Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 03:12 PM UTC

PDB ID	:	6Z6L / pdb_00006z6l
EMDB ID	:	EMD-11098
Title	:	Cryo-EM structure of human CCDC124 bound to 80S ribosomes
Authors	:	Wells, J.N.; Buschauer, R.; Mackens-Kiani, T.; Best, K.; Kratzat, H.; Berninghausen, O.; Becker, T.; Cheng, J.; Beckmann, R.
Deposited on	:	2020-05-28
Resolution	:	3.00 Å(reported)
Based on initial model	:	6EK0

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

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

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

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

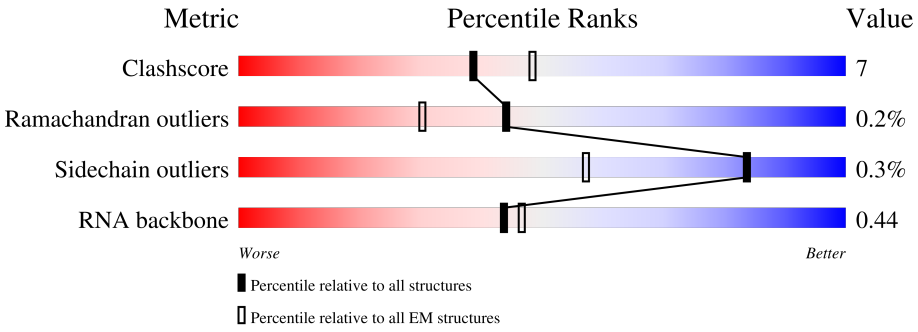
EMDB validation analysis	:	0.0.1.dev132
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh &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

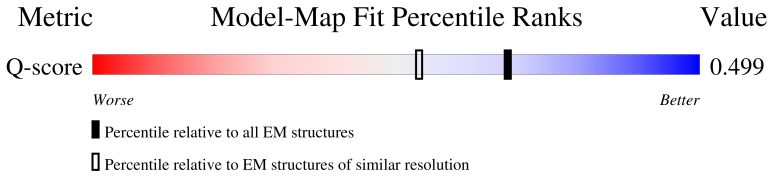
1 Overall quality at a glance

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

The reported resolution of this entry is 3.00 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	14081 (2.50 - 3.50)

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

Mol	Chain	Length	Quality of chain
1	L5	5070	43% 25% 6% 26%
2	L7	121	79% 18%
3	L8	157	67% 29%

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Mol	Chain	Length	Quality of chain
4	LA	257	77% 19%
5	LB	403	80% 19%
6	LC	427	74% 12% 14%
7	LD	297	81% 18%
8	LE	288	61% 20% 18%
9	LF	248	77% 13% 9%
10	LG	266	74% 17% 9%
11	LH	192	77% 22%
12	LI	214	70% 24% 6%
13	LJ	178	75% 24%
14	LL	211	81% 18%
15	LM	215	48% 15% 35%
16	LN	204	83% 16%
17	LO	203	85% 14%
18	LP	184	72% 11% 17%
19	LQ	188	90% 10%
20	LR	196	84% 11% 5%
21	LS	176	89% 11%
22	LT	160	86% 14%
23	LU	128	64% 15% 21%
24	LV	140	76% 17% 6%
25	LW	157	65% 14% 21%
26	LX	156	65% 12% 23%
27	LY	145	75% 17% 8%
28	LZ	136	72% 27%

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Mol	Chain	Length	Quality of chain
29	La	148	84% 15%
30	Lb	159	55% 14% 31%
31	Lc	115	71% 14% 15%
32	Ld	125	74% 11% 14%
33	Le	135	81% 13% 5%
34	Lf	110	85% 13%
35	Lg	117	86% 11%
36	Lh	123	81% 17%
37	Li	105	91% 6%
38	Lj	97	71% 15% 11%
39	Lk	70	79% 20%
40	Ll	51	86% 12%
41	Lm	128	34% 7% 59%
42	Ln	25	84% 12%
43	Lo	104	85% 14%
44	Lp	92	87% 12%
45	Lr	137	74% 18% 9%
46	Lz	217	5% 69% 30%
47	S2	1869	51% 35% 7% 7%
48	SA	295	60% 15% 25%
49	SB	264	60% 21% 19%
50	SD	243	75% 18% 7%
51	SE	263	82% 17%
52	SF	204	74% 17% 10%
53	SH	194	72% 24%

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Mol	Chain	Length	Quality of chain
54	SI	208	83% 16%
55	SK	165	41% 18% 41%
56	SL	158	87% 10%
57	SP	145	59% 28% 12%
58	SQ	146	74% 24%
59	SR	135	83% 17%
60	SS	152	66% 28% 5%
61	ST	145	76% 23%
62	SU	119	60% 28% 13%
63	SV	83	81% 17%
64	SX	143	78% 21%
65	Sa	115	75% 12% 11%
66	Sc	69	68% 25% 7%
67	Sd	56	71% 25%
68	Sg	317	65% 34%
69	SC	293	64% 11% 24%
70	SG	249	73% 22% 5%
71	SJ	194	74% 21% 5%
72	SM	132	57% 36% 8%
73	SN	151	81% 19%
74	SO	151	76% 17% 7%
75	SW	130	86% 13%
76	SY	133	80% 18%
77	SZ	125	41% 18% 40%
78	Sb	84	75% 24%

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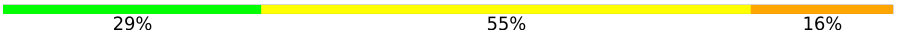
Mol	Chain	Length	Quality of chain
79	Se	59	
80	Sf	156	
81	CA	394	
82	CC	75	
83	CE	223	

2 Entry composition (i)

There are 85 unique types of molecules in this entry. The entry contains 222284 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	L5	3772	80116	35645	14585	26115	3771	0	0

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	L7	120	2561	1141	456	844	120	0	0

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

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

- Molecule 4 is a protein called 60S ribosomal protein L8.

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

- Molecule 5 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	LB	402	3238	2060	608	556	14	0	0

- Molecule 6 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	LC	368	2927	1840	583	489	15	0	0

- Molecule 7 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	LD	293	Total	C	N	O	S	0	0
			2382	1507	434	427	14		

- Molecule 8 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	LE	236	Total	C	N	O	S	0	0
			1904	1222	361	317	4		

- Molecule 9 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	LF	225	Total	C	N	O	S	0	0
			1870	1202	358	301	9		

- Molecule 10 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	LG	241	Total	C	N	O	S	0	0
			1927	1228	371	324	4		

- Molecule 11 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	LH	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

- Molecule 12 is a protein called 60S ribosomal protein L10-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	LI	202	Total	C	N	O	S	0	0
			1634	1037	314	269	14		

- Molecule 13 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	LJ	176	Total	C	N	O	S	0	0
			1410	888	263	253	6		

- Molecule 14 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	LL	210	Total	C	N	O	S	0	0
			1701	1064	352	281	4		

- Molecule 15 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	LM	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 16 is a protein called 60S ribosomal protein L15.

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

- Molecule 17 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	LO	201	Total	C	N	O	S	0	0
			1650	1063	321	261	5		

- Molecule 18 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	LP	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 19 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	LQ	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 20 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	LR	187	Total	C	N	O	S	0	0
			1566	971	336	250	9		

- Molecule 21 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	LS	175	Total	C	N	O	S	0	0
			1453	925	283	235	10		

- Molecule 22 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	LT	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 23 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	LU	101	Total	C	N	O	S	0	0
			825	529	144	150	2		

- Molecule 24 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	LV	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 25 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LW	124	Total	C	N	O	S	0	0
			1015	634	207	170	4		

- Molecule 26 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LX	120	Total	C	N	O	S	0	0
			985	630	185	169	1		

- Molecule 27 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	LY	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 28 is a protein called 60S ribosomal protein L27.

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

- Molecule 29 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	La	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Lb	109	Total	C	N	O	S	0	0
			876	546	189	137	4		

- Molecule 31 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Lc	98	Total	C	N	O	S	0	0
			764	485	135	138	6		

- Molecule 32 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Ld	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 33 is a protein called 60S ribosomal protein L32.

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

- Molecule 34 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Lf	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 35 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Lg	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 36 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Lh	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 37 is a protein called 60S ribosomal protein L36.

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

- Molecule 38 is a protein called 60S ribosomal protein L37.

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

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Lk	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 40 is a protein called 60S ribosomal protein L39.

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

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Lm	52	Total	C	N	O	S	0	0
			429	266	90	67	6		

- Molecule 42 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Ln	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 43 is a protein called 60S ribosomal protein L36a.

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

- Molecule 44 is a protein called 60S ribosomal protein L37a.

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

- Molecule 45 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Lr	125	Total	C	N	O	S	0	0
			1002	622	207	168	5		

- Molecule 46 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Lz	217	Total	C	N	O	S	0	0
			1741	1113	312	307	9		

- Molecule 47 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	S2	1740	Total	C	N	O	P	0	0
			36898	16459	6599	12101	1739		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
48	SA	221	Total	C	N	O	S	0	0
			1741	1106	305	322	8		

- Molecule 49 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	SB	214	Total	C	N	O	S	0	0
			1738	1103	310	311	14		

- Molecule 50 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	SD	227	Total	C	N	O	S	0	0
			1765	1125	317	315	8		

- Molecule 51 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	SE	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 52 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	SF	184	Total	C	N	O	S	0	0
			1461	914	276	264	7		

- Molecule 53 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	SH	186	Total	C	N	O	S	0	0
			1497	956	274	266	1		

- Molecule 54 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SI	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

- Molecule 55 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	SK	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 56 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	SL	153	Total	C	N	O	S	0	0
			1247	793	234	214	6		

- Molecule 57 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SP	127	Total	C	N	O	S	0	0
			1045	663	198	177	7		

- Molecule 58 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	SQ	144	Total	C	N	O	S	0	0
			1142	726	216	197	3		

- Molecule 59 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SR	135	Total	C	N	O	S	0	0
			1090	685	202	198	5		

- Molecule 60 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	SS	145	Total	C	N	O	S	0	0
			1198	751	242	203	2		

- Molecule 61 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	ST	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

- Molecule 62 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	SU	104	Total	C	N	O	S	0	0
			821	514	155	148	4		

- Molecule 63 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	SV	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 64 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	SX	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 65 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Sa	102	Total	C	N	O	S	0	0
			821	512	171	133	5		

- Molecule 66 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Sc	64	Total	C	N	O	S	0	0
			506	308	102	94	2		

- Molecule 67 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	Sd	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 68 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Sg	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 69 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	SC	222	Total	C	N	O	S	0	0
			1725	1115	298	302	10		

- Molecule 70 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	SG	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 71 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	SJ	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 72 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	SM	122	Total	C	N	O	S	0	0
			940	590	164	177	9		

- Molecule 73 is a protein called 40S ribosomal protein S13.

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

- Molecule 74 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	SO	140	Total	C	N	O	S	0	0
			1049	642	204	197	6		

- Molecule 75 is a protein called 40S ribosomal protein S15a.

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

- Molecule 76 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	SY	131	Total	C	N	O	S	0	0
			1065	673	209	178	5		

- Molecule 77 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	SZ	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 78 is a protein called 40S ribosomal protein S27.

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

- Molecule 79 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Se	58	Total	C	N	O	S	0	0
			459	284	100	74	1		

- Molecule 80 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Sf	67	Total	C	N	O	S	0	0
			548	346	102	93	7		

- Molecule 81 is a protein called Proliferation-associated protein 2G4.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	CA	354	Total	C	N	O	S	4	0
			2764	1744	475	528	17		

- Molecule 82 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	CC	75	Total	C	N	O	P	0	0
			1589	710	279	525	75		

- Molecule 83 is a protein called Coiled-coil domain-containing protein 124.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	CE	73	Total	C	N	O	S	0	0
			613	369	122	121	1		

- Molecule 84 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
84	L5	210	Total Mg 210 210	0
84	L7	3	Total Mg 3 3	0
84	L8	5	Total Mg 5 5	0
84	LA	1	Total Mg 1 1	0
84	LI	1	Total Mg 1 1	0
84	LP	1	Total Mg 1 1	0
84	LV	1	Total Mg 1 1	0
84	Le	2	Total Mg 2 2	0
84	Lg	1	Total Mg 1 1	0
84	Lj	1	Total Mg 1 1	0
84	S2	29	Total Mg 29 29	0
84	SG	1	Total Mg 1 1	0

- Molecule 85 is ZINC ION (CCD ID: ZN) (formula: Zn).

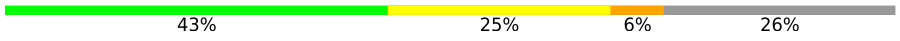
Mol	Chain	Residues	Atoms	AltConf
85	Lg	1	Total Zn 1 1	0
85	Lj	1	Total Zn 1 1	0
85	Lm	1	Total Zn 1 1	0
85	Lo	1	Total Zn 1 1	0
85	Lp	1	Total Zn 1 1	0
85	Sa	1	Total Zn 1 1	0
85	Sd	1	Total Zn 1 1	0
85	Sf	1	Total Zn 1 1	0

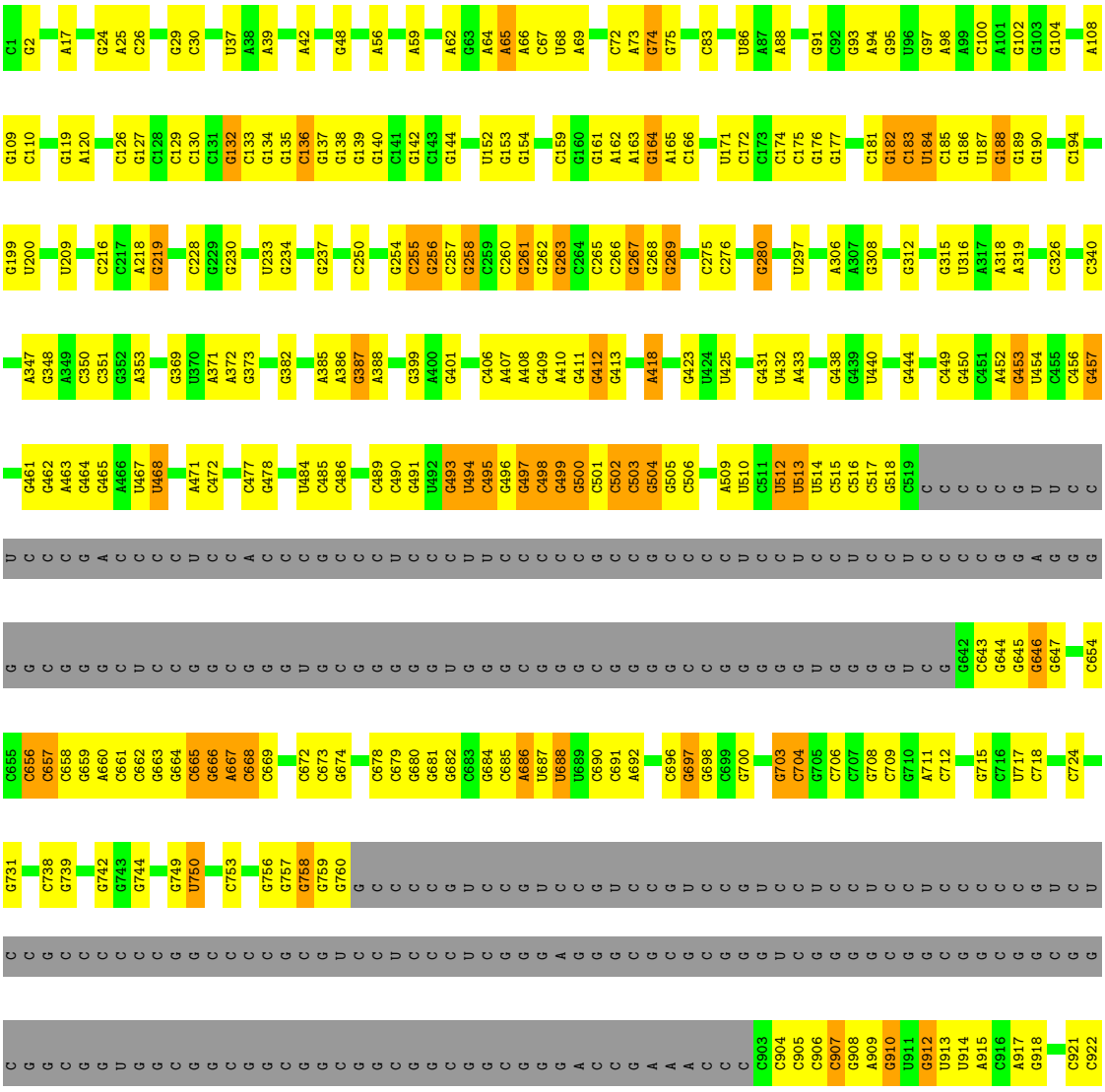
3 Residue-property plots (i)

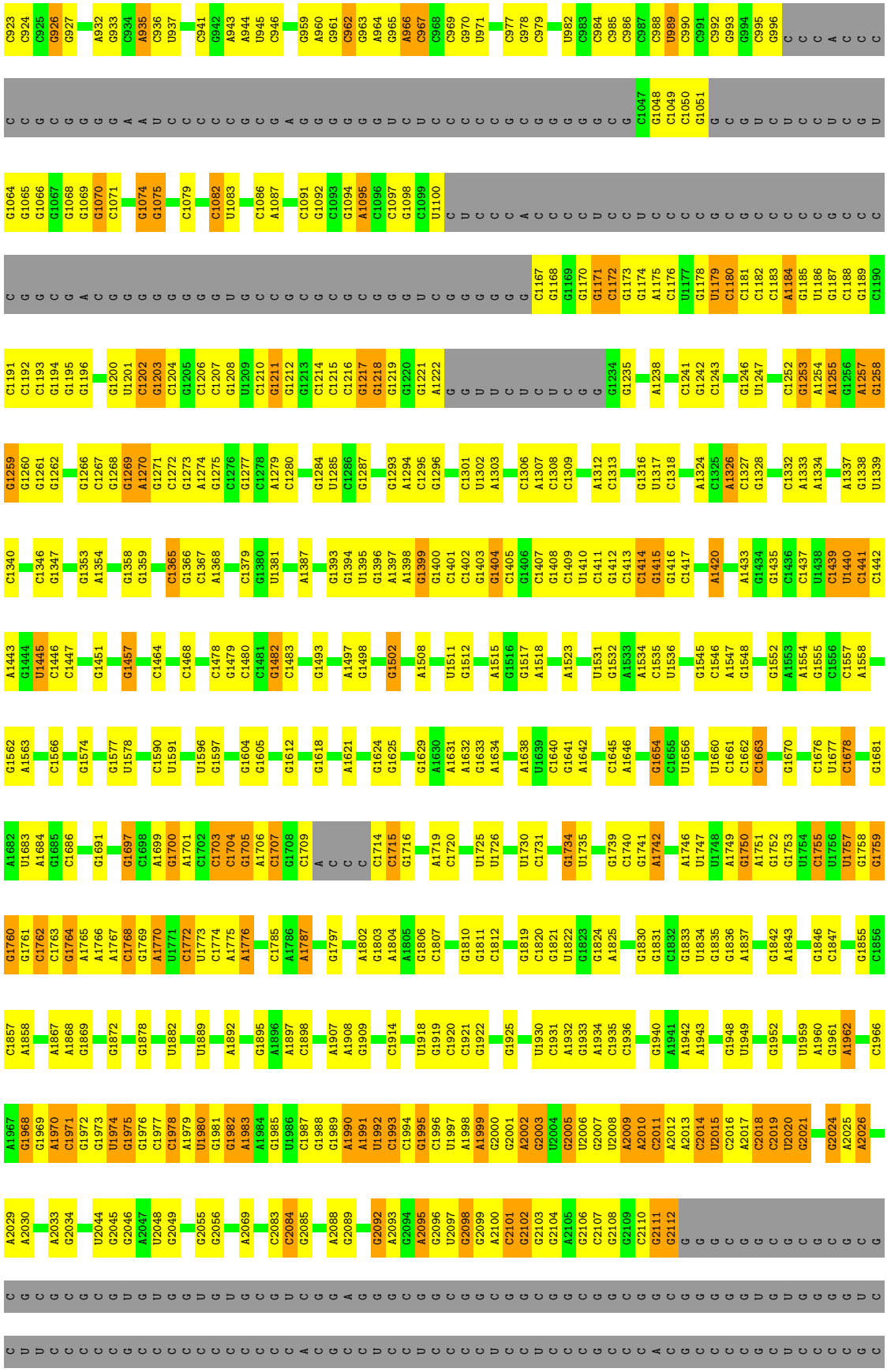
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

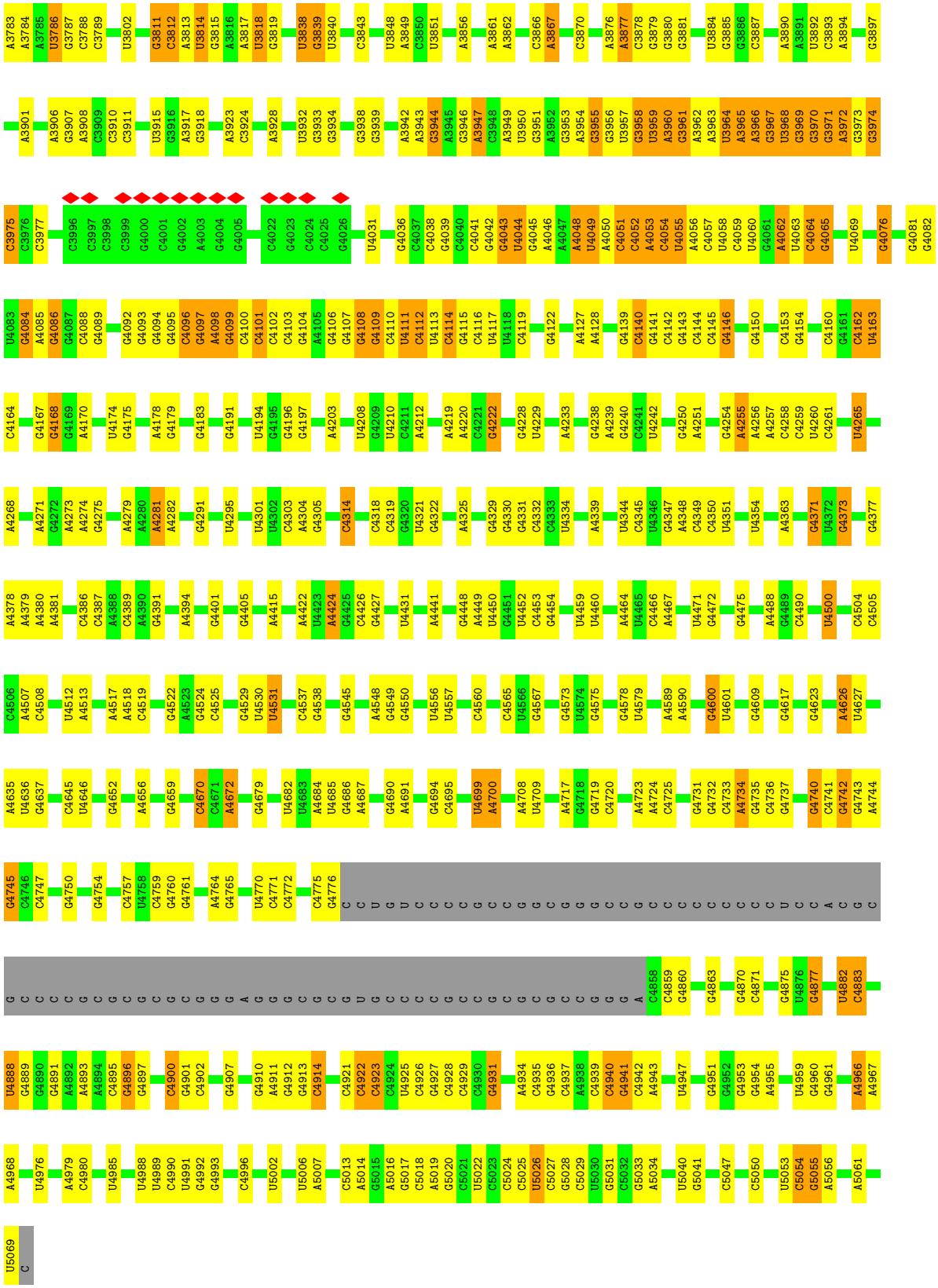
- Molecule 1: 28S rRNA

Chain L5:



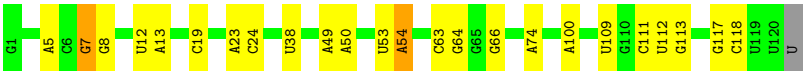






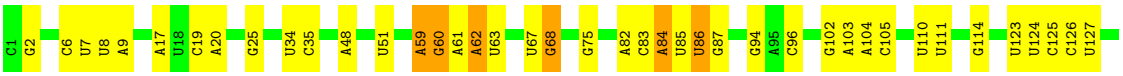
• Molecule 2: 5S rRNA

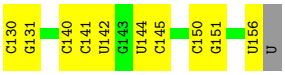
Chain L7: 79% 18%



• Molecule 3: 5.8S rRNA

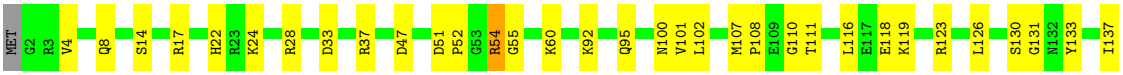
Chain L8:





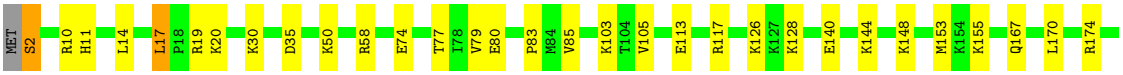
• Molecule 4: 60S ribosomal protein L8

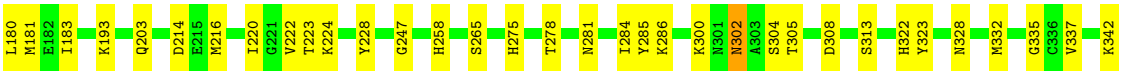
Chain LA:

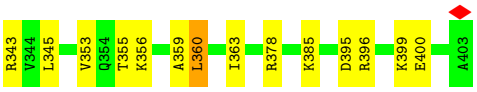


• Molecule 5: 60S ribosomal protein L3

Chain LB:

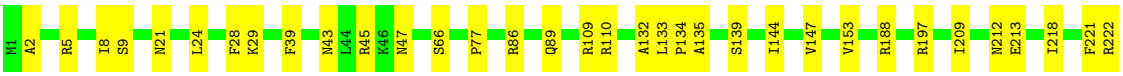


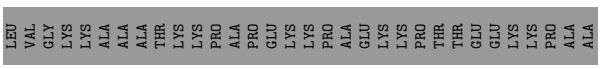




• Molecule 6: 60S ribosomal protein L4

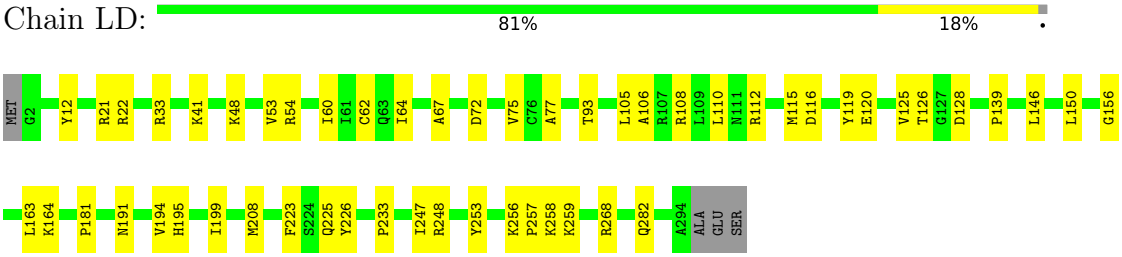
Chain LC:





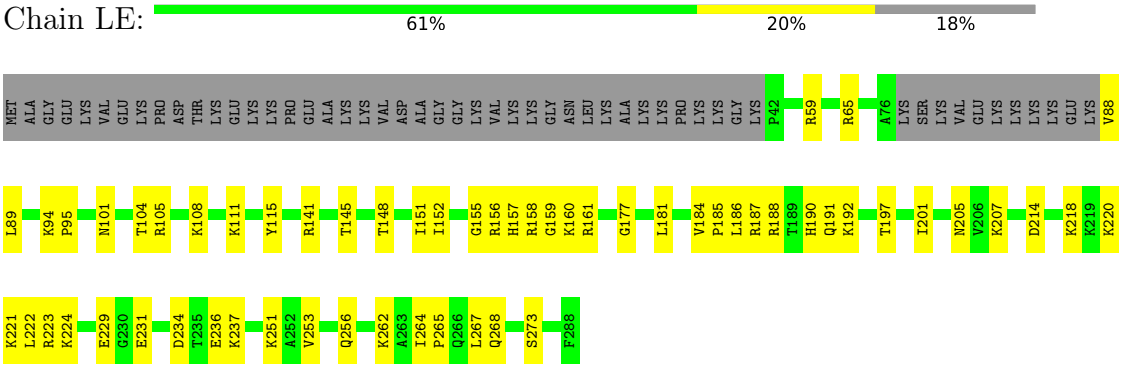
• Molecule 7: 60S ribosomal protein L5

Chain LD:



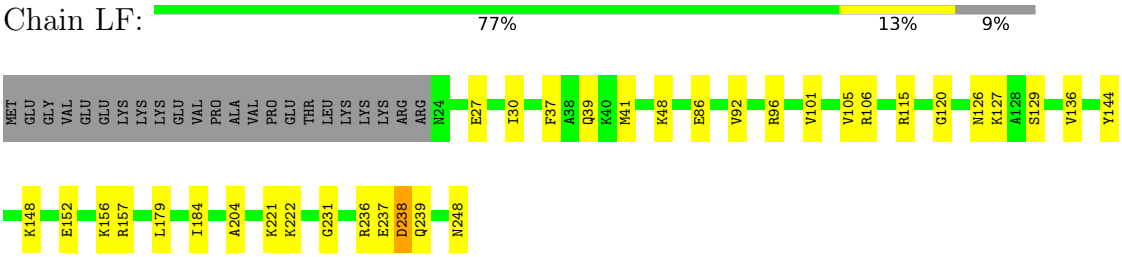
• Molecule 8: 60S ribosomal protein L6

Chain LE:



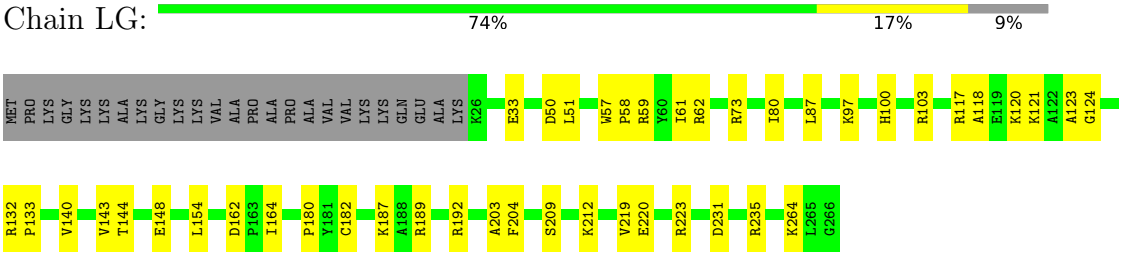
• Molecule 9: 60S ribosomal protein L7

Chain LF:



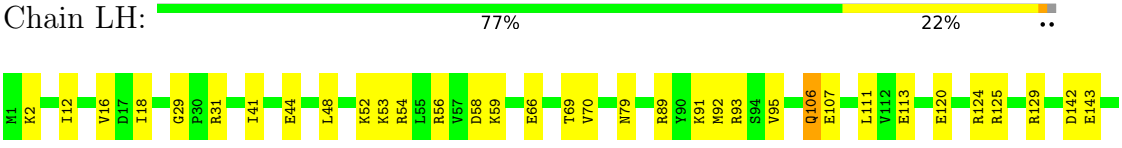
• Molecule 10: 60S ribosomal protein L7a

Chain LG:



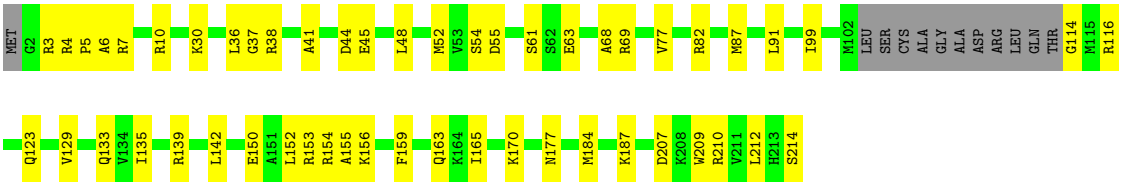
• Molecule 11: 60S ribosomal protein L9

Chain LH:



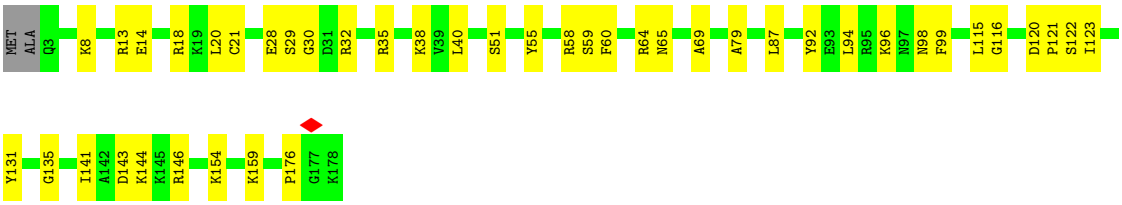
• Molecule 12: 60S ribosomal protein L10-like

Chain LI:



• Molecule 13: 60S ribosomal protein L11

Chain LJ:

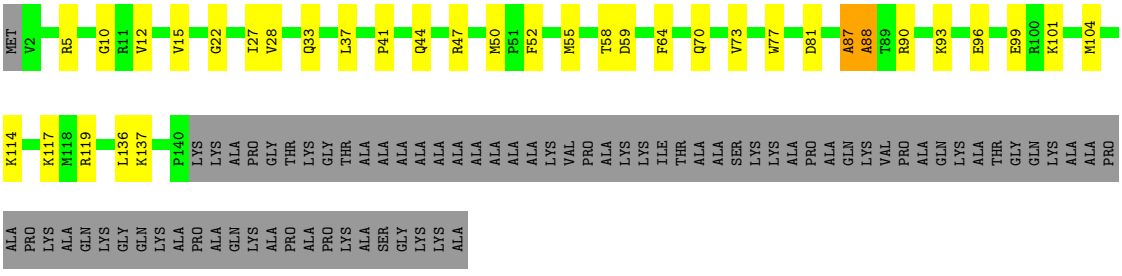


• Molecule 14: 60S ribosomal protein L13

Chain LL:

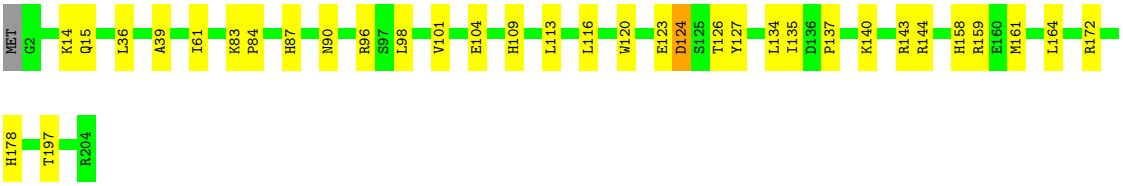
• Molecule 15: 60S ribosomal protein L14

Chain LM:



• Molecule 16: 60S ribosomal protein L15

Chain LN:

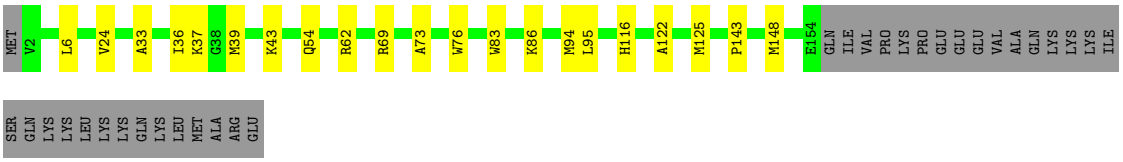


• Molecule 17: 60S ribosomal protein L13a

Chain LO:

• Molecule 18: 60S ribosomal protein L17

Chain LP:



• Molecule 19: 60S ribosomal protein L18

Chain LQ:

• Molecule 20: 60S ribosomal protein L19

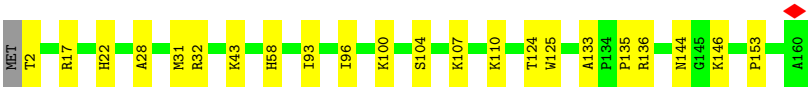
Chain LR:

• Molecule 21: 60S ribosomal protein L18a

Chain LS:

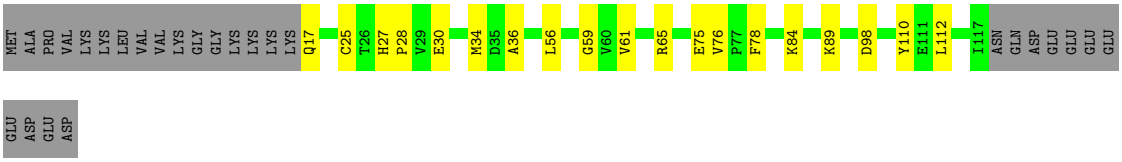
• Molecule 22: 60S ribosomal protein L21

Chain LT:



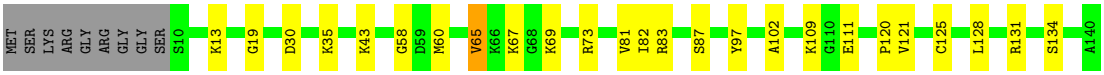
• Molecule 23: 60S ribosomal protein L22

Chain LU:



• Molecule 24: 60S ribosomal protein L23

Chain LV:

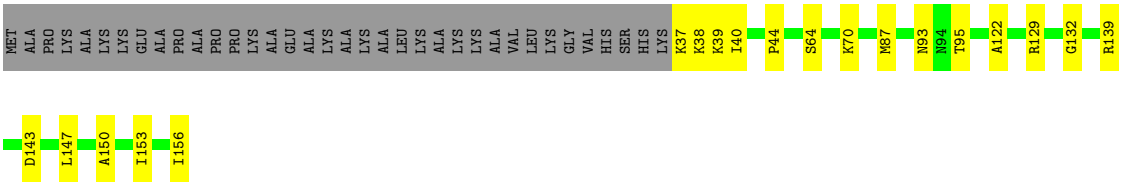


• Molecule 25: 60S ribosomal protein L24

Chain LW:

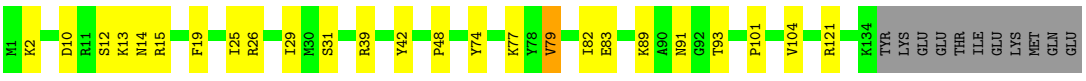
• Molecule 26: 60S ribosomal protein L23a

Chain LX:



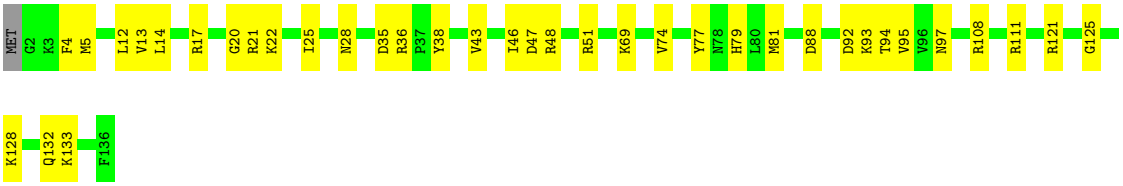
• Molecule 27: 60S ribosomal protein L26

Chain LY:



• Molecule 28: 60S ribosomal protein L27

Chain LZ:

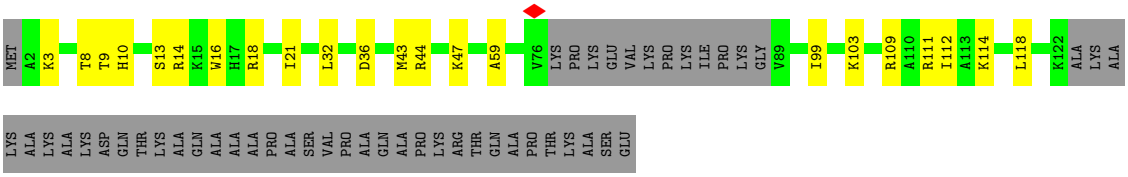


• Molecule 29: 60S ribosomal protein L27a

Chain La:

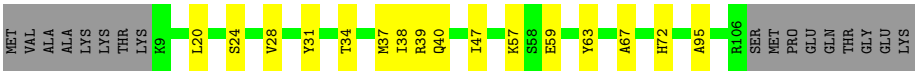
• Molecule 30: 60S ribosomal protein L29

Chain Lb:



• Molecule 31: 60S ribosomal protein L30

Chain Lc:



• Molecule 32: 60S ribosomal protein L31

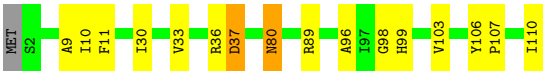
Chain Ld:

• Molecule 33: 60S ribosomal protein L32

Chain Le:

• Molecule 34: 60S ribosomal protein L35a

Chain Lf:

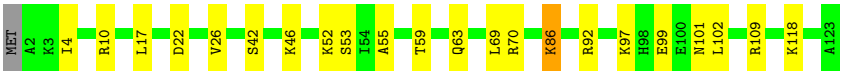


• Molecule 35: 60S ribosomal protein L34

Chain Lg:

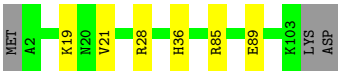
• Molecule 36: 60S ribosomal protein L35

Chain Lh:



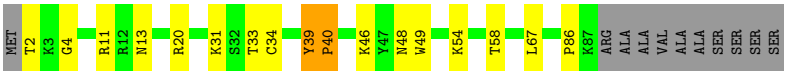
• Molecule 37: 60S ribosomal protein L36

Chain Li:



• Molecule 38: 60S ribosomal protein L37

Chain Lj:

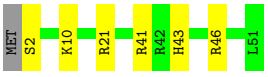


• Molecule 39: 60S ribosomal protein L38

Chain Lk:

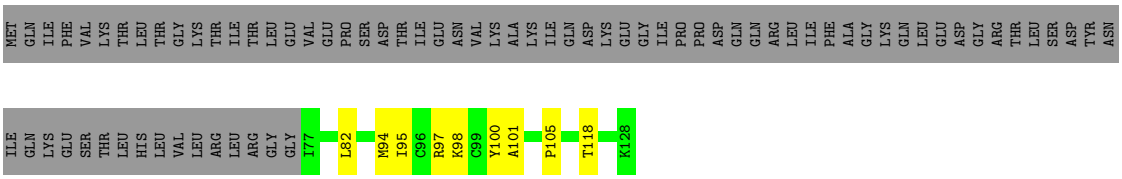
• Molecule 40: 60S ribosomal protein L39

Chain Ll:

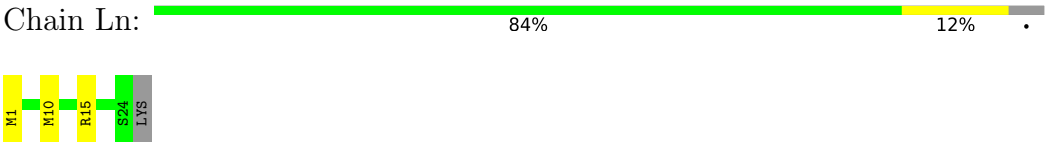


• Molecule 41: Ubiquitin-60S ribosomal protein L40

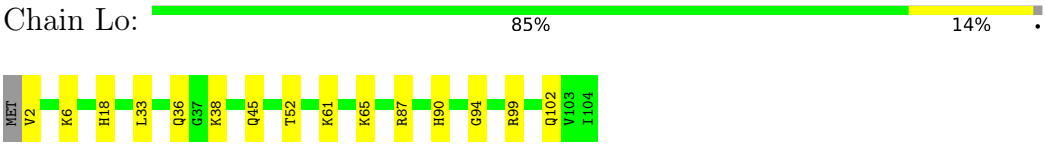
Chain Lm:



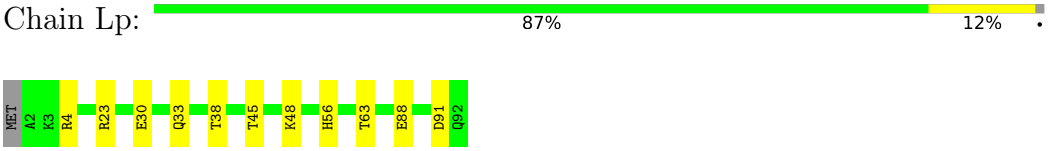
• Molecule 42: 60S ribosomal protein L41



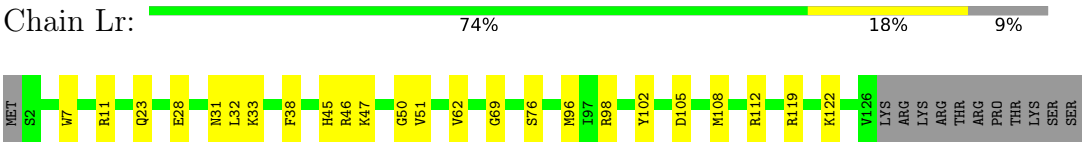
• Molecule 43: 60S ribosomal protein L36a



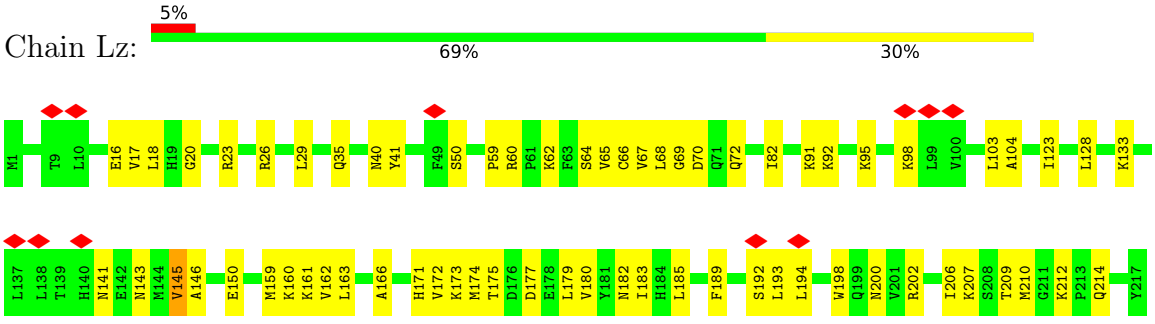
• Molecule 44: 60S ribosomal protein L37a



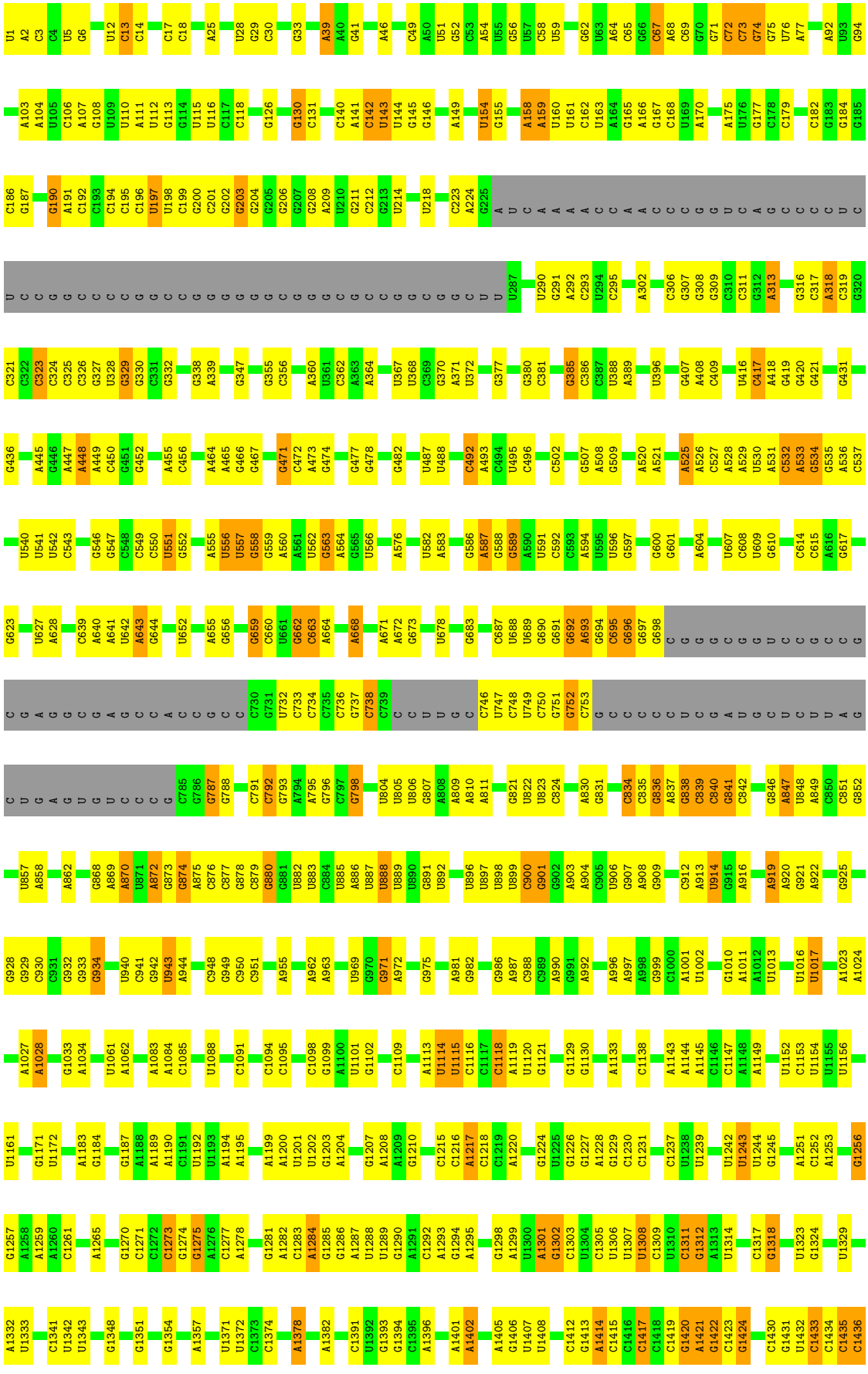
• Molecule 45: 60S ribosomal protein L28

