



# Full wwPDB X-ray Structure Validation Report ⓘ

May 20, 2024 – 07:38 PM EDT

PDB ID : 6OF6  
Title : Crystal structure of tRNA<sup>Ala</sup>(GGC) bound to cognate 70S A-site  
Authors : Nguyen, H.A.; Sunita, S.; Dunham, C.M.  
Deposited on : 2019-03-28  
Resolution : 3.20 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](mailto: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 ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	<b>FAILED</b>
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

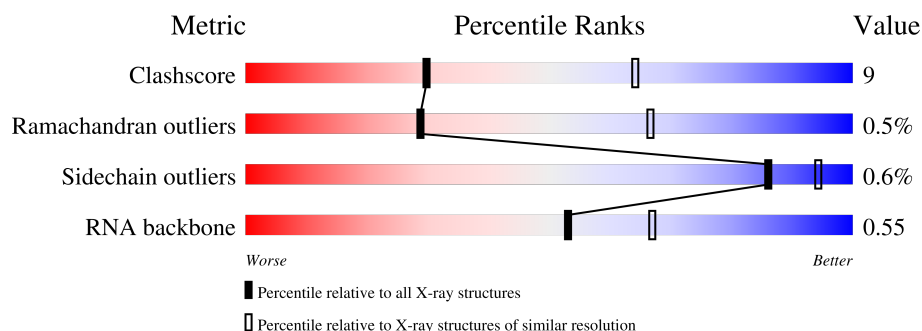
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.20 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))
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RNA backbone	3102	1010 (3.50-2.90)


























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  $\geq 3$ , 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  $\leq 5\%$ .

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	QA	1522	52% 38% 8% .
1	XA	1522	52% 38% 8% .
2	QB	256	74% 18% 7%
2	XB	256	65% 27% 7%
3	QC	239	63% 23% 14%
3	XC	239	65% 21% 14%














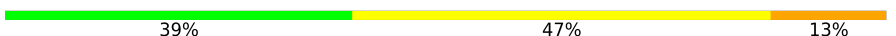
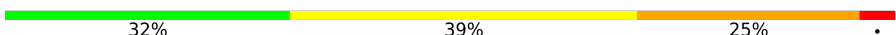

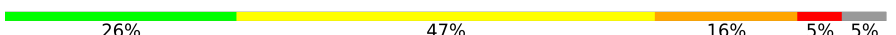








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Mol	Chain	Length	Quality of chain
4	QD	209	 80% 19% .
4	XD	209	 78% 21%
5	QE	162	 74% 19% 7%
5	XE	162	 76% 17% 7%
6	QF	101	 89% 11%
6	XF	101	 72% 28%
7	QG	156	 86% 13% .
7	XG	156	 74% 26% .
8	QH	138	 68% 32%
8	XH	138	 72% 27% .
9	QI	128	 69% 30% ..
9	XI	128	 67% 31% ..
10	QJ	105	 68% 27% 6%
10	XJ	105	 60% 34% 6%
11	QK	129	 68% 24% 8%
11	XK	129	 67% 25% . 8%
12	QL	131	 78% 17% . 5%
12	XL	131	 75% 21% 5%
13	QM	126	 67% 29% . .
13	XM	126	 71% 25% .
14	QN	61	 61% 38% .
14	XN	61	 70% 28% .
15	QO	89	 79% 20% .
15	XO	89	 84% 15% .
16	QP	88	 70% 25% 5%


























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Mol	Chain	Length	Quality of chain
16	XP	88	
17	QQ	105	
17	XQ	105	
18	QR	88	
18	XR	88	
19	QS	93	
19	XS	93	
20	QT	106	
20	XT	106	
21	QU	27	
21	XU	27	
22	QV	77	
22	XV	77	
23	QW	76	
23	XW	76	
24	QX	19	
24	XX	19	
25	QY	76	
25	XY	76	
26	R0	85	
26	Y0	85	
27	R1	98	
27	Y1	98	
28	R2	72	
28	Y2	72	

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Mol	Chain	Length	Quality of chain
29	R3	60	 67% 32% .
29	Y3	60	 67% 32% .
30	R4	71	 66% 27% 7% .
30	Y4	71	 73% 23% .
31	R5	60	 80% 18% .
31	Y5	60	 82% 17% .
32	R6	54	 57% 33% 9%
32	Y6	54	 52% 39% 9%
33	R7	49	 82% 18%
33	Y7	49	 86% 12% .
34	R8	65	 62% 37% .
34	Y8	65	 62% 37% .
35	R9	37	 73% 27%
35	Y9	37	 78% 22%
36	RA	2915	 54% 37% 7% .
36	YA	2915	 57% 34% 8% .
37	RB	122	 61% 29% 9% .
37	YB	122	 69% 24% 6% .
38	RD	276	 68% 30% .
38	YD	276	 82% 18%
39	RE	206	 66% 32% .
39	YE	206	 66% 33% .
40	RF	210	 70% 25% . .
40	YF	210	 71% 24% .
41	RG	182	 73% 26% ..






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Mol	Chain	Length	Quality of chain
41	YG	182	
42	RH	180	
42	YH	180	
43	RI	148	
43	YI	148	
44	RN	140	
44	YN	140	
45	RO	122	
45	YO	122	
46	RP	150	
46	YP	150	
47	RQ	141	
47	YQ	141	
48	RR	118	
48	YR	118	
49	RS	112	
49	YS	112	
50	RT	146	
50	YT	146	
51	RU	118	
51	YU	118	
52	RV	101	
52	YV	101	
53	RW	113	
53	YW	113	

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Mol	Chain	Length	Quality of chain
54	RX	96	 79% 17% .
54	YX	96	 82% 14% .
55	RY	110	 63% 28% . 7%
55	YY	110	 53% 37% . 7%
56	RZ	206	 62% 26% . 11%
56	YZ	206	 66% 21% . 11%

## 2 Entry composition

There are 62 unique types of molecules in this entry. The entry contains 298675 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 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	QA	1500	Total	C	N	O	P	0	0	0
			32247	14353	5981	10414	1499			
1	XA	1500	Total	C	N	O	P	0	0	0
			32249	14354	5984	10412	1499			

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	QB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			
2	XB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	QC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			
3	XC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	QD	208	Total	C	N	O	S	0	0	0
			1674	1050	333	284	7			
4	XD	208	Total	C	N	O	S	0	0	0
			1674	1050	333	284	7			

- Molecule 5 is a protein called 30S ribosomal protein S5.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			
5	XE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	QF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
6	XF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
7	XG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
8	XH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	QI	127	Total	C	N	O		0	0	0
			1010	639	197	174				
9	XI	127	Total	C	N	O		0	0	0
			1010	639	197	174				

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	QJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	XJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			
11	XK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	QL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			
12	XL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			
13	XM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			

- Molecule 14 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
14	XN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	QP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			
16	XP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			
17	XQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	70	Total	C	N	O	0	0	0
			574	367	112	95			
18	XR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			
19	XS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			
20	XT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	QU	25	Total	C	N	O	0	0	0
			217	134	52	31			
21	XU	25	Total	C	N	O	0	0	0
			217	134	52	31			

- Molecule 22 is a RNA chain called P-site tRNA<sup>fMet</sup>.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			
22	XV	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			

- Molecule 23 is a RNA chain called E-site tRNA<sup>Ala</sup>(GGC).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QW	76	Total	C	N	O	P	0	0	0
			1627	725	296	530	76			
23	XW	76	Total	C	N	O	P	0	0	0
			1627	725	296	530	76			

- Molecule 24 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	QX	19	Total	C	N	O	P	0	0	0
			416	186	85	126	19			
24	XX	18	Total	C	N	O	P	0	0	0
			394	176	80	120	18			

- Molecule 25 is a RNA chain called A-site tRNA<sup>Ala</sup>(GGC).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	QY	75	Total	C	N	O	P	0	0	0
			1603	714	288	526	75			
25	XY	75	Total	C	N	O	P	0	0	0
			1603	714	288	526	75			

- Molecule 26 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	R0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Y0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

- Molecule 27 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	R1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			
27	Y1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 28 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	R2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			
28	Y2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			

- Molecule 29 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
29	R3	59	Total	C	N	O	0	0	0
			469	298	90	81			
29	Y3	59	Total	C	N	O	0	0	0
			469	298	90	81			

- Molecule 30 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	R4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			
30	Y4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			

- Molecule 31 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	R5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
31	Y5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 32 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	R6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			
32	Y6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			

- Molecule 33 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	R7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			
33	Y7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 34 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	R8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
34	Y8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 35 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
35	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 36 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	RA	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			
36	YA	2883	Total	C	N	O	P	0	0	0
			62091	27636	11613	19960	2882			

- Molecule 37 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			
37	YB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

- Molecule 38 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	RD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			
38	YD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			

- Molecule 39 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	RE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			
39	YE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			

- Molecule 40 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	RF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			
40	YF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

- Molecule 41 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	RG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
41	YG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 42 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	RH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	YH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

- Molecule 43 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	RI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			
43	YI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 44 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	RN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			
44	YN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 45 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	RO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			
45	YO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 46 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	RP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			
46	YP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

- Molecule 47 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	RQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
47	YQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			



- Molecule 48 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	RR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
48	YR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 49 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	RS	111	Total	C	N	O		0	0	0
			882	556	176	150				
49	YS	111	Total	C	N	O		0	0	0
			882	556	176	150				

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	RT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			
50	YT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

- Molecule 51 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	RU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			
51	YU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 52 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	RV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
52	YV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 53 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	RW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			
53	YW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 54 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	RX	92	Total	C	N	O		0	0	0
			725	471	131	123				
54	YX	92	Total	C	N	O		0	0	0
			725	471	131	123				

- Molecule 55 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	RY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			
55	YY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			

- Molecule 56 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	RZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			
56	YZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

- Molecule 57 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	124	Total	Mg	0	0
			124	124		
57	QD	1	Total	Mg	0	0
			1	1		
57	QF	1	Total	Mg	0	0
			1	1		
57	QH	1	Total	Mg	0	0
			1	1		
57	QK	2	Total	Mg	0	0
			2	2		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QL	1	Total 1	Mg 1	0	0
57	QM	1	Total 1	Mg 1	0	0
57	QV	6	Total 6	Mg 6	0	0
57	QX	1	Total 1	Mg 1	0	0
57	R0	1	Total 1	Mg 1	0	0
57	R1	1	Total 1	Mg 1	0	0
57	R5	1	Total 1	Mg 1	0	0
57	R8	1	Total 1	Mg 1	0	0
57	R9	1	Total 1	Mg 1	0	0
57	RA	378	Total 378	Mg 378	0	0
57	RB	4	Total 4	Mg 4	0	0
57	RD	2	Total 2	Mg 2	0	0
57	RE	8	Total 8	Mg 8	0	0
57	RF	2	Total 2	Mg 2	0	0
57	RG	1	Total 1	Mg 1	0	0
57	RI	1	Total 1	Mg 1	0	0
57	RP	3	Total 3	Mg 3	0	0
57	RR	2	Total 2	Mg 2	0	0
57	RT	2	Total 2	Mg 2	0	0
57	XA	123	Total 123	Mg 123	0	0
57	XB	2	Total 2	Mg 2	0	0

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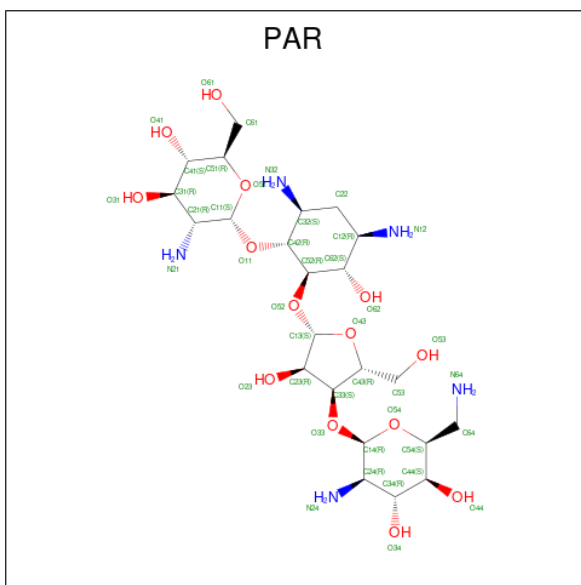
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	XD	1	Total 1	Mg 1	0	0
57	XF	1	Total 1	Mg 1	0	0
57	XJ	1	Total 1	Mg 1	0	0
57	XK	1	Total 1	Mg 1	0	0
57	XL	2	Total 2	Mg 2	0	0
57	XM	1	Total 1	Mg 1	0	0
57	XV	7	Total 7	Mg 7	0	0
57	XX	1	Total 1	Mg 1	0	0
57	Y0	3	Total 3	Mg 3	0	0
57	Y2	3	Total 3	Mg 3	0	0
57	Y3	1	Total 1	Mg 1	0	0
57	Y4	2	Total 2	Mg 2	0	0
57	Y5	1	Total 1	Mg 1	0	0
57	Y7	1	Total 1	Mg 1	0	0
57	Y8	3	Total 3	Mg 3	0	0
57	YA	457	Total 457	Mg 457	0	0
57	YB	8	Total 8	Mg 8	0	0
57	YD	4	Total 4	Mg 4	0	0
57	YE	6	Total 6	Mg 6	0	0
57	YF	5	Total 5	Mg 5	0	0
57	YG	2	Total 2	Mg 2	0	0

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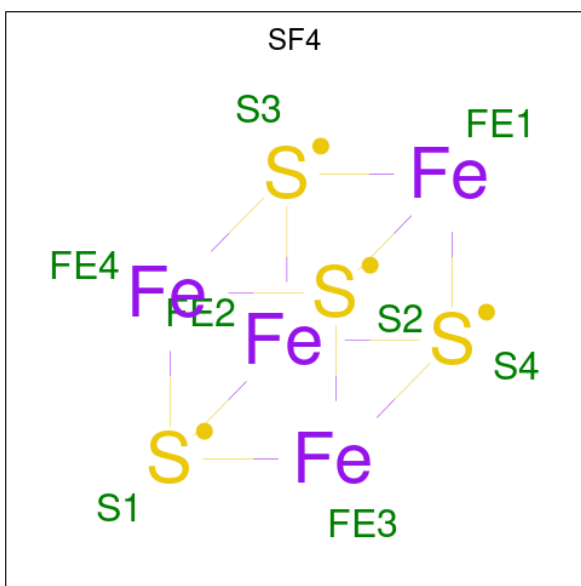
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	YH	5	Total	Mg	0	0
			5	5		
57	YI	1	Total	Mg	0	0
			1	1		
57	YN	1	Total	Mg	0	0
			1	1		
57	YO	1	Total	Mg	0	0
			1	1		
57	YP	7	Total	Mg	0	0
			7	7		
57	YQ	4	Total	Mg	0	0
			4	4		
57	YR	2	Total	Mg	0	0
			2	2		
57	YT	2	Total	Mg	0	0
			2	2		
57	YU	1	Total	Mg	0	0
			1	1		
57	YV	1	Total	Mg	0	0
			1	1		
57	YW	1	Total	Mg	0	0
			1	1		
57	YX	2	Total	Mg	0	0
			2	2		
57	YY	5	Total	Mg	0	0
			5	5		

- Molecule 58 is PAROMOMYCIN (three-letter code: PAR) (formula: C<sub>23</sub>H<sub>45</sub>N<sub>5</sub>O<sub>14</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
58	QA	1	Total 42	C 23	N 5	O 14	0	0
58	XA	1	Total 42	C 23	N 5	O 14	0	0

- Molecule 59 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula:  $\text{Fe}_4\text{S}_4$ ).

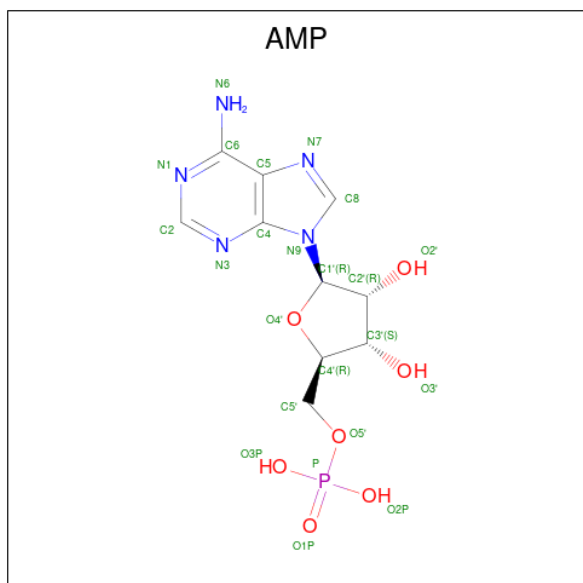


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
59	QD	1	Total 8	Fe 4	S 4	0	0
59	XD	1	Total 8	Fe 4	S 4	0	0

- Molecule 60 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
60	QN	1	Total	Zn	0	0
			1	1		
60	XN	1	Total	Zn	0	0
			1	1		

- Molecule 61 is ADENOSINE MONOPHOSPHATE (three-letter code: AMP) (formula: C<sub>10</sub>H<sub>14</sub>N<sub>5</sub>O<sub>7</sub>P).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
61	QY	1	Total	C	N	O	P	0	0
			22	10	5	6	1		

- Molecule 62 is water.

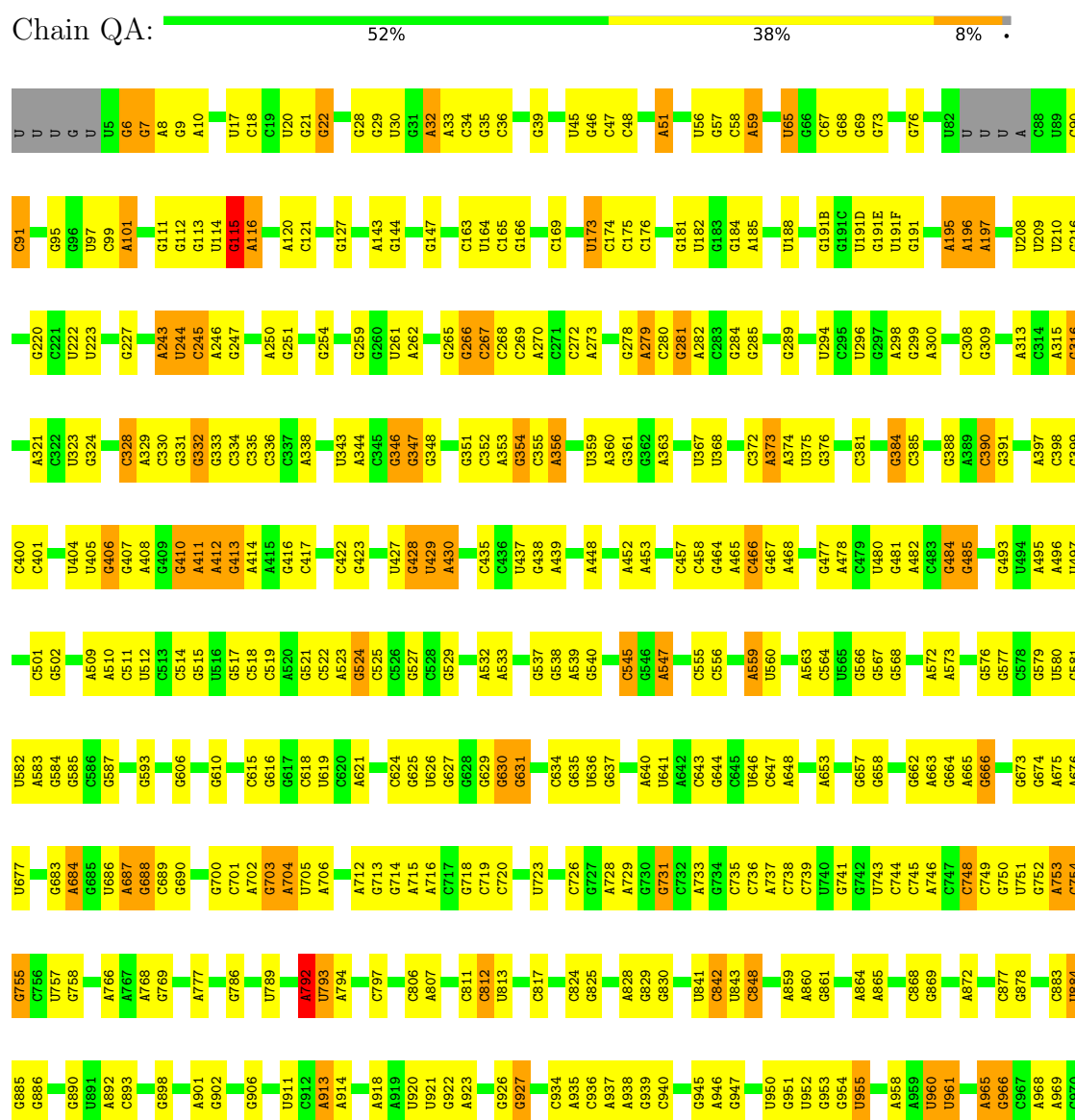
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
62	QA	1	Total	O	0	0
			1	1		
62	QX	1	Total	O	0	0
			1	1		

### 3 Residue-property plots

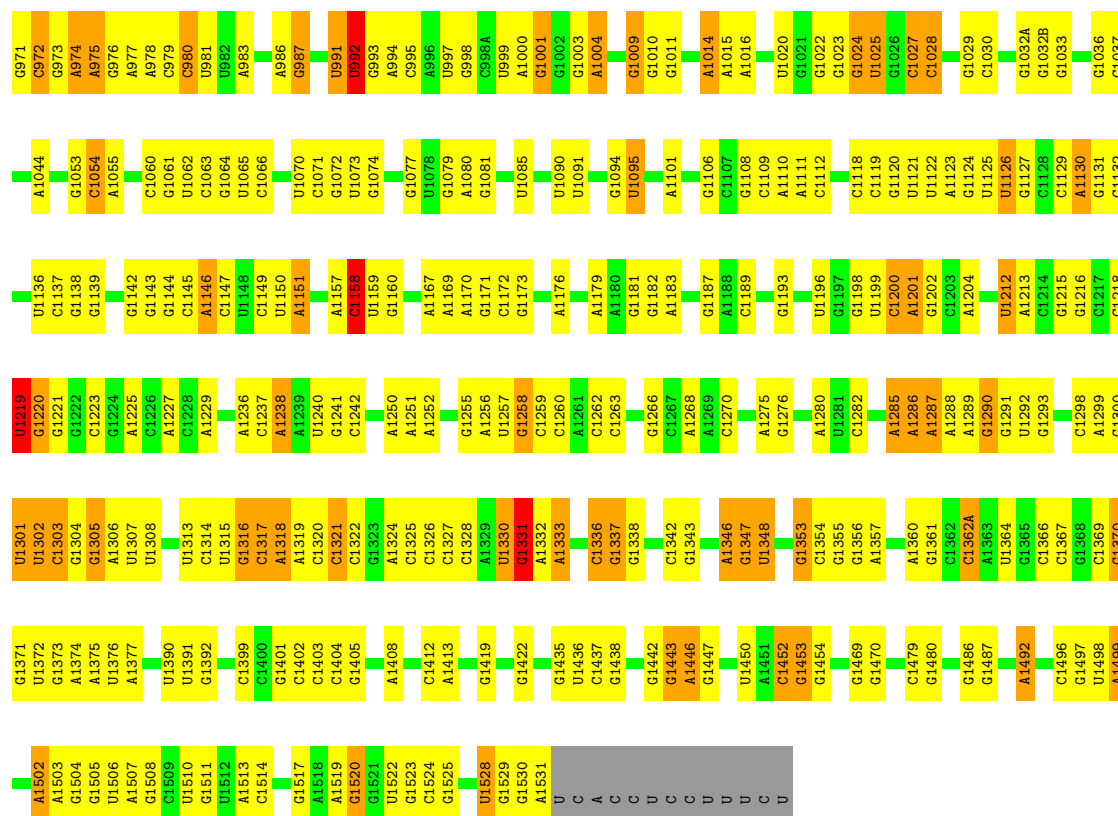
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded 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. 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.

Note EDS failed to run properly.

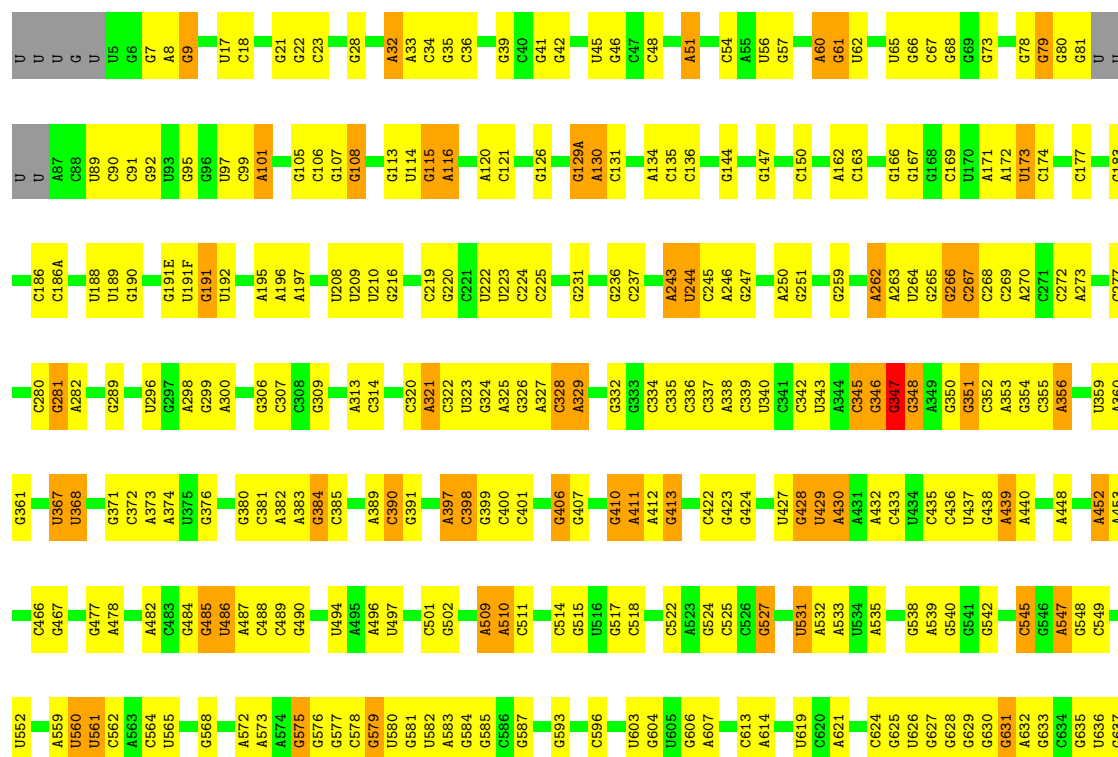
#### • Molecule 1: 16S rRNA

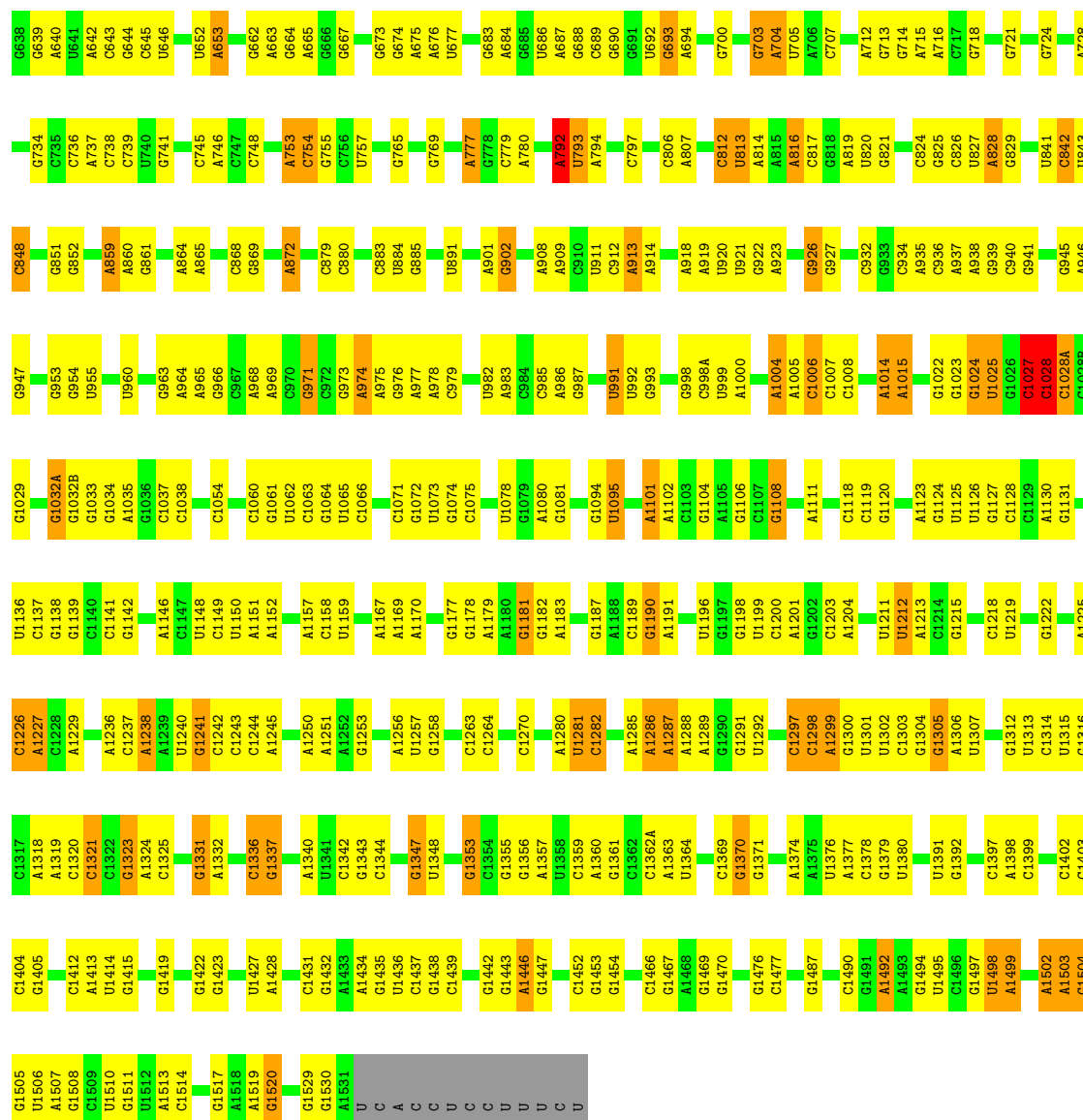




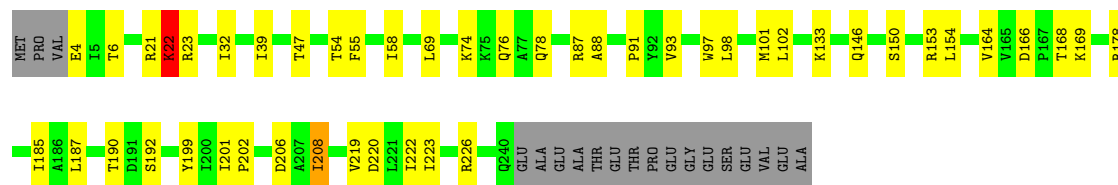
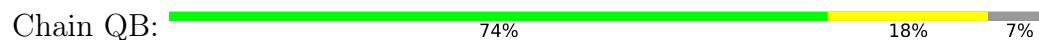


Chain XA: 52% 38% 8%





• Molecule 2: 30S ribosomal protein S2

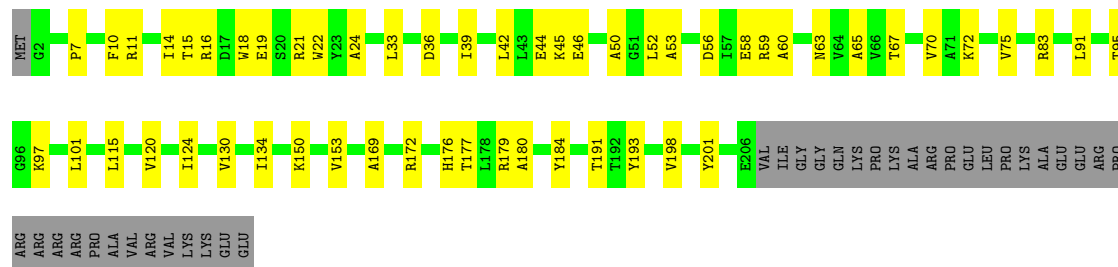


• Molecule 2: 30S ribosomal protein S2

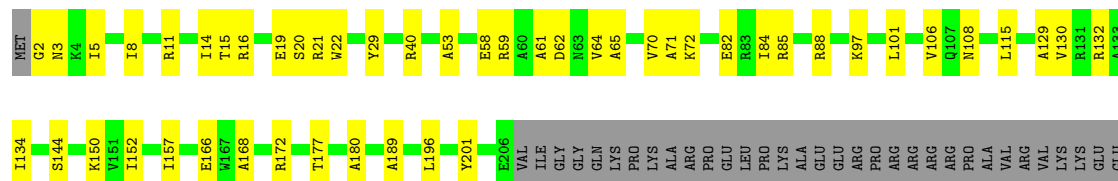




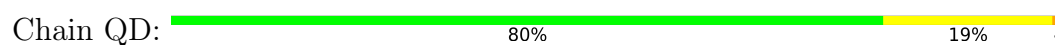
• Molecule 3: 30S ribosomal protein S3



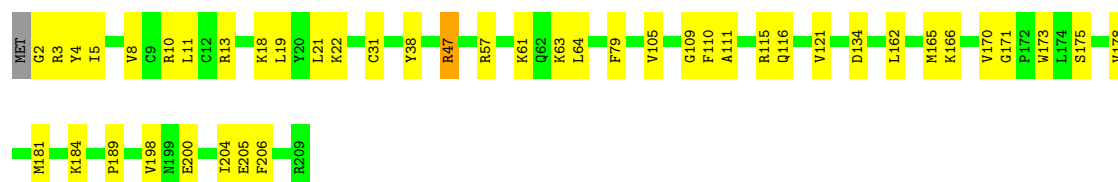
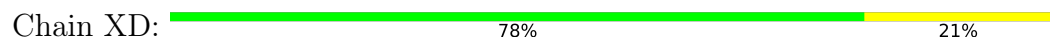
• Molecule 3: 30S ribosomal protein S3




• Molecule 4: 30S ribosomal protein S4

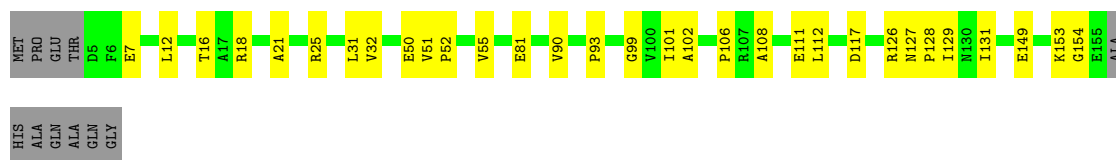


• Molecule 4: 30S ribosomal protein S4




- Molecule 5: 30S ribosomal protein S5

Chain QE:  74% 19% 7%



- Molecule 5: 30S ribosomal protein S5

Chain XE:  76% 17% 7%



- Molecule 6: 30S ribosomal protein S6

Chain QF:  89% 11%




- Molecule 6: 30S ribosomal protein S6

Chain XF:  72% 28%




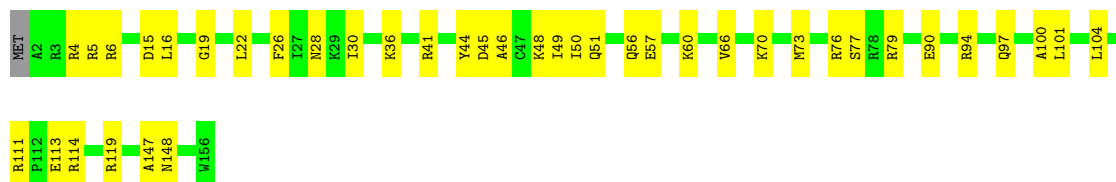
- Molecule 7: 30S ribosomal protein S7

Chain QG:  86% 13%



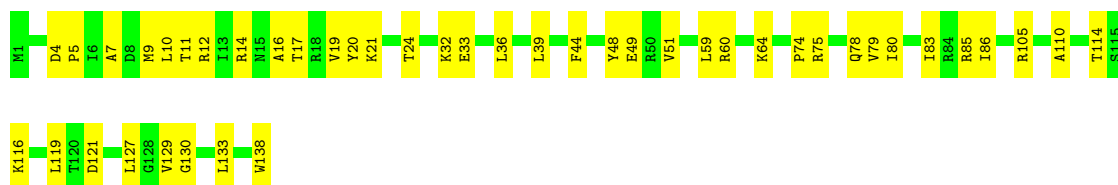
- Molecule 7: 30S ribosomal protein S7

Chain XG:  74% 26%



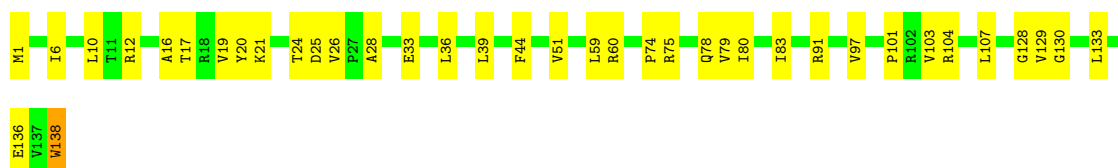
- Molecule 8: 30S ribosomal protein S8

Chain QH:  68% 32%



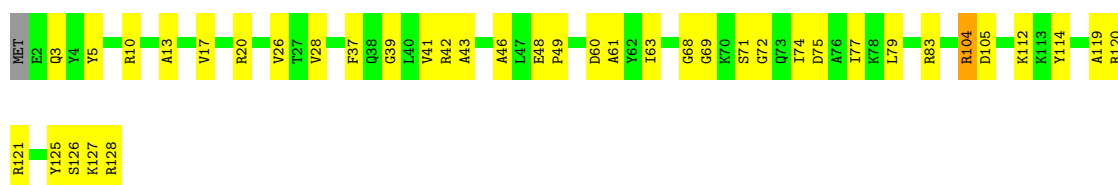
- Molecule 8: 30S ribosomal protein S8

Chain XH:  72% 27% .



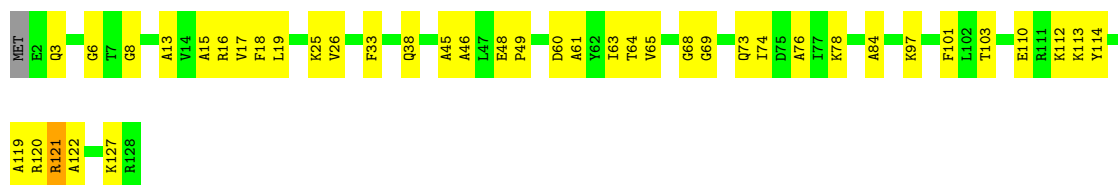
- Molecule 9: 30S ribosomal protein S9

Chain QI:  69% 30% ..



- Molecule 9: 30S ribosomal protein S9

Chain XI:  67% 31% ..



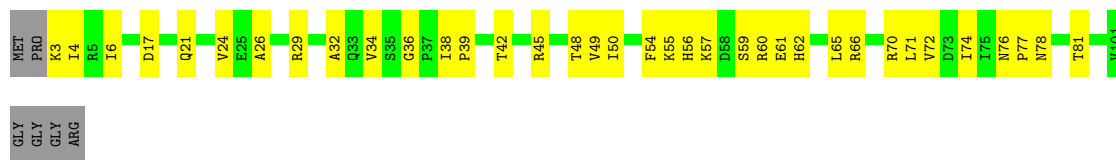
- Molecule 10: 30S ribosomal protein S10

Chain QJ:  68% 27% 6%



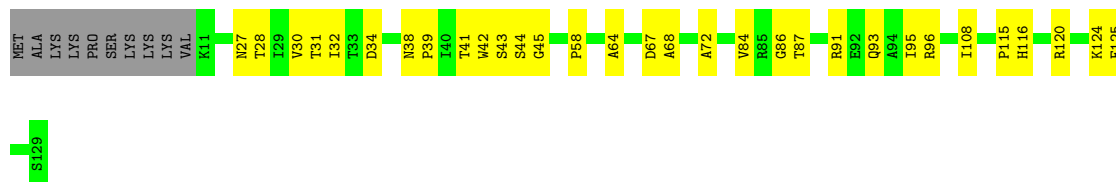
- Molecule 10: 30S ribosomal protein S10

Chain XJ: 



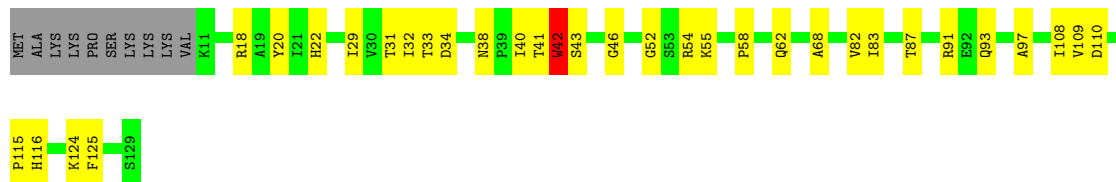
- Molecule 11: 30S ribosomal protein S11

Chain QK: 




- Molecule 11: 30S ribosomal protein S11

Chain XK: 




- Molecule 12: 30S ribosomal protein S12

Chain QL: 



- Molecule 12: 30S ribosomal protein S12

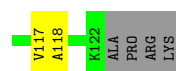
Chain XL: 



- Molecule 13: 30S ribosomal protein S13

Chain QM: 





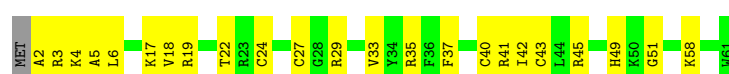
- Molecule 13: 30S ribosomal protein S13

Chain XM: 71% 25% .



- Molecule 14: 30S ribosomal protein S14 type Z

Chain QN: 61% 38% .



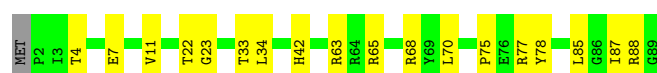
- Molecule 14: 30S ribosomal protein S14 type Z

Chain XN: 70% 28% .



- Molecule 15: 30S ribosomal protein S15

Chain QO: 79% 20% .



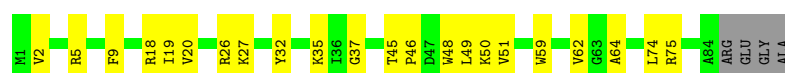
- Molecule 15: 30S ribosomal protein S15

Chain XO: 84% 15% .



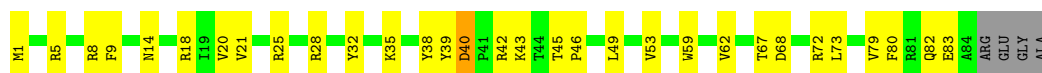
- Molecule 16: 30S ribosomal protein S16

Chain QP: 70% 25% 5% .

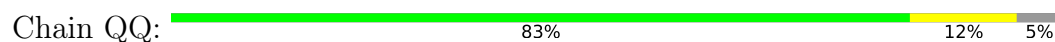


- Molecule 16: 30S ribosomal protein S16

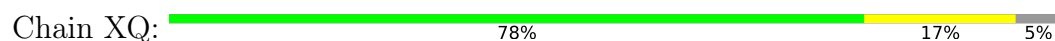
Chain XP: 60% 34% 5% .



- Molecule 17: 30S ribosomal protein S17



- Molecule 17: 30S ribosomal protein S17



- Molecule 18: 30S ribosomal protein S18



- Molecule 18: 30S ribosomal protein S18



- Molecule 19: 30S ribosomal protein S19



- Molecule 19: 30S ribosomal protein S19

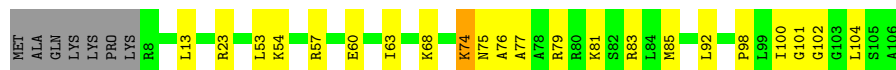


LYS

- Molecule 20: 30S ribosomal protein S20



Chain QT:  73% 20% 7%



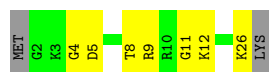
- Molecule 20: 30S ribosomal protein S20

Chain XT:  67% 25% 7%



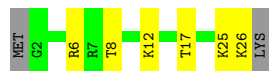
- Molecule 21: 30S ribosomal protein Thx

Chain QU:  67% 26% 7%



- Molecule 21: 30S ribosomal protein Thx

Chain XU:  70% 22% 7%



- Molecule 22: P-site tRNAfMet

Chain QV:  73% 25% 2%



- Molecule 22: P-site tRNAfMet

Chain XV:  73% 27% 0%



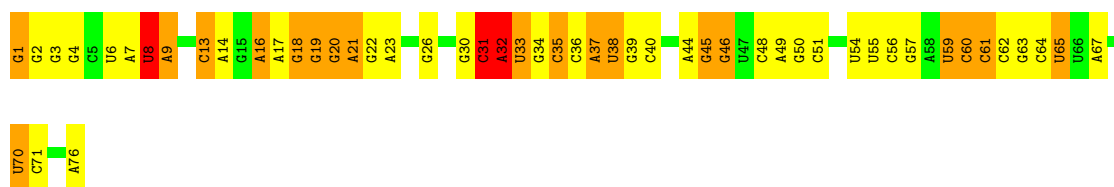
- Molecule 23: E-site tRNAAla(GGC)

Chain QW:  39% 47% 13%



- Molecule 23: E-site tRNAAla(GGC)

Chain XW:  32% 39% 25%



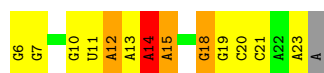
• Molecule 24: mRNA

Chain QX:  42% 37% 21%



• Molecule 24: mRNA

Chain XX:  26% 47% 16% 5% 5%



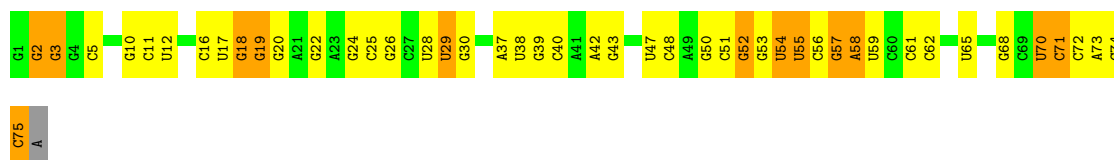
• Molecule 25: A-site tRNAAla(GGC)

Chain QY:  45% 43% 11%




• Molecule 25: A-site tRNAAla(GGC)

Chain XY:  38% 43% 17%



• Molecule 26: 50S ribosomal protein L27

Chain R0:  79% 18%



• Molecule 26: 50S ribosomal protein L27

Chain Y0:  71% 25%



- Molecule 27: 50S ribosomal protein L28

Chain R1:    .



- Molecule 27: 50S ribosomal protein L28

Chain Y1:    .



- Molecule 28: 50S ribosomal protein L29

Chain R2:    .



- Molecule 28: 50S ribosomal protein L29

Chain Y2:    .



- Molecule 29: 50S ribosomal protein L30

Chain R3:    .



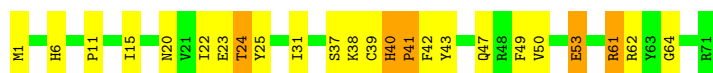
- Molecule 29: 50S ribosomal protein L30

Chain Y3:    .



- Molecule 30: 50S ribosomal protein L31

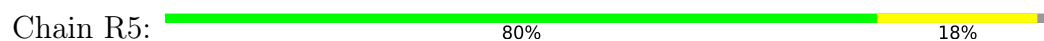
Chain R4:    .



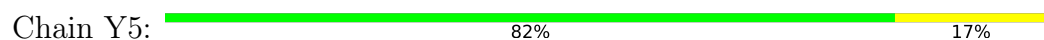
- Molecule 30: 50S ribosomal protein L31



- Molecule 31: 50S ribosomal protein L32



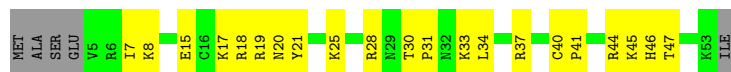
- Molecule 31: 50S ribosomal protein L32



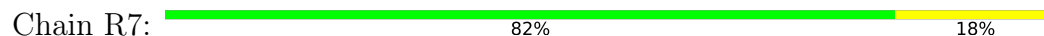
- Molecule 32: 50S ribosomal protein L33



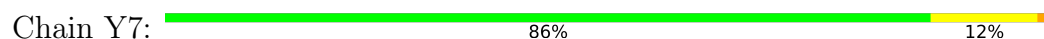
- Molecule 32: 50S ribosomal protein L33

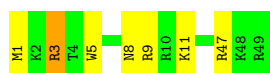


- Molecule 33: 50S ribosomal protein L34

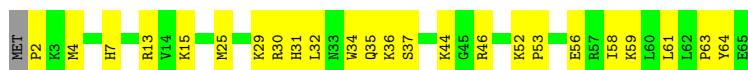


- Molecule 33: 50S ribosomal protein L34





- Molecule 34: 50S ribosomal protein L35



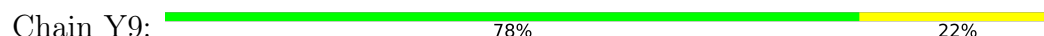
- Molecule 34: 50S ribosomal protein L35



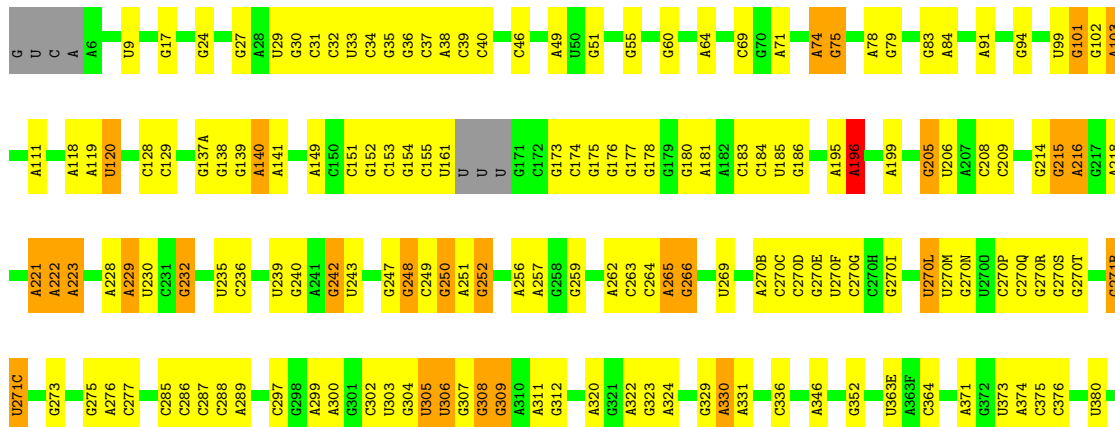
- Molecule 35: 50S ribosomal protein L36



- Molecule 35: 50S ribosomal protein L36



- Molecule 36: 23S rRNA





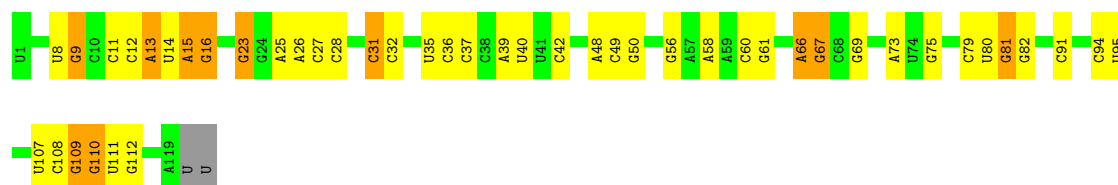
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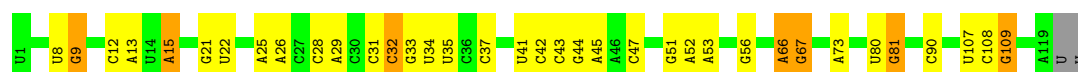
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C	U2801	C2596	C2596	A2492	G2378	C2306	G2199	G2116	C2026	A1917	G1816	G1698	A1586
C	U2802	U2597	U2597	A2493	G2379	C2307	G2200	G2117	A2027	A1918	G1817	G1699	A1587
C	U2803	C2598	C2598	A2494	G2380	C2308	G2201	G2118	C2028	A1919	G1818	A1700	G1595
C	U2804	U2599	U2599	A2495	G2381	A2309	G2202	G2119	C2029	A1920	G1819	A1701	G1596
C	U2805	C2600	C2600	A2496	G2382	C2310	G2203	G2120	C2030	A1921	G1820	U1709	C1598
C	U2806	U2601	U2601	A2497	G2383	C2311	G2204	G2121	C2031	A1922	G1821	C1710	C1607
C	U2807	C2602	C2602	A2498	G2384	C2312	G2205	G2122	C2032	A1923	G1822	G1726	A1608
C	U2808	U2603	U2603	A2499	G2385	C2313	G2206	G2123	C2033	A1924	G1823	U1727	A1609
C	U2809	C2604	C2604	A2500	G2386	C2314	G2207	G2124	C2034	A1925	G1824	G1728	A1610
C	U2810	U2605	U2605	A2501	G2387	C2315	G2208	G2125	C2035	A1926	G1825	G1729	G1613
C	U2811	C2606	C2606	A2502	G2388	C2316	G2209	G2126	C2036	A1927	G1826	U1730	C1617
C	U2812	U2607	U2607	A2503	G2389	C2317	G2210	G2127	C2037	A1928	G1827	G1731	A1618
C	U2813	C2608	C2608	A2504	G2390	C2318	G2211	G2128	C2038	A1929	G1828	G1732	G1619
C	U2814	U2609	U2609	A2505	G2391	C2319	G2212	G2129	C2039	A1930	G1829	G1733	
C	U2815	C2610	C2610	A2506	G2392	C2320	G2213	G2130	C2040	A1931	G1830	G1734	G1622
C	U2816	U2611	U2611	A2507	G2393	C2321	G2214	G2131	C2041	A1932	G1831	G1735	U1629
C	U2817	C2612	C2612	A2508	G2394	C2322	G2215	G2132	C2042	A1933	G1832	G1736	G1630
C	U2818	U2613	U2613	A2509	G2395	C2323	G2216	G2133	C2043	A1934	G1833	G1737	
C	U2819	C2614	C2614	A2510	G2396	C2324	G2217	G2134	C2044	A1935	G1834	G1738	
C	U2820	U2615	U2615	A2511	G2397	C2325	G2218	G2135	C2045	A1936	G1835	G1739	
C	U2821	C2616	C2616	A2512	G2398	C2326	G2219	G2136	C2046	A1937	G1836	G1740	
C	U2822	U2617	U2617	A2513	G2399	C2327	G2220	G2137	C2047	A1938	G1837	G1741	
C	U2823	C2618	C2618	A2514	G2400	C2328	G2221	G2138	C2048	A1939	G1838	G1742	
C	U2824	U2619	U2619	A2515	G2401	C2329	G2222	G2139	C2049	A1940	G1839	G1743	
C	U2825	C2620	C2620	A2516	G2402	C2330	G2223	G2140	C2050	A1941	G1840	G1744	
C	U2826	U2621	U2621	A2517	G2403	C2331	G2224	G2141	C2051	A1942	G1841	G1745	
C	U2827	C2622	C2622	A2518	G2404	C2332	G2225	G2142	C2052	A1943	G1842	G1746	
C	U2828	U2623	U2623	A2519	G2405	C2333	G2226	G2143	C2053	A1944	G1843	G1747	
C	U2829	C2624	C2624	A2520	G2406	C2334	G2227	G2144	C2054	A1945	G1844	G1748	
C	U2830	U2625	U2625	A2521	G2407	C2335	G2228	G2145	C2055	A1946	G1845	G1749	
C	U2831	C2626	C2626	A2522	G2408	C2336	G2229	G2146	C2056	A1947	G1846	G1750	
C	U2832	U2627	U2627	A2523	G2409	C2337	G2230	G2147	C2057	A1948	G1847	G1751	
C	U2833	C2628	C2628	A2524	G2410	C2338	G2231	G2148	C2058	A1949	G1848	G1752	
C	U2834	U2629	U2629	A2525	G2411	C2339	G2232	G2149	C2059	A1950	G1849	G1753	
C	U2835	C2630	C2630	A2526	G2412	C2340	G2233	G2150	C2060	A1951	G1850	G1754	
C	U2836	U2631	U2631	A2527	G2413	C2341	G2234	G2151	C2061	A1952	G1851	G1755	
C	U2837	C2632	C2632	A2528	G2414	C2342	G2235	G2152		A1953	G1852	G1756	
C	U2838	U2633	U2633	A2529	G2415	C2343	G2236	G2153		A1954	G1853	G1757	
C	U2839	C2634	C2634	A2530	G2416	C2344	G2237	G2154		A1955	G1854	G1758	
C	U2840	U2635	U2635	A2531	G2417	C2345	G2238	G2155		A1956	G1855	G1759	
C	U2841	C2636	C2636	A2532	G2418	C2346	G2239	G2156		A1957	G1856	G1760	
C	U2842	U2637	U2637	A2533	G2419	C2347	G2240	G2157		A1958	G1857	G1761	
C	U2843	C2638	C2638	A2534	G2420	C2348	G2241	G2158		A1959	G1858	G1762	
C	U2844	U2639	U2639	A2535	G2421	C2349	G2242	G2159		A1960	G1859	G1763	
C	U2845	C2640	C2640	A2536	G2422	C2350	G2243	G2160		A1961	G1860	G1764	
C	U2846	U2641	U2641	A2537	G2423	C2351	G2244	G2161		A1962	G1861	G1765	
C	U2847	C2642	C2642	A2538	G2424	C2352	G2245	G2162		A1963	G1862	G1766	
C	U2848	U2643	U2643	A2539	G2425	C2353	G2246	G2163		A1964	G1863	G1767	
C	U2849	C2644	C2644	A2540	G2426	C2354	G2247	G2164		A1965	G1864	G1768	
C	U2850	U2645	U2645	A2541	G2427	C2355	G2248	G2165		A1966	G1865	G1769	
C	U2851	C2646	C2646	A2542	G2428	C2356	G2249	G2166		A1967	G1866	G1770	
C	U2852	U2647	U2647	A2543	G2429	C2357	G2250	G2167		A1968	G1867	G1771	
C	U2853	C2648	C2648	A2544	G2430	C2358	G2251	G2168		A1969	G1868	G1772	
C	U2854	U2649	U2649	A2545	G2431	C2359	G2252	G2169		A1970	G1869	G1773	
C	U2855	C2650	C2650	A2546	G2432	C2360	G2253	G2170		A1971	G1870	G1774	
C	U2856	U2651	U2651	A2547	G2433	C2361	G2254	G2171		A1972	G1871	G1775	
C	U2857	C2652	C2652	A2548	G2434	C2362	G2255	G2172		A1973	G1872	G1776	
C	U2858	U2653	U2653	A2549	G2435	C2363	G2256	G2173		A1974	G1873	G1777	
C	U2859	C2654	C2654	A2550	G2436	C2364	G2257	G2174		A1975	G1874	G1778	
C	U2860	U2655	U2655	A2551	G2437	C2365	G2258	G2175		A1976	G1875	G1779	
C	U2861	C2656	C2656	A2552	G2438	C2366	G2259	G2176		A1977	G1876	G1780	
C	U2862	U2657	U2657	A2553	G2439	C2367	G2260	G2177		A1978	G1877	G1781	
C	U2863	C2658	C2658	A2554	G2440	C2368	G2261	G2178		A1979	G1878	G1782	
C	U2864	U2659	U2659	A2555	G2441	C2369	G2262	G2179					

Chain RB: 



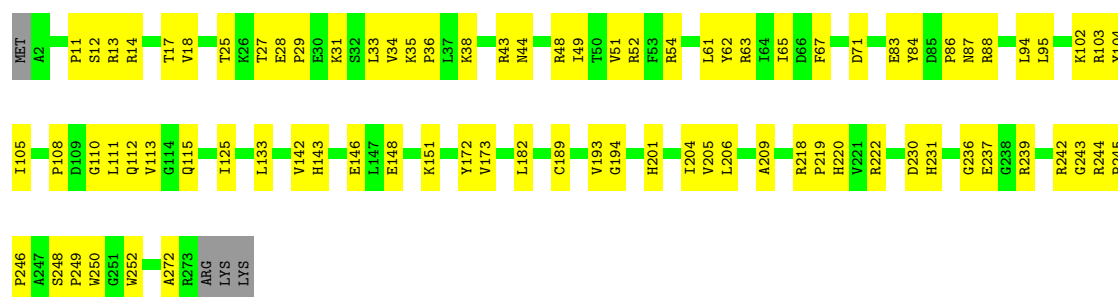
• Molecule 37: 5S rRNA

Chain YB: 




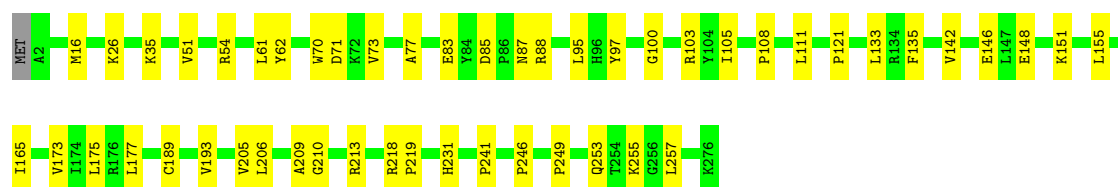
• Molecule 38: 50S ribosomal protein L2

Chain RD: 



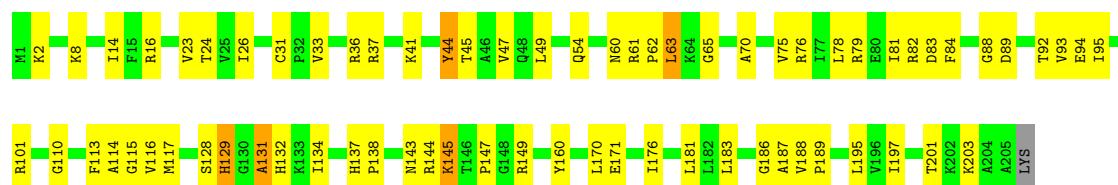
• Molecule 38: 50S ribosomal protein L2

Chain YD: 



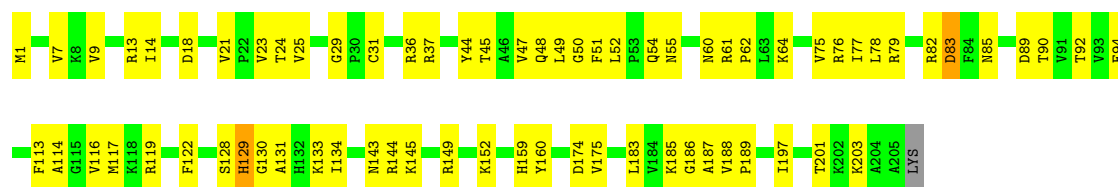
• Molecule 39: 50S ribosomal protein L3

Chain RE: 



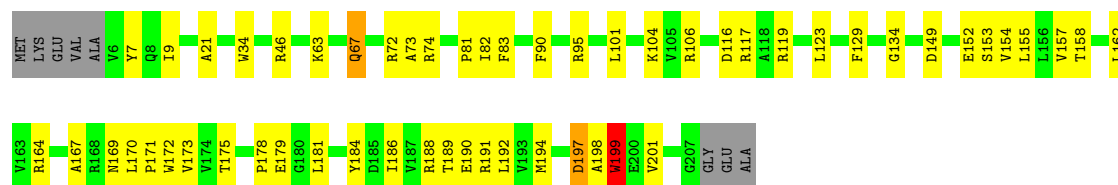
• Molecule 39: 50S ribosomal protein L3

Chain YE:  66% 33%



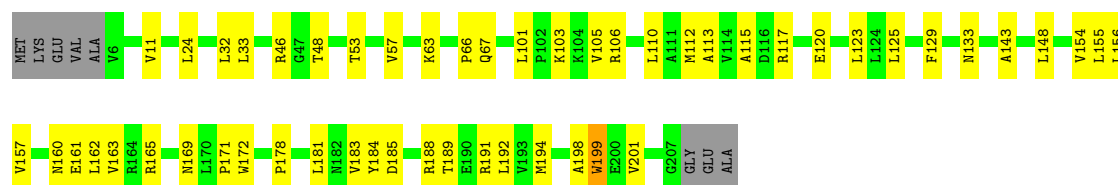
- Molecule 40: 50S ribosomal protein L4

Chain RF:  70% 25%



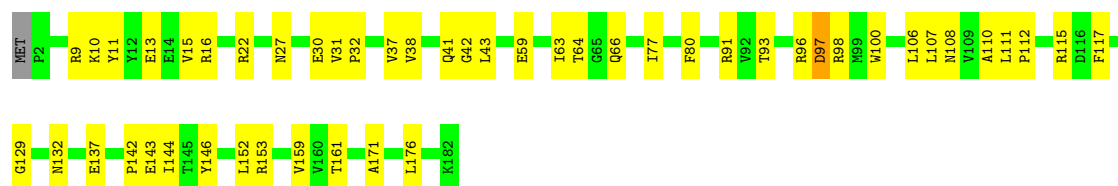
- Molecule 40: 50S ribosomal protein L4

Chain YF:  71% 24%




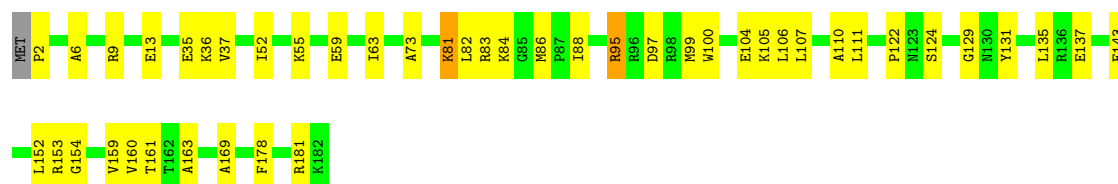
- Molecule 41: 50S ribosomal protein L5

Chain RG:  73% 26%



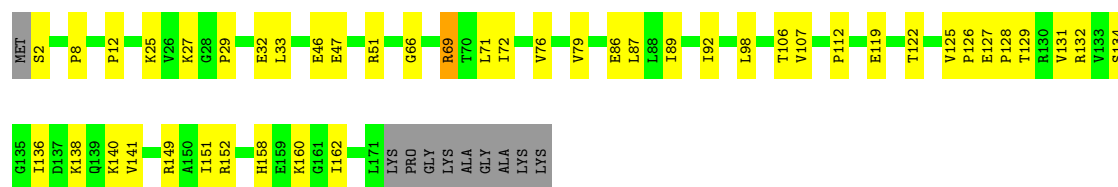
- Molecule 41: 50S ribosomal protein L5

Chain YG:  75% 24%



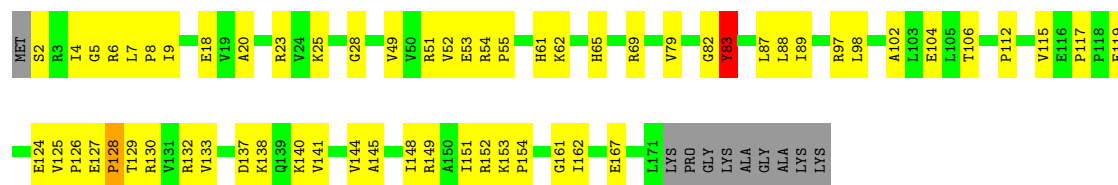
- Molecule 42: 50S ribosomal protein L6

Chain RH:  69% 24% • 6%




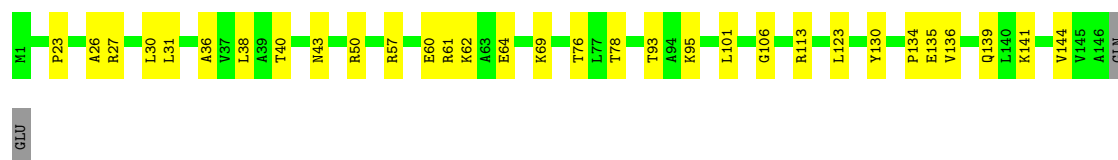
- Molecule 42: 50S ribosomal protein L6

Chain YH:  61% 33% •• 6%



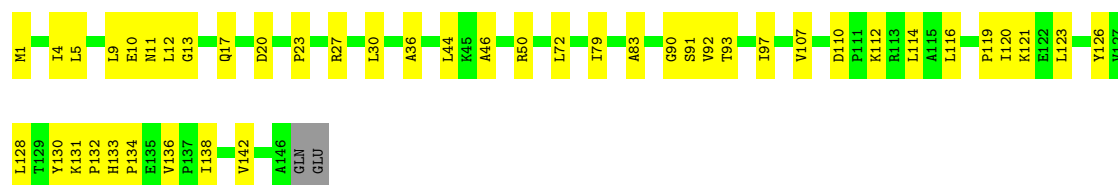
- Molecule 43: 50S ribosomal protein L9

Chain RI:  78% 21% •




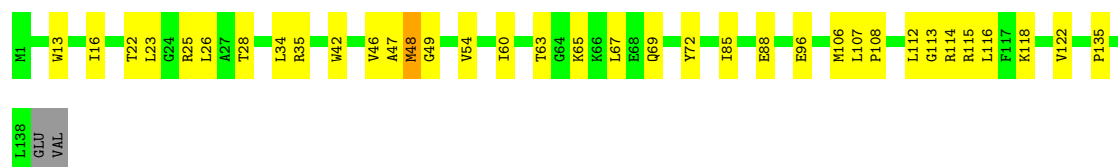
- Molecule 43: 50S ribosomal protein L9

Chain YI:  69% 30% •




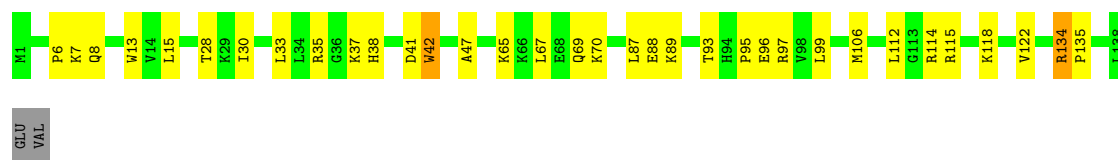
- Molecule 44: 50S ribosomal protein L13

Chain RN:  74% 24% ••




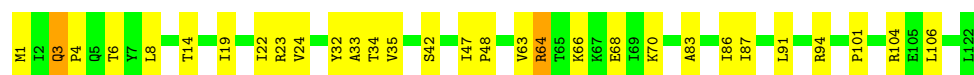
- Molecule 44: 50S ribosomal protein L13

Chain YN:  74% 23% ..




- Molecule 45: 50S ribosomal protein L14

Chain RO:  75% 23% .



