2 | 34:BA:1020:U:H1' | 2.56 | 0.40 |
| 34:BA:1014:A:C2 | 54:BV:34:TRP:CH2 | 3.10 | 0.40 |
| 34:BA:1121:U:O4 | 34:BA:1152:A:N1 | 2.55 | 0.40 |
| 34:BA:1127:G:O2' | 34:BA:1148:U:N3 | 2.50 | 0.40 |
| 34:BA:1213:A:C5 | 34:BA:1215:G:C4 | 3.10 | 0.40 |
| 34:BA:1226:C:O3' | 48:BP:111:LYS:CE | 2.70 | 0.40 |
| 34:BA:1239:A:H1' | 34:BA:1241:G:C4 | 2.57 | 0.40 |
| 34:BA:1248:A:C6 | 34:BA:1249:C:N3 | 2.90 | 0.40 |
| 34:BA:1326:C:O2' | 34:BA:1327:C:H5' | 2.21 | 0.40 |
| 34:BA:1347:G:C8 | 44:BL:107:ARG:HD2 | 2.57 | 0.40 |
| 34:BA:1363:A:C2 | 34:BA:1365:G:O6 | 2.74 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BA:1405:G:C1' | 34:BA:1519:A:C4' | 3.00 | 0.40 |
| 34:BA:1500:A:OP2 | 34:BA:1505:G:OP2 | 2.39 | 0.40 |
| 35:BB:20:G:P | 35:BB:20:G:O4' | 2.79 | 0.40 |
| 35:BC:6:U:C2 | 35:BC:7:U:C5 | 3.09 | 0.40 |
| 35:BC:36:A:O2' | 35:BC:37:G:P | 2.78 | 0.40 |
| 35:BC:49:C:N3 | 35:BC:50:U:O4 | 2.54 | 0.40 |
| 37:BE:73:THR:HB | 37:BE:95:GLN:C | 2.42 | 0.40 |
| 37:BE:75:LYS:HE3 | 37:BE:78:GLN:NE2 | 2.36 | 0.40 |
| 37:BE:75:LYS:HG2 | 37:BE:78:GLN:HE22 | 1.81 | 0.40 |
| 38:BF:170:GLN:O | 38:BF:170:GLN:CG | 2.70 | 0.40 |
| 38:BF:196:LEU:N | 38:BF:196:LEU:CD2 | 2.84 | 0.40 |
| 39:BG:23:GLY:HA2 | 39:BG:112:VAL:HG12 | 2.04 | 0.40 |
| 39:BG:57:ARG:HD2 | 39:BG:202:LEU:HD23 | 2.04 | 0.40 |
| 39:BG:83:SER:HA | 39:BG:89:THR:HG1 | 1.75 | 0.40 |
| 39:BG:91:SER:O | 39:BG:92:VAL:C | 2.60 | 0.40 |
| 40:BH:51:VAL:HG12 | 40:BH:52:PRO:N | 2.36 | 0.40 |
| 40:BH:76:ILE:CG2 | 40:BH:142:LEU:HD21 | 2.50 | 0.40 |
| 40:BH:94:ALA:O | 40:BH:95:ALA:HB2 | 2.21 | 0.40 |
| 42:BJ:14:PRO:CB | 42:BJ:19:GLY:C | 2.87 | 0.40 |
| 43:BK:84:ARG:C | 43:BK:135:CYS:SG | 3.00 | 0.40 |
| 44:BL:23:ASN:ND2 | 44:BL:23:ASN:C | 2.74 | 0.40 |
| 46:BN:16:SER:HB2 | 46:BN:79:SER:HB3 | 2.03 | 0.40 |
| 46:BN:27:ASN:HB2 | 46:BN:55:LYS:CE | 2.41 | 0.40 |
| 46:BN:27:ASN:HA | 46:BN:55:LYS:HB3 | 2.03 | 0.40 |
| 46:BN:48:ILE:C | 46:BN:50:TYR:N | 2.75 | 0.40 |
| 46:BN:82:VAL:HB | 46:BN:108:ILE:CG1 | 2.52 | 0.40 |
| 46:BN:85:ARG:CD | 46:BN:113:PRO:HD3 | 2.52 | 0.40 |
| 47:BO:24:VAL:CG2 | 47:BO:98:TYR:CZ | 2.99 | 0.40 |
| 47:BO:68:ALA:HB1 | 47:BO:99:HIS:CA | 2.50 | 0.40 |
| 47:BO:68:ALA:O | 47:BO:100:ILE:HD11 | 2.21 | 0.40 |
| 47:BO:78:GLN:H | 47:BO:81:SER:HB2 | 1.87 | 0.40 |
| 48:BP:120:LYS:O | 48:BP:121:LYS:CE | 2.70 | 0.40 |
| 50:BR:29:VAL:HG11 | 50:BR:81:LEU:CD1 | 2.48 | 0.40 |
| 50:BR:36:ILE:HA | 50:BR:59:MET:CE | 2.51 | 0.40 |
| 52:BT:58:GLU:H | 52:BT:58:GLU:HG3 | 1.70 | 0.40 |
| 55:BW:48:LYS:HD2 | 55:BW:48:LYS:N | 2.37 | 0.40 |

All (3) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:AB:-1:A:O2' | 1:AB:-1:A:O2'[15_545] | 1.59 | 0.61 |
| 2:AA:2153:G:O2' | 34:BA:423:G:OP2[3_655] | 2.16 | 0.04 |
| 36:B1:29:G:O3' | 40:BH:5:ASP:OD2[3_655] | 2.17 | 0.03 |

## 5.3 Torsion angles (i)

### 5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles |
|---|---|---|---|---|---|---|
| 3 | AC | 217/228 (95%) | 143 (66%) | 36 (17%) | 38 (18%) | 0 3 |
| 4 | AD | 171/178 (96%) | 71 (42%) | 38 (22%) | 62 (36%) | 0 0 |
| 5 | AE | 187/338 (55%) | 89 (48%) | 41 (22%) | 57 (30%) | 0 0 |
| 6 | AF | 183/246 (74%) | 83 (45%) | 40 (22%) | 60 (33%) | 0 0 |
| 7 | AG | 118/176 (67%) | 57 (48%) | 29 (25%) | 32 (27%) | 0 0 |
| 8 | AH | 162/177 (92%) | 89 (55%) | 39 (24%) | 34 (21%) | 0 2 |
| 9 | AI | 126/128 (98%) | 87 (69%) | 24 (19%) | 15 (12%) | 0 6 |
| 9 | AJ | 126/128 (98%) | 86 (68%) | 25 (20%) | 15 (12%) | 0 6 |
| 10 | AK | 146/149 (98%) | 83 (57%) | 34 (23%) | 29 (20%) | 0 2 |
| 11 | AL | 131/141 (93%) | 66 (50%) | 33 (25%) | 32 (24%) | 0 1 |
| 12 | AM | 113/145 (78%) | 48 (42%) | 26 (23%) | 39 (34%) | 0 0 |
| 13 | AN | 120/122 (98%) | 60 (50%) | 33 (28%) | 27 (22%) | 0 1 |
| 14 | AO | 82/164 (50%) | 40 (49%) | 17 (21%) | 25 (30%) | 0 0 |
| 15 | AP | 136/138 (99%) | 50 (37%) | 43 (32%) | 43 (32%) | 0 0 |
| 16 | AQ | 111/186 (60%) | 41 (37%) | 32 (29%) | 38 (34%) | 0 0 |
| 17 | AR | 50/66 (76%) | 19 (38%) | 17 (34%) | 14 (28%) | 0 0 |
| 18 | AS | 104/113 (92%) | 70 (67%) | 18 (17%) | 16 (15%) | 0 3 |
| 19 | AT | 74/84 (88%) | 33 (45%) | 17 (23%) | 24 (32%) | 0 0 |
| 20 | AU | 108/119 (91%) | 60 (56%) | 25 (23%) | 23 (21%) | 0 2 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 21 | AV | 175/253 (69%) | 69 (39%) | 46 (26%) | 60 (34%) | 0 | 0 |
| 22 | AW | 62/70 (89%) | 21 (34%) | 25 (40%) | 16 (26%) | 0 | 1 |
| 23 | AX | 58/60 (97%) | 29 (50%) | 13 (22%) | 16 (28%) | 0 | 0 |
| 24 | A0 | 103/118 (87%) | 50 (48%) | 33 (32%) | 20 (19%) | 0 | 2 |
| 25 | A1 | 115/118 (98%) | 48 (42%) | 40 (35%) | 27 (24%) | 0 | 1 |
| 26 | A2 | 98/100 (98%) | 54 (55%) | 18 (18%) | 26 (26%) | 0 | 0 |
| 27 | A3 | 84/91 (92%) | 32 (38%) | 16 (19%) | 36 (43%) | 0 | 0 |
| 28 | A4 | 71/73 (97%) | 21 (30%) | 19 (27%) | 31 (44%) | 0 | 0 |
| 29 | A5 | 56/60 (93%) | 25 (45%) | 11 (20%) | 20 (36%) | 0 | 0 |
| 30 | A6 | 51/82 (62%) | 26 (51%) | 8 (16%) | 17 (33%) | 0 | 0 |
| 31 | A7 | 44/47 (94%) | 14 (32%) | 12 (27%) | 18 (41%) | 0 | 0 |
| 32 | A8 | 61/64 (95%) | 24 (39%) | 16 (26%) | 21 (34%) | 0 | 0 |
| 33 | A9 | 33/36 (92%) | 19 (58%) | 8 (24%) | 6 (18%) | 0 | 3 |
| 37 | BE | 232/256 (91%) | 107 (46%) | 58 (25%) | 67 (29%) | 0 | 0 |
| 38 | BF | 204/239 (85%) | 113 (55%) | 46 (22%) | 45 (22%) | 0 | 1 |
| 39 | BG | 206/209 (99%) | 97 (47%) | 63 (31%) | 46 (22%) | 0 | 1 |
| 40 | BH | 148/162 (91%) | 90 (61%) | 38 (26%) | 20 (14%) | 0 | 4 |
| 41 | BI | 99/101 (98%) | 55 (56%) | 24 (24%) | 20 (20%) | 0 | 2 |
| 42 | BJ | 153/156 (98%) | 63 (41%) | 49 (32%) | 41 (27%) | 0 | 0 |
| 43 | BK | 136/138 (99%) | 67 (49%) | 39 (29%) | 30 (22%) | 0 | 1 |
| 44 | BL | 125/128 (98%) | 64 (51%) | 27 (22%) | 34 (27%) | 0 | 0 |
| 45 | BM | 96/105 (91%) | 54 (56%) | 19 (20%) | 23 (24%) | 0 | 1 |
| 46 | BN | 117/129 (91%) | 54 (46%) | 33 (28%) | 30 (26%) | 0 | 1 |
| 47 | BO | 122/135 (90%) | 65 (53%) | 28 (23%) | 29 (24%) | 0 | 1 |
| 48 | BP | 123/126 (98%) | 59 (48%) | 30 (24%) | 34 (28%) | 0 | 0 |
| 49 | BQ | 58/61 (95%) | 22 (38%) | 10 (17%) | 26 (45%) | 0 | 0 |
| 50 | BR | 86/89 (97%) | 36 (42%) | 35 (41%) | 15 (17%) | 0 | 3 |
| 51 | BS | 81/88 (92%) | 42 (52%) | 24 (30%) | 15 (18%) | 0 | 2 |
| 52 | BT | 102/105 (97%) | 62 (61%) | 20 (20%) | 20 (20%) | 0 | 2 |
| 53 | BU | 71/88 (81%) | 29 (41%) | 24 (34%) | 18 (25%) | 0 | 1 |
| 54 | BV | 78/93 (84%) | 35 (45%) | 17 (22%) | 26 (33%) | 0 | 0 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles |
|---|---|---|---|---|---|---|
| 55 | BW | 97/106 (92%) | 27 (28%) | 46 (47%) | 24 (25%) | 0 1 |
| 56 | BX | 22/27 (82%) | 9 (41%) | 5 (23%) | 8 (36%) | 0 0 |
| All | All | 5832/6739 (86%) | 2857 (49%) | 1467 (25%) | 1508 (26%) | 0 1 |

