



Full wwPDB EM Validation Report ⓘ

Dec 15, 2025 – 04:44 PM EST

PDB ID : 9P8I / pdb_00009p8i
EMDB ID : EMD-71378
Title : In situ HHT and CHX treated human P-Z state 80S ribosome
Authors : Wei, Z.; Yong, X.
Deposited on : 2025-06-23
Resolution : 3.89 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
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) : 2.47

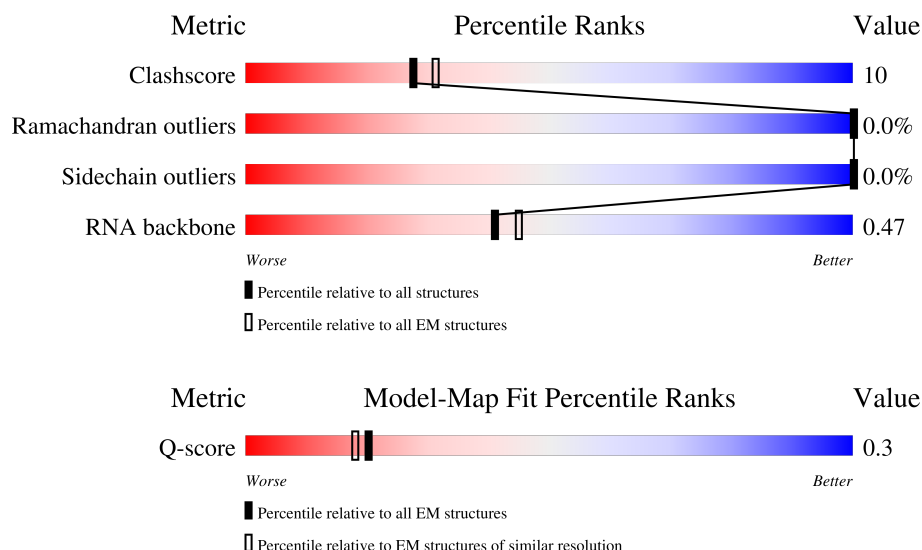
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.89 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.



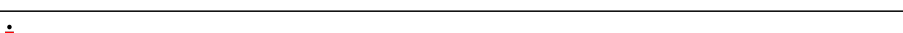
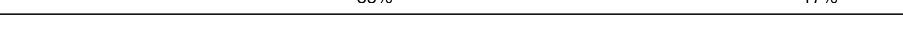
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	8712 (3.39 - 4.39)

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

Mol	Chain	Length	Quality of chain
1	Pt	74	
2	L5	3655	
3	L7	120	

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Mol	Chain	Length	Quality of chain
4	L8	156	
5	LA	248	
6	LB	402	
7	LC	368	
8	LD	293	
9	LE	250	
10	LF	225	
11	LG	241	
12	LH	190	
13	LI	213	
14	LJ	176	
15	LL	210	
16	LM	139	
17	LN	203	
18	LO	201	
19	LP	153	
20	LQ	187	
21	LR	187	
22	LS	175	
23	LT	159	
24	LU	101	
25	LV	131	
26	LW	124	
27	LX	120	
28	LY	134	

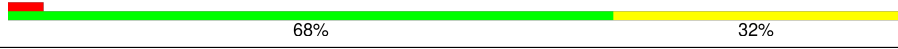
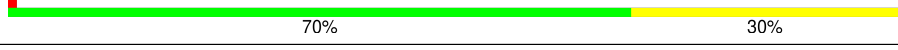
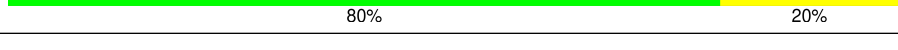
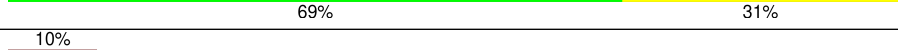
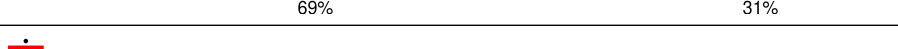
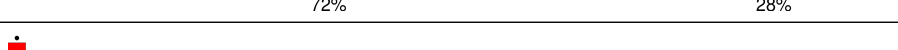
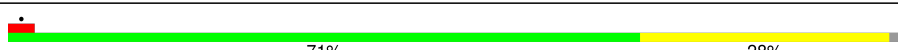
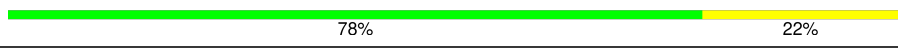
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Mol	Chain	Length	Quality of chain
29	LZ	135	
30	La	147	
31	Lb	121	
32	Lc	98	
33	Ld	107	
34	Le	128	
35	Lf	109	
36	Lg	114	
37	Lh	122	
38	Li	102	
39	Lj	86	
40	Lk	69	
41	Ll	50	
42	Lm	52	
43	Ln	24	
44	Lo	105	
45	Lp	91	
46	Lr	125	
47	Ls	196	
48	Lt	157	
49	SD	227	
50	SF	189	
51	SK	98	
52	SM	122	
53	SP	121	

