Full wwPDB EM Validation Report (i)

Nov 26, 2022 – 06:51 PM EST

PDB ID	:	5JUP
EMDB ID	:	EMD-6644
Title	:	Saccharomyces cerevisiae 80S ribosome bound with elongation factor eEF2-GDP-sordarin and Taura Syndrome Virus IRES, Structure II (mid-rotated 40S subunit)
Authors	:	Abeyrathne, P.; Koh, C.S.; Grant, T.; Grigorieff, N.; Korostelev, A.A.
Deposited on	:	2016-05-10
Resolution	:	3.50 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

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

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

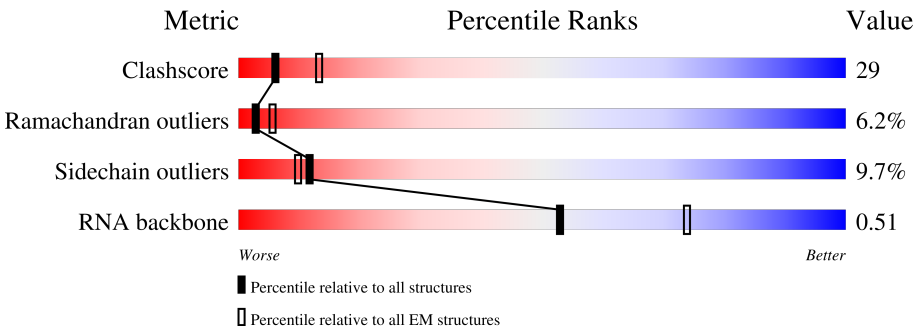
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1798	25% 28% 58% 12% ••
2	B	3396	6% 31% 54% 11% • •
3	C	158	• 34% 52% 15%
4	D	121	23% 69% 7%
5	E	217	77% 33% 35% 11% 21%
6	F	254	12% 34% 57% 7% ••
7	G	387	7% 47% 46% 7%

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Mol	Chain	Length	Quality of chain
8	H	362	40% 47% 12%
9	I	297	12% 39% 51% 10%
10	J	176	14% 51% 39% 8%
11	K	244	5% 37% 46% 7% 9%
12	L	256	17% 33% 46% 12% 9%
13	M	191	12% 43% 49% 6%
14	N	221	18% 40% 45% 10% 5%
15	O	174	11% 40% 47% 9%
16	P	165	52% 12% 35% 10% 43%
17	Q	199	12% 40% 47% 10%
18	R	138	9% 43% 43% 12%
19	S	204	7% 36% 56% 6%
20	T	199	7% 52% 43%
21	U	184	9% 53% 38% 9%
22	V	186	43% 53%
23	W	189	30% 43% 48% 8%
24	X	172	11% 37% 47% 16%
25	Y	160	9% 40% 48% 11%
26	Z	121	17% 39% 42% 17%
27	AA	137	17% 45% 47% 7%
28	BA	155	6% 15% 19% 5% 61%
29	CA	142	19% 29% 44% 12% 15%
30	DA	127	6% 33% 57% 8%
31	EA	136	16% 30% 54% 14%
32	FA	149	40% 49% 10%

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Mol	Chain	Length	Quality of chain
33	GA	59	20% 58% 37%
34	HA	105	10% 29% 51% 10% 8%
35	IA	113	11% 52% 41%
36	JA	130	7% 48% 45% 5%
37	KA	107	12% 45% 50% 5%
38	LA	121	17% 29% 53% 11% 7%
39	MA	120	10% 30% 55% 14%
40	NA	100	9% 49% 41% 9%
41	OA	88	8% 49% 41% 8%
42	PA	78	83% 50% 45%
43	QA	51	8% 27% 65% 6%
44	RA	128	16% 19% 5% 59%
45	SA	25	100% 40% 48% 12%
46	TA	106	10% 56% 42%
47	UA	92	17% 51% 38% 10%
48	VA	312	55% 17% 33% 10% 39%
49	WA	319	91% 33% 62% 5%
50	XA	252	52% 27% 47% 6% 18%
51	YA	255	84% 78% 6% 16%
52	ZA	254	21% 33% 49% 15%
53	AB	240	72% 39% 46% 8% 7%
54	BB	261	35% 30% 61% 8%
55	CB	225	80% 35% 48% 9% 8%
56	DB	236	48% 39% 53%
57	EB	190	84% 36% 50% 11%

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Mol	Chain	Length	Quality of chain
58	FB	200	52% 27% 59% 8% 6%
59	GB	197	25% 34% 53% 6% • 6%
60	HB	105	61% 28% 51% 10% • 9%
61	IB	156	65% 39% 49% 10% ••
62	JB	143	87% 79% 8% 13%
63	KB	151	50% 42% 50% 8% •
64	LB	137	93% 83% 9% 7%
65	MB	142	68% 34% 43% 9% 14%
66	NB	143	85% 33% 57% 8% ••
67	OB	136	74% 42% 39% 5% 14%
68	PB	146	78% 38% 51% 9% ••
69	QB	144	78% 38% 52% 9% •
70	RB	121	79% 27% 53% 8% 12%
71	SB	87	40% 36% 56% 7% •
72	TB	130	45% 30% 60% 8% ••
73	UB	145	57% 39% 52% 8% •
74	VB	135	42% 36% 56% 8% •
75	WB	108	57% 15% 40% 10% 35%
76	XB	119	82% 67% 13% • 18%
77	YB	82	57% 45% 50% ••
78	ZB	67	72% 34% 52% 7% 6%
79	AC	56	59% 48% 39% 7% 5%
80	BC	63	51% 38% 48% 10% 5%
81	CC	152	47% 39% 7% • 53%
82	DC	842	43% 32% 56% 9% •

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Mol	Chain	Length	Quality of chain
83	EC	201	92%; 19%, 32%, 32%, 15%

2 Entry composition (i)

There are 86 unique types of molecules in this entry. The entry contains 212656 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A	1781	36760	16335	6359	12285	1781	0	0

- Molecule 2 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	3309	70288	31354	12595	23030	3309	0	0

- Molecule 3 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	C	158	3354	1500	586	1110	158	0	0

- Molecule 4 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	D	121	2580	1152	461	846	121	0	0

- Molecule 5 is a protein called uL1 (yeast L1).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	171	1359	869	232	251	7	0	0

- Molecule 6 is a protein called uL2 (yeast L2).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	252	1918	1193	389	335	1	0	0

- Molecule 7 is a protein called uL3 (yeast L3).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	G	386	3082	1956	584	534	8	0	0

- Molecule 8 is a protein called uL4 (yeast L4).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	H	361	2750	1730	522	495	3	0	0

- Molecule 9 is a protein called uL18 (yeast L5).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	I	296	2376	1501	414	459	2	0	0

- Molecule 10 is a protein called eL6 (yeast L6).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	J	175	1401	902	251	247	1	0	0

- Molecule 11 is a protein called uL30 (yeast L7).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	K	222	1785	1151	324	309	1	0	0

- Molecule 12 is a protein called eL8 (yeast L8).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	L	233	1818	1159	326	330	3	0	0

- Molecule 13 is a protein called uL6 (yeast L9).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	M	191	1519	963	274	278	4	0	0

- Molecule 14 is a protein called uL16 (yeast L10).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	N	211	1718	1089	325	298	6	0	0

- Molecule 15 is a protein called uL5 (yeast L11).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	O	169	1354	847	253	250	4	0	0

- Molecule 16 is a protein called uL11 (yeast L12).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	P	94	723	448	138	135	2	0	0

- Molecule 17 is a protein called eL13 (yeast L13).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
17	Q	193	1543	962	315	266	0	0

- Molecule 18 is a protein called eL14 (yeast L14).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	R	136	1054	675	199	178	2	0	0

- Molecule 19 is a protein called eL15 (yeast L15).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	S	203	1721	1077	361	282	1	0	0

- Molecule 20 is a protein called uL13 (yeast L16).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	T	197	1556	1003	289	263	1	0	0

- Molecule 21 is a protein called uL22 (yeast L17).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
21	U	183	1443	896	287	260	0	0

- Molecule 22 is a protein called eL18 (yeast L18).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	V	185	1442	908	290	242	2	0	0

- Molecule 23 is a protein called eL19 (yeast L19).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
23	W	188	1522	935	326	261	0	0

- Molecule 24 is a protein called eL20 (yeast L20).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	X	172	1446	930	267	245	4	0	0

- Molecule 25 is a protein called eL21 (yeast L21).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	Y	159	1277	805	246	222	4	0	0

- Molecule 26 is a protein called eL22 (yeast L22).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
26	Z	100	796	516	131	149	0	0

- Molecule 27 is a protein called uL14 (yeast L23).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	AA	136	1004	628	189	180	7	0	0

- Molecule 28 is a protein called eL24 (yeast L24).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	BA	61	509	328	100	80	1	0	0

- Molecule 29 is a protein called uL23 (yeast L25).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	CA	121	969	623	170	174	2	0	0

- Molecule 30 is a protein called uL24 (yeast L26).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
30	DA	126	994	625	192	177	0	0

- Molecule 31 is a protein called eL27 (yeast L27).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
31	EA	135	1093	710	202	181	0	0

- Molecule 32 is a protein called uL15 (yeast L28).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	FA	148	1174	749	231	191	3	0	0

- Molecule 33 is a protein called eL29 (yeast L29).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
33	GA	58	463	289	100	74	0	0

- Molecule 34 is a protein called eL30 (yeast L30).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	HA	97	743	479	124	139	1	0	0

- Molecule 35 is a protein called eL31 (yeast L31).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	IA	109	890	565	168	156	1	0	0

- Molecule 36 is a protein called eL32 (yeast L32).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	JA	127	1020	647	205	167	1	0	0

- Molecule 37 is a protein called eL33 (yeast L33).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	KA	106	851	540	165	145	1	0	0

- Molecule 38 is a protein called eL34 (yeast L34).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	LA	112	881	546	179	152	4	0	0

- Molecule 39 is a protein called uL29 (yeast L35).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	MA	119	970	615	186	168	1	0	0

- Molecule 40 is a protein called eL36 (yeast L36).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	NA	99	772	481	156	133	2	0	0

- Molecule 41 is a protein called eL37 (yeast L37).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	OA	87	682	414	148	115	5	0	0

- Molecule 42 is a protein called eL38 (yeast L38).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
42	PA	77	613	391	115	107	0	0

- Molecule 43 is a protein called eL39 (yeast L39).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	QA	50	437	272	97	66	2	0	0

- Molecule 44 is a protein called eL40 (yeast L40).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	RA	52	418	259	86	68	5	0	0

- Molecule 45 is a protein called eL41 (yeast L41).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	SA	25	234	142	63	28	1	0	0

- Molecule 46 is a protein called eL42 (yeast L42).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	TA	105	848	534	170	139	5	0	0

- Molecule 47 is a protein called eL43 (yeast L43).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
47	UA	91	695	429	138	122	6	0	0

- Molecule 48 is a protein called uL10 (yeast P0).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	VA	189	1473	942	257	270	4	0	0

- Molecule 49 is a protein called RACK1 (yeast Asc1).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	WA	318	2445	1546	419	472	8	0	0

- Molecule 50 is a protein called uS2 (yeast S0).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	XA	206	1612	1034	285	291	2	0	0

- Molecule 51 is a protein called eS1 (yeast S1).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
51	YA	214	856	428	214	214	0	0

- Molecule 52 is a protein called uS5 (yeast S2).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	ZA	217	1635	1047	289	297	2	0	0

- Molecule 53 is a protein called uS3 (yeast S3).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	AB	223	1734	1101	313	314	6	0	0

- Molecule 54 is a protein called eS4 (yeast S4).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	BB	260	2069	1316	389	361	3	0	0

- Molecule 55 is a protein called uS7 (yeast S5).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	CB	206	1610	1007	300	300	3	0	0

- Molecule 56 is a protein called eS6 (yeast S6).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
56	DB	226	1820	1142	350	325	3	0	0

- Molecule 57 is a protein called eS7 (yeast S7).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
57	EB	184	1481	951	265	265	0	0

- Molecule 58 is a protein called eS8 (yeast S8).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
58	FB	188	1490	925	298	265	2	0	0

- Molecule 59 is a protein called uS4 (yeast S9).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
59	GB	185	1494	943	289	261	1	0	0

- Molecule 60 is a protein called eS10 (yeast S10).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
60	HB	96	817	529	133	153	2	0	0

- Molecule 61 is a protein called uS17 (yeast S11).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
61	IB	155	1245	798	235	209	3	0	0

- Molecule 62 is a protein called eS12 (yeast S12).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
62	JB	124	496	248	124	124	0	0

- Molecule 63 is a protein called uS15 (yeast S13).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
63	KB	150	1193	759	224	208	2	0	0

- Molecule 64 is a protein called uS11 (yeast S14).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
64	LB	127	508	254	127	127	0	0

- Molecule 65 is a protein called uS19 (yeast S15).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
65	MB	122	975	622	182	164	7	0	0

- Molecule 66 is a protein called uS9 (yeast S16).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
66	NB	141	1106	708	203	195	0	0

- Molecule 67 is a protein called eS17 (yeast S17).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
67	OB	117	836	515	166	153	2	0	0

- Molecule 68 is a protein called uS13 (yeast S18).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
68	PB	145	1193	743	237	211	2	0	0

- Molecule 69 is a protein called eS19 (yeast S19).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
69	QB	143	1113	694	208	209	2	0	0

- Molecule 70 is a protein called uS10 (yeast S20).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
70	RB	107	856	539	156	160	1	0	0

- Molecule 71 is a protein called eS21 (yeast S21).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
71	SB	87	685	420	125	138	2	0	0

- Molecule 72 is a protein called uS8 (yeast S22).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
72	TB	129	1022	650	188	181	3	0	0

- Molecule 73 is a protein called uS12 (yeast S23).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
73	UB	144	1122	708	220	192	2	0	0

- Molecule 74 is a protein called eS24 (yeast S24).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
74	VB	134	1074	676	208	190	0	0

- Molecule 75 is a protein called eS25 (yeast S25).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
75	WB	70	563	360	104	99	0	0

- Molecule 76 is a protein called eS26 (yeast S26).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
76	XB	97	388	194	97	97	0	0

- Molecule 77 is a protein called eS27 (yeast S27).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
77	YB	81	611	382	110	114	5	0	0

- Molecule 78 is a protein called eS28 (yeast S28).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
78	ZB	63	498	306	99	92	1	0	0

- Molecule 79 is a protein called uS14 (yeast S29).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
79	AC	53	444	275	92	73	4	0	0

- Molecule 80 is a protein called eS30 (yeast S30).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
80	BC	60	475	299	98	77	1	0	0

- Molecule 81 is a protein called eS31 (yeast S31).

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
81	CC	71	284	142	71	71	0	0

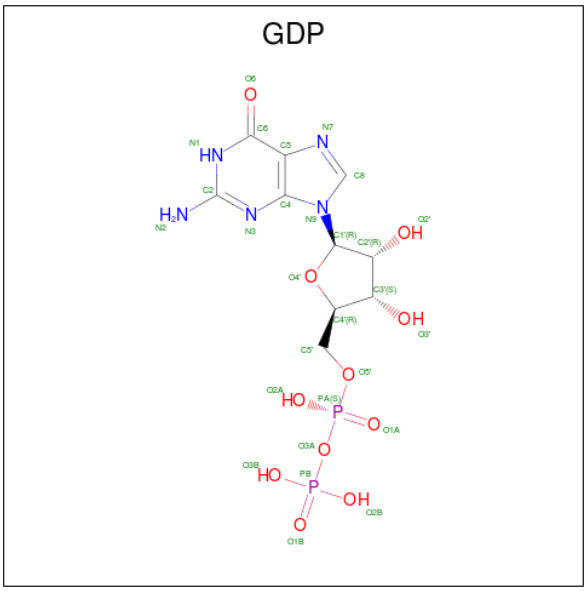
- Molecule 82 is a protein called yeast eEF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
82	DC	824	6419	4085	1096	1208	30	0	0

- Molecule 83 is a RNA chain called IRES.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
83	EC	198	4105	1826	718	1363	198	0	0

- Molecule 84 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).

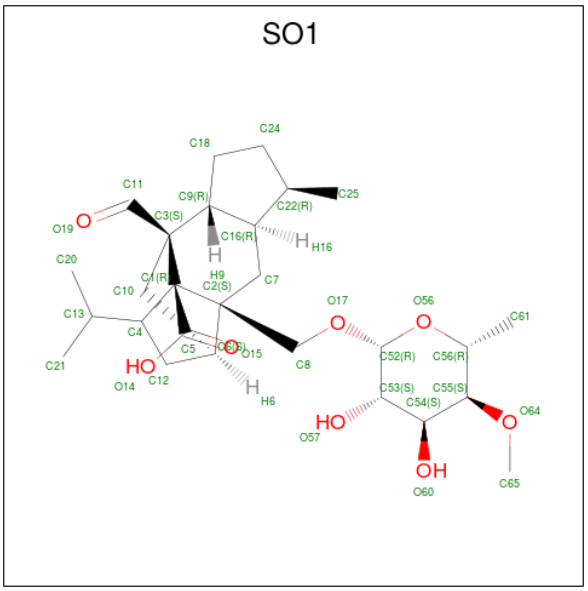


Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
84	DC	1	28	10	5	11	2	0

- Molecule 85 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
85	DC	1	1	1	0

- Molecule 86 is [1R-(1.ALPHA.,3A.BETA.,4.BETA.,4A.BETA.,7.BETA.,7A.ALPHA.,8A.BETA.)]8A-[(6-DEOXY-4-O-METHYL-BETA-D-ALTROPYRANOSYLOXY)METHYL]-4-FORMYL-4,4A,5,6,7,7A,8,8A-OCTAHYDRO-7-METHYL-3-(1-METHYLETHYL)-1,4-METHANO-S-INDACENE-3A(1H)-CARBOXYLIC ACID (three-letter code: SO1) (formula: $C_{27}H_{42}O_8$).



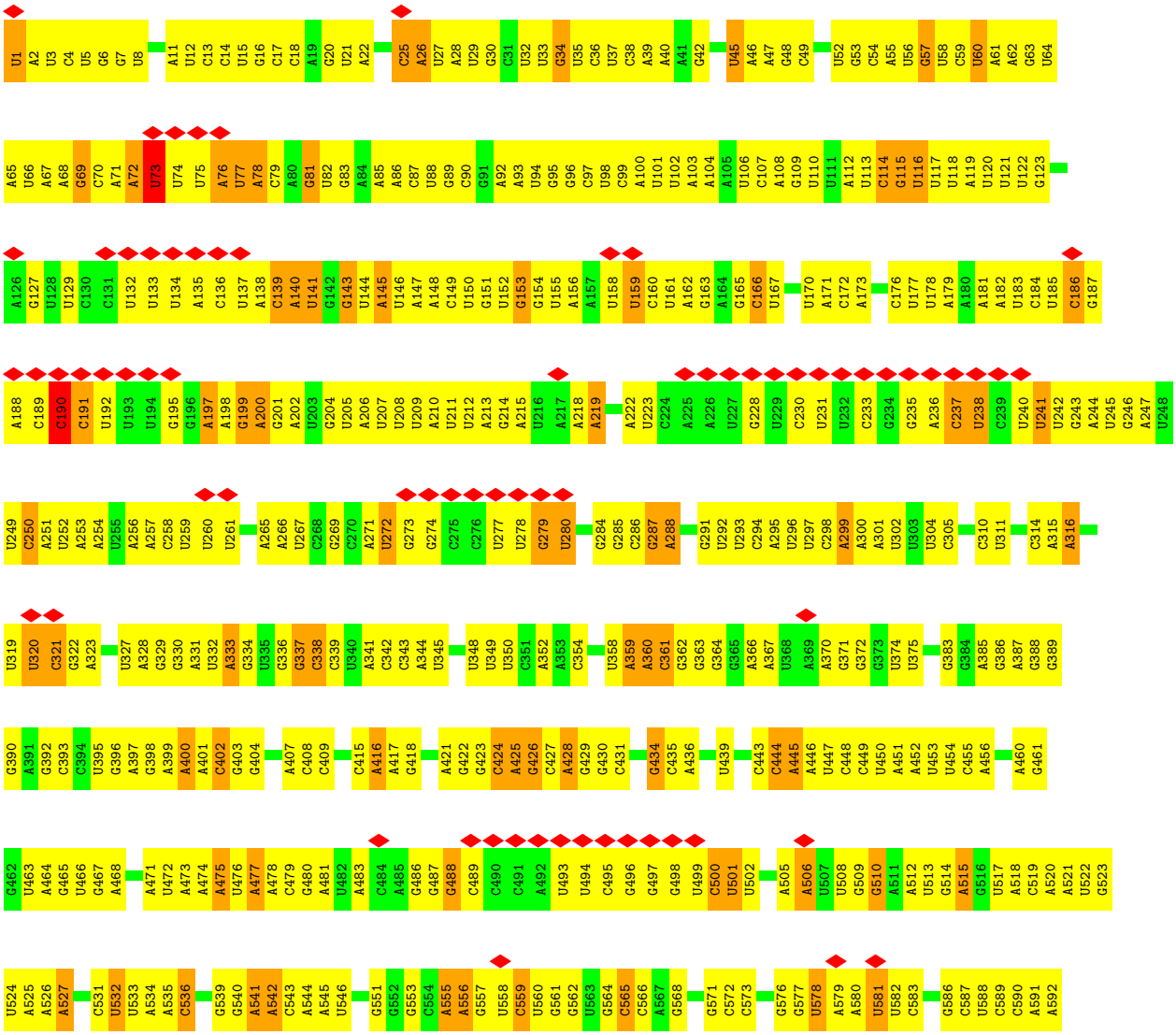
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
86	DC	1	35	27	8	0

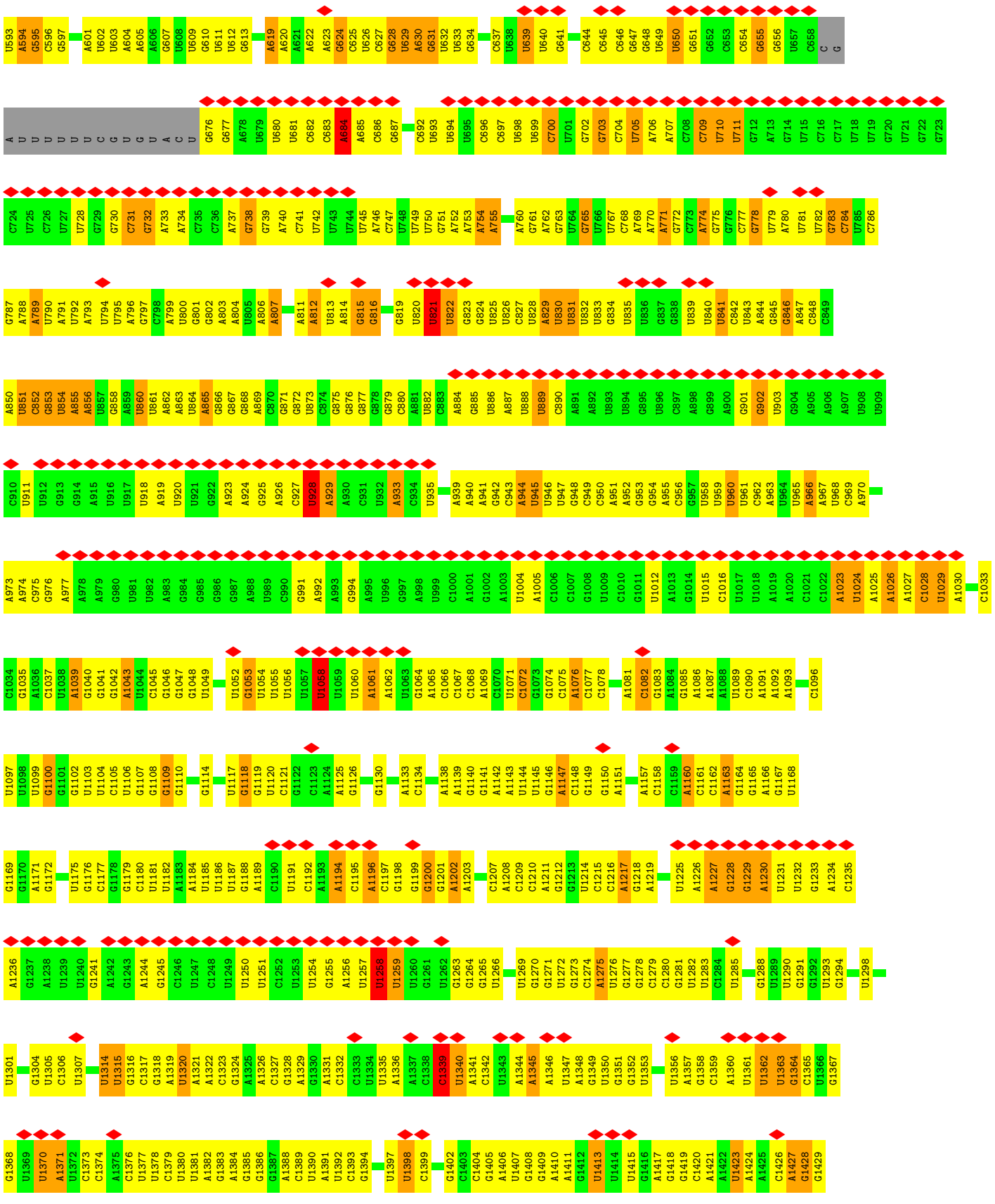
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: 18S ribosomal RNA

Chain A:

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A U U U U U C G U G U A C U G676 G677 A678 U679 U680 U681 C682 C683 A684 A685 C686 G687 C692 U693 U694 U695 C696 C697 U698 U699 C700 U701 G702 G703 C704 U705 A706 A707 C708 C709 U710 U711 G712 A713 G714 U715 C716 C717 U718 U719 G720 U721 G722 G723
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G1169 G1170 A1171 G1172 U1175 G1176 C1177 G1178 G1179 C1180 U1181 U1182 A1183 A1184 U1185 A1186 U1187 G1188 A1189 C1190 U1191 C1192 A1193 A1194 C1195 A1196 C1197 G1198 G1199 G1200 G1201 A1202 A1203 C1207 A1208 C1209 C1210 A1211 G1212 G1213 U1214 C1215 C1216 A1217 G1218 A1219 U1225 A1226 A1227 G1228 G1229 A1230 U1231 U1232 G1233 A1234 C1235
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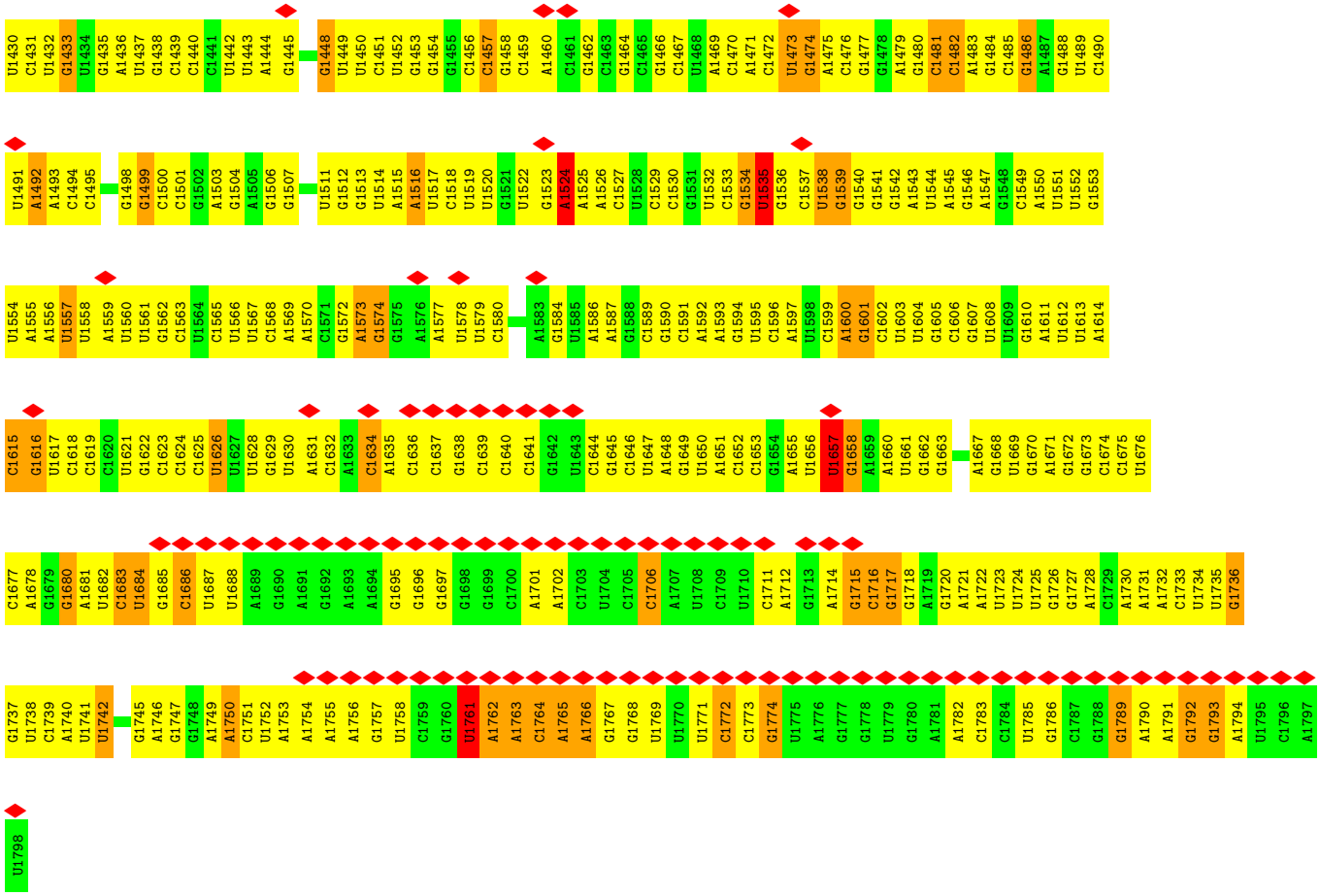
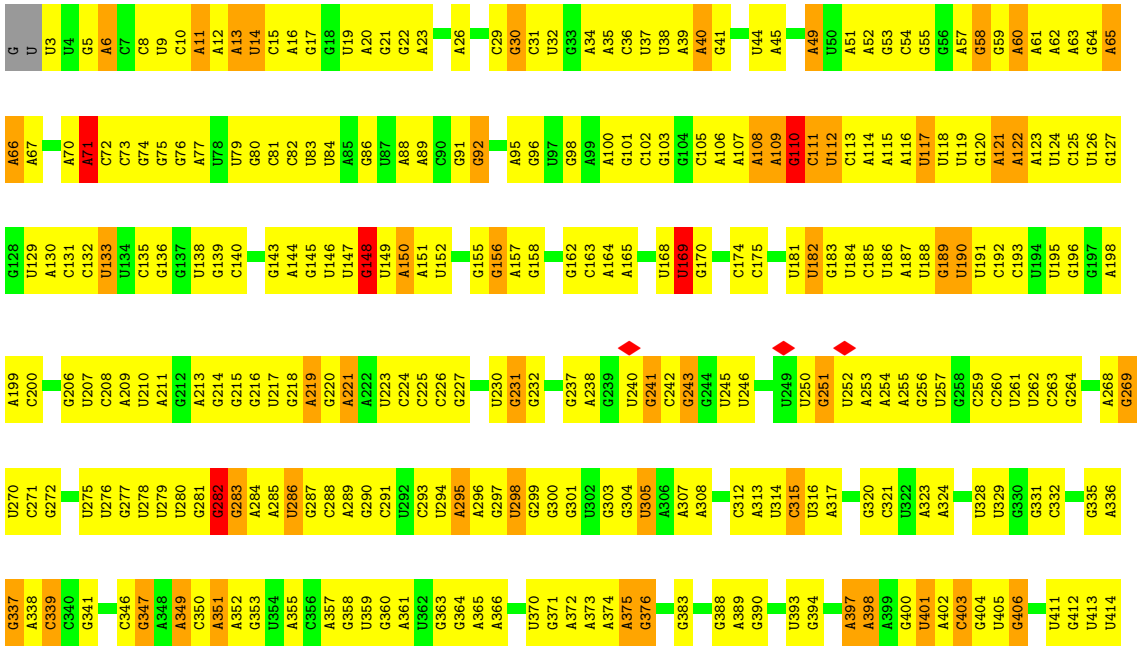
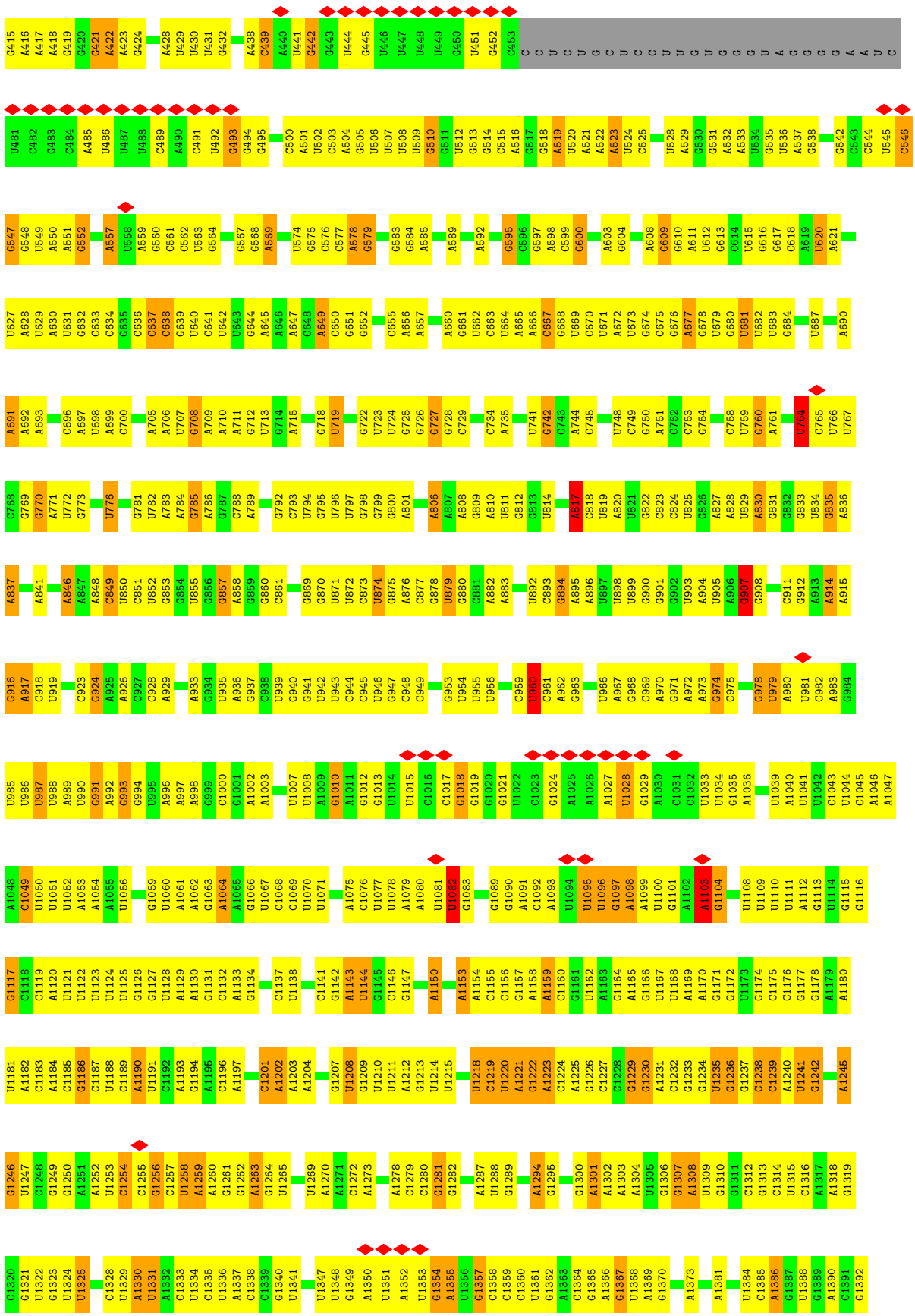


• Molecule 2: 25S ribosomal RNA

Chain B:

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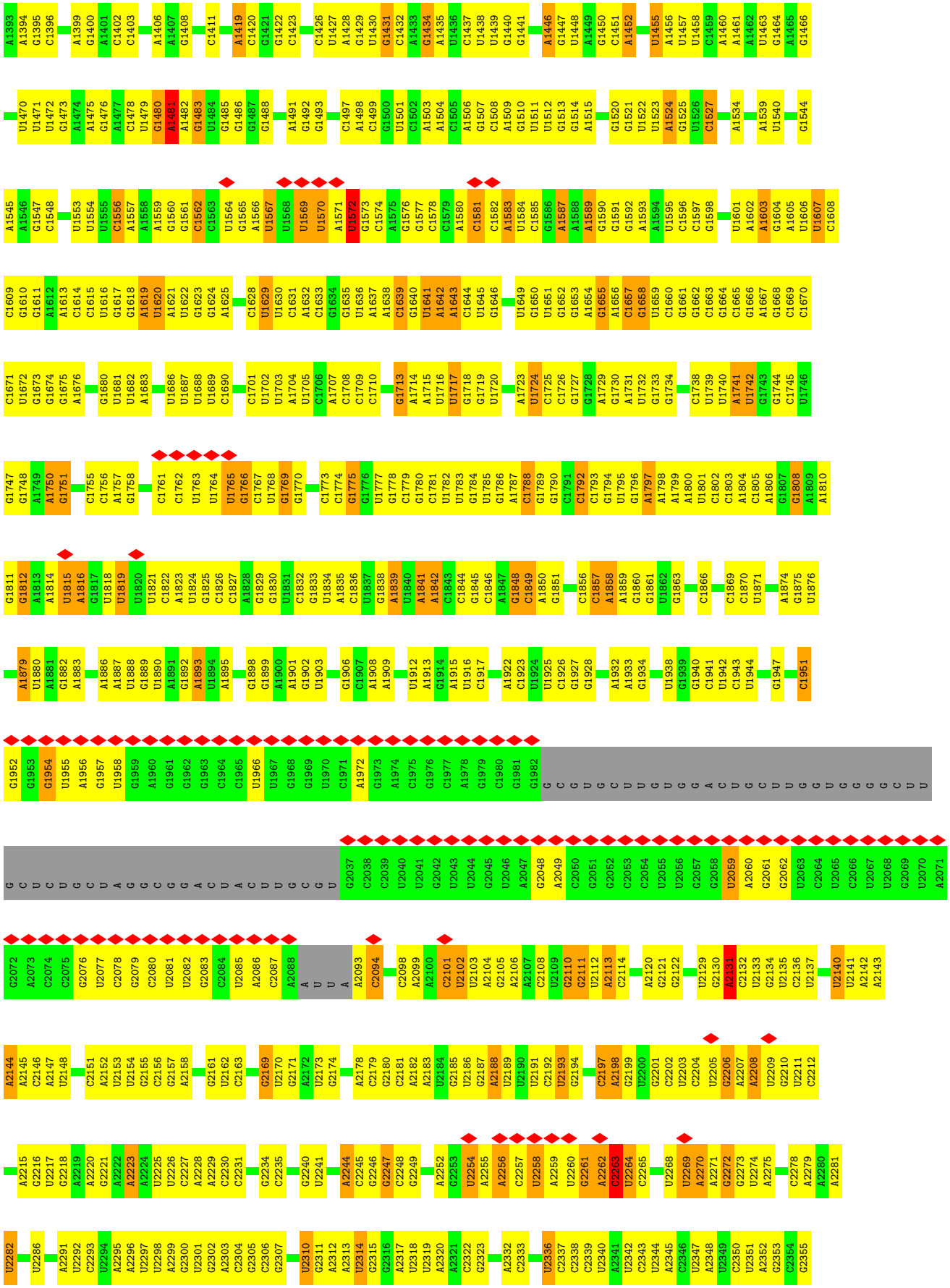
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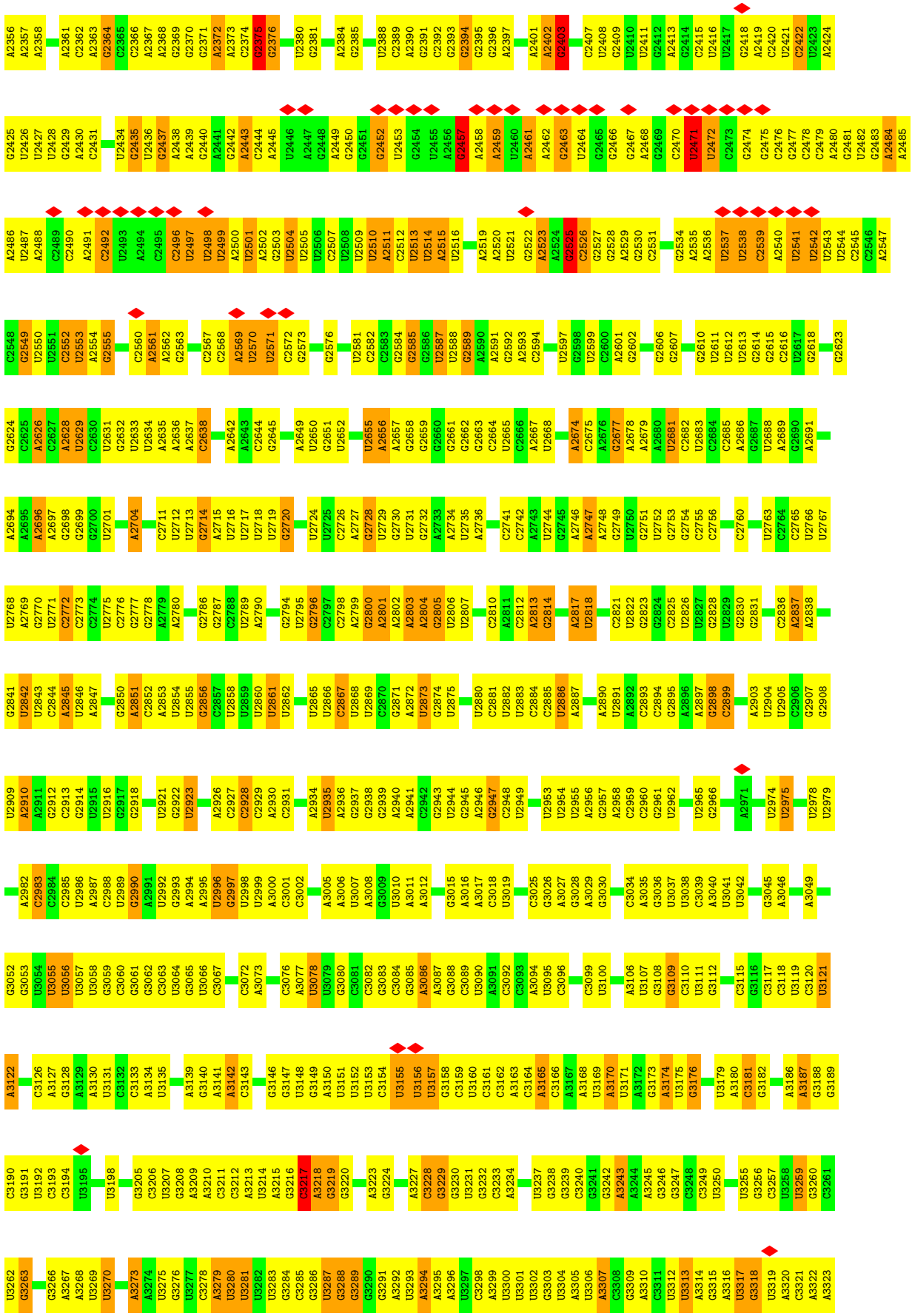
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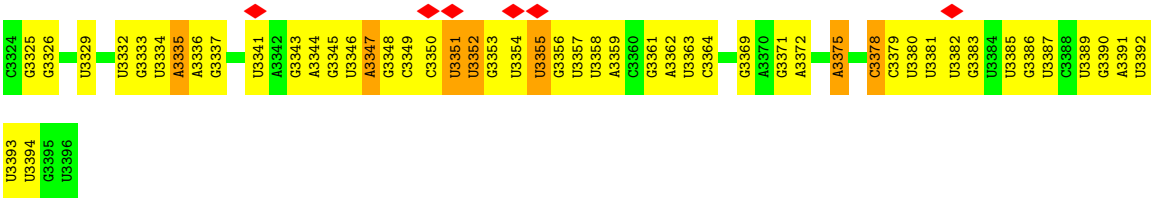

- Molecule 3: 5.8S ribosomal RNA

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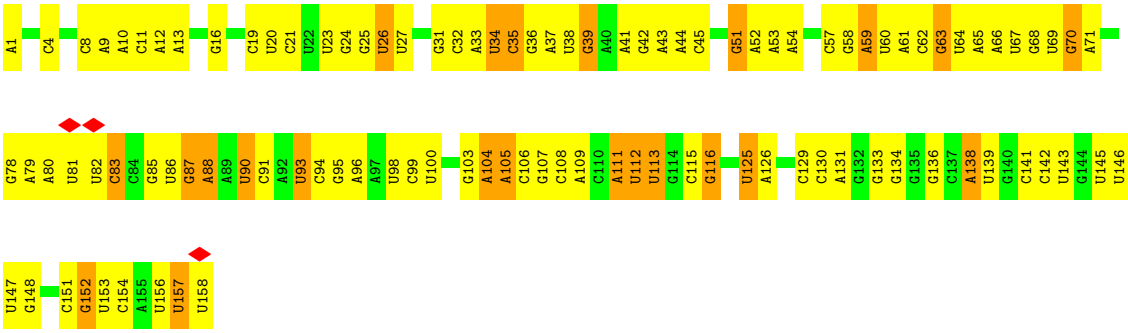
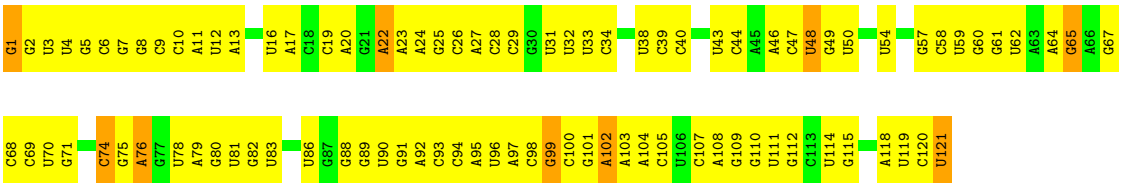


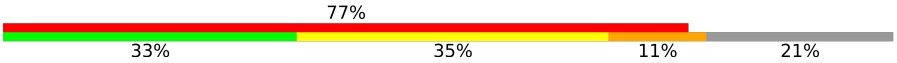
- Molecule 4: 5S ribosomal RNA

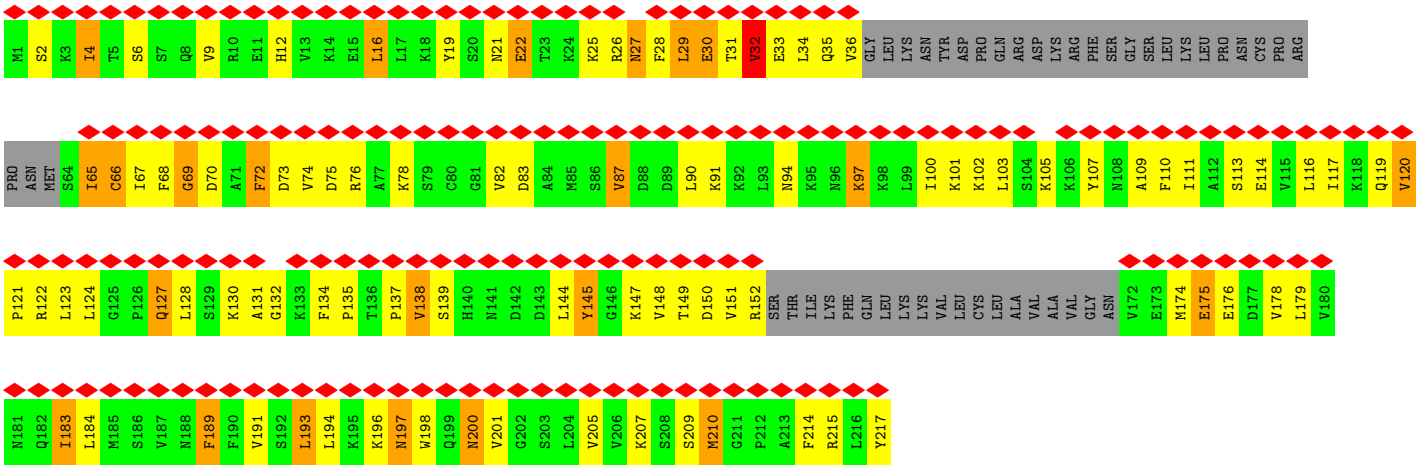
Chain D:



- Molecule 5: uL1 (yeast L1)

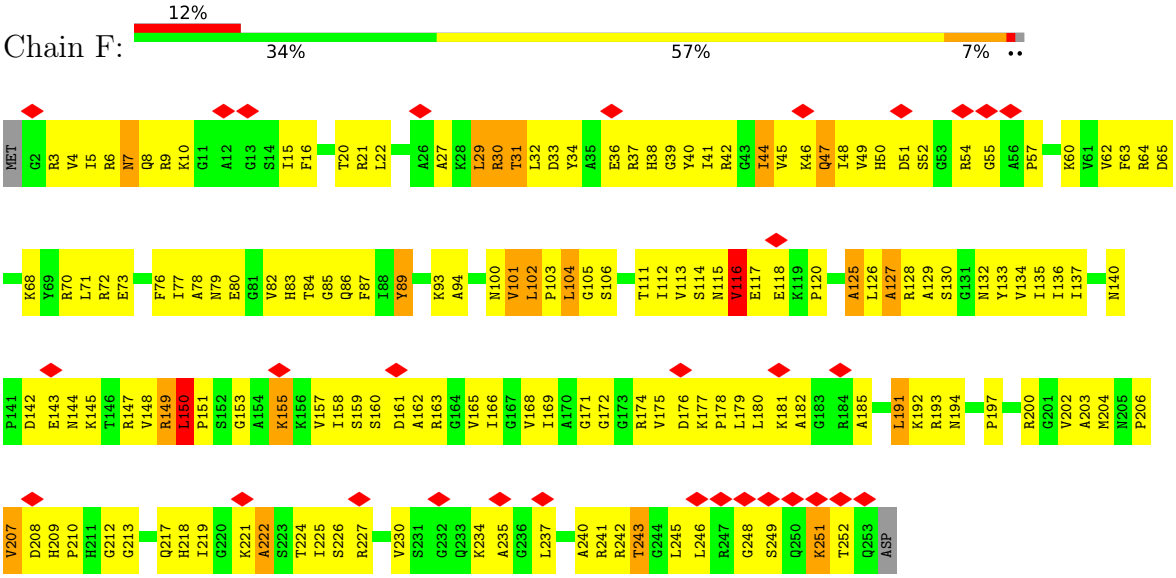
Chain E:





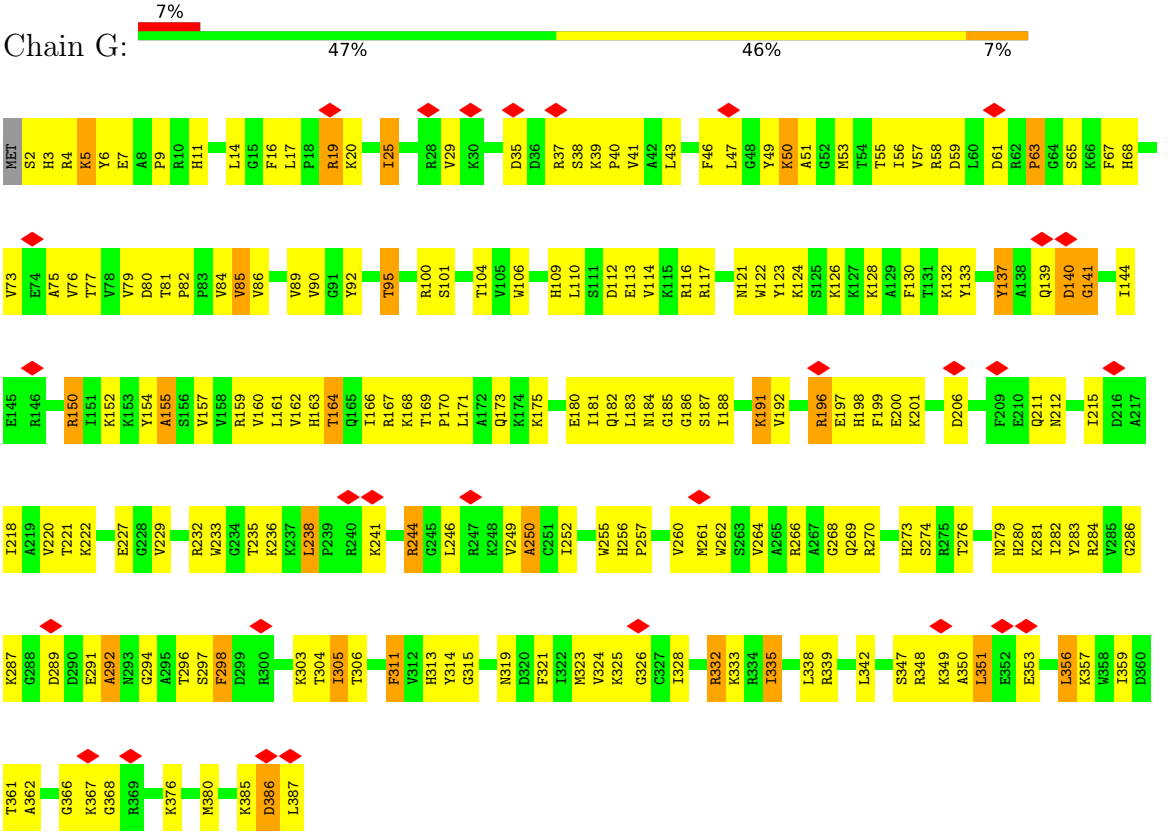
- Molecule 6: uL2 (yeast L2)

Chain F:



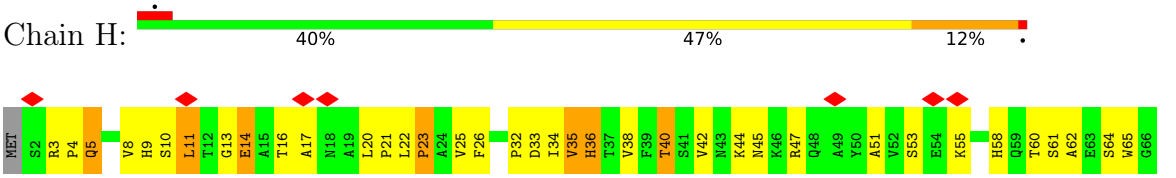
- Molecule 7: uL3 (yeast L3)

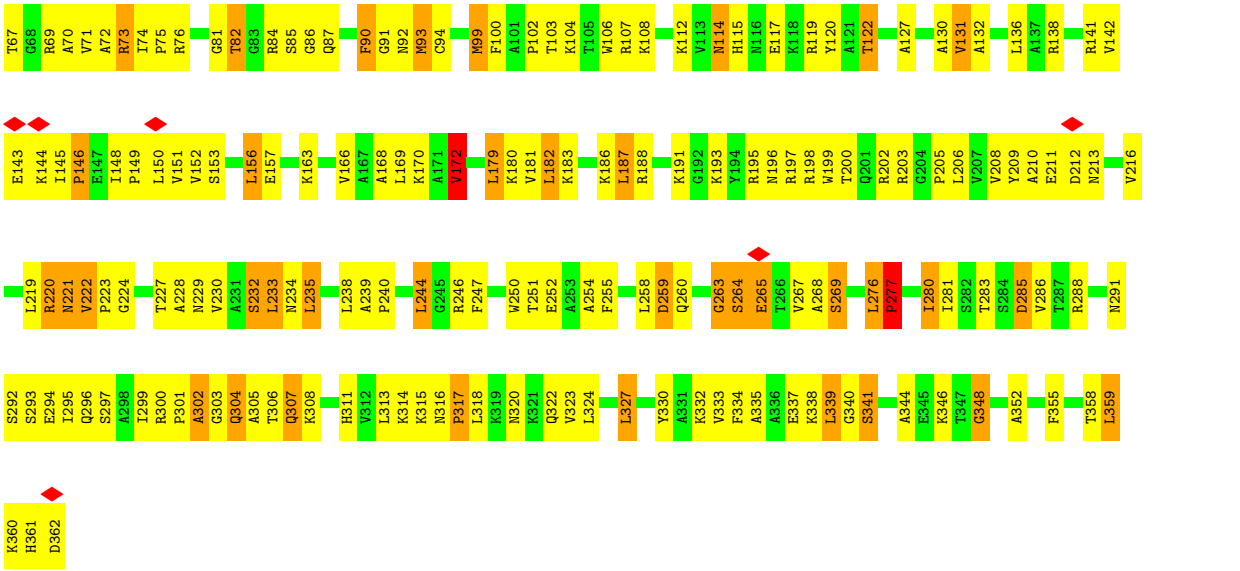
Chain G:



- Molecule 8: uL4 (yeast L4)

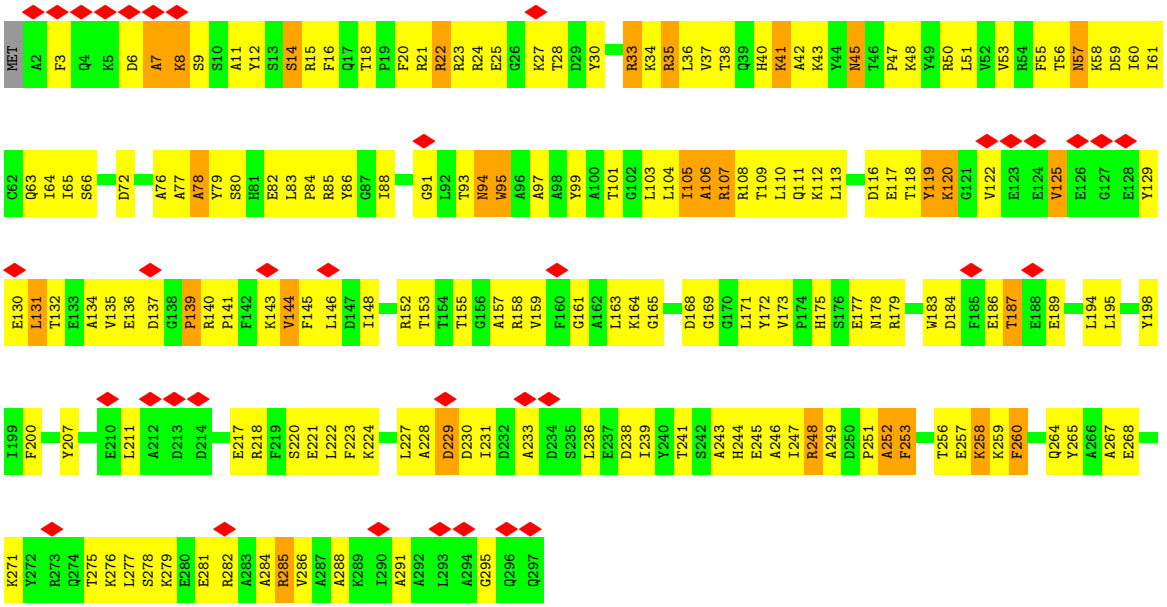
Chain H:





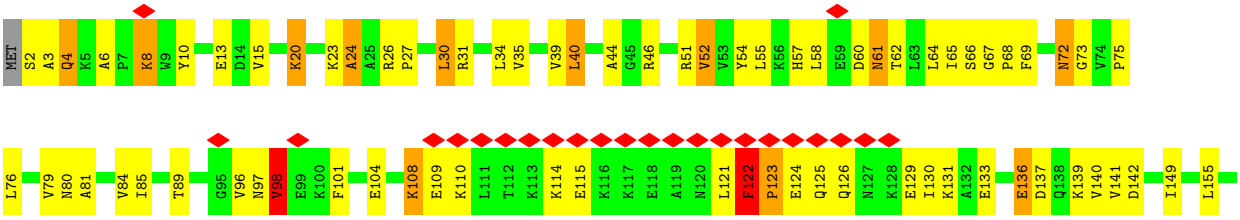
- Molecule 9: uL18 (yeast L5)

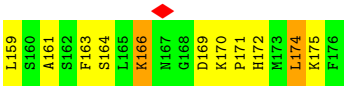
Chain I:



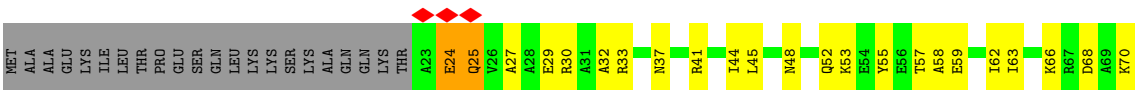
- Molecule 10: eL6 (yeast L6)

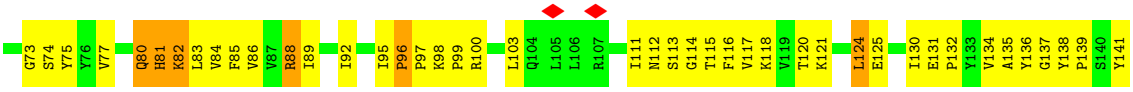
Chain J:

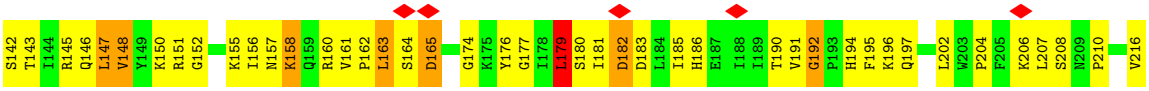


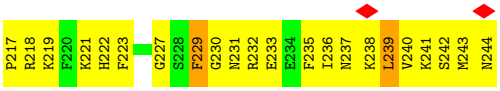


- Molecule 11: uL30 (yeast L7)

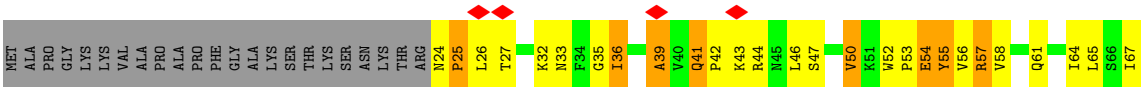


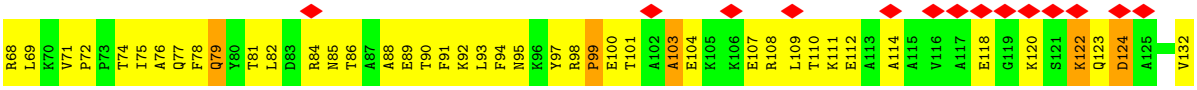


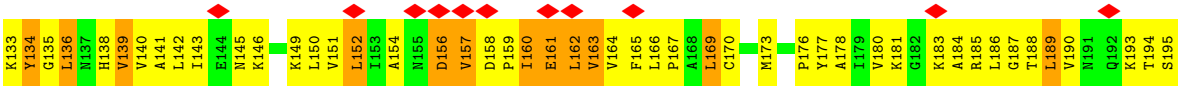


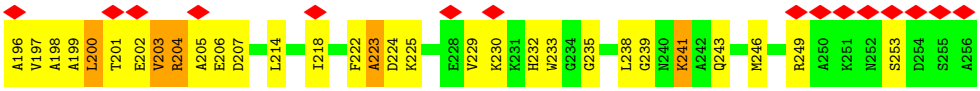


- Molecule 12: eL8 (yeast L8)

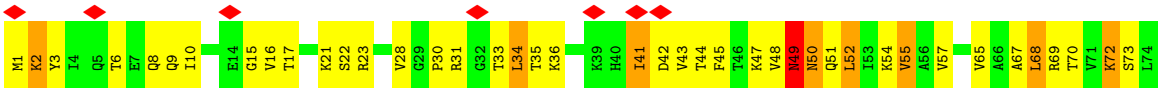


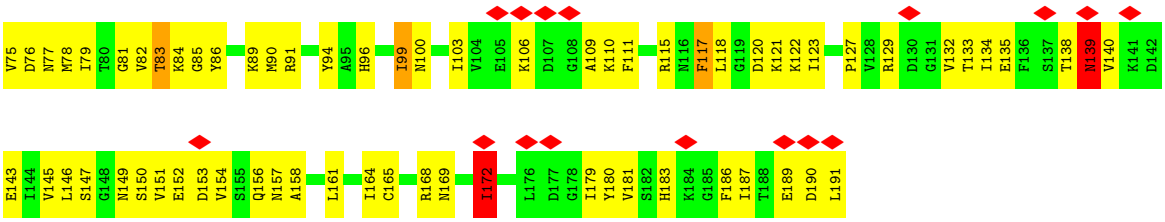






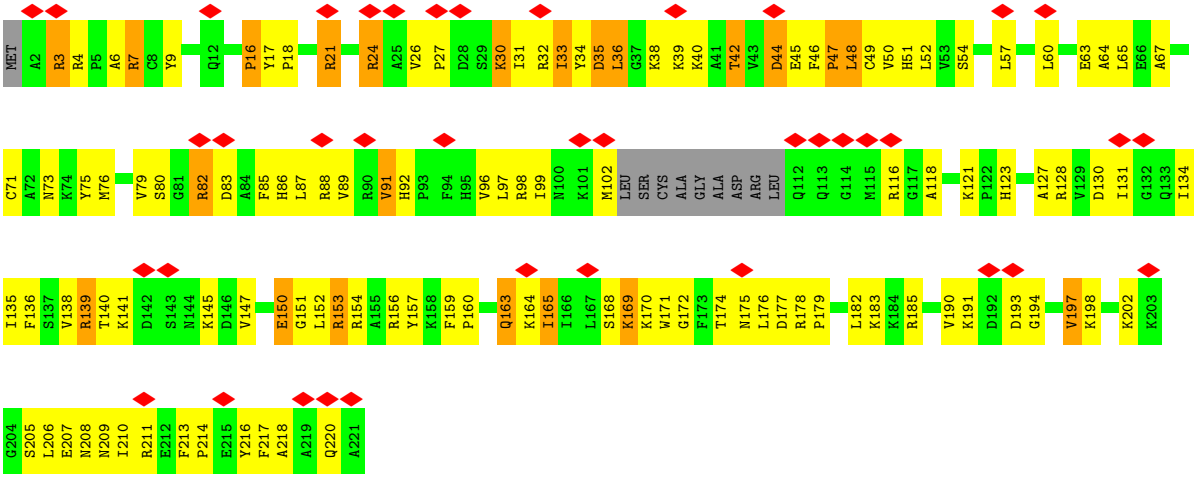
- Molecule 13: uL6 (yeast L9)





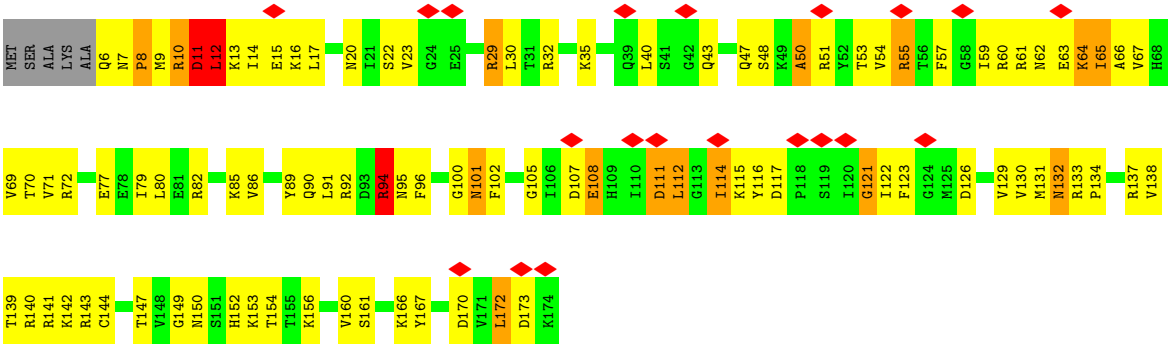
• Molecule 14: uL16 (yeast L10)

Chain N:



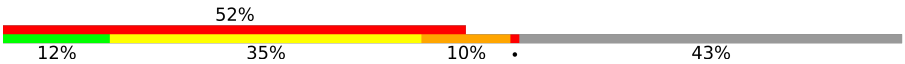
• Molecule 15: uL5 (yeast L11)

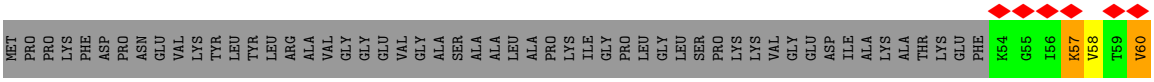
Chain O:

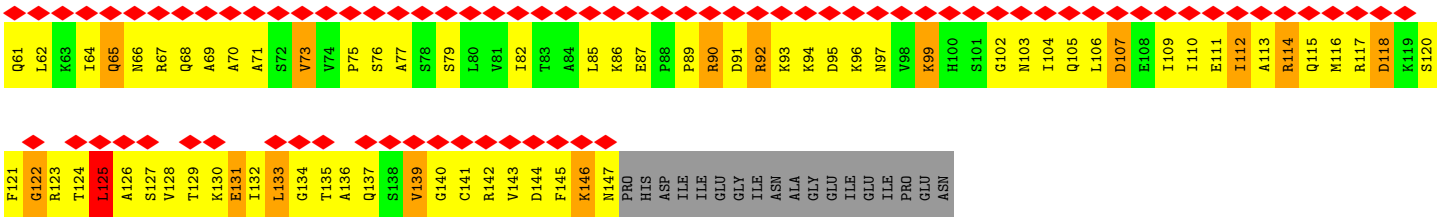


• Molecule 16: uL11 (yeast L12)

Chain P:

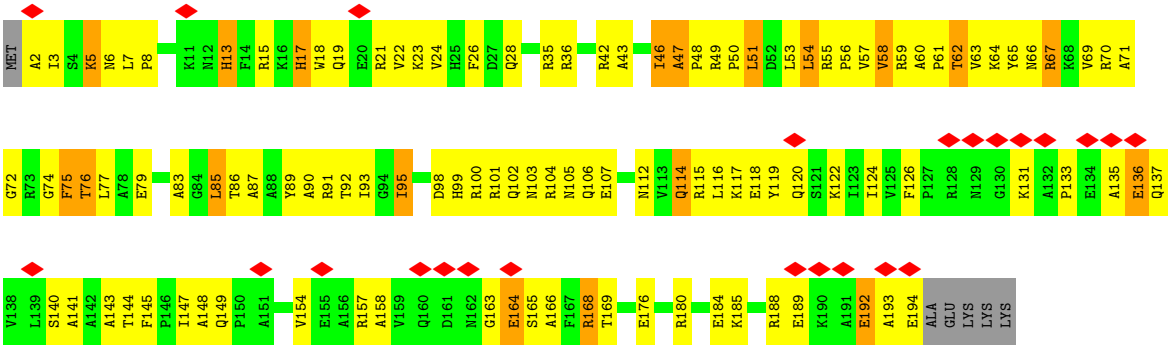






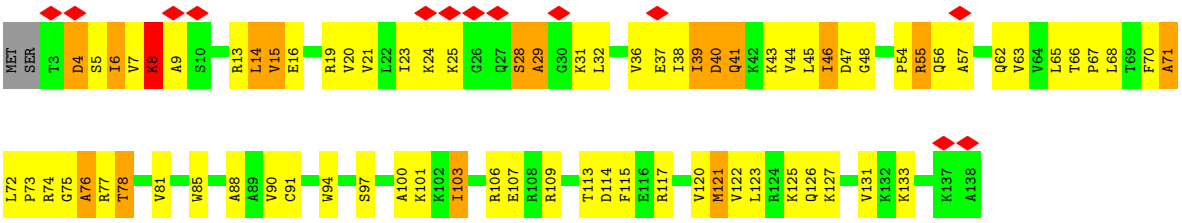
- Molecule 17: eL13 (yeast L13)

Chain Q:



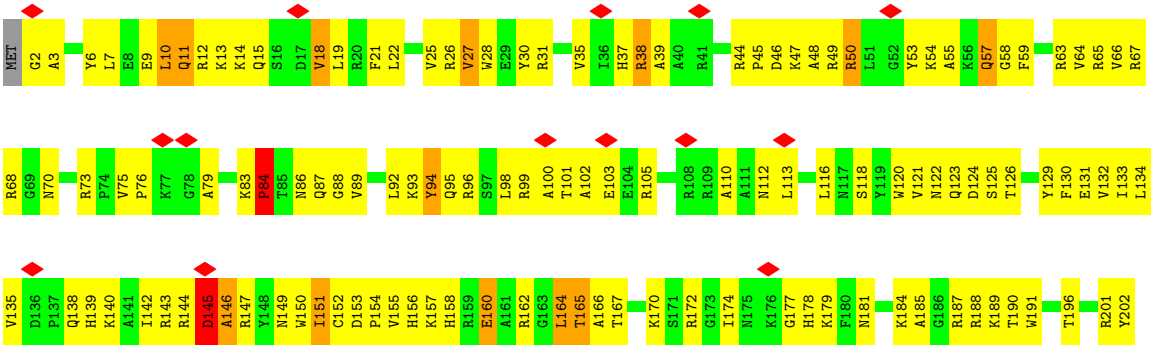
- Molecule 18: eL14 (yeast L14)

Chain R:

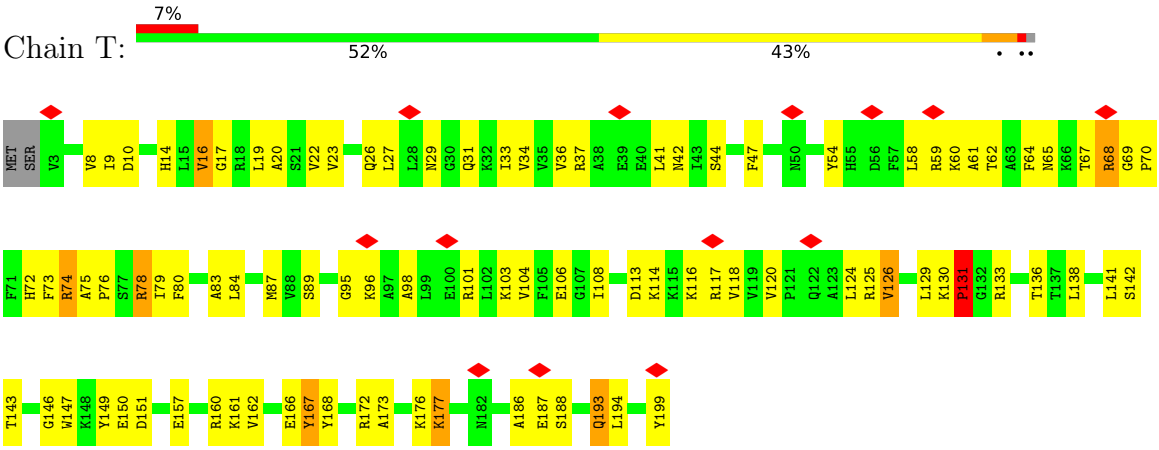


- Molecule 19: eL15 (yeast L15)

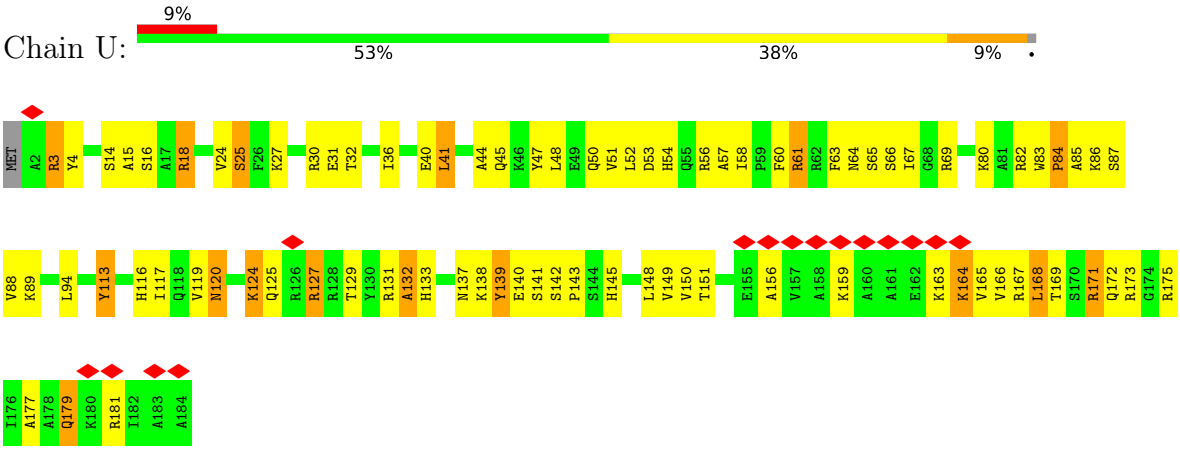
Chain S:



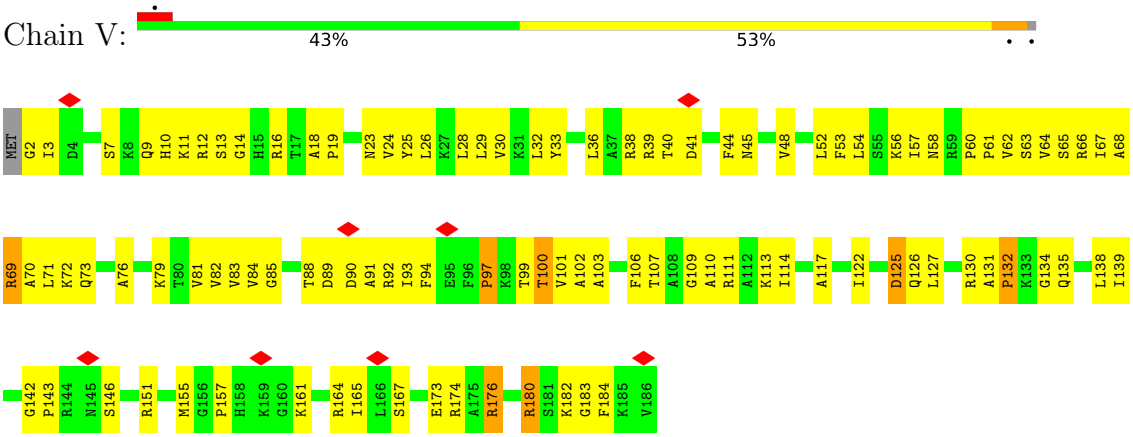
• Molecule 20: uL13 (yeast L16)



• Molecule 21: uL22 (yeast L17)

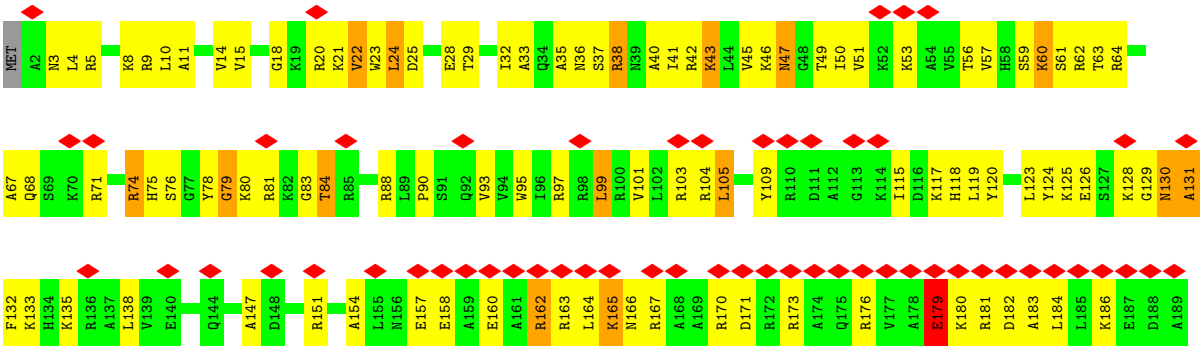


• Molecule 22: eL18 (yeast L18)



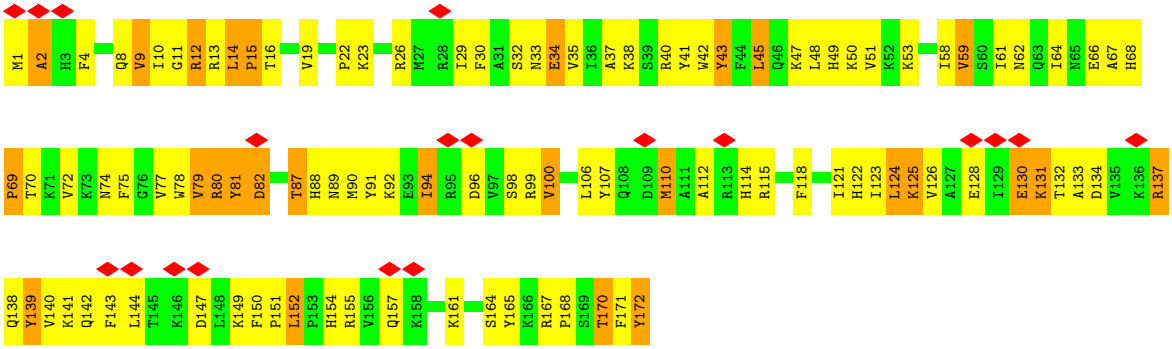
• Molecule 23: eL19 (yeast L19)

Chain W:



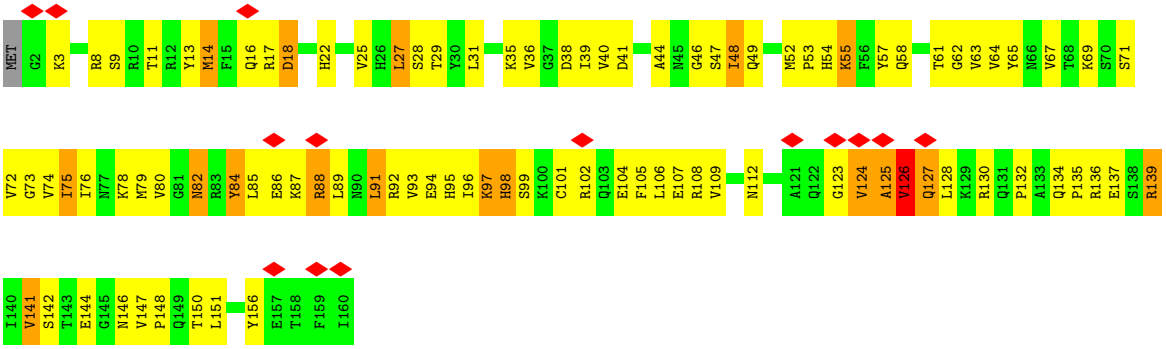
- Molecule 24: eL20 (yeast L20)

Chain X:



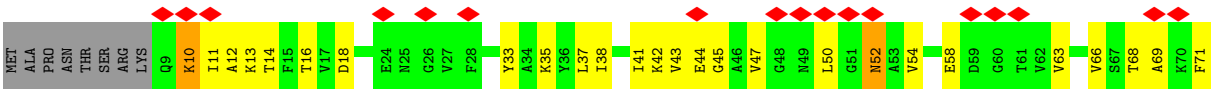
- Molecule 25: eL21 (yeast L21)

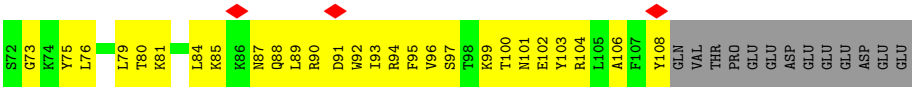
Chain Y:



- Molecule 26: eL22 (yeast L22)

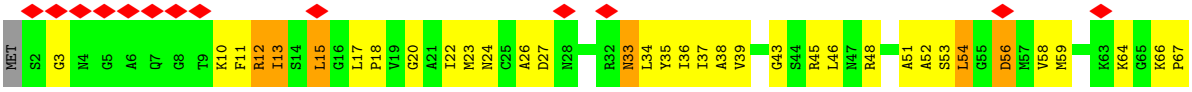
Chain Z:

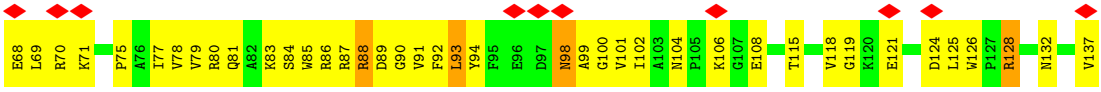




• Molecule 27: uL14 (yeast L23)

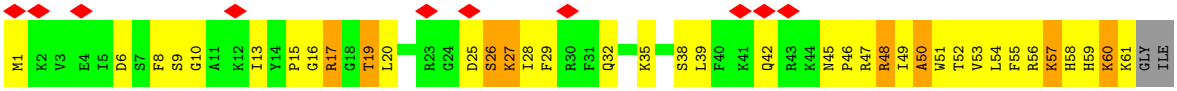
Chain AA:





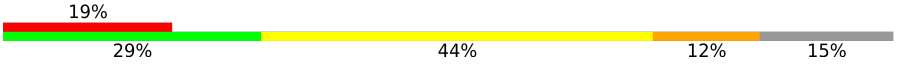
• Molecule 28: eL24 (yeast L24)

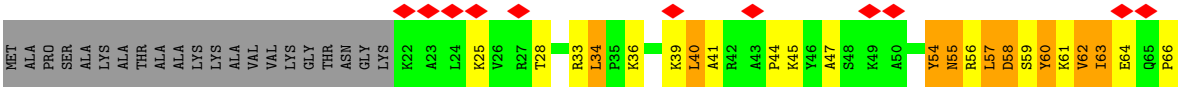
Chain BA:

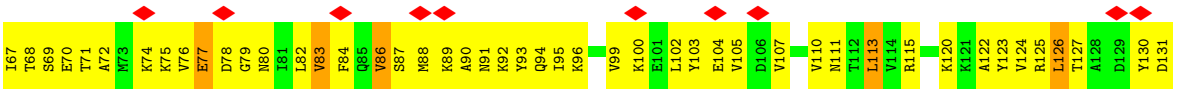


• Molecule 29: uL23 (yeast L25)

Chain CA:

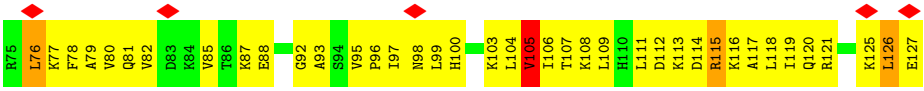






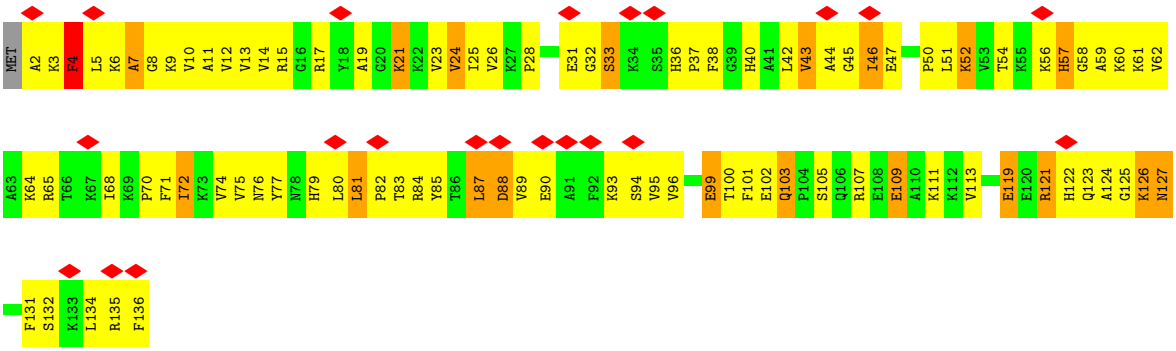
• Molecule 30: uL24 (yeast L26)

Chain DA:



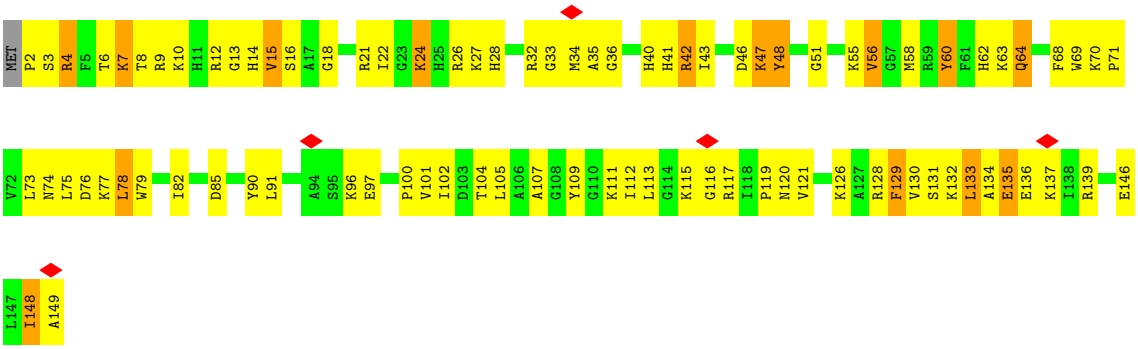
- Molecule 31: eL27 (yeast L27)

Chain EA:



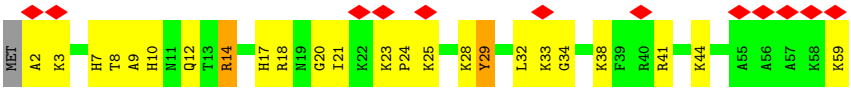
- Molecule 32: uL15 (yeast L28)

Chain FA:



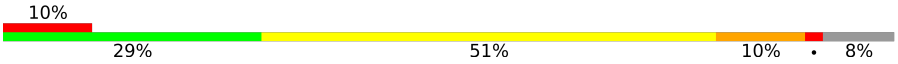
- Molecule 33: eL29 (yeast L29)

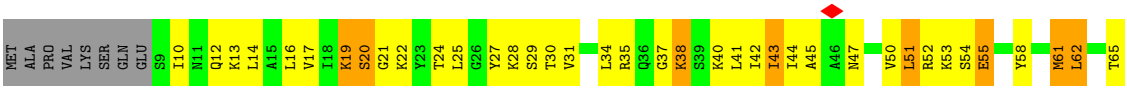
Chain GA:

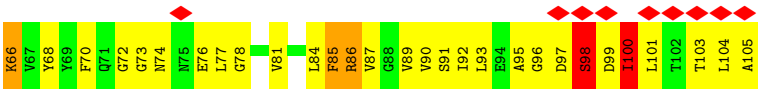


- Molecule 34: eL30 (yeast L30)

Chain HA:

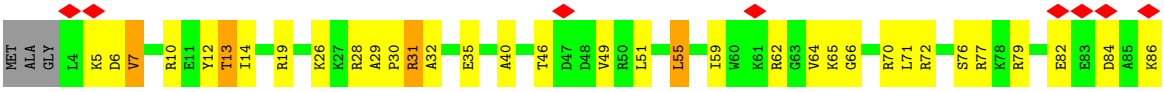


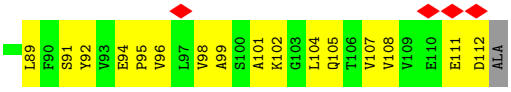




- Molecule 35: eL31 (yeast L31)

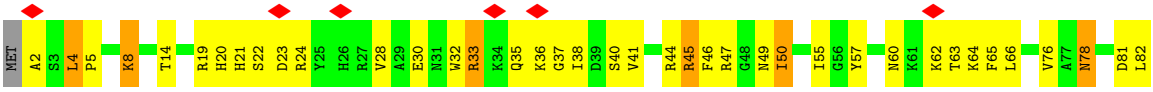
Chain IA:

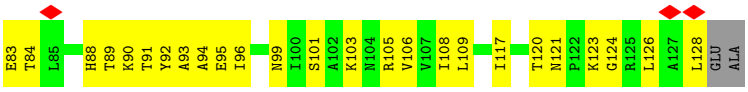




- Molecule 36: eL32 (yeast L32)

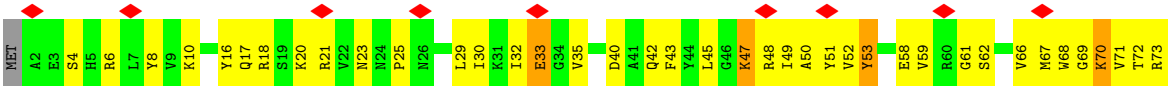
Chain JA:

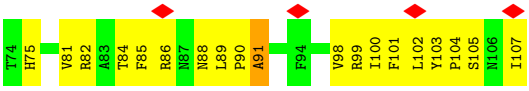




- Molecule 37: eL33 (yeast L33)

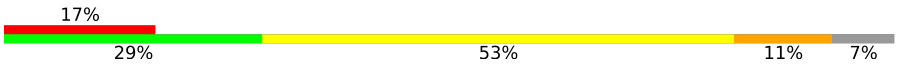
Chain KA:

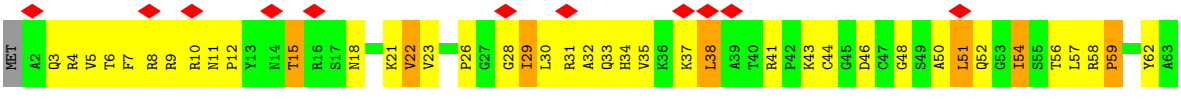


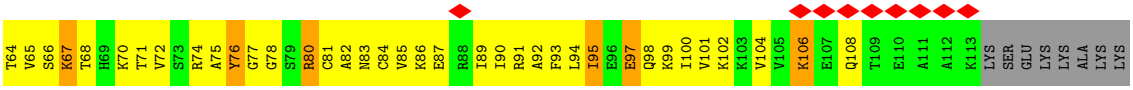


- Molecule 38: eL34 (yeast L34)

Chain LA:

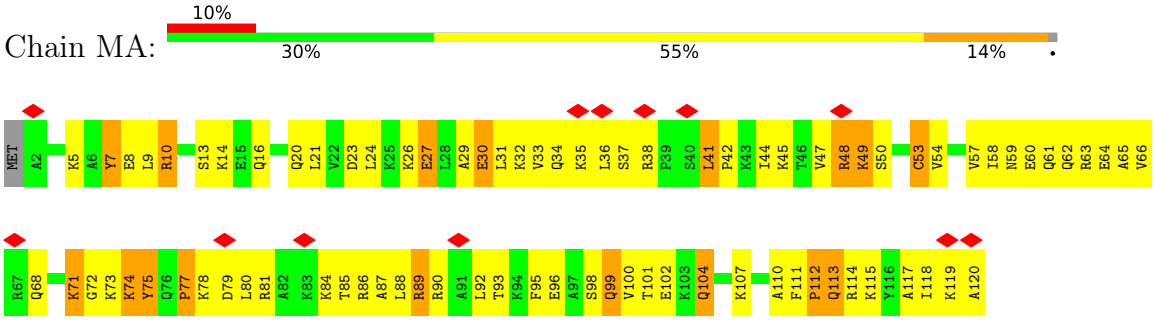






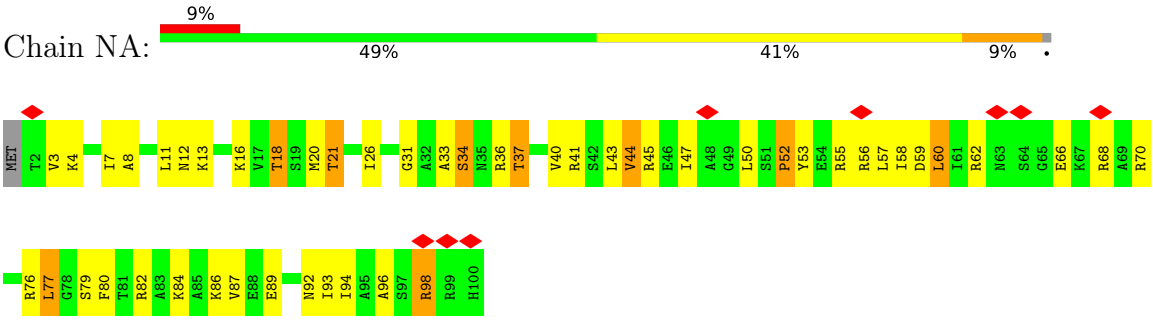
- Molecule 39: uL29 (yeast L35)

Chain MA:



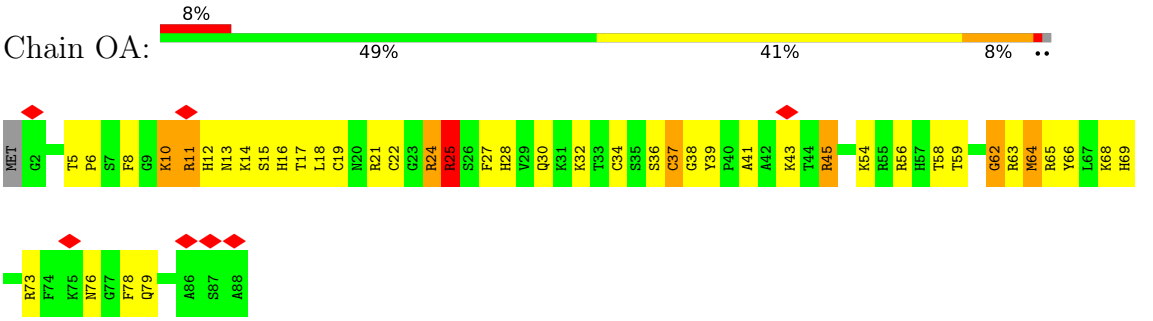
- Molecule 40: eL36 (yeast L36)

Chain NA:



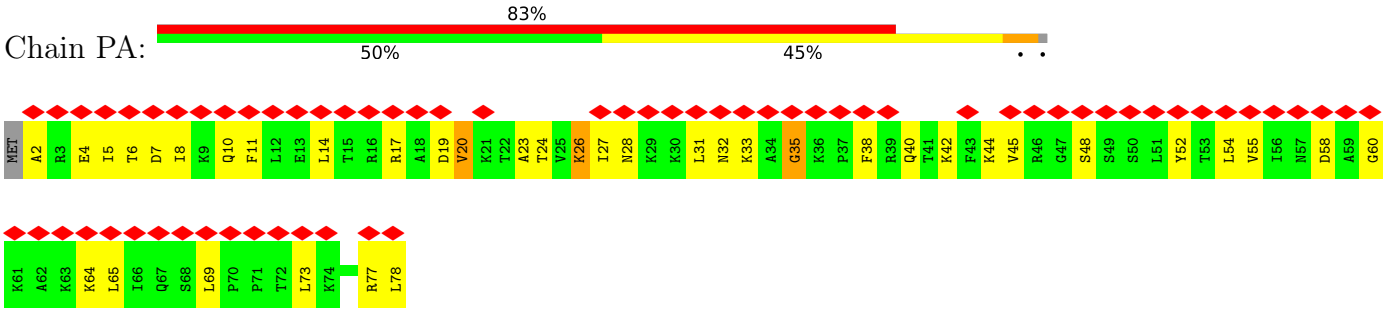
- Molecule 41: eL37 (yeast L37)

Chain OA:



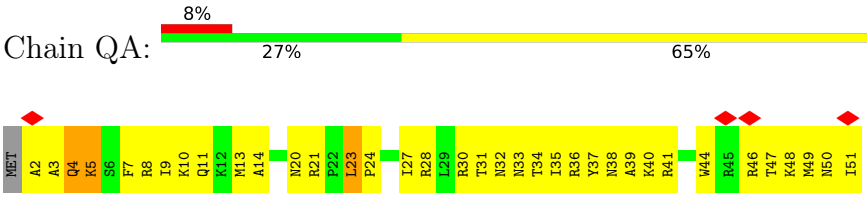
- Molecule 42: eL38 (yeast L38)

Chain PA:



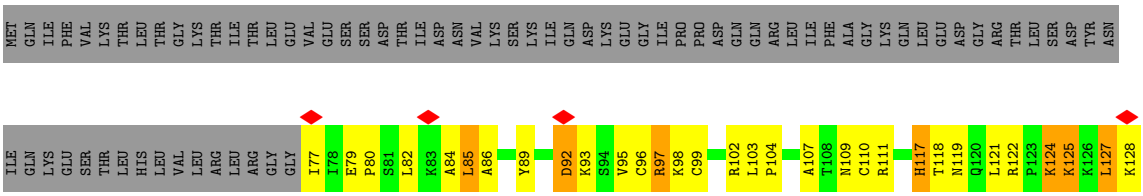
- Molecule 43: eL39 (yeast L39)

Chain QA:



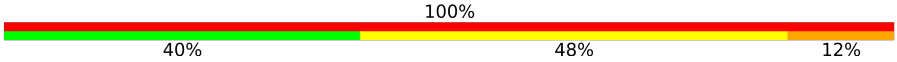
- Molecule 44: eL40 (yeast L40)

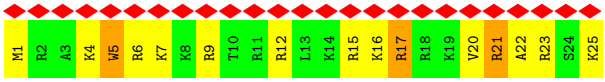
Chain RA:



- Molecule 45: eL41 (yeast L41)

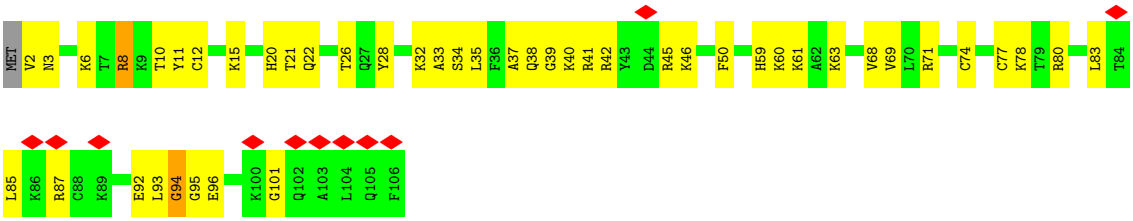
Chain SA:





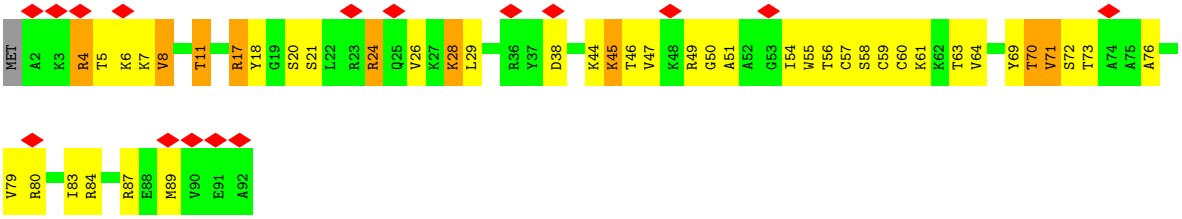
- Molecule 46: eL42 (yeast L42)

Chain TA:



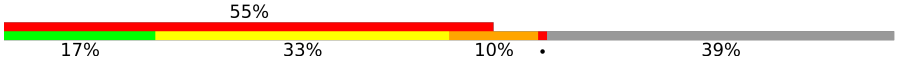
- Molecule 47: eL43 (yeast L43)

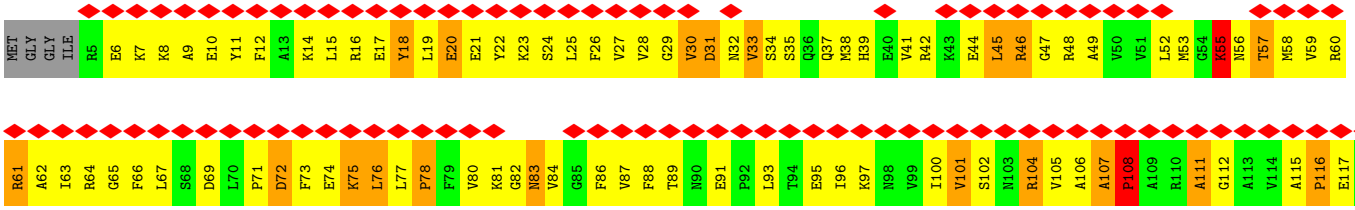
Chain UA:

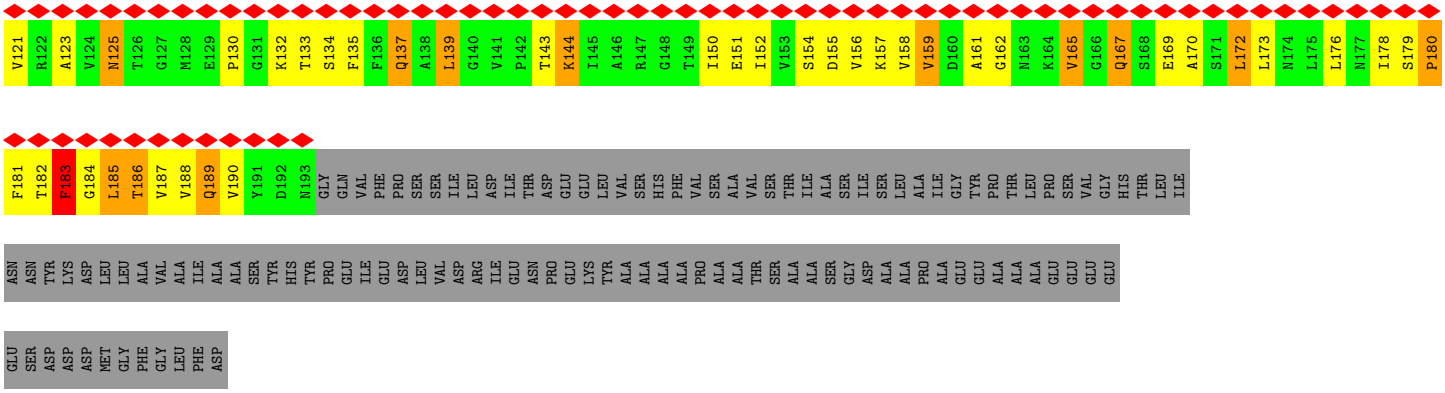


- Molecule 48: uL10 (yeast P0)

Chain VA:

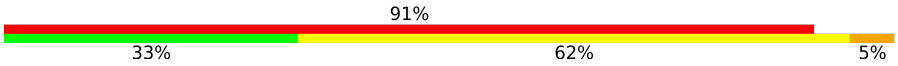






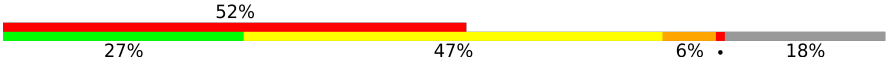
- Molecule 49: RACK1 (yeast Asc1)

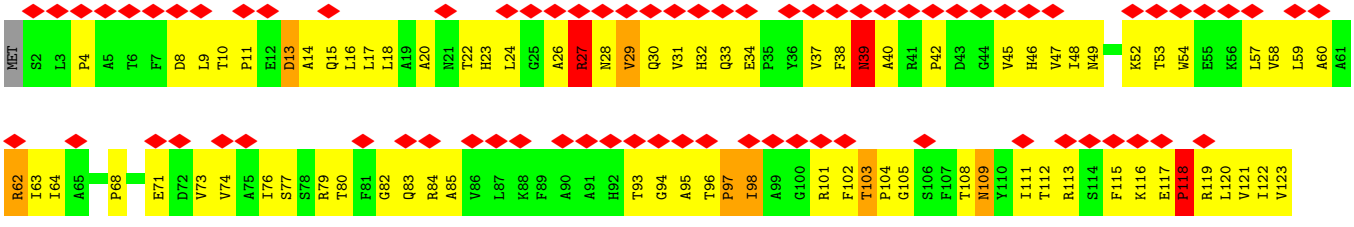
Chain WA:

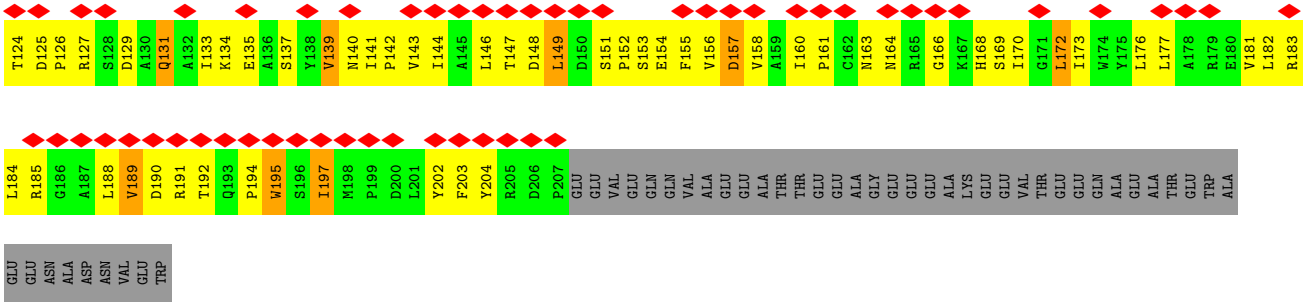


- Molecule 50: uS2 (yeast S0)

Chain XA:

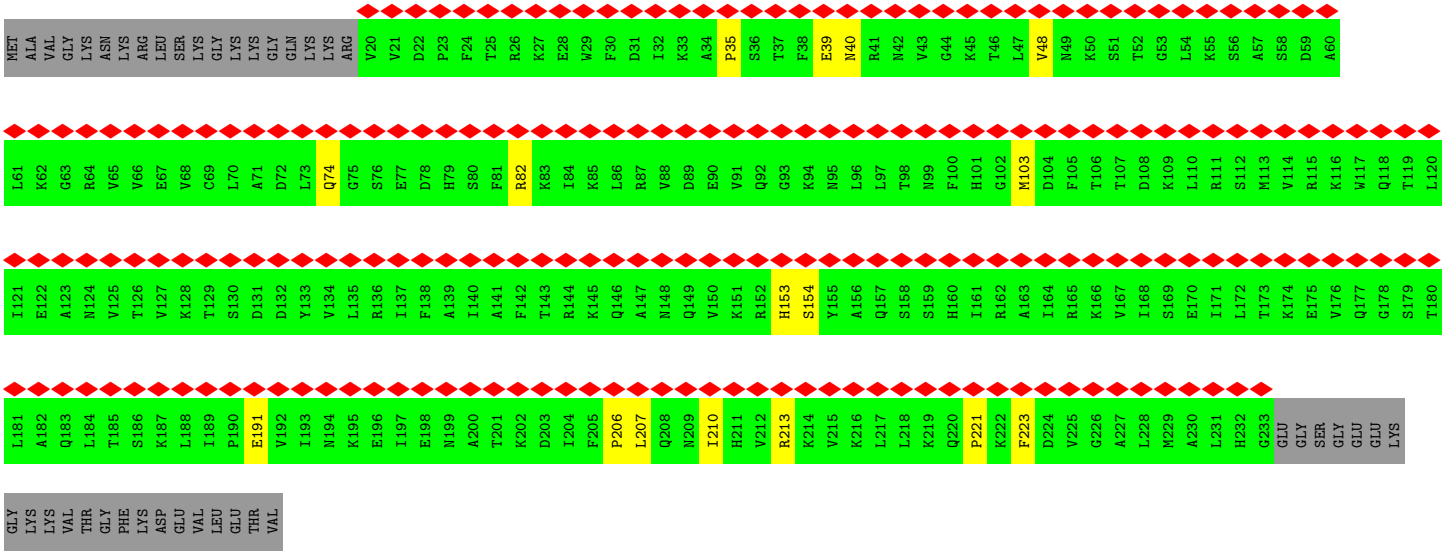






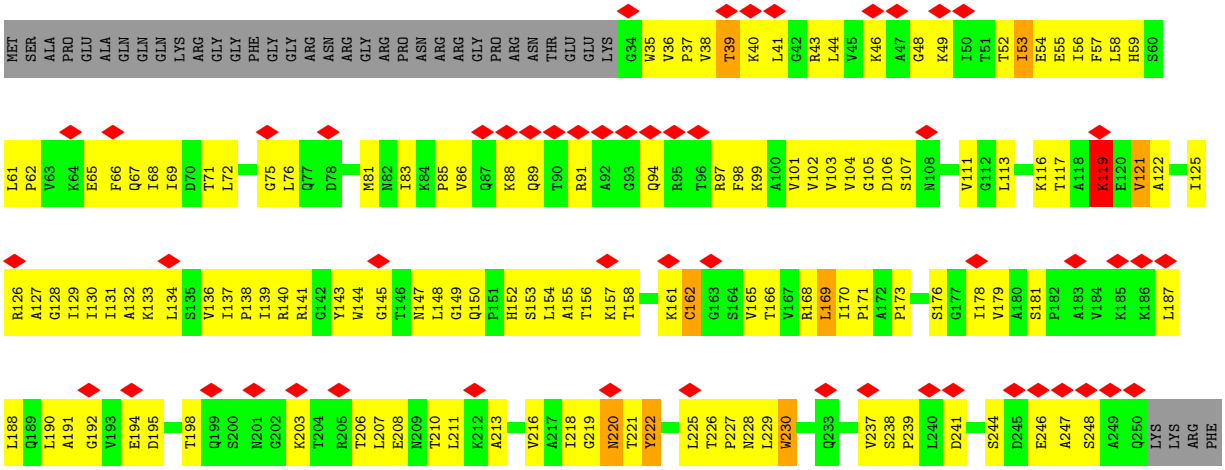
- Molecule 51: eS1 (yeast S1)

Chain YA:



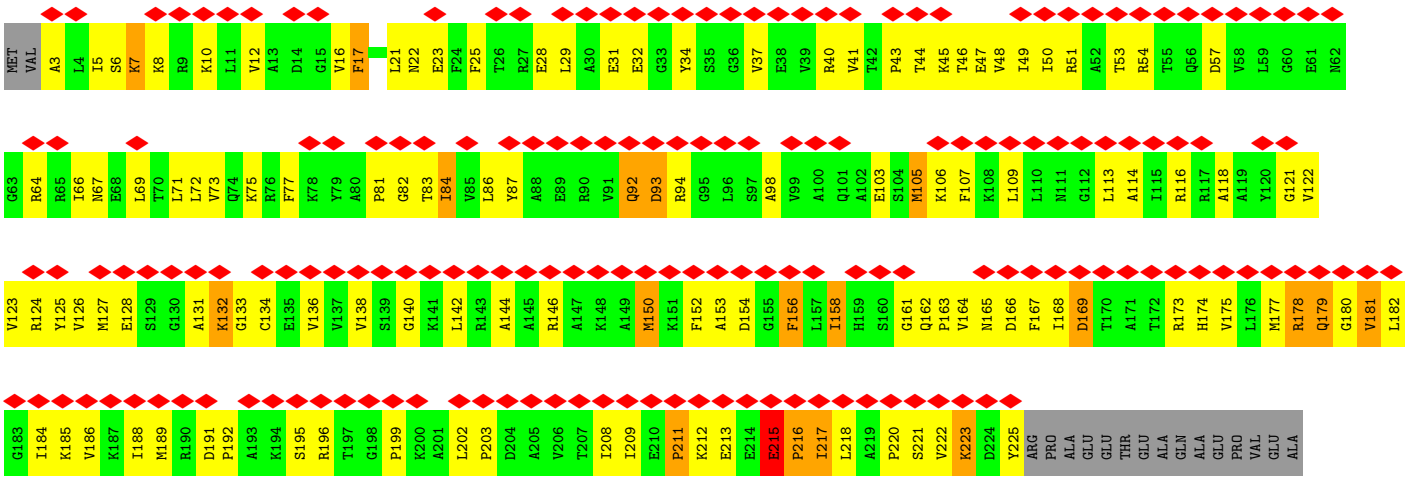
- Molecule 52: uS5 (yeast S2)

Chain ZA:



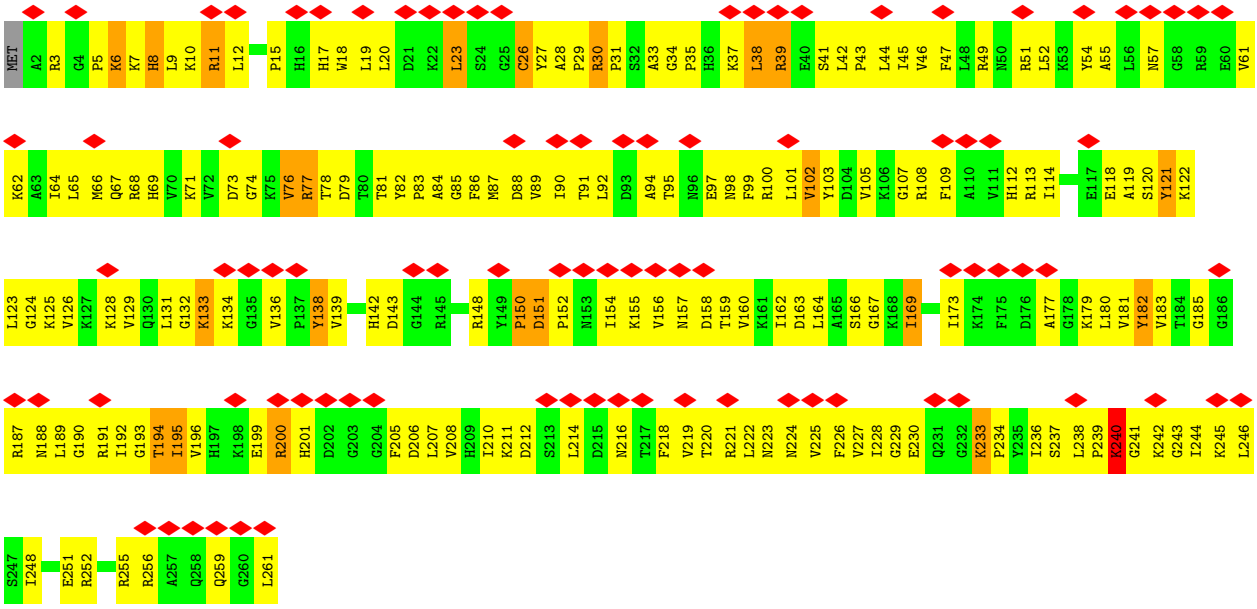
- Molecule 53: uS3 (yeast S3)

Chain AB: 72% (39% / 46% / 8% / 7%)



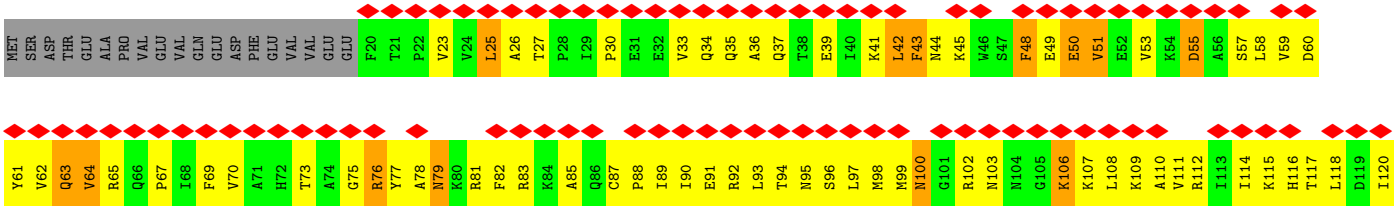
- Molecule 54: eS4 (yeast S4)

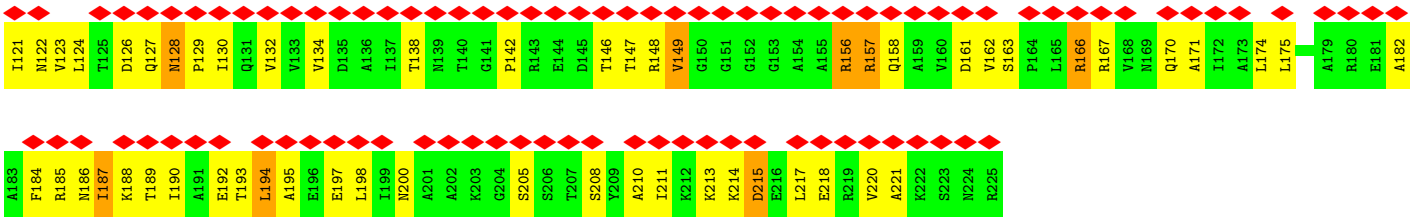
Chain BB: 35% (30% / 61% / 8%)



- Molecule 55: uS7 (yeast S5)

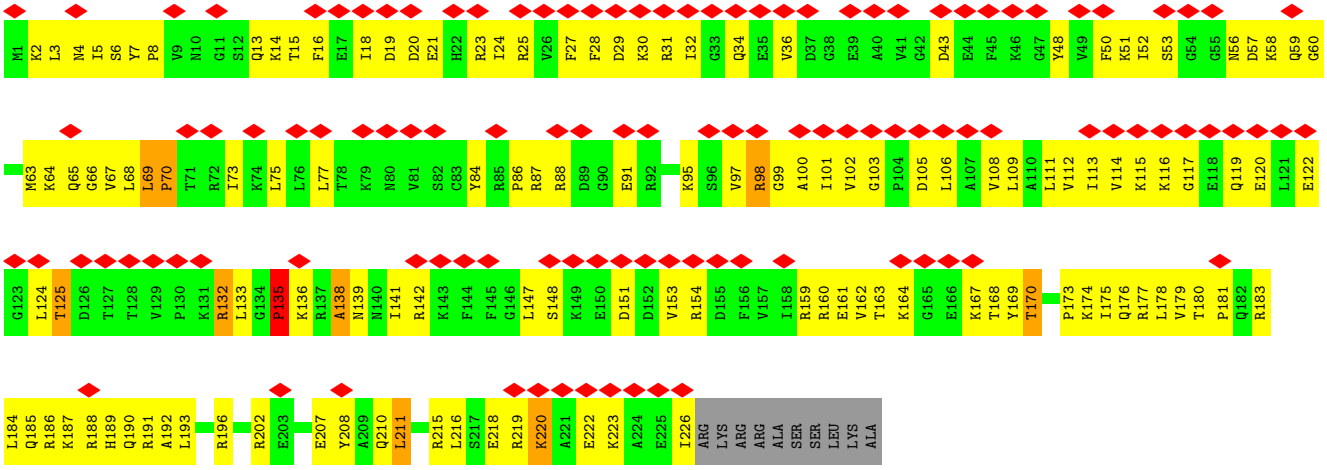
Chain CB: 80% (35% / 48% / 9% / 8%)





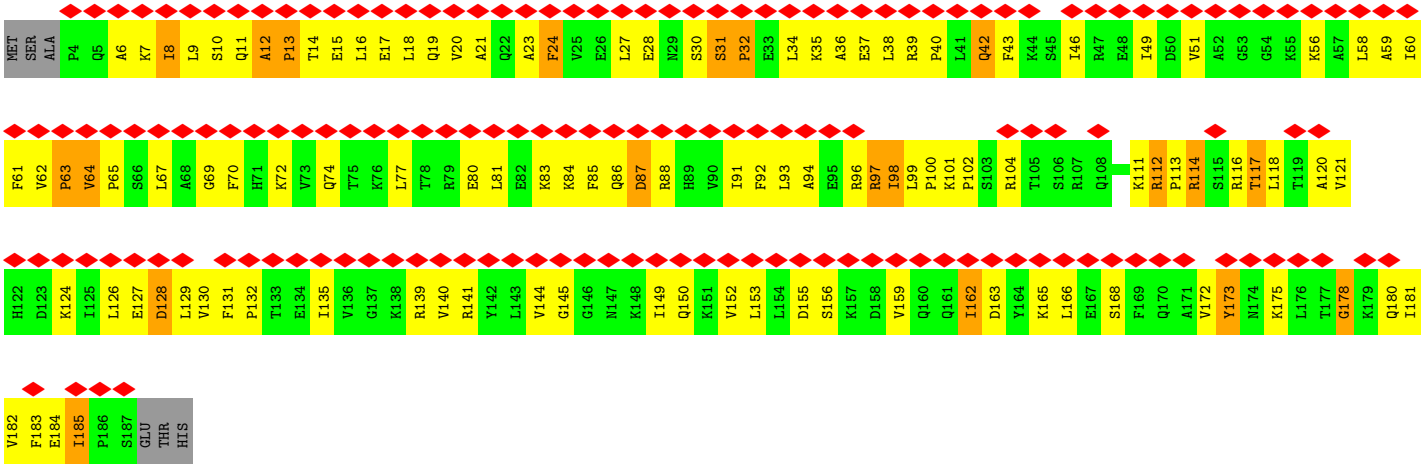
- Molecule 56: eS6 (yeast S6)

Chain DB:



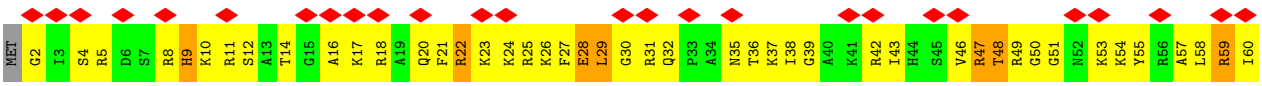
- Molecule 57: eS7 (yeast S7)

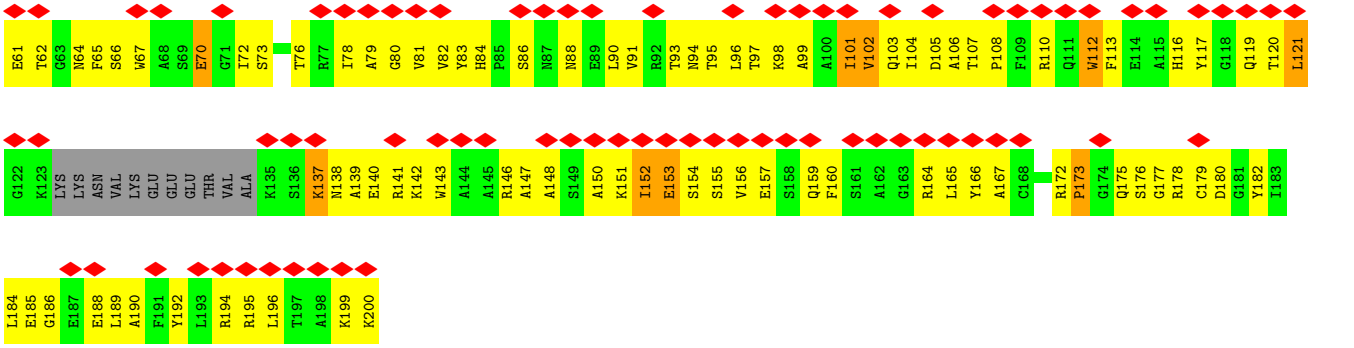
Chain EB:



- Molecule 58: eS8 (yeast S8)

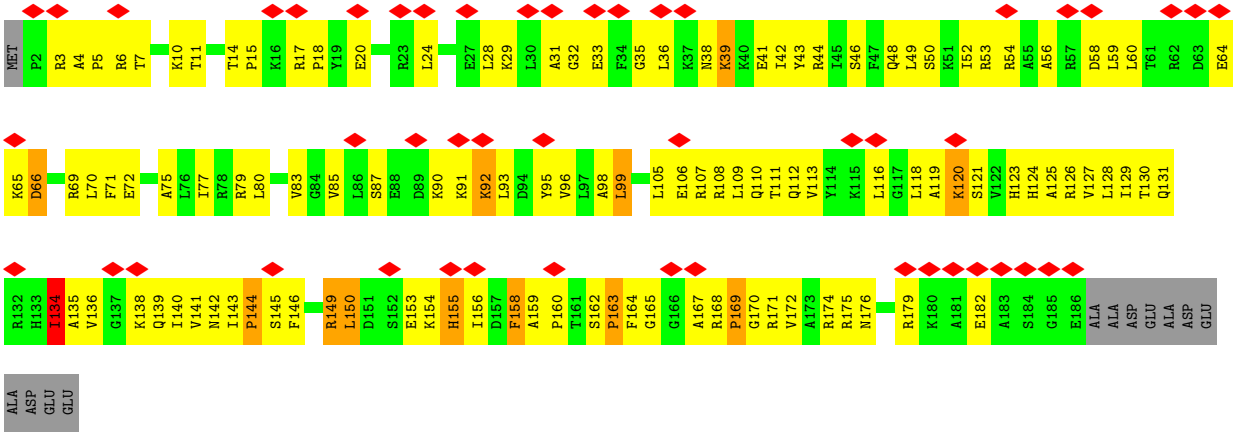
Chain FB:





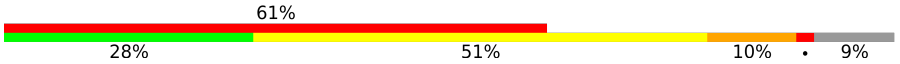
- Molecule 59: uS4 (yeast S9)

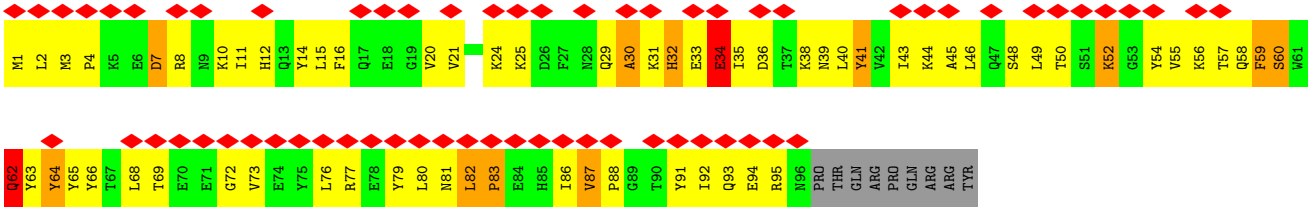
Chain GB:



- Molecule 60: eS10 (yeast S10)

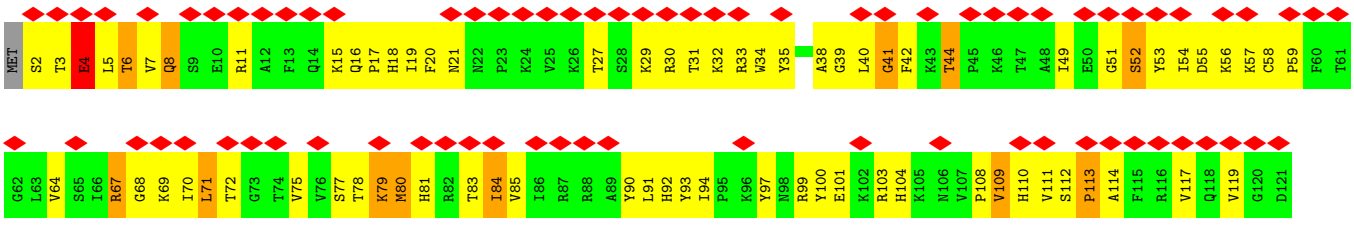
Chain HB:

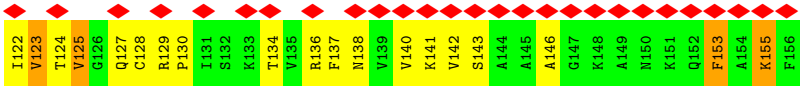




- Molecule 61: uS17 (yeast S11)

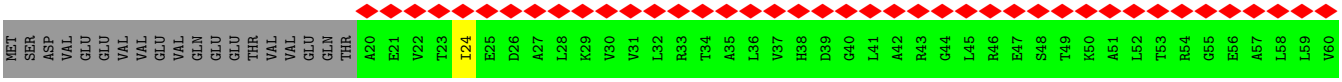
Chain IB:

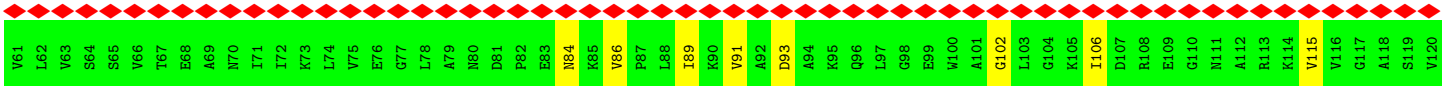


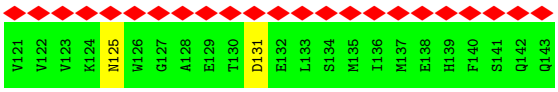


• Molecule 62: eS12 (yeast S12)

Chain JB:

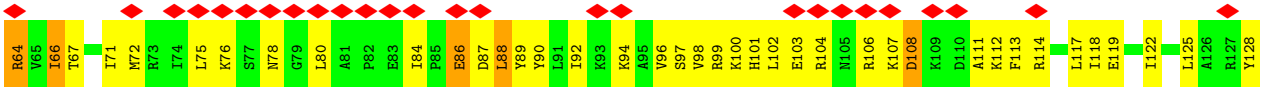


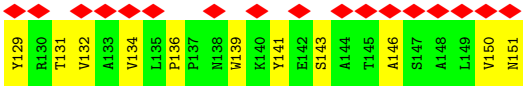




• Molecule 63: uS15 (yeast S13)

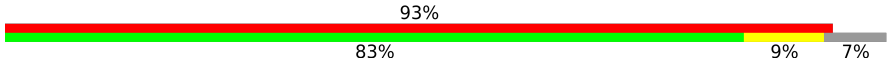
Chain KB:

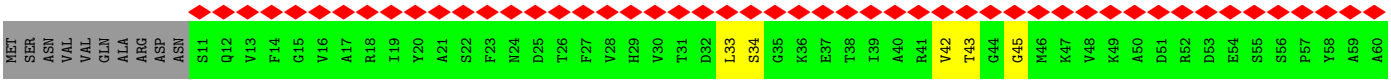


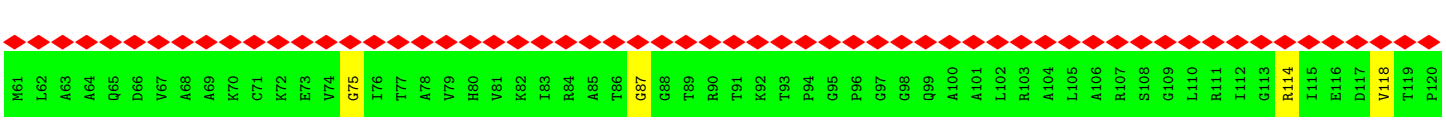


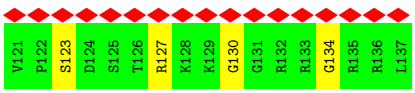
• Molecule 64: uS11 (yeast S14)

Chain LB:







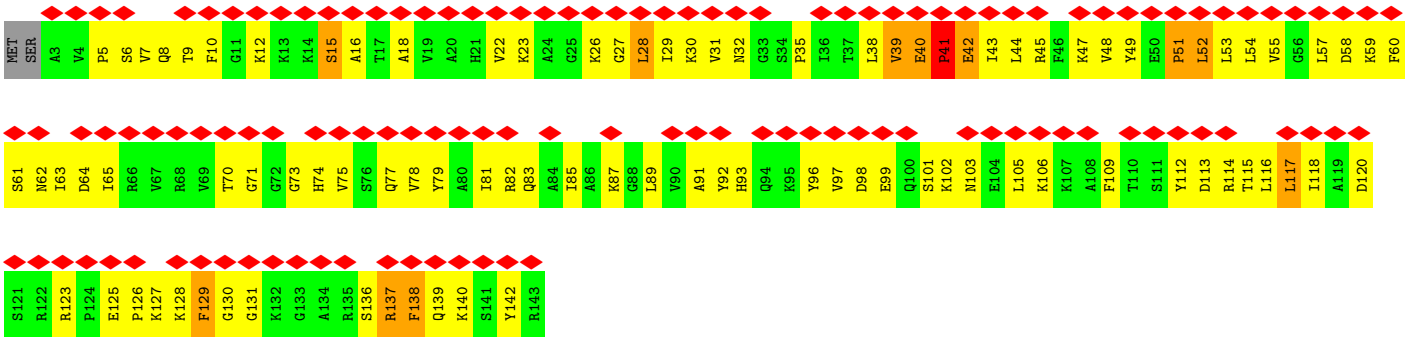


• Molecule 65: uS19 (yeast S15)

Chain MB:

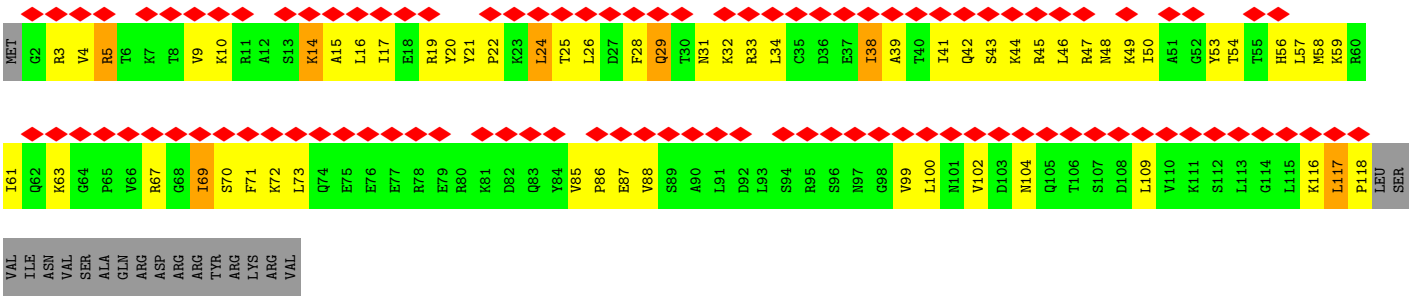
- Molecule 66: uS9 (yeast S16)

Chain NB:



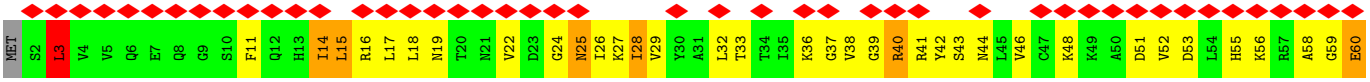
- Molecule 67: eS17 (yeast S17)

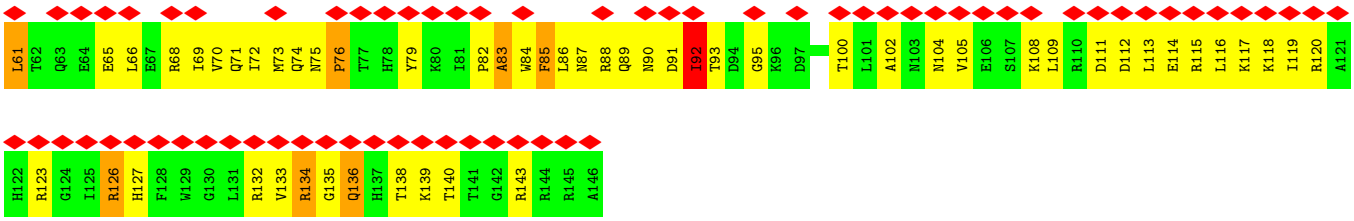
Chain OB:



- Molecule 68: uS13 (yeast S18)

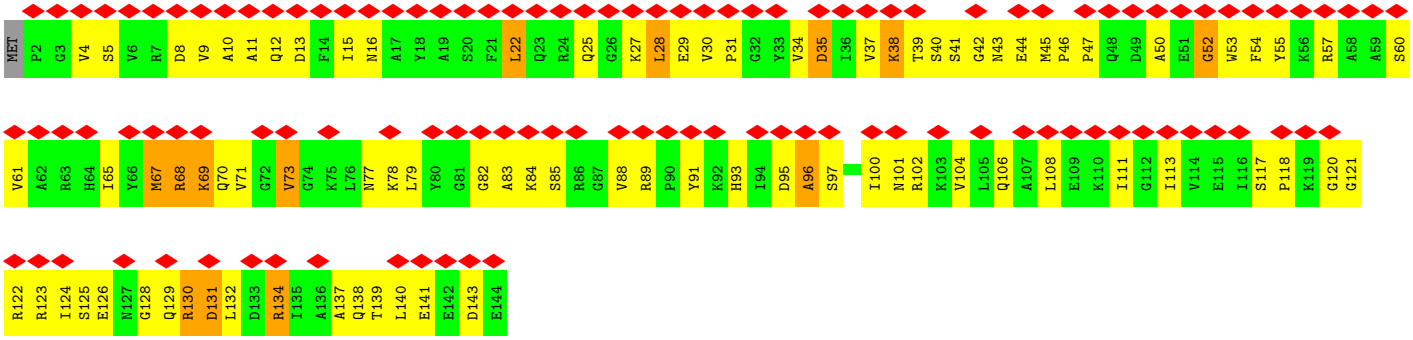
Chain PB:





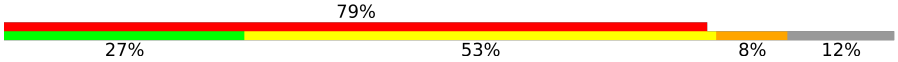
- Molecule 69: eS19 (yeast S19)

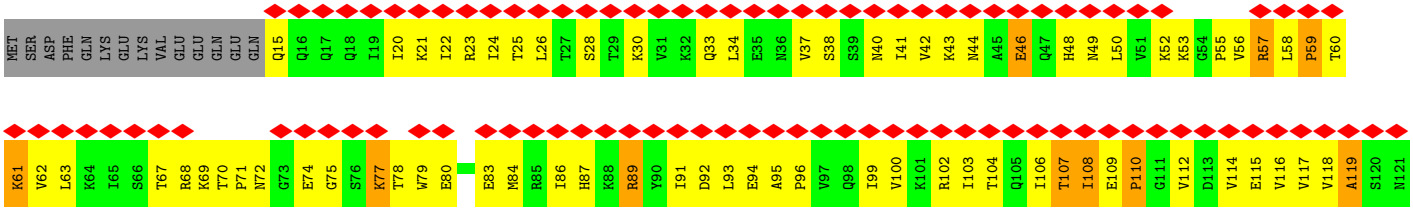
Chain QB:



- Molecule 70: uS10 (yeast S20)

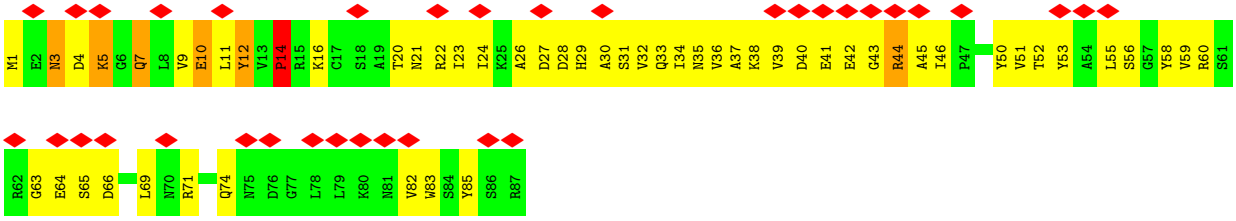
Chain RB:





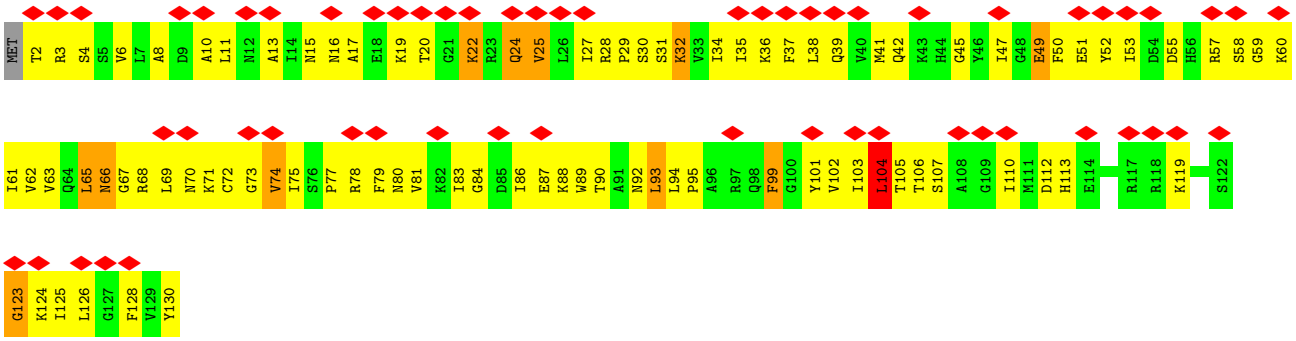
- Molecule 71: eS21 (yeast S21)

Chain SB:



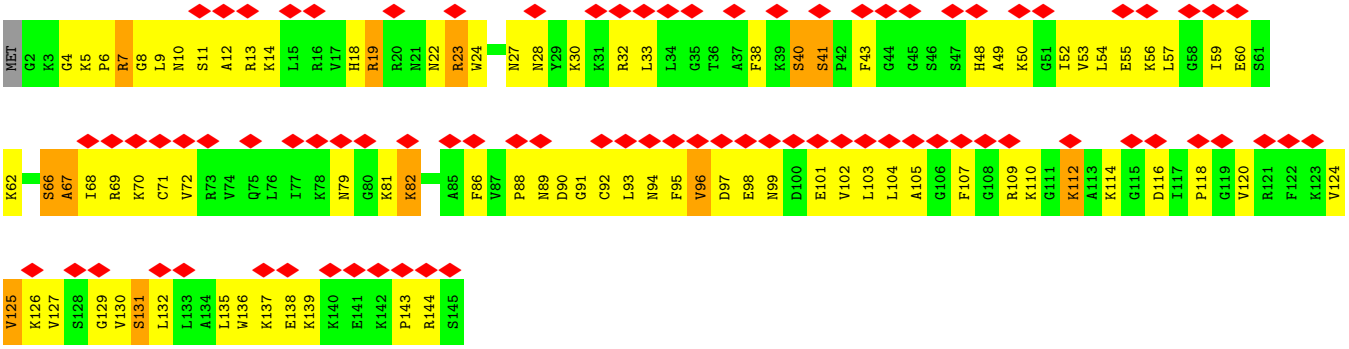
- Molecule 72: uS8 (yeast S22)

Chain TB:



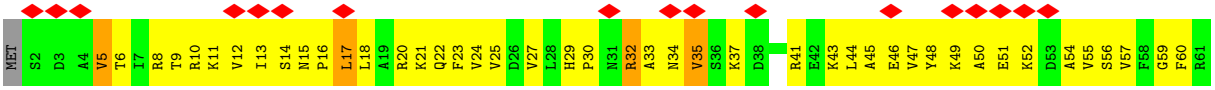
- Molecule 73: uS12 (yeast S23)

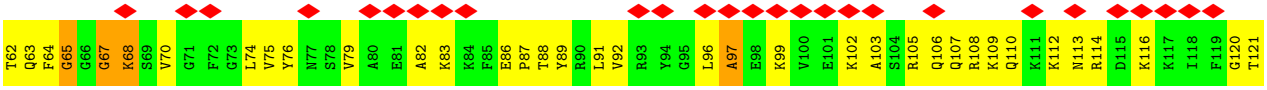
Chain UB:

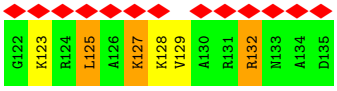


- Molecule 74: eS24 (yeast S24)

Chain VB:

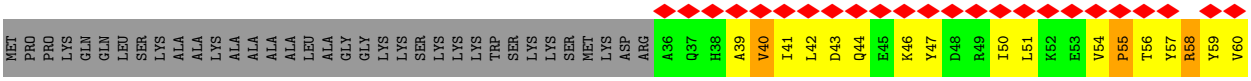


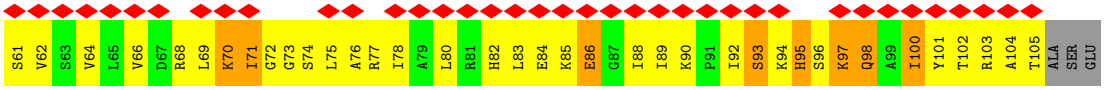




- Molecule 75: eS25 (yeast S25)

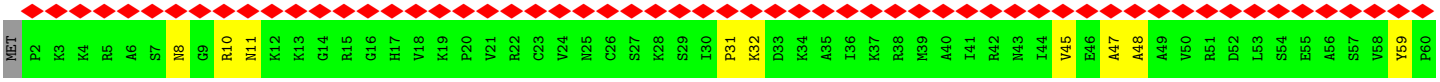
Chain WB:

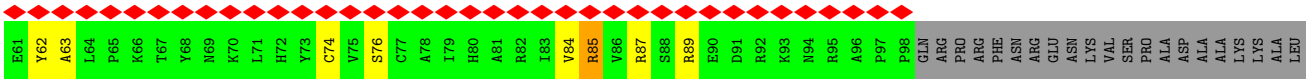




• Molecule 76: eS26 (yeast S26)

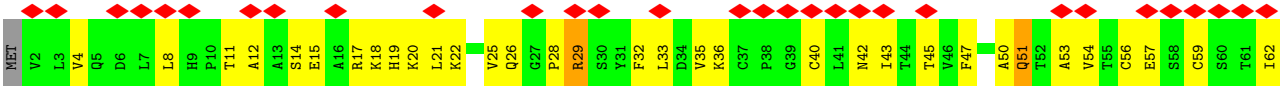
Chain XB:

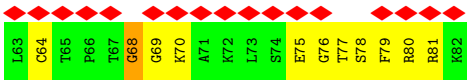




• Molecule 77: eS27 (yeast S27)

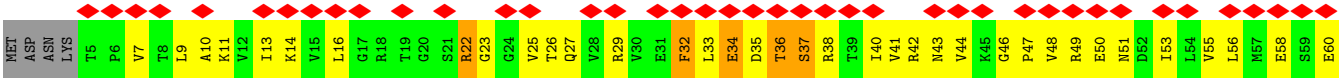
Chain YB:

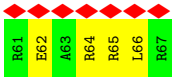




• Molecule 78: eS28 (yeast S28)

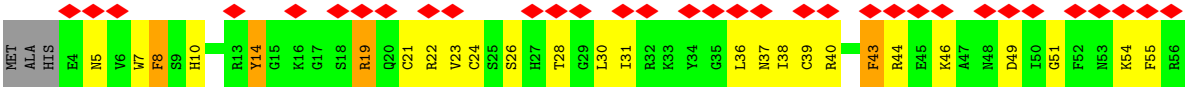
Chain ZB:





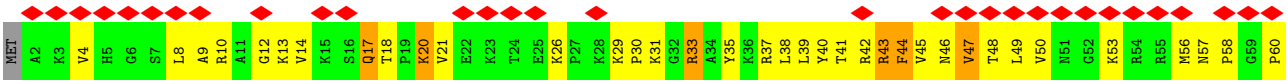
• Molecule 79: uS14 (yeast S29)