All (1508) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | AC | 17 | ASN |
| 3 | AC | 35 | ALA |
| 3 | AC | 54 | SER |
| 3 | AC | 68 | LEU |
| 3 | AC | 87 | GLU |
| 3 | AC | 117 | PRO |
| 3 | AC | 119 | VAL |
| 3 | AC | 133 | PRO |
| 3 | AC | 138 | PRO |
| 3 | AC | 140 | PRO |
| 3 | AC | 157 | LYS |
| 3 | AC | 158 | ALA |
| 3 | AC | 173 | ALA |
| 3 | AC | 200 | LYS |
| 3 | AC | 208 | PHE |
| 4 | AD | 61 | TYR |
| 4 | AD | 64 | ILE |
| 4 | AD | 66 | PHE |
| 4 | AD | 67 | LYS |
| 4 | AD | 86 | ARG |
| 4 | AD | 96 | ALA |
| 4 | AD | 106 | PRO |
| 4 | AD | 108 | ASN |
| 4 | AD | 109 | LEU |
| 4 | AD | 110 | LYS |
| 4 | AD | 112 | GLY |
| 4 | AD | 113 | MET |
| 4 | AD | 114 | GLU |
| 4 | AD | 115 | ILE |
| 4 | AD | 116 | MET |
| 4 | AD | 120 | ASP |
| 4 | AD | 122 | ASP |
| 4 | AD | 123 | ILE |
| 4 | AD | 143 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | AD | 147 | PRO |
| 4 | AD | 153 | LEU |
| 4 | AD | 154 | VAL |
| 4 | AD | 157 | ALA |
| 4 | AD | 168 | GLY |
| 4 | AD | 176 | ALA |
| 4 | AD | 177 | SER |
| 4 | AD | 185 | GLY |
| 4 | AD | 186 | LYS |
| 4 | AD | 187 | CYS |
| 4 | AD | 199 | ARG |
| 4 | AD | 205 | VAL |
| 4 | AD | 223 | ASN |
| 4 | AD | 224 | VAL |
| 4 | AD | 227 | VAL |
| 4 | AD | 233 | ASP |
| 4 | AD | 235 | PRO |
| 5 | AE | 61 | PRO |
| 5 | AE | 62 | ARG |
| 5 | AE | 67 | THR |
| 5 | AE | 77 | PRO |
| 5 | AE | 78 | MET |
| 5 | AE | 79 | ARG |
| 5 | AE | 82 | ALA |
| 5 | AE | 94 | ARG |
| 5 | AE | 102 | ASP |
| 5 | AE | 104 | PHE |
| 5 | AE | 105 | HIS |
| 5 | AE | 108 | LEU |
| 5 | AE | 190 | ASN |
| 5 | AE | 205 | THR |
| 5 | AE | 206 | LYS |
| 5 | AE | 214 | VAL |
| 5 | AE | 223 | LYS |
| 5 | AE | 225 | LYS |
| 5 | AE | 229 | GLN |
| 5 | AE | 233 | ARG |
| 5 | AE | 234 | ARG |
| 5 | AE | 244 | SER |
| 5 | AE | 251 | PRO |
| 5 | AE | 255 | GLN |
| 5 | AE | 299 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 5 | AE | 300 | VAL |
| 5 | AE | 303 | PRO |
| 5 | AE | 309 | PRO |
| 5 | AE | 315 | VAL |
| 6 | AF | 2 | GLU |
| 6 | AF | 6 | TYR |
| 6 | AF | 11 | ASN |
| 6 | AF | 21 | VAL |
| 6 | AF | 24 | THR |
| 6 | AF | 43 | LYS |
| 6 | AF | 56 | THR |
| 6 | AF | 58 | ALA |
| 6 | AF | 61 | PHE |
| 6 | AF | 82 | GLN |
| 6 | AF | 85 | LYS |
| 6 | AF | 88 | SER |
| 6 | AF | 90 | HIS |
| 6 | AF | 91 | PRO |
| 6 | AF | 99 | SER |
| 6 | AF | 102 | LEU |
| 6 | AF | 104 | ASP |
| 6 | AF | 112 | ARG |
| 6 | AF | 139 | VAL |
| 6 | AF | 161 | ASP |
| 6 | AF | 198 | ASP |
| 6 | AF | 199 | GLU |
| 6 | AF | 200 | PRO |
| 6 | AF | 202 | THR |
| 6 | AF | 203 | ALA |
| 6 | AF | 210 | ALA |
| 6 | AF | 211 | ASP |
| 6 | AF | 215 | ALA |
| 6 | AF | 217 | GLU |
| 7 | AG | 16 | PRO |
| 7 | AG | 18 | ILE |
| 7 | AG | 48 | MET |
| 7 | AG | 49 | PRO |
| 7 | AG | 55 | LYS |
| 7 | AG | 64 | ARG |
| 7 | AG | 77 | ASP |
| 7 | AG | 78 | GLU |
| 7 | AG | 100 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 7 | AG | 101 | THR |
| 7 | AG | 128 | LEU |
| 7 | AG | 129 | ASP |
| 7 | AG | 139 | TYR |
| 7 | AG | 147 | ALA |
| 7 | AG | 150 | SER |
| 7 | AG | 153 | THR |
| 8 | AH | 11 | PRO |
| 8 | AH | 14 | VAL |
| 8 | AH | 21 | ASN |
| 8 | AH | 28 | PRO |
| 8 | AH | 37 | HIS |
| 8 | AH | 59 | HIS |
| 8 | AH | 75 | VAL |
| 8 | AH | 81 | GLY |
| 8 | AH | 109 | SER |
| 8 | AH | 117 | GLU |
| 8 | AH | 127 | GLN |
| 8 | AH | 138 | GLN |
| 8 | AH | 152 | PRO |
| 8 | AH | 159 | LYS |
| 9 | AI | 35 | ALA |
| 9 | AI | 56 | LYS |
| 9 | AI | 58 | GLU |
| 9 | AJ | 35 | ALA |
| 9 | AJ | 56 | LYS |
| 9 | AJ | 58 | GLU |
| 10 | AK | 7 | LYS |
| 10 | AK | 8 | ASP |
| 10 | AK | 9 | VAL |
| 10 | AK | 12 | LYS |
| 10 | AK | 13 | GLY |
| 10 | AK | 22 | ALA |
| 10 | AK | 23 | ASP |
| 10 | AK | 25 | TYR |
| 10 | AK | 27 | ASN |
| 10 | AK | 36 | ALA |
| 10 | AK | 39 | ALA |
| 10 | AK | 75 | LEU |
| 10 | AK | 92 | SER |
| 10 | AK | 111 | ASP |
| 10 | AK | 114 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 10 | AK | 115 | ILE |
| 10 | AK | 124 | LEU |
| 10 | AK | 135 | PRO |
| 11 | AL | 18 | ALA |
| 11 | AL | 19 | THR |
| 11 | AL | 26 | PRO |
| 11 | AL | 27 | ALA |
| 11 | AL | 66 | PHE |
| 11 | AL | 67 | THR |
| 11 | AL | 68 | PHE |
| 11 | AL | 86 | GLU |
| 11 | AL | 87 | LYS |
| 11 | AL | 90 | SER |
| 11 | AL | 93 | LYS |
| 11 | AL | 97 | VAL |
| 11 | AL | 102 | ARG |
| 11 | AL | 114 | PRO |
| 11 | AL | 118 | ALA |
| 12 | AM | 5 | GLU |
| 12 | AM | 8 | ALA |
| 12 | AM | 9 | ASP |
| 12 | AM | 17 | CYS |
| 12 | AM | 47 | THR |
| 12 | AM | 51 | GLU |
| 12 | AM | 63 | ILE |
| 12 | AM | 67 | ASN |
| 12 | AM | 70 | PHE |
| 12 | AM | 88 | PRO |
| 12 | AM | 105 | LEU |
| 13 | AN | 14 | SER |
| 13 | AN | 28 | SER |
| 13 | AN | 30 | ARG |
| 13 | AN | 35 | ILE |
| 13 | AN | 72 | PRO |
| 13 | AN | 91 | LYS |
| 13 | AN | 96 | THR |
| 13 | AN | 104 | ARG |
| 13 | AN | 110 | ASP |
| 14 | AO | 55 | GLN |
| 14 | AO | 57 | VAL |
| 14 | AO | 61 | ALA |
| 14 | AO | 66 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 14 | AO | 76 | LEU |
| 14 | AO | 95 | ASP |
| 14 | AO | 96 | VAL |
| 14 | AO | 100 | ALA |
| 14 | AO | 102 | ASP |
| 14 | AO | 103 | ALA |
| 14 | AO | 104 | ASP |
| 14 | AO | 105 | TYR |
| 14 | AO | 106 | VAL |
| 14 | AO | 111 | ALA |
| 14 | AO | 114 | VAL |
| 14 | AO | 129 | ALA |
| 14 | AO | 142 | LEU |
| 14 | AO | 143 | THR |
| 15 | AP | 23 | ILE |
| 15 | AP | 24 | PRO |
| 15 | AP | 26 | LYS |
| 15 | AP | 27 | GLY |
| 15 | AP | 30 | GLN |
| 15 | AP | 36 | ASN |
| 15 | AP | 43 | PRO |
| 15 | AP | 58 | HIS |
| 15 | AP | 105 | PHE |
| 15 | AP | 128 | PRO |
| 15 | AP | 142 | LYS |
| 15 | AP | 143 | VAL |
| 15 | AP | 147 | VAL |
| 15 | AP | 153 | PRO |
| 16 | AQ | 16 | ALA |
| 16 | AQ | 31 | LYS |
| 16 | AQ | 32 | PRO |
| 16 | AQ | 40 | ASN |
| 16 | AQ | 41 | LYS |
| 16 | AQ | 52 | PRO |
| 16 | AQ | 53 | ASN |
| 16 | AQ | 55 | ASP |
| 16 | AQ | 58 | LEU |
| 16 | AQ | 59 | ALA |
| 16 | AQ | 67 | ALA |
| 16 | AQ | 68 | GLU |
| 16 | AQ | 69 | TYR |
| 16 | AQ | 74 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 16 | AQ | 75 | THR |
| 16 | AQ | 98 | GLU |
| 16 | AQ | 107 | ASN |
| 16 | AQ | 109 | PRO |
| 17 | AR | 6 | CYS |
| 17 | AR | 9 | CYS |
| 17 | AR | 15 | PRO |
| 17 | AR | 37 | GLU |
| 17 | AR | 46 | ALA |
| 17 | AR | 48 | ASN |
| 18 | AS | 25 | ARG |
| 18 | AS | 26 | GLY |
| 18 | AS | 40 | ASN |
| 18 | AS | 41 | LYS |
| 18 | AS | 66 | GLU |
| 18 | AS | 67 | ASP |
| 19 | AT | 2 | TRP |
| 19 | AT | 3 | ASP |
| 19 | AT | 4 | VAL |
| 19 | AT | 23 | LYS |
| 19 | AT | 29 | ASP |
| 19 | AT | 30 | ASP |
| 19 | AT | 46 | ASP |
| 19 | AT | 50 | GLU |
| 19 | AT | 68 | LEU |
| 19 | AT | 76 | GLU |
| 20 | AU | 5 | ASP |
| 20 | AU | 14 | ALA |
| 20 | AU | 24 | ARG |
| 20 | AU | 25 | ALA |
| 20 | AU | 28 | SER |
| 20 | AU | 30 | ASP |
| 20 | AU | 44 | ALA |
| 20 | AU | 68 | ASP |
| 20 | AU | 71 | VAL |
| 20 | AU | 77 | VAL |
| 20 | AU | 85 | GLU |
| 20 | AU | 93 | THR |
| 21 | AV | 3 | LEU |
| 21 | AV | 6 | LYS |
| 21 | AV | 7 | PRO |
| 21 | AV | 10 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 21 | AV | 11 | LYS |
| 21 | AV | 16 | GLU |
| 21 | AV | 37 | LYS |
| 21 | AV | 40 | ASP |
| 21 | AV | 46 | GLN |
| 21 | AV | 51 | LEU |
| 21 | AV | 61 | THR |
| 21 | AV | 64 | ALA |
| 21 | AV | 65 | LEU |
| 21 | AV | 69 | VAL |
| 21 | AV | 72 | ASP |
| 21 | AV | 75 | LYS |
| 21 | AV | 107 | GLU |
| 21 | AV | 108 | VAL |
| 21 | AV | 143 | ILE |
| 21 | AV | 149 | ALA |
| 21 | AV | 150 | GLY |
| 21 | AV | 152 | ILE |
| 21 | AV | 167 | THR |
| 21 | AV | 168 | VAL |
| 22 | AW | 3 | LEU |
| 22 | AW | 4 | HIS |
| 22 | AW | 5 | VAL |
| 22 | AW | 11 | MET |
| 22 | AW | 12 | THR |
| 23 | AX | 11 | SER |
| 23 | AX | 13 | ILE |
| 23 | AX | 16 | PRO |
| 23 | AX | 32 | GLN |
| 23 | AX | 52 | HIS |
| 23 | AX | 53 | LEU |
| 23 | AX | 54 | VAL |
| 23 | AX | 59 | VAL |
| 24 | A0 | 38 | VAL |
| 24 | A0 | 59 | ASP |
| 24 | A0 | 71 | GLN |
| 24 | A0 | 72 | ASP |
| 24 | A0 | 89 | ASP |
| 24 | A0 | 90 | ARG |
| 24 | A0 | 107 | ASP |
| 25 | A1 | 6 | THR |
| 25 | A1 | 7 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 25 | A1 | 8 | ILE |
| 25 | A1 | 22 | LYS |
| 25 | A1 | 24 | PHE |
| 25 | A1 | 27 | SER |
| 25 | A1 | 32 | TYR |
| 25 | A1 | 86 | ALA |
| 25 | A1 | 87 | ASN |
| 25 | A1 | 94 | VAL |
| 26 | A2 | 6 | GLN |
| 26 | A2 | 11 | GLN |
| 26 | A2 | 13 | ARG |
| 26 | A2 | 20 | ILE |
| 26 | A2 | 22 | VAL |
| 26 | A2 | 28 | GLU |
| 26 | A2 | 31 | ASP |
| 26 | A2 | 40 | VAL |
| 26 | A2 | 55 | THR |
| 26 | A2 | 56 | VAL |
| 26 | A2 | 58 | ALA |
| 26 | A2 | 69 | ILE |
| 26 | A2 | 71 | ILE |
| 26 | A2 | 80 | TYR |
| 26 | A2 | 81 | ARG |
| 26 | A2 | 88 | GLN |
| 26 | A2 | 90 | PHE |
| 27 | A3 | 12 | ASN |
| 27 | A3 | 17 | ASN |
| 27 | A3 | 23 | VAL |
| 27 | A3 | 27 | GLY |
| 27 | A3 | 28 | GLY |
| 27 | A3 | 30 | VAL |
| 27 | A3 | 33 | ALA |
| 27 | A3 | 36 | ILE |
| 27 | A3 | 39 | ARG |
| 27 | A3 | 40 | GLN |
| 27 | A3 | 53 | MET |
| 27 | A3 | 54 | GLY |
| 27 | A3 | 59 | LEU |
| 27 | A3 | 63 | SER |
| 27 | A3 | 69 | PHE |
| 27 | A3 | 70 | ILE |
| 27 | A3 | 76 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 27 | A3 | 78 | PHE |
| 27 | A3 | 79 | ILE |
| 28 | A4 | 4 | ASP |
| 28 | A4 | 6 | HIS |
| 28 | A4 | 12 | CYS |
| 28 | A4 | 21 | VAL |
| 28 | A4 | 28 | ARG |
| 28 | A4 | 29 | PRO |
| 28 | A4 | 33 | VAL |
| 28 | A4 | 39 | VAL |
| 28 | A4 | 41 | PRO |
| 28 | A4 | 52 | THR |
| 28 | A4 | 55 | ARG |
| 28 | A4 | 56 | VAL |
| 28 | A4 | 58 | LYS |
| 28 | A4 | 59 | PHE |
| 28 | A4 | 63 | PHE |
| 29 | A5 | 7 | PRO |
| 29 | A5 | 9 | LYS |
| 29 | A5 | 13 | LYS |
| 29 | A5 | 14 | SER |
| 29 | A5 | 30 | LEU |
| 29 | A5 | 33 | CYS |
| 29 | A5 | 53 | ASP |
| 29 | A5 | 57 | VAL |
| 30 | A6 | 9 | ILE |
| 30 | A6 | 18 | THR |
| 30 | A6 | 20 | PHE |
| 30 | A6 | 21 | TYR |
| 30 | A6 | 30 | ASN |
| 30 | A6 | 32 | GLN |
| 30 | A6 | 36 | GLU |
| 30 | A6 | 48 | VAL |
| 31 | A7 | 4 | THR |
| 31 | A7 | 18 | PHE |
| 31 | A7 | 35 | ARG |
| 31 | A7 | 39 | ARG |
| 31 | A7 | 43 | THR |
| 32 | A8 | 14 | ILE |
| 32 | A8 | 33 | ASN |
| 32 | A8 | 34 | THR |
| 32 | A8 | 36 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 32 | A8 | 56 | ALA |
| 32 | A8 | 61 | MET |
| 32 | A8 | 62 | LEU |
| 33 | A9 | 6 | SER |
| 33 | A9 | 9 | LYS |
| 33 | A9 | 31 | LYS |
| 33 | A9 | 33 | LYS |
| 37 | BE | 8 | LYS |
| 37 | BE | 13 | ALA |
| 37 | BE | 15 | VAL |
| 37 | BE | 17 | PHE |
| 37 | BE | 20 | GLU |
| 37 | BE | 22 | LYS |
| 37 | BE | 26 | PRO |
| 37 | BE | 29 | ALA |
| 37 | BE | 37 | ASN |
| 37 | BE | 42 | ILE |
| 37 | BE | 44 | LEU |
| 37 | BE | 77 | ALA |
| 37 | BE | 96 | ARG |
| 37 | BE | 104 | ASN |
| 37 | BE | 118 | LEU |
| 37 | BE | 120 | ALA |
| 37 | BE | 121 | LEU |
| 37 | BE | 124 | SER |
| 37 | BE | 127 | ILE |
| 37 | BE | 128 | GLU |
| 37 | BE | 149 | LEU |
| 37 | BE | 150 | SER |
| 37 | BE | 154 | LEU |
| 37 | BE | 161 | ALA |
| 37 | BE | 165 | VAL |
| 37 | BE | 168 | THR |
| 37 | BE | 171 | ALA |
| 37 | BE | 181 | PHE |
| 37 | BE | 192 | SER |
| 37 | BE | 194 | PRO |
| 37 | BE | 195 | ASP |
| 37 | BE | 211 | ILE |
| 37 | BE | 226 | ARG |
| 37 | BE | 229 | VAL |
| 37 | BE | 232 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 38 | BF | 3 | ASN |
| 38 | BF | 4 | LYS |
| 38 | BF | 14 | ILE |
| 38 | BF | 27 | LYS |
| 38 | BF | 52 | LEU |
| 38 | BF | 53 | ALA |
| 38 | BF | 60 | ALA |
| 38 | BF | 64 | VAL |
| 38 | BF | 65 | ALA |
| 38 | BF | 79 | ARG |
| 38 | BF | 83 | ARG |
| 38 | BF | 84 | ILE |
| 38 | BF | 98 | ASN |
| 38 | BF | 119 | ARG |
| 38 | BF | 155 | GLY |
| 38 | BF | 156 | ARG |
| 38 | BF | 160 | ALA |
| 38 | BF | 164 | ARG |
| 38 | BF | 176 | HIS |
| 38 | BF | 206 | GLU |
| 39 | BG | 5 | ILE |
| 39 | BG | 17 | VAL |
| 39 | BG | 18 | LYS |
| 39 | BG | 21 | LEU |
| 39 | BG | 29 | PRO |
| 39 | BG | 56 | VAL |
| 39 | BG | 71 | SER |
| 39 | BG | 99 | SER |
| 39 | BG | 109 | GLY |
| 39 | BG | 131 | ARG |
| 39 | BG | 136 | PRO |
| 39 | BG | 141 | ARG |
| 39 | BG | 150 | GLU |
| 39 | BG | 151 | LYS |
| 39 | BG | 168 | ARG |
| 39 | BG | 199 | ASN |
| 40 | BH | 77 | PRO |
| 40 | BH | 85 | GLY |
| 40 | BH | 95 | ALA |
| 40 | BH | 109 | ILE |
| 40 | BH | 113 | ALA |
| 40 | BH | 125 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 40 | BH | 153 | LYS |
| 41 | BI | 16 | GLN |
| 41 | BI | 26 | ILE |
| 41 | BI | 42 | GLU |
| 41 | BI | 69 | GLU |
| 41 | BI | 81 | ILE |
| 41 | BI | 82 | ARG |
| 41 | BI | 83 | ASP |
| 41 | BI | 84 | ASN |
| 41 | BI | 85 | VAL |
| 41 | BI | 95 | GLU |
| 41 | BI | 96 | PRO |
| 42 | BJ | 5 | ARG |
| 42 | BJ | 6 | ARG |
| 42 | BJ | 7 | ALA |
| 42 | BJ | 10 | ARG |
| 42 | BJ | 14 | PRO |
| 42 | BJ | 31 | MET |
| 42 | BJ | 32 | ARG |
| 42 | BJ | 35 | LYS |
| 42 | BJ | 37 | ASN |
| 42 | BJ | 71 | PRO |
| 42 | BJ | 90 | GLU |
| 42 | BJ | 91 | VAL |
| 42 | BJ | 112 | PRO |
| 42 | BJ | 113 | GLU |
| 42 | BJ | 114 | ARG |
| 42 | BJ | 153 | HIS |
| 43 | BK | 13 | ILE |
| 43 | BK | 21 | LYS |
| 43 | BK | 24 | THR |
| 43 | BK | 30 | ARG |
| 43 | BK | 65 | TYR |
| 43 | BK | 70 | GLN |
| 43 | BK | 74 | PRO |
| 43 | BK | 75 | ARG |
| 43 | BK | 76 | PRO |
| 43 | BK | 78 | GLN |
| 43 | BK | 101 | PRO |
| 43 | BK | 103 | VAL |
| 43 | BK | 105 | ARG |
| 43 | BK | 121 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 43 | BK | 134 | ILE |
| 44 | BL | 12 | GLU |
| 44 | BL | 52 | ALA |
| 44 | BL | 70 | LYS |
| 44 | BL | 91 | ASP |
| 44 | BL | 100 | GLY |
| 44 | BL | 103 | THR |
| 44 | BL | 105 | ASP |
| 44 | BL | 116 | LYS |
| 44 | BL | 117 | HIS |
| 44 | BL | 119 | ALA |
| 45 | BM | 33 | GLN |
| 45 | BM | 41 | PRO |
| 45 | BM | 55 | LYS |
| 45 | BM | 56 | HIS |
| 45 | BM | 59 | SER |
| 45 | BM | 60 | ARG |
| 45 | BM | 61 | GLU |
| 45 | BM | 79 | ARG |
| 46 | BN | 13 | GLN |
| 46 | BN | 27 | ASN |
| 46 | BN | 49 | GLY |
| 46 | BN | 52 | GLY |
| 46 | BN | 53 | SER |
| 46 | BN | 54 | ARG |
| 46 | BN | 55 | LYS |
| 46 | BN | 89 | ALA |
| 46 | BN | 104 | GLN |
| 46 | BN | 105 | VAL |
| 46 | BN | 106 | LYS |
| 46 | BN | 115 | PRO |
| 46 | BN | 117 | ASN |
| 46 | BN | 126 | ARG |
| 46 | BN | 127 | LYS |
| 47 | BO | 18 | VAL |
| 47 | BO | 19 | ARG |
| 47 | BO | 22 | SER |
| 47 | BO | 26 | ALA |
| 47 | BO | 30 | ALA |
| 47 | BO | 49 | ASN |
| 47 | BO | 73 | GLU |
| 47 | BO | 79 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 47 | BO | 83 | VAL |
| 47 | BO | 91 | LYS |
| 47 | BO | 116 | SER |
| 47 | BO | 121 | GLY |
| 48 | BP | 4 | ILE |
| 48 | BP | 7 | VAL |
| 48 | BP | 11 | ARG |
| 48 | BP | 12 | ASN |
| 48 | BP | 39 | ILE |
| 48 | BP | 67 | GLU |
| 48 | BP | 84 | ILE |
| 48 | BP | 101 | GLN |
| 48 | BP | 106 | ASN |
| 48 | BP | 107 | ALA |
| 48 | BP | 114 | ARG |
| 49 | BQ | 13 | THR |
| 49 | BQ | 15 | LYS |
| 49 | BQ | 18 | VAL |
| 49 | BQ | 22 | THR |
| 49 | BQ | 28 | GLY |
| 49 | BQ | 31 | ARG |
| 49 | BQ | 34 | TYR |
| 49 | BQ | 36 | PHE |
| 49 | BQ | 42 | ILE |
| 49 | BQ | 56 | VAL |
| 50 | BR | 47 | LYS |
| 50 | BR | 82 | ILE |
| 51 | BS | 11 | SER |
| 51 | BS | 15 | PRO |
| 51 | BS | 24 | ALA |
| 51 | BS | 44 | THR |
| 51 | BS | 61 | SER |
| 52 | BT | 3 | LYS |
| 52 | BT | 4 | LYS |
| 52 | BT | 12 | SER |
| 52 | BT | 34 | LYS |
| 52 | BT | 48 | GLU |
| 52 | BT | 53 | LEU |
| 52 | BT | 68 | ARG |
| 52 | BT | 104 | LYS |
| 53 | BU | 37 | VAL |
| 53 | BU | 54 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 53 | BU | 81 | PHE |
| 53 | BU | 82 | THR |
| 53 | BU | 83 | GLU |
| 53 | BU | 87 | ARG |
| 54 | BV | 3 | ARG |
| 54 | BV | 12 | ASP |
| 54 | BV | 28 | LYS |
| 54 | BV | 30 | LEU |
| 54 | BV | 31 | ILE |
| 54 | BV | 65 | ASN |
| 54 | BV | 71 | LEU |
| 55 | BW | 49 | ALA |
| 55 | BW | 68 | LYS |
| 55 | BW | 69 | GLY |
| 55 | BW | 74 | LYS |
| 55 | BW | 76 | ALA |
| 55 | BW | 92 | LEU |
| 55 | BW | 95 | ALA |
| 55 | BW | 101 | GLY |
| 55 | BW | 102 | GLY |
| 56 | BX | 3 | LYS |
| 56 | BX | 17 | THR |
| 56 | BX | 18 | TYR |
| 56 | BX | 21 | TYR |
| 3 | AC | 6 | ARG |
| 3 | AC | 36 | LYS |
| 3 | AC | 49 | ILE |
| 3 | AC | 72 | VAL |
| 3 | AC | 91 | ALA |
| 3 | AC | 118 | ASP |
| 3 | AC | 130 | ILE |
| 3 | AC | 202 | GLU |
| 3 | AC | 215 | THR |
| 3 | AC | 217 | THR |
| 3 | AC | 226 | PRO |
| 4 | AD | 78 | ALA |
| 4 | AD | 85 | ASN |
| 4 | AD | 97 | ASP |
| 4 | AD | 104 | ILE |
| 4 | AD | 117 | SER |
| 4 | AD | 119 | PRO |
| 4 | AD | 125 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | AD | 145 | LEU |
| 4 | AD | 156 | ALA |
| 4 | AD | 158 | GLY |
| 4 | AD | 201 | ASP |
| 4 | AD | 225 | ARG |
| 4 | AD | 229 | MET |
| 4 | AD | 236 | PHE |
| 5 | AE | 39 | GLN |
| 5 | AE | 76 | PRO |
| 5 | AE | 101 | THR |
| 5 | AE | 172 | ASP |
| 5 | AE | 173 | ARG |
| 5 | AE | 188 | ALA |
| 5 | AE | 196 | GLY |
| 5 | AE | 207 | GLY |
| 5 | AE | 222 | ARG |
| 5 | AE | 235 | ILE |
| 5 | AE | 241 | TRP |
| 5 | AE | 249 | THR |
| 5 | AE | 298 | GLY |
| 6 | AF | 12 | THR |
| 6 | AF | 14 | GLY |
| 6 | AF | 26 | VAL |
| 6 | AF | 38 | ALA |
| 6 | AF | 60 | SER |
| 6 | AF | 62 | GLY |
| 6 | AF | 64 | GLY |
| 6 | AF | 87 | ARG |
| 6 | AF | 89 | ALA |
| 6 | AF | 100 | LEU |
| 6 | AF | 101 | ASP |
| 6 | AF | 162 | VAL |
| 6 | AF | 168 | ARG |
| 6 | AF | 208 | ALA |
| 6 | AF | 212 | VAL |
| 6 | AF | 230 | GLY |
| 7 | AG | 14 | ARG |
| 7 | AG | 17 | ARG |
| 7 | AG | 28 | GLY |
| 7 | AG | 69 | ILE |
| 7 | AG | 97 | GLN |
| 7 | AG | 107 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 7 | AG | 135 | VAL |
| 7 | AG | 148 | SER |
| 8 | AH | 12 | ALA |
| 8 | AH | 13 | GLY |
| 8 | AH | 29 | LYS |
| 8 | AH | 46 | GLY |
| 8 | AH | 58 | LYS |
| 8 | AH | 142 | GLU |
| 8 | AH | 164 | GLU |
| 8 | AH | 165 | GLY |
| 9 | AI | 30 | GLY |
| 9 | AI | 31 | VAL |
| 9 | AI | 65 | SER |
| 9 | AI | 100 | ALA |
| 9 | AJ | 30 | GLY |
| 9 | AJ | 31 | VAL |
| 9 | AJ | 36 | PRO |
| 9 | AJ | 65 | SER |
| 9 | AJ | 100 | ALA |
| 10 | AK | 65 | ALA |
| 10 | AK | 83 | ALA |
| 11 | AL | 15 | ALA |
| 11 | AL | 89 | SER |
| 11 | AL | 96 | ILE |
| 11 | AL | 103 | LYS |
| 11 | AL | 115 | ASP |
| 11 | AL | 117 | ASN |
| 12 | AM | 7 | ASP |
| 12 | AM | 15 | ARG |
| 12 | AM | 27 | ALA |
| 12 | AM | 28 | GLU |
| 12 | AM | 40 | ASN |
| 12 | AM | 41 | ALA |
| 12 | AM | 55 | GLU |
| 12 | AM | 61 | VAL |
| 12 | AM | 69 | TYR |
| 12 | AM | 87 | LEU |
| 13 | AN | 11 | ALA |
| 13 | AN | 17 | ARG |
| 13 | AN | 68 | GLY |
| 13 | AN | 89 | ASP |
| 13 | AN | 90 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 13 | AN | 100 | GLY |
| 13 | AN | 113 | LYS |
| 13 | AN | 115 | ILE |
| 14 | AO | 56 | LYS |
| 14 | AO | 58 | GLN |
| 14 | AO | 117 | GLU |
| 14 | AO | 126 | SER |
| 14 | AO | 127 | GLU |
| 15 | AP | 10 | ILE |
| 15 | AP | 16 | ARG |
| 15 | AP | 28 | ILE |
| 15 | AP | 53 | PRO |
| 15 | AP | 59 | ASN |
| 15 | AP | 60 | ALA |
| 15 | AP | 63 | ALA |
| 15 | AP | 64 | ALA |
| 15 | AP | 73 | GLN |
| 15 | AP | 82 | LYS |
| 15 | AP | 97 | ASP |
| 15 | AP | 119 | ASN |
| 15 | AP | 146 | THR |
| 15 | AP | 154 | ALA |
| 15 | AP | 156 | ASN |
| 16 | AQ | 11 | ARG |
| 16 | AQ | 20 | TYR |
| 16 | AQ | 56 | ASP |
| 16 | AQ | 60 | SER |
| 16 | AQ | 123 | ILE |
| 17 | AR | 10 | GLY |
| 17 | AR | 47 | ARG |
| 17 | AR | 49 | LEU |
| 18 | AS | 29 | LEU |
| 18 | AS | 30 | GLU |
| 18 | AS | 58 | ALA |
| 18 | AS | 89 | ALA |
| 18 | AS | 93 | ALA |
| 19 | AT | 5 | ILE |
| 19 | AT | 32 | ALA |
| 19 | AT | 35 | GLY |
| 19 | AT | 57 | THR |
| 19 | AT | 59 | ASP |
| 20 | AU | 35 | TYR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 20 | AU | 94 | SER |
| 21 | AV | 14 | LEU |
| 21 | AV | 26 | LYS |
| 21 | AV | 47 | SER |
| 21 | AV | 59 | GLY |
| 21 | AV | 112 | LEU |
| 21 | AV | 125 | PRO |
| 21 | AV | 128 | ARG |
| 21 | AV | 138 | VAL |
| 21 | AV | 151 | ASP |
| 21 | AV | 156 | GLU |
| 21 | AV | 157 | GLY |
| 22 | AW | 2 | VAL |
| 22 | AW | 46 | ILE |
| 23 | AX | 17 | LYS |
| 23 | AX | 42 | ALA |
| 24 | A0 | 57 | ARG |
| 24 | A0 | 58 | GLY |
| 24 | A0 | 76 | VAL |
| 24 | A0 | 86 | ARG |
| 25 | A1 | 5 | LYS |
| 25 | A1 | 9 | VAL |
| 25 | A1 | 31 | GLN |
| 25 | A1 | 35 | ALA |
| 25 | A1 | 53 | LYS |
| 25 | A1 | 62 | ILE |
| 25 | A1 | 97 | ASP |
| 25 | A1 | 107 | LYS |
| 26 | A2 | 26 | GLN |
| 26 | A2 | 32 | LYS |
| 27 | A3 | 7 | VAL |
| 27 | A3 | 10 | SER |
| 27 | A3 | 25 | LYS |
| 27 | A3 | 38 | VAL |
| 27 | A3 | 42 | GLY |
| 27 | A3 | 45 | PHE |
| 27 | A3 | 74 | LYS |
| 27 | A3 | 75 | GLY |
| 27 | A3 | 81 | ILE |
| 28 | A4 | 3 | LYS |
| 28 | A4 | 14 | ILE |
| 28 | A4 | 24 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 28 | A4 | 53 | GLU |
| 29 | A5 | 22 | HIS |
| 29 | A5 | 29 | ASN |
| 29 | A5 | 34 | PRO |
| 29 | A5 | 37 | HIS |
| 29 | A5 | 51 | TYR |
| 29 | A5 | 52 | TYR |
| 30 | A6 | 3 | LYS |
| 30 | A6 | 4 | ASP |
| 30 | A6 | 8 | ILE |
| 30 | A6 | 53 | LYS |
| 31 | A7 | 2 | LYS |
| 31 | A7 | 3 | ARG |
| 31 | A7 | 9 | ASN |
| 31 | A7 | 25 | LYS |
| 31 | A7 | 27 | GLY |
| 31 | A7 | 29 | ASN |
| 32 | A8 | 18 | GLY |
| 32 | A8 | 27 | SER |
| 32 | A8 | 29 | LYS |
| 32 | A8 | 30 | ARG |
| 32 | A8 | 32 | GLN |
| 32 | A8 | 39 | ASP |
| 37 | BE | 11 | LEU |
| 37 | BE | 30 | ARG |
| 37 | BE | 123 | ALA |
| 37 | BE | 131 | PRO |
| 37 | BE | 136 | VAL |
| 37 | BE | 153 | ARG |
| 37 | BE | 159 | PRO |
| 37 | BE | 160 | ASP |
| 37 | BE | 167 | PRO |
| 37 | BE | 169 | LYS |
| 37 | BE | 172 | ILE |
| 37 | BE | 178 | ARG |
| 38 | BF | 22 | TRP |
| 38 | BF | 28 | GLN |
| 38 | BF | 29 | TYR |
| 38 | BF | 43 | LEU |
| 38 | BF | 61 | ALA |
| 38 | BF | 73 | PRO |
| 38 | BF | 158 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 38 | BF | 179 | ARG |
| 38 | BF | 192 | THR |
| 39 | BG | 30 | LYS |
| 39 | BG | 35 | ARG |
| 39 | BG | 73 | ARG |
| 39 | BG | 110 | PHE |
| 39 | BG | 125 | HIS |
| 39 | BG | 153 | ARG |
| 39 | BG | 163 | GLU |
| 39 | BG | 170 | VAL |
| 39 | BG | 179 | GLU |
| 39 | BG | 189 | PRO |
| 39 | BG | 195 | ALA |
| 40 | BH | 11 | ILE |
| 40 | BH | 73 | ASN |
| 40 | BH | 96 | PRO |
| 40 | BH | 97 | GLY |
| 40 | BH | 102 | ALA |
| 40 | BH | 116 | THR |
| 40 | BH | 126 | ARG |
| 40 | BH | 128 | PRO |
| 40 | BH | 146 | ALA |
| 41 | BI | 15 | ASP |
| 41 | BI | 17 | SER |
| 41 | BI | 20 | ALA |
| 41 | BI | 43 | LEU |
| 41 | BI | 80 | ARG |
| 42 | BJ | 9 | VAL |
| 42 | BJ | 17 | VAL |
| 42 | BJ | 55 | GLY |
| 42 | BJ | 72 | ARG |
| 42 | BJ | 94 | ARG |
| 42 | BJ | 138 | LYS |
| 42 | BJ | 147 | ALA |
| 42 | BJ | 152 | ALA |
| 43 | BK | 23 | SER |
| 43 | BK | 41 | ARG |
| 43 | BK | 44 | PHE |
| 43 | BK | 102 | ARG |
| 44 | BL | 31 | GLN |
| 44 | BL | 39 | GLY |
| 44 | BL | 41 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 44 | BL | 43 | ALA |
| 44 | BL | 44 | VAL |
| 44 | BL | 47 | LEU |
| 44 | BL | 54 | ASP |
| 44 | BL | 68 | GLY |
| 44 | BL | 71 | SER |
| 44 | BL | 94 | ALA |
| 44 | BL | 106 | ALA |
| 44 | BL | 118 | LYS |
| 45 | BM | 13 | HIS |
| 45 | BM | 30 | SER |
| 45 | BM | 39 | PRO |
| 45 | BM | 52 | GLY |
| 45 | BM | 57 | LYS |
| 45 | BM | 72 | VAL |
| 45 | BM | 77 | PRO |
| 46 | BN | 94 | ALA |
| 46 | BN | 103 | LEU |
| 46 | BN | 121 | PRO |
| 46 | BN | 124 | LYS |
| 46 | BN | 128 | ALA |
| 47 | BO | 27 | LEU |
| 47 | BO | 61 | THR |
| 47 | BO | 62 | SER |
| 47 | BO | 76 | ASN |
| 47 | BO | 87 | GLY |
| 47 | BO | 90 | VAL |
| 47 | BO | 94 | PRO |
| 47 | BO | 105 | TYR |
| 47 | BO | 115 | LYS |
| 48 | BP | 5 | ALA |
| 48 | BP | 28 | ALA |
| 48 | BP | 46 | LYS |
| 48 | BP | 54 | VAL |
| 48 | BP | 55 | ARG |
| 48 | BP | 59 | TYR |
| 48 | BP | 68 | GLY |
| 48 | BP | 103 | THR |
| 48 | BP | 124 | PRO |
| 49 | BQ | 5 | ALA |
| 49 | BQ | 7 | ILE |
| 49 | BQ | 12 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 49 | BQ | 17 | LYS |
| 49 | BQ | 29 | ARG |
| 49 | BQ | 43 | CYS |
| 50 | BR | 11 | VAL |
| 50 | BR | 16 | ALA |
| 50 | BR | 19 | PRO |
| 50 | BR | 31 | LEU |
| 50 | BR | 68 | ARG |
| 51 | BS | 63 | GLY |
| 51 | BS | 66 | PRO |
| 52 | BT | 33 | GLY |
| 52 | BT | 83 | ASP |
| 52 | BT | 96 | GLN |
| 52 | BT | 98 | LEU |
| 53 | BU | 28 | GLU |
| 53 | BU | 34 | TYR |
| 53 | BU | 38 | GLU |
| 53 | BU | 62 | GLU |
| 53 | BU | 75 | ILE |
| 53 | BU | 84 | LYS |
| 54 | BV | 6 | LYS |
| 54 | BV | 9 | VAL |
| 54 | BV | 11 | VAL |
| 54 | BV | 16 | LEU |
| 54 | BV | 43 | GLU |
| 54 | BV | 45 | VAL |
| 54 | BV | 64 | GLU |
| 54 | BV | 68 | GLY |
| 54 | BV | 73 | GLU |
| 54 | BV | 79 | THR |
| 55 | BW | 50 | GLU |
| 55 | BW | 56 | MET |
| 55 | BW | 103 | GLY |
| 55 | BW | 105 | SER |
| 56 | BX | 7 | ARG |
| 3 | AC | 37 | PHE |
| 3 | AC | 106 | GLY |
| 3 | AC | 141 | LYS |
| 3 | AC | 199 | HIS |
| 4 | AD | 124 | LYS |
| 4 | AD | 127 | ASN |
| 4 | AD | 132 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | AD | 194 | VAL |
| 5 | AE | 84 | ARG |
| 5 | AE | 103 | GLU |
| 5 | AE | 106 | SER |
| 5 | AE | 179 | ASP |
| 5 | AE | 240 | PRO |
| 5 | AE | 262 | THR |
| 6 | AF | 23 | GLU |
| 6 | AF | 25 | PRO |
| 6 | AF | 49 | ASP |
| 6 | AF | 97 | ASP |
| 6 | AF | 155 | SER |
| 6 | AF | 209 | GLY |
| 6 | AF | 222 | ASP |
| 7 | AG | 12 | GLU |
| 7 | AG | 66 | GLY |
| 7 | AG | 140 | ARG |
| 8 | AH | 118 | GLU |
| 8 | AH | 169 | ARG |
| 9 | AI | 36 | PRO |
| 9 | AI | 95 | ALA |
| 9 | AJ | 95 | ALA |
| 10 | AK | 40 | THR |
| 10 | AK | 113 | ARG |
| 11 | AL | 76 | SER |
| 11 | AL | 113 | MET |
| 11 | AL | 121 | LEU |
| 12 | AM | 16 | ASP |
| 12 | AM | 26 | VAL |
| 12 | AM | 31 | LEU |
| 12 | AM | 42 | GLU |
| 12 | AM | 48 | GLY |
| 12 | AM | 50 | GLU |
| 12 | AM | 66 | ASP |
| 12 | AM | 71 | TYR |
| 12 | AM | 78 | ILE |
| 12 | AM | 92 | GLN |
| 12 | AM | 140 | GLY |
| 13 | AN | 41 | ALA |
| 13 | AN | 47 | THR |
| 13 | AN | 66 | LYS |
| 14 | AO | 80 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 15 | AP | 96 | GLN |
| 16 | AQ | 15 | GLU |
| 16 | AQ | 19 | ASP |
| 16 | AQ | 27 | LEU |
| 16 | AQ | 108 | SER |
| 17 | AR | 52 | THR |
| 18 | AS | 44 | ALA |
| 18 | AS | 45 | TYR |
| 19 | AT | 12 | GLU |
| 19 | AT | 13 | LYS |
| 19 | AT | 14 | ALA |
| 19 | AT | 31 | ARG |
| 19 | AT | 47 | VAL |
| 20 | AU | 31 | LEU |
| 20 | AU | 69 | LYS |
| 21 | AV | 2 | GLU |
| 21 | AV | 5 | ALA |
| 21 | AV | 27 | GLU |
| 21 | AV | 48 | THR |
| 21 | AV | 49 | THR |
| 21 | AV | 70 | GLN |
| 21 | AV | 71 | MET |
| 21 | AV | 91 | PRO |
| 21 | AV | 93 | GLU |
| 21 | AV | 97 | PRO |
| 21 | AV | 123 | VAL |
| 21 | AV | 142 | ASN |
| 22 | AW | 6 | GLN |
| 22 | AW | 13 | PRO |
| 22 | AW | 40 | PRO |
| 23 | AX | 25 | ALA |
| 23 | AX | 51 | ALA |
| 24 | A0 | 19 | ALA |
| 24 | A0 | 22 | ARG |
| 24 | A0 | 60 | LEU |
| 24 | A0 | 74 | LYS |
| 24 | A0 | 88 | ARG |
| 24 | A0 | 94 | TYR |
| 25 | A1 | 111 | ASP |
| 26 | A2 | 8 | GLY |
| 26 | A2 | 54 | TYR |
| 26 | A2 | 79 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 27 | A3 | 19 | LYS |
| 27 | A3 | 32 | LYS |
| 27 | A3 | 52 | GLY |
| 28 | A4 | 8 | LYS |
| 28 | A4 | 49 | PHE |
| 28 | A4 | 51 | ASP |
| 28 | A4 | 61 | LYS |
| 29 | A5 | 35 | GLN |
| 29 | A5 | 42 | SER |
| 29 | A5 | 48 | ASN |
| 30 | A6 | 33 | ALA |
| 30 | A6 | 34 | LYS |
| 31 | A7 | 10 | ARG |
| 31 | A7 | 14 | LYS |
| 31 | A7 | 19 | ARG |
| 31 | A7 | 23 | LYS |
| 32 | A8 | 8 | LYS |
| 32 | A8 | 26 | LYS |
| 32 | A8 | 51 | ALA |
| 32 | A8 | 58 | MET |
| 32 | A8 | 63 | PRO |
| 33 | A9 | 12 | ASP |
| 33 | A9 | 21 | GLY |
| 37 | BE | 45 | GLN |
| 37 | BE | 52 | GLU |
| 37 | BE | 53 | ARG |
| 37 | BE | 88 | ALA |
| 37 | BE | 91 | PRO |
| 37 | BE | 97 | TRP |
| 37 | BE | 119 | GLU |
| 37 | BE | 152 | PHE |
| 37 | BE | 183 | PRO |
| 38 | BF | 45 | LYS |
| 38 | BF | 59 | ARG |
| 39 | BG | 42 | GLN |
| 39 | BG | 53 | ASP |
| 39 | BG | 67 | ILE |
| 39 | BG | 93 | PHE |
| 39 | BG | 181 | MET |
| 39 | BG | 201 | GLN |
| 40 | BH | 53 | LEU |
| 40 | BH | 104 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 40 | BH | 135 | THR |
| 41 | BI | 34 | GLY |
| 42 | BJ | 13 | GLN |
| 42 | BJ | 127 | ALA |
| 42 | BJ | 129 | GLU |
| 42 | BJ | 146 | GLU |
| 42 | BJ | 150 | ALA |
| 43 | BK | 67 | PRO |
| 43 | BK | 97 | VAL |
| 44 | BL | 29 | ASN |
| 44 | BL | 38 | GLN |
| 44 | BL | 109 | VAL |
| 44 | BL | 125 | TYR |
| 45 | BM | 34 | VAL |
| 45 | BM | 90 | LEU |
| 46 | BN | 74 | ALA |
| 46 | BN | 76 | GLY |
| 46 | BN | 101 | SER |
| 47 | BO | 28 | LYS |
| 47 | BO | 75 | HIS |
| 47 | BO | 127 | GLU |
| 48 | BP | 3 | ARG |
| 48 | BP | 41 | PRO |
| 48 | BP | 57 | ARG |
| 48 | BP | 91 | ARG |
| 48 | BP | 118 | ALA |
| 49 | BQ | 9 | LYS |
| 49 | BQ | 16 | PHE |
| 49 | BQ | 20 | ALA |
| 49 | BQ | 21 | TYR |
| 49 | BQ | 27 | CYS |
| 49 | BQ | 48 | ALA |
| 50 | BR | 20 | GLY |
| 50 | BR | 76 | GLU |
| 51 | BS | 27 | LYS |
| 51 | BS | 81 | ARG |
| 52 | BT | 14 | LYS |
| 54 | BV | 13 | ASP |
| 54 | BV | 14 | HIS |
| 54 | BV | 27 | GLU |
| 54 | BV | 33 | THR |
| 54 | BV | 35 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 55 | BW | 16 | HIS |
| 55 | BW | 59 | ALA |
| 55 | BW | 82 | SER |
| 55 | BW | 96 | GLY |
| 55 | BW | 98 | PRO |
| 56 | BX | 9 | ARG |
| 3 | AC | 20 | TYR |
| 3 | AC | 210 | ARG |
| 4 | AD | 105 | ALA |
| 4 | AD | 210 | LYS |
| 5 | AE | 184 | GLY |
| 5 | AE | 247 | ARG |
| 6 | AF | 57 | PRO |
| 6 | AF | 63 | SER |
| 6 | AF | 84 | VAL |
| 6 | AF | 103 | ASN |
| 6 | AF | 154 | VAL |
| 7 | AG | 60 | GLU |
| 7 | AG | 85 | GLN |
| 7 | AG | 96 | SER |
| 8 | AH | 78 | VAL |
| 10 | AK | 46 | ALA |
| 10 | AK | 112 | LYS |
| 11 | AL | 72 | THR |
| 12 | AM | 44 | ALA |
| 12 | AM | 91 | LYS |
| 12 | AM | 108 | PRO |
| 13 | AN | 22 | ILE |
| 13 | AN | 80 | ASP |
| 13 | AN | 112 | MET |
| 15 | AP | 12 | PRO |
| 15 | AP | 17 | ARG |
| 15 | AP | 25 | GLY |
| 15 | AP | 44 | ALA |
| 15 | AP | 57 | ARG |
| 15 | AP | 140 | TYR |
| 15 | AP | 145 | PRO |
| 16 | AQ | 17 | ARG |
| 16 | AQ | 105 | GLY |
| 16 | AQ | 125 | ALA |
| 16 | AQ | 127 | LEU |
| 17 | AR | 51 | TRP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 18 | AS | 15 | ARG |
| 18 | AS | 42 | ARG |
| 21 | AV | 8 | ARG |
| 21 | AV | 35 | ASP |
| 21 | AV | 101 | THR |
| 21 | AV | 104 | SER |
| 21 | AV | 113 | VAL |
| 21 | AV | 160 | LEU |
| 22 | AW | 36 | ALA |
| 22 | AW | 45 | ARG |
| 22 | AW | 58 | THR |
| 23 | AX | 30 | ARG |
| 23 | AX | 40 | THR |
| 23 | AX | 41 | PRO |
| 25 | A1 | 45 | TYR |
| 26 | A2 | 89 | ASN |
| 27 | A3 | 82 | GLU |
| 28 | A4 | 27 | THR |
| 28 | A4 | 50 | LEU |
| 29 | A5 | 4 | HIS |
| 29 | A5 | 45 | ILE |
| 30 | A6 | 17 | GLY |
| 30 | A6 | 42 | PRO |
| 32 | A8 | 53 | ALA |
| 37 | BE | 78 | GLN |
| 38 | BF | 12 | LEU |
| 38 | BF | 26 | LYS |
| 38 | BF | 39 | ILE |
| 38 | BF | 66 | VAL |
| 38 | BF | 109 | PRO |
| 38 | BF | 127 | ARG |
| 38 | BF | 173 | VAL |
| 38 | BF | 174 | PRO |
| 38 | BF | 177 | THR |
| 38 | BF | 181 | ASN |
| 39 | BG | 4 | TYR |
| 39 | BG | 33 | MET |
| 41 | BI | 32 | ASN |
| 41 | BI | 41 | GLU |
| 41 | BI | 72 | VAL |
| 42 | BJ | 33 | ASP |
| 42 | BJ | 93 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 42 | BJ | 111 | ARG |
| 42 | BJ | 148 | ASN |
| 42 | BJ | 155 | ARG |
| 43 | BK | 10 | LEU |
| 43 | BK | 15 | ASN |
| 44 | BL | 55 | ALA |
| 44 | BL | 58 | ARG |
| 44 | BL | 95 | LYS |
| 44 | BL | 120 | ARG |
| 44 | BL | 126 | SER |
| 45 | BM | 40 | LEU |
| 45 | BM | 80 | LYS |
| 46 | BN | 45 | GLY |
| 46 | BN | 66 | LEU |
| 46 | BN | 112 | THR |
| 47 | BO | 47 | LYS |
| 48 | BP | 43 | THR |
| 48 | BP | 61 | GLU |
| 49 | BQ | 54 | PRO |
| 50 | BR | 36 | ILE |
| 51 | BS | 46 | PRO |
| 51 | BS | 58 | TYR |
| 51 | BS | 69 | THR |
| 51 | BS | 70 | ALA |
| 51 | BS | 79 | VAL |
| 52 | BT | 13 | ASP |
| 53 | BU | 43 | PHE |
| 53 | BU | 52 | PRO |
| 53 | BU | 70 | ILE |
| 53 | BU | 80 | PRO |
| 54 | BV | 20 | LEU |
| 55 | BW | 15 | ARG |
| 55 | BW | 78 | ALA |
| 55 | BW | 97 | ALA |
| 3 | AC | 57 | ASN |
| 3 | AC | 143 | GLY |
| 4 | AD | 213 | LYS |
| 5 | AE | 63 | GLU |
| 5 | AE | 83 | LEU |
| 5 | AE | 245 | ARG |
| 5 | AE | 301 | PRO |
| 5 | AE | 316 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 6 | AF | 35 | VAL |
| 6 | AF | 67 | GLN |
| 7 | AG | 134 | LEU |
| 8 | AH | 91 | VAL |
| 8 | AH | 168 | VAL |
| 9 | AI | 13 | LEU |
| 9 | AI | 24 | LYS |
| 9 | AJ | 13 | LEU |
| 9 | AJ | 24 | LYS |
| 10 | AK | 33 | GLN |
| 11 | AL | 32 | GLY |
| 11 | AL | 45 | GLU |
| 11 | AL | 55 | PRO |
| 11 | AL | 75 | ALA |
| 11 | AL | 122 | GLU |
| 12 | AM | 95 | ARG |
| 13 | AN | 74 | GLY |
| 14 | AO | 110 | GLY |
| 16 | AQ | 29 | SER |
| 16 | AQ | 72 | GLU |
| 16 | AQ | 106 | LEU |
| 17 | AR | 7 | ASP |
| 17 | AR | 13 | ILE |
| 17 | AR | 14 | GLU |
| 19 | AT | 36 | GLU |
| 20 | AU | 23 | VAL |
| 20 | AU | 76 | ASP |
| 20 | AU | 81 | LYS |
| 21 | AV | 118 | HIS |
| 21 | AV | 127 | PRO |
| 21 | AV | 165 | GLU |
| 22 | AW | 57 | LYS |
| 23 | AX | 29 | ARG |
| 24 | A0 | 45 | ARG |
| 24 | A0 | 85 | PRO |
| 25 | A1 | 36 | PHE |
| 25 | A1 | 43 | ALA |
| 25 | A1 | 73 | GLY |
| 25 | A1 | 95 | LEU |
| 25 | A1 | 116 | ALA |
| 26 | A2 | 17 | GLY |
| 27 | A3 | 48 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 28 | A4 | 5 | LEU |
| 28 | A4 | 10 | VAL |
| 28 | A4 | 26 | SER |
| 29 | A5 | 5 | PRO |
| 31 | A7 | 11 | LYS |
| 31 | A7 | 33 | ARG |
| 32 | A8 | 13 | ARG |
| 32 | A8 | 19 | THR |
| 37 | BE | 87 | ARG |
| 37 | BE | 143 | GLU |
| 37 | BE | 177 | ALA |
| 37 | BE | 180 | LEU |
| 37 | BE | 200 | ILE |
| 38 | BF | 81 | GLY |
| 39 | BG | 13 | ARG |
| 39 | BG | 40 | PRO |
| 39 | BG | 51 | PRO |
| 39 | BG | 94 | LEU |
| 39 | BG | 101 | LEU |
| 39 | BG | 196 | LEU |
| 40 | BH | 51 | VAL |
| 42 | BJ | 118 | VAL |
| 42 | BJ | 121 | ALA |
| 42 | BJ | 125 | MET |
| 43 | BK | 2 | LEU |
| 43 | BK | 64 | LYS |
| 43 | BK | 73 | ASP |
| 43 | BK | 79 | VAL |
| 43 | BK | 129 | VAL |
| 43 | BK | 133 | LEU |
| 45 | BM | 28 | ARG |
| 46 | BN | 37 | GLY |
| 46 | BN | 65 | ALA |
| 47 | BO | 48 | PRO |
| 48 | BP | 10 | PRO |
| 48 | BP | 14 | ARG |
| 50 | BR | 10 | LYS |
| 50 | BR | 88 | ARG |
| 51 | BS | 55 | ARG |
| 52 | BT | 64 | PRO |
| 52 | BT | 65 | ILE |
| 52 | BT | 66 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 52 | BT | 88 | TYR |
| 52 | BT | 89 | LEU |
| 53 | BU | 21 | LYS |
| 54 | BV | 15 | LEU |
| 54 | BV | 25 | LYS |
| 54 | BV | 37 | ARG |
| 55 | BW | 60 | GLU |
| 55 | BW | 61 | SER |
| 56 | BX | 24 | ARG |
| 3 | AC | 50 | ASP |
| 3 | AC | 90 | GLY |
| 3 | AC | 187 | ASP |
| 5 | AE | 250 | VAL |
| 5 | AE | 314 | ALA |
| 8 | AH | 154 | GLU |
| 9 | AI | 84 | GLY |
| 9 | AJ | 84 | GLY |
| 10 | AK | 3 | VAL |
| 10 | AK | 11 | GLY |
| 11 | AL | 46 | THR |
| 13 | AN | 2 | ILE |
| 15 | AP | 18 | GLU |
| 15 | AP | 126 | VAL |
| 16 | AQ | 97 | VAL |
| 19 | AT | 17 | ASP |
| 19 | AT | 73 | ASP |
| 20 | AU | 9 | LYS |
| 20 | AU | 36 | GLY |
| 20 | AU | 100 | ASP |
| 21 | AV | 39 | PHE |
| 21 | AV | 68 | ALA |
| 22 | AW | 43 | PRO |
| 22 | AW | 56 | ILE |
| 24 | A0 | 46 | GLY |
| 25 | A1 | 65 | ILE |
| 26 | A2 | 46 | VAL |
| 27 | A3 | 67 | VAL |
| 28 | A4 | 22 | MET |
| 37 | BE | 130 | ARG |
| 37 | BE | 209 | ARG |
| 38 | BF | 145 | GLY |
| 39 | BG | 7 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 39 | BG | 47 | ARG |
| 39 | BG | 180 | GLY |
| 42 | BJ | 96 | GLN |
| 42 | BJ | 97 | GLN |
| 45 | BM | 54 | PHE |
| 46 | BN | 102 | GLY |
| 46 | BN | 123 | LYS |
| 47 | BO | 11 | VAL |
| 49 | BQ | 23 | ARG |
| 49 | BQ | 58 | LYS |
| 50 | BR | 15 | PHE |
| 50 | BR | 29 | VAL |
| 52 | BT | 47 | PRO |
| 3 | AC | 48 | GLY |
| 7 | AG | 26 | GLY |
| 8 | AH | 77 | GLY |
| 8 | AH | 111 | PRO |
| 9 | AI | 3 | ILE |
| 9 | AJ | 3 | ILE |
| 10 | AK | 84 | GLY |
| 12 | AM | 133 | GLY |
| 16 | AQ | 70 | GLY |
| 16 | AQ | 104 | ILE |
| 18 | AS | 91 | GLY |
| 26 | A2 | 30 | GLY |
| 27 | A3 | 18 | PRO |
| 28 | A4 | 11 | PRO |
| 28 | A4 | 40 | HIS |
| 38 | BF | 75 | VAL |
| 43 | BK | 128 | GLY |
| 47 | BO | 31 | PRO |
| 48 | BP | 15 | VAL |
| 49 | BQ | 55 | GLY |
| 4 | AD | 80 | ILE |
| 8 | AH | 153 | PRO |
| 12 | AM | 20 | GLY |
| 15 | AP | 76 | GLY |
| 30 | A6 | 6 | PRO |
| 37 | BE | 193 | ASP |
| 37 | BE | 201 | ILE |
| 37 | BE | 230 | VAL |
| 39 | BG | 69 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 39 | BG | 90 | GLY |
| 42 | BJ | 19 | GLY |
| 44 | BL | 21 | PRO |
| 44 | BL | 81 | ILE |
| 47 | BO | 71 | PRO |
| 48 | BP | 45 | VAL |
| 48 | BP | 85 | GLY |
| 4 | AD | 63 | ILE |
| 4 | AD | 77 | VAL |
| 4 | AD | 216 | ALA |
| 8 | AH | 51 | VAL |
| 9 | AI | 37 | VAL |
| 9 | AI | 71 | ILE |
| 11 | AL | 21 | ALA |
| 12 | AM | 33 | GLY |
| 19 | AT | 41 | VAL |
| 20 | AU | 42 | VAL |
| 21 | AV | 90 | GLU |
| 21 | AV | 136 | VAL |
| 38 | BF | 25 | GLY |
| 44 | BL | 90 | PRO |
| 45 | BM | 82 | ILE |
| 50 | BR | 12 | ILE |
| 55 | BW | 47 | GLY |
| 6 | AF | 31 | ILE |
| 8 | AH | 124 | VAL |
| 9 | AJ | 71 | ILE |
| 10 | AK | 98 | ILE |
| 13 | AN | 49 | GLY |
| 15 | AP | 100 | GLY |
| 15 | AP | 117 | GLY |
| 15 | AP | 144 | THR |
| 16 | AQ | 111 | PRO |
| 25 | A1 | 26 | GLY |
| 27 | A3 | 68 | VAL |
| 31 | A7 | 38 | GLY |
| 42 | BJ | 81 | GLY |
| 48 | BP | 17 | VAL |
| 48 | BP | 53 | VAL |
| 53 | BU | 79 | LEU |
| 4 | AD | 163 | VAL |
| 8 | AH | 150 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 9 | AJ | 37 | VAL |
| 13 | AN | 48 | PRO |
| 45 | BM | 76 | ASN |
| 56 | BX | 19 | GLY |