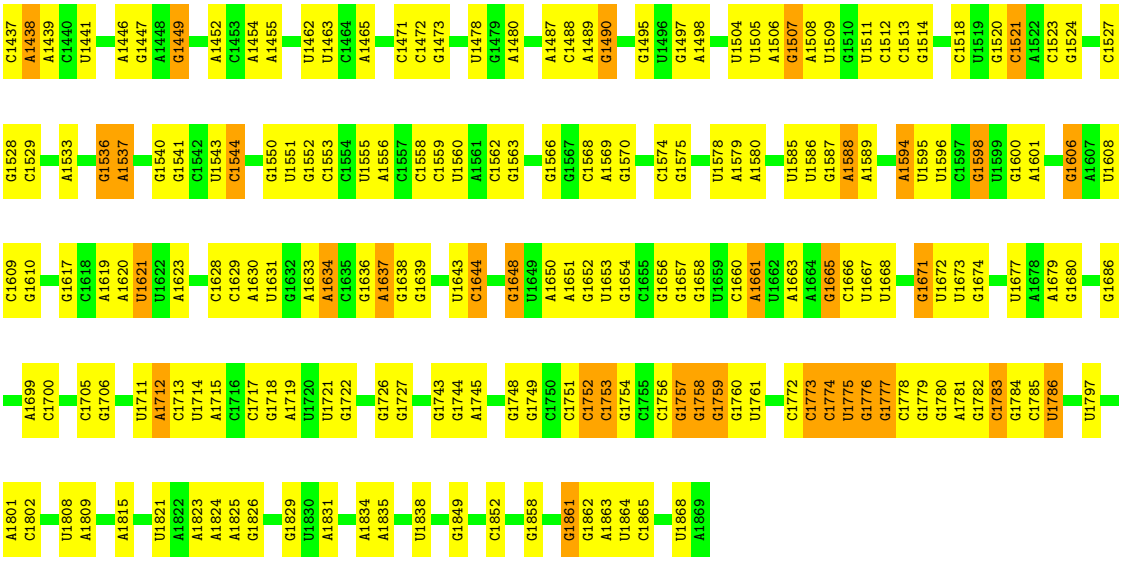


• Molecule 46: 60S ribosomal protein L10a



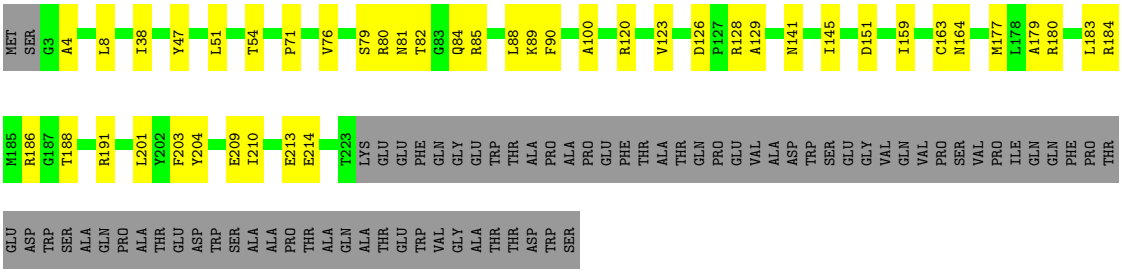
• Molecule 47: 18S rRNA





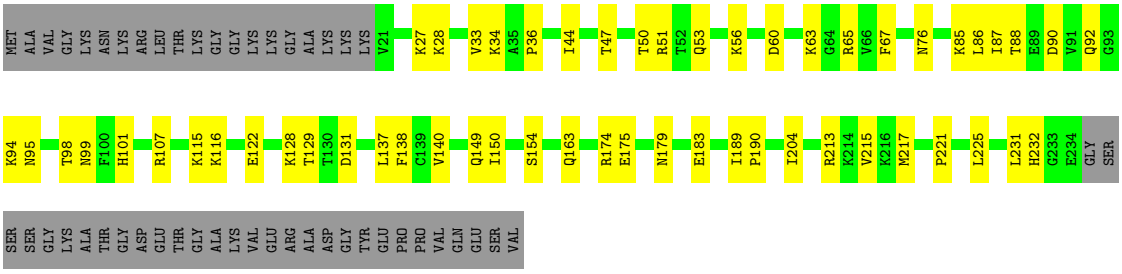
• Molecule 48: 40S ribosomal protein SA

Chain SA:



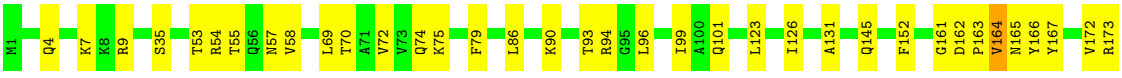
• Molecule 49: 40S ribosomal protein S3a

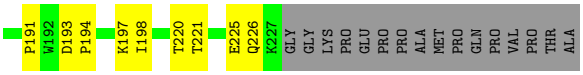
Chain SB:



• Molecule 50: 40S ribosomal protein S3

Chain SD:





• Molecule 51: 40S ribosomal protein S4, X isoform

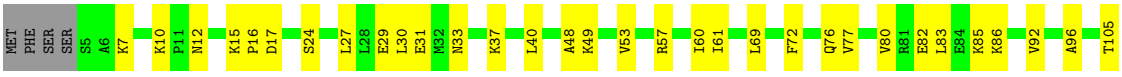
Chain SE:

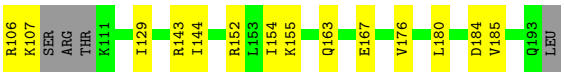
• Molecule 52: 40S ribosomal protein S5

Chain SF:

• Molecule 53: 40S ribosomal protein S7

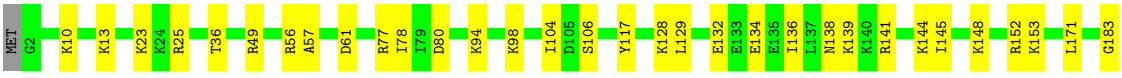
Chain SH:





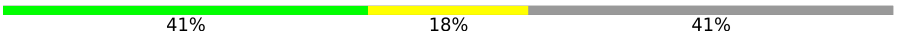
• Molecule 54: 40S ribosomal protein S8

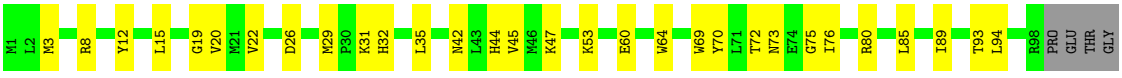
Chain SI:

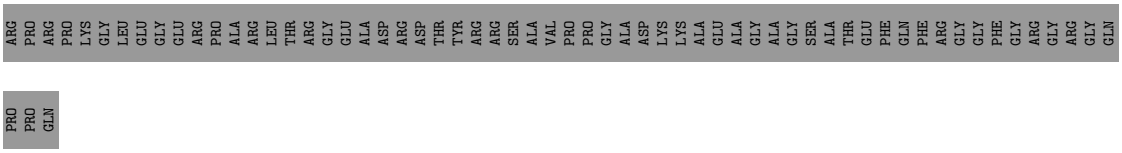


• Molecule 55: 40S ribosomal protein S10

Chain SK:





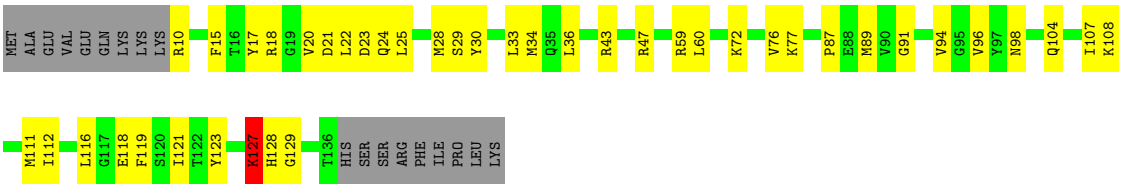


• Molecule 56: 40S ribosomal protein S11

Chain SL:

• Molecule 57: 40S ribosomal protein S15

Chain SP:

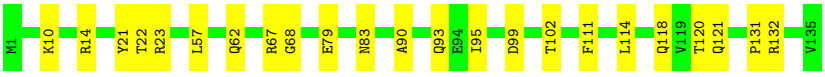


• Molecule 58: 40S ribosomal protein S16

Chain SQ:

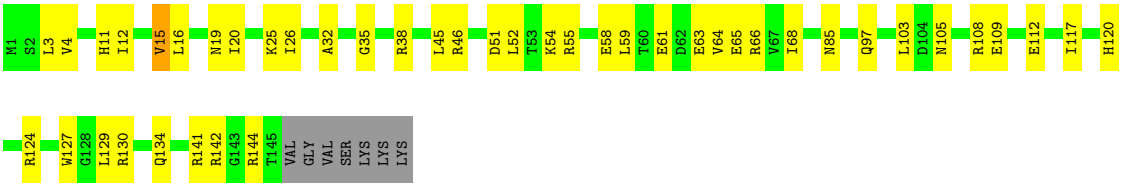
• Molecule 59: 40S ribosomal protein S17

Chain SR:



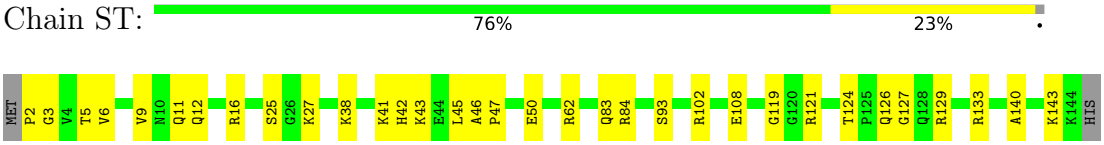
• Molecule 60: 40S ribosomal protein S18

Chain SS:



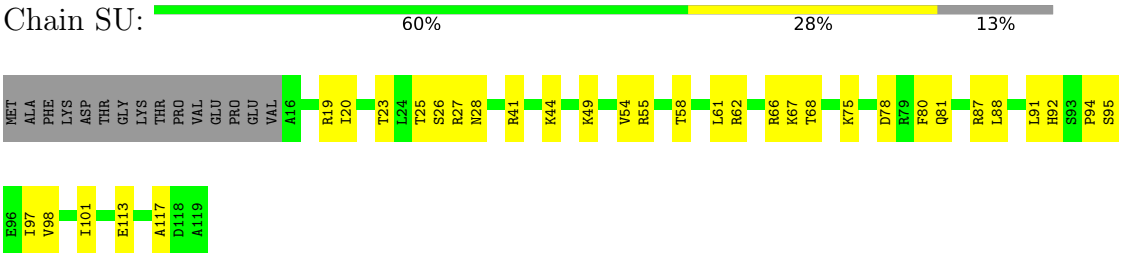
• Molecule 61: 40S ribosomal protein S19

Chain ST:



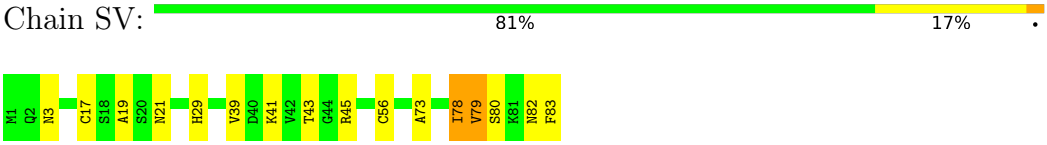
• Molecule 62: 40S ribosomal protein S20

Chain SU:



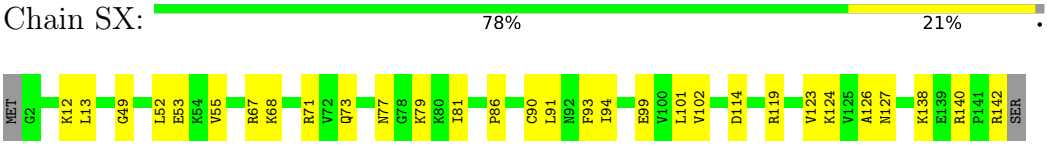
• Molecule 63: 40S ribosomal protein S21

Chain SV:



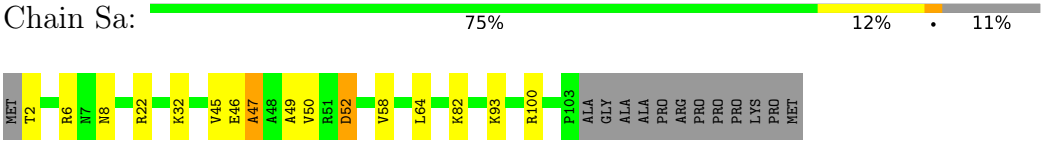
• Molecule 64: 40S ribosomal protein S23

Chain SX:



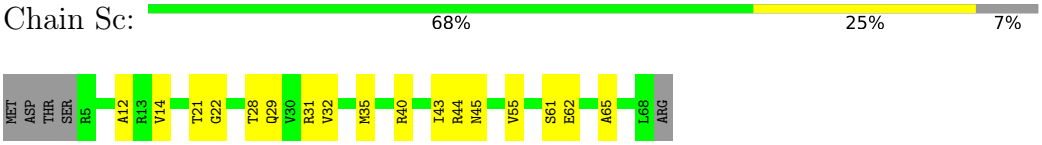
• Molecule 65: 40S ribosomal protein S26

Chain Sa:



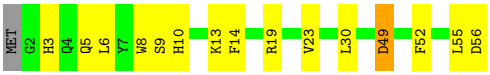
• Molecule 66: 40S ribosomal protein S28

Chain Sc:



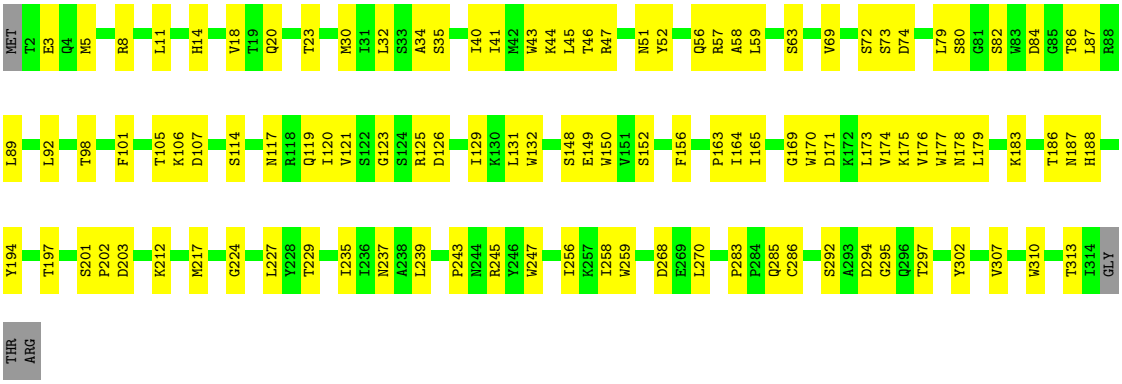
• Molecule 67: 40S ribosomal protein S29

Chain Sd:



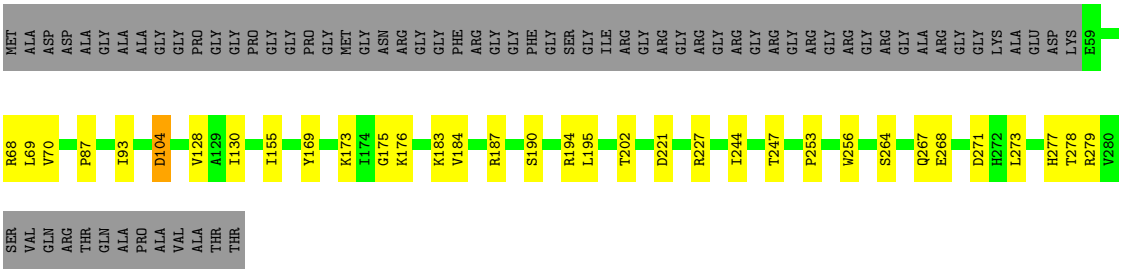
• Molecule 68: Receptor of activated protein C kinase 1

Chain Sg:



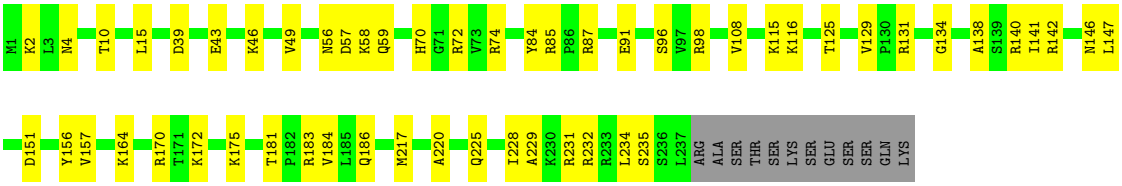
• Molecule 69: 40S ribosomal protein S2

Chain SC:



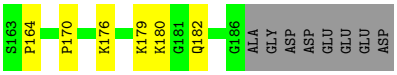
• Molecule 70: 40S ribosomal protein S6

Chain SG:



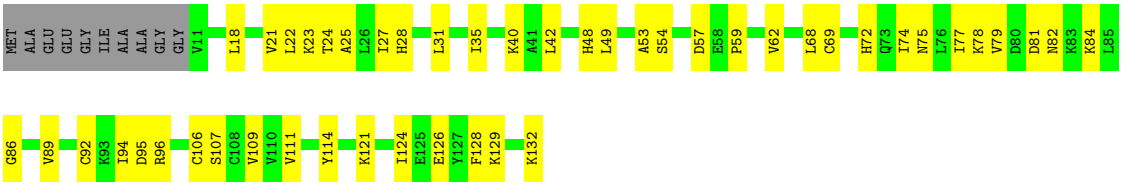
• Molecule 71: 40S ribosomal protein S9

Chain SJ:



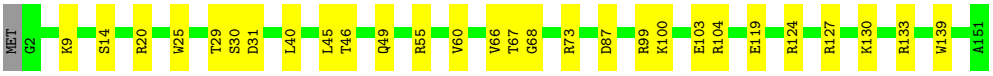
• Molecule 72: 40S ribosomal protein S12

Chain SM:



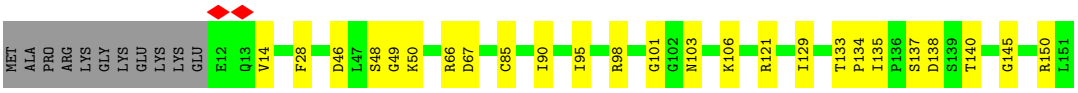
• Molecule 73: 40S ribosomal protein S13

Chain SN:



• Molecule 74: 40S ribosomal protein S14

Chain SO:

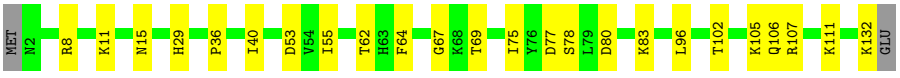


• Molecule 75: 40S ribosomal protein S15a

Chain SW:

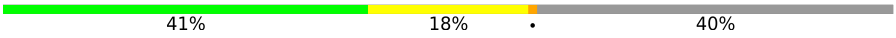
• Molecule 76: 40S ribosomal protein S24

Chain SY:



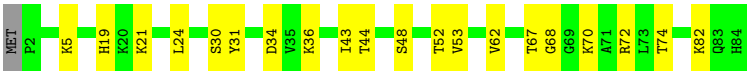
• Molecule 77: 40S ribosomal protein S25

Chain SZ:



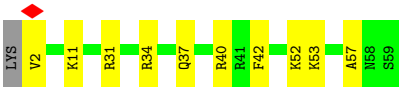
• Molecule 78: 40S ribosomal protein S27

Chain Sb:



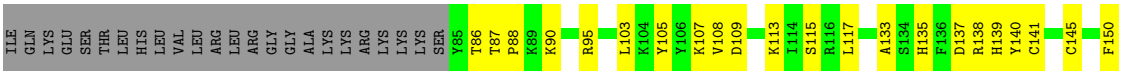
• Molecule 79: 40S ribosomal protein S30

Chain Se:



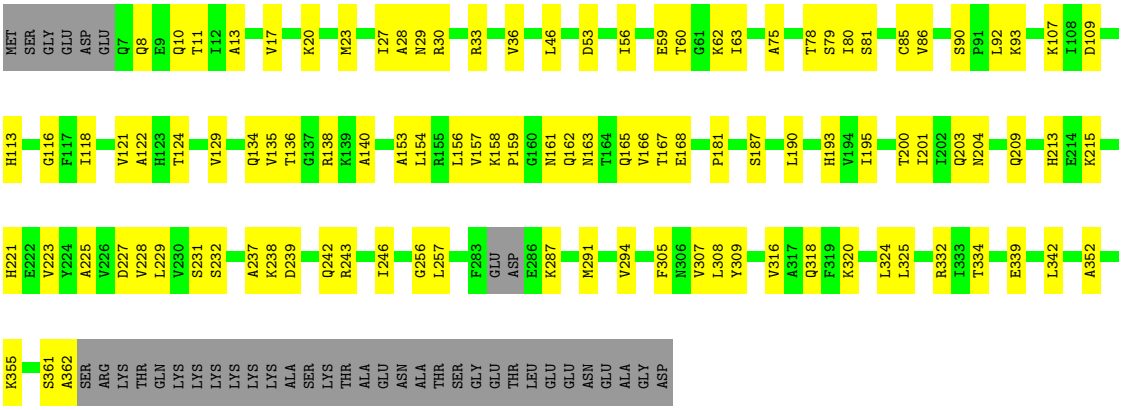
• Molecule 80: Ubiquitin-40S ribosomal protein S27a

Chain Sf:



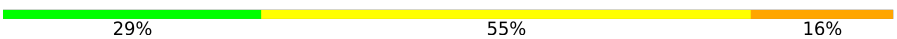
• Molecule 81: Proliferation-associated protein 2G4

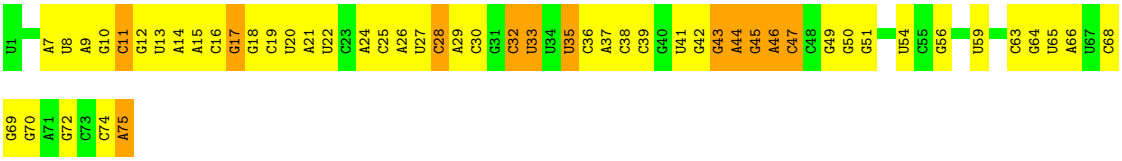
Chain CA:



• Molecule 82: tRNA

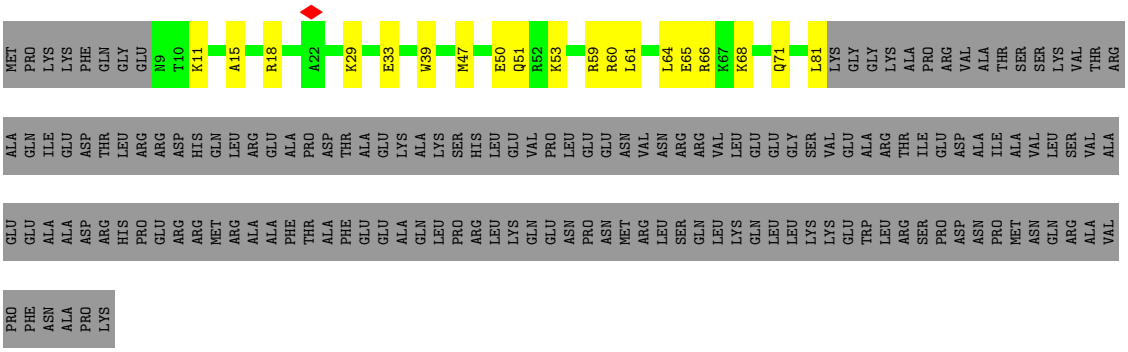
Chain CC:





• Molecule 83: Coiled-coil domain-containing protein 124

Chain CE:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	84429	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	28	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.245	Depositor
Minimum map value	-0.084	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.011	Depositor
Recommended contour level	0.005	Depositor
Map size (Å)	424.4, 424.4, 424.4	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.061, 1.061, 1.061	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	L5	0.35	0/89570	0.39	1/139647 (0.0%)
2	L7	0.33	0/2861	0.32	0/4459
3	L8	0.34	0/3701	0.34	0/5766
4	LA	0.38	0/1936	0.63	2/2596 (0.1%)
5	LB	0.33	0/3306	0.56	0/4424
6	LC	0.36	1/2981 (0.0%)	0.57	2/4002 (0.0%)
7	LD	0.26	0/2428	0.51	0/3252
8	LE	0.26	0/1942	0.55	0/2606
9	LF	0.35	0/1905	0.55	0/2539
10	LG	0.29	0/1960	0.54	0/2637
11	LH	0.29	0/1537	0.52	0/2066
12	LI	0.30	0/1673	0.52	0/2233
13	LJ	0.26	0/1433	0.66	0/1915
14	LL	0.29	0/1732	0.54	0/2315
15	LM	0.29	0/1161	0.57	2/1554 (0.1%)
16	LN	0.36	0/1746	0.61	0/2338
17	LO	0.32	0/1682	0.46	0/2250
18	LP	0.32	0/1268	0.50	0/1701
19	LQ	0.34	0/1537	0.54	0/2052
20	LR	0.30	0/1582	0.53	2/2091 (0.1%)
21	LS	0.32	0/1493	0.46	0/2003
22	LT	0.33	0/1326	0.56	0/1770
23	LU	0.26	0/839	0.63	0/1126
24	LV	0.34	0/993	0.53	0/1332
25	LW	0.27	0/1030	0.49	0/1364
26	LX	0.30	0/1002	0.49	0/1345
27	LY	0.30	0/1132	0.49	0/1504
28	LZ	0.29	0/1130	0.51	0/1507
29	La	0.32	0/1191	0.50	0/1591
30	Lb	0.28	0/889	0.55	0/1175
31	Lc	0.30	0/774	0.53	0/1038
32	Ld	0.33	0/903	0.54	0/1216

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	Le	0.36	0/1071	0.53	0/1429
34	Lf	0.34	0/895	0.56	0/1198
35	Lg	0.32	0/916	0.52	0/1220
36	Lh	0.25	0/1023	0.48	0/1351
37	Li	0.25	0/843	0.49	0/1115
38	Lj	0.36	0/720	0.59	0/952
39	Lk	0.27	0/575	0.51	0/761
40	Ll	0.34	0/454	0.54	0/599
41	Lm	0.30	0/435	0.56	0/575
42	Ln	0.32	0/231	0.53	0/294
43	Lo	0.31	0/855	0.46	0/1128
44	Lp	0.33	0/718	0.48	0/953
45	Lr	0.32	0/1017	0.52	0/1364
46	Lz	0.24	0/1769	0.60	0/2371
47	S2	0.29	0/41244	0.37	1/64263 (0.0%)
48	SA	0.27	0/1778	0.54	0/2416
49	SB	0.25	0/1765	0.51	0/2362
50	SD	0.23	0/1793	0.56	0/2414
51	SE	0.26	0/2118	0.52	0/2849
52	SF	0.23	0/1481	0.54	0/1988
53	SH	0.26	0/1519	0.60	0/2033
54	SI	0.28	0/1715	0.57	0/2287
55	SK	0.20	0/851	0.51	0/1147
56	SL	0.30	0/1268	0.50	0/1696
57	SP	0.21	0/1065	0.58	2/1423 (0.1%)
58	SQ	0.25	0/1160	0.61	0/1553
59	SR	0.22	0/1105	0.58	0/1484
60	SS	0.20	0/1216	0.52	0/1628
61	ST	0.21	0/1131	0.53	0/1515
62	SU	0.23	0/831	0.57	0/1115
63	SV	0.25	0/643	0.52	0/860
64	SX	0.31	0/1116	0.59	0/1490
65	Sa	0.31	0/836	0.61	0/1121
66	Sc	0.25	0/508	0.60	0/680
67	Sd	0.23	0/470	0.56	0/623
68	Sg	0.20	0/2493	0.57	2/3394 (0.1%)
69	SC	0.29	0/1762	0.60	0/2381
70	SG	0.22	0/1946	0.51	0/2590
71	SJ	0.26	0/1550	0.57	0/2069
72	SM	0.22	0/950	0.68	0/1275
73	SN	0.27	0/1232	0.47	0/1656
74	SO	0.28	0/1062	0.58	2/1425 (0.1%)
75	SW	0.29	0/1051	0.48	0/1406

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
76	SY	0.23	0/1083	0.49	0/1438
77	SZ	0.26	0/604	0.68	0/810
78	Sb	0.24	0/665	0.50	0/891
79	Se	0.20	0/465	0.48	0/612
80	Sf	0.20	0/560	0.59	0/745
81	CA	0.23	0/2810	0.62	0/3780
82	CC	0.21	0/1773	0.41	0/2759
83	CE	0.21	0/616	0.53	0/812
All	All	0.31	1/238400 (0.0%)	0.45	16/349714 (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
4	LA	0	2
5	LB	0	3
11	LH	0	1
13	LJ	0	1
14	LL	0	1
15	LM	0	2
17	LO	0	2
22	LT	0	1
30	Lb	0	1
34	Lf	0	2
36	Lh	0	1
38	Lj	0	1
46	Lz	0	1
49	SB	0	1
50	SD	0	1
52	SF	0	1
53	SH	0	1
57	SP	0	1
58	SQ	0	1
61	ST	0	1
63	SV	0	1
64	SX	0	2
65	Sa	0	1
77	SZ	0	1
All	All	0	31

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	LC	47	ASN	CA-C	-6.32	1.44	1.52

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	LC	2	ALA	CA-C-N	6.29	133.03	121.70
6	LC	2	ALA	C-N-CA	6.29	133.03	121.70
74	SO	14	VAL	CA-C-N	6.01	132.52	121.70
74	SO	14	VAL	C-N-CA	6.01	132.52	121.70
15	LM	87	ALA	CA-C-N	5.93	132.86	121.54
15	LM	87	ALA	C-N-CA	5.93	132.86	121.54
47	S2	1417	C	N3-C4-N4	-5.61	101.17	118.00
68	Sg	35	SER	CA-C-N	5.35	131.75	121.54
68	Sg	35	SER	C-N-CA	5.35	131.75	121.54
57	SP	127	LYS	CA-C-N	5.23	131.53	121.54
57	SP	127	LYS	C-N-CA	5.23	131.53	121.54
4	LA	149	LYS	CA-C-N	5.11	135.77	120.69
4	LA	149	LYS	C-N-CA	5.11	135.77	120.69
20	LR	38	ARG	CA-C-N	5.07	131.22	121.54
20	LR	38	ARG	C-N-CA	5.07	131.22	121.54
1	L5	1082	C	O4'-C1'-N1	5.00	115.70	108.20

There are no chirality outliers.

All (31) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	LA	110	GLY	Peptide
4	LA	54	ARG	Peptide
5	LB	17	LEU	Peptide
5	LB	2	SER	Peptide
5	LB	258	HIS	Peptide
11	LH	106	GLN	Peptide
13	LJ	94	LEU	Peptide
14	LL	154	VAL	Peptide
15	LM	87	ALA	Peptide
15	LM	88	ALA	Peptide
17	LO	110	PRO	Peptide
17	LO	30	GLY	Peptide
22	LT	136	ARG	Peptide
30	Lb	59	ALA	Peptide
34	Lf	103	VAL	Peptide
34	Lf	106	TYR	Peptide

Continued on next page...

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Mol	Chain	Res	Type	Group
36	Lh	86	LYS	Peptide
38	Lj	39	TYR	Peptide
46	Lz	183	ILE	Peptide
49	SB	221	PRO	Peptide
50	SD	164	VAL	Peptide
52	SF	78	MET	Peptide
53	SH	15	LYS	Peptide
57	SP	127	LYS	Peptide
58	SQ	43	GLU	Peptide
61	ST	46	ALA	Peptide
63	SV	78	ILE	Peptide
64	SX	126	ALA	Peptide
64	SX	86	PRO	Peptide
77	SZ	46	ASN	Peptide
65	Sa	93	LYS	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	L5	80116	0	40366	842	0
2	L7	2561	0	1295	13	0
3	L8	3314	0	1683	18	0
4	LA	1898	0	1993	34	0
5	LB	3238	0	3376	54	0
6	LC	2927	0	3104	34	0
7	LD	2382	0	2410	36	0
8	LE	1904	0	2055	44	0
9	LF	1870	0	1996	24	0
10	LG	1927	0	2074	29	0
11	LH	1518	0	1601	31	0
12	LI	1634	0	1670	42	0
13	LJ	1410	0	1441	29	0
14	LL	1701	0	1818	29	0
15	LM	1138	0	1204	24	0
16	LN	1701	0	1749	21	0
17	LO	1650	0	1794	18	0
18	LP	1242	0	1269	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	LQ	1513	0	1628	16	0
20	LR	1566	0	1729	19	0
21	LS	1453	0	1490	13	0
22	LT	1298	0	1366	14	0
23	LU	825	0	850	10	0
24	LV	979	0	1039	18	0
25	LW	1015	0	1079	23	0
26	LX	985	0	1066	15	0
27	LY	1115	0	1205	18	0
28	LZ	1107	0	1182	24	0
29	La	1162	0	1213	19	0
30	Lb	876	0	948	15	0
31	Lc	764	0	804	11	0
32	Ld	888	0	930	10	0
33	Le	1053	0	1147	13	0
34	Lf	876	0	912	8	0
35	Lg	906	0	1000	10	0
36	Lh	1015	0	1148	14	0
37	Li	832	0	917	4	0
38	Lj	705	0	737	13	0
39	Lk	569	0	637	9	0
40	Ll	444	0	483	5	0
41	Lm	429	0	465	6	0
42	Ln	230	0	276	3	0
43	Lo	842	0	913	11	0
44	Lp	708	0	756	8	0
45	Lr	1002	0	1068	18	0
46	Lz	1741	0	1854	48	0
47	S2	36898	0	18603	476	0
48	SA	1741	0	1746	29	0
49	SB	1738	0	1809	39	0
50	SD	1765	0	1865	29	0
51	SE	2076	0	2177	30	0
52	SF	1461	0	1511	23	0
53	SH	1497	0	1590	32	0
54	SI	1686	0	1772	26	0
55	SK	827	0	854	23	0
56	SL	1247	0	1323	12	0
57	SP	1045	0	1095	35	0
58	SQ	1142	0	1213	28	0
59	SR	1090	0	1149	14	0
60	SS	1198	0	1261	34	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
61	ST	1112	0	1146	24	0
62	SU	821	0	883	25	0
63	SV	636	0	637	11	0
64	SX	1098	0	1167	18	0
65	Sa	821	0	870	13	0
66	Sc	506	0	536	12	0
67	Sd	459	0	450	14	0
68	Sg	2436	0	2393	71	0
69	SC	1725	0	1813	25	0
70	SG	1923	0	2089	41	0
71	SJ	1525	0	1640	31	0
72	SM	940	0	965	33	0
73	SN	1208	0	1294	20	0
74	SO	1049	0	1073	19	0
75	SW	1034	0	1080	15	0
76	SY	1065	0	1142	18	0
77	SZ	598	0	656	19	0
78	Sb	651	0	672	14	0
79	Se	459	0	503	8	0
80	Sf	548	0	550	18	0
81	CA	2764	0	2779	73	0
82	CC	1589	0	810	47	0
83	CE	613	0	625	13	0
84	L5	210	0	0	0	0
84	L7	3	0	0	0	0
84	L8	5	0	0	0	0
84	LA	1	0	0	0	0
84	LI	1	0	0	0	0
84	LP	1	0	0	0	0
84	LV	1	0	0	0	0
84	Le	2	0	0	0	0
84	Lg	1	0	0	0	0
84	Lj	1	0	0	0	0
84	S2	29	0	0	0	0
84	SG	1	0	0	0	0
85	Lg	1	0	0	0	0
85	Lj	1	0	0	0	0
85	Lm	1	0	0	0	0
85	Lo	1	0	0	0	0
85	Lp	1	0	0	0	0
85	Sa	1	0	0	0	0
85	Sd	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
85	Sf	1	0	0	0	0
All	All	222284	0	165481	2707	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 7.