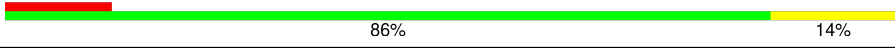
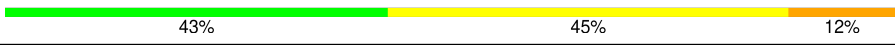
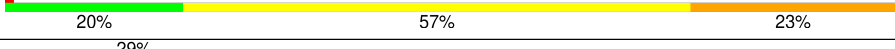
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Mol	Chain	Length	Quality of chain
54	SQ	144	
55	SR	135	
56	SS	145	
57	ST	143	
58	SU	104	
59	SZ	75	
60	Sc	64	
61	Sd	55	
62	Sf	67	
63	Sg	313	
64	SA	221	
65	SB	214	
66	SC	222	
67	SE	262	
68	SG	237	
69	SH	189	
70	SI	206	
71	SJ	185	
72	SL	153	
73	SN	150	
74	SO	140	
75	SV	83	
76	SW	129	
77	SX	141	
78	SY	131	

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Mol	Chain	Length	Quality of chain
79	Sa	102	 85% 15%
80	Sb	83	 76% 24%
81	Se	58	 12% 86% 14%
82	S2	1740	 43% 45% 12%
83	Zt	75	 20% 57% 23%
84	CI	31	 29% 68% 32%

2 Entry composition [i](#)

There are 90 unique types of molecules in this entry. The entry contains 220030 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 P site tRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
1	Pt	74	Total	C	N	O	P	0	0
			1576	705	286	512	73		

- Molecule 2 is a RNA chain called 28S rRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
2	L5	3655	Total	C	N	O	P	1	0
			78444	34968	14346	25475	3655		

- Molecule 3 is a RNA chain called 5S rRNA [Homo sapiens].

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

- Molecule 4 is a RNA chain called 5.8S rRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
4	L8	156	Total	C	N	O	P	0	0
			3315	1481	585	1094	155		

- Molecule 5 is a protein called 60S ribosomal protein L8.

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

- Molecule 6 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 7 is a protein called 60S ribosomal protein L4.

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

- Molecule 8 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 9 is a protein called Large ribosomal subunit protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	LE	240	Total	C	N	O	S	0	0
			1935	1242	368	321	4		

- Molecule 10 is a protein called 60S ribosomal protein L7.

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

- Molecule 11 is a protein called 60S ribosomal protein L7a.

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

- Molecule 12 is a protein called 60S ribosomal protein L9.

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

- Molecule 13 is a protein called Ribosomal protein uL16-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	LI	213	Total	C	N	O	S	0	0
			1711	1082	329	285	15		

- Molecule 14 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	LJ	170	Total	C	N	O	S	0	0
			1362	861	254	241	6		

- Molecule 15 is a protein called Large ribosomal subunit protein eL13.

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

- Molecule 16 is a protein called 60S ribosomal protein L14.

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

- Molecule 17 is a protein called 60S ribosomal protein L15.

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

- Molecule 18 is a protein called 60S ribosomal protein L13a.

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

- Molecule 19 is a protein called 60S ribosomal protein L17.

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

- Molecule 20 is a protein called 60S ribosomal protein L18.

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

- Molecule 21 is a protein called 60S ribosomal protein L19.

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

- Molecule 22 is a protein called 60S ribosomal protein L18a.

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

- Molecule 23 is a protein called 60S ribosomal protein L21.

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

- Molecule 24 is a protein called Heparin-binding protein HBp15.

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

- Molecule 25 is a protein called 60S ribosomal protein L23.

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

- Molecule 26 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LW	116	Total	C	N	O	S	0	0
			945	592	193	156	4		

- Molecule 27 is a protein called 60S ribosomal protein L23a.

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

- Molecule 28 is a protein called 60S ribosomal protein L26.

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

- Molecule 29 is a protein called 60S ribosomal protein L27.

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

- Molecule 30 is a protein called 60S ribosomal protein L27a.

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

- Molecule 31 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 32 is a protein called 60S ribosomal protein L30.

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

- Molecule 33 is a protein called 60S ribosomal protein L31.

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

- Molecule 34 is a protein called 60S ribosomal protein L32.

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

- Molecule 35 is a protein called 60S ribosomal protein L35a.

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

- Molecule 36 is a protein called 60S ribosomal protein L34.

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

- Molecule 37 is a protein called 60S ribosomal protein L35.

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

- Molecule 38 is a protein called 60S ribosomal protein L36.

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

- Molecule 39 is a protein called 60S ribosomal protein L37.

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

- Molecule 40 is a protein called 60S ribosomal protein L38.

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

- Molecule 41 is a protein called 60S ribosomal protein L39.

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

- Molecule 42 is a protein called Large ribosomal subunit protein eL40.

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

- Molecule 43 is a protein called 60S ribosomal protein L41.

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

- Molecule 44 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Lo	105	Total	C	N	O	S	0	0
			862	542	175	139	6		

- Molecule 45 is a protein called 60S ribosomal protein L37a.

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

- Molecule 46 is a protein called 60S ribosomal protein L28.

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

- Molecule 47 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Ls	196	Total	C	N	O	S	0	0
			1496	952	259	276	9		

- Molecule 48 is a protein called Large ribosomal subunit protein uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Lt	134	Total	C	N	O	S	0	0
			998	626	180	189	3		

- Molecule 49 is a protein called Small ribosomal subunit protein uS3.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
50	SF	189	Total	C	N	O	S	0	0
			1495	934	284	270	7		

- Molecule 51 is a protein called 40S ribosomal protein S10.

