



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 09:18 AM UTC

PDB ID : 7CPU / pdb_00007cpu
EMDB ID : EMD-30432
Title : Cryo-EM structure of 80S ribosome from mouse kidney
Authors : Huo, Y.G.; He, X.; Jiang, T.; Qin, Y.; Guo, X.J.; Sha, J.H.
Deposited on : 2020-08-08
Resolution : 2.82 Å (reported)
Based on initial model : 6EK0

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 ⓘ 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 ⓘ](#)) were used in the production of this report:

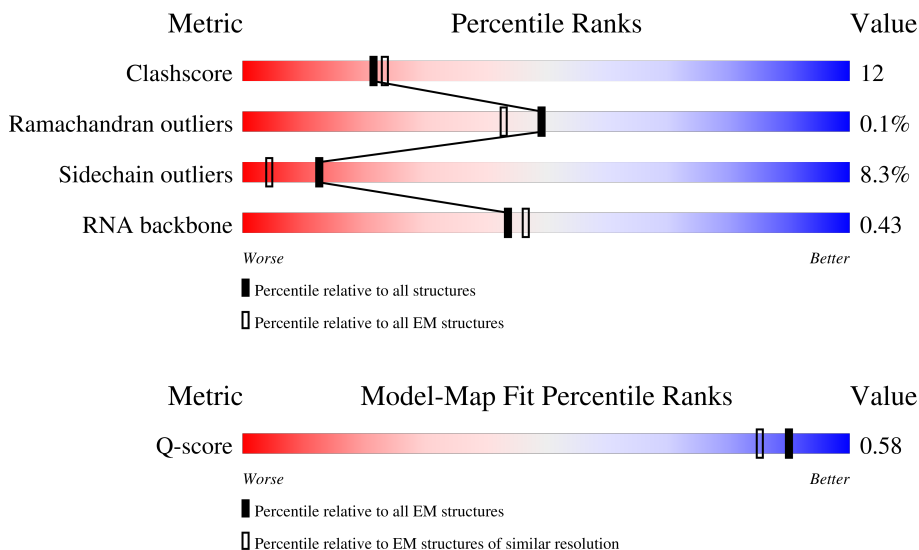
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

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 2.82 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	11795 (2.32 - 3.32)

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 $\leq 5\%$. 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	LA	257	
2	SA	295	
3	LB	403	

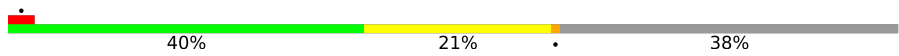
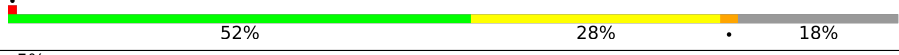

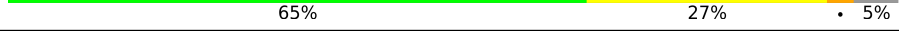
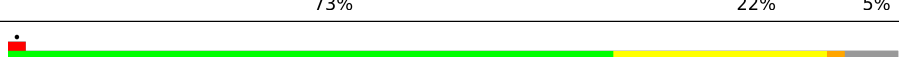
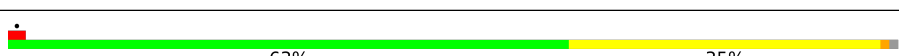







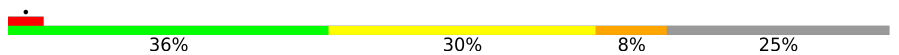

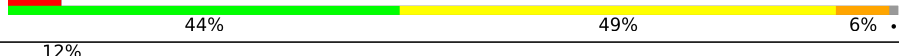









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Mol	Chain	Length	Quality of chain
4	SB	264	5% 51% 29% 19%
5	LC	419	63% 21% 14%
6	LD	297	68% 28%
7	LE	296	7% 50% 26% 22%
8	LF	270	57% 21% 21%
9	LG	266	5% 59% 24% 14%
10	LH	192	60% 37%
11	LI	214	66% 25% 6%
12	LJ	178	58% 34%
13	LL	211	65% 28%
14	LM	217	44% 18% 37%
15	LN	204	76% 22%
16	LO	203	72% 25%
17	LP	184	57% 26% 16%
18	LQ	188	78% 20%
19	LR	196	63% 24% 11%
20	LS	176	74% 23%
21	LT	160	72% 26%
22	LU	128	46% 29% 22%
23	LV	140	66% 25% 7%
24	LW	157	31% 8% 61%
25	LX	156	62% 12% 24%
26	LY	145	67% 22% 9%
27	LZ	136	65% 32%
28	La	148	68% 30%

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Mol	Chain	Length	Quality of chain
29	Lb	160	
30	Lc	115	
31	Ld	125	
32	Le	135	
33	Lf	110	
34	Lg	117	
35	Lh	123	
36	Li	105	
37	Lj	97	
38	Lk	70	
39	Lm	128	
40	Ln	25	
41	Lo	106	
42	Lp	92	
43	Lr	137	
44	L5	4731	
45	L7	120	
46	L8	158	
47	S2	1870	
48	SD	243	
49	SE	263	
50	SF	204	
51	SH	194	
52	SI	208	
53	SK	165	

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Mol	Chain	Length	Quality of chain
54	SL	158	
55	SP	145	
56	SQ	146	
57	SR	135	
58	SS	152	
59	ST	145	
60	SU	119	
61	SV	83	
62	SX	143	
63	Sa	115	
64	Sc	69	
65	Sd	56	
66	Sg	317	
67	SC	293	
68	SG	249	
69	SJ	194	
70	SN	151	
71	SO	151	
72	SW	130	
73	SY	133	
74	SZ	125	
75	Sb	84	
76	Se	133	
77	S6	75	
78	Ll	51	

2 Entry composition [i](#)

There are 81 unique types of molecules in this entry. The entry contains 206288 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 protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	LA	248	1898	1189	389	314	6	0	0

- Molecule 2 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	SA	207	1636	1042	288	298	8	0	0

- Molecule 3 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	LB	397	3202	2039	603	546	14	0	0

- Molecule 4 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	SB	213	1729	1098	309	308	14	0	0

- Molecule 5 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	LC	362	2891	1819	577	480	15	0	0

- Molecule 6 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	LD	293	2385	1506	440	425	14	0	0

- Molecule 7 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	LE	231	1874	1195	358	317	4	0	0

- Molecule 8 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	LF	214	1771	1139	337	287	8	0	0

- Molecule 9 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	LG	229	1848	1179	354	311	4	0	0

- Molecule 10 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	LH	190	1519	956	284	273	6	0	0

- Molecule 11 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	LI	201	1633	1037	316	268	12	0	0

- Molecule 12 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	LJ	171	1371	866	255	244	6	0	0

- Molecule 13 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	LL	206	1667	1043	343	277	4	0	0

- Molecule 14 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	LM	136	1125	721	218	179	7	0	0

- Molecule 15 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	LN	203	1701	1072	359	266	4	0	0

- Molecule 16 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	LO	201	1640	1055	320	259	6	0	0

- Molecule 17 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	LP	154	1251	782	243	217	9	0	0

- Molecule 18 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	LQ	187	1515	948	314	249	4	0	0

- Molecule 19 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	LR	174	1457	901	316	231	9	0	0

- Molecule 20 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	LS	175	1451	924	283	234	10	0	0

- Molecule 21 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	LT	160	Total	C	N	O	S	0	0
			1307	829	253	218	7		

- Molecule 22 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	LU	100	Total	C	N	O	S	0	0
			817	523	143	149	2		

- Molecule 23 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	LV	130	Total	C	N	O	S	0	0
			973	615	183	170	5		

- Molecule 24 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	LW	62	Total	C	N	O	S	0	0
			519	332	101	83	3		

- Molecule 25 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LX	118	Total	C	N	O	S	0	0
			967	618	181	167	1		

- Molecule 26 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LY	132	Total	C	N	O	S	0	0
			1102	692	223	184	3		

- Molecule 27 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	LZ	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 28 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	La	147	1164	736	239	185	4	0	0

- Molecule 29 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	Lb	99	807	505	174	124	4	0	0

- Molecule 30 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	Lc	94	732	465	130	131	6	0	0

- Molecule 31 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	Ld	108	896	566	172	156	2	0	0

- Molecule 32 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	Le	128	1053	667	216	165	5	0	0

- Molecule 33 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	Lf	109	876	555	174	143	4	0	0

- Molecule 34 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	Lg	110	873	546	180	141	6	0	0

- Molecule 35 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Lh	122	Total	C	N	O	S	0	0
			1015	643	204	167	1		

- Molecule 36 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Li	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 37 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Lj	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

- Molecule 38 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Lk	69	Total	C	N	O	S	0	0
			568	365	103	99	1		

- Molecule 39 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Lm	51	Total	C	N	O	S	0	0
			419	260	88	65	6		

- Molecule 40 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Ln	25	Total	C	N	O	S	0	0
			239	145	64	27	3		

- Molecule 41 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Lo	103	Total	C	N	O	S	0	0
			842	528	172	136	6		

- Molecule 42 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	Lp	91	708	445	136	120	7	0	0

- Molecule 43 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	Lr	124	994	616	206	167	5	0	0

- Molecule 44 is a RNA chain called Mus musculus 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
44	L5	3539	75867	33789	13863	24677	3538	0	0

- Molecule 45 is a RNA chain called Mus musculus 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
45	L7	120	2558	1141	456	842	119	0	0

- Molecule 46 is a RNA chain called Mus musculus 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
46	L8	156	3314	1480	585	1094	155	0	0

- Molecule 47 is a RNA chain called Mus musculus 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
47	S2	1656	35228	15723	6313	11537	1655	0	0

- Molecule 48 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	SD	222	1726	1100	310	309	7	0	0

- Molecule 49 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	SE	258	2050	1311	381	350	8	0	0

- Molecule 50 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	SF	179	1416	888	262	259	7	0	0

- Molecule 51 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	SH	180	1449	924	266	258	1	0	0

- Molecule 52 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	SI	183	1499	943	293	258	5	0	0

- Molecule 53 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	SK	90	760	495	135	124	6	0	0

- Molecule 54 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	SL	135	1110	708	207	189	6	0	0

- Molecule 55 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	SP	118	981	625	183	166	7	0	0

- Molecule 56 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
56	SQ	139	1109	704	210	192	3	0	0

- Molecule 57 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
57	SR	131	1064	668	198	194	4	0	0

- Molecule 58 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
58	SS	140	1157	728	231	197	1	0	0

- Molecule 59 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
59	ST	140	1090	681	212	195	2	0	0

- Molecule 60 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
60	SU	95	753	471	142	136	4	0	0

- Molecule 61 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
61	SV	80	610	373	114	118	5	0	0

- Molecule 62 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
62	SX	139	1080	682	214	181	3	0	0

- Molecule 63 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	Sa	99	Total	C	N	O	S	1	0
			800	497	168	130	5		

- Molecule 64 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Sc	54	Total	C	N	O	S	0	0
			416	257	80	77	2		

- Molecule 65 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Sd	54	Total	C	N	O	S	0	0
			455	284	93	73	5		

- Molecule 66 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Sg	276	Total	C	N	O	S	0	0
			2148	1357	378	401	12		

- Molecule 67 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	SC	215	Total	C	N	O	S	1	0
			1673	1085	288	291	9		

- Molecule 68 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	SG	204	Total	C	N	O	S	0	0
			1645	1029	330	280	6		

- Molecule 69 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	SJ	138	Total	C	N	O	S	0	0
			1162	743	230	187	2		

- Molecule 70 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
70	SN	150	1208	773	229	205	1	0	0

- Molecule 71 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
71	SO	134	1002	612	197	187	6	0	0

- Molecule 72 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
72	SW	129	1034	659	193	176	6	0	0

- Molecule 73 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
73	SY	110	891	565	173	149	4	0	0

- Molecule 74 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
74	SZ	72	574	368	104	101	1	0	0

- Molecule 75 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
75	Sb	83	651	408	121	115	7	0	0

- Molecule 76 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
76	Se	48	384	234	86	63	1	0	0

- Molecule 77 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
77	S6	75	1604	717	298	515	74	0	0

- Molecule 78 is a protein called Ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
78	L1	50	444	281	98	64	1	0	0

- Molecule 79 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
79	LN	1	Total	Mg	0
			1	1	
79	LP	1	Total	Mg	0
			1	1	
79	LT	1	Total	Mg	0
			1	1	
79	LV	1	Total	Mg	0
			1	1	
79	Le	1	Total	Mg	0
			1	1	
79	Lf	1	Total	Mg	0
			1	1	
79	L5	173	Total	Mg	0
			173	173	
79	L7	3	Total	Mg	0
			3	3	
79	L8	5	Total	Mg	0
			5	5	
79	S2	82	Total	Mg	0
			82	82	
79	SF	1	Total	Mg	0
			1	1	
79	Sd	1	Total	Mg	0
			1	1	

- Molecule 80 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
80	Lg	1	Total	Zn	0
			1	1	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms		AltConf
80	Lj	1	Total 1	Zn 1	0
80	Lm	1	Total 1	Zn 1	0
80	Lo	1	Total 1	Zn 1	0
80	Lp	1	Total 1	Zn 1	0
80	Sa	1	Total 1	Zn 1	0
80	Sd	1	Total 1	Zn 1	0

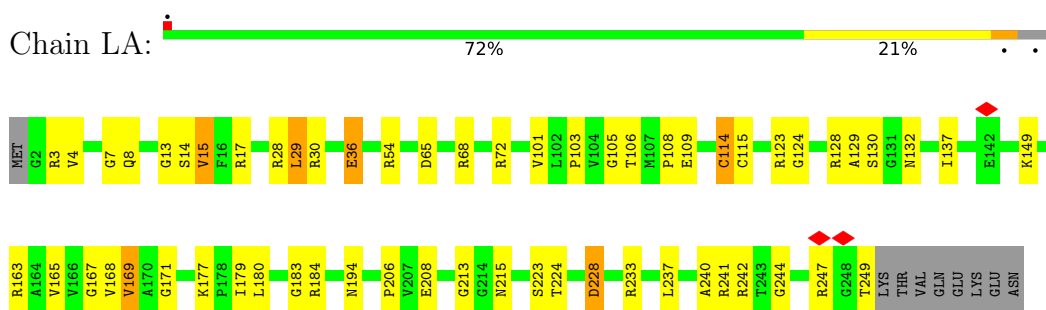
- Molecule 81 is water.

Mol	Chain	Residues	Atoms		AltConf
81	LB	1	Total 1	O 1	0
81	LH	1	Total 1	O 1	0
81	LI	2	Total 2	O 2	0
81	La	2	Total 2	O 2	0
81	L5	9	Total 9	O 9	0
81	S2	3	Total 3	O 3	0
81	SV	1	Total 1	O 1	0

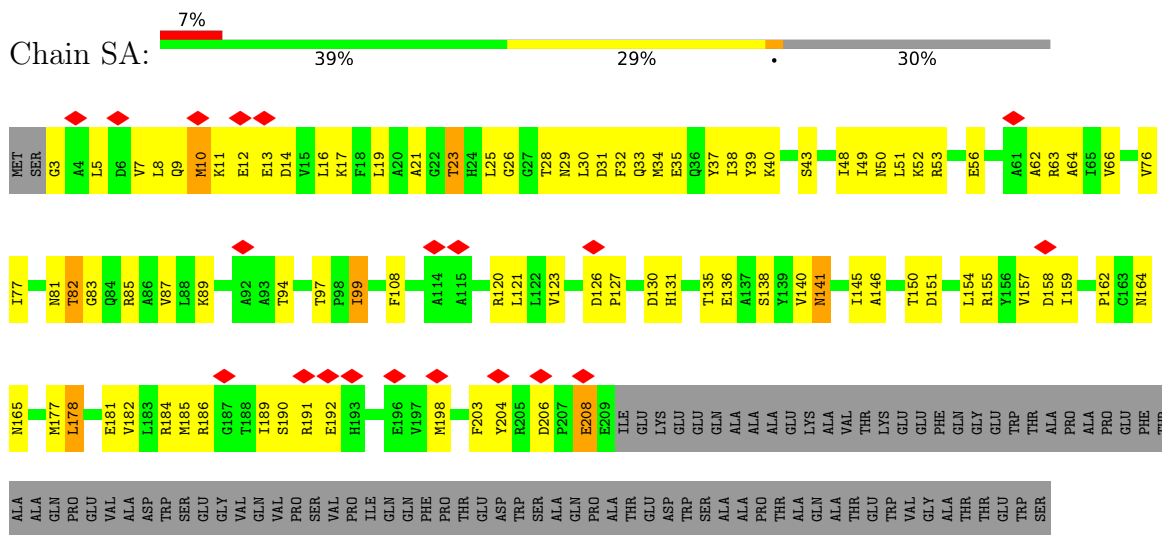
3 Residue-property plots [i](#)

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.

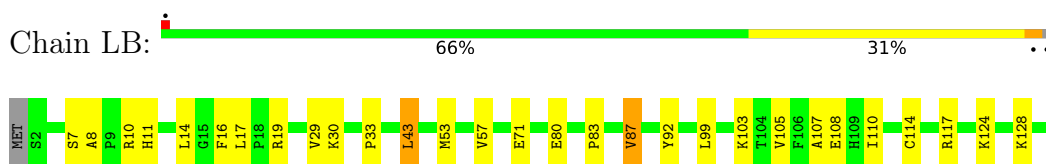
- Molecule 1: 60S ribosomal protein L8

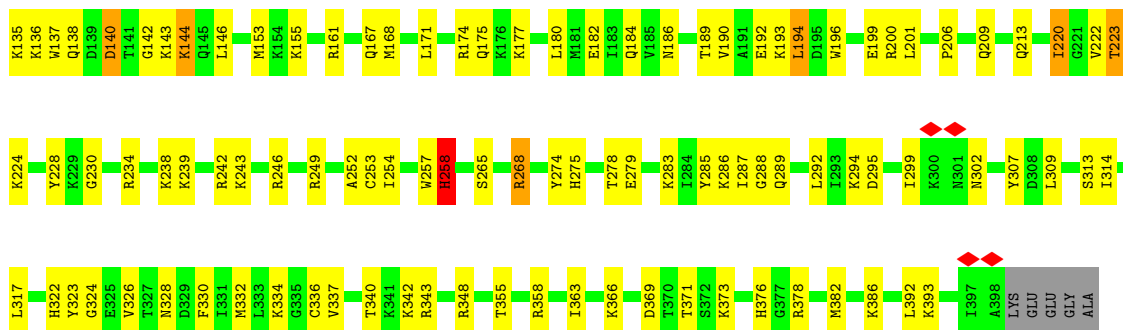


- Molecule 2: 40S ribosomal protein SA

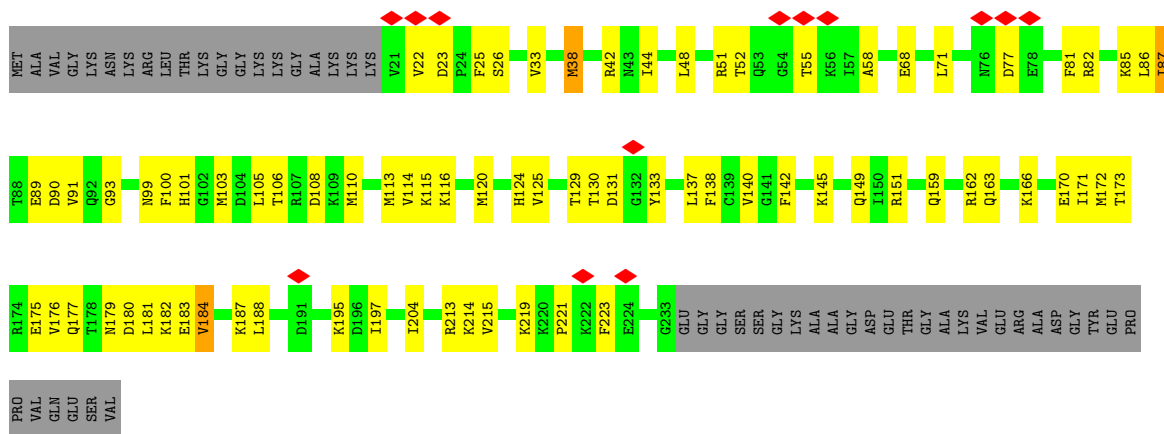


- Molecule 3: 60S ribosomal protein L3

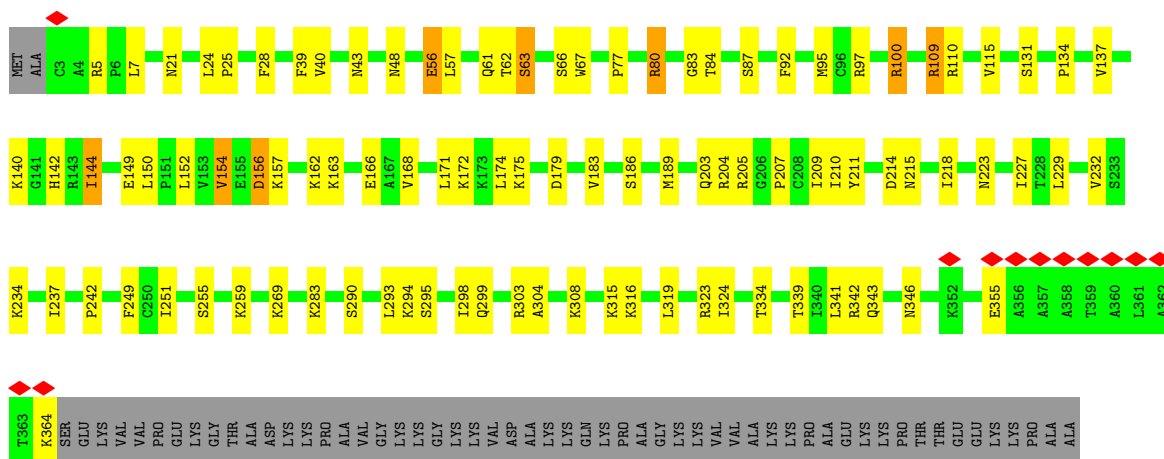




• Molecule 4: 40S ribosomal protein S3a

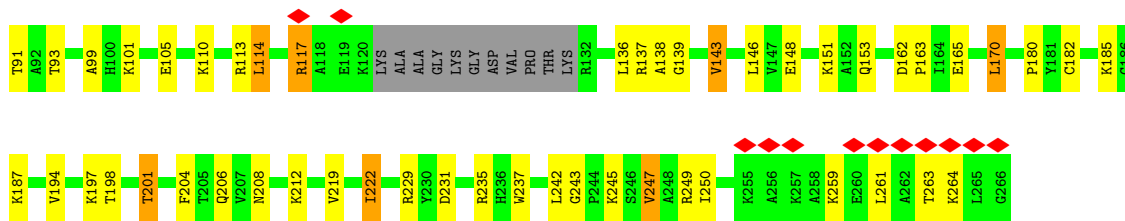


• Molecule 5: 60S ribosomal protein L4

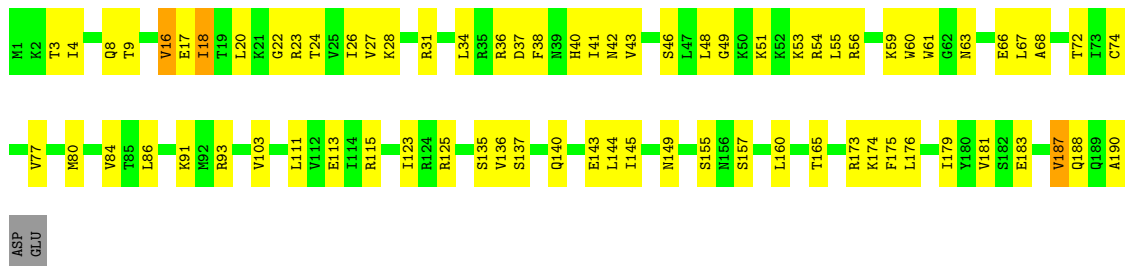


• Molecule 6: 60S ribosomal protein L5

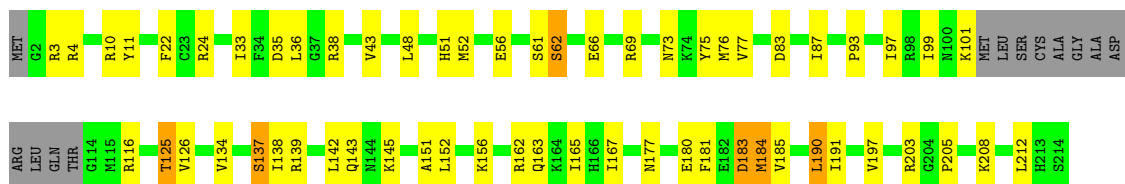




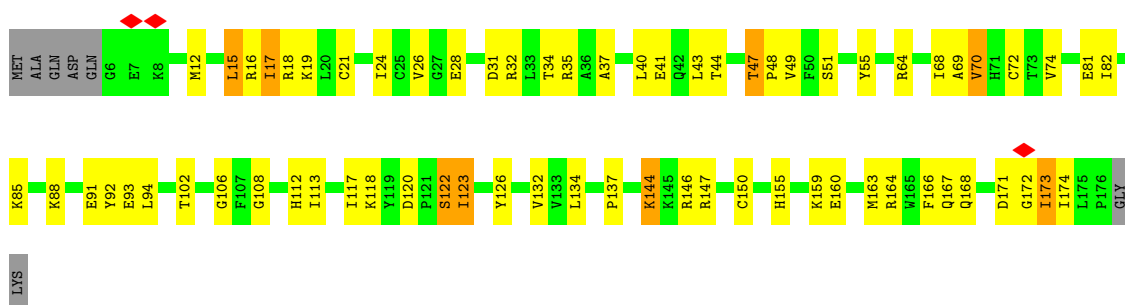
• Molecule 10: 60S ribosomal protein L9



• Molecule 11: 60S ribosomal protein L10

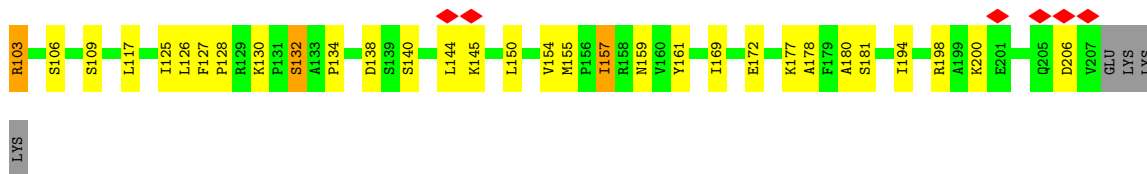


• Molecule 12: 60S ribosomal protein L11

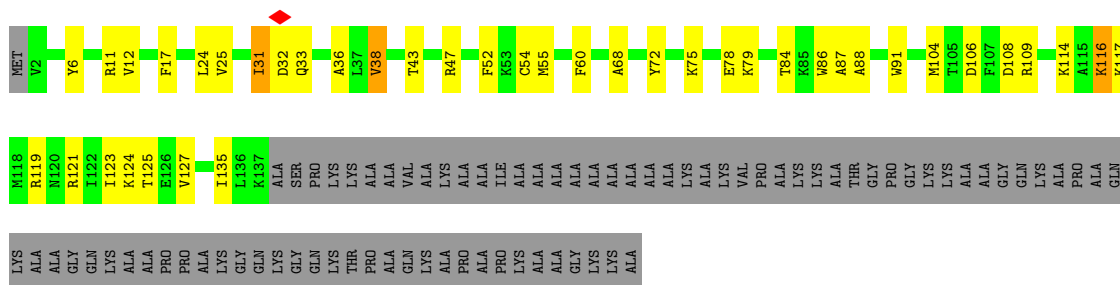


• Molecule 13: 60S ribosomal protein L13

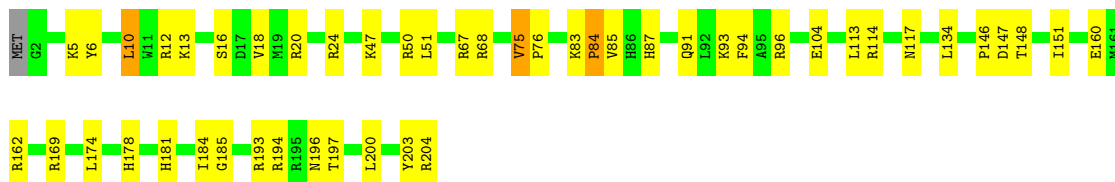
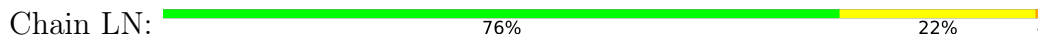




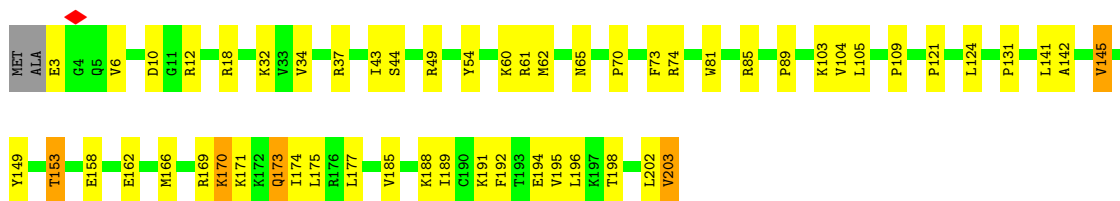
• Molecule 14: 60S ribosomal protein L14



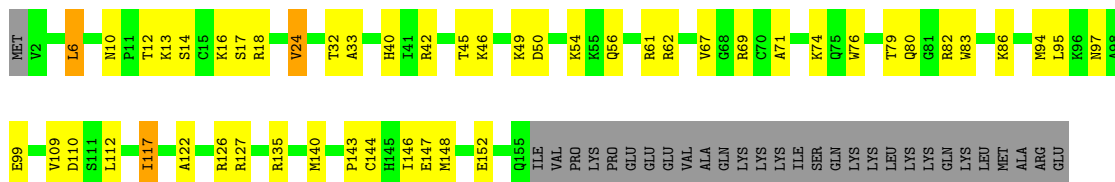
• Molecule 15: 60S ribosomal protein L15



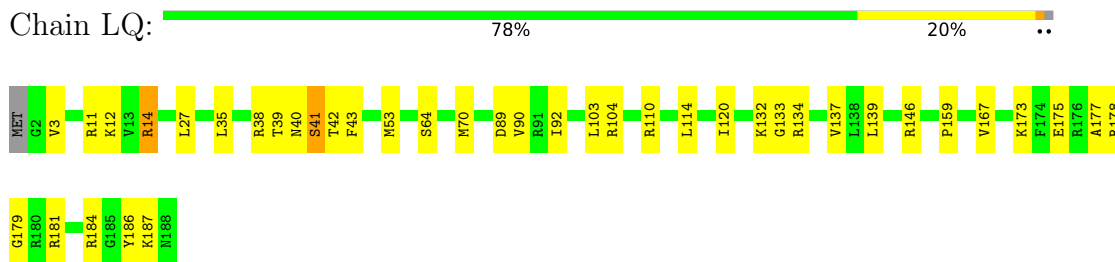
• Molecule 16: 60S ribosomal protein L13a



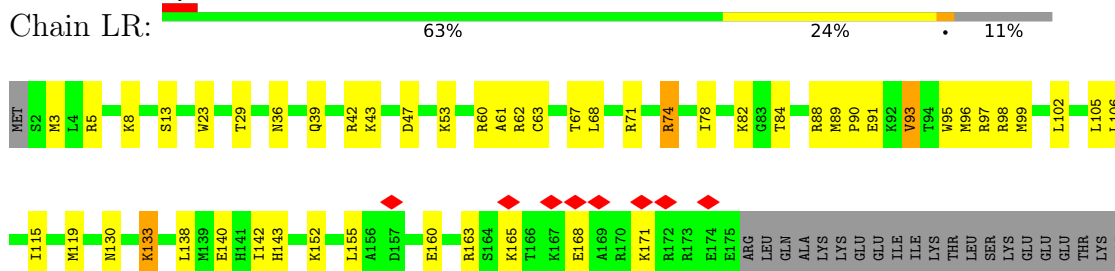
• Molecule 17: 60S ribosomal protein L17



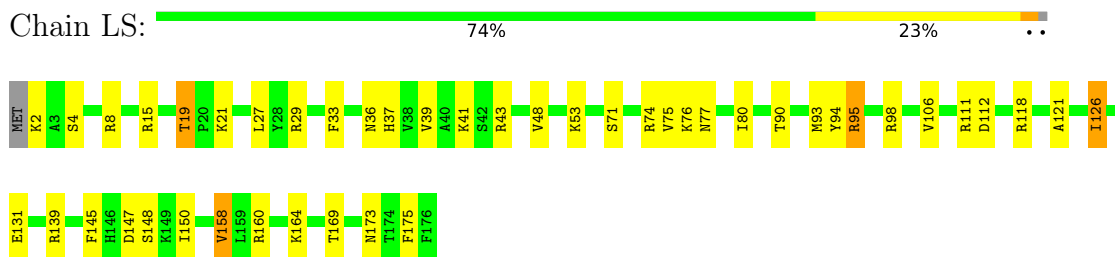
• Molecule 18: 60S ribosomal protein L18



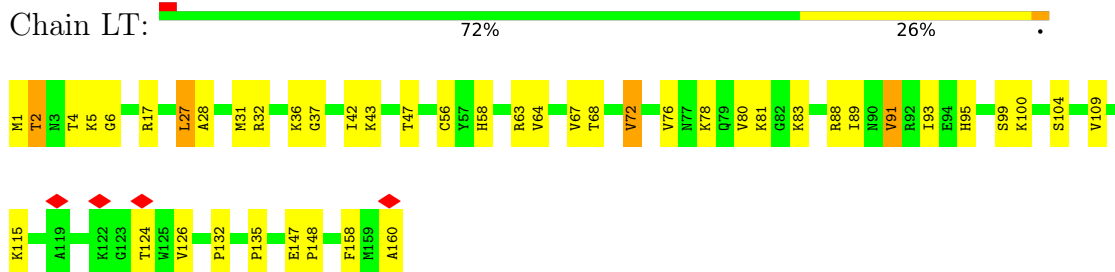
• Molecule 19: 60S ribosomal protein L19



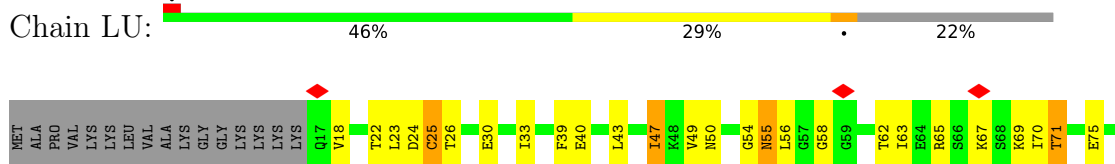
• Molecule 20: 60S ribosomal protein L18a

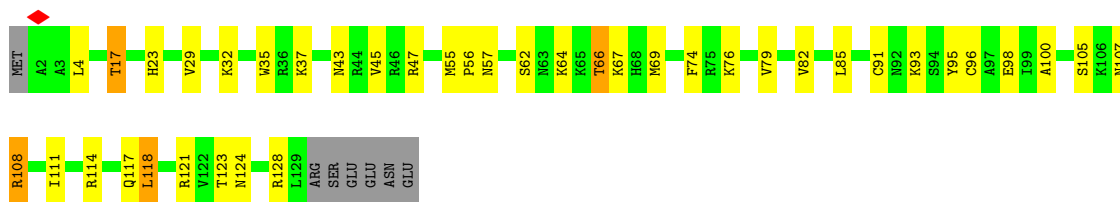


• Molecule 21: 60S ribosomal protein L21



• Molecule 22: 60S ribosomal protein L22

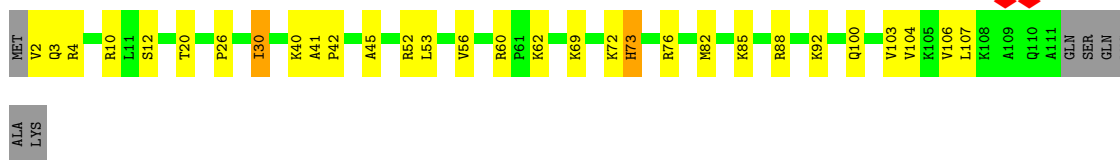




- Molecule 33: 60S ribosomal protein L35a



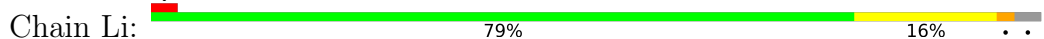
- Molecule 34: 60S ribosomal protein L34



- Molecule 35: 60S ribosomal protein L35



- Molecule 36: 60S ribosomal protein L36

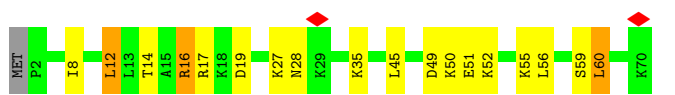
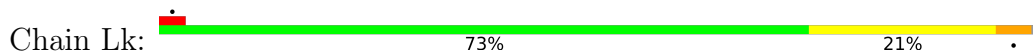


- Molecule 37: 60S ribosomal protein L37

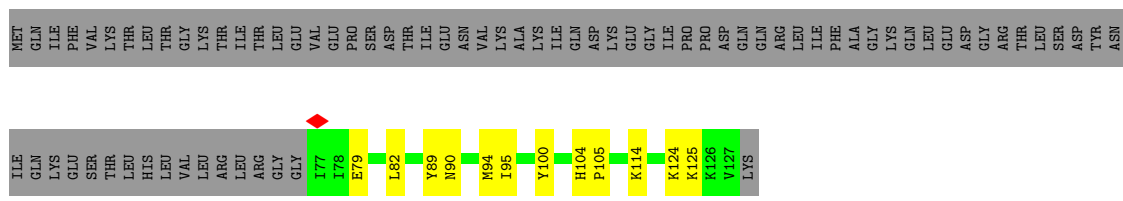




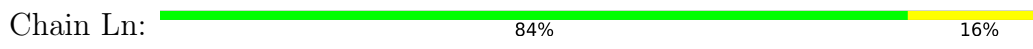
• Molecule 38: 60S ribosomal protein L38



• Molecule 39: Ubiquitin-60S ribosomal protein L40



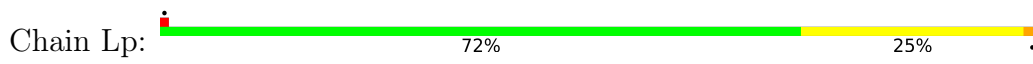
• Molecule 40: 60S ribosomal protein L41



• Molecule 41: 60S ribosomal protein L36a



• Molecule 42: 60S ribosomal protein L37a



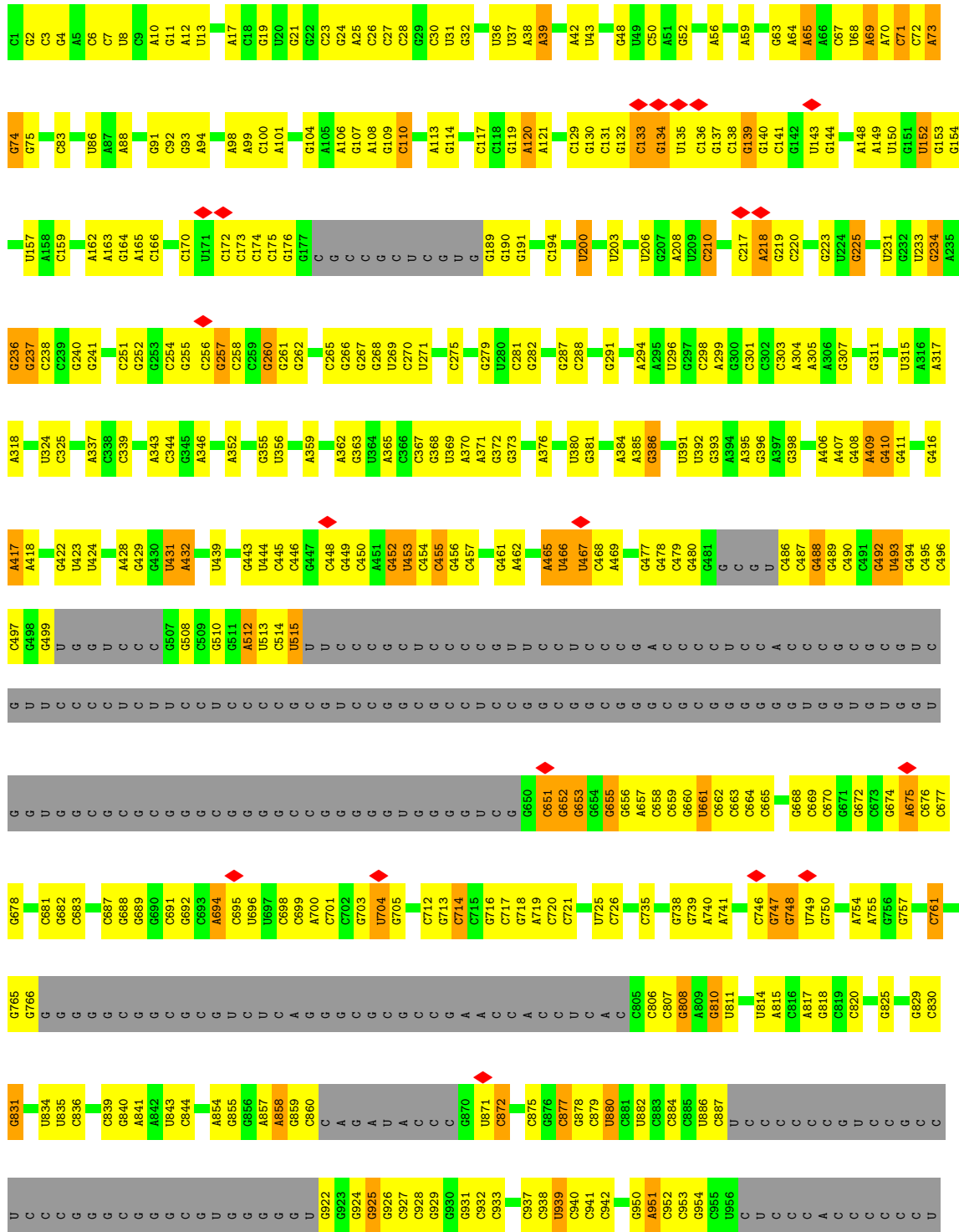
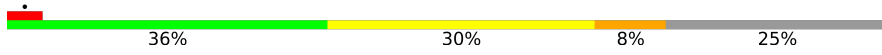
• Molecule 43: 60S ribosomal protein L28

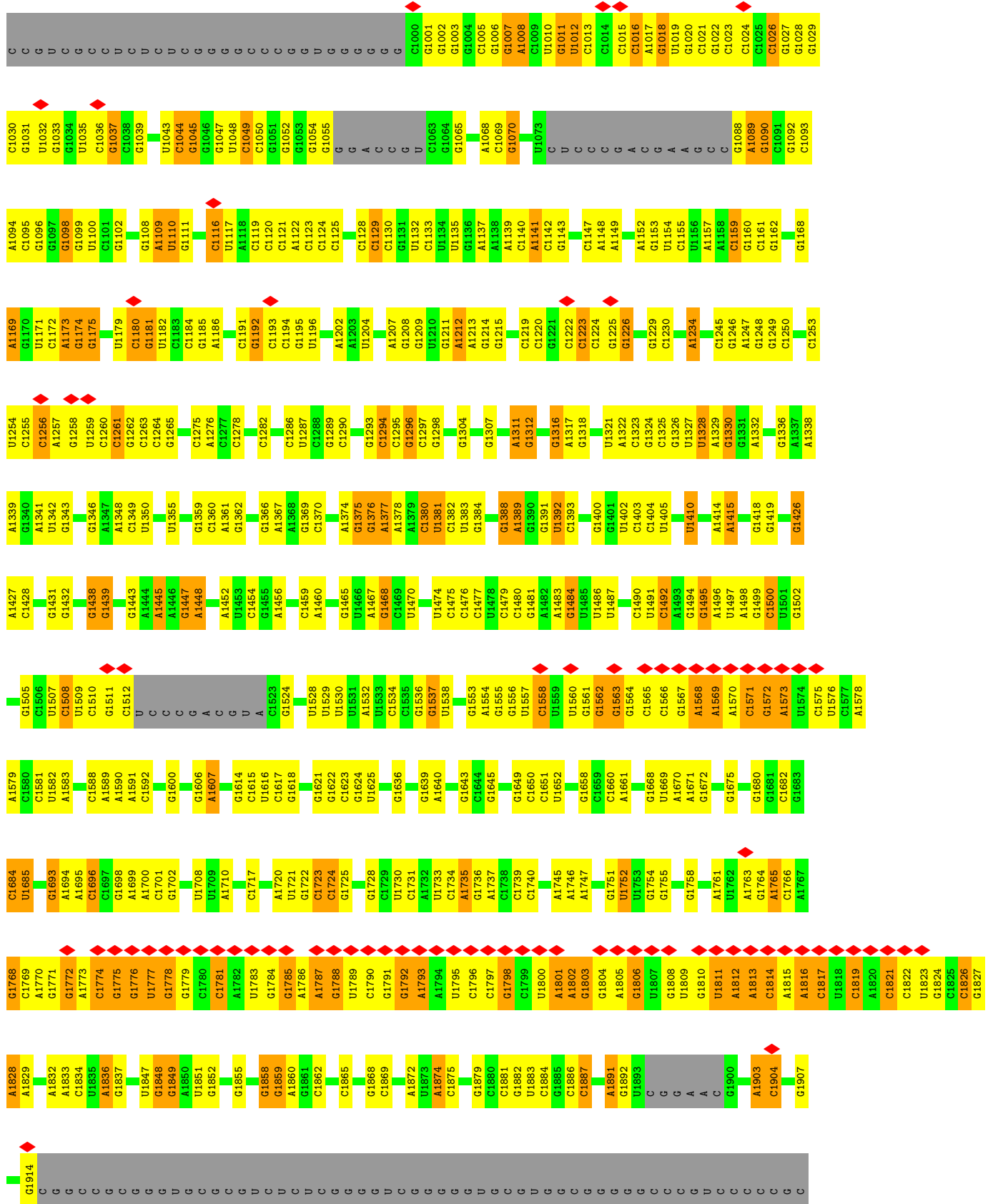


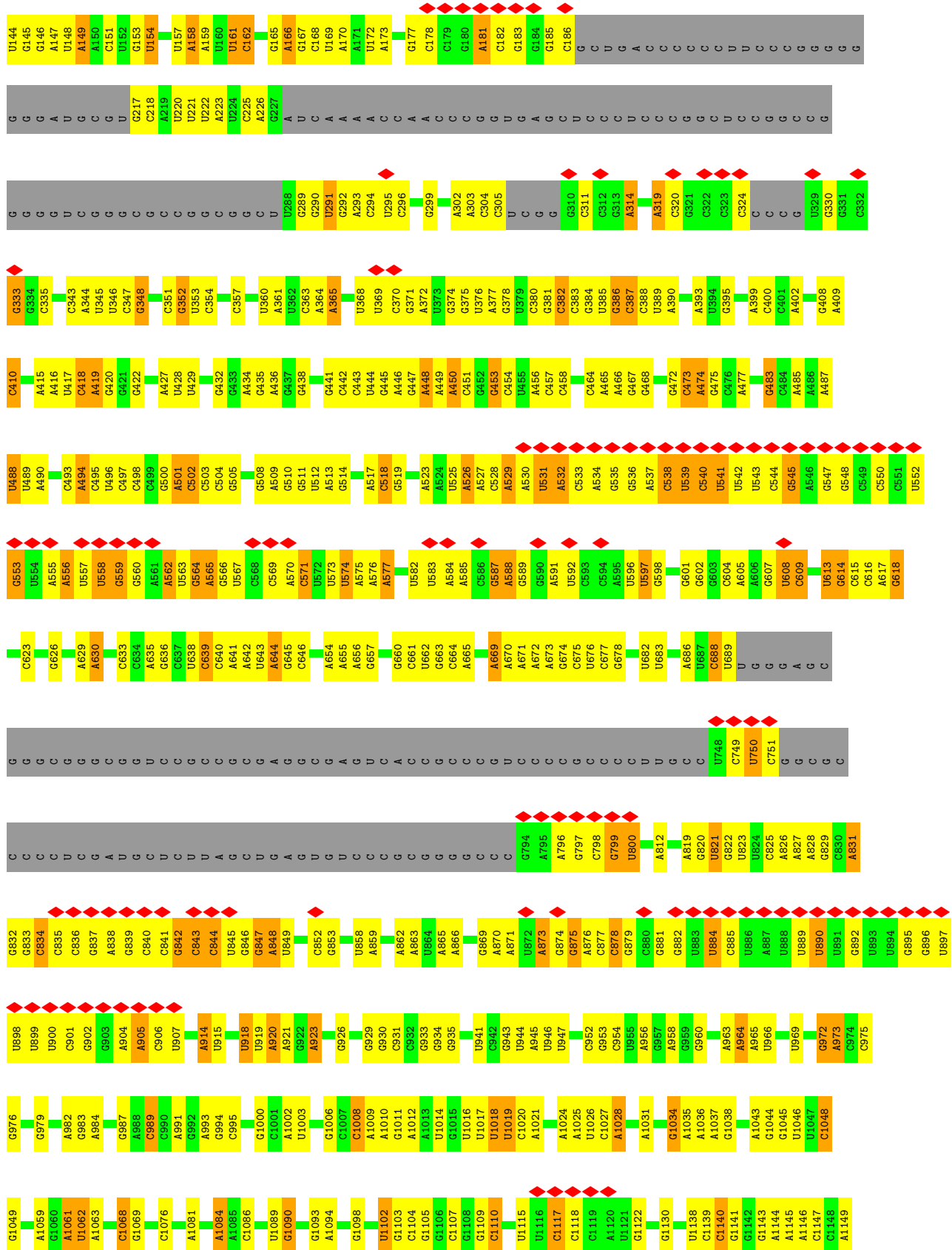
THR
ARG
PRO
THR
LYS
SER
SER

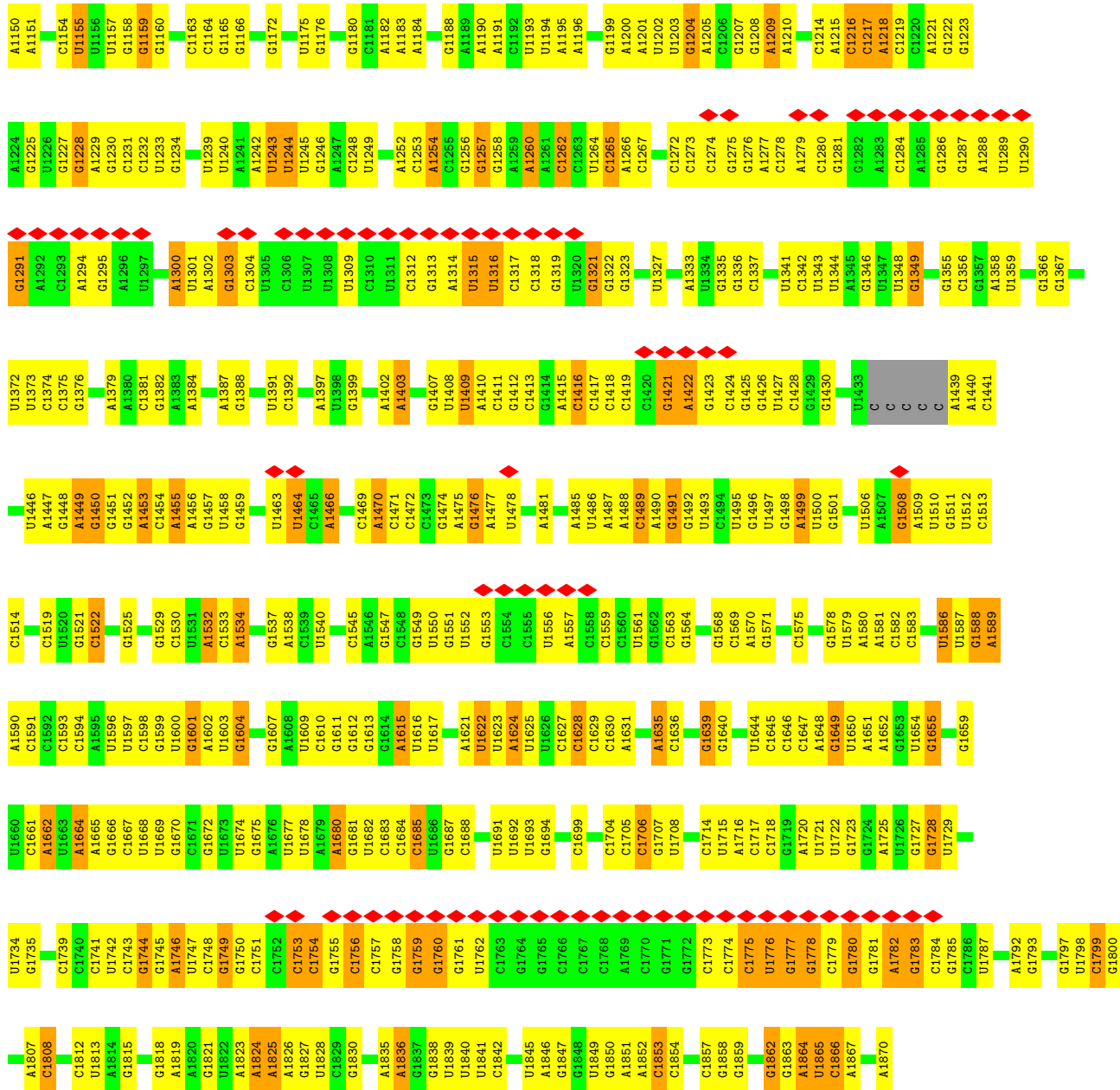
● Molecule 44: Mus musculus 28S ribosomal RNA

Chain L5:

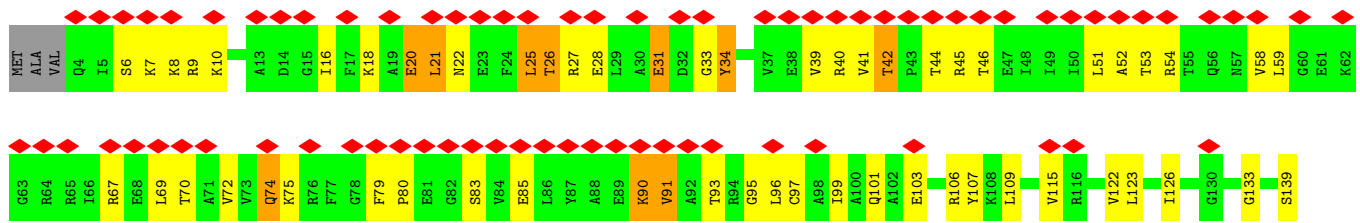
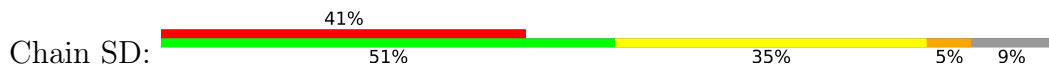


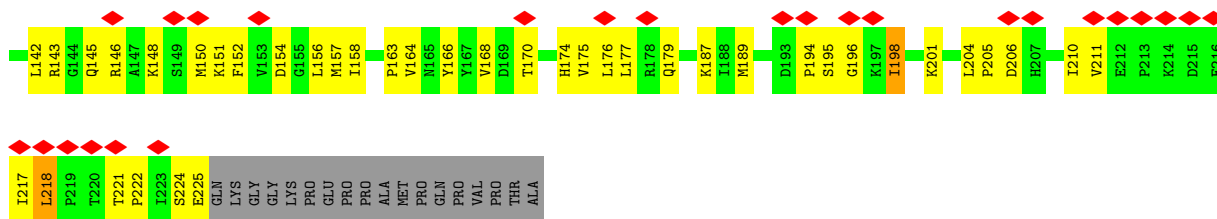




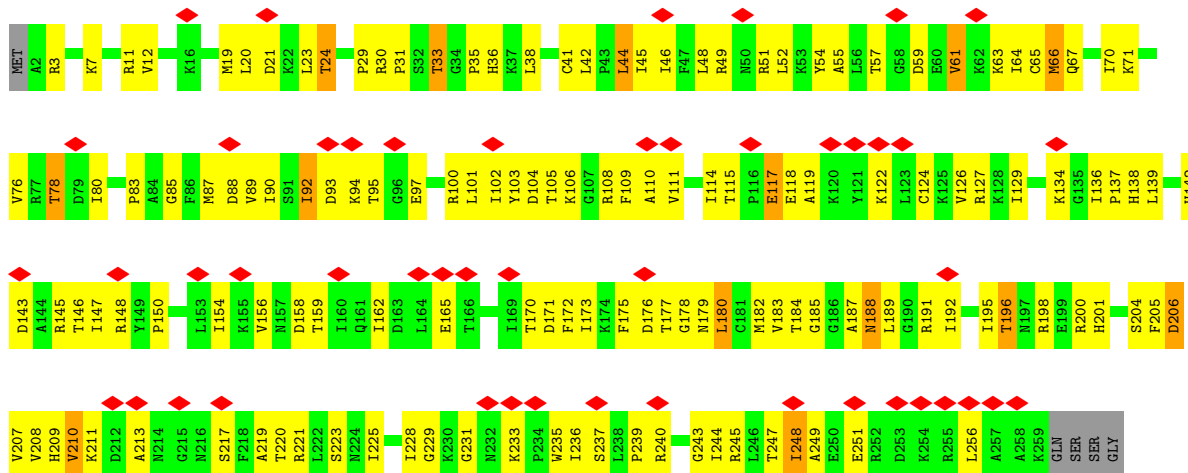


• Molecule 48: 40S ribosomal protein S3

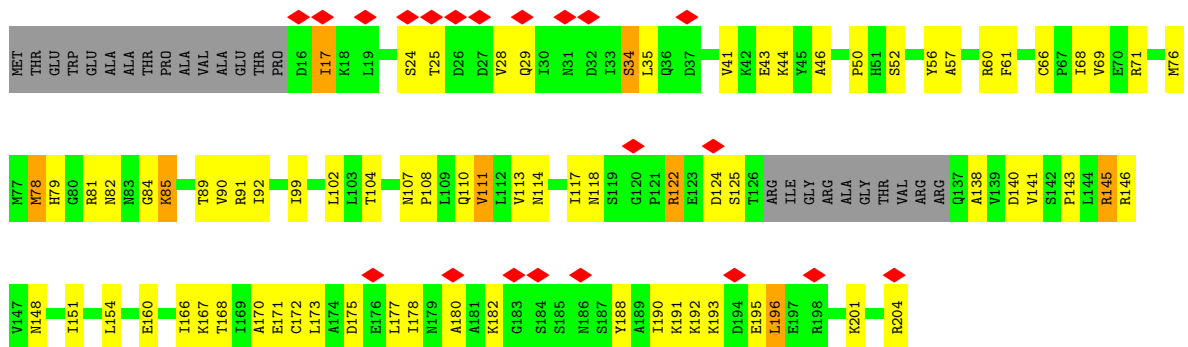




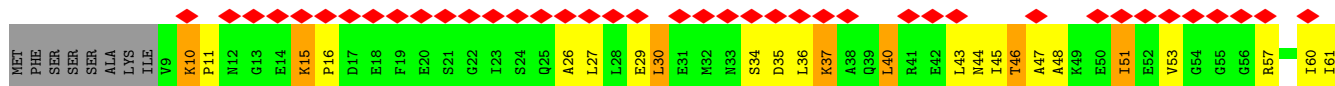
• Molecule 49: 40S ribosomal protein S4, X isoform

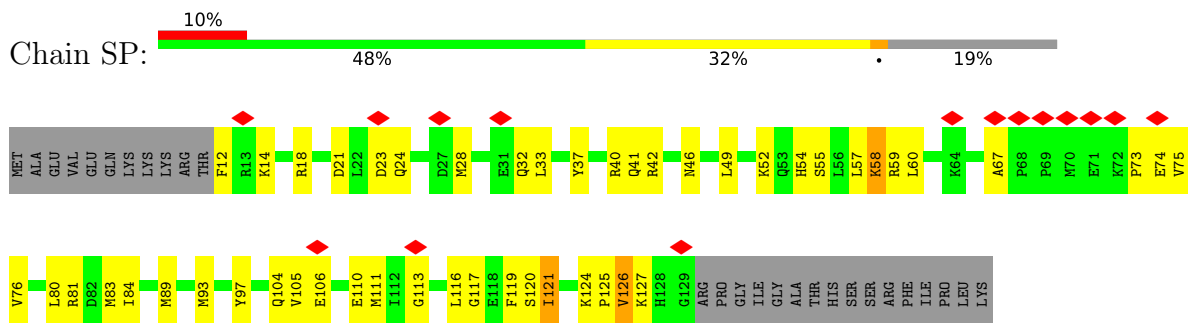


• Molecule 50: 40S ribosomal protein S5

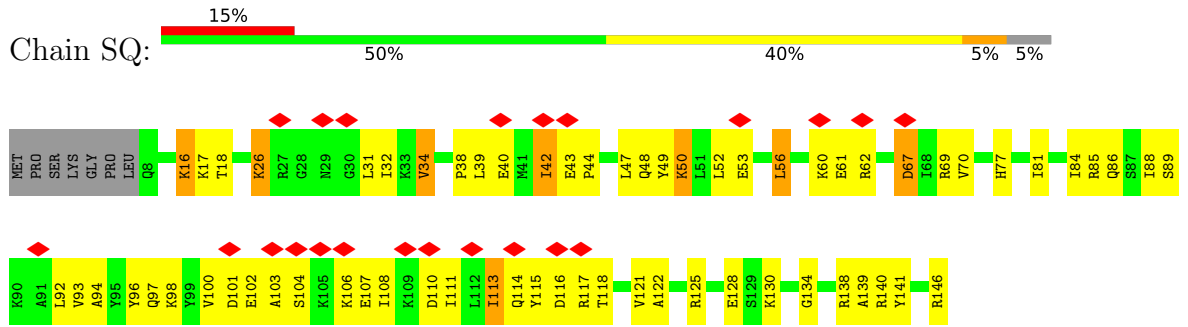


• Molecule 51: 40S ribosomal protein S7

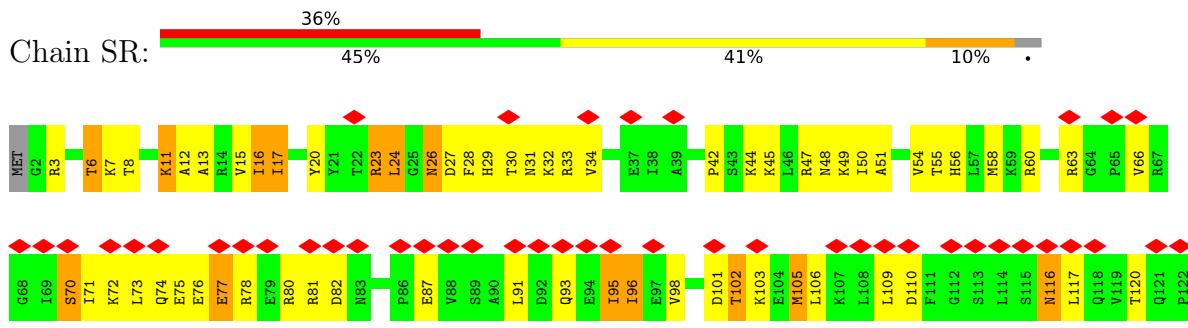




• Molecule 56: 40S ribosomal protein S16

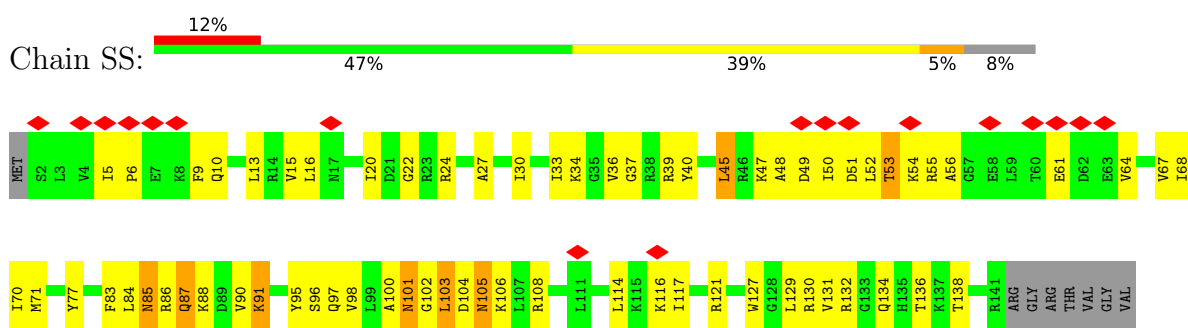


• Molecule 57: 40S ribosomal protein S17



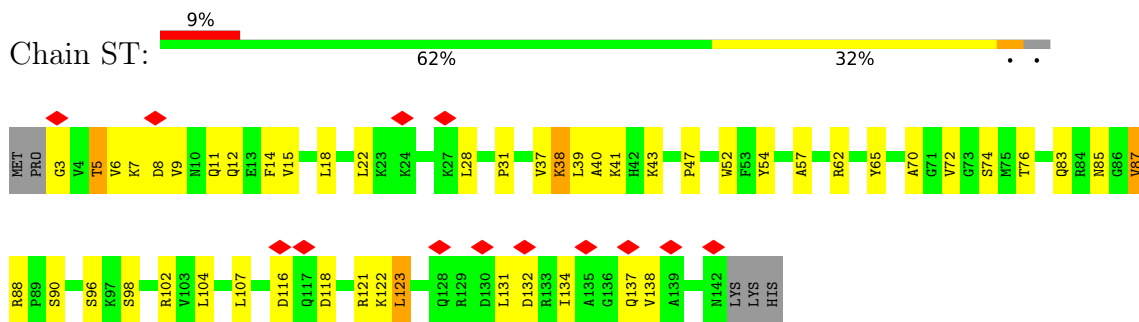
R132 GLY ALA VAL

• Molecule 58: 40S ribosomal protein S18

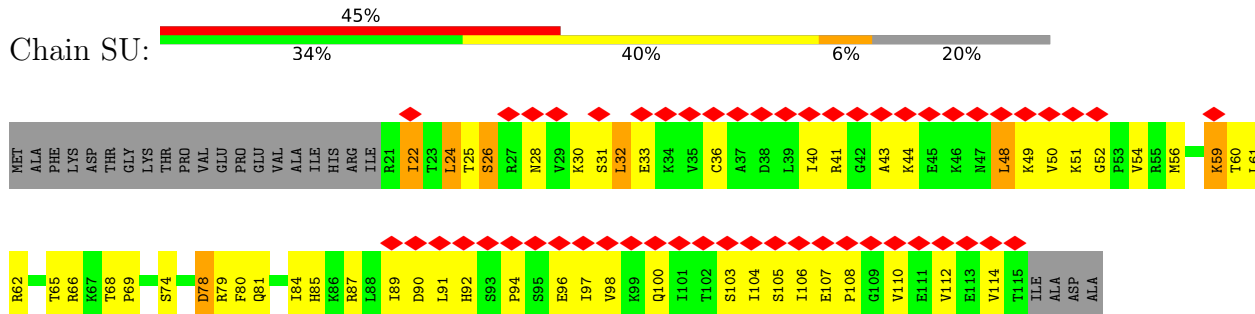


SER LYS LYS LYS

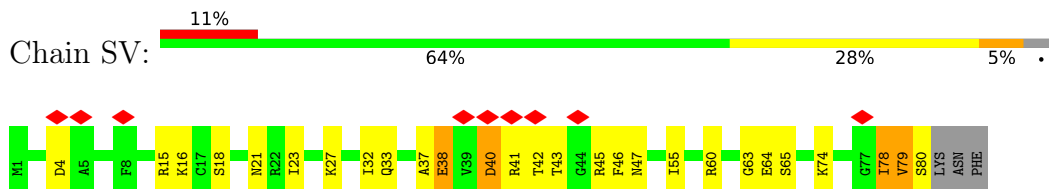
• Molecule 59: 40S ribosomal protein S19



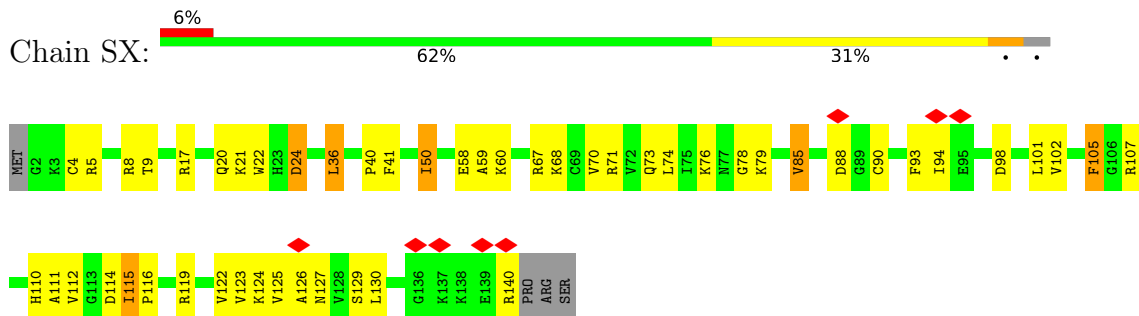
• Molecule 60: 40S ribosomal protein S20



