



Full wwPDB EM Validation Report ⓘ

Mar 24, 2026 – 02:00 AM UTC

PDB ID : 7CPV / pdb_00007cpv
EMDB ID : EMD-30433
Title : Cryo-EM structure of 80S ribosome from mouse testis
Authors : Huo, Y.G.; He, X.; Jiang, T.; Qin, Y.; Guo, X.J.; Sha, J.H.
Deposited on : 2020-08-08
Resolution : 3.03 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ 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:

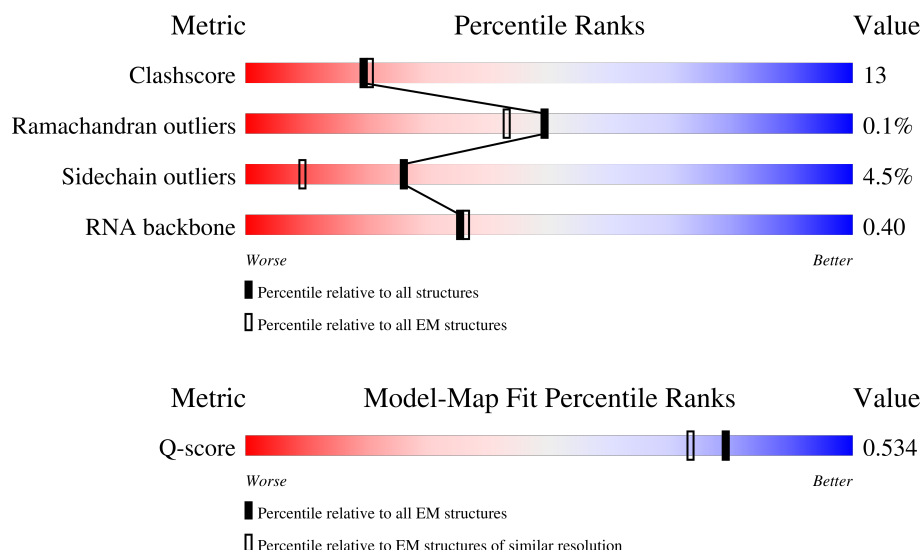
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance

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

The reported resolution of this entry is 3.03 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.



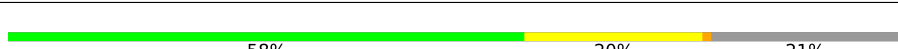
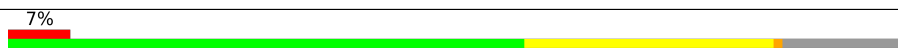
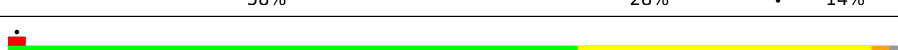
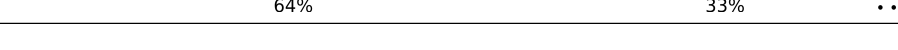
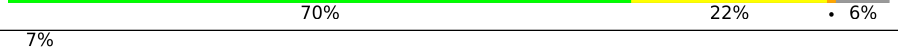
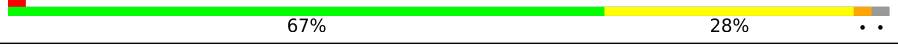
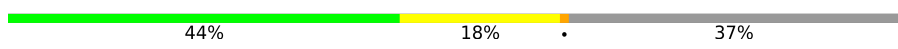
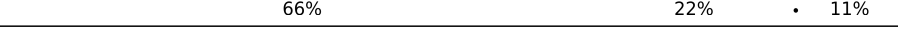
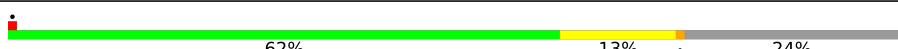
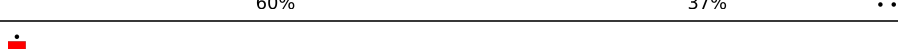
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	13929 (2.53 - 3.53)

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	LB	403	
3	LC	419	

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Mol	Chain	Length	Quality of chain
4	LD	297	
5	LE	296	
6	LF	270	
7	LG	266	
8	LH	192	
9	LI	214	
10	LJ	178	
11	LL	211	
12	LM	217	
13	LN	204	
14	LO	203	
15	LP	184	
16	LQ	188	
17	LR	196	
18	LS	176	
19	LT	160	
20	LU	128	
21	LV	140	
22	LW	157	
23	LX	156	
24	LY	145	
25	LZ	136	
26	La	148	
27	Lb	160	
28	Lc	115	

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Mol	Chain	Length	Quality of chain
29	Ld	125	
30	Le	135	
31	Lf	110	
32	Lg	117	
33	Lh	123	
34	Li	105	
35	Lj	97	
36	Lk	70	
37	Ll	51	
38	Lm	128	
39	Ln	25	
40	Lo	106	
41	Lp	92	
42	Lr	137	
43	L5	4731	
44	L7	120	
45	L8	158	
46	S2	1870	
47	SA	295	
48	SB	264	
49	SD	243	
50	SE	263	
51	SF	204	
52	SH	194	
53	SI	208	

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Mol	Chain	Length	Quality of chain
54	SK	165	
55	SL	158	
56	SP	145	
57	SQ	146	
58	SR	135	
59	SS	152	
60	ST	145	
61	SU	119	
62	SV	83	
63	SX	143	
64	Sa	115	
65	Sc	69	
66	Sd	56	
67	Sg	317	
68	SC	293	
69	SG	249	
70	SJ	194	
71	SN	151	
72	SO	151	
73	SW	130	
74	SY	133	
75	SZ	125	
76	Sb	84	
77	Se	133	
78	S6	75	

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 206030 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
1	LA	248	Total	C	N	O	S	0	0
			1898	1189	389	314	6		

- Molecule 2 is a protein called 60S ribosomal protein L3.

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

- Molecule 3 is a protein called 60S ribosomal protein L4.

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

- Molecule 4 is a protein called 60S ribosomal protein L5.

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

- Molecule 5 is a protein called 60S ribosomal protein L6.

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

- Molecule 6 is a protein called 60S ribosomal protein L7.

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

- Molecule 7 is a protein called 60S ribosomal protein L7a.

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

- Molecule 8 is a protein called 60S ribosomal protein L9.

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

- Molecule 9 is a protein called 60S ribosomal protein L10-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	LI	201	Total	C	N	O	S	0	0
			1631	1037	316	267	11		

- Molecule 10 is a protein called 60S ribosomal protein L11.

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

- Molecule 11 is a protein called 60S ribosomal protein L13.

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

- Molecule 12 is a protein called 60S ribosomal protein L14.

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

- Molecule 13 is a protein called 60S ribosomal protein L15.

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

- Molecule 14 is a protein called 60S ribosomal protein L13a.

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

- Molecule 15 is a protein called 60S ribosomal protein L17.

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

- Molecule 16 is a protein called 60S ribosomal protein L18.

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

- Molecule 17 is a protein called 60S ribosomal protein L19.

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

- Molecule 18 is a protein called 60S ribosomal protein L18a.

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

- Molecule 19 is a protein called 60S ribosomal protein L21.

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

- Molecule 20 is a protein called 60S ribosomal protein L22.

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

- Molecule 21 is a protein called 60S ribosomal protein L23.

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

- Molecule 22 is a protein called 60S ribosomal protein L24.

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

- Molecule 23 is a protein called 60S ribosomal protein L23a.

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

- Molecule 24 is a protein called 60S ribosomal protein L26.

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

- Molecule 25 is a protein called 60S ribosomal protein L27.

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

- Molecule 26 is a protein called 60S ribosomal protein L27a.

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

- Molecule 27 is a protein called 60S ribosomal protein L29.

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

- Molecule 28 is a protein called 60S ribosomal protein L30.

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

- Molecule 29 is a protein called 60S ribosomal protein L31.

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

- Molecule 30 is a protein called 60S ribosomal protein L32.

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

- Molecule 31 is a protein called 60S ribosomal protein L35a.

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

- Molecule 32 is a protein called 60S ribosomal protein L34.

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

- Molecule 33 is a protein called 60S ribosomal protein L35.

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

- Molecule 34 is a protein called 60S ribosomal protein L36.

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

- Molecule 35 is a protein called 60S ribosomal protein L37.

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

- Molecule 36 is a protein called 60S ribosomal protein L38.

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

- Molecule 37 is a protein called Ribosomal protein L39-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Ll	50	Total	C	N	O	S	0	0
			438	279	93	64	2		

- Molecule 38 is a protein called Ubiquitin-60S ribosomal protein L40.

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

- Molecule 39 is a protein called 60S ribosomal protein L41.

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

- Molecule 40 is a protein called 60S ribosomal protein L36a.

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

- Molecule 41 is a protein called 60S ribosomal protein L37a.

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

- Molecule 42 is a protein called 60S ribosomal protein L28.

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

- Molecule 43 is a RNA chain called Mus musculus 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	L5	3541	Total	C	N	O	P	0	0
			75913	33809	13873	24691	3540		

- Molecule 44 is a RNA chain called Mus musculus 5S ribosomal RNA.

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

- Molecule 45 is a RNA chain called Mus musculus 5.8S ribosomal RNA.

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

- Molecule 46 is a RNA chain called Mus musculus 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	S2	1637	Total	C	N	O	P	0	0
			34941	15601	6275	11429	1636		

- Molecule 47 is a protein called 40S ribosomal protein SA.

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

- Molecule 48 is a protein called 40S ribosomal protein S3a.

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

- Molecule 49 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	SD	224	Total	C	N	O	S	0	0
			1744	1111	314	312	7		

- Molecule 50 is a protein called 40S ribosomal protein S4, X isoform.

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

- Molecule 51 is a protein called 40S ribosomal protein S5.

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

- Molecule 52 is a protein called 40S ribosomal protein S7.

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

- Molecule 53 is a protein called 40S ribosomal protein S8.

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

- Molecule 54 is a protein called 40S ribosomal protein S10.

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

- Molecule 55 is a protein called 40S ribosomal protein S11.

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

- Molecule 56 is a protein called 40S ribosomal protein S15.

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

- Molecule 57 is a protein called 40S ribosomal protein S16.

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

- Molecule 58 is a protein called 40S ribosomal protein S17.

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

- Molecule 59 is a protein called 40S ribosomal protein S18.

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

- Molecule 60 is a protein called 40S ribosomal protein S19.

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

- Molecule 61 is a protein called 40S ribosomal protein S20.

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

- Molecule 62 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	SV	81	Total	C	N	O	S	0	0
			619	379	116	119	5		

- Molecule 63 is a protein called 40S ribosomal protein S23.

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

- Molecule 64 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Sa	99	Total	C	N	O	S	0	0
			792	492	165	130	5		

- Molecule 65 is a protein called 40S ribosomal protein S28.

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

- Molecule 66 is a protein called 40S ribosomal protein S29.

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

- Molecule 67 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 68 is a protein called 40S ribosomal protein S2.

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

- Molecule 69 is a protein called 40S ribosomal protein S6.

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

- Molecule 70 is a protein called 40S ribosomal protein S9.

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

- Molecule 71 is a protein called 40S ribosomal protein S13.

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

- Molecule 72 is a protein called 40S ribosomal protein S14.

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

- Molecule 73 is a protein called 40S ribosomal protein S15a.

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

- Molecule 74 is a protein called 40S ribosomal protein S24.

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

- Molecule 75 is a protein called 40S ribosomal protein S25.

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

- Molecule 76 is a protein called 40S ribosomal protein S27.

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

- Molecule 77 is a protein called 40S ribosomal protein S30.

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

- Molecule 78 is a RNA chain called Met-tRNA.

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

- 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	59	Total	Mg	0
			59	59	
79	SF	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	
80	Lj	1	Total	Zn	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
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

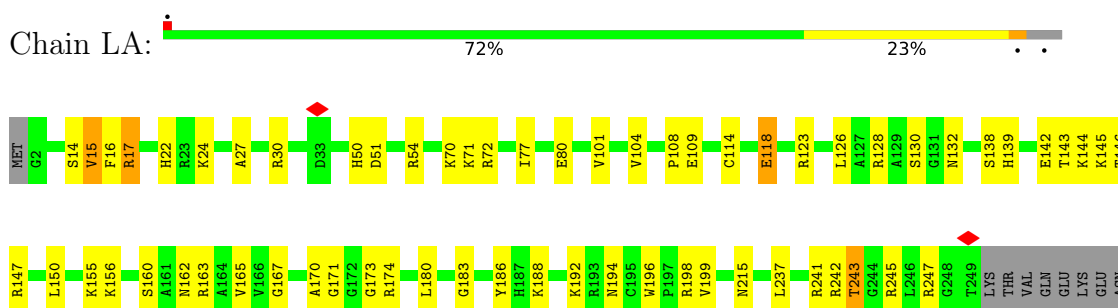
- Molecule 81 is water.

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	LN	1	Total 1	O 1	0
81	La	1	Total 1	O 1	0
81	L5	7	Total 7	O 7	0
81	S2	2	Total 2	O 2	0

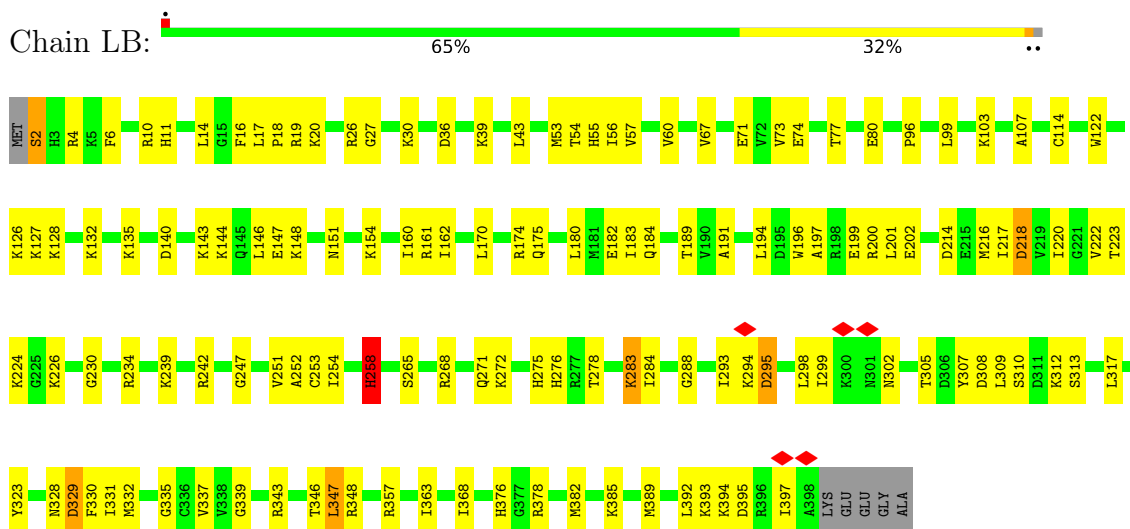
3 Residue-property plots

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

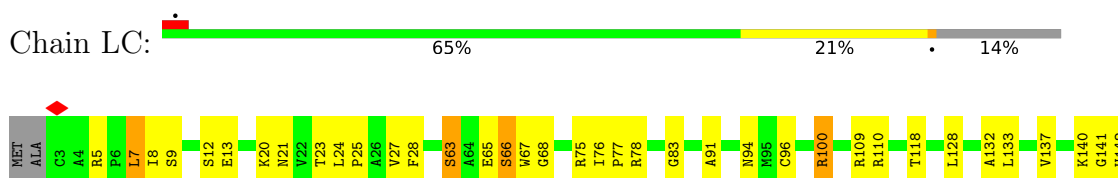
- Molecule 1: 60S ribosomal protein L8

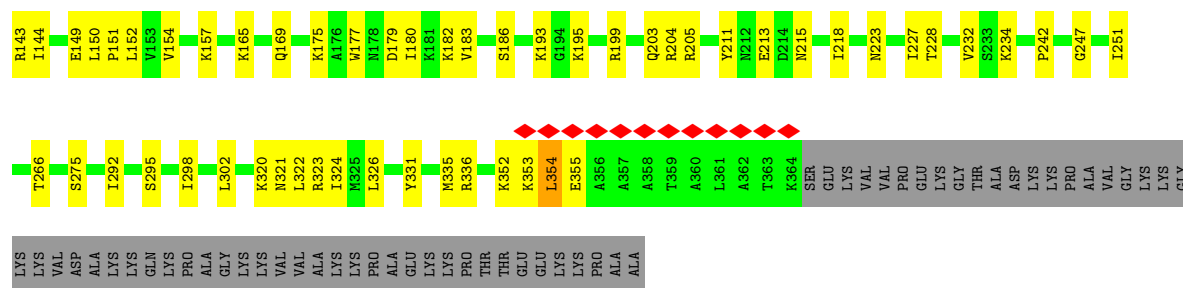


- Molecule 2: 60S ribosomal protein L3



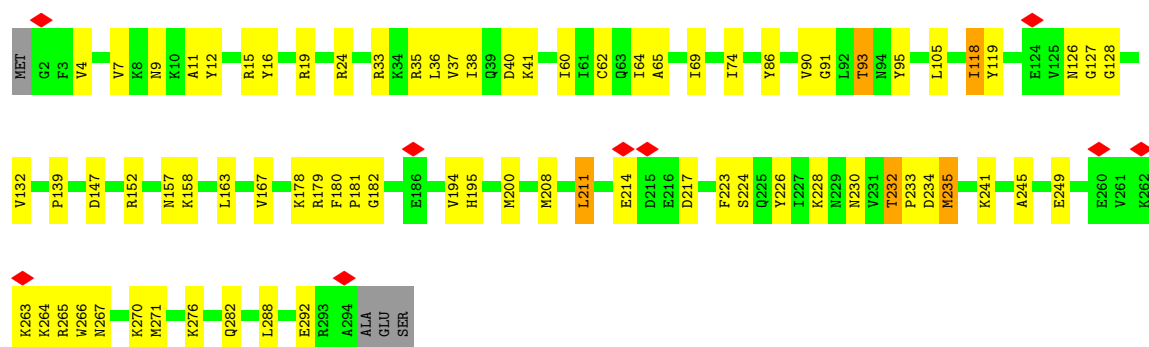
- Molecule 3: 60S ribosomal protein L4





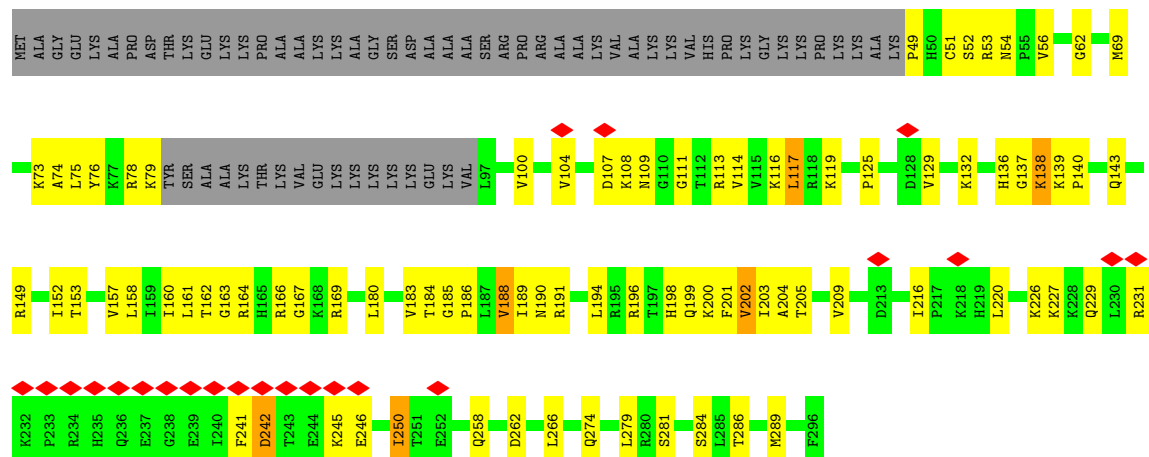
• Molecule 4: 60S ribosomal protein L5

Chain LD: 73% 24%



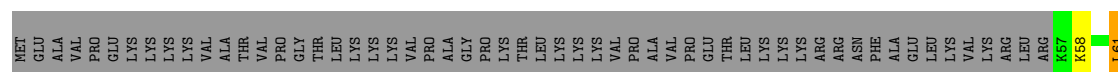
• Molecule 5: 60S ribosomal protein L6

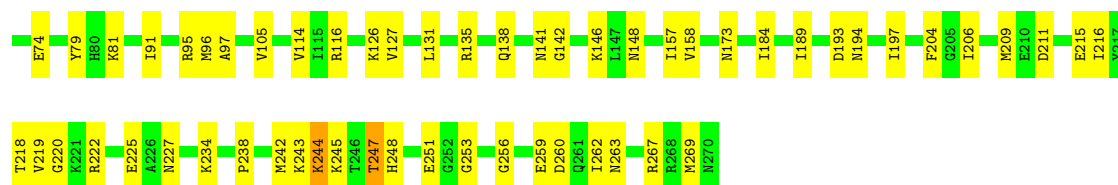
Chain LE: 49% 27% 22%



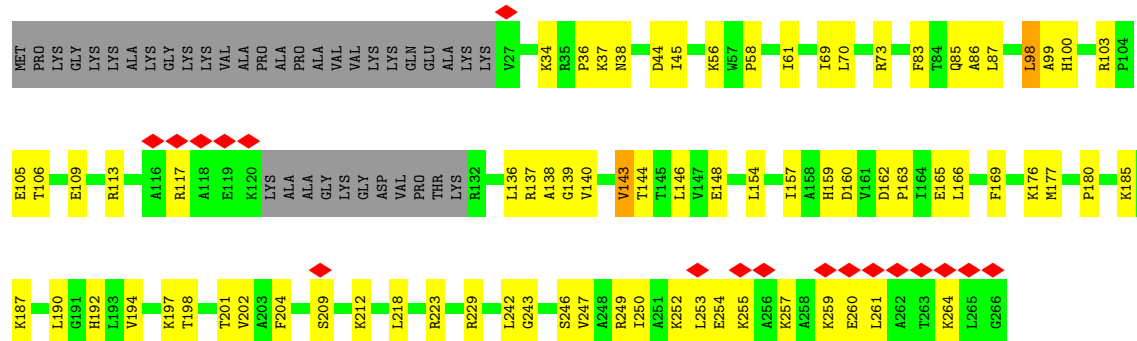
• Molecule 6: 60S ribosomal protein L7

Chain LF: 58% 20% 21%

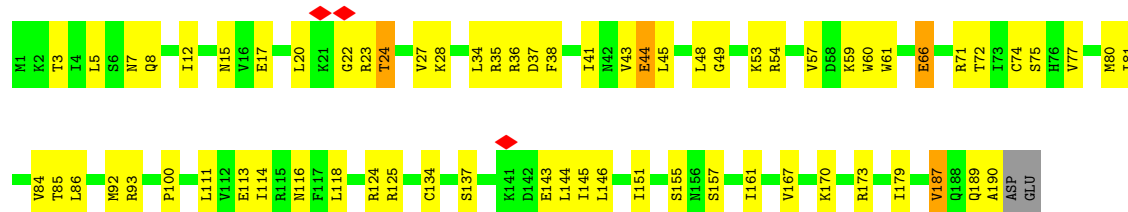




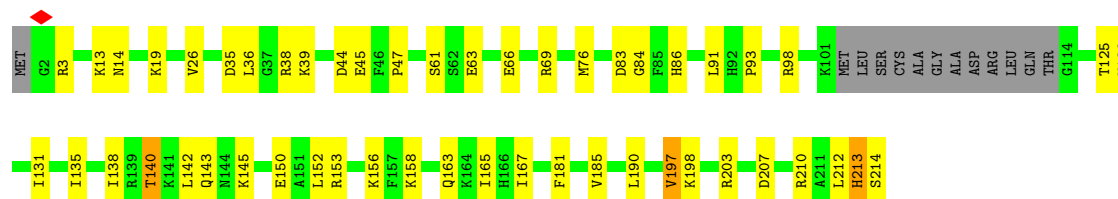
• Molecule 7: 60S ribosomal protein L7a



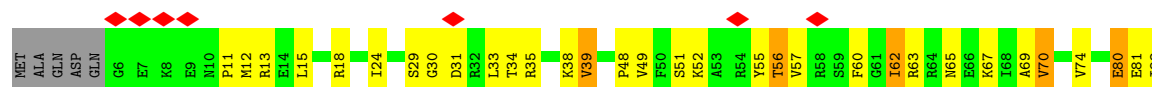
• Molecule 8: 60S ribosomal protein L9

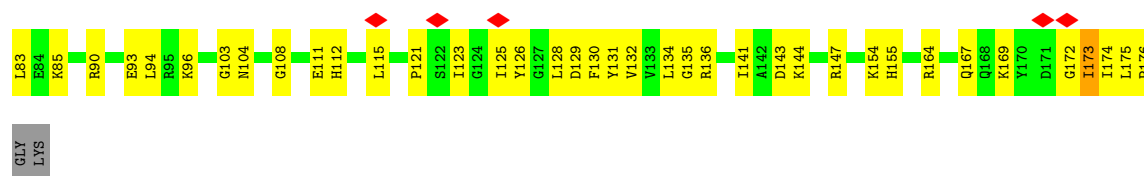


• Molecule 9: 60S ribosomal protein L10-like

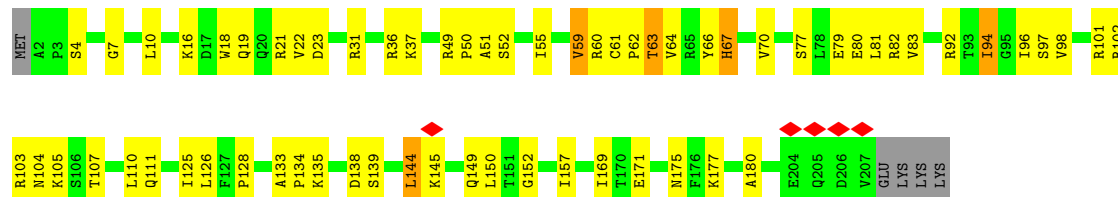


• Molecule 10: 60S ribosomal protein L11

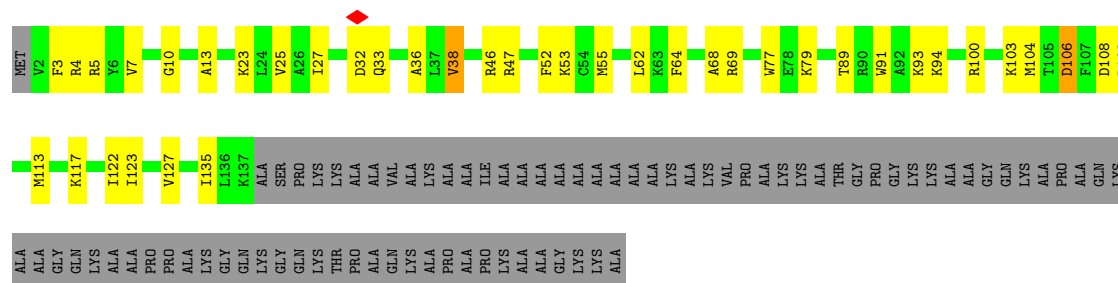




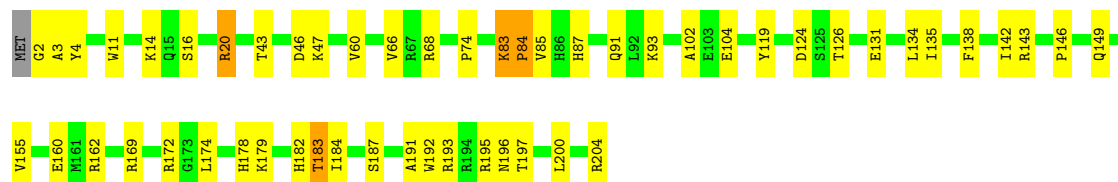
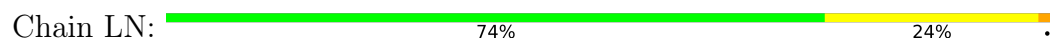
- Molecule 11: 60S ribosomal protein L13



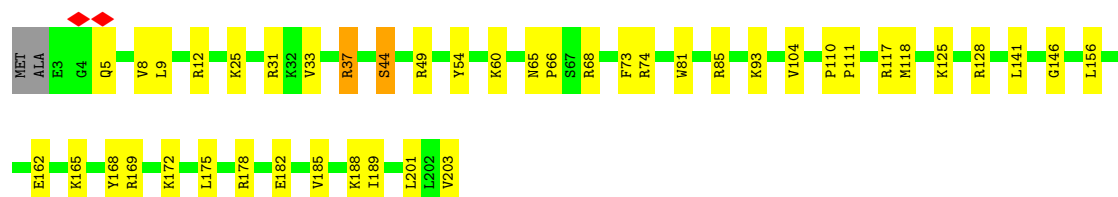
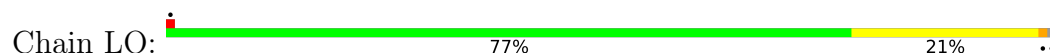
- Molecule 12: 60S ribosomal protein L14



- Molecule 13: 60S ribosomal protein L15

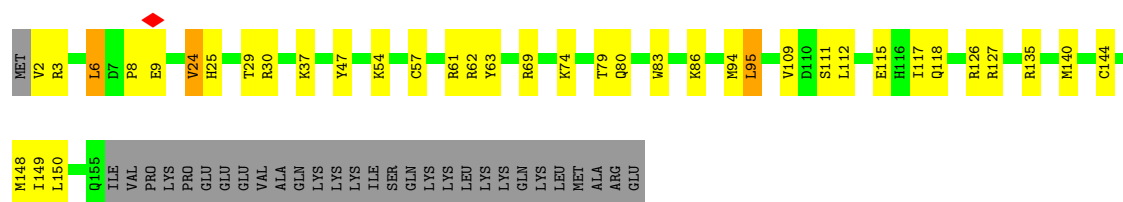


- Molecule 14: 60S ribosomal protein L13a



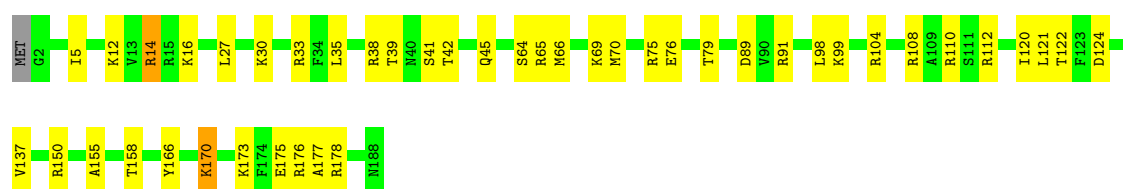
- Molecule 15: 60S ribosomal protein L17

Chain LP: 63% 19% 16%

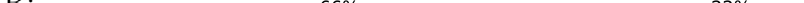


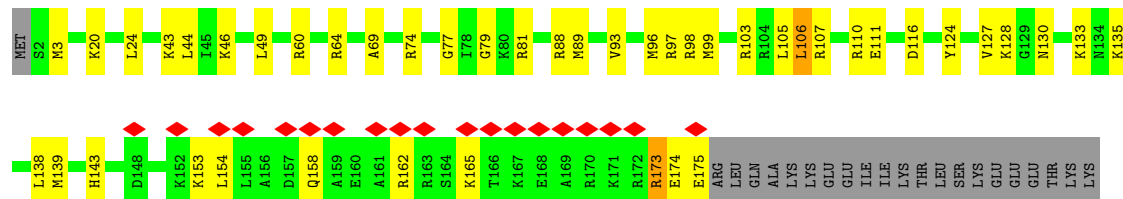
- Molecule 16: 60S ribosomal protein L18

Chain LQ:  76% 22%

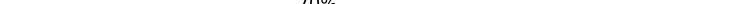


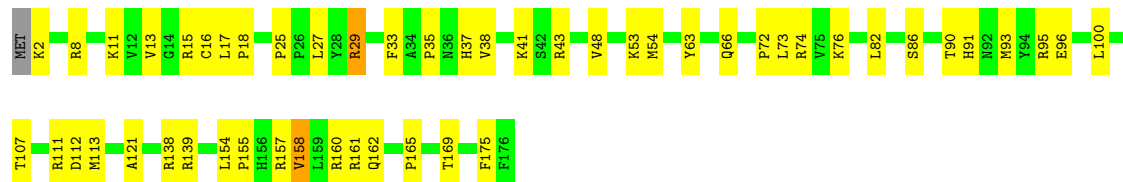
- Molecule 17: 60S ribosomal protein L19

Chain LR: 



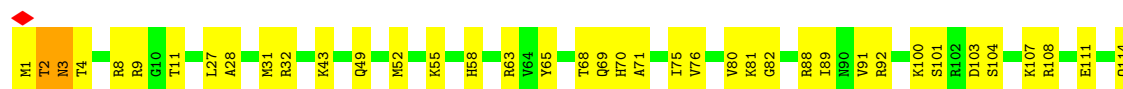
- Molecule 18: 60S ribosomal protein L18a

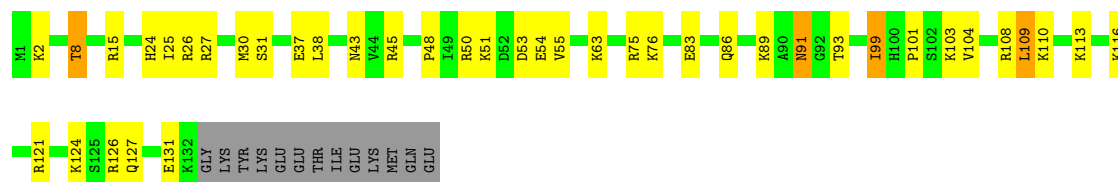
Chain LS: 



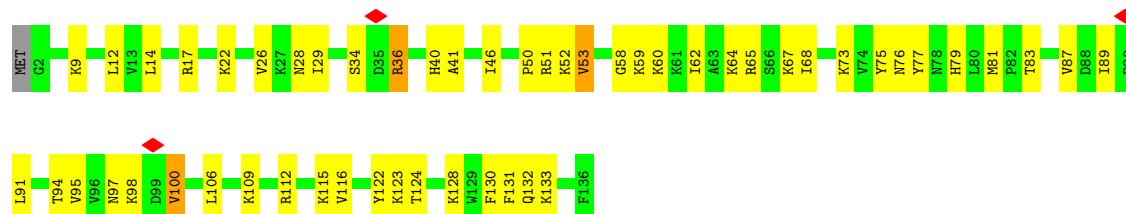
- Molecule 19: 60S ribosomal protein L21

Chain LT: 71% 28%

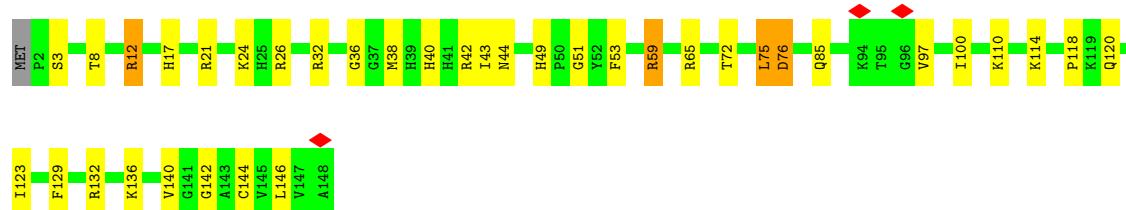
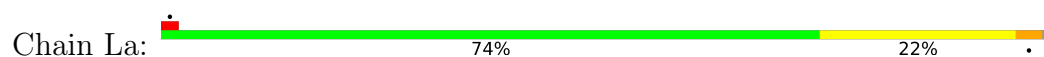




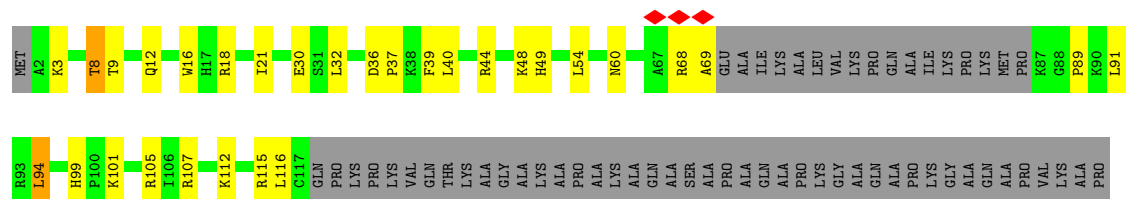
- Molecule 25: 60S ribosomal protein L27



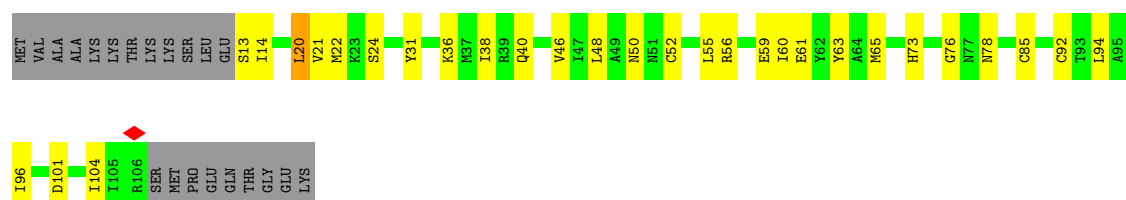
- Molecule 26: 60S ribosomal protein L27a



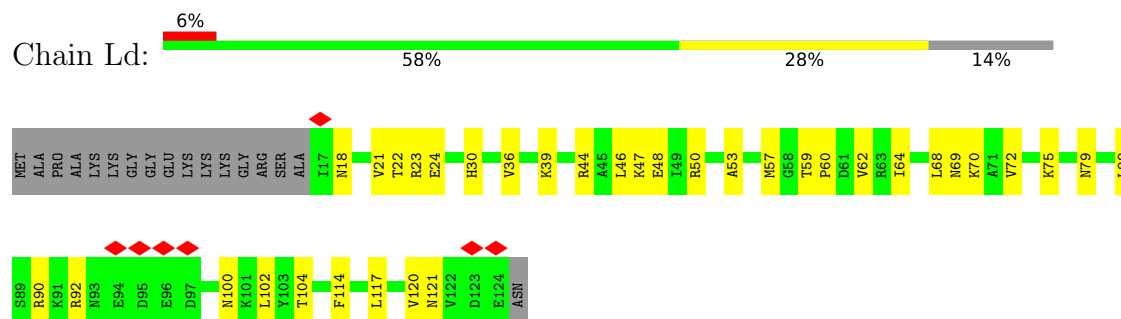
- Molecule 27: 60S ribosomal protein L29



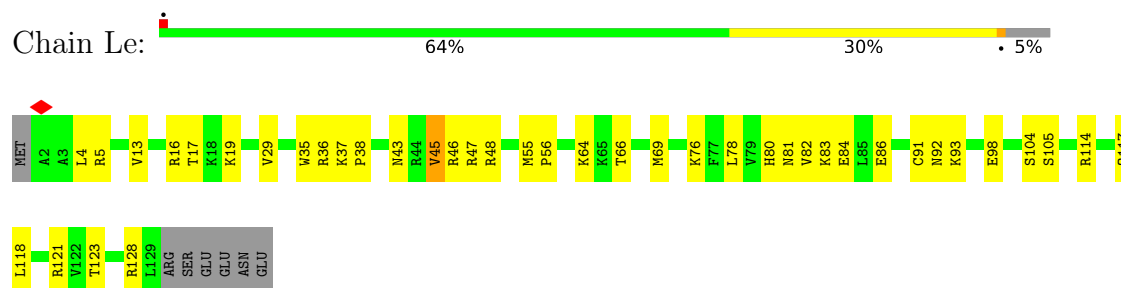
- Molecule 28: 60S ribosomal protein L30



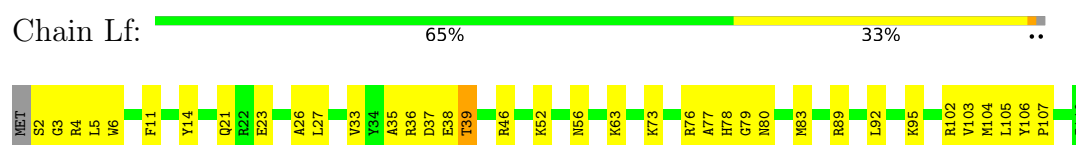
- Molecule 29: 60S ribosomal protein L31



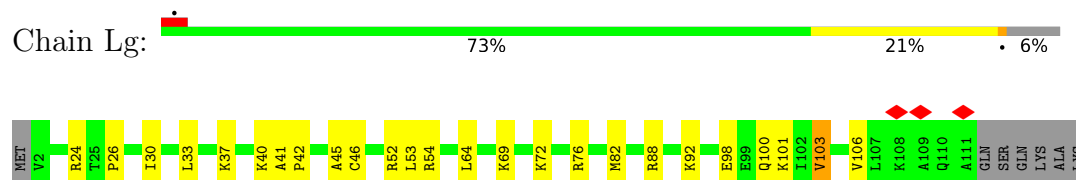
- Molecule 30: 60S ribosomal protein L32



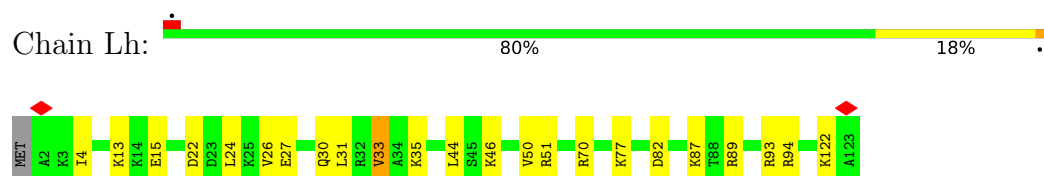
- Molecule 31: 60S ribosomal protein L35a



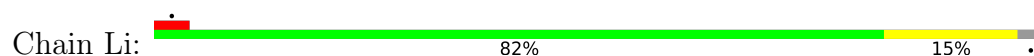
- Molecule 32: 60S ribosomal protein L34



- Molecule 33: 60S ribosomal protein L35



- Molecule 34: 60S ribosomal protein L36

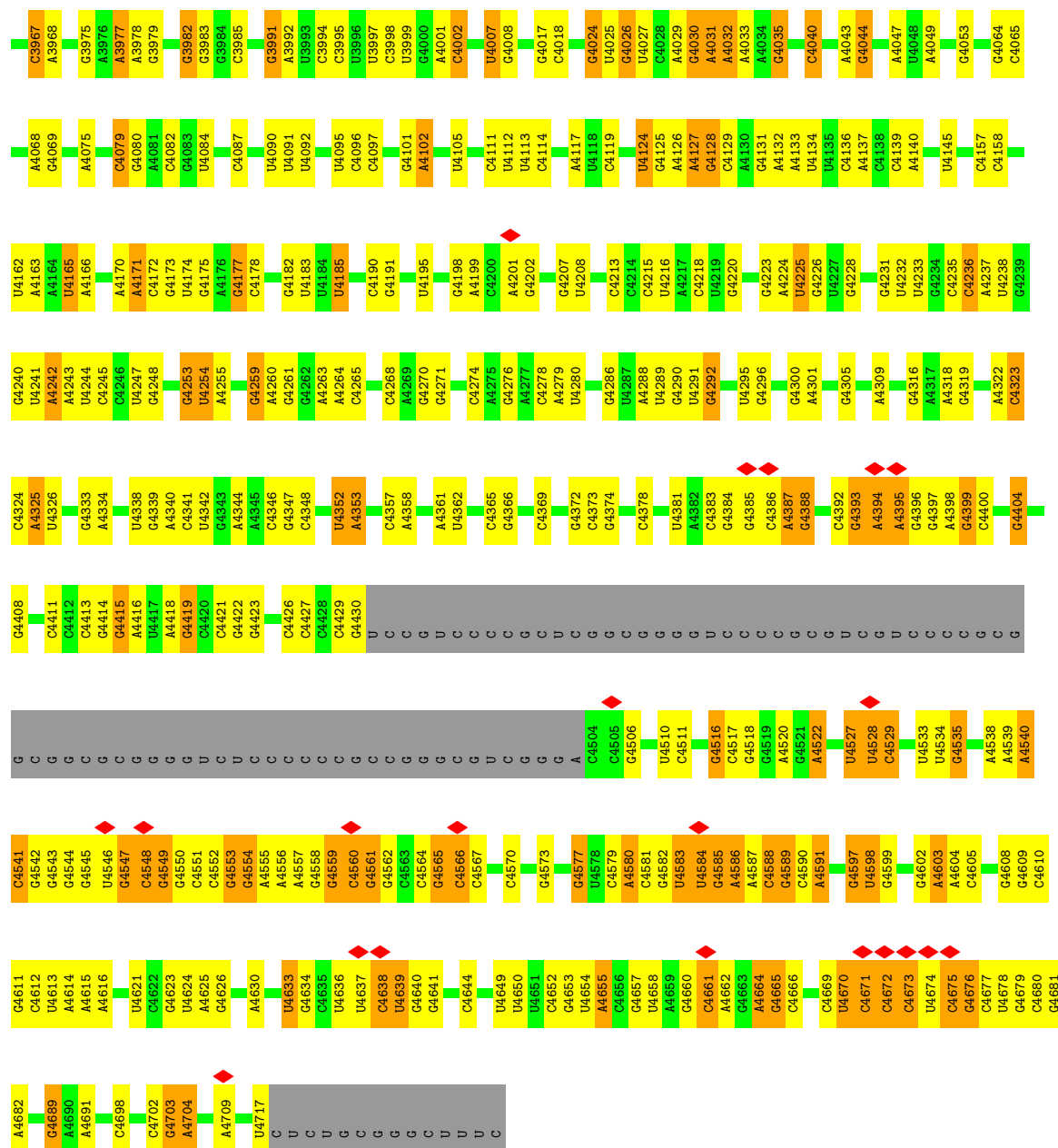




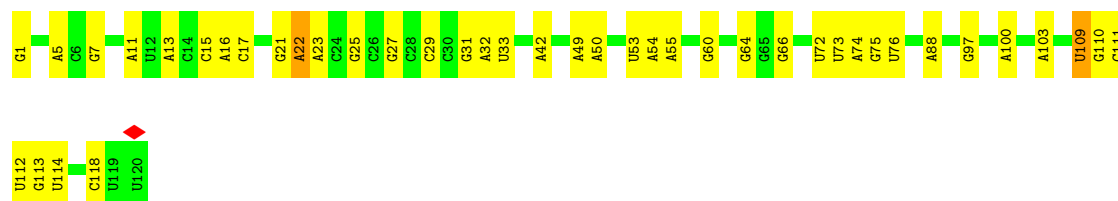








• Molecule 44: Mus musculus 5S ribosomal RNA



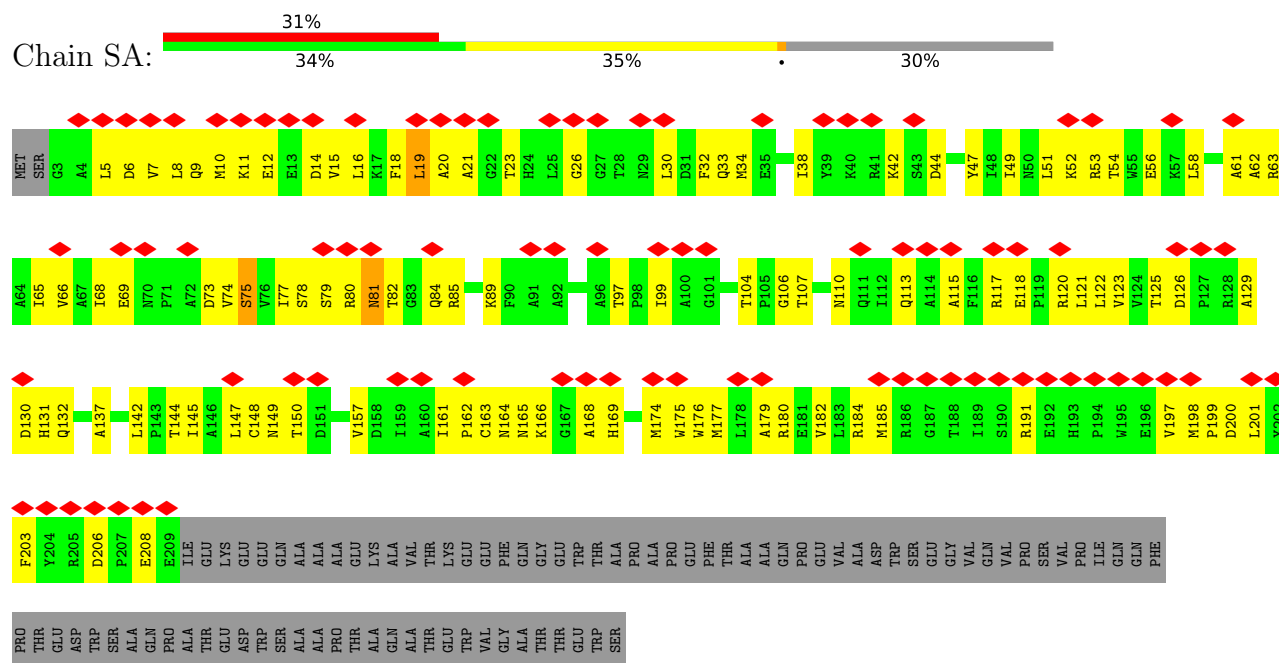
• Molecule 45: Mus musculus 5.8S ribosomal RNA



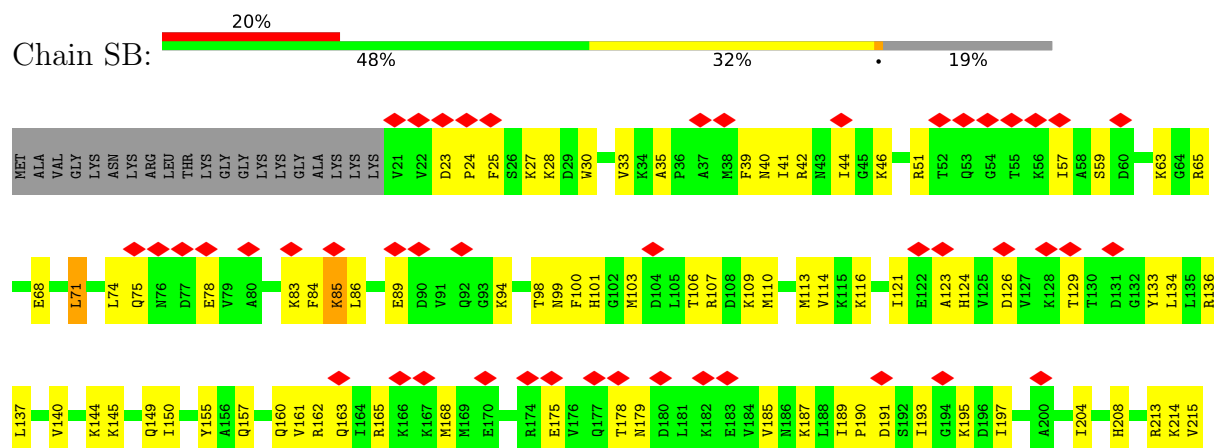


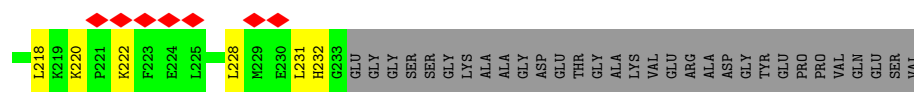


- Molecule 47: 40S ribosomal protein SA

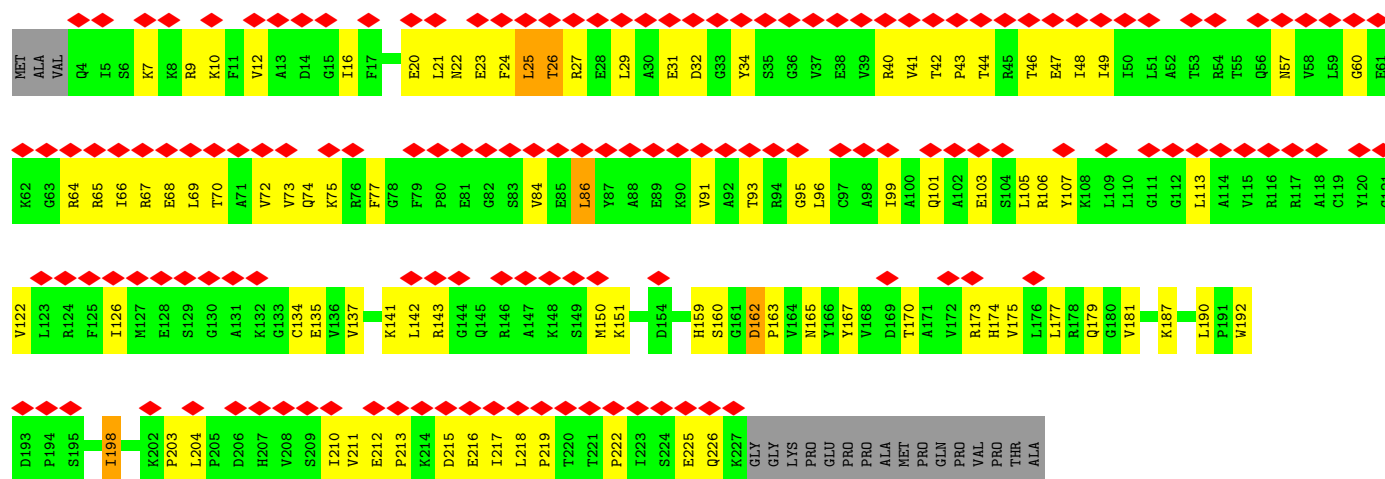


- Molecule 48: 40S ribosomal protein S3a

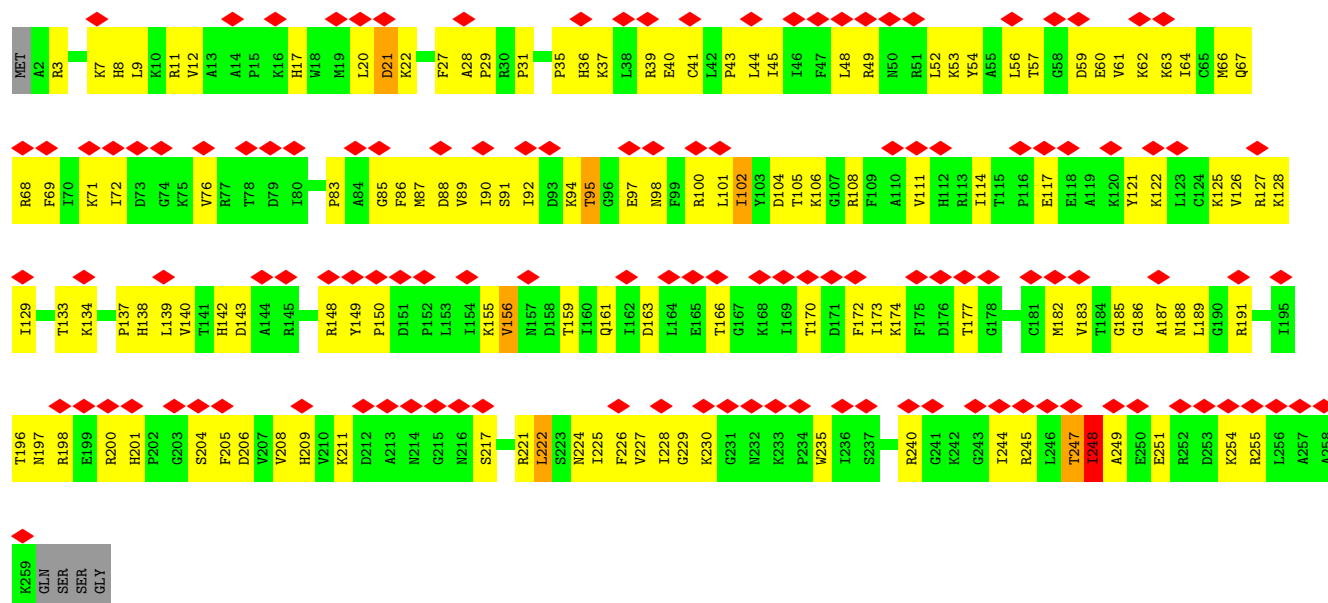




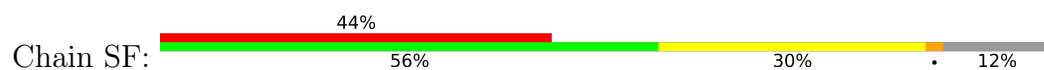
• Molecule 49: 40S ribosomal protein S3

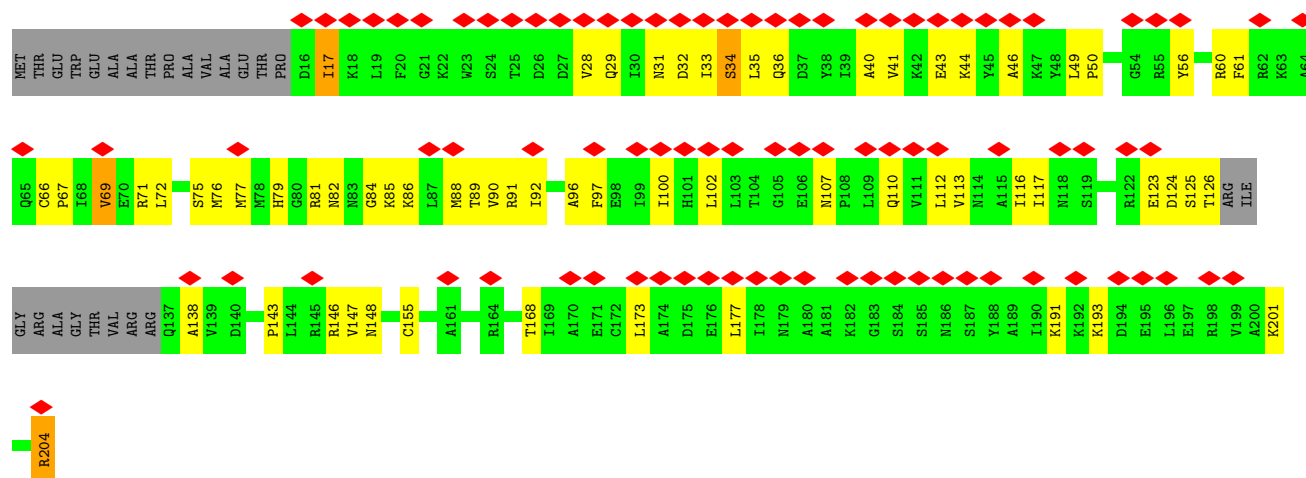


• Molecule 50: 40S ribosomal protein S4, X isoform

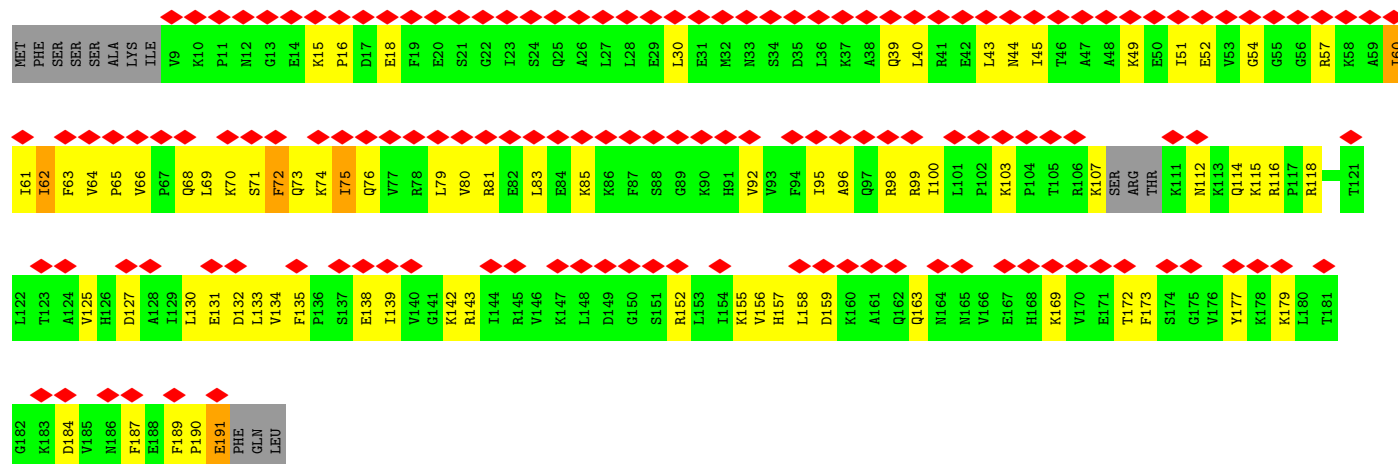
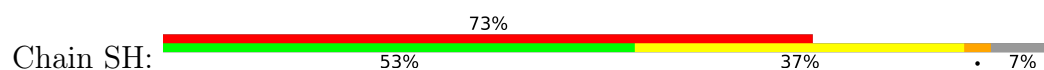


• Molecule 51: 40S ribosomal protein S5

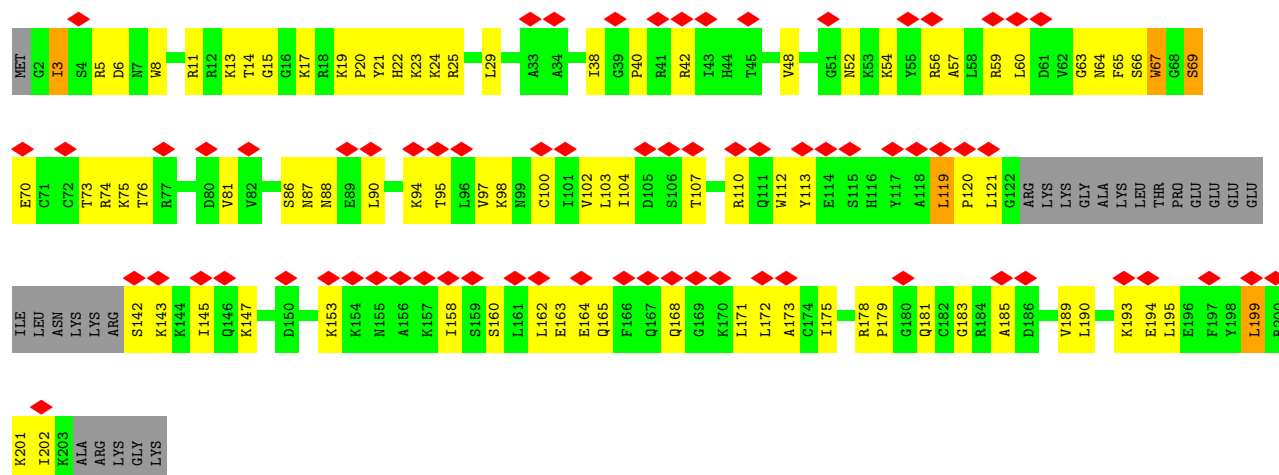




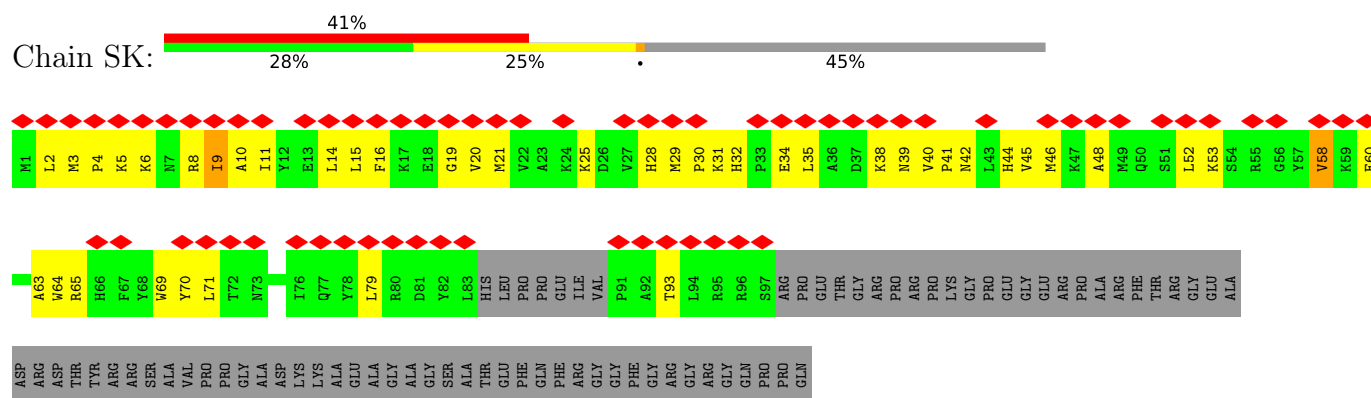
• Molecule 52: 40S ribosomal protein S7



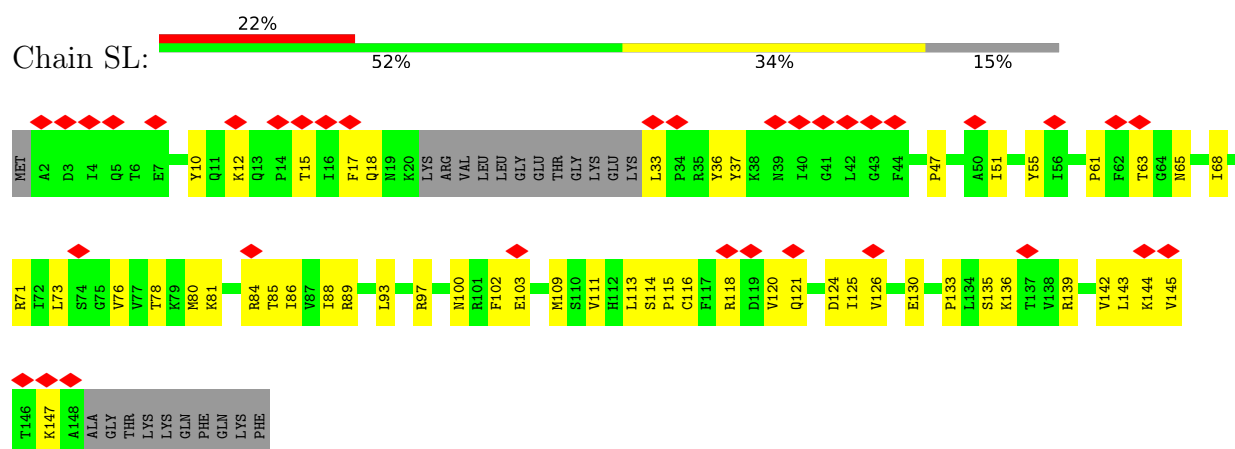
• Molecule 53: 40S ribosomal protein S8



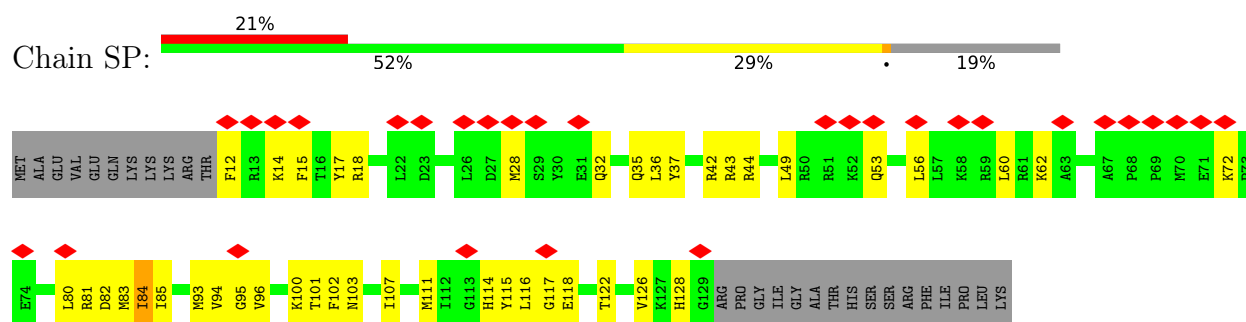
- Molecule 54: 40S ribosomal protein S10



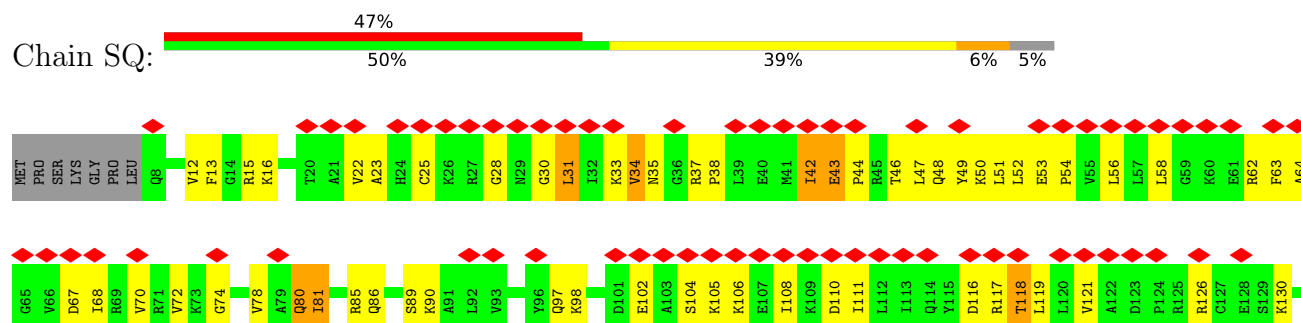
- Molecule 55: 40S ribosomal protein S11

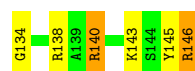


- Molecule 56: 40S ribosomal protein S15

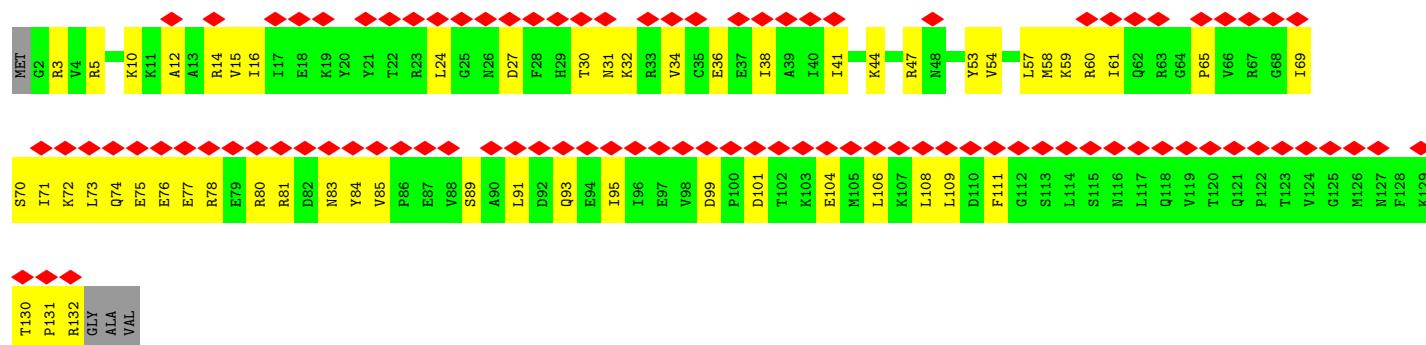


- Molecule 57: 40S ribosomal protein S16

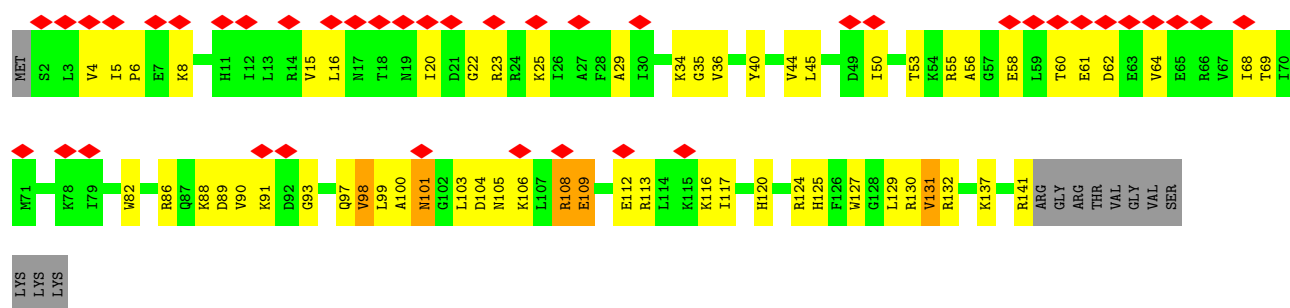




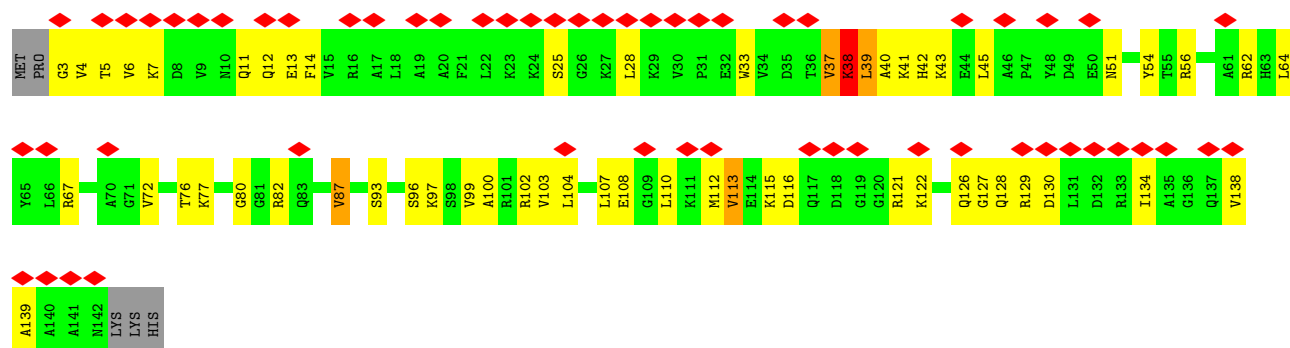
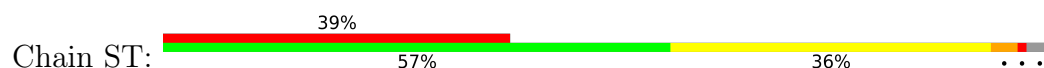
- Molecule 58: 40S ribosomal protein S17