All (2707) 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)
47:S2:834:C:N4	47:S2:839:C:H42	1.04	1.51
1:L5:1969:G:N2	1:L5:1999:A:C2	1.91	1.38
47:S2:834:C:H42	47:S2:839:C:N4	1.22	1.35
62:SU:19:ARG:O	62:SU:117:ALA:HA	1.34	1.23
81:CA:78:THR:HA	81:CA:109:ASP:O	1.37	1.22
1:L5:1443:A:C2	1:L5:2103:G:N1	2.07	1.20
1:L5:1443:A:N6	1:L5:2104:G:H21	1.42	1.17
1:L5:1443:A:H61	1:L5:2104:G:N2	1.42	1.17
1:L5:1175:A:H2	1:L5:1185:G:N1	1.46	1.12
81:CA:80:ILE:HA	81:CA:107:LYS:O	1.51	1.10
47:S2:1455:A:H61	47:S2:1471:C:N4	1.49	1.09
1:L5:1761:G:N2	1:L5:1768:C:C2	2.21	1.08
1:L5:3949:A:H62	1:L5:4064:C:N4	1.50	1.08
1:L5:3949:A:N6	1:L5:4064:C:H42	1.48	1.08
68:Sg:46:THR:O	68:Sg:52:TYR:HA	1.54	1.07
47:S2:1756:C:H42	47:S2:1776:G:N2	1.54	1.06
1:L5:1176:C:H42	1:L5:1184:A:N6	1.53	1.06
1:L5:1175:A:C2	1:L5:1185:G:N1	2.20	1.05
1:L5:1176:C:N4	1:L5:1184:A:H61	1.53	1.05
47:S2:834:C:N4	47:S2:839:C:N4	1.87	1.05
1:L5:962:C:N4	1:L5:1701:A:C2	2.26	1.03
47:S2:834:C:N3	47:S2:839:C:N3	2.06	1.02
1:L5:493:G:N1	1:L5:660:A:C2	2.27	1.02
1:L5:493:G:N1	1:L5:660:A:H2	1.56	1.02
1:L5:1762:C:N4	1:L5:1770:A:C2	2.28	1.01
31:Lc:20:LEU:O	31:Lc:24:SER:HB3	1.59	1.01
1:L5:1095:A:C2	1:L5:1200:G:N1	2.29	1.00
47:S2:533:A:H61	47:S2:550:C:N4	1.58	0.99
47:S2:1324:G:H1	47:S2:1504:U:H3	1.06	0.99
13:LJ:21:CYS:HB2	13:LJ:131:TYR:O	1.62	0.98
1:L5:1095:A:H2	1:L5:1200:G:N1	1.62	0.98
1:L5:1762:C:N4	1:L5:1770:A:H2	1.60	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1455:A:N6	47:S2:1471:C:H42	1.59	0.98
47:S2:1748:G:H1	47:S2:1786:U:H3	1.04	0.97
47:S2:140:C:N4	47:S2:313:A:H61	1.63	0.96
47:S2:1455:A:H61	47:S2:1471:C:H42	0.97	0.96
1:L5:1445:U:C2	1:L5:2102:G:O6	2.18	0.96
47:S2:925:G:H1	47:S2:1017:U:H3	0.98	0.95
1:L5:471:A:N6	1:L5:684:G:C2	2.35	0.95
47:S2:1609:C:N4	47:S2:1630:A:H61	1.65	0.94
1:L5:1443:A:H2	1:L5:2103:G:N1	1.55	0.94
47:S2:140:C:H42	47:S2:313:A:N6	1.64	0.94
1:L5:5016:A:H2	1:L5:5033:G:H21	1.01	0.94
82:CC:11:C:H42	82:CC:24:A:N6	1.65	0.94
15:LM:77:TRP:O	15:LM:81:ASP:HA	1.67	0.93
1:L5:512:U:H3	1:L5:647:G:H1	0.94	0.93
1:L5:1761:G:C2	1:L5:1768:C:C2	2.57	0.92
1:L5:5016:A:C2	1:L5:5033:G:N2	2.37	0.92
47:S2:1756:C:N4	47:S2:1776:G:H22	1.66	0.91
1:L5:2557:G:H1	1:L5:2570:U:H3	0.92	0.91
53:SH:163:GLN:O	53:SH:167:GLU:HB3	1.70	0.91
47:S2:1656:G:H1	47:S2:1668:U:H3	0.91	0.91
47:S2:1756:C:H42	47:S2:1776:G:H22	0.91	0.89
1:L5:493:G:H1	1:L5:660:A:H2	0.93	0.89
57:SP:24:GLN:O	57:SP:28:MET:HB2	1.73	0.88
47:S2:528:A:N1	47:S2:558:G:C6	2.41	0.88
1:L5:1445:U:O2	1:L5:2102:G:C6	2.27	0.88
47:S2:1609:C:H42	47:S2:1630:A:N6	1.72	0.88
1:L5:1755:C:H42	1:L5:1776:A:N6	1.72	0.88
47:S2:1609:C:H42	47:S2:1630:A:H61	1.18	0.87
1:L5:1761:G:C2	1:L5:1768:C:O2	2.28	0.87
47:S2:886:A:N6	47:S2:901:G:C4	2.43	0.86
47:S2:1529:C:O2	47:S2:1665:G:N2	2.07	0.86
5:LB:214:ASP:HA	5:LB:284:ILE:O	1.75	0.86
47:S2:1287:A:H62	47:S2:1312:G:H21	1.22	0.86
1:L5:1762:C:H42	1:L5:1770:A:H2	0.91	0.86
1:L5:1755:C:N4	1:L5:1776:A:H61	1.73	0.86
47:S2:748:C:H42	47:S2:795:A:N6	1.73	0.86
1:L5:2520:C:O2	1:L5:2640:G:N2	2.09	0.85
1:L5:1175:A:H2	1:L5:1185:G:H1	0.86	0.85
1:L5:4467:A:H61	1:L5:4490:C:H42	1.22	0.84
47:S2:1756:C:N4	47:S2:1775:U:C4	2.45	0.84
1:L5:1095:A:H2	1:L5:1200:G:H1	0.87	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LH:59:LYS:HE3	11:LH:66:GLU:HB3	1.59	0.83
82:CC:11:C:N4	82:CC:24:A:H61	1.75	0.83
11:LH:12:ILE:HB	11:LH:53:LYS:O	1.78	0.83
47:S2:1230:C:O2	47:S2:1665:G:N2	2.12	0.83
1:L5:1762:C:N3	1:L5:1770:A:N1	2.27	0.83
1:L5:4888:U:O2	1:L5:4931:G:N1	2.12	0.82
1:L5:184:U:O2	1:L5:254:G:C6	2.32	0.82
47:S2:533:A:N6	47:S2:550:C:H42	1.77	0.82
1:L5:1445:U:C2	1:L5:2102:G:C6	2.68	0.82
1:L5:1982:G:O6	1:L5:1989:G:C2	2.33	0.82
47:S2:886:A:N6	47:S2:901:G:C5	2.48	0.81
1:L5:5016:A:H2	1:L5:5033:G:N2	1.72	0.81
47:S2:912:C:C4	47:S2:914:U:C2	2.68	0.81
1:L5:1755:C:N4	1:L5:1776:A:N6	2.28	0.81
47:S2:694:G:O6	47:S2:737:G:N2	2.15	0.80
1:L5:1269:G:N2	1:L5:1441:C:C2	2.51	0.79
47:S2:533:A:N6	47:S2:550:C:N4	2.30	0.79
1:L5:3951:G:C2	1:L5:4062:A:C6	2.71	0.79
47:S2:1752:C:C4	47:S2:1779:G:N2	2.51	0.79
47:S2:1752:C:C2	47:S2:1779:G:N1	2.51	0.78
47:S2:1756:C:N4	47:S2:1775:U:N3	2.32	0.78
82:CC:12:G:N1	82:CC:24:A:C6	2.52	0.78
1:L5:1402:C:O2	1:L5:1415:G:N2	2.17	0.78
1:L5:1759:G:H1	1:L5:1773:U:H3	1.31	0.77
82:CC:15:A:N6	82:CC:47:C:O2	2.17	0.77
47:S2:532:C:C2	47:S2:552:G:C2	2.73	0.77
1:L5:3951:G:C2	1:L5:4062:A:N6	2.52	0.77
82:CC:11:C:H42	82:CC:24:A:H61	1.28	0.77
1:L5:1764:G:C2	1:L5:1770:A:N6	2.53	0.77
1:L5:3951:G:N3	1:L5:4062:A:N1	2.32	0.77
47:S2:39:A:H5'	71:SJ:7:TRP:HE1	1.50	0.77
47:S2:528:A:C2	47:S2:558:G:C6	2.73	0.77
47:S2:532:C:C2	47:S2:552:G:N2	2.52	0.76
81:CA:78:THR:CA	81:CA:109:ASP:O	2.28	0.76
1:L5:1174:G:H1	1:L5:1186:U:H3	1.33	0.76
1:L5:3949:A:N7	1:L5:4064:C:N3	2.33	0.76
53:SH:72:PHE:O	53:SH:76:GLN:HB2	1.86	0.76
48:SA:210:ILE:O	48:SA:214:GLU:HB2	1.86	0.76
1:L5:2483:G:H1	1:L5:2495:U:H3	1.28	0.75
1:L5:4139:G:H21	1:L5:4140:C:H41	1.35	0.75
1:L5:216:C:H5"	1:L5:219:G:H21	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1100:U:C2	1:L5:1195:G:N1	2.55	0.74
47:S2:1756:C:N3	47:S2:1776:G:N1	2.35	0.74
1:L5:1176:C:N3	1:L5:1184:A:N1	2.35	0.74
47:S2:1726:G:H1	47:S2:1808:U:H3	1.31	0.74
47:S2:885:U:H3	47:S2:901:G:H1	1.33	0.74
1:L5:2049:G:HO2'	1:L5:3884:U:HO2'	1.34	0.74
47:S2:834:C:O2	47:S2:839:C:O2	2.06	0.73
47:S2:878:G:O6	47:S2:908:A:N1	2.21	0.73
1:L5:1079:C:C2	1:L5:1221:G:N2	2.56	0.73
47:S2:696:G:H21	47:S2:737:G:H1	1.36	0.73
1:L5:1268:G:N7	30:Lb:111:ARG:NH2	2.36	0.73
47:S2:748:C:N4	47:S2:795:A:H61	1.87	0.73
47:S2:140:C:N3	47:S2:313:A:N1	2.37	0.73
1:L5:3960:A:N7	1:L5:4043:G:C6	2.57	0.73
47:S2:533:A:H61	47:S2:550:C:H42	1.30	0.73
55:SK:15:LEU:O	55:SK:19:GLY:HA2	1.88	0.73
62:SU:19:ARG:O	62:SU:117:ALA:CA	2.28	0.73
47:S2:694:G:O6	47:S2:737:G:C2	2.42	0.72
61:ST:124:THR:HG23	61:ST:127:GLY:H	1.53	0.72
1:L5:3955:G:N2	1:L5:3966:A:C5	2.57	0.72
47:S2:528:A:C2	47:S2:558:G:N1	2.57	0.72
50:SD:123:LEU:HD11	50:SD:152:PHE:HB3	1.71	0.72
47:S2:323:C:H2'	47:S2:327:G:H22	1.52	0.72
1:L5:1968:G:C2	1:L5:2020:U:O2	2.43	0.72
1:L5:3960:A:C6	1:L5:4043:G:O6	2.43	0.72
47:S2:532:C:O2	47:S2:552:G:C2	2.44	0.71
1:L5:3960:A:N6	1:L5:4043:G:O6	2.23	0.71
47:S2:1095:C:N3	47:S2:1149:A:N1	2.38	0.71
64:SX:101:LEU:HB3	64:SX:123:VAL:O	1.91	0.71
11:LH:44:GLU:HG2	11:LH:58:ASP:HB2	1.73	0.71
68:Sg:174:VAL:HB	68:Sg:188:HIS:HB2	1.72	0.71
47:S2:1752:C:C4	47:S2:1779:G:C2	2.79	0.71
47:S2:1609:C:N3	47:S2:1630:A:N1	2.37	0.71
73:SN:46:THR:H	73:SN:49:GLN:HE21	1.39	0.70
47:S2:694:G:O6	47:S2:737:G:N3	2.24	0.70
47:S2:140:C:H42	47:S2:313:A:H61	0.82	0.70
32:Ld:92:ARG:HB3	32:Ld:94:GLU:HG2	1.74	0.70
30:Lb:114:LYS:O	30:Lb:118:LEU:HB2	1.91	0.70
47:S2:748:C:N4	47:S2:795:A:N6	2.40	0.70
1:L5:3961:G:N2	1:L5:3965:A:C8	2.59	0.69
1:L5:4517:A:N7	5:LB:2:SER:N	2.40	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SK:53:LYS:HZ3	55:SK:60:GLU:H	1.39	0.69
1:L5:962:C:N3	1:L5:2095:A:C6	2.59	0.69
1:L5:2601:A:N6	1:L5:2744:A:OP2	2.25	0.69
1:L5:3955:G:C2	1:L5:3966:A:N7	2.60	0.69
47:S2:1:U:C2	47:S2:3:C:N4	2.61	0.69
1:L5:1095:A:N1	1:L5:1200:G:O6	2.25	0.69
1:L5:1100:U:H3	1:L5:1194:G:H1	1.39	0.69
10:LG:264:LYS:HE3	49:SB:225:LEU:HB3	1.73	0.69
69:SC:128:VAL:HG11	69:SC:155:ILE:HG22	1.75	0.69
33:Le:90:MET:HG2	45:Lr:33:LYS:HA	1.75	0.68
1:L5:2486:G:N7	1:L5:2493:G:N1	2.36	0.68
1:L5:4426:C:N4	1:L5:4427:G:C6	2.62	0.68
47:S2:1752:C:N3	47:S2:1779:G:N1	2.41	0.68
47:S2:1752:C:N3	47:S2:1779:G:C2	2.61	0.68
1:L5:1969:G:N2	1:L5:1999:A:N3	2.37	0.68
1:L5:4093:G:N1	1:L5:4114:C:C2	2.62	0.68
66:Sc:14:VAL:HG12	66:Sc:32:VAL:HG12	1.74	0.68
1:L5:3972:A:H61	46:Lz:103:LEU:HD13	1.56	0.68
47:S2:787:G:H5"	70:SG:234:LEU:HD22	1.75	0.68
57:SP:33:LEU:HA	57:SP:36:LEU:HB2	1.74	0.67
1:L5:2578:G:N7	28:LZ:17:ARG:NH1	2.42	0.67
55:SK:31:LYS:HZ1	55:SK:35:LEU:HB2	1.59	0.67
82:CC:12:G:C6	82:CC:24:A:N6	2.62	0.67
5:LB:356:LYS:O	5:LB:359:ALA:C	2.37	0.67
47:S2:563:G:H1	47:S2:592:C:H5	1.42	0.67
81:CA:118:ILE:HB	81:CA:190:LEU:HD21	1.74	0.67
1:L5:1764:G:N3	1:L5:1770:A:N6	2.42	0.67
1:L5:3589:G:N2	1:L5:3590:G:N7	2.43	0.67
29:La:76:ASP:N	29:La:76:ASP:OD1	2.27	0.67
1:L5:1269:G:N2	1:L5:1441:C:O2	2.28	0.67
1:L5:3967:G:N1	1:L5:4055:U:N3	2.43	0.67
1:L5:3944:G:H1	1:L5:4069:U:H3	1.42	0.67
21:LS:77:ASN:HB2	21:LS:132:ILE:O	1.95	0.67
39:Lk:12:LEU:HD12	39:Lk:16:ARG:HH21	1.60	0.67
47:S2:1192:U:OP2	64:SX:119:ARG:NH2	2.26	0.67
1:L5:1759:G:O6	1:L5:1773:U:O4	2.13	0.67
65:Sa:45:VAL:HG21	65:Sa:64:LEU:HB3	1.75	0.67
47:S2:419:G:H4'	75:SW:88:LYS:HE2	1.77	0.66
81:CA:209:GLN:O	81:CA:213:HIS:HB2	1.95	0.66
12:LI:52:MET:HB2	12:LI:152:LEU:HD22	1.77	0.66
12:LI:156:LYS:HG3	12:LI:163:GLN:HB2	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LT:43:LYS:O	22:LT:58:HIS:ND1	2.29	0.66
82:CC:11:C:N3	82:CC:24:A:N1	2.42	0.66
70:SG:70:HIS:HA	70:SG:98:ARG:HH12	1.61	0.66
28:LZ:13:VAL:O	28:LZ:20:GLY:N	2.29	0.66
46:Lz:50:SER:HA	46:Lz:159:MET:HB3	1.78	0.66
47:S2:693:A:N6	47:S2:737:G:C6	2.64	0.66
69:SC:70:VAL:HG11	69:SC:93:ILE:HG12	1.76	0.66
1:L5:3839:G:N2	1:L5:3843:C:O2	2.23	0.66
1:L5:3951:G:N1	1:L5:4060:U:N3	2.43	0.66
1:L5:4907:G:N2	1:L5:4914:C:O2	2.19	0.66
25:LW:71:ARG:HH22	47:S2:1783:C:H42	1.42	0.66
1:L5:468:U:C4	1:L5:686:A:N1	2.64	0.66
1:L5:387:G:HO2'	1:L5:412:G:H1	1.43	0.66
1:L5:3961:G:N2	1:L5:3965:A:N7	2.44	0.66
46:Lz:17:VAL:HG11	46:Lz:180:VAL:HG12	1.78	0.66
82:CC:26:A:N6	82:CC:45:G:H1	1.93	0.66
1:L5:457:G:C6	1:L5:700:G:N1	2.64	0.65
1:L5:1656:U:OP2	29:La:26:ARG:NH2	2.29	0.65
1:L5:493:G:O6	1:L5:660:A:N1	2.30	0.65
1:L5:1269:G:N2	1:L5:1440:U:O2	2.29	0.65
1:L5:1982:G:C6	1:L5:1989:G:C2	2.85	0.65
1:L5:1982:G:C6	1:L5:1989:G:N2	2.65	0.65
43:Lo:61:LYS:HD2	43:Lo:87:ARG:HH12	1.61	0.65
7:LD:191:ASN:HD22	7:LD:194:VAL:HG12	1.61	0.65
10:LG:180:PRO:HG3	10:LG:219:VAL:HG23	1.78	0.65
11:LH:12:ILE:HD13	11:LH:18:ILE:HG21	1.78	0.65
81:CA:122:ALA:HB3	81:CA:320:LYS:HB3	1.78	0.65
81:CA:156:LEU:HD13	81:CA:165:GLN:HE22	1.61	0.65
11:LH:106:GLN:HB2	11:LH:111:LEU:HB3	1.77	0.65
27:LY:39:ARG:O	27:LY:42:TYR:O	2.15	0.65
47:S2:912:C:N4	47:S2:914:U:N3	2.44	0.65
47:S2:1261:C:O2	67:Sd:10:HIS:NE2	2.29	0.65
1:L5:4052:C:H1'	46:Lz:209:THR:HA	1.79	0.65
47:S2:1307:U:HO2'	80:Sf:135:HIS:HD1	1.45	0.65
81:CA:246:ILE:HB	81:CA:305:PHE:HB2	1.78	0.65
1:L5:1764:G:C4	1:L5:1770:A:N6	2.65	0.64
47:S2:1658:G:OP2	47:S2:1660:C:N4	2.31	0.64
1:L5:182:G:N2	1:L5:255:C:O2'	2.30	0.64
10:LG:118:ALA:HA	10:LG:121:LYS:HD2	1.77	0.64
47:S2:928:G:H1	47:S2:1013:U:H3	1.46	0.64
72:SM:42:LEU:HD11	72:SM:68:LEU:HD12	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Lp:56:HIS:HD2	44:Lp:63:THR:HB	1.63	0.64
13:LJ:115:LEU:HD12	13:LJ:116:GLY:HA2	1.79	0.64
47:S2:955:A:N6	47:S2:971:G:O2'	2.30	0.64
81:CA:181:PRO:HB2	81:CA:204:ASN:HB2	1.78	0.64
1:L5:4092:G:N7	1:L5:4114:C:N4	2.45	0.64
1:L5:260:C:H2'	1:L5:261:G:H8	1.62	0.64
1:L5:3971:G:C6	1:L5:4050:A:C5	2.85	0.64
1:L5:4054:C:N3	46:Lz:35:GLN:NE2	2.46	0.64
4:LA:14:SER:HA	4:LA:17:ARG:HE	1.63	0.64
11:LH:120:GLU:OE2	11:LH:124:ARG:NH2	2.31	0.64
60:SS:141:ARG:O	60:SS:144:ARG:C	2.41	0.64
1:L5:2611:A:H5'	1:L5:2688:G:H4'	1.80	0.64
8:LE:177:GLY:HA3	8:LE:184:VAL:HB	1.79	0.64
24:LV:13:LYS:HD3	24:LV:128:LEU:HD11	1.80	0.64
53:SH:144:ILE:HG23	75:SW:52:ILE:HB	1.80	0.64
81:CA:158:LYS:HE3	81:CA:159:PRO:HD2	1.80	0.64
16:LN:120:TRP:HE1	16:LN:123:GLU:HG3	1.62	0.64
1:L5:199:G:C8	1:L5:237:G:C2	2.86	0.63
47:S2:874:G:H2'	47:S2:875:A:H8	1.64	0.63
1:L5:2483:G:N1	1:L5:2495:U:N3	2.38	0.63
26:LX:129:ARG:O	26:LX:132:GLY:N	2.30	0.63
82:CC:26:A:N6	82:CC:45:G:N1	2.46	0.63
1:L5:2554:U:O2	1:L5:2764:A:N7	2.31	0.63
1:L5:4250:G:H5"	13:LJ:98:ASN:HD22	1.62	0.63
72:SM:128:PHE:O	72:SM:132:LYS:HB2	1.99	0.63
1:L5:962:C:C4	1:L5:1701:A:N1	2.65	0.63
1:L5:2295:C:O2	6:LC:45:ARG:NH2	2.32	0.63
1:L5:4646:U:OP2	20:LR:62:ARG:NH2	2.32	0.63
48:SA:71:PRO:HB3	48:SA:186:ARG:HH12	1.63	0.63
46:Lz:60:ARG:H	46:Lz:171:HIS:HB2	1.63	0.63
51:SE:126:VAL:O	51:SE:157:ASN:HA	1.98	0.63
8:LE:141:ARG:HG3	8:LE:191:GLN:HE21	1.62	0.63
5:LB:322:HIS:O	5:LB:342:LYS:NZ	2.31	0.63
46:Lz:29:LEU:HD22	46:Lz:173:LYS:HE2	1.79	0.63
1:L5:1761:G:N1	1:L5:1768:C:N3	2.47	0.63
1:L5:1100:U:O2	1:L5:1195:G:C2	2.51	0.63
1:L5:1187:G:N2	1:L5:1187:G:OP2	2.32	0.63
1:L5:3689:G:O2'	1:L5:3818:U:OP2	2.17	0.63
47:S2:1396:A:N7	47:S2:1449:G:O6	2.32	0.63
47:S2:1541:G:N3	61:ST:12:GLN:NE2	2.46	0.63
1:L5:4100:C:N3	1:L5:4111:U:O4	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SA:81:ASN:HA	48:SA:84:GLN:HB2	1.81	0.62
81:CA:203:GLN:HE22	81:CA:229:LEU:H	1.45	0.62
1:L5:1094:G:H1	1:L5:1201:U:H3	1.47	0.62
36:Lh:4:ILE:HD11	36:Lh:53:SER:HB2	1.81	0.62
47:S2:940:U:H3	47:S2:1002:U:H3	1.46	0.62
49:SB:107:ARG:NH2	74:SO:133:THR:O	2.31	0.62
1:L5:2468:U:O2'	1:L5:2506:G:N2	2.32	0.62
1:L5:3659:G:OP1	4:LA:241:ARG:NH1	2.32	0.62
1:L5:3955:G:C2	1:L5:3966:A:C5	2.88	0.62
25:LW:73:ARG:NH1	47:S2:1781:A:OP2	2.32	0.62
47:S2:888:U:H2'	47:S2:900:C:H42	1.64	0.62
68:Sg:46:THR:OG1	68:Sg:51:ASN:O	2.17	0.62
81:CA:162:GLN:HB3	81:CA:215[A]:LYS:HZ1	1.65	0.62
1:L5:471:A:N6	1:L5:684:G:N2	2.46	0.62
1:L5:962:C:N3	1:L5:1701:A:N1	2.47	0.62
1:L5:499:G:H2'	1:L5:504:G:H1	1.64	0.62
47:S2:1228:A:H2'	47:S2:1229:G:H8	1.63	0.62
53:SH:30:LEU:O	53:SH:33:ASN:ND2	2.32	0.62
1:L5:3971:G:O6	1:L5:4050:A:N7	2.33	0.62
47:S2:1302:G:H1	47:S2:1307:U:H3	1.47	0.62
47:S2:1550:G:H3'	47:S2:1579:A:H61	1.65	0.62
1:L5:1396:G:N7	29:La:110:LYS:NZ	2.46	0.62
48:SA:38:ILE:HD11	48:SA:47:TYR:HB3	1.82	0.62
1:L5:1401:C:O2	1:L5:1416:G:N2	2.18	0.62
1:L5:2696:A:N1	39:Lk:24:LYS:NZ	2.46	0.62
79:Se:37:GLN:HA	79:Se:40:ARG:HG2	1.82	0.62
80:Sf:133:ALA:H	80:Sf:140:TYR:H	1.46	0.62
82:CC:22:U:OP2	82:CC:46:A:N6	2.33	0.62
1:L5:4371:G:H5'	82:CC:75:A:H62	1.65	0.62
46:Lz:198:TRP:CH2	46:Lz:202:ARG:HB2	2.35	0.62
76:SY:102:THR:O	76:SY:107:ARG:NH1	2.33	0.62
1:L5:1968:G:N2	1:L5:2020:U:O2	2.33	0.61
20:LR:3:MET:HE3	20:LR:5:ARG:HB2	1.82	0.61
27:LY:31:SER:HA	27:LY:48:PRO:HA	1.82	0.61
31:Lc:37:MET:SD	31:Lc:40:GLN:NE2	2.73	0.61
48:SA:177:MET:SD	48:SA:180:ARG:NH2	2.72	0.61
7:LD:62:CYS:HB3	7:LD:105:LEU:HD22	1.81	0.61
47:S2:678:U:OP1	73:SN:127:ARG:NH1	2.33	0.61
47:S2:878:G:H1	47:S2:908:A:H2	1.47	0.61
50:SD:131:ALA:HA	50:SD:191:PRO:HD3	1.82	0.61
60:SS:3:LEU:HG	60:SS:4:VAL:HG23	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Sa:52:ASP:OD2	65:Sa:52:ASP:N	2.32	0.61
1:L5:4467:A:N1	1:L5:4490:C:N3	2.48	0.61
46:Lz:141:ASN:OD1	46:Lz:143:ASN:ND2	2.33	0.61
1:L5:1175:A:N1	1:L5:1185:G:O6	2.33	0.61
1:L5:1618:G:OP1	38:Lj:13:ASN:ND2	2.34	0.61
1:L5:1952:G:H4'	21:LS:93:MET:HG3	1.81	0.61
47:S2:831:G:N7	76:SY:11:LYS:NZ	2.45	0.61
1:L5:502:C:H3'	1:L5:503:C:H3'	1.81	0.61
1:L5:1969:G:N2	1:L5:1999:A:N1	2.45	0.61
1:L5:4093:G:N1	1:L5:4114:C:N3	2.48	0.61
3:L8:60:G:N2	3:L8:96:C:O2	2.29	0.61
81:CA:75:ALA:HB2	81:CA:113:HIS:HB3	1.82	0.61
1:L5:194:C:O2	27:LY:121:ARG:NH2	2.33	0.61
4:LA:137:ILE:HD11	4:LA:149:LYS:HB2	1.83	0.61
46:Lz:185:LEU:O	46:Lz:189:PHE:HB2	2.00	0.61
47:S2:880:G:O6	47:S2:906:U:O4	2.18	0.61
68:Sg:152:SER:H	68:Sg:169:GLY:HA2	1.65	0.61
77:SZ:47:LEU:HD23	77:SZ:79:ILE:HG13	1.82	0.61
1:L5:3661:G:N7	4:LA:152:SER:OG	2.33	0.61
12:LI:77:VAL:HG21	83:CE:81:LEU:HD21	1.83	0.61
47:S2:1657:G:H1	47:S2:1667:U:H3	1.46	0.61
73:SN:99:ARG:NH2	73:SN:119:GLU:OE2	2.32	0.61
1:L5:1982:G:O6	1:L5:1989:G:N1	2.34	0.61
1:L5:1968:G:OP2	1:L5:1970:A:N6	2.32	0.61
1:L5:2848:G:O2'	1:L5:3838:U:O4	2.17	0.61
1:L5:3946:G:N3	1:L5:3947:A:N6	2.49	0.61
41:Lm:95:ILE:HA	41:Lm:101:ALA:O	2.00	0.61
1:L5:1175:A:H2	1:L5:1185:G:C2	2.17	0.60
1:L5:1404:G:N7	1:L5:1408:G:N2	2.49	0.60
1:L5:3751:G:H21	1:L5:3775:A:H8	1.49	0.60
1:L5:3765:G:O2'	1:L5:3767:C:N4	2.33	0.60
5:LB:220:ILE:HG12	5:LB:278:THR:HG23	1.83	0.60
47:S2:1700:C:N3	47:S2:1834:A:N1	2.49	0.60
72:SM:53:ALA:HA	72:SM:79:VAL:O	2.00	0.60
82:CC:12:G:N1	82:CC:24:A:N6	2.48	0.60
1:L5:2484:A:C5	1:L5:2495:U:O2	2.54	0.60
1:L5:2520:C:H2'	1:L5:2521:G:H8	1.66	0.60
1:L5:4623:G:OP1	5:LB:19:ARG:NH2	2.33	0.60
23:LU:17:GLN:N	23:LU:75:GLU:OE1	2.34	0.60
33:Le:26:ASP:OD1	33:Le:26:ASP:N	2.34	0.60
33:Le:45:VAL:HG12	33:Le:52:GLN:HB3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:94:G:HO2'	47:S2:508:A:HO2'	1.48	0.60
58:SQ:11:GLN:HA	58:SQ:23:ALA:O	2.01	0.60
71:SJ:122:SER:O	71:SJ:125:HIS:N	2.34	0.60
1:L5:1993:C:C4	1:L5:2002:A:C5	2.89	0.60
1:L5:3711:A:H2'	1:L5:3712:A:H8	1.66	0.60
15:LM:41:PRO:HG3	15:LM:73:VAL:HG23	1.81	0.60
47:S2:555:A:C6	47:S2:557:U:N3	2.69	0.60
47:S2:1287:A:H62	47:S2:1312:G:N2	1.95	0.60
47:S2:1661:A:OP1	67:Sd:19:ARG:NH1	2.33	0.60
1:L5:513:U:N3	1:L5:516:C:OP2	2.34	0.60
1:L5:2469:C:H5	1:L5:2471:G:H1	1.50	0.60
1:L5:4467:A:N6	1:L5:4490:C:H42	1.97	0.60
5:LB:14:LEU:HD23	5:LB:17:LEU:HD21	1.84	0.60
14:LL:48:PRO:HG3	36:Lh:118:LYS:HE3	1.81	0.60
1:L5:1761:G:C6	1:L5:1772:C:N3	2.69	0.60
1:L5:1764:G:N3	1:L5:1770:A:C6	2.69	0.60
1:L5:2406:G:N7	40:Ll:2:SER:N	2.49	0.60
25:LW:105:ARG:NH2	70:SG:151:ASP:OD1	2.34	0.60
60:SS:26:ILE:HD11	60:SS:54:LYS:HG3	1.84	0.60
1:L5:1259:G:H2'	1:L5:1260:G:H8	1.66	0.60
1:L5:2020:U:H2'	1:L5:2021:G:H8	1.65	0.60
1:L5:2637:U:HO2'	1:L5:2718:U:HO2'	1.49	0.60
9:LF:238:ASP:N	9:LF:238:ASP:OD1	2.30	0.60
49:SB:129:THR:HG23	49:SB:131:ASP:H	1.66	0.60
3:L8:96:C:OP1	36:Lh:70:ARG:NH1	2.35	0.60
13:LJ:96:LYS:HG3	13:LJ:176:PRO:HD2	1.84	0.60
1:L5:1970:A:O2'	1:L5:2017:A:N7	2.33	0.60
55:SK:3:MET:H	55:SK:44:HIS:HE1	1.50	0.60
71:SJ:87:LEU:HD13	71:SJ:100:LEU:HD21	1.84	0.60
32:Ld:64:ILE:HG23	32:Ld:68:LEU:HD23	1.84	0.59
53:SH:53:VAL:O	53:SH:57:ARG:HB2	2.02	0.59
62:SU:80:PHE:HB3	67:Sd:52:PHE:HB3	1.84	0.59
1:L5:188:G:N2	1:L5:190:G:O6	2.35	0.59
1:L5:1100:U:O3'	1:L5:1167:C:N4	2.35	0.59
1:L5:2658:G:N2	1:L5:2676:A:OP2	2.33	0.59
1:L5:2756:G:O6	28:LZ:51:ARG:NH2	2.31	0.59
1:L5:3960:A:C5	1:L5:4043:G:O6	2.55	0.59
1:L5:4985:U:O2	5:LB:174:ARG:NH1	2.34	0.59
16:LN:124:ASP:HB3	16:LN:127:TYR:H	1.67	0.59
52:SF:135:ARG:N	82:CC:33:U:OP2	2.35	0.59
1:L5:257:C:H2'	1:L5:258:G:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1872:G:O2'	1:L5:4219:A:N3	2.35	0.59
1:L5:4301:U:OP2	1:L5:4303:C:N4	2.35	0.59
5:LB:356:LYS:O	5:LB:359:ALA:O	2.21	0.59
12:LI:150:GLU:OE2	12:LI:153:ARG:NH1	2.35	0.59
58:SQ:97:GLN:HB3	58:SQ:105:LYS:HG3	1.84	0.59
70:SG:181:THR:HG22	70:SG:183:ARG:H	1.68	0.59
9:LF:157:ARG:HE	9:LF:248:ASN:HB2	1.67	0.59
15:LM:119:ARG:HE	17:LO:193:THR:HG22	1.66	0.59
47:S2:377:G:H5'	54:SI:98:LYS:HB3	1.85	0.59
61:ST:42:HIS:HB2	61:ST:83:GLN:HB2	1.85	0.59
68:Sg:87:LEU:HB2	68:Sg:101:PHE:HB2	1.85	0.59
1:L5:1095:A:N1	1:L5:1200:G:C6	2.71	0.59
1:L5:1819:G:H1'	7:LD:115:MET:HE1	1.83	0.59
1:L5:2483:G:N2	1:L5:2495:U:O2	2.34	0.59
1:L5:3969:G:O2'	1:L5:4054:C:N4	2.35	0.59
18:LP:73:ALA:O	18:LP:76:TRP:O	2.20	0.59
82:CC:32:C:H41	82:CC:35:U:H5"	1.67	0.59
1:L5:2092:G:O2'	1:L5:2262:G:N2	2.35	0.59
5:LB:117:ARG:HG2	5:LB:180:LEU:HD13	1.85	0.59
11:LH:171:ASP:O	11:LH:174:LYS:O	2.20	0.59
47:S2:197:U:OP2	47:S2:203:G:N2	2.34	0.59
52:SF:143:PRO:HA	52:SF:146:ARG:HG2	1.84	0.59
1:L5:75:G:O2'	14:LL:101:ARG:NH1	2.35	0.59
69:SC:68:ARG:HG2	69:SC:277:HIS:HB2	1.84	0.59
80:Sf:141:CYS:O	80:Sf:145:CYS:HA	2.01	0.59
1:L5:3604:A:OP2	20:LR:71:ARG:NH2	2.36	0.59
14:LL:64:VAL:HA	14:LL:67:HIS:CD2	2.38	0.59
38:Lj:54:LYS:O	38:Lj:58:THR:HB	2.01	0.59
47:S2:880:G:O6	47:S2:906:U:C4	2.56	0.59
49:SB:47:THR:OG1	49:SB:65:ARG:NH2	2.36	0.59
68:Sg:212:LYS:HA	68:Sg:235:ILE:HG13	1.85	0.59
73:SN:45:LEU:HB3	73:SN:49:GLN:HG3	1.84	0.59
81:CA:352:ALA:HA	81:CA:355:LYS:HG2	1.85	0.59
1:L5:1443:A:C2	1:L5:2103:G:C6	2.88	0.59
7:LD:41:LYS:NZ	22:LT:32:ARG:O	2.36	0.59
47:S2:170:A:OP2	70:SG:140:ARG:NH1	2.35	0.59
47:S2:532:C:N3	47:S2:552:G:N1	2.50	0.59
53:SH:80:VAL:HG23	53:SH:92:VAL:HB	1.83	0.59
58:SQ:43:GLU:O	58:SQ:45:ARG:N	2.36	0.59
68:Sg:23:THR:HG21	68:Sg:292:SER:HA	1.83	0.59
80:Sf:133:ALA:O	80:Sf:139:HIS:ND1	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:CA:8:GLN:O	81:CA:10:GLN:NE2	2.36	0.59
81:CA:156:LEU:HD11	81:CA:166:VAL:HG22	1.83	0.59
1:L5:1270:A:H8	1:L5:2106:G:H21	1.50	0.59
1:L5:1328:G:O2'	1:L5:2349:A:OP1	2.21	0.59
1:L5:1999:A:H2	1:L5:2019:C:O2	1.86	0.59
1:L5:2484:A:C6	1:L5:2495:U:C2	2.91	0.59
1:L5:4242:U:H3	1:L5:4281:A:H2	1.51	0.59
4:LA:102:LEU:HB2	4:LA:107:MET:HE3	1.84	0.58
11:LH:113:GLU:HG2	11:LH:125:ARG:HG2	1.85	0.58
47:S2:29:G:OP1	64:SX:124:LYS:NZ	2.30	0.58
1:L5:468:U:N3	1:L5:686:A:N6	2.51	0.58
1:L5:468:U:C2	1:L5:686:A:N6	2.70	0.58
34:Lf:37:ASP:N	34:Lf:37:ASP:OD1	2.29	0.58
82:CC:17:G:O2'	82:CC:56:G:N2	2.36	0.58
6:LC:212:ASN:ND2	6:LC:213:GLU:OE1	2.36	0.58
25:LW:77:LYS:HB3	25:LW:79:GLN:HE22	1.68	0.58
47:S2:846:G:OP1	51:SE:106:LYS:NZ	2.35	0.58
81:CA:339:GLU:HG3	81:CA:342:LEU:H	1.69	0.58
1:L5:2483:G:O6	1:L5:2495:U:O4	2.22	0.58
1:L5:2484:A:N6	1:L5:2495:U:C2	2.72	0.58
13:LJ:51:SER:HB3	13:LJ:69:ALA:HB3	1.86	0.58
32:Ld:54:MET:O	32:Ld:57:MET:O	2.21	0.58
47:S2:528:A:N1	47:S2:558:G:O6	2.37	0.58
51:SE:44:LEU:HD21	51:SE:72:ILE:HD11	1.85	0.58
53:SH:12:ASN:ND2	53:SH:16:PRO:O	2.36	0.58
1:L5:3966:A:HO2'	1:L5:4049:U:H3	1.47	0.58
12:LI:77:VAL:HG23	12:LI:82:ARG:HA	1.86	0.58
41:Lm:98:LYS:HD2	41:Lm:118:THR:HG21	1.85	0.58
47:S2:1563:G:OP1	61:ST:121:ARG:NH2	2.36	0.58
50:SD:101:GLN:HG3	50:SD:126:ILE:HD11	1.86	0.58
12:LI:209:TRP:O	12:LI:212:LEU:O	2.20	0.58
25:LW:80:ARG:NH2	70:SG:129:VAL:O	2.37	0.58
59:SR:90:ALA:O	59:SR:93:GLN:NE2	2.36	0.58
82:CC:12:G:C2	82:CC:24:A:N1	2.72	0.58
1:L5:1493:G:OP2	30:Lb:44:ARG:NH1	2.36	0.58
1:L5:2318:G:O6	33:Le:19:LYS:NZ	2.34	0.58
13:LJ:18:ARG:HG3	13:LJ:135:GLY:HA3	1.85	0.58
47:S2:191:A:OP1	54:SI:141:ARG:NH2	2.36	0.58
47:S2:1536:G:H2'	47:S2:1537:A:H8	1.67	0.58
1:L5:1703:C:O2'	9:LF:39:GLN:NE2	2.37	0.58
25:LW:1:MET:HG2	25:LW:15:PRO:HG3	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:922:A:OP1	75:SW:28:ARG:NH2	2.36	0.58
82:CC:9:A:O2'	82:CC:10:G:N7	2.36	0.58
1:L5:1100:U:N3	1:L5:1195:G:N1	2.52	0.58
70:SG:59:GLN:OE1	70:SG:72:ARG:NH2	2.36	0.58
71:SJ:111:GLN:HE21	71:SJ:123:ILE:HG12	1.68	0.58
1:L5:1697:G:N2	1:L5:2084:C:OP2	2.37	0.58
30:Lb:8:THR:HG22	30:Lb:10:HIS:H	1.69	0.58
31:Lc:47:ILE:HG12	31:Lc:72:HIS:HB3	1.86	0.58
50:SD:197:LYS:HG3	50:SD:198:ILE:HG23	1.85	0.58
68:Sg:286:CYS:HA	68:Sg:302:TYR:HA	1.86	0.58
1:L5:184:U:O2	1:L5:254:G:O6	2.21	0.57
1:L5:2875:C:OP1	44:Lp:23:ARG:NH2	2.37	0.57
5:LB:50:LYS:HB2	5:LB:345:LEU:HD11	1.86	0.57
8:LE:224:LYS:NZ	8:LE:234:ASP:OD2	2.37	0.57
47:S2:54:A:OP1	76:SY:111:LYS:NZ	2.36	0.57
47:S2:886:A:C6	47:S2:901:G:C4	2.92	0.57
50:SD:74:GLN:NE2	50:SD:79:PHE:O	2.37	0.57
68:Sg:14:HIS:HE1	68:Sg:18:VAL:HG22	1.69	0.57
68:Sg:283:PRO:O	68:Sg:285:GLN:NE2	2.37	0.57
1:L5:457:G:C6	1:L5:700:G:C6	2.91	0.57
11:LH:31:ARG:NH1	11:LH:149:ASN:OD1	2.35	0.57
42:Ln:10:MET:HE2	47:S2:1172:U:H4'	1.85	0.57
57:SP:123:TYR:OH	60:SS:124:ARG:NH1	2.37	0.57
82:CC:13:U:H2'	82:CC:14:A:H8	1.67	0.57
1:L5:1532:G:OP2	38:Lj:31:LYS:NZ	2.33	0.57
1:L5:1982:G:C6	1:L5:1989:G:N1	2.72	0.57
47:S2:912:C:N3	47:S2:914:U:O2	2.37	0.57
47:S2:1288:U:O4	47:S2:1311:C:N3	2.37	0.57
47:S2:1636:G:H5"	47:S2:1637:A:H5'	1.84	0.57
49:SB:149:GLN:HE22	49:SB:154:SER:HB3	1.68	0.57
70:SG:142:ARG:HB2	70:SG:147:LEU:HB2	1.87	0.57
1:L5:977:C:OP2	8:LE:59:ARG:NH2	2.33	0.57
1:L5:1100:U:N3	1:L5:1195:G:C6	2.72	0.57
1:L5:2431:A:OP1	40:Ll:41:ARG:NH1	2.37	0.57
1:L5:2899:C:OP1	20:LR:108:ARG:NH2	2.34	0.57
1:L5:4054:C:H1'	46:Lz:207:LYS:HD3	1.86	0.57
7:LD:120:GLU:O	7:LD:248:ARG:NH1	2.37	0.57
10:LG:103:ARG:NH2	10:LG:192:ARG:O	2.37	0.57
50:SD:55:THR:HA	50:SD:58:VAL:HG12	1.85	0.57
52:SF:35:LEU:O	52:SF:39:ILE:HB	2.04	0.57
1:L5:4088:C:OP1	4:LA:37:ARG:NH1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4112:C:N4	1:L5:4113:U:C4	2.72	0.57
7:LD:126:THR:OG1	7:LD:128:ASP:OD1	2.22	0.57
14:LL:170:THR:OG1	14:LL:173:GLU:OE2	2.23	0.57
47:S2:912:C:N4	47:S2:914:U:C2	2.72	0.57
47:S2:1147:C:OP1	65:Sa:6:ARG:NH1	2.37	0.57
47:S2:1417:C:N3	47:S2:1422:G:O6	2.37	0.57
47:S2:1566:G:OP2	61:ST:102:ARG:NH1	2.37	0.57
1:L5:3971:G:N1	1:L5:4050:A:C5	2.72	0.57
1:L5:4219:A:OP2	22:LT:2:THR:OG1	2.21	0.57
1:L5:4996:C:OP1	32:Ld:32:ARG:NH1	2.31	0.57
11:LH:95:VAL:HG22	41:Lm:82:LEU:HB3	1.87	0.57
28:LZ:21:ARG:NH1	28:LZ:47:ASP:O	2.37	0.57
74:SO:67:ASP:OD1	74:SO:67:ASP:N	2.36	0.57
12:LI:209:TRP:O	12:LI:212:LEU:C	2.48	0.57
17:LO:58:LEU:HD21	17:LO:74:ARG:HH12	1.68	0.57
24:LV:87:SER:OG	25:LW:19:ARG:NH2	2.38	0.57
47:S2:1120:U:OP1	78:Sb:72:ARG:NH2	2.38	0.57
47:S2:1756:C:C4	47:S2:1775:U:N3	2.73	0.57
1:L5:171:U:H5"	1:L5:172:C:H5	1.70	0.57
3:L8:67:U:H5"	38:Lj:86:PRO:HA	1.87	0.57
15:LM:50:MET:HE2	15:LM:55:MET:HE2	1.86	0.57
46:Lz:23:ARG:NH2	46:Lz:174:MET:O	2.38	0.57
47:S2:1550:G:O2'	47:S2:1558:C:O2	2.23	0.57
1:L5:132:G:N2	1:L5:136:C:O2'	2.36	0.57
1:L5:4472:G:O2'	41:Lm:100:TYR:O	2.22	0.57
45:Lr:51:VAL:HG12	45:Lr:62:VAL:HG22	1.87	0.57
47:S2:1332:A:O2'	50:SD:145:GLN:NE2	2.37	0.57
50:SD:94:ARG:O	50:SD:101:GLN:NE2	2.37	0.57
1:L5:1686:C:O2'	30:Lb:18:ARG:NH2	2.37	0.57
1:L5:4467:A:H61	1:L5:4490:C:N4	1.99	0.57
11:LH:186:THR:O	11:LH:189:GLN:NE2	2.38	0.57
47:S2:951:C:O2'	74:SO:50:LYS:NZ	2.38	0.57
49:SB:175:GLU:O	49:SB:179:ASN:ND2	2.38	0.57
61:ST:38:LYS:NZ	61:ST:43:LYS:O	2.34	0.57
5:LB:10:ARG:NH2	5:LB:11:HIS:O	2.38	0.56
5:LB:83:PRO:O	5:LB:167:GLN:NE2	2.37	0.56
8:LE:101:ASN:OD1	8:LE:105:ARG:NH2	2.38	0.56
11:LH:48:LEU:HD12	11:LH:54:ARG:HG3	1.87	0.56
47:S2:1634:A:O2'	60:SS:142:ARG:NH2	2.38	0.56
48:SA:84:GLN:HG2	48:SA:100:ALA:HB1	1.87	0.56
68:Sg:40:ILE:HB	68:Sg:59:LEU:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1068:G:H2'	1:L5:1069:G:C8	2.40	0.56
1:L5:1171:G:N7	1:L5:1172:C:N4	2.52	0.56
1:L5:1443:A:H2	1:L5:2103:G:C2	2.20	0.56
1:L5:3680:U:OP1	4:LA:54:ARG:NH2	2.31	0.56
1:L5:4076:G:OP1	10:LG:73:ARG:NE	2.33	0.56
47:S2:533:A:N1	47:S2:550:C:N3	2.53	0.56
1:L5:468:U:N3	1:L5:686:A:C6	2.74	0.56
1:L5:493:G:C6	1:L5:660:A:N1	2.73	0.56
1:L5:962:C:C4	1:L5:1701:A:C2	2.93	0.56
1:L5:1982:G:H4'	1:L5:2009:A:H4'	1.85	0.56
1:L5:2395:A:HO2'	1:L5:2806:A:HO2'	1.51	0.56
1:L5:4415:A:OP1	12:LI:154:ARG:NH2	2.37	0.56
24:LV:109:LYS:NZ	24:LV:111:GLU:OE2	2.38	0.56
44:Lp:38:THR:HA	44:Lp:45:THR:HA	1.85	0.56
57:SP:18:ARG:NH1	57:SP:36:LEU:O	2.37	0.56
62:SU:95:SER:HA	62:SU:98:VAL:HG22	1.88	0.56
65:Sa:22:ARG:NH1	74:SO:145:GLY:O	2.38	0.56
76:SY:53:ASP:OD1	76:SY:53:ASP:N	2.37	0.56
1:L5:512:U:O4	1:L5:647:G:O6	2.22	0.56
1:L5:989:U:O2	1:L5:1064:G:O6	2.23	0.56
1:L5:1563:A:N6	47:S2:1028:A:N1	2.52	0.56
5:LB:170:LEU:O	5:LB:328:ASN:ND2	2.38	0.56
5:LB:378:ARG:HG2	25:LW:32:LEU:HD21	1.87	0.56
9:LF:86:GLU:HG3	22:LT:135:PRO:HB3	1.87	0.56
15:LM:90:ARG:HA	15:LM:93:LYS:HG2	1.87	0.56
72:SM:89:VAL:HG11	72:SM:109:VAL:HG21	1.86	0.56
1:L5:3971:G:C5	1:L5:4050:A:N6	2.74	0.56
50:SD:53:THR:O	50:SD:90:LYS:NZ	2.37	0.56
58:SQ:25:CYS:HB2	58:SQ:68:ILE:HG22	1.87	0.56
60:SS:38:ARG:HB3	61:ST:45:LEU:HD11	1.88	0.56
51:SE:126:VAL:O	51:SE:157:ASN:N	2.39	0.56
54:SI:57:ALA:HB2	54:SI:183:GLY:HA2	1.87	0.56
1:L5:1100:U:O4	1:L5:1194:G:O6	2.23	0.56
1:L5:3658:C:OP1	4:LA:242:ARG:NH1	2.39	0.56
2:L7:50:A:OP2	7:LD:225:GLN:NE2	2.39	0.56
47:S2:1673:U:O2'	52:SF:84:GLY:O	2.22	0.56
52:SF:102:LEU:HD11	77:SZ:110:THR:HB	1.88	0.56
1:L5:1396:G:HO2'	1:L5:1468:C:HO2'	1.51	0.56
47:S2:396:U:OP2	56:SL:79:LYS:NZ	2.35	0.56
69:SC:184:VAL:HG11	69:SC:247:THR:HG22	1.88	0.56
1:L5:1070:G:OP2	8:LE:65:ARG:NH1	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1746:A:OP2	83:CE:59:ARG:NH2	2.38	0.56
47:S2:329:G:H2'	47:S2:330:G:C8	2.41	0.56
47:S2:1757:G:H8	47:S2:1758:G:H1'	1.70	0.56
47:S2:1861:G:OP1	65:Sa:8:ASN:ND2	2.38	0.56
48:SA:51:LEU:HA	48:SA:54:THR:HG22	1.88	0.56
57:SP:20:VAL:HG13	57:SP:24:GLN:HB2	1.87	0.56
59:SR:21:TYR:OH	59:SR:62:GLN:NE2	2.39	0.56
1:L5:1975:G:N1	1:L5:1980:U:O4	2.39	0.56
5:LB:222:VAL:O	5:LB:343:ARG:NH1	2.38	0.56
53:SH:49:LYS:O	53:SH:60:ILE:HA	2.07	0.56
68:Sg:45:LEU:O	68:Sg:47:ARG:NH1	2.40	0.56
81:CA:162:GLN:H	81:CA:165:GLN:HE21	1.53	0.56
81:CA:187:SER:HB3	81:CA:201:ILE:HB	1.86	0.56
1:L5:423:G:OP1	18:LP:62:ARG:NH2	2.38	0.55
1:L5:4162:C:H5	10:LG:73:ARG:HH12	1.53	0.55
12:LI:170:LYS:NZ	12:LI:177:ASN:OD1	2.39	0.55
13:LJ:20:LEU:HD22	13:LJ:79:ALA:HA	1.88	0.55
27:LY:19:PHE:O	27:LY:26:ARG:NH2	2.39	0.55
47:S2:752:G:OP1	47:S2:792:C:O2'	2.24	0.55
68:Sg:176:VAL:HB	68:Sg:186:THR:HB	1.87	0.55
74:SO:101:GLY:HA2	74:SO:106:LYS:HD3	1.88	0.55
1:L5:3951:G:N3	1:L5:4062:A:C6	2.73	0.55
1:L5:4732:G:N2	1:L5:4734:A:N7	2.53	0.55
5:LB:77:THR:OG1	5:LB:335:GLY:O	2.24	0.55
12:LI:30:LYS:HD3	12:LI:63:GLU:HG3	1.88	0.55
39:Lk:24:LYS:HA	39:Lk:67:LYS:O	2.07	0.55
47:S2:747:U:N3	47:S2:796:G:N1	2.54	0.55
47:S2:1156:U:OP1	75:SW:71:LYS:NZ	2.39	0.55
47:S2:1560:U:O2	47:S2:1575:G:O6	2.24	0.55
1:L5:966:A:OP1	1:L5:967:C:N4	2.40	0.55
1:L5:4670:C:O2'	1:L5:4672:A:OP2	2.24	0.55
22:LT:93:ILE:HA	22:LT:96:ILE:HG12	1.87	0.55
54:SI:139:LYS:HG3	54:SI:141:ARG:HB2	1.88	0.55
63:SV:80:SER:HB3	63:SV:83:PHE:HD1	1.71	0.55
1:L5:199:G:N7	1:L5:237:G:N1	2.54	0.55
1:L5:4220:A:H2'	1:L5:4222:G:H5"	1.88	0.55
1:L5:4626:A:OP2	5:LB:224:LYS:NZ	2.31	0.55
1:L5:5002:U:OP2	5:LB:385:LYS:NZ	2.40	0.55
1:L5:5040:U:OP2	5:LB:396:ARG:NH2	2.39	0.55
27:LY:91:ASN:HB2	27:LY:93:THR:HG22	1.87	0.55
68:Sg:163:PRO:HB2	68:Sg:179:LEU:HB2	1.86	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:444:G:H1	1:L5:1303:A:H2	1.50	0.55
1:L5:679:C:H2'	1:L5:680:G:H8	1.71	0.55
1:L5:688:U:OP1	8:LE:94:LYS:NZ	2.39	0.55
43:Lo:33:LEU:HA	43:Lo:38:LYS:HG2	1.88	0.55
47:S2:1488:C:O2'	47:S2:1490:G:OP2	2.19	0.55
47:S2:1513:C:H2'	47:S2:1514:G:H8	1.70	0.55
70:SG:2:LYS:HB3	70:SG:15:LEU:HD11	1.88	0.55
72:SM:24:THR:HA	72:SM:27:ILE:HG12	1.89	0.55
81:CA:134:GLN:OE1	81:CA:136:THR:OG1	2.24	0.55
6:LC:8:ILE:HD11	6:LC:257:PHE:HE2	1.70	0.55
13:LJ:87:LEU:HD12	13:LJ:92:TYR:HA	1.89	0.55
21:LS:74:ARG:O	21:LS:76:LYS:NZ	2.40	0.55
68:Sg:256:ILE:HB	68:Sg:270:LEU:HB2	1.87	0.55
1:L5:163:A:H2'	1:L5:164:G:H8	1.71	0.55
1:L5:2111:G:N2	1:L5:2251:G:O2'	2.40	0.55
1:L5:4097:G:C6	1:L5:4113:U:O2	2.60	0.55
1:L5:4274:A:H2'	1:L5:4275:G:C8	2.41	0.55
21:LS:127:MET:HA	22:LT:153:PRO:HG2	1.89	0.55
46:Lz:69:GLY:HA2	46:Lz:72:GLN:HE21	1.71	0.55
66:Sc:44:ARG:NH2	66:Sc:61:SER:O	2.40	0.55
1:L5:1332:C:H2'	1:L5:1333:A:H8	1.71	0.55
24:LV:35:LYS:HB2	24:LV:67:LYS:HG3	1.87	0.55
46:Lz:40:ASN:HB2	46:Lz:198:TRP:HB2	1.88	0.55
46:Lz:128:LEU:HD22	46:Lz:133:LYS:HD2	1.89	0.55
49:SB:128:LYS:NZ	49:SB:129:THR:O	2.40	0.55
70:SG:74:ARG:NH1	70:SG:96:SER:OG	2.40	0.55
1:L5:184:U:H1'	1:L5:254:G:H1	1.72	0.55
1:L5:493:G:C2	1:L5:660:A:H2	2.23	0.55
1:L5:1255:A:N6	1:L5:1257:A:O2'	2.40	0.55
1:L5:2471:G:H5"	10:LG:59:ARG:HD2	1.89	0.55
1:L5:4097:G:O6	1:L5:4113:U:O2	2.24	0.55
6:LC:209:ILE:HB	6:LC:229:LEU:HD13	1.89	0.55
18:LP:94:MET:HE2	18:LP:148:MET:HE3	1.88	0.55
71:SJ:54:ARG:NH2	71:SJ:98:LEU:O	2.40	0.55
7:LD:75:VAL:O	7:LD:112:ARG:NH1	2.40	0.55
15:LM:10:GLY:N	15:LM:27:ILE:O	2.40	0.55
46:Lz:198:TRP:HH2	46:Lz:202:ARG:HB2	1.72	0.55
55:SK:8:ARG:NH1	55:SK:12:TYR:OH	2.40	0.55
71:SJ:106:LEU:HD23	71:SJ:109:ARG:HD2	1.89	0.55
1:L5:1714:C:OP1	1:L5:1715:C:N4	2.40	0.54
1:L5:2008:U:O2'	1:L5:2010:A:O5'	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:3811:G:O2'	1:L5:3814:U:OP2	2.25	0.54
7:LD:256:LYS:NZ	7:LD:257:PRO:O	2.37	0.54
47:S2:1084:A:OP1	47:S2:1858:G:O2'	2.25	0.54
47:S2:1536:G:H2'	47:S2:1537:A:C8	2.42	0.54
1:L5:382:G:N1	1:L5:385:A:OP2	2.33	0.54
1:L5:3971:G:C6	1:L5:4050:A:C6	2.95	0.54
1:L5:4351:U:OP1	14:LL:190:ARG:NH2	2.39	0.54
47:S2:1609:C:N3	47:S2:1631:U:O2	2.41	0.54
62:SU:55:ARG:HG2	62:SU:87:ARG:HG2	1.89	0.54
68:Sg:164:ILE:HD13	68:Sg:178:ASN:HA	1.88	0.54
1:L5:4112:C:N4	1:L5:4113:U:N3	2.55	0.54
1:L5:4424:A:OP2	41:Lm:97:ARG:NH2	2.40	0.54
8:LE:141:ARG:NH2	8:LE:191:GLN:O	2.40	0.54
47:S2:1287:A:N6	47:S2:1312:G:H21	2.00	0.54
47:S2:1435:C:O2'	47:S2:1437:C:N4	2.41	0.54
48:SA:89:LYS:HE2	48:SA:201:LEU:HD11	1.89	0.54
64:SX:52:LEU:HD11	64:SX:73:GLN:HB2	1.89	0.54
6:LC:86:ARG:NH1	6:LC:89:GLN:OE1	2.41	0.54
28:LZ:77:TYR:HD2	31:Lc:39:ARG:HD3	1.73	0.54
47:S2:1307:U:O2'	80:Sf:135:HIS:ND1	2.33	0.54
81:CA:238:LYS:O	81:CA:309:TYR:N	2.41	0.54
82:CC:12:G:C2	82:CC:24:A:C6	2.94	0.54
1:L5:137:G:H2'	1:L5:138:G:H8	1.72	0.54
1:L5:1683:U:OP1	29:La:44:ASN:ND2	2.38	0.54
1:L5:2299:G:O6	6:LC:188:ARG:NH2	2.39	0.54
1:L5:4940:C:OP1	8:LE:156:ARG:NH2	2.40	0.54
81:CA:223:VAL:HG22	81:CA:324:LEU:HD13	1.89	0.54
1:L5:1755:C:N3	1:L5:1776:A:N1	2.55	0.54
1:L5:1802:A:H5"	1:L5:1803:G:H5'	1.89	0.54
3:L8:51:U:OP2	40:Ll:21:ARG:NH2	2.40	0.54
4:LA:95:GLN:O	4:LA:100:ASN:ND2	2.39	0.54
10:LG:57:TRP:O	10:LG:62:ARG:NH1	2.41	0.54
10:LG:58:PRO:HD2	10:LG:61:ILE:HD12	1.89	0.54
23:LU:25:CYS:HB3	23:LU:112:LEU:HD12	1.90	0.54
47:S2:642:U:OP2	79:Se:34:ARG:NH2	2.39	0.54
49:SB:85:LYS:HB3	49:SB:101:HIS:HB3	1.89	0.54
1:L5:102:G:OP1	14:LL:71:ARG:NH2	2.39	0.54
5:LB:140:GLU:O	5:LB:144:LYS:NZ	2.40	0.54
9:LF:115:ARG:NH1	19:LQ:4:ASP:O	2.41	0.54
18:LP:39:MET:HE2	18:LP:43:LYS:HE2	1.89	0.54
28:LZ:88:ASP:O	28:LZ:121:ARG:NH2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:SQ:139:ALA:O	58:SQ:140:ARG:NH2	2.40	0.54
68:Sg:247:TRP:HA	68:Sg:259:TRP:O	2.08	0.54
1:L5:2754:G:OP2	28:LZ:133:LYS:NZ	2.40	0.54
1:L5:4031:U:OP2	46:Lz:26:ARG:NE	2.41	0.54
11:LH:52:LYS:HD2	11:LH:54:ARG:HD3	1.90	0.54
47:S2:582:U:OP1	71:SJ:162:ARG:NH1	2.39	0.54
47:S2:1652:G:H1	47:S2:1672:U:H3	1.56	0.54
57:SP:127:LYS:HG3	57:SP:128:HIS:H	1.71	0.54
82:CC:15:A:N1	82:CC:47:C:N3	2.55	0.54
1:L5:1398:A:N7	1:L5:1420:A:C6	2.76	0.54
1:L5:2739:C:O2	4:LA:188:LYS:NZ	2.41	0.54
1:L5:2906:G:H1'	1:L5:2908:U:H1'	1.90	0.54
1:L5:3951:G:N2	1:L5:4062:A:C6	2.76	0.54
47:S2:750:C:N4	47:S2:752:G:OP2	2.41	0.54
47:S2:921:G:OP2	78:Sb:21:LYS:NZ	2.41	0.54
47:S2:1285:G:N7	72:SM:82:ASN:ND2	2.56	0.54
50:SD:162:ASP:HA	50:SD:165:ASN:HB2	1.88	0.54
1:L5:1930:U:OP2	17:LO:49:ARG:NH2	2.35	0.54
1:L5:3955:G:N2	1:L5:3967:G:O4'	2.41	0.54
43:Lo:45:GLN:HE22	43:Lo:52:THR:H	1.55	0.54
47:S2:1759:G:N2	47:S2:1773:C:OP1	2.41	0.54
59:SR:95:ILE:HD11	59:SR:118:GLN:HB2	1.90	0.54
71:SJ:179:LYS:HA	71:SJ:182:GLN:HG2	1.89	0.54
82:CC:11:C:N4	82:CC:24:A:N6	2.36	0.54
1:L5:2759:G:O2'	1:L5:2762:G:N2	2.42	0.53
13:LJ:29:SER:OG	13:LJ:30:GLY:N	2.41	0.53
14:LL:16:LYS:O	14:LL:21:ARG:NH1	2.41	0.53
72:SM:35:ILE:HB	80:Sf:103:LEU:HD21	1.89	0.53
1:L5:1174:G:O6	1:L5:1186:U:O4	2.26	0.53
1:L5:4922:C:N4	1:L5:4923:C:N4	2.56	0.53
8:LE:155:GLY:O	8:LE:158:ARG:NH1	2.41	0.53
13:LJ:141:ILE:HA	13:LJ:144:LYS:HD3	1.89	0.53
28:LZ:22:LYS:NZ	28:LZ:132:GLN:O	2.35	0.53
70:SG:85:ARG:O	70:SG:87:ARG:NH1	2.41	0.53
81:CA:118:ILE:HG13	81:CA:195:ILE:HG22	1.90	0.53
1:L5:3604:A:H5"	20:LR:71:ARG:HH21	1.73	0.53
1:L5:3959:U:O2'	1:L5:3961:G:N7	2.41	0.53
13:LJ:99:PHE:O	13:LJ:159:LYS:NZ	2.37	0.53
38:Lj:48:ASN:OD1	38:Lj:54:LYS:NZ	2.38	0.53
47:S2:218:U:O2	54:SI:184:ARG:NH1	2.38	0.53
47:S2:1679:A:OP1	52:SF:60:ARG:NH2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SB:137:LEU:HG	49:SB:215:VAL:HG22	1.90	0.53
81:CA:134:GLN:NE2	81:CA:135:VAL:O	2.41	0.53
1:L5:4760:G:OP1	17:LO:117:ARG:NH2	2.41	0.53
45:Lr:28:GLU:OE1	45:Lr:31:ASN:ND2	2.42	0.53
46:Lz:17:VAL:HG13	46:Lz:18:LEU:H	1.72	0.53
47:S2:1228:A:H2'	47:S2:1229:G:C8	2.42	0.53
47:S2:1455:A:N6	47:S2:1471:C:N4	2.28	0.53
50:SD:193:ASP:OD2	50:SD:193:ASP:N	2.42	0.53
82:CC:54:U:O2'	82:CC:56:G:N7	2.39	0.53
1:L5:681:G:H2'	1:L5:682:G:C8	2.44	0.53
1:L5:3955:G:N2	1:L5:3966:A:C4	2.77	0.53
17:LO:27:VAL:O	17:LO:101:ARG:NH1	2.42	0.53
47:S2:67:C:OP2	70:SG:172:LYS:NZ	2.42	0.53
51:SE:141:THR:OG1	51:SE:142:HIS:N	2.41	0.53
81:CA:79:SER:O	81:CA:107:LYS:O	2.27	0.53
1:L5:1332:C:H2'	1:L5:1333:A:C8	2.44	0.53
1:L5:4743:G:H2'	1:L5:4744:A:C8	2.44	0.53
12:LI:207:ASP:OD1	12:LI:210:ARG:NH2	2.42	0.53
13:LJ:28:GLU:OE1	13:LJ:32:ARG:NH1	2.41	0.53
30:Lb:43:MET:HE3	30:Lb:47:LYS:HE2	1.90	0.53
47:S2:750:C:H41	47:S2:793:G:H21	1.57	0.53
51:SE:91:SER:OG	51:SE:98:ASN:ND2	2.41	0.53
53:SH:83:LEU:HB3	53:SH:92:VAL:HG21	1.89	0.53
61:ST:126:GLN:HE22	61:ST:129:ARG:HH21	1.56	0.53
65:Sa:47:ALA:HA	65:Sa:50:VAL:HB	1.90	0.53
68:Sg:120:ILE:HB	68:Sg:132:TRP:HB2	1.91	0.53
71:SJ:93:LYS:H	71:SJ:96:TYR:HD2	1.55	0.53
1:L5:95:G:OP2	14:LL:11:LYS:NZ	2.42	0.53
1:L5:966:A:OP2	1:L5:2092:G:N2	2.38	0.53
1:L5:2262:G:OP2	45:Lr:98:ARG:NH2	2.39	0.53
1:L5:2557:G:N2	1:L5:2570:U:O2	2.30	0.53
5:LB:35:ASP:OD2	5:LB:193:LYS:NZ	2.42	0.53
8:LE:141:ARG:NH1	34:Lf:110:ILE:O	2.41	0.53
47:S2:851:C:H5"	47:S2:852:G:H5'	1.90	0.53
47:S2:1302:G:N2	47:S2:1307:U:O4	2.39	0.53
47:S2:1521:C:H5'	60:SS:129:LEU:HD22	1.91	0.53
55:SK:85:LEU:HD21	55:SK:89:ILE:HB	1.91	0.53
68:Sg:5:MET:HB2	68:Sg:270:LEU:HD11	1.90	0.53
72:SM:48:HIS:HB2	72:SM:111:VAL:HG13	1.90	0.53
81:CA:361:SER:OG	81:CA:362:ALA:N	2.42	0.53
9:LF:105:VAL:HG13	9:LF:136:VAL:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:72:C:H42	70:SG:170:ARG:HB3	1.74	0.53
47:S2:190:G:H5'	54:SI:145:ILE:HG12	1.89	0.53
47:S2:659:G:HO2'	47:S2:662:G:HO2'	1.57	0.53
47:S2:1024:A:OP2	73:SN:124:ARG:NH2	2.41	0.53
49:SB:51:ARG:O	49:SB:56:LYS:NZ	2.34	0.53
50:SD:161:GLY:O	50:SD:164:VAL:C	2.51	0.53
53:SH:69:LEU:HD13	53:SH:96:ALA:HB2	1.91	0.53
66:Sc:12:ALA:HB1	66:Sc:32:VAL:HB	1.90	0.53
1:L5:1990:A:N6	1:L5:1991:A:N3	2.57	0.53
1:L5:4260:U:H2'	1:L5:4261:C:C6	2.43	0.53
8:LE:222:LEU:HB2	8:LE:237:LYS:HD2	1.90	0.53
18:LP:73:ALA:O	18:LP:76:TRP:C	2.52	0.53
53:SH:37:LYS:HZ3	53:SH:40:LEU:HD22	1.74	0.53
1:L5:3668:C:OP1	4:LA:8:GLN:NE2	2.33	0.53
1:L5:4942:C:H5"	8:LE:155:GLY:HA2	1.90	0.53
2:L7:23:A:N3	2:L7:118:C:O2'	2.34	0.53
6:LC:39:PHE:O	6:LC:43:ASN:ND2	2.42	0.53
24:LV:30:ASP:OD2	24:LV:30:ASP:N	2.42	0.53
32:Ld:36:VAL:HG11	32:Ld:44:ARG:HG2	1.90	0.53
51:SE:126:VAL:O	51:SE:157:ASN:CA	2.56	0.53
51:SE:204:SER:OG	51:SE:205:PHE:N	2.42	0.53
63:SV:19:ALA:O	75:SW:23:ARG:NH2	2.42	0.53
71:SJ:108:ARG:NH1	71:SJ:149:VAL:O	2.41	0.53
1:L5:268:G:H2'	1:L5:269:G:H8	1.74	0.52
1:L5:2474:G:N2	1:L5:2502:G:O2'	2.43	0.52
8:LE:223:ARG:NH1	8:LE:234:ASP:O	2.38	0.52
24:LV:43:LYS:HG3	24:LV:60:MET:HG2	1.90	0.52
28:LZ:94:THR:O	28:LZ:97:ASN:ND2	2.43	0.52
28:LZ:125:GLY:O	28:LZ:128:LYS:NZ	2.42	0.52
46:Lz:179:LEU:HA	46:Lz:182:ASN:HB3	1.90	0.52
66:Sc:21:THR:OG1	66:Sc:22:GLY:N	2.43	0.52
70:SG:115:LYS:NZ	70:SG:116:LYS:O	2.43	0.52
77:SZ:48:VAL:HA	77:SZ:83:LEU:HD11	1.91	0.52
1:L5:2486:G:H3'	1:L5:2487:G:H8	1.74	0.52
47:S2:1544:C:O2'	58:SQ:80:GLN:NE2	2.43	0.52
74:SO:85:CYS:HB3	74:SO:90:ILE:HB	1.91	0.52
81:CA:60:THR:HA	81:CA:63:ILE:HG12	1.92	0.52
1:L5:1761:G:N2	1:L5:1768:C:O2	2.33	0.52
1:L5:2709:C:N4	81:CA:257:LEU:O	2.38	0.52
1:L5:3967:G:O6	1:L5:4055:U:O4	2.27	0.52
1:L5:4108:G:H2'	1:L5:4109:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4742:G:H2'	1:L5:4743:G:H8	1.73	0.52
47:S2:900:C:H5'	47:S2:901:G:N7	2.25	0.52
47:S2:1617:G:N7	57:SP:43:ARG:NH2	2.49	0.52
55:SK:29:MET:SD	55:SK:42:ASN:ND2	2.83	0.52
61:ST:9:VAL:O	61:ST:11:GLN:NE2	2.34	0.52
81:CA:27:ILE:HA	81:CA:30:ARG:HG2	1.92	0.52
1:L5:1776:A:O3'	83:CE:60:ARG:NH1	2.43	0.52
1:L5:2520:C:H2'	1:L5:2521:G:C8	2.45	0.52
10:LG:154:LEU:HB3	10:LG:204:PHE:HB2	1.91	0.52
13:LJ:13:ARG:N	13:LJ:14:GLU:OE2	2.36	0.52
26:LX:150:ALA:HA	26:LX:153:ILE:HG22	1.91	0.52
37:Li:19:LYS:HZ3	37:Li:21:VAL:HA	1.74	0.52
47:S2:1606:G:OP1	61:ST:84:ARG:NH2	2.42	0.52
49:SB:28:LYS:HA	49:SB:50:THR:HA	1.91	0.52
62:SU:61:LEU:O	62:SU:81:GLN:HA	2.09	0.52
78:Sb:36:LYS:HG2	78:Sb:43:ILE:HG23	1.92	0.52
1:L5:183:C:H1'	1:L5:184:U:H5	1.74	0.52
1:L5:4265:U:OP1	7:LD:12:TYR:OH	2.27	0.52
34:Lf:10:ILE:HA	34:Lf:99:HIS:O	2.10	0.52
47:S2:1243:U:OP2	47:S2:1518:C:O2'	2.22	0.52
47:S2:1354:G:N2	47:S2:1357:A:OP2	2.36	0.52
47:S2:1617:G:N1	47:S2:1620:A:OP2	2.43	0.52
47:S2:1756:C:O2	47:S2:1776:G:O6	2.27	0.52
57:SP:108:LYS:HB3	57:SP:111:MET:HG2	1.92	0.52
61:ST:129:ARG:HG2	61:ST:133:ARG:HH12	1.74	0.52
81:CA:229:LEU:HG	81:CA:318:GLN:HG2	1.91	0.52
1:L5:24:G:N7	38:Lj:46:LYS:NZ	2.53	0.52
6:LC:66:SER:HA	6:LC:77:PRO:HA	1.91	0.52
31:Lc:34:THR:HG23	31:Lc:95:ALA:HB2	1.90	0.52
47:S2:1217:A:H2'	47:S2:1218:C:H6	1.73	0.52
55:SK:72:THR:HG23	55:SK:75:GLY:H	1.74	0.52
69:SC:183:LYS:HD3	69:SC:194:ARG:HH21	1.74	0.52
76:SY:102:THR:OG1	76:SY:106:GLN:OE1	2.28	0.52
1:L5:1709:C:N4	1:L5:1716:G:N1	2.57	0.52
1:L5:1739:G:H21	1:L5:1742:A:N6	2.07	0.52
8:LE:161:ARG:NH2	8:LE:273:SER:OG	2.43	0.52
15:LM:104:MET:HE2	17:LO:199:HIS:HB3	1.91	0.52
23:LU:36:ALA:HB3	23:LU:65:ARG:HH21	1.74	0.52
26:LX:156:ILE:HD11	81:CA:291:MET:HG2	1.91	0.52
47:S2:145:G:H2'	47:S2:146:G:C8	2.45	0.52
47:S2:1271:C:H42	47:S2:1511:U:H3	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1523:C:H2'	47:S2:1524:G:H8	1.75	0.52
80:Sf:86:THR:HG23	80:Sf:88:PRO:HD3	1.90	0.52
82:CC:10:G:O6	82:CC:45:G:O6	2.28	0.52
82:CC:49:G:H2'	82:CC:50:G:H8	1.74	0.52
1:L5:1401:C:N3	1:L5:1416:G:N1	2.38	0.52
46:Lz:160:LYS:HB3	46:Lz:162:VAL:HG12	1.91	0.52
47:S2:587:A:H5'	47:S2:592:C:H42	1.74	0.52
47:S2:1270:G:O2'	47:S2:1301:A:N7	2.42	0.52
47:S2:1752:C:C5	47:S2:1779:G:N2	2.77	0.52
54:SI:61:ASP:N	54:SI:61:ASP:OD1	2.43	0.52
64:SX:55:VAL:HG12	79:Se:2:VAL:HG22	1.91	0.52
68:Sg:292:SER:OG	68:Sg:297:THR:O	2.27	0.52
80:Sf:109:ASP:OD2	80:Sf:109:ASP:N	2.43	0.52
1:L5:1730:U:H4'	22:LT:100:LYS:HB2	1.92	0.52
1:L5:3717:A:H2'	1:L5:3718:A:C8	2.45	0.52
1:L5:4140:C:N3	1:L5:4145:C:O2'	2.42	0.52
5:LB:181:MET:HE2	5:LB:183:ILE:HG12	1.92	0.52
47:S2:643:A:OP1	71:SJ:38:ARG:NH1	2.43	0.52
47:S2:987:A:OP1	65:Sa:32:LYS:NZ	2.43	0.52