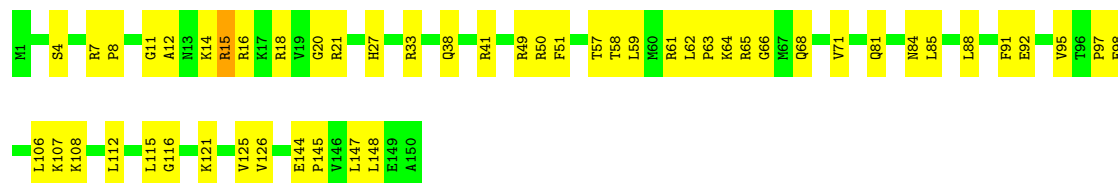
- Molecule 45: 50S ribosomal protein L14

Chain YO:  79% 21%



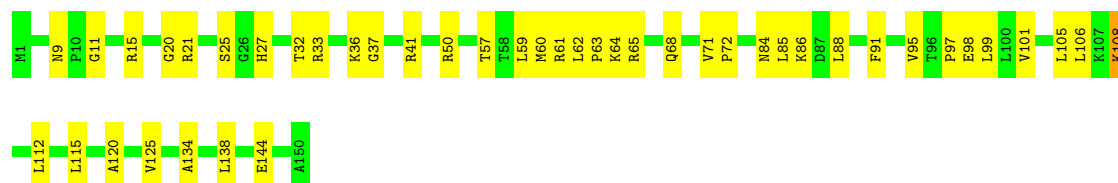
- Molecule 46: 50S ribosomal protein L15

Chain RP:  66% 33% .



- Molecule 46: 50S ribosomal protein L15

Chain YP:  71% 29% .



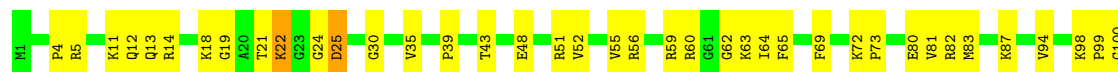
- Molecule 47: 50S ribosomal protein L16

Chain RQ:  64% 36%

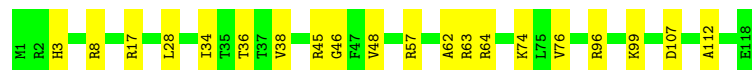
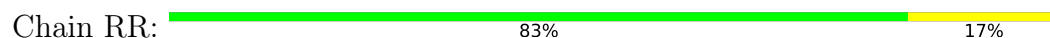




- Molecule 47: 50S ribosomal protein L16



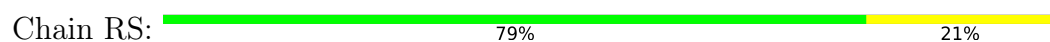
- Molecule 48: 50S ribosomal protein L17



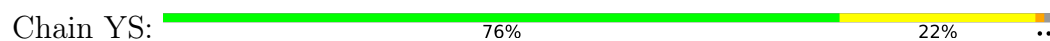
- Molecule 48: 50S ribosomal protein L17



- Molecule 49: 50S ribosomal protein L18

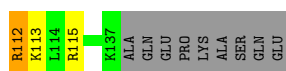


- Molecule 49: 50S ribosomal protein L18



- Molecule 50: 50S ribosomal protein L19





- Molecule 50: 50S ribosomal protein L19

Chain YT: 63% 31% 6%



- Molecule 51: 50S ribosomal protein L20

Chain RU: 79% 19% ..



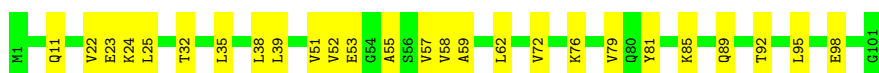
- Molecule 51: 50S ribosomal protein L20

Chain YU: 75% 24% .



- Molecule 52: 50S ribosomal protein L21

Chain RV: 74% 26%



- Molecule 52: 50S ribosomal protein L21

Chain YV: 74% 26%




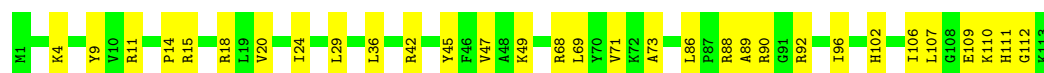
- Molecule 53: 50S ribosomal protein L22

Chain RW: 78% 22%




- Molecule 53: 50S ribosomal protein L22

Chain YW:  73% 27%




- Molecule 54: 50S ribosomal protein L23

Chain RX:  79% 17% .



- Molecule 54: 50S ribosomal protein L23

Chain YX:  82% 14% .



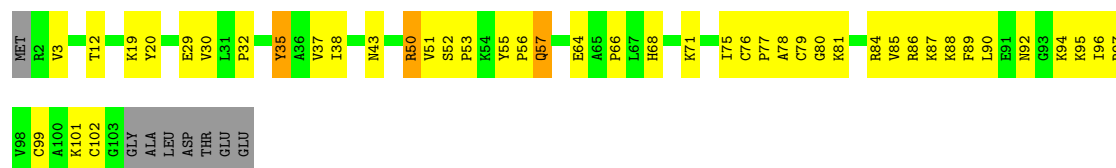
- Molecule 55: 50S ribosomal protein L24

Chain RY:  63% 28% . 7%



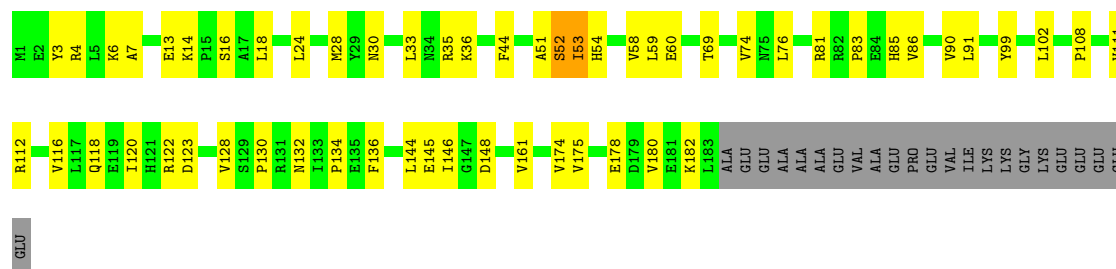
- Molecule 55: 50S ribosomal protein L24

Chain YY:  53% 37% . 7%



- Molecule 56: 50S ribosomal protein L25

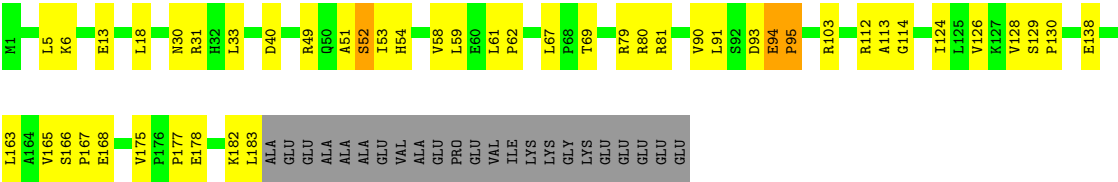
Chain RZ:  62% 26% . 11%



- Molecule 56: 50S ribosomal protein L25



Chain YZ:  66% 21% 11%



## 4 Data and refinement statistics

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	211.26Å 452.33Å 626.52Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	44.53 – 3.20	Depositor
% Data completeness (in resolution range)	91.2 (44.53-3.20)	Depositor
$R_{merge}$	0.19	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.56 (at 3.19Å)	Xtriage
Refinement program	PHENIX 1.14_3260	Depositor
R, $R_{free}$	0.195 , 0.232	Depositor
Wilson B-factor (Å <sup>2</sup> )	73.8	Xtriage
Anisotropy	0.170	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.45$ , $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	298675	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	90.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.41% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: AMP, PAR, MG, ZN, SF4

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	QA	0.27	0/36098	0.78	21/56341 (0.0%)
1	XA	0.27	0/36101	0.77	11/56346 (0.0%)
2	QB	0.26	0/1959	0.48	0/2642
2	XB	0.27	0/1959	0.50	0/2642
3	QC	0.29	0/1629	0.49	0/2195
3	XC	0.30	0/1629	0.50	0/2195
4	QD	0.25	0/1704	0.46	0/2284
4	XD	0.33	1/1704 (0.1%)	0.49	0/2284
5	QE	0.25	0/1171	0.50	0/1576
5	XE	0.26	0/1171	0.50	0/1576
6	QF	0.24	0/856	0.46	0/1154
6	XF	0.26	0/856	0.50	0/1154
7	QG	0.27	0/1276	0.44	0/1709
7	XG	0.26	0/1276	0.48	0/1709
8	QH	0.26	0/1136	0.50	0/1527
8	XH	1.43	8/1136 (0.7%)	1.25	11/1527 (0.7%)
9	QI	0.27	0/1029	0.49	0/1379
9	XI	0.26	0/1029	0.48	0/1379
10	QJ	0.24	0/814	0.45	0/1095
10	XJ	0.24	0/814	0.47	0/1095
11	QK	0.30	0/900	0.50	0/1213
11	XK	2.12	11/900 (1.2%)	1.08	10/1213 (0.8%)
12	QL	0.25	0/991	0.53	0/1327
12	XL	0.26	0/991	0.55	0/1327
13	QM	0.24	0/974	0.55	0/1303
13	XM	0.24	0/974	0.56	0/1303
14	QN	0.28	0/501	0.49	0/664
14	XN	0.29	0/501	0.57	0/664
15	QO	0.23	0/745	0.43	0/992
15	XO	0.24	0/745	0.45	0/992
16	QP	0.28	0/721	0.51	0/970
16	XP	0.44	1/721 (0.1%)	0.58	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	QQ	0.24	0/847	0.44	0/1131
17	XQ	0.24	0/847	0.46	0/1131
18	QR	0.24	0/579	0.47	0/768
18	XR	0.25	0/579	0.49	0/768
19	QS	0.30	0/689	0.53	0/926
19	XS	0.29	0/689	0.53	0/926
20	QT	0.23	0/765	0.44	0/1007
20	XT	0.29	0/765	0.53	0/1007
21	QU	0.24	0/221	0.51	0/288
21	XU	0.22	0/221	0.47	0/288
22	QV	0.25	0/1832	0.78	1/2855 (0.0%)
22	XV	0.26	0/1832	0.77	0/2855
23	QW	0.32	1/1819 (0.1%)	0.82	0/2833
23	XW	0.42	3/1819 (0.2%)	0.89	2/2833 (0.1%)
24	QX	0.22	0/468	0.72	0/729
24	XX	0.27	0/443	0.88	2/690 (0.3%)
25	QY	0.17	0/1791	0.74	0/2791
25	XY	0.20	0/1791	0.73	0/2791
26	R0	0.25	0/657	0.54	0/874
26	Y0	0.26	0/657	0.50	0/874
27	R1	0.27	0/770	0.48	0/1022
27	Y1	0.27	0/770	0.50	0/1022
28	R2	0.24	0/583	0.46	0/771
28	Y2	0.26	0/583	0.54	0/771
29	R3	0.23	0/474	0.44	0/635
29	Y3	0.25	0/474	0.47	0/635
30	R4	0.28	0/594	0.62	1/795 (0.1%)
30	Y4	0.25	0/594	0.54	0/795
31	R5	0.26	0/473	0.49	0/639
31	Y5	0.28	0/473	0.54	0/639
32	R6	0.27	0/431	0.57	0/575
32	Y6	0.26	0/431	0.62	0/575
33	R7	0.27	0/438	0.53	0/575
33	Y7	0.32	0/438	0.61	0/575
34	R8	0.38	0/525	0.63	0/691
34	Y8	0.28	0/525	0.51	0/691
35	R9	0.21	0/310	0.40	0/407
35	Y9	0.21	0/310	0.44	0/407
36	RA	0.31	1/69521 (0.0%)	0.79	37/108529 (0.0%)
36	YA	0.35	1/69543 (0.0%)	0.81	34/108563 (0.0%)
37	RB	0.28	0/2878	0.76	2/4490 (0.0%)
37	YB	0.30	0/2878	0.83	5/4490 (0.1%)
38	RD	0.35	1/2165 (0.0%)	0.56	1/2919 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	YD	0.31	0/2195	0.52	0/2955
39	RE	0.26	0/1601	0.58	0/2160
39	YE	0.27	0/1601	0.60	0/2160
40	RF	1.28	9/1620 (0.6%)	0.74	7/2194 (0.3%)
40	YF	2.62	13/1620 (0.8%)	1.04	13/2194 (0.6%)
41	RG	0.24	0/1499	0.49	0/2016
41	YG	0.25	0/1499	0.55	0/2016
42	RH	0.24	0/1332	0.49	0/1802
42	YH	0.27	0/1332	0.60	2/1802 (0.1%)
43	RI	0.24	0/1151	0.49	0/1558
43	YI	0.25	0/1151	0.58	0/1558
44	RN	0.29	0/1131	0.52	0/1525
44	YN	2.01	10/1131 (0.9%)	1.39	15/1525 (1.0%)
45	RO	0.28	0/943	0.52	0/1269
45	YO	0.27	0/943	0.51	0/1269
46	RP	0.27	0/1162	0.59	0/1544
46	YP	0.28	0/1162	0.62	0/1544
47	RQ	0.26	0/1143	0.54	0/1527
47	YQ	0.28	0/1143	0.57	0/1527
48	RR	0.25	0/982	0.51	0/1312
48	YR	0.26	0/982	0.54	0/1312
49	RS	0.25	0/892	0.53	0/1187
49	YS	0.26	0/892	0.55	0/1187
50	RT	0.25	0/1155	0.53	0/1542
50	YT	0.26	0/1155	0.58	0/1542
51	RU	0.27	0/982	0.47	0/1306
51	YU	0.26	0/982	0.49	0/1306
52	RV	0.26	0/790	0.53	0/1057
52	YV	0.28	0/790	0.55	0/1057
53	RW	0.25	0/911	0.50	0/1220
53	YW	0.26	0/911	0.53	0/1220
54	RX	0.30	0/739	0.49	0/993
54	YX	0.28	0/739	0.49	0/993
55	RY	0.26	0/798	0.54	0/1064
55	YY	0.27	0/798	0.58	0/1064
56	RZ	0.24	0/1493	0.51	0/2026
56	YZ	0.25	0/1493	0.56	0/2026
All	All	0.40	60/323346 (0.0%)	0.74	175/483882 (0.0%)

All (60) bond length outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	YF	199	TRP	CD2-CE3	58.05	2.27	1.40
40	YF	199	TRP	CE2-CZ2	48.67	2.22	1.39
40	YF	199	TRP	CD2-CE2	36.57	1.85	1.41
11	XK	42	TRP	CE3-CZ3	36.22	2.00	1.38
40	YF	199	TRP	CG-CD1	35.50	1.86	1.36
11	XK	42	TRP	CZ3-CH2	-35.31	0.83	1.40
44	YN	42	TRP	CG-CD2	35.22	2.03	1.43
44	YN	42	TRP	CE3-CZ3	33.96	1.96	1.38
44	YN	42	TRP	CD2-CE3	-28.47	0.97	1.40
40	RF	199	TRP	NE1-CE2	28.11	1.74	1.37
44	YN	42	TRP	CE2-CZ2	27.59	1.86	1.39
40	YF	199	TRP	CE3-CZ3	27.32	1.84	1.38
8	XH	138	TRP	CG-CD1	27.07	1.74	1.36
40	YF	199	TRP	CZ3-CH2	24.24	1.78	1.40
8	XH	138	TRP	CE3-CZ3	21.50	1.75	1.38
40	RF	199	TRP	CG-CD1	20.88	1.66	1.36
40	YF	172	TRP	CD2-CE2	19.90	1.65	1.41
8	XH	138	TRP	CD2-CE2	19.80	1.65	1.41
11	XK	42	TRP	CD2-CE2	18.73	1.63	1.41
40	RF	199	TRP	CZ3-CH2	18.43	1.69	1.40
11	XK	42	TRP	CD2-CE3	-18.25	1.12	1.40
40	YF	199	TRP	CZ2-CH2	18.24	1.72	1.37
40	RF	199	TRP	CD2-CE2	17.26	1.62	1.41
8	XH	138	TRP	CZ3-CH2	16.43	1.66	1.40
11	XK	42	TRP	CG-CD1	15.39	1.58	1.36
40	YF	172	TRP	CZ2-CH2	14.67	1.65	1.37
8	XH	138	TRP	CD1-NE1	14.05	1.61	1.38
11	XK	42	TRP	CE2-CZ2	13.15	1.62	1.39
40	YF	172	TRP	CD1-NE1	12.39	1.59	1.38
40	RF	199	TRP	CD1-NE1	12.26	1.58	1.38
40	RF	199	TRP	CE3-CZ3	11.99	1.58	1.38
40	RF	199	TRP	CD2-CE3	-11.74	1.22	1.40
44	YN	42	TRP	CD2-CE2	11.09	1.54	1.41
23	QW	1	G	OP3-P	-10.54	1.48	1.61
23	XW	1	G	OP3-P	-10.23	1.48	1.61
44	YN	42	TRP	NE1-CE2	9.80	1.50	1.37
11	XK	42	TRP	CB-CG	9.78	1.67	1.50
44	YN	42	TRP	CZ2-CH2	9.47	1.55	1.37
8	XH	138	TRP	CG-CD2	9.41	1.59	1.43
44	YN	42	TRP	CG-CD1	9.25	1.49	1.36
40	RF	199	TRP	CG-CD2	9.01	1.58	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	YF	172	TRP	CZ3-CH2	8.83	1.54	1.40
4	XD	38	TYR	C-N	8.74	1.50	1.34
16	XP	40	ASP	C-N	8.54	1.50	1.34
44	YN	42	TRP	CZ3-CH2	-8.40	1.26	1.40
40	YF	172	TRP	CG-CD2	7.98	1.57	1.43
11	XK	42	TRP	CZ2-CH2	7.38	1.51	1.37
11	XK	42	TRP	CA-CB	-7.00	1.38	1.53
36	YA	602	G	O3'-P	-6.79	1.53	1.61
44	YN	42	TRP	CD1-NE1	6.55	1.49	1.38
40	YF	199	TRP	CB-CG	6.43	1.61	1.50
40	RF	199	TRP	CZ2-CH2	6.39	1.49	1.37
8	XH	138	TRP	NE1-CE2	6.22	1.45	1.37
8	XH	138	TRP	CZ2-CH2	6.00	1.48	1.37
38	RD	252	TRP	CB-CG	5.89	1.60	1.50
11	XK	42	TRP	NE1-CE2	5.72	1.45	1.37
11	XK	42	TRP	CD1-NE1	-5.67	1.28	1.38
23	XW	32	A	C1'-N9	-5.62	1.39	1.46
23	XW	36	C	C1'-N1	5.46	1.56	1.48
36	RA	1824	G	O3'-P	-5.36	1.54	1.61

All (175) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	YF	199	TRP	CD1-CG-CD2	-22.65	88.18	106.30
44	YN	42	TRP	CE2-CD2-CG	-21.78	89.88	107.30
44	YN	42	TRP	NE1-CE2-CD2	20.45	127.75	107.30
8	XH	138	TRP	CG-CD2-CE3	-18.67	117.10	133.90
8	XH	138	TRP	CB-CG-CD2	18.35	150.46	126.60
11	XK	42	TRP	CG-CD2-CE3	17.18	149.37	133.90
44	YN	42	TRP	CB-CG-CD1	17.10	149.24	127.00
8	XH	138	TRP	CE2-CD2-CG	16.78	120.73	107.30
11	XK	42	TRP	CA-CB-CG	15.73	143.59	113.70
44	YN	42	TRP	CH2-CZ2-CE2	-14.58	102.82	117.40
36	YA	463	G	OP1-P-O3'	-14.56	73.17	105.20
40	YF	199	TRP	CD2-CE3-CZ3	-14.16	100.39	118.80
44	YN	42	TRP	CE2-CD2-CE3	13.52	134.93	118.70
8	XH	138	TRP	CH2-CZ2-CE2	13.48	130.88	117.40
44	YN	42	TRP	CG-CD1-NE1	13.38	123.48	110.10
8	XH	138	TRP	CD1-CG-CD2	-13.25	95.70	106.30
40	RF	199	TRP	NE1-CE2-CZ2	-12.65	116.49	130.40
40	YF	199	TRP	CG-CD2-CE3	-12.54	122.61	133.90
44	YN	42	TRP	NE1-CE2-CZ2	-12.51	116.64	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	XH	138	TRP	NE1-CE2-CZ2	12.40	144.04	130.40
44	YN	42	TRP	CD1-NE1-CE2	-12.28	97.95	109.00
1	QA	1220	G	N9-C1'-C2'	-11.83	98.62	114.00
8	XH	138	TRP	CB-CG-CD1	-11.73	111.75	127.00
8	XH	138	TRP	CD1-NE1-CE2	11.24	119.12	109.00
44	YN	42	TRP	CB-CG-CD2	-11.13	112.13	126.60
40	YF	199	TRP	NE1-CE2-CD2	-10.86	96.44	107.30
40	RF	199	TRP	CD1-NE1-CE2	-10.69	99.38	109.00
8	XH	138	TRP	NE1-CE2-CD2	-10.16	97.14	107.30
11	XK	42	TRP	CH2-CZ2-CE2	-10.11	107.29	117.40
40	YF	199	TRP	CA-CB-CG	-9.97	94.75	113.70
40	YF	199	TRP	CE2-CD2-CG	9.85	115.18	107.30
24	XX	14	A	O4'-C1'-N9	9.76	116.01	108.20
44	YN	42	TRP	CD1-CG-CD2	-9.71	98.53	106.30
40	YF	199	TRP	CB-CG-CD2	9.68	139.19	126.60
11	XK	42	TRP	CE2-CD2-CG	-9.65	99.58	107.30
36	YA	527	C	O5'-P-OP1	-9.58	97.08	105.70
36	RA	1992	G	C2'-C3'-O3'	9.51	130.41	109.50
1	QA	987	G	N9-C1'-C2'	-9.32	101.75	112.00
40	YF	199	TRP	CE3-CZ3-CH2	8.95	131.04	121.20
44	YN	42	TRP	CZ3-CH2-CZ2	8.92	132.30	121.60
11	XK	42	TRP	CD1-NE1-CE2	8.70	116.83	109.00
1	QA	1158	C	C2-N1-C1'	8.57	128.23	118.80
11	XK	42	TRP	CZ3-CH2-CZ2	8.51	131.81	121.60
40	RF	199	TRP	CG-CD2-CE3	-8.38	126.36	133.90
36	YA	1535	U	C2-N1-C1'	8.37	127.75	117.70
40	YF	199	TRP	CD1-NE1-CE2	8.17	116.35	109.00
36	YA	464	U	OP1-P-OP2	8.07	131.71	119.60
1	QA	1158	C	N1-C2-O2	8.00	123.70	118.90
37	YB	31	C	N1-C2-O2	7.91	123.65	118.90
36	RA	828	U	C2-N1-C1'	7.91	127.19	117.70
36	YA	1535	U	N1-C2-O2	7.64	128.15	122.80
36	RA	527	C	O5'-P-OP1	-7.64	98.83	105.70
37	YB	31	C	C2-N1-C1'	7.49	127.04	118.80
42	YH	82	GLY	N-CA-C	7.49	131.81	113.10
44	YN	42	TRP	CD2-CE3-CZ3	-7.48	109.08	118.80
40	YF	199	TRP	CD2-CE2-CZ2	-7.47	113.33	122.30
40	RF	199	TRP	CH2-CZ2-CE2	-7.41	109.99	117.40
1	QA	987	G	C1'-C2'-O2'	-7.41	88.37	110.60
8	XH	138	TRP	CZ3-CH2-CZ2	-7.34	112.79	121.60
40	YF	172	TRP	CH2-CZ2-CE2	-7.15	110.25	117.40
1	QA	1331	G	P-O3'-C3'	7.10	128.22	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	YA	1535	U	N3-C2-O2	-7.04	117.27	122.20
36	YA	463	G	OP2-P-O3'	-6.99	89.81	105.20
1	QA	1220	G	C4'-C3'-O3'	6.92	126.83	113.00
36	RA	1535	U	C2-N1-C1'	6.88	125.96	117.70
11	XK	42	TRP	CB-CG-CD1	-6.84	118.11	127.00
11	XK	42	TRP	CE2-CD2-CE3	-6.76	110.58	118.70
40	RF	199	TRP	CE2-CD2-CE3	6.74	126.78	118.70
36	YA	828	U	C2-N1-C1'	6.71	125.75	117.70
36	RA	527	C	O5'-P-OP2	6.69	118.73	110.70
36	YA	2474	C	N1-C2-O2	6.54	122.82	118.90
40	YF	199	TRP	CG-CD1-NE1	6.41	116.51	110.10
1	QA	792	A	P-O3'-C3'	6.40	127.38	119.70
44	YN	42	TRP	CD2-CE2-CZ2	-6.40	114.62	122.30
36	YA	2474	C	C2-N1-C1'	6.33	125.76	118.80
36	RA	1130	U	P-O3'-C3'	6.33	127.29	119.70
11	XK	42	TRP	CG-CD1-NE1	-6.32	103.78	110.10
8	XH	138	TRP	CG-CD1-NE1	-6.31	103.79	110.10
1	QA	1158	C	C6-N1-C1'	-6.31	113.23	120.80
36	YA	271(B)	G	P-O3'-C3'	6.29	127.25	119.70
36	RA	1558	A	C2'-C3'-O3'	6.25	123.71	113.70
36	YA	1313	U	C2-N1-C1'	6.19	125.13	117.70
36	RA	1824	G	P-O3'-C3'	6.15	127.08	119.70
36	RA	828	U	N1-C2-O2	6.14	127.10	122.80
40	RF	199	TRP	CB-CG-CD1	-6.08	119.09	127.00
37	YB	31	C	N3-C2-O2	-6.08	117.64	121.90
36	RA	1314	C	C2-N1-C1'	6.07	125.48	118.80
36	RA	2702	U	C2-N1-C1'	6.06	124.97	117.70
1	QA	1158	C	N3-C2-O2	-6.02	117.69	121.90
36	YA	1204	A	O4'-C1'-N9	6.02	113.02	108.20
36	RA	1411	C	C2-N1-C1'	5.88	125.27	118.80
36	RA	1535	U	N1-C2-O2	5.88	126.92	122.80
36	RA	1313	U	C2-N1-C1'	5.88	124.75	117.70
40	RF	199	TRP	CD2-CE3-CZ3	-5.86	111.19	118.80
11	XK	42	TRP	NE1-CE2-CD2	-5.82	101.48	107.30
36	YA	1992	G	P-O3'-C3'	5.79	126.64	119.70
36	YA	527	C	O5'-P-OP2	5.78	117.64	110.70
1	XA	347	G	O4'-C1'-N9	5.77	112.82	108.20
36	RA	828	U	C6-N1-C1'	-5.77	113.12	121.20
36	YA	1914	C	C2-N1-C1'	5.76	125.14	118.80
36	RA	1914	C	C2-N1-C1'	5.75	125.13	118.80
36	RA	2060	A	P-O3'-C3'	5.75	126.59	119.70
1	QA	328	C	P-O3'-C3'	5.65	126.48	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1028	C	N1-C2-O2	5.65	122.29	118.90
1	XA	812	C	P-O3'-C3'	5.62	126.44	119.70
36	YA	846	C	P-O3'-C3'	5.61	126.43	119.70
23	XW	31	C	P-O3'-C3'	5.61	126.43	119.70
1	QA	1528	U	P-O3'-C3'	5.58	126.40	119.70
36	RA	1992	G	P-O3'-C3'	5.58	126.40	119.70
1	XA	1297	C	P-O3'-C3'	5.58	126.39	119.70
1	QA	1014	A	N9-C1'-C2'	-5.55	105.89	112.00
36	RA	196	A	O4'-C1'-N9	5.55	112.64	108.20
36	RA	912	C	C2-N1-C1'	5.54	124.90	118.80
36	RA	1799	G	P-O3'-C3'	5.54	126.35	119.70
36	YA	1799	G	P-O3'-C3'	5.53	126.33	119.70
36	YA	1535	U	C6-N1-C1'	-5.49	113.51	121.20
1	QA	812	C	P-O3'-C3'	5.49	126.29	119.70
1	QA	1346	A	P-O3'-C3'	5.49	126.29	119.70
36	RA	456	C	P-O3'-C3'	5.47	126.27	119.70
1	QA	913	A	P-O3'-C3'	5.47	126.26	119.70
44	YN	42	TRP	CG-CD2-CE3	-5.46	128.98	133.90
36	RA	229	A	P-O3'-C3'	5.45	126.24	119.70
36	RA	242	G	P-O3'-C3'	5.43	126.22	119.70
37	YB	31	C	C6-N1-C2	-5.42	118.13	120.30
1	XA	1498	U	P-O3'-C3'	5.42	126.20	119.70
1	QA	1219	U	N1-C1'-C2'	-5.41	106.05	112.00
40	YF	172	TRP	CZ3-CH2-CZ2	-5.41	115.11	121.60
1	QA	91	C	C2-N1-C1'	5.41	124.75	118.80
36	YA	1774	C	N3-C2-O2	-5.41	118.12	121.90
36	RA	828	U	N3-C2-O2	-5.40	118.42	122.20
30	R4	43	TYR	CA-CB-CG	5.39	123.65	113.40
36	RA	1314	C	C6-N1-C1'	-5.39	114.33	120.80
44	YN	42	TRP	CE3-CZ3-CH2	-5.36	115.30	121.20
36	RA	1084	A	O4'-C1'-N9	5.35	112.48	108.20
1	QA	980	C	C2-N1-C1'	5.35	124.68	118.80
1	XA	1158	C	C2-N1-C1'	5.34	124.68	118.80
36	RA	205	G	P-O3'-C3'	5.34	126.11	119.70
1	QA	115	G	P-O3'-C3'	5.34	126.11	119.70
36	RA	229	A	OP2-P-O3'	5.33	116.93	105.20
37	RB	11	C	N3-C2-O2	-5.33	118.17	121.90
36	RA	2702	U	N3-C2-O2	-5.32	118.47	122.20
36	YA	404	C	P-O3'-C3'	5.31	126.07	119.70
1	XA	792	A	O4'-C1'-N9	5.30	112.44	108.20
36	YA	2610	C	P-O3'-C3'	5.29	126.05	119.70
36	RA	1022	G	P-O3'-C3'	5.28	126.04	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	RA	846	C	P-O3'-C3'	5.27	126.02	119.70
36	RA	1535	U	N3-C2-O2	-5.26	118.52	122.20
36	YA	859	G	P-O3'-C3'	5.26	126.01	119.70
37	YB	31	C	C6-N1-C1'	-5.26	114.49	120.80
36	YA	1653	G	P-O3'-C3'	5.25	126.00	119.70
36	YA	1558	A	P-O3'-C3'	5.25	126.00	119.70
37	RB	31	C	C2-N1-C1'	5.22	124.55	118.80
1	XA	1028(A)	C	N3-C2-O2	-5.22	118.25	121.90
1	XA	913	A	P-O3'-C3'	5.19	125.93	119.70
36	YA	242	G	P-O3'-C3'	5.19	125.93	119.70
38	RD	252	TRP	CA-CB-CG	5.17	123.53	113.70
36	YA	1022	G	P-O3'-C3'	5.15	125.88	119.70
36	RA	1462	C	N3-C2-O2	-5.14	118.30	121.90
36	YA	1395	A	O4'-C1'-N9	5.14	112.32	108.20
36	RA	637	A	P-O3'-C3'	5.14	125.87	119.70
1	XA	1028	C	N3-C2-O2	-5.13	118.31	121.90
36	YA	2439	A	P-O3'-C3'	5.13	125.86	119.70
36	YA	222	A	P-O3'-C3'	5.12	125.85	119.70
36	YA	828	U	N1-C2-O2	5.12	126.38	122.80
36	YA	1314	C	C2-N1-C1'	5.12	124.43	118.80
36	YA	2681	C	P-O3'-C3'	5.10	125.83	119.70
23	XW	8	U	C4'-C3'-O3'	5.09	123.19	113.00
22	QV	34	C	C2-N1-C1'	5.09	124.40	118.80
1	QA	992	U	P-O3'-C3'	5.09	125.81	119.70
36	RA	2126	A	P-O3'-C3'	5.08	125.79	119.70
42	YH	83	TYR	N-CA-C	5.07	124.69	111.00
36	RA	2702	U	N1-C2-O2	5.05	126.34	122.80
24	XX	18	G	P-O3'-C3'	5.03	125.74	119.70
1	XA	1027	C	P-O3'-C3'	5.01	125.71	119.70
36	YA	637	A	P-O3'-C3'	5.01	125.71	119.70

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts ⓘ

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	QA	32247	0	16278	512	0
1	XA	32249	0	16278	480	0
2	QB	1924	0	1975	31	0
2	XB	1924	0	1975	54	0
3	QC	1605	0	1668	44	0
3	XC	1605	0	1668	39	0
4	QD	1674	0	1716	33	0
4	XD	1674	0	1718	38	0
5	QE	1155	0	1213	23	0
5	XE	1155	0	1213	17	0
6	QF	843	0	857	7	0
6	XF	843	0	857	24	0
7	QG	1257	0	1296	17	0
7	XG	1257	0	1296	32	0
8	QH	1116	0	1177	34	0
8	XH	1116	0	1177	30	0
9	QI	1010	0	1037	28	0
9	XI	1010	0	1037	29	0
10	QJ	801	0	849	24	0
10	XJ	801	0	849	33	0
11	QK	885	0	904	37	0
11	XK	885	0	904	39	0
12	QL	975	0	1062	21	0
12	XL	975	0	1062	23	0
13	QM	964	0	1034	27	0
13	XM	964	0	1034	23	0
14	QN	492	0	532	23	0
14	XN	492	0	529	20	0
15	QO	734	0	771	14	0
15	XO	734	0	771	10	0
16	QP	705	0	725	16	0
16	XP	705	0	725	26	0
17	QQ	834	0	904	10	0
17	XQ	834	0	904	16	0
18	QR	574	0	644	12	0
18	XR	574	0	644	12	0
19	QS	674	0	699	30	0
19	XS	674	0	699	26	0
20	QT	763	0	861	16	0
20	XT	763	0	861	23	0
21	QU	217	0	234	8	0
21	XU	217	0	234	4	0
22	QV	1640	0	837	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	XV	1640	0	837	8	0
23	QW	1627	0	823	21	0
23	XW	1627	0	823	39	0
24	QX	416	0	208	4	0
24	XX	394	0	197	9	0
25	QY	1603	0	811	23	0
25	XY	1603	0	811	24	0
26	R0	648	0	672	10	0
26	Y0	648	0	672	19	0
27	R1	763	0	848	15	0
27	Y1	763	0	848	18	0
28	R2	581	0	629	13	0
28	Y2	581	0	629	7	0
29	R3	469	0	518	11	0
29	Y3	469	0	518	11	0
30	R4	581	0	577	24	0
30	Y4	581	0	577	19	0
31	R5	459	0	480	22	0
31	Y5	459	0	480	8	0
32	R6	424	0	450	20	0
32	Y6	424	0	450	17	0
33	R7	430	0	480	10	0
33	Y7	430	0	480	19	0
34	R8	517	0	582	36	0
34	Y8	517	0	582	27	0
35	R9	307	0	338	7	0
35	Y9	307	0	338	7	0
36	RA	62071	0	31289	870	0
36	YA	62091	0	31301	797	0
37	RB	2573	0	1306	33	0
37	YB	2573	0	1306	22	0
38	RD	2115	0	2195	69	0
38	YD	2145	0	2234	35	0
39	RE	1568	0	1633	54	0
39	YE	1568	0	1634	55	0
40	RF	1585	0	1632	42	0
40	YF	1585	0	1632	43	0
41	RG	1474	0	1535	36	0
41	YG	1474	0	1535	32	0
42	RH	1307	0	1382	30	0
42	YH	1307	0	1381	44	0
43	RI	1136	0	1223	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	YI	1136	0	1223	31	0
44	RN	1104	0	1180	25	0
44	YN	1104	0	1180	29	0
45	RO	933	0	996	24	0
45	YO	933	0	996	20	0
46	RP	1145	0	1227	52	0
46	YP	1145	0	1227	53	0
47	RQ	1122	0	1179	45	0
47	YQ	1122	0	1179	41	0
48	RR	968	0	1033	19	0
48	YR	968	0	1033	23	0
49	RS	882	0	943	18	0
49	YS	882	0	943	22	0
50	RT	1141	0	1202	32	0
50	YT	1141	0	1202	35	0
51	RU	964	0	1022	26	0
51	YU	964	0	1022	33	0
52	RV	779	0	852	18	0
52	YV	779	0	852	22	0
53	RW	900	0	964	18	0
53	YW	900	0	964	21	0
54	RX	725	0	778	11	0
54	YX	725	0	778	10	0
55	RY	785	0	878	28	0
55	YY	785	0	878	32	0
56	RZ	1461	0	1493	44	0
56	YZ	1461	0	1493	42	0
57	QA	124	0	0	0	0
57	QD	1	0	0	0	0
57	QF	1	0	0	0	0
57	QH	1	0	0	0	0
57	QK	2	0	0	0	0
57	QL	1	0	0	0	0
57	QM	1	0	0	0	0
57	QV	6	0	0	0	0
57	QX	1	0	0	0	0
57	R0	1	0	0	0	0
57	R1	1	0	0	0	0
57	R5	1	0	0	0	0
57	R8	1	0	0	0	0
57	R9	1	0	0	0	0
57	RA	378	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	RB	4	0	0	0	0
57	RD	2	0	0	0	0
57	RE	8	0	0	0	0
57	RF	2	0	0	0	0
57	RG	1	0	0	0	0
57	RI	1	0	0	0	0
57	RP	3	0	0	0	0
57	RR	2	0	0	0	0
57	RT	2	0	0	0	0
57	XA	123	0	0	0	0
57	XB	2	0	0	0	0
57	XD	1	0	0	0	0
57	XF	1	0	0	0	0
57	XJ	1	0	0	0	0
57	XK	1	0	0	0	0
57	XL	2	0	0	0	0
57	XM	1	0	0	0	0
57	XV	7	0	0	0	0
57	XX	1	0	0	0	0
57	Y0	3	0	0	0	0
57	Y2	3	0	0	0	0
57	Y3	1	0	0	0	0
57	Y4	2	0	0	0	0
57	Y5	1	0	0	0	0
57	Y7	1	0	0	0	0
57	Y8	3	0	0	0	0
57	YA	457	0	0	0	0
57	YB	8	0	0	0	0
57	YD	4	0	0	0	0
57	YE	6	0	0	0	0
57	YF	5	0	0	0	0
57	YG	2	0	0	0	0
57	YH	5	0	0	0	0
57	YI	1	0	0	0	0
57	YN	1	0	0	0	0
57	YO	1	0	0	0	0
57	YP	7	0	0	0	0
57	YQ	4	0	0	0	0
57	YR	2	0	0	0	0
57	YT	2	0	0	0	0
57	YU	1	0	0	0	0
57	YV	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	YW	1	0	0	0	0
57	YX	2	0	0	0	0
57	YY	5	0	0	0	0
58	QA	42	0	45	1	0
58	XA	42	0	45	2	0
59	QD	8	0	0	0	0
59	XD	8	0	0	0	0
60	QN	1	0	0	0	0
60	XN	1	0	0	0	0
61	QY	22	0	12	1	0
62	QA	1	0	0	0	0
62	QX	1	0	0	0	0
All	All	298675	0	201403	4630	0

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 9.

All (4630) 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)
40:YF:199:TRP:CH2	40:YF:199:TRP:CZ3	1.78	1.69
8:XH:138:TRP:CE3	8:XH:138:TRP:CZ3	1.75	1.64
40:YF:199:TRP:CG	40:YF:199:TRP:CD1	1.86	1.62
44:YN:42:TRP:CE2	44:YN:42:TRP:CZ2	1.86	1.62
40:YF:199:TRP:CE2	40:YF:199:TRP:CD2	1.85	1.61
40:YF:199:TRP:CZ3	40:YF:199:TRP:CE3	1.84	1.58
8:XH:138:TRP:CG	8:XH:138:TRP:CD1	1.74	1.54
44:YN:42:TRP:CZ3	44:YN:42:TRP:CE3	1.96	1.53
19:XS:36:ARG:CD	19:XS:72:GLY:HA2	1.41	1.51
11:XK:42:TRP:CE3	11:XK:42:TRP:CZ3	2.00	1.50
40:RF:199:TRP:CE2	40:RF:199:TRP:NE1	1.74	1.50
19:XS:36:ARG:HD2	19:XS:72:GLY:CA	1.49	1.42
44:YN:42:TRP:CD2	44:YN:42:TRP:CG	2.03	1.34
1:XA:1316:G:N2	1:XA:1318:A:H3'	1.38	1.33
11:XK:42:TRP:CZ3	11:XK:42:TRP:CZ2	2.15	1.32
40:YF:199:TRP:CE2	40:YF:199:TRP:CZ2	2.22	1.27
4:XD:166:LYS:CG	4:XD:178:VAL:HG11	1.67	1.22
4:QD:20:TYR:CD2	4:QD:26:CYS:SG	2.33	1.22
40:YF:199:TRP:CD2	40:YF:199:TRP:CE3	2.27	1.22
32:R6:10:LEU:HD22	34:R8:35:GLN:NE2	1.58	1.17
4:XD:166:LYS:HG2	4:XD:178:VAL:CG1	1.72	1.17