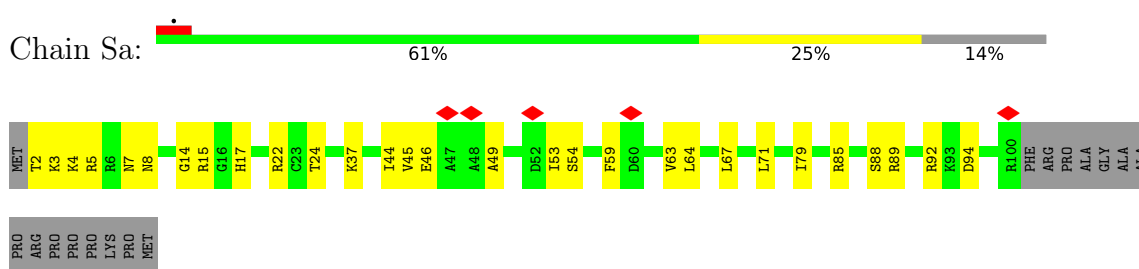
• Molecule 61: 40S ribosomal protein S21



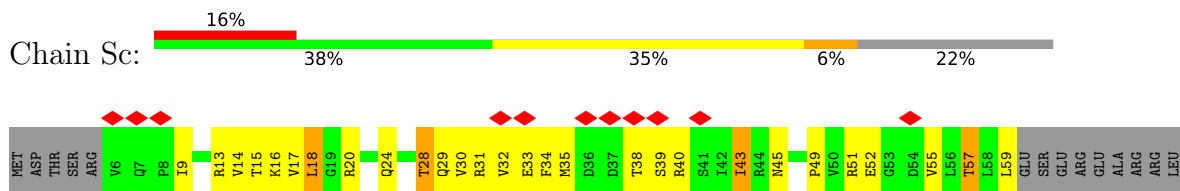
• Molecule 62: 40S ribosomal protein S23



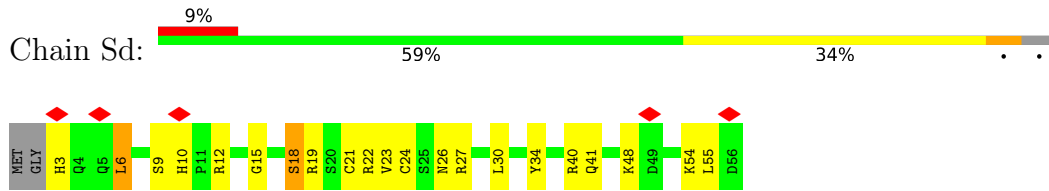
• Molecule 63: 40S ribosomal protein S26



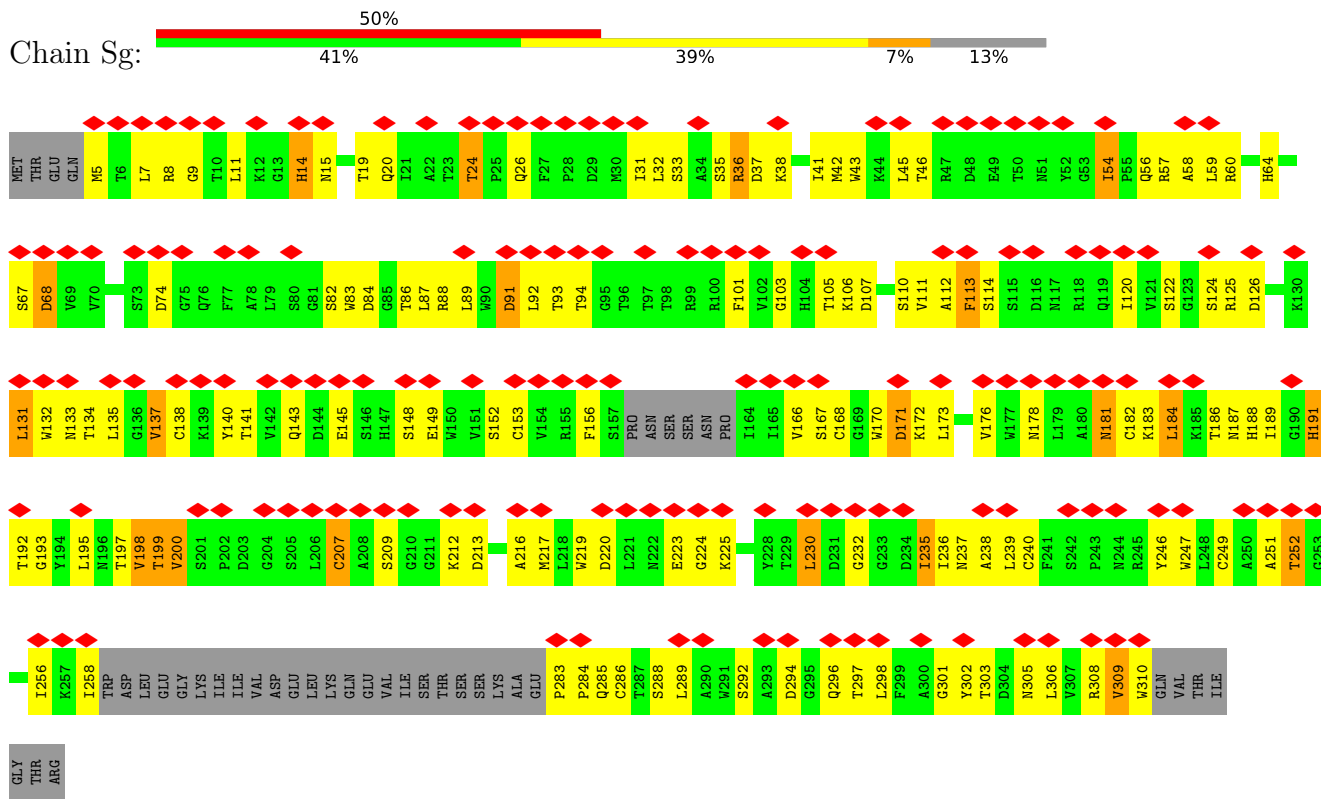
• Molecule 64: 40S ribosomal protein S28



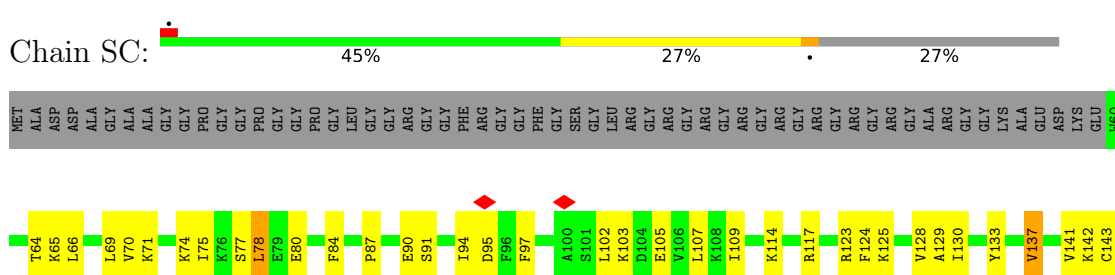
• Molecule 65: 40S ribosomal protein S29

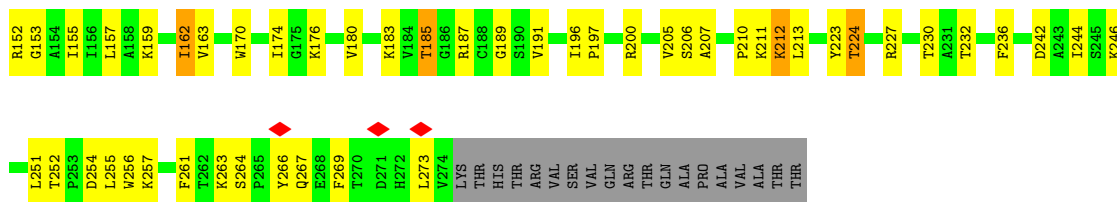


• Molecule 66: Receptor of activated protein C kinase 1

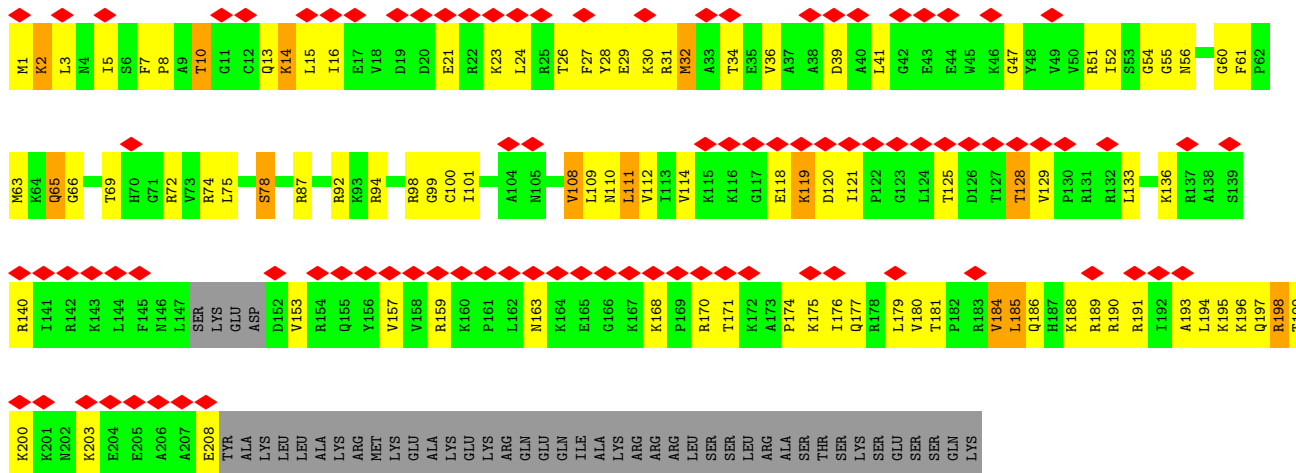
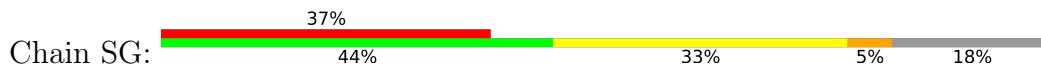


• Molecule 67: 40S ribosomal protein S2

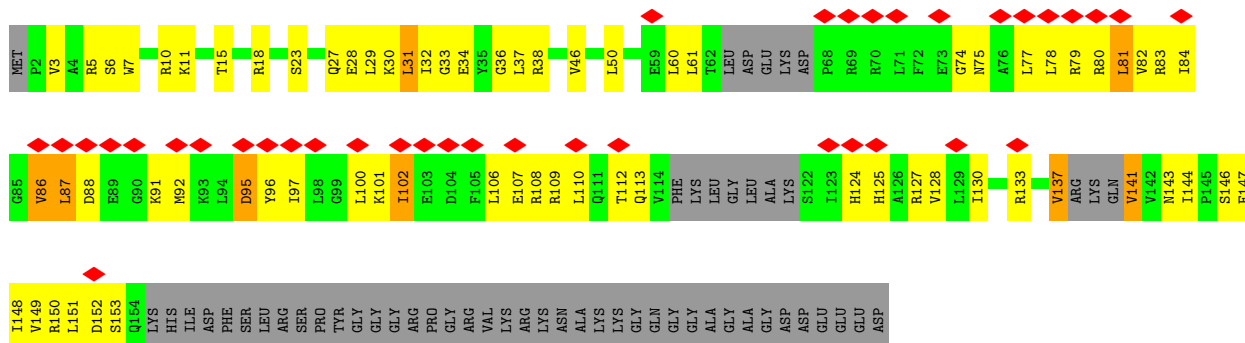




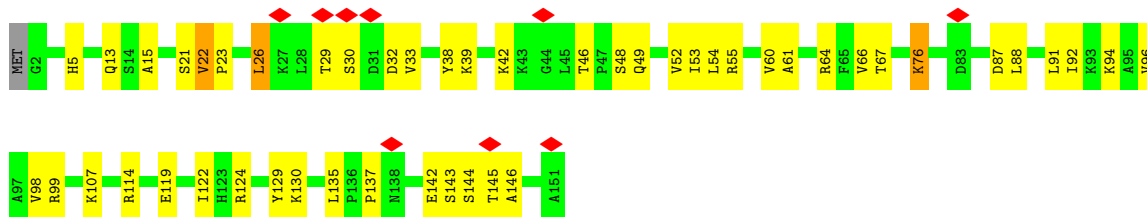
• Molecule 68: 40S ribosomal protein S6

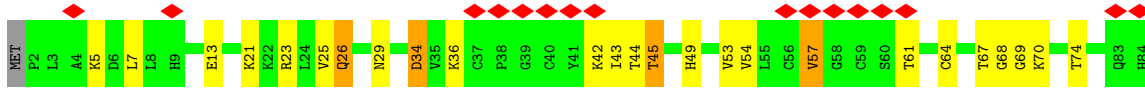


• Molecule 69: 40S ribosomal protein S9

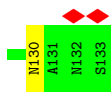
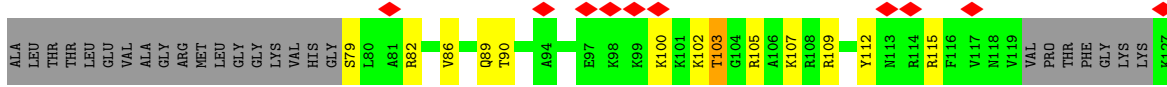
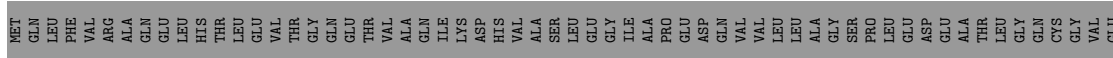


• Molecule 70: 40S ribosomal protein S13

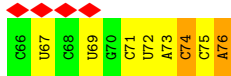
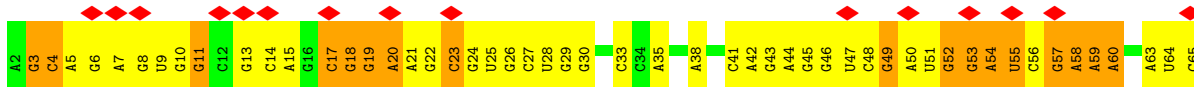




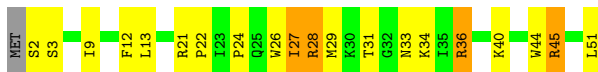
• Molecule 76: 40S ribosomal protein S30



• Molecule 77: tRNA



• Molecule 78: Ribosomal protein L39



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	280287	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.326	Depositor
Minimum map value	-0.162	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.012	Depositor
Recommended contour level	0.026	Depositor
Map size (\AA)	416.0, 416.0, 416.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.04, 1.04, 1.04	Depositor

5 Model quality

5.1 Standard geometry

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

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	LA	0.34	0/1936	0.52	1/2596 (0.0%)
2	SA	0.21	0/1673	0.46	0/2275
3	LB	0.32	0/3269	0.50	0/4375
4	SB	0.20	0/1756	0.40	0/2350
5	LC	0.32	0/2945	0.50	1/3953 (0.0%)
6	LD	0.27	0/2431	0.44	0/3256
7	LE	0.26	0/1910	0.49	2/2562 (0.1%)
8	LF	0.32	0/1805	0.45	0/2408
9	LG	0.27	0/1880	0.44	0/2531
10	LH	0.28	0/1537	0.48	0/2065
11	LI	0.30	0/1671	0.42	0/2230
12	LJ	0.25	0/1394	0.50	0/1864
13	LL	0.31	0/1698	0.47	0/2274
14	LM	0.29	0/1146	0.46	0/1531
15	LN	0.35	0/1746	0.48	0/2338
16	LO	0.32	0/1670	0.45	0/2232
17	LP	0.31	0/1277	0.43	0/1712
18	LQ	0.34	0/1539	0.47	0/2053
19	LR	0.28	0/1473	0.47	1/1947 (0.1%)
20	LS	0.33	0/1491	0.45	0/2000
21	LT	0.30	0/1335	0.41	0/1781
22	LU	0.22	0/831	0.45	0/1115
23	LV	0.30	0/987	0.44	0/1324
24	LW	0.28	0/532	0.44	0/708
25	LX	0.27	0/984	0.38	0/1323
26	LY	0.28	0/1119	0.45	0/1488
27	LZ	0.27	0/1130	0.41	0/1507
28	La	0.34	0/1193	0.44	0/1593
29	Lb	0.27	0/821	0.42	0/1082
30	Lc	0.28	0/742	0.42	0/996
31	Ld	0.30	0/911	0.45	0/1227
32	Le	0.35	0/1071	0.43	0/1429

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Lf	0.33	0/895	0.52	0/1198
34	Lg	0.30	0/883	0.46	0/1178
35	Lh	0.26	0/1023	0.38	0/1350
36	Li	0.24	0/843	0.39	0/1115
37	Lj	0.32	0/720	0.47	0/952
38	Lk	0.25	0/574	0.38	0/760
39	Lm	0.28	0/425	0.42	0/564
40	Ln	0.27	0/240	0.48	0/305
41	Lo	0.29	0/855	0.44	0/1128
42	Lp	0.29	0/718	0.39	0/953
43	Lr	0.31	0/1009	0.46	0/1353
44	L5	0.33	0/84865	0.35	0/132368
45	L7	0.33	0/2858	0.31	0/4455
46	L8	0.33	0/3701	0.32	0/5766
47	S2	0.21	0/39386	0.32	0/61368
48	SD	0.18	0/1754	0.48	0/2362
49	SE	0.18	0/2092	0.46	0/2816
50	SF	0.19	0/1436	0.42	0/1930
51	SH	0.19	0/1470	0.46	0/1968
52	SI	0.20	0/1526	0.45	0/2038
53	SK	0.17	0/780	0.47	0/1046
54	SL	0.22	0/1130	0.43	0/1514
55	SP	0.18	0/1000	0.42	0/1335
56	SQ	0.21	0/1126	0.56	1/1506 (0.1%)
57	SR	0.19	0/1078	0.49	0/1447
58	SS	0.22	0/1175	0.43	0/1575
59	ST	0.19	0/1108	0.40	0/1486
60	SU	0.18	0/762	0.47	0/1023
61	SV	0.19	0/616	0.47	0/825
62	SX	0.22	0/1097	0.48	0/1464
63	Sa	0.24	0/816	0.45	0/1093
64	Sc	0.21	0/418	0.59	0/562
65	Sd	0.17	0/466	0.39	0/618
66	Sg	0.18	0/2199	0.52	0/2989
67	SC	0.21	0/1712	0.43	0/2314
68	SG	0.18	0/1666	0.47	0/2222
69	SJ	0.18	0/1178	0.50	0/1574
70	SN	0.19	0/1232	0.38	0/1656
71	SO	0.22	0/1015	0.47	0/1361
72	SW	0.24	0/1051	0.44	0/1406
73	SY	0.18	0/907	0.46	0/1204
74	SZ	0.21	0/580	0.52	0/780
75	Sb	0.19	0/665	0.42	0/891

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Se	0.16	0/386	0.48	0/504
77	S6	0.18	0/1795	0.37	0/2798
78	L1	0.70	0/454	0.71	0/599
All	All	0.29	0/221588	0.39	6/325844 (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	LA	0	1
3	LB	0	2
10	LH	0	1
12	LJ	0	1
14	LM	0	1
50	SF	0	1
59	ST	0	1
61	SV	0	1
68	SG	0	1
All	All	0	10

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	LR	78	ILE	N-CA-C	-7.61	106.48	113.71
7	LE	135	SER	CA-C-N	-5.86	113.11	122.08
7	LE	135	SER	C-N-CA	-5.86	113.11	122.08
1	LA	7	GLY	N-CA-C	-5.67	106.88	114.25
56	SQ	93	VAL	N-CA-C	-5.33	107.63	112.96
5	LC	67	TRP	CA-CB-CG	5.10	123.30	113.60

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	LA	13	GLY	Peptide
3	LB	16	PHE	Peptide
3	LB	258	HIS	Peptide
10	LH	173	ARG	Peptide

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Mol	Chain	Res	Type	Group
12	LJ	173	ILE	Peptide
14	LM	32	ASP	Peptide
50	SF	78	MET	Peptide
68	SG	119	LYS	Peptide
59	ST	38	LYS	Peptide
61	SV	78	ILE	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	LA	1898	0	1993	49	0
2	SA	1636	0	1641	68	0
3	LB	3202	0	3347	94	0
4	SB	1729	0	1803	55	0
5	LC	2891	0	3071	64	0
6	LD	2385	0	2409	56	0
7	LE	1874	0	2007	63	0
8	LF	1771	0	1886	41	0
9	LG	1848	0	1981	46	0
10	LH	1519	0	1603	49	0
11	LI	1633	0	1679	36	0
12	LJ	1371	0	1405	47	0
13	LL	1667	0	1771	54	0
14	LM	1125	0	1202	28	0
15	LN	1701	0	1749	32	0
16	LO	1640	0	1792	36	0
17	LP	1251	0	1282	33	0
18	LQ	1515	0	1639	34	0
19	LR	1457	0	1601	31	0
20	LS	1451	0	1488	35	0
21	LT	1307	0	1380	38	0
22	LU	817	0	839	27	0
23	LV	973	0	1034	24	0
24	LW	519	0	533	9	0
25	LX	967	0	1040	13	0
26	LY	1102	0	1189	22	0
27	LZ	1107	0	1182	35	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	La	1164	0	1213	41	0
29	Lb	807	0	875	29	0
30	Lc	732	0	769	23	0
31	Ld	896	0	941	26	0
32	Le	1053	0	1147	30	0
33	Lf	876	0	912	20	0
34	Lg	873	0	961	28	0
35	Lh	1015	0	1156	30	0
36	Li	832	0	917	14	0
37	Lj	705	0	737	15	0
38	Lk	568	0	635	14	0
39	Lm	419	0	452	12	0
40	Ln	239	0	289	3	0
41	Lo	842	0	912	24	0
42	Lp	708	0	756	17	0
43	Lr	994	0	1057	16	0
44	L5	75867	0	38317	1153	0
45	L7	2558	0	1296	31	0
46	L8	3314	0	1683	59	0
47	S2	35228	0	17769	758	0
48	SD	1726	0	1816	69	0
49	SE	2050	0	2156	100	0
50	SF	1416	0	1458	49	0
51	SH	1449	0	1539	59	0
52	SI	1499	0	1561	70	0
53	SK	760	0	783	34	0
54	SL	1110	0	1165	44	0
55	SP	981	0	1026	34	0
56	SQ	1109	0	1174	56	0
57	SR	1064	0	1118	66	0
58	SS	1157	0	1213	55	0
59	ST	1090	0	1116	44	0
60	SU	753	0	815	37	0
61	SV	610	0	607	22	0
62	SX	1080	0	1147	41	0
63	Sa	800	0	854	22	0
64	Sc	416	0	445	19	0
65	Sd	455	0	445	24	0
66	Sg	2148	0	2108	103	0
67	SC	1673	0	1766	60	0
68	SG	1645	0	1780	78	0
69	SJ	1162	0	1252	56	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
70	SN	1208	0	1294	40	0
71	SO	1002	0	1023	41	0
72	SW	1034	0	1080	36	0
73	SY	891	0	948	48	0
74	SZ	574	0	627	26	0
75	Sb	651	0	672	16	0
76	Se	384	0	422	17	0
77	S6	1604	0	816	47	0
78	L1	444	0	483	25	0
79	L5	173	0	0	0	0
79	L7	3	0	0	0	0
79	L8	5	0	0	0	0
79	LN	1	0	0	0	0
79	LP	1	0	0	0	0
79	LT	1	0	0	0	0
79	LV	1	0	0	0	0
79	Le	1	0	0	0	0
79	Lf	1	0	0	0	0
79	S2	82	0	0	0	0
79	SF	1	0	0	0	0
79	Sd	1	0	0	0	0
80	Lg	1	0	0	0	0
80	Lj	1	0	0	0	0
80	Lm	1	0	0	0	0
80	Lo	1	0	0	0	0
80	Lp	1	0	0	0	0
80	Sa	1	0	0	0	0
80	Sd	1	0	0	0	0
81	L5	9	0	0	1	0
81	LB	1	0	0	0	0
81	LH	1	0	0	0	0
81	LI	2	0	0	0	0
81	La	2	0	0	0	0
81	S2	3	0	0	1	0
81	SV	1	0	0	0	0
All	All	206288	0	152049	4111	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 12.