47:S2:1512:C:H5"	67:Sd:8:TRP:HZ3	1.74	0.52
79:Se:53:LYS:HE3	79:Se:57:ALA:HB1	1.92	0.52
81:CA:135:VAL:HG12	81:CA:140:ALA:HB2	1.91	0.52
1:L5:962:C:N4	1:L5:2095:A:C2	2.78	0.52
1:L5:1993:C:C2	1:L5:2002:A:N6	2.78	0.52
1:L5:3688:U:OP2	4:LA:198:ARG:NH1	2.43	0.52
13:LJ:143:ASP:N	13:LJ:143:ASP:OD1	2.41	0.52
46:Lz:70:ASP:N	46:Lz:70:ASP:OD2	2.42	0.52
46:Lz:206:ILE:HG21	46:Lz:214:GLN:HB2	1.92	0.52
59:SR:22:THR:HG23	59:SR:23:ARG:HG3	1.91	0.52
75:SW:32:LYS:HA	75:SW:35:VAL:HG22	1.91	0.52
77:SZ:106:GLN:HE21	77:SZ:108:ILE:HD11	1.74	0.52
1:L5:1700:G:OP2	1:L5:1704:C:N4	2.43	0.51
1:L5:1747:U:OP1	83:CE:66:ARG:NH1	2.43	0.51
1:L5:1762:C:C4	1:L5:1770:A:N1	2.78	0.51
1:L5:1983:A:N6	1:L5:2003:G:OP2	2.44	0.51
1:L5:4363:A:H5"	43:Lo:36:GLN:HG2	1.91	0.51
38:Lj:2:THR:HG22	38:Lj:4:GLY:H	1.75	0.51
47:S2:1143:A:OP2	69:SC:187:ARG:NH1	2.41	0.51
50:SD:226:GLN:NE2	68:Sg:224:GLY:O	2.42	0.51
52:SF:110:GLN:NE2	52:SF:114:ASN:OD1	2.43	0.51
70:SG:231:ARG:O	70:SG:235:SER:OG	2.19	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:3960:A:N6	1:L5:3961:G:N7	2.58	0.51
5:LB:355:THR:H	5:LB:356:LYS:HZ3	1.58	0.51
11:LH:91:LYS:HB2	11:LH:183:GLU:HG2	1.90	0.51
15:LM:15:VAL:O	15:LM:22:GLY:N	2.43	0.51
35:Lg:63:VAL:HA	35:Lg:66:ARG:HG2	1.92	0.51
49:SB:67:PHE:O	49:SB:85:LYS:O	2.29	0.51
49:SB:88:THR:HA	49:SB:98:THR:HA	1.92	0.51
50:SD:163:PRO:O	50:SD:167:TYR:HB2	2.10	0.51
51:SE:72:ILE:HG12	51:SE:90:ILE:HG12	1.91	0.51
51:SE:126:VAL:HG22	51:SE:139:LEU:HD13	1.93	0.51
64:SX:77:ASN:O	64:SX:79:LYS:N	2.40	0.51
81:CA:28:ALA:HB1	81:CA:121:VAL:HG21	1.92	0.51
82:CC:8:U:C2	82:CC:14:A:N6	2.79	0.51
82:CC:21:A:H61	82:CC:46:A:H2'	1.76	0.51
1:L5:1443:A:N1	1:L5:2103:G:O6	2.44	0.51
1:L5:3593:C:O2'	1:L5:3595:U:O4	2.26	0.51
1:L5:4992:G:H2'	1:L5:4993:G:C8	2.46	0.51
8:LE:207:LYS:O	8:LE:256:GLN:NE2	2.44	0.51
46:Lz:193:LEU:HD12	46:Lz:194:LEU:HB2	1.92	0.51
48:SA:145:ILE:HG23	48:SA:159:ILE:HB	1.91	0.51
49:SB:90:ASP:OD2	49:SB:92:GLN:NE2	2.44	0.51
54:SI:78:ILE:HA	54:SI:104:ILE:HG13	1.92	0.51
54:SI:128:LYS:HG3	54:SI:129:LEU:HD12	1.92	0.51
55:SK:80:ARG:HG2	55:SK:85:LEU:HD23	1.93	0.51
60:SS:20:ILE:HG22	60:SS:32:ALA:HB3	1.91	0.51
1:L5:1095:A:H2	1:L5:1200:G:C2	2.28	0.51
1:L5:3786:U:OP1	1:L5:4550:G:O2'	2.28	0.51
10:LG:143:VAL:HG12	10:LG:203:ALA:HB2	1.93	0.51
13:LJ:64:ARG:NH2	13:LJ:65:ASN:OD1	2.44	0.51
24:LV:83:ARG:NH2	24:LV:120:PRO:O	2.39	0.51
38:Lj:20:ARG:NH2	38:Lj:39:TYR:OH	2.43	0.51
47:S2:317:C:OP2	70:SG:183:ARG:NH2	2.43	0.51
47:S2:1718:G:O2'	47:S2:1815:A:N6	2.44	0.51
60:SS:124:ARG:O	60:SS:127:TRP:C	2.54	0.51
61:ST:140:ALA:HA	61:ST:143:LYS:HG2	1.93	0.51
69:SC:183:LYS:HA	69:SC:195:LEU:O	2.10	0.51
14:LL:80:GLU:OE2	14:LL:102:ARG:NH1	2.44	0.51
15:LM:70:GLN:HA	15:LM:73:VAL:HG22	1.92	0.51
39:Lk:5:ILE:HD11	39:Lk:43:TYR:HB3	1.93	0.51
43:Lo:45:GLN:NE2	43:Lo:52:THR:OG1	2.43	0.51
47:S2:1226:G:N1	47:S2:1639:G:OP2	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1432:U:H5”	47:S2:1433:C:H5”	1.92	0.51
47:S2:1527:C:OP1	58:SQ:142:GLN:NE2	2.43	0.51
63:SV:39:VAL:O	63:SV:41:LYS:NZ	2.43	0.51
1:L5:3720:G:H22	1:L5:3733:A:H2	1.58	0.51
1:L5:4373:G:N7	43:Lo:61:LYS:NZ	2.55	0.51
47:S2:906:U:H2’	47:S2:907:G:C8	2.46	0.51
47:S2:928:G:N2	78:Sb:68:GLY:O	2.36	0.51
47:S2:1598:G:O2’	77:SZ:80:ARG:O	2.19	0.51
60:SS:12:ILE:HD12	60:SS:19:ASN:HB2	1.92	0.51
77:SZ:48:VAL:HG12	77:SZ:49:LEU:HD13	1.91	0.51
1:L5:490:C:H2’	1:L5:491:G:H8	1.74	0.51
1:L5:1999:A:N7	1:L5:2000:G:C6	2.78	0.51
1:L5:4258:C:H2’	1:L5:4259:C:H6	1.75	0.51
1:L5:4717:A:OP2	5:LB:30:LYS:NZ	2.32	0.51
14:LL:130:LYS:HD2	14:LL:131:PRO:HD2	1.92	0.51
16:LN:140:LYS:O	16:LN:144:ARG:HB2	2.11	0.51
28:LZ:14:LEU:HD11	28:LZ:81:MET:HB2	1.91	0.51
47:S2:1868:U:O2’	65:Sa:100:ARG:NH1	2.44	0.51
68:Sg:245:ARG:NH1	68:Sg:295:GLY:O	2.37	0.51
72:SM:69:CYS:HB2	72:SM:74:ILE:HB	1.93	0.51
1:L5:1999:A:C8	1:L5:2000:G:C6	2.99	0.51
1:L5:3757:G:N1	1:L5:3768:U:N3	2.59	0.51
1:L5:3975:C:H5”	1:L5:4031:U:H5’	1.93	0.51
6:LC:294:LYS:HA	6:LC:299:GLN:HE21	1.76	0.51
10:LG:231:ASP:HB2	10:LG:235:ARG:HH12	1.76	0.51
19:LQ:124:ASP:N	19:LQ:124:ASP:OD1	2.43	0.51
45:Lr:7:TRP:O	45:Lr:11:ARG:HB2	2.11	0.51
47:S2:104:A:H62	47:S2:356:C:H5	1.56	0.51
47:S2:996:A:H2’	47:S2:997:A:C8	2.46	0.51
48:SA:85:ARG:NH1	48:SA:203:PHE:O	2.43	0.51
58:SQ:42:ILE:O	58:SQ:45:ARG:NH2	2.40	0.51
64:SX:49:GLY:N	64:SX:99:GLU:OE2	2.42	0.51
70:SG:39:ASP:O	70:SG:46:LYS:NZ	2.42	0.51
81:CA:124:THR:OG1	81:CA:318:GLN:N	2.41	0.51
1:L5:1175:A:N1	1:L5:1185:G:C6	2.79	0.51
1:L5:1548:G:O2’	1:L5:2812:A:N3	2.41	0.51
1:L5:1709:C:C4	1:L5:1716:G:N1	2.79	0.51
5:LB:50:LYS:HA	5:LB:79:VAL:HG12	1.92	0.51
47:S2:155:G:H4’	70:SG:15:LEU:HD22	1.93	0.51
47:S2:528:A:C2	47:S2:558:G:C2	2.99	0.51
47:S2:1551:U:OP1	50:SD:9:ARG:NH2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1644:C:H4'	58:SQ:140:ARG:HB2	1.93	0.51
50:SD:172:VAL:O	50:SD:173:ARG:NH1	2.39	0.51
60:SS:51:ASP:OD1	60:SS:51:ASP:N	2.44	0.51
1:L5:1968:G:H2'	1:L5:1969:G:C8	2.46	0.51
1:L5:1999:A:C5	1:L5:2000:G:O6	2.64	0.51
1:L5:3641:U:OP2	1:L5:3646:A:N6	2.43	0.51
1:L5:3961:G:O2'	1:L5:3965:A:OP1	2.27	0.51
1:L5:4101:C:O2	1:L5:4110:C:N4	2.44	0.51
1:L5:4314:C:O2'	30:Lb:36:ASP:OD1	2.24	0.51
7:LD:223:PHE:HB3	7:LD:226:TYR:HB2	1.93	0.51
12:LI:48:LEU:HB2	12:LI:142:LEU:HD23	1.93	0.51
47:S2:1562:C:H4'	61:ST:119:GLY:HA3	1.93	0.51
47:S2:1621:U:H1'	57:SP:118:GLU:HB3	1.91	0.51
49:SB:122:GLU:HG2	49:SB:140:VAL:HG23	1.92	0.51
58:SQ:53:GLU:HA	58:SQ:56:LEU:HD12	1.93	0.51
63:SV:73:ALA:HB1	63:SV:78:ILE:HB	1.92	0.51
81:CA:92:LEU:HD12	81:CA:243:ARG:HH22	1.76	0.51
1:L5:907:C:H2'	1:L5:908:G:H8	1.77	0.50
7:LD:150:LEU:HD12	13:LJ:146:ARG:HG3	1.93	0.50
47:S2:1308:U:H2'	47:S2:1309:C:H6	1.76	0.50
60:SS:54:LYS:HE3	60:SS:58:GLU:HB2	1.93	0.50
68:Sg:173:LEU:HD13	68:Sg:175:LYS:HE3	1.92	0.50
81:CA:29:ASN:HD21	81:CA:334:THR:HA	1.76	0.50
82:CC:63:C:H2'	82:CC:64:G:H8	1.76	0.50
1:L5:517:C:N4	1:L5:646:G:O2'	2.44	0.50
1:L5:963:G:N7	1:L5:964:A:N6	2.59	0.50
1:L5:1338:G:OP2	29:La:12:ARG:NH1	2.36	0.50
1:L5:2018:C:H2'	1:L5:2019:C:C6	2.46	0.50
14:LL:56:ARG:NH1	14:LL:74:ARG:O	2.41	0.50
15:LM:12:VAL:O	15:LM:58:THR:OG1	2.29	0.50
46:Lz:64:SER:OG	46:Lz:65:VAL:N	2.44	0.50
47:S2:981:A:H2'	47:S2:982:G:C8	2.46	0.50
48:SA:126:ASP:HB3	48:SA:129:ALA:HB3	1.93	0.50
50:SD:225:GLU:HB2	68:Sg:187:ASN:HB3	1.92	0.50
62:SU:94:PRO:HD2	62:SU:97:ILE:HD11	1.93	0.50
82:CC:10:G:N7	82:CC:45:G:C2	2.79	0.50
1:L5:1176:C:O2'	7:LD:282:GLN:NE2	2.44	0.50
1:L5:2343:G:OP2	6:LC:109:ARG:NH1	2.36	0.50
1:L5:2520:C:H1'	1:L5:2640:G:H21	1.76	0.50
1:L5:2714:G:H2'	1:L5:2715:G:H8	1.76	0.50
1:L5:5026:U:O2	1:L5:5027:C:N4	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LB:216:MET:HG2	5:LB:281:ASN:HA	1.94	0.50
9:LF:127:LYS:HB2	22:LT:133:ALA:HB3	1.93	0.50
47:S2:1299:A:OP1	57:SP:59:ARG:NH1	2.44	0.50
47:S2:1424:G:H21	61:ST:3:GLY:H	1.58	0.50
49:SB:98:THR:O	49:SB:232:HIS:NE2	2.38	0.50
59:SR:111:PHE:HA	59:SR:114:LEU:HD13	1.93	0.50
70:SG:57:ASP:OD1	70:SG:58:LYS:N	2.40	0.50
1:L5:490:C:H2'	1:L5:491:G:C8	2.46	0.50
12:LI:44:ASP:OD1	12:LI:44:ASP:N	2.43	0.50
12:LI:54:SER:HB3	12:LI:135:ILE:HD11	1.92	0.50
24:LV:58:GLY:N	24:LV:81:VAL:O	2.41	0.50
25:LW:101:ARG:NH1	70:SG:156:TYR:OH	2.45	0.50
36:Lh:86:LYS:O	36:Lh:92:ARG:NH1	2.44	0.50
47:S2:154:U:O2	70:SG:4:ASN:ND2	2.40	0.50
47:S2:508:A:H3'	47:S2:509:G:H8	1.76	0.50
47:S2:838:G:O2'	47:S2:840:C:OP2	2.24	0.50
47:S2:1775:U:C2	47:S2:1776:G:N2	2.80	0.50
71:SJ:113:GLN:O	71:SJ:117:LEU:HB2	2.11	0.50
1:L5:3664:G:H2'	1:L5:3665:G:H8	1.76	0.50
1:L5:4092:G:H3'	1:L5:4093:G:H21	1.76	0.50
7:LD:208:MET:HB3	7:LD:233:PRO:HG3	1.94	0.50
43:Lo:65:LYS:HG3	43:Lo:87:ARG:HE	1.75	0.50
47:S2:520:A:H5"	71:SJ:12:THR:HG23	1.93	0.50
47:S2:555:A:C5	47:S2:557:U:N3	2.79	0.50
48:SA:79:SER:O	48:SA:84:GLN:NE2	2.45	0.50
64:SX:68:LYS:HB3	64:SX:91:LEU:HD22	1.93	0.50
81:CA:237:ALA:HB1	81:CA:308:LEU:HB3	1.93	0.50
1:L5:662:C:H2'	1:L5:663:G:C8	2.46	0.50
1:L5:1709:C:N4	1:L5:1716:G:C6	2.80	0.50
1:L5:2486:G:O6	1:L5:2494:U:N3	2.45	0.50
1:L5:3951:G:O6	1:L5:4060:U:O4	2.30	0.50
1:L5:4238:G:H2'	1:L5:4239:A:C8	2.47	0.50
33:Le:119:ALA:HB2	45:Lr:119:ARG:HH12	1.77	0.50
36:Lh:97:LYS:O	36:Lh:101:ASN:ND2	2.45	0.50
47:S2:355:G:OP1	56:SL:105:ARG:NH1	2.38	0.50
47:S2:587:A:OP1	71:SJ:176:LYS:NZ	2.45	0.50
50:SD:194:PRO:HG3	50:SD:198:ILE:HG12	1.93	0.50
72:SM:22:LEU:HD11	72:SM:89:VAL:HG12	1.93	0.50
78:Sb:34:ASP:HA	78:Sb:44:THR:O	2.12	0.50
82:CC:27:U:O4	82:CC:43:G:O6	2.29	0.50
83:CE:50:GLU:HA	83:CE:53:LYS:HE3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2745:A:H2'	1:L5:2746:A:C8	2.46	0.50
1:L5:4044:U:N3	46:Lz:95:LYS:O	2.43	0.50
1:L5:4888:U:O2	1:L5:4931:G:C2	2.64	0.50
25:LW:97:LYS:HE3	70:SG:146:ASN:HB3	1.93	0.50
47:S2:943:U:O2'	74:SO:135:ILE:O	2.29	0.50
47:S2:1589:A:N3	47:S2:1653:U:O2'	2.40	0.50
54:SI:134:GLU:O	54:SI:138:ASN:ND2	2.45	0.50
55:SK:26:ASP:N	55:SK:26:ASP:OD1	2.43	0.50
65:Sa:45:VAL:HG11	65:Sa:64:LEU:HD13	1.93	0.50
77:SZ:68:ILE:HB	77:SZ:109:TYR:HB2	1.92	0.50
81:CA:242:GLN:HB3	81:CA:307:VAL:HG21	1.94	0.50
1:L5:662:C:H2'	1:L5:663:G:H8	1.77	0.50
1:L5:1654:G:N2	1:L5:1678:C:OP1	2.45	0.50
1:L5:5006:U:H4'	1:L5:5007:A:H5'	1.94	0.50
1:L5:5027:C:OP2	54:SI:77:ARG:NH1	2.45	0.50
6:LC:334:THR:HG22	6:LC:337:ARG:HH11	1.77	0.50
34:Lf:36:ARG:HD2	34:Lf:80:ASN:H	1.76	0.50
47:S2:1:U:O2	47:S2:3:C:C4	2.65	0.50
47:S2:1016:U:H5"	73:SN:14:SER:HB3	1.92	0.50
47:S2:1156:U:O4	69:SC:194:ARG:NH1	2.35	0.50
48:SA:163:CYS:SG	48:SA:164:ASN:N	2.83	0.50
59:SR:79:GLU:O	59:SR:83:ASN:CB	2.60	0.50
68:Sg:84:ASP:OD1	68:Sg:84:ASP:N	2.42	0.50
1:L5:67:C:OP2	1:L5:312:G:N2	2.40	0.50
1:L5:4941:G:OP2	8:LE:188:ARG:NH1	2.40	0.50
1:L5:5055:G:H2'	1:L5:5056:A:C8	2.47	0.50
7:LD:77:ALA:O	7:LD:108:ARG:NH2	2.45	0.50
9:LF:144:TYR:CE2	9:LF:237:GLU:HG3	2.47	0.50
47:S2:1:U:C2	47:S2:3:C:C4	3.00	0.50
47:S2:640:A:H2'	47:S2:641:A:C8	2.47	0.50
47:S2:1673:U:H5"	58:SQ:78:VAL:HG22	1.93	0.50
60:SS:45:LEU:HB3	60:SS:52:LEU:HD11	1.94	0.50
60:SS:63:GLU:HG2	60:SS:66:ARG:HH22	1.76	0.50
47:S2:1421:A:H5"	47:S2:1422:G:H2'	1.94	0.49
48:SA:81:ASN:OD1	48:SA:81:ASN:N	2.43	0.49
75:SW:80:ASP:OD1	75:SW:80:ASP:N	2.36	0.49
1:L5:65:A:N6	1:L5:74:G:N2	2.60	0.49
1:L5:216:C:OP2	1:L5:219:G:O2'	2.27	0.49
1:L5:1480:C:O2'	1:L5:1482:G:OP2	2.29	0.49
1:L5:1555:G:O6	44:Lp:4:ARG:NH1	2.39	0.49
1:L5:1807:C:O2'	22:LT:110:LYS:NZ	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LB:80:GLU:OE1	5:LB:323:TYR:OH	2.29	0.49
47:S2:372:U:O2'	56:SL:82:MET:SD	2.67	0.49
53:SH:29:GLU:HG3	53:SH:86:LYS:HZ3	1.77	0.49
1:L5:500:G:O4'	1:L5:504:G:N2	2.39	0.49
1:L5:3654:G:O2'	1:L5:3693:U:OP1	2.29	0.49
1:L5:4281:A:H2'	1:L5:4282:A:H2'	1.93	0.49
6:LC:283:LYS:NZ	19:LQ:22:ASP:OD2	2.37	0.49
8:LE:188:ARG:NH2	8:LE:214:ASP:OD1	2.45	0.49
28:LZ:92:ASP:HB3	28:LZ:95:VAL:HG12	1.93	0.49
50:SD:93:THR:HB	50:SD:96:LEU:HD23	1.94	0.49
72:SM:59:PRO:HA	72:SM:62:VAL:HG22	1.94	0.49
82:CC:68:C:H2'	82:CC:69:G:C8	2.47	0.49
1:L5:1316:G:OP1	33:Le:43:ASN:ND2	2.45	0.49
1:L5:4441:A:H5"	12:LI:114:GLY:HA2	1.93	0.49
27:LY:39:ARG:O	27:LY:42:TYR:C	2.56	0.49
47:S2:1528:G:O2'	47:S2:1666:C:OP1	2.29	0.49
47:S2:1700:C:O2	47:S2:1834:A:N6	2.46	0.49
49:SB:179:ASN:HB3	49:SB:183:GLU:HB2	1.95	0.49
52:SF:27:ASP:N	52:SF:27:ASP:OD1	2.46	0.49
57:SP:60:LEU:HD13	57:SP:89:MET:HG3	1.93	0.49
72:SM:22:LEU:HD21	72:SM:89:VAL:HA	1.93	0.49
1:L5:461:G:H2'	1:L5:462:G:H8	1.78	0.49
1:L5:962:C:N3	1:L5:2095:A:C5	2.81	0.49
1:L5:1086:C:H2'	1:L5:1087:A:H8	1.78	0.49
1:L5:2782:U:OP2	40:Ll:10:LYS:NZ	2.44	0.49
1:L5:2811:G:N1	1:L5:2814:C:OP2	2.28	0.49
1:L5:4098:A:H2'	1:L5:4099:G:H4'	1.95	0.49
3:L8:62:A:OP1	36:Lh:52:LYS:NZ	2.40	0.49
5:LB:58:ARG:NE	5:LB:74:GLU:OE2	2.44	0.49
8:LE:221:LYS:HA	8:LE:237:LYS:HE3	1.94	0.49
19:LQ:62:SER:HB3	19:LQ:65:ARG:HG3	1.94	0.49
47:S2:862:A:H4'	75:SW:36:ARG:HH12	1.77	0.49
48:SA:4:ALA:N	63:SV:79:VAL:O	2.45	0.49
69:SC:202:THR:N	69:SC:221:ASP:OD2	2.45	0.49
81:CA:161:ASN:HB3	81:CA:165:GLN:NE2	2.28	0.49
1:L5:267:G:OP1	36:Lh:109:ARG:NH2	2.45	0.49
1:L5:4883:C:N4	8:LE:181:LEU:O	2.35	0.49
1:L5:4980:C:N3	18:LP:69:ARG:NH2	2.56	0.49
11:LH:171:ASP:O	11:LH:174:LYS:C	2.56	0.49
12:LI:91:LEU:HD21	12:LI:129:VAL:HB	1.94	0.49
24:LV:65:VAL:HG13	24:LV:73:ARG:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LX:147:LEU:HB3	81:CA:287:LYS:HD2	1.94	0.49
29:La:71:PRO:HG2	29:La:108:TYR:HA	1.93	0.49
46:Lz:66:CYS:HB2	46:Lz:82:ILE:HB	1.94	0.49
47:S2:847:A:OP1	51:SE:108:ARG:NH1	2.46	0.49
57:SP:111:MET:HE2	60:SS:117:ILE:HG23	1.95	0.49
65:Sa:46:GLU:O	65:Sa:49:ALA:N	2.37	0.49
72:SM:69:CYS:O	72:SM:72:HIS:C	2.56	0.49
81:CA:154:LEU:HD11	81:CA:332:ARG:HB2	1.93	0.49
1:L5:499:G:N3	1:L5:504:G:N1	2.61	0.49
1:L5:2083:C:OP2	19:LQ:14:ARG:NH2	2.45	0.49
1:L5:2630:U:O4	23:LU:89:LYS:NZ	2.44	0.49
1:L5:4565:C:OP1	17:LO:65:ASN:ND2	2.40	0.49
1:L5:4922:C:C4	1:L5:4923:C:N4	2.81	0.49
4:LA:33:ASP:N	4:LA:33:ASP:OD1	2.44	0.49
5:LB:286:LYS:HB3	5:LB:332:MET:HB3	1.94	0.49
47:S2:507:G:O6	76:SY:105:LYS:NZ	2.45	0.49
47:S2:928:G:H2'	47:S2:929:G:C8	2.48	0.49
47:S2:1700:C:C4	47:S2:1834:A:N1	2.81	0.49
64:SX:140:ARG:HE	64:SX:142:ARG:HH12	1.61	0.49
76:SY:83:LYS:HE2	76:SY:96:LEU:HD13	1.93	0.49
82:CC:28:C:H2'	82:CC:29:A:C8	2.48	0.49
1:L5:909:A:H2'	1:L5:910:G:H8	1.78	0.49
1:L5:3928:A:OP1	16:LN:90:ASN:ND2	2.45	0.49
8:LE:223:ARG:NH1	8:LE:236:GLU:O	2.41	0.49
10:LG:80:ILE:HG23	10:LG:164:ILE:HD13	1.94	0.49
23:LU:98:ASP:OD1	23:LU:98:ASP:N	2.45	0.49
72:SM:49:LEU:HD11	72:SM:77:ILE:HG12	1.94	0.49
1:L5:4600:G:O2'	1:L5:4609:G:N1	2.44	0.49
8:LE:218:LYS:O	8:LE:220:LYS:NZ	2.45	0.49
12:LI:170:LYS:HA	12:LI:177:ASN:HA	1.95	0.49
47:S2:906:U:H2'	47:S2:907:G:H8	1.76	0.49
47:S2:1171:G:O2'	47:S2:1187:G:O6	2.28	0.49
47:S2:1230:C:H2'	47:S2:1231:C:H6	1.78	0.49
51:SE:122:LYS:NZ	51:SE:124:CYS:SG	2.79	0.49
57:SP:21:ASP:H	57:SP:24:GLN:HE21	1.61	0.49
1:L5:186:G:N2	1:L5:1365:C:O2'	2.46	0.49
1:L5:457:G:O6	1:L5:700:G:C6	2.65	0.49
1:L5:1279:A:O2'	6:LC:323:ARG:NH2	2.46	0.49
1:L5:1785:C:OP1	12:LI:133:GLN:NE2	2.45	0.49
1:L5:2484:A:C6	1:L5:2486:G:N1	2.81	0.49
1:L5:2578:G:OP2	28:LZ:111:ARG:NH2	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2838:G:H5'	5:LB:247:GLY:HA2	1.94	0.49
1:L5:3960:A:N7	1:L5:4043:G:C5	2.81	0.49
1:L5:4093:G:H2'	1:L5:4094:G:C8	2.48	0.49
1:L5:4238:G:H2'	1:L5:4239:A:H8	1.76	0.49
10:LG:220:GLU:HA	10:LG:223:ARG:HG2	1.95	0.49
12:LI:5:PRO:HB2	12:LI:7:ARG:HG2	1.95	0.49
12:LI:61:SER:OG	12:LI:63:GLU:OE1	2.31	0.49
14:LL:27:ASN:HD21	14:LL:31:ARG:HH11	1.61	0.49
29:La:72:THR:HG22	29:La:110:LYS:HB3	1.95	0.49
47:S2:526:A:OP1	79:Se:31:ARG:NH2	2.42	0.49
51:SE:159:THR:HB	51:SE:173:ILE:HG23	1.94	0.49
1:L5:199:G:N7	1:L5:237:G:C2	2.81	0.48
1:L5:3736:A:H2'	1:L5:3737:A:C8	2.48	0.48
1:L5:4194:U:H5'	30:Lb:3:LYS:HD3	1.93	0.48
1:L5:4522:G:O2'	1:L5:4525:C:OP2	2.26	0.48
1:L5:4877:G:OP1	15:LM:101:LYS:NZ	2.44	0.48
13:LJ:20:LEU:O	13:LJ:131:TYR:O	2.31	0.48
47:S2:609:U:H2'	47:S2:610:G:H8	1.78	0.48
47:S2:1417:C:H42	47:S2:1422:G:H1	1.59	0.48
72:SM:95:ASP:OD2	72:SM:95:ASP:N	2.45	0.48
76:SY:55:ILE:HG23	76:SY:75:ILE:HG12	1.95	0.48
82:CC:17:G:H4'	82:CC:59:U:C2	2.48	0.48
1:L5:386:A:OP2	27:LY:89:LYS:NZ	2.38	0.48
1:L5:1333:A:H2'	1:L5:1334:A:C8	2.48	0.48
1:L5:1399:G:H2'	1:L5:1400:G:C8	2.49	0.48
1:L5:1443:A:C2	1:L5:2103:G:C2	2.96	0.48
1:L5:2554:U:C2	1:L5:2764:A:N7	2.81	0.48
1:L5:3726:A:H2'	1:L5:3727:A:C8	2.48	0.48
1:L5:3788:C:N4	1:L5:3812:C:OP2	2.44	0.48
1:L5:4935:C:H2'	1:L5:4936:G:C8	2.48	0.48
6:LC:218:ILE:O	6:LC:222:ARG:HB2	2.13	0.48
10:LG:209:SER:HA	10:LG:212:LYS:HE2	1.94	0.48
47:S2:447:A:OP1	54:SI:49:ARG:NH2	2.45	0.48
53:SH:49:LYS:HB2	53:SH:61:ILE:HG12	1.96	0.48
55:SK:3:MET:HG2	55:SK:8:ARG:HH21	1.79	0.48
57:SP:87:PRO:HB3	57:SP:112:ILE:HD11	1.95	0.48
57:SP:98:ASN:ND2	57:SP:121:ILE:O	2.45	0.48
67:Sd:49:ASP:OD1	67:Sd:49:ASP:N	2.33	0.48
73:SN:130:LYS:NZ	73:SN:139:TRP:O	2.35	0.48
1:L5:162:A:H2'	1:L5:163:A:C8	2.47	0.48
1:L5:2582:A:OP1	35:Lg:76:ARG:NH1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LE:151:ILE:HA	8:LE:160:LYS:O	2.13	0.48
26:LX:93:ASN:HB2	26:LX:95:THR:HG22	1.95	0.48
42:Ln:1:MET:HG3	47:S2:1706:G:H5'	1.95	0.48
47:S2:67:C:O2'	47:S2:69:C:OP2	2.30	0.48
47:S2:1391:C:H4'	67:Sd:55:LEU:HD21	1.95	0.48
48:SA:76:VAL:HG12	48:SA:123:VAL:HB	1.95	0.48
49:SB:27:LYS:HD2	49:SB:51:ARG:HB2	1.95	0.48
50:SD:35:SER:O	50:SD:35:SER:OG	2.30	0.48
58:SQ:116:ASP:HB3	58:SQ:119:LEU:HD12	1.94	0.48
68:Sg:82:SER:OG	68:Sg:86:THR:OG1	2.30	0.48
1:L5:139:G:H2'	1:L5:140:G:C8	2.48	0.48
1:L5:1734:G:N2	1:L5:1735:U:O4	2.37	0.48
1:L5:3770:U:C4	1:L5:3771:C:N4	2.82	0.48
47:S2:496:C:OP1	51:SE:49:ARG:NH1	2.46	0.48
47:S2:1643:U:OP1	58:SQ:145:TYR:OH	2.31	0.48
48:SA:90:PHE:HD1	48:SA:179:ALA:HB2	1.78	0.48
60:SS:141:ARG:O	60:SS:144:ARG:O	2.31	0.48
1:L5:1270:A:O2'	1:L5:1439:C:O2	2.24	0.48
1:L5:1982:G:N1	1:L5:1989:G:N2	2.61	0.48
28:LZ:25:ILE:HA	28:LZ:43:VAL:HG12	1.94	0.48
47:S2:1329:U:O2'	47:S2:1332:A:OP2	2.27	0.48
49:SB:129:THR:OG1	49:SB:179:ASN:O	2.32	0.48
49:SB:163:GLN:HG3	49:SB:204:ILE:HD13	1.96	0.48
58:SQ:34:VAL:HA	58:SQ:70:VAL:HG22	1.95	0.48
68:Sg:5:MET:HB3	68:Sg:310:TRP:HB3	1.95	0.48
75:SW:85:ASP:OD1	75:SW:85:ASP:N	2.43	0.48
1:L5:1252:C:N4	1:L5:1253:G:N3	2.61	0.48
1:L5:2411:C:H2'	1:L5:2412:A:H8	1.78	0.48
4:LA:107:MET:O	4:LA:139:HIS:NE2	2.43	0.48
11:LH:92:MET:HE2	11:LH:179:ILE:HG22	1.93	0.48
26:LX:64:SER:HB2	36:Lh:69:LEU:HD13	1.94	0.48
47:S2:158:A:H2'	47:S2:159:A:O4'	2.14	0.48
47:S2:878:G:C6	47:S2:908:A:N1	2.80	0.48
81:CA:81:SER:HG	81:CA:85:CYS:HG	1.56	0.48
1:L5:88:A:N7	19:LQ:173:LYS:NZ	2.61	0.48
1:L5:691:C:H2'	1:L5:692:A:C8	2.49	0.48
1:L5:715:G:OP1	6:LC:321:ASN:ND2	2.43	0.48
1:L5:989:U:O2	1:L5:1065:G:C6	2.66	0.48
1:L5:2562:G:N2	1:L5:2565:A:OP2	2.46	0.48
1:L5:3970:G:O2'	1:L5:4051:C:O2	2.30	0.48
13:LJ:55:TYR:HA	13:LJ:64:ARG:HB3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LL:7:GLY:O	29:La:49:HIS:NE2	2.38	0.48
46:Lz:26:ARG:HB2	46:Lz:210:MET:HE1	1.94	0.48
46:Lz:175:THR:HG23	46:Lz:177:ASP:H	1.77	0.48
47:S2:385:G:O2'	54:SI:10:LYS:NZ	2.36	0.48
47:S2:1578:U:O2	50:SD:4:GLN:NE2	2.46	0.48
54:SI:138:ASN:OD1	54:SI:139:LYS:N	2.46	0.48
66:Sc:28:THR:O	66:Sc:45:ASN:HA	2.13	0.48
69:SC:104:ASP:HB3	69:SC:130:ILE:HG13	1.95	0.48
72:SM:28:HIS:NE2	72:SM:114:TYR:O	2.47	0.48
1:L5:1508:A:OP1	6:LC:110:ARG:NH1	2.47	0.48
1:L5:1707:C:C2	30:Lb:103:LYS:HB2	2.49	0.48
1:L5:2014:C:N4	1:L5:2015:U:O2	2.46	0.48
6:LC:144:ILE:HG22	6:LC:147:VAL:HG21	1.95	0.48
14:LL:17:ASP:HB3	14:LL:21:ARG:HH12	1.79	0.48
45:Lr:28:GLU:HG2	45:Lr:31:ASN:HB2	1.94	0.48
47:S2:17:C:O2'	47:S2:1194:A:N1	2.42	0.48
47:S2:28:U:H2'	47:S2:29:G:H8	1.79	0.48
47:S2:550:C:H2'	47:S2:551:U:C6	2.49	0.48
47:S2:836:G:OP2	76:SY:8:ARG:NH2	2.47	0.48
68:Sg:11:LEU:HB2	68:Sg:307:VAL:HB	1.95	0.48
69:SC:253:PRO:HA	69:SC:256:TRP:CG	2.49	0.48
1:L5:2010:A:H2'	1:L5:2011:C:H5	1.79	0.48
1:L5:3967:G:N2	1:L5:4055:U:O2	2.47	0.48
24:LV:58:GLY:HA2	24:LV:125:CYS:HB3	1.95	0.48
47:S2:1446:A:H5"	62:SU:58:THR:HG23	1.95	0.48
52:SF:82:ASN:OD1	52:SF:82:ASN:N	2.47	0.48
66:Sc:29:GLN:HB3	66:Sc:43:ILE:HD11	1.94	0.48
70:SG:138:ALA:HA	70:SG:141:ILE:HG22	1.96	0.48
80:Sf:141:CYS:O	80:Sf:145:CYS:CA	2.61	0.48
1:L5:68:U:OP1	16:LN:178:HIS:ND1	2.39	0.48
1:L5:163:A:H2'	1:L5:164:G:C8	2.47	0.48
1:L5:318:A:H2'	1:L5:319:A:C8	2.49	0.48
1:L5:2744:A:H2'	1:L5:2745:A:C8	2.49	0.48
1:L5:3965:A:N6	1:L5:4048:A:N7	2.62	0.48
1:L5:4929:C:H5"	15:LM:114:LYS:HD2	1.96	0.48
8:LE:95:PRO:HA	8:LE:104:THR:HG22	1.96	0.48
21:LS:16:CYS:SG	21:LS:17:LEU:N	2.87	0.48
21:LS:85:ASP:OD1	21:LS:85:ASP:N	2.47	0.48
33:Le:106:LYS:HA	33:Le:109:LYS:HE3	1.96	0.48
47:S2:1091:C:OP1	73:SN:9:LYS:NZ	2.42	0.48
56:SL:5:GLN:NE2	56:SL:11:GLN:O	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SX:90:CYS:O	64:SX:94:ILE:HG12	2.14	0.48
68:Sg:32:LEU:HA	68:Sg:41:ILE:O	2.13	0.48
1:L5:318:A:H2'	1:L5:319:A:H8	1.78	0.47
1:L5:433:A:N1	1:L5:3866:C:O2'	2.44	0.47
1:L5:4907:G:N1	1:L5:4914:C:N3	2.39	0.47
11:LH:59:LYS:HB2	11:LH:70:VAL:HG21	1.96	0.47
46:Lz:41:TYR:HB3	46:Lz:163:LEU:HD12	1.96	0.47
47:S2:639:C:H2'	47:S2:640:A:H8	1.79	0.47
47:S2:885:U:O2	47:S2:901:G:N2	2.38	0.47
47:S2:948:C:H2'	47:S2:949:G:H8	1.79	0.47
47:S2:1010:G:H2'	47:S2:1011:A:C8	2.49	0.47
47:S2:1199:A:H5"	65:Sa:2:THR:HB	1.96	0.47
69:SC:169:TYR:OH	69:SC:175:GLY:O	2.27	0.47
1:L5:678:C:H4'	45:Lr:96:MET:HE2	1.95	0.47
1:L5:3861:A:H2'	1:L5:3862:A:C8	2.49	0.47
1:L5:4347:G:H2'	1:L5:4348:A:C8	2.49	0.47
5:LB:305:THR:O	5:LB:305:THR:OG1	2.32	0.47
8:LE:152:ILE:O	8:LE:159:GLY:N	2.47	0.47
9:LF:101:VAL:O	9:LF:106:ARG:NH1	2.47	0.47
15:LM:15:VAL:HG22	15:LM:50:MET:HE1	1.96	0.47
31:Lc:38:ILE:HG21	31:Lc:63:TYR:HB3	1.96	0.47
47:S2:857:U:H2'	47:S2:858:A:C8	2.49	0.47
81:CA:20:LYS:HA	81:CA:23:MET:HG3	1.96	0.47
81:CA:227:ASP:HB3	81:CA:320:LYS:HD3	1.96	0.47
1:L5:1760:G:N2	1:L5:1761:G:O6	2.43	0.47
1:L5:2088:A:OP2	19:LQ:37:ARG:NH1	2.47	0.47
1:L5:2407:G:OP2	1:L5:2407:G:N2	2.38	0.47
1:L5:3955:G:C2	1:L5:3966:A:C8	3.02	0.47
1:L5:4743:G:H2'	1:L5:4744:A:H8	1.78	0.47
34:Lf:11:PHE:O	34:Lf:98:GLY:N	2.47	0.47
47:S2:1324:G:N2	47:S2:1504:U:O2	2.34	0.47
59:SR:99:ASP:HB3	59:SR:102:THR:HG22	1.96	0.47
73:SN:29:THR:OG1	73:SN:30:SER:N	2.45	0.47
1:L5:697:G:H2'	1:L5:698:G:C8	2.50	0.47
1:L5:756:G:H2'	1:L5:757:G:C8	2.48	0.47
1:L5:1179:U:H3'	1:L5:1180:C:H5"	1.96	0.47
1:L5:1646:A:O2'	38:Lj:49:TRP:O	2.25	0.47
1:L5:1942:A:H2'	1:L5:1943:A:C8	2.50	0.47
1:L5:2295:C:H2'	1:L5:2296:G:H8	1.79	0.47
1:L5:5016:A:N6	1:L5:5033:G:O2'	2.47	0.47
5:LB:10:ARG:NH1	5:LB:265:SER:O	2.37	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LD:53:VAL:O	7:LD:54:ARG:NH1	2.40	0.47
21:LS:161:ARG:HE	21:LS:164:LYS:HB2	1.79	0.47
44:Lp:30:GLU:HA	44:Lp:33:GLN:HG2	1.96	0.47
47:S2:848:U:H2'	47:S2:849:A:H8	1.79	0.47
51:SE:60:GLU:HA	51:SE:63:LYS:HG2	1.97	0.47
70:SG:181:THR:HB	70:SG:184:VAL:HG23	1.96	0.47
81:CA:239:ASP:OD1	81:CA:239:ASP:N	2.44	0.47
1:L5:906:C:H2'	1:L5:907:C:C6	2.50	0.47
1:L5:1962:A:H5"	1:L5:2024:G:H22	1.80	0.47
1:L5:3960:A:C5	1:L5:4043:G:C6	3.02	0.47
1:L5:4426:C:N4	1:L5:4427:G:O6	2.47	0.47
18:LP:122:ALA:HB3	18:LP:143:PRO:HG2	1.96	0.47
20:LR:2:SER:OG	20:LR:3:MET:N	2.46	0.47
47:S2:746:C:O2'	47:S2:798:G:N1	2.42	0.47
47:S2:1094:C:O2	75:SW:16:ASN:ND2	2.47	0.47
47:S2:1220:A:N3	47:S2:1677:U:O2'	2.40	0.47
47:S2:1277:C:H2'	47:S2:1278:A:H8	1.78	0.47
56:SL:153:LYS:HA	56:SL:153:LYS:HD2	1.66	0.47
69:SC:278:THR:HA	69:SC:279:ARG:HD2	1.95	0.47
81:CA:59:GLU:HA	81:CA:62:LYS:HG2	1.96	0.47
82:CC:49:G:H2'	82:CC:50:G:C8	2.49	0.47
1:L5:679:C:H2'	1:L5:680:G:C8	2.49	0.47
1:L5:1443:A:N1	1:L5:2103:G:C6	2.82	0.47
28:LZ:12:LEU:HB3	28:LZ:81:MET:HB3	1.97	0.47
28:LZ:48:ARG:HB2	28:LZ:69:LYS:HB3	1.96	0.47
47:S2:528:A:C6	47:S2:558:G:O6	2.68	0.47
47:S2:1405:A:H2'	47:S2:1406:G:O4'	2.14	0.47
49:SB:67:PHE:O	49:SB:86:LEU:HB2	2.14	0.47
57:SP:121:ILE:HG22	60:SS:120:HIS:HD2	1.80	0.47
61:ST:25:SER:HB2	61:ST:27:LYS:HZ1	1.79	0.47
72:SM:57:ASP:OD2	72:SM:57:ASP:N	2.41	0.47
73:SN:100:LYS:HG2	73:SN:104:ARG:HH22	1.79	0.47
81:CA:11:THR:HG23	81:CA:13:ALA:H	1.80	0.47
1:L5:228:C:O2'	27:LY:14:ASN:ND2	2.47	0.47
1:L5:654:C:H4'	6:LC:269:LYS:HB3	1.97	0.47
1:L5:690:C:H2'	1:L5:691:C:H6	1.80	0.47
1:L5:749:G:N1	1:L5:912:G:O2'	2.46	0.47
1:L5:1207:C:H2'	1:L5:1208:G:H8	1.80	0.47
1:L5:1761:G:C2	1:L5:1768:C:N3	2.79	0.47
1:L5:1830:G:H2'	1:L5:1831:G:C8	2.50	0.47
1:L5:2580:U:O2'	28:LZ:79:HIS:ND1	2.42	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2835:A:O2'	5:LB:228:TYR:O	2.27	0.47
1:L5:3965:A:O2'	1:L5:4050:A:OP2	2.30	0.47
1:L5:4208:U:OP1	1:L5:4334:U:O2'	2.27	0.47
1:L5:4239:A:H2'	1:L5:4240:G:C8	2.50	0.47
1:L5:4325:A:O2'	7:LD:48:LYS:NZ	2.36	0.47
1:L5:4645:C:OP2	20:LR:62:ARG:NH1	2.48	0.47
5:LB:85:VAL:HA	5:LB:203:GLN:O	2.15	0.47
8:LE:185:PRO:HG2	8:LE:187:ARG:HG3	1.97	0.47
11:LH:93:ARG:HD3	11:LH:143:GLU:HB3	1.96	0.47
24:LV:82:ILE:HD12	24:LV:121:VAL:HG22	1.96	0.47
25:LW:113:LYS:NZ	47:S2:327:G:O3'	2.47	0.47
25:LW:123:LYS:NZ	47:S2:321:C:OP2	2.37	0.47
34:Lf:9:ALA:HB2	34:Lf:30:ILE:HG12	1.95	0.47
47:S2:30:C:OP1	64:SX:138:LYS:NZ	2.42	0.47
47:S2:166:A:H2'	47:S2:167:G:H8	1.79	0.47
47:S2:870:A:H5'	47:S2:872:A:H1'	1.95	0.47
47:S2:1244:U:H2'	47:S2:1245:G:H8	1.79	0.47
47:S2:1779:G:H2'	47:S2:1780:G:C8	2.49	0.47
73:SN:31:ASP:OD1	73:SN:31:ASP:N	2.46	0.47
74:SO:103:ASN:ND2	74:SO:140:THR:O	2.47	0.47
1:L5:1191:C:H2'	1:L5:1192:C:H6	1.80	0.47
1:L5:3641:U:H5	1:L5:3646:A:N7	2.12	0.47
1:L5:4966:A:H5'	5:LB:128:LYS:HG3	1.97	0.47
5:LB:302:ASN:O	5:LB:304:SER:N	2.47	0.47
14:LL:177:LYS:HB3	14:LL:180:ALA:HB3	1.97	0.47
15:LM:52:PHE:HA	15:LM:55:MET:HG2	1.96	0.47
30:Lb:13:SER:HA	30:Lb:16:TRP:NE1	2.30	0.47
33:Le:82:VAL:O	33:Le:86:GLU:HG2	2.15	0.47
46:Lz:59:PRO:HG2	46:Lz:62:LYS:HB2	1.97	0.47
49:SB:34:LYS:HG3	49:SB:95:ASN:HD21	1.80	0.47
51:SE:71:LYS:NZ	51:SE:74:GLY:O	2.42	0.47
68:Sg:165:ILE:HG22	68:Sg:177:TRP:HB2	1.97	0.47
1:L5:457:G:H5"	8:LE:115:TYR:HB3	1.97	0.47
1:L5:1413:C:N4	1:L5:1414:C:N4	2.63	0.47
1:L5:1787:A:N3	1:L5:4210:U:O2'	2.45	0.47
1:L5:4537:C:H2'	1:L5:4538:G:C8	2.50	0.47
13:LJ:35:ARG:HD2	13:LJ:123:ILE:HA	1.96	0.47
17:LO:190:ASP:OD1	17:LO:190:ASP:N	2.47	0.47
18:LP:33:ALA:HA	18:LP:36:ILE:HG22	1.97	0.47
25:LW:106:GLU:HA	25:LW:109:ILE:HG22	1.96	0.47
49:SB:174:ARG:NH1	49:SB:175:GLU:OE2	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SV:43:THR:HG23	63:SV:45:ARG:H	1.79	0.47
64:SX:67:ARG:NH1	64:SX:114:ASP:OD2	2.36	0.47
68:Sg:47:ARG:HG3	68:Sg:52:TYR:CZ	2.50	0.47
82:CC:69:G:H2'	82:CC:70:G:C8	2.50	0.47
1:L5:1253:G:HO2'	1:L5:1257:A:H62	1.63	0.47
1:L5:1457:G:O2'	19:LQ:75:ARG:NH2	2.43	0.47
1:L5:1933:G:H2'	1:L5:1934:A:C8	2.50	0.47
36:Lh:99:GLU:HA	36:Lh:102:LEU:HG	1.96	0.47
48:SA:183:LEU:O	48:SA:188:THR:OG1	2.31	0.47
59:SR:120:THR:OG1	59:SR:121:GLN:N	2.48	0.47
81:CA:138:ARG:NH2	81:CA:232:SER:O	2.48	0.47
1:L5:280:G:H5"	16:LN:14:LYS:HE3	1.97	0.46
1:L5:2845:A:H61	1:L5:3843:C:H42	1.63	0.46
1:L5:3951:G:N2	1:L5:4060:U:O2	2.48	0.46
1:L5:4167:G:O2'	4:LA:119:LYS:NZ	2.46	0.46
25:LW:71:ARG:HD2	25:LW:73:ARG:HE	1.80	0.46
26:LX:143:ASP:N	26:LX:143:ASP:OD1	2.48	0.46
47:S2:28:U:H2'	47:S2:29:G:C8	2.50	0.46
47:S2:1217:A:H2'	47:S2:1218:C:C6	2.49	0.46
47:S2:1568:C:H2'	47:S2:1569:A:C8	2.49	0.46
64:SX:90:CYS:HA	64:SX:93:PHE:HB2	1.97	0.46
1:L5:1339:U:H2'	1:L5:1340:C:C6	2.50	0.46
1:L5:2562:G:N2	1:L5:2564:G:H3'	2.30	0.46
1:L5:2812:A:H5'	20:LR:88:ARG:HG2	1.96	0.46
1:L5:4088:C:H2'	1:L5:4089:G:C8	2.50	0.46
7:LD:258:LYS:H	7:LD:259:LYS:HZ2	1.63	0.46
36:Lh:10:ARG:NH2	36:Lh:63:GLN:OE1	2.39	0.46
45:Lr:47:LYS:HB2	45:Lr:102:TYR:CZ	2.50	0.46
47:S2:71:G:N2	47:S2:73:C:OP1	2.48	0.46
47:S2:1651:A:O2'	52:SF:83:ASN:OD1	2.24	0.46
47:S2:1700:C:N3	47:S2:1834:A:C6	2.83	0.46
56:SL:149:ALA:O	73:SN:133:ARG:NH1	2.48	0.46
59:SR:79:GLU:O	59:SR:83:ASN:HB2	2.14	0.46
67:Sd:3:HIS:CE1	67:Sd:5:GLN:HB2	2.50	0.46
69:SC:104:ASP:OD2	69:SC:104:ASP:N	2.48	0.46
1:L5:176:G:H2'	1:L5:177:G:C8	2.50	0.46
1:L5:3877:A:N3	1:L5:4401:G:O2'	2.37	0.46
9:LF:92:VAL:O	9:LF:120:GLY:HA2	2.16	0.46
10:LG:50:ASP:HB2	26:LX:40:ILE:HD12	1.97	0.46
13:LJ:120:ASP:HB3	13:LJ:123:ILE:HG12	1.97	0.46
32:Ld:53:ALA:HA	32:Ld:88:LEU:HD21	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1101:U:H2'	47:S2:1102:G:H8	1.81	0.46
47:S2:1252:C:OP1	62:SU:75:LYS:NZ	2.47	0.46
55:SK:20:VAL:HA	55:SK:69:TRP:O	2.16	0.46
56:SL:135:SER:OG	56:SL:136:LYS:N	2.48	0.46
60:SS:35:GLY:O	60:SS:97:GLN:NE2	2.48	0.46
82:CC:26:A:N1	82:CC:45:G:N2	2.62	0.46
1:L5:280:G:O6	16:LN:15:GLN:NE2	2.47	0.46
1:L5:418:A:C2	3:L8:17:A:H1'	2.50	0.46
1:L5:724:C:H1'	6:LC:343:GLN:HG2	1.98	0.46
1:L5:1978:C:O2'	1:L5:1990:A:N6	2.49	0.46
1:L5:4163:U:H5'	1:L5:4164:C:H5"	1.96	0.46
16:LN:84:PRO:HA	16:LN:87:HIS:CG	2.50	0.46
16:LN:116:LEU:HD22	16:LN:135:ILE:HD11	1.97	0.46
17:LO:45:GLY:O	17:LO:50:ASN:ND2	2.47	0.46
20:LR:40:GLN:HE22	81:CA:256:GLY:HA3	1.80	0.46
30:Lb:109:ARG:HA	30:Lb:112:ILE:HG22	1.97	0.46
46:Lz:16:GLU:HG2	46:Lz:18:LEU:HD13	1.98	0.46
46:Lz:212:LYS:HE2	46:Lz:212:LYS:HB2	1.81	0.46
47:S2:385:G:H3'	56:SL:136:LYS:HB2	1.98	0.46
53:SH:129:ILE:HG21	53:SH:180:LEU:HD11	1.98	0.46
60:SS:105:ASN:HA	60:SS:108:ARG:HE	1.81	0.46
1:L5:267:G:H2'	1:L5:268:G:H8	1.80	0.46
1:L5:1992:U:H4'	1:L5:2002:A:H2	1.81	0.46
1:L5:2909:C:O5'	1:L5:3586:G:N2	2.39	0.46
1:L5:3599:A:H2'	1:L5:3600:G:C8	2.51	0.46
1:L5:3664:G:H2'	1:L5:3665:G:C8	2.49	0.46
14:LL:178:ALA:N	29:La:134:GLU:OE2	2.48	0.46
16:LN:98:LEU:HA	16:LN:101:VAL:HG12	1.96	0.46
31:Lc:31:TYR:OH	31:Lc:59:GLU:OE2	2.34	0.46
33:Le:103:VAL:O	33:Le:108:ARG:NH2	2.48	0.46
47:S2:1098:C:H2'	47:S2:1099:G:C8	2.49	0.46
47:S2:1402:A:N6	47:S2:1441:U:O2'	2.48	0.46
47:S2:1588:A:H2'	47:S2:1589:A:C8	2.51	0.46
51:SE:21:ASP:N	51:SE:21:ASP:OD1	2.40	0.46
52:SF:187:SER:HB2	52:SF:190:ILE:HG12	1.98	0.46
68:Sg:57:ARG:HH22	68:Sg:92:LEU:HA	1.81	0.46
68:Sg:178:ASN:OD1	68:Sg:183:LYS:N	2.44	0.46
75:SW:36:ARG:HA	75:SW:39:THR:HG22	1.97	0.46
77:SZ:99:LEU:HD21	77:SZ:102:LYS:HB2	1.96	0.46
1:L5:326:C:OP2	37:Li:28:ARG:NH2	2.43	0.46
1:L5:1238:A:O3'	9:LF:48:LYS:NZ	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2902:G:N7	1:L5:2903:G:N2	2.63	0.46
1:L5:4321:U:H2'	1:L5:4322:G:C8	2.50	0.46
1:L5:4893:A:OP1	17:LO:188:LYS:NZ	2.39	0.46
47:S2:795:A:H2'	47:S2:796:G:C8	2.51	0.46
47:S2:1095:C:O2	47:S2:1149:A:N6	2.45	0.46
47:S2:1748:G:O6	47:S2:1786:U:O4	2.33	0.46
77:SZ:70:PRO:HA	77:SZ:73:VAL:HG22	1.97	0.46
81:CA:11:THR:OG1	81:CA:221:HIS:O	2.33	0.46
1:L5:1100:U:C2	1:L5:1195:G:C2	3.04	0.46
1:L5:1969:G:C2	1:L5:1999:A:C2	2.89	0.46
1:L5:2399:G:O2'	1:L5:2822:G:O2'	2.33	0.46
1:L5:3971:G:C6	1:L5:4050:A:N7	2.83	0.46
1:L5:4736:C:H2'	1:L5:4737:G:H8	1.80	0.46
1:L5:4954:G:H2'	1:L5:4955:A:C8	2.51	0.46
1:L5:4967:A:H2'	1:L5:4968:A:C8	2.51	0.46
3:L8:141:C:H2'	3:L8:142:U:C6	2.51	0.46
4:LA:47:ASP:HB3	4:LA:60:LYS:HB2	1.98	0.46
8:LE:223:ARG:HH22	8:LE:237:LYS:HB3	1.80	0.46
45:Lr:105:ASP:OD1	45:Lr:105:ASP:N	2.42	0.46
47:S2:1115:U:H3	47:S2:1118:C:N4	2.14	0.46
47:S2:1317:C:H2'	47:S2:1318:G:C8	2.50	0.46
68:Sg:201:SER:OG	68:Sg:203:ASP:OD1	2.30	0.46
72:SM:86:GLY:HA2	72:SM:89:VAL:HG22	1.98	0.46
1:L5:3961:G:N2	1:L5:3964:U:O3'	2.48	0.46
2:L7:12:U:O3'	2:L7:109:U:O2'	2.32	0.46
16:LN:158:HIS:HB3	16:LN:161:MET:HB2	1.98	0.46
47:S2:455:A:H2'	47:S2:456:C:C6	2.50	0.46
47:S2:656:G:N3	69:SC:227:ARG:NH2	2.64	0.46
47:S2:1256:G:N2	67:Sd:30:LEU:O	2.40	0.46
47:S2:1751:C:H42	47:S2:1782:G:H21	1.64	0.46
62:SU:54:VAL:HB	62:SU:88:LEU:HG	1.98	0.46
71:SJ:101:LYS:HE2	71:SJ:103:GLU:HB2	1.96	0.46
72:SM:31:LEU:HD12	72:SM:111:VAL:HA	1.98	0.46
76:SY:62:THR:HA	76:SY:69:THR:HA	1.98	0.46
78:Sb:52:THR:OG1	78:Sb:53:VAL:N	2.49	0.46
1:L5:1395:U:OP1	14:LL:183:ARG:NH1	2.49	0.46
1:L5:1629:G:H1	4:LA:208:GLU:HG2	1.81	0.46
1:L5:1757:U:H5	1:L5:4255:A:H5'	1.80	0.46
1:L5:4431:U:OP2	12:LI:3:ARG:NH2	2.49	0.46
2:L7:8:G:O6	7:LD:21:ARG:NH2	2.49	0.46
14:LL:117:LEU:HD23	14:LL:117:LEU:HA	1.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LT:124:THR:OG1	22:LT:125:TRP:N	2.49	0.46
24:LV:83:ARG:HB2	24:LV:102:ALA:HB3	1.98	0.46
47:S2:639:C:H2'	47:S2:640:A:C8	2.50	0.46
47:S2:694:G:H2'	47:S2:695:C:O4'	2.16	0.46
47:S2:1562:C:H2'	47:S2:1563:G:H8	1.81	0.46
47:S2:1594:A:H1'	61:ST:16:ARG:HH22	1.81	0.46
47:S2:1630:A:O2'	60:SS:85:ASN:ND2	2.48	0.46
55:SK:31:LYS:NZ	55:SK:32:HIS:O	2.45	0.46
66:Sc:61:SER:OG	66:Sc:62:GLU:OE1	2.26	0.46
68:Sg:72:SER:OG	68:Sg:74:ASP:OD1	2.27	0.46
81:CA:153:ALA:HA	81:CA:156:LEU:HG	1.98	0.46
1:L5:161:G:H2'	1:L5:162:A:H8	1.80	0.46
1:L5:308:G:OP2	1:L5:308:G:N2	2.37	0.46
1:L5:2018:C:C4	1:L5:2019:C:N4	2.83	0.46
1:L5:2260:C:OP1	8:LE:108:LYS:NZ	2.39	0.46
2:L7:49:A:H3'	7:LD:225:GLN:HE21	1.79	0.46
11:LH:2:LYS:HD3	15:LM:33:GLN:HE22	1.80	0.46
26:LX:87:MET:HE2	81:CA:294:VAL:HG11	1.97	0.46
30:Lb:99:ILE:O	30:Lb:109:ARG:NH1	2.49	0.46
47:S2:526:A:H2'	47:S2:527:C:C6	2.51	0.46
47:S2:1203:G:H2'	47:S2:1204:A:C8	2.51	0.46
47:S2:1705:C:H2'	47:S2:1706:G:C8	2.51	0.46
47:S2:1711:U:H2'	47:S2:1712:A:H8	1.81	0.46
51:SE:45:ILE:HA	51:SE:61:VAL:HG11	1.97	0.46
53:SH:105:THR:HG23	53:SH:107:LYS:H	1.81	0.46
54:SI:13:LYS:HE2	54:SI:13:LYS:HB3	1.72	0.46
59:SR:67:ARG:HA	59:SR:68:GLY:HA3	1.64	0.46
62:SU:23:THR:OG1	62:SU:113:GLU:OE2	2.31	0.46
83:CE:68:LYS:HD3	83:CE:71:GLN:HE21	1.81	0.46
1:L5:962:C:H42	1:L5:1701:A:H2	1.58	0.45
1:L5:1074:G:H3'	1:L5:1075:G:H8	1.81	0.45
1:L5:1091:C:H2'	1:L5:1092:G:C8	2.51	0.45
1:L5:1751:A:H2'	1:L5:1752:G:C8	2.52	0.45
1:L5:2480:G:H2'	1:L5:2481:G:C8	2.51	0.45
1:L5:2640:G:H2'	1:L5:2641:A:C8	2.51	0.45
1:L5:3758:U:O2	1:L5:3767:C:N3	2.49	0.45
3:L8:75:G:OP2	27:LY:74:TYR:OH	2.30	0.45
5:LB:396:ARG:O	5:LB:400:GLU:HG2	2.16	0.45
6:LC:5:ARG:NH1	6:LC:24:LEU:O	2.49	0.45
11:LH:107:GLU:OE1	11:LH:107:GLU:N	2.48	0.45
12:LI:55:ASP:OD2	12:LI:55:ASP:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:LP:24:VAL:HG12	18:LP:86:LYS:HD3	1.97	0.45
35:Lg:42:PRO:HB2	35:Lg:53:LEU:HD12	1.98	0.45
46:Lz:20:GLY:HA3	46:Lz:23:ARG:HH11	1.80	0.45
47:S2:143:U:H4'	47:S2:144:U:H5'	1.98	0.45
47:S2:367:U:H4'	47:S2:371:A:C8	2.52	0.45
47:S2:1143:A:H5'	69:SC:190:SER:HB3	1.98	0.45
47:S2:1777:G:H2'	47:S2:1778:C:C6	2.51	0.45
49:SB:53:GLN:HG3	49:SB:56:LYS:HE3	1.96	0.45
62:SU:26:SER:OG	62:SU:27:ARG:N	2.50	0.45
62:SU:97:ILE:O	62:SU:101:ILE:HG12	2.16	0.45
78:Sb:62:VAL:HG13	78:Sb:74:THR:HG21	1.98	0.45
1:L5:137:G:H2'	1:L5:138:G:C8	2.51	0.45
1:L5:162:A:H2'	1:L5:163:A:H8	1.80	0.45
1:L5:255:C:N4	1:L5:256:G:O6	2.50	0.45
1:L5:935:A:O2'	15:LM:44:GLN:O	2.27	0.45
1:L5:1353:G:N7	19:LQ:104:ARG:NH1	2.62	0.45
1:L5:1749:A:H2'	1:L5:1750:G:C8	2.52	0.45
1:L5:1973:G:O6	1:L5:1995:G:O2'	2.31	0.45
1:L5:2651:C:O2'	1:L5:2653:C:OP1	2.27	0.45
1:L5:3960:A:H62	1:L5:4048:A:N6	2.14	0.45
16:LN:96:ARG:NH1	16:LN:104:GLU:OE1	2.49	0.45
20:LR:178:GLN:O	20:LR:182:GLU:HG2	2.16	0.45
46:Lz:91:LYS:NZ	46:Lz:123:ILE:O	2.37	0.45
47:S2:551:U:H2'	47:S2:552:G:C8	2.50	0.45
47:S2:691:G:N2	47:S2:691:G:OP2	2.50	0.45
52:SF:178:ILE:HG13	52:SF:182:LYS:HE3	1.98	0.45
53:SH:82:GLU:HA	53:SH:85:LYS:HZ3	1.81	0.45
58:SQ:25:CYS:HA	58:SQ:68:ILE:HA	1.98	0.45
58:SQ:54:PRO:O	58:SQ:58:LEU:HB2	2.16	0.45
71:SJ:155:LYS:HE3	71:SJ:155:LYS:HB3	1.79	0.45
82:CC:41:U:H2'	82:CC:42:G:C8	2.51	0.45
1:L5:2014:C:C4	1:L5:2015:U:H1'	2.52	0.45
1:L5:2098:G:H2'	1:L5:2099:G:C8	2.52	0.45
1:L5:2792:C:O2'	38:Lj:11:ARG:NH2	2.48	0.45
1:L5:3721:U:H2'	1:L5:3722:G:H8	1.81	0.45
47:S2:1013:U:OP1	47:S2:1129:G:O2'	2.33	0.45
47:S2:1465:A:O3'	59:SR:10:LYS:NZ	2.49	0.45
57:SP:91:GLY:N	57:SP:107:ILE:O	2.50	0.45
60:SS:124:ARG:NE	60:SS:130:ARG:O	2.41	0.45
81:CA:129:VAL:HG11	81:CA:342:LEU:HD11	1.99	0.45
81:CA:134:GLN:NE2	81:CA:342:LEU:O	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:230:G:OP1	27:LY:15:ARG:NH1	2.48	0.45
1:L5:749:G:N2	1:L5:750:U:O4	2.43	0.45
1:L5:1176:C:H42	1:L5:1184:A:H61	0.70	0.45
1:L5:2484:A:C5	1:L5:2495:U:C2	3.04	0.45
1:L5:2705:G:O6	20:LR:46:LYS:NZ	2.40	0.45
1:L5:3917:A:H2'	1:L5:3918:G:H8	1.81	0.45
4:LA:22:HIS:O	4:LA:24:LYS:NZ	2.48	0.45
5:LB:300:LYS:O	5:LB:304:SER:OG	2.32	0.45
26:LX:39:LYS:HD2	26:LX:39:LYS:HA	1.75	0.45
46:Lz:200:ASN:OD1	46:Lz:200:ASN:N	2.50	0.45
49:SB:87:ILE:C	49:SB:98:THR:HG1	2.22	0.45
52:SF:70:GLU:OE2	52:SF:86:LYS:NZ	2.41	0.45
1:L5:29:G:H5"	16:LN:172:ARG:HG2	1.99	0.45
1:L5:517:C:HO2'	1:L5:644:G:H1	1.59	0.45
1:L5:1478:C:H2'	1:L5:1479:G:H8	1.80	0.45
1:L5:1604:G:H2'	1:L5:1605:G:C8	2.51	0.45
1:L5:2874:U:O2'	1:L5:2876:G:N7	2.49	0.45
1:L5:4318:C:O2'	43:Lo:18:HIS:ND1	2.43	0.45
16:LN:159:ARG:HB3	16:LN:164:LEU:HB2	1.97	0.45
18:LP:36:ILE:HD11	18:LP:95:LEU:HD11	1.98	0.45
20:LR:60:ARG:O	20:LR:64:ARG:HB2	2.16	0.45
47:S2:588:G:H4'	47:S2:589:G:H5'	1.98	0.45
49:SB:98:THR:OG1	49:SB:99:ASN:N	2.50	0.45
53:SH:10:LYS:NZ	53:SH:17:ASP:OD1	2.50	0.45
53:SH:105:THR:OG1	53:SH:106:ARG:N	2.49	0.45
55:SK:20:VAL:HG12	55:SK:70:TYR:HA	1.99	0.45
1:L5:369:G:N2	1:L5:372:A:OP2	2.38	0.45
1:L5:1554:A:OP2	44:Lp:4:ARG:NE	2.45	0.45
1:L5:1857:C:H2'	1:L5:1858:A:H8	1.81	0.45
1:L5:2745:A:H2'	1:L5:2746:A:H8	1.82	0.45
1:L5:5016:A:N1	1:L5:5033:G:N3	2.64	0.45
1:L5:5055:G:H2'	1:L5:5056:A:H8	1.82	0.45
8:LE:262:LYS:NZ	8:LE:268:GLN:OE1	2.38	0.45
13:LJ:120:ASP:OD2	13:LJ:122:SER:OG	2.33	0.45
47:S2:876:C:H2'	47:S2:877:C:C6	2.52	0.45
55:SK:64:TRP:CG	67:Sd:23:VAL:HG13	2.51	0.45
61:ST:5:THR:HG22	61:ST:6:VAL:H	1.81	0.45
82:CC:43:G:H2'	82:CC:44:A:C8	2.52	0.45
83:CE:29:LYS:O	83:CE:33:GLU:HG2	2.17	0.45
2:L7:7:G:H5"	7:LD:22:ARG:HD3	1.97	0.45
8:LE:190:HIS:HD2	8:LE:192:LYS:HB2	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:LP:94:MET:HE2	18:LP:94:MET:HB3	1.77	0.45
47:S2:448:A:H5"	54:SI:25:ARG:HA	1.96	0.45
47:S2:747:U:O4	47:S2:796:G:O6	2.35	0.45
57:SP:111:MET:HB2	57:SP:119:PHE:CZ	2.52	0.45
58:SQ:102:GLU:OE2	68:Sg:58:ALA:N	2.50	0.45
58:SQ:106:LYS:HA	58:SQ:106:LYS:HD2	1.85	0.45
68:Sg:237:ASN:ND2	68:Sg:286:CYS:O	2.50	0.45
71:SJ:63:LEU:HD11	71:SJ:69:ARG:HH21	1.81	0.45
73:SN:40:LEU:HB3	73:SN:45:LEU:HD12	1.99	0.45
1:L5:989:U:O2	1:L5:1064:G:C6	2.70	0.45
1:L5:2345:G:N7	29:La:9:ARG:NH2	2.65	0.45
1:L5:3933:G:H2'	1:L5:3934:G:H8	1.81	0.45
1:L5:3958:G:O5'	82:CC:18:G:O2'	2.34	0.45
1:L5:4530:U:H2'	1:L5:4531:U:H2'	1.99	0.45
36:Lh:55:ALA:O	36:Lh:59:THR:OG1	2.33	0.45
47:S2:1275:G:N2	47:S2:1506:A:OP2	2.43	0.45
47:S2:1674:G:H4'	52:SF:77:MET:HE1	1.99	0.45
68:Sg:107:ASP:N	68:Sg:107:ASP:OD1	2.49	0.45
68:Sg:258:ILE:HB	68:Sg:268:ASP:HB2	1.99	0.45
81:CA:81:SER:HB2	81:CA:107:LYS:HE2	1.98	0.45
81:CA:157:VAL:HG22	81:CA:325:LEU:HD22	1.99	0.45
1:L5:97:G:OP1	14:LL:16:LYS:NZ	2.48	0.45
1:L5:921:C:H2'	1:L5:922:C:C6	2.52	0.45
1:L5:3932:U:H2'	1:L5:3933:G:C8	2.51	0.45
1:L5:4088:C:H2'	1:L5:4089:G:H8	1.81	0.45
1:L5:4896:G:H2'	1:L5:4897:G:H8	1.82	0.45
11:LH:16:VAL:HA	11:LH:29:GLY:HA2	1.99	0.45
11:LH:41:ILE:HD13	11:LH:69:THR:HB	1.99	0.45
25:LW:71:ARG:NH1	47:S2:1783:C:N3	2.64	0.45
46:Lz:95:LYS:HD2	46:Lz:104:ALA:HB1	1.98	0.45
47:S2:944:A:H5"	74:SO:134:PRO:HB3	1.99	0.45
47:S2:1201:U:H2'	47:S2:1202:U:C6	2.52	0.45
47:S2:1700:C:C2	47:S2:1834:A:N6	2.84	0.45
47:S2:1778:C:H2'	47:S2:1779:G:O4'	2.17	0.45
47:S2:1808:U:H2'	47:S2:1809:A:C8	2.52	0.45
49:SB:189:ILE:HG13	49:SB:190:PRO:HD3	1.99	0.45
57:SP:96:VAL:HG11	57:SP:116:LEU:HB3	1.97	0.45
71:SJ:143:ASN:OD1	71:SJ:143:ASN:N	2.50	0.45
80:Sf:107:LYS:O	80:Sf:115:SER:OG	2.32	0.45
81:CA:46:LEU:HD21	81:CA:93:LYS:HA	1.98	0.45
82:CC:14:A:H61	82:CC:21:A:H2	1.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:CE:11:LYS:HB3	83:CE:11:LYS:HE3	1.82	0.45
1:L5:268:G:H2'	1:L5:269:G:C8	2.50	0.45
1:L5:1308:C:H2'	1:L5:1309:C:C6	2.52	0.45
1:L5:2580:U:OP1	28:LZ:36:ARG:NH2	2.42	0.45
1:L5:2696:A:H62	39:Lk:35:LYS:HE2	1.81	0.45
1:L5:4274:A:H2'	1:L5:4275:G:H8	1.79	0.45
1:L5:4954:G:H2'	1:L5:4955:A:H8	1.82	0.45
9:LF:179:LEU:HB3	9:LF:184:ILE:HB	1.99	0.45
10:LG:117:ARG:HG3	10:LG:121:LYS:HE3	1.98	0.45
18:LP:6:LEU:HD12	18:LP:116:HIS:CD2	2.52	0.45
47:S2:130:G:O2'	47:S2:131:C:O3'	2.33	0.45
50:SD:162:ASP:HB3	50:SD:166:TYR:CE2	2.52	0.45
53:SH:144:ILE:HD11	53:SH:152:ARG:HD3	1.99	0.45
56:SL:29:GLY:HA3	56:SL:30:LYS:HA	1.57	0.45
57:SP:30:TYR:HA	57:SP:33:LEU:HG	1.99	0.45
62:SU:20:ILE:HD11	62:SU:91:LEU:HD12	1.99	0.45
67:Sd:56:ASP:N	67:Sd:56:ASP:OD1	2.49	0.45
68:Sg:183:LYS:HD3	68:Sg:183:LYS:HA	1.85	0.45
71:SJ:93:LYS:HE2	71:SJ:96:TYR:HE2	1.81	0.45
80:Sf:137:ASP:HB2	80:Sf:150:PHE:HB3	1.99	0.45
81:CA:162:GLN:N	81:CA:165:GLN:HE21	2.15	0.45
12:LI:45:GLU:OE1	12:LI:45:GLU:N	2.48	0.44
46:Lz:143:ASN:ND2	46:Lz:150:GLU:OE1	2.49	0.44
50:SD:75:LYS:HB3	55:SK:22:VAL:HG11	1.99	0.44
53:SH:77:VAL:HA	53:SH:80:VAL:HG12	1.98	0.44
1:L5:1523:A:N3	1:L5:4389:C:O2'	2.46	0.44
1:L5:4740:G:O6	1:L5:4959:U:O2	2.34	0.44
9:LF:144:TYR:HE2	9:LF:237:GLU:HG3	1.82	0.44
9:LF:236:ARG:HD3	9:LF:239:GLN:HB2	1.99	0.44
14:LL:172:GLU:O	14:LL:175:ASN:C	2.60	0.44
17:LO:10:ASP:HB2	17:LO:117:ARG:HB3	1.99	0.44
24:LV:131:ARG:O	24:LV:134:SER:OG	2.35	0.44
27:LY:101:PRO:HA	27:LY:104:VAL:HG22	1.99	0.44
33:Le:76:LYS:O	45:Lr:23:GLN:NE2	2.50	0.44
33:Le:81:ASN:HA	33:Le:111:ILE:HD11	2.00	0.44
45:Lr:108:MET:O	45:Lr:112:ARG:HG2	2.17	0.44
47:S2:1374:C:OP1	59:SR:14:ARG:NH2	2.43	0.44
55:SK:31:LYS:HA	55:SK:31:LYS:HD2	1.73	0.44
1:L5:1195:G:H2'	1:L5:1196:G:C8	2.52	0.44
1:L5:1317:U:H2'	1:L5:1318:C:C6	2.53	0.44
4:LA:51:ASP:OD2	4:LA:54:ARG:NH1	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LC:368:LYS:HA	6:LC:368:LYS:HD3	1.83	0.44
10:LG:120:LYS:HA	10:LG:120:LYS:HD3	1.75	0.44
29:La:36:GLY:HA3	29:La:40:HIS:CE1	2.52	0.44
35:Lg:19:LYS:HD3	35:Lg:19:LYS:HA	1.77	0.44
45:Lr:38:PHE:O	45:Lr:45:HIS:NE2	2.44	0.44
47:S2:563:G:N7	47:S2:586:G:N2	2.65	0.44
47:S2:932:G:O2'	47:S2:934:G:OP2	2.34	0.44
47:S2:1351:G:O2'	47:S2:1378:A:N1	2.42	0.44
54:SI:144:LYS:HG3	54:SI:145:ILE:HD12	2.00	0.44
82:CC:28:C:H2'	82:CC:29:A:H8	1.82	0.44
1:L5:261:G:H2'	1:L5:262:G:C8	2.52	0.44
1:L5:498:C:C2	1:L5:499:G:H1'	2.53	0.44
1:L5:1258:G:H2'	1:L5:1259:G:C8	2.53	0.44
1:L5:3596:A:H4'	20:LR:143:HIS:HB3	2.00	0.44
1:L5:3747:A:N7	4:LA:245:ARG:HD3	2.33	0.44
1:L5:4258:C:O3'	13:LJ:51:SER:OG	2.34	0.44
14:LL:21:ARG:HB3	16:LN:197:THR:HA	1.99	0.44
28:LZ:4:PHE:HE2	31:Lc:67:ALA:HB2	1.82	0.44
31:Lc:37:MET:HA	31:Lc:40:GLN:HE21	1.82	0.44
45:Lr:32:LEU:HD21	45:Lr:50:GLY:HA2	1.99	0.44
46:Lz:160:LYS:HG2	46:Lz:161:LYS:H	1.83	0.44
46:Lz:189:PHE:O	46:Lz:192:SER:OG	2.31	0.44
57:SP:22:LEU:HD13	57:SP:25:LEU:HD12	1.99	0.44