### 5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 3 | AC | 174/180 (97%) | 144 (83%) | 30 (17%) | 2 | 12 |
| 4 | AD | 135/139 (97%) | 90 (67%) | 45 (33%) | 0 | 2 |
| 5 | AE | 156/284 (55%) | 114 (73%) | 42 (27%) | 0 | 3 |
| 6 | AF | 152/193 (79%) | 121 (80%) | 31 (20%) | 1 | 7 |
| 7 | AG | 102/147 (69%) | 74 (72%) | 28 (28%) | 0 | 3 |
| 8 | AH | 137/147 (93%) | 99 (72%) | 38 (28%) | 0 | 3 |
| 9 | AI | 98/98 (100%) | 89 (91%) | 9 (9%) | 9 | 30 |
| 9 | AJ | 98/98 (100%) | 89 (91%) | 9 (9%) | 9 | 30 |
| 10 | AK | 119/119 (100%) | 96 (81%) | 23 (19%) | 1 | 9 |
| 11 | AL | 108/113 (96%) | 91 (84%) | 17 (16%) | 2 | 14 |
| 12 | AM | 95/121 (78%) | 71 (75%) | 24 (25%) | 0 | 4 |
| 13 | AN | 101/101 (100%) | 74 (73%) | 27 (27%) | 0 | 3 |
| 14 | AO | 67/126 (53%) | 51 (76%) | 16 (24%) | 0 | 4 |
| 15 | AP | 110/110 (100%) | 73 (66%) | 37 (34%) | 0 | 2 |
| 16 | AQ | 89/149 (60%) | 58 (65%) | 31 (35%) | 0 | 1 |
| 17 | AR | 44/52 (85%) | 24 (54%) | 20 (46%) | 0 | 0 |
| 18 | AS | 88/92 (96%) | 65 (74%) | 23 (26%) | 0 | 3 |
| 19 | AT | 67/73 (92%) | 48 (72%) | 19 (28%) | 0 | 2 |
| 20 | AU | 97/105 (92%) | 75 (77%) | 22 (23%) | 1 | 5 |
| 21 | AV | 151/203 (74%) | 109 (72%) | 42 (28%) | 0 | 3 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|---|---|---|---|---|---|---|
| 22 | AW | 51/56 (91%) | 36 (71%) | 15 (29%) | 0 | 2 |
| 23 | AX | 52/52 (100%) | 34 (65%) | 18 (35%) | 0 | 1 |
| 24 | A0 | 89/101 (88%) | 59 (66%) | 30 (34%) | 0 | 2 |
| 25 | A1 | 96/97 (99%) | 67 (70%) | 29 (30%) | 0 | 2 |
| 26 | A2 | 79/79 (100%) | 60 (76%) | 19 (24%) | 0 | 4 |
| 27 | A3 | 64/67 (96%) | 46 (72%) | 18 (28%) | 0 | 3 |
| 28 | A4 | 66/66 (100%) | 50 (76%) | 16 (24%) | 0 | 4 |
| 29 | A5 | 51/53 (96%) | 38 (74%) | 13 (26%) | 0 | 4 |
| 30 | A6 | 46/69 (67%) | 35 (76%) | 11 (24%) | 0 | 4 |
| 31 | A7 | 39/40 (98%) | 30 (77%) | 9 (23%) | 1 | 5 |
| 32 | A8 | 50/51 (98%) | 33 (66%) | 17 (34%) | 0 | 1 |
| 33 | A9 | 34/35 (97%) | 30 (88%) | 4 (12%) | 5 | 21 |
| 37 | BE | 202/220 (92%) | 152 (75%) | 50 (25%) | 0 | 4 |
| 38 | BF | 160/188 (85%) | 127 (79%) | 33 (21%) | 1 | 7 |
| 39 | BG | 180/181 (99%) | 136 (76%) | 44 (24%) | 0 | 4 |
| 40 | BH | 115/123 (94%) | 66 (57%) | 49 (43%) | 0 | 0 |
| 41 | BI | 90/90 (100%) | 64 (71%) | 26 (29%) | 0 | 2 |
| 42 | BJ | 126/127 (99%) | 106 (84%) | 20 (16%) | 2 | 14 |
| 43 | BK | 119/119 (100%) | 73 (61%) | 46 (39%) | 0 | 0 |
| 44 | BL | 98/99 (99%) | 81 (83%) | 17 (17%) | 2 | 12 |
| 45 | BM | 88/92 (96%) | 70 (80%) | 18 (20%) | 1 | 7 |
| 46 | BN | 90/99 (91%) | 70 (78%) | 20 (22%) | 1 | 6 |
| 47 | BO | 104/111 (94%) | 85 (82%) | 19 (18%) | 1 | 10 |
| 48 | BP | 100/101 (99%) | 80 (80%) | 20 (20%) | 1 | 8 |
| 49 | BQ | 49/50 (98%) | 41 (84%) | 8 (16%) | 2 | 13 |
| 50 | BR | 79/80 (99%) | 59 (75%) | 20 (25%) | 0 | 4 |
| 51 | BS | 72/74 (97%) | 44 (61%) | 28 (39%) | 0 | 0 |
| 52 | BT | 96/97 (99%) | 74 (77%) | 22 (23%) | 1 | 5 |
| 53 | BU | 64/77 (83%) | 47 (73%) | 17 (27%) | 0 | 3 |
| 54 | BV | 71/80 (89%) | 59 (83%) | 12 (17%) | 2 | 12 |
| 55 | BW | 76/82 (93%) | 53 (70%) | 23 (30%) | 0 | 2 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles |
|---|---|---|---|---|---|
| 56 | BX | 19/22 (86%) | 17 (90%) | 2 (10%) | 7 26 |
| All | All | 4903/5528 (89%) | 3677 (75%) | 1226 (25%) | 0 4 |