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

- Molecule 52 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 53 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	SP	121	Total	C	N	O	S	0	0
			985	623	185	170	7		

- Molecule 54 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 55 is a protein called Small ribosomal subunit protein eS17.

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

- Molecule 56 is a protein called 40S ribosomal protein S18.

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

- Molecule 57 is a protein called 40S ribosomal protein S19.

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

- Molecule 58 is a protein called 40S ribosomal protein S20.

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

- Molecule 59 is a protein called Small ribosomal subunit protein eS25.

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

- Molecule 60 is a protein called 40S ribosomal protein S28.

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

- Molecule 61 is a protein called 40S ribosomal protein S29.

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

- Molecule 62 is a protein called Ubiquitin-40S ribosomal protein S27a.

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

- Molecule 63 is a protein called Receptor of activated protein C kinase 1.

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

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

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

- Molecule 65 is a protein called 40S ribosomal protein S3a.

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

- Molecule 66 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	SC	220	Total	C	N	O	S	0	0
			1707	1104	293	300	10		

- Molecule 67 is a protein called Small ribosomal subunit protein eS4, X isoform.

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

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

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

- Molecule 69 is a protein called Small ribosomal subunit protein eS7.

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

- Molecule 70 is a protein called 40S ribosomal protein S8.

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

- 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 S11.

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

- 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 Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	SO	137	Total	C	N	O	S	0	0
			1024	627	200	191	6		

- Molecule 75 is a protein called Small ribosomal subunit protein eS21.

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

- Molecule 76 is a protein called 40S ribosomal protein S15a.

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

- Molecule 77 is a protein called 40S ribosomal protein S23.

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

- Molecule 78 is a protein called 40S ribosomal protein S24.

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

- Molecule 79 is a protein called 40S ribosomal protein S26.

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

- Molecule 80 is a protein called Small ribosomal subunit protein eS27.

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

- Molecule 81 is a protein called Small ribosomal subunit protein eS30.

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

- Molecule 82 is a RNA chain called 18S rRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
82	S2	1740	Total	C	N	O	P	0	0
			36953	16508	6600	12106	1739		

- Molecule 83 is a RNA chain called Z site tRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Zt	75	Total	C	N	O	P	0	0
			1593	712	281	526	74		

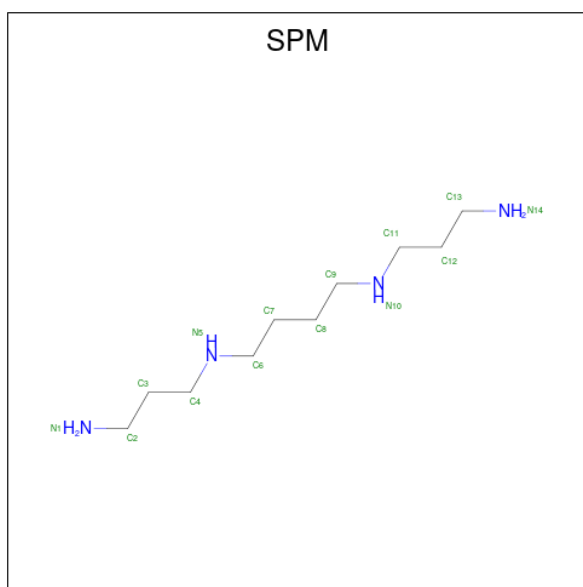
- Molecule 84 is a protein called Transcription factor BTF3.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	CI	31	Total	C	N	O	S	0	0
			247	153	55	38	1		

- Molecule 85 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
85	L5	179	Total	Mg	0
			179	179	
85	L7	3	Total	Mg	0
			3	3	
85	L8	4	Total	Mg	0
			4	4	
85	LA	1	Total	Mg	0
			1	1	
85	LP	1	Total	Mg	0
			1	1	
85	LV	1	Total	Mg	0
			1	1	
85	Le	1	Total	Mg	0
			1	1	
85	Lj	1	Total	Mg	0
			1	1	
85	SS	1	Total	Mg	0
			1	1	
85	S2	27	Total	Mg	0
			27	27	

- Molecule 86 is SPERMINE (CCD ID: SPM) (formula: C₁₀H₂₆N₄) (labeled as "Ligand of Interest" by depositor).



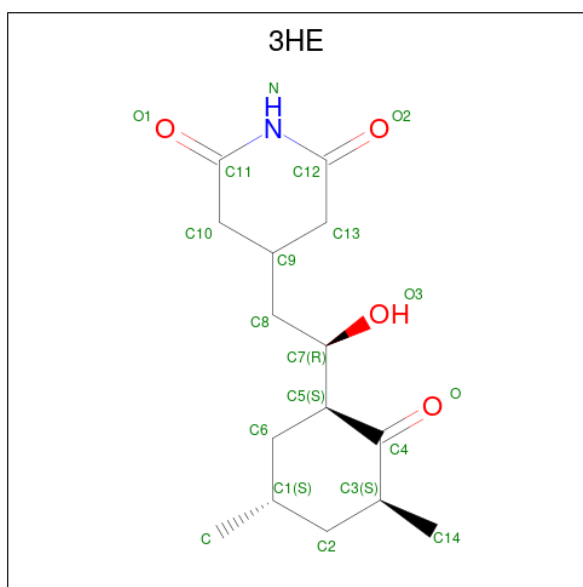
Mol	Chain	Residues	Atoms			AltConf
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	

- Molecule 87 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$) (labeled as "Ligand of Interest" by depositor).