All (4111) 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)
44:L5:1008:A:H2	44:L5:1018:G:N1	1.59	0.99
47:S2:378:G:H5'	52:SI:98:LYS:HB3	1.44	0.99
44:L5:1008:A:C2	44:L5:1018:G:N1	2.29	0.98
44:L5:4411:C:H42	44:L5:4561:G:H5''	1.29	0.94
47:S2:929:G:H1	47:S2:1014:U:H3	1.15	0.94
44:L5:950:G:H1	44:L5:1035:U:H3	1.18	0.92
47:S2:1744:G:H21	47:S2:1792:A:H62	1.18	0.90
3:LB:268:ARG:HG2	3:LB:268:ARG:HH21	1.36	0.90
47:S2:116:U:H3	47:S2:348:G:H1	1.19	0.89
47:S2:153:G:H21	68:SG:13:GLN:HE22	1.14	0.89
47:S2:1506:U:H4'	47:S2:1509:A:H1'	1.55	0.89
30:Lc:20:LEU:HD23	30:Lc:101:ASP:HB3	1.56	0.88
47:S2:1289:U:H3	47:S2:1312:C:H42	1.22	0.86
66:Sg:197:THR:HG21	66:Sg:239:LEU:H	1.40	0.85
47:S2:527:A:HO2'	69:SJ:125:HIS:HD1	1.24	0.85
20:LS:93:MET:HG3	44:L5:1755:G:H4'	1.58	0.85
44:L5:4549:G:H22	44:L5:4564:C:H42	1.19	0.85
11:LI:184:MET:HB3	11:LI:190:LEU:HD22	1.58	0.85
49:SE:65:CYS:HA	49:SE:70:ILE:HD13	1.56	0.85
47:S2:563:U:O2	47:S2:588:A:N7	2.11	0.84
44:L5:189:G:H1	44:L5:252:G:H22	1.25	0.84
53:SK:25:LYS:HA	53:SK:46:MET:HE1	1.59	0.83
56:SQ:50:LYS:HA	56:SQ:53:GLU:HG2	1.59	0.83
19:LR:98:ARG:NH2	19:LR:130:ASN:OD1	2.11	0.83
56:SQ:85:ARG:NH1	56:SQ:116:ASP:OD2	2.11	0.83
12:LJ:24:ILE:HG23	12:LJ:70:VAL:HG13	1.61	0.83
3:LB:10:ARG:NH2	3:LB:265:SER:O	2.12	0.82
77:S6:11:G:H1	77:S6:25:U:H3	1.27	0.82
47:S2:994:G:N7	63:Sa:15:ARG:NH1	2.28	0.81
47:S2:565:A:H61	47:S2:587:G:H1'	1.44	0.81
66:Sg:31:ILE:HG13	66:Sg:45:LEU:HD21	1.61	0.81
44:L5:1355:U:H3	44:L5:1432:G:H1	1.27	0.81
48:SD:225:GLU:HB2	66:Sg:187:ASN:HB2	1.62	0.81
18:LQ:104:ARG:NH2	44:L5:1168:G:N7	2.27	0.80
57:SR:28:PHE:HA	57:SR:55:THR:HG21	1.63	0.80
47:S2:926:G:H1	47:S2:1018:U:H3	1.29	0.80
47:S2:1288:A:H62	47:S2:1313:G:H21	1.27	0.80
44:L5:1008:A:H2	44:L5:1018:G:H1	0.81	0.80
44:L5:1254:U:H3	44:L5:1907:G:H22	1.26	0.80
47:S2:1489:C:O2'	47:S2:1491:G:OP2	2.00	0.80
7:LE:149:ARG:NH2	7:LE:199:GLN:O	2.15	0.80
3:LB:19:ARG:NH2	44:L5:4276:G:OP1	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:819:A:N7	47:S2:848:A:N6	2.30	0.79
60:SU:50:VAL:HG22	60:SU:52:GLY:H	1.47	0.79
47:S2:889:U:H4'	47:S2:890:U:H5'	1.65	0.79
12:LJ:35:ARG:HB3	12:LJ:123:ILE:HG23	1.65	0.79
27:LZ:22:LYS:NZ	27:LZ:132:GLN:O	2.16	0.79
49:SE:71:LYS:H	49:SE:71:LYS:HD3	1.47	0.79
44:L5:3783:U:H3	44:L5:3805:G:H1	1.31	0.79
17:LP:135:ARG:NH2	44:L5:1410:U:O2'	2.17	0.78
61:SV:74:LYS:HG2	61:SV:79:VAL:HB	1.64	0.78
66:Sg:237:ASN:ND2	66:Sg:286:CYS:O	2.16	0.78
21:LT:2:THR:OG1	44:L5:3872:A:OP2	2.02	0.78
70:SN:66:VAL:HG13	70:SN:67:THR:HG23	1.66	0.78
47:S2:497:C:H5'	49:SE:29:PRO:HA	1.64	0.78
45:L7:72:U:O2	45:L7:103:A:N6	2.17	0.78
47:S2:1628:C:H5''	59:ST:41:LYS:HD2	1.64	0.78
77:S6:13:G:H1	77:S6:23:C:H42	1.31	0.78
78:Ll:9:ILE:HG23	78:Ll:51:LEU:HD11	1.66	0.78
28:La:26:ARG:NH2	44:L5:1470:U:OP2	2.18	0.77
5:LC:140:LYS:O	5:LC:204:ARG:NH1	2.16	0.77
64:Sc:31:ARG:HA	64:Sc:43:ILE:HA	1.65	0.77
74:SZ:51:ASP:HB2	74:SZ:54:THR:HG23	1.66	0.77
1:LA:215:ASN:ND2	44:L5:4199:A:N7	2.32	0.77
44:L5:1159:C:O2	44:L5:1326:G:N2	2.13	0.77
49:SE:198:ARG:HD3	49:SE:200:ARG:HE	1.48	0.77
44:L5:3374:A:OP2	44:L5:3392:G:N2	2.18	0.77
4:SB:116:LYS:HG3	47:S2:989:C:H5''	1.66	0.77
14:LM:125:THR:HG21	44:L5:4539:A:H5'	1.65	0.77
56:SQ:43:GLU:HB3	56:SQ:44:PRO:HD2	1.66	0.77
44:L5:4585:G:OP2	44:L5:4587:A:N6	2.17	0.77
47:S2:558:U:H2'	47:S2:559:G:C8	2.20	0.76
47:S2:1659:G:OP2	47:S2:1661:C:N4	2.17	0.76
47:S2:434:A:H5''	52:SI:22:HIS:HB3	1.67	0.76
53:SK:15:LEU:HG	53:SK:71:LEU:HD11	1.68	0.76
44:L5:1317:A:H4'	44:L5:1318:G:H5'	1.66	0.76
15:LN:169:ARG:NH1	44:L5:63:G:OP2	2.18	0.76
47:S2:613:U:O2'	47:S2:614:G:O4'	2.04	0.76
5:LC:109:ARG:NH1	44:L5:2100:G:OP2	2.19	0.75
18:LQ:39:THR:HG22	18:LQ:41:SER:H	1.51	0.75
44:L5:2314:G:H1	44:L5:2324:G:H22	1.31	0.75
47:S2:161:U:O2'	68:SG:87:ARG:NH1	2.17	0.75
48:SD:40:ARG:HA	60:SU:108:PRO:HB3	1.66	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:Sc:15:THR:HG22	64:Sc:16:LYS:H	1.51	0.75
52:SI:11:ARG:NH1	52:SI:15:GLY:O	2.19	0.75
71:SO:61:LYS:HG2	71:SO:76:LEU:HB3	1.68	0.75
4:SB:162:ARG:NH1	47:S2:1006:G:OP2	2.19	0.75
48:SD:106:ARG:HG3	48:SD:175:VAL:HG22	1.69	0.75
7:LE:198:HIS:HD2	7:LE:200:LYS:H	1.33	0.75
47:S2:852:C:H5''	47:S2:853:G:H5'	1.68	0.74
67:SC:183:LYS:HE2	72:SW:95:PRO:HA	1.69	0.74
2:SA:34:MET:HE1	2:SA:162:PRO:HB3	1.69	0.74
40:Ln:4:LYS:NZ	47:S2:1845:U:O4	2.13	0.74
12:LJ:43:LEU:HG	12:LJ:82:ILE:HD11	1.68	0.74
13:LL:36:ARG:NH1	44:L5:1179:U:OP2	2.19	0.74
27:LZ:88:ASP:O	27:LZ:121:ARG:NH2	2.21	0.74
61:SV:42:THR:HG23	61:SV:43:THR:HG23	1.68	0.74
44:L5:2243:G:H1	44:L5:2251:U:H3	1.36	0.74
2:SA:66:VAL:HG12	2:SA:182:VAL:HG23	1.69	0.74
5:LC:144:ILE:HD13	5:LC:150:LEU:HD13	1.69	0.74
68:SG:10:THR:HG23	68:SG:128:THR:HB	1.69	0.74
44:L5:4540:A:H3'	44:L5:4541:C:H5'	1.70	0.74
47:S2:1229:A:H2'	47:S2:1230:G:C8	2.22	0.74
27:LZ:17:ARG:NH1	44:L5:2332:G:N7	2.36	0.73
44:L5:1771:G:OP2	44:L5:1773:A:N6	2.20	0.73
17:LP:17:SER:HB2	17:LP:97:ASN:HD22	1.53	0.73
44:L5:954:G:H1	44:L5:1030:C:H42	1.33	0.73
47:S2:1537:G:H2'	47:S2:1538:A:C8	2.23	0.73
48:SD:45:ARG:HD3	48:SD:83:SER:HA	1.70	0.73
59:ST:22:LEU:HD22	59:ST:28:LEU:HD22	1.69	0.73
62:SX:90:CYS:HA	62:SX:93:PHE:HD2	1.51	0.73
77:S6:18:G:O2'	77:S6:57:G:N2	2.22	0.73
47:S2:829:G:H21	47:S2:831:A:H1'	1.53	0.73
58:SS:22:GLY:HA2	58:SS:56:ALA:HB3	1.68	0.73
54:SL:35:ARG:NH2	54:SL:55:TYR:O	2.18	0.73
44:L5:1159:C:N3	44:L5:1326:G:N1	2.29	0.73
49:SE:88:ASP:OD1	49:SE:122:LYS:NZ	2.20	0.73
13:LL:50:PRO:HB3	13:LL:150:LEU:HB3	1.70	0.73
47:S2:220:U:O2	52:SI:184:ARG:NH2	2.21	0.73
47:S2:941:U:H3	47:S2:1003:U:H3	1.34	0.73
47:S2:1157:U:OP1	72:SW:71:LYS:NZ	2.22	0.73
8:LF:123:VAL:O	8:LF:128:ARG:NH1	2.22	0.73
33:Lf:89:ARG:NH1	44:L5:717:C:OP1	2.21	0.73
73:SY:29:HIS:HB2	73:SY:32:LYS:HB3	1.68	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Lg:45:ALA:HB3	34:Lg:82:MET:HE2	1.69	0.73
73:SY:83:LYS:HE3	73:SY:96:LEU:HD13	1.71	0.72
28:La:64:LYS:NZ	44:L5:70:A:OP2	2.22	0.72
1:LA:101:VAL:HG22	1:LA:165:VAL:HG22	1.70	0.72
4:SB:52:THR:HG22	4:SB:58:ALA:H	1.53	0.72
47:S2:1218:A:H2'	47:S2:1219:C:H6	1.54	0.72
47:S2:1684:C:H2'	47:S2:1685:C:H6	1.54	0.72
68:SG:2:LYS:HB2	68:SG:108:VAL:HG13	1.71	0.72
47:S2:1417:C:O2	59:ST:3:GLY:N	2.22	0.72
3:LB:174:ARG:NH1	44:L5:4633:U:O2	2.23	0.72
44:L5:1008:A:N1	44:L5:1018:G:O6	2.21	0.72
50:SF:168:THR:OG1	74:SZ:106:GLN:NE2	2.23	0.72
67:SC:142:LYS:HD2	67:SC:153:GLY:HA3	1.72	0.72
47:S2:1048:C:H5'	71:SO:143:LYS:HB2	1.72	0.72
21:LT:43:LYS:O	21:LT:58:HIS:ND1	2.22	0.72
48:SD:158:ILE:HG12	48:SD:189:MET:HE3	1.71	0.72
63:Sa:22:ARG:NH1	71:SO:145:GLY:O	2.21	0.72
21:LT:1:MET:N	44:L5:3872:A:OP1	2.22	0.72
56:SQ:38:PRO:HB2	56:SQ:40:GLU:HG3	1.72	0.72
47:S2:1744:G:N2	47:S2:1792:A:H62	1.88	0.72
66:Sg:200:VAL:HG22	66:Sg:207:CYS:HB2	1.71	0.71
74:SZ:99:LEU:HD11	74:SZ:102:LYS:HB2	1.71	0.71
5:LC:171:LEU:HD11	5:LC:227:ILE:HD11	1.70	0.71
47:S2:1680:A:H2'	50:SF:60:ARG:HD2	1.70	0.71
69:SJ:133:ARG:HB3	69:SJ:141:VAL:HG12	1.71	0.71
32:Le:100:ALA:O	32:Le:108:ARG:NH2	2.23	0.71
68:SG:31:ARG:HG3	68:SG:101:ILE:HG13	1.71	0.71
69:SJ:110:LEU:HA	69:SJ:113:GLN:HB2	1.71	0.71
10:LH:165:THR:HG21	10:LH:179:ILE:HD12	1.69	0.71
52:SI:65:PHE:O	52:SI:109:TYR:OH	2.07	0.71
3:LB:83:PRO:O	3:LB:167:GLN:NE2	2.21	0.71
44:L5:4024:G:N2	77:S6:76:A:O2'	2.23	0.71
67:SC:187:ARG:NH1	67:SC:189:GLY:O	2.23	0.71
78:Ll:44:TRP:CH2	78:Ll:45:ARG:HG3	2.25	0.71
19:LR:115:ILE:HB	19:LR:119:MET:HG3	1.72	0.71
44:L5:2365:A:H5'	44:L5:2442:G:H4'	1.73	0.71
8:LF:245:LYS:HE3	44:L5:1710:A:H4'	1.73	0.71
47:S2:944:U:O2'	71:SO:135:ILE:O	2.08	0.71
57:SR:103:LYS:HA	57:SR:106:LEU:HD12	1.73	0.71
15:LN:203:TYR:HB2	44:L5:1174:G:H4'	1.73	0.70
47:S2:107:A:H2'	47:S2:108:G:C8	2.26	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SH:43:LEU:HD21	51:SH:71:SER:HB3	1.73	0.70
12:LJ:164:ARG:HA	12:LJ:167:GLN:HG2	1.72	0.70
44:L5:3480:G:OP2	44:L5:3480:G:N2	2.22	0.70
50:SF:17:ILE:HG21	50:SF:46:ALA:HB1	1.72	0.70
9:LG:187:LYS:HG2	9:LG:198:THR:HB	1.74	0.70
26:LY:44:VAL:HG21	26:LY:119:LEU:HD12	1.73	0.70
28:La:65:ARG:NH1	44:L5:86:U:O2'	2.24	0.70
10:LH:187:VAL:HG23	10:LH:188:GLN:HG3	1.73	0.70
44:L5:1338:A:H62	44:L5:1465:G:H1	1.38	0.70
66:Sg:114:SER:H	66:Sg:120:ILE:HG22	1.55	0.70
28:La:106:SER:OG	44:L5:512:A:N6	2.24	0.70
44:L5:4573:G:OP2	44:L5:4573:G:N2	2.21	0.70
44:L5:1903:A:H3'	44:L5:1904:C:H5''	1.73	0.70
69:SJ:50:LEU:HD22	69:SJ:102:ILE:HA	1.74	0.70
4:SB:114:VAL:O	47:S2:1870:A:N6	2.25	0.70
8:LF:127:VAL:HG13	8:LF:158:VAL:HG12	1.72	0.70
16:LO:37:ARG:NH1	44:L5:4415:G:OP2	2.24	0.70
46:L8:51:U:OP2	78:L1:21:ARG:NH2	2.24	0.70
47:S2:862:A:O2'	47:S2:863:A:N7	2.23	0.70
4:SB:179:ASN:OD1	4:SB:187:LYS:NZ	2.21	0.70
28:La:38:MET:O	28:La:42:ARG:NH1	2.25	0.70
3:LB:103:LYS:NZ	44:L5:4378:C:OP1	2.24	0.70
12:LJ:167:GLN:HB2	12:LJ:172:GLY:HA2	1.74	0.69
16:LO:12:ARG:HB2	16:LO:37:ARG:HD3	1.73	0.69
47:S2:1288:A:H62	47:S2:1313:G:N2	1.90	0.69
68:SG:159:ARG:NH2	68:SG:171:THR:O	2.23	0.69
68:SG:32:MET:HE2	68:SG:65:GLN:HB2	1.72	0.69
71:SO:103:ASN:ND2	71:SO:140:THR:O	2.25	0.69
30:Lc:20:LEU:O	30:Lc:24:SER:HB3	1.92	0.69
3:LB:128:LYS:HG3	44:L5:4614:A:H5''	1.74	0.69
14:LM:116:LYS:NZ	44:L5:4525:C:OP2	2.25	0.69
47:S2:375:G:O2'	54:SL:84:ARG:NH2	2.26	0.69
47:S2:845:U:OP2	49:SE:240:ARG:NH2	2.26	0.69
58:SS:6:PRO:HD3	74:SZ:49:LEU:HD22	1.72	0.69
2:SA:5:LEU:HD13	61:SV:41:ARG:HA	1.73	0.69
12:LJ:108:GLY:HA3	44:L5:3904:A:H5''	1.74	0.69
43:Lr:28:GLU:OE2	43:Lr:31:ASN:ND2	2.22	0.69
44:L5:1572:G:H5'	44:L5:1573:A:H8	1.56	0.69
47:S2:799:G:H5''	51:SH:112:ASN:HA	1.73	0.69
60:SU:41:ARG:HA	60:SU:44:LYS:HB2	1.74	0.69
71:SO:97:LEU:HD11	71:SO:112:ALA:HB1	1.72	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LU:54:GLY:O	22:LU:55:ASN:ND2	2.25	0.69
22:LU:101:ARG:NH2	44:L5:2456:C:OP1	2.25	0.69
41:Lc:39:ARG:NH1	44:L5:294:A:OP2	2.25	0.69
47:S2:1227:G:N1	47:S2:1640:G:OP2	2.24	0.69
47:S2:1777:G:N2	47:S2:1778:G:N7	2.40	0.69
68:SG:54:GLY:HA2	68:SG:63:MET:HE2	1.74	0.69
2:SA:26:GLY:O	2:SA:150:THR:OG1	2.10	0.68
3:LB:322:HIS:O	3:LB:342:LYS:NZ	2.26	0.68
9:LG:73:ARG:NE	44:L5:3727:G:OP1	2.19	0.68
47:S2:1746:A:H1'	68:SG:66:GLY:HA2	1.75	0.68
48:SD:217:ILE:HG12	48:SD:218:LEU:H	1.58	0.68
3:LB:80:GLU:OE2	3:LB:328:ASN:ND2	2.24	0.68
4:SB:26:SER:O	4:SB:51:ARG:NH1	2.25	0.68
11:LI:183:ASP:N	11:LI:183:ASP:OD1	2.25	0.68
27:LZ:87:VAL:HG12	27:LZ:89:ILE:HG12	1.73	0.68
44:L5:1788:G:O2'	44:L5:1806:G:N7	2.26	0.68
30:Lc:13:SER:N	30:Lc:16:SER:HG	1.90	0.68
37:Lj:46:LYS:NZ	44:L5:24:G:N7	2.42	0.68
67:SC:205:VAL:O	67:SC:224:THR:OG1	2.09	0.68
25:LX:137:TYR:OH	44:L5:2193:U:OP1	2.11	0.68
47:S2:165:G:OP2	47:S2:165:G:N2	2.27	0.68
47:S2:1355:G:N2	47:S2:1358:A:OP2	2.21	0.68
1:LA:129:ALA:HB3	1:LA:132:ASN:HD22	1.59	0.68
64:Sc:20:ARG:HD2	64:Sc:28:THR:HG23	1.75	0.68
12:LJ:147:ARG:NH2	45:L7:5:A:OP1	2.24	0.68
31:Ld:19:GLU:OE1	31:Ld:92:ARG:NH1	2.27	0.68
47:S2:78:C:H1'	68:SG:175:LYS:HD2	1.73	0.68
55:SP:18:ARG:NH1	58:SS:88:LYS:O	2.26	0.68
6:LD:220:LYS:HZ2	6:LD:227:ILE:HD13	1.59	0.68
23:LV:19:GLY:O	44:L5:2600:G:O2'	2.10	0.68
2:SA:56:GLU:HG2	61:SV:79:VAL:HG13	1.76	0.68
3:LB:224:LYS:HG2	3:LB:340:THR:HG22	1.76	0.68
47:S2:686:A:H5''	72:SW:31:SER:HB3	1.76	0.68
47:S2:1025:A:OP2	70:SN:124:ARG:NH2	2.26	0.68
77:S6:58:A:O4'	77:S6:60:A:N6	2.27	0.68
2:SA:94:THR:HG23	2:SA:186:ARG:HH22	1.59	0.68
3:LB:199:GLU:OE2	3:LB:200:ARG:NH1	2.27	0.68
25:LX:67:ARG:NH1	46:L8:133:G:OP1	2.26	0.68
34:Lg:60:ARG:NH1	44:L5:2273:G:OP1	2.26	0.68
47:S2:151:C:N3	47:S2:168:C:N4	2.42	0.68
72:SW:70:ASN:ND2	72:SW:130:PHE:O	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1231:C:OP1	58:SS:130:ARG:NH2	2.27	0.67
37:Lj:49:TRP:O	44:L5:1460:A:O2'	2.12	0.67
3:LB:153:MET:HB3	3:LB:194:LEU:HD21	1.76	0.67
47:S2:1218:A:H2'	47:S2:1219:C:C6	2.29	0.67
53:SK:46:MET:HE2	53:SK:67:PHE:HD2	1.58	0.67
66:Sg:199:THR:HG21	66:Sg:240:CYS:HA	1.76	0.67
49:SE:21:ASP:OD2	49:SE:24:THR:OG1	2.12	0.67
52:SI:67:TRP:HE3	52:SI:70:GLU:HG2	1.59	0.67
66:Sg:107:ASP:OD2	66:Sg:125:ARG:NH1	2.24	0.67
1:LA:123:ARG:NH2	44:L5:3734:U:OP1	2.27	0.67
13:LL:4:SER:HB2	44:L5:1327:U:H4'	1.77	0.67
26:LY:91:ASN:N	26:LY:91:ASN:OD1	2.27	0.67
44:L5:2164:G:O6	78:LI:2:SER:N	2.28	0.67
73:SY:29:HIS:ND1	73:SY:32:LYS:O	2.27	0.67
3:LB:268:ARG:NH1	44:L5:3553:C:O2'	2.24	0.67
4:SB:219:LYS:NZ	42:Lp:89:LEU:O	2.25	0.67
11:LI:205:PRO:HG2	11:LI:208:LYS:HD3	1.75	0.67
44:L5:1562:G:H1	44:L5:1576:U:H3	1.42	0.67
77:S6:29:G:H1	77:S6:41:C:H5	1.39	0.67
18:LQ:40:ASN:ND2	44:L5:1264:C:OP1	2.26	0.67
25:LX:64:SER:OG	35:Lh:82:ASP:OD2	2.12	0.67
34:Lg:40:LYS:NZ	44:L5:2355:A:OP1	2.27	0.67
44:L5:1044:C:H5'	44:L5:1045:G:H5''	1.77	0.67
47:S2:222:U:H2'	47:S2:223:A:H8	1.59	0.67
47:S2:1497:U:H4'	65:Sd:24:CYS:HB2	1.76	0.67
47:S2:1715:U:H2'	47:S2:1716:A:C8	2.29	0.67
47:S2:335:C:OP2	68:SG:190:ARG:NH1	2.27	0.67
50:SF:24:SER:O	50:SF:107:ASN:ND2	2.26	0.67
7:LE:109:ASN:O	7:LE:113:ARG:NH1	2.28	0.67
22:LU:24:ASP:HB3	22:LU:111:GLU:HG2	1.77	0.67
49:SE:90:ILE:HD11	49:SE:101:LEU:HD22	1.77	0.67
51:SH:35:ASP:O	51:SH:78:ARG:NH2	2.27	0.67
3:LB:220:ILE:HD13	3:LB:278:THR:HG23	1.77	0.67
11:LI:191:ILE:HD11	11:LI:212:LEU:HD21	1.76	0.67
33:Lf:36:ARG:HB2	33:Lf:80:ASN:HA	1.77	0.67
44:L5:887:C:H42	44:L5:922:G:H1	1.42	0.67
44:L5:2459:G:H1	44:L5:2464:C:H5	1.42	0.67
44:L5:4561:G:O2'	44:L5:4562:G:OP2	2.13	0.67
47:S2:1315:U:O2'	53:SK:8:ARG:NH2	2.28	0.67
47:S2:1754:C:OP1	47:S2:1781:G:N2	2.28	0.67
48:SD:93:THR:HB	48:SD:96:LEU:HD23	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:4636:U:H2'	44:L5:4709:A:N7	2.10	0.66
49:SE:183:VAL:HG22	49:SE:225:ILE:HG22	1.75	0.66
3:LB:222:VAL:O	3:LB:343:ARG:NH1	2.29	0.66
3:LB:376:HIS:O	3:LB:378:ARG:NH2	2.27	0.66
7:LE:284:SER:HB3	33:Lf:3:GLY:HA3	1.78	0.66
43:Lr:66:ARG:NH1	43:Lr:75:THR:O	2.26	0.66
47:S2:582:U:H4'	73:SY:66:GLY:H	1.61	0.66
47:S2:929:G:H2'	47:S2:930:G:C8	2.30	0.66
47:S2:1018:U:OP2	70:SN:55:ARG:NH1	2.28	0.66
19:LR:39:GLN:NE2	44:L5:2465:G:OP2	2.27	0.66
49:SE:57:THR:HG22	49:SE:59:ASP:H	1.59	0.66
7:LE:113:ARG:NH2	44:L5:468:C:N3	2.35	0.66
47:S2:291:U:N3	47:S2:294:C:OP2	2.29	0.66
47:S2:923:A:OP1	72:SW:28:ARG:NH2	2.28	0.66
52:SI:79:ILE:HD13	52:SI:170:LYS:HG2	1.77	0.66
3:LB:140:ASP:HA	3:LB:143:LYS:HG2	1.77	0.66
7:LE:196:ARG:NH1	44:L5:4589:G:OP2	2.24	0.66
44:L5:1852:G:HO2'	44:L5:3541:U:HO2'	1.41	0.66
44:L5:4387:A:H1'	44:L5:4388:G:C8	2.31	0.66
47:S2:563:U:C2	47:S2:588:A:N7	2.64	0.66
47:S2:1601:G:H4'	74:SZ:43:LYS:HE2	1.77	0.66
49:SE:51:ARG:NH2	49:SE:109:PHE:O	2.29	0.66
37:Lj:55:ARG:NH1	44:L5:363:G:O6	2.25	0.66
47:S2:1403:A:H5'	60:SU:51:LYS:HG2	1.78	0.66
3:LB:302:ASN:HB3	3:LB:313:SER:HA	1.78	0.66
10:LH:59:LYS:HE3	10:LH:66:GLU:HB3	1.78	0.66
20:LS:19:THR:HG23	20:LS:21:LYS:H	1.60	0.66
44:L5:3415:U:O2'	44:L5:3422:G:N1	2.28	0.66
47:S2:984:A:H2	71:SO:139:SER:HB3	1.60	0.66
47:S2:1016:U:O2'	70:SN:55:ARG:NH1	2.28	0.66
47:S2:1598:C:OP2	74:SZ:85:ARG:NH2	2.27	0.66
47:S2:1744:G:H21	47:S2:1792:A:N6	1.94	0.66
56:SQ:86:GLN:HE22	56:SQ:122:ALA:HA	1.61	0.66
12:LJ:43:LEU:HD13	12:LJ:117:ILE:HD11	1.77	0.66
13:LL:70:VAL:H	13:LL:159:ASN:HD21	1.44	0.66
33:Lf:76:ARG:NH2	44:L5:1708:U:OP2	2.29	0.66
44:L5:1468:G:N2	44:L5:1492:C:OP1	2.29	0.66
54:SL:38:LYS:NZ	54:SL:66:VAL:O	2.25	0.66
70:SN:99:ARG:NH2	70:SN:119:GLU:OE2	2.28	0.66
23:LV:85:ARG:NH2	44:L5:2600:G:OP1	2.29	0.66
44:L5:719:A:H2'	44:L5:720:C:C6	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:126:G:OP1	68:SG:198:ARG:NH1	2.27	0.66
56:SQ:31:LEU:HD22	56:SQ:69:ARG:HH21	1.61	0.66
71:SO:74:ALA:HB1	71:SO:115:ALA:HB2	1.76	0.66
6:LD:265:ARG:HD2	45:L7:1:G:H4'	1.77	0.66
11:LI:203:ARG:NH1	45:L7:105:C:OP2	2.29	0.66
28:La:75:LEU:HD22	28:La:113:GLY:HA2	1.78	0.66
44:L5:886:U:H2'	44:L5:887:C:C6	2.31	0.65
47:S2:1302:A:O2'	65:Sd:3:HIS:N	2.29	0.65
56:SQ:43:GLU:HB2	56:SQ:81:ILE:HD11	1.78	0.65
57:SR:78:ARG:O	57:SR:82:ASP:HB2	1.96	0.65
59:ST:134:ILE:HA	59:ST:137:GLN:HG3	1.76	0.65
27:LZ:115:LYS:NZ	27:LZ:119:GLU:OE2	2.29	0.65
47:S2:829:G:OP1	69:SJ:6:SER:OG	2.13	0.65
47:S2:865:A:H2'	47:S2:866:A:H8	1.59	0.65
47:S2:1303:G:OP1	65:Sd:3:HIS:NE2	2.29	0.65
21:LT:63:ARG:HH22	29:Lb:30:GLU:HG3	1.60	0.65
44:L5:1026:C:H2'	44:L5:1027:G:C8	2.31	0.65
44:L5:3443:U:OP1	44:L5:4203:G:O2'	2.13	0.65
47:S2:982:A:H2'	47:S2:983:G:C8	2.32	0.65
47:S2:1222:G:O2'	47:S2:1677:U:O2	2.12	0.65
3:LB:168:MET:HA	3:LB:171:LEU:HD12	1.77	0.65
44:L5:3374:A:H2'	44:L5:3375:A:C8	2.31	0.65
44:L5:3530:G:H2'	44:L5:3531:G:C8	2.31	0.65
50:SF:143:PRO:HA	50:SF:146:ARG:HG2	1.78	0.65
56:SQ:49:TYR:HD1	56:SQ:52:LEU:HD11	1.62	0.65
67:SC:252:THR:OG1	67:SC:254:ASP:OD1	2.13	0.65
7:LE:242:ASP:OD1	7:LE:242:ASP:N	2.28	0.65
8:LF:157:ILE:HD11	44:L5:1529:U:H5'	1.78	0.65
47:S2:77:A:H2	68:SG:175:LYS:HG3	1.59	0.65
47:S2:617:A:OP1	62:SX:68:LYS:NZ	2.29	0.65
47:S2:875:G:H2'	47:S2:876:A:H8	1.61	0.65
47:S2:1589:A:H2'	47:S2:1590:A:C8	2.32	0.65
50:SF:170:ALA:HB3	74:SZ:106:GLN:HE22	1.62	0.65
16:LO:166:MET:SD	16:LO:169:ARG:NH2	2.70	0.65
47:S2:218:C:H5'	49:SE:134:LYS:HZ3	1.62	0.65
9:LG:37:LYS:NZ	44:L5:3777:C:OP1	2.30	0.65
11:LI:145:LYS:HE3	11:LI:167:ILE:HG13	1.77	0.65
33:Lf:36:ARG:NH2	33:Lf:79:GLY:O	2.27	0.65
38:Lk:8:ILE:HG12	38:Lk:45:LEU:HD21	1.78	0.65
44:L5:515:U:O2	44:L5:655:G:O6	2.14	0.65
44:L5:2602:G:O2'	44:L5:3495:U:O4	2.10	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:3759:G:H2'	44:L5:3760:G:H8	1.61	0.65
5:LC:204:ARG:NH2	5:LC:205:ARG:O	2.29	0.65
8:LF:201:LEU:HB3	8:LF:206:ILE:HB	1.79	0.65
44:L5:3913:U:H2'	44:L5:3914:C:C6	2.32	0.65
47:S2:640:C:H2'	47:S2:641:A:H8	1.62	0.65
47:S2:1486:U:OP1	48:SD:151:LYS:NZ	2.29	0.65
58:SS:86:ARG:HH12	58:SS:90:VAL:HG22	1.62	0.65
66:Sg:192:THR:OG1	66:Sg:213:ASP:OD2	2.14	0.65
71:SO:86:LYS:NZ	71:SO:122:SER:O	2.26	0.65
2:SA:21:ALA:O	2:SA:23:THR:OG1	2.15	0.65
44:L5:189:G:H1	44:L5:252:G:N2	1.92	0.65
39:Lm:124:LYS:NZ	44:L5:4126:A:OP1	2.30	0.65
44:L5:515:U:C2	44:L5:655:G:O6	2.49	0.65
49:SE:92:ILE:HD11	49:SE:97:GLU:H	1.61	0.65
70:SN:142:GLU:O	70:SN:146:ALA:HB2	1.95	0.65
31:Ld:69:ASN:ND2	44:L5:2129:U:O2'	2.29	0.64
41:Lo:44:LYS:HE3	41:Lo:52:THR:HB	1.79	0.64
50:SF:141:VAL:HG13	50:SF:145:ARG:HD3	1.78	0.64
54:SL:3:ASP:OD1	54:SL:4:ILE:N	2.30	0.64
57:SR:23:ARG:HB3	66:Sg:170:TRP:HZ3	1.61	0.64
47:S2:1102:U:OP1	57:SR:132:ARG:NH1	2.30	0.64
47:S2:1522:C:OP2	58:SS:136:THR:OG1	2.14	0.64
71:SO:75:MET:SD	71:SO:79:GLN:NE2	2.70	0.64
2:SA:9:GLN:NE2	2:SA:10:MET:SD	2.70	0.64
23:LV:90:ARG:NH2	23:LV:140:ALA:OXT	2.27	0.64
19:LR:62:ARG:NH2	44:L5:4301:A:OP1	2.30	0.64
47:S2:368:U:H4'	47:S2:372:A:C8	2.32	0.64
57:SR:74:GLN:HA	57:SR:77:GLU:HB2	1.77	0.64
33:Lf:37:ASP:N	33:Lf:37:ASP:OD1	2.30	0.64
47:S2:641:A:H2'	47:S2:642:A:C8	2.33	0.64
47:S2:1580:A:O2'	47:S2:1582:C:OP2	2.13	0.64
51:SH:30:LEU:HD11	51:SH:82:GLU:HG2	1.79	0.64
4:SB:89:GLU:OE2	4:SB:99:ASN:ND2	2.29	0.64
16:LO:105:LEU:HD22	16:LO:109:PRO:HG2	1.79	0.64
19:LR:63:CYS:O	19:LR:67:THR:HG23	1.98	0.64
41:Lo:33:LEU:HA	41:Lo:38:LYS:HG2	1.80	0.64
44:L5:1027:G:H2'	44:L5:1028:G:H8	1.63	0.64
47:S2:71:G:O6	68:SG:170:ARG:NH1	2.31	0.64
47:S2:1537:G:H2'	47:S2:1538:A:H8	1.60	0.64
66:Sg:41:ILE:HG23	66:Sg:58:ALA:HB2	1.79	0.64
66:Sg:168:CYS:SG	66:Sg:195:LEU:HB3	2.38	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SU:30:LYS:HA	60:SU:33:GLU:HG2	1.80	0.64
71:SO:103:ASN:HD21	71:SO:140:THR:HB	1.63	0.64
26:LY:121:ARG:NH2	44:L5:194:C:O2	2.30	0.64
42:Lp:4:ARG:NH1	44:L5:1369:G:O6	2.29	0.64
47:S2:1782:A:N3	47:S2:1783:G:N1	2.46	0.64
3:LB:213:GLN:HE22	3:LB:286:LYS:HA	1.63	0.64
44:L5:368:G:N2	44:L5:371:A:OP2	2.27	0.64
47:S2:1159:G:H5'	72:SW:76:SER:HB3	1.79	0.64
51:SH:47:ALA:HB3	51:SH:63:PHE:HB2	1.80	0.64
5:LC:211:TYR:HE2	5:LC:229:LEU:HB3	1.62	0.63
6:LD:64:ILE:HD12	6:LD:109:LEU:HD22	1.80	0.63
44:L5:741:A:H62	44:L5:829:G:H21	1.44	0.63
44:L5:2460:G:N2	44:L5:2464:C:OP2	2.30	0.63
44:L5:3603:G:H1	44:L5:3718:U:H3	1.46	0.63
47:S2:529:A:H2'	47:S2:530:A:C8	2.32	0.63
47:S2:1739:C:OP1	68:SG:92:ARG:NH1	2.30	0.63
48:SD:22:ASN:O	48:SD:26:THR:OG1	2.16	0.63
48:SD:74:GLN:HA	48:SD:79:PHE:HB2	1.80	0.63
67:SC:102:LEU:HD22	67:SC:130:ILE:HG12	1.80	0.63
32:Le:57:ASN:OD1	44:L5:1702:G:O2'	2.14	0.63
41:Lo:45:GLN:NE2	41:Lo:52:THR:OG1	2.31	0.63
47:S2:57:U:O2'	47:S2:500:G:N3	2.31	0.63
47:S2:558:U:H2'	47:S2:559:G:H8	1.61	0.63
47:S2:995:C:N4	63:Sa:14:GLY:O	2.27	0.63
64:Sc:18:LEU:HB2	64:Sc:29:GLN:HB2	1.80	0.63
42:Lp:59:SER:O	44:L5:2406:G:N2	2.31	0.63
44:L5:3389:A:H2'	44:L5:3390:A:C8	2.33	0.63
47:S2:678:G:N1	47:S2:1028:A:OP2	2.25	0.63
60:SU:94:PRO:HD2	60:SU:97:ILE:HD11	1.79	0.63
66:Sg:181:ASN:HD21	66:Sg:183:LYS:HB2	1.63	0.63
2:SA:34:MET:HG2	2:SA:154:LEU:HD11	1.80	0.63
47:S2:375:G:OP2	54:SL:135:SER:OG	2.15	0.63
69:SJ:110:LEU:HB3	69:SJ:149:VAL:HB	1.80	0.63
2:SA:51:LEU:H	57:SR:105:MET:HE3	1.63	0.63
11:LI:48:LEU:O	11:LI:139:ARG:HA	1.99	0.63
29:Lb:36:ASP:HB3	29:Lb:39:PHE:HB3	1.81	0.63
44:L5:1367:A:N6	44:L5:1388:G:H1'	2.12	0.63
44:L5:3367:G:H4'	44:L5:3368:A:H5'	1.80	0.63
52:SI:67:TRP:HB3	52:SI:70:GLU:HG2	1.80	0.63
66:Sg:15:ASN:HD22	66:Sg:305:ASN:HD21	1.45	0.63
73:SY:91:LEU:HD22	73:SY:96:LEU:HD12	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LB:136:LYS:HB2	3:LB:142:GLY:HA3	1.81	0.63
12:LJ:91:GLU:HB3	12:LJ:93:GLU:HB3	1.79	0.63
18:LQ:35:LEU:O	18:LQ:39:THR:HB	1.98	0.63
44:L5:1537:G:N2	44:L5:1538:U:O4	2.24	0.63
44:L5:2225:U:O2'	44:L5:2263:G:N2	2.29	0.63
47:S2:1018:U:H5'	70:SN:55:ARG:HD3	1.80	0.63
59:ST:31:PRO:HB3	59:ST:102:ARG:HH21	1.64	0.63
3:LB:143:LYS:HA	3:LB:146:LEU:HD12	1.81	0.63
18:LQ:70:MET:HE1	18:LQ:137:VAL:HB	1.81	0.63
44:L5:67:C:OP2	44:L5:311:G:N2	2.30	0.63
44:L5:2301:G:N2	46:L8:125:C:OP1	2.32	0.63
47:S2:110:U:O2	47:S2:352:G:O6	2.17	0.63
67:SC:137:VAL:HG21	67:SC:244:ILE:HD12	1.80	0.63
72:SW:26:LEU:HB2	75:Sb:7:LEU:HD23	1.80	0.63
77:S6:54:A:H4'	77:S6:55:U:OP1	1.97	0.63
13:LL:46:ILE:HB	13:LL:49:ARG:HB2	1.81	0.63
31:Ld:57:MET:O	31:Ld:59:THR:N	2.32	0.63
1:LA:137:ILE:HD11	1:LA:149:LYS:HB2	1.81	0.62
35:Lh:87:LYS:NZ	37:Lj:78:PHE:O	2.32	0.62
47:S2:821:U:OP1	69:SJ:83:ARG:NH1	2.32	0.62
47:S2:1529:G:O2'	47:S2:1667:C:OP1	2.17	0.62
16:LO:54:TYR:HD2	16:LO:145:VAL:HG21	1.64	0.62
44:L5:1122:A:H2'	44:L5:1123:C:C6	2.34	0.62
44:L5:1736:G:H2'	44:L5:1737:A:C8	2.34	0.62
44:L5:2563:G:O2'	44:L5:4297:G:OP1	2.17	0.62
44:L5:3256:A:H2'	44:L5:3257:G:C8	2.34	0.62
47:S2:1349:G:OP1	67:SC:123:ARG:NH2	2.32	0.62
50:SF:61:PHE:CZ	64:Sc:51:ARG:HB2	2.34	0.62
68:SG:194:LEU:HA	68:SG:197:GLN:HE21	1.63	0.62
9:LG:52:THR:O	46:L8:150:C:N4	2.32	0.62
37:Lj:31:LYS:NZ	44:L5:1346:G:OP2	2.29	0.62
39:Lm:100:TYR:O	44:L5:4125:G:O2'	2.16	0.62
44:L5:4286:G:O2'	44:L5:4288:A:OP2	2.11	0.62
44:L5:699:C:H2'	44:L5:700:A:C8	2.34	0.62
44:L5:1294:C:O2'	44:L5:1296:G:OP2	2.17	0.62
44:L5:1572:G:H5'	44:L5:1573:A:C8	2.33	0.62
47:S2:222:U:H2'	47:S2:223:A:C8	2.33	0.62
5:LC:223:ASN:ND2	44:L5:223:G:N3	2.47	0.62
12:LJ:112:HIS:HD2	12:LJ:126:TYR:H	1.47	0.62
15:LN:184:ILE:HD13	44:L5:99:A:H5''	1.81	0.62
47:S2:65:C:H42	68:SG:133:LEU:HB3	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SD:109:LEU:HD21	48:SD:115:VAL:HA	1.80	0.62
7:LE:153:THR:O	7:LE:156:THR:OG1	2.16	0.62
17:LP:82:ARG:NH2	44:L5:2119:U:OP1	2.27	0.62
43:Lr:100:ASN:HD21	44:L5:477:G:H21	1.48	0.62
47:S2:384:G:O2'	54:SL:133:PRO:O	2.16	0.62
47:S2:1014:U:OP1	47:S2:1130:G:O2'	2.18	0.62
51:SH:87:PHE:HB3	51:SH:90:LYS:HB2	1.82	0.62
52:SI:162:LEU:HD12	52:SI:165:GLN:HE21	1.64	0.62
66:Sg:33:SER:OG	66:Sg:43:TRP:NE1	2.32	0.62
44:L5:93:G:H2'	44:L5:94:A:C8	2.33	0.62
44:L5:1007:G:H1	44:L5:1019:U:H3	1.48	0.62
44:L5:2316:G:O6	44:L5:2322:A:N1	2.32	0.62
47:S2:16:G:H2'	47:S2:17:C:C6	2.35	0.62
2:SA:108:PHE:HB2	2:SA:136:GLU:HG2	1.82	0.62
13:LL:63:THR:HG21	28:La:66:ASN:HD22	1.64	0.62
13:LL:125:ILE:HD11	35:Lh:122:LYS:HE3	1.82	0.62
15:LN:185:GLY:HA3	15:LN:194:ARG:HH22	1.65	0.62
17:LP:62:ARG:NH2	44:L5:422:G:OP1	2.32	0.62
44:L5:4640:G:H2'	44:L5:4641:G:C8	2.35	0.62
47:S2:1280:C:H2'	47:S2:1281:G:C8	2.35	0.62
47:S2:1416:C:O2'	59:ST:132:ASP:OD2	2.17	0.62
6:LD:164:LYS:HD3	6:LD:195:HIS:HE1	1.64	0.62
22:LU:25:CYS:HB3	22:LU:112:LEU:HD22	1.82	0.62
23:LV:111:GLU:HG3	23:LV:131:ARG:HG3	1.82	0.62
47:S2:319:A:H61	68:SG:186:GLN:HE22	1.46	0.62
47:S2:1747:U:OP1	68:SG:31:ARG:NH2	2.33	0.62
8:LF:204:PHE:HB3	8:LF:222:ARG:HG3	1.82	0.62
44:L5:2412:G:N2	44:L5:2430:A:OP2	2.30	0.62
44:L5:3927:A:H2'	44:L5:3928:G:C8	2.35	0.62
44:L5:4190:C:H2'	44:L5:4191:G:C8	2.35	0.62
66:Sg:186:THR:C	66:Sg:187:ASN:HD22	2.08	0.62
12:LJ:93:GLU:HA	12:LJ:173:ILE:HG21	1.82	0.61
13:LL:63:THR:HG23	13:LL:65:ARG:H	1.64	0.61
44:L5:2314:G:H1	44:L5:2324:G:N2	1.97	0.61
70:SN:91:LEU:HB3	70:SN:122:ILE:HG12	1.82	0.61
73:SY:110:ARG:O	73:SY:114:MET:HG3	1.99	0.61
44:L5:2299:G:H2'	44:L5:2300:A:C8	2.36	0.61
44:L5:4551:C:H2'	44:L5:4552:C:C6	2.35	0.61
47:S2:385:U:O4	52:SI:5:ARG:NH2	2.26	0.61
60:SU:32:LEU:HD11	60:SU:87:ARG:HD3	1.81	0.61
41:Lo:44:LYS:NZ	44:L5:43:U:O2	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:1154:U:H2'	44:L5:1155:C:C6	2.35	0.61
44:L5:1173:A:O2'	44:L5:1175:G:O6	2.12	0.61
44:L5:3298:U:H5	44:L5:3303:A:N7	1.97	0.61
44:L5:4615:A:H2'	44:L5:4616:A:C8	2.35	0.61
47:S2:943:G:H21	71:SO:137:SER:HB2	1.64	0.61
47:S2:1670:G:OP1	60:SU:79:ARG:NH1	2.33	0.61
56:SQ:102:GLU:OE2	66:Sg:58:ALA:N	2.28	0.61
73:SY:26:ASP:HB3	73:SY:68:LYS:HE2	1.82	0.61
8:LF:166:TYR:CE2	8:LF:259:GLU:HB3	2.35	0.61
10:LH:140:GLN:HB3	10:LH:143:GLU:HG2	1.81	0.61
33:Lf:35:ALA:HB3	33:Lf:38:GLU:HG3	1.83	0.61
44:L5:1002:G:H2'	44:L5:1003:G:H8	1.64	0.61
47:S2:1257:G:N2	65:Sd:30:LEU:O	2.31	0.61
73:SY:94:HIS:ND1	73:SY:94:HIS:O	2.32	0.61
7:LE:50:HIS:CD2	7:LE:51:CYS:H	2.19	0.61
30:Lc:26:LYS:HB2	30:Lc:98:ASP:HB3	1.82	0.61
35:Lh:33:VAL:O	35:Lh:37:THR:OG1	2.19	0.61
44:L5:2277:C:O2	44:L5:2394:G:N2	2.34	0.61
47:S2:1674:U:O2'	50:SF:84:GLY:O	2.18	0.61
56:SQ:52:LEU:HD13	56:SQ:56:LEU:HD23	1.82	0.61
66:Sg:178:ASN:ND2	66:Sg:181:ASN:OD1	2.32	0.61
51:SH:157:HIS:HB3	51:SH:190:PRO:HG3	1.82	0.61
6:LD:107:ARG:NH1	6:LD:169:GLY:O	2.31	0.61
7:LE:254:ARG:NH2	44:L5:4588:C:O2'	2.34	0.61
30:Lc:38:ILE:HG21	30:Lc:63:TYR:HB3	1.82	0.61
58:SS:45:LEU:HD23	58:SS:50:ILE:HB	1.82	0.61
66:Sg:82:SER:OG	66:Sg:84:ASP:OD1	2.18	0.61
47:S2:873:A:O2'	47:S2:875:G:OP2	2.18	0.61
47:S2:1232:C:O2'	47:S2:1254:A:N6	2.34	0.61
17:LP:126:ARG:HG2	17:LP:140:MET:HE1	1.83	0.61
44:L5:2277:C:H2'	44:L5:2278:G:H8	1.66	0.61
47:S2:1596:U:H2'	47:S2:1597:U:C6	2.36	0.61
48:SD:67:ARG:NH2	53:SK:94:LEU:O	2.34	0.61
57:SR:44:LYS:O	57:SR:48:ASN:ND2	2.33	0.61
58:SS:105:ASN:HD22	58:SS:108:ARG:HH12	1.49	0.61
68:SG:98:ARG:NH2	68:SG:101:ILE:O	2.33	0.61
30:Lc:47:ILE:HB	30:Lc:94:LEU:HG	1.83	0.61
44:L5:1328:U:H2'	44:L5:1329:A:C8	2.36	0.61
47:S2:146:G:H2'	47:S2:147:A:H8	1.65	0.61
47:S2:1552:U:OP1	48:SD:9:ARG:NH1	2.34	0.61
68:SG:159:ARG:HE	68:SG:171:THR:HG23	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SO:98:ARG:HH21	71:SO:134:PRO:HG2	1.65	0.61
48:SD:95:GLY:HA2	48:SD:101:GLN:HE21	1.66	0.60
10:LH:34:LEU:HD12	10:LH:84:VAL:HG13	1.83	0.60
16:LO:54:TYR:CD2	16:LO:145:VAL:HG21	2.36	0.60
44:L5:1182:U:O2'	44:L5:1184:C:OP2	2.18	0.60
47:S2:17:C:H2'	47:S2:18:C:C6	2.36	0.60
47:S2:1302:A:HO2'	65:SD:3:HIS:N	1.98	0.60
47:S2:1824:A:O2'	62:SX:58:GLU:OE1	2.18	0.60
66:Sg:286:CYS:HA	66:Sg:302:TYR:HA	1.81	0.60
73:SY:77:ASP:OD1	73:SY:77:ASP:N	2.31	0.60
12:LJ:91:GLU:OE2	55:SP:12:PHE:N	2.35	0.60
13:LL:80:GLU:OE2	13:LL:102:ARG:NH1	2.34	0.60
24:LW:45:ASN:HB3	24:LW:48:GLN:HG2	1.83	0.60
47:S2:863:A:N3	72:SW:105:THR:OG1	2.34	0.60
53:SK:63:ALA:HB2	53:SK:68:TYR:HE1	1.66	0.60
9:LG:231:ASP:O	9:LG:235:ARG:NH1	2.34	0.60
44:L5:687:C:H2'	44:L5:688:G:H8	1.67	0.60
56:SQ:16:LYS:HD2	56:SQ:17:LYS:HG3	1.83	0.60
18:LQ:110:ARG:HG3	18:LQ:120:ILE:HD12	1.83	0.60
19:LR:60:ARG:NH1	44:L5:2370:C:OP1	2.34	0.60
20:LS:111:ARG:NH1	44:L5:1865:C:O2'	2.35	0.60
47:S2:1754:C:H5'	47:S2:1781:G:N2	2.17	0.60
66:Sg:173:LEU:HD21	66:Sg:189:ILE:HG12	1.84	0.60
69:SJ:109:ARG:HG2	69:SJ:148:ILE:HG12	1.83	0.60
10:LH:23:ARG:NH2	10:LH:41:ILE:O	2.35	0.60
27:LZ:50:PRO:HD3	27:LZ:68:ILE:HG13	1.83	0.60
28:La:119:LYS:HA	28:La:140:VAL:HG22	1.84	0.60
44:L5:508:G:H22	44:L5:661:U:H3	1.50	0.60
44:L5:4636:U:H3'	44:L5:4709:A:H62	1.66	0.60
47:S2:878:C:H2'	47:S2:879:G:C8	2.37	0.60
47:S2:1627:C:H2'	47:S2:1628:C:H6	1.67	0.60
10:LH:16:VAL:HG13	10:LH:28:LYS:HG3	1.84	0.60
47:S2:380:C:OP2	52:SI:181:GLN:NE2	2.34	0.60
51:SH:73:GLN:HA	51:SH:76:GLN:HB2	1.83	0.60
56:SQ:104:SER:O	56:SQ:108:ILE:HG13	2.02	0.60
3:LB:124:LYS:NZ	44:L5:4711:G:O6	2.25	0.60
6:LD:223:PHE:HB3	6:LD:226:TYR:HB2	1.82	0.60
7:LE:103:THR:OG1	7:LE:104:VAL:N	2.34	0.60
44:L5:3739:C:H2'	44:L5:3740:G:C8	2.37	0.60
47:S2:1399:G:O2'	66:Sg:88:ARG:NH2	2.34	0.60
50:SF:114:ASN:O	50:SF:118:ASN:ND2	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SR:31:ASN:HD22	57:SR:55:THR:HG22	1.65	0.60
58:SS:5:ILE:HA	74:SZ:49:LEU:HB3	1.84	0.60
5:LC:66:SER:HA	5:LC:77:PRO:HA	1.83	0.60
6:LD:289:ARG:NH1	44:L5:1012:U:OP2	2.35	0.60
44:L5:1256:C:O2'	44:L5:1257:A:O4'	2.20	0.60
47:S2:920:A:OP2	70:SN:64:ARG:NH2	2.32	0.60
49:SE:63:LYS:O	49:SE:67:GLN:NE2	2.34	0.60
1:LA:184:ARG:HH12	44:L5:2492:C:H5''	1.67	0.60
4:SB:204:ILE:O	47:S2:1122:G:O2'	2.20	0.60
8:LF:258:ARG:HB2	8:LF:261:GLN:HB2	1.83	0.60
15:LN:12:ARG:NH1	44:L5:307:G:O6	2.34	0.60
26:LY:28:LYS:HE3	44:L5:240:G:H5''	1.83	0.60
46:L8:80:A:H5'	46:L8:81:C:OP2	2.02	0.60
47:S2:157:U:O2'	47:S2:159:A:N7	2.25	0.60
47:S2:875:G:H2'	47:S2:876:A:C8	2.37	0.60
29:Lb:112:LYS:HA	29:Lb:115:ARG:HD3	1.83	0.59
30:Lc:38:ILE:HD11	30:Lc:46:VAL:HG21	1.84	0.59
44:L5:1023:C:H2'	44:L5:1024:C:O4'	2.01	0.59
44:L5:3358:C:H5'	44:L5:3403:A:H61	1.67	0.59
47:S2:564:G:OP2	47:S2:587:G:N2	2.35	0.59
47:S2:1172:G:O2'	47:S2:1188:G:O6	2.17	0.59
3:LB:369:ASP:OD2	3:LB:371:THR:OG1	2.20	0.59
13:LL:130:LYS:HE2	13:LL:132:SER:HB3	1.83	0.59
35:Lh:12:LYS:NZ	35:Lh:20:GLN:OE1	2.34	0.59
44:L5:1123:C:H2'	44:L5:1124:C:C6	2.37	0.59
44:L5:4564:C:H2'	44:L5:4565:G:C8	2.37	0.59
47:S2:1093:G:H2'	47:S2:1094:A:H8	1.67	0.59
63:Sa:45:VAL:HG21	63:Sa:64:LEU:HD13	1.84	0.59
66:Sg:20:GLN:OE1	66:Sg:68:ASP:HB2	2.02	0.59
69:SJ:88:ASP:HB2	69:SJ:91:LYS:HB2	1.83	0.59
4:SB:124:HIS:HA	4:SB:137:LEU:O	2.02	0.59
44:L5:2277:C:H2'	44:L5:2278:G:C8	2.37	0.59
56:SQ:16:LYS:HD2	56:SQ:17:LYS:H	1.67	0.59
56:SQ:146:ARG:NH2	77:S6:35:A:OP2	2.34	0.59
60:SU:51:LYS:HB2	60:SU:90:ASP:HB3	1.84	0.59
66:Sg:148:SER:OG	66:Sg:171:ASP:OD1	2.20	0.59
16:LO:49:ARG:NH2	44:L5:1733:U:OP2	2.34	0.59
44:L5:950:G:N2	44:L5:1035:U:O2	2.28	0.59
44:L5:3505:U:H2'	44:L5:3506:A:C8	2.37	0.59
47:S2:508:G:OP1	73:SY:108:LYS:NZ	2.34	0.59
66:Sg:5:MET:HE1	66:Sg:8:ARG:HH21	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:Sg:24:THR:HB	66:Sg:26:GLN:HG2	1.84	0.59
68:SG:3:LEU:O	68:SG:15:LEU:HA	2.01	0.59
70:SN:52:VAL:HG23	70:SN:55:ARG:HH21	1.67	0.59
2:SA:33:GLN:HB3	2:SA:154:LEU:HD12	1.83	0.59
9:LG:46:GLN:OE1	9:LG:49:ARG:NH2	2.30	0.59
26:LY:8:THR:OG1	44:L5:346:A:OP2	2.17	0.59
44:L5:3370:U:H3'	44:L5:3371:G:C5'	2.32	0.59
44:L5:4177:G:OP1	44:L5:4212:A:N6	2.35	0.59
54:SL:86:ILE:HD13	54:SL:113:LEU:HD22	1.85	0.59
73:SY:44:LEU:HD13	73:SY:55:ILE:HD11	1.84	0.59
1:LA:72:ARG:NH2	44:L5:3735:G:O6	2.35	0.59
3:LB:107:ALA:HB2	3:LB:201:LEU:HG	1.84	0.59
16:LO:61:ARG:HA	16:LO:70:PRO:HD2	1.83	0.59
21:LT:1:MET:HB2	44:L5:3872:A:H5''	1.83	0.59
44:L5:3269:C:H5'	52:SI:92:ARG:NH2	2.18	0.59
47:S2:115:U:H2'	47:S2:116:U:C6	2.37	0.59
52:SI:36:THR:OG1	52:SI:57:ALA:O	2.15	0.59
53:SK:1:MET:HB3	53:SK:3:MET:HE2	1.84	0.59
60:SU:103:SER:O	60:SU:103:SER:OG	2.20	0.59
73:SY:105:LYS:O	73:SY:109:GLU:HG3	2.03	0.59
16:LO:34:VAL:HG22	16:LO:103:LYS:HB3	1.85	0.59
32:Le:108:ARG:HD2	32:Le:128:ARG:HB2	1.83	0.59
44:L5:687:C:H2'	44:L5:688:G:C8	2.38	0.59
44:L5:4548:C:H3'	44:L5:4549:G:H8	1.66	0.59
47:S2:657:G:O2'	67:SC:227:ARG:NH2	2.36	0.59
47:S2:1384:A:H4'	48:SD:156:LEU:HD22	1.84	0.59
47:S2:1447:A:HO2'	47:S2:1448:G:H8	1.48	0.59
47:S2:1759:G:O2'	47:S2:1775:C:N4	2.36	0.59
48:SD:195:SER:O	48:SD:201:LYS:NZ	2.36	0.59
66:Sg:92:LEU:HD12	66:Sg:93:THR:HG23	1.84	0.59
69:SJ:60:LEU:HD13	69:SJ:74:GLY:HA2	1.85	0.59
3:LB:317:LEU:HD11	3:LB:382:MET:HG3	1.85	0.59
44:L5:718:G:H2'	44:L5:719:A:H8	1.67	0.59
44:L5:1223:C:O2'	44:L5:1224:C:O4'	2.09	0.59
47:S2:319:A:N6	68:SG:186:GLN:HE22	2.01	0.59
13:LL:48:PRO:HB2	35:Lh:120:ALA:HB2	1.85	0.59
44:L5:465:A:N3	44:L5:466:U:H1'	2.17	0.59
44:L5:1571:C:O2	44:L5:1573:A:N6	2.35	0.59
47:S2:1616:U:O4	55:SP:40:ARG:NH2	2.36	0.59
52:SI:165:GLN:HA	52:SI:168:GLN:HG3	1.84	0.59
62:SX:41:PHE:HZ	62:SX:102:VAL:HG12	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:Se:105:ARG:HH22	76:Se:109:ARG:HH11	1.51	0.59
31:Ld:33:ILE:HG22	31:Ld:44:ARG:HG3	1.85	0.59
35:Lh:104:THR:OG1	35:Lh:107:GLN:NE2	2.35	0.59
46:L8:52:A:N6	78:L1:27:ILE:HD12	2.18	0.59
48:SD:150:MET:HG2	48:SD:152:PHE:CE2	2.38	0.59
68:SG:75:LEU:O	68:SG:94:ARG:HA	2.03	0.59
70:SN:15:ALA:HA	75:Sb:26:GLN:HE21	1.66	0.59
73:SY:23:MET:HE1	73:SY:75:ILE:HG12	1.85	0.59
1:LA:115:CYS:SG	1:LA:124:GLY:HA3	2.43	0.58
44:L5:807:C:H2'	44:L5:808:G:H8	1.68	0.58
44:L5:3271:G:O2'	44:L5:3272:G:OP1	2.15	0.58
47:S2:1547:G:H5''	56:SQ:18:THR:HG21	1.85	0.58
49:SE:66:MET:HE3	49:SE:78:THR:HG22	1.85	0.58
49:SE:143:ASP:HB2	49:SE:145:ARG:HG3	1.84	0.58
51:SH:154:ILE:HB	51:SH:185:VAL:HG12	1.84	0.58
9:LG:148:GLU:OE2	15:LN:6:TYR:OH	2.18	0.58
44:L5:4544:G:N2	44:L5:4569:U:O2	2.36	0.58
47:S2:477:A:N3	47:S2:489:U:O2'	2.28	0.58
66:Sg:216:ALA:HB3	66:Sg:230:LEU:HB3	1.85	0.58
69:SJ:84:ILE:O	69:SJ:108:ARG:NH1	2.36	0.58
2:SA:89:LYS:NZ	57:SR:81:ARG:O	2.29	0.58
2:SA:185:MET:HG2	2:SA:191:ARG:HH12	1.69	0.58
5:LC:152:LEU:HD23	5:LC:251:ILE:HG12	1.85	0.58
26:LY:52:ASP:HB3	26:LY:110:LYS:HD3	1.83	0.58
28:La:27:LYS:NZ	44:L5:1332:A:OP1	2.29	0.58
32:Le:98:GLU:OE1	32:Le:123:THR:OG1	2.20	0.58
39:Lm:94:MET:HG2	39:Lm:105:PRO:HA	1.85	0.58
47:S2:154:U:H1'	68:SG:13:GLN:HE21	1.68	0.58
47:S2:1463:U:O2'	47:S2:1464:U:OP1	2.20	0.58
66:Sg:92:LEU:O	66:Sg:93:THR:OG1	2.17	0.58
8:LF:135:ARG:NH2	8:LF:227:ASN:O	2.36	0.58
27:LZ:51:ARG:NH2	44:L5:2510:G:O6	2.23	0.58
44:L5:3861:U:OP1	44:L5:3987:U:O2'	2.20	0.58
44:L5:4113:U:H2'	44:L5:4114:C:H6	1.69	0.58
47:S2:665:A:O2'	47:S2:671:A:N1	2.37	0.58
47:S2:1202:U:H2'	47:S2:1203:U:C6	2.38	0.58
67:SC:176:LYS:O	67:SC:200[A]:ARG:NH1	2.36	0.58
3:LB:87:VAL:HG22	3:LB:110:ILE:HG12	1.86	0.58
27:LZ:41:ALA:HB2	27:LZ:77:TYR:HE1	1.68	0.58
38:Lk:27:LYS:NZ	38:Lk:28:ASN:O	2.37	0.58
40:Ln:9:ARG:NH2	47:S2:1708:U:OP1	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:464:C:O2'	47:S2:467:G:O6	2.19	0.58
47:S2:583:U:H1'	73:SY:33:ALA:HB2	1.86	0.58
51:SH:70:LYS:O	51:SH:74:LYS:HG2	2.03	0.58
7:LE:75:LEU:HA	7:LE:78:ARG:HG2	1.85	0.58
23:LV:13:LYS:HD2	23:LV:128:LEU:HD11	1.84	0.58
41:Lo:31:ASP:OD1	44:L5:3996:U:O2'	2.22	0.58
47:S2:984:A:C2	71:SO:139:SER:HB3	2.38	0.58
47:S2:1059:A:OP1	77:S6:38:A:O2'	2.16	0.58
62:SX:24:ASP:OD1	62:SX:24:ASP:N	2.37	0.58
66:Sg:171:ASP:O	66:Sg:172:LYS:NZ	2.30	0.58
74:SZ:48:VAL:HB	74:SZ:49:LEU:HD12	1.85	0.58
1:LA:159:SER:OG	1:LA:162:ASN:ND2	2.37	0.58
26:LY:31:SER:HA	26:LY:48:PRO:HA	1.85	0.58
44:L5:4244:U:H2'	44:L5:4245:C:C6	2.38	0.58
47:S2:146:G:OP2	68:SG:140:ARG:NH1	2.36	0.58
47:S2:552:U:H2'	47:S2:553:G:C8	2.38	0.58
47:S2:975:C:O2	71:SO:55:ARG:NH1	2.37	0.58
49:SE:31:PRO:HG2	49:SE:38:LEU:HG	1.85	0.58
51:SH:34:SER:O	51:SH:78:ARG:NH1	2.31	0.58
54:SL:59:LYS:HG2	54:SL:134:LEU:HD22	1.84	0.58
68:SG:136:LYS:NZ	68:SG:175:LYS:O	2.35	0.58
77:S6:7:A:H2'	77:S6:8:G:C8	2.38	0.58
11:LI:156:LYS:HG2	11:LI:163:GLN:HB2	1.85	0.58
44:L5:133:C:H41	44:L5:134:G:H21	1.50	0.58
44:L5:1109:A:O2'	44:L5:1110:U:O4'	2.20	0.58
47:S2:220:U:O4	47:S2:304:C:N3	2.37	0.58
47:S2:869:G:OP2	47:S2:869:G:N2	2.24	0.58
47:S2:1140:C:H2'	47:S2:1141:G:O4'	2.04	0.58
47:S2:1563:C:H2'	47:S2:1564:G:H8	1.68	0.58
4:SB:33:VAL:HG13	4:SB:44:ILE:HB	1.86	0.58
6:LD:60:ILE:HD11	6:LD:93:THR:HA	1.84	0.58
27:LZ:69:LYS:NZ	44:L5:2331:C:OP2	2.36	0.58
43:Lr:7:TRP:O	43:Lr:11:ARG:HB2	2.04	0.58
47:S2:943:G:H2'	47:S2:944:U:C6	2.38	0.58
49:SE:137:PRO:HG2	49:SE:150:PRO:HD2	1.85	0.58
63:Sa:44:ILE:HG22	63:Sa:45:VAL:HG13	1.86	0.58
1:LA:29:LEU:O	1:LA:123:ARG:HD3	2.04	0.58
6:LD:152:ARG:O	6:LD:157:ASN:ND2	2.37	0.58
31:Ld:59:THR:HG22	31:Ld:60:PRO:O	2.03	0.58
44:L5:4171:A:H5''	44:L5:4173:G:H4'	1.85	0.58
47:S2:1193:U:OP2	62:SX:119:ARG:NH1	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1645:C:H4'	56:SQ:140:ARG:HB2	1.86	0.58
50:SF:188:TYR:HA	50:SF:191:LYS:HE2	1.86	0.58
68:SG:200:LYS:HG2	68:SG:203:LYS:HE3	1.85	0.58
27:LZ:73:LYS:HD3	27:LZ:75:TYR:CZ	2.38	0.57
32:Le:105:SER:HA	32:Le:108:ARG:HG3	1.85	0.57
44:L5:3547:A:N6	44:L5:4223:G:O2'	2.36	0.57
44:L5:4031:A:O2'	44:L5:4032:A:H2'	2.04	0.57
53:SK:11:ILE:HG21	53:SK:45:VAL:HG22	1.86	0.57
60:SU:68:THR:O	65:Sd:40:ARG:NH1	2.30	0.57
8:LF:82:GLU:OE2	8:LF:214:HIS:NE2	2.25	0.57
11:LI:38:ARG:HD3	11:LI:83:ASP:HB2	1.85	0.57
44:L5:1008:A:N1	44:L5:1018:G:C6	2.72	0.57
44:L5:1366:G:O2'	44:L5:1388:G:N2	2.25	0.57
47:S2:682:U:H4'	62:SX:9:THR:HG22	1.86	0.57
49:SE:213:ALA:HB3	49:SE:244:ILE:HD11	1.84	0.57
64:Sc:14:VAL:HG22	64:Sc:32:VAL:HG12	1.86	0.57
78:Ll:21:ARG:NH1	78:Ll:22:PRO:O	2.31	0.57
2:SA:203:PHE:HZ	57:SR:91:LEU:HD11	1.70	0.57
4:SB:214:LYS:NZ	47:S2:944:U:OP1	2.29	0.57
5:LC:63:SER:O	5:LC:63:SER:OG	2.21	0.57
12:LJ:68:ILE:HD11	44:L5:3911:C:H5'	1.86	0.57
23:LV:33:GLY:HA3	23:LV:69:LYS:HE2	1.86	0.57
29:Lb:32:LEU:HD12	44:L5:1278:C:H5''	1.85	0.57
44:L5:2394:G:H2'	44:L5:2395:A:C8	2.40	0.57
44:L5:3370:U:H3'	44:L5:3371:G:H5''	1.84	0.57
49:SE:187:ALA:O	49:SE:245:ARG:NH2	2.37	0.57
51:SH:37:LYS:HA	51:SH:40:LEU:HB2	1.86	0.57
58:SS:48:ALA:HB2	58:SS:70:ILE:HD12	1.86	0.57
69:SJ:110:LEU:HD21	69:SJ:147:PHE:CD2	2.40	0.57
5:LC:84:THR:HG22	44:L5:365:A:N1	2.17	0.57
8:LF:114:VAL:O	8:LF:142:GLY:HA2	2.05	0.57
10:LH:93:ARG:HD2	39:Lm:82:LEU:HD21	1.86	0.57
42:Lp:32:SER:OG	42:Lp:69:TRP:O	2.20	0.57
44:L5:121:A:H62	44:L5:152:U:H3	1.52	0.57
44:L5:1723:C:H3'	44:L5:1724:C:H5''	1.85	0.57
49:SE:71:LYS:HD2	49:SE:76:VAL:HG22	1.85	0.57
50:SF:81:ARG:O	50:SF:85:LYS:NZ	2.30	0.57
51:SH:134:VAL:HG21	51:SH:158:LEU:HD22	1.85	0.57
69:SJ:95:ASP:OD1	69:SJ:95:ASP:N	2.36	0.57
7:LE:196:ARG:NH2	7:LE:222:ASP:OD1	2.32	0.57
10:LH:113:GLU:HG2	10:LH:125:ARG:HG2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LI:87:ILE:HG12	11:LI:138:ILE:HG12	1.86	0.57
15:LN:114:ARG:HG3	15:LN:151:ILE:HG12	1.86	0.57
39:Lm:125:LYS:HG3	44:L5:4127:A:H5''	1.87	0.57
47:S2:29:G:H2'	47:S2:30:C:C6	2.40	0.57
47:S2:846:G:H2'	47:S2:847:G:C8	2.40	0.57
73:SY:91:LEU:HB3	73:SY:96:LEU:HB2	1.86	0.57
77:S6:51:U:H2'	77:S6:52:G:C8	2.40	0.57
31:Ld:75:LYS:HB2	31:Ld:79:ASN:O	2.05	0.57
41:Lo:11:PHE:O	41:Lo:81:ARG:NH1	2.36	0.57
44:L5:132:G:N2	44:L5:134:G:OP1	2.37	0.57
47:S2:85:A:H2'	47:S2:86:C:C6	2.40	0.57
47:S2:642:A:O2'	47:S2:646:C:OP1	2.23	0.57
59:ST:18:LEU:HD13	59:ST:134:ILE:HD13	1.86	0.57
4:SB:44:ILE:HD11	4:SB:86:LEU:HD23	1.86	0.57
5:LC:319:LEU:HD11	8:LF:174:GLU:HA	1.85	0.57
44:L5:4581:C:H2'	44:L5:4582:G:C8	2.39	0.57
47:S2:527:A:H2'	47:S2:528:C:C6	2.40	0.57
47:S2:570:A:H2'	47:S2:571:C:O4'	2.04	0.57
47:S2:618:G:H4'	62:SX:88:ASP:HA	1.86	0.57
47:S2:1734:U:H2'	47:S2:1735:G:O4'	2.05	0.57
57:SR:27:ASP:OD2	57:SR:30:THR:OG1	2.18	0.57
58:SS:114:LEU:HD11	58:SS:121:ARG:HH21	1.69	0.57
35:Lh:70:ARG:NH1	46:L8:96:C:OP1	2.30	0.57
38:Lk:8:ILE:HD13	38:Lk:56:LEU:HD11	1.87	0.57
44:L5:106:A:H2'	44:L5:107:G:O4'	2.05	0.57
44:L5:4518:G:H4'	44:L5:4519:G:H5''	1.87	0.57
47:S2:65:C:C5	68:SG:174:PRO:HB3	2.40	0.57
47:S2:582:U:H5''	73:SY:65:GLY:H	1.70	0.57
47:S2:1290:U:H2'	47:S2:1291:G:C8	2.39	0.57
49:SE:11:ARG:HD2	49:SE:20:LEU:HB3	1.85	0.57
49:SE:138:HIS:HD2	49:SE:148:ARG:HG2	1.69	0.57
53:SK:7:ASN:O	53:SK:11:ILE:HG13	2.04	0.57
75:Sb:42:LYS:HD3	75:Sb:57:VAL:HB	1.84	0.57
75:Sb:67:THR:OG1	75:Sb:70:LYS:O	2.17	0.57
78:Ll:44:TRP:CZ3	78:Ll:45:ARG:HG3	2.39	0.57
4:SB:90:ASP:OD1	4:SB:91:VAL:N	2.38	0.57
4:SB:110:MET:HA	4:SB:113:MET:HE2	1.87	0.57
8:LF:118:ARG:NH2	44:L5:1698:G:OP1	2.38	0.57
44:L5:1761:A:O2'	44:L5:1828:A:N1	2.32	0.57
47:S2:502:C:H2'	47:S2:503:C:H5''	1.86	0.57
52:SI:70:GLU:CD	52:SI:72:CYS:HB3	2.30	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:SS:61:GLU:CD	58:SS:61:GLU:H	2.12	0.57
66:Sg:149:GLU:HB3	66:Sg:170:TRP:HB2	1.86	0.57
73:SY:101:LYS:HE2	73:SY:107:ARG:HD3	1.86	0.57
4:SB:77:ASP:OD1	4:SB:77:ASP:N	2.32	0.57
5:LC:39:PHE:O	5:LC:43:ASN:ND2	2.33	0.57
11:LI:181:PHE:O	11:LI:185:VAL:HG23	2.05	0.57
21:LT:88:ARG:NH1	29:Lb:33:LYS:O	2.38	0.57
31:Ld:29:ILE:HD11	31:Ld:49:ILE:HD11	1.87	0.57
50:SF:154:LEU:HD22	50:SF:177:LEU:HD23	1.87	0.57
64:Sc:17:VAL:HG23	64:Sc:52:GLU:HB3	1.87	0.57
10:LH:31:ARG:O	10:LH:149:ASN:ND2	2.36	0.56
21:LT:80:VAL:HG12	21:LT:81:LYS:H	1.69	0.56
30:Lc:55:LEU:HD11	34:Lg:92:LYS:HG3	1.86	0.56
44:L5:2139:A:N1	44:L5:2583:U:O2'	2.33	0.56
44:L5:3468:G:O2'	44:L5:3471:U:OP2	2.23	0.56
47:S2:563:U:H5'	69:SJ:133:ARG:HH22	1.70	0.56
53:SK:51:SER:OG	53:SK:55:ARG:NH2	2.38	0.56
66:Sg:166:VAL:HB	66:Sg:198:VAL:HG11	1.87	0.56
66:Sg:247:TRP:HB3	66:Sg:258:ILE:HG22	1.87	0.56
70:SN:29:THR:O	70:SN:33:VAL:HG23	2.05	0.56
9:LG:162:ASP:HB2	44:L5:150:U:H3	1.68	0.56
11:LI:116:ARG:NH1	44:L5:3847:U:O2'	2.38	0.56
32:Le:128:ARG:NH2	44:L5:2063:G:OP1	2.39	0.56
44:L5:461:G:H2'	44:L5:462:A:C8	2.40	0.56
44:L5:1148:A:H2'	44:L5:1149:A:C8	2.39	0.56
44:L5:1160:G:H2'	44:L5:1161:C:C6	2.40	0.56
44:L5:2261:C:O2'	44:L5:2263:G:OP1	2.20	0.56
47:S2:70:G:O2'	47:S2:79:A:N6	2.37	0.56
47:S2:640:C:H2'	47:S2:641:A:C8	2.39	0.56
2:SA:39:TYR:HD2	2:SA:48:ILE:HD11	1.69	0.56
3:LB:253:CYS:SG	44:L5:4174:U:H1'	2.45	0.56
6:LD:41:LYS:NZ	21:LT:32:ARG:O	2.36	0.56
9:LG:56:LYS:HD3	44:L5:3736:A:C5	2.39	0.56
15:LN:193:ARG:O	15:LN:197:THR:HG23	2.05	0.56
20:LS:95:ARG:NH2	20:LS:112:ASP:OD2	2.39	0.56
32:Le:62:SER:HB2	32:Le:67:LYS:HG3	1.87	0.56
43:Lr:90:LEU:HG	43:Lr:111:ILE:HG23	1.87	0.56
44:L5:1141:A:H2'	44:L5:1142:C:C6	2.40	0.56
44:L5:1186:A:N1	46:L8:28:C:O2'	2.34	0.56
44:L5:4504:C:O2	44:L5:4505:C:N4	2.38	0.56
47:S2:417:U:C2'	47:S2:418:C:H5'	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:954:C:O2	71:SO:55:ARG:NH2	2.38	0.56
49:SE:104:ASP:HB3	49:SE:110:ALA:HB2	1.87	0.56
49:SE:185:GLY:HA2	49:SE:189:LEU:HD12	1.87	0.56
49:SE:247:THR:O	49:SE:249:ALA:N	2.37	0.56
51:SH:26:ALA:HA	51:SH:29:GLU:HG3	1.87	0.56
52:SI:150:ASP:OD1	52:SI:150:ASP:N	2.37	0.56
55:SP:81:ARG:NH1	55:SP:97:TYR:O	2.38	0.56
57:SR:51:ALA:O	57:SR:55:THR:HG23	2.04	0.56
60:SU:22:ILE:HD13	60:SU:114:VAL:HG12	1.87	0.56
77:S6:4:C:H2'	77:S6:5:A:C8	2.40	0.56
2:SA:19:LEU:HD21	57:SR:106:LEU:HD11	1.86	0.56
44:L5:1002:G:H2'	44:L5:1003:G:C8	2.40	0.56
44:L5:3550:C:H2'	44:L5:3551:A:C8	2.41	0.56
46:L8:8:U:H2'	46:L8:9:A:C8	2.40	0.56
47:S2:4:C:H1'	69:SJ:18:ARG:HH22	1.69	0.56
47:S2:497:C:OP1	49:SE:49:ARG:NH1	2.34	0.56
70:SN:130:LYS:HG2	70:SN:137:PRO:HA	1.86	0.56
75:Sb:36:LYS:HB2	75:Sb:43:ILE:HD13	1.88	0.56
9:LG:110:LYS:O	9:LG:114:LEU:HD12	2.06	0.56
44:L5:1254:U:H3	44:L5:1907:G:N2	2.02	0.56
44:L5:2316:G:H1	44:L5:2322:A:H2	1.50	0.56
47:S2:1358:A:OP1	67:SC:125:LYS:NZ	2.39	0.56
58:SS:51:ASP:OD1	58:SS:53:THR:OG1	2.23	0.56
2:SA:82:THR:O	2:SA:82:THR:OG1	2.24	0.56
4:SB:145:LYS:HE3	4:SB:149:GLN:HB3	1.88	0.56
5:LC:40:VAL:HG22	5:LC:115:VAL:HG11	1.87	0.56
12:LJ:155:HIS:HB2	45:L7:55:A:H4'	1.88	0.56
44:L5:4398:A:H2'	44:L5:4399:G:O4'	2.05	0.56
47:S2:221:U:O2'	52:SI:186:ASP:OD2	2.23	0.56
47:S2:963:A:H5''	71:SO:66:ARG:HG3	1.86	0.56
69:SJ:109:ARG:HA	69:SJ:148:ILE:HA	1.87	0.56
72:SW:80:ASP:OD1	72:SW:80:ASP:N	2.36	0.56
5:LC:5:ARG:HD2	5:LC:24:LEU:O	2.05	0.56
27:LZ:123:LYS:O	27:LZ:124:THR:OG1	2.19	0.56
47:S2:165:G:H2'	47:S2:166:A:C8	2.41	0.56
47:S2:858:U:H2'	47:S2:859:A:C8	2.40	0.56
47:S2:1166:G:N1	62:SX:20:GLN:OE1	2.34	0.56
55:SP:81:ARG:NH2	55:SP:117:GLY:O	2.39	0.56
12:LJ:112:HIS:CD2	12:LJ:126:TYR:H	2.24	0.56
44:L5:741:A:N6	44:L5:829:G:H21	2.04	0.56
44:L5:3346:G:O2'	44:L5:3475:U:OP2	2.24	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:4615:A:H2'	44:L5:4616:A:H8	1.70	0.56
47:S2:1140:C:H5	47:S2:1150:A:H62	1.53	0.56
51:SH:98:ARG:HB3	51:SH:125:VAL:HG22	1.87	0.56
57:SR:76:GLU:OE2	57:SR:80:ARG:NE	2.38	0.56
57:SR:106:LEU:HA	57:SR:109:LEU:HG	1.88	0.56
68:SG:3:LEU:HD22	68:SG:111:LEU:HD11	1.86	0.56
70:SN:46:THR:HG22	70:SN:48:SER:H	1.70	0.56
20:LS:15:ARG:HB3	20:LS:27:LEU:HD23	1.88	0.56
33:Lf:52:LYS:NZ	44:L5:4405:G:N7	2.48	0.56
47:S2:221:U:H2'	47:S2:222:U:C6	2.41	0.56
47:S2:1798:U:H2'	47:S2:1799:C:C6	2.41	0.56
55:SP:41:GLN:HG3	55:SP:84:ILE:HD13	1.88	0.56
56:SQ:34:VAL:HG11	56:SQ:84:ILE:HG21	1.88	0.56
1:LA:183:GLY:HA2	44:L5:1427:A:H5'	1.88	0.56
13:LL:19:GLN:HE22	44:L5:1332:A:H61	1.54	0.56
13:LL:21:ARG:HB3	15:LN:197:THR:HG22	1.86	0.56
15:LN:178:HIS:ND1	44:L5:68:U:OP1	2.28	0.56
19:LR:43:LYS:HE2	44:L5:2462:U:H1'	1.86	0.56
44:L5:1562:G:H22	44:L5:1576:U:H3	1.53	0.56
44:L5:1745:A:H2'	44:L5:1746:A:C8	2.41	0.56
46:L8:52:A:H62	78:L1:27:ILE:HD12	1.71	0.56
47:S2:657:G:H5'	47:S2:663:G:N2	2.21	0.56
51:SH:10:LYS:HG2	51:SH:45:ILE:HB	1.86	0.56
52:SI:168:GLN:HE21	52:SI:170:LYS:H	1.54	0.56
6:LD:48:LYS:NZ	44:L5:3978:A:O2'	2.24	0.55
10:LH:18:ILE:HG13	10:LH:26:ILE:HB	1.87	0.55
47:S2:115:U:H2'	47:S2:116:U:H6	1.71	0.55
47:S2:797:G:N2	47:S2:799:G:O6	2.31	0.55
50:SF:192:LYS:O	50:SF:196:LEU:HB2	2.06	0.55
51:SH:15:LYS:HG3	51:SH:16:PRO:HD3	1.87	0.55
72:SW:75:ILE:HD11	72:SW:93:LEU:HD21	1.87	0.55
73:SY:110:ARG:NH2	73:SY:125:VAL:O	2.39	0.55
16:LO:185:VAL:HG23	16:LO:188:LYS:HE3	1.88	0.55
28:La:89:ASN:HA	28:La:92:LYS:HE3	1.88	0.55
44:L5:659:C:H2'	44:L5:660:G:H8	1.71	0.55
46:L8:51:U:C5	78:L1:26:TRP:HH2	2.25	0.55
47:S2:64:A:OP1	68:SG:177:GLN:NE2	2.38	0.55
47:S2:531:U:O2'	47:S2:532:A:OP1	2.24	0.55
47:S2:1458:U:H2'	47:S2:1459:G:H8	1.71	0.55
48:SD:164:VAL:HG23	48:SD:168:VAL:HB	1.88	0.55
69:SJ:61:LEU:HD11	69:SJ:95:ASP:HB3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Le:66:THR:HA	32:Le:69:MET:HE3	1.87	0.55
44:L5:1578:A:H2'	44:L5:1579:A:C8	2.40	0.55
44:L5:3341:G:H2'	44:L5:3342:C:C6	2.41	0.55
47:S2:304:C:H5''	52:SI:75:LYS:HG3	1.87	0.55
47:S2:1209:A:H2'	47:S2:1210:A:H8	1.71	0.55
58:SS:98:VAL:HG11	58:SS:106:LYS:HG3	1.86	0.55
3:LB:258:HIS:HB2	44:L5:4171:A:OP2	2.06	0.55
7:LE:53:ARG:HH11	7:LE:73:LYS:HG2	1.71	0.55
10:LH:137:SER:HB3	10:LH:143:GLU:HG3	1.86	0.55
27:LZ:31:ASP:N	27:LZ:31:ASP:OD1	2.38	0.55
44:L5:223:G:O2'	44:L5:225:G:OP2	2.24	0.55
44:L5:324:U:H2'	44:L5:325:C:C6	2.41	0.55
44:L5:1388:G:O2'	44:L5:1389:A:O5'	2.22	0.55
44:L5:3822:G:H4'	44:L5:3824:C:C2	2.41	0.55
44:L5:4673:C:O2'	44:L5:4674:U:OP1	2.23	0.55
47:S2:1209:A:H2'	47:S2:1210:A:C8	2.41	0.55
47:S2:1257:G:H8	60:SU:66:ARG:HB2	1.71	0.55
58:SS:15:VAL:HG21	58:SS:20:ILE:HD12	1.88	0.55
66:Sg:106:LYS:H	66:Sg:106:LYS:HD2	1.71	0.55
3:LB:246:ARG:NH1	44:L5:4178:C:OP1	2.35	0.55
10:LH:176:LEU:HD23	39:Lm:90:ASN:HD22	1.71	0.55
17:LP:50:ASP:HB3	17:LP:56:GLN:HB2	1.88	0.55
19:LR:42:ARG:NH1	44:L5:2282:U:OP2	2.38	0.55
44:L5:494:G:H1	44:L5:668:G:H1	1.55	0.55
44:L5:1147:C:H2'	44:L5:1148:A:H8	1.71	0.55
44:L5:1790:C:N4	44:L5:1793:A:H62	2.04	0.55
47:S2:1425:G:H2'	47:S2:1426:G:H8	1.70	0.55
49:SE:35:PRO:HD2	49:SE:83:PRO:HG2	1.89	0.55
49:SE:179:ASN:HA	49:SE:231:GLY:H	1.72	0.55
52:SI:80:ASP:OD1	52:SI:81:VAL:N	2.38	0.55
54:SL:55:TYR:CD2	54:SL:115:PRO:HG2	2.42	0.55
67:SC:95:ASP:OD1	67:SC:159:LYS:NZ	2.36	0.55
73:SY:20:ARG:NE	73:SY:76:TYR:OH	2.40	0.55
12:LJ:120:ASP:HA	58:SS:101:ASN:HB3	1.88	0.55
16:LO:171:LYS:NZ	44:L5:4412:C:OP2	2.32	0.55
20:LS:29:ARG:HB2	21:LT:148:PRO:HB2	1.87	0.55
32:Le:17:THR:HG21	44:L5:1116:C:H2'	1.88	0.55
41:Lo:98:LYS:HE3	44:L5:3886:A:H4'	1.88	0.55
44:L5:267:G:H2'	44:L5:268:G:H8	1.72	0.55
44:L5:4160:A:H2'	44:L5:4161:C:C6	2.41	0.55
44:L5:4411:C:N4	44:L5:4561:G:OP2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:4638:C:H5'	44:L5:4639:U:H5'	1.88	0.55
47:S2:529:A:H2'	47:S2:530:A:H8	1.72	0.55
47:S2:1512:U:H2'	47:S2:1513:C:C6	2.42	0.55
47:S2:1706:C:H2'	47:S2:1707:G:C8	2.41	0.55
47:S2:1720:A:N6	47:S2:1815:G:O2'	2.38	0.55
27:LZ:9:LYS:HB3	27:LZ:25:ILE:HD12	1.89	0.55
31:Ld:113:THR:HG22	31:Ld:115:LYS:H	1.71	0.55
44:L5:1788:G:N1	44:L5:1789:U:O2	2.40	0.55
44:L5:4113:U:H2'	44:L5:4114:C:C6	2.41	0.55
44:L5:4278:C:O2'	44:L5:4279:A:H5'	2.07	0.55
47:S2:28:U:H2'	47:S2:29:G:H8	1.71	0.55
47:S2:153:G:N2	68:SG:13:GLN:HE22	1.94	0.55
73:SY:21:LYS:HB3	73:SY:75:ILE:HB	1.87	0.55
1:LA:30:ARG:NH2	1:LA:36:GLU:HG3	2.22	0.55
9:LG:170:LEU:HD12	9:LG:201:THR:HG21	1.89	0.55
44:L5:138:C:H2'	44:L5:139:G:C8	2.41	0.55
44:L5:2598:A:O2'	44:L5:4284:G:H4'	2.07	0.55
44:L5:3841:U:H2'	44:L5:3842:U:C6	2.42	0.55
47:S2:2:A:C8	47:S2:419:A:H1'	2.42	0.55
47:S2:442:C:O2'	68:SG:92:ARG:NH2	2.40	0.55
47:S2:1471:C:H2'	47:S2:1472:C:H6	1.72	0.55
47:S2:1588:G:H1	59:ST:74:SER:HB2	1.72	0.55
51:SH:95:ILE:HD11	51:SH:133:LEU:HD13	1.89	0.55
69:SJ:127:ARG:HG3	76:Se:105:ARG:HD2	1.89	0.55
5:LC:283:LYS:HD2	18:LQ:103:LEU:HD22	1.89	0.55
7:LE:287:ASN:ND2	44:L5:4409:G:N7	2.54	0.55
9:LG:99:ALA:HB1	9:LG:136:LEU:HD11	1.88	0.55
9:LG:185:LYS:HG2	46:L8:153:C:H4'	1.89	0.55
16:LO:89:PRO:HD3	44:L5:1717:C:H4'	1.89	0.55
44:L5:407:A:O2'	44:L5:410:G:OP2	2.22	0.55
49:SE:170:THR:OG1	49:SE:171:ASP:OD1	2.21	0.55
72:SW:28:ARG:HB3	72:SW:29:PRO:HD3	1.89	0.55
72:SW:41:MET:HB3	72:SW:47:ILE:HG12	1.89	0.55
3:LB:358:ARG:NH2	44:L5:4270:G:OP2	2.40	0.55
5:LC:303:ARG:NH1	5:LC:304:ALA:O	2.40	0.55
7:LE:198:HIS:CD2	7:LE:200:LYS:HB2	2.42	0.55
10:LH:93:ARG:HG3	10:LH:143:GLU:HB3	1.89	0.55
12:LJ:146:ARG:HH11	12:LJ:147:ARG:HG3	1.72	0.55
34:Lg:62:LYS:NZ	44:L5:2273:G:O2'	2.40	0.55
47:S2:842:G:H21	47:S2:843:C:H1'	1.72	0.55
47:S2:1799:C:H2'	47:S2:1800:G:O4'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SF:99:ILE:HG23	74:SZ:67:LEU:HD13	1.88	0.55
55:SP:52:LYS:HE2	55:SP:80:LEU:HD11	1.89	0.55
59:ST:104:LEU:HD22	59:ST:121:ARG:HG3	1.89	0.55
66:Sg:56:GLN:HG3	66:Sg:57:ARG:HG3	1.89	0.55
71:SO:75:MET:HG3	71:SO:76:LEU:N	2.22	0.55
2:SA:126:ASP:O	2:SA:130:ASP:HB2	2.07	0.54
9:LG:113:ARG:HH21	9:LG:114:LEU:HG	1.69	0.54
10:LH:36:ARG:HD2	10:LH:38:PHE:CZ	2.42	0.54
25:LX:74:TYR:OH	35:Lh:22:ASP:OD1	2.21	0.54
32:Le:91:CYS:O	32:Le:93:LYS:N	2.40	0.54
43:Lr:31:ASN:ND2	43:Lr:40:TYR:O	2.39	0.54
44:L5:1418:G:H2'	44:L5:1419:G:C8	2.42	0.54
44:L5:3393:A:H2'	44:L5:3394:A:C8	2.42	0.54
47:S2:1245:U:H2'	47:S2:1246:G:H8	1.72	0.54
50:SF:110:GLN:HE21	50:SF:114:ASN:HD21	1.54	0.54
54:SL:113:LEU:HD21	54:SL:120:VAL:HG21	1.87	0.54
67:SC:77:SER:O	67:SC:80:GLU:N	2.19	0.54
1:LA:228:ASP:OD1	1:LA:228:ASP:N	2.38	0.54
11:LI:3:ARG:NH2	44:L5:4084:U:OP2	2.38	0.54
44:L5:131:C:H2'	44:L5:132:G:H8	1.72	0.54
44:L5:1021:C:H2'	44:L5:1022:G:C8	2.42	0.54
44:L5:1509:U:H2'	44:L5:1510:C:C6	2.42	0.54
44:L5:1778:G:OP1	44:L5:1787:A:O2'	2.24	0.54
44:L5:4194:G:N2	44:L5:4197:A:OP2	2.33	0.54
47:S2:49:C:H2'	47:S2:473:C:H41	1.71	0.54
47:S2:110:U:O2	47:S2:352:G:C6	2.60	0.54
47:S2:165:G:H2'	47:S2:166:A:H8	1.71	0.54
52:SI:151:GLU:HA	52:SI:154:LYS:HE3	1.88	0.54
78:Ll:28:ARG:HA	78:Ll:33:ASN:ND2	2.22	0.54
2:SA:155:ARG:NH1	47:S2:1138:U:O2'	2.28	0.54
4:SB:151:ARG:NH1	47:S2:1103:G:OP2	2.40	0.54
14:LM:47:ARG:NH2	14:LM:68:ALA:O	2.27	0.54
47:S2:1864:A:H1'	63:Sa:79:ILE:HD13	1.87	0.54
49:SE:117:GLU:CD	49:SE:118:GLU:H	2.15	0.54
63:Sa:46:GLU:HG3	63:Sa:49:ALA:H	1.71	0.54
4:SB:89:GLU:HG3	4:SB:99:ASN:HB2	1.88	0.54
15:LN:68:ARG:HB2	44:L5:301:C:OP1	2.07	0.54
35:Lh:24:LEU:HB3	35:Lh:54:ILE:HG13	1.90	0.54
38:Lk:8:ILE:HG23	38:Lk:56:LEU:HD21	1.89	0.54
41:Lo:61:LYS:NZ	44:L5:4026:G:N7	2.54	0.54
44:L5:493:U:H2'	44:L5:494:G:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:3604:A:H2'	44:L5:3605:C:H2'	1.89	0.54
47:S2:302:A:H2'	47:S2:303:A:O4'	2.08	0.54
66:Sg:238:ALA:H	66:Sg:251:ALA:HB3	1.71	0.54
13:LL:47:ALA:HB3	13:LL:48:PRO:HD3	1.89	0.54
44:L5:1649:G:H2'	44:L5:1650:C:C6	2.42	0.54
44:L5:2134:C:O2	44:L5:2138:A:N6	2.40	0.54
44:L5:2168:C:H2'	44:L5:2169:A:C8	2.42	0.54
44:L5:2169:A:H2'	44:L5:2170:U:C6	2.43	0.54
44:L5:4414:G:H2'	44:L5:4415:G:O4'	2.08	0.54
46:L8:141:C:H2'	46:L8:142:U:C6	2.42	0.54
68:SG:27:PHE:HA	68:SG:30:LYS:HE3	1.88	0.54
2:SA:31:ASP:OD1	2:SA:32:PHE:N	2.41	0.54
12:LJ:31:ASP:HA	12:LJ:34:THR:HG22	1.89	0.54
21:LT:28:ALA:O	21:LT:32:ARG:HG2	2.07	0.54
29:Lb:42:ASN:OD1	44:L5:1617:C:O2'	2.24	0.54
44:L5:718:G:H2'	44:L5:719:A:C8	2.42	0.54
44:L5:1670:A:H2'	44:L5:1671:A:C8	2.43	0.54
44:L5:2296:C:H2'	44:L5:2297:C:C6	2.42	0.54
44:L5:3384:A:H2'	44:L5:3385:A:C8	2.43	0.54
44:L5:4145:U:O2'	44:L5:4165:U:O2	2.22	0.54
44:L5:4415:G:H2'	44:L5:4416:A:C8	2.43	0.54
47:S2:12:U:H2'	47:S2:13:C:C6	2.43	0.54
47:S2:129:C:N3	47:S2:183:G:N2	2.41	0.54
47:S2:1278:C:H2'	47:S2:1279:A:C8	2.42	0.54
47:S2:1288:A:N6	47:S2:1313:G:H21	2.03	0.54
47:S2:1564:G:H5''	59:ST:121:ARG:HH11	1.71	0.54
57:SR:98:VAL:HB	57:SR:102:THR:HG23	1.90	0.54
59:ST:123:LEU:HD11	59:ST:131:LEU:HD22	1.89	0.54
66:Sg:249:CYS:HB2	66:Sg:289:LEU:HD21	1.89	0.54
77:S6:55:U:O4'	77:S6:58:A:N6	2.41	0.54
43:Lr:65:LYS:NZ	43:Lr:70:GLN:OE1	2.36	0.54
44:L5:725:U:H2'	44:L5:726:C:C6	2.43	0.54
47:S2:456:A:H2'	47:S2:457:C:C6	2.43	0.54
50:SF:111:VAL:HG11	50:SF:178:ILE:HD13	1.89	0.54
51:SH:51:ILE:HD13	51:SH:179:LYS:HB2	1.90	0.54
54:SL:12:LYS:HE2	54:SL:33:LEU:HD21	1.90	0.54
33:Lf:106:TYR:HB2	33:Lf:107:PRO:HD3	1.90	0.54
44:L5:2191:G:O2'	44:L5:2284:A:N1	2.38	0.54
47:S2:382:C:OP2	52:SI:54:LYS:NZ	2.27	0.54
20:LS:164:LYS:HE3	33:Lf:34:TYR:HB2	1.90	0.54
29:Lb:3:LYS:HD2	44:L5:3847:U:H5'	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Le:114:ARG:HH11	32:Le:117:GLN:HE21	1.55	0.54
34:Lg:42:PRO:HB2	34:Lg:53:LEU:HD12	1.90	0.54
44:L5:3745:G:H2'	44:L5:3746:G:C8	2.42	0.54
47:S2:106:C:OP1	47:S2:432:G:O2'	2.23	0.54
47:S2:1289:U:H3	47:S2:1312:C:N4	1.97	0.54
61:SV:38:GLU:HB3	61:SV:47:ASN:HD21	1.71	0.54
5:LC:293:LEU:O	5:LC:299:GLN:NE2	2.29	0.54
44:L5:1094:A:O2'	44:L5:1096:G:N7	2.41	0.54
44:L5:1660:C:H2'	44:L5:1661:A:H8	1.73	0.54
44:L5:3267:A:H2'	44:L5:3268:A:C8	2.43	0.54
47:S2:417:U:H2'	47:S2:418:C:H5'	1.90	0.54
55:SP:28:MET:HG2	55:SP:32:GLN:HG3	1.90	0.54
66:Sg:152:SER:OG	66:Sg:153:CYS:N	2.35	0.54
69:SJ:38:ARG:HA	76:Se:105:ARG:HA	1.89	0.54
4:SB:71:LEU:HD12	4:SB:82:ARG:HB2	1.89	0.53
15:LN:113:LEU:HB2	15:LN:134:LEU:HD12	1.90	0.53
16:LO:149:TYR:O	16:LO:153:THR:OG1	2.24	0.53
43:Lr:37:SER:OG	44:L5:2024:U:OP1	2.23	0.53
44:L5:1774:C:H2'	44:L5:1775:G:H5''	1.90	0.53
44:L5:3873:A:H2'	44:L5:3875:G:H5''	1.90	0.53
44:L5:4566:C:H2'	44:L5:4567:C:C6	2.43	0.53
44:L5:4705:C:H2'	44:L5:4706:A:C8	2.43	0.53
44:L5:4716:G:N2	44:L5:4717:U:O4	2.38	0.53
49:SE:51:ARG:HH12	49:SE:108:ARG:NH2	2.05	0.53
52:SI:178:ARG:NH2	52:SI:181:GLN:OE1	2.41	0.53
64:Sc:40:ARG:NH1	71:SO:121:ARG:HH22	2.05	0.53
69:SJ:81:LEU:HD23	69:SJ:86:VAL:HB	1.91	0.53
44:L5:1431:G:H1'	44:L5:2270:A:N6	2.23	0.53
47:S2:333:G:N7	68:SG:189:ARG:NH2	2.45	0.53
47:S2:930:G:H2'	47:S2:931:C:O4'	2.09	0.53
47:S2:1278:C:H2'	47:S2:1279:A:H8	1.72	0.53
47:S2:1693:U:OP1	63:Sa:89:ARG:HG3	2.08	0.53
53:SK:45:VAL:O	53:SK:49:MET:HG2	2.07	0.53
60:SU:60:THR:HG21	60:SU:62:ARG:HH21	1.72	0.53
68:SG:78:SER:HB3	68:SG:92:ARG:HG2	1.89	0.53
7:LE:216:ILE:HG23	7:LE:220:LEU:HD12	1.89	0.53
34:Lg:62:LYS:HD3	44:L5:2274:A:H5'	1.90	0.53
38:Lk:12:LEU:O	38:Lk:16:ARG:HG2	2.08	0.53
39:Lm:95:ILE:HD12	44:L5:4126:A:H5''	1.90	0.53
44:L5:432:A:C2	44:L5:3524:A:H4'	2.43	0.53
44:L5:2238:G:H2'	44:L5:2239:C:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:L7:111:C:H2'	45:L7:112:U:O4'	2.09	0.53
47:S2:90:G:OP1	47:S2:446:A:N6	2.39	0.53
57:SR:31:ASN:ND2	57:SR:55:THR:HG22	2.23	0.53
60:SU:49:LYS:HB2	60:SU:92:HIS:HB2	1.91	0.53
66:Sg:212:LYS:HA	66:Sg:235:ILE:HB	1.90	0.53
67:SC:94:ILE:HG13	67:SC:159:LYS:O	2.08	0.53
68:SG:185:LEU:HA	68:SG:188:LYS:HG2	1.90	0.53
9:LG:247:VAL:HA	9:LG:250:ILE:HG12	1.89	0.53
44:L5:1391:G:O2'	44:L5:1426:G:H4'	2.08	0.53
47:S2:1446:U:O4	47:S2:1447:A:N6	2.41	0.53
47:S2:1693:U:H2'	47:S2:1694:G:C8	2.43	0.53
49:SE:180:LEU:HD23	49:SE:228:ILE:HG13	1.90	0.53
54:SL:128:VAL:HG12	54:SL:142:VAL:HA	1.90	0.53
56:SQ:139:ALA:O	56:SQ:140:ARG:NH2	2.42	0.53
69:SJ:23:SER:O	69:SJ:27:GLN:NE2	2.41	0.53
2:SA:37:TYR:CG	2:SA:162:PRO:HG3	2.44	0.53
3:LB:230:GLY:O	3:LB:234:ARG:HB2	2.09	0.53
3:LB:252:ALA:HB3	44:L5:4110:U:H1'	1.90	0.53
6:LD:120:GLU:O	6:LD:248:ARG:NH1	2.38	0.53
11:LI:184:MET:HG2	11:LI:190:LEU:HD13	1.89	0.53
13:LL:31:ARG:NH1	44:L5:337:A:OP1	2.41	0.53
21:LT:81:LYS:HB3	29:Lb:16:TRP:CZ3	2.44	0.53
30:Lc:22:MET:O	30:Lc:23:LYS:HB2	2.08	0.53
38:Lk:17:ARG:NH2	38:Lk:19:ASP:OD2	2.25	0.53
44:L5:1171:U:H2'	44:L5:1172:C:C6	2.44	0.53
44:L5:4510:U:H2'	44:L5:4511:C:C6	2.44	0.53
47:S2:389:U:H2'	47:S2:390:A:C8	2.43	0.53
67:SC:64:THR:OG1	67:SC:90:GLU:OE2	2.22	0.53
2:SA:190:SER:OG	2:SA:192:GLU:OE1	2.25	0.53
44:L5:317:A:H2'	44:L5:318:A:C8	2.44	0.53
47:S2:352:G:N2	54:SL:130:GLU:OE2	2.30	0.53
47:S2:1011:G:H2'	47:S2:1012:A:C8	2.43	0.53
47:S2:1448:G:OP1	60:SU:85:HIS:ND1	2.40	0.53
56:SQ:34:VAL:HG12	56:SQ:70:VAL:HB	1.90	0.53
77:S6:3:G:H2'	77:S6:4:C:O4'	2.09	0.53
2:SA:120:ARG:HD2	67:SC:266:TYR:HB3	1.89	0.53
6:LD:41:LYS:HE2	21:LT:93:ILE:HD13	1.90	0.53
7:LE:69:MET:HG2	44:L5:878:G:OP1	2.09	0.53
30:Lc:21:VAL:HG11	30:Lc:96:ILE:HG12	1.91	0.53
44:L5:2075:G:N2	44:L5:2078:G:OP2	2.33	0.53
44:L5:4664:A:H2	44:L5:4681:G:H21	1.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:120:U:H1'	49:SE:33:THR:HB	1.90	0.53
47:S2:1018:U:H2'	47:S2:1019:U:H6	1.73	0.53
47:S2:1076:C:OP1	70:SN:107:LYS:NZ	2.41	0.53
58:SS:15:VAL:HG12	58:SS:16:LEU:HD12	1.91	0.53
58:SS:84:LEU:HB3	58:SS:96:SER:O	2.08	0.53
71:SO:36:SER:O	71:SO:69:SER:OG	2.22	0.53
44:L5:4570:C:H2'	44:L5:4571:U:C6	2.44	0.53
46:L8:46:G:O2'	46:L8:61:A:N1	2.39	0.53
48:SD:99:ILE:H	48:SD:99:ILE:HD12	1.74	0.53
48:SD:170:THR:HG23	48:SD:187:LYS:HG3	1.91	0.53
56:SQ:62:ARG:O	56:SQ:96:TYR:OH	2.23	0.53
61:SV:21:ASN:HB3	72:SW:67:GLY:HA3	1.91	0.53
3:LB:242:ARG:NH2	44:L5:2610:C:O2	2.38	0.53
12:LJ:93:GLU:HA	12:LJ:173:ILE:HG12	1.90	0.53
44:L5:255:G:H2'	44:L5:256:C:C6	2.43	0.53
44:L5:1684:C:H5'	44:L5:2038:U:H1'	1.91	0.53
44:L5:2262:C:N4	44:L5:3736:A:OP2	2.42	0.53
44:L5:4323:C:O2'	44:L5:4325:A:OP2	2.25	0.53
47:S2:62:G:O2'	47:S2:172:U:OP1	2.27	0.53
47:S2:875:G:H21	51:SH:114:GLN:HE22	1.57	0.53
49:SE:192:ILE:HG13	49:SE:243:GLY:HA3	1.90	0.53
50:SF:60:ARG:HH21	64:Sc:49:PRO:HA	1.72	0.53
50:SF:99:ILE:HD11	74:SZ:106:GLN:OE1	2.08	0.53
69:SJ:3:VAL:HG11	69:SJ:5:ARG:NH1	2.24	0.53
4:SB:38:MET:HE2	4:SB:182:LYS:HD2	1.90	0.53
4:SB:173:THR:O	4:SB:177:GLN:HB2	2.09	0.53
5:LC:162:LYS:NZ	5:LC:215:ASN:O	2.41	0.53
13:LL:36:ARG:NH2	44:L5:1181:G:OP2	2.39	0.53
44:L5:175:C:H2'	44:L5:176:G:C8	2.44	0.53
44:L5:831:G:N2	44:L5:836:C:H2'	2.23	0.53
47:S2:1008:C:H2'	47:S2:1009:A:C8	2.45	0.53
47:S2:1038:G:H4'	47:S2:1846:A:H4'	1.91	0.53
5:LC:186:SER:O	5:LC:186:SER:OG	2.20	0.52
22:LU:107:LYS:NZ	44:L5:2471:G:OP1	2.42	0.52
23:LV:86:LYS:HE2	44:L5:2599:A:N3	2.24	0.52
44:L5:1476:C:H2'	44:L5:1477:C:C6	2.44	0.52
44:L5:1778:G:H5'	44:L5:1787:A:H4'	1.91	0.52
44:L5:2241:A:H8	44:L5:2242:U:H4'	1.73	0.52
47:S2:972:G:H5''	47:S2:973:A:OP1	2.09	0.52
47:S2:1155:U:O2'	67:SC:185:THR:OG1	2.20	0.52
3:LB:161:ARG:HE	3:LB:184:GLN:HE21	1.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LB:393:LYS:NZ	44:L5:4691:A:OP1	2.39	0.52
6:LD:228:LYS:C	6:LD:230:ASN:H	2.17	0.52
25:LX:110:LYS:HG3	25:LX:121:VAL:HB	1.91	0.52
41:Lo:66:ILE:HD13	41:Lo:88:CYS:HB3	1.92	0.52
44:L5:452:G:H4'	44:L5:453:U:H5'	1.91	0.52
44:L5:494:G:H22	44:L5:668:G:N2	2.06	0.52
45:L7:23:A:H2'	45:L7:24:C:C6	2.44	0.52
47:S2:146:G:H2'	47:S2:147:A:C8	2.45	0.52
47:S2:442:C:H2'	47:S2:443:C:C6	2.44	0.52
47:S2:445:G:N2	47:S2:448:A:OP2	2.41	0.52
47:S2:574:U:H1'	47:S2:577:A:N7	2.23	0.52
47:S2:833:G:N2	47:S2:844:C:N3	2.57	0.52
49:SE:204:SER:OG	49:SE:205:PHE:N	2.41	0.52
55:SP:75:VAL:HG22	55:SP:104:GLN:HE22	1.74	0.52
55:SP:110:GLU:HG3	58:SS:117:ILE:HG22	1.92	0.52
57:SR:72:LYS:O	57:SR:75:GLU:HG3	2.08	0.52
1:LA:180:LEU:HD22	42:Lp:18:TYR:HB3	1.90	0.52
6:LD:125:VAL:HG21	6:LD:199:ILE:HG21	1.91	0.52
10:LH:181:VAL:O	39:Lm:89:TYR:OH	2.26	0.52
11:LI:24:ARG:NH1	44:L5:3878:G:OP1	2.38	0.52
14:LM:33:GLN:HB2	20:LS:145:PHE:HZ	1.75	0.52
16:LO:54:TYR:OH	16:LO:73:PHE:O	2.26	0.52
18:LQ:146:ARG:NH2	44:L5:1162:G:OP1	2.38	0.52
23:LV:83:ARG:NH2	23:LV:120:PRO:O	2.37	0.52
27:LZ:28:ASN:ND2	27:LZ:30:ASP:OD2	2.41	0.52
29:Lb:18:ARG:NH2	44:L5:1500:C:O2'	2.42	0.52
30:Lc:21:VAL:N	30:Lc:101:ASP:OD2	2.42	0.52
44:L5:3456:A:N3	44:L5:4159:C:O2'	2.42	0.52
44:L5:4394:A:H4'	44:L5:4395:A:H4'	1.92	0.52
52:SI:61:ASP:N	52:SI:61:ASP:OD1	2.42	0.52
53:SK:15:LEU:HD22	53:SK:49:MET:HE1	1.91	0.52
65:Sd:21:CYS:N	65:Sd:26:ASN:O	2.40	0.52
66:Sg:15:ASN:ND2	66:Sg:305:ASN:HD21	2.05	0.52
2:SA:3:GLY:N	2:SA:56:GLU:OE2	2.42	0.52
3:LB:228:TYR:O	44:L5:2589:A:O2'	2.22	0.52
4:SB:86:LEU:HA	4:SB:99:ASN:O	2.09	0.52
6:LD:163:LEU:O	6:LD:167:VAL:HG13	2.10	0.52
8:LF:89:THR:HG23	8:LF:92:ARG:NH2	2.24	0.52
9:LG:162:ASP:HB2	9:LG:163:PRO:HD3	1.91	0.52
10:LH:8:GLN:HG3	10:LH:74:CYS:SG	2.50	0.52
31:Ld:114:PHE:HA	31:Ld:117:LEU:HD12	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:928:C:H2'	44:L5:929:G:C8	2.45	0.52
44:L5:1443:G:H2'	44:L5:1445:A:N7	2.24	0.52
44:L5:3263:U:H2'	44:L5:3264:U:C6	2.45	0.52
44:L5:3321:G:H2'	44:L5:3322:G:H8	1.73	0.52
46:L8:102:G:OP2	46:L8:104:A:O2'	2.24	0.52
47:S2:162:C:OP1	68:SG:87:ARG:NH2	2.43	0.52
47:S2:847:G:H2'	49:SE:19:MET:HG2	1.92	0.52
47:S2:1691:U:H2'	47:S2:1692:U:C6	2.43	0.52
63:Sa:24:THR:HG21	63:Sa:71:LEU:HB3	1.91	0.52
4:SB:140:VAL:HG12	4:SB:213:ARG:HB2	1.91	0.52
7:LE:198:HIS:CD2	7:LE:200:LYS:H	2.21	0.52
11:LI:76:MET:HE2	11:LI:138:ILE:HG21	1.90	0.52
14:LM:106:ASP:OD1	14:LM:109:ARG:NH2	2.43	0.52
44:L5:1730:U:OP1	44:L5:1752:U:O2'	2.28	0.52
47:S2:126:G:N7	68:SG:196:LYS:HD3	2.25	0.52
69:SJ:110:LEU:HD22	69:SJ:149:VAL:HB	1.90	0.52
70:SN:87:ASP:OD1	70:SN:87:ASP:N	2.42	0.52
73:SY:48:TYR:C	73:SY:49:LYS:HE3	2.34	0.52
1:LA:177:LYS:O	44:L5:2493:C:N4	2.28	0.52
8:LF:91:ILE:HG21	44:L5:735:C:H5''	1.92	0.52
22:LU:22:THR:HG22	22:LU:71:THR:HB	1.91	0.52
28:La:7:LYS:NZ	44:L5:2041:G:OP1	2.42	0.52
31:Ld:123:ASP:OD1	31:Ld:123:ASP:N	2.37	0.52
44:L5:1536:G:N3	44:L5:3867:A:H2'	2.25	0.52
44:L5:4042:C:H2'	44:L5:4043:A:C8	2.45	0.52
47:S2:85:A:H2'	47:S2:86:C:H6	1.74	0.52
47:S2:596:U:H2'	47:S2:597:U:C6	2.44	0.52
47:S2:1580:A:O2'	47:S2:1583:C:N4	2.43	0.52
51:SH:147:LYS:HZ3	51:SH:153:LEU:HD22	1.74	0.52
57:SR:29:HIS:HA	57:SR:32:LYS:HE2	1.90	0.52
69:SJ:84:ILE:HG23	69:SJ:86:VAL:HG23	1.92	0.52
77:S6:49:G:H2'	77:S6:50:A:C8	2.45	0.52
44:L5:887:C:N4	44:L5:922:G:H22	2.07	0.52
44:L5:1225:G:C8	44:L5:1226:G:H4'	2.44	0.52
48:SD:133:GLY:HA3	48:SD:156:LEU:O	2.10	0.52
49:SE:95:THR:OG1	73:SY:19:GLN:NE2	2.43	0.52
49:SE:175:PHE:HE1	49:SE:225:ILE:HD11	1.75	0.52
70:SN:29:THR:HG23	70:SN:32:ASP:H	1.75	0.52
7:LE:172:PHE:HA	7:LE:183:VAL:HG23	1.91	0.52
9:LG:57:TRP:O	9:LG:62:ARG:NH1	2.43	0.52
15:LN:146:PRO:O	15:LN:147:ASP:HB2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LS:106:VAL:HG13	20:LS:126:ILE:HD12	1.91	0.52
31:Ld:36:VAL:HG21	31:Ld:44:ARG:HG2	1.90	0.52
44:L5:423:U:H2'	44:L5:424:U:C6	2.44	0.52
44:L5:658:C:H2'	44:L5:659:C:C6	2.44	0.52
44:L5:1660:C:H2'	44:L5:1661:A:C8	2.45	0.52
44:L5:4545:G:H2'	44:L5:4547:G:H5''	1.92	0.52
46:L8:8:U:H2'	46:L8:9:A:H8	1.74	0.52
47:S2:1117:C:H2'	47:S2:1118:C:C6	2.45	0.52
47:S2:1425:G:H2'	47:S2:1426:G:C8	2.45	0.52
47:S2:1448:G:H2'	47:S2:1449:A:C8	2.43	0.52
48:SD:53:THR:HG23	48:SD:90:LYS:HE3	1.92	0.52
53:SK:53:LYS:NZ	53:SK:60:GLU:OE1	2.40	0.52
57:SR:24:LEU:HB3	57:SR:58:MET:HG3	1.92	0.52
60:SU:43:ALA:HB1	60:SU:48:LEU:HB2	1.91	0.52
69:SJ:75:ASN:OD1	69:SJ:79:ARG:NH1	2.39	0.52
70:SN:94:LYS:O	70:SN:98:VAL:HG23	2.10	0.52
1:LA:208:GLU:OE1	44:L5:1443:G:N1	2.36	0.52
2:SA:7:VAL:HG22	2:SA:191:ARG:HD2	1.92	0.52
2:SA:31:ASP:HB3	2:SA:34:MET:HB2	1.91	0.52
9:LG:138:ALA:HB2	9:LG:194:VAL:HG11	1.92	0.52
10:LH:103:VAL:HG11	10:LH:144:LEU:HD21	1.91	0.52
12:LJ:24:ILE:HG22	12:LJ:40:LEU:HD22	1.92	0.52
44:L5:2164:G:H22	78:Ll:51:LEU:HD22	1.74	0.52
44:L5:2242:U:O4	44:L5:2248:C:N4	2.43	0.52
44:L5:3267:A:H2'	44:L5:3268:A:H8	1.74	0.52
44:L5:3269:C:H5'	52:SI:92:ARG:HH21	1.75	0.52
44:L5:4134:U:H2'	44:L5:4135:U:C6	2.45	0.52
47:S2:1158:G:H1'	72:SW:76:SER:OG	2.10	0.52
47:S2:1228:G:C2	47:S2:1229:A:C8	2.98	0.52
47:S2:1624:A:N1	58:SS:132:ARG:NH1	2.57	0.52
47:S2:1654:U:H2'	47:S2:1655:G:C8	2.45	0.52
51:SH:145:ARG:HD3	51:SH:147:LYS:HE2	1.91	0.52
66:Sg:188:HIS:HB3	66:Sg:219:TRP:CZ3	2.45	0.52
68:SG:157:VAL:HG21	68:SG:176:ILE:HD11	1.92	0.52
9:LG:249:ARG:NH1	44:L5:3726:U:OP1	2.39	0.52
44:L5:3721:U:H2'	44:L5:3722:U:C6	2.45	0.52
47:S2:956:A:N6	47:S2:972:G:H1'	2.25	0.52
47:S2:1034:G:N1	47:S2:1081:A:O2'	2.36	0.52
48:SD:54:ARG:O	48:SD:58:VAL:HG23	2.10	0.52
70:SN:23:PRO:HD2	70:SN:26:LEU:HD23	1.92	0.52
6:LD:53:VAL:HG11	6:LD:159:VAL:HA	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LR:23:TRP:HB2	19:LR:53:LYS:HE2	1.91	0.51
34:Lg:26:PRO:HD2	44:L5:2278:G:H4'	1.92	0.51
44:L5:2365:A:H2'	44:L5:2366:G:C8	2.44	0.51
44:L5:2439:C:H2'	44:L5:2440:G:O4'	2.09	0.51
44:L5:4101:G:H5''	44:L5:4102:A:H5'	1.92	0.51
44:L5:4112:U:H2'	44:L5:4113:U:C6	2.45	0.51
47:S2:529:A:N6	47:S2:559:G:O6	2.43	0.51
47:S2:532:A:H2	47:S2:555:A:H62	1.58	0.51
48:SD:99:ILE:O	48:SD:103:GLU:HG2	2.09	0.51
62:SX:110:HIS:HD2	62:SX:111:ALA:O	1.93	0.51
1:LA:15:VAL:HG13	1:LA:194:ASN:HD22	1.73	0.51
6:LD:33:ARG:NE	45:L7:7:G:OP1	2.41	0.51
10:LH:61:TRP:CZ3	14:LM:33:GLN:HG3	2.45	0.51
10:LH:80:MET:O	10:LH:84:VAL:HG22	2.09	0.51
14:LM:114:LYS:HD2	44:L5:4575:C:H5''	1.91	0.51
17:LP:122:ALA:HB3	17:LP:143:PRO:HG2	1.92	0.51
18:LQ:184:ARG:NH2	28:La:55:LYS:O	2.35	0.51
22:LU:91:LEU:HB2	22:LU:97:ARG:HG3	1.92	0.51
35:Lh:103:LYS:NZ	35:Lh:111:GLU:OE2	2.41	0.51
44:L5:1035:U:H2'	44:L5:1037:G:C8	2.45	0.51
44:L5:1286:C:H2'	44:L5:1287:U:C6	2.45	0.51
44:L5:3537:G:H2'	44:L5:3538:G:C8	2.46	0.51
44:L5:4538:A:H2'	44:L5:4539:A:O4'	2.10	0.51
44:L5:4664:A:N6	44:L5:4681:G:O2'	2.43	0.51
47:S2:1144:A:OP2	67:SC:187:ARG:NH1	2.39	0.51
47:S2:1204:G:H2'	47:S2:1205:A:C8	2.45	0.51
47:S2:1454:C:O2	47:S2:1454:C:H2'	2.11	0.51
47:S2:1853:C:H2'	47:S2:1854:C:C6	2.46	0.51
48:SD:123:LEU:HD21	48:SD:154:ASP:HB2	1.91	0.51
48:SD:163:PRO:HA	48:SD:166:TYR:CZ	2.45	0.51
51:SH:29:GLU:OE1	51:SH:86:LYS:NZ	2.34	0.51
53:SK:64:TRP:HB3	65:Sd:23:VAL:HA	1.92	0.51
55:SP:33:LEU:HD13	55:SP:37:TYR:HE2	1.75	0.51
58:SS:40:TYR:HA	58:SS:83:PHE:HE2	1.75	0.51
62:SX:67:ARG:HG3	62:SX:115:ILE:HG12	1.93	0.51
68:SG:120:ASP:HB3	68:SG:125:THR:OG1	2.10	0.51
69:SJ:110:LEU:HD21	69:SJ:147:PHE:CG	2.45	0.51
6:LD:41:LYS:HB2	21:LT:68:THR:O	2.11	0.51
7:LE:198:HIS:HB3	7:LE:201:PHE:HD2	1.75	0.51
8:LF:74:GLU:OE2	44:L5:1068:A:O2'	2.26	0.51
13:LL:16:LYS:NZ	15:LN:196:ASN:HD21	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:La:35:ALA:HB1	44:L5:39:A:H5''	1.92	0.51
31:Ld:79:ASN:HD21	44:L5:4289:U:H3	1.58	0.51
44:L5:761:C:H41	44:L5:810:G:H1	1.58	0.51
44:L5:3826:G:H2'	44:L5:3827:U:C6	2.44	0.51
47:S2:118:C:H1'	47:S2:446:A:C8	2.45	0.51
47:S2:573:U:H5'	73:SY:60:PHE:O	2.10	0.51
47:S2:798:C:O2'	47:S2:800:U:OP1	2.24	0.51
63:Sa:4:LYS:HD3	63:Sa:5:ARG:NH1	2.26	0.51
66:Sg:110:SER:HB2	66:Sg:153:CYS:HA	1.91	0.51
66:Sg:302:TYR:HE1	66:Sg:308:ARG:HB2	1.76	0.51
17:LP:45:THR:HG22	17:LP:49:LYS:HE2	1.92	0.51
43:Lr:47:LYS:O	43:Lr:103:ARG:NH1	2.39	0.51
47:S2:1492:G:H2'	47:S2:1493:U:C6	2.45	0.51
48:SD:210:ILE:HD12	57:SR:16:ILE:HG22	1.93	0.51
59:ST:5:THR:HG23	59:ST:7:LYS:H	1.75	0.51
5:LC:334:THR:OG1	8:LF:73:TYR:OH	2.18	0.51
24:LW:2:LYS:NZ	24:LW:3:VAL:O	2.43	0.51
44:L5:4652:C:H2'	44:L5:4653:G:O4'	2.11	0.51
47:S2:1474:G:N1	47:S2:1477:A:OP2	2.41	0.51
47:S2:1758:G:N2	47:S2:1776:U:O2	2.43	0.51
47:S2:1776:U:H2'	47:S2:1777:G:N2	2.26	0.51
48:SD:75:LYS:HB3	53:SK:22:VAL:HG22	1.93	0.51
48:SD:122:VAL:O	48:SD:126:ILE:HG13	2.10	0.51
13:LL:96:ILE:O	13:LL:97:SER:OG	2.25	0.51
19:LR:43:LYS:NZ	19:LR:47:ASP:OD2	2.44	0.51
26:LY:36:LYS:NZ	44:L5:200:U:OP1	2.38	0.51
44:L5:1093:C:H2'	44:L5:1094:A:O4'	2.10	0.51
44:L5:1362:G:O2'	44:L5:2566:A:N3	2.38	0.51
44:L5:3518:A:H2'	44:L5:3519:A:C8	2.45	0.51
44:L5:3744:G:H2'	44:L5:3745:G:C8	2.46	0.51
44:L5:4111:C:H2'	44:L5:4112:U:C6	2.45	0.51
44:L5:4396:G:H2'	44:L5:4397:G:C8	2.45	0.51
47:S2:534:A:H2'	47:S2:535:G:C8	2.45	0.51
47:S2:1421:G:H21	47:S2:1422:A:H1'	1.75	0.51
47:S2:1779:C:H2'	47:S2:1780:G:C8	2.46	0.51
49:SE:117:GLU:C	49:SE:119:ALA:H	2.18	0.51
52:SI:7:ASN:OD1	54:SL:136:LYS:NZ	2.44	0.51
53:SK:18:GLU:OE1	53:SK:19:GLY:N	2.39	0.51
56:SQ:47:LEU:HD22	56:SQ:50:LYS:HD2	1.91	0.51
58:SS:6:PRO:HD2	58:SS:9:PHE:HD1	1.75	0.51
66:Sg:256:ILE:HD12	66:Sg:289:LEU:HD13	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SB:163:GLN:HG3	4:SB:204:ILE:HD13	1.92	0.51
5:LC:209:ILE:HB	5:LC:229:LEU:HD13	1.93	0.51
7:LE:79:LYS:HG3	29:Lb:117:CYS:HB3	1.93	0.51
15:LN:91:GLN:O	15:LN:93:LYS:NZ	2.40	0.51
44:L5:1147:C:H2'	44:L5:1148:A:C8	2.45	0.51
44:L5:3907:G:H1	44:L5:3910:A:H2	1.56	0.51
47:S2:299:G:OP1	49:SE:134:LYS:N	2.42	0.51
47:S2:552:U:OP1	69:SJ:124:HIS:NE2	2.39	0.51
47:S2:904:A:H2'	47:S2:905:A:C4	2.45	0.51
47:S2:1668:U:H2'	47:S2:1669:U:C6	2.46	0.51
47:S2:1691:U:H2'	47:S2:1692:U:H6	1.76	0.51
66:Sg:246:TYR:CG	66:Sg:247:TRP:N	2.75	0.51
9:LG:74:LEU:HD13	15:LN:24:ARG:HH12	1.75	0.51
14:LM:104:MET:HG2	14:LM:108:ASP:HB3	1.91	0.51
15:LN:84:PRO:HA	15:LN:87:HIS:CG	2.46	0.51
44:L5:682:G:H2'	44:L5:683:C:C6	2.45	0.51
44:L5:1089:A:HO2'	44:L5:1090:G:H8	1.59	0.51
44:L5:1675:G:O2'	44:L5:3872:A:N3	2.38	0.51
51:SH:160:LYS:HG3	51:SH:189:PHE:HB3	1.93	0.51
52:SI:175:ILE:HG12	52:SI:176:ALA:N	2.25	0.51
52:SI:195:LEU:O	52:SI:199:LEU:HD12	2.10	0.51
77:S6:28:U:H2'	77:S6:29:G:C8	2.45	0.51
2:SA:141:ASN:HD21	67:SC:87:PRO:HD3	1.76	0.51
3:LB:10:ARG:NH2	3:LB:14:LEU:HD21	2.25	0.51
21:LT:158:PHE:HE1	21:LT:160:ALA:HB3	1.76	0.51
41:Lc:81:ARG:NH2	44:L5:3946:U:O2'	2.43	0.51
44:L5:223:G:H4'	44:L5:225:G:N7	2.26	0.51
44:L5:1120:C:OP1	46:L8:7:U:O2'	2.28	0.51
44:L5:2021:C:H2'	44:L5:2022:G:O4'	2.11	0.51
44:L5:2168:C:H2'	44:L5:2169:A:H8	1.75	0.51
46:L8:92:U:H2'	46:L8:93:C:O4'	2.10	0.51
47:S2:94:G:HO2'	47:S2:509:A:HO2'	1.53	0.51
47:S2:365:A:O2'	47:S2:402:A:N1	2.38	0.51
47:S2:385:U:H2'	47:S2:387:C:H5	1.76	0.51
47:S2:1089:U:H4'	47:S2:1090:G:OP2	2.10	0.51
47:S2:1682:U:H2'	47:S2:1683:C:C6	2.46	0.51
47:S2:1739:C:P	68:SG:92:ARG:HH12	2.33	0.51
64:Sc:33:GLU:HG3	64:Sc:35:MET:H	1.74	0.51
77:S6:20:A:H62	77:S6:59:A:H61	1.59	0.51
2:SA:77:ILE:HG12	2:SA:99:ILE:HG13	1.92	0.51
2:SA:164:ASN:C	2:SA:165:ASN:HD22	2.19	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LI:51:HIS:ND1	11:LI:137:SER:HB3	2.25	0.51
13:LL:64:VAL:HG23	44:L5:71:C:H5'	1.93	0.51
44:L5:494:G:H22	44:L5:668:G:H22	1.59	0.51
44:L5:747:G:O2'	44:L5:748:G:H8	1.93	0.51
44:L5:1497:U:H2'	44:L5:1498:A:C8	2.46	0.51
45:L7:27:G:H21	45:L7:55:A:N6	2.09	0.51
47:S2:1256:G:OP1	47:S2:1257:G:O2'	2.26	0.51
47:S2:1525:G:O2'	77:S6:30:G:OP1	2.29	0.51
47:S2:1792:A:H2'	47:S2:1793:G:O4'	2.11	0.51
66:Sg:106:LYS:HD3	66:Sg:126:ASP:HA	1.93	0.51
1:LA:179:ILE:O	1:LA:184:ARG:HD2	2.11	0.50
5:LC:163:LYS:HB2	5:LC:166:GLU:HG3	1.92	0.50
21:LT:5:LYS:HD2	44:L5:3955:U:H4'	1.93	0.50
26:LY:27:ARG:CZ	46:L8:70:G:H5''	2.40	0.50
27:LZ:14:LEU:O	34:Lg:88:ARG:HG2	2.11	0.50
28:La:12:ARG:O	44:L5:1474:U:H2'	2.11	0.50
32:Le:37:LYS:HZ2	32:Le:55:MET:HE2	1.76	0.50
44:L5:113:A:H2'	44:L5:114:G:O4'	2.10	0.50
44:L5:206:U:O2'	44:L5:208:A:N7	2.37	0.50
44:L5:932:C:H2'	44:L5:933:C:C6	2.46	0.50
44:L5:1486:U:O2'	44:L5:3957:A:OP1	2.26	0.50
44:L5:2129:U:H2'	44:L5:2130:C:C6	2.46	0.50
44:L5:3321:G:H2'	44:L5:3322:G:C8	2.47	0.50
44:L5:3568:C:H2'	44:L5:3569:U:H6	1.77	0.50
44:L5:3721:U:H2'	44:L5:3722:U:H6	1.76	0.50
44:L5:4376:A:H2'	44:L5:4377:A:C8	2.46	0.50
47:S2:534:A:H2'	47:S2:535:G:H8	1.76	0.50
58:SS:15:VAL:HG13	58:SS:68:ILE:HD11	1.93	0.50
1:LA:28:ARG:HD2	1:LA:123:ARG:HD2	1.92	0.50
2:SA:85:ARG:HG3	57:SR:81:ARG:HE	1.76	0.50
44:L5:1295:C:O2'	44:L5:1296:G:N3	2.32	0.50
44:L5:4383:C:H2'	44:L5:4384:G:O4'	2.11	0.50
44:L5:4666:C:H2'	44:L5:4667:A:C8	2.46	0.50
47:S2:1110:C:C4	57:SR:126:MET:HE2	2.47	0.50
47:S2:1421:G:N2	47:S2:1422:A:N3	2.58	0.50
47:S2:1453:A:O2'	47:S2:1476:G:N2	2.45	0.50
49:SE:44:LEU:O	49:SE:48:LEU:HG	2.12	0.50
60:SU:81:GLN:HE21	65:Sd:55:LEU:HB2	1.76	0.50
70:SN:33:VAL:HB	70:SN:67:THR:HG21	1.91	0.50
9:LG:59:ARG:NH2	44:L5:2227:C:O2'	2.44	0.50
17:LP:13:LYS:HB3	17:LP:152:GLU:HB2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:417:A:C2	46:L8:17:A:H1'	2.46	0.50
44:L5:1765:A:OP2	44:L5:1826:C:N4	2.44	0.50
44:L5:2656:G:N1	44:L5:3251:C:O2	2.44	0.50
47:S2:541:U:H3	47:S2:545:G:H22	1.59	0.50
47:S2:825:C:H1'	69:SJ:144:ILE:HG21	1.93	0.50
48:SD:42:THR:C	48:SD:44:THR:H	2.18	0.50
51:SH:177:TYR:O	51:SH:181:THR:HB	2.11	0.50
52:SI:70:GLU:HG3	52:SI:72:CYS:H	1.76	0.50
66:Sg:256:ILE:HG21	66:Sg:298:LEU:HD21	1.94	0.50
67:SC:242:ASP:OD1	67:SC:246:LYS:HE3	2.11	0.50
73:SY:27:VAL:HG12	73:SY:29:HIS:HD2	1.76	0.50
2:SA:5:LEU:HD12	2:SA:8:LEU:HD12	1.94	0.50
5:LC:7:LEU:HG	5:LC:21:ASN:HB3	1.92	0.50
13:LL:18:TRP:NE1	44:L5:1330:G:O2'	2.45	0.50
13:LL:18:TRP:CD1	13:LL:18:TRP:H	2.29	0.50
14:LM:124:LYS:HA	14:LM:127:VAL:HG22	1.92	0.50
22:LU:49:VAL:HG12	22:LU:50:ASN:HD22	1.77	0.50
44:L5:1027:G:H2'	44:L5:1028:G:C8	2.45	0.50
44:L5:3913:U:H2'	44:L5:3914:C:H6	1.74	0.50
44:L5:4042:C:H2'	44:L5:4043:A:H8	1.76	0.50
47:S2:494:A:H1'	47:S2:575:A:H5'	1.94	0.50
47:S2:848:A:H2	49:SE:248:ILE:HG12	1.76	0.50
47:S2:1391:U:H2'	47:S2:1392:C:C6	2.46	0.50
47:S2:1639:G:H5''	47:S2:1640:G:OP1	2.10	0.50
61:SV:80:SER:O	61:SV:80:SER:OG	2.22	0.50
68:SG:56:ASN:ND2	68:SG:60:GLY:O	2.45	0.50
73:SY:23:MET:HE3	73:SY:48:TYR:CE2	2.46	0.50
4:SB:159:GLN:O	4:SB:163:GLN:HG2	2.11	0.50
10:LH:60:TRP:HB2	44:L5:4418:A:N1	2.25	0.50
22:LU:80:LYS:HG2	22:LU:110:TYR:CE2	2.47	0.50
32:Le:62:SER:OG	44:L5:2076:C:OP2	2.26	0.50
32:Le:107:ASN:O	32:Le:111:ILE:HG13	2.12	0.50
44:L5:1015:C:O5'	44:L5:1016:C:H5''	2.11	0.50
47:S2:918:U:H2'	47:S2:919:U:C6	2.46	0.50
47:S2:1145:A:H5'	47:S2:1356:C:H41	1.75	0.50
49:SE:104:ASP:HB2	49:SE:106:LYS:HZ1	1.75	0.50
50:SF:82:ASN:HA	50:SF:85:LYS:HG3	1.93	0.50
62:SX:60:LYS:HG3	62:SX:116:PRO:HG3	1.93	0.50
64:Sc:13:ARG:O	64:Sc:33:GLU:N	2.30	0.50
69:SJ:109:ARG:NH2	69:SJ:146:SER:HA	2.26	0.50
8:LF:148:ASN:HB2	21:LT:132:PRO:O	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LJ:94:LEU:H	12:LJ:173:ILE:HG21	1.76	0.50
13:LL:59:VAL:HG13	44:L5:74:G:H5'	1.94	0.50
15:LN:16:SER:O	15:LN:20:ARG:HB2	2.11	0.50
44:L5:2498:A:H2'	44:L5:2499:A:C8	2.47	0.50
44:L5:3891:G:H2'	44:L5:3892:A:C8	2.47	0.50
44:L5:3997:U:H2'	44:L5:3998:C:C6	2.47	0.50
47:S2:127:C:H42	49:SE:134:LYS:NZ	2.10	0.50
47:S2:382:C:N4	52:SI:27:TYR:O	2.26	0.50
47:S2:819:A:C5	47:S2:820:G:C8	3.00	0.50
47:S2:920:A:H5'	72:SW:57:ARG:HD2	1.94	0.50
47:S2:1244:U:OP2	47:S2:1519:C:O2'	2.18	0.50
47:S2:1257:G:C8	60:SU:66:ARG:HB2	2.47	0.50
47:S2:1288:A:O2'	47:S2:1317:C:O2	2.15	0.50
47:S2:1760:G:O6	47:S2:1773:C:N4	2.45	0.50
50:SF:138:ALA:HB3	50:SF:204:ARG:HA	1.94	0.50
57:SR:17:ILE:HD11	57:SR:54:VAL:HG13	1.94	0.50
67:SC:191:VAL:HG11	67:SC:236:PHE:HA	1.93	0.50
76:Se:86:VAL:O	76:Se:90:THR:HG23	2.12	0.50
9:LG:137:ARG:HG3	9:LG:146:LEU:HD11	1.93	0.50
30:Lc:36:LYS:O	30:Lc:40:GLN:HG2	2.11	0.50
44:L5:1289:G:H2'	44:L5:1290:C:C6	2.47	0.50
44:L5:1511:G:N2	44:L5:1887:C:OP1	2.45	0.50
44:L5:1801:A:H2'	44:L5:1802:A:C8	2.46	0.50
44:L5:2275:G:H1'	44:L5:2296:C:H1'	1.92	0.50
44:L5:2657:G:N2	44:L5:2658:U:O4	2.45	0.50
47:S2:141:A:N6	47:S2:177:G:O2'	2.45	0.50
47:S2:303:A:H1'	52:SI:73:THR:OG1	2.11	0.50
47:S2:415:A:H2'	47:S2:416:A:H8	1.76	0.50
47:S2:563:U:O2	47:S2:588:A:C5	2.65	0.50
47:S2:826:A:H2'	47:S2:827:A:C8	2.46	0.50
47:S2:1600:U:H4'	47:S2:1601:G:O5'	2.11	0.50
50:SF:201:LYS:HG3	50:SF:204:ARG:HH21	1.75	0.50
51:SH:144:ILE:H	51:SH:144:ILE:HD12	1.76	0.50
56:SQ:61:GLU:OE2	56:SQ:62:ARG:NH2	2.45	0.50
59:ST:72:VAL:O	59:ST:76:THR:HG23	2.11	0.50
70:SN:38:TYR:O	70:SN:42:LYS:HG2	2.12	0.50
77:S6:14:C:H2'	77:S6:15:A:C8	2.45	0.50
7:LE:53:ARG:NH1	7:LE:73:LYS:HG2	2.27	0.50
8:LF:109:PRO:HG3	8:LF:166:TYR:CE2	2.47	0.50
10:LH:41:ILE:HG22	10:LH:43:VAL:HG13	1.94	0.50
18:LQ:159:PRO:HD2	44:L5:3959:U:OP2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:704:U:H5'	44:L5:705:G:H5'	1.94	0.50
44:L5:1338:A:N1	44:L5:3572:U:O2'	2.37	0.50
44:L5:2119:U:H2'	44:L5:2120:A:H8	1.76	0.50
44:L5:2216:G:H2'	44:L5:2218:G:OP2	2.12	0.50
44:L5:2313:G:H2'	44:L5:2314:G:C8	2.46	0.50
47:S2:395:G:O2'	54:SL:82:MET:HB3	2.12	0.50
47:S2:1266:A:H5'	47:S2:1267:C:OP2	2.12	0.50
47:S2:1569:C:H2'	47:S2:1570:A:C8	2.46	0.50
47:S2:1649:G:N7	56:SQ:17:LYS:HE2	2.26	0.50
47:S2:1779:C:H2'	47:S2:1780:G:H8	1.76	0.50
49:SE:165:GLU:OE1	49:SE:165:GLU:N	2.40	0.50
51:SH:172:THR:O	51:SH:176:VAL:HG23	2.11	0.50
52:SI:98:LYS:HB2	52:SI:178:ARG:HG2	1.93	0.50
54:SL:17:PHE:O	54:SL:20:LYS:NZ	2.32	0.50
56:SQ:134:GLY:HA3	56:SQ:140:ARG:HA	1.93	0.50
68:SG:191:ARG:O	68:SG:195:LYS:HG3	2.12	0.50
71:SO:43:HIS:HA	71:SO:55:ARG:HA	1.94	0.50
78:LI:36:ARG:HH11	78:LI:36:ARG:HG3	1.77	0.50
1:LA:247:ARG:HE	1:LA:247:ARG:HA	1.76	0.50
5:LC:56:GLU:HG3	5:LC:57:LEU:HD22	1.94	0.50
6:LD:19:ARG:HE	6:LD:23:ARG:HG2	1.77	0.50
6:LD:79:TYR:O	6:LD:82:GLU:HG2	2.12	0.50
23:LV:83:ARG:HD3	23:LV:120:PRO:HG2	1.94	0.50
33:Lf:79:GLY:HA2	44:L5:1869:C:O2'	2.11	0.50
43:Lr:7:TRP:HB2	43:Lr:44:ILE:HD13	1.92	0.50
44:L5:162:A:H2'	44:L5:163:A:C8	2.46	0.50
44:L5:443:G:H2'	44:L5:444:U:C6	2.46	0.50
44:L5:3892:A:H2'	44:L5:3893:G:C8	2.46	0.50
44:L5:4157:C:H2'	44:L5:4158:C:C6	2.47	0.50
47:S2:483:G:H5'	62:SX:76:LYS:HB3	1.93	0.50
47:S2:512:U:H2'	47:S2:513:A:C8	2.47	0.50
47:S2:1366:G:H2'	47:S2:1367:G:C8	2.47	0.50
47:S2:1599:G:N2	47:S2:1600:U:O4	2.44	0.50
47:S2:1846:A:H2'	47:S2:1847:G:C8	2.47	0.50
53:SK:63:ALA:HB2	53:SK:68:TYR:CE1	2.47	0.50
56:SQ:111:ILE:HA	56:SQ:114:GLN:HB2	1.92	0.50
65:Sd:6:LEU:O	65:Sd:9:SER:HB2	2.12	0.50
74:SZ:80:ARG:O	74:SZ:82:SER:N	2.44	0.50
1:LA:162:ASN:HD22	1:LA:162:ASN:N	2.08	0.49
3:LB:299:ILE:CG2	3:LB:313:SER:HB3	2.42	0.49
6:LD:127:GLY:O	6:LD:195:HIS:ND1	2.31	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LG:58:PRO:HD2	9:LG:61:ILE:HD12	1.94	0.49
30:Lc:106:ARG:H	30:Lc:106:ARG:HD3	1.77	0.49
44:L5:140:G:H2'	44:L5:141:C:H6	1.77	0.49
44:L5:477:G:H2'	44:L5:478:G:H8	1.76	0.49
44:L5:1229:G:H2'	44:L5:1230:C:C6	2.47	0.49
44:L5:3479:U:H3'	44:L5:3480:G:N2	2.27	0.49
44:L5:3746:G:O6	44:L5:3764:U:O2'	2.27	0.49
47:S2:1714:C:H2'	47:S2:1715:U:C6	2.47	0.49
47:S2:1849:U:H2'	47:S2:1851:A:OP2	2.12	0.49
49:SE:41:CYS:HA	49:SE:85:GLY:HA2	1.95	0.49
50:SF:50:PRO:HG2	50:SF:90:VAL:HG12	1.94	0.49
51:SH:130:LEU:HG	51:SH:177:TYR:CE1	2.47	0.49
67:SC:170:TRP:CE2	72:SW:97:ARG:HD2	2.47	0.49
2:SA:14:ASP:HA	2:SA:17:LYS:HD3	1.94	0.49
2:SA:76:VAL:HG12	2:SA:123:VAL:HB	1.93	0.49
5:LC:269:LYS:HB3	44:L5:662:C:H4'	1.94	0.49
8:LF:170:LYS:O	8:LF:174:GLU:HG2	2.11	0.49
9:LG:45:ILE:HD12	44:L5:3776:C:H5'	1.94	0.49
13:LL:177:LYS:O	13:LL:181:SER:OG	2.13	0.49
44:L5:1142:C:H2'	44:L5:1143:G:C8	2.47	0.49
44:L5:1366:G:N2	44:L5:1388:G:H2'	2.27	0.49
44:L5:1669:U:H2'	44:L5:1670:A:O4'	2.12	0.49
44:L5:1771:G:O6	44:L5:1821:C:N4	2.45	0.49
44:L5:4549:G:N2	44:L5:4564:C:H42	1.99	0.49
47:S2:477:A:O2'	47:S2:488:U:O2'	2.23	0.49
47:S2:1026:U:H2'	47:S2:1027:C:O4'	2.12	0.49
47:S2:1217:C:O2'	47:S2:1645:C:OP1	2.27	0.49
53:SK:15:LEU:HD13	53:SK:21:MET:HG2	1.93	0.49
68:SG:193:ALA:O	68:SG:197:GLN:HG2	2.12	0.49
74:SZ:56:ASP:O	74:SZ:60:LYS:HB2	2.11	0.49
3:LB:105:VAL:HG23	3:LB:153:MET:HE1	1.92	0.49
4:SB:120:MET:HE2	4:SB:142:PHE:HE1	1.76	0.49
5:LC:179:ASP:O	5:LC:183:VAL:HG23	2.12	0.49
11:LI:52:MET:HE2	11:LI:156:LYS:HG3	1.94	0.49
18:LQ:64:SER:HB3	18:LQ:92:ILE:HG13	1.94	0.49
30:Lc:101:ASP:OD1	30:Lc:101:ASP:N	2.45	0.49
44:L5:489:G:H2'	44:L5:490:C:C6	2.47	0.49
44:L5:4595:U:H2'	44:L5:4596:C:C6	2.46	0.49
47:S2:30:C:H1'	47:S2:597:U:H5'	1.93	0.49
47:S2:74:G:O2'	47:S2:75:G:N7	2.43	0.49
47:S2:882:G:N2	47:S2:906:C:O2'	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LB:92:TYR:OH	3:LB:182:GLU:OE1	2.24	0.49
4:SB:125:VAL:HG22	4:SB:172:MET:HE3	1.92	0.49
5:LC:83:GLY:HA3	44:L5:367:C:O4'	2.13	0.49
5:LC:323:ARG:HH12	44:L5:1094:A:H2	1.60	0.49
7:LE:138:LYS:NZ	44:L5:721:C:O2	2.45	0.49
12:LJ:12:MET:HE1	45:L7:29:C:H4'	1.94	0.49
12:LJ:92:TYR:O	12:LJ:173:ILE:HG12	2.12	0.49
13:LL:178:ALA:N	28:La:134:GLU:OE1	2.44	0.49
15:LN:200:LEU:HD22	15:LN:204:ARG:HD3	1.94	0.49
21:LT:4:THR:OG1	44:L5:3861:U:OP2	2.27	0.49
27:LZ:42:LEU:HD21	27:LZ:96:VAL:HG12	1.92	0.49
28:La:2:PRO:HD2	44:L5:1323:C:H5''	1.93	0.49
35:Lh:89:ARG:HD2	46:L8:37:A:OP2	2.12	0.49
44:L5:233:U:O2'	44:L5:234:G:H5''	2.12	0.49
44:L5:1119:C:H2'	44:L5:1120:C:C6	2.48	0.49
44:L5:4552:C:H2'	44:L5:4553:G:O4'	2.12	0.49
44:L5:4602:G:H2'	44:L5:4603:A:C8	2.47	0.49
44:L5:4677:C:HO2'	44:L5:4678:U:H6	1.60	0.49
46:L8:78:G:H2'	46:L8:79:G:O4'	2.12	0.49
47:S2:1209:A:OP2	47:S2:1836:A:O2'	2.28	0.49
60:SU:61:LEU:O	60:SU:81:GLN:HA	2.12	0.49
67:SC:66:LEU:O	67:SC:70:VAL:HG23	2.12	0.49
67:SC:103:LYS:HG3	67:SC:133:TYR:CZ	2.48	0.49
3:LB:378:ARG:HG2	24:LW:32:LEU:HD21	1.93	0.49
6:LD:178:LYS:HE2	6:LD:179:ARG:NH1	2.28	0.49
13:LL:5:ARG:HH12	44:L5:1652:U:H3'	1.78	0.49
16:LO:81:TRP:HB2	16:LO:104:VAL:HG21	1.94	0.49
19:LR:61:ALA:HB2	44:L5:2387:U:H5''	1.95	0.49
21:LT:27:LEU:O	21:LT:31:MET:HG2	2.13	0.49
23:LV:43:LYS:HE2	44:L5:4161:C:H5''	1.93	0.49
34:Lg:76:ARG:NH2	44:L5:2337:C:OP2	2.45	0.49
36:Li:34:THR:HG21	44:L5:275:C:OP2	2.11	0.49
42:Lp:74:THR:O	42:Lp:78:THR:HG23	2.12	0.49
44:L5:3269:C:H1'	44:L5:4664:A:C8	2.48	0.49
44:L5:3800:G:H2'	44:L5:3801:G:C8	2.47	0.49
44:L5:4161:C:N3	44:L5:4165:U:H5	2.10	0.49
44:L5:4393:G:C8	44:L5:4396:G:H5''	2.47	0.49
47:S2:2:A:H5''	67:SC:205:VAL:HG11	1.94	0.49
47:S2:162:C:P	68:SG:87:ARG:HH22	2.35	0.49
47:S2:945:A:H5''	71:SO:134:PRO:HB3	1.94	0.49
47:S2:1469:C:H2'	47:S2:1470:A:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SF:76:MET:HE1	50:SF:173:LEU:HD13	1.94	0.49
51:SH:103:LYS:HG3	51:SH:116:ARG:HH22	1.76	0.49
54:SL:4:ILE:HD11	54:SL:54:THR:OG1	2.12	0.49
58:SS:39:ARG:HH11	59:ST:38:LYS:HG2	1.77	0.49
73:SY:27:VAL:HG12	73:SY:29:HIS:CD2	2.48	0.49
76:Se:109:ARG:HA	76:Se:112:TYR:HB3	1.93	0.49
3:LB:99:LEU:O	44:L5:4235:C:H4'	2.12	0.49
8:LF:260:ASP:OD1	8:LF:261:GLN:NE2	2.45	0.49
38:Lk:52:LYS:HA	38:Lk:55:LYS:HE3	1.95	0.49
44:L5:428:A:H2'	44:L5:429:G:C8	2.48	0.49
47:S2:858:U:H2'	47:S2:859:A:H8	1.78	0.49
50:SF:108:PRO:HA	50:SF:111:VAL:HG23	1.93	0.49
3:LB:10:ARG:NH1	3:LB:11:HIS:O	2.46	0.49
4:SB:129:THR:HB	4:SB:180:ASP:HA	1.93	0.49
5:LC:80:ARG:O	44:L5:373:G:O2'	2.30	0.49
6:LD:19:ARG:NH2	44:L5:3933:A:OP1	2.45	0.49
6:LD:200:MET:HE2	6:LD:237:GLU:HG2	1.94	0.49
7:LE:122:ARG:NH1	44:L5:457:C:OP2	2.46	0.49
21:LT:1:MET:HE1	29:Lb:6:ASN:HB3	1.94	0.49
21:LT:27:LEU:HB3	21:LT:31:MET:HE2	1.94	0.49
28:La:44:ASN:ND2	44:L5:1497:U:OP1	2.43	0.49
29:Lb:93:ARG:O	29:Lb:97:ILE:HG13	2.13	0.49
32:Le:29:VAL:HB	44:L5:1147:C:H5''	1.94	0.49
35:Lh:99:GLU:HA	35:Lh:102:LEU:HG	1.94	0.49
41:Lo:23:VAL:HG22	41:Lo:70:LEU:HD22	1.94	0.49
44:L5:393:G:N2	44:L5:395:A:H3'	2.28	0.49
44:L5:2222:C:H2'	44:L5:2223:G:O4'	2.13	0.49
44:L5:4560:C:O2'	44:L5:4561:G:H2'	2.13	0.49
46:L8:40:A:H2'	46:L8:41:A:C8	2.48	0.49
47:S2:129:C:H42	47:S2:183:G:H1	1.59	0.49
47:S2:438:G:P	47:S2:474:A:H61	2.36	0.49
47:S2:527:A:O2'	69:SJ:125:HIS:ND1	2.23	0.49
47:S2:607:G:H5''	76:Se:130:ASN:HB3	1.95	0.49
47:S2:669:A:H5''	47:S2:1199:G:H4'	1.94	0.49
48:SD:146:ARG:HH12	48:SD:148:LYS:HD2	1.76	0.49
54:SL:88:ILE:HG12	54:SL:109:MET:HB2	1.94	0.49
58:SS:27:ALA:HB2	58:SS:52:LEU:HD22	1.94	0.49
66:Sg:232:GLY:O	66:Sg:252:THR:OG1	2.30	0.49
16:LO:60:LYS:NZ	44:L5:1849:G:OP1	2.44	0.49
26:LY:50:ARG:HG3	26:LY:51:LYS:N	2.27	0.49
34:Lg:41:ALA:HB3	34:Lg:52:ARG:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:11:G:H2'	44:L5:12:A:C8	2.48	0.49
44:L5:1122:A:H2'	44:L5:1123:C:H6	1.78	0.49
44:L5:2314:G:H22	44:L5:2324:G:N2	2.10	0.49
44:L5:2659:C:OP1	44:L5:3248:C:O2'	2.20	0.49
47:S2:1593:C:H4'	56:SQ:44:PRO:HB3	1.94	0.49
49:SE:36:HIS:ND1	49:SE:85:GLY:HA3	2.28	0.49
51:SH:139:ILE:HG23	51:SH:156:VAL:HG13	1.94	0.49
58:SS:127:TRP:O	58:SS:129:LEU:N	2.44	0.49
74:SZ:74:SER:HA	74:SZ:79:ILE:HG13	1.95	0.49
6:LD:33:ARG:NH1	6:LD:72:ASP:OD2	2.46	0.49
7:LE:134:LEU:HD12	44:L5:858:A:H8	1.76	0.49
16:LO:85:ARG:NH2	44:L5:3544:C:OP2	2.35	0.49
16:LO:194:GLU:O	16:LO:198:THR:HG23	2.13	0.49
17:LP:54:LYS:HA	17:LP:83:TRP:CD1	2.47	0.49
20:LS:147:ASP:HB3	20:LS:150:ILE:HB	1.94	0.49
22:LU:100:LEU:HD22	22:LU:112:LEU:HB3	1.94	0.49
47:S2:1145:A:H2'	47:S2:1146:A:C8	2.48	0.49
47:S2:1163:C:H2'	47:S2:1164:C:O4'	2.13	0.49
47:S2:1471:C:H2'	47:S2:1472:C:C6	2.48	0.49
47:S2:1609:U:H5''	58:SS:130:ARG:NE	2.28	0.49
48:SD:222:PRO:HG3	66:Sg:217:MET:HE1	1.94	0.49
52:SI:81:VAL:HG12	52:SI:91:VAL:HG13	1.95	0.49
52:SI:168:GLN:NE2	52:SI:170:LYS:O	2.46	0.49
55:SP:74:GLU:O	55:SP:93:MET:HB2	2.12	0.49
62:SX:59:ALA:HB1	62:SX:114:ASP:HB2	1.94	0.49
68:SG:56:ASN:HB2	68:SG:108:VAL:HG23	1.95	0.49
75:Sb:34:ASP:HA	75:Sb:44:THR:O	2.13	0.49
77:S6:17:C:O3'	77:S6:60:A:O2'	2.29	0.49
77:S6:52:G:C2	77:S6:63:A:C2	3.00	0.49
12:LJ:41:GLU:HB2	12:LJ:48:PRO:HD3	1.95	0.49
13:LL:34:ARG:HD3	46:L8:31:G:OP1	2.13	0.49
17:LP:69:ARG:HA	17:LP:80:GLN:HA	1.95	0.49
22:LU:89:LYS:HD2	44:L5:2380:U:O2	2.13	0.49
44:L5:3550:C:O2'	44:L5:4627:A:N1	2.41	0.49
47:S2:865:A:H2'	47:S2:866:A:C8	2.45	0.49
47:S2:1010:A:H5'	70:SN:98:VAL:HG22	1.94	0.49
47:S2:1635:A:H2'	47:S2:1636:C:O4'	2.13	0.49
57:SR:31:ASN:HA	57:SR:34:VAL:HG12	1.95	0.49
58:SS:10:GLN:HB3	58:SS:13:LEU:HG	1.94	0.49
66:Sg:59:LEU:HD22	66:Sg:94:THR:O	2.13	0.49
72:SW:11:LEU:HB3	72:SW:72:CYS:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:14:SER:HA	1:LA:17:ARG:HE	1.78	0.48
7:LE:189:ILE:O	44:L5:4529:C:N4	2.38	0.48
10:LH:24:THR:HA	10:LH:37:ASP:HA	1.94	0.48
10:LH:91:LYS:HB2	10:LH:183:GLU:HB3	1.95	0.48
14:LM:72:TYR:HA	14:LM:75:LYS:HG2	1.93	0.48
23:LV:22:VAL:O	23:LV:24:ALA:N	2.46	0.48
44:L5:452:G:H2'	44:L5:452:G:N3	2.28	0.48
44:L5:887:C:N4	44:L5:922:G:H1	2.10	0.48
44:L5:1140:C:O2	44:L5:3535:C:O2'	2.31	0.48
44:L5:1403:C:H2'	44:L5:1404:C:C6	2.48	0.48
44:L5:1693:G:OP2	44:L5:1693:G:N2	2.35	0.48
44:L5:4190:C:H2'	44:L5:4191:G:H8	1.77	0.48
47:S2:148:U:H2'	47:S2:149:A:H5''	1.94	0.48
64:Sc:29:GLN:HB3	64:Sc:43:ILE:HD11	1.94	0.48
66:Sg:187:ASN:O	66:Sg:189:ILE:N	2.43	0.48
78:Ll:29:MET:HE2	78:Ll:29:MET:HA	1.95	0.48
3:LB:286:LYS:HB3	3:LB:332:MET:HB3	1.96	0.48
44:L5:479:C:H2'	44:L5:480:G:C8	2.48	0.48
44:L5:2316:G:N1	44:L5:2322:A:C2	2.78	0.48
44:L5:4264:A:H2'	44:L5:4265:C:H6	1.78	0.48
47:S2:530:A:H2'	47:S2:531:U:C6	2.49	0.48
47:S2:555:A:O2'	47:S2:556:A:O4'	2.31	0.48
47:S2:1229:A:H2'	47:S2:1230:G:H8	1.74	0.48
47:S2:1262:C:OP1	47:S2:1519:C:N4	2.46	0.48
47:S2:1458:U:H2'	47:S2:1459:G:C8	2.49	0.48
47:S2:1615:A:OP2	55:SP:42:ARG:NH2	2.44	0.48
69:SJ:36:GLY:HA2	76:Se:109:ARG:HD2	1.93	0.48
10:LH:174:LYS:HG2	10:LH:175:PHE:H	1.78	0.48
17:LP:24:VAL:HG23	17:LP:144:CYS:SG	2.53	0.48
44:L5:131:C:H2'	44:L5:132:G:C8	2.48	0.48
44:L5:1088:G:O2'	44:L5:1089:A:H5'	2.14	0.48
44:L5:3423:A:N1	47:S2:1828:U:O2'	2.38	0.48
44:L5:3550:C:H2'	44:L5:3551:A:H8	1.78	0.48
44:L5:4393:G:H22	44:L5:4608:G:N2	2.10	0.48
47:S2:96:C:H2'	47:S2:97:U:C6	2.48	0.48
47:S2:129:C:N4	47:S2:183:G:H1	2.11	0.48
47:S2:381:G:P	52:SI:56:ARG:HH22	2.35	0.48
47:S2:1704:C:H2'	47:S2:1705:C:O4'	2.13	0.48
49:SE:71:LYS:HD3	49:SE:71:LYS:N	2.22	0.48
1:LA:108:PRO:HB2	42:Lp:86:LEU:HD22	1.95	0.48
2:SA:63:ARG:HB3	61:SV:37:ALA:H	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:SA:127:PRO:HG3	2:SA:146:ALA:HB1	1.96	0.48
2:SA:178:LEU:O	2:SA:182:VAL:HG12	2.13	0.48
6:LD:181:PRO:HD2	6:LD:195:HIS:CD2	2.48	0.48
29:Lb:40:LEU:O	29:Lb:44:ARG:HG3	2.13	0.48
44:L5:1367:A:H61	44:L5:1388:G:H1'	1.78	0.48
44:L5:2300:A:H2	44:L5:2527:G:H22	1.61	0.48
44:L5:4068:A:H2'	44:L5:4069:G:O4'	2.14	0.48
46:L8:60:G:O6	46:L8:96:C:O2'	2.24	0.48
47:S2:399:A:OP1	47:S2:400:C:O2'	2.23	0.48
47:S2:964:A:H2'	47:S2:965:A:C8	2.48	0.48
47:S2:1190:A:H2'	47:S2:1191:A:C8	2.48	0.48
47:S2:1233:U:H2'	47:S2:1234:G:C8	2.48	0.48
47:S2:1348:U:H2'	47:S2:1349:G:N3	2.29	0.48
49:SE:115:THR:HG23	49:SE:117:GLU:O	2.13	0.48
51:SH:167:GLU:OE1	51:SH:167:GLU:N	2.46	0.48
59:ST:70:ALA:HB1	59:ST:74:SER:OG	2.13	0.48
68:SG:30:LYS:HG2	68:SG:34:THR:HG21	1.94	0.48
75:Sb:21:LYS:C	75:Sb:23:ARG:H	2.20	0.48
75:Sb:34:ASP:OD1	75:Sb:34:ASP:N	2.46	0.48
77:S6:73:A:H2'	77:S6:74:C:H1'	1.95	0.48
2:SA:164:ASN:O	2:SA:165:ASN:ND2	2.47	0.48
3:LB:268:ARG:HG2	3:LB:268:ARG:NH2	2.09	0.48
5:LC:92:PHE:O	5:LC:100:ARG:NH1	2.46	0.48
18:LQ:178:ARG:HA	18:LQ:184:ARG:O	2.14	0.48
21:LT:17:ARG:HG2	44:L5:3930:G:H5''	1.94	0.48
41:Lo:2:VAL:HG13	41:Lo:88:CYS:SG	2.54	0.48
44:L5:497:C:H42	44:L5:665:C:H42	1.61	0.48
44:L5:659:C:H2'	44:L5:660:G:C8	2.48	0.48
44:L5:3567:C:H2'	44:L5:3568:C:C6	2.49	0.48
47:S2:1018:U:H2'	47:S2:1019:U:C6	2.47	0.48
49:SE:191:ARG:HD2	49:SE:245:ARG:HB2	1.95	0.48
54:SL:75:GLY:HA3	54:SL:88:ILE:HD12	1.95	0.48
57:SR:32:LYS:HG3	57:SR:47:ARG:HD3	1.94	0.48
57:SR:75:GLU:HA	57:SR:78:ARG:HG2	1.94	0.48
62:SX:90:CYS:HB3	62:SX:130:LEU:HD11	1.96	0.48
73:SY:51:THR:HG21	73:SY:79:LEU:HD11	1.94	0.48
77:S6:41:C:H2'	77:S6:42:A:C8	2.48	0.48
4:SB:48:LEU:HD23	4:SB:48:LEU:H	1.78	0.48
5:LC:154:VAL:HG11	5:LC:174:LEU:HD11	1.96	0.48
8:LF:81:LYS:NZ	44:L5:1047:G:OP1	2.32	0.48
10:LH:63:ASN:O	10:LH:67:LEU:HG	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LL:60:ARG:HD2	13:LL:67:HIS:O	2.14	0.48
22:LU:22:THR:HA	22:LU:70:ILE:O	2.13	0.48
23:LV:87:SER:HA	23:LV:97:TYR:HB3	1.96	0.48
28:La:72:THR:HG22	28:La:110:LYS:HB3	1.96	0.48
32:Le:114:ARG:NH1	32:Le:117:GLN:HE21	2.12	0.48
44:L5:698:C:H2'	44:L5:699:C:C6	2.49	0.48
44:L5:698:C:H2'	44:L5:699:C:H6	1.78	0.48
44:L5:1135:U:O2'	44:L5:1694:A:N1	2.46	0.48
44:L5:1207:A:H2'	44:L5:1208:G:C8	2.49	0.48
44:L5:2119:U:H2'	44:L5:2120:A:C8	2.49	0.48
46:L8:89:U:H2'	46:L8:90:C:C6	2.48	0.48
47:S2:107:A:H2'	47:S2:108:G:H8	1.74	0.48
47:S2:225:C:H2'	47:S2:226:A:C8	2.48	0.48
47:S2:930:G:H1'	75:Sb:68:GLY:HA2	1.95	0.48
47:S2:1568:G:H21	47:S2:1629:C:H4'	1.78	0.48
77:S6:20:A:H62	77:S6:59:A:N6	2.11	0.48
3:LB:189:THR:OG1	3:LB:192:GLU:HG2	2.13	0.48
4:SB:113:MET:HB3	4:SB:142:PHE:CE2	2.49	0.48
8:LF:200:SER:O	8:LF:203:LYS:NZ	2.45	0.48
9:LG:243:GLY:O	9:LG:247:VAL:HG13	2.14	0.48
12:LJ:37:ALA:HA	12:LJ:70:VAL:HG21	1.95	0.48
29:Lb:87:LYS:HB3	29:Lb:87:LYS:HE3	1.54	0.48
44:L5:1470:U:O2'	44:L5:3563:A:N1	2.41	0.48
44:L5:2394:G:H2'	44:L5:2395:A:H8	1.79	0.48
44:L5:2499:A:H2'	44:L5:2500:A:C8	2.49	0.48
44:L5:3417:A:H4'	44:L5:3418:C:O5'	2.14	0.48
44:L5:3783:U:O4	44:L5:3805:G:O6	2.32	0.48
47:S2:290:G:N2	47:S2:296:C:C2	2.82	0.48
47:S2:1230:G:H21	59:ST:87:VAL:CG2	2.26	0.48
49:SE:219:ALA:O	49:SE:220:THR:OG1	2.31	0.48
66:Sg:64:HIS:HB3	66:Sg:83:TRP:HB2	1.95	0.48
68:SG:7:PHE:HB3	68:SG:10:THR:HB	1.95	0.48
69:SJ:137:VAL:HG11	69:SJ:153:SER:HB3	1.95	0.48
3:LB:117:ARG:HA	3:LB:177:LYS:HD2	1.95	0.48
4:SB:131:ASP:OD2	4:SB:180:ASP:HB2	2.14	0.48
6:LD:39:GLN:NE2	6:LD:46:THR:HB	2.28	0.48
7:LE:212:SER:O	7:LE:213:ASP:HB2	2.14	0.48
8:LF:82:GLU:O	8:LF:86:MET:HG3	2.14	0.48
23:LV:14:PHE:CD2	23:LV:91:LYS:HG3	2.48	0.48
36:Li:63:VAL:HG23	36:Li:65:LYS:HG3	1.95	0.48
38:Lk:14:THR:HA	38:Lk:17:ARG:HD3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:189:G:H22	44:L5:252:G:H21	1.61	0.48
44:L5:1204:U:OP1	44:L5:1311:A:O2'	2.15	0.48
44:L5:1261:C:C2	44:L5:1262:G:C8	3.02	0.48
44:L5:2484:U:H2'	44:L5:2485:C:C6	2.48	0.48
44:L5:3313:A:H2'	44:L5:3314:U:H6	1.78	0.48
44:L5:4079:C:C2'	44:L5:4080:G:H5'	2.44	0.48
44:L5:4139:C:H2'	44:L5:4140:A:O4'	2.14	0.48
47:S2:1216:C:O2'	47:S2:1646:C:OP2	2.32	0.48
47:S2:1456:A:H2'	47:S2:1457:G:H8	1.79	0.48
47:S2:1862:G:H5''	63:Sa:3:LYS:HA	1.95	0.48
53:SK:41:PRO:HG2	53:SK:44:HIS:CD2	2.49	0.48
62:SX:41:PHE:CZ	62:SX:102:VAL:HG12	2.47	0.48
64:Sc:9:ILE:HG23	64:Sc:59:LEU:HD23	1.96	0.48
64:Sc:34:PHE:O	64:Sc:35:MET:HG2	2.14	0.48
66:Sg:42:MET:HE2	66:Sg:56:GLN:HG2	1.95	0.48
67:SC:65:LYS:HD3	67:SC:273:LEU:HD13	1.94	0.48
76:Se:102:LYS:HZ2	76:Se:107:LYS:N	2.12	0.48
77:S6:14:C:H2'	77:S6:15:A:H8	1.79	0.48
6:LD:193:GLU:O	6:LD:197:LYS:HG2	2.14	0.48
12:LJ:159:LYS:HG2	12:LJ:163:MET:HE2	1.96	0.48
25:LX:150:ALA:HB1	25:LX:155:ILE:HG12	1.95	0.48
44:L5:651:C:H2'	44:L5:652:G:C4	2.49	0.48
44:L5:1370:C:O2'	44:L5:2423:C:OP1	2.26	0.48
44:L5:1776:G:N7	44:L5:1777:U:H6	2.12	0.48
44:L5:3577:U:H2'	44:L5:3578:U:C6	2.49	0.48
44:L5:4254:U:H2'	44:L5:4255:A:H8	1.79	0.48
47:S2:2:A:O2'	67:SC:224:THR:O	2.32	0.48
47:S2:221:U:H2'	47:S2:222:U:H6	1.77	0.48
47:S2:827:A:C5	47:S2:828:A:H1'	2.49	0.48
47:S2:1180:G:N2	47:S2:1183:A:OP2	2.40	0.48
47:S2:1715:U:H2'	47:S2:1716:A:H8	1.77	0.48
47:S2:1778:G:H8	47:S2:1778:G:OP2	1.95	0.48
49:SE:103:TYR:HB2	49:SE:182:MET:HE3	1.95	0.48
55:SP:60:LEU:HD23	55:SP:76:VAL:HG21	1.96	0.48
57:SR:105:MET:HE2	57:SR:109:LEU:HD11	1.95	0.48
59:ST:83:GLN:NE2	59:ST:85:ASN:OD1	2.47	0.48
61:SV:16:LYS:NZ	67:SC:257:LYS:O	2.35	0.48
69:SJ:107:GLU:O	69:SJ:112:THR:HB	2.13	0.48
73:SY:101:LYS:HG3	73:SY:107:ARG:NH1	2.29	0.48
2:SA:52:LYS:HB2	57:SR:109:LEU:HD22	1.94	0.48
2:SA:145:ILE:HG12	2:SA:159:ILE:HB	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LI:66:GLU:HG2	11:LI:69:ARG:HH11	1.78	0.48
17:LP:33:ALA:HB1	17:LP:117:ILE:HG12	1.94	0.48
26:LY:43:ASN:O	26:LY:126:ARG:HD2	2.14	0.48
33:Lf:76:ARG:HG3	33:Lf:85:ARG:HG3	1.95	0.48
44:L5:2:G:H2'	44:L5:3:C:C6	2.49	0.48
44:L5:37:U:H2'	44:L5:38:A:O4'	2.14	0.48
44:L5:130:G:H2'	44:L5:131:C:C6	2.49	0.48
44:L5:406:A:O2'	44:L5:409:A:OP1	2.28	0.48
44:L5:1021:C:H2'	44:L5:1022:G:H8	1.78	0.48
44:L5:1211:G:HO2'	44:L5:1282:C:HO2'	1.58	0.48
44:L5:1349:C:H2'	44:L5:1350:U:O4'	2.14	0.48
44:L5:1380:C:H2'	44:L5:1381:U:C6	2.49	0.48
44:L5:1556:G:H2'	44:L5:1557:U:O4'	2.13	0.48
44:L5:3264:U:H2'	44:L5:3265:A:C8	2.49	0.48
44:L5:4357:C:H2'	44:L5:4358:A:C8	2.49	0.48
44:L5:4625:A:H2'	44:L5:4626:G:O4'	2.14	0.48
47:S2:218:C:H5'	49:SE:134:LYS:NZ	2.27	0.48
47:S2:565:A:N6	47:S2:587:G:H1'	2.21	0.48
47:S2:1867:A:H61	63:Sa:85[B]:ARG:H	1.61	0.48
51:SH:69:LEU:O	51:SH:73:GLN:HG3	2.14	0.48
55:SP:37:TYR:HE1	55:SP:113:GLY:HA2	1.78	0.48
56:SQ:110:ASP:OD1	56:SQ:111:ILE:N	2.46	0.48
67:SC:69:LEU:HB3	67:SC:75:ILE:HG12	1.95	0.48
69:SJ:29:LEU:HA	69:SJ:32:ILE:HB	1.96	0.48
77:S6:54:A:C4	77:S6:58:A:C6	3.02	0.48
5:LC:186:SER:OG	5:LC:204:ARG:HB2	2.13	0.47
12:LJ:32:ARG:O	12:LJ:126:TYR:OH	2.19	0.47
12:LJ:35:ARG:HD2	12:LJ:123:ILE:HA	1.96	0.47
12:LJ:146:ARG:HD2	12:LJ:147:ARG:HG3	1.95	0.47
13:LL:126:LEU:HD11	35:Lh:117:ARG:HB3	1.96	0.47
20:LS:43:ARG:NH2	45:L7:95:C:OP1	2.47	0.47
20:LS:158:VAL:HG11	44:L5:1858:G:C8	2.49	0.47
22:LU:47:ILE:HD11	22:LU:78:PHE:HZ	1.79	0.47
22:LU:106:SER:OG	22:LU:109:SER:OG	2.25	0.47
34:Lg:100:GLN:O	34:Lg:104:VAL:HG23	2.14	0.47
43:Lr:26:SER:OG	43:Lr:28:GLU:OE1	2.26	0.47
44:L5:92:C:OP2	44:L5:3994:C:O2'	2.29	0.47
44:L5:1507:U:H2'	44:L5:1508:C:O4'	2.13	0.47
44:L5:1562:G:H5''	44:L5:1563:G:N7	2.29	0.47
44:L5:3950:G:H22	44:L5:3966:A:H2	1.61	0.47
44:L5:4001:A:H5''	44:L5:4002:C:OP2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:4613:U:H4'	44:L5:4614:A:H5'	1.96	0.47
47:S2:220:U:H2'	47:S2:221:U:C6	2.48	0.47
47:S2:518:C:H2'	47:S2:519:G:O4'	2.14	0.47
47:S2:1273:C:H2'	47:S2:1274:C:C6	2.49	0.47
47:S2:1466:A:OP1	57:SR:56:HIS:NE2	2.24	0.47
52:SI:76:THR:HG23	52:SI:108:PRO:HG2	1.96	0.47
52:SI:89:GLU:O	52:SI:93:THR:HG22	2.14	0.47
56:SQ:77:HIS:O	56:SQ:81:ILE:HG12	2.14	0.47
56:SQ:97:GLN:O	66:Sg:59:LEU:HD11	2.13	0.47
77:S6:74:C:H5'	77:S6:75:C:OP2	2.13	0.47
1:LA:132:ASN:ND2	44:L5:3339:A:H5''	2.29	0.47
14:LM:36:ALA:HB2	14:LM:52:PHE:CE1	2.50	0.47
27:LZ:28:ASN:HB2	27:LZ:77:TYR:OH	2.14	0.47
38:Lk:59:SER:O	38:Lk:59:SER:OG	2.28	0.47
44:L5:932:C:H2'	44:L5:933:C:H6	1.79	0.47
44:L5:1578:A:H2'	44:L5:1579:A:H8	1.79	0.47
44:L5:3301:U:H1'	44:L5:4208:U:H5'	1.96	0.47
44:L5:3739:C:H2'	44:L5:3740:G:H8	1.80	0.47
46:L8:83:C:OP2	46:L8:83:C:H6	1.97	0.47
47:S2:387:C:H2'	47:S2:388:C:C6	2.49	0.47
47:S2:1239:U:O2	47:S2:1243:U:H5	1.97	0.47
49:SE:87:MET:HB3	49:SE:122:LYS:HE3	1.96	0.47
57:SR:23:ARG:NH2	66:Sg:149:GLU:OE1	2.47	0.47
59:ST:102:ARG:HD3	59:ST:102:ARG:HA	1.64	0.47
68:SG:180:VAL:HG22	68:SG:185:LEU:HD11	1.96	0.47
77:S6:25:U:C2	77:S6:26:G:C8	3.02	0.47
3:LB:294:LYS:HG3	3:LB:295:ASP:H	1.78	0.47
4:SB:100:PHE:HB3	4:SB:181:LEU:HD21	1.94	0.47
4:SB:103:MET:HE2	4:SB:103:MET:HB3	1.80	0.47
4:SB:166:LYS:O	4:SB:170:GLU:HG2	2.15	0.47
7:LE:139:LYS:NZ	44:L5:1094:A:OP1	2.28	0.47
7:LE:260:ALA:HA	7:LE:263:LEU:HD23	1.97	0.47
14:LM:38:VAL:O	14:LM:47:ARG:HA	2.13	0.47
18:LQ:173:LYS:NZ	44:L5:88:A:N7	2.61	0.47
21:LT:115:LYS:HE3	21:LT:126:VAL:HG11	1.97	0.47
26:LY:76:LYS:HE2	78:Ll:31:THR:HB	1.96	0.47
44:L5:477:G:H2'	44:L5:478:G:C8	2.49	0.47
44:L5:669:C:H2'	44:L5:670:C:C6	2.49	0.47
44:L5:1459:C:H2'	44:L5:1460:A:C8	2.49	0.47
44:L5:2301:G:H22	46:L8:125:C:P	2.38	0.47
44:L5:2333:G:N2	44:L5:2336:A:OP2	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:4054:G:H2'	44:L5:4055:C:H6	1.79	0.47