57:SP:76:VAL:HG23	57:SP:94:VAL:HG22	1.99	0.44
1:L5:1326:A:H2'	1:L5:1327:C:C6	2.52	0.44
1:L5:1773:U:H2'	1:L5:1774:C:O4'	2.17	0.44
1:L5:2558:C:H2'	1:L5:2559:G:C8	2.53	0.44
1:L5:2640:G:H2'	1:L5:2641:A:H8	1.83	0.44
1:L5:3770:U:N3	1:L5:3771:C:N4	2.66	0.44
10:LG:100:HIS:HA	10:LG:103:ARG:HG3	1.99	0.44
15:LM:96:GLU:HA	15:LM:99:GLU:HG3	1.99	0.44
17:LO:54:TYR:OH	17:LO:73:PHE:O	2.35	0.44
23:LU:56:LEU:HB3	23:LU:61:VAL:HG22	1.99	0.44
42:Ln:15:ARG:NH2	47:S2:1183:A:OP1	2.50	0.44
43:Lo:99:ARG:HB2	43:Lo:102:GLN:HE22	1.83	0.44
55:SK:42:ASN:HA	55:SK:45:VAL:HG22	1.99	0.44
72:SM:75:ASN:OD1	72:SM:75:ASN:N	2.48	0.44
77:SZ:48:VAL:HG22	77:SZ:80:ARG:HE	1.82	0.44
1:L5:444:G:H22	1:L5:1303:A:H2	1.65	0.44
1:L5:1914:C:OP1	17:LO:25:LYS:NZ	2.42	0.44
1:L5:3949:A:N6	1:L5:4064:C:N4	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L7:54:A:OP1	13:LJ:8:LYS:NZ	2.51	0.44
3:L8:19:C:H2'	3:L8:20:A:C8	2.52	0.44
4:LA:28:ARG:HD2	4:LA:123:ARG:HD2	2.00	0.44
20:LR:135:LYS:O	20:LR:139:MET:HB2	2.18	0.44
46:Lz:35:GLN:HG3	46:Lz:166:ALA:HA	2.00	0.44
47:S2:118:C:H1'	47:S2:445:A:C5	2.52	0.44
47:S2:165:G:OP2	47:S2:165:G:N2	2.37	0.44
47:S2:912:C:N3	47:S2:914:U:C2	2.83	0.44
47:S2:1298:G:H5'	57:SP:77:LYS:HB2	1.98	0.44
53:SH:7:LYS:NZ	53:SH:24:SER:OG	2.51	0.44
53:SH:143:ARG:HB2	53:SH:155:LYS:HB2	1.99	0.44
58:SQ:80:GLN:O	58:SQ:84:ILE:HG12	2.17	0.44
60:SS:54:LYS:HZ3	60:SS:59:LEU:HD13	1.81	0.44
72:SM:126:GLU:HA	72:SM:129:LYS:HG2	2.00	0.44
1:L5:62:A:OP1	16:LN:172:ARG:NH1	2.49	0.44
1:L5:351:C:OP2	6:LC:197:ARG:NH1	2.41	0.44
1:L5:703:G:H2'	1:L5:704:C:H4'	1.99	0.44
1:L5:1443:A:N1	1:L5:2104:G:N3	2.65	0.44
1:L5:1720:C:OP1	1:L5:1835:G:O2'	2.34	0.44
1:L5:1769:G:H1'	57:SP:10:ARG:HH12	1.82	0.44
1:L5:3611:A:H2	1:L5:5016:A:H8	1.66	0.44
12:LI:52:MET:HE2	12:LI:52:MET:HB3	1.72	0.44
17:LO:194:GLU:O	17:LO:198:THR:OG1	2.31	0.44
32:Ld:54:MET:O	32:Ld:57:MET:C	2.61	0.44
47:S2:529:A:H2'	47:S2:530:U:C6	2.52	0.44
47:S2:534:G:H2'	47:S2:535:G:C8	2.53	0.44
47:S2:857:U:H2'	47:S2:858:A:H8	1.83	0.44
52:SF:126:THR:HA	52:SF:135:ARG:HD2	2.00	0.44
68:Sg:20:GLN:HB3	68:Sg:34:ALA:HB3	1.99	0.44
68:Sg:63:SER:OG	68:Sg:84:ASP:OD2	2.36	0.44
69:SC:244:ILE:HA	69:SC:247:THR:HG23	1.99	0.44
70:SG:43:GLU:HA	70:SG:46:LYS:HE2	2.00	0.44
71:SJ:112:THR:HG22	71:SJ:123:ILE:HD11	1.99	0.44
77:SZ:102:LYS:HA	77:SZ:102:LYS:HD2	1.76	0.44
81:CA:227:ASP:OD1	81:CA:227:ASP:N	2.51	0.44
1:L5:83:C:O2'	1:L5:100:C:N4	2.51	0.44
1:L5:1346:C:H2'	1:L5:1347:G:H8	1.83	0.44
1:L5:2418:A:H5'	18:LP:125:MET:HE1	2.00	0.44
1:L5:3663:A:H61	1:L5:4168:G:HO2'	1.64	0.44
1:L5:4322:G:N2	1:L5:4325:A:OP2	2.43	0.44
1:L5:4745:G:H1	1:L5:4955:A:H61	1.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LD:247:ILE:HA	7:LD:247:ILE:HD13	1.87	0.44
8:LE:88:VAL:HA	8:LE:89:LEU:HA	1.75	0.44
8:LE:223:ARG:HA	8:LE:224:LYS:HA	1.69	0.44
16:LN:36:LEU:HD21	16:LN:109:HIS:CG	2.53	0.44
16:LN:39:ALA:HB3	16:LN:61:ILE:HB	2.00	0.44
38:Lj:33:THR:HA	38:Lj:40:PRO:HD3	1.99	0.44
38:Lj:67:LEU:HD23	38:Lj:67:LEU:HA	1.86	0.44
47:S2:177:G:H22	47:S2:313:A:H5'	1.83	0.44
47:S2:1210:G:OP1	65:Sa:82:LYS:NZ	2.45	0.44
47:S2:1598:G:OP2	77:SZ:82:SER:OG	2.29	0.44
58:SQ:42:ILE:HG13	58:SQ:43:GLU:H	1.83	0.44
60:SS:46:ARG:HA	60:SS:46:ARG:HD3	1.70	0.44
68:Sg:119:GLN:HB3	68:Sg:131:LEU:HD11	1.99	0.44
70:SG:229:ALA:HA	70:SG:232:ARG:HG2	2.00	0.44
83:CE:47:MET:O	83:CE:51:GLN:HG3	2.18	0.44
1:L5:1776:A:H5"	83:CE:64:LEU:HD11	2.00	0.44
1:L5:3968:U:O4	1:L5:4053:A:O2'	2.32	0.44
1:L5:4194:U:O2'	12:LI:116:ARG:NH1	2.50	0.44
1:L5:4258:C:H2'	1:L5:4259:C:C6	2.51	0.44
9:LF:126:ASN:H	9:LF:129:SER:HG	1.64	0.44
10:LG:162:ASP:OD2	10:LG:187:LYS:NZ	2.51	0.44
11:LH:48:LEU:HD11	11:LH:56:ARG:HB2	1.99	0.44
11:LH:142:ASP:OD1	11:LH:142:ASP:N	2.43	0.44
12:LI:68:ALA:HB1	12:LI:155:ALA:HB1	2.00	0.44
12:LI:99:ILE:HB	12:LI:123:GLN:HG2	2.00	0.44
22:LT:144:ASN:HB2	22:LT:146:LYS:HZ2	1.83	0.44
23:LU:84:LYS:HB2	23:LU:110:TYR:CE2	2.53	0.44
47:S2:141:A:H4'	47:S2:142:C:H3'	2.00	0.44
47:S2:155:G:N2	70:SG:56:ASN:OD1	2.49	0.44
47:S2:201:C:H3'	47:S2:202:G:H21	1.82	0.44
47:S2:1413:G:H2'	47:S2:1414:A:C8	2.52	0.44
47:S2:1619:A:OP1	57:SP:47:ARG:NE	2.50	0.44
47:S2:1653:U:H3	47:S2:1671:G:H1	1.66	0.44
48:SA:120:ARG:CZ	69:SC:267:GLN:HB3	2.48	0.44
58:SQ:17:LYS:HA	58:SQ:126:ARG:HD3	2.00	0.44
62:SU:41:ARG:HA	62:SU:44:LYS:HE2	2.00	0.44
68:Sg:69:VAL:HG12	68:Sg:80:SER:HB3	1.99	0.44
71:SJ:26:ASP:HB2	79:Se:42:PHE:HZ	1.83	0.44
81:CA:181:PRO:O	81:CA:204:ASN:ND2	2.49	0.44
1:L5:495:C:H2'	1:L5:496:G:C8	2.53	0.43
1:L5:667:A:H5"	1:L5:668:C:H5"	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1211:G:H2'	1:L5:1212:G:C8	2.53	0.43
11:LH:66:GLU:O	11:LH:69:THR:OG1	2.28	0.43
18:LP:54:GLN:HA	18:LP:83:TRP:CD1	2.53	0.43
27:LY:10:ASP:OD2	27:LY:12:SER:OG	2.36	0.43
47:S2:51:U:H2'	47:S2:52:G:C8	2.53	0.43
47:S2:107:A:H2'	47:S2:108:G:C8	2.53	0.43
47:S2:1288:U:N3	47:S2:1311:C:O2	2.46	0.43
47:S2:1407:U:H2'	47:S2:1408:U:C6	2.53	0.43
47:S2:1543:U:P	61:ST:62:ARG:HH12	2.41	0.43
47:S2:1757:G:C8	47:S2:1758:G:H1'	2.51	0.43
52:SF:108:PRO:HA	52:SF:111:VAL:HG12	2.00	0.43
54:SI:117:TYR:HD1	54:SI:152:ARG:HB3	1.82	0.43
60:SS:144:ARG:HD3	60:SS:144:ARG:HA	1.81	0.43
76:SY:132:LYS:HD3	76:SY:132:LYS:HA	1.79	0.43
81:CA:17:VAL:HA	81:CA:20:LYS:HG2	2.00	0.43
1:L5:1217:G:H2'	1:L5:1218:G:C8	2.53	0.43
1:L5:1705:G:H2'	1:L5:1706:A:O4'	2.18	0.43
1:L5:2539:C:H2'	1:L5:2540:C:C6	2.53	0.43
1:L5:2846:G:O2'	24:LV:19:GLY:O	2.27	0.43
1:L5:4504:C:H2'	1:L5:4505:C:C6	2.53	0.43
6:LC:9:SER:HA	6:LC:21:ASN:HD22	1.83	0.43
7:LD:119:TYR:OH	7:LD:139:PRO:O	2.31	0.43
20:LR:176:ARG:NH1	47:S2:909:G:OP1	2.52	0.43
46:Lz:161:LYS:HE2	82:CC:54:U:H5'	2.00	0.43
47:S2:1113:A:H2'	47:S2:1114:U:C6	2.53	0.43
47:S2:1753:C:H5'	47:S2:1780:G:H22	1.82	0.43
48:SA:88:LEU:HD23	48:SA:88:LEU:HA	1.85	0.43
51:SE:79:ASP:HB3	51:SE:82:TYR:HB2	2.00	0.43
57:SP:94:VAL:N	57:SP:104:GLN:HE22	2.16	0.43
64:SX:140:ARG:HE	64:SX:142:ARG:NH1	2.16	0.43
70:SG:228:ILE:HA	70:SG:231:ARG:HE	1.82	0.43
80:Sf:103:LEU:HD12	80:Sf:105:TYR:H	1.83	0.43
1:L5:758:G:O5'	11:LH:52:LYS:NZ	2.41	0.43
1:L5:1552:G:O2'	1:L5:1574:G:N2	2.34	0.43
1:L5:1557:C:H2'	1:L5:1558:A:C8	2.53	0.43
1:L5:2372:U:H2'	1:L5:2373:C:C6	2.53	0.43
1:L5:2758:G:O2'	1:L5:2765:A:N3	2.37	0.43
1:L5:4174:U:H2'	1:L5:4175:G:H8	1.83	0.43
9:LF:222:LYS:HB3	9:LF:231:GLY:HA2	1.99	0.43
22:LT:28:ALA:HA	22:LT:31:MET:HG2	2.00	0.43
25:LW:92:ALA:O	25:LW:96:GLN:NE2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LW:97:LYS:HZ3	25:LW:101:ARG:HH21	1.65	0.43
39:Lk:13:LEU:HA	39:Lk:16:ARG:HG2	2.00	0.43
47:S2:795:A:H2'	47:S2:796:G:H8	1.82	0.43
47:S2:1785:C:O2'	47:S2:1786:U:O4'	2.36	0.43
50:SD:7:LYS:HE2	62:SU:25:THR:HG21	2.00	0.43
50:SD:54:ARG:HH21	50:SD:57:ASN:HD22	1.66	0.43
50:SD:69:LEU:HA	50:SD:72:VAL:HG22	2.00	0.43
52:SF:127:ARG:HE	52:SF:137:GLN:HG3	1.83	0.43
69:SC:176:LYS:HD3	69:SC:176:LYS:HA	1.85	0.43
69:SC:264:SER:O	69:SC:268:GLU:CB	2.66	0.43
77:SZ:65:TYR:HA	77:SZ:111:ARG:HH21	1.84	0.43
1:L5:926:G:H2'	1:L5:927:G:C8	2.54	0.43
1:L5:1306:C:H2'	1:L5:1307:A:C8	2.53	0.43
1:L5:1895:G:O2'	1:L5:1907:A:N3	2.46	0.43
1:L5:2528:G:H4'	1:L5:2783:A:H4'	1.99	0.43
1:L5:4690:G:OP1	11:LH:79:ASN:ND2	2.39	0.43
1:L5:5053:U:H3'	1:L5:5054:C:C6	2.53	0.43
4:LA:101:VAL:HG22	4:LA:165:VAL:HG22	2.01	0.43
6:LC:66:SER:O	6:LC:66:SER:OG	2.34	0.43
12:LI:156:LYS:HE2	12:LI:156:LYS:HB3	1.83	0.43
35:Lg:92:LYS:HE2	35:Lg:92:LYS:HB3	1.80	0.43
47:S2:1275:G:H22	47:S2:1506:A:P	2.39	0.43
47:S2:1289:U:H2'	47:S2:1290:G:C8	2.54	0.43
47:S2:1292:C:N3	80:Sf:138:ARG:NH2	2.55	0.43
47:S2:1600:G:H4'	77:SZ:43:LYS:HE2	2.00	0.43
47:S2:1650:A:H5"	58:SQ:139:ALA:HB2	2.00	0.43
49:SB:94:LYS:HD3	49:SB:94:LYS:HA	1.86	0.43
56:SL:4:ILE:HD12	56:SL:56:ILE:HD12	2.01	0.43
58:SQ:32:ILE:HG23	58:SQ:68:ILE:HD11	2.00	0.43
66:Sc:31:ARG:HA	66:Sc:43:ILE:HA	2.00	0.43
68:Sg:292:SER:OG	68:Sg:294:ASP:OD1	2.34	0.43
72:SM:25:ALA:HA	72:SM:28:HIS:CD2	2.53	0.43
81:CA:228:VAL:O	81:CA:318:GLN:HA	2.19	0.43
1:L5:1399:G:H2'	1:L5:1400:G:H8	1.83	0.43
1:L5:2112:G:O2'	1:L5:2250:C:N4	2.51	0.43
1:L5:2557:G:O6	1:L5:2570:U:O4	2.36	0.43
1:L5:3607:U:H2'	1:L5:3608:A:C8	2.54	0.43
6:LC:257:PHE:HD1	6:LC:257:PHE:HA	1.69	0.43
14:LL:37:LYS:HE2	14:LL:37:LYS:HB3	1.77	0.43
29:La:10:LYS:HD3	29:La:10:LYS:HA	1.81	0.43
47:S2:223:C:H2'	47:S2:224:A:C8	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:477:G:H2'	47:S2:478:G:C8	2.54	0.43
47:S2:521:A:OP1	71:SJ:45:ARG:NH1	2.43	0.43
47:S2:549:C:H2'	47:S2:550:C:C6	2.54	0.43
47:S2:1144:A:H2'	47:S2:1145:A:C8	2.54	0.43
47:S2:1438:A:H2'	47:S2:1439:A:C8	2.54	0.43
47:S2:1648:G:O6	58:SQ:16:LYS:NZ	2.44	0.43
47:S2:1780:G:H3'	47:S2:1781:A:H8	1.84	0.43
52:SF:90:VAL:HA	52:SF:93:VAL:HG12	2.01	0.43
74:SO:150:ARG:HD3	74:SO:150:ARG:H	1.83	0.43
76:SY:29:HIS:O	76:SY:67:GLY:HA2	2.19	0.43
1:L5:905:C:H2'	1:L5:906:C:C6	2.54	0.43
1:L5:1097:C:H2'	1:L5:1098:G:C8	2.54	0.43
1:L5:1590:C:H4'	1:L5:2857:A:H5'	2.01	0.43
1:L5:1973:G:H8	1:L5:1974:U:H2'	1.83	0.43
1:L5:3757:G:HO2'	1:L5:3758:U:H6	1.67	0.43
1:L5:4100:C:O2	1:L5:4111:U:N3	2.51	0.43
2:L7:19:C:OP2	13:LJ:154:LYS:NZ	2.44	0.43
11:LH:59:LYS:HA	11:LH:59:LYS:HD2	1.78	0.43
47:S2:71:G:O6	70:SG:170:ARG:NH1	2.52	0.43
47:S2:106:C:OP1	47:S2:431:G:O2'	2.32	0.43
47:S2:496:C:H5'	51:SE:29:PRO:HA	2.01	0.43
47:S2:1420:G:O2'	47:S2:1421:A:O4'	2.30	0.43
47:S2:1435:C:H41	62:SU:92:HIS:CE1	2.37	0.43
48:SA:209:GLU:O	48:SA:213:GLU:HB2	2.18	0.43
51:SE:136:ILE:HG13	51:SE:138:HIS:CE1	2.54	0.43
1:L5:86:U:O2'	29:La:65:ARG:NH2	2.46	0.43
1:L5:453:G:N2	1:L5:1293:G:N7	2.63	0.43
1:L5:978:G:H2'	1:L5:979:C:C6	2.53	0.43
1:L5:1187:G:H2'	1:L5:1188:C:C6	2.54	0.43
1:L5:1725:U:H2'	1:L5:1726:U:H6	1.84	0.43
1:L5:2583:C:OP2	35:Lg:76:ARG:NH2	2.51	0.43
1:L5:4178:A:H2'	1:L5:4179:G:C8	2.54	0.43
5:LB:302:ASN:HB2	5:LB:313:SER:HA	2.01	0.43
6:LC:135:ALA:O	6:LC:139:SER:OG	2.30	0.43
8:LE:190:HIS:HD2	8:LE:192:LYS:H	1.67	0.43
10:LG:140:VAL:O	10:LG:144:THR:OG1	2.29	0.43
14:LL:126:LEU:HD23	14:LL:137:GLY:HA2	2.01	0.43
23:LU:28:PRO:HB2	23:LU:34:MET:HG2	2.01	0.43
26:LX:122:ALA:N	26:LX:139:ARG:O	2.49	0.43
27:LY:74:TYR:HB3	27:LY:79:VAL:HG12	2.00	0.43
27:LY:82:ILE:HG22	27:LY:83:GLU:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:La:7:LYS:HB3	29:La:7:LYS:HE2	1.83	0.43
34:Lf:96:ALA:O	34:Lf:99:HIS:HB2	2.19	0.43
39:Lk:22:SER:OG	39:Lk:23:VAL:N	2.52	0.43
50:SD:220:THR:OG1	50:SD:221:THR:N	2.50	0.43
60:SS:109:GLU:HA	60:SS:112:GLU:HG3	2.00	0.43
61:ST:108:GLU:OE2	61:ST:121:ARG:NE	2.48	0.43
63:SV:80:SER:OG	63:SV:82:ASN:OD1	2.28	0.43
64:SX:53:GLU:HB2	64:SX:71:ARG:HB3	2.00	0.43
1:L5:462:G:H2'	1:L5:463:A:C8	2.54	0.43
1:L5:4100:C:C2	1:L5:4111:U:N3	2.87	0.43
1:L5:5055:G:N2	32:Ld:118:GLN:OE1	2.42	0.43
3:L8:102:G:OP2	3:L8:104:A:O2'	2.30	0.43
25:LW:96:GLN:HB3	25:LW:100:VAL:HB	2.00	0.43
31:Lc:57:LYS:HB2	31:Lc:57:LYS:HE3	1.81	0.43
46:Lz:145:VAL:HG13	46:Lz:146:ALA:H	1.84	0.43
47:S2:5:U:H2'	47:S2:6:G:H8	1.83	0.43
47:S2:106:C:H2'	47:S2:107:A:C8	2.54	0.43
47:S2:388:U:H2'	47:S2:389:A:C8	2.53	0.43
48:SA:141:ASN:HD22	63:SV:29:HIS:HA	1.84	0.43
54:SI:23:LYS:HB3	54:SI:23:LYS:HE2	1.88	0.43
71:SJ:164:PRO:HB3	71:SJ:170:PRO:HA	2.01	0.43
72:SM:92:CYS:HB3	72:SM:94:ILE:HG12	2.00	0.43
77:SZ:72:VAL:HG23	77:SZ:76:ARG:HH12	1.83	0.43
1:L5:371:A:N3	1:L5:1531:U:O2'	2.50	0.43
1:L5:1346:C:H2'	1:L5:1347:G:C8	2.54	0.43
1:L5:1577:G:O2'	1:L5:1612:G:H4'	2.19	0.43
1:L5:4095:G:H2'	1:L5:4096:C:C4	2.54	0.43
3:L8:67:U:H2'	3:L8:68:G:H8	1.84	0.43
6:LC:29:LYS:HD3	6:LC:29:LYS:HA	1.77	0.43
9:LF:148:LYS:O	9:LF:152:GLU:HG3	2.17	0.43
11:LH:129:ARG:NE	11:LH:156:ASN:OD1	2.44	0.43
14:LL:47:ALA:O	14:LL:149:GLN:NE2	2.52	0.43
17:LO:61:ARG:HA	17:LO:70:PRO:HD2	2.01	0.43
17:LO:186:GLU:HA	17:LO:189:ILE:HG12	2.00	0.43
43:Lo:6:LYS:HG3	43:Lo:94:GLY:HA3	1.99	0.43
47:S2:695:C:H42	47:S2:737:G:H1'	1.84	0.43
47:S2:1101:U:H2'	47:S2:1102:G:C8	2.54	0.43
47:S2:1323:U:H2'	47:S2:1324:G:C8	2.54	0.43
47:S2:1610:G:N2	60:SS:85:ASN:OD1	2.51	0.43
54:SI:145:ILE:HG23	54:SI:148:LYS:HD3	2.00	0.43
55:SK:93:THR:HG23	55:SK:94:LEU:HD12	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SU:44:LYS:HE2	62:SU:44:LYS:HB2	1.82	0.43
68:Sg:148:SER:OG	68:Sg:171:ASP:OD1	2.37	0.43
81:CA:90:SER:O	81:CA:90:SER:OG	2.37	0.43
81:CA:225:ALA:HB1	81:CA:320:LYS:HE2	2.00	0.43
1:L5:37:U:H4'	29:La:32:ARG:HD2	2.01	0.43
1:L5:256:G:H2'	1:L5:257:C:C6	2.54	0.43
1:L5:757:G:H2'	1:L5:758:G:C8	2.54	0.43
1:L5:1079:C:O2	1:L5:1221:G:C2	2.70	0.43
1:L5:1202:C:N3	1:L5:1203:G:O2'	2.52	0.43
1:L5:2343:G:P	6:LC:109:ARG:HH12	2.41	0.43
5:LB:105:VAL:HG12	5:LB:153:MET:HE1	2.01	0.43
10:LG:189:ARG:HG2	10:LG:192:ARG:HH22	1.84	0.43
19:LQ:4:ASP:OD1	19:LQ:4:ASP:N	2.47	0.43
44:Lp:48:LYS:HB2	44:Lp:48:LYS:HE2	1.81	0.43
45:Lr:119:ARG:HG2	45:Lr:122:LYS:HE2	2.00	0.43
47:S2:527:C:H2'	47:S2:528:A:C8	2.54	0.43
47:S2:692:G:O6	47:S2:693:A:N6	2.46	0.43
47:S2:1130:G:OP2	47:S2:1130:G:N2	2.42	0.43
53:SH:184:ASP:OD1	53:SH:184:ASP:N	2.38	0.43
57:SP:29:SER:OG	57:SP:30:TYR:N	2.52	0.43
60:SS:64:VAL:O	60:SS:68:ILE:HG12	2.18	0.43
61:ST:2:PRO:HA	61:ST:3:GLY:HA3	1.72	0.43
71:SJ:137:VAL:HG12	71:SJ:138:ARG:H	1.83	0.43
72:SM:54:SER:HB3	72:SM:78:LYS:HE3	2.01	0.43
1:L5:138:G:H2'	1:L5:139:G:C8	2.53	0.42
1:L5:4742:G:OP1	1:L5:4900:C:N4	2.51	0.42
5:LB:155:LYS:HE3	5:LB:155:LYS:HB2	1.76	0.42
6:LC:133:LEU:HA	6:LC:134:PRO:HD3	1.91	0.42
7:LD:181:PRO:HD2	7:LD:195:HIS:CD2	2.54	0.42
14:LL:50:PRO:HB3	14:LL:150:LEU:HB3	2.01	0.42
24:LV:35:LYS:HA	24:LV:35:LYS:HD3	1.95	0.42
47:S2:416:U:O4	47:S2:417:C:N4	2.52	0.42
47:S2:975:G:OP1	74:SO:98:ARG:NH1	2.52	0.42
47:S2:1016:U:OP1	78:Sb:30:SER:OG	2.35	0.42
47:S2:1608:U:OP1	60:SS:134:GLN:NE2	2.40	0.42
53:SH:31:GLU:HG3	53:SH:37:LYS:HD2	2.01	0.42
57:SP:111:MET:HB3	60:SS:117:ILE:HG23	2.02	0.42
62:SU:20:ILE:HD13	62:SU:98:VAL:HG21	2.01	0.42
70:SG:84:TYR:OH	70:SG:91:GLU:O	2.34	0.42
76:SY:15:ASN:OD1	76:SY:15:ASN:N	2.52	0.42
82:CC:12:G:C2	82:CC:24:A:C2	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:182:G:H2'	1:L5:184:U:OP1	2.19	0.42
1:L5:2709:C:H5'	20:LR:43:LYS:HD2	2.02	0.42
1:L5:3723:A:H2'	1:L5:3724:A:C8	2.54	0.42
1:L5:4882:U:OP1	15:LM:117:LYS:NZ	2.53	0.42
5:LB:395:ASP:O	5:LB:399:LYS:HG2	2.18	0.42
15:LM:47:ARG:HG2	21:LS:73:LEU:HD22	2.01	0.42
28:LZ:5:MET:O	28:LZ:28:ASN:ND2	2.52	0.42
32:Ld:90:ARG:HD2	32:Ld:102:LEU:HD13	2.01	0.42
39:Lk:61:PRO:HA	39:Lk:62:PRO:HD3	1.90	0.42
47:S2:388:U:H2'	47:S2:389:A:H8	1.84	0.42
1:L5:4085:A:H3'	26:LX:44:PRO:HB2	2.02	0.42
2:L7:13:A:OP2	2:L7:66:G:N2	2.42	0.42
4:LA:131:GLY:H	4:LA:169:VAL:HG13	1.84	0.42
8:LE:157:HIS:HB3	8:LE:160:LYS:HG3	2.01	0.42
10:LG:123:ALA:HA	10:LG:124:GLY:HA2	1.72	0.42
21:LS:81:TRP:HB2	21:LS:128:LYS:HB3	2.01	0.42
27:LY:2:LYS:HE3	27:LY:2:LYS:HB3	1.92	0.42
30:Lb:16:TRP:CD1	30:Lb:21:ILE:HD11	2.55	0.42
47:S2:318:A:N6	70:SG:186:GLN:OE1	2.51	0.42
47:S2:1161:U:OP1	64:SX:12:LYS:NZ	2.52	0.42
52:SF:135:ARG:O	52:SF:203:ASN:ND2	2.53	0.42
66:Sc:45:ASN:OD1	66:Sc:45:ASN:N	2.51	0.42
76:SY:78:SER:OG	76:SY:80:ASP:OD1	2.26	0.42
77:SZ:99:LEU:HD11	77:SZ:102:LYS:HB2	2.01	0.42
1:L5:494:U:H2'	1:L5:495:C:C6	2.54	0.42
1:L5:2003:G:C2	1:L5:2005:G:H8	2.38	0.42
1:L5:2671:C:H2'	1:L5:2672:C:C6	2.54	0.42
1:L5:2714:G:H2'	1:L5:2715:G:C8	2.52	0.42
1:L5:3974:G:N1	1:L5:4051:C:O3'	2.51	0.42
1:L5:4081:G:H2'	1:L5:4082:G:C8	2.53	0.42
1:L5:4153:C:H2'	1:L5:4154:G:C8	2.54	0.42
1:L5:4348:A:C6	1:L5:4350:C:N4	2.87	0.42
6:LC:218:ILE:O	6:LC:221:PHE:C	2.62	0.42
7:LD:60:ILE:HD11	7:LD:93:THR:HA	2.02	0.42
12:LI:4:ARG:NH2	12:LI:99:ILE:HG13	2.35	0.42
13:LJ:38:LYS:HA	13:LJ:38:LYS:HD2	1.88	0.42
13:LJ:121:PRO:HG3	60:SS:11:HIS:CD2	2.55	0.42
35:Lg:103:VAL:HA	35:Lg:106:VAL:HG22	2.01	0.42
47:S2:436:G:OP2	47:S2:471:G:O2'	2.35	0.42
47:S2:555:A:N6	47:S2:557:U:O4	2.53	0.42
47:S2:1544:C:O2'	58:SQ:76:GLY:O	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SA:82:THR:HG22	48:SA:204:TYR:CD2	2.55	0.42
57:SP:15:PHE:CE2	57:SP:17:TYR:HB2	2.55	0.42
67:Sd:6:LEU:HA	67:Sd:9:SER:HB3	2.00	0.42
68:Sg:69:VAL:HA	68:Sg:79:LEU:O	2.19	0.42
1:L5:93:G:H2'	1:L5:94:A:C8	2.54	0.42
1:L5:3661:G:N2	1:L5:3681:G:O2'	2.52	0.42
1:L5:4128:A:O2'	10:LG:33:GLU:O	2.32	0.42
1:L5:4219:A:H2'	1:L5:4220:A:C8	2.54	0.42
8:LE:145:THR:O	8:LE:148:THR:OG1	2.29	0.42
10:LG:132:ARG:HA	10:LG:133:PRO:HD3	1.93	0.42
47:S2:65:C:N4	70:SG:134:GLY:O	2.53	0.42
47:S2:492:C:OP2	76:SY:107:ARG:NH2	2.52	0.42
47:S2:609:U:H2'	47:S2:610:G:C8	2.54	0.42
47:S2:668:A:H8	47:S2:668:A:H2'	1.70	0.42
47:S2:1447:G:P	62:SU:87:ARG:HH12	2.42	0.42
49:SB:60:ASP:HA	49:SB:63:LYS:HB2	2.01	0.42
53:SH:27:LEU:HA	53:SH:30:LEU:HG	2.00	0.42
57:SP:30:TYR:O	57:SP:34:MET:HG2	2.19	0.42
67:Sd:3:HIS:HE1	67:Sd:5:GLN:HB2	1.85	0.42
72:SM:40:LYS:HA	72:SM:40:LYS:HD3	1.82	0.42
73:SN:25:TRP:CD2	78:Sb:82:LYS:HE2	2.55	0.42
76:SY:36:PRO:O	76:SY:40:ILE:HG13	2.20	0.42
1:L5:260:C:H2'	1:L5:261:G:C8	2.49	0.42
1:L5:433:A:C2	1:L5:3867:A:H4'	2.54	0.42
1:L5:499:G:H2'	1:L5:504:G:N1	2.34	0.42
1:L5:717:U:H2'	1:L5:718:C:C6	2.54	0.42
1:L5:1194:G:H2'	1:L5:1195:G:C8	2.54	0.42
1:L5:1293:G:OP2	1:L5:1293:G:N2	2.41	0.42
1:L5:1824:G:H2'	1:L5:1825:A:C8	2.55	0.42
1:L5:1846:G:H2'	1:L5:1847:C:C6	2.55	0.42
1:L5:1895:G:OP1	9:LF:96:ARG:NH2	2.53	0.42
1:L5:2346:C:O2'	1:L5:2348:G:OP2	2.36	0.42
7:LD:268:ARG:HE	7:LD:268:ARG:HB3	1.57	0.42
8:LE:205:ASN:O	8:LE:207:LYS:NZ	2.48	0.42
14:LL:65:ARG:HD3	29:La:66:ASN:HD22	1.83	0.42
19:LQ:130:SER:O	19:LQ:130:SER:OG	2.33	0.42
24:LV:109:LYS:HB2	24:LV:109:LYS:HE2	1.77	0.42
41:Lm:94:MET:HG2	41:Lm:105:PRO:HA	2.01	0.42
47:S2:509:G:OP1	71:SJ:2:PRO:HA	2.20	0.42
47:S2:615:C:O2	79:Se:11:LYS:NZ	2.46	0.42
47:S2:1189:A:H2'	47:S2:1190:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1779:G:H2'	47:S2:1780:G:H8	1.82	0.42
54:SI:106:SER:HB3	54:SI:171:LEU:HG	2.02	0.42
60:SS:25:LYS:HA	60:SS:55:ARG:HA	2.01	0.42
68:Sg:44:LYS:HG2	68:Sg:56:GLN:HB2	2.01	0.42
71:SJ:102:ILE:HD12	71:SJ:102:ILE:H	1.84	0.42
72:SM:126:GLU:HG2	72:SM:129:LYS:HE2	2.00	0.42
80:Sf:107:LYS:HG3	80:Sf:117:LEU:HD11	2.01	0.42
82:CC:26:A:N6	82:CC:45:G:C6	2.88	0.42
1:L5:129:C:H2'	1:L5:130:C:C6	2.53	0.42
1:L5:184:U:H1'	1:L5:254:G:N1	2.34	0.42
1:L5:4139:G:H1'	1:L5:4146:G:N1	2.35	0.42
3:L8:140:C:H2'	3:L8:141:C:C6	2.55	0.42
4:LA:92:LYS:HE3	4:LA:92:LYS:HB2	1.91	0.42
5:LB:214:ASP:CA	5:LB:284:ILE:O	2.60	0.42
6:LC:28:PHE:CD1	6:LC:132:ALA:HB2	2.55	0.42
12:LI:87:MET:HE2	12:LI:87:MET:HB3	1.86	0.42
15:LM:37:LEU:HD12	15:LM:37:LEU:HA	1.89	0.42
19:LQ:3:VAL:HG12	19:LQ:5:ILE:HG23	2.02	0.42
25:LW:110:ARG:HE	25:LW:110:ARG:HB3	1.70	0.42
44:Lp:88:GLU:O	44:Lp:91:ASP:C	2.63	0.42
47:S2:495:U:O2'	51:SE:27:PHE:O	2.36	0.42
48:SA:184:ARG:HD3	48:SA:191:ARG:HG3	2.01	0.42
57:SP:72:LYS:HD2	57:SP:72:LYS:HA	1.82	0.42
62:SU:62:ARG:NH1	62:SU:81:GLN:OE1	2.39	0.42
68:Sg:8:ARG:HD3	68:Sg:8:ARG:HA	1.81	0.42
1:L5:186:G:H1'	1:L5:1366:G:H21	1.84	0.42
1:L5:1175:A:C2	1:L5:1185:G:C6	3.05	0.42
1:L5:2480:G:H2'	1:L5:2481:G:H8	1.85	0.42
1:L5:3723:A:H2'	1:L5:3724:A:H8	1.84	0.42
1:L5:3946:G:H21	1:L5:3947:A:H62	1.67	0.42
1:L5:3961:G:C2	1:L5:3965:A:N7	2.88	0.42
1:L5:4086:G:C4	10:LG:51:LEU:HD11	2.53	0.42
1:L5:4100:C:N3	1:L5:4111:U:C4	2.88	0.42
1:L5:4685:U:H2'	1:L5:4686:G:C8	2.54	0.42
2:L7:117:G:OP1	7:LD:253:TYR:OH	2.34	0.42
7:LD:110:LEU:HD13	7:LD:116:ASP:HA	2.01	0.42
9:LF:179:LEU:HD21	9:LF:204:ALA:HA	2.02	0.42
10:LG:148:GLU:OE2	37:Li:36:HIS:NE2	2.47	0.42
23:LU:76:VAL:HG23	23:LU:78:PHE:H	1.85	0.42
47:S2:74:G:N2	47:S2:75:G:O6	2.52	0.42
47:S2:525:A:H2'	47:S2:526:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:839:C:O2'	47:S2:841:G:O4'	2.36	0.42
47:S2:988:C:H5"	49:SB:116:LYS:HG2	2.01	0.42
47:S2:1507:G:H22	80:Sf:87:THR:H	1.67	0.42
51:SE:187:ALA:O	51:SE:245:ARG:NH1	2.36	0.42
68:Sg:30:MET:HA	68:Sg:43:TRP:O	2.20	0.42
68:Sg:44:LYS:HA	68:Sg:44:LYS:HD3	1.81	0.42
82:CC:25:C:H2'	82:CC:26:A:H8	1.84	0.42
1:L5:1739:G:H2'	1:L5:1740:C:C6	2.55	0.42
1:L5:1739:G:N2	1:L5:1742:A:N6	2.67	0.42
1:L5:3722:G:H2'	1:L5:3723:A:H8	1.85	0.42
1:L5:3777:G:O2'	1:L5:3815:G:O6	2.30	0.42
1:L5:3953:G:H2'	1:L5:3954:A:O4'	2.20	0.42
9:LF:156:LYS:NZ	9:LF:248:ASN:OXT	2.40	0.42
9:LF:221:LYS:HE2	9:LF:221:LYS:HB3	1.85	0.42
12:LI:38:ARG:NE	12:LI:41:ALA:HB2	2.35	0.42
12:LI:214:SER:OXT	12:LI:214:SER:OG	2.36	0.42
15:LM:5:ARG:NH2	15:LM:59:ASP:OD2	2.52	0.42
21:LS:69:GLU:OE2	21:LS:70:LYS:N	2.53	0.42
25:LW:96:GLN:HB2	25:LW:101:ARG:NH1	2.35	0.42
27:LY:10:ASP:HB3	27:LY:13:LYS:HB2	2.02	0.42
27:LY:74:TYR:HD2	27:LY:77:LYS:H	1.67	0.42
32:Ld:44:ARG:HA	32:Ld:44:ARG:HD3	1.89	0.42
45:Lr:69:GLY:O	45:Lr:76:SER:OG	2.38	0.42
47:S2:166:A:H2'	47:S2:167:G:C8	2.55	0.42
47:S2:194:C:H2'	47:S2:195:C:H6	1.85	0.42
47:S2:696:G:N2	47:S2:737:G:H22	2.17	0.42
47:S2:1413:G:H2'	47:S2:1414:A:H8	1.85	0.42
48:SA:76:VAL:HG11	48:SA:90:PHE:HE2	1.85	0.42
68:Sg:14:HIS:CE1	68:Sg:18:VAL:HG22	2.52	0.42
71:SJ:140:GLN:NE2	76:SY:64:PHE:O	2.49	0.42
1:L5:425:U:OP1	18:LP:37:LYS:NZ	2.48	0.42
1:L5:665:C:H4'	1:L5:666:G:H5'	2.02	0.42
1:L5:1086:C:H2'	1:L5:1087:A:C8	2.54	0.42
1:L5:1464:C:H5"	30:Lb:32:LEU:HD12	2.01	0.42
1:L5:3971:G:N1	1:L5:4050:A:C6	2.88	0.42
1:L5:4454:G:HO2'	1:L5:4500:U:HO2'	1.67	0.42
2:L7:74:A:N3	21:LS:53:LYS:NZ	2.56	0.42
4:LA:133:TYR:HB3	4:LA:168:VAL:HG23	2.01	0.42
5:LB:20:LYS:HE3	5:LB:20:LYS:HB2	1.90	0.42
13:LJ:58:ARG:HD2	83:CE:39:TRP:HB3	2.01	0.42
15:LM:93:LYS:HA	15:LM:96:GLU:HG3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:LU:27:HIS:HA	23:LU:30:GLU:HG2	2.02	0.42
47:S2:17:C:H2'	47:S2:18:C:C6	2.55	0.42
47:S2:77:A:H2	70:SG:175:LYS:HG3	1.84	0.42
60:SS:15:VAL:HG13	60:SS:16:LEU:H	1.85	0.42
63:SV:17:CYS:HB2	63:SV:56:CYS:HB3	2.01	0.42
70:SG:217:MET:HA	70:SG:220:ALA:HB3	2.02	0.42
73:SN:67:THR:OG1	73:SN:68:GLY:N	2.53	0.42
1:L5:496:G:O6	1:L5:497:G:N2	2.52	0.41
1:L5:709:C:OP1	34:Lf:89:ARG:NH1	2.53	0.41
1:L5:1751:A:H2'	1:L5:1752:G:H8	1.83	0.41
1:L5:1760:G:N3	1:L5:1761:G:N1	2.68	0.41
1:L5:1993:C:N4	1:L5:2002:A:C8	2.88	0.41
1:L5:2019:C:H2'	1:L5:2020:U:C6	2.55	0.41
1:L5:2101:C:H2'	1:L5:2102:G:H2'	2.02	0.41
1:L5:2751:G:H2'	1:L5:2752:G:H8	1.85	0.41
2:L7:112:U:H2'	2:L7:113:G:H8	1.85	0.41
7:LD:146:LEU:HD13	7:LD:163:LEU:HD12	2.01	0.41
15:LM:28:VAL:HG23	15:LM:64:PHE:HE1	1.84	0.41
47:S2:541:U:O2	47:S2:543:C:N4	2.47	0.41
47:S2:1152:U:O2'	75:SW:16:ASN:OD1	2.30	0.41
47:S2:1308:U:O4	80:Sf:95:ARG:NH2	2.52	0.41
47:S2:1472:C:H2'	47:S2:1473:G:O4'	2.20	0.41
49:SB:217:MET:HE2	49:SB:217:MET:HB2	1.98	0.41
53:SH:144:ILE:HD11	53:SH:152:ARG:HB2	2.02	0.41
54:SI:80:ASP:OD2	54:SI:94:LYS:NZ	2.50	0.41
58:SQ:19:ALA:HB2	58:SQ:75:GLY:HA3	2.02	0.41
68:Sg:89:LEU:O	68:Sg:98:THR:OG1	2.34	0.41
68:Sg:247:TRP:HB3	68:Sg:258:ILE:HG22	2.02	0.41
69:SC:69:LEU:HG	69:SC:273:LEU:HD21	2.02	0.41
69:SC:271:ASP:OD1	69:SC:271:ASP:N	2.41	0.41
70:SG:131:ARG:HE	70:SG:131:ARG:HB3	1.70	0.41
82:CC:10:G:O6	82:CC:45:G:C6	2.72	0.41
1:L5:262:G:H2'	1:L5:263:G:C8	2.55	0.41
1:L5:711:A:H2'	1:L5:712:C:C6	2.55	0.41
1:L5:1211:G:H2'	1:L5:1212:G:H8	1.84	0.41
1:L5:1535:C:H2'	1:L5:1536:U:O4'	2.20	0.41
1:L5:2647:A:H3'	1:L5:2648:G:H8	1.84	0.41
5:LB:308:ASP:OD1	5:LB:308:ASP:N	2.53	0.41
11:LH:89:ARG:HB2	11:LH:147:GLU:HG2	2.01	0.41
17:LO:62:MET:HG2	17:LO:65:ASN:H	1.85	0.41
47:S2:656:G:N2	47:S2:663:C:H5"	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:659:G:O2'	47:S2:662:G:O2'	2.27	0.41
47:S2:919:A:OP1	73:SN:20:ARG:NE	2.43	0.41
47:S2:925:G:N2	47:S2:1017:U:O2	2.34	0.41
47:S2:1277:C:H2'	47:S2:1278:A:C8	2.54	0.41
47:S2:1435:C:O2'	47:S2:1436:C:O4'	2.32	0.41
53:SH:31:GLU:N	53:SH:31:GLU:OE1	2.53	0.41
53:SH:167:GLU:OE1	53:SH:167:GLU:N	2.54	0.41
54:SI:36:THR:OG1	54:SI:57:ALA:O	2.28	0.41
55:SK:72:THR:O	55:SK:76:ILE:HG13	2.20	0.41
69:SC:278:THR:HA	69:SC:279:ARG:HA	1.71	0.41
72:SM:18:LEU:HA	72:SM:21:VAL:HG22	2.02	0.41
74:SO:95:ILE:HB	74:SO:129:ILE:HG12	2.02	0.41
77:SZ:52:LYS:HD2	77:SZ:52:LYS:HA	1.89	0.41
81:CA:33:ARG:HA	81:CA:36:VAL:HG22	2.02	0.41
81:CA:231:SER:HA	81:CA:316:VAL:HG12	2.03	0.41
1:L5:471:A:H62	1:L5:684:G:N2	2.15	0.41
1:L5:926:G:H2'	1:L5:927:G:H8	1.84	0.41
1:L5:1091:C:H2'	1:L5:1092:G:H8	1.85	0.41
1:L5:1878:G:OP2	30:Lb:14:ARG:NH2	2.51	0.41
1:L5:2045:G:O6	1:L5:3870:C:O2'	2.38	0.41
1:L5:4537:C:H2'	1:L5:4538:G:H8	1.84	0.41
4:LA:118:GLU:HG2	4:LA:126:LEU:HD11	2.02	0.41
4:LA:150:LEU:O	4:LA:153:GLY:N	2.49	0.41
5:LB:113:GLU:H	5:LB:113:GLU:HG2	1.65	0.41
5:LB:223:THR:HB	5:LB:275:HIS:H	1.85	0.41
5:LB:285:TYR:CD1	5:LB:363:ILE:HD13	2.55	0.41
8:LE:264:ILE:HA	8:LE:265:PRO:HD3	1.93	0.41
12:LI:36:LEU:HD22	12:LI:69:ARG:HH21	1.85	0.41
17:LO:125:LYS:HG2	17:LO:129:LEU:HD12	2.02	0.41
19:LQ:159:PRO:HA	19:LQ:160:HIS:HA	1.63	0.41
24:LV:87:SER:HA	24:LV:97:TYR:HB3	2.01	0.41
26:LX:37:LYS:HA	26:LX:38:LYS:HA	1.59	0.41
43:Lo:2:VAL:N	43:Lo:90:HIS:O	2.53	0.41
47:S2:604:A:N3	47:S2:639:C:O2'	2.43	0.41
47:S2:1017:U:H5'	73:SN:55:ARG:HH11	1.85	0.41
47:S2:1237:C:O2'	57:SP:129:GLY:N	2.50	0.41
47:S2:1656:G:N2	47:S2:1668:U:O2	2.38	0.41
49:SB:76:ASN:OD1	49:SB:76:ASN:N	2.53	0.41
61:ST:102:ARG:HA	61:ST:102:ARG:HD3	1.87	0.41
63:SV:3:ASN:HA	69:SC:173:LYS:HE2	2.03	0.41
70:SG:164:LYS:HE3	70:SG:164:LYS:HB3	1.92	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:SY:77:ASP:OD1	76:SY:77:ASP:N	2.40	0.41
78:Sb:19:HIS:CD2	78:Sb:21:LYS:H	2.38	0.41
78:Sb:31:TYR:O	78:Sb:48:SER:HB3	2.20	0.41
1:L5:126:C:H2'	1:L5:127:G:C8	2.55	0.41
1:L5:3848:U:H2'	1:L5:3849:A:H8	1.85	0.41
1:L5:3966:A:O2'	1:L5:4049:U:N3	2.43	0.41
3:L8:59:A:OP2	26:LX:70:LYS:NZ	2.54	0.41
4:LA:51:ASP:HA	4:LA:52:PRO:HD3	1.95	0.41
7:LD:106:ALA:O	7:LD:110:LEU:HG	2.20	0.41
7:LD:128:ASP:O	7:LD:164:LYS:NZ	2.36	0.41
24:LV:69:LYS:HA	24:LV:69:LYS:HD2	1.77	0.41
28:LZ:35:ASP:OD1	28:LZ:35:ASP:N	2.52	0.41
29:La:110:LYS:HG3	29:La:128:PHE:HB2	2.01	0.41
46:Lz:98:LYS:HD3	46:Lz:98:LYS:HA	1.82	0.41
47:S2:806:U:H2'	47:S2:807:G:C8	2.55	0.41
47:S2:834:C:H42	47:S2:839:C:H42	0.44	0.41
47:S2:942:G:H21	74:SO:137:SER:HB2	1.84	0.41
47:S2:1393:G:H2'	47:S2:1394:G:C8	2.55	0.41
49:SB:67:PHE:O	49:SB:85:LYS:C	2.63	0.41
51:SE:237:SER:OG	51:SE:238:LEU:N	2.54	0.41
54:SI:153:LYS:HE3	54:SI:153:LYS:HB3	1.88	0.41
57:SP:23:ASP:OD2	57:SP:23:ASP:N	2.53	0.41
63:SV:17:CYS:O	63:SV:21:ASN:N	2.53	0.41
66:Sc:43:ILE:HG23	66:Sc:65:ALA:HB3	2.01	0.41
68:Sg:106:LYS:HG2	68:Sg:126:ASP:HB3	2.03	0.41
68:Sg:170:TRP:HA	68:Sg:194:TYR:HB2	2.02	0.41
68:Sg:217:MET:HG2	68:Sg:229:THR:HG23	2.02	0.41
81:CA:159:PRO:HD3	81:CA:325:LEU:HD21	2.03	0.41
82:CC:29:A:H2'	82:CC:30:C:C6	2.56	0.41
82:CC:65:U:H2'	82:CC:66:A:C8	2.55	0.41
1:L5:1990:A:C6	1:L5:1991:A:H1'	2.55	0.41
1:L5:2555:G:H2'	1:L5:2556:G:C8	2.56	0.41
1:L5:3812:C:H3'	1:L5:3813:A:H2'	2.02	0.41
1:L5:4242:U:N3	1:L5:4281:A:H2	2.18	0.41
1:L5:4344:U:H2'	1:L5:4345:C:C6	2.55	0.41
1:L5:4921:C:H2'	1:L5:4922:C:H6	1.85	0.41
3:L8:8:U:H2'	3:L8:9:A:C8	2.55	0.41
9:LF:27:GLU:HA	9:LF:30:ILE:HG22	2.02	0.41
11:LH:124:ARG:H	11:LH:124:ARG:HG2	1.76	0.41
16:LN:137:PRO:O	16:LN:143:ARG:NH1	2.49	0.41
19:LQ:128:LEU:HD23	19:LQ:128:LEU:HA	1.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Le:81:ASN:OD1	33:Le:81:ASN:N	2.52	0.41
46:Lz:91:LYS:HE2	46:Lz:123:ILE:HD12	2.02	0.41
47:S2:1656:G:O6	47:S2:1668:U:O4	2.39	0.41
48:SA:38:ILE:HD12	48:SA:38:ILE:HA	1.87	0.41
48:SA:141:ASN:HD21	69:SC:87:PRO:HD3	1.85	0.41
49:SB:33:VAL:HG13	49:SB:44:ILE:HB	2.02	0.41
60:SS:61:GLU:O	60:SS:65:GLU:HG2	2.21	0.41
72:SM:106:CYS:SG	72:SM:107:SER:N	2.94	0.41
79:Se:52:LYS:HA	79:Se:52:LYS:HD3	1.83	0.41
81:CA:163:ASN:O	81:CA:167:THR:HG23	2.19	0.41
1:L5:681:G:H2'	1:L5:682:G:H8	1.84	0.41
1:L5:1100:U:O2	1:L5:1195:G:N2	2.53	0.41
1:L5:1867:A:H2'	1:L5:1868:A:C8	2.55	0.41
1:L5:2555:G:O2'	28:LZ:108:ARG:NH1	2.52	0.41
1:L5:2764:A:H2'	1:L5:2765:A:C8	2.55	0.41
1:L5:3748:A:H5"	4:LA:243:THR:HB	2.03	0.41
1:L5:3848:U:H2'	1:L5:3849:A:C8	2.55	0.41
1:L5:3970:G:O3'	1:L5:4052:C:N4	2.53	0.41
6:LC:263:LEU:HG	6:LC:273:LEU:HD12	2.01	0.41
6:LC:335:MET:O	6:LC:339:THR:HG23	2.20	0.41
10:LG:87:LEU:HD22	10:LG:182:CYS:HB2	2.02	0.41
10:LG:97:LYS:HB3	10:LG:97:LYS:HE2	1.79	0.41
12:LI:184:MET:HA	12:LI:187:LYS:HG2	2.02	0.41
19:LQ:90:VAL:HB	29:La:80:THR:HG21	2.03	0.41
35:Lg:82:MET:HE1	35:Lg:90:ARG:HD3	2.02	0.41
47:S2:186:C:H2'	47:S2:187:G:C8	2.55	0.41
47:S2:948:C:H2'	47:S2:949:G:C8	2.56	0.41
47:S2:1273:C:O2'	47:S2:1506:A:N1	2.48	0.41
47:S2:1748:G:N2	47:S2:1786:U:O2	2.37	0.41
51:SE:37:LYS:HE3	51:SE:37:LYS:HB3	1.82	0.41
51:SE:100:ARG:NH1	51:SE:121:TYR:O	2.53	0.41
51:SE:137:PRO:HG2	51:SE:150:PRO:HD2	2.02	0.41
55:SK:47:LYS:HA	55:SK:47:LYS:HD3	1.76	0.41
66:Sc:40:ARG:HH12	74:SO:121:ARG:NH2	2.18	0.41
68:Sg:123:GLY:HA2	68:Sg:129:ILE:HG22	2.03	0.41
70:SG:49:VAL:HG12	70:SG:115:LYS:HE3	2.03	0.41
83:CE:61:LEU:O	83:CE:65:GLU:HG2	2.19	0.41
1:L5:74:G:H5"	14:LL:59:VAL:HG13	2.02	0.41
1:L5:126:C:H2'	1:L5:127:G:H8	1.85	0.41
1:L5:1545:G:H2'	1:L5:1546:C:C6	2.56	0.41
1:L5:1645:C:H2'	1:L5:1646:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2029:A:H2'	1:L5:2030:A:C8	2.56	0.41
1:L5:2486:G:O6	1:L5:2493:G:O6	2.39	0.41
1:L5:2611:A:H2'	1:L5:2612:G:C8	2.55	0.41
1:L5:2621:A:H2'	1:L5:2622:G:C8	2.56	0.41
1:L5:3893:C:H2'	1:L5:3894:A:C8	2.55	0.41
1:L5:4578:G:H2'	1:L5:4579:U:C6	2.55	0.41
3:L8:130:C:H2'	3:L8:131:G:C8	2.55	0.41
7:LD:64:ILE:HG13	7:LD:105:LEU:HD21	2.02	0.41
9:LF:37:PHE:O	9:LF:41:MET:HG2	2.20	0.41
12:LI:36:LEU:HB3	12:LI:87:MET:HG3	2.03	0.41
22:LT:17:ARG:HB2	22:LT:22:HIS:CE1	2.55	0.41
38:Lj:34:CYS:HB3	38:Lj:39:TYR:H	1.86	0.41
47:S2:110:U:H2'	47:S2:111:A:C8	2.56	0.41
47:S2:416:U:HO2'	47:S2:652:U:HO2'	1.66	0.41
47:S2:1284:A:O2'	72:SM:106:CYS:SG	2.74	0.41
47:S2:1430:C:H2'	47:S2:1431:G:C8	2.56	0.41
47:S2:1672:U:OP1	58:SQ:18:THR:OG1	2.31	0.41
48:SA:80:ARG:HH21	48:SA:129:ALA:HB2	1.85	0.41
49:SB:115:LYS:HE2	49:SB:115:LYS:HB3	1.93	0.41
50:SD:173:ARG:HD3	50:SD:173:ARG:HA	1.89	0.41
62:SU:19:ARG:HH22	62:SU:49:LYS:HD3	1.86	0.41
62:SU:66:ARG:HG3	62:SU:68:THR:HG22	2.03	0.41
68:Sg:121:VAL:HG21	68:Sg:165:ILE:HD11	2.02	0.41
70:SG:141:ILE:HD11	70:SG:157:VAL:HA	2.02	0.41
73:SN:60:VAL:HG13	73:SN:66:VAL:HG21	2.02	0.41
74:SO:46:ASP:OD2	74:SO:48:SER:OG	2.38	0.41
78:Sb:5:LYS:HD2	78:Sb:5:LYS:HA	1.91	0.41
83:CE:15:ALA:HA	83:CE:18:ARG:HG2	2.03	0.41
1:L5:153:G:H2'	1:L5:154:G:H8	1.85	0.41
1:L5:4939:C:H3'	8:LE:156:ARG:HH22	1.86	0.41
8:LE:186:LEU:HD11	8:LE:253:VAL:HG21	2.03	0.41
12:LI:36:LEU:HD12	12:LI:37:GLY:H	1.85	0.41
12:LI:212:LEU:HD12	12:LI:212:LEU:HA	1.94	0.41
21:LS:53:LYS:HE3	21:LS:53:LYS:HB2	1.86	0.41
25:LW:116:LYS:HZ1	47:S2:327:G:H1'	1.86	0.41
36:Lh:42:SER:O	36:Lh:46:LYS:HG2	2.21	0.41
47:S2:656:G:H5'	47:S2:662:G:N2	2.35	0.41
47:S2:1540:G:H5'	61:ST:47:PRO:HB3	2.02	0.41
47:S2:1700:C:N4	47:S2:1834:A:C2	2.89	0.41
47:S2:1713:C:H2'	47:S2:1714:U:C6	2.56	0.41
55:SK:73:ASN:HA	55:SK:76:ILE:HD12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SU:26:SER:OG	62:SU:28:ASN:OD1	2.38	0.41
62:SU:67:LYS:HB2	62:SU:78:ASP:HB2	2.03	0.41
75:SW:111:MET:HB3	75:SW:115:GLU:HB3	2.01	0.41
75:SW:113:HIS:NE2	75:SW:114:GLU:OE2	2.54	0.41
81:CA:116:GLY:HA3	81:CA:193:HIS:ND1	2.36	0.41
1:L5:174:C:H2'	1:L5:175:C:C6	2.56	0.41
1:L5:347:A:H2'	1:L5:348:G:C8	2.55	0.41
1:L5:477:C:H2'	1:L5:478:G:H8	1.86	0.41
1:L5:656:C:H2'	1:L5:657:C:C6	2.56	0.41
1:L5:1172:C:H1'	1:L5:1189:G:H22	1.86	0.41
1:L5:1327:C:H2'	1:L5:1328:G:C8	2.56	0.41
1:L5:1403:G:C6	1:L5:1404:G:C6	3.09	0.41
1:L5:1662:C:H2'	1:L5:1663:C:C6	2.56	0.41
1:L5:1683:U:H2'	1:L5:1684:A:C8	2.55	0.41
1:L5:1811:G:H2'	1:L5:1812:C:C6	2.56	0.41
1:L5:2275:G:H2'	1:L5:2276:A:C8	2.55	0.41
1:L5:2411:C:H2'	1:L5:2412:A:C8	2.56	0.41
1:L5:2505:C:H41	1:L5:4084:G:H4'	1.86	0.41
1:L5:2732:G:H2'	1:L5:2733:C:C6	2.56	0.41
1:L5:3727:A:H2'	1:L5:3728:A:C8	2.55	0.41
1:L5:3787:G:H1'	1:L5:3789:C:N4	2.36	0.41
1:L5:3861:A:H2'	1:L5:3862:A:H8	1.85	0.41
1:L5:3880:G:H2'	1:L5:3881:G:C8	2.56	0.41
1:L5:3946:G:N2	1:L5:3947:A:H62	2.19	0.41
1:L5:3971:G:C6	1:L5:4050:A:N6	2.88	0.41
1:L5:4048:A:N3	1:L5:4049:U:N3	2.69	0.41
1:L5:4271:A:N6	1:L5:4331:G:N2	2.69	0.41
1:L5:4459:U:H2'	1:L5:4460:U:C6	2.56	0.41
1:L5:4699:U:H1'	1:L5:4700:A:H5"	2.03	0.41
1:L5:4723:A:H2'	1:L5:4724:A:C8	2.56	0.41
3:L8:6:C:H2'	3:L8:7:U:C6	2.56	0.41
3:L8:84:A:H5'	3:L8:86:U:O4'	2.21	0.41
4:LA:24:LYS:HA	4:LA:24:LYS:HD3	1.77	0.41
5:LB:148:LYS:HA	5:LB:148:LYS:HD3	1.85	0.41
5:LB:353:VAL:O	5:LB:356:LYS:NZ	2.53	0.41
7:LD:67:ALA:HA	7:LD:72:ASP:HA	2.03	0.41
8:LE:111:LYS:HE3	8:LE:111:LYS:HB2	1.89	0.41
8:LE:229:GLU:HG3	8:LE:231:GLU:HG2	2.03	0.41
9:LF:30:ILE:HD12	9:LF:30:ILE:HA	1.89	0.41
12:LI:142:LEU:HD23	12:LI:142:LEU:HA	1.91	0.41
12:LI:152:LEU:HB3	12:LI:165:ILE:HD12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LN:113:LEU:HB2	16:LN:134:LEU:HD12	2.03	0.41
16:LN:124:ASP:HB3	16:LN:126:THR:H	1.85	0.41
26:LX:156:ILE:HD12	26:LX:156:ILE:HA	1.94	0.41
27:LY:25:ILE:O	27:LY:29:ILE:HG12	2.21	0.41
28:LZ:36:ARG:NH1	28:LZ:38:TYR:OH	2.54	0.41
39:Lk:51:GLU:HA	39:Lk:54:GLU:HG3	2.02	0.41
47:S2:12:U:H2'	47:S2:13:C:C6	2.56	0.41
47:S2:562:U:H2'	47:S2:563:G:C8	2.56	0.41
47:S2:916:A:C5	73:SN:73:ARG:HD3	2.56	0.41
47:S2:962:A:H5"	74:SO:66:ARG:HB2	2.02	0.41
47:S2:1628:C:H2'	47:S2:1629:C:C6	2.56	0.41
47:S2:1758:G:O3'	47:S2:1774:C:N4	2.53	0.41
47:S2:1801:A:H2'	47:S2:1802:C:C6	2.56	0.41
50:SD:70:THR:HG22	50:SD:86:LEU:HG	2.03	0.41
53:SH:86:LYS:HE3	53:SH:86:LYS:HB2	1.86	0.41
57:SP:60:LEU:HB3	57:SP:89:MET:SD	2.61	0.41
60:SS:46:ARG:NH2	61:ST:50:GLU:OE1	2.54	0.41
61:ST:42:HIS:HB3	61:ST:93:SER:HB3	2.02	0.41
68:Sg:202:PRO:HG2	68:Sg:243:PRO:HA	2.03	0.41
68:Sg:227:LEU:HD23	68:Sg:227:LEU:HA	1.85	0.41
70:SG:10:THR:HG21	70:SG:125:THR:HA	2.03	0.41
71:SJ:176:LYS:HG2	71:SJ:180:LYS:HZ3	1.86	0.41
80:Sf:90:LYS:HE2	80:Sf:90:LYS:HB2	1.88	0.41
81:CA:53:ASP:HA	81:CA:56:ILE:HG22	2.03	0.41
1:L5:663:G:C6	1:L5:664:G:C6	3.08	0.41
1:L5:1306:C:H2'	1:L5:1307:A:H8	1.86	0.41
1:L5:4108:G:H2'	1:L5:4109:G:C8	2.55	0.41
1:L5:4725:C:OP1	5:LB:103:LYS:NZ	2.42	0.41
4:LA:108:PRO:O	4:LA:111:THR:OG1	2.36	0.41
12:LI:6:ALA:O	12:LI:10:ARG:HB2	2.21	0.41
29:La:23:GLY:HA3	29:La:24:LYS:HA	1.75	0.41
47:S2:29:G:H2'	47:S2:30:C:C6	2.56	0.41
47:S2:1183:A:H2'	47:S2:1184:G:H8	1.86	0.41
47:S2:1199:A:H2'	47:S2:1200:A:C8	2.56	0.41
47:S2:1757:G:O2'	47:S2:1776:G:O6	2.38	0.41
49:SB:85:LYS:HA	49:SB:85:LYS:HD3	1.92	0.41
51:SE:11:ARG:HA	51:SE:28:ALA:HB2	2.02	0.41
52:SF:171:GLU:HG3	77:SZ:106:GLN:HE22	1.86	0.41
53:SH:144:ILE:HD13	53:SH:154:ILE:HG12	2.02	0.41
55:SK:3:MET:HG2	55:SK:8:ARG:NH2	2.35	0.41
56:SL:3:ASP:OD1	56:SL:4:ILE:N	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:Sg:3:GLU:HA	68:Sg:313:THR:O	2.21	0.41
68:Sg:105:THR:OG1	68:Sg:106:LYS:N	2.54	0.41
68:Sg:156:PHE:HA	68:Sg:165:ILE:HD12	2.02	0.41
71:SJ:176:LYS:HG3	71:SJ:179:LYS:HE3	2.03	0.41
72:SM:96:ARG:NH1	72:SM:96:ARG:HA	2.36	0.41
72:SM:121:LYS:HA	72:SM:124:ILE:HG22	2.03	0.41
1:L5:142:G:O2'	1:L5:144:G:O5'	2.34	0.40
1:L5:1433:A:OP2	1:L5:1451:G:N2	2.53	0.40
1:L5:1768:C:H42	1:L5:1772:C:H42	1.69	0.40
1:L5:2749:C:H5'	35:Lg:65:MET:HA	2.03	0.40
3:L8:144:U:H2'	3:L8:145:C:C6	2.56	0.40
4:LA:116:LEU:HB2	4:LA:126:LEU:HB2	2.03	0.40
4:LA:130:SER:HB2	4:LA:171:GLY:HA3	2.02	0.40
7:LD:125:VAL:HG21	7:LD:199:ILE:HG21	2.03	0.40
12:LI:48:LEU:O	12:LI:139:ARG:HA	2.20	0.40
13:LJ:59:SER:OG	13:LJ:60:PHE:N	2.54	0.40
15:LM:136:LEU:C	15:LM:137:LYS:HZ2	2.30	0.40
28:LZ:93:LYS:O	28:LZ:97:ASN:HB3	2.21	0.40
36:Lh:17:LEU:HD23	36:Lh:17:LEU:HA	1.96	0.40
46:Lz:67:VAL:HA	46:Lz:68:LEU:HA	1.50	0.40
47:S2:809:A:OP1	51:SE:187:ALA:N	2.54	0.40
47:S2:941:C:H2'	47:S2:942:G:C8	2.56	0.40
47:S2:1301:A:H4'	67:Sd:3:HIS:HE2	1.85	0.40
52:SF:107:ASN:HB3	52:SF:110:GLN:HB3	2.03	0.40
53:SH:48:ALA:HA	53:SH:61:ILE:O	2.21	0.40
54:SI:132:GLU:O	54:SI:136:ILE:HG12	2.22	0.40
64:SX:124:LYS:HE2	64:SX:124:LYS:HB3	1.99	0.40
66:Sc:35:MET:HE1	66:Sc:55:VAL:HG22	2.02	0.40
67:Sd:13:LYS:HE3	67:Sd:14:PHE:CE1	2.56	0.40
68:Sg:30:MET:HE3	68:Sg:30:MET:HB3	1.84	0.40
68:Sg:197:THR:HG21	68:Sg:239:LEU:H	1.87	0.40
78:Sb:67:THR:OG1	78:Sb:70:LYS:O	2.31	0.40
81:CA:165:GLN:HA	81:CA:168:GLU:HG2	2.02	0.40
1:L5:1511:U:H2'	1:L5:1512:G:C8	2.57	0.40
1:L5:3923:A:H2'	1:L5:3924:C:C6	2.55	0.40
1:L5:4064:C:H2'	1:L5:4065:G:C8	2.57	0.40
1:L5:4764:A:OP1	21:LS:156:HIS:ND1	2.40	0.40
2:L7:7:G:OP1	7:LD:33:ARG:NE	2.35	0.40
12:LI:52:MET:HE1	12:LI:159:PHE:CE2	2.55	0.40
20:LR:99:MET:HE1	20:LR:127:VAL:HG12	2.03	0.40
20:LR:178:GLN:HA	20:LR:181:LYS:HG2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LW:74:ARG:NH1	47:S2:1749:G:N7	2.65	0.40
31:Lc:28:VAL:HG12	31:Lc:95:ALA:HB3	2.03	0.40
35:Lg:5:LEU:HA	35:Lg:5:LEU:HD23	1.87	0.40
45:Lr:96:MET:HE3	45:Lr:96:MET:HB2	1.90	0.40
46:Lz:92:LYS:HE3	46:Lz:92:LYS:HB3	1.92	0.40
47:S2:191:A:OP2	47:S2:192:C:N4	2.54	0.40
47:S2:380:G:OP2	54:SI:56:ARG:NH2	2.54	0.40
47:S2:534:G:H2'	47:S2:535:G:H8	1.86	0.40
47:S2:804:U:H2'	47:S2:805:U:C6	2.56	0.40
48:SA:128:ARG:NH2	48:SA:151:ASP:O	2.38	0.40
65:Sa:58:VAL:HG11	74:SO:28:PHE:HZ	1.86	0.40
68:Sg:125:ARG:HG3	68:Sg:150:TRP:CG	2.57	0.40
1:L5:1971:C:P	1:L5:2016:C:H41	2.44	0.40
1:L5:3856:A:H5"	18:LP:83:TRP:O	2.21	0.40
1:L5:3955:G:N3	1:L5:3966:A:N7	2.69	0.40
1:L5:5018:C:H2'	1:L5:5019:A:H8	1.86	0.40
5:LB:126:LYS:HA	5:LB:126:LYS:HD3	1.88	0.40
7:LD:156:GLY:HA2	7:LD:181:PRO:HG3	2.03	0.40
13:LJ:40:LEU:HD23	13:LJ:40:LEU:HA	1.84	0.40
14:LL:183:ARG:HA	14:LL:183:ARG:HD2	1.93	0.40
20:LR:135:LYS:HB3	20:LR:135:LYS:HE2	1.91	0.40
22:LT:104:SER:HA	22:LT:107:LYS:HG2	2.03	0.40
36:Lh:22:ASP:O	36:Lh:26:VAL:HG23	2.22	0.40
45:Lr:46:ARG:HD3	45:Lr:46:ARG:HA	1.80	0.40
47:S2:600:G:H2'	47:S2:601:G:H8	1.86	0.40
47:S2:693:A:N6	47:S2:738:C:O2'	2.55	0.40
47:S2:975:G:O2'	74:SO:49:GLY:O	2.33	0.40
47:S2:1101:U:OP1	59:SR:132:ARG:NH1	2.55	0.40
47:S2:1521:C:H1'	57:SP:128:HIS:NE2	2.36	0.40
49:SB:36:PRO:HB3	49:SB:231:LEU:HG	2.03	0.40
49:SB:150:ILE:HB	59:SR:131:PRO:HA	2.03	0.40
52:SF:201:LYS:HE3	52:SF:201:LYS:HB3	1.93	0.40
53:SH:176:VAL:HG22	53:SH:180:LEU:HD23	2.02	0.40
56:SL:89:ARG:HB2	56:SL:108:ASN:HB3	2.02	0.40
70:SG:2:LYS:HB2	70:SG:108:VAL:HG12	2.02	0.40
71:SJ:97:ILE:HA	71:SJ:100:LEU:HG	2.03	0.40
71:SJ:176:LYS:HE3	71:SJ:176:LYS:HB2	1.93	0.40
72:SM:23:LYS:HD3	72:SM:23:LYS:HA	1.80	0.40
72:SM:81:ASP:OD1	72:SM:84:LYS:HB3	2.21	0.40
81:CA:85:CYS:SG	81:CA:86:VAL:N	2.94	0.40
81:CA:187:SER:O	81:CA:200:THR:OG1	2.32	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1502:G:OP2	19:LQ:65:ARG:NH1	2.42	0.40
1:L5:1857:C:H2'	1:L5:1858:A:C8	2.56	0.40
1:L5:1999:A:C5	1:L5:2000:G:C6	3.08	0.40
1:L5:2870:A:H2'	1:L5:2871:A:C8	2.56	0.40
1:L5:3666:C:OP1	4:LA:234:LYS:NZ	2.54	0.40
1:L5:4279:A:H5'	1:L5:4281:A:H1'	2.02	0.40
1:L5:4507:A:H2'	1:L5:4508:C:C6	2.56	0.40
1:L5:4935:C:H2'	1:L5:4936:G:H8	1.85	0.40
8:LE:201:ILE:HD11	8:LE:267:LEU:HD21	2.03	0.40
25:LW:77:LYS:NZ	47:S2:1778:C:OP1	2.46	0.40
37:Li:85:ARG:O	37:Li:89:GLU:HG2	2.22	0.40
40:Ll:43:HIS:HB3	40:Ll:46:ARG:HE	1.87	0.40
47:S2:5:U:H2'	47:S2:6:G:C8	2.56	0.40
47:S2:693:A:H2'	47:S2:694:G:C8	2.56	0.40
47:S2:806:U:H3	47:S2:857:U:H3	1.69	0.40
47:S2:868:G:OP2	47:S2:868:G:N2	2.39	0.40
47:S2:986:G:O4'	74:SO:138:ASP:HB2	2.22	0.40
47:S2:1558:C:H2'	47:S2:1559:C:C6	2.56	0.40
47:S2:1595:U:H2'	47:S2:1596:U:C6	2.57	0.40
49:SB:138:PHE:O	49:SB:213:ARG:N	2.54	0.40
64:SX:81:ILE:HD11	64:SX:102:VAL:HG11	2.04	0.40
68:Sg:114:SER:HB3	68:Sg:119:GLN:HB2	2.03	0.40
70:SG:225:GLN:HA	70:SG:228:ILE:HG12	2.03	0.40
73:SN:100:LYS:O	73:SN:103:GLU:HG3	2.22	0.40
75:SW:53:ILE:HD13	78:Sb:24:LEU:HD22	2.03	0.40
77:SZ:78:LYS:HA	77:SZ:78:LYS:HD3	1.73	0.40
1:L5:513:U:H3	1:L5:515:C:H3'	1.86	0.40
1:L5:661:C:H2'	1:L5:662:C:C6	2.57	0.40
1:L5:1479:G:H2'	1:L5:1480:C:C6	2.57	0.40
1:L5:1908:A:H2'	1:L5:1909:G:O4'	2.22	0.40
1:L5:1962:A:N6	1:L5:2026:A:O2'	2.54	0.40
1:L5:2017:A:H5"	1:L5:2018:C:H5	1.86	0.40
1:L5:2375:A:H2'	1:L5:2376:A:C8	2.57	0.40
1:L5:2890:C:H2'	1:L5:2891:U:C6	2.57	0.40
1:L5:3910:C:H2'	1:L5:3911:C:C6	2.57	0.40
1:L5:3932:U:H2'	1:L5:3933:G:H8	1.86	0.40
1:L5:4054:C:H1'	46:Lz:207:LYS:HB2	2.02	0.40
5:LB:356:LYS:O	5:LB:360:LEU:HG	2.21	0.40
6:LC:218:ILE:O	6:LC:222:ARG:CB	2.70	0.40
8:LE:251:LYS:HB2	8:LE:251:LYS:HE3	1.88	0.40
14:LL:59:VAL:HG21	14:LL:73:GLY:HA3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Le:38:PRO:HG2	33:Le:45:VAL:HG23	2.03	0.40
46:Lz:35:GLN:HE21	46:Lz:166:ALA:HB1	1.87	0.40
47:S2:556:U:H3'	47:S2:557:U:H4'	2.04	0.40
51:SE:188:ASN:HB3	51:SE:191:ARG:HD3	2.03	0.40
52:SF:18:LYS:HE3	52:SF:22:LYS:HA	2.03	0.40
58:SQ:70:VAL:HG21	58:SQ:84:ILE:HD12	2.04	0.40
68:Sg:73:SER:H	68:Sg:117:ASN:HD21	1.68	0.40
68:Sg:149:GLU:HB3	68:Sg:170:TRP:HB2	2.02	0.40
68:Sg:203:ASP:OD1	68:Sg:203:ASP:N	2.42	0.40
80:Sf:108:VAL:HG13	80:Sf:113:LYS:H	1.87	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	LA	246/257 (96%)	224 (91%)	21 (8%)	1 (0%)	30	65
5	LB	400/403 (99%)	370 (92%)	28 (7%)	2 (0%)	24	60
6	LC	366/427 (86%)	331 (90%)	34 (9%)	1 (0%)	36	70
7	LD	291/297 (98%)	271 (93%)	20 (7%)	0	100	100
8	LE	232/288 (81%)	216 (93%)	16 (7%)	0	100	100
9	LF	223/248 (90%)	213 (96%)	10 (4%)	0	100	100
10	LG	239/266 (90%)	223 (93%)	16 (7%)	0	100	100
11	LH	188/192 (98%)	168 (89%)	20 (11%)	0	100	100
12	LI	198/214 (92%)	183 (92%)	15 (8%)	0	100	100
13	LJ	174/178 (98%)	158 (91%)	16 (9%)	0	100	100
14	LL	208/211 (99%)	191 (92%)	17 (8%)	0	100	100
15	LM	137/215 (64%)	125 (91%)	11 (8%)	1 (1%)	18	53