- Molecule 59: 40S ribosomal protein S18

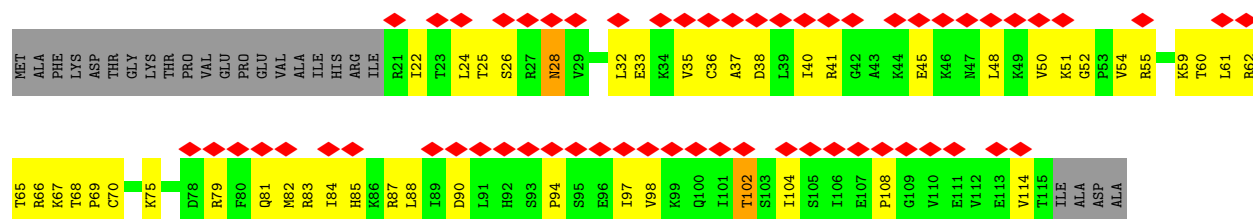


- Molecule 60: 40S ribosomal protein S19

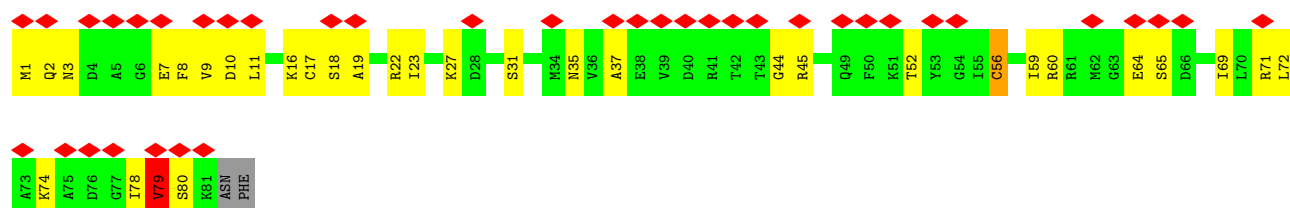


- Molecule 61: 40S ribosomal protein S20

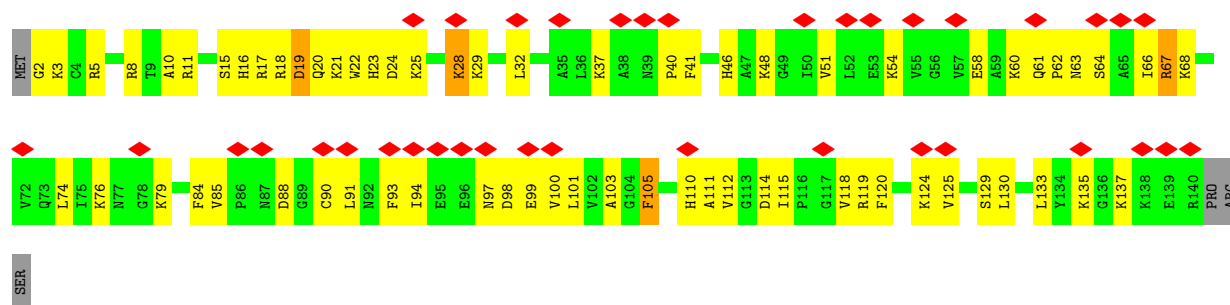




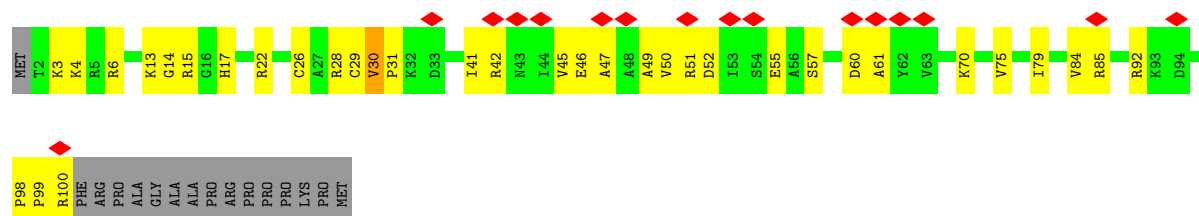
• Molecule 62: 40S ribosomal protein S21



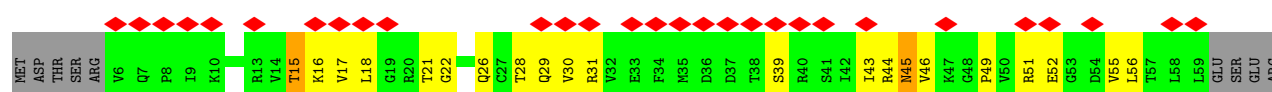
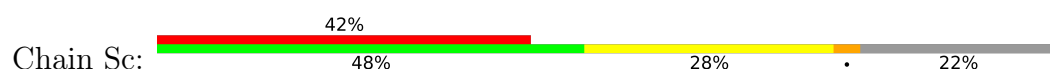
• Molecule 63: 40S ribosomal protein S23



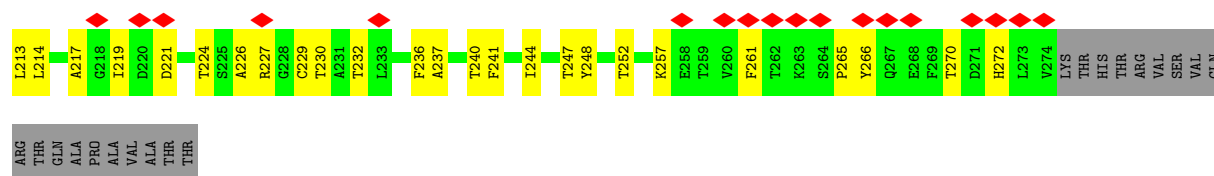
• Molecule 64: 40S ribosomal protein S26



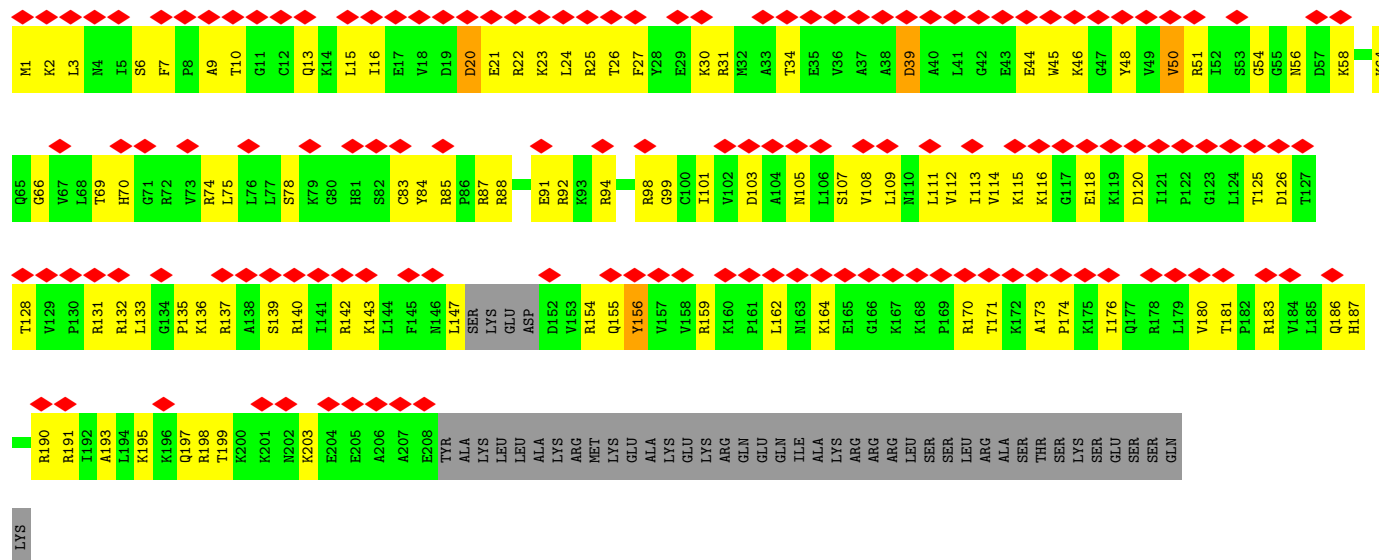
• Molecule 65: 40S ribosomal protein S28



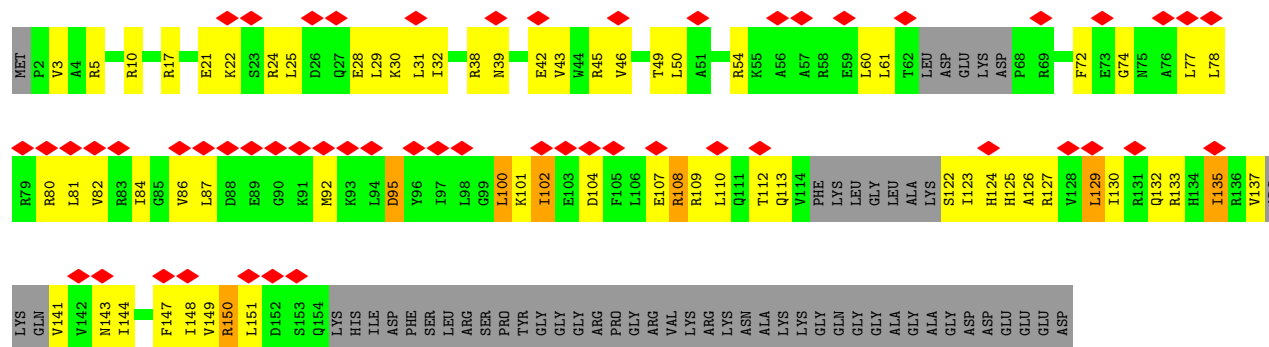
Category	Sample Count (approx.)
N134	180
V137	160
G138	140
L139	120
C143	100
S144	80
K145	60
E146	40
A150	20
L157	180
A158	160
K159	140
L160	120
P163	100
V165	80
R166	60
L167	40
G168	20
Y169	180
W170	160
G171	140
N172	120
K173	100
I174	80
G175	60
K176	40
T179	20
P181	180
C182	160
L185	140
G186	120
R187	100
C188	80
G189	60
S190	40
V191	20
L192	180
P193	160
R194	140
P199	120
R200	100
G201	80
T202	60
G203	40
T204	20
V205	180
S206	160
P210	140



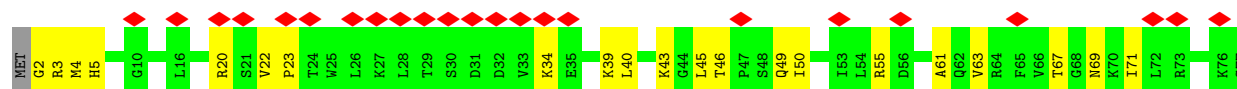
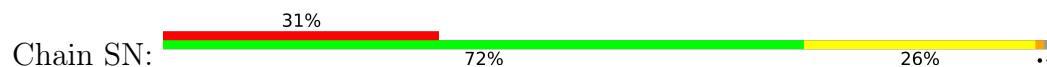
• Molecule 69: 40S ribosomal protein S6

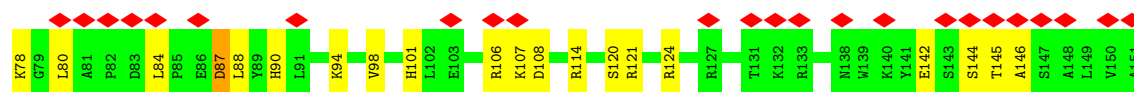


• Molecule 70: 40S ribosomal protein S9

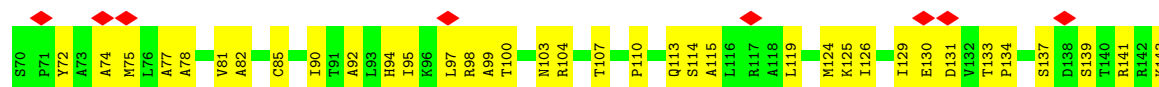
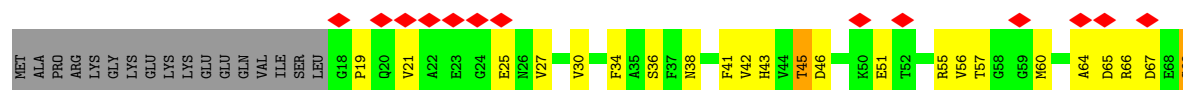


• Molecule 71: 40S ribosomal protein S13

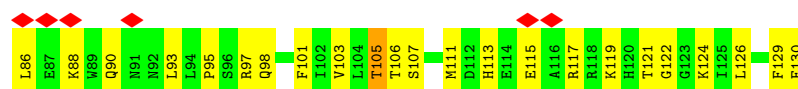




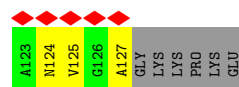
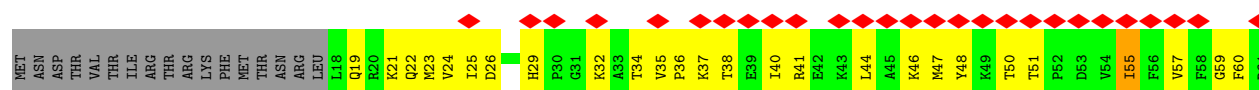
- Molecule 72: 40S ribosomal protein S14



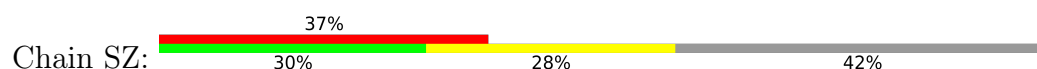
- Molecule 73: 40S ribosomal protein S15a

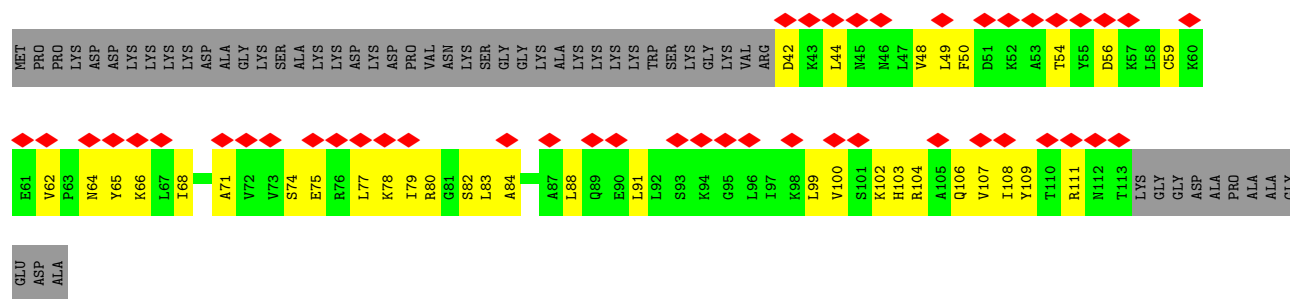


- Molecule 74: 40S ribosomal protein S24

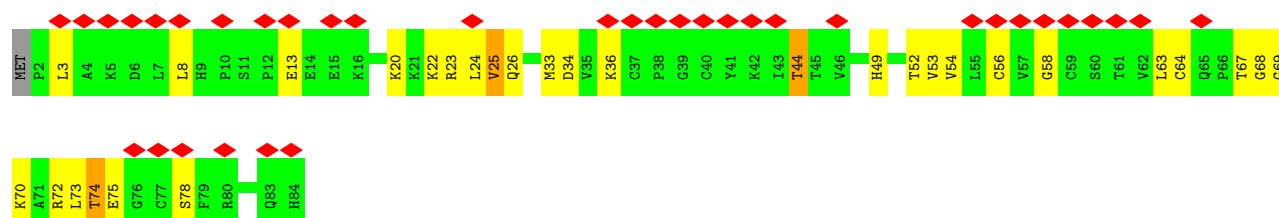


- Molecule 75: 40S ribosomal protein S25

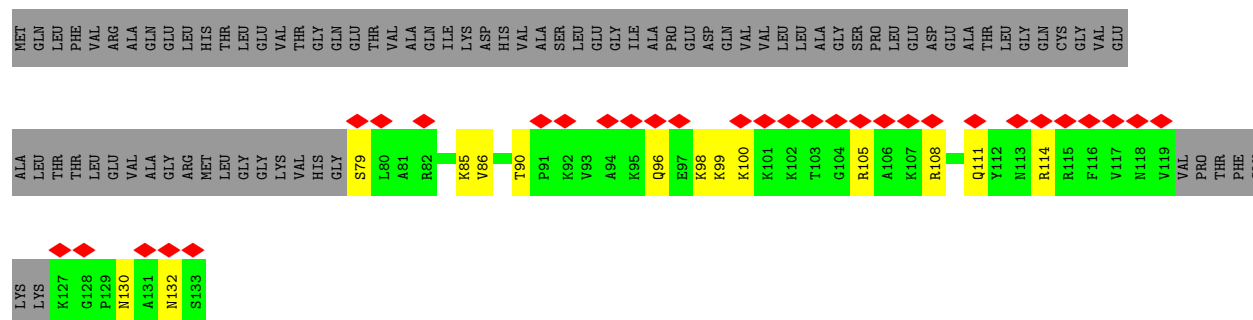




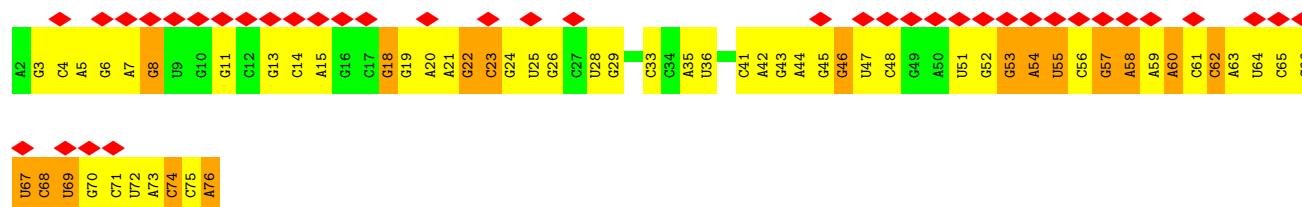
- Molecule 76: 40S ribosomal protein S27



- Molecule 77: 40S ribosomal protein S30



- Molecule 78: Met-tRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	100403	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)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.220	Depositor
Minimum map value	-0.102	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.026	Depositor
Map size ($\text{\AA}$)	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 ($\text{\AA}$)	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: ZN, MG

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	0.57	0/1936	0.56	0/2596
2	LB	0.54	0/3269	0.54	0/4375
3	LC	0.57	0/2945	0.57	0/3953
4	LD	0.46	0/2431	0.48	0/3256
5	LE	0.46	0/1910	0.52	0/2562
6	LF	0.59	0/1805	0.54	0/2408
7	LG	0.46	0/1880	0.53	0/2531
8	LH	0.47	0/1537	0.55	0/2065
9	LI	0.49	0/1669	0.47	0/2227
10	LJ	0.38	0/1394	0.54	0/1864
11	LL	0.52	0/1698	0.54	0/2274
12	LM	0.52	0/1146	0.54	1/1531 (0.1%)
13	LN	0.63	0/1746	0.55	0/2338
14	LO	0.56	0/1670	0.50	0/2232
15	LP	0.57	0/1277	0.50	0/1712
16	LQ	0.60	0/1539	0.57	0/2053
17	LR	0.49	0/1473	0.51	0/1947
18	LS	0.58	0/1491	0.54	0/2000
19	LT	0.53	0/1335	0.46	0/1781
20	LU	0.39	0/831	0.50	0/1115
21	LV	0.53	0/987	0.51	0/1324
22	LW	0.51	0/532	0.51	0/708
23	LX	0.49	0/984	0.44	0/1323
24	LY	0.52	0/1119	0.52	0/1488
25	LZ	0.47	0/1130	0.51	0/1507
26	La	0.59	0/1193	0.50	0/1593
27	Lb	0.47	0/821	0.52	0/1082
28	Lc	0.47	0/742	0.50	0/996
29	Ld	0.52	0/911	0.50	0/1227
30	Le	0.62	0/1071	0.53	0/1429
31	Lf	0.59	0/895	0.57	0/1198
32	Lg	0.53	0/883	0.54	0/1178

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Lh	0.48	0/1023	0.50	0/1350
34	Li	0.44	0/843	0.49	0/1115
35	Lj	0.58	0/720	0.58	0/952
36	Lk	0.41	0/574	0.44	0/760
37	Ll	0.55	0/448	0.60	0/592
38	Lm	0.58	0/425	0.57	0/564
39	Ln	0.36	0/240	0.56	0/305
40	Lo	0.49	0/855	0.52	0/1128
41	Lp	0.51	0/718	0.47	0/953
42	Lr	0.56	0/1009	0.53	0/1353
43	L5	0.58	0/84917	0.43	1/132450 (0.0%)
44	L7	0.56	0/2858	0.39	0/4455
45	L8	0.59	0/3701	0.41	0/5766
46	S2	0.31	0/39073	0.40	0/60890
47	SA	0.28	0/1673	0.51	0/2275
48	SB	0.28	0/1756	0.48	0/2350
49	SD	0.28	0/1772	0.53	0/2385
50	SE	0.27	0/2092	0.54	0/2816
51	SF	0.27	0/1436	0.50	0/1930
52	SH	0.26	0/1470	0.55	0/1968
53	SI	0.29	0/1526	0.52	0/2038
54	SK	0.27	0/780	0.50	0/1046
55	SL	0.31	0/1130	0.48	0/1514
56	SP	0.28	0/1000	0.45	0/1335
57	SQ	0.29	0/1126	0.60	1/1506 (0.1%)
58	SR	0.25	0/1078	0.51	0/1447
59	SS	0.29	0/1175	0.52	0/1575
60	ST	0.29	0/1108	0.47	0/1486
61	SU	0.24	0/762	0.52	0/1023
62	SV	0.43	0/625	0.56	0/836
63	SX	0.30	0/1097	0.55	0/1464
64	Sa	0.36	0/805	0.54	0/1079
65	Sc	0.26	0/418	0.65	0/562
66	Sd	0.30	0/466	0.50	0/618
67	Sg	0.25	0/2199	0.56	0/2989
68	SC	0.33	0/1712	0.51	0/2314
69	SG	0.24	0/1666	0.50	0/2222
70	SJ	0.25	0/1178	0.54	0/1574
71	SN	0.31	0/1232	0.47	0/1656
72	SO	0.32	0/1015	0.56	0/1361
73	SW	0.34	0/1051	0.53	0/1406
74	SY	0.23	0/907	0.53	0/1204
75	SZ	0.26	0/580	0.53	0/780

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Sb	0.26	0/665	0.50	0/891
77	Se	0.24	0/386	0.54	0/504
78	S6	0.27	0/1795	0.47	0/2798
All	All	0.48	0/221335	0.46	3/325458 (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
2	LB	0	2
3	LC	0	2
10	LJ	0	1
12	LM	0	1
31	Lf	0	1
50	SE	0	1
52	SH	0	1
60	ST	0	1
70	SJ	0	1
All	All	0	11

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	LM	135	ILE	N-CA-C	-5.84	106.80	112.29
57	SQ	80	GLN	N-CA-C	-5.57	107.13	114.04
43	L5	416	G	O4'-C1'-N9	5.19	115.99	108.20

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	LB	16	PHE	Peptide
2	LB	258	HIS	Peptide
3	LC	354	LEU	Peptide
3	LC	66	SER	Peptide
10	LJ	173	ILE	Peptide
12	LM	32	ASP	Peptide
31	Lf	103	VAL	Peptide

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Mol	Chain	Res	Type	Group
50	SE	247	THR	Peptide
52	SH	15	LYS	Peptide
70	SJ	108	ARG	Peptide
60	ST	38	LYS	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	LA	1898	0	1993	44	0
2	LB	3202	0	3347	98	0
3	LC	2891	0	3071	69	0
4	LD	2385	0	2409	48	0
5	LE	1874	0	2007	68	0
6	LF	1771	0	1886	44	0
7	LG	1848	0	1981	62	0
8	LH	1519	0	1603	44	0
9	LI	1631	0	1682	30	0
10	LJ	1371	0	1405	45	0
11	LL	1667	0	1771	43	0
12	LM	1125	0	1202	30	0
13	LN	1701	0	1749	37	0
14	LO	1640	0	1792	33	0
15	LP	1251	0	1282	29	0
16	LQ	1515	0	1639	34	0
17	LR	1457	0	1601	37	0
18	LS	1451	0	1488	43	0
19	LT	1307	0	1380	37	0
20	LU	817	0	839	22	0
21	LV	973	0	1034	19	0
22	LW	519	0	533	10	0
23	LX	967	0	1040	17	0
24	LY	1102	0	1189	29	0
25	LZ	1107	0	1182	39	0
26	La	1164	0	1213	35	0
27	Lb	807	0	875	28	0
28	Lc	732	0	769	20	0
29	Ld	896	0	941	25	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	Le	1053	0	1147	28	0
31	Lf	876	0	912	25	0
32	Lg	873	0	961	21	0
33	Lh	1015	0	1156	17	0
34	Li	832	0	917	10	0
35	Lj	705	0	739	10	0
36	Lk	568	0	635	15	0
37	Ll	438	0	474	20	0
38	Lm	419	0	452	12	0
39	Ln	239	0	289	6	0
40	Lo	842	0	914	30	0
41	Lp	708	0	756	11	0
42	Lr	994	0	1057	21	0
43	L5	75913	0	38337	1211	0
44	L7	2558	0	1296	29	0
45	L8	3314	0	1683	51	0
46	S2	34941	0	17646	898	0
47	SA	1636	0	1641	96	0
48	SB	1729	0	1803	69	0
49	SD	1744	0	1837	88	0
50	SE	2050	0	2156	101	0
51	SF	1416	0	1458	48	0
52	SH	1449	0	1539	63	0
53	SI	1499	0	1561	75	0
54	SK	760	0	783	46	0
55	SL	1110	0	1165	44	0
56	SP	981	0	1026	37	0
57	SQ	1109	0	1174	53	0
58	SR	1064	0	1118	50	0
59	SS	1157	0	1213	43	0
60	ST	1090	0	1116	48	0
61	SU	753	0	815	33	0
62	SV	619	0	620	36	0
63	SX	1080	0	1147	62	0
64	Sa	792	0	841	27	0
65	Sc	416	0	445	15	0
66	Sd	455	0	446	22	0
67	Sg	2148	0	2108	115	0
68	SC	1673	0	1766	75	0
69	SG	1645	0	1780	103	0
70	SJ	1162	0	1252	64	0
71	SN	1208	0	1294	35	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
72	SO	1002	0	1023	46	0
73	SW	1034	0	1080	54	0
74	SY	891	0	948	55	0
75	SZ	574	0	627	30	0
76	Sb	651	0	672	26	0
77	Se	384	0	422	13	0
78	S6	1604	0	816	42	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	59	0	0	0	0
79	SF	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	7	0	0	0	0
81	LB	1	0	0	0	0
81	LH	1	0	0	0	0
81	LI	2	0	0	1	0
81	LN	1	0	0	0	0
81	La	1	0	0	0	0
81	S2	2	0	0	1	0
All	All	206030	0	151966	4449	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 13.

All (4449) 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)
37:L1:36:MET:HE3	37:L1:37:TYR:CD1	1.63	1.32