All (1226) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | AC | 8 | ARG |
| 3 | AC | 10 | LEU |
| 3 | AC | 20 | TYR |
| 3 | AC | 21 | THR |
| 3 | AC | 36 | LYS |
| 3 | AC | 55 | ASP |
| 3 | AC | 61 | THR |
| 3 | AC | 70 | LYS |
| 3 | AC | 101 | GLN |
| 3 | AC | 104 | LEU |
| 3 | AC | 105 | ASP |
| 3 | AC | 108 | MET |
| 3 | AC | 117 | PRO |
| 3 | AC | 126 | LYS |
| 3 | AC | 137 | LEU |
| 3 | AC | 138 | PRO |
| 3 | AC | 141 | LYS |
| 3 | AC | 144 | THR |
| 3 | AC | 165 | ASN |
| 3 | AC | 167 | LYS |
| 3 | AC | 168 | THR |
| 3 | AC | 180 | PHE |
| 3 | AC | 187 | ASP |
| 3 | AC | 197 | GLU |
| 3 | AC | 199 | HIS |
| 3 | AC | 208 | PHE |
| 3 | AC | 210 | ARG |
| 3 | AC | 213 | TYR |
| 3 | AC | 215 | THR |
| 3 | AC | 222 | VAL |
| 4 | AD | 60 | GLN |
| 4 | AD | 62 | ARG |
| 4 | AD | 64 | ILE |
| 4 | AD | 65 | ASP |
| 4 | AD | 66 | PHE |
| 4 | AD | 67 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | AD | 68 | ARG |
| 4 | AD | 70 | LYS |
| 4 | AD | 73 | ILE |
| 4 | AD | 79 | THR |
| 4 | AD | 82 | TYR |
| 4 | AD | 84 | PRO |
| 4 | AD | 85 | ASN |
| 4 | AD | 86 | ARG |
| 4 | AD | 110 | LYS |
| 4 | AD | 113 | MET |
| 4 | AD | 114 | GLU |
| 4 | AD | 115 | ILE |
| 4 | AD | 119 | PRO |
| 4 | AD | 125 | ILE |
| 4 | AD | 129 | LEU |
| 4 | AD | 130 | PRO |
| 4 | AD | 131 | LEU |
| 4 | AD | 139 | LEU |
| 4 | AD | 141 | HIS |
| 4 | AD | 143 | ILE |
| 4 | AD | 144 | GLU |
| 4 | AD | 145 | LEU |
| 4 | AD | 152 | GLN |
| 4 | AD | 164 | LEU |
| 4 | AD | 169 | LYS |
| 4 | AD | 173 | VAL |
| 4 | AD | 174 | ARG |
| 4 | AD | 175 | LEU |
| 4 | AD | 180 | VAL |
| 4 | AD | 181 | ARG |
| 4 | AD | 201 | ASP |
| 4 | AD | 204 | PHE |
| 4 | AD | 206 | LYS |
| 4 | AD | 209 | ASN |
| 4 | AD | 222 | PRO |
| 4 | AD | 223 | ASN |
| 4 | AD | 227 | VAL |
| 4 | AD | 235 | PRO |
| 4 | AD | 236 | PHE |
| 5 | AE | 41 | PHE |
| 5 | AE | 49 | THR |
| 5 | AE | 63 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 5 | AE | 65 | MET |
| 5 | AE | 67 | THR |
| 5 | AE | 69 | PRO |
| 5 | AE | 71 | THR |
| 5 | AE | 75 | THR |
| 5 | AE | 77 | PRO |
| 5 | AE | 86 | TYR |
| 5 | AE | 87 | GLU |
| 5 | AE | 98 | GLU |
| 5 | AE | 102 | ASP |
| 5 | AE | 104 | PHE |
| 5 | AE | 106 | SER |
| 5 | AE | 109 | ASP |
| 5 | AE | 174 | LEU |
| 5 | AE | 175 | ASP |
| 5 | AE | 179 | ASP |
| 5 | AE | 187 | HIS |
| 5 | AE | 192 | ILE |
| 5 | AE | 194 | ARG |
| 5 | AE | 200 | ASP |
| 5 | AE | 204 | VAL |
| 5 | AE | 205 | THR |
| 5 | AE | 211 | GLN |
| 5 | AE | 214 | VAL |
| 5 | AE | 221 | LYS |
| 5 | AE | 222 | ARG |
| 5 | AE | 226 | HIS |
| 5 | AE | 228 | ARG |
| 5 | AE | 235 | ILE |
| 5 | AE | 258 | TYR |
| 5 | AE | 262 | THR |
| 5 | AE | 263 | GLU |
| 5 | AE | 269 | ILE |
| 5 | AE | 270 | ASP |
| 5 | AE | 294 | THR |
| 5 | AE | 304 | ASP |
| 5 | AE | 308 | VAL |
| 5 | AE | 309 | PRO |
| 5 | AE | 310 | PHE |
| 6 | AF | 1 | MET |
| 6 | AF | 21 | VAL |
| 6 | AF | 30 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 6 | AF | 36 | ARG |
| 6 | AF | 39 | GLN |
| 6 | AF | 42 | ARG |
| 6 | AF | 45 | ASP |
| 6 | AF | 50 | GLU |
| 6 | AF | 54 | LEU |
| 6 | AF | 56 | THR |
| 6 | AF | 57 | PRO |
| 6 | AF | 80 | VAL |
| 6 | AF | 82 | GLN |
| 6 | AF | 84 | VAL |
| 6 | AF | 85 | LYS |
| 6 | AF | 90 | HIS |
| 6 | AF | 94 | THR |
| 6 | AF | 101 | ASP |
| 6 | AF | 102 | LEU |
| 6 | AF | 103 | ASN |
| 6 | AF | 107 | ARG |
| 6 | AF | 142 | ASP |
| 6 | AF | 158 | GLU |
| 6 | AF | 167 | ASP |
| 6 | AF | 200 | PRO |
| 6 | AF | 217 | GLU |
| 6 | AF | 219 | ASN |
| 6 | AF | 222 | ASP |
| 6 | AF | 233 | THR |
| 6 | AF | 238 | SER |
| 6 | AF | 245 | GLU |
| 7 | AG | 10 | PHE |
| 7 | AG | 11 | HIS |
| 7 | AG | 12 | GLU |
| 7 | AG | 19 | GLU |
| 7 | AG | 21 | VAL |
| 7 | AG | 22 | VAL |
| 7 | AG | 23 | VAL |
| 7 | AG | 24 | HIS |
| 7 | AG | 39 | ASP |
| 7 | AG | 45 | THR |
| 7 | AG | 49 | PRO |
| 7 | AG | 56 | ARG |
| 7 | AG | 57 | THR |
| 7 | AG | 65 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 7 | AG | 67 | ASP |
| 7 | AG | 77 | ASP |
| 7 | AG | 85 | GLN |
| 7 | AG | 92 | GLU |
| 7 | AG | 93 | LEU |
| 7 | AG | 100 | ASP |
| 7 | AG | 104 | PHE |
| 7 | AG | 106 | PHE |
| 7 | AG | 130 | VAL |
| 7 | AG | 132 | VAL |
| 7 | AG | 133 | ASN |
| 7 | AG | 136 | ARG |
| 7 | AG | 149 | ARG |
| 7 | AG | 153 | THR |
| 8 | AH | 10 | ILE |
| 8 | AH | 15 | THR |
| 8 | AH | 22 | THR |
| 8 | AH | 37 | HIS |
| 8 | AH | 40 | MET |
| 8 | AH | 48 | VAL |
| 8 | AH | 49 | ILE |
| 8 | AH | 53 | ARG |
| 8 | AH | 57 | GLU |
| 8 | AH | 66 | THR |
| 8 | AH | 70 | LEU |
| 8 | AH | 76 | GLU |
| 8 | AH | 83 | GLU |
| 8 | AH | 86 | LEU |
| 8 | AH | 87 | GLU |
| 8 | AH | 101 | LYS |
| 8 | AH | 102 | LEU |
| 8 | AH | 104 | LEU |
| 8 | AH | 105 | SER |
| 8 | AH | 108 | TYR |
| 8 | AH | 110 | HIS |
| 8 | AH | 113 | GLU |
| 8 | AH | 115 | GLU |
| 8 | AH | 117 | GLU |
| 8 | AH | 120 | LEU |
| 8 | AH | 121 | GLU |
| 8 | AH | 127 | GLN |
| 8 | AH | 131 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 8 | AH | 136 | ASP |
| 8 | AH | 137 | LYS |
| 8 | AH | 142 | GLU |
| 8 | AH | 152 | PRO |
| 8 | AH | 157 | LYS |
| 8 | AH | 161 | ILE |
| 8 | AH | 163 | TYR |
| 8 | AH | 164 | GLU |
| 8 | AH | 167 | LEU |
| 8 | AH | 170 | LEU |
| 9 | AI | 4 | ASP |
| 9 | AI | 36 | PRO |
| 9 | AI | 37 | VAL |
| 9 | AI | 60 | ASP |
| 9 | AI | 80 | ILE |
| 9 | AI | 90 | ASP |
| 9 | AI | 99 | ASP |
| 9 | AI | 118 | LEU |
| 9 | AI | 127 | LEU |
| 9 | AJ | 4 | ASP |
| 9 | AJ | 36 | PRO |
| 9 | AJ | 37 | VAL |
| 9 | AJ | 60 | ASP |
| 9 | AJ | 80 | ILE |
| 9 | AJ | 90 | ASP |
| 9 | AJ | 99 | ASP |
| 9 | AJ | 118 | LEU |
| 9 | AJ | 127 | LEU |
| 10 | AK | 5 | PHE |
| 10 | AK | 6 | LEU |
| 10 | AK | 8 | ASP |
| 10 | AK | 18 | ILE |
| 10 | AK | 19 | LYS |
| 10 | AK | 23 | ASP |
| 10 | AK | 25 | TYR |
| 10 | AK | 29 | PHE |
| 10 | AK | 37 | ILE |
| 10 | AK | 61 | GLU |
| 10 | AK | 69 | LYS |
| 10 | AK | 70 | GLU |
| 10 | AK | 75 | LEU |
| 10 | AK | 79 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 10 | AK | 112 | LYS |
| 10 | AK | 119 | ASP |
| 10 | AK | 126 | TYR |
| 10 | AK | 129 | VAL |
| 10 | AK | 132 | LYS |
| 10 | AK | 136 | GLU |
| 10 | AK | 141 | LEU |
| 10 | AK | 146 | THR |
| 10 | AK | 148 | GLN |
| 11 | AL | 11 | LEU |
| 11 | AL | 28 | LEU |
| 11 | AL | 36 | MET |
| 11 | AL | 41 | ARG |
| 11 | AL | 42 | PHE |
| 11 | AL | 45 | GLU |
| 11 | AL | 48 | ASP |
| 11 | AL | 55 | PRO |
| 11 | AL | 61 | TYR |
| 11 | AL | 63 | ASP |
| 11 | AL | 74 | PRO |
| 11 | AL | 96 | ILE |
| 11 | AL | 104 | GLN |
| 11 | AL | 107 | GLU |
| 11 | AL | 117 | ASN |
| 11 | AL | 129 | GLU |
| 11 | AL | 135 | MET |
| 12 | AM | 5 | GLU |
| 12 | AM | 6 | PHE |
| 12 | AM | 7 | ASP |
| 12 | AM | 17 | CYS |
| 12 | AM | 19 | MET |
| 12 | AM | 21 | ARG |
| 12 | AM | 28 | GLU |
| 12 | AM | 39 | VAL |
| 12 | AM | 47 | THR |
| 12 | AM | 51 | GLU |
| 12 | AM | 54 | VAL |
| 12 | AM | 61 | VAL |
| 12 | AM | 62 | ASP |
| 12 | AM | 67 | ASN |
| 12 | AM | 74 | ARG |
| 12 | AM | 76 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 12 | AM | 79 | PHE |
| 12 | AM | 88 | PRO |
| 12 | AM | 100 | SER |
| 12 | AM | 105 | LEU |
| 12 | AM | 107 | ASN |
| 12 | AM | 110 | ASP |
| 12 | AM | 136 | SER |
| 12 | AM | 139 | LEU |
| 13 | AN | 3 | GLN |
| 13 | AN | 5 | GLU |
| 13 | AN | 6 | SER |
| 13 | AN | 7 | ARG |
| 13 | AN | 8 | LEU |
| 13 | AN | 9 | LYS |
| 13 | AN | 10 | VAL |
| 13 | AN | 13 | ASN |
| 13 | AN | 23 | LYS |
| 13 | AN | 35 | ILE |
| 13 | AN | 47 | THR |
| 13 | AN | 51 | VAL |
| 13 | AN | 52 | VAL |
| 13 | AN | 63 | VAL |
| 13 | AN | 64 | ARG |
| 13 | AN | 65 | THR |
| 13 | AN | 66 | LYS |
| 13 | AN | 77 | ILE |
| 13 | AN | 78 | ARG |
| 13 | AN | 86 | ILE |
| 13 | AN | 90 | ASP |
| 13 | AN | 98 | ILE |
| 13 | AN | 99 | PHE |
| 13 | AN | 104 | ARG |
| 13 | AN | 106 | LEU |
| 13 | AN | 114 | ILE |
| 13 | AN | 122 | ILE |
| 14 | AO | 51 | PHE |
| 14 | AO | 53 | ARG |
| 14 | AO | 56 | LYS |
| 14 | AO | 59 | GLU |
| 14 | AO | 67 | ARG |
| 14 | AO | 70 | ASP |
| 14 | AO | 72 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 14 | AO | 75 | LEU |
| 14 | AO | 94 | ARG |
| 14 | AO | 104 | ASP |
| 14 | AO | 109 | LEU |
| 14 | AO | 113 | GLN |
| 14 | AO | 119 | THR |
| 14 | AO | 120 | LEU |
| 14 | AO | 125 | PHE |
| 14 | AO | 141 | GLU |
| 15 | AP | 10 | ILE |
| 15 | AP | 16 | ARG |
| 15 | AP | 17 | ARG |
| 15 | AP | 19 | TYR |
| 15 | AP | 20 | ILE |
| 15 | AP | 24 | PRO |
| 15 | AP | 32 | LYS |
| 15 | AP | 47 | GLU |
| 15 | AP | 48 | ASN |
| 15 | AP | 49 | VAL |
| 15 | AP | 51 | GLU |
| 15 | AP | 54 | VAL |
| 15 | AP | 59 | ASN |
| 15 | AP | 61 | LEU |
| 15 | AP | 69 | ASN |
| 15 | AP | 72 | VAL |
| 15 | AP | 88 | PHE |
| 15 | AP | 89 | PRO |
| 15 | AP | 90 | PHE |
| 15 | AP | 91 | HIS |
| 15 | AP | 93 | ILE |
| 15 | AP | 94 | ARG |
| 15 | AP | 95 | GLU |
| 15 | AP | 109 | VAL |
| 15 | AP | 116 | HIS |
| 15 | AP | 122 | PHE |
| 15 | AP | 125 | TRP |
| 15 | AP | 133 | GLU |
| 15 | AP | 136 | TRP |
| 15 | AP | 137 | ARG |
| 15 | AP | 142 | LYS |
| 15 | AP | 144 | THR |
| 15 | AP | 145 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 15 | AP | 146 | THR |
| 15 | AP | 150 | ASP |
| 15 | AP | 152 | SER |
| 15 | AP | 153 | PRO |
| 16 | AQ | 10 | MET |
| 16 | AQ | 12 | ARG |
| 16 | AQ | 13 | ARG |
| 16 | AQ | 14 | ARG |
| 16 | AQ | 17 | ARG |
| 16 | AQ | 18 | THR |
| 16 | AQ | 19 | ASP |
| 16 | AQ | 21 | HIS |
| 16 | AQ | 22 | GLN |
| 16 | AQ | 23 | ARG |
| 16 | AQ | 27 | LEU |
| 16 | AQ | 28 | LYS |
| 16 | AQ | 32 | PRO |
| 16 | AQ | 42 | HIS |
| 16 | AQ | 52 | PRO |
| 16 | AQ | 57 | THR |
| 16 | AQ | 71 | TRP |
| 16 | AQ | 72 | GLU |
| 16 | AQ | 74 | PRO |
| 16 | AQ | 87 | LEU |
| 16 | AQ | 93 | GLN |
| 16 | AQ | 94 | GLU |
| 16 | AQ | 99 | GLU |
| 16 | AQ | 101 | VAL |
| 16 | AQ | 102 | LEU |
| 16 | AQ | 103 | ASP |
| 16 | AQ | 107 | ASN |
| 16 | AQ | 109 | PRO |
| 16 | AQ | 111 | PRO |
| 16 | AQ | 124 | ASP |
| 16 | AQ | 128 | ASP |
| 17 | AR | 4 | ARG |
| 17 | AR | 7 | ASP |
| 17 | AR | 8 | TYR |
| 17 | AR | 11 | THR |
| 17 | AR | 12 | ASP |
| 17 | AR | 13 | ILE |
| 17 | AR | 14 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 17 | AR | 20 | MET |
| 17 | AR | 21 | PHE |
| 17 | AR | 22 | VAL |
| 17 | AR | 23 | HIS |
| 17 | AR | 28 | THR |
| 17 | AR | 29 | THR |
| 17 | AR | 32 | CYS |
| 17 | AR | 36 | CYS |
| 17 | AR | 42 | LEU |
| 17 | AR | 44 | ARG |
| 17 | AR | 48 | ASN |
| 17 | AR | 49 | LEU |
| 17 | AR | 51 | TRP |
| 18 | AS | 11 | ARG |
| 18 | AS | 13 | SER |
| 18 | AS | 14 | PRO |
| 18 | AS | 22 | ASP |
| 18 | AS | 25 | ARG |
| 18 | AS | 28 | SER |
| 18 | AS | 29 | LEU |
| 18 | AS | 30 | GLU |
| 18 | AS | 34 | ASN |
| 18 | AS | 41 | LYS |
| 18 | AS | 49 | LYS |
| 18 | AS | 63 | ASP |
| 18 | AS | 66 | GLU |
| 18 | AS | 67 | ASP |
| 18 | AS | 71 | VAL |
| 18 | AS | 75 | TYR |
| 18 | AS | 76 | VAL |
| 18 | AS | 82 | LEU |
| 18 | AS | 84 | ARG |
| 18 | AS | 86 | LEU |
| 18 | AS | 90 | ARG |
| 18 | AS | 103 | ILE |
| 18 | AS | 107 | LEU |
| 19 | AT | 2 | TRP |
| 19 | AT | 4 | VAL |
| 19 | AT | 11 | THR |
| 19 | AT | 17 | ASP |
| 19 | AT | 18 | MET |
| 19 | AT | 19 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 19 | AT | 20 | PHE |
| 19 | AT | 24 | LEU |
| 19 | AT | 25 | GLN |
| 19 | AT | 26 | PHE |
| 19 | AT | 30 | ASP |
| 19 | AT | 31 | ARG |
| 19 | AT | 36 | GLU |
| 19 | AT | 45 | TYR |
| 19 | AT | 46 | ASP |
| 19 | AT | 50 | GLU |
| 19 | AT | 57 | THR |
| 19 | AT | 59 | ASP |
| 19 | AT | 76 | GLU |
| 20 | AU | 15 | PRO |
| 20 | AU | 18 | GLU |
| 20 | AU | 19 | ARG |
| 20 | AU | 23 | VAL |
| 20 | AU | 26 | THR |
| 20 | AU | 27 | LEU |
| 20 | AU | 30 | ASP |
| 20 | AU | 31 | LEU |
| 20 | AU | 35 | TYR |
| 20 | AU | 47 | THR |
| 20 | AU | 49 | GLU |
| 20 | AU | 51 | LEU |
| 20 | AU | 61 | GLU |
| 20 | AU | 64 | ASN |
| 20 | AU | 71 | VAL |
| 20 | AU | 75 | GLU |
| 20 | AU | 77 | VAL |
| 20 | AU | 81 | LYS |
| 20 | AU | 83 | ASP |
| 20 | AU | 97 | ARG |
| 20 | AU | 100 | ASP |
| 20 | AU | 105 | ASP |
| 21 | AV | 2 | GLU |
| 21 | AV | 9 | THR |
| 21 | AV | 10 | PRO |
| 21 | AV | 14 | LEU |
| 21 | AV | 16 | GLU |
| 21 | AV | 19 | ILE |
| 21 | AV | 24 | TYR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 21 | AV | 25 | ASN |
| 21 | AV | 26 | LYS |
| 21 | AV | 27 | GLU |
| 21 | AV | 32 | PHE |
| 21 | AV | 34 | LEU |
| 21 | AV | 35 | ASP |
| 21 | AV | 36 | ARG |
| 21 | AV | 40 | ASP |
| 21 | AV | 41 | ARG |
| 21 | AV | 45 | GLN |
| 21 | AV | 49 | THR |
| 21 | AV | 51 | LEU |
| 21 | AV | 57 | GLU |
| 21 | AV | 63 | PRO |
| 21 | AV | 66 | VAL |
| 21 | AV | 67 | LYS |
| 21 | AV | 69 | VAL |
| 21 | AV | 70 | GLN |
| 21 | AV | 72 | ASP |
| 21 | AV | 74 | ARG |
| 21 | AV | 87 | THR |
| 21 | AV | 88 | TYR |
| 21 | AV | 91 | PRO |
| 21 | AV | 103 | ARG |
| 21 | AV | 107 | GLU |
| 21 | AV | 113 | VAL |
| 21 | AV | 114 | ASP |
| 21 | AV | 115 | ILE |
| 21 | AV | 118 | HIS |
| 21 | AV | 120 | LEU |
| 21 | AV | 127 | PRO |
| 21 | AV | 141 | MET |
| 21 | AV | 159 | THR |
| 21 | AV | 165 | GLU |
| 21 | AV | 166 | LEU |
| 22 | AW | 7 | GLU |
| 22 | AW | 10 | ASP |
| 22 | AW | 19 | GLU |
| 22 | AW | 20 | LEU |
| 22 | AW | 21 | ASP |
| 22 | AW | 22 | ASP |
| 22 | AW | 24 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 22 | AW | 34 | GLN |
| 22 | AW | 45 | ARG |
| 22 | AW | 46 | ILE |
| 22 | AW | 55 | ARG |
| 22 | AW | 58 | THR |
| 22 | AW | 60 | GLN |
| 22 | AW | 62 | GLU |
| 22 | AW | 65 | ASP |
| 23 | AX | 2 | PRO |
| 23 | AX | 4 | LEU |
| 23 | AX | 6 | VAL |
| 23 | AX | 9 | VAL |
| 23 | AX | 16 | PRO |
| 23 | AX | 18 | ASP |
| 23 | AX | 23 | LEU |
| 23 | AX | 30 | ARG |
| 23 | AX | 31 | LEU |
| 23 | AX | 32 | GLN |
| 23 | AX | 38 | GLU |
| 23 | AX | 40 | THR |
| 23 | AX | 41 | PRO |
| 23 | AX | 43 | ILE |
| 23 | AX | 48 | GLU |
| 23 | AX | 50 | VAL |
| 23 | AX | 57 | GLU |
| 23 | AX | 59 | VAL |
| 24 | A0 | 16 | HIS |
| 24 | A0 | 17 | ARG |
| 24 | A0 | 18 | LEU |
| 24 | A0 | 23 | ASN |
| 24 | A0 | 27 | SER |
| 24 | A0 | 35 | THR |
| 24 | A0 | 36 | THR |
| 24 | A0 | 50 | HIS |
| 24 | A0 | 51 | LEU |
| 24 | A0 | 52 | ILE |
| 24 | A0 | 54 | LEU |
| 24 | A0 | 56 | LYS |
| 24 | A0 | 60 | LEU |
| 24 | A0 | 68 | ARG |
| 24 | A0 | 70 | LEU |
| 24 | A0 | 73 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 24 | A0 | 75 | LEU |
| 24 | A0 | 76 | VAL |
| 24 | A0 | 77 | ARG |
| 24 | A0 | 79 | LEU |
| 24 | A0 | 80 | PHE |
| 24 | A0 | 82 | GLU |
| 24 | A0 | 83 | ILE |
| 24 | A0 | 86 | ARG |
| 24 | A0 | 88 | ARG |
| 24 | A0 | 91 | GLN |
| 24 | A0 | 100 | LEU |
| 24 | A0 | 105 | ARG |
| 24 | A0 | 113 | LEU |
| 24 | A0 | 116 | LEU |
| 25 | A1 | 3 | ARG |
| 25 | A1 | 8 | ILE |
| 25 | A1 | 9 | VAL |
| 25 | A1 | 11 | ARG |
| 25 | A1 | 13 | ARG |
| 25 | A1 | 19 | LYS |
| 25 | A1 | 24 | PHE |
| 25 | A1 | 27 | SER |
| 25 | A1 | 28 | ARG |
| 25 | A1 | 36 | PHE |
| 25 | A1 | 39 | LEU |
| 25 | A1 | 40 | LEU |
| 25 | A1 | 41 | ASN |
| 25 | A1 | 45 | TYR |
| 25 | A1 | 46 | GLU |
| 25 | A1 | 47 | TYR |
| 25 | A1 | 59 | ARG |
| 25 | A1 | 71 | LEU |
| 25 | A1 | 72 | HIS |
| 25 | A1 | 75 | ASN |
| 25 | A1 | 83 | LEU |
| 25 | A1 | 87 | ASN |
| 25 | A1 | 88 | ILE |
| 25 | A1 | 102 | GLU |
| 25 | A1 | 109 | LEU |
| 25 | A1 | 111 | ASP |
| 25 | A1 | 113 | SER |
| 25 | A1 | 114 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 25 | A1 | 117 | ARG |
| 26 | A2 | 2 | PHE |
| 26 | A2 | 15 | SER |
| 26 | A2 | 20 | ILE |
| 26 | A2 | 31 | ASP |
| 26 | A2 | 35 | LEU |
| 26 | A2 | 38 | LEU |
| 26 | A2 | 39 | PHE |
| 26 | A2 | 40 | VAL |
| 26 | A2 | 44 | GLN |
| 26 | A2 | 50 | ASP |
| 26 | A2 | 63 | HIS |
| 26 | A2 | 69 | ILE |
| 26 | A2 | 74 | TYR |
| 26 | A2 | 75 | LYS |
| 26 | A2 | 78 | VAL |
| 26 | A2 | 80 | TYR |
| 26 | A2 | 90 | PHE |
| 26 | A2 | 95 | ILE |
| 26 | A2 | 96 | LEU |
| 27 | A3 | 10 | SER |
| 27 | A3 | 14 | ARG |
| 27 | A3 | 26 | PHE |
| 27 | A3 | 39 | ARG |
| 27 | A3 | 43 | THR |
| 27 | A3 | 45 | PHE |
| 27 | A3 | 46 | LYS |
| 27 | A3 | 49 | GLN |
| 27 | A3 | 55 | ARG |
| 27 | A3 | 56 | ASP |
| 27 | A3 | 57 | HIS |
| 27 | A3 | 62 | LEU |
| 27 | A3 | 66 | LYS |
| 27 | A3 | 67 | VAL |
| 27 | A3 | 70 | ILE |
| 27 | A3 | 77 | ARG |
| 27 | A3 | 78 | PHE |
| 27 | A3 | 81 | ILE |
| 28 | A4 | 5 | LEU |
| 28 | A4 | 11 | PRO |
| 28 | A4 | 16 | TYR |
| 28 | A4 | 19 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 28 | A4 | 23 | GLU |
| 28 | A4 | 25 | MET |
| 28 | A4 | 29 | PRO |
| 28 | A4 | 36 | TRP |
| 28 | A4 | 37 | SER |
| 28 | A4 | 46 | GLU |
| 28 | A4 | 49 | PHE |
| 28 | A4 | 51 | ASP |
| 28 | A4 | 59 | PHE |
| 28 | A4 | 67 | TYR |
| 28 | A4 | 68 | ARG |
| 28 | A4 | 73 | LYS |
| 29 | A5 | 3 | LYS |
| 29 | A5 | 5 | PRO |
| 29 | A5 | 6 | VAL |
| 29 | A5 | 10 | LYS |
| 29 | A5 | 11 | THR |
| 29 | A5 | 22 | HIS |
| 29 | A5 | 23 | HIS |
| 29 | A5 | 25 | LEU |
| 29 | A5 | 31 | THR |
| 29 | A5 | 34 | PRO |
| 29 | A5 | 42 | SER |
| 29 | A5 | 45 | ILE |
| 29 | A5 | 55 | ARG |
| 30 | A6 | 9 | ILE |
| 30 | A6 | 20 | PHE |
| 30 | A6 | 22 | TYR |
| 30 | A6 | 23 | THR |
| 30 | A6 | 28 | ARG |
| 30 | A6 | 35 | LEU |
| 30 | A6 | 40 | TYR |
| 30 | A6 | 41 | ASP |
| 30 | A6 | 46 | LYS |
| 30 | A6 | 47 | HIS |
| 30 | A6 | 54 | LYS |
| 31 | A7 | 3 | ARG |
| 31 | A7 | 4 | THR |
| 31 | A7 | 6 | GLN |
| 31 | A7 | 15 | THR |
| 31 | A7 | 16 | HIS |
| 31 | A7 | 22 | MET |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 31 | A7 | 30 | ILE |
| 31 | A7 | 35 | ARG |
| 31 | A7 | 40 | HIS |
| 32 | A8 | 4 | MET |
| 32 | A8 | 5 | LYS |
| 32 | A8 | 8 | LYS |
| 32 | A8 | 12 | ARG |
| 32 | A8 | 13 | ARG |
| 32 | A8 | 16 | ILE |
| 32 | A8 | 25 | PHE |
| 32 | A8 | 31 | HIS |
| 32 | A8 | 37 | SER |
| 32 | A8 | 41 | ILE |
| 32 | A8 | 42 | ARG |
| 32 | A8 | 48 | PHE |
| 32 | A8 | 50 | LEU |
| 32 | A8 | 55 | TRP |
| 32 | A8 | 58 | MET |
| 32 | A8 | 63 | PRO |
| 32 | A8 | 64 | ARG |
| 33 | A9 | 2 | LYS |
| 33 | A9 | 8 | LYS |
| 33 | A9 | 13 | ASN |
| 33 | A9 | 34 | GLN |
| 37 | BE | 9 | GLU |
| 37 | BE | 11 | LEU |
| 37 | BE | 12 | GLU |
| 37 | BE | 17 | PHE |
| 37 | BE | 21 | ARG |
| 37 | BE | 23 | ARG |
| 37 | BE | 24 | TRP |
| 37 | BE | 25 | ASN |
| 37 | BE | 26 | PRO |
| 37 | BE | 28 | PHE |
| 37 | BE | 36 | ARG |
| 37 | BE | 42 | ILE |
| 37 | BE | 44 | LEU |
| 37 | BE | 48 | MET |
| 37 | BE | 56 | ARG |
| 37 | BE | 57 | PHE |
| 37 | BE | 61 | LEU |
| 37 | BE | 63 | MET |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 37 | BE | 64 | ARG |
| 37 | BE | 98 | LEU |
| 37 | BE | 102 | LEU |
| 37 | BE | 104 | ASN |
| 37 | BE | 122 | PHE |
| 37 | BE | 130 | ARG |
| 37 | BE | 135 | GLN |
| 37 | BE | 143 | GLU |
| 37 | BE | 147 | LYS |
| 37 | BE | 148 | TYR |
| 37 | BE | 150 | SER |
| 37 | BE | 152 | PHE |
| 37 | BE | 154 | LEU |
| 37 | BE | 162 | ILE |
| 37 | BE | 169 | LYS |
| 37 | BE | 172 | ILE |
| 37 | BE | 185 | ILE |
| 37 | BE | 187 | LEU |
| 37 | BE | 190 | THR |
| 37 | BE | 195 | ASP |
| 37 | BE | 201 | ILE |
| 37 | BE | 204 | ASN |
| 37 | BE | 205 | ASP |
| 37 | BE | 208 | ILE |
| 37 | BE | 209 | ARG |
| 37 | BE | 212 | GLN |
| 37 | BE | 215 | LEU |
| 37 | BE | 217 | ARG |
| 37 | BE | 222 | ILE |
| 37 | BE | 223 | ILE |
| 37 | BE | 230 | VAL |
| 37 | BE | 238 | LEU |
| 38 | BF | 3 | ASN |
| 38 | BF | 8 | ILE |
| 38 | BF | 11 | ARG |
| 38 | BF | 12 | LEU |
| 38 | BF | 18 | TRP |
| 38 | BF | 20 | SER |
| 38 | BF | 29 | TYR |
| 38 | BF | 34 | LEU |
| 38 | BF | 36 | ASP |
| 38 | BF | 43 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 38 | BF | 47 | LEU |
| 38 | BF | 52 | LEU |
| 38 | BF | 73 | PRO |
| 38 | BF | 77 | ILE |
| 38 | BF | 91 | LEU |
| 38 | BF | 98 | ASN |
| 38 | BF | 110 | ASN |
| 38 | BF | 128 | PHE |
| 38 | BF | 139 | GLN |
| 38 | BF | 156 | ARG |
| 38 | BF | 161 | GLU |
| 38 | BF | 162 | GLN |
| 38 | BF | 164 | ARG |
| 38 | BF | 165 | THR |
| 38 | BF | 175 | LEU |
| 38 | BF | 176 | HIS |
| 38 | BF | 178 | LEU |
| 38 | BF | 179 | ARG |
| 38 | BF | 186 | PHE |
| 38 | BF | 193 | TYR |
| 38 | BF | 196 | LEU |
| 38 | BF | 198 | VAL |
| 38 | BF | 204 | LEU |
| 39 | BG | 8 | VAL |
| 39 | BG | 15 | GLU |
| 39 | BG | 20 | TYR |
| 39 | BG | 26 | CYS |
| 39 | BG | 27 | TYR |
| 39 | BG | 33 | MET |
| 39 | BG | 45 | GLN |
| 39 | BG | 47 | ARG |
| 39 | BG | 50 | ARG |
| 39 | BG | 51 | PRO |
| 39 | BG | 53 | ASP |
| 39 | BG | 58 | LEU |
| 39 | BG | 60 | GLU |
| 39 | BG | 61 | LYS |
| 39 | BG | 62 | GLN |
| 39 | BG | 63 | LYS |
| 39 | BG | 67 | ILE |
| 39 | BG | 77 | ASN |
| 39 | BG | 78 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 39 | BG | 83 | SER |
| 39 | BG | 86 | LYS |
| 39 | BG | 99 | SER |
| 39 | BG | 107 | ARG |
| 39 | BG | 122 | ARG |
| 39 | BG | 125 | HIS |
| 39 | BG | 128 | VAL |
| 39 | BG | 131 | ARG |
| 39 | BG | 132 | ARG |
| 39 | BG | 135 | LEU |
| 39 | BG | 137 | SER |
| 39 | BG | 154 | ASN |
| 39 | BG | 159 | ARG |
| 39 | BG | 165 | MET |
| 39 | BG | 173 | TRP |
| 39 | BG | 175 | SER |
| 39 | BG | 176 | LEU |
| 39 | BG | 177 | ASP |
| 39 | BG | 181 | MET |
| 39 | BG | 182 | LYS |
| 39 | BG | 185 | PHE |
| 39 | BG | 190 | ASP |
| 39 | BG | 192 | GLU |
| 39 | BG | 193 | ASP |
| 39 | BG | 200 | GLU |
| 40 | BH | 6 | PHE |
| 40 | BH | 10 | MET |
| 40 | BH | 11 | ILE |
| 40 | BH | 12 | LEU |
| 40 | BH | 13 | ILE |
| 40 | BH | 15 | ARG |
| 40 | BH | 19 | MET |
| 40 | BH | 20 | GLN |
| 40 | BH | 26 | PHE |
| 40 | BH | 27 | ARG |
| 40 | BH | 28 | PHE |
| 40 | BH | 31 | LEU |
| 40 | BH | 36 | ASP |
| 40 | BH | 40 | ARG |
| 40 | BH | 41 | VAL |
| 40 | BH | 43 | LEU |
| 40 | BH | 53 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 40 | BH | 56 | GLN |
| 40 | BH | 63 | ARG |
| 40 | BH | 64 | ARG |
| 40 | BH | 67 | VAL |
| 40 | BH | 68 | GLU |
| 40 | BH | 69 | VAL |
| 40 | BH | 71 | LEU |
| 40 | BH | 73 | ASN |
| 40 | BH | 75 | THR |
| 40 | BH | 76 | ILE |
| 40 | BH | 78 | HIS |
| 40 | BH | 80 | ILE |
| 40 | BH | 81 | GLU |
| 40 | BH | 82 | VAL |
| 40 | BH | 89 | ILE |
| 40 | BH | 96 | PRO |
| 40 | BH | 101 | ILE |
| 40 | BH | 105 | VAL |
| 40 | BH | 109 | ILE |
| 40 | BH | 112 | LEU |
| 40 | BH | 115 | VAL |
| 40 | BH | 117 | ASP |
| 40 | BH | 118 | ILE |
| 40 | BH | 120 | THR |
| 40 | BH | 127 | ASN |
| 40 | BH | 128 | PRO |
| 40 | BH | 131 | ILE |
| 40 | BH | 137 | GLU |
| 40 | BH | 140 | ARG |
| 40 | BH | 143 | ARG |
| 40 | BH | 145 | LYS |
| 40 | BH | 150 | ARG |
| 41 | BI | 4 | TYR |
| 41 | BI | 9 | VAL |
| 41 | BI | 10 | LEU |
| 41 | BI | 11 | ASN |
| 41 | BI | 14 | LEU |
| 41 | BI | 18 | GLN |
| 41 | BI | 24 | GLU |
| 41 | BI | 28 | ARG |
| 41 | BI | 36 | ARG |
| 41 | BI | 37 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 41 | BI | 39 | LYS |
| 41 | BI | 40 | VAL |
| 41 | BI | 47 | ARG |
| 41 | BI | 52 | ILE |
| 41 | BI | 54 | LYS |
| 41 | BI | 57 | GLN |
| 41 | BI | 60 | PHE |
| 41 | BI | 67 | MET |
| 41 | BI | 70 | ASP |
| 41 | BI | 74 | ASP |
| 41 | BI | 79 | LEU |
| 41 | BI | 86 | ARG |
| 41 | BI | 90 | VAL |
| 41 | BI | 94 | GLN |
| 41 | BI | 95 | GLU |
| 41 | BI | 96 | PRO |
| 42 | BJ | 8 | GLU |
| 42 | BJ | 10 | ARG |
| 42 | BJ | 28 | ASN |
| 42 | BJ | 36 | LYS |
| 42 | BJ | 37 | ASN |
| 42 | BJ | 52 | GLU |
| 42 | BJ | 72 | ARG |
| 42 | BJ | 84 | ASN |
| 42 | BJ | 103 | TRP |
| 42 | BJ | 104 | LEU |
| 42 | BJ | 106 | GLN |
| 42 | BJ | 111 | ARG |
| 42 | BJ | 113 | GLU |
| 42 | BJ | 114 | ARG |
| 42 | BJ | 118 | VAL |
| 42 | BJ | 124 | LEU |
| 42 | BJ | 126 | ASP |
| 42 | BJ | 136 | LYS |
| 42 | BJ | 140 | ASP |
| 42 | BJ | 155 | ARG |
| 43 | BK | 1 | MET |
| 43 | BK | 3 | THR |
| 43 | BK | 4 | ASP |
| 43 | BK | 5 | PRO |
| 43 | BK | 6 | ILE |
| 43 | BK | 14 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 43 | BK | 18 | ARG |
| 43 | BK | 23 | SER |
| 43 | BK | 25 | ASP |
| 43 | BK | 26 | VAL |
| 43 | BK | 33 | GLU |
| 43 | BK | 34 | GLU |
| 43 | BK | 36 | LEU |
| 43 | BK | 37 | ARG |
| 43 | BK | 38 | ILE |
| 43 | BK | 39 | LEU |
| 43 | BK | 41 | ARG |
| 43 | BK | 45 | ILE |
| 43 | BK | 49 | GLU |
| 43 | BK | 50 | ARG |
| 43 | BK | 58 | TYR |
| 43 | BK | 59 | LEU |
| 43 | BK | 63 | LEU |
| 43 | BK | 65 | TYR |
| 43 | BK | 70 | GLN |
| 43 | BK | 78 | GLN |
| 43 | BK | 80 | ILE |
| 43 | BK | 83 | ILE |
| 43 | BK | 84 | ARG |
| 43 | BK | 91 | ARG |
| 43 | BK | 92 | ARG |
| 43 | BK | 98 | LYS |
| 43 | BK | 100 | ILE |
| 43 | BK | 102 | ARG |
| 43 | BK | 103 | VAL |
| 43 | BK | 105 | ARG |
| 43 | BK | 107 | LEU |
| 43 | BK | 109 | ILE |
| 43 | BK | 111 | ILE |
| 43 | BK | 116 | LYS |
| 43 | BK | 120 | THR |
| 43 | BK | 121 | ASP |
| 43 | BK | 122 | ARG |
| 43 | BK | 126 | LYS |
| 43 | BK | 127 | LEU |
| 43 | BK | 136 | GLU |
| 44 | BL | 3 | GLN |
| 44 | BL | 4 | TYR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 44 | BL | 5 | TYR |
| 44 | BL | 10 | ARG |
| 44 | BL | 31 | GLN |
| 44 | BL | 32 | ASP |
| 44 | BL | 37 | PHE |
| 44 | BL | 38 | GLN |
| 44 | BL | 50 | LEU |
| 44 | BL | 51 | ARG |
| 44 | BL | 64 | THR |
| 44 | BL | 75 | ASP |
| 44 | BL | 102 | LEU |
| 44 | BL | 108 | VAL |
| 44 | BL | 110 | GLU |
| 44 | BL | 114 | TYR |
| 44 | BL | 116 | LYS |
| 45 | BM | 5 | ARG |
| 45 | BM | 9 | ARG |
| 45 | BM | 11 | PHE |
| 45 | BM | 12 | ASP |
| 45 | BM | 13 | HIS |
| 45 | BM | 45 | ARG |
| 45 | BM | 47 | PHE |
| 45 | BM | 60 | ARG |
| 45 | BM | 62 | HIS |
| 45 | BM | 63 | PHE |
| 45 | BM | 64 | GLU |
| 45 | BM | 71 | LEU |
| 45 | BM | 73 | ASP |
| 45 | BM | 77 | PRO |
| 45 | BM | 78 | ASN |
| 45 | BM | 83 | GLU |
| 45 | BM | 95 | GLU |
| 45 | BM | 100 | THR |
| 46 | BN | 16 | SER |
| 46 | BN | 18 | ARG |
| 46 | BN | 21 | ILE |
| 46 | BN | 26 | ASN |
| 46 | BN | 34 | ASP |
| 46 | BN | 50 | TYR |
| 46 | BN | 62 | GLN |
| 46 | BN | 66 | LEU |
| 46 | BN | 67 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 46 | BN | 73 | MET |
| 46 | BN | 75 | TYR |
| 46 | BN | 77 | MET |
| 46 | BN | 78 | GLN |
| 46 | BN | 92 | GLU |
| 46 | BN | 101 | SER |
| 46 | BN | 103 | LEU |
| 46 | BN | 107 | SER |
| 46 | BN | 116 | HIS |
| 46 | BN | 121 | PRO |
| 46 | BN | 129 | SER |
| 47 | BO | 17 | LYS |
| 47 | BO | 23 | LYS |
| 47 | BO | 24 | VAL |
| 47 | BO | 33 | ARG |
| 47 | BO | 42 | THR |
| 47 | BO | 48 | PRO |
| 47 | BO | 53 | ARG |
| 47 | BO | 60 | LEU |
| 47 | BO | 61 | THR |
| 47 | BO | 66 | VAL |
| 47 | BO | 80 | HIS |
| 47 | BO | 93 | LEU |
| 47 | BO | 96 | VAL |
| 47 | BO | 99 | HIS |
| 47 | BO | 100 | ILE |
| 47 | BO | 101 | VAL |
| 47 | BO | 113 | ARG |
| 47 | BO | 122 | THR |
| 47 | BO | 126 | LYS |
| 48 | BP | 9 | ILE |
| 48 | BP | 32 | GLU |
| 48 | BP | 37 | THR |
| 48 | BP | 43 | THR |
| 48 | BP | 44 | ARG |
| 48 | BP | 47 | ASP |
| 48 | BP | 48 | LEU |
| 48 | BP | 56 | LEU |
| 48 | BP | 61 | GLU |
| 48 | BP | 64 | TRP |
| 48 | BP | 77 | ASN |
| 48 | BP | 80 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 48 | BP | 81 | LEU |
| 48 | BP | 82 | MET |
| 48 | BP | 87 | TYR |
| 48 | BP | 96 | LEU |
| 48 | BP | 108 | ARG |
| 48 | BP | 109 | THR |
| 48 | BP | 110 | ARG |
| 48 | BP | 121 | LYS |
| 49 | BQ | 21 | TYR |
| 49 | BQ | 22 | THR |
| 49 | BQ | 25 | VAL |
| 49 | BQ | 34 | TYR |
| 49 | BQ | 36 | PHE |
| 49 | BQ | 40 | CYS |
| 49 | BQ | 43 | CYS |
| 49 | BQ | 58 | LYS |
| 50 | BR | 3 | ILE |
| 50 | BR | 4 | THR |
| 50 | BR | 6 | GLU |
| 50 | BR | 22 | THR |
| 50 | BR | 25 | THR |
| 50 | BR | 26 | GLU |
| 50 | BR | 32 | LEU |
| 50 | BR | 33 | THR |
| 50 | BR | 34 | LEU |
| 50 | BR | 36 | ILE |
| 50 | BR | 38 | ARG |
| 50 | BR | 44 | LYS |
| 50 | BR | 46 | HIS |
| 50 | BR | 54 | ARG |
| 50 | BR | 57 | LEU |
| 50 | BR | 63 | ARG |
| 50 | BR | 65 | ARG |
| 50 | BR | 70 | LEU |
| 50 | BR | 77 | ARG |
| 50 | BR | 83 | GLU |
| 51 | BS | 1 | MET |
| 51 | BS | 3 | LYS |
| 51 | BS | 4 | ILE |
| 51 | BS | 6 | LEU |
| 51 | BS | 8 | ARG |
| 51 | BS | 11 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 51 | BS | 12 | LYS |
| 51 | BS | 14 | ASN |
| 51 | BS | 17 | TYR |
| 51 | BS | 21 | VAL |
| 51 | BS | 22 | THR |
| 51 | BS | 27 | LYS |
| 51 | BS | 28 | ARG |
| 51 | BS | 32 | TYR |
| 51 | BS | 39 | TYR |
| 51 | BS | 40 | ASP |
| 51 | BS | 44 | THR |
| 51 | BS | 48 | TRP |
| 51 | BS | 52 | ASP |
| 51 | BS | 55 | ARG |
| 51 | BS | 58 | TYR |
| 51 | BS | 62 | VAL |
| 51 | BS | 66 | PRO |
| 51 | BS | 68 | ASP |
| 51 | BS | 69 | THR |
| 51 | BS | 71 | ARG |
| 51 | BS | 74 | LEU |
| 51 | BS | 75 | ARG |
| 52 | BT | 9 | VAL |
| 52 | BT | 18 | THR |
| 52 | BT | 19 | VAL |
| 52 | BT | 21 | VAL |
| 52 | BT | 23 | VAL |
| 52 | BT | 24 | GLU |
| 52 | BT | 28 | PRO |
| 52 | BT | 36 | ILE |
| 52 | BT | 37 | LYS |
| 52 | BT | 38 | ARG |
| 52 | BT | 39 | SER |
| 52 | BT | 43 | LEU |
| 52 | BT | 48 | GLU |
| 52 | BT | 51 | TYR |
| 52 | BT | 57 | VAL |
| 52 | BT | 58 | GLU |
| 52 | BT | 60 | ILE |
| 52 | BT | 62 | SER |
| 52 | BT | 75 | ARG |
| 52 | BT | 78 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 52 | BT | 96 | GLN |
| 52 | BT | 101 | ARG |
| 53 | BU | 25 | THR |
| 53 | BU | 28 | GLU |
| 53 | BU | 36 | ASN |
| 53 | BU | 38 | GLU |
| 53 | BU | 40 | LEU |
| 53 | BU | 44 | LEU |
| 53 | BU | 49 | LYS |
| 53 | BU | 54 | ARG |
| 53 | BU | 62 | GLU |
| 53 | BU | 72 | ARG |
| 53 | BU | 74 | ARG |
| 53 | BU | 75 | ILE |
| 53 | BU | 76 | LEU |
| 53 | BU | 79 | LEU |
| 53 | BU | 81 | PHE |
| 53 | BU | 83 | GLU |
| 53 | BU | 88 | LYS |
| 54 | BV | 12 | ASP |
| 54 | BV | 15 | LEU |
| 54 | BV | 18 | LYS |
| 54 | BV | 20 | LEU |
| 54 | BV | 21 | GLU |
| 54 | BV | 30 | LEU |
| 54 | BV | 34 | TRP |
| 54 | BV | 53 | ASN |
| 54 | BV | 57 | HIS |
| 54 | BV | 61 | TYR |
| 54 | BV | 64 | GLU |
| 54 | BV | 74 | PHE |
| 55 | BW | 8 | ARG |
| 55 | BW | 9 | ASN |
| 55 | BW | 13 | LEU |
| 55 | BW | 16 | HIS |
| 55 | BW | 19 | SER |
| 55 | BW | 26 | ASN |
| 55 | BW | 30 | LYS |
| 55 | BW | 31 | SER |
| 55 | BW | 36 | LEU |
| 55 | BW | 42 | GLN |
| 55 | BW | 46 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 55 | BW | 51 | GLU |
| 55 | BW | 61 | SER |
| 55 | BW | 62 | LEU |
| 55 | BW | 63 | ILE |
| 55 | BW | 71 | THR |
| 55 | BW | 72 | LEU |
| 55 | BW | 73 | HIS |
| 55 | BW | 75 | ASN |
| 55 | BW | 79 | ARG |
| 55 | BW | 82 | SER |
| 55 | BW | 90 | GLN |
| 55 | BW | 105 | SER |
| 56 | BX | 5 | ASP |
| 56 | BX | 18 | TYR |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (187) such sidechains are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | AC | 27 | HIS |
| 3 | AC | 57 | ASN |
| 3 | AC | 139 | ASN |
| 4 | AD | 60 | GLN |
| 4 | AD | 85 | ASN |
| 4 | AD | 89 | ASN |
| 4 | AD | 133 | ASN |
| 4 | AD | 142 | ASN |
| 4 | AD | 152 | GLN |
| 4 | AD | 196 | ASN |
| 4 | AD | 209 | ASN |
| 4 | AD | 223 | ASN |
| 4 | AD | 230 | ASN |
| 4 | AD | 234 | HIS |
| 5 | AE | 242 | ASN |
| 5 | AE | 259 | HIS |
| 5 | AE | 265 | ASN |
| 6 | AF | 11 | ASN |
| 6 | AF | 39 | GLN |
| 6 | AF | 103 | ASN |
| 6 | AF | 219 | ASN |
| 7 | AG | 11 | HIS |
| 7 | AG | 36 | ASN |
| 7 | AG | 47 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 7 | AG | 133 | ASN |
| 8 | AH | 59 | HIS |
| 8 | AH | 73 | ASN |
| 8 | AH | 110 | HIS |
| 8 | AH | 127 | GLN |
| 9 | AI | 72 | GLN |
| 9 | AJ | 72 | GLN |
| 10 | AK | 33 | GLN |
| 10 | AK | 43 | ASN |
| 10 | AK | 55 | GLN |
| 10 | AK | 64 | ASN |
| 10 | AK | 103 | GLN |
| 10 | AK | 106 | HIS |
| 11 | AL | 12 | GLN |
| 11 | AL | 31 | HIS |
| 12 | AM | 40 | ASN |
| 12 | AM | 92 | GLN |
| 13 | AN | 34 | ASN |
| 13 | AN | 82 | ASN |
| 14 | AO | 55 | GLN |
| 14 | AO | 58 | GLN |
| 14 | AO | 113 | GLN |
| 15 | AP | 48 | ASN |
| 15 | AP | 59 | ASN |
| 15 | AP | 66 | ASN |
| 15 | AP | 74 | ASN |
| 15 | AP | 116 | HIS |
| 15 | AP | 120 | HIS |
| 15 | AP | 148 | ASN |
| 15 | AP | 156 | ASN |
| 18 | AS | 34 | ASN |
| 18 | AS | 40 | ASN |
| 18 | AS | 60 | ASN |
| 18 | AS | 61 | ASN |
| 19 | AT | 55 | GLN |
| 19 | AT | 56 | ASN |
| 20 | AU | 7 | GLN |
| 20 | AU | 17 | HIS |
| 20 | AU | 20 | HIS |
| 20 | AU | 22 | GLN |
| 20 | AU | 43 | ASN |
| 20 | AU | 73 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 21 | AV | 25 | ASN |
| 21 | AV | 45 | GLN |
| 21 | AV | 46 | GLN |
| 21 | AV | 70 | GLN |
| 21 | AV | 118 | HIS |
| 21 | AV | 121 | GLN |
| 21 | AV | 146 | HIS |
| 22 | AW | 29 | ASN |
| 22 | AW | 42 | ASN |
| 23 | AX | 46 | ASN |
| 24 | A0 | 31 | HIS |
| 24 | A0 | 50 | HIS |
| 25 | A1 | 37 | GLN |
| 25 | A1 | 52 | ASN |
| 25 | A1 | 81 | ASN |
| 25 | A1 | 87 | ASN |
| 25 | A1 | 115 | ASN |
| 25 | A1 | 118 | GLN |
| 26 | A2 | 79 | GLN |
| 26 | A2 | 88 | GLN |
| 26 | A2 | 89 | ASN |
| 27 | A3 | 17 | ASN |
| 27 | A3 | 35 | ASN |
| 27 | A3 | 49 | GLN |
| 27 | A3 | 57 | HIS |
| 27 | A3 | 71 | ASN |
| 28 | A4 | 17 | GLN |
| 28 | A4 | 19 | GLN |
| 28 | A4 | 32 | HIS |
| 28 | A4 | 60 | ASN |
| 29 | A5 | 4 | HIS |
| 29 | A5 | 29 | ASN |
| 29 | A5 | 35 | GLN |
| 29 | A5 | 37 | HIS |
| 29 | A5 | 48 | ASN |
| 31 | A7 | 6 | GLN |
| 31 | A7 | 8 | ASN |
| 31 | A7 | 9 | ASN |
| 31 | A7 | 29 | ASN |
| 32 | A8 | 31 | HIS |
| 37 | BE | 19 | HIS |
| 37 | BE | 25 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 37 | BE | 37 | ASN |
| 37 | BE | 40 | HIS |
| 37 | BE | 78 | GLN |
| 37 | BE | 135 | GLN |
| 37 | BE | 146 | GLN |
| 37 | BE | 204 | ASN |
| 37 | BE | 224 | GLN |
| 37 | BE | 240 | GLN |
| 38 | BF | 3 | ASN |
| 38 | BF | 28 | GLN |
| 38 | BF | 98 | ASN |
| 38 | BF | 107 | GLN |
| 38 | BF | 110 | ASN |
| 38 | BF | 136 | GLN |
| 38 | BF | 139 | GLN |
| 38 | BF | 170 | GLN |
| 39 | BG | 42 | GLN |
| 39 | BG | 62 | GLN |
| 39 | BG | 103 | ASN |
| 39 | BG | 154 | ASN |
| 40 | BH | 20 | GLN |
| 40 | BH | 56 | GLN |
| 40 | BH | 65 | ASN |
| 40 | BH | 73 | ASN |
| 40 | BH | 78 | HIS |
| 40 | BH | 130 | ASN |
| 41 | BI | 13 | ASN |
| 41 | BI | 18 | GLN |
| 41 | BI | 32 | ASN |
| 41 | BI | 57 | GLN |
| 41 | BI | 64 | GLN |
| 41 | BI | 94 | GLN |
| 41 | BI | 100 | ASN |
| 42 | BJ | 11 | GLN |
| 42 | BJ | 64 | GLN |
| 42 | BJ | 68 | ASN |
| 42 | BJ | 106 | GLN |
| 42 | BJ | 109 | ASN |
| 42 | BJ | 122 | HIS |
| 42 | BJ | 148 | ASN |
| 43 | BK | 15 | ASN |
| 43 | BK | 78 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 44 | BL | 3 | GLN |
| 44 | BL | 31 | GLN |
| 44 | BL | 73 | GLN |
| 44 | BL | 87 | GLN |
| 44 | BL | 89 | ASN |
| 45 | BM | 56 | HIS |
| 45 | BM | 76 | ASN |
| 45 | BM | 78 | ASN |
| 45 | BM | 84 | GLN |
| 46 | BN | 13 | GLN |
| 46 | BN | 27 | ASN |
| 46 | BN | 62 | GLN |
| 46 | BN | 78 | GLN |
| 46 | BN | 117 | ASN |
| 47 | BO | 76 | ASN |
| 48 | BP | 12 | ASN |
| 48 | BP | 40 | ASN |
| 48 | BP | 77 | ASN |
| 48 | BP | 106 | ASN |
| 50 | BR | 13 | GLN |
| 50 | BR | 37 | ASN |
| 50 | BR | 42 | HIS |
| 50 | BR | 62 | GLN |
| 51 | BS | 13 | HIS |
| 51 | BS | 82 | GLN |
| 52 | BT | 16 | GLN |
| 52 | BT | 94 | ASN |
| 53 | BU | 36 | ASN |
| 53 | BU | 63 | GLN |
| 54 | BV | 14 | HIS |
| 54 | BV | 56 | GLN |
| 54 | BV | 57 | HIS |
| 55 | BW | 26 | ASN |
| 55 | BW | 42 | GLN |
| 55 | BW | 45 | GLN |
| 55 | BW | 73 | HIS |
| 55 | BW | 75 | ASN |