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:YF:199:TRP:CD1	40:YF:199:TRP:CD2	2.33	1.14
16:QP:45:THR:CG2	16:QP:46:PRO:HD2	1.76	1.13
36:RA:1794:U:H3	36:RA:1825:A:N6	1.49	1.10
32:Y6:30:THR:HG22	32:Y6:31:PRO:HD2	1.31	1.07
36:RA:1667:G:H8	36:RA:1667:G:H5''	1.21	1.05
33:Y7:5:TRP:CD1	36:YA:464:U:H5'	1.92	1.04
11:QK:42:TRP:CZ3	11:QK:44:SER:HB3	1.92	1.04
19:QS:33:THR:HG22	19:QS:49:ILE:HD11	1.39	1.04
16:QP:45:THR:HG22	16:QP:46:PRO:CD	1.88	1.03
2:XB:25:ASN:OD1	2:XB:26:PRO:HD2	1.58	1.03
32:R6:10:LEU:HD22	34:R8:35:GLN:HE22	1.12	1.02
36:RA:1824:G:H2'	38:RD:220:HIS:CE1	1.93	1.02
1:XA:1316:G:H22	1:XA:1318:A:H3'	0.86	1.00
44:YN:42:TRP:CZ3	44:YN:42:TRP:CD2	2.45	0.99
6:XF:19:LEU:HD11	6:XF:59:TYR:CE1	1.96	0.99
36:RA:1434:A:H61	36:RA:1558:A:N6	1.62	0.97
11:QK:42:TRP:CE3	11:QK:44:SER:HB3	1.99	0.97
36:RA:1824:G:H2'	38:RD:220:HIS:HE1	1.24	0.97
19:QS:36:ARG:NH2	19:QS:75:ALA:HB3	1.80	0.96
36:RA:1667:G:H5''	36:RA:1667:G:C8	2.01	0.95
36:RA:676:A:H8	36:RA:2069:G:H21	1.12	0.95
1:XA:1316:G:N2	1:XA:1318:A:C3'	2.30	0.95
3:QC:22:TRP:HZ3	3:QC:24:ALA:CB	1.80	0.94
32:R6:10:LEU:CD2	34:R8:35:GLN:NE2	2.30	0.94
1:XA:1316:G:H22	1:XA:1318:A:C3'	1.79	0.92
33:Y7:5:TRP:HE1	36:YA:464:U:H4'	1.34	0.91
16:QP:45:THR:HG22	16:QP:46:PRO:HD2	0.93	0.91
19:QS:33:THR:CG2	19:QS:49:ILE:HD11	2.01	0.91
36:YA:67:U:H3	36:YA:74:A:H2	1.19	0.90
33:Y7:5:TRP:NE1	36:YA:464:U:H4'	1.86	0.89
36:YA:2168:G:C2	36:YA:2170:A:OP2	2.26	0.89
3:QC:22:TRP:HZ3	3:QC:24:ALA:HB3	1.38	0.88
33:Y7:5:TRP:CD1	36:YA:464:U:C4'	2.56	0.88
6:XF:19:LEU:HD11	6:XF:59:TYR:CD1	2.09	0.87
36:RA:1992:G:OP1	36:RA:1992:G:N2	2.08	0.87
27:Y1:87:PRO:HA	27:Y1:90:ILE:HG22	1.57	0.87
40:YF:199:TRP:CD2	40:YF:199:TRP:NE1	2.43	0.87
36:YA:676:A:H8	36:YA:2069:G:H21	1.20	0.86
37:RB:23:G:N2	37:RB:61:G:C4	2.44	0.86
33:Y7:5:TRP:CD1	36:YA:464:U:C5'	2.58	0.86
39:RE:62:PRO:O	39:RE:63:LEU:HD23	1.75	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:1514:U:H6	36:RA:1514:U:H5''	1.42	0.85
44:YN:35:ARG:NH2	44:YN:42:TRP:CZ2	2.44	0.85
11:QK:43:SER:HB2	11:QK:68:ALA:CA	2.06	0.85
36:YA:2168:G:H2'	36:YA:2168:G:N3	1.89	0.84
27:R1:80:LEU:HD12	27:R1:81:LYS:HG3	1.59	0.84
3:XC:29:TYR:OH	14:YN:54:PRO:HD2	1.76	0.84
11:XK:42:TRP:CZ3	11:XK:42:TRP:CH2	0.83	0.83
7:QG:152:ALA:O	7:QG:155:ARG:HG3	1.79	0.83
31:R5:4:HIS:NE2	36:RA:2577:A:H1'	1.95	0.82
36:RA:2635:C:H5''	39:RE:78:LEU:HA	1.62	0.82
7:XG:77:SER:HB3	23:XW:32:A:C2	2.14	0.82
20:XT:54:LYS:HA	20:XT:57:ARG:NH2	1.95	0.82
2:XB:24:TRP:HB2	2:XB:40:HIS:NE2	1.95	0.81
31:R5:4:HIS:HD2	36:RA:2056:G:H22	1.28	0.81
20:XT:89:ARG:HH21	20:XT:104:LEU:HD21	1.45	0.81
44:YN:42:TRP:CE2	44:YN:42:TRP:CH2	2.67	0.81
36:YA:602:G:N2	36:YA:655:A:C8	2.49	0.81
42:RH:87:LEU:HB3	42:RH:162:ILE:HD11	1.61	0.80
11:XK:42:TRP:CH2	11:XK:42:TRP:HZ3	1.51	0.80
37:YB:80:U:H2'	37:YB:81:G:H21	1.44	0.80
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG2	1.63	0.80
36:RA:2115:G:N2	36:RA:2165:G:N7	2.30	0.79
33:Y7:5:TRP:NE1	36:YA:464:U:C5'	2.44	0.79
36:RA:2100:G:H1	36:RA:2189:U:H3	1.28	0.79
36:YA:2701:C:H3'	36:YA:2702:U:H5''	1.62	0.79
11:QK:43:SER:HB2	11:QK:68:ALA:HA	1.65	0.78
30:R4:38:LYS:HE2	41:RG:112:PRO:HG3	1.65	0.78
25:XY:54:U:H5''	56:YZ:182:LYS:HE2	1.64	0.78
38:RD:182:LEU:H	38:RD:272:ALA:HB3	1.49	0.78
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.19	0.78
11:XK:42:TRP:CZ3	11:XK:42:TRP:CE2	2.71	0.78
11:XK:42:TRP:CE3	11:XK:42:TRP:CH2	2.55	0.78
11:XK:42:TRP:CZ3	11:XK:42:TRP:HH2	1.48	0.78
42:YH:106:THR:HG22	42:YH:112:PRO:HB3	1.66	0.78
13:QM:3:ARG:HD3	13:QM:9:ILE:HD13	1.66	0.77
6:XF:19:LEU:CD1	6:XF:59:TYR:CE1	2.67	0.77
1:XA:150:C:H42	1:XA:171:A:H62	1.29	0.77
53:YW:88:ARG:HB3	53:YW:92:ARG:HB2	1.65	0.77
7:XG:77:SER:HB3	23:XW:32:A:H2	1.49	0.77
23:XW:8:U:OP1	23:XW:13:C:H5	1.68	0.77
27:Y1:51:VAL:HG21	27:Y1:74:VAL:HG21	1.67	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:2701:C:H3'	36:RA:2702:U:H5''	1.66	0.77
4:QD:20:TYR:CE2	4:QD:26:CYS:SG	2.77	0.76
11:QK:43:SER:OG	11:QK:67:ASP:HB3	1.85	0.76
32:R6:12:GLU:HA	32:R6:23:THR:HA	1.67	0.76
32:R6:12:GLU:HB3	32:R6:23:THR:HG22	1.68	0.76
45:RO:64:ARG:HH12	50:RT:70:VAL:HG21	1.50	0.76
56:RZ:74:VAL:HG23	56:RZ:86:VAL:HG22	1.68	0.76
2:XB:168:THR:HB	2:XB:192:SER:HB3	1.67	0.76
36:RA:855:G:H1	36:RA:922:U:H3	1.34	0.76
23:QW:19:G:H22	23:QW:56:C:H42	1.32	0.75
46:RP:126:VAL:HG12	46:RP:145:PRO:HG2	1.69	0.75
28:Y2:15:LYS:H	28:Y2:67:LYS:HZ1	1.31	0.75
47:RQ:108:GLY:HA3	56:RZ:116:VAL:HG21	1.69	0.75
23:XW:33:U:O2'	23:XW:35:C:C5	2.40	0.75
36:RA:1652:A:OP1	48:RR:8:ARG:NH1	2.20	0.75
38:RD:33:LEU:HD21	38:RD:102:LYS:HD2	1.68	0.75
47:RQ:81:VAL:O	47:RQ:82:ARG:NE	2.19	0.75
2:XB:118:LEU:HB3	2:XB:142:LEU:HD12	1.69	0.75
23:QW:37:A:N6	23:QW:39:G:N7	2.34	0.75
34:Y8:62:LEU:HD13	36:YA:242:G:H5''	1.69	0.75
31:R5:4:HIS:HE1	36:RA:2577:A:H4'	1.52	0.75
8:XH:138:TRP:CZ3	8:XH:138:TRP:CD2	2.69	0.75
25:XY:75:C:O3'	36:YA:2573:C:N4	2.20	0.75
36:YA:598:G:H4'	46:YP:9:ASN:ND2	2.02	0.75
39:YE:9:VAL:HB	39:YE:25:VAL:HG13	1.69	0.75
37:RB:111:U:H2'	37:RB:112:G:H8	1.51	0.74
56:RZ:44:PHE:HE1	56:RZ:86:VAL:HG21	1.50	0.74
15:QO:33:THR:HG22	15:QO:63:ARG:HH11	1.51	0.74
4:XD:18:LYS:NZ	4:XD:31:CYS:SG	2.59	0.74
36:RA:140:A:H8	36:RA:1408:C:HO2'	1.36	0.74
33:Y7:5:TRP:NE1	36:YA:464:U:C4'	2.51	0.74
42:YH:9:ILE:HD12	42:YH:49:VAL:HG11	1.69	0.74
1:XA:1178:G:OP2	9:XI:97:LYS:NZ	2.20	0.74
36:RA:2438:U:O3'	36:RA:2439:A:H3'	1.88	0.74
6:XF:9:VAL:HB	6:XF:87:ARG:HB2	1.68	0.74
8:QH:114:THR:HG22	8:QH:130:GLY:O	1.87	0.74
1:XA:448:A:OP2	1:XA:485:G:N2	2.20	0.74
1:QA:1502:A:H2	1:QA:1505:G:H1	1.34	0.74
1:XA:277:C:H5''	17:XQ:68:ARG:HH21	1.53	0.74
1:XA:692:U:OP1	11:XK:124:LYS:NZ	2.20	0.74
36:YA:996:A:H4'	51:YU:92:ARG:HD3	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:559:A:OP1	5:QE:126:ARG:NH2	2.20	0.73
1:QA:1320:C:H42	19:QS:36:ARG:HG3	1.53	0.73
25:QY:53:G:O2'	47:RQ:51:ARG:NH2	2.20	0.73
32:R6:15:GLU:HG2	32:R6:16:CYS:H	1.53	0.73
33:Y7:5:TRP:NE1	36:YA:464:U:H5'	2.03	0.73
36:RA:507:A:H5''	36:RA:508:G:H5'	1.69	0.73
7:XG:113:GLU:HB2	7:XG:119:ARG:HG2	1.69	0.73
36:RA:1542:G:O6	36:RA:1543:A:N6	2.21	0.73
31:R5:4:HIS:CE1	36:RA:2577:A:O4'	2.42	0.73
31:R5:4:HIS:HB3	31:R5:5:PRO:HD3	1.70	0.73
31:Y5:46:CYS:HB3	31:Y5:50:GLY:HA3	1.70	0.73
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.06	0.73
31:R5:4:HIS:CE1	36:RA:2577:A:C4'	2.71	0.73
36:YA:2287:A:H62	36:YA:2344:U:H3	1.35	0.73
36:YA:587:C:N3	46:YP:33:ARG:NH1	2.37	0.73
39:YE:31:CYS:HB3	39:YE:49:LEU:HB3	1.70	0.73
43:YI:92:VAL:HG13	43:YI:120:ILE:HG13	1.71	0.73
1:QA:1238:A:N7	1:QA:1301:U:O4	2.21	0.73
31:Y5:4:HIS:O	36:YA:2056:G:N2	2.21	0.73
36:RA:2729:G:H1'	39:RE:187:ALA:HB2	1.70	0.73
47:RQ:56:ARG:HH21	47:RQ:59:ARG:HH11	1.37	0.73
55:YY:38:ILE:HG22	55:YY:66:PRO:HA	1.69	0.73
8:QH:129:VAL:HG23	8:QH:130:GLY:H	1.53	0.72
36:RA:2135:A:H62	36:RA:2156:G:N2	1.88	0.72
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.34	0.72
8:XH:138:TRP:CD1	8:XH:138:TRP:CB	2.67	0.72
13:QM:105:THR:HG22	13:QM:106:ASN:H	1.54	0.72
36:YA:307:G:H21	36:YA:330:A:H62	1.34	0.72
55:RY:87:LYS:HD2	55:RY:92:ASN:HB3	1.72	0.72
7:XG:79:ARG:NH2	23:XW:34:G:O6	2.22	0.72
40:YF:143:ALA:HB1	40:YF:148:LEU:HB2	1.72	0.72
11:QK:43:SER:HB2	11:QK:68:ALA:N	2.05	0.72
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.71	0.72
1:XA:1007:C:H42	1:XA:1022:G:H22	1.36	0.72
34:Y8:46:ARG:NH2	36:YA:631:A:OP2	2.21	0.72
36:RA:993:G:N3	52:RV:89:GLN:NE2	2.32	0.72
45:RO:14:THR:HG21	45:RO:86:ILE:HD12	1.71	0.72
4:XD:162:LEU:O	4:XD:166:LYS:HG3	1.89	0.72
45:RO:3:GLN:HB2	45:RO:4:PRO:CD	2.20	0.72
1:XA:688:G:H5'	11:XK:46:GLY:HA3	1.70	0.72
36:YA:2680:C:H5'	39:YE:189:PRO:HA	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:64:LEU:HD13	4:XD:198:VAL:HG21	1.71	0.71
11:XK:32:ILE:HB	11:XK:41:THR:HG22	1.72	0.71
27:Y1:54:ALA:HB3	27:Y1:80:LEU:HD22	1.72	0.71
37:YB:9:G:OP1	49:YS:15:ARG:NH1	2.23	0.71
31:R5:4:HIS:NE2	36:RA:2577:A:C1'	2.53	0.71
4:QD:18:LYS:HE2	4:QD:26:CYS:SG	2.29	0.71
55:RY:76:CYS:SG	55:RY:77:PRO:HD2	2.30	0.71
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.55	0.71
47:YQ:81:VAL:O	47:YQ:82:ARG:NE	2.22	0.71
13:XM:105:THR:HG22	13:XM:106:ASN:H	1.54	0.71
1:QA:689:C:H3'	1:QA:690:G:H21	1.56	0.71
36:RA:1794:U:H3	36:RA:1825:A:H61	0.76	0.71
1:QA:1204:A:OP1	14:QN:3:ARG:NH2	2.21	0.71
19:QS:49:ILE:HG22	19:QS:62:ILE:HD11	1.72	0.71
36:YA:1021:A:H8	36:YA:1022:G:H5''	1.55	0.71
3:QC:22:TRP:HZ3	3:QC:24:ALA:HB2	1.56	0.71
36:YA:574:C:N3	39:YE:145:LYS:NZ	2.39	0.71
36:YA:1359:A:H62	36:YA:1372:U:H3	1.36	0.70
33:R7:9:ARG:NE	36:RA:1310:G:OP2	2.24	0.70
47:RQ:135:ASP:OD2	56:RZ:81:ARG:NH1	2.24	0.70
1:XA:1422:G:H5''	45:YO:48:PRO:HB3	1.73	0.70
6:XF:30:LEU:HD23	6:XF:75:LEU:HD11	1.74	0.70
11:QK:42:TRP:HZ3	11:QK:44:SER:HB3	1.49	0.70
43:RI:60:GLU:HG3	43:RI:61:ARG:HE	1.56	0.70
53:RW:29:LEU:HD22	53:RW:69:LEU:HD11	1.74	0.70
41:YG:63:ILE:HG22	41:YG:143:GLU:HB2	1.73	0.70
42:YH:153:LYS:HB3	42:YH:161:GLY:HA2	1.72	0.70
1:QA:346:G:H1'	1:QA:347:G:H5'	1.73	0.70
19:QS:33:THR:HG22	19:QS:49:ILE:CD1	2.19	0.70
25:XY:55:U:H2'	56:YZ:182:LYS:HD3	1.71	0.70
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.55	0.70
1:QA:673:G:H2'	1:QA:674:G:C8	2.27	0.70
36:RA:270(I):G:H1	36:RA:270(Q):C:H42	1.40	0.70
38:RD:33:LEU:HD11	38:RD:102:LYS:HB2	1.72	0.70
42:YH:97:ARG:NH2	42:YH:104:GLU:OE1	2.25	0.70
1:QA:111:G:O6	1:QA:330:C:N4	2.25	0.70
36:RA:2849:U:OP1	50:RT:95:ARG:NH1	2.23	0.70
50:RT:36:GLU:HG3	50:RT:41:ARG:HD3	1.74	0.70
38:RD:248:SER:HB2	38:RD:249:PRO:HD2	1.73	0.70
19:XS:39:THR:HG22	19:XS:40:ILE:H	1.57	0.70
36:YA:1332:G:H21	36:YA:1610:A:H8	1.39	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:1899:G:H21	36:YA:1902:C:H41	1.40	0.70
11:QK:42:TRP:HZ3	11:QK:44:SER:CB	2.04	0.70
11:QK:87:THR:HA	11:QK:91:ARG:HD2	1.73	0.70
25:QY:1:G:H1	25:QY:72:C:H42	1.40	0.70
1:QA:1320:C:N4	19:QS:36:ARG:HG3	2.06	0.70
1:XA:406:G:H5'	4:XD:5:ILE:HD11	1.72	0.70
34:Y8:30:ARG:HH21	46:YP:62:LEU:HD12	1.57	0.70
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.25	0.69
34:R8:46:ARG:NH2	36:RA:631:A:OP2	2.25	0.69
1:XA:738:C:H5''	6:XF:69:GLU:HB2	1.72	0.69
2:XB:21:ARG:HG2	2:XB:39:ILE:HA	1.74	0.69
36:YA:827:U:O2'	36:YA:2068:U:N3	2.24	0.69
56:YZ:5:LEU:H	56:YZ:59:LEU:HA	1.57	0.69
1:QA:1130:A:O2'	9:QI:3:GLN:NE2	2.25	0.69
2:XB:24:TRP:HB2	2:XB:40:HIS:CE1	2.26	0.69
36:YA:1045:A:O2'	36:YA:1046:A:OP2	2.09	0.69
53:YW:86:LEU:HD22	53:YW:96:ILE:HD11	1.74	0.69
32:R6:23:THR:HG21	36:RA:2419:U:H4'	1.74	0.69
36:RA:2135:A:H62	36:RA:2156:G:H21	1.40	0.69
44:YN:42:TRP:CE3	44:YN:42:TRP:CH2	2.74	0.69
55:YY:76:CYS:HB3	55:YY:77:PRO:HD2	1.74	0.69
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.72	0.69
36:RA:642:G:N2	36:RA:645:C:OP2	2.24	0.69
46:RP:65:ARG:O	46:RP:68:GLN:NE2	2.24	0.69
54:RX:57:LEU:HD21	54:RX:78:LYS:HB2	1.75	0.69
50:YT:20:PRO:HD2	50:YT:86:ILE:HG23	1.73	0.69
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.26	0.69
10:QJ:3:LYS:N	10:QJ:74:ILE:O	2.25	0.69
1:XA:346:G:H1'	1:XA:347:G:H5'	1.74	0.69
36:YA:2788:C:O2'	36:YA:2809:A:N3	2.25	0.69
11:QK:42:TRP:CZ3	11:QK:44:SER:CB	2.73	0.69
37:RB:9:G:OP1	49:RS:15:ARG:NH1	2.25	0.69
27:Y1:83:GLU:HG2	27:Y1:85:LEU:H	1.57	0.69
40:YF:113:ALA:HB2	40:YF:183:VAL:HG23	1.75	0.69
43:YI:133:HIS:CG	43:YI:134:PRO:HD3	2.27	0.69
1:QA:522:C:H41	12:QL:53:ARG:HH22	1.41	0.69
1:QA:713:G:H2'	1:QA:714:G:C8	2.27	0.69
1:XA:1014:A:H2'	1:XA:1015:A:C8	2.28	0.69
36:YA:1689:A:H62	36:YA:1698:A:H2	1.40	0.69
9:QI:112:LYS:HA	9:QI:119:ALA:HB2	1.75	0.69
42:RH:33:LEU:HD11	42:RH:136:ILE:HG12	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:674:G:H2'	1:XA:675:A:H8	1.58	0.69
20:XT:100:ILE:HG22	20:XT:102:GLY:H	1.56	0.69
36:YA:2789:C:H4'	36:YA:2789:C:OP1	1.93	0.69
42:YH:6:ARG:HH22	42:YH:62:LYS:HG2	1.57	0.69
56:YZ:91:LEU:HD12	56:YZ:130:PRO:HG3	1.75	0.69
1:XA:745:C:H2'	1:XA:746:A:C8	2.27	0.68
2:XB:54:THR:HG22	2:XB:199:TYR:HB3	1.74	0.68
11:QK:43:SER:HB3	11:QK:68:ALA:HB2	1.73	0.68
36:RA:1791:A:H5'	38:RD:206:LEU:HD12	1.75	0.68
7:XG:28:ASN:OD1	7:XG:36:LYS:NZ	2.25	0.68
39:YE:52:LEU:HB2	39:YE:75:VAL:HG22	1.74	0.68
41:YG:161:THR:HG22	41:YG:163:ALA:H	1.56	0.68
61:QY:101:AMP:H8	36:RA:2583:G:H21	1.42	0.68
1:XA:269:C:H2'	1:XA:270:A:H8	1.57	0.68
11:XK:52:GLY:H	11:XK:55:LYS:HE2	1.58	0.68
18:XR:86:VAL:HG12	18:XR:87:ARG:HG2	1.75	0.68
1:QA:951:G:OP2	13:QM:102:ARG:NH1	2.27	0.68
11:QK:86:GLY:O	11:QK:91:ARG:NH1	2.26	0.68
31:R5:4:HIS:CE1	36:RA:2577:A:C1'	2.76	0.68
45:RO:34:THR:HG22	45:RO:35:VAL:H	1.58	0.68
10:XJ:48:THR:HG22	10:XJ:62:HIS:HB3	1.75	0.68
36:YA:2168:G:N2	36:YA:2170:A:OP2	2.26	0.68
36:YA:2438:U:O3'	36:YA:2439:A:H3'	1.93	0.68
20:QT:57:ARG:HH21	20:QT:102:GLY:HA3	1.58	0.68
31:R5:4:HIS:CE1	36:RA:2577:A:H4'	2.28	0.68
36:RA:1824:G:C2'	38:RD:220:HIS:HE1	2.02	0.68
1:QA:1422:G:H5''	45:RO:48:PRO:HB3	1.74	0.68
2:XB:129:GLU:OE2	2:XB:130:ARG:NH1	2.27	0.68
6:XF:37:VAL:HA	6:XF:65:VAL:HG12	1.74	0.68
20:XT:99:LEU:HG	20:XT:100:ILE:HG12	1.76	0.68
36:YA:993:G:OP1	51:YU:50:ARG:NH2	2.27	0.68
36:YA:1464:C:HO2'	36:YA:1528:A:H8	1.41	0.68
36:YA:1816:G:O6	38:YD:35:LYS:NZ	2.27	0.68
47:YQ:135:ASP:OD2	56:YZ:49:ARG:NH1	2.22	0.68
34:R8:32:LEU:HD13	36:RA:2391:G:OP2	1.93	0.68
1:XA:911:U:OP2	12:XL:97:ARG:NH2	2.26	0.68
30:Y4:26:SER:HB2	41:YG:105:LYS:HD3	1.76	0.68
52:YV:49:THR:OG1	52:YV:50:PRO:HD3	1.94	0.68
1:QA:714:G:H2'	1:QA:715:A:C8	2.29	0.68
42:RH:46:GLU:HG2	42:RH:47:GLU:H	1.58	0.68
36:YA:1728:G:H8	36:YA:1732:A:H62	1.41	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:738:C:H5''	6:QF:69:GLU:HB2	1.74	0.68
3:QC:59:ARG:HH12	3:QC:97:LYS:HG3	1.59	0.68
36:RA:2304:G:H22	36:RA:2312:U:H3	1.41	0.68
41:RG:59:GLU:OE2	41:RG:153:ARG:NH2	2.27	0.68
19:QS:36:ARG:NH2	19:QS:75:ALA:O	2.27	0.67
25:QY:58:A:H8	56:RZ:182:LYS:HD2	1.59	0.67
46:YP:91:PHE:HE2	46:YP:95:VAL:HG22	1.58	0.67
56:YZ:163:LEU:HD21	56:YZ:165:VAL:HG22	1.74	0.67
31:R5:4:HIS:HE1	36:RA:2577:A:C4'	2.07	0.67
36:RA:1353:A:H2'	36:RA:1354:A:C8	2.30	0.67
36:YA:2591:C:H2'	36:YA:2592:G:C8	2.30	0.67
50:YT:19:LEU:HD22	50:YT:86:ILE:HG22	1.77	0.67
21:QU:8:THR:HG23	21:QU:11:GLY:H	1.58	0.67
27:R1:12:PRO:HB3	27:R1:43:TYR:HD2	1.59	0.67
36:RA:1113:U:H5'	42:RH:2:SER:HA	1.76	0.67
36:RA:1192:G:OP1	46:RP:18:ARG:NH2	2.27	0.67
53:RW:86:LEU:HD22	53:RW:96:ILE:HD11	1.74	0.67
12:XL:49:ASN:ND2	12:XL:92:ASP:OD2	2.26	0.67
30:R4:40:HIS:O	30:R4:47:GLN:NE2	2.27	0.67
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	1.76	0.67
1:QA:606:G:H22	1:QA:631:G:H5'	1.58	0.67
8:QH:11:THR:HG22	8:QH:14:ARG:HH12	1.59	0.67
36:RA:1348:G:H2'	36:RA:1349:A:H5''	1.76	0.67
1:XA:745:C:H2'	1:XA:746:A:H8	1.60	0.67
39:YE:54:GLN:HG3	39:YE:55:ASN:H	1.58	0.67
7:QG:152:ALA:O	7:QG:155:ARG:NH2	2.28	0.67
8:QH:33:GLU:HG2	8:QH:59:LEU:HD21	1.76	0.67
50:RT:5:ALA:HA	50:RT:8:LYS:HD3	1.77	0.67
23:XW:8:U:O2	23:XW:8:U:H2'	1.95	0.67
1:QA:191(D):U:H2'	1:QA:191(E):G:H8	1.60	0.67
1:QA:501:C:H2'	1:QA:502:G:H8	1.59	0.67
2:QB:168:THR:HB	2:QB:192:SER:HB2	1.77	0.67
8:XH:17:THR:O	8:XH:78:GLN:NE2	2.28	0.67
9:XI:17:VAL:HG12	9:XI:63:ILE:HG12	1.76	0.67
19:XS:36:ARG:CG	19:XS:72:GLY:HA2	2.24	0.67
22:XV:9:G:O2'	22:XV:10:G:N7	2.28	0.67
8:QH:17:THR:O	8:QH:78:GLN:NE2	2.28	0.67
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.60	0.67
36:RA:1802:A:H2'	36:RA:1803:A:C8	2.30	0.67
1:XA:1316:G:N1	1:XA:1319:A:OP2	2.21	0.67
1:QA:56:U:H2'	1:QA:57:G:H8	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:406:G:H5'	4:QD:5:ILE:HD11	1.76	0.67
2:XB:82:ARG:NH1	2:XB:86:GLU:OE2	2.28	0.67
55:YY:3:VAL:HG11	55:YY:32:PRO:HB2	1.77	0.67
55:YY:76:CYS:O	55:YY:78:ALA:N	2.27	0.67
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.77	0.66
13:QM:7:VAL:HB	41:RG:115:ARG:HE	1.60	0.66
36:RA:1113:U:H2'	36:RA:1114:G:H8	1.59	0.66
36:RA:2117:A:N7	36:RA:2172:U:N3	2.40	0.66
36:RA:2577:A:H5''	36:RA:2578:G:H5'	1.77	0.66
1:XA:880:C:OP1	12:XL:12:ARG:NH1	2.28	0.66
40:YF:198:ALA:HA	40:YF:201:VAL:HG12	1.77	0.66
45:YO:87:ILE:HD12	45:YO:91:LEU:HA	1.77	0.66
1:XA:1312:G:H5'	19:XS:5:LEU:HD11	1.76	0.66
6:XF:6:VAL:HG22	6:XF:90:VAL:HG22	1.77	0.66
10:XJ:45:ARG:HB3	10:XJ:65:LEU:HB3	1.77	0.66
19:XS:42:PRO:HD2	19:XS:44:MET:HG2	1.77	0.66
1:QA:593:G:H1	1:QA:646:U:H3	1.43	0.66
36:RA:1007:C:H5''	44:RN:35:ARG:HH12	1.60	0.66
16:XP:45:THR:HG23	16:XP:46:PRO:HD2	1.77	0.66
36:YA:271(B):G:O2'	36:YA:271(C):U:OP2	2.14	0.66
36:YA:1859:A:N6	36:YA:1883:G:O2'	2.29	0.66
56:YZ:31:ARG:HH22	56:YZ:95:PRO:HG3	1.61	0.66
56:YZ:69:THR:HG22	56:YZ:90:VAL:HG12	1.75	0.66
1:QA:811:C:O2'	1:QA:901:A:N1	2.28	0.66
3:QC:22:TRP:CZ3	3:QC:24:ALA:HB3	2.26	0.66
4:QD:63:LYS:HD2	4:QD:198:VAL:HG12	1.78	0.66
36:RA:2086:U:H2'	36:RA:2087:G:C8	2.30	0.66
38:RD:35:LYS:HE2	38:RD:63:ARG:HG3	1.78	0.66
36:YA:2635:C:H5''	39:YE:78:LEU:HA	1.77	0.66
2:QB:74:LYS:NZ	2:QB:206:ASP:OD1	2.25	0.66
13:XM:120:LYS:HG2	13:XM:121:LYS:H	1.59	0.66
36:RA:1992:G:H21	36:RA:1992:G:P	2.17	0.66
36:YA:1348:G:H2'	36:YA:1349:A:H5''	1.78	0.66
53:YW:29:LEU:HD22	53:YW:69:LEU:HD11	1.77	0.66
10:QJ:61:GLU:OE1	14:QN:58:LYS:NZ	2.29	0.66
36:RA:530:G:O2'	36:RA:532:A:N7	2.28	0.66
55:YY:88:LYS:HG3	55:YY:89:PHE:H	1.60	0.66
1:QA:1301:U:O2	1:QA:1301:U:H2'	1.96	0.66
4:QD:20:TYR:HD2	4:QD:26:CYS:SG	2.14	0.66
36:RA:2135:A:N6	36:RA:2156:G:H21	1.93	0.66
55:RY:39:VAL:HG12	55:RY:40:GLU:H	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:223:ILE:HG23	2:XB:229:VAL:HG22	1.78	0.66
36:YA:2267:A:H5''	36:YA:2268:A:H5'	1.78	0.66
36:RA:1514:U:H5''	36:RA:1514:U:C6	2.30	0.65
36:RA:2788:C:O2'	36:RA:2809:A:N3	2.29	0.65
19:XS:3:ARG:NH1	19:XS:8:GLY:O	2.27	0.65
36:YA:2308:G:H22	36:YA:2311:A:H2	1.44	0.65
36:RA:674:G:H1'	40:RF:74:ARG:HH11	1.60	0.65
46:RP:91:PHE:HE2	46:RP:95:VAL:HG22	1.61	0.65
52:RV:24:LYS:HA	52:RV:92:THR:HG23	1.78	0.65
36:YA:2832:U:H4'	36:YA:2833:G:H5''	1.76	0.65
37:YB:44:G:H1'	37:YB:47:C:H42	1.61	0.65
42:YH:124:GLU:HB3	42:YH:132:ARG:HB3	1.78	0.65
1:QA:1304:G:H8	1:QA:1304:G:O5'	1.79	0.65
11:QK:44:SER:O	11:QK:64:ALA:HB1	1.97	0.65
36:RA:598:G:H5'	46:RP:11:GLY:HA3	1.77	0.65
36:RA:958:U:OP2	47:RQ:14:ARG:NH1	2.29	0.65
55:RY:14:LEU:HB2	55:RY:75:ILE:HD11	1.78	0.65
4:QD:162:LEU:HG	4:QD:181:MET:HG2	1.79	0.65
36:RA:2876:G:H5'	50:RT:2:ASN:HB3	1.78	0.65
1:QA:677:U:H3	1:QA:713:G:H22	1.43	0.65
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.61	0.65
25:QY:4:G:H1	25:QY:69:C:H42	1.42	0.65
36:RA:1754:C:OP1	50:RT:96:ARG:NH1	2.29	0.65
36:RA:2287:A:H62	36:RA:2344:U:H3	1.45	0.65
1:XA:673:G:H2'	1:XA:674:G:C8	2.31	0.65
11:XK:58:PRO:HB2	11:XK:93:GLN:HG3	1.79	0.65
1:QA:227:G:N2	16:QP:62:VAL:O	2.23	0.65
1:QA:1106:G:H5''	3:QC:172:ARG:HG2	1.79	0.65
19:QS:9:VAL:C	19:QS:11:VAL:H	2.00	0.65
36:RA:1434:A:H61	36:RA:1558:A:H62	1.42	0.65
36:RA:1598:C:H5'	54:RX:37:THR:HG23	1.79	0.65
36:YA:2068:U:H3	36:YA:2430:A:H2	1.43	0.65
36:YA:2495:G:H5''	47:YQ:81:VAL:HG12	1.78	0.65
43:YI:72:LEU:HD11	43:YI:107:VAL:HG11	1.78	0.65
47:YQ:65:PHE:HB2	47:YQ:105:GLU:HB3	1.77	0.65
25:XY:18:G:N2	25:XY:57:G:N7	2.44	0.65
40:YF:133:ASN:H	40:YF:162:LEU:HD23	1.62	0.65
56:YZ:114:GLY:HA3	56:YZ:177:PRO:HG3	1.77	0.65
1:QA:59:A:H3'	1:QA:331:G:H22	1.62	0.65
36:RA:1332:G:H21	36:RA:1610:A:H8	1.45	0.65
39:RE:8:LYS:HA	39:RE:26:ILE:HG22	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RN:47:ALA:HB2	44:RN:112:LEU:HD11	1.76	0.65
26:Y0:7:LEU:HD21	47:YQ:81:VAL:H	1.60	0.65
51:YU:97:ASP:OD1	51:YU:101:ARG:NH1	2.30	0.65
36:RA:2853:C:H2'	36:RA:2854:G:H8	1.59	0.65
51:RU:92:ARG:HD3	52:RV:11:GLN:HB2	1.78	0.65
11:XK:42:TRP:CZ3	11:XK:42:TRP:CD2	2.74	0.65
20:XT:89:ARG:NH2	20:XT:104:LEU:HD21	2.12	0.65
1:QA:687:A:N6	1:QA:703:G:N2	2.45	0.65
1:XA:973:G:H1'	10:XJ:55:LYS:HE3	1.79	0.65
13:XM:15:VAL:HB	13:XM:45:VAL:HB	1.79	0.65
1:QA:547:A:OP2	4:QD:2:GLY:N	2.29	0.64
5:QE:81:GLU:HG2	5:QE:90:VAL:HG12	1.80	0.64
4:XD:166:LYS:HA	4:XD:178:VAL:HG21	1.78	0.64
29:Y3:2:PRO:HA	29:Y3:39:ASP:HB2	1.79	0.64
39:RE:176:ILE:HB	39:RE:181:LEU:HB2	1.79	0.64
56:RZ:69:THR:HG22	56:RZ:90:VAL:HG12	1.79	0.64
1:XA:664:G:H22	1:XA:741:G:H1	1.44	0.64
3:QC:22:TRP:CZ3	3:QC:24:ALA:CB	2.71	0.64
2:QB:22:LYS:O	2:QB:22:LYS:HD2	1.97	0.64
36:RA:2816:C:O3'	48:RR:99:LYS:NZ	2.31	0.64
42:RH:106:THR:HG22	42:RH:112:PRO:HB3	1.78	0.64
42:RH:126:PRO:HB2	42:RH:128:PRO:HD2	1.80	0.64
54:RX:57:LEU:CD2	54:RX:78:LYS:HB2	2.27	0.64
55:YY:29:GLU:HB3	55:YY:38:ILE:HG12	1.79	0.64
1:QA:8:A:N6	4:QD:205:GLU:O	2.29	0.64
36:RA:1565:C:H5''	38:RD:18:VAL:HG21	1.80	0.64
34:Y8:29:LYS:HG2	34:Y8:30:ARG:H	1.63	0.64
42:YH:51:ARG:NH2	42:YH:53:GLU:OE2	2.31	0.64
1:QA:953:G:H5'	1:QA:965:A:H61	1.63	0.64
36:RA:75:G:H22	36:RA:111:A:H2	1.46	0.64
36:RA:1078:U:O2'	36:RA:1079:C:OP2	2.16	0.64
44:RN:96:GLU:HB2	44:RN:122:VAL:HG12	1.80	0.64
8:XH:12:ARG:HD2	8:XH:26:VAL:HG12	1.79	0.64
36:YA:2131:G:H4'	36:YA:2132:U:H4'	1.79	0.64
1:QA:582:U:OP1	15:QO:68:ARG:NH2	2.27	0.64
3:QC:124:ILE:HD12	3:QC:130:VAL:HG22	1.78	0.64
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.78	0.64
30:R4:31:ILE:HD12	41:RG:142:PRO:HB2	1.80	0.64
36:RA:2502:G:H5''	36:RA:2503:A:H5''	1.80	0.64
1:XA:714:G:H2'	1:XA:715:A:C8	2.33	0.64
38:YD:142:VAL:HG23	38:YD:193:VAL:HA	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:38:ILE:HD11	10:QJ:71:LEU:HD23	1.78	0.64
19:QS:36:ARG:NH2	19:QS:75:ALA:CB	2.60	0.64
36:RA:1824:G:C2'	38:RD:220:HIS:CE1	2.78	0.64
53:RW:69:LEU:HD13	53:RW:107:LEU:HD13	1.79	0.64
36:YA:2882:A:OP1	48:YR:96:ARG:NH1	2.30	0.64
53:YW:68:ARG:NH2	53:YW:109:GLU:OE1	2.30	0.64
3:QC:14:ILE:HG22	3:QC:15:THR:HG23	1.79	0.64
36:RA:2630:G:H2'	36:RA:2631:G:C8	2.33	0.64
36:RA:2659:G:OP1	42:RH:158:HIS:NE2	2.31	0.64
7:XG:77:SER:CB	23:XW:32:A:H2	2.11	0.64
1:QA:346:G:OP1	50:RT:41:ARG:NH2	2.28	0.64
1:QA:1291:G:H4'	9:QI:39:GLY:HA3	1.79	0.64
34:R8:29:LYS:HD2	34:R8:44:LYS:HB2	1.79	0.64
45:RO:3:GLN:HB2	45:RO:4:PRO:HD3	1.79	0.64
7:XG:51:GLN:NE2	7:XG:56:GLN:O	2.31	0.64
36:YA:1138:G:H21	44:YN:106:MET:HE3	1.63	0.64
42:YH:126:PRO:HB3	42:YH:130:ARG:O	1.97	0.64
1:XA:713:G:H2'	1:XA:714:G:C8	2.32	0.63
1:XA:824:C:O2'	8:XH:1:MET:N	2.31	0.63
36:YA:1405:U:H2'	36:YA:1406:U:H6	1.64	0.63
40:YF:185:ASP:OD1	40:YF:188:ARG:NH1	2.30	0.63
2:QB:88:ALA:HA	2:QB:223:ILE:HD11	1.81	0.63
35:R9:10:ILE:HD13	36:RA:2477:C:H41	1.63	0.63
47:YQ:12:GLN:HG2	47:YQ:73:PRO:HD2	1.80	0.63
18:QR:53:ARG:HA	18:QR:56:THR:HG22	1.80	0.63
55:RY:95:LYS:HB2	55:RY:100:ALA:HA	1.79	0.63
32:Y6:15:GLU:OE1	32:Y6:20:ASN:ND2	2.31	0.63
33:Y7:5:TRP:CD1	36:YA:464:U:H4'	2.29	0.63
33:Y7:8:ASN:HB3	33:Y7:11:LYS:HB3	1.80	0.63
36:YA:363:G:H2'	36:YA:363(A):A:H8	1.63	0.63
36:YA:587:C:OP2	46:YP:21:ARG:NH2	2.30	0.63
40:YF:178:PRO:HB3	40:YF:198:ALA:HB2	1.80	0.63
47:YQ:43:THR:HG22	47:YQ:94:VAL:HG12	1.81	0.63
1:QA:1147:C:HO2'	9:QI:5:TYR:HH	1.46	0.63
38:RD:35:LYS:HG3	38:RD:63:ARG:HA	1.79	0.63
1:XA:1250:A:N3	1:XA:1370:G:O2'	2.27	0.63
23:XW:30:G:O2'	23:XW:31:C:O2	2.17	0.63
1:QA:700:G:H4'	1:QA:704:A:H1'	1.81	0.63
36:RA:1403:C:H5''	36:RA:1471:A:H1'	1.79	0.63
36:RA:1496:A:H8	36:RA:1577:C:HO2'	1.46	0.63
26:Y0:27:GLU:HG3	26:Y0:68:GLU:HA	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:34:C:N4	36:YA:454:A:O2'	2.32	0.63
3:QC:22:TRP:CZ3	3:QC:24:ALA:HB2	2.33	0.63
28:R2:47:ASN:O	28:R2:48:HIS:ND1	2.32	0.63
36:RA:1026:U:H4'	36:RA:1027:A:OP1	1.99	0.63
46:RP:58:THR:O	46:RP:61:ARG:NH2	2.31	0.63
19:XS:36:ARG:CD	19:XS:72:GLY:CA	2.34	0.63
36:YA:221:A:N1	36:YA:265:A:O2'	2.32	0.63
56:YZ:112:ARG:HG3	56:YZ:113:ALA:H	1.63	0.63
36:RA:998:C:OP1	51:RU:93:LYS:NZ	2.32	0.63
36:RA:1796:U:H2'	36:RA:1797:C:C6	2.33	0.63
1:XA:67:C:H2'	1:XA:68:G:C8	2.34	0.63
32:Y6:33:LYS:HG2	32:Y6:34:LEU:H	1.64	0.63
1:QA:1129:C:O2	1:QA:1132:C:N4	2.29	0.63
12:QL:60:LEU:HD21	12:QL:64:TYR:HB2	1.79	0.63
23:XW:55:U:O5'	23:XW:55:U:H6	1.81	0.63
36:YA:819:A:OP2	36:YA:1187:G:N2	2.24	0.63
55:YY:51:VAL:HG22	55:YY:57:GLN:HA	1.79	0.63
8:QH:19:VAL:HG13	8:QH:21:LYS:HG3	1.81	0.63
34:R8:25:MET:HG3	46:RP:64:LYS:HB2	1.80	0.63
36:RA:1047:G:H1'	36:RA:1111:A:H61	1.64	0.63
36:RA:2630:G:H2'	36:RA:2631:G:H8	1.64	0.63
42:RH:46:GLU:OE1	42:RH:51:ARG:NH2	2.31	0.63
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.81	0.63
19:XS:36:ARG:HG2	19:XS:36:ARG:O	1.99	0.63
30:Y4:40:HIS:H	30:Y4:41:PRO:HD3	1.63	0.63
36:YA:1403:C:H5''	36:YA:1471:A:H1'	1.81	0.63
36:YA:2591:C:H2'	36:YA:2592:G:H8	1.64	0.63
2:XB:21:ARG:CZ	2:XB:37:ASN:O	2.46	0.62
45:YO:104:ARG:NH1	50:YT:36:GLU:OE2	2.32	0.62
36:RA:1796:U:H2'	36:RA:1797:C:H6	1.64	0.62
36:RA:1860:G:H1	36:RA:1882:C:H42	1.47	0.62
1:XA:501:C:H2'	1:XA:502:G:H8	1.65	0.62
19:XS:36:ARG:HH11	19:XS:75:ALA:HB3	1.65	0.62
47:YQ:24:GLY:HA3	47:YQ:102:VAL:HG12	1.81	0.62
1:QA:687:A:H62	1:QA:703:G:N2	1.98	0.62
3:QC:60:ALA:O	3:QC:63:ASN:ND2	2.33	0.62
14:QN:24:CYS:HB2	14:QN:27:CYS:O	2.00	0.62
14:QN:41:ARG:HG3	14:QN:42:ILE:H	1.64	0.62
36:RA:1155:A:H5''	51:RU:55:ARG:HH11	1.65	0.62
1:XA:17:U:H2'	1:XA:18:C:C6	2.34	0.62
2:XB:25:ASN:OD1	2:XB:26:PRO:CD	2.43	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:XW:20:G:H2'	23:XW:21:A:H4'	1.80	0.62
36:YA:796:C:H2'	36:YA:797:C:C6	2.34	0.62
36:YA:958:U:OP2	47:YQ:14:ARG:NH1	2.33	0.62
42:YH:2:SER:HA	42:YH:7:LEU:HD22	1.80	0.62
36:RA:1991:U:H2'	36:RA:1992:G:H5''	1.80	0.62
55:RY:95:LYS:HA	55:RY:101:LYS:HB3	1.80	0.62
1:XA:560:U:O2'	1:XA:561:U:OP2	2.17	0.62
1:XA:578:C:O2'	1:XA:728:A:N3	2.27	0.62
36:YA:83:G:N2	36:YA:103:A:OP2	2.31	0.62
39:YE:79:ARG:HD2	39:YE:197:ILE:HD11	1.80	0.62
9:QI:104:ARG:NH1	9:QI:105:ASP:O	2.31	0.62
46:RP:95:VAL:HB	46:RP:125:VAL:HG23	1.81	0.62
49:YS:15:ARG:HG3	49:YS:19:LYS:HE3	1.80	0.62
1:QA:56:U:H2'	1:QA:57:G:C8	2.35	0.62
1:QA:1023:G:H3'	1:QA:1024:G:H5''	1.81	0.62
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.80	0.62
1:XA:8:A:N6	4:XD:205:GLU:O	2.32	0.62
34:Y8:14:VAL:HG13	34:Y8:22:VAL:HG13	1.82	0.62
36:YA:1449:A:C4	36:YA:1529:A:H2	2.18	0.62
39:YE:131:ALA:O	39:YE:134:ILE:HG12	2.00	0.62
39:YE:201:THR:HG22	39:YE:203:LYS:H	1.65	0.62
45:YO:47:ILE:HG13	45:YO:48:PRO:HD2	1.80	0.62
1:QA:1318:A:O3'	19:QS:11:VAL:HG11	2.00	0.62
20:QT:53:LEU:HD22	20:QT:100:ILE:HG23	1.81	0.62
36:RA:807:U:OP2	46:RP:41:ARG:NH1	2.33	0.62
2:QB:178:ARG:HH22	8:QH:74:PRO:HB3	1.65	0.62
4:QD:64:LEU:HD13	4:QD:198:VAL:HG21	1.81	0.62
23:QW:20:G:H3'	23:QW:21:A:H4'	1.82	0.62
23:QW:62:C:H2'	23:QW:63:G:H8	1.64	0.62
36:RA:1203:G:H3'	36:RA:1204:A:H5''	1.82	0.62
36:RA:2701:C:H3'	36:RA:2702:U:C5'	2.29	0.62
51:RU:90:VAL:HA	52:RV:39:LEU:HD23	1.80	0.62
13:XM:37:THR:O	13:XM:55:ARG:NH1	2.33	0.62
36:YA:2849:U:OP1	50:YT:95:ARG:NH1	2.32	0.62
34:R8:7:HIS:CD2	46:RP:50:ARG:NH2	2.68	0.62
36:RA:2052:G:H4'	39:RE:143:ASN:O	2.00	0.62
49:RS:29:PHE:HB3	49:RS:36:TYR:HB2	1.82	0.62
3:XC:59:ARG:HH12	3:XC:97:LYS:HE3	1.63	0.62
10:XJ:61:GLU:OE1	14:XM:58:LYS:NZ	2.25	0.62
36:YA:1652:A:OP1	48:YR:8:ARG:NH1	2.33	0.62
39:YE:75:VAL:HG23	39:YE:76:ARG:HG3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:1666:G:H4'	45:RO:6:THR:HG23	1.81	0.62
1:XA:677:U:H3	1:XA:713:G:H22	1.48	0.62
36:YA:1405:U:H2'	36:YA:1406:U:C6	2.35	0.62
19:QS:10:PHE:HZ	19:QS:15:LEU:HD22	1.65	0.61
27:R1:7:ILE:HD13	27:R1:91:LYS:HZ2	1.64	0.61
33:R7:7:PRO:HB2	36:RA:1309:G:H4'	1.81	0.61
35:Y9:2:LYS:HG3	36:YA:2526:G:H21	1.64	0.61
36:YA:848:G:H2'	36:YA:849:A:C8	2.35	0.61
1:QA:501:C:H2'	1:QA:502:G:C8	2.35	0.61
13:QM:10:PRO:HB2	13:QM:18:ALA:HB1	1.80	0.61
1:XA:792:A:H4'	1:XA:793:U:O5'	2.00	0.61
36:YA:49:A:N7	36:YA:120:U:H5	1.97	0.61
39:YE:119:ARG:NH1	39:YE:159:HIS:O	2.33	0.61
10:QJ:34:VAL:HG23	10:QJ:74:ILE:HA	1.82	0.61
14:YN:43:CYS:O	14:YN:44:LEU:HG	2.00	0.61
36:YA:1359:A:N6	36:YA:1372:U:H3	1.97	0.61
42:YH:5:GLY:O	42:YH:8:PRO:HD2	1.99	0.61
1:XA:579:G:H5'	1:XA:728:A:H1'	1.80	0.61
33:Y7:5:TRP:HD1	36:YA:464:U:O4'	1.83	0.61
36:YA:2421:G:H5'	36:YA:2422:A:OP2	1.99	0.61
2:QB:54:THR:HG22	2:QB:199:TYR:HB3	1.81	0.61
50:RT:24:PRO:HA	50:RT:49:VAL:HG23	1.82	0.61
53:RW:25:ARG:NH2	53:RW:74:ALA:O	2.31	0.61
1:XA:973:G:H3'	1:XA:974:A:H5''	1.81	0.61
44:YN:42:TRP:CD2	44:YN:42:TRP:CH2	2.86	0.61
46:YP:59:LEU:HA	46:YP:61:ARG:HH21	1.66	0.61
55:YY:79:CYS:SG	55:YY:80:GLY:N	2.73	0.61
36:RA:969:U:H2'	36:RA:970:C:C6	2.35	0.61
36:RA:1005:C:O2'	44:RN:28:THR:HG21	2.01	0.61
36:RA:1454:U:H5'	48:RR:63:ARG:HH12	1.65	0.61
40:RF:198:ALA:HA	40:RF:201:VAL:HG22	1.83	0.61
4:XD:109:GLY:HA3	4:XD:165:MET:HG3	1.82	0.61
44:YN:35:ARG:NH2	44:YN:42:TRP:HZ2	1.94	0.61
14:QN:45:ARG:O	14:QN:49:HIS:ND1	2.28	0.61
34:R8:59:LYS:HE2	46:RP:50:ARG:HG3	1.81	0.61
1:XA:814:A:H2'	1:XA:816:A:H5''	1.82	0.61
1:XA:1060:C:H3'	3:XC:2:GLY:HA3	1.81	0.61
1:XA:1355:G:H2'	1:XA:1356:G:H8	1.65	0.61
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.82	0.61
36:YA:1021:A:H3'	36:YA:1022:G:H5''	1.82	0.61
36:YA:1155:A:H5''	51:YU:55:ARG:HH11	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:2118:U:H3	36:YA:2148:G:H4'	1.65	0.61
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.35	0.61
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	1.81	0.61
45:RO:87:ILE:HD12	45:RO:91:LEU:HA	1.83	0.61
28:Y2:15:LYS:H	28:Y2:67:LYS:NZ	1.98	0.61
36:YA:180:G:N2	36:YA:215:G:O6	2.34	0.61
36:YA:2392:A:H2	36:YA:2424:C:H42	1.47	0.61
1:QA:448:A:OP2	1:QA:485:G:N2	2.34	0.61
30:R4:22:ILE:HG13	30:R4:23:GLU:H	1.65	0.61
36:RA:2022:U:O2'	36:RA:2617:C:H5'	2.00	0.61
1:XA:269:C:H2'	1:XA:270:A:C8	2.36	0.61
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.82	0.61
23:XW:33:U:O2'	23:XW:35:C:C4	2.54	0.61
36:YA:2836:U:H2'	36:YA:2837:G:C8	2.35	0.61
1:QA:1348:U:H3	1:QA:1374:A:H2	1.48	0.61
19:QS:38:SER:HB2	19:QS:71:LEU:HD12	1.82	0.61
16:XP:82:GLN:HG2	16:XP:83:GLU:H	1.65	0.61
14:QN:40:CYS:SG	14:QN:41:ARG:N	2.74	0.60
37:RB:27:C:O5'	37:RB:27:C:H6	1.84	0.60
41:RG:11:TYR:HA	41:RG:15:VAL:HB	1.83	0.60
50:RT:50:ILE:HD11	50:RT:100:TYR:HA	1.83	0.60
1:XA:1305:G:O2'	1:XA:1332:A:N6	2.34	0.60
36:YA:827:U:O2'	36:YA:2068:U:C2	2.54	0.60
55:YY:50:ARG:HH12	55:YY:55:TYR:HD2	1.48	0.60
36:RA:2680:C:H5'	39:RE:189:PRO:HA	1.83	0.60
36:RA:2821:A:OP2	48:RR:3:HIS:HE1	1.84	0.60
1:XA:191(F):U:H2'	1:XA:191:G:H8	1.65	0.60
7:XG:15:ASP:OD2	7:XG:16:LEU:N	2.34	0.60
14:XN:21:TYR:OH	14:XN:23:ARG:NH2	2.33	0.60
36:YA:557:U:H2'	36:YA:558:G:H8	1.67	0.60
36:YA:2199:A:N1	36:YA:2226:C:N4	2.47	0.60
38:YD:148:GLU:HB2	38:YD:151:LYS:HD2	1.83	0.60
48:YR:2:ARG:HB3	48:YR:5:LYS:HD3	1.82	0.60
1:QA:116:A:H61	1:QA:313:A:H1'	1.64	0.60
36:RA:1434:A:H61	36:RA:1558:A:H61	1.48	0.60
41:RG:137:GLU:HG2	41:RG:152:LEU:HD11	1.84	0.60
1:XA:1060:C:O2'	10:XJ:56:HIS:ND1	2.33	0.60
1:XA:1436:U:OP1	20:XT:23:ARG:NH2	2.34	0.60
18:XR:23:LYS:HD2	18:XR:58:LEU:HD23	1.83	0.60
19:XS:40:ILE:HG22	19:XS:41:VAL:H	1.65	0.60
36:YA:127:A:H5''	36:YA:128:C:C6	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:2393:A:H5'	46:YP:62:LEU:HB3	1.83	0.60
46:YP:59:LEU:HA	46:YP:61:ARG:NH2	2.15	0.60
49:YS:59:LYS:HG2	49:YS:60:GLY:H	1.66	0.60
1:QA:414:A:OP2	1:QA:428:G:N2	2.32	0.60
1:QA:705:U:N3	1:QA:706:A:N7	2.49	0.60
1:QA:806:C:H2'	1:QA:807:A:H8	1.65	0.60
10:QJ:12:ASP:HB3	10:QJ:15:THR:HG22	1.82	0.60
11:QK:42:TRP:HE3	11:QK:44:SER:HB3	1.65	0.60
36:RA:38:A:H2'	36:RA:39:C:C6	2.37	0.60
36:RA:2495:G:H5''	47:RQ:81:VAL:HG12	1.84	0.60
1:XA:806:C:H2'	1:XA:807:A:H8	1.66	0.60
32:Y6:30:THR:CG2	32:Y6:31:PRO:HD2	2.20	0.60
36:YA:1028:A:H2'	36:YA:1029:A:C8	2.36	0.60
36:RA:9:U:OP1	44:RN:115:ARG:NH2	2.35	0.60
36:RA:1084:A:H5'	36:RA:1085:A:H5''	1.83	0.60
1:XA:517:G:O2'	1:XA:531:U:OP2	2.20	0.60
7:XG:77:SER:CB	23:XW:32:A:C2	2.83	0.60
37:YB:90:C:H5'	47:YQ:18:LYS:HA	1.84	0.60
35:R9:19:ARG:HB3	36:RA:2756:U:H5''	1.83	0.60
36:RA:247:G:H4'	36:RA:386:G:C5	2.37	0.60
1:XA:130:A:H5'	17:XQ:63:ARG:HE	1.67	0.60
2:QB:93:VAL:HG11	2:QB:97:TRP:HD1	1.66	0.60
36:RA:2308:G:H22	36:RA:2311:A:H2	1.48	0.60
39:RE:16:ARG:NH2	39:RE:171:GLU:OE2	2.28	0.60
36:YA:1063:G:H22	36:YA:1076:C:H1'	1.67	0.60
36:YA:2133:G:H1'	36:YA:2158:A:H61	1.66	0.60
47:YQ:63:LYS:HD2	56:YZ:175:VAL:HG11	1.82	0.60
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.34	0.60
11:QK:41:THR:HG21	11:QK:72:ALA:HA	1.84	0.60
54:RX:40:LYS:HG3	54:RX:51:VAL:HB	1.81	0.60
1:XA:1106:G:H5''	3:XC:172:ARG:HG2	1.83	0.60
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.37	0.60
38:YD:231:HIS:CD2	38:YD:249:PRO:HG3	2.37	0.60
52:YV:66:ARG:HG2	52:YV:88:ARG:HB3	1.84	0.60
13:QM:37:THR:O	13:QM:55:ARG:NH1	2.34	0.60
34:R8:30:ARG:HH21	46:RP:62:LEU:HD13	1.67	0.60
36:RA:1405:U:H2'	36:RA:1406:U:H6	1.66	0.60
36:RA:1869:G:H5'	36:RA:1870:C:OP2	2.01	0.60
36:RA:2329:G:H2'	36:RA:2330:G:C8	2.37	0.60
44:RN:46:VAL:HG23	44:RN:48:MET:HG3	1.84	0.60
52:RV:52:VAL:O	52:RV:53:GLU:HG3	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:390:C:H2'	1:XA:391:G:C8	2.37	0.60
1:XA:946:A:H2'	1:XA:947:G:C8	2.37	0.60
23:XW:9:A:N3	23:XW:45:G:N2	2.47	0.60
42:YH:149:ARG:NH2	42:YH:167:GLU:OE2	2.33	0.60
48:YR:56:LYS:NZ	48:YR:87:TYR:O	2.26	0.60
4:QD:98:GLU:OE1	4:QD:103:ASN:ND2	2.30	0.60
36:RA:2111:C:N3	36:RA:2118:U:O2'	2.32	0.60
36:RA:2683:C:OP1	50:RT:53:ARG:NH2	2.34	0.60
47:RQ:75:THR:HG21	47:RQ:85:LYS:HE3	1.84	0.60
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.37	0.60
12:XL:24:VAL:HG13	12:XL:98:TYR:HE1	1.67	0.60
34:Y8:12:LYS:NZ	36:YA:249:C:O2	2.35	0.60
36:YA:214:G:N3	36:YA:216:A:O2'	2.35	0.60
36:YA:1165:U:H2'	36:YA:1166:C:C6	2.37	0.60
36:YA:1203:G:H3'	36:YA:1204:A:H5''	1.83	0.60
36:YA:1204:A:O2'	36:YA:1205:U:O5'	2.20	0.60
1:QA:269:C:H2'	1:QA:270:A:H8	1.65	0.59
7:QG:82:GLY:HA3	24:QX:13:A:H5'	1.83	0.59
9:QI:17:VAL:HG12	9:QI:63:ILE:HG12	1.84	0.59
9:QI:28:VAL:HG12	9:QI:63:ILE:HB	1.84	0.59
31:R5:29:THR:HG21	36:RA:2815:C:H5'	1.84	0.59
36:RA:1668:A:N7	36:RA:1674:G:C6	2.69	0.59
36:RA:2638:G:OP1	39:RE:82:ARG:NH2	2.34	0.59
56:RZ:24:LEU:HD11	56:RZ:83:PRO:HB2	1.82	0.59
1:XA:150:C:N4	1:XA:171:A:H62	1.98	0.59
36:YA:881:G:C5'	36:YA:881:G:C8	2.85	0.59
55:YY:76:CYS:HB2	55:YY:96:ILE:HD13	1.84	0.59
36:RA:2591:C:H2'	36:RA:2592:G:C8	2.37	0.59
36:RA:2797:U:OP1	36:RA:2798:C:N4	2.35	0.59
36:YA:278:A:H2'	36:YA:279:C:C6	2.37	0.59
41:YG:106:LEU:HD12	41:YG:110:ALA:HB3	1.84	0.59
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.35	0.59
49:RS:26:LEU:HB3	49:RS:87:PHE:HA	1.83	0.59
1:XA:926:G:N2	24:XX:15:A:OP2	2.35	0.59
10:XJ:6:ILE:HG23	10:XJ:72:VAL:HB	1.85	0.59
12:XL:60:LEU:HD12	12:XL:62:SER:H	1.68	0.59
30:Y4:23:GLU:O	30:Y4:25:TYR:N	2.35	0.59
1:QA:1060:C:OP1	14:QN:45:ARG:NH2	2.35	0.59
36:RA:1316:U:H2'	36:RA:1317:A:H8	1.67	0.59
36:RA:2690:C:OP2	48:RR:17:ARG:NH1	2.35	0.59
9:XI:6:GLY:HA3	9:XI:84:ALA:HB2	1.82	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:2469:A:O2'	47:YQ:56:ARG:HG2	2.03	0.59
36:YA:2836:U:H2'	36:YA:2837:G:H8	1.67	0.59
23:XW:62:C:H2'	23:XW:63:G:H8	1.66	0.59
36:YA:1516:U:H2'	36:YA:1517:G:H8	1.67	0.59
36:YA:1815:A:OP2	38:YD:54:ARG:NH2	2.35	0.59
39:YE:116:VAL:O	39:YE:117:MET:HG2	2.03	0.59
46:YP:62:LEU:HD23	46:YP:62:LEU:H	1.67	0.59
36:RA:529:A:H8	36:RA:530:G:C6	2.21	0.59
36:RA:582:G:H2'	36:RA:583:G:H8	1.68	0.59
36:RA:2557:G:H2'	36:RA:2558:C:C6	2.37	0.59
36:RA:2591:C:H2'	36:RA:2592:G:H8	1.66	0.59
36:YA:2784:C:H1'	39:YE:37:ARG:HH12	1.67	0.59
46:YP:85:LEU:HD13	46:YP:120:ALA:HB2	1.84	0.59
10:QJ:44:VAL:HG22	10:QJ:66:ARG:HG2	1.83	0.59
36:RA:259:G:H21	36:RA:621:A:H8	1.49	0.59
36:RA:1689:A:H62	36:RA:1698:A:H2	1.51	0.59
36:RA:2563:U:H1'	36:RA:2566:A:N6	2.17	0.59
39:RE:201:THR:HG22	39:RE:203:LYS:H	1.67	0.59
40:RF:167:ALA:HB1	40:RF:173:VAL:HG11	1.83	0.59
46:RP:147:LEU:O	46:RP:148:LEU:HD22	2.03	0.59
1:XA:1359:C:H3'	14:XN:35:ARG:NH2	2.18	0.59
4:XD:166:LYS:HG2	4:XD:178:VAL:HG11	0.75	0.59
36:YA:1802:A:H2'	36:YA:1803:A:C8	2.37	0.59
50:YT:39:ARG:HG2	50:YT:40:THR:H	1.68	0.59
3:QC:153:VAL:HG22	3:QC:198:VAL:HG22	1.82	0.59
33:R7:24:THR:HG23	33:R7:27:GLY:H	1.67	0.59
36:RA:2816:C:O2	36:RA:2883:A:O2'	2.20	0.59
55:RY:76:CYS:O	55:RY:78:ALA:N	2.32	0.59
1:XA:56:U:H2'	1:XA:57:G:C8	2.37	0.59
13:XM:107:ALA:HB3	13:XM:111:LYS:HE2	1.84	0.59
36:YA:588:U:H2'	36:YA:589:C:C6	2.37	0.59
36:YA:1657:C:H2'	36:YA:1658:C:H6	1.67	0.59
8:QH:48:TYR:O	8:QH:49:GLU:HG3	2.03	0.59
36:RA:1824:G:H8	36:RA:1824:G:OP2	1.86	0.59
52:RV:52:VAL:HG21	52:RV:55:ALA:HB3	1.84	0.59
1:XA:34:C:H2'	1:XA:35:G:H8	1.68	0.59
1:XA:56:U:H2'	1:XA:57:G:H8	1.66	0.59
1:XA:1226:C:H4'	1:XA:1227:A:OP1	2.03	0.59
2:XB:88:ALA:HB2	2:XB:219:VAL:HG13	1.85	0.59
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.85	0.59
11:XK:87:THR:HA	11:XK:91:ARG:HD2	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:XY:5:C:H42	25:XY:68:G:H1	1.50	0.59
36:YA:75:G:H22	36:YA:111:A:H2	1.50	0.59
36:YA:969:U:H2'	36:YA:970:C:C6	2.38	0.59
1:QA:752:G:H1'	1:QA:754:C:H41	1.67	0.59
1:QA:1360:A:OP2	14:QN:35:ARG:NH2	2.36	0.59
1:QA:1492:A:OP1	12:QL:47:LYS:N	2.36	0.59
36:RA:265:A:H2'	36:RA:266:G:H4'	1.85	0.59
36:RA:1419:A:O2'	36:RA:1421:G:N7	2.30	0.59
36:YA:1645:G:H5''	36:YA:1646:C:H5'	1.84	0.59
36:YA:2789:C:H6	36:YA:2789:C:H5''	1.68	0.59
1:QA:674:G:H2'	1:QA:675:A:H8	1.68	0.58
3:QC:150:LYS:HB3	3:QC:201:TYR:HB2	1.85	0.58
7:QG:50:ILE:HG21	7:QG:61:VAL:HG21	1.84	0.58
1:XA:339:C:OP2	45:YO:97:ARG:NH1	2.33	0.58
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.36	0.58
36:YA:639:U:H2'	36:YA:640:C:C6	2.38	0.58
44:YN:115:ARG:HA	44:YN:118:LYS:HB2	1.83	0.58
55:YY:101:LYS:HG2	55:YY:102:CYS:H	1.67	0.58
4:XD:4:TYR:HE2	4:XD:11:LEU:HD11	1.66	0.58
36:YA:252:G:OP2	46:YP:50:ARG:NH1	2.36	0.58
36:YA:890:A:H2'	36:YA:892:G:C8	2.38	0.58
36:YA:1930:G:N2	36:YA:1969:A:OP2	2.29	0.58
39:YE:174:ASP:OD1	39:YE:175:VAL:N	2.35	0.58
50:YT:24:PRO:HA	50:YT:49:VAL:HG13	1.83	0.58
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.03	0.58
4:XD:63:LYS:HD2	4:XD:198:VAL:HG12	1.84	0.58
9:XI:26:VAL:HG12	9:XI:61:ALA:HB3	1.85	0.58
20:XT:49:ALA:HA	20:XT:52:ALA:HB3	1.83	0.58
33:Y7:5:TRP:CD1	36:YA:464:U:O4'	2.57	0.58
36:YA:589:C:H2'	36:YA:590:A:H8	1.68	0.58
36:YA:2064:C:H2'	36:YA:2065:C:C6	2.38	0.58
36:YA:2304:G:H22	36:YA:2312:U:H3	1.51	0.58
36:YA:2469:A:H2	36:YA:2481:G:H21	1.51	0.58
36:YA:2508:G:H1	36:YA:2580:U:H3	1.51	0.58
51:YU:92:ARG:HE	51:YU:95:LEU:HG	1.66	0.58
52:YV:52:VAL:HG21	52:YV:55:ALA:HB3	1.86	0.58
1:QA:1316:G:H4'	14:QN:18:VAL:HG11	1.85	0.58
36:RA:1068:G:N2	36:RA:1096:A:OP2	2.35	0.58
36:RA:1405:U:H2'	36:RA:1406:U:C6	2.38	0.58
1:XA:367:U:O2'	1:XA:368:U:OP1	2.20	0.58
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:49:THR:HG22	13:XM:51:ALA:H	1.67	0.58
36:YA:2674:G:H5''	45:YO:26:LYS:HE2	1.83	0.58
1:QA:191(D):U:H2'	1:QA:191(E):G:C8	2.38	0.58
23:QW:43:G:H2'	23:QW:44:A:H8	1.67	0.58
43:RI:61:ARG:NH1	43:RI:64:GLU:OE1	2.36	0.58
56:RZ:30:ASN:HD22	56:RZ:90:VAL:HG21	1.69	0.58
47:YQ:24:GLY:H	47:YQ:101:ARG:HD2	1.67	0.58
1:QA:1111:A:H61	3:QC:177:THR:HG22	1.67	0.58
36:RA:2809:A:H2'	36:RA:2810:A:C8	2.38	0.58
37:RB:91:C:OP1	47:RQ:19:GLY:HA2	2.04	0.58
51:RU:91:ASP:HA	51:RU:95:LEU:HD12	1.86	0.58
4:XD:162:LEU:HD23	4:XD:181:MET:HG2	1.86	0.58
36:YA:2212:A:H1'	36:YA:2215:G:C5	2.38	0.58
40:YF:160:ASN:HB3	40:YF:163:VAL:HG22	1.85	0.58
1:QA:279:A:OP1	1:QA:280:C:O2'	2.13	0.58
1:QA:978:A:OP2	1:QA:1362(A):C:N4	2.35	0.58
56:RZ:69:THR:HA	56:RZ:90:VAL:HA	1.85	0.58
2:XB:27:LYS:O	2:XB:194:PRO:HD2	2.04	0.58
8:XH:36:LEU:HD12	8:XH:59:LEU:HD23	1.86	0.58
32:Y6:37:ARG:NH2	36:YA:2286:A:O2'	2.36	0.58
36:YA:2023:G:H5'	36:YA:2617:C:H4'	1.86	0.58
36:YA:2327:A:H2'	36:YA:2328:A:C8	2.38	0.58
43:YI:110:ASP:N	43:YI:130:TYR:OH	2.35	0.58
51:YU:90:VAL:HG22	52:YV:39:LEU:HD12	1.84	0.58
36:RA:2328:A:H2'	36:RA:2329:G:C8	2.38	0.58
40:RF:154:VAL:HG22	40:RF:191:ARG:HB2	1.84	0.58
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.37	0.58
13:XM:120:LYS:HE3	25:XY:40:C:H5''	1.85	0.58
23:XW:3:G:H2'	23:XW:4:G:H8	1.68	0.58
36:YA:78:A:H2'	36:YA:79:G:H8	1.67	0.58
36:YA:2505:G:HO2'	36:YA:2506:U:H6	1.51	0.58
2:QB:153:ARG:HG3	2:QB:154:LEU:HD12	1.86	0.58
11:QK:30:VAL:O	11:QK:42:TRP:HB2	2.04	0.58
30:R4:38:LYS:HG3	41:RG:108:ASN:HA	1.86	0.58
36:RA:2023:G:H5'	36:RA:2617:C:H4'	1.84	0.58
10:XJ:3:LYS:N	10:XJ:74:ILE:O	2.37	0.58
36:YA:1204:A:H1'	36:YA:1206:G:N7	2.17	0.58
36:YA:1678:G:H22	36:YA:1989:G:H22	1.50	0.58
49:YS:37:ALA:HB1	49:YS:73:LEU:HD22	1.86	0.58
51:YU:92:ARG:O	51:YU:95:LEU:N	2.28	0.58
1:QA:272:C:H2'	1:QA:273:A:H8	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:390:C:H2'	1:QA:391:G:C8	2.39	0.58
36:RA:479:A:HO2'	36:RA:481:G:H8	1.52	0.58
36:RA:848:G:H2'	36:RA:849:A:H8	1.68	0.58
37:RB:26:A:O5'	37:RB:26:A:H8	1.86	0.58
39:RE:37:ARG:NH2	39:RE:41:LYS:HB2	2.18	0.58
1:XA:28:G:O2'	1:XA:296:U:OP1	2.22	0.58
1:XA:134:A:H1'	1:XA:325:A:C5	2.39	0.58
1:XA:985:C:H2'	1:XA:986:A:H8	1.69	0.58
24:XX:14:A:O2'	24:XX:15:A:OP1	2.21	0.58
36:YA:918:A:N3	37:YB:80:U:O2'	2.32	0.58
1:QA:439:A:OP2	1:QA:493:G:N1	2.37	0.57
1:QA:514:C:H2'	1:QA:515:G:H8	1.69	0.57
5:QE:51:VAL:HG23	5:QE:52:PRO:HD3	1.85	0.57
31:R5:4:HIS:CD2	36:RA:2056:G:H22	2.17	0.57
36:RA:27:G:N2	36:RA:513:A:OP2	2.37	0.57
36:RA:627:A:H62	46:RP:116:GLY:HA2	1.68	0.57
36:RA:1528:A:H2'	36:RA:1529:A:H8	1.69	0.57
49:RS:77:ALA:HB1	49:RS:82:ILE:HB	1.85	0.57
1:XA:390:C:H4'	16:XP:28:ARG:HH21	1.68	0.57
39:YE:48:GLN:OE1	39:YE:64:LYS:NZ	2.37	0.57
1:QA:1268:A:N3	1:QA:1326:C:O2'	2.32	0.57
3:QC:19:GLU:HB3	14:QN:51:GLY:HA3	1.85	0.57
36:RA:305:U:H2'	36:RA:306:U:C6	2.39	0.57
38:RD:148:GLU:HB2	38:RD:151:LYS:HD2	1.84	0.57
11:XK:43:SER:HB3	11:XK:68:ALA:HB2	1.86	0.57
29:Y3:11:SER:OG	29:Y3:13:ILE:HG12	2.04	0.57
36:YA:2749:A:OP1	42:YH:4:ILE:HG23	2.04	0.57
44:YN:7:LYS:HG2	44:YN:8:GLN:H	1.69	0.57
47:YQ:30:GLY:HA2	47:YQ:107:ALA:HB2	1.85	0.57
34:R8:7:HIS:HD2	46:RP:50:ARG:NH2	2.01	0.57
36:RA:1528:A:H2'	36:RA:1529:A:C8	2.39	0.57
9:XI:13:ALA:HB2	9:XI:68:GLY:HA3	1.85	0.57
19:XS:10:PHE:HE2	19:XS:16:LEU:HB2	1.69	0.57
36:YA:2698:U:H2'	36:YA:2699:C:C6	2.38	0.57
36:YA:2809:A:H2'	36:YA:2810:A:C8	2.39	0.57
1:QA:757:U:H2'	1:QA:758:G:O4'	2.04	0.57
36:RA:2059:A:H5'	36:RA:2060:A:OP2	2.05	0.57
38:RD:31:LYS:HG2	38:RD:34:VAL:HG12	1.87	0.57
43:RI:76:THR:HG22	43:RI:139:GLN:HG3	1.86	0.57
47:RQ:31:ASP:OD1	47:RQ:134:ARG:NH1	2.37	0.57
1:XA:1299:A:C8	1:XA:1301:U:H1'	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:29:TYR:OH	14:XI:54:PRO:CD	2.49	0.57
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.57
23:XW:26:G:H22	23:XW:44:A:H61	1.52	0.57
36:YA:630:G:N2	36:YA:633:A:OP2	2.34	0.57
36:YA:1332:G:N2	36:YA:1609:A:O2'	2.37	0.57
36:YA:2001:A:H2'	36:YA:2002:G:C8	2.40	0.57
36:YA:2845:G:H2'	36:YA:2846:G:H8	1.69	0.57
47:YQ:64:ILE:HG12	47:YQ:106:VAL:HG12	1.87	0.57
47:YQ:81:VAL:HG23	47:YQ:82:ARG:H	1.69	0.57
50:YT:54:ARG:HA	50:YT:59:THR:HG23	1.86	0.57
1:QA:259:G:OP2	20:QT:83:ARG:NH1	2.38	0.57
1:QA:1229:A:OP2	13:QM:114:ARG:NH2	2.36	0.57
36:RA:535:C:O3'	51:RU:53:ARG:NH1	2.36	0.57
36:RA:1028:A:H2'	36:RA:1029:A:C8	2.39	0.57
36:RA:1693:U:O2'	38:RD:14:ARG:NH2	2.38	0.57
14:QN:22:THR:HB	14:QN:33:VAL:HG21	1.86	0.57
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.69	0.57
36:RA:691:C:H4'	38:RD:43:ARG:HD3	1.85	0.57
36:RA:2853:C:H2'	36:RA:2854:G:C8	2.39	0.57
42:RH:92:ILE:HG12	42:RH:160:LYS:HE2	1.85	0.57
1:XA:347:G:O2'	1:XA:348:G:H5''	2.05	0.57
1:XA:407:G:H5''	4:XD:115:ARG:HB3	1.85	0.57
1:XA:514:C:H2'	1:XA:515:G:H8	1.69	0.57
1:XA:705:U:H3	11:XK:42:TRP:HE1	1.51	0.57
1:XA:1222:G:H5''	19:XS:78:ARG:HD2	1.87	0.57
4:XD:19:LEU:HB3	4:XD:21:LEU:HD13	1.85	0.57
36:YA:2108:C:H1'	36:YA:2182:G:H22	1.70	0.57
36:YA:2637:U:OP1	39:YE:82:ARG:NH1	2.37	0.57
39:YE:24:THR:OG1	39:YE:186:GLY:HA2	2.05	0.57
52:RV:62:LEU:HD11	52:RV:95:LEU:HB2	1.86	0.57
1:XA:427:U:OP1	4:XD:13:ARG:NH2	2.37	0.57
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.87	0.57
23:XW:8:U:OP1	23:XW:13:C:C5	2.55	0.57
36:YA:820:A:H4'	36:YA:836:G:N2	2.19	0.57
32:R6:15:GLU:HG2	32:R6:16:CYS:N	2.19	0.57
36:RA:2572:A:H2'	39:RE:144:ARG:HD3	1.85	0.57
27:Y1:12:PRO:HB3	27:Y1:43:TYR:HD2	1.69	0.57
36:YA:1508:A:O2'	36:YA:1509:C:O4'	2.22	0.57
36:YA:2291:U:H2'	36:YA:2292:C:C6	2.40	0.57
38:YD:108:PRO:HD2	38:YD:111:LEU:HD13	1.85	0.57
39:YE:144:ARG:HG2	39:YE:145:LYS:H	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:731:G:OP1	1:QA:766:A:H1'	2.05	0.57
36:RA:1204:A:H1'	36:RA:1206:G:C8	2.40	0.57
36:RA:1858:G:O2'	36:RA:1884:A:N6	2.37	0.57
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.39	0.57
2:XB:21:ARG:NH2	2:XB:37:ASN:O	2.37	0.57
36:YA:2114:A:N7	36:YA:2119:A:N6	2.51	0.57
36:YA:2468:G:O2'	36:YA:2469:A:O5'	2.22	0.57
38:YD:231:HIS:HD2	38:YD:249:PRO:HG3	1.68	0.57
39:YE:7:VAL:HG13	39:YE:51:PHE:HE1	1.70	0.57
46:YP:88:LEU:HD11	46:YP:95:VAL:HG11	1.86	0.57
46:YP:115:LEU:HA	46:YP:134:ALA:HB2	1.87	0.57
47:YQ:59:ARG:O	47:YQ:60:ARG:HG2	2.04	0.57
55:YY:30:VAL:HG22	55:YY:37:VAL:HG12	1.86	0.57
1:QA:1391:U:H2'	1:QA:1392:G:H8	1.68	0.57
8:QH:51:VAL:HG21	8:QH:60:ARG:HG3	1.87	0.57
13:QM:3:ARG:O	13:QM:57:ARG:NH2	2.38	0.57
13:QM:31:LYS:HD2	13:QM:34:LEU:HD11	1.87	0.57
32:R6:15:GLU:OE1	32:R6:20:ASN:ND2	2.37	0.57
47:RQ:4:PRO:HG3	47:RQ:69:PHE:HE2	1.70	0.57
47:RQ:81:VAL:HG23	47:RQ:82:ARG:H	1.70	0.57
51:RU:58:ARG:O	51:RU:62:ILE:HG12	2.05	0.57
1:XA:1023:G:H3'	1:XA:1024:G:H5''	1.87	0.57
36:YA:1796:U:H2'	36:YA:1797:C:C6	2.40	0.57
44:YN:13:TRP:O	44:YN:135:PRO:HD2	2.04	0.57
51:YU:61:TRP:CD2	51:YU:94:ASN:HA	2.40	0.57
53:YW:69:LEU:HD13	53:YW:107:LEU:HD13	1.86	0.57
1:QA:191:G:O2'	20:QT:101:GLY:O	2.22	0.56
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.40	0.56
6:QF:3:ARG:NH1	6:QF:38:GLU:OE1	2.38	0.56
39:RE:79:ARG:HD2	39:RE:197:ILE:HG21	1.86	0.56
56:RZ:30:ASN:HB3	56:RZ:90:VAL:HG22	1.87	0.56
1:XA:17:U:H2'	1:XA:18:C:H6	1.69	0.56
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.40	0.56
5:XE:148:VAL:HG21	8:XH:107:LEU:HD12	1.86	0.56
36:YA:1791:A:H5'	38:YD:206:LEU:HD12	1.87	0.56
36:YA:2151:G:H2'	36:YA:2152:G:H8	1.70	0.56
37:YB:15:A:H1'	37:YB:109:G:C8	2.40	0.56
42:YH:6:ARG:HD2	42:YH:65:HIS:ND1	2.20	0.56
46:YP:84:ASN:HA	46:YP:115:LEU:O	2.05	0.56
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.40	0.56
20:QT:85:MET:HB2	20:QT:104:LEU:HD21	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:848:G:H2'	36:RA:849:A:C8	2.40	0.56
36:RA:2327:A:H2'	36:RA:2328:A:C8	2.40	0.56
36:RA:2329:G:H2'	36:RA:2330:G:H8	1.69	0.56
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.40	0.56
10:XJ:55:LYS:H	10:XJ:55:LYS:HD2	1.70	0.56
32:Y6:45:LYS:HE3	36:YA:2371:G:H5'	1.86	0.56
36:YA:142:G:H2'	36:YA:143:C:H6	1.70	0.56
36:YA:1019:U:HO2'	36:YA:1021:A:H2	1.53	0.56
36:YA:1796:U:H2'	36:YA:1797:C:H6	1.70	0.56
36:YA:2729:G:H1'	39:YE:187:ALA:HB2	1.85	0.56
1:QA:954:G:H21	1:QA:1227:A:H62	1.52	0.56
1:QA:966:G:C2	22:QV:34:C:H5'	2.41	0.56
1:QA:991:U:O4	1:QA:1212:U:O2'	2.22	0.56
1:QA:1372:U:OP1	9:QI:72:GLY:N	2.38	0.56
5:QE:93:PRO:HG2	8:QH:105:ARG:HH21	1.71	0.56
9:QI:26:VAL:HG13	9:QI:61:ALA:HB3	1.86	0.56
34:R8:58:ILE:HG22	46:RP:49:ARG:HH11	1.70	0.56
36:RA:1113:U:H2'	36:RA:1114:G:C8	2.38	0.56
36:RA:2010:G:H5''	53:RW:42:ARG:HB2	1.87	0.56
36:RA:2185:C:H2'	36:RA:2186:G:C8	2.40	0.56
56:RZ:30:ASN:OD1	56:RZ:33:LEU:N	2.38	0.56
1:XA:1034:G:H2'	1:XA:1035:A:H8	1.70	0.56
1:XA:1178:G:N2	1:XA:1181:G:N7	2.53	0.56
10:XJ:42:THR:HG21	10:XJ:66:ARG:HG3	1.87	0.56
19:XS:77:THR:HG22	19:XS:78:ARG:HD3	1.86	0.56
36:YA:627:A:H4'	36:YA:628:G:H5'	1.87	0.56
36:YA:1048:A:OP2	36:YA:1110:G:N2	2.21	0.56
36:YA:1400:G:H2'	36:YA:1401:G:C8	2.40	0.56
36:YA:1454:U:O2'	36:YA:1455:G:N7	2.35	0.56
36:YA:2661:G:H2'	36:YA:2662:A:C8	2.40	0.56
50:YT:118:ARG:HH21	50:YT:121:ILE:HG21	1.69	0.56
56:YZ:166:SER:HB2	56:YZ:168:GLU:N	2.21	0.56
36:RA:9:U:H3	36:RA:2629:A:H62	1.52	0.56
1:XA:737:A:H2'	1:XA:738:C:C6	2.41	0.56
7:XG:73:MET:HG2	7:XG:90:GLU:HA	1.88	0.56
36:YA:1020:A:N6	36:YA:1141:U:O2'	2.38	0.56
39:YE:117:MET:HA	39:YE:122:PHE:H	1.70	0.56
46:YP:101:VAL:HA	46:YP:105:LEU:O	2.05	0.56
1:QA:1095:U:OP2	1:QA:1108:G:N1	2.38	0.56
4:QD:4:TYR:O	4:QD:115:ARG:NH1	2.32	0.56
27:R1:83:GLU:HG2	27:R1:85:LEU:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:R4:39:CYS:SG	30:R4:40:HIS:N	2.78	0.56
36:RA:2008:C:H2'	36:RA:2009:G:H8	1.70	0.56
36:YA:535:C:O3'	51:YU:53:ARG:NH1	2.39	0.56
36:YA:662:G:OP1	46:YP:15:ARG:NH1	2.38	0.56
49:YS:56:LEU:HG	49:YS:58:LEU:HD22	1.87	0.56
1:QA:825:G:O2'	8:QH:12:ARG:NH1	2.39	0.56
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.40	0.56
36:RA:288:C:H2'	36:RA:289:A:H8	1.71	0.56
36:RA:1286:A:O2'	36:RA:1288:U:OP2	2.22	0.56
49:RS:49:VAL:HG21	49:RS:77:ALA:HA	1.87	0.56
5:XE:41:VAL:HG11	5:XE:109:ILE:HG23	1.86	0.56
27:Y1:97:LEU:HD22	36:YA:270(T):G:H5''	1.87	0.56
34:Y8:12:LYS:HG2	46:YP:68:GLN:HG2	1.87	0.56
54:YX:40:LYS:HG3	54:YX:51:VAL:HB	1.86	0.56
1:QA:728:A:H2'	1:QA:729:A:C8	2.40	0.56
1:QA:745:C:H2'	1:QA:746:A:H8	1.71	0.56
36:RA:1044:G:H1'	36:RA:1048:A:H1'	1.87	0.56
38:RD:108:PRO:HB3	38:RD:143:HIS:CE1	2.40	0.56
56:RZ:111:VAL:HG13	56:RZ:112:ARG:HE	1.71	0.56
33:Y7:9:ARG:NH1	36:YA:1310:G:OP2	2.39	0.56
36:YA:142:G:H2'	36:YA:143:C:C6	2.41	0.56
1:QA:17:U:H2'	1:QA:18:C:C6	2.41	0.56
1:QA:705:U:C2	1:QA:706:A:C8	2.94	0.56
1:QA:973:G:H3'	1:QA:974:A:H5''	1.87	0.56
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.40	0.56
3:QC:50:ALA:HB2	3:QC:75:VAL:HB	1.88	0.56
34:R8:59:LYS:CE	46:RP:50:ARG:HG3	2.36	0.56
36:RA:2313:C:H5'	41:RG:91:ARG:HD3	1.86	0.56
36:RA:2517:C:N3	36:RA:2542:A:N6	2.54	0.56
40:RF:116:ASP:OD1	40:RF:119:ARG:NH2	2.39	0.56
1:XA:130:A:H5'	17:XQ:63:ARG:NE	2.20	0.56
1:XA:390:C:H2'	1:XA:391:G:H8	1.70	0.56
36:YA:639:U:H2'	36:YA:640:C:H6	1.71	0.56
36:YA:1165:U:H2'	36:YA:1166:C:H6	1.70	0.56
36:YA:2022:U:O2'	36:YA:2617:C:H5'	2.06	0.56
43:YI:93:THR:HG22	43:YI:119:PRO:HB3	1.87	0.56
2:QB:164:VAL:HG12	2:QB:166:ASP:H	1.71	0.56
28:R2:47:ASN:ND2	36:RA:94:G:N3	2.54	0.56
36:RA:30:G:H2'	36:RA:31:C:C6	2.40	0.56
38:RD:65:ILE:HG22	38:RD:104:TYR:HB3	1.88	0.56
38:RD:108:PRO:HD2	38:RD:111:LEU:HD22	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:86:C:H4'	36:YA:104:U:H1'	1.88	0.56
39:YE:13:ARG:NE	39:YE:21:VAL:HG21	2.20	0.56
1:QA:718:G:N2	18:QR:49:LYS:HG2	2.19	0.56
1:QA:1238:A:H62	1:QA:1301:U:H3	1.53	0.56
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.06	0.56
36:RA:588:U:H2'	36:RA:589:C:C6	2.41	0.56
36:RA:1406:U:H2'	36:RA:1407:C:H6	1.71	0.56
38:RD:231:HIS:HD2	38:RD:249:PRO:HB3	1.71	0.56
39:RE:23:VAL:HG21	39:RE:183:LEU:HD23	1.88	0.56
50:RT:30:VAL:HG12	50:RT:86:ILE:HG12	1.88	0.56
25:XY:74:C:H2'	25:XY:75:C:O4'	2.07	0.56
36:YA:28:A:N6	36:YA:512:G:O2'	2.39	0.56
1:QA:619:U:N3	4:QD:134:ASP:OD1	2.30	0.55
1:QA:664:G:H22	1:QA:741:G:H1	1.53	0.55
1:QA:745:C:H2'	1:QA:746:A:C8	2.41	0.55
9:QI:37:PHE:HB3	9:QI:43:ALA:HB1	1.87	0.55
28:R2:22:GLU:OE2	28:R2:68:ARG:NH2	2.39	0.55
36:RA:1537:C:H2'	36:RA:1538:G:C8	2.41	0.55
1:XA:1028:C:H2'	1:XA:1028(A):C:C6	2.41	0.55
23:XW:16:A:N6	23:XW:19:G:OP1	2.39	0.55
35:Y9:1:MET:HG3	36:YA:2477:C:H2'	1.89	0.55
36:YA:1657:C:H2'	36:YA:1658:C:C6	2.40	0.55
1:QA:28:G:O2'	1:QA:296:U:OP1	2.23	0.55
12:QL:86:ARG:HB2	12:QL:101:VAL:HG23	1.88	0.55
24:QX:12:A:O2'	24:QX:13:A:O3'	2.24	0.55
31:R5:4:HIS:CD2	36:RA:2577:A:H1'	2.40	0.55
36:RA:1513:C:O2	36:RA:1513:C:H2'	2.06	0.55
1:XA:985:C:H2'	1:XA:986:A:C8	2.42	0.55
23:XW:31:C:H1'	23:XW:32:A:H5'	1.87	0.55
36:YA:882:G:H8	36:YA:882:G:OP2	1.89	0.55
36:YA:1400:G:H2'	36:YA:1401:G:H8	1.71	0.55
40:YF:32:LEU:HD11	40:YF:105:VAL:HG13	1.87	0.55
42:YH:18:GLU:HB3	42:YH:25:LYS:HB2	1.87	0.55
50:YT:24:PRO:HD3	50:YT:52:ILE:HD12	1.88	0.55
16:QP:2:VAL:HG23	16:QP:64:ALA:HA	1.86	0.55
1:XA:45:U:H2'	1:XA:46:G:H8	1.71	0.55
19:XS:64:GLU:O	30:Y4:60:GLN:NE2	2.39	0.55
26:Y0:10:THR:HG22	26:Y0:12:ASN:H	1.72	0.55
36:YA:547:A:H2'	36:YA:548:A:C8	2.41	0.55
36:YA:1353:A:H2'	36:YA:1354:A:C8	2.42	0.55
36:YA:1430:C:H2'	36:YA:1431:U:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:624:C:H2'	1:QA:625:G:H8	1.71	0.55
1:QA:1372:U:H5''	9:QI:71:SER:HB3	1.89	0.55
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.71	0.55
36:RA:2291:U:H2'	36:RA:2292:C:C6	2.41	0.55
36:RA:2844:G:H3'	36:RA:2845:G:H8	1.71	0.55
37:RB:23:G:C2	37:RB:61:G:C2	2.94	0.55
38:RD:244:ARG:HB2	38:RD:245:PRO:HD2	1.88	0.55
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.42	0.55
36:YA:658:C:H2'	36:YA:659:C:H6	1.71	0.55
36:YA:1021:A:C8	36:YA:1022:G:H5''	2.40	0.55
1:QA:529:G:O6	12:QL:49:ASN:ND2	2.36	0.55
26:R0:73:GLY:HA3	37:RB:12:C:H2'	1.89	0.55
36:RA:1980:G:H2'	36:RA:1980:G:O5'	2.07	0.55
36:RA:1991:U:O5'	36:RA:1991:U:H6	1.89	0.55
36:RA:2185:C:H2'	36:RA:2186:G:H8	1.70	0.55
36:RA:2212:A:H1'	36:RA:2215:G:C5	2.41	0.55
36:RA:2469:A:H5''	36:RA:2470:G:H8	1.71	0.55
39:RE:144:ARG:HG2	39:RE:145:LYS:H	1.70	0.55
1:XA:825:G:O2'	8:XH:12:ARG:NH2	2.37	0.55
26:Y0:51:VAL:O	49:YS:20:ARG:NH2	2.39	0.55
36:YA:1116:C:H2'	36:YA:1117:G:H8	1.71	0.55
46:YP:57:THR:O	46:YP:59:LEU:N	2.37	0.55
1:QA:715:A:H2'	1:QA:716:A:C8	2.42	0.55
1:QA:975:A:H61	10:QJ:48:THR:HB	1.71	0.55
1:QA:1032(B):G:H2'	1:QA:1033:G:H8	1.71	0.55
9:QI:79:LEU:HD11	9:QI:83:ARG:HH21	1.71	0.55
36:RA:1752:C:H2'	36:RA:1753:G:C8	2.41	0.55
40:RF:152:GLU:OE1	40:RF:191:ARG:NE	2.37	0.55
43:RI:40:THR:HG23	43:RI:43:ASN:H	1.71	0.55
46:RP:84:ASN:HA	46:RP:115:LEU:O	2.07	0.55
1:XA:21:G:H2'	1:XA:22:G:C8	2.41	0.55
1:XA:1236:A:H4'	1:XA:1304:G:H4'	1.88	0.55
36:YA:598:G:H5'	46:YP:11:GLY:HA3	1.87	0.55
36:YA:1266:G:O5'	53:YW:15:ARG:NH2	2.39	0.55
44:YN:96:GLU:HB2	44:YN:122:VAL:HG12	1.87	0.55
55:YY:68:HIS:HB3	55:YY:71:LYS:HG2	1.89	0.55
1:QA:21:G:H2'	1:QA:22:G:C8	2.42	0.55
1:QA:34:C:H2'	1:QA:35:G:H8	1.70	0.55
36:RA:30:G:H2'	36:RA:31:C:H6	1.71	0.55
4:XD:79:PHE:HE2	4:XD:204:ILE:HD13	1.70	0.55
11:XK:83:ILE:HG12	11:XK:109:VAL:HB	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:2468:G:H2'	36:YA:2476:A:C2	2.41	0.55
1:QA:1004:A:OP1	1:QA:1025:U:N3	2.34	0.55
1:QA:1219:U:OP1	14:QN:19:ARG:NH1	2.40	0.55
8:QH:9:MET:HB2	8:QH:32:LYS:NZ	2.22	0.55
20:QT:60:GLU:HG3	20:QT:81:LYS:HD2	1.89	0.55
30:R4:40:HIS:H	30:R4:41:PRO:HD3	1.71	0.55
46:RP:81:GLN:HE22	46:RP:107:LYS:HB2	1.71	0.55
1:XA:73:G:H1	1:XA:97:U:H3	1.55	0.55
11:XK:62:GLN:HG3	11:XK:97:ALA:HB2	1.88	0.55
36:YA:1022:G:N2	36:YA:1023:U:O4	2.40	0.55
36:YA:2298:A:H62	36:YA:2318:G:H8	1.52	0.55
44:YN:35:ARG:HG3	44:YN:37:LYS:HG3	1.88	0.55
56:YZ:30:ASN:OD1	56:YZ:33:LEU:N	2.39	0.55
1:QA:728:A:H2'	1:QA:729:A:H8	1.72	0.55
1:QA:1302:U:O2	1:QA:1302:U:H2'	2.05	0.55
8:QH:5:PRO:O	8:QH:32:LYS:NZ	2.39	0.55
47:RQ:17:LEU:HB3	47:RQ:39:PRO:HB2	1.89	0.55
1:XA:736:C:H2'	1:XA:737:A:H8	1.71	0.55
48:YR:79:LEU:HD12	48:YR:83:ILE:HB	1.89	0.55
1:QA:960:U:H4'	1:QA:961:U:H5''	1.88	0.55
19:QS:77:THR:HG23	19:QS:78:ARG:HG3	1.89	0.55
36:RA:259:G:HO2'	36:RA:621:A:HO2'	1.55	0.55
36:RA:270(R):G:H2'	36:RA:270(S):G:H8	1.72	0.55
36:RA:1138:G:H21	44:RN:106:MET:HE3	1.72	0.55
50:RT:23:ARG:HB2	50:RT:24:PRO:HD2	1.89	0.55
52:RV:76:LYS:HB2	52:RV:81:TYR:HB3	1.89	0.55
1:XA:359:U:H2'	1:XA:360:A:H8	1.72	0.55
3:XC:177:THR:OG1	3:XC:180:ALA:HB2	2.07	0.55
21:XU:8:THR:O	21:XU:12:LYS:HG2	2.07	0.55
36:YA:807:U:OP2	46:YP:41:ARG:NH1	2.40	0.55
54:YX:27:THR:HB	54:YX:80:ILE:HG12	1.89	0.55
1:QA:579:G:H5'	1:QA:728:A:H1'	1.89	0.54
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.72	0.54
1:QA:1250:A:H2'	1:QA:1251:A:C8	2.42	0.54
25:QY:16:C:H3'	25:QY:17:U:H5'	1.88	0.54
36:RA:2837:G:H21	48:RR:45:ARG:HH21	1.53	0.54
43:RI:26:ALA:HA	43:RI:30:LEU:HB2	1.89	0.54
1:XA:918:A:H2'	1:XA:919:A:C8	2.42	0.54
1:XA:1348:U:H4'	9:XI:120:ARG:HD2	1.89	0.54
1:XA:1371:G:O3'	9:XI:69:GLY:HA3	2.06	0.54
2:XB:4:GLU:HG2	2:XB:5:ILE:H	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:84:GLU:HG3	2:XB:215:LEU:HB3	1.88	0.54
8:XH:103:VAL:HG23	8:XH:138:TRP:HD1	1.72	0.54
29:Y3:6:VAL:HB	29:Y3:54:VAL:HG21	1.89	0.54
36:YA:620:G:H4'	36:YA:621:A:H5''	1.89	0.54
36:YA:764:A:H5'	38:YD:210:GLY:HA2	1.89	0.54
36:YA:987:G:O2'	36:YA:1000:A:N3	2.36	0.54
36:YA:2012:G:OP1	53:YW:11:ARG:NH2	2.39	0.54
36:YA:2311:A:C8	41:YG:82:LEU:HD22	2.42	0.54
36:YA:2789:C:H5''	36:YA:2789:C:C6	2.42	0.54
1:QA:429:U:H3'	4:QD:9:CYS:SG	2.46	0.54
1:QA:634:C:H2'	1:QA:635:G:H8	1.71	0.54
4:QD:173:TRP:CD1	4:QD:189:PRO:HG3	2.42	0.54
18:QR:56:THR:HG23	18:QR:58:LEU:H	1.72	0.54
36:RA:494:G:H4'	53:RW:6:ILE:HB	1.89	0.54
36:RA:2749:A:OP2	36:RA:2750:A:O2'	2.21	0.54
5:XE:99:GLY:N	5:XE:117:ASP:OD1	2.40	0.54
28:Y2:41:ILE:HD11	28:Y2:44:LEU:HD22	1.89	0.54
25:QY:58:A:C8	56:RZ:182:LYS:HD2	2.41	0.54
36:RA:1332:G:N2	36:RA:1609:A:O2'	2.41	0.54
36:RA:1550:C:H5'	36:RA:1733:G:H22	1.72	0.54
36:RA:2468:G:H2'	36:RA:2476:A:C2	2.42	0.54
56:RZ:3:TYR:O	56:RZ:58:VAL:HG22	2.08	0.54
1:XA:45:U:H2'	1:XA:46:G:C8	2.43	0.54
4:XD:57:ARG:HB3	4:XD:206:PHE:HB2	1.89	0.54
4:XD:166:LYS:HE2	4:XD:178:VAL:HG12	1.89	0.54
16:XP:20:VAL:HG21	16:XP:32:TYR:CG	2.42	0.54
29:Y3:8:LEU:HG	29:Y3:28:LEU:HD13	1.88	0.54
36:YA:589:C:H2'	36:YA:590:A:C8	2.42	0.54
36:YA:897:C:H6	36:YA:897:C:OP1	1.91	0.54
1:QA:555:C:H2'	1:QA:556:C:C6	2.43	0.54
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.90	0.54
36:RA:1942:C:OP2	36:RA:1943:U:O2'	2.19	0.54
38:RD:112:GLN:N	38:RD:115:GLN:OE1	2.33	0.54
1:XA:126:G:H5'	1:XA:633:G:N2	2.23	0.54
1:XA:188:U:H2'	1:XA:189:U:H5''	1.90	0.54
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.73	0.54
41:YG:35:GLU:HA	41:YG:99:MET:SD	2.48	0.54
43:YI:13:GLY:HA2	43:YI:17:GLN:HB3	1.89	0.54
1:QA:1240:U:OP1	7:QG:119:ARG:NH2	2.41	0.54
36:RA:1019:U:HO2'	36:RA:1021:A:H2	1.55	0.54
36:RA:1228:G:OP2	51:RU:16:LYS:NZ	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:2066:C:H2'	36:RA:2067:G:H5'	1.89	0.54
36:RA:2636:U:HO2'	39:RE:44:TYR:HH	1.54	0.54
41:RG:63:ILE:HG13	41:RG:64:THR:HG23	1.88	0.54
1:XA:501:C:H2'	1:XA:502:G:C8	2.43	0.54
1:XA:1111:A:H61	3:XC:177:THR:HG22	1.72	0.54
4:XD:173:TRP:CD1	4:XD:189:PRO:HG3	2.42	0.54
10:XJ:4:ILE:HD11	10:XJ:74:ILE:HD12	1.89	0.54
23:XW:70:U:H2'	23:XW:71:C:C6	2.43	0.54
30:Y4:39:CYS:SG	30:Y4:41:PRO:HD3	2.48	0.54
36:YA:1188:U:H4'	52:YV:79:VAL:HG22	1.89	0.54
36:YA:1329:U:H5''	36:YA:1330:C:H5	1.71	0.54
52:YV:38:LEU:H	52:YV:51:VAL:HG13	1.72	0.54
3:QC:177:THR:OG1	3:QC:180:ALA:HB2	2.08	0.54
8:QH:119:LEU:HD21	8:QH:127:LEU:HD12	1.89	0.54
1:XA:851:G:H2'	1:XA:852:G:H8	1.73	0.54
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.72	0.54
9:XI:127:LYS:NZ	22:XV:34:C:OP2	2.28	0.54
23:XW:9:A:O4'	23:XW:45:G:N2	2.41	0.54
36:YA:2328:A:H2'	36:YA:2329:G:C8	2.42	0.54
36:YA:2693:A:H2'	36:YA:2694:G:H8	1.73	0.54
43:YI:1:MET:N	43:YI:20:ASP:OD1	2.34	0.54
45:YO:120:GLU:OE1	50:YT:67:SER:OG	2.24	0.54
1:QA:946:A:H2'	1:QA:947:G:C8	2.42	0.54
1:QA:1436:U:OP1	20:QT:23:ARG:NH2	2.41	0.54
10:QJ:4:ILE:HD12	10:QJ:100:THR:HG22	1.89	0.54
16:QP:20:VAL:HG21	16:QP:32:TYR:CG	2.42	0.54
29:R3:8:LEU:HG	29:R3:28:LEU:HD13	1.90	0.54
36:RA:307:G:H21	36:RA:330:A:H62	1.56	0.54
36:RA:1165:U:H2'	36:RA:1166:C:C6	2.42	0.54
36:RA:2798:C:N3	36:RA:2799:A:N6	2.55	0.54
39:RE:62:PRO:C	39:RE:63:LEU:HD23	2.28	0.54
43:RI:101:LEU:O	43:RI:106:GLY:N	2.41	0.54
45:RO:22:ILE:HD11	45:RO:42:SER:HB2	1.90	0.54
48:RR:38:VAL:HG22	48:RR:112:ALA:HB2	1.88	0.54
1:XA:1005:A:H5''	1:XA:1006:C:C5	2.42	0.54
1:XA:1074:G:H2'	1:XA:1075:C:H6	1.73	0.54
1:XA:1251:A:N3	1:XA:1369:C:O2'	2.33	0.54
36:YA:1056:G:H5''	36:YA:1057:A:H5'	1.89	0.54
36:YA:1359:A:H2'	36:YA:1360:A:H5'	1.90	0.54
44:YN:15:LEU:HB2	44:YN:134:ARG:HB3	1.90	0.54
53:YW:68:ARG:HD2	53:YW:112:GLY:HA3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1305:G:H5'	21:QU:4:GLY:C	2.28	0.54
2:QB:22:LYS:HD2	2:QB:22:LYS:C	2.27	0.54
16:QP:20:VAL:HG23	16:QP:35:LYS:HA	1.88	0.54
17:QQ:53:LEU:HD23	17:QQ:85:VAL:HG11	1.89	0.54
41:RG:16:ARG:HG3	41:RG:31:VAL:HG11	1.89	0.54
53:RW:92:ARG:NH1	53:RW:94:ASP:OD2	2.41	0.54
1:XA:107:G:O6	20:XT:15:ARG:NH1	2.41	0.54
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.43	0.54
34:Y8:62:LEU:HD13	36:YA:242:G:C5'	2.37	0.54
36:YA:38:A:N3	40:YF:48:THR:OG1	2.39	0.54
36:YA:2010:G:H5''	53:YW:42:ARG:HB2	1.90	0.54
42:YH:52:VAL:HG13	42:YH:65:HIS:HE2	1.73	0.54
44:YN:114:ARG:O	44:YN:115:ARG:HB3	2.08	0.54
54:YX:28:PHE:CE1	54:YX:92:LEU:HD11	2.43	0.54
1:QA:537:G:H2'	1:QA:538:G:H8	1.71	0.54
1:QA:560:U:H5'	1:QA:566:G:N2	2.23	0.54
1:QA:580:U:H2'	1:QA:581:G:O4'	2.07	0.54
1:QA:965:A:OP1	1:QA:1198:G:H5''	2.07	0.54
4:QD:169:LYS:NZ	6:XF:25:ILE:HD11	2.23	0.54
8:QH:36:LEU:HD23	8:QH:39:LEU:HD12	1.90	0.54
23:QW:19:G:N2	23:QW:56:C:H42	2.04	0.54
26:R0:23:VAL:HG21	36:RA:857:C:H4'	1.90	0.54
34:R8:15:LYS:HB2	46:RP:65:ARG:HE	1.73	0.54
36:RA:304:G:H2'	36:RA:305:U:C6	2.43	0.54
36:RA:581:C:H2'	36:RA:582:G:H8	1.73	0.54
36:RA:690:G:O2'	38:RD:43:ARG:NH1	2.41	0.54
40:RF:101:LEU:O	40:RF:106:ARG:NH1	2.41	0.54
1:XA:953:G:H5'	1:XA:965:A:H61	1.72	0.54
2:XB:164:VAL:HG12	2:XB:166:ASP:H	1.73	0.54
49:YS:88:ASP:O	49:YS:89:ARG:HG2	2.08	0.54
1:QA:1221:G:O3'	19:QS:77:THR:OG1	2.25	0.54
18:QR:58:LEU:HD23	18:QR:62:GLU:HB3	1.90	0.54
34:R8:34:TRP:HB2	36:RA:2419:U:OP1	2.08	0.54
36:RA:1817:G:OP1	38:RD:88:ARG:NH2	2.40	0.54
36:RA:2836:U:H2'	36:RA:2837:G:C8	2.43	0.54
41:RG:77:ILE:HG22	41:RG:80:PHE:H	1.73	0.54
41:RG:97:ASP:HA	41:RG:100:TRP:HD1	1.73	0.54
1:XA:401:C:O2'	1:XA:621:A:N3	2.37	0.54
3:XC:21:ARG:NH2	3:XC:21:ARG:HB2	2.23	0.54
7:XG:5:ARG:HH22	7:XG:6:ARG:NH1	2.06	0.54
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:956:G:OP2	47:YQ:14:ARG:NH2	2.41	0.54
36:YA:2164:C:H2'	36:YA:2164:C:O2	2.08	0.54
41:YG:37:VAL:HG22	41:YG:159:VAL:HG12	1.89	0.54
48:YR:37:THR:HG22	48:YR:39:PRO:HD2	1.89	0.54
51:YU:90:VAL:HG13	52:YV:39:LEU:HB3	1.90	0.54
55:YY:81:LYS:HD3	55:YY:97:ARG:H	1.73	0.54
36:RA:796:C:H2'	36:RA:797:C:C6	2.43	0.53
47:RQ:48:GLU:OE2	47:RQ:51:ARG:NH2	2.33	0.53
7:XG:46:ALA:O	7:XG:50:ILE:HG12	2.08	0.53
10:XJ:17:ASP:OD1	10:XJ:70:ARG:NH1	2.41	0.53
13:XM:3:ARG:NH1	30:Y4:32:TYR:O	2.42	0.53
14:YN:29:ARG:HD3	14:YN:40:CYS:HB2	1.90	0.53
36:YA:1607:C:N4	36:YA:1622:G:OP2	2.27	0.53
36:YA:2008:C:H2'	36:YA:2009:G:H8	1.72	0.53
36:YA:2469:A:H5'	36:YA:2470:G:OP2	2.08	0.53
40:YF:125:LEU:HD21	40:YF:199:TRP:CE3	2.43	0.53
1:QA:262:A:H5''	20:QT:76:ALA:HB2	1.90	0.53
1:QA:657:G:H21	15:QO:22:THR:HG23	1.72	0.53
16:QP:45:THR:CG2	16:QP:46:PRO:CD	2.66	0.53
36:RA:29:U:H2'	36:RA:30:G:C8	2.42	0.53
36:RA:922:U:H2'	36:RA:923:C:H6	1.73	0.53
36:RA:1090:U:H3	36:RA:1102:C:H1'	1.73	0.53
36:RA:1316:U:H2'	36:RA:1317:A:C8	2.43	0.53
36:RA:1464:C:HO2'	36:RA:1528:A:H8	1.55	0.53
36:RA:1586:A:H3'	36:RA:1587:A:H8	1.72	0.53
36:RA:1795:C:H42	36:RA:1824:G:N2	2.06	0.53
37:RB:37:C:O2	49:RS:95:HIS:NE2	2.33	0.53
38:RD:146:GLU:HB2	38:RD:189:CYS:HB3	1.90	0.53
39:RE:24:THR:OG1	39:RE:186:GLY:HA2	2.09	0.53
1:XA:1286:A:H2'	1:XA:1287:A:H4'	1.89	0.53
1:XA:1291:G:O2'	9:XI:38:GLN:OE1	2.26	0.53
1:XA:1494:G:N7	58:XA:1717:PAR:N32	2.56	0.53
1:XA:1502:A:H2	1:XA:1505:G:H22	1.54	0.53
6:XF:97:PHE:HB2	18:XR:32:ARG:HE	1.71	0.53
19:XS:40:ILE:HG22	19:XS:41:VAL:N	2.24	0.53
33:Y7:5:TRP:CE3	36:YA:1613:G:OP1	2.61	0.53
36:YA:65:C:H2'	36:YA:66:C:H6	1.73	0.53
36:YA:259:G:H21	36:YA:621:A:H8	1.56	0.53
36:YA:881:G:C8	36:YA:881:G:H5''	2.43	0.53
36:YA:2648:C:H2'	36:YA:2649:U:H6	1.73	0.53
41:YG:83:ARG:HG3	41:YG:84:LYS:H	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YH:28:GLY:HA3	42:YH:79:VAL:HB	1.90	0.53
55:YY:84:ARG:HH12	55:YY:97:ARG:HA	1.73	0.53
36:RA:263:C:H2'	36:RA:264:C:O4'	2.07	0.53
40:RF:158:THR:O	40:RF:164:ARG:NH2	2.33	0.53
42:RH:126:PRO:HD2	42:RH:131:VAL:HA	1.89	0.53
1:XA:1289:A:N1	1:XA:1371:G:O2'	2.37	0.53
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.43	0.53
1:XA:1502:A:H2	1:XA:1505:G:H1	1.56	0.53
30:Y4:40:HIS:O	30:Y4:47:GLN:NE2	2.40	0.53
36:YA:1006:C:H5'	44:YN:28:THR:HG23	1.90	0.53
36:YA:1205:U:C2	40:YF:171:PRO:HB3	2.42	0.53
36:YA:1853:A:H2'	36:YA:1854:A:C8	2.44	0.53
36:YA:2168:G:O6	36:YA:2171:A:N7	2.41	0.53
56:YZ:61:LEU:HD13	56:YZ:67:LEU:H	1.72	0.53
1:QA:524:G:H2'	1:QA:525:C:C6	2.44	0.53
5:QE:32:VAL:HG21	5:QE:55:VAL:HG13	1.90	0.53
36:RA:236:C:O2'	36:RA:431:U:H4'	2.08	0.53
36:RA:1657:C:H2'	36:RA:1658:C:H6	1.73	0.53
36:RA:2012:G:OP1	53:RW:11:ARG:NH2	2.41	0.53
36:RA:2109:U:H2'	36:RA:2110:G:C8	2.43	0.53
1:XA:62:U:OP1	1:XA:385:C:O2'	2.26	0.53
1:XA:736:C:H2'	1:XA:737:A:C8	2.44	0.53
1:XA:1427:U:H2'	1:XA:1428:A:H8	1.73	0.53
10:XJ:49:VAL:HG23	14:XN:41:ARG:HB2	1.90	0.53
23:XW:62:C:H2'	23:XW:63:G:C8	2.43	0.53
36:YA:602:G:N2	36:YA:655:A:N7	2.41	0.53
36:YA:881:G:H3'	36:YA:882:G:H8	1.72	0.53
36:YA:2031:A:C6	36:YA:2498:C:H1'	2.43	0.53
42:YH:6:ARG:HD2	42:YH:65:HIS:CG	2.42	0.53
56:YZ:128:VAL:HG22	56:YZ:129:SER:H	1.73	0.53
1:QA:1142:G:H2'	1:QA:1143:G:O4'	2.08	0.53
26:R0:27:GLU:HG3	26:R0:68:GLU:HA	1.90	0.53
28:R2:69:ARG:HH22	36:RA:111:A:H4'	1.73	0.53
36:RA:1839:G:C2	36:RA:1840:G:C8	2.97	0.53
47:RQ:39:PRO:HB3	47:RQ:99:PRO:HD3	1.90	0.53
20:XT:29:LYS:O	20:XT:33:ILE:HG12	2.08	0.53
36:YA:1021:A:H61	36:YA:1142(A):A:H61	1.57	0.53
36:YA:2163:C:H2'	36:YA:2164:C:C5	2.43	0.53
36:YA:2845:G:H2'	36:YA:2846:G:C8	2.44	0.53
39:YE:92:THR:HG23	39:YE:94:GLU:H	1.74	0.53
25:QY:38:U:H2'	25:QY:39:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:2066:C:C2'	36:RA:2067:G:H5'	2.39	0.53
43:RI:123:LEU:HD21	43:RI:144:VAL:HG13	1.91	0.53
49:RS:37:ALA:HB2	49:RS:101:LEU:HD21	1.91	0.53
11:XK:20:TYR:HB2	11:XK:31:THR:HG23	1.91	0.53
36:YA:247:G:H4'	36:YA:386:G:C5	2.43	0.53
36:YA:1000:A:H2'	36:YA:1001:A:C8	2.44	0.53
36:YA:1252:G:N3	51:YU:33:ARG:HD2	2.23	0.53
42:YH:126:PRO:CG	42:YH:130:ARG:H	2.22	0.53
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.42	0.53
30:R4:23:GLU:O	30:R4:24:THR:HG22	2.09	0.53
36:RA:1429:G:H2'	36:RA:1430:C:C6	2.43	0.53
36:RA:2684:U:O2'	45:RO:68:GLU:OE2	2.27	0.53
41:RG:129:GLY:O	41:RG:161:THR:OG1	2.20	0.53
1:XA:266:G:O2'	1:XA:267:C:OP2	2.24	0.53
1:XA:700:G:H4'	1:XA:704:A:H1'	1.90	0.53
2:XB:197:VAL:HG13	2:XB:200:ILE:HG13	1.89	0.53
13:XM:87:TYR:O	13:XM:91:ARG:HG2	2.09	0.53
36:YA:2648:C:H2'	36:YA:2649:U:C6	2.44	0.53
52:YV:28:GLU:O	52:YV:61:VAL:HG21	2.09	0.53
55:YY:96:ILE:HG13	55:YY:99:CYS:H	1.74	0.53
3:QC:11:ARG:O	3:QC:16:ARG:HB3	2.09	0.53
36:RA:997:G:OP1	51:RU:93:LYS:HB2	2.08	0.53
40:YF:101:LEU:O	40:YF:106:ARG:NH1	2.41	0.53
44:YN:47:ALA:HB2	44:YN:112:LEU:HD11	1.90	0.53
1:QA:376:G:H5''	16:QP:5:ARG:HB2	1.90	0.53
1:QA:1219:U:H2'	1:QA:1220:G:C8	2.43	0.53
13:QM:91:ARG:HB2	13:QM:98:VAL:HG12	1.91	0.53
19:QS:63:THR:HG23	19:QS:65:ASN:H	1.74	0.53
26:R0:18:ALA:HB1	36:RA:2271:G:H5''	1.89	0.53
32:R6:38:LYS:HE2	32:R6:46:HIS:HB3	1.90	0.53
36:RA:1427:A:H4'	36:RA:1428:C:O5'	2.08	0.53
38:RD:133:LEU:HB3	38:RD:173:VAL:HG11	1.91	0.53
52:RV:38:LEU:HD11	52:RV:57:VAL:HG23	1.91	0.53
2:XB:238:LEU:HD23	2:XB:238:LEU:H	1.74	0.53
18:XR:37:VAL:HG22	18:XR:78:LEU:HB3	1.90	0.53
36:YA:363:G:H2'	36:YA:363(A):A:C8	2.42	0.53
36:YA:581:C:H2'	36:YA:582:G:H8	1.74	0.53
36:YA:1639:U:H2'	36:YA:1640:C:H5''	1.90	0.53
41:YG:36:LYS:HB3	41:YG:160:VAL:HB	1.90	0.53
1:QA:437:U:H2'	1:QA:438:G:O4'	2.08	0.53
1:QA:1492:A:N6	12:QL:50:SER:OG	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.44	0.53
23:QW:9:A:OP2	23:QW:46:G:N2	2.39	0.53
32:R6:39:TYR:O	32:R6:46:HIS:HA	2.09	0.53
36:RA:605:C:O2	36:RA:657:U:O2'	2.27	0.53
36:RA:673:C:H5''	40:RF:81:PRO:HD2	1.90	0.53
36:RA:1678:G:H22	36:RA:1989:G:H22	1.57	0.53
36:RA:2064:C:H2'	36:RA:2065:C:C6	2.43	0.53
50:RT:99:LEU:HD12	50:RT:99:LEU:O	2.09	0.53
1:XA:1128:C:H5'	9:XI:16:ARG:HH12	1.74	0.53
9:XI:110:GLU:OE2	9:XI:113:LYS:NZ	2.42	0.53
11:XK:110:ASP:HB2	18:XR:88:LYS:HG3	1.91	0.53
13:XM:15:VAL:HA	13:XM:18:ALA:HB3	1.91	0.53
36:YA:590:A:H2'	36:YA:591:C:C6	2.44	0.53
36:YA:607:U:H3	36:YA:621:A:H2	1.57	0.53
36:YA:1130:U:O2	39:YE:149:ARG:NH2	2.42	0.53
36:YA:1204:A:H1'	36:YA:1206:G:C8	2.42	0.53
41:YG:73:ALA:HB2	41:YG:82:LEU:HD11	1.90	0.53
47:YQ:30:GLY:H	47:YQ:105:GLU:HG2	1.74	0.53
47:YQ:48:GLU:OE2	47:YQ:51:ARG:NH2	2.38	0.53
1:QA:452:A:H2'	1:QA:453:A:H8	1.74	0.52
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.73	0.52
3:QC:56:ASP:HB2	3:QC:67:THR:HB	1.91	0.52
14:QN:41:ARG:HG3	14:QN:42:ILE:N	2.24	0.52
31:R5:4:HIS:NE2	36:RA:2577:A:O4'	2.43	0.52
36:RA:1243:G:H4'	46:RP:7:ARG:HH21	1.72	0.52
36:RA:2086:U:H2'	36:RA:2087:G:H8	1.74	0.52
36:RA:2176:A:H2'	36:RA:2177:C:C6	2.45	0.52
36:RA:2250:G:C4	47:RQ:82:ARG:HG3	2.44	0.52
36:RA:2648:C:H2'	36:RA:2649:U:H6	1.75	0.52
1:XA:452:A:O2'	16:XP:72:ARG:NE	2.43	0.52
1:XA:964:A:H4'	10:XJ:54:PHE:HZ	1.74	0.52
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.91	0.52
23:XW:45:G:O2'	23:XW:46:G:H5''	2.09	0.52
36:YA:582:G:H2'	36:YA:583:G:H8	1.74	0.52
36:YA:1535:U:H2'	36:YA:1536:A:C8	2.44	0.52
36:YA:2011:U:OP1	53:YW:42:ARG:NH1	2.42	0.52
36:YA:2112:G:O6	36:YA:2169:A:N6	2.42	0.52
1:QA:752:G:H1'	1:QA:754:C:N4	2.24	0.52
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.91	0.52
36:RA:29:U:H2'	36:RA:30:G:H8	1.72	0.52
36:RA:2469:A:H5''	36:RA:2470:G:C8	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RB:80:U:H2'	37:RB:81:G:H21	1.74	0.52
37:RB:111:U:H2'	37:RB:112:G:C8	2.37	0.52
39:RE:170:LEU:HD21	39:RE:187:ALA:HB3	1.91	0.52
44:RN:114:ARG:O	44:RN:115:ARG:HG2	2.09	0.52
51:RU:54:LYS:O	51:RU:58:ARG:HD3	2.08	0.52
2:XB:68:ILE:HD11	2:XB:163:PHE:HB2	1.92	0.52
34:Y8:62:LEU:HD13	36:YA:242:G:H3'	1.90	0.52
36:YA:823:G:H2'	36:YA:824:A:H8	1.73	0.52
36:YA:1496:A:H8	36:YA:1577:C:HO2'	1.56	0.52
36:YA:1681:G:O2'	36:YA:1762:A:O2'	2.26	0.52
36:YA:2629:A:O2'	36:YA:2630:G:H5''	2.08	0.52
41:YG:97:ASP:HA	41:YG:100:TRP:HD1	1.74	0.52
1:QA:45:U:H2'	1:QA:46:G:C8	2.44	0.52
1:QA:269:C:H2'	1:QA:270:A:C8	2.42	0.52
1:QA:739:C:HO2'	15:QO:42:HIS:HD1	1.57	0.52
1:QA:842:C:O2'	1:QA:848:C:N4	2.42	0.52
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.90	0.52
25:QY:14:A:H62	25:QY:15:G:H21	1.57	0.52
36:RA:140:A:H8	36:RA:1408:C:O2'	1.91	0.52
36:RA:270(B):A:H8	36:RA:270(C):C:C6	2.27	0.52
36:RA:270(S):G:H2'	36:RA:270(T):G:H8	1.74	0.52
36:RA:2392:A:H2	36:RA:2424:C:H42	1.57	0.52
56:RZ:76:LEU:HA	56:RZ:83:PRO:HA	1.91	0.52
1:XA:1032(A):G:H2'	1:XA:1032(B):G:C8	2.45	0.52
9:XI:45:ALA:O	9:XI:78:LYS:HD3	2.09	0.52
12:XL:104:VAL:HG23	12:XL:105:TYR:H	1.74	0.52
36:YA:307:G:H21	36:YA:330:A:N6	2.04	0.52
36:YA:1823:G:OP1	38:YD:54:ARG:NH1	2.42	0.52
38:YD:26:LYS:HB3	38:YD:83:GLU:HG2	1.89	0.52
47:YQ:13:GLN:O	47:YQ:72:LYS:NZ	2.42	0.52
56:YZ:6:LYS:O	56:YZ:62:PRO:HD3	2.09	0.52
1:QA:522:C:H41	12:QL:53:ARG:NH2	2.06	0.52
1:QA:1355:G:H2'	1:QA:1356:G:C8	2.44	0.52
13:QM:93:ARG:NH1	36:RA:887:A:OP1	2.43	0.52
6:XF:4:TYR:CE1	6:XF:92:LYS:HG2	2.45	0.52
36:YA:686:G:N2	36:YA:788:A:H61	2.07	0.52
36:YA:1509:C:H3'	36:YA:1510:A:H5''	1.90	0.52
39:YE:89:ASP:OD1	39:YE:90:THR:N	2.43	0.52
40:YF:32:LEU:HB3	40:YF:112:MET:HE1	1.91	0.52
43:YI:83:ALA:HB3	43:YI:123:LEU:HD11	1.91	0.52