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1744:G:N2	46:S2:1792:A:H62	1.34	1.23
46:S2:1744:G:H21	46:S2:1792:A:N6	1.45	1.11
43:L5:741:A:H62	43:L5:829:G:N2	1.54	1.03
43:L5:950:G:C2	43:L5:1037:G:C2	2.52	0.98
43:L5:1562:G:H22	43:L5:1576:U:H3	1.08	0.97
37:L1:36:MET:HE3	37:L1:37:TYR:HD1	0.99	0.97
43:L5:3783:U:H3	43:L5:3805:G:H1	1.07	0.97
43:L5:4553:G:H1	43:L5:4560:C:H42	1.03	0.96
43:L5:950:G:H1	43:L5:1035:U:H3	1.03	0.95
43:L5:741:A:N6	43:L5:829:G:H21	1.65	0.93
43:L5:4124:U:C2	43:L5:4125:G:N7	2.37	0.93
46:S2:116:U:H3	46:S2:348:G:H1	1.05	0.93
78:S6:13:G:H1	78:S6:23:C:H42	1.08	0.92
43:L5:2221:C:HO2'	43:L5:2222:C:H6	0.97	0.90
43:L5:2316:G:H1	43:L5:2322:A:H61	1.13	0.90
43:L5:1338:A:H62	43:L5:1465:G:H1	1.14	0.90
43:L5:3473:A:OP1	43:L5:3475:U:C5	2.24	0.90
46:S2:819:A:N7	46:S2:848:A:N6	2.19	0.90
67:Sg:220:ASP:HB2	67:Sg:224:GLY:H	1.35	0.90
37:L1:36:MET:HE3	37:L1:37:TYR:CE1	2.07	0.89
46:S2:1417:C:HO2'	60:ST:3:GLY:N	1.70	0.89
46:S2:889:U:H4'	46:S2:890:U:H5'	1.55	0.89
46:S2:639:C:H5'	77:Se:114:ARG:HH12	1.39	0.88
50:SE:57:THR:HG22	50:SE:59:ASP:H	1.37	0.88
43:L5:189:G:H1	43:L5:252:G:H22	1.16	0.88
6:LF:127:VAL:HG13	6:LF:158:VAL:HG12	1.55	0.88
57:SQ:23:ALA:HB1	57:SQ:68:ILE:HD11	1.54	0.88
18:LS:16:CYS:O	18:LS:25:PRO:HG3	1.75	0.87
43:L5:1257:A:N6	43:L5:1906:G:C2	2.41	0.87
43:L5:1257:A:C6	43:L5:1906:G:C2	2.62	0.87
43:L5:3473:A:OP1	43:L5:3475:U:H5	1.58	0.87
43:L5:4125:G:C6	43:L5:4137:A:N1	2.43	0.86
46:S2:1749:G:H1	46:S2:1787:U:H3	0.86	0.86
16:LQ:35:LEU:O	16:LQ:39:THR:HB	1.76	0.86
70:SJ:109:ARG:HA	70:SJ:148:ILE:HA	1.55	0.86
46:S2:503:C:H5'	50:SE:66:MET:HE3	1.56	0.85
69:SG:120:ASP:HB3	69:SG:125:THR:HG21	1.57	0.85
43:L5:1557:U:O2	43:L5:1579:A:N6	2.08	0.85
37:L1:36:MET:CE	37:L1:37:TYR:HD1	1.86	0.85
19:LT:43:LYS:O	19:LT:58:HIS:ND1	2.08	0.85
67:Sg:17:TRP:HB2	67:Sg:36:ARG:HD3	1.57	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:167:GLN:HB2	10:LJ:172:GLY:HA2	1.58	0.85
43:L5:4394:A:H4'	43:L5:4395:A:H4'	1.59	0.84
46:S2:929:G:H1	46:S2:1014:U:H3	1.24	0.84
75:SZ:66:LYS:HA	75:SZ:111:ARG:HG2	1.60	0.84
49:SD:40:ARG:HA	61:SU:108:PRO:HB3	1.58	0.84
43:L5:741:A:H62	43:L5:829:G:H21	0.86	0.84
46:S2:564:G:OP2	46:S2:587:G:N2	2.10	0.84
43:L5:2316:G:H1	43:L5:2322:A:N6	1.75	0.84
43:L5:2355:A:N6	43:L5:2498:A:OP2	2.10	0.84
53:SI:11:ARG:NH1	53:SI:15:GLY:O	2.11	0.84
43:L5:3480:G:OP2	43:L5:3480:G:N2	2.09	0.83
46:S2:67:C:H5''	69:SG:162:LEU:HD11	1.60	0.83
43:L5:508:G:H1	43:L5:661:U:H3	1.26	0.83
38:Lm:124:LYS:NZ	43:L5:4126:A:OP1	2.12	0.83
42:Lr:66:ARG:NH1	42:Lr:75:THR:O	2.11	0.82
71:SN:101:HIS:NE2	71:SN:108:ASP:OD2	2.11	0.82
43:L5:1800:U:O2'	43:L5:1803:G:N2	2.12	0.82
46:S2:1302:A:HO2'	66:Sd:3:HIS:N	1.78	0.82
49:SD:70:THR:HG22	49:SD:86:LEU:HG	1.61	0.82
69:SG:50:VAL:HG21	69:SG:111:LEU:HD23	1.62	0.82
47:SA:198:MET:HE1	58:SR:89:SER:HB2	1.61	0.82
50:SE:44:LEU:HD11	50:SE:72:ILE:HD11	1.61	0.82
54:SK:53:LYS:HD3	54:SK:60:GLU:HG3	1.60	0.82
46:S2:678:G:H21	46:S2:1029:A:H62	1.28	0.82
16:LQ:38:ARG:NH1	43:L5:1891:A:OP1	2.13	0.82
15:LP:127:ARG:NH2	43:L5:2179:C:OP1	2.13	0.81
37:Ll:21:ARG:NH2	45:L8:51:U:OP2	2.13	0.81
47:SA:52:LYS:HE2	62:SV:80:SER:OG	1.79	0.81
18:LS:16:CYS:SG	18:LS:54:MET:HG3	2.20	0.81
43:L5:1511:G:N2	43:L5:1887:C:OP1	2.12	0.81
43:L5:4124:U:H2'	43:L5:4125:G:C8	2.15	0.81
72:SO:74:ALA:HB1	72:SO:115:ALA:HB2	1.61	0.81
4:LD:265:ARG:HD2	44:L7:1:G:H4'	1.63	0.81
19:LT:142:ARG:NH1	43:L5:946:G:OP1	2.14	0.81
43:L5:452:G:N2	43:L5:1108:G:O6	2.12	0.81
43:L5:2658:U:H5''	43:L5:2659:C:H6	1.46	0.81
46:S2:943:G:H21	72:SO:137:SER:HB2	1.45	0.81
45:L8:82:A:N6	45:L8:85:U:OP2	2.13	0.81
78:S6:26:G:H22	78:S6:44:A:H2	1.27	0.81
43:L5:2314:G:H1	43:L5:2324:G:H22	1.25	0.81
46:S2:528:C:H42	46:S2:559:G:H22	1.27	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:Sa:22:ARG:NH1	72:SO:145:GLY:O	2.13	0.81
2:LB:174:ARG:NH1	43:L5:4633:U:O2	2.14	0.80
67:Sg:42:MET:SD	67:Sg:57:ARG:NH1	2.54	0.80
13:LN:135:ILE:HG23	13:LN:142:ILE:HD13	1.63	0.80
44:L7:72:U:O2	44:L7:103:A:N6	2.14	0.80
55:SL:10:TYR:OH	55:SL:18:GLN:NE2	2.13	0.80
46:S2:1662:A:OP2	66:Sd:32:ARG:NH1	2.14	0.80
3:LC:165:LYS:NZ	43:L5:223:G:N7	2.30	0.80
6:LF:173:ASN:HD21	43:L5:841:A:H62	1.30	0.80
43:L5:1773:A:O2'	43:L5:1820:A:N6	2.14	0.80
43:L5:3742:G:N7	43:L5:3765:C:N4	2.30	0.80
46:S2:128:U:OP1	46:S2:184:G:N2	2.14	0.80
44:L7:29:C:O2	44:L7:50:A:N6	2.15	0.79
65:Sc:17:VAL:HG23	65:Sc:52:GLU:HG3	1.64	0.79
43:L5:1255:C:O2	43:L5:1907:G:N2	2.15	0.79
43:L5:1355:U:H3	43:L5:1432:G:H1	1.28	0.79
5:LE:231:ARG:NH1	5:LE:246:GLU:OE1	2.15	0.79
46:S2:564:G:O6	46:S2:593:C:N4	2.10	0.79
46:S2:163:U:OP1	69:SG:85:ARG:N	2.14	0.79
7:LG:162:ASP:HB2	43:L5:150:U:H3	1.45	0.79
43:L5:950:G:N2	43:L5:1037:G:N3	2.31	0.79
46:S2:527:A:O2'	70:SJ:125:HIS:ND1	2.14	0.79
59:SS:61:GLU:HA	59:SS:64:VAL:HG12	1.64	0.79
62:SV:19:ALA:O	73:SW:23:ARG:NH2	2.15	0.79
15:LP:135:ARG:NH2	43:L5:1410:U:O2'	2.15	0.79
46:S2:845:U:OP2	50:SE:240:ARG:NH2	2.16	0.79
8:LH:27:VAL:HG11	8:LH:80:MET:HB3	1.65	0.78
57:SQ:42:ILE:HD11	57:SQ:51:LEU:HD21	1.65	0.78
75:SZ:79:ILE:HG23	75:SZ:83:LEU:HD23	1.63	0.78
46:S2:408:G:N7	63:SX:37:LYS:NZ	2.30	0.78
46:S2:1551:G:H3'	46:S2:1580:A:H61	1.47	0.78
18:LS:53:LYS:NZ	44:L7:74:A:N3	2.31	0.78
5:LE:149:ARG:NH2	5:LE:199:GLN:O	2.15	0.78
46:S2:1744:G:H21	46:S2:1792:A:H62	0.80	0.78
46:S2:1292:A:H61	46:S2:1309:U:H3	1.31	0.78
43:L5:2365:A:H5'	43:L5:2442:G:H4'	1.65	0.78
52:SH:54:GLY:HA3	52:SH:57:ARG:HH11	1.48	0.78
43:L5:67:C:OP2	43:L5:311:G:N2	2.16	0.78
7:LG:249:ARG:NH2	43:L5:3726:U:OP1	2.17	0.78
46:S2:1602:A:OP2	46:S2:1637:G:N2	2.16	0.78
43:L5:950:G:N2	43:L5:1037:G:C4	2.51	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Sg:47:ARG:NH1	67:Sg:48:ASP:O	2.16	0.78
43:L5:4124:U:H2'	43:L5:4125:G:H8	1.48	0.77
46:S2:1659:G:OP2	46:S2:1661:C:N4	2.18	0.77
32:Lg:37:LYS:NZ	43:L5:2273:G:OP2	2.18	0.77
48:SB:71:LEU:HD13	48:SB:78:GLU:HG2	1.66	0.77
60:ST:40:ALA:HB3	60:ST:43:LYS:HG2	1.66	0.77
43:L5:1795:U:H5'	43:L5:1796:C:H5''	1.65	0.77
43:L5:3787:U:O2	43:L5:3801:G:N1	2.16	0.77
46:S2:1537:G:H2'	46:S2:1538:A:H8	1.50	0.77
18:LS:93:MET:HG3	43:L5:1755:G:H4'	1.67	0.77
52:SH:45:ILE:HG23	52:SH:64:VAL:HG12	1.65	0.77
53:SI:67:TRP:HB3	53:SI:70:GLU:HG2	1.66	0.77
53:SI:178:ARG:NH1	53:SI:181:GLN:OE1	2.17	0.77
43:L5:2460:G:N2	43:L5:2464:C:OP2	2.17	0.77
60:ST:42:HIS:ND1	60:ST:93:SER:OG	2.17	0.77
46:S2:1456:A:OP1	58:SR:5:ARG:NH1	2.17	0.76
55:SL:121:GLN:NE2	55:SL:124:ASP:OD1	2.18	0.76
59:SS:22:GLY:HA2	59:SS:56:ALA:HB3	1.67	0.76
76:Sb:67:THR:HG22	76:Sb:68:GLY:H	1.49	0.76
46:S2:219:A:N6	46:S2:305:C:O2	2.14	0.76
50:SE:94:LYS:HE2	74:SY:19:GLN:HG2	1.67	0.76
8:LH:23:ARG:NH2	8:LH:41:ILE:O	2.18	0.76
46:S2:989:C:OP1	64:Sa:70:LYS:NZ	2.18	0.76
69:SG:24:LEU:O	69:SG:27:PHE:N	2.17	0.76
43:L5:3748:G:N2	43:L5:3763:C:O2'	2.14	0.76
57:SQ:146:ARG:NH1	78:S6:33:C:OP2	2.19	0.76
74:SY:36:PRO:HB2	74:SY:38:THR:HG22	1.67	0.76
5:LE:104:VAL:HG13	5:LE:111:GLY:HA2	1.67	0.76
49:SD:95:GLY:HA2	49:SD:101:GLN:HE21	1.51	0.76
4:LD:41:LYS:NZ	19:LT:32:ARG:O	2.17	0.76
60:ST:39:LEU:HD23	60:ST:99:VAL:HG11	1.66	0.76
46:S2:678:G:N2	46:S2:1029:A:H62	1.84	0.75
47:SA:14:ASP:HB3	47:SA:177:MET:HE1	1.68	0.75
40:Lo:23:VAL:HG22	40:Lo:70:LEU:HD22	1.68	0.75
43:L5:2328:G:O6	43:L5:2514:G:N2	2.20	0.75
43:L5:3753:C:N4	43:L5:3757:G:O6	2.19	0.75
46:S2:65:C:H42	69:SG:133:LEU:HB3	1.49	0.75
46:S2:524:A:OP1	70:SJ:127:ARG:NH2	2.19	0.75
57:SQ:53:GLU:HG3	57:SQ:85:ARG:HE	1.50	0.75
46:S2:319:A:H61	69:SG:186:GLN:HE22	1.31	0.75
2:LB:57:VAL:HG11	22:LW:1:MET:HG3	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LQ:39:THR:HG22	16:LQ:41:SER:H	1.52	0.75
56:SP:37:TYR:O	56:SP:42:ARG:NH1	2.20	0.75
17:LR:173:ARG:O	17:LR:173:ARG:NE	2.18	0.75
43:L5:1468:G:N2	43:L5:1492:C:OP1	2.20	0.75
28:Lc:13:SER:OG	28:Lc:14:ILE:N	2.17	0.75
43:L5:1566:C:H3'	43:L5:1567:G:H4'	1.68	0.75
38:Lm:93:LYS:HD3	38:Lm:102:ARG:HG2	1.69	0.75
43:L5:3374:A:OP2	43:L5:3392:G:N2	2.20	0.75
52:SH:158:LEU:HD11	52:SH:187:PHE:HD2	1.52	0.75
56:SP:114:HIS:ND1	56:SP:118:GLU:OE2	2.19	0.74
70:SJ:110:LEU:HB3	70:SJ:149:VAL:HB	1.69	0.74
46:S2:565:A:H61	46:S2:587:G:H1'	1.51	0.74
46:S2:165:G:OP2	46:S2:165:G:N2	2.19	0.74
46:S2:227:G:N2	46:S2:297:U:O4	2.19	0.74
69:SG:147:LEU:HD11	69:SG:156:TYR:HD2	1.51	0.74
46:S2:888:U:O2	46:S2:901:C:N4	2.19	0.74
43:L5:4664:A:N6	43:L5:4681:G:O2'	2.21	0.74
78:S6:62:C:H2'	78:S6:63:A:H8	1.51	0.74
10:LJ:51:SER:HB3	10:LJ:69:ALA:HB3	1.70	0.74
26:La:42:ARG:NH2	43:L5:4030:G:O6	2.21	0.74
2:LB:222:VAL:O	2:LB:343:ARG:NH1	2.21	0.73
9:LI:38:ARG:HD3	9:LI:83:ASP:HB2	1.70	0.73
43:L5:1367:A:N6	43:L5:1388:G:H1'	2.03	0.73
69:SG:31:ARG:HG3	69:SG:101:ILE:HG12	1.70	0.73
6:LF:114:VAL:O	6:LF:142:GLY:HA2	1.88	0.73
28:Lc:20:LEU:HD22	28:Lc:101:ASP:HB3	1.70	0.73
5:LE:53:ARG:HH11	5:LE:73:LYS:HG2	1.54	0.73
50:SE:21:ASP:OD1	50:SE:21:ASP:N	2.18	0.73
46:S2:1495:U:H4'	46:S2:1496:G:H5''	1.71	0.73
46:S2:389:U:H2'	46:S2:390:A:C8	2.24	0.73
53:SI:121:LEU:HD21	53:SI:158:ILE:HG13	1.70	0.73
54:SK:65:ARG:NH2	66:Sd:21:CYS:O	2.21	0.73
17:LR:98:ARG:NH2	17:LR:130:ASN:OD1	2.22	0.73
43:L5:3788:C:O2	43:L5:3800:G:N1	2.22	0.73
45:L8:71:A:N1	45:L8:81:C:O2'	2.20	0.73
46:S2:1537:G:H2'	46:S2:1538:A:C8	2.23	0.73
5:LE:229:GLN:HE22	5:LE:231:ARG:HG3	1.54	0.73
3:LC:141:GLY:O	3:LC:204:ARG:NH1	2.22	0.72
46:S2:1365:U:O4	46:S2:1376:G:N2	2.19	0.72
46:S2:155:G:H2'	46:S2:156:G:H8	1.53	0.72
46:S2:434:A:OP1	53:SI:25:ARG:NH1	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:869:G:OP2	46:S2:869:G:N2	2.18	0.72
59:SS:108:ARG:NH2	59:SS:109:GLU:OE1	2.22	0.72
43:L5:4553:G:H1	43:L5:4560:C:N4	1.83	0.72
49:SD:101:GLN:HG3	49:SD:126:ILE:HD11	1.71	0.72
63:SX:67:ARG:HD2	63:SX:115:ILE:HG12	1.72	0.72
25:LZ:133:LYS:NZ	43:L5:2508:G:OP2	2.22	0.72
6:LF:247:THR:HG23	6:LF:251:GLU:HG3	1.71	0.72
11:LL:125:ILE:HD11	33:Lh:122:LYS:HE3	1.72	0.72
43:L5:1388:G:O2'	43:L5:1389:A:O5'	2.07	0.72
57:SQ:51:LEU:HD13	57:SQ:81:ILE:HG23	1.71	0.72
52:SH:44:ASN:HB2	52:SH:68:GLN:HE22	1.55	0.72
52:SH:98:ARG:HB2	52:SH:125:VAL:HG13	1.71	0.72
10:LJ:35:ARG:HB3	10:LJ:123:ILE:HG23	1.71	0.72
40:Lo:33:LEU:HA	40:Lo:38:LYS:HG2	1.71	0.72
67:Sg:88:ARG:HD3	67:Sg:97:THR:HG21	1.69	0.72
9:LI:38:ARG:NH1	9:LI:45:GLU:OE1	2.20	0.72
43:L5:1565:C:OP2	43:L5:1567:G:N2	2.22	0.72
68:SC:139:LEU:HD11	68:SC:237:ALA:HB1	1.71	0.72
30:Le:37:LYS:HZ2	30:Le:55:MET:HE2	1.54	0.71
49:SD:225:GLU:HB2	67:Sg:187:ASN:HB2	1.72	0.71
50:SE:102:ILE:HB	50:SE:182:MET:HE1	1.71	0.71
52:SH:157:HIS:HD1	52:SH:190:PRO:HG3	1.55	0.71
43:L5:2243:G:H1	43:L5:2251:U:H3	1.37	0.71
46:S2:914:A:N6	52:SH:98:ARG:O	2.22	0.71
12:LM:106:ASP:OD1	12:LM:109:ARG:NH2	2.23	0.71
43:L5:3374:A:H2'	43:L5:3375:A:C8	2.24	0.71
25:LZ:22:LYS:NZ	25:LZ:132:GLN:O	2.21	0.71
46:S2:225:C:H2'	46:S2:226:A:C8	2.24	0.71
46:S2:659:U:O2	63:SX:17:ARG:NH2	2.23	0.71
69:SG:31:ARG:O	69:SG:34:THR:OG1	2.08	0.71
47:SA:120:ARG:HD2	68:SC:266:TYR:HB3	1.72	0.71
56:SP:12:PHE:HB3	56:SP:14:LYS:HE3	1.72	0.71
16:LQ:16:LYS:O	16:LQ:33:ARG:NH2	2.22	0.71
37:Ll:36:MET:H	37:Ll:36:MET:HE2	1.54	0.71
73:SW:53:ILE:HD13	76:Sb:24:LEU:HG	1.73	0.71
43:L5:886:U:H2'	43:L5:887:C:C6	2.25	0.71
48:SB:24:PRO:HA	48:SB:27:LYS:HE3	1.73	0.71
49:SD:170:THR:HG22	49:SD:187:LYS:HG2	1.72	0.71
2:LB:242:ARG:NH2	43:L5:2610:C:O2	2.23	0.70
43:L5:1317:A:H4'	43:L5:1318:G:H5'	1.70	0.70
43:L5:4670:U:O2'	43:L5:4671:C:O5'	2.09	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:858:U:H2'	46:S2:859:A:C8	2.26	0.70
46:S2:997:A:OP1	71:SN:114:ARG:NH1	2.24	0.70
50:SE:53:LYS:NZ	74:SY:22:GLN:OE1	2.23	0.70
43:L5:2658:U:H5''	43:L5:2659:C:C6	2.26	0.70
43:L5:3565:A:N7	43:L5:4102:A:N6	2.39	0.70
47:SA:34:MET:HE1	47:SA:162:PRO:HB3	1.73	0.70
69:SG:88:ARG:HG2	69:SG:91:GLU:HB2	1.73	0.70
43:L5:1816:A:H2'	43:L5:1817:C:O4'	1.91	0.70
71:SN:87:ASP:OD1	71:SN:87:ASP:N	2.24	0.70
74:SY:91:LEU:HD23	74:SY:94:HIS:HE1	1.55	0.70
4:LD:223:PHE:HB3	4:LD:226:TYR:HB2	1.73	0.70
43:L5:189:G:H22	43:L5:252:G:N2	1.89	0.70
43:L5:4127:A:O2'	43:L5:4128:G:H3'	1.89	0.70
46:S2:1358:A:OP1	68:SC:125:LYS:NZ	2.22	0.70
8:LH:49:GLY:HA3	8:LH:53:LYS:H	1.57	0.70
40:Lo:98:LYS:HE3	43:L5:3886:A:H4'	1.73	0.70
43:L5:1772:G:O6	43:L5:1801:A:N6	2.25	0.70
43:L5:4676:G:H2'	43:L5:4677:C:C6	2.26	0.70
46:S2:825:C:H1'	70:SJ:144:ILE:HG21	1.72	0.70
46:S2:1589:A:H2'	46:S2:1590:A:C8	2.26	0.70
11:LL:50:PRO:HB3	11:LL:150:LEU:HB3	1.74	0.70
46:S2:157:U:O2'	46:S2:159:A:N7	2.21	0.70
46:S2:944:U:OP1	48:SB:214:LYS:NZ	2.20	0.70
4:LD:232:THR:H	4:LD:235:MET:HE2	1.57	0.70
45:L8:39:G:O2'	45:L8:104:A:N1	2.23	0.70
43:L5:956:U:O2'	43:L5:1028:G:N2	2.24	0.70
46:S2:1229:A:H2'	46:S2:1230:G:C8	2.27	0.70
46:S2:1780:G:H2'	46:S2:1781:G:C8	2.27	0.70
71:SN:34:LYS:NZ	71:SN:67:THR:OG1	2.23	0.70
76:Sb:49:HIS:ND1	76:Sb:69:GLY:O	2.25	0.70
3:LC:110:ARG:NH1	43:L5:1322:A:OP1	2.24	0.70
32:Lg:40:LYS:NZ	43:L5:2355:A:OP1	2.25	0.70
46:S2:532:A:H3'	46:S2:533:C:C5	2.27	0.70
2:LB:17:LEU:O	2:LB:19:ARG:N	2.24	0.69
7:LG:73:ARG:NE	43:L5:3727:G:OP1	2.25	0.69
28:Lc:21:VAL:HG11	28:Lc:96:ILE:HG12	1.75	0.69
32:Lg:76:ARG:NH2	43:L5:2337:C:OP2	2.20	0.69
46:S2:1489:C:O2'	46:S2:1491:G:OP2	2.10	0.69
47:SA:206:ASP:HB3	47:SA:208:GLU:HG3	1.74	0.69
78:S6:25:U:H2'	78:S6:26:G:H8	1.56	0.69
2:LB:162:ILE:HD13	2:LB:197:ALA:HB1	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:LB:214:ASP:HB3	2:LB:363:ILE:HD12	1.73	0.69
52:SH:30:LEU:HB2	52:SH:40:LEU:HD22	1.73	0.69
33:Lh:27:GLU:OE1	33:Lh:46:LYS:NZ	2.26	0.69
36:Lk:26:LYS:HB2	36:Lk:69:LEU:HD12	1.73	0.69
40:Lo:45:GLN:NE2	40:Lo:52:THR:OG1	2.26	0.69
46:S2:1744:G:N2	46:S2:1792:A:N6	2.16	0.69
67:Sg:79:LEU:HD11	67:Sg:101:PHE:HE2	1.57	0.69
6:LF:204:PHE:HB3	6:LF:222:ARG:HG3	1.75	0.69
54:SK:21:MET:HG3	54:SK:69:TRP:HE3	1.57	0.69
67:Sg:238:ALA:H	67:Sg:251:ALA:HB3	1.58	0.69
7:LG:250:ILE:HA	7:LG:253:LEU:HD12	1.73	0.69
18:LS:95:ARG:NH2	18:LS:112:ASP:OD2	2.26	0.69
19:LT:100:LYS:NZ	43:L5:1534:C:OP1	2.25	0.69
46:S2:165:G:H2'	46:S2:166:A:H8	1.56	0.69
46:S2:563:U:O2	46:S2:588:A:N7	2.26	0.69
46:S2:1529:G:O2'	46:S2:1667:C:OP1	2.08	0.69
58:SR:106:LEU:HD23	58:SR:109:LEU:HD12	1.74	0.69
61:SU:33:GLU:OE1	61:SU:87:ARG:NH1	2.23	0.69
59:SS:86:ARG:HH11	59:SS:89:ASP:HA	1.58	0.69
43:L5:368:G:N2	43:L5:371:A:OP2	2.22	0.69
43:L5:1143:G:O2'	43:L5:2106:A:OP1	2.11	0.69
70:SJ:84:ILE:O	70:SJ:108:ARG:NH1	2.26	0.69
10:LJ:35:ARG:HA	10:LJ:38:LYS:HD2	1.76	0.68
26:La:76:ASP:N	26:La:76:ASP:OD1	2.25	0.68
27:Lb:89:PRO:HD2	27:Lb:92:LYS:HB2	1.73	0.68
43:L5:4264:A:H2'	43:L5:4265:C:H6	1.58	0.68
46:S2:945:A:H5''	72:SO:134:PRO:HB3	1.75	0.68
52:SH:45:ILE:HG21	52:SH:62:ILE:HG22	1.74	0.68
67:Sg:166:VAL:HG13	67:Sg:176:VAL:HG22	1.74	0.68
2:LB:19:ARG:NH2	43:L5:4276:G:OP1	2.27	0.68
48:SB:137:LEU:HG	48:SB:215:VAL:HG22	1.75	0.68
5:LE:284:SER:HB2	31:Lf:3:GLY:HA3	1.74	0.68
43:L5:3298:U:H5	43:L5:3303:A:N7	1.91	0.68
43:L5:4640:G:H2'	43:L5:4641:G:C8	2.28	0.68
47:SA:80:ARG:NH2	47:SA:165:ASN:HB3	2.08	0.68
60:ST:126:GLN:NE2	60:ST:130:ASP:OD2	2.26	0.68
61:SU:51:LYS:HD2	61:SU:90:ASP:HB2	1.75	0.68
43:L5:2602:G:O2'	43:L5:3495:U:O4	2.12	0.68
69:SG:39:ASP:O	69:SG:46:LYS:NZ	2.26	0.68
4:LD:62:CYS:HB3	4:LD:105:LEU:HD22	1.75	0.68
17:LR:105:LEU:HD23	17:LR:138:LEU:HD23	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LU:80:LYS:N	43:L5:2374:G:OP1	2.23	0.68
30:Le:78:LEU:O	42:Lr:20:ARG:NH1	2.27	0.68
39:Ln:18:ARG:O	39:Ln:22:GLN:HG3	1.94	0.68
46:S2:1222:G:O2'	46:S2:1677:U:O2	2.10	0.68
46:S2:1623:U:OP1	59:SS:120:HIS:ND1	2.26	0.68
59:SS:34:LYS:NZ	59:SS:104:ASP:OD2	2.21	0.68
33:Lh:70:ARG:NH1	45:L8:96:C:OP1	2.26	0.68
43:L5:1338:A:N6	43:L5:1465:G:H1	1.89	0.68
43:L5:4554:G:H21	43:L5:4559:G:H5''	1.59	0.68
46:S2:496:U:OP1	50:SE:49:ARG:NH2	2.26	0.68
26:La:26:ARG:NH2	43:L5:1470:U:OP2	2.26	0.68
43:L5:4171:A:H5''	43:L5:4173:G:H4'	1.74	0.68
46:S2:1596:U:H2'	46:S2:1597:U:C6	2.29	0.68
67:Sg:286:CYS:HA	67:Sg:302:TYR:HA	1.74	0.68
78:S6:53:G:N1	78:S6:54:A:N7	2.42	0.68
78:S6:73:A:H2'	78:S6:74:C:H1'	1.76	0.68
46:S2:982:A:H2'	46:S2:983:G:C8	2.29	0.68
53:SI:87:ASN:OD1	53:SI:88:ASN:N	2.26	0.68
69:SG:181:THR:HG22	69:SG:183:ARG:H	1.58	0.68
1:LA:118:GLU:HG3	1:LA:126:LEU:HD21	1.76	0.68
46:S2:1172:G:O2'	46:S2:1188:G:O6	2.08	0.68
55:SL:115:PRO:O	55:SL:118:ARG:NH1	2.26	0.68
9:LI:3:ARG:NH2	43:L5:4084:U:OP2	2.27	0.67
13:LN:14:LYS:HE2	43:L5:279:G:H5''	1.76	0.67
30:Le:4:LEU:O	30:Le:121:ARG:NH1	2.27	0.67
43:L5:1258:G:N1	43:L5:1905:G:O6	2.27	0.67
43:L5:1299:C:O4'	43:L5:4002:C:N4	2.27	0.67
11:LL:59:VAL:HG13	43:L5:74:G:H5'	1.76	0.67
46:S2:225:C:H2'	46:S2:226:A:H8	1.59	0.67
46:S2:688:C:O2'	52:SH:116:ARG:NH2	2.27	0.67
46:S2:1481:A:O2'	61:SU:79:ARG:NH2	2.26	0.67
46:S2:1865:U:OP2	64:Sa:4:LYS:NZ	2.26	0.67
47:SA:53:ARG:HA	47:SA:56:GLU:HG2	1.75	0.67
25:LZ:52:LYS:O	25:LZ:65:ARG:NH1	2.22	0.67
43:L5:4664:A:H2	43:L5:4681:G:H21	1.41	0.67
46:S2:1302:A:O2'	66:Sd:3:HIS:N	2.28	0.67
59:SS:35:GLY:O	59:SS:97:GLN:NE2	2.28	0.67
81:LI:402:HOH:O	43:L5:3853:G:OP2	2.12	0.67
25:LZ:36:ARG:NH2	43:L5:2334:U:OP1	2.26	0.67
71:SN:46:THR:H	71:SN:49:GLN:HE21	1.43	0.67
29:Ld:64:ILE:HG23	29:Ld:68:LEU:HD23	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Ld:57:MET:O	29:Ld:59:THR:N	2.27	0.67
2:LB:128:LYS:HG3	43:L5:4614:A:H5''	1.74	0.67
43:L5:955:C:H2'	43:L5:956:U:O4'	1.95	0.67
43:L5:4125:G:C6	43:L5:4137:A:C2	2.83	0.67
46:S2:65:C:C5	69:SG:174:PRO:HB3	2.30	0.67
46:S2:588:A:C2	46:S2:591:A:C6	2.83	0.67
46:S2:682:U:OP1	63:SX:8:ARG:NH1	2.26	0.67
46:S2:895:G:O6	46:S2:896:G:N2	2.28	0.67
11:LL:36:ARG:NH2	43:L5:1181:G:OP2	2.22	0.67
50:SE:172:PHE:HE2	50:SE:174:LYS:HG2	1.60	0.67
6:LF:157:ILE:HD11	43:L5:1529:U:H5'	1.76	0.67
10:LJ:55:TYR:OH	43:L5:3909:A:O2'	2.13	0.67
43:L5:4538:A:H2'	43:L5:4539:A:O4'	1.95	0.67
53:SI:199:LEU:HA	53:SI:202:ILE:HD12	1.74	0.67
61:SU:98:VAL:HG22	61:SU:102:THR:HG23	1.75	0.67
43:L5:950:G:N2	43:L5:1035:U:O2	2.27	0.67
43:L5:4387:A:O2'	43:L5:4388:G:OP2	2.12	0.67
44:L7:11:A:O2'	44:L7:13:A:OP2	2.11	0.67
46:S2:1654:U:H2'	46:S2:1655:G:C8	2.30	0.67
55:SL:80:MET:HG2	55:SL:86:ILE:HG22	1.76	0.67
10:LJ:164:ARG:HA	10:LJ:167:GLN:HG2	1.78	0.66
47:SA:69:GLU:HG2	68:SC:270:THR:HG21	1.77	0.66
20:LU:24:ASP:HB3	20:LU:111:GLU:HG2	1.77	0.66
46:S2:1594:C:H2'	46:S2:1595:A:H8	1.60	0.66
47:SA:21:ALA:HB2	58:SR:91:LEU:HD11	1.78	0.66
2:LB:299:ILE:HG23	2:LB:313:SER:HB3	1.75	0.66
43:L5:4540:A:H3'	43:L5:4541:C:H5'	1.78	0.66
52:SH:100:ILE:HG12	52:SH:125:VAL:HG21	1.76	0.66
58:SR:65:PRO:HA	58:SR:73:LEU:HD13	1.77	0.66
25:LZ:68:ILE:O	25:LZ:115:LYS:NZ	2.28	0.66
42:Lr:7:TRP:O	42:Lr:11:ARG:HB2	1.96	0.66
43:L5:1044:C:H5'	43:L5:1045:G:H5''	1.75	0.66
46:S2:368:U:H4'	46:S2:372:A:C8	2.30	0.66
46:S2:875:G:H2'	46:S2:876:A:H8	1.60	0.66
53:SI:6:ASP:OD2	53:SI:8:TRP:NE1	2.28	0.66
78:S6:53:G:O2'	78:S6:54:A:OP1	2.14	0.66
46:S2:1149:A:OP2	64:Sa:6:ARG:NH1	2.29	0.66
67:Sg:212:LYS:HA	67:Sg:235:ILE:HG23	1.77	0.66
13:LN:193:ARG:O	13:LN:197:THR:HG23	1.96	0.66
43:L5:2386:U:H2'	43:L5:2387:U:C6	2.30	0.66
18:LS:16:CYS:O	18:LS:25:PRO:CG	2.43	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:378:G:H5'	53:SI:98:LYS:HB3	1.76	0.66
54:SK:29:MET:HE3	54:SK:30:PRO:HD2	1.77	0.66
35:Lj:56:ARG:NH1	43:L5:373:G:OP2	2.28	0.66
74:SY:91:LEU:O	74:SY:95:GLY:HA2	1.96	0.66
7:LG:165:GLU:OE2	13:LN:11:TRP:NE1	2.26	0.66
11:LL:80:GLU:OE2	11:LL:102:ARG:NH1	2.28	0.66
46:S2:805:U:H3	46:S2:860:G:H1	1.42	0.66
46:S2:1471:C:H2'	46:S2:1472:C:C6	2.30	0.66
46:S2:1569:C:H2'	46:S2:1570:A:C8	2.31	0.66
1:LA:71:LYS:HD2	43:L5:2349:C:H5''	1.78	0.66
46:S2:1657:G:H2'	46:S2:1658:G:H8	1.60	0.66
67:Sg:119:GLN:HB2	67:Sg:131:LEU:HD11	1.78	0.66
2:LB:288:GLY:HA3	2:LB:330:PHE:CE1	2.31	0.65
40:Lo:44:LYS:HE3	40:Lo:52:THR:HB	1.77	0.65
43:L5:4510:U:H2'	43:L5:4511:C:C6	2.31	0.65
43:L5:4547:G:H21	43:L5:4548:C:H41	1.43	0.65
46:S2:93:U:H1'	50:SE:7:LYS:HE2	1.77	0.65
49:SD:57:ASN:OD1	49:SD:65:ARG:NH1	2.30	0.65
51:SF:17:ILE:HG21	51:SF:46:ALA:HB1	1.77	0.65
63:SX:25:LYS:O	63:SX:29:LYS:HB2	1.96	0.65
67:Sg:91:ASP:OD1	67:Sg:98:THR:OG1	2.13	0.65
11:LL:19:GLN:HA	11:LL:22:VAL:HG23	1.77	0.65
27:Lb:115:ARG:NH2	43:L5:1088:G:OP2	2.29	0.65
43:L5:2314:G:H1	43:L5:2324:G:N2	1.92	0.65
46:S2:532:A:N7	46:S2:556:A:N6	2.44	0.65
46:S2:654:A:H2	70:SJ:17:ARG:HH12	1.44	0.65
46:S2:1278:C:H2'	46:S2:1279:A:H8	1.60	0.65
43:L5:3717:U:N3	43:L5:3718:U:O4	2.29	0.65
70:SJ:82:VAL:HG21	70:SJ:92:MET:HG2	1.77	0.65
3:LC:195:LYS:NZ	45:L8:21:C:OP1	2.30	0.65
24:LY:91:ASN:HB2	24:LY:93:THR:HG22	1.76	0.65
43:L5:1675:G:O2'	43:L5:3872:A:N3	2.28	0.65
49:SD:67:ARG:O	49:SD:70:THR:OG1	2.14	0.65
51:SF:143:PRO:HA	51:SF:146:ARG:HG2	1.78	0.65
56:SP:56:LEU:HD12	56:SP:80:LEU:HD12	1.78	0.65
3:LC:204:ARG:NH2	3:LC:205:ARG:O	2.28	0.65
5:LE:226:LYS:NZ	5:LE:227:LYS:O	2.29	0.65
46:S2:1233:U:H2'	46:S2:1234:G:C8	2.32	0.65
46:S2:1455:A:OP2	58:SR:3:ARG:NH2	2.30	0.65
8:LH:173:ARG:NH1	43:L5:4128:G:OP2	2.30	0.65
21:LV:15:ARG:HB2	43:L5:4271:G:H5''	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:409:A:HO2'	43:L5:413:C:HO2'	1.43	0.65
43:L5:950:G:H2'	43:L5:951:A:O4'	1.96	0.65
43:L5:1764:G:H2'	43:L5:1828:A:H61	1.61	0.65
43:L5:2512:G:O2'	43:L5:2519:A:N3	2.26	0.65
46:S2:1017:U:OP2	76:Sb:20:LYS:NZ	2.27	0.65
46:S2:1452:G:OP1	58:SR:32:LYS:NZ	2.26	0.65
51:SF:88:MET:O	51:SF:92:ILE:HG13	1.95	0.65
55:SL:12:LYS:HE3	55:SL:18:GLN:HG3	1.79	0.65
56:SP:85:ILE:HD11	56:SP:116:LEU:HG	1.77	0.65
1:LA:183:GLY:HA2	43:L5:1427:A:H5'	1.79	0.65
58:SR:41:ILE:HD12	58:SR:47:ARG:HG2	1.79	0.65
43:L5:950:G:C2	43:L5:1037:G:N3	2.65	0.65
46:S2:1513:C:O2'	66:Sd:7:TYR:O	2.14	0.65
46:S2:1593:C:H4'	57:SQ:44:PRO:HB3	1.79	0.65
58:SR:36:GLU:HB2	58:SR:47:ARG:HD3	1.78	0.65
62:SV:1:MET:HB3	62:SV:10:ASP:HB2	1.78	0.65
14:LO:37:ARG:NH1	43:L5:4415:G:OP2	2.30	0.65
43:L5:3913:U:H2'	43:L5:3914:C:C6	2.32	0.65
46:S2:65:C:OP1	69:SG:136:LYS:NZ	2.30	0.65
46:S2:477:A:N3	46:S2:489:U:O2'	2.29	0.65
67:Sg:124:SER:OG	67:Sg:126:ASP:OD1	2.15	0.65
68:SC:206:SER:HB2	68:SC:224:THR:HG21	1.78	0.65
43:L5:1362:G:O2'	43:L5:2566:A:N3	2.26	0.64
34:Li:63:VAL:HG13	34:Li:65:LYS:HG3	1.79	0.64
7:LG:103:ARG:NH2	7:LG:192:HIS:O	2.25	0.64
48:SB:86:LEU:HA	48:SB:99:ASN:O	1.97	0.64
52:SH:130:LEU:HD21	52:SH:156:VAL:HG21	1.78	0.64
53:SI:98:LYS:HB2	53:SI:178:ARG:HG2	1.80	0.64
63:SX:20:GLN:HA	63:SX:23:HIS:HD2	1.62	0.64
29:Ld:114:PHE:HA	29:Ld:117:LEU:HD12	1.78	0.64
43:L5:1561:G:N7	43:L5:1578:A:N3	2.45	0.64
46:S2:589:G:OP2	46:S2:589:G:N2	2.29	0.64
47:SA:26:GLY:O	47:SA:150:THR:OG1	2.13	0.64
55:SL:68:ILE:HG21	55:SL:143:LEU:HD11	1.80	0.64
24:LY:31:SER:HA	24:LY:48:PRO:HA	1.79	0.64
25:LZ:128:LYS:O	25:LZ:132:GLN:HG2	1.97	0.64
43:L5:138:C:H2'	43:L5:139:G:C8	2.33	0.64
57:SQ:15:ARG:O	57:SQ:86:GLN:NE2	2.31	0.64
67:Sg:39:THR:HB	67:Sg:60:ARG:HE	1.62	0.64
74:SY:29:HIS:HB3	74:SY:32:LYS:HB3	1.80	0.64
12:LM:117:LYS:NZ	43:L5:4528:U:OP1	2.24	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:385:U:O4	53:SI:5:ARG:NH2	2.31	0.64
46:S2:896:G:H2'	46:S2:897:U:H4'	1.79	0.64
46:S2:1417:C:H2'	46:S2:1418:C:C6	2.33	0.64
6:LF:74:GLU:OE2	43:L5:1068:A:O2'	2.14	0.64
11:LL:4:SER:HB2	43:L5:1327:U:H4'	1.80	0.64
46:S2:529:A:N6	46:S2:530:A:N6	2.45	0.64
46:S2:884:U:O4	46:S2:905:A:N6	2.30	0.64
67:Sg:48:ASP:HB3	67:Sg:51:ASN:HB3	1.78	0.64
69:SG:78:SER:HB3	69:SG:92:ARG:HG2	1.79	0.64
43:L5:1257:A:C6	43:L5:1906:G:N2	2.65	0.64
43:L5:2659:C:OP1	43:L5:3248:C:O2'	2.13	0.64
62:SV:27:LYS:HE3	68:SC:163:VAL:HG12	1.79	0.64
78:S6:58:A:O4'	78:S6:60:A:N6	2.28	0.64
24:LY:76:LYS:HE2	37:L1:31:THR:HB	1.79	0.64
24:LY:121:ARG:HH21	43:L5:194:C:H1'	1.63	0.64
36:Lk:17:ARG:NH2	36:Lk:19:ASP:OD2	2.29	0.64
43:L5:1294:C:O2'	43:L5:1296:G:OP2	2.16	0.64
43:L5:1821:C:N3	43:L5:1822:C:N4	2.45	0.64
46:S2:1349:G:N2	46:S2:1349:G:OP2	2.30	0.64
47:SA:21:ALA:O	47:SA:23:THR:OG1	2.16	0.64
43:L5:951:A:H61	43:L5:1034:G:H1	1.45	0.64
47:SA:74:VAL:HG22	47:SA:121:LEU:HB2	1.80	0.64
68:SC:75:ILE:HD11	68:SC:265:PRO:HB3	1.78	0.64
46:S2:608:U:O4	49:SD:143:ARG:NE	2.31	0.63
46:S2:1654:U:H3	46:S2:1672:G:H1	1.46	0.63
49:SD:67:ARG:NH2	54:SK:93:THR:O	2.19	0.63
69:SG:46:LYS:O	69:SG:118:GLU:N	2.30	0.63
29:Ld:50:ARG:NH2	43:L5:2130:C:OP1	2.30	0.63
43:L5:3911:C:H2'	43:L5:3912:C:H6	1.63	0.63
46:S2:389:U:H2'	46:S2:390:A:H8	1.62	0.63
46:S2:641:A:H2'	46:S2:642:A:C8	2.32	0.63
47:SA:104:THR:O	47:SA:107:THR:OG1	2.13	0.63
10:LJ:136:ARG:NH1	10:LJ:155:HIS:O	2.28	0.63
24:LY:83:GLU:O	24:LY:86:GLN:NE2	2.31	0.63
33:Lh:77:LYS:O	43:L5:136:C:N4	2.30	0.63
43:L5:949:C:C2'	43:L5:950:G:H5'	2.27	0.63
46:S2:162:C:OP1	69:SG:87:ARG:NH2	2.22	0.63
46:S2:421:G:O2'	46:S2:661:C:N3	2.29	0.63
47:SA:15:VAL:HG21	58:SR:111:PHE:HD2	1.64	0.63
47:SA:81:ASN:HA	47:SA:84:GLN:CD	2.23	0.63
3:LC:83:GLY:O	43:L5:366:C:O2'	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LH:59:LYS:HE3	8:LH:66:GLU:HB2	1.80	0.63
43:L5:1258:G:N2	43:L5:1905:G:H1	1.96	0.63
43:L5:1377:A:H2'	43:L5:1378:A:C8	2.33	0.63
46:S2:146:G:H2'	46:S2:147:A:C8	2.33	0.63
19:LT:2:THR:OG1	43:L5:3873:A:OP2	2.14	0.63
43:L5:3710:C:O2'	43:L5:3712:C:N4	2.31	0.63
46:S2:1744:G:C2	46:S2:1792:A:N6	2.62	0.63
67:Sg:79:LEU:HD21	67:Sg:120:ILE:HD12	1.80	0.63
69:SG:10:THR:HG22	69:SG:128:THR:HG22	1.79	0.63
69:SG:22:ARG:HA	69:SG:25:ARG:HE	1.64	0.63
43:L5:1027:G:O2'	43:L5:1028:G:H5'	1.98	0.63
43:L5:1509:U:H2'	43:L5:1510:C:C6	2.33	0.63
46:S2:10:G:H1'	68:SC:120:GLN:HE21	1.64	0.63
46:S2:39:A:OP1	70:SJ:5:ARG:NH1	2.32	0.63
46:S2:1471:C:H2'	46:S2:1472:C:H6	1.64	0.63
48:SB:46:LYS:HE2	72:SO:21:VAL:HG12	1.80	0.63
69:SG:34:THR:O	69:SG:51:ARG:HA	1.98	0.63
1:LA:245:ARG:HB3	1:LA:247:ARG:HD3	1.79	0.63
20:LU:101:ARG:NH2	43:L5:2456:C:OP1	2.29	0.63
43:L5:1026:C:H2'	43:L5:1027:G:C8	2.33	0.63
49:SD:23:GLU:OE1	49:SD:27:ARG:NE	2.32	0.63
78:S6:41:C:H2'	78:S6:42:A:C8	2.34	0.63
17:LR:107:ARG:O	17:LR:111:GLU:HG2	1.99	0.63
19:LT:63:ARG:NH2	27:Lb:30:GLU:OE1	2.31	0.63
30:Le:64:LYS:NZ	43:L5:1882:G:OP2	2.31	0.63
43:L5:4145:U:O2'	43:L5:4165:U:O2	2.16	0.63
46:S2:956:A:H61	46:S2:972:G:H1'	1.63	0.63
1:LA:54:ARG:HH21	1:LA:77:ILE:HD11	1.63	0.63
5:LE:169:ARG:NH2	5:LE:281:SER:OG	2.32	0.63
43:L5:949:C:O2'	43:L5:950:G:H5'	1.98	0.63
54:SK:3:MET:HE1	54:SK:11:ILE:HG13	1.80	0.63
54:SK:21:MET:HG3	54:SK:69:TRP:CE3	2.34	0.63
60:ST:104:LEU:HD12	60:ST:121:ARG:HG3	1.81	0.63
2:LB:378:ARG:HG2	22:LW:32:LEU:HD21	1.80	0.62
16:LQ:66:MET:HE3	16:LQ:98:LEU:HD13	1.80	0.62
17:LR:135:LYS:NZ	43:L5:2652:G:OP2	2.28	0.62
24:LY:8:THR:OG1	43:L5:346:A:OP2	2.17	0.62
43:L5:409:A:O2'	43:L5:413:C:O2'	2.15	0.62
43:L5:461:G:H2'	43:L5:462:A:C8	2.34	0.62
46:S2:161:U:O3'	69:SG:87:ARG:NH1	2.32	0.62
46:S2:847:G:H5''	46:S2:848:A:H8	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:SA:85:ARG:NH1	47:SA:203:PHE:O	2.29	0.62
63:SX:100:VAL:HG12	63:SX:125:VAL:HG13	1.81	0.62
38:Lm:111:ARG:NH2	43:L5:4352:U:OP2	2.31	0.62
43:L5:725:U:H2'	43:L5:726:C:C6	2.33	0.62
43:L5:1180:C:O2'	43:L5:1181:G:OP2	2.15	0.62
46:S2:570:A:H2'	46:S2:571:C:O4'	1.98	0.62
60:ST:108:GLU:OE2	60:ST:121:ARG:NH2	2.31	0.62
75:SZ:48:VAL:HG22	75:SZ:80:ARG:HD2	1.82	0.62
40:Lo:11:PHE:O	40:Lo:81:ARG:NH1	2.30	0.62
43:L5:4676:G:OP1	53:SI:168:GLN:NE2	2.31	0.62
46:S2:493:C:N4	46:S2:508:G:OP2	2.31	0.62
5:LE:56:VAL:HA	5:LE:62:GLY:HA2	1.81	0.62
7:LG:148:GLU:HA	7:LG:177:MET:HE3	1.81	0.62
46:S2:829:G:OP1	50:SE:22:LYS:NZ	2.30	0.62
57:SQ:34:VAL:HG22	57:SQ:42:ILE:HG21	1.80	0.62
3:LC:100:ARG:NH1	43:L5:1335:C:OP1	2.26	0.62
14:LO:178:ARG:O	14:LO:182:GLU:HG2	1.99	0.62
43:L5:3359:A:N3	43:L5:3430:U:O2'	2.31	0.62
46:S2:420:G:O3'	73:SW:88:LYS:NZ	2.31	0.62
46:S2:931:C:H42	46:S2:1012:A:H62	1.48	0.62
46:S2:1739:C:OP1	69:SG:92:ARG:NH1	2.30	0.62
47:SA:42:LYS:NZ	58:SR:99:ASP:OD2	2.29	0.62
43:L5:143:U:H5''	43:L5:144:G:H5'	1.82	0.62
43:L5:3415:U:O2'	43:L5:3422:G:N1	2.31	0.62
43:L5:3711:U:O2'	43:L5:3713:A:OP1	2.17	0.62
63:SX:22:TRP:HE3	63:SX:28:LYS:HD2	1.63	0.62
10:LJ:147:ARG:NH2	44:L7:5:A:OP1	2.33	0.62
46:S2:1157:U:OP1	73:SW:71:LYS:NZ	2.32	0.62
46:S2:1256:G:OP1	46:S2:1257:G:O2'	2.13	0.62
25:LZ:46:ILE:HG23	25:LZ:68:ILE:HG23	1.82	0.62
46:S2:1231:C:OP1	59:SS:130:ARG:NH2	2.32	0.62
67:Sg:35:SER:OG	67:Sg:39:THR:O	2.17	0.62
68:SC:210:PRO:HB3	68:SC:240:THR:HG21	1.80	0.62
5:LE:274:GLN:N	43:L5:4577:G:OP1	2.33	0.62
8:LH:92:MET:HE2	8:LH:179:ILE:HG22	1.80	0.62
17:LR:60:ARG:NH1	43:L5:2370:C:OP1	2.33	0.62
43:L5:3256:A:H2'	43:L5:3257:G:C8	2.34	0.62
43:L5:3367:G:H4'	43:L5:3368:A:H5'	1.81	0.62
43:L5:4129:C:O2'	43:L5:4131:G:OP2	2.15	0.62
46:S2:957:G:H2'	46:S2:958:A:H8	1.63	0.62
5:LE:198:HIS:HD2	5:LE:200:LYS:H	1.44	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LY:45:ARG:NH2	43:L5:238:C:OP2	2.32	0.62
46:S2:53:C:O2'	46:S2:508:G:N7	2.21	0.62
46:S2:963:A:H5''	72:SO:66:ARG:HG3	1.82	0.62
46:S2:1714:C:H2'	46:S2:1715:U:C6	2.35	0.62
64:Sa:22:ARG:NH2	64:Sa:29:CYS:SG	2.73	0.62
1:LA:15:VAL:HG13	1:LA:194:ASN:HD22	1.65	0.61
5:LE:169:ARG:O	5:LE:190:ASN:ND2	2.33	0.61
7:LG:58:PRO:HD2	7:LG:61:ILE:HD12	1.81	0.61
7:LG:185:LYS:HG2	45:L8:153:C:H4'	1.82	0.61
11:LL:49:ARG:O	11:LL:149:GLN:NE2	2.32	0.61
26:La:65:ARG:NH1	43:L5:86:U:O2'	2.34	0.61
43:L5:1377:A:N6	46:S2:1029:A:N1	2.48	0.61
43:L5:2565:G:N1	43:L5:2568:C:OP2	2.30	0.61
46:S2:1145:A:H5'	46:S2:1356:C:H41	1.64	0.61
46:S2:1355:G:N2	46:S2:1358:A:OP2	2.31	0.61
74:SY:50:THR:HG22	74:SY:51:THR:H	1.64	0.61
6:LF:245:LYS:HE3	43:L5:1710:A:H4'	1.82	0.61
10:LJ:31:ASP:HA	10:LJ:34:THR:HG22	1.81	0.61
11:LL:50:PRO:O	11:LL:52:SER:N	2.33	0.61
23:LX:137:TYR:OH	43:L5:2193:U:OP1	2.18	0.61
37:Ll:36:MET:CE	37:Ll:37:TYR:CD1	2.59	0.61
43:L5:452:G:N1	43:L5:1108:G:N7	2.38	0.61
43:L5:1338:A:N6	43:L5:1465:G:H22	1.97	0.61
43:L5:4551:C:H2'	43:L5:4552:C:C6	2.35	0.61
46:S2:392:C:N4	46:S2:393:A:H62	1.98	0.61
46:S2:1125:C:H5''	48:SB:150:ILE:HG12	1.82	0.61
46:S2:1742:U:H2'	46:S2:1743:C:O4'	2.00	0.61
51:SF:113:VAL:O	51:SF:117:ILE:HG12	2.00	0.61
59:SS:25:LYS:O	59:SS:29:ALA:HB2	2.00	0.61
2:LB:103:LYS:NZ	43:L5:4378:C:OP1	2.33	0.61
3:LC:323:ARG:NH1	43:L5:875:C:N3	2.48	0.61
40:Lo:54:PRO:O	78:S6:75:C:O2'	2.16	0.61
43:L5:2235:C:H3'	43:L5:2236:G:H8	1.65	0.61
46:S2:1233:U:H2'	46:S2:1234:G:H8	1.65	0.61
48:SB:98:THR:O	48:SB:232:HIS:NE2	2.29	0.61
50:SE:36:HIS:NE2	50:SE:143:ASP:OD1	2.32	0.61
53:SI:142:SER:HB3	53:SI:145:ILE:HG12	1.83	0.61
61:SU:28:ASN:OD1	61:SU:28:ASN:N	2.32	0.61
68:SC:110:MET:HE2	68:SC:125:LYS:HD3	1.81	0.61
71:SN:63:VAL:HG21	71:SN:71:ILE:HG13	1.83	0.61
43:L5:3412:G:H2'	43:L5:3413:A:H8	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:678:G:H21	46:S2:1029:A:N6	1.98	0.61
46:S2:1083:A:C8	46:S2:1085:A:C8	2.88	0.61
49:SD:22:ASN:O	49:SD:26:THR:OG1	2.19	0.61
69:SG:10:THR:HG21	69:SG:125:THR:HA	1.80	0.61
2:LB:143:LYS:HA	2:LB:146:LEU:HD12	1.82	0.61
43:L5:417:A:C2	45:L8:17:A:H1'	2.35	0.61
43:L5:1338:A:C2	43:L5:3572:U:O2'	2.47	0.61
43:L5:1509:U:H2'	43:L5:1510:C:H6	1.66	0.61
43:L5:4124:U:O2	43:L5:4125:G:N7	2.32	0.61
43:L5:4637:U:O2'	43:L5:4638:C:O5'	2.18	0.61
52:SH:169:LYS:O	52:SH:172:THR:OG1	2.16	0.61
55:SL:114:SER:HG	55:SL:116:CYS:HG	1.48	0.61
3:LC:186:SER:O	3:LC:186:SER:OG	2.13	0.61
9:LI:150:GLU:OE2	9:LI:153:ARG:NH1	2.33	0.61
15:LP:94:MET:HE2	15:LP:148:MET:HE3	1.82	0.61
37:LI:2:ALA:O	37:LI:5:LYS:NZ	2.29	0.61
44:L7:23:A:N3	44:L7:118:C:O2'	2.27	0.61
48:SB:110:MET:HA	48:SB:113:MET:HE2	1.82	0.61
49:SD:12:VAL:O	49:SD:16:ILE:HG13	2.01	0.61
53:SI:190:LEU:HD23	53:SI:195:LEU:HA	1.81	0.61
55:SL:61:PRO:HB3	55:SL:68:ILE:HD11	1.81	0.61
46:S2:863:A:N3	73:SW:105:THR:OG1	2.33	0.61
57:SQ:13:PHE:O	57:SQ:90:LYS:NZ	2.25	0.61
71:SN:20:ARG:HB3	73:SW:56:HIS:NE2	2.16	0.61
28:Lc:38:ILE:HD11	28:Lc:46:VAL:HG21	1.82	0.61
31:Lf:36:ARG:NH2	31:Lf:79:GLY:O	2.33	0.61
43:L5:2221:C:O2'	43:L5:2222:C:O5'	2.19	0.61
46:S2:126:G:OP1	69:SG:198:ARG:NH1	2.28	0.61
46:S2:903:G:O2'	46:S2:904:A:O5'	2.18	0.61
46:S2:1011:G:H2'	46:S2:1012:A:C8	2.35	0.61
63:SX:105:PHE:CD1	63:SX:112:VAL:HG21	2.36	0.61
68:SC:86:LEU:HD13	68:SC:87:PRO:HD2	1.81	0.61
1:LA:156:LYS:NZ	43:L5:3319:A:OP2	2.24	0.61
46:S2:1026:U:H2'	46:S2:1027:C:O4'	2.01	0.61
46:S2:1064:C:O2'	72:SO:150:ARG:O	2.18	0.61
1:LA:198:ARG:NH1	43:L5:3345:U:OP2	2.27	0.61
5:LE:286:THR:OG1	5:LE:289:MET:SD	2.58	0.61
8:LH:113:GLU:HG2	8:LH:125:ARG:HG2	1.82	0.61
12:LM:69:ARG:NH1	43:L5:743:G:OP1	2.34	0.61
20:LU:106:SER:OG	20:LU:109:SER:OG	2.18	0.61
43:L5:1772:G:H22	43:L5:1822:C:H42	1.49	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:528:C:N4	46:S2:559:G:H22	1.98	0.61
47:SA:163:CYS:SG	47:SA:174:MET:HG3	2.41	0.61
54:SK:3:MET:HE3	54:SK:8:ARG:HA	1.82	0.61
70:SJ:101:LYS:HD3	70:SJ:102:ILE:H	1.66	0.61
4:LD:288:LEU:O	4:LD:292:GLU:HG3	2.01	0.60
43:L5:1021:C:H2'	43:L5:1022:G:C8	2.35	0.60
43:L5:1229:G:H2'	43:L5:1230:C:C6	2.36	0.60
43:L5:3711:U:C4	43:L5:3713:A:H2	2.19	0.60
46:S2:961:U:O2'	46:S2:963:A:N7	2.27	0.60
68:SC:193:VAL:HG11	68:SC:240:THR:HA	1.83	0.60
69:SG:20:ASP:OD1	69:SG:20:ASP:N	2.32	0.60
1:LA:241:ARG:NH1	43:L5:3316:G:OP1	2.33	0.60
2:LB:220:ILE:HG12	2:LB:278:THR:HG23	1.81	0.60
7:LG:250:ILE:O	7:LG:254:GLU:HG2	2.01	0.60
11:LL:21:ARG:HB3	13:LN:197:THR:HG22	1.84	0.60
11:LL:103:ARG:NH1	43:L5:75:G:O6	2.34	0.60
12:LM:123:ILE:O	12:LM:127:VAL:HG23	2.01	0.60
43:L5:855:G:N2	43:L5:1098:G:OP2	2.34	0.60
46:S2:637:C:H2'	46:S2:638:U:C6	2.36	0.60
50:SE:125:LYS:O	50:SE:142:HIS:N	2.35	0.60
78:S6:29:G:H1	78:S6:41:C:H5	1.48	0.60
4:LD:152:ARG:O	4:LD:157:ASN:ND2	2.34	0.60
9:LI:181:PHE:O	9:LI:185:VAL:HG23	2.01	0.60
13:LN:4:TYR:OH	43:L5:151:G:OP2	2.18	0.60
24:LY:38:LEU:HD13	24:LY:109:LEU:HD12	1.82	0.60
46:S2:528:C:H42	46:S2:559:G:N2	1.98	0.60
46:S2:639:C:H5'	77:Se:114:ARG:NH1	2.12	0.60
46:S2:957:G:H2'	46:S2:958:A:C8	2.36	0.60
46:S2:1704:C:H2'	46:S2:1705:C:O4'	2.02	0.60
55:SL:103:GLU:HG2	63:SX:11:ARG:HB2	1.83	0.60
5:LE:157:VAL:O	5:LE:205:THR:OG1	2.17	0.60
8:LH:114:ILE:HB	8:LH:124:ARG:HG3	1.83	0.60
43:L5:4386:C:H1'	43:L5:4387:A:H2'	1.84	0.60
46:S2:1076:C:OP1	71:SN:107:LYS:NZ	2.33	0.60
46:S2:1485:A:H2'	46:S2:1486:U:C6	2.36	0.60
49:SD:105:LEU:HD13	49:SD:122:VAL:HG21	1.82	0.60
50:SE:191:ARG:HD2	50:SE:245:ARG:HE	1.65	0.60
52:SH:70:LYS:O	52:SH:74:LYS:HG3	2.01	0.60
69:SG:98:ARG:NH1	69:SG:101:ILE:O	2.34	0.60
2:LB:223:THR:HB	2:LB:275:HIS:H	1.65	0.60
3:LC:223:ASN:O	43:L5:223:G:N2	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:480:G:H2'	43:L5:481:G:C8	2.37	0.60
46:S2:17:C:O2'	46:S2:1195:A:N6	2.30	0.60
46:S2:823:U:H3	46:S2:827:A:H62	1.48	0.60
51:SF:88:MET:O	51:SF:91:ARG:HG3	2.01	0.60
53:SI:8:TRP:CE3	53:SI:20:PRO:HB3	2.36	0.60
14:LO:203:VAL:OXT	43:L5:4518:G:O2'	2.18	0.60
43:L5:1761:A:H4'	43:L5:1765:A:H1'	1.84	0.60
43:L5:3907:G:H1	43:L5:3910:A:H2	1.45	0.60
46:S2:558:U:H2'	46:S2:559:G:C4	2.35	0.60
46:S2:642:A:O2'	46:S2:646:C:OP1	2.19	0.60
54:SK:42:ASN:HB3	54:SK:46:MET:HE3	1.84	0.60
43:L5:1021:C:H2'	43:L5:1022:G:H8	1.66	0.60
46:S2:339:G:H2'	46:S2:340:A:C8	2.36	0.60
46:S2:840:C:O2'	46:S2:841:C:O5'	2.19	0.60
46:S2:1276:G:N2	46:S2:1507:A:OP2	2.33	0.60
67:Sg:165:ILE:HD11	67:Sg:179:LEU:HA	1.84	0.60
2:LB:170:LEU:O	2:LB:328:ASN:ND2	2.34	0.60
3:LC:234:LYS:HD2	43:L5:1189:G:H1'	1.84	0.60
24:LY:26:ARG:NH1	24:LY:75:ARG:O	2.33	0.60
43:L5:452:G:H4'	43:L5:453:U:H5'	1.84	0.60
46:S2:1485:A:H2'	46:S2:1486:U:H6	1.66	0.60
46:S2:1594:C:H2'	46:S2:1595:A:C8	2.37	0.60
52:SH:44:ASN:N	52:SH:68:GLN:OE1	2.33	0.60
55:SL:113:LEU:HD11	55:SL:120:VAL:HG21	1.84	0.60
61:SU:37:ALA:HA	61:SU:40:ILE:HG12	1.84	0.60
44:L7:73:U:OP2	44:L7:74:A:O2'	2.16	0.60
46:S2:1570:A:H5'	60:ST:41:LYS:HD3	1.84	0.60
73:SW:106:THR:HG21	73:SW:121:THR:OG1	2.01	0.60
2:LB:218:ASP:OD2	2:LB:348:ARG:NH2	2.17	0.60
37:Ll:42:ARG:HG3	37:Ll:47:THR:HG23	1.84	0.60
43:L5:4031:A:O2'	43:L5:4032:A:H2'	2.02	0.60
46:S2:497:C:H2'	46:S2:498:C:C6	2.37	0.60
46:S2:1680:A:H2'	51:SF:60:ARG:HD2	1.81	0.60
6:LF:79:TYR:OH	6:LF:211:ASP:OD1	2.19	0.59
11:LL:61:CYS:HB2	11:LL:66:TYR:O	2.02	0.59
35:Lj:49:TRP:O	43:L5:1460:A:O2'	2.17	0.59
43:L5:1089:A:O2'	43:L5:1090:G:O5'	2.19	0.59
43:L5:3368:A:H2'	43:L5:3369:A:C8	2.37	0.59
43:L5:3843:U:O2'	43:L5:4035:G:OP2	2.16	0.59
46:S2:545:G:O6	46:S2:546:A:N6	2.35	0.59
46:S2:1278:C:H2'	46:S2:1279:A:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1499:A:OP2	49:SD:27:ARG:NH2	2.34	0.59
53:SI:160:SER:O	53:SI:164:GLU:HG3	2.02	0.59
54:SK:6:LYS:HE3	54:SK:38:LYS:HZ3	1.67	0.59
43:L5:1338:A:H2	43:L5:3572:U:HO2'	1.36	0.59
43:L5:4615:A:H2'	43:L5:4616:A:C8	2.37	0.59
46:S2:106:C:H2'	46:S2:107:A:C8	2.38	0.59
46:S2:150:A:OP2	46:S2:151:C:N4	2.35	0.59
46:S2:604:C:O2	46:S2:605:A:N6	2.31	0.59
46:S2:975:C:O2	72:SO:55:ARG:NH1	2.35	0.59
57:SQ:97:GLN:HB3	57:SQ:105:LYS:HG3	1.83	0.59
69:SG:69:THR:O	69:SG:99:GLY:HA3	2.03	0.59
72:SO:30:VAL:HG12	72:SO:94:HIS:HB2	1.84	0.59
78:S6:55:U:O4'	78:S6:58:A:N6	2.34	0.59
2:LB:268:ARG:NH1	43:L5:3553:C:O2'	2.34	0.59
40:Lo:39:ARG:NH1	43:L5:294:A:OP2	2.31	0.59
43:L5:1257:A:N6	43:L5:1906:G:N1	2.51	0.59
78:S6:55:U:N3	78:S6:57:G:OP2	2.35	0.59
2:LB:252:ALA:HB1	43:L5:4177:G:N3	2.17	0.59
6:LF:184:ILE:HD12	6:LF:189:ILE:HB	1.85	0.59
15:LP:62:ARG:NH2	43:L5:422:G:OP1	2.34	0.59
42:Lr:11:ARG:NH1	43:L5:2025:A:OP1	2.34	0.59
43:L5:2261:C:O2'	43:L5:2263:G:OP1	2.21	0.59
46:S2:10:G:O2'	68:SC:120:GLN:NE2	2.36	0.59
50:SE:35:PRO:HD2	50:SE:83:PRO:HG2	1.85	0.59
54:SK:32:HIS:HB3	54:SK:35:LEU:HD23	1.85	0.59
61:SU:94:PRO:HD2	61:SU:97:ILE:HG21	1.84	0.59
67:Sg:178:ASN:OD1	67:Sg:182:CYS:N	2.35	0.59
43:L5:1135:U:O2'	43:L5:1694:A:N1	2.27	0.59
43:L5:2075:G:N2	43:L5:2078:G:OP2	2.32	0.59
43:L5:2314:G:H22	43:L5:2324:G:H22	1.48	0.59
46:S2:1107:C:OP1	76:Sb:72:ARG:NH2	2.34	0.59
47:SA:200:ASP:HB3	58:SR:85:VAL:HG13	1.83	0.59
67:Sg:148:SER:N	67:Sg:171:ASP:OD2	2.35	0.59
68:SC:205:VAL:O	68:SC:224:THR:OG1	2.18	0.59
73:SW:8:ALA:HA	73:SW:74:VAL:HG11	1.84	0.59
75:SZ:74:SER:OG	75:SZ:79:ILE:O	2.18	0.59
17:LR:89:MET:HE2	17:LR:97:ARG:HH22	1.68	0.59
32:Lg:76:ARG:NH1	43:L5:2336:A:OP1	2.35	0.59
43:L5:1040:C:H2'	43:L5:1041:C:H6	1.67	0.59
46:S2:914:A:H1'	52:SH:66:VAL:HB	1.84	0.59
56:SP:37:TYR:OH	56:SP:85:ILE:O	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LD:119:TYR:OH	4:LD:139:PRO:O	2.17	0.59
43:L5:1035:U:H2'	43:L5:1037:G:C8	2.37	0.59
46:S2:146:G:N2	46:S2:174:C:O2	2.36	0.59
46:S2:573:U:H5''	74:SY:59:GLY:HA2	1.84	0.59
47:SA:68:ILE:HG21	47:SA:74:VAL:HG23	1.83	0.59
47:SA:198:MET:SD	47:SA:199:PRO:HD2	2.42	0.59
55:SL:78:THR:OG1	55:SL:89:ARG:HB2	2.02	0.59
67:Sg:23:THR:HB	67:Sg:31:ILE:HG13	1.85	0.59
15:LP:126:ARG:HG2	15:LP:140:MET:HE1	1.83	0.59
28:Lc:55:LEU:HD11	32:Lg:92:LYS:HG3	1.83	0.59
31:Lf:39:THR:HG21	31:Lf:77:ALA:HB2	1.84	0.59
43:L5:452:G:H2'	43:L5:452:G:N3	2.18	0.59
46:S2:62:G:O2'	46:S2:172:U:OP1	2.20	0.59
46:S2:300:A:OP2	50:SE:134:LYS:NZ	2.36	0.59
46:S2:871:A:N6	46:S2:917:A:O5'	2.36	0.59
67:Sg:62:HIS:CD2	67:Sg:88:ARG:HD2	2.37	0.59
69:SG:46:LYS:HB2	69:SG:118:GLU:HB2	1.84	0.59
6:LF:259:GLU:OE1	18:LS:41:LYS:NZ	2.34	0.59
21:LV:87:SER:HA	21:LV:97:TYR:HB3	1.84	0.59
30:Le:114:ARG:HH11	30:Le:117:GLN:HE21	1.49	0.59
49:SD:93:THR:HG21	49:SD:198:ILE:HB	1.85	0.59
51:SF:112:LEU:O	51:SF:116:ILE:HG12	2.02	0.59
67:Sg:164:ILE:HG21	67:Sg:221:LEU:HD13	1.83	0.59
2:LB:80:GLU:OE1	2:LB:323:TYR:OH	2.20	0.59
2:LB:217:ILE:HD12	2:LB:347:LEU:HB3	1.85	0.59
18:LS:95:ARG:NH1	43:L5:1754:G:O2'	2.35	0.59
21:LV:18:LEU:HD23	21:LV:54:ALA:HB3	1.85	0.59
29:Ld:90:ARG:HD2	29:Ld:102:LEU:HD13	1.85	0.59
38:Lm:100:TYR:O	43:L5:4125:G:O2'	2.17	0.59
43:L5:1571:C:O2	43:L5:1573:A:N6	2.36	0.59
43:L5:3962:G:H5'	43:L5:3991:G:H5''	1.85	0.59
46:S2:1:U:H1'	68:SC:205:VAL:HG13	1.84	0.59
46:S2:456:A:O2'	46:S2:1736:A:N3	2.32	0.59
46:S2:1006:G:OP2	48:SB:162:ARG:NH1	2.35	0.59
46:S2:1746:A:H1'	69:SG:66:GLY:HA2	1.84	0.59
13:LN:138:PHE:HA	13:LN:143:ARG:HD2	1.85	0.58
38:Lm:95:ILE:HD11	38:Lm:124:LYS:HD2	1.84	0.58
43:L5:1257:A:C5	43:L5:1906:G:N2	2.71	0.58
43:L5:1338:A:H61	43:L5:1465:G:H22	1.49	0.58
46:S2:1244:U:OP2	46:S2:1519:C:O2'	2.14	0.58
47:SA:206:ASP:OD1	47:SA:208:GLU:N	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SB:25:PHE:HD1	48:SB:28:LYS:HD2	1.68	0.58
78:S6:53:G:C2	78:S6:54:A:N7	2.71	0.58
8:LH:137:SER:HB3	8:LH:143:GLU:HG3	1.84	0.58
42:Lr:87:ARG:NH1	43:L5:698:C:OP1	2.36	0.58
43:L5:1063:C:H2'	43:L5:1064:G:C8	2.37	0.58
43:L5:2277:C:H2'	43:L5:2278:G:C8	2.37	0.58
50:SE:67:GLN:HB2	50:SE:69:PHE:CE2	2.38	0.58
58:SR:83:ASN:OD1	58:SR:84:TYR:N	2.36	0.58
58:SR:104:GLU:O	58:SR:108:LEU:HD12	2.03	0.58
3:LC:152:LEU:HD23	3:LC:251:ILE:HG12	1.84	0.58
41:Lp:59:SER:OG	41:Lp:60:CYS:N	2.35	0.58
43:L5:711:G:H2'	43:L5:712:C:H4'	1.84	0.58
43:L5:4547:G:O6	43:L5:4566:C:N4	2.23	0.58
46:S2:564:G:H1	46:S2:593:C:H5	1.51	0.58
63:SX:90:CYS:HA	63:SX:93:PHE:CD2	2.38	0.58
7:LG:137:ARG:HG3	7:LG:146:LEU:HD11	1.84	0.58
19:LT:49:GLN:HA	19:LT:52:MET:HE3	1.85	0.58
43:L5:2221:C:O2'	43:L5:2222:C:H6	1.77	0.58
43:L5:4383:C:H2'	43:L5:4384:G:O4'	2.04	0.58
46:S2:686:A:H5''	73:SW:31:SER:HB3	1.85	0.58
46:S2:844:C:H2'	46:S2:845:U:C6	2.38	0.58
70:SJ:108:ARG:HA	70:SJ:113:GLN:HE21	1.69	0.58
23:LX:119:ILE:HG21	23:LX:140:LEU:HD22	1.85	0.58
43:L5:2498:A:H2'	43:L5:2499:A:C8	2.38	0.58
46:S2:992:G:C6	46:S2:1135:G:H4'	2.39	0.58
48:SB:33:VAL:HG13	48:SB:44:ILE:HB	1.86	0.58
74:SY:91:LEU:HD23	74:SY:94:HIS:CE1	2.37	0.58
4:LD:181:PRO:HD2	4:LD:195:HIS:CD2	2.38	0.58
4:LD:182:GLY:HA2	4:LD:194:VAL:HB	1.85	0.58
5:LE:109:ASN:O	5:LE:113:ARG:NH1	2.37	0.58
7:LG:37:LYS:NZ	43:L5:3777:C:OP1	2.36	0.58
18:LS:16:CYS:HG	18:LS:54:MET:HG3	1.68	0.58
43:L5:1775:G:O2'	43:L5:1776:G:H5'	2.03	0.58
43:L5:3434:G:O2'	43:L5:3472:G:O6	2.15	0.58
30:Le:36:ARG:NH1	43:L5:2079:G:OP1	2.31	0.58
31:Lf:36:ARG:HB2	31:Lf:80:ASN:HA	1.86	0.58
43:L5:1561:G:N3	43:L5:1561:G:H5'	2.19	0.58
43:L5:1774:C:H5	43:L5:1804:G:N1	2.02	0.58
43:L5:2393:U:O2'	43:L5:2448:G:O6	2.21	0.58
46:S2:17:C:H2'	46:S2:18:C:C6	2.39	0.58
46:S2:19:A:H2'	46:S2:20:G:O4'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SI:67:TRP:CZ3	53:SI:69:SER:HB2	2.38	0.58
70:SJ:108:ARG:HH12	70:SJ:151:LEU:N	2.02	0.58
1:LA:101:VAL:HG22	1:LA:165:VAL:HG22	1.86	0.58
24:LY:89:LYS:NZ	43:L5:385:A:OP2	2.33	0.58
32:Lg:45:ALA:HB3	32:Lg:82:MET:HG2	1.86	0.58
43:L5:1191:C:H3'	43:L5:1192:G:C8	2.39	0.58
43:L5:4414:G:H2'	43:L5:4415:G:O4'	2.04	0.58
46:S2:116:U:O4	46:S2:348:G:O6	2.22	0.58
51:SF:32:ASP:HB2	51:SF:117:ILE:HD12	1.86	0.58
53:SI:67:TRP:HE1	53:SI:162:LEU:HD21	1.69	0.58
63:SX:28:LYS:HE2	63:SX:32:LEU:HD13	1.86	0.58
7:LG:209:SER:HA	7:LG:212:LYS:HG3	1.86	0.58
31:Lf:14:TYR:OH	31:Lf:92:LEU:O	2.17	0.58
31:Lf:21:GLN:NE2	31:Lf:23:GLU:OE1	2.34	0.58
43:L5:1154:U:H2'	43:L5:1155:C:C6	2.39	0.58
43:L5:2316:G:N2	43:L5:2322:A:N1	2.51	0.58
46:S2:144:U:H2'	46:S2:145:G:H8	1.69	0.58
46:S2:920:A:H8	46:S2:920:A:OP2	1.86	0.58
49:SD:217:ILE:HG13	49:SD:218:LEU:H	1.68	0.58
54:SK:10:ALA:O	54:SK:14:LEU:HG	2.04	0.58
67:Sg:14:HIS:CD2	67:Sg:35:SER:HB3	2.39	0.58
43:L5:1147:C:H2'	43:L5:1148:A:C8	2.39	0.58
46:S2:917:A:N7	71:SN:69:ASN:ND2	2.51	0.58
46:S2:1143:G:N2	46:S2:1146:A:OP2	2.35	0.58
46:S2:1585:G:OP1	60:ST:77:LYS:NZ	2.32	0.58
46:S2:1865:U:O2'	46:S2:1867:A:N7	2.33	0.58
50:SE:41:CYS:HA	50:SE:85:GLY:HA2	1.86	0.58
52:SH:143:ARG:HB3	73:SW:51:GLU:OE2	2.04	0.58
1:LA:173:GLY:O	41:Lp:69:TRP:NE1	2.37	0.57
5:LE:198:HIS:CD2	5:LE:200:LYS:H	2.21	0.57
41:Lp:59:SER:O	43:L5:2406:G:N2	2.37	0.57
43:L5:3364:U:H2'	43:L5:3365:C:C6	2.38	0.57
74:SY:119:GLY:N	74:SY:124:ASN:HD21	2.01	0.57
78:S6:25:U:H2'	78:S6:26:G:C8	2.39	0.57
43:L5:3416:A:N7	43:L5:3421:U:H5	2.02	0.57
46:S2:943:G:H2'	46:S2:944:U:C6	2.39	0.57
46:S2:1586:U:O2'	46:S2:1588:G:OP2	2.21	0.57
46:S2:1649:G:N2	46:S2:1676:A:OP2	2.26	0.57
46:S2:1673:U:H2'	46:S2:1674:U:H6	1.68	0.57
55:SL:133:PRO:HA	55:SL:139:ARG:HG3	1.86	0.57
76:Sb:33:MET:HE3	76:Sb:73:LEU:HD21	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:LB:132:LYS:HA	2:LB:135:LYS:HE2	1.86	0.57
2:LB:199:GLU:OE2	2:LB:200:ARG:NH1	2.37	0.57
7:LG:105:GLU:OE1	7:LG:113:ARG:NH1	2.37	0.57
43:L5:3603:G:H1	43:L5:3718:U:H3	1.50	0.57
46:S2:146:G:H2'	46:S2:147:A:H8	1.68	0.57
46:S2:532:A:H3'	46:S2:533:C:C6	2.39	0.57
47:SA:201:LEU:HD12	58:SR:85:VAL:HG21	1.87	0.57
54:SK:19:GLY:HA2	54:SK:71:LEU:HD12	1.85	0.57
59:SS:6:PRO:HG2	59:SS:58:GLU:HG3	1.86	0.57
70:SJ:110:LEU:HD21	70:SJ:147:PHE:CE2	2.40	0.57
26:La:42:ARG:NH1	43:L5:4029:A:O2'	2.38	0.57
43:L5:1033:G:H2'	43:L5:1034:G:C8	2.39	0.57
43:L5:2225:U:O2'	43:L5:2263:G:N2	2.37	0.57
46:S2:1144:A:OP2	68:SC:187:ARG:NH1	2.38	0.57
47:SA:163:CYS:HB3	47:SA:174:MET:HE3	1.86	0.57
65:Sc:18:LEU:HB2	65:Sc:29:GLN:HB2	1.86	0.57
73:SW:76:SER:OG	73:SW:77:PRO:HD3	2.05	0.57
6:LF:131:LEU:HG	6:LF:158:VAL:HG11	1.87	0.57
11:LL:177:LYS:HB3	11:LL:180:ALA:HB3	1.86	0.57
23:LX:64:SER:OG	33:Lh:82:ASP:OD2	2.13	0.57
30:Le:91:CYS:O	30:Le:93:LYS:N	2.34	0.57
43:L5:1558:C:C5	43:L5:1559:U:C6	2.93	0.57
46:S2:629:A:H62	46:S2:1501:G:H21	1.52	0.57
46:S2:888:U:N3	46:S2:899:U:O4	2.38	0.57
76:Sb:54:VAL:HG23	76:Sb:63:LEU:HB2	1.86	0.57
5:LE:108:LYS:HB3	43:L5:692:G:H4'	1.85	0.57
46:S2:964:A:H2'	46:S2:965:A:C8	2.40	0.57
46:S2:1349:G:H2'	46:S2:1350:G:H8	1.68	0.57
50:SE:138:HIS:CD2	50:SE:148:ARG:HG2	2.39	0.57
46:S2:535:G:H2'	46:S2:536:G:H8	1.70	0.57
47:SA:110:ASN:ND2	47:SA:113:GLN:OE1	2.38	0.57
52:SH:30:LEU:HG	52:SH:40:LEU:HD13	1.86	0.57
52:SH:158:LEU:HD11	52:SH:187:PHE:CD2	2.37	0.57
67:Sg:67:SER:OG	67:Sg:109:LEU:O	2.22	0.57
68:SC:167:ARG:HD2	68:SC:219:ILE:HD13	1.87	0.57
72:SO:64:ALA:C	72:SO:66:ARG:H	2.12	0.57
9:LI:207:ASP:OD1	9:LI:210:ARG:NH2	2.37	0.57
18:LS:2:LYS:HE2	18:LS:35:PRO:HD3	1.86	0.57
31:Lf:89:ARG:NH1	43:L5:717:C:OP1	2.38	0.57
43:L5:2063:G:H1'	43:L5:2089:A:N6	2.19	0.57
58:SR:27:ASP:OD2	67:Sg:36:ARG:NH2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:SY:121:ALA:HA	74:SY:124:ASN:HB2	1.86	0.57
29:Ld:39:LYS:HE3	43:L5:2126:U:H1'	1.87	0.57
40:Lo:56:PHE:CE1	40:Lo:58:LYS:HB2	2.40	0.57
43:L5:3749:A:H3'	43:L5:3750:G:H4'	1.87	0.57
43:L5:3911:C:H2'	43:L5:3912:C:C6	2.39	0.57
46:S2:1085:A:OP1	46:S2:1859:G:O2'	2.20	0.57
48:SB:89:GLU:OE1	48:SB:220:LYS:NZ	2.35	0.57
54:SK:11:ILE:HD11	54:SK:40:VAL:HG21	1.87	0.57
43:L5:62:A:N3	43:L5:77:U:O2'	2.34	0.57
43:L5:2166:U:H5	43:L5:2537:A:N1	2.01	0.57
46:S2:820:G:H4'	50:SE:255:ARG:NH1	2.20	0.57
47:SA:66:VAL:HG11	47:SA:185:MET:HB3	1.87	0.57
48:SB:28:LYS:NZ	72:SO:51:GLU:OE1	2.35	0.57
48:SB:168:MET:HG2	48:SB:197:ILE:HD13	1.87	0.57
58:SR:74:GLN:O	58:SR:78:ARG:HG2	2.04	0.57
43:L5:1288:C:H2'	43:L5:1289:G:O4'	2.05	0.56
43:L5:3913:U:H2'	43:L5:3914:C:H6	1.69	0.56
44:L7:13:A:OP1	44:L7:109:U:O2'	2.19	0.56
46:S2:572:U:O2'	74:SY:60:PHE:O	2.18	0.56
46:S2:1228:G:C2	46:S2:1229:A:C8	2.92	0.56
46:S2:1290:U:H5'	46:S2:1316:U:O2'	2.05	0.56
48:SB:185:VAL:HG13	48:SB:189:ILE:HD11	1.87	0.56
49:SD:137:VAL:HG22	49:SD:151:LYS:HG3	1.86	0.56
43:L5:1225:G:H8	43:L5:1226:G:H4'	1.70	0.56
46:S2:379:U:H2'	46:S2:380:C:C6	2.40	0.56
46:S2:1475:A:H4'	57:SQ:121:VAL:HG21	1.87	0.56
49:SD:60:GLY:HA3	49:SD:64:ARG:HG2	1.87	0.56
50:SE:126:VAL:HG11	50:SE:129:ILE:HD11	1.86	0.56
51:SF:61:PHE:CE1	65:Sc:51:ARG:HB2	2.39	0.56
58:SR:16:ILE:HG23	58:SR:38:ILE:HD11	1.88	0.56
73:SW:22:LYS:HA	76:Sb:3:LEU:HD22	1.88	0.56
10:LJ:12:MET:HE1	44:L7:29:C:H4'	1.87	0.56
17:LR:88:ARG:NH1	43:L5:3264:U:OP1	2.38	0.56
25:LZ:9:LYS:NZ	25:LZ:83:THR:O	2.24	0.56
25:LZ:26:VAL:HG22	25:LZ:91:LEU:HD23	1.87	0.56
43:L5:324:U:H2'	43:L5:325:C:C6	2.40	0.56
43:L5:1012:U:H5''	43:L5:1013:C:H5	1.70	0.56
43:L5:1577:C:H2'	43:L5:1578:A:H8	1.70	0.56
43:L5:1749:G:O2'	43:L5:1751:G:OP2	2.22	0.56
43:L5:3848:G:O2'	43:L5:4095:U:OP1	2.11	0.56
43:L5:3927:A:H2'	43:L5:3928:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:56:G:OP2	74:SY:115:LYS:NZ	2.38	0.56
46:S2:799:G:H5''	52:SH:112:ASN:HA	1.87	0.56
46:S2:1014:U:OP1	46:S2:1130:G:O2'	2.24	0.56
46:S2:1161:U:O4	63:SX:2:GLY:N	2.38	0.56
46:S2:1452:G:N7	58:SR:44:LYS:NZ	2.39	0.56
49:SD:162:ASP:OD1	49:SD:165:ASN:ND2	2.38	0.56
50:SE:247:THR:O	50:SE:249:ALA:N	2.37	0.56
52:SH:49:LYS:HG2	52:SH:51:ILE:HG12	1.87	0.56
70:SJ:133:ARG:HB3	70:SJ:141:VAL:HG23	1.86	0.56
11:LL:171:GLU:O	11:LL:175:ASN:ND2	2.38	0.56
12:LM:46:ARG:NH1	43:L5:835:U:OP2	2.38	0.56
20:LU:28:PRO:HA	20:LU:114:TYR:OH	2.06	0.56
43:L5:139:G:H2'	43:L5:140:G:C8	2.40	0.56
43:L5:1111:G:O2'	43:L5:1112:U:O4'	2.23	0.56
43:L5:2274:A:N3	43:L5:2296:C:O2'	2.37	0.56
45:L8:5:U:H2'	45:L8:6:C:C6	2.40	0.56
46:S2:343:C:C2	46:S2:344:A:C8	2.94	0.56
46:S2:1200:A:H2'	46:S2:1201:A:C8	2.41	0.56
46:S2:1257:G:H8	61:SU:66:ARG:HB2	1.71	0.56
46:S2:1715:U:H2'	46:S2:1716:A:C8	2.41	0.56
55:SL:124:ASP:CG	55:SL:147:LYS:HA	2.30	0.56
57:SQ:104:SER:O	57:SQ:108:ILE:HG12	2.05	0.56
58:SR:10:LYS:O	58:SR:14:ARG:HG3	2.06	0.56
63:SX:110:HIS:HD2	63:SX:111:ALA:O	1.88	0.56
9:LI:19:LYS:HB3	9:LI:26:VAL:HG21	1.88	0.56
40:Lo:90:HIS:HE1	40:Lo:92:GLU:HB2	1.69	0.56
46:S2:324:C:H42	46:S2:329:U:H3	1.54	0.56
46:S2:417:U:H2'	46:S2:418:C:H5'	1.87	0.56
46:S2:820:G:H4'	50:SE:255:ARG:HH12	1.71	0.56
71:SN:50:ILE:HB	71:SN:71:ILE:HD13	1.86	0.56
9:LI:66:GLU:OE1	9:LI:69:ARG:NH1	2.32	0.56
46:S2:1222:G:H2'	46:S2:1223:G:C8	2.40	0.56
47:SA:10:MET:HE1	58:SR:109:LEU:HB3	1.87	0.56
48:SB:59:SER:O	48:SB:63:LYS:HG3	2.06	0.56
52:SH:131:GLU:HG2	52:SH:139:ILE:HD12	1.88	0.56
27:Lb:68:ARG:HH11	27:Lb:69:ALA:HB2	1.71	0.56
43:L5:3518:A:H2'	43:L5:3519:A:C8	2.40	0.56
46:S2:106:C:H2'	46:S2:107:A:H8	1.71	0.56
47:SA:81:ASN:OD1	47:SA:81:ASN:N	2.38	0.56
52:SH:79:LEU:O	52:SH:83:LEU:HG	2.06	0.56
53:SI:67:TRP:CD1	53:SI:189:VAL:HG11	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SP:15:PHE:CE2	56:SP:17:TYR:HB2	2.41	0.56
57:SQ:35:ASN:HD21	57:SQ:72:VAL:HG22	1.71	0.56
72:SO:64:ALA:O	72:SO:66:ARG:N	2.39	0.56
74:SY:102:THR:HG22	74:SY:103:SER:H	1.70	0.56
26:La:21:ARG:NH2	43:L5:1133:C:OP2	2.37	0.56
28:Lc:31:TYR:OH	28:Lc:59:GLU:OE1	2.20	0.56
43:L5:108:A:H4'	43:L5:109:G:OP1	2.06	0.56
43:L5:3606:A:H2'	43:L5:3607:U:O4'	2.06	0.56
46:S2:528:C:H2'	46:S2:529:A:C8	2.40	0.56
57:SQ:30:GLY:N	57:SQ:64:ALA:O	2.30	0.56
64:Sa:46:GLU:O	64:Sa:49:ALA:N	2.39	0.56
3:LC:149:GLU:OE2	42:Lr:71:ARG:NH2	2.39	0.56
6:LF:173:ASN:HD21	43:L5:841:A:N6	2.02	0.56
9:LI:145:LYS:HE3	9:LI:167:ILE:HG13	1.88	0.56
39:Ln:13:LEU:HD21	46:S2:1820:A:H4'	1.88	0.56
43:L5:755:A:O2'	43:L5:757:G:OP2	2.24	0.56
43:L5:938:C:O2'	43:L5:939:U:O5'	2.23	0.56
43:L5:1028:G:H2'	43:L5:1029:G:O4'	2.05	0.56
43:L5:1388:G:O2'	43:L5:1389:A:H8	1.88	0.56
46:S2:291:U:N3	46:S2:294:C:OP2	2.25	0.56
46:S2:376:U:O4	46:S2:377:A:N6	2.39	0.56
46:S2:563:U:OP2	46:S2:563:U:H6	1.89	0.56
46:S2:664:C:OP2	63:SX:3:LYS:NZ	2.35	0.56
46:S2:678:G:OP1	71:SN:5:HIS:NE2	2.35	0.56
46:S2:749:C:HO2'	46:S2:750:U:H5	1.53	0.56
46:S2:929:G:H2'	46:S2:930:G:C8	2.41	0.56
46:S2:1218:A:H2'	46:S2:1219:C:H6	1.70	0.56
48:SB:106:THR:HG23	48:SB:109:LYS:H	1.70	0.56
51:SF:125:SER:O	51:SF:126:THR:OG1	2.23	0.56
73:SW:62:VAL:HG11	76:Sb:8:LEU:HD13	1.88	0.56
4:LD:224:SER:HB3	44:L7:49:A:H5''	1.88	0.56
7:LG:140:VAL:O	7:LG:144:THR:OG1	2.17	0.56
11:LL:7:GLY:O	26:La:49:HIS:NE2	2.30	0.56
16:LQ:14:ARG:NH1	43:L5:1886:C:OP2	2.39	0.56
46:S2:817:A:P	70:SJ:10:ARG:HH12	2.29	0.56
49:SD:25:LEU:HB3	49:SD:34:TYR:CE1	2.41	0.56
69:SG:147:LEU:HD11	69:SG:156:TYR:CD2	2.38	0.56
2:LB:107:ALA:HB2	2:LB:201:LEU:HG	1.88	0.55
17:LR:143:HIS:ND1	43:L5:3254:G:OP1	2.39	0.55
43:L5:381:G:N1	43:L5:384:A:OP2	2.36	0.55
43:L5:1768:G:H5'	43:L5:1769:C:OP2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:926:G:H1	46:S2:1018:U:H3	1.53	0.55
46:S2:1618:G:N2	46:S2:1621:A:OP2	2.39	0.55
49:SD:40:ARG:NH2	49:SD:47:GLU:OE2	2.39	0.55
62:SV:56:CYS:SG	62:SV:59:ILE:HG12	2.46	0.55
15:LP:61:ARG:NH2	45:L8:3:A:O2'	2.36	0.55
18:LS:165:PRO:HG3	43:L5:4522:A:OP2	2.06	0.55
43:L5:1030:C:H2'	43:L5:1031:G:O4'	2.07	0.55
46:S2:869:G:C2	52:SH:115:LYS:HE2	2.41	0.55
48:SB:89:GLU:HG3	48:SB:99:ASN:HB2	1.87	0.55
52:SH:81:ARG:O	52:SH:85:LYS:HG3	2.07	0.55
60:ST:112:MET:SD	60:ST:127:GLY:HA2	2.46	0.55
2:LB:253:CYS:SG	43:L5:4174:U:H1'	2.45	0.55
43:L5:2065:A:N3	45:L8:19:C:O2'	2.39	0.55
46:S2:150:A:H62	46:S2:169:U:H3	1.52	0.55
50:SE:9:LEU:O	50:SE:28:ALA:N	2.36	0.55
56:SP:84:ILE:HG22	56:SP:115:TYR:CE1	2.40	0.55
1:LA:188:LYS:HZ2	1:LA:192:LYS:HE3	1.71	0.55
10:LJ:128:LEU:HG	10:LJ:129:ASP:H	1.71	0.55
43:L5:1431:G:H1'	43:L5:2270:A:N6	2.22	0.55
43:L5:2499:A:H2'	43:L5:2500:A:C8	2.42	0.55
46:S2:297:U:H2'	46:S2:298:A:O4'	2.06	0.55
46:S2:995:C:N4	64:Sa:14:GLY:O	2.35	0.55
46:S2:1289:U:H2'	46:S2:1290:U:C6	2.41	0.55
67:Sg:77:PHE:HA	67:Sg:90:TRP:O	2.07	0.55
71:SN:142:GLU:O	71:SN:146:ALA:HB2	2.05	0.55
72:SO:78:ALA:HB1	72:SO:119:LEU:HG	1.89	0.55
5:LE:166:ARG:HB3	31:Lf:5:LEU:HD11	1.87	0.55
12:LM:113:MET:HG3	43:L5:4527:U:C4	2.41	0.55
43:L5:1696:C:H1'	43:L5:1740:C:O2	2.06	0.55
46:S2:521:A:O2'	46:S2:826:A:N3	2.33	0.55
46:S2:620:A:N6	63:SX:114:ASP:OD1	2.36	0.55
46:S2:1742:U:OP1	53:SI:42:ARG:NH1	2.40	0.55
50:SE:52:LEU:HD21	50:SE:111:VAL:HG11	1.88	0.55
56:SP:83:MET:HB3	56:SP:116:LEU:HD12	1.87	0.55
72:SO:82:ALA:HB2	72:SO:119:LEU:HD23	1.89	0.55
2:LB:55:HIS:ND1	43:L5:4280:U:O2'	2.34	0.55
6:LF:81:LYS:NZ	43:L5:1047:G:OP1	2.40	0.55
6:LF:206:ILE:HG23	6:LF:211:ASP:HB3	1.87	0.55
8:LH:20:LEU:HB3	8:LH:24:THR:HG23	1.89	0.55
11:LL:80:GLU:HB3	11:LL:110:LEU:HD12	1.87	0.55
31:Lf:2:SER:O	31:Lf:2:SER:OG	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:3604:A:H2'	43:L5:3605:C:H2'	1.89	0.55
46:S2:1304:C:H2'	46:S2:1305:U:C6	2.41	0.55
53:SI:21:TYR:CZ	53:SI:22:HIS:HD2	2.23	0.55
2:LB:77:THR:OG1	2:LB:335:GLY:O	2.24	0.55
9:LI:3:ARG:NH1	9:LI:63:GLU:OE2	2.39	0.55
20:LU:20:LYS:O	20:LU:108:GLU:HG2	2.06	0.55
43:L5:951:A:N6	43:L5:1034:G:H1	2.04	0.55
43:L5:4385:G:N2	43:L5:4387:A:N7	2.54	0.55
46:S2:45:A:N1	46:S2:481:G:O2'	2.38	0.55
46:S2:1433:U:H2'	46:S2:1439:A:C8	2.41	0.55
67:Sg:101:PHE:HD1	67:Sg:136:GLY:HA2	1.70	0.55
26:La:44:ASN:ND2	43:L5:1497:U:OP1	2.40	0.55
43:L5:133:C:H41	43:L5:134:G:H21	1.53	0.55
43:L5:1745:A:H5''	44:L7:88:A:C5	2.42	0.55
43:L5:4264:A:H2'	43:L5:4265:C:C6	2.41	0.55
43:L5:4545:G:H2'	43:L5:4547:G:H5'	1.89	0.55
43:L5:4560:C:H2'	43:L5:4561:G:O4'	2.06	0.55
43:L5:4573:G:OP2	43:L5:4573:G:N2	2.25	0.55
45:L8:82:A:H62	45:L8:85:U:H5''	1.72	0.55
46:S2:1219:C:H2'	46:S2:1220:C:H6	1.70	0.55
47:SA:62:ALA:O	47:SA:66:VAL:HG13	2.07	0.55
60:ST:51:ASN:HB3	60:ST:54:TYR:HD2	1.72	0.55
60:ST:130:ASP:O	60:ST:134:ILE:HG12	2.07	0.55
63:SX:101:LEU:HD22	63:SX:124:LYS:HD3	1.88	0.55
68:SC:173:LYS:HD3	73:SW:98:GLN:NE2	2.22	0.55
69:SG:39:ASP:OD1	69:SG:39:ASP:N	2.37	0.55
73:SW:28:ARG:HB3	73:SW:29:PRO:HD3	1.88	0.55
43:L5:821:C:H2'	43:L5:822:U:O4'	2.07	0.55
43:L5:3585:A:H2'	43:L5:3586:G:O4'	2.06	0.55
43:L5:3758:G:H2'	43:L5:3759:G:H5''	1.89	0.55
46:S2:1080:C:O2'	46:S2:1183:A:N1	2.38	0.55
47:SA:52:LYS:CE	62:SV:80:SER:OG	2.55	0.55
68:SC:94:ILE:HG13	68:SC:159:LYS:O	2.05	0.55
43:L5:739:G:O6	43:L5:830:C:O2'	2.25	0.55
43:L5:2240:G:H21	43:L5:2241:A:N6	2.05	0.55
43:L5:3267:A:H2'	43:L5:3268:A:H8	1.72	0.55
43:L5:4387:A:HO2'	43:L5:4388:G:P	2.29	0.55
46:S2:498:C:H2'	46:S2:499:C:H6	1.72	0.55
46:S2:880:C:H3'	46:S2:881:G:H21	1.71	0.55
47:SA:80:ARG:HH22	47:SA:165:ASN:HB3	1.72	0.55
63:SX:18:ARG:HA	63:SX:21:LYS:HZ3	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:336:ARG:NH1	43:L5:845:C:OP1	2.36	0.54
35:Lj:51:ALA:HA	35:Lj:54:LYS:HE2	1.88	0.54
43:L5:2257:U:H2'	43:L5:2258:C:C6	2.42	0.54
43:L5:2277:C:H2'	43:L5:2278:G:H8	1.71	0.54
43:L5:3749:A:C5	43:L5:3750:G:H1'	2.42	0.54
46:S2:1205:A:O2'	46:S2:1701:C:OP2	2.22	0.54
46:S2:1720:A:N6	46:S2:1815:G:O2'	2.40	0.54
4:LD:245:ALA:O	4:LD:249:GLU:HG3	2.07	0.54
7:LG:106:THR:OG1	7:LG:109:GLU:HG3	2.08	0.54
8:LH:12:ILE:HG12	8:LH:53:LYS:O	2.07	0.54
9:LI:152:LEU:HB3	9:LI:165:ILE:HD12	1.89	0.54
10:LJ:57:VAL:HG21	10:LJ:60:PHE:CD2	2.43	0.54
17:LR:103:ARG:NH1	43:L5:2421:C:OP2	2.39	0.54
29:Ld:36:VAL:HG21	29:Ld:44:ARG:HG2	1.89	0.54
43:L5:2314:G:H22	43:L5:2324:G:N2	2.05	0.54
43:L5:3587:U:H3	43:L5:3833:G:H1	1.54	0.54
46:S2:858:U:H4'	50:SE:201:HIS:CE1	2.42	0.54
46:S2:1837:G:OP2	46:S2:1840:U:O2'	2.22	0.54
47:SA:185:MET:HA	47:SA:191:ARG:HH12	1.71	0.54
50:SE:60:GLU:HA	50:SE:63:LYS:HD3	1.89	0.54
50:SE:211:LYS:HG2	50:SE:217:SER:HB3	1.89	0.54
59:SS:100:ALA:O	59:SS:103:LEU:N	2.39	0.54
70:SJ:123:ILE:HD12	70:SJ:126:ALA:HB3	1.88	0.54
8:LH:22:GLY:HA3	43:L5:4419:G:OP2	2.08	0.54
20:LU:26:THR:HA	20:LU:29:VAL:HG22	1.88	0.54
21:LV:33:GLY:HA3	21:LV:69:LYS:HE2	1.89	0.54
26:La:85:GLN:NE2	43:L5:659:C:O2	2.41	0.54
27:Lb:18:ARG:NH2	43:L5:1483:A:OP1	2.28	0.54
33:Lh:35:LYS:HA	33:Lh:44:LEU:HD21	1.89	0.54
43:L5:1256:C:N4	43:L5:1906:G:N3	2.56	0.54
43:L5:4125:G:N1	43:L5:4137:A:C2	2.76	0.54
46:S2:1093:G:OP1	71:SN:2:GLY:N	2.40	0.54
46:S2:1289:U:H3	46:S2:1312:C:H42	1.55	0.54
46:S2:1670:G:OP2	57:SQ:130:LYS:HD3	2.08	0.54
48:SB:40:ASN:OD1	48:SB:75:GLN:NE2	2.40	0.54
48:SB:129:THR:OG1	48:SB:133:TYR:HB2	2.08	0.54
52:SH:127:ASP:OD2	52:SH:142:LYS:NZ	2.41	0.54
55:SL:93:LEU:HD22	55:SL:102:PHE:HB3	1.89	0.54
2:LB:10:ARG:NH2	2:LB:265:SER:O	2.40	0.54
5:LE:136:HIS:HB2	43:L5:1096:G:C6	2.42	0.54
21:LV:65:VAL:HG22	21:LV:73:ARG:HA	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Lc:101:ASP:OD1	28:Lc:101:ASP:N	2.35	0.54
43:L5:1590:A:N3	43:L5:3863:U:O2'	2.39	0.54
43:L5:2314:G:H1	43:L5:2324:G:H1	1.54	0.54
46:S2:893:U:O2'	46:S2:894:U:O4'	2.24	0.54
50:SE:126:VAL:HG22	50:SE:139:LEU:HD13	1.88	0.54
52:SH:73:GLN:NE2	52:SH:132:ASP:OD1	2.41	0.54
67:Sg:110:SER:HB3	67:Sg:153:CYS:HA	1.89	0.54
71:SN:46:THR:O	71:SN:50:ILE:HG12	2.08	0.54
5:LE:163:GLY:HA2	43:L5:4590:C:H5''	1.89	0.54
30:Le:43:ASN:ND2	43:L5:1131:G:OP1	2.34	0.54
43:L5:270:C:H2'	43:L5:271:U:C6	2.43	0.54
43:L5:937:C:N3	43:L5:1053:G:N1	2.56	0.54
43:L5:2226:C:H5'	43:L5:2227:C:OP2	2.08	0.54
43:L5:3714:U:H2'	43:L5:3715:C:C6	2.43	0.54
46:S2:639:C:O2'	77:Se:130:ASN:HB2	2.08	0.54
49:SD:66:ILE:HD11	49:SD:86:LEU:HB2	1.89	0.54
53:SI:74:ARG:HH21	53:SI:112:TRP:CD1	2.25	0.54
62:SV:74:LYS:HD2	62:SV:79:VAL:HG11	1.90	0.54
68:SC:113:GLN:HG2	68:SC:122:THR:HB	1.89	0.54
68:SC:170:TRP:CE2	73:SW:97:ARG:HD2	2.43	0.54
2:LB:254:ILE:HD13	2:LB:268:ARG:NH1	2.22	0.54
2:LB:317:LEU:HD21	2:LB:382:MET:HG3	1.90	0.54
3:LC:7:LEU:HG	3:LC:21:ASN:HB3	1.90	0.54
7:LG:163:PRO:O	7:LG:166:LEU:HD12	2.07	0.54
14:LO:81:TRP:HB2	14:LO:104:VAL:HG21	1.90	0.54
30:Le:43:ASN:HB3	30:Le:46:ARG:HB3	1.90	0.54
43:L5:932:C:H2'	43:L5:933:C:H6	1.71	0.54
43:L5:1770:A:H2'	43:L5:1771:G:C8	2.42	0.54
43:L5:2659:C:O2'	43:L5:2660:G:O5'	2.26	0.54
43:L5:3417:A:H4'	43:L5:3418:C:O5'	2.07	0.54
43:L5:3468:G:O2'	43:L5:3471:U:OP2	2.26	0.54
43:L5:3949:U:H2'	43:L5:3950:G:O4'	2.08	0.54
46:S2:1532:A:H2'	46:S2:1533:C:C6	2.43	0.54
25:LZ:59:LYS:N	43:L5:3802:C:OP1	2.30	0.54
43:L5:1407:A:H5''	43:L5:2593:U:H5''	1.90	0.54
43:L5:4024:G:O2'	43:L5:4025:U:OP2	2.24	0.54
46:S2:37:C:H3'	46:S2:38:A:H8	1.73	0.54
46:S2:1563:C:H2'	46:S2:1564:G:H8	1.73	0.54
46:S2:1594:C:OP1	75:SZ:103:HIS:NE2	2.40	0.54
48:SB:35:ALA:N	48:SB:42:ARG:O	2.25	0.54
51:SF:61:PHE:CE1	65:Sc:49:PRO:HB2	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Sc:15:THR:HG22	65:Sc:16:LYS:H	1.73	0.54
68:SC:217:ALA:HB3	68:SC:219:ILE:HG12	1.89	0.54
69:SG:114:VAL:HB	69:SG:115:LYS:HD2	1.88	0.54
4:LD:178:LYS:HE2	4:LD:179:ARG:NH1	2.23	0.54
5:LE:229:GLN:HE21	5:LE:245:LYS:HG3	1.72	0.54
13:LN:2:GLY:N	43:L5:116:G:OP2	2.41	0.54
15:LP:47:TYR:OH	15:LP:57:CYS:O	2.19	0.54
33:Lh:87:LYS:HD2	43:L5:135:U:O4	2.08	0.54
43:L5:1225:G:H5'	43:L5:1305:A:H5'	1.89	0.54
43:L5:2606:U:O2'	43:L5:2608:G:N7	2.41	0.54
46:S2:12:U:H2'	46:S2:13:C:C6	2.43	0.54
46:S2:386:G:H3'	55:SL:136:LYS:HB2	1.90	0.54
46:S2:657:G:H5'	46:S2:663:G:N2	2.23	0.54
46:S2:1037:A:N3	46:S2:1845:U:O2'	2.41	0.54
48:SB:185:VAL:O	48:SB:189:ILE:HG12	2.06	0.54
50:SE:31:PRO:HB3	50:SE:43:PRO:HG3	1.90	0.54
3:LC:137:VAL:O	3:LC:142:HIS:HB2	2.08	0.54
5:LE:164:ARG:NH2	43:L5:4588:C:OP1	2.35	0.54
10:LJ:52:LYS:HA	10:LJ:67:LYS:HA	1.90	0.54
14:LO:159:LYS:O	14:LO:162:GLU:HG3	2.07	0.54
18:LS:16:CYS:HG	18:LS:54:MET:CG	2.20	0.54
19:LT:81:LYS:HB3	27:Lb:16:TRP:CZ3	2.43	0.54
29:Ld:69:ASN:ND2	43:L5:2129:U:O2'	2.40	0.54
42:Lr:31:ASN:ND2	42:Lr:40:TYR:O	2.40	0.54
43:L5:950:G:O6	43:L5:1035:U:O4	2.26	0.54
43:L5:3415:U:O2'	43:L5:3416:A:OP2	2.22	0.54
43:L5:4190:C:H2'	43:L5:4191:G:C8	2.43	0.54
44:L7:13:A:OP2	44:L7:66:G:N2	2.37	0.54
46:S2:1390:C:O2'	49:SD:163:PRO:HD3	2.08	0.54
46:S2:1629:C:OP1	60:ST:38:LYS:NZ	2.38	0.54
55:SL:135:SER:O	55:SL:139:ARG:NH1	2.41	0.54
57:SQ:58:LEU:HB3	57:SQ:62:ARG:HD3	1.90	0.54
69:SG:44:GLU:N	69:SG:44:GLU:OE2	2.41	0.54
73:SW:11:LEU:HD12	73:SW:74:VAL:HB	1.89	0.54
7:LG:243:GLY:O	7:LG:247:VAL:HG23	2.07	0.54
14:LO:85:ARG:NH2	43:L5:3544:C:OP2	2.38	0.54
26:La:146:LEU:HD13	34:Li:7:MET:HG2	1.90	0.54
29:Ld:92:ARG:HA	29:Ld:102:LEU:HD23	1.90	0.54
31:Lf:35:ALA:HB3	31:Lf:38:GLU:HG3	1.89	0.54
43:L5:1537:G:N2	43:L5:1538:U:O4	2.34	0.54
43:L5:2236:G:H2'	43:L5:2237:G:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:61:A:H1'	46:S2:317:G:H1'	1.90	0.54
46:S2:1016:U:O2'	71:SN:55:ARG:NH1	2.41	0.54
46:S2:1431:C:H2'	46:S2:1432:G:H8	1.73	0.54
46:S2:1866:C:O2	64:Sa:92:ARG:HB3	2.08	0.54
48:SB:44:ILE:HD11	48:SB:86:LEU:HD23	1.90	0.54
50:SE:128:LYS:HB3	50:SE:140:VAL:HG12	1.89	0.54
64:Sa:75:VAL:O	64:Sa:79:ILE:HG13	2.08	0.54
43:L5:86:U:H2'	43:L5:87:A:C8	2.43	0.53
43:L5:749:U:H2'	43:L5:750:G:H4'	1.90	0.53
43:L5:1141:A:H2'	43:L5:1142:C:C6	2.43	0.53
43:L5:3788:C:H1'	43:L5:3800:G:H22	1.72	0.53
46:S2:588:A:C2	46:S2:591:A:C5	2.97	0.53
75:SZ:99:LEU:HA	75:SZ:109:TYR:HD1	1.73	0.53
4:LD:41:LYS:HB2	19:LT:68:THR:O	2.07	0.53
4:LD:65:ALA:HB2	4:LD:74:ILE:HD13	1.90	0.53
7:LG:85:GLN:OE1	7:LG:229:ARG:NH2	2.41	0.53
43:L5:1015:C:O5'	43:L5:1016:C:H5''	2.07	0.53
43:L5:1909:C:C2	43:L5:1910:G:C8	2.97	0.53
43:L5:2259:G:H3'	43:L5:2260:G:H5''	1.91	0.53
43:L5:2296:C:H2'	43:L5:2297:C:C6	2.44	0.53
43:L5:3530:G:H2'	43:L5:3531:G:C8	2.43	0.53
43:L5:4323:C:O2'	43:L5:4325:A:OP2	2.20	0.53
46:S2:105:U:H2'	46:S2:106:C:O4'	2.09	0.53
46:S2:395:G:H5'	55:SL:81:LYS:HB3	1.90	0.53
46:S2:583:U:H2'	46:S2:584:A:H5''	1.90	0.53
46:S2:1618:G:N2	46:S2:1620:A:H3'	2.23	0.53
6:LF:263:ASN:O	6:LF:267:ARG:HG2	2.08	0.53
10:LJ:112:HIS:HD2	10:LJ:126:TYR:H	1.54	0.53
29:Ld:24:GLU:HB2	29:Ld:120:VAL:HG22	1.90	0.53
33:Lh:22:ASP:O	33:Lh:26:VAL:HG23	2.09	0.53
33:Lh:46:LYS:O	33:Lh:50:VAL:HG22	2.09	0.53
43:L5:113:A:H2'	43:L5:114:G:O4'	2.08	0.53
46:S2:1289:U:H2'	46:S2:1290:U:H6	1.72	0.53
46:S2:1619:C:H5	66:Sd:14:PHE:HZ	1.55	0.53
47:SA:61:ALA:O	47:SA:65:ILE:HG13	2.09	0.53
54:SK:3:MET:SD	54:SK:44:HIS:HB3	2.48	0.53
69:SG:54:GLY:O	69:SG:109:LEU:HD12	2.08	0.53
78:S6:22:G:N7	78:S6:46:G:O6	2.41	0.53
10:LJ:93:GLU:HA	10:LJ:173:ILE:HG12	1.90	0.53
13:LN:204:ARG:HD2	43:L5:1157:A:OP1	2.09	0.53
18:LS:17:LEU:HD11	19:LT:136:ARG:NH2	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LZ:17:ARG:NH1	43:L5:2332:G:N7	2.56	0.53
31:Lf:4:ARG:O	31:Lf:6:TRP:N	2.41	0.53
40:Lo:90:HIS:CE1	40:Lo:92:GLU:HB2	2.43	0.53
46:S2:689:U:H2'	52:SH:103:LYS:HB2	1.91	0.53
46:S2:1407:G:C2	46:S2:1408:U:C2	2.96	0.53
52:SH:71:SER:HA	52:SH:74:LYS:HD3	1.91	0.53
55:SL:126:VAL:HG12	55:SL:145:VAL:HG22	1.89	0.53
67:Sg:34:ALA:HB1	67:Sg:66:VAL:HG13	1.91	0.53
77:Se:99:LYS:HD3	77:Se:100:LYS:H	1.73	0.53
78:S6:53:G:HO2'	78:S6:54:A:P	2.31	0.53
10:LJ:18:ARG:HG3	10:LJ:135:GLY:HA3	1.89	0.53
14:LO:54:TYR:OH	14:LO:73:PHE:O	2.26	0.53
25:LZ:95:VAL:HG22	25:LZ:109:LYS:HE3	1.91	0.53
43:L5:264:U:H4'	43:L5:265:C:O5'	2.09	0.53
43:L5:1374:A:H2'	43:L5:1375:G:C8	2.43	0.53
43:L5:4615:A:H2'	43:L5:4616:A:H8	1.74	0.53
43:L5:4679:G:H2'	43:L5:4680:C:C6	2.44	0.53
46:S2:1415:A:O2'	60:ST:128:GLN:NE2	2.41	0.53
46:S2:1662:A:OP1	66:Sd:19:ARG:NH1	2.37	0.53
59:SS:36:VAL:HG23	59:SS:99:LEU:HD22	1.91	0.53
67:Sg:178:ASN:HB3	67:Sg:185:LYS:NZ	2.22	0.53
68:SC:110:MET:HG2	68:SC:125:LYS:HB3	1.90	0.53
5:LE:53:ARG:NH1	5:LE:73:LYS:HG2	2.24	0.53
8:LH:60:TRP:HB2	43:L5:4418:A:N1	2.24	0.53
9:LI:14:ASN:ND2	43:L5:1667:G:OP2	2.41	0.53
26:La:136:LYS:NZ	43:L5:1213:A:OP1	2.41	0.53
36:Lk:35:LYS:HE2	43:L5:2450:A:H62	1.74	0.53
43:L5:4654:U:H4'	43:L5:4655:A:H5'	1.91	0.53
43:L5:4672:C:H5'	43:L5:4673:C:H5''	1.90	0.53
45:L8:92:U:H2'	45:L8:93:C:O4'	2.08	0.53
46:S2:146:G:OP2	69:SG:140:ARG:NH1	2.42	0.53
46:S2:575:A:H4'	74:SY:89:HIS:HB2	1.91	0.53
46:S2:826:A:H2'	46:S2:827:A:C8	2.44	0.53
46:S2:1140:C:H2'	46:S2:1141:G:O4'	2.09	0.53
46:S2:1588:G:C6	60:ST:67:ARG:HD3	2.43	0.53
63:SX:105:PHE:CG	63:SX:112:VAL:HG21	2.44	0.53
67:Sg:59:LEU:HG	67:Sg:94:THR:O	2.08	0.53
67:Sg:62:HIS:CD2	67:Sg:90:TRP:HZ2	2.27	0.53
68:SC:81:ILE:H	68:SC:81:ILE:HD12	1.73	0.53
73:SW:90:GLN:NE2	73:SW:113:HIS:HD2	2.07	0.53
2:LB:182:GLU:OE2	43:L5:4233:U:O2'	2.19	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LQ:104:ARG:NH2	43:L5:1168:G:N7	2.56	0.53
33:Lh:51:ARG:NH1	45:L8:49:G:OP2	2.41	0.53
36:Lk:5:ILE:HD11	36:Lk:43:TYR:HB3	1.90	0.53
43:L5:92:C:OP2	43:L5:3994:C:O2'	2.20	0.53
43:L5:174:C:H2'	43:L5:175:C:C6	2.43	0.53
43:L5:682:G:H2'	43:L5:683:C:C6	2.44	0.53
43:L5:3942:U:H2'	43:L5:3943:U:C6	2.44	0.53
46:S2:1201:A:O2'	46:S2:1358:A:N1	2.31	0.53
46:S2:1229:A:O2'	46:S2:1635:A:N3	2.38	0.53
48:SB:163:GLN:HG3	48:SB:204:ILE:HD13	1.91	0.53
53:SI:67:TRP:HD1	53:SI:189:VAL:HG11	1.74	0.53
54:SK:35:LEU:HG	54:SK:40:VAL:HG12	1.90	0.53
67:Sg:247:TRP:CE3	67:Sg:258:ILE:HB	2.43	0.53
2:LB:258:HIS:HB2	43:L5:4171:A:OP2	2.07	0.53
9:LI:61:SER:HA	9:LI:126:VAL:HG12	1.91	0.53
10:LJ:175:LEU:HB2	10:LJ:176:PRO:HD3	1.89	0.53
12:LM:23:LYS:NZ	43:L5:834:U:OP1	2.40	0.53
39:Ln:12:ARG:O	39:Ln:16:LYS:HG2	2.09	0.53
41:Lp:75:SER:O	41:Lp:79:VAL:HG23	2.09	0.53
43:L5:3841:U:H2'	43:L5:3842:U:C6	2.44	0.53
46:S2:1134:A:H4'	64:Sa:13:LYS:HG3	1.90	0.53
46:S2:1678:U:OP1	51:SF:71:ARG:NH1	2.41	0.53
47:SA:184:ARG:O	47:SA:191:ARG:NH1	2.42	0.53
49:SD:134:CYS:SG	49:SD:135:GLU:N	2.82	0.53
54:SK:14:LEU:HD11	54:SK:35:LEU:HD11	1.91	0.53
57:SQ:28:GLY:HA3	57:SQ:67:ASP:OD2	2.08	0.53
63:SX:54:LYS:NZ	63:SX:94:ILE:O	2.30	0.53
68:SC:87:PRO:HB2	68:SC:89:LYS:HD3	1.90	0.53
2:LB:308:ASP:OD1	2:LB:309:LEU:N	2.42	0.53
41:Lp:41:PHE:CD2	41:Lp:62:LYS:HD2	2.43	0.53
43:L5:130:G:H2'	43:L5:131:C:C6	2.44	0.53
46:S2:441:G:H5''	46:S2:1799:C:O2'	2.09	0.53
46:S2:1336:G:H2'	46:S2:1337:C:C6	2.43	0.53
46:S2:1673:U:H2'	46:S2:1674:U:C6	2.43	0.53
49:SD:99:ILE:H	49:SD:99:ILE:HD12	1.74	0.53
59:SS:105:ASN:OD1	59:SS:108:ARG:NH2	2.42	0.53
63:SX:90:CYS:SG	63:SX:130:LEU:HD11	2.49	0.53
69:SG:22:ARG:NE	69:SG:23:LYS:HE2	2.23	0.53
73:SW:41:MET:HB3	73:SW:47:ILE:HG12	1.90	0.53
74:SY:102:THR:O	74:SY:107:ARG:NH1	2.42	0.53
74:SY:120:THR:O	74:SY:120:THR:OG1	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LL:60:ARG:HD2	11:LL:67:HIS:O	2.08	0.53
16:LQ:175:GLU:HA	26:La:51:GLY:O	2.09	0.53
26:La:12:ARG:HG3	43:L5:1474:U:O2'	2.09	0.53
32:Lg:26:PRO:HD2	43:L5:2278:G:H4'	1.91	0.53
40:Lo:36:GLN:O	40:Lo:36:GLN:HG3	2.08	0.53
43:L5:2:G:H2'	43:L5:3:C:C6	2.44	0.53
43:L5:932:C:H2'	43:L5:933:C:C6	2.44	0.53
43:L5:2242:U:H2'	43:L5:2243:G:N7	2.24	0.53
56:SP:28:MET:HE1	56:SP:36:LEU:HD11	1.90	0.53
59:SS:23:ARG:HE	75:SZ:80:ARG:HH12	1.57	0.53
62:SV:11:LEU:HB3	68:SC:79:GLU:OE2	2.08	0.53
62:SV:65:SER:O	62:SV:69:ILE:HG13	2.09	0.53
67:Sg:187:ASN:O	67:Sg:189:ILE:N	2.41	0.53
74:SY:98:GLU:O	74:SY:100:LYS:HD2	2.08	0.53
3:LC:66:SER:O	3:LC:68:GLY:N	2.42	0.52
13:LN:104:GLU:HA	13:LN:160:GLU:HG3	1.91	0.52
14:LO:74:ARG:HD3	14:LO:146:GLY:HA3	1.91	0.52
39:Ln:4:LYS:HE2	46:S2:1845:U:O4	2.09	0.52
43:L5:64:A:N1	43:L5:108:A:O2'	2.42	0.52
43:L5:950:G:N1	43:L5:1037:G:C6	2.77	0.52
47:SA:75:SER:O	47:SA:122:LEU:HD12	2.08	0.52
58:SR:31:ASN:HA	58:SR:34:VAL:HG12	1.91	0.52
65:Sc:16:LYS:HA	65:Sc:52:GLU:CD	2.34	0.52
67:Sg:62:HIS:HD2	67:Sg:88:ARG:HD2	1.73	0.52
67:Sg:207:CYS:SG	67:Sg:208:ALA:N	2.83	0.52
71:SN:120:SER:O	71:SN:124:ARG:HG3	2.09	0.52
73:SW:105:THR:HG22	73:SW:126:LEU:HD13	1.91	0.52
11:LL:126:LEU:O	11:LL:138:ASP:HB2	2.08	0.52
43:L5:3892:A:H2'	43:L5:3893:G:C8	2.44	0.52
46:S2:66:G:OP1	46:S2:82:G:N2	2.42	0.52
46:S2:96:C:H2'	46:S2:97:U:C6	2.44	0.52
46:S2:1299:G:H2'	46:S2:1300:A:C8	2.43	0.52
46:S2:1672:G:H2'	46:S2:1673:U:C6	2.44	0.52
46:S2:1746:A:H2'	46:S2:1747:U:O4'	2.09	0.52
47:SA:137:ALA:HB1	47:SA:142:LEU:HB3	1.92	0.52
51:SF:102:LEU:HD11	75:SZ:100:VAL:HG21	1.91	0.52
53:SI:179:PRO:HA	53:SI:183:GLY:HA2	1.91	0.52
54:SK:15:LEU:O	54:SK:71:LEU:HD11	2.09	0.52
67:Sg:288:SER:O	67:Sg:300:ALA:HA	2.09	0.52
70:SJ:78:LEU:O	70:SJ:82:VAL:HG23	2.08	0.52
2:LB:57:VAL:HG22	2:LB:73:VAL:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:LB:144:LYS:O	2:LB:148:LYS:HG3	2.09	0.52
29:Ld:47:LYS:NZ	43:L5:2586:A:OP1	2.34	0.52
42:Lr:82:ILE:HD11	42:Lr:96:MET:HE3	1.92	0.52
43:L5:404:U:O2'	43:L5:406:A:N7	2.37	0.52
43:L5:4157:C:H2'	43:L5:4158:C:C6	2.44	0.52
43:L5:4539:A:H2'	43:L5:4540:A:H5'	1.92	0.52
46:S2:12:U:H2'	46:S2:13:C:H6	1.73	0.52
46:S2:165:G:H2'	46:S2:166:A:C8	2.42	0.52
46:S2:529:A:C6	46:S2:530:A:N6	2.77	0.52
46:S2:1485:A:H5''	49:SD:159:HIS:CG	2.44	0.52
49:SD:46:THR:OG1	49:SD:84:VAL:HG22	2.09	0.52
50:SE:229:GLY:HA2	50:SE:235:TRP:CD1	2.44	0.52
68:SC:204:ILE:HG22	68:SC:206:SER:HB3	1.91	0.52
70:SJ:21:GLU:O	70:SJ:25:LEU:HG	2.09	0.52
3:LC:179:ASP:O	3:LC:183:VAL:HG23	2.10	0.52
7:LG:162:ASP:HB2	43:L5:150:U:N3	2.21	0.52
13:LN:183:THR:O	13:LN:183:THR:OG1	2.18	0.52
43:L5:256:C:H2'	43:L5:257:G:O4'	2.09	0.52
43:L5:719:A:H2'	43:L5:720:C:C6	2.44	0.52
43:L5:1003:G:C2	43:L5:1025:C:O2	2.62	0.52
43:L5:1492:C:O2'	43:L5:3846:C:OP1	2.26	0.52
43:L5:1649:G:H2'	43:L5:1650:C:C6	2.44	0.52
46:S2:44:U:H5''	46:S2:45:A:OP2	2.10	0.52
46:S2:304:C:H5''	53:SI:75:LYS:HD2	1.92	0.52
46:S2:1309:U:H2'	46:S2:1310:C:C6	2.45	0.52
46:S2:1403:A:H2'	46:S2:1406:A:N6	2.23	0.52
47:SA:75:SER:OG	47:SA:97:THR:O	2.27	0.52
3:LC:157:LYS:HD3	3:LC:157:LYS:H	1.74	0.52
5:LE:196:ARG:NH1	43:L5:4589:G:OP2	2.32	0.52
7:LG:180:PRO:HD3	7:LG:223:ARG:HH12	1.75	0.52
12:LM:36:ALA:HB2	12:LM:52:PHE:CE1	2.45	0.52
13:LN:16:SER:O	13:LN:20:ARG:HB2	2.09	0.52
43:L5:950:G:N1	43:L5:1037:G:N1	2.58	0.52
43:L5:1012:U:H5''	43:L5:1013:C:C5	2.45	0.52