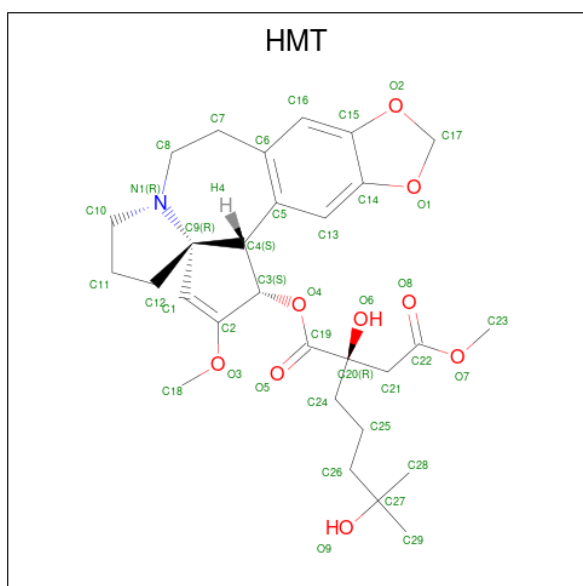
Mol	Chain	Residues	Atoms			AltConf
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	LN	1	Total	C	N	0
			10	7	3	

- Molecule 88 is 4-{(2R)-2-[(1S,3S,5S)-3,5-dimethyl-2-oxocyclohexyl]-2-hydroxyethyl}piperidine-2,6-dione (CCD ID: 3HE) (formula: C₁₅H₂₃NO₄) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
88	L5	1	Total	C	N	O	0
			20	15	1	4	

- Molecule 89 is (3beta)-O 3 -[(2R)-2,6-dihydroxy-2-(2-methoxy-2-oxoethyl)-6-methylheptan oyl]cephalotaxine (CCD ID: HMT) (formula: $C_{29}H_{39}NO_9$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
89	L5	1	Total	C	N	O	0
			39	29	1	9	

- Molecule 90 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by

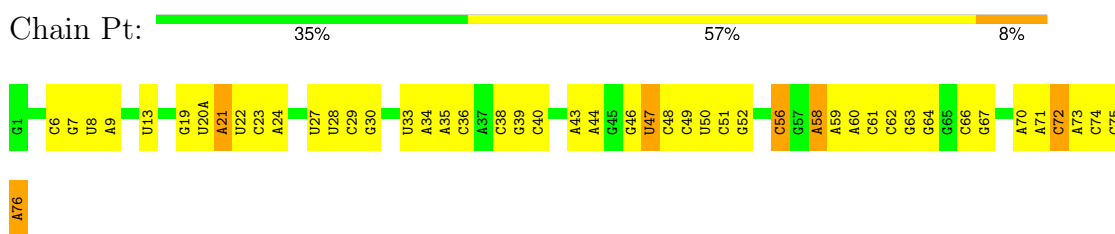
depositor).

Mol	Chain	Residues	Atoms		AltConf
90	Lg	1	Total 1	Zn 1	0
90	Lj	1	Total 1	Zn 1	0
90	Lm	1	Total 1	Zn 1	0
90	Lo	1	Total 1	Zn 1	0
90	Lp	1	Total 1	Zn 1	0
90	Sa	1	Total 1	Zn 1	0