44:L5:4258:A:H2'	44:L5:4259:G:C8	2.50	0.47
44:L5:4545:G:H1	44:L5:4567:C:N4	2.12	0.47
47:S2:89:C:O2'	47:S2:500:G:H5''	2.15	0.47
47:S2:930:G:N2	47:S2:1105:G:H4'	2.29	0.47
47:S2:1036:A:H2'	47:S2:1037:A:O4'	2.15	0.47
47:S2:1342:C:OP2	47:S2:1688:C:H5''	2.14	0.47
57:SR:116:ASN:OD1	57:SR:116:ASN:N	2.47	0.47
59:ST:116:ASP:HB3	59:ST:122:LYS:HB2	1.96	0.47
65:Sd:10:HIS:HB3	65:Sd:12:ARG:NH1	2.29	0.47
68:SG:69:THR:O	68:SG:99:GLY:HA3	2.14	0.47
2:SA:184:ARG:HG3	2:SA:189:ILE:HG13	1.96	0.47
6:LD:174:PRO:HB2	44:L5:3977:A:H4'	1.96	0.47
9:LG:139:GLY:O	9:LG:143:VAL:HG13	2.14	0.47
10:LH:68:ALA:O	44:L5:4344:A:O2'	2.29	0.47
12:LJ:19:LYS:HD3	12:LJ:21:CYS:SG	2.54	0.47
21:LT:64:VAL:HG13	21:LT:72:VAL:HG13	1.97	0.47
25:LX:120:ASP:HB2	25:LX:144:TYR:CE1	2.49	0.47
26:LY:112:ASP:N	26:LY:112:ASP:OD1	2.48	0.47
29:Lb:56:LYS:O	29:Lb:60:ASN:ND2	2.40	0.47
44:L5:1476:C:H2'	44:L5:1477:C:H6	1.80	0.47
44:L5:1589:A:H2'	44:L5:1592:C:C5	2.50	0.47
44:L5:2316:G:C6	44:L5:2322:A:N1	2.83	0.47
47:S2:965:A:H2'	47:S2:966:U:H6	1.80	0.47
51:SH:100:ILE:HG12	51:SH:125:VAL:HG21	1.95	0.47
52:SI:67:TRP:CE3	52:SI:70:GLU:HG2	2.44	0.47
55:SP:83:MET:HB3	55:SP:116:LEU:HD12	1.97	0.47
57:SR:71:ILE:HA	57:SR:74:GLN:HE22	1.80	0.47
59:ST:39:LEU:HD21	59:ST:52:TRP:CH2	2.50	0.47
65:Sd:12:ARG:O	65:Sd:18:SER:HB3	2.14	0.47
74:SZ:73:VAL:HG23	74:SZ:79:ILE:HD11	1.96	0.47
1:LA:103:PRO:HA	1:LA:163:ARG:HA	1.96	0.47
44:L5:454:C:O2'	44:L5:455:C:H5'	2.15	0.47
44:L5:1562:G:H2'	44:L5:1563:G:H5'	1.97	0.47
44:L5:1832:A:H2'	44:L5:1833:A:C8	2.50	0.47
44:L5:4272:U:H2'	44:L5:4273:U:C6	2.50	0.47
47:S2:682:U:H5''	62:SX:8:ARG:O	2.14	0.47
47:S2:833:G:H2'	47:S2:834:C:O4'	2.14	0.47
47:S2:1469:C:H2'	47:S2:1470:A:H8	1.78	0.47
53:SK:48:ALA:O	53:SK:52:LEU:HG	2.14	0.47
55:SP:55:SER:O	55:SP:58:LYS:HG3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SU:26:SER:OG	60:SU:28:ASN:O	2.33	0.47
65:Sd:19:ARG:O	65:Sd:27:ARG:HG2	2.14	0.47
67:SC:94:ILE:HG22	67:SC:102:LEU:HD11	1.95	0.47
1:LA:247:ARG:HA	1:LA:247:ARG:NE	2.29	0.47
28:La:7:LYS:HG3	44:L5:1325:C:H5''	1.97	0.47
44:L5:7:C:H2'	44:L5:8:U:C6	2.50	0.47
44:L5:1582:U:H2'	44:L5:1583:A:C8	2.49	0.47
44:L5:2323:G:H2'	44:L5:2324:G:C8	2.50	0.47
44:L5:4040:C:OP2	44:L5:4185:U:O2'	2.31	0.47
47:S2:353:U:H2'	47:S2:354:C:C6	2.50	0.47
47:S2:958:A:OP1	71:SO:57:THR:OG1	2.30	0.47
47:S2:1680:A:N6	50:SF:57:ALA:O	2.48	0.47
50:SF:71:ARG:HH22	50:SF:148:ASN:ND2	2.11	0.47
51:SH:134:VAL:HG23	51:SH:173:PHE:CE2	2.50	0.47
56:SQ:31:LEU:O	56:SQ:32:ILE:HD13	2.14	0.47
56:SQ:146:ARG:NH1	77:S6:33:C:OP2	2.36	0.47
62:SX:94:ILE:HG12	62:SX:125:VAL:HG21	1.96	0.47
66:Sg:14:HIS:HB3	66:Sg:41:ILE:HD11	1.96	0.47
67:SC:105:GLU:OE1	67:SC:212:LYS:HD2	2.14	0.47
74:SZ:46:ASN:ND2	74:SZ:79:ILE:O	2.47	0.47
75:Sb:5:LYS:HA	75:Sb:5:LYS:HD2	1.73	0.47
78:Ll:12:PHE:CD1	78:Ll:51:LEU:HD12	2.50	0.47
2:SA:30:LEU:HD11	2:SA:35:GLU:HA	1.97	0.47
2:SA:66:VAL:HG11	2:SA:185:MET:HB2	1.97	0.47
3:LB:103:LYS:HD3	3:LB:103:LYS:HA	1.79	0.47
6:LD:23:ARG:NH1	44:L5:3933:A:OP2	2.34	0.47
10:LH:23:ARG:HG2	10:LH:38:PHE:O	2.15	0.47
10:LH:155:SER:OG	44:L5:4341:C:O2'	2.29	0.47
19:LR:8:LYS:HE2	44:L5:2143:U:OP1	2.14	0.47
31:Ld:82:TYR:HD2	44:L5:4693:G:H5''	1.79	0.47
32:Le:35:TRP:CZ2	32:Le:56:PRO:HD2	2.50	0.47
39:Lm:100:TYR:OH	44:L5:4078:G:OP1	2.28	0.47
44:L5:269:U:H2'	44:L5:270:C:C6	2.48	0.47
44:L5:854:A:H1'	44:L5:1879:G:H5''	1.97	0.47
44:L5:2156:G:O2'	44:L5:2576:G:O2'	2.29	0.47
44:L5:2447:G:H2'	44:L5:2448:G:N2	2.29	0.47
44:L5:3427:U:H2'	44:L5:3428:C:C6	2.50	0.47
44:L5:3816:U:H5'	44:L5:3817:C:H5''	1.96	0.47
44:L5:4291:U:OP1	44:L5:4692:A:O2'	2.29	0.47
46:L8:6:C:H2'	46:L8:7:U:C6	2.50	0.47
47:S2:53:C:O2'	47:S2:508:G:N7	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:114:G:N7	54:SL:69:ARG:NH2	2.63	0.47
47:S2:146:G:P	68:SG:140:ARG:HH12	2.36	0.47
47:S2:678:G:P	70:SN:5:HIS:HE2	2.37	0.47
47:S2:1532:A:H2'	47:S2:1533:C:C6	2.50	0.47
47:S2:1667:C:H2'	47:S2:1668:U:O4'	2.14	0.47
48:SD:224:SER:HA	66:Sg:188:HIS:HA	1.96	0.47
52:SI:63:GLY:O	52:SI:75:LYS:HA	2.15	0.47
52:SI:70:GLU:OE1	52:SI:72:CYS:HB3	2.15	0.47
60:SU:48:LEU:HG	60:SU:91:LEU:HD23	1.96	0.47
72:SW:50:PHE:HB3	72:SW:63:VAL:HG13	1.96	0.47
74:SZ:49:LEU:N	74:SZ:83:LEU:HD22	2.30	0.47
77:S6:43:G:H2'	77:S6:44:A:C8	2.50	0.47
77:S6:64:U:H2'	77:S6:65:C:C6	2.50	0.47
2:SA:123:VAL:HA	2:SA:145:ILE:O	2.15	0.47
3:LB:33:PRO:O	3:LB:186:ASN:ND2	2.41	0.47
3:LB:136:LYS:HE2	3:LB:136:LYS:HB3	1.70	0.47
6:LD:62:CYS:HB3	6:LD:105:LEU:HD22	1.96	0.47
20:LS:36:ASN:HD21	20:LS:39:VAL:HG23	1.79	0.47
24:LW:6:CYS:SG	24:LW:9:SER:OG	2.62	0.47
44:L5:1213:A:H4'	44:L5:1214:G:H5'	1.96	0.47
44:L5:1855:G:O2'	44:L5:1860:A:N1	2.37	0.47
44:L5:3568:C:H2'	44:L5:3569:U:C6	2.49	0.47
44:L5:3580:A:H2'	44:L5:3581:C:C6	2.50	0.47
47:S2:640:C:OP1	76:Se:115:ARG:NH2	2.48	0.47
47:S2:1335:G:HO2'	48:SD:174:HIS:HD1	1.62	0.47
47:S2:1335:G:O2'	48:SD:174:HIS:ND1	2.46	0.47
47:S2:1551:G:H3'	47:S2:1580:A:H61	1.79	0.47
47:S2:1569:C:OP1	59:ST:96:SER:OG	2.30	0.47
47:S2:1649:G:H5'	56:SQ:125:ARG:HB2	1.96	0.47
49:SE:126:VAL:HG13	49:SE:139:LEU:HD13	1.97	0.47
50:SF:182:LYS:HA	50:SF:182:LYS:HD3	1.73	0.47
61:SV:40:ASP:OD1	61:SV:40:ASP:N	2.47	0.47
4:SB:176:VAL:HG13	4:SB:184:VAL:HG21	1.96	0.47
6:LD:20:PHE:O	6:LD:24:ARG:HG2	2.15	0.47
7:LE:65:SER:O	7:LE:69:MET:HB2	2.15	0.47
35:Lh:28:LEU:O	35:Lh:32:ARG:HG3	2.15	0.47
37:Lj:19:CYS:HB3	37:Lj:22:CYS:O	2.15	0.47
44:L5:237:G:OP2	44:L5:238:C:N4	2.47	0.47
44:L5:1696:C:H1'	44:L5:1740:C:O2	2.15	0.47
44:L5:3365:C:H2'	44:L5:3366:U:C6	2.49	0.47
44:L5:3383:A:H2'	44:L5:3384:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:4333:G:H2'	44:L5:4334:A:C8	2.49	0.47
45:L7:110:G:H2'	45:L7:111:C:C6	2.49	0.47
46:L8:90:C:H2'	46:L8:91:A:C8	2.50	0.47
46:L8:139:G:H2'	46:L8:140:C:O4'	2.14	0.47
47:S2:290:G:H5'	49:SE:129:ILE:HD11	1.97	0.47
47:S2:848:A:H2'	47:S2:849:U:O4'	2.15	0.47
47:S2:1200:A:H2'	47:S2:1201:A:C8	2.49	0.47
47:S2:1499:A:OP2	48:SD:27:ARG:NH2	2.48	0.47
47:S2:1670:G:H5''	56:SQ:130:LYS:HD3	1.97	0.47
49:SE:55:ALA:HB3	49:SE:61:VAL:HG13	1.96	0.47
4:SB:175:GLU:HB3	4:SB:187:LYS:HE2	1.97	0.47
9:LG:182:CYS:HB3	9:LG:222:ILE:HG12	1.96	0.47
11:LI:22:PHE:CZ	44:L5:1591:A:H2'	2.50	0.47
20:LS:37:HIS:O	20:LS:41:LYS:HG3	2.14	0.47
20:LS:43:ARG:HA	20:LS:43:ARG:HD2	1.65	0.47
22:LU:47:ILE:HG21	22:LU:56:LEU:HG	1.96	0.47
31:Ld:53:ALA:HA	31:Ld:88:LEU:HD21	1.96	0.47
44:L5:133:C:N4	44:L5:134:G:H21	2.11	0.47
44:L5:2301:G:H2'	44:L5:2302:U:H5'	1.96	0.47
44:L5:2628:U:O2'	44:L5:2630:G:N7	2.47	0.47
44:L5:4176:A:H5''	44:L5:4177:G:H5'	1.97	0.47
44:L5:4338:U:H2'	44:L5:4339:G:C8	2.50	0.47
44:L5:4651:U:H2'	44:L5:4652:C:C6	2.50	0.47
46:L8:39:G:H1'	46:L8:103:A:N6	2.30	0.47
47:S2:582:U:C5'	73:SY:65:GLY:H	2.26	0.47
51:SH:27:LEU:HG	51:SH:83:LEU:HD21	1.97	0.47
52:SI:146:GLN:HG2	52:SI:149:TYR:HB2	1.97	0.47
58:SS:15:VAL:HG11	58:SS:33:ILE:HD11	1.97	0.47
70:SN:30:SER:HA	70:SN:67:THR:HG22	1.96	0.47
3:LB:17:LEU:O	3:LB:19:ARG:N	2.48	0.46
6:LD:25:GLU:HB3	6:LD:27:LYS:HD2	1.97	0.46
8:LF:242:MET:C	8:LF:244:LYS:H	2.23	0.46
12:LJ:17:ILE:HG22	12:LJ:18:ARG:O	2.15	0.46
19:LR:168:GLU:HG2	19:LR:171:LYS:HG3	1.96	0.46
20:LS:74:ARG:NH2	20:LS:131:GLU:OE2	2.48	0.46
36:Li:73:ILE:O	36:Li:77:VAL:HG22	2.15	0.46
44:L5:1375:G:H3'	44:L5:1376:G:H5''	1.97	0.46
44:L5:1447:G:H5'	44:L5:1448:A:OP1	2.15	0.46
44:L5:2519:A:H2'	44:L5:2520:A:C8	2.50	0.46
47:S2:441:G:H5''	47:S2:1799:C:O2'	2.15	0.46
47:S2:1048:C:H2'	47:S2:1049:G:O4'	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1590:A:H2'	47:S2:1591:C:H6	1.79	0.46
47:S2:1684:C:H2'	47:S2:1685:C:C6	2.43	0.46
48:SD:51:LEU:HB3	48:SD:91:VAL:HG13	1.97	0.46
49:SE:64:ILE:HD12	73:SY:18:LEU:HB2	1.98	0.46
50:SF:34:SER:HA	64:Sc:55:VAL:HB	1.96	0.46
50:SF:76:MET:HB3	50:SF:89:THR:CG2	2.44	0.46
52:SI:67:TRP:HB3	52:SI:70:GLU:CG	2.44	0.46
52:SI:197:PHE:CE1	52:SI:201:LYS:HE2	2.49	0.46
64:Sc:9:ILE:HG21	64:Sc:57:THR:HG22	1.96	0.46
67:SC:74:LYS:HG3	67:SC:269:PHE:CE2	2.50	0.46
67:SC:207:ALA:O	67:SC:211:LYS:HB3	2.15	0.46
68:SG:159:ARG:HB3	68:SG:171:THR:OG1	2.14	0.46
69:SJ:31:LEU:HA	69:SJ:34:GLU:HB2	1.96	0.46
69:SJ:77:LEU:HD23	69:SJ:77:LEU:HA	1.77	0.46
1:LA:109:GLU:HB3	1:LA:137:ILE:O	2.16	0.46
10:LH:22:GLY:HA3	44:L5:4419:G:OP2	2.15	0.46
16:LO:158:GLU:O	16:LO:162:GLU:HG2	2.15	0.46
44:L5:31:U:H2'	44:L5:32:G:O4'	2.15	0.46
44:L5:468:C:H2'	44:L5:469:A:C8	2.49	0.46
44:L5:494:G:N2	44:L5:668:G:H22	2.13	0.46
44:L5:1159:C:N4	44:L5:1326:G:O6	2.32	0.46
44:L5:1614:G:H2'	44:L5:1615:C:C6	2.50	0.46
44:L5:2205:G:H2'	44:L5:2206:A:C8	2.50	0.46
44:L5:3309:A:H2'	44:L5:3310:A:C8	2.50	0.46
44:L5:3826:G:H2'	44:L5:3827:U:H6	1.80	0.46
44:L5:4396:G:H2'	44:L5:4397:G:H8	1.80	0.46
47:S2:538:C:H2'	47:S2:539:U:H5'	1.96	0.46
47:S2:1756:C:H2'	47:S2:1757:C:C6	2.51	0.46
49:SE:176:ASP:OD1	49:SE:177:THR:N	2.46	0.46
52:SI:87:ASN:HB3	52:SI:90:LEU:HG	1.97	0.46
58:SS:40:TYR:HA	58:SS:83:PHE:CE2	2.50	0.46
59:ST:9:VAL:O	59:ST:11:GLN:NE2	2.47	0.46
60:SU:36:CYS:O	60:SU:40:ILE:HG12	2.15	0.46
1:LA:54:ARG:HH22	1:LA:128:ARG:NH1	2.13	0.46
1:LA:130:SER:HA	1:LA:169:VAL:HG22	1.97	0.46
1:LA:130:SER:HB2	1:LA:171:GLY:HA3	1.97	0.46
9:LG:197:LYS:NZ	44:L5:148:A:OP2	2.47	0.46
13:LL:140:SER:O	13:LL:144:LEU:HB2	2.15	0.46
36:Li:85:ARG:HB2	36:Li:85:ARG:HH11	1.80	0.46
44:L5:120:A:H2'	44:L5:149:A:H61	1.79	0.46
44:L5:173:C:H2'	44:L5:174:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:2169:A:H2'	44:L5:2170:U:H6	1.78	0.46
44:L5:3890:C:O3'	44:L5:3979:G:N2	2.48	0.46
44:L5:3926:A:H2'	44:L5:3927:A:C8	2.50	0.46
44:L5:4134:U:H2'	44:L5:4135:U:H6	1.79	0.46
47:S2:608:U:O2'	47:S2:609:C:OP1	2.30	0.46
47:S2:1245:U:H2'	47:S2:1246:G:C8	2.50	0.46
48:SD:69:LEU:O	48:SD:72:VAL:HG22	2.15	0.46
52:SI:23:LYS:HE2	52:SI:23:LYS:HB2	1.73	0.46
52:SI:193:LYS:HE3	52:SI:196:GLU:HB2	1.96	0.46
53:SK:64:TRP:CD2	65:Sd:23:VAL:HG22	2.50	0.46
69:SJ:130:ILE:O	69:SJ:143:ASN:HA	2.16	0.46
72:SW:42:MET:HE2	72:SW:42:MET:HB3	1.75	0.46
77:S6:18:G:O2'	77:S6:19:G:H5''	2.14	0.46
2:SA:206:ASP:HB3	2:SA:208:GLU:HB3	1.98	0.46
6:LD:267:ASN:ND2	45:L7:2:U:O5'	2.49	0.46
15:LN:178:HIS:HA	15:LN:181:HIS:NE2	2.30	0.46
44:L5:2618:A:H2'	44:L5:2619:U:C6	2.50	0.46
44:L5:3416:A:N7	44:L5:3421:U:H5	2.13	0.46
47:S2:28:U:H2'	47:S2:29:G:C8	2.50	0.46
47:S2:360:U:OP1	62:SX:22:TRP:NE1	2.39	0.46
47:S2:826:A:H2'	47:S2:827:A:H8	1.78	0.46
47:S2:1392:C:H4'	65:Sd:55:LEU:HD13	1.98	0.46
47:S2:1534:A:H2	47:S2:1537:G:N3	2.13	0.46
47:S2:1540:U:H4'	59:ST:47:PRO:HA	1.96	0.46
47:S2:1714:C:H5''	62:SX:71:ARG:HH22	1.80	0.46
52:SI:36:THR:O	52:SI:95:THR:HA	2.16	0.46
59:ST:28:LEU:HD23	59:ST:54:TYR:CD1	2.50	0.46
66:Sg:133:ASN:HB3	66:Sg:135:LEU:H	1.80	0.46
8:LF:218:THR:O	8:LF:218:THR:OG1	2.32	0.46
9:LG:32:PHE:CE2	27:LZ:55:ALA:HA	2.50	0.46
10:LH:9:THR:CG2	10:LH:54:ARG:HB3	2.45	0.46
10:LH:48:LEU:HD11	10:LH:56:ARG:HB2	1.98	0.46
16:LO:173:GLN:HG3	16:LO:174:ILE:N	2.30	0.46
25:LX:67:ARG:HG2	46:L8:134:G:OP1	2.16	0.46
32:Le:43:ASN:O	32:Le:47:ARG:HG3	2.15	0.46
33:Lf:33:VAL:HG12	33:Lf:82:GLY:HA2	1.98	0.46
33:Lf:78:HIS:HB3	33:Lf:83:MET:O	2.16	0.46
35:Lh:93:ARG:HE	44:L5:19:G:P	2.38	0.46
35:Lh:97:LYS:HE2	35:Lh:97:LYS:HB2	1.75	0.46
37:Lj:63:ARG:NH1	46:L8:58:G:O6	2.48	0.46
44:L5:1735:A:H2'	44:L5:1736:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:4430:G:O6	44:L5:4504:C:N4	2.47	0.46
46:L8:6:C:H2'	46:L8:7:U:H6	1.80	0.46
47:S2:1229:A:O2'	47:S2:1635:A:N3	2.40	0.46
47:S2:1867:A:H61	63:Sa:85[A]:ARG:H	1.61	0.46
52:SI:197:PHE:HE1	52:SI:201:LYS:HE2	1.80	0.46
60:SU:69:PRO:HA	65:Sd:41:GLN:HE21	1.80	0.46
62:SX:124:LYS:HG2	62:SX:127:ASN:HA	1.97	0.46
71:SO:64:ALA:O	71:SO:66:ARG:N	2.48	0.46
73:SY:111:LYS:HE3	73:SY:111:LYS:HB3	1.63	0.46
75:Sb:45:THR:O	75:Sb:45:THR:OG1	2.33	0.46
3:LB:175:GLN:NE2	3:LB:177:LYS:O	2.46	0.46
7:LE:245:LYS:C	7:LE:247:LYS:H	2.23	0.46
22:LU:39:PHE:O	22:LU:43:LEU:HG	2.15	0.46
26:LY:35:SER:O	26:LY:39:ARG:HB2	2.16	0.46
33:Lf:36:ARG:O	33:Lf:39:THR:HG22	2.15	0.46
44:L5:2166:U:H5	44:L5:2537:A:N1	2.14	0.46
44:L5:4237:A:H2'	44:L5:4238:U:O4'	2.15	0.46
47:S2:953:G:H2'	47:S2:954:C:C6	2.51	0.46
47:S2:1233:U:H2'	47:S2:1234:G:H8	1.81	0.46
47:S2:1590:A:N3	47:S2:1654:U:O2'	2.45	0.46
58:SS:100:ALA:O	58:SS:103:LEU:N	2.49	0.46
66:Sg:31:ILE:HG13	66:Sg:45:LEU:CD2	2.38	0.46
72:SW:36:ARG:O	72:SW:40:VAL:HG12	2.15	0.46
4:SB:93:GLY:HA2	9:LG:263:THR:HG23	1.97	0.46
7:LE:185:GLY:O	7:LE:186:PRO:C	2.59	0.46
16:LO:192:PHE:O	16:LO:196:LEU:HG	2.14	0.46
19:LR:105:LEU:HD23	19:LR:138:LEU:HD23	1.97	0.46
20:LS:118:ARG:HA	20:LS:118:ARG:HD2	1.78	0.46
27:LZ:94:THR:O	27:LZ:97:ASN:ND2	2.49	0.46
42:Lp:91:ASP:OD1	42:Lp:91:ASP:N	2.45	0.46
44:L5:139:G:H2'	44:L5:140:G:C8	2.51	0.46
44:L5:140:G:H2'	44:L5:141:C:C6	2.50	0.46
44:L5:1139:A:O2'	44:L5:1141:A:OP1	2.28	0.46
44:L5:1776:G:C8	44:L5:1777:U:H2'	2.51	0.46
44:L5:2401:A:H3'	44:L5:2402:G:H8	1.81	0.46
44:L5:4251:C:H2'	44:L5:4264:A:N6	2.30	0.46
47:S2:642:A:H2'	47:S2:643:U:O4'	2.16	0.46
47:S2:1020:C:H2'	47:S2:1021:A:O4'	2.15	0.46
47:S2:1631:A:H5'	58:SS:37:GLY:N	2.30	0.46
49:SE:94:LYS:HE2	73:SY:19:GLN:HG2	1.98	0.46
52:SI:8:TRP:HA	52:SI:18:ARG:HD2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SL:17:PHE:HB3	54:SL:20:LYS:HE3	1.96	0.46
62:SX:130:LEU:HD12	62:SX:130:LEU:HA	1.81	0.46
70:SN:94:LYS:HE3	70:SN:94:LYS:HB2	1.69	0.46
72:SW:55:ASP:HB3	75:Sb:25:VAL:HG13	1.98	0.46
73:SY:39:GLU:OE1	73:SY:39:GLU:N	2.48	0.46
77:S6:29:G:H22	77:S6:41:C:H5	1.63	0.46
1:LA:114:CYS:HB3	1:LA:167:GLY:O	2.16	0.46
4:SB:115:LYS:HG2	47:S2:1870:A:C5	2.49	0.46
4:SB:188:LEU:HD22	4:SB:215:VAL:HG21	1.98	0.46
6:LD:234:ASP:O	6:LD:235:MET:HB3	2.14	0.46
7:LE:52:SER:C	7:LE:54:ASN:H	2.23	0.46
9:LG:117:ARG:HD2	9:LG:117:ARG:HA	1.64	0.46
10:LH:49:GLY:HA3	10:LH:53:LYS:H	1.81	0.46
18:LQ:175:GLU:HA	28:La:51:GLY:C	2.41	0.46
27:LZ:98:LYS:HE2	27:LZ:98:LYS:HB3	1.76	0.46
37:Lj:67:LEU:HD23	37:Lj:67:LEU:HA	1.77	0.46
42:Lp:2:ALA:N	44:L5:1384:G:N7	2.64	0.46
44:L5:236:G:HO2'	44:L5:237:G:P	2.38	0.46
44:L5:831:G:H22	44:L5:836:C:H2'	1.80	0.46
44:L5:1388:G:H5'	44:L5:2359:G:O2'	2.16	0.46
44:L5:2256:C:H2'	44:L5:2257:U:C6	2.50	0.46
47:S2:65:C:N3	68:SG:133:LEU:HD22	2.31	0.46
47:S2:382:C:H2'	47:S2:383:C:C6	2.51	0.46
47:S2:1300:A:OP1	55:SP:59:ARG:NH1	2.48	0.46
47:S2:1410:A:H2'	47:S2:1411:C:C6	2.51	0.46
48:SD:194:PRO:HG2	48:SD:196:GLY:H	1.80	0.46
49:SE:89:VAL:HA	49:SE:100:ARG:HA	1.98	0.46
50:SF:168:THR:OG1	50:SF:171:GLU:OE1	2.22	0.46
58:SS:87:GLN:HB3	58:SS:95:TYR:HD1	1.80	0.46
7:LE:191:ARG:HA	7:LE:191:ARG:HD2	1.59	0.46
9:LG:153:GLN:N	9:LG:204:PHE:O	2.44	0.46
10:LH:55:LEU:HD23	10:LH:77:VAL:HG11	1.98	0.46
13:LL:177:LYS:HB3	13:LL:180:ALA:HB3	1.98	0.46
14:LM:117:LYS:HE3	44:L5:4527:U:H5''	1.98	0.46
21:LT:28:ALA:HB1	21:LT:32:ARG:NH1	2.31	0.46
32:Le:91:CYS:HB3	32:Le:95:TYR:HD2	1.81	0.46
44:L5:270:C:H2'	44:L5:271:U:C6	2.51	0.46
44:L5:1191:C:H3'	44:L5:1192:G:C8	2.51	0.46
44:L5:3502:A:H2'	44:L5:3503:C:C6	2.51	0.46
44:L5:3942:U:H2'	44:L5:3943:U:C6	2.50	0.46
44:L5:4337:A:H2'	44:L5:4338:U:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:121:U:H2'	47:S2:122:G:C8	2.51	0.46
47:S2:126:G:O2'	47:S2:181:A:O2'	2.29	0.46
47:S2:167:G:H5'	68:SG:8:PRO:HB3	1.98	0.46
47:S2:1207:G:H1'	47:S2:1835:A:C4	2.50	0.46
47:S2:1277:A:C6	47:S2:1323:G:H1'	2.51	0.46
47:S2:1650:U:OP1	56:SQ:128:GLU:N	2.39	0.46
49:SE:61:VAL:HA	49:SE:64:ILE:HG12	1.98	0.46
51:SH:134:VAL:HG23	51:SH:166:VAL:HG11	1.98	0.46
61:SV:15:ARG:HH21	67:SC:84:PHE:HA	1.80	0.46
62:SX:90:CYS:O	62:SX:94:ILE:HG13	2.16	0.46
64:Sc:30:VAL:HG23	64:Sc:32:VAL:HG13	1.97	0.46
68:SG:28:TYR:O	68:SG:30:LYS:HE2	2.15	0.46
69:SJ:108:ARG:HA	69:SJ:113:GLN:HE21	1.79	0.46
76:Se:100:LYS:HE2	76:Se:100:LYS:HB3	1.86	0.46
2:SA:10:MET:HE2	2:SA:10:MET:HB2	1.76	0.46
3:LB:128:LYS:O	3:LB:131:THR:OG1	2.22	0.46
3:LB:257:TRP:O	3:LB:257:TRP:HD1	1.99	0.46
4:SB:25:PHE:HZ	71:SO:53:ILE:HA	1.80	0.46
6:LD:92:LEU:O	6:LD:93:THR:HG22	2.16	0.46
7:LE:114:VAL:HG13	7:LE:114:VAL:O	2.15	0.46
8:LF:248:HIS:HB3	8:LF:251:GLU:HG3	1.98	0.46
11:LI:143:GLN:H	11:LI:143:GLN:HG3	1.60	0.46
13:LL:33:ILE:HD13	44:L5:1181:G:C2	2.50	0.46
13:LL:126:LEU:O	13:LL:138:ASP:HB2	2.15	0.46
15:LN:13:LYS:HE3	36:Li:45:ARG:HH11	1.81	0.46
24:LW:3:VAL:HG13	24:LW:13:ILE:O	2.16	0.46
37:Lj:85:LYS:HE3	37:Lj:85:LYS:HB3	1.75	0.46
44:L5:950:G:H2'	44:L5:951:A:C8	2.51	0.46
44:L5:3358:C:N4	44:L5:3402:U:H2'	2.31	0.46
46:L8:53:G:H4'	78:Ll:40:LYS:HD2	1.97	0.46
47:S2:386:G:H3'	54:SL:136:LYS:HB2	1.97	0.46
47:S2:1454:C:H5''	57:SR:49:LYS:HG3	1.98	0.46
48:SD:70:THR:HG23	48:SD:85:GLU:HA	1.97	0.46
51:SH:143:ARG:HB2	51:SH:155:LYS:HB2	1.97	0.46
51:SH:152:ARG:HH21	51:SH:183:LYS:HD2	1.81	0.46
58:SS:85:ASN:N	58:SS:85:ASN:OD1	2.49	0.46
66:Sg:112:ALA:O	66:Sg:120:ILE:HB	2.15	0.46
68:SG:181:THR:O	68:SG:185:LEU:HD12	2.16	0.46
68:SG:200:LYS:HA	68:SG:203:LYS:HE3	1.97	0.46
5:LC:175:LYS:HA	5:LC:175:LYS:HD2	1.80	0.45
13:LL:100:PRO:O	36:Li:25:ARG:NH1	2.43	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LP:127:ARG:NH2	44:L5:2179:C:OP1	2.36	0.45
28:La:115:GLY:O	28:La:136:LYS:NZ	2.44	0.45
29:Lb:101:LYS:HD3	29:Lb:101:LYS:HA	1.60	0.45
34:Lg:4:ARG:NH2	44:L5:2154:G:O6	2.46	0.45
35:Lh:59:THR:O	35:Lh:63:GLN:HG3	2.15	0.45
44:L5:174:C:H2'	44:L5:175:C:H6	1.81	0.45
44:L5:1121:C:H2'	44:L5:1122:A:C8	2.52	0.45
44:L5:1554:A:H2'	44:L5:1555:G:C8	2.50	0.45
44:L5:2443:C:H2'	44:L5:2444:C:C6	2.51	0.45
44:L5:3479:U:H3'	44:L5:3480:G:H21	1.81	0.45
44:L5:3585:A:H2'	44:L5:3586:G:O4'	2.15	0.45
44:L5:3841:U:H2'	44:L5:3842:U:H6	1.81	0.45
44:L5:4242:A:N1	44:L5:4274:C:O2'	2.42	0.45
45:L7:13:A:OP1	45:L7:109:U:O2'	2.34	0.45
46:L8:5:U:H2'	46:L8:6:C:H6	1.80	0.45
47:S2:497:C:H2'	47:S2:498:C:H6	1.80	0.45
47:S2:1316:U:H2'	47:S2:1317:C:O4'	2.16	0.45
47:S2:1748:C:H2'	47:S2:1749:G:O4'	2.16	0.45
47:S2:1780:G:H2'	47:S2:1781:G:C8	2.52	0.45
48:SD:157:MET:HE2	48:SD:157:MET:HB2	1.85	0.45
61:SV:60:ARG:O	61:SV:63:GLY:N	2.46	0.45
66:Sg:11:LEU:HB3	66:Sg:43:TRP:CZ3	2.52	0.45
66:Sg:133:ASN:HB2	66:Sg:137:VAL:H	1.82	0.45
77:S6:5:A:N6	77:S6:6:G:O6	2.48	0.45
77:S6:6:G:H2'	77:S6:7:A:C8	2.51	0.45
4:SB:163:GLN:HG3	4:SB:204:ILE:HG21	1.98	0.45
18:LQ:134:ARG:NH1	44:L5:1263:C:OP1	2.41	0.45
29:Lb:89:PRO:HD2	29:Lb:92:LYS:HB2	1.98	0.45
32:Le:64:LYS:HG2	44:L5:1881:C:OP1	2.16	0.45
37:Lj:14:LYS:H	37:Lj:14:LYS:HG2	1.46	0.45
44:L5:407:A:H5'	44:L5:409:A:OP1	2.16	0.45
44:L5:1212:A:N1	44:L5:1312:G:O2'	2.35	0.45
44:L5:1402:U:H2'	44:L5:1403:C:C6	2.51	0.45
44:L5:3412:G:H2'	44:L5:3413:A:H8	1.80	0.45
47:S2:435:G:H2'	47:S2:436:A:C8	2.51	0.45
47:S2:1214:C:H2'	47:S2:1215:A:C8	2.51	0.45
47:S2:1417:C:H2'	47:S2:1418:C:C6	2.51	0.45
48:SD:21:LEU:HD12	48:SD:21:LEU:HA	1.71	0.45
49:SE:208:VAL:HG21	49:SE:225:ILE:HG12	1.98	0.45
52:SI:144:LYS:HE3	52:SI:145:ILE:HG12	1.98	0.45
52:SI:168:GLN:NE2	52:SI:170:LYS:H	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SR:13:ALA:HB2	57:SR:50:ILE:HG23	1.99	0.45
58:SS:47:LYS:HD2	58:SS:47:LYS:HA	1.71	0.45
59:ST:6:VAL:HB	59:ST:65:TYR:CE2	2.52	0.45
70:SN:114:ARG:HD3	70:SN:114:ARG:HA	1.70	0.45
7:LE:198:HIS:HE1	44:L5:718:G:O2'	1.99	0.45
12:LJ:166:PHE:CZ	12:LJ:173:ILE:HD13	2.51	0.45
18:LQ:175:GLU:O	44:L5:1311:A:N6	2.49	0.45
21:LT:109:VAL:HG22	44:L5:1606:G:C6	2.51	0.45
25:LX:122:ALA:N	25:LX:139:ARG:O	2.47	0.45
30:Lc:20:LEU:HD23	30:Lc:101:ASP:CB	2.38	0.45
44:L5:1008:A:H2	44:L5:1018:G:C2	2.29	0.45
44:L5:3271:G:HO2'	44:L5:3272:G:P	2.37	0.45
44:L5:3528:A:H2'	44:L5:3529:A:C8	2.51	0.45
44:L5:4403:C:H2'	44:L5:4404:G:O4'	2.15	0.45
47:S2:56:G:OP1	73:SY:111:LYS:NZ	2.39	0.45
47:S2:141:A:H4'	47:S2:142:C:H3'	1.98	0.45
47:S2:960:G:N1	71:SO:65:ASP:OD2	2.37	0.45
47:S2:1449:A:H2'	47:S2:1450:G:O4'	2.16	0.45
47:S2:1866:C:H6	63:Sa:7:ASN:HB2	1.81	0.45
52:SI:172:LEU:HD11	52:SI:199:LEU:HD11	1.99	0.45
55:SP:33:LEU:HD13	55:SP:37:TYR:CE2	2.50	0.45
59:ST:39:LEU:O	59:ST:96:SER:HB2	2.16	0.45
66:Sg:183:LYS:HA	66:Sg:183:LYS:HD2	1.65	0.45
3:LB:373:LYS:HE2	44:L5:4280:U:H4'	1.98	0.45
4:SB:138:PHE:O	4:SB:213:ARG:N	2.49	0.45
4:SB:221:PRO:O	4:SB:223:PHE:N	2.48	0.45
7:LE:153:THR:OG1	7:LE:208:LYS:HE3	2.16	0.45
10:LH:72:THR:HG23	44:L5:4343:G:O2'	2.16	0.45
12:LJ:35:ARG:NH2	12:LJ:122:SER:O	2.44	0.45
13:LL:103:ARG:NH2	44:L5:74:G:N7	2.65	0.45
14:LM:12:VAL:HB	14:LM:60:PHE:HB2	1.98	0.45
20:LS:74:ARG:HD2	44:L5:820:C:H5''	1.98	0.45
44:L5:4318:A:H2'	44:L5:4319:G:O4'	2.15	0.45
46:L8:144:U:H2'	46:L8:145:C:C6	2.51	0.45
47:S2:508:G:OP2	73:SY:104:ARG:NH2	2.50	0.45
47:S2:662:U:OP1	62:SX:5:ARG:NH1	2.44	0.45
47:S2:945:A:H1'	71:SO:136:PRO:HB3	1.98	0.45
47:S2:1103:G:H2'	47:S2:1104:C:C6	2.52	0.45
48:SD:176:LEU:O	48:SD:177:LEU:HD23	2.16	0.45
54:SL:133:PRO:HA	54:SL:139:ARG:HG3	1.98	0.45
57:SR:6:THR:OG1	57:SR:7:LYS:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:Sg:31:ILE:O	66:Sg:32:LEU:HD23	2.17	0.45
66:Sg:220:ASP:O	66:Sg:224:GLY:HA2	2.16	0.45
66:Sg:285:GLN:HB3	66:Sg:303:THR:HG21	1.98	0.45
66:Sg:298:LEU:O	66:Sg:309:VAL:HA	2.16	0.45
70:SN:46:THR:HB	70:SN:49:GLN:HG3	1.98	0.45
3:LB:307:TYR:CG	3:LB:366:LYS:HE3	2.52	0.45
4:SB:129:THR:OG1	4:SB:133:TYR:HB2	2.16	0.45
5:LC:211:TYR:OH	5:LC:218:ILE:HD11	2.15	0.45
5:LC:242:PRO:O	44:L5:2053:G:O2'	2.32	0.45
44:L5:1324:G:H2'	44:L5:1325:C:C6	2.52	0.45
44:L5:1650:C:H2'	44:L5:1651:C:C6	2.52	0.45
44:L5:2386:U:H2'	44:L5:2387:U:C6	2.52	0.45
44:L5:3589:U:H2'	44:L5:3590:G:C8	2.52	0.45
44:L5:4091:U:H2'	44:L5:4092:U:O4'	2.17	0.45
46:L8:88:A:H2'	46:L8:89:U:O4'	2.16	0.45
47:S2:10:G:H21	67:SC:114:LYS:HA	1.81	0.45
47:S2:28:U:O3'	62:SX:124:LYS:NZ	2.41	0.45
47:S2:346:U:H2'	47:S2:347:C:C6	2.51	0.45
47:S2:453:G:H2'	47:S2:454:C:H6	1.81	0.45
47:S2:531:U:C2	47:S2:532:A:N7	2.84	0.45
47:S2:626:G:H4'	47:S2:630:A:C4	2.52	0.45
47:S2:1147:C:O2'	47:S2:1151:A:N1	2.45	0.45
47:S2:1194:U:C4	62:SX:110:HIS:HE1	2.35	0.45
47:S2:1277:A:C5	47:S2:1323:G:H1'	2.51	0.45
47:S2:1447:A:O2'	47:S2:1448:G:H8	2.00	0.45
49:SE:206:ASP:N	49:SE:206:ASP:OD1	2.47	0.45
51:SH:87:PHE:HB3	51:SH:90:LYS:CB	2.46	0.45
51:SH:143:ARG:HB3	72:SW:51:GLU:OE2	2.17	0.45
54:SL:61:PRO:HB3	54:SL:68:ILE:HD11	1.97	0.45
59:ST:85:ASN:HB3	59:ST:88:ARG:HB2	1.99	0.45
3:LB:71:GLU:CD	3:LB:366:LYS:HD3	2.42	0.45
3:LB:239:LYS:HE2	3:LB:239:LYS:HB3	1.72	0.45
3:LB:252:ALA:HB1	44:L5:4177:G:C2	2.52	0.45
5:LC:186:SER:O	5:LC:203:GLN:HA	2.16	0.45
9:LG:180:PRO:HG3	9:LG:219:VAL:HG13	1.99	0.45
17:LP:83:TRP:O	44:L5:3513:A:H5''	2.16	0.45
17:LP:117:ILE:HD13	17:LP:148:MET:HE2	1.98	0.45
19:LR:82:LYS:NZ	44:L5:2617:G:H1'	2.31	0.45
19:LR:95:TRP:CH2	19:LR:99:MET:HE3	2.51	0.45
23:LV:75:LYS:HB3	23:LV:75:LYS:HE2	1.70	0.45
29:Lb:57:MET:HE3	44:L5:1615:C:H1'	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:240:G:C2	44:L5:241:G:H1'	2.52	0.45
44:L5:1245:C:H2'	44:L5:1246:G:O4'	2.16	0.45
44:L5:3380:A:H2'	44:L5:3381:A:C8	2.51	0.45
44:L5:3889:G:H4'	44:L5:3981:G:O2'	2.16	0.45
44:L5:4264:A:H2'	44:L5:4265:C:C6	2.51	0.45
47:S2:497:C:H2'	47:S2:498:C:C6	2.51	0.45
47:S2:654:A:H2'	47:S2:655:A:O4'	2.17	0.45
48:SD:224:SER:HB2	66:Sg:225:LYS:HD3	1.98	0.45
50:SF:167:LYS:HB3	50:SF:172:CYS:SG	2.57	0.45
55:SP:67:ALA:HB2	55:SP:73:PRO:HA	1.97	0.45
56:SQ:50:LYS:HB3	56:SQ:50:LYS:HE2	1.58	0.45
56:SQ:113:ILE:HG13	56:SQ:117:ARG:HG3	1.98	0.45
68:SG:61:PHE:CD2	68:SG:72:ARG:HD3	2.52	0.45
73:SY:20:ARG:HD3	73:SY:74:MET:HE2	1.99	0.45
2:SA:64:ALA:HB3	2:SA:145:ILE:HD11	1.98	0.45
3:LB:254:ILE:O	3:LB:254:ILE:HG13	2.17	0.45
3:LB:288:GLY:HA3	3:LB:330:PHE:CE2	2.52	0.45
5:LC:242:PRO:HB2	44:L5:2054:G:H4'	1.99	0.45
6:LD:286:SER:OG	44:L5:1010:U:O2'	2.26	0.45
9:LG:48:LYS:NZ	44:L5:3737:G:O6	2.50	0.45
10:LH:54:ARG:NH1	44:L5:766:G:H4'	2.32	0.45
13:LL:94:ILE:HD12	13:LL:94:ILE:HA	1.65	0.45
33:Lf:95:LYS:HB2	33:Lf:95:LYS:HE3	1.73	0.45
36:Li:85:ARG:HB2	36:Li:85:ARG:NH1	2.32	0.45
41:Lo:50:GLY:HA2	44:L5:3583:C:O5'	2.15	0.45
44:L5:100:C:H2'	44:L5:101:A:O4'	2.17	0.45
44:L5:281:C:H2'	44:L5:282:G:O4'	2.17	0.45
44:L5:740:A:H2'	44:L5:741:A:O4'	2.17	0.45
44:L5:1016:C:H3'	44:L5:1017:A:H8	1.81	0.45
44:L5:1486:U:H2'	44:L5:1487:U:C6	2.51	0.45
44:L5:3257:G:H2'	44:L5:3258:C:C6	2.52	0.45
44:L5:3720:U:H2'	44:L5:3721:U:H6	1.82	0.45
44:L5:3872:A:H2'	44:L5:3873:A:C8	2.52	0.45
44:L5:4399:G:H22	44:L5:4603:A:H2	1.64	0.45
46:L8:128:C:H2'	46:L8:129:C:C6	2.52	0.45
47:S2:217:G:H2'	47:S2:218:C:C6	2.51	0.45
47:S2:1190:A:H2'	47:S2:1191:A:H8	1.81	0.45
47:S2:1222:G:H2'	47:S2:1223:G:C8	2.51	0.45
50:SF:78:MET:HE3	50:SF:78:MET:HB2	1.91	0.45
58:SS:34:LYS:NZ	58:SS:104:ASP:OD2	2.50	0.45
62:SX:115:ILE:H	62:SX:115:ILE:HG13	1.60	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Sd:54:LYS:HB2	65:Sd:54:LYS:HE3	1.56	0.45
67:SC:159:LYS:O	67:SC:162:ILE:HG13	2.17	0.45
4:SB:103:MET:HE2	4:SB:215:VAL:HG23	1.99	0.45
7:LE:178:SER:HB2	7:LE:222:ASP:CG	2.42	0.45
9:LG:197:LYS:HB3	44:L5:6:C:H5''	1.99	0.45
12:LJ:16:ARG:HD3	12:LJ:137:PRO:HD3	1.99	0.45
13:LL:169:ILE:HD13	28:La:142:GLY:HA2	1.99	0.45
14:LM:31:ILE:HG23	20:LS:75:VAL:HG13	1.98	0.45
15:LN:83:LYS:O	15:LN:85:VAL:N	2.49	0.45
21:LT:56:CYS:SG	21:LT:78:LYS:HE3	2.57	0.45
44:L5:1486:U:H3	44:L5:1497:U:H5	1.64	0.45
44:L5:2444:C:H2'	44:L5:2445:U:O4'	2.17	0.45
44:L5:2514:G:H1'	44:L5:2515:U:OP2	2.17	0.45
44:L5:4216:U:H2'	44:L5:4217:A:C8	2.52	0.45
47:S2:376:U:OP2	54:SL:59:LYS:NZ	2.43	0.45
47:S2:384:G:O3'	54:SL:132:ARG:NH1	2.49	0.45
47:S2:562:A:H2'	47:S2:563:U:C6	2.51	0.45
47:S2:1439:A:O2'	47:S2:1440:A:O4'	2.32	0.45
47:S2:1508:G:O2'	47:S2:1509:A:H5'	2.17	0.45
47:S2:1857:C:H2'	47:S2:1858:G:C8	2.51	0.45
53:SK:25:LYS:HE3	53:SK:65:ARG:HG2	1.98	0.45
58:SS:36:VAL:HG13	58:SS:40:TYR:HD2	1.82	0.45
66:Sg:106:LYS:HD2	66:Sg:106:LYS:N	2.32	0.45
70:SN:29:THR:HG22	70:SN:32:ASP:HB2	1.99	0.45
75:Sb:23:ARG:NH2	75:Sb:29:ASN:OD1	2.44	0.45
1:LA:244:GLY:HA3	44:L5:3403:A:H5''	1.99	0.45
4:SB:171:ILE:HD12	4:SB:197:ILE:HA	1.99	0.45
17:LP:40:HIS:NE2	17:LP:110:ASP:O	2.41	0.45
21:LT:1:MET:HE3	44:L5:3872:A:H5''	1.98	0.45
22:LU:47:ILE:HG21	22:LU:56:LEU:HA	1.99	0.45
26:LY:59:ARG:NE	44:L5:210:C:OP1	2.36	0.45
38:Lk:60:LEU:HD12	38:Lk:60:LEU:HA	1.83	0.45
44:L5:88:A:HO2'	44:L5:291:G:HO2'	1.63	0.45
44:L5:137:G:H2'	44:L5:138:C:O4'	2.17	0.45
44:L5:1745:A:H2'	44:L5:1746:A:H8	1.82	0.45
44:L5:2032:G:H2'	44:L5:2033:A:C8	2.52	0.45
44:L5:2565:G:N1	44:L5:2568:C:OP2	2.44	0.45
46:L8:69:U:H2'	46:L8:70:G:O4'	2.17	0.45
47:S2:55:U:H4'	47:S2:56:G:H5'	1.99	0.45
47:S2:177:G:H22	47:S2:314:A:H5'	1.81	0.45
47:S2:1294:A:N6	47:S2:1303:G:O6	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1500:U:H2'	47:S2:1501:G:C8	2.52	0.45
49:SE:65:CYS:SG	49:SE:80:ILE:HG22	2.57	0.45
55:SP:37:TYR:CE1	55:SP:113:GLY:HA2	2.52	0.45
57:SR:11:LYS:HE3	57:SR:11:LYS:HB3	1.77	0.45
3:LB:206:PRO:HG2	3:LB:209:GLN:HG2	1.98	0.45
13:LL:50:PRO:O	13:LL:52:SER:N	2.49	0.45
19:LR:90:PRO:HB2	19:LR:93:VAL:HG13	1.99	0.45
23:LV:92:ASP:HB2	24:LW:1:MET:HE1	1.99	0.45
44:L5:68:U:H2'	44:L5:69:A:O4'	2.16	0.45
44:L5:251:C:H2'	44:L5:252:G:C8	2.52	0.45
44:L5:2134:C:H2'	44:L5:2135:G:O4'	2.17	0.45
47:S2:1010:A:O2'	70:SN:114:ARG:HG3	2.17	0.45
47:S2:1427:U:H2'	47:S2:1428:C:C6	2.52	0.45
47:S2:1594:C:P	74:SZ:103:HIS:HE2	2.39	0.45
48:SD:80:PRO:O	48:SD:83:SER:OG	2.31	0.45
49:SE:127:ARG:HG3	49:SE:142:HIS:HA	1.98	0.45
49:SE:188:ASN:HA	49:SE:245:ARG:HH21	1.82	0.45
51:SH:43:LEU:HD12	51:SH:72:PHE:CE2	2.52	0.45
51:SH:144:ILE:HG13	51:SH:154:ILE:HG23	1.99	0.45
52:SI:57:ALA:HB2	52:SI:183:GLY:HA2	1.98	0.45
54:SL:4:ILE:H	54:SL:4:ILE:HG13	1.60	0.45
59:ST:12:GLN:O	59:ST:15:VAL:HG12	2.17	0.45
69:SJ:87:LEU:HG	69:SJ:97:ILE:HG13	1.98	0.45
72:SW:70:ASN:HD22	72:SW:130:PHE:C	2.24	0.45
74:SZ:97:ILE:HD12	74:SZ:109:TYR:HB3	1.99	0.45
5:LC:283:LYS:HG2	18:LQ:103:LEU:O	2.17	0.44
6:LD:118:ILE:H	6:LD:118:ILE:HG13	1.62	0.44
7:LE:51:CYS:HG	44:L5:924:G:H8	1.65	0.44
8:LF:158:VAL:O	8:LF:162:ILE:HG12	2.17	0.44
8:LF:263:ASN:O	8:LF:267:ARG:HG2	2.17	0.44
9:LG:37:LYS:HG2	44:L5:3778:A:N1	2.32	0.44
12:LJ:144:LYS:HE3	12:LJ:146:ARG:O	2.16	0.44
13:LL:127:PHE:O	35:Lh:117:ARG:NH2	2.50	0.44
16:LO:191:LYS:O	16:LO:194:GLU:HG3	2.17	0.44
16:LO:203:VAL:H	44:L5:4518:G:H21	1.65	0.44
26:LY:89:LYS:HG2	26:LY:93:THR:O	2.17	0.44
34:Lg:62:LYS:HB2	44:L5:2274:A:H5'	2.00	0.44
44:L5:381:G:O2'	44:L5:406:A:N6	2.49	0.44
44:L5:384:A:N3	44:L5:386:G:H5''	2.32	0.44
44:L5:1792:G:H8	44:L5:1793:A:C8	2.35	0.44
44:L5:2314:G:H22	44:L5:2324:G:H22	1.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:3364:U:H2'	44:L5:3365:C:C6	2.52	0.44
44:L5:3505:U:H2'	44:L5:3506:A:H8	1.79	0.44
44:L5:3605:C:N4	44:L5:3717:U:H2'	2.33	0.44
44:L5:3751:C:H3'	44:L5:3752:C:H5''	1.99	0.44
44:L5:4224:A:H2'	44:L5:4225:U:H6	1.82	0.44
47:S2:343:C:H2'	47:S2:344:A:O4'	2.17	0.44
47:S2:381:G:H5''	52:SI:31:ARG:NH1	2.33	0.44
47:S2:1234:G:O6	58:SS:138:THR:HG21	2.17	0.44
47:S2:1253:C:O2	81:S2:2001:HOH:O	2.19	0.44
47:S2:1588:G:N1	59:ST:74:SER:HB2	2.32	0.44
47:S2:1866:C:O2	63:Sa:92:ARG:HB3	2.17	0.44
58:SS:20:ILE:HD13	58:SS:30:ILE:HA	1.99	0.44
2:SA:121:LEU:HD21	2:SA:145:ILE:HD12	2.00	0.44
16:LO:166:MET:O	16:LO:170:LYS:HD3	2.17	0.44
28:La:12:ARG:HD3	28:La:12:ARG:HA	1.67	0.44
35:Lh:105:LYS:HB2	35:Lh:105:LYS:HE3	1.56	0.44
36:Li:70:LEU:HD12	36:Li:70:LEU:HA	1.79	0.44
44:L5:359:A:C4	46:L8:24:G:H1'	2.53	0.44
44:L5:443:G:H2'	44:L5:444:U:H6	1.83	0.44
44:L5:1404:C:H4'	44:L5:2611:A:H5'	1.99	0.44
44:L5:1528:U:H2'	44:L5:1529:U:H6	1.82	0.44
44:L5:2257:U:H2'	44:L5:2258:C:C6	2.53	0.44
44:L5:2322:A:H2'	44:L5:2323:G:H8	1.82	0.44
44:L5:2578:C:H2'	44:L5:2579:A:C8	2.52	0.44
44:L5:3305:A:H1'	44:L5:3442:A:N6	2.31	0.44
44:L5:4352:U:H1'	44:L5:4353:A:H5''	1.99	0.44
47:S2:420:G:N2	47:S2:662:U:O2	2.50	0.44
47:S2:513:A:C2	47:S2:514:G:C8	3.05	0.44
47:S2:617:A:H5'	76:Se:82:ARG:HG3	1.98	0.44
47:S2:1150:A:H2'	47:S2:1150:A:N3	2.33	0.44
47:S2:1674:U:H2'	47:S2:1675:G:O4'	2.16	0.44
47:S2:1741:C:H2'	47:S2:1742:U:C6	2.52	0.44
49:SE:92:ILE:HD11	49:SE:97:GLU:N	2.31	0.44
52:SI:48:VAL:HG11	52:SI:54:LYS:HE3	1.98	0.44
53:SK:49:MET:HG3	53:SK:69:TRP:CD2	2.51	0.44
66:Sg:292:SER:C	66:Sg:294:ASP:H	2.25	0.44
69:SJ:32:ILE:HA	69:SJ:37:LEU:HD12	1.99	0.44
70:SN:22:VAL:HG22	70:SN:66:VAL:HA	1.99	0.44
71:SO:56:VAL:HA	71:SO:60:MET:HE2	1.98	0.44
71:SO:117:ARG:HE	71:SO:117:ARG:HB2	1.55	0.44
13:LL:7:GLY:O	28:La:49:HIS:NE2	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LL:61:CYS:HB2	13:LL:66:TYR:O	2.17	0.44
14:LM:117:LYS:O	14:LM:121:ARG:HG2	2.16	0.44
15:LN:104:GLU:HA	15:LN:160:GLU:HG3	1.98	0.44
20:LS:93:MET:HE3	20:LS:93:MET:HB2	1.93	0.44
22:LU:105:ASN:CG	22:LU:111:GLU:HG3	2.42	0.44
31:Ld:52:PHE:O	31:Ld:56:GLU:HG2	2.18	0.44
44:L5:932:C:H4'	44:L5:1049:C:H5''	1.99	0.44
44:L5:1698:G:O2'	44:L5:1710:A:N3	2.44	0.44
44:L5:1775:G:N2	44:L5:1798:G:OP2	2.49	0.44
44:L5:3761:C:H2'	44:L5:3762:U:C6	2.53	0.44
47:S2:881:G:H3'	47:S2:882:G:C8	2.53	0.44
47:S2:905:A:H8	47:S2:906:C:C6	2.35	0.44
47:S2:1260:A:H1'	47:S2:1265:C:N4	2.32	0.44
47:S2:1648:A:OP1	56:SQ:138:ARG:NH2	2.45	0.44
52:SI:98:LYS:HA	52:SI:177:SER:O	2.18	0.44
53:SK:49:MET:HG3	53:SK:69:TRP:CE3	2.52	0.44
55:SP:81:ARG:NH2	55:SP:120:SER:O	2.34	0.44
68:SG:55:GLY:HA2	68:SG:110:ASN:ND2	2.32	0.44
71:SO:97:LEU:HD21	71:SO:108:PRO:HG3	2.00	0.44
6:LD:204:VAL:O	6:LD:208:MET:HG3	2.18	0.44
11:LI:48:LEU:HB2	11:LI:142:LEU:HD23	1.99	0.44
11:LI:93:PRO:HB2	11:LI:125:THR:HB	1.99	0.44
13:LL:19:GLN:HA	13:LL:22:VAL:HG23	1.99	0.44
15:LN:75:VAL:HG22	15:LN:76:PRO:HD2	1.98	0.44
15:LN:169:ARG:HD2	15:LN:174:LEU:HD12	2.00	0.44
19:LR:143:HIS:NE2	44:L5:3254:G:H5''	2.32	0.44
32:Le:35:TRP:CE2	32:Le:56:PRO:HD2	2.53	0.44
34:Lg:76:ARG:NH1	44:L5:2336:A:OP1	2.50	0.44
36:Li:93:VAL:O	36:Li:97:MET:HG3	2.18	0.44
44:L5:163:A:H2'	44:L5:164:G:C8	2.52	0.44
44:L5:317:A:H2'	44:L5:318:A:H8	1.82	0.44
44:L5:938:C:O2'	44:L5:939:U:H6	2.00	0.44
44:L5:1321:U:H2'	44:L5:1322:A:C8	2.52	0.44
44:L5:2164:G:N2	78:Ll:51:LEU:HD22	2.33	0.44
44:L5:3918:U:H4'	44:L5:3919:G:O4'	2.18	0.44
44:L5:3930:G:O2'	44:L5:3935:A:N1	2.48	0.44
44:L5:4251:C:H2'	44:L5:4264:A:H61	1.82	0.44
44:L5:4614:A:H2'	44:L5:4615:A:O4'	2.18	0.44
47:S2:531:U:H2'	47:S2:532:A:H8	1.82	0.44
47:S2:614:G:H4'	47:S2:616:C:C2	2.53	0.44
47:S2:1374:C:H5''	57:SR:7:LYS:HG3	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1553:G:OP1	47:S2:1579:U:H5	2.00	0.44
47:S2:1622:U:O2'	47:S2:1623:U:H2'	2.17	0.44
51:SH:11:PRO:HD2	51:SH:44:ASN:HB3	2.00	0.44
52:SI:100:CYS:O	52:SI:175:ILE:HG22	2.17	0.44
56:SQ:18:THR:O	56:SQ:18:THR:HG22	2.17	0.44
58:SS:64:VAL:O	58:SS:68:ILE:HG12	2.16	0.44
59:ST:134:ILE:O	59:ST:138:VAL:HG23	2.17	0.44
66:Sg:14:HIS:CD2	66:Sg:35:SER:HB2	2.53	0.44
7:LE:188:VAL:HG21	7:LE:266:LEU:HD11	1.99	0.44
19:LR:82:LYS:HZ2	44:L5:2617:G:H1'	1.82	0.44
28:La:75:LEU:HD12	28:La:75:LEU:HA	1.78	0.44
38:Lk:50:LYS:HA	38:Lk:50:LYS:HD3	1.85	0.44
43:Lr:54:ALA:HA	43:Lr:61:VAL:HG23	1.99	0.44
44:L5:675:A:H4'	44:L5:675:A:OP2	2.17	0.44
44:L5:1495:G:H2'	44:L5:1496:A:C8	2.53	0.44
47:S2:1175:U:H2'	47:S2:1176:G:C8	2.52	0.44
48:SD:18:LYS:O	48:SD:22:ASN:HB2	2.18	0.44
56:SQ:98:LYS:HB3	56:SQ:98:LYS:HE2	1.81	0.44
60:SU:106:ILE:HG23	60:SU:107:GLU:H	1.81	0.44
66:Sg:283:PRO:HA	66:Sg:284:PRO:HD2	1.94	0.44
70:SN:52:VAL:HG23	70:SN:55:ARG:NH2	2.32	0.44
3:LB:30:LYS:NZ	44:L5:4370:A:OP2	2.25	0.44
3:LB:177:LYS:N	44:L5:4634:G:OP1	2.49	0.44
5:LC:290:SER:O	5:LC:294:LYS:HE2	2.18	0.44
5:LC:315:LYS:HD2	8:LF:190:ALA:HB1	1.99	0.44
7:LE:290:TYR:HD2	7:LE:293:LYS:HE2	1.82	0.44
8:LF:129:LYS:HD2	8:LF:132:GLN:HE21	1.81	0.44
8:LF:177:TYR:OH	8:LF:210:GLU:OE2	2.27	0.44
12:LJ:47:THR:HG23	45:L7:39:C:H4'	1.99	0.44
14:LM:33:GLN:HB2	20:LS:145:PHE:CZ	2.52	0.44
17:LP:67:VAL:HG13	17:LP:82:ARG:HG3	1.99	0.44
18:LQ:70:MET:HE3	18:LQ:139:LEU:HD11	2.00	0.44
20:LS:19:THR:HG23	20:LS:21:LYS:N	2.31	0.44
20:LS:118:ARG:NH1	44:L5:1862:C:O2	2.50	0.44
21:LT:17:ARG:HD3	21:LT:47:THR:OG1	2.18	0.44
29:Lb:100:PRO:HA	29:Lb:107:ARG:HH22	1.82	0.44
30:Lc:65:MET:HE3	30:Lc:65:MET:HB3	1.81	0.44
32:Le:91:CYS:C	32:Le:93:LYS:H	2.25	0.44
37:Lj:21:ARG:O	37:Lj:22:CYS:C	2.58	0.44
44:L5:189:G:H22	44:L5:252:G:N2	2.16	0.44
44:L5:391:U:H2'	44:L5:392:U:C6	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:663:C:H2'	44:L5:664:C:H6	1.82	0.44
44:L5:1781:C:O2'	44:L5:1792:G:O6	2.30	0.44
44:L5:3748:G:N2	44:L5:3763:C:O2'	2.47	0.44
44:L5:3907:G:H22	44:L5:3910:A:H2	1.64	0.44
44:L5:4106:C:O5'	44:L5:4106:C:H6	2.00	0.44
47:S2:144:U:H2'	47:S2:145:G:H8	1.83	0.44
47:S2:450:A:H4'	49:SE:3:ARG:HD3	1.99	0.44
47:S2:453:G:H2'	47:S2:454:C:C6	2.52	0.44
47:S2:914:A:N6	51:SH:98:ARG:O	2.50	0.44
47:S2:1093:G:H2'	47:S2:1094:A:C8	2.49	0.44
47:S2:1165:G:O2'	47:S2:1166:G:H5'	2.17	0.44
47:S2:1452:G:OP1	57:SR:32:LYS:NZ	2.28	0.44
47:S2:1629:C:H2'	47:S2:1630:C:C6	2.52	0.44
47:S2:1651:A:H2'	47:S2:1652:A:O4'	2.17	0.44
47:S2:1677:U:H2'	47:S2:1678:U:O4'	2.18	0.44
48:SD:39:VAL:HG22	48:SD:41:VAL:HG13	2.00	0.44
48:SD:53:THR:HA	48:SD:90:LYS:HG2	2.00	0.44
52:SI:67:TRP:HE3	52:SI:70:GLU:CG	2.30	0.44
59:ST:5:THR:HG22	59:ST:8:ASP:OD2	2.18	0.44
61:SV:4:ASP:HB2	67:SC:174:ILE:HD13	2.00	0.44
62:SX:107:ARG:HB2	62:SX:110:HIS:HB3	1.99	0.44
66:Sg:14:HIS:ND1	66:Sg:41:ILE:HD12	2.33	0.44
66:Sg:131:LEU:HD11	66:Sg:140:TYR:HB3	1.98	0.44
74:SZ:64:ASN:OD1	74:SZ:64:ASN:N	2.51	0.44
77:S6:27:C:H2'	77:S6:28:U:C6	2.53	0.44
6:LD:40:ASP:HB2	6:LD:43:LYS:HG3	2.00	0.44
14:LM:17:PHE:CE1	14:LM:54:CYS:HA	2.53	0.44
18:LQ:64:SER:OG	18:LQ:89:ASP:OD2	2.35	0.44
20:LS:71:SER:O	20:LS:76:LYS:NZ	2.51	0.44
31:Ld:50:ARG:HG2	31:Ld:54:MET:HE3	1.98	0.44
33:Lf:106:TYR:O	33:Lf:108:SER:N	2.51	0.44
38:Lk:35:LYS:NZ	44:L5:2449:A:OP1	2.50	0.44
44:L5:656:G:H2'	44:L5:657:A:C8	2.53	0.44
44:L5:1382:C:H2'	44:L5:1383:U:C6	2.52	0.44
44:L5:3280:C:H2'	44:L5:3281:A:O4'	2.18	0.44
44:L5:3313:A:H2'	44:L5:3314:U:C6	2.52	0.44
44:L5:3827:U:H2'	44:L5:3828:G:H8	1.83	0.44
44:L5:3897:A:H2'	44:L5:3898:G:O4'	2.18	0.44
45:L7:28:C:O2'	45:L7:54:A:N1	2.49	0.44
47:S2:456:A:H2'	47:S2:457:C:H6	1.80	0.44
47:S2:1160:G:P	72:SW:76:SER:HB2	2.57	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SD:16:ILE:HD13	65:Sd:22:ARG:NH1	2.33	0.44
54:SL:20:LYS:HE3	54:SL:20:LYS:HB3	1.89	0.44
55:SP:121:ILE:H	55:SP:121:ILE:HG13	1.63	0.44
56:SQ:103:ALA:HB2	66:Sg:54:ILE:HD11	1.99	0.44
58:SS:55:ARG:HG3	74:SZ:49:LEU:HD11	2.00	0.44
58:SS:70:ILE:HG12	58:SS:77:TYR:CE2	2.52	0.44
59:ST:104:LEU:HB3	59:ST:121:ARG:HH21	1.82	0.44
60:SU:59:LYS:HB2	60:SU:84:ILE:HB	1.99	0.44
66:Sg:11:LEU:HD11	66:Sg:309:VAL:HG13	2.00	0.44
66:Sg:19:THR:HG21	66:Sg:67:SER:HA	2.00	0.44
69:SJ:108:ARG:HH12	69:SJ:151:LEU:N	2.15	0.44
78:Ll:24:PRO:HB3	78:Ll:26:TRP:NE1	2.33	0.44
1:LA:105:GLY:HA3	1:LA:160:SER:HB3	2.00	0.44
5:LC:205:ARG:HA	5:LC:205:ARG:HD3	1.73	0.44
8:LF:108:GLU:HB2	21:LT:135:PRO:HB3	2.00	0.44
10:LH:17:GLU:HG2	10:LH:27:VAL:HG22	1.99	0.44
10:LH:20:LEU:O	10:LH:24:THR:HB	2.18	0.44
22:LU:107:LYS:HE3	22:LU:107:LYS:HB2	1.69	0.44
44:L5:254:C:N4	44:L5:255:G:O6	2.49	0.44
44:L5:2615:C:H2'	44:L5:2616:G:O4'	2.18	0.44
44:L5:3389:A:H2'	44:L5:3390:A:H8	1.82	0.44
44:L5:3784:C:H2'	44:L5:3785:C:O4'	2.16	0.44
45:L7:72:U:H2'	45:L7:73:U:O4'	2.18	0.44
47:S2:357:C:P	54:SL:105:ARG:HH22	2.41	0.44
47:S2:383:C:H2'	47:S2:384:G:C8	2.52	0.44
47:S2:487:A:O3'	47:S2:514:G:N2	2.50	0.44
47:S2:1604:G:N2	58:SS:24:ARG:HH21	2.16	0.44
48:SD:31:GLU:H	48:SD:31:GLU:HG3	1.68	0.44
50:SF:102:LEU:HD23	50:SF:102:LEU:HA	1.78	0.44
56:SQ:43:GLU:O	56:SQ:44:PRO:C	2.61	0.44
57:SR:13:ALA:HB1	57:SR:54:VAL:HG23	1.99	0.44
58:SS:40:TYR:OH	58:SS:97:GLN:HG2	2.18	0.44
61:SV:78:ILE:O	61:SV:80:SER:N	2.51	0.44
2:SA:184:ARG:HD3	2:SA:191:ARG:HG2	2.00	0.44
8:LF:89:THR:HG23	8:LF:92:ARG:HH21	1.82	0.44
23:LV:15:ARG:NH2	44:L5:4325:A:OP1	2.51	0.44
28:La:110:LYS:HG3	28:La:128:PHE:HB2	2.00	0.44
41:Lo:63:THR:O	41:Lo:87:ARG:NH1	2.42	0.44
42:Lp:59:SER:OG	42:Lp:60:CYS:N	2.51	0.44
44:L5:741:A:H62	44:L5:829:G:N2	2.12	0.44
44:L5:1255:C:O2'	44:L5:1256:C:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:1569:A:OP1	44:L5:1571:C:H4'	2.18	0.44
44:L5:1800:U:O2'	44:L5:1803:G:OP2	2.16	0.44
47:S2:1547:G:C5'	56:SQ:18:THR:HG21	2.47	0.44
47:S2:1610:C:H2'	47:S2:1611:G:H8	1.83	0.44
47:S2:1664:A:O2'	47:S2:1665:A:H5'	2.18	0.44
47:S2:1840:U:H2'	47:S2:1841:U:C6	2.53	0.44
49:SE:52:LEU:HD21	49:SE:111:VAL:HG11	1.98	0.44
49:SE:106:LYS:HG3	49:SE:108:ARG:HD3	2.00	0.44
58:SS:67:VAL:HG12	58:SS:71:MET:SD	2.58	0.44
66:Sg:91:ASP:N	66:Sg:91:ASP:OD1	2.49	0.44
67:SC:103:LYS:O	67:SC:130:ILE:HA	2.17	0.44
67:SC:125:LYS:HE3	67:SC:141:VAL:HG11	2.00	0.44
72:SW:69:LEU:HD21	72:SW:72:CYS:HB3	2.00	0.44
1:LA:114:CYS:HB2	1:LA:169:VAL:HG12	1.99	0.43
6:LD:88:VAL:HG22	6:LD:239:MET:HE3	2.00	0.43
11:LI:75:TYR:HD2	11:LI:151:ALA:HB2	1.82	0.43
11:LI:177:ASN:HB2	11:LI:180:GLU:HG2	2.00	0.43
13:LL:154:VAL:HG12	13:LL:155:MET:HG3	2.00	0.43
16:LO:6:VAL:HA	16:LO:32:LYS:O	2.18	0.43
17:LP:109:VAL:HA	17:LP:112:LEU:HD22	2.00	0.43
19:LR:89:MET:HE1	19:LR:97:ARG:HH12	1.83	0.43
22:LU:65:ARG:CZ	22:LU:67:LYS:HA	2.48	0.43
25:LX:86:ALA:O	25:LX:90:ILE:HD12	2.17	0.43
27:LZ:10:VAL:HG11	27:LZ:129:TRP:HZ3	1.83	0.43
28:La:12:ARG:HG3	44:L5:1474:U:O2'	2.18	0.43
29:Lb:13:SER:HA	29:Lb:16:TRP:NE1	2.33	0.43
30:Lc:34:THR:HG23	30:Lc:95:ALA:HB2	1.98	0.43
38:Lk:49:ASP:OD1	38:Lk:49:ASP:N	2.50	0.43
44:L5:431:U:H4'	44:L5:432:A:H5''	1.99	0.43
44:L5:1808:G:N7	44:L5:1819:C:H1'	2.32	0.43
44:L5:3561:G:H5''	44:L5:3562:A:OP2	2.17	0.43
44:L5:3567:C:H2'	44:L5:3568:C:H6	1.82	0.43
44:L5:3604:A:H2	44:L5:3605:C:C4	2.36	0.43
47:S2:377:A:H2'	47:S2:378:G:O4'	2.17	0.43
47:S2:797:G:H2'	47:S2:798:C:C6	2.53	0.43
47:S2:1011:G:H2'	47:S2:1012:A:H8	1.82	0.43
47:S2:1717:C:H2'	47:S2:1718:C:H6	1.83	0.43
56:SQ:101:ASP:OD1	56:SQ:102:GLU:N	2.51	0.43
62:SX:126:ALA:HB2	62:SX:140:ARG:HH11	1.83	0.43
66:Sg:113:PHE:HD1	66:Sg:120:ILE:HG21	1.83	0.43
66:Sg:294:ASP:HB2	66:Sg:296:GLN:OE1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:L1:36:ARG:HG3	78:L1:36:ARG:NH1	2.32	0.43
3:LB:285:TYR:N	3:LB:332:MET:O	2.41	0.43
4:SB:68:GLU:HG2	4:SB:85:LYS:HG2	2.00	0.43
5:LC:134:PRO:HA	5:LC:150:LEU:HD22	2.01	0.43
10:LH:115:ARG:HG3	10:LH:123:ILE:HG23	2.00	0.43
16:LO:191:LYS:HE3	16:LO:191:LYS:HB3	1.79	0.43
19:LR:96:MET:HG3	44:L5:2421:C:O4'	2.18	0.43
23:LV:123:LYS:HB3	23:LV:123:LYS:HE3	1.83	0.43
31:Ld:29:ILE:O	31:Ld:33:ILE:HG12	2.17	0.43
35:Lh:5:LYS:O	35:Lh:9:LEU:HG	2.18	0.43
37:Lj:5:THR:OG1	44:L5:1415:A:OP1	2.31	0.43
44:L5:32:G:H21	44:L5:50:C:H5	1.65	0.43
44:L5:65:A:N6	44:L5:75:G:H1'	2.33	0.43
44:L5:807:C:H2'	44:L5:808:G:C8	2.52	0.43
44:L5:1247:A:H3'	44:L5:1248:G:H8	1.83	0.43
44:L5:1682:C:O2'	44:L5:1694:A:N3	2.47	0.43
44:L5:2127:A:N1	44:L5:2147:G:O2'	2.49	0.43
44:L5:3540:U:H2'	44:L5:3541:U:C6	2.52	0.43
47:S2:127:C:H42	49:SE:134:LYS:HZ2	1.66	0.43
47:S2:444:U:H2'	47:S2:445:G:O4'	2.17	0.43
47:S2:1260:A:H1'	47:S2:1265:C:H42	1.82	0.43
47:S2:1610:C:H2'	47:S2:1611:G:C8	2.53	0.43
47:S2:1717:C:H2'	47:S2:1718:C:C6	2.53	0.43
49:SE:147:ILE:HD13	49:SE:147:ILE:HA	1.91	0.43
51:SH:160:LYS:HA	51:SH:163:GLN:HB2	2.01	0.43
53:SK:7:ASN:ND2	53:SK:40:VAL:HG12	2.33	0.43
55:SP:60:LEU:HD13	55:SP:89:MET:HB2	2.00	0.43
57:SR:8:THR:O	57:SR:12:ALA:HB3	2.18	0.43
62:SX:74:LEU:O	62:SX:78:GLY:HA2	2.18	0.43
66:Sg:135:LEU:HD23	66:Sg:135:LEU:HA	1.90	0.43
78:L1:24:PRO:HB3	78:L1:26:TRP:CD1	2.53	0.43
1:LA:177:LYS:HB2	42:Lp:29:ILE:HD13	2.00	0.43
4:SB:183:GLU:H	4:SB:183:GLU:CD	2.25	0.43
5:LC:156:ASP:OD2	5:LC:255:SER:N	2.35	0.43
8:LF:184:ILE:HD13	8:LF:196:LEU:HD22	2.00	0.43
9:LG:78:PRO:HD3	9:LG:237:TRP:CE2	2.53	0.43
10:LH:4:ILE:HG12	10:LH:61:TRP:CH2	2.53	0.43
19:LR:5:ARG:NH1	44:L5:2142:U:OP1	2.51	0.43
21:LT:158:PHE:CE1	21:LT:160:ALA:HB3	2.52	0.43
27:LZ:47:ASP:N	27:LZ:69:LYS:O	2.37	0.43
28:La:76:ASP:OD1	28:La:77:LYS:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Le:118:LEU:HD12	32:Le:118:LEU:HA	1.87	0.43
34:Lg:3:GLN:NE2	34:Lg:30:ILE:H	2.16	0.43
44:L5:99:A:H2'	44:L5:100:C:O2	2.19	0.43
44:L5:153:G:H2'	44:L5:154:G:H8	1.83	0.43
44:L5:492:G:O2'	44:L5:493:U:O5'	2.32	0.43
44:L5:1011:G:H2'	44:L5:1011:G:N3	2.33	0.43
44:L5:1327:U:H2'	44:L5:1328:U:O4'	2.18	0.43
44:L5:2592:G:H2'	44:L5:2593:U:C6	2.53	0.43
44:L5:2618:A:H2'	44:L5:2619:U:H6	1.84	0.43
46:L8:67:U:H2'	46:L8:68:G:H8	1.84	0.43
47:S2:110:U:H2'	47:S2:111:A:C8	2.53	0.43
47:S2:608:U:H4'	47:S2:609:C:OP2	2.19	0.43
48:SD:70:THR:HG21	48:SD:85:GLU:CD	2.44	0.43
48:SD:206:ASP:N	48:SD:206:ASP:OD1	2.38	0.43
49:SE:191:ARG:HD2	49:SE:245:ARG:HE	1.83	0.43
50:SF:91:ARG:HG3	50:SF:92:ILE:N	2.33	0.43
50:SF:124:ASP:OD1	50:SF:125:SER:N	2.41	0.43
53:SK:3:MET:SD	53:SK:48:ALA:HB2	2.58	0.43
56:SQ:26:LYS:HZ3	56:SQ:67:ASP:HB3	1.83	0.43
56:SQ:53:GLU:HG3	56:SQ:85:ARG:HH21	1.83	0.43
70:SN:76:LYS:HE2	70:SN:76:LYS:HB3	1.78	0.43
1:LA:106:THR:O	1:LA:106:THR:OG1	2.34	0.43
5:LC:149:GLU:OE2	43:Lr:71:ARG:NE	2.47	0.43
6:LD:217:ASP:N	6:LD:217:ASP:OD1	2.51	0.43
12:LJ:48:PRO:HB2	12:LJ:70:VAL:HG23	2.01	0.43
12:LJ:106:GLY:C	44:L5:3903:G:H4'	2.43	0.43
14:LM:79:LYS:HE3	14:LM:79:LYS:HB3	1.75	0.43
15:LN:67:ARG:HD3	44:L5:2215:C:OP1	2.17	0.43
17:LP:61:ARG:HD3	46:L8:3:A:O2'	2.18	0.43
20:LS:53:LYS:HE3	20:LS:53:LYS:HB2	1.86	0.43
26:LY:77:LYS:HB2	26:LY:79:VAL:HG22	1.99	0.43
34:Lg:85:LYS:HA	34:Lg:88:ARG:HE	1.84	0.43
44:L5:1359:G:H2'	44:L5:1360:C:C6	2.53	0.43
44:L5:1480:C:O2'	44:L5:1502:G:OP1	2.27	0.43
44:L5:1621:G:O2'	44:L5:1622:G:H5''	2.18	0.43
44:L5:2133:A:H2'	44:L5:2134:C:C6	2.53	0.43
44:L5:3378:U:H2'	44:L5:3379:G:C8	2.53	0.43
44:L5:4556:A:O2'	44:L5:4557:A:H8	2.01	0.43
44:L5:4563:C:H2'	44:L5:4564:C:O4'	2.19	0.43
47:S2:31:U:O2'	47:S2:644:A:N1	2.49	0.43
47:S2:84:A:H2'	47:S2:85:A:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:106:C:H2'	47:S2:107:A:C8	2.53	0.43
47:S2:509:A:H5'	47:S2:510:G:OP2	2.18	0.43
47:S2:976:G:O2'	71:SO:49:GLY:O	2.34	0.43
47:S2:1412:G:H2'	47:S2:1413:C:C6	2.53	0.43
47:S2:1534:A:C2	47:S2:1537:G:N3	2.86	0.43
47:S2:1540:U:OP1	59:ST:43:LYS:HB3	2.18	0.43
47:S2:1551:G:O2'	47:S2:1559:C:O2	2.29	0.43
49:SE:114:ILE:HD11	49:SE:119:ALA:HB2	2.01	0.43
51:SH:48:ALA:HA	51:SH:61:ILE:O	2.18	0.43
52:SI:47:ARG:HA	52:SI:53:LYS:HD3	1.99	0.43
54:SL:12:LYS:HA	54:SL:56:ILE:HD12	1.99	0.43
55:SP:12:PHE:HB2	55:SP:14:LYS:HE3	2.01	0.43
67:SC:71:LYS:HD2	67:SC:71:LYS:O	2.18	0.43
74:SZ:62:VAL:HA	74:SZ:65:TYR:CZ	2.53	0.43
4:SB:130:THR:OG1	4:SB:180:ASP:HB3	2.18	0.43
6:LD:97:ALA:O	6:LD:101:THR:OG1	2.34	0.43
9:LG:37:LYS:HG2	44:L5:3778:A:C2	2.53	0.43
15:LN:10:LEU:HD12	36:Li:48:CYS:SG	2.59	0.43
15:LN:162:ARG:O	44:L5:28:C:O2'	2.32	0.43
23:LV:72:LEU:HB2	23:LV:77:HIS:CE1	2.54	0.43
26:LY:54:GLU:HB2	26:LY:108:ARG:HB3	1.99	0.43
28:La:43:ILE:HG23	44:L5:3957:A:C2	2.53	0.43
44:L5:83:C:O2'	44:L5:100:C:N4	2.52	0.43
44:L5:691:C:H2'	44:L5:692:G:O4'	2.18	0.43
44:L5:871:U:H4'	44:L5:872:C:C6	2.53	0.43
44:L5:1142:C:H2'	44:L5:1143:G:H8	1.84	0.43
44:L5:1336:G:H2'	44:L5:1467:A:H61	1.83	0.43
44:L5:1377:A:H2'	44:L5:1378:A:C8	2.53	0.43
44:L5:1528:U:H2'	44:L5:1529:U:C6	2.53	0.43
44:L5:2256:C:H2'	44:L5:2257:U:H6	1.84	0.43
44:L5:3354:U:H5''	44:L5:3355:G:H5'	2.00	0.43
44:L5:3891:G:H2'	44:L5:3892:A:H8	1.83	0.43
44:L5:4171:A:OP2	44:L5:4171:A:H8	2.01	0.43
44:L5:4549:G:C2	44:L5:4550:G:C8	3.07	0.43
46:L8:140:C:H2'	46:L8:141:C:C6	2.53	0.43
47:S2:24:C:HO2'	47:S2:25:A:H8	1.62	0.43
47:S2:93:U:H2'	47:S2:94:G:O4'	2.17	0.43
47:S2:510:G:H2'	47:S2:511:G:H8	1.82	0.43
47:S2:829:G:H5''	49:SE:23:LEU:HD11	1.99	0.43
47:S2:848:A:C2	49:SE:248:ILE:HG12	2.54	0.43
47:S2:858:U:H4'	49:SE:201:HIS:NE2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:935:G:H22	47:S2:1009:A:H2	1.65	0.43
47:S2:1242:A:O2'	47:S2:1267:C:O2'	2.31	0.43
47:S2:1375:C:H2'	47:S2:1376:G:O4'	2.19	0.43
47:S2:1807:A:H2'	47:S2:1808:C:O4'	2.18	0.43
57:SR:71:ILE:HA	57:SR:74:GLN:OE1	2.17	0.43
59:ST:116:ASP:HB3	59:ST:122:LYS:CB	2.49	0.43
66:Sg:168:CYS:SG	66:Sg:198:VAL:HG22	2.58	0.43
68:SG:181:THR:O	68:SG:184:VAL:HG12	2.18	0.43
2:SA:38:ILE:HA	2:SA:49:ILE:HA	2.00	0.43
2:SA:177:MET:HE3	2:SA:177:MET:HB3	1.68	0.43
7:LE:231:ARG:HB3	7:LE:232:LYS:HZ2	1.83	0.43
17:LP:40:HIS:CE1	17:LP:42:ARG:HG2	2.53	0.43
18:LQ:181:ARG:HA	18:LQ:187:LYS:HD3	2.00	0.43
41:Lo:22:LYS:HG3	41:Lo:73:VAL:HG12	2.00	0.43
44:L5:208:A:C2	44:L5:233:U:H5''	2.53	0.43
44:L5:257:G:OP1	44:L5:257:G:H4'	2.19	0.43
44:L5:298:C:H2'	44:L5:299:A:C8	2.54	0.43
44:L5:3977:A:H2'	44:L5:3978:A:C8	2.54	0.43
47:S2:15:U:H2'	47:S2:16:G:O4'	2.17	0.43
47:S2:161:U:HO2'	68:SG:87:ARG:NH1	2.13	0.43
47:S2:616:C:O2'	76:Se:82:ARG:NE	2.37	0.43
47:S2:617:A:O2'	62:SX:88:ASP:OD1	2.32	0.43
47:S2:1336:G:H2'	47:S2:1337:C:C6	2.54	0.43
57:SR:60:ARG:HG3	57:SR:66:VAL:HG21	1.99	0.43
58:SS:36:VAL:HG21	58:SS:71:MET:HE3	2.00	0.43
66:Sg:87:LEU:HD21	66:Sg:122:SER:HB3	2.00	0.43
66:Sg:132:TRP:CZ3	66:Sg:138:CYS:HB3	2.54	0.43
67:SC:78:LEU:HB2	67:SC:97:PHE:CD2	2.53	0.43
69:SJ:30:LYS:HB3	69:SJ:30:LYS:HE3	1.68	0.43
70:SN:54:LEU:HB3	70:SN:60:VAL:HB	1.99	0.43
70:SN:88:LEU:O	70:SN:92:ILE:HG13	2.18	0.43
70:SN:92:ILE:O	70:SN:96:VAL:HG23	2.18	0.43
73:SY:45:ALA:HA	73:SY:52:PRO:HB3	1.99	0.43
77:S6:11:G:O6	77:S6:25:U:O4	2.37	0.43
1:LA:249:THR:HG23	47:S2:1069:G:H5''	2.01	0.43
3:LB:289:GLN:HE21	3:LB:292:LEU:HD23	1.83	0.43
3:LB:332:MET:HE3	3:LB:332:MET:HB2	1.84	0.43
5:LC:137:VAL:HG21	5:LC:150:LEU:HD21	2.00	0.43
5:LC:342:ARG:O	5:LC:346:ASN:ND2	2.52	0.43
6:LD:142:PHE:HE1	6:LD:144:CYS:SG	2.41	0.43
7:LE:173:LEU:HD11	7:LE:184:THR:HG22	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LF:184:ILE:HD12	8:LF:189:ILE:HB	1.99	0.43
11:LI:152:LEU:HB3	11:LI:165:ILE:HD12	2.01	0.43
16:LO:62:MET:HG2	16:LO:65:ASN:H	1.82	0.43
16:LO:74:ARG:O	16:LO:142:ALA:HB1	2.19	0.43
17:LP:6:LEU:HD11	44:L5:424:U:H4'	2.00	0.43
27:LZ:3:LYS:O	27:LZ:6:LYS:HE2	2.19	0.43
44:L5:508:G:H1	44:L5:661:U:H3	1.67	0.43
44:L5:1833:A:H2'	44:L5:1834:C:O4'	2.18	0.43
44:L5:4676:G:C2'	44:L5:4677:C:H5'	2.49	0.43
47:S2:57:U:OP1	47:S2:505:G:O2'	2.35	0.43
47:S2:434:A:H2'	47:S2:435:G:C8	2.54	0.43
47:S2:529:A:C6	47:S2:530:A:N6	2.86	0.43
47:S2:1853:C:H2'	47:S2:1854:C:H6	1.83	0.43
48:SD:28:GLU:HA	53:SK:61:GLN:HE21	1.83	0.43
50:SF:193:LYS:HE3	50:SF:193:LYS:HB3	1.64	0.43
51:SH:30:LEU:HG	51:SH:36:LEU:HD23	2.00	0.43
55:SP:23:ASP:N	55:SP:23:ASP:OD1	2.51	0.43
56:SQ:106:LYS:HE3	56:SQ:106:LYS:HB3	1.66	0.43
60:SU:49:LYS:HD2	60:SU:49:LYS:HA	1.75	0.43
62:SX:85:VAL:HG23	62:SX:130:LEU:HD21	2.00	0.43
66:Sg:7:LEU:HD23	66:Sg:9:GLY:H	1.84	0.43
75:Sb:54:VAL:HG12	75:Sb:64:CYS:SG	2.59	0.43
77:S6:54:A:H1'	77:S6:58:A:H62	1.84	0.43
1:LA:180:LEU:HD21	42:Lp:22:LEU:HB3	2.00	0.43
2:SA:83:GLY:O	2:SA:87:VAL:HG13	2.19	0.43
5:LC:100:ARG:CZ	5:LC:100:ARG:HB3	2.46	0.43
6:LD:143:THR:HA	6:LD:172:SER:O	2.19	0.43
7:LE:206:SER:N	7:LE:296:PHE:O	2.52	0.43
7:LE:293:LYS:HB2	7:LE:293:LYS:HE3	1.75	0.43
13:LL:58:ILE:HG12	13:LL:157:ILE:HG12	1.99	0.43
30:Lc:29:LEU:HD22	30:Lc:91:VAL:HG11	2.00	0.43
30:Lc:78:ASN:OD1	30:Lc:78:ASN:N	2.48	0.43
31:Ld:57:MET:HG2	31:Ld:88:LEU:HD23	2.00	0.43
44:L5:303:C:H2'	44:L5:304:A:O4'	2.19	0.43
44:L5:1293:G:O2'	44:L5:1294:C:H5'	2.19	0.43
44:L5:2382:U:H2'	44:L5:2383:C:O4'	2.19	0.43
44:L5:3263:U:H2'	44:L5:3264:U:H6	1.82	0.43
44:L5:4306:C:H2'	44:L5:4307:C:C6	2.53	0.43
45:L7:75:G:N2	45:L7:76:U:O4	2.35	0.43
46:L8:77:A:H2'	46:L8:78:G:C8	2.54	0.43
49:SE:102:ILE:HD11	49:SE:239:PRO:HG3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SQ:96:TYR:HA	56:SQ:100:VAL:HG23	2.00	0.43
56:SQ:107:GLU:HA	56:SQ:110:ASP:OD2	2.19	0.43
57:SR:33:ARG:HG3	66:Sg:125:ARG:NH1	2.34	0.43
58:SS:84:LEU:HB2	58:SS:87:GLN:HG2	2.00	0.43
68:SG:21:GLU:HA	68:SG:24:LEU:HB2	2.00	0.43
3:LB:108:GLU:HG3	3:LB:137:TRP:HB2	2.00	0.43
5:LC:25:PRO:HG2	5:LC:28:PHE:CE2	2.53	0.43
5:LC:308:LYS:HD3	5:LC:308:LYS:N	2.34	0.43
6:LD:164:LYS:HA	6:LD:167:VAL:HG22	2.01	0.43
7:LE:66:ARG:NH2	44:L5:877:C:OP2	2.44	0.43
14:LM:6:TYR:H	14:LM:11:ARG:NH2	2.17	0.43
18:LQ:179:GLY:HA2	18:LQ:186:TYR:CE2	2.54	0.43
22:LU:89:LYS:HE3	22:LU:89:LYS:HB3	1.58	0.43
34:Lg:85:LYS:HG3	34:Lg:88:ARG:HH21	1.84	0.43
41:Lo:3:ASN:O	44:L5:3885:U:H5''	2.19	0.43
44:L5:486:C:O2	44:L5:486:C:H2'	2.19	0.43
44:L5:2132:A:H2'	44:L5:2133:A:H8	1.83	0.43
44:L5:2285:G:H2'	44:L5:2286:A:O4'	2.19	0.43
44:L5:3560:A:N1	44:L5:4210:U:H5	2.16	0.43
44:L5:4331:G:N2	44:L5:4366:G:H1'	2.34	0.43
45:L7:57:C:H2'	45:L7:58:A:C8	2.54	0.43
47:S2:422:G:OP1	54:SL:97:ARG:HG2	2.18	0.43
47:S2:675:C:H2'	47:S2:676:U:C6	2.54	0.43
47:S2:1477:A:H4'	47:S2:1478:U:H5''	2.00	0.43
58:SS:6:PRO:HD2	58:SS:9:PHE:CD1	2.54	0.43
59:ST:18:LEU:HD13	59:ST:134:ILE:CD1	2.49	0.43
61:SV:37:ALA:HB1	61:SV:46:PHE:CD1	2.54	0.43
66:Sg:87:LEU:HB2	66:Sg:101:PHE:CD2	2.54	0.43
71:SO:96:LYS:HG2	71:SO:132:VAL:HG11	1.99	0.43
73:SY:23:MET:HE3	73:SY:48:TYR:HE2	1.84	0.43
78:Ll:9:ILE:O	78:Ll:13:LEU:HG	2.18	0.43
2:SA:131:HIS:O	2:SA:135:THR:HG23	2.19	0.43
3:LB:53:MET:HE2	3:LB:53:MET:HB3	1.92	0.43
4:SB:38:MET:N	4:SB:38:MET:HE3	2.34	0.43
12:LJ:55:TYR:HB2	12:LJ:64:ARG:HH11	1.84	0.43
12:LJ:88:LYS:HG2	55:SP:12:PHE:HE2	1.83	0.43
34:Lg:2:VAL:HG22	44:L5:2367:C:O3'	2.19	0.43
35:Lh:110:LYS:NZ	44:L5:110:C:OP1	2.32	0.43
44:L5:1001:G:C2	44:L5:1002:G:C8	3.07	0.43
44:L5:2632:G:OP2	44:L5:2633:A:O2'	2.23	0.43
44:L5:3788:C:H1'	44:L5:3800:G:H22	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:4167:G:H2'	44:L5:4168:G:O4'	2.19	0.43
44:L5:4573:G:H5''	44:L5:4574:C:OP2	2.19	0.43
45:L7:27:G:H2'	45:L7:28:C:C6	2.54	0.43
47:S2:293:A:H4'	54:SL:39:ASN:O	2.18	0.43
47:S2:410:C:N4	47:S2:428:U:OP1	2.44	0.43
47:S2:576:A:H2'	47:S2:577:A:O4'	2.19	0.43
47:S2:965:A:H2'	47:S2:966:U:C6	2.54	0.43
47:S2:1387:A:H2'	47:S2:1388:G:O4'	2.18	0.43
49:SE:54:TYR:HD1	73:SY:22:GLN:HE22	1.66	0.43
49:SE:191:ARG:HD2	49:SE:245:ARG:NE	2.34	0.43
50:SF:180:ALA:HA	50:SF:190:ILE:HD11	2.00	0.43
59:ST:37:VAL:HG21	59:ST:52:TRP:CZ2	2.54	0.43
65:Sd:15:GLY:O	65:Sd:19:ARG:NH1	2.52	0.43
67:SC:230:THR:C	67:SC:232:THR:H	2.26	0.43
69:SJ:46:VAL:HG11	69:SJ:106:LEU:HD12	2.01	0.43
69:SJ:127:ARG:HA	69:SJ:127:ARG:HD2	1.83	0.43
70:SN:26:LEU:HD13	70:SN:26:LEU:HA	1.86	0.43
72:SW:114:GLU:O	72:SW:118:ARG:HG3	2.19	0.43
73:SY:29:HIS:CB	73:SY:32:LYS:HB3	2.45	0.43
1:LA:206:PRO:HG3	1:LA:213:GLY:HA3	2.02	0.42
7:LE:161:LEU:HD11	7:LE:203:ILE:HG13	2.01	0.42
10:LH:40:HIS:CD2	10:LH:40:HIS:H	2.35	0.42
15:LN:83:LYS:NZ	44:L5:36:U:O4	2.52	0.42
20:LS:4:SER:CB	20:LS:111:ARG:HH22	2.32	0.42
26:LY:26:ARG:HG2	26:LY:78:TYR:CE1	2.54	0.42
27:LZ:12:LEU:HD23	27:LZ:22:LYS:HG2	1.99	0.42
29:Lb:55:LYS:H	29:Lb:55:LYS:HG2	1.40	0.42
29:Lb:100:PRO:O	29:Lb:107:ARG:NH2	2.52	0.42
30:Lc:102:SER:O	30:Lc:102:SER:OG	2.30	0.42
37:Lj:25:LYS:HE2	37:Lj:25:LYS:HB3	1.71	0.42
41:Lo:63:THR:OG1	44:L5:3882:U:OP1	2.28	0.42
44:L5:468:C:H2'	44:L5:469:A:H8	1.84	0.42
44:L5:656:G:H2'	44:L5:657:A:H8	1.83	0.42
44:L5:887:C:H42	44:L5:922:G:H22	1.67	0.42
44:L5:924:G:C2	44:L5:925:G:C8	3.06	0.42
44:L5:2132:A:H2'	44:L5:2133:A:C8	2.54	0.42
44:L5:2226:C:H5'	44:L5:2227:C:OP2	2.19	0.42
44:L5:4279:A:H8	44:L5:4281:U:O4	2.01	0.42
44:L5:4288:A:H3'	44:L5:4289:U:H4'	2.01	0.42
45:L7:57:C:H2'	45:L7:58:A:H8	1.84	0.42
47:S2:290:G:H2'	47:S2:291:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:351:C:H2'	47:S2:352:G:O4'	2.19	0.42
47:S2:381:G:N1	47:S2:384:G:OP2	2.43	0.42
47:S2:1797:G:H2'	47:S2:1798:U:C6	2.54	0.42
50:SF:122:ARG:HE	64:Sc:59:LEU:HD21	1.84	0.42
54:SL:49:GLU:O	54:SL:53:GLY:HA3	2.18	0.42
54:SL:84:ARG:O	54:SL:112:HIS:ND1	2.52	0.42
55:SP:111:MET:HB2	55:SP:119:PHE:CZ	2.54	0.42
57:SR:16:ILE:HD12	57:SR:24:LEU:HD21	2.01	0.42
61:SV:33:GLN:HE21	67:SC:261:PHE:HD1	1.67	0.42
66:Sg:297:THR:HA	66:Sg:310:TRP:O	2.19	0.42
72:SW:57:ARG:HD3	72:SW:57:ARG:N	2.34	0.42
77:S6:53:G:C6	77:S6:54:A:N7	2.87	0.42
6:LD:164:LYS:HG2	6:LD:199:ILE:HD11	2.01	0.42
6:LD:215:ASP:HB3	6:LD:218:ALA:HB3	2.02	0.42
10:LH:86:LEU:O	10:LH:187:VAL:HG22	2.19	0.42
11:LI:56:GLU:HG3	11:LI:162:ARG:H	1.84	0.42
11:LI:162:ARG:NH1	44:L5:1836:A:OP1	2.53	0.42
12:LJ:160:GLU:CD	12:LJ:160:GLU:H	2.27	0.42
13:LL:79:GLU:O	13:LL:83:VAL:HG23	2.19	0.42
18:LQ:103:LEU:HD23	18:LQ:103:LEU:HA	1.92	0.42
19:LR:42:ARG:HH12	44:L5:2282:U:P	2.42	0.42
21:LT:91:VAL:HG12	21:LT:95:HIS:HB2	2.01	0.42
23:LV:90:ARG:HH22	23:LV:140:ALA:C	2.22	0.42
29:Lb:33:LYS:HB3	29:Lb:33:LYS:HE3	1.80	0.42
29:Lb:49:HIS:O	44:L5:1616:U:H4'	2.19	0.42
44:L5:703:G:O2'	44:L5:704:U:H5'	2.19	0.42
44:L5:1772:G:H3'	44:L5:1772:G:N3	2.34	0.42
44:L5:3548:A:H2'	44:L5:3549:U:O4'	2.19	0.42
47:S2:38:A:O2'	47:S2:518:C:N4	2.51	0.42
47:S2:154:U:H4'	68:SG:14:LYS:HA	2.01	0.42
47:S2:531:U:H2'	47:S2:532:A:C8	2.54	0.42
47:S2:657:G:N2	47:S2:664:C:H5''	2.32	0.42
47:S2:987:G:O4'	71:SO:138:ASP:HB2	2.19	0.42
47:S2:1408:U:H2'	47:S2:1409:U:C6	2.55	0.42
51:SH:166:VAL:HG13	51:SH:173:PHE:HE2	1.84	0.42
53:SK:67:PHE:HB3	53:SK:69:TRP:CZ2	2.54	0.42
54:SL:57:ASP:OD2	54:SL:84:ARG:NH1	2.51	0.42
54:SL:83:GLN:HE21	54:SL:83:GLN:HB3	1.62	0.42
56:SQ:94:ALA:HA	56:SQ:97:GLN:HG2	2.01	0.42
66:Sg:191:HIS:CD2	66:Sg:195:LEU:HD21	2.54	0.42
66:Sg:292:SER:OG	66:Sg:296:GLN:OE1	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SJ:81:LEU:HA	69:SJ:84:ILE:HG22	2.00	0.42
2:SA:34:MET:HE3	2:SA:34:MET:HB3	1.79	0.42
3:LB:29:VAL:HG13	3:LB:348:ARG:HD3	2.02	0.42
3:LB:114:CYS:SG	3:LB:180:LEU:HD11	2.59	0.42
3:LB:190:VAL:HA	3:LB:193:LYS:HG2	2.01	0.42
5:LC:109:ARG:O	5:LC:109:ARG:HG2	2.20	0.42
5:LC:341:LEU:HG	7:LE:57:LEU:HD11	2.01	0.42
7:LE:174:LYS:HB3	7:LE:174:LYS:HE2	1.77	0.42
10:LH:86:LEU:HD21	10:LH:190:ALA:HB3	2.01	0.42
12:LJ:40:LEU:O	12:LJ:44:THR:OG1	2.34	0.42
17:LP:61:ARG:NH1	17:LP:76:TRP:HB3	2.34	0.42
18:LQ:177:ALA:C	28:La:51:GLY:HA2	2.44	0.42
20:LS:173:ASN:ND2	20:LS:175:PHE:O	2.52	0.42
23:LV:43:LYS:HG3	23:LV:60:MET:HG2	2.01	0.42
29:Lb:13:SER:HA	29:Lb:16:TRP:CE2	2.54	0.42
44:L5:467:U:O2	44:L5:694:A:N6	2.49	0.42
44:L5:855:G:N2	44:L5:1098:G:OP2	2.52	0.42
44:L5:940:C:H2'	44:L5:941:C:C6	2.54	0.42
44:L5:1234:A:H2'	44:L5:1234:A:N3	2.34	0.42
44:L5:2262:C:N4	44:L5:3735:G:H4'	2.34	0.42
44:L5:2301:G:H1	46:L8:124:U:H4'	1.84	0.42
44:L5:2535:G:O2'	78:Ll:3:SER:O	2.36	0.42
44:L5:3522:A:H2'	44:L5:3523:C:H6	1.85	0.42
44:L5:4393:G:N7	44:L5:4396:G:H8	2.17	0.42
44:L5:4549:G:H22	44:L5:4564:C:N4	2.00	0.42
45:L7:31:G:O2'	45:L7:32:A:H5'	2.19	0.42
47:S2:304:C:H2'	47:S2:305:C:O4'	2.18	0.42
47:S2:374:G:OP1	54:SL:137:THR:OG1	2.20	0.42
47:S2:1240:U:H5''	55:SP:124:LYS:HD2	2.02	0.42
47:S2:1244:U:H2'	47:S2:1245:U:O4'	2.19	0.42
48:SD:145:GLN:HE22	48:SD:179:GLN:HE21	1.66	0.42
49:SE:154:ILE:HG23	49:SE:158:ASP:HB2	2.01	0.42
53:SK:15:LEU:HB2	53:SK:21:MET:HE3	2.01	0.42
57:SR:71:ILE:HD12	57:SR:71:ILE:H	1.84	0.42
58:SS:91:LYS:HE2	58:SS:91:LYS:HB2	1.87	0.42
62:SX:101:LEU:HB3	62:SX:123:VAL:HG23	2.02	0.42
67:SC:206:SER:HB3	67:SC:211:LYS:HB2	2.01	0.42
3:LB:80:GLU:OE1	3:LB:323:TYR:OH	2.31	0.42
6:LD:52:ILE:HD13	45:L7:6:C:H4'	2.02	0.42
10:LH:59:LYS:HD2	10:LH:59:LYS:HA	1.68	0.42
15:LN:47:LYS:HE3	15:LN:51:LEU:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LP:18:ARG:HG3	44:L5:398:G:H4'	2.02	0.42
17:LP:71:ALA:O	17:LP:74:LYS:HG3	2.20	0.42
25:LX:50:LYS:HG3	44:L5:2232:G:N1	2.35	0.42
31:Ld:68:LEU:O	31:Ld:72:VAL:HG13	2.19	0.42
39:Lm:95:ILE:HD11	39:Lm:124:LYS:HD2	2.01	0.42
44:L5:488:G:H2'	44:L5:489:G:C8	2.54	0.42
44:L5:928:C:H2'	44:L5:929:G:H8	1.83	0.42
44:L5:937:C:O2'	44:L5:938:C:H5'	2.18	0.42
44:L5:1069:C:O2'	44:L5:1070:G:H5'	2.19	0.42
44:L5:3827:U:H2'	44:L5:3828:G:C8	2.53	0.42
44:L5:4584:U:O3'	44:L5:4585:G:H8	2.02	0.42
44:L5:4605:C:H2'	44:L5:4606:C:C6	2.54	0.42
46:L8:5:U:H2'	46:L8:6:C:C6	2.55	0.42
47:S2:523:A:H3'	69:SJ:38:ARG:NH1	2.33	0.42
47:S2:575:A:H5''	73:SY:89:HIS:CE1	2.54	0.42
47:S2:1160:G:OP1	72:SW:76:SER:HB2	2.19	0.42
51:SH:179:LYS:HE2	51:SH:179:LYS:HA	2.00	0.42
54:SL:127:THR:CG2	54:SL:144:LYS:HB3	2.49	0.42
57:SR:71:ILE:HA	57:SR:74:GLN:NE2	2.35	0.42
58:SS:132:ARG:HB2	58:SS:134:GLN:HE22	1.85	0.42
60:SU:104:ILE:HG13	60:SU:105:SER:N	2.35	0.42
63:Sa:7:ASN:O	63:Sa:8:ASN:HB2	2.19	0.42
66:Sg:285:GLN:HG3	66:Sg:286:CYS:N	2.34	0.42
67:SC:124:PHE:O	67:SC:143:CYS:HA	2.19	0.42
71:SO:101:GLY:HA2	71:SO:106:LYS:HD3	2.01	0.42
72:SW:111:MET:HB3	72:SW:115:GLU:HB3	2.00	0.42
73:SY:34:THR:HB	73:SY:62:THR:OG1	2.19	0.42
2:SA:29:ASN:HB2	2:SA:151:ASP:OD2	2.19	0.42
17:LP:140:MET:HE3	17:LP:140:MET:HB3	1.89	0.42
20:LS:95:ARG:HE	20:LS:95:ARG:HB3	1.71	0.42
21:LT:100:LYS:HE2	21:LT:100:LYS:HB3	1.72	0.42
27:LZ:76:ASN:OD1	27:LZ:77:TYR:N	2.52	0.42
34:Lg:73:HIS:ND1	34:Lg:73:HIS:C	2.78	0.42
38:Lk:49:ASP:OD2	38:Lk:52:LYS:HE3	2.19	0.42
44:L5:52:G:H4'	44:L5:1343:G:H4'	2.02	0.42
44:L5:287:G:H2'	44:L5:288:C:C6	2.54	0.42
44:L5:384:A:H4'	44:L5:385:A:OP1	2.18	0.42
44:L5:699:C:H2'	44:L5:700:A:H8	1.83	0.42
44:L5:1020:G:H2'	44:L5:1021:C:O4'	2.20	0.42
44:L5:1121:C:H2'	44:L5:1122:A:H8	1.84	0.42
44:L5:1509:U:H2'	44:L5:1510:C:H6	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:1558:C:H41	44:L5:1579:A:H2	1.68	0.42
44:L5:1874:A:H2'	44:L5:1875:C:C6	2.54	0.42
44:L5:3518:A:H2'	44:L5:3519:A:H8	1.82	0.42
44:L5:3839:A:H2'	44:L5:3840:G:C8	2.54	0.42
44:L5:4581:C:H2'	44:L5:4582:G:H8	1.81	0.42
47:S2:102:A:H4'	47:S2:104:A:C8	2.54	0.42
47:S2:863:A:C5	72:SW:107:SER:HA	2.54	0.42
47:S2:1403:A:H1'	60:SU:54:VAL:HG13	2.01	0.42
47:S2:1627:C:OP1	59:ST:88:ARG:NH1	2.52	0.42
48:SD:16:ILE:HG21	65:Sd:22:ARG:HH11	1.85	0.42
48:SD:25:LEU:HB3	48:SD:34:TYR:CE1	2.54	0.42
51:SH:134:VAL:O	51:SH:134:VAL:HG22	2.18	0.42
57:SR:71:ILE:HG23	57:SR:74:GLN:HE22	1.84	0.42
67:SC:176:LYS:HD3	67:SC:176:LYS:HA	1.89	0.42
67:SC:256:TRP:CD2	72:SW:68:ARG:HD3	2.53	0.42
68:SG:168:LYS:HE3	68:SG:170:ARG:HD2	2.01	0.42
77:S6:41:C:H2'	77:S6:42:A:H8	1.85	0.42
77:S6:53:G:N1	77:S6:54:A:N7	2.68	0.42
1:LA:108:PRO:HD3	42:Lp:90:LYS:HE2	2.01	0.42
3:LB:144:LYS:HB3	3:LB:144:LYS:HE2	1.80	0.42
3:LB:223:THR:HB	3:LB:275:HIS:H	1.84	0.42
9:LG:75:LYS:NZ	44:L5:3597:U:H4'	2.35	0.42
12:LJ:32:ARG:HA	12:LJ:35:ARG:HH11	1.85	0.42
18:LQ:14:ARG:HA	44:L5:1505:G:H5''	2.01	0.42
20:LS:77:ASN:HD21	20:LS:98:ARG:HH11	1.66	0.42
24:LW:9:SER:HB3	24:LW:51:TRP:HZ3	1.84	0.42
27:LZ:123:LYS:H	27:LZ:123:LYS:HG2	1.53	0.42
29:Lb:7:HIS:CE1	44:L5:3871:U:H4'	2.55	0.42
31:Ld:101:LYS:HB3	31:Ld:101:LYS:HE3	1.75	0.42
34:Lg:56:VAL:HG13	34:Lg:72:LYS:HA	2.02	0.42
41:Lo:45:GLN:OE1	41:Lo:51:GLN:HA	2.19	0.42
44:L5:10:A:H2'	44:L5:11:G:C8	2.55	0.42
44:L5:393:G:N2	44:L5:396:G:OP2	2.32	0.42
44:L5:952:C:H2'	44:L5:953:C:C6	2.55	0.42
44:L5:1338:A:N6	44:L5:1465:G:H22	2.18	0.42
44:L5:1470:U:H1'	44:L5:4044:G:O5'	2.20	0.42
44:L5:1615:C:H2'	44:L5:1616:U:C6	2.55	0.42
44:L5:1785:G:H4'	44:L5:1812:A:O2'	2.19	0.42
44:L5:2064:A:N3	44:L5:2090:G:O2'	2.52	0.42
44:L5:2359:G:H2'	44:L5:2360:G:C8	2.55	0.42
44:L5:2517:U:H4'	44:L5:2518:A:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:3368:A:H2'	44:L5:3369:A:O4'	2.19	0.42
45:L7:113:G:H2'	45:L7:114:U:C6	2.55	0.42
47:S2:535:G:H2'	47:S2:536:G:C8	2.55	0.42
47:S2:1590:A:H2'	47:S2:1591:C:C6	2.54	0.42
47:S2:1640:G:N3	77:S6:41:C:O2'	2.48	0.42
52:SI:63:GLY:HA3	52:SI:65:PHE:HE1	1.84	0.42
55:SP:93:MET:HE1	55:SP:106:GLU:HB2	2.00	0.42
66:Sg:288:SER:HB2	66:Sg:301:GLY:HA3	2.01	0.42
67:SC:206:SER:OG	67:SC:210:PRO:HG2	2.20	0.42
67:SC:263:LYS:HD2	67:SC:267:GLN:OE1	2.19	0.42
70:SN:39:LYS:HE3	70:SN:39:LYS:HB3	1.77	0.42
78:Ll:44:TRP:CZ3	78:Ll:45:ARG:CG	3.03	0.42
3:LB:80:GLU:HG3	3:LB:326:VAL:HG13	2.01	0.42
5:LC:97:ARG:NH2	44:L5:376:A:OP1	2.41	0.42
6:LD:65:ALA:HB2	6:LD:74:ILE:HD13	2.02	0.42
9:LG:170:LEU:HD23	9:LG:170:LEU:HA	1.82	0.42
11:LI:61:SER:HA	11:LI:126:VAL:HG12	2.02	0.42
16:LO:18:ARG:NH1	44:L5:1860:A:N7	2.67	0.42
18:LQ:43:PHE:CD1	18:LQ:133:GLY:HA3	2.55	0.42
22:LU:26:THR:O	22:LU:30:GLU:HB2	2.20	0.42
27:LZ:115:LYS:HZ2	27:LZ:119:GLU:CD	2.25	0.42
27:LZ:133:LYS:HB3	27:LZ:133:LYS:HE3	1.92	0.42
28:La:136:LYS:NZ	44:L5:1213:A:OP1	2.49	0.42
41:Lo:14:LYS:HB3	41:Lo:77:CYS:SG	2.60	0.42
44:L5:1132:U:H2'	44:L5:1133:C:C6	2.55	0.42
44:L5:1698:G:H2'	44:L5:1699:A:O4'	2.20	0.42
44:L5:2569:A:H2'	44:L5:2570:G:C8	2.55	0.42
44:L5:3605:C:H3'	44:L5:3605:C:OP2	2.19	0.42
44:L5:3991:G:N2	44:L5:4030:G:O4'	2.53	0.42
44:L5:4428:C:O2'	44:L5:4429:C:O5'	2.35	0.42
47:S2:46:A:H4'	47:S2:47:G:H5''	2.02	0.42
47:S2:158:A:H2'	47:S2:159:A:O4'	2.19	0.42
47:S2:347:C:OP1	49:SE:38:LEU:N	2.52	0.42
47:S2:420:G:O3'	72:SW:88:LYS:NZ	2.52	0.42
47:S2:1061:A:H4'	47:S2:1062:U:H5''	2.01	0.42
47:S2:1221:A:N3	47:S2:1678:U:O2'	2.44	0.42
47:S2:1612:G:P	58:SS:121:ARG:HH22	2.42	0.42
49:SE:7:LYS:C	49:SE:30:ARG:HD3	2.45	0.42
56:SQ:39:LEU:HA	56:SQ:42:ILE:HD11	2.02	0.42
57:SR:29:HIS:O	57:SR:33:ARG:HG2	2.20	0.42
60:SU:78:ASP:HB3	60:SU:80:PHE:CE2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SX:73:GLN:HA	62:SX:79:LYS:O	2.19	0.42
63:Sa:67:LEU:HD12	63:Sa:67:LEU:HA	1.80	0.42
66:Sg:212:LYS:HA	66:Sg:235:ILE:HD12	2.02	0.42
67:SC:185:THR:O	67:SC:246:LYS:HD2	2.20	0.42
74:SZ:58:LEU:O	74:SZ:62:VAL:HB	2.20	0.42
1:LA:241:ARG:HH22	44:L5:3317:C:P	2.43	0.42
3:LB:8:ALA:HB2	23:LV:49:LEU:HD22	2.01	0.42
3:LB:43:LEU:HD12	3:LB:43:LEU:HA	1.86	0.42
3:LB:382:MET:O	3:LB:386:LYS:HG2	2.20	0.42
6:LD:50:ARG:NH2	45:L7:6:C:O3'	2.53	0.42
20:LS:94:TYR:O	20:LS:139:ARG:NH1	2.50	0.42
28:La:77:LYS:NZ	44:L5:1169:A:O2'	2.53	0.42
42:Lp:38:THR:HA	42:Lp:45:THR:HA	2.02	0.42
44:L5:681:C:H2'	44:L5:682:G:C8	2.54	0.42
44:L5:952:C:H2'	44:L5:953:C:H6	1.85	0.42
44:L5:1225:G:H3'	44:L5:1226:G:C5'	2.48	0.42
44:L5:1479:C:H2'	44:L5:1480:C:C6	2.55	0.42
44:L5:1568:A:N7	44:L5:1569:A:O2'	2.47	0.42
44:L5:2024:U:C6	44:L5:2027:G:H4'	2.55	0.42
44:L5:3248:C:H5	44:L5:3249:G:C5	2.38	0.42
45:L7:12:U:O3'	45:L7:109:U:O2'	2.32	0.42
47:S2:884:U:O4	47:S2:905:A:N6	2.52	0.42
47:S2:1529:G:H2'	47:S2:1530:C:C6	2.54	0.42
47:S2:1611:G:N7	58:SS:132:ARG:NH2	2.68	0.42
47:S2:1617:U:O2'	47:S2:1662:A:N3	2.47	0.42
49:SE:11:ARG:HA	49:SE:11:ARG:HD3	1.89	0.42
62:SX:105:PHE:HB2	62:SX:119:ARG:O	2.19	0.42
68:SG:74:ARG:O	68:SG:75:LEU:HD23	2.20	0.42
71:SO:95:ILE:HG21	71:SO:116:LEU:HD11	2.01	0.42
73:SY:18:LEU:HD11	73:SY:85:ASN:ND2	2.35	0.42
73:SY:122:LYS:HE3	73:SY:122:LYS:HB3	1.74	0.42
74:SZ:79:ILE:HG22	74:SZ:83:LEU:HD23	2.01	0.42
78:Ll:33:ASN:O	78:Ll:34:LYS:HB2	2.20	0.42
2:SA:11:LYS:HB3	2:SA:13:GLU:OE2	2.20	0.42
7:LE:166:ARG:CZ	44:L5:4593:G:H1'	2.50	0.42
8:LF:153:ASN:ND2	44:L5:1530:U:OP1	2.46	0.42
10:LH:42:ASN:HD21	16:LO:131:PRO:HB2	1.85	0.42
11:LI:4:ARG:NH2	11:LI:99:ILE:HG13	2.35	0.42
11:LI:35:ASP:O	11:LI:36:LEU:HD12	2.20	0.42
14:LM:52:PHE:HA	14:LM:55:MET:HG2	2.02	0.42
21:LT:42:ILE:HD13	21:LT:89:ILE:HD11	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:369:U:H2'	44:L5:370:A:O4'	2.20	0.42
44:L5:494:G:H1	44:L5:668:G:H22	1.68	0.42
44:L5:1293:G:H2'	44:L5:1294:C:C6	2.55	0.42
44:L5:1349:C:O2'	44:L5:3299:A:N1	2.48	0.42
44:L5:1816:A:H5'	44:L5:1817:C:OP2	2.19	0.42
44:L5:2565:G:N2	44:L5:2568:C:OP2	2.50	0.42
44:L5:3720:U:H2'	44:L5:3721:U:C6	2.55	0.42
44:L5:4344:A:H2'	44:L5:4345:A:O4'	2.20	0.42
44:L5:4387:A:O2'	44:L5:4388:G:OP2	2.33	0.42
47:S2:112:U:O2'	47:S2:113:G:OP2	2.30	0.42
47:S2:495:C:N4	47:S2:496:U:O4	2.53	0.42
47:S2:497:C:H5'	49:SE:29:PRO:CA	2.43	0.42
47:S2:613:U:H4'	76:Se:89:GLN:OE1	2.20	0.42
47:S2:1522:C:H5'	55:SP:126:VAL:HG13	2.02	0.42
47:S2:1621:A:H1'	47:S2:1625:U:OP2	2.20	0.42
47:S2:1649:G:O2'	47:S2:1675:G:O6	2.35	0.42
52:SI:100:CYS:SG	52:SI:101:ILE:N	2.93	0.42
57:SR:70:SER:OG	57:SR:73:LEU:HD12	2.19	0.42
57:SR:126:MET:HB3	57:SR:128:PHE:CE1	2.55	0.42
68:SG:203:LYS:HE2	68:SG:203:LYS:HB2	1.67	0.42
1:LA:242:ARG:O	44:L5:3315:C:H5''	2.20	0.42
3:LB:324:GLY:HA2	44:L5:4699:C:O3'	2.19	0.42
4:SB:81:PHE:O	4:SB:106:THR:HG23	2.20	0.42
9:LG:73:ARG:HH12	44:L5:3815:C:H5	1.68	0.42
14:LM:38:VAL:HG21	14:LM:55:MET:HE1	2.02	0.42
16:LO:191:LYS:O	16:LO:195:VAL:HG23	2.20	0.42
17:LP:46:LYS:NZ	44:L5:4712:G:H5''	2.34	0.42
18:LQ:114:LEU:HD21	18:LQ:120:ILE:HG13	2.02	0.42
18:LQ:175:GLU:HA	28:La:51:GLY:O	2.20	0.42
20:LS:8:ARG:O	20:LS:33:PHE:HA	2.19	0.42
21:LT:6:GLY:HA3	44:L5:3861:U:P	2.60	0.42
25:LX:145:ASP:HB3	25:LX:148:ASP:HB2	2.02	0.42
27:LZ:91:LEU:HD21	27:LZ:96:VAL:HG21	2.02	0.42
29:Lb:10:HIS:NE2	44:L5:1680:G:O6	2.38	0.42
34:Lg:103:VAL:O	34:Lg:106:VAL:HG22	2.20	0.42
35:Lh:66:LYS:HG2	46:L8:96:C:OP1	2.19	0.42
44:L5:492:G:O2'	44:L5:493:U:P	2.78	0.42
44:L5:663:C:H2'	44:L5:664:C:C6	2.55	0.42
44:L5:1382:C:H2'	44:L5:1383:U:H6	1.84	0.42
44:L5:1483:A:H2'	44:L5:1484:G:O4'	2.19	0.42
44:L5:3443:U:O2	44:L5:3471:U:H4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:3953:U:H2'	44:L5:3954:U:C6	2.54	0.42
44:L5:4686:A:H2'	44:L5:4687:U:C6	2.55	0.42
47:S2:483:G:N2	47:S2:485:A:H3'	2.35	0.42
47:S2:530:A:H2'	47:S2:531:U:C5	2.54	0.42
47:S2:931:C:H42	47:S2:1012:A:N6	2.18	0.42
47:S2:1193:U:H2'	47:S2:1194:U:C6	2.54	0.42
47:S2:1865:U:H5'	63:Sa:79:ILE:HD11	2.02	0.42
48:SD:195:SER:C	48:SD:201:LYS:HZ3	2.26	0.42
50:SF:113:VAL:O	50:SF:117:ILE:HG23	2.19	0.42
51:SH:113:LYS:HE2	51:SH:113:LYS:HB2	1.74	0.42
58:SS:51:ASP:CG	58:SS:53:THR:HG1	2.28	0.42
64:Sc:33:GLU:OE2	64:Sc:38:THR:HA	2.20	0.42
69:SJ:75:ASN:O	69:SJ:79:ARG:HG2	2.20	0.42
70:SN:129:TYR:HB3	70:SN:135:LEU:HG	2.02	0.42
5:LC:168:VAL:HG12	5:LC:172:LYS:HE3	2.02	0.41
5:LC:323:ARG:NH2	44:L5:1094:A:O2'	2.53	0.41
7:LE:149:ARG:H	7:LE:199:GLN:NE2	2.18	0.41
10:LH:157:SER:HA	10:LH:160:LEU:HD12	2.02	0.41
13:LL:63:THR:O	13:LL:67:HIS:HB3	2.20	0.41
13:LL:106:SER:HB3	44:L5:73:A:OP1	2.20	0.41
15:LN:94:PHE:CE2	15:LN:96:ARG:HB2	2.55	0.41
17:LP:94:MET:HE2	17:LP:94:MET:HB3	1.88	0.41
19:LR:74:ARG:N	19:LR:74:ARG:HD3	2.35	0.41
31:Ld:64:ILE:HG23	31:Ld:68:LEU:HD23	2.02	0.41
32:Le:32:LYS:HB2	32:Le:32:LYS:HE3	1.90	0.41
34:Lg:3:GLN:HE22	34:Lg:30:ILE:H	1.67	0.41
44:L5:713:G:H2'	44:L5:714:C:C6	2.55	0.41
44:L5:1607:A:O2'	44:L5:1636:G:O6	2.32	0.41
44:L5:3601:G:H1	44:L5:3720:U:H3	1.68	0.41
44:L5:3881:G:H5''	44:L5:3882:U:O4'	2.19	0.41
44:L5:4129:C:O2'	44:L5:4131:G:OP2	2.29	0.41
44:L5:4578:U:H2'	44:L5:4579:C:C6	2.55	0.41
47:S2:166:A:C2	47:S2:167:G:C5	3.08	0.41
47:S2:380:C:H2'	47:S2:381:G:O4'	2.20	0.41
47:S2:446:A:H4'	52:SI:50:GLY:O	2.20	0.41
47:S2:525:U:H2'	76:Se:103:THR:OG1	2.20	0.41
47:S2:819:A:OP1	69:SJ:80:ARG:HD2	2.20	0.41
47:S2:1144:A:H2'	47:S2:1145:A:C8	2.54	0.41
47:S2:1183:A:C5	47:S2:1184:A:H1'	2.55	0.41
47:S2:1486:U:H2'	47:S2:1487:A:O4'	2.20	0.41
47:S2:1627:C:H2'	47:S2:1628:C:C6	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SE:229:GLY:HA2	49:SE:235:TRP:CD1	2.54	0.41
50:SF:143:PRO:HA	50:SF:146:ARG:CG	2.49	0.41
54:SL:58:LYS:HE3	54:SL:59:LYS:HE3	2.01	0.41
54:SL:111:VAL:HG11	54:SL:128:VAL:HG11	2.01	0.41
55:SP:49:LEU:O	55:SP:54:HIS:NE2	2.52	0.41
59:ST:39:LEU:HD21	59:ST:52:TRP:CZ3	2.54	0.41
62:SX:124:LYS:HA	62:SX:129:SER:HA	2.01	0.41
66:Sg:103:GLY:HA3	66:Sg:132:TRP:HZ2	1.85	0.41
68:SG:39:ASP:OD1	68:SG:47:GLY:N	2.52	0.41
1:LA:180:LEU:HD11	42:Lp:26:VAL:HG21	2.01	0.41
2:SA:50:ASN:HB3	2:SA:53:ARG:HG3	2.01	0.41
5:LC:48:ASN:HB2	44:L5:1185:G:OP2	2.19	0.41
14:LM:123:ILE:HD11	16:LO:189:ILE:HD13	2.02	0.41
17:LP:40:HIS:HE1	17:LP:42:ARG:HG2	1.85	0.41
19:LR:152:LYS:HE3	19:LR:152:LYS:HB3	1.87	0.41
23:LV:50:ASN:ND2	44:L5:4110:U:OP1	2.42	0.41
28:La:75:LEU:HD23	28:La:136:LYS:HD2	2.02	0.41
31:Ld:82:TYR:CD2	44:L5:4693:G:H5''	2.56	0.41
32:Le:4:LEU:O	32:Le:121:ARG:NH1	2.53	0.41
32:Le:23:HIS:HD2	32:Le:43:ASN:HD21	1.68	0.41
32:Le:124:ASN:OD1	32:Le:124:ASN:N	2.51	0.41
36:Li:3:LEU:H	36:Li:3:LEU:HD12	1.85	0.41
44:L5:190:G:H2'	44:L5:191:G:H8	1.85	0.41
44:L5:256:C:H5''	44:L5:257:G:OP2	2.20	0.41
44:L5:1668:G:N2	44:L5:1670:A:H3'	2.35	0.41
44:L5:1765:A:N1	44:L5:1766:C:N4	2.68	0.41
44:L5:2316:G:H2'	44:L5:2317:C:O4'	2.20	0.41
44:L5:2423:C:H2'	44:L5:2424:C:O4'	2.19	0.41
44:L5:2625:A:H2'	44:L5:2626:C:O4'	2.19	0.41
44:L5:3547:A:N7	44:L5:4224:A:H1'	2.35	0.41
46:L8:47:C:H1'	46:L8:61:A:H2'	2.01	0.41
46:L8:76:C:H2'	46:L8:77:A:O4'	2.20	0.41
47:S2:858:U:H4'	49:SE:201:HIS:CE1	2.55	0.41
47:S2:877:C:C2	47:S2:878:C:C5	3.08	0.41
48:SD:103:GLU:O	48:SD:107:TYR:HD1	2.03	0.41
48:SD:142:LEU:HD13	48:SD:150:MET:HE2	2.02	0.41
51:SH:69:LEU:HD22	51:SH:96:ALA:HB2	2.02	0.41
66:Sg:143:GLN:C	66:Sg:145:GLU:H	2.26	0.41
69:SJ:33:GLY:HA3	76:Se:112:TYR:CG	2.55	0.41
70:SN:55:ARG:HE	70:SN:55:ARG:HB3	1.70	0.41
1:LA:224:THR:HG22	1:LA:240:ALA:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LB:317:LEU:CD1	3:LB:382:MET:HG3	2.49	0.41
5:LC:316:LYS:HB2	5:LC:324:ILE:HG13	2.02	0.41
6:LD:68:ARG:HD3	6:LD:68:ARG:HA	1.89	0.41
6:LD:271:MET:HE1	6:LD:279:ARG:HD2	2.02	0.41
7:LE:50:HIS:HD2	7:LE:51:CYS:H	1.63	0.41
7:LE:248:TYR:O	44:L5:4585:G:N2	2.42	0.41
9:LG:51:LEU:O	9:LG:55:VAL:HG23	2.19	0.41
13:LL:128:PRO:HB3	13:LL:134:PRO:HA	2.02	0.41
22:LU:39:PHE:CE2	22:LU:43:LEU:HD11	2.54	0.41
35:Lh:87:LYS:HD3	35:Lh:91:MET:HE2	2.03	0.41
44:L5:445:C:H2'	44:L5:446:C:H6	1.86	0.41
44:L5:450:C:H3'	44:L5:1109:A:C2	2.55	0.41
44:L5:1388:G:OP2	44:L5:1388:G:H8	2.04	0.41
44:L5:1479:C:H2'	44:L5:1480:C:H6	1.85	0.41
44:L5:1768:G:OP2	44:L5:1768:G:H8	2.03	0.41
44:L5:1858:G:H4'	44:L5:1859:G:OP2	2.19	0.41
46:L8:67:U:H2'	46:L8:68:G:C8	2.54	0.41
47:S2:57:U:O3'	47:S2:500:G:N2	2.37	0.41
47:S2:294:C:O2	47:S2:294:C:H2'	2.20	0.41
47:S2:676:U:H2'	47:S2:677:C:H6	1.85	0.41
47:S2:683:U:O2'	47:S2:1160:G:H4'	2.20	0.41
47:S2:749:C:HO2'	47:S2:750:U:H5	1.67	0.41
47:S2:1068:C:H2'	47:S2:1069:G:O4'	2.20	0.41
47:S2:1107:C:OP1	75:Sb:70:LYS:HB2	2.20	0.41
47:S2:1182:A:H2'	47:S2:1183:A:C8	2.55	0.41
48:SD:7:LYS:HA	48:SD:10:LYS:HG2	2.02	0.41
49:SE:178:GLY:N	49:SE:195:ILE:O	2.49	0.41
53:SK:77:GLN:HA	53:SK:80:ARG:HB2	2.02	0.41
78:Ll:36:ARG:H	78:Ll:36:ARG:HG2	1.76	0.41
2:SA:181:GLU:O	2:SA:185:MET:HG3	2.20	0.41
3:LB:133:TYR:O	3:LB:136:LYS:HG2	2.19	0.41
4:SB:195:LYS:N	4:SB:195:LYS:HD3	2.36	0.41
6:LD:208:MET:SD	6:LD:236:MET:HE1	2.60	0.41
6:LD:265:ARG:HE	6:LD:265:ARG:HB3	1.73	0.41
7:LE:75:LEU:HD13	29:Lb:116:LEU:HD11	2.02	0.41
11:LI:51:HIS:HB3	11:LI:134:VAL:HG13	2.03	0.41
12:LJ:15:LEU:HD12	12:LJ:134:LEU:HD13	2.02	0.41
16:LO:62:MET:HA	44:L5:1848:G:C6	2.56	0.41
16:LO:177:LEU:HD23	16:LO:177:LEU:HA	1.88	0.41
28:La:6:ARG:HH22	44:L5:1155:C:P	2.43	0.41
33:Lf:8:LYS:HB3	33:Lf:100:ARG:CZ	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Lg:12:SER:O	44:L5:2557:U:O2'	2.38	0.41
37:Lj:20:ARG:HG3	37:Lj:20:ARG:HH11	1.85	0.41
44:L5:163:A:H2'	44:L5:164:G:H8	1.86	0.41
44:L5:176:G:N2	44:L5:260:G:N3	2.68	0.41
44:L5:218:A:H2'	44:L5:219:G:O4'	2.19	0.41
44:L5:879:C:H2'	44:L5:880:U:C6	2.55	0.41
44:L5:1882:G:H2'	44:L5:1883:U:C6	2.56	0.41
44:L5:2480:G:H2'	44:L5:2481:C:C6	2.55	0.41
44:L5:3916:C:H2'	44:L5:3917:G:O4'	2.20	0.41
44:L5:4124:U:H2'	44:L5:4125:G:C8	2.54	0.41
44:L5:4204:U:H2'	44:L5:4205:U:C6	2.55	0.41
44:L5:4246:C:H2'	44:L5:4247:U:H6	1.85	0.41
47:S2:1019:U:C2	47:S2:1020:C:C5	3.08	0.41
47:S2:1262:C:O2	65:Sd:10:HIS:NE2	2.53	0.41
47:S2:1859:G:OP1	63:Sa:17:HIS:HE1	2.02	0.41
48:SD:33:GLY:O	48:SD:52:ALA:HA	2.19	0.41
50:SF:76:MET:HE2	50:SF:76:MET:HB2	1.76	0.41
74:SZ:68:ILE:O	74:SZ:109:TYR:HB2	2.20	0.41
1:LA:8:GLN:O	44:L5:3325:C:H5'	2.20	0.41
2:SA:62:ALA:O	2:SA:66:VAL:HG13	2.20	0.41
3:LB:249:ARG:HB2	44:L5:2591:U:H5''	2.02	0.41
7:LE:102:LYS:HD2	7:LE:115:VAL:HG21	2.01	0.41
10:LH:60:TRP:O	10:LH:61:TRP:HB2	2.21	0.41
12:LJ:40:LEU:HD23	12:LJ:70:VAL:HG22	2.02	0.41
26:LY:45:ARG:NH2	44:L5:238:C:OP2	2.52	0.41
32:Le:82:VAL:HA	32:Le:85:LEU:HB3	2.03	0.41
34:Lg:85:LYS:HA	34:Lg:88:ARG:HH21	1.85	0.41
34:Lg:103:VAL:O	34:Lg:107:LEU:HD13	2.21	0.41
43:Lr:41:ASN:OD1	43:Lr:44:ILE:HG12	2.20	0.41
44:L5:941:C:H2'	44:L5:942:C:H6	1.85	0.41
44:L5:1148:A:H2'	44:L5:1149:A:H8	1.82	0.41
44:L5:1776:G:N7	44:L5:1777:U:C6	2.89	0.41
44:L5:1883:U:H2'	44:L5:1884:C:C6	2.55	0.41
44:L5:2278:G:H5'	44:L5:2394:G:H1'	2.03	0.41
44:L5:2295:U:H2'	44:L5:2296:C:C6	2.55	0.41
44:L5:3309:A:H2'	44:L5:3310:A:C5	2.56	0.41
44:L5:3940:G:H2'	44:L5:3941:C:C6	2.56	0.41
44:L5:4172:C:H5''	44:L5:4173:G:H5''	2.02	0.41
47:S2:88:G:H21	47:S2:501:A:H5'	1.85	0.41
47:S2:151:C:C4	47:S2:168:C:N4	2.89	0.41
47:S2:639:C:H1'	76:Se:130:ASN:CG	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:825:C:H4'	69:SJ:147:PHE:CD1	2.56	0.41
47:S2:956:A:N1	47:S2:969:U:O2'	2.49	0.41
47:S2:1569:C:P	59:ST:98:SER:HB2	2.60	0.41
47:S2:1586:U:O2'	47:S2:1588:G:OP2	2.34	0.41
47:S2:1727:G:C5	47:S2:1728:G:C8	3.09	0.41
47:S2:1866:C:OP2	63:Sa:5:ARG:NH2	2.48	0.41
48:SD:205:PRO:HA	57:SR:42:PRO:HB2	2.02	0.41
49:SE:205:PHE:HB3	49:SE:221:ARG:HD2	2.02	0.41
56:SQ:48:GLN:O	56:SQ:52:LEU:HG	2.21	0.41
57:SR:44:LYS:HG3	57:SR:47:ARG:HH21	1.85	0.41
59:ST:57:ALA:HB1	59:ST:107:LEU:HD21	2.03	0.41
66:Sg:89:LEU:H	66:Sg:89:LEU:HD23	1.84	0.41
67:SC:103:LYS:HE3	67:SC:103:LYS:HB3	1.88	0.41
68:SG:23:LYS:HE2	68:SG:41:LEU:C	2.46	0.41
68:SG:51:ARG:HB3	68:SG:112:VAL:HG13	2.02	0.41
72:SW:9:ASP:OD1	72:SW:10:ALA:N	2.54	0.41
73:SY:21:LYS:HD2	73:SY:21:LYS:HA	1.88	0.41
2:SA:155:ARG:HH12	47:S2:1138:U:HO2'	1.58	0.41
3:LB:57:VAL:HG11	24:LW:1:MET:HG3	2.01	0.41
4:SB:106:THR:HB	71:SO:130:GLU:OE1	2.21	0.41
7:LE:157:VAL:HA	7:LE:170:VAL:O	2.21	0.41
8:LF:174:GLU:HG2	8:LF:174:GLU:H	1.68	0.41
8:LF:177:TYR:CE1	8:LF:209:MET:HG2	2.55	0.41
14:LM:86:TRP:O	14:LM:87:ALA:HB3	2.20	0.41
17:LP:94:MET:SD	17:LP:146:ILE:HB	2.60	0.41
17:LP:127:ARG:NH1	44:L5:2177:A:OP2	2.45	0.41
20:LS:74:ARG:O	20:LS:76:LYS:NZ	2.40	0.41
24:LW:39:ALA:O	24:LW:44:ARG:HG2	2.21	0.41
28:La:13:GLY:HA2	44:L5:1474:U:H3'	2.03	0.41
31:Ld:60:PRO:HB2	31:Ld:100:ASN:ND2	2.36	0.41
33:Lf:39:THR:HG21	33:Lf:77:ALA:HB2	2.02	0.41
35:Lh:55:ALA:O	35:Lh:59:THR:OG1	2.32	0.41
36:Li:43:MET:O	36:Li:47:VAL:HG12	2.20	0.41
37:Lj:87:LYS:HD3	46:L8:68:G:OP2	2.20	0.41
44:L5:2:G:H2'	44:L5:3:C:H6	1.85	0.41
44:L5:355:G:N1	44:L5:359:A:OP2	2.45	0.41
44:L5:829:G:H2'	44:L5:830:C:O4'	2.21	0.41
44:L5:1124:C:H2'	44:L5:1125:C:C6	2.55	0.41
44:L5:1286:C:H2'	44:L5:1287:U:H6	1.83	0.41
44:L5:1537:G:H5'	44:L5:3867:A:O2'	2.20	0.41
46:L8:113:C:H2'	46:L8:114:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:601:G:H2'	47:S2:602:G:C8	2.55	0.41
47:S2:853:G:H21	54:SL:97:ARG:HH22	1.67	0.41
47:S2:1439:A:H2'	47:S2:1440:A:C8	2.55	0.41
47:S2:1513:C:H2'	47:S2:1514:C:C6	2.55	0.41
48:SD:67:ARG:HB3	53:SK:93:THR:HB	2.03	0.41
49:SE:42:LEU:HD11	49:SE:46:ILE:HG21	2.02	0.41
49:SE:52:LEU:HD23	49:SE:52:LEU:HA	1.86	0.41
49:SE:63:LYS:HD3	73:SY:85:ASN:HA	2.02	0.41
50:SF:68:ILE:HD11	50:SF:151:ILE:HD11	2.03	0.41
50:SF:201:LYS:HA	50:SF:204:ARG:HE	1.85	0.41
52:SI:66:SER:HB3	52:SI:73:THR:HG22	2.03	0.41
57:SR:26:ASN:OD1	57:SR:26:ASN:N	2.53	0.41
59:ST:14:PHE:CE2	59:ST:62:ARG:HG3	2.55	0.41
65:Sd:10:HIS:HD1	65:Sd:10:HIS:C	2.28	0.41
66:Sg:145:GLU:OE1	66:Sg:184:LEU:HB3	2.19	0.41
67:SC:128:VAL:HG11	67:SC:155:ILE:HG12	2.02	0.41
67:SC:180:VAL:HG23	67:SC:197:PRO:HG3	2.02	0.41
69:SJ:82:VAL:HG21	69:SJ:92:MET:SD	2.60	0.41
2:SA:32:PHE:CD1	47:S2:1098:G:H4'	2.55	0.41
3:LB:238:LYS:HB2	3:LB:238:LYS:HE2	1.93	0.41
4:SB:87:ILE:HD12	4:SB:101:HIS:CE1	2.55	0.41
5:LC:234:LYS:HE2	44:L5:1180:C:H41	1.86	0.41
7:LE:53:ARG:NH2	44:L5:880:U:OP1	2.53	0.41
7:LE:98:ALA:O	7:LE:117:LEU:HG	2.21	0.41
13:LL:49:ARG:HA	13:LL:50:PRO:HD3	1.87	0.41
17:LP:86:LYS:HB2	44:L5:3514:G:H5''	2.02	0.41
19:LR:155:LEU:HD23	19:LR:155:LEU:HA	1.82	0.41
22:LU:56:LEU:C	22:LU:58:GLY:H	2.29	0.41
28:La:100:ILE:HG12	28:La:123:ILE:HB	2.03	0.41
31:Ld:84:ILE:HG23	31:Ld:86:VAL:HG13	2.03	0.41
44:L5:418:A:N6	46:L8:15:G:H1'	2.36	0.41
44:L5:445:C:H2'	44:L5:446:C:C6	2.55	0.41
44:L5:1374:A:H2'	44:L5:1375:G:C8	2.56	0.41
44:L5:4072:U:OP1	44:L5:4128:G:N2	2.48	0.41
44:L5:4253:G:O2'	44:L5:4254:U:OP2	2.39	0.41
45:L7:77:A:H2'	45:L7:78:C:O4'	2.20	0.41
46:L8:72:A:H1'	46:L8:88:A:N3	2.36	0.41
47:S2:12:U:H2'	47:S2:13:C:H6	1.85	0.41
47:S2:497:C:P	49:SE:49:ARG:HH12	2.42	0.41
47:S2:536:G:N2	47:S2:550:C:H1'	2.35	0.41
47:S2:569:C:H2'	47:S2:570:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:819:A:C5	47:S2:848:A:C6	3.09	0.41
47:S2:1017:U:C6	70:SN:61:ALA:HB1	2.56	0.41
47:S2:1143:G:OP1	67:SC:187:ARG:NH2	2.54	0.41
47:S2:1341:U:H3'	47:S2:1342:C:H2'	2.02	0.41
47:S2:1591:C:H42	56:SQ:77:HIS:HE1	1.69	0.41
47:S2:1825:A:O2'	47:S2:1826:A:O4'	2.27	0.41
48:SD:8:LYS:HD3	65:Sd:34:TYR:CE1	2.56	0.41
48:SD:40:ARG:HG2	60:SU:108:PRO:HB3	2.03	0.41
48:SD:194:PRO:HG3	48:SD:198:ILE:HG22	2.02	0.41
50:SF:56:TYR:CG	50:SF:66:CYS:HB2	2.56	0.41
50:SF:170:ALA:HB3	74:SZ:106:GLN:NE2	2.29	0.41
51:SH:10:LYS:CG	51:SH:45:ILE:HB	2.49	0.41
51:SH:79:LEU:HD12	51:SH:79:LEU:HA	1.72	0.41
61:SV:27:LYS:HE3	67:SC:163:VAL:HG12	2.03	0.41
63:Sa:53:ILE:HG12	71:SO:116:LEU:CD2	2.50	0.41
67:SC:196:ILE:HB	67:SC:223:TYR:HB2	2.02	0.41
67:SC:206:SER:HB2	67:SC:224:THR:OG1	2.21	0.41
68:SG:194:LEU:HD23	68:SG:197:GLN:NE2	2.36	0.41
69:SJ:46:VAL:HG21	69:SJ:106:LEU:HB2	2.03	0.41
69:SJ:91:LYS:O	69:SJ:96:TYR:HB2	2.21	0.41
71:SO:64:ALA:C	71:SO:66:ARG:H	2.28	0.41
3:LB:43:LEU:HD13	3:LB:196:TRP:CH2	2.56	0.41
3:LB:283:LYS:HE3	3:LB:363:ILE:HD12	2.01	0.41
11:LI:36:LEU:HD13	11:LI:69:ARG:HD2	2.02	0.41
12:LJ:51:SER:HB3	12:LJ:69:ALA:HB3	2.03	0.41
18:LQ:12:LYS:NZ	44:L5:1886:C:OP1	2.50	0.41
20:LS:2:LYS:O	20:LS:121:ALA:HB3	2.20	0.41
28:La:125:LYS:HG2	28:La:145:VAL:HB	2.02	0.41
41:Lo:58:LYS:HD3	41:Lo:58:LYS:HA	1.72	0.41
44:L5:1788:G:H1'	44:L5:1816:A:N1	2.35	0.41
44:L5:2613:G:H2'	44:L5:2614:C:H6	1.85	0.41
44:L5:3522:A:H2'	44:L5:3523:C:C6	2.55	0.41
44:L5:3800:G:H2'	44:L5:3801:G:H8	1.84	0.41
44:L5:4588:C:H5'	44:L5:4589:G:H5''	2.03	0.41
47:S2:10:G:N2	67:SC:114:LYS:HA	2.35	0.41
47:S2:457:C:H2'	47:S2:458:C:C6	2.55	0.41
47:S2:503:C:O2	49:SE:63:LYS:HG2	2.20	0.41
47:S2:635:A:H2'	47:S2:636:G:H8	1.85	0.41
47:S2:688:C:O2'	51:SH:103:LYS:HE3	2.20	0.41
47:S2:1455:A:H5''	57:SR:3:ARG:HD2	2.03	0.41
47:S2:1753:C:H5''	47:S2:1754:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SI:84:ASN:ND2	52:SI:87:ASN:H	2.18	0.41
52:SI:193:LYS:HA	52:SI:193:LYS:HD2	1.72	0.41
53:SK:15:LEU:HG	53:SK:15:LEU:O	2.21	0.41
55:SP:125:PRO:O	55:SP:127:LYS:NZ	2.49	0.41
57:SR:27:ASP:OD1	66:Sg:36:ARG:NH2	2.54	0.41
59:ST:40:ALA:HB3	59:ST:43:LYS:HG2	2.03	0.41
60:SU:107:GLU:HG3	60:SU:110:VAL:HG23	2.02	0.41
66:Sg:184:LEU:HD11	66:Sg:187:ASN:ND2	2.35	0.41
71:SO:121:ARG:HA	71:SO:121:ARG:HD2	1.89	0.41
1:LA:8:GLN:HA	44:L5:3324:C:H4'	2.03	0.41
3:LB:252:ALA:HB1	44:L5:4177:G:N3	2.36	0.41
3:LB:285:TYR:CE1	3:LB:334:LYS:HB2	2.56	0.41
7:LE:284:SER:CB	33:Lf:3:GLY:HA3	2.49	0.41
9:LG:105:GLU:HG3	9:LG:110:LYS:HB2	2.03	0.41
11:LI:62:SER:HB3	11:LI:93:PRO:HG3	2.03	0.41
11:LI:73:ASN:O	11:LI:77:VAL:HG23	2.21	0.41
13:LL:46:ILE:O	13:LL:46:ILE:HG13	2.21	0.41
13:LL:194:ILE:O	13:LL:198:ARG:HG3	2.21	0.41
14:LM:24:LEU:HB2	14:LM:43:THR:HG21	2.03	0.41
18:LQ:3:VAL:HG11	44:L5:2034:C:H5'	2.02	0.41
18:LQ:38:ARG:NH1	44:L5:1891:A:OP1	2.54	0.41
19:LR:98:ARG:HD2	19:LR:133:LYS:O	2.21	0.41
20:LS:53:LYS:HG3	45:L7:75:G:C8	2.56	0.41
21:LT:37:GLY:N	21:LT:64:VAL:O	2.54	0.41
23:LV:70:PRO:HG2	47:S2:1725:A:H5'	2.03	0.41
23:LV:134:SER:OG	23:LV:135:ASN:N	2.52	0.41
27:LZ:17:ARG:HD3	44:L5:2332:G:O6	2.21	0.41
27:LZ:26:VAL:HB	27:LZ:42:LEU:HD23	2.03	0.41
27:LZ:78:ASN:ND2	30:Lc:39:ARG:HH12	2.19	0.41
28:La:8:THR:OG1	44:L5:1154:U:OP1	2.36	0.41
28:La:75:LEU:HD12	28:La:78:LEU:HD22	2.02	0.41
28:La:81:LEU:HD13	28:La:106:SER:HB2	2.02	0.41
31:Ld:18:ASN:OD1	31:Ld:18:ASN:N	2.54	0.41
32:Le:74:PHE:HB3	32:Le:96:CYS:SG	2.61	0.41
34:Lg:82:MET:HE3	34:Lg:82:MET:HB2	1.73	0.41
35:Lh:89:ARG:O	35:Lh:93:ARG:HG2	2.21	0.41
41:Lo:32:SER:C	41:Lo:34:TYR:H	2.29	0.41
41:Lo:70:LEU:O	41:Lo:80:LYS:HA	2.21	0.41
43:Lr:107:ARG:O	43:Lr:111:ILE:HG12	2.20	0.41
44:L5:6:C:H2'	44:L5:7:C:C6	2.56	0.41
44:L5:23:C:H2'	44:L5:24:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:261:G:H2'	44:L5:262:G:H8	1.85	0.41
44:L5:391:U:H2'	44:L5:392:U:H6	1.85	0.41
44:L5:700:A:H2'	44:L5:701:C:H6	1.86	0.41
44:L5:754:A:O2'	44:L5:755:A:H5'	2.21	0.41
44:L5:1043:U:O2'	44:L5:1045:G:O4'	2.39	0.41
44:L5:1392:U:H2'	44:L5:1393:C:C6	2.56	0.41
44:L5:1438:G:H4'	44:L5:1439:G:H5'	2.02	0.41
44:L5:1811:U:O2'	44:L5:1812:A:O3'	2.32	0.41
44:L5:4106:C:H2'	44:L5:4107:G:O4'	2.21	0.41
44:L5:4295:U:H2'	44:L5:4296:G:C8	2.56	0.41
44:L5:4568:C:H2'	44:L5:4569:U:C6	2.55	0.41
45:L7:33:U:H2'	45:L7:34:C:C6	2.56	0.41
47:S2:304:C:O4'	52:SI:64:ASN:ND2	2.54	0.41
47:S2:446:A:H2'	47:S2:447:G:C8	2.56	0.41
47:S2:987:G:C8	71:SO:137:SER:HA	2.55	0.41
47:S2:1218:A:O2'	47:S2:1685:C:N3	2.41	0.41
47:S2:1290:U:H2'	47:S2:1291:G:H8	1.83	0.41
47:S2:1549:G:H2'	47:S2:1550:U:C6	2.56	0.41
47:S2:1743:C:H3'	47:S2:1744:G:H8	1.85	0.41
50:SF:76:MET:HB3	50:SF:89:THR:HG21	2.03	0.41
51:SH:45:ILE:HG22	51:SH:46:THR:N	2.35	0.41
51:SH:148:LEU:HA	72:SW:42:MET:SD	2.61	0.41
54:SL:12:LYS:HE3	54:SL:56:ILE:HD11	2.03	0.41
54:SL:37:TYR:CD2	54:SL:51:ILE:HA	2.55	0.41
54:SL:127:THR:HG23	54:SL:144:LYS:HB3	2.02	0.41
56:SQ:53:GLU:OE1	56:SQ:115:TYR:OH	2.37	0.41
57:SR:45:LYS:NZ	57:SR:49:LYS:HD2	2.36	0.41
57:SR:93:GLN:C	57:SR:95:ILE:H	2.29	0.41
59:ST:41:LYS:HE2	59:ST:41:LYS:HB3	1.86	0.41
60:SU:32:LEU:HA	60:SU:110:VAL:HG21	2.02	0.41
61:SV:40:ASP:OD1	61:SV:47:ASN:HB3	2.21	0.41
61:SV:60:ARG:HA	61:SV:65:SER:HB2	2.02	0.41
62:SX:21:LYS:HB2	62:SX:21:LYS:HE2	1.80	0.41
63:Sa:37:LYS:HE2	63:Sa:37:LYS:HB2	1.80	0.41
66:Sg:178:ASN:ND2	66:Sg:182:CYS:H	2.19	0.41
68:SG:23:LYS:HB3	68:SG:41:LEU:HD23	2.02	0.41
68:SG:63:MET:HB2	68:SG:99:GLY:O	2.20	0.41
69:SJ:10:ARG:HG3	69:SJ:11:LYS:O	2.21	0.41
69:SJ:28:GLU:O	69:SJ:31:LEU:HD12	2.21	0.41
71:SO:98:ARG:HG2	71:SO:99:ALA:O	2.21	0.41
73:SY:47:MET:HG3	73:SY:48:TYR:CD2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3:ARG:HG2	1:LA:4:VAL:N	2.35	0.41
2:SA:77:ILE:HA	2:SA:99:ILE:O	2.21	0.41
3:LB:223:THR:O	3:LB:274:TYR:HA	2.21	0.41
3:LB:307:TYR:HD2	3:LB:366:LYS:HA	1.86	0.41
5:LC:237:ILE:HA	5:LC:237:ILE:HD12	1.83	0.41
5:LC:339:THR:O	5:LC:343:GLN:HG3	2.20	0.41
7:LE:152:ILE:HG12	7:LE:204:ALA:HB2	2.02	0.41
8:LF:236:SER:OG	8:LF:237:SER:N	2.54	0.41
13:LL:117:LEU:HA	13:LL:117:LEU:HD23	1.82	0.41
16:LO:121:PRO:HA	16:LO:124:LEU:HD12	2.03	0.41
18:LQ:90:VAL:HG22	44:L5:1316:G:O6	2.21	0.41
18:LQ:177:ALA:O	18:LQ:178:ARG:C	2.64	0.41
22:LU:107:LYS:O	22:LU:108:GLU:HB3	2.20	0.41
31:Ld:117:LEU:HD23	31:Ld:117:LEU:HA	1.95	0.41
32:Le:114:ARG:O	32:Le:118:LEU:HB2	2.21	0.41
35:Lh:80:PRO:HD2	35:Lh:83:LEU:HD12	2.03	0.41
40:Ln:21:ARG:HG2	40:Ln:25:LYS:NZ	2.36	0.41
44:L5:1129:C:C2	44:L5:1130:C:C5	3.09	0.41
44:L5:1581:C:H2'	44:L5:1582:U:C6	2.55	0.41
44:L5:1746:A:H2'	44:L5:1747:A:O4'	2.21	0.41
44:L5:2220:G:C2'	44:L5:2221:C:H5'	2.51	0.41
44:L5:3365:C:H2'	44:L5:3366:U:H6	1.86	0.41
44:L5:3459:U:O2'	44:L5:3460:A:H5'	2.21	0.41
44:L5:3573:G:H2'	44:L5:3574:A:C8	2.56	0.41
44:L5:3861:U:H4'	44:L5:3927:A:H2	1.86	0.41
44:L5:4565:G:H8	44:L5:4565:G:O5'	2.04	0.41
47:S2:75:G:H1'	47:S2:76:U:C5	2.56	0.41
47:S2:660:G:H21	62:SX:17:ARG:HH12	1.69	0.41
47:S2:933:G:H2'	47:S2:935:G:OP1	2.21	0.41
47:S2:1812:C:H2'	47:S2:1813:U:O4'	2.21	0.41
48:SD:142:LEU:O	48:SD:143:ARG:C	2.64	0.41
59:ST:39:LEU:HA	59:ST:39:LEU:HD23	1.80	0.41
60:SU:48:LEU:HD13	60:SU:48:LEU:HA	1.83	0.41
66:Sg:191:HIS:CD2	66:Sg:195:LEU:HD11	2.56	0.41
67:SC:107:LEU:HD11	67:SC:129:ALA:HB2	2.03	0.41
68:SG:1:MET:HE2	68:SG:109:LEU:HB2	2.03	0.41
77:S6:42:A:H2'	77:S6:43:G:C8	2.56	0.41
1:LA:233:ARG:HB2	44:L5:3837:G:H5'	2.03	0.40
10:LH:3:THR:O	10:LH:61:TRP:HA	2.20	0.40
10:LH:137:SER:HB2	10:LH:145:ILE:HD11	2.03	0.40
11:LI:10:ARG:HG2	11:LI:11:TYR:CE1	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LM:91:TRP:CD2	44:L5:4516:G:H5''	2.56	0.40
14:LM:119:ARG:O	14:LM:123:ILE:HG12	2.21	0.40
15:LN:68:ARG:NE	44:L5:301:C:OP1	2.50	0.40
19:LR:160:GLU:HG2	19:LR:163:ARG:NH2	2.37	0.40
27:LZ:68:ILE:O	27:LZ:115:LYS:HG3	2.21	0.40
43:Lr:32:LEU:O	43:Lr:33:LYS:HB2	2.21	0.40
44:L5:652:G:H1'	44:L5:653:G:C8	2.57	0.40
44:L5:1001:G:N1	44:L5:1002:G:N7	2.69	0.40
44:L5:1089:A:O2'	44:L5:1090:G:H8	2.04	0.40
44:L5:1153:G:H4'	44:L5:1154:U:H6	1.86	0.40
44:L5:2166:U:C5	44:L5:2537:A:N1	2.89	0.40
44:L5:3243:G:H2'	44:L5:3244:C:C6	2.56	0.40
44:L5:3372:U:H1'	77:S6:71:C:O2'	2.21	0.40
44:L5:3574:A:OP2	81:L5:5009:HOH:O	2.22	0.40
44:L5:3944:G:N3	44:L5:3944:G:H5''	2.37	0.40
47:S2:154:U:O2'	68:SG:15:LEU:HB2	2.21	0.40
47:S2:185:G:H2'	47:S2:186:C:O4'	2.21	0.40
47:S2:496:U:H2'	47:S2:497:C:C6	2.56	0.40
47:S2:676:U:H2'	47:S2:677:C:C6	2.56	0.40
48:SD:210:ILE:HG13	57:SR:15:VAL:HG13	2.03	0.40
62:SX:50:ILE:H	62:SX:50:ILE:HG13	1.72	0.40
65:Sd:55:LEU:HD23	65:Sd:55:LEU:HA	1.93	0.40
66:Sg:172:LYS:HG2	66:Sg:193:GLY:C	2.46	0.40
75:Sb:49:HIS:ND1	75:Sb:69:GLY:O	2.51	0.40
2:SA:189:ILE:O	61:SV:45:ARG:NH2	2.54	0.40
5:LC:140:LYS:NZ	5:LC:242:PRO:HD2	2.37	0.40
9:LG:208:ASN:O	9:LG:212:LYS:HG2	2.20	0.40
9:LG:245:LYS:O	9:LG:249:ARG:HG3	2.21	0.40
20:LS:160:ARG:HA	20:LS:160:ARG:HD3	1.69	0.40
22:LU:69:LYS:HE3	22:LU:69:LYS:HB2	1.93	0.40
26:LY:91:ASN:HB2	26:LY:93:THR:HG23	2.03	0.40
26:LY:100:HIS:CG	44:L5:231:U:H4'	2.57	0.40
35:Lh:30:GLN:HA	35:Lh:33:VAL:HG12	2.03	0.40
36:Li:7:MET:HB2	36:Li:7:MET:HE3	1.83	0.40
39:Lm:95:ILE:HG21	44:L5:4126:A:H4'	2.02	0.40
42:Lp:56:HIS:HE1	42:Lp:61:MET:HE2	1.86	0.40
44:L5:416:G:N3	46:L8:16:G:C2	2.89	0.40
44:L5:1225:G:H1'	44:L5:1304:G:H4'	2.03	0.40
44:L5:1874:A:H2'	44:L5:1875:C:H6	1.86	0.40
44:L5:2253:G:H2'	44:L5:2254:C:O4'	2.21	0.40
44:L5:2497:A:H2'	44:L5:2498:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:3466:G:OP2	44:L5:3466:G:N2	2.35	0.40
44:L5:3718:U:H2'	44:L5:3719:U:C6	2.56	0.40
44:L5:4216:U:H2'	44:L5:4217:A:H8	1.85	0.40
44:L5:4504:C:H1'	44:L5:4505:C:C5	2.56	0.40
44:L5:4582:G:H4'	44:L5:4583:U:OP2	2.22	0.40
44:L5:4703:G:H2'	44:L5:4704:A:C8	2.57	0.40
46:L8:18:U:H2'	46:L8:19:C:C6	2.56	0.40
47:S2:1019:U:H2'	47:S2:1020:C:H6	1.86	0.40
47:S2:1381:C:H2'	47:S2:1382:G:O4'	2.22	0.40
47:S2:1727:G:C6	47:S2:1728:G:N7	2.90	0.40
49:SE:159:THR:O	49:SE:172:PHE:HB2	2.21	0.40
52:SI:72:CYS:HG	52:SI:112:TRP:CD1	2.39	0.40
52:SI:82:VAL:HG12	52:SI:202:ILE:HG12	2.03	0.40
53:SK:5:LYS:HB3	53:SK:5:LYS:HE3	1.87	0.40
57:SR:106:LEU:HD23	57:SR:109:LEU:HD12	2.03	0.40
58:SS:116:LYS:HE2	58:SS:116:LYS:HB2	1.87	0.40
60:SU:22:ILE:HB	60:SU:89:ILE:HB	2.03	0.40
61:SV:23:ILE:HG12	67:SC:251:LEU:HB2	2.03	0.40
68:SG:101:ILE:H	68:SG:101:ILE:HD12	1.86	0.40
69:SJ:97:ILE:HA	69:SJ:100:LEU:HG	2.03	0.40
72:SW:20:ARG:HA	72:SW:20:ARG:HD2	1.78	0.40
2:SA:14:ASP:HA	2:SA:17:LYS:HB2	2.03	0.40
2:SA:48:ILE:HG12	57:SR:101:ASP:OD2	2.22	0.40
2:SA:81:ASN:HB3	2:SA:204:TYR:CE1	2.56	0.40
12:LJ:118:LYS:HD2	12:LJ:118:LYS:H	1.86	0.40
14:LM:86:TRP:C	14:LM:88:ALA:H	2.29	0.40
17:LP:18:ARG:NH2	17:LP:147:GLU:OE1	2.53	0.40
19:LR:68:LEU:HD13	19:LR:68:LEU:HA	1.96	0.40
19:LR:71:ARG:NH1	44:L5:3262:C:OP1	2.54	0.40
19:LR:84:THR:O	19:LR:88:ARG:HG3	2.22	0.40
21:LT:27:LEU:HD12	21:LT:27:LEU:HA	1.92	0.40
22:LU:23:LEU:HD23	22:LU:110:TYR:HB2	2.03	0.40
29:Lb:63:LYS:HE3	29:Lb:63:LYS:HB3	1.84	0.40
34:Lg:10:ARG:HD3	44:L5:2160:A:OP1	2.21	0.40
42:Lp:44:LYS:HD3	42:Lp:46:LYS:HE3	2.03	0.40
44:L5:120:A:H2'	44:L5:149:A:N6	2.36	0.40
44:L5:1275:C:H2'	44:L5:1276:A:C8	2.56	0.40
44:L5:1374:A:H2'	44:L5:1375:G:H8	1.86	0.40
44:L5:1685:U:C4	44:L5:2036:A:C2	3.09	0.40
44:L5:3255:C:N4	44:L5:3256:A:H62	2.19	0.40
44:L5:3390:A:H2'	44:L5:3391:U:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:L5:3927:A:H2'	44:L5:3928:G:H8	1.81	0.40
44:L5:4070:C:H2'	44:L5:4071:G:O4'	2.21	0.40
44:L5:4144:G:N3	44:L5:4164:A:H2	2.18	0.40
46:L8:141:C:H2'	46:L8:142:U:H6	1.84	0.40
47:S2:383:C:H2'	47:S2:384:G:H8	1.86	0.40
47:S2:512:U:H2'	47:S2:513:A:H8	1.86	0.40
47:S2:540:C:H2'	47:S2:541:U:C6	2.56	0.40
47:S2:844:C:H2'	47:S2:845:U:O4'	2.22	0.40
47:S2:946:U:H2'	47:S2:947:U:C6	2.56	0.40
47:S2:1094:A:H4'	72:SW:3:ARG:HH21	1.86	0.40
49:SE:105:THR:HG21	49:SE:244:ILE:N	2.36	0.40
49:SE:210:VAL:O	49:SE:217:SER:HA	2.22	0.40
50:SF:43:GLU:HG2	50:SF:44:LYS:N	2.37	0.40
51:SH:183:LYS:HE2	51:SH:183:LYS:HB2	1.78	0.40
52:SI:98:LYS:HE3	52:SI:178:ARG:HD2	2.04	0.40
60:SU:24:LEU:HD23	60:SU:112:VAL:HG22	2.04	0.40
60:SU:48:LEU:HD12	60:SU:49:LYS:H	1.87	0.40
61:SV:32:ILE:HG12	61:SV:55:ILE:HB	2.03	0.40
66:Sg:37:ASP:C	66:Sg:38:LYS:HG2	2.47	0.40
1:LA:65:ASP:HB3	1:LA:68:ARG:O	2.21	0.40
3:LB:314:ILE:HD12	3:LB:314:ILE:HA	1.93	0.40
8:LF:133:LEU:HD22	44:L5:1643:G:H1'	2.04	0.40
9:LG:86:ALA:HB3	9:LG:185:LYS:HE3	2.03	0.40
13:LL:42:LYS:O	13:LL:46:ILE:HG12	2.22	0.40
13:LL:70:VAL:H	13:LL:159:ASN:ND2	2.14	0.40
13:LL:130:LYS:HG3	13:LL:132:SER:HB3	2.02	0.40
16:LO:10:ASP:OD1	16:LO:37:ARG:HD2	2.21	0.40
18:LQ:39:THR:HG23	18:LQ:132:LYS:HD3	2.04	0.40
21:LT:64:VAL:HG22	21:LT:72:VAL:HG11	2.04	0.40
27:LZ:36:ARG:HB2	27:LZ:38:TYR:CZ	2.57	0.40
30:Lc:34:THR:HG21	30:Lc:93:THR:HG22	2.04	0.40
35:Lh:53:SER:O	35:Lh:57:VAL:HG23	2.21	0.40
41:Lo:37:GLY:HA3	44:L5:3995:C:O3'	2.22	0.40
44:L5:1054:G:H2'	44:L5:1055:G:O4'	2.21	0.40
44:L5:1481:G:H5'	44:L5:1502:G:OP1	2.21	0.40
44:L5:1868:G:H2'	44:L5:1869:C:O4'	2.22	0.40
44:L5:4043:A:H2'	44:L5:4044:G:O4'	2.21	0.40
45:L7:16:A:H2'	45:L7:17:C:C6	2.56	0.40
47:S2:153:G:N2	47:S2:166:A:C6	2.89	0.40
47:S2:345:U:H2'	47:S2:346:U:C6	2.57	0.40
47:S2:1043:A:H2'	47:S2:1044:G:O4'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1084:A:N7	47:S2:1842:C:O2'	2.50	0.40
47:S2:1321:G:H2'	47:S2:1322:G:O4'	2.21	0.40
47:S2:1491:G:OP2	47:S2:1491:G:H8	2.04	0.40
47:S2:1651:A:H5''	56:SQ:139:ALA:HB2	2.03	0.40
47:S2:1750:G:H2'	47:S2:1751:C:C6	2.56	0.40
47:S2:1755:G:C5	47:S2:1756:C:H1'	2.56	0.40
50:SF:118:ASN:O	50:SF:193:LYS:HE2	2.21	0.40
51:SH:36:LEU:HG	51:SH:40:LEU:HD23	2.03	0.40
52:SI:73:THR:O	52:SI:74:ARG:HD3	2.21	0.40
55:SP:21:ASP:HB2	55:SP:24:GLN:HE21	1.86	0.40
56:SQ:86:GLN:HE22	56:SQ:122:ALA:CA	2.33	0.40
56:SQ:134:GLY:HA2	56:SQ:141:TYR:CD2	2.56	0.40
57:SR:20:TYR:O	57:SR:24:LEU:HD22	2.22	0.40
57:SR:96:ILE:HG13	57:SR:117:LEU:HD23	2.03	0.40
62:SX:36:LEU:HD13	62:SX:36:LEU:O	2.22	0.40
68:SG:118:GLU:CD	68:SG:119:LYS:HG2	2.46	0.40
77:S6:17:C:H6	77:S6:17:C:H2'	1.71	0.40
2:SA:51:LEU:H	57:SR:105:MET:CE	2.33	0.40
2:SA:85:ARG:HG3	57:SR:81:ARG:HH21	1.87	0.40
5:LC:142:HIS:ND1	5:LC:179:ASP:OD2	2.40	0.40
5:LC:207:PRO:HB3	5:LC:249:PHE:CD2	2.57	0.40
5:LC:323:ARG:NH1	44:L5:875:C:N3	2.70	0.40
7:LE:50:HIS:CD2	7:LE:51:CYS:N	2.89	0.40
7:LE:134:LEU:HD12	44:L5:858:A:C8	2.56	0.40
18:LQ:11:ARG:HG3	44:L5:1884:C:H5''	2.04	0.40
21:LT:2:THR:HG23	44:L5:3873:A:OP2	2.21	0.40
25:LX:64:SER:HB2	35:Lh:69:LEU:HD22	2.03	0.40
27:LZ:29:ILE:HG13	27:LZ:40:HIS:NE2	2.37	0.40
30:Lc:37:MET:SD	30:Lc:42:LYS:HE2	2.61	0.40
36:Li:45:ARG:HD2	36:Li:50:PHE:CZ	2.57	0.40
39:Lm:104:HIS:CD2	44:L5:4350:U:H4'	2.56	0.40
44:L5:1341:A:H2'	44:L5:1342:U:C6	2.57	0.40
44:L5:1813:A:H2'	44:L5:1814:C:H5	1.86	0.40
44:L5:2290:C:H2'	44:L5:2291:C:C6	2.56	0.40
44:L5:2388:C:H2'	44:L5:2389:U:C6	2.56	0.40
44:L5:3431:A:H2'	44:L5:3432:A:N3	2.36	0.40
44:L5:3998:C:H2'	44:L5:3999:U:C6	2.57	0.40
44:L5:4171:A:OP1	44:L5:4173:G:H4'	2.22	0.40
44:L5:4341:C:H2'	44:L5:4342:U:C6	2.57	0.40
44:L5:4415:G:H2'	44:L5:4416:A:H8	1.86	0.40
45:L7:95:C:C2'	45:L7:96:U:H5'	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:526:A:H5'	76:Se:102:LYS:HE2	2.03	0.40
48:SD:20:GLU:HG2	53:SK:64:TRP:CD2	2.56	0.40
49:SE:196:THR:HG21	49:SE:211:LYS:HG3	2.04	0.40
58:SS:100:ALA:C	58:SS:102:GLY:N	2.76	0.40
62:SX:40:PRO:HA	62:SX:79:LYS:HD2	2.02	0.40
68:SG:188:LYS:HE2	68:SG:188:LYS:HB2	1.86	0.40
73:SY:86:GLU:HG2	73:SY:91:LEU:HD21	2.02	0.40
77:S6:13:G:H1	77:S6:23:C:N4	2.08	0.40
77:S6:50:A:H2'	77:S6:51:U:C6	2.56	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	
1	LA	246/257 (96%)	220 (89%)	26 (11%)	0	100	100
2	SA	205/295 (70%)	183 (89%)	22 (11%)	0	100	100
3	LB	395/403 (98%)	374 (95%)	21 (5%)	0	100	100
4	SB	211/264 (80%)	194 (92%)	17 (8%)	0	100	100
5	LC	360/419 (86%)	323 (90%)	36 (10%)	1 (0%)	36	64
6	LD	291/297 (98%)	271 (93%)	20 (7%)	0	100	100
7	LE	227/296 (77%)	201 (88%)	26 (12%)	0	100	100
8	LF	212/270 (78%)	200 (94%)	12 (6%)	0	100	100
9	LG	225/266 (85%)	207 (92%)	18 (8%)	0	100	100
10	LH	188/192 (98%)	172 (92%)	16 (8%)	0	100	100
11	LI	197/214 (92%)	193 (98%)	4 (2%)	0	100	100
12	LJ	169/178 (95%)	153 (90%)	16 (10%)	0	100	100
13	LL	204/211 (97%)	187 (92%)	17 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	LM	134/217 (62%)	125 (93%)	9 (7%)	0	100	100
15	LN	201/204 (98%)	190 (94%)	10 (5%)	1 (0%)	24	53
16	LO	199/203 (98%)	192 (96%)	7 (4%)	0	100	100
17	LP	152/184 (83%)	142 (93%)	10 (7%)	0	100	100
18	LQ	185/188 (98%)	174 (94%)	11 (6%)	0	100	100
19	LR	172/196 (88%)	166 (96%)	6 (4%)	0	100	100
20	LS	173/176 (98%)	164 (95%)	9 (5%)	0	100	100
21	LT	158/160 (99%)	153 (97%)	5 (3%)	0	100	100
22	LU	98/128 (77%)	86 (88%)	12 (12%)	0	100	100
23	LV	128/140 (91%)	118 (92%)	10 (8%)	0	100	100
24	LW	60/157 (38%)	56 (93%)	4 (7%)	0	100	100
25	LX	116/156 (74%)	110 (95%)	6 (5%)	0	100	100
26	LY	130/145 (90%)	124 (95%)	6 (5%)	0	100	100
27	LZ	133/136 (98%)	123 (92%)	10 (8%)	0	100	100
28	La	145/148 (98%)	132 (91%)	13 (9%)	0	100	100
29	Lb	95/160 (59%)	88 (93%)	7 (7%)	0	100	100
30	Lc	92/115 (80%)	85 (92%)	7 (8%)	0	100	100
31	Ld	106/125 (85%)	98 (92%)	8 (8%)	0	100	100
32	Le	126/135 (93%)	115 (91%)	11 (9%)	0	100	100
33	Lf	107/110 (97%)	102 (95%)	5 (5%)	0	100	100
34	Lg	108/117 (92%)	107 (99%)	1 (1%)	0	100	100
35	Lh	120/123 (98%)	118 (98%)	2 (2%)	0	100	100
36	Li	100/105 (95%)	93 (93%)	7 (7%)	0	100	100
37	Lj	84/97 (87%)	78 (93%)	5 (6%)	1 (1%)	10	31
38	Lk	67/70 (96%)	64 (96%)	3 (4%)	0	100	100
39	Lm	49/128 (38%)	49 (100%)	0	0	100	100
40	Ln	23/25 (92%)	23 (100%)	0	0	100	100
41	Lo	101/106 (95%)	94 (93%)	7 (7%)	0	100	100
42	Lp	89/92 (97%)	85 (96%)	4 (4%)	0	100	100
43	Lr	122/137 (89%)	116 (95%)	6 (5%)	0	100	100
48	SD	220/243 (90%)	192 (87%)	28 (13%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
49	SE	256/263 (97%)	222 (87%)	33 (13%)	1 (0%)	30	58
50	SF	175/204 (86%)	158 (90%)	17 (10%)	0	100	100
51	SH	176/194 (91%)	148 (84%)	28 (16%)	0	100	100
52	SI	179/208 (86%)	167 (93%)	12 (7%)	0	100	100
53	SK	86/165 (52%)	75 (87%)	11 (13%)	0	100	100
54	SL	131/158 (83%)	118 (90%)	13 (10%)	0	100	100
55	SP	116/145 (80%)	106 (91%)	10 (9%)	0	100	100
56	SQ	137/146 (94%)	117 (85%)	20 (15%)	0	100	100
57	SR	129/135 (96%)	117 (91%)	12 (9%)	0	100	100
58	SS	138/152 (91%)	120 (87%)	18 (13%)	0	100	100
59	ST	138/145 (95%)	126 (91%)	12 (9%)	0	100	100
60	SU	93/119 (78%)	84 (90%)	9 (10%)	0	100	100
61	SV	78/83 (94%)	71 (91%)	6 (8%)	1 (1%)	9	29
62	SX	137/143 (96%)	125 (91%)	12 (9%)	0	100	100
63	Sa	98/115 (85%)	90 (92%)	8 (8%)	0	100	100
64	Sc	52/69 (75%)	41 (79%)	11 (21%)	0	100	100
65	Sd	52/56 (93%)	47 (90%)	5 (10%)	0	100	100
66	Sg	270/317 (85%)	213 (79%)	57 (21%)	0	100	100
67	SC	214/293 (73%)	199 (93%)	14 (6%)	1 (0%)	24	53
68	SG	200/249 (80%)	180 (90%)	20 (10%)	0	100	100
69	SJ	130/194 (67%)	115 (88%)	15 (12%)	0	100	100
70	SN	148/151 (98%)	142 (96%)	6 (4%)	0	100	100
71	SO	132/151 (87%)	116 (88%)	16 (12%)	0	100	100
72	SW	127/130 (98%)	118 (93%)	9 (7%)	0	100	100
73	SY	108/133 (81%)	93 (86%)	15 (14%)	0	100	100
74	SZ	70/125 (56%)	59 (84%)	11 (16%)	0	100	100
75	Sb	81/84 (96%)	74 (91%)	7 (9%)	0	100	100
76	Se	44/133 (33%)	38 (86%)	6 (14%)	0	100	100
78	Ll	48/51 (94%)	46 (96%)	2 (4%)	0	100	100
All	All	10666/12499 (85%)	9765 (92%)	895 (8%)	6 (0%)	49	75