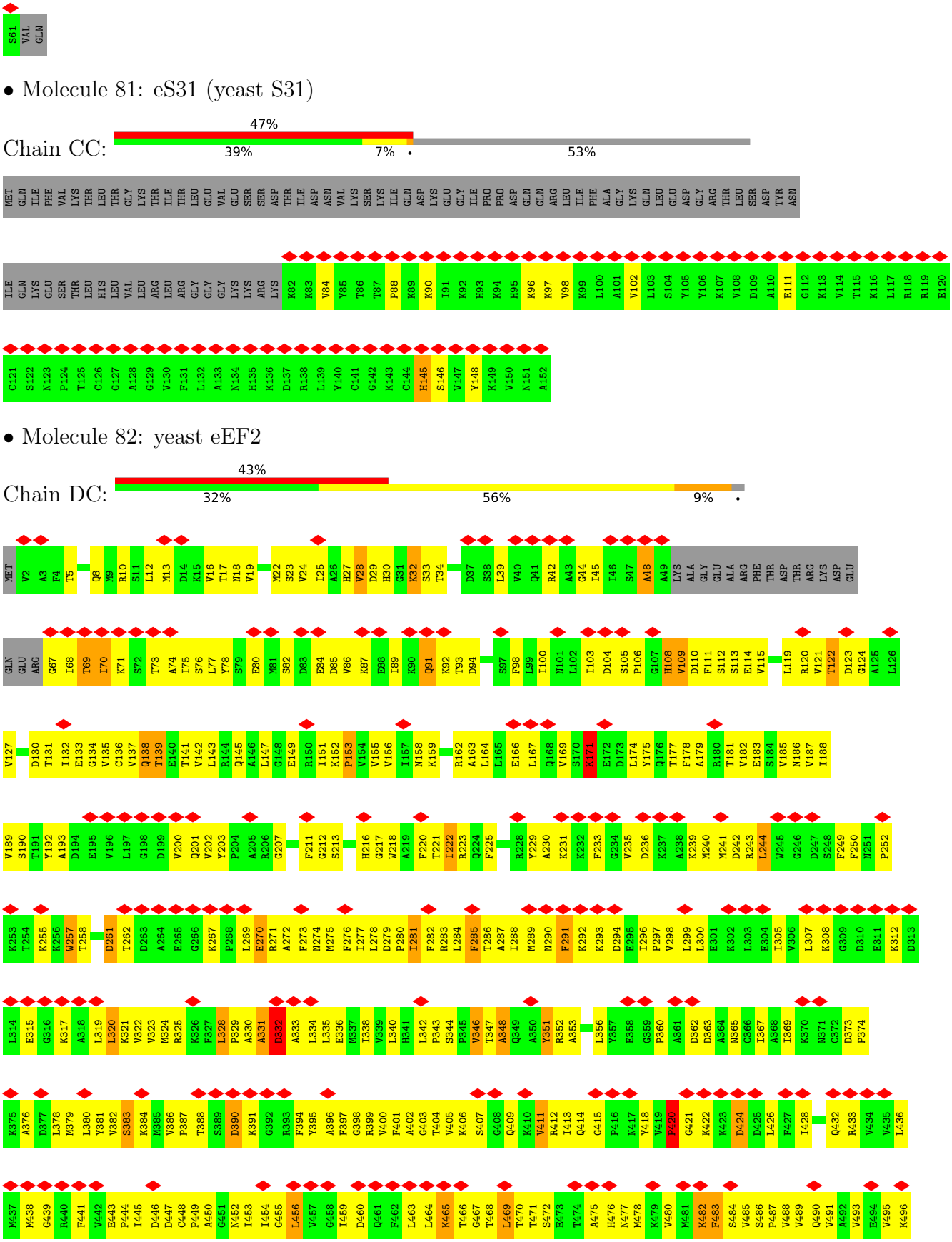
Chain AC:

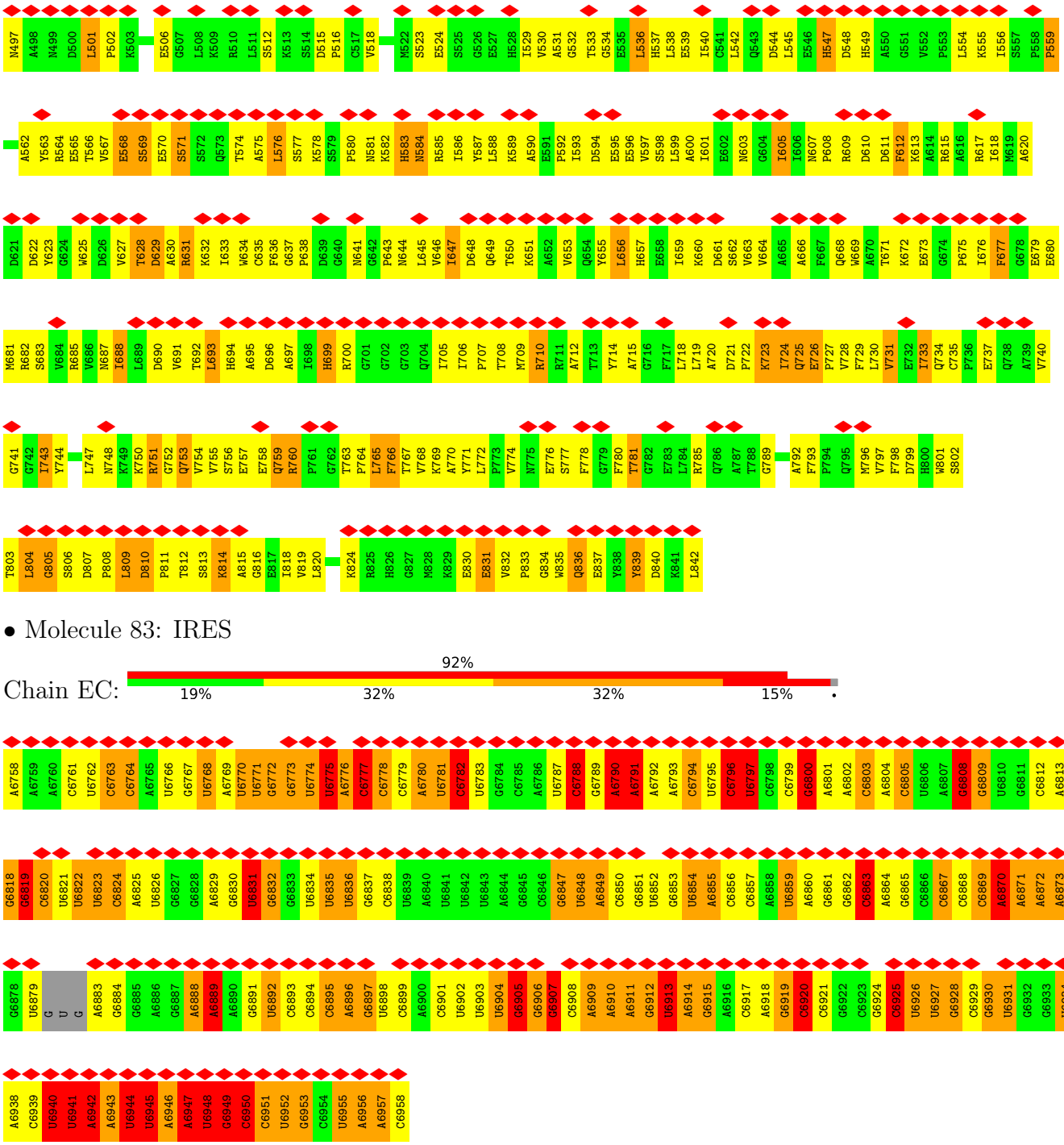


• Molecule 80: eS30 (yeast S30)

Chain BC:




S61 VAL GLN
• Molecule 81: eS31 (yeast S31)
Chain CC:
47%
39%
7%
53%
MET GLN ILE PHE VAL LYS THR LEU THR GLY LYS THR ILE THR LEU GLU VAL GLU SER SER ASP THR ILE ASP ASN VAL LYS SER LYS ILE GLN ASP LYS GLU GLY ILE PRO PRO ASP GLN GLN ARG LEU ILE PHE ALA GLY LYS GLN LEU GLU ASP GLY ARG THR LEU SER ASP TYR ASN
ILE GLN LYS GLU SER THR LEU HIS LEU VAL LEU ARG LEU ARG GLY GLY GLY LYS LYS ARG LYS K82 K83 V84 Y85 T86 T87 P88 K89 K90 I91 K92 H93 K94 H95 K96 K97 V98 K99 L100 A101 V102 L103 S104 Y105 Y106 K107 V108 D109 A110 E111 G112 K113 V114 T115 K116 L117 R118 R119 E120
C121 S122 N123 P124 T125 C126 G127 A128 G129 V130 F131 L132 A133 N134 H135 K136 D137 R138 L139 Y140 C141 G142 K143 C144 H145 S146 V147 Y148 K149 V150 N151 A152
• Molecule 82: yeast eEF2
Chain DC:
43%
32%
56%
9%
MET V2 A3 F4 T5 Q8 M9 R10 S11 L12 M13 D14 K15 V16 T17 N18 V19 M22 S23 V24 I25 A26 H27 V28 D29 H30 G31 K32 S33 T34 D37 S38 L39 V40 Q41 R42 A43 G44 I45 I46 S47 A48 A49 LYS ALA GLY GLU ALA ARG PHE THR ASP THR ARG LYS ASP GLU
GLN GLU ARG G67 I68 T69 I70 K71 S72 T73 A74 T75 S76 L77 Y78 S79 E80 M81 S82 D83 E84 D85 V86 K87 E88 I89 K90 Q91 K92 T93 D94 S97 F98 L99 I100 N101 L102 I103 D104 S105 P106 G107 H108 V109 D110 F111 S112 S113 E114 V115 L119 R120 V121 T122 D123 G124 A125 L126
V127 D130 T131 I132 E133 G134 V135 C136 V137 Q138 T139 E140 T141 V142 L143 R144 Q145 A146 L147 G148 E149 R150 I151 K152 P153 V154 V155 V156 I157 N158 K159 R162 A163 L164 L165 E166 L167 Q168 V169 S170 K171 E172 D173 L174 Y175 Q176 T177 F178 A179 R180 T181 V182 E183 S184 V185 N186 V187 I188
V189 S190 T191 Y192 A193 D194 E195 V196 L197 G198 D199 V200 Q201 V202 Y203 P204 A205 R206 G207 F211 G212 S213 H216 G217 W218 A219 F220 T221 I222 R223 Q224 F225 R228 Y229 A230 K231 K232 F233 G234 V235 D236 K237 A238 K239 M240 M241 D242 R243 L244 W245 G246 D247 S248 F249 F250 N251 P252
K253 T254 K255 K256 W257 T258 D261 T262 D263 A264 E265 G266 K267 P268 L269 E270 R271 A272 F273 N274 M275 F276 I277 L278 D279 P280 I281 F282 R283 L284 F285 T286 A287 I288 M289 N290 F291 K292 K293 D294 E295 I296 P297 V298 L299 L300 E301 K302 L303 E304 I305 V306 L307 K308 G309 D310 E311 K312 D313
L314 E315 G316 K317 A318 L319 L320 K321 V322 V323 M324 R325 K326 F327 L328 P329 A330 A331 D332 A333 L334 L335 E336 M337 I338 V339 L340 H341 L342 P343 S344 P345 V346 T347 A348 Q349 A350 Y351 R352 A353 L356 Y357 E358 G359 P360 A361 D362 D363 A364 N365 C366 I367 A368 I369 K370 N371 C372 D373 P374
K375 A376 D377 L378 M379 L380 Y381 V382 S383 K384 M385 V386 P387 T388 S389 D390 K391 G392 R393 F394 Y395 A396 F397 G398 R399 V400 F401 A402 G403 T404 V405 K406 S407 G408 Q409 K410 V411 R412 I413 Q414 G415 P416 N417 Y418 V419 P420 G421 K422 K423 D424 D425 L426 F427 I428 Q432 R433 V434 V435 L436
M437 M438 G439 R440 F441 V442 E443 P444 I445 D446 D447 C448 P449 A450 G451 N452 I453 I454 G455 L456 V457 G458 I459 D460 Q461 F462 L463 L464 K465 T466 G467 T468 L469 T470 T471 S472 E473 T474 A475 H476 N477 M478 K479 V480 M481 K482 F483 S484 V485 S486 P487 V488 V489 Q490 V491 A492 V493 E494 V495 K496



- Molecule 83: IRES

Chain EC:

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	59570	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.4	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.073	Depositor
Minimum map value	-0.027	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.02	Depositor
Map size (Å)	419.84, 419.84, 419.84	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.82, 0.82, 0.82	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: DDE, MG, SO1, GDP

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	A	0.90	3/41014 (0.0%)	0.75	14/63809 (0.0%)
2	B	0.81	5/78631 (0.0%)	0.73	14/122552 (0.0%)
3	C	0.81	1/3747 (0.0%)	0.72	1/5832 (0.0%)
4	D	0.78	1/2884 (0.0%)	0.68	0/4491
5	E	2.02	2/1377 (0.1%)	0.83	1/1844 (0.1%)
6	F	0.80	0/1952	0.68	1/2622 (0.0%)
7	G	0.75	0/3153	0.62	0/4239
8	H	0.83	0/2802	0.67	0/3792
9	I	0.83	0/2426	0.62	0/3271
10	J	0.96	0/1425	0.68	0/1912
11	K	0.90	0/1822	0.66	1/2451 (0.0%)
12	L	0.79	0/1850	0.65	0/2495
13	M	0.82	0/1540	0.66	0/2073
14	N	0.93	0/1754	0.62	0/2350
15	O	0.77	0/1375	0.60	0/1842
16	P	1.93	0/728	0.86	2/975 (0.2%)
17	Q	0.82	0/1568	0.62	0/2106
18	R	0.91	0/1069	0.65	0/1438
19	S	0.84	0/1758	0.65	0/2354
20	T	0.81	0/1586	0.62	0/2128
21	U	0.83	0/1466	0.60	0/1968
22	V	0.84	0/1466	0.68	0/1965
23	W	0.76	0/1539	0.63	0/2050
24	X	0.93	0/1482	0.70	0/1990
25	Y	0.92	0/1301	0.62	0/1743
26	Z	0.71	0/812	0.54	0/1099
27	AA	0.80	0/1019	0.61	0/1369
28	BA	0.98	0/521	0.58	0/691
29	CA	0.88	0/984	0.71	1/1325 (0.1%)
30	DA	0.87	0/1005	0.67	1/1341 (0.1%)
31	EA	0.77	0/1119	0.59	0/1497
32	FA	0.79	0/1205	0.66	0/1612

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	GA	0.79	0/474	0.59	0/629
34	HA	0.69	0/751	0.64	1/1008 (0.1%)
35	IA	0.72	0/904	0.61	0/1213
36	JA	0.85	0/1041	0.62	0/1394
37	KA	0.80	0/869	0.68	0/1168
38	LA	0.79	0/891	0.69	0/1191
39	MA	0.82	0/979	0.64	0/1301
40	NA	0.81	0/779	0.63	0/1034
41	OA	0.90	0/697	0.70	0/923
42	PA	0.83	0/619	0.61	0/826
43	QA	0.85	0/444	0.69	0/588
44	RA	0.88	0/424	0.66	0/562
45	SA	1.55	0/235	0.81	0/300
46	TA	0.86	0/861	0.65	0/1136
47	UA	0.78	0/702	0.65	0/934
48	VA	1.80	0/1498	1.03	9/2025 (0.4%)
49	WA	0.90	0/2498	0.60	0/3398
50	XA	0.66	0/1653	0.57	0/2261
51	YA	1.17	0/855	0.56	0/1067
52	ZA	0.66	0/1665	0.58	0/2263
53	AB	0.86	0/1759	0.59	0/2368
54	BB	0.81	0/2110	0.63	0/2839
55	CB	0.83	0/1630	0.58	0/2202
56	DB	0.83	0/1844	0.59	0/2464
57	EB	0.87	0/1506	0.60	0/2028
58	FB	0.93	0/1515	0.63	0/2021
59	GB	0.70	0/1519	0.59	0/2035
60	HB	0.98	0/837	0.59	0/1131
61	IB	0.95	0/1273	0.62	0/1712
62	JB	1.12	0/495	0.58	0/617
63	KB	0.88	0/1216	0.59	0/1638
64	LB	1.10	0/507	0.60	0/632
65	MB	0.97	0/996	0.63	0/1335
66	NB	0.90	0/1126	0.63	0/1510
67	OB	0.76	0/844	0.84	4/1120 (0.4%)
68	PB	0.88	0/1212	0.60	1/1628 (0.1%)
69	QB	0.86	0/1131	0.59	0/1517
70	RB	0.91	0/866	0.60	0/1169
71	SB	0.67	0/694	0.57	0/935
72	TB	0.74	0/1039	0.64	1/1395 (0.1%)
73	UB	0.82	0/1140	0.62	0/1518
74	VB	0.80	0/1088	0.57	0/1449
75	WB	0.87	0/571	0.59	0/768

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	XB	1.15	0/387	0.60	0/482
77	YB	0.81	0/621	0.59	0/838
78	ZB	0.84	0/500	0.60	0/670
79	AC	0.94	0/454	0.56	0/602
80	BC	0.82	0/483	0.62	0/643
81	CC	1.03	0/283	0.64	0/352
82	DC	1.42	0/6521	0.70	1/8830 (0.0%)
83	EC	2.32	82/4579 (1.8%)	0.94	15/7119 (0.2%)
All	All	0.94	94/227965 (0.0%)	0.71	68/334014 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	18
2	B	0	70
3	C	0	4
48	VA	0	2
82	DC	0	1
83	EC	0	9
All	All	0	104

All (94) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
83	EC	6831	U	N1-C2	7.29	1.45	1.38
83	EC	6908	C	N1-C2	7.27	1.47	1.40
83	EC	6867	C	N1-C2	7.03	1.47	1.40
2	B	2263	C	N1-C2	6.96	1.47	1.40
4	D	1	G	OP3-P	-6.96	1.52	1.61
83	EC	6905	G	C5-C6	6.92	1.49	1.42
1	A	1	U	OP3-P	-6.88	1.52	1.61
83	EC	6758	A	P-O5'	6.83	1.66	1.59
83	EC	6777	C	N1-C2	6.81	1.47	1.40
83	EC	6902	U	N1-C2	6.74	1.44	1.38
83	EC	6854	U	N1-C2	6.71	1.44	1.38
83	EC	6848	U	N1-C2	6.56	1.44	1.38
83	EC	6912	G	C5-C6	6.51	1.48	1.42
2	B	2504	U	N1-C2	6.49	1.44	1.38
83	EC	6927	U	N1-C2	6.48	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	1	A	OP3-P	-6.42	1.53	1.61
83	EC	6835	U	N1-C2	6.41	1.44	1.38
83	EC	6863	C	N1-C2	6.36	1.46	1.40
83	EC	6895	C	N1-C2	6.27	1.46	1.40
83	EC	6799	C	N1-C2	6.24	1.46	1.40
83	EC	6775	U	N1-C2	6.23	1.44	1.38
83	EC	6758	A	OP3-P	-6.16	1.53	1.61
83	EC	6779	C	N1-C2	6.15	1.46	1.40
83	EC	6782	C	N1-C2	6.13	1.46	1.40
83	EC	6904	U	N1-C2	6.12	1.44	1.38
83	EC	6913	U	N1-C2	6.10	1.44	1.38
83	EC	6911	A	C5-C6	6.08	1.46	1.41
83	EC	6869	C	N1-C2	6.06	1.46	1.40
83	EC	6830	G	C5-C6	6.05	1.48	1.42
83	EC	6925	C	N1-C2	6.02	1.46	1.40
83	EC	6952	U	N1-C2	5.98	1.44	1.38
83	EC	6913	U	N1-C6	5.90	1.43	1.38
83	EC	6820	C	N1-C2	5.89	1.46	1.40
83	EC	6781	U	N1-C2	5.88	1.43	1.38
83	EC	6946	A	C5-C6	5.84	1.46	1.41
83	EC	6883	A	C5-C6	5.78	1.46	1.41
83	EC	6874	A	C5-C6	5.78	1.46	1.41
83	EC	6930	G	C5-C6	5.77	1.48	1.42
83	EC	6940	U	N1-C2	5.74	1.43	1.38
83	EC	6903	U	N1-C2	5.74	1.43	1.38
83	EC	6823	U	N1-C2	5.73	1.43	1.38
2	B	3217	C	N1-C2	5.72	1.45	1.40
83	EC	6770	U	N1-C2	5.71	1.43	1.38
83	EC	6859	U	N1-C6	5.67	1.43	1.38
83	EC	6773	G	C5-C6	5.64	1.48	1.42
83	EC	6945	U	N1-C2	5.63	1.43	1.38
83	EC	6819	G	C5-C6	5.61	1.48	1.42
83	EC	6872	A	C5-C6	5.57	1.46	1.41
83	EC	6803	C	N1-C2	5.56	1.45	1.40
83	EC	6778	C	N1-C2	5.52	1.45	1.40
83	EC	6791	A	C5-C6	5.49	1.46	1.41
83	EC	6942	A	C5-C6	5.49	1.46	1.41
2	B	2502	A	C5-C6	5.49	1.46	1.41
83	EC	6944	U	N1-C2	5.46	1.43	1.38
83	EC	6950	C	N1-C2	5.46	1.45	1.40
83	EC	6910	A	C5-C6	5.44	1.46	1.41
83	EC	6939	C	N1-C2	5.42	1.45	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
83	EC	6921	C	N1-C2	5.42	1.45	1.40
83	EC	6875	C	N1-C2	5.38	1.45	1.40
83	EC	6948	U	C3'-O3'	5.37	1.49	1.42
83	EC	6800	G	C5-C6	5.36	1.47	1.42
83	EC	6888	A	C5-C6	5.36	1.45	1.41
83	EC	6816	A	C5-C6	5.34	1.45	1.41
83	EC	6834	U	N1-C2	5.33	1.43	1.38
83	EC	6796	C	N1-C2	5.32	1.45	1.40
83	EC	6790	A	C5-C6	5.31	1.45	1.41
83	EC	6894	C	N1-C2	5.30	1.45	1.40
83	EC	6764	C	N1-C2	5.30	1.45	1.40
83	EC	6889	A	C5-C6	5.29	1.45	1.41
83	EC	6826	U	N1-C2	5.24	1.43	1.38
1	A	1772	C	N1-C2	5.24	1.45	1.40
83	EC	6901	C	N1-C2	5.23	1.45	1.40
83	EC	6944	U	N1-C6	5.23	1.42	1.38
83	EC	6934	U	N1-C2	5.21	1.43	1.38
83	EC	6902	U	N1-C6	5.20	1.42	1.38
83	EC	6771	U	N1-C2	5.18	1.43	1.38
83	EC	6941	U	N1-C2	5.18	1.43	1.38
83	EC	6794	C	N1-C2	5.18	1.45	1.40
83	EC	6926	U	N1-C2	5.18	1.43	1.38
83	EC	6951	C	N1-C2	5.17	1.45	1.40
83	EC	6945	U	N1-C6	5.16	1.42	1.38
83	EC	6920	C	N1-C2	5.15	1.45	1.40
83	EC	6783	U	N1-C2	5.13	1.43	1.38
1	A	676	G	P-O5'	5.13	1.64	1.59
83	EC	6838	C	N1-C2	5.11	1.45	1.40
83	EC	6905	G	N9-C4	5.11	1.42	1.38
83	EC	6947	A	C5-C6	5.11	1.45	1.41
83	EC	6854	U	N1-C6	5.11	1.42	1.38
83	EC	6865	G	C5-C6	5.09	1.47	1.42
5	E	19	TYR	CD1-CE1	5.08	1.47	1.39
2	B	2471	U	N1-C2	5.03	1.43	1.38
83	EC	6870	A	C5-C6	5.02	1.45	1.41
83	EC	6763	C	N1-C2	5.02	1.45	1.40
5	E	66	CYS	CB-SG	5.00	1.90	1.82

All (68) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	VA	108	PRO	CB-CA-C	-16.97	69.58	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
67	OB	73	LEU	N-CA-C	9.72	137.25	111.00
48	VA	108	PRO	CA-C-N	-8.74	97.97	117.20
83	EC	6788	C	N1-C1'-C2'	8.43	124.96	114.00
1	A	1339	C	N1-C1'-C2'	8.29	124.78	114.00
2	B	282	G	C2'-C3'-O3'	7.83	126.74	109.50
48	VA	106	ALA	N-CA-C	7.56	131.41	111.00
83	EC	6948	U	C2'-C3'-O3'	7.55	126.11	109.50
67	OB	73	LEU	CA-C-N	-7.38	100.97	117.20
2	B	2525	G	C2'-C3'-O3'	7.04	124.98	109.50
48	VA	180	PRO	N-CA-C	6.87	129.96	112.10
2	B	764	U	N1-C1'-C2'	6.83	122.88	114.00
2	B	1481	A	N9-C1'-C2'	6.77	122.80	114.00
67	OB	73	LEU	C-N-CA	6.65	138.32	121.70
48	VA	107	ALA	N-CA-C	6.58	128.78	111.00
83	EC	6808	G	N9-C1'-C2'	6.52	122.48	114.00
83	EC	6945	U	N1-C1'-C2'	6.48	122.43	114.00
83	EC	6907	G	N9-C1'-C2'	6.35	122.25	114.00
1	A	453	U	N1-C1'-C2'	6.28	122.16	114.00
48	VA	105	VAL	CB-CA-C	-6.26	99.51	111.40
1	A	73	U	N1-C1'-C2'	6.25	122.12	114.00
48	VA	105	VAL	N-CA-C	6.10	127.47	111.00
48	VA	183	PHE	N-CA-C	-5.96	94.91	111.00
1	A	821	U	N1-C1'-C2'	5.96	121.74	114.00
1	A	1772	C	N1-C1'-C2'	5.95	121.73	114.00
83	EC	6949	G	C2'-C3'-O3'	5.94	123.20	113.70
68	PB	3	LEU	CA-CB-CG	5.89	128.84	115.30
83	EC	6874	A	O4'-C1'-N9	5.87	112.89	108.20
30	DA	76	LEU	CA-CB-CG	5.85	128.76	115.30
2	B	169	U	C2'-C3'-O3'	5.83	123.02	113.70
1	A	190	C	N1-C1'-C2'	5.77	121.50	114.00
83	EC	6830	G	N9-C1'-C2'	5.74	121.46	114.00
2	B	1572	U	N1-C1'-C2'	5.71	121.43	114.00
83	EC	6874	A	N9-C1'-C2'	5.68	121.38	114.00
5	E	123	LEU	CA-CB-CG	5.66	128.32	115.30
83	EC	6876	A	C5'-C4'-O4'	5.54	115.75	109.10
83	EC	6854	U	N1-C1'-C2'	5.46	121.11	114.00
2	B	1103	A	N9-C1'-C2'	5.46	121.10	114.00
67	OB	73	LEU	O-C-N	5.44	131.41	122.70
2	B	2457	G	N9-C1'-C2'	5.44	121.07	114.00
1	A	1600	A	N9-C1'-C2'	5.41	121.03	114.00
72	TB	104	LEU	CA-CB-CG	5.40	127.72	115.30
83	EC	6909	A	N9-C1'-C2'	5.40	121.02	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	HA	51	LEU	CA-CB-CG	-5.39	102.91	115.30
2	B	2375	G	N9-C1'-C2'	5.36	120.97	114.00
82	DC	809	LEU	CA-CB-CG	5.35	127.61	115.30
16	P	122	GLY	N-CA-C	5.34	126.44	113.10
2	B	1115	G	N9-C1'-C2'	5.32	120.92	114.00
83	EC	6871	A	N9-C1'-C2'	5.30	120.89	114.00
2	B	2801	A	N9-C1'-C2'	5.29	120.88	114.00
1	A	1657	U	N1-C1'-C2'	5.28	120.86	114.00
1	A	103	A	N9-C1'-C2'	5.25	120.83	114.00
16	P	125	LEU	CA-CB-CG	5.24	127.36	115.30
48	VA	139	LEU	CA-CB-CG	5.21	127.28	115.30
2	B	960	U	N1-C1'-C2'	5.19	120.75	114.00
6	F	153	GLY	N-CA-C	-5.19	100.13	113.10
83	EC	6758	A	OP1-P-OP2	-5.17	111.84	119.60
1	A	1259	U	N1-C1'-C2'	5.17	120.72	114.00
83	EC	6800	G	N9-C1'-C2'	5.15	120.70	114.00
1	A	279	G	N9-C1'-C2'	5.15	120.69	114.00
1	A	1258	U	N1-C1'-C2'	5.14	120.68	114.00
2	B	2794	G	N9-C1'-C2'	5.12	120.66	114.00
11	K	179	LEU	CA-CB-CG	5.11	127.06	115.30
2	B	817	A	N9-C1'-C2'	5.11	120.64	114.00
3	C	112	U	N1-C1'-C2'	5.06	120.58	114.00
1	A	1257	U	N1-C1'-C2'	5.05	120.57	114.00
1	A	1761	U	N1-C1'-C2'	5.02	120.53	114.00
29	CA	113	LEU	CA-CB-CG	5.02	126.85	115.30

There are no chirality outliers.

All (104) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1058	U	Sidechain
1	A	1147	A	Sidechain
1	A	1157	A	Sidechain
1	A	1339	C	Sidechain
1	A	143	G	Sidechain
1	A	1524	A	Sidechain
1	A	1535	U	Sidechain
1	A	1680	G	Sidechain
1	A	1764	C	Sidechain
1	A	199	G	Sidechain
1	A	207	U	Sidechain
1	A	287	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	447	U	Sidechain
1	A	553	G	Sidechain
1	A	576	G	Sidechain
1	A	60	U	Sidechain
1	A	684	A	Sidechain
1	A	928	U	Sidechain
2	B	1051	U	Sidechain
2	B	1082	U	Sidechain
2	B	110	G	Sidechain
2	B	112	U	Sidechain
2	B	1150	A	Sidechain
2	B	1190	A	Sidechain
2	B	1229	G	Sidechain
2	B	1258	U	Sidechain
2	B	1262	G	Sidechain
2	B	1294	A	Sidechain
2	B	1301	A	Sidechain
2	B	1367	G	Sidechain
2	B	1432	C	Sidechain
2	B	148	G	Sidechain
2	B	1603	A	Sidechain
2	B	1713	G	Sidechain
2	B	1792	C	Sidechain
2	B	1848	G	Sidechain
2	B	1857	C	Sidechain
2	B	1863	G	Sidechain
2	B	1951	C	Sidechain
2	B	2110	G	Sidechain
2	B	2131	A	Sidechain
2	B	2193	U	Sidechain
2	B	221	A	Sidechain
2	B	2262	A	Sidechain
2	B	2286	U	Sidechain
2	B	2314	U	Sidechain
2	B	2376	G	Sidechain
2	B	2403	G	Sidechain
2	B	2457	G	Sidechain
2	B	2501	U	Sidechain
2	B	2510	U	Sidechain
2	B	2626	A	Sidechain
2	B	2655	U	Sidechain
2	B	2704	A	Sidechain

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Mol	Chain	Res	Type	Group
2	B	2713	U	Sidechain
2	B	2747	A	Sidechain
2	B	2771	U	Sidechain
2	B	2813	A	Sidechain
2	B	2844	C	Sidechain
2	B	2858	U	Sidechain
2	B	2886	U	Sidechain
2	B	2975	U	Sidechain
2	B	3055	U	Sidechain
2	B	3141	A	Sidechain
2	B	3280	U	Sidechain
2	B	3288	G	Sidechain
2	B	341	G	Sidechain
2	B	349	A	Sidechain
2	B	371	G	Sidechain
2	B	383	G	Sidechain
2	B	400	G	Sidechain
2	B	406	G	Sidechain
2	B	547	G	Sidechain
2	B	57	A	Sidechain
2	B	58	G	Sidechain
2	B	71	A	Sidechain
2	B	760	G	Sidechain
2	B	770	G	Sidechain
2	B	817	A	Sidechain
2	B	835	G	Sidechain
2	B	857	G	Sidechain
2	B	858	A	Sidechain
2	B	882	A	Sidechain
2	B	894	G	Sidechain
2	B	907	G	Sidechain
2	B	924	G	Sidechain
2	B	987	U	Sidechain
2	B	993	G	Sidechain
3	C	26	U	Sidechain
3	C	70	G	Sidechain
3	C	88	A	Sidechain
3	C	93	U	Sidechain
82	DC	623	TYR	Sidechain
83	EC	6770	U	Sidechain
83	EC	6775	U	Sidechain
83	EC	6796	C	Sidechain

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Mol	Chain	Res	Type	Group
83	EC	6797	U	Sidechain
83	EC	6812	C	Sidechain
83	EC	6855	A	Sidechain
83	EC	6935	G	Sidechain
83	EC	6945	U	Sidechain
83	EC	6948	U	Sidechain
48	VA	108	PRO	Mainchain,Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	36760	0	18348	1440	0
2	B	70288	0	35262	2381	0
3	C	3354	0	1695	114	0
4	D	2580	0	1304	103	0
5	E	1359	0	1425	110	0
6	F	1918	0	1987	209	0
7	G	3082	0	3165	226	0
8	H	2750	0	2863	225	0
9	I	2376	0	2325	197	0
10	J	1401	0	1501	88	0
11	K	1785	0	1862	134	0
12	L	1818	0	1908	178	0
13	M	1519	0	1587	116	0
14	N	1718	0	1754	136	0
15	O	1354	0	1383	102	0
16	P	723	0	774	128	0
17	Q	1543	0	1608	145	0
18	R	1054	0	1149	87	0
19	S	1721	0	1779	155	0
20	T	1556	0	1659	98	0
21	U	1443	0	1485	99	0
22	V	1442	0	1543	117	0
23	W	1522	0	1617	104	0
24	X	1446	0	1487	145	0
25	Y	1277	0	1323	107	0
26	Z	796	0	812	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	AA	1004	0	1048	71	0
28	BA	509	0	537	35	0
29	CA	969	0	1036	80	0
30	DA	994	0	1081	100	0
31	EA	1093	0	1155	102	0
32	FA	1174	0	1215	119	0
33	GA	463	0	491	20	0
34	HA	743	0	797	91	0
35	IA	890	0	938	44	0
36	JA	1020	0	1090	60	0
37	KA	851	0	880	59	0
38	LA	881	0	949	101	0
39	MA	970	0	1078	108	0
40	NA	772	0	849	43	0
41	OA	682	0	687	55	0
42	PA	613	0	682	36	0
43	QA	437	0	475	43	0
44	RA	418	0	459	33	0
45	SA	234	0	284	12	0
46	TA	848	0	918	36	0
47	UA	695	0	738	52	0
48	VA	1473	0	1514	186	0
49	WA	2445	0	2401	213	0
50	XA	1612	0	1623	134	0
51	YA	856	0	226	0	0
52	ZA	1635	0	1723	131	0
53	AB	1734	0	1817	132	0
54	BB	2069	0	2154	263	0
55	CB	1610	0	1675	140	0
56	DB	1820	0	1918	153	0
57	EB	1481	0	1572	131	0
58	FB	1490	0	1525	146	0
59	GB	1494	0	1573	154	0
60	HB	817	0	804	76	0
61	IB	1245	0	1314	106	0
62	JB	496	0	141	0	0
63	KB	1193	0	1255	87	0
64	LB	508	0	151	2	0
65	MB	975	0	1017	88	0
66	NB	1106	0	1166	101	0
67	OB	836	0	827	61	0
68	PB	1193	0	1222	94	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
69	QB	1113	0	1124	89	0
70	RB	856	0	917	91	0
71	SB	685	0	672	66	0
72	TB	1022	0	1060	84	0
73	UB	1122	0	1196	103	0
74	VB	1074	0	1132	112	0
75	WB	563	0	603	59	0
76	XB	388	0	96	3	0
77	YB	611	0	633	41	0
78	ZB	498	0	535	48	0
79	AC	444	0	436	34	0
80	BC	475	0	525	48	0
81	CC	284	0	76	1	0
82	DC	6419	0	6493	651	0
83	EC	4105	0	2063	133	0
84	DC	28	0	12	5	0
85	DC	1	0	0	0	0
86	DC	35	0	42	3	0
All	All	212656	0	156225	10781	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 29.