### 5.3.3 RNA (i)

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| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|---|---|---|---|---|

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|---|---|---|---|---|
| 1 | AB | 122/123 (99%) | 47 (38%) | 5 (4%) |
| 2 | AA | 2870/2915 (98%) | 1226 (42%) | 290 (10%) |
| 34 | BA | 1515/1522 (99%) | 452 (29%) | 161 (10%) |
| 35 | BB | 76/76 (100%) | 34 (44%) | 16 (21%) |
| 35 | BC | 75/76 (98%) | 31 (41%) | 9 (12%) |
| 36 | B1 | 65/78 (83%) | 24 (36%) | 4 (6%) |
| All | All | 4723/4790 (98%) | 1814 (38%) | 485 (10%) |

All (1814) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | AB | 0 | A |
| 1 | AB | 1 | U |
| 1 | AB | 2 | C |
| 1 | AB | 3 | C |
| 1 | AB | 9 | G |
| 1 | AB | 12 | C |
| 1 | AB | 13 | A |
| 1 | AB | 15 | A |
| 1 | AB | 16 | G |
| 1 | AB | 18 | G |
| 1 | AB | 25 | A |
| 1 | AB | 32 | C |
| 1 | AB | 34 | U |
| 1 | AB | 40 | U |
| 1 | AB | 41 | U |
| 1 | AB | 42 | C |
| 1 | AB | 43 | C |
| 1 | AB | 45 | A |
| 1 | AB | 46 | A |
| 1 | AB | 48 | A |
| 1 | AB | 51 | G |
| 1 | AB | 52 | A |
| 1 | AB | 57 | A |
| 1 | AB | 59 | A |
| 1 | AB | 61 | G |
| 1 | AB | 62 | C |
| 1 | AB | 66 | A |
| 1 | AB | 67 | G |
| 1 | AB | 69 | G |
| 1 | AB | 73 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | AB | 87 | G |
| 1 | AB | 88 | C |
| 1 | AB | 89 | G |
| 1 | AB | 90 | C |
| 1 | AB | 96 | G |
| 1 | AB | 99 | A |
| 1 | AB | 103 | U |
| 1 | AB | 104 | A |
| 1 | AB | 108 | C |
| 1 | AB | 109 | G |
| 1 | AB | 110 | G |
| 1 | AB | 113 | C |
| 1 | AB | 114 | G |
| 1 | AB | 115 | G |
| 1 | AB | 117 | G |
| 1 | AB | 119 | A |
| 1 | AB | 120 | U |
| 2 | AA | 9 | U |
| 2 | AA | 13 | A |
| 2 | AA | 14 | A |
| 2 | AA | 17 | G |
| 2 | AA | 29 | U |
| 2 | AA | 33 | U |
| 2 | AA | 34 | C |
| 2 | AA | 35 | G |
| 2 | AA | 40 | C |
| 2 | AA | 46 | C |
| 2 | AA | 49 | A |
| 2 | AA | 50 | U |
| 2 | AA | 51 | G |
| 2 | AA | 52 | A |
| 2 | AA | 55 | G |
| 2 | AA | 60 | G |
| 2 | AA | 61 | G |
| 2 | AA | 63 | U |
| 2 | AA | 69 | C |
| 2 | AA | 71 | A |
| 2 | AA | 72 | U |
| 2 | AA | 73 | A |
| 2 | AA | 74 | A |
| 2 | AA | 75 | G |
| 2 | AA | 77 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 83 | G |
| 2 | AA | 84 | A |
| 2 | AA | 88 | G |
| 2 | AA | 90 | U |
| 2 | AA | 91 | A |
| 2 | AA | 92 | G |
| 2 | AA | 95 | G |
| 2 | AA | 101 | G |
| 2 | AA | 102 | G |
| 2 | AA | 103 | A |
| 2 | AA | 104 | U |
| 2 | AA | 107 | C |
| 2 | AA | 108 | U |
| 2 | AA | 109 | G |
| 2 | AA | 112 | U |
| 2 | AA | 113 | G |
| 2 | AA | 117 | G |
| 2 | AA | 119 | A |
| 2 | AA | 120 | U |
| 2 | AA | 121 | G |
| 2 | AA | 122 | G |
| 2 | AA | 125 | G |
| 2 | AA | 126 | A |
| 2 | AA | 129 | C |
| 2 | AA | 132 | G |
| 2 | AA | 133 | C |
| 2 | AA | 136 | G |
| 2 | AA | 137 | C |
| 2 | AA | 137(A) | G |
| 2 | AA | 138 | G |
| 2 | AA | 139 | G |
| 2 | AA | 140 | A |
| 2 | AA | 141 | A |
| 2 | AA | 141(A) | C |
| 2 | AA | 142 | G |
| 2 | AA | 143 | C |
| 2 | AA | 152 | G |
| 2 | AA | 153 | C |
| 2 | AA | 161 | U |
| 2 | AA | 163 | U |
| 2 | AA | 164 | U |
| 2 | AA | 171 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 172 | C |
| 2 | AA | 173 | G |
| 2 | AA | 178 | G |
| 2 | AA | 180 | G |
| 2 | AA | 181 | A |
| 2 | AA | 182 | A |
| 2 | AA | 190 | A |
| 2 | AA | 191 | A |
| 2 | AA | 192 | C |
| 2 | AA | 196 | A |
| 2 | AA | 197 | A |
| 2 | AA | 203 | C |
| 2 | AA | 204 | A |
| 2 | AA | 205 | G |
| 2 | AA | 206 | U |
| 2 | AA | 214 | G |
| 2 | AA | 215 | G |
| 2 | AA | 216 | A |
| 2 | AA | 218 | A |
| 2 | AA | 221 | A |
| 2 | AA | 222 | A |
| 2 | AA | 223 | A |
| 2 | AA | 228 | A |
| 2 | AA | 229 | A |
| 2 | AA | 232 | G |
| 2 | AA | 233 | A |
| 2 | AA | 239 | U |
| 2 | AA | 241 | A |
| 2 | AA | 242 | G |
| 2 | AA | 243 | U |
| 2 | AA | 248 | G |
| 2 | AA | 249 | C |
| 2 | AA | 252 | G |
| 2 | AA | 264 | C |
| 2 | AA | 265 | A |
| 2 | AA | 266 | G |
| 2 | AA | 269 | U |
| 2 | AA | 270(A) | A |
| 2 | AA | 270(B) | A |
| 2 | AA | 270(C) | C |
| 2 | AA | 270(L) | U |
| 2 | AA | 270(M) | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 270(N) | G |
| 2 | AA | 270(O) | U |
| 2 | AA | 270(T) | G |
| 2 | AA | 270(U) | C |
| 2 | AA | 270(V) | G |
| 2 | AA | 270(X) | G |
| 2 | AA | 270(Y) | G |
| 2 | AA | 270(Z) | U |
| 2 | AA | 271(A) | C |
| 2 | AA | 271(C) | U |
| 2 | AA | 271 | G |
| 2 | AA | 273 | G |
| 2 | AA | 273(F) | C |
| 2 | AA | 276 | A |
| 2 | AA | 277 | C |
| 2 | AA | 279 | C |
| 2 | AA | 280 | C |
| 2 | AA | 281 | G |
| 2 | AA | 282 | A |
| 2 | AA | 283 | A |
| 2 | AA | 286 | C |
| 2 | AA | 287 | C |
| 2 | AA | 288 | C |
| 2 | AA | 289 | A |
| 2 | AA | 290 | G |
| 2 | AA | 291 | C |
| 2 | AA | 293 | U |
| 2 | AA | 295 | G |
| 2 | AA | 299 | A |
| 2 | AA | 301 | G |
| 2 | AA | 302 | C |
| 2 | AA | 303 | U |
| 2 | AA | 308 | G |
| 2 | AA | 310 | A |
| 2 | AA | 311 | A |
| 2 | AA | 312 | G |
| 2 | AA | 316 | C |
| 2 | AA | 318 | C |
| 2 | AA | 320 | A |
| 2 | AA | 322 | A |
| 2 | AA | 323 | G |
| 2 | AA | 324 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 329 | G |
| 2 | AA | 330 | A |
| 2 | AA | 331 | A |
| 2 | AA | 332 | A |
| 2 | AA | 333 | G |
| 2 | AA | 338 | G |
| 2 | AA | 339 | U |
| 2 | AA | 340 | A |
| 2 | AA | 341 | G |
| 2 | AA | 342 | G |
| 2 | AA | 347 | A |
| 2 | AA | 349 | G |
| 2 | AA | 350 | U |
| 2 | AA | 351 | G |
| 2 | AA | 354 | G |
| 2 | AA | 358 | U |
| 2 | AA | 359 | A |
| 2 | AA | 360 | G |
| 2 | AA | 362 | U |
| 2 | AA | 363(A) | A |
| 2 | AA | 363(C) | G |
| 2 | AA | 363(F) | A |
| 2 | AA | 370 | G |
| 2 | AA | 371 | A |
| 2 | AA | 372 | G |
| 2 | AA | 373 | U |
| 2 | AA | 374 | A |
| 2 | AA | 380 | U |
| 2 | AA | 386 | G |
| 2 | AA | 387 | U |
| 2 | AA | 388 | G |
| 2 | AA | 391 | G |
| 2 | AA | 401 | A |
| 2 | AA | 403 | U |
| 2 | AA | 404 | C |
| 2 | AA | 405 | U |
| 2 | AA | 406 | G |
| 2 | AA | 411 | G |
| 2 | AA | 412 | A |
| 2 | AA | 420 | C |
| 2 | AA | 421 | U |
| 2 | AA | 422 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 423 | A |
| 2 | AA | 428 | A |
| 2 | AA | 430 | G |
| 2 | AA | 435 | C |
| 2 | AA | 443 | A |
| 2 | AA | 444 | C |
| 2 | AA | 448 | U |
| 2 | AA | 449 | A |
| 2 | AA | 451 | C |
| 2 | AA | 453 | C |
| 2 | AA | 455 | C |
| 2 | AA | 456 | C |
| 2 | AA | 457 | A |
| 2 | AA | 458 | G |
| 2 | AA | 466 | A |
| 2 | AA | 470 | A |
| 2 | AA | 471 | A |
| 2 | AA | 473 | G |
| 2 | AA | 475 | U |
| 2 | AA | 480 | A |
| 2 | AA | 481 | G |
| 2 | AA | 483 | A |
| 2 | AA | 492 | A |
| 2 | AA | 493 | G |
| 2 | AA | 498 | G |
| 2 | AA | 501 | A |
| 2 | AA | 503 | A |
| 2 | AA | 504 | U |
| 2 | AA | 505 | A |
| 2 | AA | 506 | G |
| 2 | AA | 507 | A |
| 2 | AA | 508 | G |
| 2 | AA | 509 | C |
| 2 | AA | 510 | C |
| 2 | AA | 527 | C |
| 2 | AA | 528 | A |
| 2 | AA | 529 | A |
| 2 | AA | 530 | G |
| 2 | AA | 531 | C |
| 2 | AA | 532 | A |
| 2 | AA | 533 | G |
| 2 | AA | 535 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 541 | C |
| 2 | AA | 544 | C |
| 2 | AA | 545 | G |
| 2 | AA | 546 | C |
| 2 | AA | 549 | G |
| 2 | AA | 556 | G |
| 2 | AA | 559 | G |
| 2 | AA | 560 | C |
| 2 | AA | 561 | G |
| 2 | AA | 562 | U |
| 2 | AA | 563 | G |
| 2 | AA | 566 | U |
| 2 | AA | 568 | U |
| 2 | AA | 571 | A |
| 2 | AA | 572 | A |
| 2 | AA | 573 | G |
| 2 | AA | 574 | C |
| 2 | AA | 575 | A |
| 2 | AA | 578 | A |
| 2 | AA | 579 | G |
| 2 | AA | 585 | G |
| 2 | AA | 586 | A |
| 2 | AA | 588 | U |
| 2 | AA | 595 | C |
| 2 | AA | 598 | G |
| 2 | AA | 600 | G |
| 2 | AA | 603 | A |
| 2 | AA | 612 | G |
| 2 | AA | 613 | U |
| 2 | AA | 614 | U |
| 2 | AA | 615 | G |
| 2 | AA | 616 | A |
| 2 | AA | 617 | G |
| 2 | AA | 619 | G |
| 2 | AA | 620 | G |
| 2 | AA | 621 | A |
| 2 | AA | 622 | G |
| 2 | AA | 624 | C |
| 2 | AA | 625 | G |
| 2 | AA | 627 | A |
| 2 | AA | 631 | A |
| 2 | AA | 634 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 637 | A |
| 2 | AA | 640 | C |
| 2 | AA | 641 | C |
| 2 | AA | 643 | A |
| 2 | AA | 646 | A |
| 2 | AA | 647 | G |
| 2 | AA | 653 | A |
| 2 | AA | 654 | A |
| 2 | AA | 655 | A |
| 2 | AA | 656 | G |
| 2 | AA | 666 | G |
| 2 | AA | 667 | U |
| 2 | AA | 669 | G |
| 2 | AA | 670 | A |
| 2 | AA | 671 | C |
| 2 | AA | 673 | C |
| 2 | AA | 676 | A |
| 2 | AA | 677 | A |
| 2 | AA | 686 | G |
| 2 | AA | 687 | C |
| 2 | AA | 690 | G |
| 2 | AA | 698 | C |
| 2 | AA | 704 | G |
| 2 | AA | 705 | A |
| 2 | AA | 706 | A |
| 2 | AA | 713 | G |
| 2 | AA | 715 | G |
| 2 | AA | 718 | A |
| 2 | AA | 719 | C |
| 2 | AA | 725 | G |
| 2 | AA | 726 | G |
| 2 | AA | 727 | A |
| 2 | AA | 728 | G |
| 2 | AA | 729 | G |
| 2 | AA | 730 | C |
| 2 | AA | 734 | A |
| 2 | AA | 735 | A |
| 2 | AA | 739 | G |
| 2 | AA | 740 | U |
| 2 | AA | 741 | G |
| 2 | AA | 743 | G |
| 2 | AA | 745 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 746 | A |
| 2 | AA | 747 | U |
| 2 | AA | 748 | G |
| 2 | AA | 749 | C |
| 2 | AA | 753 | C |
| 2 | AA | 763 | G |
| 2 | AA | 764 | A |
| 2 | AA | 765 | G |
| 2 | AA | 774 | A |
| 2 | AA | 775 | G |
| 2 | AA | 776 | G |
| 2 | AA | 777 | A |
| 2 | AA | 781 | A |
| 2 | AA | 782 | A |
| 2 | AA | 783 | A |
| 2 | AA | 784 | A |
| 2 | AA | 785 | G |
| 2 | AA | 786 | C |
| 2 | AA | 787 | U |
| 2 | AA | 788 | A |
| 2 | AA | 789 | A |
| 2 | AA | 790 | C |
| 2 | AA | 791 | C |
| 2 | AA | 792 | G |
| 2 | AA | 793 | A |
| 2 | AA | 794 | G |
| 2 | AA | 795 | C |
| 2 | AA | 797 | C |
| 2 | AA | 798 | G |
| 2 | AA | 799 | G |
| 2 | AA | 800 | A |
| 2 | AA | 801 | G |
| 2 | AA | 802 | A |
| 2 | AA | 805 | G |
| 2 | AA | 806 | C |
| 2 | AA | 809 | G |
| 2 | AA | 812 | C |
| 2 | AA | 816 | C |
| 2 | AA | 819 | A |
| 2 | AA | 827 | U |
| 2 | AA | 828 | U |
| 2 | AA | 830 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 831 | G |
| 2 | AA | 834 | C |
| 2 | AA | 838 | C |
| 2 | AA | 839 | U |
| 2 | AA | 844 | C |
| 2 | AA | 846 | C |
| 2 | AA | 847 | U |
| 2 | AA | 848 | G |
| 2 | AA | 858 | U |
| 2 | AA | 859 | G |
| 2 | AA | 860 | U |
| 2 | AA | 861 | A |
| 2 | AA | 863 | A |
| 2 | AA | 865 | C |
| 2 | AA | 867 | C |
| 2 | AA | 870 | A |
| 2 | AA | 873 | G |
| 2 | AA | 886 | C |
| 2 | AA | 887 | A |
| 2 | AA | 888 | C |
| 2 | AA | 889 | C |
| 2 | AA | 890 | A |
| 2 | AA | 892 | G |
| 2 | AA | 896 | A |
| 2 | AA | 897 | C |
| 2 | AA | 899 | A |
| 2 | AA | 902 | C |
| 2 | AA | 906 | G |
| 2 | AA | 907 | U |
| 2 | AA | 908 | C |
| 2 | AA | 910 | A |
| 2 | AA | 914 | C |
| 2 | AA | 918 | A |
| 2 | AA | 919 | G |
| 2 | AA | 920 | G |
| 2 | AA | 930 | U |
| 2 | AA | 931 | G |
| 2 | AA | 932 | G |
| 2 | AA | 933 | A |
| 2 | AA | 935 | C |
| 2 | AA | 936 | C |
| 2 | AA | 941 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 942 | G |
| 2 | AA | 943 | U |
| 2 | AA | 944 | G |
| 2 | AA | 945 | A |
| 2 | AA | 946 | G |
| 2 | AA | 957 | A |
| 2 | AA | 958 | U |
| 2 | AA | 959 | A |
| 2 | AA | 961 | C |
| 2 | AA | 962 | G |
| 2 | AA | 972 | G |
| 2 | AA | 973 | A |
| 2 | AA | 974 | G |
| 2 | AA | 974(A) | C |
| 2 | AA | 975 | G |
| 2 | AA | 976 | C |
| 2 | AA | 982 | C |
| 2 | AA | 983 | A |
| 2 | AA | 984 | A |
| 2 | AA | 985 | C |
| 2 | AA | 989 | G |
| 2 | AA | 990 | A |
| 2 | AA | 991 | C |
| 2 | AA | 993 | G |
| 2 | AA | 994 | C |
| 2 | AA | 995 | C |
| 2 | AA | 996 | A |
| 2 | AA | 997 | G |
| 2 | AA | 1008 | C |
| 2 | AA | 1009 | A |
| 2 | AA | 1012 | U |
| 2 | AA | 1013 | C |
| 2 | AA | 1015 | G |
| 2 | AA | 1019 | U |
| 2 | AA | 1021 | A |
| 2 | AA | 1022 | G |
| 2 | AA | 1023 | U |
| 2 | AA | 1025 | G |
| 2 | AA | 1026 | U |
| 2 | AA | 1027 | A |
| 2 | AA | 1030 | G |
| 2 | AA | 1033 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1038 | C |
| 2 | AA | 1041 | C |
| 2 | AA | 1044 | G |
| 2 | AA | 1045 | A |
| 2 | AA | 1046 | A |
| 2 | AA | 1047 | G |
| 2 | AA | 1056 | G |
| 2 | AA | 1059 | G |
| 2 | AA | 1060 | U |
| 2 | AA | 1061 | U |
| 2 | AA | 1062 | G |
| 2 | AA | 1063 | G |
| 2 | AA | 1066 | U |
| 2 | AA | 1067 | A |
| 2 | AA | 1068 | G |
| 2 | AA | 1069 | A |
| 2 | AA | 1070 | A |
| 2 | AA | 1071 | G |
| 2 | AA | 1072 | C |
| 2 | AA | 1073 | A |
| 2 | AA | 1074 | G |
| 2 | AA | 1077 | A |
| 2 | AA | 1083 | U |
| 2 | AA | 1084 | A |
| 2 | AA | 1086 | A |
| 2 | AA | 1087 | G |
| 2 | AA | 1088 | A |
| 2 | AA | 1089 | G |
| 2 | AA | 1090 | U |
| 2 | AA | 1091 | G |
| 2 | AA | 1093 | G |
| 2 | AA | 1096 | A |
| 2 | AA | 1097 | U |
| 2 | AA | 1098 | A |
| 2 | AA | 1099 | G |
| 2 | AA | 1101 | U |
| 2 | AA | 1103 | A |
| 2 | AA | 1104 | C |
| 2 | AA | 1105 | U |
| 2 | AA | 1106 | G |
| 2 | AA | 1109 | C |
| 2 | AA | 1110 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1112 | G |
| 2 | AA | 1116 | C |
| 2 | AA | 1123 | C |
| 2 | AA | 1126 | A |
| 2 | AA | 1127 | A |
| 2 | AA | 1128 | A |
| 2 | AA | 1130 | U |
| 2 | AA | 1131 | G |
| 2 | AA | 1132 | A |
| 2 | AA | 1134 | G |
| 2 | AA | 1135 | C |
| 2 | AA | 1141 | U |
| 2 | AA | 1142 | U |
| 2 | AA | 142(A) | A |
| 2 | AA | 1143 | A |
| 2 | AA | 1154 | G |
| 2 | AA | 1155 | A |
| 2 | AA | 1156 | A |
| 2 | AA | 1157 | G |
| 2 | AA | 1162 | G |
| 2 | AA | 1165 | U |
| 2 | AA | 1171 | G |
| 2 | AA | 1173 | G |
| 2 | AA | 1176 | G |
| 2 | AA | 1177 | A |
| 2 | AA | 1179 | C |
| 2 | AA | 1180 | C |
| 2 | AA | 1181 | C |
| 2 | AA | 1182 | A |
| 2 | AA | 1183 | G |
| 2 | AA | 1184 | G |
| 2 | AA | 1185 | C |
| 2 | AA | 1186 | G |
| 2 | AA | 1197 | G |
| 2 | AA | 1199 | U |
| 2 | AA | 1201 | C |
| 2 | AA | 1203 | G |
| 2 | AA | 1204 | A |
| 2 | AA | 1205 | U |
| 2 | AA | 1206 | G |
| 2 | AA | 1207 | C |
| 2 | AA | 1209 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1210 | A |
| 2 | AA | 1211 | U |
| 2 | AA | 1212 | G |
| 2 | AA | 1213 | A |
| 2 | AA | 1220 | A |
| 2 | AA | 1221 | C |
| 2 | AA | 1222 | C |
| 2 | AA | 1224 | G |
| 2 | AA | 1227 | A |
| 2 | AA | 1228 | G |
| 2 | AA | 1238 | G |
| 2 | AA | 1239 | G |
| 2 | AA | 1240 | U |
| 2 | AA | 1241 | A |
| 2 | AA | 1242 | A |
| 2 | AA | 1247 | A |
| 2 | AA | 1248 | G |
| 2 | AA | 1249 | U |
| 2 | AA | 1251 | C |
| 2 | AA | 1252 | G |
| 2 | AA | 1253 | A |
| 2 | AA | 1254 | A |
| 2 | AA | 1255 | U |
| 2 | AA | 1256 | G |
| 2 | AA | 1260 | G |
| 2 | AA | 1261 | C |
| 2 | AA | 1265 | A |
| 2 | AA | 1266 | G |
| 2 | AA | 1268 | A |
| 2 | AA | 1269 | A |
| 2 | AA | 1270 | C |
| 2 | AA | 1271 | G |
| 2 | AA | 1272 | A |
| 2 | AA | 1273 | U |
| 2 | AA | 1275 | A |
| 2 | AA | 1289 | C |
| 2 | AA | 1301 | A |
| 2 | AA | 1302 | A |
| 2 | AA | 1303 | G |
| 2 | AA | 1304 | C |
| 2 | AA | 1305 | C |
| 2 | AA | 1311 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1313 | U |
| 2 | AA | 1314 | C |
| 2 | AA | 1316 | U |
| 2 | AA | 1321 | A |
| 2 | AA | 1324 | G |
| 2 | AA | 1325 | G |
| 2 | AA | 1326 | U |
| 2 | AA | 1329 | U |
| 2 | AA | 1330 | C |
| 2 | AA | 1333 | C |
| 2 | AA | 1341 | U |
| 2 | AA | 1342 | A |
| 2 | AA | 1343 | G |
| 2 | AA | 1344 | G |
| 2 | AA | 1345 | C |
| 2 | AA | 1347 | G |
| 2 | AA | 1349 | A |
| 2 | AA | 1361 | G |
| 2 | AA | 1363 | C |
| 2 | AA | 1364 | G |
| 2 | AA | 1365 | A |
| 2 | AA | 1366 | A |
| 2 | AA | 1368 | G |
| 2 | AA | 1378 | A |
| 2 | AA | 1379 | A |
| 2 | AA | 1384 | A |
| 2 | AA | 1385 | G |
| 2 | AA | 1391 | U |
| 2 | AA | 1394 | U |
| 2 | AA | 1395 | A |
| 2 | AA | 1398 | C |
| 2 | AA | 1404 | C |
| 2 | AA | 1407 | C |
| 2 | AA | 1415 | U |
| 2 | AA | 1416 | G |
| 2 | AA | 1417 | C |
| 2 | AA | 1418 | G |
| 2 | AA | 1419 | A |
| 2 | AA | 1421 | G |
| 2 | AA | 1424 | G |
| 2 | AA | 1425 | G |
| 2 | AA | 1427 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1428 | C |
| 2 | AA | 1429 | G |
| 2 | AA | 1433 | U |
| 2 | AA | 1438 | U |
| 2 | AA | 1439 | A |
| 2 | AA | 1444 | G |
| 2 | AA | 444(A) | A |
| 2 | AA | 1445 | C |
| 2 | AA | 1450 | C |
| 2 | AA | 1451 | C |
| 2 | AA | 1453 | A |
| 2 | AA | 1454 | U |
| 2 | AA | 1455 | G |
| 2 | AA | 1460 | A |
| 2 | AA | 1461 | G |
| 2 | AA | 1464 | C |
| 2 | AA | 1467 | C |
| 2 | AA | 1469 | A |
| 2 | AA | 1475 | G |
| 2 | AA | 1477 | A |
| 2 | AA | 1478 | G |
| 2 | AA | 1480 | G |
| 2 | AA | 1482 | U |
| 2 | AA | 1483 | G |
| 2 | AA | 1485 | G |
| 2 | AA | 1490 | A |
| 2 | AA | 1491 | G |
| 2 | AA | 1492 | G |
| 2 | AA | 1494 | A |
| 2 | AA | 1495 | A |
| 2 | AA | 1496 | A |
| 2 | AA | 1497 | U |
| 2 | AA | 1498 | C |
| 2 | AA | 1499 | C |
| 2 | AA | 1507 | A |
| 2 | AA | 1508 | A |
| 2 | AA | 1509 | C |
| 2 | AA | 1510 | A |
| 2 | AA | 1511 | A |
| 2 | AA | 1512 | G |
| 2 | AA | 1513 | C |
| 2 | AA | 1514 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1515 | C |
| 2 | AA | 1516 | U |
| 2 | AA | 1519 | G |
| 2 | AA | 1521 | G |
| 2 | AA | 1522 | G |
| 2 | AA | 1526 | G |
| 2 | AA | 1527 | G |
| 2 | AA | 1528 | A |
| 2 | AA | 1529 | A |
| 2 | AA | 1530 | G |
| 2 | AA | 1531 | C |
| 2 | AA | 1533 | C |
| 2 | AA | 1536 | A |
| 2 | AA | 1537 | C |
| 2 | AA | 1538 | G |
| 2 | AA | 1539 | G |
| 2 | AA | 1540 | G |
| 2 | AA | 1541 | U |
| 2 | AA | 1543 | A |
| 2 | AA | 1544 | C |
| 2 | AA | 1546 | C |
| 2 | AA | 1547 | C |
| 2 | AA | 1553 | A |
| 2 | AA | 1555 | G |
| 2 | AA | 1556 | C |
| 2 | AA | 1558 | A |
| 2 | AA | 1559 | G |
| 2 | AA | 1560 | G |
| 2 | AA | 1561 | G |
| 2 | AA | 1565 | C |
| 2 | AA | 1566 | A |
| 2 | AA | 1567 | A |
| 2 | AA | 1569 | A |
| 2 | AA | 1570 | A |
| 2 | AA | 1571 | A |
| 2 | AA | 1572 | A |
| 2 | AA | 1573 | G |
| 2 | AA | 1575 | C |
| 2 | AA | 1577 | C |
| 2 | AA | 1578 | U |
| 2 | AA | 1579 | A |
| 2 | AA | 1583 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1585 | C |
| 2 | AA | 1586 | A |
| 2 | AA | 1587 | A |
| 2 | AA | 1602 | U |
| 2 | AA | 1603 | A |
| 2 | AA | 1604 | C |
| 2 | AA | 1607 | C |
| 2 | AA | 1608 | A |
| 2 | AA | 1609 | A |
| 2 | AA | 1610 | A |
| 2 | AA | 1611 | C |
| 2 | AA | 1612 | C |
| 2 | AA | 1614 | A |
| 2 | AA | 1615 | C |
| 2 | AA | 1616 | A |
| 2 | AA | 1617 | C |
| 2 | AA | 1618 | A |
| 2 | AA | 1619 | G |
| 2 | AA | 1621 | U |
| 2 | AA | 1625 | C |
| 2 | AA | 1626 | G |
| 2 | AA | 1627 | G |
| 2 | AA | 1634 | A |
| 2 | AA | 1635 | G |
| 2 | AA | 1639 | U |
| 2 | AA | 1640 | C |
| 2 | AA | 1641 | A |
| 2 | AA | 1645 | G |
| 2 | AA | 1646 | C |
| 2 | AA | 1647 | G |
| 2 | AA | 1648 | C |
| 2 | AA | 1651 | G |
| 2 | AA | 1652 | A |
| 2 | AA | 1653 | G |
| 2 | AA | 1655 | A |
| 2 | AA | 1657 | C |
| 2 | AA | 1658 | C |
| 2 | AA | 1664 | A |
| 2 | AA | 1665 | A |
| 2 | AA | 1667 | G |
| 2 | AA | 1668 | A |
| 2 | AA | 1669 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1670 | C |
| 2 | AA | 1671 | U |
| 2 | AA | 1673 | U |
| 2 | AA | 1674 | G |
| 2 | AA | 1675 | C |
| 2 | AA | 1676 | A |
| 2 | AA | 1678 | G |
| 2 | AA | 1681 | G |
| 2 | AA | 1682 | G |
| 2 | AA | 1688 | U |
| 2 | AA | 1689 | A |
| 2 | AA | 1694 | C |
| 2 | AA | 1695 | G |
| 2 | AA | 1696 | G |
| 2 | AA | 1698 | A |
| 2 | AA | 1699 | G |
| 2 | AA | 1700 | A |
| 2 | AA | 1701 | A |
| 2 | AA | 1707 | G |
| 2 | AA | 1709 | U |
| 2 | AA | 1725 | G |
| 2 | AA | 1726 | G |
| 2 | AA | 1727 | U |
| 2 | AA | 1728 | G |
| 2 | AA | 1730 | U |
| 2 | AA | 1731 | G |
| 2 | AA | 1732 | A |
| 2 | AA | 1733 | G |
| 2 | AA | 1743 | G |
| 2 | AA | 1746 | G |
| 2 | AA | 1747 | G |
| 2 | AA | 1755 | A |
| 2 | AA | 1757 | U |
| 2 | AA | 1758 | G |
| 2 | AA | 1759 | A |
| 2 | AA | 1760 | A |
| 2 | AA | 1761 | C |
| 2 | AA | 1762 | A |
| 2 | AA | 1763 | G |
| 2 | AA | 1764 | G |
| 2 | AA | 1765 | C |
| 2 | AA | 1767 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1772 | G |
| 2 | AA | 1773 | A |
| 2 | AA | 1775 | U |
| 2 | AA | 1776 | G |
| 2 | AA | 1780 | A |
| 2 | AA | 1781 | C |
| 2 | AA | 1782 | C |
| 2 | AA | 1783 | A |
| 2 | AA | 1784 | A |
| 2 | AA | 1785 | A |
| 2 | AA | 1786 | A |
| 2 | AA | 1787 | A |
| 2 | AA | 1789 | A |
| 2 | AA | 1790 | C |
| 2 | AA | 1791 | A |
| 2 | AA | 1796 | U |
| 2 | AA | 1800 | C |
| 2 | AA | 1801 | G |
| 2 | AA | 1802 | A |
| 2 | AA | 1804 | C |
| 2 | AA | 1805 | U |
| 2 | AA | 1809 | A |
| 2 | AA | 1810 | A |
| 2 | AA | 1811 | G |
| 2 | AA | 1815 | A |
| 2 | AA | 1816 | G |
| 2 | AA | 1817 | G |
| 2 | AA | 1820 | U |
| 2 | AA | 1821 | A |
| 2 | AA | 1826 | G |
| 2 | AA | 1828 | G |
| 2 | AA | 1829 | A |
| 2 | AA | 1838 | C |
| 2 | AA | 1839 | G |
| 2 | AA | 1840 | G |
| 2 | AA | 1847 | A |
| 2 | AA | 1852 | C |
| 2 | AA | 1857 | G |
| 2 | AA | 1858 | G |
| 2 | AA | 1860 | G |
| 2 | AA | 1878 | G |
| 2 | AA | 1881 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1883 | G |
| 2 | AA | 1884 | A |
| 2 | AA | 1888 | G |
| 2 | AA | 1891 | G |
| 2 | AA | 1895 | C |
| 2 | AA | 1900 | A |
| 2 | AA | 1901 | A |
| 2 | AA | 1903 | G |
| 2 | AA | 1906 | G |
| 2 | AA | 1913 | A |
| 2 | AA | 1914 | C |
| 2 | AA | 1915 | U |
| 2 | AA | 1916 | A |
| 2 | AA | 1917 | U |
| 2 | AA | 1918 | A |
| 2 | AA | 1919 | A |
| 2 | AA | 1923 | U |
| 2 | AA | 1927 | A |
| 2 | AA | 1928 | A |
| 2 | AA | 1929 | G |
| 2 | AA | 1930 | G |
| 2 | AA | 1931 | U |
| 2 | AA | 1936 | A |
| 2 | AA | 1937 | A |
| 2 | AA | 1938 | A |
| 2 | AA | 1939 | U |
| 2 | AA | 1940 | U |
| 2 | AA | 1941 | C |
| 2 | AA | 1942 | C |
| 2 | AA | 1943 | U |
| 2 | AA | 1944 | U |
| 2 | AA | 1945 | G |
| 2 | AA | 1953 | A |
| 2 | AA | 1955 | U |
| 2 | AA | 1956 | U |
| 2 | AA | 1957 | C |