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
61	SV	79	VAL
37	Lj	21	ARG
49	SE	248	ILE
67	SC	78	LEU
15	LN	84	PRO
5	LC	232	VAL

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
1	LA	190/199 (96%)	180 (95%)	10 (5%)	20 50
2	SA	173/242 (72%)	154 (89%)	19 (11%)	6 19
3	LB	344/348 (99%)	323 (94%)	21 (6%)	17 44
4	SB	194/229 (85%)	185 (95%)	9 (5%)	24 56
5	LC	304/348 (87%)	281 (92%)	23 (8%)	12 35
6	LD	245/249 (98%)	224 (91%)	21 (9%)	10 29
7	LE	208/256 (81%)	194 (93%)	14 (7%)	15 40
8	LF	185/234 (79%)	178 (96%)	7 (4%)	29 62
9	LG	197/223 (88%)	176 (89%)	21 (11%)	6 20
10	LH	169/171 (99%)	161 (95%)	8 (5%)	23 55
11	LI	171/181 (94%)	160 (94%)	11 (6%)	16 42
12	LJ	144/149 (97%)	123 (85%)	21 (15%)	3 10
13	LL	173/178 (97%)	157 (91%)	16 (9%)	8 26
14	LM	116/157 (74%)	109 (94%)	7 (6%)	17 45
15	LN	171/172 (99%)	164 (96%)	7 (4%)	27 60
16	LO	172/173 (99%)	161 (94%)	11 (6%)	16 42
17	LP	135/163 (83%)	124 (92%)	11 (8%)	11 32
18	LQ	164/165 (99%)	158 (96%)	6 (4%)	30 63
19	LR	154/175 (88%)	141 (92%)	13 (8%)	10 30
20	LS	155/156 (99%)	146 (94%)	9 (6%)	18 47