All (10781) 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)
83:EC:6927:U:H3'	83:EC:6928:G:H5'	1.22	1.17
2:B:1235:U:H4'	2:B:1236:G:H5'	1.17	1.14
48:VA:108:PRO:HA	48:VA:179:SER:HA	1.14	1.13
1:A:230:C:H3'	1:A:231:U:H5"	1.31	1.12
58:FB:12:SER:HA	58:FB:18:ARG:HH21	1.10	1.11
48:VA:61:ARG:HA	48:VA:64:ARG:HB3	1.26	1.11
17:Q:47:ALA:HB1	17:Q:48:PRO:HD2	1.23	1.11
34:HA:30:THR:HG22	34:HA:91:SER:HB2	1.32	1.10
83:EC:6930:G:H2'	83:EC:6931:U:H4'	1.29	1.10
2:B:109:A:H4'	2:B:110:G:H5'	1.32	1.10
83:EC:6891:G:H3'	83:EC:6892:U:H5"	1.34	1.10
49:WA:262:VAL:HB	49:WA:272:ASP:HB3	1.32	1.09
1:A:1657:U:H4'	1:A:1658:G:H5"	1.34	1.09
2:B:2457:G:H1'	2:B:2486:A:H61	1.13	1.08
9:I:285:ARG:HB2	9:I:285:ARG:HH11	1.16	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:71:A:H2'	1:A:72:A:H4'	1.20	1.08
58:FB:79:ALA:HB3	58:FB:103:GLN:HB3	1.35	1.07
1:A:400:A:H4'	1:A:401:A:H5'	1.28	1.07
2:B:2536:A:H3'	2:B:2537:U:H5"	1.12	1.06
14:N:42:THR:HG22	14:N:45:GLU:HG3	1.38	1.06
60:HB:58:GLN:HB2	60:HB:65:TYR:HB2	1.36	1.06
73:UB:96:VAL:HG23	73:UB:97:ASP:H	1.19	1.05
60:HB:87:VAL:H	60:HB:88:PRO:HD3	1.20	1.05
2:B:2076:G:H2'	2:B:2077:U:H5"	1.35	1.05
1:A:348:U:H4'	58:FB:14:THR:HG22	1.38	1.03
19:S:27:VAL:HG23	19:S:122:ASN:HB3	1.35	1.03
83:EC:6905:G:C3'	83:EC:6906:G:H5"	1.87	1.03
2:B:666:A:H2'	2:B:667:C:H5"	1.37	1.03
48:VA:33:VAL:HG22	48:VA:34:SER:H	1.14	1.03
82:DC:733:ILE:HD13	82:DC:743:ILE:HD11	1.36	1.03
1:A:845:G:H2'	1:A:846:G:H5"	1.39	1.02
2:B:1858:A:H5'	38:LA:4:ARG:HG2	1.37	1.02
83:EC:6905:G:H3'	83:EC:6906:G:C5'	1.88	1.02
14:N:174:THR:HG22	14:N:176:LEU:H	1.20	1.02
63:KB:22:ALA:HB1	63:KB:23:PRO:HA	1.40	1.02
53:AB:140:GLY:HA3	53:AB:182:LEU:HG	1.39	1.02
2:B:2476:C:H2'	2:B:2477:G:H4'	1.38	1.01
19:S:58:GLY:HA3	19:S:142:ILE:HD11	1.42	1.01
2:B:1233:G:H4'	16:P:120:SER:HB2	1.42	1.01
2:B:2570:U:H4'	2:B:2571:U:H2'	1.39	1.01
15:O:32:ARG:HH21	15:O:121:GLY:HA3	1.21	1.01
57:EB:126:LEU:HD21	57:EB:152:VAL:HG11	1.43	1.01
13:M:90:MET:HG2	13:M:181:VAL:HA	1.43	1.01
57:EB:91:ILE:HD11	57:EB:129:LEU:HA	1.41	1.01
82:DC:335:LEU:HA	82:DC:338:ILE:HD12	1.40	1.00
66:NB:41:PRO:HB3	66:NB:44:LEU:HD23	1.37	1.00
2:B:438:A:H2'	2:B:439:C:H4'	1.42	1.00
15:O:90:GLN:HB3	15:O:172:LEU:HD11	1.44	1.00
1:A:740:A:H2'	1:A:741:C:H5"	1.44	0.99
3:C:81:U:H4'	3:C:82:U:H5'	1.38	0.99
8:H:276:LEU:HD23	8:H:277:PRO:HD2	1.42	0.99
61:IB:85:VAL:HG22	61:IB:108:PRO:HB3	1.44	0.99
1:A:749:U:H3	1:A:800:U:H3	1.10	0.99
74:VB:54:ALA:HB2	74:VB:79:VAL:HG22	1.40	0.99
70:RB:26:LEU:HB2	70:RB:89:ARG:HB2	1.41	0.99
48:VA:39:HIS:HA	48:VA:42:ARG:HD2	1.40	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:111:GLN:HA	9:I:116:ASP:HB2	1.43	0.99
25:Y:124:VAL:HG12	25:Y:125:ALA:H	1.26	0.98
83:EC:6895:C:H2'	83:EC:6896:A:H5"	1.42	0.98
60:HB:21:VAL:HB	60:HB:66:TYR:HB2	1.45	0.98
2:B:151:A:H5"	39:MA:102:GLU:HG3	1.44	0.98
54:BB:252:ARG:HA	54:BB:255:ARG:HD2	1.42	0.98
1:A:475:A:H5'	80:BC:33:ARG:HH22	1.27	0.98
55:CB:142:PRO:HG3	55:CB:214:LYS:HG2	1.46	0.98
82:DC:164:LEU:HD21	82:DC:174:LEU:HD22	1.46	0.97
21:U:64:ASN:HD22	21:U:80:LYS:HD2	1.25	0.97
2:B:1281:G:H5'	48:VA:55:LYS:HG2	1.45	0.97
2:B:3163:A:H2'	2:B:3164:C:H5"	1.44	0.97
55:CB:64:VAL:HG13	55:CB:130:ILE:HD11	1.47	0.97
78:ZB:10:ALA:HA	78:ZB:32:PHE:HA	1.41	0.97
2:B:3206:C:H5"	2:B:3207:U:H5"	1.45	0.97
31:EA:51:LEU:HB2	31:EA:65:ARG:HD2	1.47	0.97
49:WA:302:PHE:HA	49:WA:312:VAL:HG12	1.45	0.97
2:B:2207:A:H3'	2:B:2208:A:H5"	1.47	0.97
13:M:85:GLY:HA3	13:M:187:ILE:HB	1.45	0.97
2:B:3262:U:H2'	2:B:3263:G:H5"	1.47	0.97
59:GB:60:LEU:HD21	59:GB:93:LEU:HD21	1.47	0.97
60:HB:11:ILE:HA	60:HB:35:ILE:HD13	1.47	0.96
69:QB:37:VAL:HG11	69:QB:100:ILE:HD11	1.43	0.96
2:B:2193:U:H5'	2:B:2194:G:H5'	1.48	0.96
9:I:58:LYS:HB3	9:I:93:THR:HG21	1.46	0.96
16:P:128:VAL:HG12	16:P:132:ILE:HD11	1.46	0.96
1:A:237:C:H5"	1:A:238:U:H5'	1.45	0.96
2:B:2499:U:H2'	2:B:2500:A:H8	1.30	0.96
54:BB:160:VAL:HG13	54:BB:169:ILE:HG23	1.46	0.96
54:BB:191:ARG:HD3	54:BB:245:LYS:HB2	1.46	0.96
13:M:115:ARG:HB3	13:M:123:ILE:HG13	1.48	0.95
18:R:47:ASP:HB2	18:R:55:ARG:HG2	1.43	0.95
28:BA:46:PRO:HB2	28:BA:54:LEU:HD23	1.47	0.95
48:VA:34:SER:HB3	48:VA:37:GLN:HG2	1.48	0.95
57:EB:12:ALA:HB3	57:EB:13:PRO:HD3	1.47	0.95
5:E:120:VAL:HG13	5:E:124:LEU:HD23	1.48	0.95
82:DC:296:ILE:HB	82:DC:297:PRO:HD3	1.47	0.95
9:I:104:LEU:HA	9:I:247:ILE:HG21	1.47	0.95
49:WA:136:ILE:HD13	49:WA:136:ILE:H	1.31	0.95
48:VA:130:PRO:HA	48:VA:150:ILE:HD11	1.48	0.95
82:DC:594:ASP:HB3	82:DC:597:VAL:HG23	1.49	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2491:A:H2'	2:B:2492:C:H4'	1.50	0.94
30:DA:118:LEU:HA	30:DA:121:ARG:HH11	1.32	0.94
39:MA:104:GLN:HE22	39:MA:107:LYS:HD3	1.31	0.94
1:A:487:G:H2'	1:A:488:G:H5"	1.48	0.94
42:PA:31:LEU:HD21	42:PA:35:GLY:H	1.30	0.94
48:VA:108:PRO:HA	48:VA:179:SER:CA	1.96	0.94
50:XA:170:ILE:H	50:XA:170:ILE:HD12	1.31	0.94
12:L:160:ILE:HD12	12:L:160:ILE:H	1.31	0.94
2:B:1240:A:H3'	2:B:1241:U:H5"	1.46	0.94
32:FA:126:LYS:HB3	32:FA:148:ILE:HD11	1.49	0.94
30:DA:56:VAL:HG23	30:DA:106:ILE:HA	1.47	0.94
83:EC:6905:G:H3'	83:EC:6906:G:H5"	0.96	0.94
41:OA:21:ARG:HD2	41:OA:39:TYR:HB2	1.48	0.94
2:B:1323:G:H4'	24:X:1:MET:HA	1.47	0.93
54:BB:31:PRO:HB2	54:BB:38:LEU:HD22	1.50	0.93
63:KB:33:VAL:HG11	63:KB:66:ILE:HG12	1.47	0.93
3:C:94:C:H5"	41:OA:76:ASN:HD21	1.32	0.93
38:LA:29:ILE:HD11	38:LA:31:ARG:HH21	1.31	0.93
50:XA:63:ILE:HG12	71:SB:36:VAL:HG22	1.50	0.93
29:CA:110:VAL:HG22	29:CA:124:VAL:HG22	1.50	0.93
2:B:149:U:H2'	2:B:150:A:H5"	1.49	0.93
14:N:82:ARG:HB2	14:N:82:ARG:HH11	1.33	0.93
57:EB:27:LEU:HB3	57:EB:84:LYS:HE3	1.48	0.93
54:BB:159:THR:HG23	54:BB:173:ILE:HB	1.50	0.93
65:MB:14:THR:HB	65:MB:22:LEU:HB2	1.47	0.93
83:EC:6927:U:H3'	83:EC:6928:G:C5'	1.97	0.93
4:D:47:C:H2'	4:D:48:U:H5"	1.51	0.93
8:H:230:VAL:HG21	8:H:254:ALA:HB1	1.48	0.93
59:GB:168:ARG:HG3	59:GB:174:ARG:HD2	1.48	0.93
28:BA:57:LYS:HE3	28:BA:57:LYS:HA	1.50	0.93
71:SB:5:LYS:H	71:SB:5:LYS:HD3	1.30	0.93
1:A:911:U:H5"	2:B:2207:A:H5'	1.47	0.93
48:VA:27:VAL:HG12	48:VA:188:VAL:HB	1.50	0.93
1:A:66:U:H1'	56:DB:160:ARG:HH21	1.34	0.93
53:AB:7:LYS:HA	53:AB:7:LYS:HE3	1.51	0.93
82:DC:222:ILE:HD13	82:DC:222:ILE:H	1.30	0.93
2:B:269:G:H5"	19:S:14:LYS:HE2	1.51	0.92
14:N:30:LYS:HD2	14:N:63:GLU:HG2	1.51	0.92
1:A:143:G:H2'	1:A:144:U:H5"	1.48	0.92
2:B:1245:A:H3'	2:B:1246:G:H5"	1.49	0.92
8:H:188:ARG:HH21	8:H:197:ARG:HB2	1.34	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:RB:69:LYS:HE2	70:RB:80:GLU:HG3	1.48	0.92
2:B:2510:U:O2'	2:B:2511:A:H5'	1.66	0.92
2:B:2536:A:H3'	2:B:2537:U:C5'	1.99	0.92
22:V:62:VAL:HG13	22:V:66:ARG:HG2	1.50	0.92
30:DA:35:LEU:HG	30:DA:47:ALA:HA	1.51	0.92
1:A:505:A:H3'	1:A:506:A:H5"	1.50	0.92
39:MA:85:THR:HG22	39:MA:87:ALA:H	1.32	0.92
68:PB:52:VAL:HG13	68:PB:61:LEU:HD11	1.51	0.92
1:A:1681:A:H1'	56:DB:66:GLY:HA3	1.52	0.92
61:IB:85:VAL:HA	61:IB:108:PRO:HA	1.51	0.92
57:EB:162:ILE:HG22	57:EB:165:LYS:HD2	1.50	0.91
16:P:106:LEU:H	16:P:142:ARG:HG3	1.34	0.91
19:S:18:VAL:HG22	19:S:19:LEU:HD12	1.53	0.91
2:B:1236:G:H2'	16:P:60:VAL:HG22	1.53	0.91
9:I:3:PHE:HB2	9:I:6:ASP:HB2	1.51	0.91
82:DC:288:ILE:HG23	82:DC:319:LEU:HG	1.53	0.91
1:A:839:U:H2'	1:A:840:U:H5"	1.53	0.91
19:S:110:ALA:HB1	19:S:113:LEU:HD23	1.53	0.91
34:HA:17:VAL:HG12	34:HA:100:ILE:HD12	1.50	0.91
1:A:354:C:H5"	58:FB:16:ALA:HB2	1.51	0.91
12:L:75:ILE:HG22	12:L:76:ALA:H	1.35	0.91
27:AA:93:LEU:HD23	27:AA:93:LEU:H	1.35	0.91
40:NA:79:SER:HB3	40:NA:82:ARG:HG2	1.52	0.91
82:DC:653:VAL:HG13	82:DC:693:LEU:HG	1.53	0.91
24:X:48:LEU:HD13	25:Y:151:LEU:HD13	1.53	0.90
5:E:148:VAL:O	5:E:151:VAL:HG12	1.72	0.90
82:DC:278:LEU:HA	82:DC:281:ILE:HD12	1.49	0.90
34:HA:43:ILE:HG13	34:HA:90:VAL:HB	1.50	0.90
72:TB:8:ALA:HA	72:TB:74:VAL:HG11	1.53	0.90
2:B:1386:A:H5"	8:H:141:ARG:HH21	1.37	0.90
13:M:41:ILE:HD11	13:M:67:ALA:HB1	1.53	0.90
2:B:2442:G:H2'	2:B:2443:A:H5"	1.52	0.90
2:B:3174:A:H2'	2:B:3175:U:H5'	1.51	0.90
16:P:123:ARG:HH12	48:VA:42:ARG:HD3	1.36	0.90
2:B:2674:A:H5"	15:O:105:GLY:HA3	1.53	0.90
49:WA:59:ARG:HB2	49:WA:59:ARG:HH11	1.37	0.90
41:OA:63:ARG:O	41:OA:68:LYS:HE3	1.71	0.89
82:DC:216:HIS:HA	82:DC:321:LYS:HD3	1.50	0.89
82:DC:405:VAL:HG12	82:DC:448:CYS:HB3	1.54	0.89
1:A:179:A:H61	56:DB:202:ARG:HH22	1.20	0.89
12:L:98:ARG:HH11	12:L:98:ARG:HB2	1.37	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:EA:44:ALA:HB1	31:EA:71:PHE:O	1.70	0.89
82:DC:32:LYS:HG3	84:DC:901:GDP:O2B	1.70	0.89
24:X:155:ARG:HH22	24:X:172:TYR:HA	1.37	0.89
49:WA:229:LYS:HA	53:AB:222:VAL:HG11	1.55	0.89
59:GB:85:VAL:HG22	59:GB:107:ARG:HG3	1.51	0.89
82:DC:760:ARG:HB2	82:DC:760:ARG:HH11	1.36	0.89
83:EC:6872:A:H3'	83:EC:6873:A:H5"	1.52	0.89
1:A:1187:U:H2'	1:A:1188:G:H8	1.36	0.89
35:IA:77:ARG:HG2	35:IA:89:LEU:HD21	1.51	0.89
2:B:2476:C:H2'	2:B:2477:G:C4'	2.02	0.89
39:MA:104:GLN:NE2	39:MA:107:LYS:HD3	1.87	0.89
2:B:1256:G:O2'	16:P:123:ARG:HB2	1.71	0.89
13:M:89:LYS:HG2	13:M:145:VAL:HG22	1.53	0.89
49:WA:117:LYS:H	49:WA:117:LYS:HD2	1.36	0.89
82:DC:386:VAL:HG13	82:DC:395:TYR:HB2	1.51	0.89
2:B:1233:G:H4'	16:P:120:SER:CB	2.02	0.89
82:DC:627:VAL:HA	82:DC:630:ALA:HB3	1.54	0.89
5:E:6:SER:HA	5:E:9:VAL:HG12	1.54	0.89
12:L:74:THR:HG21	19:S:18:VAL:HB	1.52	0.89
35:IA:55:LEU:HB2	35:IA:95:PRO:HD3	1.53	0.89
2:B:118:U:H2'	2:B:119:U:H5'	1.55	0.89
11:K:98:LYS:HB3	11:K:99:PRO:HD3	1.55	0.89
82:DC:285:PHE:HA	82:DC:320:LEU:HD11	1.52	0.89
6:F:47:GLN:HA	6:F:84:THR:HG22	1.52	0.89
48:VA:33:VAL:CG2	48:VA:34:SER:H	1.86	0.89
49:WA:42:LEU:HB2	49:WA:61:PHE:HD2	1.34	0.89
1:A:639:U:H5"	57:EB:101:LYS:HB2	1.53	0.88
1:A:992:A:H4'	1:A:1785:U:O2'	1.73	0.88
2:B:1566:A:H3'	2:B:1567:U:H5"	1.52	0.88
48:VA:111:ALA:HB1	48:VA:167:GLN:HA	1.53	0.88
74:VB:27:VAL:HG11	74:VB:35:VAL:HG11	1.54	0.88
1:A:138:A:N6	1:A:266:A:H61	1.71	0.88
1:A:709:C:H42	1:A:730:G:H2'	1.37	0.88
21:U:125:GLN:HB2	21:U:141:SER:HB2	1.55	0.88
44:RA:104:PRO:HD2	44:RA:107:ALA:HB2	1.54	0.88
68:PB:114:GLU:HB3	68:PB:118:LYS:HE2	1.55	0.88
10:J:54:TYR:HA	10:J:65:ILE:HG22	1.52	0.88
36:JA:96:ILE:HB	36:JA:121:ASN:HD21	1.38	0.88
65:MB:98:ASN:HB3	65:MB:103:ASN:HD21	1.38	0.88
82:DC:599:LEU:HG	82:DC:603:ASN:HD21	1.35	0.88
54:BB:150:PRO:HB2	54:BB:154:ILE:HD12	1.55	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:730:G:H21	1:A:731:C:H5"	1.37	0.88
2:B:1259:A:O2'	2:B:1280:C:H4'	1.74	0.88
13:M:129:ARG:HG3	13:M:157:ASN:HD22	1.35	0.88
56:DB:88:ARG:HB3	56:DB:91:GLU:HB2	1.55	0.88
82:DC:27:HIS:CD2	82:DC:136:CYS:HB2	2.08	0.88
24:X:79:VAL:HG23	24:X:90:MET:HG3	1.56	0.88
5:E:191:VAL:HG22	5:E:197:ASN:HD21	1.37	0.88
6:F:177:LYS:HB2	47:UA:29:LEU:HD13	1.55	0.88
15:O:80:LEU:HD12	15:O:129:VAL:HG21	1.56	0.88
1:A:64:U:H2'	1:A:65:A:H5"	1.52	0.88
6:F:80:GLU:HG2	47:UA:76:ALA:HB1	1.56	0.88
39:MA:77:PRO:HB2	39:MA:80:LEU:HG	1.52	0.87
2:B:990:U:H2'	2:B:991:G:H5"	1.55	0.87
9:I:103:LEU:HD13	9:I:169:GLY:HA2	1.54	0.87
30:DA:50:ILE:HD11	30:DA:70:ILE:HG13	1.57	0.87
31:EA:88:ASP:HB2	31:EA:121:ARG:HH21	1.38	0.87
15:O:108:GLU:HG2	15:O:122:ILE:HG23	1.57	0.87
20:T:61:ALA:HA	20:T:70:PRO:HD2	1.55	0.87
28:BA:6:ASP:HB3	28:BA:10:GLY:H	1.36	0.87
39:MA:104:GLN:HA	39:MA:104:GLN:HE21	1.39	0.87
57:EB:64:VAL:HA	57:EB:67:LEU:HD12	1.54	0.87
65:MB:25:LEU:HB3	65:MB:87:PRO:HG2	1.53	0.87
82:DC:693:LEU:HD22	82:DC:700:ARG:HD3	1.56	0.87
52:ZA:44:LEU:HA	52:ZA:49:LYS:HD2	1.57	0.87
56:DB:56:ASN:HB2	56:DB:108:VAL:HB	1.56	0.87
61:IB:77:SER:HB2	61:IB:85:VAL:HB	1.55	0.87
82:DC:44:GLY:HA2	82:DC:77:LEU:HG	1.57	0.87
4:D:27:A:H2'	4:D:28:C:C6	2.10	0.87
83:EC:6912:G:H3'	83:EC:6913:U:H5"	1.55	0.87
7:G:47:LEU:HD12	7:G:335:ILE:HD11	1.57	0.87
55:CB:197:GLU:HG3	55:CB:208:SER:HB2	1.55	0.87
59:GB:93:LEU:O	59:GB:96:VAL:HG22	1.74	0.87
82:DC:578:LYS:HB3	82:DC:585:ARG:HG2	1.57	0.87
17:Q:85:LEU:HD23	17:Q:85:LEU:H	1.40	0.86
48:VA:33:VAL:HG22	48:VA:34:SER:N	1.89	0.86
2:B:666:A:C2'	2:B:667:C:H5"	2.05	0.86
49:WA:38:ARG:HA	49:WA:67:ILE:HG23	1.56	0.86
58:FB:12:SER:HA	58:FB:18:ARG:NH2	1.90	0.86
1:A:629:U:H3'	1:A:630:A:H5"	1.57	0.86
54:BB:95:THR:HG22	74:VB:16:PRO:HD2	1.55	0.86
61:IB:7:VAL:HG21	61:IB:53:TYR:HB3	1.55	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1654:A:H2'	2:B:1655:G:H5'	1.57	0.86
2:B:2081:U:H2'	2:B:2082:U:H4'	1.57	0.86
2:B:2821:C:H42	2:B:2869:U:H3	1.21	0.86
30:DA:34:PRO:HA	30:DA:47:ALA:CB	2.04	0.86
63:KB:99:ARG:NH2	63:KB:143:SER:HB2	1.90	0.86
68:PB:15:LEU:HG	68:PB:22:VAL:HB	1.58	0.86
82:DC:338:ILE:O	82:DC:342:LEU:HB2	1.76	0.86
1:A:1319:A:H2'	1:A:1320:U:H5"	1.56	0.86
2:B:2511:A:H2'	2:B:2512:C:C6	2.09	0.86
13:M:41:ILE:HG23	13:M:43:VAL:HG13	1.57	0.86
30:DA:82:VAL:HG12	30:DA:85:VAL:H	1.41	0.86
54:BB:49:ARG:HA	54:BB:55:ALA:HB3	1.56	0.86
82:DC:307:LEU:HB3	82:DC:312:LYS:HG2	1.55	0.86
17:Q:47:ALA:HB1	17:Q:48:PRO:CD	2.06	0.86
19:S:11:GLN:HG2	19:S:44:ARG:CZ	2.06	0.86
72:TB:36:LYS:HB2	72:TB:110:ILE:HD12	1.58	0.86
5:E:90:LEU:HD23	5:E:119:GLN:HB2	1.56	0.85
31:EA:54:THR:HG23	31:EA:56:LYS:H	1.39	0.85
39:MA:89:ARG:HH11	39:MA:89:ARG:HG2	1.38	0.85
74:VB:29:HIS:HB2	74:VB:32:ARG:HB3	1.57	0.85
68:PB:18:LEU:HD21	68:PB:70:VAL:HG13	1.57	0.85
8:H:138:ARG:NH2	8:H:240:PRO:HB2	1.90	0.85
82:DC:489:VAL:HG11	82:DC:538:LEU:HD22	1.59	0.85
1:A:1023:A:H4'	1:A:1024:U:H6	1.38	0.85
2:B:5:G:H2'	2:B:6:A:H5"	1.54	0.85
49:WA:45:TRP:HA	49:WA:57:PRO:HA	1.58	0.85
56:DB:135:PRO:HB3	56:DB:141:ILE:HG12	1.59	0.85
1:A:1454:G:H4'	65:MB:122:THR:HG21	1.57	0.85
36:JA:4:LEU:H	36:JA:4:LEU:HD12	1.40	0.85
1:A:802:G:H21	72:TB:107:SER:HB3	1.40	0.85
53:AB:40:ARG:HB2	53:AB:47:GLU:HB3	1.58	0.85
1:A:463:U:H2'	1:A:464:A:H8	1.39	0.85
2:B:522:A:H3'	2:B:523:A:H5"	1.56	0.85
2:B:1419:A:H5"	8:H:193:LYS:HE2	1.58	0.85
24:X:99:ARG:HH12	24:X:126:VAL:HG12	1.41	0.85
31:EA:87:LEU:HG	31:EA:88:ASP:H	1.39	0.85
48:VA:121:VAL:O	48:VA:155:ASP:HA	1.76	0.85
55:CB:128:ASN:HD22	55:CB:129:PRO:HD2	1.41	0.85
6:F:39:GLY:HA3	12:L:36:ILE:HG21	1.59	0.84
7:G:356:LEU:H	7:G:356:LEU:HD23	1.40	0.84
25:Y:88:ARG:HH22	33:GA:33:LYS:HB3	1.42	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:GA:38:LYS:HA	33:GA:41:ARG:HH12	1.41	0.84
36:JA:78:ASN:H	36:JA:78:ASN:HD22	1.21	0.84
9:I:9:SER:HB2	9:I:12:TYR:HB3	1.59	0.84
12:L:61:GLN:HA	12:L:64:ILE:HD12	1.59	0.84
27:AA:38:ALA:HB3	27:AA:59:MET:HB2	1.59	0.84
53:AB:106:LYS:HD2	53:AB:173:ARG:HD2	1.59	0.84
54:BB:150:PRO:HG2	54:BB:151:ASP:H	1.40	0.84
12:L:151:VAL:O	12:L:177:TYR:HA	1.77	0.84
2:B:148:G:H5"	19:S:55:ALA:CB	2.06	0.84
1:A:56:U:H4'	1:A:57:G:H5'	1.60	0.84
54:BB:73:ASP:HB3	54:BB:164:LEU:HD22	1.56	0.84
6:F:242:ARG:HG3	6:F:243:THR:H	1.43	0.84
28:BA:17:ARG:HG3	28:BA:17:ARG:HH11	1.41	0.84
82:DC:750:LYS:HB3	82:DC:776:GLU:HB3	1.58	0.84
1:A:1435:G:H4'	1:A:1436:A:H5'	1.58	0.84
55:CB:163:SER:HB3	78:ZB:48:VAL:HG22	1.59	0.84
75:WB:93:SER:HB2	75:WB:100:ILE:H	1.41	0.84
82:DC:331:ALA:HB1	82:DC:335:LEU:HD11	1.60	0.84
82:DC:545:LEU:HG	82:DC:554:LEU:HD11	1.59	0.84
17:Q:47:ALA:CB	17:Q:48:PRO:HD2	2.06	0.84
58:FB:102:VAL:HG23	58:FB:167:ALA:HB3	1.60	0.84
82:DC:804:LEU:HD11	82:DC:814:LYS:HD2	1.60	0.84
2:B:2484:A:H4'	5:E:130:LYS:HB2	1.57	0.83
50:XA:26:ALA:HB3	50:XA:30:GLN:HE22	1.42	0.83
54:BB:15:PRO:HD3	54:BB:39:ARG:HH22	1.41	0.83
58:FB:82:VAL:HG23	58:FB:101:ILE:HG22	1.60	0.83
82:DC:241:MET:HA	82:DC:244:LEU:HD12	1.60	0.83
1:A:209:U:H2'	1:A:210:A:C8	2.13	0.83
2:B:1218:U:H3'	2:B:1219:C:H5"	1.58	0.83
2:B:1479:U:H2'	2:B:1480:G:H5'	1.60	0.83
61:IB:122:ILE:H	61:IB:122:ILE:HD12	1.43	0.83
63:KB:99:ARG:HH21	63:KB:143:SER:HB2	1.43	0.83
82:DC:92:LYS:HB3	82:DC:346:VAL:HG11	1.58	0.83
82:DC:656:LEU:O	82:DC:659:ILE:HG12	1.77	0.83
1:A:889:U:H2'	1:A:890:C:H4'	1.59	0.83
2:B:2419:A:H2'	2:B:2420:C:C6	2.13	0.83
82:DC:413:ILE:HG12	82:DC:469:LEU:HD11	1.60	0.83
2:B:1056:U:H4'	4:D:82:G:H4'	1.61	0.83
24:X:8:GLN:HB2	24:X:64:ILE:HD11	1.59	0.83
34:HA:78:GLY:O	34:HA:81:VAL:HG22	1.78	0.83
58:FB:8:ARG:HD3	58:FB:21:PHE:HD1	1.44	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SB:39:VAL:HA	71:SB:45:ALA:HA	1.60	0.83
74:VB:105:ARG:HH11	74:VB:109:LYS:HZ1	1.27	0.83
2:B:208:C:OP2	8:H:163:LYS:HE3	1.78	0.83
9:I:91:GLY:HA2	9:I:94:ASN:HD21	1.41	0.83
1:A:1542:G:N1	1:A:1568:C:H1'	1.94	0.83
50:XA:144:ILE:HG23	50:XA:158:VAL:HG13	1.61	0.83
82:DC:84:GLU:HA	82:DC:87:LYS:HB2	1.59	0.83
82:DC:615:ARG:NE	82:DC:633:ILE:HD11	1.94	0.83
1:A:639:U:OP1	57:EB:117:THR:HG23	1.79	0.83
1:A:754:A:H3'	1:A:755:A:H5'	1.58	0.83
2:B:1235:U:C4'	2:B:1236:G:H5'	2.07	0.83
17:Q:74:GLY:HA3	17:Q:98:ASP:HB2	1.60	0.83
19:S:37:HIS:HE1	19:S:63:ARG:HH11	1.26	0.83
31:EA:23:VAL:HG12	31:EA:45:GLY:HA3	1.58	0.83
82:DC:86:VAL:HG13	82:DC:89:ILE:HD12	1.60	0.83
8:H:23:PRO:HG3	8:H:258:LEU:HD23	1.59	0.83
75:WB:92:ILE:HG13	75:WB:100:ILE:HG23	1.60	0.83
24:X:9:VAL:HG13	24:X:61:ILE:HD13	1.59	0.83
48:VA:119:ILE:HG13	48:VA:159:VAL:HG13	1.61	0.83
2:B:2076:G:C2'	2:B:2077:U:H5"	2.09	0.82
23:W:160:GLU:HA	23:W:163:ARG:NE	1.94	0.82
49:WA:238:ASP:HB3	49:WA:257:ALA:HB3	1.59	0.82
57:EB:126:LEU:HD11	57:EB:152:VAL:HG21	1.61	0.82
1:A:1117:U:H2'	1:A:1118:G:H5"	1.61	0.82
2:B:1336:U:H2'	2:B:1337:A:H8	1.41	0.82
23:W:23:TRP:CH2	23:W:25:ASP:HB3	2.14	0.82
48:VA:64:ARG:HH11	48:VA:67:LEU:HD13	1.44	0.82
56:DB:163:THR:HA	56:DB:168:THR:HG22	1.61	0.82
79:AC:31:ILE:HB	79:AC:36:LEU:HD11	1.59	0.82
1:A:1634:C:H5'	83:EC:6955:U:H5	1.45	0.82
2:B:637:C:H2'	2:B:638:C:C6	2.14	0.82
56:DB:77:LEU:HD11	56:DB:95:LYS:HB2	1.61	0.82
1:A:375:U:H5"	73:UB:32:ARG:NH1	1.95	0.82
31:EA:134:LEU:HD13	31:EA:135:ARG:N	1.95	0.82
66:NB:6:SER:HB3	66:NB:23:LYS:HB3	1.62	0.82
67:OB:21:TYR:N	67:OB:22:PRO:HD2	1.94	0.82
82:DC:336:GLU:HG2	82:DC:340:LEU:HD11	1.61	0.82
73:UB:52:ILE:HD12	82:DC:502:PRO:HB3	1.60	0.82
82:DC:618:ILE:O	82:DC:622:ASP:HB2	1.78	0.82
9:I:95:TRP:CZ3	9:I:161:GLY:HA2	2.14	0.82
16:P:86:LYS:NZ	16:P:104:ILE:HD11	1.93	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:36:VAL:HA	25:Y:64:VAL:HG13	1.61	0.82
2:B:1054:A:H5"	2:B:2637:A:H61	1.45	0.82
2:B:2499:U:H2'	2:B:2500:A:C8	2.14	0.82
2:B:2457:G:H1'	2:B:2486:A:N6	1.94	0.82
60:HB:24:LYS:HA	60:HB:63:TYR:HA	1.62	0.82
1:A:625:C:H2'	1:A:626:U:C6	2.15	0.82
1:A:1494:C:H2'	1:A:1495:C:C6	2.15	0.82
2:B:1233:G:N2	16:P:128:VAL:HG13	1.93	0.82
8:H:32:PRO:HG3	8:H:244:LEU:HD11	1.61	0.82
17:Q:92:THR:HG21	39:MA:111:PHE:HB3	1.60	0.82
73:UB:96:VAL:HG23	73:UB:97:ASP:N	1.95	0.82
1:A:960:U:H2'	1:A:961:U:C6	2.14	0.81
2:B:3262:U:C2'	2:B:3263:G:H5"	2.10	0.81
2:B:3273:A:H4'	10:J:44:ALA:CB	2.09	0.81
1:A:533:U:H4'	74:VB:33:ALA:HB2	1.62	0.81
2:B:1234:G:H5"	16:P:118:ASP:HB2	1.62	0.81
2:B:3112:G:O6	2:B:3119:U:H3'	1.79	0.81
1:A:75:U:H3'	1:A:76:A:H5"	1.62	0.81
1:A:463:U:H2'	1:A:464:A:C8	2.14	0.81
1:A:1436:A:H2'	1:A:1437:U:H5'	1.63	0.81
2:B:29:C:OP1	19:S:189:LYS:HB2	1.79	0.81
2:B:1259:A:C5	48:VA:53:MET:HG3	2.15	0.81
9:I:236:LEU:HD12	9:I:239:ILE:HD12	1.60	0.81
16:P:92:ARG:HG3	16:P:93:LYS:H	1.46	0.81
66:NB:128:LYS:HB2	66:NB:137:ARG:HH22	1.42	0.81
74:VB:79:VAL:HG12	74:VB:83:LYS:HE3	1.63	0.81
75:WB:92:ILE:HD11	75:WB:100:ILE:HD12	1.60	0.81
2:B:2909:U:H3'	2:B:2910:A:H5"	1.63	0.81
15:O:54:VAL:HG11	15:O:57:PHE:CD2	2.15	0.81
61:IB:27:THR:HG21	61:IB:29:LYS:NZ	1.95	0.81
1:A:1227:A:H4'	1:A:1228:G:H5"	1.59	0.81
1:A:1149:G:H1	1:A:1628:U:H3	1.29	0.81
18:R:20:VAL:HG21	18:R:90:VAL:HG21	1.63	0.81
1:A:1231:U:H4'	1:A:1259:U:H1'	1.63	0.81
17:Q:28:GLN:HB3	19:S:201:ARG:HD2	1.62	0.81
57:EB:35:LYS:HG2	57:EB:36:ALA:H	1.45	0.81
60:HB:87:VAL:N	60:HB:88:PRO:HD3	1.95	0.81
2:B:148:G:H5"	19:S:55:ALA:HB3	1.63	0.81
2:B:1220:U:H4'	2:B:1222:G:H1'	1.61	0.81
5:E:113:SER:HB2	5:E:116:LEU:HG	1.63	0.81
19:S:154:PRO:O	19:S:157:LYS:HG3	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:KA:72:THR:HG21	37:KA:84:THR:HG23	1.63	0.81
82:DC:412:ARG:HA	82:DC:428:ILE:HG13	1.63	0.81
82:DC:647:ILE:HG22	82:DC:687:ASN:HA	1.62	0.81
1:A:609:U:O2'	73:UB:23:ARG:HD3	1.81	0.81
49:WA:108:SER:HB2	49:WA:128:ASP:HB3	1.62	0.81
82:DC:571:SER:HA	82:DC:720:ALA:HA	1.62	0.81
1:A:813:U:H3	23:W:163:ARG:HD2	1.46	0.81
1:A:821:U:H3'	1:A:822:U:H4'	1.62	0.81
2:B:1768:U:H2'	2:B:1769:G:H5"	1.62	0.81
10:J:8:LYS:HD3	10:J:8:LYS:H	1.45	0.81
19:S:146:ALA:HA	19:S:149:ASN:HB3	1.61	0.81
39:MA:62:GLN:O	39:MA:66:VAL:HG23	1.81	0.81
50:XA:197:ILE:HD13	50:XA:197:ILE:H	1.44	0.81
82:DC:73:THR:HG22	82:DC:74:ALA:H	1.46	0.81
10:J:129:GLU:HG3	10:J:130:ILE:H	1.44	0.80
25:Y:17:ARG:O	25:Y:18:ASP:HB2	1.79	0.80
39:MA:21:LEU:HG	39:MA:54:VAL:HG11	1.63	0.80
50:XA:109:ASN:ND2	50:XA:111:ILE:HG22	1.96	0.80
61:IB:123:VAL:HG22	61:IB:124:THR:H	1.46	0.80
2:B:3165:A:H61	2:B:3285:C:H42	1.26	0.80
13:M:89:LYS:HE3	13:M:183:HIS:HB3	1.64	0.80
1:A:390:G:O2'	1:A:1731:A:H5"	1.82	0.80
8:H:302:ALA:HA	22:V:39:ARG:HH12	1.46	0.80
54:BB:194:THR:O	54:BB:195:ILE:HG13	1.80	0.80
1:A:1701:A:C3'	1:A:1702:A:H5"	2.10	0.80
2:B:801:A:H62	17:Q:19:GLN:HE22	1.30	0.80
15:O:32:ARG:NH2	15:O:121:GLY:HA3	1.95	0.80
54:BB:31:PRO:HB2	54:BB:38:LEU:CD2	2.11	0.80
7:G:41:VAL:HA	7:G:185:GLY:HA3	1.60	0.80
25:Y:112:ASN:OD1	25:Y:128:LEU:HB3	1.82	0.80
1:A:991:G:H4'	1:A:1786:G:H4'	1.62	0.80
18:R:16:GLU:HB3	24:X:149:LYS:HB3	1.61	0.80
22:V:83:VAL:HG12	22:V:85:GLY:H	1.46	0.80
82:DC:495:VAL:HG11	82:DC:501:LEU:HA	1.64	0.80
11:K:148:VAL:HG11	11:K:181:ILE:HD11	1.63	0.80
56:DB:190:GLN:HA	56:DB:193:LEU:HD12	1.62	0.80
57:EB:56:LYS:HB2	57:EB:88:ARG:HH11	1.47	0.80
2:B:2244:A:H5"	6:F:243:THR:HG21	1.64	0.80
2:B:3163:A:C2'	2:B:3164:C:H5"	2.12	0.80
12:L:134:TYR:HD1	12:L:190:VAL:HG13	1.45	0.80
2:B:990:U:H1'	25:Y:101:CYS:HB3	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:XA:109:ASN:HD21	50:XA:111:ILE:HG22	1.45	0.80
56:DB:67:VAL:H	56:DB:100:ALA:HB2	1.46	0.80
71:SB:9:VAL:HG22	71:SB:10:GLU:H	1.45	0.80
71:SB:74:GLN:HE22	71:SB:83:TRP:HB3	1.45	0.80
1:A:1485:C:H2'	1:A:1486:G:H4'	1.64	0.79
1:A:1498:G:H3'	1:A:1499:G:H5"	1.62	0.79
65:MB:52:LYS:HB2	65:MB:53:PRO:HD3	1.63	0.79
74:VB:83:LYS:HG2	74:VB:96:LEU:HB3	1.63	0.79
82:DC:733:ILE:HD13	82:DC:743:ILE:CD1	2.12	0.79
16:P:123:ARG:NH2	48:VA:39:HIS:HB2	1.97	0.79
38:LA:75:ALA:O	38:LA:76:TYR:HB2	1.79	0.79
78:ZB:36:THR:HG23	78:ZB:37:SER:H	1.46	0.79
82:DC:181:THR:O	82:DC:185:VAL:HG23	1.81	0.79
82:DC:239:LYS:HE3	82:DC:243:ARG:HD2	1.64	0.79
1:A:209:U:H2'	1:A:210:A:H8	1.47	0.79
1:A:1201:G:N2	1:A:1600:A:H2'	1.97	0.79
2:B:2549:G:H2'	12:L:33:ASN:HD21	1.46	0.79
41:OA:8:PHE:HD1	41:OA:11:ARG:HD3	1.45	0.79
52:ZA:81:MET:HG2	52:ZA:103:VAL:HG23	1.63	0.79
71:SB:74:GLN:NE2	71:SB:83:TRP:HB3	1.96	0.79
73:UB:6:PRO:HG3	73:UB:14:LYS:HG2	1.62	0.79
82:DC:402:ALA:HA	82:DC:450:ALA:CB	2.12	0.79
2:B:1348:U:H5'	2:B:1355:A:N6	1.98	0.79
43:QA:27:ILE:HG23	43:QA:30:ARG:HE	1.48	0.79
68:PB:15:LEU:HD23	68:PB:15:LEU:H	1.48	0.79
68:PB:92:ILE:HG23	68:PB:93:THR:H	1.47	0.79
82:DC:10:ARG:HE	82:DC:447:ASP:HB2	1.48	0.79
83:EC:6930:G:H2'	83:EC:6931:U:C4'	2.11	0.79
12:L:151:VAL:HG22	12:L:199:ALA:HA	1.64	0.79
82:DC:207:GLY:HA2	82:DC:222:ILE:HD11	1.65	0.79
82:DC:275:MET:O	82:DC:279:ASP:HB2	1.82	0.79
2:B:707:U:H2'	2:B:708:G:H5"	1.65	0.79
2:B:1220:U:H3'	2:B:1221:A:C2	2.17	0.79
7:G:303:LYS:HD2	7:G:361:THR:HG21	1.62	0.79
12:L:162:LEU:HD11	19:S:45:PRO:HG2	1.63	0.79
30:DA:34:PRO:HA	30:DA:47:ALA:HB2	1.61	0.79
38:LA:57:LEU:HD12	38:LA:62:TYR:CD1	2.17	0.79
50:XA:189:VAL:HG13	50:XA:190:ASP:H	1.47	0.79
1:A:632:U:H5"	73:UB:10:ASN:O	1.83	0.79
1:A:806:A:H3'	1:A:807:A:H5"	1.63	0.79
2:B:268:A:H61	2:B:295:A:H3'	1.46	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2585:G:N7	12:L:47:SER:HB3	1.97	0.79
72:TB:6:VAL:HG13	72:TB:29:PRO:HD2	1.63	0.79
82:DC:287:ALA:HA	82:DC:292:LYS:HB2	1.65	0.79
1:A:861:U:H3'	1:A:862:A:C8	2.18	0.79
1:A:901:G:H2'	1:A:902:G:H5'	1.61	0.79
1:A:1542:G:H1	1:A:1568:C:H1'	1.48	0.79
2:B:1234:G:N3	16:P:132:ILE:HG12	1.97	0.79
2:B:1719:G:H4'	2:B:1732:U:H4'	1.63	0.79
2:B:2148:U:O2'	6:F:182:ALA:HB2	1.83	0.79
48:VA:26:PHE:CE1	48:VA:190:VAL:HG12	2.18	0.79
72:TB:101:TYR:HA	72:TB:113:HIS:HE1	1.47	0.79
36:JA:103:LYS:O	36:JA:106:VAL:HG12	1.82	0.79
49:WA:42:LEU:HD21	49:WA:82:SER:HB3	1.65	0.79
2:B:2442:G:C2'	2:B:2443:A:H5"	2.12	0.79
11:K:120:THR:HB	25:Y:132:PRO:HB2	1.65	0.79
16:P:65:GLN:HB2	16:P:70:ALA:HA	1.65	0.79
1:A:654:C:H3'	1:A:655:G:H5"	1.65	0.78
1:A:780:A:H1'	74:VB:9:THR:H	1.47	0.78
5:E:65:ILE:HA	5:E:109:ALA:HB3	1.64	0.78
12:L:158:ASP:HB2	12:L:159:PRO:HD3	1.65	0.78
19:S:22:LEU:HD23	19:S:26:ARG:HH22	1.48	0.78
26:Z:58:GLU:HA	26:Z:63:VAL:HA	1.64	0.78
34:HA:98:SER:HB2	34:HA:100:ILE:HD13	1.62	0.78
39:MA:54:VAL:O	39:MA:58:ILE:HG13	1.82	0.78
48:VA:61:ARG:CA	48:VA:64:ARG:HB3	2.09	0.78
1:A:927:C:H2'	1:A:928:U:H4'	1.64	0.78
1:A:1171:A:H2'	1:A:1172:G:C8	2.18	0.78
30:DA:37:LYS:HD3	30:DA:37:LYS:N	1.99	0.78
71:SB:3:ASN:HD21	71:SB:7:GLN:HB2	1.48	0.78
82:DC:405:VAL:O	82:DC:447:ASP:HA	1.82	0.78
1:A:17:C:H2'	1:A:18:C:C6	2.19	0.78
7:G:211:GLN:HE22	7:G:284:ARG:HA	1.47	0.78
31:EA:24:VAL:O	31:EA:43:VAL:HB	1.83	0.78
71:SB:24:ILE:HD11	71:SB:56:SER:HA	1.64	0.78
82:DC:360:PRO:HB2	82:DC:363:ASP:HB2	1.65	0.78
48:VA:76:LEU:HA	48:VA:189:GLN:HE22	1.48	0.78
61:IB:16:GLN:O	61:IB:19:ILE:HB	1.83	0.78
55:CB:55:ASP:HB2	55:CB:138:THR:HB	1.66	0.78
63:KB:43:LYS:HE3	63:KB:43:LYS:HA	1.64	0.78
1:A:115:G:H21	1:A:334:G:H21	1.29	0.78
1:A:1773:C:H4'	45:SA:4:LYS:HD3	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1203:A:H2'	2:B:1204:A:C8	2.18	0.78
2:B:1856:C:H2'	2:B:1857:C:H6	1.48	0.78
18:R:113:THR:HG22	18:R:115:PHE:H	1.49	0.78
23:W:23:TRP:HB3	23:W:51:VAL:HG22	1.63	0.78
55:CB:187:ILE:H	55:CB:187:ILE:HD12	1.49	0.78
82:DC:363:ASP:O	82:DC:367:ILE:HG12	1.83	0.78
82:DC:567:VAL:HG11	82:DC:720:ALA:HB3	1.66	0.78
2:B:3273:A:H4'	10:J:44:ALA:HB1	1.65	0.78
15:O:101:ASN:HB3	15:O:130:VAL:HG23	1.65	0.78
82:DC:17:THR:HB	82:DC:93:THR:HA	1.64	0.78
82:DC:659:ILE:HG22	82:DC:700:ARG:HD2	1.64	0.78
1:A:1327:C:H5"	53:AB:158:ILE:HG22	1.66	0.78
1:A:1524:A:H2'	1:A:1525:A:C8	2.19	0.78
5:E:94:ASN:OD1	5:E:124:LEU:HB2	1.83	0.78
7:G:280:HIS:HB3	7:G:324:VAL:HG21	1.65	0.78
48:VA:108:PRO:N	48:VA:179:SER:HB2	1.99	0.78
1:A:814:A:H5"	23:W:170:ARG:HH22	1.46	0.78
12:L:134:TYR:CD1	12:L:190:VAL:HG13	2.19	0.78
23:W:81:ARG:HG2	23:W:88:ARG:CZ	2.14	0.78
82:DC:659:ILE:HG21	82:DC:693:LEU:HD21	1.64	0.78
83:EC:6772:G:H2'	83:EC:6773:G:H4'	1.63	0.78
23:W:28:GLU:O	23:W:32:ILE:HG13	1.84	0.78
53:AB:98:ALA:HB2	53:AB:169:ASP:HB3	1.66	0.78
82:DC:593:ILE:HD11	82:DC:685:ARG:HB2	1.65	0.78
2:B:2567:C:H3'	2:B:2568:C:H5"	1.66	0.77
24:X:154:HIS:ND1	24:X:170:THR:HG21	1.99	0.77
66:NB:49:TYR:O	66:NB:53:LEU:HG	1.84	0.77
74:VB:87:PRO:O	74:VB:91:LEU:HG	1.84	0.77
1:A:189:C:H3'	1:A:190:C:H5"	1.66	0.77
1:A:1187:U:H2'	1:A:1188:G:C8	2.19	0.77
1:A:1481:C:H5"	1:A:1482:C:OP1	1.84	0.77
2:B:1336:U:H2'	2:B:1337:A:C8	2.20	0.77
2:B:3349:C:H2'	2:B:3350:C:C6	2.20	0.77
9:I:258:LYS:O	9:I:259:LYS:HB3	1.84	0.77
27:AA:87:ARG:HG3	27:AA:93:LEU:HD21	1.64	0.77
50:XA:126:PRO:HG3	50:XA:147:THR:HG22	1.65	0.77
54:BB:34:GLY:HA3	54:BB:83:PRO:HG3	1.66	0.77
82:DC:271:ARG:HB3	82:DC:274:ASN:HD22	1.48	0.77
5:E:147:LYS:HA	5:E:150:ASP:HB2	1.67	0.77
1:A:144:U:O2'	1:A:145:A:H5'	1.85	0.77
2:B:2244:A:C5'	6:F:243:THR:HG21	2.15	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:XA:184:LEU:HD23	71:SB:43:GLY:HA2	1.67	0.77
59:GB:112:GLN:HA	59:GB:112:GLN:HE21	1.48	0.77
2:B:2344:U:H2'	2:B:2345:A:C8	2.20	0.77
52:ZA:56:ILE:HG23	52:ZA:61:LEU:HB2	1.65	0.77
59:GB:134:ILE:HA	59:GB:158:PHE:HA	1.67	0.77
77:YB:29:ARG:HB3	77:YB:29:ARG:HH11	1.50	0.77
1:A:154:G:H1'	56:DB:56:ASN:HD22	1.50	0.77
1:A:1755:A:H2'	1:A:1756:A:C8	2.19	0.77
2:B:1822:C:H2'	2:B:1823:A:C8	2.20	0.77
2:B:2261:G:H5'	2:B:2306:C:H41	1.48	0.77
2:B:2497:U:H2'	2:B:2499:U:C5	2.20	0.77
9:I:184:ASP:HB3	9:I:187:THR:HG22	1.65	0.77
10:J:149:ILE:HG23	10:J:155:LEU:HD12	1.67	0.77
25:Y:82:ASN:O	33:GA:21:ILE:HA	1.84	0.77
82:DC:250:PHE:HA	82:DC:257:TRP:HA	1.65	0.77
2:B:2922:G:H3'	2:B:2923:U:H5"	1.67	0.77
19:S:11:GLN:O	19:S:14:LYS:HG3	1.85	0.77
57:EB:30:SER:HB2	57:EB:34:LEU:HD22	1.65	0.77
1:A:396:G:H22	1:A:399:A:H5'	1.48	0.77
6:F:242:ARG:HG3	6:F:243:THR:N	2.00	0.77
16:P:57:LYS:H	16:P:57:LYS:HD3	1.48	0.77
34:HA:54:SER:HB3	38:LA:94:LEU:HD21	1.66	0.77
82:DC:666:ALA:HB3	82:DC:709:MET:HB3	1.67	0.77
9:I:285:ARG:HB2	9:I:285:ARG:NH1	1.97	0.77
49:WA:132:LYS:HA	49:WA:144:LEU:HD23	1.65	0.77
54:BB:124:GLY:HA2	54:BB:142:HIS:HE1	1.48	0.77
82:DC:809:LEU:HA	82:DC:832:VAL:HG21	1.66	0.77
2:B:2259:A:C2'	2:B:2260:U:H5'	2.15	0.77
25:Y:53:PRO:HB3	25:Y:91:LEU:HD22	1.67	0.77
50:XA:109:ASN:O	50:XA:112:THR:HG22	1.85	0.77
68:PB:28:ILE:HA	68:PB:58:ALA:HB2	1.64	0.77
1:A:400:A:H4'	1:A:401:A:C5'	2.13	0.76
30:DA:55:GLU:HA	30:DA:69:LYS:HA	1.67	0.76
31:EA:10:VAL:HB	31:EA:83:THR:HG21	1.65	0.76
49:WA:223:TRP:HZ3	53:AB:220:PRO:HB3	1.47	0.76
50:XA:26:ALA:H	50:XA:149:LEU:HD12	1.47	0.76
50:XA:143:VAL:HB	50:XA:156:VAL:HA	1.65	0.76
82:DC:559:PRO:HG2	82:DC:778:PHE:HE1	1.50	0.76
82:DC:730:LEU:HB2	82:DC:799:ASP:HB2	1.65	0.76
1:A:297:U:O2'	54:BB:33:ALA:HA	1.85	0.76
1:A:1201:G:H21	1:A:1600:A:H5'	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1940:G:H21	2:B:3362:A:H8	1.28	0.76
6:F:242:ARG:CG	6:F:243:THR:H	1.98	0.76
8:H:281:ILE:HG13	22:V:125:ASP:HB3	1.68	0.76
9:I:58:LYS:HB3	9:I:93:THR:CG2	2.16	0.76
9:I:107:ARG:HH11	9:I:248:ARG:HH12	1.33	0.76
48:VA:39:HIS:HA	48:VA:42:ARG:CD	2.16	0.76
55:CB:117:THR:HG21	55:CB:194:LEU:HD12	1.68	0.76
58:FB:36:THR:HG21	58:FB:173:PRO:HB3	1.67	0.76
72:TB:70:ASN:HB2	72:TB:130:TYR:O	1.85	0.76
1:A:953:G:H2'	1:A:954:G:C8	2.21	0.76
2:B:250:U:H5'	2:B:251:G:H5"	1.67	0.76
2:B:269:G:N2	2:B:294:U:H2'	2.00	0.76
2:B:1234:G:H5"	16:P:118:ASP:CB	2.16	0.76
8:H:188:ARG:NH2	8:H:197:ARG:HB2	1.98	0.76
12:L:165:PHE:HZ	19:S:3:ALA:HB1	1.50	0.76
65:MB:30:THR:HA	65:MB:86:VAL:HG21	1.66	0.76
83:EC:6910:A:H2'	83:EC:6911:A:H5'	1.67	0.76
1:A:513:U:H4'	59:GB:131:GLN:HB3	1.65	0.76
1:A:709:C:N4	1:A:730:G:H2'	2.00	0.76
6:F:104:LEU:HD22	6:F:162:ALA:O	1.85	0.76
19:S:152:CYS:HB2	39:MA:92:LEU:HD21	1.68	0.76
21:U:67:ILE:HG23	21:U:82:ARG:HD2	1.66	0.76
22:V:176:ARG:O	32:FA:51:GLY:HA2	1.86	0.76
49:WA:18:GLY:HA3	49:WA:38:ARG:HB2	1.68	0.76
52:ZA:121:VAL:HG13	52:ZA:122:ALA:H	1.50	0.76
56:DB:132:ARG:HB3	56:DB:133:LEU:HD12	1.68	0.76
61:IB:7:VAL:HG21	61:IB:53:TYR:CB	2.16	0.76
1:A:680:U:H2'	1:A:681:U:H5'	1.68	0.76
2:B:1281:G:C5'	48:VA:55:LYS:HG2	2.15	0.76
2:B:2775:U:H2'	2:B:2776:C:C6	2.20	0.76
2:B:2953:U:H2'	2:B:2954:U:H2'	1.67	0.76
9:I:40:HIS:HD2	9:I:42:ALA:H	1.32	0.76
29:CA:67:ILE:H	29:CA:67:ILE:HD12	1.49	0.76
2:B:2131:A:H2'	2:B:2132:C:H5'	1.66	0.76
8:H:38:VAL:O	8:H:42:VAL:HG23	1.86	0.76
2:B:2356:A:H61	2:B:2983:C:H5	1.33	0.76
20:T:98:ALA:HA	20:T:101:ARG:NH1	2.00	0.76
49:WA:41:THR:HG21	49:WA:62:LYS:HG2	1.68	0.76
59:GB:77:ILE:HG21	59:GB:91:LYS:HG3	1.68	0.76
61:IB:16:GLN:HG3	61:IB:54:ILE:HG13	1.66	0.76
63:KB:100:LYS:HD3	63:KB:104:ARG:HH11	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SB:59:VAL:HG13	71:SB:64:GLU:HB2	1.67	0.76
82:DC:588:LEU:HB2	82:DC:687:ASN:O	1.85	0.76
1:A:861:U:H3'	1:A:862:A:H8	1.51	0.76
1:A:1198:G:H3'	1:A:1199:G:H5'	1.67	0.76
1:A:1646:C:H42	1:A:1754:A:H61	1.33	0.76
6:F:89:TYR:HB2	6:F:100:ASN:ND2	2.01	0.76
7:G:229:VAL:HG11	7:G:249:VAL:HG23	1.67	0.76
40:NA:62:ARG:HH12	40:NA:98:ARG:HH11	1.31	0.76
1:A:953:G:H2'	1:A:954:G:H8	1.51	0.76
1:A:1357:A:H2'	1:A:1358:G:C8	2.21	0.76
7:G:37:ARG:HH21	7:G:188:ILE:HG23	1.51	0.76
14:N:82:ARG:HB2	14:N:82:ARG:NH1	2.00	0.76
16:P:60:VAL:O	16:P:75:PRO:HD2	1.86	0.76
31:EA:10:VAL:HB	31:EA:83:THR:CG2	2.15	0.76
39:MA:114:ARG:HG3	39:MA:114:ARG:HH11	1.50	0.76
66:NB:93:HIS:HA	66:NB:97:VAL:HB	1.68	0.76
82:DC:402:ALA:HA	82:DC:450:ALA:HB1	1.66	0.76
2:B:801:A:N6	17:Q:19:GLN:HE22	1.84	0.75
2:B:3312:U:H2'	2:B:3313:U:H5"	1.68	0.75
30:DA:45:ILE:HD11	30:DA:119:ILE:HG23	1.68	0.75
63:KB:22:ALA:HB1	63:KB:23:PRO:CA	2.15	0.75
82:DC:109:VAL:HG12	82:DC:110:ASP:H	1.51	0.75
82:DC:631:ARG:HB3	82:DC:631:ARG:HH11	1.50	0.75
2:B:2978:U:O2'	2:B:2979:U:H5'	1.87	0.75
16:P:86:LYS:HZ1	16:P:104:ILE:HD11	1.48	0.75
16:P:124:THR:O	16:P:128:VAL:HG23	1.85	0.75
22:V:58:ASN:C	22:V:60:PRO:HD3	2.06	0.75
24:X:154:HIS:CE1	24:X:170:THR:HG21	2.21	0.75
74:VB:50:ALA:HB1	74:VB:54:ALA:HB3	1.69	0.75
75:WB:50:ILE:HG22	75:WB:51:LEU:HD12	1.67	0.75
2:B:824:C:H5"	6:F:21:ARG:HD3	1.67	0.75
82:DC:647:ILE:O	82:DC:688:ILE:HG13	1.86	0.75
1:A:162:A:H3'	1:A:163:G:H21	1.52	0.75
2:B:268:A:N6	2:B:295:A:H3'	2.00	0.75
2:B:2909:U:C3'	2:B:2910:A:H5"	2.17	0.75
82:DC:587:TYR:HE2	82:DC:692:THR:HG23	1.49	0.75
1:A:562:G:H21	80:BC:14:VAL:HG11	1.52	0.75
3:C:94:C:H5"	41:OA:76:ASN:ND2	2.02	0.75
9:I:91:GLY:CA	9:I:94:ASN:HD21	1.99	0.75
47:UA:8:VAL:O	47:UA:11:THR:HG22	1.86	0.75
54:BB:89:VAL:HG13	54:BB:114:ILE:HD11	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:180:LEU:HD22	54:BB:192:ILE:HG22	1.69	0.75
57:EB:102:PRO:HD3	57:EB:112:ARG:HD3	1.66	0.75
63:KB:4:MET:HG3	63:KB:5:HIS:H	1.51	0.75
1:A:108:A:H2'	1:A:109:G:C8	2.21	0.75
1:A:1757:G:H4'	2:B:2256:A:N1	2.00	0.75
2:B:370:U:H4'	2:B:404:G:H5'	1.67	0.75
12:L:53:PRO:HD2	12:L:56:VAL:HG21	1.67	0.75
23:W:170:ARG:HG2	23:W:173:ARG:HH21	1.51	0.75
2:B:1724:U:H1'	2:B:1725:C:C6	2.21	0.75
2:B:2511:A:H2'	2:B:2512:C:H6	1.51	0.75
2:B:2681:U:H4'	15:O:66:ALA:HB3	1.68	0.75
5:E:68:PHE:HE1	5:E:87:VAL:HA	1.52	0.75
10:J:46:ARG:HH11	10:J:46:ARG:HG3	1.49	0.75
16:P:128:VAL:O	16:P:132:ILE:HG13	1.87	0.75
24:X:41:TYR:HE1	24:X:45:LEU:HD12	1.50	0.75
54:BB:163:ASP:HB3	54:BB:166:SER:O	1.87	0.75
56:DB:57:ASP:HA	56:DB:106:LEU:HA	1.69	0.75
79:AC:21:CYS:CB	79:AC:30:LEU:HD21	2.17	0.75
12:L:24:ASN:N	12:L:25:PRO:HD2	2.00	0.75
14:N:171:TRP:HB2	14:N:178:ARG:HA	1.68	0.75
16:P:109:ILE:HG23	16:P:110:ILE:HD12	1.68	0.75
38:LA:85:VAL:HG12	38:LA:89:ILE:HD11	1.69	0.75
59:GB:28:LEU:HD11	80:BC:40:TYR:HA	1.68	0.75
1:A:375:U:H5"	73:UB:32:ARG:HH12	1.52	0.75
1:A:1551:U:H3'	65:MB:43:ARG:HH21	1.52	0.75
2:B:3243:A:H4'	7:G:95:THR:HB	1.69	0.75
8:H:280:ILE:HD12	22:V:25:TYR:HB2	1.67	0.75
14:N:174:THR:HG22	14:N:176:LEU:N	2.00	0.75
16:P:85:LEU:HD11	16:P:106:LEU:HD22	1.69	0.75
24:X:41:TYR:CE1	24:X:45:LEU:HD12	2.21	0.75
39:MA:45:LYS:HA	39:MA:48:ARG:HG2	1.69	0.75
42:PA:28:ASN:HB2	42:PA:40:GLN:HB3	1.69	0.75
48:VA:139:LEU:HD21	48:VA:172:LEU:HD22	1.68	0.75
63:KB:88:LEU:O	63:KB:92:ILE:HG13	1.87	0.75
82:DC:25:ILE:HA	82:DC:142:VAL:HG11	1.69	0.75
82:DC:445:ILE:HG12	82:DC:446:ASP:H	1.50	0.75
8:H:138:ARG:HH21	8:H:240:PRO:HB2	1.50	0.74
8:H:230:VAL:CG2	8:H:254:ALA:HB1	2.16	0.74
39:MA:74:LYS:O	39:MA:75:TYR:HB2	1.85	0.74
52:ZA:116:LYS:HD3	52:ZA:131:ILE:HD11	1.69	0.74
1:A:855:A:H3'	1:A:856:A:H5"	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2476:C:C2	2:B:2477:G:H1'	2.22	0.74
2:B:3280:U:O2'	2:B:3281:U:H5'	1.88	0.74
23:W:162:ARG:HB3	23:W:162:ARG:NH1	2.02	0.74
43:QA:37:TYR:CZ	43:QA:39:ALA:HB2	2.22	0.74
82:DC:559:PRO:HG2	82:DC:778:PHE:CE1	2.21	0.74
2:B:3217:C:C4	2:B:3220:G:H1'	2.22	0.74
56:DB:2:LYS:O	56:DB:108:VAL:HA	1.86	0.74
72:TB:106:THR:HA	72:TB:123:GLY:HA3	1.68	0.74
82:DC:613:LYS:HB2	82:DC:631:ARG:NH2	2.03	0.74
82:DC:644:ASN:HD21	82:DC:681:MET:HB2	1.52	0.74
83:EC:6767:G:H3'	83:EC:6768:U:H5"	1.69	0.74
2:B:1715:A:N7	34:HA:84:LEU:HD22	2.02	0.74
2:B:3358:U:H2'	2:B:3359:A:O4'	1.88	0.74
7:G:144:ILE:H	7:G:144:ILE:HD12	1.50	0.74
31:EA:46:ILE:HA	31:EA:70:PRO:HA	1.68	0.74
57:EB:99:LEU:HG	57:EB:116:ARG:HG2	1.69	0.74
1:A:637:C:OP1	72:TB:32:LYS:HG3	1.85	0.74
1:A:1381:U:H4'	70:RB:59:PRO:HG3	1.69	0.74
2:B:255:A:H2'	2:B:256:G:C8	2.22	0.74
16:P:76:SER:HB2	16:P:116:MET:HB3	1.68	0.74
19:S:22:LEU:HB3	19:S:26:ARG:NH1	2.03	0.74
45:SA:9:ARG:NH1	45:SA:12:ARG:HD2	2.02	0.74
52:ZA:111:VAL:HG13	52:ZA:191:ALA:HA	1.67	0.74
2:B:1249:G:H2'	2:B:1250:G:C8	2.21	0.74
2:B:3149:G:H4'	7:G:130:PHE:CD1	2.22	0.74
2:B:3152:U:O2'	2:B:3153:U:H5'	1.88	0.74
24:X:154:HIS:HA	24:X:170:THR:HB	1.68	0.74
61:IB:77:SER:CB	61:IB:85:VAL:HB	2.17	0.74
22:V:94:PHE:CE2	32:FA:119:PRO:HD3	2.22	0.74
58:FB:137:LYS:H	58:FB:137:LYS:HD3	1.50	0.74
67:OB:26:LEU:HD23	67:OB:58:MET:HB3	1.69	0.74
70:RB:28:SER:HB2	70:RB:112:VAL:HG13	1.69	0.74
83:EC:6909:A:H61	83:EC:6948:U:H3	1.35	0.74
1:A:1650:U:H2'	1:A:1651:A:C8	2.22	0.74
14:N:80:SER:HB3	14:N:147:VAL:HG11	1.68	0.74
18:R:74:ARG:HB3	18:R:74:ARG:HH11	1.53	0.74
36:JA:78:ASN:HD22	36:JA:78:ASN:N	1.86	0.74
55:CB:147:THR:O	55:CB:157:ARG:HB3	1.88	0.74
63:KB:108:ASP:HB3	63:KB:111:ALA:HB3	1.70	0.74
71:SB:71:ARG:HG3	77:YB:4:VAL:HG11	1.70	0.74
83:EC:6914:A:H2'	83:EC:6915:G:H5"	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:TB:101:TYR:HA	72:TB:113:HIS:CE1	2.22	0.74
1:A:1456:C:OP2	1:A:1457:C:H2'	1.87	0.74
7:G:235:THR:HG21	7:G:249:VAL:HG22	1.70	0.74
17:Q:85:LEU:HD22	17:Q:120:GLN:NE2	2.03	0.74
48:VA:77:LEU:O	48:VA:80:VAL:HG23	1.88	0.74
82:DC:718:LEU:HG	82:DC:834:GLY:HA2	1.68	0.74
1:A:197:A:H61	58:FB:141:ARG:HH22	1.35	0.73
2:B:1730:G:H2'	34:HA:28:LYS:NZ	2.02	0.73
5:E:65:ILE:HG12	5:E:152:ARG:HD3	1.70	0.73
12:L:140:VAL:HG21	19:S:3:ALA:HB2	1.70	0.73
61:IB:101:GLU:HB3	73:UB:12:ALA:HB3	1.70	0.73
82:DC:593:ILE:CG2	82:DC:597:VAL:HB	2.18	0.73
2:B:1608:C:H5"	29:CA:111:ASN:OD1	1.88	0.73
2:B:1747:G:H4'	42:PA:4:GLU:HG3	1.71	0.73
2:B:2261:G:H5'	2:B:2306:C:N4	2.02	0.73
2:B:2442:G:C3'	2:B:2443:A:H5"	2.18	0.73
19:S:139:HIS:HB3	19:S:142:ILE:HD13	1.70	0.73
29:CA:92:LYS:HG3	29:CA:110:VAL:HB	1.70	0.73
82:DC:190:SER:HB3	82:DC:201:GLN:HE21	1.54	0.73
2:B:749:C:H5"	33:GA:32:LEU:HD12	1.69	0.73
2:B:2259:A:H2'	2:B:2260:U:H5'	1.68	0.73
5:E:138:VAL:HG12	5:E:147:LYS:HD2	1.70	0.73
16:P:146:LYS:O	16:P:147:ASN:HB2	1.86	0.73
57:EB:20:VAL:HA	57:EB:23:ALA:HB3	1.69	0.73
75:WB:90:LYS:HD3	75:WB:105:THR:HG21	1.71	0.73
82:DC:632:LYS:HB3	82:DC:648:ASP:HB3	1.69	0.73
1:A:172:C:H2'	1:A:173:A:C8	2.23	0.73
6:F:77:ILE:HG21	6:F:169:ILE:HD13	1.70	0.73
17:Q:74:GLY:HA3	17:Q:98:ASP:CB	2.18	0.73
48:VA:20:GLU:HG2	48:VA:69:ASP:OD1	1.89	0.73
50:XA:31:VAL:HB	50:XA:34:GLU:HG2	1.68	0.73
82:DC:593:ILE:HG22	82:DC:597:VAL:HB	1.69	0.73
4:D:47:C:C2'	4:D:48:U:H5"	2.17	0.73
5:E:111:ILE:HD12	5:E:151:VAL:HG21	1.71	0.73
9:I:65:ILE:CG2	9:I:72:ASP:HB3	2.18	0.73
11:K:66:LYS:O	11:K:70:LYS:HB2	1.87	0.73
13:M:91:ARG:HD2	13:M:143:GLU:HB2	1.70	0.73
31:EA:14:VAL:CG1	38:LA:86:LYS:HG3	2.19	0.73
48:VA:32:ASN:OD1	48:VA:184:GLY:HA2	1.88	0.73
48:VA:58:MET:HA	48:VA:61:ARG:HB2	1.69	0.73
59:GB:44:ARG:O	59:GB:48:GLN:HG3	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:NB:40:GLU:HA	66:NB:41:PRO:C	2.09	0.73
70:RB:67:THR:O	70:RB:79:TRP:HA	1.88	0.73
1:A:514:G:H1	1:A:543:C:H5	1.34	0.73
2:B:505:G:H5'	8:H:315:LYS:HG2	1.70	0.73
10:J:20:LYS:HA	10:J:20:LYS:NZ	2.02	0.73
18:R:47:ASP:CB	18:R:55:ARG:HG2	2.17	0.73
74:VB:102:LYS:HD2	74:VB:108:ARG:HD3	1.71	0.73
1:A:627:C:H4'	63:KB:117:LEU:HD23	1.69	0.73
2:B:59:G:H2'	3:C:33:A:O2'	1.86	0.73
2:B:2714:G:O6	2:B:2741:C:N3	2.22	0.73
14:N:16:PRO:O	14:N:18:PRO:HD3	1.88	0.73
19:S:64:VAL:HG11	19:S:102:ALA:HB1	1.70	0.73
40:NA:70:ARG:HG2	40:NA:87:VAL:HG21	1.71	0.73
58:FB:107:THR:OG1	58:FB:108:PRO:HD3	1.88	0.73
66:NB:27:GLY:HA2	66:NB:63:ILE:O	1.88	0.73
68:PB:123:ARG:HA	68:PB:133:VAL:HG21	1.70	0.73
73:UB:57:LEU:HD23	73:UB:57:LEU:H	1.54	0.73
1:A:706:A:H61	1:A:732:G:H4'	1.54	0.73
1:A:1163:A:H1'	1:A:1613:U:O2'	1.89	0.73
2:B:2442:G:N2	2:B:2505:U:H3	1.86	0.73
25:Y:44:ALA:HA	25:Y:95:HIS:HB3	1.71	0.73
36:JA:101:SER:O	36:JA:105:ARG:HG3	1.88	0.73
70:RB:52:LYS:HB3	70:RB:93:LEU:HD23	1.70	0.73
74:VB:20:ARG:HD2	74:VB:74:LEU:HD22	1.71	0.73
1:A:143:G:C2'	1:A:144:U:H5"	2.19	0.73
1:A:1053:G:H2'	1:A:1054:U:C6	2.24	0.73
1:A:1075:C:H2'	1:A:1076:A:O4'	1.89	0.73
2:B:516:A:H5"	8:H:344:ALA:HB2	1.70	0.73
2:B:1488:G:H5"	2:B:1838:G:O6	1.89	0.73
2:B:2541:U:H1'	2:B:2542:U:H4'	1.71	0.73
7:G:324:VAL:HG11	7:G:328:ILE:HD11	1.70	0.73
25:Y:124:VAL:HG12	25:Y:125:ALA:N	2.03	0.73
53:AB:45:LYS:HA	53:AB:83:THR:HB	1.69	0.73
69:QB:118:PRO:HD3	69:QB:123:ARG:HH21	1.54	0.73
1:A:626:U:H2'	1:A:627:C:O4'	1.89	0.73
1:A:814:A:H5"	23:W:170:ARG:NH2	2.04	0.73
2:B:1430:U:O4	32:FA:4:ARG:HA	1.89	0.73
43:QA:9:ILE:HG22	43:QA:13:MET:HE2	1.71	0.73
48:VA:108:PRO:CA	48:VA:179:SER:HA	2.08	0.73
68:PB:76:PRO:HG3	68:PB:86:LEU:HD21	1.71	0.73
69:QB:70:GLN:HG3	69:QB:121:GLY:HA3	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:57:PRO:O	6:F:78:ALA:HB3	1.89	0.72
15:O:133:ARG:HB2	15:O:152:HIS:CE1	2.23	0.72
41:OA:76:ASN:HB3	41:OA:79:GLN:HG3	1.69	0.72
57:EB:17:GLU:O	57:EB:21:ALA:HB2	1.89	0.72
2:B:877:C:H2'	2:B:878:G:O4'	1.88	0.72
2:B:1079:A:C6	9:I:113:LEU:HD11	2.24	0.72
12:L:165:PHE:CZ	19:S:3:ALA:HB1	2.24	0.72
16:P:58:VAL:HB	16:P:79:SER:OG	1.90	0.72
29:CA:56:ARG:O	29:CA:57:LEU:HB2	1.89	0.72
83:EC:6836:U:OP1	83:EC:6874:A:H2'	1.87	0.72
1:A:401:A:O2'	1:A:402:C:H4'	1.89	0.72
1:A:845:G:C2'	1:A:846:G:H5"	2.17	0.72
2:B:1338:C:H4'	36:JA:60:ASN:ND2	2.04	0.72
2:B:1750:A:H4'	2:B:1751:G:H5'	1.69	0.72
2:B:2207:A:H3'	2:B:2208:A:C5'	2.18	0.72
7:G:53:MET:HG2	7:G:77:THR:HG22	1.70	0.72
9:I:25:GLU:O	9:I:27:LYS:HG3	1.89	0.72
19:S:58:GLY:HA3	19:S:142:ILE:CD1	2.17	0.72
54:BB:15:PRO:HD3	54:BB:39:ARG:NH2	2.04	0.72
68:PB:126:ARG:HG2	68:PB:133:VAL:HA	1.70	0.72
82:DC:806:SER:HB3	82:DC:813:SER:OG	1.89	0.72
1:A:25:C:H1'	1:A:26:A:OP2	1.88	0.72
1:A:116:U:H2'	1:A:117:U:C6	2.24	0.72
1:A:138:A:H61	1:A:266:A:H61	1.35	0.72
1:A:187:G:OP1	58:FB:139:ALA:HB2	1.88	0.72
2:B:1039:U:H2'	2:B:1040:A:C8	2.24	0.72
32:FA:47:LYS:HE2	32:FA:48:TYR:CE2	2.23	0.72
52:ZA:137:ILE:HG13	52:ZA:138:PRO:HD2	1.70	0.72
82:DC:406:LYS:HB2	82:DC:409:GLN:HB2	1.72	0.72
4:D:60:G:H2'	4:D:61:G:H8	1.53	0.72
11:K:151:ARG:HH11	11:K:244:ASN:HD22	1.36	0.72
12:L:163:VAL:HG23	12:L:166:LEU:HD12	1.69	0.72
48:VA:42:ARG:HB3	48:VA:46:ARG:HH21	1.55	0.72
50:XA:148:ASP:HB2	50:XA:164:ASN:ND2	2.05	0.72
55:CB:121:ILE:HG23	55:CB:132:VAL:HG21	1.69	0.72
68:PB:88:ARG:NH2	68:PB:108:LYS:HG3	2.05	0.72
73:UB:54:LEU:HD11	73:UB:82:LYS:HD2	1.72	0.72
1:A:1358:G:H5'	69:QB:126:GLU:HB2	1.71	0.72
9:I:252:ALA:O	9:I:253:PHE:HB3	1.89	0.72
12:L:140:VAL:HG22	12:L:166:LEU:HD21	1.71	0.72
17:Q:57:VAL:HG22	17:Q:147:ILE:CD1	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:21:LYS:O	23:W:53:LYS:HB2	1.89	0.72
23:W:115:ILE:HG13	23:W:119:LEU:HD23	1.71	0.72
37:KA:50:ALA:HB2	37:KA:68:TRP:CZ3	2.24	0.72
54:BB:95:THR:HA	74:VB:16:PRO:HG2	1.71	0.72
63:KB:99:ARG:O	63:KB:103:GLU:HG2	1.88	0.72
1:A:443:C:H2'	1:A:444:C:O4'	1.89	0.72
1:A:1041:G:H2'	1:A:1042:G:C8	2.24	0.72
1:A:1358:G:H2'	1:A:1359:C:C6	2.24	0.72
49:WA:49:GLY:HA2	49:WA:54:PHE:CD1	2.24	0.72
68:PB:27:LYS:HE2	68:PB:55:HIS:HA	1.70	0.72
72:TB:104:LEU:HA	72:TB:125:ILE:HA	1.69	0.72
79:AC:21:CYS:HB2	79:AC:30:LEU:HD21	1.70	0.72
82:DC:523:SER:HB3	82:DC:529:ILE:HG12	1.72	0.72
1:A:63:G:H4'	1:A:170:U:H5	1.55	0.72
2:B:1641:U:O2'	2:B:1642:A:H3'	1.90	0.72
2:B:2821:C:N4	2:B:2869:U:H3	1.87	0.72
2:B:3028:G:H5"	82:DC:28:VAL:HG11	1.70	0.72
6:F:29:LEU:HD22	6:F:163:ARG:NH1	2.03	0.72
21:U:41:LEU:H	21:U:113:TYR:HA	1.55	0.72
24:X:155:ARG:HB2	24:X:172:TYR:CD2	2.24	0.72
39:MA:85:THR:HG22	39:MA:87:ALA:N	2.04	0.72
48:VA:63:ILE:O	48:VA:66:PHE:HB3	1.90	0.72
55:CB:128:ASN:ND2	55:CB:129:PRO:HD2	2.05	0.72
69:QB:13:ASP:HA	69:QB:16:ASN:HD22	1.52	0.72
1:A:1:U:O4	59:GB:54:ARG:HB2	1.90	0.72
1:A:1229:G:H21	1:A:1256:A:H62	1.37	0.72
2:B:1849:C:H6	2:B:1849:C:H5'	1.55	0.72
2:B:2131:A:C2'	2:B:2132:C:H5'	2.20	0.72
2:B:2402:A:H2'	8:H:67:THR:OG1	1.90	0.72
2:B:2836:C:H5	2:B:2852:C:H42	1.38	0.72
4:D:64:A:H5'	4:D:65:G:H5"	1.69	0.72
16:P:90:ARG:HD3	16:P:139:VAL:HG11	1.71	0.72
55:CB:63:GLN:HB2	55:CB:88:PRO:HA	1.70	0.72
57:EB:9:LEU:HG	57:EB:17:GLU:HG2	1.70	0.72
74:VB:91:LEU:HD13	74:VB:96:LEU:HB2	1.71	0.72
82:DC:291:PHE:HE1	82:DC:315:GLU:HB3	1.55	0.72
1:A:279:G:H2'	1:A:280:U:H4'	1.70	0.72
1:A:946:U:H2'	1:A:947:U:C6	2.24	0.72
1:A:1319:A:C2'	1:A:1320:U:H5"	2.20	0.72
1:A:1646:C:H2'	1:A:1647:U:C6	2.25	0.72
49:WA:156:VAL:HG12	49:WA:157:VAL:H	1.55	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:ZA:162:CYS:HB3	52:ZA:213:ALA:HB2	1.70	0.72
66:NB:106:LYS:HA	66:NB:109:PHE:HB2	1.72	0.72
2:B:289:A:H2'	2:B:290:G:H8	1.55	0.71
2:B:1233:G:C4'	16:P:120:SER:HB2	2.19	0.71
2:B:1340:G:H2'	2:B:1341:U:C6	2.24	0.71
6:F:52:SER:HB3	6:F:191:LEU:HD22	1.72	0.71
12:L:163:VAL:CG2	12:L:166:LEU:HD12	2.20	0.71
14:N:45:GLU:O	14:N:141:LYS:HE3	1.89	0.71
15:O:11:ASP:O	15:O:12:LEU:HB2	1.89	0.71
21:U:36:ILE:HD11	21:U:44:ALA:HB1	1.72	0.71
27:AA:66:LYS:HB3	27:AA:69:LEU:HD13	1.71	0.71
52:ZA:35:TRP:HB3	52:ZA:46:LYS:HE2	1.72	0.71
52:ZA:111:VAL:CG1	52:ZA:191:ALA:HA	2.19	0.71
53:AB:109:LEU:HD12	53:AB:175:VAL:HG21	1.72	0.71
63:KB:54:LEU:HB3	63:KB:60:VAL:HB	1.72	0.71
2:B:1259:A:HO2'	2:B:1280:C:H4'	1.52	0.71
2:B:1385:C:HO2'	10:J:2:SER:N	1.87	0.71
5:E:90:LEU:HD23	5:E:119:GLN:HE21	1.56	0.71
8:H:62:ALA:HB3	8:H:90:PHE:CE2	2.26	0.71
36:JA:63:THR:HA	36:JA:66:LEU:HD12	1.72	0.71
48:VA:97:LYS:HD2	48:VA:100:ILE:HD11	1.70	0.71
55:CB:110:ALA:O	55:CB:114:ILE:HG12	1.90	0.71
63:KB:56:ASP:HB3	77:YB:50:ALA:HB1	1.71	0.71
74:VB:88:THR:O	74:VB:92:VAL:HG23	1.90	0.71
82:DC:380:LEU:HG	82:DC:400:VAL:HG22	1.73	0.71
23:W:105:LEU:HD13	23:W:135:LYS:HD2	1.71	0.71
63:KB:132:VAL:HG23	63:KB:134:VAL:HG13	1.72	0.71
69:QB:28:LEU:HD13	69:QB:28:LEU:H	1.53	0.71
82:DC:212:GLY:HA2	82:DC:218:TRP:CZ3	2.26	0.71
82:DC:222:ILE:H	82:DC:222:ILE:CD1	2.03	0.71
2:B:1103:A:H1'	2:B:1104:G:P	2.30	0.71
2:B:1232:C:C5	2:B:1261:G:H2'	2.25	0.71
2:B:2356:A:N6	2:B:2983:C:H5	1.88	0.71
8:H:152:VAL:HG21	8:H:156:LEU:HD12	1.71	0.71
9:I:104:LEU:HA	9:I:247:ILE:CG2	2.19	0.71
14:N:99:ILE:HG22	14:N:123:HIS:HB2	1.72	0.71
19:S:140:LYS:HA	19:S:143:ARG:HB2	1.72	0.71
30:DA:73:VAL:HG22	30:DA:80:VAL:HG23	1.69	0.71
48:VA:97:LYS:O	48:VA:101:VAL:HG23	1.88	0.71
50:XA:76:ILE:O	50:XA:124:THR:HG23	1.89	0.71
73:UB:102:VAL:HG12	73:UB:127:VAL:HG12	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:109:G:H2'	1:A:110:U:O4'	1.89	0.71
17:Q:189:GLU:HA	17:Q:192:GLU:HG2	1.72	0.71
31:EA:81:LEU:HD13	38:LA:93:PHE:CD2	2.26	0.71
66:NB:131:GLY:HA3	66:NB:136:SER:O	1.90	0.71
2:B:1233:G:H21	16:P:128:VAL:HG13	1.53	0.71
6:F:80:GLU:HG2	47:UA:76:ALA:CB	2.20	0.71
54:BB:71:LYS:HA	54:BB:76:VAL:O	1.91	0.71
83:EC:6912:G:C3'	83:EC:6913:U:H5"	2.20	0.71
1:A:705:U:H2'	1:A:706:A:H8	1.55	0.71
5:E:109:ALA:HB1	5:E:151:VAL:HG13	1.73	0.71
31:EA:101:PHE:O	31:EA:102:GLU:HB3	1.91	0.71
49:WA:42:LEU:HB2	49:WA:61:PHE:CD2	2.22	0.71
59:GB:134:ILE:HG13	59:GB:135:ALA:N	2.04	0.71
71:SB:24:ILE:HD13	71:SB:31:SER:HB2	1.72	0.71
72:TB:37:PHE:CD2	72:TB:103:ILE:HD13	2.25	0.71
83:EC:6835:U:H2'	83:EC:6876:A:H62	1.56	0.71
1:A:968:U:H5"	1:A:1033:C:O2'	1.91	0.71
1:A:1749:A:H2'	1:A:1750:A:H5"	1.73	0.71
2:B:58:G:H2'	2:B:59:G:C8	2.25	0.71
2:B:1347:U:H5"	8:H:303:GLY:HA3	1.72	0.71
4:D:76:A:H1'	24:X:50:LYS:HE3	1.71	0.71
54:BB:43:PRO:HB2	54:BB:46:VAL:HG23	1.73	0.71
2:B:792:G:H5"	32:FA:2:PRO:HD2	1.72	0.71
6:F:29:LEU:HD22	6:F:163:ARG:HH12	1.54	0.71
31:EA:25:ILE:HG22	31:EA:28:PRO:HD3	1.72	0.71
34:HA:95:ALA:HB2	34:HA:101:LEU:HD11	1.73	0.71
48:VA:61:ARG:HA	48:VA:64:ARG:CB	2.14	0.71
48:VA:172:LEU:O	48:VA:176:LEU:HG	1.91	0.71
49:WA:13:LEU:CD2	49:WA:55:GLY:H	2.04	0.71
65:MB:18:ARG:HG2	68:PB:92:ILE:O	1.90	0.71
82:DC:413:ILE:HA	82:DC:469:LEU:HD12	1.71	0.71
82:DC:722:PRO:HB2	82:DC:808:PRO:HG3	1.72	0.71
1:A:115:G:N2	1:A:334:G:H21	1.89	0.71
6:F:68:LYS:HZ1	6:F:70:ARG:HD2	1.55	0.71
24:X:38:LYS:HD3	24:X:58:ILE:HD13	1.71	0.71
30:DA:111:LEU:HD23	30:DA:116:LYS:HG2	1.72	0.71
54:BB:126:VAL:HG21	54:BB:155:LYS:O	1.91	0.71
54:BB:214:LEU:HD13	54:BB:244:ILE:HG21	1.72	0.71
71:SB:3:ASN:HD22	71:SB:5:LYS:HE3	1.55	0.71
82:DC:515:ASP:HB3	82:DC:518:VAL:HB	1.73	0.71
2:B:198:A:H2'	2:B:199:A:H5'	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:100:ILE:HG12	5:E:127:GLN:O	1.91	0.70
6:F:68:LYS:NZ	6:F:70:ARG:HD2	2.06	0.70
12:L:239:GLY:O	12:L:243:GLN:HB2	1.90	0.70
42:PA:32:ASN:HB3	42:PA:38:PHE:HE2	1.56	0.70
56:DB:147:LEU:O	56:DB:151:ASP:HB2	1.89	0.70
66:NB:137:ARG:HA	66:NB:137:ARG:HE	1.55	0.70
73:UB:96:VAL:CG2	73:UB:97:ASP:H	2.00	0.70
75:WB:62:VAL:HG13	75:WB:76:ALA:CB	2.20	0.70
77:YB:21:LEU:HA	77:YB:26:GLN:HB3	1.72	0.70
1:A:1673:G:H2'	1:A:1674:C:C6	2.27	0.70
72:TB:104:LEU:HB2	72:TB:124:LYS:O	1.90	0.70
1:A:474:A:H5"	59:GB:144:PRO:HD2	1.74	0.70
2:B:34:A:H5'	19:S:86:ASN:ND2	2.07	0.70
2:B:760:G:H1'	2:B:770:G:N2	2.06	0.70
2:B:990:U:C2'	2:B:991:G:H5"	2.22	0.70
2:B:3133:C:H2'	2:B:3134:A:O4'	1.91	0.70
34:HA:68:TYR:HB2	34:HA:105:ALA:HB1	1.74	0.70
53:AB:164:VAL:O	53:AB:168:ILE:HG13	1.90	0.70
63:KB:146:ALA:O	63:KB:150:VAL:HG12	1.91	0.70
66:NB:52:LEU:HD23	66:NB:52:LEU:H	1.56	0.70
67:OB:57:LEU:O	67:OB:61:ILE:HG13	1.91	0.70
70:RB:68:ARG:HA	70:RB:78:THR:O	1.90	0.70
82:DC:810:ASP:O	82:DC:816:GLY:HA3	1.91	0.70
1:A:976:G:N1	1:A:1023:A:H1'	2.07	0.70
56:DB:69:LEU:O	56:DB:99:GLY:HA3	1.91	0.70
67:OB:41:ILE:HD13	67:OB:50:ILE:HD12	1.73	0.70
82:DC:379:MET:SD	82:DC:470:THR:HG22	2.30	0.70
82:DC:729:PHE:HB2	82:DC:772:LEU:O	1.92	0.70
1:A:78:A:H2'	1:A:79:C:C6	2.27	0.70
1:A:257:A:H1'	58:FB:73:SER:HB2	1.73	0.70
1:A:1318:G:H5"	67:OB:67:ARG:HH12	1.56	0.70
1:A:1617:U:H1'	78:ZB:23:GLY:HA3	1.72	0.70
79:AC:36:LEU:HD12	79:AC:38:ILE:H	1.56	0.70
1:A:38:C:H4'	59:GB:6:ARG:HH21	1.57	0.70
1:A:333:A:H2'	1:A:334:G:C8	2.27	0.70
1:A:1516:A:O2'	1:A:1517:U:H5'	1.92	0.70
2:B:1110:U:H2'	2:B:1111:U:C6	2.26	0.70
2:B:2804:A:H2'	2:B:2805:G:H5"	1.74	0.70
2:B:3164:C:HO2'	2:B:3165:A:H8	1.37	0.70
9:I:282:ARG:O	9:I:286:VAL:HG23	1.91	0.70
13:M:41:ILE:HD11	13:M:67:ALA:CB	2.21	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:128:VAL:O	16:P:131:GLU:HG2	1.92	0.70
25:Y:28:SER:HA	25:Y:31:LEU:HD12	1.74	0.70
27:AA:37:ILE:HG13	27:AA:59:MET:O	1.92	0.70
54:BB:122:LYS:HD3	54:BB:164:LEU:HD21	1.73	0.70
69:QB:30:VAL:HB	69:QB:34:VAL:HG11	1.73	0.70
80:BC:42:ARG:O	80:BC:43:ARG:HB2	1.92	0.70
1:A:1217:A:H5"	60:HB:1:MET:HG3	1.74	0.70
2:B:314:U:H2'	2:B:315:C:C6	2.26	0.70
2:B:1833:G:O2'	43:QA:4:GLN:HA	1.92	0.70
4:D:76:A:H5'	4:D:78:U:H1'	1.73	0.70
21:U:65:SER:N	21:U:67:ILE:HD13	2.07	0.70
38:LA:91:ARG:HG2	38:LA:95:ILE:HD11	1.73	0.70
46:TA:68:VAL:HG23	46:TA:85:LEU:HB3	1.73	0.70
48:VA:8:LYS:H	48:VA:8:LYS:HD2	1.56	0.70
50:XA:26:ALA:HB3	50:XA:30:GLN:NE2	2.06	0.70
57:EB:15:GLU:HA	57:EB:18:LEU:HD12	1.72	0.70
1:A:291:G:H2'	1:A:292:U:H5	1.56	0.70
2:B:1596:C:H2'	2:B:1597:C:C6	2.27	0.70
4:D:26:C:H5'	9:I:56:THR:HB	1.73	0.70
12:L:206:GLU:HG3	12:L:207:ASP:H	1.57	0.70
23:W:43:LYS:O	23:W:47:ASN:HB3	1.91	0.70
82:DC:336:GLU:O	82:DC:340:LEU:HG	1.92	0.70
83:EC:6891:G:H3'	83:EC:6892:U:C5'	2.16	0.70
1:A:54:C:H2'	1:A:55:A:H8	1.56	0.70
1:A:252:U:H2'	1:A:253:A:C8	2.26	0.70
1:A:869:A:H61	1:A:958:U:H3	1.37	0.70
2:B:1211:U:H2'	2:B:1212:A:C8	2.27	0.70
2:B:2561:A:N1	12:L:32:LYS:HB2	2.07	0.70
16:P:92:ARG:HH22	16:P:95:ASP:HB3	1.57	0.70
55:CB:48:PHE:HB3	55:CB:67:PRO:HB3	1.74	0.70
65:MB:126:VAL:HG13	65:MB:127:ARG:H	1.57	0.70
1:A:1117:U:C2'	1:A:1118:G:H5"	2.22	0.70
1:A:1341:A:OP1	49:WA:63:GLY:HA2	1.91	0.70
2:B:1618:G:H2'	2:B:1619:A:H5"	1.73	0.70
2:B:2244:A:OP1	6:F:243:THR:HG23	1.92	0.70
32:FA:126:LYS:CB	32:FA:148:ILE:HD11	2.20	0.70
32:FA:129:PHE:N	32:FA:129:PHE:CD2	2.60	0.70
53:AB:32:GLU:HG3	53:AB:57:ASP:HB2	1.74	0.70
57:EB:38:LEU:O	57:EB:38:LEU:HD23	1.92	0.70
59:GB:64:GLU:HA	59:GB:69:ARG:HD3	1.73	0.70
60:HB:30:ALA:O	60:HB:38:LYS:HA	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:28:VAL:HG13	82:DC:29:ASP:N	2.07	0.70
1:A:1241:G:H1'	65:MB:78:THR:HA	1.74	0.69
2:B:900:G:H1'	2:B:1589:A:N6	2.07	0.69
2:B:947:G:H5"	36:JA:55:ILE:HB	1.74	0.69
15:O:90:GLN:HB3	15:O:172:LEU:CD1	2.21	0.69
19:S:101:THR:O	19:S:105:ARG:HG3	1.92	0.69
1:A:532:U:H4'	74:VB:62:THR:HG21	1.75	0.69
2:B:1257:C:H1'	16:P:123:ARG:NE	2.07	0.69
2:B:3228:C:H4'	2:B:3229:G:O5'	1.93	0.69
2:B:3346:U:H3	2:B:3359:A:N6	1.89	0.69
7:G:25:ILE:H	7:G:25:ILE:HD13	1.57	0.69
16:P:133:LEU:HA	16:P:137:GLN:CG	2.21	0.69
39:MA:93:THR:HG23	39:MA:96:GLU:OE1	1.92	0.69
82:DC:601:ILE:HD13	82:DC:643:PRO:HA	1.74	0.69
82:DC:699:DDE:HAC1	83:EC:6952:U:H1'	1.74	0.69
1:A:500:C:H2'	1:A:501:U:O4'	1.92	0.69
2:B:599:C:H3'	2:B:600:G:H5"	1.73	0.69
2:B:3334:U:H4'	2:B:3335:A:H5"	1.73	0.69
12:L:151:VAL:HG13	12:L:198:ALA:O	1.91	0.69
56:DB:116:LYS:HE3	56:DB:125:THR:HG22	1.72	0.69
69:QB:124:ILE:HD11	69:QB:128:GLY:HA3	1.72	0.69
83:EC:6855:A:H2'	83:EC:6856:C:C6	2.27	0.69
1:A:238:U:OP1	1:A:834:G:H4'	1.92	0.69
1:A:415:C:H2'	1:A:417:A:N7	2.06	0.69
5:E:67:ILE:HD13	5:E:111:ILE:HD13	1.75	0.69
12:L:178:ALA:HB2	12:L:218:ILE:HD13	1.75	0.69
16:P:130:LYS:HG2	16:P:146:LYS:HG3	1.74	0.69
16:P:135:THR:CG2	16:P:147:ASN:HA	2.23	0.69
18:R:38:ILE:HD11	24:X:150:PHE:CE2	2.27	0.69
24:X:110:MET:CE	24:X:110:MET:HA	2.21	0.69
49:WA:216:LYS:HA	49:WA:239:GLU:HB2	1.75	0.69
56:DB:211:LEU:H	56:DB:211:LEU:HD22	1.57	0.69
73:UB:93:LEU:O	73:UB:96:VAL:HG22	1.92	0.69
75:WB:54:VAL:HG11	75:WB:88:ILE:HB	1.72	0.69
82:DC:365:ASN:O	82:DC:369:ILE:HG12	1.91	0.69
82:DC:733:ILE:CG2	82:DC:792:ALA:HB1	2.22	0.69
2:B:1040:A:O2'	14:N:198:LYS:HE2	1.91	0.69
8:H:205:PRO:HB3	8:H:247:PHE:HD2	1.55	0.69
17:Q:57:VAL:HG22	17:Q:147:ILE:HD12	1.74	0.69
39:MA:53:CYS:O	39:MA:57:VAL:HG23	1.92	0.69
48:VA:33:VAL:CG2	48:VA:38:MET:HB2	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:FB:43:ILE:HG23	58:FB:57:ALA:HA	1.73	0.69
61:IB:155:LYS:HD3	61:IB:155:LYS:H	1.56	0.69
68:PB:100:THR:HG22	68:PB:108:LYS:HG2	1.73	0.69
71:SB:3:ASN:ND2	71:SB:7:GLN:HB2	2.08	0.69
82:DC:138:GLN:O	82:DC:142:VAL:HG23	1.93	0.69
83:EC:6767:G:C3'	83:EC:6768:U:H5"	2.23	0.69
1:A:1139:A:H2'	1:A:1140:G:O4'	1.92	0.69
1:A:1365:C:H5"	66:NB:28:LEU:HD22	1.74	0.69
2:B:2714:G:H4'	2:B:2715:A:H5"	1.75	0.69
6:F:41:ILE:O	6:F:89:TYR:HA	1.92	0.69
15:O:114:ILE:HG22	15:O:115:LYS:H	1.57	0.69
50:XA:85:ALA:HA	50:XA:202:TYR:CD2	2.28	0.69
60:HB:87:VAL:H	60:HB:88:PRO:CD	2.00	0.69
61:IB:53:TYR:OH	61:IB:114:ALA:HB2	1.93	0.69
70:RB:24:ILE:HB	70:RB:91:ILE:HB	1.75	0.69
82:DC:16:VAL:HA	82:DC:19:VAL:CG2	2.22	0.69
82:DC:571:SER:HA	82:DC:720:ALA:CA	2.22	0.69
1:A:148:A:H2'	1:A:149:C:H5'	1.74	0.69
1:A:1370:U:H4'	1:A:1371:A:H5"	1.75	0.69
2:B:528:U:H2'	2:B:529:A:C8	2.27	0.69
7:G:211:GLN:NE2	7:G:284:ARG:HA	2.07	0.69
11:K:151:ARG:NH1	11:K:244:ASN:HD22	1.91	0.69
48:VA:112:GLY:HA2	48:VA:165:VAL:O	1.93	0.69
57:EB:127:GLU:HA	57:EB:135:ILE:HD11	1.74	0.69
59:GB:72:GLU:HA	59:GB:75:ALA:HB3	1.75	0.69
77:YB:35:VAL:HG22	77:YB:79:PHE:CB	2.21	0.69
1:A:78:A:H1'	56:DB:175:ILE:HG12	1.73	0.69
1:A:845:G:H2'	1:A:846:G:C5'	2.19	0.69
1:A:1171:A:H2'	1:A:1172:G:H8	1.55	0.69
2:B:13:A:H5'	2:B:14:U:OP2	1.93	0.69
2:B:245:U:H2'	2:B:246:U:C6	2.28	0.69
2:B:715:A:OP2	32:FA:113:LEU:HB3	1.93	0.69
2:B:3312:U:H5"	7:G:25:ILE:HD12	1.73	0.69
6:F:72:ARG:CZ	6:F:72:ARG:HB2	2.22	0.69
6:F:137:ILE:HG13	6:F:137:ILE:O	1.93	0.69
9:I:22:ARG:HG2	9:I:28:THR:HB	1.74	0.69
13:M:115:ARG:HH21	13:M:123:ILE:HG12	1.56	0.69
15:O:94:ARG:H	15:O:94:ARG:HD3	1.57	0.69
29:CA:91:ASN:O	29:CA:95:ILE:HG13	1.92	0.69
43:QA:34:THR:H	43:QA:35:ILE:HD12	1.58	0.69
49:WA:13:LEU:HD21	49:WA:55:GLY:H	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AB:113:LEU:HD23	53:AB:114:ALA:H	1.58	0.69
54:BB:90:ILE:HD11	54:BB:101:LEU:HG	1.75	0.69
65:MB:81:ARG:HB3	65:MB:96:ILE:CG2	2.23	0.69
68:PB:102:ALA:O	68:PB:105:VAL:HG12	1.93	0.69
78:ZB:25:VAL:HG11	78:ZB:66:LEU:HD13	1.74	0.69
80:BC:33:ARG:HB2	80:BC:33:ARG:NH1	2.06	0.69
83:EC:6777:C:N4	83:EC:6813:A:H5"	2.07	0.69
1:A:1214:U:H2'	1:A:1215:C:C6	2.28	0.69
14:N:16:PRO:HG3	14:N:128:ARG:NE	2.07	0.69
49:WA:211:ILE:HD11	49:WA:225:LEU:HD22	1.74	0.69
50:XA:121:VAL:HG23	50:XA:141:ILE:HG21	1.73	0.69
50:XA:125:ASP:OD1	50:XA:127:ARG:HB3	1.93	0.69
54:BB:94:ALA:HB3	74:VB:17:LEU:HB3	1.73	0.69
54:BB:151:ASP:HB3	54:BB:154:ILE:HG13	1.73	0.69
60:HB:82:LEU:HB2	60:HB:86:ILE:HG21	1.74	0.69
2:B:522:A:C3'	2:B:523:A:H5"	2.22	0.69
2:B:994:G:H5'	2:B:2637:A:O2'	1.93	0.69
2:B:1565:G:N2	2:B:1574:C:H42	1.90	0.69
2:B:3346:U:H3	2:B:3359:A:H61	1.38	0.69
6:F:48:ILE:O	6:F:48:ILE:HG13	1.91	0.69
16:P:130:LYS:CG	16:P:146:LYS:HG3	2.23	0.69
17:Q:8:PRO:HB3	22:V:164:ARG:HB3	1.74	0.69
19:S:27:VAL:HG23	19:S:122:ASN:CB	2.18	0.69
22:V:100:THR:HG23	22:V:122:ILE:HD13	1.75	0.69
30:DA:88:GLU:H	30:DA:88:GLU:CD	1.95	0.69
38:LA:57:LEU:HD12	38:LA:62:TYR:HD1	1.58	0.69
53:AB:92:GLN:NE2	53:AB:92:GLN:H	1.91	0.69
53:AB:209:ILE:HB	67:OB:38:ILE:O	1.93	0.69
55:CB:142:PRO:CG	55:CB:214:LYS:HG2	2.22	0.69
82:DC:694:HIS:NE2	83:EC:6907:G:OP1	2.26	0.69
1:A:398:G:H5"	58:FB:49:ARG:HE	1.59	0.68
1:A:479:C:H5'	59:GB:124:HIS:HB2	1.74	0.68
1:A:641:G:H21	57:EB:178:GLY:HA3	1.58	0.68
1:A:1644:C:O2'	1:A:1645:G:H5'	1.93	0.68
2:B:1054:A:H5"	2:B:2637:A:N6	2.07	0.68
2:B:1257:C:H1'	16:P:123:ARG:CZ	2.23	0.68
2:B:1845:G:O2'	41:OA:5:THR:HG22	1.93	0.68
2:B:3099:C:O2'	2:B:3100:U:H5'	1.92	0.68
2:B:3208:G:H5"	2:B:3210:A:O4'	1.92	0.68
16:P:106:LEU:N	16:P:142:ARG:HG3	2.08	0.68
22:V:102:ALA:HA	22:V:122:ILE:O	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:78:LYS:HD3	25:Y:87:LYS:HD2	1.73	0.68
44:RA:96:CYS:HA	44:RA:121:LEU:HD23	1.73	0.68
48:VA:97:LYS:HA	48:VA:100:ILE:HG12	1.75	0.68
52:ZA:140:ARG:HD3	52:ZA:222:TYR:CE1	2.28	0.68
78:ZB:11:LYS:HB2	78:ZB:33:LEU:HD21	1.75	0.68
82:DC:760:ARG:HH11	82:DC:760:ARG:CB	2.07	0.68
1:A:739:G:H2'	1:A:740:A:C8	2.28	0.68
1:A:928:U:H5"	1:A:944:A:H3'	1.74	0.68
2:B:505:G:H5"	8:H:315:LYS:HA	1.74	0.68
4:D:48:U:OP2	9:I:94:ASN:HB3	1.93	0.68
14:N:30:LYS:N	14:N:30:LYS:HE3	2.07	0.68
20:T:34:VAL:HG12	20:T:103:LYS:HB2	1.75	0.68
48:VA:108:PRO:N	48:VA:179:SER:CB	2.56	0.68
57:EB:30:SER:C	57:EB:32:PRO:HD2	2.14	0.68
63:KB:42:ARG:HH21	63:KB:80:LEU:HD21	1.58	0.68
66:NB:125:GLU:HG2	66:NB:126:PRO:HD2	1.74	0.68
69:QB:31:PRO:HD2	69:QB:34:VAL:HB	1.75	0.68
1:A:627:C:H4'	63:KB:117:LEU:CD2	2.23	0.68
1:A:1525:A:H4'	69:QB:83:ALA:HB2	1.76	0.68
2:B:507:U:H2'	2:B:508:U:C6	2.28	0.68
2:B:561:C:H2'	2:B:562:C:H6	1.56	0.68
2:B:1234:G:H2'	2:B:1235:U:C5	2.28	0.68
2:B:2561:A:HO2'	2:B:2562:A:H8	1.41	0.68
7:G:286:GLY:HA3	7:G:321:PHE:CE2	2.28	0.68
9:I:56:THR:C	9:I:58:LYS:H	1.96	0.68
25:Y:105:PHE:O	25:Y:109:VAL:HG23	1.93	0.68
55:CB:33:VAL:O	55:CB:37:GLN:HG3	1.93	0.68
65:MB:108:ARG:HB3	65:MB:110:GLU:OE1	1.93	0.68
82:DC:653:VAL:HG21	82:DC:691:VAL:HB	1.73	0.68
1:A:1184:A:H4'	1:A:1210:C:H4'	1.76	0.68
1:A:1673:G:H2'	1:A:1674:C:H6	1.58	0.68
2:B:599:C:C3'	2:B:600:G:H5"	2.22	0.68
2:B:627:U:H2'	2:B:628:A:C8	2.29	0.68
2:B:1767:C:H2'	2:B:1768:U:C6	2.28	0.68
2:B:3192:U:H2'	2:B:3193:C:C6	2.28	0.68
5:E:120:VAL:HB	5:E:121:PRO:HD3	1.76	0.68
6:F:65:ASP:HA	6:F:72:ARG:HH21	1.59	0.68
24:X:66:GLU:HB3	24:X:69:PRO:HG3	1.75	0.68
40:NA:36:ARG:O	40:NA:40:VAL:HG23	1.93	0.68
40:NA:50:LEU:HD23	40:NA:55:ARG:HG2	1.75	0.68
52:ZA:157:LYS:HG2	52:ZA:170:ILE:HG23	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:87:MET:HB3	54:BB:122:LYS:HE3	1.76	0.68
54:BB:193:GLY:CA	54:BB:212:ASP:HA	2.22	0.68
56:DB:220:LYS:HE3	56:DB:220:LYS:HA	1.74	0.68
82:DC:463:LEU:HD12	82:DC:464:LEU:H	1.58	0.68
1:A:1316:G:H2'	1:A:1317:C:C6	2.28	0.68
1:A:1459:C:C4	68:PB:139:LYS:HG3	2.28	0.68
1:A:1498:G:C3'	1:A:1499:G:H5"	2.23	0.68
2:B:726:G:H5'	2:B:727:G:OP1	1.94	0.68
2:B:3086:A:H4'	7:G:366:GLY:HA2	1.74	0.68
16:P:133:LEU:HA	16:P:137:GLN:HG2	1.75	0.68
18:R:8:LYS:HA	18:R:8:LYS:HE2	1.74	0.68
26:Z:96:VAL:HG12	26:Z:97:SER:H	1.57	0.68
80:BC:35:TYR:O	80:BC:39:LEU:HD23	1.94	0.68
82:DC:331:ALA:HB1	82:DC:335:LEU:CD1	2.24	0.68
82:DC:682:ARG:NH1	82:DC:801:TRP:HB2	2.09	0.68
19:S:11:GLN:HG2	19:S:44:ARG:NH2	2.07	0.68
24:X:99:ARG:HG2	24:X:99:ARG:HH11	1.58	0.68
35:IA:72:ARG:HB3	35:IA:96:VAL:HG22	1.76	0.68
49:WA:170:ILE:HG21	49:WA:211:ILE:HD13	1.74	0.68
67:OB:69:ILE:HD13	67:OB:69:ILE:N	2.09	0.68
72:TB:30:SER:HA	72:TB:34:ILE:HD12	1.76	0.68
1:A:875:G:H1	1:A:952:A:H61	1.42	0.68
2:B:20:A:H2'	2:B:21:G:C8	2.29	0.68
2:B:241:G:C2'	2:B:242:C:H5'	2.24	0.68
2:B:1080:A:H5'	9:I:139:PRO:HB3	1.75	0.68
2:B:1478:C:H2'	2:B:1479:U:H6	1.57	0.68
11:K:80:GLN:HE22	25:Y:136:ARG:HH11	1.40	0.68
14:N:75:TYR:HD1	14:N:151:GLY:HA2	1.58	0.68
46:TA:35:LEU:HD23	46:TA:40:LYS:HG2	1.76	0.68
50:XA:37:VAL:HA	50:XA:47:VAL:O	1.94	0.68
54:BB:90:ILE:HG22	54:BB:92:LEU:CD1	2.24	0.68
59:GB:28:LEU:HG	80:BC:43:ARG:NH2	2.08	0.68
61:IB:27:THR:HG21	61:IB:29:LYS:HZ2	1.56	0.68
66:NB:82:ARG:HH22	66:NB:116:LEU:HD13	1.57	0.68
69:QB:137:ALA:O	69:QB:141:GLU:HG2	1.93	0.68
82:DC:489:VAL:CG1	82:DC:538:LEU:HD22	2.23	0.68
1:A:746:A:H2'	1:A:747:C:O4'	1.93	0.68
2:B:207:U:H2'	2:B:208:C:C6	2.28	0.68
2:B:1596:C:H5'	38:LA:8:ARG:HH22	1.57	0.68
2:B:2408:U:O2'	2:B:2409:G:H5'	1.94	0.68
2:B:2476:C:C2'	2:B:2477:G:H4'	2.19	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2845:A:H2'	2:B:2846:U:O2	1.93	0.68
6:F:72:ARG:HB2	6:F:72:ARG:NH1	2.08	0.68
8:H:232:SER:O	8:H:233:LEU:HB2	1.93	0.68
12:L:166:LEU:HB2	12:L:167:PRO:HD3	1.75	0.68
19:S:120:TRP:HZ2	19:S:123:GLN:HG2	1.57	0.68
30:DA:87:LYS:HB2	30:DA:97:ILE:HD11	1.75	0.68
59:GB:126:ARG:HD3	80:BC:33:ARG:HD2	1.74	0.68
61:IB:92:HIS:HB3	61:IB:103:ARG:HD2	1.74	0.68
1:A:780:A:H8	74:VB:8:ARG:HB3	1.58	0.68
1:A:1232:U:H4'	60:HB:2:LEU:HD21	1.73	0.68
2:B:1748:G:OP1	42:PA:44:LYS:HE2	1.94	0.68
2:B:2504:U:H2'	2:B:2505:U:H5'	1.75	0.68
7:G:260:VAL:HG11	7:G:266:ARG:NH1	2.09	0.68
13:M:103:ILE:HG21	13:M:110:LYS:NZ	2.09	0.68
44:RA:103:LEU:HD11	44:RA:110:CYS:HA	1.76	0.68
57:EB:185:ILE:HD13	57:EB:185:ILE:H	1.59	0.68
58:FB:39:GLY:HA2	58:FB:61:GLU:HB3	1.75	0.68
59:GB:141:VAL:HG13	59:GB:143:ILE:HD12	1.75	0.68
59:GB:171:ARG:HH11	59:GB:174:ARG:HG3	1.59	0.68
73:UB:126:LYS:HE2	73:UB:129:GLY:HA2	1.75	0.68
1:A:461:G:H4'	54:BB:26:CYS:SG	2.34	0.68
1:A:513:U:H2'	1:A:514:G:C8	2.29	0.68
2:B:1245:A:H3'	2:B:1246:G:C5'	2.23	0.68
2:B:2655:U:H5'	46:TA:3:ASN:O	1.94	0.68
2:B:2995:A:C3'	2:B:2996:U:H5"	2.23	0.68
7:G:160:VAL:HG23	7:G:183:LEU:HD11	1.75	0.68
7:G:292:ALA:HA	7:G:303:LYS:O	1.93	0.68
10:J:174:LEU:HD13	10:J:175:LYS:H	1.57	0.68
31:EA:13:VAL:HB	31:EA:19:ALA:HA	1.75	0.68
55:CB:158:GLN:HB3	78:ZB:66:LEU:HD21	1.76	0.68
55:CB:215:ASP:HA	55:CB:218:GLU:HG3	1.75	0.68
71:SB:41:GLU:H	71:SB:41:GLU:CD	1.98	0.68
82:DC:599:LEU:HG	82:DC:603:ASN:ND2	2.08	0.68
2:B:656:A:H2'	2:B:657:A:C8	2.29	0.67
2:B:1261:G:H4'	2:B:1278:A:N1	2.10	0.67
2:B:1348:U:H5'	2:B:1355:A:H62	1.59	0.67
2:B:3193:C:H2'	2:B:3194:C:C6	2.29	0.67
13:M:189:GLU:C	13:M:191:LEU:H	1.96	0.67
19:S:30:TYR:HE2	19:S:122:ASN:HD22	1.40	0.67
22:V:9:GLN:NE2	22:V:9:GLN:HA	2.09	0.67
40:NA:94:ILE:O	40:NA:98:ARG:HB2	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:VA:28:VAL:O	48:VA:84:VAL:HA	1.93	0.67
50:XA:76:ILE:HD13	50:XA:98:ILE:HB	1.75	0.67
54:BB:19:LEU:HD21	54:BB:108:ARG:HD2	1.76	0.67
61:IB:78:THR:HA	61:IB:84:ILE:HG22	1.76	0.67
65:MB:90:ILE:HG12	65:MB:107:ILE:HG22	1.75	0.67
73:UB:14:LYS:O	73:UB:18:HIS:HB2	1.95	0.67
75:WB:74:SER:O	75:WB:78:ILE:HD13	1.94	0.67
75:WB:75:LEU:HA	75:WB:78:ILE:HB	1.76	0.67
82:DC:171:LYS:HG3	82:DC:282:PHE:CE1	2.29	0.67
2:B:1214:U:H2'	2:B:1215:U:O4'	1.93	0.67
2:B:2298:U:O2'	2:B:2299:A:H5'	1.94	0.67
2:B:2724:U:H4'	25:Y:54:HIS:CD2	2.29	0.67
31:EA:21:LYS:H	31:EA:21:LYS:HE2	1.59	0.67
75:WB:72:GLY:O	75:WB:76:ALA:HB2	1.94	0.67
82:DC:103:ILE:HD12	82:DC:122:THR:HG23	1.75	0.67
82:DC:380:LEU:O	82:DC:469:LEU:HB2	1.94	0.67
2:B:3191:G:H5"	20:T:176:LYS:HG3	1.75	0.67
3:C:60:U:O2'	3:C:61:A:H5'	1.93	0.67
19:S:155:VAL:HG23	19:S:156:HIS:ND1	2.10	0.67
22:V:176:ARG:HA	22:V:182:LYS:O	1.95	0.67
29:CA:111:ASN:O	29:CA:123:TYR:HB2	1.92	0.67
30:DA:112:ASP:HB2	30:DA:115:ARG:HB2	1.75	0.67
38:LA:81:CYS:H	38:LA:84:CYS:HG	1.41	0.67
39:MA:86:ARG:O	39:MA:90:ARG:HG2	1.93	0.67
53:AB:212:LYS:HG2	53:AB:213:GLU:H	1.58	0.67
56:DB:135:PRO:CB	56:DB:141:ILE:HG12	2.24	0.67
1:A:329:G:H5"	58:FB:98:LYS:HB3	1.77	0.67
1:A:521:A:H2'	1:A:522:U:C6	2.29	0.67
1:A:855:A:H3'	1:A:856:A:C5'	2.25	0.67
1:A:1064:G:H2'	1:A:1065:A:C8	2.29	0.67
1:A:1071:U:H2'	1:A:1072:C:C6	2.28	0.67
2:B:2497:U:H4'	2:B:2498:U:C5	2.30	0.67
2:B:3060:C:H2'	2:B:3061:G:H8	1.59	0.67
5:E:117:ILE:O	5:E:121:PRO:HD2	1.94	0.67
7:G:11:HIS:CE1	27:AA:45:ARG:HH22	2.11	0.67
22:V:23:ASN:HB3	22:V:26:LEU:HB3	1.75	0.67
50:XA:49:ASN:HA	67:OB:109:LEU:HD11	1.75	0.67
54:BB:181:VAL:HG21	54:BB:195:ILE:HD11	1.75	0.67
66:NB:30:LYS:HG2	66:NB:35:PRO:HA	1.76	0.67
1:A:1439:C:H2'	1:A:1440:C:H6	1.59	0.67
2:B:992:A:O2'	2:B:993:G:H5'	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1768:U:C2'	2:B:1769:G:H5"	2.24	0.67
2:B:2102:U:H2'	2:B:2103:U:C6	2.30	0.67
9:I:34:LYS:HE2	9:I:38:THR:HG21	1.75	0.67
11:K:59:GLU:O	11:K:62:ILE:HG13	1.95	0.67
22:V:176:ARG:O	22:V:176:ARG:HD3	1.94	0.67
25:Y:57:TYR:OH	25:Y:87:LYS:HD3	1.94	0.67
42:PA:23:ALA:HB3	42:PA:73:LEU:HD21	1.76	0.67
1:A:1186:U:H2'	1:A:1187:U:H5'	1.77	0.67
1:A:1715:G:H2'	1:A:1716:C:H4'	1.77	0.67
2:B:1018:G:H1'	83:EC:6925:C:N4	2.09	0.67
2:B:1428:A:OP2	32:FA:2:PRO:HA	1.95	0.67
6:F:115:ASN:HB3	6:F:165:VAL:HG12	1.77	0.67
11:K:150:LYS:HG2	11:K:244:ASN:HD21	1.57	0.67
30:DA:126:LEU:HD22	30:DA:127:GLU:H	1.60	0.67
31:EA:13:VAL:HG23	31:EA:21:LYS:O	1.94	0.67
35:IA:55:LEU:HA	35:IA:95:PRO:HG3	1.76	0.67
46:TA:28:TYR:HB3	46:TA:69:VAL:HB	1.77	0.67
49:WA:232:TYR:OH	49:WA:265:LEU:HD12	1.95	0.67
61:IB:80:MET:HG2	61:IB:83:THR:HG23	1.77	0.67
68:PB:72:ILE:HG23	68:PB:79:TYR:HB2	1.76	0.67
1:A:542:A:O2'	1:A:543:C:H2'	1.94	0.67
1:A:1274:C:H42	83:EC:6953:G:H1	1.41	0.67
1:A:1685:G:H2'	1:A:1686:C:H5"	1.75	0.67
2:B:2228:A:H2'	2:B:2229:A:C8	2.30	0.67
2:B:2467:G:H4'	5:E:28:PHE:CD2	2.30	0.67
6:F:40:TYR:HD1	6:F:93:LYS:HB3	1.58	0.67
8:H:205:PRO:HB3	8:H:247:PHE:CD2	2.29	0.67
16:P:114:ARG:NH2	16:P:121:PHE:HB3	2.10	0.67
32:FA:47:LYS:HE2	32:FA:48:TYR:HE2	1.60	0.67
41:OA:14:LYS:HE2	43:QA:51:ILE:HD11	1.74	0.67
46:TA:8:ARG:HD3	46:TA:10:THR:OG1	1.94	0.67
50:XA:31:VAL:HG12	50:XA:33:GLN:H	1.60	0.67
58:FB:65:PHE:CE1	58:FB:167:ALA:HB1	2.30	0.67
61:IB:99:ARG:HH22	73:UB:7:ARG:HG2	1.59	0.67
82:DC:141:THR:O	82:DC:145:GLN:HG3	1.95	0.67
82:DC:147:LEU:HB3	82:DC:192:TYR:O	1.94	0.67
82:DC:178:PHE:O	82:DC:182:VAL:HG23	1.94	0.67
83:EC:6872:A:H3'	83:EC:6873:A:C5'	2.25	0.67
1:A:86:A:H2'	1:A:87:C:C6	2.29	0.67
1:A:1410:A:H2'	1:A:1411:A:O4'	1.94	0.67
2:B:1464:G:H1'	2:B:1511:U:O2	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2389:C:H5'	21:U:80:LYS:HE2	1.76	0.67
2:B:3286:G:H2'	2:B:3287:U:H5"	1.77	0.67
6:F:113:VAL:HG12	6:F:166:ILE:HD13	1.75	0.67
7:G:46:PHE:CZ	7:G:84:VAL:HG23	2.30	0.67
9:I:22:ARG:HG2	9:I:28:THR:CB	2.25	0.67
9:I:277:LEU:HD21	9:I:285:ARG:HH22	1.58	0.67
11:K:142:SER:O	11:K:146:GLN:HB2	1.95	0.67
14:N:40:LYS:HB2	14:N:40:LYS:NZ	2.09	0.67
38:LA:91:ARG:O	38:LA:95:ILE:HG13	1.94	0.67
39:MA:29:ALA:O	39:MA:33:VAL:HG23	1.95	0.67
43:QA:11:GLN:O	43:QA:14:ALA:HB3	1.94	0.67
50:XA:122:ILE:HG12	50:XA:144:ILE:HD12	1.77	0.67
54:BB:160:VAL:CG1	54:BB:169:ILE:HG23	2.23	0.67
57:EB:117:THR:HG22	57:EB:120:ALA:H	1.58	0.67
65:MB:96:ILE:CG2	65:MB:120:SER:HB2	2.25	0.67
70:RB:25:THR:O	70:RB:114:VAL:HA	1.94	0.67
72:TB:28:ARG:HD3	72:TB:60:LYS:HE2	1.74	0.67
82:DC:109:VAL:HG22	82:DC:138:GLN:HG2	1.77	0.67
83:EC:6791:A:H4'	83:EC:6849:A:N3	2.10	0.67
2:B:1233:G:H1'	16:P:121:PHE:HA	1.74	0.67
2:B:1814:A:H4'	2:B:1815:U:H5'	1.75	0.67
2:B:2752:U:H6	2:B:2752:U:H5'	1.60	0.67
2:B:2960:C:H2'	2:B:2961:G:H8	1.60	0.67
2:B:3040:A:H5"	27:AA:12:ARG:HB2	1.76	0.67
2:B:3191:G:H2'	2:B:3192:U:O4'	1.95	0.67
15:O:54:VAL:O	15:O:55:ARG:HB3	1.94	0.67
23:W:8:LYS:HE3	23:W:22:VAL:HG23	1.77	0.67
26:Z:76:LEU:O	26:Z:80:THR:HG23	1.95	0.67
29:CA:136:ALA:O	29:CA:139:ILE:HG22	1.95	0.67
50:XA:182:LEU:HD12	50:XA:195:TRP:HZ2	1.58	0.67
54:BB:193:GLY:HA3	54:BB:212:ASP:HA	1.77	0.67
73:UB:70:LYS:HD2	73:UB:93:LEU:HD11	1.77	0.67
83:EC:6808:G:H1'	83:EC:6809:G:P	2.34	0.67
1:A:1371:A:H1'	1:A:1373:C:OP2	1.95	0.67
1:A:1529:C:OP1	55:CB:112:ARG:HD3	1.95	0.67
2:B:31:C:H4'	19:S:96:ARG:HG3	1.75	0.67
2:B:509:U:H2'	2:B:510:G:H5"	1.77	0.67
2:B:1282:G:H5'	48:VA:83:ASN:HD22	1.60	0.67
6:F:126:LEU:HD13	6:F:150:LEU:HD21	1.77	0.67
13:M:129:ARG:HG3	13:M:157:ASN:ND2	2.08	0.67
28:BA:9:SER:O	28:BA:53:VAL:HB	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:PA:42:LYS:HA	42:PA:54:LEU:O	1.95	0.67
49:WA:110:VAL:HG11	49:WA:124:SER:HB2	1.76	0.67
50:XA:139:VAL:HA	52:ZA:62:PRO:HG3	1.77	0.67
54:BB:240:LYS:HD3	54:BB:240:LYS:N	2.09	0.67
59:GB:110:GLN:HE22	59:GB:125:ALA:HB3	1.60	0.67
70:RB:20:ILE:HD11	70:RB:100:VAL:HG21	1.76	0.67
82:DC:73:THR:HB	82:DC:439:GLY:HA2	1.77	0.67
82:DC:334:LEU:O	82:DC:338:ILE:HG13	1.95	0.67
2:B:268:A:O4'	2:B:270:U:H1'	1.95	0.66
2:B:830:A:H2'	2:B:831:G:O4'	1.95	0.66
2:B:2384:A:N1	20:T:96:LYS:HE3	2.10	0.66
2:B:2960:C:H2'	2:B:2961:G:C8	2.29	0.66
14:N:86:HIS:HB3	14:N:139:ARG:CG	2.25	0.66
24:X:110:MET:HE2	24:X:114:HIS:HB2	1.77	0.66
38:LA:86:LYS:O	38:LA:90:ILE:HG12	1.95	0.66
49:WA:246:SER:HB2	49:WA:251:TRP:O	1.95	0.66
53:AB:50:ILE:HD11	53:AB:86:LEU:HD23	1.77	0.66
1:A:683:C:H2'	1:A:684:A:C8	2.30	0.66
2:B:109:A:H4'	2:B:110:G:C5'	2.19	0.66
3:C:64:U:H5'	39:MA:49:LYS:HE2	1.77	0.66
7:G:356:LEU:H	7:G:356:LEU:CD2	2.08	0.66
23:W:90:PRO:O	23:W:93:VAL:HG12	1.94	0.66
30:DA:5:SER:HB3	30:DA:8:VAL:HG12	1.77	0.66
30:DA:34:PRO:HA	30:DA:47:ALA:HB1	1.76	0.66
48:VA:61:ARG:HG2	48:VA:64:ARG:HG2	1.76	0.66
49:WA:17:ASN:HB3	49:WA:39:ASP:HB3	1.76	0.66
59:GB:90:LYS:HD2	59:GB:95:TYR:HB2	1.77	0.66
72:TB:55:ASP:OD1	72:TB:57:ARG:HB2	1.96	0.66
82:DC:289:MET:HG2	82:DC:320:LEU:HD12	1.76	0.66
83:EC:6930:G:C2'	83:EC:6931:U:H4'	2.16	0.66
1:A:591:A:H5"	59:GB:24:LEU:HD11	1.78	0.66
1:A:928:U:H2'	1:A:945:U:OP2	1.95	0.66
2:B:2060:A:H2'	2:B:2061:G:O4'	1.96	0.66
36:JA:19:ARG:HD3	36:JA:28:VAL:HG13	1.76	0.66
48:VA:12:PHE:HA	48:VA:15:LEU:HD23	1.76	0.66
49:WA:136:ILE:H	49:WA:136:ILE:CD1	2.07	0.66
56:DB:70:PRO:HA	56:DB:98:ARG:HH22	1.61	0.66
61:IB:79:LYS:O	61:IB:80:MET:HB2	1.95	0.66
71:SB:3:ASN:ND2	71:SB:5:LYS:HE3	2.09	0.66
72:TB:42:GLN:HE22	72:TB:49:GLU:HA	1.59	0.66
83:EC:6777:C:H41	83:EC:6813:A:H5"	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:96:G:H5'	1:A:460:A:O2'	1.96	0.66
1:A:400:A:C4'	1:A:401:A:H5'	2.15	0.66
1:A:1533:C:H2'	1:A:1534:G:C8	2.30	0.66
2:B:393:U:H2'	2:B:394:G:O4'	1.95	0.66
2:B:879:U:O2	2:B:2357:A:H1'	1.94	0.66
2:B:3348:G:H2'	2:B:3349:C:C6	2.31	0.66
11:K:74:SER:OG	25:Y:142:SER:HA	1.95	0.66
12:L:249:ARG:O	12:L:253:SER:HB2	1.95	0.66
18:R:74:ARG:HB3	18:R:74:ARG:NH1	2.10	0.66
23:W:165:LYS:HA	23:W:165:LYS:HE3	1.76	0.66
43:QA:3:ALA:H	43:QA:5:LYS:HZ3	1.41	0.66
49:WA:191:ASP:HB2	53:AB:223:LYS:HB2	1.78	0.66
49:WA:209:THR:HA	49:WA:225:LEU:HB3	1.76	0.66
50:XA:120:LEU:HD11	50:XA:144:ILE:HD11	1.75	0.66
53:AB:29:LEU:HD12	53:AB:34:TYR:CD2	2.31	0.66
53:AB:133:GLY:HA3	53:AB:156:PHE:O	1.96	0.66
55:CB:30:PRO:O	55:CB:34:GLN:HG3	1.95	0.66
1:A:1060:U:H3'	1:A:1061:A:H5"	1.78	0.66
2:B:2202:C:H5"	6:F:226:SER:HB2	1.76	0.66
2:B:2549:G:H2'	12:L:33:ASN:ND2	2.11	0.66
2:B:2747:A:H5'	9:I:175:HIS:HA	1.77	0.66
7:G:152:LYS:HG2	7:G:192:VAL:HG11	1.76	0.66
53:AB:71:LEU:O	53:AB:75:LYS:HG2	1.94	0.66
83:EC:6859:U:HO2'	83:EC:6860:A:H8	1.43	0.66
1:A:1741:U:H2'	1:A:1742:U:C6	2.31	0.66
3:C:26:U:H2'	3:C:27:U:C6	2.31	0.66
6:F:116:VAL:HG12	6:F:126:LEU:HB2	1.78	0.66
19:S:112:ASN:C	19:S:113:LEU:HD22	2.16	0.66
24:X:123:ILE:CG2	24:X:126:VAL:HG21	2.26	0.66
39:MA:10:ARG:HD3	39:MA:57:VAL:HG13	1.77	0.66
54:BB:201:HIS:CD2	54:BB:207:LEU:HG	2.30	0.66
59:GB:60:LEU:HD21	59:GB:93:LEU:CD2	2.25	0.66
68:PB:3:LEU:O	68:PB:3:LEU:HD22	1.96	0.66
1:A:1791:A:H5"	1:A:1792:G:H21	1.61	0.66
2:B:1730:G:H2'	34:HA:28:LYS:HZ1	1.60	0.66
2:B:2157:G:C5	6:F:150:LEU:HD22	2.30	0.66
10:J:54:TYR:OH	10:J:57:HIS:HB2	1.96	0.66
12:L:75:ILE:HG22	12:L:76:ALA:N	2.09	0.66
17:Q:106:GLN:HA	40:NA:20:MET:SD	2.36	0.66
18:R:127:LYS:O	18:R:131:VAL:HG23	1.95	0.66
35:IA:5:LYS:HD2	35:IA:79:ARG:HD3	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:QA:23:LEU:HD22	43:QA:24:PRO:HD2	1.76	0.66
70:RB:103:ILE:HA	70:RB:106:ILE:HG22	1.77	0.66
72:TB:36:LYS:CB	72:TB:110:ILE:HD12	2.25	0.66
82:DC:288:ILE:HG23	82:DC:319:LEU:CG	2.24	0.66
82:DC:411:VAL:O	82:DC:428:ILE:HA	1.94	0.66
2:B:181:U:H3'	2:B:182:U:H5"	1.76	0.66
2:B:1838:G:H5"	2:B:1839:A:H5'	1.78	0.66
7:G:367:LYS:HA	28:BA:17:ARG:HH21	1.60	0.66
11:K:148:VAL:CG1	11:K:181:ILE:HD11	2.25	0.66
32:FA:126:LYS:HG2	32:FA:146:GLU:HB2	1.78	0.66
48:VA:27:VAL:HB	48:VA:189:GLN:HB3	1.78	0.66
78:ZB:50:GLU:O	78:ZB:51:ASN:HB2	1.96	0.66
82:DC:735:CYS:SG	82:DC:740:VAL:HG22	2.36	0.66
2:B:782:U:H2'	2:B:783:A:O4'	1.95	0.66
2:B:929:A:H5"	8:H:61:SER:HB3	1.76	0.66
2:B:2480:A:OP1	5:E:102:LYS:HB2	1.96	0.66
9:I:55:PHE:CZ	9:I:158:ARG:HG3	2.31	0.66
9:I:107:ARG:HH11	9:I:248:ARG:NH1	1.93	0.66
12:L:93:LEU:HD23	12:L:214:LEU:HD22	1.77	0.66
22:V:81:VAL:HG23	22:V:101:VAL:HG13	1.76	0.66
38:LA:104:VAL:O	38:LA:108:GLN:HG3	1.95	0.66
67:OB:85:VAL:C	67:OB:87:GLU:H	1.99	0.66
75:WB:62:VAL:HG13	75:WB:76:ALA:HB1	1.76	0.66
2:B:2795:U:OP2	46:TA:63:LYS:HG2	1.96	0.66
6:F:22:LEU:H	6:F:22:LEU:HD12	1.61	0.66
7:G:332:ARG:O	7:G:333:LYS:HB2	1.96	0.66
13:M:129:ARG:CG	13:M:157:ASN:HD22	2.08	0.66
29:CA:75:LYS:HD2	29:CA:123:TYR:HE1	1.61	0.66
52:ZA:165:VAL:HG11	52:ZA:210:THR:HA	1.77	0.66
53:AB:49:ILE:HG23	53:AB:87:TYR:HB2	1.77	0.66
54:BB:79:ASP:HB2	54:BB:82:TYR:HB2	1.77	0.66
57:EB:93:LEU:HD21	57:EB:129:LEU:HD23	1.77	0.66
1:A:1382:A:HO2'	1:A:1383:G:H8	1.43	0.65
1:A:1472:C:H2'	1:A:1535:U:C4	2.31	0.65
2:B:537:A:H2'	2:B:538:G:O4'	1.96	0.65
2:B:1322:U:H2'	2:B:1323:G:C8	2.31	0.65
2:B:1804:A:H4'	38:LA:71:THR:HG21	1.77	0.65
2:B:2085:U:H2'	2:B:2086:A:H5'	1.78	0.65
4:D:60:G:H2'	4:D:61:G:C8	2.30	0.65
6:F:111:THR:HG22	6:F:112:ILE:N	2.11	0.65
74:VB:11:LYS:O	74:VB:23:PHE:HA	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:710:U:H2'	1:A:711:U:H5'	1.78	0.65
2:B:110:G:H5"	17:Q:91:ARG:HD3	1.77	0.65
2:B:224:C:O2'	2:B:225:C:H5'	1.96	0.65
2:B:2392:C:O2'	7:G:266:ARG:NH2	2.28	0.65
2:B:2748:A:H1'	9:I:36:LEU:HD23	1.77	0.65
2:B:3279:A:H5'	2:B:3279:A:H8	1.61	0.65
6:F:130:SER:HB3	6:F:171:GLY:HA3	1.78	0.65
7:G:112:ASP:O	7:G:116:ARG:HG3	1.96	0.65
12:L:98:ARG:HB2	12:L:98:ARG:NH1	2.10	0.65
24:X:78:TRP:CE3	24:X:125:LYS:HB3	2.31	0.65
47:UA:73:THR:HG23	47:UA:76:ALA:H	1.61	0.65
49:WA:59:ARG:HB2	49:WA:59:ARG:NH1	2.10	0.65
54:BB:8:HIS:N	54:BB:30:ARG:HG3	2.10	0.65
59:GB:60:LEU:HD13	59:GB:69:ARG:NH2	2.11	0.65
59:GB:119:ALA:HB2	59:GB:128:LEU:HD12	1.77	0.65
1:A:36:C:H2'	1:A:37:U:C6	2.31	0.65
1:A:1378:U:H1'	66:NB:8:GLN:O	1.95	0.65
1:A:1426:C:H3'	1:A:1427:A:C5'	2.27	0.65
7:G:29:VAL:HG13	7:G:218:ILE:HD13	1.77	0.65
8:H:283:THR:HG22	8:H:285:ASP:H	1.62	0.65
11:K:80:GLN:HG3	25:Y:135:PRO:HB2	1.78	0.65
30:DA:114:ASP:HA	30:DA:117:ALA:HB3	1.77	0.65
32:FA:112:ILE:HB	32:FA:130:VAL:HG12	1.77	0.65
38:LA:44:CYS:HB2	38:LA:81:CYS:HB3	1.78	0.65
50:XA:191:ARG:HG3	50:XA:192:THR:H	1.60	0.65
53:AB:217:ILE:HG22	53:AB:218:LEU:H	1.60	0.65
65:MB:32:ASP:O	65:MB:35:LYS:HB2	1.96	0.65
82:DC:45:ILE:HD11	82:DC:78:TYR:HB2	1.79	0.65
82:DC:190:SER:HB3	82:DC:201:GLN:NE2	2.11	0.65
82:DC:336:GLU:HG2	82:DC:340:LEU:CD1	2.27	0.65
83:EC:6762:U:H3	83:EC:6829:A:H61	1.43	0.65
1:A:512:A:H2'	59:GB:131:GLN:NE2	2.10	0.65
1:A:593:U:H4'	1:A:595:G:H4'	1.79	0.65
2:B:208:C:H2'	2:B:209:A:O4'	1.97	0.65
2:B:561:C:H2'	2:B:562:C:C6	2.31	0.65
2:B:1270:A:H5'	82:DC:741:GLY:HA2	1.77	0.65
2:B:2626:A:C4	2:B:2644:C:H5'	2.32	0.65
6:F:77:ILE:CG2	6:F:169:ILE:HD13	2.25	0.65
9:I:21:ARG:HG3	9:I:24:ARG:NH2	2.11	0.65
14:N:91:VAL:HG12	14:N:127:ALA:HB1	1.76	0.65
54:BB:132:GLY:HA3	54:BB:138:TYR:CE2	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:EB:67:LEU:HD11	57:EB:94:ALA:CB	2.26	0.65
82:DC:445:ILE:HG12	82:DC:446:ASP:N	2.10	0.65
82:DC:655:TYR:HA	82:DC:657:HIS:CE1	2.31	0.65
1:A:1681:A:C1'	56:DB:66:GLY:HA3	2.25	0.65
2:B:149:U:C2'	2:B:150:A:H5"	2.26	0.65
2:B:279:U:O2'	2:B:280:U:H5'	1.97	0.65
2:B:2178:A:H5"	6:F:132:ASN:ND2	2.11	0.65
7:G:339:ARG:NH1	7:G:342:LEU:HD11	2.11	0.65
8:H:112:LYS:HB2	19:S:202:TYR:HB3	1.79	0.65
11:K:160:ARG:NH2	11:K:206:LYS:HD3	2.12	0.65
12:L:75:ILE:C	12:L:77:GLN:H	2.00	0.65
15:O:115:LYS:HG2	15:O:116:TYR:N	2.11	0.65
16:P:92:ARG:HG3	16:P:93:LYS:N	2.11	0.65
16:P:105:GLN:HA	16:P:142:ARG:HA	1.79	0.65
24:X:74:ASN:O	24:X:128:GLU:HG2	1.96	0.65
31:EA:44:ALA:HB2	31:EA:72:ILE:HG22	1.79	0.65
47:UA:56:THR:HG22	47:UA:63:THR:OG1	1.96	0.65
49:WA:176:LYS:HE3	49:WA:197:SER:HA	1.78	0.65
52:ZA:161:LYS:HG3	52:ZA:166:THR:HG22	1.78	0.65
55:CB:98:MET:HA	55:CB:103:ASN:HB3	1.78	0.65
65:MB:87:PRO:HG3	65:MB:112:LEU:HD21	1.78	0.65
82:DC:110:ASP:HB3	82:DC:537:HIS:HB2	1.77	0.65
82:DC:653:VAL:CG1	82:DC:693:LEU:HG	2.27	0.65
1:A:1258:U:H4'	60:HB:2:LEU:HD13	1.79	0.65
1:A:1469:A:H2'	1:A:1470:C:C6	2.31	0.65
2:B:271:C:H4'	2:B:317:A:H2	1.61	0.65
2:B:1665:C:H2'	2:B:1666:G:C8	2.31	0.65
7:G:144:ILE:HD12	7:G:144:ILE:N	2.12	0.65
9:I:40:HIS:HB3	9:I:43:LYS:HG3	1.79	0.65
27:AA:80:ARG:HB2	27:AA:99:ALA:HB3	1.78	0.65
30:DA:34:PRO:HG2	30:DA:105:VAL:HA	1.78	0.65
34:HA:47:ASN:ND2	34:HA:74:ASN:HD22	1.95	0.65
38:LA:54:ILE:HG12	38:LA:70:LYS:O	1.96	0.65
50:XA:22:THR:O	50:XA:48:ILE:HD12	1.97	0.65
54:BB:45:ILE:HG13	54:BB:61:VAL:HG11	1.78	0.65
54:BB:86:PHE:O	54:BB:87:MET:HB2	1.95	0.65
56:DB:27:PHE:CE1	56:DB:36:VAL:HG11	2.32	0.65
72:TB:24:GLN:HA	72:TB:63:VAL:O	1.96	0.65
1:A:109:G:H5"	1:A:755:A:OP1	1.97	0.65
1:A:630:A:H3'	1:A:631:G:H8	1.61	0.65
1:A:1118:G:H2'	1:A:1119:G:O4'	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1488:G:H3'	1:A:1515:A:H61	1.61	0.65
1:A:1503:A:H2'	1:A:1504:G:O4'	1.95	0.65
2:B:1446:A:N1	2:B:2356:A:H5"	2.12	0.65
13:M:77:ASN:HB3	13:M:151:VAL:HG21	1.78	0.65
38:LA:23:VAL:HG22	38:LA:33:GLN:HB2	1.77	0.65
54:BB:44:LEU:HD21	54:BB:84:ALA:HB3	1.78	0.65
58:FB:47:ARG:HD3	58:FB:51:GLY:HA2	1.79	0.65
82:DC:615:ARG:CD	82:DC:633:ILE:HD11	2.26	0.65
82:DC:806:SER:HB3	82:DC:813:SER:CB	2.26	0.65
1:A:243:G:H2'	1:A:244:A:H5'	1.78	0.65
2:B:1187:C:H2'	2:B:1188:U:H5'	1.79	0.65
2:B:2661:G:H2'	2:B:2662:G:C8	2.31	0.65
15:O:140:ARG:NH1	15:O:140:ARG:HB2	2.12	0.65
48:VA:132:LYS:HB3	48:VA:135:PHE:CD1	2.31	0.65
49:WA:161:LYS:HG2	49:WA:164:ASP:HB3	1.78	0.65
68:PB:36:LYS:HB2	68:PB:102:ALA:HA	1.79	0.65
68:PB:112:ASP:O	68:PB:116:LEU:HD23	1.96	0.65
74:VB:105:ARG:O	74:VB:109:LYS:HG3	1.97	0.65
1:A:421:A:O2'	1:A:422:G:H5'	1.96	0.65
2:B:617:G:H4'	21:U:171:ARG:HE	1.62	0.65
2:B:883:A:O4'	21:U:133:HIS:HA	1.97	0.65
3:C:104:A:H5'	3:C:105:A:H8	1.62	0.65
7:G:113:GLU:OE1	7:G:167:ARG:HD3	1.97	0.65
8:H:10:SER:HA	8:H:153:SER:HB2	1.78	0.65
29:CA:105:VAL:HG11	29:CA:126:LEU:HD22	1.79	0.65
30:DA:79:ALA:HB1	30:DA:98:ASN:HB3	1.78	0.65
31:EA:93:LYS:C	31:EA:93:LYS:HD3	2.17	0.65
43:QA:21:ARG:NH1	43:QA:24:PRO:HG3	2.12	0.65
49:WA:117:LYS:HD2	49:WA:117:LYS:N	2.09	0.65
52:ZA:69:ILE:HD11	52:ZA:133:LYS:HD2	1.78	0.65
57:EB:99:LEU:HD11	57:EB:116:ARG:HD2	1.79	0.65
58:FB:67:TRP:HB3	58:FB:70:GLU:HB3	1.79	0.65
74:VB:105:ARG:NH1	74:VB:109:LYS:HZ1	1.93	0.65
1:A:1533:C:H4'	1:A:1539:G:C6	2.32	0.65
2:B:224:C:H2'	2:B:225:C:H6	1.62	0.65
2:B:1263:A:N6	16:P:136:ALA:HB2	2.11	0.65
2:B:1781:C:H2'	2:B:1782:U:H6	1.61	0.65
23:W:60:LYS:O	23:W:64:ARG:HG3	1.97	0.65
25:Y:17:ARG:HG2	25:Y:22:HIS:HA	1.79	0.65
31:EA:26:VAL:HG22	31:EA:42:LEU:O	1.97	0.65
34:HA:13:LYS:HB3	34:HA:100:ILE:HG22	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:WA:156:VAL:HG12	49:WA:157:VAL:N	2.11	0.65
49:WA:222:LEU:O	49:WA:231:MET:HB2	1.97	0.65
49:WA:230:ALA:HB1	53:AB:220:PRO:HB2	1.80	0.65
54:BB:35:PRO:HB3	54:BB:143:ASP:O	1.97	0.65
67:OB:10:LYS:O	67:OB:14:LYS:HD3	1.97	0.65
82:DC:22:MET:HE3	82:DC:338:ILE:HG23	1.79	0.65
1:A:976:G:H3'	1:A:1023:A:C2	2.32	0.64
1:A:1791:A:C5'	1:A:1792:G:H21	2.11	0.64
2:B:1222:G:N7	48:VA:59:VAL:HG11	2.12	0.64
2:B:2278:C:H2'	2:B:2279:A:H5"	1.78	0.64
3:C:98:U:H2'	3:C:99:C:H5'	1.79	0.64
19:S:64:VAL:CG1	19:S:102:ALA:HB1	2.27	0.64
20:T:76:PRO:HB3	20:T:138:LEU:HD23	1.79	0.64
38:LA:100:ILE:O	38:LA:104:VAL:HG23	1.96	0.64
48:VA:144:LYS:HD3	82:DC:203:TYR:HE1	1.61	0.64
54:BB:42:LEU:HB2	54:BB:109:PHE:HD2	1.62	0.64
59:GB:108:ARG:O	59:GB:111:THR:HG22	1.97	0.64
74:VB:83:LYS:HG3	74:VB:96:LEU:HD23	1.78	0.64
82:DC:593:ILE:CG1	82:DC:685:ARG:HB2	2.27	0.64
2:B:230:U:H2'	2:B:231:G:O4'	1.97	0.64
2:B:375:A:H1'	30:DA:87:LYS:HE2	1.80	0.64
2:B:664:U:H2'	2:B:665:A:C8	2.31	0.64
2:B:784:A:C6	22:V:93:ILE:HG22	2.32	0.64
2:B:2965:U:H5	2:B:2966:G:C5	2.14	0.64
6:F:40:TYR:CD1	6:F:93:LYS:HB3	2.32	0.64
9:I:58:LYS:CB	9:I:93:THR:HG21	2.25	0.64
10:J:46:ARG:HG3	10:J:46:ARG:NH1	2.13	0.64
14:N:52:LEU:HB2	14:N:152:LEU:HD13	1.78	0.64
17:Q:48:PRO:HA	17:Q:137:GLN:CB	2.26	0.64
28:BA:17:ARG:HG3	28:BA:17:ARG:NH1	2.12	0.64
49:WA:17:ASN:HB3	49:WA:39:ASP:CB	2.27	0.64
68:PB:140:THR:HA	68:PB:143:ARG:HH11	1.63	0.64
2:B:83:U:H2'	2:B:84:U:O4'	1.96	0.64
38:LA:80:ARG:HB3	38:LA:84:CYS:SG	2.38	0.64
55:CB:25:LEU:HB3	66:NB:61:SER:HA	1.77	0.64
57:EB:56:LYS:HD2	57:EB:88:ARG:NH1	2.12	0.64
66:NB:82:ARG:HG3	66:NB:82:ARG:HH11	1.62	0.64
1:A:211:U:OP2	61:IB:18:HIS:HA	1.97	0.64
1:A:1407:U:H2'	1:A:1408:G:C8	2.31	0.64
1:A:1773:C:H5'	45:SA:4:LYS:HB3	1.79	0.64
2:B:268:A:N1	2:B:295:A:H5'	2.11	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3260:G:H4'	18:R:126:GLN:HA	1.79	0.64
17:Q:63:VAL:CG1	32:FA:128:ARG:HH22	2.10	0.64
22:V:88:THR:HA	22:V:107:THR:OG1	1.97	0.64
31:EA:121:ARG:HH12	31:EA:126:LYS:HD3	1.62	0.64
32:FA:26:ARG:HH11	32:FA:26:ARG:HG3	1.62	0.64
37:KA:29:LEU:HD22	37:KA:75:HIS:CD2	2.32	0.64
37:KA:103:TYR:HA	37:KA:104:PRO:C	2.17	0.64
39:MA:104:GLN:NE2	39:MA:104:GLN:HA	2.12	0.64
40:NA:62:ARG:NH1	40:NA:98:ARG:HH11	1.96	0.64
50:XA:152:PRO:HB2	50:XA:154:GLU:HG2	1.79	0.64
57:EB:126:LEU:HB2	57:EB:173:TYR:OH	1.97	0.64
59:GB:92:LYS:HA	59:GB:92:LYS:HE3	1.79	0.64
61:IB:3:THR:O	61:IB:4:GLU:HG3	1.97	0.64
61:IB:92:HIS:CB	61:IB:103:ARG:HD2	2.26	0.64
1:A:884:A:H2'	1:A:885:G:C8	2.33	0.64
1:A:1162:C:H4'	78:ZB:22:ARG:HG3	1.79	0.64
1:A:1163:A:H2'	1:A:1164:G:O4'	1.97	0.64
2:B:147:U:O4	12:L:157:VAL:HA	1.96	0.64
2:B:597:G:H2'	2:B:598:A:C8	2.33	0.64
2:B:818:C:H5"	41:OA:10:LYS:HB2	1.79	0.64
2:B:1185:C:H2'	2:B:1186:G:O4'	1.96	0.64
5:E:90:LEU:O	5:E:94:ASN:HB3	1.98	0.64
9:I:105:ILE:O	9:I:109:THR:HG22	1.97	0.64
17:Q:89:TYR:CE1	17:Q:93:ILE:HG13	2.31	0.64
20:T:98:ALA:HA	20:T:101:ARG:HH11	1.60	0.64
25:Y:17:ARG:HB3	25:Y:22:HIS:CD2	2.32	0.64
52:ZA:101:VAL:HG11	52:ZA:211:LEU:HD12	1.78	0.64
63:KB:84:ILE:HB	63:KB:88:LEU:HD12	1.79	0.64
68:PB:33:THR:HA	68:PB:38:VAL:O	1.97	0.64
72:TB:8:ALA:CA	72:TB:74:VAL:HG11	2.27	0.64
1:A:889:U:H2'	1:A:890:C:C4'	2.27	0.64
1:A:1439:C:H2'	1:A:1440:C:C6	2.33	0.64
2:B:1208:U:H6	2:B:3115:C:H42	1.44	0.64
2:B:1731:A:H2'	2:B:1732:U:O4'	1.98	0.64
2:B:2873:U:O2'	2:B:2874:G:H5'	1.98	0.64
2:B:3156:U:H3'	2:B:3157:U:C5'	2.28	0.64
6:F:128:ARG:HA	6:F:169:ILE:CD1	2.28	0.64
7:G:84:VAL:CG1	7:G:162:VAL:HB	2.28	0.64
19:S:96:ARG:HG2	19:S:96:ARG:HH11	1.63	0.64
22:V:173:GLU:HA	32:FA:51:GLY:O	1.97	0.64
24:X:155:ARG:NH2	24:X:172:TYR:HA	2.09	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:VA:65:GLY:HA2	48:VA:73:PHE:CD2	2.33	0.64
63:KB:136:PRO:HG2	63:KB:139:TRP:HB2	1.79	0.64
66:NB:73:GLY:O	66:NB:77:GLN:HG3	1.98	0.64
66:NB:109:PHE:CD2	66:NB:117:LEU:HD11	2.32	0.64
82:DC:109:VAL:O	82:DC:111:PHE:N	2.28	0.64
1:A:1039:A:HO2'	1:A:1040:G:H8	1.44	0.64
1:A:1301:U:H5'	52:ZA:88:LYS:HE3	1.79	0.64
2:B:5:G:C2'	2:B:6:A:H5"	2.27	0.64
2:B:3223:A:H2'	2:B:3224:G:O4'	1.98	0.64
2:B:3302:U:H3	2:B:3312:U:H3	1.45	0.64
15:O:139:THR:HG22	15:O:147:THR:HA	1.79	0.64
50:XA:14:ALA:O	50:XA:18:LEU:HD13	1.97	0.64
54:BB:206:ASP:HB2	54:BB:222:LEU:CG	2.27	0.64
59:GB:28:LEU:O	59:GB:31:ALA:HB3	1.98	0.64
82:DC:538:LEU:O	82:DC:542:LEU:HG	1.96	0.64
82:DC:648:ASP:HA	82:DC:688:ILE:HD12	1.80	0.64
2:B:139:G:H2'	2:B:140:C:C6	2.33	0.64
2:B:1278:A:H3'	2:B:1279:C:C6	2.33	0.64
2:B:1605:A:OP1	2:B:1835:A:H5"	1.98	0.64
2:B:2818:U:H5'	2:B:2818:U:H6	1.63	0.64
7:G:50:LYS:O	7:G:332:ARG:HA	1.98	0.64
8:H:196:ASN:OD1	30:DA:11:ASP:HA	1.98	0.64
11:K:62:ILE:O	11:K:66:LYS:HG3	1.98	0.64
17:Q:2:ALA:HB3	32:FA:41:HIS:HE1	1.62	0.64
19:S:140:LYS:O	19:S:144:ARG:HG3	1.98	0.64
53:AB:122:VAL:O	53:AB:126:VAL:HG23	1.98	0.64
54:BB:208:VAL:HB	54:BB:225:VAL:HG21	1.80	0.64
56:DB:70:PRO:HA	56:DB:98:ARG:NH2	2.13	0.64
58:FB:83:TYR:HB3	58:FB:101:ILE:HB	1.80	0.64
58:FB:185:GLU:HA	58:FB:189:LEU:HD22	1.80	0.64
70:RB:26:LEU:HB2	70:RB:89:ARG:CB	2.24	0.64
83:EC:6934:U:H2'	83:EC:6935:G:H4'	1.79	0.64
1:A:632:U:O2'	1:A:1103:U:H5"	1.98	0.64
1:A:1225:U:H2'	1:A:1226:A:H5'	1.79	0.64
2:B:217:U:O2'	30:DA:103:LYS:HE2	1.98	0.64
2:B:293:C:O2'	40:NA:76:ARG:HD3	1.98	0.64
2:B:1373:A:OP2	32:FA:7:LYS:HE2	1.98	0.64
11:K:132:PRO:HA	11:K:229:PHE:CE1	2.32	0.64
36:JA:8:LYS:HA	36:JA:8:LYS:HE3	1.79	0.64
38:LA:41:ARG:O	38:LA:43:LYS:HD3	1.97	0.64
57:EB:99:LEU:HB2	57:EB:112:ARG:HD2	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:EB:141:ARG:HB2	57:EB:149:ILE:HB	1.78	0.64
61:IB:35:TYR:CB	61:IB:49:ILE:HG12	2.28	0.64
80:BC:14:VAL:HA	80:BC:17:GLN:HG2	1.78	0.64
1:A:199:G:O2'	1:A:200:A:H5'	1.97	0.64
1:A:509:G:H2'	1:A:510:G:C8	2.33	0.64
1:A:839:U:C2'	1:A:840:U:H5"	2.26	0.64
2:B:2186:U:OP2	6:F:200:ARG:HD2	1.98	0.64
2:B:3139:A:O3'	7:G:20:LYS:HD3	1.96	0.64
2:B:3288:G:HO2'	2:B:3289:G:H8	1.46	0.64
2:B:3294:A:H2'	2:B:3295:A:O4'	1.98	0.64
2:B:3322:A:H2'	2:B:3323:A:C8	2.33	0.64
11:K:145:ARG:HB3	11:K:145:ARG:NH1	2.12	0.64
17:Q:126:PHE:O	39:MA:114:ARG:HD2	1.97	0.64
19:S:118:SER:HB3	19:S:132:VAL:HG22	1.80	0.64
43:QA:35:ILE:HD12	43:QA:35:ILE:N	2.13	0.64
47:UA:49:ARG:HB2	47:UA:55:TRP:CZ3	2.33	0.64
52:ZA:144:TRP:CZ2	52:ZA:173:PRO:HG3	2.33	0.64
58:FB:43:ILE:HG12	58:FB:60:ILE:HD11	1.79	0.64
58:FB:104:ILE:HD11	58:FB:165:LEU:HD12	1.78	0.64
72:TB:34:ILE:O	72:TB:37:PHE:HB3	1.98	0.64
72:TB:81:VAL:HG11	72:TB:86:ILE:HG23	1.79	0.64
82:DC:73:THR:HG22	82:DC:74:ALA:N	2.12	0.64
83:EC:6857:C:H6	83:EC:6857:C:O5'	1.81	0.64
1:A:629:U:C3'	1:A:630:A:H5"	2.27	0.63
1:A:973:A:H2'	1:A:974:A:C8	2.33	0.63
1:A:1160:A:H2'	1:A:1161:C:C6	2.33	0.63
40:NA:4:LYS:HA	40:NA:12:ASN:HB3	1.80	0.63
42:PA:10:GLN:HE21	42:PA:14:LEU:HD21	1.62	0.63
49:WA:68:VAL:HG11	49:WA:82:SER:HB2	1.79	0.63
50:XA:157:ASP:O	71:SB:66:ASP:HB3	1.98	0.63
55:CB:171:ALA:O	55:CB:175:LEU:HG	1.97	0.63
56:DB:7:TYR:HB2	56:DB:113:ILE:HD12	1.81	0.63
56:DB:108:VAL:HG12	56:DB:109:LEU:N	2.12	0.63
82:DC:635:CYS:SG	82:DC:664:VAL:HG22	2.39	0.63
1:A:54:C:H2'	1:A:55:A:C8	2.33	0.63
1:A:147:A:H2'	1:A:148:A:H8	1.63	0.63
1:A:179:A:N6	56:DB:202:ARG:HH22	1.93	0.63
1:A:1075:C:H3'	1:A:1076:A:H5"	1.79	0.63
1:A:1469:A:H4'	1:A:1541:G:H4'	1.79	0.63
2:B:1146:C:H4'	2:B:1331:U:C5	2.32	0.63
2:B:1785:U:H2'	2:B:1786:G:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1818:U:H2'	2:B:1819:U:H5"	1.79	0.63
2:B:2304:C:H2'	2:B:2305:G:H5'	1.78	0.63
7:G:29:VAL:HG13	7:G:218:ILE:CD1	2.28	0.63
8:H:64:SER:HA	8:H:75:PRO:HA	1.79	0.63
8:H:93:MET:HG2	8:H:94:CYS:N	2.12	0.63
9:I:148:ILE:HG12	9:I:159:VAL:HG11	1.80	0.63
25:Y:47:SER:C	25:Y:48:ILE:HD13	2.19	0.63
59:GB:14:THR:OG1	59:GB:15:PRO:HD2	1.98	0.63
68:PB:40:ARG:HG2	68:PB:40:ARG:HH11	1.63	0.63
82:DC:250:PHE:O	82:DC:269:LEU:HD13	1.99	0.63
83:EC:6824:C:H2'	83:EC:6825:A:C8	2.33	0.63
1:A:386:G:H2'	1:A:387:A:C8	2.33	0.63
1:A:1501:C:H41	69:QB:102:ARG:NH2	1.96	0.63
2:B:671:U:H2'	2:B:672:A:H8	1.63	0.63
2:B:1232:C:H5	2:B:1261:G:H2'	1.61	0.63
8:H:235:LEU:HD12	8:H:235:LEU:O	1.98	0.63
34:HA:73:GLY:H	34:HA:76:GLU:CG	2.11	0.63
59:GB:108:ARG:HE	59:GB:145:SER:HA	1.63	0.63
63:KB:34:ILE:O	63:KB:38:VAL:HG23	1.98	0.63
82:DC:113:SER:HB3	82:DC:516:PRO:HB2	1.79	0.63
82:DC:147:LEU:HD11	82:DC:189:VAL:HA	1.81	0.63
82:DC:598:SER:HA	82:DC:601:ILE:HD12	1.79	0.63
1:A:63:G:H4'	1:A:170:U:C5	2.34	0.63
2:B:1064:A:H62	2:B:1096:U:H3	1.46	0.63
2:B:1933:A:H2'	2:B:1934:G:H5'	1.81	0.63
2:B:3111:U:H2'	2:B:3112:G:H5'	1.79	0.63
2:B:3159:C:H2'	2:B:3160:U:C6	2.33	0.63
6:F:29:LEU:HB3	6:F:163:ARG:HH22	1.63	0.63
9:I:260:PHE:HB3	9:I:264:GLN:HB2	1.79	0.63
20:T:125:ARG:HG3	20:T:129:LEU:HD12	1.80	0.63
30:DA:55:GLU:HB2	30:DA:108:LYS:HB2	1.81	0.63
32:FA:101:VAL:HG12	32:FA:126:LYS:HE2	1.81	0.63
38:LA:57:LEU:HD11	38:LA:65:VAL:HG21	1.80	0.63
40:NA:34:SER:HB3	40:NA:37:THR:HG23	1.81	0.63
52:ZA:126:ARG:O	52:ZA:130:ILE:HD13	1.99	0.63
53:AB:66:ILE:HA	53:AB:69:LEU:HG	1.80	0.63
58:FB:90:LEU:HB3	58:FB:95:THR:HB	1.79	0.63
70:RB:62:VAL:O	70:RB:63:LEU:HD23	1.98	0.63
83:EC:6772:G:H2'	83:EC:6773:G:C4'	2.28	0.63
1:A:479:C:H4'	59:GB:120:LYS:NZ	2.13	0.63
1:A:594:A:H4'	1:A:595:G:H5'	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2453:U:H3	2:B:2484:A:N6	1.96	0.63
6:F:5:ILE:HG21	6:F:210:PRO:HD3	1.81	0.63
7:G:332:ARG:HG2	7:G:332:ARG:HH11	1.64	0.63
9:I:9:SER:HB2	9:I:12:TYR:CB	2.29	0.63
10:J:30:LEU:H	10:J:30:LEU:CD2	2.11	0.63
10:J:52:VAL:HB	10:J:67:GLY:HA2	1.81	0.63
50:XA:183:ARG:O	71:SB:43:GLY:HA3	1.98	0.63
52:ZA:89:GLN:HA	52:ZA:94:GLN:HG2	1.80	0.63
63:KB:61:THR:HG22	77:YB:32:PHE:CE2	2.33	0.63
63:KB:99:ARG:HE	63:KB:143:SER:HB3	1.63	0.63
75:WB:93:SER:HB2	75:WB:100:ILE:HG22	1.80	0.63
82:DC:536:LEU:O	82:DC:540:ILE:HG12	1.97	0.63
82:DC:750:LYS:HD3	82:DC:776:GLU:O	1.98	0.63
1:A:753:A:H2'	1:A:754:A:O4'	1.99	0.63
1:A:1272:U:H2'	1:A:1275:A:OP2	1.99	0.63
1:A:1316:G:H2'	1:A:1317:C:H6	1.64	0.63
1:A:1451:C:H5"	79:AC:10:HIS:HB3	1.79	0.63
2:B:707:U:C2'	2:B:708:G:H5"	2.28	0.63
2:B:1340:G:H2'	2:B:1341:U:H6	1.63	0.63
2:B:1727:G:H1'	2:B:1731:A:O4'	1.98	0.63
2:B:1875:G:H2'	2:B:1876:U:O4'	1.97	0.63
7:G:215:ILE:CG2	7:G:282:ILE:HD11	2.29	0.63
7:G:350:ALA:O	7:G:351:LEU:HB3	1.97	0.63
24:X:14:LEU:HD11	25:Y:136:ARG:HH21	1.64	0.63
29:CA:58:ASP:O	29:CA:62:VAL:HG23	1.98	0.63
29:CA:83:VAL:HA	29:CA:122:ALA:O	1.99	0.63
29:CA:91:ASN:ND2	29:CA:93:TYR:HB2	2.14	0.63
34:HA:41:LEU:HB3	34:HA:92:ILE:HB	1.81	0.63
42:PA:10:GLN:O	42:PA:14:LEU:HG	1.99	0.63
49:WA:123:ILE:HA	49:WA:132:LYS:O	1.97	0.63
56:DB:178:LEU:HG	56:DB:180:THR:HG23	1.81	0.63
57:EB:69:GLY:HA2	57:EB:72:LYS:HD2	1.81	0.63
61:IB:111:VAL:O	61:IB:111:VAL:HG13	1.99	0.63
69:QB:113:ILE:O	69:QB:124:ILE:HD12	1.99	0.63
71:SB:55:LEU:HD11	71:SB:69:LEU:HG	1.80	0.63
82:DC:42:ARG:HH11	82:DC:42:ARG:HG3	1.64	0.63
82:DC:218:TRP:HB3	82:DC:324:MET:HB3	1.81	0.63
82:DC:418:TYR:HB2	82:DC:424:ASP:O	1.99	0.63
1:A:396:G:H22	1:A:399:A:C5'	2.11	0.63
2:B:2356:A:N6	2:B:2983:C:C5	2.64	0.63
2:B:2477:G:H5"	2:B:2478:C:C5	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2768:U:H2'	2:B:2769:A:H8	1.63	0.63
3:C:113:U:H5"	43:QA:7:PHE:HB2	1.79	0.63
7:G:92:TYR:HB2	7:G:157:VAL:CG2	2.29	0.63
7:G:168:LYS:HE3	7:G:319:ASN:OD1	1.98	0.63
7:G:280:HIS:HB3	7:G:324:VAL:CG2	2.29	0.63
8:H:264:SER:OG	8:H:267:VAL:HG22	1.98	0.63
9:I:104:LEU:HD11	9:I:108:ARG:NH2	2.13	0.63
15:O:138:VAL:HA	15:O:141:ARG:NH1	2.13	0.63
19:S:50:ARG:HB3	19:S:50:ARG:HH11	1.63	0.63
24:X:132:THR:C	24:X:134:ASP:H	2.01	0.63
31:EA:60:LYS:HB2	31:EA:61:LYS:HE2	1.80	0.63
33:GA:38:LYS:HA	33:GA:41:ARG:NH1	2.13	0.63
53:AB:67:ASN:O	53:AB:71:LEU:HG	1.98	0.63
53:AB:212:LYS:HG2	53:AB:213:GLU:N	2.14	0.63
56:DB:2:LYS:O	56:DB:3:LEU:HD23	1.99	0.63
57:EB:43:PHE:HB2	57:EB:61:PHE:O	1.97	0.63
59:GB:92:LYS:O	59:GB:93:LEU:HB3	1.98	0.63
82:DC:659:ILE:CG2	82:DC:700:ARG:HD2	2.29	0.63
1:A:1625:C:H2'	1:A:1626:U:C6	2.34	0.63
2:B:996:A:H2'	2:B:997:A:O4'	1.98	0.63
2:B:2429:G:H2'	2:B:2430:A:C8	2.33	0.63
2:B:2459:A:H61	2:B:2487:U:H3	1.45	0.63
5:E:68:PHE:HB3	5:E:111:ILE:O	1.98	0.63
9:I:267:ALA:O	9:I:271:LYS:HG3	1.99	0.63
11:K:24:GLU:O	11:K:25:GLN:HB3	1.98	0.63
26:Z:33:TYR:O	26:Z:37:LEU:HD13	1.99	0.63
32:FA:47:LYS:HG3	32:FA:48:TYR:CD2	2.34	0.63
34:HA:24:THR:OG1	34:HA:91:SER:HB3	1.97	0.63
48:VA:37:GLN:O	48:VA:41:VAL:HG23	1.99	0.63
50:XA:74:VAL:HA	50:XA:96:THR:O	1.99	0.63
68:PB:123:ARG:HA	68:PB:133:VAL:CG2	2.28	0.63
74:VB:91:LEU:HD22	74:VB:96:LEU:HD13	1.81	0.63
1:A:1368:G:H5"	69:QB:69:LYS:HG2	1.80	0.63
1:A:1438:G:H2'	1:A:1439:C:O4'	1.98	0.63
1:A:1595:U:H5	1:A:1596:C:C4	2.16	0.63
2:B:67:A:C8	2:B:317:A:H1'	2.33	0.63
2:B:524:U:P	18:R:77:ARG:HH22	2.21	0.63
2:B:1654:A:C2'	2:B:1655:G:H5'	2.26	0.63
2:B:1729:A:H3'	2:B:1730:G:H5'	1.80	0.63
2:B:2436:U:H2'	2:B:2437:G:H5"	1.81	0.63
2:B:2439:A:H2'	2:B:2440:G:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:73:VAL:HG21	27:AA:90:GLY:HA2	1.79	0.63
9:I:238:ASP:HA	9:I:241:THR:HB	1.81	0.63
12:L:61:GLN:O	12:L:65:LEU:HD23	1.98	0.63
25:Y:13:TYR:O	25:Y:16:GLN:HG2	1.98	0.63
31:EA:95:VAL:HG11	31:EA:113:VAL:HG11	1.79	0.63
52:ZA:69:ILE:HD11	52:ZA:133:LYS:HB3	1.80	0.63
56:DB:50:PHE:HB3	56:DB:111:LEU:HB3	1.79	0.63
69:QB:83:ALA:HB1	69:QB:91:TYR:HB3	1.80	0.63
82:DC:317:LYS:HD2	82:DC:317:LYS:H	1.64	0.63
82:DC:594:ASP:HB3	82:DC:597:VAL:CG2	2.27	0.63
1:A:1561:U:H4'	1:A:1599:C:H4'	1.79	0.62
2:B:1856:C:H2'	2:B:1857:C:C6	2.33	0.62
2:B:2467:G:H4'	5:E:28:PHE:CE2	2.34	0.62
2:B:2837:A:H2'	2:B:2850:G:H22	1.63	0.62
2:B:2995:A:H3'	2:B:2996:U:H5"	1.81	0.62
7:G:39:LYS:HA	7:G:39:LYS:HE2	1.81	0.62
16:P:128:VAL:CG1	16:P:132:ILE:HD11	2.27	0.62
20:T:8:VAL:HA	20:T:34:VAL:HG23	1.80	0.62
30:DA:111:LEU:HD12	30:DA:111:LEU:N	2.13	0.62
31:EA:14:VAL:O	31:EA:19:ALA:HB1	1.99	0.62
39:MA:31:LEU:HD11	39:MA:41:LEU:HD11	1.80	0.62
48:VA:115:ALA:O	48:VA:162:GLY:HA2	1.99	0.62
57:EB:99:LEU:HD21	57:EB:116:ARG:HD3	1.79	0.62
82:DC:159:LYS:HB3	82:DC:162:ARG:HG2	1.81	0.62
82:DC:593:ILE:CD1	82:DC:685:ARG:HB2	2.27	0.62
83:EC:6930:G:H3'	83:EC:6931:U:H5"	1.81	0.62
1:A:740:A:C2'	1:A:741:C:H5"	2.24	0.62
2:B:905:U:O2	2:B:911:C:H5'	1.99	0.62
2:B:1895:A:O2'	2:B:3053:G:H4'	1.99	0.62
2:B:2661:G:H2'	2:B:2662:G:H8	1.64	0.62
2:B:2881:C:H2'	2:B:2882:U:C6	2.34	0.62
15:O:114:ILE:HG22	15:O:115:LYS:N	2.14	0.62
17:Q:124:ILE:HB	39:MA:117:ALA:HB3	1.81	0.62
31:EA:135:ARG:NE	31:EA:135:ARG:HA	2.14	0.62
48:VA:185:LEU:HD23	48:VA:185:LEU:H	1.63	0.62
52:ZA:41:LEU:HD12	52:ZA:68:ILE:HD13	1.81	0.62
54:BB:183:VAL:HG11	54:BB:188:ASN:O	1.99	0.62
74:VB:63:GLN:HE21	74:VB:64:PHE:H	1.46	0.62
1:A:821:U:H3'	1:A:822:U:C4'	2.28	0.62
1:A:976:G:C2	1:A:1023:A:H1'	2.34	0.62
1:A:1681:A:N6	1:A:1720:G:H1'	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:986:U:O2'	2:B:987:U:H5'	1.99	0.62
2:B:1240:A:C3'	2:B:1241:U:H5"	2.25	0.62
2:B:1665:C:H2'	2:B:1666:G:H8	1.63	0.62
12:L:225:LYS:O	12:L:229:VAL:HG23	2.00	0.62
17:Q:122:LYS:HG3	17:Q:145:PHE:CZ	2.34	0.62
49:WA:80:ALA:O	49:WA:91:LEU:HD12	1.98	0.62
49:WA:264:SER:HB2	49:WA:271:VAL:HG21	1.80	0.62
53:AB:121:GLY:HA2	53:AB:124:ARG:HB3	1.80	0.62
67:OB:32:LYS:HG2	67:OB:47:ARG:HH11	1.63	0.62
70:RB:55:PRO:HB3	70:RB:91:ILE:HD11	1.81	0.62
82:DC:307:LEU:HD13	82:DC:312:LYS:HA	1.81	0.62
1:A:86:A:H2'	1:A:87:C:H6	1.64	0.62
1:A:1682:U:H4'	56:DB:65:GLN:CD	2.20	0.62
2:B:118:U:C2'	2:B:119:U:H5'	2.27	0.62
2:B:1475:A:O2'	2:B:1476:G:H5'	1.98	0.62
2:B:1591:G:H2'	2:B:1592:G:H5'	1.81	0.62
2:B:2662:G:H2'	2:B:2663:G:C8	2.35	0.62
11:K:181:ILE:HG23	11:K:182:ASP:N	2.15	0.62
17:Q:48:PRO:HA	17:Q:137:GLN:HB2	1.80	0.62
27:AA:11:PHE:CE2	27:AA:88:ARG:HD2	2.33	0.62
30:DA:11:ASP:OD2	30:DA:13:ARG:HB2	1.99	0.62
34:HA:19:LYS:HA	34:HA:19:LYS:NZ	2.14	0.62
35:IA:31:ARG:HB3	35:IA:31:ARG:HH11	1.64	0.62
38:LA:8:ARG:HD3	38:LA:32:ALA:O	2.00	0.62
49:WA:49:GLY:HA2	49:WA:54:PHE:HD1	1.63	0.62
54:BB:35:PRO:HD2	54:BB:83:PRO:HG2	1.81	0.62
82:DC:131:THR:HG23	82:DC:178:PHE:HE1	1.64	0.62
82:DC:280:PRO:O	82:DC:284:LEU:HG	1.99	0.62
82:DC:336:GLU:C	82:DC:340:LEU:HG	2.20	0.62
83:EC:6906:G:H3'	83:EC:6907:G:H5"	1.80	0.62
1:A:551:G:H5'	1:A:581:U:H2'	1.81	0.62
2:B:3:U:H3	3:C:156:U:H3	1.46	0.62
2:B:1132:C:H2'	2:B:1133:A:H8	1.65	0.62
2:B:2355:G:H4'	21:U:139:TYR:CE2	2.35	0.62
2:B:3107:U:H2'	2:B:3108:G:C8	2.34	0.62
7:G:4:ARG:HG2	7:G:4:ARG:HH11	1.63	0.62
7:G:305:ILE:HG12	7:G:321:PHE:CE2	2.35	0.62
17:Q:118:GLU:O	17:Q:122:LYS:HG2	1.99	0.62
20:T:67:THR:C	20:T:69:GLY:H	2.00	0.62
35:IA:46:THR:HG21	35:IA:91:SER:OG	2.00	0.62
49:WA:13:LEU:HD21	49:WA:54:PHE:HB3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:WA:260:ILE:HB	49:WA:274:LEU:HB2	1.81	0.62
56:DB:181:PRO:HA	56:DB:184:LEU:HD12	1.80	0.62
70:RB:63:LEU:HD12	70:RB:84:MET:HB3	1.82	0.62
2:B:841:A:H5'	23:W:125:LYS:O	1.98	0.62
2:B:1764:U:H3'	2:B:1765:U:H5"	1.82	0.62
2:B:3117:C:H2'	2:B:3118:C:H5'	1.81	0.62
6:F:101:VAL:HB	6:F:165:VAL:HA	1.80	0.62
8:H:62:ALA:HA	8:H:76:ARG:O	1.99	0.62
13:M:76:ASP:HA	13:M:79:ILE:HD12	1.81	0.62
19:S:18:VAL:O	19:S:22:LEU:HD13	1.98	0.62
29:CA:96:LYS:HG3	29:CA:107:VAL:HB	1.81	0.62
39:MA:68:GLN:HA	39:MA:71:LYS:HB2	1.82	0.62
40:NA:56:ARG:O	40:NA:60:LEU:HB2	2.00	0.62
41:OA:69:HIS:O	41:OA:73:ARG:HG3	1.99	0.62
48:VA:96:ILE:O	48:VA:100:ILE:HG23	2.00	0.62
59:GB:96:VAL:HA	59:GB:99:LEU:HD13	1.81	0.62
61:IB:38:ALA:HB3	61:IB:42:PHE:O	2.00	0.62
82:DC:396:ALA:HB3	82:DC:456:LEU:HG	1.81	0.62
82:DC:566:THR:HG21	82:DC:803:THR:HG22	1.82	0.62
82:DC:607:ASN:HB2	82:DC:610:ASP:OD2	1.99	0.62
1:A:591:A:H2'	1:A:592:A:C8	2.35	0.62
2:B:823:C:O2'	2:B:824:C:H5'	1.99	0.62
2:B:3375:A:O2'	2:B:3378:C:H5'	2.00	0.62
11:K:83:LEU:HD13	11:K:84:VAL:N	2.14	0.62
24:X:34:GLU:O	24:X:37:ALA:HB3	2.00	0.62
31:EA:15:ARG:C	31:EA:19:ALA:HB2	2.20	0.62
48:VA:97:LYS:CD	48:VA:100:ILE:HD11	2.28	0.62
54:BB:68:ARG:HB3	54:BB:76:VAL:CG1	2.29	0.62
82:DC:182:VAL:HG12	82:DC:186:ASN:HD21	1.65	0.62
82:DC:633:ILE:HG22	82:DC:647:ILE:HD12	1.82	0.62
1:A:320:U:C2'	1:A:321:C:H5"	2.29	0.62
1:A:607:G:H5'	1:A:613:G:N2	2.14	0.62
1:A:1133:A:H2'	1:A:1134:C:O4'	1.99	0.62
1:A:1547:A:H1'	68:PB:87:ASN:O	1.99	0.62
2:B:1238:C:H2'	2:B:1239:C:C1'	2.30	0.62
2:B:1497:C:H2'	2:B:1498:A:C8	2.35	0.62
39:MA:104:GLN:HE22	39:MA:107:LYS:CD	2.08	0.62
53:AB:118:ALA:O	53:AB:122:VAL:HG23	1.99	0.62
54:BB:82:TYR:CD1	54:BB:83:PRO:HD2	2.34	0.62
57:EB:46:ILE:HD13	57:EB:60:ILE:HA	1.82	0.62
58:FB:184:LEU:HG	58:FB:189:LEU:HA	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:TB:20:THR:OG1	72:TB:22:LYS:HD3	2.00	0.62
79:AC:21:CYS:SG	79:AC:38:ILE:HA	2.39	0.62
82:DC:524:GLU:HG2	82:DC:564:ARG:HH22	1.63	0.62
1:A:252:U:H2'	1:A:253:A:H8	1.64	0.62
1:A:882:U:H3	1:A:946:U:H3	1.46	0.62
1:A:1048:G:H5"	77:YB:68:GLY:HA3	1.82	0.62
2:B:231:G:O2'	2:B:232:G:H5'	2.00	0.62
2:B:744:A:H2'	2:B:745:C:O4'	1.99	0.62
2:B:1322:U:H2'	2:B:1323:G:H8	1.65	0.62
2:B:3273:A:H4'	10:J:44:ALA:HB3	1.80	0.62
6:F:21:ARG:NH2	6:F:22:LEU:HD11	2.15	0.62
6:F:128:ARG:HA	6:F:169:ILE:HD12	1.82	0.62
7:G:59:ASP:OD2	7:G:357:LYS:HE2	2.00	0.62
15:O:140:ARG:HB2	15:O:140:ARG:HH11	1.64	0.62
23:W:10:LEU:HB2	23:W:41:ILE:HD12	1.81	0.62
30:DA:39:LEU:HD11	30:DA:107:THR:O	2.00	0.62
36:JA:45:ARG:HH11	36:JA:45:ARG:HB2	1.64	0.62
37:KA:98:VAL:HG22	37:KA:99:ARG:H	1.64	0.62
42:PA:8:ILE:HG12	42:PA:54:LEU:HD21	1.81	0.62
50:XA:54:TRP:O	50:XA:58:VAL:HG23	2.00	0.62
54:BB:155:LYS:HE2	54:BB:155:LYS:HA	1.82	0.62
61:IB:33:ARG:HE	61:IB:51:GLY:H	1.48	0.62
82:DC:529:ILE:HG13	86:DC:903:SO1:H213	1.82	0.62
83:EC:6925:C:H2'	83:EC:6926:U:O4'	1.99	0.62
1:A:821:U:H5'	1:A:822:U:OP2	1.99	0.62
1:A:1142:A:H2'	1:A:1143:A:C8	2.35	0.62
2:B:753:C:H2'	2:B:754:G:H8	1.64	0.62
2:B:1640:G:OP2	38:LA:72:VAL:HG12	2.00	0.62
2:B:1818:U:H2'	2:B:1819:U:O4'	2.00	0.62
2:B:2597:U:O2	19:S:125:SER:HB2	2.00	0.62
2:B:3153:U:O2'	2:B:3154:C:H5'	2.00	0.62
2:B:3262:U:C3'	2:B:3263:G:H5"	2.29	0.62
5:E:120:VAL:HG13	5:E:124:LEU:CD2	2.28	0.62
8:H:138:ARG:HH21	8:H:240:PRO:CB	2.13	0.62
14:N:9:TYR:CD2	14:N:97:LEU:HB3	2.34	0.62
20:T:22:VAL:HG21	20:T:120:VAL:HG11	1.82	0.62
32:FA:119:PRO:O	32:FA:121:VAL:N	2.33	0.62
53:AB:12:VAL:O	53:AB:16:VAL:HG23	2.00	0.62
74:VB:9:THR:HA	74:VB:24:VAL:O	1.99	0.62
82:DC:131:THR:HG21	82:DC:163:ALA:HB2	1.81	0.62
1:A:156:A:H1'	1:A:416:A:C8	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:562:G:H21	80:BC:14:VAL:CG1	2.12	0.61
1:A:1542:G:C2	1:A:1568:C:H1'	2.34	0.61
1:A:1673:G:H1	1:A:1728:A:H61	1.47	0.61
1:A:1684:U:H3	1:A:1717:G:H1	1.47	0.61
2:B:105:C:H2'	2:B:106:A:H8	1.65	0.61
2:B:1282:G:H4'	48:VA:82:GLY:CA	2.30	0.61
2:B:1764:U:H3'	2:B:1765:U:C5'	2.30	0.61
2:B:3063:C:H2'	2:B:3064:U:C6	2.35	0.61
12:L:178:ALA:HA	12:L:222:PHE:CD2	2.35	0.61
14:N:85:PHE:CB	14:N:140:THR:HG22	2.29	0.61
34:HA:66:LYS:HA	34:HA:66:LYS:HE3	1.81	0.61
36:JA:35:GLN:HA	36:JA:35:GLN:NE2	2.13	0.61
54:BB:71:LYS:HB3	54:BB:76:VAL:HA	1.81	0.61
55:CB:190:ILE:O	55:CB:194:LEU:HB2	2.00	0.61
57:EB:98:ILE:HD13	57:EB:118:LEU:HD22	1.81	0.61
58:FB:25:ARG:O	58:FB:28:GLU:HG2	2.00	0.61
58:FB:110:ARG:HB2	58:FB:160:PHE:CE1	2.34	0.61
59:GB:112:GLN:HA	59:GB:112:GLN:NE2	2.13	0.61
82:DC:27:HIS:HB3	82:DC:30:HIS:CD2	2.36	0.61
82:DC:162:ARG:HB3	84:DC:901:GDP:N2	2.15	0.61
1:A:94:U:O2'	54:BB:8:HIS:HB2	2.01	0.61
1:A:448:C:H5'	54:BB:29:PRO:HG3	1.82	0.61
2:B:1211:U:H2'	2:B:1212:A:H8	1.64	0.61
2:B:1313:G:C5'	20:T:83:ALA:HB1	2.30	0.61
2:B:2927:C:H2'	2:B:2928:C:C6	2.35	0.61
4:D:27:A:H2'	4:D:28:C:H6	1.59	0.61
14:N:46:PHE:CD1	14:N:140:THR:HA	2.34	0.61
17:Q:57:VAL:HG23	17:Q:115:ARG:HD2	1.82	0.61
19:S:22:LEU:HB3	19:S:26:ARG:HH12	1.65	0.61
32:FA:12:ARG:HG3	32:FA:12:ARG:HH11	1.64	0.61
54:BB:191:ARG:HD3	54:BB:245:LYS:CB	2.26	0.61
57:EB:182:VAL:HG12	57:EB:183:PHE:N	2.15	0.61
58:FB:84:HIS:CE1	58:FB:86:SER:HB2	2.35	0.61
67:OB:28:PHE:CZ	67:OB:32:LYS:HD3	2.34	0.61
72:TB:78:ARG:HD2	72:TB:126:LEU:CD2	2.30	0.61
82:DC:491:VAL:HA	82:DC:559:PRO:HD3	1.82	0.61
82:DC:722:PRO:CB	82:DC:808:PRO:HG3	2.31	0.61
83:EC:6790:A:H4'	83:EC:6850:C:O2	2.00	0.61
1:A:329:G:H5'	58:FB:99:ALA:HB3	1.82	0.61
1:A:396:G:H3'	58:FB:47:ARG:NH1	2.16	0.61
1:A:1494:C:H2'	1:A:1495:C:C5	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:631:U:H2'	2:B:632:G:C8	2.34	0.61
2:B:1147:G:HO2'	2:B:1170:A:H2	1.48	0.61
2:B:1513:G:O2'	2:B:1514:G:H5'	2.01	0.61
2:B:1768:U:C3'	2:B:1769:G:H5"	2.31	0.61
2:B:2429:G:H2'	2:B:2430:A:H8	1.65	0.61
2:B:3232:G:H2'	2:B:3233:C:C6	2.36	0.61
17:Q:24:VAL:HB	17:Q:26:PHE:CE2	2.34	0.61
26:Z:89:LEU:HB3	26:Z:93:ILE:HD12	1.81	0.61
45:SA:4:LYS:O	45:SA:7:LYS:HB3	2.00	0.61
49:WA:7:LEU:HG	49:WA:315:VAL:HA	1.82	0.61
54:BB:64:ILE:HD11	74:VB:18:LEU:HD21	1.82	0.61
57:EB:180:GLN:C	57:EB:181:ILE:HD12	2.21	0.61
66:NB:48:VAL:HG21	66:NB:81:ILE:HD11	1.82	0.61
69:QB:100:ILE:O	69:QB:104:VAL:HG23	1.99	0.61
80:BC:20:LYS:HE2	80:BC:21:VAL:N	2.16	0.61
82:DC:189:VAL:O	82:DC:193:ALA:HB2	2.00	0.61
82:DC:613:LYS:HA	82:DC:631:ARG:HG2	1.81	0.61
82:DC:728:VAL:HG21	82:DC:802:SER:HB3	1.82	0.61
1:A:341:A:H2'	1:A:342:C:C6	2.35	0.61
2:B:2681:U:H2'	2:B:2682:C:C6	2.35	0.61
4:D:11:A:H4'	4:D:13:A:C8	2.35	0.61
7:G:356:LEU:HD23	7:G:356:LEU:N	2.13	0.61
9:I:106:ALA:O	9:I:110:LEU:HB2	2.00	0.61
10:J:72:ASN:HD22	10:J:73:GLY:N	1.99	0.61
26:Z:96:VAL:HG12	26:Z:97:SER:N	2.16	0.61
32:FA:82:ILE:HD11	32:FA:102:ILE:HG12	1.82	0.61
50:XA:57:LEU:HG	50:XA:177:LEU:CD2	2.31	0.61
54:BB:91:THR:HG23	54:BB:98:ASN:HD21	1.65	0.61
65:MB:24:LYS:O	65:MB:28:MET:HB2	1.99	0.61
65:MB:87:PRO:HA	65:MB:90:ILE:HG13	1.81	0.61
82:DC:610:ASP:HB2	82:DC:615:ARG:HD3	1.81	0.61
1:A:1472:C:H2'	1:A:1535:U:O4	2.00	0.61
1:A:1533:C:H2'	1:A:1534:G:H8	1.65	0.61
1:A:1630:U:H2'	1:A:1632:C:H5	1.66	0.61
2:B:287:G:OP1	19:S:179:LYS:HD3	2.01	0.61
2:B:795:G:O2'	2:B:796:U:H5'	2.01	0.61
2:B:879:U:O2'	21:U:131:ARG:HB3	2.01	0.61
2:B:2563:G:H5"	12:L:27:THR:CG2	2.30	0.61
4:D:11:A:O2'	4:D:12:U:H3'	2.00	0.61
5:E:68:PHE:CE1	5:E:87:VAL:HA	2.35	0.61
7:G:51:ALA:HA	7:G:314:TYR:CD2	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:25:VAL:HA	8:H:276:LEU:HD11	1.81	0.61
9:I:257:GLU:CD	9:I:257:GLU:H	2.02	0.61
11:K:176:TYR:HB3	11:K:194:HIS:CG	2.35	0.61
19:S:112:ASN:O	19:S:113:LEU:HD22	2.01	0.61
24:X:38:LYS:CD	24:X:58:ILE:HD13	2.29	0.61
49:WA:177:MET:HB3	49:WA:179:LYS:NZ	2.14	0.61
49:WA:229:LYS:HA	53:AB:222:VAL:CG1	2.28	0.61
58:FB:21:PHE:O	58:FB:22:ARG:HG2	2.00	0.61
60:HB:58:GLN:O	60:HB:64:TYR:HA	2.00	0.61
65:MB:90:ILE:HA	65:MB:107:ILE:HB	1.83	0.61
65:MB:93:VAL:HA	65:MB:106:GLU:HA	1.81	0.61
82:DC:638:PRO:HA	82:DC:668:GLN:HE22	1.66	0.61
82:DC:655:TYR:C	82:DC:693:LEU:HD11	2.20	0.61
1:A:208:U:H2'	1:A:209:U:C6	2.35	0.61
1:A:401:A:H1'	54:BB:3:ARG:HH12	1.65	0.61
1:A:1099:U:H5"	72:TB:71:LYS:HZ3	1.65	0.61
1:A:1426:C:H3'	1:A:1427:A:H5"	1.82	0.61
1:A:1488:G:H3'	1:A:1515:A:N6	2.14	0.61
1:A:1500:C:H5"	69:QB:102:ARG:HD3	1.81	0.61
2:B:1661:G:H2'	2:B:1662:G:C8	2.36	0.61
2:B:2209:U:H3	2:B:2230:C:H5"	1.65	0.61
2:B:2317:A:C2'	2:B:2318:U:H5'	2.29	0.61
2:B:3060:C:H2'	2:B:3061:G:C8	2.36	0.61
3:C:37:A:H2'	3:C:37:A:N3	2.14	0.61
11:K:44:ILE:HG22	11:K:48:ASN:HD21	1.64	0.61
13:M:91:ARG:HD2	13:M:143:GLU:CB	2.31	0.61
14:N:85:PHE:HB3	14:N:140:THR:HG22	1.83	0.61
49:WA:179:LYS:HB3	49:WA:188:ILE:HD13	1.81	0.61
50:XA:52:LYS:HE3	71:SB:82:VAL:HG13	1.81	0.61
50:XA:98:ILE:HD11	50:XA:116:LYS:HG3	1.83	0.61
52:ZA:37:PRO:HD3	52:ZA:46:LYS:HD2	1.83	0.61
52:ZA:140:ARG:HG3	52:ZA:155:ALA:HB2	1.83	0.61
54:BB:150:PRO:CG	54:BB:151:ASP:H	2.13	0.61
56:DB:188:ARG:NH1	56:DB:188:ARG:HB2	2.16	0.61
63:KB:86:GLU:HG3	63:KB:87:ASP:H	1.64	0.61
67:OB:21:TYR:N	67:OB:22:PRO:CD	2.63	0.61
82:DC:162:ARG:O	82:DC:166:GLU:HB2	2.01	0.61
1:A:963:A:H4'	63:KB:128:TYR:OH	2.01	0.61
2:B:671:U:H2'	2:B:672:A:C8	2.35	0.61
2:B:1610:G:H2'	2:B:1611:G:O4'	2.01	0.61
2:B:1738:C:O2'	38:LA:52:GLN:HB2	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2419:A:H2'	2:B:2420:C:H6	1.65	0.61
7:G:4:ARG:O	7:G:5:LYS:HB3	2.01	0.61
13:M:44:THR:O	13:M:55:VAL:HA	2.00	0.61
18:R:39:ILE:HG22	18:R:40:ASP:N	2.16	0.61
29:CA:138:ARG:HG2	29:CA:138:ARG:HH21	1.66	0.61
47:UA:17:ARG:HH11	47:UA:18:TYR:HE1	1.49	0.61
52:ZA:237:VAL:HA	71:SB:33:GLN:HE22	1.64	0.61
56:DB:29:ASP:HA	56:DB:101:ILE:CG2	2.30	0.61
73:UB:104:LEU:HD23	73:UB:124:VAL:HA	1.83	0.61
74:VB:29:HIS:HB2	74:VB:32:ARG:CB	2.30	0.61
77:YB:33:LEU:O	77:YB:45:THR:HA	2.00	0.61
82:DC:152:LYS:HG3	82:DC:200:VAL:HG23	1.81	0.61
1:A:158:U:H2'	1:A:160:C:OP2	1.99	0.61
1:A:654:C:H3'	1:A:655:G:C5'	2.30	0.61
1:A:854:U:H2'	1:A:855:A:O4'	2.00	0.61
2:B:506:U:H2'	2:B:507:U:O4'	2.00	0.61
2:B:1231:A:O2'	2:B:1278:A:N6	2.33	0.61
2:B:2363:A:H1'	2:B:2376:G:N2	2.15	0.61
2:B:3165:A:N6	2:B:3285:C:H42	1.98	0.61
6:F:89:TYR:HB2	6:F:100:ASN:HD21	1.65	0.61
7:G:166:ILE:HD11	7:G:171:LEU:HD12	1.82	0.61
11:K:151:ARG:HH11	11:K:244:ASN:ND2	1.99	0.61
25:Y:89:LEU:HD13	25:Y:91:LEU:HD21	1.83	0.61
49:WA:64:HIS:NE2	49:WA:90:ARG:HG3	2.16	0.61
49:WA:108:SER:CB	49:WA:128:ASP:HB3	2.31	0.61
54:BB:68:ARG:HB3	54:BB:76:VAL:HG13	1.82	0.61
57:EB:8:ILE:HD13	57:EB:42:GLN:HA	1.83	0.61
73:UB:62:LYS:HG2	73:UB:116:ASP:O	2.00	0.61
73:UB:96:VAL:O	73:UB:97:ASP:HB2	2.00	0.61
82:DC:569:SER:H	82:DC:592:PRO:HG3	1.65	0.61
82:DC:714:TYR:O	82:DC:718:LEU:HD22	2.00	0.61
82:DC:809:LEU:CD1	82:DC:832:VAL:HB	2.30	0.61
1:A:170:U:H5'	1:A:267:U:H4'	1.82	0.61
1:A:300:A:H2'	1:A:301:A:C8	2.35	0.61
1:A:828:U:H2'	1:A:829:A:H5"	1.83	0.61
1:A:1042:G:H2'	1:A:1043:A:H5"	1.83	0.61
2:B:151:A:H5"	39:MA:102:GLU:CG	2.26	0.61
2:B:609:G:H3'	2:B:609:G:N3	2.16	0.61
2:B:1146:C:H4'	2:B:1331:U:C4	2.36	0.61
2:B:1566:A:H2	2:B:1573:G:N7	1.98	0.61
2:B:3267:A:H2'	10:J:69:PHE:CZ	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:89:VAL:O	7:G:104:THR:HG23	2.01	0.61
13:M:129:ARG:HD3	13:M:153:ASP:OD1	2.00	0.61
19:S:9:GLU:HG2	40:NA:41:ARG:HG2	1.82	0.61
29:CA:68:THR:CG2	39:MA:36:LEU:HD13	2.31	0.61
44:RA:97:ARG:HE	44:RA:122:ARG:HB3	1.66	0.61
49:WA:68:VAL:CG1	49:WA:82:SER:HB2	2.31	0.61
54:BB:182:TYR:HE2	54:BB:190:GLY:HA2	1.66	0.61
63:KB:64:ARG:HH11	63:KB:64:ARG:HG3	1.65	0.61
65:MB:25:LEU:HB3	65:MB:87:PRO:CG	2.27	0.61
65:MB:37:ALA:HB1	65:MB:38:PRO:HD2	1.83	0.61
68:PB:53:ASP:HB2	68:PB:56:LYS:HB2	1.82	0.61
70:RB:23:ARG:HA	70:RB:91:ILE:O	2.01	0.61
74:VB:60:PHE:HA	74:VB:70:VAL:O	2.00	0.61
82:DC:27:HIS:ND1	82:DC:28:VAL:HG12	2.15	0.61
83:EC:6767:G:H2'	83:EC:6768:U:H5"	1.83	0.61
1:A:292:U:H2'	1:A:293:U:O4'	2.01	0.61
1:A:431:C:H4'	82:DC:391:LYS:HG3	1.83	0.61
1:A:644:C:H2'	1:A:645:C:C6	2.36	0.61
2:B:597:G:OP1	11:K:37:ASN:HB3	2.01	0.61
2:B:1898:G:C2'	2:B:1899:G:H5'	2.30	0.61
9:I:47:PRO:HB2	9:I:66:SER:OG	2.01	0.61
11:K:96:PRO:HB2	11:K:99:PRO:HD2	1.82	0.61
11:K:181:ILE:HG23	11:K:182:ASP:H	1.65	0.61
12:L:202:GLU:O	12:L:203:VAL:HB	2.00	0.61
24:X:141:LYS:HA	24:X:144:LEU:HD12	1.82	0.61
31:EA:81:LEU:HD13	38:LA:93:PHE:HD2	1.65	0.61
32:FA:129:PHE:N	32:FA:129:PHE:HD2	1.99	0.61
33:GA:28:LYS:O	33:GA:29:TYR:HB2	2.00	0.61
36:JA:82:LEU:HD11	36:JA:117:ILE:HD12	1.81	0.61
39:MA:5:LYS:O	39:MA:9:LEU:HD23	2.01	0.61
52:ZA:44:LEU:HB3	52:ZA:49:LYS:HB2	1.83	0.61
56:DB:32:ILE:HD11	56:DB:63:MET:HB3	1.83	0.61
58:FB:97:THR:HA	58:FB:173:PRO:HG2	1.83	0.61
73:UB:56:LYS:HD3	73:UB:98:GLU:HG3	1.83	0.61
1:A:588:U:H2'	1:A:589:C:O4'	2.01	0.60
1:A:1012:U:O3'	6:F:245:LEU:HD22	2.01	0.60
1:A:1029:U:O2'	1:A:1030:A:H5'	2.01	0.60
1:A:1371:A:OP1	1:A:1371:A:H2'	2.01	0.60
2:B:151:A:C5'	39:MA:102:GLU:HG3	2.25	0.60
2:B:1203:A:N6	2:B:1300:G:H2'	2.15	0.60
2:B:1622:U:H2'	2:B:1623:G:C8	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2567:C:C3'	2:B:2568:C:H5"	2.31	0.60
2:B:3164:C:O2'	2:B:3165:A:H8	1.82	0.60
2:B:3317:U:H4'	2:B:3318:G:H5'	1.83	0.60
3:C:81:U:C4'	3:C:82:U:H5'	2.25	0.60
5:E:66:CYS:HB2	5:E:107:TYR:CD2	2.35	0.60
6:F:44:ILE:H	6:F:44:ILE:HD12	1.66	0.60
12:L:46:LEU:O	12:L:50:VAL:HG13	2.01	0.60
15:O:115:LYS:HG2	15:O:116:TYR:H	1.66	0.60
23:W:99:LEU:HD11	23:W:103:ARG:HD3	1.83	0.60
31:EA:4:PHE:CZ	34:HA:35:ARG:HA	2.35	0.60
36:JA:50:ILE:O	36:JA:50:ILE:HG13	2.01	0.60
49:WA:22:SER:HB3	49:WA:70:ASP:HA	1.82	0.60
50:XA:126:PRO:HG2	50:XA:151:SER:HB3	1.81	0.60
50:XA:170:ILE:HD12	50:XA:170:ILE:N	2.11	0.60
52:ZA:238:SER:HB3	52:ZA:241:ASP:OD2	2.01	0.60
53:AB:32:GLU:HG3	53:AB:57:ASP:CB	2.31	0.60
54:BB:31:PRO:HG2	54:BB:38:LEU:CD1	2.30	0.60
54:BB:123:LEU:HB3	54:BB:159:THR:OG1	2.01	0.60
55:CB:94:THR:HA	55:CB:114:ILE:HD11	1.83	0.60
55:CB:122:ASN:ND2	55:CB:129:PRO:HD3	2.16	0.60
56:DB:63:MET:HE1	56:DB:106:LEU:HD22	1.83	0.60
58:FB:42:ARG:O	58:FB:58:LEU:HB2	2.00	0.60
59:GB:59:LEU:HD22	59:GB:69:ARG:HA	1.82	0.60
65:MB:31:GLU:O	65:MB:34:VAL:HG22	2.01	0.60
83:EC:6836:U:H2'	83:EC:6837:G:C8	2.36	0.60
1:A:826:U:H2'	1:A:827:C:C6	2.35	0.60
1:A:1761:U:N3	83:EC:6950:C:H4'	2.15	0.60
2:B:2108:C:H1'	2:B:3344:A:H8	1.66	0.60
2:B:2259:A:H8	2:B:2260:U:C6	2.19	0.60
3:C:94:C:C5'	41:OA:76:ASN:HD21	2.10	0.60
6:F:251:LYS:HZ2	6:F:251:LYS:HA	1.65	0.60
11:K:151:ARG:HD2	11:K:207:LEU:HD23	1.81	0.60
11:K:222:HIS:ND1	11:K:223:PHE:N	2.48	0.60
14:N:75:TYR:CD1	14:N:151:GLY:HA2	2.36	0.60
17:Q:2:ALA:HB3	32:FA:41:HIS:CE1	2.36	0.60
19:S:142:ILE:N	19:S:142:ILE:HD12	2.16	0.60
21:U:64:ASN:HA	21:U:67:ILE:HD13	1.83	0.60
26:Z:33:TYR:CE1	26:Z:37:LEU:HD11	2.36	0.60
26:Z:85:LYS:HD3	26:Z:90:ARG:HG3	1.83	0.60
34:HA:40:LYS:HD3	34:HA:93:LEU:O	2.00	0.60
35:IA:29:ALA:HB3	35:IA:30:PRO:HD3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:MA:71:LYS:HE3	39:MA:72:GLY:N	2.17	0.60
41:OA:24:ARG:O	41:OA:25:ARG:HB2	2.01	0.60
42:PA:32:ASN:HB3	42:PA:38:PHE:CE2	2.36	0.60
48:VA:56:ASN:HA	48:VA:59:VAL:CG2	2.31	0.60
49:WA:35:SER:HA	49:WA:71:CYS:SG	2.41	0.60
52:ZA:176:SER:HB2	52:ZA:195:ASP:HB3	1.83	0.60
56:DB:4:ASN:HA	56:DB:15:THR:HG22	1.81	0.60
58:FB:152:ILE:HG21	58:FB:157:GLU:HB2	1.83	0.60
59:GB:108:ARG:O	59:GB:112:GLN:HG2	2.01	0.60
65:MB:81:ARG:HA	65:MB:116:LEU:HB2	1.83	0.60
82:DC:44:GLY:HA2	82:DC:77:LEU:CG	2.31	0.60
82:DC:655:TYR:CE2	82:DC:695:ALA:HA	2.37	0.60
1:A:1556:A:H1'	1:A:1560:U:OP2	2.01	0.60
2:B:1294:A:HO2'	2:B:1295:G:H8	1.50	0.60
2:B:1603:A:H2'	2:B:1604:G:H5'	1.83	0.60
32:FA:133:LEU:HD23	32:FA:137:LYS:HE2	1.82	0.60
39:MA:89:ARG:HH11	39:MA:89:ARG:CG	2.09	0.60
49:WA:47:LEU:HD23	49:WA:55:GLY:HA3	1.82	0.60
55:CB:121:ILE:CG2	55:CB:132:VAL:HG21	2.31	0.60
1:A:160:C:H2'	1:A:161:U:O4'	2.00	0.60
1:A:886:U:H2'	1:A:887:A:C8	2.36	0.60
2:B:80:G:H2'	2:B:81:C:C6	2.36	0.60
2:B:195:U:H2'	2:B:196:G:O4'	2.01	0.60
2:B:1783:U:H2'	2:B:1784:G:C8	2.36	0.60
2:B:1822:C:H2'	2:B:1823:A:H8	1.64	0.60
2:B:2256:A:H1'	82:DC:580:PRO:HB3	1.82	0.60
2:B:2681:U:H2'	2:B:2682:C:H6	1.66	0.60
2:B:2880:U:H1'	7:G:250:ALA:HB3	1.83	0.60
2:B:3180:A:C5'	20:T:116:LYS:HB2	2.32	0.60
10:J:40:LEU:HB3	10:J:84:VAL:HG13	1.84	0.60
17:Q:54:LEU:HD12	17:Q:75:PHE:CZ	2.36	0.60
32:FA:90:TYR:CD1	32:FA:100:PRO:HG3	2.36	0.60
37:KA:18:ARG:HB3	37:KA:23:ASN:HA	1.82	0.60
39:MA:86:ARG:NH1	39:MA:90:ARG:HH12	1.99	0.60
48:VA:104:ARG:O	48:VA:104:ARG:HD3	2.01	0.60
52:ZA:122:ALA:HA	52:ZA:125:ILE:HD12	1.83	0.60
66:NB:140:LYS:HE2	66:NB:142:TYR:CE1	2.36	0.60
77:YB:12:ALA:HA	77:YB:15:GLU:HB3	1.84	0.60
83:EC:6808:G:H1'	83:EC:6809:G:OP1	2.01	0.60
1:A:1524:A:C2	1:A:1590:G:H1'	2.36	0.60
2:B:355:A:H5'	43:QA:40:LYS:HD2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:528:U:H2'	2:B:529:A:H8	1.63	0.60
2:B:1347:U:H2'	2:B:1355:A:N6	2.17	0.60
2:B:1565:G:N2	2:B:1574:C:N4	2.49	0.60
2:B:1774:C:H2'	2:B:1775:G:H5"	1.82	0.60
2:B:3006:A:H2'	2:B:3007:U:O4'	2.00	0.60
2:B:3117:C:C2'	2:B:3118:C:H5'	2.32	0.60
5:E:191:VAL:CG2	5:E:197:ASN:HD21	2.12	0.60
9:I:41:LYS:HB3	25:Y:67:VAL:CG1	2.31	0.60
18:R:103:ILE:HA	18:R:106:ARG:NH1	2.16	0.60
23:W:68:GLN:HA	23:W:71:ARG:HD2	1.83	0.60
29:CA:59:SER:O	29:CA:63:ILE:HG22	2.02	0.60
31:EA:21:LYS:HE2	31:EA:21:LYS:N	2.15	0.60
38:LA:8:ARG:HD2	38:LA:31:ARG:HG3	1.81	0.60
39:MA:58:ILE:O	39:MA:62:GLN:HG3	2.02	0.60
41:OA:14:LYS:HE2	43:QA:51:ILE:CD1	2.31	0.60
41:OA:18:LEU:HD11	43:QA:51:ILE:HG21	1.83	0.60
49:WA:169:ILE:O	49:WA:180:ALA:HA	2.01	0.60
52:ZA:137:ILE:CG1	52:ZA:138:PRO:HD2	2.32	0.60
56:DB:88:ARG:HB3	56:DB:91:GLU:CB	2.29	0.60
58:FB:112:TRP:O	58:FB:116:HIS:HB2	2.02	0.60
59:GB:32:GLY:HA3	80:BC:40:TYR:CD1	2.37	0.60
75:WB:62:VAL:O	75:WB:66:VAL:HG23	2.01	0.60
1:A:66:U:C1'	56:DB:160:ARG:HH21	2.11	0.60
1:A:182:A:H2'	1:A:183:U:C6	2.37	0.60
2:B:1564:U:H2'	2:B:1565:G:O4'	2.00	0.60
2:B:3041:U:H2'	2:B:3042:U:C6	2.37	0.60
6:F:117:GLU:OE1	6:F:163:ARG:HB2	2.00	0.60
11:K:242:SER:C	11:K:244:ASN:H	2.05	0.60
12:L:152:LEU:HD12	12:L:152:LEU:N	2.16	0.60
15:O:156:LYS:O	15:O:160:VAL:HG23	2.02	0.60
32:FA:21:ARG:NH1	36:JA:38:ILE:HG23	2.16	0.60
48:VA:27:VAL:HG13	48:VA:84:VAL:HG11	1.83	0.60
48:VA:119:ILE:O	48:VA:157:LYS:HA	2.02	0.60
52:ZA:129:ILE:O	52:ZA:133:LYS:HG2	2.02	0.60
54:BB:68:ARG:HD3	54:BB:76:VAL:HG11	1.82	0.60
58:FB:159:GLN:HB2	58:FB:165:LEU:HD23	1.84	0.60
61:IB:35:TYR:CD2	61:IB:49:ILE:HG23	2.37	0.60
66:NB:82:ARG:HH22	66:NB:116:LEU:CD1	2.14	0.60
66:NB:103:ASN:HA	66:NB:106:LYS:NZ	2.16	0.60
73:UB:56:LYS:HE3	80:BC:8:LEU:CD1	2.32	0.60
73:UB:89:ASN:HB2	73:UB:92:CYS:SG	2.42	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:151:G:H21	56:DB:13:GLN:NE2	1.99	0.60
1:A:1426:C:O2'	1:A:1428:G:H5'	2.01	0.60
1:A:1672:G:H2'	1:A:1673:G:C8	2.36	0.60
2:B:250:U:C5'	2:B:251:G:H5"	2.31	0.60
2:B:916:G:N1	6:F:207:VAL:HG11	2.16	0.60
2:B:975:C:P	22:V:16:ARG:HG3	2.42	0.60
2:B:1242:G:N2	82:DC:753:GLN:HA	2.16	0.60
2:B:2549:G:O2'	2:B:2550:U:H5'	2.02	0.60
2:B:2875:U:O2	2:B:2875:U:H2'	2.02	0.60
2:B:3309:G:H2'	2:B:3310:A:H5'	1.84	0.60
12:L:57:ARG:O	12:L:61:GLN:HG3	2.02	0.60
13:M:90:MET:HG2	13:M:181:VAL:CA	2.25	0.60
13:M:90:MET:SD	13:M:181:VAL:HG22	2.42	0.60
18:R:21:VAL:HB	18:R:63:VAL:HG22	1.83	0.60
21:U:60:PHE:HB3	21:U:64:ASN:HB3	1.83	0.60
26:Z:37:LEU:O	26:Z:41:ILE:HG13	2.02	0.60
31:EA:103:GLN:O	31:EA:107:ARG:HG3	2.02	0.60
34:HA:43:ILE:HG22	34:HA:68:TYR:O	2.02	0.60
35:IA:76:SER:OG	35:IA:92:TYR:HB3	2.01	0.60
41:OA:5:THR:HA	41:OA:8:PHE:HD2	1.66	0.60
53:AB:29:LEU:HB2	53:AB:34:TYR:HB2	1.82	0.60
60:HB:1:MET:HE1	60:HB:41:TYR:O	2.02	0.60
61:IB:68:GLY:HA3	61:IB:127:GLN:HB3	1.82	0.60
82:DC:220:PHE:HB3	82:DC:328:LEU:HD13	1.82	0.60
1:A:32:U:C2'	1:A:33:U:H5'	2.31	0.60
1:A:57:G:H2'	1:A:58:U:C6	2.37	0.60
2:B:1781:C:H2'	2:B:1782:U:C6	2.37	0.60
2:B:2445:A:H61	2:B:2501:U:H3	1.49	0.60
2:B:2525:G:H2'	6:F:34:TYR:CE1	2.37	0.60
2:B:2552:C:O2'	34:HA:50:VAL:HG11	2.00	0.60
2:B:2855:U:H2'	2:B:2856:G:O4'	2.01	0.60
5:E:94:ASN:HD21	5:E:124:LEU:HA	1.67	0.60
13:M:172:ILE:HD13	13:M:172:ILE:H	1.65	0.60
14:N:216:TYR:O	14:N:217:PHE:HB2	2.02	0.60
18:R:123:LEU:HB2	20:T:194:LEU:HD21	1.84	0.60
26:Z:10:LYS:HE2	26:Z:10:LYS:HA	1.83	0.60
29:CA:131:ASP:O	29:CA:135:ILE:HG22	2.01	0.60
30:DA:45:ILE:HG22	30:DA:46:LYS:N	2.17	0.60
30:DA:50:ILE:HD12	30:DA:80:VAL:HG21	1.84	0.60
30:DA:109:LEU:HD22	30:DA:115:ARG:NH1	2.16	0.60
48:VA:24:SER:HB2	48:VA:89:THR:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:ZA:107:SER:HA	52:ZA:192:GLY:HA2	1.84	0.60
54:BB:180:LEU:HD23	54:BB:194:THR:H	1.66	0.60
79:AC:23:VAL:HG23	79:AC:38:ILE:HD12	1.83	0.60
83:EC:6787:U:H2'	83:EC:6788:C:H4'	1.82	0.60
1:A:804:A:C8	72:TB:107:SER:HA	2.37	0.60
1:A:960:U:H2'	1:A:961:U:H6	1.65	0.60
1:A:1579:U:O2'	66:NB:139:GLN:HA	2.01	0.60
1:A:1727:G:H2'	1:A:1728:A:C8	2.36	0.60
2:B:3078:U:H2'	2:B:3078:U:O2	2.01	0.60
3:C:78:G:H2'	3:C:79:A:O4'	2.02	0.60
11:K:44:ILE:HG22	11:K:48:ASN:ND2	2.17	0.60
17:Q:74:GLY:HA3	17:Q:98:ASP:N	2.16	0.60
17:Q:74:GLY:CA	17:Q:98:ASP:HB2	2.29	0.60
22:V:54:LEU:HB3	22:V:58:ASN:HB2	1.84	0.60
22:V:89:ASP:HB2	22:V:110:ALA:N	2.16	0.60
26:Z:38:ILE:O	26:Z:50:LEU:HD11	2.02	0.60
27:AA:26:ALA:HB2	27:AA:80:ARG:HH22	1.66	0.60
52:ZA:140:ARG:HB2	52:ZA:222:TYR:CG	2.36	0.60
55:CB:163:SER:CB	78:ZB:48:VAL:HG22	2.31	0.60
57:EB:168:SER:O	57:EB:172:VAL:HG23	2.02	0.60
61:IB:97:TYR:O	61:IB:99:ARG:HG3	2.01	0.60
74:VB:86:GLU:HB3	74:VB:91:LEU:HD21	1.83	0.60
75:WB:61:SER:H	75:WB:64:VAL:HB	1.67	0.60
77:YB:35:VAL:HG22	77:YB:79:PHE:HB2	1.83	0.60
80:BC:47:VAL:HG22	80:BC:48:THR:H	1.66	0.60
82:DC:405:VAL:CG1	82:DC:448:CYS:HB3	2.30	0.60
1:A:197:A:N6	58:FB:141:ARG:HH22	1.97	0.60
2:B:192:C:H2'	2:B:193:C:C6	2.36	0.60
2:B:1220:U:H1'	2:B:1222:G:C2	2.37	0.60
2:B:1720:U:C4	23:W:124:TYR:CE2	2.90	0.60
9:I:134:ALA:HB2	9:I:141:PRO:HD3	1.82	0.60
11:K:75:TYR:HB2	25:Y:141:VAL:CG2	2.32	0.60
14:N:169:LYS:O	14:N:177:ASP:HA	2.02	0.60
17:Q:3:ILE:HD11	32:FA:34:MET:HA	1.84	0.60
19:S:73:ARG:HB3	19:S:75:VAL:HG22	1.83	0.60
25:Y:88:ARG:NH2	33:GA:34:GLY:H	2.00	0.60
29:CA:105:VAL:HG11	29:CA:126:LEU:CD2	2.31	0.60
34:HA:30:THR:HG21	34:HA:89:VAL:HG22	1.83	0.60
38:LA:5:VAL:HG21	38:LA:32:ALA:N	2.17	0.60
49:WA:91:LEU:HB3	49:WA:100:TYR:HB2	1.83	0.60
49:WA:214:ALA:HB1	49:WA:240:VAL:HB	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:201:HIS:NE2	54:BB:207:LEU:HG	2.17	0.60
59:GB:28:LEU:HD12	80:BC:44:PHE:HD2	1.66	0.60
59:GB:87:SER:OG	59:GB:90:LYS:HB2	2.01	0.60
59:GB:140:ILE:HD12	74:VB:65:GLY:HA2	1.83	0.60
63:KB:99:ARG:NE	63:KB:143:SER:HB3	2.17	0.60
66:NB:83:GLN:HE21	66:NB:87:LYS:HD2	1.66	0.60
70:RB:30:LYS:HB2	70:RB:33:GLN:HB2	1.83	0.60
74:VB:109:LYS:HA	74:VB:112:LYS:HB3	1.83	0.60
74:VB:121:THR:HG21	74:VB:123:LYS:HE3	1.84	0.60
1:A:211:U:H5"	61:IB:20:PHE:HB2	1.84	0.59
1:A:806:A:C3'	1:A:807:A:H5"	2.31	0.59
1:A:1429:G:H2'	1:A:1430:U:C6	2.37	0.59
1:A:1558:U:H4'	68:PB:135:GLY:HA3	1.84	0.59
2:B:80:G:H2'	2:B:81:C:H6	1.66	0.59
2:B:353:G:N2	2:B:364:G:H2'	2.17	0.59
2:B:1256:G:H4'	16:P:127:SER:HB2	1.84	0.59
2:B:1348:U:H4'	2:B:1349:G:C5'	2.32	0.59
2:B:1446:A:H5"	21:U:65:SER:OG	2.02	0.59
2:B:1471:U:H4'	23:W:4:LEU:H	1.67	0.59
2:B:1566:A:C2	2:B:1573:G:N7	2.69	0.59
2:B:1804:A:H4'	38:LA:71:THR:CG2	2.31	0.59
2:B:2108:C:H1'	2:B:3344:A:C8	2.37	0.59
13:M:86:TYR:O	13:M:147:SER:HA	2.02	0.59
26:Z:50:LEU:HD23	26:Z:54:VAL:HG21	1.83	0.59
30:DA:51:ARG:HG3	30:DA:54:ASP:OD2	2.02	0.59
39:MA:59:ASN:HD21	39:MA:63:ARG:HD2	1.67	0.59
52:ZA:57:PHE:CZ	52:ZA:138:PRO:HD3	2.37	0.59
54:BB:182:TYR:HB2	54:BB:228:ILE:HD13	1.84	0.59
55:CB:200:ASN:O	55:CB:205:SER:HB2	2.02	0.59
57:EB:30:SER:O	57:EB:31:SER:HB2	2.01	0.59
57:EB:98:ILE:HG21	57:EB:118:LEU:HD23	1.84	0.59
61:IB:56:LYS:O	61:IB:64:VAL:HG13	2.02	0.59
69:QB:37:VAL:HG22	69:QB:39:THR:H	1.67	0.59
82:DC:28:VAL:HA	82:DC:108:HIS:H	1.67	0.59
82:DC:633:ILE:HG22	82:DC:647:ILE:CD1	2.30	0.59
1:A:430:G:H2'	1:A:431:C:H6	1.67	0.59
1:A:1590:G:H2'	1:A:1591:C:C6	2.37	0.59
2:B:941:G:O2'	2:B:942:U:H5'	2.02	0.59
2:B:1108:U:H2'	2:B:1109:U:C6	2.37	0.59
2:B:1328:C:H5"	37:KA:75:HIS:CE1	2.37	0.59
2:B:2191:U:H2'	2:B:2192:C:O4'	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3163:A:C3'	2:B:3164:C:H5"	2.32	0.59
13:M:28:VAL:HG22	13:M:33:THR:HG23	1.84	0.59
15:O:65:ILE:HG23	15:O:66:ALA:N	2.17	0.59
17:Q:46:ILE:HG23	17:Q:49:ARG:HB2	1.83	0.59
39:MA:57:VAL:O	39:MA:61:GLN:HG3	2.02	0.59
47:UA:49:ARG:HB2	47:UA:55:TRP:CE3	2.37	0.59
49:WA:21:THR:HB	49:WA:69:GLN:NE2	2.17	0.59
50:XA:17:LEU:HA	50:XA:172:LEU:HD21	1.84	0.59
53:AB:113:LEU:HD23	53:AB:114:ALA:N	2.17	0.59
54:BB:159:THR:CG2	54:BB:173:ILE:HB	2.27	0.59
54:BB:221:ARG:H	54:BB:224:ASN:HD22	1.50	0.59
73:UB:103:LEU:HD13	73:UB:104:LEU:N	2.17	0.59
82:DC:244:LEU:HD23	82:DC:272:ALA:HB1	1.82	0.59
1:A:730:G:N2	1:A:731:C:H5"	2.15	0.59
1:A:840:U:HO2'	1:A:841:U:H6	1.48	0.59
1:A:1554:U:H2'	1:A:1555:A:O4'	2.03	0.59
1:A:1606:C:H2'	1:A:1607:G:C8	2.37	0.59
2:B:255:A:H2'	2:B:256:G:H8	1.63	0.59
2:B:551:A:HO2'	2:B:552:G:H8	1.48	0.59
2:B:629:U:H2'	2:B:630:A:C8	2.37	0.59
2:B:1234:G:O2'	16:P:132:ILE:HD13	2.02	0.59
2:B:1334:U:H2'	2:B:1335:C:C6	2.37	0.59
2:B:1591:G:C2'	2:B:1592:G:H5'	2.32	0.59
11:K:143:THR:HG21	11:K:237:ASN:HA	1.84	0.59
18:R:123:LEU:HD13	20:T:193:GLN:HB3	1.85	0.59
22:V:30:VAL:HG22	22:V:52:LEU:HD12	1.83	0.59
38:LA:65:VAL:O	38:LA:70:LYS:HE2	2.02	0.59
42:PA:8:ILE:HD13	42:PA:65:LEU:HD11	1.84	0.59
49:WA:85:TRP:HA	49:WA:109:ASP:HB3	1.84	0.59
74:VB:91:LEU:HD22	74:VB:96:LEU:HB2	1.83	0.59
82:DC:271:ARG:HB3	82:DC:274:ASN:ND2	2.17	0.59
82:DC:338:ILE:HA	82:DC:342:LEU:HD12	1.84	0.59
82:DC:388:THR:C	82:DC:390:ASP:H	2.06	0.59
82:DC:588:LEU:HD23	82:DC:688:ILE:HG23	1.84	0.59
1:A:138:A:N6	1:A:266:A:N6	2.47	0.59
1:A:186:C:H2'	1:A:187:G:O4'	2.02	0.59
1:A:304:U:H2'	1:A:305:C:C6	2.36	0.59
1:A:765:G:H1'	1:A:768:C:OP1	2.01	0.59
1:A:1315:U:H5"	1:A:1329:A:N3	2.17	0.59
1:A:1480:G:H4'	69:QB:11:ALA:HB3	1.84	0.59
2:B:2086:A:H5"	2:B:2087:C:H5'	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2842:U:H5	2:B:2843:U:C5	2.21	0.59
3:C:81:U:H4'	3:C:82:U:C5'	2.23	0.59
10:J:139:LYS:HA	10:J:142:ASP:HB3	1.83	0.59
11:K:208:SER:O	11:K:243:MET:HB3	2.03	0.59
18:R:23:ILE:HG13	18:R:31:LYS:O	2.03	0.59
19:S:121:VAL:HG23	19:S:122:ASN:N	2.17	0.59
21:U:64:ASN:HA	21:U:67:ILE:CD1	2.32	0.59
24:X:9:VAL:CG1	24:X:61:ILE:HD13	2.32	0.59
29:CA:63:ILE:HD13	29:CA:64:GLU:N	2.18	0.59
34:HA:52:ARG:HG3	34:HA:52:ARG:HH11	1.67	0.59
38:LA:3:GLN:HG2	38:LA:30:LEU:HB3	1.83	0.59
41:OA:25:ARG:HG3	43:QA:50:ASN:O	2.01	0.59
50:XA:22:THR:HG21	50:XA:173:ILE:HD11	1.83	0.59
52:ZA:144:TRP:CE2	52:ZA:173:PRO:HG3	2.36	0.59
53:AB:168:ILE:HA	53:AB:189:MET:HA	1.85	0.59
57:EB:86:GLN:O	57:EB:87:ASP:HB3	2.00	0.59
59:GB:163:PRO:HB3	59:GB:169:PRO:HA	1.83	0.59
61:IB:27:THR:HG21	61:IB:29:LYS:HZ3	1.67	0.59
82:DC:218:TRP:CB	82:DC:324:MET:HB3	2.32	0.59
83:EC:6947:A:N3	83:EC:6949:G:H5'	2.17	0.59
1:A:572:C:H2'	1:A:573:C:C6	2.38	0.59
2:B:114:A:H2'	2:B:115:A:O4'	2.02	0.59
2:B:289:A:H2'	2:B:290:G:C8	2.36	0.59
2:B:2344:U:H2'	2:B:2345:A:H8	1.66	0.59
2:B:2445:A:N6	2:B:2501:U:H3	2.00	0.59
2:B:3302:U:O2'	2:B:3303:G:H5'	2.03	0.59
9:I:278:SER:OG	9:I:281:GLU:HG3	2.02	0.59
11:K:75:TYR:HB2	25:Y:141:VAL:HG23	1.84	0.59
17:Q:102:GLN:HB2	17:Q:104:ARG:HH12	1.67	0.59
24:X:38:LYS:O	24:X:41:TYR:HB3	2.03	0.59
26:Z:42:LYS:HG2	26:Z:47:VAL:HG13	1.85	0.59
34:HA:73:GLY:H	34:HA:76:GLU:HG2	1.67	0.59
36:JA:76:VAL:HG21	36:JA:94:ALA:HB1	1.84	0.59
37:KA:20:LYS:HG2	37:KA:21:ARG:NH1	2.17	0.59
49:WA:129:LYS:HB3	49:WA:149:ASP:O	2.02	0.59
50:XA:170:ILE:H	50:XA:170:ILE:CD1	2.07	0.59
52:ZA:178:ILE:HD13	52:ZA:188:LEU:HB3	1.83	0.59
53:AB:138:VAL:HG22	53:AB:184:ILE:HD13	1.85	0.59
55:CB:120:ILE:HG12	75:WB:100:ILE:HG13	1.85	0.59
55:CB:175:LEU:HD23	55:CB:210:ALA:HB2	1.85	0.59
58:FB:88:ASN:O	58:FB:91:VAL:HB	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:GB:163:PRO:C	59:GB:165:GLY:H	2.05	0.59
60:HB:72:GLY:O	60:HB:76:LEU:HD23	2.02	0.59
70:RB:23:ARG:HB3	70:RB:117:VAL:CG1	2.33	0.59
82:DC:243:ARG:NH2	82:DC:257:TRP:HB2	2.18	0.59
82:DC:727:PRO:HD2	82:DC:774:VAL:HG21	1.83	0.59
2:B:1601:U:C5	23:W:38:ARG:NH1	2.70	0.59
2:B:1717:U:H2'	2:B:1718:G:C8	2.38	0.59
2:B:2157:G:C4	6:F:150:LEU:HD22	2.38	0.59
2:B:2544:U:H2'	2:B:2545:C:C6	2.38	0.59
7:G:84:VAL:HG12	7:G:162:VAL:HB	1.85	0.59
7:G:283:TYR:CZ	7:G:325:LYS:HB2	2.38	0.59
10:J:30:LEU:H	10:J:30:LEU:HD23	1.66	0.59
13:M:17:THR:OG1	13:M:28:VAL:HB	2.03	0.59
14:N:183:LYS:HB2	14:N:183:LYS:NZ	2.17	0.59
16:P:58:VAL:O	16:P:58:VAL:HG12	2.02	0.59
23:W:115:ILE:HD11	23:W:120:TYR:CA	2.33	0.59
31:EA:25:ILE:HA	31:EA:43:VAL:CG1	2.32	0.59
49:WA:163:ASP:OD1	49:WA:167:VAL:HG22	2.03	0.59
53:AB:138:VAL:HG22	53:AB:184:ILE:CD1	2.33	0.59
66:NB:10:PHE:HE1	66:NB:12:LYS:HE2	1.65	0.59
73:UB:127:VAL:O	73:UB:130:VAL:HG22	2.02	0.59
1:A:973:A:H2'	1:A:974:A:H8	1.66	0.59
1:A:1549:C:OP2	65:MB:38:PRO:HA	2.02	0.59
2:B:1740:U:H4'	2:B:1741:A:C5'	2.32	0.59
2:B:2452:G:C8	2:B:2461:A:H5"	2.37	0.59
2:B:2553:U:H5"	6:F:87:PHE:HE2	1.68	0.59
2:B:2719:U:H2'	2:B:2720:G:C8	2.36	0.59
5:E:194:LEU:HD22	5:E:196:LYS:HE2	1.85	0.59
8:H:99:MET:HE3	8:H:103:THR:HG23	1.85	0.59
8:H:238:LEU:O	8:H:246:ARG:HB2	2.02	0.59
14:N:91:VAL:CG2	14:N:135:ILE:HA	2.33	0.59
17:Q:114:GLN:OE1	17:Q:114:GLN:HA	2.02	0.59
22:V:33:TYR:HA	22:V:36:LEU:HD12	1.84	0.59
24:X:155:ARG:O	24:X:170:THR:HG22	2.02	0.59
27:AA:36:ILE:HG12	27:AA:58:VAL:HG21	1.85	0.59
48:VA:107:ALA:C	48:VA:179:SER:HB2	2.23	0.59
50:XA:140:ASN:OD1	71:SB:29:HIS:HA	2.03	0.59
54:BB:121:TYR:H	54:BB:164:LEU:HD12	1.68	0.59
54:BB:191:ARG:HH11	54:BB:245:LYS:HB3	1.68	0.59
55:CB:161:ASP:O	78:ZB:44:VAL:HA	2.03	0.59
59:GB:79:ARG:O	59:GB:83:VAL:HG13	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:TB:88:LYS:O	72:TB:92:ASN:HB2	2.02	0.59
82:DC:617:ARG:NH2	82:DC:627:VAL:HG11	2.18	0.59
83:EC:6819:G:H2'	83:EC:6819:G:N3	2.16	0.59
1:A:204:G:H2'	1:A:205:U:O4'	2.03	0.59
1:A:517:U:O2	1:A:535:A:H2	1.86	0.59
1:A:1735:U:H2'	1:A:1736:G:C8	2.38	0.59
2:B:912:G:C2	2:B:914:A:C2	2.90	0.59
2:B:1190:A:H5'	2:B:1191:U:OP1	2.02	0.59
2:B:1913:A:N3	2:B:2120:A:H2'	2.18	0.59
2:B:1932:A:H2'	2:B:1933:A:H5'	1.85	0.59
2:B:1955:U:H2'	2:B:1956:A:O4'	2.03	0.59
2:B:2408:U:C2'	2:B:2409:G:H5'	2.32	0.59
2:B:3153:U:H3	2:B:3293:U:H3	1.50	0.59
7:G:161:LEU:CD2	7:G:180:GLU:HG2	2.33	0.59
23:W:123:LEU:HD22	23:W:138:LEU:HD21	1.85	0.59
32:FA:73:LEU:HB2	32:FA:109:TYR:CD2	2.38	0.59
38:LA:102:LYS:HB2	38:LA:102:LYS:NZ	2.17	0.59
53:AB:40:ARG:NE	70:RB:110:PRO:HB3	2.18	0.59
53:AB:49:ILE:H	53:AB:49:ILE:HD12	1.68	0.59
54:BB:100:ARG:NH1	54:BB:236:ILE:HG22	2.18	0.59
54:BB:125:LYS:HA	54:BB:159:THR:HA	1.85	0.59
59:GB:66:ASP:O	59:GB:70:LEU:HG	2.02	0.59
80:BC:50:VAL:HA	80:BC:53:LYS:O	2.03	0.59
82:DC:135:VAL:HG11	82:DC:185:VAL:HG22	1.85	0.59
82:DC:454:ILE:HG13	82:DC:455:GLY:H	1.68	0.59
1:A:62:A:H4'	1:A:269:G:H4'	1.84	0.59
1:A:271:A:H61	56:DB:185:GLN:HE22	1.50	0.59
1:A:562:G:N2	80:BC:14:VAL:HG11	2.16	0.59
1:A:1179:G:H21	1:A:1460:A:H61	1.51	0.59
2:B:355:A:H5'	43:QA:40:LYS:CD	2.33	0.59
2:B:784:A:H1'	22:V:65:SER:OG	2.03	0.59
2:B:916:G:H5'	2:B:917:A:OP1	2.03	0.59
2:B:1740:U:H4'	2:B:1741:A:H5"	1.83	0.59
2:B:2230:C:H2'	2:B:2231:C:H5'	1.85	0.59
2:B:2909:U:H2'	2:B:2910:A:H5"	1.84	0.59
2:B:3149:G:H4'	7:G:130:PHE:CE1	2.37	0.59
8:H:106:TRP:CZ2	17:Q:19:GLN:HG2	2.38	0.59
11:K:150:LYS:HG2	11:K:244:ASN:ND2	2.17	0.59
12:L:152:LEU:HD23	12:L:180:VAL:HB	1.85	0.59
20:T:73:PHE:HB3	20:T:78:ARG:HB3	1.83	0.59
22:V:40:THR:O	22:V:41:ASP:HB3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DA:3:LYS:HE2	30:DA:8:VAL:HG13	1.85	0.59
38:LA:74:ARG:HG2	38:LA:74:ARG:HH11	1.67	0.59
48:VA:25:LEU:HD23	48:VA:26:PHE:N	2.18	0.59
50:XA:168:HIS:HB3	50:XA:203:PHE:CZ	2.38	0.59
52:ZA:52:THR:O	52:ZA:55:GLU:HG2	2.03	0.59
58:FB:151:LYS:O	58:FB:151:LYS:HD3	2.02	0.59
63:KB:100:LYS:O	63:KB:104:ARG:HG3	2.03	0.59
68:PB:46:VAL:HG21	68:PB:73:MET:HG2	1.85	0.59
83:EC:6936:G:H2'	83:EC:6937:G:C8	2.37	0.59
1:A:75:U:O2	1:A:76:A:H5"	2.03	0.59
1:A:252:U:H5'	54:BB:131:LEU:O	2.03	0.59
1:A:460:A:H2'	54:BB:27:TYR:OH	2.02	0.59
1:A:648:G:H2'	1:A:649:U:C6	2.37	0.59
1:A:686:C:H2'	1:A:687:G:C8	2.37	0.59
1:A:856:A:C6	57:EB:96:ARG:HB3	2.38	0.59
1:A:925:G:H2'	1:A:926:A:C8	2.38	0.59
2:B:183:G:H2'	2:B:184:U:C6	2.38	0.59
2:B:595:G:N1	2:B:609:G:H5"	2.17	0.59
5:E:179:LEU:O	5:E:183:ILE:HG12	2.02	0.59
9:I:65:ILE:HG21	9:I:72:ASP:HB3	1.83	0.59
11:K:152:GLY:O	11:K:163:LEU:HG	2.03	0.59
13:M:23:ARG:HH21	13:M:42:ASP:H	1.50	0.59
13:M:180:TYR:CD2	44:RA:86:ALA:HA	2.38	0.59
14:N:17:TYR:HD2	14:N:96:VAL:HB	1.68	0.59
19:S:146:ALA:HB2	39:MA:99:GLN:O	2.02	0.59
22:V:18:ALA:HB1	22:V:19:PRO:HD2	1.85	0.59
24:X:10:ILE:HD13	25:Y:148:PRO:HB3	1.84	0.59
24:X:11:GLY:HA2	24:X:59:VAL:HG23	1.84	0.59
28:BA:20:LEU:HD23	28:BA:20:LEU:C	2.24	0.59
30:DA:33:ALA:O	30:DA:47:ALA:HB1	2.02	0.59
56:DB:31:ARG:H	56:DB:34:GLN:NE2	2.01	0.59
57:EB:30:SER:O	57:EB:32:PRO:HD2	2.03	0.59
58:FB:4:SER:OG	58:FB:24:LYS:HD2	2.03	0.59
58:FB:78:ILE:HG22	58:FB:80:GLY:H	1.67	0.59
72:TB:86:ILE:HD12	72:TB:87:GLU:N	2.18	0.59
1:A:602:U:H2'	1:A:603:U:C6	2.38	0.58
1:A:1443:U:O3'	1:A:1444:A:H8	1.86	0.58
2:B:544:C:H2'	2:B:547:G:N2	2.17	0.58
2:B:660:A:H5"	8:H:100:PHE:CD1	2.38	0.58
2:B:3206:C:C5'	2:B:3207:U:H5"	2.27	0.58
4:D:4:U:H2'	4:D:5:G:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:6:C:H2'	4:D:7:G:O4'	2.02	0.58
7:G:296:THR:C	7:G:298:PHE:H	2.06	0.58
8:H:302:ALA:HA	22:V:39:ARG:NH1	2.15	0.58
9:I:245:GLU:HA	9:I:248:ARG:HB2	1.85	0.58
11:K:80:GLN:HE22	25:Y:136:ARG:NH1	2.00	0.58
11:K:83:LEU:HD12	11:K:139:PRO:CG	2.33	0.58
12:L:135:GLY:O	12:L:139:VAL:HG23	2.02	0.58
13:M:100:ASN:HD22	13:M:115:ARG:HG3	1.67	0.58
13:M:129:ARG:HD2	13:M:157:ASN:HB2	1.86	0.58
19:S:47:LYS:HA	19:S:50:ARG:HG2	1.85	0.58
19:S:93:LYS:O	19:S:94:TYR:HB3	2.02	0.58
23:W:24:LEU:H	23:W:24:LEU:HD12	1.68	0.58
24:X:42:TRP:CZ2	24:X:58:ILE:HG13	2.38	0.58
27:AA:39:VAL:HG22	27:AA:52:ALA:HB2	1.85	0.58
42:PA:31:LEU:CD2	42:PA:35:GLY:H	2.11	0.58
48:VA:132:LYS:O	48:VA:135:PHE:HB2	2.02	0.58
53:AB:195:SER:HB3	53:AB:199:PRO:O	2.03	0.58
55:CB:23:VAL:HG13	66:NB:57:LEU:HB2	1.85	0.58
56:DB:30:LYS:O	56:DB:102:VAL:HG23	2.03	0.58
57:EB:11:GLN:HG3	57:EB:12:ALA:H	1.68	0.58
68:PB:92:ILE:HG23	68:PB:93:THR:N	2.17	0.58
82:DC:288:ILE:HG21	82:DC:320:LEU:HG	1.83	0.58
82:DC:426:LEU:HG	82:DC:428:ILE:HD11	1.85	0.58
1:A:564:G:C2	1:A:578:U:H4'	2.38	0.58
1:A:865:A:H2'	1:A:866:G:O4'	2.03	0.58
1:A:1175:U:H2'	1:A:1176:G:H8	1.66	0.58
2:B:126:U:H2'	2:B:127:G:O4'	2.03	0.58
2:B:313:A:H2'	2:B:314:U:O4'	2.03	0.58
2:B:620:U:H4'	21:U:167:ARG:NE	2.18	0.58
2:B:1171:G:H2'	2:B:1172:G:O4'	2.04	0.58
2:B:1187:C:C2'	2:B:1188:U:H5'	2.33	0.58
2:B:1498:A:H2'	2:B:1499:C:C6	2.38	0.58
6:F:41:ILE:HD11	6:F:63:PHE:HB3	1.83	0.58
7:G:14:LEU:HD22	7:G:262:TRP:CZ3	2.38	0.58
7:G:106:TRP:HB2	7:G:133:TYR:HE2	1.67	0.58
7:G:256:HIS:HA	7:G:257:PRO:C	2.23	0.58
9:I:184:ASP:HB3	9:I:187:THR:CG2	2.34	0.58
10:J:67:GLY:HA3	10:J:72:ASN:HD21	1.67	0.58
14:N:33:ILE:HD11	14:N:35:ASP:O	2.03	0.58
20:T:27:LEU:CD2	20:T:101:ARG:HB2	2.33	0.58
20:T:186:ALA:O	20:T:187:GLU:HB3	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AA:11:PHE:CD2	27:AA:88:ARG:HD2	2.37	0.58
31:EA:36:HIS:N	31:EA:37:PRO:HD3	2.17	0.58
35:IA:77:ARG:HG2	35:IA:89:LEU:CD2	2.28	0.58
41:OA:14:LYS:HE3	41:OA:25:ARG:HH21	1.68	0.58
48:VA:108:PRO:CA	48:VA:179:SER:CB	2.81	0.58
49:WA:5:GLU:HB2	49:WA:316:MET:O	2.03	0.58
55:CB:95:ASN:OD1	55:CB:107:LYS:HE3	2.02	0.58
55:CB:148:ARG:HB3	78:ZB:22:ARG:HH22	1.67	0.58
57:EB:155:ASP:O	57:EB:185:ILE:HB	2.02	0.58
66:NB:125:GLU:HG2	66:NB:126:PRO:CD	2.33	0.58
67:OB:17:ILE:HG12	67:OB:24:LEU:HD13	1.84	0.58
72:TB:65:LEU:HD13	72:TB:65:LEU:H	1.66	0.58
82:DC:8:GLN:O	82:DC:12:LEU:HB2	2.03	0.58
1:A:512:A:H2'	59:GB:131:GLN:HE22	1.67	0.58
1:A:518:A:H1'	1:A:534:A:N6	2.18	0.58
1:A:739:G:H2'	1:A:740:A:H8	1.66	0.58
1:A:768:C:H1'	59:GB:143:ILE:HG21	1.85	0.58
1:A:813:U:N3	23:W:163:ARG:HD2	2.18	0.58
1:A:1477:G:H5"	69:QB:45:MET:O	2.03	0.58
2:B:54:C:H5"	2:B:1548:C:H1'	1.84	0.58
2:B:597:G:H2'	2:B:598:A:H8	1.67	0.58
2:B:2255:A:C2	2:B:2262:A:N7	2.71	0.58
2:B:2806:U:H2'	2:B:2807:U:C6	2.38	0.58
2:B:2989:U:H2'	2:B:2990:G:O4'	2.02	0.58
2:B:3010:U:O2'	2:B:3011:A:H2'	2.02	0.58
4:D:4:U:H2'	4:D:5:G:H8	1.66	0.58
7:G:169:THR:CG2	7:G:171:LEU:HG	2.33	0.58
7:G:291:GLU:O	7:G:292:ALA:HB3	2.03	0.58
9:I:236:LEU:HA	9:I:239:ILE:HD12	1.84	0.58
10:J:172:HIS:HA	37:KA:43:PHE:CD2	2.38	0.58
12:L:158:ASP:CB	12:L:159:PRO:HD3	2.33	0.58
13:M:115:ARG:NH2	13:M:123:ILE:HG12	2.19	0.58
41:OA:8:PHE:CD1	41:OA:11:ARG:HD3	2.33	0.58
56:DB:223:LYS:O	56:DB:223:LYS:HD3	2.03	0.58
59:GB:130:THR:HA	59:GB:142:ASN:HB2	1.85	0.58
61:IB:94:ILE:HD12	61:IB:94:ILE:N	2.18	0.58
67:OB:46:LEU:O	67:OB:50:ILE:HG13	2.03	0.58
70:RB:25:THR:HB	70:RB:115:GLU:HB2	1.85	0.58
82:DC:633:ILE:HG13	82:DC:633:ILE:O	2.02	0.58
82:DC:666:ALA:HB2	82:DC:706:ILE:HA	1.85	0.58
1:A:230:C:H3'	1:A:231:U:C5'	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1515:A:OP2	53:AB:7:LYS:HB2	2.03	0.58
1:A:1579:U:H4'	66:NB:140:LYS:O	2.04	0.58
2:B:1523:U:H5'	29:CA:113:LEU:HB3	1.85	0.58
2:B:1703:U:O2'	2:B:1704:A:H5'	2.02	0.58
2:B:3126:C:H1'	13:M:156:GLN:NE2	2.18	0.58
2:B:3170:A:H2'	2:B:3171:U:C6	2.39	0.58
8:H:288:ARG:HH11	8:H:288:ARG:HG2	1.67	0.58
10:J:66:SER:HB3	10:J:76:LEU:HD23	1.86	0.58
28:BA:47:ARG:NH1	28:BA:58:HIS:HB2	2.19	0.58
36:JA:20:HIS:O	36:JA:21:HIS:HB2	2.04	0.58
48:VA:119:ILE:CG1	48:VA:159:VAL:HG13	2.32	0.58
48:VA:187:VAL:HG12	48:VA:188:VAL:N	2.18	0.58
56:DB:6:SER:CB	56:DB:13:GLN:HB3	2.33	0.58
56:DB:58:LYS:HG2	56:DB:105:ASP:O	2.02	0.58
57:EB:12:ALA:CB	57:EB:13:PRO:HD3	2.29	0.58
60:HB:38:LYS:HB2	60:HB:41:TYR:HB2	1.84	0.58
67:OB:5:ARG:HG3	67:OB:9:VAL:HG11	1.85	0.58
82:DC:123:ASP:HB3	82:DC:348:ALA:HB1	1.85	0.58
83:EC:6943:A:H3'	83:EC:6944:U:H5"	1.85	0.58
1:A:862:A:C2	1:A:963:A:C4	2.92	0.58
1:A:1053:G:H2'	1:A:1054:U:C5	2.37	0.58
2:B:639:G:OP1	36:JA:40:SER:HB2	2.03	0.58
2:B:2855:U:OP2	14:N:6:ALA:HB3	2.03	0.58
2:B:2947:G:C2	7:G:250:ALA:HB1	2.38	0.58
3:C:133:G:H5"	29:CA:55:ASN:OD1	2.04	0.58
3:C:141:C:H2'	3:C:142:C:C6	2.39	0.58
4:D:93:C:O2'	4:D:94:C:H5'	2.02	0.58
6:F:111:THR:CG2	6:F:112:ILE:N	2.67	0.58
8:H:300:ARG:HB2	8:H:301:PRO:HD2	1.85	0.58
16:P:76:SER:O	16:P:117:ARG:HG2	2.03	0.58
27:AA:53:SER:O	27:AA:56:ASP:HB2	2.02	0.58
28:BA:52:THR:O	28:BA:56:ARG:HG3	2.03	0.58
38:LA:106:LYS:HA	38:LA:106:LYS:HE3	1.86	0.58
41:OA:18:LEU:HD12	41:OA:18:LEU:N	2.18	0.58
41:OA:64:MET:C	41:OA:66:TYR:H	2.05	0.58
49:WA:33:LEU:HB2	49:WA:47:LEU:HG	1.84	0.58
50:XA:168:HIS:HB3	50:XA:203:PHE:CE1	2.38	0.58
52:ZA:38:VAL:HG12	52:ZA:65:GLU:OE1	2.02	0.58
56:DB:114:VAL:HG23	56:DB:115:LYS:H	1.68	0.58
56:DB:178:LEU:O	56:DB:183:ARG:HD2	2.03	0.58
68:PB:29:VAL:HG13	68:PB:44:ASN:HA	1.83	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:RB:53:LYS:HG2	70:RB:92:ASP:HB2	1.85	0.58
82:DC:86:VAL:HA	82:DC:89:ILE:HG13	1.85	0.58
82:DC:135:VAL:HG12	82:DC:139:THR:HG21	1.86	0.58
82:DC:369:ILE:HD11	82:DC:379:MET:HG3	1.84	0.58
2:B:181:U:C3'	2:B:182:U:H5"	2.33	0.58
2:B:1314:C:H5'	20:T:17:GLY:HA3	1.86	0.58
2:B:1818:U:C3'	2:B:1819:U:H5"	2.33	0.58
2:B:2206:G:N2	2:B:2207:A:H62	2.02	0.58
2:B:2749:G:O2'	9:I:35:ARG:HG2	2.03	0.58
2:B:2909:U:C2'	2:B:2910:A:H5"	2.34	0.58
12:L:133:LYS:HB2	12:L:199:ALA:HB3	1.85	0.58
13:M:49:ASN:O	13:M:51:GLN:N	2.37	0.58
18:R:39:ILE:HG22	18:R:40:ASP:H	1.68	0.58
20:T:76:PRO:HD2	20:T:106:GLU:OE2	2.04	0.58
23:W:29:THR:HA	23:W:32:ILE:HD12	1.84	0.58
23:W:115:ILE:HD11	23:W:120:TYR:HA	1.85	0.58
25:Y:126:VAL:O	25:Y:127:GLN:HB3	2.03	0.58
53:AB:106:LYS:CD	53:AB:173:ARG:HD2	2.31	0.58
55:CB:128:ASN:O	55:CB:132:VAL:HG23	2.03	0.58
56:DB:139:ASN:HA	56:DB:142:ARG:HB2	1.85	0.58
57:EB:98:ILE:HD11	57:EB:121:VAL:HB	1.85	0.58
82:DC:352:ARG:O	82:DC:356:LEU:HG	2.04	0.58
1:A:1623:C:H2'	1:A:1624:C:H6	1.69	0.58
2:B:188:U:H2'	2:B:223:U:O2'	2.03	0.58
2:B:444:U:H2'	2:B:445:G:C8	2.38	0.58
2:B:1556:C:H3'	2:B:2169:G:N2	2.19	0.58
2:B:1643:A:H2'	2:B:1644:C:C4	2.38	0.58
2:B:1943:C:O2'	2:B:1944:U:H5'	2.03	0.58
2:B:1947:G:H1	2:B:2101:C:H42	1.52	0.58
2:B:2649:A:O2'	2:B:2650:U:H5'	2.03	0.58
3:C:115:C:H2'	3:C:116:G:O4'	2.04	0.58
15:O:89:TYR:CZ	65:MB:8:LYS:HD3	2.38	0.58
27:AA:54:LEU:HB2	27:AA:81:GLN:HB2	1.85	0.58
32:FA:14:HIS:O	32:FA:15:VAL:HB	2.03	0.58
55:CB:166:ARG:O	55:CB:166:ARG:HD3	2.04	0.58
61:IB:21:ASN:HB3	61:IB:31:THR:HG23	1.86	0.58
63:KB:129:TYR:O	63:KB:134:VAL:HG22	2.03	0.58
65:MB:32:ASP:HA	65:MB:35:LYS:HD3	1.86	0.58
65:MB:43:ARG:HA	65:MB:46:ALA:HB3	1.84	0.58
72:TB:37:PHE:CE2	72:TB:103:ILE:HG21	2.38	0.58
82:DC:296:ILE:HB	82:DC:297:PRO:CD	2.28	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1046:G:H2'	1:A:1047:G:H8	1.69	0.58
2:B:666:A:C3'	2:B:667:C:H5"	2.34	0.58
2:B:712:G:H2'	2:B:713:U:C6	2.39	0.58
2:B:727:G:H5"	2:B:978:G:OP1	2.04	0.58
2:B:1348:U:H4'	2:B:1349:G:O5'	2.03	0.58
2:B:1503:A:H2'	2:B:1504:A:O4'	2.04	0.58
2:B:1804:A:H2'	2:B:1805:C:C6	2.39	0.58
2:B:2152:A:H2'	2:B:2153:U:H6	1.68	0.58
2:B:2912:G:O2'	2:B:2913:C:H5'	2.04	0.58
3:C:91:C:H4'	30:DA:24:SER:HB3	1.84	0.58
7:G:109:HIS:C	7:G:110:LEU:HD12	2.24	0.58
14:N:30:LYS:HE3	14:N:30:LYS:H	1.69	0.58
14:N:36:LEU:CD1	14:N:87:LEU:HB3	2.34	0.58
14:N:170:LYS:HD3	14:N:176:LEU:O	2.04	0.58
15:O:16:LYS:HD3	15:O:72:ARG:NH2	2.19	0.58
19:S:146:ALA:HA	19:S:149:ASN:CB	2.31	0.58
24:X:77:VAL:HG21	24:X:94:ILE:HD11	1.86	0.58
37:KA:90:PRO:O	37:KA:91:ALA:CB	2.51	0.58
48:VA:100:ILE:HD12	48:VA:187:VAL:HG21	1.84	0.58
54:BB:129:VAL:HA	54:BB:139:VAL:HG12	1.86	0.58
55:CB:215:ASP:O	55:CB:218:GLU:HB2	2.03	0.58
70:RB:62:VAL:HG12	70:RB:63:LEU:N	2.19	0.58
72:TB:80:ASN:ND2	72:TB:124:LYS:HG2	2.19	0.58
74:VB:54:ALA:CB	74:VB:79:VAL:HG22	2.25	0.58
2:B:1046:A:H2'	2:B:1049:C:C5	2.38	0.58
2:B:1184:A:H2'	2:B:1185:C:C6	2.39	0.58
2:B:1830:G:H5"	29:CA:92:LYS:HB2	1.86	0.58
2:B:2105:G:O2'	2:B:2106:A:H5'	2.04	0.58
2:B:3139:A:OP1	7:G:274:SER:HB2	2.04	0.58
16:P:64:ILE:O	16:P:71:ALA:HB3	2.03	0.58
19:S:37:HIS:HE1	19:S:63:ARG:NH1	2.00	0.58
23:W:105:LEU:HD13	23:W:135:LYS:CD	2.33	0.58
29:CA:68:THR:HG23	39:MA:36:LEU:HD13	1.85	0.58
32:FA:47:LYS:O	32:FA:48:TYR:HB2	2.03	0.58
43:QA:49:MET:HE2	43:QA:51:ILE:HA	1.86	0.58
47:UA:59:CYS:C	47:UA:61:LYS:H	2.06	0.58
50:XA:189:VAL:HG13	50:XA:190:ASP:N	2.18	0.58
57:EB:51:VAL:HG11	57:EB:168:SER:HB2	1.85	0.58
59:GB:64:GLU:HB2	59:GB:69:ARG:CZ	2.33	0.58
60:HB:16:PHE:HD2	60:HB:76:LEU:HB2	1.67	0.58
61:IB:123:VAL:HG22	61:IB:124:THR:N	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:RB:20:ILE:HD13	70:RB:22:ILE:HB	1.85	0.58
74:VB:23:PHE:HE2	74:VB:75:VAL:HG12	1.69	0.58
75:WB:58:ARG:O	75:WB:58:ARG:HD3	2.04	0.58
75:WB:85:LYS:O	75:WB:86:GLU:HB2	2.03	0.58
78:ZB:10:ALA:CA	78:ZB:32:PHE:HA	2.25	0.58
82:DC:653:VAL:HG13	82:DC:693:LEU:CG	2.31	0.58
1:A:435:C:H2'	1:A:436:A:C8	2.39	0.58
1:A:1315:U:H5"	1:A:1329:A:C2	2.38	0.58
1:A:1524:A:H4'	69:QB:93:HIS:CG	2.38	0.58
1:A:1655:A:N6	1:A:1745:G:O2'	2.37	0.58
2:B:928:C:H2'	2:B:929:A:C8	2.39	0.58
2:B:2424:A:N1	6:F:230:VAL:HG21	2.18	0.58
2:B:3110:C:H41	2:B:3120:C:H4'	1.69	0.58
9:I:118:THR:O	9:I:119:TYR:HB2	2.04	0.58
9:I:222:LEU:O	9:I:223:PHE:HB2	2.04	0.58
11:K:135:ALA:O	11:K:236:ILE:HD11	2.03	0.58
12:L:122:LYS:O	12:L:123:GLN:HB3	2.04	0.58
14:N:9:TYR:CE2	14:N:97:LEU:HB3	2.39	0.58
21:U:138:LYS:HD2	21:U:140:GLU:HG3	1.86	0.58
29:CA:62:VAL:HG13	29:CA:90:ALA:HB2	1.85	0.58
37:KA:101:PHE:HB3	37:KA:103:TYR:CE1	2.39	0.58
48:VA:41:VAL:HA	48:VA:44:GLU:HG2	1.86	0.58
68:PB:74:GLN:HG3	68:PB:75:ASN:N	2.18	0.58
70:RB:62:VAL:HG12	70:RB:63:LEU:H	1.69	0.58
74:VB:125:LEU:O	74:VB:129:VAL:HG23	2.04	0.58
77:YB:36:LYS:HB3	77:YB:43:ILE:HA	1.86	0.58
82:DC:571:SER:CA	82:DC:720:ALA:HA	2.32	0.58
82:DC:629:ASP:HA	82:DC:632:LYS:HB2	1.84	0.58
82:DC:836:GLN:NE2	82:DC:837:GLU:HG2	2.19	0.58
83:EC:6851:G:H2'	83:EC:6852:U:C6	2.39	0.58
1:A:933:A:N1	1:A:944:A:N1	2.52	0.57
1:A:1544:U:H3	1:A:1567:U:H3	1.52	0.57
2:B:288:C:H5"	19:S:170:LYS:O	2.04	0.57
2:B:1631:C:H5"	2:B:1632:A:H5"	1.85	0.57
2:B:2943:G:H2'	2:B:2944:U:O4'	2.04	0.57
3:C:44:A:H2'	3:C:45:C:O4'	2.03	0.57
7:G:114:VAL:HG22	7:G:163:HIS:CE1	2.39	0.57
8:H:74:ILE:HD11	8:H:76:ARG:CZ	2.34	0.57
8:H:181:VAL:HG11	8:H:224:GLY:HA3	1.85	0.57
12:L:98:ARG:HG2	12:L:189:LEU:HA	1.85	0.57
12:L:133:LYS:HG3	12:L:201:THR:HG23	1.84	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:48:VAL:HG12	13:M:52:LEU:O	2.03	0.57
17:Q:90:ALA:HA	17:Q:95:ILE:HD12	1.86	0.57
23:W:10:LEU:HB2	23:W:41:ILE:CD1	2.34	0.57
24:X:40:ARG:NH1	24:X:43:TYR:HE1	2.02	0.57
34:HA:51:LEU:HD11	38:LA:91:ARG:HA	1.85	0.57
39:MA:41:LEU:N	39:MA:42:PRO:HD3	2.19	0.57
42:PA:31:LEU:HD21	42:PA:35:GLY:N	2.10	0.57
44:RA:103:LEU:CD1	44:RA:110:CYS:HA	2.34	0.57
48:VA:26:PHE:CE2	48:VA:93:LEU:HG	2.39	0.57
54:BB:169:ILE:H	54:BB:169:ILE:HD12	1.68	0.57
58:FB:36:THR:CG2	58:FB:173:PRO:HB3	2.34	0.57
66:NB:79:TYR:HA	66:NB:82:ARG:HG2	1.85	0.57
66:NB:92:TYR:O	66:NB:97:VAL:HG23	2.03	0.57
75:WB:62:VAL:N	75:WB:80:LEU:HD11	2.19	0.57
2:B:336:A:O2'	2:B:337:G:H5'	2.04	0.57
2:B:597:G:H5'	11:K:41:ARG:HD2	1.86	0.57
2:B:1258:U:H1'	48:VA:42:ARG:NH1	2.18	0.57
2:B:2103:U:H2'	2:B:2104:A:H8	1.70	0.57
2:B:2282:U:H5'	2:B:2282:U:H6	1.69	0.57
2:B:2611:U:H2'	2:B:2612:U:C6	2.39	0.57
2:B:2836:C:H5	2:B:2852:C:N4	2.02	0.57
5:E:134:PHE:HB3	83:EC:6818:G:H1'	1.86	0.57
9:I:108:ARG:O	9:I:111:GLN:HB3	2.04	0.57
10:J:20:LYS:HA	10:J:20:LYS:HZ3	1.68	0.57
20:T:27:LEU:HD22	20:T:101:ARG:HB2	1.86	0.57
31:EA:87:LEU:CG	31:EA:88:ASP:H	2.11	0.57
48:VA:100:ILE:HD12	48:VA:187:VAL:CG2	2.33	0.57
50:XA:188:LEU:HD21	50:XA:195:TRP:HE1	1.67	0.57
59:GB:154:LYS:HE3	59:GB:155:HIS:CE1	2.39	0.57
82:DC:27:HIS:NE2	82:DC:136:CYS:HB2	2.19	0.57
82:DC:82:SER:HB3	82:DC:85:ASP:CG	2.24	0.57
83:EC:6947:A:H2'	83:EC:6949:G:OP1	2.03	0.57
1:A:201:G:O2'	1:A:202:A:H5'	2.05	0.57
1:A:682:C:H2'	1:A:683:C:H5'	1.85	0.57
1:A:1657:U:C4'	1:A:1658:G:H5"	2.24	0.57
2:B:77:A:H5'	17:Q:100:ARG:NH1	2.18	0.57
2:B:1256:G:N2	16:P:121:PHE:O	2.37	0.57
2:B:1874:A:O2'	2:B:1875:G:H5'	2.04	0.57
2:B:2570:U:H4'	2:B:2571:U:C2'	2.24	0.57
2:B:2714:G:H4'	2:B:2715:A:C5'	2.33	0.57
2:B:2728:G:O6	25:Y:78:LYS:HE3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:47:C:C3'	4:D:48:U:H5"	2.34	0.57
6:F:144:ASN:O	6:F:159:SER:HA	2.05	0.57
7:G:261:MET:O	7:G:264:VAL:HG22	2.04	0.57
8:H:219:LEU:O	8:H:222:VAL:HG12	2.04	0.57
14:N:54:SER:HB2	14:N:135:ILE:HD11	1.87	0.57
22:V:7:SER:HB2	22:V:11:LYS:NZ	2.19	0.57
38:LA:85:VAL:O	38:LA:89:ILE:HG13	2.04	0.57
46:TA:38:GLN:OE1	46:TA:41:ARG:NH2	2.36	0.57
52:ZA:241:ASP:HA	52:ZA:244:SER:HB2	1.86	0.57
54:BB:239:PRO:HB2	54:BB:240:LYS:HD3	1.86	0.57
66:NB:81:ILE:O	66:NB:85:ILE:HG13	2.05	0.57
72:TB:72:CYS:O	72:TB:72:CYS:SG	2.62	0.57
82:DC:25:ILE:HB	82:DC:127:VAL:HA	1.86	0.57
82:DC:777:SER:HA	82:DC:780:PHE:HB2	1.87	0.57
82:DC:809:LEU:HD13	82:DC:832:VAL:HB	1.87	0.57
83:EC:6767:G:C2'	83:EC:6768:U:H5"	2.35	0.57
1:A:12:U:H2'	1:A:13:C:C6	2.40	0.57
1:A:1198:G:C3'	1:A:1199:G:H5'	2.35	0.57
1:A:1437:U:H4'	53:AB:181:VAL:HG21	1.86	0.57
2:B:568:G:H2'	2:B:569:A:O4'	2.04	0.57
2:B:1635:G:N2	2:B:1637:A:H3'	2.19	0.57
2:B:2305:G:H2'	2:B:2305:G:N3	2.19	0.57
2:B:2442:G:H2'	2:B:2443:A:C5'	2.32	0.57
2:B:2442:G:H22	2:B:2505:U:H3	1.50	0.57
2:B:2748:A:N3	9:I:36:LEU:HG	2.19	0.57
2:B:3278:C:O2	2:B:3278:C:H2'	2.03	0.57
13:M:30:PRO:HD2	13:M:83:THR:HG23	1.86	0.57
14:N:170:LYS:HD3	14:N:176:LEU:C	2.25	0.57
22:V:176:ARG:C	32:FA:51:GLY:HA2	2.24	0.57
25:Y:17:ARG:CG	25:Y:22:HIS:HA	2.34	0.57
25:Y:57:TYR:CD1	25:Y:89:LEU:HD11	2.39	0.57
36:JA:78:ASN:H	36:JA:78:ASN:ND2	1.99	0.57
53:AB:8:LYS:O	53:AB:12:VAL:HG23	2.03	0.57
53:AB:162:GLN:N	53:AB:163:PRO:CD	2.67	0.57
55:CB:182:ALA:O	55:CB:193:THR:HG21	2.05	0.57
57:EB:126:LEU:HD23	57:EB:135:ILE:HD13	1.86	0.57
59:GB:123:HIS:CE1	80:BC:37:ARG:HG3	2.39	0.57
61:IB:58:CYS:SG	61:IB:59:PRO:HD2	2.44	0.57
65:MB:85:ILE:HD13	65:MB:111:MET:SD	2.45	0.57
70:RB:69:LYS:CE	70:RB:80:GLU:HG3	2.27	0.57
70:RB:99:ILE:HD12	70:RB:102:ARG:HD3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:UB:56:LYS:O	80:BC:8:LEU:HD21	2.04	0.57
82:DC:315:GLU:HA	82:DC:319:LEU:HD22	1.85	0.57
82:DC:672:LYS:HA	82:DC:680:GLU:HG2	1.86	0.57
1:A:15:U:H2'	1:A:16:G:O4'	2.03	0.57
1:A:1086:A:H2'	1:A:1087:A:C8	2.40	0.57
1:A:1391:A:H2'	1:A:1392:U:C6	2.39	0.57
2:B:442:G:H22	2:B:493:G:H5"	1.69	0.57
2:B:1062:A:H5"	2:B:1063:G:H5'	1.87	0.57
2:B:1128:U:H2'	2:B:1129:A:O4'	2.05	0.57
2:B:2170:U:O2'	2:B:2171:G:H5'	2.05	0.57
2:B:2256:A:C8	82:DC:580:PRO:HB2	2.40	0.57
2:B:3198:U:H1'	13:M:21:LYS:HB2	1.86	0.57
3:C:19:C:H2'	3:C:20:U:C6	2.39	0.57
6:F:202:VAL:HG11	6:F:217:GLN:HB3	1.87	0.57
7:G:80:ASP:OD2	7:G:82:PRO:HD3	2.04	0.57
8:H:23:PRO:C	8:H:25:VAL:H	2.08	0.57
9:I:109:THR:HA	9:I:112:LYS:HG2	1.85	0.57
17:Q:122:LYS:HG3	17:Q:145:PHE:HZ	1.67	0.57
48:VA:76:LEU:HA	48:VA:189:GLN:NE2	2.16	0.57
56:DB:58:LYS:O	56:DB:59:GLN:HB2	2.05	0.57
56:DB:189:HIS:O	56:DB:193:LEU:HG	2.05	0.57
57:EB:46:ILE:CD1	57:EB:60:ILE:HA	2.34	0.57
58:FB:101:ILE:HD11	58:FB:192:TYR:CD2	2.38	0.57
59:GB:56:ALA:O	59:GB:60:LEU:HD23	2.05	0.57
61:IB:85:VAL:HG22	61:IB:108:PRO:CB	2.28	0.57
63:KB:32:SER:O	63:KB:36:GLN:HG2	2.04	0.57
69:QB:39:THR:O	69:QB:96:ALA:HB1	2.05	0.57
82:DC:433:ARG:HH21	82:DC:444:PRO:HB2	1.70	0.57
82:DC:568:GLU:O	82:DC:569:SER:HB3	2.03	0.57
1:A:489:C:H42	1:A:498:G:H1	1.51	0.57
1:A:505:A:N3	1:A:505:A:H2'	2.20	0.57
1:A:1117:U:H2'	1:A:1118:G:H8	1.70	0.57
2:B:1301:A:H4'	2:B:1302:A:H5"	1.87	0.57
6:F:79:ASN:HD21	6:F:165:VAL:CG2	2.17	0.57
6:F:127:ALA:HB2	6:F:134:VAL:HG13	1.86	0.57
7:G:199:PHE:C	7:G:201:LYS:H	2.07	0.57
16:P:114:ARG:HH21	16:P:128:VAL:HG11	1.70	0.57
23:W:10:LEU:CB	23:W:41:ILE:HD12	2.34	0.57
25:Y:101:CYS:O	25:Y:104:GLU:HG3	2.03	0.57
30:DA:105:VAL:O	30:DA:105:VAL:HG12	2.04	0.57
48:VA:107:ALA:HB3	48:VA:181:PHE:HB2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:180:LEU:HA	54:BB:194:THR:HA	1.86	0.57
56:DB:97:VAL:HG12	56:DB:98:ARG:H	1.69	0.57
58:FB:121:LEU:HA	58:FB:157:GLU:OE2	2.04	0.57
59:GB:83:VAL:HG23	59:GB:85:VAL:H	1.68	0.57
73:UB:86:PHE:O	73:UB:124:VAL:HG23	2.04	0.57
75:WB:41:ILE:HG13	75:WB:43:ASP:H	1.69	0.57
80:BC:30:PRO:O	80:BC:31:LYS:HD3	2.04	0.57
82:DC:28:VAL:HG13	82:DC:29:ASP:H	1.68	0.57
82:DC:608:PRO:HA	82:DC:636:PHE:CE2	2.39	0.57
1:A:640:U:H2'	1:A:641:G:O4'	2.05	0.57
1:A:751:G:H2'	1:A:752:A:O4'	2.04	0.57
1:A:767:U:C2	59:GB:143:ILE:HD11	2.39	0.57
1:A:777:C:H4'	54:BB:261:LEU:HD11	1.85	0.57
1:A:969:C:O2'	1:A:1104:U:H4'	2.04	0.57
1:A:1048:G:H5"	77:YB:69:GLY:N	2.20	0.57
1:A:1199:G:C5	79:AC:40:ARG:HD3	2.40	0.57
1:A:1711:C:H2'	1:A:1712:A:O4'	2.03	0.57
2:B:1618:G:C3'	2:B:1619:A:H5"	2.35	0.57
2:B:1762:C:C5	2:B:1763:U:H1'	2.39	0.57
2:B:2436:U:C3'	2:B:2437:G:H5"	2.33	0.57
2:B:2513:U:O2'	2:B:2514:U:H2'	2.04	0.57
12:L:159:PRO:O	12:L:162:LEU:HB2	2.05	0.57
13:M:91:ARG:NH1	44:RA:82:LEU:HD11	2.19	0.57
21:U:125:GLN:CB	21:U:141:SER:HB2	2.32	0.57
23:W:81:ARG:HG2	23:W:88:ARG:NH2	2.19	0.57
24:X:80:ARG:HB2	24:X:124:LEU:HD21	1.85	0.57
44:RA:95:VAL:HG11	44:RA:122:ARG:NH2	2.20	0.57
55:CB:213:LYS:O	55:CB:217:LEU:HG	2.04	0.57
60:HB:24:LYS:HG2	60:HB:25:LYS:H	1.69	0.57
68:PB:133:VAL:HG13	68:PB:134:ARG:N	2.20	0.57
82:DC:655:TYR:HB2	82:DC:693:LEU:HD13	1.86	0.57
82:DC:755:VAL:HG22	82:DC:771:TYR:CD2	2.40	0.57
1:A:298:C:H5"	54:BB:38:LEU:HD23	1.85	0.57
1:A:630:A:H3'	1:A:631:G:C8	2.39	0.57
1:A:1362:U:H1'	1:A:1363:U:O2	2.04	0.57
1:A:1545:A:H2'	1:A:1546:G:C8	2.40	0.57
2:B:503:C:H2'	2:B:504:A:H8	1.70	0.57
2:B:595:G:H1	2:B:609:G:H5"	1.69	0.57
2:B:1231:A:H4'	2:B:1261:G:H8	1.70	0.57
5:E:101:LYS:O	5:E:105:LYS:HG3	2.04	0.57
11:K:89:ILE:HG22	11:K:219:LYS:HE3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:133:LEU:HD13	16:P:142:ARG:NH2	2.19	0.57
24:X:19:VAL:O	24:X:19:VAL:HG12	2.04	0.57
27:AA:80:ARG:O	27:AA:98:ASN:HA	2.04	0.57
34:HA:95:ALA:HB2	34:HA:101:LEU:CD1	2.35	0.57
34:HA:98:SER:HB2	34:HA:100:ILE:CD1	2.31	0.57
35:IA:7:VAL:HA	35:IA:77:ARG:O	2.04	0.57
39:MA:114:ARG:HG3	39:MA:114:ARG:NH1	2.18	0.57
53:AB:211:PRO:HG3	67:OB:20:TYR:CE1	2.39	0.57
54:BB:136:VAL:HG11	54:BB:148:ARG:NE	2.19	0.57
54:BB:192:ILE:HD13	54:BB:238:LEU:HD13	1.87	0.57
60:HB:24:LYS:HG2	60:HB:25:LYS:N	2.20	0.57
61:IB:93:TYR:HB2	61:IB:100:TYR:CE1	2.40	0.57
68:PB:52:VAL:CG1	68:PB:61:LEU:HD11	2.32	0.57
70:RB:61:LYS:HG3	70:RB:86:ILE:HB	1.85	0.57
71:SB:12:TYR:O	71:SB:14:PRO:HD3	2.05	0.57
75:WB:55:PRO:O	75:WB:57:TYR:N	2.38	0.57
75:WB:89:ILE:HD12	75:WB:101:TYR:CD1	2.39	0.57
82:DC:213:SER:HB3	82:DC:218:TRP:NE1	2.19	0.57
1:A:647:G:H1	1:A:687:G:H1	1.52	0.57
1:A:1305:U:H5"	1:A:1306:C:C5	2.40	0.57
2:B:335:G:OP1	30:DA:9:SER:HB2	2.05	0.57
2:B:727:G:H2'	2:B:728:G:O4'	2.04	0.57
2:B:1003:A:H1'	9:I:15:ARG:HE	1.70	0.57
2:B:1108:U:H2'	2:B:1109:U:H6	1.70	0.57
2:B:1221:A:H4'	48:VA:60:ARG:HB2	1.85	0.57
2:B:1662:G:H22	2:B:1787:A:H2	1.50	0.57
2:B:2061:G:H2'	2:B:2062:G:H5'	1.86	0.57
12:L:71:VAL:HG23	12:L:235:GLY:HA3	1.87	0.57
12:L:82:LEU:HD11	12:L:86:THR:HG21	1.87	0.57
13:M:111:PHE:HD1	13:M:127:PRO:HA	1.70	0.57
14:N:17:TYR:CD2	14:N:96:VAL:HB	2.40	0.57
19:S:10:LEU:HD22	40:NA:44:VAL:HG13	1.86	0.57
27:AA:86:ARG:HB2	27:AA:92:PHE:CE1	2.39	0.57
32:FA:28:HIS:CD2	32:FA:32:ARG:HG2	2.40	0.57
34:HA:47:ASN:HD21	34:HA:74:ASN:HD22	1.53	0.57
44:RA:104:PRO:HD2	44:RA:107:ALA:CB	2.31	0.57
52:ZA:85:PRO:HA	52:ZA:98:PHE:HD1	1.69	0.57
57:EB:111:LYS:HG3	57:EB:112:ARG:N	2.20	0.57
61:IB:77:SER:HB2	61:IB:85:VAL:CB	2.33	0.57
66:NB:41:PRO:HB3	66:NB:44:LEU:CD2	2.25	0.57
68:PB:32:LEU:HB2	68:PB:43:SER:OG	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:ZB:10:ALA:HA	78:ZB:32:PHE:CA	2.25	0.57
82:DC:218:TRP:HB3	82:DC:324:MET:CB	2.35	0.57
82:DC:329:PRO:O	82:DC:332:ASP:HB2	2.04	0.57
82:DC:804:LEU:HD13	82:DC:805:GLY:N	2.20	0.57
1:A:117:U:H2'	1:A:118:U:C6	2.40	0.57
1:A:291:G:H2'	1:A:292:U:C5	2.37	0.57
1:A:633:U:H2'	1:A:634:G:O4'	2.04	0.57
1:A:1045:C:H2'	1:A:1046:G:C8	2.40	0.57
1:A:1527:C:O2'	55:CB:108:LEU:HD12	2.05	0.57
1:A:1652:C:H2'	1:A:1653:C:C6	2.40	0.57
2:B:149:U:H5"	19:S:54:LYS:HG3	1.87	0.57
2:B:289:A:H5'	19:S:95:GLN:O	2.05	0.57
2:B:351:A:H1'	3:C:53:A:O2'	2.04	0.57
2:B:637:C:C2'	2:B:638:C:C6	2.88	0.57
2:B:2163:C:H4'	6:F:7:ASN:O	2.05	0.57
2:B:2244:A:H5'	6:F:243:THR:HG21	1.87	0.57
2:B:2415:C:C5'	6:F:207:VAL:HG13	2.34	0.57
2:B:3028:G:O2'	2:B:3029:A:H5'	2.05	0.57
2:B:3317:U:H1'	2:B:3318:G:OP2	2.05	0.57
2:B:3322:A:H2'	2:B:3323:A:H8	1.68	0.57
5:E:82:VAL:HG12	5:E:83:ASP:H	1.70	0.57
7:G:215:ILE:HG21	7:G:282:ILE:HD11	1.86	0.57
7:G:311:PHE:HB2	7:G:315:GLY:O	2.05	0.57
8:H:132:ALA:HB2	8:H:148:ILE:HD12	1.86	0.57
11:K:27:ALA:HA	11:K:30:ARG:HB3	1.86	0.57
17:Q:95:ILE:HG21	17:Q:116:LEU:HD21	1.86	0.57
20:T:64:PHE:CE1	20:T:68:ARG:HD3	2.40	0.57
24:X:80:ARG:HH21	24:X:80:ARG:HG2	1.69	0.57
27:AA:17:LEU:HD21	27:AA:98:ASN:ND2	2.20	0.57
27:AA:69:LEU:N	27:AA:69:LEU:HD12	2.20	0.57
27:AA:79:VAL:HB	27:AA:118:VAL:HG13	1.86	0.57
41:OA:21:ARG:CD	41:OA:39:TYR:HB2	2.30	0.57
52:ZA:81:MET:HG2	52:ZA:103:VAL:CG2	2.33	0.57
69:QB:77:ASN:HB3	69:QB:95:ASP:HB3	1.87	0.57
1:A:32:U:H2'	1:A:33:U:H5'	1.87	0.56
1:A:514:G:O2'	1:A:515:A:H5'	2.05	0.56
1:A:556:A:N3	1:A:590:C:H1'	2.20	0.56
2:B:307:A:H2'	2:B:308:A:C8	2.40	0.56
2:B:428:A:H2'	2:B:429:U:C6	2.40	0.56
2:B:577:C:O2'	2:B:579:G:H5"	2.04	0.56
2:B:1899:G:H5"	27:AA:20:GLY:O	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2563:G:H5"	12:L:27:THR:HG22	1.87	0.56
6:F:64:ARG:HA	6:F:71:LEU:HA	1.87	0.56
9:I:95:TRP:CD1	9:I:158:ARG:HA	2.40	0.56
11:K:58:ALA:O	11:K:62:ILE:HG12	2.05	0.56
19:S:116:LEU:HD13	19:S:135:VAL:HG23	1.87	0.56
20:T:54:TYR:CE2	20:T:58:LEU:HD13	2.40	0.56
31:EA:134:LEU:HD13	31:EA:135:ARG:H	1.68	0.56
32:FA:36:GLY:HA3	32:FA:40:HIS:CE1	2.40	0.56
48:VA:12:PHE:HA	48:VA:15:LEU:CD2	2.34	0.56
49:WA:127:ARG:NH1	67:OB:33:ARG:NH2	2.53	0.56
54:BB:102:VAL:HG13	54:BB:182:TYR:OH	2.05	0.56
68:PB:52:VAL:HG21	68:PB:69:ILE:HD11	1.86	0.56
68:PB:136:GLN:HG2	68:PB:138:THR:HG23	1.86	0.56
70:RB:50:LEU:HD11	70:RB:93:LEU:HD22	1.86	0.56
82:DC:10:ARG:NH1	82:DC:449:PRO:HD3	2.20	0.56
83:EC:6920:C:O5'	83:EC:6920:C:H6	1.88	0.56
1:A:147:A:H2'	1:A:148:A:C8	2.41	0.56
1:A:158:U:O2'	1:A:159:U:H3'	2.04	0.56
1:A:1291:G:H5'	52:ZA:119:LYS:NZ	2.19	0.56
2:B:637:C:H4'	2:B:638:C:OP1	2.05	0.56
2:B:836:A:OP2	47:UA:4:ARG:HD3	2.05	0.56
2:B:1003:A:H1'	9:I:15:ARG:NE	2.19	0.56
2:B:1313:G:H5'	20:T:83:ALA:HB1	1.87	0.56
2:B:1556:C:H3'	2:B:2169:G:H22	1.70	0.56
7:G:227:GLU:HG2	7:G:270:ARG:HD3	1.85	0.56
8:H:181:VAL:O	8:H:182:LEU:CB	2.53	0.56
9:I:22:ARG:HG2	9:I:28:THR:OG1	2.06	0.56
13:M:180:TYR:CE2	44:RA:86:ALA:HA	2.40	0.56
17:Q:83:ALA:HB2	17:Q:116:LEU:HD13	1.88	0.56
23:W:184:LEU:O	23:W:184:LEU:HD13	2.05	0.56
36:JA:35:GLN:HA	36:JA:35:GLN:HE21	1.69	0.56
43:QA:3:ALA:H	43:QA:5:LYS:NZ	2.03	0.56
83:EC:6940:U:H2'	83:EC:6941:U:H5"	1.87	0.56
1:A:21:U:H2'	1:A:22:A:C8	2.40	0.56
1:A:150:U:H2'	1:A:151:G:O4'	2.04	0.56
1:A:250:C:H2'	1:A:251:A:O4'	2.06	0.56
1:A:583:C:O2	1:A:583:C:H2'	2.05	0.56
1:A:650:U:H2'	1:A:651:G:C8	2.41	0.56
1:A:1081:A:H2'	1:A:1083:G:N7	2.20	0.56
1:A:1319:A:C3'	1:A:1320:U:H5"	2.34	0.56
1:A:1331:A:H2'	1:A:1332:C:H5'	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1335:U:H2'	1:A:1336:A:C8	2.40	0.56
1:A:1436:A:C2'	1:A:1437:U:H5'	2.33	0.56
1:A:1543:A:H2'	1:A:1544:U:O4'	2.04	0.56
1:A:1662:G:O2'	1:A:1663:G:H5'	2.05	0.56
2:B:814:U:H5'	41:OA:45:ARG:NH1	2.21	0.56
2:B:1581:C:H2'	2:B:1582:C:H5'	1.86	0.56
2:B:1637:A:H1'	2:B:1709:C:O2'	2.05	0.56
2:B:2244:A:H5"	6:F:243:THR:CG2	2.33	0.56
2:B:2434:U:H4'	2:B:2435:G:H5"	1.87	0.56
2:B:2471:U:C2'	2:B:2472:U:H5"	2.35	0.56
2:B:2664:C:O2'	2:B:2665:U:H5'	2.04	0.56
2:B:3041:U:O2'	27:AA:43:GLY:HA3	2.05	0.56
3:C:51:G:H4'	43:QA:21:ARG:NH1	2.21	0.56
5:E:21:ASN:O	5:E:22:GLU:HB3	2.05	0.56
5:E:111:ILE:HD11	5:E:151:VAL:HG11	1.86	0.56
5:E:152:ARG:HD2	5:E:174:MET:HG2	1.87	0.56
8:H:76:ARG:HD3	8:H:86:GLY:O	2.05	0.56
9:I:220:SER:O	9:I:224:LYS:HB2	2.04	0.56
9:I:229:ASP:O	9:I:230:ASP:HB3	2.05	0.56
11:K:29:GLU:HA	11:K:32:ALA:HB3	1.87	0.56
12:L:134:TYR:HD1	12:L:190:VAL:CG1	2.18	0.56
15:O:94:ARG:O	15:O:96:PHE:HD2	1.89	0.56
18:R:13:ARG:HD3	18:R:65:LEU:O	2.05	0.56
18:R:14:LEU:HA	24:X:151:PRO:HA	1.86	0.56
21:U:127:ARG:HB2	21:U:127:ARG:HH11	1.69	0.56
22:V:69:ARG:CG	22:V:69:ARG:HH11	2.18	0.56
22:V:102:ALA:HB2	22:V:127:LEU:HD23	1.88	0.56
23:W:24:LEU:HD12	23:W:24:LEU:N	2.20	0.56
25:Y:39:ILE:HG22	25:Y:99:SER:HB2	1.87	0.56
26:Z:80:THR:HG21	26:Z:95:PHE:CE1	2.40	0.56
27:AA:86:ARG:HD2	27:AA:92:PHE:CZ	2.41	0.56
31:EA:57:HIS:HB3	31:EA:62:VAL:HG22	1.86	0.56
34:HA:19:LYS:HA	34:HA:19:LYS:HZ3	1.69	0.56
35:IA:19:ARG:HB3	35:IA:35:GLU:HG2	1.87	0.56
42:PA:42:LYS:HG2	42:PA:55:VAL:HG22	1.86	0.56
43:QA:37:TYR:CE1	43:QA:39:ALA:HB2	2.40	0.56
46:TA:71:ARG:HD3	46:TA:80:ARG:NH2	2.20	0.56
48:VA:33:VAL:HG23	48:VA:38:MET:HB2	1.87	0.56
50:XA:57:LEU:HG	50:XA:177:LEU:HD23	1.87	0.56
52:ZA:52:THR:HB	52:ZA:54:GLU:HG2	1.87	0.56
53:AB:105:MET:HG2	53:AB:122:VAL:HG21	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AB:168:ILE:HG22	53:AB:189:MET:HB2	1.87	0.56
54:BB:43:PRO:HD2	54:BB:46:VAL:HG21	1.87	0.56
55:CB:41:LYS:HD3	66:NB:54:LEU:HD11	1.86	0.56
56:DB:108:VAL:HG12	56:DB:109:LEU:H	1.70	0.56
58:FB:137:LYS:O	58:FB:141:ARG:HG3	2.06	0.56
59:GB:17:ARG:HD2	59:GB:20:GLU:OE1	2.04	0.56
60:HB:15:LEU:HD13	60:HB:21:VAL:HG23	1.86	0.56
63:KB:21:ASN:O	63:KB:22:ALA:HB3	2.05	0.56
63:KB:86:GLU:HG3	63:KB:87:ASP:N	2.20	0.56
65:MB:44:ARG:O	65:MB:44:ARG:HD3	2.05	0.56
67:OB:85:VAL:C	67:OB:87:GLU:N	2.56	0.56
82:DC:223:ARG:HA	82:DC:241:MET:HE2	1.86	0.56
82:DC:700:ARG:HG3	82:DC:705:ILE:HD11	1.86	0.56
83:EC:6780:A:H2'	83:EC:6781:U:H5'	1.87	0.56
1:A:1105:C:H41	73:UB:4:GLY:HA3	1.70	0.56
1:A:1194:A:H2'	1:A:1195:C:O4'	2.05	0.56
1:A:1629:G:O2'	1:A:1765:A:O5'	2.22	0.56
2:B:62:A:H5"	19:S:164:LEU:HD21	1.87	0.56
2:B:822:G:H4'	6:F:194:ASN:HB2	1.86	0.56
2:B:1624:G:H2'	2:B:1625:A:O4'	2.05	0.56
2:B:2130:G:H2'	2:B:2131:A:H4'	1.87	0.56
2:B:2513:U:H4'	2:B:2514:U:OP1	2.05	0.56
2:B:2612:U:H2'	2:B:2613:U:O4'	2.06	0.56
2:B:2988:C:H4'	7:G:260:VAL:O	2.05	0.56
12:L:136:LEU:HD11	12:L:162:LEU:O	2.06	0.56
18:R:85:TRP:HE1	18:R:91:CYS:HB2	1.70	0.56
19:S:50:ARG:HB3	19:S:50:ARG:NH1	2.20	0.56
19:S:190:THR:HG23	19:S:191:TRP:N	2.20	0.56
25:Y:92:ARG:O	25:Y:94:GLU:N	2.38	0.56
27:AA:23:MET:CE	27:AA:34:LEU:HD12	2.35	0.56
31:EA:135:ARG:HA	31:EA:135:ARG:CZ	2.35	0.56
38:LA:29:ILE:HD11	38:LA:31:ARG:NH2	2.11	0.56
54:BB:31:PRO:HA	54:BB:81:THR:HB	1.86	0.56
56:DB:27:PHE:HE1	56:DB:36:VAL:HG11	1.69	0.56
56:DB:192:ALA:O	56:DB:196:ARG:HB2	2.05	0.56
57:EB:63:PRO:O	57:EB:64:VAL:HB	2.05	0.56
1:A:153:G:H21	56:DB:56:ASN:HD21	1.53	0.56
1:A:505:A:H3'	1:A:506:A:C5'	2.29	0.56
1:A:1352:G:H2'	1:A:1353:U:O4'	2.06	0.56
1:A:1499:G:OP1	69:QB:122:ARG:HD3	2.04	0.56
1:A:1525:A:OP1	69:QB:82:GLY:HA2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1544:U:H5"	68:PB:132:ARG:HD2	1.87	0.56
1:A:1761:U:O2'	1:A:1762:A:OP2	2.20	0.56
2:B:421:G:H3'	2:B:421:G:N3	2.21	0.56
2:B:546:C:H5'	2:B:547:G:O4'	2.06	0.56
2:B:1150:A:N7	2:B:1310:G:H5'	2.20	0.56
2:B:1238:C:H2'	2:B:1239:C:O4'	2.05	0.56
2:B:1801:U:H2'	2:B:1802:C:C6	2.41	0.56
2:B:2154:U:H2'	2:B:2155:G:C8	2.40	0.56
2:B:2836:C:H2'	2:B:2837:A:O4'	2.05	0.56
2:B:3045:G:H2'	2:B:3046:A:O4'	2.05	0.56
4:D:3:U:H2'	4:D:4:U:C6	2.41	0.56
5:E:4:ILE:HD11	5:E:198:TRP:HE3	1.70	0.56
8:H:280:ILE:HD12	22:V:25:TYR:CB	2.34	0.56
8:H:299:ILE:HG13	22:V:39:ARG:HB3	1.87	0.56
9:I:129:TYR:CD2	9:I:177:GLU:HB3	2.41	0.56
14:N:54:SER:HB2	14:N:135:ILE:CD1	2.35	0.56
17:Q:85:LEU:H	17:Q:85:LEU:CD2	2.15	0.56
18:R:7:VAL:O	18:R:7:VAL:HG12	2.04	0.56
19:S:96:ARG:NH2	19:S:100:ALA:HB1	2.21	0.56
25:Y:147:VAL:HG13	25:Y:148:PRO:HD2	1.87	0.56
29:CA:91:ASN:HD21	29:CA:93:TYR:HB2	1.71	0.56
53:AB:40:ARG:HG2	70:RB:110:PRO:HB3	1.88	0.56
74:VB:103:ALA:HB1	74:VB:107:GLN:HE21	1.71	0.56
82:DC:636:PHE:HA	82:DC:645:LEU:HD22	1.86	0.56
82:DC:733:ILE:HG22	82:DC:792:ALA:HB1	1.86	0.56
1:A:1241:G:C1'	65:MB:78:THR:HA	2.36	0.56
1:A:1762:A:C4	1:A:1782:A:H2'	2.41	0.56
2:B:241:G:H2'	2:B:242:C:H5'	1.87	0.56
2:B:1018:G:H2'	2:B:1019:G:O4'	2.05	0.56
2:B:1439:U:OP1	8:H:87:GLN:HA	2.05	0.56
2:B:1667:A:H2'	2:B:1668:G:C8	2.41	0.56
2:B:1834:U:OP1	43:QA:5:LYS:HE2	2.05	0.56
2:B:1943:C:H5	23:W:74:ARG:NH2	2.03	0.56
2:B:2479:C:H5"	5:E:105:LYS:HD3	1.86	0.56
2:B:2610:G:H2'	2:B:2611:U:O4'	2.05	0.56
2:B:2768:U:H2'	2:B:2769:A:C8	2.40	0.56
2:B:3215:A:O5'	18:R:121:MET:HE1	2.06	0.56
2:B:3255:U:H2'	2:B:3256:G:C8	2.41	0.56
4:D:27:A:OP2	9:I:57:ASN:N	2.38	0.56
8:H:195:ARG:O	8:H:196:ASN:HB2	2.05	0.56
17:Q:165:SER:O	32:FA:135:GLU:HG3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:CA:67:ILE:HG22	29:CA:69:SER:H	1.70	0.56
34:HA:44:ILE:HD12	34:HA:53:LYS:HG3	1.87	0.56
48:VA:176:LEU:HB2	48:VA:178:ILE:CD1	2.35	0.56
50:XA:102:PHE:O	50:XA:103:THR:HB	2.04	0.56
57:EB:99:LEU:HD12	57:EB:112:ARG:HG3	1.87	0.56
58:FB:46:VAL:O	58:FB:53:LYS:HA	2.06	0.56
59:GB:53:ARG:CZ	59:GB:53:ARG:HB3	2.34	0.56
69:QB:15:ILE:HD11	69:QB:60:SER:HB2	1.87	0.56
70:RB:21:LYS:O	70:RB:119:ALA:HA	2.05	0.56
82:DC:249:PHE:HB2	82:DC:258:THR:O	2.05	0.56
82:DC:710:ARG:HH11	82:DC:710:ARG:HB2	1.70	0.56
82:DC:722:PRO:HB2	82:DC:808:PRO:CG	2.35	0.56
83:EC:6781:U:H5'	83:EC:6782:C:H5	1.70	0.56
1:A:872:G:H1	1:A:955:A:H61	1.53	0.56
1:A:1099:U:H5"	72:TB:71:LYS:NZ	2.20	0.56
1:A:1519:U:H2'	1:A:1520:U:H5	1.71	0.56
2:B:19:U:H4'	19:S:138:GLN:CD	2.26	0.56
2:B:699:A:H2'	2:B:700:C:O4'	2.06	0.56
2:B:1364:C:O2'	2:B:1365:G:H5'	2.05	0.56
2:B:1481:A:C2	38:LA:4:ARG:HD3	2.41	0.56
2:B:2853:A:H5'	14:N:3:ARG:HH21	1.71	0.56
2:B:3206:C:H5"	2:B:3207:U:C5'	2.29	0.56
12:L:139:VAL:HA	12:L:142:LEU:HD12	1.87	0.56
14:N:48:LEU:O	14:N:139:ARG:HA	2.04	0.56
14:N:60:LEU:HD13	14:N:159:PHE:CD1	2.41	0.56
14:N:156:ARG:HH22	14:N:164:LYS:HA	1.71	0.56
21:U:171:ARG:HG3	21:U:171:ARG:HH11	1.71	0.56
32:FA:73:LEU:HD13	32:FA:109:TYR:CE2	2.41	0.56
45:SA:1:MET:CE	45:SA:6:ARG:HD3	2.35	0.56
49:WA:87:LYS:HA	49:WA:108:SER:O	2.06	0.56
54:BB:89:VAL:HG11	54:BB:119:ALA:HA	1.86	0.56
54:BB:136:VAL:HG11	54:BB:148:ARG:CZ	2.35	0.56
59:GB:96:VAL:O	59:GB:99:LEU:HD22	2.05	0.56
66:NB:22:VAL:HG13	66:NB:65:ILE:HD13	1.88	0.56
70:RB:70:THR:HG23	70:RB:72:ASN:O	2.06	0.56
80:BC:33:ARG:HB2	80:BC:33:ARG:HH11	1.70	0.56
82:DC:404:THR:HA	82:DC:448:CYS:O	2.06	0.56
1:A:89:G:H2'	1:A:90:C:C6	2.40	0.56
1:A:297:U:H1'	54:BB:33:ALA:HB1	1.87	0.56
1:A:1075:C:C3'	1:A:1076:A:H5"	2.35	0.56
2:B:662:U:H2'	2:B:663:C:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1012:G:H2'	2:B:1013:G:O4'	2.05	0.56
2:B:1056:U:H4'	4:D:82:G:C4'	2.35	0.56
2:B:1166:G:O2'	2:B:1167:U:H5'	2.06	0.56
2:B:1324:U:H5'	24:X:2:ALA:HA	1.88	0.56
5:E:76:ARG:HD2	5:E:144:LEU:HB2	1.88	0.56
10:J:52:VAL:HG23	10:J:66:SER:O	2.06	0.56
12:L:61:GLN:HB2	19:S:28:TRP:CH2	2.40	0.56
12:L:93:LEU:HD23	12:L:214:LEU:CD2	2.36	0.56
12:L:150:LEU:HD22	12:L:176:PRO:O	2.06	0.56
23:W:115:ILE:HD11	23:W:120:TYR:N	2.20	0.56
28:BA:59:HIS:HB3	28:BA:61:LYS:HE2	1.88	0.56
32:FA:104:THR:HG21	32:FA:112:ILE:HD11	1.88	0.56
34:HA:14:LEU:O	34:HA:17:VAL:HG22	2.05	0.56
40:NA:58:ILE:HG13	40:NA:59:ASP:N	2.19	0.56
48:VA:60:ARG:HA	48:VA:63:ILE:HD12	1.88	0.56
48:VA:134:SER:O	48:VA:137:GLN:HB2	2.06	0.56
53:AB:184:ILE:CG2	53:AB:186:VAL:HG23	2.35	0.56
54:BB:206:ASP:HB2	54:BB:222:LEU:HG	1.88	0.56
55:CB:25:LEU:HD23	55:CB:26:ALA:H	1.70	0.56
55:CB:26:ALA:HB2	66:NB:26:LYS:HG3	1.88	0.56
59:GB:170:GLY:O	59:GB:174:ARG:HG2	2.06	0.56
61:IB:27:THR:HG23	61:IB:29:LYS:HG2	1.87	0.56
71:SB:9:VAL:HG22	71:SB:10:GLU:N	2.18	0.56
77:YB:14:SER:O	77:YB:18:LYS:HG3	2.06	0.56
82:DC:175:TYR:HB2	82:DC:274:ASN:OD1	2.05	0.56
83:EC:6943:A:H3'	83:EC:6944:U:C5'	2.35	0.56
1:A:320:U:C3'	1:A:321:C:H5"	2.35	0.56
1:A:1773:C:C5'	45:SA:4:LYS:HB3	2.35	0.56
2:B:38:U:H2'	2:B:39:A:O4'	2.06	0.56
2:B:299:G:H2'	2:B:300:G:H8	1.71	0.56
2:B:631:U:H2'	2:B:632:G:H8	1.70	0.56
2:B:656:A:H2'	2:B:657:A:H8	1.71	0.56
2:B:1307:G:H5"	20:T:60:LYS:NZ	2.20	0.56
2:B:1448:U:H5	2:B:2355:G:C2	2.23	0.56
2:B:1478:C:O2'	2:B:1479:U:H5'	2.05	0.56
2:B:2278:C:C2'	2:B:2279:A:H5"	2.35	0.56
2:B:2471:U:H2'	2:B:2472:U:H5"	1.87	0.56
2:B:2718:U:H2'	2:B:2719:U:O4'	2.05	0.56
6:F:251:LYS:HG3	6:F:252:THR:HG22	1.87	0.56
9:I:119:TYR:CZ	9:I:135:VAL:HG23	2.40	0.56
11:K:95:ILE:HB	11:K:100:ARG:HD2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:51:ARG:HB2	15:O:51:ARG:HH21	1.71	0.56
19:S:37:HIS:CE1	19:S:63:ARG:HH11	2.16	0.56
25:Y:96:ILE:O	25:Y:97:LYS:HB3	2.05	0.56
34:HA:70:PHE:CE2	34:HA:77:LEU:HA	2.40	0.56
44:RA:110:CYS:O	44:RA:117:HIS:HA	2.06	0.56
46:TA:10:THR:HG22	46:TA:11:TYR:N	2.20	0.56
50:XA:57:LEU:HD11	50:XA:176:LEU:HB2	1.88	0.56
50:XA:62:ARG:HB3	71:SB:36:VAL:CG1	2.36	0.56
53:AB:22:ASN:HA	53:AB:34:TYR:OH	2.06	0.56
54:BB:6:LYS:H	54:BB:6:LYS:HD2	1.69	0.56
54:BB:114:ILE:HG22	54:BB:237:SER:OG	2.06	0.56
54:BB:219:VAL:HG12	54:BB:220:THR:N	2.21	0.56
59:GB:134:ILE:HA	59:GB:158:PHE:CA	2.35	0.56
80:BC:38:LEU:HD22	80:BC:39:LEU:HD22	1.88	0.56
82:DC:78:TYR:HE2	82:DC:80:GLU:HB2	1.71	0.56
82:DC:110:ASP:HA	82:DC:533:THR:HG21	1.88	0.56
82:DC:677:PHE:CE2	82:DC:819:VAL:HG22	2.41	0.56
1:A:17:C:H2'	1:A:18:C:H6	1.70	0.56
1:A:211:U:O2'	1:A:212:U:H5'	2.06	0.56
1:A:821:U:H3'	1:A:822:U:C5'	2.36	0.56
1:A:1519:U:H2'	1:A:1520:U:C5	2.40	0.56
1:A:1615:C:H4'	1:A:1616:G:O5'	2.06	0.56
2:B:82:C:H4'	19:S:204:LYS:NZ	2.21	0.56
2:B:139:G:H2'	2:B:140:C:H6	1.71	0.56
2:B:1033:U:H2'	2:B:1034:U:C6	2.41	0.56
2:B:1676:A:P	26:Z:73:GLY:H	2.28	0.56
2:B:2443:A:H2'	2:B:2444:C:O4'	2.06	0.56
2:B:2626:A:N3	2:B:2644:C:H5'	2.21	0.56
3:C:32:C:O2'	3:C:33:A:H5'	2.06	0.56
4:D:48:U:H2'	4:D:49:G:H5'	1.87	0.56
5:E:34:LEU:HD22	5:E:183:ILE:HG23	1.87	0.56
10:J:131:LYS:HG2	10:J:133:GLU:HB3	1.88	0.56
16:P:76:SER:CB	16:P:116:MET:HB3	2.35	0.56
21:U:65:SER:O	21:U:66:SER:HB2	2.06	0.56
24:X:14:LEU:HD21	25:Y:136:ARG:HE	1.71	0.56
25:Y:39:ILE:CD1	25:Y:102:ARG:HD3	2.36	0.56
27:AA:22:ILE:HA	27:AA:34:LEU:O	2.05	0.56
29:CA:137:ASN:HA	29:CA:141:TYR:O	2.06	0.56
31:EA:119:GLU:O	31:EA:122:HIS:HB3	2.06	0.56
45:SA:5:TRP:HA	45:SA:5:TRP:CE3	2.41	0.56
50:XA:142:PRO:HG3	71:SB:32:VAL:HG21	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:219:VAL:O	54:BB:220:THR:HG23	2.06	0.56
56:DB:64:LYS:HB3	56:DB:67:VAL:HG11	1.86	0.56
58:FB:159:GLN:NE2	58:FB:189:LEU:HD21	2.21	0.56
59:GB:90:LYS:HG3	59:GB:95:TYR:CD2	2.41	0.56
59:GB:139:GLN:HE22	74:VB:63:GLN:HG3	1.69	0.56
60:HB:80:LEU:O	60:HB:82:LEU:HG	2.05	0.56
82:DC:171:LYS:HE3	82:DC:171:LYS:H	1.71	0.56
1:A:152:U:O2'	56:DB:15:THR:HG23	2.06	0.55
1:A:780:A:C8	74:VB:8:ARG:HB3	2.39	0.55
1:A:1504:G:OP1	69:QB:97:SER:HB2	2.06	0.55
2:B:5:G:H2'	2:B:6:A:C5'	2.33	0.55
2:B:1590:G:C8	2:B:1590:G:O5'	2.59	0.55
2:B:1622:U:H2'	2:B:1623:G:H8	1.71	0.55
2:B:1859:A:C2'	2:B:1860:G:H5'	2.35	0.55
2:B:2434:U:H5	2:B:2594:C:OP2	1.89	0.55
2:B:2674:A:C5'	15:O:105:GLY:HA3	2.29	0.55
2:B:2736:A:OP1	25:Y:92:ARG:NH1	2.38	0.55
2:B:3163:A:H2'	2:B:3164:C:C5'	2.30	0.55
6:F:32:LEU:HG	6:F:163:ARG:HD3	1.88	0.55
9:I:8:LYS:HG3	9:I:12:TYR:HE1	1.70	0.55
13:M:85:GLY:HA3	13:M:187:ILE:CB	2.27	0.55
21:U:117:ILE:O	21:U:117:ILE:HG23	2.05	0.55
22:V:100:THR:HG23	22:V:122:ILE:CD1	2.35	0.55
24:X:9:VAL:HG22	24:X:61:ILE:HD13	1.88	0.55
24:X:110:MET:CE	24:X:114:HIS:HB2	2.36	0.55
41:OA:16:HIS:HA	41:OA:27:PHE:O	2.06	0.55
49:WA:214:ALA:HB2	49:WA:243:LEU:HD12	1.87	0.55
53:AB:215:GLU:N	53:AB:216:PRO:CD	2.69	0.55
59:GB:59:LEU:HB3	59:GB:69:ARG:HG3	1.88	0.55
66:NB:40:GLU:HA	66:NB:42:GLU:N	2.21	0.55
67:OB:53:TYR:O	67:OB:56:HIS:HB3	2.05	0.55
68:PB:68:ARG:O	68:PB:72:ILE:HG13	2.06	0.55
69:QB:138:GLN:HA	69:QB:141:GLU:CG	2.36	0.55
82:DC:233:PHE:HB3	82:DC:235:VAL:HG23	1.88	0.55
82:DC:420:PRO:HG2	82:DC:476:HIS:CG	2.41	0.55
1:A:52:U:H2'	1:A:53:G:C8	2.42	0.55
1:A:122:U:H2'	1:A:123:G:C8	2.41	0.55
1:A:533:U:H4'	74:VB:33:ALA:CB	2.34	0.55
2:B:269:G:H21	2:B:294:U:H2'	1.69	0.55
2:B:296:A:H61	2:B:317:A:H61	1.52	0.55
2:B:351:A:N6	43:QA:37:TYR:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1841:A:O2'	2:B:1842:A:H5"	2.06	0.55
2:B:2048:G:H2'	2:B:2049:A:O4'	2.05	0.55
2:B:2728:G:C2	25:Y:80:VAL:HG21	2.41	0.55
2:B:2799:A:H5"	2:B:2800:G:O5'	2.06	0.55
6:F:68:LYS:HZ3	6:F:70:ARG:HH11	1.52	0.55
8:H:23:PRO:HD3	8:H:255:PHE:CE1	2.40	0.55
12:L:143:ILE:HD13	12:L:170:CYS:SG	2.45	0.55
14:N:153:ARG:HA	14:N:156:ARG:HD2	1.89	0.55
48:VA:26:PHE:HB2	48:VA:87:VAL:HG11	1.88	0.55
52:ZA:65:GLU:HB2	52:ZA:68:ILE:HG13	1.87	0.55
53:AB:164:VAL:HG13	53:AB:168:ILE:CG1	2.37	0.55
58:FB:36:THR:HB	58:FB:57:ALA:O	2.06	0.55
78:ZB:42:ARG:NH1	78:ZB:56:LEU:HD12	2.22	0.55
82:DC:143:LEU:HD23	82:DC:188:ILE:CG2	2.37	0.55
82:DC:428:ILE:HD12	82:DC:428:ILE:N	2.22	0.55
82:DC:797:VAL:O	82:DC:797:VAL:HG13	2.07	0.55
82:DC:835:TRP:O	82:DC:839:TYR:HB2	2.06	0.55
1:A:4:C:H4'	52:ZA:181:SER:HB3	1.88	0.55
1:A:32:U:H3	1:A:468:A:H62	1.54	0.55
1:A:72:A:N6	56:DB:169:TYR:HB2	2.22	0.55
1:A:705:U:H2'	1:A:706:A:C8	2.41	0.55
1:A:1025:A:H2	1:A:1789:G:H1'	1.72	0.55
1:A:1027:A:OP2	1:A:1790:A:H4'	2.05	0.55
1:A:1586:A:H1'	1:A:1611:A:N6	2.21	0.55
2:B:76:G:N7	17:Q:101:ARG:HG3	2.21	0.55
2:B:129:U:H2'	2:B:130:A:H8	1.71	0.55
2:B:130:A:H2'	2:B:131:C:C6	2.42	0.55
2:B:296:A:O2'	2:B:297:G:H5'	2.06	0.55
2:B:405:U:H2'	2:B:406:G:H5'	1.88	0.55
2:B:503:C:H2'	2:B:504:A:C8	2.42	0.55
2:B:532:A:O2'	2:B:533:A:H5'	2.06	0.55
2:B:753:C:H2'	2:B:754:G:C8	2.40	0.55
2:B:1100:U:OP2	11:K:196:LYS:HD2	2.05	0.55
2:B:3083:G:H2'	2:B:3084:C:O4'	2.06	0.55
3:C:35:C:OP1	39:MA:85:THR:HG21	2.07	0.55
6:F:116:VAL:CG1	6:F:126:LEU:HB2	2.35	0.55
17:Q:126:PHE:CE1	17:Q:133:PRO:HG2	2.42	0.55
44:RA:77:ILE:N	44:RA:77:ILE:HD12	2.21	0.55
49:WA:270:LEU:HD11	49:WA:273:ASP:HB2	1.89	0.55
54:BB:92:LEU:HB2	54:BB:97:GLU:O	2.06	0.55
54:BB:133:LYS:O	54:BB:134:LYS:HB2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:GB:125:ALA:O	59:GB:129:ILE:HG13	2.06	0.55
1:A:522:U:H5"	74:VB:37:LYS:HG3	1.88	0.55
1:A:1636:C:H5"	1:A:1637:C:H2'	1.87	0.55
2:B:12:A:H2'	2:B:13:A:C8	2.42	0.55
2:B:406:G:H1'	3:C:16:G:N2	2.22	0.55
2:B:1613:A:OP1	42:PA:2:ALA:HB2	2.07	0.55
2:B:1618:G:C2'	2:B:1619:A:H5"	2.35	0.55
2:B:2898:G:OP2	2:B:2899:C:H5'	2.06	0.55
2:B:3355:U:O2'	2:B:3356:G:H5"	2.06	0.55
3:C:145:U:O5'	3:C:145:U:H6	1.89	0.55
4:D:31:U:O2'	4:D:32:U:H5'	2.07	0.55
5:E:9:VAL:HA	5:E:12:HIS:HB2	1.88	0.55
11:K:157:ASN:O	11:K:158:LYS:HB3	2.06	0.55
12:L:35:GLY:O	12:L:36:ILE:O	2.24	0.55
12:L:75:ILE:O	12:L:76:ALA:HB3	2.07	0.55
12:L:136:LEU:O	12:L:140:VAL:HG23	2.05	0.55
15:O:57:PHE:HB2	15:O:59:ILE:HG12	1.87	0.55
15:O:96:PHE:CD1	15:O:102:PHE:HB3	2.41	0.55
15:O:131:MET:O	15:O:132:ASN:HB3	2.06	0.55
21:U:166:VAL:HG22	21:U:168:LEU:HG	1.88	0.55
38:LA:43:LYS:HA	38:LA:50:ALA:HA	1.88	0.55
41:OA:37:CYS:C	41:OA:45:ARG:HB2	2.27	0.55
48:VA:121:VAL:HG12	48:VA:156:VAL:O	2.06	0.55
50:XA:118:PRO:HG2	50:XA:141:ILE:HD13	1.89	0.55
59:GB:171:ARG:HA	59:GB:171:ARG:HE	1.72	0.55
61:IB:109:VAL:HG23	61:IB:138:ASN:CA	2.37	0.55
1:A:464:A:H2'	1:A:465:G:H8	1.71	0.55
1:A:789:A:H3'	1:A:790:U:C6	2.41	0.55
1:A:1064:G:H2'	1:A:1065:A:H8	1.70	0.55
1:A:1674:C:H2'	1:A:1675:C:C6	2.41	0.55
2:B:10:C:H2'	2:B:11:A:O4'	2.07	0.55
2:B:168:U:H2'	2:B:169:U:C6	2.42	0.55
2:B:637:C:H2'	2:B:638:C:H6	1.68	0.55
2:B:947:G:C5'	36:JA:55:ILE:HB	2.37	0.55
2:B:1282:G:H8	2:B:1282:G:O5'	1.88	0.55
2:B:2162:U:H2'	2:B:2163:C:O4'	2.07	0.55
2:B:3087:A:H2'	2:B:3088:G:O4'	2.06	0.55
2:B:3162:C:H2'	2:B:3163:A:C8	2.41	0.55
8:H:264:SER:H	8:H:267:VAL:CG2	2.19	0.55
8:H:359:LEU:HD23	8:H:360:LYS:HG3	1.87	0.55
10:J:39:VAL:HG11	10:J:159:LEU:HD21	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:100:GLU:OE2	12:L:108:ARG:HD3	2.06	0.55
12:L:163:VAL:HG23	12:L:166:LEU:CD1	2.37	0.55
13:M:48:VAL:HG13	13:M:49:ASN:ND2	2.20	0.55
15:O:107:ASP:O	15:O:108:GLU:HB2	2.07	0.55
48:VA:143:THR:HG21	48:VA:150:ILE:HG23	1.89	0.55
49:WA:61:PHE:HB3	49:WA:92:TRP:CE3	2.41	0.55
53:AB:164:VAL:HG13	53:AB:168:ILE:HG12	1.89	0.55
54:BB:179:LYS:O	54:BB:181:VAL:HG23	2.06	0.55
58:FB:104:ILE:CG2	58:FB:167:ALA:HB2	2.36	0.55
82:DC:491:VAL:HB	82:DC:556:ILE:HG23	1.88	0.55
83:EC:6911:A:H2'	83:EC:6912:G:O4'	2.07	0.55
1:A:71:A:C2'	1:A:72:A:H4'	2.14	0.55
1:A:245:U:H2'	1:A:247:A:OP2	2.07	0.55
1:A:344:A:H2'	1:A:345:U:H5'	1.89	0.55
1:A:1196:A:H4'	1:A:1197:C:H5"	1.88	0.55
1:A:1715:G:C3'	1:A:1716:C:H4'	2.37	0.55
2:B:491:C:OP1	10:J:110:LYS:HG2	2.06	0.55
2:B:644:G:H2'	2:B:2372:A:N7	2.22	0.55
2:B:1133:A:O2'	2:B:1134:G:H5'	2.06	0.55
2:B:3279:A:O2'	2:B:3280:U:H5'	2.07	0.55
3:C:65:A:C2	3:C:96:A:C5	2.94	0.55
7:G:367:LYS:HA	28:BA:17:ARG:NH2	2.21	0.55
8:H:327:LEU:HB3	11:K:181:ILE:HG21	1.89	0.55
10:J:51:ARG:O	10:J:159:LEU:HD22	2.07	0.55
12:L:154:ALA:HB2	12:L:186:LEU:HD12	1.87	0.55
13:M:1:MET:O	13:M:2:LYS:HB2	2.07	0.55
14:N:38:LYS:HD3	14:N:83:ASP:HB3	1.88	0.55
15:O:23:VAL:O	15:O:65:ILE:HG12	2.07	0.55
15:O:80:LEU:CD1	15:O:129:VAL:HG21	2.33	0.55
17:Q:193:ALA:O	17:Q:194:GLU:HB3	2.06	0.55
49:WA:133:VAL:HG23	49:WA:144:LEU:HD21	1.88	0.55
49:WA:267:PRO:HG2	49:WA:269:TYR:CD1	2.41	0.55
53:AB:73:VAL:HG21	53:AB:86:LEU:HD21	1.89	0.55
53:AB:184:ILE:HG21	53:AB:186:VAL:HG23	1.87	0.55
65:MB:126:VAL:HG13	65:MB:127:ARG:N	2.20	0.55
70:RB:69:LYS:HB2	70:RB:78:THR:HB	1.89	0.55
82:DC:445:ILE:CG1	82:DC:446:ASP:H	2.18	0.55
82:DC:806:SER:HB2	82:DC:815:ALA:H	1.69	0.55
1:A:116:U:H2'	1:A:117:U:C5	2.40	0.55
1:A:147:A:OP2	1:A:166:C:H5	1.90	0.55
1:A:387:A:OP1	58:FB:23:LYS:HE3	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:749:U:H2'	1:A:750:U:C6	2.42	0.55
1:A:918:U:H2'	1:A:919:A:O4'	2.06	0.55
1:A:976:G:C6	1:A:1023:A:H1'	2.42	0.55
1:A:1370:U:H4'	1:A:1371:A:C5'	2.37	0.55
1:A:1763:A:H5"	1:A:1771:U:H5"	1.88	0.55
2:B:1650:G:O2'	2:B:1651:U:H5'	2.06	0.55
2:B:1915:A:H4'	23:W:83:GLY:O	2.07	0.55
2:B:2364:G:H22	2:B:2396:G:H1'	1.71	0.55
2:B:2882:U:H2'	2:B:2883:U:C6	2.41	0.55
2:B:2989:U:H4'	7:G:266:ARG:HB2	1.89	0.55
2:B:3146:G:H4'	7:G:100:ARG:HD2	1.89	0.55
2:B:3174:A:C2'	2:B:3175:U:H5'	2.31	0.55
7:G:160:VAL:CG2	7:G:183:LEU:HD11	2.36	0.55
8:H:152:VAL:HG22	8:H:250:TRP:O	2.06	0.55
8:H:263:GLY:HA3	8:H:269:SER:HA	1.87	0.55
9:I:268:GLU:HA	9:I:271:LYS:HE2	1.88	0.55
10:J:170:LYS:O	10:J:174:LEU:HB2	2.07	0.55
12:L:26:LEU:HD11	31:EA:123:GLN:HA	1.89	0.55
16:P:110:ILE:HG22	16:P:129:THR:HG21	1.86	0.55
19:S:154:PRO:CB	19:S:157:LYS:HE3	2.36	0.55
29:CA:56:ARG:O	29:CA:57:LEU:CB	2.54	0.55
30:DA:31:LEU:O	30:DA:50:ILE:HG22	2.07	0.55
34:HA:51:LEU:CD2	38:LA:87:GLU:HG3	2.37	0.55
35:IA:55:LEU:O	35:IA:55:LEU:HD22	2.07	0.55
49:WA:22:SER:CB	49:WA:70:ASP:HA	2.36	0.55
52:ZA:59:HIS:CD2	52:ZA:239:PRO:HD3	2.42	0.55
54:BB:45:ILE:O	54:BB:49:ARG:HB2	2.07	0.55
61:IB:99:ARG:HH12	73:UB:7:ARG:C	2.10	0.55
72:TB:78:ARG:HD2	72:TB:126:LEU:HD22	1.87	0.55
82:DC:211:PHE:HB2	82:DC:220:PHE:CE2	2.42	0.55
82:DC:405:VAL:O	82:DC:405:VAL:HG13	2.07	0.55
82:DC:620:ALA:HA	82:DC:625:TRP:H	1.72	0.55
82:DC:655:TYR:H	82:DC:693:LEU:HD12	1.72	0.55
82:DC:733:ILE:HG21	82:DC:792:ALA:HB1	1.87	0.55
82:DC:734:GLN:NE2	82:DC:767:THR:HB	2.21	0.55
82:DC:806:SER:HB3	82:DC:813:SER:HB2	1.89	0.55
1:A:424:C:H4'	1:A:426:G:OP1	2.07	0.55
1:A:448:C:O3'	54:BB:29:PRO:HA	2.07	0.55
1:A:479:C:H5'	59:GB:124:HIS:CG	2.42	0.55
1:A:887:A:H2'	1:A:888:U:O4'	2.07	0.55
1:A:1068:C:H2'	1:A:1069:A:H8	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1357:A:H2'	1:A:1358:G:H8	1.70	0.55
1:A:1681:A:H61	1:A:1720:G:H1'	1.69	0.55
2:B:429:U:O2'	2:B:430:U:H5'	2.07	0.55
2:B:627:U:H2'	2:B:628:A:H8	1.70	0.55
2:B:954:U:H1'	33:GA:12:GLN:NE2	2.22	0.55
2:B:2152:A:O2'	2:B:2153:U:H5'	2.06	0.55
2:B:2934:A:H2'	2:B:2935:U:O4'	2.07	0.55
2:B:3001:C:H2'	2:B:3002:C:O4'	2.06	0.55
3:C:113:U:H5"	43:QA:7:PHE:CB	2.36	0.55
7:G:332:ARG:HD3	7:G:332:ARG:N	2.22	0.55
8:H:32:PRO:O	8:H:36:HIS:HB2	2.06	0.55
11:K:156:ILE:HD12	11:K:161:VAL:HB	1.88	0.55
14:N:33:ILE:HD13	14:N:33:ILE:C	2.27	0.55
17:Q:98:ASP:OD2	17:Q:101:ARG:HB2	2.06	0.55
22:V:88:THR:HG22	22:V:107:THR:HG21	1.87	0.55
25:Y:75:ILE:O	25:Y:75:ILE:HG12	2.07	0.55
29:CA:80:ASN:ND2	29:CA:126:LEU:HD12	2.21	0.55
31:EA:44:ALA:CB	31:EA:72:ILE:HG22	2.37	0.55
32:FA:70:LYS:N	32:FA:71:PRO:HD3	2.22	0.55
32:FA:76:ASP:HB2	32:FA:115:LYS:HB3	1.88	0.55
32:FA:148:ILE:HG22	32:FA:149:ALA:H	1.70	0.55
49:WA:167:VAL:O	49:WA:183:LEU:HD12	2.06	0.55
52:ZA:38:VAL:HG13	52:ZA:39:THR:HG23	1.89	0.55
53:AB:161:GLY:C	53:AB:163:PRO:HD2	2.26	0.55
59:GB:134:ILE:CA	59:GB:158:PHE:HA	2.36	0.55
63:KB:33:VAL:HG21	63:KB:66:ILE:CG2	2.37	0.55
67:OB:25:THR:O	67:OB:58:MET:HG3	2.07	0.55
82:DC:542:LEU:HD22	82:DC:556:ILE:HD11	1.89	0.55
82:DC:569:SER:N	82:DC:592:PRO:HG3	2.21	0.55
1:A:140:A:H1'	56:DB:179:VAL:HG21	1.88	0.55
1:A:488:G:H2'	1:A:489:C:H5'	1.88	0.55
1:A:846:G:H2'	1:A:847:A:O4'	2.07	0.55
1:A:1060:U:H3'	1:A:1061:A:C5'	2.36	0.55
1:A:1413:U:H5'	67:OB:3:ARG:HH11	1.72	0.55
2:B:79:U:H2'	2:B:80:G:C8	2.42	0.55
2:B:148:G:H1'	2:B:149:U:H5	1.72	0.55
2:B:2260:U:H5"	2:B:2261:G:OP2	2.06	0.55
2:B:2730:G:H2'	2:B:2731:U:H5'	1.89	0.55
2:B:3119:U:H2'	2:B:3121:U:OP1	2.06	0.55
7:G:376:LYS:O	7:G:380:MET:HG2	2.07	0.55
8:H:71:VAL:HG22	8:H:72:ALA:H	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:106:LEU:O	16:P:107:ASP:HB2	2.07	0.55
20:T:113:ASP:OD2	20:T:114:LYS:N	2.40	0.55
49:WA:170:ILE:HG22	49:WA:180:ALA:HB2	1.89	0.55
49:WA:240:VAL:HA	49:WA:255:ALA:O	2.07	0.55
56:DB:5:ILE:HA	56:DB:111:LEU:O	2.06	0.55
56:DB:164:LYS:HB3	56:DB:167:LYS:O	2.06	0.55
58:FB:46:VAL:HG23	58:FB:48:THR:HG23	1.89	0.55
59:GB:141:VAL:HG12	59:GB:143:ILE:H	1.71	0.55
63:KB:37:ILE:HG23	63:KB:50:ILE:HG21	1.89	0.55
69:QB:4:VAL:HG22	69:QB:5:SER:H	1.71	0.55
75:WB:88:ILE:HG23	75:WB:104:ALA:HB2	1.88	0.55
77:YB:33:LEU:HA	77:YB:80:ARG:O	2.07	0.55
79:AC:23:VAL:CG2	79:AC:38:ILE:HD12	2.37	0.55
79:AC:26:SER:O	79:AC:30:LEU:HG	2.07	0.55
82:DC:132:ILE:HD12	82:DC:133:GLU:HG3	1.89	0.55
1:A:153:G:N2	56:DB:56:ASN:HD21	2.05	0.55
1:A:343:C:H2'	1:A:344:A:H8	1.72	0.55
1:A:1437:U:H4'	53:AB:181:VAL:HG11	1.89	0.55
1:A:1512:G:H2'	1:A:1513:G:O4'	2.07	0.55
1:A:1535:U:C5	55:CB:185:ARG:HA	2.42	0.55
1:A:1715:G:C2'	1:A:1716:C:H4'	2.37	0.55
2:B:911:C:N4	6:F:3:ARG:HD3	2.22	0.55
2:B:1171:G:H5"	4:D:86:U:N3	2.22	0.55
2:B:1269:U:H1'	2:B:1272:C:H5	1.71	0.55
2:B:2449:A:H2'	2:B:2450:G:H8	1.72	0.55
2:B:2618:G:OP1	14:N:116:ARG:HG3	2.06	0.55
2:B:3312:U:C2'	2:B:3313:U:H5"	2.34	0.55
7:G:41:VAL:HG11	7:G:191:LYS:HA	1.89	0.55
8:H:337:GLU:O	8:H:338:LYS:HB2	2.05	0.55
10:J:172:HIS:HD2	37:KA:40:ASP:HB3	1.71	0.55
22:V:70:ALA:O	22:V:73:GLN:HG3	2.07	0.55
24:X:11:GLY:CA	24:X:59:VAL:HG23	2.37	0.55
47:UA:55:TRP:CZ2	47:UA:70:THR:N	2.75	0.55
49:WA:189:GLU:HA	53:AB:225:TYR:HB2	1.89	0.55
49:WA:267:PRO:HG2	49:WA:269:TYR:CE1	2.41	0.55
54:BB:195:ILE:CG2	54:BB:196:VAL:N	2.69	0.55
71:SB:38:LYS:O	71:SB:46:ILE:HD12	2.06	0.55
82:DC:32:LYS:HE3	82:DC:104:ASP:OD2	2.07	0.55
1:A:75:U:H3'	1:A:76:A:C5'	2.35	0.54
1:A:1089:U:H2'	1:A:1090:C:C6	2.41	0.54
1:A:1591:C:H2'	1:A:1592:A:H8	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:642:U:OP1	32:FA:22:ILE:HG23	2.07	0.54
2:B:898:U:H2'	2:B:899:U:O4'	2.06	0.54
2:B:1164:G:H2'	2:B:1165:A:C8	2.42	0.54
2:B:1660:C:O2'	2:B:1661:G:H5'	2.07	0.54
2:B:1796:G:H4'	6:F:22:LEU:HD23	1.87	0.54
2:B:2207:A:H2'	2:B:2207:A:N3	2.22	0.54
2:B:3063:C:H2'	2:B:3064:U:H6	1.71	0.54
8:H:181:VAL:O	8:H:182:LEU:HB2	2.06	0.54
8:H:339:LEU:HD13	11:K:52:GLN:HE21	1.72	0.54
11:K:210:PRO:HD3	11:K:243:MET:HG2	1.89	0.54
14:N:171:TRP:HA	14:N:178:ARG:HD2	1.88	0.54
16:P:92:ARG:CG	16:P:93:LYS:H	2.17	0.54
17:Q:157:ARG:HG2	17:Q:158:ALA:H	1.72	0.54
23:W:132:PHE:CZ	23:W:138:LEU:HD23	2.43	0.54
24:X:49:HIS:NE2	25:Y:151:LEU:HD11	2.21	0.54
27:AA:93:LEU:H	27:AA:93:LEU:CD2	2.14	0.54
28:BA:6:ASP:C	28:BA:8:PHE:H	2.09	0.54
28:BA:13:ILE:HG12	28:BA:32:GLN:HA	1.88	0.54
34:HA:86:ARG:HD2	47:UA:44:LYS:HE2	1.89	0.54
35:IA:62:ARG:HB2	35:IA:66:GLY:O	2.07	0.54
36:JA:40:SER:O	36:JA:44:ARG:HG3	2.06	0.54
48:VA:97:LYS:HE3	48:VA:101:VAL:HG21	1.89	0.54
57:EB:58:LEU:O	57:EB:91:ILE:HG22	2.07	0.54
57:EB:67:LEU:HD11	57:EB:94:ALA:HB2	1.90	0.54
58:FB:46:VAL:HG22	58:FB:54:LYS:O	2.07	0.54
58:FB:84:HIS:ND1	58:FB:86:SER:HB2	2.22	0.54
58:FB:147:ALA:O	58:FB:148:ALA:HB3	2.07	0.54
59:GB:15:PRO:HD3	59:GB:43:TYR:CE1	2.42	0.54
61:IB:110:HIS:HB3	61:IB:138:ASN:ND2	2.22	0.54
66:NB:115:THR:HA	66:NB:118:ILE:O	2.07	0.54
68:PB:38:VAL:HG13	68:PB:42:TYR:HB3	1.90	0.54
70:RB:57:ARG:HG3	70:RB:89:ARG:CZ	2.37	0.54
72:TB:103:ILE:O	72:TB:103:ILE:HG23	2.07	0.54
1:A:20:G:H5'	1:A:571:G:C8	2.43	0.54
1:A:407:A:H2'	1:A:408:C:C6	2.43	0.54
1:A:460:A:H5'	1:A:461:G:OP2	2.08	0.54
1:A:545:A:H4'	1:A:546:U:H5'	1.89	0.54
1:A:767:U:H6	59:GB:141:VAL:HA	1.72	0.54
1:A:959:U:O2	1:A:959:U:H2'	2.07	0.54
1:A:1675:C:H1'	58:FB:32:GLN:NE2	2.22	0.54
2:B:217:U:H4'	30:DA:100:HIS:CD2	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1281:G:H5'	48:VA:55:LYS:CG	2.29	0.54
2:B:1818:U:C2'	2:B:1819:U:H5"	2.37	0.54
2:B:2133:U:H2'	2:B:2134:G:O4'	2.06	0.54
7:G:56:ILE:HD13	7:G:76:VAL:HG22	1.88	0.54
7:G:368:GLY:H	28:BA:17:ARG:NH2	2.05	0.54
8:H:222:VAL:HG13	8:H:222:VAL:O	2.08	0.54
11:K:80:GLN:NE2	25:Y:136:ARG:HH11	2.06	0.54
15:O:51:ARG:HB2	15:O:51:ARG:NH2	2.23	0.54
18:R:120:VAL:HG11	20:T:199:TYR:CE2	2.42	0.54
20:T:19:LEU:O	20:T:23:VAL:HG23	2.06	0.54
32:FA:70:LYS:HG2	32:FA:70:LYS:O	2.08	0.54
35:IA:31:ARG:O	35:IA:35:GLU:HB2	2.07	0.54
36:JA:19:ARG:HG2	36:JA:19:ARG:HH11	1.72	0.54
49:WA:152:SER:H	49:WA:173:GLY:HA2	1.72	0.54
55:CB:61:TYR:OH	78:ZB:49:ARG:HD3	2.07	0.54
55:CB:122:ASN:O	55:CB:126:ASP:HA	2.08	0.54
56:DB:20:ASP:HB2	56:DB:23:ARG:HG3	1.89	0.54
61:IB:78:THR:HG21	61:IB:119:VAL:HG22	1.88	0.54
63:KB:27:LYS:HG3	63:KB:28:LEU:HG	1.89	0.54
77:YB:33:LEU:HD23	77:YB:81:ARG:HA	1.90	0.54
82:DC:103:ILE:CD1	82:DC:122:THR:HG23	2.36	0.54
82:DC:158:ASN:OD1	82:DC:213:SER:HA	2.08	0.54
82:DC:414:GLN:NE2	82:DC:418:TYR:HE2	2.05	0.54
83:EC:6766:U:H2'	83:EC:6767:G:C8	2.42	0.54
1:A:3:U:H5'	52:ZA:179:VAL:HG12	1.88	0.54
1:A:767:U:C6	59:GB:141:VAL:HA	2.41	0.54
1:A:1085:G:OP2	52:ZA:161:LYS:HE2	2.07	0.54
1:A:1617:U:O2'	1:A:1618:C:H5'	2.06	0.54
1:A:1757:G:H4'	2:B:2256:A:C6	2.41	0.54
2:B:117:U:H5'	12:L:141:ALA:HB3	1.89	0.54
2:B:389:A:H4'	21:U:16:SER:O	2.07	0.54
2:B:641:C:H2'	2:B:642:U:O4'	2.07	0.54
2:B:1116:G:H3'	2:B:1117:G:H5"	1.90	0.54
2:B:1234:G:H1'	16:P:132:ILE:HD13	1.88	0.54
2:B:1366:A:H2'	2:B:1367:G:O4'	2.07	0.54
2:B:1523:U:O2'	2:B:1608:C:H5'	2.08	0.54
2:B:1565:G:H21	2:B:1574:C:H42	1.54	0.54
2:B:3045:G:H4'	7:G:16:PHE:CD2	2.42	0.54
2:B:3192:U:H2'	2:B:3193:C:H6	1.71	0.54
2:B:3231:U:H2'	2:B:3232:G:H8	1.72	0.54
7:G:92:TYR:CE1	7:G:159:ARG:HD2	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:157:GLU:O	8:H:213:ASN:HB2	2.07	0.54
10:J:26:ARG:HB3	10:J:27:PRO:HD2	1.88	0.54
10:J:64:LEU:HD22	10:J:65:ILE:N	2.22	0.54
13:M:6:THR:HG21	13:M:65:VAL:HG13	1.90	0.54
16:P:87:GLU:HG2	16:P:89:PRO:HD2	1.89	0.54
31:EA:54:THR:HG23	31:EA:57:HIS:N	2.22	0.54
49:WA:25:THR:HG21	49:WA:295:SER:HA	1.87	0.54
49:WA:123:ILE:HG22	49:WA:133:VAL:HG22	1.89	0.54
53:AB:53:THR:HG21	53:AB:94:ARG:HB3	1.90	0.54
53:AB:109:LEU:CD1	53:AB:175:VAL:HG21	2.37	0.54
55:CB:118:LEU:HD23	55:CB:121:ILE:HD12	1.90	0.54
56:DB:211:LEU:H	56:DB:211:LEU:CD2	2.20	0.54
58:FB:10:LYS:HG3	58:FB:11:ARG:H	1.72	0.54
59:GB:36:LEU:HD21	59:GB:108:ARG:NH1	2.22	0.54
61:IB:94:ILE:HD13	73:UB:12:ALA:CB	2.38	0.54
68:PB:133:VAL:HG13	68:PB:134:ARG:H	1.72	0.54
69:QB:25:GLN:HE21	69:QB:27:LYS:HB2	1.71	0.54
72:TB:42:GLN:NE2	72:TB:49:GLU:HA	2.21	0.54
73:UB:55:GLU:HG3	73:UB:57:LEU:HD22	1.88	0.54
73:UB:70:LYS:HB3	73:UB:93:LEU:HD11	1.88	0.54
82:DC:637:GLY:HA2	82:DC:668:GLN:HE22	1.71	0.54
1:A:789:A:H3'	1:A:790:U:H6	1.73	0.54
1:A:952:A:H2'	1:A:953:G:C8	2.43	0.54
1:A:1454:G:O2'	65:MB:122:THR:HB	2.07	0.54
1:A:1669:U:H2'	1:A:1670:G:O4'	2.07	0.54
1:A:1681:A:N6	1:A:1720:G:O2'	2.41	0.54
2:B:38:U:O5'	2:B:38:U:H6	1.88	0.54
2:B:117:U:H5'	12:L:141:ALA:CB	2.37	0.54
2:B:1160:C:OP1	22:V:2:GLY:N	2.39	0.54
2:B:1259:A:C4	48:VA:53:MET:HG3	2.42	0.54
2:B:1259:A:O4'	48:VA:53:MET:HB2	2.06	0.54
2:B:2470:C:H5'	5:E:26:ARG:HG2	1.89	0.54
2:B:2748:A:H4'	9:I:145:PHE:CG	2.42	0.54
12:L:91:PHE:CZ	12:L:185:ARG:HB3	2.42	0.54
14:N:4:ARG:NH1	14:N:99:ILE:HG13	2.22	0.54
14:N:16:PRO:HG3	14:N:128:ARG:HE	1.72	0.54
16:P:82:ILE:O	16:P:86:LYS:HB2	2.07	0.54
24:X:23:LYS:HA	25:Y:146:ASN:HD22	1.72	0.54
25:Y:124:VAL:CG1	25:Y:125:ALA:H	2.08	0.54
28:BA:38:SER:O	28:BA:42:GLN:HG3	2.07	0.54
37:KA:90:PRO:O	37:KA:91:ALA:HB3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LA:21:LYS:HB2	38:LA:35:VAL:HG21	1.90	0.54
41:OA:28:HIS:CE1	41:OA:30:GLN:HB2	2.43	0.54
49:WA:182:ASN:O	49:WA:186:PHE:HA	2.08	0.54
50:XA:82:GLY:HA3	50:XA:170:ILE:HG21	1.89	0.54
54:BB:18:TRP:HB3	54:BB:20:LEU:HG	1.89	0.54
54:BB:34:GLY:HA3	54:BB:83:PRO:CG	2.36	0.54
55:CB:53:VAL:HG23	55:CB:65:ARG:HH12	1.71	0.54
56:DB:84:TYR:HE1	56:DB:86:PRO:HG3	1.72	0.54
65:MB:18:ARG:NH1	68:PB:92:ILE:HA	2.22	0.54
70:RB:100:VAL:O	70:RB:104:THR:HG23	2.07	0.54
75:WB:84:GLU:HA	75:WB:89:ILE:HD11	1.88	0.54
1:A:395:U:H2'	1:A:396:G:O4'	2.07	0.54
1:A:631:G:H2'	1:A:632:U:O4'	2.08	0.54
1:A:1184:A:C4'	1:A:1210:C:H4'	2.37	0.54
1:A:1727:G:H21	58:FB:32:GLN:NE2	2.05	0.54
2:B:271:C:H1'	2:B:295:A:N6	2.23	0.54
2:B:962:A:O2'	2:B:963:G:H5'	2.07	0.54
2:B:981:U:H2'	2:B:982:C:C6	2.43	0.54
2:B:1744:G:H2'	2:B:1745:C:C6	2.43	0.54
2:B:1892:G:C3'	2:B:1893:A:H5"	2.37	0.54
2:B:1925:U:H1'	47:UA:20:SER:HB3	1.90	0.54
2:B:2407:C:H2'	2:B:2408:U:C6	2.42	0.54
2:B:3015:G:H2'	2:B:3016:A:C8	2.42	0.54
2:B:3027:A:C8	82:DC:789:GLY:HA2	2.43	0.54
2:B:3111:U:C2'	2:B:3112:G:H5'	2.37	0.54
5:E:74:VAL:O	5:E:78:LYS:HD2	2.07	0.54
5:E:76:ARG:HD3	5:E:145:TYR:HB2	1.88	0.54
6:F:68:LYS:NZ	6:F:70:ARG:HH11	2.05	0.54
6:F:116:VAL:HG13	6:F:117:GLU:N	2.21	0.54
12:L:160:ILE:H	12:L:160:ILE:CD1	2.06	0.54
14:N:89:VAL:HG13	14:N:136:PHE:CE1	2.43	0.54
21:U:84:PRO:HB2	21:U:87:SER:HB2	1.90	0.54
23:W:38:ARG:HH11	23:W:38:ARG:HG3	1.73	0.54
38:LA:43:LYS:HB3	38:LA:48:GLY:O	2.06	0.54
52:ZA:88:LYS:O	52:ZA:94:GLN:HA	2.07	0.54
52:ZA:152:HIS:O	52:ZA:194:GLU:HB2	2.07	0.54
53:AB:3:ALA:O	53:AB:5:ILE:HG12	2.07	0.54
53:AB:177:MET:C	53:AB:179:GLN:H	2.09	0.54
54:BB:214:LEU:HB2	54:BB:244:ILE:HG23	1.89	0.54
55:CB:88:PRO:HG2	55:CB:91:GLU:HB3	1.88	0.54
58:FB:104:ILE:HG12	58:FB:165:LEU:HB2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:KB:66:ILE:HG23	63:KB:67:THR:HG23	1.89	0.54
65:MB:41:VAL:CG1	65:MB:84:ILE:HG21	2.38	0.54
82:DC:373:ASP:HB2	82:DC:376:ALA:HB2	1.89	0.54
82:DC:737:GLU:HG3	82:DC:764:PRO:O	2.06	0.54
1:A:152:U:H2'	1:A:153:G:H5"	1.88	0.54
1:A:397:A:O2'	58:FB:50:GLY:HA2	2.07	0.54
1:A:1793:G:O2'	1:A:1794:A:H3'	2.07	0.54
2:B:287:G:H2'	2:B:288:C:C6	2.42	0.54
2:B:599:C:OP1	8:H:332:LYS:HE2	2.07	0.54
2:B:1349:G:H2'	2:B:1349:G:N3	2.22	0.54
2:B:1481:A:C2	2:B:1858:A:H4'	2.43	0.54
2:B:3082:C:H2'	2:B:3083:G:H8	1.72	0.54
2:B:3159:C:H2'	2:B:3160:U:H6	1.72	0.54
3:C:63:G:O2'	39:MA:49:LYS:CE	2.56	0.54
4:D:24:A:H2'	4:D:25:G:O4'	2.07	0.54
7:G:85:VAL:HG22	7:G:163:HIS:CD2	2.43	0.54
9:I:51:LEU:HB2	9:I:144:VAL:CG2	2.38	0.54
10:J:133:GLU:HG2	10:J:137:ASP:OD2	2.08	0.54
16:P:94:LYS:HA	16:P:97:ASN:HB2	1.88	0.54
25:Y:39:ILE:HD12	25:Y:102:ARG:HD3	1.88	0.54
25:Y:62:GLY:HA3	25:Y:76:ILE:HD13	1.89	0.54
34:HA:45:ALA:HB1	34:HA:72:GLY:O	2.08	0.54
48:VA:30:VAL:O	48:VA:31:ASP:HB2	2.08	0.54
50:XA:134:LYS:O	50:XA:137:SER:HB3	2.08	0.54
53:AB:46:THR:HG22	53:AB:48:VAL:HG23	1.88	0.54
53:AB:142:LEU:C	53:AB:144:ALA:H	2.11	0.54
54:BB:214:LEU:HD22	54:BB:244:ILE:CG2	2.37	0.54
55:CB:163:SER:O	55:CB:167:ARG:HG3	2.08	0.54
57:EB:62:VAL:H	57:EB:94:ALA:HA	1.71	0.54
61:IB:75:VAL:HG21	61:IB:117:VAL:HG11	1.89	0.54
65:MB:79:HIS:HA	65:MB:97:TYR:HB2	1.88	0.54
69:QB:111:ILE:HG23	69:QB:113:ILE:HG13	1.90	0.54
72:TB:90:THR:HB	72:TB:94:LEU:HD12	1.90	0.54
73:UB:130:VAL:O	73:UB:131:SER:HB3	2.08	0.54
77:YB:35:VAL:HA	77:YB:79:PHE:HA	1.90	0.54
82:DC:74:ALA:HB2	82:DC:103:ILE:HG12	1.89	0.54
82:DC:666:ALA:CB	82:DC:709:MET:HB3	2.35	0.54
1:A:155:U:H4'	56:DB:59:GLN:H	1.72	0.54
1:A:577:G:H5"	1:A:578:U:H5'	1.89	0.54
1:A:762:A:H2'	1:A:763:G:C8	2.42	0.54
1:A:949:C:H2'	1:A:950:C:O4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:305:U:O4	2:B:2786:G:H1'	2.07	0.54
2:B:911:C:H42	6:F:3:ARG:HD3	1.72	0.54
2:B:1234:G:C2	16:P:132:ILE:HG12	2.42	0.54
2:B:1254:C:O2	16:P:131:GLU:HB2	2.07	0.54
2:B:1258:U:H1'	48:VA:42:ARG:CZ	2.38	0.54
2:B:1278:A:H3'	2:B:1279:C:H6	1.73	0.54
2:B:1447:G:H5'	21:U:67:ILE:HD11	1.90	0.54
2:B:1479:U:C2'	2:B:1480:G:H5'	2.35	0.54
3:C:146:U:H2'	3:C:147:U:H6	1.71	0.54
5:E:91:LYS:H	5:E:91:LYS:HD3	1.73	0.54
6:F:5:ILE:HD12	6:F:7:ASN:HD21	1.73	0.54
7:G:169:THR:HG22	7:G:171:LEU:HG	1.89	0.54
9:I:91:GLY:HA2	9:I:94:ASN:ND2	2.16	0.54
14:N:213:PHE:N	14:N:214:PRO:HD3	2.23	0.54
18:R:8:LYS:HE2	18:R:8:LYS:CA	2.38	0.54
22:V:131:ALA:HB1	22:V:135:GLN:H	1.72	0.54
37:KA:48:ARG:HG2	37:KA:48:ARG:HH11	1.73	0.54
38:LA:41:ARG:HG2	38:LA:56:THR:HG21	1.89	0.54
40:NA:40:VAL:O	40:NA:44:VAL:HG23	2.08	0.54
49:WA:178:VAL:HG22	49:WA:199:ILE:HD13	1.90	0.54
49:WA:180:ALA:HB3	49:WA:190:ALA:HB3	1.88	0.54
50:XA:59:LEU:O	50:XA:63:ILE:HG13	2.07	0.54
53:AB:103:GLU:O	53:AB:107:PHE:HB2	2.08	0.54
59:GB:96:VAL:HA	59:GB:99:LEU:CD1	2.38	0.54
61:IB:109:VAL:HG23	61:IB:138:ASN:HA	1.90	0.54
66:NB:115:THR:HA	66:NB:118:ILE:HG23	1.90	0.54
82:DC:586:ILE:HD12	82:DC:708:THR:HG22	1.89	0.54
1:A:40:A:H62	1:A:467:G:H21	1.56	0.54
1:A:294:C:H2'	1:A:295:A:C8	2.43	0.54
1:A:524:U:H3	1:A:526:A:H3'	1.73	0.54
1:A:1175:U:H2'	1:A:1176:G:C8	2.43	0.54
1:A:1485:C:C2'	1:A:1486:G:H4'	2.34	0.54
2:B:531:G:H2'	2:B:532:A:C8	2.42	0.54
2:B:771:A:H2'	2:B:772:U:O4'	2.08	0.54
2:B:917:A:H2'	2:B:918:C:C6	2.43	0.54
2:B:1764:U:H3'	2:B:1765:U:C4'	2.38	0.54
2:B:2061:G:C2'	2:B:2062:G:H5'	2.37	0.54
2:B:2093:A:H5'	2:B:2094:C:O5'	2.08	0.54
2:B:3230:G:H2'	2:B:3231:U:O4'	2.07	0.54
6:F:112:ILE:HD12	47:UA:79:VAL:HG22	1.88	0.54
7:G:139:GLN:HG3	7:G:139:GLN:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:339:ARG:NE	7:G:342:LEU:HD21	2.23	0.54
8:H:114:ASN:HB2	8:H:117:GLU:OE2	2.08	0.54
10:J:6:ALA:HB1	10:J:10:TYR:OH	2.08	0.54
10:J:13:GLU:CD	36:JA:88:HIS:HA	2.27	0.54
12:L:89:GLU:HA	12:L:92:LYS:NZ	2.23	0.54
15:O:35:LYS:HE3	15:O:35:LYS:HA	1.90	0.54
17:Q:46:ILE:CG2	17:Q:49:ARG:HB2	2.37	0.54
18:R:114:ASP:HA	18:R:117:ARG:NH1	2.23	0.54
20:T:23:VAL:HG13	20:T:33:ILE:HG21	1.89	0.54
20:T:76:PRO:HG3	20:T:142:SER:OG	2.08	0.54
31:EA:54:THR:HG22	31:EA:57:HIS:CD2	2.43	0.54
34:HA:20:SER:HB3	34:HA:96:GLY:HA3	1.90	0.54
46:TA:92:GLU:HG3	46:TA:92:GLU:O	2.08	0.54
52:ZA:37:PRO:CD	52:ZA:46:LYS:HD2	2.38	0.54
53:AB:162:GLN:HG3	53:AB:166:ASP:OD2	2.08	0.54
54:BB:9:LEU:O	54:BB:27:TYR:HB3	2.08	0.54
55:CB:41:LYS:HD3	66:NB:54:LEU:HD21	1.88	0.54
61:IB:77:SER:O	61:IB:84:ILE:HB	2.08	0.54
63:KB:22:ALA:CB	63:KB:23:PRO:HA	2.25	0.54
66:NB:114:ARG:H	66:NB:116:LEU:HD23	1.71	0.54
68:PB:111:ASP:O	68:PB:115:ARG:HB2	2.08	0.54
69:QB:57:ARG:O	69:QB:61:VAL:HG23	2.08	0.54
82:DC:335:LEU:HA	82:DC:338:ILE:CD1	2.26	0.54
82:DC:637:GLY:O	82:DC:644:ASN:HB2	2.07	0.54
82:DC:715:ALA:HA	82:DC:835:TRP:HA	1.88	0.54
1:A:430:G:H2'	1:A:431:C:C6	2.43	0.54
1:A:1667:A:H2'	1:A:1668:G:H8	1.73	0.54
2:B:221:A:OP1	2:B:221:A:H3'	2.07	0.54
2:B:1220:U:H3'	2:B:1221:A:H2	1.68	0.54
2:B:1388:U:O2'	36:JA:99:ASN:O	2.24	0.54
2:B:1427:U:OP2	32:FA:4:ARG:NH2	2.41	0.54
2:B:1656:A:H4'	2:B:1657:C:O5'	2.06	0.54
2:B:2152:A:H2'	2:B:2153:U:C6	2.43	0.54
2:B:2394:G:H2'	2:B:2395:G:O4'	2.06	0.54
2:B:2752:U:H5'	2:B:2752:U:C6	2.43	0.54
2:B:3198:U:H1'	13:M:21:LYS:CB	2.38	0.54
5:E:72:PHE:HA	5:E:75:ASP:HB3	1.90	0.54
10:J:136:GLU:O	10:J:140:VAL:HG23	2.08	0.54
14:N:35:ASP:OD2	14:N:88:ARG:HG3	2.08	0.54
21:U:67:ILE:N	21:U:67:ILE:HD12	2.23	0.54
23:W:163:ARG:HG3	23:W:164:LEU:HG	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:64:VAL:HG13	25:Y:64:VAL:O	2.07	0.54
37:KA:23:ASN:O	37:KA:25:PRO:HD3	2.07	0.54
46:TA:74:CYS:O	46:TA:78:LYS:HA	2.08	0.54
49:WA:242:SER:HB3	49:WA:292:LEU:HD23	1.90	0.54
54:BB:44:LEU:HD21	54:BB:84:ALA:CB	2.38	0.54
70:RB:22:ILE:HG21	70:RB:100:VAL:HG13	1.88	0.54
77:YB:50:ALA:O	77:YB:51:GLN:HB2	2.08	0.54
82:DC:189:VAL:CG1	82:DC:201:GLN:HG3	2.38	0.54
82:DC:213:SER:HB3	82:DC:216:HIS:HB2	1.90	0.54
1:A:639:U:H5'	57:EB:101:LYS:HD2	1.89	0.54
1:A:1241:G:H1'	65:MB:79:HIS:H	1.73	0.54
1:A:1321:A:H4'	1:A:1322:A:O5'	2.08	0.54
2:B:599:C:H2'	2:B:600:G:H5"	1.90	0.54
2:B:637:C:H2'	2:B:638:C:C5	2.42	0.54
2:B:669:U:H2'	2:B:670:C:O4'	2.08	0.54
2:B:1098:A:O2'	2:B:1099:A:H5'	2.08	0.54
2:B:1269:U:H1'	2:B:1272:C:C5	2.43	0.54
2:B:3371:G:H2'	2:B:3372:A:C8	2.43	0.54
3:C:38:U:C5	39:MA:78:LYS:HD3	2.43	0.54
7:G:296:THR:HG22	7:G:297:SER:N	2.22	0.54
8:H:3:ARG:HH11	8:H:22:LEU:HB2	1.73	0.54
8:H:300:ARG:HH11	8:H:300:ARG:HG3	1.73	0.54
13:M:9:GLN:HB3	13:M:52:LEU:HD21	1.89	0.54
24:X:40:ARG:HD2	24:X:43:TYR:CD1	2.43	0.54
29:CA:131:ASP:HB3	29:CA:134:ASP:OD2	2.07	0.54
33:GA:23:LYS:HB3	33:GA:24:PRO:HD2	1.90	0.54
47:UA:59:CYS:O	47:UA:60:CYS:SG	2.66	0.54
48:VA:26:PHE:HB2	48:VA:87:VAL:CG1	2.38	0.54
49:WA:106:HIS:C	49:WA:108:SER:H	2.11	0.54
49:WA:150:TRP:HB2	49:WA:174:ASN:HB2	1.90	0.54
49:WA:211:ILE:HG22	49:WA:212:ALA:N	2.23	0.54
50:XA:13:ASP:HA	50:XA:16:LEU:HG	1.90	0.54
50:XA:20:ALA:HA	50:XA:168:HIS:HB2	1.90	0.54
55:CB:107:LYS:O	55:CB:111:VAL:HG23	2.08	0.54
58:FB:43:ILE:HD13	58:FB:177:GLY:O	2.08	0.54
63:KB:50:ILE:HG22	63:KB:71:ILE:HD13	1.89	0.54
82:DC:815:ALA:HA	82:DC:818:ILE:HD12	1.90	0.54
83:EC:6909:A:H3'	83:EC:6910:A:C8	2.43	0.54
1:A:285:G:H2'	1:A:286:C:C6	2.43	0.53
1:A:768:C:O4'	59:GB:143:ILE:HD13	2.08	0.53
1:A:854:U:H2'	1:A:855:A:C4'	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1207:C:H42	1:A:1456:C:H5	1.56	0.53
1:A:1451:C:H2'	1:A:1452:U:C6	2.42	0.53
2:B:300:G:H2'	2:B:301:G:H8	1.73	0.53
2:B:522:A:H3'	2:B:523:A:C5'	2.35	0.53
2:B:713:U:O2	2:B:754:G:H4'	2.09	0.53
2:B:1015:U:O4'	2:B:1017:C:H2'	2.07	0.53
2:B:2477:G:H2'	2:B:2477:G:N3	2.23	0.53
2:B:2880:U:O2	7:G:250:ALA:HB3	2.08	0.53
2:B:3299:A:H2	2:B:3315:G:H22	1.56	0.53
6:F:42:ARG:HD2	6:F:87:PHE:CG	2.43	0.53
6:F:112:ILE:CD1	47:UA:79:VAL:HG22	2.39	0.53
7:G:106:TRP:HB2	7:G:133:TYR:CE2	2.42	0.53
9:I:51:LEU:HB2	9:I:144:VAL:HG22	1.90	0.53
13:M:16:VAL:HG12	13:M:17:THR:N	2.24	0.53
16:P:132:ILE:O	16:P:136:ALA:HB3	2.07	0.53
17:Q:75:PHE:O	17:Q:76:THR:O	2.25	0.53
22:V:70:ALA:C	22:V:72:LYS:H	2.12	0.53
39:MA:74:LYS:O	39:MA:74:LYS:HD3	2.08	0.53
52:ZA:53:ILE:HA	52:ZA:72:LEU:HD23	1.90	0.53
55:CB:217:LEU:HA	55:CB:220:VAL:HB	1.89	0.53
60:HB:40:LEU:O	60:HB:40:LEU:HD13	2.08	0.53
66:NB:12:LYS:HA	66:NB:16:ALA:O	2.09	0.53
70:RB:74:GLU:HG3	70:RB:75:GLY:N	2.23	0.53
73:UB:89:ASN:HB3	73:UB:136:TRP:CE2	2.42	0.53
75:WB:93:SER:CB	75:WB:100:ILE:H	2.16	0.53
82:DC:179:ALA:O	82:DC:183:GLU:HG3	2.08	0.53
82:DC:638:PRO:HA	82:DC:668:GLN:NE2	2.21	0.53
1:A:158:U:C2'	1:A:159:U:H3'	2.39	0.53
1:A:646:C:H2'	1:A:647:G:H8	1.74	0.53
2:B:129:U:H2'	2:B:130:A:C8	2.43	0.53
2:B:974:G:H5'	22:V:16:ARG:HG2	1.91	0.53
2:B:1220:U:H3'	2:B:1221:A:N3	2.21	0.53
2:B:1471:U:O2'	2:B:1472:U:H5'	2.09	0.53
2:B:1668:G:H2'	2:B:1669:C:C6	2.44	0.53
2:B:2225:U:H2'	2:B:2226:U:C6	2.43	0.53
2:B:2389:C:H1'	21:U:69:ARG:NH2	2.23	0.53
6:F:242:ARG:CG	6:F:243:THR:N	2.63	0.53
22:V:72:LYS:NZ	22:V:72:LYS:HB3	2.23	0.53
24:X:82:ASP:HA	24:X:87:THR:HA	1.89	0.53
25:Y:40:VAL:O	25:Y:61:THR:HG23	2.09	0.53
48:VA:180:PRO:C	48:VA:182:THR:H	2.12	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:11:ARG:HH12	54:BB:20:LEU:HB3	1.73	0.53
54:BB:31:PRO:HG2	54:BB:38:LEU:HD13	1.88	0.53
56:DB:2:LYS:HB3	56:DB:108:VAL:HG22	1.89	0.53
82:DC:32:LYS:HD2	82:DC:33:SER:N	2.23	0.53
82:DC:91:GLN:HE21	82:DC:347:THR:H	1.55	0.53
82:DC:488:VAL:HB	82:DC:796:MET:CE	2.39	0.53
82:DC:564:ARG:O	82:DC:725:GLN:HB2	2.07	0.53
82:DC:699:DDE:HAC2	82:DC:699:DDE:HAD2	1.73	0.53
1:A:435:C:OP2	73:UB:50:LYS:HB3	2.08	0.53
1:A:1104:U:OP1	73:UB:14:LYS:HE3	2.09	0.53
1:A:1318:G:H5"	67:OB:67:ARG:NH1	2.21	0.53
2:B:1560:G:H2'	2:B:1561:G:C8	2.42	0.53
2:B:2179:C:N3	6:F:172:GLY:HA2	2.23	0.53
2:B:2317:A:H2'	2:B:2318:U:H5'	1.89	0.53
2:B:2730:G:C2'	2:B:2731:U:H5'	2.37	0.53
2:B:3034:C:H2'	2:B:3035:A:H8	1.73	0.53
2:B:3121:U:H1'	2:B:3122:A:H5"	1.90	0.53
6:F:203:ALA:HA	6:F:217:GLN:HE21	1.73	0.53
7:G:332:ARG:HG2	7:G:332:ARG:NH1	2.21	0.53
9:I:131:LEU:HB3	9:I:175:HIS:HE1	1.73	0.53
11:K:156:ILE:HD12	11:K:161:VAL:CB	2.38	0.53
13:M:133:THR:C	13:M:134:ILE:HD12	2.29	0.53
18:R:39:ILE:HB	18:R:43:LYS:O	2.07	0.53
20:T:160:ARG:HB3	20:T:160:ARG:HH11	1.74	0.53
22:V:82:VAL:HG22	22:V:102:ALA:HB3	1.89	0.53
31:EA:75:VAL:HG13	31:EA:80:LEU:HD11	1.91	0.53
34:HA:47:ASN:ND2	34:HA:74:ASN:ND2	2.56	0.53
34:HA:90:VAL:HG12	34:HA:91:SER:H	1.73	0.53
39:MA:90:ARG:HH11	39:MA:90:ARG:HG3	1.74	0.53
46:TA:42:ARG:O	46:TA:45:ARG:HB3	2.08	0.53
49:WA:42:LEU:HD13	49:WA:61:PHE:HB2	1.89	0.53
57:EB:102:PRO:HD3	57:EB:112:ARG:CD	2.36	0.53
57:EB:127:GLU:HA	57:EB:135:ILE:CD1	2.38	0.53
57:EB:140:VAL:O	72:TB:51:GLU:HA	2.09	0.53
61:IB:35:TYR:CG	61:IB:49:ILE:HG12	2.43	0.53
63:KB:64:ARG:HG3	63:KB:64:ARG:NH1	2.23	0.53
67:OB:85:VAL:O	67:OB:87:GLU:N	2.41	0.53
73:UB:107:PHE:CE1	73:UB:114:LYS:HD2	2.43	0.53
82:DC:164:LEU:CD2	82:DC:174:LEU:HD22	2.29	0.53
1:A:372:G:H1'	1:A:612:U:O2	2.09	0.53
1:A:939:A:H2'	1:A:940:A:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1055:U:O2'	1:A:1056:U:H5'	2.08	0.53
1:A:1106:U:O2'	1:A:1107:G:H5'	2.08	0.53
1:A:1423:U:H2'	1:A:1424:A:O4'	2.08	0.53
2:B:576:C:H2'	2:B:577:C:H6	1.73	0.53
2:B:947:G:H2'	2:B:948:C:C6	2.44	0.53
2:B:1078:U:H1'	2:B:1082:U:C2	2.43	0.53
2:B:1301:A:H4'	2:B:1302:A:C5'	2.39	0.53
2:B:1460:A:H2'	2:B:1461:A:C8	2.43	0.53
2:B:2085:U:C3'	2:B:2086:A:H5'	2.39	0.53
2:B:2904:U:H2'	2:B:2905:U:C6	2.43	0.53
7:G:79:VAL:HG13	7:G:79:VAL:O	2.08	0.53
7:G:126:LYS:HB2	7:G:128:LYS:HG2	1.90	0.53
8:H:219:LEU:O	8:H:220:ARG:C	2.47	0.53
11:K:145:ARG:HB3	11:K:145:ARG:HH11	1.72	0.53
13:M:47:LYS:HE2	18:R:6:ILE:H	1.74	0.53
15:O:149:GLY:O	15:O:153:LYS:HB2	2.09	0.53
18:R:94:TRP:CE2	18:R:100:ALA:HB2	2.43	0.53
19:S:73:ARG:CZ	19:S:92:LEU:HD21	2.38	0.53
19:S:162:ARG:CB	19:S:162:ARG:HH11	2.20	0.53
22:V:38:ARG:HH21	22:V:39:ARG:HD3	1.73	0.53
24:X:89:ASN:HD21	25:Y:156:TYR:N	2.07	0.53
34:HA:22:LYS:HD2	34:HA:22:LYS:N	2.24	0.53
38:LA:81:CYS:O	38:LA:82:ALA:HB3	2.08	0.53
42:PA:17:ARG:HH22	42:PA:52:TYR:HE2	1.55	0.53
49:WA:10:ARG:HG2	49:WA:314:GLN:HG3	1.89	0.53
65:MB:44:ARG:NH1	65:MB:52:LYS:HD2	2.24	0.53
66:NB:22:VAL:HA	66:NB:64:ASP:O	2.08	0.53
68:PB:24:GLY:O	68:PB:26:ILE:HG12	2.08	0.53
83:EC:6852:U:H2'	83:EC:6853:G:H8	1.74	0.53
83:EC:6941:U:H2'	83:EC:6942:A:H5"	1.89	0.53
83:EC:6951:C:H2'	83:EC:6952:U:C6	2.43	0.53
1:A:1042:G:C3'	1:A:1043:A:H5"	2.38	0.53
1:A:1433:G:N7	70:RB:71:PRO:HB3	2.24	0.53
1:A:1524:A:H4'	69:QB:93:HIS:CD2	2.43	0.53
1:A:1569:A:H2'	1:A:1570:A:C8	2.43	0.53
2:B:110:G:H5"	17:Q:91:ARG:CD	2.38	0.53
2:B:911:C:H5"	6:F:15:ILE:HD13	1.90	0.53
2:B:1674:G:H2'	2:B:1675:G:O4'	2.08	0.53
2:B:1757:A:H2'	2:B:1758:G:C8	2.44	0.53
2:B:1845:G:H5"	2:B:1846:C:H5"	1.91	0.53
2:B:1915:A:H2'	2:B:1916:U:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1916:U:O2'	2:B:1917:C:H5'	2.08	0.53
2:B:2203:U:H2'	2:B:2204:C:C6	2.43	0.53
2:B:2225:U:H2'	2:B:2226:U:H6	1.73	0.53
2:B:2457:G:H2'	2:B:2459:A:N7	2.22	0.53
2:B:2553:U:H5"	6:F:87:PHE:CE2	2.43	0.53
2:B:2818:U:H5"	33:GA:2:ALA:HB2	1.91	0.53
2:B:3148:U:H2'	2:B:3149:G:H8	1.72	0.53
3:C:57:C:O2'	3:C:58:G:H5'	2.09	0.53
5:E:109:ALA:CB	5:E:151:VAL:HG13	2.38	0.53
7:G:37:ARG:HA	7:G:186:GLY:HA2	1.90	0.53
7:G:86:VAL:HG13	7:G:160:VAL:HG13	1.91	0.53
8:H:119:ARG:HA	8:H:122:THR:OG1	2.08	0.53
8:H:314:LYS:O	8:H:314:LYS:HG3	2.08	0.53
17:Q:140:SER:HB3	17:Q:143:ALA:HB3	1.90	0.53
27:AA:87:ARG:HE	27:AA:93:LEU:HD11	1.72	0.53
32:FA:90:TYR:CG	32:FA:100:PRO:HG3	2.44	0.53
38:LA:94:LEU:HD23	38:LA:94:LEU:O	2.08	0.53
39:MA:27:GLU:O	39:MA:31:LEU:HB2	2.07	0.53
54:BB:42:LEU:HB2	54:BB:109:PHE:CD2	2.43	0.53
56:DB:211:LEU:O	56:DB:215:ARG:HB2	2.08	0.53
57:EB:10:SER:HB2	57:EB:42:GLN:HE22	1.73	0.53
59:GB:126:ARG:HD3	80:BC:33:ARG:CD	2.38	0.53
60:HB:40:LEU:HA	60:HB:43:ILE:HD12	1.89	0.53
65:MB:29:SER:OG	65:MB:31:GLU:HG2	2.08	0.53
82:DC:378:LEU:HD12	82:DC:403:GLY:HA3	1.91	0.53
82:DC:414:GLN:HE21	82:DC:418:TYR:HE2	1.55	0.53
82:DC:571:SER:HA	82:DC:720:ALA:N	2.24	0.53
1:A:992:A:H5"	1:A:1786:G:O4'	2.08	0.53
2:B:40:A:C2	32:FA:40:HIS:CE1	2.96	0.53
2:B:1064:A:H5"	2:B:1066:G:O4'	2.09	0.53
2:B:1259:A:H1'	2:B:1280:C:O2'	2.09	0.53
2:B:1480:G:C6	2:B:1871:U:H5"	2.44	0.53
2:B:1966:U:H3	2:B:2049:A:H62	1.57	0.53
2:B:3066:U:H2'	2:B:3067:C:C6	2.44	0.53
2:B:3325:G:H1'	35:IA:105:GLN:HE21	1.74	0.53
3:C:64:U:O2'	3:C:65:A:H5'	2.08	0.53
6:F:55:GLY:HA3	6:F:174:ARG:NE	2.24	0.53
6:F:126:LEU:HD22	6:F:150:LEU:HD21	1.89	0.53
6:F:251:LYS:HA	6:F:251:LYS:NZ	2.23	0.53
8:H:166:VAL:O	8:H:170:LYS:HB2	2.09	0.53
9:I:220:SER:O	9:I:224:LYS:HE3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:138:THR:C	13:M:140:VAL:H	2.12	0.53
16:P:123:ARG:NH1	48:VA:42:ARG:HD3	2.14	0.53
21:U:169:THR:OG1	21:U:172:GLN:HB2	2.09	0.53
23:W:115:ILE:HD12	23:W:123:LEU:HD12	1.91	0.53
25:Y:79:MET:HB2	25:Y:84:TYR:HE2	1.73	0.53
29:CA:60:TYR:N	29:CA:60:TYR:CD1	2.75	0.53
30:DA:82:VAL:CG1	30:DA:85:VAL:H	2.19	0.53
50:XA:77:SER:HA	50:XA:124:THR:OG1	2.08	0.53
55:CB:30:PRO:HB2	55:CB:33:VAL:HB	1.91	0.53
55:CB:99:MET:N	55:CB:103:ASN:HB3	2.24	0.53
55:CB:187:ILE:HD12	55:CB:187:ILE:N	2.18	0.53
67:OB:19:ARG:HG3	67:OB:20:TYR:HD1	1.74	0.53
73:UB:90:ASP:OD2	80:BC:12:GLY:HA2	2.08	0.53
82:DC:413:ILE:O	82:DC:426:LEU:HA	2.08	0.53
1:A:486:G:H2'	1:A:487:G:C8	2.44	0.53
1:A:772:G:N2	1:A:774:A:H1'	2.24	0.53
1:A:801:G:H2'	1:A:802:G:C8	2.43	0.53
1:A:828:U:C3'	1:A:829:A:H5"	2.38	0.53
1:A:847:A:H2'	1:A:848:C:C6	2.44	0.53
1:A:1608:U:OP1	66:NB:15:SER:HB3	2.08	0.53
2:B:79:U:H2'	2:B:80:G:H8	1.72	0.53
2:B:146:U:H5"	2:B:148:G:O4'	2.08	0.53
2:B:583:G:H21	37:KA:42:GLN:HE22	1.57	0.53
2:B:860:G:C5	6:F:181:LYS:HB2	2.43	0.53
2:B:2317:A:O2'	2:B:2318:U:H5'	2.09	0.53
2:B:2615:G:H2'	2:B:2616:C:H6	1.73	0.53
2:B:2736:A:H4'	25:Y:71:SER:CB	2.39	0.53
2:B:3049:A:H5"	7:G:53:MET:HB2	1.91	0.53
7:G:73:VAL:HG21	27:AA:90:GLY:CA	2.38	0.53
7:G:141:GLY:HA2	7:G:144:ILE:HD13	1.90	0.53
15:O:15:GLU:HB2	15:O:132:ASN:OD1	2.08	0.53
18:R:36:VAL:HG11	18:R:55:ARG:NH1	2.23	0.53
18:R:45:LEU:HA	18:R:57:ALA:HA	1.90	0.53
23:W:176:ARG:HD2	23:W:176:ARG:N	2.24	0.53
24:X:132:THR:O	24:X:133:ALA:HB3	2.09	0.53
25:Y:11:THR:HB	25:Y:14:MET:HB3	1.90	0.53
30:DA:73:VAL:O	30:DA:73:VAL:HG12	2.08	0.53
37:KA:69:GLY:O	37:KA:70:LYS:HB3	2.08	0.53
38:LA:21:LYS:HE3	38:LA:35:VAL:HG21	1.91	0.53
38:LA:23:VAL:CG2	38:LA:33:GLN:HB2	2.39	0.53
41:OA:54:LYS:O	41:OA:58:THR:HG23	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:94:ALA:CB	74:VB:17:LEU:HB3	2.38	0.53
55:CB:112:ARG:HH21	55:CB:115:LYS:HD2	1.73	0.53
56:DB:175:ILE:HB	56:DB:178:LEU:HD22	1.90	0.53
61:IB:109:VAL:HG21	61:IB:125:VAL:HG11	1.89	0.53
72:TB:3:ARG:HG2	72:TB:6:VAL:HA	1.90	0.53
74:VB:50:ALA:HB1	74:VB:54:ALA:CB	2.36	0.53
80:BC:40:TYR:O	80:BC:44:PHE:HB2	2.08	0.53
82:DC:106:PRO:HG3	82:DC:114:GLU:HB2	1.90	0.53
82:DC:127:VAL:CG2	82:DC:153:PRO:HB2	2.38	0.53
1:A:925:G:H2'	1:A:926:A:H8	1.73	0.53
1:A:1331:A:C2'	1:A:1332:C:H5'	2.39	0.53
1:A:1724:U:H2'	1:A:1725:U:C5	2.44	0.53
2:B:70:A:H2	2:B:72:C:H42	1.57	0.53
2:B:519:A:H5"	8:H:355:PHE:HZ	1.74	0.53
2:B:677:A:H4'	2:B:678:G:O5'	2.08	0.53
2:B:2085:U:C2'	2:B:2086:A:H5'	2.37	0.53
2:B:3154:C:H4'	2:B:3155:U:H5'	1.90	0.53
2:B:3231:U:H2'	2:B:3232:G:C8	2.44	0.53
3:C:146:U:H2'	3:C:147:U:C6	2.44	0.53
5:E:94:ASN:HD21	5:E:124:LEU:CA	2.22	0.53
9:I:103:LEU:CD1	9:I:169:GLY:HA2	2.31	0.53
13:M:134:ILE:HD11	13:M:146:LEU:HD23	1.91	0.53
15:O:48:SER:O	15:O:64:LYS:HA	2.09	0.53
16:P:133:LEU:HA	16:P:137:GLN:HG3	1.90	0.53
17:Q:63:VAL:HG12	32:FA:128:ARG:HH22	1.73	0.53
18:R:15:VAL:HG13	24:X:150:PHE:O	2.08	0.53
26:Z:50:LEU:CD2	26:Z:54:VAL:HG21	2.39	0.53
27:AA:84:SER:HA	27:AA:94:TYR:HB3	1.90	0.53
29:CA:92:LYS:HG3	29:CA:110:VAL:CB	2.37	0.53
39:MA:44:ILE:O	39:MA:47:VAL:HG12	2.08	0.53
46:TA:21:THR:HG22	46:TA:22:GLN:N	2.24	0.53
50:XA:84:ARG:HH21	50:XA:204:TYR:HA	1.74	0.53
56:DB:84:TYR:CE1	56:DB:86:PRO:HG3	2.44	0.53
73:UB:59:ILE:HB	73:UB:71:CYS:SG	2.48	0.53
74:VB:56:SER:HB3	74:VB:74:LEU:O	2.09	0.53
82:DC:39:LEU:HD21	82:DC:334:LEU:HD12	1.90	0.53
82:DC:663:VAL:HG13	82:DC:709:MET:CE	2.39	0.53
83:EC:6761:C:H2'	83:EC:6762:U:C6	2.44	0.53
83:EC:6892:U:O2	83:EC:6938:A:H2	1.91	0.53
1:A:154:G:H1'	56:DB:56:ASN:ND2	2.21	0.53
1:A:385:A:H5"	58:FB:22:ARG:HB3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:455:C:O2'	1:A:456:A:H5'	2.09	0.53
1:A:872:G:N2	1:A:1047:G:H4'	2.24	0.53
1:A:1448:G:H5'	1:A:1448:G:H8	1.73	0.53
1:A:1507:G:OP1	1:A:1551:U:H4'	2.09	0.53
1:A:1605:G:OP2	66:NB:127:LYS:HD3	2.08	0.53
1:A:1614:A:H5'	78:ZB:47:PRO:HG3	1.91	0.53
2:B:655:C:H2'	2:B:656:A:C8	2.44	0.53
2:B:834:U:C2'	2:B:835:G:H5'	2.39	0.53
2:B:1095:U:C2	25:Y:127:GLN:HA	2.44	0.53
2:B:1112:A:H2'	2:B:1113:G:O4'	2.09	0.53
2:B:1221:A:H5'	48:VA:63:ILE:CD1	2.39	0.53
2:B:1708:C:H2'	2:B:1709:C:H6	1.74	0.53
2:B:2217:U:H2'	2:B:2218:G:C8	2.44	0.53
2:B:2822:U:H2'	2:B:2823:G:O4'	2.09	0.53
4:D:13:A:OP1	4:D:111:U:H1'	2.09	0.53
9:I:22:ARG:NH2	9:I:28:THR:OG1	2.42	0.53
11:K:145:ARG:HG3	11:K:185:ILE:HD13	1.90	0.53
13:M:8:GLN:HB3	13:M:72:LYS:HG3	1.91	0.53
20:T:73:PHE:CB	20:T:78:ARG:HB3	2.38	0.53
21:U:67:ILE:HD12	21:U:67:ILE:H	1.74	0.53
23:W:162:ARG:HB3	23:W:162:ARG:CZ	2.37	0.53
26:Z:14:THR:HG23	26:Z:66:VAL:HG22	1.89	0.53
31:EA:51:LEU:HD12	31:EA:65:ARG:CD	2.39	0.53
38:LA:22:VAL:HG12	38:LA:30:LEU:HD21	1.91	0.53
47:UA:84:ARG:HG2	47:UA:84:ARG:HH11	1.73	0.53
49:WA:47:LEU:HD23	49:WA:55:GLY:CA	2.39	0.53
54:BB:49:ARG:HD2	54:BB:61:VAL:HG21	1.91	0.53
56:DB:51:LYS:O	56:DB:111:LEU:HA	2.09	0.53
74:VB:15:ASN:HB3	74:VB:18:LEU:HB2	1.91	0.53
74:VB:105:ARG:HH11	74:VB:109:LYS:NZ	2.01	0.53
82:DC:22:MET:HG2	82:DC:338:ILE:HG23	1.91	0.53
82:DC:22:MET:CE	82:DC:338:ILE:HG12	2.38	0.53
82:DC:70:ILE:HG23	82:DC:71:LYS:HG3	1.90	0.53
82:DC:433:ARG:HH21	82:DC:444:PRO:CB	2.22	0.53
82:DC:644:ASN:ND2	82:DC:681:MET:HB2	2.20	0.53
82:DC:695:ALA:HB3	83:EC:6906:G:OP1	2.09	0.53
83:EC:6927:U:H5"	83:EC:6928:G:O4'	2.09	0.53
1:A:243:G:C2'	1:A:244:A:H5'	2.38	0.53
1:A:310:C:H4'	73:UB:33:LEU:HD13	1.89	0.53
1:A:782:U:O4	74:VB:48:TYR:HA	2.08	0.53
1:A:1454:G:H4'	65:MB:122:THR:CG2	2.33	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1207:G:H5"	44:RA:119:ASN:ND2	2.24	0.53
2:B:1255:C:O2	16:P:131:GLU:HG3	2.09	0.53
2:B:2430:A:H2'	2:B:2431:C:C6	2.43	0.53
9:I:8:LYS:HG3	9:I:12:TYR:CE1	2.44	0.53
15:O:100:GLY:HA3	15:O:154:THR:HG22	1.91	0.53
29:CA:82:LEU:HD13	29:CA:84:PHE:HZ	1.73	0.53
47:UA:38:ASP:HA	47:UA:45:LYS:HA	1.91	0.53
48:VA:87:VAL:O	48:VA:87:VAL:HG12	2.09	0.53
50:XA:152:PRO:C	50:XA:154:GLU:H	2.12	0.53
54:BB:51:ARG:HG2	54:BB:51:ARG:HH11	1.73	0.53
56:DB:67:VAL:HG23	56:DB:100:ALA:N	2.23	0.53
58:FB:26:LYS:HD2	58:FB:29:LEU:HD22	1.90	0.53
59:GB:109:LEU:HG	59:GB:146:PHE:HB3	1.91	0.53
60:HB:52:LYS:HG3	60:HB:54:TYR:HE2	1.73	0.53
60:HB:58:GLN:CB	60:HB:65:TYR:HB2	2.25	0.53
65:MB:90:ILE:HG12	65:MB:107:ILE:CG2	2.39	0.53
70:RB:24:ILE:HD13	70:RB:41:ILE:HG21	1.91	0.53
70:RB:38:SER:O	70:RB:42:VAL:HG23	2.09	0.53
70:RB:43:LYS:HA	70:RB:46:GLU:HB2	1.90	0.53
72:TB:29:PRO:HB2	72:TB:58:SER:HB2	1.91	0.53
82:DC:78:TYR:CE2	82:DC:80:GLU:HB2	2.44	0.53
82:DC:189:VAL:HG12	82:DC:201:GLN:HG3	1.91	0.53
82:DC:374:PRO:HA	82:DC:450:ALA:CB	2.38	0.53
82:DC:628:THR:HG22	82:DC:629:ASP:N	2.24	0.53
1:A:34:G:O2'	1:A:35:U:H5'	2.08	0.52
1:A:301:A:H5"	58:FB:27:PHE:CE2	2.44	0.52
1:A:400:A:H61	58:FB:29:LEU:HD13	1.73	0.52
1:A:1686:C:H2'	1:A:1687:U:O4'	2.09	0.52
1:A:1762:A:C2'	1:A:1763:A:H5'	2.39	0.52
2:B:41:G:N2	2:B:2803:A:H62	2.07	0.52
2:B:299:G:H2'	2:B:300:G:C8	2.44	0.52
2:B:1234:G:N2	16:P:131:GLU:HB2	2.23	0.52
2:B:1282:G:H5'	48:VA:83:ASN:ND2	2.23	0.52
2:B:1329:U:OP1	37:KA:17:GLN:HG3	2.09	0.52
2:B:2293:C:OP2	27:AA:71:LYS:HE3	2.08	0.52
2:B:2529:A:H2'	2:B:2530:G:O4'	2.09	0.52
5:E:69:GLY:HA2	5:E:116:LEU:HD11	1.91	0.52
8:H:64:SER:CA	8:H:75:PRO:HA	2.38	0.52
13:M:33:THR:HG22	13:M:34:LEU:H	1.74	0.52
16:P:128:VAL:HG12	16:P:132:ILE:CD1	2.30	0.52
17:Q:89:TYR:O	17:Q:93:ILE:HG12	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:187:ARG:O	19:S:190:THR:HG22	2.08	0.52
22:V:92:ARG:HD3	32:FA:76:ASP:OD2	2.09	0.52
23:W:117:LYS:HG3	23:W:118:HIS:CD2	2.43	0.52
30:DA:88:GLU:CD	30:DA:88:GLU:N	2.63	0.52
46:TA:68:VAL:HG23	46:TA:85:LEU:CB	2.37	0.52
48:VA:10:GLU:O	48:VA:14:LYS:HG3	2.09	0.52
48:VA:30:VAL:HG13	48:VA:31:ASP:N	2.23	0.52
48:VA:100:ILE:HG13	48:VA:101:VAL:N	2.24	0.52
50:XA:105:GLY:HA2	50:XA:135:GLU:OE2	2.09	0.52
52:ZA:111:VAL:HG22	52:ZA:139:ILE:HD11	1.91	0.52
52:ZA:169:LEU:HD21	52:ZA:188:LEU:HD11	1.90	0.52
53:AB:98:ALA:CB	53:AB:169:ASP:HB3	2.39	0.52
60:HB:82:LEU:HB2	60:HB:86:ILE:CG2	2.39	0.52
65:MB:43:ARG:HG2	65:MB:43:ARG:HH11	1.74	0.52
71:SB:5:LYS:HD3	71:SB:5:LYS:N	2.12	0.52
71:SB:56:SER:OG	71:SB:59:VAL:HG23	2.09	0.52
73:UB:24:TRP:HE3	73:UB:30:LYS:HG2	1.75	0.52
80:BC:41:THR:HA	80:BC:45:VAL:HB	1.90	0.52
82:DC:373:ASP:CB	82:DC:376:ALA:HB2	2.39	0.52
82:DC:650:THR:HG22	82:DC:690:ASP:N	2.24	0.52
82:DC:656:LEU:HA	82:DC:659:ILE:HD13	1.91	0.52
1:A:465:G:H2'	1:A:466:U:H5'	1.91	0.52
1:A:479:C:H5'	59:GB:124:HIS:CB	2.38	0.52
1:A:680:U:C2'	1:A:681:U:H5'	2.36	0.52
1:A:1602:C:H2'	1:A:1603:U:O4'	2.09	0.52
2:B:12:A:H2	3:C:146:U:H3	1.55	0.52
2:B:117:U:H5	12:L:145:ASN:ND2	2.07	0.52
2:B:1313:G:H5"	20:T:83:ALA:HB1	1.90	0.52
2:B:1615:C:H2'	2:B:1616:U:C6	2.43	0.52
2:B:1659:U:H2'	2:B:1660:C:C6	2.45	0.52
2:B:1689:U:O2'	2:B:1690:C:H5'	2.10	0.52
7:G:49:TYR:H	7:G:79:VAL:CG2	2.23	0.52
8:H:136:LEU:HD21	8:H:142:VAL:HG23	1.89	0.52
8:H:145:ILE:HB	8:H:146:PRO:HD2	1.90	0.52
9:I:117:GLU:HG3	9:I:118:THR:N	2.23	0.52
14:N:170:LYS:HA	14:N:176:LEU:O	2.09	0.52
16:P:103:ASN:HA	16:P:141:CYS:HB2	1.90	0.52
21:U:15:ALA:O	21:U:150:VAL:HG22	2.08	0.52
24:X:12:ARG:HH11	24:X:22:PRO:CD	2.22	0.52
24:X:80:ARG:HB3	24:X:122:HIS:HB2	1.91	0.52
27:AA:132:ASN:HD22	27:AA:132:ASN:N	2.06	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:NA:34:SER:OG	40:NA:36:ARG:HB3	2.10	0.52
41:OA:21:ARG:NH2	41:OA:41:ALA:O	2.42	0.52
54:BB:118:GLU:HA	54:BB:121:TYR:CZ	2.44	0.52
54:BB:126:VAL:HG23	54:BB:157:ASN:H	1.73	0.52
55:CB:99:MET:O	55:CB:100:ASN:HB2	2.09	0.52
56:DB:6:SER:HB3	56:DB:13:GLN:HB3	1.90	0.52
59:GB:119:ALA:O	59:GB:120:LYS:HB2	2.09	0.52
61:IB:16:GLN:CG	61:IB:54:ILE:HG13	2.39	0.52
61:IB:70:ILE:C	61:IB:71:LEU:HD23	2.29	0.52
69:QB:27:LYS:NZ	69:QB:27:LYS:HB3	2.24	0.52
69:QB:65:ILE:HG12	69:QB:71:VAL:HG22	1.91	0.52
71:SB:39:VAL:HG12	71:SB:45:ALA:HB2	1.91	0.52
83:EC:6919:G:H2'	83:EC:6919:G:N3	2.23	0.52
1:A:98:U:H2'	1:A:99:C:C6	2.45	0.52
1:A:258:C:H2'	1:A:259:U:C6	2.44	0.52
1:A:641:G:N2	57:EB:178:GLY:HA3	2.22	0.52
1:A:1315:U:H2'	1:A:1316:G:O4'	2.09	0.52
1:A:1604:U:H4'	70:RB:79:TRP:CE3	2.45	0.52
2:B:320:G:O2'	2:B:321:C:H5'	2.09	0.52
2:B:1259:A:H62	48:VA:38:MET:HG2	1.73	0.52
2:B:1522:U:H3'	29:CA:113:LEU:HD22	1.90	0.52
2:B:1886:A:O2'	2:B:1887:A:H5'	2.10	0.52
2:B:2562:A:H2'	2:B:2563:G:O4'	2.09	0.52
2:B:3181:C:H2'	2:B:3182:G:O4'	2.09	0.52
8:H:40:THR:O	8:H:44:LYS:HG3	2.09	0.52
9:I:12:TYR:CE2	9:I:16:PHE:HD2	2.27	0.52
12:L:143:ILE:HG22	12:L:169:LEU:HD22	1.89	0.52
15:O:32:ARG:HH21	15:O:121:GLY:CA	2.09	0.52
15:O:101:ASN:CB	15:O:130:VAL:HA	2.39	0.52
18:R:25:LYS:HE3	18:R:62:GLN:HG2	1.92	0.52
24:X:43:TYR:HE2	24:X:47:LYS:HE2	1.75	0.52
47:UA:54:ILE:HG23	47:UA:63:THR:HG23	1.92	0.52
49:WA:105:GLY:HA3	49:WA:134:TRP:HZ2	1.74	0.52
49:WA:269:TYR:CE1	49:WA:271:VAL:HG22	2.44	0.52
50:XA:139:VAL:O	50:XA:139:VAL:HG22	2.10	0.52
52:ZA:65:GLU:HB2	52:ZA:68:ILE:CD1	2.39	0.52
54:BB:136:VAL:HG21	54:BB:148:ARG:NH1	2.23	0.52
58:FB:104:ILE:HG23	58:FB:167:ALA:HB2	1.92	0.52
59:GB:17:ARG:HG2	59:GB:17:ARG:HH21	1.74	0.52
59:GB:123:HIS:NE2	80:BC:37:ARG:HG3	2.24	0.52
68:PB:115:ARG:O	68:PB:119:ILE:HB	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:92:LYS:HB3	82:DC:346:VAL:CG1	2.34	0.52
82:DC:130:ASP:HB3	82:DC:133:GLU:HB2	1.91	0.52
1:A:332:U:H2'	1:A:334:G:OP2	2.09	0.52
1:A:737:A:HO2'	1:A:738:G:H8	1.56	0.52
1:A:1035:G:H4'	72:TB:2:THR:HG23	1.91	0.52
1:A:1259:U:O2	1:A:1259:U:H2'	2.09	0.52
2:B:612:U:H2'	2:B:613:G:H8	1.75	0.52
2:B:680:G:H5"	8:H:114:ASN:ND2	2.24	0.52
2:B:829:U:H3	2:B:895:A:H62	1.56	0.52
2:B:2350:C:O2'	2:B:2351:U:H5'	2.10	0.52
2:B:2667:A:H2'	2:B:2668:U:O4'	2.09	0.52
2:B:3084:C:O2'	2:B:3332:U:H5"	2.09	0.52
3:C:131:A:H4'	29:CA:93:TYR:CE2	2.44	0.52
3:C:154:C:H5"	12:L:181:LYS:HG2	1.92	0.52
7:G:232:ARG:HH11	7:G:269:GLN:N	2.08	0.52
11:K:156:ILE:HG22	11:K:157:ASN:ND2	2.24	0.52
14:N:40:LYS:HB2	14:N:40:LYS:HZ2	1.73	0.52
14:N:44:ASP:OD2	14:N:185:ARG:HG3	2.09	0.52
14:N:190:VAL:HG22	14:N:197:VAL:HG21	1.90	0.52
19:S:162:ARG:NH1	19:S:162:ARG:HB2	2.24	0.52
21:U:41:LEU:HD13	21:U:41:LEU:C	2.30	0.52
22:V:40:THR:OG1	22:V:45:ASN:ND2	2.41	0.52
22:V:81:VAL:CG2	22:V:101:VAL:HG22	2.40	0.52
22:V:110:ALA:O	22:V:114:ILE:HG13	2.09	0.52
30:DA:79:ALA:CB	30:DA:98:ASN:HB3	2.39	0.52
34:HA:58:TYR:O	34:HA:61:MET:HG3	2.09	0.52
39:MA:21:LEU:HG	39:MA:54:VAL:CG1	2.36	0.52
48:VA:170:ALA:HA	48:VA:173:LEU:HB2	1.91	0.52
49:WA:70:ASP:HB3	49:WA:112:SER:HA	1.92	0.52
54:BB:34:GLY:CA	54:BB:83:PRO:HG3	2.36	0.52
54:BB:122:LYS:CD	54:BB:164:LEU:HD21	2.40	0.52
57:EB:111:LYS:O	57:EB:112:ARG:CB	2.57	0.52
66:NB:101:SER:O	66:NB:105:LEU:HD13	2.09	0.52
75:WB:71:ILE:HD12	75:WB:76:ALA:HA	1.92	0.52
82:DC:842:LEU:HD22	83:EC:6898:U:O2'	2.10	0.52
83:EC:6898:U:H2'	83:EC:6899:C:C6	2.44	0.52
1:A:1456:C:H3'	1:A:1457:C:C5'	2.40	0.52
1:A:1752:U:H2'	1:A:1753:A:C8	2.44	0.52
2:B:158:G:N2	2:B:264:G:H1'	2.23	0.52
2:B:398:A:C5'	21:U:3:ARG:HG3	2.40	0.52
2:B:419:G:H1	3:C:4:C:H42	1.56	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:903:U:H2'	2:B:904:A:H8	1.75	0.52
2:B:979:U:H3'	2:B:979:U:C6	2.45	0.52
2:B:1064:A:N6	2:B:1096:U:H3	2.08	0.52
2:B:1785:U:H2'	2:B:1786:G:H8	1.75	0.52
2:B:1822:C:H5"	38:LA:66:SER:OG	2.09	0.52
2:B:2394:G:O2'	2:B:2395:G:H5'	2.10	0.52
2:B:2628:A:H3'	2:B:2629:U:H5"	1.92	0.52
2:B:3095:U:H2'	2:B:3096:C:C6	2.45	0.52
9:I:56:THR:C	9:I:58:LYS:N	2.63	0.52
10:J:170:LYS:HB3	10:J:172:HIS:CE1	2.45	0.52
11:K:137:GLY:O	11:K:139:PRO:HD3	2.09	0.52
13:M:57:VAL:HG23	13:M:68:LEU:HD23	1.91	0.52
14:N:191:LYS:HG3	14:N:191:LYS:O	2.09	0.52
15:O:108:GLU:HG2	15:O:122:ILE:CG2	2.36	0.52
24:X:13:ARG:HE	24:X:51:VAL:HG22	1.75	0.52
30:DA:104:LEU:O	30:DA:105:VAL:HG23	2.10	0.52
42:PA:77:ARG:O	42:PA:78:LEU:HB2	2.08	0.52
44:RA:96:CYS:HA	44:RA:121:LEU:CD2	2.40	0.52
52:ZA:162:CYS:CB	52:ZA:213:ALA:HB2	2.39	0.52
55:CB:51:VAL:HG11	55:CB:130:ILE:HG12	1.91	0.52
63:KB:23:PRO:O	63:KB:24:ALA:HB3	2.10	0.52
67:OB:45:ARG:HA	67:OB:48:ASN:HD22	1.75	0.52
71:SB:10:GLU:HA	71:SB:10:GLU:OE2	2.10	0.52
82:DC:587:TYR:HB2	82:DC:690:ASP:HB3	1.92	0.52
82:DC:737:GLU:HA	82:DC:740:VAL:CG2	2.39	0.52
1:A:85:A:H2'	1:A:86:A:O4'	2.09	0.52
1:A:698:U:H2'	1:A:699:U:O4'	2.08	0.52
1:A:959:U:H5'	63:KB:15:ALA:O	2.10	0.52
1:A:1533:C:H4'	1:A:1539:G:N1	2.24	0.52
2:B:547:G:H2'	2:B:548:G:O4'	2.10	0.52
2:B:979:U:H3'	2:B:979:U:H6	1.74	0.52
2:B:1080:A:OP2	9:I:140:ARG:HD2	2.09	0.52
2:B:1347:U:C5'	8:H:303:GLY:HA3	2.38	0.52
2:B:3041:U:H2'	2:B:3042:U:H6	1.72	0.52
3:C:78:G:O2'	3:C:79:A:H5'	2.10	0.52
4:D:29:C:H5"	15:O:134:PRO:HB3	1.91	0.52
5:E:66:CYS:HB2	5:E:107:TYR:CE2	2.45	0.52
6:F:21:ARG:HB3	6:F:22:LEU:HD12	1.91	0.52
9:I:95:TRP:CH2	9:I:161:GLY:HA2	2.45	0.52
10:J:108:LYS:NZ	10:J:108:LYS:HB3	2.24	0.52
12:L:133:LYS:O	12:L:199:ALA:HB3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:50:ALA:O	15:O:61:ARG:HA	2.09	0.52
18:R:32:LEU:HD21	18:R:94:TRP:CE2	2.44	0.52
19:S:103:GLU:OE2	19:S:165:THR:HG21	2.09	0.52
21:U:131:ARG:HG3	21:U:137:ASN:OD1	2.09	0.52
30:DA:56:VAL:HG13	30:DA:57:LEU:N	2.24	0.52
31:EA:36:HIS:HB3	31:EA:40:HIS:HB3	1.92	0.52
37:KA:47:LYS:HD2	37:KA:102:LEU:HA	1.91	0.52
48:VA:26:PHE:HE2	48:VA:93:LEU:HG	1.74	0.52
54:BB:91:THR:HA	54:BB:98:ASN:ND2	2.25	0.52
57:EB:28:GLU:O	57:EB:28:GLU:HG2	2.09	0.52
60:HB:39:ASN:O	60:HB:43:ILE:HG13	2.10	0.52
60:HB:86:ILE:H	60:HB:88:PRO:HD3	1.74	0.52
65:MB:41:VAL:HG13	65:MB:84:ILE:HG21	1.92	0.52
66:NB:109:PHE:HB3	66:NB:117:LEU:HD21	1.91	0.52
69:QB:118:PRO:C	69:QB:120:GLY:H	2.12	0.52
70:RB:40:ASN:HD21	70:RB:107:THR:HG21	1.74	0.52
74:VB:5:VAL:HG12	74:VB:6:THR:N	2.24	0.52
75:WB:58:ARG:HA	75:WB:103:ARG:HH11	1.74	0.52
75:WB:80:LEU:HB3	75:WB:101:TYR:CE2	2.44	0.52
79:AC:31:ILE:CB	79:AC:36:LEU:HD11	2.34	0.52
82:DC:352:ARG:C	82:DC:356:LEU:HG	2.30	0.52
82:DC:402:ALA:HA	82:DC:450:ALA:HB2	1.89	0.52
82:DC:483:PHE:C	82:DC:485:VAL:H	2.11	0.52
82:DC:562:ALA:HB1	82:DC:564:ARG:HH12	1.74	0.52
83:EC:6763:C:H2'	83:EC:6764:C:O4'	2.09	0.52
1:A:831:U:H2'	1:A:832:U:O4'	2.10	0.52
1:A:834:G:H2'	1:A:835:U:C6	2.44	0.52
1:A:1386:G:H3'	67:OB:44:LYS:HZ1	1.74	0.52
1:A:1406:A:H2'	1:A:1407:U:C6	2.45	0.52
1:A:1569:A:H2'	1:A:1570:A:H8	1.74	0.52
2:B:17:G:H4'	39:MA:75:TYR:CZ	2.45	0.52
2:B:542:G:H1	2:B:549:U:H3	1.56	0.52
2:B:1186:G:H1'	24:X:112:ALA:CB	2.40	0.52
2:B:1235:U:O4	16:P:132:ILE:HG23	2.10	0.52
2:B:1544:G:H3'	2:B:1545:A:H8	1.74	0.52
2:B:1768:U:H2'	2:B:1769:G:C5'	2.38	0.52
2:B:1879:A:H4'	2:B:1880:U:OP2	2.10	0.52
2:B:2436:U:C2'	2:B:2437:G:H5"	2.39	0.52
2:B:2853:A:H4'	14:N:64:ALA:HA	1.92	0.52
2:B:2922:G:H3'	2:B:2923:U:C5'	2.39	0.52
2:B:3139:A:C2'	2:B:3140:G:H5'	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:65:A:H2'	3:C:66:A:O4'	2.09	0.52
6:F:114:SER:HB2	6:F:169:ILE:HG13	1.92	0.52
7:G:144:ILE:H	7:G:144:ILE:CD1	2.20	0.52
8:H:26:PHE:HA	8:H:127:ALA:HA	1.92	0.52
8:H:32:PRO:HA	8:H:244:LEU:HD21	1.92	0.52
8:H:32:PRO:HD2	22:V:24:VAL:HG21	1.92	0.52
8:H:138:ARG:HH21	8:H:240:PRO:CG	2.22	0.52
9:I:94:ASN:OD1	9:I:97:ALA:HB2	2.09	0.52
12:L:149:LYS:HB2	12:L:200:LEU:O	2.10	0.52
12:L:150:LEU:HD23	12:L:176:PRO:HB2	1.92	0.52
12:L:178:ALA:HA	12:L:222:PHE:CE2	2.45	0.52
17:Q:115:ARG:HH11	17:Q:115:ARG:HG3	1.74	0.52
20:T:54:TYR:HE2	20:T:58:LEU:HD13	1.74	0.52
21:U:113:TYR:CE2	21:U:151:THR:HB	2.45	0.52
28:BA:57:LYS:HA	28:BA:57:LYS:CE	2.33	0.52
29:CA:99:VAL:HG13	29:CA:103:TYR:HD2	1.73	0.52
32:FA:132:LYS:O	32:FA:136:GLU:HG3	2.10	0.52
38:LA:75:ALA:O	38:LA:76:TYR:CB	2.56	0.52
44:RA:99:CYS:SG	44:RA:110:CYS:SG	3.07	0.52
44:RA:127:LEU:O	44:RA:127:LEU:HD23	2.09	0.52
49:WA:91:LEU:HD23	49:WA:100:TYR:HB2	1.92	0.52
53:AB:84:ILE:HG23	53:AB:84:ILE:O	2.09	0.52
53:AB:134:CYS:O	53:AB:153:ALA:HA	2.09	0.52
55:CB:57:SER:HB3	78:ZB:53:ILE:HB	1.92	0.52
60:HB:32:HIS:HB2	60:HB:33:GLU:OE1	2.09	0.52
61:IB:83:THR:HA	61:IB:111:VAL:H	1.74	0.52
65:MB:73:PRO:HG2	65:MB:92:SER:HA	1.91	0.52
67:OB:45:ARG:HG2	67:OB:49:LYS:HD2	1.92	0.52
74:VB:88:THR:HG23	74:VB:89:TYR:N	2.24	0.52
78:ZB:42:ARG:HH11	78:ZB:56:LEU:HD12	1.75	0.52
82:DC:217:GLY:HA3	82:DC:325:ARG:NH1	2.24	0.52
82:DC:250:PHE:CD2	82:DC:252:PRO:HG3	2.45	0.52
82:DC:381:TYR:O	82:DC:398:GLY:HA3	2.10	0.52
82:DC:699:DDE:CAC	83:EC:6952:U:H1'	2.40	0.52
1:A:702:G:HO2'	1:A:703:G:H8	1.58	0.52
1:A:1301:U:H5'	52:ZA:88:LYS:CE	2.39	0.52
1:A:1317:C:H2'	1:A:1318:G:O4'	2.10	0.52
1:A:1552:U:H5	65:MB:43:ARG:CZ	2.22	0.52
2:B:75:G:OP1	17:Q:58:VAL:HG22	2.10	0.52
2:B:1049:C:H2'	2:B:1050:U:C6	2.45	0.52
2:B:2677:G:H2'	2:B:2679:A:C2	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3268:A:N3	10:J:75:PRO:HB3	2.24	0.52
4:D:100:C:H2'	4:D:101:G:O4'	2.10	0.52
6:F:39:GLY:CA	12:L:36:ILE:HG21	2.34	0.52
8:H:44:LYS:O	8:H:47:ARG:HB2	2.10	0.52
11:K:179:LEU:H	11:K:179:LEU:HD13	1.74	0.52
13:M:103:ILE:HG21	13:M:110:LYS:HZ2	1.73	0.52
14:N:4:ARG:HD2	14:N:9:TYR:HE1	1.75	0.52
14:N:87:LEU:C	14:N:87:LEU:HD23	2.30	0.52
24:X:1:MET:HE3	24:X:32:SER:H	1.75	0.52
24:X:9:VAL:HG13	24:X:61:ILE:CD1	2.35	0.52
30:DA:56:VAL:O	30:DA:67:GLU:HB2	2.10	0.52
32:FA:111:LYS:HA	32:FA:129:PHE:O	2.10	0.52
39:MA:58:ILE:HG22	39:MA:62:GLN:NE2	2.25	0.52
41:OA:5:THR:N	41:OA:6:PRO:HD2	2.25	0.52
49:WA:109:ASP:O	49:WA:127:ARG:HG3	2.09	0.52
53:AB:208:ILE:HG22	53:AB:209:ILE:H	1.75	0.52
54:BB:248:ILE:O	54:BB:252:ARG:HB2	2.10	0.52
60:HB:87:VAL:N	60:HB:88:PRO:CD	2.65	0.52
65:MB:96:ILE:HG21	65:MB:120:SER:HB2	1.91	0.52
69:QB:118:PRO:HD3	69:QB:123:ARG:NH2	2.23	0.52
69:QB:128:GLY:O	69:QB:132:LEU:HD13	2.10	0.52
73:UB:125:VAL:HG12	73:UB:126:LYS:HG3	1.92	0.52
79:AC:21:CYS:CA	79:AC:30:LEU:HD21	2.39	0.52
82:DC:694:HIS:CG	82:DC:695:ALA:H	2.26	0.52
82:DC:820:LEU:O	82:DC:824:LYS:HE2	2.10	0.52
83:EC:6772:G:C2'	83:EC:6773:G:H4'	2.36	0.52
1:A:955:A:H2'	1:A:956:C:O4'	2.09	0.52
1:A:1082:C:HO2'	71:SB:58:TYR:HE2	1.57	0.52
1:A:1319:A:H3'	1:A:1320:U:C5'	2.40	0.52
1:A:1525:A:H2'	1:A:1526:A:C8	2.45	0.52
1:A:1764:C:H2'	1:A:1767:G:N7	2.25	0.52
2:B:639:G:OP1	36:JA:37:GLY:HA3	2.10	0.52
2:B:980:A:C8	2:B:981:U:H1'	2.44	0.52
2:B:1639:C:H5'	38:LA:52:GLN:HG3	1.92	0.52
2:B:1689:U:H2'	2:B:1690:C:O4'	2.10	0.52
4:D:79:A:H2'	4:D:80:G:O4'	2.09	0.52
8:H:23:PRO:O	8:H:25:VAL:HG23	2.10	0.52
8:H:286:VAL:HG13	22:V:32:LEU:HD13	1.92	0.52
13:M:103:ILE:HG21	13:M:110:LYS:HZ1	1.75	0.52
14:N:65:LEU:HD23	14:N:159:PHE:CZ	2.45	0.52
20:T:72:HIS:O	20:T:74:ARG:HD3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:60:PRO:HB2	22:V:142:GLY:HA3	1.91	0.52
26:Z:35:LYS:O	26:Z:38:ILE:HG22	2.10	0.52
26:Z:81:LYS:HA	26:Z:84:LEU:HB2	1.92	0.52
27:AA:10:LYS:HB2	27:AA:125:LEU:HD22	1.91	0.52
34:HA:76:GLU:OE1	34:HA:76:GLU:N	2.39	0.52
35:IA:96:VAL:HG23	35:IA:98:VAL:H	1.74	0.52
48:VA:112:GLY:H	48:VA:165:VAL:HB	1.75	0.52
49:WA:192:PHE:HB3	49:WA:223:TRP:CD2	2.45	0.52
50:XA:169:SER:O	50:XA:173:ILE:HG12	2.10	0.52
54:BB:179:LYS:HG2	54:BB:230:GLU:HA	1.91	0.52
55:CB:63:GLN:C	55:CB:65:ARG:H	2.13	0.52
57:EB:49:ILE:HG22	57:EB:175:LYS:HG2	1.92	0.52
57:EB:101:LYS:HA	57:EB:112:ARG:CZ	2.40	0.52
65:MB:96:ILE:HG22	65:MB:120:SER:HB2	1.92	0.52
68:PB:104:ASN:O	68:PB:108:LYS:HD3	2.10	0.52
69:QB:130:ARG:HD3	69:QB:134:ARG:HG3	1.92	0.52
70:RB:23:ARG:HB3	70:RB:117:VAL:HG13	1.92	0.52
70:RB:37:VAL:O	70:RB:41:ILE:HD13	2.10	0.52
70:RB:52:LYS:HA	70:RB:92:ASP:O	2.10	0.52
72:TB:15:ASN:O	72:TB:19:LYS:HB2	2.10	0.52
82:DC:655:TYR:HB2	82:DC:693:LEU:CD1	2.39	0.52
82:DC:727:PRO:HB3	82:DC:798:PHE:CE1	2.45	0.52
1:A:1:U:H3	59:GB:54:ARG:HD3	1.74	0.52
1:A:1058:U:C5	1:A:1061:A:N1	2.78	0.52
1:A:1117:U:C3'	1:A:1118:G:H5"	2.39	0.52
1:A:1165:G:H2'	1:A:1166:A:C8	2.45	0.52
1:A:1225:U:C2	1:A:1230:A:H4'	2.46	0.52
1:A:1634:C:H5'	83:EC:6955:U:C5	2.35	0.52
2:B:388:G:H4'	21:U:18:ARG:O	2.10	0.52
2:B:874:U:OP2	7:G:241:LYS:HE3	2.10	0.52
2:B:903:U:H2'	2:B:904:A:C8	2.45	0.52
2:B:1247:U:O5'	2:B:1247:U:H6	1.93	0.52
2:B:1607:U:OP2	2:B:1607:U:H2'	2.09	0.52
2:B:1763:U:H5	2:B:1765:U:O2	1.93	0.52
2:B:2912:G:C2'	2:B:2913:C:H5'	2.40	0.52
11:K:30:ARG:HD2	11:K:33:ARG:HH22	1.75	0.52
12:L:143:ILE:CG2	12:L:169:LEU:HD22	2.39	0.52
18:R:37:GLU:HG2	24:X:72:VAL:HB	1.91	0.52
22:V:9:GLN:HA	22:V:9:GLN:HE21	1.75	0.52
25:Y:8:ARG:HG2	25:Y:11:THR:OG1	2.10	0.52
27:AA:93:LEU:HD23	27:AA:93:LEU:N	2.16	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:JA:76:VAL:HG11	36:JA:82:LEU:HD23	1.91	0.52
46:TA:28:TYR:CB	46:TA:69:VAL:HB	2.38	0.52
50:XA:15:GLN:OE1	67:OB:118:PRO:HD2	2.10	0.52
52:ZA:56:ILE:HA	52:ZA:61:LEU:HD12	1.91	0.52
54:BB:162:ILE:HG22	54:BB:163:ASP:N	2.25	0.52
56:DB:138:ALA:HB2	56:DB:176:GLN:O	2.08	0.52
57:EB:67:LEU:HD11	57:EB:94:ALA:HB1	1.91	0.52
57:EB:126:LEU:CD2	57:EB:135:ILE:HD13	2.40	0.52
58:FB:11:ARG:NH1	58:FB:17:LYS:HG3	2.24	0.52
58:FB:195:ARG:O	58:FB:199:LYS:HG2	2.10	0.52
59:GB:119:ALA:C	59:GB:120:LYS:HD3	2.30	0.52
65:MB:98:ASN:HB3	65:MB:103:ASN:ND2	2.16	0.52
82:DC:700:ARG:CG	82:DC:705:ILE:HD11	2.39	0.52
83:EC:6910:A:C2'	83:EC:6911:A:H5'	2.38	0.52
1:A:777:C:H4'	54:BB:261:LEU:CD1	2.39	0.51
1:A:961:U:H5'	63:KB:71:ILE:HD12	1.92	0.51
1:A:1120:U:H2'	1:A:1121:C:C6	2.45	0.51
1:A:1288:G:N7	1:A:1314:U:H2'	2.24	0.51
1:A:1435:G:C4'	1:A:1436:A:H5'	2.37	0.51
1:A:1657:U:H4'	1:A:1658:G:C5'	2.23	0.51
2:B:155:G:H5"	2:B:156:G:C8	2.45	0.51
2:B:224:C:H2'	2:B:225:C:C6	2.44	0.51
2:B:993:G:N3	2:B:2637:A:H2'	2.25	0.51
2:B:1158:A:H4'	2:B:1330:A:N1	2.24	0.51
2:B:2500:A:N3	2:B:2500:A:H2'	2.25	0.51
2:B:2736:A:H4'	25:Y:71:SER:HB2	1.92	0.51
3:C:24:G:N7	30:DA:13:ARG:HD3	2.25	0.51
5:E:82:VAL:HG12	5:E:83:ASP:N	2.25	0.51
7:G:4:ARG:HG2	7:G:4:ARG:NH1	2.25	0.51
7:G:61:ASP:O	7:G:63:PRO:HD3	2.10	0.51
14:N:65:LEU:HD23	14:N:159:PHE:CE1	2.44	0.51
15:O:8:PRO:HG2	15:O:9:MET:H	1.74	0.51
17:Q:102:GLN:HB2	17:Q:104:ARG:NH1	2.25	0.51
20:T:16:VAL:HG12	20:T:17:GLY:N	2.25	0.51
20:T:126:VAL:HG22	24:X:154:HIS:HE1	1.73	0.51
24:X:1:MET:O	24:X:2:ALA:C	2.49	0.51
25:Y:67:VAL:HG13	25:Y:72:VAL:HG12	1.92	0.51
26:Z:41:ILE:HD13	26:Z:71:PHE:HE2	1.74	0.51
49:WA:238:ASP:HB3	49:WA:257:ALA:CB	2.36	0.51
54:BB:47:PHE:CE2	54:BB:52:LEU:HD11	2.45	0.51
66:NB:102:LYS:O	66:NB:105:LEU:HB2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:PB:40:ARG:HG2	68:PB:40:ARG:NH1	2.24	0.51
75:WB:59:TYR:CZ	75:WB:100:ILE:HG12	2.45	0.51
78:ZB:13:ILE:HD11	78:ZB:29:ARG:HG2	1.92	0.51
82:DC:577:SER:O	82:DC:708:THR:HG23	2.10	0.51
82:DC:578:LYS:HB3	82:DC:585:ARG:CG	2.36	0.51
1:A:112:A:H4'	61:IB:67:ARG:O	2.10	0.51
1:A:445:A:O4'	1:A:525:A:H5'	2.10	0.51
2:B:806:A:H1'	2:B:2812:C:O2'	2.10	0.51
2:B:941:G:H2'	2:B:942:U:O4'	2.10	0.51
2:B:1103:A:H1'	2:B:1104:G:OP1	2.11	0.51
2:B:1214:U:H5'	24:X:90:MET:HA	1.92	0.51
2:B:2746:A:C5'	9:I:178:ASN:HD21	2.23	0.51
2:B:3205:G:H2'	2:B:3206:C:C4	2.45	0.51
2:B:3266:G:H2'	2:B:3267:A:C8	2.46	0.51
8:H:138:ARG:HG2	8:H:138:ARG:HH11	1.75	0.51
8:H:202:ARG:HA	8:H:202:ARG:NE	2.24	0.51
9:I:20:PHE:O	9:I:24:ARG:HG3	2.11	0.51
11:K:82:LYS:H	11:K:82:LYS:HD2	1.75	0.51
12:L:165:PHE:O	12:L:169:LEU:HB2	2.11	0.51
12:L:204:ARG:HB3	12:L:206:GLU:HG2	1.92	0.51
12:L:206:GLU:HG3	12:L:207:ASP:N	2.23	0.51
13:M:138:THR:HG22	13:M:139:ASN:H	1.75	0.51
16:P:86:LYS:HZ2	16:P:104:ILE:HD11	1.73	0.51
18:R:72:LEU:HD21	18:R:76:ALA:CB	2.40	0.51
24:X:77:VAL:HG21	24:X:94:ILE:CD1	2.39	0.51
24:X:137:ARG:HG2	24:X:139:TYR:CZ	2.45	0.51
29:CA:54:TYR:O	29:CA:55:ASN:C	2.49	0.51
29:CA:103:TYR:O	29:CA:104:GLU:HB2	2.10	0.51
31:EA:96:VAL:HG13	31:EA:100:THR:HG21	1.92	0.51
32:FA:55:LYS:HZ1	46:TA:42:ARG:HH22	1.58	0.51
40:NA:8:ALA:O	40:NA:13:LYS:HB2	2.10	0.51
46:TA:45:ARG:HH11	46:TA:45:ARG:HG3	1.75	0.51
50:XA:80:THR:HA	50:XA:83:GLN:HG3	1.91	0.51
52:ZA:102:VAL:HG21	52:ZA:128:GLY:HA3	1.90	0.51
63:KB:94:LYS:O	63:KB:97:SER:HB3	2.11	0.51
63:KB:128:TYR:O	63:KB:131:THR:HB	2.11	0.51
82:DC:42:ARG:HG3	82:DC:42:ARG:NH1	2.25	0.51
82:DC:250:PHE:HB3	82:DC:275:MET:CE	2.40	0.51
82:DC:804:LEU:CD1	82:DC:805:GLY:H	2.21	0.51
1:A:1207:C:H4'	1:A:1208:A:O5'	2.10	0.51
1:A:1680:G:H1'	1:A:1721:A:N6	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1695:G:H21	1:A:1706:C:H41	1.56	0.51
2:B:655:C:H2'	2:B:656:A:H8	1.75	0.51
2:B:846:A:N3	2:B:846:A:H2'	2.25	0.51
2:B:1233:G:O3'	16:P:120:SER:HB2	2.10	0.51
2:B:1438:U:O5'	2:B:1438:U:H6	1.93	0.51
2:B:2555:G:N3	38:LA:92:ALA:HA	2.24	0.51
7:G:252:ILE:O	7:G:264:VAL:HG11	2.10	0.51
8:H:169:LEU:O	8:H:172:VAL:HG12	2.10	0.51
9:I:93:THR:HG23	9:I:93:THR:O	2.10	0.51
9:I:217:GLU:O	9:I:221:GLU:HG3	2.11	0.51
10:J:89:THR:HG21	18:R:115:PHE:HB2	1.92	0.51
11:K:131:GLU:HG3	11:K:230:GLY:HA2	1.92	0.51
14:N:159:PHE:HB2	14:N:163:GLN:HE22	1.76	0.51
18:R:121:MET:O	18:R:125:LYS:HG2	2.10	0.51
21:U:116:HIS:O	21:U:148:LEU:HA	2.11	0.51
29:CA:86:VAL:HG11	29:CA:95:ILE:HD11	1.93	0.51
47:UA:50:GLY:O	47:UA:54:ILE:HB	2.11	0.51
48:VA:12:PHE:CZ	48:VA:60:ARG:HG3	2.46	0.51
53:AB:168:ILE:HG22	53:AB:189:MET:CB	2.40	0.51
54:BB:55:ALA:HB1	54:BB:61:VAL:HG22	1.92	0.51
57:EB:56:LYS:HB2	57:EB:88:ARG:NH1	2.23	0.51
57:EB:150:GLN:HB2	57:EB:181:ILE:HG13	1.93	0.51
65:MB:16:SER:HB2	65:MB:20:VAL:N	2.23	0.51
65:MB:40:ARG:HA	65:MB:40:ARG:HE	1.75	0.51
67:OB:16:LEU:HD21	67:OB:39:ALA:HB2	1.91	0.51
73:UB:6:PRO:O	73:UB:8:GLY:N	2.43	0.51
73:UB:86:PHE:HB2	73:UB:120:VAL:HG11	1.92	0.51
73:UB:107:PHE:C	73:UB:109:ARG:H	2.14	0.51
78:ZB:9:LEU:HD22	78:ZB:55:VAL:HG22	1.92	0.51
82:DC:73:THR:CG2	82:DC:74:ALA:H	2.22	0.51
82:DC:155:VAL:H	82:DC:202:VAL:HG21	1.76	0.51
1:A:93:A:N6	1:A:396:G:H1'	2.26	0.51
1:A:121:U:H2'	1:A:122:U:C6	2.45	0.51
1:A:448:C:H2'	1:A:449:C:C6	2.44	0.51
1:A:1106:U:H2'	1:A:1107:G:H8	1.74	0.51
2:B:105:C:H2'	2:B:106:A:C8	2.45	0.51
2:B:877:C:O2'	2:B:880:G:H1'	2.10	0.51
2:B:1187:C:H2'	2:B:1188:U:C5'	2.40	0.51
2:B:1234:G:H21	16:P:132:ILE:HG12	1.73	0.51
2:B:1719:G:C4'	2:B:1732:U:H4'	2.39	0.51
2:B:1888:U:H2'	2:B:1889:G:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2282:U:O2	2:B:2310:U:H4'	2.10	0.51
2:B:2599:U:H5"	19:S:70:ASN:OD1	2.09	0.51
2:B:3335:A:H5'	2:B:3335:A:H8	1.75	0.51
7:G:56:ILE:O	7:G:73:VAL:HA	2.11	0.51
8:H:259:ASP:OD1	8:H:264:SER:HB3	2.10	0.51
9:I:187:THR:HG23	9:I:189:GLU:H	1.76	0.51
17:Q:6:ASN:HD22	22:V:164:ARG:HH11	1.57	0.51
22:V:83:VAL:O	22:V:103:ALA:HA	2.11	0.51
26:Z:87:ASN:HB2	26:Z:89:LEU:HD11	1.92	0.51
30:DA:56:VAL:HG22	30:DA:57:LEU:H	1.75	0.51
49:WA:131:ILE:HB	49:WA:144:LEU:HB2	1.91	0.51
49:WA:191:ASP:O	53:AB:222:VAL:HA	2.10	0.51
50:XA:74:VAL:HG23	50:XA:118:PRO:HB3	1.92	0.51
50:XA:79:ARG:HH21	50:XA:166:GLY:CA	2.24	0.51
50:XA:117:GLU:OE1	52:ZA:40:LYS:HG3	2.10	0.51
52:ZA:99:LYS:HA	52:ZA:117:THR:HA	1.92	0.51
56:DB:2:LYS:HD3	56:DB:15:THR:HB	1.91	0.51
56:DB:114:VAL:HG23	56:DB:115:LYS:N	2.26	0.51
58:FB:184:LEU:HD11	58:FB:188:GLU:HB3	1.92	0.51
59:GB:175:ARG:HD2	59:GB:175:ARG:O	2.10	0.51
61:IB:90:TYR:CE2	61:IB:104:HIS:HA	2.45	0.51
63:KB:52:VAL:HG22	63:KB:55:ARG:NH2	2.26	0.51
63:KB:84:ILE:HD11	63:KB:89:TYR:HD2	1.75	0.51
67:OB:20:TYR:C	67:OB:22:PRO:HD2	2.30	0.51
67:OB:71:PHE:O	67:OB:72:LYS:HB2	2.11	0.51
75:WB:100:ILE:HD13	75:WB:101:TYR:N	2.25	0.51
82:DC:16:VAL:HA	82:DC:19:VAL:HG21	1.92	0.51
82:DC:754:VAL:HG13	82:DC:769:LYS:O	2.10	0.51
83:EC:6771:U:H2'	83:EC:6772:G:H4'	1.91	0.51
1:A:218:A:N6	1:A:844:A:H1'	2.25	0.51
1:A:271:A:N6	56:DB:185:GLN:HE22	2.09	0.51
1:A:1182:U:O2	1:A:1185:U:H5"	2.11	0.51
1:A:1761:U:H3	83:EC:6950:C:H4'	1.74	0.51
2:B:65:A:H4'	2:B:66:A:O5'	2.11	0.51
2:B:278:U:H2'	2:B:279:U:C6	2.46	0.51
2:B:1189:C:H42	2:B:1315:U:H1'	1.74	0.51
2:B:1254:C:O2	16:P:131:GLU:CB	2.58	0.51
2:B:1835:A:P	38:LA:10:ARG:HH22	2.34	0.51
2:B:2103:U:H2'	2:B:2104:A:C8	2.46	0.51
2:B:2185:G:OP1	6:F:202:VAL:HG23	2.10	0.51
2:B:2716:U:H5"	46:TA:83:LEU:HD11	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3139:A:H2'	2:B:3140:G:H5'	1.93	0.51
8:H:333:VAL:O	8:H:337:GLU:HG2	2.11	0.51
13:M:86:TYR:CZ	13:M:151:VAL:HG22	2.45	0.51
16:P:111:GLU:OE1	16:P:126:ALA:HB2	2.10	0.51
19:S:94:TYR:CZ	19:S:96:ARG:HB2	2.45	0.51
47:UA:71:VAL:HG23	47:UA:72:SER:H	1.74	0.51
49:WA:112:SER:HB2	49:WA:153:GLN:HG2	1.91	0.51
49:WA:172:ALA:HB1	49:WA:199:ILE:HG21	1.93	0.51
52:ZA:37:PRO:HG2	52:ZA:43:ARG:HG2	1.92	0.51
54:BB:10:LYS:HA	54:BB:27:TYR:HA	1.92	0.51
54:BB:30:ARG:HG2	54:BB:30:ARG:HH11	1.74	0.51
63:KB:17:PRO:HG3	77:YB:28:PRO:HD3	1.92	0.51
70:RB:42:VAL:HG22	70:RB:55:PRO:HG3	1.93	0.51
72:TB:65:LEU:HD13	72:TB:65:LEU:N	2.26	0.51
82:DC:28:VAL:CG1	82:DC:29:ASP:N	2.73	0.51
1:A:329:G:H2'	1:A:330:G:H8	1.76	0.51
1:A:699:U:H2'	1:A:700:C:C6	2.45	0.51
1:A:1066:C:H2'	1:A:1067:C:C6	2.46	0.51
1:A:1203:A:H61	1:A:1553:G:H1'	1.76	0.51
1:A:1208:A:H2	1:A:1209:C:C6	2.29	0.51
1:A:1335:U:H2'	1:A:1336:A:H8	1.75	0.51
1:A:1345:A:H2'	1:A:1348:A:H62	1.75	0.51
1:A:1363:U:O2	1:A:1363:U:H2'	2.09	0.51
1:A:1380:U:H2'	1:A:1381:U:C6	2.46	0.51
1:A:1474:G:H2'	1:A:1475:A:H8	1.75	0.51
1:A:1591:C:H2'	1:A:1592:A:C8	2.45	0.51
1:A:1649:G:H2'	1:A:1650:U:C6	2.45	0.51
2:B:837:A:OP1	47:UA:5:THR:HG23	2.11	0.51
2:B:939:U:H1'	2:B:2814:G:OP1	2.11	0.51
2:B:1232:C:C2'	2:B:1233:G:H5'	2.41	0.51
2:B:1643:A:H8	2:B:1644:C:N3	2.09	0.51
2:B:1741:A:H2'	2:B:1742:U:H5'	1.93	0.51
2:B:1779:C:H6	2:B:1779:C:O5'	1.93	0.51
2:B:1818:U:H3'	2:B:1819:U:H5"	1.93	0.51
2:B:1870:C:OP1	2:B:3077:A:H5'	2.11	0.51
2:B:2264:U:H2'	2:B:2265:C:C6	2.46	0.51
2:B:2501:U:H3'	2:B:2501:U:H6	1.75	0.51
2:B:2588:U:H2'	2:B:2589:G:C8	2.44	0.51
2:B:3062:G:C2'	2:B:3063:C:H5'	2.41	0.51
2:B:3095:U:H2'	2:B:3096:C:H6	1.76	0.51
2:B:3362:A:H2'	2:B:3363:U:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:39:VAL:CG1	10:J:159:LEU:HD21	2.41	0.51
11:K:145:ARG:HA	11:K:185:ILE:HD13	1.93	0.51
11:K:161:VAL:HG13	11:K:162:PRO:HD2	1.92	0.51
12:L:156:ASP:HB3	12:L:183:LYS:HB3	1.93	0.51
21:U:4:TYR:OH	21:U:18:ARG:HB3	2.11	0.51
24:X:78:TRP:HA	24:X:90:MET:O	2.10	0.51
31:EA:60:LYS:HB2	31:EA:61:LYS:CE	2.40	0.51
34:HA:86:ARG:HD2	47:UA:44:LYS:CE	2.40	0.51
34:HA:95:ALA:HB1	34:HA:100:ILE:CD1	2.40	0.51
35:IA:46:THR:HG23	35:IA:49:VAL:HG22	1.93	0.51
37:KA:10:LYS:O	37:KA:33:GLU:HB2	2.11	0.51
42:PA:5:ILE:HG22	42:PA:6:THR:H	1.76	0.51
47:UA:54:ILE:HG23	47:UA:63:THR:CG2	2.41	0.51
49:WA:255:ALA:HB2	49:WA:292:LEU:HD13	1.90	0.51
52:ZA:40:LYS:O	52:ZA:44:LEU:HG	2.11	0.51
52:ZA:143:TYR:CD2	52:ZA:147:ASN:HA	2.46	0.51
52:ZA:207:LEU:O	52:ZA:208:GLU:C	2.48	0.51
55:CB:121:ILE:HG21	55:CB:129:PRO:HA	1.92	0.51
58:FB:152:ILE:O	58:FB:153:GLU:HB2	2.11	0.51
59:GB:79:ARG:HH11	59:GB:79:ARG:HG3	1.75	0.51
65:MB:36:LEU:N	65:MB:36:LEU:HD23	2.26	0.51
72:TB:65:LEU:HD22	72:TB:65:LEU:O	2.11	0.51
74:VB:83:LYS:CG	74:VB:96:LEU:HD23	2.41	0.51
82:DC:217:GLY:HA3	82:DC:325:ARG:HH12	1.76	0.51
82:DC:343:PRO:HB2	82:DC:348:ALA:HB2	1.93	0.51
83:EC:6789:G:H22	83:EC:6809:G:H1'	1.74	0.51
1:A:70:C:H2'	1:A:71:A:C8	2.46	0.51
1:A:179:A:H61	56:DB:202:ARG:NH2	2.00	0.51
1:A:692:C:H2'	1:A:693:U:C6	2.45	0.51
1:A:760:A:H2'	1:A:761:G:O4'	2.11	0.51
1:A:767:U:N3	59:GB:143:ILE:HD11	2.24	0.51
1:A:1263:G:H2'	1:A:1264:G:O4'	2.10	0.51
1:A:1557:U:H5'	65:MB:115:TYR:CD2	2.45	0.51
1:A:1601:G:N2	69:QB:88:VAL:HG22	2.25	0.51
2:B:124:U:H2'	2:B:125:C:C6	2.46	0.51
2:B:824:C:H2'	2:B:825:U:C6	2.46	0.51
2:B:1232:C:H2'	2:B:1233:G:H5'	1.93	0.51
2:B:1254:C:H4'	16:P:135:THR:HG21	1.93	0.51
2:B:2129:U:H2'	2:B:2130:G:C8	2.45	0.51
2:B:2530:G:O2'	2:B:2531:C:H5'	2.11	0.51
4:D:94:C:H2'	4:D:95:A:H8	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:100:ASN:HD22	13:M:115:ARG:CG	2.24	0.51
18:R:123:LEU:HB2	20:T:194:LEU:CD2	2.41	0.51
20:T:67:THR:O	20:T:69:GLY:N	2.43	0.51
20:T:116:LYS:NZ	24:X:165:TYR:HB3	2.25	0.51
29:CA:142:ILE:OXT	29:CA:142:ILE:HD13	2.11	0.51
53:AB:123:VAL:HG11	53:AB:154:ASP:HB3	1.93	0.51
58:FB:172:ARG:O	58:FB:175:GLN:HB2	2.10	0.51
67:OB:44:LYS:HG2	67:OB:48:ASN:HD21	1.76	0.51
74:VB:30:PRO:C	74:VB:32:ARG:H	2.14	0.51
78:ZB:42:ARG:CD	78:ZB:62:GLU:HA	2.40	0.51
82:DC:615:ARG:HD2	82:DC:633:ILE:HD11	1.92	0.51
83:EC:6928:G:H2'	83:EC:6929:C:C5	2.46	0.51
1:A:45:U:O2'	1:A:46:A:H2'	2.11	0.51
1:A:329:G:H2'	1:A:330:G:C8	2.45	0.51
1:A:1184:A:H2'	1:A:1185:U:H4'	1.93	0.51
1:A:1216:C:C2	1:A:1444:A:C2	2.99	0.51
1:A:1623:C:H2'	1:A:1624:C:C6	2.45	0.51
2:B:1272:C:C2'	2:B:1273:A:H5'	2.40	0.51
2:B:1832:C:H4'	3:C:113:U:H5'	1.93	0.51
2:B:2140:U:H2'	2:B:2141:U:H5'	1.91	0.51
2:B:2182:A:O2'	2:B:2183:A:H5'	2.09	0.51
2:B:2361:A:H2'	2:B:2362:C:C6	2.46	0.51
2:B:2528:G:H2'	2:B:2529:A:O4'	2.10	0.51
2:B:2584:G:H2'	2:B:2585:G:H4'	1.93	0.51
2:B:2941:A:OP1	7:G:255:TRP:HB3	2.10	0.51
2:B:3029:A:H2'	2:B:3030:G:O4'	2.11	0.51
5:E:97:LYS:HB3	5:E:101:LYS:HZ2	1.76	0.51
6:F:104:LEU:C	6:F:106:SER:H	2.14	0.51
10:J:171:PRO:HA	10:J:174:LEU:HB2	1.93	0.51
13:M:165:CYS:SG	13:M:179:ILE:HD12	2.51	0.51
20:T:22:VAL:HG23	20:T:23:VAL:N	2.26	0.51
27:AA:18:PRO:HA	27:AA:51:ALA:HA	1.92	0.51
32:FA:148:ILE:HG22	32:FA:149:ALA:N	2.25	0.51
38:LA:51:LEU:HD23	38:LA:54:ILE:HB	1.93	0.51
52:ZA:169:LEU:CD2	52:ZA:188:LEU:HD11	2.41	0.51
54:BB:118:GLU:HA	54:BB:121:TYR:CE1	2.45	0.51
54:BB:152:PRO:HG3	56:DB:208:TYR:OH	2.10	0.51
58:FB:113:PHE:CZ	58:FB:152:ILE:HG12	2.45	0.51
58:FB:178:ARG:HG3	58:FB:178:ARG:HH21	1.75	0.51
67:OB:59:LYS:O	67:OB:63:LYS:HG2	2.10	0.51
70:RB:34:LEU:HD11	70:RB:89:ARG:HD2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SB:34:ILE:HB	71:SB:53:TYR:HB2	1.92	0.51
73:UB:86:PHE:HE1	73:UB:88:PRO:HA	1.76	0.51
73:UB:95:PHE:CE1	73:UB:135:LEU:HB3	2.46	0.51
1:A:237:C:H5"	1:A:238:U:C5'	2.30	0.51
1:A:480:G:H2'	1:A:481:A:O4'	2.11	0.51
1:A:1039:A:O2'	1:A:1040:G:H5"	2.11	0.51
1:A:1552:U:H2'	1:A:1553:G:O4'	2.11	0.51
2:B:190:U:C4	30:DA:60:ARG:NH1	2.79	0.51
2:B:769:G:C2'	2:B:770:G:H5'	2.41	0.51
2:B:1638:A:H5'	31:EA:15:ARG:NH2	2.25	0.51
2:B:1814:A:H5"	2:B:1816:A:H1'	1.93	0.51
2:B:1941:C:O2'	2:B:1942:U:H5'	2.11	0.51
2:B:2108:C:O4'	2:B:3344:A:H1'	2.10	0.51
2:B:2884:C:O2'	2:B:2885:C:H5'	2.10	0.51
2:B:3393:U:H2'	2:B:3394:U:C6	2.46	0.51
3:C:111:A:OP1	41:OA:32:LYS:HE3	2.11	0.51
8:H:334:PHE:CD1	8:H:339:LEU:HD12	2.46	0.51
11:K:136:TYR:O	11:K:231:ASN:HA	2.10	0.51
14:N:86:HIS:HB3	14:N:139:ARG:HG2	1.93	0.51
15:O:54:VAL:O	15:O:55:ARG:CB	2.58	0.51
18:R:38:ILE:HA	18:R:44:VAL:HG12	1.93	0.51
22:V:76:ALA:HA	22:V:79:LYS:HG3	1.92	0.51
25:Y:97:LYS:HG3	25:Y:97:LYS:O	2.10	0.51
27:AA:54:LEU:HD11	27:AA:119:GLY:HA3	1.92	0.51
31:EA:51:LEU:CB	31:EA:65:ARG:HD2	2.32	0.51
42:PA:26:LYS:HE2	42:PA:27:ILE:H	1.76	0.51
47:UA:28:LYS:HB2	47:UA:28:LYS:NZ	2.26	0.51
50:XA:62:ARG:HD3	71:SB:39:VAL:HG13	1.93	0.51
59:GB:163:PRO:HD3	59:GB:169:PRO:O	2.10	0.51
67:OB:14:LYS:HG3	67:OB:69:ILE:HD12	1.93	0.51
77:YB:11:THR:O	77:YB:15:GLU:HB2	2.11	0.51
82:DC:610:ASP:HB3	82:DC:615:ARG:HB2	1.91	0.51
82:DC:757:GLU:HG3	82:DC:768:VAL:HG13	1.91	0.51
82:DC:804:LEU:HD11	82:DC:814:LYS:HB2	1.92	0.51
83:EC:6800:G:H2'	83:EC:6801:A:N7	2.24	0.51
1:A:249:U:H3'	1:A:250:C:C5'	2.41	0.51
1:A:272:U:H2'	1:A:273:G:C8	2.46	0.51
1:A:628:G:H1	1:A:969:C:H3'	1.75	0.51
1:A:1048:G:N2	1:A:1071:U:H1'	2.26	0.51
1:A:1290:U:H2'	1:A:1291:G:C8	2.46	0.51
2:B:500:C:H4'	10:J:80:ASN:OD1	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:955:U:OP1	33:GA:7:HIS:HB2	2.11	0.51
2:B:1133:A:C2'	2:B:1134:G:H5'	2.41	0.51
2:B:1234:G:N2	16:P:132:ILE:HG12	2.26	0.51
2:B:2275:A:N6	2:B:2311:G:H1'	2.26	0.51
2:B:2897:A:H5"	44:RA:125:LYS:HB2	1.93	0.51
2:B:3085:G:H5'	2:B:3332:U:OP1	2.11	0.51
7:G:92:TYR:HB2	7:G:157:VAL:HG22	1.92	0.51
7:G:238:LEU:H	7:G:238:LEU:HD22	1.77	0.51
8:H:65:TRP:CE3	8:H:71:VAL:HG11	2.47	0.51
8:H:346:LYS:C	8:H:348:GLY:H	2.14	0.51
9:I:227:LEU:C	9:I:229:ASP:H	2.14	0.51
19:S:14:LYS:NZ	19:S:14:LYS:HB2	2.25	0.51
22:V:131:ALA:HB1	22:V:135:GLN:N	2.25	0.51
27:AA:91:VAL:HG23	27:AA:93:LEU:HD22	1.93	0.51
31:EA:87:LEU:HD13	31:EA:127:ASN:CG	2.31	0.51
34:HA:54:SER:C	38:LA:94:LEU:HD11	2.31	0.51
49:WA:193:ILE:HG22	49:WA:194:GLY:H	1.75	0.51
50:XA:60:ALA:O	50:XA:64:ILE:HG13	2.10	0.51
50:XA:182:LEU:HB3	50:XA:188:LEU:HD23	1.92	0.51
53:AB:53:THR:CG2	53:AB:94:ARG:HB3	2.41	0.51
54:BB:177:ALA:HB1	54:BB:196:VAL:O	2.10	0.51
55:CB:33:VAL:HG22	55:CB:45:LYS:NZ	2.26	0.51
59:GB:49:LEU:CD1	59:GB:53:ARG:HD3	2.41	0.51
63:KB:33:VAL:HG21	63:KB:66:ILE:HG23	1.93	0.51
68:PB:41:ARG:HD3	69:QB:44:GLU:O	2.11	0.51
74:VB:129:VAL:O	74:VB:132:ARG:HB3	2.10	0.51
1:A:449:C:H5"	54:BB:30:ARG:HB2	1.93	0.50
1:A:687:G:H5'	72:TB:119:LYS:HE2	1.93	0.50
1:A:762:A:HO2'	59:GB:71:PHE:HZ	1.59	0.50
1:A:960:U:H4'	63:KB:51:GLY:C	2.30	0.50
1:A:1164:G:H2'	1:A:1165:G:H8	1.75	0.50
1:A:1489:U:O2'	1:A:1492:A:H1'	2.11	0.50
1:A:1572:G:H5"	1:A:1574:G:N2	2.26	0.50
1:A:1667:A:H2'	1:A:1668:G:C8	2.46	0.50
2:B:276:U:H2'	2:B:277:G:C8	2.47	0.50
2:B:516:A:H5"	8:H:344:ALA:CB	2.41	0.50
2:B:1472:U:H2'	2:B:1473:G:H8	1.76	0.50
2:B:2356:A:H61	2:B:2983:C:H41	1.57	0.50
2:B:3117:C:H2'	2:B:3118:C:C5'	2.40	0.50
2:B:3315:G:P	7:G:116:ARG:HH22	2.33	0.50
6:F:242:ARG:CD	6:F:243:THR:H	2.23	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:220:VAL:HA	7:G:273:HIS:O	2.12	0.50
8:H:322:GLN:OE1	8:H:322:GLN:HA	2.11	0.50
12:L:41:GLN:HG3	12:L:44:ARG:NH1	2.26	0.50
17:Q:54:LEU:HD12	17:Q:75:PHE:HZ	1.74	0.50
20:T:124:LEU:HD12	20:T:125:ARG:H	1.76	0.50
24:X:12:ARG:HH11	24:X:22:PRO:HD2	1.76	0.50
24:X:138:GLN:HA	24:X:141:LYS:HB3	1.93	0.50
27:AA:23:MET:HE2	27:AA:34:LEU:HD12	1.92	0.50
38:LA:37:LYS:HE3	38:LA:58:ARG:NH1	2.26	0.50
47:UA:73:THR:HG22	47:UA:76:ALA:HB3	1.93	0.50
53:AB:223:LYS:HD2	53:AB:223:LYS:N	2.26	0.50
56:DB:7:TYR:HD2	56:DB:8:PRO:HD2	1.76	0.50
59:GB:28:LEU:HG	80:BC:43:ARG:HH21	1.73	0.50
78:ZB:14:LYS:HA	78:ZB:50:GLU:HG2	1.93	0.50
78:ZB:26:THR:O	78:ZB:44:VAL:HG22	2.11	0.50
1:A:166:C:H5'	1:A:167:U:OP2	2.11	0.50
1:A:448:C:O2'	1:A:449:C:H5'	2.10	0.50
1:A:1393:C:H2'	1:A:1394:G:C8	2.46	0.50
1:A:1507:G:H5'	1:A:1551:U:H5'	1.93	0.50
2:B:253:A:H2'	2:B:254:A:C8	2.46	0.50
2:B:360:G:H2'	2:B:361:A:C8	2.46	0.50
2:B:764:U:O2	2:B:764:U:H2'	2.10	0.50
2:B:1730:G:O6	34:HA:29:SER:N	2.44	0.50
2:B:2415:C:H5"	6:F:207:VAL:HG13	1.94	0.50
2:B:2634:U:O2	2:B:2645:G:C6	2.64	0.50
2:B:2772:C:H4'	2:B:2773:C:H5'	1.92	0.50
3:C:36:G:C5	39:MA:86:ARG:HD3	2.46	0.50
8:H:34:ILE:O	8:H:38:VAL:HG23	2.12	0.50
10:J:72:ASN:HD22	10:J:72:ASN:C	2.15	0.50
11:K:176:TYR:HB3	11:K:194:HIS:CD2	2.46	0.50
12:L:55:TYR:CE2	12:L:56:VAL:HG22	2.46	0.50
15:O:112:LEU:HD23	15:O:112:LEU:H	1.77	0.50
19:S:190:THR:CG2	19:S:191:TRP:N	2.73	0.50
26:Z:94:ARG:HG3	26:Z:94:ARG:O	2.09	0.50
31:EA:25:ILE:HA	31:EA:43:VAL:HG12	1.93	0.50
39:MA:37:SER:O	39:MA:38:ARG:HG3	2.10	0.50
39:MA:86:ARG:HG2	39:MA:90:ARG:HH12	1.77	0.50
49:WA:110:VAL:CG1	49:WA:124:SER:HB2	2.40	0.50
49:WA:223:TRP:CZ3	53:AB:220:PRO:HB3	2.37	0.50
53:AB:158:ILE:HD13	53:AB:158:ILE:H	1.75	0.50
55:CB:58:LEU:HB3	55:CB:62:VAL:HG21	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:HB:14:TYR:HB3	60:HB:35:ILE:HD11	1.94	0.50
65:MB:81:ARG:HB3	65:MB:96:ILE:HG22	1.93	0.50
66:NB:41:PRO:O	66:NB:42:GLU:HB3	2.11	0.50
82:DC:617:ARG:HH21	82:DC:627:VAL:HG11	1.75	0.50
83:EC:6771:U:H4'	83:EC:6819:G:H1	1.76	0.50
1:A:36:C:H2'	1:A:37:U:H6	1.76	0.50
1:A:117:U:H2'	1:A:118:U:H6	1.76	0.50
1:A:218:A:H3'	1:A:219:A:H5"	1.93	0.50
1:A:299:A:O2'	54:BB:5:PRO:HG3	2.11	0.50
1:A:778:G:H1	74:VB:10:ARG:HA	1.76	0.50
1:A:1060:U:H2'	1:A:1061:A:H4'	1.93	0.50
1:A:1624:C:H2'	1:A:1625:C:C6	2.46	0.50
2:B:750:G:H2'	2:B:751:A:H8	1.77	0.50
2:B:1132:C:H2'	2:B:1133:A:C8	2.45	0.50
2:B:1395:G:H2'	2:B:1396:C:C6	2.46	0.50
2:B:1786:G:H2'	2:B:1787:A:C8	2.47	0.50
2:B:2185:G:C6	2:B:2186:U:C4	2.99	0.50
2:B:2217:U:H2'	2:B:2218:G:H8	1.75	0.50
4:D:49:G:H4'	4:D:50:U:O4'	2.10	0.50
7:G:232:ARG:HB3	7:G:233:TRP:CD1	2.46	0.50
9:I:101:THR:O	9:I:104:LEU:HB3	2.11	0.50
12:L:99:PRO:HD3	12:L:132:VAL:HG12	1.94	0.50
12:L:159:PRO:HB2	12:L:162:LEU:HD12	1.93	0.50
15:O:60:ARG:NH1	15:O:60:ARG:HB2	2.26	0.50
22:V:18:ALA:HA	22:V:53:PHE:CE1	2.47	0.50
28:BA:45:ASN:HB3	28:BA:48:ARG:HG3	1.92	0.50
31:EA:36:HIS:CD2	31:EA:74:VAL:HG11	2.46	0.50
48:VA:56:ASN:HA	48:VA:59:VAL:HG23	1.93	0.50
49:WA:86:ASP:O	49:WA:87:LYS:HB2	2.11	0.50
49:WA:136:ILE:HD13	49:WA:136:ILE:N	2.13	0.50
50:XA:26:ALA:N	50:XA:149:LEU:HD12	2.19	0.50
50:XA:157:ASP:HA	71:SB:65:SER:OG	2.11	0.50
52:ZA:225:LEU:HD22	72:TB:67:GLY:O	2.12	0.50
54:BB:15:PRO:HD2	54:BB:18:TRP:CZ3	2.46	0.50
65:MB:34:VAL:HA	65:MB:37:ALA:HB3	1.94	0.50
67:OB:41:ILE:CD1	67:OB:50:ILE:HD12	2.40	0.50
68:PB:52:VAL:HG12	68:PB:53:ASP:N	2.27	0.50
71:SB:36:VAL:O	71:SB:51:VAL:HG23	2.11	0.50
74:VB:29:HIS:ND1	74:VB:67:GLY:HA2	2.25	0.50
74:VB:45:ALA:HB1	74:VB:50:ALA:O	2.11	0.50
74:VB:47:VAL:HG23	74:VB:48:TYR:CD2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:682:ARG:HH11	82:DC:801:TRP:HB2	1.76	0.50
1:A:344:A:C2'	1:A:345:U:H5'	2.41	0.50
1:A:768:C:C1'	59:GB:143:ILE:HD13	2.42	0.50
1:A:828:U:C2'	1:A:829:A:H5"	2.41	0.50
1:A:1215:C:O2'	1:A:1216:C:H5'	2.11	0.50