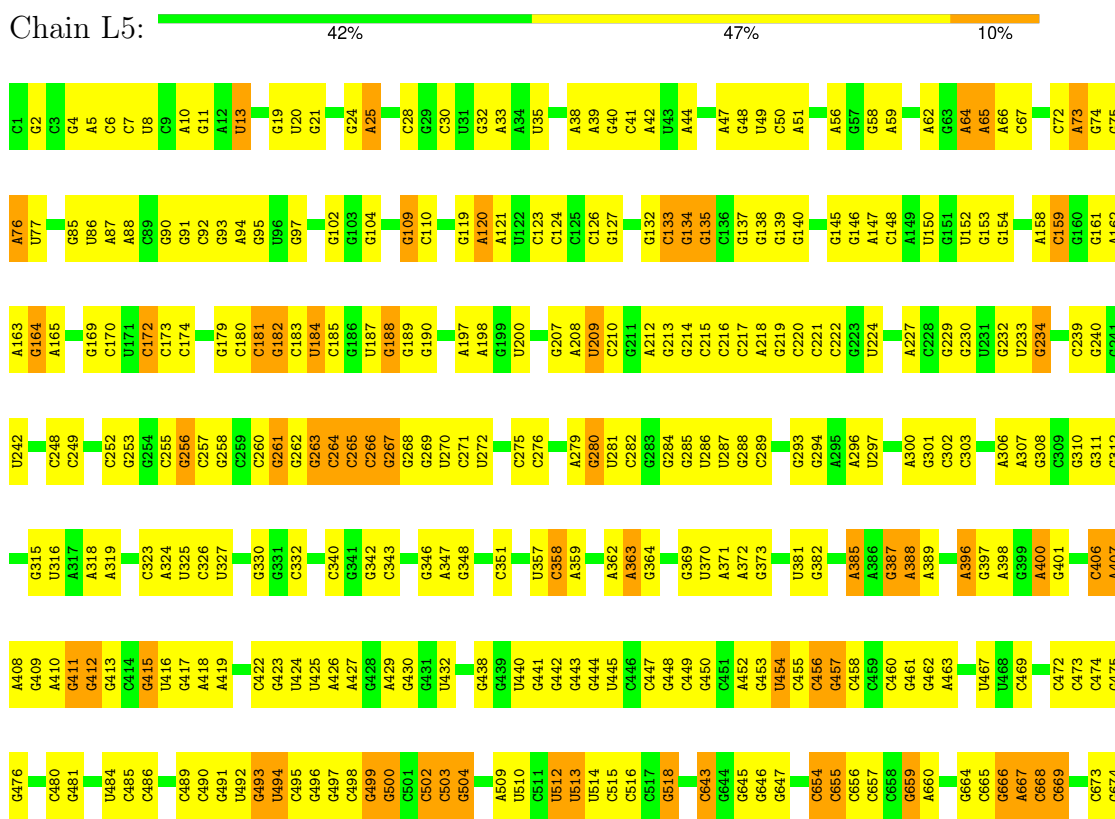
3 Residue-property plots

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

- Molecule 1: P site tRNA [Homo sapiens]

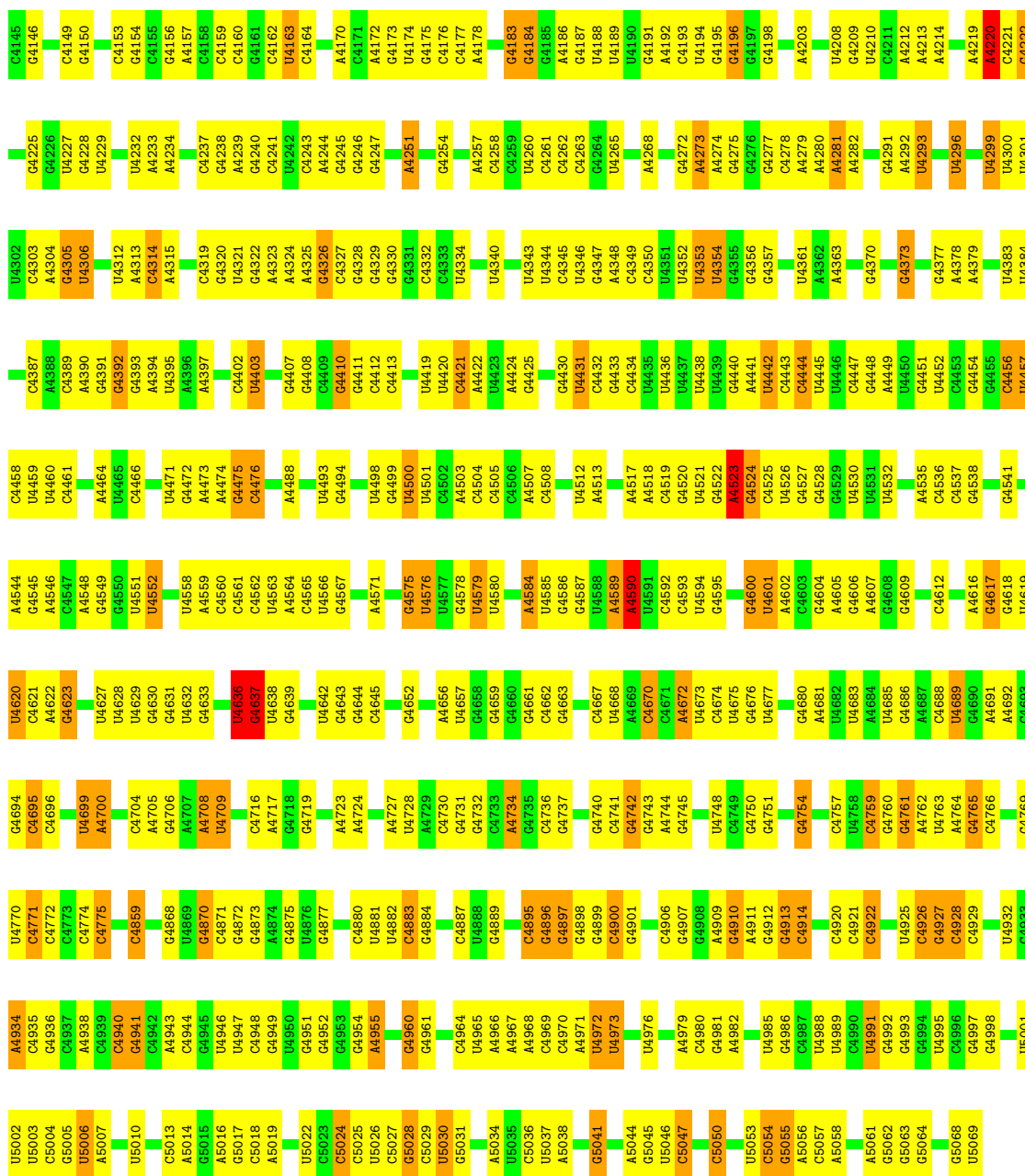


- Molecule 2: 28S rRNA [Homo sapiens]