43:L5:1147:C:H2'	43:L5:1148:A:H8	1.73	0.52
43:L5:1245:C:H2'	43:L5:1246:G:O4'	2.10	0.52
43:L5:4671:C:H5''	43:L5:4672:C:H5''	1.91	0.52
46:S2:5:U:H2'	46:S2:6:G:H8	1.74	0.52
46:S2:415:A:H2'	46:S2:416:A:H8	1.75	0.52
46:S2:558:U:H2'	46:S2:559:G:C8	2.45	0.52
46:S2:931:C:H42	46:S2:1012:A:N6	2.06	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SE:90:ILE:HD11	50:SE:101:LEU:HD23	1.91	0.52
51:SF:35:LEU:HD22	51:SF:117:ILE:HD13	1.92	0.52
61:SU:50:VAL:HG22	61:SU:52:GLY:H	1.75	0.52
64:Sa:42:ARG:NH2	72:SO:107:THR:OG1	2.43	0.52
69:SG:46:LYS:HA	69:SG:46:LYS:HE3	1.90	0.52
70:SJ:22:LYS:HD3	70:SJ:25:LEU:HD12	1.91	0.52
77:Se:96:GLN:HG2	77:Se:98:LYS:HE2	1.90	0.52
8:LH:93:ARG:HG3	8:LH:143:GLU:HB3	1.92	0.52
13:LN:85:VAL:HA	40:Lo:49:GLY:HA2	1.91	0.52
21:LV:90:ARG:HB2	21:LV:94:VAL:HG23	1.90	0.52
43:L5:1247:A:H2'	43:L5:1248:G:O4'	2.10	0.52
46:S2:90:G:H2'	46:S2:91:A:O4'	2.10	0.52
46:S2:373:U:H2'	46:S2:374:G:C8	2.45	0.52
46:S2:392:C:H2'	46:S2:393:A:C8	2.45	0.52
46:S2:1546:A:H2'	46:S2:1547:G:C8	2.44	0.52
46:S2:1682:U:H2'	46:S2:1683:C:C6	2.45	0.52
47:SA:120:ARG:O	47:SA:121:LEU:HD12	2.08	0.52
58:SR:72:LYS:O	58:SR:75:GLU:HG3	2.09	0.52
69:SG:6:SER:HA	69:SG:13:GLN:HB3	1.91	0.52
7:LG:37:LYS:HG2	43:L5:3778:A:C2	2.44	0.52
29:Ld:23:ARG:HG2	29:Ld:121:ASN:HA	1.90	0.52
43:L5:197:A:N3	43:L5:222:C:O2'	2.40	0.52
43:L5:2314:G:N2	43:L5:2324:G:H22	2.07	0.52
46:S2:5:U:H2'	46:S2:6:G:C8	2.43	0.52
46:S2:540:C:H2'	46:S2:541:U:C5	2.44	0.52
49:SD:40:ARG:HE	49:SD:49:ILE:HD13	1.75	0.52
49:SD:42:THR:OG1	49:SD:44:THR:HG22	2.10	0.52
49:SD:217:ILE:HG13	49:SD:218:LEU:N	2.25	0.52
50:SE:161:GLN:O	50:SE:170:THR:OG1	2.20	0.52
69:SG:24:LEU:O	69:SG:26:THR:N	2.43	0.52
70:SJ:38:ARG:N	70:SJ:42:GLU:OE2	2.43	0.52
78:S6:5:A:H2	78:S6:69:U:H3	1.57	0.52
2:LB:385:LYS:NZ	43:L5:4650:U:OP2	2.41	0.52
4:LD:228:LYS:C	4:LD:230:ASN:H	2.18	0.52
37:Ll:2:ALA:N	43:L5:2164:G:O6	2.43	0.52
43:L5:1108:G:OP2	43:L5:1108:G:N2	2.39	0.52
43:L5:4131:G:N2	43:L5:4261:G:O2'	2.42	0.52
45:L8:5:U:H2'	45:L8:6:C:H6	1.75	0.52
46:S2:162:C:H2'	46:S2:163:U:O4'	2.09	0.52
46:S2:1662:A:C8	66:Sd:14:PHE:HB2	2.45	0.52
57:SQ:118:THR:HA	57:SQ:121:VAL:O	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Sg:222:ASN:OD1	67:Sg:223:GLU:N	2.42	0.52
9:LI:47:PRO:HB2	9:LI:142:LEU:HD21	1.91	0.52
14:LO:93:LYS:HE2	43:L5:1123:C:OP1	2.10	0.52
16:LQ:173:LYS:NZ	43:L5:88:A:N7	2.58	0.52
25:LZ:14:LEU:HB3	32:Lg:88:ARG:HG2	1.91	0.52
25:LZ:36:ARG:HH22	43:L5:2334:U:P	2.33	0.52
46:S2:34:U:H2'	46:S2:35:C:H6	1.75	0.52
46:S2:65:C:N4	69:SG:133:LEU:HB3	2.22	0.52
46:S2:886:U:HO2'	46:S2:887:A:H8	1.57	0.52
46:S2:1102:U:H2'	46:S2:1103:G:C8	2.45	0.52
46:S2:1625:U:H2'	46:S2:1626:U:O4'	2.10	0.52
46:S2:1721:U:O4	46:S2:1815:G:N2	2.43	0.52
51:SF:75:SER:OG	51:SF:155:CYS:SG	2.64	0.52
57:SQ:50:LYS:HA	57:SQ:53:GLU:HG2	1.91	0.52
63:SX:63:ASN:ND2	63:SX:114:ASP:OD2	2.36	0.52
63:SX:66:ILE:HG13	77:Se:79:SER:N	2.25	0.52
70:SJ:122:SER:OG	70:SJ:123:ILE:N	2.40	0.52
75:SZ:84:ALA:O	75:SZ:88:LEU:HG	2.09	0.52
4:LD:282:GLN:O	43:L5:1010:U:O2'	2.28	0.52
7:LG:139:GLY:O	7:LG:143:VAL:HG13	2.09	0.52
10:LJ:56:THR:HB	10:LJ:63:ARG:HA	1.91	0.52
14:LO:60:LYS:NZ	43:L5:1849:G:OP1	2.40	0.52
15:LP:74:LYS:NZ	43:L5:4630:A:OP1	2.26	0.52
16:LQ:124:ASP:OD1	16:LQ:124:ASP:N	2.41	0.52
43:L5:697:U:H2'	43:L5:698:C:C6	2.45	0.52
43:L5:1223:C:O2'	43:L5:1224:C:O4'	2.25	0.52
43:L5:1723:C:H3'	43:L5:1724:C:H5''	1.90	0.52
43:L5:1781:C:N3	43:L5:1786:A:C6	2.78	0.52
43:L5:3968:A:N6	43:L5:3982:G:O6	2.38	0.52
46:S2:353:U:H2'	46:S2:354:C:C6	2.45	0.52
46:S2:997:A:H2'	46:S2:998:A:C8	2.45	0.52
49:SD:222:PRO:HG2	67:Sg:226:HIS:CE1	2.44	0.52
72:SO:100:THR:HG21	72:SO:104:ARG:HD3	1.91	0.52
3:LC:321:ASN:HB3	3:LC:324:ILE:HB	1.92	0.51
18:LS:111:ARG:NH1	43:L5:1865:C:O2'	2.42	0.51
21:LV:30:ASP:OD2	21:LV:32:THR:OG1	2.28	0.51
25:LZ:112:ARG:NH2	43:L5:2326:C:O2'	2.43	0.51
43:L5:4638:C:H5''	43:L5:4639:U:H5''	1.92	0.51
46:S2:496:U:H2'	46:S2:497:C:C6	2.45	0.51
46:S2:1726:U:H2'	46:S2:1727:G:O4'	2.10	0.51
58:SR:24:LEU:HB3	58:SR:31:ASN:ND2	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:S6:29:G:H22	78:S6:41:C:H5	1.58	0.51
16:LQ:110:ARG:HG3	16:LQ:120:ILE:HD12	1.92	0.51
31:Lf:73:LYS:HD2	43:L5:850:G:H5''	1.92	0.51
36:Lk:51:GLU:H	36:Lk:51:GLU:CD	2.15	0.51
37:Ll:9:ILE:HG23	37:Ll:51:LEU:HD11	1.92	0.51
43:L5:1418:G:H2'	43:L5:1419:G:C8	2.45	0.51
43:L5:1562:G:N2	43:L5:1576:U:H3	1.91	0.51
44:L7:22:A:H2'	44:L7:23:A:C8	2.45	0.51
46:S2:99:A:H61	46:S2:434:A:H1'	1.76	0.51
46:S2:315:U:H2'	46:S2:316:C:C6	2.44	0.51
46:S2:598:G:H2'	46:S2:599:G:O4'	2.11	0.51
46:S2:1336:G:H1	46:S2:1493:U:H3	1.58	0.51
46:S2:1370:A:H2'	46:S2:1371:A:C8	2.44	0.51
46:S2:1525:G:OP2	59:SS:141:ARG:NH2	2.42	0.51
47:SA:54:THR:HG22	47:SA:162:PRO:O	2.10	0.51
49:SD:106:ARG:HH21	49:SD:173:ARG:HD2	1.75	0.51
53:SI:67:TRP:HE3	53:SI:70:GLU:H	1.57	0.51
1:LA:241:ARG:HH22	43:L5:3317:C:P	2.33	0.51
25:LZ:76:ASN:ND2	43:L5:2410:U:OP1	2.35	0.51
33:Lh:30:GLN:O	33:Lh:33:VAL:HG12	2.10	0.51
42:Lr:51:VAL:HG12	42:Lr:117:ILE:HD12	1.92	0.51
43:L5:1824:G:C5	43:L5:1825:C:C4	2.99	0.51
43:L5:1868:G:H2'	43:L5:1869:C:O4'	2.11	0.51
43:L5:2242:U:H2'	43:L5:2243:G:C8	2.46	0.51
43:L5:3313:A:H2'	43:L5:3314:U:C6	2.45	0.51
46:S2:173:A:H2'	46:S2:174:C:O4'	2.10	0.51
46:S2:932:C:H2'	46:S2:933:G:C8	2.45	0.51
48:SB:39:PHE:HB3	48:SB:74:LEU:HB3	1.92	0.51
50:SE:71:LYS:HB3	50:SE:91:SER:HB2	1.92	0.51
52:SH:65:PRO:HG2	52:SH:68:GLN:HE21	1.75	0.51
52:SH:73:GLN:HG2	52:SH:135:PHE:CD1	2.45	0.51
59:SS:113:ARG:HA	59:SS:116:LYS:NZ	2.25	0.51
61:SU:26:SER:HB2	61:SU:32:LEU:HD13	1.93	0.51
69:SG:84:TYR:OH	69:SG:91:GLU:O	2.21	0.51
3:LC:133:LEU:O	3:LC:137:VAL:HG23	2.11	0.51
6:LF:58:LYS:HD3	6:LF:61:LEU:HD22	1.92	0.51
31:Lf:78:HIS:HB3	31:Lf:83:MET:O	2.10	0.51
43:L5:174:C:H2'	43:L5:175:C:H6	1.75	0.51
43:L5:2315:C:H2'	43:L5:2316:G:C8	2.45	0.51
46:S2:1487:A:H2'	46:S2:1488:A:O4'	2.10	0.51
50:SE:86:PHE:CE1	50:SE:102:ILE:HG22	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SF:123:GLU:OE1	51:SF:138:ALA:HB1	2.10	0.51
52:SH:63:PHE:HA	52:SH:95:ILE:O	2.10	0.51
59:SS:15:VAL:HG21	59:SS:20:ILE:HD12	1.92	0.51
63:SX:105:PHE:HB3	63:SX:112:VAL:HG11	1.92	0.51
63:SX:105:PHE:HB2	63:SX:119:ARG:O	2.10	0.51
3:LC:157:LYS:HD3	3:LC:157:LYS:N	2.26	0.51
10:LJ:111:GLU:HB2	10:LJ:125:ILE:HD11	1.92	0.51
11:LL:55:ILE:O	11:LL:97:SER:OG	2.27	0.51
13:LN:46:ASP:OD1	13:LN:47:LYS:N	2.44	0.51
33:Lh:13:LYS:NZ	33:Lh:15:GLU:HB2	2.26	0.51
43:L5:1745:A:H2'	43:L5:1746:A:C8	2.46	0.51
43:L5:1782:A:O2'	43:L5:1785:G:H5''	2.11	0.51
43:L5:2447:G:H2'	43:L5:2448:G:N2	2.25	0.51
43:L5:3326:G:H21	43:L5:3329:G:N2	2.08	0.51
43:L5:4225:U:H2'	43:L5:4226:G:C8	2.45	0.51
46:S2:170:A:H4'	69:SG:136:LYS:HD3	1.93	0.51
46:S2:1089:U:H4'	46:S2:1090:G:OP2	2.10	0.51
46:S2:1729:U:O2'	46:S2:1730:U:H6	1.93	0.51
48:SB:85:LYS:HB3	48:SB:101:HIS:HB3	1.91	0.51
57:SQ:134:GLY:HA3	57:SQ:140:ARG:HA	1.92	0.51
59:SS:5:ILE:HA	75:SZ:49:LEU:HB3	1.92	0.51
67:Sg:11:LEU:HB2	67:Sg:307:VAL:HB	1.92	0.51
67:Sg:289:LEU:HD11	67:Sg:298:LEU:HD21	1.92	0.51
70:SJ:87:LEU:HD13	70:SJ:100:LEU:HD11	1.93	0.51
71:SN:4:MET:SD	71:SN:121:ARG:HG2	2.50	0.51
73:SW:75:ILE:HD11	73:SW:93:LEU:HD21	1.92	0.51
5:LE:116:LYS:HD3	5:LE:117:LEU:O	2.10	0.51
6:LF:148:ASN:HB2	19:LT:132:PRO:O	2.10	0.51
43:L5:453:U:H2'	43:L5:454:C:C6	2.46	0.51
43:L5:1388:G:HO2'	43:L5:1389:A:P	2.33	0.51
43:L5:3267:A:H2'	43:L5:3268:A:C8	2.45	0.51
43:L5:4175:G:H5'	43:L5:4177:G:N7	2.26	0.51
46:S2:415:A:H2'	46:S2:416:A:C8	2.45	0.51
46:S2:1513:C:H2'	46:S2:1514:C:C6	2.45	0.51
50:SE:226:PHE:O	50:SE:228:ILE:HG23	2.10	0.51
55:SL:113:LEU:HA	55:SL:142:VAL:CG1	2.40	0.51
60:ST:14:PHE:HA	60:ST:138:VAL:HG21	1.91	0.51
67:Sg:292:SER:OG	67:Sg:297:THR:HG23	2.10	0.51
69:SG:159:ARG:HE	69:SG:171:THR:HG23	1.76	0.51
69:SG:193:ALA:O	69:SG:197:GLN:HG2	2.11	0.51
5:LE:137:GLY:O	5:LE:138:LYS:HG2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:191:ARG:HD3	43:L5:4582:G:C6	2.46	0.51
15:LP:83:TRP:O	43:L5:3513:A:H5''	2.10	0.51
43:L5:133:C:H41	43:L5:134:G:N2	2.08	0.51
43:L5:1383:U:H2'	43:L5:1384:G:C8	2.46	0.51
43:L5:1528:U:H2'	43:L5:1529:U:H6	1.76	0.51
43:L5:3891:G:H2'	43:L5:3892:A:C8	2.45	0.51
43:L5:4357:C:H2'	43:L5:4358:A:C8	2.46	0.51
46:S2:72:C:H42	69:SG:170:ARG:HD3	1.74	0.51
46:S2:144:U:H2'	46:S2:145:G:C8	2.46	0.51
46:S2:1279:A:H2'	46:S2:1280:C:C6	2.45	0.51
46:S2:1616:U:H2'	46:S2:1617:U:C6	2.45	0.51
47:SA:5:LEU:HD12	47:SA:8:LEU:HD12	1.93	0.51
54:SK:11:ILE:HD13	54:SK:14:LEU:HD12	1.92	0.51
61:SU:81:GLN:HE22	61:SU:83:ARG:NH1	2.09	0.51
62:SV:74:LYS:HG3	62:SV:79:VAL:HG21	1.91	0.51
65:Sc:22:GLY:O	65:Sc:26:GLN:NE2	2.44	0.51
9:LI:158:LYS:NZ	43:L5:4082:C:N3	2.57	0.51
11:LL:16:LYS:NZ	43:L5:48:G:OP1	2.44	0.51
11:LL:79:GLU:OE2	11:LL:82:ARG:NH2	2.31	0.51
21:LV:78:PRO:HB2	21:LV:106:VAL:HG23	1.92	0.51
29:Ld:60:PRO:HB2	29:Ld:100:ASN:HD21	1.75	0.51
43:L5:314:G:OP2	43:L5:4007:U:O2'	2.29	0.51
43:L5:1507:U:H2'	43:L5:1508:C:O4'	2.11	0.51
43:L5:1561:G:C5	43:L5:1578:A:C2	2.99	0.51
43:L5:2659:C:O2	43:L5:3246:G:N2	2.44	0.51
43:L5:4566:C:H2'	43:L5:4567:C:C6	2.46	0.51
46:S2:1102:U:H2'	46:S2:1103:G:H8	1.76	0.51
46:S2:1455:A:H5''	58:SR:3:ARG:HD2	1.91	0.51
55:SL:103:GLU:HG3	63:SX:10:ALA:HB3	1.91	0.51
61:SU:81:GLN:NE2	66:Sd:55:LEU:HD12	2.25	0.51
5:LE:198:HIS:HB3	5:LE:201:PHE:HD2	1.76	0.51
14:LO:5:GLN:OE1	14:LO:5:GLN:N	2.42	0.51
15:LP:2:VAL:HG23	15:LP:3:ARG:H	1.76	0.51
24:LY:127:GLN:O	24:LY:131:GLU:HG2	2.10	0.51
27:Lb:36:ASP:HB3	27:Lb:39:PHE:HB3	1.92	0.51
43:L5:140:G:H2'	43:L5:141:C:C6	2.46	0.51
43:L5:266:G:H2'	43:L5:267:G:H8	1.75	0.51
43:L5:928:C:H2'	43:L5:929:G:H8	1.75	0.51
43:L5:2125:A:N6	43:L5:2581:G:O2'	2.44	0.51
43:L5:3326:G:H21	43:L5:3329:G:H21	1.59	0.51
43:L5:4551:C:H2'	43:L5:4552:C:H6	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:17:C:HO2'	46:S2:1195:A:H61	1.54	0.51
46:S2:27:A:HO2'	46:S2:484:C:HO2'	1.50	0.51
46:S2:558:U:H2'	46:S2:559:G:N9	2.26	0.51
46:S2:1145:A:H2'	46:S2:1146:A:C8	2.46	0.51
48:SB:23:ASP:N	48:SB:23:ASP:OD1	2.41	0.51
51:SF:40:ALA:HB3	51:SF:67:PRO:HA	1.91	0.51
51:SF:49:LEU:HD11	57:SQ:46:THR:O	2.11	0.51
59:SS:25:LYS:O	59:SS:29:ALA:CB	2.59	0.51
63:SX:18:ARG:HA	63:SX:21:LYS:NZ	2.25	0.51
64:Sa:60:ASP:OD1	64:Sa:61:ALA:N	2.43	0.51
78:S6:74:C:H5'	78:S6:75:C:OP2	2.11	0.51
2:LB:99:LEU:O	43:L5:4235:C:H4'	2.10	0.51
2:LB:154:LYS:HG3	2:LB:191:ALA:HA	1.92	0.51
4:LD:12:TYR:O	4:LD:16:TYR:HB2	2.10	0.51
13:LN:91:GLN:OE1	43:L5:286:U:O2'	2.26	0.51
23:LX:83:THR:HG22	43:L5:2191:G:H5''	1.92	0.51
30:Le:84:GLU:CD	42:Lr:20:ARG:HH22	2.17	0.51
43:L5:1088:G:C2'	43:L5:1089:A:H5'	2.41	0.51
43:L5:2656:G:N2	43:L5:3254:G:H22	2.09	0.51
43:L5:3341:G:H2'	43:L5:3342:C:C6	2.45	0.51
43:L5:3733:G:H2'	43:L5:3734:U:C6	2.46	0.51
43:L5:4597:G:H4'	43:L5:4598:U:O5'	2.11	0.51
46:S2:49:C:H2'	46:S2:473:C:H41	1.76	0.51
46:S2:616:C:O2	77:Se:85:LYS:NZ	2.42	0.51
75:SZ:65:TYR:HA	75:SZ:111:ARG:HH21	1.76	0.51
75:SZ:71:ALA:O	75:SZ:75:GLU:HG3	2.11	0.51
3:LC:65:GLU:HG3	3:LC:66:SER:H	1.75	0.50
5:LE:191:ARG:NH2	43:L5:4586:A:OP1	2.29	0.50
11:LL:16:LYS:HE2	43:L5:46:U:OP1	2.11	0.50
20:LU:105:ASN:CG	20:LU:111:GLU:HG3	2.35	0.50
27:Lb:44:ARG:NH2	43:L5:1280:G:OP2	2.44	0.50
30:Le:104:SER:HB3	43:L5:2060:C:H5''	1.93	0.50
43:L5:653:G:H3'	43:L5:654:G:H8	1.76	0.50
43:L5:753:G:H2'	43:L5:754:A:O4'	2.11	0.50
46:S2:1403:A:H1'	61:SU:54:VAL:HG13	1.93	0.50
46:S2:1628:C:H5''	60:ST:41:LYS:HD2	1.93	0.50
46:S2:1754:C:H5'	46:S2:1781:G:H22	1.75	0.50
46:S2:1794:A:H2'	46:S2:1795:C:H6	1.74	0.50
50:SE:60:GLU:HG3	50:SE:63:LYS:HD3	1.91	0.50
53:SI:160:SER:HA	53:SI:163:GLU:HG2	1.92	0.50
72:SO:92:ALA:HA	72:SO:125:LYS:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:130:SER:HB2	1:LA:171:GLY:HA3	1.93	0.50
2:LB:230:GLY:O	2:LB:234:ARG:HB2	2.12	0.50
2:LB:254:ILE:HD13	2:LB:268:ARG:HH11	1.77	0.50
3:LC:83:GLY:HA3	43:L5:367:C:O4'	2.10	0.50
3:LC:354:LEU:H	3:LC:355:GLU:CD	2.19	0.50
5:LE:75:LEU:HA	5:LE:78:ARG:HG2	1.93	0.50
5:LE:184:THR:HB	5:LE:194:LEU:HD23	1.92	0.50
40:Lo:81:ARG:NH2	43:L5:3946:U:O2'	2.45	0.50
43:L5:431:U:H4'	43:L5:432:A:H5''	1.92	0.50
43:L5:1577:C:H2'	43:L5:1578:A:C8	2.46	0.50
43:L5:4387:A:H1'	43:L5:4388:G:C8	2.46	0.50
43:L5:4602:G:H2'	43:L5:4603:A:C8	2.45	0.50
46:S2:618:G:N7	63:SX:67:ARG:NH2	2.55	0.50
46:S2:662:U:OP1	63:SX:5:ARG:NH2	2.35	0.50
63:SX:84:PHE:HB2	63:SX:118:VAL:HG11	1.92	0.50
67:Sg:34:ALA:HB2	67:Sg:69:VAL:HG23	1.93	0.50
70:SJ:133:ARG:HD2	74:SY:64:PHE:HE2	1.77	0.50
70:SJ:141:VAL:HG21	74:SY:65:GLY:HA3	1.93	0.50
78:S6:52:G:N2	78:S6:53:G:C2	2.79	0.50
11:LL:128:PRO:HB3	11:LL:134:PRO:HA	1.93	0.50
19:LT:28:ALA:HB1	19:LT:32:ARG:HH12	1.77	0.50
19:LT:82:GLY:HA3	27:Lb:16:TRP:HB2	1.94	0.50
26:La:8:THR:HG23	26:La:17:HIS:CE1	2.46	0.50
42:Lr:67:ARG:HH21	43:L5:674:G:H21	1.58	0.50
43:L5:1903:A:H3'	43:L5:1904:C:H5''	1.92	0.50
45:L8:152:U:H2'	45:L8:153:C:O4'	2.11	0.50
46:S2:613:U:O2'	46:S2:614:G:C8	2.64	0.50
46:S2:1135:G:H2'	46:S2:1136:C:C6	2.46	0.50
48:SB:175:GLU:O	48:SB:179:ASN:ND2	2.44	0.50
49:SD:29:LEU:HB2	49:SD:34:TYR:HB2	1.94	0.50
50:SE:36:HIS:ND1	50:SE:85:GLY:HA3	2.26	0.50
68:SC:200[B]:ARG:HA	68:SC:221:ASP:OD2	2.12	0.50
1:LA:22:HIS:O	1:LA:24:LYS:NZ	2.45	0.50
15:LP:6:LEU:HD21	43:L5:424:U:H4'	1.93	0.50
27:Lb:3:LYS:HD3	43:L5:3847:U:H3'	1.94	0.50
43:L5:158:A:H5''	43:L5:159:C:H2'	1.94	0.50
43:L5:2513:G:O2'	43:L5:2514:G:O4'	2.26	0.50
46:S2:77:A:C8	69:SG:154:ARG:HD3	2.46	0.50
46:S2:84:A:H2'	46:S2:85:A:O4'	2.11	0.50
46:S2:657:G:H1'	68:SC:227:ARG:NH2	2.27	0.50
46:S2:1218:A:H2'	46:S2:1219:C:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1513:C:H5''	66:Sd:8:TRP:CZ3	2.46	0.50
50:SE:198:ARG:HA	50:SE:208:VAL:HG12	1.92	0.50
51:SF:50:PRO:HB3	51:SF:69:VAL:HB	1.93	0.50
78:S6:51:U:H2'	78:S6:52:G:C8	2.47	0.50
9:LI:36:LEU:HD11	9:LI:69:ARG:HH21	1.76	0.50
17:LR:162:ARG:HB2	46:S2:874:G:N2	2.26	0.50
19:LT:65:TYR:HB3	19:LT:75:ILE:HD11	1.93	0.50
23:LX:107:HIS:CE1	45:L8:130:C:H5''	2.46	0.50
26:La:32:ARG:HH22	43:L5:1466:U:H5''	1.76	0.50
43:L5:432:A:C2	43:L5:3524:A:H4'	2.46	0.50
43:L5:1380:C:H2'	43:L5:1381:U:C6	2.47	0.50
43:L5:3747:C:O5'	43:L5:3750:G:N2	2.43	0.50
43:L5:4124:U:O2	43:L5:4125:G:C8	2.65	0.50
46:S2:384:G:H2'	46:S2:385:U:O4'	2.12	0.50
46:S2:989:C:H5''	48:SB:116:LYS:HG3	1.93	0.50
46:S2:1191:A:H2'	46:S2:1192:C:O4'	2.11	0.50
47:SA:184:ARG:HB3	47:SA:191:ARG:NH2	2.26	0.50
51:SF:84:GLY:O	51:SF:86:LYS:N	2.45	0.50
63:SX:66:ILE:O	63:SX:68:LYS:NZ	2.40	0.50
70:SJ:32:ILE:HG13	70:SJ:43:VAL:HG21	1.93	0.50
73:SW:55:ASP:C	73:SW:57:ARG:H	2.19	0.50
2:LB:252:ALA:HB1	43:L5:4177:G:C2	2.46	0.50
2:LB:294:LYS:NZ	2:LB:295:ASP:OD1	2.43	0.50
3:LC:322:LEU:O	3:LC:326:LEU:HG	2.12	0.50
15:LP:117:ILE:HD12	15:LP:148:MET:HE2	1.93	0.50
23:LX:95:THR:HG21	23:LX:137:TYR:HB3	1.94	0.50
43:L5:653:G:H2'	43:L5:654:G:O4'	2.11	0.50
43:L5:2195:A:O2'	43:L5:2197:U:OP2	2.22	0.50
43:L5:3263:U:H2'	43:L5:3264:U:C6	2.46	0.50
43:L5:3313:A:H2'	43:L5:3314:U:H6	1.76	0.50
43:L5:3975:G:O2'	43:L5:3977:A:N7	2.40	0.50
46:S2:444:U:H2'	46:S2:445:G:O4'	2.12	0.50
46:S2:455:U:C2	46:S2:456:A:C8	3.00	0.50
46:S2:523:A:H3'	70:SJ:38:ARG:NH1	2.26	0.50
46:S2:575:A:H2'	46:S2:576:A:C8	2.46	0.50
46:S2:811:A:C5	46:S2:852:C:H5	2.28	0.50
46:S2:1512:U:H2'	46:S2:1513:C:C6	2.47	0.50
46:S2:1678:U:O4	46:S2:1679:A:N6	2.44	0.50
46:S2:1749:G:O6	46:S2:1787:U:O4	2.30	0.50
49:SD:167:TYR:OH	49:SD:203:PRO:HA	2.12	0.50
57:SQ:33:LYS:HB3	57:SQ:38:PRO:HA	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Sg:57:ARG:HD2	67:Sg:94:THR:HA	1.93	0.50
68:SC:199:PRO:O	68:SC:202:THR:HG23	2.11	0.50
13:LN:155:VAL:O	13:LN:162:ARG:NH2	2.43	0.50
14:LO:65:ASN:ND2	43:L5:4218:C:OP1	2.45	0.50
20:LU:78:PHE:HE2	20:LU:83:LEU:HD21	1.76	0.50
43:L5:1684:C:H5'	43:L5:2038:U:H1'	1.94	0.50
43:L5:2256:C:H2'	43:L5:2257:U:H6	1.77	0.50
43:L5:4583:U:H1'	43:L5:4585:G:H1'	1.93	0.50
45:L8:39:G:H1'	45:L8:103:A:N6	2.26	0.50
46:S2:145:G:H5''	69:SG:143:LYS:NZ	2.27	0.50
46:S2:1241:A:C6	56:SP:100:LYS:HB2	2.47	0.50
46:S2:1554:C:H41	66:Sd:22:ARG:NH2	2.10	0.50
50:SE:67:GLN:HB2	50:SE:69:PHE:HE2	1.77	0.50
63:SX:41:PHE:O	63:SX:76:LYS:NZ	2.33	0.50
72:SO:56:VAL:HA	72:SO:60:MET:HE2	1.94	0.50
5:LE:189:ILE:O	43:L5:4529:C:N4	2.39	0.50
6:LF:218:THR:O	6:LF:218:THR:OG1	2.27	0.50
7:LG:160:ASP:OD1	7:LG:160:ASP:N	2.41	0.50
11:LL:101:ARG:NH1	43:L5:75:G:O2'	2.44	0.50
15:LP:69:ARG:HA	15:LP:80:GLN:HA	1.94	0.50
27:Lb:8:THR:HG22	43:L5:1485:U:H4'	1.94	0.50
43:L5:454:C:O2'	43:L5:455:C:H5'	2.11	0.50
43:L5:4131:G:O2'	43:L5:4255:A:N1	2.44	0.50
44:L7:113:G:H2'	44:L7:114:U:C6	2.47	0.50
46:S2:1074:U:H2'	46:S2:1075:C:C6	2.47	0.50
46:S2:1511:G:H2'	46:S2:1512:U:C6	2.46	0.50
49:SD:167:TYR:OH	49:SD:192:TRP:HB2	2.11	0.50
57:SQ:16:LYS:O	57:SQ:126:ARG:NH1	2.45	0.50
57:SQ:53:GLU:HG3	57:SQ:85:ARG:NE	2.23	0.50
58:SR:10:LYS:HG2	58:SR:53:TYR:CE2	2.47	0.50
63:SX:67:ARG:HB3	63:SX:84:PHE:CE1	2.46	0.50
65:Sc:46:VAL:HG11	65:Sc:56:LEU:HD21	1.93	0.50
70:SJ:45:ARG:O	70:SJ:49:THR:HG23	2.12	0.50
70:SJ:127:ARG:NH2	77:Se:105:ARG:HG3	2.27	0.50
72:SO:34:PHE:HB3	72:SO:41:PHE:HB2	1.93	0.50
75:SZ:62:VAL:HG13	75:SZ:68:ILE:HD13	1.93	0.50
2:LB:2:SER:N	43:L5:4170:A:N7	2.60	0.50
4:LD:36:LEU:HD21	4:LD:147:ASP:HA	1.94	0.50
16:LQ:155:ALA:HB3	16:LQ:158:THR:HG23	1.93	0.50
18:LS:11:LYS:HG3	18:LS:63:TYR:HE2	1.76	0.50
26:La:118:PRO:O	26:La:120:GLN:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Lr:37:SER:HB2	43:L5:2024:U:OP1	2.12	0.50
43:L5:956:U:H3'	43:L5:1000:C:H42	1.76	0.50
43:L5:1251:C:O2'	43:L5:1901:G:OP2	2.21	0.50
43:L5:3718:U:H2'	43:L5:3719:U:C6	2.46	0.50
43:L5:4397:G:H2'	43:L5:4398:A:C8	2.46	0.50
45:L8:120:G:H2'	45:L8:121:G:C8	2.47	0.50
46:S2:1016:U:O2'	46:S2:1018:U:OP2	2.25	0.50
46:S2:1552:U:OP1	49:SD:9:ARG:NH1	2.45	0.50
49:SD:226:GLN:HA	67:Sg:185:LYS:O	2.12	0.50
50:SE:63:LYS:O	50:SE:67:GLN:NE2	2.39	0.50
67:Sg:44:LYS:HE3	67:Sg:54:ILE:HB	1.94	0.50
67:Sg:107:ASP:HB2	67:Sg:125:ARG:HD2	1.94	0.50
6:LF:260:ASP:O	6:LF:263:ASN:ND2	2.44	0.49
7:LG:252:LYS:HE2	43:L5:3741:G:H5''	1.94	0.49
12:LM:3:PHE:H	18:LS:175:PHE:HZ	1.60	0.49
20:LU:100:LEU:HD22	20:LU:112:LEU:HB3	1.95	0.49
29:Ld:44:ARG:O	29:Ld:48:GLU:HG2	2.11	0.49
43:L5:1191:C:H2'	43:L5:1192:G:C5	2.47	0.49
43:L5:2120:A:H2'	43:L5:2121:G:O4'	2.11	0.49
43:L5:2321:G:H2'	43:L5:2322:A:O4'	2.12	0.49
43:L5:2394:G:H2'	43:L5:2395:A:C8	2.47	0.49
43:L5:3412:G:H2'	43:L5:3413:A:C8	2.46	0.49
43:L5:4001:A:H5''	43:L5:4002:C:OP2	2.12	0.49
46:S2:156:G:H4'	69:SG:107:SER:OG	2.11	0.49
46:S2:748:U:H2'	46:S2:749:C:C6	2.46	0.49
46:S2:858:U:H4'	50:SE:201:HIS:NE2	2.27	0.49
68:SC:74:LYS:HZ3	68:SC:272:HIS:HB2	1.76	0.49
4:LD:93:THR:O	4:LD:93:THR:OG1	2.20	0.49
8:LH:36:ARG:HD2	8:LH:38:PHE:CE1	2.47	0.49
17:LR:105:LEU:HD22	17:LR:135:LYS:HG3	1.94	0.49
17:LR:116:ASP:OD1	17:LR:116:ASP:N	2.45	0.49
20:LU:25:CYS:HB3	20:LU:112:LEU:HD22	1.94	0.49
21:LV:60:MET:HE2	21:LV:106:VAL:HG21	1.93	0.49
43:L5:747:G:O2'	43:L5:748:G:O5'	2.22	0.49
43:L5:806:C:H2'	43:L5:807:C:H6	1.77	0.49
43:L5:1113:C:H2'	43:L5:1114:G:C8	2.46	0.49
43:L5:1318:G:H2'	43:L5:1319:C:C6	2.47	0.49
43:L5:4182:G:H2'	43:L5:4183:U:O4'	2.11	0.49
45:L8:80:A:H3'	45:L8:81:C:H6	1.76	0.49
46:S2:15:U:H2'	46:S2:16:G:O4'	2.12	0.49
46:S2:603:G:O6	81:S2:2005:HOH:O	2.19	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:927:A:H5'	71:SN:90:HIS:CG	2.47	0.49
46:S2:1155:U:H5''	46:S2:1157:U:O4'	2.12	0.49
46:S2:1204:G:H2'	46:S2:1205:A:C8	2.47	0.49
46:S2:1618:G:O6	56:SP:43:ARG:NE	2.27	0.49
47:SA:123:VAL:HG22	47:SA:145:ILE:HB	1.94	0.49
48:SB:30:TRP:CD2	72:SO:19:PRO:HB3	2.47	0.49
48:SB:107:ARG:NH1	72:SO:133:THR:O	2.46	0.49
50:SE:137:PRO:HG2	50:SE:150:PRO:HD2	1.94	0.49
52:SH:73:GLN:HG2	52:SH:135:PHE:CG	2.48	0.49
54:SK:5:LYS:O	54:SK:9:ILE:HG12	2.11	0.49
56:SP:101:THR:HG22	56:SP:102:PHE:H	1.77	0.49
59:SS:127:TRP:HE3	59:SS:129:LEU:HD12	1.76	0.49
60:ST:25:SER:O	60:ST:25:SER:OG	2.30	0.49
60:ST:107:LEU:HB3	60:ST:113:VAL:HG13	1.92	0.49
67:Sg:132:TRP:CZ3	67:Sg:138:CYS:HB3	2.47	0.49
69:SG:22:ARG:HA	69:SG:25:ARG:HH21	1.77	0.49
70:SJ:126:ALA:HA	70:SJ:129:LEU:HB2	1.93	0.49
76:Sb:64:CYS:HB3	76:Sb:73:LEU:HD23	1.94	0.49
5:LE:152:ILE:HG12	5:LE:204:ALA:HB2	1.95	0.49
24:LY:103:LYS:NZ	43:L5:200:U:O4	2.30	0.49
25:LZ:123:LYS:O	25:LZ:124:THR:OG1	2.21	0.49
41:Lp:74:THR:O	41:Lp:78:THR:HG23	2.13	0.49
43:L5:189:G:H22	43:L5:252:G:H21	1.59	0.49
43:L5:1040:C:H2'	43:L5:1041:C:C6	2.47	0.49
43:L5:1184:C:OP2	43:L5:1185:G:O2'	2.22	0.49
45:L8:82:A:N6	45:L8:85:U:H5''	2.27	0.49
46:S2:387:C:H2'	46:S2:388:C:C6	2.47	0.49
46:S2:1804:U:H2'	46:S2:1805:U:O4'	2.12	0.49
49:SD:41:VAL:HB	49:SD:46:THR:HG22	1.93	0.49
53:SI:97:VAL:H	53:SI:100:CYS:HB2	1.77	0.49
53:SI:178:ARG:HH12	53:SI:181:GLN:HB2	1.78	0.49
58:SR:95:ILE:HG13	58:SR:95:ILE:O	2.13	0.49
60:ST:51:ASN:HB3	60:ST:54:TYR:CD2	2.47	0.49
70:SJ:130:ILE:O	70:SJ:143:ASN:HA	2.12	0.49
1:LA:147:ARG:HH11	1:LA:155:LYS:HB3	1.77	0.49
1:LA:199:VAL:HG21	43:L5:1445:A:N7	2.28	0.49
6:LF:135:ARG:NH2	6:LF:227:ASN:O	2.46	0.49
19:LT:103:ASP:OD1	19:LT:104:SER:N	2.45	0.49
25:LZ:29:ILE:HG13	25:LZ:40:HIS:NE2	2.27	0.49
32:Lg:64:LEU:O	32:Lg:72:LYS:NZ	2.30	0.49
33:Lh:89:ARG:HD2	45:L8:37:A:OP2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:138:C:N4	43:L5:139:G:O6	2.45	0.49
43:L5:208:A:C2	43:L5:233:U:H5'	2.47	0.49
43:L5:466:U:N3	43:L5:467:U:O2'	2.33	0.49
43:L5:3410:G:H2'	43:L5:3411:G:O4'	2.12	0.49
46:S2:27:A:H2'	46:S2:28:U:C6	2.47	0.49
46:S2:582:U:H5'	74:SY:65:GLY:H	1.77	0.49
46:S2:1008:C:H2'	46:S2:1009:A:C8	2.48	0.49
46:S2:1348:U:H2'	46:S2:1349:G:N3	2.26	0.49
46:S2:1455:A:H3'	58:SR:5:ARG:HH11	1.78	0.49
46:S2:1657:G:H2'	46:S2:1658:G:C8	2.45	0.49
50:SE:208:VAL:HG21	50:SE:225:ILE:HD11	1.94	0.49
53:SI:113:TYR:CE2	53:SI:121:LEU:HD13	2.48	0.49
55:SL:47:PRO:O	55:SL:51:ILE:HG13	2.12	0.49
67:Sg:172:LYS:HG2	67:Sg:193:GLY:O	2.13	0.49
70:SJ:61:LEU:HD11	70:SJ:95:ASP:HB3	1.93	0.49
7:LG:73:ARG:HG3	43:L5:3727:G:H5'	1.94	0.49
7:LG:138:ALA:HB2	7:LG:194:VAL:HG11	1.93	0.49
12:LM:4:ARG:NH1	43:L5:4419:G:O6	2.35	0.49
13:LN:184:ILE:HD13	43:L5:99:A:H5''	1.93	0.49
18:LS:15:ARG:HB3	18:LS:27:LEU:HD23	1.94	0.49
24:LY:15:ARG:NH1	43:L5:230:G:OP1	2.45	0.49
25:LZ:41:ALA:HB2	25:LZ:77:TYR:HE1	1.77	0.49
43:L5:258:C:H2'	43:L5:259:C:C6	2.47	0.49
43:L5:1008:A:H2	43:L5:1018:G:H22	1.61	0.49
43:L5:1525:C:O2'	43:L5:1526:A:H5'	2.13	0.49
43:L5:2459:G:H1	43:L5:2464:C:H5	1.59	0.49
46:S2:5:U:OP2	68:SC:230:THR:OG1	2.26	0.49
46:S2:813:A:H2'	46:S2:814:A:O4'	2.13	0.49
46:S2:842:G:C2	46:S2:843:C:C2	3.01	0.49
46:S2:1203:U:O2'	68:SC:115:GLN:O	2.22	0.49
51:SF:82:ASN:HA	51:SF:85:LYS:HG2	1.94	0.49
61:SU:69:PRO:HA	66:Sd:41:GLN:HG2	1.94	0.49
67:Sg:90:TRP:CZ3	67:Sg:97:THR:HG23	2.48	0.49
68:SC:66:LEU:O	68:SC:70:VAL:HG23	2.13	0.49
3:LC:25:PRO:HG2	3:LC:28:PHE:CD2	2.48	0.49
22:LW:3:VAL:CG1	22:LW:12:LYS:HG2	2.42	0.49
29:Ld:30:HIS:CG	29:Ld:30:HIS:O	2.65	0.49
36:Lk:50:LYS:O	36:Lk:54:GLU:HG2	2.12	0.49
43:L5:26:C:H42	43:L5:56:A:N6	2.11	0.49
43:L5:1107:C:H2'	43:L5:1108:G:N3	2.27	0.49
46:S2:1019:U:H2'	46:S2:1020:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1381:C:H2'	46:S2:1382:G:O4'	2.12	0.49
46:S2:1600:U:H3'	75:SZ:44:LEU:HD12	1.93	0.49
47:SA:18:PHE:CE1	47:SA:177:MET:HE3	2.48	0.49
48:SB:126:ASP:OD2	48:SB:136:ARG:NE	2.45	0.49
67:Sg:302:TYR:CD1	67:Sg:308:ARG:HD3	2.48	0.49
1:LA:215:ASN:ND2	43:L5:4199:A:N7	2.61	0.49
2:LB:393:LYS:NZ	43:L5:4691:A:OP1	2.45	0.49
11:LL:52:SER:OG	11:LL:152:GLY:O	2.19	0.49
16:LQ:64:SER:OG	16:LQ:89:ASP:OD2	2.22	0.49
26:La:100:ILE:HG12	26:La:123:ILE:HB	1.95	0.49
28:Lc:50:ASN:HB2	28:Lc:76:GLY:C	2.37	0.49
43:L5:492:G:O2'	43:L5:493:U:O5'	2.27	0.49
43:L5:1558:C:C6	43:L5:1559:U:C6	3.01	0.49
43:L5:1867:G:H2'	43:L5:1868:G:O4'	2.12	0.49
43:L5:2173:G:N2	43:L5:2184:G:N7	2.51	0.49
43:L5:3568:C:H2'	43:L5:3569:U:H6	1.77	0.49
43:L5:3739:C:H2'	43:L5:3740:G:C8	2.48	0.49
43:L5:4253:G:O2'	43:L5:4254:U:P	2.71	0.49
44:L7:75:G:N2	44:L7:76:U:O4	2.29	0.49
46:S2:1779:C:H2'	46:S2:1780:G:O4'	2.13	0.49
49:SD:48:ILE:HB	49:SD:86:LEU:HD22	1.95	0.49
50:SE:105:THR:HG21	50:SE:244:ILE:N	2.27	0.49
51:SF:71:ARG:HH22	51:SF:148:ASN:HD22	1.60	0.49
56:SP:85:ILE:CD1	56:SP:116:LEU:HG	2.42	0.49
70:SJ:60:LEU:HD11	70:SJ:77:LEU:HD12	1.95	0.49
3:LC:298:ILE:O	3:LC:302:LEU:HG	2.13	0.49
13:LN:43:THR:OG1	13:LN:131:GLU:OE2	2.18	0.49
16:LQ:150:ARG:NH2	43:L5:1313:C:OP1	2.46	0.49
18:LS:86:SER:OG	18:LS:91:HIS:NE2	2.45	0.49
43:L5:263:C:N4	43:L5:264:U:O4	2.46	0.49
43:L5:754:A:O2'	43:L5:755:A:H5'	2.12	0.49
43:L5:1254:U:H2'	43:L5:1255:C:O4'	2.11	0.49
45:L8:139:G:H2'	45:L8:140:C:O4'	2.13	0.49
46:S2:483:G:H5'	63:SX:76:LYS:HB3	1.94	0.49
46:S2:615:C:H1'	63:SX:64:SER:HB3	1.94	0.49
46:S2:1571:G:N7	60:ST:97:LYS:NZ	2.61	0.49
47:SA:149:ASN:HD22	47:SA:166:LYS:NZ	2.11	0.49
51:SF:76:MET:HE2	51:SF:173:LEU:HD12	1.94	0.49
56:SP:114:HIS:HD1	56:SP:118:GLU:CD	2.20	0.49
67:Sg:249:CYS:SG	67:Sg:289:LEU:HD21	2.52	0.49
68:SC:88:ILE:H	68:SC:88:ILE:HD12	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:98:LEU:HD12	7:LG:218:LEU:HD12	1.94	0.49
7:LG:140:VAL:HG21	7:LG:166:LEU:O	2.12	0.49
8:LH:48:LEU:HB2	8:LH:54:ARG:HB2	1.95	0.49
12:LM:38:VAL:HG21	12:LM:55:MET:HE1	1.95	0.49
14:LO:201:LEU:HD12	14:LO:201:LEU:H	1.77	0.49
16:LQ:69:LYS:O	16:LQ:75:ARG:NH1	2.45	0.49
28:Lc:61:GLU:OE2	28:Lc:73:HIS:HE1	1.96	0.49
29:Ld:70:LYS:HZ3	43:L5:2146:A:H5'	1.78	0.49
43:L5:4043:A:H2'	43:L5:4044:G:O4'	2.12	0.49
46:S2:177:G:H22	46:S2:314:A:H5'	1.78	0.49
46:S2:552:U:OP1	70:SJ:124:HIS:NE2	2.46	0.49
46:S2:650:U:H2'	46:S2:651:A:H8	1.77	0.49
46:S2:1017:U:C6	71:SN:61:ALA:HB1	2.48	0.49
46:S2:1237:G:O6	59:SS:137:LYS:HE3	2.12	0.49
46:S2:1272:C:H42	46:S2:1512:U:H3	1.60	0.49
46:S2:1803:C:H2'	46:S2:1804:U:C6	2.48	0.49
51:SF:28:VAL:HG23	51:SF:110:GLN:NE2	2.28	0.49
59:SS:40:TYR:O	59:SS:44:VAL:HG13	2.13	0.49
67:Sg:285:GLN:O	67:Sg:303:THR:HG22	2.13	0.49
78:S6:62:C:H2'	78:S6:63:A:C8	2.41	0.49
8:LH:75:SER:OG	43:L5:4344:A:OP1	2.26	0.49
13:LN:83:LYS:O	13:LN:85:VAL:N	2.46	0.49
18:LS:96:GLU:CD	18:LS:138:ARG:H	2.21	0.49
34:Li:63:VAL:O	34:Li:64:SER:OG	2.23	0.49
40:Lo:6:LYS:HG3	40:Lo:94:GLY:HA3	1.93	0.49
43:L5:106:A:H2'	43:L5:107:G:O4'	2.12	0.49
43:L5:156:G:N2	43:L5:157:U:O4	2.45	0.49
43:L5:2656:G:N1	43:L5:3251:C:O2	2.46	0.49
43:L5:4125:G:H2'	43:L5:4126:A:C8	2.47	0.49
44:L7:11:A:N1	44:L7:66:G:O2'	2.40	0.49
46:S2:155:G:H2'	46:S2:156:G:C8	2.42	0.49
46:S2:377:A:H2'	46:S2:378:G:H8	1.77	0.49
46:S2:664:C:O2'	68:SC:227:ARG:NH1	2.46	0.49
46:S2:1200:A:H2'	46:S2:1201:A:H8	1.76	0.49
46:S2:1514:C:P	66:Sd:12:ARG:HH21	2.36	0.49
47:SA:118:GLU:OE2	68:SC:65:LYS:N	2.44	0.49
47:SA:148:CYS:O	47:SA:162:PRO:HA	2.13	0.49
49:SD:167:TYR:CE2	49:SD:204:LEU:HD12	2.48	0.49
51:SF:29:GLN:OE1	51:SF:29:GLN:N	2.46	0.49
62:SV:71:ARG:HH12	73:SW:23:ARG:HE	1.61	0.49
64:Sa:52:ASP:HA	64:Sa:55:GLU:HG2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Sg:76:GLN:HE22	67:Sg:92:LEU:H	1.59	0.49
71:SN:94:LYS:O	71:SN:98:VAL:HG23	2.11	0.49
12:LM:104:MET:HG2	12:LM:108:ASP:HB2	1.94	0.48
43:L5:153:G:H2'	43:L5:154:G:H8	1.78	0.48
43:L5:1111:G:H2'	43:L5:1112:U:C6	2.48	0.48
43:L5:1536:G:N3	43:L5:3867:A:H2'	2.27	0.48
46:S2:1315:U:C5	54:SK:4:PRO:HA	2.48	0.48
46:S2:1610:C:OP2	59:SS:132:ARG:HD2	2.12	0.48
51:SF:96:ALA:O	51:SF:100:ILE:HG12	2.13	0.48
53:SI:107:THR:HG23	53:SI:110:ARG:HH22	1.78	0.48
67:Sg:32:LEU:HA	67:Sg:43:TRP:HD1	1.78	0.48
74:SY:47:MET:SD	74:SY:55:ILE:HD13	2.53	0.48
78:S6:14:C:H2'	78:S6:15:A:C8	2.48	0.48
2:LB:196:TRP:O	2:LB:200:ARG:HG2	2.13	0.48
7:LG:242:LEU:HB3	7:LG:246:SER:HB2	1.95	0.48
16:LQ:42:THR:OG1	43:L5:1242:U:H5''	2.12	0.48
21:LV:82:ILE:HB	21:LV:121:VAL:HG13	1.96	0.48
43:L5:1809:U:O2	43:L5:1817:C:H1'	2.13	0.48
43:L5:3445:C:N4	43:L5:3469:C:OP2	2.45	0.48
43:L5:4244:U:H2'	43:L5:4245:C:C6	2.48	0.48
46:S2:146:G:P	69:SG:140:ARG:HH12	2.36	0.48
46:S2:652:U:H2'	46:S2:653:U:C6	2.48	0.48
46:S2:1217:C:H5''	46:S2:1218:A:H5'	1.94	0.48
53:SI:67:TRP:CE3	53:SI:69:SER:HB2	2.48	0.48
56:SP:81:ARG:NH2	56:SP:117:GLY:O	2.46	0.48
63:SX:93:PHE:HB3	63:SX:133:LEU:HD21	1.96	0.48
67:Sg:230:LEU:HD21	67:Sg:257:LYS:HE3	1.94	0.48
69:SG:7:PHE:CD1	69:SG:113:ILE:HB	2.47	0.48
3:LC:25:PRO:HB2	3:LC:27:VAL:HG12	1.94	0.48
4:LD:163:LEU:O	4:LD:167:VAL:HG13	2.13	0.48
27:Lb:16:TRP:CD1	27:Lb:21:ILE:HD11	2.49	0.48
43:L5:4583:U:O2'	43:L5:4585:G:O4'	2.31	0.48
46:S2:497:C:H5'	50:SE:29:PRO:HA	1.95	0.48
46:S2:498:C:H2'	46:S2:499:C:C6	2.48	0.48
46:S2:537:A:H8	46:S2:538:C:H4'	1.79	0.48
46:S2:956:A:N6	46:S2:972:G:H1'	2.29	0.48
46:S2:1098:G:H4'	47:SA:32:PHE:CD1	2.48	0.48
46:S2:1498:G:O6	54:SK:25:LYS:NZ	2.32	0.48
46:S2:1598:C:H4'	46:S2:1604:G:O6	2.13	0.48
46:S2:1794:A:H2'	46:S2:1795:C:C6	2.48	0.48
49:SD:20:GLU:HB3	54:SK:64:TRP:CE3	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SX:135:LYS:HB3	63:SX:137:LYS:HG2	1.96	0.48
64:Sa:45:VAL:HG23	64:Sa:50:VAL:HG12	1.94	0.48
68:SC:90:GLU:HB2	68:SC:93:ILE:HG13	1.95	0.48
72:SO:21:VAL:HB	72:SO:25:GLU:HG3	1.95	0.48
2:LB:10:ARG:NH2	2:LB:14:LEU:HD21	2.28	0.48
5:LE:49:PRO:HA	43:L5:880:U:H5'	1.94	0.48
12:LM:5:ARG:NH1	43:L5:4516:G:OP2	2.45	0.48
24:LY:54:GLU:OE1	24:LY:108:ARG:HD2	2.14	0.48
42:Lr:100:ASN:HD21	43:L5:477:G:H21	1.62	0.48
43:L5:692:G:OP2	43:L5:693:C:N4	2.38	0.48
43:L5:1805:A:H4'	43:L5:1806:G:O5'	2.13	0.48
43:L5:1901:G:H2'	43:L5:1902:A:O4'	2.12	0.48
43:L5:3305:A:H1'	43:L5:3442:A:N6	2.28	0.48
46:S2:295:U:N3	55:SL:65:ASN:OD1	2.40	0.48
46:S2:877:C:H2'	46:S2:878:C:C6	2.48	0.48
46:S2:1497:U:O2'	46:S2:1499:A:OP1	2.30	0.48
47:SA:58:LEU:HD13	47:SA:161:ILE:HG21	1.95	0.48
56:SP:12:PHE:CB	56:SP:14:LYS:HE3	2.42	0.48
67:Sg:31:ILE:HG12	67:Sg:299:PHE:CE2	2.48	0.48
1:LA:114:CYS:HB3	1:LA:167:GLY:O	2.14	0.48
2:LB:36:ASP:HB3	2:LB:39:LYS:HE2	1.95	0.48
4:LD:271:MET:HB3	4:LD:276:LYS:HE3	1.95	0.48
24:LY:2:LYS:HE3	24:LY:2:LYS:HB3	1.63	0.48
27:Lb:9:THR:HA	27:Lb:12:GLN:HG2	1.95	0.48
43:L5:3749:A:H62	43:L5:3750:G:N2	2.12	0.48
46:S2:304:C:O4'	53:SI:64:ASN:ND2	2.47	0.48
46:S2:689:U:H3'	52:SH:103:LYS:HD2	1.96	0.48
46:S2:1135:G:H2'	46:S2:1136:C:H6	1.79	0.48
46:S2:1432:G:H2'	46:S2:1433:U:C6	2.49	0.48
46:S2:1535:C:H5''	46:S2:1537:G:O4'	2.13	0.48
73:SW:11:LEU:HB3	73:SW:72:CYS:O	2.13	0.48
2:LB:339:GLY:HA3	2:LB:343:ARG:HG2	1.96	0.48
10:LJ:80:GLU:OE1	10:LJ:169:LYS:NZ	2.47	0.48
21:LV:45:ILE:HG21	21:LV:53:PRO:HB3	1.95	0.48
23:LX:67:ARG:NH1	45:L8:133:G:OP1	2.46	0.48
43:L5:2129:U:H2'	43:L5:2130:C:C6	2.49	0.48
43:L5:2342:C:OP1	43:L5:2522:C:O2'	2.24	0.48
46:S2:65:C:O2'	46:S2:66:G:OP2	2.29	0.48
46:S2:1040:C:H2'	46:S2:1041:G:H8	1.79	0.48
46:S2:1623:U:O4	56:SP:122:THR:HG23	2.14	0.48
46:S2:1671:C:H2'	46:S2:1672:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SE:137:PRO:HG2	50:SE:149:TYR:HA	1.96	0.48
51:SF:31:ASN:OD1	51:SF:117:ILE:HG13	2.12	0.48
51:SF:56:TYR:CD2	51:SF:66:CYS:HB2	2.49	0.48
62:SV:23:ILE:HG21	68:SC:248:TYR:O	2.13	0.48
68:SC:210:PRO:HD3	68:SC:236:PHE:CE2	2.48	0.48
70:SJ:81:LEU:HD23	70:SJ:87:LEU:HB2	1.95	0.48
12:LM:100:ARG:HA	12:LM:103:LYS:HG2	1.95	0.48
24:LY:103:LYS:HE2	43:L5:231:U:O2'	2.14	0.48
31:Lf:76:ARG:NH2	43:L5:1708:U:OP2	2.46	0.48
33:Lh:4:ILE:HD13	33:Lh:24:LEU:HD11	1.96	0.48
43:L5:932:C:H4'	43:L5:1049:C:H5''	1.95	0.48
43:L5:1132:U:H2'	43:L5:1133:C:C6	2.49	0.48
43:L5:3419:U:H2'	43:L5:3420:A:O4'	2.14	0.48
43:L5:3535:C:OP1	43:L5:4053:G:O2'	2.30	0.48
43:L5:4385:G:H2'	43:L5:4386:C:H5''	1.95	0.48
46:S2:224:U:H5''	55:SL:17:PHE:CD2	2.48	0.48
46:S2:478:G:H2'	46:S2:479:G:H8	1.78	0.48
46:S2:563:U:C4'	70:SJ:132:GLN:HG2	2.44	0.48
46:S2:607:G:O4'	77:Se:130:ASN:ND2	2.46	0.48
46:S2:1040:C:H2'	46:S2:1041:G:C8	2.49	0.48
54:SK:31:LYS:HD2	54:SK:39:ASN:HA	1.96	0.48
55:SL:97:ARG:O	55:SL:100:ASN:ND2	2.46	0.48
63:SX:74:LEU:HB2	63:SX:79:LYS:H	1.78	0.48
67:Sg:127:LYS:HD2	67:Sg:149:GLU:HA	1.95	0.48
74:SY:44:LEU:O	74:SY:47:MET:HG2	2.13	0.48
75:SZ:42:ASP:N	75:SZ:42:ASP:OD1	2.47	0.48
2:LB:394:LYS:HA	2:LB:397:ILE:HG12	1.95	0.48
5:LE:242:ASP:OD1	5:LE:242:ASP:N	2.46	0.48
7:LG:187:LYS:HG2	7:LG:198:THR:HB	1.96	0.48
10:LJ:131:TYR:OH	43:L5:3902:G:H1'	2.13	0.48
13:LN:179:LYS:O	43:L5:296:U:O2'	2.32	0.48
16:LQ:170:LYS:HD2	16:LQ:176:ARG:HH21	1.78	0.48
25:LZ:94:THR:O	25:LZ:97:ASN:ND2	2.43	0.48
40:Lo:3:ASN:O	43:L5:3885:U:H5''	2.13	0.48
43:L5:2656:G:C5	43:L5:3251:C:H1'	2.49	0.48
43:L5:4242:A:N1	43:L5:4274:C:O2'	2.40	0.48
43:L5:4318:A:H2'	43:L5:4319:G:O4'	2.13	0.48
46:S2:572:U:H2'	46:S2:573:U:C6	2.49	0.48
46:S2:964:A:OP1	72:SO:65:ASP:HB3	2.14	0.48
46:S2:994:G:N7	64:Sa:15:ARG:NH1	2.62	0.48
46:S2:1235:C:H4'	46:S2:1247:A:N1	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1506:U:H5'	46:S2:1507:A:OP1	2.13	0.48
46:S2:1717:C:H2'	46:S2:1718:C:H6	1.78	0.48
63:SX:129:SER:OG	63:SX:130:LEU:N	2.46	0.48
67:Sg:69:VAL:HG13	67:Sg:80:SER:OG	2.13	0.48
70:SJ:87:LEU:HD12	70:SJ:100:LEU:HD21	1.96	0.48
74:SY:25:ILE:HG13	74:SY:57:VAL:HG21	1.95	0.48
7:LG:243:GLY:HA2	43:L5:3815:C:C5	2.49	0.48
10:LJ:85:LYS:HD3	10:LJ:115:LEU:O	2.13	0.48
19:LT:27:LEU:HB3	19:LT:31:MET:HE3	1.94	0.48
20:LU:42:PHE:CZ	20:LU:46:ARG:HD3	2.49	0.48
43:L5:6:C:H2'	43:L5:7:C:C6	2.49	0.48
43:L5:3757:G:N2	43:L5:3758:G:H1'	2.29	0.48
43:L5:4253:G:HO2'	43:L5:4254:U:P	2.37	0.48
46:S2:449:A:N6	53:SI:29:LEU:HD22	2.28	0.48
49:SD:64:ARG:HA	49:SD:67:ARG:NH2	2.29	0.48
57:SQ:85:ARG:HH22	57:SQ:116:ASP:HB2	1.78	0.48
63:SX:16:HIS:HA	63:SX:19:ASP:OD2	2.14	0.48
67:Sg:172:LYS:O	67:Sg:173:LEU:HD23	2.14	0.48
73:SW:86:LEU:HD21	73:SW:113:HIS:HB2	1.95	0.48
3:LC:193:LYS:HE2	43:L5:351:G:C8	2.48	0.48
7:LG:154:LEU:HB3	7:LG:204:PHE:HB2	1.96	0.48
8:LH:86:LEU:HD21	8:LH:190:ALA:HB3	1.95	0.48
13:LN:195:ARG:HD3	43:L5:98:A:OP1	2.13	0.48
18:LS:15:ARG:HD2	18:LS:25:PRO:HG2	1.96	0.48
19:LT:88:ARG:O	43:L5:3952:U:O2'	2.30	0.48
20:LU:107:LYS:HB2	20:LU:107:LYS:HE3	1.65	0.48
22:LW:3:VAL:HG11	22:LW:12:LYS:HG2	1.96	0.48
26:La:132:ARG:HD2	43:L5:1212:A:OP1	2.13	0.48
43:L5:3309:A:H2'	43:L5:3310:A:C8	2.49	0.48
43:L5:3845:A:H2'	43:L5:3846:C:H6	1.79	0.48
43:L5:3994:C:N3	78:S6:76:A:O2'	2.46	0.48
46:S2:289:G:N2	46:S2:297:U:H1'	2.29	0.48
47:SA:20:ALA:HB3	58:SR:91:LEU:HG	1.96	0.48
59:SS:45:LEU:HD23	59:SS:45:LEU:HA	1.71	0.48
59:SS:108:ARG:O	59:SS:112:GLU:HG2	2.14	0.48
59:SS:125:HIS:NE2	59:SS:131:VAL:HG21	2.29	0.48
60:ST:108:GLU:OE2	60:ST:115:LYS:HE3	2.13	0.48
74:SY:50:THR:HG22	74:SY:51:THR:N	2.28	0.48
1:LA:180:LEU:HD22	41:Lp:18:TYR:HB3	1.96	0.47
7:LG:56:LYS:HD3	43:L5:3736:A:C5	2.48	0.47
9:LI:212:LEU:O	9:LI:214:SER:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:153:G:H2'	43:L5:154:G:C8	2.49	0.47
43:L5:2181:G:H2'	43:L5:2183:U:C5	2.49	0.47
43:L5:2344:G:H2'	43:L5:2508:G:N2	2.29	0.47
46:S2:145:G:H2'	46:S2:146:G:C8	2.49	0.47
46:S2:339:G:H2'	46:S2:340:A:H8	1.79	0.47
46:S2:677:C:H2'	46:S2:678:G:O4'	2.14	0.47
46:S2:884:U:C4	46:S2:905:A:C6	3.02	0.47
46:S2:906:C:H2'	46:S2:907:U:C5	2.49	0.47
46:S2:1555:C:H2'	46:S2:1556:U:C5	2.49	0.47
46:S2:1655:G:H8	46:S2:1655:G:OP2	1.97	0.47
46:S2:1677:U:H2'	46:S2:1678:U:O4'	2.14	0.47
48:SB:85:LYS:CB	48:SB:101:HIS:HB3	2.44	0.47
50:SE:159:THR:HG21	50:SE:227:VAL:HB	1.96	0.47
51:SF:34:SER:HA	65:Sc:55:VAL:HB	1.96	0.47
52:SH:133:LEU:HD22	52:SH:177:TYR:HD1	1.79	0.47
57:SQ:37:ARG:HB3	60:ST:7:LYS:HG3	1.95	0.47
57:SQ:119:LEU:HD23	57:SQ:119:LEU:HA	1.74	0.47
67:Sg:46:THR:HG23	67:Sg:48:ASP:HB2	1.96	0.47
3:LC:12:SER:OG	3:LC:13:GLU:N	2.46	0.47
8:LH:118:LEU:HD11	8:LH:167:VAL:HG22	1.96	0.47
11:LL:77:SER:OG	11:LL:104:ASN:OD1	2.21	0.47
17:LR:24:LEU:HD12	43:L5:2143:U:H5''	1.96	0.47
17:LR:96:MET:HG3	43:L5:2421:C:O4'	2.13	0.47
33:Lh:89:ARG:O	33:Lh:93:ARG:HG2	2.14	0.47
43:L5:1561:G:N7	43:L5:1578:A:C4	2.81	0.47
43:L5:2256:C:H2'	43:L5:2257:U:C6	2.49	0.47
43:L5:2506:G:H2'	43:L5:2507:G:O4'	2.15	0.47
43:L5:2655:G:O2'	43:L5:2656:G:H5'	2.15	0.47
43:L5:3425:U:O2'	43:L5:3426:C:H5'	2.15	0.47
43:L5:3428:C:H2'	43:L5:3429:U:C6	2.49	0.47
43:L5:3788:C:H1'	43:L5:3800:G:H1	1.80	0.47
43:L5:4565:G:N1	43:L5:4566:C:C2	2.82	0.47
46:S2:22:A:H1'	70:SJ:17:ARG:CZ	2.43	0.47
46:S2:531:U:H3	46:S2:556:A:N6	2.12	0.47
46:S2:1245:U:H2'	46:S2:1246:G:C8	2.49	0.47
46:S2:1717:C:H2'	46:S2:1718:C:C6	2.50	0.47
49:SD:42:THR:HB	49:SD:43:PRO:HD2	1.95	0.47
49:SD:103:GLU:O	49:SD:107:TYR:HD1	1.98	0.47
56:SP:85:ILE:HG12	56:SP:114:HIS:O	2.14	0.47
68:SC:229:CYS:SG	68:SC:232:THR:OG1	2.49	0.47
78:S6:51:U:H2'	78:S6:52:G:O4'	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:140:PRO:HG3	43:L5:1102:G:C2	2.48	0.47
8:LH:77:VAL:HA	8:LH:80:MET:HE3	1.97	0.47
12:LM:127:VAL:HG21	14:LO:178:ARG:HG2	1.95	0.47
27:Lb:40:LEU:O	27:Lb:44:ARG:HG3	2.13	0.47
36:Lk:54:GLU:OE1	36:Lk:57:LYS:HD2	2.13	0.47
43:L5:937:C:H2'	43:L5:938:C:C6	2.49	0.47
43:L5:1374:A:H2'	43:L5:1375:G:H8	1.79	0.47
43:L5:1378:A:OP2	43:L5:1378:A:H8	1.97	0.47
43:L5:1565:C:O2	43:L5:1565:C:H2'	2.14	0.47
43:L5:3493:A:H2'	43:L5:3494:C:O4'	2.15	0.47
46:S2:14:C:H2'	46:S2:15:U:C6	2.49	0.47
46:S2:17:C:H2'	46:S2:18:C:H6	1.79	0.47
46:S2:72:C:N4	69:SG:170:ARG:HD3	2.29	0.47
46:S2:456:A:H2'	46:S2:457:C:C6	2.47	0.47
46:S2:1667:C:H2'	46:S2:1668:U:O4'	2.14	0.47
50:SE:11:ARG:NH2	50:SE:20:LEU:HD22	2.30	0.47
53:SI:57:ALA:HB1	53:SI:60:LEU:HG	1.94	0.47
59:SS:82:TRP:CD1	59:SS:82:TRP:H	2.30	0.47
65:Sc:28:THR:O	65:Sc:45:ASN:HA	2.14	0.47
67:Sg:240:CYS:SG	67:Sg:289:LEU:HG	2.54	0.47
69:SG:51:ARG:O	69:SG:112:VAL:HG12	2.12	0.47
70:SJ:50:LEU:HG	70:SJ:54:ARG:HD3	1.97	0.47
73:SW:38:LEU:HD22	73:SW:47:ILE:HD13	1.96	0.47
3:LC:331:TYR:CE2	3:LC:335:MET:HG3	2.49	0.47
12:LM:53:LYS:NZ	43:L5:1727:C:OP1	2.33	0.47
16:LQ:170:LYS:HD2	16:LQ:176:ARG:NH2	2.30	0.47
21:LV:46:LYS:NZ	43:L5:4162:U:O3'	2.48	0.47
23:LX:97:VAL:HG22	23:LX:137:TYR:HD1	1.80	0.47
26:La:12:ARG:HD3	26:La:12:ARG:HA	1.64	0.47
31:Lf:106:TYR:HB2	31:Lf:107:PRO:HD3	1.96	0.47
43:L5:1229:G:H2'	43:L5:1230:C:H6	1.76	0.47
43:L5:4190:C:H2'	43:L5:4191:G:H8	1.78	0.47
43:L5:4247:U:H2'	43:L5:4248:G:C8	2.50	0.47
46:S2:347:C:H2'	46:S2:348:G:O4'	2.14	0.47
46:S2:607:G:H5''	77:Se:130:ASN:HB3	1.96	0.47
46:S2:833:G:N2	46:S2:844:C:N3	2.62	0.47
46:S2:1126:C:H2'	46:S2:1127:G:O4'	2.13	0.47
46:S2:1832:A:H1'	46:S2:1853:C:H5'	1.95	0.47
55:SL:37:TYR:CD2	55:SL:51:ILE:HA	2.50	0.47
57:SQ:43:GLU:HG2	57:SQ:44:PRO:HD2	1.96	0.47
67:Sg:120:ILE:HG13	67:Sg:132:TRP:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Sg:288:SER:HB2	67:Sg:301:GLY:HA3	1.96	0.47
69:SG:45:TRP:HA	69:SG:48:TYR:HD2	1.79	0.47
76:Sb:74:THR:HG22	76:Sb:75:GLU:H	1.80	0.47
2:LB:10:ARG:NH1	2:LB:11:HIS:O	2.48	0.47
4:LD:270:LYS:HE2	44:L7:60:G:OP1	2.14	0.47
7:LG:255:LYS:O	7:LG:259:LYS:HG2	2.14	0.47
16:LQ:150:ARG:NH1	43:L5:1312:G:OP1	2.48	0.47
17:LR:99:MET:HE1	17:LR:127:VAL:HG12	1.97	0.47
31:Lf:27:LEU:HB3	31:Lf:83:MET:HE1	1.96	0.47
43:L5:2191:G:O2'	43:L5:2284:A:N1	2.43	0.47
43:L5:4112:U:H2'	43:L5:4113:U:C6	2.49	0.47
46:S2:641:A:C6	46:S2:642:A:N6	2.82	0.47
46:S2:1309:U:H2'	46:S2:1310:C:H6	1.80	0.47
46:S2:1590:A:H4'	60:ST:82:ARG:HB2	1.95	0.47
46:S2:1664:A:O2'	46:S2:1665:A:H5'	2.15	0.47
48:SB:110:MET:O	48:SB:114:VAL:HG23	2.14	0.47
52:SH:39:GLN:HB3	52:SH:75:ILE:HD13	1.95	0.47
52:SH:80:VAL:HG23	52:SH:92:VAL:HB	1.96	0.47
59:SS:124:ARG:NE	59:SS:130:ARG:O	2.30	0.47
67:Sg:291:TRP:CD1	67:Sg:298:LEU:HD13	2.49	0.47
74:SY:38:THR:HA	74:SY:41:ARG:NH2	2.30	0.47
1:LA:50:HIS:ND1	43:L5:2495:U:H2'	2.30	0.47
8:LH:151:ILE:O	8:LH:155:SER:OG	2.27	0.47
11:LL:169:ILE:HD13	26:La:142:GLY:HA2	1.96	0.47
18:LS:16:CYS:SG	18:LS:54:MET:CG	2.99	0.47
42:Lr:46:ARG:NH1	43:L5:674:G:H5''	2.28	0.47
43:L5:218:A:H1'	43:L5:219:G:O4'	2.14	0.47
43:L5:466:U:H3'	43:L5:467:U:O4'	2.15	0.47
43:L5:1225:G:H2'	43:L5:1227:G:OP1	2.15	0.47
43:L5:1240:G:N2	43:L5:1272:C:OP2	2.41	0.47
43:L5:3568:C:H2'	43:L5:3569:U:C6	2.49	0.47
43:L5:3760:G:H2'	43:L5:3760:G:N3	2.29	0.47
43:L5:4652:C:H2'	43:L5:4653:G:O4'	2.14	0.47
46:S2:849:U:H4'	50:SE:248:ILE:HD11	1.97	0.47
46:S2:1265:C:OP1	66:Sd:28:HIS:HE1	1.98	0.47
46:S2:1755:G:C6	46:S2:1756:C:H1'	2.50	0.47
48:SB:187:LYS:HE3	48:SB:187:LYS:HB3	1.63	0.47
49:SD:40:ARG:HH21	49:SD:49:ILE:HD11	1.79	0.47
55:SL:114:SER:OG	55:SL:116:CYS:SG	2.62	0.47
60:ST:11:GLN:NE2	60:ST:62:ARG:HH21	2.13	0.47
61:SU:66:ARG:CZ	61:SU:75:LYS:HA	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SC:103:LYS:HE3	68:SC:103:LYS:HB3	1.59	0.47
69:SG:64:LYS:HD3	69:SG:83:CYS:SG	2.55	0.47
69:SG:199:THR:O	69:SG:203:LYS:HG3	2.14	0.47
72:SO:98:ARG:HG2	72:SO:99:ALA:O	2.15	0.47
78:S6:13:G:H1	78:S6:23:C:N4	1.93	0.47
2:LB:10:ARG:HH21	2:LB:14:LEU:HD21	1.80	0.47
2:LB:161:ARG:HG2	2:LB:184:GLN:HA	1.96	0.47
2:LB:312:LYS:NZ	2:LB:368:ILE:O	2.40	0.47
3:LC:150:LEU:HB3	3:LC:151:PRO:HD3	1.97	0.47
4:LD:33:ARG:NE	44:L7:7:G:OP1	2.48	0.47
7:LG:197:LYS:NZ	43:L5:148:A:OP2	2.46	0.47
11:LL:31:ARG:NH1	43:L5:337:A:OP1	2.46	0.47
12:LM:62:LEU:HD11	12:LM:77:TRP:CE3	2.49	0.47
12:LM:122:ILE:HG22	14:LO:185:VAL:HG11	1.95	0.47
14:LO:185:VAL:HG13	14:LO:188:LYS:HG2	1.95	0.47
16:LQ:12:LYS:NZ	43:L5:1886:C:OP1	2.44	0.47
25:LZ:58:GLY:O	25:LZ:62:ILE:HG13	2.15	0.47
25:LZ:64:LYS:NZ	43:L5:2512:G:N7	2.61	0.47
28:Lc:22:MET:HE3	28:Lc:85:CYS:HA	1.97	0.47
43:L5:1148:A:H2'	43:L5:1149:A:C8	2.50	0.47
43:L5:1380:C:H2'	43:L5:1381:U:H6	1.79	0.47
43:L5:2318:C:N4	43:L5:2321:G:H22	2.12	0.47
43:L5:2616:G:H4'	43:L5:3282:G:N7	2.30	0.47
43:L5:3975:G:N2	43:L5:3978:A:OP2	2.41	0.47
43:L5:4231:G:H2'	43:L5:4232:U:C6	2.49	0.47
43:L5:4278:C:O2'	43:L5:4279:A:H5'	2.14	0.47
45:L8:128:C:H2'	45:L8:129:C:C6	2.48	0.47
46:S2:112:U:O2'	46:S2:113:G:OP2	2.30	0.47
46:S2:555:A:H3'	46:S2:555:A:OP2	2.14	0.47
46:S2:569:C:H2'	46:S2:570:A:C8	2.49	0.47
46:S2:575:A:H2'	46:S2:576:A:H8	1.79	0.47
46:S2:616:C:OP2	63:SX:64:SER:OG	2.33	0.47
46:S2:675:C:H42	46:S2:1032:A:H61	1.63	0.47
46:S2:905:A:H3'	46:S2:906:C:H6	1.80	0.47
46:S2:922:G:C5	73:SW:28:ARG:HD2	2.49	0.47
46:S2:946:U:H2'	46:S2:947:U:C6	2.49	0.47
46:S2:1545:C:O2'	57:SQ:80:GLN:NE2	2.48	0.47
46:S2:1733:G:H2'	46:S2:1734:U:C6	2.50	0.47
47:SA:33:GLN:NE2	62:SV:64:GLU:HG3	2.30	0.47
52:SH:16:PRO:HB2	52:SH:18:GLU:OE2	2.15	0.47
52:SH:103:LYS:HG3	52:SH:116:ARG:NH2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SS:98:VAL:HG21	59:SS:106:LYS:HG3	1.96	0.47
61:SU:59:LYS:HB2	61:SU:84:ILE:HB	1.95	0.47
63:SX:130:LEU:HD12	63:SX:130:LEU:HA	1.52	0.47
67:Sg:199:THR:HG21	67:Sg:239:LEU:C	2.40	0.47
68:SC:206:SER:OG	68:SC:210:PRO:HG2	2.13	0.47
69:SG:44:GLU:H	69:SG:44:GLU:CD	2.21	0.47
74:SY:23:MET:HE1	74:SY:75:ILE:HG12	1.97	0.47
1:LA:162:ASN:HD22	1:LA:162:ASN:N	2.13	0.47
2:LB:107:ALA:HB1	2:LB:202:GLU:HG3	1.97	0.47
2:LB:114:CYS:SG	2:LB:180:LEU:HD11	2.55	0.47
5:LE:216:ILE:HG23	5:LE:220:LEU:HD12	1.96	0.47
13:LN:60:VAL:HB	13:LN:134:LEU:HB2	1.96	0.47
14:LO:31:ARG:O	14:LO:33:VAL:HG23	2.15	0.47
36:Lk:47:ILE:HG22	36:Lk:49:ASP:H	1.80	0.47
43:L5:949:C:H2'	43:L5:950:G:H5'	1.95	0.47
43:L5:1614:G:H2'	43:L5:1615:C:C6	2.50	0.47
46:S2:120:U:H2'	46:S2:121:U:C6	2.49	0.47
46:S2:295:U:H5	55:SL:36:TYR:CE2	2.33	0.47
46:S2:875:G:H21	52:SH:114:GLN:HE22	1.62	0.47
46:S2:1144:A:H2'	46:S2:1145:A:C8	2.50	0.47
46:S2:1230:G:H21	60:ST:87:VAL:CG2	2.28	0.47
46:S2:1453:A:O2'	46:S2:1476:G:N2	2.47	0.47
46:S2:1573:C:H2'	46:S2:1574:G:O4'	2.15	0.47
46:S2:1712:U:H2'	46:S2:1713:A:H8	1.80	0.47
46:S2:1740:C:H2'	46:S2:1741:C:C6	2.50	0.47
49:SD:210:ILE:HG21	58:SR:15:VAL:HG12	1.95	0.47
50:SE:200:ARG:HA	50:SE:206:ASP:HB3	1.96	0.47
51:SF:116:ILE:HG21	51:SF:147:VAL:HG13	1.97	0.47
52:SH:143:ARG:HB2	52:SH:155:LYS:HB2	1.97	0.47
56:SP:95:GLY:HA2	56:SP:103:ASN:O	2.14	0.47
61:SU:81:GLN:HE22	61:SU:83:ARG:CZ	2.27	0.47
69:SG:2:LYS:O	69:SG:108:VAL:HA	2.15	0.47
6:LF:247:THR:HG22	6:LF:253:GLY:HA3	1.96	0.47
23:LX:81:LEU:HD23	23:LX:81:LEU:HA	1.71	0.47
25:LZ:79:HIS:ND1	43:L5:2334:U:O2'	2.45	0.47
28:Lc:52:CYS:HA	28:Lc:92:CYS:SG	2.55	0.47
34:Li:36:HIS:O	34:Li:40:VAL:HG23	2.15	0.47
43:L5:25:A:H4'	43:L5:339:C:H2'	1.97	0.47
43:L5:1030:C:C4	43:L5:1031:G:C8	3.02	0.47
43:L5:1855:G:O2'	43:L5:1860:A:N1	2.45	0.47
43:L5:2250:G:H2'	43:L5:2251:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:L8:123:U:H2'	45:L8:124:U:H5'	1.96	0.47
46:S2:1333:A:C6	46:S2:1501:G:C5	3.03	0.47
46:S2:1439:A:O2'	46:S2:1440:A:O5'	2.28	0.47
46:S2:1651:A:H2'	46:S2:1652:A:O4'	2.15	0.47
46:S2:1730:U:OP1	53:SI:17:LYS:HE3	2.15	0.47
50:SE:204:SER:OG	50:SE:205:PHE:N	2.47	0.47
57:SQ:30:GLY:HA2	57:SQ:63:PHE:O	2.15	0.47
57:SQ:52:LEU:O	57:SQ:56:LEU:HG	2.15	0.47
62:SV:74:LYS:HA	62:SV:79:VAL:CG2	2.44	0.47
72:SO:72:TYR:HA	72:SO:75:MET:HE3	1.97	0.47
72:SO:97:LEU:O	72:SO:131:ASP:HA	2.14	0.47
74:SY:110:ARG:HD3	74:SY:127:ALA:HB3	1.97	0.47
1:LA:104:VAL:O	1:LA:139:HIS:HE1	1.98	0.47
8:LH:187:VAL:C	8:LH:189:GLN:H	2.23	0.47
27:Lb:32:LEU:HD12	43:L5:1278:C:H5''	1.96	0.47
43:L5:1367:A:H61	43:L5:1388:G:H1'	1.77	0.47
43:L5:3252:U:O2'	43:L5:3254:G:OP2	2.27	0.47
43:L5:4224:A:H2'	43:L5:4225:U:C6	2.50	0.47
46:S2:617:A:OP1	63:SX:68:LYS:NZ	2.44	0.47
46:S2:1706:C:H2'	46:S2:1707:G:C8	2.50	0.47
46:S2:1753:C:H2'	46:S2:1783:G:H21	1.79	0.47
48:SB:189:ILE:HB	48:SB:190:PRO:HD3	1.96	0.47
49:SD:68:GLU:HB2	54:SK:20:VAL:HG11	1.96	0.47
58:SR:71:ILE:HA	58:SR:74:GLN:HG2	1.96	0.47
63:SX:48:LYS:HD3	63:SX:99:GLU:OE2	2.15	0.47
67:Sg:14:HIS:HB2	67:Sg:37:ASP:OD2	2.15	0.47
67:Sg:64:HIS:CG	67:Sg:83:TRP:HB2	2.49	0.47
70:SJ:21:GLU:H	70:SJ:24:ARG:HH21	1.62	0.47
1:LA:104:VAL:HG22	1:LA:162:ASN:O	2.14	0.46
10:LJ:96:LYS:H	10:LJ:176:PRO:HD2	1.79	0.46
12:LM:13:ALA:HB1	12:LM:55:MET:HB2	1.98	0.46
17:LR:88:ARG:HG2	43:L5:2566:A:H5'	1.97	0.46
19:LT:111:GLU:O	19:LT:115:LYS:HG2	2.14	0.46
26:La:3:SER:HG	43:L5:2099:G:H5''	1.79	0.46
43:L5:25:A:N3	43:L5:338:C:O2'	2.39	0.46
43:L5:99:A:H2'	43:L5:100:C:O2	2.15	0.46
43:L5:1040:C:C2	43:L5:1041:C:C5	3.04	0.46
46:S2:42:A:O2'	46:S2:43:U:H5'	2.16	0.46
46:S2:385:U:H2'	46:S2:387:C:H5	1.80	0.46
46:S2:479:G:H2'	46:S2:480:C:C6	2.50	0.46
46:S2:596:U:H2'	46:S2:597:U:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:608:U:O2'	46:S2:609:C:OP2	2.32	0.46
46:S2:1165:G:O2'	46:S2:1166:G:H5'	2.15	0.46
46:S2:1754:C:H5'	46:S2:1781:G:N2	2.29	0.46
53:SI:66:SER:OG	53:SI:73:THR:HG22	2.14	0.46
69:SG:56:ASN:HB2	69:SG:108:VAL:HG12	1.97	0.46
70:SJ:110:LEU:HD23	70:SJ:149:VAL:HB	1.97	0.46
72:SO:64:ALA:C	72:SO:66:ARG:N	2.73	0.46
3:LC:353:LYS:C	3:LC:354:LEU:HD22	2.40	0.46
7:LG:86:ALA:HB3	7:LG:185:LYS:HE3	1.96	0.46
28:Lc:31:TYR:CE1	28:Lc:56:ARG:HG3	2.50	0.46
30:Le:105:SER:HB3	30:Le:128:ARG:HB3	1.96	0.46
32:Lg:42:PRO:HB2	32:Lg:53:LEU:HD12	1.97	0.46
35:Lj:13:ASN:ND2	43:L5:1432:G:OP1	2.31	0.46
40:Lo:36:GLN:NE2	43:L5:293:G:O2'	2.48	0.46
40:Lo:51:GLN:HG2	40:Lo:55:ILE:HD11	1.98	0.46
43:L5:35:U:O4	43:L5:46:U:O2'	2.25	0.46
43:L5:233:U:O2	43:L5:233:U:O2'	2.22	0.46
43:L5:1451:A:OP1	43:L5:1454:C:N4	2.38	0.46
43:L5:1561:G:N3	43:L5:1561:G:C5'	2.78	0.46
43:L5:3605:C:N4	43:L5:3717:U:H2'	2.30	0.46
43:L5:3848:G:OP1	43:L5:3874:C:O2'	2.32	0.46
43:L5:4639:U:H2'	43:L5:4640:G:C8	2.50	0.46
46:S2:930:G:H2'	46:S2:931:C:O4'	2.15	0.46
46:S2:984:A:H2	72:SO:139:SER:HB2	1.81	0.46
46:S2:1048:C:H2'	46:S2:1049:G:O4'	2.15	0.46
47:SA:79:SER:OG	47:SA:80:ARG:N	2.48	0.46
49:SD:75:LYS:HG2	54:SK:34:GLU:OE1	2.15	0.46
53:SI:179:PRO:HA	53:SI:183:GLY:CA	2.45	0.46
60:ST:64:LEU:HD11	60:ST:121:ARG:HB2	1.98	0.46
60:ST:99:VAL:O	60:ST:103:VAL:HG23	2.15	0.46
61:SU:81:GLN:NE2	61:SU:83:ARG:HG3	2.30	0.46
67:Sg:191:HIS:CE1	67:Sg:217:MET:HG3	2.51	0.46
68:SC:173:LYS:HD3	73:SW:98:GLN:HE22	1.78	0.46
73:SW:106:THR:HG23	73:SW:122:GLY:O	2.14	0.46
3:LC:66:SER:OG	3:LC:75:ARG:O	2.33	0.46
3:LC:144:ILE:HG13	3:LC:144:ILE:O	2.16	0.46
4:LD:9:ASN:ND2	4:LD:11:ALA:H	2.13	0.46
5:LE:114:VAL:HG13	5:LE:114:VAL:O	2.16	0.46
11:LL:92:ARG:NE	43:L5:109:G:H5'	2.31	0.46
25:LZ:53:VAL:HG11	25:LZ:62:ILE:HG23	1.98	0.46
35:Lj:86:PRO:HA	45:L8:67:U:H5''	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:Lo:96:ASP:N	40:Lo:96:ASP:OD1	2.45	0.46
43:L5:31:U:H2'	43:L5:32:G:O4'	2.15	0.46
43:L5:954:G:C6	43:L5:955:C:C4	3.03	0.46
43:L5:1824:G:C6	43:L5:1825:C:N3	2.83	0.46
43:L5:3881:G:H5''	43:L5:3882:U:O4'	2.15	0.46
43:L5:4091:U:H2'	43:L5:4092:U:O4'	2.15	0.46
43:L5:4585:G:H2'	43:L5:4587:A:N7	2.30	0.46
46:S2:483:G:N2	46:S2:485:A:H3'	2.31	0.46
46:S2:1465:C:O5'	58:SR:60:ARG:NH1	2.49	0.46
48:SB:134:LEU:HG	48:SB:218:LEU:HD12	1.96	0.46
50:SE:11:ARG:HD3	50:SE:11:ARG:HA	1.71	0.46
50:SE:248:ILE:HA	50:SE:251:GLU:HB2	1.97	0.46
51:SF:71:ARG:HH22	51:SF:148:ASN:ND2	2.13	0.46
59:SS:8:LYS:HG3	59:SS:8:LYS:O	2.14	0.46
60:ST:40:ALA:HB1	60:ST:42:HIS:CE1	2.50	0.46
60:ST:80:GLY:HA3	60:ST:93:SER:O	2.15	0.46
68:SC:65:LYS:HD3	68:SC:266:TYR:CE2	2.50	0.46
70:SJ:110:LEU:HD21	70:SJ:147:PHE:CD2	2.50	0.46
74:SY:95:GLY:O	74:SY:96:LEU:HD23	2.15	0.46
2:LB:96:PRO:HD3	14:LO:156:LEU:HD12	1.97	0.46
6:LF:96:MET:HE3	6:LF:96:MET:HB2	1.82	0.46
17:LR:3:MET:HE3	17:LR:3:MET:HB3	1.61	0.46
25:LZ:87:VAL:HG12	25:LZ:89:ILE:HG12	1.97	0.46
26:La:72:THR:HG22	26:La:110:LYS:HB3	1.96	0.46
42:Lr:94:ARG:O	42:Lr:98:ARG:HB3	2.15	0.46
43:L5:2307:G:O2'	43:L5:2341:A:N1	2.39	0.46
43:L5:2632:G:OP2	43:L5:2633:A:O2'	2.25	0.46
46:S2:1150:A:H2'	46:S2:1150:A:N3	2.31	0.46
46:S2:1180:G:N2	46:S2:1182:A:H3'	2.31	0.46
46:S2:1217:C:H41	46:S2:1343:U:H5''	1.80	0.46
46:S2:1217:C:N4	46:S2:1343:U:H5''	2.31	0.46
46:S2:1595:A:OP2	75:SZ:104:ARG:N	2.39	0.46
46:S2:1713:A:H2'	46:S2:1714:C:H6	1.80	0.46
50:SE:254:LYS:HD2	50:SE:254:LYS:HA	1.81	0.46
55:SL:118:ARG:HD3	55:SL:118:ARG:HA	1.79	0.46
59:SS:53:THR:HG22	59:SS:53:THR:O	2.15	0.46
67:Sg:25:PRO:HB3	67:Sg:293:ALA:HB1	1.96	0.46
74:SY:37:LYS:HE3	74:SY:37:LYS:HB3	1.67	0.46
1:LA:30:ARG:O	1:LA:163:ARG:NH1	2.44	0.46
3:LC:199:ARG:NH2	43:L5:349:C:OP2	2.48	0.46
5:LE:104:VAL:HA	5:LE:111:GLY:C	2.40	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LH:17:GLU:HB3	8:LH:27:VAL:HG23	1.97	0.46
11:LL:37:LYS:HB3	11:LL:37:LYS:HE2	1.65	0.46
13:LN:74:PRO:HB3	43:L5:3327:C:H1'	1.98	0.46
13:LN:119:TYR:OH	13:LN:131:GLU:OE1	2.28	0.46
16:LQ:108:ARG:O	16:LQ:112:ARG:HG3	2.15	0.46
28:Lc:48:LEU:HD21	28:Lc:60:ILE:HG21	1.98	0.46
43:L5:1213:A:H4'	43:L5:1214:G:H5'	1.97	0.46
43:L5:1539:A:H2'	43:L5:1540:A:O4'	2.16	0.46
46:S2:1032:A:H2'	46:S2:1033:C:C6	2.50	0.46
46:S2:1074:U:H2'	46:S2:1075:C:H6	1.78	0.46
46:S2:1102:U:OP1	58:SR:132:ARG:NH1	2.48	0.46
46:S2:1399:G:O2'	67:Sg:88:ARG:NH2	2.48	0.46
49:SD:60:GLY:N	49:SD:65:ARG:HB2	2.30	0.46
53:SI:110:ARG:HB3	53:SI:110:ARG:CZ	2.46	0.46
54:SK:20:VAL:HG12	54:SK:70:TYR:HD1	1.79	0.46
59:SS:125:HIS:CE1	59:SS:131:VAL:HG21	2.50	0.46
67:Sg:101:PHE:CD1	67:Sg:136:GLY:HA2	2.50	0.46
67:Sg:201:SER:HB3	67:Sg:241:PHE:HB2	1.96	0.46
67:Sg:257:LYS:HB3	67:Sg:257:LYS:HE2	1.64	0.46
69:SG:21:GLU:HG3	69:SG:25:ARG:NH2	2.30	0.46
70:SJ:80:ARG:O	70:SJ:84:ILE:HG22	2.15	0.46
4:LD:118:ILE:H	4:LD:118:ILE:HG13	1.59	0.46
7:LG:162:ASP:HB3	7:LG:163:PRO:HD3	1.97	0.46
28:Lc:38:ILE:HG21	28:Lc:63:TYR:HB3	1.98	0.46
28:Lc:65:MET:HE3	28:Lc:65:MET:HB3	1.71	0.46
31:Lf:46:ARG:HD3	31:Lf:106:TYR:HD2	1.81	0.46
35:Lj:85:LYS:HE3	35:Lj:85:LYS:HB3	1.68	0.46
43:L5:1024:C:H2'	43:L5:1025:C:C6	2.51	0.46
43:L5:1788:G:H1'	43:L5:1816:A:H2	1.81	0.46
43:L5:3891:G:H2'	43:L5:3892:A:H8	1.80	0.46
43:L5:4584:U:H4'	43:L5:4585:G:C8	2.50	0.46
45:L8:37:A:OP1	45:L8:38:U:O2'	2.24	0.46
45:L8:128:C:H2'	45:L8:129:C:H6	1.80	0.46
46:S2:65:C:H5	69:SG:174:PRO:HB3	1.76	0.46
46:S2:118:C:H1'	46:S2:446:A:C5	2.51	0.46
46:S2:154:U:H1'	69:SG:13:GLN:OE1	2.15	0.46
46:S2:299:G:OP1	50:SE:134:LYS:N	2.45	0.46
46:S2:381:G:P	53:SI:56:ARG:HH22	2.38	0.46
46:S2:806:U:H5''	73:SW:83:LEU:HD12	1.97	0.46
46:S2:1614:G:OP1	56:SP:42:ARG:NH2	2.34	0.46
46:S2:1734:U:H2'	46:S2:1735:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1839:U:H1'	72:SO:150:ARG:HB3	1.97	0.46
48:SB:157:GLN:O	48:SB:161:VAL:HG23	2.16	0.46
53:SI:48:VAL:HG11	53:SI:54:LYS:HE3	1.97	0.46
68:SC:91:SER:HB2	68:SC:159:LYS:HE2	1.97	0.46
69:SG:1:MET:HE1	69:SG:109:LEU:HB2	1.98	0.46
2:LB:162:ILE:HD12	2:LB:162:ILE:HA	1.83	0.46
2:LB:175:GLN:NE2	43:L5:4633:U:OP1	2.49	0.46
6:LF:146:LYS:HG3	6:LF:219:VAL:HG11	1.97	0.46
10:LJ:141:ILE:HA	10:LJ:144:LYS:HD3	1.96	0.46
13:LN:192:TRP:O	13:LN:196:ASN:HB2	2.16	0.46
23:LX:96:LEU:HD12	23:LX:140:LEU:HD21	1.98	0.46
25:LZ:50:PRO:HD3	25:LZ:68:ILE:HG13	1.97	0.46
43:L5:2151:G:O2'	43:L5:2573:U:O4	2.33	0.46
43:L5:3414:G:H5'	43:L5:3415:U:OP2	2.16	0.46
43:L5:3608:G:N3	43:L5:3711:U:C4	2.84	0.46
46:S2:497:C:P	50:SE:49:ARG:HH12	2.38	0.46
46:S2:832:G:H2'	46:S2:833:G:C8	2.50	0.46
46:S2:1335:G:HO2'	49:SD:174:HIS:HD1	1.62	0.46
46:S2:1803:C:H2'	46:S2:1804:U:H6	1.81	0.46
54:SK:11:ILE:HD12	54:SK:45:VAL:HG22	1.97	0.46
61:SU:35:VAL:HA	61:SU:38:ASP:HB2	1.97	0.46
63:SX:15:SER:OG	63:SX:18:ARG:NH2	2.49	0.46
63:SX:60:LYS:HG3	63:SX:114:ASP:HA	1.98	0.46
9:LI:91:LEU:HD12	9:LI:135:ILE:HG23	1.98	0.46
12:LM:25:VAL:HB	12:LM:38:VAL:HG13	1.97	0.46
43:L5:100:C:H2'	43:L5:101:A:H8	1.80	0.46
43:L5:1259:U:O2	43:L5:1259:U:H2'	2.16	0.46
45:L8:69:U:H2'	45:L8:70:G:O4'	2.15	0.46
46:S2:145:G:H5''	69:SG:143:LYS:HZ1	1.81	0.46
46:S2:830:C:H5''	50:SE:21:ASP:HB3	1.98	0.46
46:S2:1000:G:C8	64:Sa:17:HIS:HB3	2.51	0.46
46:S2:1155:U:O3'	68:SC:194:ARG:NE	2.49	0.46
46:S2:1222:G:H2'	46:S2:1223:G:H8	1.79	0.46
46:S2:1349:G:H5'	68:SC:145:LYS:HE3	1.98	0.46
48:SB:25:PHE:HA	48:SB:28:LYS:HD2	1.98	0.46
49:SD:48:ILE:O	49:SD:86:LEU:HA	2.15	0.46
51:SF:201:LYS:HG2	51:SF:204:ARG:HH21	1.81	0.46
63:SX:46:HIS:CD2	63:SX:103:ALA:HB2	2.51	0.46
67:Sg:172:LYS:HG2	67:Sg:193:GLY:C	2.40	0.46
68:SC:176:LYS:O	68:SC:200[B]:ARG:NH1	2.49	0.46
69:SG:159:ARG:HG2	69:SG:173:ALA:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LD:264:LYS:HE2	4:LD:266:TRP:CE2	2.51	0.46
5:LE:53:ARG:HB3	5:LE:69:MET:HE1	1.98	0.46
5:LE:74:ALA:HA	5:LE:76:TYR:CE1	2.51	0.46
8:LH:41:ILE:HG22	8:LH:43:VAL:HG13	1.97	0.46
43:L5:761:C:H41	43:L5:810:G:H1	1.64	0.46
43:L5:937:C:H2'	43:L5:938:C:H6	1.81	0.46
43:L5:1535:C:C2'	43:L5:1536:G:H5'	2.46	0.46
43:L5:2021:C:H2'	43:L5:2022:G:O4'	2.16	0.46
43:L5:2401:A:H3'	43:L5:2402:G:H8	1.81	0.46
43:L5:3591:G:H2'	43:L5:3592:C:C6	2.51	0.46
46:S2:497:C:H5'	50:SE:29:PRO:CA	2.46	0.46
46:S2:527:A:H2'	46:S2:528:C:C6	2.51	0.46
46:S2:642:A:OP2	77:Se:108:ARG:NH1	2.49	0.46
46:S2:1306:C:N4	46:S2:1307:U:O4	2.49	0.46
47:SA:68:ILE:HD11	47:SA:73:ASP:HB3	1.98	0.46
49:SD:106:ARG:NH2	49:SD:173:ARG:HD2	2.31	0.46
50:SE:92:ILE:HG22	50:SE:94:LYS:HG2	1.98	0.46
52:SH:73:GLN:HA	52:SH:76:GLN:HB2	1.98	0.46
56:SP:101:THR:HG22	56:SP:102:PHE:N	2.31	0.46
59:SS:5:ILE:HB	75:SZ:49:LEU:O	2.16	0.46
63:SX:90:CYS:HA	63:SX:93:PHE:HD2	1.78	0.46
71:SN:78:LYS:HB3	71:SN:80:LEU:HD23	1.97	0.46
73:SW:36:ARG:O	73:SW:40:VAL:HG23	2.16	0.46
2:LB:160:ILE:HD13	2:LB:194:LEU:HD13	1.98	0.46
4:LD:60:ILE:HD11	4:LD:93:THR:HA	1.96	0.46
5:LE:78:ARG:HB2	27:Lb:116:LEU:HD22	1.97	0.46
6:LF:138:GLN:O	6:LF:141:ASN:HB2	2.15	0.46
7:LG:260:GLU:HG3	48:SB:57:ILE:HG23	1.97	0.46
11:LL:144:LEU:HD22	11:LL:145:LYS:HD3	1.98	0.46
14:LO:49:ARG:HD2	43:L5:1733:U:OP2	2.15	0.46
14:LO:128:ARG:NH2	18:LS:162:GLN:OE1	2.49	0.46
17:LR:89:MET:HE2	17:LR:97:ARG:NH2	2.31	0.46
41:Lp:51:ALA:HB3	41:Lp:54:ILE:HD12	1.98	0.46
43:L5:6:C:H2'	43:L5:7:C:H6	1.81	0.46
43:L5:928:C:H2'	43:L5:929:G:C8	2.51	0.46
43:L5:1261:C:C2	43:L5:1262:G:C8	3.05	0.46
43:L5:1785:G:H2'	43:L5:1786:A:H8	1.81	0.46
43:L5:2135:G:N2	43:L5:2138:A:OP2	2.37	0.46
43:L5:4064:G:H2'	43:L5:4065:C:H6	1.81	0.46
46:S2:317:G:N7	69:SG:187:HIS:NE2	2.64	0.46
46:S2:563:U:H4'	70:SJ:132:GLN:HG2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1414:G:N1	46:S2:1430:G:C6	2.84	0.46
46:S2:1738:G:P	69:SG:94:ARG:HH22	2.37	0.46
47:SA:163:CYS:SG	47:SA:164:ASN:N	2.89	0.46
53:SI:65:PHE:HD2	53:SI:76:THR:HG22	1.81	0.46
53:SI:143:LYS:O	53:SI:147:LYS:HG3	2.17	0.46
62:SV:3:ASN:HB3	62:SV:9:VAL:HG21	1.98	0.46
67:Sg:21:ILE:HG12	67:Sg:288:SER:HB3	1.98	0.46
74:SY:40:ILE:HG13	74:SY:60:PHE:CE2	2.50	0.46
2:LB:128:LYS:NZ	43:L5:4381:U:OP1	2.40	0.45
2:LB:147:GLU:O	2:LB:151:ASN:ND2	2.49	0.45
3:LC:94:ASN:HD22	43:L5:1152:A:H5'	1.81	0.45
3:LC:186:SER:OG	3:LC:204:ARG:HB2	2.15	0.45
5:LE:137:GLY:C	5:LE:138:LYS:HG2	2.41	0.45
12:LM:47:ARG:NH2	12:LM:68:ALA:O	2.41	0.45
13:LN:68:ARG:NH2	43:L5:302:C:OP2	2.49	0.45
15:LP:8:PRO:HB3	15:LP:149:ILE:HG21	1.96	0.45
16:LQ:177:ALA:C	26:La:51:GLY:HA2	2.41	0.45
19:LT:80:VAL:O	19:LT:81:LYS:C	2.59	0.45
30:Le:82:VAL:O	30:Le:86:GLU:HG3	2.16	0.45
32:Lg:41:ALA:O	32:Lg:52:ARG:HD2	2.16	0.45
42:Lr:94:ARG:HD3	43:L5:2018:G:H5''	1.98	0.45
43:L5:666:C:H2'	43:L5:667:G:O4'	2.15	0.45
43:L5:3269:C:H1'	43:L5:4664:A:C8	2.51	0.45
43:L5:3836:G:N3	43:L5:3836:G:H2'	2.31	0.45
43:L5:4653:G:N2	43:L5:4689:G:O2'	2.47	0.45
45:L8:102:G:OP2	45:L8:104:A:O2'	2.29	0.45
46:S2:36:U:H2'	46:S2:37:C:O4'	2.16	0.45
46:S2:887:A:N6	46:S2:888:U:O2	2.50	0.45
46:S2:1161:U:H2'	46:S2:1162:U:H6	1.81	0.45
46:S2:1737:G:H2'	46:S2:1738:G:O4'	2.16	0.45
47:SA:14:ASP:CG	47:SA:180:ARG:HH22	2.24	0.45
47:SA:82:THR:HG23	47:SA:168:ALA:HA	1.98	0.45
50:SE:95:THR:OG1	50:SE:97:GLU:HG2	2.16	0.45
51:SF:191:LYS:HB2	51:SF:191:LYS:HE2	1.70	0.45
53:SI:81:VAL:H	53:SI:94:LYS:HZ1	1.63	0.45
55:SL:76:VAL:HG22	55:SL:125:ILE:HD13	1.97	0.45
56:SP:53:GLN:HG2	56:SP:83:MET:SD	2.55	0.45
57:SQ:43:GLU:O	57:SQ:44:PRO:C	2.60	0.45
70:SJ:82:VAL:HG21	70:SJ:92:MET:CG	2.45	0.45
73:SW:111:MET:SD	73:SW:115:GLU:HG2	2.56	0.45
74:SY:25:ILE:O	74:SY:70:THR:HA	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:146:THR:OG1	1:LA:160:SER:OG	2.28	0.45
2:LB:216:MET:HG2	2:LB:283:LYS:HD3	1.97	0.45
3:LC:25:PRO:HG2	3:LC:28:PHE:CE2	2.51	0.45
4:LD:4:VAL:HG11	43:L5:3900:G:H4'	1.98	0.45
10:LJ:81:GLU:HG3	10:LJ:82:ILE:N	2.32	0.45
15:LP:2:VAL:HG23	15:LP:3:ARG:N	2.31	0.45
16:LQ:79:THR:OG1	16:LQ:99:LYS:HD3	2.16	0.45
17:LR:128:LYS:HE3	43:L5:2423:C:OP2	2.16	0.45
18:LS:2:LYS:O	18:LS:121:ALA:HB3	2.16	0.45
18:LS:74:ARG:O	18:LS:76:LYS:HG3	2.16	0.45
19:LT:9:ARG:O	19:LT:55:LYS:NZ	2.38	0.45
23:LX:149:VAL:O	23:LX:153:ILE:HG13	2.15	0.45
33:Lh:94:ARG:HE	33:Lh:94:ARG:HB3	1.43	0.45
41:Lp:9:GLY:O	43:L5:1367:A:O2'	2.30	0.45
43:L5:133:C:N4	43:L5:134:G:N3	2.62	0.45
43:L5:422:G:H2'	43:L5:423:U:O4'	2.16	0.45
43:L5:1063:C:H2'	43:L5:1064:G:H8	1.81	0.45
43:L5:1476:C:H2'	43:L5:1477:C:C6	2.51	0.45
43:L5:3354:U:H5''	43:L5:3355:G:H5'	1.98	0.45
46:S2:1232:C:O2'	46:S2:1254:A:N6	2.50	0.45
46:S2:1738:G:OP1	69:SG:94:ARG:NH2	2.37	0.45
46:S2:1738:G:H2'	46:S2:1739:C:C6	2.51	0.45
47:SA:200:ASP:HA	47:SA:203:PHE:CD1	2.52	0.45
48:SB:71:LEU:HG	48:SB:84:PHE:CE1	2.51	0.45
48:SB:222:LYS:HG2	48:SB:222:LYS:O	2.17	0.45
50:SE:86:PHE:CD2	50:SE:87:MET:HG2	2.51	0.45
50:SE:129:ILE:HB	50:SE:156:VAL:HG22	1.97	0.45
68:SC:200[A]:ARG:HA	68:SC:221:ASP:OD2	2.16	0.45
7:LG:177:MET:HE2	34:Li:39:PHE:CZ	2.52	0.45
15:LP:24:VAL:HG23	15:LP:144:CYS:SG	2.56	0.45
24:LY:54:GLU:OE1	24:LY:108:ARG:NH1	2.44	0.45
38:Lm:87:GLN:HG2	38:Lm:91:CYS:SG	2.57	0.45
43:L5:3888:G:H2'	43:L5:3889:G:H5'	1.99	0.45
44:L7:15:C:H2'	44:L7:16:A:C8	2.51	0.45
45:L8:120:G:H2'	45:L8:121:G:H8	1.80	0.45
46:S2:382:C:OP2	53:SI:54:LYS:NZ	2.45	0.45
46:S2:921:A:H4'	73:SW:57:ARG:HG2	1.98	0.45
46:S2:1219:C:H2'	46:S2:1220:C:C6	2.50	0.45
46:S2:1391:U:H2'	46:S2:1392:C:C6	2.52	0.45
46:S2:1668:U:H2'	46:S2:1669:U:C6	2.51	0.45
49:SD:210:ILE:HD11	58:SR:12:ALA:HB1	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:ST:4:VAL:HG11	60:ST:139:ALA:HB3	1.99	0.45
67:Sg:131:LEU:O	67:Sg:139:LYS:N	2.30	0.45
67:Sg:178:ASN:HB3	67:Sg:185:LYS:HZ2	1.80	0.45
70:SJ:108:ARG:HA	70:SJ:113:GLN:NE2	2.30	0.45
74:SY:113:ARG:HH21	74:SY:127:ALA:HB1	1.82	0.45
75:SZ:64:ASN:O	75:SZ:111:ARG:NH2	2.44	0.45
2:LB:317:LEU:HA	2:LB:317:LEU:HD23	1.68	0.45
9:LI:190:LEU:HB3	9:LI:197:VAL:HG21	1.99	0.45
10:LJ:103:GLY:O	10:LJ:134:LEU:HB2	2.16	0.45
19:LT:108:ARG:HA	19:LT:111:GLU:HG2	1.98	0.45
39:Ln:5:TRP:HD1	46:S2:1853:C:OP2	1.99	0.45
43:L5:1003:G:N1	43:L5:1025:C:O2	2.49	0.45
43:L5:1670:A:H2'	43:L5:1671:A:C8	2.52	0.45
43:L5:1904:C:OP1	43:L5:1904:C:H4'	2.16	0.45
45:L8:115:G:H2'	45:L8:116:C:C6	2.51	0.45
46:S2:304:C:H2'	46:S2:305:C:O4'	2.17	0.45
46:S2:381:G:N2	46:S2:383:C:H3'	2.30	0.45
46:S2:1464:U:H4'	46:S2:1465:C:H5''	1.98	0.45
46:S2:1649:G:H22	46:S2:1676:A:P	2.39	0.45
47:SA:63:ARG:HD3	62:SV:37:ALA:O	2.17	0.45
49:SD:21:LEU:HD12	49:SD:22:ASN:N	2.32	0.45
50:SE:44:LEU:O	50:SE:48:LEU:HG	2.16	0.45
57:SQ:12:VAL:HG21	57:SQ:90:LYS:HB3	1.98	0.45
59:SS:91:LYS:NZ	59:SS:113:ARG:HD2	2.30	0.45
61:SU:22:ILE:HG13	61:SU:114:VAL:HG23	1.98	0.45
67:Sg:51:ASN:HD21	67:Sg:54:ILE:HD11	1.81	0.45
68:SC:137:VAL:HG21	68:SC:217:ALA:HB2	1.99	0.45
69:SG:180:VAL:O	69:SG:180:VAL:HG13	2.17	0.45
70:SJ:42:GLU:HG2	70:SJ:45:ARG:NH2	2.31	0.45
72:SO:85:CYS:HB2	72:SO:124:MET:HE1	1.99	0.45
10:LJ:121:PRO:HG3	59:SS:104:ASP:HB2	1.98	0.45
19:LT:27:LEU:O	19:LT:31:MET:HG2	2.16	0.45
19:LT:100:LYS:HB3	19:LT:100:LYS:HE2	1.86	0.45
40:Lo:60:ALA:HB2	43:L5:4026:G:H2'	1.98	0.45
43:L5:149:A:OP1	43:L5:150:U:O2'	2.28	0.45
43:L5:669:C:H2'	43:L5:670:C:C6	2.52	0.45
43:L5:1093:C:H2'	43:L5:1094:A:O4'	2.16	0.45
43:L5:3374:A:H2'	43:L5:3375:A:H8	1.79	0.45
46:S2:317:G:N7	69:SG:187:HIS:CE1	2.85	0.45
46:S2:499:C:H2'	46:S2:500:G:C8	2.52	0.45
46:S2:1418:C:C6	46:S2:1419:C:H5	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1502:C:H2'	46:S2:1503:C:H6	1.81	0.45
46:S2:1639:G:H5''	46:S2:1640:G:OP1	2.16	0.45
51:SF:72:LEU:HD22	51:SF:112:LEU:HD11	1.99	0.45
53:SI:67:TRP:HE3	53:SI:70:GLU:N	2.13	0.45
53:SI:201:LYS:HD2	53:SI:201:LYS:HA	1.70	0.45
60:ST:28:LEU:HB2	60:ST:110:LEU:HD11	1.98	0.45
67:Sg:133:ASN:HB3	67:Sg:135:LEU:H	1.82	0.45
67:Sg:302:TYR:HB3	67:Sg:304:ASP:OD1	2.17	0.45
68:SC:66:LEU:HD21	68:SC:81:ILE:HG12	1.97	0.45
68:SC:179:THR:HG23	68:SC:180:VAL:O	2.16	0.45
69:SG:3:LEU:HD22	69:SG:111:LEU:HD11	1.99	0.45
69:SG:142:ARG:HD2	69:SG:147:LEU:HB2	1.98	0.45
74:SY:114:MET:HG2	74:SY:124:ASN:C	2.41	0.45
76:Sb:36:LYS:H	76:Sb:78:SER:HB2	1.81	0.45
4:LD:232:THR:HG22	4:LD:233:PRO:HD2	1.99	0.45
7:LG:162:ASP:CB	7:LG:163:PRO:HD3	2.47	0.45
8:LH:100:PRO:O	8:LH:116:ASN:HB3	2.17	0.45
19:LT:71:ALA:HA	19:LT:92:ARG:HA	1.98	0.45
22:LW:14:TYR:O	22:LW:16:GLY:N	2.50	0.45
42:Lr:28:GLU:HG2	42:Lr:31:ASN:HB2	1.99	0.45
43:L5:162:A:H2'	43:L5:163:A:C8	2.51	0.45
43:L5:217:C:H3'	43:L5:218:A:C5'	2.46	0.45
43:L5:693:C:H5''	43:L5:694:A:OP1	2.17	0.45
43:L5:1123:C:H2'	43:L5:1124:C:C6	2.52	0.45
43:L5:1528:U:H2'	43:L5:1529:U:C6	2.52	0.45
43:L5:1629:G:H2'	43:L5:1630:C:O4'	2.17	0.45
43:L5:2540:C:O2'	43:L5:2541:A:OP2	2.22	0.45
43:L5:3311:G:O2'	43:L5:3350:U:OP1	2.31	0.45
43:L5:3473:A:OP2	43:L5:3475:U:O4	2.34	0.45
43:L5:3907:G:N1	43:L5:3910:A:H2	2.12	0.45
43:L5:4392:C:N4	43:L5:4393:G:O6	2.49	0.45
43:L5:4649:U:H2'	43:L5:4650:U:O4'	2.16	0.45
46:S2:614:G:H4'	46:S2:616:C:C2	2.51	0.45
46:S2:953:G:H2'	46:S2:954:C:C6	2.51	0.45
46:S2:1107:C:H5''	76:Sb:70:LYS:HG3	1.98	0.45
46:S2:1512:U:H2'	46:S2:1513:C:H6	1.81	0.45
46:S2:1607:G:N2	46:S2:1633:G:H1'	2.30	0.45
46:S2:1862:G:H5''	64:Sa:3:LYS:HA	1.97	0.45
49:SD:218:LEU:N	49:SD:219:PRO:HD3	2.32	0.45
74:SY:91:LEU:O	74:SY:95:GLY:CA	2.65	0.45
2:LB:276:HIS:O	43:L5:4369:C:H5''	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LD:211:LEU:HD12	4:LD:211:LEU:HA	1.78	0.45
7:LG:261:LEU:O	7:LG:261:LEU:HD23	2.17	0.45
21:LV:109:LYS:HB2	21:LV:109:LYS:HE2	1.75	0.45
43:L5:407:A:H5'	43:L5:409:A:OP1	2.17	0.45
43:L5:2165:U:H4'	43:L5:2166:U:O5'	2.17	0.45
43:L5:3356:C:HO2'	43:L5:3432:A:HO2'	1.62	0.45
43:L5:3547:A:N6	43:L5:4223:G:O2'	2.47	0.45
43:L5:3788:C:O2	43:L5:3800:G:C6	2.69	0.45
46:S2:513:A:C2	46:S2:514:G:C8	3.05	0.45
46:S2:905:A:H3'	46:S2:906:C:C6	2.52	0.45
46:S2:1593:C:H2'	46:S2:1594:C:C6	2.51	0.45
46:S2:1730:U:H2'	46:S2:1731:U:C6	2.52	0.45
47:SA:126:ASP:HB3	47:SA:129:ALA:HB3	1.99	0.45
58:SR:70:SER:O	58:SR:74:GLN:HG2	2.16	0.45
60:ST:33:TRP:O	60:ST:37:VAL:HG22	2.17	0.45
62:SV:16:LYS:NZ	68:SC:257:LYS:O	2.37	0.45
63:SX:90:CYS:O	63:SX:94:ILE:HG13	2.17	0.45
69:SG:70:HIS:H	69:SG:70:HIS:CD2	2.35	0.45
70:SJ:29:LEU:HD11	77:Se:111:GLN:HE21	1.82	0.45
74:SY:26:ASP:OD1	74:SY:70:THR:OG1	2.30	0.45
2:LB:26:ARG:NH2	43:L5:4233:U:OP1	2.46	0.45
3:LC:63:SER:O	3:LC:63:SER:OG	2.29	0.45
4:LD:69:ILE:HG12	19:LT:31:MET:HG3	1.98	0.45
8:LH:80:MET:O	8:LH:84:VAL:HG22	2.17	0.45
13:LN:172:ARG:HG2	43:L5:29:G:H5''	1.98	0.45
18:LS:72:PRO:O	18:LS:73:LEU:HD23	2.16	0.45
43:L5:66:A:N6	43:L5:281:C:O2'	2.47	0.45
43:L5:218:A:C8	43:L5:219:G:C8	3.05	0.45
43:L5:1030:C:N3	43:L5:1031:G:C8	2.85	0.45
43:L5:3749:A:N6	43:L5:3750:G:N3	2.64	0.45
43:L5:3807:G:H2'	43:L5:3808:C:C6	2.51	0.45
43:L5:4549:G:H2'	43:L5:4550:G:H8	1.81	0.45
46:S2:376:U:H2'	46:S2:377:A:C8	2.52	0.45
46:S2:381:G:N2	46:S2:384:G:OP2	2.47	0.45
46:S2:1266:A:H5'	46:S2:1267:C:OP2	2.17	0.45
47:SA:9:GLN:O	47:SA:11:LYS:HG3	2.17	0.45
54:SK:58:VAL:HG11	54:SK:69:TRP:HB3	1.98	0.45
57:SQ:25:CYS:HB2	57:SQ:68:ILE:HD13	1.99	0.45
74:SY:114:MET:SD	74:SY:125:VAL:HA	2.57	0.45
2:LB:53:MET:HE2	2:LB:53:MET:HB3	1.89	0.45
3:LC:67:TRP:CD2	3:LC:78:ARG:HD2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:94:ASN:HA	3:LC:100:ARG:O	2.16	0.45
4:LD:126:ASN:C	4:LD:128:GLY:H	2.24	0.45
7:LG:34:LYS:O	7:LG:36:PRO:HD3	2.17	0.45
10:LJ:60:PHE:HB3	43:L5:3910:A:C5	2.52	0.45
19:LT:107:LYS:O	19:LT:111:GLU:HG2	2.17	0.45
21:LV:21:PRO:HD2	43:L5:2601:G:H1'	1.99	0.45
26:La:75:LEU:HA	26:La:75:LEU:HD12	1.75	0.45
30:Le:35:TRP:CZ2	30:Le:56:PRO:HD2	2.51	0.45
31:Lf:52:LYS:HE3	43:L5:4404:G:N7	2.31	0.45
32:Lg:46:CYS:HB3	32:Lg:82:MET:HE3	1.98	0.45
37:Ll:5:LYS:O	43:L5:2269:A:N6	2.50	0.45
37:Ll:33:ASN:CG	37:Ll:34:LYS:H	2.25	0.45
43:L5:21:G:H1'	45:L8:103:A:N3	2.32	0.45
43:L5:932:C:HO2'	43:L5:1049:C:H6	1.64	0.45
43:L5:4549:G:N3	43:L5:4550:G:C8	2.85	0.45
45:L8:89:U:H2'	45:L8:90:C:C6	2.51	0.45
46:S2:14:C:H5'	68:SC:190:SER:OG	2.16	0.45
46:S2:77:A:O4'	69:SG:154:ARG:HG2	2.17	0.45
46:S2:224:U:H5''	55:SL:17:PHE:CG	2.51	0.45
46:S2:547:G:H4'	46:S2:548:G:O5'	2.16	0.45
46:S2:1279:A:H2'	46:S2:1280:C:H6	1.80	0.45
46:S2:1305:U:H2'	46:S2:1306:C:C6	2.52	0.45
46:S2:1382:G:H2'	46:S2:1383:A:O4'	2.16	0.45
46:S2:1419:C:H2'	46:S2:1420:C:H3'	1.99	0.45
46:S2:1701:C:O2	46:S2:1835:A:N6	2.50	0.45
49:SD:73:VAL:HG13	49:SD:77:PHE:HD2	1.82	0.45
53:SI:103:LEU:HD12	53:SI:171:LEU:O	2.16	0.45
53:SI:193:LYS:HD3	53:SI:193:LYS:HA	1.72	0.45
59:SS:25:LYS:HG2	59:SS:55:ARG:HD3	1.99	0.45
67:Sg:114:SER:OG	67:Sg:117:ASN:N	2.46	0.45
67:Sg:174:VAL:HG22	67:Sg:188:HIS:HB2	1.98	0.45
2:LB:247:GLY:HA2	43:L5:2592:G:H5'	1.99	0.45
3:LC:5:ARG:HD2	3:LC:24:LEU:O	2.17	0.45
5:LE:139:LYS:HB2	5:LE:140:PRO:HD2	2.00	0.45
5:LE:191:ARG:HA	5:LE:191:ARG:HD2	1.53	0.45
6:LF:215:GLU:OE2	6:LF:220:GLY:HA3	2.17	0.45
6:LF:244:LYS:HD3	6:LF:247:THR:HB	1.98	0.45
7:LG:169:PHE:HZ	13:LN:3:ALA:HB1	1.82	0.45
7:LG:264:LYS:HE3	48:SB:94:LYS:HZ3	1.81	0.45
19:LT:114:GLN:HG3	19:LT:115:LYS:HD3	1.99	0.45
31:Lf:95:LYS:HB2	31:Lf:95:LYS:HE3	1.71	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:4415:G:H2'	43:L5:4416:A:C8	2.52	0.45
45:L8:82:A:N6	45:L8:85:U:P	2.90	0.45
46:S2:164:A:H2'	46:S2:165:G:N3	2.32	0.45
46:S2:1010:A:H5'	71:SN:98:VAL:HG22	1.99	0.45
46:S2:1146:A:C5	46:S2:1147:C:H1'	2.52	0.45
46:S2:1392:C:O2'	61:SU:83:ARG:NH2	2.50	0.45
47:SA:30:LEU:HD22	47:SA:47:TYR:CE1	2.52	0.45
47:SA:149:ASN:HD22	47:SA:166:LYS:HZ2	1.66	0.45
49:SD:29:LEU:HD21	49:SD:69:LEU:HD21	1.99	0.45
49:SD:96:LEU:O	49:SD:190:LEU:HD21	2.17	0.45
50:SE:101:LEU:HD12	50:SE:101:LEU:O	2.17	0.45
51:SF:79:HIS:ND1	51:SF:79:HIS:O	2.50	0.45
60:ST:126:GLN:OE1	60:ST:129:ARG:HD2	2.17	0.45
67:Sg:90:TRP:CE3	67:Sg:97:THR:HG23	2.52	0.45
68:SC:182:CYS:HB2	73:SW:95:PRO:HB2	1.98	0.45
73:SW:106:THR:HG22	73:SW:107:SER:H	1.82	0.45
10:LJ:15:LEU:HD12	10:LJ:134:LEU:HD13	1.99	0.44
25:LZ:112:ARG:O	25:LZ:116:VAL:HG23	2.16	0.44
43:L5:170:C:H4'	43:L5:171:U:O4'	2.18	0.44
43:L5:489:G:H2'	43:L5:490:C:H6	1.82	0.44
43:L5:747:G:HO2'	43:L5:748:G:P	2.39	0.44
45:L8:80:A:H3'	45:L8:81:C:C6	2.52	0.44
46:S2:181:A:H3'	46:S2:182:C:C5'	2.46	0.44
46:S2:448:A:H4'	50:SE:3:ARG:HG2	1.99	0.44
46:S2:582:U:C5'	74:SY:65:GLY:H	2.30	0.44
46:S2:914:A:N7	52:SH:99:ARG:HB3	2.32	0.44
46:S2:1396:C:H1'	46:S2:1475:A:C5	2.52	0.44
47:SA:77:ILE:HG23	47:SA:99:ILE:O	2.17	0.44
51:SF:77:MET:HB3	51:SF:89:THR:HG21	1.99	0.44
52:SH:103:LYS:HG3	52:SH:116:ARG:HH22	1.82	0.44
53:SI:22:HIS:ND1	53:SI:23:LYS:O	2.46	0.44
53:SI:38:ILE:HA	53:SI:60:LEU:O	2.17	0.44
54:SK:6:LYS:HE3	54:SK:38:LYS:NZ	2.31	0.44
54:SK:16:PHE:HD2	54:SK:79:LEU:HD23	1.82	0.44
61:SU:67:LYS:HA	66:Sd:44:ARG:HD2	1.98	0.44
74:SY:94:HIS:ND1	74:SY:94:HIS:O	2.47	0.44
75:SZ:102:LYS:HA	75:SZ:107:VAL:HG12	1.97	0.44
4:LD:208:MET:HE2	4:LD:233:PRO:HD3	1.99	0.44
7:LG:176:LYS:HD2	34:Li:43:MET:HE1	2.00	0.44
7:LG:264:LYS:HE3	48:SB:94:LYS:NZ	2.32	0.44
12:LM:91:TRP:HA	12:LM:94:LYS:HE3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LT:80:VAL:HG12	19:LT:81:LYS:N	2.33	0.44
20:LU:45:GLU:CD	20:LU:46:ARG:HG2	2.41	0.44
21:LV:90:ARG:C	21:LV:92:ASP:H	2.25	0.44
43:L5:86:U:H2'	43:L5:87:A:H8	1.82	0.44
43:L5:950:G:N1	43:L5:1037:G:C2	2.85	0.44
43:L5:1012:U:H3'	43:L5:1013:C:H5''	1.99	0.44
43:L5:1735:A:H2'	43:L5:1736:G:C8	2.51	0.44
43:L5:3595:G:N2	43:L5:3824:C:OP2	2.50	0.44
43:L5:3997:U:H2'	43:L5:3998:C:C6	2.53	0.44
43:L5:4132:A:OP1	43:L5:4263:A:O2'	2.32	0.44
46:S2:116:U:O2	46:S2:348:G:N2	2.42	0.44
46:S2:1013:A:OP1	71:SN:3:ARG:NH1	2.44	0.44
46:S2:1339:G:H2'	46:S2:1340:U:O4'	2.18	0.44
46:S2:1341:U:H3'	46:S2:1342:C:H2'	2.00	0.44
46:S2:1502:C:H2'	46:S2:1503:C:C6	2.53	0.44
46:S2:1593:C:H2'	46:S2:1594:C:H6	1.83	0.44
46:S2:1650:U:H4'	57:SQ:138:ARG:HG2	2.00	0.44
46:S2:1795:C:H2'	46:S2:1796:G:O4'	2.16	0.44
52:SH:191:GLU:N	52:SH:191:GLU:OE2	2.49	0.44
62:SV:74:LYS:CG	62:SV:79:VAL:HG21	2.48	0.44
67:Sg:236:ILE:HG12	67:Sg:252:THR:HG22	1.99	0.44
74:SY:23:MET:HE1	74:SY:75:ILE:CG1	2.47	0.44
3:LC:109:ARG:HA	43:L5:1156:U:H5'	2.00	0.44
11:LL:105:LYS:HE3	11:LL:105:LYS:HB3	1.78	0.44
11:LL:107:THR:O	11:LL:111:GLN:HG2	2.18	0.44
13:LN:124:ASP:OD1	13:LN:124:ASP:N	2.50	0.44
14:LO:165:LYS:HD2	14:LO:165:LYS:HA	1.66	0.44