44:YN:6:PRO:HG3	44:YN:41:ASP:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:16:LEU:HD21	9:QI:41:VAL:HG12	1.92	0.52
8:QH:20:TYR:CE2	8:QH:75:ARG:HD2	2.45	0.52
36:RA:1107:G:H2'	36:RA:1108:U:C6	2.44	0.52
36:RA:1543:A:H1'	36:RA:1545:A:H5''	1.90	0.52
36:RA:1571:A:H2'	36:RA:1572:A:C8	2.44	0.52
1:XA:1298:C:H2'	7:XG:114:ARG:HH12	1.75	0.52
1:XA:1347:G:H22	1:XA:1374:A:P	2.32	0.52
4:XD:200:GLU:O	4:XD:204:ILE:HG12	2.09	0.52
5:XE:81:GLU:HG3	5:XE:90:VAL:HG22	1.92	0.52
10:XJ:61:GLU:OE2	14:XN:45:ARG:NH1	2.42	0.52
19:XS:63:THR:OG1	19:XS:65:ASN:OD1	2.20	0.52
36:YA:219:G:N3	36:YA:234:C:O2'	2.42	0.52
36:YA:844:C:H2'	36:YA:845:G:O4'	2.09	0.52
36:YA:1952:A:C5	45:YO:22:ILE:HD12	2.45	0.52
1:QA:646:U:H2'	1:QA:647:C:C6	2.45	0.52
1:QA:883:C:O2'	1:QA:884:U:H5'	2.10	0.52
18:QR:86:VAL:HG12	18:QR:87:ARG:HG2	1.91	0.52
26:R0:43:THR:HG22	36:RA:2331:G:O2'	2.09	0.52
36:RA:851:U:H2'	36:RA:852:G:H8	1.75	0.52
36:RA:1853:A:H2'	36:RA:1854:A:C8	2.45	0.52
1:XA:1466:C:H2'	1:XA:1467:G:O4'	2.10	0.52
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.91	0.52
20:XT:76:ALA:O	20:XT:80:ARG:HG2	2.10	0.52
26:Y0:43:THR:HG22	36:YA:2331:G:O2'	2.10	0.52
36:YA:900:A:H3'	36:YA:901:A:H8	1.75	0.52
36:YA:2074:U:H2'	36:YA:2075:U:C6	2.44	0.52
42:YH:119:GLU:O	42:YH:140:LYS:NZ	2.32	0.52
42:YH:126:PRO:HG3	42:YH:130:ARG:H	1.75	0.52
30:R4:42:PHE:HE2	41:RG:117:PHE:HB3	1.74	0.52
36:RA:2064:C:H2'	36:RA:2065:C:H6	1.73	0.52
36:RA:2635:C:OP1	39:RE:78:LEU:HB3	2.10	0.52
40:RF:157:VAL:HB	40:RF:194:MET:HG2	1.91	0.52
41:RG:11:TYR:OH	41:RG:32:PRO:O	2.27	0.52
53:RW:88:ARG:HB2	53:RW:92:ARG:HB2	1.91	0.52
1:XA:32:A:H2'	1:XA:33:A:C8	2.44	0.52
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.24	0.52
8:XH:97:VAL:HG21	8:XH:128:GLY:HA2	1.92	0.52
36:YA:823:G:H2'	36:YA:824:A:C8	2.45	0.52
36:YA:1538:G:H2'	36:YA:1539:G:H8	1.74	0.52
36:YA:2455:G:H2'	36:YA:2456:C:C6	2.45	0.52
1:QA:687:A:N6	1:QA:703:G:H21	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1229:A:O2'	22:QV:30:G:OP1	2.26	0.52
2:QB:21:ARG:HB3	2:QB:39:ILE:HG13	1.92	0.52
3:QC:7:PRO:HG2	3:QC:184:TYR:HB2	1.92	0.52
36:RA:627:A:N6	46:RP:116:GLY:HA2	2.24	0.52
36:RA:665:C:H2'	36:RA:666:G:H8	1.74	0.52
36:RA:1479:G:H5'	36:RA:1558:A:H2	1.75	0.52
36:RA:1639:U:H2'	36:RA:1640:C:H5''	1.92	0.52
1:XA:359:U:H2'	1:XA:360:A:C8	2.44	0.52
1:XA:1027:C:O2'	1:XA:1028:C:O5'	2.27	0.52
1:XA:1399:C:C2	1:XA:1502:A:N6	2.78	0.52
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.45	0.52
34:Y8:15:LYS:HB2	46:YP:65:ARG:HE	1.75	0.52
36:YA:1464:C:O2'	36:YA:1528:A:H8	1.91	0.52
36:YA:2030:A:H4'	36:YA:2031:A:C8	2.44	0.52
1:QA:266:G:H5'	1:QA:268:C:H41	1.74	0.52
3:QC:191:THR:HG23	3:QC:193:TYR:H	1.75	0.52
10:QJ:7:LYS:HB2	10:QJ:97:GLU:HB3	1.92	0.52
11:QK:41:THR:HG23	11:QK:41:THR:O	2.09	0.52
36:RA:330:A:H2	36:RA:1210:A:HO2'	1.57	0.52
36:RA:587:C:N3	46:RP:33:ARG:NH1	2.58	0.52
36:RA:660:G:H21	46:RP:12:ALA:HB2	1.73	0.52
36:RA:709:U:H2'	36:RA:710:G:H8	1.74	0.52
36:RA:1827:C:OP2	38:RD:222:ARG:NH1	2.43	0.52
36:RA:1853:A:H2'	36:RA:1854:A:H8	1.74	0.52
44:RN:16:ILE:HG21	44:RN:26:LEU:HD11	1.92	0.52
47:RQ:55:VAL:HG23	56:RZ:178:GLU:HB3	1.91	0.52
1:XA:689:C:H3'	1:XA:690:G:H21	1.75	0.52
1:XA:1191:A:P	3:XC:3:ASN:HD22	2.33	0.52
1:XA:1250:A:H2'	1:XA:1251:A:C8	2.45	0.52
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.45	0.52
2:XB:212:GLN:NE2	2:XB:235:SER:OG	2.42	0.52
36:YA:1210:A:H4'	36:YA:1211:U:O5'	2.09	0.52
36:YA:1292:U:H2'	36:YA:1293:C:H6	1.75	0.52
53:YW:24:ILE:HD13	53:YW:36:LEU:HD11	1.91	0.52
55:YY:50:ARG:HG2	55:YY:50:ARG:O	2.10	0.52
3:QC:91:LEU:HD11	3:QC:101:LEU:HD12	1.92	0.52
4:QD:140:VAL:HG11	4:QD:146:ILE:HD11	1.92	0.52
19:QS:10:PHE:HE1	19:QS:44:MET:HE3	1.74	0.52
32:R6:5:VAL:N	36:RA:2283:C:OP1	2.43	0.52
35:R9:1:MET:HG3	36:RA:2477:C:H2'	1.92	0.52
36:RA:336:C:O2'	55:RY:35:TYR:OH	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:2298:A:H62	36:RA:2318:G:H8	1.56	0.52
36:RA:2839:G:H5'	48:RR:46:GLY:HA2	1.92	0.52
1:XA:688:G:H5'	11:XK:46:GLY:CA	2.38	0.52
8:XH:136:GLU:CD	8:XH:138:TRP:HE1	2.13	0.52
34:Y8:54:GLU:HG3	34:Y8:57:ARG:HH21	1.74	0.52
36:YA:1509:C:H2'	36:YA:1511:A:C8	2.45	0.52
1:QA:718:G:H21	18:QR:49:LYS:HG2	1.76	0.51
5:QE:149:GLU:O	5:QE:153:LYS:HG3	2.10	0.51
11:QK:31:THR:HA	11:QK:42:TRP:HB3	1.92	0.51
36:RA:1056:G:H5''	36:RA:1057:A:H5'	1.92	0.51
36:RA:1289:C:H2'	36:RA:1290:C:H6	1.75	0.51
36:RA:1453:A:N6	36:RA:2702:U:H1'	2.25	0.51
36:RA:2650:U:H2'	36:RA:2651:C:H6	1.75	0.51
39:RE:36:ARG:HH22	39:RE:88:GLY:HA2	1.74	0.51
44:RN:115:ARG:HA	44:RN:118:LYS:HD2	1.92	0.51
45:RO:1:MET:HB2	45:RO:32:TYR:HB3	1.91	0.51
46:RP:106:LEU:HD21	46:RP:112:LEU:HD13	1.91	0.51
1:XA:674:G:H2'	1:XA:675:A:C8	2.41	0.51
1:XA:737:A:H2'	1:XA:738:C:H6	1.75	0.51
1:XA:1080:A:H5''	5:XE:16:THR:HG21	1.92	0.51
1:XA:1238:A:H2	1:XA:1241:G:N3	2.09	0.51
1:XA:1404:C:H2'	1:XA:1405:G:C8	2.45	0.51
3:XC:29:TYR:OH	14:XN:54:PRO:HG2	2.10	0.51
46:YP:144:GLU:OE1	46:YP:144:GLU:N	2.44	0.51
1:QA:751:U:H2'	1:QA:752:G:O4'	2.09	0.51
26:R0:9:SER:HB3	36:RA:2255:G:H21	1.75	0.51
32:R6:23:THR:O	34:R8:34:TRP:NE1	2.44	0.51
36:RA:270(F):U:H2'	36:RA:270(G):C:C6	2.45	0.51
36:RA:1105:U:H2'	36:RA:1106:G:H8	1.75	0.51
36:RA:2692:C:H2'	36:RA:2693:A:H8	1.76	0.51
40:RF:184:TYR:CE2	40:RF:188:ARG:HD2	2.46	0.51
47:RQ:34:LEU:HB2	47:RQ:118:LEU:HD22	1.92	0.51
1:XA:191(E):G:H2'	1:XA:191(F):U:C6	2.46	0.51
1:XA:686:U:O4	1:XA:703:G:H1'	2.10	0.51
36:YA:1429:G:H2'	36:YA:1430:C:C6	2.46	0.51
36:YA:2305:A:N1	41:YG:154:GLY:N	2.54	0.51
41:YG:137:GLU:HG2	41:YG:152:LEU:HD12	1.93	0.51
1:QA:57:G:H2'	1:QA:58:C:H6	1.74	0.51
1:QA:537:G:H2'	1:QA:538:G:C8	2.45	0.51
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.45	0.51
1:QA:1333:A:H8	1:QA:1333:A:O5'	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1452:C:H4'	1:QA:1453:G:H5'	1.93	0.51
30:R4:61:ARG:HD3	30:R4:62:ARG:HG2	1.92	0.51
36:RA:2823:A:OP1	39:RE:113:PHE:HB2	2.09	0.51
36:RA:2851:A:O2'	48:RR:64:ARG:NH2	2.43	0.51
54:RX:36:LYS:HG2	54:RX:56:THR:HG23	1.92	0.51
55:RY:38:ILE:HG22	55:RY:66:PRO:HA	1.91	0.51
56:RZ:128:VAL:HG22	56:RZ:161:VAL:HA	1.93	0.51
1:XA:1213:A:N6	1:XA:1215:G:N3	2.58	0.51
8:XH:19:VAL:HG13	8:XH:21:LYS:HG3	1.92	0.51
36:YA:894:C:H2'	36:YA:895:U:C6	2.44	0.51
36:YA:1406:U:H2'	36:YA:1407:C:H6	1.75	0.51
36:YA:1678:G:H22	36:YA:1989:G:N2	2.08	0.51
52:YV:34:GLU:O	52:YV:36:PRO:HD3	2.10	0.51
32:R6:45:LYS:HG3	36:RA:2371:G:H4'	1.92	0.51
36:RA:38:A:H2'	36:RA:39:C:H6	1.74	0.51
36:RA:590:A:OP1	40:RF:95:ARG:NH1	2.42	0.51
36:RA:634:C:H2'	36:RA:635:C:C6	2.45	0.51
36:RA:1709:U:O2'	36:RA:2859:G:H1'	2.10	0.51
36:RA:2129:C:N4	36:RA:2130:U:O4	2.42	0.51
37:RB:23:G:N2	37:RB:61:G:N3	2.58	0.51
40:RF:164:ARG:HG3	40:RF:175:THR:OG1	2.11	0.51
50:RT:51:ARG:HG3	50:RT:100:TYR:OH	2.10	0.51
52:RV:38:LEU:H	52:RV:51:VAL:HG23	1.76	0.51
1:XA:135:C:H2'	1:XA:136:C:H5'	1.93	0.51
28:Y2:28:LYS:HD2	28:Y2:53:LEU:HD11	1.92	0.51
30:Y4:23:GLU:C	30:Y4:25:TYR:H	2.14	0.51
36:YA:658:C:H2'	36:YA:659:C:C6	2.44	0.51
36:YA:2695:C:H2'	36:YA:2696:U:C6	2.46	0.51
39:YE:23:VAL:HG21	39:YE:183:LEU:HD23	1.91	0.51
45:YO:80:ASP:OD2	50:YT:64:ARG:NH2	2.43	0.51
1:QA:1143:G:H2'	1:QA:1144:G:C8	2.45	0.51
13:QM:15:VAL:HA	13:QM:18:ALA:HB3	1.91	0.51
35:R9:11:CYS:SG	35:R9:12:ASP:N	2.84	0.51
36:RA:2503:A:O2'	36:RA:2505:G:OP2	2.22	0.51
56:RZ:132:ASN:O	56:RZ:134:PRO:HD3	2.11	0.51
36:YA:2168:G:H21	36:YA:2169:A:H3'	1.74	0.51
45:YO:107:ARG:HG3	45:YO:115:VAL:HG11	1.92	0.51
5:QE:31:LEU:HD11	5:QE:129:ILE:HG13	1.93	0.51
11:QK:43:SER:CB	11:QK:68:ALA:HB2	2.39	0.51
19:QS:55:LYS:HG2	19:QS:56:GLN:HG2	1.92	0.51
29:R3:12:PRO:HA	29:R3:15:TYR:HD1	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:221:A:H4'	36:RA:222:A:O5'	2.11	0.51
36:RA:1026:U:H1'	36:RA:1027:A:H5''	1.92	0.51
36:RA:2328:A:H2'	36:RA:2329:G:H8	1.75	0.51
38:RD:25:THR:HG21	38:RD:113:VAL:HG21	1.92	0.51
42:RH:8:PRO:HG2	42:RH:69:ARG:CZ	2.41	0.51
1:XA:753:A:H4'	1:XA:754:C:O5'	2.11	0.51
15:XO:26:GLU:HG3	15:XO:81:LEU:HD22	1.93	0.51
36:YA:631:A:H61	36:YA:2402:C:N4	2.07	0.51
39:YE:117:MET:HA	39:YE:122:PHE:N	2.26	0.51
13:QM:15:VAL:HB	13:QM:45:VAL:HB	1.93	0.51
36:RA:137(A):G:N3	54:RX:41:ASN:ND2	2.59	0.51
36:RA:547:A:H2'	36:RA:548:A:C8	2.45	0.51
36:RA:589:C:H2'	36:RA:590:A:H8	1.75	0.51
36:RA:1165:U:H2'	36:RA:1166:C:H6	1.75	0.51
36:RA:1510:A:N3	36:RA:1510:A:H2'	2.25	0.51
36:RA:2025:C:H2'	36:RA:2026:C:C6	2.45	0.51
36:RA:2394:C:OP1	46:RP:63:PRO:HD2	2.11	0.51
39:RE:78:LEU:HD23	39:RE:78:LEU:H	1.76	0.51
47:RQ:65:PHE:HB2	47:RQ:105:GLU:HB2	1.92	0.51
49:RS:19:LYS:O	49:RS:20:ARG:HG2	2.10	0.51
1:XA:938:A:N3	1:XA:1376:U:O2'	2.34	0.51
16:XP:59:TRP:HA	16:XP:62:VAL:HG22	1.91	0.51
28:Y2:65:ASN:ND2	36:YA:72:U:O4	2.44	0.51
32:Y6:17:LYS:O	32:Y6:18:ARG:HG2	2.11	0.51
36:YA:288:C:H2'	36:YA:289:A:H8	1.76	0.51
36:YA:839:U:H1'	36:YA:1191:G:H1'	1.93	0.51
36:YA:1231:G:H2'	36:YA:1232:G:H8	1.74	0.51
36:YA:1991:U:H2'	36:YA:1992:G:H5''	1.92	0.51
37:YB:32:C:C2	37:YB:51:G:N2	2.78	0.51
56:YZ:51:ALA:O	56:YZ:52:SER:OG	2.24	0.51
33:R7:33:ARG:NH1	36:RA:467:G:OP1	2.43	0.51
36:RA:49:A:N7	36:RA:120:U:H5	2.09	0.51
36:RA:414:C:H2'	36:RA:415:A:H8	1.76	0.51
36:RA:590:A:H2'	36:RA:591:C:C6	2.46	0.51
36:RA:874:G:O6	36:RA:904:C:N4	2.44	0.51
36:RA:1130:U:O2	39:RE:149:ARG:NH2	2.40	0.51
36:RA:1709:U:H2'	36:RA:1710:C:C6	2.46	0.51
36:RA:2346:A:H5''	36:RA:2383:G:H1'	1.92	0.51
42:RH:25:LYS:NZ	42:RH:32:GLU:HB2	2.26	0.51
51:RU:110:VAL:HG12	51:RU:114:LYS:HE2	1.93	0.51
54:RX:53:LYS:HB3	54:RX:82:GLN:HB3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:243:A:H4'	1:XA:244:U:O5'	2.11	0.51
1:XA:327:A:HO2'	1:XA:329:A:H8	1.58	0.51
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.92	0.51
8:XH:104:ARG:HD2	8:XH:138:TRP:HB2	1.91	0.51
24:XX:14:A:HO2'	24:XX:15:A:P	2.34	0.51
40:YF:125:LEU:HA	40:YF:194:MET:O	2.11	0.51
1:QA:922:G:H2'	1:QA:923:A:C8	2.46	0.51
1:QA:1306:A:H1'	1:QA:1332:A:C2	2.45	0.51
3:QC:46:GLU:O	3:QC:83:ARG:NH2	2.43	0.51
29:R3:39:ASP:OD1	29:R3:44:ARG:NE	2.44	0.51
34:R8:34:TRP:HH2	36:RA:2348:U:OP1	1.94	0.51
36:RA:589:C:H2'	36:RA:590:A:C8	2.46	0.51
36:RA:1790:C:H4'	38:RD:209:ALA:HB2	1.93	0.51
36:RA:2074:U:H2'	36:RA:2075:U:C6	2.46	0.51
36:RA:2696:U:H2'	36:RA:2697:G:C8	2.46	0.51
38:RD:17:THR:HB	38:RD:205:VAL:H	1.76	0.51
40:RF:117:ARG:NH2	40:RF:189:THR:O	2.43	0.51
46:RP:20:GLY:HA2	46:RP:27:HIS:O	2.10	0.51
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.76	0.51
30:Y4:39:CYS:SG	30:Y4:40:HIS:N	2.81	0.51
36:YA:1528:A:H2'	36:YA:1529:A:C8	2.46	0.51
36:YA:2688:U:OP1	36:YA:2713:A:N6	2.44	0.51
39:YE:45:THR:OG1	39:YE:83:ASP:OD2	2.29	0.51
46:YP:20:GLY:HA2	46:YP:27:HIS:O	2.11	0.51
47:YQ:116:GLU:OE2	47:YQ:119:ARG:NH2	2.43	0.51
1:QA:32:A:H2'	1:QA:33:A:C8	2.46	0.51
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.45	0.51
2:QB:32:ILE:HD11	2:QB:190:THR:HG22	1.92	0.51
15:QO:70:LEU:HD11	15:QO:77:ARG:HG3	1.92	0.51
36:RA:2168:G:N2	36:RA:2170:A:N7	2.59	0.51
36:RA:2402:C:H5	36:RA:2415:G:H22	1.59	0.51
36:RA:2557:G:H2'	36:RA:2558:C:H6	1.75	0.51
36:RA:2696:U:H2'	36:RA:2697:G:H8	1.76	0.51
6:XF:39:LYS:NZ	6:XF:64:GLN:OE1	2.28	0.51
36:YA:1412:A:H2'	36:YA:1413:G:C8	2.46	0.51
36:YA:1586:A:H3'	36:YA:1587:A:H8	1.75	0.51
1:QA:636:U:H2'	1:QA:637:G:H8	1.74	0.50
1:QA:945:G:C2	1:QA:946:A:C8	3.00	0.50
1:QA:1014:A:H8	1:QA:1014:A:OP1	1.94	0.50
1:QA:1288:A:H2'	1:QA:1289:A:C8	2.46	0.50
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:9:MET:HB2	8:QH:32:LYS:HZ2	1.76	0.50
22:QV:9:G:O2'	22:QV:10:G:N7	2.41	0.50
36:RA:1329:U:H5''	36:RA:1330:C:H5	1.76	0.50
36:RA:1608:A:H1'	36:RA:1610:A:OP2	2.11	0.50
36:RA:1655:A:H4'	39:RE:115:GLY:H	1.74	0.50
36:RA:2233:U:H2'	36:RA:2234:G:C8	2.45	0.50
56:RZ:108:PRO:HB3	56:RZ:144:LEU:HB3	1.93	0.50
1:XA:1281:U:H5''	1:XA:1282:C:H5	1.76	0.50
4:XD:162:LEU:CD2	4:XD:181:MET:HG2	2.42	0.50
25:XY:38:U:H2'	25:XY:39:G:C8	2.46	0.50
36:YA:69:C:H4'	36:YA:75:G:N7	2.26	0.50
36:YA:1028:A:H2'	36:YA:1029:A:H8	1.76	0.50
36:YA:1427:A:H4'	36:YA:1428:C:O5'	2.11	0.50
44:YN:35:ARG:NH2	44:YN:42:TRP:CH2	2.79	0.50
1:QA:1238:A:C8	1:QA:1301:U:O4	2.63	0.50
27:R1:87:PRO:O	27:R1:91:LYS:HG2	2.11	0.50
27:R1:90:ILE:HA	27:R1:94:LEU:HD12	1.93	0.50
36:RA:674:G:H1'	40:RF:74:ARG:NH1	2.26	0.50
36:RA:1045:A:O2'	36:RA:1046:A:OP2	2.27	0.50
36:RA:2303:G:O2'	41:RG:132:ASN:HB2	2.12	0.50
36:RA:2850:A:N7	36:RA:2868:A:O2'	2.31	0.50
1:XA:376:G:H5''	16:XP:5:ARG:HB2	1.92	0.50
23:XW:59:U:H6	23:XW:59:U:OP1	1.95	0.50
36:YA:71:A:H2	54:YX:31:HIS:HE2	1.54	0.50
36:YA:577:G:O2'	36:YA:1254:A:OP1	2.26	0.50
36:YA:1416:G:H2'	36:YA:1417:C:C6	2.47	0.50
36:YA:1869:G:H5'	36:YA:1870:C:OP2	2.11	0.50
36:YA:2392:A:C8	46:YP:60:MET:HG2	2.46	0.50
36:YA:2728:U:H2'	36:YA:2729:G:H8	1.75	0.50
42:YH:151:ILE:O	42:YH:154:PRO:HD2	2.10	0.50
44:YN:89:LYS:O	44:YN:93:THR:HG22	2.11	0.50
51:YU:114:LYS:HA	51:YU:118:GLY:HA3	1.94	0.50
54:YX:57:LEU:HG	54:YX:78:LYS:HB2	1.92	0.50
1:QA:113:G:H2'	1:QA:114:U:C6	2.46	0.50
2:QB:166:ASP:HB3	2:QB:169:LYS:HB3	1.92	0.50
22:QV:16:C:O2'	22:QV:61:C:OP1	2.28	0.50
36:RA:256:A:H2'	36:RA:257:A:H8	1.76	0.50
36:RA:582:G:H2'	36:RA:583:G:C8	2.46	0.50
36:RA:814:C:H1'	36:RA:1226:G:H21	1.77	0.50
36:RA:1210:A:H5''	36:RA:1211:U:H3'	1.93	0.50
37:RB:109:G:H2'	37:RB:110:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RF:63:LYS:HE2	40:RF:67:GLN:HB2	1.93	0.50
40:RF:170:LEU:HD12	40:RF:172:TRP:CE2	2.46	0.50
54:RX:27:THR:HB	54:RX:80:ILE:HG13	1.94	0.50
55:RY:86:ARG:HG3	55:RY:95:LYS:HD2	1.93	0.50
1:XA:963:G:H21	10:XJ:55:LYS:HE2	1.76	0.50
1:XA:1443:G:C6	50:YT:118:ARG:HB2	2.46	0.50
13:XM:19:LEU:HD21	13:XM:56:LEU:HD21	1.94	0.50
16:XP:82:GLN:O	16:XP:83:GLU:HG3	2.10	0.50
36:YA:389:G:H1	46:YP:72:PRO:HD3	1.76	0.50
36:YA:582:G:H2'	36:YA:583:G:C8	2.46	0.50
36:YA:978:G:O4'	36:YA:1001:A:H2	1.94	0.50
36:YA:1316:U:H2'	36:YA:1317:A:H8	1.76	0.50
36:YA:1728:G:N1	36:YA:1730:U:OP2	2.44	0.50
36:YA:2064:C:H2'	36:YA:2065:C:H6	1.76	0.50
38:YD:121:PRO:HB3	38:YD:135:PHE:CE2	2.46	0.50
42:YH:102:ALA:HA	42:YH:117:PRO:HD3	1.94	0.50
52:YV:76:LYS:HB2	52:YV:81:TYR:HB3	1.93	0.50
1:QA:410:G:H2'	1:QA:429:U:C5	2.46	0.50
1:QA:1322:C:OP1	19:QS:78:ARG:NH2	2.44	0.50
1:QA:1404:C:H2'	1:QA:1405:G:C8	2.46	0.50
23:QW:55:U:H2'	23:QW:56:C:C5	2.46	0.50
36:RA:844:C:H2'	36:RA:845:G:O4'	2.12	0.50
36:RA:949:C:H2'	36:RA:950:G:H8	1.77	0.50
36:RA:1990:C:H2'	36:RA:1991:U:C6	2.47	0.50
36:YA:2853:C:H2'	36:YA:2854:G:H8	1.76	0.50
43:YI:131:LYS:HB3	43:YI:132:PRO:HA	1.94	0.50
1:QA:1036:G:N7	1:QA:1037:C:N4	2.59	0.50
36:RA:69:C:H4'	36:RA:75:G:N7	2.27	0.50
36:RA:709:U:H2'	36:RA:710:G:C8	2.47	0.50
36:RA:946:G:O6	36:RA:972:G:N2	2.45	0.50
37:RB:8:U:H5'	49:RS:15:ARG:HH12	1.75	0.50
1:XA:177:C:OP2	20:XT:65:LYS:HD3	2.11	0.50
1:XA:1006:C:H2'	1:XA:1007:C:C6	2.47	0.50
36:YA:598:G:H4'	46:YP:9:ASN:HD21	1.76	0.50
40:YF:184:TYR:CE2	40:YF:188:ARG:HD2	2.47	0.50
1:QA:243:A:H4'	1:QA:244:U:O5'	2.12	0.50
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.46	0.50
8:QH:116:LYS:HG2	8:QH:129:VAL:HG11	1.93	0.50
23:QW:30:G:H1	23:QW:40:C:H42	1.60	0.50
40:RF:9:ILE:HD12	40:RF:123:LEU:HD23	1.93	0.50
42:RH:29:PRO:HD2	42:RH:79:VAL:HG11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:RI:30:LEU:HB3	43:RI:36:ALA:HB3	1.94	0.50
25:XY:55:U:H3	25:XY:57:G:H8	1.59	0.50
43:YI:5:LEU:HD21	43:YI:12:LEU:HB3	1.92	0.50
1:QA:739:C:O2'	15:QO:42:HIS:ND1	2.43	0.50
1:QA:1288:A:H2'	1:QA:1289:A:H8	1.76	0.50
25:QY:38:U:H2'	25:QY:39:G:C8	2.47	0.50
36:RA:128:C:H2'	36:RA:129:C:C6	2.47	0.50
36:RA:1889:A:H2'	36:RA:1890:A:C8	2.46	0.50
36:RA:2111:C:C2	36:RA:2118:U:H4'	2.46	0.50
37:RB:109:G:H2'	37:RB:110:G:H8	1.77	0.50
40:RF:101:LEU:HD23	40:RF:106:ARG:HG2	1.94	0.50
55:RY:35:TYR:CE2	55:RY:69:ALA:HB3	2.47	0.50
17:XQ:28:PRO:HA	17:XQ:35:VAL:HA	1.93	0.50
17:XQ:45:HIS:NE2	17:XQ:47:PRO:HG3	2.27	0.50
36:YA:571:A:O5'	36:YA:2030:A:N6	2.41	0.50
36:YA:607:U:O2	36:YA:621:A:N1	2.45	0.50
36:YA:608:A:H2'	36:YA:609:A:C8	2.46	0.50
36:YA:2059:A:H5'	36:YA:2060:A:OP2	2.11	0.50
36:YA:2246:G:H2'	36:YA:2247:A:C8	2.46	0.50
40:YF:154:VAL:HG22	40:YF:191:ARG:HB2	1.93	0.50
40:YF:185:ASP:HA	40:YF:188:ARG:HD3	1.94	0.50
53:YW:110:LYS:HG3	53:YW:111:HIS:H	1.77	0.50
1:QA:57:G:H2'	1:QA:58:C:C6	2.47	0.50
1:QA:222:U:H2'	1:QA:223:U:H6	1.77	0.50
1:QA:407:G:H2'	1:QA:408:A:H8	1.76	0.50
1:QA:939:G:H5''	7:QG:102:ARG:CZ	2.42	0.50
1:QA:952:U:H2'	1:QA:953:G:H8	1.77	0.50
1:QA:995:C:H1'	14:QN:4:LYS:HE3	1.93	0.50
1:QA:1374:A:O2'	7:QG:28:ASN:HB3	2.12	0.50
15:QO:4:THR:HG23	15:QO:7:GLU:H	1.77	0.50
36:RA:620:G:H4'	36:RA:621:A:H5''	1.92	0.50
36:RA:1009:A:H1'	36:RA:1153:C:O2'	2.10	0.50
36:RA:1930:G:N2	36:RA:1969:A:OP2	2.34	0.50
38:RD:142:VAL:HG12	38:RD:193:VAL:HA	1.92	0.50
42:RH:25:LYS:HE3	42:RH:27:LYS:HE2	1.94	0.50
1:XA:343:U:O2	1:XA:346:G:N1	2.43	0.50
1:XA:676:A:H1'	11:XK:115:PRO:HB3	1.94	0.50
2:XB:118:LEU:HD23	2:XB:142:LEU:HB2	1.93	0.50
8:XH:6:ILE:O	8:XH:10:LEU:HG	2.12	0.50
36:YA:2788:C:OP1	39:YE:61:ARG:NH2	2.45	0.50
42:YH:89:ILE:HG12	42:YH:129:THR:HB	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:191(E):G:H2'	1:QA:191(F):U:C6	2.47	0.50
1:QA:737:A:H2'	1:QA:738:C:H6	1.77	0.50
1:QA:824:C:H2'	1:QA:825:G:H8	1.76	0.50
1:QA:892:A:H2'	1:QA:893:C:H6	1.76	0.50
1:QA:954:G:H2'	1:QA:955:U:C6	2.46	0.50
1:QA:1513:A:H2'	1:QA:1514:C:H6	1.76	0.50
15:QO:75:PRO:HA	15:QO:78:TYR:HB3	1.94	0.50
36:RA:892:G:H2'	36:RA:893:C:H6	1.77	0.50
36:RA:1400:G:H2'	36:RA:1401:G:C8	2.47	0.50
36:RA:2648:C:H2'	36:RA:2649:U:C6	2.47	0.50
41:RG:27:ASN:HB3	41:RG:30:GLU:HG3	1.93	0.50
47:RQ:111:GLU:HA	47:RQ:114:ALA:HB3	1.94	0.50
50:RT:26:ASP:HB3	50:RT:92:GLY:H	1.76	0.50
1:XA:323:U:H2'	1:XA:324:G:O4'	2.12	0.50
10:XJ:34:VAL:HG23	10:XJ:74:ILE:HG12	1.94	0.50
16:XP:67:THR:HG22	16:XP:68:ASP:H	1.76	0.50
22:XV:50:U:H2'	22:XV:51:C:C6	2.47	0.50
36:YA:546:C:H3'	36:YA:547:A:C8	2.47	0.50
36:YA:2728:U:H2'	36:YA:2729:G:C8	2.47	0.50
42:YH:88:LEU:HA	42:YH:130:ARG:HA	1.92	0.50
42:YH:89:ILE:HG22	42:YH:162:ILE:HG23	1.94	0.50
46:YP:37:GLY:O	46:YP:41:ARG:HG2	2.12	0.50
56:YZ:52:SER:O	56:YZ:54:HIS:N	2.45	0.50
56:YZ:103:ARG:HB2	56:YZ:138:GLU:HB3	1.94	0.50
1:QA:65:U:H2'	1:QA:381:C:H41	1.77	0.49
1:QA:1238:A:C5	1:QA:1303:C:O4'	2.65	0.49
1:QA:1316:G:N2	1:QA:1319:A:OP2	2.45	0.49
20:QT:13:LEU:HD23	20:QT:13:LEU:H	1.77	0.49
36:RA:922:U:H2'	36:RA:923:C:C6	2.46	0.49
36:RA:1794:U:H2'	36:RA:1795:C:H6	1.77	0.49
36:RA:2511:U:O2'	39:RE:138:PRO:O	2.23	0.49
36:RA:2740:A:H2'	36:RA:2741:A:C8	2.47	0.49
38:RD:25:THR:O	38:RD:27:THR:N	2.44	0.49
39:RE:33:VAL:HG12	39:RE:89:ASP:HA	1.94	0.49
1:XA:134:A:N6	16:XP:25:ARG:HH12	2.09	0.49
1:XA:1305:G:N2	1:XA:1332:A:OP2	2.44	0.49
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.94	0.49
36:YA:1264:G:H3'	36:YA:1265:A:H5''	1.94	0.49
36:YA:2168:G:N3	36:YA:2168:G:C2'	2.70	0.49
36:YA:2346:A:H5''	36:YA:2383:G:H1'	1.94	0.49
1:QA:6:G:H4'	1:QA:298:A:H4'	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1399:C:C2	1:QA:1502:A:N6	2.80	0.49
19:QS:36:ARG:HH21	19:QS:75:ALA:HB3	1.70	0.49
28:R2:65:ASN:ND2	36:RA:111:A:O3'	2.45	0.49
36:RA:262:A:N3	36:RA:430:G:O2'	2.32	0.49
36:RA:1899:G:H21	36:RA:1902:C:H41	1.60	0.49
36:RA:2065:C:H2'	36:RA:2066:C:H6	1.77	0.49
44:RN:16:ILE:HB	44:RN:54:VAL:HG22	1.94	0.49
47:RQ:12:GLN:HG2	47:RQ:73:PRO:HD2	1.93	0.49
49:RS:87:PHE:CZ	49:RS:102:ALA:HB2	2.47	0.49
1:XA:80:G:H22	1:XA:89:U:H3	1.59	0.49
3:XC:108:ASN:ND2	3:XC:144:SER:OG	2.45	0.49
4:XD:8:VAL:HB	4:XD:22:LYS:HE2	1.94	0.49
34:Y8:26:LYS:HD3	34:Y8:47:LYS:HD3	1.94	0.49
34:Y8:31:HIS:HE1	36:YA:2422:A:N7	2.10	0.49
36:YA:813:U:H2'	36:YA:814:C:C6	2.47	0.49
36:YA:994:C:OP1	51:YU:53:ARG:NH2	2.45	0.49
36:YA:1980:G:O5'	36:YA:1980:G:H2'	2.13	0.49
36:YA:2543:G:H2'	36:YA:2544:G:C8	2.47	0.49
50:YT:28:VAL:HG12	50:YT:88:ILE:HA	1.94	0.49
1:QA:410:G:H3'	4:QD:25:ARG:HH12	1.77	0.49
36:RA:140:A:C8	36:RA:1408:C:O2'	2.62	0.49
36:RA:910:A:H62	47:RQ:12:GLN:HA	1.76	0.49
36:RA:1028:A:H2'	36:RA:1029:A:H8	1.77	0.49
36:RA:1638:C:OP1	36:RA:2710:C:O2'	2.30	0.49
36:RA:1668:A:C8	36:RA:1674:G:C6	3.01	0.49
36:RA:2892:A:H2'	36:RA:2893:G:O4'	2.12	0.49
1:XA:299:G:H2'	1:XA:300:A:C8	2.47	0.49
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.46	0.49
17:XQ:57:VAL:HG12	17:XQ:76:LEU:HA	1.93	0.49
36:YA:143:C:H2'	36:YA:144:C:H6	1.77	0.49
36:YA:581:C:H2'	36:YA:582:G:C8	2.47	0.49
36:YA:814:C:H41	46:YP:25:SER:HA	1.77	0.49
36:YA:922:U:H2'	36:YA:923:C:C6	2.47	0.49
36:YA:2394:C:OP1	46:YP:63:PRO:HD2	2.11	0.49
1:QA:737:A:H2'	1:QA:738:C:C6	2.47	0.49
1:QA:946:A:H2'	1:QA:947:G:H8	1.77	0.49
10:QJ:7:LYS:HD3	10:QJ:71:LEU:HD13	1.93	0.49
36:RA:1020:A:N1	36:RA:1141:U:H2'	2.27	0.49
36:RA:1429:G:H2'	36:RA:1430:C:H6	1.78	0.49
37:RB:75:G:HO2'	56:RZ:85:HIS:HE2	1.58	0.49
1:XA:1198:G:H2'	1:XA:1199:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:23:LYS:HG2	6:XF:61:LEU:HD21	1.93	0.49
14:YN:4:LYS:HA	14:YN:7:ILE:HG22	1.94	0.49
39:YE:29:GLY:H	39:YE:51:PHE:HE2	1.60	0.49
1:QA:384:G:H2'	1:QA:385:C:C6	2.48	0.49
1:QA:452:A:H62	1:QA:480:U:H3	1.59	0.49
1:QA:890:G:O2'	1:QA:906:G:O6	2.20	0.49
1:QA:1109:C:OP2	3:QC:176:HIS:ND1	2.38	0.49
1:QA:1316:G:O2'	1:QA:1317:C:OP1	2.24	0.49
6:QF:62:TRP:HH2	6:QF:64:GLN:HE21	1.61	0.49
25:QY:55:U:O2'	25:QY:57:G:OP2	2.30	0.49
36:RA:831:G:O2'	46:RP:38:GLN:OE1	2.29	0.49
36:RA:1399:C:H2'	36:RA:1400:G:H8	1.77	0.49
36:RA:2308:G:HO2'	36:RA:2310:A:H2	1.61	0.49
36:RA:2783:G:H2'	36:RA:2784:C:C6	2.47	0.49
45:RO:3:GLN:CB	45:RO:4:PRO:CD	2.90	0.49
1:XA:97:U:H2'	1:XA:99:C:C6	2.48	0.49
1:XA:337:C:H2'	1:XA:338:A:C8	2.47	0.49
1:XA:438:G:O2'	1:XA:494:U:O4	2.29	0.49
1:XA:973:G:O4'	10:XJ:55:LYS:HG3	2.12	0.49
2:XB:58:ILE:HD11	2:XB:185:ILE:HD13	1.94	0.49
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.78	0.49
22:XV:28:C:H2'	22:XV:29:G:H8	1.77	0.49
36:YA:690:G:H2'	36:YA:691:C:C6	2.47	0.49
36:YA:1204:A:HO2'	36:YA:1205:U:P	2.35	0.49
36:YA:1506:C:H3'	36:YA:1507:A:H5''	1.94	0.49
36:YA:1535:U:H2'	36:YA:1536:A:H8	1.76	0.49
1:QA:45:U:H2'	1:QA:46:G:H8	1.76	0.49
1:QA:173:U:H5''	1:QA:197:A:O4'	2.12	0.49
1:QA:523:A:C2	12:QL:91:LYS:HB3	2.47	0.49
1:QA:1000:A:O2'	1:QA:1001:G:H5'	2.13	0.49
12:QL:43:VAL:HG13	12:QL:93:LEU:HD22	1.95	0.49
36:RA:265:A:H2'	36:RA:266:G:C4'	2.42	0.49
36:RA:639:U:H2'	36:RA:640:C:C6	2.48	0.49
36:RA:1007:C:H5''	44:RN:35:ARG:NH1	2.26	0.49
36:RA:1130:U:O2'	36:RA:1131:G:O5'	2.30	0.49
36:RA:1142(A):A:H4'	44:RN:25:ARG:HH22	1.77	0.49
36:RA:2552:U:H2'	36:RA:2554:U:OP2	2.12	0.49
36:RA:2821:A:OP2	48:RR:3:HIS:CE1	2.66	0.49
45:RO:86:ILE:HG22	45:RO:94:ARG:HD3	1.94	0.49
1:XA:384:G:H2'	1:XA:385:C:C6	2.47	0.49
1:XA:427:U:OP2	1:XA:428:G:O2'	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:662:G:H2'	1:XA:663:A:C8	2.48	0.49
1:XA:667:G:H4'	15:XO:51:HIS:CE1	2.48	0.49
1:XA:704:A:H61	11:XK:42:TRP:HZ2	1.59	0.49
1:XA:1118:C:H1'	1:XA:1179:A:C5	2.47	0.49
25:XY:38:U:H2'	25:XY:39:G:H8	1.77	0.49
27:Y1:91:LYS:O	27:Y1:93:GLU:N	2.45	0.49
36:YA:1499:C:C2	36:YA:1500:G:C8	3.00	0.49
46:YP:101:VAL:HG23	46:YP:106:LEU:HD23	1.93	0.49
53:YW:73:ALA:HB3	53:YW:106:ILE:HG12	1.95	0.49
1:QA:1145:C:H4'	1:QA:1146:A:H8	1.77	0.49
4:QD:13:ARG:HB3	4:QD:38:TYR:O	2.12	0.49
36:RA:49:A:H61	36:RA:177:G:H2'	1.78	0.49
36:RA:414:C:H2'	36:RA:415:A:C8	2.48	0.49
36:RA:1231:G:H2'	36:RA:1232:G:H8	1.78	0.49
36:RA:1678:G:N2	36:RA:1989:G:H22	2.10	0.49
37:RB:13:A:N1	37:RB:69:G:O2'	2.43	0.49
40:RF:149:ASP:OD1	40:RF:149:ASP:N	2.45	0.49
45:RO:47:ILE:HG13	45:RO:48:PRO:HD2	1.95	0.49
55:RY:52:SER:HB3	55:RY:53:PRO:HD3	1.94	0.49
1:XA:1360:A:OP2	14:XN:35:ARG:NH2	2.46	0.49
2:XB:71:VAL:HG23	2:XB:93:VAL:HB	1.94	0.49
3:XC:157:ILE:HD13	3:XC:166:GLU:HG2	1.93	0.49
4:XD:47:ARG:HD3	4:XD:47:ARG:H	1.78	0.49
30:Y4:15:ILE:HG13	30:Y4:32:TYR:HD1	1.78	0.49
34:Y8:15:LYS:HD3	34:Y8:46:ARG:HH12	1.77	0.49
34:Y8:28:GLY:O	34:Y8:36:LYS:NZ	2.46	0.49
36:YA:191:A:H2'	36:YA:192:C:C6	2.47	0.49
36:YA:297:C:H5''	55:YY:85:VAL:HG21	1.94	0.49
36:YA:1430:C:H2'	36:YA:1431:U:H6	1.77	0.49
43:YI:30:LEU:HB3	43:YI:36:ALA:HB3	1.95	0.49
55:YY:84:ARG:NH1	55:YY:97:ARG:HA	2.27	0.49
56:YZ:6:LYS:HD2	56:YZ:40:ASP:HB2	1.95	0.49
1:QA:539:A:H2'	1:QA:540:G:C8	2.48	0.49
1:QA:683:G:H2'	1:QA:684:A:C8	2.47	0.49
1:QA:1305:G:H8	1:QA:1305:G:H5''	1.77	0.49
11:QK:44:SER:O	11:QK:64:ALA:CB	2.60	0.49
46:RP:85:LEU:HD13	46:RP:88:LEU:HD12	1.94	0.49
1:XA:264:U:H4'	17:XQ:63:ARG:HD3	1.94	0.49
1:XA:439:A:C5	1:XA:440:A:H1'	2.48	0.49
1:XA:860:A:H2'	1:XA:861:G:O4'	2.12	0.49
2:XB:127:ILE:O	2:XB:135:GLN:NE2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:66:VAL:O	7:XG:70:LYS:HG3	2.12	0.49
16:XP:8:ARG:HB3	16:XP:28:ARG:HH12	1.77	0.49
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.94	0.49
36:YA:626:U:O2	46:YP:105:LEU:HD22	2.12	0.49
36:YA:1153:C:H2'	36:YA:1154:G:O4'	2.13	0.49
36:YA:1265:A:H8	36:YA:1265:A:OP1	1.96	0.49
36:YA:2266:A:H4'	36:YA:2267:A:N3	2.28	0.49
36:YA:2747:G:O6	36:YA:2755:C:H5''	2.12	0.49
40:YF:33:LEU:HD22	40:YF:183:VAL:HG21	1.94	0.49
43:YI:110:ASP:HB3	43:YI:112:LYS:N	2.28	0.49
56:YZ:94:GLU:H	56:YZ:95:PRO:HD3	1.78	0.49
8:QH:51:VAL:HG11	8:QH:60:ARG:HD2	1.93	0.49
19:QS:18:LYS:HD3	19:QS:31:ILE:HD11	1.95	0.49
25:QY:11:C:H2'	25:QY:12:U:C6	2.47	0.49
36:RA:813:U:H2'	36:RA:814:C:H6	1.76	0.49
36:RA:934:G:H2'	36:RA:935:C:H6	1.78	0.49
36:RA:1331:A:O2'	36:RA:1332:G:H8	1.96	0.49
36:RA:1636:C:H2'	36:RA:1637:A:C8	2.48	0.49
36:RA:2134:A:N6	36:RA:2157:G:O2'	2.45	0.49
36:RA:2183:C:H2'	36:RA:2184:G:H8	1.78	0.49
36:RA:2393:A:H5''	46:RP:62:LEU:HB3	1.94	0.49
55:RY:97:ARG:HH11	55:RY:98:VAL:HB	1.78	0.49
25:XY:25:C:H2'	25:XY:26:G:H8	1.77	0.49
36:YA:747:U:O2	36:YA:2014:A:H1'	2.13	0.49
36:YA:881:G:O5'	36:YA:881:G:H8	1.96	0.49
36:YA:888:C:H3'	36:YA:889:C:H4'	1.94	0.49
36:YA:1009:A:O4'	51:YU:59:ARG:NH1	2.46	0.49
36:YA:2502:G:H5''	36:YA:2503:A:H5''	1.93	0.49
45:YO:25:LEU:HB2	45:YO:38:VAL:HG13	1.94	0.49
1:QA:1360:A:H8	1:QA:1360:A:OP1	1.96	0.49
1:QA:1392:G:N2	1:QA:1502:A:H8	2.10	0.49
32:R6:24:GLU:OE2	32:R6:39:TYR:HE2	1.95	0.49
36:RA:9:U:O4	36:RA:2629:A:N7	2.46	0.49
36:RA:1941:C:N4	36:RA:1965:C:O4'	2.46	0.49
55:RY:39:VAL:HG12	55:RY:40:GLU:N	2.27	0.49
1:XA:298:A:H8	1:XA:298:A:OP1	1.96	0.49
1:XA:954:G:H2'	1:XA:955:U:C6	2.48	0.49
1:XA:974:A:P	14:XN:29:ARG:HH21	2.36	0.49
1:XA:1402:C:H2'	1:XA:1403:C:O4'	2.13	0.49
8:XH:101:PRO:HG2	8:XH:133:LEU:HD11	1.94	0.49
11:XK:124:LYS:HE3	11:XK:125:PHE:CE2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:XP:49:LEU:HD22	16:XP:73:LEU:HD22	1.94	0.49
36:YA:721:C:H2'	36:YA:722:A:C8	2.47	0.49
36:YA:837:C:N3	36:YA:941:A:N6	2.60	0.49
36:YA:1316:U:H5''	36:YA:1536:A:H2	1.78	0.49
36:YA:2784:C:H2'	36:YA:2785:C:H6	1.77	0.49
1:QA:404:U:H2'	1:QA:405:U:H6	1.77	0.48
1:QA:452:A:H2'	1:QA:453:A:C8	2.47	0.48
1:QA:736:C:H2'	1:QA:737:A:C8	2.48	0.48
12:QL:60:LEU:HD23	12:QL:60:LEU:H	1.78	0.48
20:QT:74:LYS:HG3	20:QT:75:ASN:H	1.77	0.48
28:R2:14:ARG:NH1	28:R2:66:GLU:OE2	2.46	0.48
36:RA:271(B):G:H4'	36:RA:271(C):U:O5'	2.13	0.48
36:RA:1430:C:H2'	36:RA:1431:U:C6	2.48	0.48
36:RA:1465:G:H5'	36:RA:1528:A:H1'	1.95	0.48
36:RA:1512:G:H2'	36:RA:1513:C:C6	2.48	0.48
36:RA:2728:U:H2'	36:RA:2729:G:C8	2.48	0.48
45:RO:64:ARG:HE	45:RO:83:ALA:HB3	1.77	0.48
47:RQ:135:ASP:HB3	47:RQ:137:TYR:HD1	1.77	0.48
1:XA:489:C:H2'	1:XA:490:G:H8	1.77	0.48
1:XA:514:C:H2'	1:XA:515:G:C8	2.48	0.48
1:XA:1320:C:H2'	1:XA:1321:C:C6	2.47	0.48
9:XI:112:LYS:HA	9:XI:119:ALA:HB2	1.94	0.48
10:XJ:21:GLN:HA	10:XJ:24:VAL:HG12	1.95	0.48
10:XJ:57:LYS:O	10:XJ:60:ARG:NE	2.46	0.48
20:XT:57:ARG:NH1	20:XT:102:GLY:O	2.42	0.48
36:YA:263:C:H2'	36:YA:264:C:O4'	2.13	0.48
36:YA:2783:G:H2'	36:YA:2784:C:H6	1.77	0.48
42:YH:4:ILE:HG22	42:YH:6:ARG:H	1.78	0.48
42:YH:88:LEU:CB	42:YH:130:ARG:HG2	2.43	0.48
1:QA:127:G:HO2'	17:QQ:2:PRO:N	2.11	0.48
1:QA:806:C:H2'	1:QA:807:A:C8	2.47	0.48
1:QA:860:A:H2'	1:QA:861:G:O4'	2.13	0.48
1:QA:1009:G:C2	1:QA:1010:G:C8	3.01	0.48
1:QA:1032(A):G:H2'	1:QA:1032(B):G:C8	2.47	0.48
1:QA:1306:A:N6	1:QA:1331:G:H1'	2.28	0.48
10:QJ:21:GLN:HA	10:QJ:24:VAL:HG12	1.94	0.48
36:RA:698:C:O2'	36:RA:734:A:N6	2.46	0.48
36:RA:864:G:H21	36:RA:866:A:H61	1.60	0.48
40:RF:172:TRP:CE3	40:RF:173:VAL:HG23	2.48	0.48
46:RP:144:GLU:OE1	46:RP:144:GLU:N	2.47	0.48
1:XA:1391:U:H2'	1:XA:1392:G:H8	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:19:LEU:CD1	6:XF:59:TYR:CD1	2.88	0.48
11:XK:34:ASP:HB3	11:XK:40:ILE:HD11	1.95	0.48
13:XM:97:PRO:HB3	13:XM:101:GLN:OE1	2.13	0.48
34:Y8:25:MET:HG3	46:YP:64:LYS:HB2	1.94	0.48
36:YA:102:G:H4'	36:YA:103:A:O5'	2.13	0.48
36:YA:1291:C:H2'	36:YA:1292:U:H6	1.79	0.48
36:YA:1292:U:H2'	36:YA:1293:C:C6	2.48	0.48
36:YA:1668:A:O2'	36:YA:1674:G:N7	2.44	0.48
36:YA:1688:U:H1'	36:YA:1701:A:C6	2.47	0.48
36:YA:2329:G:H2'	36:YA:2330:G:C8	2.47	0.48
36:YA:2637:U:H2'	36:YA:2638:G:O4'	2.13	0.48
36:YA:2789:C:H6	36:YA:2789:C:C5'	2.26	0.48
37:YB:37:C:O2	49:YS:95:HIS:NE2	2.37	0.48
39:YE:14:ILE:O	39:YE:21:VAL:HG12	2.12	0.48
48:YR:67:LEU:HD23	48:YR:76:VAL:HG21	1.95	0.48
1:QA:368:U:OP1	43:YI:91:SER:OG	2.30	0.48
1:QA:555:C:H2'	1:QA:556:C:H6	1.76	0.48
1:QA:892:A:H2'	1:QA:893:C:C6	2.48	0.48
30:R4:23:GLU:C	30:R4:25:TYR:H	2.17	0.48
36:RA:1013:C:O2'	36:RA:1014:U:H5'	2.13	0.48
36:RA:1499:C:C2	36:RA:1500:G:C8	3.02	0.48
36:RA:2287:A:N6	36:RA:2344:U:H3	2.08	0.48
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.48	0.48
1:XA:1229:A:OP2	13:XM:114:ARG:NH1	2.47	0.48
1:XA:1492:A:OP1	12:XL:47:LYS:N	2.45	0.48
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.94	0.48
36:YA:389:G:N1	46:YP:71:VAL:HG12	2.28	0.48
36:YA:686:G:H21	36:YA:788:A:H61	1.59	0.48
36:YA:1084:A:H5'	36:YA:1085:A:OP2	2.14	0.48
36:YA:1086:A:OP1	36:YA:1104:C:O2'	2.32	0.48
41:YG:129:GLY:HA2	41:YG:169:ALA:HB2	1.94	0.48
45:YO:36:GLY:HA3	45:YO:109:LYS:HG3	1.95	0.48
46:YP:9:ASN:HD22	46:YP:11:GLY:H	1.61	0.48
48:YR:104:ARG:HD2	48:YR:111:LEU:HD21	1.93	0.48
1:QA:750:G:N3	15:QO:23:GLY:HA3	2.28	0.48
1:QA:877:C:H2'	1:QA:878:G:H8	1.78	0.48
5:QE:7:GLU:HB3	5:QE:112:LEU:HD22	1.94	0.48
15:QO:87:ILE:HG22	15:QO:88:ARG:N	2.27	0.48
30:R4:37:SER:OG	30:R4:41:PRO:HG2	2.13	0.48
36:RA:521:G:H2'	36:RA:522:G:H8	1.78	0.48
36:RA:760:G:H2'	36:RA:761:A:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:1384:A:N3	36:RA:1405:U:H1'	2.29	0.48
36:RA:1971:A:OP2	38:RD:242:ARG:NH2	2.44	0.48
36:RA:2695:C:H2'	36:RA:2696:U:C6	2.49	0.48
42:RH:107:VAL:HG11	42:RH:151:ILE:HG21	1.95	0.48
50:RT:111:ARG:C	50:RT:113:LYS:H	2.15	0.48
53:RW:10:VAL:HG13	53:RW:101:SER:HB2	1.96	0.48
56:RZ:30:ASN:ND2	56:RZ:33:LEU:HB3	2.28	0.48
1:XA:22:G:H4'	1:XA:885:G:C8	2.48	0.48
1:XA:162:A:H2	1:XA:348:G:H4'	1.79	0.48
1:XA:224:C:H2'	1:XA:225:C:H6	1.78	0.48
1:XA:452:A:H2'	1:XA:453:A:C8	2.48	0.48
2:XB:174:VAL:O	2:XB:178:ARG:HG2	2.13	0.48
2:XB:178:ARG:NH2	8:XH:74:PRO:HB3	2.27	0.48
3:XC:58:GLU:HB2	3:XC:65:ALA:HB3	1.94	0.48
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.96	0.48
10:XJ:78:ASN:HB2	10:XJ:81:THR:HG23	1.95	0.48
36:YA:463:G:N2	36:YA:466:A:OP2	2.39	0.48
36:YA:624:C:H1'	36:YA:657:U:H5'	1.94	0.48
36:YA:1278:A:H2'	36:YA:1279:G:H8	1.78	0.48
36:YA:1570:A:H2'	36:YA:1571:A:C8	2.49	0.48
36:YA:2455:G:H2'	36:YA:2456:C:H6	1.79	0.48
36:YA:2533:A:OP1	36:YA:2665:A:O2'	2.24	0.48
37:YB:32:C:C4	37:YB:51:G:N2	2.81	0.48
1:QA:7:G:H5'	1:QA:298:A:O4'	2.13	0.48
1:QA:1366:C:H2'	1:QA:1367:C:C6	2.48	0.48
9:QI:42:ARG:NH2	9:QI:75:ASP:OD1	2.26	0.48
27:R1:8:SER:HB3	27:R1:66:HIS:CD2	2.48	0.48
31:R5:20:ARG:HA	31:R5:23:HIS:ND1	2.28	0.48
1:XA:9:G:H5''	5:XE:126:ARG:HE	1.78	0.48
1:XA:345:C:H4'	1:XA:346:G:O5'	2.13	0.48
1:XA:593:G:H1	1:XA:646:U:H3	1.60	0.48
1:XA:714:G:H2'	1:XA:715:A:H8	1.79	0.48
1:XA:1104:G:H4'	2:XB:111:ARG:NH1	2.28	0.48
1:XA:1359:C:H3'	14:XN:35:ARG:HH21	1.79	0.48
8:XH:91:ARG:NE	17:XQ:32:TYR:O	2.47	0.48
36:YA:1027:A:C2	36:YA:2488:A:H5'	2.49	0.48
55:YY:81:LYS:HD3	55:YY:97:ARG:N	2.27	0.48
56:YZ:112:ARG:HG3	56:YZ:113:ALA:N	2.28	0.48
1:QA:411:A:C8	1:QA:413:G:H1'	2.48	0.48
1:QA:559:A:H4'	1:QA:560:U:H3'	1.95	0.48
4:QD:79:PHE:HE2	4:QD:204:ILE:HD13	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QK:43:SER:CB	11:QK:68:ALA:N	2.74	0.48
36:RA:330:A:H2	36:RA:1210:A:O2'	1.96	0.48
36:RA:581:C:H2'	36:RA:582:G:C8	2.48	0.48
36:RA:2319:G:O6	49:RS:4:LEU:HB2	2.13	0.48
36:RA:2728:U:H2'	36:RA:2729:G:H8	1.78	0.48
36:RA:2743:C:OP2	36:RA:2755:C:N4	2.44	0.48
39:RE:65:GLY:HA2	39:RE:70:ALA:HB1	1.95	0.48
41:RG:106:LEU:HA	41:RG:110:ALA:HB3	1.96	0.48
46:RP:91:PHE:CE2	46:RP:95:VAL:HG22	2.45	0.48
47:RQ:24:GLY:H	47:RQ:101:ARG:HD2	1.79	0.48
1:XA:1119:C:H2'	1:XA:1120:G:H8	1.78	0.48
4:XD:170:VAL:HG22	4:XD:171:GLY:H	1.78	0.48
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.96	0.48
11:XK:18:ARG:HB3	11:XK:33:THR:HG23	1.95	0.48
11:XK:108:ILE:O	18:XR:87:ARG:N	2.43	0.48
23:XW:63:G:H2'	23:XW:64:C:C6	2.49	0.48
30:Y4:40:HIS:N	30:Y4:41:PRO:HD3	2.26	0.48
36:YA:31:C:O2'	36:YA:1238:G:H5'	2.14	0.48
36:YA:1557:C:OP2	36:YA:1558:A:O2'	2.25	0.48
50:YT:106:SER:HA	50:YT:110:ILE:HD11	1.96	0.48
21:QU:5:ASP:O	21:QU:11:GLY:HA3	2.12	0.48
34:R8:61:LEU:HD22	36:RA:593:G:H4'	1.96	0.48
36:RA:856:C:O2'	36:RA:857:C:OP1	2.23	0.48
36:RA:1048:A:N1	42:RH:2:SER:OG	2.36	0.48
37:RB:14:U:O3'	37:RB:107:U:O2'	2.27	0.48
37:RB:15:A:H5'	37:RB:16:G:C8	2.49	0.48
39:RE:81:ILE:HB	39:RE:84:PHE:HB3	1.95	0.48
1:XA:360:A:H2'	1:XA:361:G:C8	2.49	0.48
3:XC:150:LYS:NZ	3:XC:152:ILE:HD11	2.29	0.48
26:Y0:7:LEU:HD22	47:YQ:83:MET:HG2	1.96	0.48
36:YA:593:G:H2'	36:YA:594:U:C6	2.48	0.48
36:YA:722:A:H2'	36:YA:723:G:C8	2.49	0.48
38:YD:85:ASP:OD2	38:YD:88:ARG:NH1	2.47	0.48
42:YH:8:PRO:O	42:YH:69:ARG:NE	2.36	0.48
42:YH:83:TYR:CE1	42:YH:138:LYS:HB2	2.49	0.48
1:QA:113:G:H2'	1:QA:114:U:H6	1.79	0.48
1:QA:735:C:H2'	1:QA:736:C:H6	1.79	0.48
1:QA:864:A:H2'	1:QA:865:A:C8	2.49	0.48
1:QA:1525:G:OP1	11:QK:120:ARG:NH2	2.43	0.48
13:QM:60:VAL:HG13	13:QM:64:TRP:HE1	1.79	0.48
15:QO:11:VAL:HG21	15:QO:34:LEU:HD22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:QW:12:U:O2	23:QW:24:G:N2	2.43	0.48
34:R8:29:LYS:HD2	34:R8:44:LYS:CB	2.43	0.48
34:R8:64:TYR:HB3	36:RA:625:G:P	2.54	0.48
36:RA:1103:A:H5'	36:RA:1104:C:H5	1.79	0.48
36:RA:1598:C:H2'	36:RA:1599:C:H6	1.79	0.48
36:RA:2859:G:H2'	36:RA:2860:A:C8	2.49	0.48
41:RG:9:ARG:O	41:RG:13:GLU:HG2	2.14	0.48
1:XA:477:G:H2'	1:XA:478:A:H8	1.78	0.48
2:XB:24:TRP:HZ2	2:XB:29:ALA:HB2	1.78	0.48
36:YA:78:A:H2'	36:YA:79:G:C8	2.47	0.48
36:YA:330:A:HO2'	36:YA:331:A:H8	1.61	0.48
36:YA:579:G:H2'	36:YA:580:C:C6	2.49	0.48
36:YA:910:A:H62	47:YQ:12:GLN:HA	1.78	0.48
36:YA:1086:A:H4'	36:YA:1103:A:H62	1.79	0.48
36:YA:1516:U:H2'	36:YA:1517:G:C8	2.47	0.48
36:YA:1654:A:H2'	36:YA:1655:A:H8	1.79	0.48
42:YH:87:LEU:HD11	42:YH:145:ALA:HA	1.94	0.48
51:YU:102:GLU:OE2	52:YV:13:ARG:NH2	2.47	0.48
1:QA:986:A:H2'	1:QA:987:G:C8	2.48	0.48
1:QA:986:A:H4'	19:QS:55:LYS:HG3	1.94	0.48
1:QA:1010:G:H2'	1:QA:1011:G:H8	1.79	0.48
4:QD:18:LYS:HE3	4:QD:31:CYS:SG	2.53	0.48
19:QS:3:ARG:HG3	30:R4:64:GLY:HA3	1.96	0.48
36:RA:1667:G:C8	36:RA:1667:G:C5'	2.88	0.48
1:XA:41:G:H2'	1:XA:42:G:H8	1.77	0.48
1:XA:624:C:H2'	1:XA:625:G:H8	1.77	0.48
1:XA:1095:U:P	1:XA:1108:G:H1	2.37	0.48
1:XA:1191:A:OP1	3:XC:3:ASN:HB2	2.14	0.48
1:XA:1263:C:H2'	1:XA:1264:C:C6	2.49	0.48
1:XA:1313:U:H2'	1:XA:1314:C:H6	1.79	0.48
1:XA:1315:U:O2'	1:XA:1360:A:O2'	2.25	0.48
2:XB:55:PHE:CD1	2:XB:221:LEU:HD22	2.49	0.48
38:YD:71:ASP:OD2	38:YD:103:ARG:NH2	2.43	0.48
40:YF:24:LEU:HD23	40:YF:115:ALA:HA	1.95	0.48
40:YF:148:LEU:HD22	40:YF:154:VAL:HG21	1.96	0.48
50:YT:6:LEU:O	50:YT:10:VAL:HG23	2.14	0.48
1:QA:115:G:H4'	1:QA:116:A:O5'	2.13	0.48
1:QA:143:A:H2	1:QA:220:G:H1	1.62	0.48
25:QY:14:A:N6	25:QY:15:G:H21	2.12	0.48
33:R7:49:ARG:NH1	36:RA:128:C:C4'	2.77	0.48
36:RA:1570:A:H2'	36:RA:1571:A:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:1709:U:H2'	36:RA:1710:C:H6	1.78	0.48
36:RA:1756:G:H4'	36:RA:1758:G:O4'	2.14	0.48
36:RA:1815:A:P	38:RD:54:ARG:HH22	2.37	0.48
36:RA:1935:G:H1'	36:RA:1964:G:N2	2.29	0.48
36:RA:2131:G:H4'	36:RA:2132:U:H4'	1.96	0.48
36:RA:2693:A:H2'	36:RA:2694:G:H8	1.79	0.48
36:RA:2704:C:H2'	36:RA:2705:A:O4'	2.14	0.48
36:RA:2836:U:H2'	36:RA:2837:G:H8	1.78	0.48
50:RT:50:ILE:HG13	50:RT:99:LEU:HD12	1.96	0.48
56:RZ:91:LEU:HD12	56:RZ:130:PRO:HB3	1.96	0.48
56:RZ:99:TYR:HB3	56:RZ:123:ASP:HB2	1.96	0.48
1:XA:946:A:H2'	1:XA:947:G:H8	1.75	0.48
7:XG:57:GLU:HB3	7:XG:60:LYS:HG2	1.95	0.48
15:XO:45:VAL:HG23	15:XO:46:HIS:CD2	2.49	0.48
30:Y4:47:GLN:N	30:Y4:47:GLN:OE1	2.46	0.48
36:YA:602:G:HO2'	36:YA:604:G:HO2'	1.61	0.48
36:YA:1204:A:H1'	36:YA:1206:G:C5	2.49	0.48
36:YA:1727:U:H2'	36:YA:1728:G:O4'	2.13	0.48
44:YN:67:LEU:O	44:YN:88:GLU:HG3	2.14	0.48
53:YW:45:TYR:CZ	53:YW:49:LYS:HD2	2.48	0.48
1:QA:17:U:H2'	1:QA:18:C:H6	1.79	0.47
1:QA:20:U:H2'	1:QA:21:G:O4'	2.14	0.47
1:QA:1286:A:H2'	1:QA:1287:A:H4'	1.96	0.47
36:RA:83:G:N2	36:RA:103:A:OP2	2.36	0.47
36:RA:374:A:H1'	36:RA:401:A:N6	2.29	0.47
36:RA:1206:G:H2'	36:RA:1207:C:H6	1.79	0.47
36:RA:2348:U:O4	36:RA:2382:G:C2	2.67	0.47
36:RA:2404:C:H2'	36:RA:2405:G:O4'	2.13	0.47
37:RB:94:C:H2'	37:RB:95:U:C6	2.49	0.47
52:RV:72:VAL:HG13	52:RV:85:LYS:HB3	1.94	0.47
55:RY:8:LYS:HG2	55:RY:9:LYS:H	1.79	0.47
55:RY:99:CYS:SG	55:RY:100:ALA:N	2.87	0.47
1:XA:320:C:H2'	1:XA:321:A:C8	2.49	0.47
12:XL:32:PHE:HE1	12:XL:86:ARG:HG3	1.79	0.47
32:Y6:25:LYS:HG3	34:Y8:34:TRP:CZ2	2.48	0.47
36:YA:70:G:H21	36:YA:71:A:H62	1.62	0.47
36:YA:1321:A:H2'	36:YA:1322:A:H8	1.78	0.47
49:YS:66:ALA:HA	49:YS:69:VAL:HG12	1.95	0.47
50:YT:23:ARG:HB2	50:YT:24:PRO:HD2	1.96	0.47
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.48	0.47
1:QA:936:C:C2	1:QA:937:A:C8	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1149:C:H2'	1:QA:1150:U:H6	1.78	0.47
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.79	0.47
11:QK:28:THR:O	11:QK:45:GLY:HA3	2.14	0.47
36:RA:17:G:H4'	51:RU:25:TRP:NE1	2.29	0.47
36:RA:689:A:H2'	36:RA:690:G:C8	2.50	0.47
39:RE:92:THR:HG23	39:RE:94:GLU:H	1.79	0.47
1:XA:1318:A:H4'	19:XS:11:VAL:HG21	1.96	0.47
1:XA:1320:C:C2	19:XS:72:GLY:HA3	2.49	0.47
34:Y8:13:ARG:HB3	46:YP:63:PRO:HB3	1.96	0.47
36:YA:582:G:OP1	51:YU:14:HIS:ND1	2.40	0.47
36:YA:671:C:H2'	36:YA:672:C:H6	1.78	0.47
36:YA:1571:A:H2'	36:YA:1572:A:C8	2.49	0.47
36:YA:2822:G:OP1	39:YE:159:HIS:NE2	2.46	0.47
36:YA:2823:A:OP1	39:YE:113:PHE:HB2	2.13	0.47
41:YG:9:ARG:O	41:YG:13:GLU:HG2	2.13	0.47
47:YQ:4:PRO:HG3	47:YQ:69:PHE:HE2	1.79	0.47
50:YT:111:ARG:O	50:YT:112:ARG:HG2	2.14	0.47
52:YV:52:VAL:HG23	52:YV:55:ALA:H	1.78	0.47
1:QA:452:A:O2'	1:QA:453:A:O4'	2.32	0.47
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.29	0.47
28:R2:7:ARG:HH12	36:RA:101:G:H2'	1.78	0.47
33:R7:10:ARG:NH1	36:RA:771:G:OP1	2.47	0.47
36:RA:390:A:H4'	36:RA:391:G:H5'	1.95	0.47
36:RA:638:G:H2'	36:RA:639:U:C6	2.49	0.47
36:RA:813:U:H2'	36:RA:814:C:C6	2.49	0.47
36:RA:1512:G:H2'	36:RA:1513:C:H6	1.78	0.47
36:RA:1571:A:H2'	36:RA:1572:A:H8	1.78	0.47
36:RA:2037:G:H2'	36:RA:2038:G:C8	2.50	0.47
37:RB:48:A:H2'	37:RB:49:C:C6	2.49	0.47
50:RT:24:PRO:HD3	50:RT:52:ILE:HG21	1.95	0.47
55:RY:81:LYS:HD2	55:RY:97:ARG:HD2	1.95	0.47
1:XA:186:C:H2'	1:XA:186(A):C:H6	1.79	0.47
2:XB:7:VAL:HG22	2:XB:217:ARG:HH11	1.79	0.47
5:XE:83:GLU:HG2	5:XE:88:LYS:HB2	1.97	0.47
36:YA:698:C:O2'	36:YA:734:A:N6	2.47	0.47
36:YA:1853:A:H2'	36:YA:1854:A:H8	1.80	0.47
36:YA:2838:G:C4	36:YA:2839:G:C8	3.02	0.47
42:YH:126:PRO:CB	42:YH:130:ARG:H	2.25	0.47
1:QA:712:A:H2'	1:QA:713:G:C8	2.49	0.47
1:QA:1354:C:H2'	1:QA:1355:G:H8	1.79	0.47
14:QN:29:ARG:HD3	14:QN:40:CYS:SG	2.54	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:QY:14:A:N7	25:QY:15:G:N2	2.62	0.47
36:RA:1266:G:O2'	36:RA:2012:G:O6	2.25	0.47
36:RA:1268:A:H2'	36:RA:1269:A:O4'	2.14	0.47
36:RA:1406:U:H2'	36:RA:1407:C:C6	2.49	0.47
36:RA:2863:C:H2'	36:RA:2864:G:H8	1.79	0.47
38:RD:108:PRO:HB3	38:RD:143:HIS:HE1	1.79	0.47
39:RE:114:ALA:HB3	39:RE:160:TYR:HB3	1.97	0.47
1:XA:41:G:H2'	1:XA:42:G:C8	2.50	0.47
1:XA:411:A:N9	1:XA:413:G:H1'	2.29	0.47
1:XA:966:G:C2	22:XV:34:C:H5'	2.50	0.47
1:XA:1037:C:H2'	1:XA:1038:C:H6	1.78	0.47
1:XA:1074:G:H2'	1:XA:1075:C:C6	2.49	0.47
3:XC:53:ALA:HB2	3:XC:115:LEU:CD1	2.45	0.47
10:XJ:26:ALA:HA	10:XJ:29:ARG:HG2	1.95	0.47
36:YA:796:C:H2'	36:YA:797:C:H6	1.78	0.47
36:YA:881:G:H3'	36:YA:882:G:C8	2.49	0.47
36:YA:1677:A:H2'	36:YA:1678:G:O4'	2.15	0.47
36:YA:2105:C:H2'	36:YA:2106:G:C8	2.50	0.47
36:YA:2688:U:H5	36:YA:2720:U:OP2	1.97	0.47
51:YU:8:VAL:HG12	51:YU:11:ARG:NH2	2.30	0.47
54:YX:57:LEU:HD11	54:YX:78:LYS:HD2	1.95	0.47
15:QO:33:THR:HG21	15:QO:85:LEU:HD23	1.97	0.47
27:R1:18:ILE:HG12	27:R1:37:ILE:HG12	1.96	0.47
34:R8:25:MET:HG3	46:RP:64:LYS:CB	2.43	0.47
36:RA:175:G:O2'	36:RA:176:G:H5'	2.15	0.47
36:RA:1412:A:H2'	36:RA:1413:G:C8	2.50	0.47
36:RA:1588:C:H2'	36:RA:1589:C:H6	1.80	0.47
39:RE:36:ARG:HG2	39:RE:47:VAL:HG12	1.97	0.47
56:RZ:4:ARG:HG2	56:RZ:60:GLU:HB2	1.96	0.47
1:XA:262:A:H2'	1:XA:263:A:C8	2.50	0.47
12:XL:24:VAL:HG13	12:XL:98:TYR:CE1	2.46	0.47
24:XX:6:G:O2'	24:XX:7:G:N7	2.44	0.47
26:Y0:23:VAL:HG22	26:Y0:38:VAL:HG22	1.97	0.47
31:Y5:3:LYS:HD2	36:YA:2611:U:O2	2.14	0.47
36:YA:270(U):C:H2'	36:YA:270(V):G:H8	1.80	0.47
36:YA:2001:A:H2'	36:YA:2002:G:H8	1.80	0.47
47:YQ:19:GLY:O	47:YQ:98:LYS:HD3	2.15	0.47
48:YR:58:GLY:HA2	48:YR:80:PHE:CE1	2.49	0.47
1:QA:927:G:H1	1:QA:1390:U:H3	1.61	0.47
12:QL:32:PHE:HE1	12:QL:86:ARG:HG3	1.79	0.47
36:RA:39:C:O2	40:RF:46:ARG:NH2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:128:C:H2'	36:RA:129:C:H6	1.79	0.47
36:RA:297:C:H5''	55:RY:85:VAL:HG21	1.97	0.47
36:RA:820:A:H4'	36:RA:836:G:N2	2.30	0.47
36:RA:2811:G:OP1	39:RE:61:ARG:N	2.45	0.47
46:RP:97:PRO:O	46:RP:98:GLU:HG2	2.13	0.47
47:RQ:56:ARG:NH2	47:RQ:59:ARG:HD3	2.29	0.47
50:RT:107:ASP:O	50:RT:110:ILE:HG12	2.15	0.47
1:XA:173:U:H5''	1:XA:197:A:O4'	2.14	0.47
1:XA:603:U:H2'	1:XA:604:G:H8	1.79	0.47
1:XA:1306:A:N6	1:XA:1331:G:O2'	2.46	0.47
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.48	0.47
23:XW:64:C:H2'	23:XW:65:U:C5	2.49	0.47
32:Y6:25:LYS:HG3	34:Y8:34:TRP:HZ2	1.80	0.47
35:Y9:27:CYS:SG	35:Y9:28:GLU:N	2.88	0.47
36:YA:2050:C:H2'	36:YA:2051:A:C8	2.50	0.47
36:YA:2086:U:H2'	36:YA:2087:G:C8	2.50	0.47
36:YA:2649:U:H2'	36:YA:2650:U:H6	1.80	0.47
37:YB:43:C:O2	41:YG:95:ARG:NH2	2.47	0.47
48:YR:34:ILE:HG22	48:YR:36:THR:HG23	1.96	0.47
1:QA:222:U:H2'	1:QA:223:U:C6	2.50	0.47
1:QA:464:G:C6	1:QA:466:C:H5'	2.50	0.47
1:QA:643:C:H2'	1:QA:644:G:H8	1.80	0.47
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.14	0.47
1:QA:748:C:H1'	1:QA:749:C:H5	1.80	0.47
1:QA:1255:G:O2'	1:QA:1258:G:H1'	2.15	0.47
1:QA:1496:C:H2'	1:QA:1497:G:C8	2.50	0.47
12:QL:38:THR:O	12:QL:79:GLU:HG3	2.14	0.47
13:QM:40:ASN:O	13:QM:43:THR:HG22	2.14	0.47
14:QN:40:CYS:HB3	14:QN:43:CYS:HB2	1.97	0.47
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	1.95	0.47
24:QX:7:G:H2'	24:QX:8:A:C8	2.50	0.47
36:RA:64:A:O3'	54:RX:71:GLY:HA3	2.15	0.47
36:RA:218:A:C2	36:RA:235:U:H4'	2.50	0.47
36:RA:389:G:N1	46:RP:71:VAL:HG12	2.30	0.47
36:RA:1205:U:C4	40:RF:171:PRO:HA	2.49	0.47
36:RA:1321:A:C4	36:RA:1322:A:C8	3.03	0.47
36:RA:2243:U:H2'	36:RA:2244:U:C6	2.50	0.47
36:RA:2599:G:OP2	38:RD:236:GLY:N	2.47	0.47
36:RA:2821:A:O2'	36:RA:2826:A:N1	2.42	0.47
36:RA:2847:U:OP1	50:RT:98:LYS:HE2	2.13	0.47
41:RG:11:TYR:O	41:RG:16:ARG:HB2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:RS:108:GLY:O	49:RS:110:LEU:HD12	2.15	0.47
50:RT:111:ARG:O	50:RT:112:ARG:HG3	2.14	0.47
51:RU:46:ALA:O	51:RU:50:ARG:HB2	2.14	0.47
55:RY:97:ARG:NH1	55:RY:98:VAL:HB	2.30	0.47
1:XA:186:C:H2'	1:XA:186(A):C:C6	2.50	0.47
1:XA:371:G:H21	1:XA:373:A:N6	2.11	0.47
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.48	0.47
1:XA:851:G:H2'	1:XA:852:G:C8	2.49	0.47
1:XA:939:G:H2'	1:XA:940:C:C6	2.50	0.47
1:XA:1101:A:H4'	1:XA:1102:A:O5'	2.14	0.47
1:XA:1111:A:N1	3:XC:177:THR:HG22	2.30	0.47
1:XA:1167:A:H8	1:XA:1167:A:OP1	1.97	0.47
3:XC:84:ILE:HG13	3:XC:101:LEU:HD23	1.97	0.47
8:XH:20:TYR:CE2	8:XH:75:ARG:HD2	2.50	0.47
20:XT:22:ARG:O	20:XT:26:ASN:ND2	2.48	0.47
30:Y4:12:ALA:HB1	30:Y4:29:PRO:HA	1.96	0.47
30:Y4:26:SER:OG	41:YG:143:GLU:OE2	2.26	0.47
31:Y5:33:CYS:HB2	31:Y5:40:LYS:HD3	1.97	0.47
36:YA:557:U:H2'	36:YA:558:G:C8	2.48	0.47
36:YA:2531:A:H61	36:YA:2662:A:H61	1.62	0.47
36:YA:2712:U:OP1	36:YA:2714:G:H4'	2.15	0.47
39:YE:60:ASN:CG	39:YE:62:PRO:HD2	2.34	0.47
52:YV:40:LEU:HG	52:YV:47:VAL:HG12	1.96	0.47
1:QA:980:C:H5''	1:QA:981:U:C5	2.50	0.47
1:QA:1292:U:H2'	1:QA:1293:G:H8	1.80	0.47
3:QC:120:VAL:O	3:QC:124:ILE:HG12	2.15	0.47
3:QC:150:LYS:HG3	3:QC:169:ALA:HB2	1.97	0.47
4:QD:62:GLN:HE22	4:QD:65:ARG:HH21	1.62	0.47
4:QD:200:GLU:O	4:QD:204:ILE:HG12	2.14	0.47
9:QI:126:SER:C	9:QI:128:ARG:H	2.18	0.47
19:QS:9:VAL:C	19:QS:11:VAL:N	2.67	0.47
28:R2:22:GLU:HB3	28:R2:26:ARG:HH12	1.78	0.47
30:R4:11:PRO:HG3	30:R4:25:TYR:CE1	2.50	0.47
36:RA:859:G:H4'	36:RA:860:U:O2	2.15	0.47
47:RQ:85:LYS:HG2	47:RQ:86:GLY:H	1.80	0.47
53:RW:9:TYR:H	53:RW:102:HIS:CE1	2.33	0.47
1:XA:486:U:H2'	1:XA:487:A:H8	1.80	0.47
1:XA:738:C:H2'	1:XA:739:C:C6	2.49	0.47
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.80	0.47
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.96	0.47
15:XO:87:ILE:HG22	15:XO:88:ARG:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Y7:1:MET:CE	33:Y7:3:ARG:HH12	2.27	0.47
36:YA:824:A:H1'	36:YA:2358:G:N7	2.30	0.47
36:YA:948:G:H1	36:YA:969:U:H3	1.62	0.47
38:YD:121:PRO:HB3	38:YD:135:PHE:HE2	1.79	0.47
47:YQ:35:VAL:HG21	56:YZ:81:ARG:HD2	1.95	0.47
53:YW:14:PRO:O	53:YW:18:ARG:HG3	2.15	0.47
1:QA:323:U:H2'	1:QA:324:G:O4'	2.14	0.47
1:QA:1109:C:C2	1:QA:1110:A:C8	3.03	0.47
1:QA:1401:G:H2'	1:QA:1402:C:O4'	2.15	0.47
26:R0:21:LEU:HD21	26:R0:41:ARG:NH2	2.30	0.47
31:R5:4:HIS:CE1	36:RA:2577:A:H1'	2.45	0.47
32:R6:10:LEU:HD21	34:R8:35:GLN:NE2	2.27	0.47
36:RA:978:G:O4'	36:RA:1001:A:H2	1.98	0.47
36:RA:1188:U:H4'	52:RV:79:VAL:HG22	1.97	0.47
36:RA:2439:A:H5'	36:RA:2439:A:C8	2.50	0.47
1:XA:636:U:H2'	1:XA:637:G:H8	1.80	0.47
27:Y1:78:LYS:HE3	36:YA:270(I):G:H21	1.80	0.47
36:YA:573:G:N1	36:YA:2031:A:OP2	2.32	0.47
36:YA:836:G:H2'	36:YA:837:C:H6	1.80	0.47
36:YA:1063:G:H2'	36:YA:1064:C:C6	2.50	0.47
36:YA:1270:C:H5''	36:YA:1271:G:H5'	1.96	0.47
36:YA:1287:A:N7	48:YR:107:ASP:HB2	2.29	0.47
36:YA:1694:C:H4'	36:YA:1695:G:O5'	2.15	0.47
36:YA:1885:A:H3'	36:YA:1886:C:H6	1.80	0.47
36:YA:1899:G:H21	36:YA:1902:C:N4	2.09	0.47
36:YA:2475:C:O2'	36:YA:2477:C:OP2	2.30	0.47
44:YN:30:ILE:HD13	44:YN:99:LEU:HD21	1.96	0.47
50:YT:109:GLU:HG3	50:YT:112:ARG:HH12	1.80	0.47
55:YY:81:LYS:HD3	55:YY:97:ARG:HB3	1.97	0.47
1:QA:412:A:H4'	1:QA:413:G:O5'	2.15	0.47
1:QA:676:A:H2'	1:QA:677:U:H6	1.79	0.47
11:QK:31:THR:HA	11:QK:42:TRP:CB	2.45	0.47
11:QK:84:VAL:HG21	11:QK:95:ILE:HD11	1.95	0.47
18:QR:22:VAL:O	18:QR:25:THR:HG22	2.15	0.47
30:R4:22:ILE:HG13	30:R4:23:GLU:N	2.30	0.47
36:RA:177:G:H3'	36:RA:178:G:H8	1.80	0.47
36:RA:185:U:H2'	36:RA:186:G:H8	1.80	0.47
36:RA:587:C:OP2	46:RP:21:ARG:NH1	2.46	0.47
36:RA:1417:C:H2'	36:RA:1418:G:O4'	2.15	0.47
36:RA:1790:C:H5''	36:RA:1791:A:OP1	2.15	0.47
36:RA:1814:G:H4'	38:RD:51:VAL:HG21	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:RT:35:LYS:HG3	50:RT:37:GLY:H	1.79	0.47
1:XA:7:G:H5'	1:XA:298:A:O4'	2.14	0.47
1:XA:281:G:OP2	1:XA:281:G:H8	1.98	0.47
36:YA:637:A:H4'	36:YA:638:G:O5'	2.15	0.47
36:YA:729:G:O2'	36:YA:763:G:H4'	2.15	0.47
36:YA:836:G:H2'	36:YA:837:C:C6	2.50	0.47
36:YA:1412:A:H2'	36:YA:1413:G:H8	1.80	0.47
36:YA:2610:C:H4'	36:YA:2611:U:OP2	2.15	0.47
55:YY:19:LYS:HG3	55:YY:20:TYR:CD1	2.50	0.47
3:QC:95:THR:HG22	3:QC:97:LYS:H	1.79	0.46
26:R0:32:ARG:H	26:R0:35:ASN:ND2	2.13	0.46
36:RA:74:A:H4'	36:RA:75:G:O5'	2.15	0.46
36:RA:576:U:H2'	36:RA:577:G:C8	2.50	0.46
36:RA:662:G:H5'	46:RP:15:ARG:HA	1.96	0.46
36:RA:970:C:H2'	36:RA:971:C:C6	2.50	0.46
36:RA:2291:U:H2'	36:RA:2292:C:H6	1.79	0.46
36:RA:2698:U:H2'	36:RA:2699:C:C6	2.50	0.46
39:RE:76:ARG:HD3	39:RE:195:LEU:HD22	1.97	0.46
47:RQ:58:PHE:CD2	47:RQ:61:GLY:HA3	2.50	0.46
56:RZ:6:LYS:HG3	56:RZ:7:ALA:H	1.80	0.46
1:XA:613:C:H2'	1:XA:614:A:H8	1.80	0.46
1:XA:827:U:H5	1:XA:872:A:N1	2.13	0.46
1:XA:1250:A:H2	1:XA:1370:G:H1'	1.80	0.46
4:XD:166:LYS:HE2	4:XD:178:VAL:CG1	2.45	0.46
25:XY:19:G:C6	36:YA:881:G:H4'	2.50	0.46
36:YA:273(F):C:H2'	36:YA:274:G:H5''	1.98	0.46
36:YA:646:A:H3'	36:YA:647:G:H8	1.80	0.46
36:YA:671:C:H2'	36:YA:672:C:C6	2.49	0.46
36:YA:2008:C:H2'	36:YA:2009:G:C8	2.50	0.46
1:QA:332:G:C2	1:QA:333:G:C8	3.03	0.46
1:QA:363:A:C6	12:QL:31:PRO:HD2	2.50	0.46
36:RA:755:C:H2'	36:RA:756:C:C6	2.50	0.46
36:RA:2341:G:H2'	36:RA:2342:C:C6	2.49	0.46
36:RA:2556:C:H2'	36:RA:2557:G:O4'	2.15	0.46
36:RA:2783:G:H2'	36:RA:2784:C:H6	1.80	0.46
39:RE:44:TYR:HB2	39:RE:82:ARG:NH1	2.31	0.46
39:RE:131:ALA:O	39:RE:134:ILE:HG12	2.15	0.46
44:RN:65:LYS:O	44:RN:69:GLN:HG2	2.15	0.46
1:XA:280:C:H3'	1:XA:281:G:H5'	1.97	0.46
1:XA:350:G:H2'	1:XA:351:G:C8	2.49	0.46
1:XA:389:A:H3'	1:XA:390:C:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:738:C:H2'	1:XA:739:C:H6	1.81	0.46
2:XB:67:THR:HG21	2:XB:155:LEU:HG	1.98	0.46
3:XC:88:ARG:HE	3:XC:101:LEU:HB3	1.80	0.46
23:XW:37:A:H5'	23:XW:38:U:OP2	2.15	0.46
25:XY:61:C:N4	56:YZ:183:LEU:O	2.39	0.46
30:Y4:9:LEU:HA	30:Y4:27:THR:HG22	1.96	0.46
34:Y8:61:LEU:HD13	36:YA:593:G:H4'	1.95	0.46
36:YA:270(R):G:H2'	36:YA:270(S):G:H8	1.80	0.46
36:YA:834:C:C2	36:YA:835:A:C8	3.04	0.46
40:YF:110:LEU:HD11	40:YF:181:LEU:HB3	1.97	0.46
41:YG:124:SER:HB2	41:YG:131:TYR:CE1	2.51	0.46
42:YH:144:VAL:O	42:YH:148:ILE:HG12	2.14	0.46
44:YN:42:TRP:CZ2	44:YN:42:TRP:CD2	2.87	0.46
53:YW:9:TYR:H	53:YW:102:HIS:CE1	2.33	0.46
1:QA:736:C:H2'	1:QA:737:A:H8	1.79	0.46
1:QA:768:A:H4'	1:QA:1523:G:N2	2.30	0.46
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.81	0.46
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.16	0.46
8:QH:11:THR:HG22	8:QH:14:ARG:NH1	2.28	0.46
9:QI:46:ALA:HB2	9:QI:74:ILE:HG23	1.96	0.46
28:R2:32:LEU:HD11	28:R2:50:ILE:HG23	1.98	0.46
33:R7:49:ARG:HH11	36:RA:128:C:H4'	1.81	0.46
36:RA:536:A:H2'	36:RA:537:C:C6	2.50	0.46
36:RA:1454:U:H5'	48:RR:63:ARG:NH1	2.29	0.46
36:RA:2591:C:OP1	38:RD:239:ARG:HD2	2.15	0.46
42:RH:8:PRO:HG2	42:RH:69:ARG:NE	2.30	0.46
45:RO:63:VAL:HG12	45:RO:106:LEU:HD11	1.98	0.46
51:RU:94:ASN:HD22	51:RU:94:ASN:C	2.17	0.46
56:RZ:4:ARG:HE	56:RZ:60:GLU:HG3	1.80	0.46
1:XA:328:C:H4'	1:XA:329:A:O5'	2.13	0.46
1:XA:1189:C:H5''	3:XC:5:ILE:HD13	1.96	0.46
10:XJ:38:ILE:HG12	10:XJ:71:LEU:O	2.15	0.46
23:XW:22:G:C2	23:XW:23:A:C8	3.04	0.46
26:Y0:47:PRO:HB2	49:YS:20:ARG:HH22	1.79	0.46
36:YA:39:C:H2'	36:YA:40:C:C6	2.50	0.46
36:YA:65:C:H2'	36:YA:66:C:C6	2.51	0.46
36:YA:232:G:H8	36:YA:232:G:OP2	1.98	0.46
36:YA:1190:G:H5'	46:YP:32:THR:HA	1.98	0.46
36:YA:1308:A:H3'	36:YA:1309:G:H8	1.80	0.46
36:YA:2153:G:H2'	36:YA:2154:G:H8	1.81	0.46
1:QA:35:G:H2'	1:QA:36:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:407:G:H2'	1:QA:408:A:C8	2.51	0.46
1:QA:1015:A:H2'	1:QA:1016:A:C8	2.50	0.46
1:QA:1112:C:H1'	3:QC:179:ARG:HH11	1.81	0.46
1:QA:1369:C:H2'	1:QA:1370:G:C8	2.50	0.46
36:RA:1534:G:N3	36:RA:1534:G:H2'	2.31	0.46
36:RA:1607:C:N4	36:RA:1622:G:OP2	2.43	0.46
36:RA:2130:U:H4'	36:RA:2133:G:H4'	1.96	0.46
36:RA:2637:U:H2'	36:RA:2638:G:O4'	2.16	0.46
51:RU:91:ASP:HA	51:RU:95:LEU:HB2	1.97	0.46
55:RY:98:VAL:HG13	55:RY:99:CYS:H	1.80	0.46
1:XA:1360:A:H2'	1:XA:1361:G:C8	2.51	0.46
3:XC:14:ILE:HG12	3:XC:15:THR:HG23	1.98	0.46
7:XG:148:ASN:HA	11:XK:54:ARG:HH12	1.81	0.46
20:XT:13:LEU:HD12	20:XT:14:LYS:HD3	1.96	0.46
36:YA:576:U:H2'	36:YA:577:G:C8	2.51	0.46
36:YA:740:U:H2'	36:YA:741:G:C8	2.50	0.46
36:YA:2100:G:H1	36:YA:2189:U:H3	1.63	0.46
36:YA:2636:U:HO2'	39:YE:44:TYR:HH	1.64	0.46
42:YH:98:LEU:HD22	42:YH:125:VAL:HB	1.97	0.46
1:QA:243:A:H4'	1:QA:244:U:H3'	1.98	0.46
1:QA:714:G:H2'	1:QA:715:A:H8	1.80	0.46
1:QA:938:A:N3	1:QA:1376:U:O2'	2.39	0.46
1:QA:1147:C:H4'	9:QI:5:TYR:CE1	2.51	0.46
10:QJ:49:VAL:HG23	14:QN:41:ARG:HB2	1.98	0.46
11:QK:41:THR:HG21	11:QK:72:ALA:CA	2.46	0.46
23:QW:29:U:H2'	23:QW:30:G:C8	2.50	0.46
36:RA:479:A:N3	36:RA:481:G:H5''	2.31	0.46
36:RA:900:A:H3'	36:RA:901:A:H8	1.81	0.46
36:RA:2540:C:O2'	36:RA:2740:A:N3	2.40	0.46
36:RA:2566:A:H4'	36:RA:2567:G:O5'	2.15	0.46
36:RA:2599:G:N7	38:RD:237:GLU:HG2	2.31	0.46
43:RI:31:LEU:HD21	43:RI:38:LEU:HG	1.97	0.46
47:RQ:63:LYS:HE2	56:RZ:175:VAL:HG13	1.98	0.46
53:RW:6:ILE:HG22	53:RW:8:ARG:HG3	1.97	0.46
1:XA:584:G:H2'	1:XA:585:G:H8	1.81	0.46
1:XA:1073:U:C2	1:XA:1074:G:C8	3.04	0.46
1:XA:1507:A:H2'	1:XA:1508:G:C8	2.51	0.46
3:XC:8:ILE:HD12	3:XC:16:ARG:CZ	2.46	0.46
25:XY:2:G:H2'	25:XY:3:G:C8	2.51	0.46
28:Y2:47:ASN:HD22	36:YA:94:G:H21	1.62	0.46
36:YA:141(A):C:O2'	54:YX:37:THR:HG21	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:1278:A:H2'	36:YA:1279:G:C8	2.51	0.46
36:YA:1568:G:H5''	38:YD:61:LEU:HG	1.98	0.46
36:YA:2173:A:P	36:YA:2173:A:H8	2.38	0.46
49:YS:56:LEU:HD11	49:YS:58:LEU:HD13	1.97	0.46
50:YT:123:GLN:C	50:YT:125:ARG:H	2.19	0.46
1:QA:563:A:H2'	1:QA:567:G:C8	2.51	0.46
1:QA:1071:C:H2'	1:QA:1072:G:H8	1.80	0.46
1:QA:1124:G:H5'	10:QJ:35:SER:HB2	1.98	0.46
1:QA:1355:G:H2'	1:QA:1356:G:H8	1.80	0.46
4:QD:68:TYR:OH	4:QD:98:GLU:OE2	2.27	0.46
16:QP:49:LEU:HD12	16:QP:50:LYS:H	1.80	0.46
36:RA:679:C:H2'	36:RA:680:G:C8	2.51	0.46
36:RA:679:C:H2'	36:RA:680:G:H8	1.80	0.46
36:RA:729:G:OP2	38:RD:13:ARG:NH1	2.47	0.46
36:RA:1278:A:H2'	36:RA:1279:G:C8	2.50	0.46
36:RA:2105:C:H2'	36:RA:2106:G:H8	1.80	0.46
38:RD:28:GLU:HG2	38:RD:29:PRO:HD3	1.98	0.46
38:RD:65:ILE:HD11	38:RD:67:PHE:CZ	2.51	0.46
40:RF:7:TYR:O	40:RF:21:ALA:HA	2.16	0.46
1:XA:266:G:H5'	1:XA:268:C:H41	1.80	0.46
1:XA:1490:C:OP2	58:XA:1717:PAR:N64	2.45	0.46
2:XB:24:TRP:CB	2:XB:40:HIS:NE2	2.73	0.46
2:XB:197:VAL:HG13	2:XB:200:ILE:CG1	2.46	0.46
12:XL:32:PHE:CE1	12:XL:86:ARG:HG3	2.51	0.46
29:Y3:7:LYS:HB2	29:Y3:34:GLU:HG2	1.98	0.46
32:Y6:7:ILE:O	32:Y6:8:LYS:HE2	2.16	0.46
36:YA:646:A:H3'	36:YA:647:G:C8	2.50	0.46
36:YA:1454:U:H5	48:YR:73:VAL:HG12	1.80	0.46
36:YA:2110:G:N1	36:YA:2180:U:O4	2.49	0.46
39:YE:7:VAL:HG13	39:YE:51:PHE:CE1	2.50	0.46
55:YY:52:SER:OG	55:YY:53:PRO:HD3	2.15	0.46
1:QA:923:A:OP1	5:QE:21:ALA:HB2	2.15	0.46
5:QE:12:LEU:HD22	5:QE:128:PRO:HB2	1.98	0.46
23:QW:18:G:H8	23:QW:60:C:HO2'	1.63	0.46
36:RA:37:C:H2'	36:RA:38:A:H8	1.81	0.46
36:RA:495:G:N3	53:RW:61:ASN:ND2	2.64	0.46
36:RA:834:C:C2	36:RA:835:A:C8	3.04	0.46
36:RA:1400:G:H2'	36:RA:1401:G:H8	1.81	0.46
36:RA:2514:U:H2'	36:RA:2515:C:C6	2.50	0.46
56:RZ:53:ILE:HG13	56:RZ:54:HIS:N	2.30	0.46
1:XA:32:A:H2'	1:XA:33:A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:986:A:H2'	1:XA:987:G:H8	1.81	0.46
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.16	0.46
10:XJ:50:ILE:HG12	10:XJ:60:ARG:HD3	1.98	0.46
25:XY:11:C:H2'	25:XY:12:U:C6	2.51	0.46
36:YA:191:A:H2'	36:YA:192:C:H6	1.80	0.46
36:YA:2476:A:H2'	36:YA:2477:C:C6	2.51	0.46
42:YH:55:PRO:HG2	42:YH:61:HIS:ND1	2.31	0.46
1:QA:477:G:H2'	1:QA:478:A:H8	1.81	0.46
1:QA:753:A:H4'	1:QA:754:C:O5'	2.16	0.46
1:QA:886:G:H1	1:QA:911:U:H3	1.64	0.46
1:QA:979:C:OP1	1:QA:1223:C:N4	2.48	0.46
1:QA:1000:A:H2'	1:QA:1001:G:H8	1.81	0.46
1:QA:1090:U:H2'	1:QA:1091:U:C6	2.50	0.46
1:QA:1314:C:H2'	1:QA:1315:U:H6	1.80	0.46
2:QB:47:THR:HG22	2:QB:202:PRO:HG2	1.98	0.46
3:QC:42:LEU:HD13	3:QC:45:LYS:HD3	1.98	0.46
36:RA:691:C:H2'	36:RA:692:C:H6	1.81	0.46
36:RA:1063:G:H2'	36:RA:1064:C:C6	2.50	0.46
36:RA:1651:G:H2'	36:RA:1652:A:O4'	2.15	0.46
36:RA:1657:C:H2'	36:RA:1658:C:C6	2.51	0.46
36:RA:2748:A:H4'	42:RH:66:GLY:HA3	1.96	0.46
38:RD:231:HIS:CD2	38:RD:249:PRO:HB3	2.51	0.46
39:RE:134:ILE:HA	39:RE:137:HIS:CD2	2.51	0.46
44:RN:108:PRO:HG2	44:RN:113:GLY:HA2	1.97	0.46
1:XA:34:C:H2'	1:XA:35:G:C8	2.48	0.46
1:XA:545:C:O2'	1:XA:549:C:OP1	2.24	0.46
1:XA:769:G:H4'	1:XA:1513:A:H4'	1.97	0.46
1:XA:864:A:H2'	1:XA:865:A:C8	2.51	0.46
7:XG:77:SER:HB3	23:XW:32:A:N3	2.31	0.46
14:XN:43:CYS:C	14:XN:45:ARG:H	2.19	0.46
36:YA:141:A:C8	36:YA:1408:C:H1'	2.51	0.46
36:YA:278:A:H2'	36:YA:279:C:H6	1.80	0.46
36:YA:1839:G:C2	36:YA:1840:G:C8	3.04	0.46
36:YA:2065:C:H2'	36:YA:2066:C:H6	1.80	0.46
36:YA:2243:U:H2'	36:YA:2244:U:C6	2.50	0.46
36:YA:2740:A:H2'	36:YA:2741:A:C8	2.51	0.46
40:YF:67:GLN:HG3	40:YF:67:GLN:O	2.15	0.46
36:RA:1991:U:C6	36:RA:1991:U:C5'	2.99	0.46
36:RA:2487:G:H2'	36:RA:2488:A:H8	1.81	0.46
37:RB:66:A:HO2'	37:RB:67:G:P	2.39	0.46
1:XA:60:A:H4'	1:XA:61:G:O5'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:99:C:H2'	1:XA:101:A:C8	2.51	0.46
1:XA:107:G:C2	1:XA:108:G:H1'	2.51	0.46
1:XA:1263:C:H2'	1:XA:1264:C:H6	1.81	0.46
4:XD:121:VAL:O	4:XD:134:ASP:HA	2.16	0.46
22:XV:13:C:O2'	36:YA:1924:C:H4'	2.16	0.46
27:Y1:71:TYR:CZ	43:YI:27:ARG:HB2	2.51	0.46
36:YA:442:G:H4'	40:YF:46:ARG:HG3	1.98	0.46
36:YA:534:U:H2'	36:YA:535:C:C6	2.51	0.46
36:YA:1212:G:O2'	36:YA:1236:G:N2	2.40	0.46
36:YA:1501:C:H2'	36:YA:1502:C:H6	1.80	0.46
36:YA:2086:U:H2'	36:YA:2087:G:H8	1.80	0.46
36:YA:2250:G:C4	47:YQ:82:ARG:HG3	2.50	0.46
36:YA:2329:G:H2'	36:YA:2330:G:H8	1.81	0.46
1:QA:196:A:OP1	20:QT:68:LYS:NZ	2.38	0.46
16:QP:19:ILE:N	16:QP:37:GLY:O	2.49	0.46
19:QS:4:SER:HB2	19:QS:8:GLY:HA2	1.98	0.46
25:QY:19:G:H3'	25:QY:20:G:C8	2.50	0.46
31:R5:2:ALA:HA	36:RA:2015:A:H1'	1.97	0.46
36:RA:286:C:H2'	36:RA:287:C:H6	1.80	0.46
36:RA:1303:G:H1'	36:RA:1641:A:N1	2.31	0.46
36:RA:1668:A:C8	36:RA:1674:G:O6	2.69	0.46
47:RQ:4:PRO:HG3	47:RQ:69:PHE:CE2	2.50	0.46
1:XA:8:A:H8	5:XE:101:ILE:HG23	1.81	0.46
1:XA:116:A:H61	1:XA:313:A:H1'	1.81	0.46
1:XA:628:G:H2'	1:XA:629:G:C8	2.50	0.46
1:XA:1435:G:H2'	1:XA:1436:U:H6	1.79	0.46
6:XF:4:TYR:HE1	6:XF:92:LYS:HG2	1.79	0.46
13:XM:11:ARG:HA	13:XM:45:VAL:HG11	1.98	0.46
23:XW:19:G:H5'	23:XW:20:G:C8	2.51	0.46
36:YA:381:G:C6	36:YA:394:A:C6	3.04	0.46
36:YA:721:C:H2'	36:YA:722:A:H8	1.81	0.46
36:YA:1212:G:H1'	36:YA:1237:A:N6	2.31	0.46
36:YA:1406:U:H2'	36:YA:1407:C:C6	2.51	0.46
36:YA:1971:A:C4	38:YD:241:PRO:HG3	2.51	0.46
36:YA:2783:G:H2'	36:YA:2784:C:C6	2.51	0.46
1:QA:191(E):G:H2'	1:QA:191(F):U:H6	1.80	0.45
1:QA:294:U:OP1	1:QA:610:G:O2'	2.28	0.45
1:QA:360:A:H2'	1:QA:361:G:C8	2.51	0.45
1:QA:587:G:N2	1:QA:754:C:OP2	2.49	0.45
1:QA:1189:C:OP1	10:QJ:51:ARG:NH2	2.46	0.45
1:QA:1408:A:N1	58:QA:1711:PAR:O61	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:23:VAL:O	7:QG:27:ILE:HG12	2.16	0.45
33:R7:49:ARG:NH1	36:RA:128:C:H4'	2.31	0.45
36:RA:78:A:H2'	36:RA:79:G:H8	1.80	0.45
36:RA:84:A:C2	36:RA:103:A:C5	3.04	0.45
36:RA:662:G:OP1	46:RP:15:ARG:HG2	2.16	0.45
36:RA:839:U:H2'	36:RA:840:C:C6	2.51	0.45
36:RA:1902:C:H5'	38:RD:246:PRO:HD3	1.97	0.45
37:RB:50:G:OP1	49:RS:63:THR:HG23	2.16	0.45
41:RG:11:TYR:HB2	41:RG:176:LEU:HD21	1.96	0.45
56:RZ:145:GLU:HB2	56:RZ:148:ASP:HB3	1.99	0.45
1:XA:97:U:H2'	1:XA:99:C:H6	1.80	0.45
1:XA:105:G:H2'	1:XA:106:C:C6	2.51	0.45
1:XA:115:G:H4'	1:XA:116:A:O5'	2.15	0.45
6:XF:10:LEU:HD23	6:XF:85:VAL:HA	1.98	0.45
18:XR:73:ALA:HB1	18:XR:79:LEU:HD23	1.97	0.45
33:Y7:47:ARG:NH2	54:YX:60:ARG:HH12	2.14	0.45
34:Y8:6:THR:HG21	34:Y8:63:PRO:HD3	1.97	0.45
36:YA:336:C:O2'	55:YY:35:TYR:OH	2.32	0.45
36:YA:754:C:H2'	36:YA:755:C:H6	1.81	0.45
36:YA:1252:G:C2	51:YU:33:ARG:HB3	2.52	0.45
36:YA:2032:G:H1'	39:YE:145:LYS:HD3	1.98	0.45
39:YE:36:ARG:HG2	39:YE:47:VAL:HG12	1.97	0.45
1:QA:279:A:OP2	17:QQ:95:TYR:OH	2.28	0.45
3:QC:7:PRO:HG3	3:QC:201:TYR:HE2	1.81	0.45
36:RA:302:C:H2'	36:RA:303:U:H6	1.82	0.45
36:RA:892:G:H2'	36:RA:893:C:C6	2.51	0.45
36:RA:1164:G:H2'	36:RA:1165:U:C6	2.52	0.45
36:RA:1412:A:H2'	36:RA:1413:G:H8	1.81	0.45
36:RA:2306:C:H3'	36:RA:2307:G:C5'	2.47	0.45
36:RA:2674:G:H2'	36:RA:2675:A:C8	2.50	0.45
39:RE:24:THR:HG21	39:RE:188:VAL:HG22	1.98	0.45
47:RQ:31:ASP:H	47:RQ:107:ALA:HB2	1.81	0.45
56:RZ:51:ALA:O	56:RZ:52:SER:OG	2.27	0.45
1:XA:1422:G:H2'	1:XA:1423:G:H8	1.81	0.45
3:XC:21:ARG:O	3:XC:21:ARG:HG2	2.15	0.45
7:XG:44:TYR:O	7:XG:48:LYS:HG2	2.16	0.45
8:XH:129:VAL:HG23	8:XH:130:GLY:H	1.81	0.45
12:XL:89:ARG:HD2	12:XL:90:VAL:C	2.37	0.45
17:XQ:45:HIS:HB3	17:XQ:72:ARG:HG2	1.99	0.45
33:Y7:5:TRP:HE3	36:YA:1613:G:OP1	1.97	0.45
36:YA:1187:G:H5''	52:YV:81:TYR:CE2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:1553:A:HO2'	36:YA:1554:A:H8	1.62	0.45
36:YA:2210:G:H2'	36:YA:2210:G:N3	2.31	0.45
40:YF:63:LYS:CE	40:YF:67:GLN:HB2	2.45	0.45
40:YF:117:ARG:NH1	40:YF:120:GLU:OE2	2.48	0.45
43:YI:133:HIS:ND1	43:YI:134:PRO:HD3	2.31	0.45
55:YY:86:ARG:HB2	55:YY:95:LYS:HD3	1.97	0.45
1:QA:1118:C:H1'	1:QA:1179:A:C5	2.52	0.45
2:QB:222:ILE:O	2:QB:226:ARG:HG3	2.16	0.45
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.99	0.45
11:QK:27:ASN:OD1	11:QK:28:THR:N	2.50	0.45
30:R4:40:HIS:N	30:R4:41:PRO:CD	2.79	0.45
30:R4:53:GLU:O	30:R4:53:GLU:HG2	2.15	0.45
34:R8:59:LYS:NZ	46:RP:50:ARG:HG3	2.30	0.45
36:RA:173:G:H2'	36:RA:174:C:C6	2.51	0.45
36:RA:608:A:H2'	36:RA:609:A:C8	2.51	0.45
36:RA:690:G:H2'	36:RA:691:C:C6	2.51	0.45
36:RA:1159:U:C2	36:RA:1160:G:C8	3.04	0.45
36:RA:1336:A:H2'	36:RA:1337:G:C8	2.51	0.45
36:RA:1791:A:H3'	36:RA:1792:G:H8	1.80	0.45
36:RA:2315:G:H2'	36:RA:2316:C:C6	2.52	0.45
36:RA:2584:U:H2'	36:RA:2585:U:H2'	1.99	0.45
36:RA:2882:A:OP1	48:RR:96:ARG:NH1	2.40	0.45
38:RD:44:ASN:HB3	38:RD:49:ILE:HA	1.98	0.45
43:RI:130:TYR:HB3	43:RI:135:GLU:HB2	1.99	0.45
47:RQ:32:TYR:CE1	47:RQ:133:ARG:HG3	2.51	0.45
50:RT:77:PRO:HB2	50:RT:80:SER:HB3	1.98	0.45
50:RT:108:ARG:HG2	50:RT:111:ARG:NH2	2.32	0.45
1:XA:1495:U:O2'	36:YA:1919:A:N1	2.39	0.45
7:XG:70:LYS:HE2	7:XG:97:GLN:HG2	1.98	0.45
36:YA:38:A:H2'	36:YA:39:C:C6	2.52	0.45
36:YA:248:G:H5'	36:YA:250:G:N7	2.31	0.45
36:YA:478:A:N1	36:YA:500:G:H4'	2.31	0.45
36:YA:621:A:OP2	46:YP:108:LYS:NZ	2.49	0.45
36:YA:934:G:H2'	36:YA:935:C:H6	1.82	0.45
36:YA:1467:C:C5	36:YA:1546:C:H2'	2.52	0.45
36:YA:1790:C:H4'	38:YD:209:ALA:HB2	1.96	0.45
36:YA:2291:U:H2'	36:YA:2292:C:H6	1.80	0.45
36:YA:2364:C:H2'	36:YA:2365:G:O4'	2.16	0.45
36:YA:2566:A:H4'	36:YA:2567:G:O5'	2.15	0.45
41:YG:97:ASP:HA	41:YG:100:TRP:CD1	2.52	0.45
50:YT:112:ARG:HA	50:YT:115:ARG:NE	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:410:G:H4'	1:QA:411:A:OP1	2.16	0.45
1:QA:715:A:H2'	1:QA:716:A:H8	1.81	0.45
1:QA:1315:U:H2'	1:QA:1316:G:C8	2.51	0.45
6:QF:9:VAL:HB	6:QF:87:ARG:HB2	1.97	0.45
11:QK:43:SER:CB	11:QK:68:ALA:CA	2.88	0.45
36:RA:322:A:OP2	40:RF:169:ASN:HB2	2.16	0.45
36:RA:1210:A:H5'	36:RA:1212:G:O4'	2.16	0.45
36:RA:2649:U:H2'	36:RA:2650:U:C6	2.51	0.45
40:RF:153:SER:OG	40:RF:190:GLU:HG3	2.17	0.45
44:RN:72:TYR:N	44:RN:85:ILE:O	2.43	0.45
55:RY:3:VAL:HG12	55:RY:5:MET:HG2	1.98	0.45
1:XA:191:G:H2'	1:XA:192:U:H6	1.81	0.45
1:XA:693:G:H2'	1:XA:694:A:C8	2.51	0.45
1:XA:936:C:C2	1:XA:937:A:C8	3.05	0.45
2:XB:205:ASP:OD1	2:XB:206:ASP:N	2.50	0.45
4:XD:79:PHE:CE2	4:XD:204:ILE:HD13	2.51	0.45
26:Y0:30:VAL:HG22	26:Y0:66:VAL:HG12	1.98	0.45
36:YA:942:G:H3'	46:YP:36:LYS:HE3	1.98	0.45
36:YA:1357:U:H2'	36:YA:1358:G:O4'	2.16	0.45
36:YA:2729:G:H4'	39:YE:185:LYS:HB3	1.98	0.45
55:YY:75:ILE:HG22	55:YY:80:GLY:HA2	1.98	0.45
1:QA:662:G:H2'	1:QA:663:A:C8	2.52	0.45
1:QA:676:A:H1'	11:QK:115:PRO:HB3	1.97	0.45
1:QA:1150:U:O4	1:QA:1151:A:N6	2.50	0.45
7:QG:5:ARG:HH11	7:QG:7:ALA:HA	1.82	0.45
9:QI:3:GLN:OE1	9:QI:20:ARG:NH2	2.49	0.45
35:R9:2:LYS:O	35:R9:35:ARG:HB3	2.17	0.45
36:RA:74:A:H5''	36:RA:74:A:H8	1.82	0.45
36:RA:540:G:H5'	36:RA:541:C:OP2	2.16	0.45
36:RA:587:C:O2	46:RP:33:ARG:NH1	2.50	0.45
36:RA:1248:G:C2	51:RU:3:ARG:HD2	2.52	0.45
36:RA:1354:A:H3'	36:RA:1355:G:H8	1.82	0.45
36:RA:1854:A:H62	36:RA:1888:G:H8	1.63	0.45
36:RA:2688:U:H1'	36:RA:2721:A:N6	2.31	0.45
36:RA:2837:G:H21	48:RR:45:ARG:NH2	2.15	0.45
39:RE:2:LYS:HD2	39:RE:95:ILE:HG12	1.98	0.45
40:RF:82:ILE:HG13	40:RF:83:PHE:HD1	1.81	0.45
52:RV:25:LEU:H	52:RV:92:THR:HG21	1.81	0.45
1:XA:429:U:H1'	1:XA:430:A:H5''	1.98	0.45
1:XA:562:C:H1'	12:XL:15:ARG:HD2	1.97	0.45
1:XA:718:G:C8	11:XK:116:HIS:HB3	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:757:U:O2'	1:XA:879:C:O2	2.32	0.45
1:XA:911:U:H2'	1:XA:912:C:C6	2.52	0.45
1:XA:1104:G:O5'	2:XB:111:ARG:HD2	2.17	0.45
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.51	0.45
7:XG:26:PHE:O	7:XG:30:ILE:HG12	2.16	0.45
19:XS:12:ASP:OD2	19:XS:38:SER:HB3	2.16	0.45
22:XV:23:C:H2'	22:XV:24:U:C6	2.52	0.45
25:XY:24:G:H2'	25:XY:25:C:O4'	2.15	0.45
36:YA:185:U:H2'	36:YA:186:G:H8	1.80	0.45
36:YA:320:A:N3	40:YF:169:ASN:ND2	2.57	0.45
36:YA:659:C:H2'	36:YA:660:G:H8	1.82	0.45
36:YA:1310:G:N2	36:YA:1313:U:C4	2.85	0.45
56:YZ:163:LEU:CD2	56:YZ:165:VAL:HG22	2.44	0.45
1:QA:32:A:H2'	1:QA:33:A:H8	1.80	0.45
1:QA:299:G:H2'	1:QA:300:A:C8	2.51	0.45
1:QA:438:G:H4'	4:QD:123:HIS:CG	2.51	0.45
1:QA:705:U:H2'	1:QA:705:U:O2	2.16	0.45
1:QA:1032(A):G:H2'	1:QA:1032(B):G:H8	1.82	0.45
1:QA:1198:G:H2'	1:QA:1199:U:C6	2.52	0.45
24:QX:12:A:H8	24:QX:14:A:OP1	2.00	0.45
29:R3:7:LYS:NZ	29:R3:32:GLN:HG3	2.32	0.45
36:RA:270(D):C:H2'	36:RA:270(E):G:H8	1.82	0.45
36:RA:871:U:OP1	47:RQ:5:ARG:HG2	2.17	0.45
36:RA:949:C:H2'	36:RA:950:G:C8	2.52	0.45
36:RA:2115:G:H8	36:RA:2171:A:H62	1.64	0.45
41:RG:107:LEU:HD23	41:RG:111:LEU:HD22	1.98	0.45
42:RH:98:LEU:HB3	42:RH:125:VAL:HG21	1.97	0.45
42:RH:138:LYS:HA	42:RH:141:VAL:HG12	1.99	0.45
1:XA:191:G:H2'	1:XA:192:U:C6	2.51	0.45
1:XA:645:C:H2'	1:XA:646:U:C6	2.52	0.45
1:XA:1313:U:H2'	1:XA:1314:C:C6	2.51	0.45
1:XA:1323:G:H2'	1:XA:1324:A:C8	2.52	0.45
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.17	0.45
23:XW:8:U:O2	23:XW:8:U:C2'	2.64	0.45
23:XW:60:C:H5''	23:XW:61:C:C5	2.52	0.45
35:Y9:36:GLN:HG2	36:YA:1124:C:O2'	2.17	0.45
36:YA:66:C:H2'	36:YA:67:U:H6	1.81	0.45
36:YA:270(U):C:H2'	36:YA:270(V):G:C8	2.51	0.45
36:YA:363(A):A:H2'	36:YA:363(B):G:H8	1.81	0.45
36:YA:755:C:H2'	36:YA:756:C:C6	2.52	0.45
36:YA:1528:A:H2'	36:YA:1529:A:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YD:62:TYR:HA	38:YD:87:ASN:ND2	2.32	0.45
41:YG:59:GLU:OE1	41:YG:153:ARG:NH2	2.50	0.45
50:YT:26:ASP:O	50:YT:49:VAL:HG12	2.16	0.45
52:YV:6:LYS:HB2	52:YV:39:LEU:HD21	1.98	0.45
1:QA:67:C:H2'	1:QA:68:G:C8	2.52	0.45
1:QA:705:U:N3	1:QA:706:A:C8	2.85	0.45
1:QA:792:A:H4'	1:QA:793:U:O5'	2.17	0.45
1:QA:1238:A:N7	1:QA:1301:U:C4	2.84	0.45
5:QE:154:GLY:HA2	8:QH:64:LYS:HE3	1.98	0.45
11:QK:108:ILE:O	18:QR:87:ARG:N	2.50	0.45
12:QL:82:VAL:O	12:QL:106:ASP:HB2	2.16	0.45
27:R1:91:LYS:O	27:R1:94:LEU:N	2.35	0.45
36:RA:84:A:OP2	55:RY:8:LYS:HE2	2.17	0.45
36:RA:2478:A:C8	36:RA:2529:G:C5	3.05	0.45
36:RA:2828:C:O2'	36:RA:2829:C:H5'	2.17	0.45
38:RD:143:HIS:ND1	38:RD:194:GLY:O	2.37	0.45
1:XA:272:C:H2'	1:XA:273:A:H8	1.80	0.45
1:XA:908:A:H2'	1:XA:909:A:C8	2.52	0.45
1:XA:1179:A:H4'	9:XI:103:THR:HA	1.99	0.45
1:XA:1503:A:H1'	24:XX:12:A:N6	2.32	0.45
3:XC:71:ALA:HA	3:XC:106:VAL:HG22	1.97	0.45
9:XI:3:GLN:NE2	9:XI:18:PHE:HB3	2.31	0.45
26:Y0:73:GLY:HA3	37:YB:12:C:H2'	1.97	0.45
30:Y4:37:SER:HA	30:Y4:41:PRO:HG2	1.98	0.45
36:YA:29:U:H2'	36:YA:30:G:C8	2.52	0.45
36:YA:765:G:H2'	36:YA:766:C:C6	2.52	0.45
36:YA:2563:U:H4'	45:YO:28:SER:HA	1.99	0.45
41:YG:86:MET:O	41:YG:88:ILE:HG23	2.17	0.45
47:YQ:62:GLY:HA3	47:YQ:107:ALA:O	2.17	0.45
53:YW:71:VAL:HA	53:YW:107:LEU:HD23	1.97	0.45
1:QA:284:G:H2'	1:QA:285:G:H8	1.81	0.45
1:QA:359:U:H2'	1:QA:360:A:H8	1.82	0.45
1:QA:618:C:H5'	1:QA:619:U:H5''	1.98	0.45
1:QA:972:C:OP2	10:QJ:57:LYS:HE2	2.17	0.45
1:QA:1479:C:H2'	1:QA:1480:G:H8	1.81	0.45
3:QC:14:ILE:O	3:QC:15:THR:OG1	2.31	0.45
8:QH:114:THR:HG22	8:QH:130:GLY:C	2.37	0.45
33:R7:34:ARG:NH1	36:RA:467:G:OP2	2.50	0.45
34:R8:4:MET:HE3	34:R8:61:LEU:HD13	1.98	0.45
36:RA:39:C:H2'	36:RA:40:C:C6	2.52	0.45
36:RA:686:G:N2	36:RA:788:A:H61	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:1141:U:H1'	36:RA:1142(A):A:C6	2.52	0.45
36:RA:2306:C:N4	41:RG:42:GLY:O	2.48	0.45
36:RA:2650:U:H2'	36:RA:2651:C:C6	2.51	0.45
38:RD:110:GLY:O	38:RD:112:GLN:NE2	2.49	0.45
40:RF:123:LEU:HD13	40:RF:192:LEU:HD23	1.98	0.45
43:RI:78:THR:HA	43:RI:141:LYS:O	2.16	0.45
50:RT:54:ARG:HA	50:RT:59:THR:HG23	1.99	0.45
1:XA:224:C:H2'	1:XA:225:C:C6	2.52	0.45
1:XA:452:A:OP1	16:XP:43:LYS:NZ	2.43	0.45
1:XA:639:G:C2	1:XA:640:A:C8	3.05	0.45
1:XA:643:C:H2'	1:XA:644:G:H8	1.82	0.45
1:XA:1292:U:P	7:XG:41:ARG:HH22	2.40	0.45
16:XP:79:VAL:HG23	16:XP:80:PHE:HD2	1.81	0.45
36:YA:527:C:N3	36:YA:2779:U:H2'	2.32	0.45
36:YA:754:C:H2'	36:YA:755:C:C6	2.52	0.45
36:YA:1085:A:O2'	36:YA:1086:A:O5'	2.32	0.45
36:YA:1116:C:H2'	36:YA:1117:G:C8	2.50	0.45
36:YA:1709:U:H2'	36:YA:1710:C:H6	1.81	0.45
36:YA:1778:U:H2'	36:YA:1784:A:N6	2.32	0.45
36:YA:1932:A:H2'	36:YA:1933:G:O4'	2.17	0.45
36:YA:2701:C:H3'	36:YA:2702:U:C5'	2.41	0.45
36:YA:2853:C:H2'	36:YA:2854:G:C8	2.51	0.45
46:YP:84:ASN:HD22	46:YP:86:LYS:HE3	1.82	0.45
50:YT:3:ARG:HG3	50:YT:7:ILE:HG12	1.98	0.45
1:QA:797:C:OP1	11:QK:124:LYS:HD3	2.17	0.45
1:QA:1060:C:H2'	1:QA:1061:G:H8	1.81	0.45
3:QC:18:TRP:HB2	3:QC:21:ARG:HB2	1.99	0.45
27:R1:91:LYS:O	27:R1:93:GLU:N	2.50	0.45
30:R4:11:PRO:HA	30:R4:25:TYR:HA	1.99	0.45
36:RA:320:A:H4'	36:RA:322:A:C8	2.51	0.45
36:RA:373:U:H2'	36:RA:374:A:H8	1.81	0.45
36:RA:655:A:H8	36:RA:656:G:C8	2.34	0.45
36:RA:1668:A:C5	36:RA:1674:G:C6	3.04	0.45
36:RA:1824:G:H3'	38:RD:220:HIS:CE1	2.52	0.45
38:RD:94:LEU:HB2	38:RD:104:TYR:HE2	1.82	0.45
42:RH:151:ILE:HG22	42:RH:152:ARG:H	1.82	0.45
56:RZ:28:MET:HE1	56:RZ:59:LEU:HD23	1.99	0.45
1:XA:135:C:O2	16:XP:1:MET:HB3	2.16	0.45
1:XA:626:U:C2	1:XA:627:G:C8	3.05	0.45
1:XA:883:C:O2'	1:XA:884:U:H5'	2.17	0.45
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1504:G:OP1	1:XA:1507:A:H4'	2.17	0.45
2:XB:26:PRO:C	2:XB:28:PHE:H	2.20	0.45
6:XF:33:TYR:HB2	6:XF:75:LEU:HD12	1.98	0.45
8:XH:28:ALA:HA	8:XH:59:LEU:HD13	1.99	0.45
8:XH:51:VAL:HG21	8:XH:60:ARG:HG3	1.99	0.45
9:XI:114:TYR:CE2	10:XJ:59:SER:HA	2.52	0.45
14:YN:6:LEU:HB3	14:YN:23:ARG:HH22	1.81	0.45
32:Y6:41:PRO:HD2	32:Y6:46:HIS:H	1.82	0.45
34:Y8:26:LYS:HE2	34:Y8:47:LYS:HB3	1.99	0.45
36:YA:37:C:H2'	36:YA:38:A:C8	2.52	0.45
36:YA:1639:U:C2'	36:YA:1640:C:H5''	2.47	0.45
36:YA:2696:U:H2'	36:YA:2697:G:C8	2.52	0.45
37:YB:32:C:N3	37:YB:51:G:N2	2.65	0.45
39:YE:50:GLY:HA2	39:YE:76:ARG:O	2.17	0.45
42:YH:83:TYR:CZ	42:YH:138:LYS:HD2	2.52	0.45
1:QA:384:G:H2'	1:QA:385:C:H6	1.80	0.45
1:QA:950:U:O4	13:QM:105:THR:HG21	2.16	0.45
10:QJ:6:ILE:HD12	10:QJ:98:ILE:HG22	1.98	0.45
20:QT:92:LEU:HD23	20:QT:98:PRO:HG3	1.99	0.45
23:QW:55:U:H2'	23:QW:56:C:H5	1.82	0.45
30:R4:6:HIS:CE1	41:RG:66:GLN:HA	2.52	0.45
34:R8:30:ARG:NH2	46:RP:62:LEU:HD13	2.31	0.45
34:R8:34:TRP:CD1	34:R8:34:TRP:O	2.70	0.45
36:RA:270(B):A:N1	36:RA:273:G:O2'	2.40	0.45
36:RA:672:C:H2'	36:RA:673:C:C6	2.52	0.45