1:A:1273:G:H4'	1:A:1274:C:H3'	1.93	0.50
1:A:1638:G:H2'	1:A:1639:C:C6	2.47	0.50
2:B:634:C:H4'	36:JA:47:ARG:HH11	1.77	0.50
2:B:761:A:C2	2:B:771:A:H1'	2.47	0.50
2:B:784:A:H2'	22:V:69:ARG:CZ	2.41	0.50
2:B:1795:U:C4	47:UA:51:ALA:HA	2.45	0.50
2:B:1892:G:H2'	2:B:1893:A:H5"	1.94	0.50
2:B:2234:G:H2'	2:B:2235:C:O4'	2.11	0.50
2:B:3154:C:O5'	2:B:3154:C:H6	1.93	0.50
7:G:106:TRP:CH2	7:G:161:LEU:HD13	2.46	0.50
8:H:23:PRO:HA	8:H:259:ASP:OD2	2.11	0.50
8:H:182:LEU:HD12	8:H:223:PRO:HB2	1.93	0.50
8:H:304:GLN:O	8:H:306:THR:N	2.45	0.50
9:I:135:VAL:HG12	9:I:136:GLU:H	1.76	0.50
10:J:60:ASP:OD1	10:J:62:THR:HG23	2.11	0.50
11:K:196:LYS:HB3	11:K:197:GLN:NE2	2.26	0.50
12:L:72:PRO:HB2	12:L:74:THR:HG22	1.93	0.50
14:N:206:LEU:O	14:N:210:ILE:HG13	2.12	0.50
18:R:21:VAL:HB	18:R:63:VAL:CG2	2.41	0.50
19:S:3:ALA:O	19:S:6:TYR:HB2	2.12	0.50
21:U:64:ASN:CA	21:U:67:ILE:HD13	2.41	0.50
23:W:158:GLU:O	23:W:162:ARG:HB2	2.12	0.50
32:FA:26:ARG:HG3	32:FA:26:ARG:NH1	2.25	0.50
34:HA:10:ILE:HG12	34:HA:68:TYR:HE2	1.75	0.50
49:WA:9:LEU:HA	49:WA:313:TRP:CD1	2.46	0.50
49:WA:97:GLY:O	49:WA:98:GLU:O	2.29	0.50
52:ZA:121:VAL:HG11	83:EC:6958:C:O2'	2.11	0.50
52:ZA:187:LEU:O	52:ZA:191:ALA:HB2	2.12	0.50
54:BB:211:LYS:O	54:BB:211:LYS:HG3	2.10	0.50
56:DB:161:GLU:HA	56:DB:170:THR:HA	1.94	0.50
57:EB:111:LYS:O	57:EB:112:ARG:HB3	2.11	0.50
58:FB:9:HIS:CD2	58:FB:10:LYS:H	2.29	0.50
73:UB:110:LYS:NZ	73:UB:110:LYS:HB3	2.25	0.50
74:VB:63:GLN:HG3	74:VB:64:PHE:N	2.27	0.50
82:DC:276:PHE:O	82:DC:280:PRO:HD3	2.11	0.50
82:DC:727:PRO:HB2	82:DC:774:VAL:HG11	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:107:C:H1'	1:A:362:G:O2'	2.12	0.50
1:A:152:U:C3'	1:A:153:G:H5"	2.41	0.50
1:A:483:A:C2	1:A:505:A:H1'	2.46	0.50
1:A:799:A:H4'	54:BB:201:HIS:CE1	2.47	0.50
1:A:1542:G:N2	1:A:1568:C:H1'	2.26	0.50
1:A:1545:A:H2'	1:A:1546:G:H8	1.76	0.50
2:B:36:C:H2'	2:B:37:U:H5'	1.93	0.50
2:B:76:G:C8	17:Q:101:ARG:HG3	2.46	0.50
2:B:599:C:C2'	2:B:600:G:H5"	2.41	0.50
2:B:1165:A:O2'	2:B:1166:G:H5'	2.11	0.50
2:B:1261:G:N7	48:VA:35:SER:HB2	2.27	0.50
2:B:1359:C:H2'	2:B:1360:C:C6	2.46	0.50
2:B:1569:U:H5	2:B:1570:U:H3	1.58	0.50
2:B:1870:C:H1'	2:B:3066:U:O2'	2.11	0.50
2:B:2985:C:H2'	2:B:2986:U:C6	2.46	0.50
2:B:3298:C:H2'	2:B:3299:A:H8	1.76	0.50
3:C:52:A:H2'	3:C:53:A:H5'	1.94	0.50
4:D:109:G:OP1	9:I:279:LYS:HG3	2.12	0.50
7:G:46:PHE:C	7:G:47:LEU:HD22	2.31	0.50
22:V:106:PHE:HD2	22:V:111:ARG:HH21	1.60	0.50
24:X:10:ILE:HG12	24:X:26:ARG:HA	1.92	0.50
25:Y:3:LYS:HA	25:Y:3:LYS:HE2	1.94	0.50
28:BA:25:ASP:O	28:BA:26:SER:HB2	2.12	0.50
29:CA:72:ALA:O	29:CA:75:LYS:HB2	2.11	0.50
30:DA:52:ARG:O	30:DA:70:ILE:HB	2.10	0.50
36:JA:123:LYS:HA	36:JA:126:LEU:HD12	1.94	0.50
49:WA:297:ASP:OD2	49:WA:299:GLN:HB2	2.11	0.50
54:BB:100:ARG:HH12	54:BB:236:ILE:HG22	1.75	0.50
54:BB:124:GLY:H	54:BB:160:VAL:H	1.60	0.50
55:CB:26:ALA:HB3	66:NB:28:LEU:HA	1.92	0.50
55:CB:142:PRO:HA	55:CB:214:LYS:HE2	1.93	0.50
56:DB:98:ARG:HD3	56:DB:99:GLY:N	2.26	0.50
58:FB:184:LEU:CD1	58:FB:188:GLU:HB3	2.41	0.50
59:GB:28:LEU:HD12	80:BC:44:PHE:CD2	2.46	0.50
60:HB:60:SER:HB3	60:HB:65:TYR:HE2	1.76	0.50
63:KB:50:ILE:O	63:KB:54:LEU:HG	2.12	0.50
73:UB:112:LYS:HE2	73:UB:112:LYS:N	2.26	0.50
78:ZB:43:ASN:ND2	78:ZB:66:LEU:HD12	2.27	0.50
79:AC:36:LEU:CD1	79:AC:38:ILE:H	2.24	0.50
82:DC:69:THR:O	82:DC:69:THR:HG22	2.12	0.50
82:DC:418:TYR:O	82:DC:477:ASN:ND2	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:EC:6889:A:H1'	83:EC:6914:A:OP1	2.12	0.50
83:EC:6898:U:H2'	83:EC:6899:C:H6	1.77	0.50
1:A:92:A:OP2	1:A:93:A:C2	2.65	0.50
1:A:218:A:H61	1:A:844:A:H1'	1.76	0.50
1:A:332:U:H5'	58:FB:30:GLY:HA2	1.94	0.50
1:A:852:C:H3'	1:A:852:C:OP2	2.11	0.50
1:A:1350:U:H2'	1:A:1351:G:C8	2.46	0.50
1:A:1371:A:N3	1:A:1373:C:H5"	2.27	0.50
2:B:760:G:H1'	2:B:770:G:H22	1.75	0.50
2:B:824:C:H2'	2:B:825:U:O4'	2.12	0.50
2:B:869:G:O2'	2:B:870:G:H5'	2.12	0.50
2:B:1128:U:H5'	14:N:4:ARG:NH2	2.27	0.50
2:B:1237:G:H2'	2:B:1237:G:N3	2.26	0.50
2:B:1278:A:H3'	2:B:1279:C:C5	2.46	0.50
2:B:1766:G:OP2	23:W:46:LYS:HE2	2.11	0.50
2:B:2561:A:O2'	2:B:2562:A:H8	1.95	0.50
2:B:2615:G:H2'	2:B:2616:C:O4'	2.10	0.50
2:B:3344:A:N6	2:B:3361:G:O2'	2.45	0.50
5:E:29:LEU:HD23	5:E:29:LEU:H	1.76	0.50
5:E:196:LYS:HB3	5:E:200:ASN:CG	2.32	0.50
6:F:133:TYR:HD2	6:F:168:VAL:HG23	1.76	0.50
7:G:196:ARG:HA	7:G:199:PHE:CE1	2.47	0.50
8:H:136:LEU:HD13	8:H:143:GLU:HG3	1.94	0.50
9:I:200:PHE:HE1	9:I:244:HIS:NE2	2.10	0.50
11:K:77:VAL:HG23	25:Y:141:VAL:HG22	1.92	0.50
11:K:156:ILE:HD12	11:K:161:VAL:HG21	1.92	0.50
17:Q:149:GLN:NE2	17:Q:149:GLN:H	2.09	0.50
18:R:23:ILE:HA	18:R:63:VAL:HG23	1.93	0.50
29:CA:103:TYR:C	29:CA:105:VAL:H	2.15	0.50
32:FA:78:LEU:HD13	32:FA:78:LEU:C	2.32	0.50
33:GA:14:ARG:HD3	33:GA:18:ARG:HD3	1.94	0.50
33:GA:17:HIS:HA	33:GA:20:GLY:HA2	1.92	0.50
35:IA:12:TYR:O	35:IA:72:ARG:HD2	2.11	0.50
45:SA:12:ARG:O	45:SA:15:ARG:HB3	2.11	0.50
48:VA:108:PRO:HA	48:VA:179:SER:CB	2.42	0.50
48:VA:172:LEU:HG	48:VA:173:LEU:N	2.26	0.50
49:WA:264:SER:O	49:WA:268:GLN:HA	2.12	0.50
57:EB:27:LEU:HD23	57:EB:84:LYS:HG3	1.93	0.50
57:EB:81:LEU:C	57:EB:83:LYS:H	2.15	0.50
63:KB:118:ILE:O	63:KB:122:ILE:HG13	2.11	0.50
72:TB:17:ALA:HB2	72:TB:25:VAL:HG11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:34:THR:HG23	84:DC:901:GDP:O1A	2.11	0.50
82:DC:115:VAL:O	82:DC:119:LEU:HG	2.11	0.50
1:A:610:G:H21	73:UB:19:ARG:NH1	2.10	0.50
1:A:646:C:H2'	1:A:647:G:C8	2.46	0.50
1:A:902:G:H2'	1:A:903:U:C6	2.47	0.50
1:A:1168:U:H2'	1:A:1169:G:O4'	2.12	0.50
1:A:1532:U:H3'	75:WB:77:ARG:HH22	1.76	0.50
2:B:748:U:H2'	2:B:749:C:C6	2.46	0.50
2:B:1272:C:H2'	2:B:1273:A:H5'	1.93	0.50
2:B:1509:A:C6	2:B:1510:G:C6	3.00	0.50
2:B:1643:A:H2'	2:B:1644:C:C2	2.47	0.50
2:B:2425:G:H2'	2:B:2426:U:O4'	2.10	0.50
2:B:3237:U:H2'	2:B:3238:G:C8	2.47	0.50
5:E:68:PHE:H	5:E:111:ILE:HB	1.76	0.50
14:N:185:ARG:HA	14:N:190:VAL:HG11	1.93	0.50
21:U:127:ARG:HH11	21:U:127:ARG:CB	2.24	0.50
22:V:58:ASN:O	22:V:60:PRO:HD3	2.11	0.50
30:DA:79:ALA:HA	30:DA:99:LEU:O	2.10	0.50
31:EA:54:THR:HG23	31:EA:56:LYS:N	2.18	0.50
47:UA:24:ARG:HB3	47:UA:24:ARG:NH1	2.26	0.50
48:VA:65:GLY:HA2	48:VA:73:PHE:HD2	1.75	0.50
49:WA:88:THR:HG22	49:WA:104:VAL:HA	1.92	0.50
49:WA:122:ILE:O	49:WA:133:VAL:HA	2.11	0.50
49:WA:228:LYS:O	53:AB:222:VAL:HG21	2.12	0.50
54:BB:129:VAL:HG13	54:BB:129:VAL:O	2.11	0.50
54:BB:234:PRO:C	54:BB:236:ILE:H	2.14	0.50
58:FB:156:VAL:HG21	58:FB:185:GLU:OE2	2.12	0.50
80:BC:41:THR:HA	80:BC:45:VAL:CG2	2.42	0.50
82:DC:286:THR:O	82:DC:290:ASN:HB2	2.11	0.50
82:DC:501:LEU:N	82:DC:502:PRO:CD	2.74	0.50
82:DC:608:PRO:HB2	82:DC:609:ARG:NH1	2.27	0.50
1:A:156:A:H1'	1:A:416:A:N7	2.27	0.50
1:A:911:U:H5"	2:B:2207:A:C5'	2.31	0.50
1:A:1104:U:OP2	73:UB:6:PRO:HB3	2.12	0.50
1:A:1291:G:H22	1:A:1324:G:N2	2.10	0.50
1:A:1498:G:H2'	1:A:1499:G:O4'	2.12	0.50
2:B:101:G:O2'	2:B:102:C:H5'	2.12	0.50
2:B:501:A:H2'	2:B:502:U:C6	2.47	0.50
2:B:674:G:H2'	2:B:675:C:O4'	2.12	0.50
2:B:1844:C:H1'	41:OA:8:PHE:O	2.12	0.50
2:B:2186:U:O2'	2:B:2187:G:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2479:C:H5"	5:E:105:LYS:CD	2.42	0.50
2:B:2717:U:O2'	2:B:2718:U:H5'	2.12	0.50
2:B:2946:A:H2'	2:B:2982:A:N7	2.27	0.50
4:D:5:G:O2'	9:I:63:GLN:NE2	2.45	0.50
9:I:34:LYS:HA	25:Y:27:LEU:HD21	1.94	0.50
12:L:78:PHE:O	12:L:79:GLN:CB	2.59	0.50
29:CA:61:LYS:O	29:CA:87:SER:HB2	2.12	0.50
29:CA:62:VAL:HG13	29:CA:90:ALA:CB	2.42	0.50
29:CA:96:LYS:HG3	29:CA:107:VAL:CB	2.42	0.50
33:GA:28:LYS:O	33:GA:29:TYR:CB	2.60	0.50
35:IA:13:THR:HA	35:IA:71:LEU:O	2.12	0.50
49:WA:24:ALA:HB2	49:WA:71:CYS:O	2.12	0.50
50:XA:62:ARG:HE	71:SB:39:VAL:HG22	1.77	0.50
52:ZA:67:GLN:O	52:ZA:71:THR:HG23	2.12	0.50
54:BB:173:ILE:N	54:BB:173:ILE:HD12	2.27	0.50
56:DB:103:GLY:H	56:DB:106:LEU:HD11	1.77	0.50
58:FB:113:PHE:HZ	58:FB:152:ILE:HG12	1.77	0.50
59:GB:153:GLU:HA	59:GB:156:ILE:HD11	1.93	0.50
69:QB:70:GLN:HB2	69:QB:122:ARG:N	2.27	0.50
77:YB:29:ARG:HH11	77:YB:29:ARG:CB	2.23	0.50
83:EC:6771:U:H3	83:EC:6822:U:H5"	1.77	0.50
1:A:72:A:H3'	1:A:73:U:H5"	1.94	0.50
1:A:337:G:H1'	1:A:339:C:OP2	2.10	0.50
1:A:374:U:H2'	1:A:375:U:C6	2.47	0.50
1:A:911:U:H5'	2:B:2206:G:H1'	1.94	0.50
1:A:1413:U:H5'	67:OB:3:ARG:NH1	2.27	0.50
1:A:1450:U:O2'	79:AC:8:PHE:HA	2.12	0.50
1:A:1530:C:OP2	75:WB:95:HIS:HB2	2.12	0.50
1:A:1749:A:H2'	1:A:1750:A:C5'	2.40	0.50
2:B:793:C:H2'	2:B:794:U:O4'	2.12	0.50
2:B:914:A:C2	6:F:204:MET:SD	3.05	0.50
2:B:946:U:O2'	2:B:947:G:H5'	2.12	0.50
2:B:1254:C:O2'	16:P:131:GLU:HA	2.12	0.50
2:B:2353:G:H5"	21:U:86:LYS:HB2	1.94	0.50
2:B:3356:G:O5'	2:B:3356:G:H8	1.94	0.50
2:B:3380:U:O2'	2:B:3381:U:H5'	2.12	0.50
5:E:90:LEU:HD23	5:E:119:GLN:CB	2.37	0.50
5:E:113:SER:HB2	5:E:116:LEU:CG	2.40	0.50
7:G:359:ILE:HD12	7:G:359:ILE:N	2.27	0.50
8:H:8:VAL:HG12	8:H:9:HIS:N	2.27	0.50
8:H:352:ALA:CB	11:K:73:GLY:HA2	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:55:PHE:CE2	9:I:158:ARG:HG3	2.47	0.50
13:M:3:TYR:CD2	13:M:65:VAL:HG21	2.46	0.50
13:M:90:MET:CG	13:M:181:VAL:HA	2.30	0.50
13:M:91:ARG:HD2	13:M:143:GLU:CG	2.42	0.50
14:N:48:LEU:HD13	14:N:50:VAL:HG23	1.94	0.50
21:U:64:ASN:C	21:U:67:ILE:HD13	2.32	0.50
22:V:26:LEU:O	22:V:30:VAL:HG23	2.12	0.50
22:V:63:SER:O	22:V:66:ARG:HB3	2.12	0.50
22:V:90:ASP:C	22:V:92:ARG:H	2.15	0.50
23:W:8:LYS:HG3	23:W:22:VAL:HG21	1.94	0.50
24:X:12:ARG:HD2	24:X:22:PRO:HD2	1.93	0.50
25:Y:27:LEU:HD12	25:Y:31:LEU:HD21	1.93	0.50
27:AA:20:GLY:HA2	27:AA:35:TYR:CE1	2.46	0.50
31:EA:10:VAL:O	31:EA:83:THR:HG22	2.12	0.50
31:EA:61:LYS:HD3	31:EA:61:LYS:N	2.26	0.50
46:TA:6:LYS:NZ	46:TA:94:GLY:HA2	2.27	0.50
49:WA:307:ASP:O	49:WA:309:VAL:HG23	2.12	0.50
57:EB:102:PRO:CD	57:EB:112:ARG:HD3	2.39	0.50
72:TB:68:ARG:HG2	72:TB:68:ARG:HH11	1.76	0.50
82:DC:293:LYS:HA	82:DC:296:ILE:HD12	1.92	0.50
82:DC:496:LYS:HG3	82:DC:554:LEU:O	2.12	0.50
82:DC:807:ASP:HB3	82:DC:810:ASP:HB2	1.93	0.50
1:A:218:A:H3'	1:A:219:A:C5'	2.41	0.49
1:A:320:U:O2'	1:A:321:C:H5"	2.12	0.49
1:A:1332:C:P	67:OB:45:ARG:HD3	2.52	0.49
1:A:1376:C:C2'	1:A:1377:U:H5'	2.42	0.49
2:B:110:G:H5"	17:Q:91:ARG:NE	2.28	0.49
2:B:584:G:H2'	2:B:585:A:C8	2.47	0.49
2:B:693:A:H4'	8:H:234:ASN:OD1	2.12	0.49
2:B:797:U:H2'	2:B:798:G:C8	2.47	0.49
2:B:907:G:H2'	2:B:926:A:H62	1.77	0.49
2:B:939:U:H2'	2:B:940:G:H8	1.77	0.49
2:B:1132:C:O2'	2:B:1133:A:H5'	2.12	0.49
2:B:1230:G:H4'	48:VA:33:VAL:HG13	1.93	0.49
2:B:1369:A:H2'	2:B:1370:G:H5'	1.93	0.49
2:B:1730:G:H2'	34:HA:28:LYS:HZ2	1.76	0.49
2:B:1764:U:H3'	2:B:1765:U:H4'	1.92	0.49
2:B:2147:A:O3'	6:F:197:PRO:HB2	2.12	0.49
2:B:3106:A:H2'	2:B:3107:U:O4'	2.12	0.49
2:B:3109:G:O2'	2:B:3110:C:H5'	2.11	0.49
2:B:3249:C:C2'	2:B:3250:U:H5'	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3383:G:H21	35:IA:105:GLN:NE2	2.10	0.49
6:F:94:ALA:HB1	6:F:100:ASN:HD22	1.76	0.49
6:F:128:ARG:CA	6:F:169:ILE:HD12	2.42	0.49
7:G:122:TRP:C	7:G:124:LYS:H	2.16	0.49
7:G:332:ARG:HD3	7:G:332:ARG:H	1.77	0.49
11:K:112:ASN:HB3	11:K:207:LEU:O	2.12	0.49
12:L:50:VAL:HG23	12:L:52:TRP:NE1	2.27	0.49
12:L:204:ARG:C	12:L:206:GLU:H	2.15	0.49
17:Q:43:ALA:HB2	17:Q:51:LEU:HD21	1.93	0.49
19:S:93:LYS:O	19:S:94:TYR:CB	2.60	0.49
21:U:16:SER:OG	21:U:149:VAL:HG22	2.12	0.49
23:W:115:ILE:CG1	23:W:119:LEU:HD23	2.42	0.49
24:X:12:ARG:CZ	24:X:15:PRO:HG3	2.42	0.49
24:X:77:VAL:O	24:X:91:TYR:HA	2.12	0.49
26:Z:38:ILE:HG12	26:Z:50:LEU:HD13	1.93	0.49
36:JA:19:ARG:HD3	36:JA:28:VAL:CG1	2.41	0.49
39:MA:5:LYS:HB3	39:MA:7:TYR:CD2	2.47	0.49
42:PA:5:ILE:HD12	42:PA:5:ILE:H	1.77	0.49
42:PA:24:THR:O	42:PA:44:LYS:HB2	2.11	0.49
61:IB:90:TYR:O	61:IB:91:LEU:HD23	2.11	0.49
69:QB:22:LEU:HD12	69:QB:28:LEU:HB3	1.93	0.49
69:QB:131:ASP:HA	69:QB:134:ARG:HB2	1.94	0.49
73:UB:57:LEU:HB2	80:BC:4:VAL:HG13	1.94	0.49
82:DC:84:GLU:O	82:DC:87:LYS:HB3	2.11	0.49
1:A:158:U:H3'	1:A:159:U:H5"	1.94	0.49
1:A:445:A:H2'	1:A:446:A:H8	1.77	0.49
1:A:446:A:N6	1:A:461:G:H21	2.09	0.49
1:A:804:A:N9	72:TB:107:SER:HA	2.27	0.49
1:A:1516:A:H8	70:RB:58:LEU:CD2	2.25	0.49
2:B:1408:G:P	36:JA:33:ARG:HH22	2.35	0.49
2:B:1707:A:C6	2:B:1708:C:C4	3.01	0.49
2:B:2631:U:H2'	2:B:2632:G:H8	1.76	0.49
2:B:3259:U:C6	2:B:3259:U:H5'	2.48	0.49
5:E:73:ASP:HA	5:E:144:LEU:HD22	1.93	0.49
6:F:177:LYS:HD3	47:UA:69:TYR:CZ	2.46	0.49
8:H:107:ARG:HG2	8:H:108:LYS:H	1.76	0.49
8:H:264:SER:H	8:H:267:VAL:HG23	1.76	0.49
11:K:138:TYR:CD2	11:K:233:GLU:HA	2.47	0.49
11:K:222:HIS:HA	11:K:229:PHE:O	2.11	0.49
13:M:23:ARG:NH2	13:M:42:ASP:H	2.10	0.49
13:M:168:ARG:O	13:M:169:ASN:HB2	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:91:LEU:O	15:O:92:ARG:HD3	2.12	0.49
16:P:89:PRO:O	16:P:94:LYS:HE2	2.12	0.49
19:S:150:TRP:CH2	19:S:151:ILE:HG12	2.47	0.49
20:T:8:VAL:HA	20:T:34:VAL:CG2	2.42	0.49
21:U:50:GLN:OE1	21:U:56:ARG:HD3	2.12	0.49
30:DA:40:ARG:HG3	30:DA:45:ILE:O	2.12	0.49
32:FA:9:ARG:HH12	32:FA:12:ARG:HH12	1.60	0.49
36:JA:20:HIS:HB2	36:JA:50:ILE:HD11	1.93	0.49
39:MA:50:SER:O	39:MA:54:VAL:HG23	2.11	0.49
41:OA:64:MET:O	41:OA:66:TYR:N	2.45	0.49
56:DB:24:ILE:HG22	56:DB:28:PHE:CE2	2.47	0.49
58:FB:58:LEU:O	58:FB:59:ARG:O	2.30	0.49
68:PB:16:ARG:NH1	68:PB:19:ASN:HA	2.27	0.49
69:QB:118:PRO:CD	69:QB:123:ARG:HH21	2.24	0.49
70:RB:57:ARG:HG3	70:RB:89:ARG:HD3	1.94	0.49
72:TB:53:ILE:HG22	72:TB:60:LYS:O	2.11	0.49
72:TB:80:ASN:HD22	72:TB:124:LYS:HG2	1.78	0.49
73:UB:124:VAL:HG12	73:UB:125:VAL:N	2.26	0.49
80:BC:35:TYR:CE1	80:BC:39:LEU:HD21	2.47	0.49
83:EC:6859:U:O2	83:EC:6871:A:H2	1.94	0.49
1:A:57:G:H2'	1:A:58:U:O4'	2.11	0.49
1:A:165:G:H2'	1:A:166:C:C1'	2.42	0.49
1:A:393:C:OP2	58:FB:2:GLY:HA3	2.12	0.49
1:A:815:G:H2'	1:A:815:G:N3	2.28	0.49
1:A:1593:A:H2'	1:A:1594:G:H8	1.78	0.49
1:A:1661:U:H2'	1:A:1662:G:C8	2.48	0.49
2:B:260:C:H2'	2:B:261:U:O4'	2.12	0.49
2:B:1236:G:C8	16:P:60:VAL:HG13	2.47	0.49
2:B:1402:C:O2'	2:B:1403:C:H5'	2.12	0.49
2:B:1525:G:H1'	2:B:1829:G:C2	2.47	0.49
2:B:2442:G:H3'	2:B:2443:A:H5"	1.93	0.49
2:B:3215:A:H8	18:R:121:MET:HE1	1.77	0.49
5:E:120:VAL:CB	5:E:121:PRO:HD3	2.40	0.49
8:H:58:HIS:HA	8:H:90:PHE:HE1	1.77	0.49
8:H:93:MET:HG2	8:H:94:CYS:H	1.77	0.49
11:K:59:GLU:O	11:K:63:ILE:HG12	2.12	0.49
11:K:86:VAL:HG22	11:K:136:TYR:HB3	1.93	0.49
15:O:53:THR:HG23	15:O:60:ARG:HA	1.94	0.49
15:O:71:VAL:HG11	15:O:79:ILE:HD12	1.93	0.49
16:P:122:GLY:O	16:P:123:ARG:HD3	2.12	0.49
16:P:123:ARG:CZ	48:VA:39:HIS:HB2	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:63:VAL:HG12	32:FA:128:ARG:HH12	1.77	0.49
17:Q:63:VAL:HG12	32:FA:128:ARG:NH2	2.27	0.49
17:Q:180:ARG:HG2	17:Q:180:ARG:HH11	1.76	0.49
18:R:122:VAL:O	18:R:126:GLN:HG3	2.12	0.49
19:S:35:VAL:HG13	19:S:65:ARG:HG2	1.93	0.49
25:Y:11:THR:CB	25:Y:14:MET:HB3	2.42	0.49
32:FA:148:ILE:O	40:NA:7:ILE:HA	2.13	0.49
50:XA:79:ARG:O	50:XA:83:GLN:HG3	2.11	0.49
52:ZA:121:VAL:O	52:ZA:125:ILE:HG13	2.11	0.49
58:FB:66:SER:HA	58:FB:72:ILE:O	2.12	0.49
58:FB:84:HIS:CD2	58:FB:90:LEU:HD12	2.47	0.49
59:GB:179:ARG:HA	59:GB:182:GLU:HG2	1.93	0.49
60:HB:15:LEU:HD13	60:HB:21:VAL:CG2	2.43	0.49
65:MB:119:PHE:HD1	68:PB:120:ARG:O	1.95	0.49
69:QB:28:LEU:HD22	69:QB:29:GLU:N	2.27	0.49
72:TB:95:PRO:HB2	72:TB:99:PHE:CE1	2.47	0.49
74:VB:106:GLN:O	74:VB:110:GLN:HG3	2.11	0.49
77:YB:56:CYS:HB2	77:YB:59:CYS:O	2.12	0.49
82:DC:147:LEU:HD12	82:DC:192:TYR:HB2	1.93	0.49
82:DC:212:GLY:HA2	82:DC:218:TRP:CE3	2.47	0.49
82:DC:356:LEU:O	82:DC:478:MET:HB3	2.12	0.49
82:DC:382:VAL:HA	82:DC:398:GLY:HA3	1.94	0.49
83:EC:6892:U:O2	83:EC:6938:A:C2	2.64	0.49
1:A:479:C:H4'	59:GB:120:LYS:HZ2	1.77	0.49
1:A:804:A:H1'	72:TB:106:THR:O	2.12	0.49
1:A:1721:A:H2'	1:A:1722:A:H8	1.77	0.49
2:B:665:A:H2'	2:B:666:A:O4'	2.12	0.49
2:B:834:U:H2'	2:B:835:G:H5'	1.95	0.49
2:B:1233:G:H21	16:P:128:VAL:CG1	2.24	0.49
2:B:1565:G:H22	2:B:1574:C:N4	2.11	0.49
2:B:1652:G:O2'	2:B:1653:G:H5'	2.11	0.49
2:B:1832:C:C4'	3:C:113:U:H5'	2.42	0.49
2:B:1941:C:OP2	23:W:74:ARG:HG2	2.12	0.49
3:C:125:U:O2	3:C:125:U:H3'	2.11	0.49
4:D:94:C:H2'	4:D:95:A:C8	2.47	0.49
6:F:113:VAL:HG12	6:F:166:ILE:CD1	2.42	0.49
9:I:77:ALA:O	9:I:78:ALA:HB2	2.12	0.49
10:J:40:LEU:HD11	10:J:54:TYR:HB2	1.94	0.49
17:Q:180:ARG:O	17:Q:184:GLU:HG3	2.12	0.49
30:DA:27:ARG:NE	30:DA:78:PHE:CZ	2.64	0.49
36:JA:91:THR:C	36:JA:92:TYR:HD2	2.15	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:WA:127:ARG:HD3	49:WA:150:TRP:CZ3	2.47	0.49
58:FB:117:TYR:CG	58:FB:150:ALA:HB2	2.48	0.49
59:GB:80:LEU:O	59:GB:83:VAL:HG22	2.12	0.49
61:IB:155:LYS:H	61:IB:155:LYS:CD	2.23	0.49
63:KB:44:GLY:C	63:KB:45:LEU:HD12	2.32	0.49
66:NB:6:SER:HA	66:NB:22:VAL:O	2.12	0.49
67:OB:29:GLN:O	67:OB:32:LYS:HB3	2.12	0.49
67:OB:34:LEU:O	67:OB:38:ILE:HG22	2.12	0.49
68:PB:115:ARG:NH1	68:PB:116:LEU:HD21	2.27	0.49
73:UB:92:CYS:HA	73:UB:95:PHE:HD2	1.77	0.49
77:YB:54:VAL:HG23	77:YB:64:CYS:SG	2.52	0.49
82:DC:25:ILE:CG2	82:DC:127:VAL:HG13	2.43	0.49
82:DC:418:TYR:OH	82:DC:420:PRO:HA	2.12	0.49
83:EC:6791:A:H4'	83:EC:6849:A:C2	2.47	0.49
1:A:1144:U:H2'	1:A:1145:U:C6	2.47	0.49
1:A:1305:U:H5"	1:A:1306:C:H5	1.77	0.49
1:A:1500:C:H5'	69:QB:106:GLN:NE2	2.28	0.49
1:A:1611:A:H2'	1:A:1612:U:O4'	2.11	0.49
1:A:1635:A:H5"	1:A:1638:G:H4'	1.95	0.49
1:A:1733:C:H2'	1:A:1734:U:C6	2.47	0.49
2:B:1077:U:H1'	2:B:1083:G:N2	2.28	0.49
2:B:1566:A:H3'	2:B:1567:U:C5'	2.33	0.49
2:B:1926:C:O2'	47:UA:6:LYS:HD3	2.13	0.49
2:B:2804:A:C2'	2:B:2805:G:H5"	2.40	0.49
4:D:33:U:O2'	4:D:34:C:H5'	2.13	0.49
6:F:6:ARG:O	6:F:8:GLN:N	2.46	0.49
10:J:172:HIS:CD2	37:KA:40:ASP:HB3	2.48	0.49
11:K:160:ARG:CZ	11:K:206:LYS:HD3	2.43	0.49
12:L:78:PHE:O	12:L:79:GLN:HG3	2.12	0.49
12:L:122:LYS:H	12:L:122:LYS:HD3	1.77	0.49
20:T:76:PRO:HA	20:T:79:ILE:HD12	1.94	0.49
23:W:11:ALA:HB1	23:W:50:ILE:HG21	1.95	0.49
23:W:164:LEU:HD22	23:W:167:ARG:CZ	2.43	0.49
24:X:14:LEU:O	24:X:16:THR:HG23	2.13	0.49
25:Y:48:ILE:HD13	25:Y:48:ILE:N	2.27	0.49
27:AA:90:GLY:HA3	28:BA:16:GLY:HA2	1.94	0.49
37:KA:85:PHE:CE2	37:KA:89:LEU:HG	2.46	0.49
43:QA:35:ILE:HD12	43:QA:35:ILE:H	1.78	0.49
49:WA:203:THR:O	49:WA:211:ILE:HA	2.12	0.49
55:CB:82:PHE:CZ	78:ZB:49:ARG:HB3	2.48	0.49
56:DB:177:ARG:HA	56:DB:183:ARG:NH1	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:HB:31:LYS:HD3	60:HB:36:ASP:CG	2.33	0.49
66:NB:103:ASN:HA	66:NB:106:LYS:HZ2	1.78	0.49
69:QB:54:PHE:CZ	69:QB:104:VAL:HG22	2.48	0.49
73:UB:79:ASN:HB3	73:UB:81:LYS:HG3	1.94	0.49
74:VB:59:GLY:O	74:VB:60:PHE:HB2	2.13	0.49
82:DC:16:VAL:HA	82:DC:19:VAL:HG23	1.94	0.49
82:DC:381:TYR:CB	82:DC:401:PHE:HE2	2.25	0.49
82:DC:588:LEU:HB3	82:DC:688:ILE:HA	1.95	0.49
82:DC:612:PHE:CD2	82:DC:612:PHE:N	2.80	0.49
83:EC:6762:U:H3	83:EC:6829:A:N6	2.06	0.49
1:A:396:G:H3'	58:FB:47:ARG:HH11	1.78	0.49
1:A:887:A:O2'	1:A:888:U:H5'	2.11	0.49
1:A:1072:C:H4'	63:KB:11:ILE:HD11	1.94	0.49
1:A:1538:U:O2'	1:A:1539:G:H2'	2.11	0.49
1:A:1549:C:H3'	65:MB:39:ALA:HB2	1.95	0.49
1:A:1685:G:C2'	1:A:1686:C:H5"	2.42	0.49
2:B:283:G:OP1	46:TA:45:ARG:NH2	2.44	0.49
2:B:296:A:N6	2:B:317:A:H61	2.11	0.49
2:B:1194:G:H21	2:B:1319:G:C4'	2.26	0.49
2:B:1281:G:H2'	2:B:1281:G:N3	2.28	0.49
2:B:1384:U:H5'	8:H:138:ARG:HH12	1.77	0.49
2:B:1782:U:H2'	2:B:1783:U:O4'	2.11	0.49
2:B:1805:C:H2'	2:B:1806:A:H8	1.77	0.49
2:B:2137:U:OP2	2:B:2142:A:N6	2.42	0.49
2:B:2204:C:O3'	6:F:251:LYS:HE2	2.13	0.49
2:B:3000:A:H2'	2:B:3001:C:C6	2.46	0.49
3:C:82:U:O2	3:C:82:U:C2'	2.60	0.49
6:F:116:VAL:HG22	6:F:117:GLU:H	1.77	0.49
8:H:208:VAL:HG12	8:H:230:VAL:HG23	1.95	0.49
9:I:80:SER:C	9:I:82:GLU:H	2.15	0.49
12:L:43:LYS:HD2	29:CA:28:THR:HB	1.95	0.49
12:L:133:LYS:CB	12:L:199:ALA:HB3	2.41	0.49
12:L:185:ARG:HA	12:L:188:THR:HG23	1.95	0.49
12:L:241:LYS:C	12:L:243:GLN:H	2.16	0.49
18:R:16:GLU:HB3	24:X:149:LYS:CB	2.38	0.49
21:U:36:ILE:CD1	21:U:44:ALA:HB1	2.42	0.49
23:W:115:ILE:CD1	23:W:123:LEU:HD12	2.42	0.49
23:W:183:ALA:HA	23:W:186:LYS:HB3	1.94	0.49
25:Y:41:ASP:HB3	25:Y:97:LYS:O	2.13	0.49
30:DA:38:GLU:O	30:DA:42:GLN:HG2	2.13	0.49
48:VA:123:ALA:HB2	48:VA:154:SER:C	2.32	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:WA:87:LYS:HE3	49:WA:107:LYS:HA	1.94	0.49
57:EB:24:PHE:HE2	57:EB:77:LEU:HD21	1.78	0.49
59:GB:80:LEU:C	59:GB:83:VAL:HG22	2.33	0.49
61:IB:99:ARG:HH12	73:UB:7:ARG:CA	2.25	0.49
65:MB:84:ILE:HG22	65:MB:85:ILE:H	1.77	0.49
73:UB:48:HIS:HD2	73:UB:105:ALA:HB2	1.78	0.49
73:UB:57:LEU:H	73:UB:57:LEU:CD2	2.22	0.49
74:VB:43:LYS:O	74:VB:46:GLU:HG2	2.13	0.49
77:YB:35:VAL:HG22	77:YB:79:PHE:HB3	1.94	0.49
82:DC:381:TYR:HB3	82:DC:401:PHE:CE2	2.48	0.49
1:A:320:U:O2'	1:A:321:C:H6	1.94	0.49
1:A:333:A:H8	58:FB:49:ARG:HB3	1.78	0.49
1:A:401:A:H1'	54:BB:3:ARG:NH1	2.28	0.49
1:A:774:A:C2'	1:A:775:G:H5'	2.42	0.49
1:A:1042:G:C2'	1:A:1043:A:H5"	2.42	0.49
2:B:216:G:H4'	30:DA:19:TYR:CE2	2.48	0.49
2:B:225:C:H4'	30:DA:32:SER:O	2.12	0.49
2:B:262:U:H2'	2:B:263:C:O4'	2.12	0.49
2:B:303:G:H5"	2:B:304:G:H5"	1.94	0.49
2:B:615:U:H2'	2:B:616:G:H8	1.77	0.49
2:B:835:G:H1'	2:B:857:G:N2	2.28	0.49
2:B:1103:A:N6	22:V:9:GLN:HE22	2.10	0.49
2:B:1381:A:H5"	8:H:197:ARG:NH1	2.28	0.49
2:B:1859:A:O2'	2:B:1860:G:H5'	2.13	0.49
2:B:2681:U:H1'	15:O:22:SER:OG	2.12	0.49
2:B:3180:A:H5'	20:T:116:LYS:HB2	1.94	0.49
3:C:41:A:O2'	41:OA:59:THR:HG22	2.12	0.49
3:C:63:G:OP2	3:C:90:U:H4'	2.12	0.49
3:C:82:U:O2	3:C:82:U:H2'	2.12	0.49
5:E:127:GLN:O	5:E:130:LYS:HE2	2.13	0.49
6:F:204:MET:HB3	6:F:208:ASP:CB	2.41	0.49
7:G:305:ILE:HD12	7:G:306:THR:H	1.78	0.49
8:H:238:LEU:C	8:H:240:PRO:HD3	2.32	0.49
11:K:233:GLU:OE1	24:X:35:VAL:HG22	2.13	0.49
12:L:90:THR:HG21	12:L:152:LEU:HD21	1.93	0.49
14:N:36:LEU:HD12	14:N:87:LEU:HB3	1.94	0.49
14:N:57:LEU:HB2	14:N:131:ILE:HG13	1.94	0.49
14:N:75:TYR:CE2	14:N:79:VAL:HG21	2.48	0.49
14:N:208:ASN:HA	14:N:211:ARG:HG3	1.95	0.49
21:U:168:LEU:H	21:U:168:LEU:HD12	1.78	0.49
22:V:122:ILE:HG23	22:V:126:GLN:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:HA:51:LEU:HD22	38:LA:87:GLU:HG3	1.93	0.49
38:LA:56:THR:O	38:LA:57:LEU:HG	2.13	0.49
48:VA:144:LYS:HD3	82:DC:203:TYR:CE1	2.45	0.49
49:WA:292:LEU:HA	49:WA:303:ALA:HA	1.95	0.49
50:XA:62:ARG:HB3	71:SB:36:VAL:HG13	1.94	0.49
55:CB:57:SER:O	55:CB:58:LEU:HB2	2.13	0.49
65:MB:17:TYR:O	68:PB:93:THR:HA	2.13	0.49
69:QB:13:ASP:HA	69:QB:16:ASN:ND2	2.24	0.49
72:TB:104:LEU:HD13	72:TB:104:LEU:H	1.77	0.49
74:VB:44:LEU:HD22	74:VB:48:TYR:HE2	1.78	0.49
77:YB:32:PHE:CE1	77:YB:47:PHE:HB2	2.48	0.49
82:DC:638:PRO:HD3	82:DC:671:THR:HB	1.94	0.49
82:DC:737:GLU:HA	82:DC:740:VAL:HG23	1.95	0.49
1:A:778:G:H22	74:VB:10:ARG:HG2	1.78	0.49
1:A:1258:U:H4'	60:HB:2:LEU:CD1	2.42	0.49
1:A:1682:U:H4'	56:DB:65:GLN:NE2	2.28	0.49
2:B:118:U:C5	2:B:119:U:C4	3.00	0.49
2:B:1333:C:OP1	22:V:2:GLY:N	2.45	0.49
2:B:1427:U:H5	32:FA:4:ARG:CZ	2.25	0.49
2:B:1823:A:O2'	2:B:1824:U:H5'	2.13	0.49
2:B:2841:G:H2'	2:B:2898:G:N2	2.28	0.49
2:B:2867:C:O2'	2:B:2868:U:H5'	2.12	0.49
2:B:2894:C:H2'	2:B:2895:G:C8	2.48	0.49
2:B:3188:G:H2'	2:B:3189:G:H8	1.78	0.49
3:C:24:G:OP2	30:DA:13:ARG:HD2	2.12	0.49
4:D:96:U:H2'	4:D:97:A:H8	1.78	0.49
6:F:10:LYS:HG2	6:F:16:PHE:CD1	2.47	0.49
6:F:89:TYR:O	6:F:100:ASN:HA	2.12	0.49
9:I:34:LYS:C	9:I:34:LYS:HD3	2.33	0.49
12:L:139:VAL:O	12:L:143:ILE:HG13	2.13	0.49
12:L:146:LYS:HB2	12:L:173:MET:CE	2.43	0.49
14:N:89:VAL:HG22	14:N:136:PHE:CE1	2.47	0.49
17:Q:75:PHE:O	17:Q:79:GLU:HB2	2.12	0.49
18:R:37:GLU:OE2	18:R:74:ARG:HD2	2.13	0.49
20:T:162:VAL:O	20:T:166:GLU:HG3	2.13	0.49
22:V:67:ILE:HG22	22:V:68:ALA:N	2.26	0.49
24:X:29:ILE:HG22	24:X:30:PHE:N	2.28	0.49
32:FA:79:TRP:NE1	32:FA:119:PRO:HD2	2.27	0.49
41:OA:64:MET:C	41:OA:66:TYR:N	2.66	0.49
49:WA:287:PRO:HA	49:WA:306:THR:OG1	2.13	0.49
52:ZA:49:LYS:CE	52:ZA:246:GLU:HB3	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:ZA:229:LEU:HD11	71:SB:14:PRO:HD2	1.93	0.49
53:AB:184:ILE:HG22	53:AB:185:LYS:N	2.28	0.49
54:BB:41:SER:HB2	54:BB:83:PRO:HA	1.94	0.49
54:BB:163:ASP:O	54:BB:164:LEU:HB2	2.12	0.49
55:CB:59:VAL:O	55:CB:60:ASP:HB2	2.13	0.49
56:DB:219:ARG:HD2	56:DB:219:ARG:O	2.12	0.49
57:EB:114:ARG:HB2	57:EB:114:ARG:HH11	1.76	0.49
58:FB:159:GLN:CB	58:FB:165:LEU:HD23	2.43	0.49
59:GB:29:LYS:O	59:GB:33:GLU:HG3	2.13	0.49
63:KB:141:TYR:CE1	63:KB:146:ALA:HB2	2.48	0.49
82:DC:378:LEU:HD22	82:DC:409:GLN:OE1	2.13	0.49
82:DC:483:PHE:O	82:DC:484:SER:HB3	2.13	0.49
82:DC:644:ASN:C	82:DC:645:LEU:HD23	2.33	0.49
1:A:770:A:H3'	1:A:771:A:H5"	1.94	0.49
1:A:1200:G:H4'	1:A:1201:G:H5"	1.95	0.49
1:A:1304:G:H5'	1:A:1322:A:OP2	2.13	0.49
1:A:1453:G:H4'	65:MB:81:ARG:HD2	1.94	0.49
1:A:1586:A:H2'	1:A:1587:A:O4'	2.13	0.49
2:B:114:A:H1'	19:S:50:ARG:HA	1.95	0.49
2:B:1214:U:OP1	24:X:91:TYR:HB3	2.12	0.49
2:B:1239:C:H3'	2:B:1240:A:H8	1.78	0.49
2:B:1456:A:N1	35:IA:64:VAL:HG13	2.27	0.49
2:B:1577:G:C2	2:B:1578:C:H1'	2.48	0.49
2:B:1596:C:H5'	38:LA:8:ARG:NH2	2.26	0.49
2:B:1798:A:H2'	2:B:1799:A:C8	2.48	0.49
2:B:2355:G:OP1	21:U:141:SER:HA	2.12	0.49
2:B:2527:G:O2'	2:B:2528:G:H5'	2.13	0.49
6:F:41:ILE:CD1	6:F:63:PHE:HB3	2.43	0.49
6:F:145:LYS:HA	6:F:158:ILE:O	2.13	0.49
9:I:135:VAL:HG12	9:I:136:GLU:N	2.27	0.49
10:J:30:LEU:HD23	10:J:30:LEU:N	2.28	0.49
11:K:217:PRO:HG2	11:K:218:ARG:H	1.78	0.49
13:M:86:TYR:CE2	13:M:151:VAL:HG22	2.48	0.49
14:N:85:PHE:HA	14:N:139:ARG:O	2.11	0.49
24:X:123:ILE:HG22	24:X:126:VAL:HG21	1.94	0.49
32:FA:75:LEU:HD12	32:FA:137:LYS:HD2	1.94	0.49
36:JA:2:ALA:O	36:JA:90:LYS:HA	2.12	0.49
49:WA:211:ILE:HG22	49:WA:212:ALA:H	1.78	0.49
50:XA:79:ARG:HH21	50:XA:166:GLY:HA2	1.77	0.49
50:XA:142:PRO:HB3	71:SB:34:ILE:HD11	1.95	0.49
54:BB:229:GLY:HA3	54:BB:233:LYS:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:DB:48:TYR:CE1	56:DB:125:THR:HG21	2.48	0.49
56:DB:141:ILE:HB	56:DB:153:VAL:HG21	1.95	0.49
63:KB:141:TYR:HE1	63:KB:146:ALA:HB2	1.78	0.49
69:QB:125:SER:O	69:QB:129:GLN:HG3	2.13	0.49
74:VB:96:LEU:O	74:VB:97:ALA:HB2	2.12	0.49
76:XB:84:VAL:O	76:XB:85:ARG:C	2.50	0.49
1:A:96:G:H1	1:A:387:A:H61	1.61	0.49
1:A:555:A:H2'	1:A:556:A:C8	2.48	0.49
1:A:1485:C:H3'	1:A:1486:G:H5"	1.95	0.49
2:B:245:U:H2'	2:B:246:U:H6	1.74	0.49
2:B:291:C:O5'	2:B:291:C:H6	1.96	0.49
2:B:776:U:O4	2:B:2719:U:O2	2.31	0.49
2:B:810:A:H2'	2:B:811:U:C6	2.48	0.49
2:B:1237:G:N2	16:P:136:ALA:HA	2.28	0.49
2:B:1539:A:H2'	2:B:1540:U:H5'	1.95	0.49
2:B:2282:U:H5'	2:B:2282:U:C6	2.47	0.49
2:B:2466:G:H2'	2:B:2467:G:H5'	1.95	0.49
2:B:2480:A:H2'	2:B:2481:G:H5'	1.94	0.49
4:D:61:G:H4'	9:I:275:THR:O	2.13	0.49
4:D:114:U:H2'	4:D:115:G:H8	1.77	0.49
5:E:110:PHE:H	5:E:151:VAL:HG22	1.78	0.49
7:G:150:ARG:HG2	7:G:150:ARG:HH11	1.78	0.49
9:I:55:PHE:HE2	9:I:159:VAL:HG22	1.78	0.49
11:K:83:LEU:HD12	11:K:139:PRO:HG3	1.95	0.49
22:V:157:PRO:HD3	32:FA:47:LYS:HB2	1.95	0.49
24:X:80:ARG:HD2	24:X:122:HIS:ND1	2.28	0.49
27:AA:26:ALA:HB2	27:AA:80:ARG:NH2	2.27	0.49
32:FA:148:ILE:CG2	32:FA:149:ALA:H	2.26	0.49
37:KA:66:VAL:CG1	37:KA:67:MET:N	2.76	0.49
37:KA:98:VAL:HG22	37:KA:99:ARG:N	2.26	0.49
39:MA:41:LEU:O	39:MA:44:ILE:HG22	2.12	0.49
40:NA:45:ARG:HH22	40:NA:93:ILE:HG13	1.78	0.49
46:TA:35:LEU:C	46:TA:37:ALA:H	2.15	0.49
53:AB:17:PHE:HB2	53:AB:77:PHE:CE1	2.47	0.49
54:BB:42:LEU:HD23	54:BB:43:PRO:O	2.13	0.49
56:DB:108:VAL:CG1	56:DB:109:LEU:H	2.26	0.49
58:FB:196:LEU:O	58:FB:200:LYS:HB2	2.12	0.49
60:HB:10:LYS:HB3	60:HB:35:ILE:CG2	2.43	0.49
66:NB:45:ARG:HG3	66:NB:49:TYR:CE2	2.48	0.49
67:OB:46:LEU:HA	67:OB:49:LYS:HD3	1.95	0.49
72:TB:83:ILE:HG23	72:TB:83:ILE:O	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:VB:20:ARG:HB3	74:VB:76:TYR:CE2	2.47	0.49
80:BC:49:LEU:HD23	80:BC:49:LEU:H	1.77	0.49
82:DC:25:ILE:HD12	82:DC:142:VAL:HG12	1.95	0.49
82:DC:244:LEU:HA	82:DC:272:ALA:HB3	1.93	0.49
82:DC:584:ASN:HB3	82:DC:692:THR:O	2.12	0.49
83:EC:6831:U:H2'	83:EC:6832:G:O4'	2.13	0.49
1:A:15:U:C2'	1:A:16:G:H5'	2.43	0.48
1:A:59:C:H5'	1:A:452:A:H8	1.77	0.48
1:A:328:A:H2'	1:A:329:G:H8	1.78	0.48
1:A:824:G:H2'	1:A:824:G:N3	2.28	0.48
1:A:1217:A:C4'	60:HB:44:LYS:HG3	2.43	0.48
1:A:1593:A:H2'	1:A:1594:G:C8	2.47	0.48
2:B:181:U:H2'	2:B:182:U:C4'	2.42	0.48
2:B:352:A:H61	2:B:365:A:H5"	1.78	0.48
2:B:801:A:N6	17:Q:19:GLN:NE2	2.58	0.48
2:B:1239:C:H3'	2:B:1240:A:C8	2.47	0.48
2:B:1312:C:O2	20:T:87:MET:HG3	2.12	0.48
2:B:1324:U:C5'	24:X:2:ALA:HA	2.43	0.48
2:B:1507:G:H1'	21:U:139:TYR:CE1	2.47	0.48
2:B:1566:A:H8	2:B:1566:A:O5'	1.96	0.48
2:B:1825:G:H5"	42:PA:48:SER:OG	2.12	0.48
2:B:2461:A:C2	2:B:2485:A:H2'	2.48	0.48
2:B:3029:A:H8	2:B:3029:A:O5'	1.94	0.48
6:F:192:LYS:HB3	6:F:193:ARG:CZ	2.43	0.48
10:J:31:ARG:HH11	10:J:34:LEU:HD13	1.78	0.48
11:K:115:THR:CG2	11:K:204:PRO:HA	2.43	0.48
11:K:136:TYR:CE2	11:K:231:ASN:HB2	2.48	0.48
12:L:193:LYS:O	12:L:194:THR:HG23	2.13	0.48
17:Q:50:PRO:CG	17:Q:141:ALA:HB2	2.42	0.48
20:T:67:THR:C	20:T:69:GLY:N	2.65	0.48
22:V:89:ASP:OD1	22:V:113:LYS:HD3	2.13	0.48
27:AA:13:ILE:HG22	27:AA:85:TRP:CD1	2.47	0.48
31:EA:9:LYS:HD2	31:EA:83:THR:O	2.13	0.48
31:EA:44:ALA:CB	31:EA:72:ILE:HA	2.43	0.48
39:MA:21:LEU:CG	39:MA:54:VAL:HG11	2.39	0.48
39:MA:58:ILE:HG22	39:MA:62:GLN:HE21	1.76	0.48
42:PA:11:PHE:HA	42:PA:14:LEU:HD12	1.95	0.48
48:VA:101:VAL:HG13	48:VA:186:THR:CG2	2.43	0.48
49:WA:90:ARG:HD3	49:WA:99:THR:OG1	2.13	0.48
53:AB:17:PHE:O	53:AB:21:LEU:HG	2.13	0.48
54:BB:193:GLY:HA2	54:BB:212:ASP:HA	1.93	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:DB:136:LYS:HG3	56:DB:173:PRO:CB	2.43	0.48
57:EB:10:SER:HB2	57:EB:42:GLN:NE2	2.28	0.48
82:DC:387:PRO:HA	82:DC:394:PHE:HA	1.95	0.48
82:DC:515:ASP:O	82:DC:518:VAL:HG12	2.13	0.48
82:DC:697:ALA:HA	82:DC:700:ARG:HB3	1.95	0.48
1:A:473:A:H4'	1:A:768:C:O2	2.13	0.48
1:A:559:C:H4'	80:BC:60:PRO:HG3	1.95	0.48
1:A:769:A:H2'	1:A:770:A:C8	2.48	0.48
1:A:815:G:O6	61:IB:146:ALA:HB3	2.13	0.48
1:A:1015:U:H5"	1:A:1016:C:OP2	2.13	0.48
1:A:1176:G:H2'	1:A:1177:C:C6	2.48	0.48
1:A:1557:U:O2'	1:A:1558:U:H2'	2.14	0.48
1:A:1565:C:H4'	68:PB:85:PHE:CD1	2.48	0.48
1:A:1711:C:H2'	1:A:1712:A:C1'	2.43	0.48
2:B:1523:U:O5'	2:B:1523:U:H6	1.96	0.48
2:B:1638:A:H5"	2:B:1639:C:OP2	2.13	0.48
2:B:1943:C:H2'	2:B:1944:U:H6	1.76	0.48
2:B:2463:G:OP1	2:B:2485:A:H1'	2.13	0.48
2:B:2478:C:H2'	2:B:2479:C:C5	2.48	0.48
2:B:2914:G:H5'	7:G:9:PRO:HG3	1.95	0.48
2:B:3110:C:H1'	13:M:156:GLN:OE1	2.13	0.48
4:D:74:C:H2'	4:D:75:G:C8	2.48	0.48
5:E:67:ILE:HD13	5:E:111:ILE:CD1	2.41	0.48
5:E:97:LYS:HD2	5:E:101:LYS:NZ	2.27	0.48
7:G:152:LYS:HG2	7:G:192:VAL:CG1	2.41	0.48
8:H:5:GLN:HE22	8:H:21:PRO:HB3	1.77	0.48
14:N:210:ILE:HA	14:N:217:PHE:CE2	2.48	0.48
16:P:146:LYS:H	16:P:146:LYS:HD2	1.78	0.48
24:X:9:VAL:HG13	24:X:61:ILE:HB	1.94	0.48
32:FA:60:TYR:CD2	32:FA:63:LYS:HE2	2.48	0.48
34:HA:38:LYS:HA	34:HA:38:LYS:NZ	2.28	0.48
36:JA:45:ARG:HB2	36:JA:45:ARG:NH1	2.28	0.48
49:WA:81:LEU:HD23	49:WA:91:LEU:HA	1.95	0.48
50:XA:129:ASP:O	50:XA:133:ILE:HD13	2.13	0.48
56:DB:162:VAL:HG13	56:DB:162:VAL:O	2.13	0.48
57:EB:112:ARG:O	57:EB:112:ARG:HG2	2.13	0.48
58:FB:81:VAL:HG22	58:FB:96:LEU:HD23	1.95	0.48
82:DC:162:ARG:HB2	82:DC:166:GLU:OE2	2.12	0.48
82:DC:394:PHE:HB2	82:DC:460:ASP:OD2	2.14	0.48
1:A:94:U:H4'	54:BB:6:LYS:HA	1.95	0.48
1:A:478:A:H2'	1:A:479:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:826:U:H2'	1:A:827:C:H6	1.77	0.48
1:A:1214:U:H2'	1:A:1215:C:H6	1.76	0.48
1:A:1326:A:H2'	1:A:1327:C:C6	2.49	0.48
1:A:1483:A:C5'	66:NB:71:GLY:HA2	2.44	0.48
1:A:1529:C:H2'	1:A:1530:C:C6	2.47	0.48
2:B:8:C:H2'	2:B:9:U:O4'	2.12	0.48
2:B:321:C:H5"	19:S:150:TRP:CZ3	2.49	0.48
2:B:1168:U:O2'	2:B:1169:A:H5'	2.13	0.48
2:B:1329:U:OP2	37:KA:82:ARG:NH2	2.46	0.48
2:B:1814:A:H5"	2:B:1816:A:O2'	2.13	0.48
2:B:2059:U:O2'	2:B:2060:A:H5'	2.13	0.48
2:B:2332:A:H2'	2:B:2333:C:O4'	2.13	0.48
2:B:2526:C:O5'	2:B:2526:C:H6	1.96	0.48
6:F:47:GLN:HE22	6:F:60:LYS:HG3	1.78	0.48
9:I:86:TYR:OH	9:I:251:PRO:HA	2.12	0.48
11:K:150:LYS:CG	11:K:244:ASN:HD21	2.25	0.48
12:L:75:ILE:CG2	12:L:76:ALA:H	2.17	0.48
15:O:89:TYR:O	15:O:90:GLN:HG3	2.12	0.48
18:R:103:ILE:HA	18:R:106:ARG:HH11	1.78	0.48
21:U:30:ARG:HD3	21:U:30:ARG:C	2.33	0.48
25:Y:9:SER:O	25:Y:55:LYS:HE2	2.12	0.48
29:CA:39:LYS:NZ	29:CA:39:LYS:HB3	2.28	0.48
30:DA:126:LEU:HD22	30:DA:127:GLU:N	2.28	0.48
37:KA:51:TYR:HA	37:KA:98:VAL:HG23	1.95	0.48
39:MA:85:THR:OG1	39:MA:88:LEU:HD12	2.14	0.48
45:SA:5:TRP:HA	45:SA:5:TRP:HE3	1.76	0.48
52:ZA:111:VAL:O	52:ZA:136:VAL:HA	2.13	0.48
54:BB:90:ILE:HD11	54:BB:101:LEU:CD1	2.43	0.48
61:IB:57:LYS:HA	61:IB:64:VAL:HG11	1.96	0.48
65:MB:81:ARG:HB3	65:MB:96:ILE:HG23	1.95	0.48
66:NB:129:PHE:O	66:NB:129:PHE:HD1	1.96	0.48
68:PB:61:LEU:HD12	68:PB:65:GLU:CB	2.43	0.48
69:QB:131:ASP:HA	69:QB:134:ARG:HG3	1.95	0.48
70:RB:69:LYS:CG	70:RB:78:THR:HB	2.43	0.48
73:UB:70:LYS:HB3	73:UB:93:LEU:HD21	1.95	0.48
82:DC:567:VAL:HB	82:DC:720:ALA:O	2.12	0.48
82:DC:728:VAL:HG21	82:DC:802:SER:CB	2.43	0.48
82:DC:730:LEU:HD22	82:DC:799:ASP:OD2	2.13	0.48
1:A:109:G:C2'	1:A:110:U:H5'	2.42	0.48
1:A:366:A:O2'	1:A:367:A:H5'	2.13	0.48
1:A:1506:G:H4'	1:A:1550:A:O2'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:525:C:OP2	18:R:77:ARG:NE	2.46	0.48
2:B:615:U:H2'	2:B:616:G:C8	2.49	0.48
2:B:637:C:O2'	2:B:638:C:O5'	2.31	0.48
2:B:1221:A:H5'	48:VA:63:ILE:HD11	1.95	0.48
2:B:1682:U:C6	26:Z:85:LYS:HG2	2.49	0.48
2:B:1787:A:H2'	2:B:1788:C:O4'	2.13	0.48
2:B:1793:C:C4	6:F:179:LEU:HD13	2.48	0.48
2:B:1800:A:H2'	2:B:1801:U:O4'	2.14	0.48
2:B:1898:G:H2'	2:B:1899:G:H5'	1.95	0.48
2:B:2076:G:C3'	2:B:2077:U:H5"	2.42	0.48
2:B:2215:A:H2'	2:B:2216:G:O4'	2.13	0.48
2:B:2390:A:H2'	2:B:2391:G:O4'	2.12	0.48
2:B:2650:U:O2'	2:B:2651:G:H5'	2.13	0.48
2:B:2766:U:O2'	2:B:2767:U:H5'	2.14	0.48
2:B:3127:A:H2'	2:B:3128:G:O4'	2.12	0.48
5:E:130:LYS:HG3	5:E:131:ALA:N	2.28	0.48
8:H:334:PHE:HA	8:H:339:LEU:HD12	1.94	0.48
19:S:116:LEU:HD13	19:S:135:VAL:CG2	2.42	0.48
20:T:118:VAL:HB	24:X:164:SER:O	2.14	0.48
21:U:164:LYS:HG3	21:U:164:LYS:O	2.13	0.48
24:X:8:GLN:HB2	24:X:64:ILE:CD1	2.37	0.48
24:X:125:LYS:HZ1	24:X:126:VAL:N	2.12	0.48
26:Z:33:TYR:OH	26:Z:80:THR:HG22	2.14	0.48
29:CA:133:LEU:HD22	29:CA:137:ASN:HD21	1.77	0.48
30:DA:53:ASP:HB3	30:DA:69:LYS:HE3	1.95	0.48
32:FA:79:TRP:HE1	32:FA:119:PRO:HD2	1.78	0.48
44:RA:103:LEU:HB3	44:RA:104:PRO:CD	2.43	0.48
52:ZA:65:GLU:HB2	52:ZA:68:ILE:HD11	1.94	0.48
52:ZA:144:TRP:HB2	52:ZA:152:HIS:HE1	1.78	0.48
54:BB:44:LEU:HG	54:BB:82:TYR:HB3	1.96	0.48
54:BB:64:ILE:CD1	74:VB:18:LEU:HD21	2.44	0.48
54:BB:199:GLU:HB2	54:BB:207:LEU:O	2.14	0.48
55:CB:93:LEU:HA	55:CB:96:SER:HB2	1.94	0.48
55:CB:147:THR:HG22	55:CB:158:GLN:O	2.13	0.48
59:GB:113:VAL:HG12	59:GB:125:ALA:HB1	1.94	0.48
59:GB:135:ALA:HA	59:GB:139:GLN:O	2.13	0.48
61:IB:69:LYS:HB3	61:IB:71:LEU:HD21	1.95	0.48
69:QB:40:SER:OG	69:QB:96:ALA:HA	2.12	0.48
73:UB:132:LEU:O	73:UB:136:TRP:HB2	2.14	0.48
75:WB:62:VAL:HA	75:WB:76:ALA:HB1	1.95	0.48
77:YB:62:ILE:HD11	77:YB:64:CYS:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:270:GLU:HB3	82:DC:275:MET:HB2	1.94	0.48
82:DC:723:LYS:HG3	82:DC:724:ILE:H	1.79	0.48
82:DC:836:GLN:CD	82:DC:836:GLN:H	2.17	0.48
1:A:374:U:O2'	1:A:603:U:H5"	2.13	0.48
1:A:871:G:H2'	1:A:872:G:C8	2.49	0.48
1:A:1473:U:H5"	55:CB:190:ILE:HG12	1.95	0.48
1:A:1516:A:H8	70:RB:58:LEU:HD22	1.78	0.48
1:A:1525:A:H2'	1:A:1526:A:H8	1.78	0.48
1:A:1579:U:H2'	1:A:1580:C:C6	2.49	0.48
1:A:1681:A:H2'	1:A:1682:U:O4'	2.13	0.48
2:B:308:A:H5'	2:B:2223:A:O2'	2.12	0.48
2:B:915:A:H8	2:B:2136:C:HO2'	1.61	0.48
2:B:953:G:H2'	2:B:1117:G:H5"	1.96	0.48
2:B:1258:U:C1'	48:VA:42:ARG:HH12	2.25	0.48
2:B:2553:U:C4	38:LA:95:ILE:HG23	2.48	0.48
2:B:2711:C:H2'	2:B:2712:U:O4'	2.13	0.48
2:B:2897:A:O2'	2:B:2898:G:H2'	2.12	0.48
2:B:2940:A:OP2	7:G:2:SER:N	2.46	0.48
2:B:2987:A:H2'	2:B:2988:C:C6	2.48	0.48
2:B:3045:G:H4'	7:G:16:PHE:CE2	2.48	0.48
2:B:3249:C:O2'	2:B:3250:U:H5'	2.13	0.48
4:D:76:A:O3'	24:X:50:LYS:HD3	2.14	0.48
5:E:16:LEU:HD11	5:E:32:VAL:HG22	1.95	0.48
8:H:148:ILE:HA	8:H:149:PRO:C	2.33	0.48
9:I:61:ILE:HG23	9:I:79:TYR:CE1	2.48	0.48
11:K:136:TYR:HE2	11:K:231:ASN:HD22	1.60	0.48
13:M:47:LYS:HE2	18:R:5:SER:HB2	1.95	0.48
14:N:178:ARG:N	14:N:179:PRO:HD2	2.29	0.48
23:W:4:LEU:O	23:W:5:ARG:C	2.52	0.48
23:W:160:GLU:HA	23:W:163:ARG:CD	2.44	0.48
25:Y:91:LEU:HD12	25:Y:96:ILE:HD13	1.95	0.48
38:LA:64:THR:HG22	38:LA:64:THR:O	2.12	0.48
47:UA:47:VAL:HG13	47:UA:56:THR:O	2.13	0.48
50:XA:119:ARG:CG	52:ZA:40:LYS:HE2	2.44	0.48
52:ZA:116:LYS:HG2	52:ZA:127:ALA:HB1	1.94	0.48
54:BB:107:GLY:HA2	54:BB:189:LEU:HG	1.95	0.48
56:DB:87:ARG:HG3	56:DB:87:ARG:HH11	1.79	0.48
68:PB:134:ARG:HB2	68:PB:136:GLN:HE22	1.77	0.48
82:DC:5:THR:HA	82:DC:48:ALA:HA	1.95	0.48
82:DC:23:SER:HB3	82:DC:103:ILE:HB	1.94	0.48
82:DC:483:PHE:O	82:DC:485:VAL:HG23	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:101:U:H2'	1:A:102:U:H5'	1.95	0.48
1:A:222:A:H2'	1:A:223:U:H5'	1.95	0.48
1:A:230:C:C3'	1:A:231:U:H5"	2.21	0.48
1:A:310:C:H2'	1:A:311:U:O4'	2.13	0.48
1:A:449:C:O2'	1:A:450:U:H5'	2.14	0.48
1:A:919:A:H2'	1:A:920:U:C5	2.49	0.48
1:A:1675:C:H1'	58:FB:32:GLN:HE22	1.79	0.48
2:B:734:C:H2'	2:B:735:A:O4'	2.14	0.48
2:B:1258:U:H2'	2:B:1259:A:H3'	1.94	0.48
2:B:1470:U:O2'	2:B:1512:U:H4'	2.13	0.48
2:B:2369:G:H2'	2:B:2370:G:C8	2.48	0.48
2:B:2510:U:O2'	2:B:2511:A:H8	1.96	0.48
2:B:2613:U:O2	2:B:2804:A:N7	2.47	0.48
2:B:2681:U:H4'	15:O:66:ALA:CB	2.42	0.48
2:B:2928:C:O2'	2:B:2929:C:H5'	2.13	0.48
2:B:3382:U:O2'	2:B:3383:G:H5'	2.14	0.48
2:B:3386:G:H2'	2:B:3387:U:C6	2.49	0.48
3:C:67:U:H2'	3:C:68:G:C8	2.49	0.48
3:C:107:G:H4'	3:C:138:A:H5'	1.94	0.48
7:G:84:VAL:HG11	7:G:162:VAL:HB	1.95	0.48
8:H:74:ILE:HD11	8:H:76:ARG:NH2	2.28	0.48
8:H:193:LYS:HB2	8:H:193:LYS:NZ	2.28	0.48
9:I:91:GLY:O	9:I:97:ALA:HB2	2.13	0.48
11:K:221:LYS:O	11:K:227:GLY:HA3	2.14	0.48
12:L:160:ILE:O	12:L:164:VAL:HG13	2.13	0.48
13:M:84:LYS:HB3	13:M:186:PHE:HD2	1.77	0.48
13:M:189:GLU:C	13:M:191:LEU:N	2.66	0.48
16:P:57:LYS:HE2	16:P:79:SER:HB3	1.95	0.48
16:P:94:LYS:HB3	16:P:99:LYS:HG2	1.95	0.48
20:T:125:ARG:HG3	20:T:129:LEU:CD1	2.44	0.48
46:TA:12:CYS:SG	46:TA:77:CYS:SG	3.11	0.48
47:UA:55:TRP:HZ2	47:UA:70:THR:N	2.12	0.48
48:VA:75:LYS:O	48:VA:75:LYS:HD3	2.14	0.48
48:VA:96:ILE:C	48:VA:96:ILE:HD12	2.34	0.48
48:VA:185:LEU:HD23	48:VA:185:LEU:N	2.28	0.48
49:WA:83:ALA:HA	49:WA:89:LEU:CD2	2.44	0.48
50:XA:142:PRO:HG3	71:SB:32:VAL:CG2	2.44	0.48
54:BB:31:PRO:HG2	54:BB:38:LEU:HD11	1.95	0.48
54:BB:181:VAL:HG11	54:BB:225:VAL:HG13	1.95	0.48
54:BB:185:GLY:N	54:BB:189:LEU:HD13	2.28	0.48
58:FB:38:ILE:CD1	58:FB:80:GLY:HA2	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:MB:75:PRO:HA	65:MB:93:VAL:HB	1.96	0.48
70:RB:23:ARG:HG3	70:RB:91:ILE:O	2.14	0.48
72:TB:73:GLY:HA3	72:TB:128:PHE:CZ	2.48	0.48
82:DC:86:VAL:HA	82:DC:89:ILE:CD1	2.43	0.48
82:DC:112:SER:CB	82:DC:485:VAL:HG21	2.43	0.48
82:DC:131:THR:HG21	82:DC:163:ALA:CB	2.42	0.48
82:DC:428:ILE:HD12	82:DC:428:ILE:H	1.78	0.48
82:DC:463:LEU:HD21	82:DC:467:GLY:HA3	1.95	0.48
82:DC:534:GLY:O	82:DC:537:HIS:HB3	2.14	0.48
1:A:332:U:H5”	58:FB:31:ARG:NH2	2.27	0.48
1:A:586:G:H2’	1:A:587:C:O4’	2.14	0.48
1:A:644:C:H2’	1:A:645:C:H6	1.78	0.48
1:A:851:U:H1’	23:W:173:ARG:HD3	1.95	0.48
1:A:1087:A:H5’	1:A:1298:U:O4	2.14	0.48
2:B:100:A:H4’	19:S:181:ASN:OD1	2.14	0.48
2:B:289:A:C5’	19:S:95:GLN:O	2.61	0.48
2:B:1039:U:H2’	2:B:1040:A:H8	1.77	0.48
2:B:1202:A:H2	2:B:2856:G:HO2’	1.61	0.48
2:B:2108:C:C1’	2:B:3344:A:H1’	2.43	0.48
2:B:2153:U:O2’	2:B:2154:U:H5’	2.14	0.48
5:E:26:ARG:O	5:E:27:ASN:HB2	2.14	0.48
5:E:94:ASN:CG	5:E:124:LEU:HB2	2.34	0.48
7:G:199:PHE:O	7:G:200:GLU:HB2	2.12	0.48
12:L:122:LYS:HD3	12:L:122:LYS:N	2.28	0.48
14:N:4:ARG:HD2	14:N:9:TYR:CE1	2.48	0.48
15:O:59:ILE:HG21	15:O:65:ILE:HD12	1.96	0.48
15:O:86:VAL:HG22	15:O:111:ASP:O	2.13	0.48
22:V:81:VAL:HG12	22:V:138:LEU:HD12	1.96	0.48
26:Z:41:ILE:HD13	26:Z:71:PHE:CE2	2.48	0.48
31:EA:52:LYS:O	31:EA:65:ARG:NH1	2.46	0.48
39:MA:61:GLN:HA	39:MA:64:GLU:CD	2.34	0.48
48:VA:20:GLU:HA	48:VA:69:ASP:OD2	2.13	0.48
52:ZA:149:GLY:O	52:ZA:150:GLN:HB2	2.13	0.48
54:BB:45:ILE:O	54:BB:49:ARG:CB	2.62	0.48
56:DB:108:VAL:CG1	56:DB:109:LEU:N	2.76	0.48
60:HB:60:SER:HB3	60:HB:65:TYR:CE2	2.49	0.48
61:IB:39:GLY:O	61:IB:41:GLY:N	2.47	0.48
68:PB:69:ILE:HG22	68:PB:73:MET:HE2	1.96	0.48
70:RB:87:HIS:HB3	70:RB:89:ARG:HH12	1.79	0.48
73:UB:43:PHE:CZ	73:UB:49:ALA:HB3	2.49	0.48
76:XB:74:CYS:O	76:XB:76:SER:N	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:18:ASN:HA	82:DC:98:PHE:CD1	2.48	0.48
82:DC:75:ILE:HD12	82:DC:75:ILE:N	2.29	0.48
82:DC:308:LYS:HA	82:DC:312:LYS:HE3	1.95	0.48
82:DC:758:GLU:O	82:DC:759:GLN:HB3	2.14	0.48
1:A:93:A:C8	1:A:398:G:H2'	2.49	0.48
1:A:112:A:O2'	1:A:113:U:H5'	2.13	0.48
1:A:119:A:H2'	1:A:120:U:H5'	1.95	0.48
1:A:1042:G:H2'	1:A:1043:A:C5'	2.44	0.48
1:A:1373:C:H2'	1:A:1374:C:C6	2.48	0.48
2:B:185:C:H2'	2:B:186:U:O4'	2.14	0.48
2:B:264:G:H22	40:NA:26:ILE:HD11	1.79	0.48
2:B:275:U:H2'	2:B:276:U:C6	2.48	0.48
2:B:833:G:H5"	23:W:84:THR:HG21	1.96	0.48
2:B:1231:A:H4'	2:B:1261:G:C8	2.49	0.48
2:B:1613:A:H2'	2:B:1614:C:O4'	2.13	0.48
2:B:1892:G:H3'	2:B:1893:A:H5"	1.96	0.48
2:B:2143:A:C6	2:B:2145:A:H1'	2.49	0.48
2:B:2748:A:H4'	9:I:145:PHE:CD2	2.49	0.48
2:B:2850:G:HO2'	2:B:2851:A:H8	1.56	0.48
2:B:3305:A:H2'	2:B:3306:U:O4'	2.14	0.48
7:G:212:ASN:OD1	7:G:353:GLU:HA	2.13	0.48
7:G:339:ARG:CD	7:G:342:LEU:HD21	2.44	0.48
9:I:252:ALA:O	9:I:253:PHE:CB	2.61	0.48
12:L:41:GLN:HG3	12:L:42:PRO:HD2	1.96	0.48
13:M:49:ASN:HD22	13:M:49:ASN:N	2.11	0.48
13:M:172:ILE:H	13:M:172:ILE:CD1	2.27	0.48
18:R:68:LEU:HD11	18:R:94:TRP:HA	1.96	0.48
25:Y:35:LYS:O	25:Y:38:ASP:HB2	2.14	0.48
27:AA:12:ARG:HG3	27:AA:12:ARG:HH11	1.78	0.48
30:DA:51:ARG:O	30:DA:52:ARG:O	2.31	0.48
30:DA:80:VAL:HG11	30:DA:104:LEU:HD11	1.95	0.48
32:FA:55:LYS:HZ1	46:TA:42:ARG:HH12	1.62	0.48
36:JA:76:VAL:HA	36:JA:81:ASP:OD1	2.14	0.48
37:KA:18:ARG:CB	37:KA:23:ASN:HA	2.44	0.48
52:ZA:150:GLN:HA	52:ZA:150:GLN:OE1	2.13	0.48
52:ZA:153:SER:OG	52:ZA:171:PRO:HA	2.13	0.48
57:EB:46:ILE:HA	57:EB:59:ALA:O	2.13	0.48
57:EB:86:GLN:HG2	57:EB:87:ASP:H	1.79	0.48
61:IB:34:TRP:CG	61:IB:35:TYR:N	2.82	0.48
67:OB:29:GLN:NE2	67:OB:29:GLN:H	2.12	0.48
68:PB:16:ARG:HH12	68:PB:19:ASN:HA	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:123:ASP:O	82:DC:151:ILE:HG23	2.12	0.48
82:DC:300:LEU:HD11	82:DC:307:LEU:HG	1.95	0.48
82:DC:386:VAL:CG1	82:DC:397:PHE:HB2	2.43	0.48
82:DC:448:CYS:SG	82:DC:454:ILE:HB	2.53	0.48
82:DC:734:GLN:HG3	82:DC:765:LEU:HD21	1.95	0.48
83:EC:6914:A:H2'	83:EC:6915:G:C5'	2.43	0.48
1:A:145:A:HO2'	1:A:146:U:H6	1.62	0.48
1:A:246:G:H21	61:IB:39:GLY:HA3	1.79	0.48
1:A:518:A:C2	1:A:519:C:H5	2.32	0.48
1:A:923:A:H4'	6:F:137:ILE:HD12	1.96	0.48
2:B:208:C:C2'	2:B:209:A:H5'	2.44	0.48
2:B:359:U:H4'	2:B:817:A:N6	2.28	0.48
2:B:1240:A:H3'	2:B:1241:U:C5'	2.32	0.48
2:B:1422:G:H2'	2:B:1423:C:C6	2.49	0.48
2:B:1475:A:C2'	2:B:1476:G:H5'	2.44	0.48
2:B:1478:C:H2'	2:B:1479:U:C6	2.46	0.48
2:B:1520:G:O2'	2:B:1521:G:H5'	2.14	0.48
2:B:1729:A:H3'	2:B:1730:G:C5'	2.44	0.48
2:B:2085:U:H3'	2:B:2086:A:H5'	1.95	0.48
3:C:43:A:OP2	41:OA:62:GLY:HA2	2.14	0.48
5:E:68:PHE:CE2	5:E:90:LEU:HD22	2.49	0.48
5:E:68:PHE:O	5:E:111:ILE:HG22	2.14	0.48
6:F:6:ARG:C	6:F:8:GLN:H	2.18	0.48
9:I:164:LYS:HE3	9:I:195:LEU:HD21	1.96	0.48
11:K:156:ILE:HD12	11:K:161:VAL:CG2	2.43	0.48
14:N:174:THR:HG22	14:N:175:ASN:N	2.29	0.48
17:Q:47:ALA:CB	39:MA:115:LYS:HZ3	2.27	0.48
17:Q:165:SER:H	32:FA:139:ARG:HH12	1.61	0.48
19:S:68:ARG:HG3	19:S:126:THR:O	2.13	0.48
22:V:9:GLN:HE21	22:V:9:GLN:CA	2.26	0.48
22:V:122:ILE:N	22:V:122:ILE:HD12	2.29	0.48
24:X:98:SER:OG	24:X:100:VAL:HG13	2.14	0.48
32:FA:47:LYS:O	32:FA:48:TYR:CB	2.62	0.48
38:LA:7:PHE:CE1	38:LA:18:ASN:ND2	2.82	0.48
43:QA:36:ARG:CZ	43:QA:36:ARG:HB3	2.43	0.48
47:UA:7:LYS:HG3	47:UA:8:VAL:N	2.29	0.48
54:BB:87:MET:HB3	54:BB:122:LYS:CE	2.42	0.48
66:NB:59:LYS:HD2	66:NB:93:HIS:NE2	2.28	0.48
73:UB:103:LEU:HB3	73:UB:126:LYS:H	1.79	0.48
80:BC:42:ARG:HA	80:BC:46:ASN:OD1	2.13	0.48
82:DC:112:SER:HB2	82:DC:485:VAL:HG21	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:143:LEU:HD23	82:DC:188:ILE:HB	1.96	0.48
1:A:315:A:H4'	1:A:316:A:H4'	1.96	0.48
1:A:1042:G:H2'	1:A:1043:A:O4'	2.14	0.48
1:A:1177:C:H4'	1:A:1189:A:N1	2.29	0.48
1:A:1250:U:O2'	1:A:1251:U:H5'	2.13	0.48
1:A:1364:G:O2'	66:NB:26:LYS:HE3	2.14	0.48
1:A:1534:G:C8	75:WB:73:GLY:HA3	2.48	0.48
1:A:1589:C:H2'	1:A:1590:G:C8	2.49	0.48
2:B:641:C:OP1	32:FA:21:ARG:HB2	2.14	0.48
2:B:945:C:H2'	2:B:946:U:C6	2.49	0.48
2:B:1059:G:O2'	2:B:1060:U:H5'	2.14	0.48
2:B:1159:A:O2'	2:B:1160:C:H5"	2.13	0.48
2:B:1359:C:H2'	2:B:1360:C:H6	1.78	0.48
2:B:1501:U:H3	2:B:1515:A:H61	1.61	0.48
2:B:1616:U:H2'	2:B:1617:G:O4'	2.13	0.48
2:B:1640:G:H2'	2:B:1641:U:C6	2.47	0.48
2:B:1819:U:H6	2:B:1819:U:C5'	2.27	0.48
2:B:2229:A:H2'	2:B:2230:C:O4'	2.13	0.48
2:B:2263:C:O2'	2:B:2264:U:OP1	2.30	0.48
2:B:2491:A:O3'	5:E:205:VAL:HG21	2.14	0.48
2:B:2861:U:H2'	2:B:2862:U:O4'	2.14	0.48
4:D:4:U:H5"	4:D:26:C:O2'	2.14	0.48
4:D:48:U:H1'	9:I:222:LEU:HD22	1.96	0.48
5:E:87:VAL:CG2	5:E:116:LEU:HD22	2.44	0.48
6:F:159:SER:C	6:F:161:ASP:H	2.15	0.48
7:G:6:TYR:HB3	27:AA:46:LEU:HD13	1.96	0.48
7:G:11:HIS:HB3	7:G:233:TRP:O	2.13	0.48
9:I:18:THR:HB	9:I:24:ARG:HD3	1.96	0.48
9:I:76:ALA:CB	9:I:109:THR:HB	2.44	0.48
10:J:81:ALA:O	10:J:84:VAL:HB	2.13	0.48
11:K:232:ARG:HD2	11:K:236:ILE:HD12	1.96	0.48
14:N:51:HIS:NE2	14:N:168:SER:HB2	2.29	0.48
16:P:57:LYS:HD3	16:P:57:LYS:N	2.23	0.48
17:Q:48:PRO:HA	17:Q:137:GLN:HB3	1.95	0.48
23:W:76:SER:O	23:W:81:ARG:HD2	2.13	0.48
29:CA:95:ILE:O	29:CA:99:VAL:HG23	2.13	0.48
38:LA:74:ARG:NH2	38:LA:82:ALA:HA	2.29	0.48
49:WA:54:PHE:CD2	49:WA:312:VAL:HG21	2.48	0.48
49:WA:177:MET:HB3	49:WA:179:LYS:HZ2	1.79	0.48
53:AB:49:ILE:HD12	53:AB:49:ILE:N	2.29	0.48
54:BB:12:LEU:HD11	59:GB:5:PRO:HD3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:219:VAL:HG12	54:BB:220:THR:H	1.78	0.48
54:BB:251:GLU:O	54:BB:255:ARG:HG3	2.14	0.48
55:CB:217:LEU:O	55:CB:221:ALA:HB2	2.14	0.48
56:DB:77:LEU:HD13	56:DB:84:TYR:HB2	1.96	0.48
70:RB:77:LYS:HA	70:RB:77:LYS:HE3	1.96	0.48
78:ZB:62:GLU:HG3	78:ZB:62:GLU:O	2.14	0.48
79:AC:30:LEU:HD22	79:AC:37:ASN:C	2.34	0.48
82:DC:91:GLN:NE2	82:DC:347:THR:HB	2.28	0.48
82:DC:384:LYS:HG2	82:DC:397:PHE:HD2	1.79	0.48
1:A:141:U:H4'	1:A:266:A:H2	1.79	0.47
1:A:564:G:H4'	1:A:566:C:C2	2.49	0.47
1:A:1328:G:OP1	53:AB:158:ILE:HB	2.14	0.47
1:A:1577:A:H2'	1:A:1578:U:O4'	2.14	0.47
1:A:1741:U:H2'	1:A:1742:U:H6	1.77	0.47
2:B:88:A:H2'	2:B:89:A:O4'	2.13	0.47
2:B:650:C:H2'	2:B:651:G:C8	2.49	0.47
2:B:1103:A:C1'	2:B:1104:G:P	3.00	0.47
2:B:1153:A:O2'	2:B:1154:A:H5'	2.14	0.47
2:B:1203:A:N3	2:B:2855:U:O2'	2.44	0.47
2:B:1261:G:N7	48:VA:35:SER:CB	2.77	0.47
2:B:2401:A:OP1	8:H:70:ALA:HB2	2.13	0.47
2:B:2812:C:H2'	2:B:2813:A:C8	2.48	0.47
2:B:3335:A:H5'	2:B:3335:A:C8	2.49	0.47
4:D:101:G:C2'	4:D:102:A:H5"	2.44	0.47
6:F:49:VAL:HG22	6:F:50:HIS:H	1.80	0.47
8:H:198:ARG:O	8:H:198:ARG:HG2	2.14	0.47
8:H:352:ALA:HB3	11:K:73:GLY:HA2	1.96	0.47
10:J:23:LYS:O	10:J:24:ALA:HB2	2.13	0.47
12:L:82:LEU:HG	12:L:86:THR:HB	1.94	0.47
19:S:75:VAL:HB	19:S:79:ALA:O	2.14	0.47
20:T:160:ARG:HB3	20:T:160:ARG:NH1	2.29	0.47
21:U:175:ARG:O	21:U:179:GLN:HB2	2.14	0.47
34:HA:20:SER:HB3	34:HA:96:GLY:CA	2.44	0.47
38:LA:9:ARG:HG3	38:LA:34:HIS:NE2	2.29	0.47
78:ZB:41:VAL:O	78:ZB:42:ARG:HD2	2.14	0.47
82:DC:27:HIS:HB3	82:DC:30:HIS:CG	2.49	0.47
82:DC:110:ASP:HA	82:DC:533:THR:CG2	2.44	0.47
82:DC:119:LEU:HB3	82:DC:151:ILE:HD12	1.95	0.47
82:DC:539:GLU:HA	82:DC:542:LEU:HD12	1.96	0.47
82:DC:608:PRO:HG2	82:DC:641:ASN:HA	1.96	0.47
83:EC:6892:U:H2'	83:EC:6893:C:C6	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:189:C:H3'	1:A:190:C:C5'	2.42	0.47
1:A:295:A:O2'	1:A:296:U:H5'	2.14	0.47
1:A:867:G:H21	63:KB:87:ASP:CG	2.18	0.47
1:A:1219:A:H62	1:A:1264:G:H21	1.62	0.47
1:A:1462:G:C8	68:PB:143:ARG:NH2	2.82	0.47
1:A:1556:A:C6	1:A:1560:U:H1'	2.49	0.47
1:A:1749:A:C2'	1:A:1750:A:H5"	2.43	0.47
2:B:221:A:H62	30:DA:103:LYS:NZ	2.12	0.47
2:B:1175:C:O2	20:T:87:MET:HG2	2.14	0.47
2:B:1335:C:O5'	2:B:1335:C:H6	1.97	0.47
2:B:1348:U:H5"	2:B:1349:G:C8	2.50	0.47
2:B:1761:C:H4'	2:B:1763:U:C4	2.49	0.47
2:B:1870:C:H5"	2:B:3076:C:O2'	2.14	0.47
2:B:2389:C:H2'	2:B:2390:A:C8	2.49	0.47
2:B:2569:A:H1'	2:B:2570:U:H5	1.78	0.47
2:B:3320:A:H2'	2:B:3321:C:C6	2.48	0.47
3:C:39:G:H1'	3:C:105:A:N1	2.30	0.47
7:G:232:ARG:HH11	7:G:268:GLY:C	2.17	0.47
8:H:74:ILE:HB	8:H:75:PRO:HD2	1.96	0.47
12:L:75:ILE:C	12:L:77:GLN:N	2.67	0.47
12:L:161:GLU:C	12:L:163:VAL:H	2.17	0.47
15:O:6:GLN:HG3	15:O:7:ASN:N	2.29	0.47
15:O:61:ARG:HG2	15:O:62:ASN:ND2	2.30	0.47
17:Q:164:GLU:O	17:Q:165:SER:HB3	2.13	0.47
21:U:84:PRO:O	21:U:88:VAL:HG23	2.14	0.47
23:W:38:ARG:NH1	23:W:38:ARG:HG3	2.29	0.47
23:W:45:VAL:HG22	23:W:50:ILE:HB	1.96	0.47
27:AA:87:ARG:NH2	27:AA:137:VAL:HG21	2.29	0.47
29:CA:83:VAL:HG12	29:CA:122:ALA:O	2.14	0.47
35:IA:10:ARG:HB2	35:IA:12:TYR:CE2	2.48	0.47
36:JA:32:TRP:HZ3	36:JA:50:ILE:HD12	1.80	0.47
41:OA:25:ARG:NH1	43:QA:50:ASN:HB3	2.29	0.47
49:WA:64:HIS:CE1	49:WA:90:ARG:HG3	2.48	0.47
49:WA:179:LYS:HG2	49:WA:191:ASP:OD1	2.14	0.47
49:WA:309:VAL:HG12	49:WA:310:ILE:N	2.29	0.47
52:ZA:38:VAL:HG22	52:ZA:39:THR:H	1.79	0.47
54:BB:39:ARG:HA	54:BB:39:ARG:NE	2.29	0.47
54:BB:77:ARG:NE	54:BB:77:ARG:HA	2.28	0.47
54:BB:126:VAL:HG23	54:BB:157:ASN:N	2.28	0.47
54:BB:240:LYS:HD3	54:BB:240:LYS:H	1.78	0.47
57:EB:63:PRO:C	57:EB:65:PRO:HD2	2.34	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:FB:153:GLU:OE1	58:FB:186:GLY:HA2	2.13	0.47
59:GB:179:ARG:O	59:GB:182:GLU:HG3	2.14	0.47
61:IB:128:CYS:SG	61:IB:138:ASN:HB3	2.54	0.47
65:MB:110:GLU:HB2	68:PB:119:ILE:HD11	1.96	0.47
67:OB:10:LYS:HG2	67:OB:53:TYR:CE1	2.49	0.47
69:QB:70:GLN:HB2	69:QB:122:ARG:H	1.77	0.47
73:UB:92:CYS:O	73:UB:95:PHE:HB2	2.14	0.47
74:VB:92:VAL:HG22	74:VB:99:LYS:HB2	1.96	0.47
75:WB:77:ARG:NH1	75:WB:77:ARG:HB2	2.30	0.47
82:DC:5:THR:HA	82:DC:48:ALA:CB	2.44	0.47
82:DC:468:THR:HG23	82:DC:478:MET:SD	2.54	0.47
1:A:97:C:O4'	1:A:426:G:H4'	2.14	0.47
1:A:115:G:N2	1:A:334:G:N2	2.61	0.47
1:A:188:A:N7	1:A:197:A:C2	2.82	0.47
1:A:370:A:H2'	1:A:371:G:O4'	2.14	0.47
1:A:532:U:H2'	1:A:533:U:O4'	2.14	0.47
1:A:765:G:H1	59:GB:149:ARG:HG3	1.79	0.47
1:A:1023:A:C4'	1:A:1024:U:H6	2.19	0.47
1:A:1072:C:OP1	77:YB:22:LYS:HD2	2.14	0.47
1:A:1483:A:H4'	66:NB:71:GLY:HA2	1.96	0.47
1:A:1656:U:O5'	1:A:1657:U:H5"	2.14	0.47
2:B:758:C:H2'	2:B:759:U:H5'	1.95	0.47
2:B:1010:G:H4'	14:N:40:LYS:CG	2.44	0.47
2:B:1479:U:N3	2:B:1483:G:N2	2.62	0.47
2:B:1783:U:H2'	2:B:1784:G:H8	1.79	0.47
2:B:1838:G:H5"	2:B:1839:A:C5'	2.43	0.47
2:B:2394:G:O5'	7:G:252:ILE:HG22	2.15	0.47
2:B:2587:U:H2'	2:B:2588:U:C6	2.49	0.47
2:B:2838:A:N6	2:B:2850:G:O2'	2.47	0.47
2:B:3034:C:O2'	13:M:122:LYS:HD2	2.14	0.47
2:B:3343:G:H2'	2:B:3361:G:N2	2.29	0.47
2:B:3379:C:H4'	7:G:315:GLY:HA2	1.95	0.47
3:C:133:G:H2'	3:C:134:G:C8	2.49	0.47
4:D:23:A:H1'	4:D:121:U:O3'	2.14	0.47
4:D:97:A:H2'	4:D:98:C:C6	2.49	0.47
4:D:118:A:H2'	4:D:119:U:O4'	2.13	0.47
7:G:362:ALA:HB1	7:G:368:GLY:HA3	1.96	0.47
8:H:286:VAL:HG21	22:V:28:LEU:HB3	1.95	0.47
8:H:338:LYS:O	8:H:340:GLY:N	2.47	0.47
13:M:34:LEU:CD2	13:M:35:THR:H	2.27	0.47
14:N:150:GLU:O	14:N:154:ARG:HB2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:65:ARG:HB2	19:S:129:TYR:CD1	2.49	0.47
20:T:26:GLN:O	20:T:31:GLN:HB3	2.15	0.47
20:T:147:TRP:CZ3	20:T:150:GLU:HA	2.49	0.47
23:W:162:ARG:HB3	23:W:162:ARG:HH11	1.76	0.47
24:X:14:LEU:HD23	24:X:15:PRO:HD2	1.96	0.47
28:BA:19:THR:HG22	28:BA:20:LEU:H	1.79	0.47
29:CA:86:VAL:HG21	29:CA:95:ILE:HG12	1.96	0.47
39:MA:98:SER:O	39:MA:99:GLN:C	2.51	0.47
40:NA:45:ARG:HG3	40:NA:45:ARG:HH11	1.79	0.47
43:QA:47:THR:HG22	43:QA:48:LYS:O	2.14	0.47
48:VA:125:ASN:HA	48:VA:151:GLU:HA	1.96	0.47
61:IB:8:GLN:OE1	61:IB:8:GLN:HA	2.14	0.47
61:IB:72:THR:HG22	61:IB:124:THR:OG1	2.13	0.47
61:IB:99:ARG:NH1	73:UB:7:ARG:HA	2.28	0.47
74:VB:5:VAL:O	74:VB:6:THR:HB	2.13	0.47
1:A:5:U:H2'	1:A:6:G:H8	1.80	0.47
1:A:154:G:H21	56:DB:60:GLY:HA3	1.78	0.47
1:A:165:G:H2'	1:A:166:C:O4'	2.14	0.47
1:A:211:U:C2'	1:A:212:U:H5'	2.43	0.47
1:A:328:A:H2'	1:A:329:G:C8	2.49	0.47
1:A:348:U:C4'	58:FB:14:THR:HG22	2.27	0.47
1:A:397:A:H4'	58:FB:51:GLY:N	2.30	0.47
1:A:869:A:H5"	63:KB:90:TYR:CD2	2.49	0.47
2:B:111:C:H2'	2:B:112:U:H5'	1.96	0.47
2:B:519:A:H5"	8:H:355:PHE:CZ	2.49	0.47
2:B:994:G:H5'	2:B:2637:A:HO2'	1.79	0.47
2:B:1123:U:H2'	2:B:1124:U:O4'	2.13	0.47
2:B:1213:G:H2'	2:B:1214:U:C6	2.49	0.47
2:B:2146:C:O2'	2:B:2147:A:H5'	2.14	0.47
2:B:2497:U:H3'	2:B:2497:U:H6	1.79	0.47
2:B:2765:C:O3'	46:TA:39:GLY:HA3	2.14	0.47
2:B:3037:U:O2'	2:B:3038:U:H5'	2.14	0.47
7:G:161:LEU:HD23	7:G:180:GLU:HG2	1.96	0.47
7:G:339:ARG:HD2	7:G:342:LEU:HD21	1.96	0.47
8:H:219:LEU:HD12	8:H:227:THR:CG2	2.45	0.47
11:K:183:ASP:O	11:K:186:HIS:HB3	2.14	0.47
12:L:162:LEU:CD1	19:S:45:PRO:HG2	2.41	0.47
12:L:195:SER:C	12:L:197:VAL:H	2.17	0.47
14:N:33:ILE:HD13	14:N:34:TYR:N	2.28	0.47
14:N:49:CYS:SG	14:N:51:HIS:CE1	3.07	0.47
17:Q:105:ASN:OD1	17:Q:107:GLU:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:39:ALA:HB1	19:S:63:ARG:NH2	2.30	0.47
22:V:16:ARG:HD2	22:V:53:PHE:O	2.14	0.47
28:BA:27:LYS:HG2	28:BA:29:PHE:CZ	2.50	0.47
35:IA:55:LEU:HB2	35:IA:95:PRO:CD	2.36	0.47
38:LA:3:GLN:CG	38:LA:30:LEU:HB3	2.45	0.47
40:NA:21:THR:HG23	40:NA:21:THR:O	2.14	0.47
43:QA:49:MET:O	43:QA:50:ASN:HB2	2.15	0.47
47:UA:7:LYS:HG3	47:UA:8:VAL:H	1.78	0.47
48:VA:182:THR:O	48:VA:183:PHE:HB2	2.13	0.47
49:WA:91:LEU:O	49:WA:99:THR:HA	2.14	0.47
49:WA:208:GLY:O	49:WA:225:LEU:HD23	2.15	0.47
49:WA:241:PHE:HB2	49:WA:290:VAL:O	2.13	0.47
52:ZA:44:LEU:HD21	52:ZA:247:ALA:HB2	1.96	0.47
55:CB:41:LYS:HD2	55:CB:69:PHE:CE2	2.50	0.47
55:CB:62:VAL:HA	55:CB:89:ILE:CG2	2.44	0.47
57:EB:181:ILE:HG22	57:EB:182:VAL:N	2.28	0.47
58:FB:190:ALA:HB1	58:FB:194:ARG:NH1	2.29	0.47
61:IB:55:ASP:OD2	61:IB:58:CYS:HB2	2.13	0.47
63:KB:11:ILE:O	77:YB:21:LEU:HD11	2.14	0.47
63:KB:119:GLU:O	63:KB:122:ILE:HB	2.14	0.47
66:NB:60:PHE:CE1	66:NB:89:LEU:HD13	2.49	0.47
67:OB:20:TYR:CG	67:OB:38:ILE:HD12	2.49	0.47
74:VB:13:ILE:HB	74:VB:22:GLN:CG	2.44	0.47
82:DC:130:ASP:CB	82:DC:133:GLU:HB2	2.44	0.47
82:DC:230:ALA:HA	82:DC:235:VAL:O	2.15	0.47
82:DC:600:ALA:HA	82:DC:605:ILE:HD12	1.95	0.47
1:A:61:A:H2'	1:A:62:A:H5'	1.94	0.47
1:A:258:C:O2'	1:A:259:U:H5'	2.14	0.47
1:A:327:U:O5'	1:A:327:U:H6	1.98	0.47
1:A:560:U:H2'	1:A:561:G:C8	2.50	0.47
1:A:802:G:H3'	1:A:803:A:C8	2.49	0.47
1:A:1045:C:H2'	1:A:1046:G:H8	1.76	0.47
1:A:1271:G:H2'	1:A:1272:U:C6	2.50	0.47
1:A:1621:U:H2'	1:A:1622:G:C8	2.49	0.47
2:B:12:A:H4'	29:CA:34:LEU:HD11	1.96	0.47
2:B:254:A:H2'	2:B:255:A:C8	2.49	0.47
2:B:876:A:H5"	2:B:1890:U:H5"	1.96	0.47
2:B:1162:U:H4'	36:JA:57:TYR:CE1	2.50	0.47
2:B:1258:U:C1'	48:VA:42:ARG:NH1	2.77	0.47
2:B:1306:G:C5	20:T:62:THR:HA	2.50	0.47
2:B:1571:A:H2'	2:B:1572:U:H4'	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1662:G:O2'	2:B:1663:C:H5'	2.13	0.47
2:B:1701:C:H2'	2:B:1702:U:O4'	2.14	0.47
2:B:1836:C:H41	43:QA:3:ALA:HB2	1.80	0.47
2:B:2301:U:O2'	2:B:2302:G:H5'	2.15	0.47
2:B:3300:U:H2'	2:B:3301:U:H5'	1.96	0.47
7:G:385:LYS:O	7:G:387:LEU:N	2.47	0.47
15:O:10:ARG:O	15:O:10:ARG:HD3	2.15	0.47
15:O:94:ARG:HG2	15:O:95:ASN:N	2.28	0.47
17:Q:115:ARG:HG3	17:Q:115:ARG:NH1	2.29	0.47
17:Q:157:ARG:HG2	17:Q:158:ALA:N	2.29	0.47
19:S:120:TRP:HA	19:S:130:PHE:CD1	2.49	0.47
27:AA:104:ASN:HD21	27:AA:106:LYS:HB2	1.79	0.47
29:CA:77:GLU:C	29:CA:79:GLY:H	2.18	0.47
32:FA:13:GLY:O	36:JA:36:LYS:HG3	2.14	0.47
34:HA:55:GLU:N	38:LA:94:LEU:HD11	2.29	0.47
39:MA:13:SER:O	39:MA:16:GLN:HB2	2.14	0.47
41:OA:12:HIS:ND1	41:OA:13:ASN:N	2.61	0.47
49:WA:188:ILE:HG13	49:WA:189:GLU:N	2.29	0.47
53:AB:162:GLN:NE2	53:AB:165:ASN:HB2	2.29	0.47
55:CB:123:VAL:HG13	75:WB:102:THR:HG22	1.96	0.47
58:FB:8:ARG:HD3	58:FB:21:PHE:CD1	2.35	0.47
58:FB:35:ASN:O	58:FB:37:LYS:HE3	2.14	0.47
60:HB:92:ILE:O	60:HB:92:ILE:HG23	2.15	0.47
66:NB:52:LEU:HD12	66:NB:57:LEU:HD22	1.96	0.47
66:NB:130:GLY:HA2	66:NB:138:PHE:CE2	2.49	0.47
69:QB:89:ARG:HH11	69:QB:89:ARG:HG3	1.79	0.47
71:SB:23:ILE:HG22	71:SB:24:ILE:N	2.29	0.47
72:TB:35:ILE:CD1	72:TB:61:ILE:HD11	2.44	0.47
72:TB:35:ILE:HD11	72:TB:61:ILE:HD11	1.96	0.47
82:DC:86:VAL:HA	82:DC:89:ILE:CG1	2.44	0.47
82:DC:575:ALA:O	82:DC:587:TYR:HA	2.15	0.47
82:DC:612:PHE:N	82:DC:612:PHE:HD2	2.12	0.47
82:DC:643:PRO:HG3	82:DC:682:ARG:HG3	1.95	0.47
82:DC:649:GLN:HB2	82:DC:688:ILE:O	2.15	0.47
82:DC:659:ILE:O	82:DC:663:VAL:HB	2.14	0.47
83:EC:6936:G:H2'	83:EC:6937:G:H8	1.77	0.47
1:A:165:G:H2'	1:A:166:C:C4'	2.45	0.47
1:A:449:C:H5"	54:BB:30:ARG:CB	2.44	0.47
1:A:1048:G:H5"	77:YB:69:GLY:H	1.78	0.47
1:A:1203:A:N6	1:A:1553:G:H1'	2.30	0.47
1:A:1376:C:O2'	1:A:1377:U:H5'	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1481:C:H2'	69:QB:79:LEU:HD12	1.95	0.47
1:A:1498:G:H2'	1:A:1499:G:C4'	2.44	0.47
1:A:1646:C:H2'	1:A:1647:U:H6	1.76	0.47
1:A:1739:C:H2'	1:A:1740:A:C8	2.50	0.47
2:B:1239:C:H2'	2:B:1240:A:O4'	2.13	0.47
2:B:1507:G:N3	2:B:1507:G:H5'	2.30	0.47
2:B:1818:U:H2'	2:B:1819:U:C5'	2.43	0.47
2:B:1938:U:O2'	23:W:79:GLY:HA3	2.15	0.47
2:B:2133:U:C2'	2:B:2134:G:H5'	2.44	0.47
2:B:2228:A:H2'	2:B:2229:A:H8	1.78	0.47
2:B:2322:C:O2'	2:B:2323:G:H5'	2.14	0.47
2:B:3015:G:H2'	2:B:3016:A:H8	1.79	0.47
2:B:3270:U:C5	10:J:46:ARG:HD2	2.49	0.47
6:F:105:GLY:CA	6:F:160:SER:HB3	2.45	0.47
7:G:4:ARG:HD3	7:G:7:GLU:HA	1.97	0.47
7:G:84:VAL:HG13	7:G:163:HIS:O	2.14	0.47
7:G:159:ARG:HG2	7:G:182:GLN:HA	1.97	0.47
7:G:252:ILE:HD11	7:G:266:ARG:CD	2.45	0.47
7:G:286:GLY:HA3	7:G:321:PHE:CD2	2.50	0.47
8:H:168:ALA:O	8:H:172:VAL:HB	2.15	0.47
9:I:40:HIS:HB3	9:I:43:LYS:CG	2.44	0.47
9:I:91:GLY:C	9:I:94:ASN:HD21	2.17	0.47
11:K:150:LYS:HG3	11:K:151:ARG:HG2	1.96	0.47
15:O:166:LYS:O	15:O:167:TYR:HB2	2.14	0.47
17:Q:2:ALA:HB1	32:FA:33:GLY:O	2.15	0.47
18:R:70:PHE:HB2	18:R:88:ALA:CB	2.45	0.47
19:S:47:LYS:O	19:S:48:ALA:C	2.53	0.47
21:U:53:ASP:O	21:U:54:HIS:HB2	2.15	0.47
21:U:67:ILE:CD1	21:U:67:ILE:H	2.27	0.47
22:V:29:LEU:O	22:V:32:LEU:HB3	2.13	0.47
28:BA:35:LYS:O	28:BA:39:LEU:HD23	2.15	0.47
34:HA:30:THR:O	34:HA:34:LEU:HD13	2.15	0.47
35:IA:107:VAL:HG12	35:IA:108:VAL:N	2.29	0.47
37:KA:100:ILE:HG22	37:KA:100:ILE:O	2.14	0.47
39:MA:59:ASN:ND2	39:MA:63:ARG:HD2	2.28	0.47
49:WA:109:ASP:HB2	49:WA:127:ARG:NE	2.30	0.47
52:ZA:86:VAL:O	52:ZA:97:ARG:HB2	2.15	0.47
54:BB:214:LEU:HD22	54:BB:244:ILE:HG22	1.97	0.47
58:FB:48:THR:HG21	58:FB:54:LYS:HE3	1.97	0.47
59:GB:54:ARG:HG2	59:GB:54:ARG:HH21	1.79	0.47
60:HB:8:ARG:HG3	60:HB:79:TYR:CE2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:HB:11:ILE:HA	60:HB:35:ILE:CD1	2.34	0.47
71:SB:20:THR:O	71:SB:21:ASN:HB2	2.14	0.47
82:DC:262:THR:HA	82:DC:267:LYS:O	2.14	0.47
82:DC:378:LEU:HA	82:DC:403:GLY:HA3	1.97	0.47
82:DC:421:GLY:C	82:DC:422:LYS:HG3	2.35	0.47
1:A:32:U:O2'	1:A:33:U:H5'	2.14	0.47
1:A:189:C:C3'	1:A:190:C:H5"	2.42	0.47
1:A:208:U:H2'	1:A:209:U:H6	1.78	0.47
1:A:273:G:H2'	1:A:274:G:O4'	2.14	0.47
1:A:333:A:C8	58:FB:49:ARG:HB3	2.50	0.47
1:A:961:U:H2'	1:A:962:C:C6	2.50	0.47
1:A:1160:A:H2'	1:A:1161:C:H6	1.79	0.47
1:A:1420:C:H2'	1:A:1421:A:H5'	1.95	0.47
1:A:1426:C:H3'	1:A:1427:A:H4'	1.97	0.47
1:A:1619:C:N3	78:ZB:22:ARG:HA	2.29	0.47
2:B:331:G:H2'	2:B:332:C:C6	2.50	0.47
2:B:532:A:H2	2:B:560:G:H22	1.61	0.47
2:B:673:U:H2'	2:B:674:G:C8	2.49	0.47
2:B:792:G:H5"	32:FA:2:PRO:CD	2.44	0.47
2:B:1000:C:C2	2:B:1045:C:N4	2.82	0.47
2:B:1033:U:H2'	2:B:1034:U:H6	1.78	0.47
2:B:1256:G:O4'	16:P:128:VAL:HG22	2.14	0.47
2:B:1609:C:O5'	2:B:1609:C:H6	1.98	0.47
2:B:1708:C:H2'	2:B:1709:C:C6	2.48	0.47
2:B:1818:U:H2'	2:B:1819:U:C4'	2.45	0.47
2:B:1825:G:H5"	42:PA:48:SER:CB	2.45	0.47
2:B:1826:C:O2'	2:B:1827:C:H5'	2.15	0.47
2:B:1925:U:C1'	47:UA:20:SER:HB3	2.44	0.47
2:B:2085:U:H3'	2:B:2086:A:C5'	2.44	0.47
2:B:2549:G:C2'	12:L:33:ASN:ND2	2.76	0.47
2:B:2696:A:H2'	2:B:2697:A:O4'	2.15	0.47
2:B:2747:A:O2'	2:B:2748:A:H5'	2.14	0.47
2:B:2890:A:O2'	2:B:2891:U:H5'	2.14	0.47
2:B:3275:U:O5'	2:B:3275:U:H6	1.97	0.47
2:B:3386:G:H5"	35:IA:10:ARG:HH21	1.80	0.47
3:C:61:A:OP1	39:MA:49:LYS:HE3	2.15	0.47
3:C:78:G:C2'	3:C:79:A:H5'	2.45	0.47
4:D:40:C:O2'	15:O:72:ARG:HD2	2.15	0.47
5:E:30:GLU:HA	5:E:210:MET:CE	2.45	0.47
5:E:68:PHE:CZ	5:E:90:LEU:HB2	2.50	0.47
6:F:79:ASN:HD21	6:F:165:VAL:HG21	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:83:HIS:HB3	47:UA:64:VAL:HG22	1.97	0.47
6:F:111:THR:CG2	6:F:112:ILE:H	2.28	0.47
7:G:63:PRO:HG3	7:G:68:HIS:CE1	2.50	0.47
7:G:261:MET:HA	20:T:64:PHE:HA	1.95	0.47
7:G:339:ARG:CZ	7:G:342:LEU:HD11	2.45	0.47
9:I:83:LEU:HB3	9:I:88:ILE:HB	1.97	0.47
9:I:186:GLU:O	9:I:187:THR:HB	2.15	0.47
12:L:68:ARG:NH2	12:L:239:GLY:HA2	2.30	0.47
16:P:146:LYS:O	16:P:147:ASN:CB	2.59	0.47
19:S:96:ARG:HG2	19:S:96:ARG:NH1	2.28	0.47
20:T:173:ALA:O	20:T:177:LYS:HB2	2.15	0.47
21:U:150:VAL:HG23	21:U:150:VAL:O	2.15	0.47
22:V:26:LEU:HD23	22:V:26:LEU:C	2.35	0.47
28:BA:52:THR:OG1	28:BA:55:PHE:HB3	2.14	0.47
29:CA:25:LYS:N	29:CA:25:LYS:HD2	2.30	0.47
33:GA:41:ARG:O	33:GA:44:LYS:HB3	2.15	0.47
35:IA:86:LYS:H	35:IA:86:LYS:HD2	1.80	0.47
39:MA:20:GLN:HA	39:MA:23:ASP:OD2	2.14	0.47
43:QA:31:THR:O	43:QA:32:ASN:HB2	2.14	0.47
48:VA:29:GLY:CA	48:VA:84:VAL:HG22	2.44	0.47
49:WA:276:PRO:HG3	49:WA:305:TYR:CE1	2.50	0.47
50:XA:184:LEU:HA	71:SB:44:ARG:N	2.29	0.47
52:ZA:65:GLU:HB2	52:ZA:68:ILE:CG1	2.44	0.47
52:ZA:154:LEU:N	52:ZA:154:LEU:HD12	2.30	0.47
52:ZA:170:ILE:N	52:ZA:170:ILE:HD12	2.29	0.47
53:AB:25:PHE:HB3	53:AB:29:LEU:HG	1.95	0.47
54:BB:15:PRO:HG2	54:BB:18:TRP:CD2	2.50	0.47
54:BB:212:ASP:OD1	54:BB:216:ASN:HB2	2.14	0.47
55:CB:174:LEU:HB3	55:CB:210:ALA:HA	1.97	0.47
59:GB:85:VAL:CG2	59:GB:107:ARG:HG3	2.35	0.47
61:IB:142:VAL:HG12	61:IB:143:SER:N	2.30	0.47
67:OB:10:LYS:HG2	67:OB:53:TYR:HE1	1.79	0.47
70:RB:57:ARG:HG3	70:RB:89:ARG:NE	2.29	0.47
70:RB:91:ILE:HG22	70:RB:92:ASP:N	2.30	0.47
71:SB:40:ASP:HB3	71:SB:46:ILE:HD11	1.96	0.47
74:VB:63:GLN:NE2	74:VB:64:PHE:H	2.10	0.47
75:WB:59:TYR:CD2	75:WB:60:VAL:N	2.83	0.47
78:ZB:44:VAL:HG21	78:ZB:48:VAL:HG21	1.96	0.47
82:DC:123:ASP:HB3	82:DC:348:ALA:CB	2.45	0.47
82:DC:565:GLU:O	82:DC:681:MET:HA	2.14	0.47
82:DC:595:GLU:O	82:DC:599:LEU:HB2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:EC:6940:U:H2'	83:EC:6941:U:C5'	2.44	0.47
1:A:78:A:C2	56:DB:178:LEU:HD23	2.50	0.47
1:A:100:A:O2'	1:A:101:U:H5'	2.15	0.47
1:A:140:A:H4'	1:A:141:U:H5'	1.96	0.47
1:A:190:C:C4	1:A:191:C:H5	2.32	0.47
1:A:256:A:H2'	1:A:257:A:O4'	2.15	0.47
1:A:319:U:H4'	1:A:323:A:C8	2.50	0.47
1:A:604:A:H2'	1:A:605:A:O4'	2.14	0.47
1:A:762:A:H2'	1:A:763:G:H8	1.79	0.47
1:A:856:A:N6	57:EB:96:ARG:HB3	2.30	0.47
1:A:1077:C:H2'	1:A:1078:C:C6	2.50	0.47
1:A:1384:A:H2'	1:A:1385:G:C8	2.50	0.47
1:A:1715:G:H3'	1:A:1716:C:H4'	1.97	0.47
2:B:412:G:O2'	2:B:413:U:H5'	2.14	0.47
2:B:551:A:O2'	2:B:552:G:H8	1.97	0.47
2:B:608:A:H5'	8:H:322:GLN:HB3	1.97	0.47
2:B:1189:C:N4	2:B:1315:U:H1'	2.30	0.47
2:B:1307:G:C2	2:B:1308:A:C2	3.02	0.47
2:B:1361:U:H2'	2:B:1362:G:C8	2.49	0.47
2:B:2154:U:H2'	2:B:2155:G:H8	1.80	0.47
2:B:2656:A:C5	2:B:2658:G:C8	3.02	0.47
2:B:2855:U:H2'	2:B:2856:G:H5"	1.97	0.47
2:B:2880:U:H1'	7:G:250:ALA:CB	2.44	0.47
2:B:2930:A:H2'	2:B:2931:C:C6	2.50	0.47
2:B:3018:C:H2'	2:B:3019:U:O4'	2.14	0.47
3:C:8:C:O2'	3:C:9:A:H5'	2.15	0.47
4:D:108:A:H2'	4:D:109:G:H8	1.79	0.47
7:G:169:THR:HG23	7:G:170:PRO:HD2	1.95	0.47
7:G:284:ARG:HB3	7:G:323:MET:HB3	1.97	0.47
7:G:313:HIS:O	7:G:333:LYS:HE3	2.14	0.47
8:H:330:TYR:O	8:H:333:VAL:HG12	2.14	0.47
9:I:88:ILE:HG12	9:I:239:ILE:HG22	1.96	0.47
9:I:106:ALA:HA	9:I:171:LEU:HD21	1.97	0.47
12:L:100:GLU:HG2	12:L:104:GLU:OE1	2.15	0.47
14:N:183:LYS:HB2	14:N:183:LYS:HZ2	1.80	0.47
14:N:190:VAL:HG22	14:N:197:VAL:CG2	2.45	0.47
16:P:130:LYS:HG3	16:P:146:LYS:HG3	1.94	0.47
18:R:21:VAL:HG12	18:R:65:LEU:HD23	1.96	0.47
18:R:54:PRO:O	18:R:56:GLN:HG2	2.15	0.47
19:S:18:VAL:O	19:S:21:PHE:HB3	2.15	0.47
34:HA:16:LEU:HD22	34:HA:100:ILE:HD13	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LA:97:GLU:O	38:LA:101:VAL:HG23	2.15	0.47
40:NA:89:GLU:O	40:NA:92:ASN:HB2	2.15	0.47
49:WA:37:SER:HB3	49:WA:39:ASP:OD1	2.14	0.47
49:WA:180:ALA:O	49:WA:188:ILE:HD12	2.15	0.47
50:XA:139:VAL:HG13	50:XA:141:ILE:HG13	1.95	0.47
56:DB:50:PHE:HA	56:DB:112:VAL:O	2.15	0.47
57:EB:24:PHE:CE2	57:EB:77:LEU:HD21	2.50	0.47
60:HB:50:THR:HG22	60:HB:55:VAL:O	2.14	0.47
72:TB:89:TRP:O	72:TB:93:LEU:HD22	2.15	0.47
74:VB:105:ARG:NH1	74:VB:109:LYS:NZ	2.61	0.47
82:DC:121:VAL:CG1	82:DC:383:SER:HB2	2.45	0.47
82:DC:545:LEU:HA	82:DC:549:HIS:HB2	1.95	0.47
82:DC:781:THR:O	82:DC:785:ARG:HG3	2.15	0.47
1:A:148:A:C2'	1:A:149:C:H5'	2.44	0.47
1:A:284:G:O2'	1:A:285:G:H5'	2.14	0.47
1:A:363:G:O2'	1:A:364:G:H5'	2.14	0.47
1:A:475:A:H3'	1:A:476:U:C6	2.50	0.47
1:A:774:A:H2'	1:A:775:G:H5'	1.97	0.47
1:A:819:G:H1'	1:A:853:G:H2'	1.97	0.47
1:A:1068:C:H2'	1:A:1069:A:C8	2.50	0.47
1:A:1146:G:H21	1:A:1635:A:H2	1.63	0.47
1:A:1184:A:H2'	1:A:1185:U:C4'	2.45	0.47
2:B:70:A:H3'	2:B:71:A:C8	2.50	0.47
2:B:231:G:C2'	2:B:232:G:H5'	2.45	0.47
2:B:264:G:N2	40:NA:26:ILE:HG12	2.30	0.47
2:B:948:C:H2'	2:B:949:C:C6	2.50	0.47
2:B:1941:C:H2'	2:B:1942:U:H6	1.80	0.47
2:B:2244:A:H2'	2:B:2245:C:H6	1.80	0.47
2:B:2296:A:H2'	2:B:2297:U:H5'	1.97	0.47
2:B:2318:U:H2'	2:B:2319:U:O4'	2.15	0.47
2:B:2817:A:H4'	2:B:2818:U:OP2	2.15	0.47
2:B:3296:A:OP2	7:G:121:ASN:HB2	2.15	0.47
5:E:103:LEU:O	5:E:107:TYR:HB2	2.15	0.47
5:E:134:PHE:HE2	5:E:137:PRO:HD3	1.80	0.47
6:F:22:LEU:HD12	6:F:22:LEU:N	2.27	0.47
6:F:219:ILE:HD12	6:F:219:ILE:N	2.30	0.47
7:G:49:TYR:H	7:G:79:VAL:HG22	1.79	0.47
8:H:210:ALA:HB2	8:H:254:ALA:HA	1.97	0.47
10:J:159:LEU:C	10:J:161:ALA:H	2.16	0.47
13:M:3:TYR:HD2	13:M:65:VAL:HG21	1.80	0.47
14:N:49:CYS:HA	14:N:138:VAL:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:133:ARG:HB2	15:O:152:HIS:HE1	1.77	0.47
19:S:48:ALA:C	19:S:53:TYR:HB3	2.36	0.47
19:S:129:TYR:CD2	19:S:129:TYR:N	2.82	0.47
22:V:143:PRO:HB2	22:V:146:SER:HB2	1.97	0.47
30:DA:126:LEU:CD2	30:DA:127:GLU:H	2.26	0.47
35:IA:5:LYS:O	35:IA:6:ASP:HB2	2.15	0.47
37:KA:20:LYS:HG2	37:KA:21:ARG:HH12	1.80	0.47
38:LA:38:LEU:N	38:LA:38:LEU:HD12	2.30	0.47
49:WA:122:ILE:HD12	49:WA:135:THR:O	2.15	0.47
49:WA:216:LYS:HA	49:WA:239:GLU:CB	2.43	0.47
50:XA:108:THR:O	50:XA:109:ASN:HB3	2.15	0.47
54:BB:90:ILE:CD1	54:BB:101:LEU:HG	2.45	0.47
54:BB:122:LYS:HG3	54:BB:162:ILE:HD12	1.96	0.47
55:CB:70:VAL:HG21	66:NB:47:LYS:HB2	1.97	0.47
55:CB:195:ALA:HA	55:CB:198:LEU:HD12	1.97	0.47
58:FB:9:HIS:CG	58:FB:10:LYS:H	2.33	0.47
61:IB:127:GLN:HA	61:IB:137:PHE:CD1	2.49	0.47
65:MB:34:VAL:HG11	65:MB:45:PHE:CD2	2.50	0.47
65:MB:43:ARG:HG2	65:MB:43:ARG:NH1	2.30	0.47
66:NB:92:TYR:O	66:NB:96:TYR:HB2	2.14	0.47
70:RB:40:ASN:ND2	70:RB:107:THR:HG21	2.29	0.47
72:TB:69:LEU:HD11	72:TB:72:CYS:HB3	1.97	0.47
82:DC:91:GLN:HE22	82:DC:344:SER:H	1.63	0.47
82:DC:743:ILE:O	82:DC:747:LEU:HD23	2.15	0.47
83:EC:6772:G:N2	83:EC:6776:A:C8	2.83	0.47
1:A:14:C:H5"	52:ZA:203:LYS:HD3	1.96	0.47
1:A:72:A:H62	56:DB:169:TYR:HB2	1.78	0.47
1:A:297:U:OP1	54:BB:37:LYS:HD3	2.15	0.47
1:A:327:U:H2'	1:A:328:A:C8	2.50	0.47
1:A:765:G:N1	59:GB:149:ARG:HG3	2.30	0.47
1:A:940:A:H2'	1:A:941:A:C8	2.49	0.47
1:A:1117:U:H2'	1:A:1118:G:C8	2.47	0.47
2:B:1134:G:O2'	2:B:2642:A:N3	2.36	0.47
2:B:1171:G:H5"	4:D:86:U:H3	1.80	0.47
2:B:1859:A:H8	2:B:1859:A:O5'	1.98	0.47
2:B:1861:G:H5"	23:W:63:THR:HG21	1.97	0.47
2:B:2268:U:C5	2:B:2269:U:H1'	2.50	0.47
2:B:2322:C:C2'	2:B:2323:G:H5'	2.45	0.47
2:B:2581:U:H2'	2:B:2582:C:O4'	2.14	0.47
2:B:2728:G:N1	25:Y:80:VAL:HG21	2.29	0.47
2:B:3094:A:H2'	2:B:3095:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:16:LEU:HD21	5:E:32:VAL:CG1	2.45	0.47
6:F:105:GLY:HA3	6:F:160:SER:HB3	1.97	0.47
11:K:210:PRO:CD	11:K:243:MET:HG2	2.45	0.47
13:M:117:PHE:CD1	13:M:118:LEU:HD12	2.50	0.47
14:N:52:LEU:HD12	14:N:152:LEU:HB3	1.97	0.47
18:R:28:SER:O	18:R:29:ALA:HB3	2.14	0.47
19:S:99:ARG:HG3	19:S:130:PHE:CD1	2.50	0.47
20:T:130:LYS:O	20:T:131:PRO:C	2.52	0.47
24:X:68:HIS:O	24:X:70:THR:N	2.46	0.47
26:Z:18:ASP:HB2	26:Z:104:ARG:HB3	1.97	0.47
26:Z:75:TYR:O	26:Z:79:LEU:HD12	2.15	0.47
27:AA:53:SER:HA	27:AA:81:GLN:NE2	2.30	0.47
29:CA:113:LEU:HD12	29:CA:113:LEU:O	2.14	0.47
34:HA:55:GLU:HA	38:LA:94:LEU:HD11	1.96	0.47
38:LA:82:ALA:O	38:LA:85:VAL:HB	2.15	0.47
41:OA:22:CYS:SG	41:OA:37:CYS:SG	3.12	0.47
43:QA:38:ASN:ND2	43:QA:41:ARG:HD3	2.29	0.47
48:VA:27:VAL:CG1	48:VA:188:VAL:HB	2.35	0.47
48:VA:116:PRO:O	48:VA:161:ALA:HB1	2.14	0.47
49:WA:85:TRP:HB3	67:OB:33:ARG:HH12	1.80	0.47
54:BB:129:VAL:HG12	54:BB:156:VAL:CG2	2.45	0.47
56:DB:177:ARG:HA	56:DB:183:ARG:HH12	1.79	0.47
57:EB:20:VAL:O	57:EB:24:PHE:HB2	2.14	0.47
57:EB:98:ILE:CG2	57:EB:118:LEU:HD23	2.45	0.47
58:FB:93:THR:O	58:FB:94:ASN:HB2	2.15	0.47
59:GB:41:GLU:HB3	59:GB:44:ARG:HH21	1.79	0.47
60:HB:25:LYS:HD2	60:HB:59:PHE:CZ	2.50	0.47
66:NB:41:PRO:O	66:NB:42:GLU:CB	2.62	0.47
66:NB:48:VAL:HG22	66:NB:48:VAL:O	2.14	0.47
67:OB:5:ARG:CG	67:OB:9:VAL:HG11	2.45	0.47
74:VB:9:THR:HG21	74:VB:48:TYR:OH	2.15	0.47
78:ZB:7:VAL:HG13	78:ZB:55:VAL:HG11	1.97	0.47
82:DC:171:LYS:HG3	82:DC:282:PHE:CZ	2.50	0.47
82:DC:287:ALA:CA	82:DC:292:LYS:HB2	2.42	0.47
82:DC:387:PRO:O	82:DC:388:THR:HG23	2.15	0.47
1:A:531:C:H3'	1:A:532:U:H5"	1.97	0.46
1:A:568:G:H4'	73:UB:90:ASP:HA	1.96	0.46
1:A:873:U:O2'	1:A:1047:G:H5"	2.14	0.46
1:A:1042:G:H2'	1:A:1043:A:C4'	2.45	0.46
1:A:1182:U:H4'	65:MB:124:THR:OG1	2.15	0.46
1:A:1319:A:H3'	1:A:1320:U:H5"	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1656:U:H3'	1:A:1657:U:H5"	1.96	0.46
2:B:51:A:H2'	2:B:52:A:O4'	2.15	0.46
2:B:70:A:H3'	2:B:71:A:H8	1.80	0.46
2:B:132:C:HO2'	2:B:133:U:H6	1.64	0.46
2:B:147:U:C4	12:L:157:VAL:HG13	2.50	0.46
2:B:174:C:H2'	2:B:175:C:C6	2.50	0.46
2:B:346:C:C2	3:C:25:G:H4'	2.50	0.46
2:B:485:A:H2'	2:B:486:U:C6	2.50	0.46
2:B:824:C:H5"	6:F:21:ARG:CD	2.41	0.46
2:B:1385:C:H5"	2:B:1386:A:OP2	2.15	0.46
2:B:1580:A:H1'	2:B:1581:C:C5	2.50	0.46
2:B:1619:A:C2	2:B:1826:C:C2	3.03	0.46
2:B:3187:A:H2	2:B:3205:G:H22	1.60	0.46
2:B:3300:U:C2'	2:B:3301:U:H5'	2.46	0.46
4:D:96:U:H5"	24:X:43:TYR:OH	2.15	0.46
4:D:104:A:H2'	4:D:105:C:H5'	1.98	0.46
4:D:120:C:H2'	9:I:265:TYR:CE1	2.50	0.46
8:H:130:ALA:O	8:H:131:VAL:HB	2.15	0.46
9:I:122:VAL:HG12	9:I:125:VAL:H	1.80	0.46
11:K:55:TYR:CE2	11:K:141:TYR:CE2	3.03	0.46
11:K:74:SER:CB	25:Y:142:SER:HA	2.45	0.46
11:K:116:PHE:O	11:K:117:VAL:HG23	2.13	0.46
11:K:137:GLY:HA3	11:K:236:ILE:HB	1.98	0.46
14:N:57:LEU:HD23	14:N:57:LEU:O	2.16	0.46
18:R:19:ARG:NH2	18:R:67:PRO:HA	2.30	0.46
19:S:178:HIS:CE1	19:S:179:LYS:HG3	2.50	0.46
31:EA:77:TYR:HB3	34:HA:35:ARG:HD2	1.97	0.46
32:FA:91:LEU:HD11	32:FA:119:PRO:HG3	1.96	0.46
36:JA:4:LEU:H	36:JA:4:LEU:CD1	2.18	0.46
36:JA:21:HIS:CE1	36:JA:24:ARG:HD2	2.50	0.46
42:PA:5:ILE:HD12	42:PA:5:ILE:N	2.30	0.46
42:PA:58:ASP:C	42:PA:60:GLY:H	2.19	0.46
48:VA:41:VAL:HA	48:VA:44:GLU:CG	2.44	0.46
48:VA:123:ALA:HA	48:VA:152:ILE:HB	1.96	0.46
53:AB:66:ILE:HD13	53:AB:69:LEU:HD11	1.97	0.46
55:CB:116:HIS:O	55:CB:120:ILE:HG13	2.15	0.46
56:DB:97:VAL:HG12	56:DB:98:ARG:N	2.29	0.46
57:EB:14:THR:O	57:EB:18:LEU:HG	2.15	0.46
57:EB:56:LYS:HD2	57:EB:88:ARG:HH12	1.80	0.46
66:NB:52:LEU:HD12	66:NB:57:LEU:CD2	2.45	0.46
82:DC:613:LYS:HB2	82:DC:631:ARG:CZ	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:98:U:C4	1:A:99:C:N4	2.83	0.46
1:A:596:C:H2'	1:A:597:G:H8	1.80	0.46
1:A:862:A:H2	1:A:963:A:C4	2.33	0.46
1:A:1277:G:H21	53:AB:174:HIS:CE1	2.33	0.46
1:A:1481:C:HO2'	1:A:1482:C:H5	1.61	0.46
1:A:1543:A:H1'	1:A:1569:A:C2	2.51	0.46
2:B:189:G:H2'	2:B:224:C:OP2	2.15	0.46
2:B:985:U:H2'	2:B:986:U:C6	2.49	0.46
2:B:992:A:C2'	2:B:993:G:H5'	2.45	0.46
2:B:1233:G:H4'	16:P:120:SER:C	2.35	0.46
2:B:1597:C:H2'	2:B:1598:G:H8	1.80	0.46
2:B:2211:U:H2'	2:B:2212:C:H5'	1.97	0.46
2:B:2478:C:H2'	2:B:2479:C:C6	2.50	0.46
2:B:3089:C:H2'	2:B:3090:U:O4'	2.14	0.46
2:B:3237:U:H3	2:B:3250:U:H3	1.63	0.46
2:B:3356:G:H2'	2:B:3357:U:O4'	2.16	0.46
3:C:53:A:H2'	3:C:54:A:C8	2.50	0.46
4:D:46:A:O2'	4:D:47:C:H5'	2.15	0.46
5:E:90:LEU:CD2	5:E:119:GLN:HE21	2.26	0.46
6:F:150:LEU:HB3	6:F:151:PRO:CD	2.46	0.46
7:G:55:THR:O	7:G:56:ILE:HD12	2.15	0.46
8:H:65:TRP:HE3	8:H:71:VAL:HG11	1.80	0.46
13:M:50:ASN:HD21	18:R:4:ASP:HB3	1.80	0.46
14:N:205:SER:HB3	14:N:208:ASN:OD1	2.15	0.46
16:P:87:GLU:O	16:P:91:ASP:HB2	2.16	0.46
17:Q:13:HIS:ND1	17:Q:13:HIS:N	2.63	0.46
19:S:45:PRO:O	19:S:49:ARG:HB2	2.15	0.46
19:S:47:LYS:O	19:S:50:ARG:HG2	2.15	0.46
19:S:121:VAL:CG2	19:S:129:TYR:HB2	2.44	0.46
23:W:8:LYS:HD2	23:W:24:LEU:HD11	1.97	0.46
23:W:154:ALA:O	23:W:157:GLU:HB3	2.16	0.46
27:AA:84:SER:HA	27:AA:93:LEU:O	2.15	0.46
27:AA:87:ARG:NE	27:AA:93:LEU:HD11	2.30	0.46
31:EA:58:GLY:O	31:EA:60:LYS:N	2.48	0.46
32:FA:68:PHE:O	32:FA:69:TRP:C	2.54	0.46
47:UA:47:VAL:HA	47:UA:56:THR:O	2.14	0.46
47:UA:80:ARG:O	47:UA:84:ARG:HB2	2.15	0.46
49:WA:205:SER:HB2	49:WA:206:PRO:CD	2.45	0.46
54:BB:90:ILE:HD11	54:BB:101:LEU:CG	2.42	0.46
55:CB:94:THR:HA	55:CB:114:ILE:CD1	2.45	0.46
55:CB:108:LEU:HA	55:CB:111:VAL:HB	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:EB:159:VAL:O	57:EB:163:ASP:HB2	2.16	0.46
61:IB:6:THR:O	61:IB:7:VAL:HG12	2.16	0.46
61:IB:55:ASP:C	61:IB:57:LYS:H	2.19	0.46
63:KB:84:ILE:HD11	63:KB:89:TYR:CD2	2.50	0.46
82:DC:225:PHE:CE2	82:DC:277:ILE:HG23	2.51	0.46
82:DC:352:ARG:HB3	82:DC:356:LEU:HD11	1.98	0.46
82:DC:398:GLY:O	82:DC:453:ILE:HG23	2.15	0.46
83:EC:6803:C:H2'	83:EC:6805:C:H5"	1.96	0.46
1:A:11:A:O2'	1:A:12:U:H5'	2.15	0.46
1:A:338:C:H2'	1:A:339:C:C6	2.49	0.46
1:A:407:A:H2'	1:A:408:C:H6	1.80	0.46
1:A:475:A:H5'	80:BC:33:ARG:NH2	2.11	0.46
1:A:685:A:H2'	1:A:686:C:O4'	2.14	0.46
1:A:948:G:H2'	1:A:949:C:C6	2.50	0.46
1:A:1026:A:H5"	1:A:1028:C:N4	2.30	0.46
1:A:1397:U:H2'	1:A:1398:U:H5"	1.96	0.46
2:B:148:G:H1'	2:B:149:U:C5	2.50	0.46
2:B:211:A:OP1	8:H:220:ARG:HG2	2.15	0.46
2:B:283:G:OP2	2:B:285:A:H4'	2.15	0.46
2:B:286:U:O5'	2:B:286:U:H6	1.97	0.46
2:B:401:U:H4'	2:B:403:C:C2	2.50	0.46
2:B:645:A:H1'	2:B:647:A:OP2	2.16	0.46
2:B:651:G:C6	2:B:652:G:C6	3.04	0.46
2:B:1221:A:H4'	48:VA:60:ARG:CB	2.45	0.46
2:B:1231:A:H5"	2:B:1232:C:H5'	1.97	0.46
2:B:1304:A:N6	2:B:2860:U:H5"	2.31	0.46
2:B:1390:A:N3	2:B:1390:A:H2'	2.30	0.46
2:B:2154:U:H4'	6:F:240:ALA:CB	2.46	0.46
2:B:2347:U:H2'	2:B:2348:A:O4'	2.16	0.46
2:B:2461:A:H2	2:B:2486:A:H5'	1.81	0.46
2:B:2482:U:H2'	2:B:2483:G:O4'	2.15	0.46
2:B:2904:U:H2'	2:B:2905:U:H6	1.81	0.46
2:B:3017:A:H5'	27:AA:3:GLY:HA2	1.98	0.46
2:B:3355:U:C3'	2:B:3356:G:H5"	2.45	0.46
3:C:91:C:C4'	30:DA:24:SER:HB3	2.45	0.46
6:F:112:ILE:HG23	6:F:133:TYR:HB2	1.96	0.46
6:F:224:THR:HA	6:F:237:LEU:O	2.16	0.46
10:J:114:LYS:HG3	10:J:115:GLU:N	2.30	0.46
11:K:157:ASN:O	11:K:158:LYS:CB	2.63	0.46
12:L:57:ARG:C	12:L:61:GLN:HE21	2.17	0.46
14:N:48:LEU:HD22	14:N:49:CYS:N	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:65:ILE:CG2	15:O:66:ALA:N	2.78	0.46
31:EA:105:SER:O	31:EA:109:GLU:HB2	2.15	0.46
35:IA:14:ILE:O	35:IA:70:ARG:HA	2.15	0.46
48:VA:18:TYR:HB2	48:VA:88:PHE:CE2	2.50	0.46
49:WA:201:THR:CG2	49:WA:214:ALA:HB3	2.44	0.46
52:ZA:53:ILE:H	52:ZA:53:ILE:HG13	1.52	0.46
54:BB:124:GLY:HA2	54:BB:142:HIS:CE1	2.39	0.46
57:EB:153:LEU:HA	57:EB:184:GLU:O	2.15	0.46
61:IB:51:GLY:O	61:IB:52:SER:HB3	2.16	0.46
63:KB:28:LEU:HD22	63:KB:32:SER:OG	2.15	0.46
71:SB:37:ALA:HB3	71:SB:45:ALA:HB1	1.97	0.46
78:ZB:16:LEU:CD1	78:ZB:41:VAL:HG13	2.45	0.46
82:DC:804:LEU:CD1	82:DC:805:GLY:N	2.78	0.46
82:DC:809:LEU:HD12	82:DC:832:VAL:HB	1.97	0.46
1:A:359:A:C2	73:UB:38:PHE:HB3	2.50	0.46
1:A:400:A:N6	58:FB:29:LEU:HD13	2.30	0.46
1:A:565:C:H5	1:A:577:G:OP2	1.97	0.46
1:A:1146:G:O3'	52:ZA:91:ARG:HA	2.15	0.46
1:A:1234:A:H4'	81:CC:145:HIS:O	2.15	0.46
2:B:192:C:H2'	2:B:193:C:H6	1.81	0.46
2:B:500:C:OP1	37:KA:104:PRO:HG3	2.15	0.46
2:B:808:A:O2'	2:B:2413:A:H5'	2.15	0.46
2:B:911:C:H3'	6:F:9:ARG:NH1	2.30	0.46
2:B:1089:G:O2'	2:B:1090:G:H5'	2.15	0.46
2:B:1246:G:O2'	2:B:1264:G:H2'	2.16	0.46
2:B:1591:G:H2'	2:B:1592:G:C5'	2.45	0.46
2:B:2271:A:H2'	2:B:2272:G:O4'	2.15	0.46
2:B:2421:U:H2'	2:B:2422:C:O4'	2.15	0.46
2:B:2436:U:H3'	2:B:2437:G:H5"	1.97	0.46
2:B:2561:A:C2	12:L:32:LYS:HD2	2.51	0.46
2:B:3026:G:N2	2:B:3029:A:OP2	2.48	0.46
2:B:3036:G:O2'	2:B:3037:U:H5'	2.16	0.46
2:B:3055:U:H1'	2:B:3057:U:OP2	2.16	0.46
3:C:98:U:C2'	3:C:99:C:H5'	2.44	0.46
5:E:67:ILE:HA	5:E:111:ILE:HB	1.97	0.46
6:F:33:ASP:O	6:F:37:ARG:HG2	2.16	0.46
6:F:206:PRO:HG3	6:F:213:GLY:HA3	1.97	0.46
8:H:180:LYS:NZ	8:H:202:ARG:HB3	2.31	0.46
8:H:219:LEU:O	8:H:221:ASN:N	2.48	0.46
9:I:65:ILE:HG22	9:I:72:ASP:HB3	1.95	0.46
9:I:105:ILE:O	9:I:105:ILE:HD13	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:157:ALA:C	9:I:159:VAL:N	2.69	0.46
9:I:217:GLU:O	9:I:220:SER:HB2	2.16	0.46
10:J:84:VAL:HG12	10:J:85:ILE:N	2.30	0.46
11:K:233:GLU:HG3	24:X:35:VAL:HG22	1.98	0.46
12:L:69:LEU:HD12	12:L:69:LEU:N	2.30	0.46
12:L:95:ASN:C	12:L:97:TYR:H	2.18	0.46
14:N:9:TYR:HB3	14:N:97:LEU:HD22	1.97	0.46
34:HA:27:TYR:CE1	34:HA:52:ARG:HG3	2.49	0.46
37:KA:51:TYR:CE2	37:KA:53:TYR:HB3	2.51	0.46
39:MA:62:GLN:O	39:MA:65:ALA:HB3	2.16	0.46
47:UA:71:VAL:HG23	47:UA:72:SER:N	2.30	0.46
48:VA:187:VAL:CG1	48:VA:188:VAL:N	2.78	0.46
54:BB:120:SER:O	54:BB:121:TYR:HB3	2.16	0.46
55:CB:121:ILE:CG2	55:CB:129:PRO:HA	2.44	0.46
57:EB:182:VAL:CG1	57:EB:183:PHE:N	2.78	0.46
60:HB:59:PHE:CD2	60:HB:62:GLN:HA	2.50	0.46
63:KB:41:ALA:CB	63:KB:75:LEU:HG	2.46	0.46
66:NB:7:VAL:HG21	66:NB:91:ALA:HB3	1.97	0.46
66:NB:35:PRO:O	66:NB:38:LEU:HG	2.15	0.46
71:SB:37:ALA:HB1	71:SB:45:ALA:O	2.15	0.46
75:WB:68:ARG:HD3	83:EC:6867:C:H1'	1.98	0.46
82:DC:32:LYS:HG3	84:DC:901:GDP:PB	2.54	0.46
82:DC:493:VAL:HG21	82:DC:530:VAL:HG21	1.96	0.46
82:DC:764:PRO:O	82:DC:766:PHE:N	2.49	0.46
1:A:115:G:OP1	61:IB:67:ARG:HD2	2.15	0.46
1:A:448:C:H5'	54:BB:29:PRO:CG	2.43	0.46
1:A:509:G:H2'	1:A:510:G:N9	2.29	0.46
1:A:968:U:H4'	1:A:1033:C:O2	2.14	0.46
1:A:1046:G:H2'	1:A:1047:G:C8	2.49	0.46
1:A:1356:U:H2'	1:A:1357:A:C8	2.51	0.46
1:A:1477:G:O2'	69:QB:47:PRO:HA	2.15	0.46
2:B:242:C:O2'	2:B:243:G:H8	1.98	0.46
2:B:405:U:C2'	2:B:406:G:H5'	2.44	0.46
2:B:998:A:H4'	4:D:103:A:C2	2.50	0.46
2:B:1091:A:H2'	2:B:1092:C:O4'	2.16	0.46
2:B:1121:U:C4	2:B:1122:U:C4	3.04	0.46
2:B:1234:G:H22	16:P:131:GLU:HB2	1.81	0.46
2:B:1604:G:H4'	2:B:1835:A:H4'	1.98	0.46
2:B:1657:C:C5	2:B:1797:A:H5"	2.49	0.46
2:B:1744:G:H2'	2:B:1745:C:H6	1.78	0.46
2:B:1803:C:H2'	2:B:1804:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2147:A:OP1	6:F:200:ARG:HG3	2.16	0.46
2:B:2356:A:H61	2:B:2983:C:N4	2.12	0.46
2:B:2415:C:O2'	2:B:2416:U:H5'	2.16	0.46
2:B:2812:C:H2'	2:B:2813:A:H8	1.81	0.46
2:B:3117:C:O2'	2:B:3118:C:H5'	2.14	0.46
3:C:23:U:C4'	30:DA:17:LYS:HG2	2.46	0.46
5:E:209:SER:O	5:E:210:MET:HB3	2.14	0.46
6:F:20:THR:HG23	6:F:20:THR:O	2.14	0.46
6:F:219:ILE:HD12	6:F:219:ILE:H	1.80	0.46
7:G:338:LEU:H	7:G:338:LEU:HD22	1.80	0.46
9:I:33:ARG:NH1	9:I:37:VAL:HG21	2.30	0.46
11:K:174:GLY:HA2	11:K:177:GLY:O	2.15	0.46
12:L:89:GLU:HA	12:L:92:LYS:HZ3	1.80	0.46
15:O:54:VAL:HG11	15:O:57:PHE:CG	2.51	0.46
16:P:114:ARG:HG3	16:P:129:THR:HG23	1.98	0.46
17:Q:149:GLN:H	17:Q:149:GLN:CD	2.17	0.46
21:U:24:VAL:HG11	21:U:87:SER:HA	1.97	0.46
23:W:67:ALA:O	23:W:71:ARG:HG3	2.16	0.46
32:FA:126:LYS:HB3	32:FA:148:ILE:CD1	2.33	0.46
34:HA:86:ARG:HG2	34:HA:86:ARG:HH11	1.81	0.46
34:HA:103:THR:HG22	34:HA:104:LEU:HD12	1.97	0.46
38:LA:11:ASN:HD21	38:LA:15:THR:HG21	1.81	0.46
48:VA:9:ALA:O	48:VA:12:PHE:HB2	2.16	0.46
48:VA:60:ARG:HD2	48:VA:60:ARG:O	2.16	0.46
49:WA:209:THR:HB	49:WA:226:ALA:N	2.30	0.46
53:AB:98:ALA:HA	53:AB:188:ILE:HD12	1.97	0.46
57:EB:98:ILE:HG13	57:EB:121:VAL:HG21	1.98	0.46
59:GB:105:LEU:N	59:GB:105:LEU:HD12	2.30	0.46
65:MB:52:LYS:HB2	65:MB:53:PRO:CD	2.41	0.46
69:QB:4:VAL:HG22	69:QB:5:SER:N	2.31	0.46
73:UB:40:SER:O	73:UB:41:SER:O	2.33	0.46
74:VB:41:ARG:HH21	74:VB:52:LYS:HB3	1.80	0.46
75:WB:80:LEU:HD22	75:WB:101:TYR:CD2	2.51	0.46
82:DC:17:THR:HG21	82:DC:92:LYS:HG2	1.98	0.46
82:DC:28:VAL:CG1	82:DC:29:ASP:H	2.27	0.46
82:DC:155:VAL:HG12	82:DC:156:VAL:N	2.30	0.46
82:DC:293:LYS:HA	82:DC:296:ILE:CD1	2.45	0.46
1:A:140:A:C3'	1:A:141:U:H5'	2.45	0.46
1:A:144:U:HO2'	1:A:145:A:H8	1.64	0.46
1:A:387:A:H4'	1:A:389:G:OP2	2.16	0.46
1:A:752:A:H2	1:A:797:G:H1	1.59	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:792:U:H2'	1:A:793:A:O4'	2.16	0.46
1:A:872:G:H21	1:A:1047:G:H4'	1.80	0.46
1:A:941:A:C5	1:A:942:G:H1'	2.50	0.46
1:A:1042:G:H3'	1:A:1043:A:H5"	1.98	0.46
1:A:1382:A:O2'	1:A:1383:G:H8	1.97	0.46
1:A:1511:U:H2'	1:A:1512:G:C8	2.51	0.46
1:A:1530:C:OP1	75:WB:95:HIS:HA	2.16	0.46
1:A:1533:C:H5	75:WB:77:ARG:HH21	1.61	0.46
1:A:1645:G:H22	1:A:1756:A:H2	1.63	0.46
2:B:103:G:H4'	17:Q:65:TYR:CE2	2.50	0.46
2:B:563:U:H2'	2:B:564:G:H8	1.80	0.46
2:B:785:G:O4'	22:V:92:ARG:NH1	2.48	0.46
2:B:1223:A:H8	2:B:1223:A:OP2	1.98	0.46
2:B:1427:U:O2'	2:B:1428:A:H5'	2.16	0.46
2:B:2525:G:H3'	6:F:34:TYR:HD1	1.79	0.46
2:B:2787:G:H1'	32:FA:58:MET:HE2	1.97	0.46
2:B:3336:A:H2'	2:B:3337:G:O4'	2.15	0.46
8:H:106:TRP:HZ2	17:Q:19:GLN:HG2	1.81	0.46
8:H:203:ARG:HD3	8:H:203:ARG:HA	1.79	0.46
9:I:107:ARG:H	9:I:107:ARG:HG2	1.57	0.46
9:I:143:LYS:HG2	9:I:172:TYR:HD1	1.81	0.46
10:J:96:VAL:HG13	10:J:141:VAL:HG22	1.97	0.46
10:J:125:GLN:HB3	10:J:126:GLN:H	1.57	0.46
11:K:147:LEU:O	11:K:150:LYS:N	2.49	0.46
12:L:109:LEU:HA	12:L:112:GLU:HG2	1.97	0.46
12:L:150:LEU:HD13	12:L:151:VAL:N	2.30	0.46
13:M:103:ILE:HD11	13:M:134:ILE:HG22	1.96	0.46
15:O:143:ARG:HG2	15:O:144:CYS:SG	2.56	0.46
16:P:110:ILE:HA	16:P:113:ALA:HB3	1.96	0.46
17:Q:60:ALA:HA	17:Q:61:PRO:HD3	1.81	0.46
22:V:56:LYS:O	22:V:56:LYS:HG2	2.16	0.46
22:V:151:ARG:O	22:V:161:LYS:HD2	2.15	0.46
23:W:97:ARG:O	23:W:101:VAL:HG23	2.15	0.46
25:Y:29:THR:O	25:Y:29:THR:HG22	2.15	0.46
31:EA:13:VAL:CB	31:EA:19:ALA:HA	2.43	0.46
46:TA:10:THR:CG2	46:TA:11:TYR:N	2.79	0.46
49:WA:69:GLN:HG2	49:WA:111:MET:SD	2.56	0.46
49:WA:251:TRP:HA	49:WA:263:PHE:O	2.15	0.46
52:ZA:218:ILE:HD12	52:ZA:219:GLY:N	2.31	0.46
53:AB:66:ILE:HA	53:AB:69:LEU:CD1	2.45	0.46
53:AB:167:PHE:CE1	53:AB:192:PRO:HA	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:FB:101:ILE:HD11	58:FB:192:TYR:CG	2.50	0.46
66:NB:29:ILE:HA	66:NB:65:ILE:HB	1.98	0.46
66:NB:114:ARG:H	66:NB:116:LEU:CD2	2.29	0.46
72:TB:11:LEU:HB3	72:TB:72:CYS:HG	1.81	0.46
74:VB:48:TYR:O	74:VB:49:LYS:HB2	2.16	0.46
79:AC:36:LEU:HD12	79:AC:37:ASN:N	2.31	0.46
82:DC:369:ILE:HG23	82:DC:401:PHE:HB3	1.96	0.46
82:DC:733:ILE:H	82:DC:733:ILE:HD12	1.80	0.46
1:A:139:C:C5	1:A:176:C:H1'	2.51	0.46
1:A:461:G:H5'	54:BB:27:TYR:OH	2.16	0.46
1:A:803:A:C4	57:EB:104:ARG:HG3	2.51	0.46
1:A:812:A:H5'	1:A:858:G:H22	1.81	0.46
1:A:1026:A:H1'	1:A:1790:A:H1'	1.97	0.46
1:A:1360:A:H2'	1:A:1361:U:O4'	2.16	0.46
1:A:1740:A:H2'	1:A:1741:U:C6	2.51	0.46
2:B:116:A:OP2	19:S:2:GLY:HA2	2.16	0.46
2:B:225:C:H2'	2:B:226:C:C6	2.51	0.46
2:B:284:A:H5"	2:B:285:A:O4'	2.15	0.46
2:B:287:G:H5'	19:S:179:LYS:O	2.16	0.46
2:B:1282:G:H4'	48:VA:82:GLY:C	2.36	0.46
2:B:1429:G:N2	8:H:99:MET:HB3	2.30	0.46
2:B:1507:G:C8	21:U:129:THR:HG22	2.51	0.46
2:B:1619:A:H8	2:B:1619:A:H5'	1.81	0.46
2:B:1639:C:H5'	38:LA:52:GLN:OE1	2.16	0.46
2:B:1639:C:H2'	2:B:1640:G:H8	1.80	0.46
2:B:2147:A:H2'	2:B:2148:U:O4'	2.16	0.46
2:B:2415:C:H5'	6:F:207:VAL:HG13	1.96	0.46
2:B:2463:G:H5'	2:B:2464:U:OP2	2.15	0.46
2:B:2746:A:N7	9:I:153:THR:HG23	2.31	0.46
2:B:2860:U:H1'	2:B:2938:G:H4'	1.97	0.46
2:B:3146:G:O2'	2:B:3147:G:H5'	2.15	0.46
2:B:3209:A:OP2	24:X:161:LYS:HD2	2.16	0.46
3:C:12:A:OP1	21:U:3:ARG:HD3	2.15	0.46
5:E:109:ALA:HB1	5:E:151:VAL:CG1	2.44	0.46
6:F:120:PRO:HA	6:F:162:ALA:HA	1.98	0.46
12:L:55:TYR:CE2	12:L:56:VAL:CG2	2.99	0.46
12:L:81:THR:OG1	12:L:82:LEU:N	2.48	0.46
14:N:47:PRO:HD2	14:N:140:THR:O	2.15	0.46
16:P:112:ILE:O	16:P:115:GLN:HB2	2.15	0.46
20:T:54:TYR:O	20:T:58:LEU:HB2	2.16	0.46
22:V:62:VAL:CG1	22:V:66:ARG:HG2	2.35	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:139:TYR:CD2	24:X:140:VAL:HG23	2.51	0.46
28:BA:50:ALA:HA	28:BA:55:PHE:CE1	2.51	0.46
30:DA:3:LYS:HG3	30:DA:8:VAL:CG1	2.46	0.46
35:IA:46:THR:HG21	35:IA:91:SER:CB	2.46	0.46
48:VA:26:PHE:CE2	48:VA:96:ILE:HD11	2.51	0.46
48:VA:52:LEU:HB2	48:VA:86:PHE:HB2	1.96	0.46
49:WA:10:ARG:HA	49:WA:10:ARG:NE	2.31	0.46
52:ZA:227:PRO:HA	52:ZA:230:TRP:HB2	1.98	0.46
54:BB:18:TRP:CB	54:BB:20:LEU:HG	2.45	0.46
54:BB:95:THR:HG23	74:VB:17:LEU:HG	1.98	0.46
55:CB:27:THR:HG23	66:NB:29:ILE:H	1.81	0.46
55:CB:51:VAL:HG21	55:CB:130:ILE:HD13	1.97	0.46
55:CB:89:ILE:HG13	55:CB:90:ILE:N	2.31	0.46
56:DB:188:ARG:HB2	56:DB:188:ARG:HH11	1.81	0.46
58:FB:9:HIS:CG	58:FB:10:LYS:N	2.84	0.46
58:FB:104:ILE:HD11	58:FB:106:ALA:HA	1.97	0.46
58:FB:159:GLN:HE22	58:FB:189:LEU:HD21	1.81	0.46
59:GB:129:ILE:O	59:GB:142:ASN:HA	2.15	0.46
60:HB:3:MET:HB2	60:HB:4:PRO:HD2	1.98	0.46
60:HB:52:LYS:HG3	60:HB:54:TYR:CE2	2.51	0.46
61:IB:2:SER:O	61:IB:113:PRO:HB3	2.15	0.46
70:RB:74:GLU:HG3	70:RB:75:GLY:H	1.79	0.46
72:TB:51:GLU:OE2	77:YB:8:LEU:HD22	2.16	0.46
77:YB:35:VAL:HA	77:YB:78:SER:O	2.15	0.46
78:ZB:9:LEU:O	78:ZB:32:PHE:HB2	2.15	0.46
80:BC:38:LEU:O	80:BC:42:ARG:HB2	2.16	0.46
82:DC:27:HIS:CD2	82:DC:138:GLN:HB2	2.50	0.46
82:DC:103:ILE:HD13	82:DC:121:VAL:HG23	1.96	0.46
82:DC:332:ASP:O	82:DC:336:GLU:HB2	2.16	0.46
82:DC:396:ALA:HB3	82:DC:456:LEU:O	2.15	0.46
1:A:88:U:H4'	1:A:171:A:O4'	2.16	0.46
1:A:641:G:H21	57:EB:178:GLY:CA	2.24	0.46
1:A:1061:A:H3'	1:A:1062:A:N3	2.30	0.46
1:A:1202:A:H2'	1:A:1456:C:N4	2.31	0.46
1:A:1419:G:H2'	1:A:1420:C:O4'	2.15	0.46
1:A:1483:A:H1'	1:A:1607:G:O2'	2.15	0.46
1:A:1534:G:H21	55:CB:187:ILE:HG22	1.81	0.46
2:B:138:U:H2'	2:B:139:G:H8	1.81	0.46
2:B:151:A:H2'	2:B:152:U:H5'	1.98	0.46
2:B:257:U:H5"	17:Q:86:THR:HG21	1.98	0.46
2:B:567:G:H2'	2:B:568:G:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:629:U:H2'	2:B:630:A:H8	1.79	0.46
2:B:795:G:C2'	2:B:796:U:H5'	2.46	0.46
2:B:1035:G:H3'	2:B:1036:A:H8	1.81	0.46
2:B:1133:A:H1'	2:B:2618:G:O6	2.16	0.46
2:B:1226:G:H2'	2:B:1227:C:C6	2.51	0.46
2:B:1349:G:H2'	2:B:1350:A:C8	2.51	0.46
2:B:1641:U:HO2'	2:B:1642:A:H3'	1.79	0.46
2:B:2994:A:H2'	2:B:2995:A:O4'	2.15	0.46
2:B:3049:A:C2	7:G:75:ALA:HB2	2.50	0.46
2:B:3072:C:C2'	2:B:3073:A:H5'	2.45	0.46
2:B:3082:C:H2'	2:B:3083:G:C8	2.50	0.46
2:B:3295:A:H2'	2:B:3296:A:C8	2.50	0.46
4:D:8:G:H2'	4:D:9:C:C6	2.50	0.46
4:D:61:G:O2'	4:D:62:U:H5'	2.15	0.46
7:G:55:THR:C	7:G:56:ILE:HD12	2.36	0.46
10:J:104:GLU:HG2	10:J:104:GLU:O	2.15	0.46
10:J:166:LYS:HE2	37:KA:4:SER:OG	2.16	0.46
12:L:33:ASN:O	12:L:39:ALA:HB3	2.16	0.46
20:T:27:LEU:C	20:T:29:ASN:H	2.20	0.46
22:V:76:ALA:HA	22:V:79:LYS:HD2	1.98	0.46
34:HA:13:LYS:O	34:HA:16:LEU:HB3	2.15	0.46
34:HA:77:LEU:O	34:HA:81:VAL:HG13	2.16	0.46
37:KA:69:GLY:HA3	37:KA:85:PHE:CD1	2.51	0.46
38:LA:54:ILE:HD11	38:LA:78:GLY:HA3	1.97	0.46
48:VA:45:LEU:HD13	48:VA:49:ALA:HB3	1.98	0.46
49:WA:147:HIS:ND1	49:WA:151:VAL:HG22	2.30	0.46
49:WA:177:MET:HB3	49:WA:179:LYS:HZ3	1.80	0.46
54:BB:206:ASP:HB2	54:BB:222:LEU:HD21	1.96	0.46
56:DB:207:GLU:HA	56:DB:210:GLN:NE2	2.31	0.46
57:EB:35:LYS:HG2	57:EB:36:ALA:N	2.24	0.46
57:EB:130:VAL:HA	57:EB:162:ILE:CD1	2.46	0.46
60:HB:10:LYS:HB3	60:HB:35:ILE:HG23	1.97	0.46
60:HB:29:GLN:HB3	60:HB:39:ASN:HB2	1.97	0.46
60:HB:56:LYS:O	60:HB:66:TYR:HA	2.16	0.46
64:LB:130:GLY:HA3	64:LB:134:GLY:HA2	1.98	0.46
65:MB:108:ARG:C	65:MB:110:GLU:H	2.18	0.46
68:PB:11:PHE:CZ	68:PB:59:GLY:HA3	2.51	0.46
69:QB:15:ILE:CD1	69:QB:60:SER:HB2	2.45	0.46
72:TB:10:ALA:HB1	72:TB:27:ILE:HD12	1.98	0.46
73:UB:13:ARG:NH1	73:UB:13:ARG:HB2	2.30	0.46
73:UB:68:ILE:HG22	73:UB:69:ARG:N	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:UB:91:GLY:C	73:UB:93:LEU:H	2.19	0.46
74:VB:51:GLU:O	74:VB:55:VAL:HG23	2.15	0.46
82:DC:257:TRP:HD1	82:DC:257:TRP:H	1.62	0.46
82:DC:294:ASP:O	82:DC:298:VAL:HG21	2.16	0.46
83:EC:6847:G:H2'	83:EC:6847:G:N3	2.31	0.46
1:A:32:U:H2'	1:A:33:U:C5'	2.45	0.46
1:A:66:U:H6	56:DB:173:PRO:HG3	1.81	0.46
1:A:834:G:H2'	1:A:835:U:C5	2.51	0.46
2:B:943:U:OP1	32:FA:15:VAL:HA	2.15	0.46
2:B:1439:U:H2'	2:B:1440:G:O4'	2.16	0.46
2:B:1764:U:C3'	2:B:1765:U:H5"	2.46	0.46
2:B:2366:C:O2'	2:B:2367:A:H5'	2.15	0.46
2:B:2549:G:N7	12:L:33:ASN:HA	2.31	0.46
2:B:3325:G:O2'	2:B:3326:G:H5'	2.15	0.46
5:E:34:LEU:O	5:E:35:GLN:HG3	2.15	0.46
6:F:135:ILE:O	6:F:137:ILE:HG23	2.16	0.46
8:H:4:PRO:HD2	8:H:22:LEU:HD12	1.97	0.46
8:H:99:MET:SD	8:H:102:PRO:HA	2.56	0.46
8:H:318:LEU:HD13	11:K:146:GLN:NE2	2.30	0.46
8:H:337:GLU:HB2	8:H:339:LEU:HG	1.97	0.46
9:I:175:HIS:N	9:I:175:HIS:HD1	2.14	0.46
13:M:45:PHE:HA	13:M:54:LYS:O	2.16	0.46
15:O:14:ILE:HG23	15:O:129:VAL:CG1	2.46	0.46
17:Q:63:VAL:HG12	32:FA:128:ARG:NH1	2.30	0.46
17:Q:114:GLN:O	17:Q:118:GLU:HG3	2.16	0.46
20:T:74:ARG:HG3	20:T:146:GLY:HA3	1.97	0.46
21:U:177:ALA:O	21:U:181:ARG:HB2	2.16	0.46
24:X:155:ARG:NH2	24:X:171:PHE:O	2.49	0.46
29:CA:135:ILE:O	29:CA:135:ILE:HD13	2.16	0.46
34:HA:55:GLU:HA	38:LA:94:LEU:CD1	2.45	0.46
48:VA:30:VAL:HG22	48:VA:31:ASP:H	1.81	0.46
48:VA:165:VAL:HG13	48:VA:169:GLU:OE1	2.16	0.46
52:ZA:57:PHE:CD1	71:SB:26:ALA:HB2	2.50	0.46
54:BB:90:ILE:HG22	54:BB:92:LEU:HD13	1.98	0.46
54:BB:95:THR:HA	74:VB:16:PRO:CG	2.45	0.46
54:BB:206:ASP:HB2	54:BB:222:LEU:HD11	1.97	0.46
55:CB:149:VAL:HG13	55:CB:156:ARG:HD2	1.98	0.46
57:EB:97:ARG:O	57:EB:98:ILE:HB	2.15	0.46
58:FB:103:GLN:HG2	58:FB:164:ARG:HB3	1.97	0.46
61:IB:57:LYS:HA	61:IB:64:VAL:CG1	2.46	0.46
63:KB:107:LYS:HA	63:KB:107:LYS:HD2	1.78	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:TB:31:SER:O	72:TB:35:ILE:HG12	2.15	0.46
72:TB:52:TYR:HE1	72:TB:59:GLY:HA3	1.80	0.46
74:VB:41:ARG:HA	74:VB:44:LEU:HB2	1.98	0.46
82:DC:111:PHE:O	82:DC:115:VAL:HG23	2.15	0.46
82:DC:369:ILE:HD13	82:DC:402:ALA:CB	2.45	0.46
82:DC:415:GLY:O	82:DC:418:TYR:HB3	2.15	0.46
1:A:198:A:H3'	1:A:199:G:C8	2.51	0.46
1:A:397:A:H5"	58:FB:47:ARG:NE	2.31	0.46
1:A:448:C:H2'	1:A:449:C:H6	1.81	0.46
1:A:487:G:H2'	1:A:488:G:C5'	2.31	0.46
1:A:535:A:H2'	1:A:536:C:C6	2.51	0.46
1:A:877:G:H4'	1:A:942:G:N2	2.30	0.46
1:A:962:C:O5'	1:A:962:C:H6	1.99	0.46
1:A:1186:U:C2'	1:A:1187:U:H5'	2.43	0.46
1:A:1557:U:H3	65:MB:81:ARG:HE	1.64	0.46
2:B:20:A:C6	2:B:21:G:C6	3.04	0.46
2:B:49:A:N6	19:S:187:ARG:HD2	2.31	0.46
2:B:82:C:H4'	19:S:204:LYS:HZ2	1.81	0.46
2:B:103:G:H4'	17:Q:65:TYR:CD2	2.51	0.46
2:B:208:C:O2'	2:B:209:A:H5'	2.17	0.46
2:B:1028:U:H3'	2:B:1029:G:H5"	1.98	0.46
2:B:1230:G:O3'	48:VA:34:SER:HA	2.16	0.46
2:B:1506:A:H1'	2:B:1848:G:C6	2.51	0.46
2:B:1547:G:H2'	2:B:1548:C:H6	1.81	0.46
2:B:2135:U:O5'	2:B:2135:U:H6	1.99	0.46
2:B:3110:C:H2'	2:B:3111:U:O4'	2.16	0.46
3:C:64:U:C5'	39:MA:49:LYS:HG3	2.45	0.46
4:D:1:G:C2	4:D:2:G:N7	2.84	0.46
7:G:35:ASP:HA	7:G:184:ASN:ND2	2.30	0.46
8:H:141:ARG:HH11	8:H:141:ARG:HG2	1.80	0.46
8:H:307:GLN:HA	8:H:307:GLN:HE21	1.81	0.46
9:I:99:TYR:CD1	9:I:99:TYR:C	2.89	0.46
12:L:47:SER:O	12:L:50:VAL:HG22	2.16	0.46
12:L:140:VAL:HG21	19:S:3:ALA:CB	2.41	0.46
14:N:209:ASN:O	14:N:217:PHE:HE2	1.99	0.46
14:N:218:ALA:C	14:N:220:GLN:H	2.18	0.46
19:S:99:ARG:HH22	19:S:166:ALA:HB3	1.80	0.46
22:V:89:ASP:HB2	22:V:109:GLY:C	2.35	0.46
24:X:40:ARG:O	24:X:43:TYR:HB3	2.15	0.46
24:X:106:LEU:C	24:X:106:LEU:HD13	2.37	0.46
26:Z:84:LEU:HD21	26:Z:93:ILE:HG21	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AA:66:LYS:HB3	27:AA:69:LEU:CD1	2.43	0.46
28:BA:49:ILE:HG22	28:BA:51:TRP:CD1	2.51	0.46
34:HA:70:PHE:CD2	34:HA:77:LEU:HD13	2.51	0.46
46:TA:32:LYS:O	46:TA:34:SER:N	2.49	0.46
48:VA:77:LEU:HB3	48:VA:78:PRO:CD	2.46	0.46
48:VA:97:LYS:HA	48:VA:100:ILE:CG1	2.45	0.46
49:WA:98:GLU:HG2	49:WA:99:THR:N	2.31	0.46
49:WA:128:ASP:O	49:WA:129:LYS:HG2	2.16	0.46
50:XA:98:ILE:HG21	50:XA:102:PHE:CB	2.46	0.46
50:XA:147:THR:HB	50:XA:151:SER:HB2	1.97	0.46
54:BB:67:GLN:HE21	54:BB:69:HIS:CD2	2.33	0.46
56:DB:180:THR:O	56:DB:184:LEU:HG	2.16	0.46
57:EB:35:LYS:CG	57:EB:36:ALA:H	2.24	0.46
68:PB:25:ASN:HB2	75:WB:40:VAL:HG11	1.98	0.46
70:RB:69:LYS:CB	70:RB:78:THR:HB	2.44	0.46
71:SB:20:THR:HB	71:SB:22:ARG:HG3	1.97	0.46
82:DC:45:ILE:HG13	82:DC:78:TYR:N	2.31	0.46
82:DC:222:ILE:HG12	82:DC:223:ARG:N	2.31	0.46
82:DC:669:TRP:C	82:DC:710:ARG:HH22	2.20	0.46
83:EC:6796:C:H2'	83:EC:6797:U:C5	2.51	0.46
1:A:593:U:OP2	59:GB:39:LYS:HE2	2.16	0.45
1:A:775:G:C6	1:A:786:C:N4	2.85	0.45
1:A:976:G:H3'	1:A:1023:A:H2	1.78	0.45
1:A:1459:C:N4	68:PB:139:LYS:HG3	2.30	0.45
2:B:144:A:H2'	2:B:145:G:O4'	2.16	0.45
2:B:213:A:H2'	2:B:214:G:H5'	1.97	0.45
2:B:509:U:C2'	2:B:510:G:H5"	2.46	0.45
2:B:823:C:C2'	2:B:824:C:H5'	2.46	0.45
2:B:873:C:H2'	2:B:875:G:O4'	2.15	0.45
2:B:1024:G:H21	2:B:1027:A:H62	1.62	0.45
2:B:1603:A:H5'	23:W:9:ARG:HH12	1.81	0.45
2:B:2615:G:H2'	2:B:2616:C:C6	2.50	0.45
2:B:2728:G:N7	25:Y:87:LYS:HE2	2.32	0.45
2:B:3325:G:H5'	35:IA:104:LEU:O	2.15	0.45
3:C:64:U:H5"	39:MA:49:LYS:HG3	1.98	0.45
5:E:175:GLU:HB3	5:E:178:VAL:HG23	1.97	0.45
6:F:29:LEU:HD23	6:F:76:PHE:CZ	2.51	0.45
8:H:45:ASN:OD1	19:S:202:TYR:HE2	1.99	0.45
9:I:164:LYS:CE	9:I:195:LEU:HD21	2.46	0.45
19:S:157:LYS:O	19:S:158:HIS:C	2.55	0.45
22:V:174:ARG:HG2	22:V:174:ARG:HH11	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:39:ILE:CG2	25:Y:99:SER:HB2	2.46	0.45
27:AA:27:ASP:HB3	27:AA:101:VAL:HG12	1.98	0.45
29:CA:76:VAL:HG13	29:CA:132:ALA:HB1	1.98	0.45
29:CA:96:LYS:CG	29:CA:107:VAL:HB	2.46	0.45
30:DA:13:ARG:O	30:DA:17:LYS:HB2	2.16	0.45
31:EA:12:VAL:HG23	31:EA:81:LEU:HB3	1.98	0.45
39:MA:60:GLU:O	39:MA:64:GLU:HG2	2.15	0.45
43:QA:38:ASN:HD22	43:QA:41:ARG:HD3	1.81	0.45
48:VA:165:VAL:HG11	48:VA:170:ALA:HB2	1.98	0.45
49:WA:61:PHE:HB3	49:WA:92:TRP:CZ3	2.51	0.45
50:XA:85:ALA:HA	50:XA:202:TYR:HD2	1.80	0.45
52:ZA:85:PRO:HA	52:ZA:98:PHE:CD1	2.51	0.45
54:BB:133:LYS:H	54:BB:133:LYS:HD2	1.80	0.45
54:BB:180:LEU:N	54:BB:194:THR:HA	2.32	0.45
55:CB:37:GLN:HB3	66:NB:53:LEU:HD22	1.98	0.45
55:CB:49:GLU:O	55:CB:51:VAL:HG23	2.16	0.45
55:CB:76:ARG:HD3	55:CB:76:ARG:N	2.31	0.45
56:DB:103:GLY:O	56:DB:106:LEU:HG	2.16	0.45
58:FB:38:ILE:HD13	58:FB:80:GLY:HA2	1.98	0.45
59:GB:17:ARG:HG2	59:GB:17:ARG:NH2	2.31	0.45
66:NB:113:ASP:OD2	66:NB:118:ILE:HG21	2.15	0.45
74:VB:110:GLN:HB3	74:VB:114:ARG:NH2	2.31	0.45
75:WB:39:ALA:HA	75:WB:70:LYS:O	2.16	0.45
82:DC:250:PHE:HB3	82:DC:275:MET:HE3	1.98	0.45
1:A:69:G:H2'	1:A:70:C:H5'	1.98	0.45
1:A:166:C:H3'	1:A:167:U:H6	1.80	0.45
1:A:1107:G:H3'	1:A:1108:G:N2	2.31	0.45
1:A:1181:U:H1'	1:A:1458:G:N2	2.31	0.45
1:A:1319:A:C3'	1:A:1320:U:C5'	2.94	0.45
1:A:1435:G:C2	60:HB:59:PHE:HB2	2.51	0.45
2:B:61:A:H2'	2:B:62:A:O4'	2.16	0.45
2:B:66:A:H5"	2:B:316:U:OP1	2.15	0.45
2:B:216:G:O2'	2:B:217:U:H5'	2.17	0.45
2:B:628:A:H2'	2:B:629:U:O4'	2.16	0.45
2:B:698:U:H2'	2:B:699:A:O4'	2.16	0.45
2:B:1481:A:N3	38:LA:4:ARG:HD3	2.31	0.45
2:B:1559:A:C2	2:B:1582:C:H2'	2.52	0.45
2:B:1625:A:H4'	2:B:1643:A:C6	2.52	0.45
2:B:1762:C:H5	2:B:1763:U:H1'	1.79	0.45
2:B:1805:C:H2'	2:B:1806:A:C8	2.51	0.45
2:B:2210:G:H2'	2:B:2211:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2254:U:H3'	2:B:2254:U:H6	1.81	0.45
2:B:2352:A:H5"	21:U:83:TRP:O	2.16	0.45
2:B:2519:A:O2'	2:B:2520:A:H5'	2.16	0.45
2:B:2881:C:H2'	2:B:2882:U:H6	1.78	0.45
2:B:3385:U:H2'	2:B:3386:G:O4'	2.15	0.45
3:C:69:U:H2'	3:C:70:G:O4'	2.17	0.45
6:F:46:LYS:CD	6:F:62:VAL:HG11	2.46	0.45
7:G:296:THR:HG22	7:G:298:PHE:N	2.32	0.45
10:J:55:LEU:HB2	10:J:64:LEU:HD13	1.98	0.45
11:K:103:LEU:HD21	11:K:130:ILE:HB	1.97	0.45
15:O:63:GLU:O	15:O:64:LYS:O	2.35	0.45
23:W:14:VAL:HG13	23:W:15:VAL:HG23	1.98	0.45
25:Y:8:ARG:HG3	25:Y:8:ARG:NH2	2.31	0.45
28:BA:17:ARG:NH1	28:BA:17:ARG:CG	2.76	0.45
29:CA:102:LEU:O	29:CA:103:TYR:CD1	2.69	0.45
30:DA:3:LYS:HG3	30:DA:8:VAL:HG11	1.96	0.45
31:EA:3:LYS:O	31:EA:5:LEU:N	2.48	0.45
31:EA:32:GLY:O	31:EA:33:SER:O	2.34	0.45
32:FA:60:TYR:CG	32:FA:63:LYS:HE2	2.50	0.45
34:HA:86:ARG:HG2	34:HA:86:ARG:NH1	2.31	0.45
37:KA:49:ILE:HG23	37:KA:100:ILE:HD12	1.97	0.45
48:VA:52:LEU:HB3	48:VA:86:PHE:HD2	1.81	0.45
49:WA:83:ALA:HA	49:WA:89:LEU:HD22	1.97	0.45
50:XA:29:VAL:O	50:XA:29:VAL:HG13	2.16	0.45
50:XA:153:SER:HB2	71:SB:66:ASP:OD2	2.16	0.45
53:AB:168:ILE:HA	53:AB:188:ILE:O	2.16	0.45
54:BB:155:LYS:HE2	54:BB:155:LYS:CA	2.46	0.45
55:CB:162:VAL:HG13	55:CB:167:ARG:HG2	1.96	0.45
56:DB:34:GLN:O	56:DB:52:ILE:HG13	2.16	0.45
57:EB:70:PHE:O	57:EB:74:GLN:HB2	2.15	0.45
59:GB:107:ARG:NH2	59:GB:150:LEU:H	2.14	0.45
59:GB:116:LEU:HG	59:GB:118:LEU:HD13	1.98	0.45
65:MB:108:ARG:HB2	65:MB:110:GLU:HG2	1.98	0.45
66:NB:35:PRO:HG3	69:QB:8:ASP:HA	1.99	0.45
68:PB:3:LEU:HD13	68:PB:3:LEU:H	1.81	0.45
71:SB:35:ASN:OD1	71:SB:52:THR:HG22	2.16	0.45
73:UB:92:CYS:HA	73:UB:95:PHE:CD2	2.52	0.45
77:YB:36:LYS:O	77:YB:77:THR:HB	2.16	0.45
82:DC:244:LEU:HD23	82:DC:272:ALA:CB	2.45	0.45
82:DC:487:PRO:HA	82:DC:532:GLY:O	2.16	0.45
82:DC:515:ASP:HB3	82:DC:518:VAL:CB	2.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:628:THR:HG22	82:DC:629:ASP:OD1	2.17	0.45
1:A:244:A:H4'	54:BB:129:VAL:HG13	1.98	0.45
1:A:310:C:H4'	73:UB:33:LEU:CD1	2.47	0.45
1:A:508:U:O2'	1:A:509:G:H5'	2.17	0.45
1:A:609:U:H4'	1:A:610:G:O5'	2.16	0.45
1:A:1186:U:OP2	1:A:1456:C:H4'	2.16	0.45
1:A:1388:A:H4'	1:A:1389:C:O4'	2.16	0.45
1:A:1407:U:H2'	1:A:1408:G:H8	1.78	0.45
1:A:1504:G:O3'	69:QB:41:SER:HB3	2.17	0.45
1:A:1763:A:H5"	1:A:1771:U:C5'	2.46	0.45
2:B:213:A:H2	30:DA:9:SER:O	1.99	0.45
2:B:1239:C:OP1	16:P:57:LYS:HE3	2.16	0.45
2:B:1524:A:C6	2:B:1527:C:N3	2.84	0.45
2:B:1638:A:H5'	31:EA:15:ARG:HH21	1.81	0.45
2:B:1763:U:C5	2:B:1765:U:O2	2.69	0.45
2:B:2178:A:H5"	6:F:132:ASN:HD21	1.80	0.45
2:B:2227:C:H2'	2:B:2228:A:C8	2.51	0.45
2:B:2380:U:H2'	2:B:2381:G:O4'	2.17	0.45
2:B:2632:G:O2'	2:B:2633:U:H5'	2.17	0.45
2:B:3035:A:H1'	13:M:121:LYS:O	2.17	0.45
4:D:57:G:H2'	4:D:58:C:H6	1.81	0.45
5:E:111:ILE:HG23	5:E:138:VAL:HG21	1.98	0.45
7:G:232:ARG:NH1	7:G:268:GLY:HA3	2.31	0.45
8:H:20:LEU:HD11	8:H:252:GLU:HG2	1.98	0.45
8:H:114:ASN:HB2	8:H:117:GLU:CG	2.45	0.45
10:J:129:GLU:HG3	10:J:130:ILE:N	2.23	0.45
11:K:53:LYS:O	11:K:57:THR:HG23	2.17	0.45
14:N:76:MET:HB2	14:N:85:PHE:CE2	2.51	0.45
16:P:94:LYS:HB2	16:P:99:LYS:HE2	1.99	0.45
18:R:97:SER:O	18:R:101:LYS:HG3	2.16	0.45
21:U:169:THR:O	21:U:173:ARG:HG3	2.16	0.45
27:AA:17:LEU:HB2	27:AA:52:ALA:O	2.16	0.45
30:DA:45:ILE:HG22	30:DA:46:LYS:H	1.80	0.45
31:EA:93:LYS:HD3	31:EA:94:SER:N	2.32	0.45
41:OA:18:LEU:HD12	41:OA:18:LEU:H	1.81	0.45
46:TA:37:ALA:O	46:TA:38:GLN:C	2.54	0.45
48:VA:29:GLY:HA2	48:VA:84:VAL:HG22	1.98	0.45
49:WA:167:VAL:O	49:WA:183:LEU:HB2	2.16	0.45
57:EB:12:ALA:HB3	57:EB:13:PRO:CD	2.34	0.45
66:NB:83:GLN:HE21	66:NB:87:LYS:CD	2.29	0.45
82:DC:127:VAL:HG21	82:DC:153:PRO:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:488:VAL:HB	82:DC:796:MET:HE3	1.96	0.45
1:A:7:G:H2'	1:A:8:U:H5"	1.98	0.45
1:A:82:U:H2'	1:A:83:G:O4'	2.16	0.45
1:A:449:C:H2'	1:A:450:U:C6	2.52	0.45
1:A:923:A:H4'	6:F:137:ILE:CD1	2.46	0.45
2:B:8:C:H2'	2:B:9:U:C6	2.52	0.45
2:B:603:A:H2'	2:B:604:G:O4'	2.17	0.45
2:B:620:U:H4'	21:U:167:ARG:HE	1.79	0.45
2:B:994:G:H1'	2:B:1053:A:N6	2.32	0.45
2:B:1052:U:H2'	2:B:1053:A:O4'	2.15	0.45
2:B:1261:G:H4'	2:B:1278:A:C2	2.52	0.45
2:B:1360:C:O2'	2:B:1361:U:H5'	2.16	0.45
2:B:1866:C:O2	2:B:1866:C:C2'	2.64	0.45
2:B:2585:G:C5	12:L:47:SER:HB3	2.52	0.45
2:B:2974:U:H2'	2:B:2975:U:C6	2.50	0.45
2:B:2993:G:H2'	2:B:3142:A:N6	2.32	0.45
4:D:49:G:N3	4:D:50:U:H5	2.13	0.45
5:E:87:VAL:HG22	5:E:119:GLN:OE1	2.16	0.45
7:G:77:THR:HG23	7:G:326:GLY:O	2.16	0.45
7:G:137:TYR:HA	7:G:144:ILE:HD11	1.99	0.45
8:H:209:TYR:O	8:H:230:VAL:HG23	2.16	0.45
9:I:55:PHE:CD1	9:I:60:ILE:HG12	2.52	0.45
12:L:152:LEU:HD13	12:L:198:ALA:HB3	1.98	0.45
14:N:49:CYS:HB2	14:N:172:GLY:O	2.16	0.45
19:S:67:ARG:HD3	19:S:126:THR:HG23	1.99	0.45
22:V:3:ILE:HD12	22:V:3:ILE:N	2.30	0.45
25:Y:92:ARG:C	25:Y:94:GLU:H	2.18	0.45
27:AA:77:ILE:HD13	27:AA:126:TRP:CD2	2.51	0.45
29:CA:40:LEU:HD12	29:CA:41:ALA:N	2.31	0.45
32:FA:129:PHE:HD2	32:FA:129:PHE:H	1.64	0.45
35:IA:64:VAL:HG23	35:IA:65:LYS:H	1.82	0.45
37:KA:72:THR:OG1	37:KA:73:ARG:HG2	2.16	0.45
39:MA:49:LYS:HD2	39:MA:49:LYS:HA	1.79	0.45
39:MA:89:ARG:CG	39:MA:89:ARG:NH1	2.73	0.45
48:VA:7:LYS:HA	48:VA:10:GLU:HG2	1.98	0.45
50:XA:146:LEU:HD23	50:XA:160:ILE:HD12	1.99	0.45
52:ZA:104:VAL:HG22	52:ZA:132:ALA:HB1	1.98	0.45
54:BB:85:GLY:N	54:BB:88:ASP:OD2	2.47	0.45
54:BB:90:ILE:HG22	54:BB:92:LEU:HD11	1.96	0.45
54:BB:95:THR:CG2	74:VB:17:LEU:HG	2.47	0.45
56:DB:64:LYS:O	56:DB:67:VAL:HG22	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:GB:172:VAL:O	59:GB:176:ASN:HB2	2.16	0.45
61:IB:125:VAL:HG21	61:IB:137:PHE:HB3	1.97	0.45
61:IB:125:VAL:CG2	61:IB:137:PHE:HB3	2.46	0.45
66:NB:137:ARG:HG3	66:NB:138:PHE:H	1.80	0.45
82:DC:585:ARG:HD3	82:DC:587:TYR:OH	2.16	0.45
82:DC:785:ARG:HG2	82:DC:785:ARG:HH11	1.80	0.45
1:A:525:A:H2'	1:A:526:A:C8	2.51	0.45
1:A:977:A:H61	1:A:1774:G:H1'	1.82	0.45
1:A:1125:A:H2'	1:A:1126:G:O4'	2.16	0.45
1:A:1450:U:H2'	1:A:1451:C:C6	2.51	0.45
2:B:67:A:N7	2:B:317:A:H1'	2.32	0.45
2:B:300:G:H2'	2:B:301:G:C8	2.51	0.45
2:B:429:U:H4'	37:KA:88:ASN:O	2.16	0.45
2:B:947:G:H2'	2:B:948:C:H6	1.80	0.45
2:B:998:A:H4'	4:D:103:A:N3	2.32	0.45
2:B:1063:G:C6	25:Y:109:VAL:HG13	2.52	0.45
2:B:1141:C:H2'	2:B:1142:G:O4'	2.17	0.45
2:B:1224:C:H2'	2:B:1225:A:O4'	2.16	0.45
2:B:1664:G:H2'	2:B:1665:C:O4'	2.16	0.45
2:B:1670:C:O2'	2:B:1671:C:H5'	2.16	0.45
2:B:2244:A:H2'	2:B:2245:C:C6	2.52	0.45
2:B:2711:C:O2'	2:B:2744:U:H5"	2.17	0.45
2:B:3283:U:H2'	2:B:3284:G:C8	2.52	0.45
7:G:199:PHE:C	7:G:201:LYS:N	2.70	0.45
8:H:138:ARG:HG2	8:H:138:ARG:NH1	2.31	0.45
9:I:247:ILE:C	9:I:249:ALA:N	2.70	0.45
12:L:133:LYS:HG3	12:L:201:THR:CG2	2.47	0.45
13:M:150:SER:O	13:M:154:VAL:HG23	2.16	0.45
17:Q:3:ILE:CD1	32:FA:34:MET:HA	2.45	0.45
19:S:122:ASN:O	19:S:129:TYR:HD2	2.00	0.45
19:S:155:VAL:HG23	19:S:156:HIS:CE1	2.52	0.45
21:U:51:VAL:HA	21:U:56:ARG:O	2.17	0.45
23:W:109:TYR:HB3	23:W:115:ILE:HG22	1.97	0.45
25:Y:82:ASN:HA	33:GA:21:ILE:HD13	1.99	0.45
25:Y:139:ARG:HD2	25:Y:139:ARG:N	2.31	0.45
29:CA:100:LYS:O	29:CA:100:LYS:HD3	2.17	0.45
29:CA:105:VAL:HA	29:CA:130:TYR:CE2	2.52	0.45
30:DA:37:LYS:HD3	30:DA:37:LYS:H	1.76	0.45
30:DA:77:LYS:O	30:DA:78:PHE:HB2	2.16	0.45
39:MA:5:LYS:HB2	39:MA:8:GLU:HG3	1.97	0.45
40:NA:11:LEU:H	40:NA:11:LEU:HD22	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:ZA:85:PRO:HB2	83:EC:6956:A:H61	1.82	0.45
52:ZA:178:ILE:HD13	52:ZA:188:LEU:CB	2.46	0.45
54:BB:73:ASP:CB	54:BB:164:LEU:HD22	2.38	0.45
54:BB:99:PHE:CE1	54:BB:113:ARG:HG2	2.51	0.45
55:CB:120:ILE:HD11	75:WB:98:GLN:NE2	2.31	0.45
66:NB:82:ARG:HG3	66:NB:82:ARG:NH1	2.28	0.45
71:SB:59:VAL:CG1	71:SB:64:GLU:HB2	2.42	0.45
73:UB:126:LYS:HB3	73:UB:129:GLY:HA2	1.98	0.45
82:DC:155:VAL:HG23	82:DC:202:VAL:CG2	2.47	0.45
82:DC:608:PRO:HA	82:DC:636:PHE:CD2	2.52	0.45
82:DC:694:HIS:CE1	83:EC:6907:G:OP1	2.70	0.45
83:EC:6869:C:H2'	83:EC:6870:A:H5'	1.97	0.45
1:A:300:A:H2'	1:A:301:A:O4'	2.17	0.45
1:A:1278:G:H2'	1:A:1279:C:O4'	2.16	0.45
1:A:1610:G:H5"	55:CB:107:LYS:HB2	1.98	0.45
2:B:16:A:O2'	29:CA:45:LYS:HE2	2.16	0.45
2:B:215:G:H5"	30:DA:12:ARG:HG3	1.99	0.45
2:B:308:A:H5"	40:NA:80:PHE:CD1	2.50	0.45
2:B:988:U:H2'	2:B:989:A:O4'	2.17	0.45
2:B:1129:A:O2'	2:B:1130:A:H5'	2.17	0.45
2:B:1755:C:H2'	2:B:1756:C:O4'	2.16	0.45
2:B:1786:G:H2'	2:B:1787:A:O4'	2.17	0.45
2:B:1825:G:H5"	42:PA:48:SER:HB2	1.98	0.45
2:B:2079:G:H2'	2:B:2080:C:O4'	2.16	0.45
2:B:2601:A:H2'	2:B:2602:G:H8	1.82	0.45
2:B:2804:A:C3'	2:B:2805:G:H5"	2.47	0.45
2:B:2852:C:O2'	14:N:67:ALA:HB2	2.17	0.45
4:D:39:C:O2'	15:O:43:GLN:HB3	2.17	0.45
6:F:79:ASN:HD21	6:F:165:VAL:HG22	1.82	0.45
7:G:161:LEU:HD21	7:G:180:GLU:HG2	1.98	0.45
8:H:181:VAL:HG12	8:H:182:LEU:N	2.30	0.45
9:I:243:ALA:O	9:I:247:ILE:HG13	2.17	0.45
11:K:115:THR:HG22	11:K:204:PRO:HA	1.98	0.45
12:L:133:LYS:HB2	12:L:199:ALA:CB	2.47	0.45
17:Q:148:ALA:O	17:Q:149:GLN:C	2.54	0.45
18:R:45:LEU:HD11	18:R:55:ARG:HD2	1.98	0.45
19:S:162:ARG:CB	19:S:162:ARG:NH1	2.80	0.45
20:T:22:VAL:O	20:T:26:GLN:HG2	2.15	0.45
20:T:89:SER:O	20:T:95:GLY:HA3	2.17	0.45
26:Z:97:SER:HA	26:Z:103:TYR:HA	1.99	0.45
28:BA:28:ILE:HD12	28:BA:28:ILE:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DA:23:PRO:HG2	30:DA:26:GLN:HB2	1.99	0.45
30:DA:97:ILE:O	30:DA:99:LEU:HG	2.17	0.45
38:LA:74:ARG:HG2	38:LA:74:ARG:NH1	2.32	0.45
50:XA:53:THR:HA	50:XA:161:PRO:HG2	1.98	0.45
50:XA:195:TRP:CD2	50:XA:197:ILE:HD11	2.51	0.45
52:ZA:58:LEU:HA	71:SB:12:TYR:HE1	1.81	0.45
57:EB:63:PRO:O	57:EB:64:VAL:CB	2.64	0.45
65:MB:41:VAL:HG13	65:MB:84:ILE:HG13	1.98	0.45
68:PB:61:LEU:HA	68:PB:65:GLU:OE1	2.16	0.45
69:QB:77:ASN:HB3	69:QB:95:ASP:CB	2.46	0.45
75:WB:68:ARG:HH11	75:WB:68:ARG:HG3	1.82	0.45
82:DC:25:ILE:HG23	82:DC:142:VAL:HG12	1.98	0.45
82:DC:243:ARG:CZ	82:DC:257:TRP:HB2	2.46	0.45
82:DC:374:PRO:HA	82:DC:450:ALA:HB3	1.98	0.45
82:DC:646:VAL:HG12	82:DC:688:ILE:HD11	1.97	0.45
82:DC:727:PRO:HB2	82:DC:774:VAL:CG1	2.46	0.45
1:A:319:U:H4'	1:A:323:A:N9	2.32	0.45
1:A:425:A:H5'	1:A:425:A:H8	1.82	0.45
1:A:478:A:C4'	59:GB:127:VAL:HG21	2.46	0.45
1:A:777:C:H2'	1:A:778:G:H5"	1.99	0.45
1:A:816:G:H2'	1:A:816:G:N3	2.32	0.45
1:A:1175:U:H3	1:A:1464:G:H1	1.64	0.45
1:A:1179:G:H2'	1:A:1180:C:O4'	2.17	0.45
1:A:1273:G:N7	1:A:1431:C:H5"	2.32	0.45
1:A:1276:U:O2'	1:A:1277:G:H5'	2.17	0.45
1:A:1529:C:H1'	69:QB:12:GLN:OE1	2.17	0.45
1:A:1721:A:O2'	56:DB:64:LYS:HE3	2.17	0.45
2:B:62:A:C2'	2:B:63:A:H5'	2.47	0.45
2:B:107:A:H2'	2:B:108:A:O4'	2.16	0.45
2:B:110:G:H5"	17:Q:91:ARG:HE	1.81	0.45
2:B:718:G:H3'	2:B:719:U:C5'	2.46	0.45
2:B:1460:A:H5'	35:IA:51:LEU:O	2.17	0.45
2:B:1768:U:H2'	2:B:1769:G:O4'	2.16	0.45
2:B:2651:G:C4	2:B:2796:G:C2	3.04	0.45
2:B:2921:U:H2'	2:B:2923:U:H5"	1.98	0.45
2:B:2943:G:C8	7:G:2:SER:HB3	2.51	0.45
2:B:3107:U:H2'	2:B:3108:G:H8	1.79	0.45
2:B:3110:C:H41	2:B:3120:C:C4'	2.28	0.45
2:B:3111:U:H2'	2:B:3112:G:C5'	2.45	0.45
2:B:3213:A:H2'	2:B:3214:U:O4'	2.16	0.45
3:C:66:A:H5'	39:MA:10:ARG:HH22	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:49:VAL:HG22	6:F:50:HIS:N	2.31	0.45
7:G:169:THR:HG22	7:G:171:LEU:H	1.81	0.45
7:G:221:THR:HG22	7:G:222:LYS:N	2.31	0.45
7:G:232:ARG:HH11	7:G:268:GLY:CA	2.29	0.45
9:I:30:TYR:HA	9:I:33:ARG:HB3	1.98	0.45
11:K:83:LEU:HD12	11:K:139:PRO:HG2	1.98	0.45
15:O:101:ASN:HB3	15:O:130:VAL:HA	1.98	0.45
17:Q:124:ILE:HD11	39:MA:120:ALA:H	1.82	0.45
20:T:168:TYR:O	20:T:172:ARG:N	2.49	0.45
21:U:36:ILE:HD12	21:U:36:ILE:HA	1.77	0.45
31:EA:14:VAL:HG11	38:LA:86:LYS:HG3	1.97	0.45
32:FA:64:GLN:HE21	32:FA:64:GLN:H	1.64	0.45
34:HA:70:PHE:HE2	34:HA:77:LEU:HA	1.81	0.45
34:HA:87:VAL:O	34:HA:87:VAL:HG13	2.17	0.45
35:IA:105:GLN:O	35:IA:107:VAL:HG23	2.15	0.45
44:RA:92:ASP:O	44:RA:93:LYS:HG2	2.16	0.45
44:RA:124:LYS:O	44:RA:125:LYS:C	2.55	0.45
47:UA:46:THR:HB	47:UA:58:SER:HB2	1.99	0.45
50:XA:63:ILE:CG1	71:SB:36:VAL:HG22	2.35	0.45
52:ZA:148:LEU:HD12	59:GB:90:LYS:NZ	2.32	0.45
52:ZA:168:ARG:O	52:ZA:198:THR:HA	2.17	0.45
53:AB:217:ILE:HG22	53:AB:218:LEU:N	2.29	0.45
54:BB:246:LEU:HD12	54:BB:246:LEU:N	2.32	0.45
58:FB:55:TYR:HB2	58:FB:176:SER:O	2.17	0.45
59:GB:153:GLU:HA	59:GB:156:ILE:CD1	2.46	0.45
61:IB:27:THR:CG2	61:IB:29:LYS:HG2	2.47	0.45
61:IB:33:ARG:NH1	61:IB:52:SER:H	2.15	0.45
63:KB:84:ILE:HB	63:KB:88:LEU:CD1	2.43	0.45
66:NB:93:HIS:HB3	66:NB:102:LYS:HB2	1.98	0.45
70:RB:87:HIS:HB3	70:RB:89:ARG:NH1	2.32	0.45
72:TB:53:ILE:HD11	77:YB:25:VAL:CG2	2.47	0.45
79:AC:21:CYS:HA	79:AC:30:LEU:HD21	1.99	0.45
79:AC:46:LYS:HA	79:AC:49:ASP:HB2	1.98	0.45
80:BC:29:LYS:HB3	80:BC:30:PRO:HD2	1.98	0.45
82:DC:44:GLY:HA2	82:DC:77:LEU:CD1	2.47	0.45
82:DC:141:THR:HG23	82:DC:793:PHE:CZ	2.51	0.45
82:DC:143:LEU:HD21	82:DC:189:VAL:HG23	1.98	0.45
82:DC:630:ALA:HA	82:DC:633:ILE:HG23	1.97	0.45
1:A:58:U:O2'	1:A:451:A:H1'	2.17	0.45
1:A:472:U:H2'	1:A:473:A:H8	1.81	0.45
1:A:524:U:H1'	1:A:527:A:N7	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:941:A:H2'	1:A:942:G:H5'	1.98	0.45
1:A:1639:C:C2'	1:A:1640:C:H5'	2.46	0.45
1:A:1735:U:H2'	1:A:1736:G:C1'	2.47	0.45
1:A:1763:A:H5"	1:A:1771:U:H4'	1.98	0.45
2:B:429:U:H2'	2:B:430:U:H6	1.82	0.45
2:B:500:C:O2'	2:B:501:A:H5'	2.17	0.45
2:B:525:C:OP1	18:R:77:ARG:HG2	2.16	0.45
2:B:979:U:C6	2:B:979:U:C3'	2.99	0.45
2:B:1069:C:O2'	2:B:1070:U:H5'	2.16	0.45
2:B:1281:G:H21	48:VA:83:ASN:HD21	1.65	0.45
2:B:1472:U:H2'	2:B:1473:G:C8	2.52	0.45
2:B:1509:A:H2'	2:B:1510:G:C8	2.52	0.45
2:B:1633:C:C5	31:EA:17:ARG:NH1	2.84	0.45
2:B:2854:U:H2'	2:B:2855:U:C6	2.51	0.45
2:B:3005:A:H5"	20:T:149:TYR:OH	2.17	0.45
6:F:55:GLY:C	6:F:130:SER:HG	2.20	0.45
6:F:65:ASP:HB2	6:F:72:ARG:HE	1.81	0.45
7:G:218:ILE:HG12	7:G:276:THR:HG23	1.99	0.45
10:J:20:LYS:HA	10:J:20:LYS:HZ2	1.78	0.45
12:L:107:GLU:HG2	12:L:111:LYS:HE2	1.97	0.45
12:L:118:GLU:C	12:L:120:LYS:H	2.19	0.45
12:L:203:VAL:HG22	12:L:204:ARG:H	1.82	0.45
15:O:29:ARG:HD3	15:O:123:PHE:HE1	1.81	0.45
17:Q:76:THR:OG1	17:Q:79:GLU:HG3	2.17	0.45
21:U:27:LYS:HG2	21:U:63:PHE:CD1	2.51	0.45
21:U:30:ARG:HA	21:U:119:VAL:HG11	1.98	0.45
24:X:132:THR:C	24:X:134:ASP:N	2.69	0.45
30:DA:51:ARG:O	30:DA:54:ASP:OD2	2.35	0.45
34:HA:42:ILE:O	34:HA:42:ILE:HG13	2.17	0.45
34:HA:77:LEU:HD23	34:HA:87:VAL:O	2.17	0.45
35:IA:62:ARG:O	35:IA:66:GLY:HA3	2.16	0.45
43:QA:20:ASN:OD1	43:QA:20:ASN:O	2.34	0.45
49:WA:250:TYR:O	49:WA:264:SER:HA	2.16	0.45
52:ZA:116:LYS:HB2	52:ZA:131:ILE:HD12	1.98	0.45
53:AB:92:GLN:H	53:AB:92:GLN:HE21	1.63	0.45
53:AB:133:GLY:HA2	53:AB:154:ASP:O	2.17	0.45
54:BB:15:PRO:HB3	54:BB:39:ARG:NH1	2.32	0.45
54:BB:128:LYS:O	54:BB:139:VAL:HA	2.17	0.45
54:BB:181:VAL:HG21	54:BB:195:ILE:CD1	2.44	0.45
55:CB:98:MET:HB2	55:CB:103:ASN:O	2.17	0.45
59:GB:109:LEU:CG	59:GB:146:PHE:HB3	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:HB:7:ASP:HA	60:HB:10:LYS:HD2	1.99	0.45
67:OB:25:THR:H	67:OB:31:ASN:HD21	1.65	0.45
72:TB:11:LEU:HB3	72:TB:72:CYS:SG	2.57	0.45
74:VB:12:VAL:HA	74:VB:23:PHE:HB3	1.99	0.45
79:AC:19:ARG:HG3	79:AC:19:ARG:O	2.17	0.45
82:DC:443:GLU:HA	82:DC:444:PRO:HD3	1.75	0.45
82:DC:463:LEU:HD11	82:DC:466:THR:O	2.17	0.45
82:DC:578:LYS:HE2	82:DC:582:LYS:CG	2.47	0.45
83:EC:6862:G:N2	83:EC:6863:C:H41	2.15	0.45
1:A:472:U:H5"	59:GB:11:THR:HG23	1.98	0.45
1:A:860:U:H4'	57:EB:114:ARG:HB3	1.98	0.45
1:A:1104:U:O2'	1:A:1105:C:H5'	2.17	0.45
1:A:1419:G:H1'	79:AC:55:PHE:O	2.17	0.45
1:A:1610:G:C5'	55:CB:107:LYS:HB2	2.47	0.45
2:B:576:C:H2'	2:B:577:C:C6	2.51	0.45
2:B:676:G:N2	22:V:61:PRO:HG3	2.32	0.45
2:B:758:C:C2'	2:B:759:U:H5'	2.47	0.45
2:B:822:G:O2'	2:B:823:C:H5'	2.17	0.45
2:B:1263:A:C6	16:P:136:ALA:HB2	2.52	0.45
2:B:1717:U:H2'	2:B:1718:G:H8	1.80	0.45
2:B:2113:A:N7	2:B:2114:C:C4	2.85	0.45
2:B:2846:U:O2	2:B:2846:U:O4'	2.33	0.45
2:B:2958:A:H2'	2:B:2959:C:C6	2.52	0.45
2:B:3176:G:OP1	37:KA:6:ARG:HB2	2.17	0.45
5:E:196:LYS:HB3	5:E:200:ASN:OD1	2.16	0.45
7:G:116:ARG:O	7:G:175:LYS:HE2	2.17	0.45
7:G:162:VAL:O	7:G:163:HIS:HB3	2.17	0.45
7:G:305:ILE:HG12	7:G:321:PHE:CZ	2.52	0.45
11:K:164:SER:O	11:K:165:ASP:HB2	2.17	0.45
12:L:41:GLN:HG3	12:L:44:ARG:HH12	1.82	0.45
12:L:139:VAL:O	12:L:142:LEU:HB2	2.17	0.45
13:M:94:TYR:HB3	13:M:99:ILE:HG13	1.99	0.45
13:M:132:VAL:HG22	13:M:134:ILE:CD1	2.46	0.45
15:O:95:ASN:O	15:O:102:PHE:HB2	2.17	0.45
15:O:143:ARG:HG2	15:O:144:CYS:N	2.32	0.45
16:P:114:ARG:CG	16:P:129:THR:HG23	2.46	0.45
17:Q:56:PRO:HG3	17:Q:74:GLY:O	2.17	0.45
18:R:74:ARG:HH11	18:R:74:ARG:CB	2.26	0.45
19:S:88:GLY:HA3	46:TA:50:PHE:CE2	2.52	0.45
20:T:34:VAL:HG23	20:T:34:VAL:O	2.16	0.45
21:U:48:LEU:HD22	21:U:88:VAL:HG13	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:14:MET:SD	25:Y:58:GLN:HG2	2.57	0.45
30:DA:36:SER:O	30:DA:37:LYS:C	2.55	0.45
32:FA:9:ARG:NH1	32:FA:12:ARG:HH12	2.15	0.45
32:FA:79:TRP:CD1	32:FA:119:PRO:HD2	2.52	0.45
34:HA:66:LYS:HE3	34:HA:66:LYS:CA	2.46	0.45
34:HA:86:ARG:NE	47:UA:44:LYS:HG2	2.32	0.45
37:KA:71:VAL:HG13	37:KA:81:VAL:HB	1.99	0.45
40:NA:86:LYS:O	40:NA:89:GLU:HB3	2.16	0.45
42:PA:20:VAL:CG1	42:PA:45:VAL:HB	2.46	0.45
48:VA:108:PRO:CA	48:VA:179:SER:HB3	2.47	0.45
49:WA:115:ILE:HG23	49:WA:115:ILE:O	2.17	0.45
50:XA:17:LEU:HA	50:XA:172:LEU:CD2	2.46	0.45
50:XA:71:GLU:O	50:XA:96:THR:HG22	2.15	0.45
53:AB:202:LEU:H	53:AB:202:LEU:HD22	1.81	0.45
55:CB:146:THR:OG1	55:CB:220:VAL:HG12	2.17	0.45
59:GB:49:LEU:HD11	59:GB:53:ARG:HD3	1.99	0.45
59:GB:96:VAL:CA	59:GB:99:LEU:HD13	2.46	0.45
60:HB:68:LEU:HD11	60:HB:72:GLY:HA3	1.98	0.45
63:KB:102:LEU:HD11	63:KB:112:LYS:HA	1.99	0.45
65:MB:43:ARG:HH12	65:MB:47:ARG:HD3	1.82	0.45
67:OB:53:TYR:O	67:OB:57:LEU:HG	2.16	0.45
69:QB:28:LEU:H	69:QB:28:LEU:CD1	2.26	0.45
70:RB:94:GLU:O	70:RB:95:ALA:HB2	2.17	0.45
75:WB:66:VAL:HG13	75:WB:72:GLY:HA2	1.99	0.45
82:DC:653:VAL:CG2	82:DC:691:VAL:HB	2.45	0.45
1:A:205:U:O2'	1:A:206:A:H5'	2.17	0.45
1:A:398:G:OP1	58:FB:49:ARG:HD2	2.17	0.45
1:A:524:U:N3	1:A:526:A:H3'	2.31	0.45
1:A:1269:U:O2	1:A:1269:U:H2'	2.16	0.45
2:B:20:A:C6	2:B:21:G:O6	2.70	0.45
2:B:83:U:H4'	2:B:700:C:O2'	2.17	0.45
2:B:692:A:C2'	2:B:693:A:H5'	2.47	0.45
2:B:982:C:O2'	2:B:983:A:H5'	2.16	0.45
2:B:986:U:C2'	2:B:987:U:H5'	2.47	0.45
2:B:1369:A:C2'	2:B:1370:G:H5'	2.47	0.45
2:B:1498:A:H1'	2:B:1602:A:H2	1.82	0.45
2:B:1635:G:N2	2:B:1638:A:OP2	2.40	0.45
2:B:1954:G:H2'	2:B:1955:U:O4'	2.17	0.45
2:B:2220:A:H2'	2:B:2221:G:O4'	2.17	0.45
2:B:2682:C:O2'	2:B:2683:U:H5'	2.17	0.45
2:B:2697:A:H2'	2:B:2698:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2916:U:C2	2:B:2935:U:C4	3.05	0.45
4:D:33:U:H2'	4:D:34:C:O4'	2.16	0.45
5:E:149:THR:C	5:E:151:VAL:H	2.19	0.45
6:F:136:ILE:O	6:F:136:ILE:HG22	2.17	0.45
6:F:225:ILE:HG21	6:F:234:LYS:HA	1.99	0.45
9:I:60:ILE:HG22	9:I:61:ILE:N	2.32	0.45
10:J:58:LEU:HD21	10:J:101:PHE:O	2.17	0.45
11:K:239:LEU:HD13	11:K:239:LEU:O	2.17	0.45
12:L:78:PHE:O	12:L:79:GLN:CG	2.65	0.45
12:L:94:PHE:CZ	12:L:152:LEU:HD11	2.52	0.45
14:N:182:LEU:HD22	14:N:185:ARG:HH11	1.82	0.45
15:O:51:ARG:O	15:O:61:ARG:HG3	2.17	0.45
17:Q:65:TYR:C	17:Q:67:ARG:H	2.21	0.45
22:V:165:ILE:HD13	22:V:173:GLU:OE2	2.17	0.45
25:Y:9:SER:O	25:Y:55:LYS:CE	2.65	0.45
28:BA:6:ASP:OD2	28:BA:9:SER:N	2.49	0.45
31:EA:84:ARG:HG3	31:EA:85:TYR:N	2.32	0.45
32:FA:77:LYS:O	32:FA:79:TRP:N	2.50	0.45
37:KA:16:TYR:O	37:KA:18:ARG:HG2	2.16	0.45
39:MA:85:THR:HG22	39:MA:86:ARG:N	2.30	0.45
48:VA:62:ALA:HA	48:VA:77:LEU:HD11	1.98	0.45
48:VA:97:LYS:O	48:VA:100:ILE:HG12	2.17	0.45
48:VA:172:LEU:HD12	48:VA:176:LEU:HD11	1.98	0.45
50:XA:129:ASP:C	50:XA:131:GLN:N	2.70	0.45
53:AB:124:ARG:O	53:AB:128:GLU:HB2	2.17	0.45
54:BB:49:ARG:HD2	54:BB:61:VAL:CG2	2.47	0.45
55:CB:50:GLU:HB2	55:CB:51:VAL:H	1.63	0.45
55:CB:117:THR:HG21	55:CB:194:LEU:CD1	2.44	0.45
56:DB:68:LEU:H	56:DB:100:ALA:HB3	1.82	0.45
58:FB:121:LEU:HG	58:FB:157:GLU:CG	2.46	0.45
58:FB:138:ASN:HA	58:FB:141:ARG:HE	1.82	0.45
70:RB:69:LYS:HG3	70:RB:78:THR:HB	1.99	0.45
73:UB:53:VAL:O	73:UB:99:ASN:HA	2.16	0.45
82:DC:223:ARG:HG3	82:DC:241:MET:CE	2.46	0.45
82:DC:405:VAL:HG12	82:DC:448:CYS:CB	2.36	0.45
82:DC:660:LYS:O	82:DC:664:VAL:HG23	2.17	0.45
1:A:5:U:H2'	1:A:6:G:C8	2.52	0.44
1:A:11:A:C2'	1:A:12:U:H5'	2.47	0.44
1:A:29:U:H2'	1:A:30:G:C8	2.52	0.44
1:A:155:U:H4'	56:DB:59:GLN:N	2.32	0.44
1:A:350:U:O2	1:A:970:A:H2	2.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:C:H4'	54:BB:28:ALA:C	2.37	0.44
1:A:541:A:O2'	1:A:542:A:H4'	2.17	0.44
1:A:1104:U:P	73:UB:6:PRO:HB3	2.57	0.44
1:A:1280:C:H2'	1:A:1281:G:H8	1.83	0.44
1:A:1448:G:H5'	1:A:1448:G:C8	2.53	0.44
1:A:1639:C:H2'	1:A:1640:C:H5'	1.99	0.44
2:B:284:A:OP2	46:TA:41:ARG:NE	2.51	0.44
2:B:741:U:H2'	2:B:742:G:O4'	2.17	0.44
2:B:960:U:O2'	2:B:961:C:H5'	2.17	0.44
2:B:1137:C:H2'	2:B:1138:U:C6	2.52	0.44
2:B:1164:G:H2'	2:B:1165:A:H8	1.81	0.44
2:B:1628:C:H5"	2:B:1629:U:O2'	2.16	0.44
2:B:1682:U:C5	26:Z:85:LYS:HG2	2.52	0.44
2:B:1908:A:H2'	2:B:1909:A:O4'	2.16	0.44
2:B:2131:A:H2'	2:B:2132:C:C5'	2.42	0.44
2:B:2298:U:HO2'	2:B:2299:A:H5'	1.79	0.44
2:B:2841:G:H1'	2:B:2847:A:H61	1.82	0.44
2:B:3312:U:C3'	2:B:3313:U:H5"	2.47	0.44
3:C:35:C:O5'	3:C:35:C:H6	2.00	0.44
3:C:129:C:H2'	3:C:130:C:C6	2.52	0.44
4:D:82:G:H2'	4:D:83:U:O4'	2.17	0.44
5:E:189:PHE:O	5:E:193:LEU:HB2	2.17	0.44
7:G:114:VAL:O	7:G:117:ARG:HB3	2.18	0.44
8:H:16:THR:HG22	8:H:17:ALA:N	2.32	0.44
8:H:180:LYS:HZ3	8:H:202:ARG:HB3	1.82	0.44
8:H:233:LEU:HA	8:H:233:LEU:HD23	1.67	0.44
9:I:260:PHE:HB3	9:I:264:GLN:CB	2.46	0.44
10:J:108:LYS:HB3	10:J:108:LYS:HZ3	1.82	0.44
11:K:89:ILE:HG12	11:K:134:VAL:HA	1.99	0.44
13:M:117:PHE:O	13:M:118:LEU:HB2	2.17	0.44
14:N:99:ILE:CG2	14:N:123:HIS:HB2	2.43	0.44
17:Q:24:VAL:HG11	17:Q:26:PHE:CZ	2.53	0.44
17:Q:47:ALA:HB2	39:MA:115:LYS:NZ	2.32	0.44
18:R:32:LEU:HD11	18:R:94:TRP:CD1	2.52	0.44
19:S:118:SER:HB2	19:S:131:GLU:O	2.18	0.44
20:T:47:PHE:HE2	20:T:141:LEU:HA	1.82	0.44
20:T:65:ASN:OD1	20:T:67:THR:HB	2.16	0.44
21:U:120:ASN:H	21:U:120:ASN:HD22	1.63	0.44
22:V:83:VAL:HG12	22:V:85:GLY:N	2.24	0.44
24:X:75:PHE:HB2	24:X:94:ILE:O	2.17	0.44
25:Y:108:ARG:NE	25:Y:130:ARG:HE	2.14	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AA:54:LEU:HA	27:AA:78:VAL:CG1	2.46	0.44
32:FA:75:LEU:O	32:FA:76:ASP:C	2.55	0.44
36:JA:64:LYS:O	36:JA:65:PHE:HB2	2.17	0.44
37:KA:8:TYR:CE2	37:KA:99:ARG:HG2	2.52	0.44
39:MA:100:VAL:HG22	39:MA:101:THR:N	2.32	0.44
48:VA:133:THR:OG1	48:VA:150:ILE:HD11	2.17	0.44
49:WA:228:LYS:C	53:AB:222:VAL:HG21	2.37	0.44
50:XA:191:ARG:HD2	50:XA:191:ARG:HA	1.78	0.44
55:CB:48:PHE:CD1	55:CB:67:PRO:HA	2.52	0.44
60:HB:46:LEU:HB2	60:HB:66:TYR:CZ	2.52	0.44
60:HB:94:GLU:HG3	60:HB:95:ARG:HG3	1.98	0.44
61:IB:17:PRO:C	61:IB:19:ILE:H	2.20	0.44
63:KB:45:LEU:O	63:KB:49:GLN:HB2	2.17	0.44
68:PB:88:ARG:HH21	68:PB:108:LYS:HG3	1.78	0.44
73:UB:130:VAL:HG11	73:UB:143:PRO:HD3	1.99	0.44
74:VB:76:TYR:HB2	74:VB:82:ALA:HB2	1.99	0.44
82:DC:22:MET:HE3	82:DC:338:ILE:HG12	1.98	0.44
82:DC:250:PHE:CZ	82:DC:255:LYS:HA	2.52	0.44
82:DC:351:TYR:CD1	82:DC:352:ARG:HG3	2.52	0.44
82:DC:754:VAL:HG12	82:DC:756:SER:O	2.16	0.44
82:DC:798:PHE:CE2	86:DC:903:SO1:H22	2.52	0.44
1:A:237:C:C5'	1:A:238:U:H5'	2.32	0.44
1:A:787:G:H3'	1:A:788:A:C8	2.52	0.44
1:A:833:U:H5'	1:A:834:G:H5"	1.98	0.44
1:A:1109:G:O2'	1:A:1110:G:H5'	2.17	0.44
1:A:1449:U:H2'	1:A:1450:U:C6	2.52	0.44
1:A:1544:U:H5"	68:PB:132:ARG:CD	2.48	0.44
1:A:1715:G:H8	1:A:1715:G:O5'	2.00	0.44
1:A:1727:G:H21	58:FB:32:GLN:CD	2.21	0.44
2:B:86:G:H22	2:B:98:G:H3'	1.83	0.44
2:B:492:U:H3'	2:B:493:G:H5'	1.99	0.44
2:B:968:G:H2'	2:B:969:C:C6	2.52	0.44
2:B:1447:G:N7	21:U:27:LYS:HB2	2.33	0.44
2:B:1603:A:N6	29:CA:71:THR:HG21	2.32	0.44
2:B:1725:C:H2'	2:B:1726:C:C6	2.52	0.44
2:B:2206:G:H2'	2:B:2206:G:N3	2.32	0.44
2:B:3007:U:H2'	2:B:3008:A:C8	2.52	0.44
3:C:90:U:H6	3:C:90:U:H5'	1.81	0.44
6:F:45:VAL:HG13	6:F:85:GLY:H	1.82	0.44
6:F:204:MET:HB3	6:F:208:ASP:HB3	1.99	0.44
8:H:193:LYS:HB2	8:H:193:LYS:HZ2	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:157:ALA:C	9:I:159:VAL:H	2.20	0.44
9:I:218:ARG:C	9:I:220:SER:H	2.19	0.44
10:J:67:GLY:N	10:J:68:PRO:HA	2.32	0.44
12:L:101:THR:HG23	12:L:103:ALA:HB3	1.98	0.44
16:P:111:GLU:HG3	16:P:125:LEU:HB2	1.97	0.44
17:Q:180:ARG:HG3	17:Q:184:GLU:OE2	2.17	0.44
18:R:78:THR:O	18:R:81:VAL:HB	2.17	0.44
20:T:9:ILE:HG22	20:T:10:ASP:O	2.17	0.44
23:W:11:ALA:HA	23:W:14:VAL:HG12	2.00	0.44
25:Y:63:VAL:O	25:Y:74:VAL:HA	2.18	0.44
27:AA:85:TRP:O	27:AA:92:PHE:HA	2.17	0.44
42:PA:14:LEU:O	42:PA:20:VAL:HG21	2.16	0.44
50:XA:45:VAL:HG12	50:XA:46:HIS:N	2.33	0.44
52:ZA:216:VAL:O	52:ZA:220:ASN:HB2	2.18	0.44
53:AB:7:LYS:HA	53:AB:7:LYS:CE	2.35	0.44
54:BB:23:LEU:HD22	59:GB:4:ALA:HB1	1.99	0.44
56:DB:136:LYS:HG3	56:DB:173:PRO:HB3	1.99	0.44
56:DB:211:LEU:HD22	56:DB:211:LEU:N	2.28	0.44
58:FB:140:GLU:HA	58:FB:143:TRP:CE3	2.52	0.44
60:HB:46:LEU:O	60:HB:50:THR:HG23	2.18	0.44
66:NB:39:VAL:HG12	66:NB:41:PRO:HB2	1.98	0.44
68:PB:15:LEU:HD23	68:PB:15:LEU:N	2.26	0.44
70:RB:25:THR:HB	70:RB:115:GLU:H	1.82	0.44
73:UB:103:LEU:HD12	73:UB:125:VAL:HB	1.99	0.44
80:BC:30:PRO:HG2	80:BC:35:TYR:CD2	2.51	0.44
82:DC:576:LEU:O	82:DC:576:LEU:HG	2.17	0.44
82:DC:650:THR:HG22	82:DC:690:ASP:CA	2.48	0.44
1:A:152:U:H3'	1:A:153:G:H5"	1.98	0.44
1:A:177:U:H1'	56:DB:191:ARG:HH11	1.81	0.44
1:A:403:G:H2'	1:A:403:G:N3	2.33	0.44
1:A:823:G:H5"	1:A:824:G:H8	1.83	0.44
1:A:1043:A:H61	1:A:1075:C:H42	1.65	0.44
1:A:1049:U:H4'	77:YB:70:LYS:HE3	1.99	0.44
1:A:1217:A:H4'	60:HB:44:LYS:HG3	2.00	0.44
1:A:1459:C:N4	68:PB:139:LYS:HE2	2.32	0.44
2:B:92:G:O5'	46:TA:46:LYS:HE3	2.18	0.44
2:B:217:U:O5'	2:B:217:U:H6	2.01	0.44
2:B:250:U:H5	2:B:251:G:N7	2.14	0.44
2:B:284:A:H4'	2:B:285:A:N3	2.32	0.44
2:B:364:G:OP1	8:H:60:THR:HG23	2.17	0.44
2:B:532:A:H2'	2:B:533:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:667:C:H2'	2:B:668:G:H8	1.82	0.44
2:B:1119:C:O2'	2:B:1120:A:H5'	2.17	0.44
2:B:1212:A:O2'	2:B:1213:G:H5'	2.17	0.44
2:B:1288:U:H1'	2:B:1289:G:C8	2.53	0.44
2:B:1457:U:O2'	2:B:1458:U:H5'	2.17	0.44
2:B:1595:U:C2	2:B:1596:C:C5	3.06	0.44
2:B:1649:U:H2'	2:B:1650:G:O4'	2.18	0.44
2:B:1886:A:O4'	2:B:3307:A:H5'	2.17	0.44
2:B:2270:A:O2'	2:B:2271:A:H5'	2.17	0.44
2:B:2560:C:N4	31:EA:56:LYS:HE2	2.33	0.44
2:B:2563:G:H5"	12:L:27:THR:HG23	2.00	0.44
2:B:2659:G:H4'	2:B:2751:G:O2'	2.17	0.44
2:B:2674:A:H2'	2:B:2675:C:O4'	2.16	0.44
2:B:2825:C:O5'	2:B:2825:C:H6	2.01	0.44
2:B:2907:G:O2'	2:B:2908:G:H5'	2.17	0.44
2:B:3386:G:O2'	2:B:3387:U:H5'	2.18	0.44
3:C:31:G:O2'	3:C:32:C:H5'	2.17	0.44
3:C:142:C:H2'	3:C:143:U:C6	2.53	0.44
4:D:64:A:OP1	14:N:206:LEU:HB3	2.17	0.44
5:E:94:ASN:ND2	5:E:124:LEU:HD13	2.32	0.44
6:F:209:HIS:CE1	6:F:235:ALA:HB1	2.52	0.44
8:H:359:LEU:CD2	8:H:360:LYS:HG3	2.47	0.44
12:L:143:ILE:O	12:L:173:MET:HG3	2.17	0.44
13:M:34:LEU:HD22	13:M:35:THR:H	1.81	0.44
13:M:72:LYS:C	13:M:72:LYS:HD3	2.38	0.44
13:M:138:THR:HG22	13:M:139:ASN:N	2.32	0.44
18:R:45:LEU:HD12	18:R:46:ILE:N	2.32	0.44
19:S:151:ILE:HD13	19:S:151:ILE:HA	1.74	0.44
24:X:68:HIS:C	24:X:70:THR:H	2.19	0.44
25:Y:104:GLU:O	25:Y:107:GLU:HB2	2.17	0.44
28:BA:47:ARG:HH11	28:BA:58:HIS:HB2	1.82	0.44
33:GA:24:PRO:O	33:GA:25:LYS:HB3	2.17	0.44
40:NA:70:ARG:NH1	40:NA:84:LYS:HG2	2.32	0.44
41:OA:63:ARG:O	41:OA:64:MET:HB2	2.17	0.44
49:WA:150:TRP:O	49:WA:173:GLY:HA3	2.17	0.44
50:XA:112:THR:O	50:XA:115:PHE:HB2	2.17	0.44
55:CB:27:THR:CG2	66:NB:29:ILE:H	2.29	0.44
55:CB:88:PRO:HG2	55:CB:91:GLU:CB	2.46	0.44
60:HB:33:GLU:O	60:HB:34:GLU:HB2	2.18	0.44
61:IB:72:THR:HA	61:IB:124:THR:HA	1.98	0.44
63:KB:41:ALA:HB1	63:KB:75:LEU:HG	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:MB:122:THR:O	65:MB:123:TYR:HB3	2.18	0.44
67:OB:15:ALA:O	67:OB:19:ARG:HG2	2.17	0.44
74:VB:13:ILE:HB	74:VB:22:GLN:NE2	2.33	0.44
75:WB:62:VAL:HG13	75:WB:76:ALA:HB3	1.98	0.44
75:WB:82:HIS:O	75:WB:85:LYS:HE2	2.16	0.44
80:BC:30:PRO:HG2	80:BC:35:TYR:HD2	1.82	0.44
82:DC:22:MET:HA	82:DC:124:GLY:O	2.17	0.44
82:DC:523:SER:HB2	86:DC:903:SO1:C21	2.46	0.44
82:DC:649:GLN:OE1	82:DC:687:ASN:HB3	2.17	0.44
82:DC:734:GLN:HE22	82:DC:767:THR:HB	1.81	0.44
82:DC:807:ASP:OD1	82:DC:809:LEU:HB3	2.17	0.44
1:A:27:U:O2'	1:A:28:A:H5'	2.17	0.44
1:A:109:G:O2'	1:A:110:U:H5'	2.17	0.44
1:A:297:U:O2	54:BB:33:ALA:HB1	2.17	0.44
1:A:471:A:O3'	59:GB:10:LYS:HA	2.17	0.44
1:A:520:A:H2'	1:A:521:A:O4'	2.18	0.44
1:A:867:G:H21	63:KB:87:ASP:HB3	1.81	0.44
1:A:1149:G:N3	1:A:1765:A:H1'	2.32	0.44
1:A:1211:A:H2'	1:A:1212:G:O4'	2.17	0.44
1:A:1551:U:C5	65:MB:43:ARG:NE	2.85	0.44
1:A:1741:U:H2'	1:A:1742:U:O4'	2.17	0.44
1:A:1791:A:C5'	1:A:1792:G:N2	2.80	0.44
2:B:214:G:H2'	2:B:215:G:H8	1.83	0.44
2:B:419:G:H1	3:C:4:C:N4	2.15	0.44
2:B:637:C:O2'	2:B:638:C:O4'	2.29	0.44
2:B:1096:U:H4'	2:B:1097:G:O4'	2.16	0.44
2:B:1196:C:H5"	2:B:1197:A:OP1	2.18	0.44
2:B:1448:U:C5	2:B:2355:G:N2	2.85	0.44
2:B:1803:C:H2'	2:B:1804:A:H8	1.83	0.44
2:B:2734:A:O2'	2:B:2735:U:H5'	2.17	0.44
2:B:3016:A:H2'	2:B:3017:A:C8	2.53	0.44
2:B:3038:U:H2'	2:B:3039:C:O4'	2.17	0.44
2:B:3065:G:H2'	2:B:3066:U:O4'	2.18	0.44
2:B:3072:C:H2'	2:B:3073:A:H5'	1.98	0.44
6:F:52:SER:HB3	6:F:191:LEU:CD2	2.44	0.44
6:F:117:GLU:HB2	6:F:162:ALA:HB1	1.99	0.44
8:H:361:HIS:CD2	8:H:362:ASP:H	2.34	0.44
12:L:74:THR:HG23	12:L:75:ILE:N	2.32	0.44
16:P:115:GLN:HE21	16:P:125:LEU:HD21	1.83	0.44
19:S:147:ARG:HG3	19:S:147:ARG:NH1	2.31	0.44
20:T:14:HIS:CD2	20:T:19:LEU:HD13	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:36:VAL:HB	20:T:108:ILE:HG12	1.98	0.44
21:U:31:GLU:OE2	21:U:31:GLU:HA	2.18	0.44
22:V:69:ARG:HH11	22:V:69:ARG:HG2	1.82	0.44
22:V:127:LEU:HD13	22:V:127:LEU:O	2.17	0.44
25:Y:8:ARG:HG3	25:Y:8:ARG:HH21	1.83	0.44
26:Z:99:LYS:HB2	26:Z:102:GLU:OE1	2.17	0.44
27:AA:23:MET:HB3	27:AA:98:ASN:HB2	2.00	0.44
29:CA:88:MET:SD	29:CA:120:LYS:HB2	2.57	0.44
30:DA:60:ARG:HB2	30:DA:103:LYS:HB3	2.00	0.44
35:IA:71:LEU:HD23	35:IA:71:LEU:HA	1.85	0.44
38:LA:97:GLU:C	38:LA:99:LYS:H	2.21	0.44
40:NA:11:LEU:HD22	40:NA:11:LEU:N	2.32	0.44
49:WA:128:ASP:C	49:WA:129:LYS:HG2	2.38	0.44
50:XA:119:ARG:HG2	52:ZA:40:LYS:HE2	2.00	0.44
53:AB:66:ILE:HA	53:AB:69:LEU:CG	2.45	0.44
53:AB:146:ARG:HH21	53:AB:146:ARG:HG3	1.83	0.44
54:BB:107:GLY:CA	54:BB:189:LEU:HG	2.47	0.44
55:CB:44:ASN:O	55:CB:45:LYS:HB2	2.17	0.44
58:FB:39:GLY:O	58:FB:59:ARG:HB3	2.18	0.44
59:GB:135:ALA:HB1	59:GB:139:GLN:N	2.32	0.44
61:IB:109:VAL:HA	61:IB:137:PHE:O	2.17	0.44
70:RB:24:ILE:HD12	70:RB:91:ILE:HG21	1.99	0.44
82:DC:365:ASN:HD21	82:DC:472:SER:HB3	1.82	0.44
82:DC:598:SER:OG	82:DC:683:SER:HA	2.18	0.44
82:DC:760:ARG:NH1	82:DC:763:THR:OG1	2.51	0.44
1:A:52:U:H2'	1:A:53:G:H8	1.82	0.44
1:A:427:C:H2'	1:A:428:A:O4'	2.18	0.44
1:A:603:U:H2'	1:A:604:A:H8	1.82	0.44
1:A:762:A:H2'	1:A:763:G:O4'	2.17	0.44
1:A:901:G:C2'	1:A:902:G:H5'	2.40	0.44
1:A:1371:A:C2	1:A:1373:C:H5"	2.52	0.44
1:A:1489:U:H2'	1:A:1514:U:O4	2.18	0.44
1:A:1524:A:H2'	1:A:1525:A:H8	1.72	0.44
1:A:1731:A:H2'	1:A:1732:A:O4'	2.17	0.44
1:A:1791:A:H5'	1:A:1792:G:N2	2.33	0.44
2:B:22:G:C2'	2:B:23:A:H5'	2.47	0.44
2:B:35:A:O2'	2:B:36:C:H5'	2.16	0.44
2:B:417:A:H2'	2:B:418:A:C8	2.53	0.44
2:B:649:A:H2'	2:B:650:C:C6	2.53	0.44
2:B:676:G:H22	22:V:61:PRO:HG3	1.83	0.44
2:B:772:U:O2'	2:B:773:G:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:852:U:H2'	2:B:853:G:H8	1.83	0.44
2:B:941:G:C2'	2:B:942:U:H5'	2.47	0.44
2:B:1245:A:C3'	2:B:1246:G:C5'	2.94	0.44
2:B:1249:G:H2'	2:B:1250:G:H8	1.78	0.44
2:B:1315:U:C6	20:T:44:SER:HB2	2.51	0.44
2:B:1321:G:O2'	2:B:1322:U:H5'	2.17	0.44
2:B:1448:U:H4'	21:U:66:SER:HB2	2.00	0.44
2:B:1849:C:H5'	2:B:1849:C:C6	2.43	0.44
2:B:2157:G:N3	6:F:126:LEU:HD22	2.33	0.44
2:B:2392:C:H1'	7:G:266:ARG:NH2	2.33	0.44
2:B:2746:A:C6	9:I:148:ILE:HD12	2.52	0.44
2:B:3058:U:H3'	2:B:3058:U:O2	2.17	0.44
3:C:34:U:H5'	41:OA:78:PHE:CZ	2.52	0.44
3:C:63:G:O2'	39:MA:49:LYS:HE3	2.16	0.44
3:C:103:G:C6	3:C:105:A:C6	3.05	0.44
4:D:90:U:H2'	4:D:91:G:O4'	2.17	0.44
7:G:56:ILE:HD13	7:G:76:VAL:CG2	2.48	0.44
7:G:305:ILE:HD12	7:G:305:ILE:N	2.32	0.44
8:H:299:ILE:HG23	8:H:300:ARG:O	2.18	0.44
8:H:330:TYR:CD1	8:H:333:VAL:HG11	2.52	0.44
9:I:11:ALA:O	9:I:14:SER:HB3	2.17	0.44
9:I:247:ILE:O	9:I:251:PRO:HD3	2.18	0.44
10:J:85:ILE:HA	37:KA:107:ILE:OXT	2.17	0.44
14:N:197:VAL:HG22	14:N:198:LYS:H	1.82	0.44
15:O:94:ARG:H	15:O:94:ARG:CD	2.26	0.44
17:Q:77:LEU:N	17:Q:77:LEU:HD23	2.32	0.44
17:Q:99:HIS:CE1	17:Q:100:ARG:HB3	2.53	0.44
19:S:38:ARG:HH11	19:S:38:ARG:HG3	1.83	0.44
19:S:177:GLY:O	19:S:184:LYS:HE2	2.17	0.44
22:V:7:SER:HB2	22:V:11:LYS:HZ1	1.82	0.44
31:EA:14:VAL:C	31:EA:19:ALA:HB1	2.37	0.44
35:IA:55:LEU:HD11	35:IA:59:ILE:HD11	1.99	0.44
36:JA:105:ARG:HD3	36:JA:124:GLY:O	2.18	0.44
38:LA:5:VAL:HG22	38:LA:6:THR:O	2.17	0.44
40:NA:77:LEU:HD11	40:NA:86:LYS:HE3	1.99	0.44
45:SA:17:ARG:HA	45:SA:20:VAL:HG23	2.00	0.44
49:WA:178:VAL:HG21	49:WA:213:SER:HB3	1.99	0.44
49:WA:224:ASN:HD22	49:WA:231:MET:HG2	1.82	0.44
53:AB:43:PRO:HD3	70:RB:108:ILE:HG21	1.99	0.44
54:BB:193:GLY:O	54:BB:210:ILE:HG22	2.17	0.44
54:BB:194:THR:O	54:BB:195:ILE:CG1	2.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:CB:117:THR:O	55:CB:121:ILE:HG13	2.18	0.44
56:DB:186:ARG:O	56:DB:189:HIS:HB3	2.18	0.44
57:EB:86:GLN:HG2	57:EB:87:ASP:N	2.33	0.44
58:FB:157:GLU:O	58:FB:160:PHE:HB2	2.17	0.44
71:SB:3:ASN:OD1	71:SB:9:VAL:HB	2.18	0.44
79:AC:40:ARG:O	79:AC:44:ARG:HG3	2.17	0.44
82:DC:212:GLY:HA2	82:DC:218:TRP:CH2	2.51	0.44
82:DC:719:LEU:HD21	82:DC:835:TRP:CD2	2.52	0.44
83:EC:6948:U:O2'	83:EC:6949:G:O5'	2.36	0.44
1:A:783:G:HO2'	1:A:784:C:H6	1.64	0.44
1:A:788:A:C5	54:BB:19:LEU:HD22	2.52	0.44
1:A:924:A:H2'	1:A:925:G:C8	2.53	0.44
1:A:947:U:H2'	1:A:948:G:C8	2.52	0.44
1:A:1158:C:H1'	1:A:1161:C:H41	1.82	0.44
1:A:1489:U:H6	1:A:1492:A:C2	2.35	0.44
1:A:1538:U:H3'	1:A:1538:U:OP2	2.18	0.44
2:B:707:U:C3'	2:B:708:G:H5"	2.48	0.44
2:B:708:G:H2'	2:B:710:A:N7	2.33	0.44
2:B:946:U:H2'	2:B:947:G:H8	1.82	0.44
2:B:980:A:H8	2:B:981:U:C1'	2.30	0.44
2:B:1064:A:N7	2:B:1096:U:O2	2.51	0.44
2:B:1324:U:H2'	2:B:1325:U:O4'	2.17	0.44
2:B:1810:A:H2'	2:B:1811:G:O4'	2.17	0.44
2:B:2102:U:H2'	2:B:2103:U:H6	1.78	0.44
2:B:2110:G:O2'	2:B:2111:G:H5"	2.17	0.44
2:B:2182:A:C2'	2:B:2183:A:H5'	2.48	0.44
2:B:2274:U:O2'	2:B:2275:A:H5'	2.18	0.44
2:B:2338:C:H3'	2:B:2339:C:H2'	1.99	0.44
2:B:2402:A:N6	8:H:73:ARG:HH22	2.15	0.44
2:B:2549:G:C5	12:L:33:ASN:HA	2.52	0.44
2:B:2948:C:H2'	2:B:2949:U:O4'	2.18	0.44
2:B:2958:A:H2'	2:B:2959:C:H6	1.82	0.44
4:D:91:G:H2'	4:D:92:A:C8	2.52	0.44
6:F:62:VAL:HB	6:F:73:GLU:HG2	1.99	0.44
6:F:209:HIS:CG	6:F:210:PRO:HD2	2.51	0.44
9:I:40:HIS:CD2	9:I:42:ALA:HB3	2.52	0.44
14:N:153:ARG:C	14:N:153:ARG:HE	2.20	0.44
17:Q:189:GLU:CA	17:Q:192:GLU:HG2	2.44	0.44
19:S:13:LYS:C	19:S:15:GLN:H	2.19	0.44
21:U:51:VAL:HG11	21:U:58:ILE:HG12	2.00	0.44
22:V:52:LEU:HD23	22:V:84:VAL:CG1	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:97:PRO:O	22:V:117:ALA:HB1	2.18	0.44
22:V:183:GLY:O	22:V:184:PHE:HB3	2.18	0.44
26:Z:43:VAL:O	26:Z:45:GLY:N	2.50	0.44
30:DA:118:LEU:HA	30:DA:121:ARG:NH1	2.16	0.44
31:EA:54:THR:HG23	31:EA:57:HIS:H	1.82	0.44
31:EA:54:THR:HG22	31:EA:57:HIS:CG	2.53	0.44
34:HA:84:LEU:O	34:HA:85:PHE:O	2.35	0.44
45:SA:21:ARG:O	45:SA:25:LYS:HB3	2.17	0.44
47:UA:83:ILE:O	47:UA:87:ARG:HB2	2.18	0.44
49:WA:34:LEU:HD22	49:WA:73:LEU:HG	2.00	0.44
49:WA:255:ALA:HB2	49:WA:292:LEU:HD22	1.98	0.44
52:ZA:156:THR:HB	72:TB:95:PRO:HB3	1.99	0.44
53:AB:72:LEU:HD23	60:HB:20:VAL:HG13	2.00	0.44
54:BB:52:LEU:HD13	54:BB:54:TYR:CE2	2.53	0.44
54:BB:89:VAL:HG13	54:BB:114:ILE:CD1	2.44	0.44
54:BB:191:ARG:NH2	54:BB:218:PHE:CD2	2.85	0.44
69:QB:85:SER:HB2	69:QB:91:TYR:CE2	2.53	0.44
71:SB:28:ASP:OD2	71:SB:30:ALA:HB3	2.18	0.44
71:SB:60:ARG:HA	71:SB:65:SER:HB2	1.98	0.44
78:ZB:34:GLU:O	78:ZB:35:ASP:HB3	2.17	0.44
82:DC:438:MET:HB2	82:DC:441:PHE:HB2	2.00	0.44
1:A:213:A:H2'	1:A:214:G:O4'	2.18	0.44
1:A:1402:G:H5'	67:OB:4:VAL:HG22	2.00	0.44
1:A:1404:C:H2'	1:A:1405:G:C8	2.53	0.44
1:A:1419:G:H4'	79:AC:54:LYS:HE3	2.00	0.44
1:A:1638:G:OP2	83:EC:6952:U:C5	2.71	0.44
1:A:1721:A:H2'	1:A:1722:A:C8	2.52	0.44
2:B:30:G:H4'	19:S:172:ARG:HG2	2.00	0.44
2:B:423:A:H2'	2:B:424:G:O4'	2.18	0.44
2:B:504:A:H2'	2:B:505:G:C8	2.52	0.44
2:B:514:G:H2'	2:B:515:C:O4'	2.18	0.44
2:B:692:A:H2'	2:B:693:A:O4'	2.17	0.44
2:B:709:A:H1'	2:B:2787:G:O2'	2.18	0.44
2:B:1096:U:H6	2:B:1096:U:O5'	2.00	0.44
2:B:1434:G:O2'	2:B:1435:A:H5'	2.18	0.44
2:B:1503:A:O2'	2:B:1504:A:H5'	2.18	0.44
2:B:1705:U:H3'	2:B:1705:U:H6	1.83	0.44
2:B:2685:C:O2'	2:B:2686:A:H5'	2.17	0.44
2:B:3151:U:H4'	2:B:3294:A:O4'	2.17	0.44
6:F:30:ARG:O	6:F:31:THR:C	2.56	0.44
6:F:178:PRO:HD2	47:UA:26:VAL:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:35:ASP:OD1	7:G:184:ASN:HA	2.18	0.44
10:J:60:ASP:O	10:J:61:ASN:HB2	2.18	0.44
12:L:146:LYS:HB2	12:L:173:MET:HE3	1.99	0.44
13:M:189:GLU:O	13:M:190:ASP:HB3	2.18	0.44
14:N:24:ARG:O	14:N:26:VAL:HG13	2.18	0.44
14:N:75:TYR:O	14:N:79:VAL:HG23	2.18	0.44
16:P:121:PHE:CD1	16:P:128:VAL:HG21	2.53	0.44
17:Q:47:ALA:CB	17:Q:48:PRO:CD	2.78	0.44
19:S:172:ARG:NH2	19:S:174:ILE:HD12	2.32	0.44
22:V:69:ARG:CG	22:V:69:ARG:NH1	2.78	0.44
23:W:88:ARG:HG2	23:W:88:ARG:HH11	1.82	0.44
25:Y:28:SER:HA	25:Y:31:LEU:CD1	2.47	0.44
29:CA:63:ILE:HG23	29:CA:63:ILE:O	2.17	0.44
39:MA:112:PRO:O	39:MA:113:GLN:C	2.55	0.44
43:QA:28:ARG:HA	43:QA:33:ASN:OD1	2.16	0.44
52:ZA:36:VAL:H	52:ZA:46:LYS:HE3	1.81	0.44
52:ZA:102:VAL:HG11	52:ZA:129:ILE:HA	2.00	0.44
53:AB:116:ARG:HD3	83:EC:6957:A:O3'	2.18	0.44
54:BB:64:ILE:CG1	74:VB:18:LEU:HD21	2.47	0.44
55:CB:33:VAL:HA	55:CB:45:LYS:HE2	2.00	0.44
55:CB:63:GLN:CB	55:CB:88:PRO:HA	2.43	0.44
56:DB:23:ARG:NH2	56:DB:23:ARG:HG2	2.32	0.44
68:PB:53:ASP:CB	68:PB:56:LYS:HB2	2.47	0.44
69:QB:131:ASP:O	69:QB:134:ARG:HB2	2.18	0.44
71:SB:1:MET:O	71:SB:9:VAL:HG12	2.17	0.44
72:TB:77:PRO:HD2	72:TB:79:PHE:CZ	2.53	0.44
74:VB:47:VAL:HG23	74:VB:48:TYR:CE2	2.53	0.44
82:DC:13:MET:CE	82:DC:452:ASN:HB3	2.48	0.44
82:DC:121:VAL:HB	82:DC:453:ILE:HG12	1.99	0.44
83:EC:6768:U:H2'	83:EC:6769:A:O4'	2.18	0.44
1:A:811:A:H4'	1:A:814:A:C8	2.53	0.44
1:A:1332:C:H4'	53:AB:203:PRO:HG2	2.00	0.44
1:A:1342:C:H5"	49:WA:102:ARG:NH1	2.32	0.44
2:B:45:A:N3	2:B:95:A:H2	2.16	0.44
2:B:681:U:OP1	8:H:115:HIS:HB2	2.17	0.44
2:B:1220:U:H4'	2:B:1222:G:C1'	2.41	0.44
2:B:1672:U:O2'	2:B:1673:G:H5'	2.17	0.44
2:B:2180:G:H2'	2:B:2181:C:C6	2.53	0.44
2:B:3355:U:C2'	2:B:3356:G:H5"	2.47	0.44
8:H:11:LEU:HD21	8:H:156:LEU:CA	2.48	0.44
8:H:320:ASN:HB3	8:H:323:VAL:HG12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:358:THR:HG21	25:Y:148:PRO:HD2	2.00	0.44
9:I:30:TYR:CD2	9:I:33:ARG:HD3	2.53	0.44
9:I:155:THR:HB	9:I:179:ARG:HD3	1.99	0.44
13:M:132:VAL:HG22	13:M:134:ILE:HD11	2.00	0.44
18:R:15:VAL:HG12	18:R:65:LEU:HD11	1.99	0.44
19:S:67:ARG:O	19:S:98:LEU:HD21	2.17	0.44
19:S:73:ARG:NE	19:S:92:LEU:HD21	2.32	0.44
28:BA:6:ASP:C	28:BA:8:PHE:N	2.71	0.44
30:DA:41:ALA:O	30:DA:125:LYS:HE3	2.17	0.44
31:EA:6:LYS:O	31:EA:7:ALA:O	2.36	0.44
31:EA:11:ALA:HB1	31:EA:80:LEU:HD22	2.00	0.44
41:OA:27:PHE:HA	41:OA:34:CYS:HA	2.00	0.44
42:PA:20:VAL:O	42:PA:20:VAL:HG12	2.17	0.44
49:WA:61:PHE:CE1	49:WA:97:GLY:HA2	2.53	0.44
52:ZA:111:VAL:HG12	52:ZA:190:LEU:O	2.17	0.44
53:AB:31:GLU:O	53:AB:54:ARG:HD2	2.18	0.44
61:IB:54:ILE:HG22	61:IB:55:ASP:N	2.33	0.44
66:NB:64:ASP:O	66:NB:65:ILE:HD13	2.18	0.44
68:PB:83:ALA:O	68:PB:86:LEU:HB2	2.18	0.44
72:TB:29:PRO:O	72:TB:30:SER:HB3	2.17	0.44
73:UB:62:LYS:CE	73:UB:118:PRO:HB3	2.48	0.44
73:UB:88:PRO:HD2	73:UB:124:VAL:HB	1.98	0.44
78:ZB:14:LYS:HD2	78:ZB:50:GLU:OE2	2.18	0.44
82:DC:352:ARG:HB3	82:DC:356:LEU:HD21	1.99	0.44
82:DC:570:GLU:HA	82:DC:590:ALA:O	2.18	0.44
82:DC:574:THR:HA	82:DC:589:LYS:HG3	2.00	0.44
82:DC:601:ILE:HG21	82:DC:643:PRO:HA	1.99	0.44
82:DC:693:LEU:CD2	82:DC:700:ARG:HD3	2.37	0.44
1:A:200:A:H2'	1:A:201:G:O4'	2.17	0.44
1:A:260:U:O4	58:FB:42:ARG:HA	2.17	0.44
1:A:358:U:O2'	1:A:360:A:H5"	2.18	0.44
1:A:446:A:H5"	54:BB:57:ASN:HB3	2.00	0.44
1:A:966:A:H2'	1:A:967:A:C8	2.53	0.44
1:A:1281:G:O2'	1:A:1282:U:H5'	2.17	0.44
1:A:1345:A:O2'	1:A:1346:A:H5"	2.18	0.44
1:A:1419:G:H4'	79:AC:54:LYS:CE	2.48	0.44
1:A:1483:A:C2	1:A:1607:G:H1'	2.53	0.44
1:A:1644:C:H1'	2:B:2255:A:C2	2.53	0.44
2:B:241:G:O2'	2:B:242:C:H5'	2.17	0.44
2:B:271:C:O2	40:NA:82:ARG:NH2	2.51	0.44
2:B:1007:U:H2'	2:B:1008:U:C5	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1212:A:H2'	2:B:1213:G:O4'	2.18	0.44
2:B:1359:C:O2'	2:B:1360:C:H5'	2.17	0.44
2:B:1431:G:N7	32:FA:9:ARG:NH2	2.66	0.44
2:B:2202:C:H2'	2:B:2203:U:O4'	2.18	0.44
2:B:2481:G:N7	5:E:101:LYS:HD3	2.33	0.44
2:B:2909:U:H2'	2:B:2910:A:C5'	2.47	0.44
2:B:3215:A:H8	18:R:121:MET:CE	2.31	0.44
2:B:3351:U:H2'	2:B:3352:U:H5"	1.99	0.44
2:B:3363:U:O2'	2:B:3364:C:H5'	2.17	0.44
4:D:39:C:N3	15:O:70:THR:HG23	2.33	0.44
5:E:4:ILE:HD13	5:E:4:ILE:N	2.33	0.44
6:F:179:LEU:HD23	6:F:185:ALA:HB2	2.00	0.44
7:G:43:LEU:HD12	7:G:183:LEU:HD23	1.99	0.44
7:G:89:VAL:HG22	7:G:90:VAL:N	2.32	0.44
7:G:368:GLY:H	28:BA:17:ARG:HH22	1.66	0.44
8:H:181:VAL:HG11	8:H:224:GLY:CA	2.48	0.44
9:I:144:VAL:HG13	9:I:173:VAL:HG22	2.00	0.44
9:I:256:THR:C	9:I:258:LYS:H	2.21	0.44
12:L:109:LEU:HA	12:L:112:GLU:CG	2.47	0.44
15:O:40:LEU:O	15:O:40:LEU:HD13	2.17	0.44
17:Q:124:ILE:HD11	39:MA:120:ALA:N	2.33	0.44
17:Q:144:THR:HG21	39:MA:118:ILE:HG21	1.99	0.44
20:T:37:ARG:HH11	20:T:161:LYS:HZ1	1.64	0.44
25:Y:11:THR:CA	25:Y:14:MET:HB3	2.48	0.44
27:AA:24:ASN:O	27:AA:99:ALA:HA	2.18	0.44
28:BA:46:PRO:C	28:BA:48:ARG:H	2.20	0.44
30:DA:85:VAL:O	30:DA:85:VAL:HG12	2.18	0.44
31:EA:25:ILE:HA	31:EA:43:VAL:HB	2.00	0.44
38:LA:26:PRO:C	38:LA:28:GLY:N	2.72	0.44
48:VA:16:ARG:HG3	48:VA:64:ARG:NH1	2.33	0.44
49:WA:118:LYS:O	49:WA:119:ALA:HB3	2.18	0.44
50:XA:73:VAL:HB	50:XA:95:ALA:HB1	2.00	0.44
52:ZA:148:LEU:HA	71:SB:4:ASP:HB2	1.99	0.44
53:AB:71:LEU:HB2	60:HB:20:VAL:HG21	2.00	0.44
54:BB:51:ARG:HG2	54:BB:51:ARG:NH1	2.33	0.44
54:BB:156:VAL:O	54:BB:157:ASN:HB2	2.18	0.44
57:EB:118:LEU:C	57:EB:118:LEU:HD13	2.39	0.44
58:FB:76:THR:HG22	58:FB:108:PRO:HG2	2.00	0.44
58:FB:117:TYR:CD1	58:FB:150:ALA:HB2	2.53	0.44
58:FB:199:LYS:NZ	61:IB:11:ARG:HH12	2.16	0.44
60:HB:45:ALA:O	60:HB:48:SER:HB3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:HB:59:PHE:CE2	60:HB:62:GLN:HA	2.52	0.44
61:IB:97:TYR:CD2	61:IB:97:TYR:N	2.86	0.44
63:KB:41:ALA:C	63:KB:43:LYS:H	2.21	0.44
66:NB:39:VAL:HG12	66:NB:40:GLU:N	2.33	0.44
66:NB:97:VAL:HG12	66:NB:98:ASP:N	2.33	0.44
66:NB:106:LYS:NZ	66:NB:106:LYS:HB2	2.33	0.44
69:QB:10:ALA:HB3	69:QB:13:ASP:OD2	2.17	0.44
69:QB:37:VAL:O	69:QB:46:PRO:HB3	2.18	0.44
70:RB:50:LEU:CD1	70:RB:93:LEU:HD22	2.48	0.44
72:TB:104:LEU:O	72:TB:104:LEU:HD22	2.18	0.44
73:UB:48:HIS:HB3	73:UB:104:LEU:O	2.18	0.44
82:DC:91:GLN:HE21	82:DC:347:THR:HB	1.83	0.44
82:DC:221:THR:HG23	82:DC:333:ALA:HB1	2.00	0.44
82:DC:261:ASP:O	82:DC:269:LEU:HG	2.18	0.44
82:DC:365:ASN:ND2	82:DC:475:ALA:HB2	2.33	0.44
82:DC:421:GLY:O	82:DC:422:LYS:HG3	2.18	0.44
82:DC:426:LEU:HG	82:DC:428:ILE:CD1	2.46	0.44
82:DC:676:ILE:HG22	82:DC:677:PHE:HD2	1.83	0.44
1:A:287:G:N2	1:A:288:A:H1'	2.32	0.43
1:A:499:U:H2'	1:A:500:C:O5'	2.17	0.43
1:A:531:C:C3'	1:A:532:U:H5"	2.48	0.43
1:A:803:A:C2	57:EB:104:ARG:HG3	2.53	0.43
1:A:1185:U:O5'	1:A:1186:U:H5"	2.17	0.43
1:A:1196:A:H1'	1:A:1602:C:O2'	2.17	0.43
1:A:1241:G:C5'	65:MB:77:ARG:HB2	2.48	0.43
1:A:1281:G:O2'	70:RB:75:GLY:HA2	2.18	0.43
1:A:1339:C:O2	1:A:1339:C:H2'	2.18	0.43
1:A:1479:A:H4'	69:QB:15:ILE:HD13	2.00	0.43
1:A:1572:G:H5"	1:A:1574:G:H21	1.82	0.43
1:A:1652:C:H2'	1:A:1653:C:H6	1.80	0.43
2:B:361:A:C2	2:B:928:C:O4'	2.71	0.43
2:B:524:U:OP1	18:R:77:ARG:NH2	2.44	0.43
2:B:784:A:H1'	22:V:65:SER:CB	2.48	0.43
2:B:945:C:O2'	2:B:1406:A:H1'	2.18	0.43
2:B:971:G:H2'	2:B:972:A:C8	2.52	0.43
2:B:1230:G:C4'	48:VA:33:VAL:HG13	2.47	0.43
2:B:1306:G:C6	20:T:62:THR:HA	2.53	0.43
2:B:1357:G:H2'	2:B:1358:C:C6	2.52	0.43
2:B:1629:U:O2'	2:B:1630:U:H4'	2.18	0.43
2:B:2186:U:H2'	2:B:2187:G:O4'	2.16	0.43
2:B:2960:C:O2'	2:B:2961:G:H5'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3062:G:H2'	2:B:3063:C:H5'	1.99	0.43
7:G:180:GLU:C	7:G:181:ILE:HG13	2.39	0.43
7:G:215:ILE:HG23	7:G:282:ILE:HD11	1.98	0.43
11:K:44:ILE:CG2	11:K:48:ASN:HD21	2.30	0.43
17:Q:6:ASN:HD22	22:V:164:ARG:NH1	2.15	0.43
17:Q:77:LEU:HD21	17:Q:99:HIS:HA	1.99	0.43
19:S:50:ARG:HH11	19:S:50:ARG:CB	2.31	0.43
20:T:80:PHE:HD2	20:T:104:VAL:HG11	1.83	0.43
24:X:12:ARG:O	24:X:13:ARG:C	2.56	0.43
29:CA:138:ARG:HG2	29:CA:138:ARG:NH2	2.31	0.43
30:DA:27:ARG:HG2	30:DA:78:PHE:CE1	2.53	0.43
30:DA:27:ARG:NH1	30:DA:76:LEU:HA	2.32	0.43
30:DA:95:VAL:HG13	30:DA:96:PRO:HD2	2.00	0.43
37:KA:32:ILE:HB	37:KA:35:VAL:CG2	2.48	0.43
48:VA:19:LEU:HG	48:VA:88:PHE:HZ	1.82	0.43
48:VA:101:VAL:HG13	48:VA:186:THR:HG21	2.00	0.43
50:XA:93:THR:HG22	50:XA:181:VAL:HG21	1.99	0.43
50:XA:129:ASP:C	50:XA:131:GLN:H	2.22	0.43
54:BB:11:ARG:HA	54:BB:28:ALA:HB2	2.00	0.43
54:BB:15:PRO:HB3	54:BB:39:ARG:HH12	1.82	0.43
54:BB:162:ILE:HG22	54:BB:163:ASP:H	1.83	0.43
54:BB:191:ARG:NH1	54:BB:245:LYS:HD3	2.33	0.43
55:CB:35:GLN:O	55:CB:39:GLU:HB2	2.18	0.43
55:CB:77:TYR:CE2	55:CB:87:CYS:HB2	2.53	0.43
56:DB:73:ILE:HD12	56:DB:75:LEU:HD21	1.98	0.43
56:DB:190:GLN:O	56:DB:193:LEU:HB2	2.18	0.43
57:EB:139:ARG:HB3	72:TB:51:GLU:CG	2.48	0.43
59:GB:105:LEU:O	59:GB:111:THR:HG21	2.18	0.43
63:KB:4:MET:HG3	63:KB:5:HIS:N	2.27	0.43
63:KB:5:HIS:O	63:KB:6:SER:HB3	2.18	0.43
65:MB:96:ILE:HG21	65:MB:116:LEU:O	2.18	0.43
69:QB:9:VAL:HG13	69:QB:139:THR:HG21	2.00	0.43
69:QB:40:SER:CB	69:QB:96:ALA:HA	2.48	0.43
69:QB:52:GLY:HA2	69:QB:55:TYR:CD2	2.53	0.43
70:RB:26:LEU:HD23	70:RB:114:VAL:CG2	2.48	0.43
74:VB:67:GLY:O	74:VB:68:LYS:HB2	2.18	0.43
78:ZB:41:VAL:CG1	78:ZB:64:ARG:HD3	2.48	0.43
79:AC:22:ARG:HH11	79:AC:38:ILE:HD11	1.83	0.43
82:DC:185:VAL:O	82:DC:189:VAL:HG23	2.17	0.43
82:DC:577:SER:O	82:DC:585:ARG:HA	2.19	0.43
1:A:868:G:H1'	63:KB:87:ASP:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1254:U:H2'	1:A:1255:G:O4'	2.18	0.43
1:A:1282:U:H2'	1:A:1283:U:C6	2.53	0.43
1:A:1323:C:H5'	50:XA:103:THR:HG23	1.99	0.43
1:A:1450:U:O5'	1:A:1450:U:H6	2.01	0.43
1:A:1595:U:H5	1:A:1596:C:C5	2.37	0.43
2:B:365:A:H2'	2:B:366:A:O4'	2.18	0.43
2:B:550:A:O2'	2:B:551:A:H5'	2.18	0.43
2:B:683:U:H2'	2:B:684:G:O4'	2.17	0.43
2:B:724:U:C2'	2:B:725:G:H5'	2.48	0.43
2:B:1018:G:H1'	83:EC:6925:C:H42	1.81	0.43
2:B:1360:C:H1'	8:H:307:GLN:HG3	2.00	0.43
2:B:1553:U:H4'	2:B:1554:U:H5'	1.99	0.43
2:B:1764:U:O5'	2:B:1765:U:H5"	2.18	0.43
2:B:1789:G:O2'	2:B:1790:G:H5'	2.18	0.43
2:B:1838:G:H5"	2:B:1839:A:O4'	2.18	0.43
2:B:2426:U:H2'	2:B:2427:U:C6	2.53	0.43
2:B:2513:U:O2'	2:B:2514:U:C6	2.66	0.43
2:B:2624:G:O2'	2:B:2626:A:N6	2.52	0.43
2:B:3052:G:H2'	2:B:3053:G:H8	1.82	0.43
2:B:3192:U:C2	2:B:3193:C:C5	3.06	0.43
4:D:59:U:H2'	4:D:60:G:C8	2.52	0.43
5:E:4:ILE:HD13	5:E:4:ILE:H	1.83	0.43
8:H:45:ASN:C	8:H:47:ARG:H	2.21	0.43
8:H:82:THR:HG22	8:H:85:SER:HB3	1.99	0.43
8:H:106:TRP:CE3	17:Q:22:VAL:HG11	2.53	0.43
8:H:209:TYR:HA	8:H:251:THR:OG1	2.19	0.43
9:I:136:GLU:O	9:I:137:ASP:HB3	2.18	0.43
9:I:258:LYS:O	9:I:259:LYS:CB	2.61	0.43
9:I:259:LYS:O	9:I:260:PHE:CB	2.66	0.43
9:I:284:ALA:O	9:I:288:ALA:HB2	2.17	0.43
12:L:54:GLU:O	12:L:58:VAL:HG23	2.18	0.43
18:R:109:ARG:CZ	20:T:199:TYR:CE1	3.00	0.43
23:W:20:ARG:NH1	23:W:21:LYS:HE2	2.32	0.43
23:W:23:TRP:HB3	23:W:51:VAL:CG2	2.43	0.43
31:EA:46:ILE:HD12	31:EA:47:GLU:N	2.33	0.43
31:EA:99:GLU:HG3	31:EA:100:THR:N	2.33	0.43
32:FA:74:ASN:HB3	32:FA:113:LEU:HB2	2.00	0.43
39:MA:34:GLN:HG2	39:MA:38:ARG:HH22	1.84	0.43
39:MA:54:VAL:HG12	39:MA:58:ILE:HD11	2.00	0.43
52:ZA:218:ILE:HA	52:ZA:221:THR:HG23	1.99	0.43
54:BB:15:PRO:HB2	54:BB:17:HIS:CD2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:180:LEU:CA	54:BB:194:THR:HA	2.48	0.43
55:CB:118:LEU:HD22	55:CB:129:PRO:HB2	2.00	0.43
56:DB:14:LYS:HE3	56:DB:16:PHE:CE1	2.52	0.43
56:DB:31:ARG:H	56:DB:34:GLN:HE22	1.64	0.43
59:GB:93:LEU:C	59:GB:93:LEU:HD23	2.38	0.43
60:HB:1:MET:HE3	60:HB:3:MET:HB3	2.00	0.43
61:IB:5:LEU:O	61:IB:7:VAL:N	2.51	0.43
66:NB:51:PRO:HG2	66:NB:52:LEU:HD23	2.00	0.43
67:OB:70:SER:C	67:OB:72:LYS:H	2.22	0.43
70:RB:40:ASN:O	70:RB:44:ASN:HB2	2.17	0.43
79:AC:40:ARG:HH11	79:AC:40:ARG:HG3	1.82	0.43
82:DC:25:ILE:HG23	82:DC:142:VAL:CG1	2.48	0.43
82:DC:290:ASN:O	82:DC:291:PHE:HB2	2.18	0.43
82:DC:381:TYR:HB3	82:DC:401:PHE:HE2	1.82	0.43
83:EC:6888:A:OP1	83:EC:6936:G:H5"	2.17	0.43
1:A:332:U:OP1	58:FB:31:ARG:HB2	2.18	0.43
1:A:336:G:H2'	1:A:338:C:H5	1.83	0.43
1:A:830:U:O2	1:A:830:U:O4'	2.36	0.43
1:A:1345:A:H1'	70:RB:56:VAL:HG21	2.00	0.43
1:A:1629:G:H5"	1:A:1794:A:OP2	2.19	0.43
1:A:1660:A:H5'	27:AA:67:PRO:HG2	1.99	0.43
2:B:109:A:H8	2:B:109:A:OP1	2.01	0.43
2:B:298:U:OP2	40:NA:33:ALA:HB2	2.18	0.43
2:B:422:A:C2	2:B:2363:A:H4'	2.54	0.43
2:B:451:U:H2'	2:B:452:G:H8	1.82	0.43
2:B:850:U:H2'	2:B:851:C:H6	1.82	0.43
2:B:1440:G:O2'	2:B:1441:G:H5'	2.18	0.43
2:B:1714:A:N6	2:B:1730:G:H1'	2.33	0.43
2:B:2550:U:O2	2:B:2550:U:O4'	2.36	0.43
2:B:2726:C:O2	2:B:2726:C:O5'	2.35	0.43
2:B:2746:A:H5"	9:I:178:ASN:HD21	1.83	0.43
2:B:2756:C:O4'	25:Y:49:GLN:HG2	2.18	0.43
2:B:2873:U:H5	2:B:2941:A:C2	2.36	0.43
2:B:3227:A:O2'	18:R:133:LYS:HE2	2.19	0.43
4:D:76:A:H3'	4:D:76:A:OP2	2.19	0.43
5:E:9:VAL:HB	5:E:36:VAL:O	2.19	0.43
7:G:171:LEU:CD2	7:G:333:LYS:HG2	2.49	0.43
10:J:3:ALA:O	10:J:4:GLN:HB2	2.18	0.43
11:K:85:PHE:CD1	11:K:240:VAL:HG21	2.54	0.43
11:K:235:PHE:CZ	24:X:33:ASN:HB2	2.54	0.43
15:O:112:LEU:HD23	15:O:112:LEU:N	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:62:LEU:O	16:P:73:VAL:HG12	2.17	0.43
19:S:150:TRP:CZ3	19:S:151:ILE:HG12	2.53	0.43
20:T:84:LEU:HD23	20:T:84:LEU:O	2.18	0.43
25:Y:17:ARG:O	25:Y:18:ASP:CB	2.59	0.43
29:CA:64:GLU:O	29:CA:66:PRO:HD3	2.18	0.43
29:CA:75:LYS:HD2	29:CA:123:TYR:CE1	2.49	0.43
32:FA:3:SER:HA	32:FA:6:THR:OG1	2.18	0.43
34:HA:25:LEU:HD22	34:HA:87:VAL:HG11	2.00	0.43
37:KA:29:LEU:C	37:KA:30:ILE:HD13	2.39	0.43
37:KA:58:GLU:HG3	37:KA:62:SER:C	2.38	0.43
37:KA:103:TYR:HA	37:KA:105:SER:N	2.33	0.43
39:MA:85:THR:CB	39:MA:88:LEU:HD12	2.48	0.43
42:PA:5:ILE:HG22	42:PA:6:THR:N	2.33	0.43
48:VA:97:LYS:CA	48:VA:100:ILE:HG12	2.47	0.43
49:WA:131:ILE:O	49:WA:144:LEU:HB2	2.18	0.43
49:WA:311:ARG:HG3	49:WA:311:ARG:HH11	1.82	0.43
52:ZA:139:ILE:N	52:ZA:139:ILE:HD12	2.32	0.43
54:BB:41:SER:HB2	54:BB:83:PRO:CA	2.48	0.43
54:BB:126:VAL:CG2	54:BB:155:LYS:O	2.63	0.43
55:CB:99:MET:O	55:CB:99:MET:HG3	2.18	0.43
55:CB:186:ASN:ND2	55:CB:188:LYS:HB2	2.33	0.43
57:EB:131:PHE:N	57:EB:132:PRO:HD2	2.33	0.43
57:EB:152:VAL:O	57:EB:183:PHE:HA	2.18	0.43
72:TB:90:THR:C	72:TB:92:ASN:H	2.22	0.43
75:WB:76:ALA:O	75:WB:80:LEU:HG	2.18	0.43
82:DC:159:LYS:HD3	82:DC:162:ARG:HD2	2.00	0.43
82:DC:740:VAL:O	82:DC:743:ILE:CG2	2.66	0.43
1:A:54:C:C2	1:A:55:A:C8	3.07	0.43
1:A:152:U:C2'	1:A:153:G:H5"	2.47	0.43
1:A:241:U:H5'	56:DB:216:LEU:CD1	2.49	0.43
1:A:298:C:C5'	54:BB:38:LEU:HD23	2.47	0.43
1:A:397:A:H2'	1:A:398:G:H5'	1.99	0.43
1:A:522:U:C2'	1:A:523:G:H5'	2.48	0.43
1:A:1061:A:H3'	1:A:1062:A:C2	2.53	0.43
1:A:1336:A:O2'	66:NB:123:ARG:HG2	2.18	0.43
1:A:1345:A:C1'	70:RB:56:VAL:HG21	2.49	0.43
1:A:1553:G:H2'	1:A:1555:A:OP2	2.18	0.43
1:A:1573:A:H1'	1:A:1574:G:OP2	2.18	0.43
1:A:1680:G:N2	1:A:1720:G:H2'	2.33	0.43
2:B:207:U:H2'	2:B:208:C:H6	1.82	0.43
2:B:363:G:OP2	41:OA:56:ARG:NH2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:589:A:N6	2:B:610:G:H1'	2.34	0.43
2:B:1120:A:H2'	2:B:1121:U:H6	1.82	0.43
2:B:1323:G:H4'	24:X:1:MET:CA	2.33	0.43
2:B:1334:U:H1'	11:K:208:SER:HB2	2.00	0.43
2:B:1560:G:H2'	2:B:1561:G:H8	1.83	0.43
2:B:1861:G:C5'	23:W:63:THR:HG21	2.48	0.43
2:B:1901:A:H2'	2:B:1902:G:H5'	2.00	0.43
2:B:2133:U:O4	2:B:2147:A:H2	2.01	0.43
2:B:2342:U:O2'	2:B:2343:C:H5'	2.19	0.43
2:B:2789:U:H2'	2:B:2790:A:C8	2.53	0.43
2:B:3218:A:H5'	2:B:3218:A:H8	1.83	0.43
4:D:26:C:H3'	4:D:27:A:H8	1.82	0.43
7:G:19:ARG:HG3	7:G:273:HIS:CE1	2.53	0.43
8:H:11:LEU:HD21	8:H:156:LEU:CB	2.48	0.43
14:N:51:HIS:HB3	14:N:134:ILE:HG23	2.00	0.43
14:N:75:TYR:CD2	14:N:79:VAL:HG21	2.53	0.43
16:P:102:GLY:HA3	16:P:140:GLY:N	2.32	0.43
17:Q:48:PRO:HD2	39:MA:115:LYS:HD3	1.99	0.43
17:Q:163:GLY:HA2	32:FA:139:ARG:NH2	2.34	0.43
19:S:46:ASP:HB2	19:S:50:ARG:NH2	2.33	0.43
21:U:36:ILE:HD11	21:U:44:ALA:CB	2.45	0.43
23:W:147:ALA:O	23:W:151:ARG:HG3	2.17	0.43
29:CA:62:VAL:HG12	29:CA:63:ILE:N	2.32	0.43
32:FA:32:ARG:O	32:FA:35:ALA:HB2	2.19	0.43
48:VA:108:PRO:O	48:VA:108:PRO:HG2	2.17	0.43
49:WA:91:LEU:HD23	49:WA:100:TYR:CB	2.48	0.43
49:WA:156:VAL:CG1	49:WA:157:VAL:H	2.27	0.43
52:ZA:153:SER:C	52:ZA:154:LEU:HD12	2.39	0.43
53:AB:132:LYS:HD3	53:AB:191:ASP:OD2	2.18	0.43
56:DB:3:LEU:O	56:DB:15:THR:HA	2.18	0.43
56:DB:23:ARG:HG2	56:DB:23:ARG:HH21	1.82	0.43
56:DB:63:MET:HE1	56:DB:106:LEU:HD13	2.00	0.43
57:EB:46:ILE:HD12	57:EB:60:ILE:HG12	2.00	0.43
57:EB:67:LEU:HD21	57:EB:94:ALA:HB2	1.99	0.43
60:HB:77:ARG:HG3	60:HB:82:LEU:O	2.18	0.43
66:NB:109:PHE:CB	66:NB:117:LEU:HD21	2.49	0.43
72:TB:38:LEU:HA	72:TB:41:MET:HG3	2.01	0.43
73:UB:137:LYS:O	73:UB:139:LYS:N	2.51	0.43
74:VB:13:ILE:HD12	74:VB:13:ILE:N	2.33	0.43
82:DC:182:VAL:HG12	82:DC:186:ASN:ND2	2.33	0.43
1:A:253:A:O2'	1:A:254:A:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:770:A:H3'	1:A:771:A:C5'	2.48	0.43
1:A:889:U:C2'	1:A:890:C:H4'	2.41	0.43
1:A:1392:U:H2'	1:A:1393:C:H6	1.84	0.43
2:B:107:A:O2'	2:B:324:A:N3	2.46	0.43
2:B:415:G:O2'	2:B:416:A:H5'	2.18	0.43
2:B:900:G:H2'	2:B:901:G:C8	2.53	0.43
2:B:907:G:C5	2:B:926:A:C8	3.07	0.43
2:B:1306:G:H4'	20:T:59:ARG:O	2.18	0.43
2:B:1388:U:H1'	36:JA:99:ASN:HD22	1.84	0.43
2:B:1723:A:OP1	23:W:128:LYS:HE3	2.18	0.43
2:B:1941:C:H2'	2:B:1942:U:C6	2.52	0.43
2:B:2181:C:H5"	6:F:193:ARG:CZ	2.48	0.43
2:B:2227:C:H2'	2:B:2228:A:H8	1.83	0.43
2:B:2340:U:OP1	7:G:236:LYS:HD3	2.19	0.43
2:B:2470:C:H6	2:B:2471:U:H5	1.66	0.43
2:B:2893:C:H2'	2:B:2894:C:O4'	2.19	0.43
2:B:3187:A:C2	24:X:171:PHE:HB3	2.54	0.43
2:B:3344:A:H2	2:B:3361:G:H21	1.64	0.43
3:C:24:G:O2'	3:C:25:G:H5'	2.18	0.43
3:C:152:G:H2'	3:C:153:U:O4'	2.18	0.43
4:D:10:C:N3	9:I:20:PHE:HB3	2.34	0.43
4:D:69:C:O2'	4:D:70:U:H5'	2.18	0.43
4:D:80:G:H2'	4:D:81:U:O4'	2.19	0.43
6:F:82:VAL:HA	6:F:86:GLN:OE1	2.19	0.43
6:F:177:LYS:HA	6:F:178:PRO:HD3	1.88	0.43
8:H:84:ARG:O	8:H:87:GLN:HB2	2.18	0.43
10:J:30:LEU:CD2	10:J:30:LEU:N	2.81	0.43
10:J:65:ILE:O	10:J:76:LEU:HA	2.18	0.43
12:L:238:LEU:HD22	12:L:238:LEU:N	2.34	0.43
13:M:115:ARG:C	13:M:117:PHE:H	2.22	0.43
15:O:90:GLN:HG2	15:O:170:ASP:HB2	2.00	0.43
16:P:85:LEU:CD1	16:P:106:LEU:HD22	2.46	0.43
17:Q:58:VAL:HG12	17:Q:70:ARG:O	2.18	0.43
17:Q:92:THR:HG21	39:MA:111:PHE:CB	2.41	0.43
24:X:167:ARG:HA	24:X:168:PRO:HD2	1.71	0.43
25:Y:134:GLN:HB3	25:Y:135:PRO:HD2	2.01	0.43
27:AA:87:ARG:O	27:AA:89:ASP:N	2.51	0.43
31:EA:36:HIS:NE2	31:EA:74:VAL:HG11	2.33	0.43
35:IA:40:ALA:CB	35:IA:49:VAL:HG11	2.49	0.43
38:LA:46:ASP:OD2	38:LA:80:ARG:HD2	2.18	0.43
39:MA:95:PHE:O	39:MA:99:GLN:HG2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:OA:24:ARG:O	41:OA:25:ARG:CB	2.67	0.43
43:QA:21:ARG:HH12	43:QA:24:PRO:HG3	1.79	0.43
43:QA:49:MET:HG3	43:QA:51:ILE:H	1.84	0.43
47:UA:50:GLY:O	47:UA:51:ALA:HB3	2.19	0.43
52:ZA:226:THR:OG1	52:ZA:227:PRO:HD2	2.19	0.43
53:AB:209:ILE:HG22	67:OB:38:ILE:HG13	2.00	0.43
54:BB:30:ARG:HG2	54:BB:30:ARG:NH1	2.32	0.43
54:BB:86:PHE:CE1	54:BB:87:MET:HG2	2.54	0.43
54:BB:179:LYS:O	54:BB:180:LEU:C	2.57	0.43
57:EB:16:LEU:O	57:EB:19:GLN:HB2	2.19	0.43
58:FB:46:VAL:CG2	58:FB:54:LYS:HB3	2.48	0.43
60:HB:50:THR:HG21	60:HB:57:THR:OG1	2.18	0.43
69:QB:102:ARG:O	69:QB:106:GLN:HG3	2.18	0.43
73:UB:66:SER:O	73:UB:67:ALA:HB2	2.17	0.43
73:UB:130:VAL:O	73:UB:131:SER:CB	2.65	0.43
77:YB:53:ALA:HB1	77:YB:62:ILE:HD12	2.00	0.43
82:DC:229:TYR:HB2	82:DC:240:MET:HE2	2.00	0.43
1:A:92:A:C8	1:A:93:A:H2	2.37	0.43
1:A:106:U:H2'	1:A:107:C:O4'	2.18	0.43
1:A:250:C:C2'	1:A:251:A:H5'	2.49	0.43
1:A:328:A:OP2	61:IB:56:LYS:HE2	2.18	0.43
1:A:374:U:H2'	1:A:375:U:H6	1.83	0.43
1:A:1042:G:H22	1:A:1076:A:H2	1.65	0.43
1:A:1164:G:H2'	1:A:1165:G:C8	2.51	0.43
1:A:1265:G:H2'	1:A:1266:U:C6	2.53	0.43
1:A:1341:A:H2'	1:A:1342:C:H6	1.84	0.43
1:A:1506:G:H2'	1:A:1507:G:C8	2.54	0.43
2:B:31:C:H2'	2:B:32:U:C6	2.54	0.43
2:B:138:U:O2'	2:B:139:G:H5'	2.18	0.43
2:B:189:G:O2'	2:B:190:U:H4'	2.19	0.43
2:B:388:G:H2'	2:B:389:A:O4'	2.19	0.43
2:B:504:A:O2'	8:H:315:LYS:HE2	2.18	0.43
2:B:759:U:C2'	2:B:760:G:H5'	2.49	0.43
2:B:817:A:H8	41:OA:15:SER:HG	1.63	0.43
2:B:824:C:O2'	2:B:1534:A:N3	2.45	0.43
2:B:955:U:H2'	2:B:956:U:C6	2.54	0.43
2:B:1303:A:C2	2:B:2937:G:N2	2.86	0.43
2:B:1597:C:H2'	2:B:1598:G:C8	2.54	0.43
2:B:1620:U:H2'	2:B:1621:A:C8	2.54	0.43
2:B:2662:G:H2'	2:B:2663:G:H8	1.80	0.43
2:B:3239:G:O2'	2:B:3240:C:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:66:CYS:HB2	5:E:107:TYR:HD2	1.80	0.43
7:G:86:VAL:HB	7:G:198:HIS:O	2.18	0.43
7:G:188:ILE:O	7:G:192:VAL:HG12	2.18	0.43
8:H:145:ILE:HD12	8:H:150:LEU:HD12	1.99	0.43
9:I:86:TYR:HD1	9:I:246:ALA:HB1	1.83	0.43
9:I:291:ALA:O	9:I:295:GLY:HA3	2.18	0.43
12:L:156:ASP:C	12:L:157:VAL:HG23	2.39	0.43
12:L:222:PHE:O	12:L:223:ALA:C	2.56	0.43
14:N:51:HIS:HE2	14:N:168:SER:HB2	1.84	0.43
14:N:156:ARG:NH2	14:N:164:LYS:HA	2.32	0.43
16:P:105:GLN:HA	16:P:142:ARG:CA	2.47	0.43
17:Q:35:ARG:HB2	17:Q:35:ARG:HH11	1.83	0.43
20:T:157:GLU:O	20:T:161:LYS:HG3	2.18	0.43
23:W:41:ILE:HG23	23:W:50:ILE:HD12	1.99	0.43
26:Z:100:THR:O	26:Z:101:ASN:HB2	2.18	0.43
34:HA:51:LEU:HD22	38:LA:87:GLU:CG	2.49	0.43
38:LA:80:ARG:HA	38:LA:80:ARG:HD3	1.88	0.43
48:VA:8:LYS:H	48:VA:8:LYS:CD	2.29	0.43
50:XA:98:ILE:HG21	50:XA:102:PHE:HA	2.01	0.43
53:AB:40:ARG:HG2	70:RB:110:PRO:CB	2.48	0.43
53:AB:150:MET:HB2	53:AB:152:PHE:HE2	1.82	0.43
55:CB:211:ILE:O	55:CB:215:ASP:HB2	2.18	0.43
56:DB:48:TYR:OH	56:DB:125:THR:HG21	2.19	0.43
58:FB:121:LEU:HG	58:FB:157:GLU:HG2	2.00	0.43
61:IB:64:VAL:HG12	61:IB:129:ARG:HD3	2.00	0.43
61:IB:81:HIS:O	61:IB:83:THR:HG22	2.19	0.43
63:KB:88:LEU:HD13	63:KB:88:LEU:C	2.38	0.43
68:PB:66:LEU:O	68:PB:70:VAL:HG23	2.18	0.43
70:RB:26:LEU:HD23	70:RB:114:VAL:HG22	1.99	0.43
70:RB:118:VAL:O	70:RB:119:ALA:HB3	2.18	0.43
72:TB:50:PHE:HA	72:TB:62:VAL:O	2.19	0.43
73:UB:48:HIS:CD2	73:UB:105:ALA:HB2	2.54	0.43
73:UB:54:LEU:HD11	73:UB:82:LYS:CD	2.46	0.43
74:VB:44:LEU:HA	74:VB:47:VAL:HG22	1.98	0.43
78:ZB:65:ARG:CZ	78:ZB:65:ARG:HA	2.49	0.43
79:AC:24:CYS:SG	79:AC:39:CYS:SG	3.13	0.43
83:EC:6774:U:H3'	83:EC:6775:U:H5"	2.00	0.43
1:A:454:U:H4'	54:BB:62:LYS:HE3	2.01	0.43
1:A:1340:U:H5	66:NB:9:THR:HA	1.84	0.43
1:A:1417:A:H2'	1:A:1418:G:O4'	2.19	0.43
1:A:1442:U:H2'	1:A:1443:U:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1567:U:H2'	1:A:1568:C:H5'	2.01	0.43
1:A:1617:U:C1'	78:ZB:23:GLY:HA3	2.47	0.43
2:B:74:G:H5"	17:Q:104:ARG:HE	1.83	0.43
2:B:91:G:N2	2:B:95:A:OP2	2.49	0.43
2:B:287:G:H2'	2:B:288:C:H6	1.79	0.43
2:B:972:A:O2'	2:B:973:A:H5'	2.18	0.43
2:B:1100:U:H2'	2:B:1101:G:O4'	2.19	0.43
2:B:1128:U:H5'	14:N:4:ARG:HH21	1.83	0.43
2:B:1316:C:OP2	20:T:133:ARG:HG3	2.19	0.43
2:B:1370:G:OP1	32:FA:18:GLY:HA2	2.19	0.43
2:B:1638:A:O2'	38:LA:52:GLN:NE2	2.51	0.43
2:B:1799:A:H8	2:B:1799:A:O5'	2.02	0.43
2:B:1898:G:O2'	2:B:1899:G:H5'	2.18	0.43
2:B:2319:U:H2'	2:B:2320:A:C8	2.54	0.43
2:B:2591:A:O2'	2:B:2592:G:H5'	2.19	0.43
2:B:2812:C:O2'	2:B:2813:A:H5'	2.19	0.43
3:C:93:U:H2'	3:C:94:C:O4'	2.19	0.43
4:D:107:C:H2'	4:D:108:A:H8	1.83	0.43
6:F:30:ARG:HB3	6:F:36:GLU:OE1	2.19	0.43
11:K:132:PRO:HA	11:K:229:PHE:CD1	2.53	0.43
13:M:31:ARG:HD2	13:M:81:GLY:O	2.19	0.43
14:N:31:ILE:HG23	14:N:31:ILE:O	2.19	0.43
14:N:79:VAL:HG12	14:N:147:VAL:HG13	2.01	0.43
14:N:185:ARG:HA	14:N:190:VAL:CG1	2.49	0.43
15:O:114:ILE:CG2	15:O:115:LYS:H	2.29	0.43
19:S:135:VAL:HG13	19:S:142:ILE:HG21	2.01	0.43
20:T:10:ASP:HA	20:T:36:VAL:HG23	2.01	0.43
20:T:27:LEU:HD22	20:T:98:ALA:O	2.18	0.43
25:Y:39:ILE:HD12	25:Y:102:ARG:HB2	2.01	0.43
27:AA:45:ARG:HB3	27:AA:48:ARG:HB3	2.00	0.43
30:DA:35:LEU:CD1	30:DA:45:ILE:HB	2.49	0.43
34:HA:30:THR:HG22	34:HA:91:SER:CB	2.23	0.43
34:HA:41:LEU:O	34:HA:92:ILE:N	2.50	0.43
34:HA:54:SER:HB3	38:LA:94:LEU:CD2	2.41	0.43
37:KA:47:LYS:HA	37:KA:103:TYR:O	2.17	0.43
38:LA:5:VAL:HG21	38:LA:31:ARG:C	2.39	0.43
49:WA:13:LEU:HD22	49:WA:55:GLY:H	1.82	0.43
49:WA:192:PHE:HB3	49:WA:223:TRP:CE2	2.54	0.43
50:XA:11:PRO:O	50:XA:15:GLN:HG3	2.19	0.43
52:ZA:69:ILE:C	52:ZA:69:ILE:HD12	2.39	0.43
52:ZA:117:THR:HG23	52:ZA:117:THR:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:ZA:129:ILE:HG23	52:ZA:133:LYS:HE3	2.01	0.43
54:BB:95:THR:N	74:VB:16:PRO:HB2	2.32	0.43
54:BB:181:VAL:HG13	54:BB:226:PHE:N	2.32	0.43
55:CB:36:ALA:HB1	55:CB:42:LEU:CD2	2.48	0.43
59:GB:7:THR:HG23	59:GB:7:THR:O	2.18	0.43
59:GB:32:GLY:HA3	80:BC:40:TYR:CE1	2.52	0.43
63:KB:56:ASP:HB2	77:YB:54:VAL:HG22	2.00	0.43
68:PB:14:ILE:HA	68:PB:22:VAL:O	2.17	0.43
68:PB:92:ILE:HD13	68:PB:93:THR:N	2.34	0.43
68:PB:105:VAL:O	68:PB:109:LEU:HB2	2.18	0.43
68:PB:133:VAL:O	68:PB:135:GLY:N	2.52	0.43
70:RB:63:LEU:O	70:RB:83:GLU:HA	2.19	0.43
78:ZB:9:LEU:O	78:ZB:32:PHE:CB	2.66	0.43
82:DC:17:THR:CG2	82:DC:92:LYS:HG2	2.49	0.43
82:DC:174:LEU:O	82:DC:177:THR:HB	2.18	0.43
82:DC:529:ILE:HD12	82:DC:559:PRO:HB3	2.00	0.43
82:DC:547:HIS:ND1	82:DC:547:HIS:N	2.66	0.43
1:A:879:G:H2'	1:A:880:C:O4'	2.19	0.43
1:A:1485:C:H3'	1:A:1486:G:C5'	2.48	0.43
1:A:1629:G:H5"	1:A:1794:A:P	2.59	0.43
1:A:1685:G:C3'	1:A:1686:C:H5"	2.48	0.43
1:A:1762:A:H2'	1:A:1763:A:H5'	2.00	0.43
2:B:198:A:C6	2:B:219:A:C5	3.07	0.43
2:B:257:U:C5'	17:Q:86:THR:HG21	2.49	0.43
2:B:848:A:C5	2:B:849:C:H1'	2.54	0.43
2:B:1237:G:H21	16:P:136:ALA:HA	1.83	0.43
2:B:1609:C:OP1	29:CA:125:ARG:HD2	2.19	0.43
2:B:2317:A:H2'	2:B:2318:U:C5'	2.49	0.43
2:B:2375:G:H4'	2:B:2376:G:OP1	2.17	0.43
2:B:2479:C:O3'	5:E:102:LYS:HD3	2.19	0.43
2:B:2903:A:H2'	2:B:2904:U:O4'	2.18	0.43
2:B:3007:U:H2'	2:B:3008:A:H8	1.83	0.43
2:B:3217:C:O2	2:B:3217:C:C2'	2.66	0.43
3:C:42:G:OP2	41:OA:64:MET:N	2.50	0.43
5:E:193:LEU:HD23	5:E:194:LEU:HG	2.01	0.43
6:F:70:ARG:C	6:F:71:LEU:HD12	2.39	0.43
6:F:102:LEU:HD12	6:F:102:LEU:N	2.34	0.43
7:G:57:VAL:O	7:G:58:ARG:HB3	2.19	0.43
8:H:212:ASP:OD1	8:H:216:VAL:HG22	2.18	0.43
9:I:33:ARG:NH1	9:I:33:ARG:HG3	2.34	0.43
9:I:40:HIS:HB3	9:I:43:LYS:CD	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:134:ALA:CB	9:I:141:PRO:HD3	2.46	0.43
9:I:155:THR:HB	9:I:179:ARG:CD	2.49	0.43
10:J:166:LYS:O	10:J:169:ASP:HB2	2.19	0.43
13:M:106:LYS:O	13:M:109:ALA:HB2	2.19	0.43
14:N:153:ARG:O	14:N:157:TYR:CE1	2.71	0.43
15:O:96:PHE:HB3	15:O:156:LYS:HG3	2.00	0.43
17:Q:168:ARG:HA	17:Q:168:ARG:HD2	1.84	0.43
18:R:47:ASP:OD2	18:R:48:GLY:N	2.52	0.43
19:S:57:GLN:O	19:S:142:ILE:HD11	2.18	0.43
23:W:105:LEU:CD1	23:W:135:LYS:HD2	2.46	0.43
25:Y:46:GLY:HA2	25:Y:52:MET:CE	2.49	0.43
25:Y:78:LYS:CB	25:Y:87:LYS:HD2	2.47	0.43
32:FA:62:HIS:CG	32:FA:62:HIS:O	2.71	0.43
34:HA:65:THR:HG22	34:HA:66:LYS:N	2.33	0.43
37:KA:45:LEU:HD23	37:KA:71:VAL:CG1	2.49	0.43
44:RA:93:LYS:HD2	44:RA:102:ARG:HG2	2.01	0.43
46:TA:59:HIS:O	46:TA:61:LYS:N	2.46	0.43
48:VA:121:VAL:O	48:VA:155:ASP:CA	2.58	0.43
49:WA:36:ALA:HB2	49:WA:71:CYS:HB3	2.01	0.43
49:WA:278:PHE:HB3	49:WA:281:TYR:CD1	2.53	0.43
50:XA:125:ASP:C	50:XA:127:ARG:H	2.21	0.43
52:ZA:239:PRO:C	52:ZA:241:ASP:H	2.22	0.43
53:AB:41:VAL:HG13	53:AB:41:VAL:O	2.18	0.43
54:BB:89:VAL:HG11	54:BB:119:ALA:CA	2.48	0.43
55:CB:98:MET:CA	55:CB:103:ASN:HB3	2.47	0.43
57:EB:181:ILE:CG2	57:EB:182:VAL:N	2.82	0.43
57:EB:182:VAL:HG12	57:EB:183:PHE:H	1.81	0.43
59:GB:116:LEU:O	59:GB:118:LEU:HD13	2.19	0.43
59:GB:134:ILE:H	59:GB:158:PHE:HA	1.84	0.43
59:GB:159:ALA:HB1	59:GB:160:PRO:HD2	2.00	0.43
63:KB:98:VAL:HA	63:KB:101:HIS:HB3	2.01	0.43
67:OB:58:MET:HA	67:OB:61:ILE:HD12	2.00	0.43
70:RB:22:ILE:HD11	70:RB:116:VAL:HG12	2.00	0.43
72:TB:86:ILE:HA	72:TB:89:TRP:HB2	1.99	0.43
74:VB:14:SER:O	74:VB:16:PRO:HD3	2.18	0.43
74:VB:75:VAL:HG13	74:VB:75:VAL:O	2.18	0.43
75:WB:84:GLU:CA	75:WB:89:ILE:HD11	2.49	0.43
75:WB:95:HIS:HE1	75:WB:98:GLN:HB2	1.84	0.43
82:DC:296:ILE:CB	82:DC:297:PRO:HD3	2.30	0.43
82:DC:453:ILE:N	82:DC:453:ILE:HD12	2.33	0.43
1:A:1:U:C5	59:GB:50:SER:HB3	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:14:C:OP2	52:ZA:206:THR:HG21	2.19	0.43
1:A:16:G:H2'	1:A:17:C:C6	2.53	0.43
1:A:218:A:N1	1:A:830:U:C5	2.86	0.43
1:A:320:U:H3'	1:A:321:C:H5"	1.99	0.43
1:A:450:U:O2'	1:A:451:A:H5'	2.18	0.43
1:A:531:C:H2'	1:A:532:U:H5"	1.99	0.43
1:A:958:U:OP1	77:YB:20:LYS:HD3	2.18	0.43
1:A:1082:C:C2'	1:A:1083:G:H5'	2.49	0.43
1:A:1166:A:O2'	1:A:1587:A:H4'	2.19	0.43
1:A:1639:C:H2'	1:A:1640:C:C5'	2.49	0.43
2:B:53:G:H4'	2:B:812:G:H4'	2.01	0.43
2:B:143:G:O2'	2:B:144:A:H5'	2.19	0.43
2:B:289:A:C2	19:S:93:LYS:HG3	2.53	0.43
2:B:349:A:C2	3:C:24:G:C8	3.07	0.43
2:B:355:A:H5'	43:QA:40:LYS:HD3	2.01	0.43
2:B:749:C:H2'	2:B:750:G:O4'	2.19	0.43
2:B:1411:C:H4'	36:JA:95:GLU:OE2	2.19	0.43
2:B:1419:A:N7	8:H:187:LEU:HD13	2.34	0.43
2:B:1602:A:OP1	23:W:37:SER:HA	2.18	0.43
2:B:2061:G:O2'	2:B:2062:G:H5'	2.18	0.43
2:B:2133:U:H2'	2:B:2134:G:H5'	2.00	0.43
2:B:2442:G:N2	2:B:2505:U:N3	2.60	0.43
2:B:2730:G:H2'	2:B:2731:U:C5'	2.49	0.43
2:B:2769:A:O2'	2:B:2770:G:H5'	2.18	0.43
2:B:2890:A:H61	2:B:2913:C:H42	1.65	0.43
2:B:3120:C:C5	44:RA:111:ARG:CZ	3.01	0.43
2:B:3152:U:H5'	2:B:3294:A:H5"	2.00	0.43
2:B:3283:U:H2'	2:B:3284:G:H8	1.84	0.43
3:C:21:C:OP1	8:H:193:LYS:HD2	2.19	0.43
3:C:27:U:H4'	8:H:51:ALA:HB3	2.00	0.43
3:C:145:U:H2'	3:C:146:U:O4'	2.19	0.43
3:C:152:G:C2	3:C:153:U:H1'	2.54	0.43
4:D:8:G:H2'	4:D:9:C:H6	1.82	0.43
8:H:295:ILE:C	8:H:297:SER:H	2.21	0.43
9:I:57:ASN:HD22	9:I:57:ASN:HA	1.59	0.43
12:L:42:PRO:HD2	12:L:44:ARG:HH12	1.82	0.43
16:P:114:ARG:HH22	16:P:121:PHE:HB3	1.79	0.43
17:Q:74:GLY:N	17:Q:98:ASP:HB2	2.33	0.43
18:R:7:VAL:O	18:R:8:LYS:C	2.57	0.43
18:R:15:VAL:O	24:X:149:LYS:HA	2.18	0.43
25:Y:102:ARG:O	25:Y:106:LEU:HD23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DA:5:SER:HB3	30:DA:8:VAL:CG1	2.46	0.43
32:FA:12:ARG:HG3	32:FA:12:ARG:NH1	2.33	0.43
36:JA:22:SER:HB2	36:JA:30:GLU:HA	2.01	0.43
36:JA:96:ILE:HD11	36:JA:109:LEU:HD23	2.00	0.43
43:QA:23:LEU:HB2	43:QA:38:ASN:HB2	2.00	0.43
55:CB:100:ASN:N	55:CB:103:ASN:HB2	2.33	0.43
57:EB:93:LEU:HD23	57:EB:128:ASP:HB3	2.01	0.43
60:HB:31:LYS:HD3	60:HB:36:ASP:OD1	2.19	0.43
63:KB:78:ASN:HB3	63:KB:80:LEU:HD23	2.01	0.43
66:NB:77:GLN:O	66:NB:81:ILE:HG23	2.18	0.43
82:DC:577:SER:HB2	82:DC:712:ALA:HB2	2.00	0.43
82:DC:601:ILE:CD1	82:DC:643:PRO:HA	2.46	0.43
82:DC:754:VAL:HA	82:DC:770:ALA:HA	2.01	0.43
1:A:341:A:H2'	1:A:342:C:H6	1.82	0.43
1:A:589:C:C1'	80:BC:57:ASN:HB2	2.49	0.43
1:A:1687:U:H2'	1:A:1688:U:O4'	2.19	0.43
2:B:250:U:H5"	2:B:251:G:H2'	2.01	0.43
2:B:286:U:H2'	2:B:287:G:C8	2.54	0.43
2:B:1220:U:H1'	2:B:1222:G:N3	2.33	0.43
2:B:1333:C:O5'	2:B:1333:C:H6	2.02	0.43
2:B:1471:U:H4'	23:W:3:ASN:HA	2.01	0.43
2:B:1580:A:N6	29:CA:33:ARG:HG2	2.34	0.43
2:B:2302:G:H2'	2:B:2303:A:O4'	2.18	0.43
2:B:2719:U:H2'	2:B:2720:G:H8	1.80	0.43
2:B:2732:G:H4'	2:B:2760:C:H4'	2.00	0.43
2:B:2898:G:H3'	2:B:2899:C:C5'	2.49	0.43
2:B:3187:A:H5'	13:M:22:SER:HA	2.00	0.43
2:B:3329:U:O5'	2:B:3329:U:H6	2.01	0.43
2:B:3379:C:H2'	2:B:3380:U:O4'	2.19	0.43
7:G:47:LEU:HB2	7:G:164:THR:HG23	2.01	0.43
7:G:283:TYR:OH	7:G:325:LYS:HD2	2.18	0.43
8:H:179:LEU:HD22	8:H:183:LYS:HD2	2.01	0.43
9:I:279:LYS:O	9:I:279:LYS:HD3	2.19	0.43
10:J:122:PHE:HA	10:J:123:PRO:HA	1.75	0.43
12:L:55:TYR:CD2	12:L:56:VAL:N	2.86	0.43
12:L:136:LEU:HD22	19:S:3:ALA:CB	2.49	0.43
12:L:230:LYS:NZ	40:NA:47:ILE:HA	2.33	0.43
13:M:120:ASP:C	13:M:122:LYS:H	2.22	0.43
17:Q:47:ALA:CB	39:MA:115:LYS:NZ	2.82	0.43
17:Q:164:GLU:OE1	17:Q:164:GLU:HA	2.19	0.43
19:S:30:TYR:HE2	19:S:122:ASN:ND2	2.12	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:124:LYS:HA	21:U:143:PRO:HD3	2.01	0.43
22:V:122:ILE:CD1	22:V:122:ILE:N	2.82	0.43
23:W:8:LYS:HD2	23:W:24:LEU:CD1	2.49	0.43
23:W:59:SER:C	23:W:61:SER:H	2.21	0.43
26:Z:89:LEU:CB	26:Z:93:ILE:HD12	2.48	0.43
29:CA:47:ALA:O	39:MA:77:PRO:HG3	2.18	0.43
34:HA:17:VAL:HG13	34:HA:100:ILE:HG21	2.01	0.43
34:HA:43:ILE:HG13	34:HA:90:VAL:CB	2.37	0.43
36:JA:21:HIS:ND1	36:JA:24:ARG:HD2	2.34	0.43
48:VA:52:LEU:CB	48:VA:86:PHE:HD2	2.32	0.43
49:WA:242:SER:HB3	49:WA:292:LEU:CD2	2.49	0.43
49:WA:305:TYR:HB3	49:WA:307:ASP:OD1	2.19	0.43
50:XA:71:GLU:HA	50:XA:94:GLY:O	2.19	0.43
50:XA:191:ARG:CG	50:XA:192:THR:H	2.30	0.43
54:BB:193:GLY:O	54:BB:194:THR:C	2.57	0.43
54:BB:212:ASP:OD2	54:BB:216:ASN:HB2	2.19	0.43
55:CB:79:ASN:N	55:CB:79:ASN:HD22	2.17	0.43
55:CB:189:THR:OG1	55:CB:192:GLU:HG3	2.18	0.43
58:FB:49:ARG:HG2	58:FB:49:ARG:HH11	1.83	0.43
59:GB:126:ARG:CZ	59:GB:144:PRO:HG2	2.49	0.43
60:HB:54:TYR:HB3	60:HB:72:GLY:HA2	2.01	0.43
65:MB:126:VAL:HG22	65:MB:128:HIS:HD2	1.84	0.43
66:NB:5:PRO:O	66:NB:23:LYS:HA	2.18	0.43
66:NB:99:GLU:O	66:NB:102:LYS:HB3	2.19	0.43
69:QB:131:ASP:C	69:QB:134:ARG:HB2	2.38	0.43
74:VB:41:ARG:NH2	74:VB:52:LYS:HB3	2.34	0.43
82:DC:22:MET:HE1	82:DC:338:ILE:HG12	2.01	0.43
82:DC:67:GLY:O	82:DC:68:ILE:HG23	2.19	0.43
82:DC:445:ILE:CG1	82:DC:446:ASP:N	2.79	0.43
82:DC:581:ASN:O	82:DC:582:LYS:HB2	2.18	0.43
82:DC:726:GLU:OE2	82:DC:802:SER:O	2.37	0.43
1:A:120:U:H2'	1:A:121:U:H5'	2.01	0.42
1:A:833:U:C5'	1:A:834:G:H5"	2.49	0.42
1:A:1082:C:H2'	1:A:1083:G:H5'	2.01	0.42
1:A:1107:G:H3'	1:A:1108:G:H21	1.83	0.42
1:A:1186:U:H2'	1:A:1187:U:C5'	2.48	0.42
1:A:1527:C:H5'	55:CB:106:LYS:HD3	2.00	0.42
2:B:13:A:C5'	2:B:14:U:OP2	2.63	0.42
2:B:15:C:H3'	2:B:15:C:OP1	2.19	0.42
2:B:164:A:H2'	2:B:165:A:O4'	2.18	0.42
2:B:279:U:H2'	2:B:280:U:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:303:G:H5”	2:B:304:G:C5’	2.49	0.42
2:B:404:G:C6	2:B:405:U:C2	3.06	0.42
2:B:835:G:N3	2:B:857:G:C2	2.87	0.42
2:B:1079:A:C4	9:I:113:LEU:HD21	2.54	0.42
2:B:1190:A:C5	2:B:1193:A:H1’	2.53	0.42
2:B:1349:G:N2	2:B:1350:A:H62	2.17	0.42
2:B:1819:U:H6	2:B:1819:U:H5’	1.83	0.42
2:B:1887:A:H2’	2:B:1888:U:H5’	2.00	0.42
2:B:1972:A:OP1	42:PA:64:LYS:HD3	2.19	0.42
2:B:2623:G:H2’	2:B:2624:G:O4’	2.19	0.42
2:B:2818:U:C5’	33:GA:2:ALA:HB2	2.49	0.42
2:B:3259:U:H5’	2:B:3259:U:H6	1.84	0.42
3:C:59:A:N1	3:C:100:U:H1’	2.34	0.42
4:D:88:G:H2’	4:D:89:G:O4’	2.19	0.42
5:E:120:VAL:CG1	5:E:124:LEU:HD23	2.34	0.42
6:F:51:ASP:HB3	6:F:54:ARG:HB3	2.00	0.42
7:G:347:SER:O	7:G:348:ARG:CB	2.67	0.42
8:H:295:ILE:O	8:H:297:SER:N	2.52	0.42
10:J:31:ARG:NH1	10:J:34:LEU:HD13	2.34	0.42
11:K:75:TYR:O	25:Y:141:VAL:HG23	2.18	0.42
13:M:1:MET:CE	24:X:139:TYR:HA	2.48	0.42
13:M:138:THR:O	13:M:140:VAL:N	2.51	0.42
13:M:158:ALA:O	13:M:161:LEU:HB2	2.19	0.42
14:N:21:ARG:HH11	14:N:21:ARG:HG3	1.84	0.42
15:O:152:HIS:O	15:O:152:HIS:ND1	2.45	0.42
18:R:72:LEU:HD21	18:R:76:ALA:HB3	2.00	0.42
22:V:102:ALA:CB	22:V:127:LEU:HD23	2.48	0.42
23:W:74:ARG:O	23:W:75:HIS:HB2	2.18	0.42
23:W:166:ASN:O	23:W:170:ARG:HG3	2.18	0.42
24:X:139:TYR:HD2	24:X:140:VAL:HG23	1.84	0.42
31:EA:81:LEU:HD22	38:LA:93:PHE:HE2	1.84	0.42
31:EA:107:ARG:O	31:EA:111:LYS:HG3	2.17	0.42
33:GA:8:THR:HG23	33:GA:8:THR:O	2.18	0.42
35:IA:29:ALA:HB2	35:IA:64:VAL:HA	2.01	0.42
37:KA:43:PHE:O	37:KA:43:PHE:CG	2.72	0.42
39:MA:93:THR:OG1	39:MA:96:GLU:HG3	2.19	0.42
48:VA:97:LYS:HA	48:VA:100:ILE:CD1	2.49	0.42
49:WA:130:THR:C	49:WA:131:ILE:HG13	2.38	0.42
50:XA:102:PHE:CZ	50:XA:104:PRO:HA	2.54	0.42
57:EB:8:ILE:HG23	57:EB:43:PHE:CE2	2.53	0.42
59:GB:49:LEU:HD13	59:GB:49:LEU:C	2.39	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:GB:95:TYR:O	59:GB:99:LEU:HD13	2.19	0.42
68:PB:56:LYS:HG2	68:PB:60:GLU:HG3	2.01	0.42
78:ZB:56:LEU:HG	78:ZB:58:GLU:O	2.19	0.42
82:DC:132:ILE:H	82:DC:132:ILE:HG13	1.59	0.42
82:DC:365:ASN:CG	82:DC:475:ALA:HB2	2.39	0.42
82:DC:488:VAL:HG23	82:DC:489:VAL:N	2.34	0.42
82:DC:578:LYS:HG2	82:DC:840:ASP:CB	2.48	0.42
82:DC:629:ASP:O	82:DC:647:ILE:HG13	2.19	0.42
82:DC:706:ILE:HB	82:DC:707:PRO:HD3	2.01	0.42
83:EC:6851:G:H2'	83:EC:6852:U:H6	1.83	0.42
1:A:48:G:H2'	1:A:49:C:O4'	2.19	0.42
1:A:67:A:O2'	1:A:69:G:H5"	2.18	0.42
1:A:392:G:H4'	1:A:1672:G:H21	1.84	0.42
1:A:463:U:C2	1:A:464:A:C8	3.07	0.42
1:A:639:U:C2	57:EB:100:PRO:HA	2.54	0.42
1:A:842:C:H2'	1:A:843:U:O4'	2.19	0.42
1:A:1100:G:H1'	73:UB:7:ARG:NH2	2.35	0.42
1:A:1235:C:N4	1:A:1236:A:H62	2.17	0.42
1:A:1382:A:H5"	70:RB:60:THR:H	1.83	0.42
1:A:1392:U:H2'	1:A:1393:C:C6	2.53	0.42
1:A:1545:A:H2	1:A:1566:U:O2	2.02	0.42
1:A:1681:A:C2'	1:A:1682:U:H5'	2.49	0.42
2:B:75:G:OP1	17:Q:58:VAL:CG2	2.66	0.42
2:B:79:U:OP1	19:S:185:ALA:HB2	2.19	0.42
2:B:209:A:H4'	2:B:211:A:C8	2.54	0.42
2:B:423:A:O5'	2:B:423:A:H8	2.02	0.42
2:B:523:A:H2'	2:B:524:U:O4'	2.19	0.42
2:B:651:G:H2'	2:B:652:G:O4'	2.19	0.42
2:B:661:G:P	32:FA:12:ARG:HH21	2.42	0.42
2:B:675:C:O2'	2:B:679:U:H5"	2.20	0.42
2:B:750:G:H2'	2:B:751:A:C8	2.54	0.42
2:B:894:G:H4'	2:B:895:A:O4'	2.19	0.42
2:B:1427:U:C5	32:FA:4:ARG:CZ	3.02	0.42
2:B:1912:U:H2'	2:B:1913:A:O4'	2.19	0.42
2:B:2746:A:H5'	9:I:178:ASN:ND2	2.34	0.42
2:B:2865:U:O2'	2:B:2866:U:H5'	2.19	0.42
2:B:2947:G:OP2	2:B:2947:G:H4'	2.18	0.42
3:C:57:C:H4'	3:C:63:G:C8	2.54	0.42
3:C:157:U:H2'	3:C:158:U:H5'	2.00	0.42
4:D:109:G:H2'	4:D:110:G:O4'	2.19	0.42
6:F:129:ALA:HB3	6:F:132:ASN:HD22	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:145:LYS:HB3	6:F:157:VAL:CG2	2.48	0.42
9:I:218:ARG:C	9:I:220:SER:N	2.72	0.42
12:L:94:PHE:HB3	12:L:189:LEU:HD13	2.00	0.42
13:M:10:ILE:O	13:M:52:LEU:HA	2.19	0.42
13:M:81:GLY:HA2	13:M:86:TYR:CD2	2.54	0.42
17:Q:64:LYS:HA	32:FA:69:TRP:CE3	2.54	0.42
18:R:106:ARG:HH11	18:R:106:ARG:HG2	1.84	0.42
19:S:121:VAL:CG2	19:S:122:ASN:N	2.82	0.42
25:Y:64:VAL:HA	25:Y:73:GLY:O	2.18	0.42
26:Z:93:ILE:HA	26:Z:106:ALA:O	2.19	0.42
27:AA:70:ARG:HH11	27:AA:70:ARG:HG2	1.84	0.42
36:JA:93:ALA:HB1	36:JA:120:THR:HG23	2.01	0.42
48:VA:30:VAL:HG13	48:VA:31:ASP:H	1.84	0.42
48:VA:133:THR:HG21	82:DC:187:VAL:HG21	2.01	0.42
52:ZA:141:ARG:HD3	52:ZA:192:GLY:O	2.18	0.42
53:AB:17:PHE:C	53:AB:17:PHE:CD1	2.92	0.42
58:FB:117:TYR:HB3	58:FB:119:GLN:HG2	2.02	0.42
65:MB:20:VAL:CG2	65:MB:36:LEU:HD11	2.49	0.42
68:PB:33:THR:HG22	68:PB:39:GLY:O	2.18	0.42
70:RB:57:ARG:HG3	70:RB:89:ARG:CD	2.49	0.42
73:UB:110:LYS:NZ	73:UB:110:LYS:CB	2.83	0.42
77:YB:14:SER:HA	77:YB:17:ARG:CG	2.49	0.42
80:BC:46:ASN:O	80:BC:47:VAL:HG12	2.19	0.42
82:DC:307:LEU:CB	82:DC:312:LYS:HG2	2.38	0.42
82:DC:737:GLU:HG2	82:DC:766:PHE:HD2	1.84	0.42
83:EC:6771:U:C2'	83:EC:6772:G:H4'	2.49	0.42
1:A:448:C:H4'	54:BB:28:ALA:O	2.19	0.42
1:A:829:A:N6	1:A:844:A:N6	2.68	0.42
2:B:60:A:H2'	2:B:61:A:C8	2.54	0.42
2:B:985:U:H2'	2:B:986:U:H6	1.85	0.42
2:B:1070:U:H2'	2:B:1071:U:O4'	2.19	0.42
2:B:1182:A:O2'	2:B:1183:C:H5'	2.19	0.42
2:B:1287:A:O2'	2:B:1288:U:H5'	2.20	0.42
2:B:1308:A:C8	2:B:1308:A:OP2	2.72	0.42
2:B:1324:U:H5'	24:X:2:ALA:CA	2.49	0.42
2:B:1481:A:H1'	2:B:1483:G:C5	2.54	0.42
2:B:1493:G:O6	43:QA:2:ALA:HB2	2.19	0.42
2:B:1583:A:H3'	2:B:1584:U:C6	2.55	0.42
2:B:1639:C:O2'	2:B:1640:G:H5'	2.19	0.42
2:B:1658:G:H2'	2:B:1659:U:O4'	2.19	0.42
2:B:2189:U:O3'	47:UA:21:SER:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2488:A:H2	5:E:27:ASN:HD21	1.66	0.42
2:B:2501:U:H3'	2:B:2501:U:C6	2.55	0.42
2:B:2523:A:H62	12:L:57:ARG:HD2	1.84	0.42
2:B:2798:C:H5"	2:B:2800:G:H5'	2.01	0.42
2:B:2938:G:O2'	2:B:2939:G:H5'	2.19	0.42
2:B:3233:C:H2'	2:B:3234:A:C8	2.54	0.42
3:C:4:C:H5'	21:U:61:ARG:HB2	2.01	0.42
3:C:42:G:O2'	3:C:43:A:H5'	2.19	0.42
4:D:19:C:H2'	4:D:20:A:H8	1.85	0.42
5:E:94:ASN:HD21	5:E:124:LEU:CB	2.33	0.42
6:F:117:GLU:HA	6:F:125:ALA:HB3	2.01	0.42
6:F:142:ASP:O	6:F:143:GLU:HB2	2.18	0.42
7:G:196:ARG:HG3	7:G:197:GLU:N	2.32	0.42
8:H:208:VAL:HA	8:H:228:ALA:O	2.18	0.42
9:I:48:LYS:HE3	9:I:48:LYS:HB2	1.92	0.42
9:I:222:LEU:O	9:I:223:PHE:CB	2.68	0.42
10:J:64:LEU:HD22	10:J:65:ILE:H	1.84	0.42
13:M:6:THR:HG21	13:M:65:VAL:CG1	2.50	0.42
14:N:208:ASN:HA	14:N:211:ARG:CD	2.49	0.42
18:R:37:GLU:HG2	24:X:72:VAL:CB	2.49	0.42
19:S:118:SER:CB	19:S:132:VAL:HG22	2.47	0.42
23:W:78:TYR:C	23:W:80:LYS:H	2.22	0.42
25:Y:57:TYR:CG	25:Y:89:LEU:HD11	2.54	0.42
25:Y:65:TYR:CD2	25:Y:75:ILE:HG22	2.55	0.42
30:DA:4:GLN:HA	30:DA:4:GLN:HE21	1.85	0.42
39:MA:93:THR:C	39:MA:95:PHE:N	2.71	0.42
49:WA:178:VAL:HG21	49:WA:223:TRP:HE1	1.85	0.42
49:WA:233:THR:C	49:WA:234:LEU:HD12	2.39	0.42
53:AB:43:PRO:O	53:AB:44:THR:HB	2.18	0.42
53:AB:84:ILE:HD13	53:AB:84:ILE:C	2.39	0.42
54:BB:139:VAL:HG23	54:BB:139:VAL:O	2.20	0.42
55:CB:166:ARG:HG3	78:ZB:46:GLY:HA3	2.01	0.42
56:DB:13:GLN:HA	56:DB:124:LEU:CD1	2.49	0.42
57:EB:8:ILE:HD12	57:EB:43:PHE:CD2	2.53	0.42
59:GB:109:LEU:O	59:GB:113:VAL:HB	2.19	0.42
67:OB:16:LEU:HD22	67:OB:38:ILE:HD13	2.01	0.42
71:SB:39:VAL:HG12	71:SB:45:ALA:CB	2.49	0.42
73:UB:55:GLU:HA	73:UB:98:GLU:HG2	1.99	0.42
74:VB:5:VAL:HA	74:VB:29:HIS:HA	2.01	0.42
78:ZB:27:GLN:HA	78:ZB:43:ASN:HA	2.00	0.42
82:DC:386:VAL:HA	82:DC:387:PRO:HD3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:515:ASP:HB3	82:DC:518:VAL:CG1	2.49	0.42
82:DC:570:GLU:HG2	82:DC:589:LYS:HB3	2.02	0.42
82:DC:724:ILE:HG23	82:DC:815:ALA:HB1	2.00	0.42
83:EC:6888:A:N7	83:EC:6938:A:N6	2.67	0.42
1:A:94:U:H2'	1:A:95:G:C5'	2.49	0.42
1:A:184:C:H2'	1:A:185:U:O4'	2.18	0.42
1:A:253:A:OP1	54:BB:133:LYS:HA	2.18	0.42
1:A:941:A:O2'	1:A:977:A:O4'	2.31	0.42
1:A:1075:C:H2'	1:A:1076:A:C4'	2.50	0.42
1:A:1114:G:N2	1:A:1130:G:H2'	2.34	0.42
1:A:1270:G:O2'	1:A:1271:G:H5'	2.20	0.42
1:A:1485:C:H2'	1:A:1486:G:C4'	2.43	0.42
1:A:1604:U:OP1	66:NB:130:GLY:N	2.52	0.42
2:B:271:C:H2'	2:B:272:G:O4'	2.19	0.42
2:B:575:G:O2'	2:B:576:C:H5'	2.19	0.42
2:B:901:G:OP1	41:OA:12:HIS:HE1	2.01	0.42
2:B:1680:G:H2'	2:B:1681:U:C6	2.55	0.42
2:B:2098:C:O2'	2:B:2099:A:H5'	2.19	0.42
2:B:2497:U:O2'	2:B:2498:U:H6	2.02	0.42
2:B:2594:C:O5'	2:B:2594:C:H6	2.02	0.42
2:B:2907:G:H2'	2:B:2908:G:H8	1.84	0.42
2:B:2982:A:O3'	2:B:2983:C:O2	2.38	0.42
2:B:3393:U:O2'	2:B:3394:U:H5'	2.18	0.42
3:C:71:A:N6	3:C:87:G:H1'	2.34	0.42
3:C:138:A:C2	3:C:139:U:C2	3.07	0.42
4:D:110:G:O2'	4:D:111:U:H5'	2.19	0.42
6:F:6:ARG:C	6:F:8:GLN:N	2.70	0.42
7:G:17:LEU:HD11	7:G:233:TRP:HH2	1.84	0.42
8:H:333:VAL:HG13	8:H:334:PHE:N	2.33	0.42
9:I:236:LEU:HA	9:I:239:ILE:CD1	2.49	0.42
10:J:40:LEU:HD22	10:J:84:VAL:HG11	2.02	0.42
10:J:97:ASN:O	10:J:98:VAL:HG12	2.19	0.42
11:K:229:PHE:CD1	11:K:229:PHE:C	2.92	0.42
12:L:72:PRO:HA	12:L:233:TRP:CZ3	2.54	0.42
12:L:190:VAL:CG1	12:L:190:VAL:O	2.68	0.42
13:M:67:ALA:O	13:M:70:THR:HB	2.20	0.42
13:M:75:VAL:HA	13:M:78:MET:CE	2.50	0.42
13:M:82:VAL:O	13:M:82:VAL:HG13	2.19	0.42
14:N:159:PHE:HA	14:N:160:PRO:HD2	1.90	0.42
17:Q:87:ALA:C	17:Q:89:TYR:H	2.23	0.42
17:Q:95:ILE:HG21	17:Q:116:LEU:CD2	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:19:ARG:HD2	18:R:66:THR:O	2.19	0.42
20:T:42:ASN:HA	20:T:136:THR:O	2.18	0.42
21:U:57:ALA:HB2	21:U:83:TRP:NE1	2.34	0.42
22:V:48:VAL:HG23	22:V:139:ILE:HD11	2.01	0.42
31:EA:10:VAL:HG23	31:EA:85:TYR:O	2.20	0.42
31:EA:54:THR:H	31:EA:57:HIS:HB2	1.85	0.42
32:FA:48:TYR:N	32:FA:48:TYR:HD2	2.17	0.42
32:FA:105:LEU:HD13	32:FA:128:ARG:HD2	2.01	0.42
32:FA:112:ILE:HG22	32:FA:134:ALA:HB1	2.02	0.42
36:JA:45:ARG:HH11	36:JA:45:ARG:CB	2.30	0.42
39:MA:31:LEU:O	39:MA:34:GLN:HB2	2.19	0.42
41:OA:38:GLY:O	41:OA:39:TYR:C	2.58	0.42
48:VA:11:TYR:CE2	48:VA:57:THR:HB	2.54	0.42
48:VA:96:ILE:HD12	48:VA:97:LYS:N	2.35	0.42
49:WA:45:TRP:CE3	49:WA:57:PRO:HD3	2.55	0.42
54:BB:126:VAL:HG23	54:BB:156:VAL:HA	2.02	0.42
54:BB:150:PRO:CG	54:BB:151:ASP:N	2.79	0.42
54:BB:206:ASP:HB2	54:BB:222:LEU:CD2	2.49	0.42
58:FB:166:TYR:HB2	58:FB:189:LEU:HD11	2.01	0.42
58:FB:190:ALA:HB1	58:FB:194:ARG:HH12	1.85	0.42
66:NB:31:VAL:O	66:NB:32:ASN:HB2	2.19	0.42
66:NB:82:ARG:NH2	66:NB:116:LEU:HD13	2.30	0.42
69:QB:78:LYS:HG3	69:QB:95:ASP:OD1	2.19	0.42
82:DC:240:MET:O	82:DC:244:LEU:HG	2.20	0.42
82:DC:280:PRO:N	82:DC:283:ARG:HH21	2.18	0.42
82:DC:399:ARG:HA	82:DC:453:ILE:HG13	2.01	0.42
1:A:197:A:H2'	1:A:198:A:C8	2.54	0.42
1:A:218:A:N1	1:A:830:U:H5	2.17	0.42
1:A:460:A:H3'	1:A:461:G:H8	1.85	0.42
1:A:590:C:H5"	80:BC:56:MET:SD	2.59	0.42
1:A:682:C:C2'	1:A:683:C:H5'	2.49	0.42
1:A:753:A:H5"	54:BB:221:ARG:HH21	1.85	0.42
1:A:777:C:H5	74:VB:10:ARG:NH1	2.17	0.42
1:A:855:A:C2'	1:A:856:A:H3'	2.49	0.42
1:A:1409:G:H2'	1:A:1411:A:OP2	2.20	0.42
1:A:1546:G:H2'	1:A:1547:A:C8	2.55	0.42
1:A:1551:U:H3'	65:MB:43:ARG:NH2	2.26	0.42
1:A:1572:G:H1'	55:CB:185:ARG:NH1	2.35	0.42
1:A:1622:G:O2'	1:A:1623:C:H5"	2.20	0.42
1:A:1624:C:H2'	1:A:1625:C:H6	1.83	0.42
2:B:44:U:H2'	2:B:45:A:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:96:G:H4'	17:Q:15:ARG:HE	1.84	0.42
2:B:268:A:C5	19:S:12:ARG:HD3	2.54	0.42
2:B:335:G:N2	2:B:691:A:N6	2.67	0.42
2:B:609:G:OP2	8:H:315:LYS:HD2	2.20	0.42
2:B:729:C:OP1	22:V:44:PHE:HB2	2.20	0.42
2:B:973:A:H2'	2:B:974:G:O4'	2.19	0.42
2:B:1238:C:OP1	16:P:79:SER:OG	2.29	0.42
2:B:1256:G:O5'	16:P:127:SER:HB3	2.20	0.42
2:B:1313:G:O2'	2:B:1314:C:H5'	2.19	0.42
2:B:1347:U:H2'	2:B:1355:A:H61	1.84	0.42
2:B:1739:U:H1'	38:LA:41:ARG:CZ	2.49	0.42
2:B:2101:C:O2'	2:B:2102:U:H5"	2.18	0.42
2:B:2185:G:H5"	6:F:202:VAL:CG2	2.49	0.42
2:B:2197:C:H4'	2:B:2198:A:O5'	2.19	0.42
2:B:2246:G:H2'	2:B:2247:G:H8	1.84	0.42
2:B:2336:U:H2'	2:B:2337:C:O4'	2.20	0.42
2:B:2537:U:O2	2:B:2543:U:O4	2.38	0.42
2:B:2538:U:H5'	2:B:2539:C:C5	2.55	0.42
2:B:2821:C:H2'	2:B:2822:U:H6	1.85	0.42
2:B:2926:A:H2'	2:B:2927:C:O4'	2.20	0.42
2:B:3217:C:N3	2:B:3220:G:H1'	2.33	0.42
5:E:87:VAL:HG21	5:E:116:LEU:HD22	2.02	0.42
6:F:128:ARG:C	6:F:169:ILE:HD12	2.39	0.42
8:H:53:SER:C	8:H:55:LYS:H	2.22	0.42
8:H:65:TRP:HB3	8:H:69:ARG:HD3	2.01	0.42
8:H:141:ARG:HG2	8:H:141:ARG:NH1	2.34	0.42
8:H:179:LEU:HD23	8:H:179:LEU:HA	1.87	0.42
8:H:334:PHE:HA	8:H:339:LEU:CD1	2.50	0.42
8:H:340:GLY:O	8:H:341:SER:HB3	2.19	0.42
11:K:207:LEU:HB3	11:K:243:MET:O	2.20	0.42
15:O:17:LEU:HD13	15:O:129:VAL:CG2	2.50	0.42
17:Q:8:PRO:CB	22:V:164:ARG:HB3	2.48	0.42
20:T:167:TYR:CD1	20:T:167:TYR:C	2.93	0.42
25:Y:78:LYS:HD3	25:Y:87:LYS:CD	2.47	0.42
26:Z:13:LYS:HE2	26:Z:13:LYS:HB3	1.88	0.42
27:AA:89:ASP:OD1	27:AA:91:VAL:HG22	2.19	0.42
31:EA:38:PHE:CD2	31:EA:76:ASN:ND2	2.87	0.42
32:FA:46:ASP:O	32:FA:47:LYS:CB	2.67	0.42
34:HA:19:LYS:O	34:HA:20:SER:HB2	2.19	0.42
39:MA:5:LYS:HB3	39:MA:7:TYR:HD2	1.81	0.42
44:RA:95:VAL:HB	44:RA:122:ARG:NH1	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:WA:238:ASP:HB2	49:WA:256:THR:HB	1.99	0.42
53:AB:48:VAL:O	53:AB:86:LEU:HA	2.20	0.42
55:CB:112:ARG:NH2	55:CB:115:LYS:HD2	2.34	0.42
57:EB:14:THR:HB	57:EB:17:GLU:CB	2.49	0.42
57:EB:59:ALA:HA	57:EB:91:ILE:CG2	2.50	0.42
61:IB:140:VAL:O	61:IB:141:LYS:HB2	2.19	0.42
65:MB:75:PRO:HG3	65:MB:93:VAL:HB	2.01	0.42
67:OB:17:ILE:HD11	67:OB:54:THR:HB	2.01	0.42
70:RB:26:LEU:C	70:RB:34:LEU:HD21	2.39	0.42
70:RB:95:ALA:HB1	70:RB:96:PRO:HD2	2.01	0.42
73:UB:70:LYS:HD2	73:UB:93:LEU:CD1	2.48	0.42
74:VB:57:VAL:HG22	74:VB:60:PHE:HE2	1.84	0.42
82:DC:17:THR:HA	82:DC:346:VAL:HG21	2.01	0.42
82:DC:489:VAL:O	82:DC:531:ALA:HA	2.19	0.42
83:EC:6859:U:C2	83:EC:6871:A:H2	2.37	0.42
83:EC:6891:G:H5'	83:EC:6892:U:OP2	2.19	0.42
1:A:534:A:C8	1:A:535:A:C8	3.08	0.42
1:A:629:U:O4'	2:B:846:A:N7	2.52	0.42
1:A:929:A:H1'	64:LB:123:SER:CA	2.50	0.42
1:A:959:U:O2	1:A:959:U:C2'	2.68	0.42
1:A:1241:G:H5"	65:MB:77:ARG:HB2	2.00	0.42
1:A:1567:U:H5"	68:PB:36:LYS:HA	2.02	0.42
2:B:855:U:H5"	23:W:95:TRP:CD1	2.54	0.42
2:B:880:G:C8	21:U:132:ALA:CB	3.02	0.42
2:B:1222:G:H3'	48:VA:56:ASN:ND2	2.35	0.42
2:B:1239:C:H5"	16:P:57:LYS:HG3	2.02	0.42
2:B:1253:U:H3'	2:B:1254:C:H5'	2.01	0.42
2:B:1256:G:C1'	16:P:128:VAL:HG22	2.50	0.42
2:B:1259:A:H5'	48:VA:53:MET:O	2.19	0.42
2:B:1765:U:H5'	23:W:43:LYS:HD2	2.00	0.42
2:B:2818:U:H5'	2:B:2818:U:C6	2.49	0.42
2:B:3287:U:H6	2:B:3287:U:H5'	1.85	0.42
2:B:3306:U:H2'	2:B:3307:A:H5"	2.01	0.42
4:D:9:C:H2'	4:D:10:C:H5'	2.02	0.42
5:E:205:VAL:HG12	5:E:215:ARG:HD3	2.02	0.42
6:F:148:VAL:HG23	6:F:149:ARG:N	2.34	0.42
7:G:296:THR:CG2	7:G:297:SER:N	2.82	0.42
7:G:305:ILE:HD12	7:G:306:THR:N	2.33	0.42
8:H:191:LYS:C	8:H:193:LYS:N	2.73	0.42
11:K:156:ILE:C	11:K:158:LYS:N	2.72	0.42
14:N:21:ARG:HG3	14:N:21:ARG:NH1	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:127:SER:O	16:P:131:GLU:OE1	2.37	0.42
17:Q:93:ILE:HB	17:Q:95:ILE:HD11	2.00	0.42
18:R:13:ARG:O	18:R:14:LEU:C	2.58	0.42
20:T:47:PHE:CE2	20:T:141:LEU:HA	2.54	0.42
22:V:132:PRO:C	22:V:134:GLY:H	2.23	0.42
24:X:80:ARG:HH21	24:X:80:ARG:CG	2.31	0.42
32:FA:96:LYS:O	32:FA:97:GLU:HB2	2.20	0.42
38:LA:38:LEU:N	38:LA:38:LEU:CD1	2.82	0.42
41:OA:22:CYS:SG	41:OA:37:CYS:HB3	2.60	0.42
41:OA:24:ARG:HD2	41:OA:36:SER:CB	2.49	0.42
46:TA:95:GLY:O	46:TA:96:GLU:HB2	2.18	0.42
48:VA:173:LEU:HD22	48:VA:178:ILE:HD13	2.01	0.42
49:WA:156:VAL:CG1	49:WA:157:VAL:N	2.81	0.42
54:BB:47:PHE:CD1	54:BB:101:LEU:HD21	2.54	0.42
58:FB:43:ILE:HG23	58:FB:57:ALA:CA	2.47	0.42
61:IB:108:PRO:HG3	61:IB:134:THR:OG1	2.20	0.42
65:MB:20:VAL:O	65:MB:25:LEU:HG	2.20	0.42
67:OB:32:LYS:HG2	67:OB:47:ARG:NH1	2.31	0.42
73:UB:107:PHE:O	73:UB:109:ARG:N	2.51	0.42
74:VB:113:ASN:HA	74:VB:116:LYS:HD3	2.02	0.42
75:WB:92:ILE:HG13	75:WB:100:ILE:CG2	2.41	0.42
82:DC:73:THR:HB	82:DC:439:GLY:CA	2.49	0.42
82:DC:317:LYS:H	82:DC:317:LYS:CD	2.31	0.42
82:DC:633:ILE:HG22	82:DC:647:ILE:HD11	2.02	0.42
82:DC:729:PHE:CE2	82:DC:796:MET:HB3	2.55	0.42
1:A:67:A:C2	1:A:69:G:H1'	2.55	0.42
1:A:71:A:C2	1:A:81:G:C2	3.08	0.42
1:A:114:C:N3	1:A:247:A:H2'	2.35	0.42
1:A:1367:G:H2'	1:A:1368:G:C8	2.54	0.42
1:A:1378:U:H2'	1:A:1379:C:O4'	2.18	0.42
1:A:1454:G:H5'	65:MB:81:ARG:CZ	2.49	0.42
1:A:1628:U:H5'	76:XB:87:ARG:O	2.19	0.42
1:A:1677:C:H2'	1:A:1678:A:O4'	2.18	0.42
1:A:1738:U:H2'	1:A:1739:C:C6	2.55	0.42
2:B:595:G:H5'	8:H:308:LYS:NZ	2.35	0.42
2:B:675:C:H2'	2:B:676:G:O4'	2.19	0.42
2:B:819:U:H2'	2:B:820:A:H8	1.84	0.42
2:B:1254:C:C4'	16:P:135:THR:HG21	2.50	0.42
2:B:1447:G:C8	21:U:27:LYS:HB2	2.55	0.42
2:B:1455:U:O2'	2:B:1456:A:C8	2.73	0.42
2:B:1463:U:H2'	2:B:1464:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1845:G:C2	2:B:1851:G:C5	3.07	0.42
2:B:2240:G:O2'	2:B:2241:U:H5'	2.20	0.42
2:B:2275:A:H1'	2:B:2312:A:N6	2.34	0.42
2:B:2295:A:C6	2:B:2296:A:N1	2.88	0.42
2:B:2300:G:O2'	2:B:2301:U:H5'	2.20	0.42
2:B:3186:A:H1'	13:M:43:VAL:O	2.20	0.42
2:B:3273:A:OP1	10:J:79:VAL:HG23	2.19	0.42
2:B:3393:U:H2'	2:B:3394:U:H6	1.83	0.42
6:F:44:ILE:O	6:F:62:VAL:HG12	2.20	0.42
8:H:13:GLY:O	8:H:14:GLU:O	2.37	0.42
8:H:209:TYR:HD2	8:H:211:GLU:N	2.17	0.42
8:H:288:ARG:HG2	8:H:288:ARG:NH1	2.34	0.42
9:I:30:TYR:HD2	9:I:33:ARG:HD3	1.85	0.42
9:I:164:LYS:HG3	9:I:195:LEU:HD11	2.02	0.42
10:J:55:LEU:HB2	10:J:64:LEU:CD1	2.49	0.42
14:N:48:LEU:HD22	14:N:49:CYS:H	1.85	0.42
16:P:67:ARG:HD2	16:P:67:ARG:HA	1.92	0.42
17:Q:135:ALA:O	17:Q:136:GLU:HG2	2.20	0.42
18:R:47:ASP:CG	18:R:55:ARG:HG2	2.40	0.42
19:S:121:VAL:HG23	19:S:129:TYR:HB2	2.01	0.42
23:W:14:VAL:CG2	23:W:42:ARG:HD3	2.49	0.42
24:X:10:ILE:O	24:X:59:VAL:HB	2.20	0.42
24:X:12:ARG:HG2	24:X:59:VAL:HG22	2.01	0.42
30:DA:117:ALA:HA	30:DA:120:GLN:CG	2.50	0.42
31:EA:84:ARG:HA	34:HA:62:LEU:HD21	2.02	0.42
32:FA:16:SER:OG	32:FA:21:ARG:HB3	2.19	0.42
34:HA:31:VAL:O	34:HA:35:ARG:HG3	2.19	0.42
34:HA:55:GLU:CA	38:LA:94:LEU:HD11	2.50	0.42
36:JA:105:ARG:HA	36:JA:108:ILE:HD12	2.00	0.42
36:JA:123:LYS:HA	36:JA:126:LEU:CD1	2.49	0.42
37:KA:50:ALA:HB2	37:KA:68:TRP:CE3	2.55	0.42
38:LA:10:ARG:O	38:LA:12:PRO:HD3	2.20	0.42
39:MA:34:GLN:HB3	39:MA:38:ARG:CZ	2.50	0.42
54:BB:163:ASP:OD1	54:BB:166:SER:HB2	2.20	0.42
56:DB:21:GLU:O	56:DB:25:ARG:HG3	2.19	0.42
56:DB:218:GLU:O	56:DB:222:GLU:HB2	2.19	0.42
57:EB:9:LEU:O	57:EB:10:SER:HB3	2.20	0.42
59:GB:38:ASN:HB2	59:GB:41:GLU:HG3	2.02	0.42
59:GB:60:LEU:HD22	59:GB:60:LEU:N	2.34	0.42
59:GB:109:LEU:HD23	59:GB:109:LEU:HA	1.94	0.42
65:MB:25:LEU:HD13	65:MB:112:LEU:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:TB:28:ARG:CG	72:TB:29:PRO:HA	2.50	0.42
73:UB:43:PHE:HE2	73:UB:48:HIS:HA	1.84	0.42
75:WB:40:VAL:O	75:WB:75:LEU:HD11	2.20	0.42
82:DC:143:LEU:HD21	82:DC:189:VAL:CG2	2.50	0.42
82:DC:171:LYS:HA	82:DC:282:PHE:CZ	2.54	0.42
82:DC:250:PHE:HD2	82:DC:275:MET:SD	2.43	0.42
82:DC:270:GLU:HG2	82:DC:275:MET:HA	2.02	0.42
82:DC:283:ARG:HB3	82:DC:299:LEU:HD21	2.01	0.42
82:DC:346:VAL:HG12	82:DC:347:THR:N	2.35	0.42
82:DC:369:ILE:HD13	82:DC:402:ALA:HB3	2.02	0.42
82:DC:725:GLN:HG3	82:DC:803:THR:HG22	2.02	0.42
1:A:994:G:OP1	1:A:1005:A:H5'	2.19	0.42
1:A:1105:C:H2'	1:A:1106:U:C6	2.55	0.42
1:A:1293:U:H2'	1:A:1294:G:H8	1.85	0.42
1:A:1717:G:H2'	1:A:1718:G:C8	2.55	0.42
2:B:95:A:H8	2:B:95:A:O5'	2.03	0.42
2:B:215:G:O2'	2:B:216:G:H5'	2.20	0.42
2:B:405:U:O5'	2:B:405:U:H6	2.02	0.42
2:B:411:U:C2	3:C:13:A:C2	3.08	0.42
2:B:1108:U:O2'	2:B:1109:U:H5'	2.20	0.42
2:B:1388:U:O4	8:H:186:LYS:HD2	2.20	0.42
2:B:1479:U:H3	2:B:1483:G:N2	2.17	0.42
2:B:1584:U:H2'	2:B:1585:C:H6	1.85	0.42
2:B:2140:U:C2'	2:B:2141:U:H5'	2.50	0.42
2:B:2198:A:C5	2:B:2199:G:C8	3.08	0.42
2:B:2394:G:C5'	7:G:252:ILE:HG22	2.50	0.42
2:B:2436:U:O5'	2:B:2436:U:H6	2.02	0.42
2:B:2491:A:H2'	2:B:2492:C:C4'	2.34	0.42
2:B:2701:U:OP1	25:Y:22:HIS:HB3	2.20	0.42
2:B:3351:U:H2'	2:B:3352:U:C5'	2.50	0.42
5:E:25:LYS:HG2	5:E:210:MET:HE1	2.01	0.42
7:G:39:LYS:HB3	7:G:40:PRO:CD	2.49	0.42
7:G:266:ARG:HA	7:G:266:ARG:HD2	1.84	0.42
7:G:284:ARG:HB2	7:G:323:MET:CE	2.50	0.42
8:H:188:ARG:HA	8:H:200:THR:HG22	2.01	0.42
8:H:229:ASN:O	8:H:230:VAL:C	2.57	0.42
10:J:121:LEU:HB3	10:J:124:GLU:HB2	2.02	0.42
11:K:191:VAL:O	11:K:192:GLY:O	2.38	0.42
15:O:23:VAL:O	15:O:65:ILE:CG1	2.68	0.42
16:P:105:GLN:HG3	16:P:143:VAL:CG2	2.50	0.42
16:P:143:VAL:O	16:P:146:LYS:HD2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:3:ILE:HD11	32:FA:34:MET:CA	2.50	0.42
18:R:70:PHE:O	18:R:71:ALA:C	2.58	0.42
19:S:100:ALA:HB2	19:S:167:THR:HG21	2.02	0.42
21:U:67:ILE:HG23	21:U:82:ARG:CD	2.43	0.42
21:U:119:VAL:HG13	21:U:119:VAL:O	2.19	0.42
29:CA:82:LEU:HB3	29:CA:84:PHE:CZ	2.55	0.42
30:DA:36:SER:O	30:DA:38:GLU:N	2.53	0.42
37:KA:49:ILE:HD11	37:KA:71:VAL:CG2	2.49	0.42
41:OA:25:ARG:HD2	41:OA:25:ARG:O	2.19	0.42
48:VA:18:TYR:HB2	48:VA:88:PHE:CZ	2.55	0.42
49:WA:234:LEU:HD12	49:WA:234:LEU:N	2.35	0.42
56:DB:2:LYS:CD	56:DB:15:THR:HB	2.50	0.42
56:DB:3:LEU:O	56:DB:15:THR:HG22	2.19	0.42
59:GB:106:GLU:O	59:GB:106:GLU:HG3	2.20	0.42
61:IB:32:LYS:HG2	61:IB:33:ARG:N	2.34	0.42
61:IB:136:ARG:HG3	61:IB:136:ARG:NH1	2.35	0.42
65:MB:25:LEU:CD1	65:MB:112:LEU:HD11	2.50	0.42
68:PB:16:ARG:HH12	68:PB:19:ASN:C	2.23	0.42
68:PB:61:LEU:HD12	68:PB:65:GLU:HB3	2.01	0.42
74:VB:24:VAL:HG12	74:VB:25:VAL:N	2.34	0.42
74:VB:55:VAL:HA	74:VB:75:VAL:HG23	2.02	0.42
74:VB:127:LYS:HE2	74:VB:128:LYS:HD2	2.00	0.42
75:WB:77:ARG:CB	75:WB:77:ARG:HH11	2.32	0.42
78:ZB:56:LEU:HD23	78:ZB:56:LEU:H	1.83	0.42
79:AC:37:ASN:O	79:AC:38:ILE:HD13	2.19	0.42
80:BC:38:LEU:CD2	80:BC:39:LEU:HD22	2.50	0.42
82:DC:27:HIS:NE2	82:DC:138:GLN:HB2	2.34	0.42
82:DC:351:TYR:CE1	82:DC:352:ARG:HG3	2.55	0.42
82:DC:655:TYR:O	82:DC:659:ILE:HG23	2.20	0.42
1:A:85:A:O2'	74:VB:120:GLY:HA2	2.19	0.42
1:A:330:G:H2'	1:A:331:A:O4'	2.20	0.42
1:A:518:A:H1'	1:A:534:A:H61	1.82	0.42
1:A:631:G:C6	1:A:969:C:O2	2.73	0.42
1:A:959:U:OP2	63:KB:15:ALA:HB3	2.19	0.42
1:A:975:C:H2'	1:A:976:G:O4'	2.19	0.42
1:A:1172:G:H21	69:QB:88:VAL:HG23	1.85	0.42
1:A:1656:U:H3'	1:A:1657:U:C5'	2.50	0.42
1:A:1765:A:H3'	1:A:1766:A:H5"	2.02	0.42
2:B:73:C:C2	17:Q:59:ARG:CD	3.03	0.42
2:B:130:A:C5	2:B:131:C:C4	3.08	0.42
2:B:284:A:H4'	2:B:285:A:C2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:286:U:H2'	2:B:287:G:O4'	2.19	0.42
2:B:413:U:O2'	2:B:414:U:H5'	2.20	0.42
2:B:722:G:C2'	2:B:723:U:H5'	2.50	0.42
2:B:1584:U:H2'	2:B:1585:C:C6	2.54	0.42
2:B:1636:U:O2	2:B:1710:C:H4'	2.20	0.42
2:B:1707:A:C2	2:B:1708:C:C2	3.08	0.42
2:B:2154:U:H4'	6:F:240:ALA:HB2	2.02	0.42
2:B:2304:C:C2'	2:B:2305:G:H5'	2.45	0.42
2:B:2355:G:H4'	21:U:139:TYR:CD2	2.55	0.42
2:B:2427:U:H2'	2:B:2428:U:C6	2.55	0.42
2:B:2541:U:C1'	2:B:2542:U:H4'	2.45	0.42
2:B:2635:A:H4'	2:B:2636:A:O5'	2.19	0.42
2:B:2939:G:H2'	2:B:2940:A:O4'	2.19	0.42
2:B:3218:A:O2'	2:B:3219:G:OP2	2.31	0.42
2:B:3348:G:H2'	2:B:3349:C:H6	1.80	0.42
3:C:37:A:N7	3:C:104:A:N7	2.67	0.42
4:D:67:G:H2'	4:D:68:C:O4'	2.20	0.42
5:E:210:MET:O	5:E:210:MET:HG2	2.20	0.42
9:I:155:THR:CA	9:I:179:ARG:HD2	2.50	0.42
12:L:78:PHE:HZ	12:L:164:VAL:HA	1.85	0.42
12:L:92:LYS:NZ	12:L:92:LYS:HB3	2.34	0.42
14:N:9:TYR:CD1	14:N:9:TYR:N	2.88	0.42
14:N:98:ARG:HA	14:N:121:LYS:O	2.20	0.42
14:N:193:ASP:H	14:N:197:VAL:HA	1.85	0.42
17:Q:17:HIS:ND1	17:Q:17:HIS:N	2.67	0.42
17:Q:56:PRO:HB2	17:Q:112:ASN:HD21	1.85	0.42
19:S:38:ARG:HD3	19:S:39:ALA:N	2.35	0.42
19:S:39:ALA:HB1	19:S:63:ARG:HH22	1.85	0.42
19:S:158:HIS:HB3	19:S:160:GLU:OE2	2.20	0.42
20:T:9:ILE:O	20:T:36:VAL:HG22	2.20	0.42
23:W:21:LYS:HA	23:W:53:LYS:HD2	2.02	0.42
27:AA:23:MET:HE1	27:AA:100:GLY:HA3	2.02	0.42
27:AA:54:LEU:HD21	27:AA:121:GLU:HB2	2.02	0.42
31:EA:15:ARG:HD3	31:EA:79:HIS:CE1	2.55	0.42
31:EA:57:HIS:HB3	31:EA:62:VAL:CG2	2.50	0.42
31:EA:96:VAL:HA	31:EA:100:THR:HG21	2.01	0.42
32:FA:42:ARG:HG3	32:FA:43:ILE:N	2.34	0.42
36:JA:82:LEU:C	36:JA:84:THR:H	2.24	0.42
40:NA:4:LYS:O	40:NA:16:LYS:HD3	2.19	0.42
49:WA:205:SER:HB3	49:WA:245:PHE:CE2	2.55	0.42
49:WA:209:THR:HB	49:WA:226:ALA:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BB:105:VAL:HA	54:BB:190:GLY:O	2.20	0.42
55:CB:124:LEU:C	55:CB:126:ASP:H	2.22	0.42
59:GB:36:LEU:HD21	59:GB:108:ARG:HH12	1.85	0.42
59:GB:163:PRO:O	59:GB:164:PHE:HB2	2.20	0.42
60:HB:87:VAL:HG22	60:HB:87:VAL:O	2.19	0.42
67:OB:28:PHE:CE2	67:OB:32:LYS:HD3	2.55	0.42
67:OB:116:LYS:C	67:OB:117:LEU:HD13	2.40	0.42
69:QB:38:LYS:CE	69:QB:38:LYS:H	2.32	0.42
69:QB:40:SER:HB3	69:QB:43:ASN:HD22	1.83	0.42
69:QB:108:LEU:HA	69:QB:111:ILE:HG22	2.02	0.42
72:TB:90:THR:HG22	72:TB:102:VAL:CG2	2.49	0.42
75:WB:54:VAL:HB	75:WB:55:PRO:HD3	2.02	0.42
82:DC:24:VAL:O	82:DC:105:SER:HB3	2.19	0.42
82:DC:281:ILE:HA	82:DC:284:LEU:HD12	2.02	0.42
1:A:210:A:H2'	1:A:211:U:C6	2.55	0.42
1:A:1278:G:H2'	1:A:1279:C:C6	2.55	0.42
1:A:1647:U:H2'	1:A:1648:A:O4'	2.20	0.42
2:B:11:A:C2	3:C:148:G:C4	3.08	0.42
2:B:131:C:H2'	2:B:132:C:O4'	2.20	0.42
2:B:271:C:H4'	2:B:317:A:C2	2.48	0.42
2:B:308:A:H8	2:B:308:A:O5'	2.03	0.42
2:B:632:G:H2'	2:B:633:C:O4'	2.20	0.42
2:B:682:U:H5"	2:B:683:U:H5	1.84	0.42
2:B:809:G:O2'	2:B:810:A:H5'	2.20	0.42
2:B:822:G:H1'	6:F:15:ILE:HB	2.00	0.42
2:B:1238:C:H2'	2:B:1239:C:H1'	2.02	0.42
2:B:2161:G:C5	2:B:2162:U:C5	3.08	0.42
2:B:2259:A:C8	2:B:2260:U:C6	3.05	0.42
2:B:2496:C:H5'	2:B:2497:U:OP1	2.19	0.42
2:B:2527:G:H2'	2:B:2528:G:C8	2.54	0.42
2:B:2894:C:H2'	2:B:2895:G:H8	1.85	0.42
2:B:2997:G:O2'	2:B:2998:U:H5'	2.20	0.42
2:B:3157:U:C4'	2:B:3158:G:H8	2.32	0.42
2:B:3161:C:H6	2:B:3161:C:O5'	2.02	0.42
2:B:3230:G:C2'	2:B:3231:U:H5'	2.50	0.42
4:D:64:A:P	14:N:206:LEU:HB3	2.60	0.42
7:G:324:VAL:HG11	7:G:328:ILE:CD1	2.43	0.42
7:G:368:GLY:N	28:BA:17:ARG:NH2	2.68	0.42
8:H:58:HIS:HA	8:H:90:PHE:CE1	2.54	0.42
9:I:285:ARG:HH11	9:I:285:ARG:CB	2.06	0.42
15:O:14:ILE:CG2	15:O:129:VAL:HG13	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:5:LYS:HB2	17:Q:7:LEU:HG	2.02	0.42
18:R:72:LEU:HA	18:R:73:PRO:HD3	1.86	0.42
20:T:167:TYR:CD1	20:T:168:TYR:N	2.88	0.42
24:X:67:ALA:C	24:X:69:PRO:HD3	2.41	0.42
26:Z:12:ALA:HA	26:Z:68:THR:HB	2.01	0.42
30:DA:95:VAL:HA	30:DA:96:PRO:HD3	1.88	0.42
31:EA:32:GLY:O	31:EA:33:SER:C	2.56	0.42
31:EA:68:ILE:HG22	31:EA:70:PRO:HD3	2.02	0.42
32:FA:75:LEU:HA	32:FA:78:LEU:HB2	2.02	0.42
34:HA:51:LEU:HD12	34:HA:51:LEU:HA	1.87	0.42
36:JA:4:LEU:HD11	36:JA:91:THR:HA	2.00	0.42
38:LA:68:THR:O	38:LA:71:THR:O	2.37	0.42
40:NA:53:TYR:CE1	40:NA:76:ARG:HG2	2.54	0.42
48:VA:173:LEU:CD2	48:VA:178:ILE:HD13	2.50	0.42
49:WA:278:PHE:CE1	49:WA:286:GLU:HB3	2.54	0.42
50:XA:197:ILE:HD13	50:XA:197:ILE:N	2.22	0.42
52:ZA:57:PHE:HD1	71:SB:26:ALA:HB2	1.85	0.42
52:ZA:66:PHE:N	52:ZA:134:LEU:HD21	2.35	0.42
59:GB:36:LEU:CD2	59:GB:108:ARG:HH12	2.33	0.42
59:GB:43:TYR:HA	59:GB:46:SER:OG	2.19	0.42
59:GB:119:ALA:HB2	59:GB:128:LEU:CD1	2.45	0.42
66:NB:59:LYS:HD2	66:NB:93:HIS:CE1	2.55	0.42
73:UB:33:LEU:HD23	73:UB:33:LEU:HA	1.82	0.42
73:UB:43:PHE:CE1	73:UB:49:ALA:HB3	2.54	0.42
74:VB:15:ASN:HA	74:VB:16:PRO:HD3	1.87	0.42
79:AC:5:ASN:HA	79:AC:7:TRP:CZ3	2.54	0.42
82:DC:45:ILE:CD1	82:DC:78:TYR:HB2	2.47	0.42
82:DC:166:GLU:C	82:DC:167:LEU:HD12	2.41	0.42
82:DC:175:TYR:CE2	82:DC:271:ARG:NH1	2.88	0.42
82:DC:465:LYS:HE2	82:DC:512:SER:O	2.20	0.42
1:A:140:A:OP2	56:DB:187:LYS:HE2	2.20	0.41
1:A:477:A:H2	1:A:512:A:C2	2.38	0.41
1:A:1232:U:H2'	1:A:1233:G:O4'	2.20	0.41
1:A:1350:U:H2'	1:A:1351:G:H8	1.82	0.41
1:A:1484:G:H1	1:A:1591:C:H1'	1.85	0.41
1:A:1572:G:H2'	1:A:1572:G:N3	2.35	0.41
1:A:1630:U:O3'	1:A:1631:A:H2'	2.20	0.41
2:B:259:C:O2'	2:B:260:C:H5'	2.20	0.41
2:B:372:A:H2'	2:B:373:A:C8	2.55	0.41
2:B:546:C:H4'	2:B:547:G:C2	2.55	0.41
2:B:806:A:H5"	2:B:936:A:H61	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:827:A:O2'	2:B:828:A:H5'	2.20	0.41
2:B:852:U:H2'	2:B:853:G:C8	2.54	0.41
2:B:911:C:H3'	6:F:9:ARG:HH11	1.85	0.41
2:B:949:C:O5'	2:B:949:C:H6	2.03	0.41
2:B:1125:U:O2'	2:B:1126:G:H5'	2.20	0.41
2:B:1156:C:O5'	2:B:1156:C:H6	2.03	0.41
2:B:1632:A:C4	2:B:1644:C:C2	3.07	0.41
2:B:1777:U:O2'	2:B:1778:G:H5'	2.20	0.41
2:B:1859:A:H2'	2:B:1860:G:H5'	2.01	0.41
2:B:2370:G:H2'	2:B:2371:G:O4'	2.19	0.41
2:B:2610:G:C2	2:B:2611:U:C2	3.07	0.41
2:B:2633:U:H2'	2:B:2634:U:O4'	2.20	0.41
2:B:2746:A:C8	9:I:153:THR:HG23	2.55	0.41
2:B:2999:U:O2'	2:B:3296:A:H5'	2.20	0.41
2:B:3188:G:H2'	2:B:3189:G:C8	2.54	0.41
2:B:3298:C:H2'	2:B:3299:A:C8	2.55	0.41
2:B:3309:G:C2'	2:B:3310:A:H5'	2.48	0.41
2:B:3379:C:O2'	2:B:3380:U:H5'	2.20	0.41
4:D:48:U:C2'	4:D:49:G:H5'	2.50	0.41
4:D:70:U:H2'	4:D:71:G:O4'	2.20	0.41
9:I:111:GLN:OE1	9:I:252:ALA:HA	2.20	0.41
13:M:180:TYR:HB2	44:RA:85:LEU:HD11	2.00	0.41
14:N:27:PRO:HG3	14:N:123:HIS:O	2.20	0.41
15:O:47:GLN:HA	15:O:67:VAL:HA	2.02	0.41
16:P:130:LYS:HZ2	16:P:145:PHE:HE2	1.67	0.41
21:U:120:ASN:ND2	21:U:145:HIS:HB2	2.35	0.41
21:U:165:VAL:HG13	21:U:165:VAL:O	2.20	0.41
22:V:10:HIS:CD2	22:V:10:HIS:N	2.88	0.41
22:V:12:ARG:HE	22:V:12:ARG:HB2	1.63	0.41
27:AA:108:GLU:HG3	27:AA:128:ARG:HG2	2.01	0.41
30:DA:46:LYS:O	30:DA:47:ALA:HB2	2.20	0.41
30:DA:58:VAL:HG22	30:DA:99:LEU:HD13	2.00	0.41
32:FA:2:PRO:C	32:FA:4:ARG:H	2.23	0.41
43:QA:3:ALA:N	43:QA:5:LYS:HZ3	2.13	0.41
48:VA:16:ARG:HG3	48:VA:64:ARG:HH12	1.84	0.41
49:WA:32:LEU:HD11	49:WA:94:VAL:HG11	2.01	0.41
49:WA:47:LEU:HD22	49:WA:54:PHE:CD2	2.55	0.41
49:WA:73:LEU:HD22	49:WA:77:GLY:O	2.19	0.41
50:XA:13:ASP:O	50:XA:17:LEU:HD13	2.20	0.41
50:XA:57:LEU:O	50:XA:57:LEU:HD23	2.20	0.41
50:XA:76:ILE:HG22	50:XA:77:SER:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:ZA:147:ASN:HB3	71:SB:3:ASN:HA	2.00	0.41
53:AB:25:PHE:HA	53:AB:28:GLU:HB3	2.01	0.41
54:BB:62:LYS:O	54:BB:66:MET:HG2	2.20	0.41
54:BB:200:ARG:O	54:BB:201:HIS:HB2	2.19	0.41
55:CB:95:ASN:C	55:CB:97:LEU:H	2.24	0.41
58:FB:172:ARG:HB3	58:FB:175:GLN:HG3	2.01	0.41
60:HB:50:THR:HG22	60:HB:55:VAL:HG13	2.02	0.41
63:KB:114:ARG:O	63:KB:118:ILE:HG13	2.20	0.41
65:MB:50:THR:O	65:MB:52:LYS:HG3	2.20	0.41
65:MB:107:ILE:HA	65:MB:111:MET:SD	2.60	0.41
68:PB:15:LEU:HB2	68:PB:16:ARG:H	1.77	0.41
69:QB:140:LEU:HA	69:QB:143:ASP:HB2	2.02	0.41
72:TB:47:ILE:HD12	72:TB:47:ILE:O	2.20	0.41
74:VB:86:GLU:HA	74:VB:87:PRO:HD3	1.78	0.41
82:DC:103:ILE:CD1	82:DC:121:VAL:HG23	2.50	0.41
82:DC:244:LEU:O	82:DC:273:PHE:HB2	2.20	0.41
82:DC:647:ILE:HG12	82:DC:685:ARG:HH21	1.85	0.41
82:DC:718:LEU:HA	82:DC:722:PRO:CG	2.50	0.41
83:EC:6820:C:H2'	83:EC:6821:U:C5	2.55	0.41
1:A:398:G:H5"	58:FB:49:ARG:NE	2.30	0.41
1:A:806:A:H2'	1:A:807:A:O4'	2.21	0.41
1:A:884:A:C2	1:A:928:U:O2	2.72	0.41
1:A:965:U:H3'	1:A:966:A:H5'	2.02	0.41
1:A:1147:A:H2'	1:A:1148:C:O4'	2.20	0.41
1:A:1179:G:H2'	1:A:1180:C:C6	2.55	0.41
1:A:1191:U:H2'	1:A:1192:C:C6	2.54	0.41
1:A:1648:A:H2'	1:A:1649:G:C8	2.55	0.41
2:B:55:G:OP1	41:OA:43:LYS:HE3	2.21	0.41
2:B:67:A:N1	2:B:300:G:O2'	2.50	0.41
2:B:398:A:H5"	21:U:3:ARG:HG3	2.02	0.41
2:B:987:U:H2'	2:B:988:U:C6	2.55	0.41
2:B:989:A:H2'	2:B:990:U:O4'	2.21	0.41
2:B:990:U:C3'	2:B:991:G:H5"	2.49	0.41
2:B:1209:G:H2'	2:B:1210:U:O4'	2.20	0.41
2:B:1448:U:H5	2:B:2355:G:N2	2.19	0.41
2:B:1522:U:H4'	2:B:1523:U:OP2	2.19	0.41
2:B:1892:G:C2'	2:B:1893:A:H5"	2.50	0.41
2:B:1933:A:C2'	2:B:1934:G:H5'	2.49	0.41
2:B:2352:A:OP1	21:U:82:ARG:HB3	2.20	0.41
2:B:2475:G:H2'	2:B:2476:C:O4'	2.20	0.41
2:B:2515:A:H2'	2:B:2516:U:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:130:SER:HB3	6:F:171:GLY:CA	2.47	0.41
6:F:177:LYS:HB2	47:UA:29:LEU:CD1	2.38	0.41
7:G:294:GLY:O	7:G:303:LYS:HE2	2.20	0.41
11:K:98:LYS:HB3	11:K:99:PRO:CD	2.40	0.41
12:L:24:ASN:N	12:L:25:PRO:CD	2.79	0.41
12:L:79:GLN:C	12:L:81:THR:H	2.24	0.41
15:O:15:GLU:HB3	15:O:130:VAL:HG13	2.02	0.41
15:O:17:LEU:HD13	15:O:129:VAL:HG22	2.01	0.41
20:T:186:ALA:C	20:T:188:SER:H	2.24	0.41
21:U:14:SER:HB3	21:U:149:VAL:HG13	2.01	0.41
23:W:35:ALA:HB1	23:W:40:ALA:HB3	2.03	0.41
23:W:179:GLU:O	23:W:180:LYS:HB2	2.20	0.41
31:EA:26:VAL:HG12	31:EA:89:VAL:CG2	2.49	0.41
44:RA:122:ARG:HG3	44:RA:122:ARG:O	2.19	0.41
46:TA:71:ARG:CD	46:TA:80:ARG:NH2	2.83	0.41
48:VA:143:THR:CG2	48:VA:150:ILE:HG23	2.49	0.41
49:WA:59:ARG:HD3	49:WA:97:GLY:N	2.34	0.41
49:WA:93:ASP:HB2	49:WA:100:TYR:CE1	2.54	0.41
49:WA:201:THR:OG1	49:WA:242:SER:HA	2.20	0.41
50:XA:39:ASN:HD22	50:XA:40:ALA:H	1.67	0.41
50:XA:126:PRO:CG	50:XA:151:SER:HB3	2.48	0.41
53:AB:49:ILE:HG13	53:AB:87:TYR:HD2	1.85	0.41
53:AB:162:GLN:N	53:AB:163:PRO:HD2	2.34	0.41
54:BB:107:GLY:HA3	54:BB:189:LEU:HD23	2.02	0.41
54:BB:206:ASP:HB2	54:BB:222:LEU:CD1	2.48	0.41
55:CB:41:LYS:HD2	55:CB:69:PHE:CZ	2.55	0.41
55:CB:43:PHE:CG	55:CB:44:ASN:N	2.88	0.41
56:DB:2:LYS:CG	56:DB:15:THR:HB	2.50	0.41
56:DB:56:ASN:O	56:DB:106:LEU:HB3	2.20	0.41
56:DB:77:LEU:CD1	56:DB:95:LYS:HB2	2.42	0.41
60:HB:16:PHE:HE2	60:HB:73:VAL:O	2.03	0.41
63:KB:39:LYS:HE3	63:KB:39:LYS:HB2	1.92	0.41
63:KB:92:ILE:O	63:KB:96:VAL:HG23	2.19	0.41
69:QB:57:ARG:HH21	69:QB:101:ASN:HD21	1.67	0.41
75:WB:80:LEU:HD13	75:WB:101:TYR:CE2	2.55	0.41
75:WB:83:LEU:O	75:WB:89:ILE:HG12	2.20	0.41
82:DC:378:LEU:HD22	82:DC:409:GLN:CD	2.41	0.41
82:DC:565:GLU:CD	82:DC:676:ILE:HB	2.41	0.41
1:A:401:A:H3'	1:A:402:C:H5"	2.02	0.41
1:A:472:U:H2'	1:A:473:A:C8	2.56	0.41
1:A:601:A:H2'	1:A:602:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1203:A:H62	1:A:1597:A:H2	1.68	0.41
2:B:71:A:OP1	17:Q:62:THR:HG22	2.20	0.41
2:B:339:C:H5'	2:B:339:C:H6	1.85	0.41
2:B:715:A:N6	2:B:782:U:H5'	2.35	0.41
2:B:1067:U:H2'	2:B:1068:C:C6	2.55	0.41
2:B:1185:C:H3'	2:B:1186:G:H5"	2.01	0.41
2:B:1232:C:O2'	2:B:1233:G:H5'	2.20	0.41
2:B:1439:U:H2'	2:B:1440:G:C8	2.55	0.41
2:B:1561:G:N2	2:B:1562:C:C2	2.89	0.41
2:B:1774:C:C2'	2:B:1775:G:H5"	2.48	0.41
2:B:1833:G:H5"	43:QA:10:LYS:HD2	2.02	0.41
2:B:1940:G:N2	2:B:3362:A:C8	2.85	0.41
2:B:2462:A:H4'	2:B:2485:A:H2	1.86	0.41
2:B:2697:A:H2'	2:B:2698:G:H8	1.84	0.41
2:B:2828:G:OP1	14:N:7:ARG:NH1	2.53	0.41
2:B:2830:G:H2'	2:B:2831:G:C8	2.55	0.41
2:B:3346:U:H2'	2:B:3347:A:C8	2.55	0.41
3:C:108:C:O5'	3:C:108:C:H6	2.03	0.41
4:D:7:G:P	9:I:50:ARG:HH22	2.43	0.41
4:D:48:U:O2	4:D:50:U:C4	2.74	0.41
4:D:97:A:OP1	24:X:43:TYR:CD1	2.74	0.41
5:E:132:GLY:CA	83:EC:6818:G:H4'	2.51	0.41
6:F:30:ARG:HG3	6:F:36:GLU:OE1	2.20	0.41
6:F:118:GLU:HA	6:F:158:ILE:HG21	2.01	0.41
8:H:359:LEU:HD23	8:H:359:LEU:C	2.41	0.41
9:I:45:ASN:HD22	9:I:45:ASN:HA	1.62	0.41
10:J:8:LYS:H	10:J:8:LYS:CD	2.17	0.41
11:K:118:LYS:HB2	11:K:195:PHE:CD1	2.55	0.41
11:K:233:GLU:HG3	24:X:35:VAL:CG2	2.50	0.41
12:L:93:LEU:CD2	12:L:214:LEU:HD22	2.47	0.41
13:M:100:ASN:HD22	13:M:115:ARG:CD	2.33	0.41
15:O:20:ASN:O	15:O:126:ASP:HB2	2.19	0.41
17:Q:63:VAL:CG1	32:FA:128:ARG:NH2	2.79	0.41
20:T:84:LEU:HD23	20:T:84:LEU:C	2.40	0.41
21:U:179:GLN:C	21:U:181:ARG:H	2.24	0.41
22:V:2:GLY:C	22:V:3:ILE:HD12	2.41	0.41
24:X:12:ARG:CD	24:X:22:PRO:HD2	2.50	0.41
24:X:107:TYR:CE1	24:X:118:PHE:HD1	2.39	0.41
28:BA:60:LYS:HD3	28:BA:60:LYS:HA	1.94	0.41
31:EA:2:ALA:O	34:HA:37:GLY:HA3	2.20	0.41
32:FA:48:TYR:CD2	32:FA:48:TYR:N	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:IA:96:VAL:HG23	35:IA:98:VAL:HB	2.01	0.41
37:KA:53:TYR:HD1	37:KA:53:TYR:H	1.68	0.41
46:TA:26:THR:OG1	46:TA:71:ARG:HB3	2.19	0.41
47:UA:46:THR:OG1	47:UA:57:CYS:SG	2.76	0.41
48:VA:100:ILE:HG13	48:VA:101:VAL:CG2	2.50	0.41
50:XA:84:ARG:NH2	50:XA:204:TYR:HA	2.35	0.41
53:AB:178:ARG:H	53:AB:178:ARG:HG2	1.68	0.41
55:CB:77:TYR:CD2	55:CB:87:CYS:HB2	2.55	0.41
55:CB:200:ASN:HB3	55:CB:205:SER:HB3	2.02	0.41
56:DB:179:VAL:O	56:DB:179:VAL:HG13	2.20	0.41
56:DB:207:GLU:O	56:DB:210:GLN:HB2	2.21	0.41
57:EB:181:ILE:HD12	57:EB:181:ILE:N	2.35	0.41
57:EB:185:ILE:H	57:EB:185:ILE:CD1	2.32	0.41
58:FB:81:VAL:HG21	58:FB:95:THR:O	2.20	0.41
61:IB:44:THR:HG23	61:IB:44:THR:O	2.20	0.41
61:IB:125:VAL:HA	61:IB:140:VAL:HG12	2.01	0.41
65:MB:75:PRO:CA	65:MB:93:VAL:HB	2.50	0.41
71:SB:1:MET:SD	71:SB:10:GLU:HB3	2.60	0.41
72:TB:45:GLY:O	72:TB:68:ARG:HD2	2.21	0.41
82:DC:115:VAL:HG11	82:DC:145:GLN:OE1	2.20	0.41
82:DC:300:LEU:HG	82:DC:305:ILE:O	2.20	0.41
82:DC:438:MET:HB2	82:DC:441:PHE:CB	2.51	0.41
82:DC:612:PHE:HB2	82:DC:631:ARG:O	2.20	0.41
82:DC:747:LEU:HD12	82:DC:752:GLY:HA3	2.02	0.41
1:A:348:U:H2'	1:A:349:U:H5'	2.01	0.41
1:A:428:A:H2'	1:A:429:G:H5'	2.02	0.41
1:A:624:G:C6	1:A:976:G:N1	2.89	0.41
1:A:761:G:O2'	1:A:762:A:H5'	2.21	0.41
1:A:778:G:H2'	1:A:779:U:H5'	2.01	0.41
1:A:811:A:H2	1:A:816:G:C2	2.39	0.41
1:A:1102:G:H2'	1:A:1103:U:O4'	2.20	0.41
1:A:1346:A:H5'	1:A:1348:A:N7	2.35	0.41
1:A:1498:G:OP2	69:QB:73:VAL:HB	2.20	0.41
1:A:1746:A:H2'	1:A:1747:G:O4'	2.20	0.41
2:B:818:C:H5"	41:OA:10:LYS:CB	2.46	0.41
2:B:880:G:C8	21:U:132:ALA:HB2	2.55	0.41
2:B:1100:U:P	11:K:196:LYS:HD2	2.60	0.41
2:B:1184:A:H2'	2:B:1185:C:H6	1.83	0.41
2:B:1201:C:H6	2:B:1201:C:H5'	1.85	0.41
2:B:1214:U:OP1	24:X:91:TYR:N	2.54	0.41
2:B:1394:A:H4'	2:B:1420:C:H4'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1485:G:C2	2:B:1486:G:C4	3.08	0.41
2:B:1523:U:H5'	29:CA:113:LEU:CB	2.49	0.41
2:B:1724:U:H1'	2:B:1725:C:C5	2.56	0.41
2:B:1869:C:H4'	2:B:3077:A:O2'	2.20	0.41
2:B:2357:A:H2'	2:B:2358:A:C8	2.56	0.41
2:B:2678:A:C2	83:EC:6924:G:H1'	2.55	0.41
2:B:3072:C:H2'	2:B:3073:A:O4'	2.21	0.41
2:B:3256:G:H2'	2:B:3257:C:O4'	2.19	0.41
2:B:3314:A:O5'	2:B:3314:A:H8	2.04	0.41
6:F:155:LYS:HD2	6:F:155:LYS:O	2.20	0.41
6:F:180:LEU:HD11	47:UA:26:VAL:HG21	2.03	0.41
6:F:202:VAL:CG1	6:F:217:GLN:HB3	2.50	0.41
7:G:150:ARG:HG2	7:G:150:ARG:NH1	2.35	0.41
11:K:121:LYS:O	11:K:125:GLU:HG2	2.21	0.41
11:K:180:SER:OG	11:K:183:ASP:HB2	2.21	0.41
17:Q:60:ALA:O	17:Q:66:ASN:HA	2.20	0.41
21:U:18:ARG:HA	21:U:94:LEU:HD11	2.03	0.41
24:X:81:TYR:CE1	24:X:88:HIS:HB2	2.54	0.41
24:X:90:MET:CE	24:X:92:LYS:HE2	2.50	0.41
24:X:107:TYR:CE1	24:X:121:ILE:HG21	2.55	0.41
24:X:155:ARG:HD3	24:X:172:TYR:CE2	2.56	0.41
31:EA:123:GLN:O	31:EA:124:ALA:HB3	2.20	0.41
32:FA:6:THR:HG22	32:FA:8:THR:H	1.85	0.41
32:FA:126:LYS:HE3	32:FA:126:LYS:HB2	1.90	0.41
34:HA:90:VAL:HG12	34:HA:91:SER:N	2.34	0.41
34:HA:95:ALA:HB1	34:HA:100:ILE:HD11	2.01	0.41
37:KA:52:VAL:HG21	37:KA:99:ARG:NE	2.35	0.41
39:MA:32:LYS:O	39:MA:35:LYS:N	2.52	0.41
39:MA:32:LYS:C	39:MA:34:GLN:N	2.74	0.41
40:NA:66:GLU:O	40:NA:70:ARG:HG3	2.21	0.41
43:QA:3:ALA:O	43:QA:4:GLN:HG3	2.21	0.41
44:RA:82:LEU:C	44:RA:84:ALA:H	2.22	0.41
48:VA:77:LEU:HB3	48:VA:78:PRO:HD3	2.03	0.41
49:WA:88:THR:HG22	49:WA:103:PHE:O	2.21	0.41
49:WA:161:LYS:O	49:WA:161:LYS:HG3	2.21	0.41
49:WA:176:LYS:HE3	49:WA:197:SER:CA	2.49	0.41
50:XA:84:ARG:HG2	50:XA:84:ARG:NH1	2.35	0.41
52:ZA:139:ILE:HG22	52:ZA:141:ARG:HG2	2.02	0.41
53:AB:51:ARG:NH1	53:AB:51:ARG:HB2	2.35	0.41
56:DB:63:MET:HE1	56:DB:106:LEU:CD2	2.50	0.41
58:FB:159:GLN:HB2	58:FB:165:LEU:CD2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:IB:128:CYS:SG	61:IB:138:ASN:CB	3.08	0.41
67:OB:17:ILE:HG12	67:OB:24:LEU:CD1	2.48	0.41
68:PB:48:LYS:NZ	69:QB:35:ASP:O	2.48	0.41
74:VB:91:LEU:HD13	74:VB:96:LEU:CB	2.44	0.41
74:VB:96:LEU:HD12	74:VB:96:LEU:N	2.36	0.41
79:AC:14:TYR:CD1	79:AC:14:TYR:N	2.88	0.41
80:BC:50:VAL:HG12	80:BC:53:LYS:O	2.20	0.41
82:DC:322:VAL:HA	82:DC:325:ARG:HD2	2.03	0.41
83:EC:6863:C:H42	83:EC:6867:C:H41	1.68	0.41
1:A:185:U:H2'	1:A:186:C:H5"	2.01	0.41
1:A:540:G:H4'	1:A:541:A:H2'	2.01	0.41
1:A:629:U:H2'	1:A:630:A:C4'	2.50	0.41
1:A:795:U:C5	1:A:796:A:N7	2.88	0.41
1:A:841:U:H2'	1:A:842:C:C6	2.55	0.41
1:A:855:A:H2'	1:A:856:A:H3'	2.02	0.41
1:A:872:G:H2'	1:A:873:U:O4'	2.20	0.41
1:A:1199:G:C6	79:AC:40:ARG:HD3	2.55	0.41
1:A:1208:A:C2	1:A:1209:C:C6	3.08	0.41
1:A:1359:C:N4	1:A:1360:A:C2	2.89	0.41
1:A:1562:G:H2'	1:A:1563:C:C6	2.56	0.41
1:A:1673:G:H1	1:A:1728:A:N6	2.14	0.41
1:A:1680:G:H1'	1:A:1721:A:H62	1.85	0.41
2:B:62:A:O2'	2:B:63:A:H5'	2.20	0.41
2:B:237:G:H2'	2:B:238:A:O4'	2.19	0.41
2:B:512:U:O2'	2:B:513:G:H5'	2.21	0.41
2:B:536:U:H3	2:B:557:A:H62	1.67	0.41
2:B:710:A:H2'	2:B:711:A:C8	2.55	0.41
2:B:2173:U:H2'	2:B:2174:G:C8	2.55	0.41
2:B:2254:U:C2	2:B:2261:G:O6	2.73	0.41
2:B:2512:C:H2'	2:B:2513:U:C6	2.55	0.41
2:B:2825:C:C5	2:B:2826:U:C5	3.09	0.41
2:B:3078:U:O2	2:B:3078:U:C2'	2.68	0.41
2:B:3168:A:C2'	2:B:3169:U:H5'	2.51	0.41
2:B:3346:U:O5'	2:B:3346:U:H6	2.04	0.41
3:C:43:A:H2'	3:C:44:A:H8	1.85	0.41
6:F:37:ARG:HG3	6:F:38:HIS:CD2	2.55	0.41
6:F:80:GLU:CG	47:UA:76:ALA:HB1	2.37	0.41
7:G:14:LEU:C	7:G:16:PHE:H	2.24	0.41
7:G:212:ASN:O	7:G:281:LYS:HG3	2.20	0.41
8:H:93:MET:H	8:H:93:MET:CE	2.34	0.41
8:H:187:LEU:HD23	8:H:188:ARG:H	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:281:ILE:HG13	22:V:125:ASP:CB	2.44	0.41
9:I:83:LEU:N	9:I:84:PRO:CD	2.84	0.41
11:K:80:GLN:O	11:K:81:HIS:C	2.58	0.41
16:P:110:ILE:CG2	16:P:129:THR:HG21	2.51	0.41
17:Q:42:ARG:O	17:Q:46:ILE:HB	2.21	0.41
18:R:85:TRP:NE1	18:R:90:VAL:HG13	2.35	0.41
19:S:21:PHE:O	19:S:25:VAL:HG23	2.21	0.41
23:W:88:ARG:HG2	23:W:88:ARG:NH1	2.36	0.41
24:X:14:LEU:HA	24:X:15:PRO:HD3	1.93	0.41
27:AA:59:MET:HE1	27:AA:75:PRO:HG3	2.01	0.41
27:AA:132:ASN:N	27:AA:132:ASN:ND2	2.69	0.41
29:CA:91:ASN:H	29:CA:94:GLN:HB2	1.85	0.41
30:DA:117:ALA:HA	30:DA:120:GLN:HG3	2.01	0.41
38:LA:91:ARG:O	38:LA:92:ALA:C	2.59	0.41
48:VA:9:ALA:HA	48:VA:12:PHE:CD2	2.55	0.41
48:VA:61:ARG:O	48:VA:61:ARG:HD2	2.20	0.41
49:WA:152:SER:O	49:WA:153:GLN:HG3	2.20	0.41
54:BB:41:SER:O	54:BB:43:PRO:HD3	2.20	0.41
55:CB:79:ASN:HD22	55:CB:79:ASN:H	1.67	0.41
55:CB:134:VAL:O	55:CB:138:THR:HG23	2.19	0.41
56:DB:3:LEU:HG	56:DB:18:ILE:HG13	2.02	0.41
56:DB:133:LEU:HD12	56:DB:133:LEU:N	2.36	0.41
57:EB:182:VAL:CG1	57:EB:183:PHE:H	2.34	0.41
58:FB:38:ILE:HG12	58:FB:96:LEU:HD11	2.02	0.41
58:FB:138:ASN:HA	58:FB:141:ARG:NE	2.36	0.41
58:FB:155:SER:O	58:FB:159:GLN:HG3	2.20	0.41
59:GB:136:VAL:O	59:GB:136:VAL:HG12	2.20	0.41
60:HB:12:HIS:CD2	60:HB:76:LEU:HD13	2.56	0.41
63:KB:113:PHE:CE1	63:KB:117:LEU:HD11	2.55	0.41
66:NB:62:ASN:OD1	66:NB:63:ILE:HG23	2.20	0.41
67:OB:85:VAL:O	67:OB:88:VAL:N	2.54	0.41
68:PB:71:GLN:HA	68:PB:74:GLN:HG2	2.02	0.41
69:QB:52:GLY:HA2	69:QB:55:TYR:HD2	1.85	0.41
69:QB:67:MET:HB3	69:QB:68:ARG:HH21	1.86	0.41
70:RB:43:LYS:HA	70:RB:43:LYS:HD2	1.90	0.41
72:TB:68:ARG:HG2	72:TB:68:ARG:NH1	2.35	0.41
73:UB:56:LYS:HE3	80:BC:8:LEU:HD13	2.03	0.41
73:UB:110:LYS:HB3	73:UB:110:LYS:HZ3	1.84	0.41
74:VB:82:ALA:O	74:VB:86:GLU:HG2	2.20	0.41
77:YB:40:CYS:C	77:YB:42:ASN:H	2.23	0.41
82:DC:485:VAL:HG12	82:DC:533:THR:HG23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:750:LYS:O	82:DC:751:ARG:C	2.58	0.41
83:EC:6888:A:P	83:EC:6936:G:H5"	2.61	0.41
1:A:38:C:C2'	1:A:39:A:H5'	2.51	0.41
1:A:138:A:H62	1:A:266:A:N6	2.18	0.41
1:A:140:A:C4'	1:A:141:U:H5'	2.50	0.41
1:A:198:A:H3'	1:A:199:G:H8	1.84	0.41
1:A:222:A:C2'	1:A:223:U:H5'	2.51	0.41
1:A:241:U:H5'	56:DB:216:LEU:HD11	2.01	0.41
1:A:478:A:H4'	59:GB:127:VAL:HG21	2.01	0.41
1:A:479:C:OP1	59:GB:121:SER:HB3	2.20	0.41
1:A:603:U:H2'	1:A:604:A:C8	2.55	0.41
1:A:790:U:O2'	1:A:791:A:H5'	2.20	0.41
1:A:867:G:H21	63:KB:87:ASP:CB	2.33	0.41
1:A:994:G:OP1	1:A:1004:U:H5'	2.20	0.41
1:A:1158:C:O2'	1:A:1161:C:H5	2.03	0.41
1:A:1448:G:C2'	1:A:1449:U:H5'	2.50	0.41
1:A:1448:G:H2'	1:A:1449:U:H5'	2.02	0.41
1:A:1630:U:C2'	1:A:1632:C:H5	2.31	0.41
1:A:1727:G:N2	58:FB:32:GLN:HE22	2.18	0.41
2:B:1316:C:OP1	20:T:129:LEU:HA	2.21	0.41
2:B:1429:G:C4	8:H:99:MET:HE2	2.55	0.41
2:B:1826:C:P	42:PA:48:SER:HB3	2.61	0.41
2:B:2291:A:O2'	2:B:2292:U:H5'	2.21	0.41
2:B:2992:U:H1'	21:U:69:ARG:NH1	2.36	0.41
2:B:3150:A:OP1	7:G:132:LYS:HB2	2.20	0.41
2:B:3216:G:O6	2:B:3259:U:H2'	2.20	0.41
2:B:3291:G:O2'	2:B:3292:A:H5'	2.21	0.41
2:B:3391:A:H2'	2:B:3392:U:C6	2.56	0.41
3:C:83:C:H1'	3:C:85:G:H21	1.85	0.41
4:D:49:G:N7	9:I:58:LYS:CG	2.84	0.41
5:E:191:VAL:HA	5:E:197:ASN:ND2	2.35	0.41
6:F:41:ILE:HG12	6:F:42:ARG:N	2.36	0.41
6:F:112:ILE:O	6:F:112:ILE:HG22	2.21	0.41
6:F:166:ILE:HD13	6:F:166:ILE:HA	1.94	0.41
7:G:19:ARG:HG3	7:G:273:HIS:NE2	2.35	0.41
7:G:46:PHE:HE2	7:G:81:THR:HB	1.86	0.41
7:G:92:TYR:CE2	7:G:101:SER:HB3	2.56	0.41
7:G:244:ARG:HG3	7:G:244:ARG:O	2.19	0.41
7:G:347:SER:C	7:G:349:LYS:H	2.24	0.41
8:H:238:LEU:HD23	8:H:238:LEU:HA	1.84	0.41
9:I:6:ASP:O	9:I:7:ALA:C	2.59	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:33:ARG:HG3	9:I:33:ARG:HH11	1.86	0.41
9:I:50:ARG:O	9:I:64:ILE:HA	2.20	0.41
9:I:207:TYR:O	9:I:211:LEU:HB2	2.21	0.41
13:M:147:SER:HB2	13:M:187:ILE:CG1	2.50	0.41
15:O:14:ILE:HG12	15:O:131:MET:SD	2.60	0.41
17:Q:119:TYR:HA	17:Q:145:PHE:CZ	2.56	0.41
18:R:75:GLY:O	18:R:76:ALA:C	2.59	0.41
19:S:84:PRO:HA	19:S:87:GLN:HG3	2.02	0.41
23:W:117:LYS:HG3	23:W:118:HIS:HD2	1.85	0.41
31:EA:17:ARG:HE	31:EA:17:ARG:HB3	1.58	0.41
32:FA:131:SER:HB3	32:FA:134:ALA:HB2	2.03	0.41
35:IA:29:ALA:O	35:IA:32:ALA:HB3	2.20	0.41
35:IA:70:ARG:HH21	35:IA:70:ARG:HG3	1.86	0.41
35:IA:107:VAL:HG12	35:IA:108:VAL:H	1.85	0.41
37:KA:53:TYR:N	37:KA:53:TYR:CD1	2.88	0.41
38:LA:95:ILE:HG13	38:LA:95:ILE:H	1.71	0.41
39:MA:26:LYS:O	39:MA:30:GLU:HB2	2.20	0.41
41:OA:25:ARG:O	41:OA:25:ARG:CD	2.68	0.41
41:OA:28:HIS:HE1	41:OA:30:GLN:HB2	1.85	0.41
50:XA:76:ILE:HB	50:XA:123:VAL:HG12	2.03	0.41
54:BB:210:ILE:HD11	54:BB:225:VAL:CG2	2.50	0.41
54:BB:256:ARG:O	54:BB:259:GLN:HG2	2.19	0.41
58:FB:12:SER:N	58:FB:18:ARG:HE	2.18	0.41
59:GB:110:GLN:HA	59:GB:129:ILE:HD11	2.02	0.41
60:HB:3:MET:CE	60:HB:8:ARG:HD3	2.50	0.41
60:HB:69:THR:O	60:HB:73:VAL:HG23	2.21	0.41
60:HB:82:LEU:CB	60:HB:86:ILE:HG21	2.45	0.41
61:IB:32:LYS:HG2	61:IB:33:ARG:H	1.85	0.41
61:IB:80:MET:HE2	61:IB:83:THR:HG23	2.02	0.41
68:PB:89:GLN:C	68:PB:91:ASP:H	2.24	0.41
68:PB:92:ILE:CG2	68:PB:93:THR:H	2.24	0.41
68:PB:104:ASN:O	68:PB:108:LYS:HB2	2.20	0.41
68:PB:119:ILE:O	68:PB:120:ARG:HB2	2.19	0.41
70:RB:53:LYS:CG	70:RB:92:ASP:HB2	2.51	0.41
79:AC:21:CYS:HB2	79:AC:30:LEU:CD2	2.43	0.41
79:AC:40:ARG:HG3	79:AC:40:ARG:NH1	2.36	0.41
79:AC:43:PHE:O	79:AC:43:PHE:HD1	2.03	0.41
82:DC:586:ILE:HD12	82:DC:708:THR:CG2	2.50	0.41
82:DC:592:PRO:HA	82:DC:683:SER:O	2.21	0.41
82:DC:650:THR:HG22	82:DC:690:ASP:HA	2.02	0.41
83:EC:6835:U:H2'	83:EC:6876:A:N6	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1586:A:H61	1:A:1610:G:H1'	1.86	0.41
1:A:1682:U:O2'	1:A:1683:C:H5'	2.21	0.41
2:B:83:U:O2'	2:B:84:U:H5'	2.21	0.41
2:B:671:U:O2'	2:B:672:A:H5'	2.20	0.41
2:B:788:C:H2'	2:B:789:A:O4'	2.21	0.41
2:B:825:U:O2'	2:B:1587:A:H2	2.03	0.41
2:B:871:U:H2'	2:B:872:U:O4'	2.20	0.41
2:B:966:U:H2'	2:B:967:A:C8	2.56	0.41
2:B:1079:A:H2'	2:B:1080:A:C8	2.55	0.41
2:B:1126:G:H2'	2:B:1127:G:O4'	2.21	0.41
2:B:1261:G:N7	48:VA:35:SER:OG	2.51	0.41
2:B:1479:U:O4	2:B:1480:G:C2	2.74	0.41
2:B:1481:A:C4'	2:B:1481:A:OP1	2.69	0.41
2:B:1663:C:O2'	2:B:1664:G:H5'	2.19	0.41
2:B:1675:G:N2	2:B:1773:C:C4	2.89	0.41
2:B:1957:G:H2'	2:B:1958:U:O4'	2.20	0.41
2:B:2135:U:O2'	2:B:2136:C:H5'	2.21	0.41
2:B:2638:C:O5'	2:B:2638:C:H6	2.04	0.41
2:B:2698:G:H2'	2:B:2699:G:O4'	2.21	0.41
2:B:2955:U:O2'	2:B:2956:A:H5'	2.20	0.41
2:B:2961:G:H2'	2:B:2962:U:C6	2.56	0.41
2:B:3025:C:OP1	13:M:96:HIS:HB2	2.21	0.41
2:B:3099:C:H42	2:B:3135:U:H3	1.69	0.41
2:B:3157:U:O4'	2:B:3158:G:C8	2.74	0.41
2:B:3164:C:O2'	2:B:3165:A:O5'	2.39	0.41
2:B:3211:C:C4	2:B:3212:C:C5	3.09	0.41
2:B:3391:A:H2'	2:B:3392:U:H6	1.86	0.41
4:D:16:U:H2'	4:D:17:A:O4'	2.20	0.41
9:I:146:LEU:HD22	9:I:163:LEU:HD13	2.03	0.41
9:I:177:GLU:O	9:I:183:TRP:CE3	2.73	0.41
11:K:114:GLY:O	11:K:115:THR:HG23	2.21	0.41
12:L:114:ALA:HA	12:L:118:GLU:OE1	2.20	0.41
13:M:31:ARG:HB3	13:M:82:VAL:C	2.41	0.41
15:O:12:LEU:HD23	15:O:133:ARG:NE	2.36	0.41
15:O:94:ARG:C	15:O:96:PHE:H	2.24	0.41
16:P:64:ILE:HG13	16:P:71:ALA:HB3	2.02	0.41
16:P:133:LEU:HG	16:P:137:GLN:HG3	2.03	0.41
17:Q:98:ASP:CG	17:Q:101:ARG:HB2	2.40	0.41
19:S:6:TYR:O	19:S:10:LEU:HB2	2.19	0.41
20:T:41:LEU:O	20:T:138:LEU:HB2	2.21	0.41
24:X:10:ILE:O	24:X:59:VAL:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:99:ARG:HH11	24:X:99:ARG:CG	2.28	0.41
27:AA:33:ASN:ND2	27:AA:64:LYS:HB3	2.35	0.41
29:CA:110:VAL:CG2	29:CA:124:VAL:HG22	2.35	0.41
30:DA:109:LEU:HD22	30:DA:115:ARG:HH12	1.84	0.41
32:FA:46:ASP:O	32:FA:47:LYS:HG2	2.20	0.41
32:FA:82:ILE:HD11	32:FA:102:ILE:CG1	2.51	0.41
32:FA:104:THR:O	32:FA:107:ALA:HB3	2.21	0.41
38:LA:95:ILE:O	38:LA:99:LYS:N	2.53	0.41
40:NA:53:TYR:CD1	40:NA:76:ARG:HG2	2.55	0.41
48:VA:77:LEU:N	48:VA:78:PRO:HD2	2.36	0.41
48:VA:154:SER:C	48:VA:156:VAL:H	2.24	0.41
49:WA:16:HIS:CE1	49:WA:43:ILE:HB	2.56	0.41
49:WA:229:LYS:HA	53:AB:222:VAL:CB	2.50	0.41
50:XA:39:ASN:O	50:XA:47:VAL:HG23	2.20	0.41
52:ZA:207:LEU:HA	52:ZA:207:LEU:HD23	1.87	0.41
54:BB:65:LEU:HB3	54:BB:78:THR:OG1	2.20	0.41
56:DB:68:LEU:N	56:DB:100:ALA:HB3	2.36	0.41
56:DB:226:ILE:H	56:DB:226:ILE:HG13	1.76	0.41
60:HB:48:SER:O	60:HB:52:LYS:HD2	2.20	0.41
66:NB:75:VAL:HA	66:NB:78:VAL:HG23	2.03	0.41
68:PB:33:THR:HG22	68:PB:39:GLY:C	2.41	0.41
68:PB:132:ARG:NE	68:PB:132:ARG:HA	2.36	0.41
70:RB:52:LYS:HB3	70:RB:93:LEU:CD2	2.44	0.41
73:UB:116:ASP:O	73:UB:118:PRO:HD3	2.21	0.41
77:YB:56:CYS:HB3	77:YB:57:GLU:H	1.69	0.41
82:DC:158:ASN:O	82:DC:159:LYS:HB2	2.21	0.41
82:DC:723:LYS:HG3	82:DC:724:ILE:N	2.35	0.41
83:EC:6896:A:H4'	83:EC:6897:G:OP1	2.21	0.41
1:A:94:U:H2'	1:A:95:G:H5'	2.03	0.41
1:A:118:U:H4'	1:A:397:A:H1'	2.03	0.41
1:A:251:A:H2'	1:A:252:U:O4'	2.21	0.41
1:A:330:G:O2'	1:A:331:A:H5'	2.21	0.41
1:A:619:A:C5'	1:A:1141:G:H4'	2.50	0.41
1:A:782:U:H3	74:VB:48:TYR:HD1	1.68	0.41
1:A:1348:A:H61	1:A:1377:U:H3	1.68	0.41
1:A:1486:G:C6	1:A:1522:U:C5	3.09	0.41
1:A:1641:C:H4'	45:SA:1:MET:HB2	2.02	0.41
1:A:1724:U:H2'	1:A:1725:U:C6	2.55	0.41
2:B:26:A:N3	2:B:328:U:O2'	2.50	0.41
2:B:270:U:C4	2:B:271:C:C5	3.08	0.41
2:B:451:U:H2'	2:B:452:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:800:G:O6	8:H:104:LYS:HE3	2.21	0.41
2:B:970:A:H8	2:B:970:A:O5'	2.03	0.41
2:B:1043:C:O2'	2:B:1044:U:H5'	2.21	0.41
2:B:1138:U:O3'	11:K:97:PRO:HD3	2.21	0.41
2:B:1156:C:H2'	2:B:1157:G:O4'	2.20	0.41
2:B:1646:G:H1'	2:B:1808:G:N2	2.36	0.41
2:B:1833:G:C5	2:B:1834:U:N3	2.89	0.41
2:B:1922:A:H2'	2:B:1923:C:O4'	2.20	0.41
2:B:2480:A:C2'	2:B:2481:G:H5'	2.50	0.41
2:B:2512:C:H2'	2:B:2513:U:O4'	2.20	0.41
2:B:2688:U:O2'	9:I:16:PHE:HA	2.21	0.41
3:C:111:A:O2'	3:C:112:U:H5'	2.20	0.41
4:D:3:U:H2'	4:D:4:U:H6	1.83	0.41
4:D:39:C:O2	15:O:69:VAL:HA	2.21	0.41
7:G:154:TYR:O	7:G:155:ALA:C	2.59	0.41
9:I:103:LEU:HD21	9:I:248:ARG:NE	2.36	0.41
9:I:159:VAL:C	9:I:161:GLY:H	2.23	0.41
10:J:40:LEU:HB3	10:J:84:VAL:CG1	2.50	0.41
11:K:132:PRO:HA	11:K:229:PHE:CZ	2.55	0.41
12:L:61:GLN:HB2	19:S:28:TRP:HH2	1.84	0.41
12:L:203:VAL:HG22	12:L:204:ARG:N	2.36	0.41
12:L:203:VAL:CG2	12:L:207:ASP:HB2	2.51	0.41
14:N:168:SER:C	14:N:170:LYS:H	2.24	0.41
18:R:37:GLU:HG3	18:R:38:ILE:N	2.35	0.41
19:S:37:HIS:CE1	19:S:63:ARG:HB3	2.55	0.41
24:X:124:LEU:O	24:X:126:VAL:HG23	2.21	0.41
24:X:140:VAL:C	24:X:142:GLN:N	2.74	0.41
26:Z:93:ILE:H	26:Z:93:ILE:HG13	1.67	0.41
36:JA:49:ASN:O	36:JA:50:ILE:C	2.59	0.41
40:NA:45:ARG:NH2	40:NA:93:ILE:HG13	2.36	0.41
44:RA:127:LEU:HD21	44:RA:128:LYS:HE2	2.03	0.41
49:WA:10:ARG:CG	49:WA:314:GLN:HG3	2.51	0.41
50:XA:153:SER:O	71:SB:63:GLY:HA2	2.20	0.41
52:ZA:161:LYS:HG2	52:ZA:162:CYS:N	2.36	0.41
54:BB:183:VAL:HG12	54:BB:185:GLY:H	1.86	0.41
55:CB:157:ARG:N	55:CB:157:ARG:HD2	2.36	0.41
58:FB:142:LYS:O	58:FB:146:ARG:HG3	2.21	0.41
59:GB:28:LEU:HD22	59:GB:31:ALA:HB3	2.02	0.41
59:GB:48:GLN:O	59:GB:52:ILE:HG13	2.21	0.41
61:IB:21:ASN:CB	61:IB:31:THR:HG23	2.50	0.41
68:PB:100:THR:HB	68:PB:105:VAL:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:PB:113:LEU:O	68:PB:117:LYS:HB2	2.21	0.41
70:RB:40:ASN:OD1	70:RB:44:ASN:ND2	2.53	0.41
70:RB:55:PRO:HA	70:RB:91:ILE:HG12	2.02	0.41
73:UB:18:HIS:O	73:UB:22:ASN:ND2	2.53	0.41
73:UB:56:LYS:HA	73:UB:72:VAL:HG12	2.03	0.41
74:VB:12:VAL:C	74:VB:13:ILE:HD12	2.40	0.41
78:ZB:16:LEU:HD11	78:ZB:41:VAL:HG13	2.03	0.41
78:ZB:40:ILE:HG22	78:ZB:41:VAL:N	2.36	0.41
82:DC:25:ILE:HA	82:DC:142:VAL:CG1	2.46	0.41
82:DC:288:ILE:HG23	82:DC:319:LEU:CD2	2.51	0.41
82:DC:386:VAL:HG12	82:DC:397:PHE:HB2	2.02	0.41
82:DC:456:LEU:HD12	82:DC:459:ILE:HD11	2.03	0.41
82:DC:612:PHE:O	82:DC:631:ARG:HA	2.21	0.41
82:DC:836:GLN:HE21	82:DC:837:GLU:HG2	1.86	0.41
83:EC:6951:C:H2'	83:EC:6952:U:H6	1.86	0.41
1:A:15:U:H2'	1:A:16:G:H5'	2.03	0.41
1:A:96:G:H4'	1:A:460:A:O3'	2.21	0.41
1:A:166:C:H3'	1:A:167:U:C6	2.55	0.41
1:A:235:G:H2'	1:A:236:A:O4'	2.21	0.41
1:A:333:A:C8	58:FB:49:ARG:HG2	2.56	0.41
1:A:396:G:N2	1:A:399:A:H5'	2.26	0.41
1:A:416:A:H5'	1:A:417:A:N7	2.36	0.41
1:A:545:A:H1'	1:A:546:U:C6	2.56	0.41
1:A:645:C:H2'	1:A:646:C:O4'	2.20	0.41
1:A:648:G:H2'	1:A:649:U:O4'	2.21	0.41
1:A:782:U:O2	1:A:782:U:O4'	2.38	0.41
1:A:1332:C:O2'	53:AB:162:GLN:HB3	2.20	0.41
1:A:1451:C:H2'	1:A:1452:U:H6	1.84	0.41
1:A:1676:U:H1'	1:A:1726:G:N2	2.35	0.41
1:A:1751:C:H2'	1:A:1752:U:C6	2.56	0.41
1:A:1751:C:H2'	1:A:1752:U:O4'	2.21	0.41
2:B:5:G:C3'	2:B:6:A:H5"	2.51	0.41
2:B:52:A:N3	2:B:811:U:O2'	2.50	0.41
2:B:162:G:O2'	2:B:163:C:H5'	2.21	0.41
2:B:206:G:N2	2:B:207:U:H1'	2.36	0.41
2:B:211:A:H3'	8:H:221:ASN:OD1	2.20	0.41
2:B:226:C:H2'	2:B:227:G:O4'	2.21	0.41
2:B:298:U:H5'	40:NA:31:GLY:O	2.21	0.41
2:B:357:A:H2'	2:B:358:G:O4'	2.21	0.41
2:B:394:G:N2	2:B:397:A:C8	2.89	0.41
2:B:519:A:OP1	24:X:62:ASN:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:574:U:C2'	2:B:575:G:H5'	2.51	0.41
2:B:618:C:H5'	21:U:169:THR:HG22	2.03	0.41
2:B:640:U:OP2	36:JA:37:GLY:HA2	2.20	0.41
2:B:892:U:O2'	2:B:893:C:H5'	2.21	0.41
2:B:935:U:H6	2:B:935:U:O5'	2.04	0.41
2:B:975:C:OP1	22:V:16:ARG:HG3	2.21	0.41
2:B:1079:A:H4'	9:I:140:ARG:O	2.21	0.41
2:B:1174:G:H1'	2:B:1318:A:N7	2.36	0.41
2:B:1212:A:H1'	24:X:114:HIS:NE2	2.35	0.41
2:B:1234:G:C5'	16:P:118:ASP:O	2.69	0.41
2:B:1258:U:H1'	48:VA:42:ARG:NH2	2.36	0.41
2:B:1260:A:N7	2:B:1261:G:C6	2.89	0.41
2:B:1419:A:C8	8:H:187:LEU:HD13	2.56	0.41
2:B:1602:A:N7	2:B:1603:A:C6	2.88	0.41
2:B:1733:G:H2'	2:B:1734:G:C8	2.55	0.41
2:B:1792:C:O2'	2:B:1794:G:H2'	2.21	0.41
2:B:1815:U:H1'	2:B:1816:A:OP2	2.21	0.41
2:B:1833:G:C2'	2:B:1834:U:H5'	2.51	0.41
2:B:2151:C:C2'	2:B:2152:A:H5'	2.51	0.41
2:B:2156:C:H2'	2:B:2178:A:H61	1.85	0.41
2:B:2157:G:O6	2:B:2178:A:H2'	2.21	0.41
2:B:2185:G:C5	2:B:2186:U:C4	3.09	0.41
2:B:2188:A:C2'	2:B:2189:U:H5'	2.51	0.41
2:B:2256:A:H3'	2:B:2256:A:N3	2.34	0.41
2:B:2258:U:H6	2:B:2258:U:H3'	1.86	0.41
2:B:2403:G:OP1	2:B:2403:G:H4'	2.21	0.41
2:B:2534:G:H2'	2:B:2535:A:O4'	2.21	0.41
2:B:2716:U:O2'	2:B:2717:U:H5'	2.21	0.41
2:B:2772:C:H4'	2:B:2773:C:C5'	2.51	0.41
2:B:2830:G:H2'	2:B:2831:G:H8	1.86	0.41
2:B:2885:C:O2'	2:B:2886:U:H5'	2.21	0.41
2:B:3119:U:H4'	44:RA:104:PRO:HG2	2.03	0.41
2:B:3165:A:H2'	2:B:3166:C:C6	2.55	0.41
3:C:10:A:H2'	3:C:11:C:C6	2.56	0.41
3:C:38:U:C6	39:MA:78:LYS:HB3	2.55	0.41
3:C:58:G:O2'	3:C:99:C:H4'	2.21	0.41
3:C:59:A:H3'	3:C:59:A:OP2	2.20	0.41
3:C:71:A:O4'	3:C:88:A:C2	2.74	0.41
4:D:19:C:H2'	4:D:20:A:C8	2.56	0.41
6:F:94:ALA:HB1	6:F:100:ASN:ND2	2.35	0.41
6:F:221:LYS:O	6:F:222:ALA:O	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:39:LYS:HE2	7:G:39:LYS:CA	2.50	0.41
7:G:114:VAL:HG22	7:G:163:HIS:NE2	2.35	0.41
7:G:117:ARG:O	7:G:117:ARG:HD3	2.21	0.41
8:H:145:ILE:HD12	8:H:150:LEU:CD1	2.50	0.41
8:H:193:LYS:NZ	8:H:193:LYS:CB	2.84	0.41
8:H:209:TYR:HA	8:H:251:THR:CG2	2.50	0.41
8:H:210:ALA:HB2	8:H:254:ALA:CA	2.50	0.41
8:H:334:PHE:CG	8:H:339:LEU:HD12	2.56	0.41
9:I:99:TYR:O	9:I:165:GLY:HA3	2.21	0.41
9:I:107:ARG:HH12	9:I:120:LYS:HA	1.86	0.41
10:J:89:THR:HG21	18:R:115:PHE:CB	2.51	0.41
11:K:120:THR:O	11:K:124:LEU:HB2	2.21	0.41
11:K:233:GLU:CG	24:X:35:VAL:HG22	2.51	0.41
12:L:85:ASN:O	12:L:88:ALA:HB3	2.21	0.41
12:L:154:ALA:HB2	12:L:196:ALA:HA	2.03	0.41
12:L:184:ALA:O	12:L:187:GLY:N	2.54	0.41
13:M:172:ILE:HD13	13:M:172:ILE:N	2.33	0.41
14:N:36:LEU:O	14:N:86:HIS:HD2	2.01	0.41
14:N:165:ILE:HD13	14:N:165:ILE:N	2.35	0.41
14:N:178:ARG:HB2	14:N:179:PRO:HD3	2.02	0.41
14:N:178:ARG:HB2	14:N:179:PRO:CD	2.51	0.41
14:N:182:LEU:CD2	14:N:185:ARG:HH11	2.34	0.41
17:Q:185:LYS:O	17:Q:188:ARG:HB3	2.20	0.41
18:R:113:THR:HG22	18:R:115:PHE:N	2.27	0.41
19:S:7:LEU:HB3	19:S:46:ASP:HB3	2.02	0.41
19:S:73:ARG:NH1	19:S:86:ASN:O	2.53	0.41
19:S:75:VAL:HA	19:S:76:PRO:HD3	1.82	0.41
20:T:19:LEU:O	20:T:20:ALA:C	2.59	0.41
20:T:75:ALA:O	20:T:79:ILE:HG13	2.21	0.41
20:T:126:VAL:HG13	20:T:126:VAL:O	2.21	0.41
21:U:14:SER:HB3	21:U:149:VAL:CG1	2.51	0.41
21:U:47:TYR:OH	21:U:58:ILE:HD13	2.20	0.41
21:U:142:SER:HA	21:U:143:PRO:HD3	1.82	0.41
22:V:90:ASP:O	22:V:92:ARG:N	2.53	0.41
23:W:78:TYR:O	23:W:80:LYS:N	2.50	0.41
23:W:126:GLU:O	23:W:131:ALA:HB3	2.20	0.41
24:X:131:LYS:O	24:X:134:ASP:HB2	2.21	0.41
30:DA:57:LEU:HD22	30:DA:58:VAL:N	2.35	0.41
30:DA:73:VAL:CG2	30:DA:80:VAL:HG23	2.45	0.41
30:DA:81:GLN:HB3	30:DA:96:PRO:HB3	2.03	0.41
31:EA:4:PHE:HZ	34:HA:35:ARG:HA	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:JA:32:TRP:CG	36:JA:33:ARG:N	2.89	0.41
37:KA:69:GLY:HA2	37:KA:85:PHE:HA	2.03	0.41
38:LA:81:CYS:N	38:LA:84:CYS:HG	2.13	0.41
39:MA:73:LYS:O	39:MA:73:LYS:HG3	2.20	0.41
39:MA:78:LYS:HG2	39:MA:81:ARG:NH1	2.36	0.41
42:PA:73:LEU:HD23	42:PA:73:LEU:O	2.21	0.41
44:RA:109:ASN:HA	44:RA:118:THR:O	2.20	0.41
48:VA:18:TYR:O	48:VA:22:TYR:CD2	2.73	0.41
49:WA:255:ALA:CB	49:WA:292:LEU:HD22	2.51	0.41
50:XA:27:ARG:HB3	50:XA:28:ASN:H	1.57	0.41
50:XA:62:ARG:HD2	71:SB:36:VAL:HG12	2.02	0.41
50:XA:68:PRO:HG2	52:ZA:244:SER:CB	2.51	0.41
50:XA:73:VAL:HB	50:XA:95:ALA:CB	2.51	0.41
53:AB:208:ILE:HG22	53:AB:209:ILE:N	2.34	0.41
54:BB:82:TYR:CG	54:BB:83:PRO:HD2	2.55	0.41
54:BB:126:VAL:HG11	54:BB:154:ILE:HG22	2.02	0.41
54:BB:182:TYR:O	54:BB:226:PHE:HB3	2.21	0.41
54:BB:192:ILE:HG23	54:BB:228:ILE:HD11	2.02	0.41
55:CB:63:GLN:HG3	55:CB:87:CYS:C	2.41	0.41
55:CB:73:THR:HG22	55:CB:75:GLY:H	1.86	0.41
56:DB:160:ARG:O	56:DB:170:THR:HA	2.21	0.41
59:GB:105:LEU:HD12	59:GB:105:LEU:H	1.86	0.41
60:HB:82:LEU:HA	60:HB:83:PRO:HD2	1.77	0.41
61:IB:122:ILE:H	61:IB:122:ILE:CD1	2.19	0.41
63:KB:33:VAL:HG21	63:KB:66:ILE:HG21	2.03	0.41
63:KB:106:ARG:HH21	63:KB:106:ARG:HG2	1.86	0.41
65:MB:60:LEU:O	65:MB:60:LEU:HD13	2.21	0.41
66:NB:81:ILE:HG13	66:NB:82:ARG:N	2.35	0.41
69:QB:42:GLY:HA2	69:QB:84:LYS:HG3	2.03	0.41
69:QB:111:ILE:HD13	69:QB:113:ILE:HD11	2.02	0.41
69:QB:117:SER:OG	69:QB:118:PRO:HD2	2.21	0.41
70:RB:109:GLU:HA	70:RB:110:PRO:HD2	1.86	0.41
72:TB:105:THR:OG1	72:TB:126:LEU:HG	2.19	0.41
73:UB:56:LYS:CD	73:UB:98:GLU:HG3	2.50	0.41
73:UB:96:VAL:CG2	73:UB:97:ASP:N	2.68	0.41
74:VB:25:VAL:HB	74:VB:60:PHE:CZ	2.56	0.41
74:VB:86:GLU:CB	74:VB:91:LEU:HD21	2.50	0.41
75:WB:62:VAL:HG23	75:WB:80:LEU:HD12	2.01	0.41
78:ZB:32:PHE:CE2	78:ZB:38:ARG:HB3	2.56	0.41
78:ZB:38:ARG:HH11	78:ZB:40:ILE:HG12	1.86	0.41
82:DC:82:SER:HB3	82:DC:85:ASP:OD1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:86:VAL:HA	82:DC:89:ILE:HD12	2.02	0.41
82:DC:220:PHE:CB	82:DC:328:LEU:HD13	2.51	0.41
82:DC:222:ILE:HG12	82:DC:223:ARG:H	1.85	0.41
82:DC:288:ILE:CG2	82:DC:319:LEU:HG	2.36	0.41
82:DC:544:ASP:O	82:DC:548:ASP:HB2	2.21	0.41
82:DC:563:TYR:HA	82:DC:725:GLN:O	2.21	0.41
82:DC:731:VAL:HB	82:DC:796:MET:HG2	2.03	0.41
82:DC:804:LEU:HD11	82:DC:814:LYS:CB	2.50	0.41
83:EC:6912:G:H3'	83:EC:6913:U:C5'	2.38	0.41
1:A:55:A:N1	1:A:403:G:H1'	2.36	0.41
1:A:93:A:H62	1:A:396:G:H1'	1.86	0.41
1:A:181:A:H2'	1:A:182:A:C4	2.56	0.41
1:A:450:U:H5"	54:BB:7:LYS:HD2	2.01	0.41
1:A:625:C:O2'	1:A:939:A:H1'	2.21	0.41
1:A:774:A:N3	1:A:774:A:H3'	2.36	0.41
1:A:889:U:H3'	1:A:889:U:H6	1.86	0.41
1:A:1087:A:H5'	1:A:1298:U:C4	2.56	0.41
1:A:1348:A:H2'	1:A:1349:G:C8	2.55	0.41
1:A:1553:G:N2	1:A:1555:A:H3'	2.36	0.41
1:A:1579:U:O2'	66:NB:139:GLN:HG3	2.21	0.41
2:B:22:G:O2'	2:B:23:A:H5'	2.20	0.41
2:B:121:A:C4	12:L:108:ARG:NH1	2.88	0.41
2:B:155:G:H21	40:NA:26:ILE:HG21	1.86	0.41
2:B:281:G:C6	2:B:282:G:C6	3.09	0.41
2:B:347:G:C2	2:B:353:G:C5	3.09	0.41
2:B:634:C:H5"	37:KA:21:ARG:HB3	2.02	0.41
2:B:651:G:O2'	2:B:652:G:H5'	2.20	0.41
2:B:916:G:H1	6:F:207:VAL:HG11	1.84	0.41
2:B:1060:U:O2'	2:B:1061:A:H5'	2.22	0.41
2:B:1066:G:H2'	2:B:1067:U:C6	2.56	0.41
2:B:1143:A:H5'	2:B:1368:U:H1'	2.03	0.41
2:B:1381:A:C2	2:B:1426:C:C2	3.09	0.41
2:B:1585:C:H5"	3:C:109:A:O2'	2.21	0.41
2:B:1908:A:C2	2:B:2336:U:H5'	2.56	0.41
2:B:2143:A:O2'	2:B:2144:A:H8	2.04	0.41
2:B:2470:C:C5'	5:E:26:ARG:HG2	2.51	0.41
2:B:2674:A:H5"	15:O:105:GLY:CA	2.37	0.41
2:B:3055:U:O3'	2:B:3056:U:H3'	2.21	0.41
4:D:22:A:H2'	4:D:23:A:C8	2.56	0.41
4:D:104:A:C2'	4:D:105:C:H5'	2.51	0.41
5:E:124:LEU:CD1	5:E:128:LEU:HB2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:137:ILE:O	6:F:147:ARG:O	2.39	0.41
6:F:204:MET:HB3	6:F:208:ASP:HB2	2.02	0.41
7:G:6:TYR:CB	27:AA:46:LEU:HD13	2.50	0.41
7:G:14:LEU:HA	7:G:17:LEU:HD13	2.01	0.41
7:G:46:PHE:CE2	7:G:81:THR:HB	2.56	0.41
7:G:65:SER:C	7:G:67:PHE:H	2.24	0.41
10:J:159:LEU:C	10:J:161:ALA:N	2.74	0.41
10:J:163:PHE:CG	10:J:164:SER:N	2.89	0.41
11:K:88:ARG:HA	11:K:134:VAL:HG12	2.03	0.41
11:K:186:HIS:NE2	11:K:190:THR:HG21	2.36	0.41
12:L:41:GLN:CA	12:L:41:GLN:HE21	2.34	0.41
15:O:14:ILE:HD12	15:O:77:GLU:HG2	2.02	0.41
15:O:94:ARG:C	15:O:96:PHE:N	2.74	0.41
15:O:137:ARG:O	15:O:141:ARG:HB3	2.21	0.41
18:R:14:LEU:HD12	24:X:149:LYS:HB2	2.03	0.41
20:T:177:LYS:HA	20:T:177:LYS:HE2	2.03	0.41
21:U:4:TYR:CE1	21:U:16:SER:HB3	2.56	0.41
21:U:32:THR:HG21	21:U:87:SER:HB3	2.03	0.41
22:V:88:THR:HG22	22:V:107:THR:CG2	2.51	0.41
24:X:9:VAL:HG22	24:X:61:ILE:CD1	2.51	0.41
24:X:26:ARG:O	25:Y:150:THR:HA	2.21	0.41
29:CA:96:LYS:HG3	29:CA:107:VAL:CG1	2.52	0.41
31:EA:102:GLU:OE2	31:EA:103:GLN:HB2	2.21	0.41
34:HA:98:SER:HB3	34:HA:99:ASP:H	1.62	0.41
39:MA:86:ARG:NH1	39:MA:90:ARG:NH1	2.67	0.41
39:MA:110:ALA:O	39:MA:112:PRO:HD3	2.21	0.41
46:TA:2:VAL:HG23	46:TA:3:ASN:N	2.36	0.41
48:VA:30:VAL:HG12	48:VA:83:ASN:O	2.21	0.41
49:WA:132:LYS:CA	49:WA:144:LEU:HD23	2.45	0.41
50:XA:31:VAL:C	50:XA:33:GLN:H	2.24	0.41
52:ZA:121:VAL:HG13	52:ZA:122:ALA:N	2.27	0.41
53:AB:212:LYS:HB3	53:AB:212:LYS:NZ	2.35	0.41
54:BB:233:LYS:HE3	54:BB:234:PRO:HD2	2.02	0.41
56:DB:188:ARG:HA	56:DB:191:ARG:HB2	2.02	0.41
57:EB:27:LEU:HB2	57:EB:80:GLU:CD	2.41	0.41
58:FB:96:LEU:HD13	58:FB:179:CYS:SG	2.61	0.41
66:NB:10:PHE:HA	66:NB:18:ALA:O	2.21	0.41
68:PB:11:PHE:HZ	68:PB:25:ASN:H	1.67	0.41
70:RB:22:ILE:O	70:RB:22:ILE:HG23	2.21	0.41
73:UB:57:LEU:HD23	73:UB:57:LEU:N	2.29	0.41
80:BC:41:THR:HA	80:BC:45:VAL:CB	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:DC:607:ASN:HA	82:DC:608:PRO:HD3	1.77	0.41
82:DC:737:GLU:HA	82:DC:740:VAL:HG21	2.03	0.41
1:A:144:U:C2'	1:A:145:A:H5'	2.50	0.40
1:A:166:C:O2	56:DB:133:LEU:HD13	2.21	0.40
1:A:581:U:O2	1:A:581:U:H3'	2.20	0.40
1:A:603:U:O2'	1:A:604:A:H5'	2.20	0.40
1:A:626:U:H2'	1:A:627:C:H6	1.86	0.40
1:A:928:U:H5'	1:A:944:A:H2'	2.02	0.40
1:A:1231:U:C4'	1:A:1259:U:H1'	2.43	0.40
1:A:1506:G:H2'	1:A:1507:G:H8	1.85	0.40
1:A:1714:A:H2'	1:A:1715:G:N7	2.36	0.40
2:B:220:G:H1'	8:H:199:TRP:HH2	1.86	0.40
2:B:696:C:H2'	2:B:697:A:H8	1.86	0.40
2:B:706:A:H2'	2:B:707:U:O4'	2.21	0.40
2:B:953:G:C8	2:B:1117:G:C8	3.09	0.40
2:B:974:G:C8	22:V:14:GLY:O	2.74	0.40
2:B:1325:U:H5"	2:B:1325:U:H6	1.86	0.40
2:B:1451:C:OP1	2:B:1452:A:C8	2.74	0.40
2:B:1927:G:N2	2:B:1928:G:C8	2.90	0.40
2:B:2130:G:N2	2:B:2132:C:H5"	2.36	0.40
2:B:2254:U:H1'	2:B:2263:C:N4	2.36	0.40
2:B:2415:C:H5"	6:F:207:VAL:CG1	2.50	0.40
2:B:2957:G:C2'	2:B:2958:A:H5'	2.51	0.40
2:B:3027:A:N1	82:DC:785:ARG:HB3	2.36	0.40
2:B:3386:G:H2'	2:B:3387:U:H6	1.86	0.40
4:D:64:A:N1	14:N:202:LYS:HD3	2.36	0.40
6:F:5:ILE:HD12	6:F:7:ASN:ND2	2.35	0.40
10:J:139:LYS:H	10:J:139:LYS:HG3	1.73	0.40
11:K:111:ILE:C	11:K:113:SER:H	2.25	0.40
12:L:74:THR:O	12:L:77:GLN:HG2	2.21	0.40
13:M:1:MET:HE1	24:X:139:TYR:HA	2.02	0.40
13:M:91:ARG:NH2	44:RA:82:LEU:HD21	2.36	0.40
13:M:115:ARG:HE	13:M:123:ILE:CG1	2.34	0.40
13:M:180:TYR:HB2	44:RA:85:LEU:CD1	2.50	0.40
13:M:180:TYR:HB3	44:RA:89:TYR:CD2	2.56	0.40
14:N:51:HIS:CD2	14:N:168:SER:HB2	2.56	0.40
17:Q:163:GLY:HA2	32:FA:139:ARG:HH22	1.85	0.40
17:Q:176:GLU:O	17:Q:180:ARG:HB2	2.21	0.40
20:T:78:ARG:HG3	20:T:78:ARG:NH1	2.37	0.40
21:U:85:ALA:O	21:U:89:LYS:HG3	2.21	0.40
22:V:13:SER:OG	22:V:14:GLY:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:129:GLY:O	23:W:130:ASN:C	2.60	0.40
24:X:29:ILE:CG2	24:X:30:PHE:N	2.84	0.40
24:X:40:ARG:CZ	24:X:43:TYR:CE1	3.04	0.40
24:X:78:TRP:O	24:X:124:LEU:HB2	2.21	0.40
24:X:152:LEU:HD23	24:X:152:LEU:HA	1.76	0.40
26:Z:90:ARG:O	26:Z:91:ASP:HB3	2.21	0.40
31:EA:90:GLU:HA	31:EA:93:LYS:HB2	2.03	0.40
32:FA:73:LEU:HD22	32:FA:109:TYR:CG	2.56	0.40
33:GA:8:THR:C	33:GA:10:HIS:H	2.23	0.40
34:HA:51:LEU:HD11	38:LA:91:ARG:CA	2.51	0.40
35:IA:101:ALA:O	35:IA:102:LYS:HB2	2.21	0.40
36:JA:78:ASN:N	36:JA:78:ASN:ND2	2.58	0.40
37:KA:66:VAL:HG12	37:KA:67:MET:N	2.35	0.40
46:TA:93:LEU:HD23	46:TA:94:GLY:N	2.36	0.40
48:VA:18:TYR:O	48:VA:22:TYR:HD2	2.04	0.40
48:VA:48:ARG:HD3	48:VA:48:ARG:HA	1.66	0.40
48:VA:72:ASP:C	48:VA:74:GLU:H	2.25	0.40
49:WA:59:ARG:HD3	49:WA:97:GLY:CA	2.51	0.40
49:WA:93:ASP:C	49:WA:95:ALA:H	2.25	0.40
49:WA:201:THR:HG21	49:WA:242:SER:CA	2.51	0.40
49:WA:201:THR:HG23	49:WA:214:ALA:HB3	2.03	0.40
50:XA:108:THR:O	50:XA:109:ASN:CB	2.68	0.40
50:XA:185:ARG:HD3	50:XA:185:ARG:HA	1.96	0.40
54:BB:112:HIS:ND1	54:BB:239:PRO:HB3	2.36	0.40
54:BB:246:LEU:HB2	54:BB:251:GLU:HG3	2.02	0.40
56:DB:7:TYR:HA	56:DB:8:PRO:HD2	1.97	0.40
56:DB:174:LYS:HD2	56:DB:175:ILE:N	2.36	0.40
59:GB:39:LYS:HA	59:GB:42:ILE:HD12	2.02	0.40
60:HB:16:PHE:CE1	60:HB:82:LEU:HD13	2.56	0.40
70:RB:67:THR:HB	79:AC:40:ARG:HB2	2.03	0.40
73:UB:19:ARG:O	73:UB:23:ARG:N	2.54	0.40
75:WB:46:LYS:O	75:WB:50:ILE:HG13	2.20	0.40
82:DC:76:SER:HA	82:DC:100:ILE:O	2.21	0.40
1:A:77:U:H1'	56:DB:159:ARG:NH1	2.35	0.40
1:A:94:U:C5	1:A:95:G:C8	3.09	0.40
1:A:257:A:O2'	58:FB:64:ASN:ND2	2.54	0.40
1:A:361:C:H6	1:A:361:C:H5'	1.86	0.40
1:A:466:U:H2'	1:A:467:G:O4'	2.22	0.40
1:A:592:A:O2'	1:A:593:U:H5'	2.20	0.40
1:A:634:G:H4'	72:TB:4:SER:HA	2.02	0.40
1:A:831:U:C2'	1:A:832:U:H5'	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1281:G:H5'	70:RB:78:THR:CG2	2.50	0.40
1:A:1466:G:H2'	1:A:1467:C:C6	2.55	0.40
1:A:1605:G:H2'	1:A:1606:C:C6	2.57	0.40
2:B:118:U:H3	2:B:122:A:H5"	1.85	0.40
2:B:268:A:H3'	2:B:268:A:OP1	2.20	0.40
2:B:277:G:C6	2:B:289:A:N1	2.89	0.40
2:B:335:G:C6	2:B:336:A:C5	3.09	0.40
2:B:431:U:H2'	2:B:432:G:C8	2.57	0.40
2:B:662:U:OP1	32:FA:8:THR:HG21	2.21	0.40
2:B:814:U:H5'	41:OA:45:ARG:HH12	1.85	0.40
2:B:1109:U:H2'	2:B:1110:U:O4'	2.20	0.40
2:B:1253:U:C3'	2:B:1254:C:H5'	2.51	0.40
2:B:1466:G:C5	2:B:1511:U:C4	3.08	0.40
2:B:1491:A:O2'	2:B:1492:G:H5'	2.21	0.40
2:B:1686:U:O2	2:B:1688:U:H1'	2.22	0.40
2:B:1812:G:O2'	2:B:1818:U:H4'	2.21	0.40
2:B:2181:C:H5"	6:F:193:ARG:NH2	2.36	0.40
2:B:2521:U:H4'	6:F:31:THR:HG21	2.03	0.40
2:B:2529:A:O2'	2:B:2530:G:H5'	2.21	0.40
2:B:2727:A:H3'	2:B:2728:G:H4'	2.04	0.40
2:B:2998:U:H2'	2:B:2999:U:C6	2.57	0.40
2:B:3150:A:H4'	7:G:128:LYS:O	2.21	0.40
3:C:36:G:N2	3:C:37:A:N1	2.69	0.40
3:C:83:C:H4'	3:C:83:C:OP1	2.20	0.40
5:E:130:LYS:HG3	5:E:131:ALA:H	1.86	0.40
6:F:140:ASN:C	6:F:142:ASP:H	2.25	0.40
8:H:151:VAL:HG22	8:H:255:PHE:CD2	2.56	0.40
9:I:21:ARG:HG2	9:I:21:ARG:HH11	1.87	0.40
9:I:107:ARG:O	9:I:111:GLN:HB2	2.21	0.40
11:K:55:TYR:CE2	11:K:141:TYR:HE2	2.39	0.40
12:L:154:ALA:HB2	12:L:186:LEU:CD1	2.51	0.40
13:M:8:GLN:HG2	13:M:68:LEU:HD12	2.03	0.40
13:M:73:SER:O	13:M:77:ASN:ND2	2.55	0.40
19:S:154:PRO:HB3	19:S:157:LYS:HE3	2.03	0.40
21:U:65:SER:O	21:U:66:SER:CB	2.68	0.40
21:U:120:ASN:HD22	21:U:120:ASN:N	2.18	0.40
27:AA:15:LEU:HA	27:AA:53:SER:HB3	2.03	0.40
30:DA:45:ILE:CG2	30:DA:46:LYS:N	2.82	0.40
30:DA:82:VAL:HB	30:DA:85:VAL:HB	2.02	0.40
34:HA:96:GLY:O	34:HA:97:ASP:HB2	2.21	0.40
47:UA:59:CYS:C	47:UA:61:LYS:N	2.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:WA:5:GLU:HA	49:WA:318:ALA:H	1.85	0.40
49:WA:173:GLY:O	49:WA:199:ILE:HB	2.21	0.40
49:WA:202:LEU:HD23	49:WA:202:LEU:H	1.86	0.40
52:ZA:76:LEU:HD11	52:ZA:105:GLY:HA2	2.03	0.40
53:AB:211:PRO:HB2	53:AB:212:LYS:H	1.57	0.40
54:BB:133:LYS:HD2	54:BB:133:LYS:N	2.36	0.40
55:CB:146:THR:HG22	55:CB:157:ARG:HB3	2.03	0.40
56:DB:175:ILE:CB	56:DB:178:LEU:HD22	2.51	0.40
58:FB:152:ILE:HB	58:FB:153:GLU:H	1.62	0.40
59:GB:134:ILE:N	59:GB:158:PHE:HA	2.36	0.40
63:KB:66:ILE:HG22	63:KB:67:THR:N	2.35	0.40
63:KB:102:LEU:HD21	63:KB:111:ALA:HB3	2.03	0.40
68:PB:84:TRP:C	68:PB:86:LEU:H	2.25	0.40
68:PB:90:ASN:O	68:PB:95:GLY:HA2	2.21	0.40
75:WB:96:SER:O	75:WB:97:LYS:CB	2.68	0.40
78:ZB:27:GLN:HG2	78:ZB:43:ASN:OD1	2.21	0.40
82:DC:45:ILE:CG1	82:DC:78:TYR:HB2	2.51	0.40
82:DC:162:ARG:HB3	84:DC:901:GDP:HN21	1.82	0.40
82:DC:233:PHE:HB3	82:DC:235:VAL:CG2	2.52	0.40
82:DC:388:THR:C	82:DC:390:ASP:N	2.74	0.40
82:DC:806:SER:CB	82:DC:813:SER:HB2	2.49	0.40
82:DC:810:ASP:C	82:DC:812:THR:H	2.24	0.40
1:A:107:C:H5"	1:A:383:G:O2'	2.22	0.40
1:A:409:C:H4'	1:A:1732:A:O3'	2.20	0.40
1:A:639:U:H3	57:EB:100:PRO:HA	1.86	0.40
1:A:788:A:C6	54:BB:19:LEU:HD13	2.56	0.40
1:A:1037:C:H4'	72:TB:13:ALA:HB2	2.02	0.40
1:A:1072:C:H4'	77:YB:19:HIS:CD2	2.56	0.40
1:A:1184:A:H3'	1:A:1185:U:H5"	2.03	0.40
1:A:1722:A:H3'	1:A:1723:U:H6	1.86	0.40
2:B:130:A:H61	2:B:138:U:H3	1.68	0.40
2:B:500:C:H2'	2:B:501:A:H8	1.86	0.40
2:B:578:A:H2'	8:H:334:PHE:CD2	2.56	0.40
2:B:918:C:O2'	2:B:919:U:H5'	2.20	0.40
2:B:1304:A:H61	2:B:2860:U:H5"	1.86	0.40
2:B:1450:G:C6	2:B:2355:G:N2	2.90	0.40
2:B:1643:A:H2'	2:B:1644:C:N3	2.37	0.40
2:B:1658:G:O4'	2:B:1796:G:H2'	2.20	0.40
2:B:1845:G:H3'	2:B:1846:C:H5"	2.04	0.40
2:B:1902:G:C6	2:B:1903:U:C2	3.10	0.40
2:B:2148:U:HO2'	6:F:182:ALA:HB2	1.82	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2351:U:H2'	2:B:2352:A:C8	2.56	0.40
2:B:2438:A:H2'	2:B:2439:A:C8	2.57	0.40
2:B:2512:C:C4	2:B:2513:U:C4	3.09	0.40
2:B:2837:A:O2'	2:B:2838:A:C8	2.74	0.40
2:B:2890:A:N1	2:B:2913:C:N3	2.69	0.40
2:B:2929:C:C4	2:B:2930:A:N7	2.89	0.40
2:B:3064:U:H2'	2:B:3065:G:C8	2.57	0.40
2:B:3089:C:O2'	2:B:3090:U:H5'	2.21	0.40
3:C:8:C:H2'	3:C:9:A:C8	2.57	0.40
4:D:43:U:C5	4:D:44:C:C5	3.09	0.40
4:D:79:A:C2	4:D:102:A:C4	3.10	0.40
4:D:93:C:C2'	4:D:94:C:H5'	2.51	0.40
4:D:98:C:H2'	4:D:99:G:H5"	2.03	0.40
4:D:114:U:H2'	4:D:115:G:C8	2.55	0.40
6:F:65:ASP:CA	6:F:72:ARG:HH21	2.31	0.40
7:G:92:TYR:HB2	7:G:157:VAL:HG23	2.00	0.40
8:H:141:ARG:NH1	8:H:180:LYS:HD3	2.36	0.40
8:H:265:GLU:H	8:H:265:GLU:CD	2.24	0.40
8:H:317:PRO:HB3	8:H:324:LEU:HA	2.03	0.40
9:I:259:LYS:O	9:I:260:PHE:HB2	2.21	0.40
11:K:92:ILE:HD11	22:V:2:GLY:O	2.22	0.40
11:K:131:GLU:HB3	11:K:132:PRO:HD3	2.02	0.40
11:K:242:SER:C	11:K:244:ASN:N	2.74	0.40
14:N:76:MET:H	14:N:76:MET:HG3	1.59	0.40
14:N:179:PRO:HA	14:N:182:LEU:HD12	2.03	0.40
15:O:11:ASP:C	15:O:133:ARG:HG2	2.42	0.40
16:P:86:LYS:NZ	16:P:104:ILE:CD1	2.77	0.40
16:P:135:THR:HG23	16:P:147:ASN:HA	2.01	0.40
17:Q:6:ASN:HB3	22:V:164:ARG:HH11	1.86	0.40
17:Q:165:SER:O	17:Q:166:ALA:HB3	2.21	0.40
19:S:58:GLY:C	19:S:59:PHE:HD2	2.24	0.40
20:T:116:LYS:HZ3	24:X:165:TYR:HB3	1.84	0.40
23:W:130:ASN:CG	23:W:131:ALA:H	2.25	0.40
24:X:114:HIS:O	24:X:115:ARG:C	2.59	0.40
31:EA:58:GLY:O	31:EA:62:VAL:HG23	2.21	0.40
31:EA:127:ASN:O	31:EA:131:PHE:HD1	2.05	0.40
37:KA:45:LEU:HD23	37:KA:71:VAL:HG12	2.03	0.40
38:LA:38:LEU:CD1	38:LA:38:LEU:H	2.34	0.40
39:MA:31:LEU:HD23	39:MA:47:VAL:HG11	2.03	0.40
40:NA:60:LEU:HD11	40:NA:68:ARG:CZ	2.51	0.40
44:RA:96:CYS:C	44:RA:98:LYS:H	2.25	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:UA:84:ARG:HG2	47:UA:84:ARG:NH1	2.34	0.40
50:XA:164:ASN:C	50:XA:166:GLY:H	2.24	0.40
53:AB:167:PHE:HE1	53:AB:195:SER:HB2	1.86	0.40
54:BB:183:VAL:CG1	54:BB:189:LEU:HA	2.51	0.40
55:CB:73:THR:HG21	55:CB:77:TYR:HE1	1.87	0.40
55:CB:85:ALA:C	55:CB:87:CYS:H	2.24	0.40
58:FB:78:ILE:HA	58:FB:103:GLN:O	2.20	0.40
61:IB:112:SER:C	61:IB:114:ALA:H	2.25	0.40
69:QB:40:SER:HB3	69:QB:43:ASN:ND2	2.36	0.40
69:QB:138:GLN:HA	69:QB:141:GLU:HG3	2.02	0.40
70:RB:70:THR:HA	70:RB:71:PRO:HD3	1.88	0.40
71:SB:16:LYS:HA	71:SB:23:ILE:HA	2.04	0.40
72:TB:80:ASN:HD22	72:TB:80:ASN:HA	1.65	0.40
74:VB:27:VAL:O	74:VB:68:LYS:HA	2.22	0.40
77:YB:14:SER:HA	77:YB:17:ARG:HG2	2.04	0.40
82:DC:32:LYS:HD2	82:DC:32:LYS:C	2.42	0.40
82:DC:223:ARG:HG3	82:DC:241:MET:HE1	2.03	0.40
82:DC:403:GLY:H	82:DC:450:ALA:HB2	1.86	0.40
82:DC:659:ILE:CG2	82:DC:693:LEU:HD21	2.43	0.40
82:DC:729:PHE:CE1	82:DC:774:VAL:HG12	2.56	0.40
83:EC:6808:G:C1’	83:EC:6809:G:P	3.05	0.40
83:EC:6859:U:O2’	83:EC:6860:A:H8	2.03	0.40
1:A:64:U:C2’	1:A:65:A:H5”	2.36	0.40
1:A:149:C:H2’	1:A:150:U:C6	2.55	0.40
1:A:1404:C:H2’	1:A:1405:G:H8	1.84	0.40
1:A:1671:A:H61	1:A:1730:A:H1’	1.86	0.40
1:A:1737:G:H2’	1:A:1738:U:O4’	2.21	0.40
1:A:1739:C:H2’	1:A:1740:A:H8	1.87	0.40
2:B:63:A:H2’	2:B:64:G:O4’	2.22	0.40
2:B:312:C:H2’	2:B:313:A:H8	1.87	0.40
2:B:797:U:H5”	17:Q:2:ALA:O	2.21	0.40
2:B:911:C:O2’	2:B:912:G:H5’	2.22	0.40
2:B:1144:U:O2	2:B:1159:A:N7	2.54	0.40
2:B:1312:C:H2’	2:B:1313:G:O4’	2.21	0.40
2:B:1354:G:O6	2:B:1358:C:H5’	2.22	0.40
2:B:1618:G:H2’	2:B:1619:A:O4’	2.21	0.40
2:B:1653:G:H2’	2:B:1654:A:O4’	2.21	0.40
2:B:1882:G:O2’	2:B:1883:A:H5’	2.21	0.40
2:B:2265:C:O5’	2:B:2265:C:H6	2.04	0.40
2:B:2310:U:H2’	2:B:2311:G:C8	2.56	0.40
2:B:2343:C:O2’	2:B:2344:U:H5’	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:2367:A:H2'	2:B:2368:A:O4'	2.22	0.40
2:B:2754:G:C3'	2:B:2755:C:H5"	2.52	0.40
2:B:2763:U:H4'	22:V:176:ARG:HG3	2.03	0.40
2:B:3000:A:H2'	2:B:3001:C:H6	1.87	0.40
2:B:3255:U:H2'	2:B:3256:G:H8	1.84	0.40
2:B:3332:U:H2'	2:B:3333:G:O4'	2.21	0.40
3:C:64:U:H2'	3:C:65:A:H8	1.85	0.40
4:D:24:A:H2'	4:D:25:G:C8	2.57	0.40
7:G:252:ILE:HD11	7:G:266:ARG:HD3	2.02	0.40
8:H:34:ILE:O	8:H:35:VAL:C	2.59	0.40
10:J:172:HIS:HB3	37:KA:43:PHE:HD2	1.86	0.40
10:J:174:LEU:CD1	10:J:175:LYS:H	2.32	0.40
12:L:33:ASN:O	12:L:39:ALA:CB	2.69	0.40
12:L:163:VAL:HG22	12:L:166:LEU:HD12	2.03	0.40
16:P:110:ILE:HG21	16:P:142:ARG:HH22	1.87	0.40
16:P:117:ARG:O	16:P:118:ASP:C	2.60	0.40
19:S:9:GLU:CG	40:NA:41:ARG:HG2	2.49	0.40
19:S:145:ASP:O	19:S:147:ARG:N	2.46	0.40
20:T:143:THR:HG21	20:T:150:GLU:OE1	2.20	0.40
22:V:165:ILE:HG13	22:V:167:SER:H	1.87	0.40
23:W:28:GLU:HG3	23:W:49:THR:HG23	2.02	0.40
23:W:99:LEU:HD11	23:W:103:ARG:CD	2.49	0.40
24:X:40:ARG:NH1	24:X:43:TYR:CE1	2.85	0.40
30:DA:111:LEU:N	30:DA:111:LEU:CD1	2.83	0.40
31:EA:10:VAL:HG12	31:EA:11:ALA:N	2.35	0.40
32:FA:104:THR:CG2	32:FA:112:ILE:HD11	2.51	0.40
37:KA:6:ARG:HG2	37:KA:8:TYR:O	2.21	0.40
38:LA:21:LYS:HE3	38:LA:35:VAL:CG2	2.51	0.40
38:LA:102:LYS:HB2	38:LA:102:LYS:HZ3	1.82	0.40
50:XA:163:ASN:HB3	50:XA:169:SER:OG	2.20	0.40
52:ZA:238:SER:HA	52:ZA:239:PRO:HD3	1.93	0.40
53:AB:215:GLU:H	53:AB:216:PRO:CD	2.34	0.40
55:CB:148:ARG:HD2	55:CB:157:ARG:HG3	2.03	0.40
57:EB:35:LYS:O	57:EB:37:GLU:HG2	2.21	0.40
57:EB:139:ARG:HG3	57:EB:139:ARG:HH11	1.87	0.40
61:IB:35:TYR:HB2	61:IB:49:ILE:HG12	2.01	0.40
61:IB:97:TYR:H	61:IB:97:TYR:HD2	1.68	0.40
74:VB:22:GLN:O	74:VB:23:PHE:HB3	2.22	0.40
82:DC:682:ARG:HH11	82:DC:801:TRP:CB	2.35	0.40
83:EC:6767:G:O5'	83:EC:6767:G:H8	2.03	0.40
83:EC:6945:U:H5'	83:EC:6946:A:OP2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:EC:6948:U:H2'	83:EC:6949:G:C8	2.56	0.40
1:A:42:G:N1	1:A:434:G:N2	2.69	0.40
1:A:333:A:H8	58:FB:49:ARG:CB	2.35	0.40
1:A:473:A:N6	1:A:474:A:C6	2.90	0.40
1:A:595:G:H2'	1:A:596:C:C6	2.56	0.40
1:A:942:G:H2'	1:A:943:C:O4'	2.22	0.40
1:A:1231:U:H4'	1:A:1259:U:C1'	2.41	0.40
1:A:1475:A:H2'	1:A:1476:C:C6	2.56	0.40
2:B:64:G:O2'	2:B:77:A:N3	2.50	0.40
2:B:374:A:N3	2:B:376:G:H5"	2.36	0.40
2:B:524:U:H5"	18:R:77:ARG:NH1	2.37	0.40
2:B:687:U:OP2	17:Q:36:ARG:NH2	2.55	0.40
2:B:992:A:O3'	25:Y:58:GLN:NE2	2.54	0.40
2:B:1175:C:O2'	2:B:1176:C:H5'	2.21	0.40
2:B:1208:U:H6	2:B:3115:C:N4	2.16	0.40
2:B:1639:C:H4'	2:B:1738:C:H5'	2.03	0.40
2:B:1740:U:O2	2:B:1741:A:H2	2.03	0.40
2:B:1784:G:H2'	2:B:1785:U:O4'	2.21	0.40
2:B:1825:G:H4'	42:PA:19:ASP:OD1	2.22	0.40
2:B:1874:A:C2'	2:B:1875:G:H5'	2.51	0.40
2:B:2104:A:H2'	2:B:2105:G:C8	2.56	0.40
2:B:2351:U:H2'	2:B:2352:A:H8	1.87	0.40
2:B:2746:A:C5'	9:I:178:ASN:ND2	2.84	0.40
2:B:3062:G:C6	2:B:3063:C:C4	3.10	0.40
2:B:3190:C:H2'	2:B:3191:G:C8	2.56	0.40
2:B:3213:A:C6	2:B:3214:U:C5	3.09	0.40
2:B:3334:U:H4'	2:B:3335:A:C5'	2.47	0.40
4:D:5:G:H1'	9:I:63:GLN:HE22	1.86	0.40
6:F:3:ARG:HG2	6:F:4:VAL:N	2.36	0.40
6:F:227:ARG:HD3	6:F:227:ARG:HA	1.89	0.40
7:G:169:THR:HG23	7:G:314:TYR:OH	2.22	0.40
7:G:281:LYS:NZ	7:G:351:LEU:H	2.19	0.40
8:H:239:ALA:N	8:H:240:PRO:HD3	2.37	0.40
14:N:152:LEU:C	14:N:154:ARG:N	2.75	0.40
15:O:82:ARG:O	15:O:85:LYS:HB3	2.22	0.40
15:O:92:ARG:HB3	15:O:94:ARG:NH1	2.37	0.40
17:Q:56:PRO:O	17:Q:71:ALA:HA	2.21	0.40
23:W:62:ARG:HH21	23:W:62:ARG:HG3	1.87	0.40
24:X:138:GLN:OE1	24:X:141:LYS:HE3	2.21	0.40
29:CA:70:GLU:C	29:CA:72:ALA:H	2.25	0.40
31:EA:50:PRO:HA	31:EA:65:ARG:O	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:JA:41:VAL:HB	36:JA:46:PHE:CD2	2.57	0.40
39:MA:24:LEU:O	39:MA:27:GLU:HB2	2.20	0.40
39:MA:86:ARG:HG2	39:MA:90:ARG:NH1	2.36	0.40
49:WA:26:SER:OG	49:WA:29:GLN:HG2	2.22	0.40
49:WA:201:THR:CB	49:WA:242:SER:HA	2.51	0.40
49:WA:274:LEU:HD13	49:WA:313:TRP:CE3	2.57	0.40
50:XA:18:LEU:N	50:XA:18:LEU:HD12	2.37	0.40
52:ZA:38:VAL:O	52:ZA:39:THR:O	2.39	0.40
53:AB:64:ARG:O	53:AB:67:ASN:HB3	2.21	0.40
53:AB:177:MET:HB2	53:AB:180:GLY:H	1.86	0.40
53:AB:217:ILE:O	53:AB:218:LEU:HB2	2.22	0.40
54:BB:241:GLY:C	54:BB:243:GLY:H	2.25	0.40
55:CB:73:THR:HG21	55:CB:77:TYR:CE1	2.57	0.40
55:CB:100:ASN:O	55:CB:102:ARG:N	2.50	0.40
55:CB:142:PRO:HD2	55:CB:170:GLN:OE1	2.22	0.40
56:DB:119:GLN:HG3	56:DB:120:GLU:H	1.86	0.40
57:EB:27:LEU:HD22	57:EB:80:GLU:HG2	2.04	0.40
57:EB:39:ARG:N	57:EB:40:PRO:CD	2.85	0.40
63:KB:42:ARG:HE	63:KB:80:LEU:HD11	1.86	0.40
70:RB:118:VAL:O	70:RB:118:VAL:HG13	2.21	0.40
74:VB:21:LYS:O	74:VB:74:LEU:HA	2.22	0.40
82:DC:277:ILE:O	82:DC:280:PRO:HD2	2.20	0.40
82:DC:400:VAL:HG23	82:DC:452:ASN:O	2.21	0.40
82:DC:631:ARG:HB3	82:DC:631:ARG:NH1	2.29	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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
5	E	165/217 (76%)	128 (78%)	27 (16%)	10 (6%)	1 15