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
16	LN	201/204 (98%)	191 (95%)	8 (4%)	2 (1%)	12 45
17	LO	199/203 (98%)	190 (96%)	9 (4%)	0	100 100
18	LP	151/184 (82%)	140 (93%)	11 (7%)	0	100 100
19	LQ	185/188 (98%)	176 (95%)	9 (5%)	0	100 100
20	LR	185/196 (94%)	180 (97%)	5 (3%)	0	100 100
21	LS	173/176 (98%)	162 (94%)	11 (6%)	0	100 100
22	LT	157/160 (98%)	146 (93%)	11 (7%)	0	100 100
23	LU	99/128 (77%)	85 (86%)	13 (13%)	1 (1%)	12 45
24	LV	129/140 (92%)	120 (93%)	9 (7%)	0	100 100
25	LW	122/157 (78%)	115 (94%)	7 (6%)	0	100 100
26	LX	118/156 (76%)	112 (95%)	6 (5%)	0	100 100
27	LY	132/145 (91%)	120 (91%)	12 (9%)	0	100 100
28	LZ	133/136 (98%)	121 (91%)	12 (9%)	0	100 100
29	La	145/148 (98%)	136 (94%)	9 (6%)	0	100 100
30	Lb	105/159 (66%)	97 (92%)	8 (8%)	0	100 100
31	Lc	96/115 (84%)	90 (94%)	6 (6%)	0	100 100
32	Ld	105/125 (84%)	100 (95%)	5 (5%)	0	100 100
33	Le	126/135 (93%)	120 (95%)	5 (4%)	1 (1%)	16 50
34	Lf	107/110 (97%)	98 (92%)	7 (6%)	2 (2%)	6 30
35	Lg	112/117 (96%)	108 (96%)	4 (4%)	0	100 100
36	Lh	120/123 (98%)	117 (98%)	3 (2%)	0	100 100
37	Li	100/105 (95%)	96 (96%)	4 (4%)	0	100 100
38	Lj	84/97 (87%)	76 (90%)	7 (8%)	1 (1%)	10 40
39	Lk	67/70 (96%)	61 (91%)	6 (9%)	0	100 100
40	Ll	48/51 (94%)	44 (92%)	4 (8%)	0	100 100
41	Lm	50/128 (39%)	50 (100%)	0	0	100 100
42	Ln	22/25 (88%)	22 (100%)	0	0	100 100
43	Lo	101/104 (97%)	95 (94%)	6 (6%)	0	100 100
44	Lp	89/92 (97%)	83 (93%)	6 (7%)	0	100 100
45	Lr	123/137 (90%)	116 (94%)	7 (6%)	0	100 100
46	Lz	215/217 (99%)	171 (80%)	44 (20%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	SA	219/295 (74%)	196 (90%)	23 (10%)	0	100	100
49	SB	212/264 (80%)	197 (93%)	15 (7%)	0	100	100
50	SD	225/243 (93%)	202 (90%)	23 (10%)	0	100	100
51	SE	260/263 (99%)	242 (93%)	18 (7%)	0	100	100
52	SF	180/204 (88%)	165 (92%)	15 (8%)	0	100	100
53	SH	182/194 (94%)	161 (88%)	21 (12%)	0	100	100
54	SI	204/208 (98%)	193 (95%)	11 (5%)	0	100	100
55	SK	96/165 (58%)	85 (88%)	11 (12%)	0	100	100
56	SL	151/158 (96%)	139 (92%)	12 (8%)	0	100	100
57	SP	125/145 (86%)	115 (92%)	10 (8%)	0	100	100
58	SQ	142/146 (97%)	128 (90%)	13 (9%)	1 (1%)	18	53
59	SR	133/135 (98%)	121 (91%)	12 (9%)	0	100	100
60	SS	143/152 (94%)	131 (92%)	12 (8%)	0	100	100
61	ST	141/145 (97%)	129 (92%)	11 (8%)	1 (1%)	18	53
62	SU	102/119 (86%)	91 (89%)	11 (11%)	0	100	100
63	SV	81/83 (98%)	73 (90%)	7 (9%)	1 (1%)	10	40
64	SX	139/143 (97%)	124 (89%)	14 (10%)	1 (1%)	18	53
65	Sa	100/115 (87%)	90 (90%)	9 (9%)	1 (1%)	12	45
66	Sc	62/69 (90%)	50 (81%)	12 (19%)	0	100	100
67	Sd	53/56 (95%)	49 (92%)	4 (8%)	0	100	100
68	Sg	311/317 (98%)	267 (86%)	44 (14%)	0	100	100
69	SC	220/293 (75%)	206 (94%)	14 (6%)	0	100	100
70	SG	235/249 (94%)	218 (93%)	17 (7%)	0	100	100
71	SJ	183/194 (94%)	170 (93%)	13 (7%)	0	100	100
72	SM	120/132 (91%)	109 (91%)	11 (9%)	0	100	100
73	SN	148/151 (98%)	140 (95%)	8 (5%)	0	100	100
74	SO	138/151 (91%)	126 (91%)	12 (9%)	0	100	100
75	SW	127/130 (98%)	121 (95%)	6 (5%)	0	100	100
76	SY	129/133 (97%)	121 (94%)	8 (6%)	0	100	100
77	SZ	73/125 (58%)	59 (81%)	13 (18%)	1 (1%)	9	36
78	Sb	81/84 (96%)	70 (86%)	11 (14%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
79	Se	56/59 (95%)	52 (93%)	4 (7%)	0	100	100
80	Sf	65/156 (42%)	54 (83%)	11 (17%)	0	100	100
81	CA	350/394 (89%)	332 (95%)	18 (5%)	0	100	100
83	CE	71/223 (32%)	70 (99%)	1 (1%)	0	100	100
All	All	11958/13520 (88%)	11007 (92%)	933 (8%)	18 (0%)	44	76