36:RA:1431:U:H2'	36:RA:1432:C:C6	2.51	0.45
36:RA:1467:C:H5	36:RA:1546:C:H2'	1.82	0.45
36:RA:1501:C:H2'	36:RA:1502:C:H6	1.82	0.45
36:RA:2532:G:N2	36:RA:2663:G:O2'	2.50	0.45
38:RD:44:ASN:HB2	38:RD:48:ARG:O	2.17	0.45
39:RE:110:GLY:O	48:RR:3:HIS:CE1	2.70	0.45
44:RN:13:TRP:O	44:RN:135:PRO:HD2	2.17	0.45
1:XA:1095:U:OP2	1:XA:1108:G:N1	2.50	0.45
1:XA:1203:C:H2'	1:XA:1204:A:H8	1.81	0.45
8:XH:39:LEU:HD12	8:XH:44:PHE:HB2	1.99	0.45
23:XW:54:U:H2'	23:XW:55:U:C6	2.51	0.45
26:Y0:75:LEU:HD21	36:YA:2334:G:C6	2.52	0.45
27:Y1:18:ILE:HG12	27:Y1:37:ILE:HG12	1.99	0.45
36:YA:415:A:H2'	36:YA:416:C:C6	2.50	0.45
36:YA:1152:C:H4'	51:YU:77:SER:HA	1.98	0.45
36:YA:1231:G:H2'	36:YA:1232:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:1754:C:H5'	50:YT:101:PHE:CZ	2.52	0.45
36:YA:1791:A:H3'	36:YA:1792:G:H8	1.81	0.45
36:YA:2014:A:H2'	36:YA:2015:A:C8	2.52	0.45
44:YN:70:LYS:HD3	44:YN:87:LEU:HD11	1.99	0.45
50:YT:27:THR:HB	50:YT:48:ILE:HG13	1.97	0.45
50:YT:102:ILE:HB	50:YT:110:ILE:HD12	1.98	0.45
51:YU:92:ARG:O	51:YU:94:ASN:N	2.50	0.45
53:YW:4:LYS:CB	53:YW:106:ILE:HG22	2.47	0.45
56:YZ:166:SER:HB2	56:YZ:168:GLU:H	1.81	0.45
1:QA:266:G:O2'	1:QA:267:C:OP2	2.29	0.44
1:QA:1124:G:H2'	1:QA:1145:C:C4	2.52	0.44
2:QB:97:TRP:HZ2	2:QB:102:LEU:HD13	1.82	0.44
5:QE:108:ALA:HA	5:QE:111:GLU:HG2	1.99	0.44
6:QF:81:ILE:HD11	38:RD:125:ILE:HD13	1.99	0.44
6:QF:97:PHE:HB2	18:QR:32:ARG:NH1	2.32	0.44
11:QK:34:ASP:OD1	11:QK:38:ASN:N	2.50	0.44
36:RA:672:C:H2'	36:RA:673:C:H6	1.82	0.44
36:RA:875:G:O6	36:RA:903:C:N4	2.50	0.44
36:RA:960:A:C8	36:RA:962:G:C8	3.06	0.44
36:RA:968:G:H2'	36:RA:969:U:C6	2.52	0.44
36:RA:1889:A:N3	36:RA:2086:U:O2'	2.46	0.44
36:RA:2564:A:N7	36:RA:2647:U:O2'	2.50	0.44
39:RE:128:SER:OG	39:RE:129:HIS:N	2.48	0.44
43:RI:69:LYS:HG3	43:RI:136:VAL:HB	1.99	0.44
48:RR:28:LEU:HD23	48:RR:48:VAL:HG21	1.99	0.44
48:RR:57:ARG:HE	48:RR:62:ALA:HB2	1.82	0.44
1:XA:1015:A:N3	1:XA:1218:C:O2'	2.39	0.44
7:XG:111:ARG:HB3	7:XG:113:GLU:OE1	2.16	0.44
36:YA:229:A:OP1	36:YA:229:A:H4'	2.17	0.44
36:YA:273:G:C2	36:YA:273(A):G:C8	3.05	0.44
36:YA:1081:U:H3'	36:YA:1082:U:H4'	1.99	0.44
36:YA:1467:C:H5	36:YA:1546:C:H2'	1.81	0.44
36:YA:1783:A:H5'	36:YA:2608:G:H4'	1.99	0.44
36:YA:2047:U:H2'	36:YA:2048:G:H8	1.82	0.44
36:YA:2154:G:H2'	36:YA:2155:G:H8	1.81	0.44
36:YA:2173:A:OP1	36:YA:2173:A:C8	2.70	0.44
36:YA:2273:A:H2'	36:YA:2274:A:C8	2.51	0.44
40:YF:157:VAL:HG21	40:YF:181:LEU:HD21	1.99	0.44
43:YI:93:THR:O	43:YI:97:ILE:HG12	2.18	0.44
44:YN:33:LEU:HD23	44:YN:38:HIS:CE1	2.51	0.44
46:YP:91:PHE:CE2	46:YP:95:VAL:HG22	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:YR:10:LEU:O	48:YR:12:ARG:NH1	2.50	0.44
49:YS:87:PHE:CZ	49:YS:102:ALA:HB2	2.52	0.44
55:YY:12:THR:O	55:YY:75:ILE:HG12	2.17	0.44
1:QA:629:G:H2'	1:QA:630:G:C8	2.52	0.44
1:QA:640:A:N6	1:QA:641:U:O4	2.51	0.44
1:QA:1027:C:C2	1:QA:1028:C:H5	2.35	0.44
1:QA:1126:U:H5	1:QA:1127:G:C5	2.35	0.44
1:QA:1372:U:H2'	1:QA:1373:G:O4'	2.17	0.44
1:QA:1437:C:H2'	1:QA:1438:G:H8	1.82	0.44
5:QE:51:VAL:CG2	5:QE:52:PRO:HD3	2.46	0.44
8:QH:110:ALA:HB3	8:QH:121:ASP:HB3	1.98	0.44
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.31	0.44
25:QY:40:C:H2'	25:QY:41:A:C8	2.52	0.44
29:R3:16:PRO:HB2	29:R3:18:ASP:OD1	2.17	0.44
36:RA:180:G:N2	36:RA:215:G:O6	2.51	0.44
36:RA:286:C:H2'	36:RA:287:C:C6	2.52	0.44
36:RA:1794:U:H2'	36:RA:1795:C:C6	2.52	0.44
36:RA:2014:A:H2'	36:RA:2015:A:C8	2.53	0.44
41:RG:38:VAL:HG22	41:RG:93:THR:HG22	1.99	0.44
49:RS:26:LEU:HD22	49:RS:87:PHE:HD1	1.82	0.44
52:RV:32:THR:OG1	52:RV:59:ALA:O	2.35	0.44
1:XA:712:A:H2'	1:XA:713:G:C8	2.52	0.44
1:XA:765:G:N2	1:XA:813:U:OP2	2.45	0.44
1:XA:936:C:C4	1:XA:937:A:N7	2.86	0.44
3:XC:134:ILE:HG22	3:XC:168:ALA:HB3	1.99	0.44
11:XK:82:VAL:HB	11:XK:108:ILE:HD13	1.98	0.44
16:XP:21:VAL:HG11	16:XP:59:TRP:CE2	2.52	0.44
19:XS:22:LEU:O	19:XS:26:GLY:HA3	2.18	0.44
19:XS:39:THR:HG22	19:XS:40:ILE:N	2.29	0.44
30:Y4:40:HIS:N	30:Y4:41:PRO:CD	2.81	0.44
36:YA:530:G:C5	36:YA:2022:U:H5''	2.51	0.44
36:YA:665:C:H2'	36:YA:666:G:H8	1.81	0.44
36:YA:719:C:H2'	36:YA:720:C:H6	1.82	0.44
36:YA:1021:A:H3'	36:YA:1021:A:C8	2.52	0.44
36:YA:1794:U:H2'	36:YA:1795:C:H6	1.81	0.44
37:YB:66:A:HO2'	37:YB:67:G:P	2.40	0.44
44:YN:65:LYS:O	44:YN:69:GLN:HG2	2.18	0.44
47:YQ:21:THR:HB	47:YQ:22:LYS:H	1.60	0.44
1:QA:97:U:H2'	1:QA:99:C:C6	2.53	0.44
1:QA:1167:A:H8	1:QA:1167:A:OP1	2.00	0.44
1:QA:1356:G:H2'	1:QA:1357:A:H8	1.77	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:114:TYR:CE2	10:QJ:59:SER:HA	2.52	0.44
11:QK:124:LYS:HE3	11:QK:125:PHE:CE1	2.53	0.44
13:QM:19:LEU:HD21	13:QM:56:LEU:HD21	1.99	0.44
14:QN:2:ALA:N	14:QN:6:LEU:HD12	2.32	0.44
20:QT:54:LYS:HG2	20:QT:57:ARG:HH12	1.82	0.44
22:QV:50:U:H2'	22:QV:51:C:C6	2.52	0.44
25:QY:53:G:HO2'	47:RQ:51:ARG:HH22	1.54	0.44
33:R7:5:TRP:NE1	33:R7:7:PRO:HG3	2.32	0.44
36:RA:184:C:H2'	36:RA:185:U:C6	2.52	0.44
36:RA:185:U:H2'	36:RA:186:G:C8	2.53	0.44
36:RA:2152:G:H2'	36:RA:2153:G:H8	1.82	0.44
36:RA:2400:G:H2'	36:RA:2401:U:C6	2.52	0.44
40:RF:34:TRP:CE3	46:RP:8:PRO:HB3	2.52	0.44
45:RO:64:ARG:HD2	45:RO:101:PRO:O	2.17	0.44
1:XA:246:A:C2	1:XA:282:A:C5	3.06	0.44
1:XA:667:G:H4'	15:XO:51:HIS:ND1	2.32	0.44
1:XA:986:A:H2'	1:XA:987:G:C8	2.52	0.44
19:XS:22:LEU:HD11	19:XS:29:ARG:HB3	1.99	0.44
23:XW:8:U:OP2	23:XW:8:U:C6	2.70	0.44
34:Y8:13:ARG:HD2	46:YP:61:ARG:CZ	2.47	0.44
36:YA:297:C:H2'	36:YA:298:G:O4'	2.18	0.44
36:YA:960:A:H5''	36:YA:961:C:OP1	2.17	0.44
36:YA:2401:U:H2'	36:YA:2402:C:H5''	1.99	0.44
36:YA:2689:U:H4'	36:YA:2690:C:O5'	2.17	0.44
42:YH:115:VAL:HG11	42:YH:148:ILE:HD11	1.98	0.44
42:YH:127:GLU:HB2	42:YH:128:PRO:HD3	2.00	0.44
42:YH:137:ASP:O	42:YH:141:VAL:HG23	2.18	0.44
47:YQ:30:GLY:CA	47:YQ:107:ALA:HB2	2.47	0.44
1:QA:184:G:H2'	1:QA:185:A:H8	1.82	0.44
1:QA:674:G:H2'	1:QA:675:A:C8	2.51	0.44
1:QA:1169:A:H2'	1:QA:1170:A:C8	2.53	0.44
1:QA:1289:A:H2'	1:QA:1290:G:H5'	1.99	0.44
1:QA:1523:G:H2'	1:QA:1524:C:C6	2.53	0.44
3:QC:33:LEU:HD22	14:QN:37:PHE:O	2.18	0.44
23:QW:60:C:OP1	23:QW:62:C:N4	2.51	0.44
36:RA:270(S):G:H2'	36:RA:270(T):G:C8	2.53	0.44
36:RA:302:C:H2'	36:RA:303:U:C6	2.52	0.44
36:RA:1284:A:H2'	36:RA:1285:G:O4'	2.17	0.44
37:RB:25:A:H2'	37:RB:26:A:C8	2.53	0.44
45:RO:63:VAL:HG23	45:RO:64:ARG:HD3	1.98	0.44
47:RQ:109:VAL:HG13	47:RQ:114:ALA:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:922:G:H2'	1:XA:923:A:C8	2.53	0.44
4:XD:111:ALA:HB1	4:XD:116:GLN:HB3	1.99	0.44
6:XF:78:GLU:O	6:XF:81:ILE:HG22	2.17	0.44
10:XJ:3:LYS:HD2	10:XJ:77:PRO:HG3	1.99	0.44
20:XT:11:SER:HA	20:XT:14:LYS:NZ	2.32	0.44
23:XW:18:G:C8	23:XW:18:G:OP2	2.70	0.44
27:Y1:11:ARG:HB2	27:Y1:12:PRO:HD2	2.00	0.44
36:YA:2320:A:H2'	36:YA:2320:A:N3	2.32	0.44
37:YB:28:C:H2'	37:YB:29:A:C8	2.53	0.44
1:QA:51:A:N7	1:QA:114:U:O2'	2.48	0.44
1:QA:481:G:O2'	1:QA:482:A:C8	2.69	0.44
1:QA:666:G:H5'	1:QA:726:C:H1'	1.99	0.44
1:QA:703:G:H4'	1:QA:704:A:O5'	2.16	0.44
1:QA:1080:A:H5''	5:QE:16:THR:HG21	2.00	0.44
1:QA:1316:G:H2'	1:QA:1318:A:OP2	2.18	0.44
2:QB:93:VAL:HG11	2:QB:97:TRP:CD1	2.49	0.44
36:RA:84:A:C8	36:RA:99:U:C4	3.05	0.44
36:RA:312:G:H5'	36:RA:331:A:O2'	2.16	0.44
36:RA:484:C:H2'	36:RA:485:C:H6	1.82	0.44
36:RA:780:G:N1	38:RD:230:ASP:OD2	2.45	0.44
36:RA:1201:C:H2'	36:RA:1202:C:H6	1.82	0.44
36:RA:1204:A:H1'	36:RA:1206:G:N7	2.32	0.44
36:RA:2126:A:H1'	36:RA:2127:G:OP2	2.18	0.44
36:RA:2448:A:HO2'	36:RA:2449:U:H5	1.64	0.44
36:RA:2821:A:H2'	36:RA:2822:G:C8	2.53	0.44
40:RF:155:LEU:HD23	40:RF:186:ILE:HD13	1.99	0.44
42:RH:149:ARG:HG3	42:RH:162:ILE:HG23	1.99	0.44
50:RT:57:PHE:CG	50:RT:58:ASN:N	2.85	0.44
1:XA:51:A:N1	1:XA:314:C:O2'	2.39	0.44
5:XE:50:GLU:HB2	5:XE:53:LEU:HD13	2.00	0.44
9:XI:48:GLU:N	9:XI:49:PRO:HD2	2.33	0.44
10:XJ:55:LYS:HD2	10:XJ:55:LYS:N	2.32	0.44
27:Y1:28:GLY:HA2	36:YA:2397:G:H5''	2.00	0.44
30:Y4:53:GLU:HA	30:Y4:71:ARG:HH21	1.82	0.44
32:Y6:19:ARG:HB3	32:Y6:21:TYR:CE1	2.53	0.44
36:YA:919:G:N2	36:YA:2269:A:OP2	2.47	0.44
36:YA:2023:G:H4'	36:YA:2617:C:O3'	2.17	0.44
36:YA:2563:U:H1'	36:YA:2566:A:N6	2.33	0.44
42:YH:52:VAL:HG13	42:YH:65:HIS:NE2	2.33	0.44
43:YI:128:LEU:O	43:YI:138:ILE:N	2.38	0.44
49:YS:42:ASP:C	49:YS:44:LYS:H	2.21	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:YZ:13:GLU:HB3	56:YZ:18:LEU:HD21	2.00	0.44
1:QA:278:G:O6	17:QQ:92:ARG:NH1	2.50	0.44
1:QA:537:G:H5'	12:QL:113:ARG:NH1	2.32	0.44
1:QA:1014:A:OP1	1:QA:1014:A:C8	2.70	0.44
1:QA:1225:A:H2'	1:QA:1225:A:N3	2.32	0.44
1:QA:1499:A:H1'	1:QA:1520:G:H5'	2.00	0.44
2:QB:21:ARG:O	2:QB:23:ARG:HG2	2.18	0.44
12:QL:32:PHE:HB3	12:QL:84:LEU:HD21	1.98	0.44
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.32	0.44
22:QV:23:C:H2'	22:QV:24:U:C6	2.53	0.44
25:QY:19:G:N2	36:RA:881:G:H4'	2.33	0.44
36:RA:304:G:H2'	36:RA:305:U:H6	1.80	0.44
36:RA:443:A:H1'	36:RA:1201:C:O4'	2.18	0.44
36:RA:508:G:H4'	36:RA:509:C:OP2	2.18	0.44
36:RA:1048:A:H2'	36:RA:1048:A:N3	2.33	0.44
36:RA:1278:A:H2'	36:RA:1279:G:H8	1.82	0.44
36:RA:1287:A:N7	48:RR:107:ASP:HB2	2.33	0.44
36:RA:1550:C:H5'	36:RA:1733:G:N2	2.31	0.44
36:RA:2314:C:H2'	36:RA:2315:G:H8	1.83	0.44
36:RA:2364:C:H2'	36:RA:2365:G:O4'	2.18	0.44
36:RA:2514:U:H2'	36:RA:2515:C:H6	1.83	0.44
40:RF:154:VAL:HG22	40:RF:191:ARG:CB	2.46	0.44
42:RH:127:GLU:N	42:RH:128:PRO:HD2	2.33	0.44
45:RO:8:LEU:HB2	45:RO:19:ILE:HG13	2.00	0.44
45:RO:24:VAL:HG13	45:RO:33:ALA:HB2	1.98	0.44
1:XA:1392:G:H21	1:XA:1502:A:H8	1.65	0.44
2:XB:16:HIS:HD2	2:XB:210:SER:HA	1.82	0.44
16:XP:53:VAL:HG12	16:XP:79:VAL:HG12	2.00	0.44
18:XR:53:ARG:HH21	18:XR:59:SER:HA	1.83	0.44
36:YA:185:U:H2'	36:YA:186:G:C8	2.53	0.44
36:YA:1045:A:HO2'	36:YA:1046:A:P	2.38	0.44
36:YA:1510:A:OP1	36:YA:1511:A:H8	2.00	0.44
36:YA:1651:G:H5'	48:YR:39:PRO:HG2	1.99	0.44
43:YI:46:ALA:O	43:YI:50:ARG:HG2	2.17	0.44
49:YS:26:LEU:HB3	49:YS:87:PHE:HA	1.99	0.44
1:QA:246:A:C2	1:QA:282:A:C5	3.05	0.44
1:QA:484:G:H4'	1:QA:485:G:O5'	2.17	0.44
1:QA:1302:U:OP2	1:QA:1302:U:H4'	2.17	0.44
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.82	0.44
23:QW:27:C:H2'	23:QW:28:U:H6	1.83	0.44
36:RA:1520:U:H2'	36:RA:1521:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:1794:U:O2	36:RA:1825:A:N1	2.50	0.44
40:RF:178:PRO:HG2	40:RF:179:GLU:OE1	2.18	0.44
42:RH:71:LEU:HD12	42:RH:72:ILE:HG23	1.98	0.44
50:RT:39:ARG:HG2	50:RT:40:THR:H	1.82	0.44
51:RU:17:ILE:HG13	51:RU:32:PHE:HE1	1.83	0.44
56:RZ:102:LEU:HA	56:RZ:136:PHE:CD2	2.53	0.44
1:XA:477:G:H2'	1:XA:478:A:C8	2.52	0.44
1:XA:1287:A:N3	1:XA:1353:G:O2'	2.33	0.44
2:XB:21:ARG:HE	2:XB:38:GLY:HA3	1.83	0.44
9:XI:65:VAL:HG21	9:XI:73:GLN:HB3	2.00	0.44
11:XK:32:ILE:HB	11:XK:41:THR:CG2	2.45	0.44
13:XM:117:VAL:HG22	13:XM:118:ALA:H	1.82	0.44
16:XP:38:TYR:CD1	16:XP:38:TYR:O	2.70	0.44
19:XS:31:ILE:HG23	19:XS:49:ILE:HG12	2.00	0.44
36:YA:172:C:H2'	36:YA:173:G:C8	2.52	0.44
36:YA:529:A:H8	36:YA:530:G:C6	2.35	0.44
36:YA:811:U:H2'	46:YP:21:ARG:O	2.17	0.44
36:YA:2692:C:H2'	36:YA:2693:A:H8	1.83	0.44
47:YQ:11:LYS:HE2	47:YQ:87:LYS:HA	1.99	0.44
47:YQ:39:PRO:HB3	47:YQ:99:PRO:HD3	2.00	0.44
1:QA:112:G:HO2'	1:QA:354:G:HO2'	1.65	0.44
1:QA:244:U:H4'	1:QA:245:C:O5'	2.18	0.44
1:QA:992:U:H3	1:QA:1044:A:H62	1.66	0.44
1:QA:1120:G:C4	1:QA:1121:U:C5	3.06	0.44
1:QA:1262:C:H2'	1:QA:1263:C:H6	1.83	0.44
1:QA:1507:A:H2'	1:QA:1508:G:C8	2.53	0.44
29:R3:46:ASN:O	29:R3:50:VAL:HG22	2.18	0.44
32:R6:14:THR:HG22	32:R6:21:TYR:H	1.82	0.44
36:RA:214:G:H1'	36:RA:216:A:O2'	2.18	0.44
36:RA:222:A:H61	36:RA:232:G:H1'	1.83	0.44
36:RA:840:C:H2'	36:RA:841:A:H8	1.82	0.44
36:RA:858:U:O2	36:RA:2268:A:H2'	2.18	0.44
36:RA:1116:C:H2'	36:RA:1117:G:H8	1.83	0.44
36:RA:2439:A:H3'	36:RA:2439:A:P	2.58	0.44
48:RR:74:LYS:C	48:RR:76:VAL:H	2.21	0.44
1:XA:945:G:C2	1:XA:946:A:C8	3.05	0.44
9:XI:26:VAL:HG23	9:XI:33:PHE:HB2	2.00	0.44
20:XT:54:LYS:HA	20:XT:57:ARG:CZ	2.46	0.44
23:XW:59:U:OP1	23:XW:59:U:C6	2.71	0.44
36:YA:1291:C:H2'	36:YA:1292:U:C6	2.52	0.44
36:YA:2025:C:H2'	36:YA:2026:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:2055:C:H5'	36:YA:2056:G:H5''	2.00	0.44
36:YA:2574:G:N3	39:YE:143:ASN:ND2	2.62	0.44
41:YG:107:LEU:HD23	41:YG:111:LEU:HD12	1.99	0.44
43:YI:116:LEU:HD23	43:YI:116:LEU:H	1.82	0.44
46:YP:98:GLU:HA	46:YP:101:VAL:HB	2.00	0.44
52:YV:22:VAL:HG12	52:YV:23:GLU:N	2.33	0.44
55:YY:88:LYS:C	55:YY:90:LEU:H	2.21	0.44
1:QA:688:G:H2'	1:QA:689:C:H6	1.82	0.44
2:QB:69:LEU:HD13	2:QB:91:PRO:HB2	2.00	0.44
3:QC:44:GLU:HA	3:QC:52:LEU:HD21	2.00	0.44
36:RA:251:A:C5	36:RA:252:G:H1'	2.53	0.44
36:RA:1292:U:H2'	36:RA:1293:C:H6	1.83	0.44
36:RA:1825:A:OP1	38:RD:249:PRO:HD3	2.18	0.44
36:RA:2537:U:H2'	36:RA:2538:C:C6	2.53	0.44
36:RA:2562:U:H1'	45:RO:23:ARG:NH1	2.32	0.44
39:RE:45:THR:O	39:RE:83:ASP:N	2.49	0.44
44:RN:34:LEU:HD12	44:RN:107:LEU:HD21	1.99	0.44
47:RQ:19:GLY:O	47:RQ:21:THR:HG23	2.17	0.44
54:RX:26:TYR:CG	54:RX:89:ILE:HD12	2.52	0.44
56:RZ:102:LEU:HA	56:RZ:136:PHE:CE2	2.53	0.44
1:XA:322:C:H2'	1:XA:323:U:C6	2.53	0.44
1:XA:652:U:H1'	1:XA:653:A:H2	1.83	0.44
1:XA:686:U:O2'	1:XA:687:A:O5'	2.32	0.44
1:XA:693:G:C2	24:XX:13:A:N6	2.86	0.44
1:XA:1244:C:H2'	1:XA:1245:A:H8	1.82	0.44
4:XD:10:ARG:HG3	4:XD:11:LEU:HD12	2.00	0.44
7:XG:5:ARG:HH22	7:XG:6:ARG:HH11	1.66	0.44
36:YA:30:G:H2'	36:YA:31:C:C6	2.53	0.44
36:YA:71:A:H5'	36:YA:71:A:C8	2.53	0.44
36:YA:176:G:O2'	36:YA:177:G:H5'	2.18	0.44
36:YA:1316:U:H2'	36:YA:1317:A:C8	2.52	0.44
36:YA:1434:A:H61	36:YA:1558:A:N6	2.16	0.44
36:YA:2864:G:OP1	50:YT:119:LYS:HD2	2.18	0.44
1:QA:8:A:H8	5:QE:101:ILE:HG23	1.82	0.43
1:QA:191(F):U:C2	1:QA:191:G:C8	3.05	0.43
1:QA:333:G:H2'	1:QA:334:C:H6	1.83	0.43
1:QA:687:A:H1'	1:QA:688:G:OP2	2.17	0.43
1:QA:1286:A:H5''	21:QU:26:LYS:HD2	2.00	0.43
7:QG:26:PHE:CE2	7:QG:30:ILE:HD11	2.53	0.43
8:QH:79:VAL:HG23	8:QH:80:ILE:HG13	2.00	0.43
27:R1:58:ILE:HD11	27:R1:86:SER:HB2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:R3:8:LEU:HA	29:R3:54:VAL:HG12	1.99	0.43
31:R5:19:ARG:NH2	36:RA:1264:G:OP1	2.23	0.43
36:RA:141:A:H8	36:RA:1595:G:H21	1.66	0.43
36:RA:1639:U:H4'	36:RA:2699:C:H4'	1.99	0.43
36:RA:2142:C:H2'	36:RA:2143:C:C6	2.52	0.43
36:RA:2540:C:H2'	36:RA:2541:A:O4'	2.18	0.43
38:RD:201:HIS:O	38:RD:204:ILE:HG12	2.18	0.43
46:RP:92:GLU:HG3	46:RP:121:LYS:HE2	1.99	0.43
56:RZ:118:GLN:OE1	56:RZ:120:ILE:HG23	2.18	0.43
1:XA:150:C:H42	1:XA:171:A:N6	2.05	0.43
1:XA:489:C:H2'	1:XA:490:G:C8	2.53	0.43
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.65	0.43
1:XA:715:A:H2'	1:XA:716:A:C8	2.53	0.43
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.99	0.43
1:XA:1502:A:H2	1:XA:1505:G:N2	2.16	0.43
2:XB:47:THR:HA	2:XB:202:PRO:HG2	2.00	0.43
9:XI:16:ARG:HB2	9:XI:64:THR:HG22	2.00	0.43
9:XI:69:GLY:O	9:XI:73:GLN:HG3	2.18	0.43
26:Y0:74:ARG:HD2	37:YB:12:C:O2'	2.17	0.43
33:Y7:5:TRP:CD2	33:Y7:5:TRP:O	2.70	0.43
36:YA:657:U:H2'	36:YA:658:C:C6	2.53	0.43
36:YA:897:C:OP1	36:YA:897:C:C6	2.70	0.43
36:YA:1792:G:H5'	38:YD:205:VAL:HG13	2.00	0.43
36:YA:2296:U:OP2	49:YS:9:ARG:NH1	2.51	0.43
43:YI:10:GLU:O	43:YI:11:ASN:HB2	2.18	0.43
47:YQ:52:VAL:HA	47:YQ:55:VAL:HG22	1.99	0.43
51:YU:90:VAL:HG22	52:YV:39:LEU:HB3	1.99	0.43
1:QA:112:G:H22	1:QA:315:A:H2	1.66	0.43
1:QA:789:U:H1'	1:QA:792:A:H2	1.83	0.43
1:QA:920:U:H2'	1:QA:921:U:C6	2.52	0.43
1:QA:1111:A:N1	3:QC:177:THR:HG22	2.33	0.43
2:QB:4:GLU:HG3	2:QB:6:THR:H	1.82	0.43
2:QB:55:PHE:HA	2:QB:58:ILE:HG12	2.00	0.43
5:QE:99:GLY:N	5:QE:117:ASP:OD1	2.46	0.43
8:QH:48:TYR:O	8:QH:49:GLU:CG	2.66	0.43
16:QP:9:PHE:CE2	16:QP:18:ARG:HD2	2.52	0.43
25:QY:18:G:N2	25:QY:55:U:O4	2.51	0.43
36:RA:993:G:OP1	51:RU:50:ARG:NH2	2.49	0.43
36:RA:1024:G:OP2	36:RA:1025:G:O2'	2.36	0.43
36:RA:1401:G:H2'	36:RA:1402:C:C6	2.52	0.43
36:RA:2051:A:H5'	36:RA:2578:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:2150:U:H2'	36:RA:2151:G:C8	2.53	0.43
39:RE:14:ILE:HG13	39:RE:14:ILE:O	2.19	0.43
55:RY:75:ILE:HG22	55:RY:76:CYS:N	2.33	0.43
56:RZ:6:LYS:HG3	56:RZ:7:ALA:N	2.33	0.43
1:XA:606:G:H22	1:XA:631:G:H5'	1.84	0.43
1:XA:626:U:H2'	1:XA:627:G:H8	1.83	0.43
1:XA:828:A:H2'	1:XA:829:G:O4'	2.18	0.43
1:XA:1060:C:H2'	1:XA:1061:G:H8	1.82	0.43
1:XA:1141:C:H2'	1:XA:1142:G:H8	1.83	0.43
2:XB:163:PHE:HA	2:XB:185:ILE:O	2.17	0.43
6:XF:50:TYR:OH	18:XR:74:ARG:O	2.24	0.43
21:XU:6:ARG:O	21:XU:12:LYS:HD3	2.19	0.43
36:YA:347:A:H2'	36:YA:348:G:C8	2.53	0.43
36:YA:583:G:OP2	51:YU:10:ARG:HD2	2.18	0.43
36:YA:638:G:H2'	36:YA:639:U:C6	2.53	0.43
36:YA:1501:C:H2'	36:YA:1502:C:C6	2.54	0.43
36:YA:1668:A:H5''	36:YA:1669:A:C5	2.53	0.43
36:YA:2315:G:H2'	36:YA:2316:C:C6	2.53	0.43
36:YA:2441:C:OP2	36:YA:2586:C:O2'	2.35	0.43
40:YF:103:LYS:HG2	40:YF:106:ARG:NH2	2.33	0.43
52:YV:16:PRO:HD3	52:YV:99:ILE:HD11	2.00	0.43
55:YY:87:LYS:HD3	55:YY:92:ASN:HB3	1.99	0.43
56:YZ:124:ILE:HG22	56:YZ:126:VAL:HG13	1.99	0.43
1:QA:468:A:OP1	16:QP:75:ARG:NH2	2.51	0.43
1:QA:583:A:H2'	1:QA:584:G:O4'	2.18	0.43
1:QA:1073:U:C2	1:QA:1074:G:C8	3.06	0.43
3:QC:53:ALA:HB2	3:QC:115:LEU:HD23	1.99	0.43
10:QJ:57:LYS:HE3	10:QJ:60:ARG:NH2	2.33	0.43
36:RA:151:C:H2'	36:RA:152:G:H8	1.83	0.43
36:RA:459:U:H2'	36:RA:460:A:H8	1.83	0.43
36:RA:504:U:H5''	36:RA:505:A:H5'	2.00	0.43
36:RA:864:G:OP2	47:RQ:22:LYS:HD3	2.18	0.43
37:RB:28:C:O5'	37:RB:28:C:H6	2.00	0.43
47:RQ:18:LYS:HG2	47:RQ:19:GLY:H	1.82	0.43
49:RS:69:VAL:HG13	49:RS:101:LEU:HD13	1.99	0.43
1:XA:259:G:OP1	20:XT:83:ARG:NE	2.51	0.43
1:XA:397:A:H5'	1:XA:398:C:OP1	2.18	0.43
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.16	0.43
1:XA:1071:C:H2'	1:XA:1072:G:H8	1.83	0.43
1:XA:1378:C:N3	7:XG:76:ARG:NH2	2.66	0.43
8:XH:33:GLU:HG2	8:XH:59:LEU:HD21	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:83:VAL:HG22	12:XL:84:LEU:H	1.82	0.43
25:XY:52:G:H4'	47:YQ:56:ARG:NE	2.33	0.43
28:Y2:29:LYS:HE3	28:Y2:57:ILE:HG21	2.00	0.43
36:YA:184:C:O2'	36:YA:217:G:N3	2.49	0.43
36:YA:533:G:H5'	51:YU:24:TYR:CE2	2.53	0.43
36:YA:882:G:OP2	36:YA:882:G:C8	2.70	0.43
36:YA:1005:C:H1'	36:YA:1012:U:H3	1.83	0.43
36:YA:1344:G:O2'	36:YA:1385:G:H2'	2.17	0.43
36:YA:1598:C:O3'	54:YX:35:THR:OG1	2.35	0.43
36:YA:2784:C:H2'	36:YA:2785:C:C6	2.53	0.43
36:YA:2805:G:H2'	36:YA:2807:G:C8	2.53	0.43
1:QA:308:C:H2'	1:QA:309:G:H8	1.83	0.43
1:QA:416:G:H2'	1:QA:417:C:H6	1.83	0.43
1:QA:1303:C:H6	1:QA:1303:C:C5'	2.31	0.43
1:QA:1326:C:H2'	1:QA:1327:C:H6	1.83	0.43
1:QA:1366:C:O2'	10:QJ:60:ARG:NH1	2.51	0.43
34:R8:2:PRO:HA	36:RA:591:C:H1'	1.99	0.43
36:RA:185:U:H4'	36:RA:218:A:H4'	2.00	0.43
36:RA:740:U:H2'	36:RA:741:G:C8	2.54	0.43
36:RA:1152:C:H2'	36:RA:1153:C:H6	1.82	0.43
36:RA:1291:C:H2'	36:RA:1292:U:H6	1.83	0.43
36:RA:2308:G:N3	36:RA:2308:G:H2'	2.34	0.43
36:RA:2756:U:H1'	36:RA:2757:A:C8	2.54	0.43
1:XA:166:G:H2'	1:XA:167:G:H8	1.83	0.43
1:XA:552:U:H4'	12:XL:86:ARG:HG2	1.99	0.43
1:XA:825:G:H2'	1:XA:826:C:H6	1.83	0.43
1:XA:920:U:H2'	1:XA:921:U:C6	2.52	0.43
1:XA:963:G:N2	10:XJ:55:LYS:HE2	2.32	0.43
1:XA:1032(B):G:H2'	1:XA:1033:G:C8	2.53	0.43
1:XA:1064:G:H21	1:XA:1190:G:H2'	1.82	0.43
1:XA:1434:A:H2'	1:XA:1435:G:O4'	2.18	0.43
2:XB:26:PRO:C	2:XB:28:PHE:N	2.70	0.43
3:XC:29:TYR:OH	14:YN:54:PRO:CG	2.66	0.43
8:XH:16:ALA:HB2	8:XH:24:THR:HG21	2.01	0.43
9:XI:8:GLY:O	9:XI:76:ALA:HB1	2.17	0.43
13:XM:52:GLU:HG2	13:XM:55:ARG:NH2	2.33	0.43
20:XT:84:LEU:O	20:XT:88:VAL:HG23	2.19	0.43
34:Y8:10:ALA:O	34:Y8:14:VAL:HB	2.19	0.43
36:YA:75:G:H2'	36:YA:75:G:N3	2.33	0.43
36:YA:609:A:H2'	36:YA:609(A):G:O4'	2.19	0.43
36:YA:1419:A:C8	36:YA:1579:A:N6	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YI:4:ILE:HD11	43:YI:44:LEU:HD23	1.99	0.43
51:YU:83:LEU:HD13	51:YU:91:ASP:HB3	2.01	0.43
56:YZ:5:LEU:HB2	56:YZ:59:LEU:HA	2.00	0.43
56:YZ:94:GLU:OE1	56:YZ:129:SER:OG	2.29	0.43
1:QA:958:A:C2	19:QS:55:LYS:HB2	2.54	0.43
14:QN:40:CYS:HB3	14:QN:43:CYS:CB	2.49	0.43
36:RA:1079:C:H2'	36:RA:1080:C:O4'	2.19	0.43
36:RA:1178:C:O2'	36:RA:1179:C:H5'	2.18	0.43
36:RA:1568:G:H5''	38:RD:61:LEU:HG	2.00	0.43
36:RA:2543:G:H2'	36:RA:2544:G:C8	2.53	0.43
36:RA:2745:C:H2'	36:RA:2746:U:H6	1.84	0.43
36:RA:2745:C:H2'	36:RA:2746:U:C6	2.52	0.43
1:XA:707:C:H4'	11:XK:20:TYR:CD1	2.54	0.43
25:XY:29:U:H2'	25:XY:30:G:H8	1.83	0.43
25:XY:58:A:N6	56:YZ:183:LEU:H	2.16	0.43
36:YA:278:A:O2'	36:YA:279:C:OP1	2.33	0.43
36:YA:285:C:H2'	36:YA:286:C:H6	1.82	0.43
36:YA:573:G:O2'	36:YA:574:C:H3'	2.18	0.43
36:YA:2180:U:H2'	36:YA:2181:G:C8	2.53	0.43
36:YA:2698:U:H2'	36:YA:2699:C:H6	1.82	0.43
39:YE:144:ARG:CG	39:YE:145:LYS:H	2.31	0.43
48:YR:74:LYS:C	48:YR:76:VAL:H	2.21	0.43
49:YS:14:VAL:O	49:YS:18:ILE:HG12	2.17	0.43
50:YT:125:ARG:O	50:YT:128:GLU:HG2	2.19	0.43
53:YW:88:ARG:HG3	53:YW:89:ALA:H	1.83	0.43
1:QA:21:G:H2'	1:QA:22:G:H8	1.84	0.43
1:QA:59:A:H1'	1:QA:354:G:N2	2.33	0.43
3:QC:130:VAL:O	3:QC:134:ILE:HG12	2.19	0.43
9:QI:126:SER:O	9:QI:128:ARG:N	2.52	0.43
28:R2:14:ARG:O	28:R2:15:LYS:HG2	2.19	0.43
28:R2:52:ASP:O	28:R2:56:GLN:HG3	2.19	0.43
29:R3:11:SER:OG	29:R3:13:ILE:HG12	2.18	0.43
34:R8:52:LYS:N	34:R8:53:PRO:CD	2.81	0.43
36:RA:183:C:O2'	36:RA:432:A:N3	2.41	0.43
36:RA:320:A:H4'	36:RA:322:A:N7	2.33	0.43
36:RA:1535:U:H5'	36:RA:1537:C:N3	2.34	0.43
36:RA:1930:G:HO2'	36:RA:1931:U:P	2.41	0.43
36:RA:2001:A:H2'	36:RA:2002:G:C8	2.53	0.43
36:RA:2188:C:H2'	36:RA:2189:U:O4'	2.18	0.43
52:RV:35:LEU:HD12	52:RV:35:LEU:O	2.19	0.43
53:RW:4:LYS:HB3	53:RW:106:ILE:HG22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:884:U:H4'	1:XA:885:G:H5''	2.00	0.43
1:XA:1148:U:H2'	1:XA:1149:C:O4'	2.18	0.43
21:XU:25:LYS:NZ	21:XU:26:LYS:O	2.45	0.43
25:XY:28:U:H2'	25:XY:29:U:C6	2.53	0.43
26:Y0:47:PRO:HB2	49:YS:20:ARG:NH2	2.34	0.43
29:Y3:29:ARG:HH22	36:YA:1183:G:H4'	1.84	0.43
36:YA:141:A:H8	36:YA:1408:C:H1'	1.84	0.43
36:YA:284:U:H2'	36:YA:285:C:H6	1.84	0.43
36:YA:2478:A:C8	36:YA:2529:G:C5	3.07	0.43
36:YA:2649:U:H2'	36:YA:2650:U:C6	2.54	0.43
1:QA:10:A:OP2	5:QE:126:ARG:HD3	2.19	0.43
1:QA:29:G:O2'	1:QA:30:U:H5'	2.19	0.43
1:QA:743:U:H2'	1:QA:744:C:H6	1.84	0.43
1:QA:792:A:H2'	1:QA:792:A:N3	2.34	0.43
1:QA:1298:C:H1'	1:QA:1299:A:C6	2.53	0.43
7:QG:66:VAL:O	7:QG:70:LYS:HG3	2.18	0.43
9:QI:63:ILE:HG21	9:QI:77:ILE:HD12	1.99	0.43
25:QY:5:C:H2'	25:QY:6:U:C6	2.54	0.43
34:R8:58:ILE:HG22	46:RP:49:ARG:NH1	2.33	0.43
36:RA:36:G:H4'	36:RA:451:C:C2	2.53	0.43
36:RA:303:U:C2	36:RA:304:G:C8	3.07	0.43
36:RA:1515:C:H2'	36:RA:1516:U:H6	1.84	0.43
36:RA:1786:A:H1'	36:RA:1938:A:N6	2.33	0.43
38:RD:71:ASP:HB2	38:RD:103:ARG:HH12	1.84	0.43
41:RG:37:VAL:HG23	41:RG:159:VAL:HG12	2.00	0.43
42:RH:119:GLU:O	42:RH:140:LYS:NZ	2.27	0.43
46:RP:84:ASN:OD1	46:RP:116:GLY:HA3	2.18	0.43
1:XA:389:A:H3'	1:XA:390:C:C6	2.54	0.43
1:XA:991:U:O4	1:XA:1212:U:O2'	2.30	0.43
1:XA:1307:U:O4	1:XA:1331:G:N2	2.51	0.43
8:XH:25:ASP:OD1	8:XH:60:ARG:HG2	2.18	0.43
33:Y7:5:TRP:O	33:Y7:5:TRP:CG	2.71	0.43
36:YA:305:U:H2'	36:YA:306:U:C6	2.54	0.43
36:YA:1656:C:H2'	36:YA:1657:C:H6	1.84	0.43
36:YA:2154:G:H2'	36:YA:2155:G:C8	2.53	0.43
36:YA:2656:U:N3	36:YA:2665:A:H2	2.17	0.43
36:YA:2735:G:H2'	36:YA:2736:G:H8	1.84	0.43
37:YB:107:U:H2'	37:YB:108:C:H5''	2.01	0.43
38:YD:146:GLU:HB2	38:YD:189:CYS:HB3	2.00	0.43
51:YU:52:ARG:HA	51:YU:55:ARG:HE	1.83	0.43
1:QA:1289:A:OP1	21:QU:9:ARG:NH2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:QP:51:VAL:HG11	16:QP:74:LEU:HD23	2.01	0.43
31:R5:4:HIS:HB3	31:R5:5:PRO:CD	2.45	0.43
36:RA:532:A:H4'	36:RA:533:G:C8	2.53	0.43
36:RA:875:G:N1	36:RA:903:C:N3	2.67	0.43
36:RA:1067:A:H5''	36:RA:1068:G:N7	2.34	0.43
36:RA:1231:G:H2'	36:RA:1232:G:C8	2.53	0.43
36:RA:1384:A:H1'	36:RA:1405:U:O4'	2.18	0.43
36:RA:1453:A:C6	36:RA:2702:U:H1'	2.54	0.43
36:RA:1655:A:H3'	36:RA:1656:C:C6	2.54	0.43
36:RA:2183:C:H2'	36:RA:2184:G:C8	2.53	0.43
36:RA:2210:G:H2'	36:RA:2210:G:N3	2.34	0.43
36:RA:2629:A:O2'	36:RA:2630:G:H5''	2.19	0.43
39:RE:54:GLN:HB2	39:RE:75:VAL:HG13	2.00	0.43
40:RF:157:VAL:HG11	40:RF:181:LEU:HD21	2.00	0.43
1:XA:22:G:H2'	1:XA:23:C:C6	2.53	0.43
1:XA:33:A:N3	12:XL:32:PHE:HE2	2.15	0.43
1:XA:978:A:C4	1:XA:1319:A:C2	3.06	0.43
36:YA:36:G:N3	36:YA:450:G:O2'	2.50	0.43
36:YA:218:A:C2	36:YA:235:U:H4'	2.54	0.43
36:YA:1080:C:H2'	36:YA:1081:U:C6	2.53	0.43
36:YA:1289:C:H2'	36:YA:1290:C:H6	1.84	0.43
36:YA:1500:G:O2'	38:YD:100:GLY:O	2.33	0.43
40:YF:53:THR:O	40:YF:57:VAL:HG23	2.18	0.43
48:YR:74:LYS:O	48:YR:75:LEU:HB3	2.18	0.43
56:YZ:79:ARG:HD2	56:YZ:80:ARG:NH1	2.32	0.43
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.54	0.43
36:RA:631:A:H61	36:RA:2402:C:N4	2.17	0.43
36:RA:827:U:O2'	36:RA:2068:U:C2	2.69	0.43
36:RA:971:C:H2'	36:RA:972:G:O4'	2.19	0.43
36:RA:1204:A:O2'	36:RA:1205:U:O5'	2.36	0.43
36:RA:1430:C:H2'	36:RA:1431:U:H6	1.83	0.43
36:RA:1870:C:H2'	36:RA:1871:A:O4'	2.19	0.43
36:RA:2219:G:OP1	38:RD:172:TYR:OH	2.31	0.43
36:RA:2680:C:O2'	36:RA:2681:C:H5'	2.18	0.43
38:RD:35:LYS:N	38:RD:36:PRO:HD3	2.34	0.43
39:RE:60:ASN:CG	39:RE:62:PRO:HD2	2.39	0.43
51:RU:92:ARG:NH1	52:RV:11:GLN:HB2	2.34	0.43
55:RY:76:CYS:SG	55:RY:96:ILE:HD13	2.59	0.43
5:XE:12:LEU:HB3	5:XE:31:LEU:HB2	1.99	0.43
9:XI:19:LEU:HD23	9:XI:61:ALA:HB2	1.99	0.43
26:Y0:32:ARG:H	26:Y0:35:ASN:ND2	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Y6:41:PRO:HG3	32:Y6:44:ARG:HB3	2.01	0.43
36:YA:177:G:H3'	36:YA:178:G:H8	1.84	0.43
36:YA:270(N):G:H21	43:YI:50:ARG:NH2	2.17	0.43
36:YA:2030:A:H4'	36:YA:2031:A:H8	1.82	0.43
36:YA:2477:C:H1'	36:YA:2481:G:O6	2.19	0.43
36:YA:2774:C:H2'	36:YA:2775:A:O4'	2.18	0.43
46:YP:106:LEU:HD13	46:YP:112:LEU:HD13	2.01	0.43
49:YS:26:LEU:HD22	49:YS:87:PHE:CD1	2.53	0.43
1:QA:636:U:H2'	1:QA:637:G:C8	2.53	0.43
1:QA:1320:C:H2'	1:QA:1321:C:C6	2.54	0.43
1:QA:1330:U:H4'	13:QM:23:TYR:CE2	2.53	0.43
2:QB:146:GLN:O	2:QB:150:SER:HB3	2.19	0.43
5:QE:93:PRO:HG2	8:QH:105:ARG:HE	1.84	0.43
8:QH:4:ASP:OD1	8:QH:85:ARG:NH1	2.51	0.43
27:R1:16:ASN:HB2	36:RA:380:U:O3'	2.18	0.43
36:RA:247:G:H4'	36:RA:386:G:C4	2.53	0.43
36:RA:1186:G:H2'	36:RA:1187:G:O4'	2.19	0.43
36:RA:2347:C:H2'	36:RA:2348:U:C6	2.54	0.43
36:RA:2735:G:H2'	36:RA:2736:G:H8	1.83	0.43
37:RB:49:C:H2'	37:RB:50:G:C8	2.54	0.43
42:RH:12:PRO:HA	42:RH:76:VAL:HG21	2.01	0.43
1:XA:527:G:O2'	1:XA:535:A:N1	2.45	0.43
5:XE:41:VAL:HG21	5:XE:113:ALA:HB2	2.00	0.43
6:XF:44:GLY:HA2	6:XF:59:TYR:CE2	2.54	0.43
13:XM:66:LEU:HB3	13:XM:67:GLU:H	1.74	0.43
14:XN:23:ARG:HD2	14:XN:28:GLY:O	2.19	0.43
31:Y5:3:LYS:HB3	31:Y5:4:HIS:H	1.63	0.43
32:Y6:40:CYS:HA	32:Y6:46:HIS:HA	2.01	0.43
36:YA:389:G:H22	46:YP:72:PRO:CG	2.32	0.43
36:YA:765:G:H2'	36:YA:766:C:H6	1.84	0.43
36:YA:1331:A:O2'	36:YA:1332:G:H8	2.02	0.43
36:YA:1417:C:H2'	36:YA:1418:G:O4'	2.18	0.43
38:YD:165:ILE:HG13	38:YD:175:LEU:HD21	2.00	0.43
41:YG:6:ALA:HB3	41:YG:104:GLU:OE2	2.18	0.43
49:YS:18:ILE:HG13	49:YS:88:ASP:HA	2.00	0.43
49:YS:49:VAL:HG12	49:YS:73:LEU:HD12	2.01	0.43
13:QM:49:THR:HB	13:QM:52:GLU:HG3	2.00	0.42
26:R0:7:LEU:HD12	47:RQ:83:MET:HB2	2.00	0.42
36:RA:103:A:OP2	36:RA:103:A:H8	2.02	0.42
36:RA:223:A:H5''	36:RA:422:A:H5'	2.01	0.42
36:RA:824:A:H1'	36:RA:2358:G:N7	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:875:G:H2'	36:RA:876:C:C6	2.54	0.42
36:RA:1021:A:H3'	36:RA:1022:G:H5''	2.01	0.42
36:RA:1054:A:N6	36:RA:1106:G:O6	2.52	0.42
36:RA:2720:U:C2	36:RA:2721:A:C8	3.07	0.42
36:RA:2779:U:H5'	36:RA:2779:U:O2	2.19	0.42
36:RA:2870:C:H2'	36:RA:2871:C:O4'	2.19	0.42
42:RH:89:ILE:HD11	42:RH:129:THR:HB	2.01	0.42
42:RH:151:ILE:HG22	42:RH:152:ARG:N	2.34	0.42
51:RU:91:ASP:O	51:RU:93:LYS:N	2.52	0.42
1:XA:538:G:H2'	1:XA:539:A:H8	1.83	0.42
1:XA:580:U:H2'	1:XA:581:G:O4'	2.18	0.42
9:XI:25:LYS:N	9:XI:60:ASP:OD1	2.52	0.42
11:XK:22:HIS:HB3	11:XK:29:ILE:CG2	2.49	0.42
24:XX:13:A:C6	24:XX:14:A:N7	2.87	0.42
26:Y0:43:THR:HG22	36:YA:2336:A:H61	1.84	0.42
36:YA:1085:A:H4'	36:YA:1086:A:OP1	2.19	0.42
36:YA:2037:G:H2'	36:YA:2038:G:C8	2.54	0.42
36:YA:2105:C:H2'	36:YA:2106:G:H8	1.84	0.42
36:YA:2173:A:H8	36:YA:2173:A:OP1	2.02	0.42
40:YF:11:VAL:HG22	40:YF:125:LEU:HB2	2.01	0.42
40:YF:66:PRO:O	40:YF:67:GLN:HB3	2.19	0.42
1:QA:165:C:H2'	1:QA:166:G:H8	1.84	0.42
1:QA:647:C:H2'	1:QA:648:A:H8	1.85	0.42
1:QA:1120:G:H2'	1:QA:1121:U:H6	1.83	0.42
1:QA:1122:U:O4	1:QA:1123:A:N6	2.52	0.42
1:QA:1327:C:H2'	1:QA:1328:C:H6	1.85	0.42
6:QF:80:ARG:NH1	6:QF:88:VAL:O	2.51	0.42
36:RA:248:G:H5'	36:RA:250:G:N7	2.34	0.42
36:RA:536:A:H2'	36:RA:537:C:H6	1.84	0.42
36:RA:579:G:H2'	36:RA:580:C:C6	2.53	0.42
36:RA:704:G:H1'	36:RA:727:A:N6	2.34	0.42
36:RA:769:G:H5'	36:RA:1379:A:N6	2.34	0.42
36:RA:1030:G:C6	36:RA:1125:G:N2	2.87	0.42
36:RA:1264:G:H1'	36:RA:2015:A:N6	2.34	0.42
36:RA:1449:A:C5	36:RA:1529:A:H2	2.37	0.42
37:RB:75:G:O2'	56:RZ:85:HIS:NE2	2.50	0.42
44:RN:112:LEU:O	44:RN:116:LEU:HD13	2.18	0.42
46:RP:57:THR:C	46:RP:59:LEU:H	2.20	0.42
1:XA:186:C:O2'	20:XT:85:MET:SD	2.57	0.42
1:XA:262:A:H5'	20:XT:74:LYS:HG3	2.01	0.42
1:XA:1236:A:H2'	1:XA:1237:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1374:A:O2'	7:XG:28:ASN:HB3	2.19	0.42
36:YA:314:A:O2'	36:YA:315:G:H5'	2.19	0.42
36:YA:347:A:H2'	36:YA:348:G:H8	1.84	0.42
36:YA:532:A:H4'	36:YA:533:G:C8	2.54	0.42
36:YA:2226:C:C2	36:YA:2227:A:C8	3.07	0.42
36:YA:2340:G:H2'	36:YA:2341:G:H8	1.84	0.42
36:YA:2469:A:H4'	36:YA:2469:A:OP1	2.19	0.42
38:YD:218:ARG:HB3	38:YD:219:PRO:HD2	2.01	0.42
48:YR:17:ARG:HG2	48:YR:21:TYR:CE1	2.55	0.42
48:YR:24:GLN:HB3	48:YR:44:LEU:HD22	2.01	0.42
52:YV:69:LYS:HA	52:YV:88:ARG:HG2	2.01	0.42
1:QA:939:G:N3	1:QA:1375:A:H2	2.17	0.42
1:QA:1121:U:C2	1:QA:1122:U:C5	3.07	0.42
1:QA:1199:U:O2'	1:QA:1202:G:OP1	2.30	0.42
1:QA:1371:G:O3'	9:QI:69:GLY:HA3	2.19	0.42
25:QY:7:A:H61	25:QY:67:A:H2	1.66	0.42
30:R4:1:MET:HB2	41:RG:98:ARG:HH12	1.84	0.42
36:RA:270(E):G:H2'	36:RA:270(F):U:C6	2.55	0.42
36:RA:1022:G:N2	36:RA:1023:U:O4	2.47	0.42
36:RA:1851:U:H2'	36:RA:1852:C:O4'	2.20	0.42
36:RA:2655:G:HO2'	36:RA:2656:U:H5	1.65	0.42
38:RD:218:ARG:HB3	38:RD:219:PRO:HD2	2.01	0.42
46:RP:14:LYS:O	46:RP:16:ARG:HG3	2.18	0.42
51:RU:50:ARG:HG3	51:RU:53:ARG:NH2	2.34	0.42
1:XA:35:G:H2'	1:XA:36:C:C6	2.54	0.42
1:XA:129(A):G:O2'	1:XA:189:U:H3'	2.19	0.42
1:XA:380:G:N2	1:XA:383:A:OP2	2.51	0.42
1:XA:436:C:H2'	1:XA:437:U:C6	2.55	0.42
1:XA:603:U:H2'	1:XA:604:G:C8	2.54	0.42
1:XA:864:A:OP1	1:XA:864:A:H8	2.03	0.42
9:XI:16:ARG:HB2	9:XI:64:THR:CG2	2.49	0.42
17:XQ:43:LEU:O	17:XQ:69:LYS:HG3	2.19	0.42
25:XY:54:U:OP1	47:YQ:51:ARG:NH1	2.47	0.42
26:Y0:21:LEU:HD11	26:Y0:41:ARG:NH2	2.34	0.42
36:YA:363(B):G:H2'	36:YA:363(C):G:H8	1.84	0.42
36:YA:769:G:H5'	36:YA:1379:A:N6	2.34	0.42
36:YA:893:C:H2'	36:YA:894:C:C6	2.54	0.42
36:YA:2349:G:H2'	36:YA:2350:C:O4'	2.19	0.42
36:YA:2392:A:H8	46:YP:60:MET:HG2	1.84	0.42
36:YA:2693:A:H2'	36:YA:2694:G:C8	2.51	0.42
36:YA:2803:C:H2'	36:YA:2804:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YD:16:MET:HG3	38:YD:206:LEU:O	2.19	0.42
41:YG:52:ILE:HA	41:YG:55:LYS:HB3	2.00	0.42
1:QA:8:A:H5'	5:QE:101:ILE:HG22	2.01	0.42
1:QA:626:U:C2	1:QA:627:G:C8	3.07	0.42
1:QA:950:U:H2'	1:QA:951:G:C8	2.55	0.42
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.54	0.42
1:QA:1158:C:O2'	2:QB:133:LYS:HD3	2.20	0.42
1:QA:1306:A:H62	1:QA:1331:G:H1'	1.84	0.42
1:QA:1360:A:H2'	1:QA:1361:G:C8	2.55	0.42
29:R3:8:LEU:HB3	29:R3:31:LEU:HD23	2.01	0.42
34:R8:52:LYS:N	34:R8:53:PRO:HD3	2.35	0.42
34:R8:61:LEU:C	34:R8:63:PRO:HD3	2.40	0.42
36:RA:270(F):U:H3	36:RA:270(T):G:H1	1.65	0.42
36:RA:307:G:H21	36:RA:330:A:N6	2.18	0.42
36:RA:482:A:H4'	55:RY:47:LYS:HG3	2.01	0.42
36:RA:920:G:H2'	36:RA:921:G:H8	1.84	0.42
36:RA:1243:G:H1'	46:RP:4:SER:O	2.18	0.42
36:RA:1291:C:H2'	36:RA:1292:U:C6	2.55	0.42
36:RA:1370:C:H2'	36:RA:1371:G:O4'	2.19	0.42
36:RA:2660:A:H2'	36:RA:2661:G:C8	2.54	0.42
40:RF:134:GLY:H	40:RF:162:LEU:HB3	1.85	0.42
44:RN:35:ARG:HB2	44:RN:42:TRP:CZ3	2.53	0.42
1:XA:79:G:H2'	1:XA:80:G:O4'	2.18	0.42
1:XA:222:U:H2'	1:XA:223:U:H6	1.84	0.42
1:XA:345:C:H5''	1:XA:346:G:C5	2.54	0.42
1:XA:432:A:H2'	1:XA:433:C:O4'	2.19	0.42
1:XA:524:G:H2'	1:XA:525:C:C6	2.55	0.42
1:XA:824:C:H2'	1:XA:825:G:H8	1.84	0.42
1:XA:908:A:H2'	1:XA:909:A:H8	1.84	0.42
1:XA:973:G:C1'	10:XJ:55:LYS:HE3	2.48	0.42
1:XA:1032(A):G:H2'	1:XA:1032(B):G:H8	1.84	0.42
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.53	0.42
26:Y0:7:LEU:HD21	47:YQ:80:GLU:HB3	2.02	0.42
35:Y9:24:TYR:CE1	35:Y9:35:ARG:HG3	2.54	0.42
36:YA:67:U:N3	36:YA:74:A:H2	2.01	0.42
36:YA:504:U:H5''	36:YA:505:A:H5'	2.01	0.42
36:YA:580:C:H2'	36:YA:581:C:C6	2.54	0.42
36:YA:943:U:P	46:YP:36:LYS:HG3	2.59	0.42
36:YA:1085:A:O2'	36:YA:1086:A:O4'	2.36	0.42
36:YA:1385:G:O2'	36:YA:1396:U:H6	2.03	0.42
36:YA:1638:C:OP1	36:YA:2710:C:O2'	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:1842:G:H2'	36:YA:1843:C:C6	2.54	0.42
36:YA:2011:U:H2'	36:YA:2012:G:O4'	2.20	0.42
36:YA:2647:U:H2'	36:YA:2648:C:H6	1.85	0.42
37:YB:28:C:H2'	37:YB:29:A:H8	1.84	0.42
39:YE:1:MET:HB3	39:YE:83:ASP:O	2.18	0.42
42:YH:52:VAL:O	42:YH:65:HIS:NE2	2.53	0.42
42:YH:54:ARG:HB3	42:YH:65:HIS:ND1	2.35	0.42
47:YQ:25:ASP:HA	47:YQ:100:GLY:O	2.20	0.42
50:YT:118:ARG:NH2	50:YT:121:ILE:HG21	2.34	0.42
51:YU:91:ASP:OD1	51:YU:92:ARG:N	2.42	0.42
55:YY:94:LYS:HD2	55:YY:101:LYS:HZ3	1.83	0.42
1:QA:33:A:H2'	1:QA:34:C:C6	2.55	0.42
1:QA:704:A:N3	1:QA:704:A:H2'	2.35	0.42
1:QA:1000:A:H2'	1:QA:1001:G:C8	2.55	0.42
1:QA:1321:C:H3'	1:QA:1322:C:H2'	2.01	0.42
16:QP:26:ARG:HG3	16:QP:27:LYS:N	2.34	0.42
22:QV:9:G:H21	22:QV:45:G:H3'	1.85	0.42
36:RA:37:C:H2'	36:RA:38:A:C8	2.54	0.42
36:RA:153:C:H2'	36:RA:154:G:C8	2.55	0.42
36:RA:1105:U:H2'	36:RA:1106:G:C8	2.53	0.42
36:RA:1395:A:H4'	36:RA:1397:U:C5	2.54	0.42
36:RA:1653:G:H1'	36:RA:1654:A:OP2	2.20	0.42
36:RA:2314:C:H5''	41:RG:38:VAL:HG21	2.00	0.42
39:RE:92:THR:OG1	39:RE:93:VAL:N	2.53	0.42
1:XA:613:C:H2'	1:XA:614:A:C8	2.53	0.42
1:XA:779:C:H2'	1:XA:780:A:O4'	2.19	0.42
1:XA:979:C:O2	14:XN:19:ARG:HG2	2.19	0.42
2:XB:16:HIS:CD2	2:XB:210:SER:HA	2.55	0.42
18:XR:71:LYS:O	18:XR:75:ILE:HG12	2.19	0.42
23:XW:50:G:H2'	23:XW:51:C:C6	2.55	0.42
25:XY:62:C:C2	56:YZ:183:LEU:HG	2.55	0.42
36:YA:205:G:O2'	36:YA:206:U:OP2	2.38	0.42
36:YA:860:U:H5	36:YA:917:A:C2	2.36	0.42
36:YA:1041:C:H2'	36:YA:1042:G:H8	1.83	0.42
36:YA:1438:U:H2'	36:YA:1439:A:H8	1.83	0.42
36:YA:1709:U:H2'	36:YA:1710:C:C6	2.54	0.42
36:YA:2311:A:H8	41:YG:82:LEU:HD22	1.83	0.42
36:YA:2328:A:H2'	36:YA:2329:G:H8	1.82	0.42
51:YU:92:ARG:NE	51:YU:94:ASN:HB3	2.35	0.42
53:YW:20:VAL:HG23	53:YW:47:VAL:HG21	2.00	0.42
54:YX:43:VAL:HG21	54:YX:51:VAL:HG21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:YZ:126:VAL:HG12	56:YZ:163:LEU:HA	2.00	0.42
1:QA:1200:C:HO2'	1:QA:1201:A:P	2.36	0.42
1:QA:1318:A:OP1	19:QS:7:LYS:NZ	2.51	0.42
3:QC:191:THR:HG21	3:QC:193:TYR:CE1	2.55	0.42
13:QM:117:VAL:HG22	13:QM:118:ALA:H	1.84	0.42
23:QW:1:G:H2'	23:QW:2:G:H8	1.84	0.42
23:QW:30:G:H1	23:QW:40:C:N4	2.17	0.42
25:QY:16:C:C5	25:QY:18:G:H3'	2.53	0.42
28:R2:38:GLN:HB3	28:R2:45:SER:HB2	2.02	0.42
30:R4:38:LYS:HD3	30:R4:38:LYS:HA	1.82	0.42
36:RA:270(L):U:O4	43:RI:50:ARG:NH2	2.53	0.42
36:RA:639:U:C2	36:RA:640:C:C5	3.06	0.42
36:RA:1676:A:H2'	36:RA:1677:A:O4'	2.19	0.42
36:RA:1783:A:H5'	36:RA:2608:G:H4'	2.02	0.42
36:RA:2300:G:H2'	36:RA:2301:C:C6	2.54	0.42
36:RA:2547:U:H2'	36:RA:2548:G:C8	2.55	0.42
36:RA:2838:G:C4	36:RA:2839:G:C8	3.08	0.42
37:RB:94:C:H2'	37:RB:95:U:H6	1.84	0.42
39:RE:82:ARG:O	39:RE:83:ASP:HB2	2.20	0.42
47:RQ:52:VAL:HA	47:RQ:55:VAL:HG12	2.02	0.42
52:RV:58:VAL:HB	52:RV:98:GLU:HB2	2.00	0.42
56:RZ:146:ILE:HG23	56:RZ:174:VAL:HG21	2.02	0.42
1:XA:411:A:C4	1:XA:413:G:H1'	2.55	0.42
1:XA:575:G:O2'	1:XA:820:U:H5''	2.19	0.42
5:XE:75:THR:OG1	5:XE:76:ILE:N	2.52	0.42
6:XF:23:LYS:NZ	6:XF:42:GLU:OE2	2.36	0.42
13:XM:4:ILE:HD12	13:XM:10:PRO:HG2	2.02	0.42
13:XM:4:ILE:HD13	13:XM:19:LEU:HD23	2.00	0.42
13:XM:49:THR:HB	13:XM:52:GLU:HG3	2.00	0.42
15:XO:56:LEU:O	15:XO:60:VAL:HG23	2.20	0.42
16:XP:39:TYR:HB2	16:XP:49:LEU:HD13	2.02	0.42
27:Y1:40:ARG:HH12	36:YA:2232:U:P	2.40	0.42
36:YA:581:C:OP1	51:YU:33:ARG:HG3	2.20	0.42
36:YA:598:G:C5'	46:YP:11:GLY:HA3	2.50	0.42
36:YA:1086:A:O2'	36:YA:1087:G:N7	2.52	0.42
36:YA:1198:U:C2	36:YA:1199:U:C5	3.07	0.42
36:YA:1957:C:H2'	36:YA:1958:C:H6	1.83	0.42
36:YA:2647:U:H2'	36:YA:2648:C:C6	2.53	0.42
52:YV:66:ARG:HD2	52:YV:88:ARG:CZ	2.48	0.42
1:QA:978:A:C4	1:QA:1319:A:C2	3.08	0.42
1:QA:1095:U:P	1:QA:1108:G:H1	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1287:A:H2	1:QA:1353:G:H1'	1.84	0.42
7:QG:152:ALA:HB1	7:QG:155:ARG:HH21	1.84	0.42
10:QJ:32:ALA:HB3	10:QJ:76:ASN:ND2	2.35	0.42
22:QV:23:C:H2'	22:QV:24:U:H6	1.83	0.42
27:R1:71:TYR:CZ	43:RI:27:ARG:HB2	2.55	0.42
31:R5:3:LYS:HB3	31:R5:4:HIS:H	1.57	0.42
36:RA:308:G:H2'	36:RA:309:G:C8	2.54	0.42
36:RA:469:G:H2'	36:RA:470:A:H5''	2.00	0.42
36:RA:677:A:O2'	36:RA:2070:G:O2'	2.38	0.42
36:RA:796:C:H2'	36:RA:797:C:H6	1.83	0.42
36:RA:1431:U:H2'	36:RA:1432:C:H6	1.84	0.42
36:RA:2359:C:H2'	36:RA:2360:A:O4'	2.19	0.42
36:RA:2376:A:H2'	36:RA:2377:A:O4'	2.19	0.42
36:RA:2462:U:H1'	36:RA:2491:U:O4	2.19	0.42
36:RA:2485:G:O3'	47:RQ:126:PRO:HB3	2.19	0.42
1:XA:309:G:O2'	1:XA:607:A:N1	2.52	0.42
1:XA:373:A:C2	1:XA:374:A:C8	3.08	0.42
1:XA:932:C:H5'	7:XG:4:ARG:HG2	2.02	0.42
13:XM:3:ARG:O	13:XM:57:ARG:NH1	2.52	0.42
17:XQ:45:HIS:CD2	17:XQ:47:PRO:HG3	2.55	0.42
20:XT:43:LEU:HB3	20:XT:52:ALA:HB2	2.02	0.42
34:Y8:10:ALA:HA	46:YP:61:ARG:NH1	2.34	0.42
36:YA:271:G:H2'	36:YA:272:G:H8	1.85	0.42
36:YA:1321:A:C4	36:YA:1322:A:C8	3.08	0.42
36:YA:1629:U:H2'	36:YA:1630:G:C8	2.55	0.42
36:YA:2071:A:H2'	36:YA:2072:G:H8	1.85	0.42
36:YA:2492:U:H2'	36:YA:2493:U:C6	2.54	0.42
37:YB:15:A:H1'	37:YB:109:G:C5	2.54	0.42
37:YB:15:A:H1'	37:YB:109:G:N7	2.35	0.42
39:YE:36:ARG:NH1	39:YE:85:ASN:OD1	2.52	0.42
46:YP:125:VAL:CG1	46:YP:138:LEU:HD21	2.50	0.42
49:YS:109:GLY:C	49:YS:111:GLU:H	2.21	0.42
55:YY:38:ILE:HG22	55:YY:66:PRO:CA	2.45	0.42
56:YZ:103:ARG:HB2	56:YZ:138:GLU:CB	2.49	0.42
1:QA:175:C:H2'	1:QA:176:C:H6	1.83	0.42
1:QA:254:G:C6	1:QA:273:A:C6	3.07	0.42
1:QA:390:C:H2'	1:QA:391:G:H8	1.83	0.42
1:QA:720:C:H5''	18:QR:52:PRO:HA	2.02	0.42
1:QA:1032(B):G:H2'	1:QA:1033:G:C8	2.53	0.42
1:QA:1054:C:H2'	1:QA:1055:A:H5''	2.02	0.42
1:QA:1219:U:H2'	1:QA:1220:G:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1303:C:H6	1:QA:1303:C:H5'	1.85	0.42
1:QA:1486:G:H2'	1:QA:1487:G:C8	2.55	0.42
2:QB:98:LEU:HB2	2:QB:101:MET:SD	2.59	0.42
5:QE:18:ARG:HH21	5:QE:25:ARG:HD2	1.85	0.42
16:QP:59:TRP:HA	16:QP:62:VAL:HG22	2.02	0.42
27:R1:11:ARG:HB2	27:R1:12:PRO:HD2	2.02	0.42
27:R1:78:LYS:NZ	36:RA:270(I):G:H21	2.18	0.42
30:R4:15:ILE:HG22	30:R4:20:ASN:HB3	2.01	0.42
30:R4:42:PHE:CE2	41:RG:117:PHE:HB3	2.54	0.42
36:RA:534:U:H2'	36:RA:535:C:C6	2.54	0.42
36:RA:638:G:H2'	36:RA:639:U:H6	1.85	0.42
36:RA:822:U:H2'	36:RA:823:G:H8	1.85	0.42
36:RA:1446:C:H2'	36:RA:1447:G:H8	1.83	0.42
36:RA:1542:G:H5''	36:RA:1543:A:OP2	2.19	0.42
36:RA:2393:A:H2'	36:RA:2394:C:O4'	2.20	0.42
36:RA:2567:G:H2'	36:RA:2568:C:C6	2.54	0.42
36:RA:2649:U:H2'	36:RA:2650:U:H6	1.83	0.42
36:RA:2692:C:H2'	36:RA:2693:A:C8	2.54	0.42
50:RT:30:VAL:HG21	50:RT:76:PHE:CE1	2.55	0.42
1:XA:389:A:C6	1:XA:390:C:H1'	2.54	0.42
1:XA:399:G:H2'	1:XA:400:C:C6	2.54	0.42
1:XA:584:G:H2'	1:XA:585:G:C8	2.54	0.42
1:XA:842:C:O2'	1:XA:848:C:N4	2.52	0.42
1:XA:923:A:OP1	5:XE:21:ALA:HB2	2.19	0.42
1:XA:1242:C:H2'	1:XA:1243:C:H6	1.84	0.42
1:XA:1336:C:O2'	1:XA:1337:G:P	2.78	0.42
11:XK:22:HIS:HB3	11:XK:29:ILE:HG23	2.02	0.42
15:XO:16:ALA:HB1	15:XO:21:ASP:HB3	2.02	0.42
15:XO:39:LEU:HD23	15:XO:56:LEU:HB2	2.02	0.42
36:YA:1882:C:H5'	36:YA:1883:G:OP2	2.20	0.42
36:YA:2439:A:H3'	36:YA:2439:A:P	2.60	0.42
36:YA:2687:U:H2'	36:YA:2688:U:O4'	2.19	0.42
1:QA:373:A:C2	1:QA:482:A:C6	3.07	0.42
1:QA:401:C:O2'	1:QA:621:A:N3	2.37	0.42
2:QB:187:LEU:HD12	2:QB:201:ILE:O	2.20	0.42
26:R0:77:ARG:NH2	36:RA:857:C:OP2	2.51	0.42
36:RA:529:A:H2'	36:RA:529:A:N3	2.35	0.42
36:RA:606:U:OP2	40:RF:104:LYS:NZ	2.49	0.42
36:RA:609(A):G:H2'	36:RA:610:C:C6	2.55	0.42
36:RA:807:U:O2'	36:RA:2060:A:N1	2.49	0.42
36:RA:839:U:H1'	36:RA:1191:G:H1'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:1449:A:C4	36:RA:1529:A:C2	3.08	0.42
36:RA:1494:A:O2'	36:RA:1495:A:H5'	2.20	0.42
36:RA:1636:C:H2'	36:RA:1637:A:H8	1.84	0.42
36:RA:2445:G:OP1	40:RF:74:ARG:NH2	2.53	0.42
36:RA:2700:C:O2'	36:RA:2701:C:H5'	2.20	0.42
36:RA:2727:G:O3'	45:RO:70:LYS:HE2	2.20	0.42
38:RD:95:LEU:HD11	38:RD:105:ILE:HD13	2.02	0.42
42:RH:122:THR:OG1	42:RH:134:SER:O	2.34	0.42
44:RN:67:LEU:O	44:RN:88:GLU:HG3	2.20	0.42
1:XA:547:A:OP2	4:XD:2:GLY:N	2.53	0.42
1:XA:859:A:OP2	1:XA:869:G:N1	2.51	0.42
2:XB:21:ARG:HG2	2:XB:38:GLY:O	2.19	0.42
2:XB:160:ASP:O	2:XB:183:PRO:HD2	2.19	0.42
8:XH:44:PHE:HB3	8:XH:80:ILE:HG12	2.02	0.42
27:Y1:86:SER:N	27:Y1:87:PRO:CD	2.82	0.42
29:Y3:16:PRO:HB2	29:Y3:18:ASP:OD1	2.20	0.42
31:Y5:41:PRO:HA	31:Y5:42:PRO:HD3	1.93	0.42
36:YA:881:G:C8	36:YA:881:G:O5'	2.73	0.42
36:YA:890:A:H2'	36:YA:892:G:H8	1.83	0.42
36:YA:904:C:H2'	36:YA:905:U:H6	1.85	0.42
36:YA:1327:C:H2'	36:YA:1328:G:O4'	2.20	0.42
36:YA:1575:C:H2'	36:YA:1576:U:C6	2.54	0.42
36:YA:1902:C:H5'	38:YD:246:PRO:HD3	2.01	0.42
36:YA:2319:G:H1	49:YS:4:LEU:HD12	1.85	0.42
36:YA:2474:C:O2	36:YA:2474:C:H2'	2.19	0.42
36:YA:2584:U:H2'	36:YA:2585:U:H2'	2.01	0.42
36:YA:2867:G:OP2	50:YT:119:LYS:NZ	2.25	0.42
37:YB:32:C:C4	37:YB:33:G:N7	2.87	0.42
38:YD:133:LEU:HB3	38:YD:173:VAL:HG21	2.02	0.42
39:YE:18:ASP:HB3	50:YT:82:LEU:HD11	2.01	0.42
40:YF:129:PHE:CE1	40:YF:156:LEU:HD11	2.55	0.42
40:YF:155:LEU:HB2	40:YF:189:THR:HG21	2.02	0.42
41:YG:81:LYS:O	41:YG:82:LEU:HB3	2.20	0.42
1:QA:34:C:H2'	1:QA:35:G:C8	2.51	0.42
1:QA:584:G:H2'	1:QA:585:G:H8	1.83	0.42
1:QA:865:A:H2	1:QA:918:A:H4'	1.84	0.42
1:QA:1112:C:H1'	3:QC:179:ARG:NH1	2.35	0.42
12:QL:27:LEU:HD23	12:QL:27:LEU:HA	1.92	0.42
36:RA:39:C:H2'	36:RA:40:C:H6	1.84	0.42
36:RA:586:A:N1	36:RA:809:G:O2'	2.44	0.42
36:RA:587:C:H5'	40:RF:90:PHE:CE2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:1013:C:C2'	36:RA:1014:U:H5'	2.50	0.42
36:RA:1252:G:N3	51:RU:33:ARG:HD2	2.34	0.42
36:RA:2308:G:H1	36:RA:2311:A:H2	1.65	0.42
36:RA:2373:G:H2'	36:RA:2374:C:C6	2.54	0.42
36:RA:2487:G:H2'	36:RA:2488:A:C8	2.55	0.42
36:RA:2513:G:H2'	36:RA:2514:U:C6	2.55	0.42
51:RU:62:ILE:HD12	51:RU:76:TYR:OH	2.19	0.42
1:XA:113:G:H2'	1:XA:114:U:H6	1.85	0.42
1:XA:306:G:C2	1:XA:307:C:C5	3.07	0.42
1:XA:604:G:C6	1:XA:635:G:C6	3.08	0.42
1:XA:688:G:H2'	1:XA:689:C:H6	1.84	0.42
1:XA:868:C:H2'	1:XA:869:G:O4'	2.19	0.42
1:XA:1151:A:O4'	10:XJ:39:PRO:HB2	2.20	0.42
4:XD:61:LYS:HE2	4:XD:206:PHE:CE2	2.54	0.42
4:XD:175:SER:OG	4:XD:184:LYS:HB2	2.20	0.42
7:XG:22:LEU:HD21	7:XG:66:VAL:HG21	2.02	0.42
8:XH:79:VAL:HG13	8:XH:80:ILE:HG13	2.01	0.42
17:XQ:51:TYR:CD2	17:XQ:57:VAL:HG11	2.55	0.42
34:Y8:29:LYS:HD2	34:Y8:44:LYS:CB	2.50	0.42
36:YA:143:C:H2'	36:YA:144:C:C6	2.54	0.42
36:YA:184:C:H2'	36:YA:185:U:H6	1.85	0.42
36:YA:270(N):G:H21	43:YI:50:ARG:HH22	1.68	0.42
36:YA:774:A:H2	36:YA:787:U:O2'	2.03	0.42
36:YA:1142(A):A:C4	36:YA:1144:G:C8	3.07	0.42
36:YA:1697:G:OP2	36:YA:1698:A:O2'	2.31	0.42
36:YA:1854:A:H62	36:YA:1888:G:H8	1.68	0.42
36:YA:2000:G:C2	36:YA:2001:A:C8	3.08	0.42
36:YA:2292:C:H2'	36:YA:2293:C:H6	1.85	0.42
37:YB:44:G:O2'	37:YB:47:C:N4	2.53	0.42
41:YG:82:LEU:HD13	41:YG:88:ILE:HG21	2.01	0.42
43:YI:9:LEU:HD12	43:YI:9:LEU:O	2.19	0.42
51:YU:58:ARG:HA	51:YU:61:TRP:CE3	2.55	0.42
56:YZ:59:LEU:HD21	56:YZ:69:THR:HG21	2.02	0.42
1:QA:22:G:H4'	1:QA:885:G:C8	2.55	0.41
1:QA:164:U:H2'	1:QA:165:C:H6	1.85	0.41
1:QA:195:A:H4'	20:QT:68:LYS:HE3	2.02	0.41
1:QA:405:U:H5''	1:QA:495:A:H2	1.85	0.41
1:QA:635:G:C6	1:QA:636:U:C4	3.08	0.41
1:QA:1275:A:H2'	1:QA:1276:G:O4'	2.20	0.41
1:QA:1469:G:H2'	1:QA:1470:G:H8	1.84	0.41
8:QH:86:ILE:HG21	8:QH:133:LEU:HD23	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:38:ILE:HG13	10:QJ:71:LEU:HB3	2.02	0.41
36:RA:17:G:H4'	51:RU:25:TRP:HE1	1.85	0.41
36:RA:755:C:H2'	36:RA:756:C:H6	1.84	0.41
36:RA:1802:A:H2'	36:RA:1803:A:H8	1.80	0.41
36:RA:2065:C:H2'	36:RA:2066:C:C6	2.54	0.41
36:RA:2647:U:H2'	36:RA:2648:C:C6	2.55	0.41
36:RA:2655:G:H2'	36:RA:2664:G:C6	2.55	0.41
37:RB:15:A:H1'	37:RB:109:G:C8	2.55	0.41
38:RD:11:PRO:O	38:RD:12:SER:OG	2.34	0.41
39:RE:36:ARG:HH22	39:RE:88:GLY:CA	2.32	0.41
41:RG:22:ARG:HH21	41:RG:171:ALA:HB1	1.84	0.41
42:RH:86:GLU:HA	42:RH:132:ARG:HG2	2.02	0.41
44:RN:114:ARG:C	44:RN:116:LEU:H	2.24	0.41
52:RV:22:VAL:HG12	52:RV:23:GLU:N	2.35	0.41
1:XA:162:A:C2	1:XA:348:G:H4'	2.54	0.41
1:XA:334:C:H2'	1:XA:335:C:C6	2.55	0.41
1:XA:410:G:H2'	1:XA:429:U:C5	2.55	0.41
1:XA:509:A:H2'	1:XA:510:A:C8	2.55	0.41
1:XA:539:A:H2'	1:XA:540:G:C8	2.55	0.41
1:XA:582:U:H2'	1:XA:583:A:H8	1.84	0.41
1:XA:971:G:N2	1:XA:1363:A:OP2	2.38	0.41
3:XC:19:GLU:HB3	3:XC:40:ARG:NH2	2.35	0.41
23:XW:1:G:H2'	23:XW:2:G:C8	2.55	0.41
29:Y3:9:VAL:HG11	29:Y3:55:ARG:HG3	2.01	0.41
36:YA:270(G):C:H2'	36:YA:270(H):C:C6	2.55	0.41
36:YA:1021:A:H8	36:YA:1021:A:H3'	1.85	0.41
36:YA:1049:C:H2'	36:YA:1050:A:H5''	2.02	0.41
36:YA:1431:U:H2'	36:YA:1432:C:C6	2.55	0.41
36:YA:2102:U:H2'	36:YA:2103:C:C6	2.55	0.41
38:YD:70:TRP:O	38:YD:73:VAL:HG23	2.20	0.41
48:YR:38:VAL:HB	48:YR:39:PRO:HD3	2.01	0.41
51:YU:92:ARG:CD	51:YU:94:ASN:HB3	2.49	0.41
1:QA:517:G:H5'	1:QA:519:C:C2	2.55	0.41
1:QA:675:A:H1'	11:QK:116:HIS:CD2	2.56	0.41
21:QU:8:THR:O	21:QU:12:LYS:HG2	2.20	0.41
25:QY:55:U:H3'	56:RZ:180:VAL:HG11	2.02	0.41
36:RA:2076:U:OP2	36:RA:2238:G:N2	2.45	0.41
36:RA:2533:A:H2'	36:RA:2534:A:O4'	2.20	0.41
39:RE:116:VAL:HG22	39:RE:117:MET:H	1.85	0.41
39:RE:143:ASN:HD22	39:RE:147:PRO:HD3	1.85	0.41
43:RI:57:ARG:HA	43:RI:60:GLU:HG2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RN:23:LEU:HD13	44:RN:60:ILE:HD12	2.02	0.41
47:RQ:43:THR:HG22	47:RQ:94:VAL:HG12	2.02	0.41
1:XA:267:C:OP2	17:XQ:67:LYS:HD2	2.19	0.41
1:XA:677:U:O2	1:XA:777:A:O2'	2.38	0.41
1:XA:1342:C:H2'	1:XA:1343:G:H8	1.85	0.41
2:XB:21:ARG:HG2	2:XB:39:ILE:CA	2.47	0.41
3:XC:21:ARG:NH2	3:XC:21:ARG:CB	2.83	0.41
15:XO:43:LEU:HD12	15:XO:56:LEU:HD22	2.02	0.41
16:XP:9:PHE:CE2	16:XP:18:ARG:HD2	2.55	0.41
16:XP:20:VAL:HG21	16:XP:32:TYR:CD2	2.55	0.41
18:XR:44:LEU:HD12	18:XR:79:LEU:HD12	2.02	0.41
29:Y3:30:ARG:NH1	36:YA:1184:G:OP1	2.50	0.41
31:Y5:55:ARG:HG2	48:YR:33:ARG:HH21	1.85	0.41
36:YA:29:U:H2'	36:YA:30:G:H8	1.85	0.41
36:YA:270(G):C:H2'	36:YA:270(H):C:H6	1.85	0.41
36:YA:373:U:O2'	36:YA:423:A:H1'	2.20	0.41
36:YA:443:A:H5''	36:YA:444:C:OP1	2.20	0.41
36:YA:658:C:C2	36:YA:659:C:C5	3.07	0.41
36:YA:817:C:H2'	36:YA:818:G:O4'	2.20	0.41
36:YA:1186:G:H2'	36:YA:1187:G:O4'	2.19	0.41
36:YA:1637:A:H4'	36:YA:2711:A:O2'	2.20	0.41
36:YA:1786:A:H1'	36:YA:1938:A:N6	2.35	0.41
36:YA:1878:G:H2'	36:YA:1879:C:H6	1.84	0.41
36:YA:2087:G:O2'	36:YA:2088:G:H5'	2.20	0.41
36:YA:2102:U:H2'	36:YA:2103:C:H6	1.84	0.41
36:YA:2233:U:H2'	36:YA:2234:G:C8	2.55	0.41
36:YA:2353:G:H2'	36:YA:2354:G:O4'	2.21	0.41
36:YA:2611:U:OP2	36:YA:2611:U:H6	2.03	0.41
38:YD:209:ALA:O	38:YD:213:ARG:HG2	2.20	0.41
39:YE:24:THR:HG21	39:YE:188:VAL:CG1	2.50	0.41
41:YG:107:LEU:HD11	41:YG:178:PHE:CE1	2.56	0.41
43:YI:79:ILE:HG23	43:YI:142:VAL:HG23	2.01	0.41
43:YI:120:ILE:HB	43:YI:126:TYR:HE1	1.85	0.41
45:YO:122:LEU:HD13	50:YT:72:VAL:HG11	2.01	0.41
50:YT:124:ASP:HA	50:YT:127:ALA:HB3	2.02	0.41
1:QA:69:G:H2'	1:QA:73:G:H8	1.85	0.41
1:QA:99:C:H2'	1:QA:101:A:C8	2.56	0.41
1:QA:359:U:H2'	1:QA:360:A:C8	2.54	0.41
1:QA:416:G:H2'	1:QA:417:C:C6	2.55	0.41
1:QA:999:U:O4	1:QA:1000:A:N6	2.53	0.41
1:QA:1301:U:H2'	1:QA:1302:U:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:146:ILE:N	4:QD:183:GLY:O	2.51	0.41
4:QD:169:LYS:HZ1	6:XF:25:ILE:HD11	1.84	0.41
13:QM:98:VAL:HG23	13:QM:99:ARG:HG3	2.02	0.41
17:QQ:45:HIS:CD2	17:QQ:47:PRO:HG3	2.54	0.41
29:R3:37:LEU:HB3	29:R3:43:ILE:HD13	2.02	0.41
34:R8:4:MET:HE2	36:RA:592:G:N3	2.34	0.41
34:R8:35:GLN:OE1	34:R8:35:GLN:HA	2.21	0.41
36:RA:270(Q):C:C2	36:RA:270(R):G:C8	3.08	0.41
36:RA:550:G:H2'	36:RA:551:G:H8	1.84	0.41
36:RA:1153:C:H2'	36:RA:1154:G:O4'	2.19	0.41
36:RA:1255:U:C5	40:RF:73:ALA:HA	2.55	0.41
36:RA:1434:A:H2'	36:RA:1435:G:C8	2.55	0.41
36:RA:2093:G:OP1	43:RI:23:PRO:HG2	2.21	0.41
39:RE:79:ARG:HE	39:RE:195:LEU:HD21	1.86	0.41
49:RS:3:ARG:HG2	49:RS:4:LEU:HD23	2.02	0.41
1:XA:236:G:H5''	17:XQ:42:TYR:OH	2.19	0.41
1:XA:406:G:C5'	4:XD:5:ILE:HD11	2.44	0.41
1:XA:718:G:H21	18:XR:49:LYS:HG2	1.85	0.41
1:XA:825:G:H2'	1:XA:826:C:C6	2.55	0.41
1:XA:982:U:H4'	1:XA:983:A:O5'	2.20	0.41
29:Y3:7:LYS:HA	29:Y3:33:GLN:O	2.21	0.41
36:YA:37:C:H2'	36:YA:38:A:H8	1.84	0.41
36:YA:256:A:H2'	36:YA:257:A:H8	1.84	0.41
36:YA:524:U:H2'	36:YA:525:U:C6	2.55	0.41
36:YA:841:A:H2'	36:YA:842:G:H8	1.85	0.41
36:YA:1385:G:HO2'	36:YA:1396:U:H6	1.69	0.41
36:YA:1688:U:O2	36:YA:1700:A:H5''	2.21	0.41
36:YA:1802:A:H2'	36:YA:1803:A:H8	1.80	0.41
36:YA:1814:G:H4'	38:YD:51:VAL:HG21	2.03	0.41
36:YA:2246:G:H2'	36:YA:2247:A:H8	1.83	0.41
36:YA:2630:G:H2'	36:YA:2631:G:H8	1.85	0.41
38:YD:155:LEU:HD13	38:YD:177:LEU:HD21	2.02	0.41
38:YD:253:GLN:HB2	38:YD:257:LEU:HD22	2.01	0.41
39:YE:128:SER:OG	39:YE:129:HIS:N	2.52	0.41
45:YO:107:ARG:HG2	45:YO:115:VAL:HG21	2.03	0.41
1:QA:997:U:H2'	1:QA:998:G:C8	2.55	0.41
3:QC:36:ASP:CG	3:QC:59:ARG:HH21	2.23	0.41
3:QC:39:ILE:HD12	3:QC:91:LEU:HD22	2.01	0.41
4:QD:12:CYS:SG	4:QD:19:LEU:HB2	2.60	0.41
12:QL:82:VAL:HG13	12:QL:105:TYR:HB2	2.02	0.41
36:RA:222:A:N6	36:RA:232:G:HI'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:463:G:N2	36:RA:466:A:OP2	2.47	0.41
36:RA:747:U:O2	36:RA:2014:A:H1'	2.20	0.41
36:RA:911:A:H2'	47:RQ:9:TYR:CE1	2.55	0.41
36:RA:1050:A:H3'	36:RA:1051:G:H8	1.85	0.41
36:RA:1230:C:H2'	36:RA:1231:G:H8	1.85	0.41
36:RA:1668:A:C5	36:RA:1674:G:C5	3.08	0.41
36:RA:2019:A:H1'	51:RU:34:LYS:HE2	2.02	0.41
36:RA:2105:C:H2'	36:RA:2106:G:C8	2.56	0.41
36:RA:2181:G:H2'	36:RA:2182:G:H8	1.85	0.41
36:RA:2241:A:H2'	36:RA:2242:G:C8	2.55	0.41
41:RG:10:LYS:HG2	41:RG:15:VAL:HG23	2.02	0.41
1:XA:688:G:H2'	1:XA:689:C:C6	2.55	0.41
1:XA:998:G:H2'	1:XA:998(A):C:H6	1.84	0.41
1:XA:1203:C:H2'	1:XA:1204:A:C8	2.55	0.41
7:XG:100:ALA:O	7:XG:104:LEU:HD23	2.20	0.41
36:YA:835:A:C4	36:YA:836:G:C8	3.08	0.41
36:YA:2347:C:H2'	36:YA:2348:U:H6	1.85	0.41
36:YA:2790:A:H2'	36:YA:2790:A:N3	2.36	0.41
39:YE:114:ALA:HB3	39:YE:160:TYR:HB3	2.02	0.41
45:YO:105:GLU:OE1	45:YO:105:GLU:N	2.54	0.41
46:YP:97:PRO:C	46:YP:99:LEU:H	2.23	0.41
55:YY:43:ASN:HB3	55:YY:64:GLU:HA	2.02	0.41
1:QA:545:C:OP2	4:QD:62:GLN:NE2	2.53	0.41
1:QA:657:G:C2	1:QA:658:G:C8	3.08	0.41
1:QA:868:C:H2'	1:QA:869:G:O4'	2.20	0.41
1:QA:1250:A:H4'	9:QI:68:GLY:N	2.35	0.41
1:QA:1443:G:O2'	1:QA:1446:A:H5''	2.20	0.41
5:QE:127:ASN:O	5:QE:131:ILE:HG12	2.21	0.41
25:QY:28:U:H2'	25:QY:29:U:H6	1.86	0.41
36:RA:208:C:H2'	36:RA:209:C:H6	1.85	0.41
36:RA:270(R):G:H2'	36:RA:270(S):G:C8	2.51	0.41
36:RA:309:G:H8	36:RA:309:G:OP2	2.04	0.41
36:RA:632:A:H2'	36:RA:633:A:C8	2.55	0.41
36:RA:1130:U:HO2'	36:RA:1131:G:P	2.43	0.41
36:RA:1567:A:OP2	38:RD:84:TYR:OH	2.32	0.41
36:RA:2119:A:N6	36:RA:2170:A:N7	2.55	0.41
36:RA:2370:G:H2'	36:RA:2371:G:C8	2.55	0.41
39:RE:31:CYS:HB3	39:RE:49:LEU:HD12	2.02	0.41
1:XA:171:A:H2'	1:XA:172:A:C8	2.54	0.41
1:XA:335:C:H2'	1:XA:336:C:H6	1.84	0.41
1:XA:398:C:H2'	1:XA:399:G:H8	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:552:U:O2	12:XL:31:PRO:HB3	2.20	0.41
13:XM:37:THR:HG22	13:XM:55:ARG:NH1	2.36	0.41
14:YN:6:LEU:HB3	14:YN:23:ARG:NH2	2.34	0.41
35:Y9:3:VAL:HG11	36:YA:2539:C:H5'	2.02	0.41
36:YA:414:C:H2'	36:YA:415:A:H8	1.84	0.41
36:YA:503:A:H4'	36:YA:504:U:O5'	2.20	0.41
36:YA:540:G:H5'	36:YA:541:C:OP2	2.20	0.41
36:YA:1952:A:N3	36:YA:2560:C:O2'	2.40	0.41
40:YF:123:LEU:HD13	40:YF:192:LEU:HD23	2.01	0.41
42:YH:133:VAL:HG11	42:YH:144:VAL:HG23	2.02	0.41
43:YI:114:LEU:HD13	43:YI:130:TYR:HD1	1.86	0.41
45:YO:71:ARG:NH2	45:YO:77:ILE:HG21	2.35	0.41
1:QA:978:A:O2'	1:QA:1322:C:N3	2.47	0.41
1:QA:1149:C:H2'	1:QA:1150:U:C6	2.54	0.41
8:QH:16:ALA:HA	8:QH:19:VAL:HG12	2.02	0.41
36:RA:495:G:H21	53:RW:61:ASN:HD21	1.67	0.41
36:RA:512:G:H1'	36:RA:513:A:OP2	2.20	0.41
36:RA:1321:A:H2'	36:RA:1322:A:H8	1.85	0.41
36:RA:1441:G:H2'	36:RA:1442:G:C8	2.56	0.41
36:RA:1931:U:H6	36:RA:1931:U:H2'	1.65	0.41
36:RA:2401:U:H2'	36:RA:2402:C:H5''	2.02	0.41
36:RA:2415:G:H4'	46:RP:66:GLY:HA3	2.03	0.41
36:RA:2467:C:H4'	47:RQ:123:HIS:CD2	2.55	0.41
36:RA:2695:C:H2'	36:RA:2696:U:H6	1.86	0.41
39:RE:24:THR:HG21	39:RE:188:VAL:CG2	2.51	0.41
56:RZ:35:ARG:HH21	56:RZ:36:LYS:HG2	1.86	0.41
56:RZ:44:PHE:CE1	56:RZ:86:VAL:HG21	2.42	0.41
1:XA:355:C:C4	1:XA:356:A:N7	2.89	0.41
3:XC:61:ALA:O	3:XC:62:ASP:HB2	2.21	0.41
7:XG:26:PHE:HD1	7:XG:101:LEU:HD22	1.84	0.41
26:Y0:18:ALA:HB1	36:YA:2271:G:OP1	2.20	0.41
30:Y4:21:VAL:HB	30:Y4:24:THR:HG22	2.02	0.41
36:YA:34:C:H41	36:YA:447:A:H61	1.68	0.41
36:YA:363(D):G:H2'	36:YA:363(E):U:H6	1.86	0.41
36:YA:751:A:H5'	53:YW:90:ARG:HG2	2.03	0.41
36:YA:2347:C:H2'	36:YA:2348:U:C6	2.56	0.41
43:YI:23:PRO:HB3	43:YI:27:ARG:HH21	1.85	0.41
56:YZ:163:LEU:HD21	56:YZ:165:VAL:CG2	2.44	0.41
1:QA:35:G:H2'	1:QA:36:C:H6	1.86	0.41
1:QA:265:G:H5'	17:QQ:64:PRO:O	2.20	0.41
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1318:A:H1'	19:QS:37:ARG:NH1	2.35	0.41
32:R6:15:GLU:CD	32:R6:41:PRO:HB3	2.41	0.41
32:R6:24:GLU:OE1	32:R6:24:GLU:HA	2.20	0.41
32:R6:33:LYS:HG2	32:R6:34:LEU:H	1.85	0.41
36:RA:265:A:N6	36:RA:428:A:C8	2.89	0.41
36:RA:900:A:C2	36:RA:901:A:H1'	2.56	0.41
36:RA:1509:C:H3'	36:RA:1510:A:H5''	2.03	0.41
36:RA:2103:C:H2'	36:RA:2104:G:C8	2.56	0.41
36:RA:2291:U:OP1	36:RA:2380:C:O2'	2.36	0.41
36:RA:2502:G:H5''	36:RA:2503:A:C5'	2.49	0.41
36:RA:2685:G:P	50:RT:51:ARG:HH22	2.44	0.41
36:RA:2769:C:H2'	36:RA:2770:G:O4'	2.19	0.41
36:RA:2863:C:H2'	36:RA:2864:G:C8	2.55	0.41
38:RD:52:ARG:NH2	38:RD:250:TRP:CH2	2.88	0.41
40:RF:72:ARG:HA	40:RF:72:ARG:HD2	1.91	0.41
41:RG:41:GLN:HG2	41:RG:43:LEU:HG	2.01	0.41
47:RQ:81:VAL:HG23	47:RQ:82:ARG:N	2.34	0.41
56:RZ:13:GLU:HB3	56:RZ:18:LEU:HD11	2.03	0.41
1:XA:626:U:H2'	1:XA:627:G:C8	2.55	0.41
1:XA:1004:A:H2	1:XA:1025:U:H1'	1.84	0.41
1:XA:1325:C:H4'	21:XU:17:THR:HG21	2.02	0.41
3:XC:82:GLU:OE1	3:XC:85:ARG:NH2	2.54	0.41
4:XD:3:ARG:HH21	4:XD:5:ILE:HD12	1.86	0.41
5:XE:75:THR:OG1	5:XE:93:PRO:HA	2.21	0.41
36:YA:661:C:H5''	46:YP:15:ARG:NH2	2.35	0.41
36:YA:1019:U:O2'	36:YA:1021:A:H2	2.02	0.41
36:YA:1394:U:H2'	36:YA:1395:A:O4'	2.21	0.41
36:YA:1449:A:C4	36:YA:1529:A:C2	3.04	0.41
36:YA:1889:A:H2'	36:YA:1890:A:C8	2.56	0.41
36:YA:1972:A:H2'	36:YA:1973:G:H8	1.84	0.41
36:YA:2292:C:H2'	36:YA:2293:C:C6	2.56	0.41
36:YA:2294:C:H2'	36:YA:2295:C:H6	1.86	0.41
38:YD:77:ALA:HA	38:YD:97:TYR:HA	2.02	0.41
56:YZ:58:VAL:O	56:YZ:59:LEU:HG	2.21	0.41
1:QA:33:A:N3	12:QL:32:PHE:HE2	2.19	0.41
1:QA:755:G:OP2	15:QO:65:ARG:HD2	2.20	0.41
1:QA:1252:A:H61	1:QA:1285:A:H61	1.69	0.41
2:QB:76:GLN:O	2:QB:208:ILE:HG22	2.20	0.41
8:QH:44:PHE:HB3	8:QH:80:ILE:HD11	2.03	0.41
36:RA:270(S):G:C2	36:RA:270(T):G:C5	3.09	0.41
36:RA:819:A:N6	36:RA:1189:A:H1'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:835:A:C4	36:RA:836:G:C8	3.08	0.41
36:RA:982:C:H1'	36:RA:2029:G:H5'	2.02	0.41
36:RA:1353:A:H5''	38:RD:38:LYS:NZ	2.36	0.41
36:RA:1655:A:H3'	36:RA:1656:C:H6	1.86	0.41
36:RA:1742:C:H5'	36:RA:1743:G:OP2	2.21	0.41
36:RA:2712:U:O2'	36:RA:2712(A):A:P	2.79	0.41
56:RZ:14:LYS:O	56:RZ:16:SER:N	2.49	0.41
1:XA:222:U:H2'	1:XA:223:U:C6	2.55	0.41
1:XA:265:G:H2'	1:XA:266:G:H5''	2.02	0.41
1:XA:973:G:H3'	1:XA:974:A:C5'	2.48	0.41
1:XA:1149:C:H2'	1:XA:1150:U:C6	2.55	0.41
3:XC:20:SER:HB3	3:XC:22:TRP:CD1	2.56	0.41
36:YA:66:C:H2'	36:YA:67:U:C6	2.56	0.41
36:YA:236:C:H2'	36:YA:237:C:H6	1.85	0.41
36:YA:1429:G:H2'	36:YA:1430:C:H6	1.84	0.41
36:YA:2619:C:OP1	39:YE:152:LYS:HE2	2.20	0.41
42:YH:128:PRO:HG2	42:YH:129:THR:H	1.85	0.41
43:YI:72:LEU:HD23	43:YI:138:ILE:HD12	2.02	0.41
43:YI:130:TYR:HB3	43:YI:136:VAL:HG13	2.01	0.41
47:YQ:81:VAL:HG23	47:YQ:82:ARG:N	2.33	0.41
48:YR:58:GLY:HA2	48:YR:80:PHE:HE1	1.84	0.41
56:YZ:30:ASN:HB3	56:YZ:90:VAL:HG22	2.01	0.41
1:QA:281:G:OP2	1:QA:281:G:H8	2.04	0.41
1:QA:343:U:O2	1:QA:346:G:N2	2.40	0.41
1:QA:411:A:OP2	4:QD:30:LYS:HE3	2.21	0.41
1:QA:1010:G:H2'	1:QA:1011:G:C8	2.56	0.41
1:QA:1062:U:H2'	1:QA:1063:C:C6	2.55	0.41
1:QA:1127:G:N1	1:QA:1145:C:O2	2.50	0.41
1:QA:1236:A:H2'	1:QA:1237:C:C6	2.56	0.41
1:QA:1292:U:H2'	1:QA:1293:G:C8	2.56	0.41
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.56	0.41
2:QB:98:LEU:O	2:QB:101:MET:HG2	2.21	0.41
3:QC:10:PHE:HD2	3:QC:11:ARG:NH1	2.19	0.41
13:QM:14:ARG:HB3	13:QM:16:ASP:OD2	2.21	0.41
19:QS:10:PHE:CD1	19:QS:39:THR:O	2.74	0.41
36:RA:24:G:H1'	53:RW:77:ASP:HB3	2.02	0.41
36:RA:32:C:O2'	36:RA:33:U:H5'	2.21	0.41
36:RA:84:A:N7	36:RA:99:U:N3	2.68	0.41
36:RA:580:C:H2'	36:RA:581:C:C6	2.56	0.41
36:RA:635:C:O2'	36:RA:639:U:OP1	2.38	0.41
36:RA:861:A:N3	37:RB:79:C:O2'	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RA:921:G:H2'	36:RA:922:U:H6	1.85	0.41
36:RA:1103:A:H5''	36:RA:1104:C:C5	2.56	0.41
36:RA:1407:C:C2	36:RA:1596:A:C2	3.08	0.41
36:RA:1567:A:H3'	38:RD:86:PRO:HG3	2.03	0.41
36:RA:1694:C:H4'	36:RA:1695:G:O5'	2.20	0.41
36:RA:1769:G:O2'	36:RA:1958:C:OP1	2.32	0.41
36:RA:1791:A:H4'	38:RD:206:LEU:HB2	2.03	0.41
36:RA:2150:U:H2'	36:RA:2151:G:H8	1.85	0.41
36:RA:2168:G:H2'	36:RA:2169:A:H5''	2.03	0.41
36:RA:2455:G:H2'	36:RA:2456:C:C6	2.56	0.41
36:RA:2803:C:H2'	36:RA:2804:C:H6	1.85	0.41
37:RB:60:C:H2'	37:RB:61:G:H8	1.86	0.41
38:RD:83:GLU:OE1	38:RD:104:TYR:OH	2.35	0.41
38:RD:245:PRO:HA	38:RD:246:PRO:HD3	1.97	0.41
41:RG:63:ILE:HG22	41:RG:143:GLU:HB2	2.02	0.41
41:RG:96:ARG:HD3	41:RG:96:ARG:HA	1.89	0.41
45:RO:104:ARG:NH2	50:RT:34:VAL:HG11	2.36	0.41
49:RS:25:ARG:HH21	49:RS:40:ILE:HG21	1.86	0.41
53:RW:29:LEU:HD21	53:RW:33:ARG:NH2	2.36	0.41
54:RX:26:TYR:O	54:RX:81:VAL:N	2.51	0.41
55:RY:28:LYS:HD2	55:RY:40:GLU:OE2	2.21	0.41
1:XA:339:C:H2'	1:XA:340:U:H6	1.85	0.41
1:XA:606:G:N2	1:XA:631:G:H8	2.18	0.41
1:XA:619:U:N3	4:XD:134:ASP:OD1	2.44	0.41
1:XA:940:C:H2'	1:XA:941:G:C8	2.56	0.41
1:XA:963:G:N2	10:XJ:55:LYS:HG2	2.36	0.41
1:XA:1347:G:N2	1:XA:1374:A:OP2	2.43	0.41
3:XC:14:ILE:O	3:XC:15:THR:OG1	2.34	0.41
3:XC:59:ARG:HG2	3:XC:64:VAL:HG12	2.03	0.41
3:XC:129:ALA:HB3	3:XC:132:ARG:HB3	2.03	0.41
12:XL:38:THR:HG22	12:XL:57:LYS:O	2.21	0.41
20:XT:13:LEU:HD13	20:XT:17:ARG:HH12	1.86	0.41
24:XX:20:C:H2'	24:XX:21:C:C6	2.56	0.41
27:Y1:7:ILE:HD12	27:Y1:62:VAL:HG21	2.02	0.41
36:YA:141:A:H8	36:YA:1595:G:H21	1.62	0.41
36:YA:304:G:H2'	36:YA:305:U:C6	2.55	0.41
36:YA:392:C:C2	36:YA:393:C:C5	3.09	0.41
36:YA:511:U:H4'	36:YA:1235:G:H4'	2.02	0.41
36:YA:657:U:H2'	36:YA:658:C:H6	1.86	0.41
36:YA:813:U:H2'	36:YA:814:C:H6	1.85	0.41
36:YA:820:A:H4'	36:YA:836:G:H22	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:841:A:H2'	36:YA:842:G:C8	2.55	0.41
36:YA:871:U:OP1	47:YQ:5:ARG:HG2	2.20	0.41
36:YA:1239:G:H2'	36:YA:1240:U:O4'	2.20	0.41
36:YA:1518:C:H2'	36:YA:1519:G:H8	1.86	0.41
36:YA:1608:A:H1'	36:YA:1610:A:OP2	2.21	0.41
36:YA:1657:C:H4'	39:YE:133:LYS:HB3	2.02	0.41
36:YA:2123:G:H2'	36:YA:2124:G:C8	2.56	0.41
36:YA:2567:G:H2'	36:YA:2568:C:C6	2.55	0.41
36:YA:2771:C:H2'	36:YA:2772:C:H6	1.86	0.41
36:YA:2850:A:N7	36:YA:2868:A:O2'	2.46	0.41
38:YD:95:LEU:HD11	38:YD:105:ILE:HD13	2.03	0.41
41:YG:135:LEU:O	41:YG:154:GLY:HA3	2.20	0.41
42:YH:20:ALA:HB3	42:YH:23:ARG:O	2.21	0.41
43:YI:90:GLY:O	43:YI:121:LYS:HE2	2.21	0.41
45:YO:8:LEU:HB2	45:YO:19:ILE:HG13	2.03	0.41
45:YO:79:PHE:CD2	50:YT:72:VAL:HG22	2.56	0.41
46:YP:101:VAL:HG11	46:YP:108:LYS:HG2	2.03	0.41
50:YT:53:ARG:O	50:YT:59:THR:HG23	2.21	0.41
52:YV:51:VAL:HG12	52:YV:52:VAL:N	2.36	0.41
56:YZ:165:VAL:HG23	56:YZ:167:PRO:HB3	2.03	0.41
1:QA:584:G:H2'	1:QA:585:G:C8	2.56	0.41
1:QA:615:C:H2'	1:QA:616:G:O4'	2.21	0.41
1:QA:939:G:H2'	1:QA:940:C:C6	2.56	0.41
1:QA:1292:U:C2	1:QA:1293:G:C8	3.09	0.41
1:QA:1307:U:H2'	1:QA:1308:U:C6	2.56	0.41
1:QA:1324:A:H2'	1:QA:1325:C:O4'	2.21	0.41
1:QA:1336:C:H1'	1:QA:1337:G:C2	2.56	0.41
1:QA:1347:G:H4'	1:QA:1348:U:O5'	2.21	0.41
4:QD:177:ASP:HB3	4:QD:182:LYS:HB2	2.03	0.41
23:QW:66:U:C2	23:QW:67:A:C8	3.09	0.41
31:R5:4:HIS:O	36:RA:2056:G:N2	2.54	0.41
34:R8:56:GLU:OE2	46:RP:61:ARG:NH2	2.54	0.41
36:RA:1357:U:H2'	36:RA:1358:G:O4'	2.21	0.41
36:RA:1451:C:H4'	36:RA:1453:A:C8	2.56	0.41
36:RA:1535:U:H5'	36:RA:1537:C:C2	2.55	0.41
36:RA:2693:A:H2'	36:RA:2694:G:C8	2.55	0.41
36:RA:2840:C:H2'	36:RA:2841:C:C6	2.56	0.41
56:RZ:118:GLN:HE22	56:RZ:120:ILE:HG23	1.86	0.41
1:XA:325:A:H2'	1:XA:326:G:O4'	2.21	0.41
1:XA:501:C:H1'	1:XA:549:C:H1'	2.03	0.41
1:XA:538:G:H2'	1:XA:539:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:587:G:N2	1:XA:754:C:OP2	2.50	0.41
1:XA:1492:A:N6	12:XL:50:SER:OG	2.53	0.41
2:XB:27:LYS:O	2:XB:194:PRO:CD	2.68	0.41
3:XC:11:ARG:NH2	3:XC:177:THR:O	2.53	0.41
6:XF:62:TRP:CH2	6:XF:64:GLN:HB2	2.56	0.41
12:XL:32:PHE:HB3	12:XL:84:LEU:HD11	2.02	0.41
12:XL:117:ARG:HB3	12:XL:122:THR:O	2.21	0.41
16:XP:82:GLN:HG2	16:XP:83:GLU:N	2.32	0.41
25:XY:70:U:O2'	25:XY:71:C:OP1	2.34	0.41
32:Y6:41:PRO:HD3	32:Y6:47:THR:HG22	2.02	0.41
34:Y8:39:LYS:HG3	36:YA:2351:G:O6	2.21	0.41
36:YA:184:C:H2'	36:YA:185:U:C6	2.56	0.41
36:YA:529:A:H2'	36:YA:529:A:N3	2.36	0.41
36:YA:822:U:H2'	36:YA:823:G:H8	1.86	0.41
36:YA:848:G:H2'	36:YA:849:A:H8	1.81	0.41
36:YA:2167:U:O2	36:YA:2167:U:C2'	2.69	0.41
36:YA:2639:A:H1'	36:YA:2778:A:C2	2.56	0.41
40:YF:161:GLU:O	40:YF:165:ARG:HG3	2.20	0.41
47:YQ:104:PHE:O	47:YQ:106:VAL:N	2.53	0.41
48:YR:29:LEU:HD22	48:YR:79:LEU:HD13	2.02	0.41
1:QA:355:C:C4	1:QA:356:A:N7	2.89	0.40
1:QA:374:A:C6	1:QA:375:U:C4	3.09	0.40
1:QA:735:C:H2'	1:QA:736:C:C6	2.55	0.40
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.49	0.40
1:QA:1321:C:H4'	13:QM:87:TYR:CZ	2.56	0.40
1:QA:1348:U:H4'	9:QI:120:ARG:HD2	2.03	0.40
1:QA:1412:C:H2'	1:QA:1413:A:H8	1.85	0.40
2:QB:87:ARG:NH1	2:QB:220:ASP:OD1	2.42	0.40
8:QH:7:ALA:O	8:QH:11:THR:HG23	2.21	0.40
28:R2:43:GLN:O	28:R2:44:LEU:HD22	2.21	0.40
30:R4:49:PHE:CD2	30:R4:50:VAL:HG23	2.55	0.40
35:R9:3:VAL:HG21	36:RA:2539:C:H4'	2.03	0.40
36:RA:375:C:H2'	36:RA:376:C:C6	2.56	0.40
36:RA:1106:G:H2'	36:RA:1107:G:C8	2.55	0.40
36:RA:1141:U:OP2	44:RN:63:THR:OG1	2.31	0.40
36:RA:1152:C:H4'	51:RU:77:SER:HA	2.03	0.40
36:RA:1394:U:C3'	36:RA:1394:U:C6	3.04	0.40
36:RA:1449:A:C4	36:RA:1529:A:H2	2.39	0.40
36:RA:1539:G:H2'	36:RA:1540:G:H8	1.85	0.40
37:RB:15:A:H5'	37:RB:16:G:H8	1.84	0.40
37:RB:39:A:H2'	37:RB:40:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RN:34:LEU:O	44:RN:49:GLY:HA3	2.22	0.40
1:XA:334:C:H2'	1:XA:335:C:H6	1.87	0.40
1:XA:335:C:H2'	1:XA:336:C:C6	2.56	0.40
1:XA:486:U:H2'	1:XA:487:A:C8	2.56	0.40
1:XA:645:C:H2'	1:XA:646:U:H6	1.85	0.40
1:XA:1314:C:H2'	1:XA:1315:U:H6	1.86	0.40
1:XA:1422:G:H2'	1:XA:1423:G:C8	2.56	0.40
9:XI:49:PRO:HD3	9:XI:101:PHE:HE1	1.86	0.40
13:XM:49:THR:HG22	13:XM:51:ALA:N	2.36	0.40
16:XP:67:THR:HG22	16:XP:68:ASP:N	2.36	0.40
27:Y1:73:LEU:HB3	27:Y1:90:ILE:HG12	2.03	0.40
27:Y1:97:LEU:CD2	36:YA:270(T):G:H5''	2.51	0.40
29:Y3:43:ILE:O	29:Y3:47:VAL:HG23	2.21	0.40
35:Y9:2:LYS:NZ	36:YA:2526:G:N3	2.69	0.40
36:YA:301:G:C6	36:YA:317:G:C6	3.10	0.40
36:YA:1432:C:H2'	36:YA:1433:U:O4'	2.21	0.40
36:YA:1728:G:H3'	36:YA:1729:A:H5''	2.03	0.40
36:YA:1844:C:H2'	36:YA:1845:G:H8	1.85	0.40
36:YA:2752:C:H2'	36:YA:2753:A:O4'	2.21	0.40
36:YA:2771:C:H2'	36:YA:2772:C:C6	2.56	0.40
45:YO:2:ILE:HB	45:YO:33:ALA:HB3	2.02	0.40
1:QA:65:U:C6	1:QA:381:C:N4	2.89	0.40
1:QA:127:G:N2	17:QQ:61:GLU:OE1	2.52	0.40
1:QA:399:G:H2'	1:QA:400:C:C6	2.55	0.40
1:QA:974:A:P	14:QN:41:ARG:HH12	2.44	0.40
2:QB:54:THR:HB	2:QB:185:ILE:HD11	2.03	0.40
10:QJ:98:ILE:HG13	10:QJ:98:ILE:O	2.21	0.40
35:R9:18:ARG:CZ	35:R9:21:GLY:HA2	2.51	0.40
36:RA:239:U:H2'	36:RA:240:G:O4'	2.21	0.40
36:RA:794:G:H2'	36:RA:795:C:H6	1.87	0.40
36:RA:906:G:H2'	36:RA:907:U:O4'	2.22	0.40
36:RA:1035:U:H2'	36:RA:1036:G:C8	2.56	0.40
36:RA:1046:A:N3	36:RA:1046:A:H3'	2.37	0.40
36:RA:2593:U:H2'	36:RA:2594:C:C6	2.56	0.40
38:RD:62:TYR:HA	38:RD:87:ASN:ND2	2.36	0.40
39:RE:101:ARG:CZ	39:RE:171:GLU:HB2	2.50	0.40
40:RF:117:ARG:NH2	40:RF:186:ILE:O	2.54	0.40
41:RG:144:ILE:HG22	41:RG:146:TYR:H	1.85	0.40
1:XA:134:A:C4	1:XA:135:C:C6	3.09	0.40
1:XA:673:G:O3'	6:XF:87:ARG:NH2	2.54	0.40
1:XA:999:U:H2'	1:XA:1000:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:XY:54:U:H5'	56:YZ:178:GLU:HG2	2.02	0.40
36:YA:270(G):C:H42	36:YA:270(S):G:H1	1.68	0.40
36:YA:270(Q):C:C2	36:YA:270(R):G:C8	3.10	0.40
36:YA:623:G:H2'	36:YA:624:C:H6	1.86	0.40
36:YA:675:A:N3	36:YA:2443:C:O2'	2.49	0.40
36:YA:1651:G:C4	36:YA:1652:A:C8	3.09	0.40
36:YA:1732:A:C2	36:YA:1733:G:H1'	2.57	0.40
36:YA:2287:A:N6	36:YA:2344:U:H3	2.10	0.40
36:YA:2308:G:H2'	36:YA:2308:G:N3	2.35	0.40
36:YA:2389:G:H5''	36:YA:2390:U:O4'	2.21	0.40
36:YA:2580:U:H4'	39:YE:130:GLY:HA3	2.03	0.40
36:YA:2630:G:H2'	36:YA:2631:G:C8	2.57	0.40
51:YU:92:ARG:NE	51:YU:95:LEU:HG	2.33	0.40
51:YU:92:ARG:NH1	52:YV:11:GLN:H	2.20	0.40
56:YZ:103:ARG:H	56:YZ:138:GLU:HA	1.85	0.40
1:QA:335:C:H2'	1:QA:336:C:H6	1.87	0.40
1:QA:429:U:H4'	1:QA:430:A:O5'	2.21	0.40
1:QA:898:G:N2	1:QA:901:A:OP2	2.47	0.40
1:QA:939:G:OP1	7:QG:102:ARG:NH1	2.49	0.40
1:QA:1250:A:C2	1:QA:1370:G:H1'	2.57	0.40
9:QI:10:ARG:HD3	9:QI:75:ASP:HB3	2.03	0.40
9:QI:20:ARG:O	9:QI:60:ASP:N	2.42	0.40
20:QT:63:ILE:HG22	20:QT:77:ALA:HB1	2.03	0.40
22:QV:50:U:H2'	22:QV:51:C:H6	1.87	0.40
23:QW:63:G:H2'	23:QW:64:C:H6	1.87	0.40
23:QW:64:C:H2'	23:QW:65:U:H6	1.85	0.40
34:R8:32:LEU:HD12	36:RA:2391:G:H3'	2.02	0.40
36:RA:1513:C:O2	36:RA:1513:C:C2'	2.70	0.40
43:RI:62:LYS:HE3	43:RI:134:PRO:HG2	2.03	0.40
43:RI:93:THR:HG23	43:RI:95:LYS:HG2	2.03	0.40
53:RW:82:LEU:HD23	53:RW:84:ARG:NH2	2.37	0.40
55:RY:29:GLU:HB3	55:RY:38:ILE:HG12	2.02	0.40
1:XA:237:C:OP2	17:XQ:40:LYS:NZ	2.53	0.40
1:XA:1169:A:H2'	1:XA:1170:A:C8	2.57	0.40
1:XA:1412:C:H2'	1:XA:1413:A:H8	1.80	0.40
1:XA:1437:C:H2'	1:XA:1438:G:H8	1.87	0.40
1:XA:1492:A:H1'	24:XX:20:C:O2'	2.20	0.40
7:XG:147:ALA:O	11:XK:54:ARG:NH1	2.54	0.40
27:Y1:58:ILE:HD12	27:Y1:87:PRO:HD3	2.03	0.40
31:Y5:2:ALA:HA	36:YA:2015:A:H1'	2.03	0.40
36:YA:271(A):C:H1'	36:YA:272:G:H1'	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:571:A:C5'	36:YA:2030:A:H62	2.35	0.40
36:YA:833:U:H2'	36:YA:834:C:C6	2.57	0.40
36:YA:2168:G:N2	36:YA:2170:A:P	2.95	0.40
36:YA:2442:C:H2'	36:YA:2443:C:C6	2.57	0.40
41:YG:122:PRO:HD3	41:YG:181:ARG:HB3	2.03	0.40
50:YT:51:ARG:HB3	50:YT:62:THR:HG22	2.03	0.40
51:YU:85:LYS:HE3	51:YU:116:ALA:HB1	2.01	0.40
1:QA:17:U:O2'	1:QA:1079:G:H1'	2.21	0.40
1:QA:316:G:N1	1:QA:338:A:C6	2.89	0.40
1:QA:458:C:H2'	1:QA:464:G:O4'	2.22	0.40
1:QA:624:C:H2'	1:QA:625:G:C8	2.52	0.40
1:QA:1003:G:H2'	1:QA:1003:G:N3	2.36	0.40
1:QA:1298:C:N4	7:QG:114:ARG:HB3	2.37	0.40
1:QA:1302:U:OP2	1:QA:1302:U:C4'	2.70	0.40
1:QA:1305:G:H5'	21:QU:4:GLY:CA	2.51	0.40
5:QE:50:GLU:HG3	5:QE:52:PRO:CD	2.52	0.40
8:QH:16:ALA:HB2	8:QH:24:THR:HG21	2.03	0.40
13:QM:44:ARG:HB2	13:QM:47:ASP:OD1	2.20	0.40
17:QQ:57:VAL:HG12	17:QQ:76:LEU:HA	2.04	0.40
19:QS:10:PHE:CE2	19:QS:16:LEU:HG	2.57	0.40
29:R3:15:TYR:CE1	29:R3:53:LEU:HD21	2.57	0.40
31:R5:41:PRO:HA	31:R5:42:PRO:HD3	1.96	0.40
36:RA:259:G:N2	36:RA:621:A:H8	2.18	0.40
36:RA:439:G:H2'	36:RA:440:G:C8	2.57	0.40
36:RA:492:A:H2'	36:RA:493:G:O4'	2.22	0.40
36:RA:570:G:H2'	36:RA:2030:A:C5	2.56	0.40
36:RA:657:U:C2	36:RA:658:C:C5	3.09	0.40
36:RA:700:G:O2'	36:RA:1632:A:N3	2.36	0.40
36:RA:2108:C:H2'	36:RA:2109:U:C6	2.57	0.40
36:RA:2296:U:OP2	49:RS:9:ARG:NH1	2.54	0.40
47:RQ:139:GLU:HG2	56:RZ:53:ILE:HD13	2.03	0.40
48:RR:34:ILE:HG22	48:RR:36:THR:HG23	2.04	0.40
55:RY:5:MET:SD	55:RY:35:TYR:CD1	3.14	0.40
1:XA:219:C:C4	1:XA:220:G:C8	3.09	0.40
1:XA:429:U:H4'	1:XA:430:A:O5'	2.21	0.40
1:XA:797:C:OP1	11:XK:124:LYS:HD3	2.21	0.40
1:XA:1244:C:H2'	1:XA:1245:A:C8	2.57	0.40
1:XA:1376:U:H2'	1:XA:1377:A:C8	2.56	0.40
1:XA:1476:G:H2'	1:XA:1477:C:C6	2.56	0.40
23:XW:20:G:C2'	23:XW:21:A:H4'	2.50	0.40
36:YA:93:C:H2'	36:YA:94:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YA:746:A:H2'	36:YA:2612:C:H5''	2.03	0.40
36:YA:903:C:H2'	36:YA:904:C:H6	1.85	0.40
36:YA:1201:C:H2'	36:YA:1202:C:H6	1.87	0.40
36:YA:1315:C:O2'	36:YA:1392:A:N3	2.47	0.40
36:YA:1438:U:H2'	36:YA:1439:A:C8	2.56	0.40
36:YA:2290:G:H2'	36:YA:2291:U:C6	2.56	0.40
36:YA:2515:C:H2'	36:YA:2516:G:H8	1.87	0.40
36:YA:2700:C:O2'	36:YA:2701:C:H5'	2.21	0.40
41:YG:82:LEU:HA	41:YG:86:MET:SD	2.61	0.40
1:QA:684:A:O2'	11:QK:39:PRO:O	2.33	0.40
1:QA:954:G:H2'	1:QA:955:U:H6	1.85	0.40
1:QA:1215:G:C2	1:QA:1216:G:C8	3.09	0.40
1:QA:1216:G:H5''	14:QN:5:ALA:CB	2.52	0.40
1:QA:1258:G:H2'	1:QA:1259:C:C6	2.56	0.40
1:QA:1305:G:H5'	21:QU:4:GLY:HA3	2.03	0.40
1:QA:1326:C:C2	1:QA:1327:C:C5	3.09	0.40
11:QK:32:ILE:CD1	11:QK:68:ALA:HB1	2.51	0.40
13:QM:19:LEU:HD11	13:QM:56:LEU:HD21	2.02	0.40
23:QW:26:G:N3	23:QW:26:G:H2'	2.36	0.40
34:R8:13:ARG:HG3	46:RP:61:ARG:HE	1.85	0.40
36:RA:196:A:C2	46:RP:51:PHE:HZ	2.38	0.40
36:RA:1009:A:H1'	36:RA:1153:C:HO2'	1.86	0.40
36:RA:1666:G:OP1	45:RO:66:LYS:HG3	2.22	0.40
36:RA:1754:C:P	50:RT:96:ARG:HH12	2.45	0.40
36:RA:1803:A:H2	36:RA:1823:G:O4'	2.05	0.40
36:RA:1889:A:H2'	36:RA:1890:A:H8	1.87	0.40
36:RA:1939:U:OP1	36:RA:2604:U:O2'	2.38	0.40
40:RF:197:ASP:O	40:RF:198:ALA:HB3	2.22	0.40
41:RG:106:LEU:HG	41:RG:111:LEU:HD13	2.03	0.40
50:RT:93:ARG:N	50:RT:115:ARG:O	2.41	0.40
1:XA:105:G:H2'	1:XA:106:C:H6	1.86	0.40
1:XA:381:C:H2'	1:XA:382:A:O4'	2.21	0.40
1:XA:411:A:C8	1:XA:413:G:H1'	2.56	0.40
1:XA:542:G:P	4:XD:10:ARG:HH22	2.45	0.40
1:XA:683:G:C6	1:XA:684:A:C6	3.10	0.40
1:XA:901:A:C5	1:XA:902:G:H1'	2.57	0.40
1:XA:1167:A:H2'	1:XA:1169:A:C8	2.57	0.40
1:XA:1343:G:H2'	1:XA:1344:C:C6	2.56	0.40
2:XB:82:ARG:NH1	2:XB:92:TYR:OH	2.54	0.40
12:XL:70:ILE:HG12	12:XL:100:ILE:HD12	2.02	0.40
16:XP:14:ASN:OD1	16:XP:42:ARG:NH2	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XT:26:ASN:HA	20:XT:29:LYS:HG2	2.03	0.40
22:XV:23:C:H2'	22:XV:24:U:H6	1.86	0.40
26:Y0:54:GLY:O	26:Y0:57:PHE:N	2.54	0.40
32:Y6:8:LYS:NZ	36:YA:2283:C:H5'	2.36	0.40
32:Y6:28:ARG:NH1	36:YA:2286:A:OP1	2.54	0.40
36:YA:966:G:O4'	36:YA:2267:A:N6	2.55	0.40
36:YA:1327:C:O2'	48:YR:105:ARG:NH2	2.54	0.40
36:YA:1945:G:H2'	36:YA:1946:U:C6	2.57	0.40
36:YA:2164:C:C2'	36:YA:2165:G:H5'	2.52	0.40
36:YA:2244:U:H2'	36:YA:2245:U:O4'	2.21	0.40
36:YA:2702:U:H6	36:YA:2702:U:OP1	2.04	0.40
36:YA:2784:C:H1'	39:YE:37:ARG:NH1	2.35	0.40
37:YB:34:U:OP1	41:YG:2:PRO:HB3	2.22	0.40
38:YD:246:PRO:HG2	38:YD:255:LYS:HG3	2.04	0.40
39:YE:50:GLY:HA3	39:YE:77:ILE:HD12	2.03	0.40
39:YE:78:LEU:HG	39:YE:79:ARG:N	2.35	0.40
44:YN:95:PRO:C	44:YN:97:ARG:H	2.25	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone