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	F	250/254 (98%)	175 (70%)	61 (24%)	14 (6%)	2	17
7	G	384/387 (99%)	305 (79%)	64 (17%)	15 (4%)	3	25
8	H	359/362 (99%)	255 (71%)	70 (20%)	34 (10%)	0	8
9	I	294/297 (99%)	217 (74%)	58 (20%)	19 (6%)	1	14
10	J	173/176 (98%)	131 (76%)	34 (20%)	8 (5%)	2	21
11	K	220/244 (90%)	171 (78%)	40 (18%)	9 (4%)	3	23
12	L	231/256 (90%)	168 (73%)	44 (19%)	19 (8%)	1	9
13	M	189/191 (99%)	140 (74%)	39 (21%)	10 (5%)	2	17
14	N	207/221 (94%)	161 (78%)	36 (17%)	10 (5%)	2	20
15	O	167/174 (96%)	126 (75%)	26 (16%)	15 (9%)	1	8
16	P	92/165 (56%)	65 (71%)	20 (22%)	7 (8%)	1	10
17	Q	191/199 (96%)	142 (74%)	40 (21%)	9 (5%)	2	20
18	R	134/138 (97%)	107 (80%)	16 (12%)	11 (8%)	1	9
19	S	201/204 (98%)	150 (75%)	45 (22%)	6 (3%)	4	30
20	T	195/199 (98%)	158 (81%)	33 (17%)	4 (2%)	7	38
21	U	181/184 (98%)	150 (83%)	24 (13%)	7 (4%)	3	25
22	V	183/186 (98%)	133 (73%)	43 (24%)	7 (4%)	3	25
23	W	186/189 (98%)	153 (82%)	26 (14%)	7 (4%)	3	25
24	X	170/172 (99%)	131 (77%)	28 (16%)	11 (6%)	1	14
25	Y	157/160 (98%)	124 (79%)	21 (13%)	12 (8%)	1	10
26	Z	98/121 (81%)	72 (74%)	21 (21%)	5 (5%)	2	19
27	AA	134/137 (98%)	114 (85%)	19 (14%)	1 (1%)	22	61
28	BA	59/155 (38%)	47 (80%)	7 (12%)	5 (8%)	1	9
29	CA	119/142 (84%)	92 (77%)	19 (16%)	8 (7%)	1	13
30	DA	124/127 (98%)	88 (71%)	30 (24%)	6 (5%)	2	20
31	EA	133/136 (98%)	95 (71%)	27 (20%)	11 (8%)	1	9
32	FA	146/149 (98%)	105 (72%)	30 (20%)	11 (8%)	1	11
33	GA	56/59 (95%)	43 (77%)	10 (18%)	3 (5%)	2	17
34	HA	95/105 (90%)	71 (75%)	19 (20%)	5 (5%)	2	17
35	IA	107/113 (95%)	89 (83%)	14 (13%)	4 (4%)	3	26
36	JA	125/130 (96%)	102 (82%)	20 (16%)	3 (2%)	6	35