| 2 | AA | 1958 | C |
| 2 | AA | 1963 | U |
| 2 | AA | 1964 | G |
| 2 | AA | 1965 | C |
| 2 | AA | 1966 | A |
| 2 | AA | 1967 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1968 | G |
| 2 | AA | 1969 | A |
| 2 | AA | 1970 | A |
| 2 | AA | 1971 | A |
| 2 | AA | 1972 | A |
| 2 | AA | 1977 | A |
| 2 | AA | 1978 | A |
| 2 | AA | 1981 | A |
| 2 | AA | 1982 | C |
| 2 | AA | 1993 | U |
| 2 | AA | 1996 | C |
| 2 | AA | 1997 | G |
| 2 | AA | 1998 | G |
| 2 | AA | 2005 | A |
| 2 | AA | 2012 | G |
| 2 | AA | 2015 | A |
| 2 | AA | 2016 | U |
| 2 | AA | 2018 | G |
| 2 | AA | 2020 | A |
| 2 | AA | 2021 | C |
| 2 | AA | 2023 | G |
| 2 | AA | 2031 | A |
| 2 | AA | 2032 | G |
| 2 | AA | 2033 | A |
| 2 | AA | 2034 | U |
| 2 | AA | 2035 | G |
| 2 | AA | 2036 | C |
| 2 | AA | 2041 | U |
| 2 | AA | 2043 | C |
| 2 | AA | 2044 | C |
| 2 | AA | 2046 | G |
| 2 | AA | 2048 | G |
| 2 | AA | 2050 | C |
| 2 | AA | 2051 | A |
| 2 | AA | 2052 | G |
| 2 | AA | 2055 | C |
| 2 | AA | 2056 | G |
| 2 | AA | 2058 | A |
| 2 | AA | 2060 | A |
| 2 | AA | 2061 | G |
| 2 | AA | 2062 | A |
| 2 | AA | 2063 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2068 | U |
| 2 | AA | 2069 | G |
| 2 | AA | 2074 | U |
| 2 | AA | 2076 | U |
| 2 | AA | 2077 | A |
| 2 | AA | 2092 | U |
| 2 | AA | 2093 | G |
| 2 | AA | 2111 | C |
| 2 | AA | 2114 | A |
| 2 | AA | 2115 | G |
| 2 | AA | 2116 | G |
| 2 | AA | 2117 | A |
| 2 | AA | 2118 | U |
| 2 | AA | 2119 | A |
| 2 | AA | 2120 | G |
| 2 | AA | 2121 | G |
| 2 | AA | 2122 | U |
| 2 | AA | 2123 | G |
| 2 | AA | 2125 | G |
| 2 | AA | 2126 | A |
| 2 | AA | 2127 | G |
| 2 | AA | 2128 | C |
| 2 | AA | 2130 | U |
| 2 | AA | 2131 | G |
| 2 | AA | 2132 | U |
| 2 | AA | 2133 | G |
| 2 | AA | 2136 | C |
| 2 | AA | 2137 | C |
| 2 | AA | 2138 | C |
| 2 | AA | 2140 | C |
| 2 | AA | 2143 | C |
| 2 | AA | 2144 | U |
| 2 | AA | 2145 | C |
| 2 | AA | 2146 | C |
| 2 | AA | 2147 | G |
| 2 | AA | 2148 | G |
| 2 | AA | 2151 | G |
| 2 | AA | 2155 | G |
| 2 | AA | 2156 | G |
| 2 | AA | 2178 | C |
| 2 | AA | 2182 | G |
| 2 | AA | 2194 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2195 | C |
| 2 | AA | 2196 | C |
| 2 | AA | 2198 | A |
| 2 | AA | 2199 | A |
| 2 | AA | 2206 | C |
| 2 | AA | 2207 | C |
| 2 | AA | 2208 | U |
| 2 | AA | 2210 | G |
| 2 | AA | 2211 | G |
| 2 | AA | 2212 | A |
| 2 | AA | 2213 | U |
| 2 | AA | 2217 | G |
| 2 | AA | 2226 | C |
| 2 | AA | 2236 | C |
| 2 | AA | 2238 | G |
| 2 | AA | 2239 | G |
| 2 | AA | 2249 | U |
| 2 | AA | 2250 | G |
| 2 | AA | 2251 | G |
| 2 | AA | 2258 | C |
| 2 | AA | 2265 | U |
| 2 | AA | 2266 | A |
| 2 | AA | 2267 | A |
| 2 | AA | 2268 | A |
| 2 | AA | 2269 | A |
| 2 | AA | 2270 | G |
| 2 | AA | 2271 | G |
| 2 | AA | 2276 | G |
| 2 | AA | 2278 | A |
| 2 | AA | 2281 | C |
| 2 | AA | 2283 | C |
| 2 | AA | 2284 | C |
| 2 | AA | 2286 | A |
| 2 | AA | 2287 | A |
| 2 | AA | 2288 | A |
| 2 | AA | 2289 | G |
| 2 | AA | 2293 | C |
| 2 | AA | 2296 | U |
| 2 | AA | 2305 | A |
| 2 | AA | 2306 | C |
| 2 | AA | 2307 | G |
| 2 | AA | 2308 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2309 | A |
| 2 | AA | 2310 | A |
| 2 | AA | 2311 | A |
| 2 | AA | 2312 | U |
| 2 | AA | 2318 | G |
| 2 | AA | 2319 | G |
| 2 | AA | 2320 | A |
| 2 | AA | 2321 | G |
| 2 | AA | 2322 | A |
| 2 | AA | 2334 | G |
| 2 | AA | 2335 | A |
| 2 | AA | 2336 | A |
| 2 | AA | 2337 | G |
| 2 | AA | 2345 | G |
| 2 | AA | 2346 | A |
| 2 | AA | 2347 | C |
| 2 | AA | 2350 | C |
| 2 | AA | 2351 | G |
| 2 | AA | 2352 | A |
| 2 | AA | 2356 | C |
| 2 | AA | 2358 | G |
| 2 | AA | 2361 | A |
| 2 | AA | 2371 | G |
| 2 | AA | 2373 | G |
| 2 | AA | 2378 | A |
| 2 | AA | 2379 | G |
| 2 | AA | 2382 | G |
| 2 | AA | 2383 | G |
| 2 | AA | 2384 | G |
| 2 | AA | 2385 | C |
| 2 | AA | 2387 | U |
| 2 | AA | 2389 | G |
| 2 | AA | 2390 | U |
| 2 | AA | 2392 | A |
| 2 | AA | 2395 | C |
| 2 | AA | 2396 | G |
| 2 | AA | 2399 | G |
| 2 | AA | 2400 | G |
| 2 | AA | 2402 | C |
| 2 | AA | 2403 | C |
| 2 | AA | 2406 | U |
| 2 | AA | 2409 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2416 | C |
| 2 | AA | 2417 | C |
| 2 | AA | 2423 | U |
| 2 | AA | 2424 | C |
| 2 | AA | 2425 | A |
| 2 | AA | 2426 | A |
| 2 | AA | 2427 | C |
| 2 | AA | 2428 | G |
| 2 | AA | 2429 | G |
| 2 | AA | 2430 | A |
| 2 | AA | 2431 | U |
| 2 | AA | 2434 | A |
| 2 | AA | 2435 | A |
| 2 | AA | 2437 | U |
| 2 | AA | 2438 | U |
| 2 | AA | 2439 | A |
| 2 | AA | 2440 | C |
| 2 | AA | 2441 | C |
| 2 | AA | 2448 | A |
| 2 | AA | 2449 | U |
| 2 | AA | 2458 | G |
| 2 | AA | 2460 | U |
| 2 | AA | 2465 | C |
| 2 | AA | 2469 | A |
| 2 | AA | 2470 | G |
| 2 | AA | 2472 | G |
| 2 | AA | 2476 | A |
| 2 | AA | 2479 | G |
| 2 | AA | 2480 | C |
| 2 | AA | 2481 | G |
| 2 | AA | 2482 | G |
| 2 | AA | 2490 | G |
| 2 | AA | 2491 | U |
| 2 | AA | 2493 | U |
| 2 | AA | 2494 | G |
| 2 | AA | 2498 | C |
| 2 | AA | 2499 | C |
| 2 | AA | 2502 | G |
| 2 | AA | 2503 | A |
| 2 | AA | 2504 | U |
| 2 | AA | 2505 | G |
| 2 | AA | 2506 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2508 | G |
| 2 | AA | 2513 | G |
| 2 | AA | 2514 | U |
| 2 | AA | 2515 | C |
| 2 | AA | 2518 | A |
| 2 | AA | 2519 | U |
| 2 | AA | 2520 | C |
| 2 | AA | 2521 | C |
| 2 | AA | 2526 | G |
| 2 | AA | 2529 | G |
| 2 | AA | 2531 | A |
| 2 | AA | 2532 | G |
| 2 | AA | 2542 | A |
| 2 | AA | 2543 | G |
| 2 | AA | 2549 | G |
| 2 | AA | 2553 | G |
| 2 | AA | 2554 | U |
| 2 | AA | 2555 | U |
| 2 | AA | 2556 | C |
| 2 | AA | 2562 | U |
| 2 | AA | 2566 | A |
| 2 | AA | 2567 | G |
| 2 | AA | 2574 | G |
| 2 | AA | 2575 | C |
| 2 | AA | 2576 | G |
| 2 | AA | 2577 | A |
| 2 | AA | 2578 | G |
| 2 | AA | 2582 | G |
| 2 | AA | 2585 | U |
| 2 | AA | 2586 | C |
| 2 | AA | 2593 | U |
| 2 | AA | 2597 | G |
| 2 | AA | 2602 | A |
| 2 | AA | 2603 | G |
| 2 | AA | 2606 | C |
| 2 | AA | 2607 | G |
| 2 | AA | 2609 | U |
| 2 | AA | 2610 | C |
| 2 | AA | 2611 | U |
| 2 | AA | 2612 | C |
| 2 | AA | 2613 | U |
| 2 | AA | 2614 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2615 | U |
| 2 | AA | 2616 | C |
| 2 | AA | 2617 | C |
| 2 | AA | 2629 | A |
| 2 | AA | 2630 | G |
| 2 | AA | 2634 | G |
| 2 | AA | 2638 | G |
| 2 | AA | 2645 | G |
| 2 | AA | 2648 | C |
| 2 | AA | 2654 | A |
| 2 | AA | 2655 | G |
| 2 | AA | 2663 | G |
| 2 | AA | 2666 | C |
| 2 | AA | 2667 | C |
| 2 | AA | 2682 | U |
| 2 | AA | 2689 | U |
| 2 | AA | 2690 | C |
| 2 | AA | 2691 | C |
| 2 | AA | 2698 | U |
| 2 | AA | 2701 | C |
| 2 | AA | 2702 | U |
| 2 | AA | 2703 | C |
| 2 | AA | 2706 | G |
| 2 | AA | 2707 | G |
| 2 | AA | 2708 | G |
| 2 | AA | 2712 | U |
| 2 | AA | 712(A) | A |
| 2 | AA | 2713 | A |
| 2 | AA | 2714 | G |
| 2 | AA | 2717 | G |
| 2 | AA | 2719 | G |
| 2 | AA | 2725 | A |
| 2 | AA | 2727 | G |
| 2 | AA | 2732 | G |
| 2 | AA | 2733 | A |
| 2 | AA | 2742 | C |
| 2 | AA | 2748 | A |
| 2 | AA | 2749 | A |
| 2 | AA | 2750 | A |
| 2 | AA | 2751 | G |
| 2 | AA | 2752 | C |
| 2 | AA | 2753 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2756 | U |
| 2 | AA | 2757 | A |
| 2 | AA | 2758 | A |
| 2 | AA | 2759 | G |
| 2 | AA | 2765 | A |
| 2 | AA | 2766 | G |
| 2 | AA | 2769 | C |
| 2 | AA | 2776 | A |
| 2 | AA | 2777 | G |
| 2 | AA | 2778 | A |
| 2 | AA | 2779 | U |
| 2 | AA | 2780 | G |
| 2 | AA | 2781 | A |
| 2 | AA | 2782 | G |
| 2 | AA | 2787 | C |
| 2 | AA | 2789 | C |
| 2 | AA | 2790 | A |
| 2 | AA | 2791 | C |
| 2 | AA | 2794 | C |
| 2 | AA | 2795 | G |
| 2 | AA | 2797 | U |
| 2 | AA | 2798 | C |
| 2 | AA | 2801 | A |
| 2 | AA | 2803 | C |
| 2 | AA | 2804 | C |
| 2 | AA | 2805 | G |
| 2 | AA | 2807 | G |
| 2 | AA | 2808 | U |
| 2 | AA | 2809 | A |
| 2 | AA | 2810 | A |
| 2 | AA | 2811 | G |
| 2 | AA | 2818 | G |
| 2 | AA | 2819 | G |
| 2 | AA | 2820 | A |
| 2 | AA | 2821 | A |
| 2 | AA | 2823 | A |
| 2 | AA | 2832 | U |
| 2 | AA | 2833 | G |
| 2 | AA | 2834 | G |
| 2 | AA | 2835 | A |
| 2 | AA | 2836 | U |
| 2 | AA | 2837 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2844 | G |
| 2 | AA | 2845 | G |
| 2 | AA | 2850 | A |
| 2 | AA | 2851 | A |
| 2 | AA | 2853 | C |
| 2 | AA | 2856 | C |
| 2 | AA | 2858 | C |
| 2 | AA | 2860 | A |
| 2 | AA | 2861 | G |
| 2 | AA | 2862 | G |
| 2 | AA | 2866 | U |
| 2 | AA | 2867 | G |
| 2 | AA | 2868 | A |
| 2 | AA | 2872 | G |
| 2 | AA | 2874 | C |
| 2 | AA | 2877 | G |
| 2 | AA | 2878 | U |
| 2 | AA | 2879 | C |
| 2 | AA | 2880 | C |
| 2 | AA | 2882 | A |
| 2 | AA | 2883 | A |
| 2 | AA | 2893 | G |
| 2 | AA | 2894 | G |
| 2 | AA | 2895 | U |
| 2 | AA | 2900 | A |
| 34 | BA | 6 | G |
| 34 | BA | 8 | A |
| 34 | BA | 9 | G |
| 34 | BA | 13 | U |
| 34 | BA | 14 | U |
| 34 | BA | 31 | G |
| 34 | BA | 32 | A |
| 34 | BA | 39 | G |
| 34 | BA | 45 | U |
| 34 | BA | 48 | C |
| 34 | BA | 49 | U |
| 34 | BA | 50 | A |
| 34 | BA | 51 | A |
| 34 | BA | 52 | G |
| 34 | BA | 61 | G |
| 34 | BA | 62 | U |
| 34 | BA | 65 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 66 | G |
| 34 | BA | 81 | U |
| 34 | BA | 90 | U |
| 34 | BA | 101 | A |
| 34 | BA | 106 | C |
| 34 | BA | 110 | C |
| 34 | BA | 116 | A |
| 34 | BA | 120 | A |
| 34 | BA | 121 | C |
| 34 | BA | 122 | G |
| 34 | BA | 123 | C |
| 34 | BA | 124 | G |
| 34 | BA | 125 | U |
| 34 | BA | 130 | A |
| 34 | BA | 131 | C |
| 34 | BA | 132 | C |
| 34 | BA | 153 | C |
| 34 | BA | 163 | C |
| 34 | BA | 182 | U |
| 34 | BA | 190(D) | U |
| 34 | BA | 190(E) | U |
| 34 | BA | 190(F) | G |
| 34 | BA | 190(G) | G |
| 34 | BA | 193 | C |
| 34 | BA | 195 | A |
| 34 | BA | 197 | A |
| 34 | BA | 198 | G |
| 34 | BA | 203 | U |
| 34 | BA | 204 | U |
| 34 | BA | 216 | G |
| 34 | BA | 225 | C |
| 34 | BA | 236 | G |
| 34 | BA | 244 | U |
| 34 | BA | 245 | C |
| 34 | BA | 247 | G |
| 34 | BA | 251 | G |
| 34 | BA | 252 | U |
| 34 | BA | 253 | U |
| 34 | BA | 260 | G |
| 34 | BA | 261 | U |
| 34 | BA | 264 | U |
| 34 | BA | 265 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 266 | G |
| 34 | BA | 267 | C |
| 34 | BA | 275 | G |
| 34 | BA | 279 | A |
| 34 | BA | 280 | C |
| 34 | BA | 281 | G |
| 34 | BA | 282 | A |
| 34 | BA | 283 | C |
| 34 | BA | 289 | G |
| 34 | BA | 293 | G |
| 34 | BA | 296 | U |
| 34 | BA | 306 | G |
| 34 | BA | 308 | C |
| 34 | BA | 309 | G |
| 34 | BA | 315 | A |
| 34 | BA | 316 | G |
| 34 | BA | 317 | G |
| 34 | BA | 321 | A |
| 34 | BA | 323 | U |
| 34 | BA | 325 | A |
| 34 | BA | 328 | C |
| 34 | BA | 329 | A |
| 34 | BA | 330 | C |
| 34 | BA | 332 | G |
| 34 | BA | 336 | C |
| 34 | BA | 345 | C |
| 34 | BA | 346 | G |
| 34 | BA | 348 | G |
| 34 | BA | 351 | G |
| 34 | BA | 352 | C |
| 34 | BA | 353 | A |
| 34 | BA | 355 | C |
| 34 | BA | 367 | U |
| 34 | BA | 368 | U |
| 34 | BA | 373 | A |
| 34 | BA | 379 | C |
| 34 | BA | 386 | C |
| 34 | BA | 387 | U |
| 34 | BA | 388 | G |
| 34 | BA | 389 | A |
| 34 | BA | 390 | C |
| 34 | BA | 391 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 397 | A |
| 34 | BA | 398 | C |
| 34 | BA | 405 | U |
| 34 | BA | 410 | G |
| 34 | BA | 412 | A |
| 34 | BA | 413 | G |
| 34 | BA | 422 | C |
| 34 | BA | 423 | G |
| 34 | BA | 427 | U |
| 34 | BA | 428 | G |
| 34 | BA | 429 | U |
| 34 | BA | 430 | A |
| 34 | BA | 439 | A |
| 34 | BA | 440 | A |
| 34 | BA | 448 | A |
| 34 | BA | 451 | A |
| 34 | BA | 452 | A |
| 34 | BA | 453 | A |
| 34 | BA | 455 | C |
| 34 | BA | 460 | A |
| 34 | BA | 461 | C |
| 34 | BA | 462 | G |
| 34 | BA | 474 | G |
| 34 | BA | 482 | A |
| 34 | BA | 484 | G |
| 34 | BA | 485 | G |
| 34 | BA | 486 | U |
| 34 | BA | 487 | A |
| 34 | BA | 496 | A |
| 34 | BA | 497 | A |
| 34 | BA | 498 | U |
| 34 | BA | 500 | G |
| 34 | BA | 505 | G |
| 34 | BA | 508 | C |
| 34 | BA | 509 | A |
| 34 | BA | 510 | A |
| 34 | BA | 511 | C |
| 34 | BA | 517 | G |
| 34 | BA | 518 | C |
| 34 | BA | 519 | C |
| 34 | BA | 520 | A |
| 34 | BA | 521 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 523 | A |
| 34 | BA | 527 | G |
| 34 | BA | 530 | G |
| 34 | BA | 531 | U |
| 34 | BA | 532 | A |
| 34 | BA | 533 | A |
| 34 | BA | 535 | A |
| 34 | BA | 536 | C |
| 34 | BA | 547 | A |
| 34 | BA | 548 | G |
| 34 | BA | 553 | A |
| 34 | BA | 555 | C |
| 34 | BA | 559 | A |
| 34 | BA | 560 | U |
| 34 | BA | 561 | U |
| 34 | BA | 563 | A |
| 34 | BA | 566 | G |
| 34 | BA | 567 | G |
| 34 | BA | 570 | G |
| 34 | BA | 571 | U |
| 34 | BA | 572 | A |
| 34 | BA | 573 | A |
| 34 | BA | 575 | G |
| 34 | BA | 576 | G |
| 34 | BA | 579 | G |
| 34 | BA | 582 | U |
| 34 | BA | 583 | A |
| 34 | BA | 588 | G |
| 34 | BA | 589 | C |
| 34 | BA | 596 | C |
| 34 | BA | 598 | U |
| 34 | BA | 607 | A |
| 34 | BA | 609 | A |
| 34 | BA | 610 | G |
| 34 | BA | 623 | C |
| 34 | BA | 629 | G |
| 34 | BA | 642 | A |
| 34 | BA | 652 | U |
| 34 | BA | 653 | A |
| 34 | BA | 665 | A |
| 34 | BA | 671 | G |
| 34 | BA | 672 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 673 | G |
| 34 | BA | 674 | G |
| 34 | BA | 678 | U |
| 34 | BA | 687 | A |
| 34 | BA | 688 | G |
| 34 | BA | 693 | G |
| 34 | BA | 694 | A |
| 34 | BA | 698 | G |
| 34 | BA | 702 | A |
| 34 | BA | 703 | G |
| 34 | BA | 704 | A |
| 34 | BA | 714 | G |
| 34 | BA | 718 | G |
| 34 | BA | 719 | C |
| 34 | BA | 721 | G |
| 34 | BA | 724 | G |
| 34 | BA | 730 | G |
| 34 | BA | 731 | G |
| 34 | BA | 745 | C |
| 34 | BA | 749 | C |
| 34 | BA | 752 | G |
| 34 | BA | 753 | A |
| 34 | BA | 759 | A |
| 34 | BA | 760 | G |
| 34 | BA | 761 | G |
| 34 | BA | 766 | A |
| 34 | BA | 767 | A |
| 34 | BA | 773 | G |
| 34 | BA | 775 | G |
| 34 | BA | 776 | G |
| 34 | BA | 777 | A |
| 34 | BA | 780 | A |
| 34 | BA | 781 | A |
| 34 | BA | 782 | A |
| 34 | BA | 785 | G |
| 34 | BA | 791 | G |
| 34 | BA | 793 | U |
| 34 | BA | 794 | A |
| 34 | BA | 805 | C |
| 34 | BA | 812 | C |
| 34 | BA | 813 | U |
| 34 | BA | 814 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 815 | A |
| 34 | BA | 816 | A |
| 34 | BA | 817 | C |
| 34 | BA | 818 | G |
| 34 | BA | 819 | A |
| 34 | BA | 820 | U |
| 34 | BA | 821 | G |
| 34 | BA | 828 | A |
| 34 | BA | 839 | U |
| 34 | BA | 840 | C |
| 34 | BA | 841 | U |
| 34 | BA | 848 | C |
| 34 | BA | 855 | G |
| 34 | BA | 865 | A |
| 34 | BA | 866 | C |
| 34 | BA | 870 | U |
| 34 | BA | 871 | U |
| 34 | BA | 872 | A |
| 34 | BA | 873 | A |
| 34 | BA | 874 | G |
| 34 | BA | 884 | U |
| 34 | BA | 885 | G |
| 34 | BA | 889 | A |
| 34 | BA | 890 | G |
| 34 | BA | 891 | U |
| 34 | BA | 901 | A |
| 34 | BA | 902 | G |
| 34 | BA | 906 | G |
| 34 | BA | 910 | C |
| 34 | BA | 911 | U |
| 34 | BA | 913 | A |
| 34 | BA | 914 | A |
| 34 | BA | 927 | G |
| 34 | BA | 934 | C |
| 34 | BA | 935 | A |
| 34 | BA | 942 | G |
| 34 | BA | 945 | G |
| 34 | BA | 950 | U |
| 34 | BA | 956 | U |
| 34 | BA | 958 | A |
| 34 | BA | 960 | U |
| 34 | BA | 961 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 966 | G |
| 34 | BA | 968 | A |
| 34 | BA | 969 | A |
| 34 | BA | 972 | C |
| 34 | BA | 974 | A |
| 34 | BA | 975 | A |
| 34 | BA | 976 | G |
| 34 | BA | 977 | A |
| 34 | BA | 982 | U |
| 34 | BA | 983 | A |
| 34 | BA | 991 | U |
| 34 | BA | 992 | U |
| 34 | BA | 993 | G |
| 34 | BA | 994 | A |
| 34 | BA | 995 | C |
| 34 | BA | 997 | U |
| 34 | BA | 998 | G |
| 34 | BA | 1004 | A |
| 34 | BA | 1005 | A |
| 34 | BA | 1007 | C |
| 34 | BA | 1013 | G |
| 34 | BA | 1023 | G |
| 34 | BA | 1025 | U |
| 34 | BA | 1026 | G |
| 34 | BA | 1034 | G |
| 34 | BA | 1042 | G |
| 34 | BA | 1050 | G |
| 34 | BA | 1053 | G |
| 34 | BA | 1054 | C |
| 34 | BA | 1055 | A |
| 34 | BA | 1056 | U |
| 34 | BA | 1064 | G |
| 34 | BA | 1065 | U |
| 34 | BA | 1066 | C |
| 34 | BA | 1068 | G |
| 34 | BA | 1079 | G |
| 34 | BA | 1084 | G |
| 34 | BA | 1085 | U |
| 34 | BA | 1086 | U |
| 34 | BA | 1096 | C |
| 34 | BA | 1097 | C |
| 34 | BA | 1100 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 1101 | A |
| 34 | BA | 1102 | A |
| 34 | BA | 1107 | C |
| 34 | BA | 1117 | G |
| 34 | BA | 1118 | C |
| 34 | BA | 1122 | U |
| 34 | BA | 1126 | U |
| 34 | BA | 1127 | G |
| 34 | BA | 1129 | C |
| 34 | BA | 1130 | A |
| 34 | BA | 1131 | G |
| 34 | BA | 1137 | C |
| 34 | BA | 1138 | G |
| 34 | BA | 1139 | G |
| 34 | BA | 1140 | C |
| 34 | BA | 1145 | C |
| 34 | BA | 1146 | A |
| 34 | BA | 1148 | U |
| 34 | BA | 1151 | A |
| 34 | BA | 1152 | A |
| 34 | BA | 1157 | A |
| 34 | BA | 1158 | C |
| 34 | BA | 1159 | U |
| 34 | BA | 1160 | G |
| 34 | BA | 1161 | C |
| 34 | BA | 1177 | G |
| 34 | BA | 1183 | A |
| 34 | BA | 1184 | G |
| 34 | BA | 1185 | G |
| 34 | BA | 1186 | G |
| 34 | BA | 1188 | A |
| 34 | BA | 1190 | G |
| 34 | BA | 1191 | A |
| 34 | BA | 1196 | U |
| 34 | BA | 1197 | G |
| 34 | BA | 1201 | A |
| 34 | BA | 1202 | G |
| 34 | BA | 1212 | U |
| 34 | BA | 1213 | A |
| 34 | BA | 1214 | C |
| 34 | BA | 1215 | G |
| 34 | BA | 1225 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 1226 | C |
| 34 | BA | 1227 | A |
| 34 | BA | 1229 | A |
| 34 | BA | 1231 | G |
| 34 | BA | 1240 | U |
| 34 | BA | 1241 | G |
| 34 | BA | 1249 | C |
| 34 | BA | 1250 | A |
| 34 | BA | 1251 | A |
| 34 | BA | 1256 | A |
| 34 | BA | 1257 | U |
| 34 | BA | 1258 | G |
| 34 | BA | 1260 | C |
| 34 | BA | 1269 | A |
| 34 | BA | 1279 | A |
| 34 | BA | 1280 | A |
| 34 | BA | 1281 | U |
| 34 | BA | 1282 | C |
| 34 | BA | 1285 | A |
| 34 | BA | 1286 | A |
| 34 | BA | 1287 | A |
| 34 | BA | 1289 | A |
| 34 | BA | 1290 | G |
| 34 | BA | 1292 | U |
| 34 | BA | 1297 | C |
| 34 | BA | 1298 | C |
| 34 | BA | 1299 | A |
| 34 | BA | 1301 | U |
| 34 | BA | 1302 | U |
| 34 | BA | 1303 | C |
| 34 | BA | 1305 | G |
| 34 | BA | 1316 | G |
| 34 | BA | 1317 | C |
| 34 | BA | 1320 | C |
| 34 | BA | 1322 | C |
| 34 | BA | 1323 | G |
| 34 | BA | 1331 | G |
| 34 | BA | 1332 | A |
| 34 | BA | 1333 | A |
| 34 | BA | 1337 | G |
| 34 | BA | 1345 | U |
| 34 | BA | 1346 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 1347 | G |
| 34 | BA | 1348 | U |
| 34 | BA | 1353 | G |
| 34 | BA | 1356 | G |
| 34 | BA | 1360 | A |
| 34 | BA | 1362 | C |
| 34 | BA | 1363 | A |
| 34 | BA | 1364 | U |
| 34 | BA | 1365 | G |
| 34 | BA | 1371 | G |
| 34 | BA | 1379 | G |
| 34 | BA | 1381 | U |
| 34 | BA | 1382 | C |
| 34 | BA | 1394 | A |
| 34 | BA | 1395 | C |
| 34 | BA | 1397 | C |
| 34 | BA | 1398 | A |
| 34 | BA | 1399 | C |
| 34 | BA | 1400 | C |
| 34 | BA | 1401 | G |
| 34 | BA | 1437 | C |
| 34 | BA | 1440 | C |
| 34 | BA | 1442 | G |
| 34 | BA | 1443 | G |
| 34 | BA | 1446 | A |
| 34 | BA | 1447 | G |
| 34 | BA | 1449 | C |
| 34 | BA | 1452 | C |
| 34 | BA | 1453 | G |
| 34 | BA | 1454 | G |
| 34 | BA | 1467 | G |
| 34 | BA | 1481 | U |
| 34 | BA | 1482 | G |
| 34 | BA | 1490 | C |
| 34 | BA | 1491 | G |
| 34 | BA | 1493 | A |
| 34 | BA | 1497 | G |
| 34 | BA | 1498 | U |
| 34 | BA | 1499 | A |
| 34 | BA | 1502 | A |
| 34 | BA | 1503 | A |
| 34 | BA | 1504 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 1505 | G |
| 34 | BA | 1506 | U |
| 34 | BA | 1507 | A |
| 34 | BA | 1516 | G |
| 34 | BA | 1517 | G |
| 34 | BA | 1518 | A |
| 34 | BA | 1520 | G |
| 34 | BA | 1529 | G |
| 34 | BA | 1530 | G |
| 34 | BA | 1531 | A |
| 34 | BA | 1533 | C |
| 34 | BA | 1534 | A |
| 34 | BA | 1535 | C |
| 34 | BA | 1540 | U |
| 34 | BA | 1542 | U |
| 35 | BB | 2 | C |
| 35 | BB | 8 | U |
| 35 | BB | 10 | G |
| 35 | BB | 16 | U |
| 35 | BB | 17 | U |
| 35 | BB | 18 | G |
| 35 | BB | 19 | G |
| 35 | BB | 20 | G |
| 35 | BB | 21 | A |
| 35 | BB | 31 | A |
| 35 | BB | 32 | C |
| 35 | BB | 34 | G |
| 35 | BB | 35 | A |
| 35 | BB | 37 | G |
| 35 | BB | 41 | U |
| 35 | BB | 42 | G |
| 35 | BB | 43 | G |
| 35 | BB | 44 | A |
| 35 | BB | 45 | G |
| 35 | BB | 46 | G |
| 35 | BB | 47 | U |
| 35 | BB | 48 | C |
| 35 | BB | 49 | C |
| 35 | BB | 53 | G |
| 35 | BB | 54 | U |
| 35 | BB | 58 | A |
| 35 | BB | 59 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 35 | BB | 60 | C |
| 35 | BB | 61 | C |
| 35 | BB | 64 | A |
| 35 | BB | 69 | U |
| 35 | BB | 74 | C |
| 35 | BB | 75 | C |
| 35 | BB | 76 | A |
| 35 | BC | 8 | U |
| 35 | BC | 10 | G |
| 35 | BC | 15 | G |
| 35 | BC | 16 | U |
| 35 | BC | 17 | U |
| 35 | BC | 18 | G |
| 35 | BC | 19 | G |
| 35 | BC | 20 | G |
| 35 | BC | 21 | A |
| 35 | BC | 23 | A |
| 35 | BC | 26 | G |
| 35 | BC | 31 | A |
| 35 | BC | 35 | A |
| 35 | BC | 36 | A |
| 35 | BC | 37 | G |
| 35 | BC | 41 | U |
| 35 | BC | 43 | G |
| 35 | BC | 46 | G |
| 35 | BC | 47 | U |
| 35 | BC | 48 | C |
| 35 | BC | 49 | C |
| 35 | BC | 50 | U |
| 35 | BC | 58 | A |
| 35 | BC | 59 | U |
| 35 | BC | 60 | C |
| 35 | BC | 61 | C |
| 35 | BC | 63 | C |
| 35 | BC | 64 | A |
| 35 | BC | 74 | C |
| 35 | BC | 75 | C |
| 35 | BC | 76 | A |
| 36 | B1 | 7 | A |
| 36 | B1 | 8 | A |
| 36 | B1 | 14 | U |
| 36 | B1 | 17 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 36 | B1 | 22 | C |
| 36 | B1 | 26 | C |
| 36 | B1 | 37 | C |
| 36 | B1 | 39 | A |
| 36 | B1 | 47 | U |
| 36 | B1 | 52 | A |
| 36 | B1 | 55 | U |
| 36 | B1 | 56 | A |
| 36 | B1 | 57 | A |
| 36 | B1 | 58 | A |
| 36 | B1 | 59 | A |
| 36 | B1 | 60 | A |
| 36 | B1 | 61 | U |
| 36 | B1 | 62 | G |
| 36 | B1 | 63 | C |
| 36 | B1 | 64 | C |
| 36 | B1 | 66 | G |
| 36 | B1 | 69 | A |
| 36 | B1 | 70 | U |
| 36 | B1 | 71 | A |