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	LT	140/140 (100%)	128 (91%)	12 (9%)	10	29
22	LU	90/114 (79%)	80 (89%)	10 (11%)	6	19
23	LV	100/107 (94%)	93 (93%)	7 (7%)	14	39
24	LW	54/126 (43%)	53 (98%)	1 (2%)	50	79
25	LX	106/133 (80%)	100 (94%)	6 (6%)	18	47
26	LY	123/135 (91%)	116 (94%)	7 (6%)	18	47
27	LZ	117/118 (99%)	113 (97%)	4 (3%)	32	66
28	La	120/121 (99%)	111 (92%)	9 (8%)	12	35
29	Lb	83/124 (67%)	79 (95%)	4 (5%)	23	54
30	Lc	79/97 (81%)	74 (94%)	5 (6%)	16	43
31	Ld	99/110 (90%)	93 (94%)	6 (6%)	17	44
32	Le	114/121 (94%)	107 (94%)	7 (6%)	17	44
33	Lf	88/89 (99%)	78 (89%)	10 (11%)	5	18
34	Lg	94/100 (94%)	90 (96%)	4 (4%)	26	58
35	Lh	109/110 (99%)	103 (94%)	6 (6%)	19	49
36	Li	86/89 (97%)	82 (95%)	4 (5%)	23	55
37	Lj	73/80 (91%)	68 (93%)	5 (7%)	14	40
38	Lk	64/65 (98%)	60 (94%)	4 (6%)	16	43
39	Lm	47/116 (40%)	45 (96%)	2 (4%)	26	58
40	Ln	24/24 (100%)	24 (100%)	0	100	100
41	Lo	91/94 (97%)	87 (96%)	4 (4%)	25	58
42	Lp	74/75 (99%)	69 (93%)	5 (7%)	14	40
43	Lr	108/121 (89%)	102 (94%)	6 (6%)	19	48
48	SD	186/202 (92%)	166 (89%)	20 (11%)	6	20
49	SE	221/225 (98%)	190 (86%)	31 (14%)	3	11
50	SF	152/170 (89%)	131 (86%)	21 (14%)	3	12
51	SH	161/174 (92%)	139 (86%)	22 (14%)	3	12
52	SI	159/180 (88%)	141 (89%)	18 (11%)	5	18
53	SK	81/136 (60%)	74 (91%)	7 (9%)	10	29
54	SL	123/142 (87%)	116 (94%)	7 (6%)	18	47
55	SP	107/130 (82%)	101 (94%)	6 (6%)	19	48