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	KA	104/107 (97%)	89 (86%)	10 (10%)	5 (5%)	2	20
38	LA	110/121 (91%)	87 (79%)	18 (16%)	5 (4%)	2	21
39	MA	117/120 (98%)	91 (78%)	19 (16%)	7 (6%)	1	15
40	NA	97/100 (97%)	70 (72%)	18 (19%)	9 (9%)	0	8
41	OA	85/88 (97%)	59 (69%)	20 (24%)	6 (7%)	1	12
42	PA	75/78 (96%)	61 (81%)	11 (15%)	3 (4%)	3	24
43	QA	48/51 (94%)	37 (77%)	8 (17%)	3 (6%)	1	14
44	RA	50/128 (39%)	39 (78%)	5 (10%)	6 (12%)	0	5
45	SA	23/25 (92%)	21 (91%)	1 (4%)	1 (4%)	2	22
46	TA	103/106 (97%)	78 (76%)	19 (18%)	6 (6%)	1	16
47	UA	89/92 (97%)	74 (83%)	13 (15%)	2 (2%)	6	37
48	VA	187/312 (60%)	138 (74%)	32 (17%)	17 (9%)	1	8
49	WA	316/319 (99%)	230 (73%)	73 (23%)	13 (4%)	3	23
50	XA	204/252 (81%)	147 (72%)	42 (21%)	15 (7%)	1	11
51	YA	212/255 (83%)	150 (71%)	46 (22%)	16 (8%)	1	11
52	ZA	215/254 (85%)	160 (74%)	47 (22%)	8 (4%)	3	26
53	AB	221/240 (92%)	168 (76%)	40 (18%)	13 (6%)	1	15
54	BB	258/261 (99%)	183 (71%)	61 (24%)	14 (5%)	2	17
55	CB	204/225 (91%)	155 (76%)	39 (19%)	10 (5%)	2	19
56	DB	224/236 (95%)	172 (77%)	42 (19%)	10 (4%)	2	21
57	EB	182/190 (96%)	124 (68%)	39 (21%)	19 (10%)	0	7
58	FB	184/200 (92%)	136 (74%)	33 (18%)	15 (8%)	1	9
59	GB	183/197 (93%)	142 (78%)	28 (15%)	13 (7%)	1	12
60	HB	94/105 (90%)	66 (70%)	19 (20%)	9 (10%)	0	8
61	IB	153/156 (98%)	97 (63%)	42 (28%)	14 (9%)	1	8
62	JB	122/143 (85%)	80 (66%)	31 (25%)	11 (9%)	1	8
63	KB	148/151 (98%)	118 (80%)	23 (16%)	7 (5%)	2	20
64	LB	125/137 (91%)	85 (68%)	30 (24%)	10 (8%)	1	10
65	MB	120/142 (84%)	82 (68%)	21 (18%)	17 (14%)	0	3
66	NB	139/143 (97%)	109 (78%)	21 (15%)	9 (6%)	1	14
67	OB	115/136 (85%)	85 (74%)	23 (20%)	7 (6%)	1	15