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	
2	QB	235/256 (92%)	212 (90%)	21 (9%)	2 (1%)	17	56
2	XB	235/256 (92%)	208 (88%)	27 (12%)	0	100	100
3	QC	203/239 (85%)	191 (94%)	12 (6%)	0	100	100
3	XC	203/239 (85%)	185 (91%)	18 (9%)	0	100	100
4	QD	206/209 (99%)	203 (98%)	3 (2%)	0	100	100
4	XD	206/209 (99%)	201 (98%)	5 (2%)	0	100	100
5	QE	149/162 (92%)	145 (97%)	4 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	XE	149/162 (92%)	143 (96%)	6 (4%)	0	100	100
6	QF	99/101 (98%)	98 (99%)	1 (1%)	0	100	100
6	XF	99/101 (98%)	97 (98%)	2 (2%)	0	100	100
7	QG	153/156 (98%)	150 (98%)	3 (2%)	0	100	100
7	XG	153/156 (98%)	146 (95%)	7 (5%)	0	100	100
8	QH	136/138 (99%)	128 (94%)	8 (6%)	0	100	100
8	XH	136/138 (99%)	127 (93%)	9 (7%)	0	100	100
9	QI	125/128 (98%)	117 (94%)	7 (6%)	1 (1%)	19	58
9	XI	125/128 (98%)	116 (93%)	9 (7%)	0	100	100
10	QJ	97/105 (92%)	84 (87%)	13 (13%)	0	100	100
10	XJ	97/105 (92%)	91 (94%)	6 (6%)	0	100	100
11	QK	117/129 (91%)	104 (89%)	13 (11%)	0	100	100
11	XK	117/129 (91%)	110 (94%)	7 (6%)	0	100	100
12	QL	123/131 (94%)	110 (89%)	13 (11%)	0	100	100
12	XL	123/131 (94%)	114 (93%)	9 (7%)	0	100	100
13	QM	119/126 (94%)	98 (82%)	21 (18%)	0	100	100
13	XM	119/126 (94%)	98 (82%)	21 (18%)	0	100	100
14	QN	58/61 (95%)	50 (86%)	7 (12%)	1 (2%)	9	42
14	XN	58/61 (95%)	50 (86%)	7 (12%)	1 (2%)	9	42
15	QO	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
15	XO	86/89 (97%)	80 (93%)	6 (7%)	0	100	100
16	QP	82/88 (93%)	80 (98%)	2 (2%)	0	100	100
16	XP	82/88 (93%)	78 (95%)	4 (5%)	0	100	100
17	QQ	98/105 (93%)	94 (96%)	4 (4%)	0	100	100
17	XQ	98/105 (93%)	92 (94%)	6 (6%)	0	100	100
18	QR	68/88 (77%)	66 (97%)	2 (3%)	0	100	100
18	XR	68/88 (77%)	66 (97%)	2 (3%)	0	100	100
19	QS	82/93 (88%)	73 (89%)	7 (8%)	2 (2%)	6	34
19	XS	82/93 (88%)	72 (88%)	10 (12%)	0	100	100
20	QT	97/106 (92%)	87 (90%)	10 (10%)	0	100	100
20	XT	97/106 (92%)	87 (90%)	10 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	QU	23/27 (85%)	22 (96%)	1 (4%)	0	100	100
21	XU	23/27 (85%)	23 (100%)	0	0	100	100
26	R0	80/85 (94%)	74 (92%)	6 (8%)	0	100	100
26	Y0	80/85 (94%)	76 (95%)	4 (5%)	0	100	100
27	R1	95/98 (97%)	84 (88%)	10 (10%)	1 (1%)	14	51
27	Y1	95/98 (97%)	85 (90%)	9 (10%)	1 (1%)	14	51
28	R2	67/72 (93%)	64 (96%)	3 (4%)	0	100	100
28	Y2	67/72 (93%)	62 (92%)	4 (6%)	1 (2%)	10	44
29	R3	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
29	Y3	57/60 (95%)	53 (93%)	4 (7%)	0	100	100
30	R4	69/71 (97%)	41 (59%)	25 (36%)	3 (4%)	2	20
30	Y4	69/71 (97%)	45 (65%)	21 (30%)	3 (4%)	2	20
31	R5	57/60 (95%)	48 (84%)	9 (16%)	0	100	100
31	Y5	57/60 (95%)	51 (90%)	6 (10%)	0	100	100
32	R6	47/54 (87%)	30 (64%)	17 (36%)	0	100	100
32	Y6	47/54 (87%)	35 (74%)	12 (26%)	0	100	100
33	R7	47/49 (96%)	45 (96%)	2 (4%)	0	100	100
33	Y7	47/49 (96%)	43 (92%)	4 (8%)	0	100	100
34	R8	62/65 (95%)	51 (82%)	10 (16%)	1 (2%)	9	43
34	Y8	62/65 (95%)	49 (79%)	13 (21%)	0	100	100
35	R9	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
35	Y9	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
38	RD	270/276 (98%)	245 (91%)	24 (9%)	1 (0%)	34	69
38	YD	273/276 (99%)	263 (96%)	10 (4%)	0	100	100
39	RE	203/206 (98%)	170 (84%)	28 (14%)	5 (2%)	5	32
39	YE	203/206 (98%)	166 (82%)	35 (17%)	2 (1%)	15	54
40	RF	200/210 (95%)	185 (92%)	12 (6%)	3 (2%)	10	44
40	YF	200/210 (95%)	187 (94%)	13 (6%)	0	100	100
41	RG	179/182 (98%)	166 (93%)	12 (7%)	1 (1%)	25	64
41	YG	179/182 (98%)	154 (86%)	24 (13%)	1 (1%)	25	64
42	RH	168/180 (93%)	157 (94%)	11 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
42	YH	168/180 (93%)	143 (85%)	22 (13%)	3 (2%)	8	41
43	RI	144/148 (97%)	132 (92%)	12 (8%)	0	100	100
43	YI	144/148 (97%)	121 (84%)	23 (16%)	0	100	100
44	RN	136/140 (97%)	122 (90%)	13 (10%)	1 (1%)	22	61
44	YN	136/140 (97%)	125 (92%)	11 (8%)	0	100	100
45	RO	120/122 (98%)	114 (95%)	5 (4%)	1 (1%)	19	58
45	YO	120/122 (98%)	116 (97%)	4 (3%)	0	100	100
46	RP	148/150 (99%)	131 (88%)	16 (11%)	1 (1%)	22	61
46	YP	148/150 (99%)	117 (79%)	30 (20%)	1 (1%)	22	61
47	RQ	139/141 (99%)	113 (81%)	26 (19%)	0	100	100
47	YQ	139/141 (99%)	121 (87%)	15 (11%)	3 (2%)	6	35
48	RR	116/118 (98%)	114 (98%)	2 (2%)	0	100	100
48	YR	116/118 (98%)	107 (92%)	9 (8%)	0	100	100
49	RS	109/112 (97%)	96 (88%)	13 (12%)	0	100	100
49	YS	109/112 (97%)	92 (84%)	17 (16%)	0	100	100
50	RT	135/146 (92%)	119 (88%)	16 (12%)	0	100	100
50	YT	135/146 (92%)	120 (89%)	15 (11%)	0	100	100
51	RU	115/118 (98%)	110 (96%)	4 (4%)	1 (1%)	17	56
51	YU	115/118 (98%)	110 (96%)	4 (4%)	1 (1%)	17	56
52	RV	99/101 (98%)	86 (87%)	13 (13%)	0	100	100
52	YV	99/101 (98%)	89 (90%)	10 (10%)	0	100	100
53	RW	111/113 (98%)	105 (95%)	6 (5%)	0	100	100
53	YW	111/113 (98%)	103 (93%)	8 (7%)	0	100	100
54	RX	90/96 (94%)	86 (96%)	4 (4%)	0	100	100
54	YX	90/96 (94%)	87 (97%)	3 (3%)	0	100	100
55	RY	100/110 (91%)	75 (75%)	24 (24%)	1 (1%)	15	54
55	YY	100/110 (91%)	76 (76%)	22 (22%)	2 (2%)	7	38
56	RZ	181/206 (88%)	155 (86%)	24 (13%)	2 (1%)	14	51
56	YZ	181/206 (88%)	147 (81%)	29 (16%)	5 (3%)	5	29
All	All	11473/12126 (95%)	10363 (90%)	1058 (9%)	52 (0%)	29	67