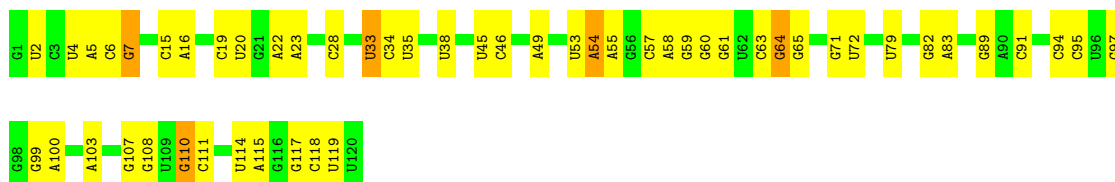
G1991	C1914	G1836	G1760	C1676	C1589	U1513	C1417	A1343	C1278	C1183	G748	C675
U1992	C1915	A1837	G1761	U1677	C1590	U1514	C1418	C1344	A1279	A1184	G749	C676
C1993	G1916	G1842	C1762	C1678	U1591	G1516	A1420	A1345	C1280	U1186	U750	G677
C1994	C1917	G1843	C1763	A1679	C1594	G1517	G1425	A1346	G1281	G1187	G751	C678
G1995	U1918	A1844	G1764	G1680	G1595	A1518	G1426	C1347	U1282	C1188	G752	C679
G1996	U1919	U1845	A1765	U1683	G1596	C1519	G1426	G1348	G1283	C1189	G755	G680
U1997	C1920	G1846	A1766	A1684	G1597	C1520	C1431	C1350	G1284	C1190	G756	G684
C1998	G1921	C1847	C1768	U1687	G1599	C1521	G1432	G1352	U1285	C1191	G759	G685
A1999	U1922	U1848	G1769	U1688	A1601	A1522	G1432	G1353	C1286	U971	G759	G686
G2000	G1925	U1849	A1770	G1691	G1612	A1524	G1437	A1354	G1287	G1194	G904	G688
G2001	C1926	G1850	U1771	G1688	A1613	A1525	U1438	U1356	G1290	G1195	C905	A686
A2002	U1927	U1852	C1772	G1691	C1614	G1615	C1439	U1357	G1291	G1196	C906	U687
G2003	C1931	G1855	U1773	G1697	G1616	G1616	C1442	C1358	C1292	G1197	C907	U688
U2004	A1932	C1856	U1779	C1698	U1616	A1533	C1443	G1359	G1293	G1198	C908	C690
G2005	G1933	C1857	A1780	G1699	G1617	A1534	A1443	G1360	G1294	G1199	A909	A692
U2006	A1934	A1858	U1781	G1700	G1618	C1536	G1444	U1362	C1295	G1200	G910	G695
G2007	C1940	C1859	U1782	A1701	U1621	U1536	U1445	U1364	G1296	U1201	U911	C696
U2008	G1941	U1860	C1785	C1702	A1622	A1537	C1446	C1365	U1297	C1202	G912	G700
A2009	A1942	U1861	A1786	G1705	A1623	G1539	C1447	C1367	C1298	G1203	U913	G701
C2010	A1943	U1862	A1787	G1706	G1624	C1540	G1457	A1368	G1300	G1207	U914	U702
A2012	U1953	C1872	A1795	C1721	A1631	C1541	C1464	C1369	U1302	U1208	A915	U703
G2017	G1948	A1867	U1788	G1716	G1626	G1625	A1458	C1379	U1307	U1209	G916	G704
U2018	U1949	A1868	C1789	C1717	G1627	G1627	C1460	C1380	A1303	G1070	A917	G705
G2019	U1950	G1869	U1792	C1718	C1628	G1546	C1461	C1381	C1304	C1071	G918	G706
U2020	G1951	C1870	U1792	A1719	U1629	A1547	A1462	U1382	C1305	C1072	C919	C707
G2021	C1952	A1871	A1795	C1720	A1632	G1548	C1463	C1383	G1306	G1075	C920	G708
G2024	U1953	C1872	U1795	C1721	A1632	G1548	C1464	C1383	A1307	C922	C921	G709
A2025	G1956	C1875	U1800	C1722	A1634	G1552	C1468	A1387	C1308	C1081	C923	A711
A2026	U1957	U1876	A1801	G1722	A1634	A1553	C1469	C1388	C1309	C1082	C924	G712
U2027	C1960	G1877	U1802	U1726	A1637	G1555	C1470	U1389	C1310	U1083	G925	G713
G1961	A1961	G1878	A1803	U1727	A1638	G1556	U1473	G1390	C1314	C1084	G926	G714
A2029	C1962	C1879	U1806	U1730	U1639	A1558	C1474	A1391	C1315	C1085	C928	G715
A2033	G1965	U1880	G1806	C1731	C1640	G1559	C1478	A1392	G1316	G1089	A929	U716
G2034	U1970	U1882	C1807	C1732	C1645	G1562	G1479	G1393	U1317	G1090	G718	G717
G2039	A1971	G1883	G1810	G1733	A1646	A1563	C1480	U1395	C1318	C1091	G719	G718
A2040	C1972	G1884	G1811	G1734	U1647	A1564	C1481	G1396	C1319	C1092	G720	G719
G2041	G1973	A1888	U1813	G1739	G1654	A1565	C1482	A1397	A1322	C1093	G934	G721
G2046	U1974	U1889	G1814	C1740	C1655	U1567	C1483	A1398	A1324	G1094	A935	G727
A2047	G1975	G1890	G1815	G1741	U1656	C1568	C1484	G1399	C1325	A1254	C936	U728
U2048	C1976	C1893	U1816	A1742	G1657	U1569	A1491	G1400	A1326	G1258	C941	G731
G2055	U1977	G1894	U1817	U1743	C1661	G1570	U1494	G1403	C1327	G1259	A943	G734
G2056	C1978	G1895	G1818	U1744	C1662	G1574	G1495	C1405	G1328	G1260	A944	G735
C2059	A1979	A1896	C1820	U1748	C1663	G1577	G1496	G1406	C1332	G1171	U945	C736
G2060	U1980	A1897	G1821	A1749	C1666	U1578	A1497	C1407	A1333	C1172	C737	C736
G1981	G1981	G1903	G1823	G1751	C1667	C1579	C1498	G1408	A1334	G1173	G950	C737
G1982	C1982	G1906	G1824	G1752	A1668	C1580	C1499	C1409	C1335	G1174	G951	C738
A1983	A1825	U1907	A1825	G1753	A1669	G1581	G1502	U1410	G1336	A1175	G952	G739
G2064	G1826	A1907	G1826	G1754	C1670	U1582	G1504	C1411	A1337	C1176	G953	G740
G1985	U1907	A1908	G1830	U1756	U1671	A1583	G1504	C1412	G1338	U1177	G741	G741
U1986	G1909	G1909	G1831	U1757	U1672	C1585	G1504	C1413	U1339	G1178	A856	G742
C1987	G1987	G1987	G1831	G1758	U1673	C1586	U1511	C1414	C1340	U1179	G959	G745
G1988	G1988	G1988	G1831	G1759	U1673	C1586	U1512	C1415	U1341	C1180	A960	A746
G2076	G1988	G1988	G1831	G1759	U1673	C1586	U1512	C1416	A1342	C1182	A961	A747