All (485) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | AB | 40 | U |
| 1 | AB | 56 | G |
| 1 | AB | 61 | G |
| 1 | AB | 66 | A |
| 1 | AB | 98 | G |
| 2 | AA | 13 | A |
| 2 | AA | 33 | U |
| 2 | AA | 51 | G |
| 2 | AA | 71 | A |
| 2 | AA | 72 | U |
| 2 | AA | 74 | A |
| 2 | AA | 83 | G |
| 2 | AA | 90 | U |
| 2 | AA | 108 | U |
| 2 | AA | 112 | U |
| 2 | AA | 119 | A |
| 2 | AA | 125 | G |
| 2 | AA | 128 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 139 | G |
| 2 | AA | 142 | G |
| 2 | AA | 155 | C |
| 2 | AA | 177 | G |
| 2 | AA | 181 | A |
| 2 | AA | 196 | A |
| 2 | AA | 199 | A |
| 2 | AA | 204 | A |
| 2 | AA | 205 | G |
| 2 | AA | 215 | G |
| 2 | AA | 221 | A |
| 2 | AA | 242 | G |
| 2 | AA | 251 | A |
| 2 | AA | 265 | A |
| 2 | AA | 270(L) | U |
| 2 | AA | 270(M) | U |
| 2 | AA | 270(Y) | G |
| 2 | AA | 270(Z) | U |
| 2 | AA | 271(B) | G |
| 2 | AA | 271(C) | U |
| 2 | AA | 301 | G |
| 2 | AA | 323 | G |
| 2 | AA | 329 | G |
| 2 | AA | 331 | A |
| 2 | AA | 332 | A |
| 2 | AA | 346 | A |
| 2 | AA | 360 | G |
| 2 | AA | 370 | G |
| 2 | AA | 371 | A |
| 2 | AA | 386 | G |
| 2 | AA | 387 | U |
| 2 | AA | 403 | U |
| 2 | AA | 442 | G |
| 2 | AA | 446 | G |
| 2 | AA | 455 | C |
| 2 | AA | 492 | A |
| 2 | AA | 506 | G |
| 2 | AA | 508 | G |
| 2 | AA | 526 | A |
| 2 | AA | 529 | A |
| 2 | AA | 530 | G |
| 2 | AA | 532 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 543 | C |
| 2 | AA | 548 | A |
| 2 | AA | 554 | U |
| 2 | AA | 559 | G |
| 2 | AA | 574 | C |
| 2 | AA | 587 | C |
| 2 | AA | 616 | A |
| 2 | AA | 620 | G |
| 2 | AA | 670 | A |
| 2 | AA | 685 | A |
| 2 | AA | 686 | G |
| 2 | AA | 687 | C |
| 2 | AA | 704 | G |
| 2 | AA | 726 | G |
| 2 | AA | 728 | G |
| 2 | AA | 740 | U |
| 2 | AA | 746 | A |
| 2 | AA | 747 | U |
| 2 | AA | 752 | A |
| 2 | AA | 762 | U |
| 2 | AA | 774 | A |
| 2 | AA | 776 | G |
| 2 | AA | 782 | A |
| 2 | AA | 783 | A |
| 2 | AA | 787 | U |
| 2 | AA | 788 | A |
| 2 | AA | 789 | A |
| 2 | AA | 790 | C |
| 2 | AA | 792 | G |
| 2 | AA | 800 | A |
| 2 | AA | 801 | G |
| 2 | AA | 811 | U |
| 2 | AA | 830 | G |
| 2 | AA | 846 | C |
| 2 | AA | 886 | C |
| 2 | AA | 917 | A |
| 2 | AA | 918 | A |
| 2 | AA | 930 | U |
| 2 | AA | 931 | G |
| 2 | AA | 944 | G |
| 2 | AA | 945 | A |
| 2 | AA | 957 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 958 | U |
| 2 | AA | 960 | A |
| 2 | AA | 961 | C |
| 2 | AA | 974 | G |
| 2 | AA | 974(A) | C |
| 2 | AA | 983 | A |
| 2 | AA | 989 | G |
| 2 | AA | 1008 | C |
| 2 | AA | 1011 | G |
| 2 | AA | 1022 | G |
| 2 | AA | 1029 | A |
| 2 | AA | 1069 | A |
| 2 | AA | 1083 | U |
| 2 | AA | 1085 | A |
| 2 | AA | 1100 | C |
| 2 | AA | 1110 | G |
| 2 | AA | 1111 | A |
| 2 | AA | 1130 | U |
| 2 | AA | 1131 | G |
| 2 | AA | 1140 | C |
| 2 | AA | 1141 | U |
| 2 | AA | 1173 | G |
| 2 | AA | 1178 | C |
| 2 | AA | 1179 | C |
| 2 | AA | 1180 | C |
| 2 | AA | 1181 | C |
| 2 | AA | 1183 | G |
| 2 | AA | 1206 | G |
| 2 | AA | 1210 | A |
| 2 | AA | 1211 | U |
| 2 | AA | 1212 | G |
| 2 | AA | 1220 | A |
| 2 | AA | 1237 | A |
| 2 | AA | 1241 | A |
| 2 | AA | 1247 | A |
| 2 | AA | 1248 | G |
| 2 | AA | 1250 | G |
| 2 | AA | 1265 | A |
| 2 | AA | 1272 | A |
| 2 | AA | 1288 | U |
| 2 | AA | 1300 | U |
| 2 | AA | 1301 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1302 | A |
| 2 | AA | 1312 | U |
| 2 | AA | 1324 | G |
| 2 | AA | 1341 | U |
| 2 | AA | 1342 | A |
| 2 | AA | 1364 | G |
| 2 | AA | 1378 | A |
| 2 | AA | 1397 | U |
| 2 | AA | 1406 | U |
| 2 | AA | 1427 | A |
| 2 | AA | 1428 | C |
| 2 | AA | 1437 | C |
| 2 | AA | 1444 | G |
| 2 | AA | 444(A) | A |
| 2 | AA | 1477 | A |
| 2 | AA | 1489 | U |
| 2 | AA | 1491 | G |
| 2 | AA | 1496 | A |
| 2 | AA | 1498 | C |
| 2 | AA | 1509 | C |
| 2 | AA | 1515 | C |
| 2 | AA | 1525 | G |
| 2 | AA | 1536 | A |
| 2 | AA | 1545 | A |
| 2 | AA | 1552 | G |
| 2 | AA | 1566 | A |
| 2 | AA | 1567 | A |
| 2 | AA | 1568 | G |
| 2 | AA | 1572 | A |
| 2 | AA | 1602 | U |
| 2 | AA | 1610 | A |
| 2 | AA | 1616 | A |
| 2 | AA | 1618 | A |
| 2 | AA | 1626 | G |
| 2 | AA | 1634 | A |
| 2 | AA | 1647 | G |
| 2 | AA | 1667 | G |
| 2 | AA | 1668 | A |
| 2 | AA | 1672 | C |
| 2 | AA | 1673 | U |
| 2 | AA | 1674 | G |
| 2 | AA | 1676 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 1681 | G |
| 2 | AA | 1693 | U |
| 2 | AA | 1694 | C |
| 2 | AA | 1698 | A |
| 2 | AA | 1699 | G |
| 2 | AA | 1742 | C |
| 2 | AA | 1758 | G |
| 2 | AA | 1780 | A |
| 2 | AA | 1784 | A |
| 2 | AA | 1788 | C |
| 2 | AA | 1799 | G |
| 2 | AA | 1800 | C |
| 2 | AA | 1809 | A |
| 2 | AA | 1815 | A |
| 2 | AA | 1819 | A |
| 2 | AA | 1820 | U |
| 2 | AA | 1828 | G |
| 2 | AA | 1900 | A |
| 2 | AA | 1914 | C |
| 2 | AA | 1916 | A |
| 2 | AA | 1929 | G |
| 2 | AA | 1930 | G |
| 2 | AA | 1936 | A |
| 2 | AA | 1937 | A |
| 2 | AA | 1938 | A |
| 2 | AA | 1943 | U |
| 2 | AA | 1944 | U |
| 2 | AA | 1954 | G |
| 2 | AA | 1955 | U |
| 2 | AA | 1964 | G |
| 2 | AA | 1970 | A |
| 2 | AA | 1977 | A |
| 2 | AA | 1980 | G |
| 2 | AA | 1992 | G |
| 2 | AA | 1996 | C |
| 2 | AA | 2019 | A |
| 2 | AA | 2022 | U |
| 2 | AA | 2032 | G |
| 2 | AA | 2033 | A |
| 2 | AA | 2035 | G |
| 2 | AA | 2045 | C |
| 2 | AA | 2047 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2049 | G |
| 2 | AA | 2051 | A |
| 2 | AA | 2059 | A |
| 2 | AA | 2067 | G |
| 2 | AA | 2076 | U |
| 2 | AA | 2110 | G |
| 2 | AA | 2113 | U |
| 2 | AA | 2119 | A |
| 2 | AA | 2125 | G |
| 2 | AA | 2210 | G |
| 2 | AA | 2225 | A |
| 2 | AA | 2249 | U |
| 2 | AA | 2268 | A |
| 2 | AA | 2275 | C |
| 2 | AA | 2282 | G |
| 2 | AA | 2287 | A |
| 2 | AA | 2293 | C |
| 2 | AA | 2318 | G |
| 2 | AA | 2320 | A |
| 2 | AA | 2324 | C |
| 2 | AA | 2333 | A |
| 2 | AA | 2344 | U |
| 2 | AA | 2346 | A |
| 2 | AA | 2384 | G |
| 2 | AA | 2391 | G |
| 2 | AA | 2398 | U |
| 2 | AA | 2423 | U |
| 2 | AA | 2425 | A |
| 2 | AA | 2434 | A |
| 2 | AA | 2439 | A |
| 2 | AA | 2447 | G |
| 2 | AA | 2448 | A |
| 2 | AA | 2449 | U |
| 2 | AA | 2451 | A |
| 2 | AA | 2481 | G |
| 2 | AA | 2490 | G |
| 2 | AA | 2493 | U |
| 2 | AA | 2497 | A |
| 2 | AA | 2501 | C |
| 2 | AA | 2502 | G |
| 2 | AA | 2503 | A |
| 2 | AA | 2517 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 2519 | U |
| 2 | AA | 2542 | A |
| 2 | AA | 2553 | G |
| 2 | AA | 2576 | G |
| 2 | AA | 2602 | A |
| 2 | AA | 2606 | C |
| 2 | AA | 2609 | U |
| 2 | AA | 2610 | C |
| 2 | AA | 2612 | C |
| 2 | AA | 2613 | U |
| 2 | AA | 2654 | A |
| 2 | AA | 2662 | A |
| 2 | AA | 2689 | U |
| 2 | AA | 2712 | U |
| 2 | AA | 2726 | U |
| 2 | AA | 2756 | U |
| 2 | AA | 2781 | A |
| 2 | AA | 2790 | A |
| 2 | AA | 2848 | G |
| 2 | AA | 2849 | U |
| 2 | AA | 2866 | U |
| 2 | AA | 2867 | G |
| 2 | AA | 2873 | A |
| 2 | AA | 2879 | C |
| 2 | AA | 2882 | A |
| 34 | BA | 5 | U |
| 34 | BA | 8 | A |
| 34 | BA | 13 | U |
| 34 | BA | 30 | U |
| 34 | BA | 47 | C |
| 34 | BA | 48 | C |
| 34 | BA | 50 | A |
| 34 | BA | 51 | A |
| 34 | BA | 60 | A |
| 34 | BA | 99 | C |
| 34 | BA | 109 | A |
| 34 | BA | 115 | G |
| 34 | BA | 119 | A |
| 34 | BA | 121 | C |
| 34 | BA | 129(A) | G |
| 34 | BA | 181 | G |
| 34 | BA | 190(F) | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 197 | A |
| 34 | BA | 202 | U |
| 34 | BA | 203 | U |
| 34 | BA | 204 | U |
| 34 | BA | 243 | A |
| 34 | BA | 244 | U |
| 34 | BA | 246 | A |
| 34 | BA | 250 | A |
| 34 | BA | 251 | G |
| 34 | BA | 266 | G |
| 34 | BA | 274 | A |
| 34 | BA | 279 | A |
| 34 | BA | 280 | C |
| 34 | BA | 281 | G |
| 34 | BA | 305 | G |
| 34 | BA | 327 | A |
| 34 | BA | 328 | C |
| 34 | BA | 329 | A |
| 34 | BA | 344 | A |
| 34 | BA | 345 | C |
| 34 | BA | 351 | G |
| 34 | BA | 366 | C |
| 34 | BA | 367 | U |
| 34 | BA | 372 | C |
| 34 | BA | 388 | G |
| 34 | BA | 422 | C |
| 34 | BA | 428 | G |
| 34 | BA | 429 | U |
| 34 | BA | 438 | G |
| 34 | BA | 447 | G |
| 34 | BA | 451 | A |
| 34 | BA | 481 | G |
| 34 | BA | 483 | C |
| 34 | BA | 484 | G |
| 34 | BA | 496 | A |
| 34 | BA | 497 | A |
| 34 | BA | 499 | A |
| 34 | BA | 508 | C |
| 34 | BA | 509 | A |
| 34 | BA | 511 | C |
| 34 | BA | 517 | G |
| 34 | BA | 518 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 522 | C |
| 34 | BA | 531 | U |
| 34 | BA | 535 | A |
| 34 | BA | 547 | A |
| 34 | BA | 559 | A |
| 34 | BA | 560 | U |
| 34 | BA | 562 | C |
| 34 | BA | 566 | G |
| 34 | BA | 575 | G |
| 34 | BA | 576 | G |
| 34 | BA | 652 | U |
| 34 | BA | 653 | A |
| 34 | BA | 687 | A |
| 34 | BA | 701 | C |
| 34 | BA | 702 | A |
| 34 | BA | 703 | G |
| 34 | BA | 717 | C |
| 34 | BA | 721 | G |
| 34 | BA | 748 | C |
| 34 | BA | 752 | G |
| 34 | BA | 753 | A |
| 34 | BA | 758 | G |
| 34 | BA | 772 | U |
| 34 | BA | 781 | A |
| 34 | BA | 792 | A |
| 34 | BA | 793 | U |
| 34 | BA | 812 | C |
| 34 | BA | 816 | A |
| 34 | BA | 817 | C |
| 34 | BA | 818 | G |
| 34 | BA | 819 | A |
| 34 | BA | 870 | U |
| 34 | BA | 871 | U |
| 34 | BA | 872 | A |
| 34 | BA | 873 | A |
| 34 | BA | 889 | A |
| 34 | BA | 913 | A |
| 34 | BA | 934 | C |
| 34 | BA | 945 | G |
| 34 | BA | 960 | U |
| 34 | BA | 965 | A |
| 34 | BA | 968 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 974 | A |
| 34 | BA | 975 | A |
| 34 | BA | 982 | U |
| 34 | BA | 992 | U |
| 34 | BA | 993 | G |
| 34 | BA | 1004 | A |
| 34 | BA | 1049 | U |
| 34 | BA | 1065 | U |
| 34 | BA | 1067 | A |
| 34 | BA | 1084 | G |
| 34 | BA | 1085 | U |
| 34 | BA | 1100 | C |
| 34 | BA | 1101 | A |
| 34 | BA | 1124 | G |
| 34 | BA | 1125 | U |
| 34 | BA | 1139 | G |
| 34 | BA | 1145 | C |
| 34 | BA | 1157 | A |
| 34 | BA | 1159 | U |
| 34 | BA | 1182 | G |
| 34 | BA | 1190 | G |
| 34 | BA | 1196 | U |
| 34 | BA | 1201 | A |
| 34 | BA | 1212 | U |
| 34 | BA | 1214 | C |
| 34 | BA | 1224 | G |
| 34 | BA | 1226 | C |
| 34 | BA | 1240 | U |
| 34 | BA | 1257 | U |
| 34 | BA | 1279 | A |
| 34 | BA | 1280 | A |
| 34 | BA | 1281 | U |
| 34 | BA | 1285 | A |
| 34 | BA | 1297 | C |
| 34 | BA | 1298 | C |
| 34 | BA | 1300 | G |
| 34 | BA | 1302 | U |
| 34 | BA | 1322 | C |
| 34 | BA | 1331 | G |
| 34 | BA | 1345 | U |
| 34 | BA | 1346 | A |
| 34 | BA | 1347 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BA | 1362 | C |
| 34 | BA | 1363 | A |
| 34 | BA | 1380 | U |
| 34 | BA | 1394 | A |
| 34 | BA | 1397 | C |
| 34 | BA | 1399 | C |
| 34 | BA | 1400 | C |
| 34 | BA | 1446 | A |
| 34 | BA | 1452 | C |
| 34 | BA | 1490 | C |
| 34 | BA | 1498 | U |
| 34 | BA | 1502 | A |
| 34 | BA | 1503 | A |
| 34 | BA | 1504 | G |
| 34 | BA | 1505 | G |
| 34 | BA | 1506 | U |
| 34 | BA | 1528 | U |
| 34 | BA | 1529 | G |
| 35 | BB | 1 | G |
| 35 | BB | 7 | U |
| 35 | BB | 9 | A |
| 35 | BB | 16 | U |
| 35 | BB | 18 | G |
| 35 | BB | 19 | G |
| 35 | BB | 20 | G |
| 35 | BB | 34 | G |
| 35 | BB | 36 | A |
| 35 | BB | 40 | C |
| 35 | BB | 42 | G |
| 35 | BB | 44 | A |
| 35 | BB | 49 | C |
| 35 | BB | 58 | A |
| 35 | BB | 59 | U |
| 35 | BB | 60 | C |
| 35 | BC | 7 | U |
| 35 | BC | 9 | A |
| 35 | BC | 16 | U |
| 35 | BC | 19 | G |
| 35 | BC | 35 | A |
| 35 | BC | 36 | A |
| 35 | BC | 58 | A |
| 35 | BC | 60 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 35 | BC | 73 | A |
| 36 | B1 | 59 | A |
| 36 | B1 | 60 | A |
| 36 | B1 | 62 | G |
| 36 | B1 | 70 | U |

## 5.4 Non-standard residues in protein, DNA, RNA chains (i)

There are no non-standard protein/DNA/RNA residues in this entry.

## 5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry (i)

There are no ligands in this entry.

## 5.7 Other polymers (i)

There are no such residues in this entry.

## 5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

# 6 Fit of model and data (i)

## 6.1 Protein, DNA and RNA chains (i)

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, $95^{th}$ percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|
| 1 | AB | 123/123 (100%) | -0.47 | 0 100 100 | 308, 357, 402, 412 | 0 |
| 2 | AA | 2872/2915 (98%) | -0.48 | 15 (0%) 91 85 | 232, 307, 404, 474 | 0 |
| 3 | AC | 221/228 (96%) | -0.06 | 4 (1%) 68 60 | 384, 428, 464, 467 | 0 |
| 4 | AD | 173/178 (97%) | 0.47 | 11 (6%) 19 17 | 243, 279, 292, 298 | 0 |
| 5 | AE | 191/338 (56%) | 0.54 | 36 (18%) 1 3 | 258, 311, 397, 403 | 0 |
| 6 | AF | 189/246 (76%) | -0.37 | 2 (1%) 80 73 | 233, 399, 427, 434 | 0 |
| 7 | AG | 122/176 (69%) | -0.35 | 2 (1%) 72 63 | 350, 366, 443, 447 | 0 |
| 8 | AH | 164/177 (92%) | -0.37 | 1 (0%) 89 84 | 320, 351, 366, 370 | 0 |
| 9 | AI | 128/128 (100%) | 1.33 | 30 (23%) 0 2 | 580, 591, 602, 603 | 0 |
| 9 | AJ | 128/128 (100%) | 1.93 | 49 (38%) 0 1 | 569, 582, 594, 596 | 0 |
| 10 | AK | 148/149 (99%) | -0.12 | 4 (2%) 54 46 | 305, 329, 353, 361 | 0 |
| 11 | AL | 133/141 (94%) | 0.11 | 7 (5%) 26 25 | 455, 504, 541, 543 | 0 |
| 12 | AM | 117/145 (80%) | 0.25 | 12 (10%) 6 8 | 286, 310, 364, 368 | 0 |
| 13 | AN | 122/122 (100%) | 0.29 | 10 (8%) 11 12 | 245, 262, 277, 293 | 0 |
| 14 | AO | 84/164 (51%) | 0.22 | 5 (5%) 21 20 | 330, 452, 471, 473 | 0 |
| 15 | AP | 138/138 (100%) | 0.42 | 9 (6%) 18 17 | 283, 324, 364, 379 | 0 |
| 16 | AQ | 113/186 (60%) | -0.77 | 0 100 100 | 317, 367, 386, 390 | 0 |
| 17 | AR | 52/66 (78%) | 0.62 | 7 (13%) 3 5 | 251, 267, 285, 288 | 0 |
| 18 | AS | 108/113 (95%) | 0.15 | 2 (1%) 66 58 | 280, 311, 324, 332 | 0 |
| 19 | AT | 76/84 (90%) | -0.09 | 4 (5%) 26 25 | 329, 344, 360, 363 | 0 |
| 20 | AU | 110/119 (92%) | -0.08 | 7 (6%) 19 17 | 647, 661, 722, 724 | 0 |
| 21 | AV | 177/253 (69%) | -0.07 | 8 (4%) 33 29 | 295, 365, 416, 424 | 0 |
| 22 | AW | 64/70 (91%) | 0.11 | 1 (1%) 72 63 | 346, 364, 373, 375 | 0 |
| 23 | AX | 60/60 (100%) | -0.22 | 0 100 100 | 291, 306, 315, 316 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|
| 24 | A0 | 105/118 (88%) | -0.16 | 2 (1%) 66 58 | 263, 281, 304, 308 | 0 |
| 25 | A1 | 117/118 (99%) | -0.52 | 1 (0%) 84 77 | 267, 297, 311, 317 | 0 |
| 26 | A2 | 100/100 (100%) | 0.72 | 16 (16%) 1 4 | 416, 430, 462, 470 | 0 |
| 27 | A3 | 86/91 (94%) | 0.53 | 11 (12%) 3 6 | 359, 389, 475, 486 | 0 |
| 28 | A4 | 73/73 (100%) | -0.00 | 6 (8%) 11 12 | 319, 354, 373, 378 | 0 |
| 29 | A5 | 58/60 (96%) | 0.04 | 2 (3%) 45 38 | 259, 314, 361, 373 | 0 |
| 30 | A6 | 53/82 (64%) | 0.17 | 4 (7%) 14 14 | 287, 316, 332, 340 | 0 |
| 31 | A7 | 46/47 (97%) | 0.19 | 1 (2%) 62 53 | 316, 339, 352, 357 | 0 |
| 32 | A8 | 63/64 (98%) | -0.02 | 1 (1%) 72 63 | 262, 282, 294, 306 | 0 |
| 33 | A9 | 35/36 (97%) | -0.58 | 0 100 100 | 281, 303, 316, 319 | 0 |
| 34 | BA | 1515/1522 (99%) | -0.49 | 4 (0%) 94 90 | 251, 312, 419, 609 | 0 |
| 35 | BB | 76/76 (100%) | 7.38 | 60 (78%) 0 0 | 631, 651, 667, 669 | 0 |
| 35 | BC | 76/76 (100%) | -0.66 | 0 100 100 | 273, 310, 328, 337 | 0 |
| 36 | B1 | 66/78 (84%) | 5.89 | 43 (65%) 0 0 | 337, 829, 918, 922 | 0 |
| 37 | BE | 234/256 (91%) | 0.16 | 21 (8%) 9 10 | 293, 321, 364, 385 | 0 |
| 38 | BF | 206/239 (86%) | 0.73 | 39 (18%) 1 3 | 301, 349, 377, 382 | 0 |
| 39 | BG | 208/209 (99%) | 0.05 | 6 (2%) 51 43 | 276, 299, 318, 329 | 0 |
| 40 | BH | 150/162 (92%) | 0.64 | 20 (13%) 3 5 | 277, 295, 315, 324 | 0 |
| 41 | BI | 101/101 (100%) | 1.10 | 28 (27%) 0 2 | 299, 318, 330, 336 | 0 |
| 42 | BJ | 155/156 (99%) | 0.02 | 6 (3%) 39 33 | 326, 357, 370, 373 | 0 |
| 43 | BK | 138/138 (100%) | 0.17 | 9 (6%) 18 17 | 266, 284, 297, 306 | 0 |
| 44 | BL | 127/128 (99%) | -0.37 | 0 100 100 | 385, 487, 499, 500 | 0 |
| 45 | BM | 98/105 (93%) | 0.83 | 11 (11%) 5 8 | 337, 394, 423, 424 | 0 |
| 46 | BN | 119/129 (92%) | 0.20 | 9 (7%) 13 14 | 288, 307, 330, 334 | 0 |
| 47 | BO | 124/135 (91%) | 0.20 | 4 (3%) 47 39 | 265, 282, 319, 328 | 0 |
| 48 | BP | 125/126 (99%) | -0.90 | 0 100 100 | 350, 370, 412, 415 | 0 |
| 49 | BQ | 60/61 (98%) | -0.09 | 2 (3%) 46 39 | 322, 352, 360, 365 | 0 |
| 50 | BR | 88/89 (98%) | -0.39 | 3 (3%) 45 38 | 277, 288, 315, 318 | 0 |
| 51 | BS | 83/88 (94%) | -0.41 | 1 (1%) 79 70 | 271, 284, 303, 316 | 0 |
| 52 | BT | 104/105 (99%) | -0.21 | 3 (2%) 51 43 | 249, 268, 323, 344 | 0 |
| 53 | BU | 73/88 (82%) | 0.27 | 9 (12%) 4 7 | 259, 296, 323, 348 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|
| 54 | BV | 80/93 (86%) | 0.17 | 5 (6%) 20 17 | 353, 369, 395, 399 | 0 |
| 55 | BW | 99/106 (93%) | -0.54 | 0 100 100 | 264, 281, 292, 300 | 0 |
| 56 | BX | 24/27 (88%) | -1.09 | 0 100 100 | 475, 489, 493, 496 | 0 |
| All | All | 10678/11529 (92%) | -0.05 | 553 (5%) 27 26 | 232, 322, 533, 922 | 0 |