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
68	PB	143/146 (98%)	111 (78%)	22 (15%)	10 (7%)	1	12
69	QB	141/144 (98%)	120 (85%)	15 (11%)	6 (4%)	2	22
70	RB	105/121 (87%)	79 (75%)	21 (20%)	5 (5%)	2	20
71	SB	85/87 (98%)	61 (72%)	17 (20%)	7 (8%)	1	9
72	TB	127/130 (98%)	92 (72%)	29 (23%)	6 (5%)	2	20
73	UB	142/145 (98%)	98 (69%)	29 (20%)	15 (11%)	0	7
74	VB	132/135 (98%)	100 (76%)	26 (20%)	6 (4%)	2	21
75	WB	68/108 (63%)	51 (75%)	7 (10%)	10 (15%)	0	3
76	XB	95/119 (80%)	56 (59%)	26 (27%)	13 (14%)	0	4
77	YB	79/82 (96%)	53 (67%)	22 (28%)	4 (5%)	2	19
78	ZB	61/67 (91%)	44 (72%)	15 (25%)	2 (3%)	4	28
79	AC	51/56 (91%)	44 (86%)	6 (12%)	1 (2%)	7	39
80	BC	58/63 (92%)	34 (59%)	18 (31%)	6 (10%)	0	7
81	CC	69/152 (45%)	44 (64%)	14 (20%)	11 (16%)	0	2
82	DC	819/842 (97%)	628 (77%)	144 (18%)	47 (6%)	1	16
All	All	12207/13416 (91%)	9156 (75%)	2296 (19%)	755 (6%)	3	15