U4070	C2077	G2383	C2365	G2457	A2537	G2620	C2698	G2770	A2845	G3590	G3664	A3746	A3824	A3906	G4070
U4071	C2078	G2384	C2366	C2458	U2538	A2621	C2699	G2771	G2846	C3591	G3665	A3747	A3825	G3907	U4071
C4072	G2079	C2289	A2368	G2459	C2539	G2822	C2539	G2772	G2847	G3592	G3666	A3748	C3826	G3908	C4072
U4075	U2080	C2289	A2368	G2460	C2540	A2623	U2540	G2773	G2848	C3593	C3667	G3753	A3830	A3909	U4075
U4076	C2081	C2295	A2374	G2461	G2541	G2624	G2541	G2774	A2849	C3594	G3668	G3754	A3831	U4076	U4076
U4080	G2082	C2296	A2375	G2462	A2542	C2627	G2706	G2775	G2855	U3595	G3669	G3755	U3832	C3911	U4080
U4082	C2083	G2297	A2376	G2463	A2543	C2627	U2707	G2776	G2856	G3596	G3670	U3758	U3833	U3912	U4082
U4083	C2084	G2298	A2377	G2464	A2544	C2627	C2708	G2777	G2857	G3597	G3671	A3759	C3834	U3913	U4083
U4084	C2085	U2299	A2378	G2465	U2545	C2627	C2709	G2778	A2858	C3598	G3672	A3760	C3835	U3914	U4084
U4085	C2086	U2300	A2381	G2466	U2546	C2627	C2710	G2779	C2859	G3599	G3673	G3761	U3836	U3915	U4085
U4086	C2087	G2301	A2381	G2467	G2547	C2627	G2711	G2780	C2860	C3601	G3674	G3762	U3837	U3916	U4086
U4087	U2090	G2302	U2386	G2470	U2548	C2627	G2712	G2781	C2861	C3602	G3675	U3763	U3838	U3917	U4087
C4088	C2091	C2303	U2387	G2471	G2549	C2627	G2713	G2782	G2862	A3604	G3676	U3764	G3839	G3918	U4088
U4089	G2092	G2306	A2388	G2472	G2550	C2627	G2714	G2783	G2863	C3605	G3677	U3765	U3840	G3919	U4089
U4090	A2095	G2307	A2389	G2473	G2551	C2627	G2715	G2784	G2864	C3606	G3678	U3766	G3841	U3920	U4090
U4091	G2096	A2308	G2390	G2474	G2552	C2627	G2716	G2785	G2865	U3607	A3687	U3767	C3842	U3921	U4091
U4092	U2097	G2311	G2391	G2475	G2553	C2627	G2717	G2786	G2866	U3608	G3679	U3768	C3843	U3922	U4092
U4093	G2098	G2312	A2395	G2476	G2554	C2627	G2718	G2787	G2867	U3609	G3680	U3769	A3844	U3923	U4093
U4094	G2099	G2313	A2396	G2477	G2555	C2627	G2719	G2788	G2868	U3610	G3681	U3770	U3845	U3924	U4094
U4095	C2101	G2316	U2398	G2478	G2556	C2627	G2720	G2789	G2869	A3611	U3682	U3771	U3846	U3925	U4095
U4096	G2102	G2317	U2399	G2479	G2557	C2627	G2721	G2790	G2870	G3615	U3683	U3772	U3847	U3926	U4096
U4097	G2103	G2318	G2401	G2483	G2558	C2627	G2722	G2791	G2871	U3616	U3684	U3773	U3848	U3927	U4097
U4098	G2104	G2319	G2402	G2484	G2559	C2627	G2723	G2792	G2872	U3617	U3685	U3774	U3849	U3928	U4098
U4099	G2105	G2321	G2403	G2485	G2560	C2627	G2724	G2793	G2873	U3618	U3686	U3775	U3850	U3929	U4099
C4100	C2107	G2322	G2404	G2486	G2561	C2627	G2725	G2794	G2874	U3619	U3687	U3776	U3851	U3930	U4100
C4101	G2108	G2323	G2405	G2487	G2562	C2627	G2726	G2795	G2875	U3620	U3688	U3777	U3852	U3931	U4101
C4102	G2109	G2324	G2406	G2488	G2563	C2627	G2727	G2796	G2876	U3621	U3689	U3778	U3853	U3932	U4102
C4103	G2110	G2325	G2407	G2489	G2564	C2627	G2728	G2797	G2877	U3622	U3690	U3779	U3854	U3933	U4103
C4104	G2111	G2326	G2408	G2490	G2565	C2627	G2729	G2798	G2878	U3623	U3691	U3780	U3855	U3934	U4104
C4105	G2112	G2327	G2409	G2491	G2566	C2627	G2730	G2799	G2879	U3624	U3692	U3781	U3856	U3935	C4105
C4106	G2113	G2328	G2410	G2492	G2567	C2627	G2731	G2800	G2880	U3625	U3693	U3782	U3857	U3936	C4106
C4107	G2114	G2329	G2411	G2493	G2568	C2627	G2732	G2801	G2881	U3626	U3694	U3783	U3858	U3937	C4107
C4108	G2115	G2330	G2412	G2494	G2569	C2627	G2733	G2802	G2882	U3627	U3695	U3784	U3859	U3938	C4108
C4109	G2116	G2331	G2413	G2495	G2570	C2627	G2734	G2803	G2883	U3628	U3696	U3785	U3860	U3939	C4109
C4110	G2117	G2332	G2414	G2496	G2571	C2627	G2735	G2804	G2884	U3629	U3697	U3786	U3861	U3940	C4110
C4111	G2118	G2333	G2415	G2497	G2572	C2627	G2736	G2805	G2885	U3630	U3698	U3787	U3862	U3941	C4111
C4112	G2119	G2334	G2416	G2498	G2573	C2627	G2737	G2806	G2886	U3631	U3699	U3788	U3863	U3942	C4112
C4113	G2120	G2335	G2417	G2499	G2574	C2627	G2738	G2807	G2887	U3632	U3700	U3789	U3864	U3943	C4113
C4114	G2121	G2336	G2418	G2500	G2575	C2627	G2739	G2808	G2888	U3633	U3701	U3790	U3865	U3944	C4114
C4115	G2122	G2337	G2419	G2501	G2576	C2627	G2740	G2809	G2889	U3634	U3702	U3791	U3866	U3945	C4115
C4116	G2123	G2338	G2420	G2502	G2577	C2627	G2741	G2810	G2890	U3635	U3703	U3792	U3867	U3946	C4116
C4117	G2124	G2339	G2421	G2503	G2578	C2627	G2742	G2811	G2891	U3636	U3704	U3793	U3868	U3947	C4117
C4118	G2125	G2340	G2422	G2504	G2579	C2627	G2743	G2812	G2892	U3637	U3705	U3794	U3869	U3948	C4118
C4119	G2126	G2341	G2423	G2505	G2580	C2627	G2744	G2813	G2893	U3638	U3706	U3795	U3870	U3949	C4119
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C4154	G2161	G2376	G2458	G2540	G2615	C2627	G2779	G2848	G2928	U3673	U3741	U3830	G3593	U3984	C4154
C4155	G2162	G2377	G2459	G2541	G2616	C2627	G2780	G2849	G2929	U3674	U3742	U3831	G3594	U3985	C4155
C4156	G														