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
16	LN	124	ASP
64	SX	127	ASN
15	LM	88	ALA
61	ST	41	LYS
5	LB	302	ASN
5	LB	360	LEU
34	Lf	80	ASN
65	Sa	47	ALA
77	SZ	78	LYS
4	LA	55	GLY
58	SQ	44	PRO
38	Lj	40	PRO
16	LN	83	LYS
6	LC	232	VAL
23	LU	59	GLY
33	Le	73	GLY
34	Lf	107	PRO
63	SV	79	VAL

5.3.2 Protein sidechains (i)

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

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	LA	190/199 (96%)	188 (99%)	2 (1%)	65	83
5	LB	348/349 (100%)	347 (100%)	1 (0%)	86	91

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
6	LC	306/348 (88%)	304 (99%)	2 (1%)	76 86
7	LD	246/250 (98%)	246 (100%)	0	100 100
8	LE	209/252 (83%)	208 (100%)	1 (0%)	81 89
9	LF	194/215 (90%)	193 (100%)	1 (0%)	81 89
10	LG	203/223 (91%)	203 (100%)	0	100 100
11	LH	169/171 (99%)	169 (100%)	0	100 100
12	LI	172/181 (95%)	172 (100%)	0	100 100
13	LJ	148/149 (99%)	148 (100%)	0	100 100
14	LL	176/177 (99%)	175 (99%)	1 (1%)	78 88
15	LM	118/161 (73%)	118 (100%)	0	100 100
16	LN	171/172 (99%)	171 (100%)	0	100 100
17	LO	173/174 (99%)	173 (100%)	0	100 100
18	LP	134/163 (82%)	134 (100%)	0	100 100
19	LQ	164/165 (99%)	163 (99%)	1 (1%)	78 88
20	LR	166/175 (95%)	166 (100%)	0	100 100
21	LS	156/157 (99%)	155 (99%)	1 (1%)	78 88
22	LT	139/140 (99%)	139 (100%)	0	100 100
23	LU	91/115 (79%)	91 (100%)	0	100 100
24	LV	101/107 (94%)	100 (99%)	1 (1%)	68 84
25	LW	103/126 (82%)	103 (100%)	0	100 100
26	LX	108/133 (81%)	108 (100%)	0	100 100
27	LY	124/135 (92%)	123 (99%)	1 (1%)	73 86
28	LZ	117/118 (99%)	115 (98%)	2 (2%)	53 78
29	La	120/121 (99%)	118 (98%)	2 (2%)	53 78
30	Lb	88/126 (70%)	87 (99%)	1 (1%)	65 83
31	Lc	83/97 (86%)	83 (100%)	0	100 100
32	Ld	98/110 (89%)	98 (100%)	0	100 100
33	Le	114/121 (94%)	114 (100%)	0	100 100
34	Lf	88/89 (99%)	86 (98%)	2 (2%)	44 74
35	Lg	98/100 (98%)	98 (100%)	0	100 100
36	Lh	109/110 (99%)	109 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	Li	86/89 (97%)	86 (100%)	0	100	100
38	Lj	73/80 (91%)	73 (100%)	0	100	100
39	Lk	64/65 (98%)	64 (100%)	0	100	100
40	Ll	47/48 (98%)	47 (100%)	0	100	100
41	Lm	48/116 (41%)	48 (100%)	0	100	100
42	Ln	23/24 (96%)	23 (100%)	0	100	100
43	Lo	91/92 (99%)	91 (100%)	0	100	100
44	Lp	74/75 (99%)	74 (100%)	0	100	100
45	Lr	109/121 (90%)	109 (100%)	0	100	100
46	Lz	195/196 (100%)	193 (99%)	2 (1%)	68	84
48	SA	183/243 (75%)	182 (100%)	1 (0%)	81	89
49	SB	195/231 (84%)	195 (100%)	0	100	100
50	SD	190/202 (94%)	189 (100%)	1 (0%)	81	89
51	SE	224/225 (100%)	223 (100%)	1 (0%)	84	90
52	SF	156/170 (92%)	156 (100%)	0	100	100
53	SH	166/174 (95%)	165 (99%)	1 (1%)	78	88
54	SI	178/180 (99%)	178 (100%)	0	100	100
55	SK	89/136 (65%)	89 (100%)	0	100	100
56	SL	137/142 (96%)	137 (100%)	0	100	100
57	SP	113/130 (87%)	113 (100%)	0	100	100
58	SQ	119/121 (98%)	118 (99%)	1 (1%)	73	86
59	SR	122/122 (100%)	121 (99%)	1 (1%)	73	86
60	SS	126/132 (96%)	124 (98%)	2 (2%)	55	79
61	ST	113/115 (98%)	113 (100%)	0	100	100
62	SU	94/107 (88%)	94 (100%)	0	100	100
63	SV	67/67 (100%)	67 (100%)	0	100	100
64	SX	113/115 (98%)	112 (99%)	1 (1%)	70	85
65	Sa	89/98 (91%)	88 (99%)	1 (1%)	65	83
66	Sc	57/62 (92%)	57 (100%)	0	100	100
67	Sd	48/49 (98%)	47 (98%)	1 (2%)	47	75
68	Sg	272/275 (99%)	272 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
69	SC	188/225 (84%)	187 (100%)	1 (0%)	81 89
70	SG	207/218 (95%)	207 (100%)	0	100 100
71	SJ	161/168 (96%)	161 (100%)	0	100 100
72	SM	102/108 (94%)	102 (100%)	0	100 100
73	SN	130/131 (99%)	129 (99%)	1 (1%)	73 86
74	SO	110/119 (92%)	110 (100%)	0	100 100
75	SW	112/113 (99%)	112 (100%)	0	100 100
76	SY	113/115 (98%)	113 (100%)	0	100 100
77	SZ	66/103 (64%)	66 (100%)	0	100 100
78	Sb	75/76 (99%)	75 (100%)	0	100 100
79	Se	47/48 (98%)	47 (100%)	0	100 100
80	Sf	60/140 (43%)	60 (100%)	0	100 100
81	CA	303/336 (90%)	303 (100%)	0	100 100
83	CE	62/190 (33%)	62 (100%)	0	100 100
All	All	10421/11521 (90%)	10387 (100%)	34 (0%)	84 91

All (34) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	LA	4	VAL
4	LA	207	VAL
5	LB	337	VAL
6	LC	153	VAL
6	LC	257	PHE
8	LE	197	THR
9	LF	238	ASP
14	LL	59	VAL
19	LQ	83	VAL
21	LS	129	VAL
24	LV	65	VAL
27	LY	79	VAL
28	LZ	46	ILE
28	LZ	74	VAL
29	La	76	ASP
29	La	103	VAL
30	Lb	9	THR
34	Lf	33	VAL

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Mol	Chain	Res	Type
34	Lf	37	ASP
46	Lz	145	VAL
46	Lz	172	VAL
48	SA	8	LEU
50	SD	99	ILE
51	SE	69	PHE
53	SH	185	VAL
58	SQ	22	VAL
59	SR	57	LEU
60	SS	15	VAL
60	SS	103	LEU
64	SX	13	LEU
65	Sa	52	ASP
67	Sd	49	ASP
69	SC	104	ASP
73	SN	87	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (161) such sidechains are listed below:

Mol	Chain	Res	Type
4	LA	97	ASN
4	LA	132	ASN
4	LA	162	ASN
4	LA	216	HIS
5	LB	145	GLN
5	LB	208	ASN
6	LC	21	ASN
6	LC	215	ASN
6	LC	299	GLN
6	LC	310	HIS
6	LC	329	ASN
7	LD	111	ASN
7	LD	191	ASN
7	LD	198	HIS
7	LD	225	GLN
7	LD	282	GLN
8	LE	190	HIS
8	LE	191	GLN
9	LF	39	GLN
9	LF	58	HIS
9	LF	63	GLN
11	LH	39	ASN

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Mol	Chain	Res	Type
11	LH	106	GLN
11	LH	138	GLN
11	LH	163	GLN
12	LI	73	ASN
13	LJ	3	GLN
13	LJ	46	GLN
13	LJ	98	ASN
13	LJ	112	HIS
14	LL	19	GLN
14	LL	205	GLN
15	LM	48	GLN
16	LN	32	GLN
16	LN	91	GLN
16	LN	196	ASN
17	LO	26	GLN
17	LO	184	ASN
18	LP	21	ASN
18	LP	56	GLN
18	LP	72	GLN
18	LP	80	GLN
18	LP	97	ASN
18	LP	116	HIS
18	LP	133	HIS
19	LQ	21	GLN
19	LQ	44	ASN
20	LR	130	ASN
21	LS	37	HIS
21	LS	77	ASN
21	LS	91	HIS
22	LT	49	GLN
22	LT	131	GLN
22	LT	144	ASN
24	LV	77	HIS
24	LV	108	ASN
25	LW	17	HIS
25	LW	79	GLN
26	LX	93	ASN
27	LY	14	ASN
29	La	34	ASN
29	La	60	HIS
29	La	66	ASN
29	La	85	GLN

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Mol	Chain	Res	Type
29	La	120	GLN
30	Lb	60	ASN
31	Lc	15	ASN
32	Ld	121	ASN
34	Lf	20	ASN
34	Lf	56	ASN
34	Lf	80	ASN
34	Lf	99	HIS
35	Lg	112	GLN
38	Lj	66	HIS
38	Lj	76	HIS
40	Ll	4	HIS
43	Lo	45	GLN
44	Lp	34	HIS
44	Lp	56	HIS
45	Lr	70	GLN
45	Lr	100	ASN
46	Lz	19	HIS
46	Lz	44	GLN
46	Lz	71	GLN
46	Lz	72	GLN
46	Lz	119	GLN
46	Lz	141	ASN
46	Lz	143	ASN
48	SA	9	GLN
48	SA	131	HIS
48	SA	141	ASN
49	SB	43	ASN
49	SB	149	GLN
49	SB	159	GLN
49	SB	186	ASN
49	SB	202	GLN
50	SD	4	GLN
50	SD	145	GLN
51	SE	67	GLN
51	SE	98	ASN
51	SE	138	HIS
51	SE	157	ASN
51	SE	188	ASN
52	SF	31	ASN
52	SF	148	ASN
53	SH	68	GLN

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Mol	Chain	Res	Type
53	SH	91	HIS
53	SH	186	ASN
54	SI	52	ASN
55	SK	44	HIS
55	SK	50	GLN
56	SL	11	GLN
56	SL	19	ASN
56	SL	94	HIS
56	SL	100	ASN
57	SP	24	GLN
57	SP	98	ASN
57	SP	104	GLN
58	SQ	29	ASN
58	SQ	80	GLN
59	SR	31	ASN
59	SR	62	GLN
59	SR	93	GLN
59	SR	121	GLN
60	SS	73	ASN
61	ST	85	ASN
61	ST	128	GLN
62	SU	92	HIS
63	SV	2	GLN
64	SX	127	ASN
66	Sc	7	GLN
66	Sc	29	GLN
68	Sg	14	HIS
68	Sg	20	GLN
68	Sg	117	ASN
68	Sg	237	ASN
68	Sg	296	GLN
68	Sg	305	ASN
69	SC	115	GLN
69	SC	277	HIS
70	SG	81	HIS
70	SG	197	GLN
71	SJ	111	GLN
73	SN	5	HIS
73	SN	49	GLN
73	SN	123	HIS
74	SO	13	GLN
74	SO	103	ASN

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Mol	Chain	Res	Type
76	SY	112	ASN
77	SZ	106	GLN
78	Sb	84	HIS
81	CA	10	GLN
81	CA	29	ASN
81	CA	84	ASN
81	CA	96	GLN
81	CA	162	GLN
81	CA	165	GLN
81	CA	178	ASN
81	CA	203	GLN
83	CE	31	GLN
83	CE	71	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	L5	3704/5070 (73%)	961 (25%)	19 (0%)
2	L7	119/121 (98%)	10 (8%)	0
3	L8	155/157 (98%)	31 (20%)	2 (1%)
47	S2	1715/1869 (91%)	424 (24%)	8 (0%)
82	CC	74/75 (98%)	22 (29%)	3 (4%)
All	All	5767/7292 (79%)	1448 (25%)	32 (0%)

All (1448) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	L5	2	G
1	L5	17	A
1	L5	25	A
1	L5	26	C
1	L5	30	C
1	L5	39	A
1	L5	42	A
1	L5	48	G
1	L5	56	A
1	L5	59	A
1	L5	64	A
1	L5	65	A
1	L5	66	A
1	L5	69	A

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Mol	Chain	Res	Type
1	L5	72	C
1	L5	73	A
1	L5	74	G
1	L5	91	G
1	L5	98	A
1	L5	104	G
1	L5	108	A
1	L5	109	G
1	L5	110	C
1	L5	119	G
1	L5	120	A
1	L5	132	G
1	L5	133	C
1	L5	134	G
1	L5	135	G
1	L5	136	C
1	L5	152	U
1	L5	159	C
1	L5	164	G
1	L5	165	A
1	L5	166	C
1	L5	181	C
1	L5	182	G
1	L5	183	C
1	L5	184	U
1	L5	185	C
1	L5	187	U
1	L5	188	G
1	L5	189	G
1	L5	200	U
1	L5	209	U
1	L5	218	A
1	L5	219	G
1	L5	233	U
1	L5	234	G
1	L5	250	C
1	L5	255	C
1	L5	256	G
1	L5	258	G
1	L5	261	G
1	L5	263	G
1	L5	265	C

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Mol	Chain	Res	Type
1	L5	266	C
1	L5	267	G
1	L5	269	G
1	L5	275	C
1	L5	276	C
1	L5	280	G
1	L5	297	U
1	L5	306	A
1	L5	315	G
1	L5	316	U
1	L5	340	C
1	L5	350	C
1	L5	353	A
1	L5	373	G
1	L5	387	G
1	L5	388	A
1	L5	399	G
1	L5	401	G
1	L5	407	A
1	L5	408	A
1	L5	409	G
1	L5	410	A
1	L5	411	G
1	L5	412	G
1	L5	413	G
1	L5	418	A
1	L5	431	G
1	L5	432	U
1	L5	438	G
1	L5	440	U
1	L5	449	C
1	L5	450	G
1	L5	452	A
1	L5	453	G
1	L5	454	U
1	L5	456	C
1	L5	457	G
1	L5	464	G
1	L5	465	G
1	L5	467	U
1	L5	468	U
1	L5	472	C

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Mol	Chain	Res	Type
1	L5	484	U
1	L5	485	C
1	L5	486	C
1	L5	489	C
1	L5	493	G
1	L5	494	U
1	L5	495	C
1	L5	497	G
1	L5	498	C
1	L5	499	G
1	L5	500	G
1	L5	501	C
1	L5	502	C
1	L5	503	C
1	L5	504	G
1	L5	505	G
1	L5	506	C
1	L5	509	A
1	L5	510	U
1	L5	512	U
1	L5	513	U
1	L5	514	U
1	L5	518	G
1	L5	643	C
1	L5	645	G
1	L5	646	G
1	L5	656	C
1	L5	657	C
1	L5	658	C
1	L5	659	G
1	L5	665	C
1	L5	666	G
1	L5	667	A
1	L5	668	C
1	L5	669	C
1	L5	672	C
1	L5	673	C
1	L5	674	G
1	L5	685	C
1	L5	686	A
1	L5	687	U
1	L5	688	U

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Mol	Chain	Res	Type
1	L5	696	C
1	L5	697	G
1	L5	703	G
1	L5	704	C
1	L5	706	C
1	L5	708	G
1	L5	731	G
1	L5	738	C
1	L5	739	G
1	L5	742	G
1	L5	744	G
1	L5	750	U
1	L5	753	C
1	L5	758	G
1	L5	759	G
1	L5	760	G
1	L5	904	C
1	L5	907	C
1	L5	910	G
1	L5	912	G
1	L5	913	U
1	L5	914	U
1	L5	915	A
1	L5	917	A
1	L5	918	G
1	L5	923	C
1	L5	924	C
1	L5	926	G
1	L5	932	A
1	L5	933	G
1	L5	935	A
1	L5	936	C
1	L5	937	U
1	L5	941	C
1	L5	943	A
1	L5	944	A
1	L5	945	U
1	L5	946	C
1	L5	959	G
1	L5	960	A
1	L5	961	G
1	L5	962	C

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Mol	Chain	Res	Type
1	L5	965	G
1	L5	966	A
1	L5	967	C
1	L5	969	C
1	L5	970	G
1	L5	971	U
1	L5	982	U
1	L5	984	C
1	L5	985	C
1	L5	986	C
1	L5	988	C
1	L5	989	U
1	L5	990	C
1	L5	992	C
1	L5	993	G
1	L5	995	C
1	L5	996	G
1	L5	1048	G
1	L5	1049	C
1	L5	1050	C
1	L5	1051	G
1	L5	1066	G
1	L5	1070	G
1	L5	1071	C
1	L5	1074	G
1	L5	1075	G
1	L5	1082	C
1	L5	1083	U
1	L5	1095	A
1	L5	1168	G
1	L5	1170	G
1	L5	1171	G
1	L5	1172	C
1	L5	1173	G
1	L5	1178	G
1	L5	1179	U
1	L5	1180	C
1	L5	1181	C
1	L5	1182	C
1	L5	1183	C
1	L5	1184	A
1	L5	1193	C

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Mol	Chain	Res	Type
1	L5	1202	C
1	L5	1203	G
1	L5	1204	C
1	L5	1206	C
1	L5	1210	C
1	L5	1211	G
1	L5	1214	C
1	L5	1215	C
1	L5	1216	C
1	L5	1217	G
1	L5	1218	G
1	L5	1219	G
1	L5	1222	A
1	L5	1235	G
1	L5	1241	C
1	L5	1242	G
1	L5	1243	C
1	L5	1246	G
1	L5	1247	U
1	L5	1253	G
1	L5	1254	A
1	L5	1255	A
1	L5	1257	A
1	L5	1258	G
1	L5	1259	G
1	L5	1261	G
1	L5	1262	G
1	L5	1266	G
1	L5	1267	C
1	L5	1269	G
1	L5	1270	A
1	L5	1271	G
1	L5	1272	C
1	L5	1273	G
1	L5	1274	A
1	L5	1275	G
1	L5	1277	G
1	L5	1280	C
1	L5	1284	G
1	L5	1285	U
1	L5	1287	G
1	L5	1294	A

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Mol	Chain	Res	Type
1	L5	1295	C
1	L5	1296	G
1	L5	1301	C
1	L5	1302	U
1	L5	1312	A
1	L5	1313	C
1	L5	1324	A
1	L5	1326	A
1	L5	1337	A
1	L5	1354	A
1	L5	1358	G
1	L5	1359	G
1	L5	1365	C
1	L5	1367	C
1	L5	1368	A
1	L5	1379	C
1	L5	1381	U
1	L5	1387	A
1	L5	1393	G
1	L5	1394	G
1	L5	1397	A
1	L5	1399	G
1	L5	1404	G
1	L5	1405	C
1	L5	1407	C
1	L5	1409	C
1	L5	1410	U
1	L5	1411	C
1	L5	1412	G
1	L5	1414	C
1	L5	1415	G
1	L5	1417	C
1	L5	1420	A
1	L5	1435	G
1	L5	1437	C
1	L5	1439	C
1	L5	1440	U
1	L5	1441	C
1	L5	1442	C
1	L5	1445	U
1	L5	1446	C
1	L5	1447	C

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Mol	Chain	Res	Type
1	L5	1457	G
1	L5	1482	G
1	L5	1483	C
1	L5	1497	A
1	L5	1498	G
1	L5	1502	G
1	L5	1515	A
1	L5	1517	G
1	L5	1518	A
1	L5	1534	A
1	L5	1547	A
1	L5	1562	G
1	L5	1566	C
1	L5	1578	U
1	L5	1591	U
1	L5	1596	U
1	L5	1597	G
1	L5	1621	A
1	L5	1624	G
1	L5	1625	G
1	L5	1631	A
1	L5	1632	A
1	L5	1633	G
1	L5	1634	A
1	L5	1638	A
1	L5	1640	C
1	L5	1641	G
1	L5	1642	A
1	L5	1654	G
1	L5	1660	U
1	L5	1661	C
1	L5	1663	C
1	L5	1670	G
1	L5	1676	C
1	L5	1677	U
1	L5	1678	C
1	L5	1681	G
1	L5	1691	G
1	L5	1697	G
1	L5	1699	A
1	L5	1700	G
1	L5	1703	C

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Mol	Chain	Res	Type
1	L5	1704	C
1	L5	1705	G
1	L5	1707	C
1	L5	1715	C
1	L5	1719	A
1	L5	1731	C
1	L5	1734	G
1	L5	1741	G
1	L5	1742	A
1	L5	1750	G
1	L5	1753	G
1	L5	1755	C
1	L5	1757	U
1	L5	1758	G
1	L5	1759	G
1	L5	1760	G
1	L5	1762	C
1	L5	1763	C
1	L5	1764	G
1	L5	1765	A
1	L5	1766	A
1	L5	1767	A
1	L5	1768	C
1	L5	1770	A
1	L5	1772	C
1	L5	1775	A
1	L5	1776	A
1	L5	1787	A
1	L5	1797	G
1	L5	1804	A
1	L5	1806	G
1	L5	1810	G
1	L5	1820	C
1	L5	1821	G
1	L5	1822	U
1	L5	1833	G
1	L5	1834	U
1	L5	1836	G
1	L5	1837	A
1	L5	1842	G
1	L5	1843	A
1	L5	1855	G

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Mol	Chain	Res	Type
1	L5	1869	G
1	L5	1882	U
1	L5	1889	U
1	L5	1892	A
1	L5	1897	A
1	L5	1898	C
1	L5	1918	U
1	L5	1919	G
1	L5	1920	C
1	L5	1921	C
1	L5	1922	G
1	L5	1925	G
1	L5	1931	C
1	L5	1932	A
1	L5	1935	C
1	L5	1936	C
1	L5	1940	G
1	L5	1948	G
1	L5	1949	U
1	L5	1959	U
1	L5	1960	A
1	L5	1961	G
1	L5	1962	A
1	L5	1966	C
1	L5	1968	G
1	L5	1970	A
1	L5	1971	C
1	L5	1972	G
1	L5	1974	U
1	L5	1975	G
1	L5	1976	G
1	L5	1977	C
1	L5	1978	C
1	L5	1979	A
1	L5	1980	U
1	L5	1981	G
1	L5	1982	G
1	L5	1983	A
1	L5	1985	G
1	L5	1987	C
1	L5	1988	G
1	L5	1990	A

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Mol	Chain	Res	Type
1	L5	1991	A
1	L5	1992	U
1	L5	1993	C
1	L5	1994	C
1	L5	1995	G
1	L5	1996	C
1	L5	1997	U
1	L5	1998	A
1	L5	1999	A
1	L5	2001	G
1	L5	2002	A
1	L5	2003	G
1	L5	2005	G
1	L5	2006	U
1	L5	2007	G
1	L5	2009	A
1	L5	2010	A
1	L5	2011	C
1	L5	2012	A
1	L5	2013	A
1	L5	2014	C
1	L5	2015	U
1	L5	2018	C
1	L5	2019	C
1	L5	2020	U
1	L5	2021	G
1	L5	2024	G
1	L5	2025	A
1	L5	2026	A
1	L5	2034	G
1	L5	2044	U
1	L5	2046	G
1	L5	2048	U
1	L5	2055	G
1	L5	2056	G
1	L5	2069	A
1	L5	2084	C
1	L5	2085	G
1	L5	2089	G
1	L5	2092	G
1	L5	2093	A
1	L5	2095	A

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Mol	Chain	Res	Type
1	L5	2096	G
1	L5	2097	U
1	L5	2098	G
1	L5	2100	A
1	L5	2101	C
1	L5	2102	G
1	L5	2107	C
1	L5	2108	G
1	L5	2110	C
1	L5	2111	G
1	L5	2112	G
1	L5	2250	C
1	L5	2252	G
1	L5	2253	A
1	L5	2256	C
1	L5	2258	C
1	L5	2259	G
1	L5	2260	C
1	L5	2263	A
1	L5	2270	G
1	L5	2289	C
1	L5	2300	A
1	L5	2301	G
1	L5	2306	G
1	L5	2313	A
1	L5	2316	G
1	L5	2332	A
1	L5	2333	G
1	L5	2348	G
1	L5	2350	U
1	L5	2351	C
1	L5	2360	A
1	L5	2364	G
1	L5	2369	U
1	L5	2395	A
1	L5	2397	G
1	L5	2408	U
1	L5	2417	A
1	L5	2418	A
1	L5	2421	G
1	L5	2425	U
1	L5	2437	C

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Mol	Chain	Res	Type
1	L5	2441	C
1	L5	2450	G
1	L5	2464	C
1	L5	2465	C
1	L5	2467	U
1	L5	2474	G
1	L5	2475	G
1	L5	2477	A
1	L5	2478	C
1	L5	2479	G
1	L5	2483	G
1	L5	2484	A
1	L5	2485	U
1	L5	2487	G
1	L5	2488	C
1	L5	2489	C
1	L5	2490	U
1	L5	2491	C
1	L5	2494	U
1	L5	2495	U
1	L5	2503	G
1	L5	2504	C
1	L5	2505	C
1	L5	2506	G
1	L5	2513	A
1	L5	2519	U
1	L5	2537	A
1	L5	2544	G
1	L5	2546	G
1	L5	2547	G
1	L5	2554	U
1	L5	2555	G
1	L5	2556	G
1	L5	2559	G
1	L5	2560	C
1	L5	2561	C
1	L5	2583	C
1	L5	2586	G
1	L5	2587	A
1	L5	2589	C
1	L5	2601	A
1	L5	2638	G

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Mol	Chain	Res	Type
1	L5	2653	C
1	L5	2661	U
1	L5	2662	G
1	L5	2669	C
1	L5	2675	G
1	L5	2676	A
1	L5	2687	U
1	L5	2695	A
1	L5	2696	A
1	L5	2703	G
1	L5	2707	U
1	L5	2708	U
1	L5	2709	C
1	L5	2710	C
1	L5	2711	G
1	L5	2713	C
1	L5	2721	G
1	L5	2724	G
1	L5	2725	A
1	L5	2726	G
1	L5	2738	C
1	L5	2739	C
1	L5	2742	G
1	L5	2743	A
1	L5	2746	A
1	L5	2756	G
1	L5	2761	U
1	L5	2763	U
1	L5	2764	A
1	L5	2769	U
1	L5	2770	C
1	L5	2787	A
1	L5	2788	U
1	L5	2790	U
1	L5	2794	C
1	L5	2795	A
1	L5	2825	A
1	L5	2826	U
1	L5	2827	G
1	L5	2835	A
1	L5	2838	G
1	L5	2842	G

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Mol	Chain	Res	Type
1	L5	2848	G
1	L5	2855	G
1	L5	2877	G
1	L5	2892	C
1	L5	2895	A
1	L5	2900	U
1	L5	2902	G
1	L5	2903	G
1	L5	2904	U
1	L5	2905	C
1	L5	2906	G
1	L5	2908	U
1	L5	2909	C
1	L5	3585	G
1	L5	3588	C
1	L5	3590	G
1	L5	3591	C
1	L5	3592	G
1	L5	3594	C
1	L5	3595	U
1	L5	3596	A
1	L5	3597	G
1	L5	3605	C
1	L5	3606	U
1	L5	3615	G
1	L5	3616	U
1	L5	3618	C
1	L5	3626	G
1	L5	3630	A
1	L5	3635	A
1	L5	3644	U
1	L5	3646	A
1	L5	3662	A
1	L5	3664	G
1	L5	3670	C
1	L5	3672	G
1	L5	3673	C
1	L5	3674	G
1	L5	3685	C
1	L5	3711	A
1	L5	3713	U
1	L5	3714	G

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Mol	Chain	Res	Type
1	L5	3727	A
1	L5	3729	U
1	L5	3735	G
1	L5	3748	A
1	L5	3750	G
1	L5	3753	G
1	L5	3754	G
1	L5	3757	G
1	L5	3758	U
1	L5	3759	A
1	L5	3760	A
1	L5	3761	C
1	L5	3771	C
1	L5	3775	A
1	L5	3776	G
1	L5	3777	G
1	L5	3783	A
1	L5	3784	A
1	L5	3786	U
1	L5	3802	U
1	L5	3811	G
1	L5	3812	C
1	L5	3814	U
1	L5	3817	A
1	L5	3818	U
1	L5	3819	G
1	L5	3838	U
1	L5	3839	G
1	L5	3840	U
1	L5	3851	U
1	L5	3867	A
1	L5	3876	A
1	L5	3877	A
1	L5	3878	C
1	L5	3879	G
1	L5	3885	G
1	L5	3887	C
1	L5	3890	A
1	L5	3892	U
1	L5	3897	G
1	L5	3901	A
1	L5	3906	A

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Mol	Chain	Res	Type
1	L5	3907	G
1	L5	3908	A
1	L5	3915	U
1	L5	3938	G
1	L5	3939	G
1	L5	3942	A
1	L5	3943	A
1	L5	3944	G
1	L5	3947	A
1	L5	3950	U
1	L5	3955	G
1	L5	3956	G
1	L5	3957	U
1	L5	3958	G
1	L5	3959	U
1	L5	3960	A
1	L5	3961	G
1	L5	3962	A
1	L5	3963	A
1	L5	3964	U
1	L5	3965	A
1	L5	3966	A
1	L5	3967	G
1	L5	3968	U
1	L5	3969	G
1	L5	3970	G
1	L5	3971	G
1	L5	3972	A
1	L5	3973	G
1	L5	3974	G
1	L5	3975	C
1	L5	3977	C
1	L5	4036	G
1	L5	4038	C
1	L5	4039	G
1	L5	4041	C
1	L5	4042	G
1	L5	4043	G
1	L5	4044	U
1	L5	4045	G
1	L5	4046	A
1	L5	4048	A

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Mol	Chain	Res	Type
1	L5	4049	U
1	L5	4051	C
1	L5	4052	C
1	L5	4053	A
1	L5	4054	C
1	L5	4055	U
1	L5	4056	A
1	L5	4057	C
1	L5	4058	U
1	L5	4059	C
1	L5	4062	A
1	L5	4063	U
1	L5	4064	C
1	L5	4065	G
1	L5	4076	G
1	L5	4084	G
1	L5	4086	G
1	L5	4096	C
1	L5	4097	G
1	L5	4098	A
1	L5	4099	G
1	L5	4101	C
1	L5	4102	C
1	L5	4103	C
1	L5	4104	G
1	L5	4106	G
1	L5	4107	G
1	L5	4108	G
1	L5	4109	G
1	L5	4111	U
1	L5	4112	C
1	L5	4114	C
1	L5	4115	G
1	L5	4116	C
1	L5	4117	U
1	L5	4119	C
1	L5	4122	G
1	L5	4127	A
1	L5	4140	C
1	L5	4141	G
1	L5	4142	C
1	L5	4143	G

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Mol	Chain	Res	Type
1	L5	4144	C
1	L5	4146	G
1	L5	4150	G
1	L5	4160	C
1	L5	4162	C
1	L5	4163	U
1	L5	4168	G
1	L5	4170	A
1	L5	4183	G
1	L5	4191	G
1	L5	4196	G
1	L5	4197	G
1	L5	4203	A
1	L5	4212	A
1	L5	4222	G
1	L5	4228	G
1	L5	4229	U
1	L5	4233	A
1	L5	4251	A
1	L5	4254	G
1	L5	4255	A
1	L5	4256	A
1	L5	4257	A
1	L5	4265	U
1	L5	4268	A
1	L5	4273	A
1	L5	4281	A
1	L5	4291	G
1	L5	4295	U
1	L5	4304	A
1	L5	4305	G
1	L5	4314	C
1	L5	4319	C
1	L5	4329	G
1	L5	4330	G
1	L5	4332	C
1	L5	4339	A
1	L5	4349	C
1	L5	4354	U
1	L5	4371	G
1	L5	4373	G
1	L5	4377	G