16:LQ:89:ASP:CG	16:LQ:91:ARG:HH11	2.25	0.44
18:LS:160:ARG:HD3	18:LS:160:ARG:HA	1.50	0.44
21:LV:92:ASP:OD1	21:LV:94:VAL:HG22	2.16	0.44
24:LY:99:ILE:HD11	24:LY:104:VAL:CG1	2.47	0.44
31:Lf:63:LYS:HE2	31:Lf:63:LYS:HB3	1.68	0.44
37:Ll:44:TRP:O	37:Ll:48:LYS:NZ	2.50	0.44
38:Lm:93:LYS:HD3	38:Lm:102:ARG:CG	2.42	0.44
43:L5:66:A:N1	43:L5:310:G:O2'	2.42	0.44
43:L5:935:C:N4	43:L5:936:C:H41	2.15	0.44
43:L5:1257:A:C6	43:L5:1906:G:N3	2.85	0.44
43:L5:3313:A:HO2'	43:L5:3404:A:HO2'	1.65	0.44
43:L5:3873:A:H2'	43:L5:3875:G:H5''	2.00	0.44
46:S2:46:A:N7	46:S2:97:U:O2'	2.45	0.44
46:S2:390:A:H2'	46:S2:391:C:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:445:G:N2	46:S2:448:A:OP2	2.45	0.44
46:S2:1802:A:H2'	46:S2:1803:C:C6	2.52	0.44
46:S2:1806:G:H2'	46:S2:1807:A:O4'	2.18	0.44
48:SB:103:MET:HB3	48:SB:215:VAL:HB	1.99	0.44
69:SG:75:LEU:O	69:SG:94:ARG:HA	2.17	0.44
74:SY:21:LYS:HB3	74:SY:75:ILE:HB	1.99	0.44
74:SY:91:LEU:HD22	74:SY:96:LEU:HB2	1.99	0.44
75:SZ:106:GLN:OE1	75:SZ:108:ILE:HD11	2.17	0.44
1:LA:128:ARG:NH1	43:L5:3338:G:OP2	2.50	0.44
3:LC:186:SER:O	3:LC:203:GLN:HA	2.18	0.44
3:LC:292:ILE:O	3:LC:295:SER:HB3	2.18	0.44
5:LE:79:LYS:H	5:LE:79:LYS:HG2	1.45	0.44
11:LL:94:ILE:HD13	11:LL:94:ILE:HA	1.80	0.44
17:LR:79:GLY:O	43:L5:3276:G:H4'	2.18	0.44
17:LR:139:MET:HG2	17:LR:143:HIS:NE2	2.33	0.44
29:Ld:117:LEU:HD23	29:Ld:117:LEU:HA	1.81	0.44
43:L5:138:C:H2'	43:L5:139:G:H8	1.77	0.44
43:L5:454:C:C2'	43:L5:455:C:H5'	2.48	0.44
43:L5:1391:G:H5'	43:L5:1392:U:H5''	1.99	0.44
43:L5:1561:G:C8	43:L5:1578:A:N3	2.86	0.44
43:L5:3580:A:H2'	43:L5:3581:C:C6	2.52	0.44
46:S2:797:G:H2'	46:S2:798:C:C6	2.52	0.44
46:S2:933:G:O2'	46:S2:994:G:O2'	2.21	0.44
46:S2:1036:A:H2'	46:S2:1037:A:O4'	2.17	0.44
46:S2:1542:G:OP1	60:ST:56:ARG:NE	2.49	0.44
56:SP:18:ARG:HH11	59:SS:88:LYS:HG2	1.81	0.44
57:SQ:58:LEU:O	57:SQ:62:ARG:HD2	2.16	0.44
57:SQ:98:LYS:HB3	57:SQ:98:LYS:HE2	1.73	0.44
58:SR:57:LEU:O	58:SR:61:ILE:HG13	2.16	0.44
67:Sg:215:GLN:HB3	67:Sg:217:MET:HE2	1.99	0.44
78:S6:68:C:C5	78:S6:69:U:C5	3.06	0.44
5:LE:162:THR:HG23	43:L5:4590:C:H4'	1.98	0.44
9:LI:98:ARG:NH1	43:L5:1668:G:OP2	2.37	0.44
17:LR:43:LYS:HE2	43:L5:2462:U:H1'	2.00	0.44
17:LR:98:ARG:HD2	17:LR:133:LYS:O	2.17	0.44
18:LS:93:MET:HE3	18:LS:93:MET:HB2	1.85	0.44
23:LX:60:TYR:OH	43:L5:17:A:OP2	2.21	0.44
27:Lb:49:HIS:HE1	43:L5:1618:G:O6	2.00	0.44
27:Lb:105:ARG:HE	27:Lb:105:ARG:HB3	1.65	0.44
43:L5:173:C:H2'	43:L5:174:C:C6	2.52	0.44
43:L5:1026:C:H2'	43:L5:1027:G:H8	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:1296:G:H2'	43:L5:1296:G:N3	2.33	0.44
43:L5:1542:G:H2'	43:L5:1543:C:C6	2.53	0.44
43:L5:2205:G:H2'	43:L5:2206:A:C8	2.53	0.44
46:S2:181:A:H3'	46:S2:182:C:H5''	1.99	0.44
47:SA:42:LYS:HG3	47:SA:44:ASP:H	1.82	0.44
48:SB:145:LYS:HE3	48:SB:149:GLN:HB3	2.00	0.44
49:SD:70:THR:O	49:SD:74:GLN:HG2	2.17	0.44
50:SE:89:VAL:HG22	50:SE:100:ARG:HB2	2.00	0.44
50:SE:155:LYS:HE2	50:SE:174:LYS:NZ	2.33	0.44
58:SR:93:GLN:C	58:SR:95:ILE:H	2.25	0.44
63:SX:67:ARG:HB3	63:SX:84:PHE:HE1	1.83	0.44
64:Sa:41:ILE:O	64:Sa:41:ILE:HG22	2.18	0.44
68:SC:137:VAL:HG23	68:SC:165:VAL:HG21	2.00	0.44
69:SG:2:LYS:HB3	69:SG:15:LEU:HD21	1.98	0.44
72:SO:69:SER:OG	72:SO:110:PRO:HD2	2.16	0.44
2:LB:302:ASN:HB3	2:LB:313:SER:HA	1.99	0.44
5:LE:52:SER:C	5:LE:54:ASN:H	2.26	0.44
6:LF:173:ASN:ND2	43:L5:841:A:H62	2.06	0.44
6:LF:248:HIS:CD2	6:LF:256:GLY:HA3	2.52	0.44
14:LO:25:LYS:HD2	14:LO:25:LYS:HA	1.68	0.44
14:LO:65:ASN:HD22	14:LO:68:ARG:HD2	1.82	0.44
18:LS:13:VAL:HG22	18:LS:29:ARG:HG2	2.00	0.44
25:LZ:12:LEU:HB2	25:LZ:81:MET:HB3	2.00	0.44
43:L5:407:A:O2'	43:L5:410:G:OP2	2.16	0.44
43:L5:1449:C:C2'	43:L5:1450:U:H5'	2.47	0.44
43:L5:1459:C:H2'	43:L5:1460:A:C8	2.52	0.44
43:L5:3422:G:O2'	43:L5:3424:C:N4	2.51	0.44
43:L5:4125:G:H2'	43:L5:4126:A:H8	1.83	0.44
43:L5:4549:G:C2	43:L5:4550:G:C8	3.06	0.44
46:S2:479:G:H2'	46:S2:480:C:H6	1.83	0.44
46:S2:1457:G:OP1	58:SR:59:LYS:HE3	2.17	0.44
46:S2:1513:C:H5''	66:Sd:8:TRP:HZ3	1.82	0.44
46:S2:1616:U:H2'	46:S2:1617:U:H6	1.81	0.44
46:S2:1712:U:H2'	46:S2:1713:A:C8	2.53	0.44
51:SF:193:LYS:HE3	51:SF:193:LYS:HB3	1.85	0.44
53:SI:100:CYS:HB3	53:SI:175:ILE:HD12	1.99	0.44
59:SS:89:ASP:HB3	59:SS:93:GLY:H	1.83	0.44
62:SV:35:ASN:OD1	62:SV:52:THR:HG22	2.17	0.44
66:Sd:40:ARG:CZ	66:Sd:41:GLN:HE21	2.31	0.44
69:SG:70:HIS:HA	69:SG:98:ARG:NH1	2.33	0.44
72:SO:95:ILE:HB	72:SO:129:ILE:HG23	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:SZ:50:PHE:HB3	75:SZ:54:THR:HG23	2.00	0.44
78:S6:18:G:O2'	78:S6:19:G:H5'	2.18	0.44
3:LC:352:LYS:HE2	3:LC:352:LYS:HB3	1.77	0.44
4:LD:19:ARG:O	4:LD:24:ARG:NH2	2.49	0.44
6:LF:204:PHE:CZ	6:LF:225:GLU:HG2	2.53	0.44
6:LF:242:MET:C	6:LF:244:LYS:H	2.25	0.44
7:LG:136:LEU:HD22	7:LG:202:VAL:HB	1.98	0.44
8:LH:49:GLY:HA2	8:LH:54:ARG:NH1	2.32	0.44
9:LI:156:LYS:HG2	9:LI:163:GLN:HB2	1.99	0.44
10:LJ:174:ILE:HD12	10:LJ:174:ILE:H	1.82	0.44
17:LR:60:ARG:O	17:LR:64:ARG:HB2	2.18	0.44
27:Lb:99:HIS:O	27:Lb:107:ARG:NH1	2.49	0.44
37:Ll:48:LYS:HA	37:Ll:48:LYS:HD2	1.77	0.44
43:L5:658:C:H2'	43:L5:659:C:C6	2.53	0.44
43:L5:691:C:H2'	43:L5:692:G:O4'	2.17	0.44
43:L5:748:G:H5'	43:L5:749:U:OP1	2.18	0.44
43:L5:1053:G:H2'	43:L5:1054:G:H8	1.83	0.44
43:L5:2129:U:H2'	43:L5:2130:C:H6	1.82	0.44
43:L5:2139:A:N1	43:L5:2583:U:O2'	2.46	0.44
43:L5:2236:G:O2'	43:L5:2237:G:H5'	2.17	0.44
43:L5:4247:U:H2'	43:L5:4248:G:H8	1.83	0.44
43:L5:4352:U:H1'	43:L5:4353:A:H5''	2.00	0.44
43:L5:4591:A:H8	43:L5:4591:A:OP2	2.00	0.44
44:L7:31:G:O2'	44:L7:32:A:H5'	2.17	0.44
46:S2:223:A:H2'	46:S2:224:U:C6	2.52	0.44
46:S2:303:A:H1'	53:SI:73:THR:OG1	2.17	0.44
46:S2:598:G:C6	46:S2:641:A:N6	2.86	0.44
46:S2:1224:A:H2'	46:S2:1225:G:O4'	2.18	0.44
46:S2:1241:A:C5	56:SP:100:LYS:HB2	2.53	0.44
46:S2:1276:G:O4'	46:S2:1507:A:N6	2.50	0.44
47:SA:63:ARG:HB3	62:SV:37:ALA:H	1.82	0.44
49:SD:7:LYS:HD3	49:SD:10:LYS:HD2	1.99	0.44
50:SE:183:VAL:HB	50:SE:188:ASN:O	2.16	0.44
51:SF:35:LEU:HD11	51:SF:146:ARG:HD3	1.99	0.44
54:SK:9:ILE:HG12	54:SK:9:ILE:H	1.64	0.44
54:SK:21:MET:HB2	54:SK:21:MET:HE3	1.68	0.44
57:SQ:49:TYR:O	57:SQ:53:GLU:HG2	2.18	0.44
59:SS:15:VAL:HG12	59:SS:16:LEU:HD12	2.00	0.44
62:SV:22:ARG:NH2	73:SW:21:GLY:HA2	2.33	0.44
64:Sa:46:GLU:HB2	72:SO:113:GLN:OE1	2.18	0.44
70:SJ:104:ASP:N	70:SJ:104:ASP:OD1	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:SZ:77:LEU:C	75:SZ:78:LYS:HD2	2.42	0.44
75:SZ:79:ILE:HG22	75:SZ:80:ARG:H	1.83	0.44
1:LA:15:VAL:HG12	1:LA:16:PHE:CE2	2.52	0.44
6:LF:234:LYS:HB3	6:LF:234:LYS:HE3	1.77	0.44
15:LP:25:HIS:O	15:LP:29:THR:OG1	2.29	0.44
30:Le:66:THR:HA	30:Le:69:MET:HE3	2.00	0.44
40:Lo:41:TYR:O	40:Lo:45:GLN:HB2	2.17	0.44
43:L5:141:C:H2'	43:L5:142:G:C8	2.53	0.44
43:L5:1246:G:O2'	43:L5:1266:A:N6	2.45	0.44
43:L5:1537:G:H5'	43:L5:3867:A:O2'	2.18	0.44
43:L5:1772:G:H3'	43:L5:1772:G:N3	2.32	0.44
43:L5:1848:G:O2'	43:L5:1849:G:H5''	2.18	0.44
43:L5:2168:C:H2'	43:L5:2169:A:C8	2.53	0.44
43:L5:4539:A:N6	43:L5:4540:A:N1	2.66	0.44
46:S2:128:U:OP2	46:S2:129:C:N4	2.38	0.44
46:S2:161:U:O4	74:SY:115:LYS:HD3	2.18	0.44
46:S2:318:C:H2'	46:S2:319:A:H5''	2.00	0.44
46:S2:588:A:N3	46:S2:591:A:C5	2.86	0.44
46:S2:613:U:O2'	46:S2:614:G:O4'	2.23	0.44
46:S2:1240:U:H1'	46:S2:1243:U:C5	2.52	0.44
46:S2:1616:U:C2	46:S2:1617:U:C5	3.06	0.44
47:SA:131:HIS:CG	47:SA:132:GLN:N	2.86	0.44
48:SB:124:HIS:HA	48:SB:137:LEU:O	2.18	0.44
56:SP:62:LYS:HD2	56:SP:62:LYS:HA	1.75	0.44
69:SG:7:PHE:HZ	69:SG:116:LYS:HD2	1.83	0.44
70:SJ:78:LEU:HD13	70:SJ:92:MET:HB3	1.99	0.44
73:SW:53:ILE:CD1	76:Sb:25:VAL:HG22	2.48	0.44
78:S6:5:A:H2	78:S6:69:U:N3	2.15	0.44
1:LA:150:LEU:HD11	1:LA:156:LYS:HD2	2.00	0.44
5:LE:132:LYS:HB3	43:L5:856:G:C2	2.53	0.44
25:LZ:98:LYS:HB3	25:LZ:98:LYS:HE2	1.79	0.44
35:Lj:20:ARG:HG3	35:Lj:20:ARG:HH11	1.83	0.44
41:Lp:47:MET:HE2	41:Lp:47:MET:HB2	1.93	0.44
43:L5:1160:G:H2'	43:L5:1161:C:C6	2.53	0.44
43:L5:1331:G:H2'	43:L5:1332:A:N7	2.32	0.44
43:L5:2063:G:H1'	43:L5:2089:A:H61	1.81	0.44
43:L5:2625:A:H2'	43:L5:2626:C:O4'	2.18	0.44
43:L5:3713:A:O2'	43:L5:3714:U:O5'	2.36	0.44
43:L5:3745:G:H2'	43:L5:3746:G:C4	2.53	0.44
43:L5:3778:A:O2'	43:L5:3779:A:H8	2.01	0.44
46:S2:449:A:H5''	53:SI:25:ARG:HA	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:657:G:H21	46:S2:664:C:H5''	1.82	0.44
46:S2:1190:A:H2'	46:S2:1191:A:C8	2.53	0.44
46:S2:1483:C:O2	49:SD:160:SER:HB2	2.18	0.44
47:SA:185:MET:O	62:SV:45:ARG:HG2	2.18	0.44
48:SB:121:ILE:HG12	48:SB:161:VAL:HG13	1.99	0.44
48:SB:228:LEU:HA	48:SB:231:LEU:HD12	1.99	0.44
49:SD:24:PHE:CD1	54:SK:63:ALA:HB2	2.53	0.44
49:SD:66:ILE:O	49:SD:70:THR:HG23	2.18	0.44
52:SH:95:ILE:HD11	52:SH:133:LEU:HD13	2.00	0.44
54:SK:32:HIS:CD2	54:SK:45:VAL:HG21	2.53	0.44
60:ST:102:ARG:HD3	60:ST:102:ARG:HA	1.62	0.44
61:SU:60:THR:HG21	61:SU:62:ARG:CZ	2.48	0.44
62:SV:3:ASN:ND2	62:SV:7:GLU:O	2.51	0.44
73:SW:53:ILE:HD11	76:Sb:25:VAL:HG22	1.99	0.44
8:LH:45:LEU:HD22	8:LH:57:VAL:HG22	2.00	0.43
10:LJ:128:LEU:HD23	10:LJ:130:PHE:CE1	2.52	0.43
19:LT:80:VAL:HG12	19:LT:81:LYS:H	1.82	0.43
24:LY:63:LYS:HE2	24:LY:63:LYS:HB3	1.76	0.43
34:Li:45:ARG:HD2	34:Li:50:PHE:CZ	2.53	0.43
40:Lo:37:GLY:HA3	43:L5:3995:C:O3'	2.18	0.43
43:L5:343:A:H2'	43:L5:344:C:O4'	2.18	0.43
43:L5:950:G:N1	43:L5:1035:U:N3	2.32	0.43
43:L5:1652:U:H2'	43:L5:1653:A:C8	2.53	0.43
43:L5:2437:C:H2'	43:L5:2438:C:C6	2.52	0.43
43:L5:2658:U:H5	43:L5:2659:C:H41	1.63	0.43
43:L5:3347:U:H2'	43:L5:3348:G:O4'	2.17	0.43
43:L5:3600:A:H2'	43:L5:3601:G:C8	2.52	0.43
43:L5:3786:G:C2	43:L5:3787:U:H1'	2.52	0.43
43:L5:3822:G:H4'	43:L5:3824:C:C2	2.53	0.43
43:L5:3907:G:N1	43:L5:3910:A:C2	2.79	0.43
43:L5:4125:G:C2	43:L5:4137:A:C2	3.06	0.43
46:S2:381:G:N1	46:S2:384:G:OP2	2.47	0.43
46:S2:977:G:H2'	46:S2:978:C:C6	2.53	0.43
46:S2:1245:U:H2'	46:S2:1246:G:H8	1.83	0.43
46:S2:1407:G:H2'	46:S2:1408:U:C6	2.52	0.43
46:S2:1599:G:H2'	75:SZ:80:ARG:O	2.17	0.43
46:S2:1843:C:H2'	46:S2:1844:G:C8	2.52	0.43
55:SL:37:TYR:CE2	55:SL:51:ILE:HA	2.52	0.43
63:SX:24:ASP:OD1	63:SX:24:ASP:N	2.51	0.43
67:Sg:31:ILE:HD13	67:Sg:45:LEU:HG	1.99	0.43
67:Sg:87:LEU:HB2	67:Sg:101:PHE:HD2	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Sg:251:ALA:HB2	67:Sg:289:LEU:HD22	2.00	0.43
67:Sg:304:ASP:OD2	67:Sg:306:LEU:HD12	2.18	0.43
70:SJ:60:LEU:HD13	70:SJ:74:GLY:HA2	1.99	0.43
78:S6:64:U:H2'	78:S6:65:C:C6	2.53	0.43
1:LA:143:THR:O	1:LA:145:LYS:HG2	2.18	0.43
6:LF:126:LYS:HE3	6:LF:126:LYS:HB2	1.87	0.43
6:LF:238:PRO:HD3	6:LF:269:MET:HE2	2.00	0.43
8:LH:44:GLU:O	8:LH:44:GLU:HG3	2.18	0.43
22:LW:34:ALA:HB3	43:L5:4316:G:OP1	2.18	0.43
25:LZ:73:LYS:HD3	25:LZ:75:TYR:CZ	2.53	0.43
25:LZ:76:ASN:OD1	25:LZ:77:TYR:N	2.51	0.43
43:L5:1274:C:H2'	43:L5:1275:C:C6	2.53	0.43
43:L5:1669:U:H2'	43:L5:1670:A:O4'	2.18	0.43
46:S2:176:U:H2'	46:S2:177:G:O4'	2.18	0.43
46:S2:335:C:OP2	69:SG:190:ARG:NH2	2.51	0.43
46:S2:564:G:P	46:S2:587:G:H22	2.37	0.43
46:S2:1011:G:H2'	46:S2:1012:A:H8	1.80	0.43
46:S2:1730:U:H3	46:S2:1806:G:H1	1.65	0.43
47:SA:149:ASN:HB2	47:SA:165:ASN:OD1	2.18	0.43
47:SA:179:ALA:O	47:SA:182:VAL:HG12	2.18	0.43
48:SB:41:ILE:HB	48:SB:74:LEU:HA	1.99	0.43
49:SD:20:GLU:HB3	54:SK:64:TRP:CZ3	2.53	0.43
49:SD:177:LEU:HD23	49:SD:177:LEU:HA	1.70	0.43
51:SF:43:GLU:HG2	51:SF:44:LYS:N	2.33	0.43
52:SH:30:LEU:CB	52:SH:40:LEU:HD22	2.44	0.43
53:SI:81:VAL:HG22	53:SI:102:VAL:HG12	2.00	0.43
53:SI:153:LYS:HA	53:SI:153:LYS:HD2	1.85	0.43
57:SQ:50:LYS:HA	57:SQ:53:GLU:CG	2.47	0.43
61:SU:68:THR:O	66:Sd:40:ARG:NH2	2.40	0.43
63:SX:51:VAL:HG23	63:SX:98:ASP:O	2.18	0.43
64:Sa:30:VAL:HG22	64:Sa:31:PRO:HD2	2.01	0.43
67:Sg:93:THR:O	67:Sg:96:THR:OG1	2.36	0.43
70:SJ:30:LYS:HG3	70:SJ:31:LEU:N	2.33	0.43
70:SJ:104:ASP:HA	70:SJ:107:GLU:HB2	2.00	0.43
70:SJ:135:ILE:HD13	70:SJ:135:ILE:HA	1.88	0.43
73:SW:20:ARG:HA	73:SW:20:ARG:HD2	1.81	0.43
73:SW:78:ARG:HB3	73:SW:124:LYS:HB3	1.99	0.43
74:SY:87:PRO:HB2	74:SY:89:HIS:CD2	2.53	0.43
2:LB:4:ARG:C	2:LB:6:PHE:H	2.26	0.43
2:LB:14:LEU:HA	2:LB:17:LEU:HD13	2.00	0.43
4:LD:40:ASP:CG	19:LT:69:GLN:HG3	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:107:ASP:C	5:LE:109:ASN:N	2.75	0.43
5:LE:138:LYS:HB3	43:L5:1099:G:H21	1.84	0.43
11:LL:96:ILE:O	11:LL:97:SER:OG	2.37	0.43
22:LW:58:LYS:HG2	22:LW:59:HIS:CD2	2.53	0.43
32:Lg:24:ARG:NH1	32:Lg:30:ILE:HD11	2.32	0.43
36:Lk:24:LYS:HA	36:Lk:67:LYS:O	2.18	0.43
43:L5:5:A:H2'	43:L5:6:C:O4'	2.18	0.43
43:L5:687:C:H2'	43:L5:688:G:C8	2.53	0.43
43:L5:1479:C:H2'	43:L5:1480:C:C6	2.53	0.43
43:L5:2410:U:H2'	43:L5:2411:G:O4'	2.18	0.43
43:L5:3264:U:H2'	43:L5:3265:A:C8	2.53	0.43
43:L5:3505:U:H2'	43:L5:3506:A:C8	2.53	0.43
43:L5:4068:A:H2'	43:L5:4069:G:O4'	2.18	0.43
43:L5:4547:G:O2'	43:L5:4548:C:O4'	2.36	0.43
43:L5:4579:C:H2'	43:L5:4580:A:O4'	2.18	0.43
46:S2:1236:G:H2'	46:S2:1237:G:O4'	2.19	0.43
50:SE:37:LYS:HB2	50:SE:40:GLU:HB2	2.00	0.43
55:SL:113:LEU:HA	55:SL:142:VAL:HG11	2.00	0.43
69:SG:103:ASP:OD1	69:SG:105:ASN:N	2.51	0.43
72:SO:77:ALA:O	72:SO:81:VAL:HG23	2.18	0.43
74:SY:46:LYS:O	74:SY:46:LYS:HG2	2.18	0.43
76:Sb:54:VAL:CG2	76:Sb:63:LEU:HB2	2.47	0.43
78:S6:59:A:H2'	78:S6:59:A:N3	2.33	0.43
4:LD:15:ARG:CZ	43:L5:1546:A:H1'	2.49	0.43
6:LF:193:ASP:OD1	6:LF:194:ASN:N	2.52	0.43
7:LG:243:GLY:HA2	43:L5:3815:C:H5	1.81	0.43
15:LP:94:MET:HE2	15:LP:94:MET:HB3	1.82	0.43
16:LQ:108:ARG:NH1	43:L5:1170:G:OP1	2.38	0.43
19:LT:89:ILE:HG22	43:L5:3953:U:H4'	1.99	0.43
24:LY:24:HIS:CE1	24:LY:25:ILE:HG13	2.53	0.43
31:Lf:79:GLY:HA2	43:L5:1869:C:O2'	2.18	0.43
40:Lo:20:PRO:O	40:Lo:73:VAL:HG22	2.19	0.43
43:L5:1486:U:O2'	43:L5:3957:A:OP1	2.22	0.43
43:L5:1882:G:H2'	43:L5:1883:U:C6	2.53	0.43
43:L5:2033:A:H2'	43:L5:2034:C:O4'	2.18	0.43
43:L5:3484:G:O2'	43:L5:3486:G:OP2	2.33	0.43
43:L5:4040:C:OP2	43:L5:4185:U:O2'	2.32	0.43
44:L7:111:C:H2'	44:L7:112:U:O4'	2.18	0.43
45:L8:41:A:H2'	45:L8:42:G:O4'	2.18	0.43
46:S2:441:G:OP1	53:SI:24:LYS:HD2	2.19	0.43
46:S2:495:C:OP1	50:SE:57:THR:HG21	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:536:G:C6	46:S2:538:C:C4	3.06	0.43
46:S2:955:U:H2'	46:S2:956:A:C8	2.53	0.43
46:S2:1257:G:C8	61:SU:66:ARG:HB2	2.50	0.43
46:S2:1513:C:H2'	46:S2:1514:C:H6	1.82	0.43
46:S2:1554:C:H41	66:Sd:22:ARG:CZ	2.30	0.43
47:SA:80:ARG:HH11	47:SA:82:THR:HB	1.83	0.43
47:SA:125:THR:O	47:SA:147:LEU:HB2	2.18	0.43
49:SD:72:VAL:HG11	54:SK:70:TYR:CE1	2.53	0.43
54:SK:2:LEU:HD12	54:SK:2:LEU:HA	1.82	0.43
57:SQ:54:PRO:HG3	57:SQ:89:SER:HB3	1.99	0.43
60:ST:13:GLU:HG3	60:ST:138:VAL:HG13	2.00	0.43
67:Sg:88:ARG:HH11	67:Sg:97:THR:HG21	1.83	0.43
68:SC:185:THR:OG1	68:SC:192:LEU:HD11	2.19	0.43
74:SY:24:VAL:HG23	74:SY:24:VAL:O	2.19	0.43
2:LB:357:ARG:CZ	43:L5:4268:C:H5''	2.48	0.43
4:LD:16:TYR:O	44:L7:11:A:N6	2.50	0.43
5:LE:160:ILE:O	5:LE:167:GLY:N	2.38	0.43
7:LG:100:HIS:ND1	7:LG:103:ARG:HD2	2.34	0.43
8:LH:61:TRP:CH2	12:LM:33:GLN:HG2	2.53	0.43
15:LP:54:LYS:HA	15:LP:83:TRP:CD1	2.54	0.43
29:Ld:46:LEU:HD13	43:L5:2129:U:O2'	2.19	0.43
29:Ld:46:LEU:HD13	43:L5:2129:U:HO2'	1.82	0.43
32:Lg:103:VAL:O	32:Lg:106:VAL:HG22	2.18	0.43
42:Lr:82:ILE:HD13	42:Lr:92:SER:OG	2.18	0.43
43:L5:25:A:H2'	43:L5:26:C:H6	1.84	0.43
43:L5:217:C:H3'	43:L5:218:A:H4'	2.00	0.43
43:L5:461:G:C2	43:L5:702:C:C2	3.06	0.43
43:L5:1282:C:H2'	43:L5:1283:C:C6	2.52	0.43
43:L5:1745:A:H2'	43:L5:1746:A:H8	1.83	0.43
43:L5:2050:U:H2'	43:L5:2051:G:C8	2.54	0.43
43:L5:2603:A:O2'	43:L5:2609:G:N7	2.47	0.43
43:L5:3329:G:H3'	43:L5:3330:C:H5''	2.00	0.43
45:L8:129:C:H2'	45:L8:130:C:C6	2.54	0.43
46:S2:397:U:H4'	53:SI:14:THR:HG22	2.00	0.43
46:S2:990:C:OP2	48:SB:155:TYR:OH	2.28	0.43
46:S2:1564:G:H2'	46:S2:1565:C:C6	2.53	0.43
47:SA:51:LEU:HA	47:SA:54:THR:HG23	1.99	0.43
47:SA:89:LYS:NZ	58:SR:81:ARG:O	2.44	0.43
49:SD:69:LEU:HA	49:SD:72:VAL:HG22	2.00	0.43
49:SD:213:PRO:HB2	49:SD:216:GLU:CD	2.44	0.43
55:SL:80:MET:HG2	55:SL:86:ILE:CG2	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SP:56:LEU:HD23	56:SP:60:LEU:HG	2.00	0.43
61:SU:61:LEU:HD12	61:SU:82:MET:SD	2.59	0.43
62:SV:9:VAL:HG21	68:SC:169:TYR:OH	2.19	0.43
62:SV:17:CYS:HB2	62:SV:56:CYS:HB3	2.01	0.43
72:SO:57:THR:OG1	72:SO:60:MET:HG3	2.18	0.43
73:SW:60:LYS:NZ	76:Sb:23:ARG:O	2.34	0.43
4:LD:90:VAL:HG22	4:LD:91:GLY:H	1.84	0.43
5:LE:140:PRO:HG2	5:LE:143:GLN:HG3	2.00	0.43
5:LE:161:LEU:HD11	5:LE:203:ILE:HG13	2.00	0.43
18:LS:113:MET:HE3	18:LS:113:MET:HB3	1.90	0.43
20:LU:83:LEU:O	20:LU:87:THR:OG1	2.32	0.43
23:LX:83:THR:CG2	43:L5:2191:G:H5''	2.47	0.43
25:LZ:51:ARG:NH2	43:L5:2510:G:O6	2.29	0.43
25:LZ:109:LYS:HB3	25:LZ:109:LYS:HE2	1.76	0.43
30:Le:76:LYS:HG3	30:Le:98:GLU:HG3	2.01	0.43
43:L5:936:C:C4	43:L5:1054:G:N1	2.87	0.43
43:L5:1744:A:C2	43:L5:4087:C:H5'	2.54	0.43
43:L5:1788:G:H1'	43:L5:1816:A:C2	2.53	0.43
43:L5:1837:G:H2'	43:L5:1838:C:C6	2.53	0.43
43:L5:2181:G:O5'	43:L5:2181:G:H8	2.02	0.43
43:L5:2458:C:H2'	43:L5:2459:G:O4'	2.18	0.43
43:L5:3584:U:H2'	43:L5:3585:A:C8	2.53	0.43
46:S2:16:G:H2'	46:S2:17:C:C6	2.53	0.43
46:S2:345:U:H2'	46:S2:346:U:H6	1.84	0.43
46:S2:469:A:P	69:SG:74:ARG:HH12	2.41	0.43
46:S2:615:C:H2'	46:S2:627:G:C1'	2.49	0.43
46:S2:679:U:H2'	46:S2:680:A:H8	1.83	0.43
46:S2:838:A:H4'	46:S2:839:G:OP1	2.19	0.43
46:S2:902:G:H2'	46:S2:903:G:C8	2.52	0.43
46:S2:1229:A:H2'	46:S2:1230:G:H8	1.78	0.43
46:S2:1335:G:O2'	49:SD:174:HIS:ND1	2.50	0.43
46:S2:1620:A:O2'	56:SP:82:ASP:OD2	2.34	0.43
46:S2:1632:U:O4	46:S2:1633:G:N1	2.51	0.43
46:S2:1730:U:H2'	46:S2:1731:U:H6	1.83	0.43
47:SA:19:LEU:HD22	47:SA:19:LEU:HA	1.86	0.43
49:SD:24:PHE:HD1	54:SK:63:ALA:HB2	1.83	0.43
50:SE:62:LYS:HE2	50:SE:62:LYS:HB2	1.70	0.43
54:SK:48:ALA:O	54:SK:52:LEU:HG	2.19	0.43
58:SR:24:LEU:HB3	58:SR:31:ASN:HD21	1.83	0.43
68:SC:111:PRO:HB3	68:SC:124:PHE:CE1	2.53	0.43
70:SJ:108:ARG:HH12	70:SJ:150:ARG:C	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SN:40:LEU:HD23	71:SN:40:LEU:HA	1.80	0.43
75:SZ:49:LEU:N	75:SZ:83:LEU:HD22	2.32	0.43
1:LA:27:ALA:HB3	1:LA:54:ARG:HH22	1.84	0.43
1:LA:132:ASN:HD21	43:L5:3340:C:H2'	1.84	0.43
2:LB:18:PRO:O	2:LB:20:LYS:HG2	2.17	0.43
5:LE:185:GLY:O	5:LE:186:PRO:C	2.61	0.43
7:LG:187:LYS:HB3	7:LG:187:LYS:HE2	1.74	0.43
7:LG:190:LEU:O	7:LG:194:VAL:HG22	2.19	0.43
10:LJ:155:HIS:HB2	44:L7:55:A:H4'	2.01	0.43
43:L5:1476:C:H2'	43:L5:1477:C:H6	1.83	0.43
43:L5:2425:C:H2'	43:L5:2426:C:C6	2.54	0.43
43:L5:3788:C:O2'	43:L5:3800:G:N2	2.52	0.43
43:L5:4139:C:H2'	43:L5:4140:A:O4'	2.18	0.43
43:L5:4669:C:H3'	43:L5:4670:U:H5''	1.99	0.43
46:S2:642:A:H2'	46:S2:643:U:O4'	2.19	0.43
46:S2:1318:C:N4	46:S2:1319:G:O6	2.52	0.43
46:S2:1373:U:OP1	46:S2:1386:G:N2	2.44	0.43
46:S2:1810:A:H2'	46:S2:1811:U:C6	2.53	0.43
47:SA:191:ARG:NH1	62:SV:44:GLY:O	2.51	0.43
53:SI:194:GLU:HG3	55:SL:10:TYR:CG	2.54	0.43
67:Sg:120:ILE:HG12	67:Sg:132:TRP:O	2.19	0.43
68:SC:113:GLN:HB3	68:SC:120:GLN:OE1	2.19	0.43
71:SN:22:VAL:HG12	71:SN:23:PRO:O	2.18	0.43
71:SN:39:LYS:HZ3	71:SN:43:LYS:HD2	1.84	0.43
78:S6:59:A:H5''	78:S6:60:A:C8	2.54	0.43
3:LC:137:VAL:HA	3:LC:247:GLY:O	2.19	0.43
7:LG:117:ARG:HD2	7:LG:117:ARG:HA	1.78	0.43
8:LH:15:ASN:HB2	8:LH:28:LYS:O	2.18	0.43
11:LL:18:TRP:CD1	11:LL:18:TRP:H	2.37	0.43
13:LN:169:ARG:HD2	13:LN:174:LEU:HD12	1.99	0.43
14:LO:165:LYS:O	14:LO:169:ARG:HG3	2.18	0.43
18:LS:96:GLU:OE1	18:LS:139:ARG:N	2.45	0.43
18:LS:139:ARG:NH1	43:L5:1756:U:OP2	2.51	0.43
20:LU:78:PHE:CE2	20:LU:83:LEU:HD21	2.53	0.43
32:Lg:100:GLN:CD	43:L5:3770:C:H41	2.26	0.43
36:Lk:64:LEU:HD12	36:Lk:64:LEU:HA	1.73	0.43
43:L5:138:C:C2	43:L5:139:G:N7	2.87	0.43
43:L5:165:A:H2'	43:L5:166:C:C6	2.53	0.43
43:L5:822:U:H2'	43:L5:823:C:C6	2.53	0.43
43:L5:1391:G:O2'	43:L5:1426:G:H4'	2.19	0.43
43:L5:1686:G:O6	43:L5:1699:A:H2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:3269:C:H1'	43:L5:4664:A:H8	1.84	0.43
43:L5:3312:C:O2'	43:L5:3404:A:N1	2.47	0.43
43:L5:3584:U:H2'	43:L5:3585:A:H8	1.84	0.43
43:L5:3788:C:H2'	43:L5:3789:C:C6	2.53	0.43
44:L7:27:G:H21	44:L7:55:A:N6	2.16	0.43
46:S2:219:A:C6	46:S2:220:U:C5	3.06	0.43
46:S2:588:A:H1'	46:S2:591:A:C8	2.54	0.43
46:S2:1445:U:P	57:SQ:15:ARG:HH22	2.39	0.43
51:SF:86:LYS:O	51:SF:90:VAL:HG13	2.18	0.43
53:SI:179:PRO:HA	53:SI:183:GLY:H	1.83	0.43
61:SU:36:CYS:O	61:SU:40:ILE:HG23	2.19	0.43
63:SX:85:VAL:HG23	63:SX:130:LEU:HD21	2.00	0.43
63:SX:91:LEU:HA	63:SX:94:ILE:HD12	2.00	0.43
64:Sa:26:CYS:SG	64:Sa:28:ARG:HB2	2.59	0.43
70:SJ:28:GLU:HA	70:SJ:31:LEU:CD2	2.48	0.43
71:SN:84:LEU:HD12	71:SN:84:LEU:HA	1.89	0.43
78:S6:28:U:H2'	78:S6:29:G:O4'	2.18	0.43
1:LA:70:LYS:HD2	1:LA:72:ARG:HH21	1.84	0.43
3:LC:28:PHE:CD1	3:LC:132:ALA:HB2	2.53	0.43
9:LI:76:MET:HE2	9:LI:138:ILE:HG21	1.99	0.43
14:LO:12:ARG:HB2	14:LO:37:ARG:HD3	2.00	0.43
15:LP:86:LYS:HB2	43:L5:3514:G:H5''	2.00	0.43
16:LQ:70:MET:HE1	16:LQ:137:VAL:HB	2.00	0.43
17:LR:44:LEU:HD22	17:LR:49:LEU:HD22	2.01	0.43
19:LT:116:LYS:NZ	43:L5:1636:G:H4'	2.34	0.43
21:LV:82:ILE:HG13	21:LV:83:ARG:HG3	2.00	0.43
23:LX:145:ASP:O	23:LX:149:VAL:HG23	2.19	0.43
26:La:36:GLY:HA3	26:La:40:HIS:CE1	2.54	0.43
27:Lb:48:LYS:NZ	43:L5:1224:C:O2'	2.52	0.43
37:Ll:36:MET:CE	37:Ll:37:TYR:CE1	2.90	0.43
43:L5:697:U:H2'	43:L5:698:C:H6	1.84	0.43
43:L5:952:C:H2'	43:L5:953:C:C6	2.54	0.43
43:L5:1202:A:N1	43:L5:1211:G:O2'	2.44	0.43
43:L5:2032:G:H2'	43:L5:2033:A:C8	2.54	0.43
43:L5:2127:A:N1	43:L5:2147:G:O2'	2.35	0.43
43:L5:2429:G:O2'	43:L5:2430:A:OP2	2.31	0.43
43:L5:3747:C:P	43:L5:3750:G:H22	2.41	0.43
43:L5:4079:C:H2'	43:L5:4080:G:H5'	2.00	0.43
43:L5:4565:G:C6	43:L5:4566:C:C2	3.07	0.43
43:L5:4625:A:H2'	43:L5:4626:G:O4'	2.19	0.43
46:S2:907:U:H2'	46:S2:908:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:926:G:C2	46:S2:927:A:C8	3.07	0.43
46:S2:1679:A:O2'	46:S2:1680:A:H5'	2.19	0.43
46:S2:1740:C:H2'	46:S2:1741:C:H6	1.83	0.43
48:SB:144:LYS:HG3	48:SB:208:HIS:HB3	2.01	0.43
62:SV:31:SER:OG	62:SV:56:CYS:HA	2.19	0.43
68:SC:134:ASN:O	68:SC:167:ARG:NH2	2.51	0.43
68:SC:192:LEU:O	68:SC:226:ALA:HA	2.18	0.43
70:SJ:132:GLN:HA	70:SJ:133:ARG:NH1	2.33	0.43
2:LB:17:LEU:HD12	2:LB:17:LEU:HA	1.55	0.43
20:LU:28:PRO:HB3	20:LU:100:LEU:HD21	2.00	0.43
23:LX:72:ASP:O	23:LX:76:ILE:HG12	2.19	0.43
24:LY:43:ASN:O	24:LY:126:ARG:HD2	2.18	0.43
26:La:59:ARG:NH2	40:Lo:40:ARG:HH12	2.16	0.43
43:L5:173:C:H2'	43:L5:174:C:H6	1.84	0.43
43:L5:1230:C:H2'	43:L5:1231:C:C6	2.53	0.43
43:L5:1743:G:H22	43:L5:4087:C:H5''	1.84	0.43
43:L5:1904:C:H1'	43:L5:1905:G:N7	2.34	0.43
43:L5:3776:C:H2'	43:L5:3777:C:C6	2.54	0.43
43:L5:3800:G:H2'	43:L5:3801:G:C8	2.53	0.43
46:S2:146:G:C8	69:SG:140:ARG:NH2	2.87	0.43
46:S2:340:A:H8	46:S2:340:A:OP2	2.02	0.43
46:S2:640:C:H2'	46:S2:641:A:H8	1.84	0.43
46:S2:819:A:C5	46:S2:820:G:C8	3.07	0.43
46:S2:1315:U:C6	54:SK:4:PRO:HA	2.53	0.43
46:S2:1349:G:H2'	46:S2:1350:G:C8	2.50	0.43
47:SA:115:ALA:HA	47:SA:117:ARG:HH12	1.84	0.43
49:SD:23:GLU:OE2	54:SK:64:TRP:HD1	2.01	0.43
49:SD:68:GLU:HB2	54:SK:20:VAL:CG1	2.49	0.43
52:SH:72:PHE:HD1	52:SH:72:PHE:HA	1.64	0.43
58:SR:58:MET:HE3	58:SR:58:MET:HB3	1.90	0.43
69:SG:7:PHE:CZ	69:SG:9:ALA:HB3	2.54	0.43
71:SN:40:LEU:HD22	71:SN:45:LEU:HD12	2.01	0.43
72:SO:130:GLU:HA	72:SO:130:GLU:OE1	2.19	0.43
73:SW:57:ARG:NH2	76:Sb:26:GLN:HB3	2.33	0.43
78:S6:68:C:C5	78:S6:69:U:H5	2.36	0.43
2:LB:376:HIS:O	2:LB:378:ARG:NH2	2.52	0.42
7:LG:162:ASP:N	43:L5:150:U:O4	2.46	0.42
9:LI:93:PRO:HB2	9:LI:125:THR:HB	2.00	0.42
16:LQ:166:TYR:CE1	43:L5:1160:G:H5''	2.54	0.42
17:LR:154:LEU:HG	17:LR:158:GLN:OE1	2.19	0.42
20:LU:80:LYS:HG2	20:LU:110:TYR:CE2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LY:30:MET:HB3	24:LY:101:PRO:HG3	2.01	0.42
30:Le:5:ARG:NH1	43:L5:453:U:H1'	2.34	0.42
30:Le:48:ARG:NH2	43:L5:2037:G:OP1	2.52	0.42
34:Li:53:TYR:HB2	34:Li:76:ARG:HD2	2.01	0.42
34:Li:99:LYS:HB2	34:Li:99:LYS:HE2	1.65	0.42
43:L5:341:G:H2'	43:L5:342:C:C6	2.53	0.42
43:L5:470:A:H2'	43:L5:471:C:O4'	2.19	0.42
43:L5:950:G:C2'	43:L5:951:A:O4'	2.67	0.42
43:L5:3808:C:H2'	43:L5:3809:G:O4'	2.19	0.42
44:L7:15:C:H2'	44:L7:16:A:H8	1.84	0.42
46:S2:65:C:C6	69:SG:174:PRO:HB3	2.53	0.42
46:S2:295:U:C5	55:SL:15:THR:HG21	2.54	0.42
46:S2:418:C:O2'	46:S2:419:A:H5''	2.18	0.42
46:S2:494:A:H1'	46:S2:575:A:O5'	2.19	0.42
46:S2:644:A:H4'	46:S2:645:G:H5'	2.01	0.42
46:S2:810:A:OP1	50:SE:186:GLY:HA3	2.19	0.42
46:S2:1083:A:N7	46:S2:1085:A:N9	2.67	0.42
46:S2:1322:G:H2'	46:S2:1323:G:O4'	2.19	0.42
46:S2:1535:C:O2	46:S2:1599:G:N2	2.52	0.42
46:S2:1832:A:C1'	46:S2:1853:C:H5'	2.49	0.42
46:S2:1869:U:C2	64:Sa:100:ARG:HG3	2.53	0.42
48:SB:178:THR:OG1	48:SB:179:ASN:OD1	2.36	0.42
49:SD:7:LYS:HA	49:SD:10:LYS:HG2	1.99	0.42
52:SH:60:ILE:HD11	52:SH:92:VAL:HG13	2.00	0.42
62:SV:3:ASN:HD21	62:SV:7:GLU:HG2	1.83	0.42
74:SY:23:MET:HE2	74:SY:23:MET:HB2	1.74	0.42
78:S6:43:G:H2'	78:S6:44:A:C8	2.54	0.42
2:LB:122:TRP:CH2	2:LB:127:LYS:HG2	2.54	0.42
3:LC:76:ILE:HG12	3:LC:96:CYS:SG	2.59	0.42
6:LF:114:VAL:O	6:LF:142:GLY:CA	2.64	0.42
7:LG:83:PHE:O	7:LG:159:HIS:HB2	2.19	0.42
10:LJ:29:SER:OG	10:LJ:30:GLY:N	2.53	0.42
14:LO:8:VAL:HG12	14:LO:117:ARG:HG3	2.01	0.42
17:LR:20:LYS:HG3	43:L5:2577:G:OP2	2.19	0.42
20:LU:40:GLU:O	20:LU:44:GLN:HG3	2.19	0.42
30:Le:43:ASN:O	30:Le:47:ARG:HG3	2.18	0.42
32:Lg:54:ARG:HE	32:Lg:54:ARG:HB2	1.62	0.42
32:Lg:98:GLU:OE1	32:Lg:101:LYS:HE3	2.19	0.42
38:Lm:106:ARG:HE	38:Lm:106:ARG:HB3	1.50	0.42
43:L5:1483:A:H2'	43:L5:1484:G:O4'	2.19	0.42
43:L5:3799:G:H2'	43:L5:3800:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:4674:U:H4'	43:L5:4675:C:O5'	2.18	0.42
46:S2:24:C:HO2'	46:S2:25:A:H8	1.65	0.42
46:S2:1205:A:H2'	46:S2:1206:C:O4'	2.19	0.42
46:S2:1215:A:H2'	46:S2:1218:A:N7	2.34	0.42
46:S2:1391:U:H2'	46:S2:1392:C:H6	1.84	0.42
47:SA:106:GLY:O	47:SA:113:GLN:NE2	2.52	0.42
47:SA:201:LEU:CD1	58:SR:85:VAL:HG21	2.49	0.42
52:SH:45:ILE:HG21	52:SH:62:ILE:CG2	2.46	0.42
53:SI:173:ALA:HB2	53:SI:189:VAL:HG23	2.01	0.42
56:SP:81:ARG:O	56:SP:117:GLY:N	2.52	0.42
70:SJ:82:VAL:HG11	70:SJ:92:MET:SD	2.59	0.42
76:Sb:75:GLU:HG3	76:Sb:75:GLU:O	2.19	0.42
2:LB:4:ARG:HE	2:LB:4:ARG:HB3	1.56	0.42
2:LB:54:THR:OG1	2:LB:55:HIS:N	2.52	0.42
2:LB:126:LYS:HA	2:LB:126:LYS:HD3	1.79	0.42
7:LG:56:LYS:HD3	43:L5:3736:A:C4	2.55	0.42
9:LI:19:LYS:HE3	9:LI:19:LYS:HB2	1.59	0.42
9:LI:198:LYS:HE2	43:L5:1583:A:O2'	2.19	0.42
11:LL:10:LEU:HD11	43:L5:1159:C:H1'	2.00	0.42
17:LR:69:ALA:HB1	17:LR:74:ARG:HB2	2.01	0.42
21:LV:90:ARG:O	21:LV:92:ASP:N	2.52	0.42
42:Lr:32:LEU:C	42:Lr:34:ALA:H	2.27	0.42
43:L5:189:G:C6	43:L5:253:G:N1	2.87	0.42
43:L5:1912:G:H2'	43:L5:1912:G:N3	2.35	0.42
43:L5:2349:C:H2'	43:L5:2350:G:O4'	2.19	0.42
43:L5:3489:U:H2'	43:L5:3490:C:C6	2.54	0.42
43:L5:4561:G:H2'	43:L5:4562:G:O4'	2.20	0.42
46:S2:420:G:N2	46:S2:662:U:O2	2.51	0.42
46:S2:928:C:H2'	46:S2:929:G:C8	2.55	0.42
46:S2:972:G:H5''	46:S2:973:A:OP1	2.19	0.42
46:S2:1238:C:O2'	56:SP:128:HIS:HA	2.19	0.42
47:SA:197:VAL:HG13	47:SA:201:LEU:HD22	2.01	0.42
50:SE:17:HIS:NE2	50:SE:39:ARG:O	2.50	0.42
50:SE:222:LEU:HA	50:SE:225:ILE:CD1	2.48	0.42
52:SH:163:GLN:HG3	52:SH:189:PHE:CE1	2.54	0.42
63:SX:125:VAL:HG23	63:SX:130:LEU:HD13	2.01	0.42
69:SG:131:ARG:HE	69:SG:131:ARG:HB3	1.70	0.42
72:SO:42:VAL:O	72:SO:42:VAL:HG12	2.18	0.42
1:LA:17:ARG:HB3	1:LA:17:ARG:HH11	1.84	0.42
1:LA:186:TYR:HB2	1:LA:196:TRP:CZ3	2.54	0.42
2:LB:305:THR:C	2:LB:307:TYR:H	2.27	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:5:ARG:NH1	3:LC:24:LEU:O	2.53	0.42
3:LC:77:PRO:O	3:LC:91:ALA:N	2.50	0.42
4:LD:200:MET:HE2	4:LD:241:LYS:HG3	2.00	0.42
7:LG:87:LEU:HD23	7:LG:87:LEU:HA	1.89	0.42
7:LG:253:LEU:O	7:LG:257:LYS:HG3	2.19	0.42
8:LH:7:ASN:HA	8:LH:57:VAL:O	2.18	0.42
10:LJ:48:PRO:HB2	10:LJ:70:VAL:HG12	2.02	0.42
11:LL:81:LEU:HD11	11:LL:98:VAL:HG22	2.02	0.42
16:LQ:45:GLN:H	16:LQ:45:GLN:HG2	1.64	0.42
18:LS:86:SER:OG	18:LS:91:HIS:CD2	2.72	0.42
28:Lc:78:ASN:OD1	28:Lc:78:ASN:N	2.52	0.42
29:Ld:62:VAL:HG22	29:Ld:104:THR:HB	2.01	0.42
31:Lf:102:ARG:HB2	31:Lf:104:MET:HE2	2.02	0.42
32:Lg:69:LYS:HD3	43:L5:2523:U:N3	2.34	0.42
37:Ll:33:ASN:OD1	37:Ll:33:ASN:N	2.52	0.42
43:L5:217:C:H3'	43:L5:218:A:C4'	2.50	0.42
43:L5:1001:G:C2	43:L5:1027:G:C2	3.07	0.42
43:L5:2519:A:H2'	43:L5:2520:A:C8	2.54	0.42
43:L5:2591:U:H2'	43:L5:2592:G:O4'	2.19	0.42
43:L5:4259:G:H8	43:L5:4259:G:OP2	2.02	0.42
43:L5:4671:C:C5'	43:L5:4672:C:H5''	2.48	0.42
45:L8:91:A:H2'	45:L8:92:U:O4'	2.20	0.42
46:S2:43:U:P	46:S2:44:U:H5	2.42	0.42
46:S2:446:A:H2'	46:S2:447:G:O4'	2.20	0.42
46:S2:1514:C:H5'	66:Sd:7:TYR:O	2.20	0.42
46:S2:1674:U:H2'	46:S2:1675:G:O4'	2.20	0.42
46:S2:1694:G:O2'	46:S2:1695:U:H5'	2.19	0.42
47:SA:33:GLN:HE21	62:SV:64:GLU:HG3	1.83	0.42
55:SL:86:ILE:HD13	55:SL:113:LEU:HD12	2.01	0.42
63:SX:46:HIS:HD2	63:SX:103:ALA:HB2	1.83	0.42
67:Sg:256:ILE:HD13	67:Sg:256:ILE:HA	1.85	0.42
71:SN:88:LEU:HD12	71:SN:88:LEU:HA	1.91	0.42
2:LB:27:GLY:HA2	2:LB:276:HIS:CD2	2.55	0.42
2:LB:128:LYS:NZ	43:L5:4613:U:H5''	2.35	0.42
4:LD:64:ILE:HG13	4:LD:105:LEU:HD21	2.00	0.42
5:LE:158:LEU:HD22	5:LE:202:VAL:HG11	2.01	0.42
5:LE:258:GLN:HE21	5:LE:262:ASP:CG	2.27	0.42
13:LN:84:PRO:HA	13:LN:87:HIS:CG	2.55	0.42
15:LP:112:LEU:HG	15:LP:150:LEU:HB3	2.02	0.42
15:LP:112:LEU:HD23	15:LP:150:LEU:HD23	2.01	0.42
18:LS:43:ARG:HA	18:LS:43:ARG:HD2	1.70	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LY:53:ASP:HB3	24:LY:110:LYS:H	1.83	0.42
24:LY:113:LYS:HA	24:LY:116:LYS:HE2	2.01	0.42
25:LZ:100:VAL:HG23	25:LZ:106:LEU:HB3	2.02	0.42
27:Lb:37:PRO:HG2	43:L5:3968:A:O4'	2.19	0.42
30:Le:91:CYS:C	30:Le:93:LYS:H	2.26	0.42
36:Lk:51:GLU:OE1	36:Lk:51:GLU:N	2.32	0.42
43:L5:1767:A:H3'	43:L5:1768:G:H8	1.84	0.42
43:L5:2115:G:H2'	43:L5:2116:U:O4'	2.20	0.42
43:L5:2314:G:H2'	43:L5:2315:C:O4'	2.19	0.42
43:L5:2656:G:C4	43:L5:3251:C:H1'	2.55	0.42
43:L5:4175:G:O2'	43:L5:4178:C:OP2	2.27	0.42
46:S2:49:C:H2'	46:S2:473:C:N4	2.34	0.42
46:S2:169:U:H4'	69:SG:135:PRO:HA	2.00	0.42
46:S2:365:A:H2'	46:S2:366:C:C6	2.54	0.42
46:S2:387:C:H1'	53:SI:5:ARG:HB2	2.01	0.42
46:S2:551:C:H6	46:S2:551:C:H3'	1.84	0.42
46:S2:897:U:H5'	46:S2:898:U:OP2	2.18	0.42
46:S2:929:G:H22	46:S2:1014:U:H3	1.67	0.42
46:S2:986:G:H4'	46:S2:987:G:H5'	2.01	0.42
46:S2:1104:C:OP1	48:SB:157:GLN:NE2	2.35	0.42
46:S2:1183:A:H8	46:S2:1183:A:O5'	2.02	0.42
46:S2:1204:G:N3	46:S2:1700:A:H2	2.18	0.42
46:S2:1288:A:H2'	46:S2:1289:U:O4'	2.19	0.42
46:S2:1368:U:H2'	46:S2:1369:U:C6	2.54	0.42
46:S2:1516:G:O3'	56:SP:81:ARG:HD3	2.20	0.42
47:SA:126:ASP:O	47:SA:130:ASP:HB2	2.19	0.42
48:SB:160:GLN:HA	48:SB:163:GLN:HE21	1.85	0.42
50:SE:188:ASN:HD22	50:SE:191:ARG:NH2	2.17	0.42
50:SE:248:ILE:H	50:SE:248:ILE:HG13	1.34	0.42
57:SQ:110:ASP:OD1	57:SQ:111:ILE:HG13	2.20	0.42
60:ST:4:VAL:HG21	60:ST:139:ALA:HB3	2.02	0.42
60:ST:72:VAL:O	60:ST:76:THR:HG23	2.18	0.42
62:SV:74:LYS:CD	62:SV:79:VAL:HG21	2.49	0.42
67:Sg:8:ARG:HH22	67:Sg:296:GLN:NE2	2.17	0.42
68:SC:166:ARG:NH2	68:SC:252:THR:OG1	2.37	0.42
75:SZ:102:LYS:HD2	75:SZ:107:VAL:CG1	2.50	0.42
1:LA:123:ARG:HH11	1:LA:123:ARG:HD3	1.73	0.42
2:LB:30:LYS:HD2	43:L5:4369:C:OP2	2.19	0.42
3:LC:353:LYS:C	3:LC:353:LYS:HD3	2.44	0.42
5:LE:136:HIS:HE1	43:L5:1096:G:OP2	2.02	0.42
15:LP:126:ARG:HG2	15:LP:140:MET:SD	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LQ:27:LEU:HD11	42:Lr:4:HIS:HB3	2.02	0.42
28:Lc:20:LEU:O	28:Lc:24:SER:HB3	2.19	0.42
29:Ld:75:LYS:HB2	29:Ld:79:ASN:O	2.20	0.42
30:Le:16:ARG:NH1	43:L5:437:G:OP1	2.50	0.42
30:Le:81:ASN:N	30:Le:81:ASN:OD1	2.53	0.42
35:Lj:21:ARG:O	35:Lj:22:CYS:C	2.63	0.42
43:L5:100:C:H2'	43:L5:101:A:C8	2.54	0.42
43:L5:938:C:HO2'	43:L5:939:U:P	2.43	0.42
43:L5:1829:A:H2'	43:L5:1830:U:C6	2.54	0.42
43:L5:4543:G:H2'	43:L5:4544:G:O4'	2.19	0.42
46:S2:150:A:H5''	46:S2:151:C:C5	2.54	0.42
46:S2:529:A:N1	46:S2:530:A:C6	2.88	0.42
46:S2:603:G:H2'	46:S2:604:C:C5	2.55	0.42
46:S2:637:C:O5'	77:Se:98:LYS:NZ	2.31	0.42
46:S2:885:C:H42	46:S2:904:A:H2	1.67	0.42
46:S2:1219:C:C2	46:S2:1220:C:C5	3.07	0.42
49:SD:215:ASP:N	49:SD:215:ASP:OD1	2.51	0.42
50:SE:22:LYS:HB2	50:SE:22:LYS:HE3	1.89	0.42
50:SE:187:ALA:O	50:SE:245:ARG:NH2	2.52	0.42
54:SK:19:GLY:H	54:SK:93:THR:HG23	1.84	0.42
55:SL:37:TYR:CZ	55:SL:51:ILE:HG23	2.55	0.42
55:SL:80:MET:HE2	55:SL:80:MET:HB3	1.89	0.42
60:ST:39:LEU:O	60:ST:96:SER:HB3	2.20	0.42
66:Sd:20:SER:OG	66:Sd:25:SER:HA	2.20	0.42
69:SG:44:GLU:HG2	69:SG:45:TRP:CD1	2.54	0.42
71:SN:5:HIS:HE1	71:SN:120:SER:HB2	1.85	0.42
74:SY:47:MET:HG3	74:SY:48:TYR:N	2.33	0.42
75:SZ:56:ASP:HA	75:SZ:59:CYS:SG	2.59	0.42
10:LJ:128:LEU:HD12	10:LJ:128:LEU:HA	1.88	0.42
11:LL:135:LYS:HD2	43:L5:171:U:H5'	2.02	0.42
13:LN:178:HIS:HB2	43:L5:314:G:O6	2.20	0.42
16:LQ:27:LEU:HD12	16:LQ:30:LYS:HD2	2.02	0.42
21:LV:13:LYS:O	43:L5:4270:G:O2'	2.36	0.42
22:LW:13:ILE:H	22:LW:13:ILE:HG13	1.63	0.42
38:Lm:94:MET:HG2	38:Lm:105:PRO:HA	2.01	0.42
40:Lo:3:ASN:HB3	43:L5:3885:U:H5'	2.02	0.42
40:Lo:61:LYS:NZ	43:L5:4026:G:N7	2.62	0.42
43:L5:1677:A:O4'	43:L5:3866:A:N6	2.52	0.42
43:L5:2133:A:H2'	43:L5:2134:C:C6	2.55	0.42
43:L5:2257:U:H2'	43:L5:2258:C:H6	1.84	0.42
43:L5:3767:C:H4'	43:L5:3768:U:OP2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:3841:U:H2'	43:L5:3842:U:H6	1.82	0.42
43:L5:3927:A:H2'	43:L5:3928:G:H8	1.83	0.42
43:L5:4231:G:H2'	43:L5:4232:U:H6	1.83	0.42
43:L5:4399:G:H1	43:L5:4603:A:H61	1.68	0.42
43:L5:4559:G:H1'	43:L5:4560:C:C6	2.54	0.42
46:S2:302:A:N3	53:SI:73:THR:HG21	2.35	0.42
46:S2:832:G:N2	46:S2:845:U:O2	2.53	0.42
46:S2:881:G:H3'	46:S2:882:G:H8	1.85	0.42
46:S2:922:G:C2	76:Sb:22:LYS:HG2	2.54	0.42
46:S2:972:G:H8	46:S2:972:G:OP2	2.03	0.42
46:S2:1014:U:C2	46:S2:1015:G:C8	3.07	0.42
46:S2:1249:U:H2'	46:S2:1250:C:C6	2.55	0.42
46:S2:1544:U:OP1	57:SQ:37:ARG:NH1	2.53	0.42
47:SA:52:LYS:HB2	58:SR:109:LEU:HD22	2.01	0.42
47:SA:176:TRP:CH2	47:SA:180:ARG:HD3	2.54	0.42
51:SF:97:PHE:HZ	51:SF:112:LEU:HD22	1.84	0.42
53:SI:3:ILE:H	53:SI:3:ILE:HG13	1.71	0.42
54:SK:41:PRO:O	54:SK:45:VAL:HG23	2.19	0.42
56:SP:111:MET:HE2	59:SS:117:ILE:HB	2.00	0.42
57:SQ:106:LYS:HD2	57:SQ:106:LYS:HA	1.91	0.42
62:SV:52:THR:OG1	68:SC:261:PHE:HB2	2.20	0.42
68:SC:241:PHE:HA	68:SC:244:ILE:HG12	2.01	0.42
71:SN:63:VAL:HG21	71:SN:71:ILE:CG1	2.48	0.42
71:SN:106:ARG:C	71:SN:108:ASP:H	2.28	0.42
1:LA:14:SER:OG	43:L5:1442:C:OP1	2.32	0.42
1:LA:109:GLU:HG2	1:LA:138:SER:HA	2.01	0.42
2:LB:224:LYS:HB3	2:LB:226:LYS:HE3	2.02	0.42
3:LC:20:LYS:HB2	3:LC:20:LYS:HE2	1.79	0.42
3:LC:211:TYR:OH	3:LC:218:ILE:HD11	2.19	0.42
7:LG:69:ILE:HG23	7:LG:73:ARG:NH1	2.35	0.42
8:LH:22:GLY:O	8:LH:45:LEU:HD12	2.20	0.42
12:LM:10:GLY:HA2	12:LM:64:PHE:CZ	2.54	0.42
12:LM:62:LEU:HB2	12:LM:64:PHE:CE2	2.54	0.42
12:LM:89:THR:O	12:LM:93:LYS:HG2	2.20	0.42
27:Lb:112:LYS:HA	27:Lb:115:ARG:HD2	2.01	0.42
31:Lf:11:PHE:CE1	31:Lf:26:ALA:HB1	2.54	0.42
36:Lk:19:ASP:OD2	36:Lk:38:CYS:HB3	2.20	0.42
38:Lm:95:ILE:HD13	38:Lm:102:ARG:HA	2.02	0.42
40:Lo:70:LEU:O	40:Lo:80:LYS:HA	2.20	0.42
43:L5:489:G:H2'	43:L5:490:C:C6	2.55	0.42
43:L5:1674:A:H1'	43:L5:3848:G:O6	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:1874:A:H2'	43:L5:1875:C:C6	2.54	0.42
43:L5:2459:G:C5	43:L5:2460:G:C8	3.08	0.42
43:L5:3453:U:H2'	43:L5:3454:C:C6	2.54	0.42
43:L5:3892:A:H2'	43:L5:3893:G:H8	1.84	0.42
43:L5:4024:G:H5'	78:S6:76:A:H62	1.85	0.42
43:L5:4173:G:H2'	43:L5:4174:U:O4'	2.20	0.42
43:L5:4660:G:O3'	43:L5:4661:C:H3'	2.20	0.42
46:S2:47:G:C6	46:S2:481:G:C2	3.08	0.42
46:S2:319:A:N6	69:SG:186:GLN:HE22	2.07	0.42
46:S2:618:G:H4'	63:SX:88:ASP:HA	2.02	0.42
46:S2:1287:G:H8	46:S2:1287:G:OP2	2.03	0.42
46:S2:1366:G:H2'	46:S2:1367:G:H8	1.85	0.42
46:S2:1564:G:H2'	46:S2:1565:C:H6	1.85	0.42
46:S2:1780:G:H2'	46:S2:1781:G:H8	1.81	0.42
49:SD:142:LEU:O	49:SD:143:ARG:C	2.63	0.42
50:SE:57:THR:O	50:SE:61:VAL:HG13	2.20	0.42
50:SE:104:ASP:OD2	50:SE:106:LYS:HE2	2.20	0.42
50:SE:197:ASN:HB3	50:SE:209:HIS:HD2	1.85	0.42
52:SH:69:LEU:HD22	52:SH:96:ALA:CB	2.50	0.42
52:SH:69:LEU:HD22	52:SH:96:ALA:HB2	2.02	0.42
52:SH:138:GLU:H	52:SH:159:ASP:HB2	1.84	0.42
53:SI:13:LYS:H	53:SI:13:LYS:HG2	1.61	0.42
55:SL:73:LEU:HD12	55:SL:109:MET:HE1	2.02	0.42
58:SR:34:VAL:O	58:SR:38:ILE:HG12	2.20	0.42
59:SS:64:VAL:O	59:SS:68:ILE:HG13	2.19	0.42
67:Sg:104:HIS:CE1	67:Sg:130:LYS:HD2	2.54	0.42
67:Sg:187:ASN:O	67:Sg:189:ILE:HG12	2.20	0.42
76:Sb:56:CYS:SG	76:Sb:58:GLY:N	2.93	0.42
2:LB:140:ASP:HA	2:LB:143:LYS:HG2	2.01	0.42
9:LI:84:GLY:O	9:LI:140:THR:HG22	2.19	0.42
10:LJ:94:LEU:H	10:LJ:173:ILE:HG21	1.84	0.42
16:LQ:122:THR:OG1	16:LQ:124:ASP:OD1	2.32	0.42
19:LT:8:ARG:O	19:LT:11:THR:OG1	2.33	0.42
36:Lk:37:ARG:HD2	36:Lk:42:LEU:HD13	2.02	0.42
43:L5:52:G:H4'	43:L5:1343:G:H4'	2.02	0.42
43:L5:1357:G:O2'	43:L5:2270:A:N3	2.48	0.42
43:L5:1503:G:H4'	43:L5:2042:A:H4'	2.01	0.42
43:L5:2439:C:H2'	43:L5:2440:G:O4'	2.20	0.42
43:L5:3441:A:O2'	43:L5:3442:A:H3'	2.19	0.42
43:L5:4703:G:H2'	43:L5:4704:A:C8	2.55	0.42
46:S2:559:G:H1'	46:S2:560:G:N7	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1061:A:H1'	46:S2:1063:A:N7	2.35	0.42
46:S2:1280:C:H2'	46:S2:1281:G:H8	1.84	0.42
46:S2:1301:U:H4'	46:S2:1302:A:H5'	2.02	0.42
46:S2:1867:A:N6	64:Sa:85:ARG:O	2.51	0.42
47:SA:179:ALA:HA	47:SA:182:VAL:HG12	2.02	0.42
48:SB:65:ARG:NH1	72:SO:46:ASP:OD2	2.53	0.42
49:SD:60:GLY:H	49:SD:65:ARG:HB2	1.84	0.42
49:SD:141:LYS:HE2	49:SD:179:GLN:HB2	2.02	0.42
53:SI:165:GLN:HA	53:SI:168:GLN:HB2	2.01	0.42
55:SL:143:LEU:O	55:SL:144:LYS:HD3	2.20	0.42
57:SQ:143:LYS:HD3	57:SQ:145:TYR:CZ	2.55	0.42
61:SU:41:ARG:HH11	61:SU:45:GLU:HG3	1.85	0.42
62:SV:3:ASN:HA	68:SC:173:LYS:HE3	2.02	0.42
64:Sa:45:VAL:HG23	64:Sa:50:VAL:CG1	2.50	0.42
67:Sg:14:HIS:HE2	67:Sg:18:VAL:HG22	1.84	0.42
67:Sg:33:SER:OG	67:Sg:43:TRP:NE1	2.45	0.42
71:SN:46:THR:OG1	71:SN:49:GLN:NE2	2.53	0.42
72:SO:43:HIS:NE2	72:SO:45:THR:HG22	2.35	0.42
10:LJ:62:ILE:HD11	43:L5:3910:A:C8	2.55	0.42
14:LO:44:SER:OG	43:L5:1857:U:OP2	2.27	0.42
15:LP:37:LYS:HB3	15:LP:37:LYS:HE2	1.80	0.42
19:LT:3:ASN:ND2	43:L5:3865:A:N1	2.66	0.42
24:LY:124:LYS:HA	24:LY:124:LYS:HD2	1.86	0.42
38:Lm:104:HIS:NE2	38:Lm:107:ALA:HB2	2.35	0.42
43:L5:654:G:H2'	43:L5:655:G:C1'	2.50	0.42
43:L5:687:C:H2'	43:L5:688:G:H8	1.84	0.42
43:L5:3329:G:H2'	43:L5:3329:G:N3	2.35	0.42
43:L5:3383:A:H2'	43:L5:3384:A:C8	2.55	0.42
43:L5:3975:G:N2	43:L5:3977:A:H3'	2.35	0.42
45:L8:93:C:HO2'	45:L8:94:G:H8	1.67	0.42
45:L8:115:G:H2'	45:L8:116:C:H6	1.85	0.42
46:S2:25:A:HO2'	46:S2:26:U:H6	1.66	0.42
46:S2:77:A:H8	69:SG:154:ARG:HD3	1.84	0.42
46:S2:290:G:H2'	46:S2:291:U:O4'	2.20	0.42
46:S2:459:A:H2'	46:S2:460:C:C6	2.54	0.42
46:S2:928:C:H2'	46:S2:929:G:H8	1.85	0.42
46:S2:1199:G:C6	46:S2:1200:A:C6	3.08	0.42
46:S2:1263:C:H2'	46:S2:1264:U:O4'	2.19	0.42
46:S2:1548:C:H3'	46:S2:1549:G:H8	1.85	0.42
46:S2:1714:C:H2'	46:S2:1715:U:H6	1.81	0.42
49:SD:7:LYS:NZ	61:SU:25:THR:HG21	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SH:134:VAL:HG12	52:SH:173:PHE:CE2	2.55	0.42
57:SQ:31:LEU:HB3	57:SQ:67:ASP:HA	2.02	0.42
60:ST:14:PHE:CE2	60:ST:62:ARG:HG3	2.55	0.42
61:SU:55:ARG:HG2	61:SU:87:ARG:HG3	2.02	0.42
61:SU:68:THR:HG23	61:SU:70:CYS:O	2.20	0.42
69:SG:22:ARG:CZ	69:SG:23:LYS:HE2	2.49	0.42
6:LF:197:ILE:HD11	6:LF:209:MET:HE2	2.02	0.41
7:LG:99:ALA:HB2	7:LG:204:PHE:HZ	1.85	0.41
8:LH:81:ILE:O	8:LH:85:THR:HG23	2.20	0.41
9:LI:13:LYS:NZ	43:L5:1670:A:OP1	2.49	0.41
12:LM:122:ILE:HG12	43:L5:4538:A:O2'	2.19	0.41
14:LO:125:LYS:HE3	14:LO:125:LYS:HB3	1.78	0.41
17:LR:153:LYS:HE2	17:LR:153:LYS:HB2	1.68	0.41
22:LW:5:LEU:HD13	22:LW:11:TYR:O	2.20	0.41
26:La:3:SER:OG	43:L5:2099:G:H5''	2.20	0.41
29:Ld:53:ALA:HA	29:Ld:88:LEU:HD21	2.02	0.41
43:L5:131:C:H2'	43:L5:132:G:C8	2.55	0.41
43:L5:1316:G:N3	43:L5:1316:G:H2'	2.35	0.41
43:L5:2258:C:H2'	43:L5:2259:G:O4'	2.19	0.41
43:L5:4215:C:H2'	43:L5:4216:U:C6	2.55	0.41
45:L8:6:C:H2'	45:L8:7:U:C6	2.55	0.41
46:S2:493:C:OP2	74:SY:107:ARG:NH2	2.53	0.41
46:S2:1112:U:H2'	46:S2:1113:U:C6	2.54	0.41
46:S2:1456:A:H2'	46:S2:1457:G:H8	1.84	0.41
47:SA:185:MET:HE2	47:SA:185:MET:HB2	1.87	0.41
48:SB:68:GLU:OE1	48:SB:85:LYS:HD2	2.20	0.41
48:SB:140:VAL:HG12	48:SB:213:ARG:HB2	2.02	0.41
49:SD:73:VAL:HG13	49:SD:77:PHE:CD2	2.55	0.41
52:SH:107:LYS:N	52:SH:107:LYS:HD2	2.35	0.41
58:SR:32:LYS:HE2	58:SR:32:LYS:HB3	1.92	0.41
62:SV:18:SER:OG	62:SV:72:LEU:CD1	2.68	0.41
64:Sa:51:ARG:NH2	65:Sc:39:SER:OG	2.52	0.41
67:Sg:132:TRP:HA	67:Sg:138:CYS:HA	2.00	0.41
67:Sg:155:ARG:HD3	67:Sg:199:THR:HA	2.02	0.41
68:SC:244:ILE:O	68:SC:247:THR:OG1	2.35	0.41
69:SG:30:LYS:HG2	69:SG:34:THR:HG21	2.01	0.41
73:SW:101:PHE:HA	73:SW:113:HIS:CE1	2.56	0.41
76:Sb:70:LYS:HB2	76:Sb:72:ARG:NH1	2.35	0.41
1:LA:108:PRO:HD3	41:Lp:90:LYS:HE2	2.02	0.41
1:LA:242:ARG:NH1	1:LA:243:THR:O	2.52	0.41
2:LB:71:GLU:OE1	22:LW:1:MET:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:LB:239:LYS:HE2	2:LB:239:LYS:HB3	1.85	0.41
4:LD:234:ASP:O	4:LD:235:MET:HG2	2.20	0.41
11:LL:50:PRO:C	11:LL:52:SER:H	2.28	0.41
15:LP:30:ARG:HD2	15:LP:63:TYR:HE2	1.84	0.41
17:LR:124:TYR:OH	43:L5:2420:U:OP2	2.33	0.41
28:Lc:36:LYS:O	28:Lc:40:GLN:HG2	2.20	0.41
28:Lc:38:ILE:HG21	28:Lc:38:ILE:HD13	1.84	0.41
36:Lk:55:LYS:O	36:Lk:59:SER:OG	2.35	0.41
43:L5:69:A:N1	43:L5:323:A:O2'	2.47	0.41
43:L5:1002:G:C2	43:L5:1003:G:C5	3.08	0.41
43:L5:1266:A:H2'	43:L5:1267:G:O4'	2.20	0.41
43:L5:2080:C:H2'	43:L5:2081:C:C6	2.56	0.41
43:L5:2296:C:H2'	43:L5:2297:C:H6	1.83	0.41
43:L5:2654:U:O2'	43:L5:2655:G:H5'	2.21	0.41
43:L5:4589:G:O2'	43:L5:4590:C:H5'	2.20	0.41
46:S2:652:U:H2'	46:S2:653:U:H6	1.86	0.41
46:S2:846:G:OP1	50:SE:106:LYS:HE3	2.20	0.41
46:S2:871:A:N6	46:S2:916:G:H2'	2.34	0.41
46:S2:1098:G:H2'	46:S2:1099:C:O4'	2.20	0.41
46:S2:1275:G:N3	46:S2:1275:G:H2'	2.35	0.41
49:SD:31:GLU:HG3	49:SD:32:ASP:OD1	2.20	0.41
50:SE:56:LEU:HD11	74:SY:74:MET:HE2	2.02	0.41
50:SE:71:LYS:HA	50:SE:76:VAL:HA	2.02	0.41
50:SE:98:ASN:O	50:SE:114:ILE:HG22	2.20	0.41
50:SE:127:ARG:HG3	50:SE:142:HIS:HA	2.00	0.41
67:Sg:130:LYS:HD3	67:Sg:132:TRP:CZ2	2.55	0.41
67:Sg:254:PRO:HB3	67:Sg:285:GLN:HA	2.01	0.41
68:SC:172:ASN:O	68:SC:174:ILE:N	2.54	0.41
69:SG:116:LYS:HE2	69:SG:116:LYS:HB2	1.85	0.41
70:SJ:42:GLU:O	70:SJ:46:VAL:HG12	2.20	0.41
73:SW:42:MET:HE2	73:SW:42:MET:HB3	1.70	0.41
73:SW:80:ASP:N	73:SW:80:ASP:OD1	2.52	0.41
74:SY:47:MET:HE3	74:SY:47:MET:HB2	1.70	0.41
78:S6:8:G:C2	78:S6:67:U:O2	2.73	0.41
78:S6:54:A:C8	78:S6:58:A:C6	3.08	0.41
1:LA:142:GLU:C	1:LA:144:LYS:H	2.28	0.41
2:LB:392:LEU:H	2:LB:395:ASP:HB2	1.85	0.41
8:LH:134:CYS:SG	8:LH:144:LEU:HD22	2.60	0.41
8:LH:157:SER:O	8:LH:161:ILE:HG13	2.20	0.41
29:Ld:21:VAL:HG22	29:Ld:22:THR:H	1.84	0.41
39:Ln:13:LEU:CD2	46:S2:1820:A:H4'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:123:C:H2'	43:L5:124:C:C6	2.56	0.41
43:L5:1628:A:H2'	43:L5:1629:G:O4'	2.19	0.41
43:L5:3271:G:HO2'	43:L5:3272:G:P	2.41	0.41
43:L5:3579:G:H22	43:L5:4195:U:H1'	1.86	0.41
43:L5:3744:G:O6	43:L5:3765:C:H1'	2.19	0.41
43:L5:4125:G:O6	43:L5:4137:A:N1	2.50	0.41
43:L5:4333:G:H2'	43:L5:4334:A:C8	2.55	0.41
46:S2:847:G:H5''	46:S2:848:A:C8	2.50	0.41
49:SD:113:LEU:HD12	49:SD:113:LEU:HA	1.95	0.41
51:SF:177:LEU:HD23	51:SF:177:LEU:HA	1.84	0.41
53:SI:63:GLY:HA2	53:SI:185:ALA:O	2.21	0.41
67:Sg:76:GLN:NE2	67:Sg:92:LEU:H	2.17	0.41
78:S6:69:U:H3'	78:S6:70:G:H8	1.85	0.41
2:LB:10:ARG:HH21	2:LB:265:SER:HB2	1.84	0.41
3:LC:205:ARG:HA	3:LC:205:ARG:HD3	1.83	0.41
4:LD:127:GLY:HA3	4:LD:195:HIS:HB3	2.01	0.41
11:LL:133:ALA:HB1	11:LL:135:LYS:HE3	2.02	0.41
13:LN:146:PRO:HA	13:LN:149:GLN:HG2	2.02	0.41
14:LO:168:TYR:CE2	14:LO:172:LYS:HD2	2.55	0.41
15:LP:95:LEU:HD12	15:LP:95:LEU:HA	1.87	0.41
17:LR:77:GLY:O	17:LR:81:ARG:NE	2.54	0.41
17:LR:174:GLU:HB3	17:LR:175:GLU:OE1	2.20	0.41
25:LZ:46:ILE:HD11	25:LZ:130:PHE:CE2	2.56	0.41
26:La:114:LYS:HG3	43:L5:1212:A:H8	1.84	0.41
26:La:129:PHE:CZ	26:La:144:CYS:HB3	2.55	0.41
27:Lb:101:LYS:HE3	27:Lb:101:LYS:HB3	1.94	0.41
30:Le:35:TRP:CE2	30:Le:56:PRO:HD2	2.55	0.41
43:L5:23:C:H2'	43:L5:24:G:O4'	2.20	0.41
43:L5:1020:G:H2'	43:L5:1021:C:O4'	2.21	0.41
43:L5:1786:A:H1'	43:L5:1789:U:OP2	2.20	0.41
43:L5:2137:G:N1	43:L5:2182:U:OP1	2.46	0.41
43:L5:3566:C:O2	43:L5:4049:A:N1	2.53	0.41
43:L5:3897:A:H2'	43:L5:3898:G:O4'	2.21	0.41
43:L5:4385:G:N2	43:L5:4387:A:H62	2.17	0.41
46:S2:85:A:N3	46:S2:149:A:H2	2.18	0.41
46:S2:494:A:C8	46:S2:575:A:C8	3.09	0.41
46:S2:1359:U:H2'	46:S2:1360:U:O4'	2.20	0.41
46:S2:1463:U:H5'	46:S2:1464:U:H3	1.84	0.41
46:S2:1472:C:H2'	46:S2:1473:C:O4'	2.20	0.41
46:S2:1594:C:H1'	60:ST:12:GLN:HE22	1.85	0.41
46:S2:1684:C:H2'	46:S2:1685:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:SA:18:PHE:CD1	47:SA:23:THR:HG21	2.55	0.41
47:SA:125:THR:HG23	47:SA:175:TRP:HE1	1.85	0.41
53:SI:104:ILE:HG13	53:SI:171:LEU:HB2	2.01	0.41
57:SQ:47:LEU:HD11	57:SQ:78:VAL:HG13	2.02	0.41
60:ST:116:ASP:HB3	60:ST:122:LYS:HG3	2.02	0.41
73:SW:26:LEU:HD21	73:SW:60:LYS:HD3	2.02	0.41
74:SY:47:MET:HG3	74:SY:48:TYR:H	1.85	0.41
3:LC:143:ARG:HG2	3:LC:182:LYS:HD2	2.03	0.41
8:LH:5:LEU:HB2	8:LH:60:TRP:CZ3	2.56	0.41
8:LH:8:GLN:HG3	8:LH:74:CYS:SG	2.61	0.41
10:LJ:52:LYS:HB2	10:LJ:65:ASN:HA	2.02	0.41
16:LQ:65:ARG:NH1	43:L5:1316:G:OP1	2.53	0.41
18:LS:53:LYS:NZ	44:L7:74:A:H1'	2.35	0.41
25:LZ:60:LYS:HA	25:LZ:60:LYS:HD3	1.81	0.41
28:Lc:24:SER:O	28:Lc:24:SER:OG	2.31	0.41
30:Le:80:HIS:N	30:Le:84:GLU:OE2	2.51	0.41
43:L5:675:A:H4'	43:L5:676:C:OP1	2.21	0.41
43:L5:876:G:H2'	43:L5:877:C:O4'	2.21	0.41
43:L5:1483:A:H4'	43:L5:1499:G:N2	2.36	0.41
43:L5:1558:C:C5	43:L5:1559:U:N1	2.88	0.41
43:L5:1627:G:H2'	43:L5:1628:A:C8	2.55	0.41
43:L5:2312:G:H3'	43:L5:2313:G:H5''	2.02	0.41
43:L5:3251:C:H2'	43:L5:3254:G:H21	1.86	0.41
43:L5:3367:G:N1	43:L5:3397:G:O6	2.53	0.41
43:L5:3749:A:H62	43:L5:3750:G:H21	1.68	0.41
43:L5:3749:A:N7	43:L5:3750:G:H1'	2.35	0.41
43:L5:4295:U:H2'	43:L5:4296:G:C8	2.56	0.41
43:L5:4535:G:C6	43:L5:4577:G:C6	3.09	0.41
43:L5:4657:G:H2'	43:L5:4658:U:O4'	2.20	0.41
46:S2:496:U:H4'	50:SE:11:ARG:NH1	2.35	0.41
46:S2:558:U:H2'	46:S2:559:G:C5	2.56	0.41
46:S2:643:U:H4'	46:S2:645:G:H4'	2.01	0.41
46:S2:1329:G:H2'	46:S2:1330:U:C6	2.55	0.41
46:S2:1657:G:N3	46:S2:1658:G:C8	2.88	0.41
47:SA:68:ILE:HD11	47:SA:73:ASP:CB	2.51	0.41
47:SA:166:LYS:N	47:SA:166:LYS:HD2	2.36	0.41
47:SA:184:ARG:HD3	47:SA:191:ARG:HG2	2.03	0.41
48:SB:109:LYS:HE3	48:SB:113:MET:SD	2.60	0.41
51:SF:85:LYS:HA	51:SF:85:LYS:HD3	1.90	0.41
62:SV:60:ARG:HA	62:SV:65:SER:HB3	2.02	0.41
65:Sc:31:ARG:HA	65:Sc:43:ILE:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Sg:79:LEU:HD12	67:Sg:79:LEU:HA	1.90	0.41
67:Sg:298:LEU:HB3	67:Sg:310:TRP:HB2	2.02	0.41
70:SJ:148:ILE:H	70:SJ:148:ILE:HD12	1.85	0.41
72:SO:75:MET:HG3	72:SO:114:SER:HB2	2.01	0.41
73:SW:51:GLU:OE2	76:Sb:8:LEU:HD21	2.21	0.41
73:SW:71:LYS:HB3	73:SW:130:PHE:CZ	2.54	0.41
3:LC:140:LYS:NZ	3:LC:242:PRO:HD2	2.35	0.41
6:LF:116:ARG:HD3	6:LF:138:GLN:O	2.21	0.41
10:LJ:60:PHE:HB3	43:L5:3910:A:C6	2.55	0.41
12:LM:79:LYS:HG3	12:LM:79:LYS:O	2.19	0.41
14:LO:110:PRO:N	14:LO:111:PRO:HD2	2.35	0.41
19:LT:28:ALA:HB1	19:LT:32:ARG:NH1	2.36	0.41
24:LY:27:ARG:CZ	45:L8:70:G:H5''	2.50	0.41
25:LZ:28:ASN:HB2	25:LZ:77:TYR:OH	2.20	0.41
26:La:85:GLN:HE22	43:L5:511:G:N2	2.19	0.41
30:Le:16:ARG:NH2	30:Le:19:LYS:O	2.48	0.41
43:L5:37:U:H2'	43:L5:38:A:O4'	2.21	0.41
43:L5:1052:G:C4	43:L5:1053:G:C8	3.09	0.41
43:L5:1109:A:H1'	43:L5:1111:G:N1	2.35	0.41
43:L5:1234:A:H2'	43:L5:1234:A:N3	2.36	0.41
43:L5:2253:G:H2'	43:L5:2254:C:H6	1.85	0.41
43:L5:3907:G:H2'	43:L5:3907:G:N3	2.36	0.41
43:L5:4291:U:H2'	43:L5:4292:G:N3	2.35	0.41
43:L5:4341:C:H2'	43:L5:4342:U:C6	2.55	0.41
43:L5:4399:G:H2'	43:L5:4400:C:H6	1.85	0.41
46:S2:1522:C:H1'	56:SP:128:HIS:HE1	1.85	0.41
46:S2:1590:A:H2'	46:S2:1591:C:O4'	2.21	0.41
46:S2:1713:A:H2'	46:S2:1714:C:C6	2.55	0.41
47:SA:122:LEU:HD12	47:SA:122:LEU:HA	1.77	0.41
50:SE:67:GLN:OE1	50:SE:69:PHE:HE2	2.04	0.41
50:SE:185:GLY:O	50:SE:224:ASN:ND2	2.53	0.41
50:SE:208:VAL:HG11	50:SE:225:ILE:HD11	2.01	0.41
52:SH:179:LYS:HA	52:SH:179:LYS:HD2	1.83	0.41
53:SI:40:PRO:HD2	53:SI:59:ARG:NH1	2.36	0.41
57:SQ:34:VAL:HB	57:SQ:70:VAL:HB	2.03	0.41
62:SV:74:LYS:HA	62:SV:79:VAL:HG21	2.02	0.41
63:SX:22:TRP:CE3	63:SX:28:LYS:HD2	2.51	0.41
67:Sg:39:THR:HA	67:Sg:60:ARG:HB3	2.02	0.41
67:Sg:185:LYS:HG3	67:Sg:186:THR:HG23	2.03	0.41
69:SG:137:ARG:C	69:SG:139:SER:H	2.29	0.41
69:SG:191:ARG:C	69:SG:195:LYS:HE3	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SW:111:MET:SD	73:SW:119:LYS:HE3	2.61	0.41
2:LB:329:ASP:OD1	2:LB:329:ASP:N	2.52	0.41
3:LC:8:ILE:HD11	3:LC:24:LEU:HD13	2.01	0.41
3:LC:137:VAL:HG21	3:LC:150:LEU:HD21	2.02	0.41
4:LD:263:LYS:H	4:LD:263:LYS:HG3	1.64	0.41
5:LE:250:ILE:H	5:LE:250:ILE:HG13	1.66	0.41
8:LH:167:VAL:HG12	8:LH:170:LYS:HB2	2.03	0.41
13:LN:66:VAL:HG21	13:LN:102:ALA:HB2	2.03	0.41
17:LR:46:LYS:HB3	17:LR:46:LYS:HE3	1.68	0.41
18:LS:158:VAL:HG11	43:L5:1858:G:C8	2.56	0.41
18:LS:161:ARG:HG2	43:L5:1724:C:O4'	2.21	0.41
20:LU:24:ASP:OD1	20:LU:26:THR:OG1	2.34	0.41
31:Lf:56:ASN:HB2	43:L5:1112:U:OP1	2.20	0.41
32:Lg:52:ARG:NH1	43:L5:2352:A:OP1	2.47	0.41
37:Ll:15:LYS:HD2	45:L8:45:C:P	2.61	0.41
40:Lo:103:VAL:O	40:Lo:104:ILE:HG22	2.21	0.41
43:L5:1781:C:N3	43:L5:1786:A:C5	2.89	0.41
43:L5:2303:G:O2'	43:L5:2304:G:O5'	2.28	0.41
43:L5:2656:G:H5''	43:L5:2657:G:OP2	2.19	0.41
44:L7:16:A:H2'	44:L7:17:C:C6	2.55	0.41
46:S2:1230:G:H2'	46:S2:1231:C:C6	2.56	0.41
46:S2:1246:G:H2'	46:S2:1247:A:O4'	2.20	0.41
46:S2:1416:C:O5'	60:ST:129:ARG:NH2	2.54	0.41
46:S2:1674:U:O2	51:SF:84:GLY:HA3	2.21	0.41
47:SA:38:ILE:HA	47:SA:49:ILE:HA	2.02	0.41
47:SA:66:VAL:HG12	47:SA:182:VAL:HG23	2.03	0.41
47:SA:78:SER:HB2	47:SA:125:THR:OG1	2.21	0.41
48:SB:57:ILE:HG22	48:SB:59:SER:H	1.85	0.41
48:SB:83:LYS:HE3	48:SB:83:LYS:HB2	1.92	0.41
50:SE:121:TYR:HB3	50:SE:163:ASP:OD1	2.20	0.41
50:SE:173:ILE:HG23	50:SE:230:LYS:NZ	2.36	0.41
52:SH:73:GLN:HB3	52:SH:135:PHE:CE1	2.56	0.41
52:SH:152:ARG:HH22	73:SW:35:VAL:HG11	1.86	0.41
53:SI:81:VAL:H	53:SI:94:LYS:NZ	2.19	0.41
57:SQ:74:GLY:O	57:SQ:80:GLN:NE2	2.39	0.41
60:ST:64:LEU:HD23	60:ST:64:LEU:HA	1.92	0.41
67:Sg:17:TRP:N	67:Sg:17:TRP:CD1	2.88	0.41
69:SG:22:ARG:HA	69:SG:25:ARG:NE	2.34	0.41
72:SO:21:VAL:HG11	72:SO:27:VAL:HG22	2.02	0.41
2:LB:271:GLN:NE2	2:LB:272:LYS:O	2.54	0.41
3:LC:242:PRO:HB2	43:L5:2054:G:H4'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:320:LYS:HE2	3:LC:320:LYS:HB2	1.97	0.41
5:LE:158:LEU:HD22	5:LE:202:VAL:CG1	2.50	0.41
5:LE:188:VAL:HG21	5:LE:266:LEU:HD11	2.03	0.41
6:LF:97:ALA:HB2	19:LT:140:PHE:CE2	2.56	0.41
9:LI:35:ASP:OD2	9:LI:86:HIS:NE2	2.44	0.41
11:LL:62:PRO:O	11:LL:63:THR:HG23	2.20	0.41
15:LP:24:VAL:HG12	15:LP:86:LYS:HD3	2.03	0.41
18:LS:17:LEU:HA	18:LS:18:PRO:HD3	1.98	0.41
27:Lb:68:ARG:H	27:Lb:68:ARG:HG3	1.73	0.41
30:Le:38:PRO:HG2	30:Le:45:VAL:CG2	2.51	0.41
32:Lg:33:LEU:HD23	32:Lg:33:LEU:HA	1.93	0.41
37:Ll:41:ARG:NH2	43:L5:2188:A:OP1	2.43	0.41
43:L5:384:A:H4'	43:L5:385:A:OP1	2.21	0.41
43:L5:843:U:O2'	43:L5:844:C:H5''	2.20	0.41
43:L5:1240:G:N1	43:L5:1272:C:OP2	2.53	0.41
43:L5:1698:G:H2'	43:L5:1699:A:O4'	2.21	0.41
43:L5:2169:A:H2'	43:L5:2170:U:C6	2.56	0.41
43:L5:2221:C:O2'	43:L5:2222:C:P	2.78	0.41
43:L5:2356:G:H2'	43:L5:2357:C:C6	2.55	0.41
43:L5:3518:A:H2'	43:L5:3519:A:H8	1.82	0.41
43:L5:4235:C:H2'	43:L5:4236:C:O4'	2.21	0.41
43:L5:4421:C:H2'	43:L5:4422:G:O4'	2.21	0.41
43:L5:4539:A:C2'	43:L5:4540:A:H5'	2.50	0.41
46:S2:1005:U:H2'	46:S2:1006:G:C8	2.56	0.41
46:S2:1048:C:H5'	72:SO:143:LYS:HB2	2.03	0.41
46:S2:1280:C:H2'	46:S2:1281:G:C8	2.55	0.41
46:S2:1448:G:O2'	46:S2:1449:A:H5'	2.21	0.41
46:S2:1589:A:H2'	46:S2:1590:A:H8	1.81	0.41
46:S2:1691:U:H2'	46:S2:1692:U:C6	2.56	0.41
47:SA:85:ARG:HG3	58:SR:81:ARG:HH21	1.86	0.41
48:SB:191:ASP:O	48:SB:195:LYS:HG2	2.20	0.41
49:SD:106:ARG:HG3	49:SD:175:VAL:HG22	2.03	0.41
51:SF:33:ILE:HA	51:SF:36:GLN:OE1	2.20	0.41
51:SF:102:LEU:O	75:SZ:66:LYS:HB3	2.21	0.41
64:Sa:98:PRO:HA	64:Sa:99:PRO:HD3	1.96	0.41
66:Sd:50:ILE:HG13	66:Sd:51:GLY:N	2.36	0.41
70:SJ:84:ILE:HD12	70:SJ:108:ARG:HH11	1.86	0.41
1:LA:51:ASP:HB3	1:LA:54:ARG:HG3	2.03	0.41
1:LA:80:GLU:HA	1:LA:170:ALA:HB2	2.02	0.41
2:LB:60:VAL:HB	2:LB:67:VAL:O	2.21	0.41
3:LC:128:LEU:HD23	3:LC:128:LEU:HA	1.77	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:177:TRP:CH2	3:LC:180:ILE:HG21	2.56	0.41
3:LC:204:ARG:NH2	43:L5:2055:U:OP1	2.54	0.41
4:LD:180:PHE:HD1	4:LD:180:PHE:HA	1.80	0.41
6:LF:216:ILE:HD13	6:LF:216:ILE:HA	1.88	0.41
7:LG:38:ASN:O	7:LG:44:ASP:HB2	2.20	0.41
8:LH:35:ARG:HE	8:LH:35:ARG:HB2	1.59	0.41
9:LI:44:ASP:N	9:LI:44:ASP:OD1	2.49	0.41
10:LJ:29:SER:HA	10:LJ:33:LEU:HB2	2.01	0.41
12:LM:7:VAL:HG13	12:LM:27:ILE:HD13	2.01	0.41
14:LO:66:PRO:HG2	43:L5:4240:G:H5''	2.03	0.41
15:LP:111:SER:O	15:LP:111:SER:OG	2.36	0.41
17:LR:110:ARG:NH1	43:L5:2418:G:OP1	2.54	0.41
23:LX:122:ALA:N	23:LX:139:ARG:O	2.54	0.41
26:La:38:MET:O	26:La:42:ARG:NH1	2.53	0.41
27:Lb:94:LEU:HD12	27:Lb:94:LEU:HA	1.88	0.41
36:Lk:8:ILE:HG23	36:Lk:56:LEU:HD11	2.03	0.41
40:Lo:23:VAL:O	40:Lo:93:LEU:HD21	2.20	0.41
43:L5:477:G:H2'	43:L5:478:G:H8	1.85	0.41
43:L5:952:C:H2'	43:L5:953:C:H6	1.86	0.41
43:L5:1008:A:H2	43:L5:1018:G:H1	1.59	0.41
43:L5:1256:C:O2'	43:L5:1257:A:O4'	2.38	0.41
43:L5:1367:A:H62	43:L5:1388:G:H1'	1.82	0.41
43:L5:1544:G:O6	44:L7:103:A:O2'	2.20	0.41
43:L5:1614:G:H2'	43:L5:1615:C:H6	1.86	0.41
43:L5:1710:A:H2'	43:L5:1711:A:C8	2.56	0.41
43:L5:1854:C:H2'	43:L5:1855:G:O4'	2.21	0.41
43:L5:2216:G:H2'	43:L5:2218:G:OP2	2.21	0.41
43:L5:2658:U:H6	43:L5:2659:C:C5	2.39	0.41
43:L5:3264:U:H2'	43:L5:3265:A:H8	1.86	0.41
43:L5:3280:C:H2'	43:L5:3281:A:O4'	2.20	0.41
43:L5:3419:U:H3'	43:L5:3420:A:H8	1.85	0.41
43:L5:4017:G:H2'	43:L5:4018:C:H6	1.86	0.41
43:L5:4584:U:H5'	43:L5:4585:G:OP1	2.21	0.41
43:L5:4621:U:H1'	43:L5:4634:G:C2	2.56	0.41
45:L8:51:U:O2	45:L8:51:U:H2'	2.21	0.41
46:S2:79:A:H2'	46:S2:80:G:O4'	2.21	0.41
46:S2:112:U:H4'	46:S2:113:G:O5'	2.21	0.41
46:S2:537:A:O5'	46:S2:538:C:H5''	2.21	0.41
46:S2:609:C:H2'	46:S2:610:U:C6	2.56	0.41
46:S2:893:U:H2'	46:S2:894:U:C6	2.55	0.41
46:S2:1182:A:H2'	46:S2:1183:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1203:U:H2'	46:S2:1204:G:O4'	2.21	0.41
46:S2:1231:C:H2'	46:S2:1232:C:H6	1.86	0.41
46:S2:1260:A:H1'	46:S2:1265:C:H42	1.85	0.41
46:S2:1366:G:H2'	46:S2:1367:G:C8	2.56	0.41
46:S2:1463:U:H2'	46:S2:1465:C:C4	2.56	0.41
46:S2:1599:G:OP2	75:SZ:82:SER:OG	2.17	0.41
46:S2:1711:C:C2	46:S2:1712:U:C5	3.09	0.41
47:SA:122:LEU:O	47:SA:144:THR:HA	2.21	0.41
48:SB:84:PHE:CD2	48:SB:100:PHE:HE1	2.39	0.41
48:SB:121:ILE:CG1	48:SB:161:VAL:HG13	2.51	0.41
48:SB:123:ALA:HB2	48:SB:165:ARG:HG3	2.03	0.41
49:SD:142:LEU:H	49:SD:142:LEU:HG	1.72	0.41
49:SD:142:LEU:HD13	49:SD:150:MET:SD	2.61	0.41
50:SE:8:HIS:HB3	50:SE:27:PHE:CD1	2.56	0.41
53:SI:60:LEU:HD11	53:SI:183:GLY:O	2.21	0.41
53:SI:90:LEU:HD22	53:SI:95:THR:OG1	2.21	0.41
54:SK:2:LEU:O	54:SK:3:MET:C	2.64	0.41
55:SL:88:ILE:HD11	55:SL:109:MET:SD	2.60	0.41
55:SL:142:VAL:HG13	55:SL:142:VAL:O	2.20	0.41
58:SR:73:LEU:O	58:SR:77:GLU:HG2	2.20	0.41
59:SS:108:ARG:HE	59:SS:108:ARG:HB3	1.27	0.41
65:Sc:26:GLN:H	65:Sc:26:GLN:HG2	1.69	0.41
68:SC:176:LYS:O	68:SC:200[A]:ARG:NH1	2.52	0.41
69:SG:3:LEU:HD23	69:SG:109:LEU:HB3	2.03	0.41
69:SG:24:LEU:O	69:SG:25:ARG:C	2.63	0.41
69:SG:132:ARG:HH21	69:SG:133:LEU:HD21	1.85	0.41
70:SJ:38:ARG:HE	70:SJ:39:ASN:ND2	2.19	0.41
72:SO:85:CYS:HB3	72:SO:90:ILE:HB	2.03	0.41
74:SY:80:ASP:OD1	74:SY:81:TYR:N	2.54	0.41
76:Sb:72:ARG:N	76:Sb:72:ARG:HD3	2.36	0.41
2:LB:216:MET:HE3	2:LB:283:LYS:HB2	2.01	0.41
2:LB:332:MET:HE3	2:LB:332:MET:HB2	1.92	0.41
7:LG:157:ILE:HG23	7:LG:201:THR:HG22	2.02	0.41
8:LH:71:ARG:CZ	43:L5:4344:A:H5'	2.51	0.41
13:LN:191:ALA:O	13:LN:195:ARG:HG2	2.21	0.41
19:LT:70:HIS:N	43:L5:3967:C:OP1	2.43	0.41
25:LZ:122:TYR:HB2	25:LZ:131:PHE:CE1	2.56	0.41
33:Lh:31:LEU:HD12	33:Lh:50:VAL:HG21	2.03	0.41
40:Lo:58:LYS:HD3	40:Lo:58:LYS:HA	1.86	0.41
43:L5:1011:G:H2'	43:L5:1011:G:N3	2.36	0.41
43:L5:1135:U:H5''	43:L5:1484:G:O6	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:1774:C:C5	43:L5:1804:G:N1	2.86	0.41
43:L5:3886:A:C4	43:L5:3888:G:N7	2.89	0.41
43:L5:4259:G:H2'	43:L5:4260:A:O4'	2.21	0.41
46:S2:93:U:H2'	46:S2:94:G:O4'	2.21	0.41
46:S2:115:U:O2'	46:S2:382:C:O2	2.20	0.41
46:S2:527:A:H2'	46:S2:528:C:H6	1.85	0.41
46:S2:683:U:O2'	46:S2:1160:G:H4'	2.21	0.41
46:S2:881:G:H3'	46:S2:882:G:C8	2.56	0.41
46:S2:1342:C:OP2	46:S2:1688:C:H5''	2.20	0.41
46:S2:1617:U:O2'	46:S2:1662:A:N3	2.36	0.41
53:SI:119:LEU:HG	53:SI:120:PRO:HD2	2.02	0.41
56:SP:32:GLN:HA	56:SP:35:GLN:HG2	2.02	0.41
56:SP:72:LYS:HD3	56:SP:93:MET:SD	2.61	0.41
59:SS:86:ARG:NH1	59:SS:90:VAL:H	2.19	0.41
60:ST:100:ALA:O	60:ST:104:LEU:HD23	2.21	0.41
62:SV:2:GLN:HG2	62:SV:8:PHE:CE1	2.55	0.41
65:Sc:30:VAL:HG22	65:Sc:44:ARG:O	2.21	0.41
67:Sg:166:VAL:HG22	67:Sg:176:VAL:HG13	2.03	0.41
69:SG:16:ILE:HD12	69:SG:16:ILE:HA	1.92	0.41
76:Sb:67:THR:HG22	76:Sb:68:GLY:N	2.26	0.41
3:LC:175:LYS:HA	3:LC:175:LYS:HD2	1.82	0.40
6:LF:262:ILE:HD12	6:LF:262:ILE:HA	1.89	0.40
8:LH:93:ARG:HD2	38:Lm:82:LEU:HD21	2.02	0.40
8:LH:137:SER:HB2	8:LH:145:ILE:HD11	2.03	0.40
9:LI:212:LEU:O	9:LI:213:HIS:C	2.64	0.40
10:LJ:172:GLY:C	10:LJ:173:ILE:HD12	2.46	0.40
11:LL:79:GLU:O	11:LL:83:VAL:HG23	2.21	0.40
16:LQ:42:THR:HA	16:LQ:45:GLN:HG2	2.02	0.40
17:LR:106:LEU:HD13	17:LR:138:LEU:HD21	2.02	0.40
17:LR:110:ARG:HE	17:LR:110:ARG:HB3	1.79	0.40
18:LS:8:ARG:O	18:LS:33:PHE:HA	2.21	0.40
18:LS:76:LYS:NZ	18:LS:100:LEU:O	2.54	0.40
23:LX:110:LYS:HE3	23:LX:110:LYS:HB2	1.85	0.40
24:LY:50:ARG:HD2	24:LY:51:LYS:H	1.86	0.40
26:La:44:ASN:HD22	43:L5:1497:U:P	2.44	0.40
27:Lb:68:ARG:NH1	27:Lb:69:ALA:HB2	2.36	0.40
29:Ld:69:ASN:O	29:Ld:72:VAL:HG12	2.21	0.40
30:Le:98:GLU:OE1	43:L5:2081:C:O2'	2.33	0.40
35:Lj:67:LEU:HA	35:Lj:67:LEU:HD23	1.84	0.40
43:L5:27:C:O2'	43:L5:60:A:N3	2.48	0.40
43:L5:139:G:C6	43:L5:140:G:C6	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:268:G:C6	43:L5:269:U:C4	3.09	0.40
43:L5:948:G:C6	43:L5:1039:G:C6	3.09	0.40
43:L5:1225:G:C8	43:L5:1226:G:H4'	2.54	0.40
43:L5:1377:A:H2'	43:L5:1378:A:H8	1.85	0.40
43:L5:1480:C:O2'	43:L5:1502:G:OP1	2.33	0.40
43:L5:2092:C:H2'	43:L5:2093:G:H8	1.86	0.40
43:L5:2166:U:C5	43:L5:2537:A:N1	2.87	0.40
43:L5:2653:C:H2'	43:L5:2654:U:C6	2.56	0.40
43:L5:3321:G:H2'	43:L5:3322:G:C8	2.56	0.40
43:L5:3998:C:H2'	43:L5:3999:U:C6	2.55	0.40
43:L5:4113:U:H2'	43:L5:4114:C:H6	1.86	0.40
43:L5:4133:A:H2'	43:L5:4134:U:O4'	2.21	0.40
43:L5:4177:G:OP2	43:L5:4177:G:H4'	2.19	0.40
43:L5:4665:G:H2'	43:L5:4666:C:C6	2.55	0.40
45:L8:141:C:H2'	45:L8:142:U:C6	2.57	0.40
46:S2:9:U:O2'	46:S2:11:A:N7	2.49	0.40
46:S2:145:G:H2'	46:S2:146:G:H8	1.86	0.40
46:S2:618:G:OP2	63:SX:68:LYS:HE2	2.21	0.40
46:S2:1095:C:H2'	46:S2:1096:U:C6	2.57	0.40
46:S2:1392:C:O3'	61:SU:83:ARG:NH2	2.54	0.40
46:S2:1446:U:O4	46:S2:1447:A:N6	2.55	0.40
46:S2:1544:U:H2'	46:S2:1545:C:H5''	2.03	0.40
49:SD:222:PRO:HA	67:Sg:189:ILE:O	2.20	0.40
50:SE:161:GLN:O	50:SE:170:THR:N	2.45	0.40
50:SE:248:ILE:HB	70:SJ:72:PHE:CE2	2.56	0.40
51:SF:61:PHE:CG	65:Sc:51:ARG:HD3	2.56	0.40
53:SI:67:TRP:CB	53:SI:70:GLU:HG2	2.45	0.40
56:SP:94:VAL:HB	56:SP:107:ILE:HD11	2.02	0.40
63:SX:61:GLN:HB3	63:SX:62:PRO:HD3	2.02	0.40
64:Sa:57:SER:HA	72:SO:126:ILE:O	2.20	0.40
67:Sg:142:VAL:O	67:Sg:146:SER:HB2	2.22	0.40
68:SC:104:ASP:HA	68:SC:130:ILE:HG12	2.02	0.40
68:SC:145:LYS:HB2	68:SC:146:GLU:CD	2.46	0.40
73:SW:82:GLN:NE2	73:SW:84:LYS:HE3	2.36	0.40
75:SZ:49:LEU:H	75:SZ:83:LEU:HD22	1.86	0.40
2:LB:43:LEU:HG	2:LB:183:ILE:HG21	2.03	0.40
5:LE:125:PRO:O	42:Lr:112:ARG:NH2	2.48	0.40
5:LE:190:ASN:HB3	5:LE:279:LEU:O	2.21	0.40
6:LF:243:LYS:O	6:LF:244:LYS:HB2	2.20	0.40
8:LH:34:LEU:HD23	8:LH:34:LEU:HA	1.91	0.40
20:LU:96:LEU:HD22	20:LU:100:LEU:HD12	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LZ:67:LYS:NZ	43:L5:2328:G:OP2	2.49	0.40
26:La:8:THR:HG23	26:La:17:HIS:HE1	1.86	0.40
34:Li:45:ARG:HD2	34:Li:50:PHE:CE1	2.56	0.40
43:L5:854:A:H8	43:L5:855:G:C8	2.38	0.40
43:L5:1171:U:H2'	43:L5:1172:C:C6	2.56	0.40
43:L5:1186:A:N1	45:L8:28:C:O2'	2.46	0.40
43:L5:1468:G:C6	43:L5:3571:U:H5''	2.56	0.40
43:L5:2276:U:H1'	43:L5:2277:C:C6	2.56	0.40
43:L5:2315:C:H2'	43:L5:2316:G:H8	1.85	0.40
43:L5:2603:A:H2	43:L5:2610:C:H41	1.68	0.40
43:L5:3294:U:O4	43:L5:3308:A:H2	2.03	0.40
43:L5:3393:A:H2'	43:L5:3394:A:C8	2.56	0.40
43:L5:3944:G:H4'	43:L5:3945:A:O5'	2.22	0.40
43:L5:4111:C:H2'	43:L5:4112:U:C6	2.56	0.40
43:L5:4322:A:O2'	43:L5:4324:C:H2'	2.21	0.40
45:L8:19:C:H2'	45:L8:20:A:C8	2.56	0.40
46:S2:155:G:N2	69:SG:56:ASN:HD21	2.19	0.40
46:S2:168:C:H5'	46:S2:169:U:OP2	2.22	0.40
46:S2:345:U:H2'	46:S2:346:U:C6	2.56	0.40
46:S2:430:C:H2'	46:S2:431:C:H6	1.87	0.40
46:S2:524:A:OP2	70:SJ:38:ARG:HD3	2.21	0.40
46:S2:687:U:O2	52:SH:118:ARG:NH2	2.50	0.40
46:S2:1058:C:H2'	46:S2:1060:G:OP2	2.21	0.40
46:S2:1298:U:O2'	46:S2:1300:A:N7	2.49	0.40
46:S2:1305:U:H2'	46:S2:1306:C:H6	1.86	0.40
50:SE:68:ARG:HB3	50:SE:76:VAL:HG11	2.03	0.40
52:SH:18:GLU:OE2	52:SH:18:GLU:N	2.54	0.40
52:SH:52:GLU:O	52:SH:52:GLU:HG2	2.21	0.40
56:SP:44:ARG:HH21	56:SP:53:GLN:NE2	2.19	0.40
57:SQ:48:GLN:O	57:SQ:52:LEU:HG	2.22	0.40
58:SR:76:GLU:OE2	58:SR:80:ARG:HG3	2.22	0.40
58:SR:130:THR:HA	58:SR:131:PRO:HD3	1.92	0.40
68:SC:145:LYS:HB2	68:SC:146:GLU:OE1	2.21	0.40
71:SN:80:LEU:HD23	71:SN:80:LEU:H	1.86	0.40
72:SO:43:HIS:HA	72:SO:55:ARG:HA	2.03	0.40
2:LB:103:LYS:HA	2:LB:103:LYS:HD3	1.75	0.40
3:LC:9:SER:N	3:LC:149:GLU:OE1	2.40	0.40
3:LC:213:GLU:CD	3:LC:215:ASN:HD21	2.30	0.40
5:LE:75:LEU:HB3	27:Lb:116:LEU:HD11	2.04	0.40
5:LE:139:LYS:HE2	5:LE:139:LYS:HB3	1.73	0.40
5:LE:241:PHE:CG	5:LE:242:ASP:N	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:11:PRO:C	10:LJ:13:ARG:H	2.30	0.40
10:LJ:83:LEU:HD13	10:LJ:132:VAL:HG21	2.03	0.40
14:LO:9:LEU:HD23	14:LO:118:MET:HB2	2.02	0.40
15:LP:126:ARG:HG2	15:LP:140:MET:CE	2.49	0.40
24:LY:50:ARG:NH2	45:L8:83:C:H42	2.19	0.40
26:La:43:ILE:HG23	43:L5:3957:A:C2	2.56	0.40
31:Lf:92:LEU:HD23	31:Lf:92:LEU:HA	1.84	0.40
35:Lj:4:GLY:O	35:Lj:8:PHE:HD2	2.05	0.40
43:L5:1010:U:C2	43:L5:1013:C:N4	2.89	0.40
43:L5:1254:U:C4	43:L5:1255:C:C4	3.10	0.40
43:L5:1858:G:H4'	43:L5:1859:G:OP2	2.21	0.40
43:L5:4225:U:H2'	43:L5:4226:G:H8	1.87	0.40
43:L5:4338:U:H2'	43:L5:4339:G:C8	2.56	0.40
46:S2:56:G:H2'	46:S2:57:U:O4'	2.21	0.40
46:S2:522:A:H2'	46:S2:523:A:O4'	2.21	0.40
46:S2:629:A:H62	46:S2:1501:G:N2	2.17	0.40
46:S2:918:U:H2'	46:S2:919:U:C6	2.55	0.40
46:S2:1167:G:O2'	46:S2:1196:A:N1	2.43	0.40
46:S2:1733:G:H2'	46:S2:1734:U:H6	1.85	0.40
48:SB:27:LYS:O	48:SB:51:ARG:N	2.40	0.40
49:SD:40:ARG:CZ	49:SD:40:ARG:HB2	2.50	0.40
51:SF:107:ASN:O	51:SF:110:GLN:HB3	2.21	0.40
57:SQ:85:ARG:HH22	57:SQ:116:ASP:CB	2.34	0.40
58:SR:5:ARG:O	58:SR:10:LYS:HE2	2.22	0.40
63:SX:40:PRO:HD2	63:SX:120:PHE:HZ	1.86	0.40
69:SG:154:ARG:HB2	69:SG:155:GLN:NE2	2.36	0.40
73:SW:119:LYS:O	73:SW:121:THR:HG23	2.21	0.40
78:S6:41:C:H2'	78:S6:42:A:H8	1.78	0.40
2:LB:220:ILE:HB	2:LB:346:THR:HB	2.03	0.40
6:LF:242:MET:HB3	6:LF:244:LYS:O	2.21	0.40
10:LJ:35:ARG:O	10:LJ:39:VAL:HG13	2.21	0.40
12:LM:3:PHE:HE1	18:LS:155:PRO:HA	1.86	0.40
13:LN:91:GLN:O	13:LN:93:LYS:NZ	2.54	0.40
16:LQ:178:ARG:HB3	26:La:53:PHE:O	2.22	0.40
18:LS:37:HIS:O	18:LS:41:LYS:HG3	2.21	0.40
18:LS:74:ARG:HD2	43:L5:820:C:H5''	2.04	0.40
18:LS:154:LEU:CB	18:LS:157:ARG:HD3	2.52	0.40
20:LU:28:PRO:HB2	20:LU:34:MET:HG2	2.03	0.40
24:LY:51:LYS:HB2	45:L8:72:A:P	2.62	0.40
27:Lb:89:PRO:O	27:Lb:91:LEU:N	2.54	0.40
29:Ld:18:ASN:OD1	29:Ld:18:ASN:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Lg:98:GLU:OE2	43:L5:3773:G:N1	2.45	0.40
43:L5:207:G:N2	43:L5:382:A:C8	2.90	0.40
43:L5:950:G:N3	43:L5:1037:G:N2	2.69	0.40
43:L5:1338:A:H2	43:L5:3572:U:O2'	1.97	0.40
43:L5:1392:U:OP1	43:L5:3294:U:O2'	2.24	0.40
43:L5:1779:G:C8	43:L5:1805:A:N7	2.90	0.40
43:L5:1781:C:C2	43:L5:1786:A:C6	3.09	0.40
43:L5:3739:C:H2'	43:L5:3740:G:H8	1.87	0.40
46:S2:38:A:OP1	70:SJ:5:ARG:HG3	2.21	0.40
46:S2:64:A:N6	46:S2:83:A:OP2	2.54	0.40
46:S2:101:U:H5''	53:SI:19:LYS:HE2	2.02	0.40
46:S2:349:A:H2'	46:S2:350:A:C8	2.56	0.40
46:S2:564:G:C5	46:S2:565:A:N7	2.89	0.40
46:S2:829:G:H21	46:S2:831:A:H1'	1.85	0.40
46:S2:1032:A:H2'	46:S2:1033:C:H6	1.87	0.40
46:S2:1417:C:O2'	60:ST:3:GLY:N	2.45	0.40
46:S2:1475:A:H4'	57:SQ:121:VAL:CG2	2.51	0.40
48:SB:195:LYS:N	48:SB:195:LYS:HD3	2.36	0.40
49:SD:74:GLN:OE1	49:SD:84:VAL:HB	2.22	0.40
55:SL:55:TYR:CD2	55:SL:115:PRO:HG2	2.56	0.40
60:ST:5:THR:OG1	60:ST:6:VAL:N	2.55	0.40
67:Sg:57:ARG:HB3	67:Sg:59:LEU:HD23	2.03	0.40
68:SC:210:PRO:O	68:SC:214:LEU:HG	2.21	0.40
72:SO:36:SER:O	72:SO:69:SER:OG	2.38	0.40
73:SW:28:ARG:O	73:SW:60:LYS:HG2	2.21	0.40
1:LA:70:LYS:HE3	43:L5:3735:G:O6	2.21	0.40
2:LB:284:ILE:HG23	2:LB:331:ILE:HG23	2.04	0.40
4:LD:9:ASN:HD21	4:LD:11:ALA:HB3	1.86	0.40
4:LD:35:ARG:HG2	43:L5:3979:G:O2'	2.21	0.40
4:LD:95:TYR:HA	4:LD:158:LYS:HG2	2.04	0.40
5:LE:107:ASP:C	5:LE:109:ASN:H	2.28	0.40
5:LE:198:HIS:HE1	43:L5:718:G:O2'	2.04	0.40
6:LF:91:ILE:HG22	6:LF:95:ARG:HD2	2.03	0.40
10:LJ:108:GLY:HA3	43:L5:3904:A:H5''	2.04	0.40
13:LN:200:LEU:HD22	13:LN:204:ARG:HD3	2.02	0.40
14:LO:185:VAL:O	14:LO:189:ILE:HG12	2.21	0.40
30:Le:114:ARG:O	30:Le:118:LEU:HB2	2.21	0.40
43:L5:45:U:H2'	43:L5:46:U:O4'	2.21	0.40
43:L5:189:G:C2	43:L5:190:G:C8	3.10	0.40
43:L5:1109:A:H1'	43:L5:1111:G:C2	2.57	0.40
43:L5:1297:C:H4'	43:L5:1298:G:O5'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:L5:1535:C:O2'	43:L5:1536:G:H5'	2.21	0.40
43:L5:2365:A:H2'	43:L5:2366:G:C8	2.57	0.40
43:L5:3426:C:O2'	43:L5:3427:U:H5''	2.20	0.40
43:L5:4365:C:H2'	43:L5:4366:G:O4'	2.21	0.40
46:S2:157:U:H5''	69:SG:58:LYS:O	2.22	0.40
46:S2:571:C:O2	74:SY:34:THR:HG21	2.22	0.40
46:S2:1294:A:H2'	46:S2:1295:G:H8	1.85	0.40
46:S2:1375:C:H2'	46:S2:1376:G:O4'	2.22	0.40
48:SB:44:ILE:CD1	48:SB:86:LEU:HD23	2.50	0.40
50:SE:88:ASP:OD1	50:SE:122:LYS:HE2	2.21	0.40
50:SE:177:THR:HG23	50:SE:196:THR:HA	2.03	0.40
52:SH:43:LEU:HD21	52:SH:71:SER:OG	2.22	0.40
55:SL:71:ARG:N	55:SL:130:GLU:OE1	2.49	0.40
57:SQ:102:GLU:HA	57:SQ:105:LYS:HB3	2.03	0.40
63:SX:21:LYS:C	63:SX:23:HIS:H	2.30	0.40
68:SC:188:CYS:O	68:SC:191:VAL:HG12	2.22	0.40
71:SN:145:THR:HG22	71:SN:145:THR:O	2.21	0.40
73:SW:101:PHE:HB2	73:SW:129:PHE:CE1	2.56	0.40
74:SY:122:LYS:HB3	74:SY:122:LYS:HE2	1.69	0.40
76:Sb:34:ASP:HA	76:Sb:44:THR:O	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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%)	218 (89%)	28 (11%)	0	100	100
2	LB	395/403 (98%)	367 (93%)	28 (7%)	0	100	100
3	LC	360/419 (86%)	326 (91%)	33 (9%)	1 (0%)	36	67
4	LD	291/297 (98%)	270 (93%)	21 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	LE	227/296 (77%)	207 (91%)	20 (9%)	0	100	100
6	LF	212/270 (78%)	200 (94%)	12 (6%)	0	100	100
7	LG	225/266 (85%)	209 (93%)	16 (7%)	0	100	100
8	LH	188/192 (98%)	169 (90%)	19 (10%)	0	100	100
9	LI	197/214 (92%)	187 (95%)	10 (5%)	0	100	100
10	LJ	169/178 (95%)	147 (87%)	22 (13%)	0	100	100
11	LL	204/211 (97%)	186 (91%)	17 (8%)	1 (0%)	24	57
12	LM	134/217 (62%)	121 (90%)	13 (10%)	0	100	100
13	LN	201/204 (98%)	191 (95%)	8 (4%)	2 (1%)	12	41
14	LO	199/203 (98%)	190 (96%)	9 (4%)	0	100	100
15	LP	152/184 (83%)	140 (92%)	12 (8%)	0	100	100
16	LQ	185/188 (98%)	173 (94%)	12 (6%)	0	100	100
17	LR	172/196 (88%)	166 (96%)	6 (4%)	0	100	100
18	LS	173/176 (98%)	161 (93%)	12 (7%)	0	100	100
19	LT	158/160 (99%)	150 (95%)	8 (5%)	0	100	100
20	LU	98/128 (77%)	85 (87%)	13 (13%)	0	100	100
21	LV	128/140 (91%)	118 (92%)	10 (8%)	0	100	100
22	LW	60/157 (38%)	55 (92%)	5 (8%)	0	100	100
23	LX	116/156 (74%)	112 (97%)	4 (3%)	0	100	100
24	LY	130/145 (90%)	124 (95%)	6 (5%)	0	100	100
25	LZ	133/136 (98%)	116 (87%)	17 (13%)	0	100	100
26	La	145/148 (98%)	131 (90%)	14 (10%)	0	100	100
27	Lb	95/160 (59%)	88 (93%)	7 (7%)	0	100	100
28	Lc	92/115 (80%)	85 (92%)	7 (8%)	0	100	100
29	Ld	106/125 (85%)	93 (88%)	13 (12%)	0	100	100
30	Le	126/135 (93%)	116 (92%)	9 (7%)	1 (1%)	16	46
31	Lf	107/110 (97%)	102 (95%)	5 (5%)	0	100	100
32	Lg	108/117 (92%)	104 (96%)	4 (4%)	0	100	100
33	Lh	120/123 (98%)	116 (97%)	4 (3%)	0	100	100
34	Li	100/105 (95%)	94 (94%)	6 (6%)	0	100	100
35	Lj	84/97 (87%)	78 (93%)	6 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	Lk	67/70 (96%)	65 (97%)	2 (3%)	0	100	100
37	Ll	48/51 (94%)	45 (94%)	3 (6%)	0	100	100
38	Lm	49/128 (38%)	46 (94%)	1 (2%)	2 (4%)	2	11
39	Ln	23/25 (92%)	23 (100%)	0	0	100	100
40	Lo	101/106 (95%)	93 (92%)	8 (8%)	0	100	100
41	Lp	89/92 (97%)	83 (93%)	6 (7%)	0	100	100
42	Lr	122/137 (89%)	115 (94%)	7 (6%)	0	100	100
47	SA	205/295 (70%)	179 (87%)	25 (12%)	1 (0%)	24	57
48	SB	211/264 (80%)	193 (92%)	18 (8%)	0	100	100
49	SD	222/243 (91%)	193 (87%)	29 (13%)	0	100	100
50	SE	256/263 (97%)	229 (90%)	26 (10%)	1 (0%)	30	61
51	SF	175/204 (86%)	156 (89%)	19 (11%)	0	100	100
52	SH	176/194 (91%)	155 (88%)	21 (12%)	0	100	100
53	SI	179/208 (86%)	168 (94%)	11 (6%)	0	100	100
54	SK	86/165 (52%)	73 (85%)	13 (15%)	0	100	100
55	SL	131/158 (83%)	124 (95%)	7 (5%)	0	100	100
56	SP	116/145 (80%)	110 (95%)	6 (5%)	0	100	100
57	SQ	137/146 (94%)	118 (86%)	18 (13%)	1 (1%)	18	49
58	SR	129/135 (96%)	116 (90%)	13 (10%)	0	100	100
59	SS	138/152 (91%)	125 (91%)	12 (9%)	1 (1%)	18	49
60	ST	138/145 (95%)	131 (95%)	7 (5%)	0	100	100
61	SU	93/119 (78%)	86 (92%)	7 (8%)	0	100	100
62	SV	79/83 (95%)	71 (90%)	7 (9%)	1 (1%)	9	35
63	SX	137/143 (96%)	123 (90%)	14 (10%)	0	100	100
64	Sa	97/115 (84%)	87 (90%)	9 (9%)	1 (1%)	12	41
65	Sc	52/69 (75%)	42 (81%)	10 (19%)	0	100	100
66	Sd	52/56 (93%)	47 (90%)	5 (10%)	0	100	100
67	Sg	270/317 (85%)	218 (81%)	52 (19%)	0	100	100
68	SC	214/293 (73%)	199 (93%)	15 (7%)	0	100	100
69	SG	200/249 (80%)	184 (92%)	16 (8%)	0	100	100
70	SJ	130/194 (67%)	118 (91%)	12 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
71	SN	148/151 (98%)	139 (94%)	9 (6%)	0	100	100
72	SO	132/151 (87%)	116 (88%)	15 (11%)	1 (1%)	16	46
73	SW	127/130 (98%)	122 (96%)	5 (4%)	0	100	100
74	SY	108/133 (81%)	93 (86%)	15 (14%)	0	100	100
75	SZ	70/125 (56%)	62 (89%)	8 (11%)	0	100	100
76	Sb	81/84 (96%)	73 (90%)	8 (10%)	0	100	100
77	Se	44/133 (33%)	38 (86%)	6 (14%)	0	100	100
All	All	10668/12499 (85%)	9753 (91%)	901 (8%)	14 (0%)	49	78