All (52) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
44	RN	22	THR
51	RU	92	ARG
30	Y4	24	THR
42	YH	128	PRO
47	YQ	105	GLU
56	YZ	53	ILE
19	QS	11	VAL
27	R1	92	LYS
38	RD	243	GLY
46	RP	108	LYS
56	RZ	53	ILE
27	Y1	92	LYS
46	YP	108	LYS
51	YU	93	LYS
56	YZ	93	ASP
2	QB	22	LYS
9	QI	127	LYS
14	QN	17	LYS
39	RE	131	ALA
39	RE	145	LYS
40	RF	197	ASP
45	RO	3	GLN
14	XN	17	LYS
39	YE	83	ASP
41	YG	81	LYS
42	YH	83	TYR
42	YH	152	ARG
47	YQ	22	LYS
55	YY	57	GLN
2	QB	208	ILE
34	R8	31	HIS
39	RE	63	LEU
40	RF	67	GLN
41	RG	97	ASP
55	RY	56	PRO
39	YE	129	HIS
47	YQ	25	ASP
55	YY	56	PRO
56	YZ	52	SER
30	R4	24	THR
56	RZ	52	SER
19	QS	10	PHE
39	RE	129	HIS

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Mol	Chain	Res	Type
39	RE	132	HIS
40	RF	129	PHE
30	Y4	40	HIS
56	YZ	94	GLU
56	YZ	95	PRO
30	R4	40	HIS
30	R4	41	PRO
30	Y4	41	PRO
28	Y2	18	PRO