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
56	SQ	115/121 (95%)	101 (88%)	14 (12%)	5 15
57	SR	119/121 (98%)	99 (83%)	20 (17%)	2 7
58	SS	122/132 (92%)	111 (91%)	11 (9%)	9 27
59	ST	110/115 (96%)	105 (96%)	5 (4%)	24 57
60	SU	88/107 (82%)	73 (83%)	15 (17%)	2 7
61	SV	64/67 (96%)	60 (94%)	4 (6%)	16 43
62	SX	111/115 (96%)	100 (90%)	11 (10%)	7 23
63	Sa	87/98 (89%)	81 (93%)	6 (7%)	14 39
64	Sc	48/62 (77%)	41 (85%)	7 (15%)	3 10
65	Sd	48/49 (98%)	45 (94%)	3 (6%)	16 43
66	Sg	237/275 (86%)	200 (84%)	37 (16%)	2 8
67	SC	182/224 (81%)	169 (93%)	13 (7%)	13 38
68	SG	178/218 (82%)	151 (85%)	27 (15%)	3 9
69	SJ	126/168 (75%)	111 (88%)	15 (12%)	5 16
70	SN	130/131 (99%)	121 (93%)	9 (7%)	14 39
71	SO	104/119 (87%)	90 (86%)	14 (14%)	4 12
72	SW	112/113 (99%)	103 (92%)	9 (8%)	11 32
73	SY	93/115 (81%)	84 (90%)	9 (10%)	8 24
74	SZ	64/103 (62%)	54 (84%)	10 (16%)	2 8
75	Sb	75/76 (99%)	67 (89%)	8 (11%)	6 20
76	Se	39/106 (37%)	37 (95%)	2 (5%)	21 52
78	Ll	47/48 (98%)	43 (92%)	4 (8%)	10 30
All	All	9336/10619 (88%)	8558 (92%)	778 (8%)	12 31

All (778) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	LA	15	VAL
1	LA	29	LEU
1	LA	36	GLU
1	LA	114	CYS
1	LA	162	ASN
1	LA	168	VAL
1	LA	169	VAL

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Mol	Chain	Res	Type
1	LA	223	SER
1	LA	228	ASP
1	LA	237	LEU
2	SA	10	MET
2	SA	12	GLU
2	SA	16	LEU
2	SA	23	THR
2	SA	25	LEU
2	SA	28	THR
2	SA	40	LYS
2	SA	43	SER
2	SA	82	THR
2	SA	97	THR
2	SA	99	ILE
2	SA	138	SER
2	SA	140	VAL
2	SA	141	ASN
2	SA	157	VAL
2	SA	158	ASP
2	SA	178	LEU
2	SA	198	MET
2	SA	208	GLU
3	LB	7	SER
3	LB	43	LEU
3	LB	87	VAL
3	LB	135	LYS
3	LB	138	GLN
3	LB	140	ASP
3	LB	144	LYS
3	LB	155	LYS
3	LB	194	LEU
3	LB	220	ILE
3	LB	223	THR
3	LB	243	LYS
3	LB	258	HIS
3	LB	268	ARG
3	LB	279	GLU
3	LB	287	ILE
3	LB	309	LEU
3	LB	336	CYS
3	LB	337	VAL
3	LB	355	THR

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Mol	Chain	Res	Type
3	LB	392	LEU
4	SB	22	VAL
4	SB	23	ASP
4	SB	38	MET
4	SB	42	ARG
4	SB	55	THR
4	SB	87	ILE
4	SB	105	LEU
4	SB	108	ASP
4	SB	184	VAL
5	LC	56	GLU
5	LC	61	GLN
5	LC	62	THR
5	LC	63	SER
5	LC	80	ARG
5	LC	87	SER
5	LC	95	MET
5	LC	100	ARG
5	LC	109	ARG
5	LC	110	ARG
5	LC	131	SER
5	LC	144	ILE
5	LC	154	VAL
5	LC	156	ASP
5	LC	157	LYS
5	LC	189	MET
5	LC	210	ILE
5	LC	214	ASP
5	LC	259	LYS
5	LC	295	SER
5	LC	298	ILE
5	LC	355	GLU
5	LC	364	LYS
6	LD	7	VAL
6	LD	34	LYS
6	LD	37	VAL
6	LD	64	ILE
6	LD	86	TYR
6	LD	93	THR
6	LD	101	THR
6	LD	125	VAL
6	LD	132	VAL

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Mol	Chain	Res	Type
6	LD	143	THR
6	LD	144	CYS
6	LD	163	LEU
6	LD	211	LEU
6	LD	214	GLU
6	LD	216	GLU
6	LD	235	MET
6	LD	237	GLU
6	LD	252	VAL
6	LD	260	GLU
6	LD	270	LYS
6	LD	283	LYS
7	LE	103	THR
7	LE	117	LEU
7	LE	118	ARG
7	LE	129	VAL
7	LE	151	SER
7	LE	153	THR
7	LE	183	VAL
7	LE	202	VAL
7	LE	209	VAL
7	LE	242	ASP
7	LE	246	GLU
7	LE	259	LYS
7	LE	263	LEU
7	LE	279	LEU
8	LF	63	THR
8	LF	124	SER
8	LF	136	LEU
8	LF	174	GLU
8	LF	201	LEU
8	LF	209	MET
8	LF	254	ASP
9	LG	52	THR
9	LG	53	ARG
9	LG	90	GLN
9	LG	91	THR
9	LG	93	THR
9	LG	101	LYS
9	LG	114	LEU
9	LG	117	ARG
9	LG	143	VAL

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Mol	Chain	Res	Type
9	LG	151	LYS
9	LG	165	GLU
9	LG	170	LEU
9	LG	201	THR
9	LG	206	GLN
9	LG	222	ILE
9	LG	229	ARG
9	LG	242	LEU
9	LG	247	VAL
9	LG	259	LYS
9	LG	261	LEU
9	LG	264	LYS
10	LH	16	VAL
10	LH	18	ILE
10	LH	46	SER
10	LH	51	LYS
10	LH	111	LEU
10	LH	135	SER
10	LH	136	VAL
10	LH	187	VAL
11	LI	33	ILE
11	LI	43	VAL
11	LI	62	SER
11	LI	97	ILE
11	LI	101	LYS
11	LI	125	THR
11	LI	137	SER
11	LI	183	ASP
11	LI	184	MET
11	LI	190	LEU
11	LI	197	VAL
12	LJ	15	LEU
12	LJ	17	ILE
12	LJ	26	VAL
12	LJ	28	GLU
12	LJ	47	THR
12	LJ	49	VAL
12	LJ	70	VAL
12	LJ	72	CYS
12	LJ	74	VAL
12	LJ	81	GLU
12	LJ	85	LYS

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Mol	Chain	Res	Type
12	LJ	102	THR
12	LJ	113	ILE
12	LJ	122	SER
12	LJ	123	ILE
12	LJ	132	VAL
12	LJ	144	LYS
12	LJ	150	CYS
12	LJ	168	GLN
12	LJ	171	ASP
12	LJ	174	ILE
13	LL	45	ARG
13	LL	59	VAL
13	LL	64	VAL
13	LL	66	TYR
13	LL	67	HIS
13	LL	70	VAL
13	LL	94	ILE
13	LL	103	ARG
13	LL	109	SER
13	LL	132	SER
13	LL	145	LYS
13	LL	157	ILE
13	LL	161	TYR
13	LL	172	GLU
13	LL	200	LYS
13	LL	206	ASP
14	LM	25	VAL
14	LM	31	ILE
14	LM	38	VAL
14	LM	78	GLU
14	LM	84	THR
14	LM	116	LYS
14	LM	135	ILE
15	LN	5	LYS
15	LN	10	LEU
15	LN	18	VAL
15	LN	50	ARG
15	LN	75	VAL
15	LN	117	ASN
15	LN	148	THR
16	LO	3	GLU
16	LO	43	ILE

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Mol	Chain	Res	Type
16	LO	44	SER
16	LO	141	LEU
16	LO	145	VAL
16	LO	153	THR
16	LO	170	LYS
16	LO	173	GLN
16	LO	175	LEU
16	LO	202	LEU
16	LO	203	VAL
17	LP	6	LEU
17	LP	10	ASN
17	LP	12	THR
17	LP	14	SER
17	LP	16	LYS
17	LP	24	VAL
17	LP	32	THR
17	LP	79	THR
17	LP	95	LEU
17	LP	99	GLU
17	LP	117	ILE
18	LQ	14	ARG
18	LQ	27	LEU
18	LQ	41	SER
18	LQ	42	THR
18	LQ	53	MET
18	LQ	167	VAL
19	LR	3	MET
19	LR	13	SER
19	LR	29	THR
19	LR	36	ASN
19	LR	74	ARG
19	LR	91	GLU
19	LR	93	VAL
19	LR	102	LEU
19	LR	106	LEU
19	LR	133	LYS
19	LR	140	GLU
19	LR	142	ILE
19	LR	165	LYS
20	LS	19	THR
20	LS	48	VAL
20	LS	80	ILE

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Mol	Chain	Res	Type
20	LS	90	THR
20	LS	95	ARG
20	LS	126	ILE
20	LS	148	SER
20	LS	158	VAL
20	LS	169	THR
21	LT	2	THR
21	LT	27	LEU
21	LT	36	LYS
21	LT	67	VAL
21	LT	72	VAL
21	LT	76	VAL
21	LT	83	LYS
21	LT	91	VAL
21	LT	99	SER
21	LT	104	SER
21	LT	124	THR
21	LT	147	GLU
22	LU	18	VAL
22	LU	25	CYS
22	LU	33	ILE
22	LU	40	GLU
22	LU	47	ILE
22	LU	55	ASN
22	LU	62	THR
22	LU	63	ILE
22	LU	71	THR
22	LU	75	GLU
23	LV	41	SER
23	LV	64	THR
23	LV	65	VAL
23	LV	72	LEU
23	LV	82	ILE
23	LV	94	VAL
23	LV	111	GLU
24	LW	50	ASN
25	LX	81	LEU
25	LX	90	ILE
25	LX	118	ASP
25	LX	119	ILE
25	LX	131	ASP
25	LX	155	ILE

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Mol	Chain	Res	Type
26	LY	29	ILE
26	LY	55	VAL
26	LY	91	ASN
26	LY	93	THR
26	LY	113	LYS
26	LY	119	LEU
26	LY	132	LYS
27	LZ	91	LEU
27	LZ	97	ASN
27	LZ	100	VAL
27	LZ	123	LYS
28	La	3	SER
28	La	12	ARG
28	La	24	LYS
28	La	58	MET
28	La	75	LEU
28	La	95	THR
28	La	97	VAL
28	La	103	VAL
28	La	140	VAL
29	Lb	4	SER
29	Lb	15	LYS
29	Lb	55	LYS
29	Lb	117	CYS
30	Lc	23	LYS
30	Lc	28	VAL
30	Lc	57	LYS
30	Lc	60	ILE
30	Lc	98	ASP
31	Ld	46	LEU
31	Ld	80	VAL
31	Ld	95	ASP
31	Ld	106	VAL
31	Ld	112	THR
31	Ld	123	ASP
32	Le	17	THR
32	Le	45	VAL
32	Le	66	THR
32	Le	76	LYS
32	Le	79	VAL
32	Le	108	ARG
32	Le	118	LEU

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Mol	Chain	Res	Type
33	Lf	7	CYS
33	Lf	25	THR
33	Lf	37	ASP
33	Lf	39	THR
33	Lf	43	LEU
33	Lf	76	ARG
33	Lf	85	ARG
33	Lf	87	LYS
33	Lf	89	ARG
33	Lf	104	MET
34	Lg	20	THR
34	Lg	30	ILE
34	Lg	69	LYS
34	Lg	73	HIS
35	Lh	4	ILE
35	Lh	37	THR
35	Lh	45	SER
35	Lh	76	LYS
35	Lh	88	THR
35	Lh	96	THR
36	Li	3	LEU
36	Li	22	SER
36	Li	34	THR
36	Li	46	GLU
37	Lj	14	LYS
37	Lj	15	THR
37	Lj	32	SER
37	Lj	46	LYS
37	Lj	55	ARG
38	Lk	12	LEU
38	Lk	16	ARG
38	Lk	51	GLU
38	Lk	60	LEU
39	Lm	79	GLU
39	Lm	114	LYS
41	Lo	14	LYS
41	Lo	44	LYS
41	Lo	45	GLN
41	Lo	67	VAL
42	Lp	26	VAL
42	Lp	36	LYS
42	Lp	52	VAL

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Mol	Chain	Res	Type
42	Lp	63	THR
42	Lp	74	THR
43	Lr	28	GLU
43	Lr	56	ASP
43	Lr	62	VAL
43	Lr	85	ASN
43	Lr	105	ASP
43	Lr	124	VAL
48	SD	6	SER
48	SD	20	GLU
48	SD	21	LEU
48	SD	25	LEU
48	SD	26	THR
48	SD	31	GLU
48	SD	34	TYR
48	SD	42	THR
48	SD	46	THR
48	SD	59	LEU
48	SD	74	GLN
48	SD	90	LYS
48	SD	91	VAL
48	SD	97	CYS
48	SD	139	SER
48	SD	198	ILE
48	SD	204	LEU
48	SD	211	VAL
48	SD	218	LEU
48	SD	221	THR
49	SE	12	VAL
49	SE	24	THR
49	SE	33	THR
49	SE	44	LEU
49	SE	45	ILE
49	SE	61	VAL
49	SE	66	MET
49	SE	78	THR
49	SE	92	ILE
49	SE	93	ASP
49	SE	117	GLU
49	SE	124	CYS
49	SE	136	ILE
49	SE	146	THR

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Mol	Chain	Res	Type
49	SE	156	VAL
49	SE	162	ILE
49	SE	173	ILE
49	SE	180	LEU
49	SE	184	THR
49	SE	188	ASN
49	SE	196	THR
49	SE	206	ASP
49	SE	207	VAL
49	SE	209	HIS
49	SE	210	VAL
49	SE	223	SER
49	SE	233	LYS
49	SE	236	ILE
49	SE	237	SER
49	SE	251	GLU
49	SE	256	LEU
50	SF	17	ILE
50	SF	25	THR
50	SF	28	VAL
50	SF	29	GLN
50	SF	34	SER
50	SF	35	LEU
50	SF	41	VAL
50	SF	52	SER
50	SF	69	VAL
50	SF	79	HIS
50	SF	85	LYS
50	SF	104	THR
50	SF	111	VAL
50	SF	122	ARG
50	SF	140	ASP
50	SF	145	ARG
50	SF	160	GLU
50	SF	166	ILE
50	SF	175	ASP
50	SF	195	GLU
50	SF	196	LEU
51	SH	10	LYS
51	SH	15	LYS
51	SH	30	LEU
51	SH	37	LYS

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Mol	Chain	Res	Type
51	SH	40	LEU
51	SH	46	THR
51	SH	51	ILE
51	SH	53	VAL
51	SH	57	ARG
51	SH	60	ILE
51	SH	72	PHE
51	SH	75	ILE
51	SH	95	ILE
51	SH	121	THR
51	SH	127	ASP
51	SH	130	LEU
51	SH	131	GLU
51	SH	148	LEU
51	SH	153	LEU
51	SH	158	LEU
51	SH	172	THR
51	SH	188	GLU
52	SI	3	ILE
52	SI	9	HIS
52	SI	17	LYS
52	SI	26	LYS
52	SI	46	VAL
52	SI	69	SER
52	SI	78	ILE
52	SI	86	SER
52	SI	98	LYS
52	SI	102	VAL
52	SI	103	LEU
52	SI	116	HIS
52	SI	143	LYS
52	SI	170	LYS
52	SI	172	LEU
52	SI	175	ILE
52	SI	194	GLU
52	SI	199	LEU
53	SK	1	MET
53	SK	11	ILE
53	SK	37	ASP
53	SK	47	LYS
53	SK	53	LYS
53	SK	60	GLU

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Mol	Chain	Res	Type
53	SK	67	PHE
54	SL	39	ASN
54	SL	57	ASP
54	SL	66	VAL
54	SL	83	GLN
54	SL	85	THR
54	SL	100	ASN
54	SL	127	THR
55	SP	46	ASN
55	SP	57	LEU
55	SP	58	LYS
55	SP	105	VAL
55	SP	121	ILE
55	SP	126	VAL
56	SQ	16	LYS
56	SQ	26	LYS
56	SQ	34	VAL
56	SQ	42	ILE
56	SQ	50	LYS
56	SQ	56	LEU
56	SQ	60	LYS
56	SQ	67	ASP
56	SQ	88	ILE
56	SQ	89	SER
56	SQ	92	LEU
56	SQ	113	ILE
56	SQ	118	THR
56	SQ	121	VAL
57	SR	6	THR
57	SR	11	LYS
57	SR	16	ILE
57	SR	17	ILE
57	SR	23	ARG
57	SR	24	LEU
57	SR	26	ASN
57	SR	63	ARG
57	SR	70	SER
57	SR	77	GLU
57	SR	87	GLU
57	SR	95	ILE
57	SR	96	ILE
57	SR	102	THR

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Mol	Chain	Res	Type
57	SR	105	MET
57	SR	110	ASP
57	SR	116	ASN
57	SR	120	THR
57	SR	123	THR
57	SR	124	VAL
58	SS	45	LEU
58	SS	49	ASP
58	SS	53	THR
58	SS	54	LYS
58	SS	85	ASN
58	SS	87	GLN
58	SS	91	LYS
58	SS	101	ASN
58	SS	103	LEU
58	SS	105	ASN
58	SS	131	VAL
59	ST	5	THR
59	ST	87	VAL
59	ST	90	SER
59	ST	118	ASP
59	ST	123	LEU
60	SU	22	ILE
60	SU	24	LEU
60	SU	25	THR
60	SU	26	SER
60	SU	31	SER
60	SU	32	LEU
60	SU	48	LEU
60	SU	56	MET
60	SU	59	LYS
60	SU	65	THR
60	SU	74	SER
60	SU	78	ASP
60	SU	96	GLU
60	SU	98	VAL
60	SU	100	GLN
61	SV	18	SER
61	SV	38	GLU
61	SV	40	ASP
61	SV	64	GLU
62	SX	4	CYS

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Mol	Chain	Res	Type
62	SX	24	ASP
62	SX	36	LEU
62	SX	50	ILE
62	SX	70	VAL
62	SX	85	VAL
62	SX	98	ASP
62	SX	105	PHE
62	SX	112	VAL
62	SX	115	ILE
62	SX	122	VAL
63	Sa	2	THR
63	Sa	54	SER
63	Sa	59	PHE
63	Sa	63	VAL
63	Sa	88	SER
63	Sa	94	ASP
64	Sc	18	LEU
64	Sc	24	GLN
64	Sc	28	THR
64	Sc	39	SER
64	Sc	43	ILE
64	Sc	45	ASN
64	Sc	57	THR
65	Sd	6	LEU
65	Sd	18	SER
65	Sd	48	LYS
66	Sg	14	HIS
66	Sg	24	THR
66	Sg	36	ARG
66	Sg	46	THR
66	Sg	54	ILE
66	Sg	60	ARG
66	Sg	68	ASP
66	Sg	74	ASP
66	Sg	86	THR
66	Sg	91	ASP
66	Sg	105	THR
66	Sg	111	VAL
66	Sg	113	PHE
66	Sg	124	SER
66	Sg	131	LEU
66	Sg	134	THR

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Mol	Chain	Res	Type
66	Sg	137	VAL
66	Sg	141	THR
66	Sg	156	PHE
66	Sg	167	SER
66	Sg	171	ASP
66	Sg	176	VAL
66	Sg	181	ASN
66	Sg	184	LEU
66	Sg	191	HIS
66	Sg	198	VAL
66	Sg	199	THR
66	Sg	200	VAL
66	Sg	207	CYS
66	Sg	209	SER
66	Sg	223	GLU
66	Sg	230	LEU
66	Sg	235	ILE
66	Sg	236	ILE
66	Sg	252	THR
66	Sg	306	LEU
66	Sg	309	VAL
67	SC	91	SER
67	SC	109	ILE
67	SC	117	ARG
67	SC	137	VAL
67	SC	152	ARG
67	SC	157	LEU
67	SC	162	ILE
67	SC	185	THR
67	SC	212	LYS
67	SC	213	LEU
67	SC	224	THR
67	SC	255	LEU
67	SC	264	SER
68	SG	2	LYS
68	SG	5	ILE
68	SG	10	THR
68	SG	14	LYS
68	SG	16	ILE
68	SG	26	THR
68	SG	29	GLU
68	SG	32	MET

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Mol	Chain	Res	Type
68	SG	36	VAL
68	SG	52	ILE
68	SG	65	GLN
68	SG	78	SER
68	SG	100	CYS
68	SG	108	VAL
68	SG	111	LEU
68	SG	114	VAL
68	SG	121	ILE
68	SG	128	THR
68	SG	129	VAL
68	SG	153	VAL
68	SG	163	ASN
68	SG	179	LEU
68	SG	184	VAL
68	SG	185	LEU
68	SG	198	ARG
68	SG	199	THR
68	SG	208	GLU
69	SJ	7	TRP
69	SJ	15	THR
69	SJ	31	LEU
69	SJ	78	LEU
69	SJ	81	LEU
69	SJ	86	VAL
69	SJ	87	LEU
69	SJ	95	ASP
69	SJ	101	LYS
69	SJ	102	ILE
69	SJ	128	VAL
69	SJ	137	VAL
69	SJ	141	VAL
69	SJ	150	ARG
69	SJ	152	ASP
70	SN	13	GLN
70	SN	21	SER
70	SN	22	VAL
70	SN	26	LEU
70	SN	53	ILE
70	SN	76	LYS
70	SN	143	SER
70	SN	144	SER

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Mol	Chain	Res	Type
70	SN	145	THR
71	SO	27	VAL
71	SO	42	VAL
71	SO	47	LEU
71	SO	48	SER
71	SO	57	THR
71	SO	75	MET
71	SO	76	LEU
71	SO	97	LEU
71	SO	116	LEU
71	SO	117	ARG
71	SO	119	LEU
71	SO	125	LYS
71	SO	137	SER
71	SO	139	SER
72	SW	2	VAL
72	SW	20	ARG
72	SW	53	ILE
72	SW	55	ASP
72	SW	80	ASP
72	SW	84	LYS
72	SW	85	ASP
72	SW	90	GLN
72	SW	126	LEU
73	SY	38	THR
73	SY	51	THR
73	SY	53	ASP
73	SY	55	ILE
73	SY	62	THR
73	SY	77	ASP
73	SY	89	HIS
73	SY	120	THR
73	SY	125	VAL
74	SZ	47	LEU
74	SZ	48	VAL
74	SZ	57	LYS
74	SZ	58	LEU
74	SZ	67	LEU
74	SZ	68	ILE
74	SZ	73	VAL
74	SZ	82	SER
74	SZ	99	LEU

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Mol	Chain	Res	Type
74	SZ	108	ILE
75	Sb	13	GLU
75	Sb	26	GLN
75	Sb	34	ASP
75	Sb	45	THR
75	Sb	53	VAL
75	Sb	57	VAL
75	Sb	61	THR
75	Sb	74	THR
76	Se	79	SER
76	Se	103	THR
78	Ll	27	ILE
78	Ll	28	ARG
78	Ll	36	ARG
78	Ll	45	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (212) such sidechains are listed below:

Mol	Chain	Res	Type
1	LA	22	HIS
1	LA	86	GLN
1	LA	97	ASN
1	LA	132	ASN
1	LA	162	ASN
1	LA	194	ASN
1	LA	205	ASN
1	LA	216	HIS
2	SA	81	ASN
2	SA	84	GLN
2	SA	165	ASN
3	LB	42	HIS
3	LB	151	ASN
3	LB	158	GLN
3	LB	184	GLN
3	LB	213	GLN
3	LB	245	HIS
3	LB	289	GLN
4	SB	124	HIS
4	SB	147	ASN
4	SB	186	ASN
5	LC	119	GLN
5	LC	178	ASN

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Mol	Chain	Res	Type
5	LC	231	ASN
5	LC	346	ASN
6	LD	9	ASN
6	LD	39	GLN
6	LD	122	GLN
6	LD	131	ASN
6	LD	222	GLN
7	LE	198	HIS
7	LE	199	GLN
7	LE	236	GLN
7	LE	274	GLN
8	LF	132	GLN
8	LF	141	ASN
8	LF	228	ASN
9	LG	38	ASN
9	LG	141	ASN
9	LG	149	ASN
9	LG	159	HIS
9	LG	206	GLN
10	LH	15	ASN
10	LH	42	ASN
10	LH	98	HIS
10	LH	116	ASN
10	LH	189	GLN
11	LI	14	ASN
11	LI	92	HIS
12	LJ	42	GLN
12	LJ	98	ASN
12	LJ	112	HIS
12	LJ	167	GLN
13	LL	19	GLN
13	LL	111	GLN
13	LL	115	GLN
13	LL	175	ASN
14	LM	34	ASN
14	LM	48	GLN
15	LN	32	GLN
15	LN	196	ASN
16	LO	46	ASN
16	LO	180	GLN
17	LP	10	ASN
17	LP	80	GLN

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Mol	Chain	Res	Type
17	LP	97	ASN
17	LP	116	HIS
18	LQ	7	HIS
18	LQ	44	ASN
20	LS	36	ASN
20	LS	66	GLN
20	LS	77	ASN
20	LS	122	HIS
21	LT	90	ASN
21	LT	127	GLN
21	LT	144	ASN
22	LU	50	ASN
22	LU	94	ASN
23	LV	27	ASN
23	LV	108	ASN
23	LV	135	ASN
24	LW	17	HIS
24	LW	50	ASN
25	LX	57	GLN
25	LX	107	HIS
25	LX	111	GLN
26	LY	40	GLN
26	LY	66	GLN
26	LY	96	HIS
27	LZ	78	ASN
28	La	28	HIS
28	La	60	HIS
28	La	62	HIS
28	La	67	GLN
28	La	89	ASN
28	La	120	GLN
29	Lb	7	HIS
29	Lb	19	ASN
29	Lb	58	GLN
31	Ld	34	HIS
31	Ld	69	ASN
31	Ld	79	ASN
32	Le	23	HIS
32	Le	34	ASN
32	Le	52	GLN
32	Le	80	HIS
32	Le	92	ASN