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
64	Sa	47	ALA
30	Le	92	ASN
47	SA	12	GLU
11	LL	51	ALA
13	LN	84	PRO
38	Lm	98	LYS
57	SQ	117	ARG
59	SS	101	ASN
62	SV	79	VAL
72	SO	141	ARG
38	Lm	99	CYS
3	LC	232	VAL
50	SE	248	ILE
13	LN	83	LYS

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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%)	184 (97%)	6 (3%)	34	64
2	LB	344/348 (99%)	328 (95%)	16 (5%)	23	55

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	LC	304/348 (87%)	293 (96%)	11 (4%)	31	62
4	LD	245/249 (98%)	232 (95%)	13 (5%)	20	51
5	LE	208/256 (81%)	194 (93%)	14 (7%)	15	43
6	LF	185/234 (79%)	181 (98%)	4 (2%)	45	71
7	LG	197/223 (88%)	193 (98%)	4 (2%)	48	73
8	LH	169/171 (99%)	160 (95%)	9 (5%)	20	51
9	LI	170/180 (94%)	163 (96%)	7 (4%)	27	58
10	LJ	144/149 (97%)	132 (92%)	12 (8%)	10	34
11	LL	173/178 (97%)	163 (94%)	10 (6%)	18	48
12	LM	116/157 (74%)	114 (98%)	2 (2%)	53	75
13	LN	171/172 (99%)	166 (97%)	5 (3%)	37	67
14	LO	172/173 (99%)	168 (98%)	4 (2%)	44	70
15	LP	135/163 (83%)	127 (94%)	8 (6%)	18	47
16	LQ	164/165 (99%)	159 (97%)	5 (3%)	36	66
17	LR	154/175 (88%)	150 (97%)	4 (3%)	40	69
18	LS	155/156 (99%)	146 (94%)	9 (6%)	18	48
19	LT	140/140 (100%)	132 (94%)	8 (6%)	18	49
20	LU	90/114 (79%)	82 (91%)	8 (9%)	9	32
21	LV	100/107 (94%)	97 (97%)	3 (3%)	36	66
22	LW	54/126 (43%)	51 (94%)	3 (6%)	19	49
23	LX	106/133 (80%)	104 (98%)	2 (2%)	50	73
24	LY	123/135 (91%)	117 (95%)	6 (5%)	22	53
25	LZ	117/118 (99%)	113 (97%)	4 (3%)	32	63
26	La	120/121 (99%)	113 (94%)	7 (6%)	18	48
27	Lb	83/124 (67%)	79 (95%)	4 (5%)	23	54
28	Lc	79/97 (81%)	76 (96%)	3 (4%)	29	60
29	Ld	99/110 (90%)	99 (100%)	0	100	100
30	Le	114/121 (94%)	108 (95%)	6 (5%)	20	51
31	Lf	88/89 (99%)	84 (96%)	4 (4%)	24	56
32	Lg	94/100 (94%)	93 (99%)	1 (1%)	65	80
33	Lh	109/110 (99%)	108 (99%)	1 (1%)	70	82