All (553) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 36 | B1 | 15 | A | 20.7 |
| 35 | BB | 4 | G | 18.9 |
| 36 | B1 | 42 | G | 18.3 |
| 36 | B1 | 17 | G | 17.4 |
| 35 | BB | 5 | A | 17.2 |
| 35 | BB | 15 | G | 16.6 |
| 35 | BB | 69 | U | 16.1 |
| 36 | B1 | 39 | A | 15.9 |
| 35 | BB | 14 | A | 15.8 |
| 36 | B1 | 40 | C | 15.3 |
| 2 | AA | 1532 | C | 15.2 |
| 12 | AM | 72 | PRO | 15.1 |
| 36 | B1 | 22 | C | 15.0 |
| 36 | B1 | 31 | G | 14.7 |
| 35 | BB | 68 | U | 14.5 |
| 35 | BB | 67 | A | 14.5 |
| 36 | B1 | 43 | C | 14.5 |
| 35 | BB | 70 | C | 14.4 |
| 2 | AA | 1531 | C | 14.2 |
| 36 | B1 | 32 | G | 14.2 |
| 35 | BB | 47 | U | 13.5 |
| 36 | B1 | 41 | U | 13.5 |
| 36 | B1 | 13 | G | 13.5 |
| 35 | BB | 21 | A | 13.5 |
| 36 | B1 | 14 | U | 13.4 |
| 35 | BB | 22 | G | 13.3 |
| 9 | AJ | 1 | MET | 13.2 |
| 35 | BB | 3 | G | 13.1 |
| 36 | B1 | 16 | U | 13.0 |
| 35 | BB | 45 | G | 12.9 |
| 36 | B1 | 38 | C | 12.6 |
| 35 | BB | 1 | G | 12.6 |
| 35 | BB | 6 | U | 12.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 15 | AP | 29 | ALA | 12.5 |
| 9 | AI | 87 | GLU | 12.2 |
| 35 | BB | 46 | G | 12.0 |
| 2 | AA | 141 | A | 11.9 |
| 35 | BB | 48 | C | 11.6 |
| 35 | BB | 20 | G | 11.5 |
| 27 | A3 | 6 | GLY | 11.4 |
| 36 | B1 | 21 | U | 11.3 |
| 35 | BB | 71 | G | 11.2 |
| 35 | BB | 9 | A | 11.1 |
| 35 | BB | 51 | G | 10.9 |
| 27 | A3 | 86 | THR | 10.6 |
| 35 | BB | 16 | U | 10.5 |
| 35 | BB | 13 | C | 10.5 |
| 35 | BB | 59 | U | 10.5 |
| 35 | BB | 10 | G | 10.4 |
| 35 | BB | 11 | C | 10.3 |
| 35 | BB | 73 | A | 10.0 |
| 35 | BB | 7 | U | 10.0 |
| 9 | AI | 88 | ALA | 9.8 |
| 9 | AI | 86 | LYS | 9.7 |
| 35 | BB | 57 | G | 9.6 |
| 35 | BB | 23 | A | 9.6 |
| 2 | AA | 1533 | C | 9.5 |
| 35 | BB | 2 | C | 9.3 |
| 9 | AI | 84 | GLY | 9.3 |
| 9 | AJ | 2 | THR | 9.1 |
| 35 | BB | 8 | U | 8.9 |
| 36 | B1 | 20 | A | 8.7 |
| 36 | B1 | 37 | C | 8.6 |
| 36 | B1 | 33 | G | 8.6 |
| 9 | AJ | 109 | GLU | 8.4 |
| 35 | BB | 49 | C | 8.4 |
| 36 | B1 | 18 | U | 8.0 |
| 36 | B1 | 19 | G | 8.0 |
| 27 | A3 | 85 | GLN | 8.0 |
| 35 | BB | 50 | U | 7.8 |
| 35 | BB | 74 | C | 7.8 |
| 36 | B1 | 23 | U | 7.7 |
| 35 | BB | 72 | C | 7.7 |
| 35 | BB | 44 | A | 7.7 |
| 35 | BB | 66 | A | 7.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 36 | B1 | 36 | A | 7.5 |
| 27 | A3 | 87 | GLU | 7.4 |
| 35 | BB | 60 | C | 7.4 |
| 35 | BB | 58 | A | 7.4 |
| 36 | B1 | 44 | A | 7.3 |
| 12 | AM | 133 | GLY | 7.3 |
| 9 | AI | 85 | LEU | 7.1 |
| 37 | BE | 234 | PRO | 7.1 |
| 38 | BF | 201 | TYR | 7.1 |
| 35 | BB | 18 | G | 7.1 |
| 36 | B1 | 25 | U | 6.9 |
| 35 | BB | 12 | U | 6.9 |
| 36 | B1 | 12 | U | 6.9 |
| 36 | B1 | 24 | A | 6.8 |
| 36 | B1 | 30 | U | 6.8 |
| 35 | BB | 24 | G | 6.8 |
| 9 | AI | 89 | LYS | 6.7 |
| 12 | AM | 134 | GLU | 6.6 |
| 35 | BB | 52 | U | 6.4 |
| 36 | B1 | 35 | C | 6.4 |
| 37 | BE | 235 | SER | 6.4 |
| 9 | AI | 78 | ARG | 6.4 |
| 36 | B1 | 29 | G | 6.3 |
| 27 | A3 | 3 | HIS | 6.3 |
| 38 | BF | 150 | LYS | 6.3 |
| 35 | BB | 65 | G | 6.2 |
| 17 | AR | 54 | THR | 6.2 |
| 2 | AA | 545 | G | 6.0 |
| 37 | BE | 231 | GLU | 6.0 |
| 5 | AE | 294 | THR | 5.8 |
| 37 | BE | 236 | TYR | 5.8 |
| 9 | AJ | 108 | LYS | 5.8 |
| 5 | AE | 171 | SER | 5.7 |
| 9 | AJ | 113 | GLU | 5.7 |
| 5 | AE | 172 | ASP | 5.7 |
| 5 | AE | 319 | ASP | 5.6 |
| 35 | BB | 17 | U | 5.6 |
| 36 | B1 | 27 | G | 5.6 |
| 9 | AJ | 112 | GLU | 5.6 |
| 37 | BE | 230 | VAL | 5.6 |
| 9 | AJ | 65 | SER | 5.5 |
| 26 | A2 | 13 | ARG | 5.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 35 | BB | 76 | A | 5.5 |
| 37 | BE | 233 | SER | 5.5 |
| 41 | BI | 9 | VAL | 5.5 |
| 35 | BB | 19 | G | 5.4 |
| 14 | AO | 79 | ASP | 5.2 |
| 9 | AJ | 27 | ASP | 5.2 |
| 27 | A3 | 82 | GLU | 5.1 |
| 5 | AE | 40 | GLY | 5.1 |
| 36 | B1 | 11 | U | 5.0 |
| 36 | B1 | 34 | U | 5.0 |
| 9 | AI | 120 | GLU | 5.0 |
| 35 | BB | 26 | G | 5.0 |
| 37 | BE | 239 | VAL | 5.0 |
| 9 | AI | 74 | ILE | 4.9 |
| 35 | BB | 25 | C | 4.9 |
| 9 | AI | 54 | GLU | 4.8 |
| 38 | BF | 149 | ALA | 4.8 |
| 35 | BB | 28 | C | 4.8 |
| 9 | AJ | 5 | GLU | 4.8 |
| 36 | B1 | 28 | U | 4.8 |
| 9 | AJ | 39 | VAL | 4.8 |
| 38 | BF | 103 | VAL | 4.8 |
| 35 | BB | 61 | C | 4.7 |
| 38 | BF | 66 | VAL | 4.7 |
| 36 | B1 | 26 | C | 4.7 |
| 9 | AJ | 64 | LYS | 4.7 |
| 9 | AJ | 28 | LYS | 4.7 |
| 37 | BE | 232 | PRO | 4.7 |
| 38 | BF | 168 | ALA | 4.7 |
| 38 | BF | 151 | VAL | 4.6 |
| 41 | BI | 87 | ARG | 4.6 |
| 53 | BU | 78 | LEU | 4.6 |
| 9 | AJ | 40 | ALA | 4.4 |
| 36 | B1 | 7 | A | 4.4 |
| 12 | AM | 71 | TYR | 4.4 |
| 41 | BI | 49 | ALA | 4.3 |
| 5 | AE | 73 | ILE | 4.3 |
| 41 | BI | 8 | ILE | 4.3 |
| 38 | BF | 102 | ASN | 4.3 |
| 35 | BB | 56 | C | 4.2 |
| 15 | AP | 156 | ASN | 4.2 |
| 5 | AE | 271 | ILE | 4.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 41 | BI | 10 | LEU | 4.2 |
| 41 | BI | 60 | PHE | 4.2 |
| 35 | BB | 27 | C | 4.2 |
| 9 | AJ | 116 | LYS | 4.2 |
| 2 | AA | 140 | A | 4.1 |
| 41 | BI | 50 | TYR | 4.1 |
| 27 | A3 | 4 | LYS | 4.1 |
| 38 | BF | 169 | ALA | 4.1 |
| 15 | AP | 127 | ASN | 4.1 |
| 20 | AU | 13 | ARG | 4.1 |
| 37 | BE | 202 | PRO | 4.1 |
| 15 | AP | 157 | ALA | 4.1 |
| 36 | B1 | 10 | U | 4.0 |
| 9 | AJ | 96 | GLY | 4.0 |
| 9 | AI | 90 | ASP | 4.0 |
| 20 | AU | 12 | ARG | 4.0 |
| 35 | BB | 55 | U | 4.0 |
| 41 | BI | 86 | ARG | 4.0 |
| 7 | AG | 153 | THR | 4.0 |
| 27 | A3 | 2 | ALA | 3.9 |
| 35 | BB | 75 | C | 3.9 |
| 38 | BF | 67 | THR | 3.9 |
| 35 | BB | 43 | G | 3.9 |
| 53 | BU | 16 | PRO | 3.9 |
| 13 | AN | 59 | LYS | 3.9 |
| 38 | BF | 200 | ALA | 3.9 |
| 20 | AU | 10 | SER | 3.9 |
| 26 | A2 | 6 | GLN | 3.9 |
| 17 | AR | 53 | ASP | 3.9 |
| 20 | AU | 1 | SER | 3.9 |
| 27 | A3 | 83 | ALA | 3.9 |
| 36 | B1 | 8 | A | 3.9 |
| 41 | BI | 88 | VAL | 3.8 |
| 7 | AG | 154 | LYS | 3.8 |
| 9 | AI | 77 | VAL | 3.8 |
| 36 | B1 | 9 | C | 3.8 |
| 9 | AJ | 107 | SER | 3.8 |
| 36 | B1 | 45 | A | 3.8 |
| 5 | AE | 72 | VAL | 3.7 |
| 9 | AJ | 34 | ALA | 3.7 |
| 38 | BF | 68 | VAL | 3.7 |
| 9 | AJ | 111 | ALA | 3.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 26 | A2 | 1 | MET | 3.7 |
| 36 | B1 | 71 | A | 3.7 |
| 14 | AO | 139 | SER | 3.7 |
| 38 | BF | 104 | GLN | 3.7 |
| 28 | A4 | 72 | LYS | 3.7 |
| 26 | A2 | 45 | THR | 3.6 |
| 41 | BI | 46 | ARG | 3.6 |
| 9 | AJ | 110 | GLU | 3.6 |
| 37 | BE | 229 | VAL | 3.6 |
| 12 | AM | 110 | ASP | 3.6 |
| 11 | AL | 48 | ASP | 3.6 |
| 26 | A2 | 43 | GLU | 3.6 |
| 17 | AR | 52 | THR | 3.6 |
| 37 | BE | 200 | ILE | 3.6 |
| 20 | AU | 9 | LYS | 3.5 |
| 24 | A0 | 97 | VAL | 3.5 |
| 46 | BN | 86 | GLY | 3.5 |
| 37 | BE | 237 | ALA | 3.5 |
| 2 | AA | 546 | C | 3.5 |
| 9 | AJ | 126 | GLU | 3.5 |
| 9 | AI | 75 | LYS | 3.5 |
| 35 | BB | 64 | A | 3.5 |
| 15 | AP | 30 | GLN | 3.5 |
| 13 | AN | 58 | VAL | 3.5 |
| 38 | BF | 175 | LEU | 3.5 |
| 36 | B1 | 46 | A | 3.4 |
| 21 | AV | 102 | GLY | 3.4 |
| 13 | AN | 102 | VAL | 3.4 |
| 5 | AE | 270 | ASP | 3.4 |
| 42 | BJ | 62 | PHE | 3.4 |
| 14 | AO | 78 | ALA | 3.4 |
| 40 | BH | 106 | PRO | 3.4 |
| 42 | BJ | 59 | LEU | 3.4 |
| 53 | BU | 76 | LEU | 3.4 |
| 37 | BE | 195 | ASP | 3.4 |
| 45 | BM | 83 | GLU | 3.4 |
| 5 | AE | 74 | GLU | 3.4 |
| 41 | BI | 52 | ILE | 3.4 |
| 9 | AI | 83 | LEU | 3.3 |
| 9 | AI | 55 | GLU | 3.3 |
| 37 | BE | 240 | GLN | 3.3 |
| 38 | BF | 100 | ALA | 3.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 37 | BE | 238 | LEU | 3.3 |
| 41 | BI | 51 | PRO | 3.3 |
| 49 | BQ | 37 | PHE | 3.3 |
| 5 | AE | 41 | PHE | 3.3 |
| 36 | B1 | 6 | U | 3.3 |
| 25 | A1 | 91 | ASN | 3.3 |
| 9 | AJ | 124 | GLU | 3.3 |
| 2 | AA | 1541 | U | 3.3 |
| 38 | BF | 184 | TYR | 3.3 |
| 5 | AE | 175 | ASP | 3.3 |
| 12 | AM | 62 | ASP | 3.3 |
| 41 | BI | 57 | GLN | 3.2 |
| 34 | BA | 88 | A | 3.2 |
| 9 | AJ | 115 | LYS | 3.2 |
| 2 | AA | 141(A) | C | 3.2 |
| 8 | AH | 16 | VAL | 3.2 |
| 3 | AC | 118 | ASP | 3.2 |
| 5 | AE | 173 | ARG | 3.2 |
| 37 | BE | 42 | ILE | 3.2 |
| 2 | AA | 1490 | A | 3.2 |
| 10 | AK | 72 | LEU | 3.1 |
| 9 | AI | 108 | LYS | 3.1 |
| 4 | AD | 108 | ASN | 3.1 |
| 9 | AI | 71 | ILE | 3.1 |
| 40 | BH | 70 | PRO | 3.1 |
| 17 | AR | 8 | TYR | 3.1 |
| 30 | A6 | 25 | THR | 3.1 |
| 38 | BF | 7 | PRO | 3.1 |
| 39 | BG | 183 | GLY | 3.1 |
| 40 | BH | 119 | LEU | 3.1 |
| 42 | BJ | 61 | VAL | 3.1 |
| 40 | BH | 143 | ARG | 3.1 |
| 9 | AJ | 33 | ALA | 3.1 |
| 41 | BI | 89 | MET | 3.1 |
| 41 | BI | 22 | GLU | 3.0 |
| 9 | AJ | 117 | LYS | 3.0 |
| 21 | AV | 3 | LEU | 3.0 |
| 5 | AE | 293 | TYR | 3.0 |
| 9 | AJ | 55 | GLU | 3.0 |
| 35 | BB | 62 | A | 3.0 |
| 38 | BF | 202 | ILE | 3.0 |
| 41 | BI | 48 | LEU | 3.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 38 | BF | 79 | ARG | 3.0 |
| 9 | AJ | 95 | ALA | 3.0 |
| 4 | AD | 145 | LEU | 3.0 |
| 39 | BG | 142 | PRO | 3.0 |
| 26 | A2 | 64 | GLY | 3.0 |
| 9 | AJ | 127 | LEU | 3.0 |
| 46 | BN | 13 | GLN | 3.0 |
| 29 | A5 | 30 | LEU | 2.9 |
| 19 | AT | 8 | PRO | 2.9 |
| 4 | AD | 68 | ARG | 2.9 |
| 42 | BJ | 58 | PRO | 2.9 |
| 38 | BF | 152 | ILE | 2.9 |
| 9 | AI | 56 | LYS | 2.9 |
| 9 | AJ | 32 | THR | 2.9 |
| 9 | AJ | 41 | ALA | 2.9 |
| 5 | AE | 189 | MET | 2.9 |
| 9 | AJ | 66 | PHE | 2.9 |
| 9 | AJ | 31 | VAL | 2.9 |
| 9 | AJ | 120 | GLU | 2.9 |
| 9 | AI | 116 | LYS | 2.9 |
| 39 | BG | 175 | SER | 2.9 |
| 26 | A2 | 14 | VAL | 2.9 |
| 5 | AE | 71 | THR | 2.9 |
| 34 | BA | 1542 | U | 2.9 |
| 38 | BF | 54 | ARG | 2.9 |
| 37 | BE | 31 | TYR | 2.9 |
| 41 | BI | 53 | ALA | 2.9 |
| 39 | BG | 185 | PHE | 2.9 |
| 54 | BV | 76 | PRO | 2.9 |
| 18 | AS | 24 | ILE | 2.8 |
| 53 | BU | 77 | GLY | 2.8 |
| 38 | BF | 167 | TRP | 2.8 |
| 11 | AL | 139 | VAL | 2.8 |
| 41 | BI | 58 | GLY | 2.8 |
| 11 | AL | 36 | MET | 2.8 |
| 38 | BF | 6 | HIS | 2.8 |
| 38 | BF | 199 | LYS | 2.8 |
| 14 | AO | 140 | VAL | 2.8 |
| 40 | BH | 109 | ILE | 2.8 |
| 9 | AJ | 119 | GLU | 2.8 |
| 9 | AJ | 24 | LYS | 2.8 |
| 54 | BV | 60 | VAL | 2.8 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 11 | AL | 140 | VAL | 2.8 |
| 46 | BN | 12 | ARG | 2.8 |
| 13 | AN | 120 | GLU | 2.8 |
| 5 | AE | 193 | PHE | 2.8 |
| 5 | AE | 75 | THR | 2.8 |
| 14 | AO | 141 | GLU | 2.8 |
| 38 | BF | 173 | VAL | 2.8 |
| 41 | BI | 61 | LEU | 2.8 |
| 41 | BI | 7 | ASN | 2.8 |
| 10 | AK | 71 | GLN | 2.7 |
| 52 | BT | 45 | HIS | 2.7 |
| 5 | AE | 299 | SER | 2.7 |
| 53 | BU | 80 | PRO | 2.7 |
| 11 | AL | 19 | THR | 2.7 |
| 5 | AE | 42 | ALA | 2.7 |
| 26 | A2 | 83 | ARG | 2.7 |
| 38 | BF | 65 | ALA | 2.7 |
| 9 | AI | 109 | GLU | 2.7 |
| 42 | BJ | 63 | LYS | 2.7 |
| 19 | AT | 7 | HIS | 2.7 |
| 45 | BM | 82 | ILE | 2.7 |
| 47 | BO | 67 | THR | 2.7 |
| 5 | AE | 93 | GLN | 2.7 |
| 2 | AA | 1585 | C | 2.7 |
| 9 | AJ | 79 | GLU | 2.7 |
| 9 | AJ | 26 | GLU | 2.7 |
| 45 | BM | 80 | LYS | 2.7 |
| 38 | BF | 101 | LEU | 2.7 |
| 37 | BE | 43 | ASP | 2.7 |
| 3 | AC | 117 | PRO | 2.6 |
| 38 | BF | 55 | VAL | 2.6 |
| 39 | BG | 184 | LYS | 2.6 |
| 5 | AE | 274 | GLY | 2.6 |
| 41 | BI | 56 | PRO | 2.6 |
| 5 | AE | 295 | LEU | 2.6 |
| 38 | BF | 69 | HIS | 2.6 |
| 9 | AI | 117 | LYS | 2.6 |
| 9 | AJ | 30 | GLY | 2.6 |
| 38 | BF | 185 | GLY | 2.6 |
| 45 | BM | 78 | ASN | 2.6 |
| 46 | BN | 11 | LYS | 2.6 |
| 43 | BK | 111 | ILE | 2.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 9 | AJ | 43 | PRO | 2.6 |
| 41 | BI | 55 | ASP | 2.6 |
| 40 | BH | 105 | VAL | 2.6 |
| 50 | BR | 88 | ARG | 2.6 |
| 40 | BH | 31 | LEU | 2.6 |
| 21 | AV | 101 | THR | 2.6 |
| 20 | AU | 11 | GLN | 2.6 |
| 43 | BK | 118 | VAL | 2.6 |
| 26 | A2 | 75 | LYS | 2.6 |
| 34 | BA | 1257 | U | 2.6 |
| 4 | AD | 89 | ASN | 2.6 |
| 38 | BF | 170 | GLN | 2.5 |
| 45 | BM | 6 | ILE | 2.5 |
| 46 | BN | 75 | TYR | 2.5 |
| 43 | BK | 80 | ILE | 2.5 |
| 24 | A0 | 99 | LYS | 2.5 |
| 2 | AA | 1952 | A | 2.5 |
| 45 | BM | 85 | LEU | 2.5 |
| 21 | AV | 140 | LYS | 2.5 |
| 4 | AD | 104 | ILE | 2.5 |
| 45 | BM | 79 | ARG | 2.5 |
| 4 | AD | 165 | GLY | 2.5 |
| 9 | AJ | 70 | LYS | 2.5 |
| 27 | A3 | 7 | VAL | 2.5 |
| 35 | BB | 63 | C | 2.5 |
| 40 | BH | 71 | LEU | 2.5 |
| 43 | BK | 44 | PHE | 2.5 |
| 22 | AW | 31 | ARG | 2.5 |
| 50 | BR | 87 | ILE | 2.5 |
| 54 | BV | 49 | ILE | 2.5 |
| 40 | BH | 76 | ILE | 2.5 |
| 12 | AM | 57 | TYR | 2.5 |
| 5 | AE | 263 | GLU | 2.5 |
| 9 | AJ | 10 | ILE | 2.5 |
| 20 | AU | 6 | LYS | 2.5 |
| 46 | BN | 109 | VAL | 2.5 |
| 12 | AM | 61 | VAL | 2.5 |
| 12 | AM | 78 | ILE | 2.5 |
| 27 | A3 | 84 | ALA | 2.5 |
| 41 | BI | 84 | ASN | 2.5 |
| 45 | BM | 81 | THR | 2.5 |
| 42 | BJ | 60 | LYS | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 9 | AI | 91 | LEU | 2.4 |
| 15 | AP | 100 | GLY | 2.4 |
| 5 | AE | 312 | ARG | 2.4 |
| 38 | BF | 56 | ASP | 2.4 |
| 4 | AD | 103 | ILE | 2.4 |
| 40 | BH | 135 | THR | 2.4 |
| 52 | BT | 43 | LEU | 2.4 |
| 26 | A2 | 7 | THR | 2.4 |
| 5 | AE | 47 | GLY | 2.4 |
| 41 | BI | 59 | TYR | 2.4 |
| 11 | AL | 49 | LYS | 2.4 |
| 26 | A2 | 65 | ARG | 2.4 |
| 43 | BK | 134 | ILE | 2.4 |
| 5 | AE | 176 | HIS | 2.4 |
| 3 | AC | 70 | LYS | 2.4 |
| 6 | AF | 233 | THR | 2.4 |
| 12 | AM | 60 | ARG | 2.4 |
| 21 | AV | 130 | ILE | 2.4 |
| 43 | BK | 79 | VAL | 2.4 |
| 15 | AP | 69 | ASN | 2.4 |
| 37 | BE | 228 | GLY | 2.4 |
| 13 | AN | 122 | ILE | 2.4 |
| 9 | AI | 76 | VAL | 2.4 |
| 13 | AN | 42 | THR | 2.4 |
| 2 | AA | 1542 | G | 2.4 |
| 5 | AE | 291 | GLY | 2.4 |
| 38 | BF | 109 | PRO | 2.3 |
| 13 | AN | 57 | VAL | 2.3 |
| 9 | AJ | 35 | ALA | 2.3 |
| 5 | AE | 292 | PRO | 2.3 |
| 26 | A2 | 2 | PHE | 2.3 |
| 52 | BT | 44 | ALA | 2.3 |
| 40 | BH | 110 | LEU | 2.3 |
| 47 | BO | 68 | ALA | 2.3 |
| 9 | AI | 79 | GLU | 2.3 |
| 46 | BN | 87 | THR | 2.3 |
| 9 | AJ | 123 | ALA | 2.3 |
| 34 | BA | 89 | C | 2.3 |
| 38 | BF | 57 | ILE | 2.3 |
| 13 | AN | 121 | VAL | 2.3 |
| 4 | AD | 101 | ARG | 2.3 |
| 28 | A4 | 73 | LYS | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 53 | BU | 88 | LYS | 2.3 |
| 5 | AE | 44 | TYR | 2.3 |
| 30 | A6 | 24 | THR | 2.3 |
| 41 | BI | 11 | ASN | 2.3 |
| 37 | BE | 197 | VAL | 2.3 |
| 17 | AR | 10 | GLY | 2.3 |
| 21 | AV | 34 | LEU | 2.3 |
| 9 | AJ | 58 | GLU | 2.2 |
| 28 | A4 | 21 | VAL | 2.2 |
| 4 | AD | 183 | ILE | 2.2 |
| 30 | A6 | 38 | LYS | 2.2 |
| 38 | BF | 108 | ASN | 2.2 |
| 41 | BI | 23 | LYS | 2.2 |
| 26 | A2 | 15 | SER | 2.2 |
| 46 | BN | 14 | VAL | 2.2 |
| 53 | BU | 17 | SER | 2.2 |
| 43 | BK | 78 | GLN | 2.2 |
| 45 | BM | 23 | ILE | 2.2 |
| 40 | BH | 72 | GLN | 2.2 |
| 5 | AE | 46 | ALA | 2.2 |
| 9 | AJ | 56 | LYS | 2.2 |
| 26 | A2 | 73 | LYS | 2.2 |
| 4 | AD | 88 | ALA | 2.2 |
| 6 | AF | 234 | VAL | 2.2 |
| 17 | AR | 11 | THR | 2.2 |
| 47 | BO | 5 | PRO | 2.2 |
| 9 | AI | 57 | THR | 2.2 |
| 19 | AT | 5 | ILE | 2.2 |
| 9 | AJ | 42 | ALA | 2.2 |
| 30 | A6 | 6 | PRO | 2.2 |
| 38 | BF | 58 | GLU | 2.2 |
| 43 | BK | 135 | CYS | 2.2 |
| 5 | AE | 43 | GLY | 2.2 |
| 26 | A2 | 18 | ASP | 2.2 |
| 38 | BF | 143 | GLU | 2.2 |
| 12 | AM | 59 | LYS | 2.2 |
| 10 | AK | 93 | ILE | 2.2 |
| 28 | A4 | 20 | VAL | 2.2 |
| 50 | BR | 89 | GLY | 2.2 |
| 12 | AM | 132 | LEU | 2.2 |
| 46 | BN | 110 | ASP | 2.2 |
| 37 | BE | 156 | LYS | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 40 | BH | 11 | ILE | 2.2 |
| 19 | AT | 78 | ALA | 2.1 |
| 9 | AI | 72 | GLN | 2.1 |
| 9 | AJ | 114 | ILE | 2.1 |
| 40 | BH | 78 | HIS | 2.1 |
| 40 | BH | 118 | ILE | 2.1 |
| 40 | BH | 120 | THR | 2.1 |
| 39 | BG | 110 | PHE | 2.1 |
| 26 | A2 | 99 | GLN | 2.1 |
| 45 | BM | 19 | SER | 2.1 |
| 9 | AI | 121 | ALA | 2.1 |
| 41 | BI | 90 | VAL | 2.1 |
| 28 | A4 | 19 | GLN | 2.1 |
| 40 | BH | 111 | GLU | 2.1 |
| 5 | AE | 194 | ARG | 2.1 |
| 53 | BU | 86 | VAL | 2.1 |
| 53 | BU | 19 | LYS | 2.1 |
| 40 | BH | 138 | ALA | 2.1 |
| 9 | AI | 92 | VAL | 2.1 |
| 21 | AV | 1 | MET | 2.1 |
| 43 | BK | 77 | GLU | 2.1 |
| 54 | BV | 75 | ALA | 2.1 |
| 4 | AD | 102 | TYR | 2.1 |
| 15 | AP | 44 | ALA | 2.1 |
| 10 | AK | 68 | LEU | 2.1 |
| 38 | BF | 87 | LEU | 2.1 |
| 21 | AV | 138 | VAL | 2.1 |
| 5 | AE | 187 | HIS | 2.1 |
| 9 | AI | 122 | GLY | 2.1 |
| 13 | AN | 41 | ALA | 2.1 |
| 29 | A5 | 29 | ASN | 2.1 |
| 31 | A7 | 26 | SER | 2.1 |
| 17 | AR | 56 | ARG | 2.1 |
| 9 | AI | 43 | PRO | 2.1 |
| 9 | AJ | 44 | VAL | 2.1 |
| 9 | AJ | 11 | GLU | 2.1 |
| 45 | BM | 63 | PHE | 2.1 |
| 47 | BO | 100 | ILE | 2.1 |
| 51 | BS | 39 | TYR | 2.1 |
| 5 | AE | 298 | GLY | 2.0 |
| 28 | A4 | 47 | GLU | 2.0 |
| 36 | B1 | 58 | A | 2.0 |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 40 | BH | 75 | THR | 2.0 |
| 18 | AS | 47 | VAL | 2.0 |
| 9 | AJ | 29 | PHE | 2.0 |
| 13 | AN | 2 | ILE | 2.0 |
| 32 | A8 | 28 | GLY | 2.0 |
| 38 | BF | 21 | ARG | 2.0 |
| 2 | AA | 929 | G | 2.0 |
| 2 | AA | 2557 | G | 2.0 |
| 5 | AE | 273 | GLU | 2.0 |
| 3 | AC | 116 | THR | 2.0 |
| 11 | AL | 18 | ALA | 2.0 |
| 40 | BH | 144 | THR | 2.0 |
| 49 | BQ | 49 | HIS | 2.0 |
| 15 | AP | 83 | PHE | 2.0 |
| 54 | BV | 74 | PHE | 2.0 |
| 41 | BI | 47 | ARG | 2.0 |

## 6.2 Non-standard residues in protein, DNA, RNA chains (i)

There are no non-standard protein/DNA/RNA residues in this entry.

## 6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

## 6.4 Ligands (i)

There are no ligands in this entry.

## 6.5 Other polymers (i)

There are no such residues in this entry.