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Mol	Chain	Res	Type
32	Le	117	GLN
32	Le	126	ASN
34	Lg	3	GLN
34	Lg	71	GLN
35	Lh	98	HIS
35	Lh	107	GLN
36	Li	15	HIS
37	Lj	30	GLN
39	Lm	90	ASN
39	Lm	104	HIS
41	Lo	45	GLN
41	Lo	51	GLN
42	Lp	33	GLN
42	Lp	56	HIS
42	Lp	72	ASN
43	Lr	6	GLN
43	Lr	21	ASN
43	Lr	85	ASN
43	Lr	100	ASN
48	SD	22	ASN
48	SD	101	GLN
48	SD	145	GLN
48	SD	165	ASN
49	SE	50	ASN
49	SE	98	ASN
49	SE	112	HIS
49	SE	138	HIS
49	SE	157	ASN
49	SE	188	ASN
49	SE	232	ASN
50	SF	74	ASN
50	SF	110	GLN
50	SF	137	GLN
50	SF	148	ASN
51	SH	44	ASN
51	SH	68	GLN
51	SH	76	GLN
51	SH	114	GLN
51	SH	165	ASN
52	SI	35	ASN
52	SI	44	HIS
52	SI	52	ASN

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Mol	Chain	Res	Type
52	SI	84	ASN
52	SI	168	GLN
53	SK	28	HIS
53	SK	42	ASN
53	SK	44	HIS
53	SK	61	GLN
53	SK	73	ASN
54	SL	11	GLN
54	SL	19	ASN
54	SL	83	GLN
55	SP	24	GLN
55	SP	41	GLN
55	SP	104	GLN
56	SQ	29	ASN
56	SQ	35	ASN
56	SQ	48	GLN
56	SQ	77	HIS
57	SR	48	ASN
58	SS	11	HIS
58	SS	97	GLN
58	SS	101	ASN
58	SS	105	ASN
59	ST	12	GLN
59	ST	42	HIS
59	ST	63	HIS
59	ST	142	ASN
60	SU	81	GLN
62	SX	23	HIS
62	SX	61	GLN
62	SX	77	ASN
62	SX	92	ASN
62	SX	110	HIS
62	SX	127	ASN
63	Sa	17	HIS
63	Sa	25	ASN
63	Sa	43	ASN
64	Sc	29	GLN
66	Sg	15	ASN
66	Sg	76	GLN
66	Sg	178	ASN
66	Sg	187	ASN
66	Sg	191	HIS

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Mol	Chain	Res	Type
66	Sg	244	ASN
66	Sg	285	GLN
68	SG	13	GLN
68	SG	110	ASN
68	SG	186	GLN
68	SG	197	GLN
69	SJ	113	GLN
71	SO	26	ASN
71	SO	32	HIS
71	SO	103	ASN
72	SW	44	HIS
72	SW	98	GLN
73	SY	19	GLN
73	SY	85	ASN
73	SY	106	GLN
73	SY	112	ASN
74	SZ	106	GLN
75	Sb	19	HIS
75	Sb	65	GLN
75	Sb	83	GLN
78	Ll	33	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
44	L5	3521/4731 (74%)	853 (24%)	19 (0%)
45	L7	119/120 (99%)	18 (15%)	0
46	L8	155/158 (98%)	32 (20%)	0
47	S2	1637/1870 (87%)	424 (25%)	9 (0%)
77	S6	74/75 (98%)	32 (43%)	4 (5%)
All	All	5506/6954 (79%)	1359 (24%)	32 (0%)

All (1359) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
44	L5	4	G
44	L5	13	U
44	L5	17	A
44	L5	21	G
44	L5	25	A
44	L5	26	C

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Mol	Chain	Res	Type
44	L5	27	C
44	L5	30	C
44	L5	39	A
44	L5	42	A
44	L5	48	G
44	L5	56	A
44	L5	59	A
44	L5	64	A
44	L5	65	A
44	L5	69	A
44	L5	71	C
44	L5	72	C
44	L5	73	A
44	L5	74	G
44	L5	91	G
44	L5	98	A
44	L5	104	G
44	L5	108	A
44	L5	109	G
44	L5	110	C
44	L5	117	C
44	L5	119	G
44	L5	120	A
44	L5	129	C
44	L5	133	C
44	L5	134	G
44	L5	135	U
44	L5	136	C
44	L5	139	G
44	L5	143	U
44	L5	144	G
44	L5	152	U
44	L5	157	U
44	L5	159	C
44	L5	165	A
44	L5	166	C
44	L5	170	C
44	L5	172	C
44	L5	200	U
44	L5	203	U
44	L5	210	C
44	L5	217	C

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Mol	Chain	Res	Type
44	L5	218	A
44	L5	220	C
44	L5	225	G
44	L5	234	G
44	L5	237	G
44	L5	257	G
44	L5	258	C
44	L5	260	G
44	L5	265	C
44	L5	266	G
44	L5	279	G
44	L5	296	U
44	L5	305	A
44	L5	315	U
44	L5	339	C
44	L5	343	A
44	L5	344	C
44	L5	352	A
44	L5	356	U
44	L5	362	A
44	L5	372	G
44	L5	380	U
44	L5	386	G
44	L5	408	G
44	L5	409	A
44	L5	410	G
44	L5	411	G
44	L5	417	A
44	L5	431	U
44	L5	432	A
44	L5	439	U
44	L5	448	C
44	L5	449	G
44	L5	452	G
44	L5	453	U
44	L5	455	C
44	L5	456	G
44	L5	465	A
44	L5	466	U
44	L5	467	U
44	L5	487	C
44	L5	488	G

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Mol	Chain	Res	Type
44	L5	493	U
44	L5	495	C
44	L5	496	C
44	L5	499	G
44	L5	510	G
44	L5	512	A
44	L5	513	U
44	L5	514	C
44	L5	515	U
44	L5	651	C
44	L5	652	G
44	L5	653	G
44	L5	655	G
44	L5	661	U
44	L5	672	G
44	L5	674	G
44	L5	675	A
44	L5	676	C
44	L5	677	C
44	L5	678	G
44	L5	689	G
44	L5	694	A
44	L5	695	C
44	L5	696	U
44	L5	704	U
44	L5	712	C
44	L5	714	C
44	L5	716	G
44	L5	738	G
44	L5	739	G
44	L5	746	C
44	L5	747	G
44	L5	748	G
44	L5	749	U
44	L5	750	G
44	L5	757	G
44	L5	761	C
44	L5	765	G
44	L5	806	C
44	L5	808	G
44	L5	810	G
44	L5	811	U

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Mol	Chain	Res	Type
44	L5	814	U
44	L5	815	A
44	L5	817	A
44	L5	818	G
44	L5	825	G
44	L5	831	G
44	L5	834	U
44	L5	835	U
44	L5	839	C
44	L5	840	G
44	L5	841	A
44	L5	843	U
44	L5	844	C
44	L5	857	A
44	L5	858	A
44	L5	859	G
44	L5	860	C
44	L5	872	C
44	L5	877	C
44	L5	880	U
44	L5	882	U
44	L5	884	C
44	L5	925	G
44	L5	926	G
44	L5	927	C
44	L5	931	G
44	L5	939	U
44	L5	951	A
44	L5	1005	C
44	L5	1006	G
44	L5	1007	G
44	L5	1008	A
44	L5	1011	G
44	L5	1012	U
44	L5	1013	C
44	L5	1016	C
44	L5	1018	G
44	L5	1026	C
44	L5	1029	G
44	L5	1031	G
44	L5	1032	U
44	L5	1033	G

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Mol	Chain	Res	Type
44	L5	1036	C
44	L5	1037	G
44	L5	1039	G
44	L5	1044	C
44	L5	1045	G
44	L5	1048	U
44	L5	1049	C
44	L5	1050	C
44	L5	1052	G
44	L5	1065	G
44	L5	1070	G
44	L5	1089	A
44	L5	1090	G
44	L5	1092	G
44	L5	1095	C
44	L5	1098	G
44	L5	1099	G
44	L5	1100	U
44	L5	1102	G
44	L5	1108	G
44	L5	1109	A
44	L5	1110	U
44	L5	1111	G
44	L5	1116	C
44	L5	1117	U
44	L5	1128	C
44	L5	1129	C
44	L5	1137	A
44	L5	1141	A
44	L5	1152	A
44	L5	1157	A
44	L5	1159	C
44	L5	1169	A
44	L5	1173	A
44	L5	1174	G
44	L5	1175	G
44	L5	1180	C
44	L5	1181	G
44	L5	1192	G
44	L5	1193	C
44	L5	1194	C
44	L5	1195	G

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Mol	Chain	Res	Type
44	L5	1196	U
44	L5	1202	A
44	L5	1209	G
44	L5	1212	A
44	L5	1215	G
44	L5	1219	C
44	L5	1220	C
44	L5	1222	C
44	L5	1223	C
44	L5	1226	G
44	L5	1234	A
44	L5	1249	G
44	L5	1250	C
44	L5	1253	C
44	L5	1256	C
44	L5	1258	G
44	L5	1259	U
44	L5	1260	C
44	L5	1261	C
44	L5	1265	G
44	L5	1294	C
44	L5	1296	G
44	L5	1297	C
44	L5	1298	G
44	L5	1307	G
44	L5	1311	A
44	L5	1312	G
44	L5	1316	G
44	L5	1328	U
44	L5	1330	G
44	L5	1339	A
44	L5	1348	A
44	L5	1361	A
44	L5	1375	G
44	L5	1376	G
44	L5	1377	A
44	L5	1380	C
44	L5	1381	U
44	L5	1388	G
44	L5	1389	A
44	L5	1392	U
44	L5	1400	G

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Mol	Chain	Res	Type
44	L5	1405	U
44	L5	1410	U
44	L5	1414	A
44	L5	1415	A
44	L5	1426	G
44	L5	1428	C
44	L5	1438	G
44	L5	1439	G
44	L5	1445	A
44	L5	1447	G
44	L5	1448	A
44	L5	1452	A
44	L5	1454	C
44	L5	1456	A
44	L5	1468	G
44	L5	1475	C
44	L5	1484	G
44	L5	1490	C
44	L5	1491	U
44	L5	1492	C
44	L5	1494	G
44	L5	1495	G
44	L5	1499	G
44	L5	1500	C
44	L5	1508	C
44	L5	1512	C
44	L5	1524	G
44	L5	1532	A
44	L5	1534	C
44	L5	1537	G
44	L5	1553	G
44	L5	1558	C
44	L5	1560	U
44	L5	1561	G
44	L5	1562	G
44	L5	1563	G
44	L5	1564	G
44	L5	1565	C
44	L5	1566	C
44	L5	1567	G
44	L5	1568	A
44	L5	1569	A

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Mol	Chain	Res	Type
44	L5	1570	A
44	L5	1571	C
44	L5	1572	G
44	L5	1573	A
44	L5	1575	C
44	L5	1588	C
44	L5	1590	A
44	L5	1600	G
44	L5	1607	A
44	L5	1618	G
44	L5	1623	C
44	L5	1624	G
44	L5	1625	U
44	L5	1639	G
44	L5	1640	A
44	L5	1645	G
44	L5	1658	G
44	L5	1672	G
44	L5	1684	C
44	L5	1685	U
44	L5	1693	G
44	L5	1695	A
44	L5	1696	C
44	L5	1700	A
44	L5	1701	C
44	L5	1720	A
44	L5	1721	U
44	L5	1722	G
44	L5	1723	C
44	L5	1724	C
44	L5	1725	G
44	L5	1728	G
44	L5	1731	C
44	L5	1734	C
44	L5	1735	A
44	L5	1739	C
44	L5	1751	G
44	L5	1752	U
44	L5	1754	G
44	L5	1758	G
44	L5	1763	A
44	L5	1764	G

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Mol	Chain	Res	Type
44	L5	1765	A
44	L5	1768	G
44	L5	1769	C
44	L5	1770	A
44	L5	1772	G
44	L5	1774	C
44	L5	1775	G
44	L5	1777	U
44	L5	1778	G
44	L5	1779	G
44	L5	1781	C
44	L5	1783	U
44	L5	1784	G
44	L5	1785	G
44	L5	1786	A
44	L5	1787	A
44	L5	1788	G
44	L5	1791	G
44	L5	1792	G
44	L5	1793	A
44	L5	1795	U
44	L5	1796	C
44	L5	1797	C
44	L5	1798	G
44	L5	1801	A
44	L5	1802	A
44	L5	1803	G
44	L5	1804	G
44	L5	1805	A
44	L5	1806	G
44	L5	1809	U
44	L5	1810	G
44	L5	1811	U
44	L5	1812	A
44	L5	1813	A
44	L5	1814	C
44	L5	1815	A
44	L5	1816	A
44	L5	1817	C
44	L5	1819	C
44	L5	1821	C
44	L5	1822	C

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Mol	Chain	Res	Type
44	L5	1823	U
44	L5	1824	G
44	L5	1826	C
44	L5	1827	G
44	L5	1828	A
44	L5	1829	A
44	L5	1836	A
44	L5	1837	G
44	L5	1847	U
44	L5	1848	G
44	L5	1849	G
44	L5	1851	U
44	L5	1858	G
44	L5	1859	G
44	L5	1872	A
44	L5	1874	A
44	L5	1887	C
44	L5	1891	A
44	L5	1892	G
44	L5	1903	A
44	L5	1904	C
44	L5	1914	G
44	L5	2013	C
44	L5	2015	C
44	L5	2016	G
44	L5	2017	C
44	L5	2018	G
44	L5	2019	G
44	L5	2035	G
44	L5	2046	C
44	L5	2054	G
44	L5	2057	A
44	L5	2058	G
44	L5	2063	G
44	L5	2070	A
44	L5	2084	G
44	L5	2090	G
44	L5	2102	G
44	L5	2103	C
44	L5	2105	G
44	L5	2108	C
44	L5	2139	A

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Mol	Chain	Res	Type
44	L5	2152	A
44	L5	2153	A
44	L5	2154	G
44	L5	2159	G
44	L5	2165	U
44	L5	2167	C
44	L5	2168	C
44	L5	2174	A
44	L5	2178	G
44	L5	2179	C
44	L5	2182	U
44	L5	2193	U
44	L5	2198	C
44	L5	2204	U
44	L5	2207	G
44	L5	2221	C
44	L5	2222	C
44	L5	2224	U
44	L5	2226	C
44	L5	2227	C
44	L5	2228	G
44	L5	2232	G
44	L5	2235	C
44	L5	2237	G
44	L5	2238	G
44	L5	2241	A
44	L5	2242	U
44	L5	2245	C
44	L5	2246	C
44	L5	2247	U
44	L5	2248	C
44	L5	2250	G
44	L5	2252	U
44	L5	2253	G
44	L5	2255	C
44	L5	2260	G
44	L5	2261	C
44	L5	2262	C
44	L5	2263	G
44	L5	2264	A
44	L5	2269	A
44	L5	2270	A

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Mol	Chain	Res	Type
44	L5	2271	G
44	L5	2301	G
44	L5	2303	G
44	L5	2304	G
44	L5	2311	U
44	L5	2313	G
44	L5	2314	G
44	L5	2318	C
44	L5	2319	G
44	L5	2320	C
44	L5	2321	G
44	L5	2323	G
44	L5	2324	G
44	L5	2327	A
44	L5	2337	C
44	L5	2341	A
44	L5	2355	A
44	L5	2372	G
44	L5	2381	C
44	L5	2407	C
44	L5	2416	G
44	L5	2423	C
44	L5	2430	A
44	L5	2435	G
44	L5	2441	U
44	L5	2448	G
44	L5	2449	A
44	L5	2450	A
44	L5	2459	G
44	L5	2462	U
44	L5	2463	C
44	L5	2464	C
44	L5	2465	G
44	L5	2466	G
44	L5	2468	G
44	L5	2480	G
44	L5	2486	G
44	L5	2493	C
44	L5	2497	A
44	L5	2508	G
44	L5	2510	G
44	L5	2514	G

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Mol	Chain	Res	Type
44	L5	2515	U
44	L5	2517	U
44	L5	2523	U
44	L5	2524	C
44	L5	2541	A
44	L5	2542	U
44	L5	2544	U
44	L5	2557	U
44	L5	2562	G
44	L5	2568	C
44	L5	2569	A
44	L5	2579	A
44	L5	2580	U
44	L5	2581	G
44	L5	2583	U
44	L5	2588	C
44	L5	2603	A
44	L5	2609	G
44	L5	2621	C
44	L5	2631	G
44	L5	2646	C
44	L5	2649	A
44	L5	2654	U
44	L5	2656	G
44	L5	2657	G
44	L5	2659	C
44	L5	3243	G
44	L5	3245	C
44	L5	3246	G
44	L5	3248	C
44	L5	3249	G
44	L5	3250	C
44	L5	3251	C
44	L5	3252	U
44	L5	3253	A
44	L5	3254	G
44	L5	3261	A
44	L5	3262	C
44	L5	3272	G
44	L5	3273	U
44	L5	3275	C
44	L5	3277	G

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Mol	Chain	Res	Type
44	L5	3283	G
44	L5	3287	A
44	L5	3292	A
44	L5	3301	U
44	L5	3303	A
44	L5	3305	A
44	L5	3319	A
44	L5	3327	C
44	L5	3330	C
44	L5	3358	C
44	L5	3361	U
44	L5	3362	G
44	L5	3367	G
44	L5	3370	U
44	L5	3371	G
44	L5	3393	A
44	L5	3404	A
44	L5	3405	A
44	L5	3407	G
44	L5	3414	G
44	L5	3415	U
44	L5	3416	A
44	L5	3418	C
44	L5	3421	U
44	L5	3422	G
44	L5	3434	G
44	L5	3441	A
44	L5	3442	A
44	L5	3443	U
44	L5	3446	C
44	L5	3449	G
44	L5	3459	U
44	L5	3467	C
44	L5	3468	G
44	L5	3469	C
44	L5	3470	A
44	L5	3471	U
44	L5	3474	A
44	L5	3475	U
44	L5	3476	G
44	L5	3495	U
44	L5	3496	G

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Mol	Chain	Res	Type
44	L5	3497	U
44	L5	3524	A
44	L5	3525	G
44	L5	3534	A
44	L5	3535	C
44	L5	3536	G
44	L5	3537	G
44	L5	3544	C
44	L5	3546	G
44	L5	3549	U
44	L5	3554	G
44	L5	3558	A
44	L5	3563	A
44	L5	3564	G
44	L5	3565	A
44	L5	3572	U
44	L5	3587	U
44	L5	3595	G
44	L5	3603	G
44	L5	3604	A
44	L5	3605	C
44	L5	3607	U
44	L5	3608	G
44	L5	3711	U
44	L5	3713	A
44	L5	3716	G
44	L5	3717	U
44	L5	3718	U
44	L5	3727	G
44	L5	3735	G
44	L5	3737	G
44	L5	3742	G
44	L5	3745	G
44	L5	3746	G
44	L5	3747	C
44	L5	3748	G
44	L5	3750	G
44	L5	3752	C
44	L5	3754	C
44	L5	3755	G
44	L5	3756	A
44	L5	3757	G

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Mol	Chain	Res	Type
44	L5	3758	G
44	L5	3759	G
44	L5	3760	G
44	L5	3762	U
44	L5	3765	C
44	L5	3766	G
44	L5	3767	C
44	L5	3770	C
44	L5	3773	G
44	L5	3778	A
44	L5	3783	U
44	L5	3785	C
44	L5	3786	G
44	L5	3787	U
44	L5	3799	G
44	L5	3803	G
44	L5	3815	C
44	L5	3816	U
44	L5	3823	A
44	L5	3830	C
44	L5	3836	G
44	L5	3844	G
44	L5	3846	C
44	L5	3849	G
44	L5	3856	A
44	L5	3867	A
44	L5	3875	G
44	L5	3878	G
44	L5	3881	G
44	L5	3882	U
44	L5	3885	U
44	L5	3886	A
44	L5	3895	U
44	L5	3904	A
44	L5	3907	G
44	L5	3910	A
44	L5	3918	U
44	L5	3921	A
44	L5	3926	A
44	L5	3934	A
44	L5	3942	U
44	L5	3944	G

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Mol	Chain	Res	Type
44	L5	3948	U
44	L5	3956	C
44	L5	3957	A
44	L5	3958	G
44	L5	3967	C
44	L5	3970	A
44	L5	3972	C
44	L5	3977	A
44	L5	3982	G
44	L5	3983	G
44	L5	3985	C
44	L5	3991	G
44	L5	3992	A
44	L5	4002	C
44	L5	4007	U
44	L5	4024	G
44	L5	4026	G
44	L5	4029	A
44	L5	4030	G
44	L5	4031	A
44	L5	4032	A
44	L5	4033	A
44	L5	4039	C
44	L5	4040	C
44	L5	4044	G
44	L5	4047	A
44	L5	4054	G
44	L5	4073	U
44	L5	4074	C
44	L5	4075	A
44	L5	4080	G
44	L5	4089	U
44	L5	4091	U
44	L5	4096	C
44	L5	4097	C
44	L5	4101	G
44	L5	4102	A
44	L5	4105	U
44	L5	4117	A
44	L5	4128	G
44	L5	4152	G
44	L5	4163	A

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Mol	Chain	Res	Type
44	L5	4165	U
44	L5	4166	A
44	L5	4168	G
44	L5	4171	A
44	L5	4172	C
44	L5	4177	G
44	L5	4185	U
44	L5	4198	G
44	L5	4201	A
44	L5	4202	G
44	L5	4207	G
44	L5	4208	U
44	L5	4213	C
44	L5	4220	G
44	L5	4223	G
44	L5	4225	U
44	L5	4228	G
44	L5	4237	A
44	L5	4238	U
44	L5	4241	U
44	L5	4242	A
44	L5	4243	A
44	L5	4253	G
44	L5	4261	G
44	L5	4270	G
44	L5	4279	A
44	L5	4286	G
44	L5	4289	U
44	L5	4290	G
44	L5	4292	G
44	L5	4300	G
44	L5	4305	G
44	L5	4309	A
44	L5	4310	U
44	L5	4323	C
44	L5	4325	A
44	L5	4332	G
44	L5	4348	C
44	L5	4353	A
44	L5	4361	A
44	L5	4362	U
44	L5	4372	G

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Mol	Chain	Res	Type
44	L5	4374	G
44	L5	4383	C
44	L5	4387	A
44	L5	4393	G
44	L5	4394	A
44	L5	4395	A
44	L5	4396	G
44	L5	4397	G
44	L5	4398	A
44	L5	4399	G
44	L5	4404	G
44	L5	4405	G
44	L5	4408	G
44	L5	4411	C
44	L5	4413	C
44	L5	4415	G
44	L5	4418	A
44	L5	4419	G
44	L5	4424	G
44	L5	4425	U
44	L5	4427	C
44	L5	4429	C
44	L5	4430	G
44	L5	4505	C
44	L5	4506	G
44	L5	4507	G
44	L5	4508	G
44	L5	4516	G
44	L5	4517	C
44	L5	4519	G
44	L5	4522	A
44	L5	4528	U
44	L5	4529	C
44	L5	4534	U
44	L5	4535	G
44	L5	4541	C
44	L5	4546	U
44	L5	4547	G
44	L5	4548	C
44	L5	4549	G
44	L5	4553	G
44	L5	4554	G

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Mol	Chain	Res	Type
44	L5	4555	A
44	L5	4558	G
44	L5	4559	G
44	L5	4560	C
44	L5	4561	G
44	L5	4562	G
44	L5	4564	C
44	L5	4565	G
44	L5	4583	U
44	L5	4584	U
44	L5	4585	G
44	L5	4586	A
44	L5	4588	C
44	L5	4589	G
44	L5	4591	A
44	L5	4592	C
44	L5	4597	G
44	L5	4598	U
44	L5	4599	G
44	L5	4604	A
44	L5	4608	G
44	L5	4610	C
44	L5	4611	G
44	L5	4612	C
44	L5	4624	U
44	L5	4633	U
44	L5	4636	U
44	L5	4639	U
44	L5	4640	G
44	L5	4662	A
44	L5	4665	G
44	L5	4670	U
44	L5	4671	C
44	L5	4672	C
44	L5	4673	C
44	L5	4674	U
44	L5	4675	C
44	L5	4676	G
44	L5	4677	C
44	L5	4678	U
44	L5	4682	A
44	L5	4689	G

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Mol	Chain	Res	Type
44	L5	4695	C
44	L5	4698	C
44	L5	4702	C
44	L5	4703	G
44	L5	4709	A
44	L5	4710	G
44	L5	4717	U
45	L7	7	G
45	L7	22	A
45	L7	23	A
45	L7	24	C
45	L7	25	G
45	L7	33	U
45	L7	38	U
45	L7	43	U
45	L7	53	U
45	L7	54	A
45	L7	64	G
45	L7	74	A
45	L7	93	G
45	L7	96	U
45	L7	100	A
45	L7	110	G
45	L7	112	U
45	L7	120	U
46	L8	2	G
46	L8	3	A
46	L8	18	U
46	L8	25	G
46	L8	34	U
46	L8	35	C
46	L8	38	U
46	L8	48	A
46	L8	59	A
46	L8	60	G
46	L8	62	A
46	L8	63	U
46	L8	82	A
46	L8	83	C
46	L8	84	A
46	L8	85	U
46	L8	86	U

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Mol	Chain	Res	Type
46	L8	87	G
46	L8	99	U
46	L8	103	A
46	L8	105	C
46	L8	109	C
46	L8	110	U
46	L8	111	U
46	L8	114	G
46	L8	124	U
46	L8	125	C
46	L8	126	C
46	L8	127	U
46	L8	147	G
46	L8	153	C
46	L8	156	U
47	S2	2	A
47	S2	3	C
47	S2	4	C
47	S2	17	C
47	S2	25	A
47	S2	33	G
47	S2	41	G
47	S2	44	U
47	S2	45	A
47	S2	46	A
47	S2	49	C
47	S2	56	G
47	S2	58	C
47	S2	59	U
47	S2	67	C
47	S2	68	A
47	S2	69	C
47	S2	71	G
47	S2	73	C
47	S2	74	G
47	S2	76	U
47	S2	79	A
47	S2	92	A
47	S2	102	A
47	S2	103	A
47	S2	113	G
47	S2	114	G

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Mol	Chain	Res	Type
47	S2	115	U
47	S2	126	G
47	S2	129	C
47	S2	143	U
47	S2	149	A
47	S2	154	U
47	S2	158	A
47	S2	161	U
47	S2	162	C
47	S2	166	A
47	S2	169	U
47	S2	170	A
47	S2	173	A
47	S2	178	C
47	S2	181	A
47	S2	182	C
47	S2	289	G
47	S2	291	U
47	S2	292	G
47	S2	295	U
47	S2	311	C
47	S2	314	A
47	S2	319	A
47	S2	320	C
47	S2	324	C
47	S2	330	G
47	S2	333	G
47	S2	348	G
47	S2	352	G
47	S2	361	A
47	S2	363	C
47	S2	364	A
47	S2	365	A
47	S2	369	U
47	S2	370	C
47	S2	371	G
47	S2	382	C
47	S2	386	G
47	S2	387	C
47	S2	393	A
47	S2	408	G
47	S2	409	A

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Mol	Chain	Res	Type
47	S2	410	C
47	S2	418	C
47	S2	419	A
47	S2	427	A
47	S2	429	U
47	S2	448	A
47	S2	449	A
47	S2	450	A
47	S2	451	C
47	S2	453	G
47	S2	465	A
47	S2	466	A
47	S2	468	G
47	S2	472	G
47	S2	473	C
47	S2	474	A
47	S2	475	G
47	S2	483	G
47	S2	488	U
47	S2	490	A
47	S2	493	C
47	S2	494	A
47	S2	501	A
47	S2	502	C
47	S2	504	C
47	S2	517	A
47	S2	518	C
47	S2	526	A
47	S2	529	A
47	S2	532	A
47	S2	533	C
47	S2	537	A
47	S2	538	C
47	S2	539	U
47	S2	540	C
47	S2	541	U
47	S2	542	U
47	S2	543	U
47	S2	544	C
47	S2	545	G
47	S2	547	G
47	S2	548	G

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Mol	Chain	Res	Type
47	S2	553	G
47	S2	556	A
47	S2	557	U
47	S2	558	U
47	S2	559	G
47	S2	560	G
47	S2	562	A
47	S2	564	G
47	S2	565	A
47	S2	566	G
47	S2	567	U
47	S2	571	C
47	S2	574	U
47	S2	577	A
47	S2	584	A
47	S2	585	A
47	S2	587	G
47	S2	588	A
47	S2	589	G
47	S2	591	A
47	S2	592	U
47	S2	597	U
47	S2	598	G
47	S2	604	C
47	S2	605	A
47	S2	608	U
47	S2	609	C
47	S2	613	U
47	S2	614	G
47	S2	615	C
47	S2	618	G
47	S2	623	C
47	S2	629	A
47	S2	630	A
47	S2	633	C
47	S2	638	U
47	S2	639	C
47	S2	644	A
47	S2	645	G
47	S2	656	A
47	S2	661	C
47	S2	669	A

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Mol	Chain	Res	Type
47	S2	670	A
47	S2	672	A
47	S2	673	A
47	S2	674	G
47	S2	688	C
47	S2	689	U
47	S2	750	U
47	S2	751	C
47	S2	796	A
47	S2	799	G
47	S2	800	U
47	S2	812	A
47	S2	821	U
47	S2	822	G
47	S2	823	U
47	S2	831	A
47	S2	832	G
47	S2	834	C
47	S2	835	C
47	S2	836	C
47	S2	837	G
47	S2	838	A
47	S2	839	G
47	S2	840	C
47	S2	841	C
47	S2	842	G
47	S2	843	C
47	S2	844	C
47	S2	847	G
47	S2	848	A
47	S2	870	A
47	S2	871	A
47	S2	873	A
47	S2	874	G
47	S2	875	G
47	S2	878	C
47	S2	884	U
47	S2	885	C
47	S2	890	U
47	S2	892	G
47	S2	895	G
47	S2	896	G

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Mol	Chain	Res	Type
47	S2	897	U
47	S2	898	U
47	S2	899	U
47	S2	900	U
47	S2	901	C
47	S2	902	G
47	S2	905	A
47	S2	907	U
47	S2	914	A
47	S2	915	U
47	S2	918	U
47	S2	920	A
47	S2	921	A
47	S2	923	A
47	S2	934	G
47	S2	952	C
47	S2	964	A
47	S2	972	G
47	S2	973	A
47	S2	979	G
47	S2	989	C
47	S2	991	A
47	S2	993	A
47	S2	1000	G
47	S2	1002	A
47	S2	1008	C
47	S2	1018	U
47	S2	1019	U
47	S2	1024	A
47	S2	1028	A
47	S2	1031	A
47	S2	1034	G
47	S2	1035	A
47	S2	1045	G
47	S2	1046	U
47	S2	1048	C
47	S2	1061	A
47	S2	1062	U
47	S2	1063	A
47	S2	1068	C
47	S2	1084	A
47	S2	1086	C

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Mol	Chain	Res	Type
47	S2	1090	G
47	S2	1102	U
47	S2	1109	G
47	S2	1110	C
47	S2	1115	U
47	S2	1117	C
47	S2	1139	C
47	S2	1140	C
47	S2	1149	A
47	S2	1154	C
47	S2	1155	U
47	S2	1159	G
47	S2	1195	A
47	S2	1196	A
47	S2	1204	G
47	S2	1208	G
47	S2	1209	A
47	S2	1216	C
47	S2	1217	C
47	S2	1218	A
47	S2	1225	G
47	S2	1228	G
47	S2	1243	U
47	S2	1244	U
47	S2	1248	C
47	S2	1249	U
47	S2	1252	A
47	S2	1254	A
47	S2	1257	G
47	S2	1258	G
47	S2	1260	A
47	S2	1262	C
47	S2	1264	U
47	S2	1265	C
47	S2	1272	C
47	S2	1275	G
47	S2	1276	G
47	S2	1284	C
47	S2	1286	G
47	S2	1287	G
47	S2	1291	G
47	S2	1295	G

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Mol	Chain	Res	Type
47	S2	1300	A
47	S2	1301	U
47	S2	1303	G
47	S2	1304	C
47	S2	1309	U
47	S2	1314	A
47	S2	1315	U
47	S2	1316	U
47	S2	1318	C
47	S2	1319	G
47	S2	1321	G
47	S2	1327	U
47	S2	1333	A
47	S2	1343	U
47	S2	1344	U
47	S2	1346	G
47	S2	1349	G
47	S2	1359	U
47	S2	1372	U
47	S2	1373	U
47	S2	1379	A
47	S2	1397	A
47	S2	1402	A
47	S2	1403	A
47	S2	1407	G
47	S2	1409	U
47	S2	1415	A
47	S2	1416	C
47	S2	1419	C
47	S2	1421	G
47	S2	1422	A
47	S2	1423	G
47	S2	1424	C
47	S2	1430	G
47	S2	1441	C
47	S2	1449	A
47	S2	1450	G
47	S2	1451	G
47	S2	1453	A
47	S2	1455	A
47	S2	1464	U
47	S2	1466	A

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Mol	Chain	Res	Type
47	S2	1470	A
47	S2	1475	A
47	S2	1476	G
47	S2	1481	A
47	S2	1485	A
47	S2	1488	A
47	S2	1489	C
47	S2	1490	A
47	S2	1491	G
47	S2	1495	U
47	S2	1496	G
47	S2	1498	G
47	S2	1499	A
47	S2	1508	G
47	S2	1510	U
47	S2	1511	G
47	S2	1522	C
47	S2	1532	A
47	S2	1534	A
47	S2	1545	C
47	S2	1556	U
47	S2	1557	A
47	S2	1561	U
47	S2	1571	G
47	S2	1575	C
47	S2	1578	G
47	S2	1581	A
47	S2	1586	U
47	S2	1587	U
47	S2	1588	G
47	S2	1589	A
47	S2	1601	G
47	S2	1602	A
47	S2	1603	U
47	S2	1604	G
47	S2	1607	G
47	S2	1613	G
47	S2	1615	A
47	S2	1622	U
47	S2	1624	A
47	S2	1628	C
47	S2	1635	A

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Mol	Chain	Res	Type
47	S2	1639	G
47	S2	1644	U
47	S2	1647	C
47	S2	1649	G
47	S2	1655	G
47	S2	1662	A
47	S2	1664	A
47	S2	1666	G
47	S2	1672	G
47	S2	1680	A
47	S2	1681	G
47	S2	1685	C
47	S2	1687	G
47	S2	1699	C
47	S2	1706	C
47	S2	1722	U
47	S2	1723	G
47	S2	1728	G
47	S2	1729	U
47	S2	1744	G
47	S2	1745	G
47	S2	1746	A
47	S2	1749	G
47	S2	1753	C
47	S2	1754	C
47	S2	1756	C
47	S2	1759	G
47	S2	1760	G
47	S2	1761	G
47	S2	1762	U
47	S2	1774	C
47	S2	1775	C
47	S2	1776	U
47	S2	1777	G
47	S2	1778	G
47	S2	1780	G
47	S2	1783	G
47	S2	1784	C
47	S2	1785	G
47	S2	1787	U
47	S2	1799	C
47	S2	1808	C

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Mol	Chain	Res	Type
47	S2	1818	G
47	S2	1819	A
47	S2	1821	G
47	S2	1823	A
47	S2	1824	A
47	S2	1825	A
47	S2	1827	G
47	S2	1830	G
47	S2	1836	A
47	S2	1838	G
47	S2	1839	U
47	S2	1850	G
47	S2	1852	A
47	S2	1853	C
47	S2	1862	G
47	S2	1863	G
47	S2	1864	A
47	S2	1865	U
47	S2	1866	C
77	S6	3	G
77	S6	4	C
77	S6	9	U
77	S6	10	G
77	S6	11	G
77	S6	17	C
77	S6	18	G
77	S6	19	G
77	S6	20	A
77	S6	21	A
77	S6	22	G
77	S6	23	C
77	S6	24	G
77	S6	45	G
77	S6	46	G
77	S6	47	U
77	S6	48	C
77	S6	49	G
77	S6	52	G
77	S6	53	G
77	S6	54	A
77	S6	55	U
77	S6	56	C

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Mol	Chain	Res	Type
77	S6	57	G
77	S6	58	A
77	S6	59	A
77	S6	60	A
77	S6	67	U
77	S6	69	U
77	S6	72	U
77	S6	74	C
77	S6	76	A

All (32) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
44	L5	236	G
44	L5	265	C
44	L5	492	G
44	L5	652	G
44	L5	676	C
44	L5	1388	G
44	L5	1447	G
44	L5	1776	G
44	L5	1836	A
44	L5	2429	G
44	L5	2514	G
44	L5	2540	C
44	L5	3271	G
44	L5	3369	A
44	L5	3417	A
44	L5	4352	U
44	L5	4560	C
44	L5	4597	G
44	L5	4673	C
47	S2	112	U
47	S2	531	U
47	S2	532	A
47	S2	608	U
47	S2	629	A
47	S2	972	G
47	S2	1521	G
47	S2	1721	U
47	S2	1782	A
77	S6	19	G

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Mol	Chain	Res	Type
77	S6	53	G
77	S6	54	A
77	S6	56	C

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 278 ligands modelled in this entry, 278 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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.

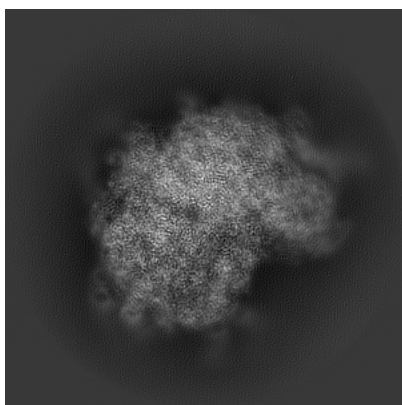
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-30432. These allow visual inspection of the internal detail of the map and identification of artifacts.

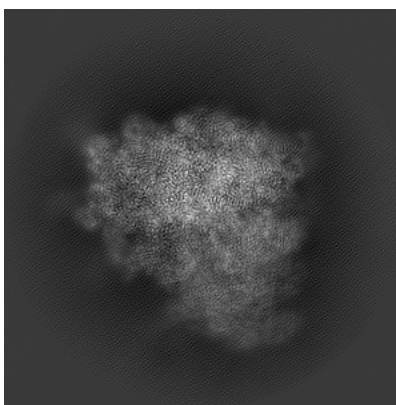
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

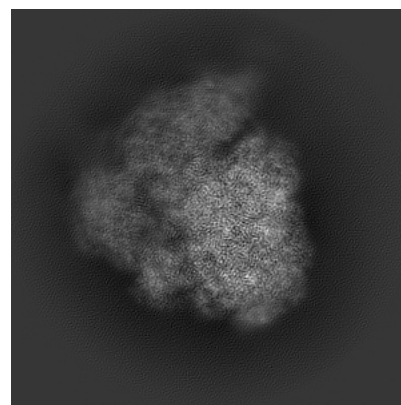
6.1.1 Primary map



X



Y

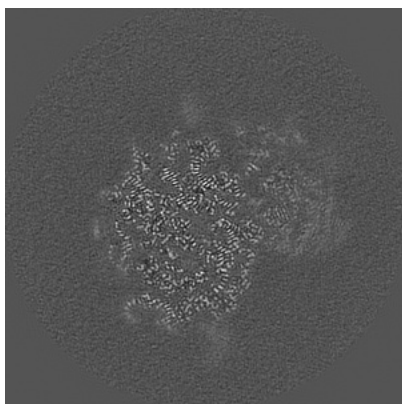


Z

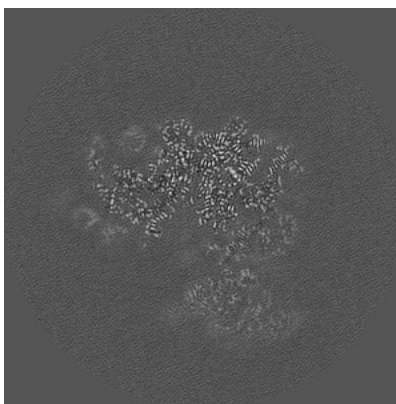
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

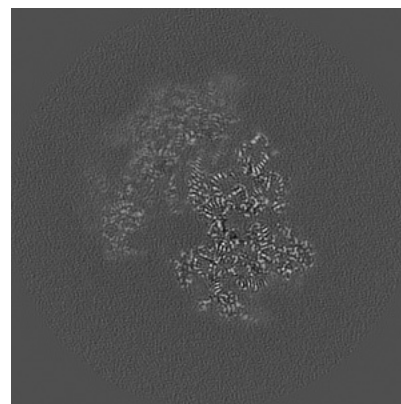
6.2.1 Primary map



X Index: 200



Y Index: 200

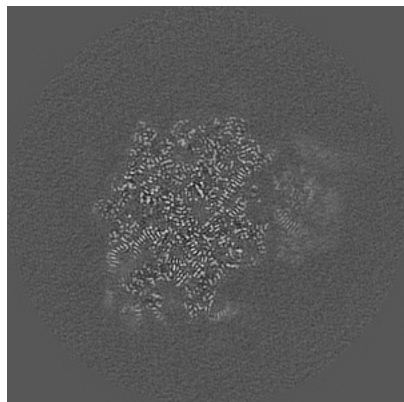


Z Index: 200

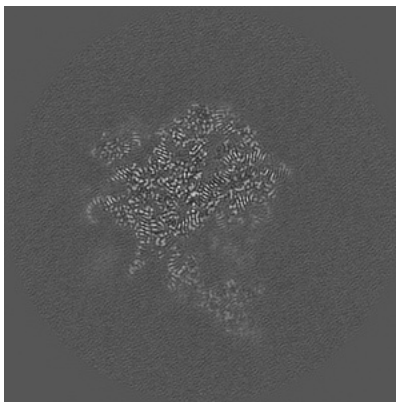
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

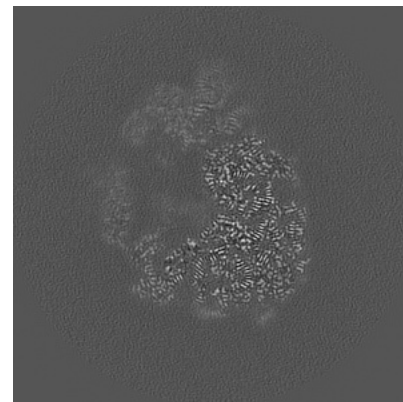
6.3.1 Primary map



X Index: 219



Y Index: 159

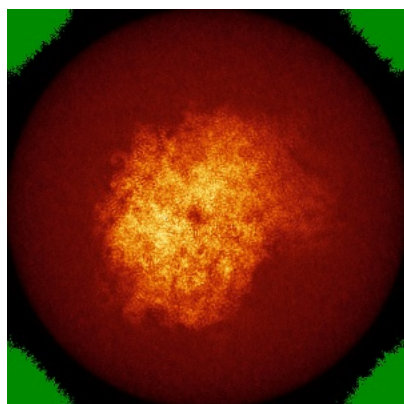


Z Index: 181

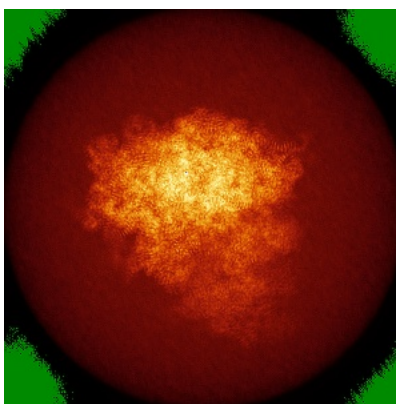
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

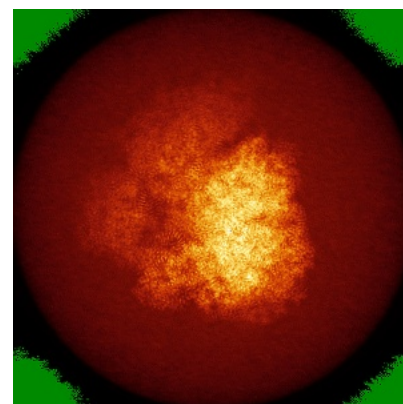
6.4.1 Primary map



X



Y

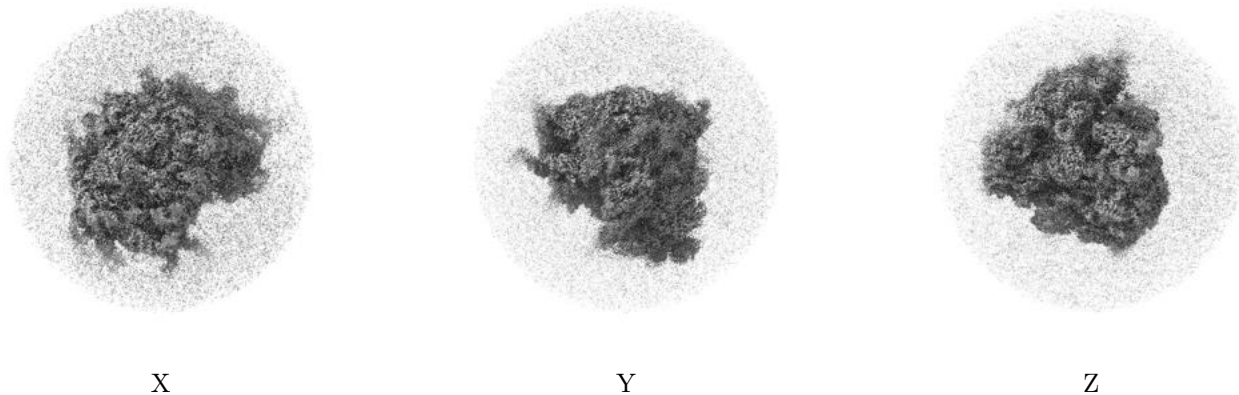


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.026. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

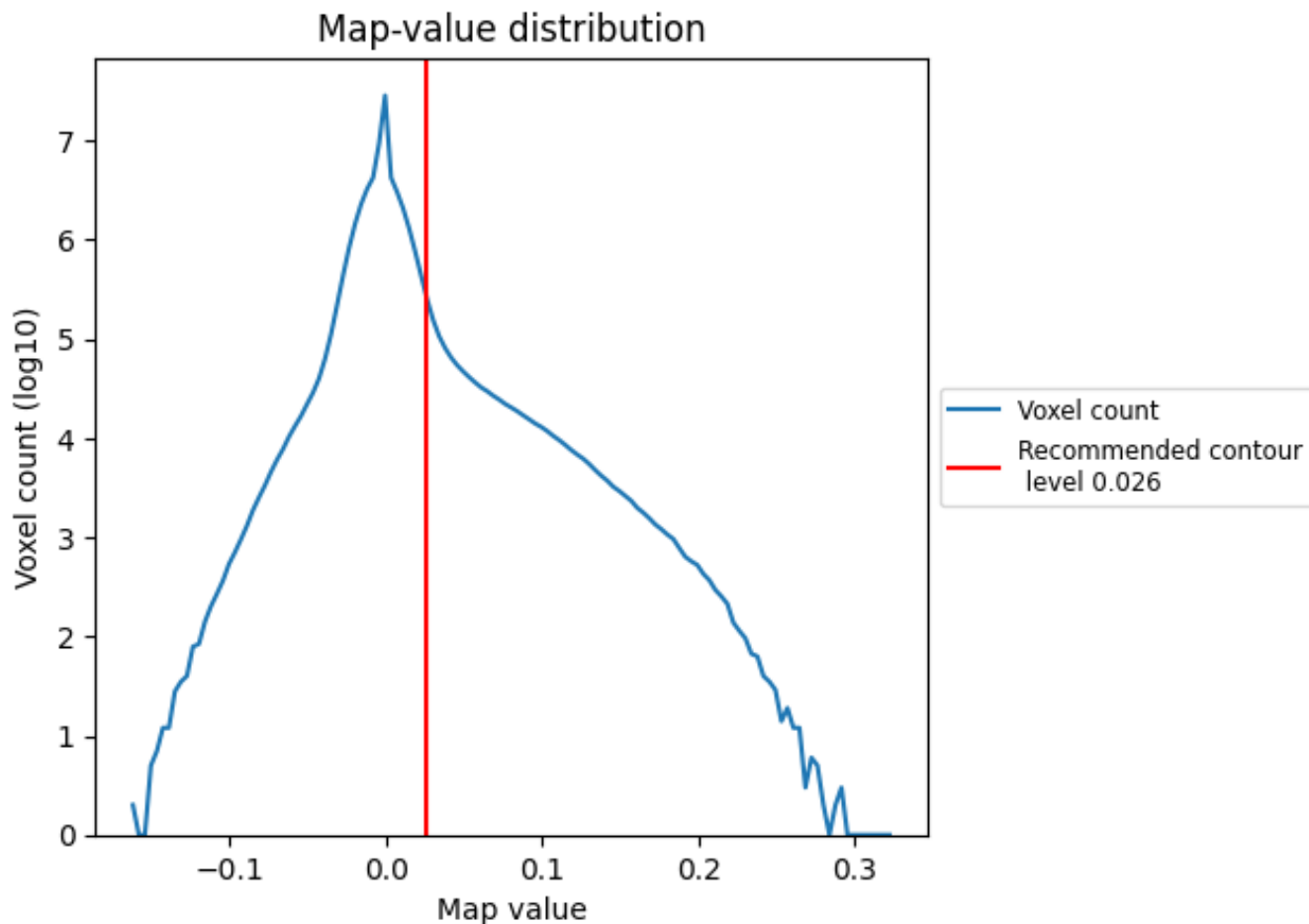
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

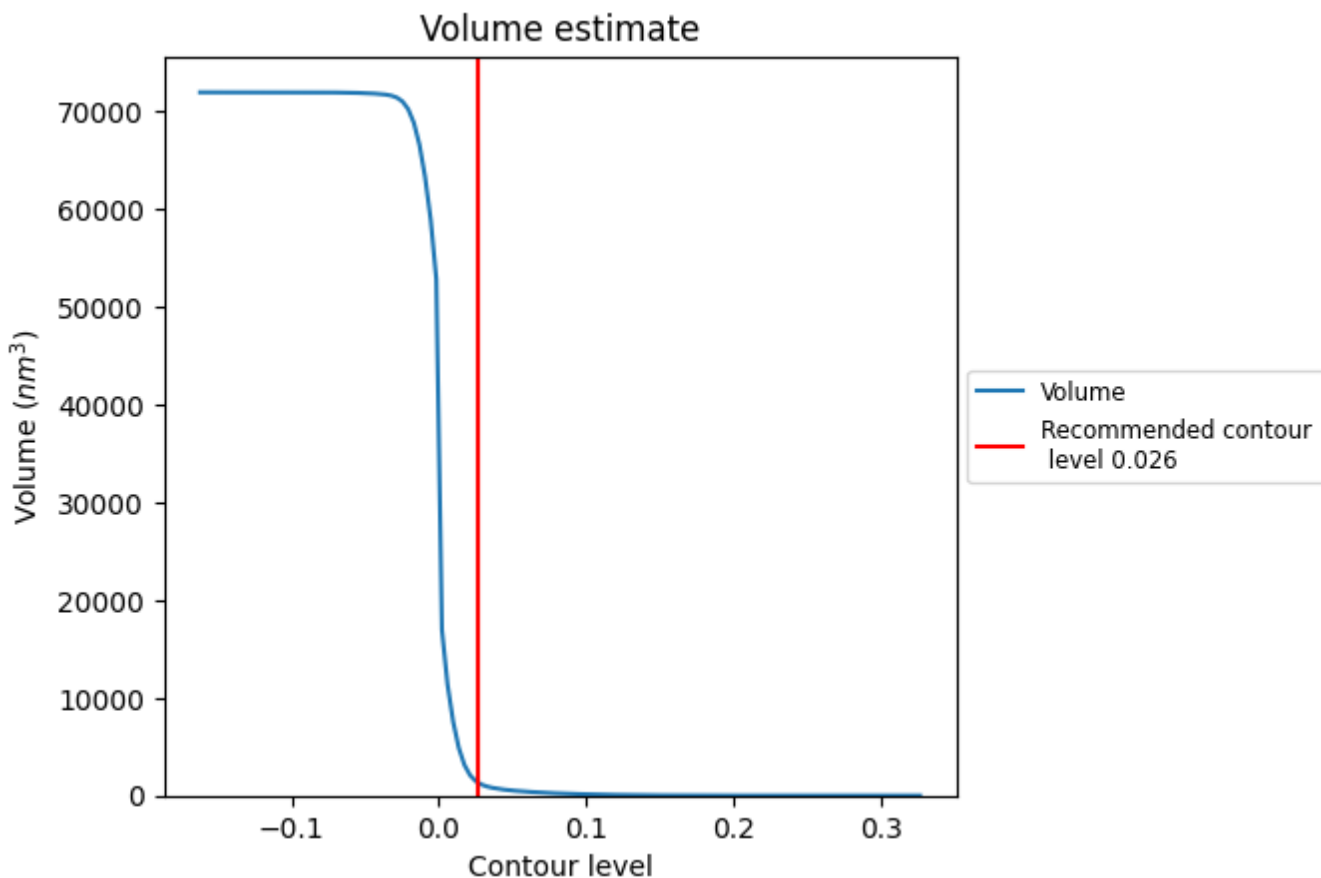
This section contains the results of statistical analysis of the map.

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.

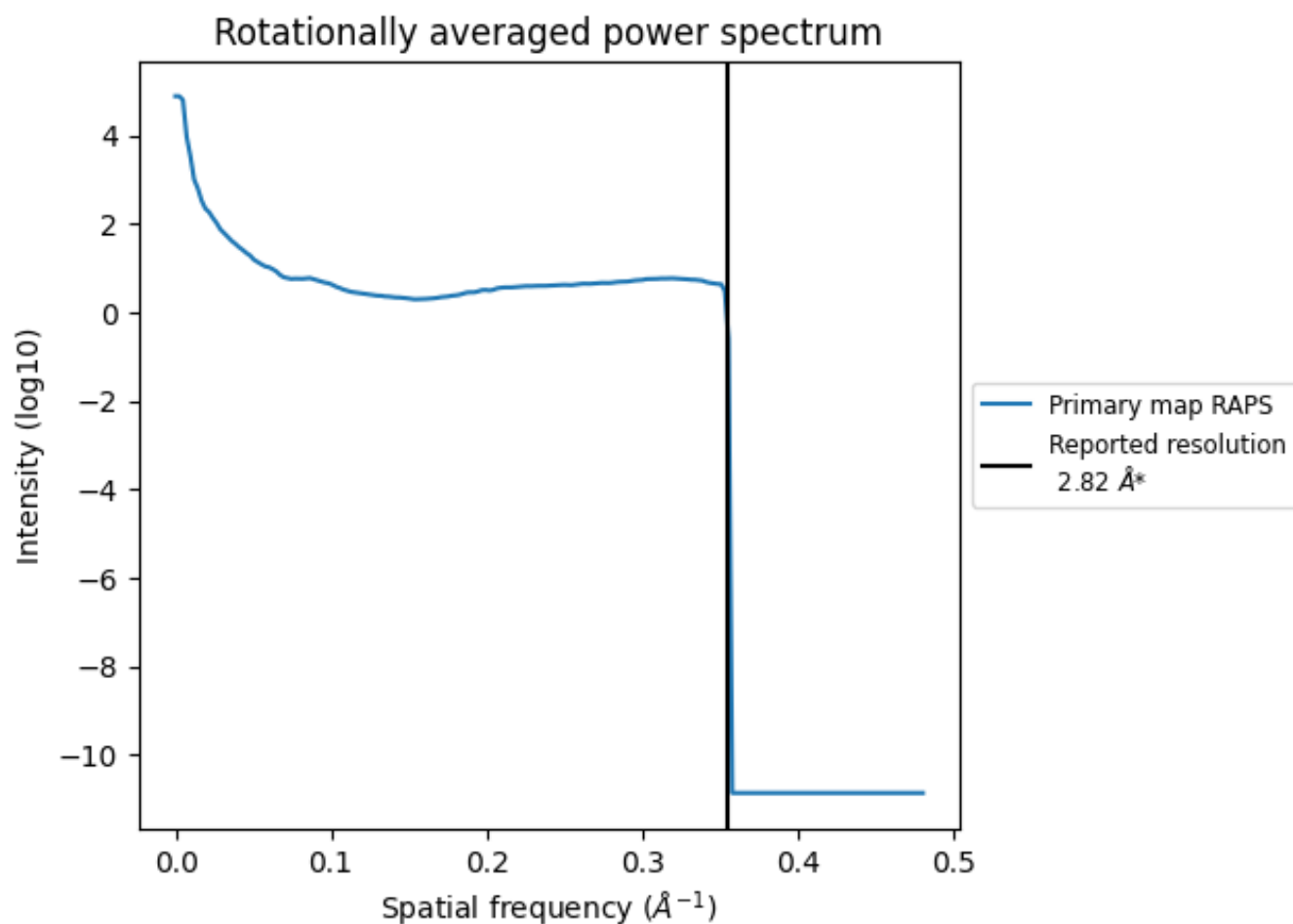
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1382 nm³; this corresponds to an approximate mass of 1248 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 0.355 Å⁻¹

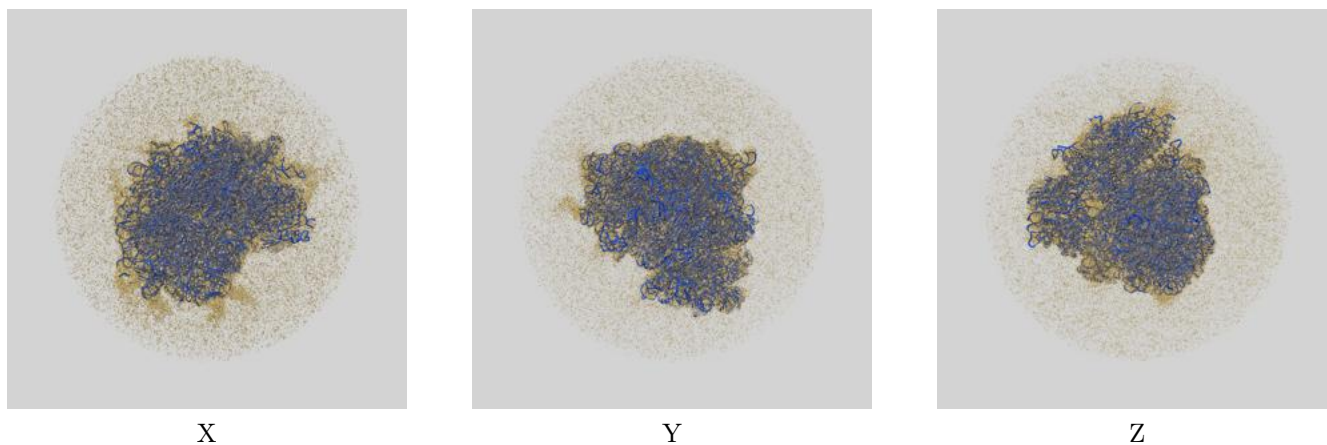
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

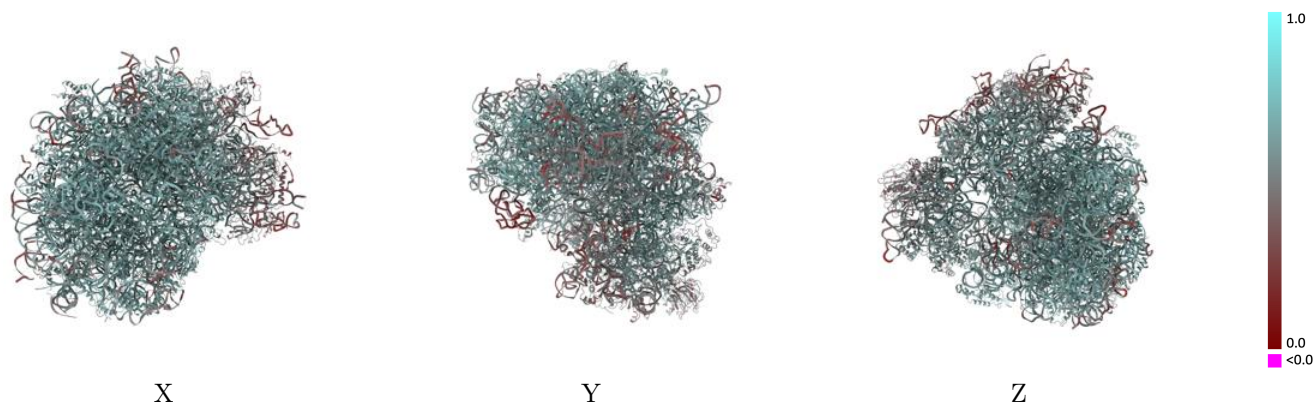
This section contains information regarding the fit between EMDB map EMD-30432 and PDB model 7CPU. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



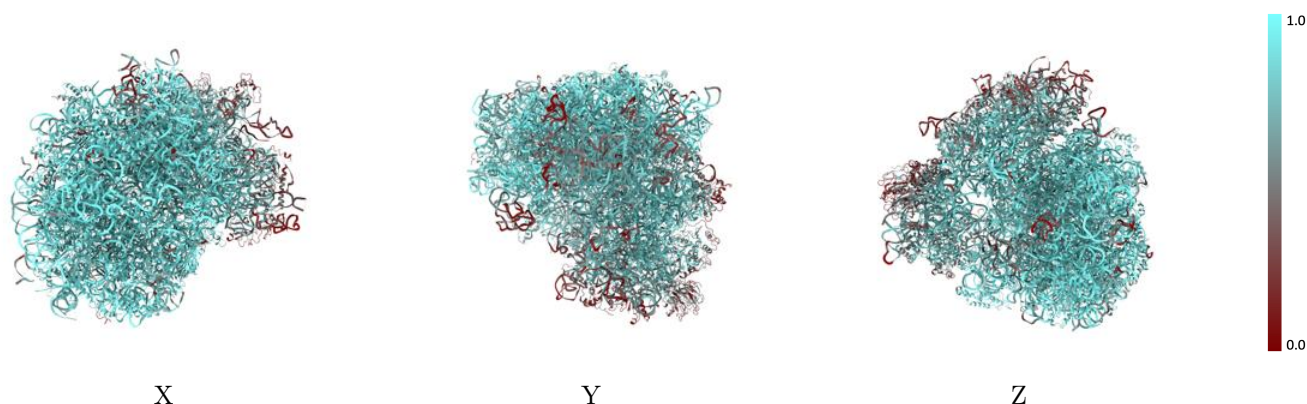
The images above show the 3D surface view of the map at the recommended contour level 0.026 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



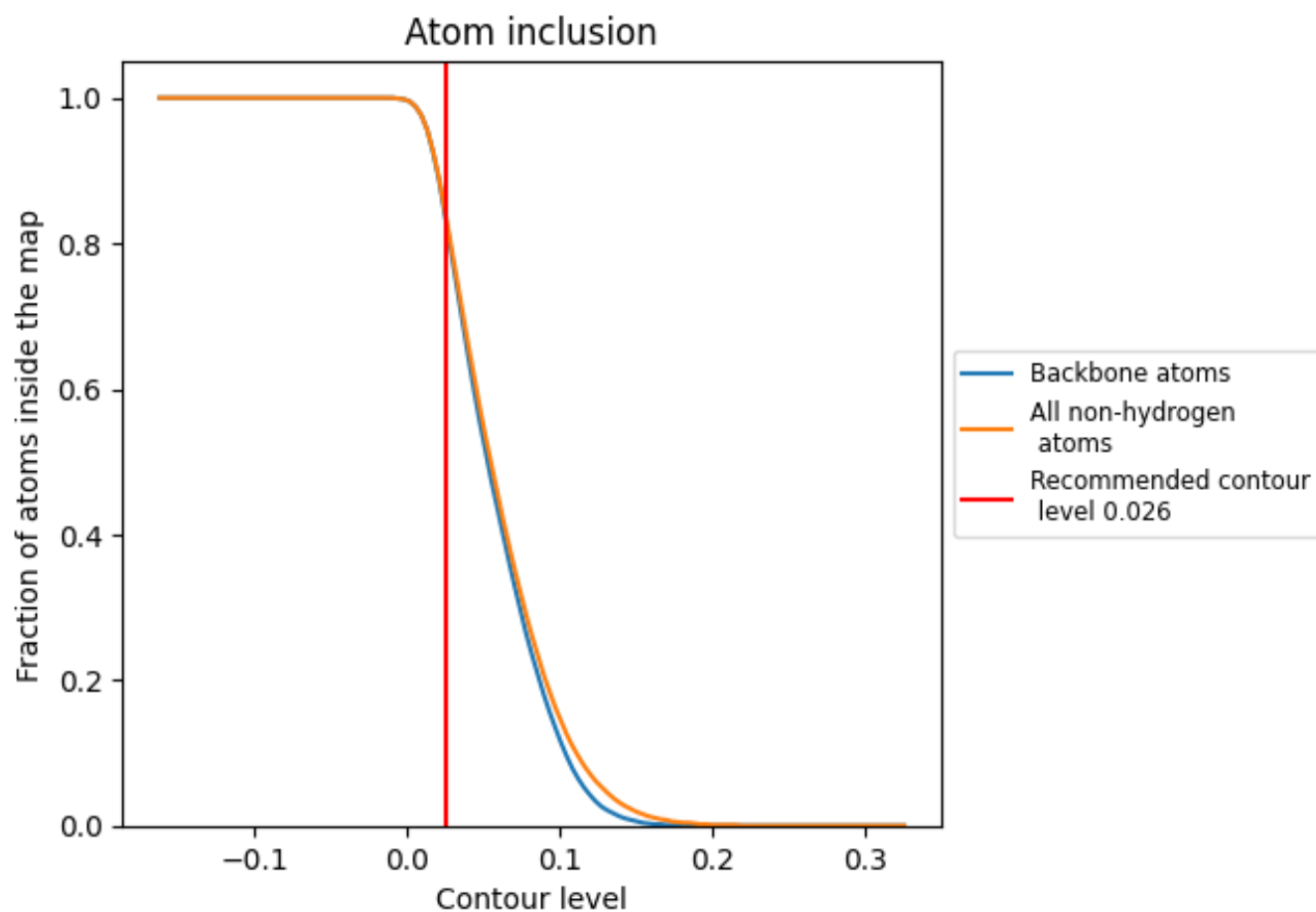
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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](#)



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 (0.026).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 83% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary





















































































The table lists the average atom inclusion at the recommended contour level (0.026) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8340	 0.5800
L5	 0.9050	 0.5950
L7	 0.9810	 0.6350
L8	 0.9240	 0.6160
LA	 0.9410	 0.6470
LB	 0.9260	 0.6370
LC	 0.9170	 0.6310
LD	 0.9020	 0.6180
LE	 0.8350	 0.5930
LF	 0.9460	 0.6470
LG	 0.8500	 0.6060
LH	 0.9080	 0.6220
LI	 0.9240	 0.6350
LJ	 0.8410	 0.5920
LL	 0.8980	 0.6180
LM	 0.9370	 0.6330
LN	 0.9690	 0.6540
LO	 0.9370	 0.6420
LP	 0.9240	 0.6410
LQ	 0.9410	 0.6510
LR	 0.8490	 0.6110
LS	 0.9500	 0.6510
LT	 0.9030	 0.6240
LU	 0.8010	 0.5750
LV	 0.9220	 0.6380
LW	 0.9220	 0.6360
LX	 0.9020	 0.6350
LY	 0.9060	 0.6300
LZ	 0.8820	 0.6120
La	 0.9580	 0.6520
Lb	 0.8680	 0.6130
Lc	 0.8890	 0.6130
Ld	 0.8770	 0.6240
Le	 0.9450	 0.6480
Lf	 0.9600	 0.6560



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Chain	Atom inclusion	Q-score
Lg	 0.9200	 0.6350
Lh	 0.8930	 0.6290
Li	 0.8680	 0.6110
Lj	 0.9550	 0.6430
Lk	 0.7910	 0.6040
Ll	 0.9310	 0.6430
Lm	 0.9290	 0.6360
Ln	 0.8170	 0.6030
Lo	 0.9010	 0.6360
Lp	 0.8940	 0.6370
Lr	 0.9360	 0.6330
S2	 0.7820	 0.5320
S6	 0.5950	 0.4350
SA	 0.6800	 0.5450
SB	 0.7620	 0.5780
SC	 0.7790	 0.5800
SD	 0.4550	 0.4910
SE	 0.5970	 0.4910
SF	 0.6650	 0.5500
SG	 0.4530	 0.4760
SH	 0.4940	 0.4990
SI	 0.6350	 0.5060
SJ	 0.5540	 0.4460
SK	 0.3160	 0.4500
SL	 0.7610	 0.5690
SN	 0.7530	 0.5840
SO	 0.7900	 0.5810
SP	 0.7020	 0.5480
SQ	 0.6520	 0.5310
SR	 0.5190	 0.5050
SS	 0.6940	 0.5600
ST	 0.6980	 0.5500
SU	 0.4130	 0.4550
SV	 0.6820	 0.5480
SW	 0.8430	 0.6000
SX	 0.7500	 0.5810
SY	 0.4430	 0.4160
SZ	 0.5720	 0.5180
Sa	 0.8150	 0.5910
Sb	 0.6540	 0.5470
Sc	 0.6020	 0.5180
Sd	 0.7520	 0.5660

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Chain	Atom inclusion	Q-score
Se	 0.5180	 0.4890
Sg	 0.3740	 0.4500