### 5.3.2 Protein sidechains ⓘ

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	
2	QB	205/220 (93%)	204 (100%)	1 (0%)	88	95
2	XB	205/220 (93%)	203 (99%)	2 (1%)	76	90
3	QC	159/188 (85%)	159 (100%)	0	100	100
3	XC	159/188 (85%)	159 (100%)	0	100	100
4	QD	173/181 (96%)	171 (99%)	2 (1%)	71	88
4	XD	173/181 (96%)	172 (99%)	1 (1%)	86	94
5	QE	116/123 (94%)	116 (100%)	0	100	100
5	XE	116/123 (94%)	115 (99%)	1 (1%)	78	91
6	QF	90/90 (100%)	90 (100%)	0	100	100
6	XF	90/90 (100%)	90 (100%)	0	100	100
7	QG	126/127 (99%)	126 (100%)	0	100	100
7	XG	126/127 (99%)	125 (99%)	1 (1%)	81	93
8	QH	119/119 (100%)	118 (99%)	1 (1%)	81	93
8	XH	119/119 (100%)	119 (100%)	0	100	100
9	QI	98/99 (99%)	95 (97%)	3 (3%)	40	72
9	XI	98/99 (99%)	97 (99%)	1 (1%)	76	90
10	QJ	89/92 (97%)	89 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	XJ	89/92 (97%)	89 (100%)	0	100	100
11	QK	90/99 (91%)	89 (99%)	1 (1%)	73	88
11	XK	90/99 (91%)	89 (99%)	1 (1%)	73	88
12	QL	104/108 (96%)	103 (99%)	1 (1%)	76	90
12	XL	104/108 (96%)	104 (100%)	0	100	100
13	QM	97/101 (96%)	96 (99%)	1 (1%)	76	90
13	XM	97/101 (96%)	96 (99%)	1 (1%)	76	90
14	QN	49/50 (98%)	49 (100%)	0	100	100
14	XN	49/50 (98%)	49 (100%)	0	100	100
15	QO	79/80 (99%)	79 (100%)	0	100	100
15	XO	79/80 (99%)	79 (100%)	0	100	100
16	QP	72/74 (97%)	71 (99%)	1 (1%)	67	86
16	XP	72/74 (97%)	71 (99%)	1 (1%)	67	86
17	QQ	95/97 (98%)	95 (100%)	0	100	100
17	XQ	95/97 (98%)	95 (100%)	0	100	100
18	QR	61/77 (79%)	61 (100%)	0	100	100
18	XR	61/77 (79%)	61 (100%)	0	100	100
19	QS	73/80 (91%)	73 (100%)	0	100	100
19	XS	73/80 (91%)	70 (96%)	3 (4%)	30	66
20	QT	76/82 (93%)	75 (99%)	1 (1%)	69	87
20	XT	76/82 (93%)	74 (97%)	2 (3%)	46	76
21	QU	20/22 (91%)	20 (100%)	0	100	100
21	XU	20/22 (91%)	20 (100%)	0	100	100
26	R0	65/67 (97%)	63 (97%)	2 (3%)	40	72
26	Y0	65/67 (97%)	64 (98%)	1 (2%)	65	85
27	R1	82/83 (99%)	82 (100%)	0	100	100
27	Y1	82/83 (99%)	82 (100%)	0	100	100
28	R2	64/67 (96%)	63 (98%)	1 (2%)	62	84
28	Y2	64/67 (96%)	64 (100%)	0	100	100
29	R3	51/52 (98%)	51 (100%)	0	100	100
29	Y3	51/52 (98%)	51 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
30	R4	63/63 (100%)	61 (97%)	2 (3%)	39	71
30	Y4	63/63 (100%)	63 (100%)	0	100	100
31	R5	51/52 (98%)	50 (98%)	1 (2%)	55	80
31	Y5	51/52 (98%)	51 (100%)	0	100	100
32	R6	48/52 (92%)	47 (98%)	1 (2%)	53	79
32	Y6	48/52 (92%)	48 (100%)	0	100	100
33	R7	42/42 (100%)	42 (100%)	0	100	100
33	Y7	42/42 (100%)	41 (98%)	1 (2%)	49	77
34	R8	54/55 (98%)	52 (96%)	2 (4%)	34	68
34	Y8	54/55 (98%)	54 (100%)	0	100	100
35	R9	34/34 (100%)	34 (100%)	0	100	100
35	Y9	34/34 (100%)	34 (100%)	0	100	100
38	RD	214/218 (98%)	214 (100%)	0	100	100
38	YD	217/218 (100%)	217 (100%)	0	100	100
39	RE	165/166 (99%)	164 (99%)	1 (1%)	86	94
39	YE	165/166 (99%)	165 (100%)	0	100	100
40	RF	161/166 (97%)	160 (99%)	1 (1%)	86	94
40	YF	161/166 (97%)	161 (100%)	0	100	100
41	RG	155/156 (99%)	155 (100%)	0	100	100
41	YG	155/156 (99%)	154 (99%)	1 (1%)	86	94
42	RH	142/148 (96%)	141 (99%)	1 (1%)	84	94
42	YH	142/148 (96%)	142 (100%)	0	100	100
43	RI	122/124 (98%)	121 (99%)	1 (1%)	81	93
43	YI	122/124 (98%)	122 (100%)	0	100	100
44	RN	117/119 (98%)	116 (99%)	1 (1%)	78	91
44	YN	117/119 (98%)	116 (99%)	1 (1%)	78	91
45	RO	100/100 (100%)	99 (99%)	1 (1%)	76	90
45	YO	100/100 (100%)	100 (100%)	0	100	100
46	RP	116/116 (100%)	115 (99%)	1 (1%)	78	91
46	YP	116/116 (100%)	116 (100%)	0	100	100
47	RQ	111/111 (100%)	111 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
47	YQ	111/111 (100%)	111 (100%)	0	100	100
48	RR	101/101 (100%)	101 (100%)	0	100	100
48	YR	101/101 (100%)	101 (100%)	0	100	100
49	RS	87/88 (99%)	87 (100%)	0	100	100
49	YS	87/88 (99%)	86 (99%)	1 (1%)	73	88
50	RT	120/127 (94%)	118 (98%)	2 (2%)	60	83
50	YT	120/127 (94%)	120 (100%)	0	100	100
51	RU	93/94 (99%)	92 (99%)	1 (1%)	73	88
51	YU	93/94 (99%)	93 (100%)	0	100	100
52	RV	82/82 (100%)	82 (100%)	0	100	100
52	YV	82/82 (100%)	82 (100%)	0	100	100
53	RW	92/92 (100%)	92 (100%)	0	100	100
53	YW	92/92 (100%)	92 (100%)	0	100	100
54	RX	74/78 (95%)	74 (100%)	0	100	100
54	YX	74/78 (95%)	74 (100%)	0	100	100
55	RY	85/91 (93%)	83 (98%)	2 (2%)	49	77
55	YY	85/91 (93%)	83 (98%)	2 (2%)	49	77
56	RZ	162/179 (90%)	161 (99%)	1 (1%)	86	94
56	YZ	162/179 (90%)	162 (100%)	0	100	100
All	All	9691/10064 (96%)	9636 (99%)	55 (1%)	86	94

All (55) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	22	LYS
4	QD	31	CYS
4	QD	38	TYR
8	QH	138	TRP
9	QI	104	ARG
9	QI	121	ARG
9	QI	125	TYR
11	QK	96	ARG
12	QL	105	TYR
13	QM	64	TRP
16	QP	48	TRP

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Mol	Chain	Res	Type
20	QT	74	LYS
26	R0	74	ARG
26	R0	82	ARG
28	R2	5	GLU
30	R4	53	GLU
30	R4	61	ARG
31	R5	40	LYS
32	R6	42	TRP
34	R8	36	LYS
34	R8	37	SER
39	RE	44	TYR
40	RF	199	TRP
42	RH	69	ARG
43	RI	113	ARG
44	RN	48	MET
45	RO	64	ARG
46	RP	15	ARG
50	RT	11	GLU
50	RT	112	ARG
51	RU	94	ASN
55	RY	76	CYS
55	RY	97	ARG
56	RZ	122	ARG
2	XB	122	PHE
2	XB	137	ARG
4	XD	47	ARG
5	XE	6	PHE
7	XG	94	ARG
9	XI	121	ARG
11	XK	42	TRP
13	XM	64	TRP
16	XP	40	ASP
19	XS	34	TRP
19	XS	37	ARG
19	XS	78	ARG
20	XT	57	ARG
20	XT	83	ARG
26	Y0	74	ARG
33	Y7	3	ARG
41	YG	95	ARG
44	YN	134	ARG
49	YS	42	ASP

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Mol	Chain	Res	Type
55	YY	35	TYR
55	YY	50	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (14) such sidechains are listed below:

Mol	Chain	Res	Type
16	QP	76	GLN
30	R4	6	HIS
31	R5	4	HIS
33	R7	8	ASN
42	RH	65	HIS
44	RN	130	HIS
46	RP	81	GLN
47	RQ	123	HIS
48	RR	3	HIS
53	RW	60	ASN
53	RW	62	HIS
7	XG	51	GLN
28	Y2	47	ASN
46	YP	9	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1498/1522 (98%)	262 (17%)	31 (2%)
1	XA	1498/1522 (98%)	257 (17%)	30 (2%)
22	QV	76/77 (98%)	11 (14%)	0
22	XV	76/77 (98%)	11 (14%)	0
23	QW	75/76 (98%)	25 (33%)	2 (2%)
23	XW	75/76 (98%)	33 (44%)	7 (9%)
24	QX	18/19 (94%)	9 (50%)	1 (5%)
24	XX	17/19 (89%)	7 (41%)	1 (5%)
25	QY	74/76 (97%)	22 (29%)	0
25	XY	74/76 (97%)	31 (41%)	1 (1%)
36	RA	2879/2915 (98%)	542 (18%)	44 (1%)
36	YA	2880/2915 (98%)	541 (18%)	45 (1%)
37	RB	119/122 (97%)	18 (15%)	2 (1%)
37	YB	119/122 (97%)	20 (16%)	1 (0%)
All	All	9478/9614 (98%)	1789 (18%)	165 (1%)

All (1789) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	6	G
1	QA	7	G
1	QA	9	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	47	C
1	QA	48	C
1	QA	51	A
1	QA	59	A
1	QA	65	U
1	QA	76	G
1	QA	90	C
1	QA	91	C
1	QA	95	G
1	QA	101	A
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	144	G
1	QA	147	G
1	QA	163	C
1	QA	169	C
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	188	U
1	QA	191(B)	G
1	QA	195	A
1	QA	196	A
1	QA	197	A
1	QA	208	U
1	QA	209	U
1	QA	210	U
1	QA	216	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	251	G
1	QA	267	C
1	QA	279	A
1	QA	281	G

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Mol	Chain	Res	Type
1	QA	289	G
1	QA	316	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	348	G
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	384	G
1	QA	388	G
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	410	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	422	C
1	QA	423	G
1	QA	429	U
1	QA	430	A
1	QA	435	C
1	QA	457	C
1	QA	465	A
1	QA	466	C
1	QA	467	G
1	QA	485	G
1	QA	496	A
1	QA	497	U
1	QA	509	A
1	QA	510	A

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Mol	Chain	Res	Type
1	QA	511	C
1	QA	512	U
1	QA	518	C
1	QA	521	G
1	QA	524	G
1	QA	527	G
1	QA	532	A
1	QA	533	A
1	QA	545	C
1	QA	547	A
1	QA	559	A
1	QA	564	C
1	QA	568	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	630	G
1	QA	631	G
1	QA	653	A
1	QA	665	A
1	QA	666	G
1	QA	684	A
1	QA	686	U
1	QA	688	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	723	U
1	QA	731	G
1	QA	733	A
1	QA	748	C
1	QA	754	C
1	QA	755	G
1	QA	777	A
1	QA	786	G
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	812	C
1	QA	813	U

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Mol	Chain	Res	Type
1	QA	817	C
1	QA	828	A
1	QA	830	G
1	QA	841	U
1	QA	842	C
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	872	A
1	QA	884	U
1	QA	902	G
1	QA	914	A
1	QA	926	G
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	955	U
1	QA	960	U
1	QA	961	U
1	QA	965	A
1	QA	966	G
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	972	C
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	983	A
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1001	G
1	QA	1004	A
1	QA	1009	G
1	QA	1020	U
1	QA	1024	G
1	QA	1025	U
1	QA	1028	C
1	QA	1029	G

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Mol	Chain	Res	Type
1	QA	1030	C
1	QA	1053	G
1	QA	1054	C
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1070	U
1	QA	1081	G
1	QA	1085	U
1	QA	1094	G
1	QA	1095	U
1	QA	1101	A
1	QA	1125	U
1	QA	1126	U
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1146	A
1	QA	1151	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1171	G
1	QA	1176	A
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A
1	QA	1187	G
1	QA	1193	G
1	QA	1196	U
1	QA	1200	C
1	QA	1201	A
1	QA	1212	U
1	QA	1213	A
1	QA	1219	U
1	QA	1238	A
1	QA	1256	A
1	QA	1257	U

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Mol	Chain	Res	Type
1	QA	1258	G
1	QA	1260	C
1	QA	1266	G
1	QA	1270	C
1	QA	1280	A
1	QA	1282	C
1	QA	1286	A
1	QA	1287	A
1	QA	1290	G
1	QA	1300	G
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C
1	QA	1305	G
1	QA	1313	U
1	QA	1317	C
1	QA	1318	A
1	QA	1321	C
1	QA	1330	U
1	QA	1331	G
1	QA	1333	A
1	QA	1336	C
1	QA	1337	G
1	QA	1338	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1362(A)	C
1	QA	1364	U
1	QA	1370	G
1	QA	1419	G
1	QA	1442	G
1	QA	1443	G
1	QA	1446	A
1	QA	1447	G
1	QA	1450	U
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1492	A
1	QA	1499	A

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Mol	Chain	Res	Type
1	QA	1502	A
1	QA	1503	A
1	QA	1504	G
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
1	QA	1531	A
22	QV	8	U
22	QV	16	C
22	QV	17	C
22	QV	19	G
22	QV	20	U
22	QV	21	A
22	QV	22	G
22	QV	47	U
22	QV	48	C
22	QV	49	G
22	QV	76	A
23	QW	8	U
23	QW	9	A
23	QW	13	C
23	QW	14	A
23	QW	15	G
23	QW	17	A
23	QW	19	G
23	QW	20	G
23	QW	21	A
23	QW	22	G
23	QW	36	C
23	QW	37	A
23	QW	38	U
23	QW	39	G
23	QW	40	C
23	QW	46	G
23	QW	47	U
23	QW	48	C
23	QW	49	A
23	QW	52	G
23	QW	56	C

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Mol	Chain	Res	Type
23	QW	57	G
23	QW	59	U
23	QW	61	C
23	QW	70	U
24	QX	7	G
24	QX	10	G
24	QX	11	U
24	QX	12	A
24	QX	13	A
24	QX	14	A
24	QX	19	G
24	QX	23	A
24	QX	24	A
25	QY	2	G
25	QY	8	U
25	QY	14	A
25	QY	17	U
25	QY	18	G
25	QY	19	G
25	QY	21	A
25	QY	23	A
25	QY	27	C
25	QY	28	U
25	QY	29	U
25	QY	30	G
25	QY	46	G
25	QY	47	U
25	QY	48	C
25	QY	54	U
25	QY	55	U
25	QY	56	C
25	QY	59	U
25	QY	67	A
25	QY	71	C
25	QY	74	C
36	RA	34	C
36	RA	35	G
36	RA	46	C
36	RA	51	G
36	RA	55	G
36	RA	60	G
36	RA	71	A

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Mol	Chain	Res	Type
36	RA	74	A
36	RA	75	G
36	RA	91	A
36	RA	101	G
36	RA	102	G
36	RA	103	A
36	RA	118	A
36	RA	119	A
36	RA	120	U
36	RA	138	G
36	RA	140	A
36	RA	149	A
36	RA	155	C
36	RA	161	U
36	RA	181	A
36	RA	196	A
36	RA	199	A
36	RA	205	G
36	RA	206	U
36	RA	215	G
36	RA	216	A
36	RA	221	A
36	RA	222	A
36	RA	223	A
36	RA	228	A
36	RA	229	A
36	RA	230	U
36	RA	232	G
36	RA	242	G
36	RA	243	U
36	RA	248	G
36	RA	249	C
36	RA	250	G
36	RA	252	G
36	RA	265	A
36	RA	266	G
36	RA	269	U
36	RA	270(L)	U
36	RA	270(M)	U
36	RA	270(N)	G
36	RA	270(P)	C
36	RA	271(C)	U

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Mol	Chain	Res	Type
36	RA	275	G
36	RA	276	A
36	RA	277	C
36	RA	285	C
36	RA	299	A
36	RA	300	A
36	RA	306	U
36	RA	308	G
36	RA	309	G
36	RA	311	A
36	RA	323	G
36	RA	324	A
36	RA	329	G
36	RA	330	A
36	RA	346	A
36	RA	352	G
36	RA	363(E)	U
36	RA	364	C
36	RA	371	A
36	RA	386	G
36	RA	394	A
36	RA	395	U
36	RA	404	C
36	RA	405	U
36	RA	411	G
36	RA	428	A
36	RA	435	C
36	RA	444	C
36	RA	448	U
36	RA	454	A
36	RA	457	A
36	RA	470	A
36	RA	478	A
36	RA	481	G
36	RA	504	U
36	RA	505	A
36	RA	508	G
36	RA	509	C
36	RA	513	A
36	RA	528	A
36	RA	529	A
36	RA	532	A

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Mol	Chain	Res	Type
36	RA	533	G
36	RA	539	G
36	RA	540	G
36	RA	546	C
36	RA	547	A
36	RA	563	G
36	RA	573	G
36	RA	574	C
36	RA	575	A
36	RA	583	G
36	RA	586	A
36	RA	603	A
36	RA	607	U
36	RA	614	U
36	RA	615	G
36	RA	617	G
36	RA	621	A
36	RA	627	A
36	RA	637	A
36	RA	638	G
36	RA	645	C
36	RA	646	A
36	RA	650	C
36	RA	651	G
36	RA	654	A
36	RA	654(A)	G
36	RA	658	C
36	RA	686	G
36	RA	702	G
36	RA	708	C
36	RA	721	C
36	RA	722	A
36	RA	726	G
36	RA	730	C
36	RA	748	G
36	RA	753	C
36	RA	764	A
36	RA	765	G
36	RA	775	G
36	RA	776	G
36	RA	782	A
36	RA	784	A

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Mol	Chain	Res	Type
36	RA	785	G
36	RA	790	C
36	RA	791	C
36	RA	792	G
36	RA	793	A
36	RA	805	G
36	RA	812	C
36	RA	819	A
36	RA	827	U
36	RA	828	U
36	RA	832	G
36	RA	847	U
36	RA	854	G
36	RA	856	C
36	RA	857	C
36	RA	859	G
36	RA	866	A
36	RA	877	U
36	RA	881	G
36	RA	884	C
36	RA	885	C
36	RA	886	C
36	RA	888	C
36	RA	889	C
36	RA	896	A
36	RA	897	C
36	RA	900	A
36	RA	907	U
36	RA	910	A
36	RA	917	A
36	RA	932	G
36	RA	938	G
36	RA	941	A
36	RA	945	A
36	RA	946	G
36	RA	959	A
36	RA	961	C
36	RA	974	G
36	RA	974(A)	C
36	RA	980	A
36	RA	983	A
36	RA	990	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RA	991	C
36	RA	996	A
36	RA	1003	G
36	RA	1005	C
36	RA	1008	C
36	RA	1011	G
36	RA	1012	U
36	RA	1013	C
36	RA	1014	U
36	RA	1023	U
36	RA	1026	U
36	RA	1027	A
36	RA	1033	U
36	RA	1042	G
36	RA	1045	A
36	RA	1046	A
36	RA	1047	G
36	RA	1050	A
36	RA	1055	G
36	RA	1060	U
36	RA	1061	U
36	RA	1065	U
36	RA	1067	A
36	RA	1068	G
36	RA	1071	G
36	RA	1073	A
36	RA	1074	G
36	RA	1076	C
36	RA	1077	A
36	RA	1078	U
36	RA	1079	C
36	RA	1082	U
36	RA	1083	U
36	RA	1084	A
36	RA	1085	A
36	RA	1086	A
36	RA	1088	A
36	RA	1090	U
36	RA	1095	A
36	RA	1096	A
36	RA	1097	U
36	RA	1104	C

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Mol	Chain	Res	Type
36	RA	1110	G
36	RA	1111	A
36	RA	1112	G
36	RA	1122	G
36	RA	1129	A
36	RA	1131	G
36	RA	1135	C
36	RA	1136	G
36	RA	1140	C
36	RA	1142(A)	A
36	RA	1170	G
36	RA	1173	G
36	RA	1174	A
36	RA	1175	U
36	RA	1176	G
36	RA	1177	A
36	RA	1179	C
36	RA	1195	G
36	RA	1204	A
36	RA	1205	U
36	RA	1206	G
36	RA	1212	G
36	RA	1220	A
36	RA	1236	G
36	RA	1238	G
36	RA	1250	G
36	RA	1253	A
36	RA	1256	G
36	RA	1265	A
36	RA	1271	G
36	RA	1272	A
36	RA	1273	U
36	RA	1300	U
36	RA	1301	A
36	RA	1312	U
36	RA	1313	U
36	RA	1314	C
36	RA	1320	C
36	RA	1329	U
36	RA	1341	U
36	RA	1349	A
36	RA	1365	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RA	1368	G
36	RA	1378	A
36	RA	1379	A
36	RA	1384	A
36	RA	1385	G
36	RA	1395	A
36	RA	1408	C
36	RA	1411	C
36	RA	1416	G
36	RA	1417	C
36	RA	1419	A
36	RA	1420	U
36	RA	1421	G
36	RA	1428	C
36	RA	1444(A)	A
36	RA	1449	A
36	RA	1455	G
36	RA	1460	A
36	RA	1461	G
36	RA	1467	C
36	RA	1471	A
36	RA	1478	G
36	RA	1483	G
36	RA	1487	G
36	RA	1490	A
36	RA	1493	C
36	RA	1494	A
36	RA	1495	A
36	RA	1497	U
36	RA	1504	C
36	RA	1506	C
36	RA	1507	A
36	RA	1508	A
36	RA	1510	A
36	RA	1511	A
36	RA	1514	U
36	RA	1515	C
36	RA	1522	G
36	RA	1535	U
36	RA	1536	A
36	RA	1537	C
36	RA	1538	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RA	1543	A
36	RA	1544	C
36	RA	1545	A
36	RA	1558	A
36	RA	1559	G
36	RA	1560	G
36	RA	1566	A
36	RA	1569	A
36	RA	1578	U
36	RA	1586	A
36	RA	1598	C
36	RA	1608	A
36	RA	1610	A
36	RA	1615	C
36	RA	1616	A
36	RA	1617	C
36	RA	1618	A
36	RA	1640	C
36	RA	1648	C
36	RA	1654	A
36	RA	1667	G
36	RA	1668	A
36	RA	1674	G
36	RA	1693	U
36	RA	1695	G
36	RA	1725	G
36	RA	1728	G
36	RA	1729	A
36	RA	1730	U
36	RA	1731	G
36	RA	1733	G
36	RA	1742	C
36	RA	1743	G
36	RA	1756	G
36	RA	1762	A
36	RA	1763	G
36	RA	1764	G
36	RA	1773	A
36	RA	1780	A
36	RA	1781	C
36	RA	1782	C
36	RA	1786	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RA	1791	A
36	RA	1799	G
36	RA	1800	C
36	RA	1801	G
36	RA	1816	G
36	RA	1820	U
36	RA	1824	G
36	RA	1825	A
36	RA	1835	G
36	RA	1843	C
36	RA	1847	A
36	RA	1848	A
36	RA	1858	G
36	RA	1869	G
36	RA	1870	C
36	RA	1872	A
36	RA	1878	G
36	RA	1882	C
36	RA	1884	A
36	RA	1888	G
36	RA	1889	A
36	RA	1899	G
36	RA	1906	G
36	RA	1913	A
36	RA	1929	G
36	RA	1930	G
36	RA	1931	U
36	RA	1936	A
36	RA	1937	A
36	RA	1938	A
36	RA	1955	U
36	RA	1963	U
36	RA	1967	C
36	RA	1969	A
36	RA	1970	A
36	RA	1971	A
36	RA	1972	A
36	RA	1982	C
36	RA	1991	U
36	RA	1992	G
36	RA	1993	U
36	RA	2023	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RA	2031	A
36	RA	2032	G
36	RA	2033	A
36	RA	2043	C
36	RA	2055	C
36	RA	2056	G
36	RA	2059	A
36	RA	2060	A
36	RA	2061	G
36	RA	2062	A
36	RA	2067	G
36	RA	2069	G
36	RA	2099	U
36	RA	2107	C
36	RA	2111	C
36	RA	2113	U
36	RA	2114	A
36	RA	2115	G
36	RA	2116	G
36	RA	2117	A
36	RA	2126	A
36	RA	2127	G
36	RA	2131	G
36	RA	2132	U
36	RA	2133	G
36	RA	2146	C
36	RA	2148	G
36	RA	2165	G
36	RA	2166	G
36	RA	2167	U
36	RA	2168	G
36	RA	2169	A
36	RA	2171	A
36	RA	2173	A
36	RA	2189	U
36	RA	2190	G
36	RA	2192	G
36	RA	2198	A
36	RA	2210	G
36	RA	2211	G
36	RA	2212	A
36	RA	2213	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RA	2215	G
36	RA	2225	A
36	RA	2238	G
36	RA	2239	G
36	RA	2243	U
36	RA	2269	A
36	RA	2275	C
36	RA	2280	G
36	RA	2283	C
36	RA	2287	A
36	RA	2288	A
36	RA	2307	G
36	RA	2308	G
36	RA	2311	A
36	RA	2312	U
36	RA	2320	A
36	RA	2321	G
36	RA	2325	G
36	RA	2334	G
36	RA	2336	A
36	RA	2342	C
36	RA	2346	A
36	RA	2347	C
36	RA	2350	C
36	RA	2383	G
36	RA	2385	C
36	RA	2394	C
36	RA	2402	C
36	RA	2403	C
36	RA	2406	U
36	RA	2410	G
36	RA	2423	U
36	RA	2425	A
36	RA	2429	G
36	RA	2430	A
36	RA	2434	A
36	RA	2435	A
36	RA	2439	A
36	RA	2440	C
36	RA	2441	C
36	RA	2445	G
36	RA	2448	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RA	2459	A
36	RA	2469	A
36	RA	2470	G
36	RA	2494	G
36	RA	2502	G
36	RA	2505	G
36	RA	2506	U
36	RA	2518	A
36	RA	2519	U
36	RA	2529	G
36	RA	2542	A
36	RA	2543	G
36	RA	2554	U
36	RA	2558	C
36	RA	2564	A
36	RA	2567	G
36	RA	2569	G
36	RA	2573	C
36	RA	2574	G
36	RA	2602	A
36	RA	2609	U
36	RA	2610	C
36	RA	2611	U
36	RA	2612	C
36	RA	2614	A
36	RA	2615	U
36	RA	2629	A
36	RA	2636	U
36	RA	2652	C
36	RA	2654	A
36	RA	2655	G
36	RA	2665	A
36	RA	2673	G
36	RA	2689	U
36	RA	2691	C
36	RA	2702	U
36	RA	2703	C
36	RA	2712	U
36	RA	2712(A)	A
36	RA	2713	A
36	RA	2714	G
36	RA	2726	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	RA	2732	G
36	RA	2733	A
36	RA	2734	A
36	RA	2748	A
36	RA	2758	A
36	RA	2764	A
36	RA	2765	A
36	RA	2766	G
36	RA	2770	G
36	RA	2776	A
36	RA	2777	G
36	RA	2778	A
36	RA	2779	U
36	RA	2789	C
36	RA	2790	A
36	RA	2791	C
36	RA	2797	U
36	RA	2798	C
36	RA	2807	G
36	RA	2808	U
36	RA	2818	G
36	RA	2820	A
36	RA	2821	A
36	RA	2833	G
36	RA	2834	G
36	RA	2845	G
36	RA	2849	U
36	RA	2872	G
36	RA	2880	C
36	RA	2891	G
36	RA	2892	A
37	RB	9	G
37	RB	13	A
37	RB	15	A
37	RB	16	G
37	RB	23	G
37	RB	31	C
37	RB	32	C
37	RB	36	C
37	RB	42	C
37	RB	56	G
37	RB	58	A

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Mol	Chain	Res	Type
37	RB	67	G
37	RB	73	A
37	RB	81	G
37	RB	82	G
37	RB	108	C
37	RB	109	G
37	RB	110	G
1	XA	9	G
1	XA	32	A
1	XA	39	G
1	XA	48	C
1	XA	51	A
1	XA	54	C
1	XA	61	G
1	XA	65	U
1	XA	66	G
1	XA	79	G
1	XA	81	G
1	XA	90	C
1	XA	91	C
1	XA	92	G
1	XA	95	G
1	XA	101	A
1	XA	108	G
1	XA	116	A
1	XA	120	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	131	C
1	XA	144	G
1	XA	147	G
1	XA	163	C
1	XA	169	C
1	XA	173	U
1	XA	174	C
1	XA	183	G
1	XA	190	G
1	XA	191	G
1	XA	195	A
1	XA	196	A
1	XA	208	U

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Mol	Chain	Res	Type
1	XA	209	U
1	XA	210	U
1	XA	216	G
1	XA	231	G
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	262	A
1	XA	267	C
1	XA	281	G
1	XA	289	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	342	C
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	348	G
1	XA	351	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	367	U
1	XA	368	U
1	XA	372	C
1	XA	384	G
1	XA	390	C
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	429	U
1	XA	430	A

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Mol	Chain	Res	Type
1	XA	435	C
1	XA	439	A
1	XA	452	A
1	XA	466	C
1	XA	467	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	488	C
1	XA	496	A
1	XA	497	U
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	518	C
1	XA	527	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	545	C
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	561	U
1	XA	564	C
1	XA	565	U
1	XA	568	G
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	596	C
1	XA	630	G
1	XA	631	G
1	XA	632	A
1	XA	642	A
1	XA	653	A
1	XA	665	A
1	XA	693	G
1	XA	704	A
1	XA	721	G

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Mol	Chain	Res	Type
1	XA	724	G
1	XA	734	G
1	XA	748	C
1	XA	754	C
1	XA	755	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	819	A
1	XA	821	G
1	XA	828	A
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	872	A
1	XA	891	U
1	XA	902	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	960	U
1	XA	968	A
1	XA	969	A
1	XA	971	G
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	1004	A
1	XA	1006	C
1	XA	1008	C

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Mol	Chain	Res	Type
1	XA	1014	A
1	XA	1015	A
1	XA	1024	G
1	XA	1025	U
1	XA	1028	C
1	XA	1029	G
1	XA	1032(A)	G
1	XA	1054	C
1	XA	1065	U
1	XA	1066	C
1	XA	1078	U
1	XA	1081	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1108	G
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1146	A
1	XA	1152	A
1	XA	1157	A
1	XA	1159	U
1	XA	1177	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1187	G
1	XA	1190	G
1	XA	1196	U
1	XA	1201	A
1	XA	1211	U
1	XA	1212	U
1	XA	1226	C
1	XA	1227	A

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Mol	Chain	Res	Type
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1253	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1270	C
1	XA	1280	A
1	XA	1281	U
1	XA	1282	C
1	XA	1286	A
1	XA	1287	A
1	XA	1298	C
1	XA	1299	A
1	XA	1300	G
1	XA	1302	U
1	XA	1303	C
1	XA	1305	G
1	XA	1321	C
1	XA	1323	G
1	XA	1331	G
1	XA	1336	C
1	XA	1337	G
1	XA	1340	A
1	XA	1347	G
1	XA	1353	G
1	XA	1362(A)	C
1	XA	1364	U
1	XA	1370	G
1	XA	1379	G
1	XA	1380	U
1	XA	1398	A
1	XA	1419	G
1	XA	1439	C
1	XA	1442	G
1	XA	1446	A
1	XA	1447	G
1	XA	1452	C
1	XA	1453	G
1	XA	1454	G
1	XA	1487	G

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Mol	Chain	Res	Type
1	XA	1492	A
1	XA	1497	G
1	XA	1499	A
1	XA	1502	A
1	XA	1503	A
1	XA	1504	G
1	XA	1506	U
1	XA	1517	G
1	XA	1519	A
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
22	XV	3	C
22	XV	8	U
22	XV	17(A)	U
22	XV	18	G
22	XV	19	G
22	XV	20	U
22	XV	21	A
22	XV	47	U
22	XV	48	C
22	XV	61	C
22	XV	76	A
23	XW	6	U
23	XW	7	A
23	XW	8	U
23	XW	9	A
23	XW	13	C
23	XW	14	A
23	XW	16	A
23	XW	17	A
23	XW	18	G
23	XW	19	G
23	XW	20	G
23	XW	21	A
23	XW	31	C
23	XW	32	A
23	XW	33	U
23	XW	35	C
23	XW	37	A
23	XW	38	U
23	XW	39	G

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Mol	Chain	Res	Type
23	XW	40	C
23	XW	45	G
23	XW	46	G
23	XW	48	C
23	XW	49	A
23	XW	56	C
23	XW	57	G
23	XW	59	U
23	XW	60	C
23	XW	61	C
23	XW	65	U
23	XW	67	A
23	XW	70	U
23	XW	76	A
24	XX	10	G
24	XX	11	U
24	XX	12	A
24	XX	14	A
24	XX	15	A
24	XX	19	G
24	XX	23	A
25	XY	2	G
25	XY	3	G
25	XY	10	G
25	XY	16	C
25	XY	17	U
25	XY	18	G
25	XY	19	G
25	XY	20	G
25	XY	22	G
25	XY	29	U
25	XY	37	A
25	XY	42	A
25	XY	43	G
25	XY	47	U
25	XY	48	C
25	XY	50	G
25	XY	51	C
25	XY	52	G
25	XY	53	G
25	XY	54	U
25	XY	55	U

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Mol	Chain	Res	Type
25	XY	56	C
25	XY	57	G
25	XY	58	A
25	XY	59	U
25	XY	65	U
25	XY	70	U
25	XY	71	C
25	XY	72	C
25	XY	73	A
25	XY	75	C
36	YA	9	U
36	YA	15	G
36	YA	34	C
36	YA	35	G
36	YA	46	C
36	YA	51	G
36	YA	63	U
36	YA	71	A
36	YA	74	A
36	YA	75	G
36	YA	83	G
36	YA	91	A
36	YA	95	G
36	YA	101	G
36	YA	102	G
36	YA	103	A
36	YA	118	A
36	YA	119	A
36	YA	120	U
36	YA	125	G
36	YA	131	G
36	YA	140	A
36	YA	161	U
36	YA	162	U
36	YA	181	A
36	YA	196	A
36	YA	199	A
36	YA	214	G
36	YA	216	A
36	YA	221	A
36	YA	222	A
36	YA	223	A

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Mol	Chain	Res	Type
36	YA	225	A
36	YA	226	G
36	YA	229	A
36	YA	230	U
36	YA	233	A
36	YA	242	G
36	YA	243	U
36	YA	248	G
36	YA	249	C
36	YA	252	G
36	YA	265	A
36	YA	266	G
36	YA	269	U
36	YA	270(L)	U
36	YA	270(M)	U
36	YA	270(P)	C
36	YA	271(C)	U
36	YA	271	G
36	YA	274	G
36	YA	276	A
36	YA	277	C
36	YA	278	A
36	YA	279	C
36	YA	299	A
36	YA	311	A
36	YA	323	G
36	YA	324	A
36	YA	329	G
36	YA	330	A
36	YA	342	G
36	YA	352	G
36	YA	363	G
36	YA	363(E)	U
36	YA	371	A
36	YA	372	G
36	YA	373	U
36	YA	386	G
36	YA	387	U
36	YA	405	U
36	YA	411	G
36	YA	412	A
36	YA	428	A

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Mol	Chain	Res	Type
36	YA	443	A
36	YA	444	C
36	YA	448	U
36	YA	454	A
36	YA	455	C
36	YA	457	A
36	YA	464	U
36	YA	470	A
36	YA	481	G
36	YA	504	U
36	YA	505	A
36	YA	508	G
36	YA	509	C
36	YA	512	G
36	YA	518	G
36	YA	530	G
36	YA	531	C
36	YA	532	A
36	YA	533	G
36	YA	537	C
36	YA	539	G
36	YA	540	G
36	YA	546	C
36	YA	547	A
36	YA	563	G
36	YA	573	G
36	YA	575	A
36	YA	586	A
36	YA	588	U
36	YA	603	A
36	YA	607	U
36	YA	614	U
36	YA	617	G
36	YA	621	A
36	YA	622	G
36	YA	627	A
36	YA	637	A
36	YA	638	G
36	YA	645	C
36	YA	646	A
36	YA	647	G
36	YA	654	A

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Mol	Chain	Res	Type
36	YA	654(A)	G
36	YA	686	G
36	YA	702	G
36	YA	717	G
36	YA	722	A
36	YA	730	C
36	YA	734	A
36	YA	748	G
36	YA	753	C
36	YA	775	G
36	YA	776	G
36	YA	782	A
36	YA	784	A
36	YA	785	G
36	YA	790	C
36	YA	792	G
36	YA	805	G
36	YA	812	C
36	YA	819	A
36	YA	827	U
36	YA	831	G
36	YA	846	C
36	YA	847	U
36	YA	856	C
36	YA	857	C
36	YA	859	G
36	YA	860	U
36	YA	866	A
36	YA	881	G
36	YA	882	G
36	YA	884	C
36	YA	886	C
36	YA	887	A
36	YA	888	C
36	YA	889	C
36	YA	896	A
36	YA	897	C
36	YA	900	A
36	YA	901	A
36	YA	907	U
36	YA	910	A
36	YA	911	A

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Mol	Chain	Res	Type
36	YA	915	C
36	YA	917	A
36	YA	932	G
36	YA	941	A
36	YA	943	U
36	YA	945	A
36	YA	946	G
36	YA	953	A
36	YA	959	A
36	YA	961	C
36	YA	974	G
36	YA	974(A)	C
36	YA	983	A
36	YA	989	G
36	YA	996	A
36	YA	1003	G
36	YA	1005	C
36	YA	1011	G
36	YA	1012	U
36	YA	1013	C
36	YA	1015	G
36	YA	1016	G
36	YA	1022	G
36	YA	1023	U
36	YA	1026	U
36	YA	1027	A
36	YA	1033	U
36	YA	1045	A
36	YA	1046	A
36	YA	1047	G
36	YA	1050	A
36	YA	1051	G
36	YA	1059	G
36	YA	1060	U
36	YA	1061	U
36	YA	1065	U
36	YA	1067	A
36	YA	1068	G
36	YA	1070	A
36	YA	1071	G
36	YA	1077	A
36	YA	1078	U

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Mol	Chain	Res	Type
36	YA	1081	U
36	YA	1082	U
36	YA	1083	U
36	YA	1084	A
36	YA	1085	A
36	YA	1086	A
36	YA	1088	A
36	YA	1093	G
36	YA	1095	A
36	YA	1096	A
36	YA	1097	U
36	YA	1103	A
36	YA	1104	C
36	YA	1110	G
36	YA	1111	A
36	YA	1112	G
36	YA	1122	G
36	YA	1129	A
36	YA	1135	C
36	YA	1136	G
36	YA	1139	G
36	YA	1142	U
36	YA	1142(A)	A
36	YA	1149	G
36	YA	1151	G
36	YA	1155	A
36	YA	1170	G
36	YA	1171	G
36	YA	1173	G
36	YA	1174	A
36	YA	1175	U
36	YA	1176	G
36	YA	1195	G
36	YA	1204	A
36	YA	1205	U
36	YA	1210	A
36	YA	1211	U
36	YA	1220	A
36	YA	1238	G
36	YA	1253	A
36	YA	1255	U
36	YA	1256	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	YA	1265	A
36	YA	1272	A
36	YA	1273	U
36	YA	1300	U
36	YA	1301	A
36	YA	1329	U
36	YA	1349	A
36	YA	1352	U
36	YA	1365	A
36	YA	1368	G
36	YA	1379	A
36	YA	1384	A
36	YA	1385	G
36	YA	1391	U
36	YA	1395	A
36	YA	1407	C
36	YA	1411	C
36	YA	1416	G
36	YA	1417	C
36	YA	1419	A
36	YA	1420	U
36	YA	1421	G
36	YA	1428	C
36	YA	1444(A)	A
36	YA	1445	C
36	YA	1449	A
36	YA	1449(A)	G
36	YA	1455	G
36	YA	1461	G
36	YA	1467	C
36	YA	1471	A
36	YA	1478	G
36	YA	1483	G
36	YA	1487	G
36	YA	1493	C
36	YA	1495	A
36	YA	1497	U
36	YA	1507	A
36	YA	1508	A
36	YA	1510	A
36	YA	1511	A
36	YA	1514	U

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Mol	Chain	Res	Type
36	YA	1522	G
36	YA	1534	G
36	YA	1535	U
36	YA	1536	A
36	YA	1537	C
36	YA	1538	G
36	YA	1540	G
36	YA	1543	A
36	YA	1544	C
36	YA	1545	A
36	YA	1554	A
36	YA	1558	A
36	YA	1559	G
36	YA	1566	A
36	YA	1569	A
36	YA	1578	U
36	YA	1585	C
36	YA	1586	A
36	YA	1598	C
36	YA	1608	A
36	YA	1609	A
36	YA	1610	A
36	YA	1617	C
36	YA	1618	A
36	YA	1640	C
36	YA	1648	C
36	YA	1654	A
36	YA	1668	A
36	YA	1674	G
36	YA	1675	C
36	YA	1695	G
36	YA	1699	G
36	YA	1700	A
36	YA	1725	G
36	YA	1728	G
36	YA	1729	A
36	YA	1730	U
36	YA	1731	G
36	YA	1742	C
36	YA	1743	G
36	YA	1750	G
36	YA	1754	C

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Mol	Chain	Res	Type
36	YA	1756	G
36	YA	1762	A
36	YA	1763	G
36	YA	1764	G
36	YA	1773	A
36	YA	1780	A
36	YA	1791	A
36	YA	1799	G
36	YA	1800	C
36	YA	1801	G
36	YA	1816	G
36	YA	1820	U
36	YA	1829	A
36	YA	1835	G
36	YA	1847	A
36	YA	1858	G
36	YA	1869	G
36	YA	1870	C
36	YA	1872	A
36	YA	1878	G
36	YA	1882	C
36	YA	1888	G
36	YA	1889	A
36	YA	1899	G
36	YA	1905	C
36	YA	1906	G
36	YA	1929	G
36	YA	1930	G
36	YA	1931	U
36	YA	1936	A
36	YA	1938	A
36	YA	1939	U
36	YA	1955	U
36	YA	1963	U
36	YA	1967	C
36	YA	1969	A
36	YA	1970	A
36	YA	1971	A
36	YA	1972	A
36	YA	1982	C
36	YA	1991	U
36	YA	1993	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
36	YA	2020	A
36	YA	2021	C
36	YA	2023	G
36	YA	2031	A
36	YA	2033	A
36	YA	2043	C
36	YA	2049	G
36	YA	2052	G
36	YA	2055	C
36	YA	2056	G
36	YA	2059	A
36	YA	2060	A
36	YA	2061	G
36	YA	2062	A
36	YA	2069	G
36	YA	2093	G
36	YA	2100	G
36	YA	2101	G
36	YA	2111	C
36	YA	2112	G
36	YA	2113	U
36	YA	2114	A
36	YA	2115	G
36	YA	2116	G
36	YA	2118	U
36	YA	2119	A
36	YA	2120	G
36	YA	2126	A
36	YA	2127	G
36	YA	2131	G
36	YA	2132	U
36	YA	2133	G
36	YA	2136	C
36	YA	2146	C
36	YA	2147	G
36	YA	2148	G
36	YA	2157	G
36	YA	2158	A
36	YA	2164	C
36	YA	2165	G
36	YA	2166	G
36	YA	2167	U

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Mol	Chain	Res	Type
36	YA	2168	G
36	YA	2169	A
36	YA	2171	A
36	YA	2172	U
36	YA	2173	A
36	YA	2186	G
36	YA	2187	G
36	YA	2189	U
36	YA	2190	G
36	YA	2192	G
36	YA	2198	A
36	YA	2210	G
36	YA	2211	G
36	YA	2212	A
36	YA	2213	U
36	YA	2215	G
36	YA	2225	A
36	YA	2238	G
36	YA	2239	G
36	YA	2243	U
36	YA	2275	C
36	YA	2278	A
36	YA	2280	G
36	YA	2283	C
36	YA	2286	A
36	YA	2287	A
36	YA	2288	A
36	YA	2305	A
36	YA	2307	G
36	YA	2308	G
36	YA	2309	A
36	YA	2311	A
36	YA	2319	G
36	YA	2320	A
36	YA	2325	G
36	YA	2334	G
36	YA	2335	A
36	YA	2336	A
36	YA	2342	C
36	YA	2345	G
36	YA	2346	A
36	YA	2347	C

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Mol	Chain	Res	Type
36	YA	2350	C
36	YA	2354	G
36	YA	2383	G
36	YA	2385	C
36	YA	2402	C
36	YA	2403	C
36	YA	2406	U
36	YA	2410	G
36	YA	2411	A
36	YA	2422	A
36	YA	2423	U
36	YA	2425	A
36	YA	2429	G
36	YA	2430	A
36	YA	2435	A
36	YA	2439	A
36	YA	2440	C
36	YA	2441	C
36	YA	2448	A
36	YA	2450	A
36	YA	2452	C
36	YA	2469	A
36	YA	2475	C
36	YA	2478	A
36	YA	2494	G
36	YA	2502	G
36	YA	2505	G
36	YA	2518	A
36	YA	2529	G
36	YA	2542	A
36	YA	2554	U
36	YA	2558	C
36	YA	2566	A
36	YA	2567	G
36	YA	2572	A
36	YA	2578	G
36	YA	2585	U
36	YA	2602	A
36	YA	2611	U
36	YA	2612	C
36	YA	2615	U
36	YA	2629	A

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Mol	Chain	Res	Type
36	YA	2665	A
36	YA	2673	G
36	YA	2674	G
36	YA	2682	U
36	YA	2689	U
36	YA	2690	C
36	YA	2702	U
36	YA	2703	C
36	YA	2712	U
36	YA	2713	A
36	YA	2714	G
36	YA	2726	U
36	YA	2733	A
36	YA	2748	A
36	YA	2751	G
36	YA	2752	C
36	YA	2758	A
36	YA	2762	G
36	YA	2764	A
36	YA	2765	A
36	YA	2771	C
36	YA	2776	A
36	YA	2777	G
36	YA	2778	A
36	YA	2779	U
36	YA	2787	C
36	YA	2789	C
36	YA	2790	A
36	YA	2791	C
36	YA	2792	G
36	YA	2797	U
36	YA	2802	G
36	YA	2807	G
36	YA	2808	U
36	YA	2820	A
36	YA	2821	A
36	YA	2823	A
36	YA	2832	U
36	YA	2833	G
36	YA	2834	G
36	YA	2835	A
36	YA	2872	G

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Mol	Chain	Res	Type
36	YA	2880	C
36	YA	2892	A
36	YA	2893	G
36	YA	2894	G
36	YA	2895	U
37	YB	8	U
37	YB	9	G
37	YB	13	A
37	YB	15	A
37	YB	21	G
37	YB	22	U
37	YB	25	A
37	YB	26	A
37	YB	32	C
37	YB	35	U
37	YB	41	U
37	YB	42	C
37	YB	45	A
37	YB	52	A
37	YB	53	A
37	YB	56	G
37	YB	67	G
37	YB	73	A
37	YB	81	G
37	YB	109	G

All (165) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	115	G
1	QA	181	G
1	QA	243	A
1	QA	244	U
1	QA	250	A
1	QA	266	G
1	QA	328	C
1	QA	410	G
1	QA	412	A
1	QA	428	G
1	QA	429	U
1	QA	484	G
1	QA	509	A

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Mol	Chain	Res	Type
1	QA	687	A
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	812	C
1	QA	829	G
1	QA	913	A
1	QA	992	U
1	QA	1027	C
1	QA	1065	U
1	QA	1200	C
1	QA	1285	A
1	QA	1316	G
1	QA	1336	C
1	QA	1346	A
1	QA	1347	G
1	QA	1498	U
1	QA	1528	U
23	QW	14	A
23	QW	58	A
24	QX	18	G
36	RA	74	A
36	RA	102	G
36	RA	139	G
36	RA	195	A
36	RA	205	G
36	RA	221	A
36	RA	229	A
36	RA	242	G
36	RA	271(B)	G
36	RA	305	U
36	RA	404	C
36	RA	503	A
36	RA	512	G
36	RA	637	A
36	RA	752	A
36	RA	846	C
36	RA	856	C
36	RA	1022	G
36	RA	1026	U
36	RA	1045	A
36	RA	1078	U

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Mol	Chain	Res	Type
36	RA	1085	A
36	RA	1130	U
36	RA	1178	C
36	RA	1204	A
36	RA	1312	U
36	RA	1427	A
36	RA	1558	A
36	RA	1559	G
36	RA	1653	G
36	RA	1667	G
36	RA	1694	C
36	RA	1799	G
36	RA	1819	A
36	RA	1824	G
36	RA	1930	G
36	RA	1992	G
36	RA	2060	A
36	RA	2126	A
36	RA	2439	A
36	RA	2566	A
36	RA	2610	C
36	RA	2712	U
36	RA	2776	A
37	RB	35	U
37	RB	66	A
1	XA	60	A
1	XA	78	G
1	XA	115	G
1	XA	243	A
1	XA	250	A
1	XA	266	G
1	XA	328	C
1	XA	345	C
1	XA	410	G
1	XA	428	G
1	XA	429	U
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	560	U
1	XA	575	G
1	XA	703	G

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Mol	Chain	Res	Type
1	XA	753	A
1	XA	812	C
1	XA	913	A
1	XA	992	U
1	XA	1027	C
1	XA	1065	U
1	XA	1200	C
1	XA	1285	A
1	XA	1297	C
1	XA	1336	C
1	XA	1379	G
1	XA	1397	C
1	XA	1498	U
23	XW	6	U
23	XW	7	A
23	XW	20	G
23	XW	31	C
23	XW	48	C
23	XW	59	U
23	XW	60	C
24	XX	18	G
25	XY	70	U
36	YA	99	U
36	YA	102	G
36	YA	195	A
36	YA	222	A
36	YA	229	A
36	YA	242	G
36	YA	271(B)	G
36	YA	278	A
36	YA	404	C
36	YA	503	A
36	YA	587	C
36	YA	637	A
36	YA	653	A
36	YA	752	A
36	YA	846	C
36	YA	856	C
36	YA	859	G
36	YA	881	G
36	YA	1022	G
36	YA	1026	U

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Mol	Chain	Res	Type
36	YA	1045	A
36	YA	1085	A
36	YA	1204	A
36	YA	1210	A
36	YA	1427	A
36	YA	1558	A
36	YA	1653	G
36	YA	1694	C
36	YA	1698	A
36	YA	1799	G
36	YA	1819	A
36	YA	1930	G
36	YA	1992	G
36	YA	2126	A
36	YA	2166	G
36	YA	2167	U
36	YA	2406	U
36	YA	2439	A
36	YA	2566	A
36	YA	2610	C
36	YA	2681	C
36	YA	2689	U
36	YA	2776	A
36	YA	2789	C
36	YA	2832	U
37	YB	66	A

## 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](#)

Of 1222 ligands modelled in this entry, 1217 are monoatomic - leaving 5 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and

the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
59	SF4	QD	501	4	0,12,12	-	-	-		
59	SF4	XD	501	4	0,12,12	-	-	-		
61	AMP	QY	101	-	18,24,25	0.65	0	18,35,38	0.86	1 (5%)
58	PAR	XA	1717	-	45,45,45	0.53	0	64,67,67	0.86	1 (1%)
58	PAR	QA	1711	-	45,45,45	0.54	0	64,67,67	0.95	2 (3%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
59	SF4	QD	501	4	-	-	0/6/5/5
59	SF4	XD	501	4	-	-	0/6/5/5
61	AMP	QY	101	-	-	0/3/25/26	0/3/3/3
58	PAR	XA	1717	-	-	2/18/94/94	0/4/4/4
58	PAR	QA	1711	-	-	3/18/94/94	0/4/4/4

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	QA	1711	PAR	C13-O52-C52	-2.82	110.99	117.96
58	XA	1717	PAR	C13-O52-C52	-2.71	111.26	117.96
58	QA	1711	PAR	O52-C13-C23	2.56	113.28	107.96
61	QY	101	AMP	C5-C6-N6	2.03	123.43	120.35

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
58	QA	1711	PAR	O54-C54-C64-N64
58	XA	1717	PAR	C23-C33-O33-C14
58	QA	1711	PAR	C52-C42-O11-C11

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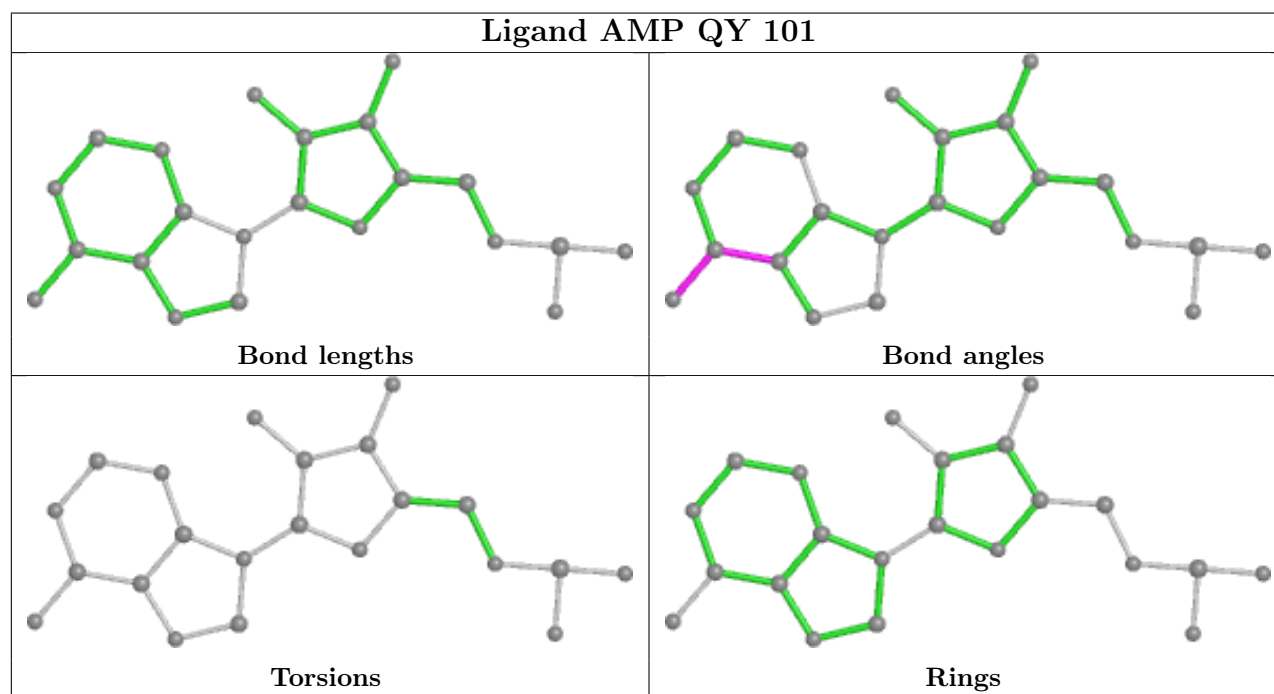
Mol	Chain	Res	Type	Atoms
58	XA	1717	PAR	C52-C42-O11-C11
58	QA	1711	PAR	C44-C54-C64-N64

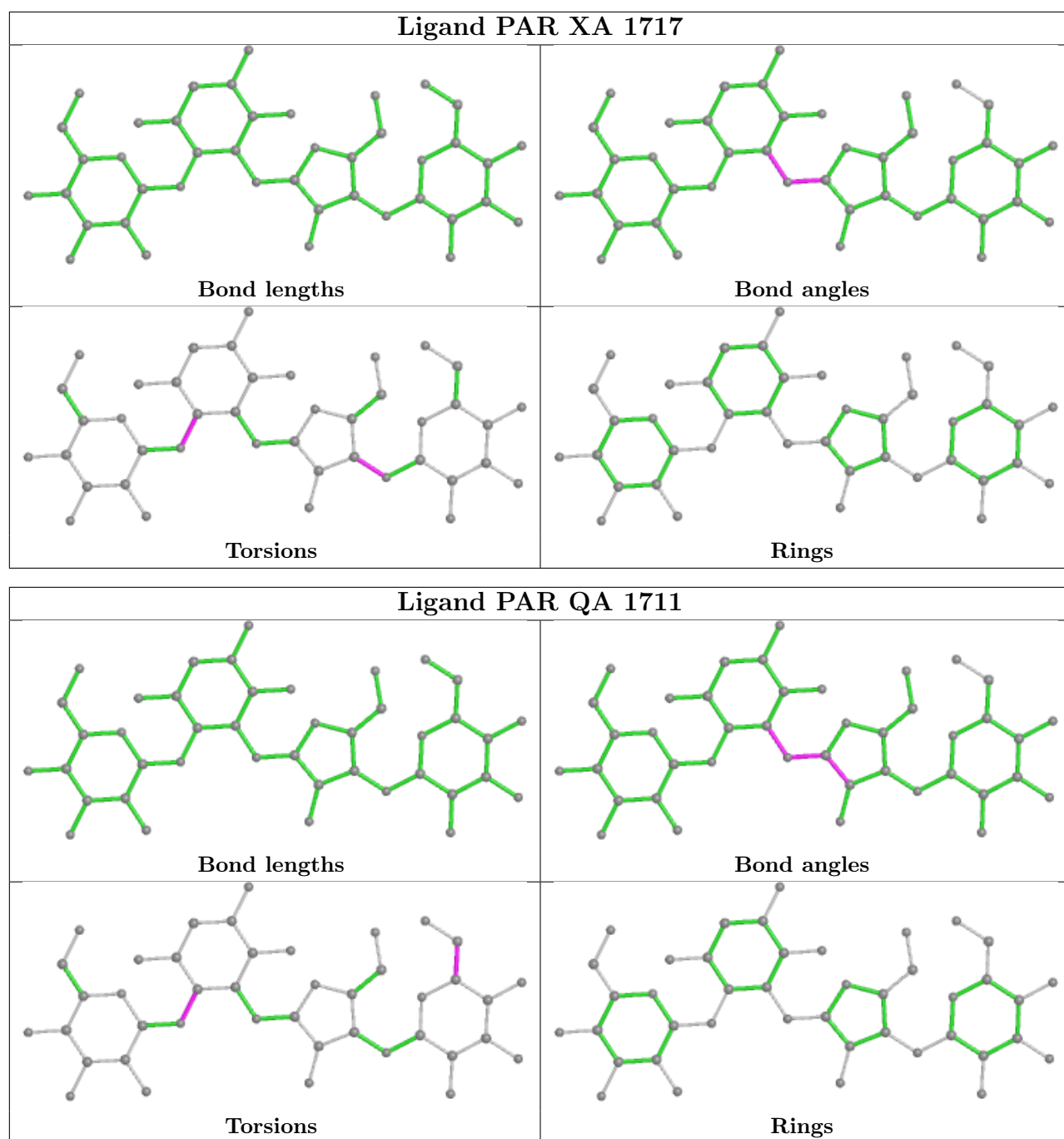
There are no ring outliers.

3 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
61	QY	101	AMP	1	0
58	XA	1717	PAR	2	0
58	QA	1711	PAR	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





## 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](#)

EDS failed to run properly - this section is therefore empty.

### 6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

EDS failed to run properly - this section is therefore empty.

### 6.3 Carbohydrates [i](#)

EDS failed to run properly - this section is therefore empty.

### 6.4 Ligands [i](#)

EDS failed to run properly - this section is therefore empty.

### 6.5 Other polymers [i](#)

EDS failed to run properly - this section is therefore empty.