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	Li	86/89 (97%)	83 (96%)	3 (4%)	32	62
35	Lj	73/80 (91%)	72 (99%)	1 (1%)	59	78
36	Lk	64/65 (98%)	62 (97%)	2 (3%)	35	65
37	Ll	46/47 (98%)	41 (89%)	5 (11%)	6	23
38	Lm	47/116 (40%)	44 (94%)	3 (6%)	16	44
39	Ln	24/24 (100%)	24 (100%)	0	100	100
40	Lo	91/94 (97%)	83 (91%)	8 (9%)	9	32
41	Lp	74/75 (99%)	70 (95%)	4 (5%)	20	50
42	Lr	108/121 (89%)	103 (95%)	5 (5%)	24	55
47	SA	173/242 (72%)	165 (95%)	8 (5%)	24	55
48	SB	194/229 (85%)	191 (98%)	3 (2%)	57	77
49	SD	188/202 (93%)	179 (95%)	9 (5%)	23	54
50	SE	221/225 (98%)	205 (93%)	16 (7%)	13	40
51	SF	152/170 (89%)	144 (95%)	8 (5%)	20	51
52	SH	161/174 (92%)	154 (96%)	7 (4%)	26	57
53	SI	159/180 (88%)	151 (95%)	8 (5%)	22	53
54	SK	81/136 (60%)	78 (96%)	3 (4%)	30	61
55	SL	123/142 (87%)	118 (96%)	5 (4%)	27	58
56	SP	107/130 (82%)	103 (96%)	4 (4%)	30	61
57	SQ	115/121 (95%)	106 (92%)	9 (8%)	11	37
58	SR	119/121 (98%)	115 (97%)	4 (3%)	32	63
59	SS	122/132 (92%)	112 (92%)	10 (8%)	10	35
60	ST	110/115 (96%)	104 (94%)	6 (6%)	19	50
61	SU	88/107 (82%)	80 (91%)	8 (9%)	9	31
62	SV	65/67 (97%)	62 (95%)	3 (5%)	24	55
63	SX	111/115 (96%)	105 (95%)	6 (5%)	20	50
64	Sa	86/98 (88%)	84 (98%)	2 (2%)	44	70
65	Sc	48/62 (77%)	45 (94%)	3 (6%)	16	45
66	Sd	48/49 (98%)	48 (100%)	0	100	100
67	Sg	237/275 (86%)	222 (94%)	15 (6%)	16	45
68	SC	182/224 (81%)	180 (99%)	2 (1%)	65	80

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
69	SG	178/218 (82%)	171 (96%)	7 (4%)	28	59
70	SJ	126/168 (75%)	116 (92%)	10 (8%)	11	36
71	SN	130/131 (99%)	128 (98%)	2 (2%)	57	77
72	SO	104/119 (87%)	99 (95%)	5 (5%)	23	54
73	SW	112/113 (99%)	104 (93%)	8 (7%)	13	40
74	SY	93/115 (81%)	89 (96%)	4 (4%)	26	57
75	SZ	64/103 (62%)	63 (98%)	1 (2%)	55	76
76	Sb	75/76 (99%)	69 (92%)	6 (8%)	11	36
77	Se	39/106 (37%)	36 (92%)	3 (8%)	12	37
All	All	9336/10617 (88%)	8917 (96%)	419 (4%)	26	56

All (419) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	LA	15	VAL
1	LA	17	ARG
1	LA	118	GLU
1	LA	174	ARG
1	LA	237	LEU
1	LA	243	THR
2	LB	2	SER
2	LB	56	ILE
2	LB	74	GLU
2	LB	189	THR
2	LB	218	ASP
2	LB	251	VAL
2	LB	258	HIS
2	LB	283	LYS
2	LB	293	ILE
2	LB	295	ASP
2	LB	298	LEU
2	LB	310	SER
2	LB	329	ASP
2	LB	337	VAL
2	LB	347	LEU
2	LB	389	MET
3	LC	7	LEU
3	LC	23	THR
3	LC	63	SER

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Mol	Chain	Res	Type
3	LC	100	ARG
3	LC	118	THR
3	LC	154	VAL
3	LC	169	GLN
3	LC	227	ILE
3	LC	228	THR
3	LC	266	THR
3	LC	275	SER
4	LD	7	VAL
4	LD	37	VAL
4	LD	38	ILE
4	LD	86	TYR
4	LD	93	THR
4	LD	118	ILE
4	LD	132	VAL
4	LD	211	LEU
4	LD	214	GLU
4	LD	217	ASP
4	LD	232	THR
4	LD	235	MET
4	LD	267	ASN
5	LE	51	CYS
5	LE	100	VAL
5	LE	117	LEU
5	LE	119	LYS
5	LE	129	VAL
5	LE	138	LYS
5	LE	153	THR
5	LE	180	LEU
5	LE	183	VAL
5	LE	188	VAL
5	LE	202	VAL
5	LE	209	VAL
5	LE	242	ASP
5	LE	250	ILE
6	LF	61	LEU
6	LF	105	VAL
6	LF	244	LYS
6	LF	247	THR
7	LG	45	ILE
7	LG	70	LEU
7	LG	98	LEU

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Mol	Chain	Res	Type
7	LG	143	VAL
8	LH	3	THR
8	LH	24	THR
8	LH	37	ASP
8	LH	44	GLU
8	LH	66	GLU
8	LH	72	THR
8	LH	111	LEU
8	LH	146	LEU
8	LH	187	VAL
9	LI	39	LYS
9	LI	131	ILE
9	LI	140	THR
9	LI	143	GLN
9	LI	197	VAL
9	LI	203	ARG
9	LI	213	HIS
10	LJ	24	ILE
10	LJ	39	VAL
10	LJ	49	VAL
10	LJ	56	THR
10	LJ	62	ILE
10	LJ	70	VAL
10	LJ	74	VAL
10	LJ	80	GLU
10	LJ	90	ARG
10	LJ	104	ASN
10	LJ	143	ASP
10	LJ	154	LYS
11	LL	23	ASP
11	LL	59	VAL
11	LL	63	THR
11	LL	64	VAL
11	LL	67	HIS
11	LL	70	VAL
11	LL	94	ILE
11	LL	139	SER
11	LL	144	LEU
11	LL	157	ILE
12	LM	38	VAL
12	LM	106	ASP
13	LN	20	ARG

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Mol	Chain	Res	Type
13	LN	126	THR
13	LN	182	HIS
13	LN	183	THR
13	LN	187	SER
14	LO	37	ARG
14	LO	44	SER
14	LO	141	LEU
14	LO	175	LEU
15	LP	6	LEU
15	LP	9	GLU
15	LP	24	VAL
15	LP	79	THR
15	LP	95	LEU
15	LP	109	VAL
15	LP	115	GLU
15	LP	118	GLN
16	LQ	5	ILE
16	LQ	14	ARG
16	LQ	76	GLU
16	LQ	121	LEU
16	LQ	170	LYS
17	LR	93	VAL
17	LR	106	LEU
17	LR	165	LYS
17	LR	173	ARG
18	LS	29	ARG
18	LS	38	VAL
18	LS	48	VAL
18	LS	66	GLN
18	LS	82	LEU
18	LS	90	THR
18	LS	107	THR
18	LS	158	VAL
18	LS	169	THR
19	LT	1	MET
19	LT	2	THR
19	LT	3	ASN
19	LT	4	THR
19	LT	76	VAL
19	LT	91	VAL
19	LT	101	SER
19	LT	143	THR

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Mol	Chain	Res	Type
20	LU	22	THR
20	LU	23	LEU
20	LU	47	ILE
20	LU	49	VAL
20	LU	60	VAL
20	LU	63	ILE
20	LU	67	LYS
20	LU	99	TRP
21	LV	18	LEU
21	LV	65	VAL
21	LV	118	THR
22	LW	1	MET
22	LW	5	LEU
22	LW	53	VAL
23	LX	127	LEU
23	LX	140	LEU
24	LY	8	THR
24	LY	37	GLU
24	LY	55	VAL
24	LY	91	ASN
24	LY	99	ILE
24	LY	109	LEU
25	LZ	34	SER
25	LZ	36	ARG
25	LZ	53	VAL
25	LZ	100	VAL
26	La	12	ARG
26	La	24	LYS
26	La	59	ARG
26	La	75	LEU
26	La	76	ASP
26	La	97	VAL
26	La	140	VAL
27	Lb	8	THR
27	Lb	54	LEU
27	Lb	60	ASN
27	Lb	94	LEU
28	Lc	20	LEU
28	Lc	94	LEU
28	Lc	104	ILE
30	Le	13	VAL
30	Le	17	THR

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Mol	Chain	Res	Type
30	Le	29	VAL
30	Le	45	VAL
30	Le	83	LYS
30	Le	123	THR
31	Lf	33	VAL
31	Lf	37	ASP
31	Lf	39	THR
31	Lf	105	LEU
32	Lg	103	VAL
33	Lh	33	VAL
34	Li	27	SER
34	Li	47	VAL
34	Li	77	VAL
35	Lj	2	THR
36	Lk	12	LEU
36	Lk	59	SER
37	Ll	28	GLN
37	Ll	29	MET
37	Ll	35	ILE
37	Ll	36	MET
37	Ll	47	THR
38	Lm	98	LYS
38	Lm	108	VAL
38	Lm	127	VAL
40	Lo	2	VAL
40	Lo	24	THR
40	Lo	33	LEU
40	Lo	45	GLN
40	Lo	67	VAL
40	Lo	79	SER
40	Lo	96	ASP
40	Lo	103	VAL
41	Lp	73	THR
41	Lp	74	THR
41	Lp	89	LEU
41	Lp	92	GLN
42	Lr	23	GLN
42	Lr	27	THR
42	Lr	28	GLU
42	Lr	78	VAL
42	Lr	80	THR
47	SA	6	ASP

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Mol	Chain	Res	Type
47	SA	7	VAL
47	SA	16	LEU
47	SA	19	LEU
47	SA	75	SER
47	SA	81	ASN
47	SA	157	VAL
47	SA	169	HIS
48	SB	71	LEU
48	SB	85	LYS
48	SB	193	ILE
49	SD	25	LEU
49	SD	26	THR
49	SD	86	LEU
49	SD	91	VAL
49	SD	162	ASP
49	SD	181	VAL
49	SD	198	ILE
49	SD	211	VAL
49	SD	212	GLU
50	SE	12	VAL
50	SE	21	ASP
50	SE	45	ILE
50	SE	54	TYR
50	SE	64	ILE
50	SE	95	THR
50	SE	102	ILE
50	SE	108	ARG
50	SE	117	GLU
50	SE	133	THR
50	SE	156	VAL
50	SE	166	THR
50	SE	189	LEU
50	SE	221	ARG
50	SE	222	LEU
50	SE	248	ILE
51	SF	17	ILE
51	SF	34	SER
51	SF	41	VAL
51	SF	69	VAL
51	SF	81	ARG
51	SF	124	ASP
51	SF	168	THR

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Mol	Chain	Res	Type
51	SF	204	ARG
52	SH	60	ILE
52	SH	61	ILE
52	SH	62	ILE
52	SH	72	PHE
52	SH	75	ILE
52	SH	184	ASP
52	SH	191	GLU
53	SI	3	ILE
53	SI	52	ASN
53	SI	67	TRP
53	SI	69	SER
53	SI	86	SER
53	SI	119	LEU
53	SI	172	LEU
53	SI	199	LEU
54	SK	9	ILE
54	SK	28	HIS
54	SK	58	VAL
55	SL	33	LEU
55	SL	63	THR
55	SL	84	ARG
55	SL	85	THR
55	SL	111	VAL
56	SP	49	LEU
56	SP	84	ILE
56	SP	96	VAL
56	SP	126	VAL
57	SQ	22	VAL
57	SQ	31	LEU
57	SQ	34	VAL
57	SQ	42	ILE
57	SQ	43	GLU
57	SQ	81	ILE
57	SQ	118	THR
57	SQ	140	ARG
57	SQ	146	ARG
58	SR	30	THR
58	SR	54	VAL
58	SR	69	ILE
58	SR	101	ASP
59	SS	4	VAL

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Mol	Chain	Res	Type
59	SS	50	ILE
59	SS	60	THR
59	SS	62	ASP
59	SS	69	THR
59	SS	98	VAL
59	SS	101	ASN
59	SS	108	ARG
59	SS	109	GLU
59	SS	131	VAL
60	ST	37	VAL
60	ST	38	LYS
60	ST	39	LEU
60	ST	45	LEU
60	ST	87	VAL
60	ST	113	VAL
61	SU	24	LEU
61	SU	28	ASN
61	SU	48	LEU
61	SU	65	THR
61	SU	85	HIS
61	SU	88	LEU
61	SU	102	THR
61	SU	104	ILE
62	SV	56	CYS
62	SV	78	ILE
62	SV	79	VAL
63	SX	19	ASP
63	SX	28	LYS
63	SX	58	GLU
63	SX	67	ARG
63	SX	97	ASN
63	SX	105	PHE
64	Sa	30	VAL
64	Sa	84	VAL
65	Sc	15	THR
65	Sc	21	THR
65	Sc	45	ASN
67	Sg	20	GLN
67	Sg	36	ARG
67	Sg	98	THR
67	Sg	111	VAL
67	Sg	128	THR

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Mol	Chain	Res	Type
67	Sg	134	THR
67	Sg	143	GLN
67	Sg	165	ILE
67	Sg	186	THR
67	Sg	192	THR
67	Sg	198	VAL
67	Sg	203	ASP
67	Sg	227	LEU
67	Sg	258	ILE
67	Sg	297	THR
68	SC	98	LEU
68	SC	213	LEU
69	SG	20	ASP
69	SG	39	ASP
69	SG	50	VAL
69	SG	126	ASP
69	SG	156	TYR
69	SG	164	LYS
69	SG	176	ILE
70	SJ	3	VAL
70	SJ	86	VAL
70	SJ	95	ASP
70	SJ	100	LEU
70	SJ	102	ILE
70	SJ	112	THR
70	SJ	129	LEU
70	SJ	135	ILE
70	SJ	137	VAL
70	SJ	150	ARG
71	SN	87	ASP
71	SN	144	SER
72	SO	38	ASN
72	SO	45	THR
72	SO	67	ASP
72	SO	69	SER
72	SO	103	ASN
73	SW	9	ASP
73	SW	53	ILE
73	SW	55	ASP
73	SW	56	HIS
73	SW	61	ILE
73	SW	103	VAL

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Mol	Chain	Res	Type
73	SW	105	THR
73	SW	117	ARG
74	SY	35	VAL
74	SY	55	ILE
74	SY	85	ASN
74	SY	120	THR
75	SZ	91	LEU
76	Sb	13	GLU
76	Sb	25	VAL
76	Sb	44	THR
76	Sb	52	THR
76	Sb	53	VAL
76	Sb	74	THR
77	Se	86	VAL
77	Se	90	THR
77	Se	132	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (190) 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	187	HIS
1	LA	194	ASN
2	LB	42	HIS
2	LB	123	HIS
2	LB	151	ASN
2	LB	213	GLN
2	LB	289	GLN
3	LC	38	ASN
3	LC	119	GLN
4	LD	9	ASN
4	LD	111	ASN
4	LD	122	GLN
4	LD	131	ASN
4	LD	222	GLN
4	LD	225	GLN
4	LD	244	HIS
4	LD	250	ASN