All (755) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	E	2	SER
5	E	120	VAL
5	E	135	PRO
5	E	175	GLU
6	F	222	ALA
6	F	248	GLY
6	F	249	SER
7	G	38	SER
7	G	187	SER
7	G	246	LEU
8	H	14	GLU
8	H	82	THR
8	H	146	PRO
8	H	220	ARG
8	H	221	ASN
8	H	268	ALA
8	H	269	SER

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Mol	Chain	Res	Type
8	H	293	SER
8	H	339	LEU
8	H	341	SER
9	I	7	ALA
9	I	233	ALA
11	K	158	LYS
11	K	163	LEU
12	L	36	ILE
12	L	39	ALA
12	L	54	GLU
12	L	163	VAL
12	L	203	VAL
12	L	223	ALA
13	M	50	ASN
14	N	145	LYS
15	O	8	PRO
15	O	11	ASP
15	O	12	LEU
15	O	65	ILE
15	O	114	ILE
15	O	173	ASP
16	P	69	ALA
16	P	144	ASP
17	Q	72	GLY
17	Q	76	THR
18	R	39	ILE
18	R	78	THR
19	S	124	ASP
20	T	16	VAL
24	X	59	VAL
24	X	130	GLU
25	Y	18	ASP
25	Y	93	VAL
25	Y	124	VAL
28	BA	26	SER
29	CA	36	LYS
29	CA	57	LEU
29	CA	77	GLU
30	DA	52	ARG
30	DA	53	ASP
30	DA	92	GLY
31	EA	7	ALA

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Mol	Chain	Res	Type
31	EA	31	GLU
31	EA	33	SER
32	FA	120	ASN
33	GA	29	TYR
34	HA	20	SER
34	HA	85	PHE
37	KA	59	VAL
38	LA	59	PRO
38	LA	76	TYR
39	MA	119	LYS
41	OA	25	ARG
43	QA	4	GLN
46	TA	60	LYS
48	VA	30	VAL
48	VA	55	LYS
48	VA	116	PRO
48	VA	183	PHE
49	WA	98	GLU
49	WA	120	SER
50	XA	4	PRO
53	AB	221	SER
54	BB	76	VAL
54	BB	103	TYR
54	BB	150	PRO
54	BB	194	THR
54	BB	195	ILE
54	BB	200	ARG
55	CB	51	VAL
55	CB	63	GLN
55	CB	64	VAL
55	CB	78	ALA
55	CB	81	ARG
55	CB	100	ASN
57	EB	6	ALA
57	EB	7	LYS
57	EB	31	SER
57	EB	32	PRO
57	EB	64	VAL
57	EB	112	ARG
58	FB	9	HIS
58	FB	22	ARG
58	FB	120	THR

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Mol	Chain	Res	Type
59	GB	98	ALA
59	GB	134	ILE
60	HB	30	ALA
60	HB	83	PRO
60	HB	87	VAL
61	IB	6	THR
61	IB	8	GLN
61	IB	52	SER
62	JB	86	VAL
62	JB	91	VAL
62	JB	131	ASP
63	KB	4	MET
64	LB	43	THR
64	LB	127	ARG
65	MB	69	GLU
65	MB	101	ALA
65	MB	125	PRO
66	NB	15	SER
66	NB	41	PRO
66	NB	42	GLU
66	NB	138	PHE
68	PB	61	LEU
68	PB	82	PRO
68	PB	83	ALA
68	PB	92	ILE
68	PB	134	ARG
69	QB	69	LYS
69	QB	73	VAL
69	QB	96	ALA
70	RB	49	ASN
71	SB	44	ARG
72	TB	66	ASN
73	UB	41	SER
74	VB	97	ALA
75	WB	44	GLN
75	WB	56	THR
75	WB	86	GLU
75	WB	94	LYS
76	XB	47	ALA
78	ZB	37	SER
80	BC	9	ALA
80	BC	43	ARG

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Mol	Chain	Res	Type
80	BC	47	VAL
81	CC	88	PRO
81	CC	96	LYS
81	CC	146	SER
82	DC	28	VAL
82	DC	330	ALA
82	DC	346	VAL
82	DC	351	TYR
82	DC	420	PRO
82	DC	569	SER
82	DC	677	PHE
82	DC	759	GLN
82	DC	765	LEU
5	E	22	GLU
6	F	116	VAL
6	F	125	ALA
6	F	212	GLY
6	F	243	THR
6	F	246	LEU
7	G	140	ASP
7	G	155	ALA
7	G	244	ARG
7	G	279	ASN
8	H	5	GLN
8	H	81	GLY
8	H	91	GLY
8	H	172	VAL
8	H	263	GLY
8	H	264	SER
8	H	292	SER
8	H	302	ALA
8	H	304	GLN
8	H	305	ALA
9	I	59	ASP
9	I	231	ILE
9	I	252	ALA
9	I	260	PHE
10	J	4	GLN
11	K	192	GLY
12	L	25	PRO
12	L	79	GLN
12	L	99	PRO

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Mol	Chain	Res	Type
12	L	156	ASP
12	L	162	LEU
13	M	15	GLY
13	M	117	PHE
14	N	39	LYS
14	N	194	GLY
14	N	197	VAL
15	O	50	ALA
15	O	55	ARG
15	O	64	LYS
15	O	94	ARG
16	P	107	ASP
17	Q	47	ALA
17	Q	62	THR
18	R	9	ALA
18	R	41	GLN
18	R	71	ALA
20	T	68	ARG
21	U	25	SER
21	U	41	LEU
21	U	156	ALA
22	V	91	ALA
22	V	99	THR
22	V	176	ARG
23	W	18	GLY
23	W	57	VAL
23	W	130	ASN
23	W	131	ALA
24	X	69	PRO
25	Y	97	LYS
26	Z	69	ALA
28	BA	50	ALA
29	CA	78	ASP
30	DA	37	LYS
30	DA	93	ALA
30	DA	105	VAL
31	EA	4	PHE
31	EA	59	ALA
31	EA	132	SER
32	FA	24	LYS
32	FA	56	VAL
32	FA	78	LEU

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Mol	Chain	Res	Type
32	FA	116	GLY
32	FA	117	ARG
33	GA	3	LYS
34	HA	21	GLY
34	HA	98	SER
35	IA	82	GLU
35	IA	99	ALA
36	JA	50	ILE
36	JA	83	GLU
37	KA	91	ALA
38	LA	77	GLY
39	MA	75	TYR
39	MA	99	GLN
39	MA	113	GLN
40	NA	18	THR
40	NA	96	ALA
41	OA	65	ARG
44	RA	92	ASP
44	RA	124	LYS
45	SA	22	ALA
46	TA	33	ALA
46	TA	94	GLY
48	VA	31	ASP
49	WA	94	VAL
49	WA	249	ARG
50	XA	139	VAL
51	YA	35	PRO
51	YA	82	ARG
51	YA	191	GLU
52	ZA	39	THR
53	AB	93	ASP
53	AB	211	PRO
53	AB	216	PRO
54	BB	26	CYS
54	BB	167	GLY
55	CB	43	PHE
55	CB	79	ASN
56	DB	117	GLY
56	DB	148	SER
57	EB	98	ILE
57	EB	113	PRO
57	EB	156	SER

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Mol	Chain	Res	Type
57	EB	166	LEU
58	FB	28	GLU
58	FB	48	THR
58	FB	59	ARG
58	FB	62	THR
58	FB	70	GLU
58	FB	153	GLU
59	GB	18	PRO
59	GB	99	LEU
59	GB	138	LYS
59	GB	169	PRO
60	HB	60	SER
60	HB	64	TYR
60	HB	81	ASN
60	HB	93	GLN
61	IB	40	LEU
61	IB	80	MET
63	KB	6	SER
63	KB	22	ALA
64	LB	34	SER
64	LB	114	ARG
65	MB	21	ASP
65	MB	51	SER
66	NB	39	VAL
67	OB	24	LEU
68	PB	25	ASN
70	RB	107	THR
71	SB	14	PRO
73	UB	5	LYS
73	UB	11	SER
73	UB	40	SER
73	UB	67	ALA
73	UB	96	VAL
73	UB	138	GLU
73	UB	144	ARG
74	VB	5	VAL
74	VB	68	LYS
75	WB	55	PRO
76	XB	63	ALA
76	XB	85	ARG
76	XB	89	ARG
77	YB	75	GLU

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Mol	Chain	Res	Type
78	ZB	36	THR
80	BC	10	ARG
80	BC	58	PRO
81	CC	111	GLU
82	DC	48	ALA
82	DC	91	GLN
82	DC	171	LYS
82	DC	257	TRP
82	DC	332	ASP
82	DC	348	ALA
82	DC	353	ALA
82	DC	407	SER
82	DC	424	ASP
82	DC	482	LYS
82	DC	497	ASN
82	DC	555	LYS
82	DC	571	SER
82	DC	751	ARG
5	E	27	ASN
5	E	30	GLU
5	E	138	VAL
7	G	5	LYS
7	G	50	LYS
7	G	386	ASP
8	H	36	HIS
8	H	131	VAL
8	H	277	PRO
8	H	296	GLN
8	H	335	ALA
9	I	78	ALA
9	I	119	TYR
9	I	130	GLU
9	I	139	PRO
9	I	258	LYS
10	J	61	ASN
11	K	80	GLN
11	K	81	HIS
11	K	148	VAL
11	K	165	ASP
12	L	139	VAL
12	L	205	ALA
13	M	2	LYS

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Mol	Chain	Res	Type
13	M	49	ASN
13	M	99	ILE
13	M	139	ASN
14	N	118	ALA
15	O	132	ASN
16	P	77	ALA
16	P	118	ASP
17	Q	18	TRP
17	Q	51	LEU
17	Q	75	PHE
17	Q	136	GLU
18	R	28	SER
18	R	76	ALA
19	S	94	TYR
20	T	131	PRO
21	U	132	ALA
23	W	179	GLU
24	X	2	ALA
24	X	4	PHE
24	X	53	LYS
24	X	124	LEU
24	X	143	PHE
24	X	157	GLN
25	Y	69	LYS
25	Y	98	HIS
26	Z	44	GLU
26	Z	52	ASN
27	AA	88	ARG
29	CA	55	ASN
32	FA	27	LYS
32	FA	47	LYS
32	FA	48	TYR
33	GA	9	ALA
35	IA	84	ASP
37	KA	47	LYS
37	KA	70	LYS
39	MA	84	LYS
40	NA	52	PRO
41	OA	11	ARG
44	RA	125	LYS
46	TA	15	LYS
46	TA	87	ARG

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Mol	Chain	Res	Type
48	VA	111	ALA
48	VA	137	GLN
49	WA	63	GLY
49	WA	75	ALA
49	WA	107	LYS
50	XA	27	ARG
50	XA	118	PRO
50	XA	157	ASP
51	YA	39	GLU
51	YA	48	VAL
51	YA	206	PRO
51	YA	213	ARG
51	YA	221	PRO
51	YA	223	PHE
52	ZA	145	GLY
53	AB	131	ALA
53	AB	217	ILE
54	BB	121	TYR
56	DB	135	PRO
57	EB	12	ALA
57	EB	63	PRO
57	EB	97	ARG
57	EB	178	GLY
58	FB	152	ILE
58	FB	154	SER
59	GB	35	GLY
59	GB	150	LEU
59	GB	167	ALA
61	IB	30	ARG
61	IB	79	LYS
62	JB	106	ILE
62	JB	125	ASN
64	LB	42	VAL
64	LB	45	GLY
65	MB	12	PHE
65	MB	53	PRO
65	MB	68	PRO
65	MB	73	PRO
65	MB	123	TYR
65	MB	127	ARG
66	NB	74	HIS
69	QB	50	ALA

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Mol	Chain	Res	Type
73	UB	7	ARG
73	UB	28	ASN
73	UB	125	VAL
75	WB	70	LYS
76	XB	11	ASN
76	XB	32	LYS
76	XB	48	ALA
76	XB	62	TYR
77	YB	68	GLY
81	CC	90	LYS
82	DC	134	GLY
82	DC	465	LYS
82	DC	673	GLU
82	DC	804	LEU
82	DC	830	GLU
82	DC	831	GLU
6	F	7	ASN
6	F	31	THR
6	F	127	ALA
7	G	123	TYR
7	G	141	GLY
7	G	250	ALA
8	H	11	LEU
8	H	233	LEU
8	H	311	HIS
8	H	317	PRO
9	I	132	THR
10	J	24	ALA
10	J	109	GLU
11	K	96	PRO
12	L	67	ILE
12	L	103	ALA
12	L	138	HIS
12	L	157	VAL
13	M	36	LYS
13	M	152	GLU
14	N	16	PRO
15	O	101	ASN
15	O	121	GLY
15	O	172	LEU
16	P	68	GLN
18	R	8	LYS

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Mol	Chain	Res	Type
19	S	84	PRO
19	S	146	ALA
22	V	71	LEU
22	V	97	PRO
24	X	147	ASP
25	Y	82	ASN
25	Y	125	ALA
28	BA	60	LYS
37	KA	61	GLY
38	LA	67	LYS
39	MA	14	LYS
40	NA	34	SER
43	QA	46	ARG
44	RA	79	GLU
47	UA	8	VAL
48	VA	6	GLU
48	VA	102	SER
49	WA	15	GLY
49	WA	119	ALA
50	XA	9	LEU
50	XA	29	VAL
50	XA	97	PRO
51	YA	74	GLN
51	YA	103	MET
51	YA	153	HIS
52	ZA	162	CYS
53	AB	196	ARG
54	BB	240	LYS
55	CB	50	GLU
55	CB	127	GLN
56	DB	43	ASP
56	DB	53	SER
56	DB	69	LEU
56	DB	122	GLU
57	EB	13	PRO
57	EB	87	ASP
59	GB	65	LYS
60	HB	34	GLU
60	HB	62	GLN
61	IB	4	GLU
61	IB	41	GLY
62	JB	93	ASP

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Mol	Chain	Res	Type
63	KB	28	LEU
63	KB	59	GLY
64	LB	33	LEU
65	MB	11	VAL
65	MB	52	LYS
66	NB	51	PRO
67	OB	42	GLN
67	OB	102	VAL
69	QB	53	TRP
70	RB	59	PRO
71	SB	7	GLN
71	SB	10	GLU
71	SB	12	TYR
72	TB	22	LYS
72	TB	93	LEU
74	VB	65	GLY
75	WB	97	LYS
76	XB	8	ASN
76	XB	31	PRO
76	XB	59	TYR
77	YB	51	GLN
80	BC	13	LYS
81	CC	98	VAL
81	CC	102	VAL
82	DC	331	ALA
82	DC	432	GLN
82	DC	483	PHE
6	F	27	ALA
6	F	150	LEU
6	F	175	VAL
7	G	63	PRO
7	G	292	ALA
8	H	90	PHE
8	H	348	GLY
9	I	106	ALA
9	I	125	VAL
9	I	228	ALA
10	J	122	PHE
10	J	123	PRO
12	L	241	LYS
13	M	172	ILE
18	R	6	ILE

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Mol	Chain	Res	Type
18	R	14	LEU
19	S	145	ASP
21	U	40	GLU
21	U	84	PRO
21	U	164	LYS
23	W	33	ALA
24	X	15	PRO
25	Y	127	GLN
25	Y	144	GLU
26	Z	11	ILE
28	BA	27	LYS
31	EA	8	GLY
31	EA	103	GLN
32	FA	148	ILE
36	JA	5	PRO
40	NA	3	VAL
40	NA	43	LEU
41	OA	37	CYS
41	OA	64	MET
42	PA	20	VAL
42	PA	33	LYS
43	QA	44	TRP
44	RA	97	ARG
48	VA	33	VAL
48	VA	76	LEU
48	VA	78	PRO
49	WA	237	GLN
50	XA	39	ASN
50	XA	103	THR
50	XA	149	LEU
51	YA	40	ASN
51	YA	207	LEU
52	ZA	119	LYS
52	ZA	121	VAL
52	ZA	248	SER
53	AB	6	SER
53	AB	215	GLU
54	BB	39	ARG
54	BB	74	GLY
56	DB	138	ALA
57	EB	144	VAL
58	FB	173	PRO

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Mol	Chain	Res	Type
59	GB	144	PRO
62	JB	102	GLY
63	KB	60	VAL
67	OB	100	LEU
67	OB	104	ASN
68	PB	14	ILE
70	RB	119	ALA
71	SB	42	GLU
73	UB	27	ASN
75	WB	93	SER
81	CC	97	LYS
81	CC	145	HIS
82	DC	108	HIS
82	DC	109	VAL
82	DC	169	VAL
82	DC	231	LYS
82	DC	285	PHE
82	DC	486	SER
82	DC	583	HIS
82	DC	805	GLY
82	DC	814	LYS
5	E	32	VAL
8	H	232	SER
9	I	14	SER
9	I	53	VAL
9	I	187	THR
9	I	253	PHE
11	K	147	LEU
12	L	124	ASP
14	N	7	ARG
14	N	24	ARG
14	N	207	GLU
15	O	108	GLU
17	Q	5	LYS
18	R	29	ALA
20	T	126	VAL
22	V	180	ARG
25	Y	123	GLY
25	Y	126	VAL
26	Z	92	TRP
29	CA	89	LYS
31	EA	82	PRO

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Mol	Chain	Res	Type
31	EA	87	LEU
32	FA	15	VAL
34	HA	100	ILE
40	NA	44	VAL
40	NA	77	LEU
41	OA	62	GLY
48	VA	75	LYS
49	WA	189	GLU
49	WA	276	PRO
50	XA	42	PRO
51	YA	154	SER
53	AB	132	LYS
54	BB	205	PHE
56	DB	70	PRO
56	DB	154	ARG
57	EB	145	GLY
58	FB	102	VAL
58	FB	112	TRP
61	IB	153	PHE
62	JB	84	ASN
65	MB	75	PRO
65	MB	78	THR
68	PB	37	GLY
68	PB	60	GLU
71	SB	27	ASP
72	TB	75	ILE
72	TB	84	GLY
73	UB	66	SER
73	UB	112	LYS
73	UB	131	SER
76	XB	10	ARG
79	AC	51	GLY
81	CC	148	TYR
82	DC	244	LEU
82	DC	291	PHE
8	H	23	PRO
10	J	15	VAL
10	J	98	VAL
22	V	132	PRO
35	IA	7	VAL
39	MA	112	PRO
40	NA	21	THR

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Mol	Chain	Res	Type
42	PA	35	GLY
46	TA	101	GLY
48	VA	47	GLY
49	WA	105	GLY
50	XA	98	ILE
52	ZA	48	GLY
52	ZA	75	GLY
53	AB	82	GLY
57	EB	162	ILE
59	GB	162	SER
64	LB	75	GLY
64	LB	87	GLY
66	NB	40	GLU
67	OB	99	VAL
69	QB	52	GLY
74	VB	35	VAL
75	WB	71	ILE
76	XB	45	VAL
81	CC	84	VAL
82	DC	281	ILE
82	DC	675	PRO
8	H	222	VAL
23	W	79	GLY
44	RA	80	PRO
47	UA	71	VAL
48	VA	165	VAL
51	YA	210	ILE
61	IB	84	ILE
61	IB	130	PRO
65	MB	109	PRO
74	VB	67	GLY
14	N	47	PRO
19	S	89	VAL
29	CA	62	VAL
48	VA	71	PRO
48	VA	158	VAL
58	FB	101	ILE
61	IB	123	VAL
62	JB	89	ILE
62	JB	115	VAL
64	LB	118	VAL
70	RB	110	PRO

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Mol	Chain	Res	Type
82	DC	811	PRO
28	BA	15	PRO
29	CA	44	PRO
31	EA	125	GLY
50	XA	189	VAL
50	XA	194	PRO
53	AB	37	VAL
53	AB	81	PRO
54	BB	151	ASP
59	GB	163	PRO
61	IB	113	PRO
63	KB	46	THR
65	MB	87	PRO
66	NB	55	VAL
67	OB	86	PRO
68	PB	76	PRO
72	TB	123	GLY
75	WB	40	VAL
82	DC	559	PRO
5	E	69	GLY
16	P	134	GLY
38	LA	29	ILE
62	JB	24	ILE
77	YB	76	GLY

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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
5	E	157/198 (79%)	129 (82%)	28 (18%)	2 10
6	F	194/196 (99%)	175 (90%)	19 (10%)	8 33
7	G	322/323 (100%)	297 (92%)	25 (8%)	12 42
8	H	288/289 (100%)	255 (88%)	33 (12%)	5 26
9	I	244/245 (100%)	220 (90%)	24 (10%)	8 33

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	J	152/153 (99%)	139 (91%)	13 (9%)	10	38
11	K	186/205 (91%)	170 (91%)	16 (9%)	10	38
12	L	191/208 (92%)	171 (90%)	20 (10%)	7	31
13	M	171/171 (100%)	157 (92%)	14 (8%)	11	40
14	N	180/187 (96%)	157 (87%)	23 (13%)	4	22
15	O	147/150 (98%)	134 (91%)	13 (9%)	10	38
16	P	81/136 (60%)	64 (79%)	17 (21%)	1	5
17	Q	154/159 (97%)	132 (86%)	22 (14%)	3	19
18	R	107/109 (98%)	96 (90%)	11 (10%)	7	32
19	S	175/176 (99%)	154 (88%)	21 (12%)	5	24
20	T	160/162 (99%)	152 (95%)	8 (5%)	24	58
21	U	145/146 (99%)	129 (89%)	16 (11%)	6	29
22	V	150/151 (99%)	142 (95%)	8 (5%)	22	55
23	W	153/154 (99%)	133 (87%)	20 (13%)	4	21
24	X	156/156 (100%)	133 (85%)	23 (15%)	3	18
25	Y	136/137 (99%)	120 (88%)	16 (12%)	5	25
26	Z	87/107 (81%)	82 (94%)	5 (6%)	20	53
27	AA	104/105 (99%)	90 (86%)	14 (14%)	4	21
28	BA	54/129 (42%)	49 (91%)	5 (9%)	9	35
29	CA	105/118 (89%)	90 (86%)	15 (14%)	3	19
30	DA	109/110 (99%)	97 (89%)	12 (11%)	6	29
31	EA	115/116 (99%)	97 (84%)	18 (16%)	2	15
32	FA	118/119 (99%)	106 (90%)	12 (10%)	7	32
33	GA	46/47 (98%)	44 (96%)	2 (4%)	29	62
34	HA	81/88 (92%)	70 (86%)	11 (14%)	3	20
35	IA	96/97 (99%)	88 (92%)	8 (8%)	11	40
36	JA	109/111 (98%)	99 (91%)	10 (9%)	9	36
37	KA	90/91 (99%)	87 (97%)	3 (3%)	38	68
38	LA	95/103 (92%)	82 (86%)	13 (14%)	3	20
39	MA	104/105 (99%)	90 (86%)	14 (14%)	4	21
40	NA	81/82 (99%)	75 (93%)	6 (7%)	13	44

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	OA	70/71 (99%)	64 (91%)	6 (9%)	10	38
42	PA	68/69 (99%)	65 (96%)	3 (4%)	28	62
43	QA	45/46 (98%)	42 (93%)	3 (7%)	16	48
44	RA	47/116 (40%)	44 (94%)	3 (6%)	17	50
45	SA	23/23 (100%)	18 (78%)	5 (22%)	1	5
46	TA	90/91 (99%)	88 (98%)	2 (2%)	52	78
47	UA	71/72 (99%)	63 (89%)	8 (11%)	6	27
48	VA	160/254 (63%)	133 (83%)	27 (17%)	2	12
49	WA	261/262 (100%)	243 (93%)	18 (7%)	15	47
50	XA	173/210 (82%)	153 (88%)	20 (12%)	5	26
52	ZA	176/205 (86%)	165 (94%)	11 (6%)	18	51
53	AB	182/195 (93%)	162 (89%)	20 (11%)	6	29
54	BB	221/222 (100%)	202 (91%)	19 (9%)	10	38
55	CB	173/191 (91%)	155 (90%)	18 (10%)	7	31
56	DB	193/201 (96%)	185 (96%)	8 (4%)	30	63
57	EB	165/170 (97%)	154 (93%)	11 (7%)	16	48
58	FB	150/161 (93%)	141 (94%)	9 (6%)	19	52
59	GB	158/166 (95%)	148 (94%)	10 (6%)	18	51
60	HB	89/98 (91%)	79 (89%)	10 (11%)	6	27
61	IB	136/137 (99%)	127 (93%)	9 (7%)	16	49
63	KB	127/128 (99%)	114 (90%)	13 (10%)	7	32
65	MB	103/118 (87%)	97 (94%)	6 (6%)	20	53
66	NB	117/119 (98%)	106 (91%)	11 (9%)	8	35
67	OB	82/124 (66%)	75 (92%)	7 (8%)	10	39
68	PB	128/129 (99%)	117 (91%)	11 (9%)	10	38
69	QB	115/116 (99%)	106 (92%)	9 (8%)	12	42
70	RB	100/114 (88%)	92 (92%)	8 (8%)	12	41
71	SB	74/74 (100%)	68 (92%)	6 (8%)	11	41
72	TB	110/111 (99%)	98 (89%)	12 (11%)	6	29
73	UB	119/120 (99%)	112 (94%)	7 (6%)	19	53
74	VB	112/113 (99%)	106 (95%)	6 (5%)	22	55

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
75	WB	61/89 (68%)	54 (88%)	7 (12%)	5 26
77	YB	70/71 (99%)	69 (99%)	1 (1%)	67 85
78	ZB	56/60 (93%)	52 (93%)	4 (7%)	14 46
79	AC	47/49 (96%)	42 (89%)	5 (11%)	6 30
80	BC	51/54 (94%)	45 (88%)	6 (12%)	5 25
82	DC	699/714 (98%)	621 (89%)	78 (11%)	6 27
All	All	9865/10602 (93%)	8910 (90%)	955 (10%)	12 33

All (955) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	E	4	ILE
5	E	16	LEU
5	E	29	LEU
5	E	31	THR
5	E	32	VAL
5	E	33	GLU
5	E	65	ILE
5	E	70	ASP
5	E	72	PHE
5	E	87	VAL
5	E	97	LYS
5	E	114	GLU
5	E	122	ARG
5	E	127	GLN
5	E	139	SER
5	E	145	TYR
5	E	176	GLU
5	E	183	ILE
5	E	184	LEU
5	E	189	PHE
5	E	193	LEU
5	E	197	ASN
5	E	200	ASN
5	E	201	VAL
5	E	207	LYS
5	E	210	MET
5	E	214	PHE
5	E	217	TYR
6	F	29	LEU

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Mol	Chain	Res	Type
6	F	30	ARG
6	F	44	ILE
6	F	47	GLN
6	F	89	TYR
6	F	101	VAL
6	F	102	LEU
6	F	103	PRO
6	F	104	LEU
6	F	116	VAL
6	F	149	ARG
6	F	150	LEU
6	F	155	LYS
6	F	176	ASP
6	F	191	LEU
6	F	207	VAL
6	F	218	HIS
6	F	241	ARG
6	F	251	LYS
7	G	3	HIS
7	G	19	ARG
7	G	25	ILE
7	G	85	VAL
7	G	95	THR
7	G	137	TYR
7	G	140	ASP
7	G	150	ARG
7	G	164	THR
7	G	173	GLN
7	G	191	LYS
7	G	196	ARG
7	G	206	ASP
7	G	238	LEU
7	G	287	LYS
7	G	289	ASP
7	G	298	PHE
7	G	304	THR
7	G	305	ILE
7	G	311	PHE
7	G	332	ARG
7	G	335	ILE
7	G	351	LEU
7	G	356	LEU

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Mol	Chain	Res	Type
7	G	386	ASP
8	H	33	ASP
8	H	35	VAL
8	H	40	THR
8	H	73	ARG
8	H	92	ASN
8	H	93	MET
8	H	99	MET
8	H	114	ASN
8	H	120	TYR
8	H	122	THR
8	H	144	LYS
8	H	156	LEU
8	H	172	VAL
8	H	179	LEU
8	H	182	LEU
8	H	187	LEU
8	H	206	LEU
8	H	235	LEU
8	H	244	LEU
8	H	259	ASP
8	H	260	GLN
8	H	265	GLU
8	H	276	LEU
8	H	277	PRO
8	H	280	ILE
8	H	285	ASP
8	H	291	ASN
8	H	294	GLU
8	H	307	GLN
8	H	313	LEU
8	H	316	ASN
8	H	327	LEU
8	H	359	LEU
9	I	8	LYS
9	I	22	ARG
9	I	23	ARG
9	I	33	ARG
9	I	35	ARG
9	I	41	LYS
9	I	45	ASN
9	I	57	ASN

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Mol	Chain	Res	Type
9	I	85	ARG
9	I	94	ASN
9	I	95	TRP
9	I	105	ILE
9	I	107	ARG
9	I	120	LYS
9	I	131	LEU
9	I	144	VAL
9	I	152	ARG
9	I	168	ASP
9	I	194	LEU
9	I	198	TYR
9	I	229	ASP
9	I	248	ARG
9	I	276	LYS
9	I	285	ARG
10	J	8	LYS
10	J	20	LYS
10	J	30	LEU
10	J	35	VAL
10	J	40	LEU
10	J	52	VAL
10	J	72	ASN
10	J	98	VAL
10	J	108	LYS
10	J	122	PHE
10	J	136	GLU
10	J	166	LYS
10	J	174	LEU
11	K	24	GLU
11	K	25	GLN
11	K	45	LEU
11	K	68	ASP
11	K	82	LYS
11	K	88	ARG
11	K	124	LEU
11	K	155	LYS
11	K	179	LEU
11	K	182	ASP
11	K	202	LEU
11	K	216	VAL
11	K	229	PHE

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Mol	Chain	Res	Type
11	K	238	LYS
11	K	239	LEU
11	K	241	LYS
12	L	41	GLN
12	L	50	VAL
12	L	55	TYR
12	L	57	ARG
12	L	84	ARG
12	L	110	THR
12	L	122	LYS
12	L	124	ASP
12	L	134	TYR
12	L	136	LEU
12	L	152	LEU
12	L	160	ILE
12	L	161	GLU
12	L	169	LEU
12	L	189	LEU
12	L	200	LEU
12	L	204	ARG
12	L	224	ASP
12	L	232	HIS
12	L	246	MET
13	M	34	LEU
13	M	41	ILE
13	M	49	ASN
13	M	52	LEU
13	M	55	VAL
13	M	68	LEU
13	M	69	ARG
13	M	72	LYS
13	M	83	THR
13	M	135	GLU
13	M	139	ASN
13	M	149	ASN
13	M	164	ILE
13	M	172	ILE
14	N	3	ARG
14	N	21	ARG
14	N	30	LYS
14	N	32	ARG
14	N	33	ILE

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Mol	Chain	Res	Type
14	N	35	ASP
14	N	36	LEU
14	N	42	THR
14	N	44	ASP
14	N	48	LEU
14	N	71	CYS
14	N	73	ASN
14	N	82	ARG
14	N	91	VAL
14	N	92	HIS
14	N	102	MET
14	N	130	ASP
14	N	139	ARG
14	N	150	GLU
14	N	153	ARG
14	N	163	GLN
14	N	165	ILE
14	N	169	LYS
15	O	10	ARG
15	O	11	ASP
15	O	12	LEU
15	O	13	LYS
15	O	29	ARG
15	O	30	LEU
15	O	94	ARG
15	O	111	ASP
15	O	112	LEU
15	O	117	ASP
15	O	142	LYS
15	O	150	ASN
15	O	161	SER
16	P	57	LYS
16	P	60	VAL
16	P	61	GLN
16	P	65	GLN
16	P	66	ASN
16	P	73	VAL
16	P	90	ARG
16	P	92	ARG
16	P	96	LYS
16	P	99	LYS
16	P	112	ILE

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Mol	Chain	Res	Type
16	P	114	ARG
16	P	125	LEU
16	P	131	GLU
16	P	133	LEU
16	P	139	VAL
16	P	146	LYS
17	Q	13	HIS
17	Q	17	HIS
17	Q	21	ARG
17	Q	23	LYS
17	Q	46	ILE
17	Q	53	LEU
17	Q	54	LEU
17	Q	55	ARG
17	Q	58	VAL
17	Q	67	ARG
17	Q	69	VAL
17	Q	85	LEU
17	Q	95	ILE
17	Q	103	ASN
17	Q	114	GLN
17	Q	117	LYS
17	Q	131	LYS
17	Q	154	VAL
17	Q	164	GLU
17	Q	168	ARG
17	Q	169	THR
17	Q	192	GLU
18	R	4	ASP
18	R	8	LYS
18	R	15	VAL
18	R	24	LYS
18	R	40	ASP
18	R	41	GLN
18	R	46	ILE
18	R	55	ARG
18	R	103	ILE
18	R	107	GLU
18	R	121	MET
19	S	10	LEU
19	S	11	GLN
19	S	18	VAL

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Mol	Chain	Res	Type
19	S	27	VAL
19	S	31	ARG
19	S	38	ARG
19	S	50	ARG
19	S	57	GLN
19	S	66	VAL
19	S	83	LYS
19	S	84	PRO
19	S	133	ILE
19	S	134	LEU
19	S	145	ASP
19	S	151	ILE
19	S	153	ASP
19	S	160	GLU
19	S	164	LEU
19	S	165	THR
19	S	188	ARG
19	S	196	THR
20	T	74	ARG
20	T	78	ARG
20	T	117	ARG
20	T	131	PRO
20	T	151	ASP
20	T	167	TYR
20	T	177	LYS
20	T	193	GLN
21	U	3	ARG
21	U	18	ARG
21	U	25	SER
21	U	45	GLN
21	U	52	LEU
21	U	61	ARG
21	U	113	TYR
21	U	120	ASN
21	U	124	LYS
21	U	127	ARG
21	U	139	TYR
21	U	159	LYS
21	U	163	LYS
21	U	168	LEU
21	U	171	ARG
21	U	179	GLN

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Mol	Chain	Res	Type
22	V	57	ILE
22	V	64	VAL
22	V	69	ARG
22	V	100	THR
22	V	125	ASP
22	V	130	ARG
22	V	155	MET
22	V	180	ARG
23	W	22	VAL
23	W	24	LEU
23	W	36	ASN
23	W	38	ARG
23	W	43	LYS
23	W	47	ASN
23	W	56	THR
23	W	60	LYS
23	W	74	ARG
23	W	84	THR
23	W	99	LEU
23	W	104	ARG
23	W	105	LEU
23	W	133	LYS
23	W	162	ARG
23	W	165	LYS
23	W	171	ASP
23	W	179	GLU
23	W	181	ARG
23	W	182	ASP
24	X	9	VAL
24	X	12	ARG
24	X	14	LEU
24	X	34	GLU
24	X	43	TYR
24	X	45	LEU
24	X	79	VAL
24	X	80	ARG
24	X	81	TYR
24	X	82	ASP
24	X	87	THR
24	X	94	ILE
24	X	96	ASP
24	X	100	VAL

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Mol	Chain	Res	Type
24	X	110	MET
24	X	125	LYS
24	X	130	GLU
24	X	131	LYS
24	X	137	ARG
24	X	139	TYR
24	X	152	LEU
24	X	170	THR
24	X	172	TYR
25	Y	14	MET
25	Y	25	VAL
25	Y	27	LEU
25	Y	48	ILE
25	Y	55	LYS
25	Y	75	ILE
25	Y	84	TYR
25	Y	85	LEU
25	Y	86	GLU
25	Y	88	ARG
25	Y	91	LEU
25	Y	98	HIS
25	Y	126	VAL
25	Y	137	GLU
25	Y	139	ARG
25	Y	141	VAL
26	Z	10	LYS
26	Z	16	THR
26	Z	52	ASN
26	Z	88	GLN
26	Z	108	TYR
27	AA	12	ARG
27	AA	13	ILE
27	AA	15	LEU
27	AA	33	ASN
27	AA	54	LEU
27	AA	56	ASP
27	AA	68	GLU
27	AA	83	LYS
27	AA	93	LEU
27	AA	98	ASN
27	AA	102	ILE
27	AA	115	THR

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Mol	Chain	Res	Type
27	AA	124	ASP
27	AA	128	ARG
28	BA	1	MET
28	BA	17	ARG
28	BA	19	THR
28	BA	48	ARG
28	BA	57	LYS
29	CA	34	LEU
29	CA	40	LEU
29	CA	54	TYR
29	CA	58	ASP
29	CA	60	TYR
29	CA	63	ILE
29	CA	74	LYS
29	CA	83	VAL
29	CA	86	VAL
29	CA	115	ARG
29	CA	126	LEU
29	CA	127	THR
29	CA	133	LEU
29	CA	135	ILE
29	CA	142	ILE
30	DA	4	GLN
30	DA	13	ARG
30	DA	25	SER
30	DA	26	GLN
30	DA	37	LYS
30	DA	50	ILE
30	DA	57	LEU
30	DA	74	TYR
30	DA	105	VAL
30	DA	113	LYS
30	DA	115	ARG
30	DA	126	LEU
31	EA	4	PHE
31	EA	21	LYS
31	EA	24	VAL
31	EA	43	VAL
31	EA	46	ILE
31	EA	52	LYS
31	EA	57	HIS
31	EA	64	LYS

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Mol	Chain	Res	Type
31	EA	72	ILE
31	EA	81	LEU
31	EA	88	ASP
31	EA	99	GLU
31	EA	109	GLU
31	EA	119	GLU
31	EA	121	ARG
31	EA	126	LYS
31	EA	127	ASN
31	EA	136	PHE
32	FA	4	ARG
32	FA	7	LYS
32	FA	10	LYS
32	FA	24	LYS
32	FA	42	ARG
32	FA	56	VAL
32	FA	60	TYR
32	FA	64	GLN
32	FA	85	ASP
32	FA	129	PHE
32	FA	133	LEU
32	FA	135	GLU
33	GA	14	ARG
33	GA	59	LYS
34	HA	12	GLN
34	HA	19	LYS
34	HA	38	LYS
34	HA	43	ILE
34	HA	55	GLU
34	HA	61	MET
34	HA	62	LEU
34	HA	66	LYS
34	HA	86	ARG
34	HA	98	SER
34	HA	100	ILE
35	IA	13	THR
35	IA	26	LYS
35	IA	28	ARG
35	IA	31	ARG
35	IA	55	LEU
35	IA	94	GLU
35	IA	111	GLU

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Mol	Chain	Res	Type
35	IA	112	ASP
36	JA	4	LEU
36	JA	8	LYS
36	JA	14	THR
36	JA	23	ASP
36	JA	33	ARG
36	JA	45	ARG
36	JA	62	LYS
36	JA	78	ASN
36	JA	89	THR
36	JA	128	LEU
37	KA	33	GLU
37	KA	53	TYR
37	KA	86	ARG
38	LA	15	THR
38	LA	22	VAL
38	LA	38	LEU
38	LA	51	LEU
38	LA	54	ILE
38	LA	59	PRO
38	LA	67	LYS
38	LA	80	ARG
38	LA	83	ASN
38	LA	95	ILE
38	LA	97	GLU
38	LA	98	GLN
38	LA	106	LYS
39	MA	7	TYR
39	MA	10	ARG
39	MA	27	GLU
39	MA	30	GLU
39	MA	41	LEU
39	MA	48	ARG
39	MA	49	LYS
39	MA	53	CYS
39	MA	71	LYS
39	MA	74	LYS
39	MA	77	PRO
39	MA	79	ASP
39	MA	89	ARG
39	MA	104	GLN
40	NA	18	THR

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Mol	Chain	Res	Type
40	NA	37	THR
40	NA	52	PRO
40	NA	57	LEU
40	NA	60	LEU
40	NA	98	ARG
41	OA	10	LYS
41	OA	17	THR
41	OA	19	CYS
41	OA	24	ARG
41	OA	25	ARG
41	OA	45	ARG
42	PA	7	ASP
42	PA	26	LYS
42	PA	69	LEU
43	QA	5	LYS
43	QA	8	ARG
43	QA	23	LEU
44	RA	85	LEU
44	RA	117	HIS
44	RA	127	LEU
45	SA	5	TRP
45	SA	16	LYS
45	SA	17	ARG
45	SA	21	ARG
45	SA	23	ARG
46	TA	8	ARG
46	TA	20	HIS
47	UA	4	ARG
47	UA	11	THR
47	UA	17	ARG
47	UA	24	ARG
47	UA	28	LYS
47	UA	45	LYS
47	UA	70	THR
47	UA	89	MET
48	VA	17	GLU
48	VA	18	TYR
48	VA	20	GLU
48	VA	21	GLU
48	VA	23	LYS
48	VA	45	LEU
48	VA	46	ARG

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Mol	Chain	Res	Type
48	VA	55	LYS
48	VA	57	THR
48	VA	61	ARG
48	VA	72	ASP
48	VA	81	LYS
48	VA	83	ASN
48	VA	91	GLU
48	VA	95	GLU
48	VA	101	VAL
48	VA	104	ARG
48	VA	117	GLU
48	VA	120	TRP
48	VA	125	ASN
48	VA	144	LYS
48	VA	159	VAL
48	VA	167	GLN
48	VA	172	LEU
48	VA	185	LEU
48	VA	186	THR
48	VA	189	GLN
49	WA	31	ASN
49	WA	45	TRP
49	WA	58	VAL
49	WA	59	ARG
49	WA	109	ASP
49	WA	117	LYS
49	WA	136	ILE
49	WA	137	LYS
49	WA	165	ASP
49	WA	175	ASP
49	WA	181	TRP
49	WA	195	HIS
49	WA	207	ASP
49	WA	245	PHE
49	WA	248	ASN
49	WA	266	ASP
49	WA	268	GLN
49	WA	269	TYR
50	XA	8	ASP
50	XA	10	THR
50	XA	13	ASP
50	XA	23	HIS

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Mol	Chain	Res	Type
50	XA	24	LEU
50	XA	27	ARG
50	XA	32	HIS
50	XA	38	PHE
50	XA	39	ASN
50	XA	62	ARG
50	XA	97	PRO
50	XA	101	ARG
50	XA	109	ASN
50	XA	113	ARG
50	XA	118	PRO
50	XA	131	GLN
50	XA	155	PHE
50	XA	172	LEU
50	XA	195	TRP
50	XA	197	ILE
52	ZA	53	ILE
52	ZA	83	ILE
52	ZA	106	ASP
52	ZA	113	LEU
52	ZA	119	LYS
52	ZA	158	THR
52	ZA	169	LEU
52	ZA	220	ASN
52	ZA	222	TYR
52	ZA	228	ASN
52	ZA	230	TRP
53	AB	7	LYS
53	AB	10	LYS
53	AB	17	PHE
53	AB	23	GLU
53	AB	84	ILE
53	AB	92	GLN
53	AB	93	ASP
53	AB	105	MET
53	AB	125	TYR
53	AB	127	MET
53	AB	136	VAL
53	AB	150	MET
53	AB	156	PHE
53	AB	158	ILE
53	AB	169	ASP

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Mol	Chain	Res	Type
53	AB	178	ARG
53	AB	179	GLN
53	AB	181	VAL
53	AB	215	GLU
53	AB	223	LYS
54	BB	6	LYS
54	BB	8	HIS
54	BB	11	ARG
54	BB	23	LEU
54	BB	30	ARG
54	BB	38	LEU
54	BB	77	ARG
54	BB	102	VAL
54	BB	133	LYS
54	BB	138	TYR
54	BB	158	ASP
54	BB	169	ILE
54	BB	182	TYR
54	BB	187	ARG
54	BB	223	ASN
54	BB	227	VAL
54	BB	233	LYS
54	BB	240	LYS
54	BB	242	LYS
55	CB	25	LEU
55	CB	42	LEU
55	CB	48	PHE
55	CB	55	ASP
55	CB	76	ARG
55	CB	83	ARG
55	CB	92	ARG
55	CB	106	LYS
55	CB	109	LYS
55	CB	128	ASN
55	CB	149	VAL
55	CB	156	ARG
55	CB	157	ARG
55	CB	166	ARG
55	CB	184	PHE
55	CB	187	ILE
55	CB	194	LEU
55	CB	215	ASP

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Mol	Chain	Res	Type
56	DB	19	ASP
56	DB	98	ARG
56	DB	125	THR
56	DB	132	ARG
56	DB	135	PRO
56	DB	170	THR
56	DB	211	LEU
56	DB	220	LYS
57	EB	8	ILE
57	EB	24	PHE
57	EB	42	GLN
57	EB	85	PHE
57	EB	92	PHE
57	EB	114	ARG
57	EB	117	THR
57	EB	124	LYS
57	EB	128	ASP
57	EB	173	TYR
57	EB	185	ILE
58	FB	5	ARG
58	FB	20	GLN
58	FB	29	LEU
58	FB	47	ARG
58	FB	105	ASP
58	FB	121	LEU
58	FB	137	LYS
58	FB	180	ASP
58	FB	182	TYR
59	GB	3	ARG
59	GB	39	LYS
59	GB	58	ASP
59	GB	66	ASP
59	GB	92	LYS
59	GB	120	LYS
59	GB	134	ILE
59	GB	149	ARG
59	GB	155	HIS
59	GB	158	PHE
60	HB	7	ASP
60	HB	32	HIS
60	HB	34	GLU
60	HB	41	TYR

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Mol	Chain	Res	Type
60	HB	49	LEU
60	HB	52	LYS
60	HB	59	PHE
60	HB	62	GLN
60	HB	82	LEU
60	HB	91	TYR
61	IB	4	GLU
61	IB	15	LYS
61	IB	44	THR
61	IB	67	ARG
61	IB	71	LEU
61	IB	109	VAL
61	IB	125	VAL
61	IB	153	PHE
61	IB	155	LYS
63	KB	3	ARG
63	KB	43	LYS
63	KB	48	SER
63	KB	56	ASP
63	KB	64	ARG
63	KB	66	ILE
63	KB	72	MET
63	KB	76	LYS
63	KB	86	GLU
63	KB	88	LEU
63	KB	108	ASP
63	KB	125	LEU
63	KB	151	ASN
65	MB	21	ASP
65	MB	36	LEU
65	MB	44	ARG
65	MB	65	LEU
65	MB	81	ARG
65	MB	110	GLU
66	NB	28	LEU
66	NB	41	PRO
66	NB	43	ILE
66	NB	52	LEU
66	NB	58	ASP
66	NB	70	THR
66	NB	112	TYR
66	NB	117	LEU

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Mol	Chain	Res	Type
66	NB	120	ASP
66	NB	129	PHE
66	NB	137	ARG
67	OB	5	ARG
67	OB	14	LYS
67	OB	29	GLN
67	OB	38	ILE
67	OB	43	SER
67	OB	69	ILE
67	OB	117	LEU
68	PB	3	LEU
68	PB	15	LEU
68	PB	17	LEU
68	PB	28	ILE
68	PB	40	ARG
68	PB	51	ASP
68	PB	85	PHE
68	PB	92	ILE
68	PB	126	ARG
68	PB	127	HIS
68	PB	136	GLN
69	QB	22	LEU
69	QB	28	LEU
69	QB	35	ASP
69	QB	38	LYS
69	QB	67	MET
69	QB	68	ARG
69	QB	130	ARG
69	QB	131	ASP
69	QB	134	ARG
70	RB	15	GLN
70	RB	46	GLU
70	RB	48	HIS
70	RB	57	ARG
70	RB	61	LYS
70	RB	77	LYS
70	RB	89	ARG
70	RB	108	ILE
71	SB	3	ASN
71	SB	5	LYS
71	SB	11	LEU
71	SB	14	PRO

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Mol	Chain	Res	Type
71	SB	50	TYR
71	SB	85	TYR
72	TB	16	ASN
72	TB	24	GLN
72	TB	25	VAL
72	TB	32	LYS
72	TB	39	GLN
72	TB	49	GLU
72	TB	65	LEU
72	TB	66	ASN
72	TB	74	VAL
72	TB	99	PHE
72	TB	104	LEU
72	TB	112	ASP
73	UB	9	LEU
73	UB	19	ARG
73	UB	23	ARG
73	UB	60	GLU
73	UB	82	LYS
73	UB	94	ASN
73	UB	101	GLU
74	VB	17	LEU
74	VB	32	ARG
74	VB	34	ASN
74	VB	125	LEU
74	VB	127	LYS
74	VB	132	ARG
75	WB	42	LEU
75	WB	47	TYR
75	WB	58	ARG
75	WB	69	LEU
75	WB	95	HIS
75	WB	98	GLN
75	WB	100	ILE
77	YB	29	ARG
78	ZB	22	ARG
78	ZB	32	PHE
78	ZB	34	GLU
78	ZB	60	GLU
79	AC	8	PHE
79	AC	14	TYR
79	AC	19	ARG

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Mol	Chain	Res	Type
79	AC	28	THR
79	AC	43	PHE
80	BC	17	GLN
80	BC	18	THR
80	BC	20	LYS
80	BC	26	LYS
80	BC	33	ARG
80	BC	44	PHE
82	DC	32	LYS
82	DC	69	THR
82	DC	70	ILE
82	DC	94	ASP
82	DC	120	ARG
82	DC	122	THR
82	DC	137	VAL
82	DC	138	GLN
82	DC	139	THR
82	DC	149	GLU
82	DC	153	PRO
82	DC	171	LYS
82	DC	222	ILE
82	DC	236	ASP
82	DC	242	ASP
82	DC	261	ASP
82	DC	270	GLU
82	DC	320	LEU
82	DC	323	VAL
82	DC	328	LEU
82	DC	332	ASP
82	DC	362	ASP
82	DC	383	SER
82	DC	390	ASP
82	DC	411	VAL
82	DC	420	PRO
82	DC	436	LEU
82	DC	456	LEU
82	DC	469	LEU
82	DC	471	THR
82	DC	480	VAL
82	DC	482	LYS
82	DC	490	GLN
82	DC	501	LEU

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Mol	Chain	Res	Type
82	DC	506	GLU
82	DC	536	LEU
82	DC	547	HIS
82	DC	568	GLU
82	DC	576	LEU
82	DC	583	HIS
82	DC	584	ASN
82	DC	596	GLU
82	DC	605	ILE
82	DC	611	ASP
82	DC	612	PHE
82	DC	628	THR
82	DC	629	ASP
82	DC	631	ARG
82	DC	634	TRP
82	DC	647	ILE
82	DC	651	LYS
82	DC	656	LEU
82	DC	661	ASP
82	DC	662	SER
82	DC	679	GLU
82	DC	688	ILE
82	DC	693	LEU
82	DC	696	ASP
82	DC	710	ARG
82	DC	721	ASP
82	DC	723	LYS
82	DC	724	ILE
82	DC	725	GLN
82	DC	726	GLU
82	DC	731	VAL
82	DC	733	ILE
82	DC	743	ILE
82	DC	744	TYR
82	DC	748	ASN
82	DC	753	GLN
82	DC	760	ARG
82	DC	766	PHE
82	DC	781	THR
82	DC	810	ASP
82	DC	831	GLU
82	DC	833	PRO

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Mol	Chain	Res	Type
82	DC	836	GLN
82	DC	839	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (251) such sidechains are listed below:

Mol	Chain	Res	Type
5	E	94	ASN
5	E	119	GLN
5	E	127	GLN
5	E	197	ASN
6	F	47	GLN
6	F	79	ASN
6	F	100	ASN
6	F	132	ASN
6	F	209	HIS
6	F	217	GLN
6	F	253	GLN
7	G	11	HIS
7	G	165	GLN
7	G	182	GLN
7	G	184	ASN
7	G	211	GLN
8	H	5	GLN
8	H	9	HIS
8	H	48	GLN
8	H	114	ASN
8	H	260	GLN
8	H	291	ASN
8	H	307	GLN
8	H	316	ASN
8	H	320	ASN
8	H	361	HIS
9	I	32	GLN
9	I	40	HIS
9	I	45	ASN
9	I	63	GLN
9	I	94	ASN
9	I	206	GLN
9	I	264	GLN
10	J	72	ASN
10	J	167	ASN
10	J	172	HIS

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Mol	Chain	Res	Type
11	K	37	ASN
11	K	48	ASN
11	K	52	GLN
11	K	61	ASN
11	K	146	GLN
11	K	157	ASN
11	K	194	HIS
11	K	244	ASN
12	L	24	ASN
12	L	41	GLN
12	L	59	GLN
12	L	61	GLN
12	L	79	GLN
12	L	137	ASN
12	L	145	ASN
13	M	49	ASN
13	M	50	ASN
13	M	100	ASN
13	M	157	ASN
14	N	12	GLN
14	N	163	GLN
14	N	209	ASN
14	N	220	GLN
15	O	62	ASN
16	P	65	GLN
16	P	115	GLN
16	P	137	GLN
17	Q	6	ASN
17	Q	19	GLN
17	Q	106	GLN
17	Q	112	ASN
17	Q	120	GLN
17	Q	137	GLN
18	R	41	GLN
18	R	126	GLN
19	S	37	HIS
19	S	86	ASN
20	T	31	GLN
20	T	42	ASN
21	U	64	ASN
21	U	96	GLN
21	U	120	ASN

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Mol	Chain	Res	Type
21	U	172	GLN
22	V	9	GLN
22	V	15	HIS
22	V	45	ASN
23	W	3	ASN
23	W	34	GLN
23	W	118	HIS
23	W	121	HIS
24	X	46	GLN
24	X	63	GLN
24	X	68	HIS
24	X	108	GLN
24	X	154	HIS
25	Y	22	HIS
25	Y	58	GLN
25	Y	146	ASN
26	Z	88	GLN
27	AA	33	ASN
27	AA	81	GLN
27	AA	98	ASN
27	AA	132	ASN
29	CA	137	ASN
30	DA	4	GLN
33	GA	6	ASN
33	GA	10	HIS
33	GA	12	GLN
34	HA	47	ASN
35	IA	57	GLN
35	IA	105	GLN
36	JA	31	ASN
36	JA	35	GLN
36	JA	52	GLN
36	JA	60	ASN
36	JA	78	ASN
36	JA	104	ASN
37	KA	42	GLN
37	KA	87	ASN
37	KA	106	ASN
38	LA	18	ASN
39	MA	59	ASN
39	MA	62	GLN
39	MA	104	GLN

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Mol	Chain	Res	Type
39	MA	113	GLN
41	OA	57	HIS
41	OA	76	ASN
42	PA	10	GLN
42	PA	40	GLN
43	QA	4	GLN
43	QA	20	ASN
43	QA	32	ASN
43	QA	38	ASN
46	TA	47	GLN
46	TA	99	GLN
47	UA	34	HIS
48	VA	37	GLN
48	VA	56	ASN
48	VA	83	ASN
48	VA	189	GLN
49	WA	69	GLN
49	WA	224	ASN
49	WA	237	GLN
50	XA	23	HIS
50	XA	39	ASN
50	XA	109	ASN
50	XA	163	ASN
50	XA	164	ASN
52	ZA	152	HIS
53	AB	22	ASN
53	AB	92	GLN
53	AB	101	GLN
53	AB	162	GLN
53	AB	174	HIS
54	BB	67	GLN
54	BB	98	ASN
54	BB	197	HIS
54	BB	209	HIS
54	BB	224	ASN
54	BB	231	GLN
54	BB	258	GLN
54	BB	259	GLN
55	CB	79	ASN
55	CB	103	ASN
55	CB	122	ASN
55	CB	127	GLN

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Mol	Chain	Res	Type
55	CB	128	ASN
55	CB	131	GLN
55	CB	200	ASN
56	DB	4	ASN
56	DB	34	GLN
56	DB	56	ASN
56	DB	185	GLN
56	DB	210	GLN
57	EB	22	GLN
57	EB	42	GLN
57	EB	180	GLN
58	FB	32	GLN
58	FB	138	ASN
59	GB	112	GLN
59	GB	131	GLN
59	GB	176	ASN
60	HB	85	HIS
60	HB	96	ASN
61	IB	81	HIS
61	IB	150	ASN
63	KB	62	GLN
63	KB	78	ASN
63	KB	151	ASN
65	MB	79	HIS
65	MB	98	ASN
65	MB	103	ASN
65	MB	104	GLN
65	MB	128	HIS
66	NB	77	GLN
66	NB	83	GLN
66	NB	100	GLN
67	OB	29	GLN
67	OB	48	ASN
68	PB	21	ASN
68	PB	75	ASN
68	PB	78	HIS
68	PB	103	ASN
68	PB	136	GLN
68	PB	137	HIS
69	QB	16	ASN
69	QB	25	GLN
69	QB	43	ASN

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Mol	Chain	Res	Type
69	QB	70	GLN
69	QB	77	ASN
69	QB	93	HIS
69	QB	138	GLN
70	RB	40	ASN
70	RB	44	ASN
70	RB	72	ASN
70	RB	98	GLN
71	SB	3	ASN
71	SB	7	GLN
71	SB	33	GLN
71	SB	74	GLN
71	SB	75	ASN
72	TB	24	GLN
72	TB	42	GLN
72	TB	64	GLN
72	TB	80	ASN
73	UB	22	ASN
73	UB	75	GLN
73	UB	79	ASN
73	UB	89	ASN
74	VB	15	ASN
74	VB	63	GLN
74	VB	77	ASN
74	VB	107	GLN
79	AC	53	ASN
82	DC	18	ASN
82	DC	91	GLN
82	DC	96	ASN
82	DC	186	ASN
82	DC	224	GLN
82	DC	259	ASN
82	DC	341	HIS
82	DC	349	GLN
82	DC	365	ASN
82	DC	452	ASN
82	DC	537	HIS
82	DC	583	HIS
82	DC	603	ASN
82	DC	644	ASN
82	DC	687	ASN
82	DC	704	GLN

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Mol	Chain	Res	Type
82	DC	734	GLN
82	DC	748	ASN
82	DC	753	GLN
82	DC	791	GLN
82	DC	836	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1682/1798 (93%)	330 (19%)	11 (0%)
2	B	3267/3396 (96%)	533 (16%)	31 (0%)
3	C	157/158 (99%)	26 (16%)	0
4	D	120/121 (99%)	11 (9%)	0
83	EC	187/201 (93%)	79 (42%)	5 (2%)
All	All	5413/5674 (95%)	979 (18%)	47 (0%)

All (979) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	2	A
1	A	25	C
1	A	26	A
1	A	34	G
1	A	45	U
1	A	47	A
1	A	57	G
1	A	60	U
1	A	68	A
1	A	69	G
1	A	72	A
1	A	73	U
1	A	74	U
1	A	76	A
1	A	77	U
1	A	78	A
1	A	81	G
1	A	104	A
1	A	114	C
1	A	115	G
1	A	116	U
1	A	127	G

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Mol	Chain	Res	Type
1	A	129	U
1	A	132	U
1	A	133	U
1	A	134	U
1	A	135	A
1	A	136	C
1	A	137	U
1	A	140	A
1	A	141	U
1	A	145	A
1	A	153	G
1	A	159	U
1	A	166	C
1	A	178	U
1	A	186	C
1	A	190	C
1	A	191	C
1	A	192	U
1	A	195	G
1	A	197	A
1	A	200	A
1	A	215	A
1	A	219	A
1	A	228	G
1	A	233	C
1	A	237	C
1	A	238	U
1	A	240	U
1	A	241	U
1	A	242	U
1	A	250	C
1	A	261	U
1	A	265	A
1	A	272	U
1	A	277	U
1	A	278	U
1	A	280	U
1	A	288	A
1	A	299	A
1	A	302	U
1	A	314	C
1	A	316	A

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Mol	Chain	Res	Type
1	A	320	U
1	A	321	C
1	A	322	G
1	A	333	A
1	A	337	G
1	A	338	C
1	A	352	A
1	A	359	A
1	A	360	A
1	A	361	C
1	A	388	G
1	A	400	A
1	A	402	C
1	A	404	G
1	A	416	A
1	A	418	G
1	A	423	G
1	A	424	C
1	A	425	A
1	A	426	G
1	A	428	A
1	A	434	G
1	A	439	U
1	A	444	C
1	A	445	A
1	A	475	A
1	A	477	A
1	A	488	G
1	A	493	U
1	A	494	U
1	A	495	C
1	A	496	G
1	A	497	G
1	A	500	C
1	A	502	U
1	A	506	A
1	A	510	G
1	A	515	A
1	A	527	A
1	A	532	U
1	A	536	C
1	A	539	G

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Mol	Chain	Res	Type
1	A	541	A
1	A	542	A
1	A	544	A
1	A	555	A
1	A	556	A
1	A	557	G
1	A	558	U
1	A	559	C
1	A	565	C
1	A	578	U
1	A	579	A
1	A	580	A
1	A	581	U
1	A	582	U
1	A	594	A
1	A	595	G
1	A	611	U
1	A	619	A
1	A	620	A
1	A	622	A
1	A	623	A
1	A	624	G
1	A	628	G
1	A	629	U
1	A	630	A
1	A	631	G
1	A	639	U
1	A	650	U
1	A	655	G
1	A	656	G
1	A	677	G
1	A	684	A
1	A	694	U
1	A	696	C
1	A	697	C
1	A	700	C
1	A	703	G
1	A	704	C
1	A	705	U
1	A	707	A
1	A	709	C
1	A	710	U

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Mol	Chain	Res	Type
1	A	711	U
1	A	728	U
1	A	731	C
1	A	732	G
1	A	733	A
1	A	734	A
1	A	738	G
1	A	742	U
1	A	745	U
1	A	754	A
1	A	755	A
1	A	765	G
1	A	771	A
1	A	774	A
1	A	778	G
1	A	781	U
1	A	783	G
1	A	784	C
1	A	789	A
1	A	794	U
1	A	807	A
1	A	812	A
1	A	815	G
1	A	816	G
1	A	820	U
1	A	821	U
1	A	822	U
1	A	825	U
1	A	830	U
1	A	831	U
1	A	841	U
1	A	846	G
1	A	850	A
1	A	851	U
1	A	852	C
1	A	853	G
1	A	854	U
1	A	855	A
1	A	856	A
1	A	860	U
1	A	863	A
1	A	864	U

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Mol	Chain	Res	Type
1	A	865	A
1	A	876	G
1	A	889	U
1	A	902	G
1	A	928	U
1	A	929	A
1	A	933	A
1	A	935	U
1	A	944	A
1	A	945	U
1	A	951	A
1	A	960	U
1	A	966	A
1	A	1023	A
1	A	1024	U
1	A	1026	A
1	A	1028	C
1	A	1029	U
1	A	1039	A
1	A	1043	A
1	A	1052	U
1	A	1053	G
1	A	1058	U
1	A	1061	A
1	A	1072	C
1	A	1074	G
1	A	1076	A
1	A	1082	C
1	A	1091	A
1	A	1092	A
1	A	1093	A
1	A	1096	C
1	A	1097	U
1	A	1100	G
1	A	1109	G
1	A	1118	G
1	A	1138	A
1	A	1150	G
1	A	1151	A
1	A	1160	A
1	A	1163	A
1	A	1167	G

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Mol	Chain	Res	Type
1	A	1194	A
1	A	1196	A
1	A	1200	G
1	A	1202	A
1	A	1217	A
1	A	1218	G
1	A	1227	A
1	A	1228	G
1	A	1229	G
1	A	1230	A
1	A	1244	A
1	A	1245	G
1	A	1258	U
1	A	1275	A
1	A	1285	U
1	A	1307	U
1	A	1314	U
1	A	1315	U
1	A	1320	U
1	A	1340	U
1	A	1345	A
1	A	1347	U
1	A	1362	U
1	A	1363	U
1	A	1364	G
1	A	1370	U
1	A	1371	A
1	A	1390	U
1	A	1398	U
1	A	1399	C
1	A	1413	U
1	A	1415	U
1	A	1423	U
1	A	1427	A
1	A	1428	G
1	A	1432	U
1	A	1433	G
1	A	1445	G
1	A	1448	G
1	A	1457	C
1	A	1471	A
1	A	1473	U

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Mol	Chain	Res	Type
1	A	1474	G
1	A	1481	C
1	A	1482	C
1	A	1486	G
1	A	1490	C
1	A	1491	U
1	A	1492	A
1	A	1493	A
1	A	1499	G
1	A	1516	A
1	A	1518	C
1	A	1523	G
1	A	1524	A
1	A	1534	G
1	A	1535	U
1	A	1536	G
1	A	1537	C
1	A	1538	U
1	A	1539	G
1	A	1540	G
1	A	1557	U
1	A	1559	A
1	A	1573	A
1	A	1574	G
1	A	1584	G
1	A	1601	G
1	A	1616	G
1	A	1626	U
1	A	1634	C
1	A	1657	U
1	A	1658	G
1	A	1683	C
1	A	1684	U
1	A	1686	C
1	A	1697	G
1	A	1706	C
1	A	1715	G
1	A	1716	C
1	A	1717	G
1	A	1736	G
1	A	1742	U
1	A	1750	A

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Mol	Chain	Res	Type
1	A	1758	U
1	A	1761	U
1	A	1762	A
1	A	1763	A
1	A	1765	A
1	A	1766	A
1	A	1768	G
1	A	1769	U
1	A	1772	C
1	A	1774	G
1	A	1783	C
1	A	1789	G
1	A	1792	G
1	A	1793	G
2	B	6	A
2	B	11	A
2	B	13	A
2	B	14	U
2	B	30	G
2	B	40	A
2	B	49	A
2	B	60	A
2	B	66	A
2	B	71	A
2	B	92	G
2	B	108	A
2	B	109	A
2	B	110	G
2	B	111	C
2	B	113	C
2	B	117	U
2	B	120	G
2	B	121	A
2	B	122	A
2	B	123	A
2	B	133	U
2	B	135	C
2	B	136	G
2	B	148	G
2	B	150	A
2	B	156	G
2	B	157	A

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Mol	Chain	Res	Type
2	B	169	U
2	B	170	G
2	B	182	U
2	B	187	A
2	B	189	G
2	B	190	U
2	B	191	U
2	B	200	C
2	B	210	U
2	B	218	G
2	B	219	A
2	B	231	G
2	B	240	U
2	B	241	G
2	B	243	G
2	B	251	G
2	B	252	U
2	B	269	G
2	B	283	G
2	B	286	U
2	B	295	A
2	B	298	U
2	B	305	U
2	B	315	C
2	B	323	A
2	B	329	U
2	B	337	G
2	B	338	A
2	B	339	C
2	B	347	G
2	B	350	C
2	B	351	A
2	B	375	A
2	B	376	G
2	B	390	G
2	B	397	A
2	B	398	A
2	B	401	U
2	B	402	A
2	B	403	C
2	B	421	G
2	B	422	A

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Mol	Chain	Res	Type
2	B	439	C
2	B	441	U
2	B	442	G
2	B	489	C
2	B	493	G
2	B	494	G
2	B	495	G
2	B	510	G
2	B	518	G
2	B	519	A
2	B	520	U
2	B	521	A
2	B	523	A
2	B	535	G
2	B	545	U
2	B	546	C
2	B	552	G
2	B	557	A
2	B	559	A
2	B	569	A
2	B	578	A
2	B	579	G
2	B	592	A
2	B	595	G
2	B	600	G
2	B	609	G
2	B	611	A
2	B	620	U
2	B	621	A
2	B	636	C
2	B	637	C
2	B	638	C
2	B	649	A
2	B	667	C
2	B	677	A
2	B	681	U
2	B	690	A
2	B	691	A
2	B	705	A
2	B	708	G
2	B	719	U
2	B	727	G

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Mol	Chain	Res	Type
2	B	742	G
2	B	764	U
2	B	765	C
2	B	766	U
2	B	767	U
2	B	776	U
2	B	781	G
2	B	785	G
2	B	786	A
2	B	799	G
2	B	806	A
2	B	817	A
2	B	830	A
2	B	837	A
2	B	846	A
2	B	849	C
2	B	861	C
2	B	874	U
2	B	879	U
2	B	896	A
2	B	907	G
2	B	908	G
2	B	914	A
2	B	916	G
2	B	917	A
2	B	923	C
2	B	924	G
2	B	933	A
2	B	937	G
2	B	944	C
2	B	959	C
2	B	960	U
2	B	974	G
2	B	979	U
2	B	991	G
2	B	1002	A
2	B	1010	G
2	B	1018	G
2	B	1021	G
2	B	1028	U
2	B	1041	U
2	B	1047	A

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Mol	Chain	Res	Type
2	B	1049	C
2	B	1064	A
2	B	1075	A
2	B	1076	C
2	B	1081	U
2	B	1082	U
2	B	1093	A
2	B	1095	U
2	B	1096	U
2	B	1097	G
2	B	1098	A
2	B	1103	A
2	B	1104	G
2	B	1117	G
2	B	1131	G
2	B	1143	A
2	B	1144	U
2	B	1153	A
2	B	1155	C
2	B	1159	A
2	B	1177	G
2	B	1178	G
2	B	1180	A
2	B	1181	U
2	B	1186	G
2	B	1201	C
2	B	1202	A
2	B	1208	U
2	B	1218	U
2	B	1219	C
2	B	1220	U
2	B	1221	A
2	B	1222	G
2	B	1223	A
2	B	1229	G
2	B	1230	G
2	B	1235	U
2	B	1236	G
2	B	1238	C
2	B	1239	C
2	B	1241	U
2	B	1242	G

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Mol	Chain	Res	Type
2	B	1245	A
2	B	1246	G
2	B	1252	A
2	B	1254	C
2	B	1256	G
2	B	1259	A
2	B	1263	A
2	B	1265	U
2	B	1281	G
2	B	1307	G
2	B	1308	A
2	B	1309	U
2	B	1325	U
2	B	1330	A
2	B	1351	U
2	B	1352	A
2	B	1353	U
2	B	1354	G
2	B	1355	A
2	B	1357	G
2	B	1386	A
2	B	1392	G
2	B	1399	A
2	B	1400	G
2	B	1419	A
2	B	1431	G
2	B	1434	G
2	B	1437	C
2	B	1446	A
2	B	1452	A
2	B	1455	U
2	B	1480	G
2	B	1481	A
2	B	1482	A
2	B	1483	G
2	B	1508	C
2	B	1524	A
2	B	1527	C
2	B	1556	C
2	B	1557	A
2	B	1562	C
2	B	1567	U

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Mol	Chain	Res	Type
2	B	1569	U
2	B	1570	U
2	B	1572	U
2	B	1576	G
2	B	1581	C
2	B	1583	A
2	B	1587	A
2	B	1589	A
2	B	1593	A
2	B	1606	U
2	B	1607	U
2	B	1619	A
2	B	1620	U
2	B	1629	U
2	B	1639	C
2	B	1641	U
2	B	1642	A
2	B	1643	A
2	B	1645	U
2	B	1655	G
2	B	1657	C
2	B	1658	G
2	B	1683	A
2	B	1687	U
2	B	1713	G
2	B	1716	U
2	B	1717	U
2	B	1724	U
2	B	1741	A
2	B	1742	U
2	B	1750	A
2	B	1751	G
2	B	1765	U
2	B	1766	G
2	B	1769	G
2	B	1770	G
2	B	1775	G
2	B	1780	G
2	B	1788	C
2	B	1797	A
2	B	1808	G
2	B	1812	G

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Mol	Chain	Res	Type
2	B	1816	A
2	B	1819	U
2	B	1821	U
2	B	1839	A
2	B	1841	A
2	B	1842	A
2	B	1849	C
2	B	1850	A
2	B	1858	A
2	B	1879	A
2	B	1893	A
2	B	1906	G
2	B	1951	C
2	B	1952	G
2	B	1954	G
2	B	2059	U
2	B	2078	C
2	B	2083	G
2	B	2094	C
2	B	2102	U
2	B	2111	G
2	B	2112	U
2	B	2113	A
2	B	2121	G
2	B	2122	G
2	B	2131	A
2	B	2140	U
2	B	2144	A
2	B	2158	A
2	B	2169	G
2	B	2188	A
2	B	2198	A
2	B	2201	G
2	B	2205	U
2	B	2206	G
2	B	2208	A
2	B	2223	A
2	B	2244	A
2	B	2247	G
2	B	2248	C
2	B	2249	G
2	B	2252	A

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Mol	Chain	Res	Type
2	B	2254	U
2	B	2256	A
2	B	2257	C
2	B	2258	U
2	B	2261	G
2	B	2263	C
2	B	2264	U
2	B	2269	U
2	B	2270	A
2	B	2272	G
2	B	2273	G
2	B	2281	A
2	B	2282	U
2	B	2307	G
2	B	2310	U
2	B	2313	A
2	B	2314	U
2	B	2315	G
2	B	2336	U
2	B	2364	G
2	B	2373	A
2	B	2374	C
2	B	2375	G
2	B	2385	G
2	B	2388	U
2	B	2393	G
2	B	2394	G
2	B	2397	A
2	B	2402	A
2	B	2403	G
2	B	2411	U
2	B	2418	G
2	B	2422	C
2	B	2435	G
2	B	2437	G
2	B	2443	A
2	B	2452	G
2	B	2458	A
2	B	2459	A
2	B	2461	A
2	B	2463	G
2	B	2468	A

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Mol	Chain	Res	Type
2	B	2471	U
2	B	2472	U
2	B	2474	G
2	B	2484	A
2	B	2490	C
2	B	2492	C
2	B	2496	C
2	B	2497	U
2	B	2498	U
2	B	2499	U
2	B	2503	G
2	B	2507	C
2	B	2509	U
2	B	2511	A
2	B	2513	U
2	B	2514	U
2	B	2515	A
2	B	2522	G
2	B	2523	A
2	B	2525	G
2	B	2526	C
2	B	2537	U
2	B	2538	U
2	B	2539	C
2	B	2540	A
2	B	2541	U
2	B	2542	U
2	B	2547	A
2	B	2549	G
2	B	2552	C
2	B	2553	U
2	B	2554	A
2	B	2555	G
2	B	2561	A
2	B	2569	A
2	B	2570	U
2	B	2571	U
2	B	2572	C
2	B	2573	G
2	B	2576	G
2	B	2585	G
2	B	2587	U

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Mol	Chain	Res	Type
2	B	2589	G
2	B	2593	A
2	B	2606	G
2	B	2607	G
2	B	2614	G
2	B	2628	A
2	B	2629	U
2	B	2638	C
2	B	2652	U
2	B	2656	A
2	B	2657	A
2	B	2674	A
2	B	2677	G
2	B	2681	U
2	B	2689	A
2	B	2691	A
2	B	2694	A
2	B	2696	A
2	B	2704	A
2	B	2714	G
2	B	2720	G
2	B	2728	G
2	B	2729	U
2	B	2742	C
2	B	2753	G
2	B	2772	C
2	B	2777	G
2	B	2778	G
2	B	2780	A
2	B	2796	G
2	B	2800	G
2	B	2801	A
2	B	2802	A
2	B	2803	A
2	B	2804	A
2	B	2805	G
2	B	2810	C
2	B	2814	G
2	B	2817	A
2	B	2818	U
2	B	2837	A
2	B	2842	U

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Mol	Chain	Res	Type
2	B	2845	A
2	B	2851	A
2	B	2856	G
2	B	2861	U
2	B	2867	C
2	B	2871	G
2	B	2872	A
2	B	2873	U
2	B	2887	A
2	B	2898	G
2	B	2899	C
2	B	2910	A
2	B	2918	G
2	B	2923	U
2	B	2928	C
2	B	2935	U
2	B	2936	A
2	B	2945	G
2	B	2947	G
2	B	2983	C
2	B	2990	G
2	B	2996	U
2	B	2997	G
2	B	3012	A
2	B	3056	U
2	B	3059	G
2	B	3078	U
2	B	3080	G
2	B	3086	A
2	B	3092	C
2	B	3109	G
2	B	3122	A
2	B	3130	A
2	B	3131	U
2	B	3142	A
2	B	3143	C
2	B	3155	U
2	B	3156	U
2	B	3157	U
2	B	3165	A
2	B	3170	A
2	B	3173	G

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Mol	Chain	Res	Type
2	B	3174	A
2	B	3176	G
2	B	3179	U
2	B	3181	C
2	B	3187	A
2	B	3217	C
2	B	3218	A
2	B	3219	G
2	B	3229	G
2	B	3243	A
2	B	3245	A
2	B	3246	G
2	B	3247	G
2	B	3259	U
2	B	3263	G
2	B	3270	U
2	B	3273	A
2	B	3276	G
2	B	3279	A
2	B	3281	U
2	B	3287	U
2	B	3289	G
2	B	3294	A
2	B	3304	U
2	B	3307	A
2	B	3313	U
2	B	3316	A
2	B	3318	G
2	B	3319	U
2	B	3335	A
2	B	3341	U
2	B	3345	G
2	B	3347	A
2	B	3351	U
2	B	3352	U
2	B	3353	G
2	B	3354	U
2	B	3355	U
2	B	3369	G
2	B	3375	A
2	B	3378	C
2	B	3389	U

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Mol	Chain	Res	Type
2	B	3390	G
3	C	34	U
3	C	35	C
3	C	39	G
3	C	51	G
3	C	59	A
3	C	62	C
3	C	63	G
3	C	80	A
3	C	83	C
3	C	86	U
3	C	87	G
3	C	90	U
3	C	95	G
3	C	104	A
3	C	105	A
3	C	106	C
3	C	111	A
3	C	113	U
3	C	116	G
3	C	125	U
3	C	126	A
3	C	136	G
3	C	138	A
3	C	151	C
3	C	152	G
3	C	157	U
4	D	22	A
4	D	38	U
4	D	48	U
4	D	54	U
4	D	65	G
4	D	74	C
4	D	76	A
4	D	99	G
4	D	102	A
4	D	112	G
4	D	121	U
83	EC	6768	U
83	EC	6772	G
83	EC	6774	U
83	EC	6775	U

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Mol	Chain	Res	Type
83	EC	6776	A
83	EC	6777	C
83	EC	6778	C
83	EC	6780	A
83	EC	6782	C
83	EC	6788	C
83	EC	6790	A
83	EC	6791	A
83	EC	6792	A
83	EC	6793	A
83	EC	6794	C
83	EC	6795	U
83	EC	6797	U
83	EC	6800	G
83	EC	6802	A
83	EC	6804	A
83	EC	6805	C
83	EC	6808	G
83	EC	6809	G
83	EC	6815	U
83	EC	6817	A
83	EC	6818	G
83	EC	6819	G
83	EC	6822	U
83	EC	6823	U
83	EC	6824	C
83	EC	6831	U
83	EC	6832	G
83	EC	6836	U
83	EC	6847	G
83	EC	6848	U
83	EC	6849	A
83	EC	6854	U
83	EC	6861	G
83	EC	6863	C
83	EC	6864	A
83	EC	6868	C
83	EC	6870	A
83	EC	6873	A
83	EC	6876	A
83	EC	6879	U
83	EC	6884	G

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Mol	Chain	Res	Type
83	EC	6889	A
83	EC	6892	U
83	EC	6896	A
83	EC	6897	G
83	EC	6904	U
83	EC	6905	G
83	EC	6906	G
83	EC	6907	G
83	EC	6913	U
83	EC	6914	A
83	EC	6915	G
83	EC	6917	C
83	EC	6918	A
83	EC	6919	G
83	EC	6920	C
83	EC	6925	C
83	EC	6928	G
83	EC	6931	U
83	EC	6935	G
83	EC	6940	U
83	EC	6941	U
83	EC	6942	A
83	EC	6943	A
83	EC	6944	U
83	EC	6945	U
83	EC	6947	A
83	EC	6948	U
83	EC	6949	G
83	EC	6950	C
83	EC	6953	G
83	EC	6955	U
83	EC	6956	A
83	EC	6957	A

All (47) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	25	C
1	A	139	C
1	A	501	U
1	A	555	A
1	A	829	A

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Mol	Chain	Res	Type
1	A	1344	A
1	A	1370	U
1	A	1481	C
1	A	1573	A
1	A	1615	C
1	A	1696	G
2	B	65	A
2	B	169	U
2	B	282	G
2	B	518	G
2	B	637	C
2	B	916	G
2	B	978	G
2	B	1103	A
2	B	1144	U
2	B	1307	G
2	B	1331	U
2	B	1352	A
2	B	1481	A
2	B	1556	C
2	B	1815	U
2	B	2101	C
2	B	2197	C
2	B	2248	C
2	B	2263	C
2	B	2281	A
2	B	2372	A
2	B	2513	U
2	B	2525	G
2	B	2541	U
2	B	2818	U
2	B	3121	U
2	B	3218	A
2	B	3228	C
2	B	3242	G
2	B	3269	U
2	B	3317	U
83	EC	6808	G
83	EC	6876	A
83	EC	6896	A
83	EC	6948	U
83	EC	6949	G

5.4 Non-standard residues in protein, DNA, RNA chains (i)

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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	$\#\|Z\| > 2$
82	DDE	DC	699	82	14,20,21	1.95	4 (28%)	14,28,30	1.76	5 (35%)

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
82	DDE	DC	699	82	-	3/20/21/23	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	DC	699	DDE	CBW-CBI	5.08	1.61	1.53
82	DC	699	DDE	CAT-CE1	2.30	1.53	1.50
82	DC	699	DDE	OAG-CBI	2.07	1.27	1.23
82	DC	699	DDE	CD2-NE2	2.04	1.39	1.36

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
82	DC	699	DDE	OAG-CBI-CBW	-3.55	115.99	120.49
82	DC	699	DDE	CAU-CBW-CBI	-2.62	106.01	111.20
82	DC	699	DDE	CG-ND1-CE1	2.52	110.50	103.05
82	DC	699	DDE	OAG-CBI-NAD	2.20	126.82	123.00
82	DC	699	DDE	CG-CD2-NE2	-2.13	104.86	109.25

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
82	DC	699	DDE	O-C-CA-CB
82	DC	699	DDE	CA-CB-CG-ND1
82	DC	699	DDE	OAG-CBI-CBW-CAU

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
82	DC	699	DDE	3	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 3 ligands modelled in this entry, 1 is monoatomic - leaving 2 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	$\#\|Z\| > 2$
86	SO1	DC	903	-	35,39,39	2.30	16 (45%)	39,64,64	2.01	8 (20%)
84	GDP	DC	901	85	24,30,30	1.54	5 (20%)	30,47,47	2.01	9 (30%)

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
86	SO1	DC	903	-	-	2/21/104/104	0/7/5/5
84	GDP	DC	901	85	-	0/12/32/32	0/3/3/3

All (21) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
86	DC	903	SO1	O17-C52	3.82	1.46	1.40
84	DC	901	GDP	PB-O1B	3.80	1.62	1.50
86	DC	903	SO1	O56-C52	-3.78	1.32	1.41
86	DC	903	SO1	C1-C5	3.74	1.59	1.50
86	DC	903	SO1	C10-C6	3.58	1.60	1.53
86	DC	903	SO1	C12-C6	3.45	1.61	1.53
86	DC	903	SO1	C10-C3	3.35	1.60	1.55
86	DC	903	SO1	C55-C56	3.28	1.58	1.52
86	DC	903	SO1	C12-C4	3.23	1.61	1.54
86	DC	903	SO1	C7-C2	3.11	1.59	1.54
84	DC	901	GDP	PA-O1A	3.07	1.61	1.50
86	DC	903	SO1	C8-C2	3.04	1.59	1.53
86	DC	903	SO1	C4-C13	2.73	1.60	1.54
86	DC	903	SO1	C53-C54	2.66	1.59	1.52
84	DC	901	GDP	C2-N2	2.56	1.40	1.34
86	DC	903	SO1	C52-C53	2.55	1.59	1.52
84	DC	901	GDP	O4'-C1'	2.23	1.44	1.41
86	DC	903	SO1	C7-C16	2.16	1.56	1.53
86	DC	903	SO1	O56-C56	2.12	1.49	1.44
84	DC	901	GDP	C5-C6	-2.12	1.43	1.47
86	DC	903	SO1	O64-C55	2.10	1.48	1.42

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
84	DC	901	GDP	PA-O3A-PB	-6.43	110.75	132.83
86	DC	903	SO1	C12-C6-C10	-6.12	103.05	107.91
86	DC	903	SO1	C25-C22-C24	4.95	129.50	113.56
86	DC	903	SO1	C10-C6-C2	3.52	108.39	104.16
86	DC	903	SO1	C1-C4-C13	3.35	122.04	118.44
84	DC	901	GDP	C8-N7-C5	3.29	109.26	102.99
86	DC	903	SO1	C61-C56-C55	-3.16	108.60	113.41
84	DC	901	GDP	C3'-C2'-C1'	3.09	105.63	100.98
84	DC	901	GDP	O2A-PA-O1A	2.97	126.90	112.24
84	DC	901	GDP	C5-C6-N1	2.89	119.05	113.95
86	DC	903	SO1	C18-C9-C16	-2.70	99.77	103.64
86	DC	903	SO1	C7-C2-C6	2.52	116.96	112.17
84	DC	901	GDP	O4'-C4'-C3'	2.39	109.84	105.11
86	DC	903	SO1	C12-C6-C2	-2.35	101.38	105.11
84	DC	901	GDP	O5'-PA-O1A	-2.26	100.23	109.07
84	DC	901	GDP	C2-N1-C6	-2.25	120.96	125.10
84	DC	901	GDP	O4'-C1'-C2'	2.00	109.85	106.93

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
86	DC	903	SO1	C2-C1-C5-O14
86	DC	903	SO1	C2-C1-C5-O15

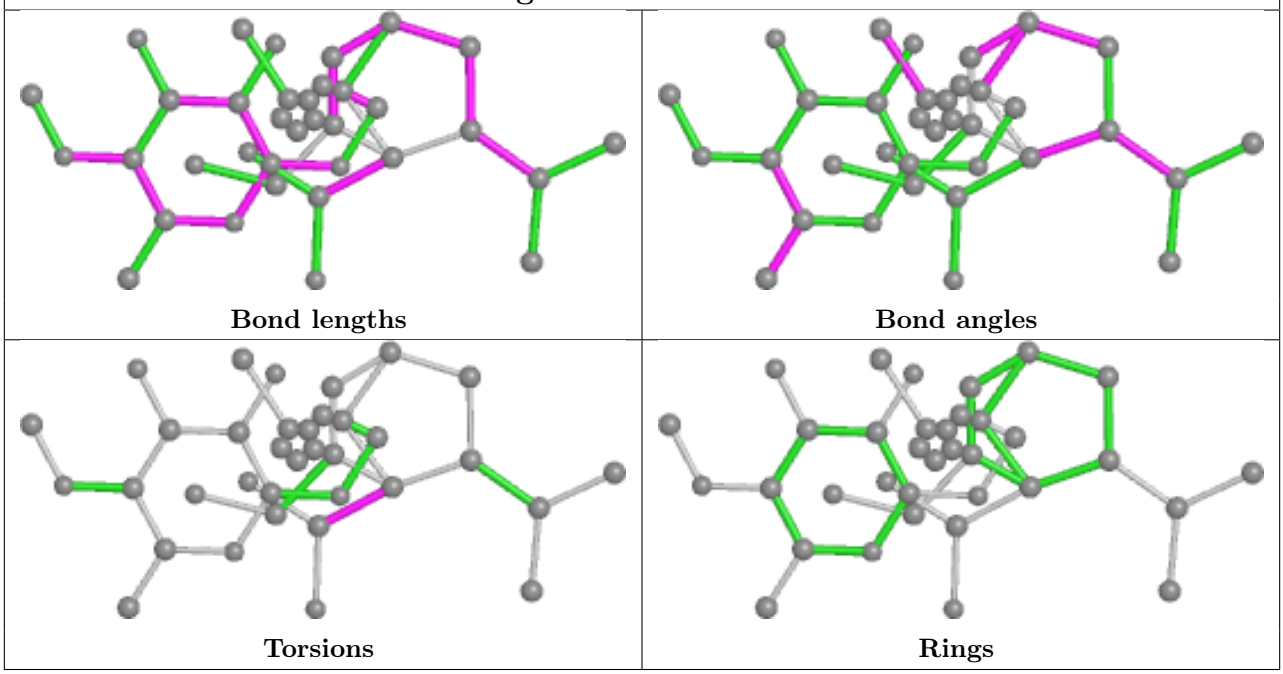
There are no ring outliers.

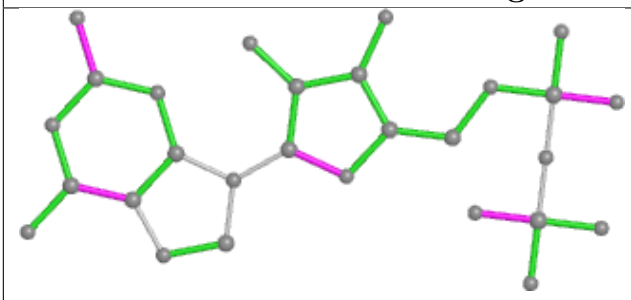
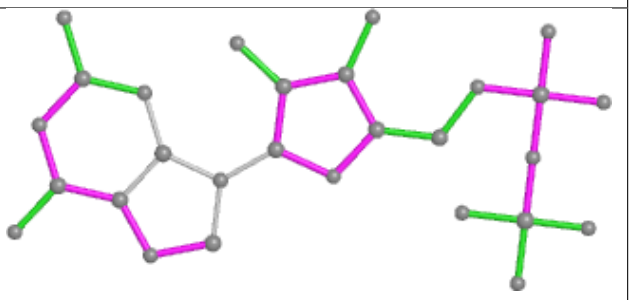
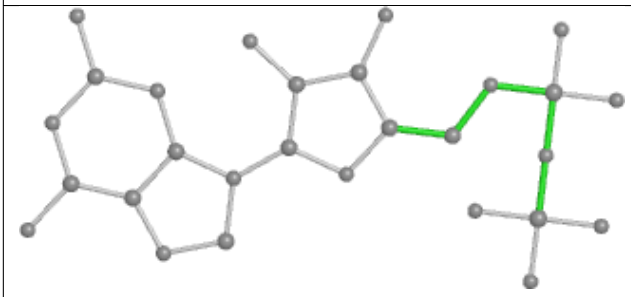
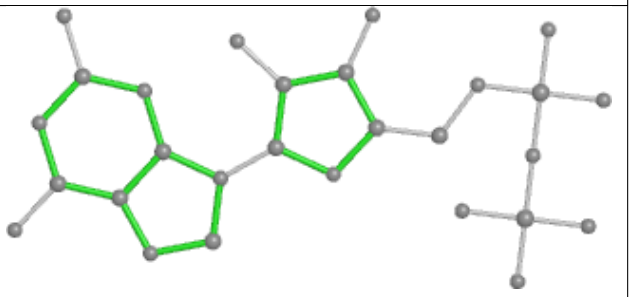
2 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
86	DC	903	SO1	3	0
84	DC	901	GDP	5	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 then 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.

Ligand SO1 DC 903



Ligand GDP DC 901	
 Bond lengths	 Bond angles
 Torsions	 Rings

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.

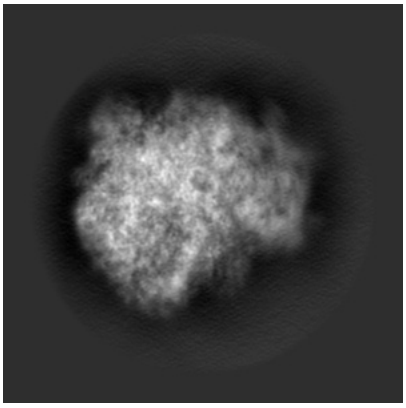
6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-6644. These allow visual inspection of the internal detail of the map and identification of artifacts.

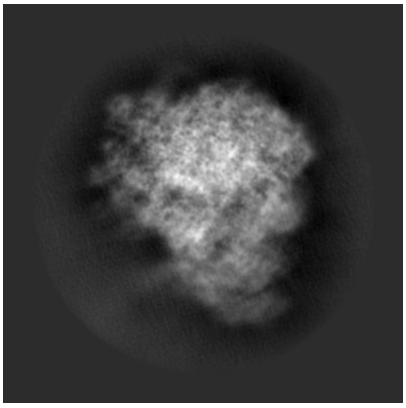
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections (i)

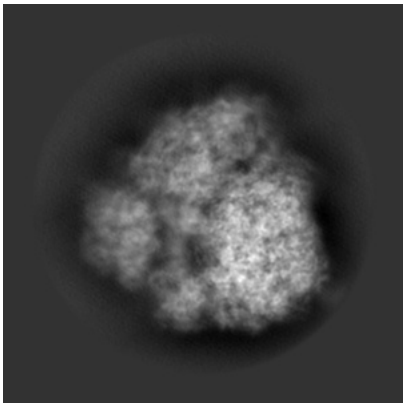
6.1.1 Primary map



X



Y

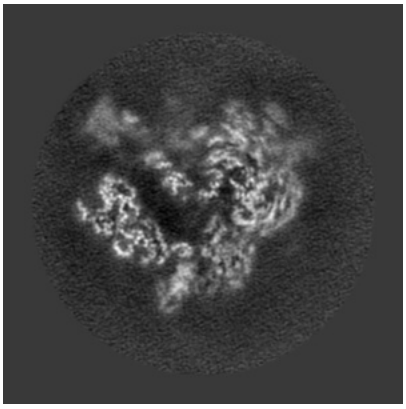


Z

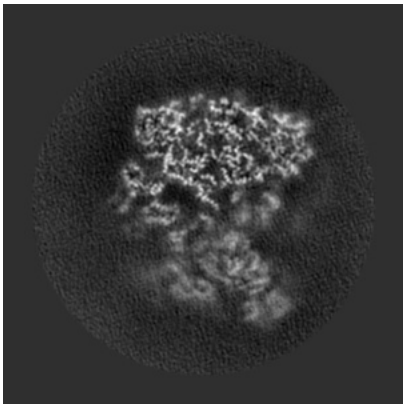
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

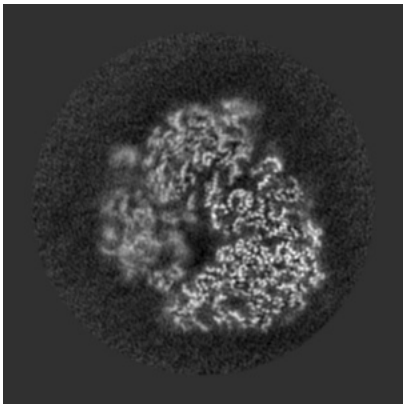
6.2.1 Primary map



X Index: 256



Y Index: 256

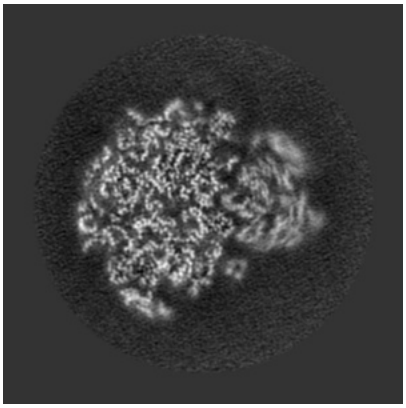


Z Index: 256

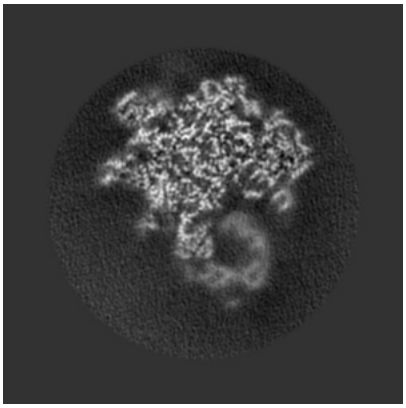
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

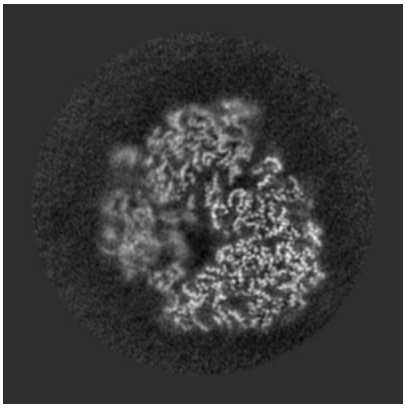
6.3.1 Primary map



X Index: 290



Y Index: 163

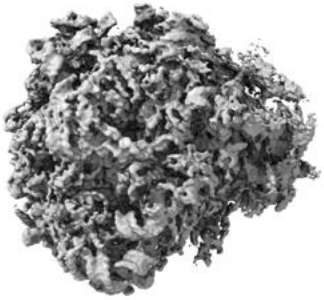


Z Index: 255

The images above show the largest variance slices of the map in three orthogonal directions.

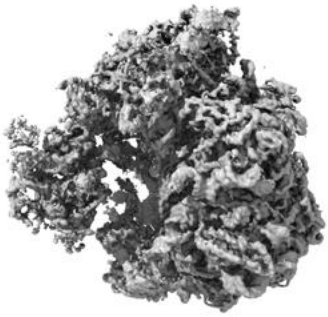
6.4 Orthogonal surface views (i)

6.4.1 Primary map



X

Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.02. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

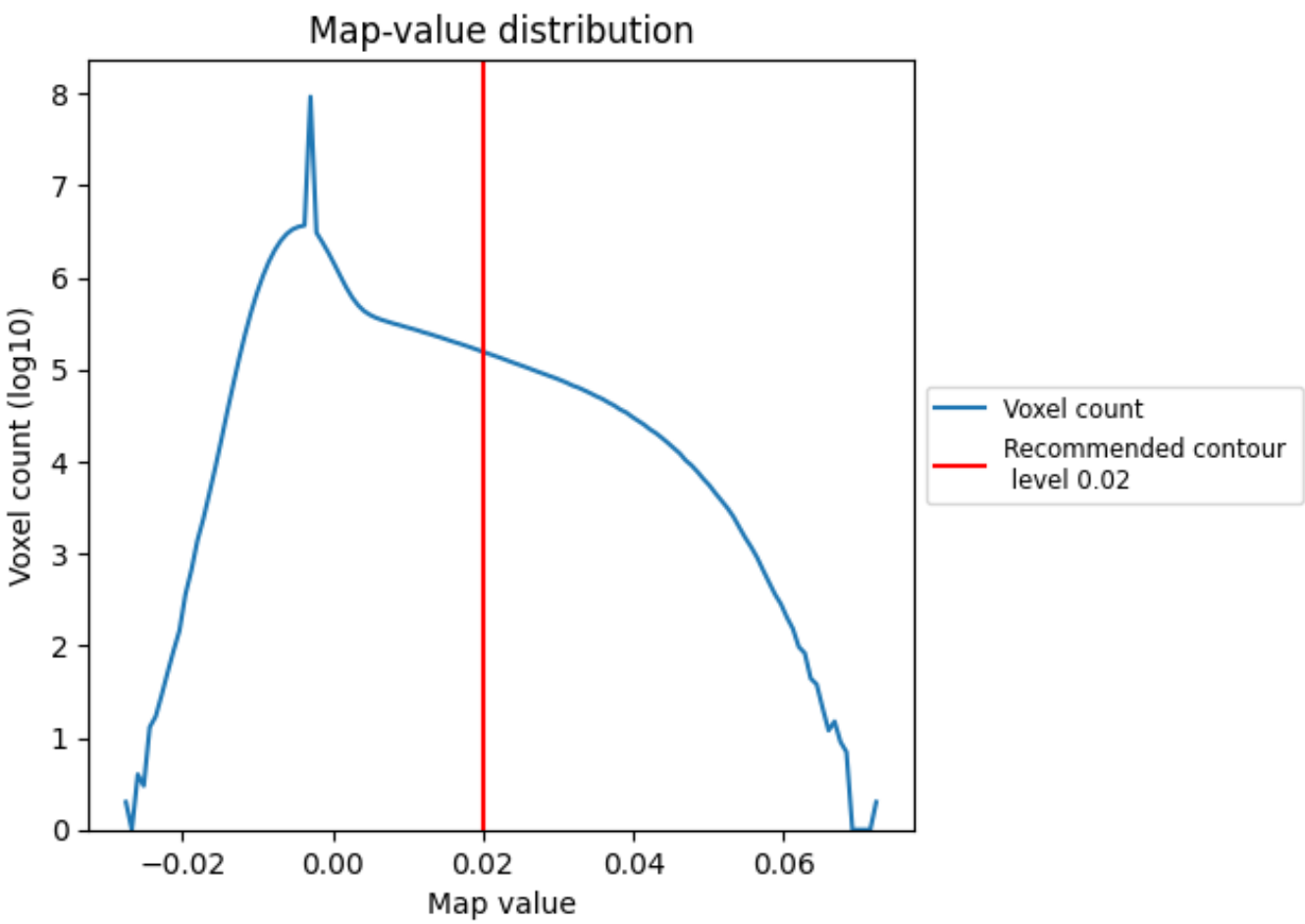
6.5 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis (i)

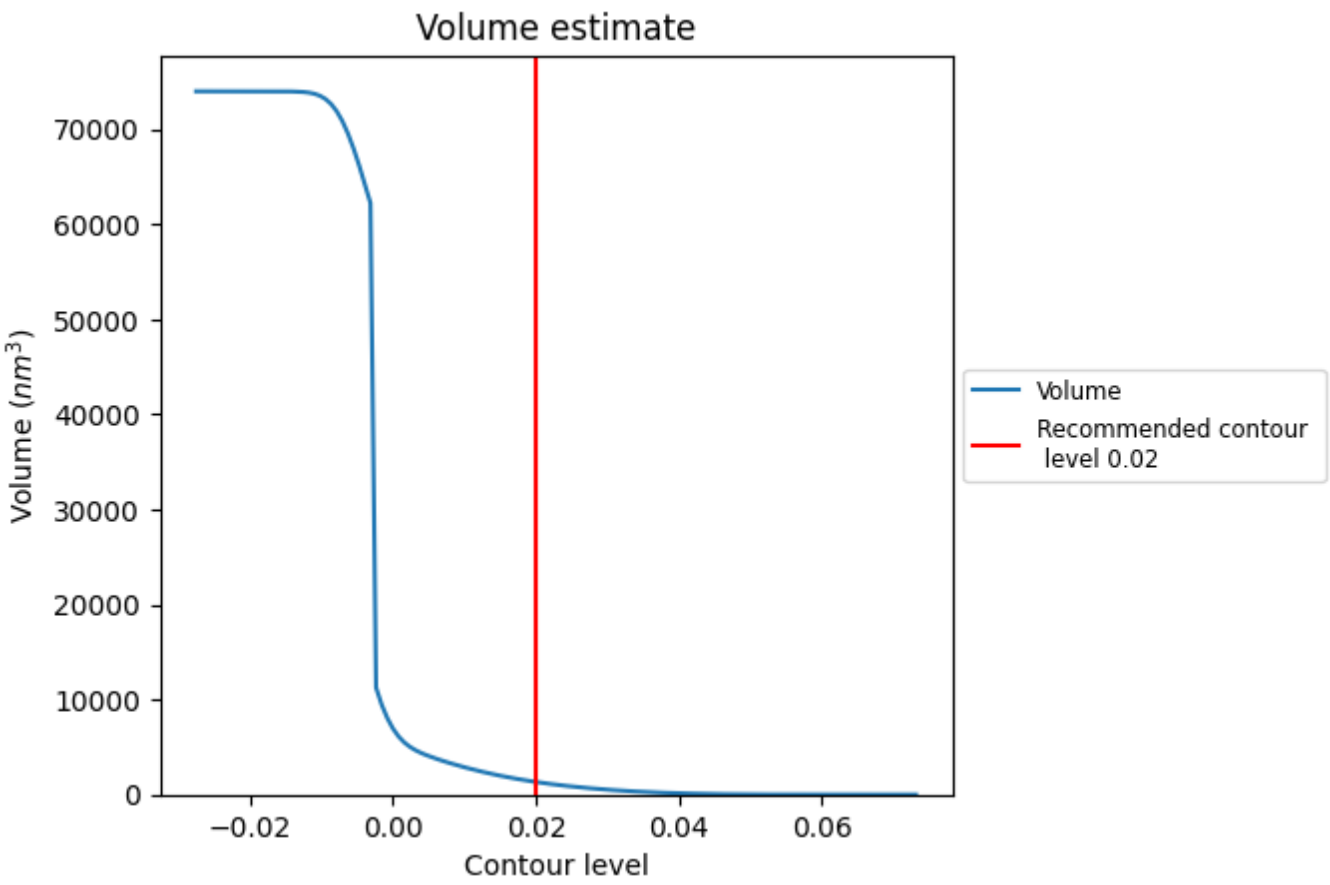
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution (i)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

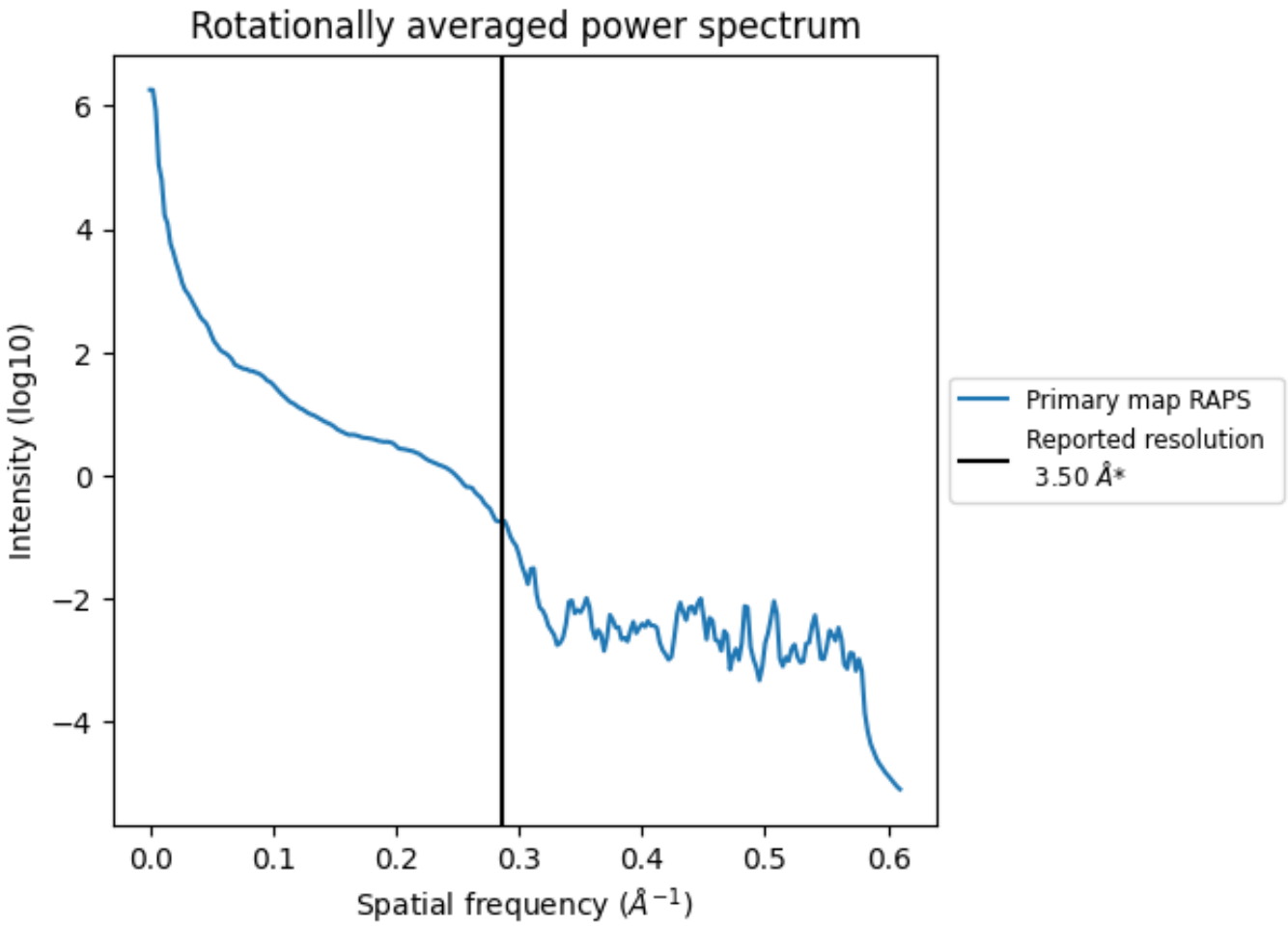
7.2 Volume estimate (i)



The volume at the recommended contour level is 1328 nm^3; this corresponds to an approximate mass of 1200 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

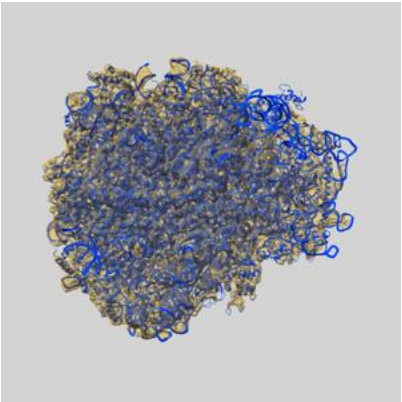
8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

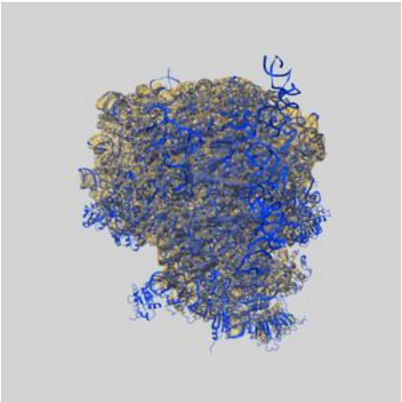
9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-6644 and PDB model 5JUP. Per-residue inclusion information can be found in section 3 on page 21.

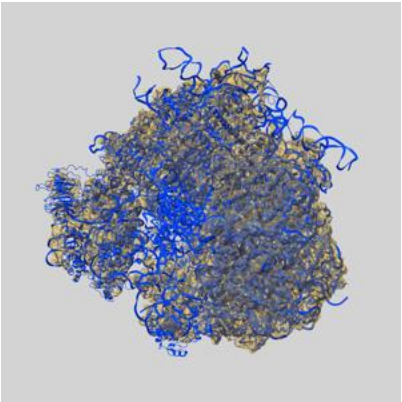
9.1 Map-model overlay (i)



X



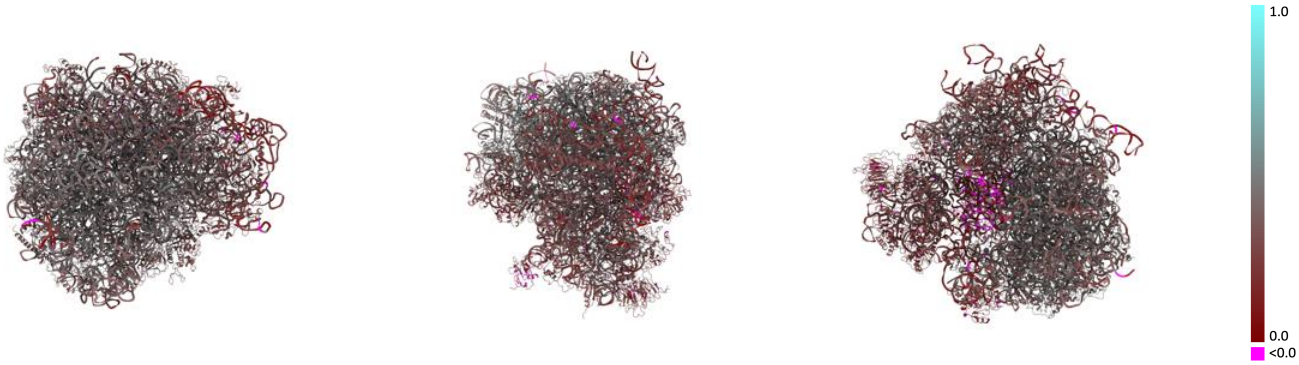
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

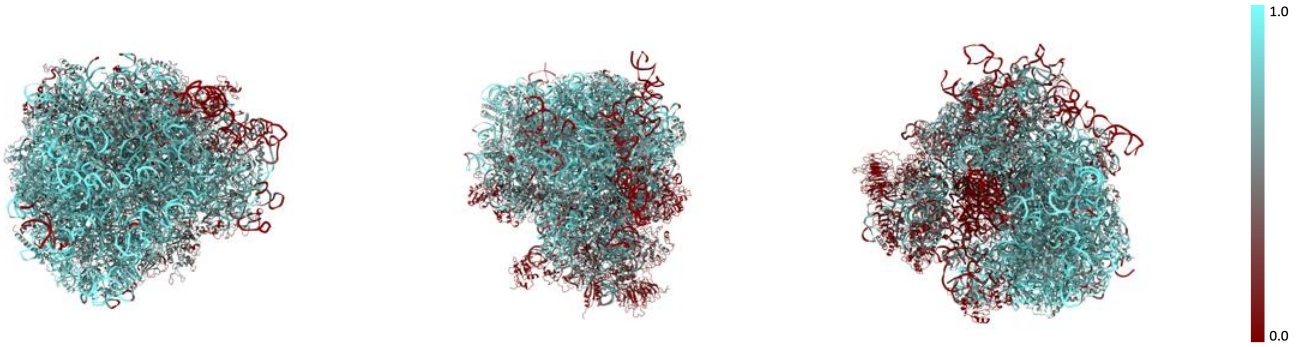
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

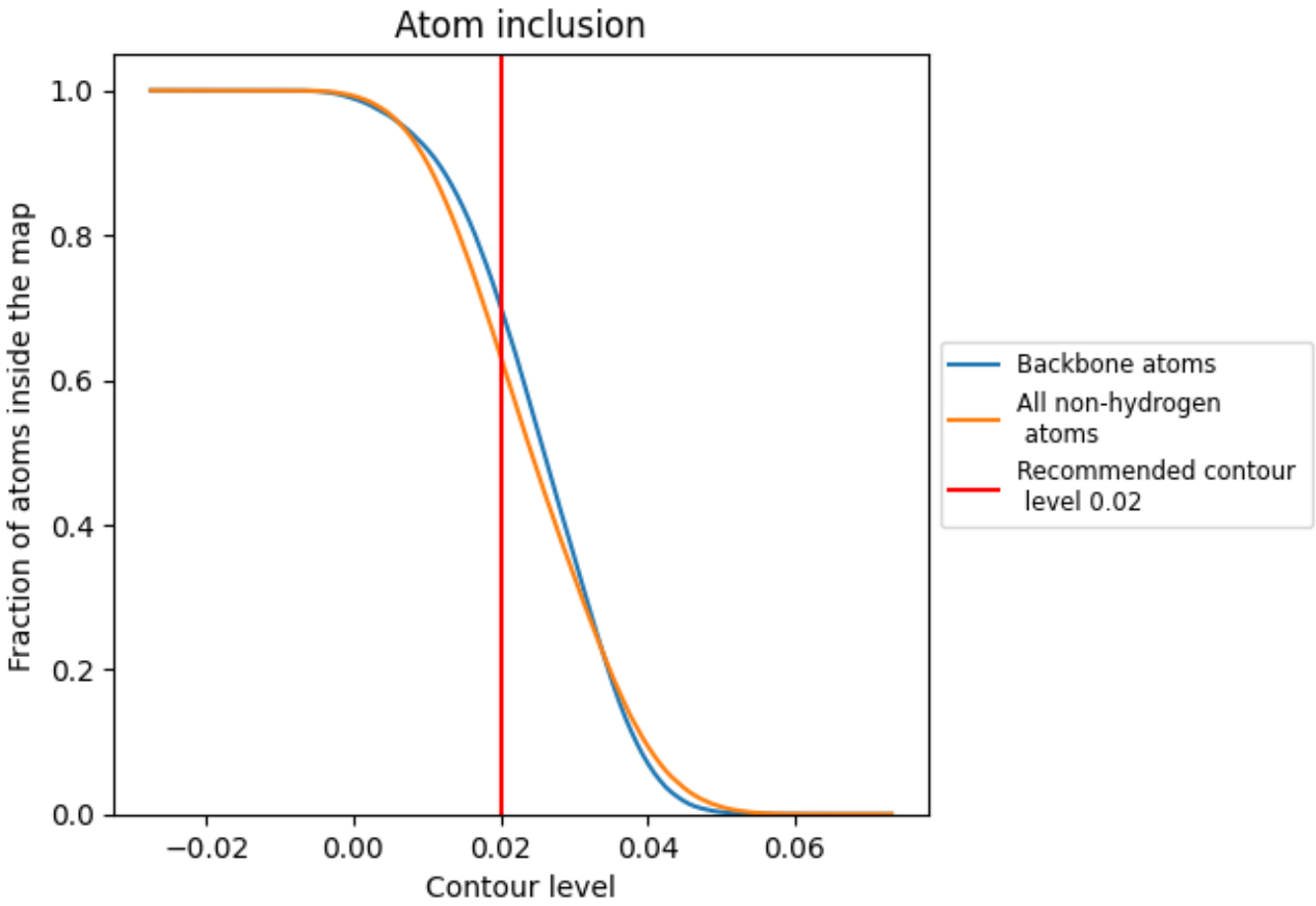
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.02).

9.4 Atom inclusion (i)



At the recommended contour level, 70% of all backbone atoms, 63% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6333	0.3620
A	0.6430	0.3080
AA	0.5449	0.4530
AB	0.2351	0.3110
AC	0.3694	0.3020
B	0.8559	0.4010
BA	0.6146	0.4350
BB	0.5186	0.3280
BC	0.3486	0.3350
C	0.8951	0.4130
CA	0.5565	0.4100
CB	0.1768	0.2580
CC	0.0000	0.1720
D	0.9469	0.3960
DA	0.6794	0.4090
DB	0.4000	0.2980
DC	0.4300	0.3220
E	0.0298	0.2420
EA	0.5746	0.3780
EB	0.1377	0.3160
EC	0.1213	0.2040
F	0.6114	0.4330
FA	0.6955	0.4450
FB	0.4057	0.3340
G	0.6587	0.4470
GA	0.6115	0.4240
GB	0.5333	0.3340
H	0.7054	0.4390
HA	0.6553	0.3880
HB	0.2925	0.2580
I	0.6567	0.3720
IA	0.6725	0.4330
IB	0.3188	0.3480
J	0.6007	0.3960
JA	0.6730	0.4560

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Chain	Atom inclusion	Q-score
JB	0.0000	0.1650
K	0.6730	0.4200
KA	0.6180	0.4520
KB	0.4074	0.3250
L	0.5952	0.3770
LA	0.5798	0.4110
LB	0.0000	0.1200
M	0.6184	0.4160
MA	0.6186	0.3790
MB	0.2059	0.2590
N	0.5790	0.4060
NA	0.6716	0.3970
NB	0.1639	0.2610
O	0.6147	0.3640
OA	0.6646	0.4450
OB	0.1730	0.2620
P	0.0931	0.1920
PA	0.1617	0.3450
PB	0.1870	0.2730
Q	0.6866	0.4160
QA	0.6803	0.4420
QB	0.2338	0.2730
R	0.6738	0.4040
RA	0.6733	0.4290
RB	0.1011	0.3020
S	0.6453	0.4320
SA	0.0000	0.1530
SB	0.4662	0.3660
T	0.6383	0.4300
TA	0.6381	0.4430
TB	0.4404	0.3670
U	0.6793	0.4440
UA	0.5776	0.4140
UB	0.3744	0.3860
V	0.7170	0.4420
VA	0.0970	0.2630
VB	0.4520	0.2820
W	0.5082	0.3770
WA	0.1039	0.2650
WB	0.1335	0.2470
X	0.6308	0.4300
XA	0.3140	0.3290

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Chain	Atom inclusion	Q-score
XB	0.0000	0.1230
Y	0.6535	0.4420
YA	0.0000	0.1290
YB	0.3322	0.3360
Z	0.5550	0.3800
ZA	0.5149	0.3800
ZB	0.2155	0.2810