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Mol	Chain	Res	Type
1	L5	4378	A
1	L5	4379	A
1	L5	4380	A
1	L5	4381	A
1	L5	4386	C
1	L5	4387	C
1	L5	4391	G
1	L5	4394	A
1	L5	4405	G
1	L5	4422	A
1	L5	4424	A
1	L5	4448	G
1	L5	4449	A
1	L5	4450	U
1	L5	4452	U
1	L5	4453	C
1	L5	4464	A
1	L5	4466	C
1	L5	4471	U
1	L5	4475	G
1	L5	4488	A
1	L5	4500	U
1	L5	4512	U
1	L5	4513	A
1	L5	4518	A
1	L5	4519	C
1	L5	4524	G
1	L5	4529	G
1	L5	4531	U
1	L5	4545	G
1	L5	4548	A
1	L5	4549	G
1	L5	4556	U
1	L5	4557	U
1	L5	4560	C
1	L5	4567	G
1	L5	4573	G
1	L5	4575	G
1	L5	4589	A
1	L5	4590	A
1	L5	4600	G
1	L5	4601	U

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Mol	Chain	Res	Type
1	L5	4617	G
1	L5	4626	A
1	L5	4627	U
1	L5	4635	A
1	L5	4636	U
1	L5	4637	G
1	L5	4652	G
1	L5	4656	A
1	L5	4659	G
1	L5	4670	C
1	L5	4672	A
1	L5	4679	G
1	L5	4682	U
1	L5	4684	A
1	L5	4687	A
1	L5	4691	A
1	L5	4694	G
1	L5	4695	C
1	L5	4700	A
1	L5	4708	A
1	L5	4709	U
1	L5	4719	G
1	L5	4720	C
1	L5	4731	G
1	L5	4733	C
1	L5	4734	A
1	L5	4735	G
1	L5	4740	G
1	L5	4741	C
1	L5	4742	G
1	L5	4745	G
1	L5	4747	C
1	L5	4750	G
1	L5	4754	G
1	L5	4757	C
1	L5	4759	C
1	L5	4761	G
1	L5	4765	G
1	L5	4770	U
1	L5	4771	C
1	L5	4772	C
1	L5	4775	C

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Mol	Chain	Res	Type
1	L5	4776	G
1	L5	4859	C
1	L5	4860	G
1	L5	4863	G
1	L5	4870	G
1	L5	4871	C
1	L5	4875	G
1	L5	4877	G
1	L5	4882	U
1	L5	4883	C
1	L5	4888	U
1	L5	4889	G
1	L5	4891	G
1	L5	4895	C
1	L5	4896	G
1	L5	4900	C
1	L5	4901	G
1	L5	4902	C
1	L5	4910	G
1	L5	4911	A
1	L5	4912	G
1	L5	4914	C
1	L5	4922	C
1	L5	4923	C
1	L5	4925	U
1	L5	4926	C
1	L5	4927	G
1	L5	4928	C
1	L5	4931	G
1	L5	4934	A
1	L5	4937	C
1	L5	4940	C
1	L5	4941	G
1	L5	4943	A
1	L5	4947	U
1	L5	4951	G
1	L5	4953	G
1	L5	4960	G
1	L5	4961	G
1	L5	4966	A
1	L5	4976	U
1	L5	4979	A

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Mol	Chain	Res	Type
1	L5	4988	U
1	L5	4989	U
1	L5	4990	C
1	L5	4991	U
1	L5	5013	C
1	L5	5014	A
1	L5	5017	G
1	L5	5020	G
1	L5	5022	U
1	L5	5024	C
1	L5	5025	C
1	L5	5026	U
1	L5	5028	G
1	L5	5029	C
1	L5	5031	G
1	L5	5034	A
1	L5	5041	G
1	L5	5047	C
1	L5	5050	C
1	L5	5054	C
1	L5	5055	G
1	L5	5061	A
1	L5	5069	U
2	L7	5	A
2	L7	7	G
2	L7	24	C
2	L7	38	U
2	L7	53	U
2	L7	54	A
2	L7	63	C
2	L7	64	G
2	L7	100	A
2	L7	111	C
3	L8	2	G
3	L8	25	G
3	L8	34	U
3	L8	35	C
3	L8	48	A
3	L8	59	A
3	L8	60	G
3	L8	61	A
3	L8	62	A

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Mol	Chain	Res	Type
3	L8	63	U
3	L8	68	G
3	L8	82	A
3	L8	83	C
3	L8	84	A
3	L8	85	U
3	L8	86	U
3	L8	87	G
3	L8	94	G
3	L8	103	A
3	L8	105	C
3	L8	110	U
3	L8	111	U
3	L8	114	G
3	L8	123	U
3	L8	124	U
3	L8	125	C
3	L8	126	C
3	L8	127	U
3	L8	150	C
3	L8	151	G
3	L8	156	U
47	S2	2	A
47	S2	13	C
47	S2	14	C
47	S2	25	A
47	S2	33	G
47	S2	39	A
47	S2	41	G
47	S2	46	A
47	S2	49	C
47	S2	56	G
47	S2	58	C
47	S2	59	U
47	S2	62	G
47	S2	64	A
47	S2	67	C
47	S2	68	A
47	S2	72	C
47	S2	73	C
47	S2	74	G
47	S2	76	U

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Mol	Chain	Res	Type
47	S2	92	A
47	S2	103	A
47	S2	113	G
47	S2	115	U
47	S2	116	U
47	S2	126	G
47	S2	130	G
47	S2	142	C
47	S2	143	U
47	S2	149	A
47	S2	154	U
47	S2	158	A
47	S2	159	A
47	S2	160	U
47	S2	161	U
47	S2	162	C
47	S2	163	U
47	S2	168	C
47	S2	175	A
47	S2	179	C
47	S2	182	C
47	S2	184	G
47	S2	190	G
47	S2	196	C
47	S2	197	U
47	S2	198	U
47	S2	199	C
47	S2	200	G
47	S2	203	G
47	S2	204	G
47	S2	206	G
47	S2	208	G
47	S2	209	A
47	S2	211	G
47	S2	212	C
47	S2	214	U
47	S2	290	U
47	S2	291	G
47	S2	292	A
47	S2	293	C
47	S2	295	C
47	S2	302	A

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Mol	Chain	Res	Type
47	S2	306	C
47	S2	307	G
47	S2	308	G
47	S2	309	G
47	S2	311	C
47	S2	313	A
47	S2	316	G
47	S2	318	A
47	S2	319	C
47	S2	323	C
47	S2	324	C
47	S2	325	C
47	S2	326	C
47	S2	328	U
47	S2	329	G
47	S2	332	G
47	S2	338	G
47	S2	339	A
47	S2	347	G
47	S2	360	A
47	S2	362	C
47	S2	364	A
47	S2	368	U
47	S2	370	G
47	S2	381	C
47	S2	385	G
47	S2	386	C
47	S2	407	G
47	S2	408	A
47	S2	409	C
47	S2	417	C
47	S2	418	A
47	S2	421	G
47	S2	448	A
47	S2	449	A
47	S2	450	C
47	S2	452	G
47	S2	464	A
47	S2	465	A
47	S2	466	G
47	S2	467	G
47	S2	471	G

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Mol	Chain	Res	Type
47	S2	472	C
47	S2	473	A
47	S2	474	G
47	S2	482	G
47	S2	487	U
47	S2	488	U
47	S2	492	C
47	S2	493	A
47	S2	502	C
47	S2	525	A
47	S2	531	A
47	S2	532	C
47	S2	533	A
47	S2	534	G
47	S2	536	A
47	S2	537	C
47	S2	540	U
47	S2	542	U
47	S2	546	G
47	S2	547	G
47	S2	551	U
47	S2	556	U
47	S2	557	U
47	S2	558	G
47	S2	559	G
47	S2	560	A
47	S2	563	G
47	S2	564	A
47	S2	566	U
47	S2	576	A
47	S2	583	A
47	S2	587	A
47	S2	589	G
47	S2	591	U
47	S2	594	A
47	S2	596	U
47	S2	597	G
47	S2	607	U
47	S2	608	C
47	S2	614	C
47	S2	617	G
47	S2	623	G

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Mol	Chain	Res	Type
47	S2	627	U
47	S2	628	A
47	S2	643	A
47	S2	644	G
47	S2	655	A
47	S2	659	G
47	S2	660	C
47	S2	662	G
47	S2	663	C
47	S2	664	A
47	S2	668	A
47	S2	671	A
47	S2	672	A
47	S2	673	G
47	S2	683	G
47	S2	687	C
47	S2	688	U
47	S2	689	U
47	S2	690	G
47	S2	692	G
47	S2	693	A
47	S2	695	C
47	S2	696	G
47	S2	697	G
47	S2	698	G
47	S2	732	U
47	S2	733	C
47	S2	734	C
47	S2	736	C
47	S2	738	C
47	S2	749	U
47	S2	751	G
47	S2	752	G
47	S2	753	C
47	S2	787	G
47	S2	788	G
47	S2	791	C
47	S2	792	C
47	S2	798	G
47	S2	810	A
47	S2	811	A
47	S2	821	G

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Mol	Chain	Res	Type
47	S2	822	U
47	S2	823	U
47	S2	824	C
47	S2	830	A
47	S2	834	C
47	S2	835	C
47	S2	836	G
47	S2	837	A
47	S2	838	G
47	S2	839	C
47	S2	840	C
47	S2	841	G
47	S2	842	C
47	S2	847	A
47	S2	869	A
47	S2	870	A
47	S2	872	A
47	S2	873	G
47	S2	874	G
47	S2	879	C
47	S2	880	G
47	S2	882	U
47	S2	883	U
47	S2	887	U
47	S2	888	U
47	S2	889	U
47	S2	891	G
47	S2	892	U
47	S2	896	U
47	S2	897	U
47	S2	898	U
47	S2	899	U
47	S2	900	C
47	S2	901	G
47	S2	903	A
47	S2	904	A
47	S2	913	A
47	S2	914	U
47	S2	919	A
47	S2	920	A
47	S2	930	C
47	S2	933	G

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Mol	Chain	Res	Type
47	S2	934	G
47	S2	943	U
47	S2	950	C
47	S2	963	A
47	S2	969	U
47	S2	971	G
47	S2	972	A
47	S2	990	A
47	S2	992	A
47	S2	999	G
47	S2	1001	A
47	S2	1017	U
47	S2	1023	A
47	S2	1027	A
47	S2	1028	A
47	S2	1033	G
47	S2	1034	A
47	S2	1061	U
47	S2	1062	A
47	S2	1083	A
47	S2	1085	C
47	S2	1088	U
47	S2	1109	C
47	S2	1114	U
47	S2	1115	U
47	S2	1116	C
47	S2	1118	C
47	S2	1119	A
47	S2	1121	G
47	S2	1133	A
47	S2	1138	C
47	S2	1153	C
47	S2	1154	U
47	S2	1195	A
47	S2	1207	G
47	S2	1208	A
47	S2	1215	C
47	S2	1216	C
47	S2	1217	A
47	S2	1224	G
47	S2	1227	G
47	S2	1239	U

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Mol	Chain	Res	Type
47	S2	1242	U
47	S2	1243	U
47	S2	1251	A
47	S2	1253	A
47	S2	1256	G
47	S2	1257	G
47	S2	1259	A
47	S2	1265	A
47	S2	1273	C
47	S2	1274	G
47	S2	1275	G
47	S2	1281	G
47	S2	1282	A
47	S2	1283	C
47	S2	1284	A
47	S2	1286	G
47	S2	1293	A
47	S2	1294	G
47	S2	1295	A
47	S2	1301	A
47	S2	1302	G
47	S2	1303	C
47	S2	1305	C
47	S2	1306	U
47	S2	1308	U
47	S2	1311	C
47	S2	1312	G
47	S2	1314	U
47	S2	1318	G
47	S2	1333	U
47	S2	1341	C
47	S2	1342	U
47	S2	1343	U
47	S2	1348	G
47	S2	1371	U
47	S2	1372	U
47	S2	1378	A
47	S2	1382	A
47	S2	1401	A
47	S2	1402	A
47	S2	1412	C
47	S2	1414	A

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Mol	Chain	Res	Type
47	S2	1415	C
47	S2	1419	C
47	S2	1420	G
47	S2	1421	A
47	S2	1422	G
47	S2	1423	C
47	S2	1424	G
47	S2	1433	C
47	S2	1434	C
47	S2	1435	C
47	S2	1436	C
47	S2	1438	A
47	S2	1449	G
47	S2	1452	A
47	S2	1454	A
47	S2	1462	U
47	S2	1463	U
47	S2	1478	U
47	S2	1480	A
47	S2	1487	A
47	S2	1489	A
47	S2	1490	G
47	S2	1495	G
47	S2	1497	G
47	S2	1498	A
47	S2	1505	U
47	S2	1507	G
47	S2	1508	A
47	S2	1509	U
47	S2	1520	G
47	S2	1521	C
47	S2	1533	A
47	S2	1536	G
47	S2	1537	A
47	S2	1544	C
47	S2	1552	G
47	S2	1553	C
47	S2	1555	U
47	S2	1556	A
47	S2	1570	G
47	S2	1574	C
47	S2	1580	A

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Mol	Chain	Res	Type
47	S2	1585	U
47	S2	1586	U
47	S2	1587	G
47	S2	1588	A
47	S2	1594	A
47	S2	1598	G
47	S2	1601	A
47	S2	1606	G
47	S2	1621	U
47	S2	1623	A
47	S2	1633	A
47	S2	1634	A
47	S2	1637	A
47	S2	1638	G
47	S2	1644	C
47	S2	1648	G
47	S2	1654	G
47	S2	1661	A
47	S2	1663	A
47	S2	1665	G
47	S2	1671	G
47	S2	1680	G
47	S2	1686	G
47	S2	1699	A
47	S2	1712	A
47	S2	1715	A
47	S2	1717	C
47	S2	1719	A
47	S2	1721	U
47	S2	1722	G
47	S2	1727	G
47	S2	1743	G
47	S2	1744	G
47	S2	1745	A
47	S2	1752	C
47	S2	1753	C
47	S2	1754	G
47	S2	1757	G
47	S2	1758	G
47	S2	1759	G
47	S2	1760	G
47	S2	1761	U

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Mol	Chain	Res	Type
47	S2	1772	C
47	S2	1773	C
47	S2	1774	C
47	S2	1775	U
47	S2	1776	G
47	S2	1777	G
47	S2	1783	C
47	S2	1784	G
47	S2	1786	U
47	S2	1797	U
47	S2	1821	U
47	S2	1823	A
47	S2	1824	A
47	S2	1825	A
47	S2	1826	G
47	S2	1829	G
47	S2	1831	A
47	S2	1835	A
47	S2	1838	U
47	S2	1849	G
47	S2	1852	C
47	S2	1861	G
47	S2	1862	G
47	S2	1863	A
47	S2	1864	U
47	S2	1865	C
82	CC	7	A
82	CC	11	C
82	CC	16	C
82	CC	17	G
82	CC	19	C
82	CC	20	U
82	CC	28	C
82	CC	32	C
82	CC	33	U
82	CC	35	U
82	CC	36	C
82	CC	37	A
82	CC	38	C
82	CC	39	C
82	CC	43	G
82	CC	44	A

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Mol	Chain	Res	Type
82	CC	45	G
82	CC	46	A
82	CC	47	C
82	CC	51	G
82	CC	72	G
82	CC	75	A

All (32) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	L5	183	C
1	L5	406	C
1	L5	493	G
1	L5	504	G
1	L5	914	U
1	L5	1082	C
1	L5	1633	G
1	L5	2019	C
1	L5	2033	A
1	L5	2416	G
1	L5	2675	G
1	L5	2760	G
1	L5	2786	C
1	L5	3614	G
1	L5	3673	C
1	L5	4045	G
1	L5	4378	A
1	L5	4699	U
1	L5	4913	G
3	L8	83	C
3	L8	86	U
47	S2	112	U
47	S2	291	G
47	S2	417	C
47	S2	420	G
47	S2	563	G
47	S2	668	A
47	S2	688	U
47	S2	1434	C
82	CC	35	U
82	CC	37	A
82	CC	74	C

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 264 ligands modelled in this entry, 264 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.

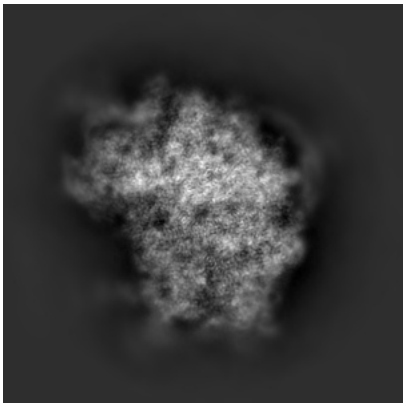
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-11098. These allow visual inspection of the internal detail of the map and identification of artifacts.

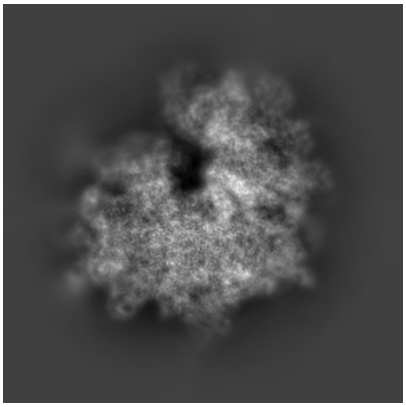
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

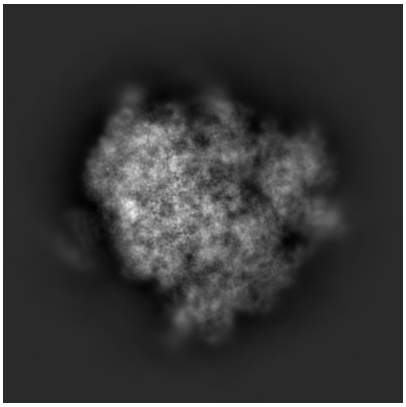
6.1.1 Primary map



X



Y

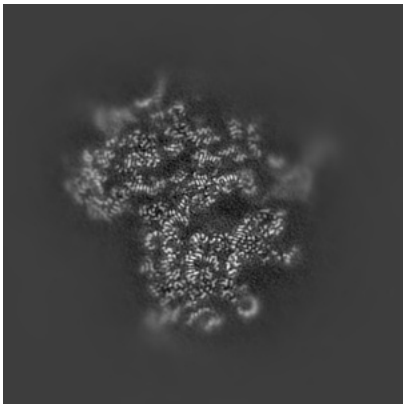


Z

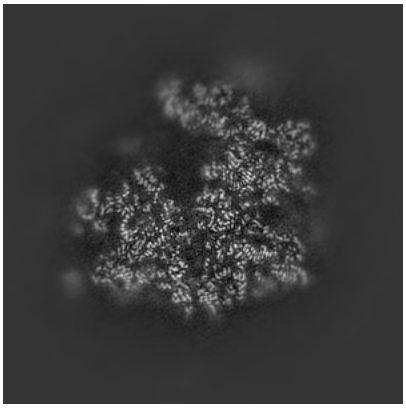
The images above show the map projected in three orthogonal directions.

6.2 Central slices

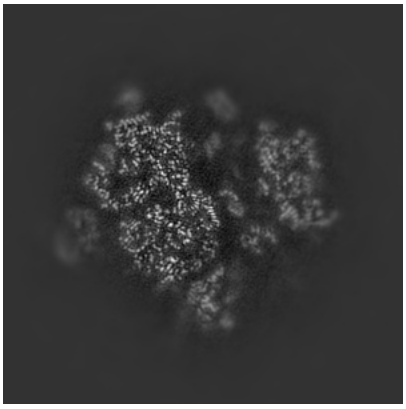
6.2.1 Primary map



X Index: 200



Y Index: 200

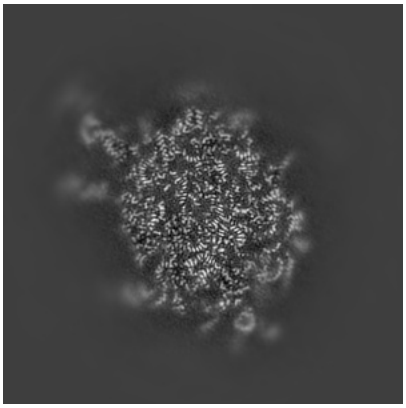


Z Index: 200

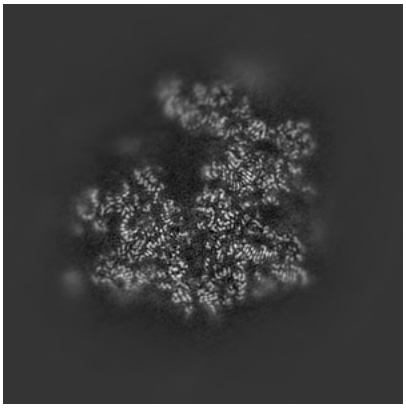
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

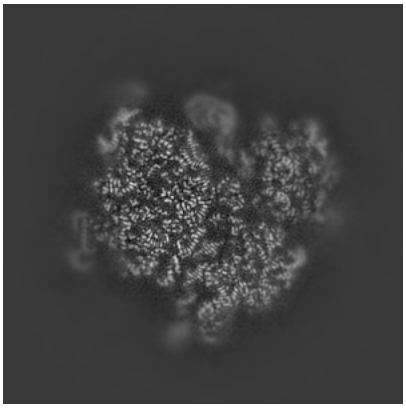
6.3.1 Primary map



X Index: 172



Y Index: 200

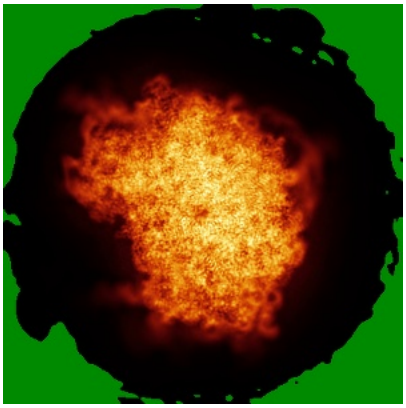


Z Index: 222

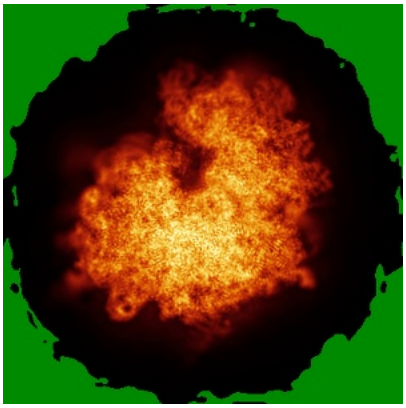
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

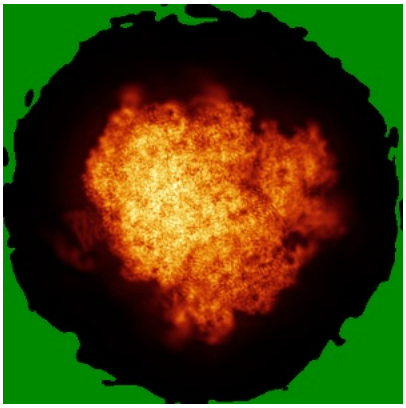
6.4.1 Primary map



X



Y

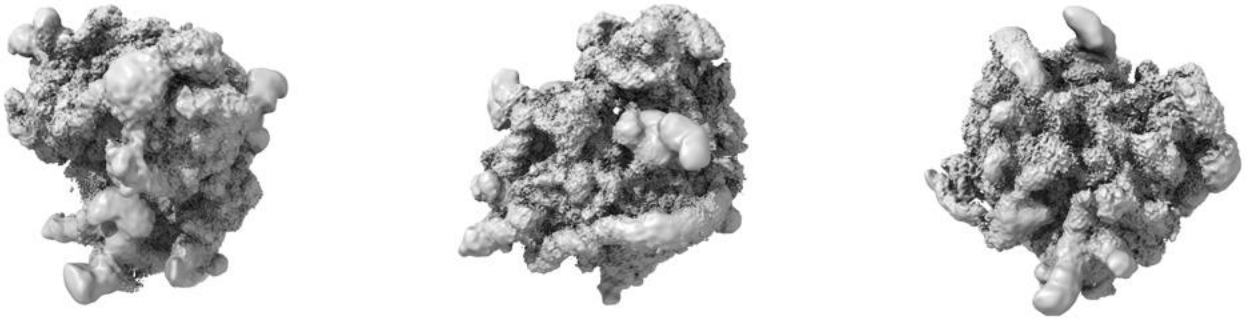


Z

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



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.005. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

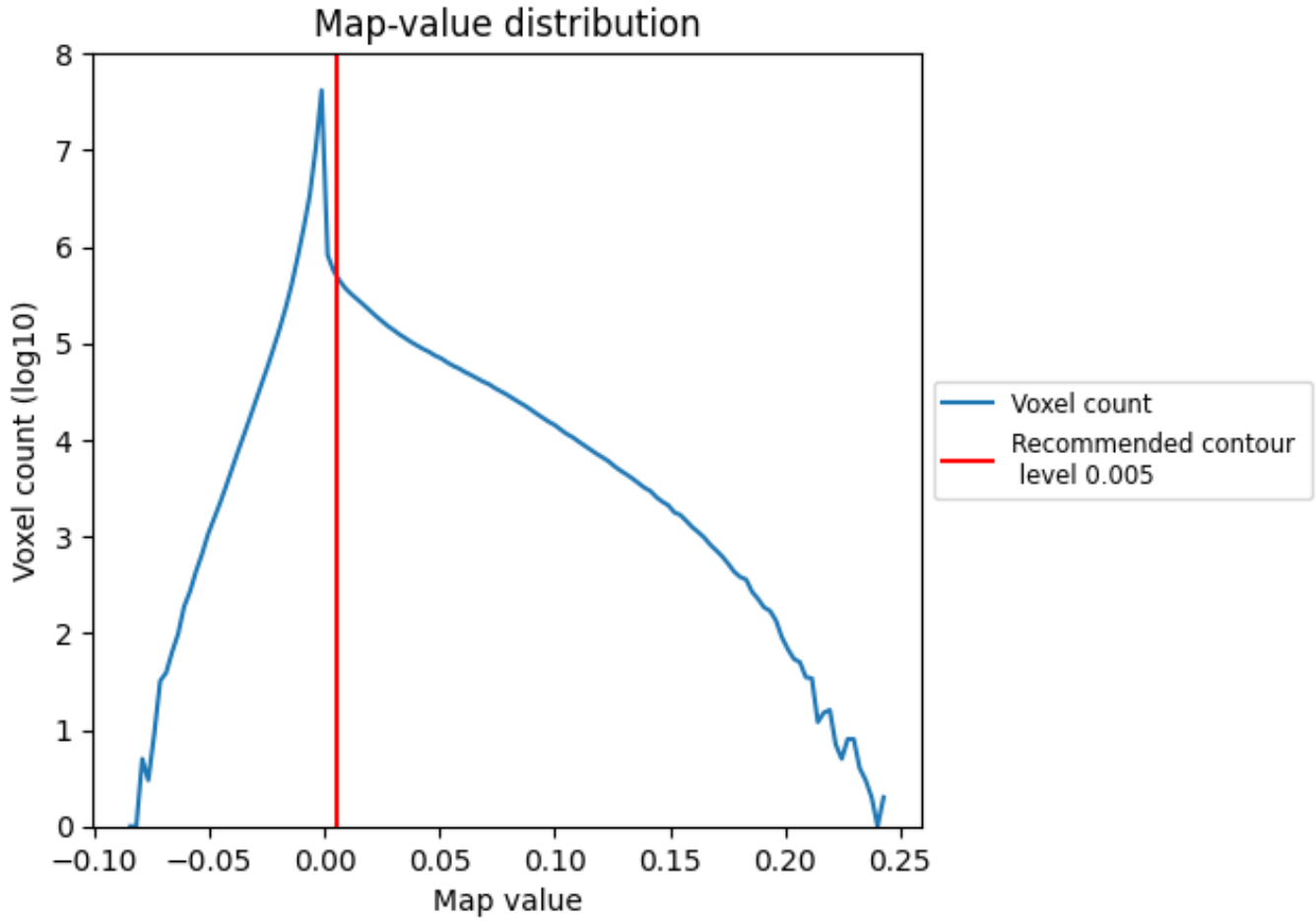
6.6 Mask visualisation (i)

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

7 Map analysis

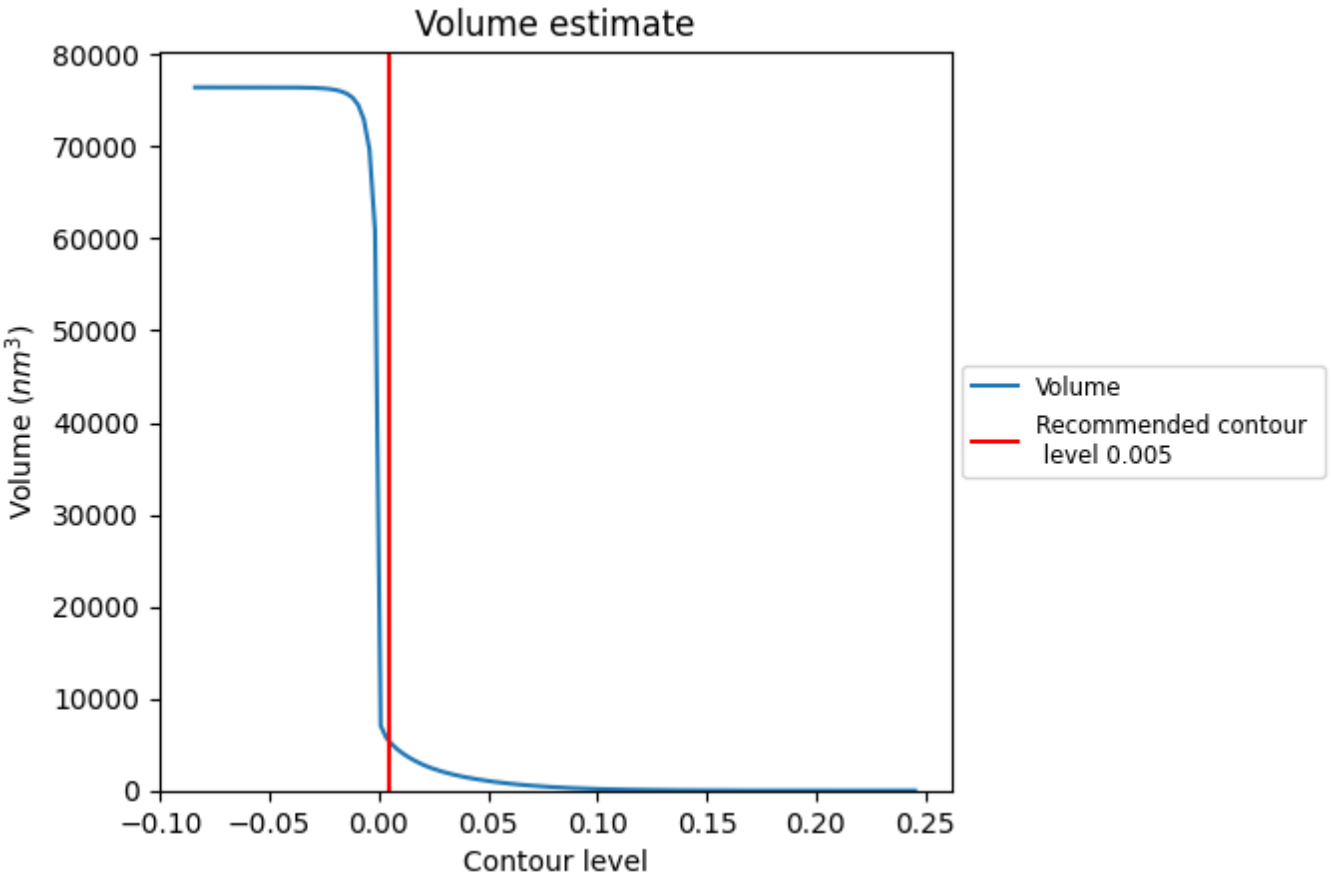
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

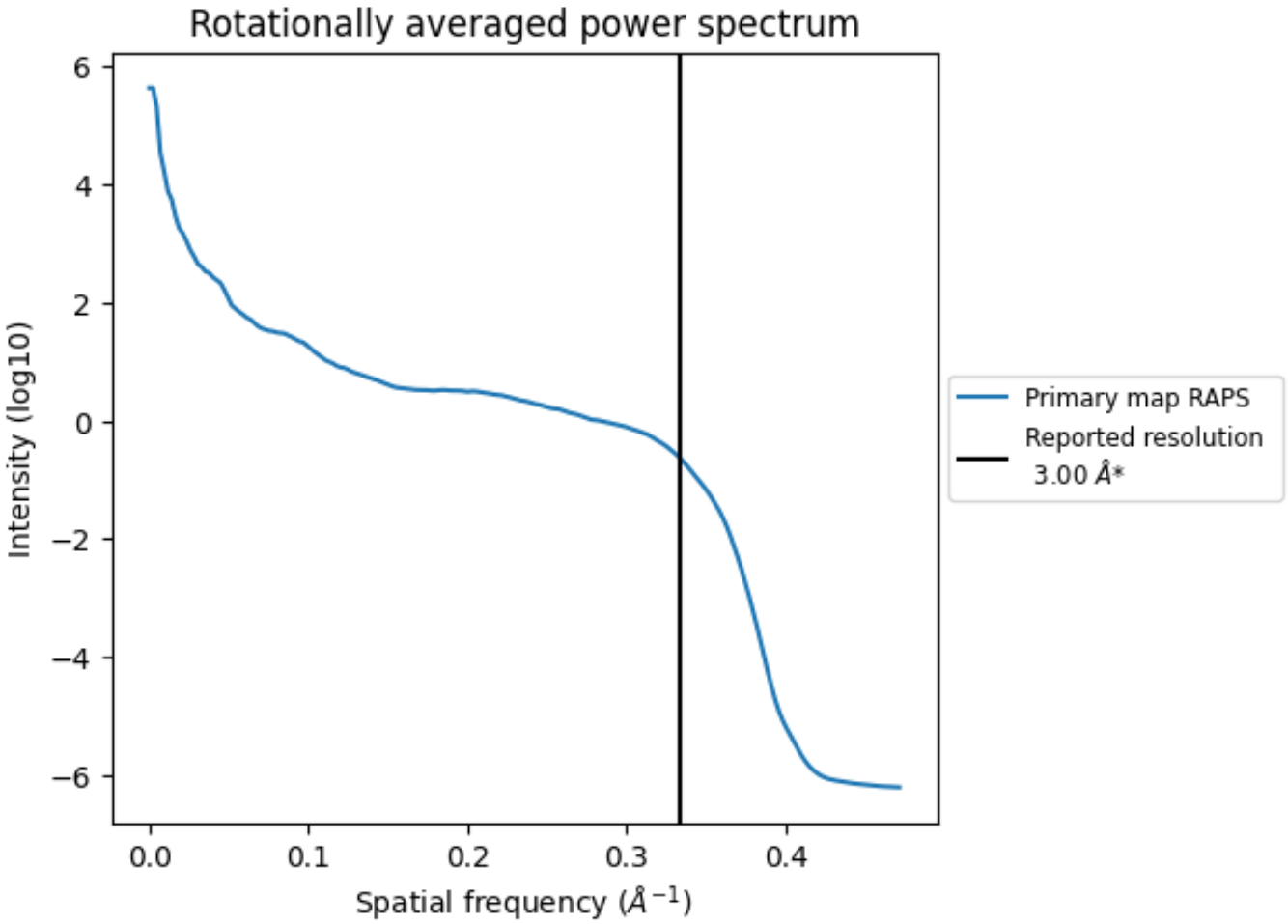
7.2 Volume estimate (i)



The volume at the recommended contour level is 5303 nm^3; this corresponds to an approximate mass of 4790 kDa.

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

7.3 Rotationally averaged power spectrum (i)

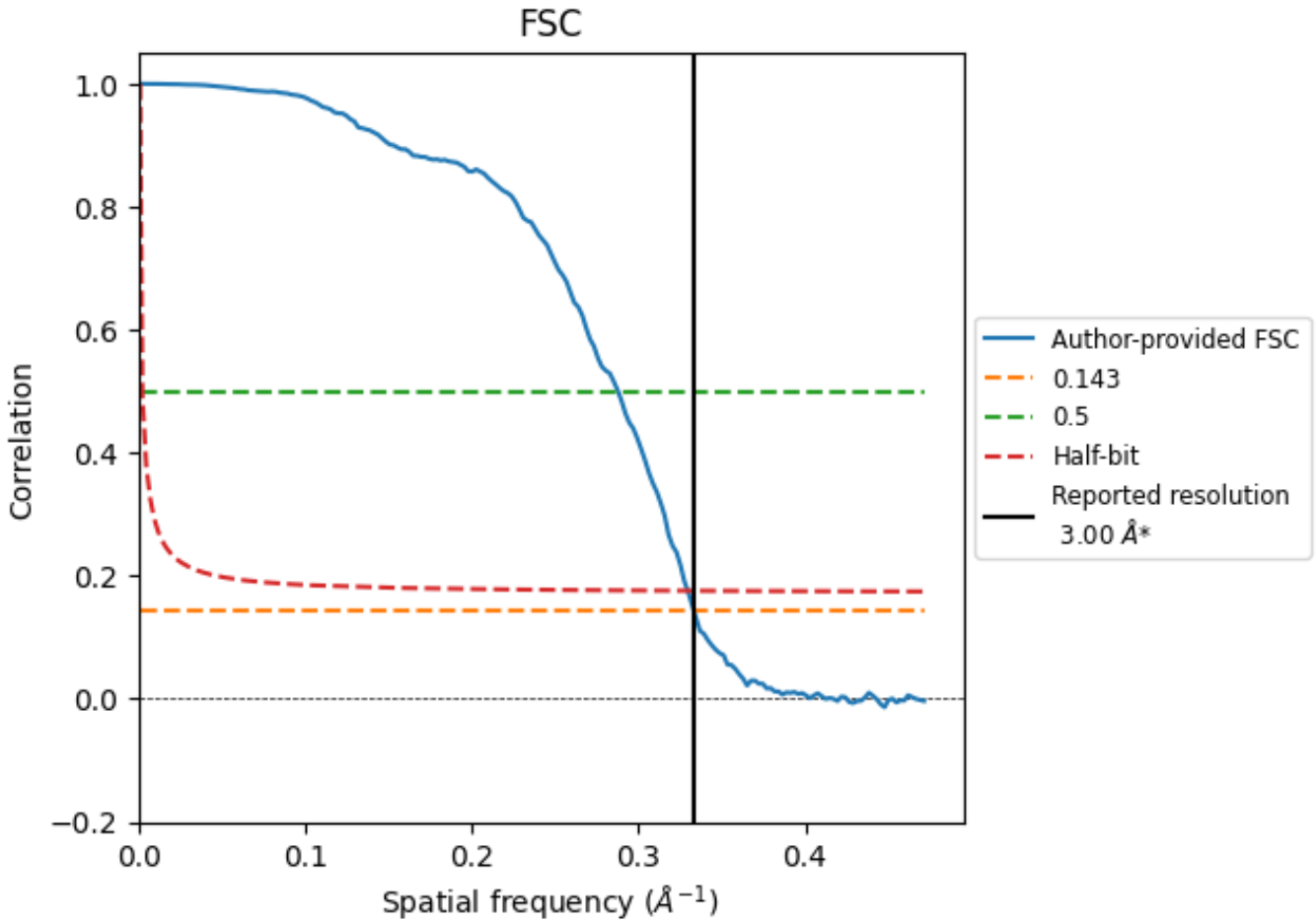


*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8.2 Resolution estimates (i)

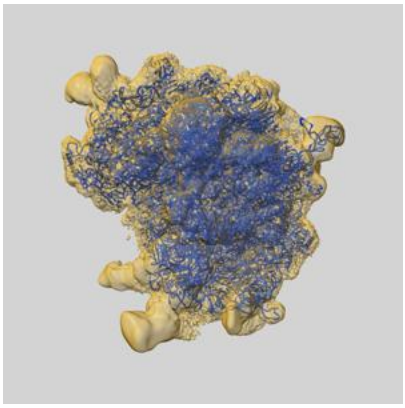
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	3.00	3.48	3.03
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

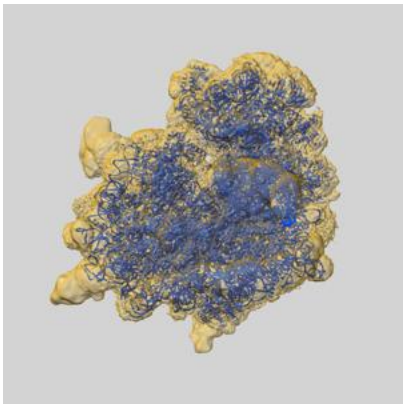
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-11098 and PDB model 6Z6L. Per-residue inclusion information can be found in section 3 on page 20.

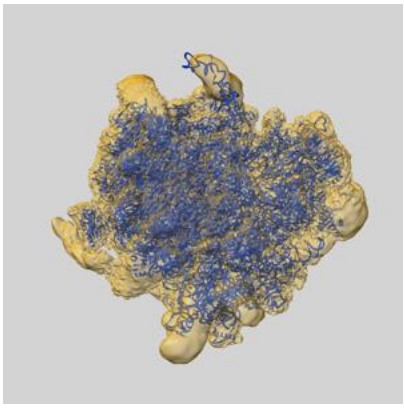
9.1 Map-model overlay



X



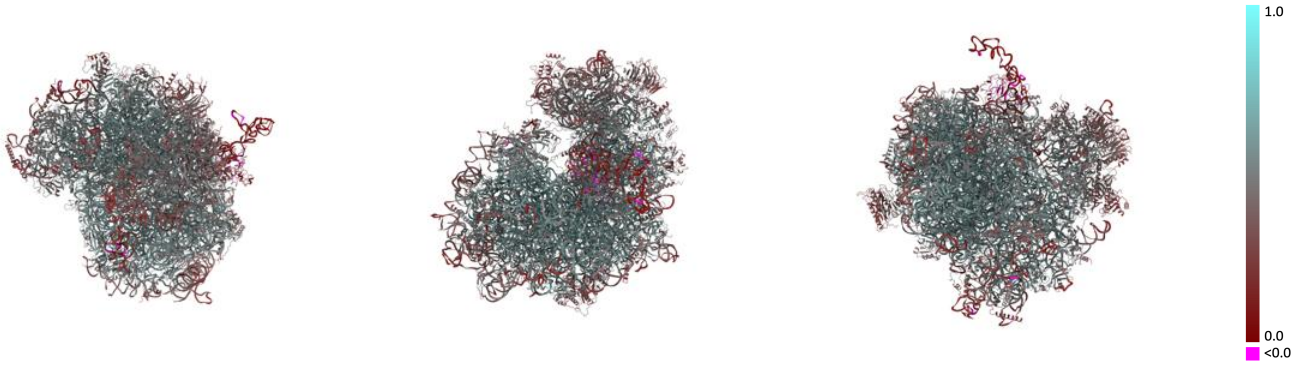
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.005 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.

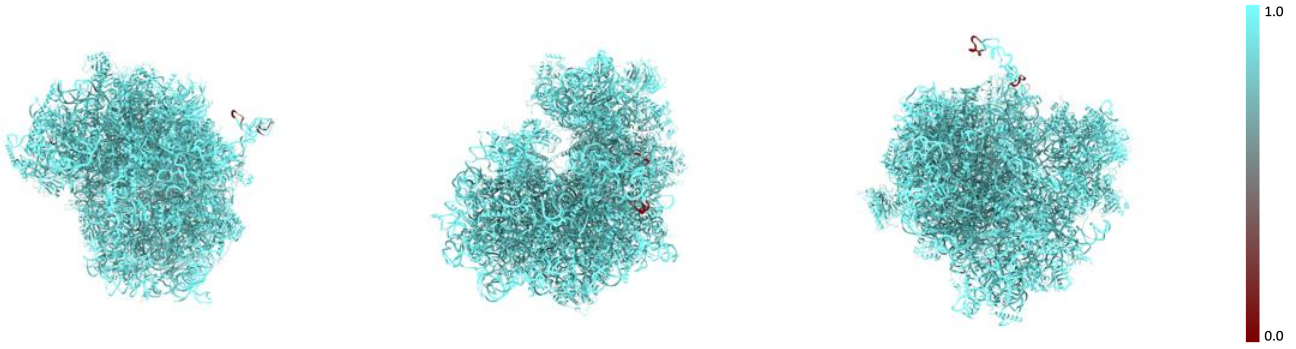
9.2 Q-score mapped to coordinate model



X Y Z

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

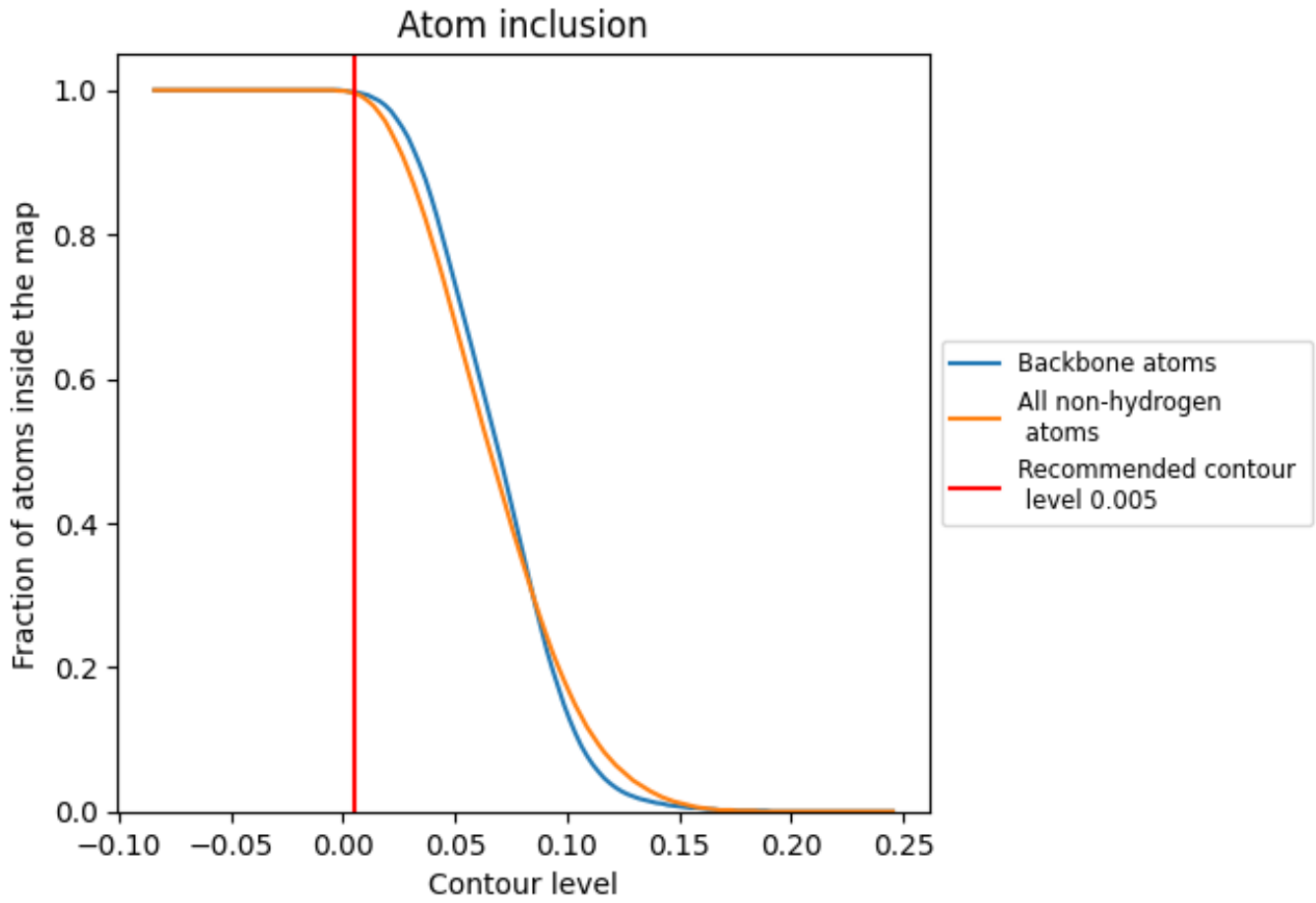
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.005).

9.4 Atom inclusion (i)



At the recommended contour level, 100% of all backbone atoms, 100% 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 (0.005) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9960	0.4990
CA	0.9810	0.3130
CC	0.9900	0.3030
CE	0.8550	0.3980
L5	0.9980	0.5190
L7	1.0000	0.5610
L8	0.9990	0.5420
LA	0.9940	0.5970
LB	0.9950	0.5600
LC	0.9960	0.5540
LD	1.0000	0.4970
LE	0.9970	0.4710
LF	0.9960	0.5580
LG	0.9940	0.4750
LH	0.9970	0.5240
LI	0.9920	0.5480
LJ	0.9890	0.4430
LL	0.9930	0.5130
LM	0.9950	0.5090
LN	0.9960	0.5940
LO	0.9930	0.5690
LP	0.9960	0.5780
LQ	0.9940	0.5800
LR	0.9980	0.5240
LS	0.9990	0.5750
LT	0.9910	0.5470
LU	0.9990	0.4450
LV	0.9920	0.5750
LW	0.9920	0.4110
LX	0.9920	0.5400
LY	0.9980	0.5300
LZ	1.0000	0.5180
La	0.9960	0.5790
Lb	0.9880	0.4870
Lc	0.9880	0.5300

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Chain	Atom inclusion	Q-score
Ld	0.9970	0.5370
Le	0.9950	0.5880
Lf	0.9910	0.5860
Lg	0.9950	0.5650
Lh	0.9910	0.5190
Li	0.9980	0.5100
Lj	0.9940	0.5850
Lk	0.9950	0.4860
Ll	0.9880	0.5700
Lm	0.9900	0.5420
Ln	0.9950	0.5990
Lo	0.9900	0.5580
Lp	0.9870	0.5760
Lr	0.9980	0.5470
Lz	0.9360	0.1350
S2	1.0000	0.4920
SA	0.9980	0.4750
SB	0.9960	0.5010
SC	0.9950	0.5190
SD	0.9950	0.4220
SE	0.9990	0.5130
SF	0.9940	0.4390
SG	0.9980	0.4140
SH	0.9950	0.4040
SI	0.9940	0.4970
SJ	0.9910	0.4820
SK	1.0000	0.3350
SL	0.9870	0.5410
SM	0.9970	0.2010
SN	0.9900	0.5370
SO	0.9720	0.5010
SP	0.9960	0.3540
SQ	0.9960	0.4320
SR	0.9950	0.4330
SS	0.9960	0.3880
ST	1.0000	0.4070
SU	0.9960	0.3900
SV	1.0000	0.4810
SW	0.9910	0.5500
SX	0.9930	0.5450
SY	0.9980	0.4420
SZ	1.0000	0.3380

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Chain	Atom inclusion	Q-score
Sa	0.9910	0.5280
Sb	1.0000	0.4910
Sc	0.9940	0.4410
Sd	0.9960	0.4590
Se	0.9600	0.4460
Sf	1.0000	0.2130
Sg	1.0000	0.3530