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Mol	Chain	Res	Type
5	LE	198	HIS
5	LE	219	HIS
5	LE	229	GLN
6	LF	85	GLN
6	LF	148	ASN
6	LF	173	ASN
6	LF	228	ASN
7	LG	43	GLN
7	LG	66	GLN
7	LG	149	ASN
7	LG	153	GLN
8	LH	42	ASN
8	LH	63	ASN
8	LH	116	ASN
8	LH	138	GLN
8	LH	189	GLN
9	LI	14	ASN
9	LI	73	ASN
9	LI	147	HIS
9	LI	213	HIS
10	LJ	65	ASN
10	LJ	112	HIS
11	LL	20	GLN
11	LL	111	GLN
12	LM	34	ASN
12	LM	48	GLN
12	LM	70	GLN
13	LN	32	GLN
13	LN	145	ASN
13	LN	196	ASN
14	LO	42	ASN
14	LO	63	ASN
14	LO	180	GLN
15	LP	56	GLN
15	LP	75	GLN
15	LP	80	GLN
15	LP	116	HIS
15	LP	137	ASN
16	LQ	44	ASN
17	LR	40	GLN
17	LR	141	HIS
18	LS	37	HIS

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Mol	Chain	Res	Type
18	LS	66	GLN
18	LS	77	ASN
19	LT	66	ASN
19	LT	90	ASN
19	LT	127	GLN
19	LT	144	ASN
20	LU	27	HIS
20	LU	41	GLN
20	LU	44	GLN
20	LU	94	ASN
20	LU	105	ASN
21	LV	27	ASN
21	LV	135	ASN
23	LX	57	GLN
23	LX	93	ASN
23	LX	107	HIS
26	La	17	HIS
26	La	28	HIS
26	La	62	HIS
26	La	120	GLN
27	Lb	7	HIS
27	Lb	49	HIS
27	Lb	58	GLN
28	Lc	72	HIS
28	Lc	73	HIS
29	Ld	69	ASN
30	Le	52	GLN
30	Le	117	GLN
32	Lg	110	GLN
33	Lh	98	HIS
34	Li	15	HIS
35	Lj	30	GLN
37	Ll	28	GLN
40	Lo	19	GLN
40	Lo	51	GLN
40	Lo	90	HIS
41	Lp	33	GLN
41	Lp	56	HIS
42	Lr	30	ASN
42	Lr	41	ASN
42	Lr	100	ASN
47	SA	33	GLN

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Mol	Chain	Res	Type
47	SA	131	HIS
47	SA	169	HIS
48	SB	43	ASN
48	SB	147	ASN
48	SB	159	GLN
48	SB	202	GLN
49	SD	4	GLN
49	SD	56	GLN
49	SD	101	GLN
49	SD	165	ASN
49	SD	207	HIS
50	SE	98	ASN
50	SE	112	HIS
50	SE	138	HIS
50	SE	161	GLN
50	SE	188	ASN
50	SE	209	HIS
51	SF	36	GLN
51	SF	74	ASN
51	SF	110	GLN
51	SF	148	ASN
51	SF	179	ASN
51	SF	203	ASN
52	SH	44	ASN
52	SH	91	HIS
52	SH	112	ASN
53	SI	44	HIS
54	SK	44	HIS
54	SK	50	GLN
55	SL	18	GLN
55	SL	100	ASN
56	SP	41	GLN
56	SP	103	ASN
56	SP	128	HIS
57	SQ	8	GLN
57	SQ	77	HIS
57	SQ	80	GLN
58	SR	31	ASN
58	SR	62	GLN
60	ST	12	GLN
60	ST	128	GLN
60	ST	142	ASN

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Mol	Chain	Res	Type
61	SU	81	GLN
61	SU	92	HIS
62	SV	29	HIS
63	SX	16	HIS
63	SX	23	HIS
63	SX	46	HIS
63	SX	92	ASN
63	SX	110	HIS
64	Sa	43	ASN
65	Sc	29	GLN
66	Sd	3	HIS
66	Sd	5	GLN
67	Sg	56	GLN
67	Sg	76	GLN
67	Sg	188	HIS
67	Sg	226	HIS
67	Sg	285	GLN
67	Sg	305	ASN
68	SC	115	GLN
68	SC	120	GLN
69	SG	56	ASN
69	SG	70	HIS
69	SG	146	ASN
69	SG	163	ASN
69	SG	186	GLN
70	SJ	75	ASN
71	SN	49	GLN
71	SN	62	GLN
71	SN	69	ASN
72	SO	32	HIS
72	SO	103	ASN
73	SW	44	HIS
73	SW	82	GLN
73	SW	98	GLN
73	SW	120	HIS
74	SY	63	HIS
74	SY	112	ASN
75	SZ	106	GLN
76	Sb	19	HIS
76	Sb	26	GLN
77	Se	111	GLN
77	Se	132	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
43	L5	3523/4731 (74%)	905 (25%)	22 (0%)
44	L7	119/120 (99%)	12 (10%)	0
45	L8	155/158 (98%)	35 (22%)	0
46	S2	1627/1870 (87%)	448 (27%)	7 (0%)
78	S6	74/75 (98%)	35 (47%)	2 (2%)
All	All	5498/6954 (79%)	1435 (26%)	31 (0%)

All (1435) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
43	L5	17	A
43	L5	20	U
43	L5	21	G
43	L5	25	A
43	L5	30	C
43	L5	39	A
43	L5	42	A
43	L5	48	G
43	L5	56	A
43	L5	59	A
43	L5	63	G
43	L5	64	A
43	L5	65	A
43	L5	66	A
43	L5	69	A
43	L5	72	C
43	L5	73	A
43	L5	74	G
43	L5	91	G
43	L5	98	A
43	L5	104	G
43	L5	108	A
43	L5	109	G
43	L5	110	C
43	L5	115	C
43	L5	117	C
43	L5	119	G
43	L5	120	A
43	L5	132	G
43	L5	133	C
43	L5	134	G

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Mol	Chain	Res	Type
43	L5	135	U
43	L5	136	C
43	L5	139	G
43	L5	140	G
43	L5	144	G
43	L5	152	U
43	L5	157	U
43	L5	159	C
43	L5	169	A
43	L5	170	C
43	L5	172	C
43	L5	197	A
43	L5	200	U
43	L5	202	C
43	L5	203	U
43	L5	209	U
43	L5	218	A
43	L5	219	G
43	L5	220	C
43	L5	232	G
43	L5	233	U
43	L5	234	G
43	L5	237	G
43	L5	253	G
43	L5	255	G
43	L5	258	C
43	L5	259	C
43	L5	260	G
43	L5	265	C
43	L5	268	G
43	L5	279	G
43	L5	296	U
43	L5	305	A
43	L5	315	U
43	L5	339	C
43	L5	343	A
43	L5	344	C
43	L5	346	A
43	L5	362	A
43	L5	372	G
43	L5	376	A
43	L5	380	U

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Mol	Chain	Res	Type
43	L5	386	G
43	L5	395	A
43	L5	408	G
43	L5	409	A
43	L5	410	G
43	L5	411	G
43	L5	412	G
43	L5	413	C
43	L5	414	G
43	L5	431	U
43	L5	432	A
43	L5	443	G
43	L5	448	C
43	L5	449	G
43	L5	450	C
43	L5	452	G
43	L5	453	U
43	L5	455	C
43	L5	456	G
43	L5	463	G
43	L5	466	U
43	L5	467	U
43	L5	468	C
43	L5	470	A
43	L5	487	C
43	L5	493	U
43	L5	495	C
43	L5	496	C
43	L5	497	C
43	L5	498	G
43	L5	499	G
43	L5	512	A
43	L5	513	U
43	L5	515	U
43	L5	651	C
43	L5	652	G
43	L5	655	G
43	L5	656	G
43	L5	661	U
43	L5	669	C
43	L5	671	G
43	L5	672	G

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Mol	Chain	Res	Type
43	L5	674	G
43	L5	675	A
43	L5	676	C
43	L5	677	C
43	L5	693	C
43	L5	694	A
43	L5	695	C
43	L5	704	U
43	L5	709	G
43	L5	712	C
43	L5	716	G
43	L5	737	G
43	L5	738	G
43	L5	739	G
43	L5	741	A
43	L5	743	G
43	L5	746	C
43	L5	747	G
43	L5	748	G
43	L5	749	U
43	L5	750	G
43	L5	754	A
43	L5	757	G
43	L5	761	C
43	L5	765	G
43	L5	808	G
43	L5	815	A
43	L5	816	C
43	L5	817	A
43	L5	818	G
43	L5	825	G
43	L5	831	G
43	L5	834	U
43	L5	835	U
43	L5	839	C
43	L5	841	A
43	L5	843	U
43	L5	844	C
43	L5	856	G
43	L5	857	A
43	L5	858	A
43	L5	859	G

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Mol	Chain	Res	Type
43	L5	860	C
43	L5	871	U
43	L5	872	C
43	L5	877	C
43	L5	882	U
43	L5	886	U
43	L5	924	G
43	L5	926	G
43	L5	927	C
43	L5	928	C
43	L5	931	G
43	L5	935	C
43	L5	936	C
43	L5	939	U
43	L5	948	G
43	L5	949	C
43	L5	1001	G
43	L5	1004	G
43	L5	1005	C
43	L5	1006	G
43	L5	1007	G
43	L5	1008	A
43	L5	1011	G
43	L5	1012	U
43	L5	1013	C
43	L5	1016	C
43	L5	1017	A
43	L5	1018	G
43	L5	1024	C
43	L5	1025	C
43	L5	1026	C
43	L5	1031	G
43	L5	1032	U
43	L5	1033	G
43	L5	1036	C
43	L5	1037	G
43	L5	1039	G
43	L5	1044	C
43	L5	1045	G
43	L5	1048	U
43	L5	1049	C
43	L5	1050	C

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Mol	Chain	Res	Type
43	L5	1052	G
43	L5	1054	G
43	L5	1071	C
43	L5	1089	A
43	L5	1090	G
43	L5	1095	C
43	L5	1098	G
43	L5	1099	G
43	L5	1100	U
43	L5	1102	G
43	L5	1109	A
43	L5	1110	U
43	L5	1116	C
43	L5	1117	U
43	L5	1129	C
43	L5	1137	A
43	L5	1139	A
43	L5	1141	A
43	L5	1166	G
43	L5	1169	A
43	L5	1173	A
43	L5	1174	G
43	L5	1175	G
43	L5	1180	C
43	L5	1181	G
43	L5	1192	G
43	L5	1193	C
43	L5	1194	C
43	L5	1195	G
43	L5	1196	U
43	L5	1202	A
43	L5	1209	G
43	L5	1219	C
43	L5	1222	C
43	L5	1223	C
43	L5	1226	G
43	L5	1234	A
43	L5	1250	C
43	L5	1252	U
43	L5	1253	C
43	L5	1256	C
43	L5	1257	A

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Mol	Chain	Res	Type
43	L5	1258	G
43	L5	1259	U
43	L5	1260	C
43	L5	1264	C
43	L5	1272	C
43	L5	1296	G
43	L5	1297	C
43	L5	1298	G
43	L5	1308	U
43	L5	1311	A
43	L5	1312	G
43	L5	1316	G
43	L5	1319	C
43	L5	1329	A
43	L5	1338	A
43	L5	1348	A
43	L5	1361	A
43	L5	1363	G
43	L5	1375	G
43	L5	1376	G
43	L5	1377	A
43	L5	1378	A
43	L5	1380	C
43	L5	1388	G
43	L5	1389	A
43	L5	1392	U
43	L5	1405	U
43	L5	1407	A
43	L5	1410	U
43	L5	1414	A
43	L5	1415	A
43	L5	1427	A
43	L5	1438	G
43	L5	1439	G
43	L5	1445	A
43	L5	1447	G
43	L5	1448	A
43	L5	1450	U
43	L5	1452	A
43	L5	1454	C
43	L5	1455	G
43	L5	1456	A

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Mol	Chain	Res	Type
43	L5	1468	G
43	L5	1475	C
43	L5	1484	G
43	L5	1490	C
43	L5	1491	U
43	L5	1492	C
43	L5	1495	G
43	L5	1505	G
43	L5	1512	C
43	L5	1524	G
43	L5	1534	C
43	L5	1536	G
43	L5	1537	G
43	L5	1553	G
43	L5	1557	U
43	L5	1558	C
43	L5	1559	U
43	L5	1560	U
43	L5	1561	G
43	L5	1562	G
43	L5	1563	G
43	L5	1564	G
43	L5	1565	C
43	L5	1566	C
43	L5	1567	G
43	L5	1568	A
43	L5	1569	A
43	L5	1570	A
43	L5	1571	C
43	L5	1572	G
43	L5	1573	A
43	L5	1575	C
43	L5	1576	U
43	L5	1590	A
43	L5	1594	U
43	L5	1607	A
43	L5	1618	G
43	L5	1624	G
43	L5	1625	U
43	L5	1636	G
43	L5	1639	G
43	L5	1640	A

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Mol	Chain	Res	Type
43	L5	1645	G
43	L5	1658	G
43	L5	1672	G
43	L5	1678	C
43	L5	1683	G
43	L5	1684	C
43	L5	1685	U
43	L5	1692	U
43	L5	1695	A
43	L5	1696	C
43	L5	1700	A
43	L5	1714	C
43	L5	1716	C
43	L5	1720	A
43	L5	1721	U
43	L5	1722	G
43	L5	1723	C
43	L5	1724	C
43	L5	1725	G
43	L5	1727	C
43	L5	1728	G
43	L5	1729	C
43	L5	1734	C
43	L5	1735	A
43	L5	1738	C
43	L5	1739	C
43	L5	1741	C
43	L5	1743	G
43	L5	1749	G
43	L5	1750	U
43	L5	1751	G
43	L5	1752	U
43	L5	1754	G
43	L5	1758	G
43	L5	1763	A
43	L5	1764	G
43	L5	1765	A
43	L5	1768	G
43	L5	1769	C
43	L5	1770	A
43	L5	1771	G
43	L5	1776	G

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Mol	Chain	Res	Type
43	L5	1777	U
43	L5	1778	G
43	L5	1779	G
43	L5	1780	C
43	L5	1781	C
43	L5	1784	G
43	L5	1785	G
43	L5	1787	A
43	L5	1788	G
43	L5	1789	U
43	L5	1790	C
43	L5	1792	G
43	L5	1794	A
43	L5	1795	U
43	L5	1796	C
43	L5	1797	C
43	L5	1798	G
43	L5	1799	C
43	L5	1800	U
43	L5	1801	A
43	L5	1803	G
43	L5	1806	G
43	L5	1807	U
43	L5	1810	G
43	L5	1811	U
43	L5	1812	A
43	L5	1813	A
43	L5	1815	A
43	L5	1816	A
43	L5	1817	C
43	L5	1818	U
43	L5	1819	C
43	L5	1822	C
43	L5	1823	U
43	L5	1824	G
43	L5	1826	C
43	L5	1827	G
43	L5	1828	A
43	L5	1829	A
43	L5	1836	A
43	L5	1837	G
43	L5	1847	U

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Mol	Chain	Res	Type
43	L5	1849	G
43	L5	1851	U
43	L5	1853	G
43	L5	1858	G
43	L5	1859	G
43	L5	1872	A
43	L5	1873	U
43	L5	1874	A
43	L5	1887	C
43	L5	1891	A
43	L5	1892	G
43	L5	1902	A
43	L5	1904	C
43	L5	1905	G
43	L5	1912	G
43	L5	1913	A
43	L5	1914	G
43	L5	2013	C
43	L5	2015	C
43	L5	2016	G
43	L5	2017	C
43	L5	2018	G
43	L5	2019	G
43	L5	2033	A
43	L5	2046	C
43	L5	2057	A
43	L5	2058	G
43	L5	2063	G
43	L5	2070	A
43	L5	2079	G
43	L5	2084	G
43	L5	2089	A
43	L5	2090	G
43	L5	2098	A
43	L5	2102	G
43	L5	2103	C
43	L5	2105	G
43	L5	2107	U
43	L5	2108	C
43	L5	2117	A
43	L5	2127	A
43	L5	2138	A

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Mol	Chain	Res	Type
43	L5	2146	A
43	L5	2152	A
43	L5	2153	A
43	L5	2154	G
43	L5	2155	U
43	L5	2159	G
43	L5	2166	U
43	L5	2174	A
43	L5	2178	G
43	L5	2179	C
43	L5	2182	U
43	L5	2183	U
43	L5	2192	G
43	L5	2193	U
43	L5	2194	C
43	L5	2198	C
43	L5	2204	U
43	L5	2206	A
43	L5	2207	G
43	L5	2222	C
43	L5	2224	U
43	L5	2226	C
43	L5	2228	G
43	L5	2232	G
43	L5	2235	C
43	L5	2237	G
43	L5	2238	G
43	L5	2241	A
43	L5	2242	U
43	L5	2243	G
43	L5	2244	G
43	L5	2245	C
43	L5	2246	C
43	L5	2247	U
43	L5	2248	C
43	L5	2249	C
43	L5	2250	G
43	L5	2252	U
43	L5	2260	G
43	L5	2261	C
43	L5	2262	C
43	L5	2263	G

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Mol	Chain	Res	Type
43	L5	2264	A
43	L5	2269	A
43	L5	2270	A
43	L5	2271	G
43	L5	2277	C
43	L5	2286	A
43	L5	2301	G
43	L5	2302	U
43	L5	2303	G
43	L5	2304	G
43	L5	2311	U
43	L5	2313	G
43	L5	2318	C
43	L5	2319	G
43	L5	2320	C
43	L5	2321	G
43	L5	2324	G
43	L5	2327	A
43	L5	2337	C
43	L5	2341	A
43	L5	2372	G
43	L5	2381	C
43	L5	2395	A
43	L5	2406	G
43	L5	2407	C
43	L5	2415	U
43	L5	2416	G
43	L5	2423	C
43	L5	2427	G
43	L5	2430	A
43	L5	2441	U
43	L5	2448	G
43	L5	2449	A
43	L5	2450	A
43	L5	2457	G
43	L5	2460	G
43	L5	2462	U
43	L5	2463	C
43	L5	2465	G
43	L5	2467	C
43	L5	2479	A
43	L5	2480	G

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Mol	Chain	Res	Type
43	L5	2486	G
43	L5	2493	C
43	L5	2496	G
43	L5	2497	A
43	L5	2508	G
43	L5	2510	G
43	L5	2513	G
43	L5	2515	U
43	L5	2517	U
43	L5	2518	A
43	L5	2523	U
43	L5	2524	C
43	L5	2541	A
43	L5	2542	U
43	L5	2544	U
43	L5	2552	A
43	L5	2557	U
43	L5	2564	U
43	L5	2568	C
43	L5	2569	A
43	L5	2580	U
43	L5	2581	G
43	L5	2583	U
43	L5	2592	G
43	L5	2596	G
43	L5	2598	A
43	L5	2600	G
43	L5	2603	A
43	L5	2609	G
43	L5	2621	C
43	L5	2624	A
43	L5	2631	G
43	L5	2646	C
43	L5	2648	A
43	L5	2654	U
43	L5	2655	G
43	L5	2656	G
43	L5	2657	G
43	L5	2658	U
43	L5	2659	C
43	L5	2660	G
43	L5	2661	G

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Mol	Chain	Res	Type
43	L5	3243	G
43	L5	3244	C
43	L5	3248	C
43	L5	3249	G
43	L5	3250	C
43	L5	3251	C
43	L5	3252	U
43	L5	3254	G
43	L5	3255	C
43	L5	3261	A
43	L5	3262	C
43	L5	3271	G
43	L5	3272	G
43	L5	3275	C
43	L5	3276	G
43	L5	3283	G
43	L5	3287	A
43	L5	3292	A
43	L5	3301	U
43	L5	3303	A
43	L5	3305	A
43	L5	3307	C
43	L5	3319	A
43	L5	3327	C
43	L5	3329	G
43	L5	3330	C
43	L5	3348	G
43	L5	3349	A
43	L5	3358	C
43	L5	3362	G
43	L5	3367	G
43	L5	3368	A
43	L5	3370	U
43	L5	3393	A
43	L5	3400	G
43	L5	3405	A
43	L5	3407	G
43	L5	3414	G
43	L5	3415	U
43	L5	3416	A
43	L5	3417	A
43	L5	3418	C

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Mol	Chain	Res	Type
43	L5	3430	U
43	L5	3431	A
43	L5	3434	G
43	L5	3441	A
43	L5	3442	A
43	L5	3443	U
43	L5	3446	C
43	L5	3449	G
43	L5	3451	C
43	L5	3459	U
43	L5	3468	G
43	L5	3469	C
43	L5	3470	A
43	L5	3471	U
43	L5	3474	A
43	L5	3475	U
43	L5	3476	G
43	L5	3495	U
43	L5	3496	G
43	L5	3497	U
43	L5	3500	C
43	L5	3524	A
43	L5	3533	A
43	L5	3534	A
43	L5	3535	C
43	L5	3536	G
43	L5	3537	G
43	L5	3544	C
43	L5	3546	G
43	L5	3554	G
43	L5	3555	G
43	L5	3558	A
43	L5	3560	A
43	L5	3563	A
43	L5	3564	G
43	L5	3565	A
43	L5	3572	U
43	L5	3579	G
43	L5	3595	G
43	L5	3596	G
43	L5	3598	G
43	L5	3603	G

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Mol	Chain	Res	Type
43	L5	3604	A
43	L5	3605	C
43	L5	3608	G
43	L5	3711	U
43	L5	3712	C
43	L5	3716	G
43	L5	3717	U
43	L5	3718	U
43	L5	3727	G
43	L5	3735	G
43	L5	3737	G
43	L5	3742	G
43	L5	3746	G
43	L5	3747	C
43	L5	3748	G
43	L5	3750	G
43	L5	3752	C
43	L5	3753	C
43	L5	3754	C
43	L5	3755	G
43	L5	3756	A
43	L5	3757	G
43	L5	3758	G
43	L5	3759	G
43	L5	3763	C
43	L5	3765	C
43	L5	3766	G
43	L5	3767	C
43	L5	3770	C
43	L5	3773	G
43	L5	3778	A
43	L5	3783	U
43	L5	3784	C
43	L5	3803	G
43	L5	3815	C
43	L5	3816	U
43	L5	3823	A
43	L5	3830	C
43	L5	3836	G
43	L5	3837	G
43	L5	3844	G
43	L5	3849	G

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Mol	Chain	Res	Type
43	L5	3856	A
43	L5	3865	A
43	L5	3867	A
43	L5	3871	U
43	L5	3875	G
43	L5	3878	G
43	L5	3882	U
43	L5	3885	U
43	L5	3886	A
43	L5	3891	G
43	L5	3904	A
43	L5	3907	G
43	L5	3910	A
43	L5	3918	U
43	L5	3921	A
43	L5	3926	A
43	L5	3934	A
43	L5	3942	U
43	L5	3944	G
43	L5	3950	G
43	L5	3956	C
43	L5	3957	A
43	L5	3958	G
43	L5	3967	C
43	L5	3977	A
43	L5	3982	G
43	L5	3983	G
43	L5	3985	C
43	L5	3991	G
43	L5	3992	A
43	L5	4002	C
43	L5	4007	U
43	L5	4008	G
43	L5	4024	G
43	L5	4026	G
43	L5	4027	U
43	L5	4030	G
43	L5	4031	A
43	L5	4032	A
43	L5	4033	A
43	L5	4035	G
43	L5	4040	C

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Mol	Chain	Res	Type
43	L5	4044	G
43	L5	4047	A
43	L5	4075	A
43	L5	4079	C
43	L5	4090	U
43	L5	4096	C
43	L5	4097	C
43	L5	4101	G
43	L5	4102	A
43	L5	4105	U
43	L5	4117	A
43	L5	4119	C
43	L5	4124	U
43	L5	4127	A
43	L5	4128	G
43	L5	4136	C
43	L5	4163	A
43	L5	4165	U
43	L5	4166	A
43	L5	4171	A
43	L5	4172	C
43	L5	4177	G
43	L5	4185	U
43	L5	4198	G
43	L5	4201	A
43	L5	4202	G
43	L5	4207	G
43	L5	4208	U
43	L5	4213	C
43	L5	4220	G
43	L5	4225	U
43	L5	4228	G
43	L5	4236	C
43	L5	4237	A
43	L5	4238	U
43	L5	4241	U
43	L5	4242	A
43	L5	4243	A
43	L5	4253	G
43	L5	4254	U
43	L5	4259	G
43	L5	4286	G

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Mol	Chain	Res	Type
43	L5	4288	A
43	L5	4289	U
43	L5	4290	G
43	L5	4292	G
43	L5	4300	G
43	L5	4301	A
43	L5	4305	G
43	L5	4309	A
43	L5	4323	C
43	L5	4325	A
43	L5	4326	U
43	L5	4340	A
43	L5	4346	C
43	L5	4347	G
43	L5	4348	C
43	L5	4353	A
43	L5	4361	A
43	L5	4362	U
43	L5	4372	G
43	L5	4373	C
43	L5	4374	G
43	L5	4387	A
43	L5	4388	G
43	L5	4393	G
43	L5	4394	A
43	L5	4395	A
43	L5	4396	G
43	L5	4399	G
43	L5	4404	G
43	L5	4408	G
43	L5	4411	C
43	L5	4413	C
43	L5	4415	G
43	L5	4419	G
43	L5	4423	G
43	L5	4426	C
43	L5	4427	C
43	L5	4429	C
43	L5	4430	G
43	L5	4506	G
43	L5	4516	G
43	L5	4517	C

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Mol	Chain	Res	Type
43	L5	4520	A
43	L5	4522	A
43	L5	4527	U
43	L5	4528	U
43	L5	4529	C
43	L5	4533	U
43	L5	4534	U
43	L5	4535	G
43	L5	4540	A
43	L5	4541	C
43	L5	4542	G
43	L5	4546	U
43	L5	4547	G
43	L5	4548	C
43	L5	4549	G
43	L5	4553	G
43	L5	4554	G
43	L5	4555	A
43	L5	4556	A
43	L5	4557	A
43	L5	4558	G
43	L5	4559	G
43	L5	4560	C
43	L5	4561	G
43	L5	4564	C
43	L5	4565	G
43	L5	4566	C
43	L5	4570	C
43	L5	4577	G
43	L5	4580	A
43	L5	4581	C
43	L5	4583	U
43	L5	4584	U
43	L5	4585	G
43	L5	4586	A
43	L5	4588	C
43	L5	4589	G
43	L5	4591	A
43	L5	4597	G
43	L5	4598	U
43	L5	4599	G
43	L5	4603	A

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Mol	Chain	Res	Type
43	L5	4604	A
43	L5	4605	C
43	L5	4608	G
43	L5	4609	G
43	L5	4610	C
43	L5	4611	G
43	L5	4612	C
43	L5	4623	G
43	L5	4624	U
43	L5	4633	U
43	L5	4636	U
43	L5	4638	C
43	L5	4639	U
43	L5	4644	C
43	L5	4655	A
43	L5	4661	C
43	L5	4662	A
43	L5	4664	A
43	L5	4665	G
43	L5	4670	U
43	L5	4671	C
43	L5	4672	C
43	L5	4673	C
43	L5	4675	C
43	L5	4676	G
43	L5	4678	U
43	L5	4682	A
43	L5	4689	G
43	L5	4698	C
43	L5	4702	C
43	L5	4703	G
43	L5	4704	A
43	L5	4709	A
43	L5	4717	U
44	L7	21	G
44	L7	22	A
44	L7	25	G
44	L7	33	U
44	L7	42	A
44	L7	53	U
44	L7	54	A
44	L7	64	G

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Mol	Chain	Res	Type
44	L7	97	G
44	L7	100	A
44	L7	109	U
44	L7	110	G
45	L8	2	G
45	L8	23	C
45	L8	25	G
45	L8	34	U
45	L8	35	C
45	L8	38	U
45	L8	42	G
45	L8	45	C
45	L8	48	A
45	L8	53	G
45	L8	59	A
45	L8	62	A
45	L8	63	U
45	L8	82	A
45	L8	83	C
45	L8	85	U
45	L8	86	U
45	L8	87	G
45	L8	104	A
45	L8	105	C
45	L8	109	C
45	L8	110	U
45	L8	111	U
45	L8	114	G
45	L8	122	G
45	L8	124	U
45	L8	125	C
45	L8	126	C
45	L8	127	U
45	L8	135	C
45	L8	147	G
45	L8	150	C
45	L8	151	G
45	L8	153	C
45	L8	156	U
46	S2	10	G
46	S2	17	C
46	S2	25	A

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Mol	Chain	Res	Type
46	S2	33	G
46	S2	41	G
46	S2	42	A
46	S2	44	U
46	S2	45	A
46	S2	46	A
46	S2	49	C
46	S2	56	G
46	S2	58	C
46	S2	59	U
46	S2	67	C
46	S2	68	A
46	S2	69	C
46	S2	71	G
46	S2	73	C
46	S2	74	G
46	S2	76	U
46	S2	79	A
46	S2	92	A
46	S2	103	A
46	S2	110	U
46	S2	113	G
46	S2	114	G
46	S2	115	U
46	S2	123	G
46	S2	126	G
46	S2	129	C
46	S2	142	C
46	S2	143	U
46	S2	149	A
46	S2	150	A
46	S2	152	U
46	S2	154	U
46	S2	157	U
46	S2	158	A
46	S2	161	U
46	S2	164	A
46	S2	169	U
46	S2	170	A
46	S2	173	A
46	S2	175	A
46	S2	176	U

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Mol	Chain	Res	Type
46	S2	178	C
46	S2	179	C
46	S2	182	C
46	S2	184	G
46	S2	220	U
46	S2	291	U
46	S2	292	G
46	S2	295	U
46	S2	302	A
46	S2	303	A
46	S2	311	C
46	S2	314	A
46	S2	319	A
46	S2	320	C
46	S2	324	C
46	S2	330	G
46	S2	336	G
46	S2	340	A
46	S2	348	G
46	S2	352	G
46	S2	363	C
46	S2	364	A
46	S2	365	A
46	S2	370	C
46	S2	371	G
46	S2	379	U
46	S2	382	C
46	S2	383	C
46	S2	386	G
46	S2	387	C
46	S2	408	G
46	S2	409	A
46	S2	410	C
46	S2	417	U
46	S2	418	C
46	S2	419	A
46	S2	425	C
46	S2	430	C
46	S2	448	A
46	S2	449	A
46	S2	450	A
46	S2	451	C

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Mol	Chain	Res	Type
46	S2	453	G
46	S2	465	A
46	S2	466	A
46	S2	468	G
46	S2	471	G
46	S2	472	G
46	S2	473	C
46	S2	474	A
46	S2	475	G
46	S2	483	G
46	S2	484	C
46	S2	488	U
46	S2	493	C
46	S2	494	A
46	S2	496	U
46	S2	501	A
46	S2	517	A
46	S2	524	A
46	S2	526	A
46	S2	529	A
46	S2	532	A
46	S2	533	C
46	S2	535	G
46	S2	537	A
46	S2	538	C
46	S2	540	C
46	S2	541	U
46	S2	542	U
46	S2	543	U
46	S2	545	G
46	S2	547	G
46	S2	548	G
46	S2	549	C
46	S2	552	U
46	S2	555	A
46	S2	556	A
46	S2	558	U
46	S2	559	G
46	S2	560	G
46	S2	561	A
46	S2	562	A
46	S2	563	U

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Mol	Chain	Res	Type
46	S2	564	G
46	S2	565	A
46	S2	567	U
46	S2	571	C
46	S2	577	A
46	S2	584	A
46	S2	587	G
46	S2	590	G
46	S2	591	A
46	S2	592	U
46	S2	593	C
46	S2	594	C
46	S2	595	A
46	S2	597	U
46	S2	604	C
46	S2	605	A
46	S2	608	U
46	S2	609	C
46	S2	613	U
46	S2	615	C
46	S2	616	C
46	S2	624	G
46	S2	628	U
46	S2	629	A
46	S2	630	A
46	S2	632	U
46	S2	637	C
46	S2	638	U
46	S2	639	C
46	S2	644	A
46	S2	645	G
46	S2	646	C
46	S2	656	A
46	S2	661	C
46	S2	669	A
46	S2	670	A
46	S2	672	A
46	S2	673	A
46	S2	674	G
46	S2	678	G
46	S2	680	A
46	S2	685	G

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Mol	Chain	Res	Type
46	S2	688	C
46	S2	689	U
46	S2	750	U
46	S2	751	C
46	S2	799	G
46	S2	800	U
46	S2	801	U
46	S2	802	U
46	S2	812	A
46	S2	818	G
46	S2	822	G
46	S2	823	U
46	S2	827	A
46	S2	831	A
46	S2	832	G
46	S2	835	C
46	S2	836	C
46	S2	837	G
46	S2	838	A
46	S2	839	G
46	S2	840	C
46	S2	841	C
46	S2	842	G
46	S2	843	C
46	S2	844	C
46	S2	847	G
46	S2	848	A
46	S2	852	C
46	S2	854	C
46	S2	870	A
46	S2	871	A
46	S2	872	U
46	S2	873	A
46	S2	874	G
46	S2	878	C
46	S2	881	G
46	S2	884	U
46	S2	886	U
46	S2	889	U
46	S2	890	U
46	S2	892	G
46	S2	895	G

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Mol	Chain	Res	Type
46	S2	896	G
46	S2	897	U
46	S2	898	U
46	S2	899	U
46	S2	900	U
46	S2	901	C
46	S2	902	G
46	S2	903	G
46	S2	904	A
46	S2	905	A
46	S2	914	A
46	S2	915	U
46	S2	918	U
46	S2	920	A
46	S2	921	A
46	S2	934	G
46	S2	944	U
46	S2	952	C
46	S2	964	A
46	S2	969	U
46	S2	972	G
46	S2	991	A
46	S2	993	A
46	S2	1000	G
46	S2	1002	A
46	S2	1009	A
46	S2	1018	U
46	S2	1019	U
46	S2	1024	A
46	S2	1028	A
46	S2	1031	A
46	S2	1034	G
46	S2	1035	A
46	S2	1040	C
46	S2	1043	A
46	S2	1046	U
46	S2	1048	C
46	S2	1059	A
46	S2	1061	A
46	S2	1062	U
46	S2	1063	A
46	S2	1068	C

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Mol	Chain	Res	Type
46	S2	1072	G
46	S2	1084	A
46	S2	1085	A
46	S2	1086	C
46	S2	1088	A
46	S2	1090	G
46	S2	1102	U
46	S2	1107	C
46	S2	1110	C
46	S2	1115	U
46	S2	1117	C
46	S2	1127	G
46	S2	1133	C
46	S2	1139	C
46	S2	1149	A
46	S2	1152	G
46	S2	1154	C
46	S2	1155	U
46	S2	1158	G
46	S2	1173	U
46	S2	1181	C
46	S2	1196	A
46	S2	1200	A
46	S2	1201	A
46	S2	1208	G
46	S2	1209	A
46	S2	1216	C
46	S2	1217	C
46	S2	1218	A
46	S2	1225	G
46	S2	1228	G
46	S2	1235	C
46	S2	1243	U
46	S2	1244	U
46	S2	1248	C
46	S2	1249	U
46	S2	1252	A
46	S2	1254	A
46	S2	1257	G
46	S2	1258	G
46	S2	1260	A
46	S2	1261	A

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Mol	Chain	Res	Type
46	S2	1262	C
46	S2	1264	U
46	S2	1265	C
46	S2	1274	C
46	S2	1275	G
46	S2	1276	G
46	S2	1284	C
46	S2	1286	G
46	S2	1287	G
46	S2	1291	G
46	S2	1296	A
46	S2	1299	G
46	S2	1303	G
46	S2	1304	C
46	S2	1305	U
46	S2	1309	U
46	S2	1315	U
46	S2	1334	U
46	S2	1343	U
46	S2	1344	U
46	S2	1363	U
46	S2	1370	A
46	S2	1372	U
46	S2	1373	U
46	S2	1374	C
46	S2	1379	A
46	S2	1383	A
46	S2	1397	A
46	S2	1403	A
46	S2	1406	A
46	S2	1407	G
46	S2	1409	U
46	S2	1415	A
46	S2	1416	C
46	S2	1419	C
46	S2	1420	C
46	S2	1422	A
46	S2	1423	G
46	S2	1424	C
46	S2	1430	G
46	S2	1440	A
46	S2	1441	C

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Mol	Chain	Res	Type
46	S2	1447	A
46	S2	1449	A
46	S2	1453	A
46	S2	1455	A
46	S2	1456	A
46	S2	1463	U
46	S2	1464	U
46	S2	1466	A
46	S2	1475	A
46	S2	1481	A
46	S2	1485	A
46	S2	1488	A
46	S2	1489	C
46	S2	1490	A
46	S2	1491	G
46	S2	1496	G
46	S2	1498	G
46	S2	1499	A
46	S2	1507	A
46	S2	1508	G
46	S2	1509	A
46	S2	1510	U
46	S2	1511	G
46	S2	1521	G
46	S2	1522	C
46	S2	1523	A
46	S2	1535	C
46	S2	1545	C
46	S2	1547	G
46	S2	1552	U
46	S2	1553	G
46	S2	1556	U
46	S2	1557	A
46	S2	1561	U
46	S2	1571	G
46	S2	1574	G
46	S2	1575	C
46	S2	1580	A
46	S2	1581	A
46	S2	1585	G
46	S2	1586	U
46	S2	1587	U

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Mol	Chain	Res	Type
46	S2	1588	G
46	S2	1589	A
46	S2	1594	C
46	S2	1595	A
46	S2	1601	G
46	S2	1602	A
46	S2	1603	U
46	S2	1621	A
46	S2	1622	U
46	S2	1624	A
46	S2	1639	G
46	S2	1649	G
46	S2	1655	G
46	S2	1662	A
46	S2	1664	A
46	S2	1666	G
46	S2	1681	G
46	S2	1683	C
46	S2	1687	G
46	S2	1694	G
46	S2	1706	C
46	S2	1711	C
46	S2	1716	A
46	S2	1722	U
46	S2	1723	G
46	S2	1727	G
46	S2	1728	G
46	S2	1730	U
46	S2	1736	A
46	S2	1743	C
46	S2	1744	G
46	S2	1746	A
46	S2	1748	C
46	S2	1753	C
46	S2	1754	C
46	S2	1757	C
46	S2	1778	G
46	S2	1784	C
46	S2	1785	G
46	S2	1787	U
46	S2	1790	G
46	S2	1799	C

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Mol	Chain	Res	Type
46	S2	1801	A
46	S2	1806	G
46	S2	1807	A
46	S2	1808	C
46	S2	1809	U
46	S2	1812	C
46	S2	1814	A
46	S2	1817	G
46	S2	1823	A
46	S2	1825	A
46	S2	1832	A
46	S2	1836	A
46	S2	1838	G
46	S2	1839	U
46	S2	1844	G
46	S2	1850	G
46	S2	1852	A
46	S2	1853	C
46	S2	1862	G
46	S2	1863	G
46	S2	1864	A
46	S2	1865	U
46	S2	1866	C
46	S2	1868	U
46	S2	1869	U
78	S6	3	G
78	S6	4	C
78	S6	6	G
78	S6	7	A
78	S6	8	G
78	S6	11	G
78	S6	18	G
78	S6	20	A
78	S6	21	A
78	S6	22	G
78	S6	23	C
78	S6	24	G
78	S6	35	A
78	S6	36	U
78	S6	45	G
78	S6	46	G
78	S6	47	U

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Mol	Chain	Res	Type
78	S6	48	C
78	S6	53	G
78	S6	54	A
78	S6	55	U
78	S6	56	C
78	S6	57	G
78	S6	58	A
78	S6	60	A
78	S6	61	C
78	S6	62	C
78	S6	66	C
78	S6	67	U
78	S6	68	C
78	S6	69	U
78	S6	71	C
78	S6	72	U
78	S6	74	C
78	S6	76	A

All (31) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
43	L5	236	G
43	L5	277	G
43	L5	492	G
43	L5	676	C
43	L5	693	C
43	L5	1388	G
43	L5	1447	G
43	L5	1563	G
43	L5	1768	G
43	L5	1822	C
43	L5	1836	A
43	L5	2270	A
43	L5	2429	G
43	L5	2514	G
43	L5	2540	C
43	L5	2659	C
43	L5	3271	G
43	L5	3417	A
43	L5	4031	A
43	L5	4208	U

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Mol	Chain	Res	Type
43	L5	4253	G
43	L5	4352	U
46	S2	112	U
46	S2	532	A
46	S2	547	G
46	S2	564	G
46	S2	629	A
46	S2	1343	U
46	S2	1721	U
78	S6	53	G
78	S6	54	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 254 ligands modelled in this entry, 254 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.

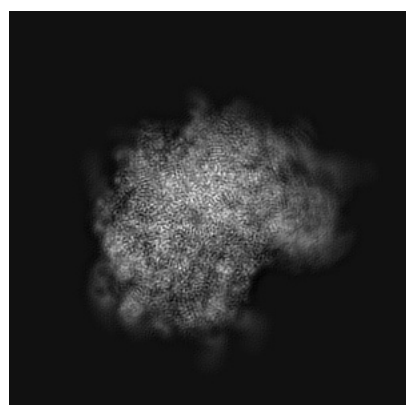
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-30433. These allow visual inspection of the internal detail of the map and identification of artifacts.

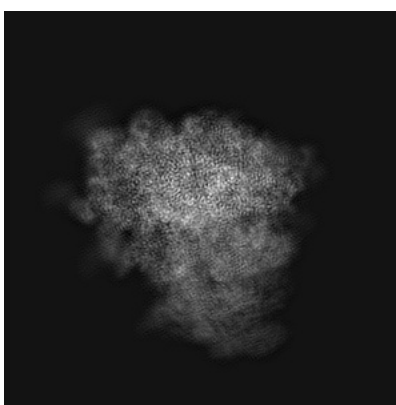
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

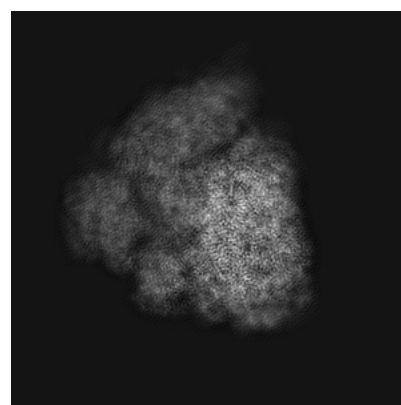
6.1.1 Primary map



X



Y

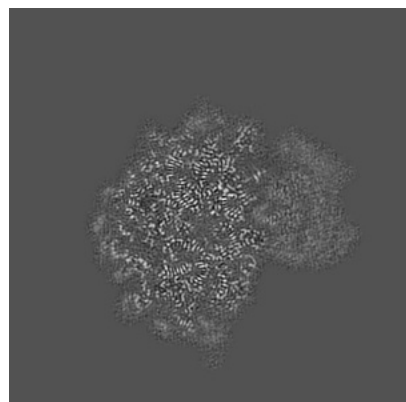


Z

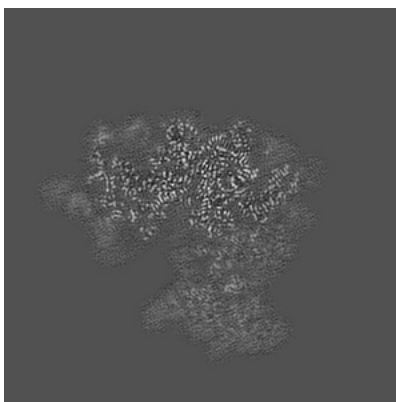
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

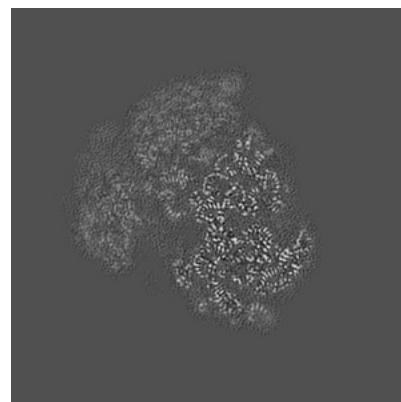
6.2.1 Primary map



X Index: 200



Y Index: 200

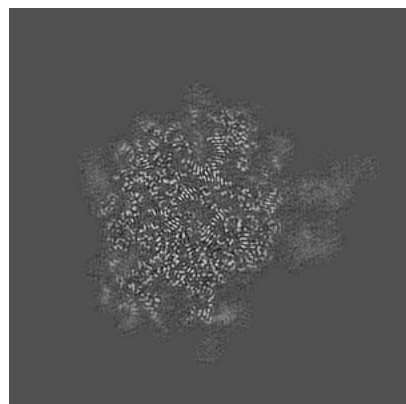


Z Index: 200

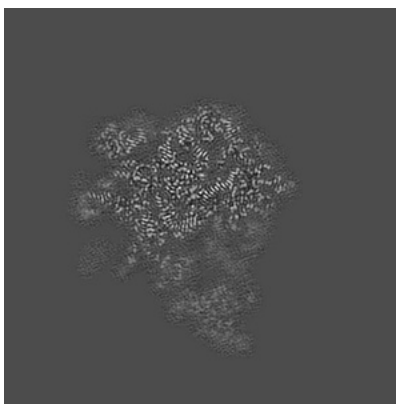
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

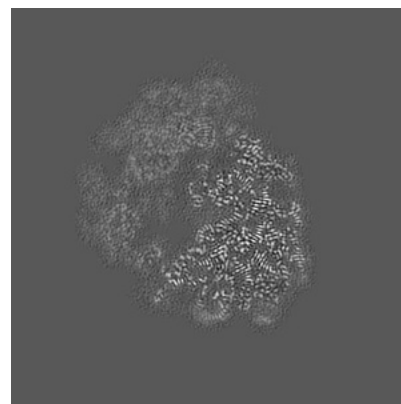
6.3.1 Primary map



X Index: 229



Y Index: 158

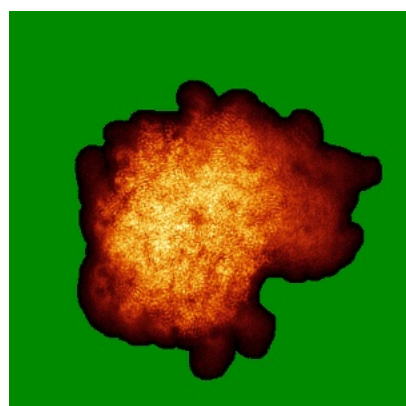


Z Index: 183

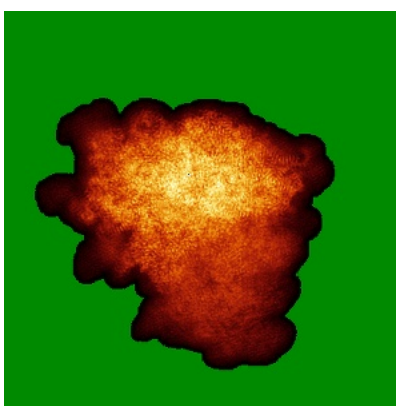
The images above show the largest variance slices of the map in three orthogonal directions.

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

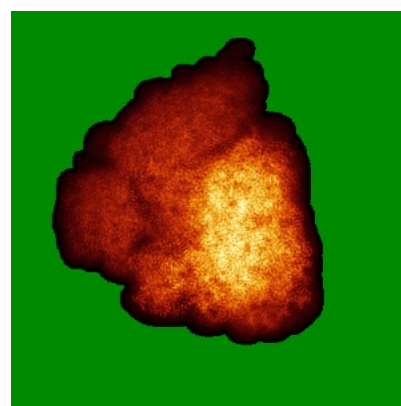
6.4.1 Primary map



X



Y

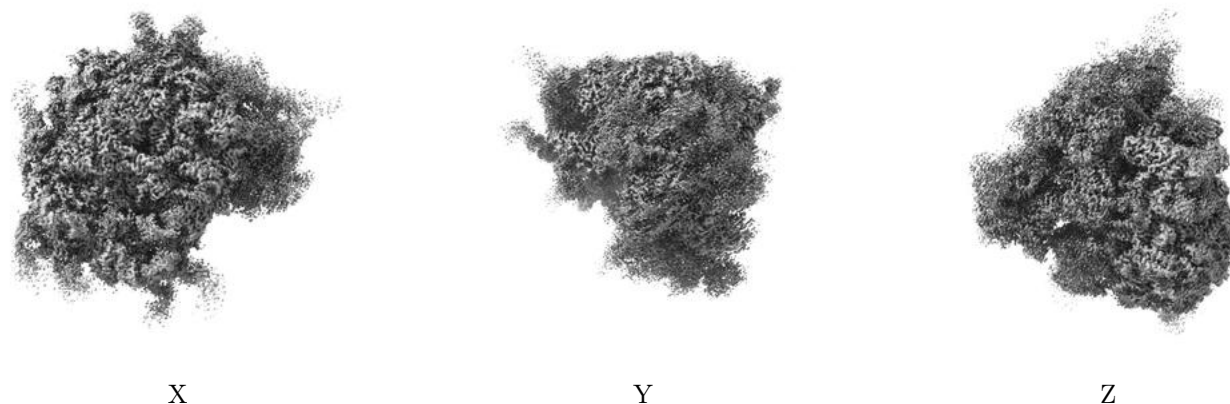


Z

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.

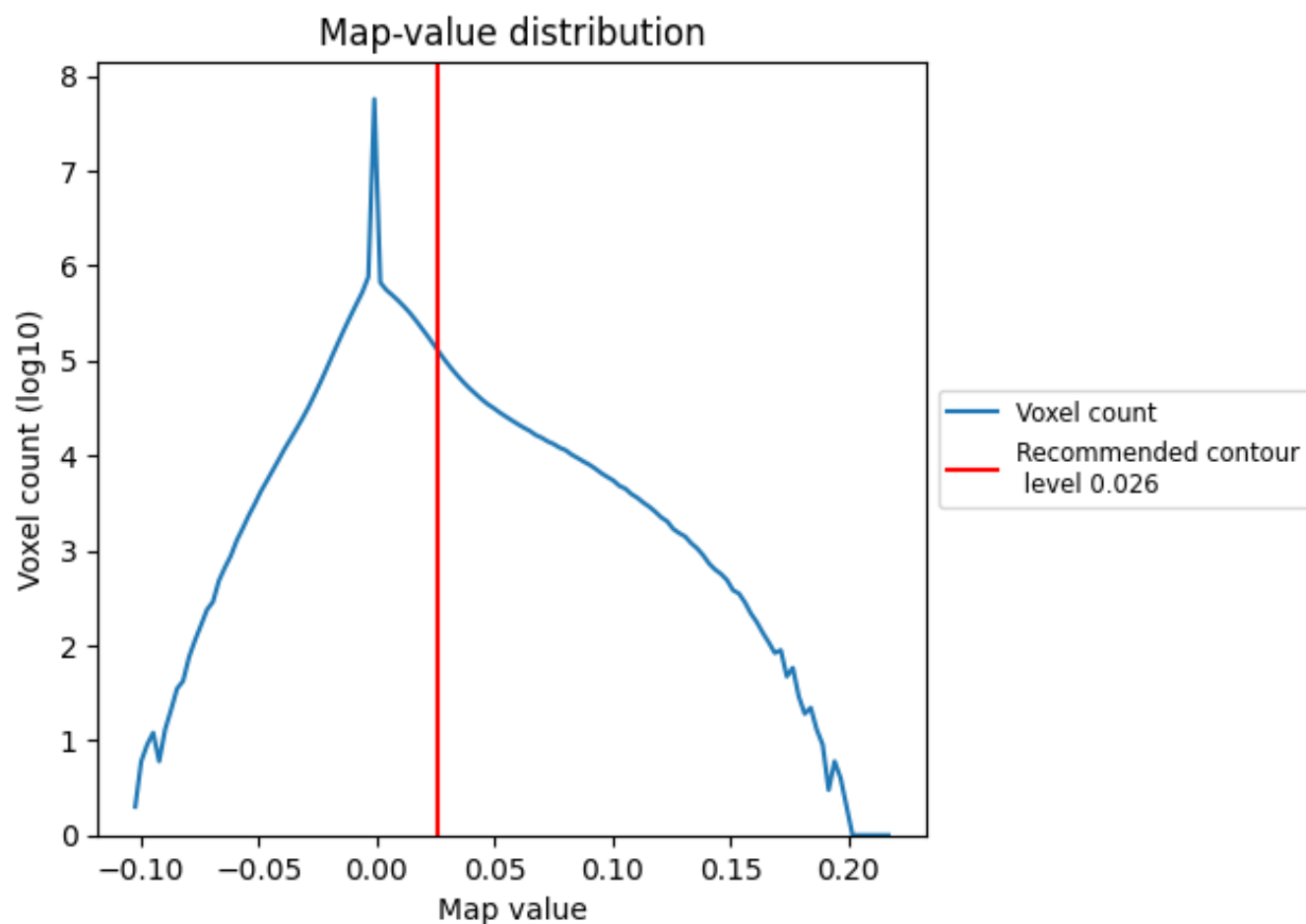
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

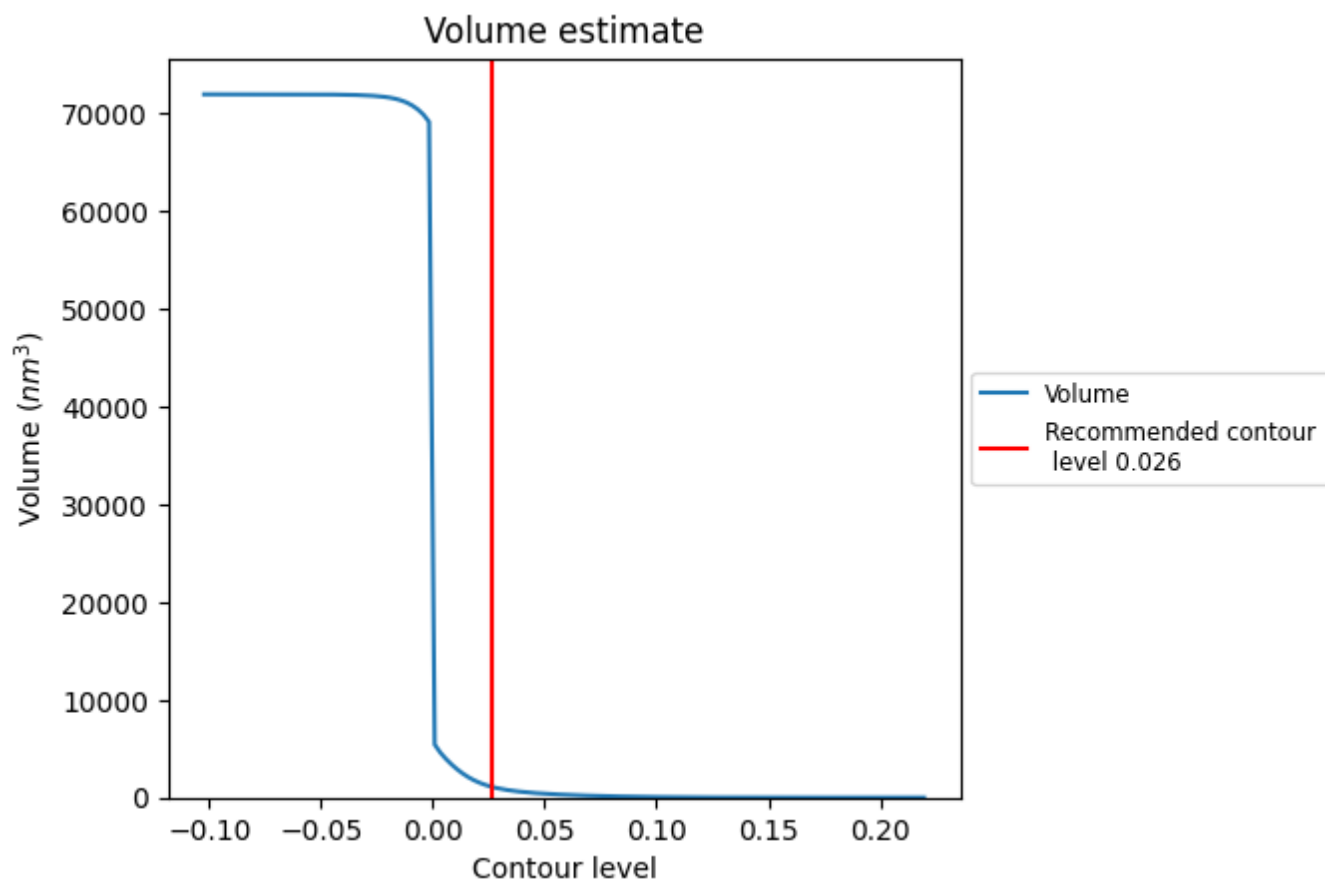
This section contains the results of statistical analysis of the map.

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.

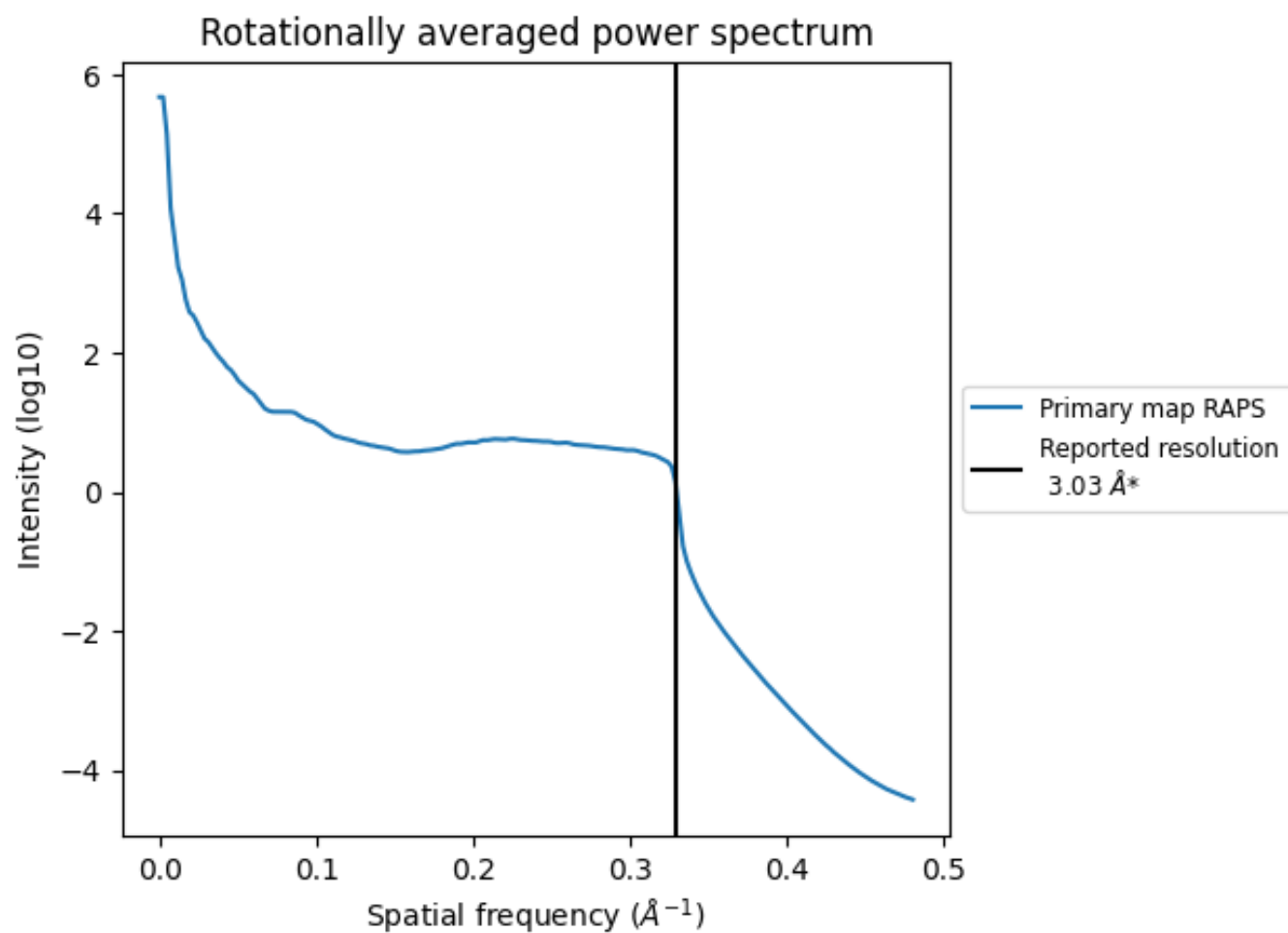
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1121 nm³; this corresponds to an approximate mass of 1013 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 ⓘ



*Reported resolution corresponds to spatial frequency of 0.330 Å⁻¹

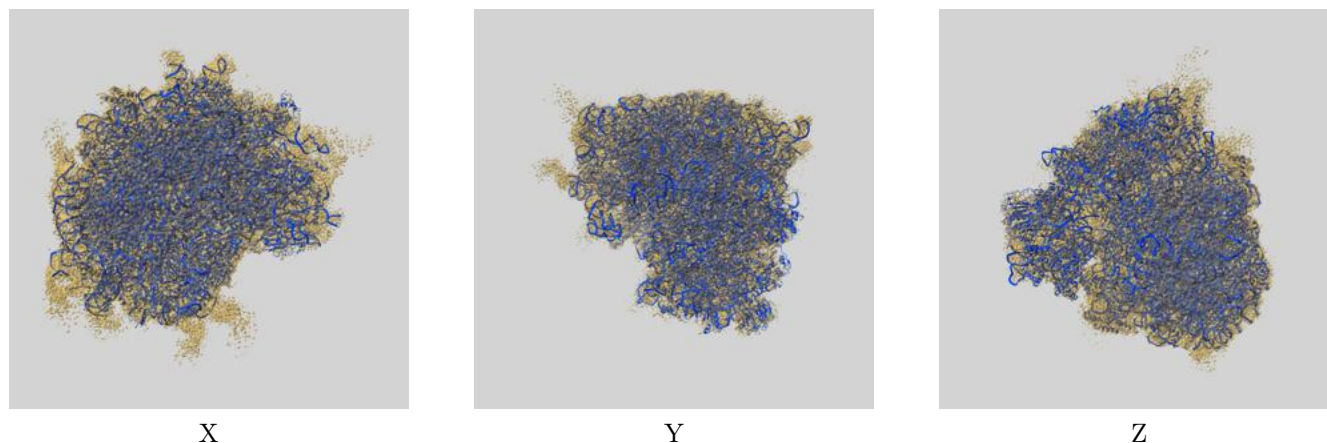
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

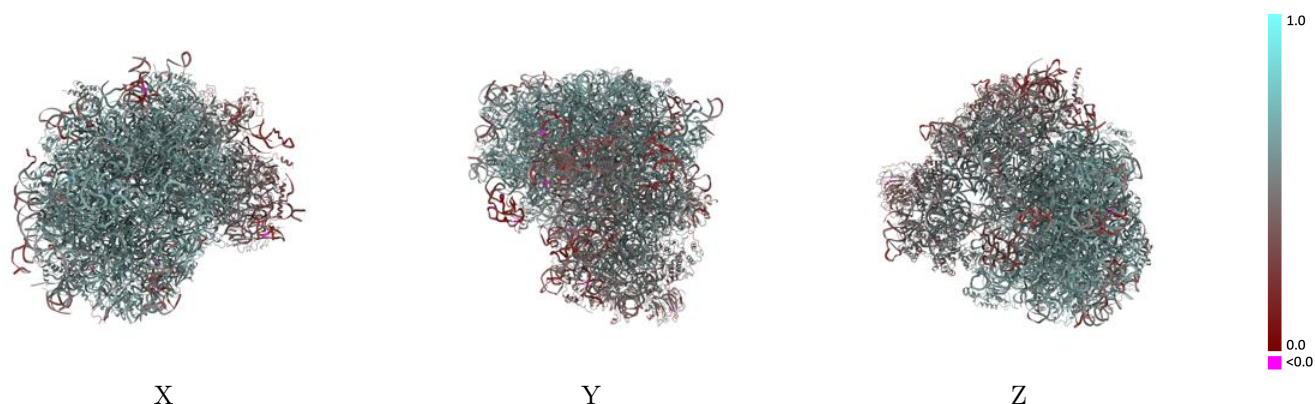
This section contains information regarding the fit between EMDB map EMD-30433 and PDB model 7CPV. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



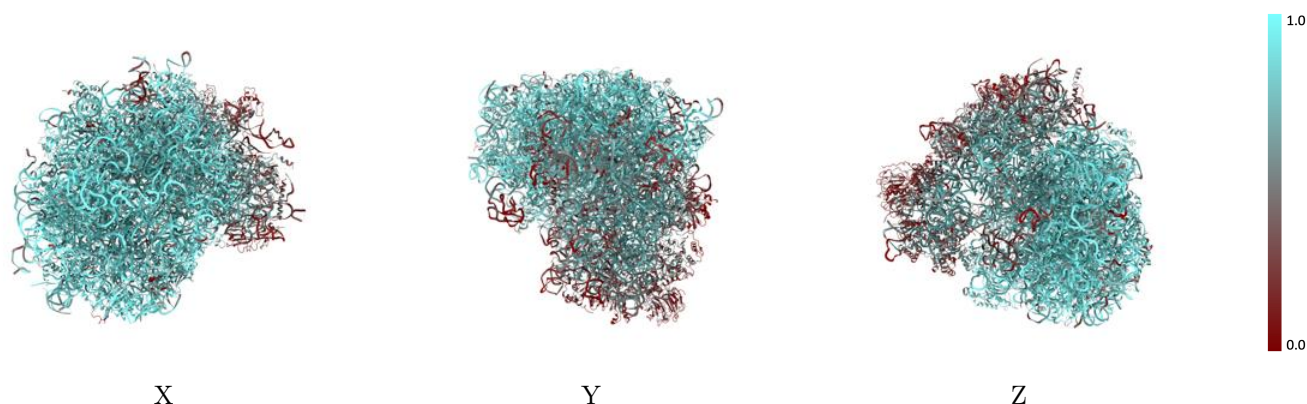
The images above show the 3D surface view of the map at the recommended contour level 0.026 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



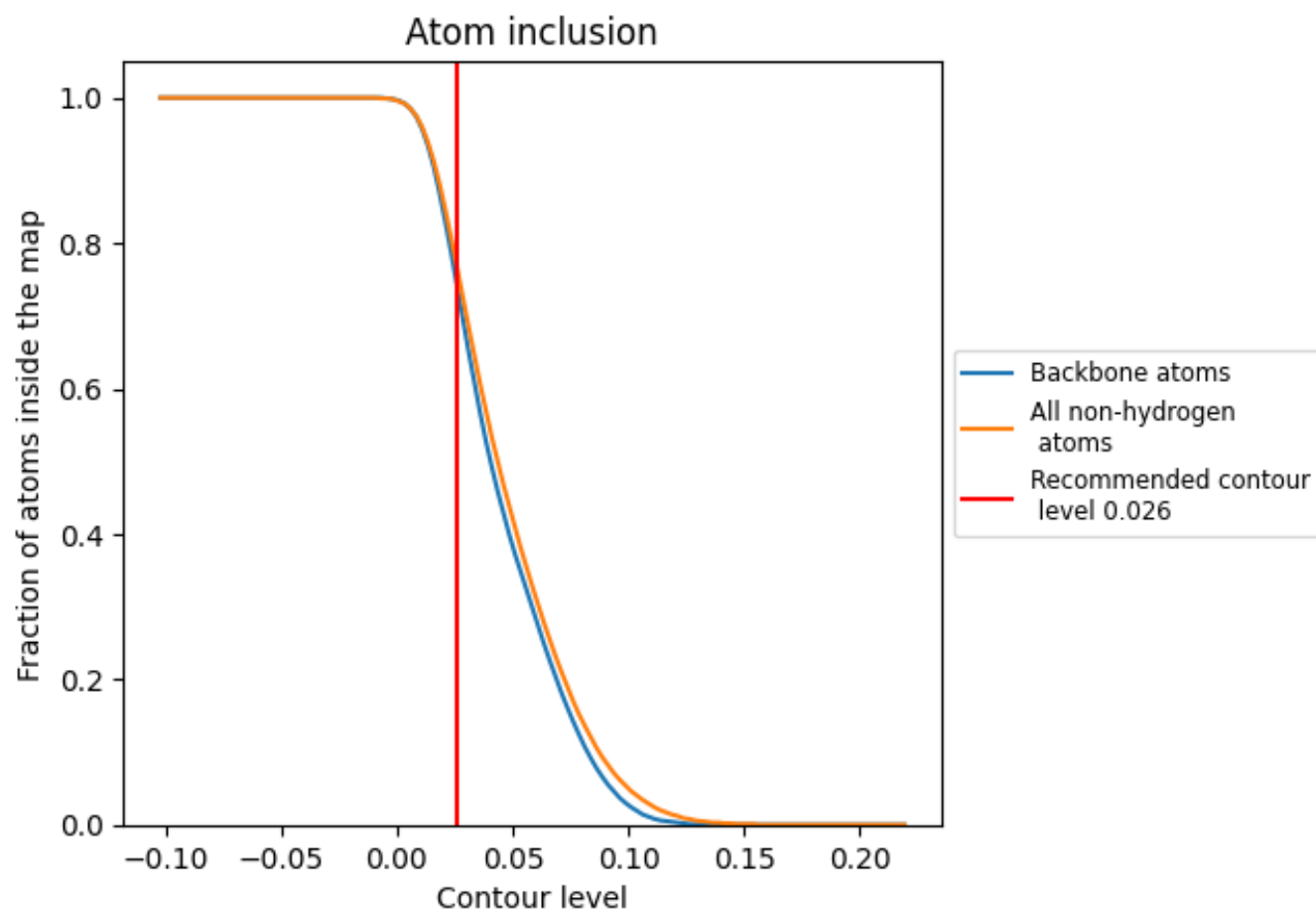
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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, 74% of all backbone atoms, 77% 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	 0.7670	 0.5340
L5	 0.8900	 0.5640
L7	 0.9650	 0.6030
L8	 0.9130	 0.5840
LA	 0.8920	 0.6090
LB	 0.8740	 0.6030
LC	 0.8800	 0.5980
LD	 0.8430	 0.5780
LE	 0.7930	 0.5590
LF	 0.9000	 0.6140
LG	 0.7880	 0.5620
LH	 0.8490	 0.5800
LI	 0.8500	 0.5940
LJ	 0.7540	 0.5370
LL	 0.8490	 0.5880
LM	 0.8920	 0.5970
LN	 0.9330	 0.6220
LO	 0.8870	 0.6070
LP	 0.8860	 0.6100
LQ	 0.8970	 0.6160
LR	 0.7950	 0.5690
LS	 0.9110	 0.6180
LT	 0.8540	 0.5890
LU	 0.7580	 0.5440
LV	 0.8500	 0.5990
LW	 0.8660	 0.5990
LX	 0.8510	 0.5980
LY	 0.8700	 0.5980
LZ	 0.8350	 0.5760
La	 0.9150	 0.6210
Lb	 0.8260	 0.5870
Lc	 0.8290	 0.5700
Ld	 0.8250	 0.5880
Le	 0.8870	 0.6100
Lf	 0.9250	 0.6250



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Chain	Atom inclusion	Q-score
Lg	 0.8720	 0.5960
Lh	 0.8390	 0.5850
Li	 0.8250	 0.5760
Lj	 0.9200	 0.6130
Lk	 0.7270	 0.5590
Ll	 0.8690	 0.5980
Lm	 0.8920	 0.5950
Ln	 0.7290	 0.5580
Lo	 0.8400	 0.5970
Lp	 0.8230	 0.5980
Lr	 0.9030	 0.6060
S2	 0.6850	 0.4640
S6	 0.4330	 0.3540
SA	 0.4490	 0.4730
SB	 0.5820	 0.5100
SC	 0.5770	 0.4920
SD	 0.3150	 0.4170
SE	 0.4280	 0.4080
SF	 0.4180	 0.4670
SG	 0.3030	 0.4010
SH	 0.2560	 0.4030
SI	 0.5010	 0.4340
SJ	 0.4790	 0.3900
SK	 0.2770	 0.3950
SL	 0.6020	 0.4990
SN	 0.5330	 0.5020
SO	 0.6280	 0.5060
SP	 0.5700	 0.4750
SQ	 0.4200	 0.4580
SR	 0.2780	 0.4180
SS	 0.5480	 0.4830
ST	 0.4700	 0.4660
SU	 0.3200	 0.4240
SV	 0.4430	 0.4620
SW	 0.6370	 0.5280
SX	 0.5610	 0.4960
SY	 0.2950	 0.3490
SZ	 0.3480	 0.4350
Sa	 0.6500	 0.5190
Sb	 0.4570	 0.4450
Sc	 0.3690	 0.4500
Sd	 0.6390	 0.4780

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Chain	Atom inclusion	Q-score
Se	 0.3500	 0.4080
Sg	 0.2380	 0.3800