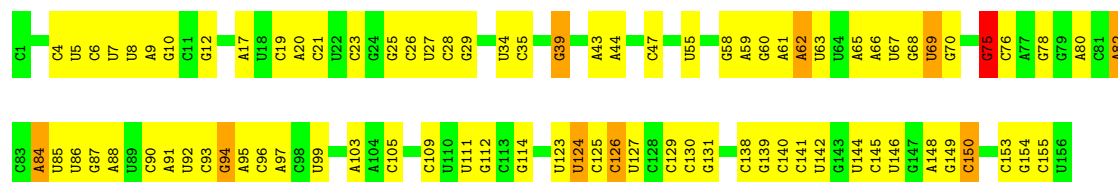
• Molecule 3: 5S rRNA [Homo sapiens]

Chain L7: 57% 39%



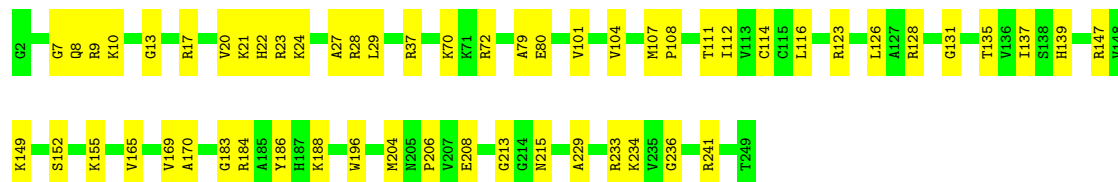
• Molecule 4: 5.8S rRNA [Homo sapiens]

Chain L8: 46% 47% 6%



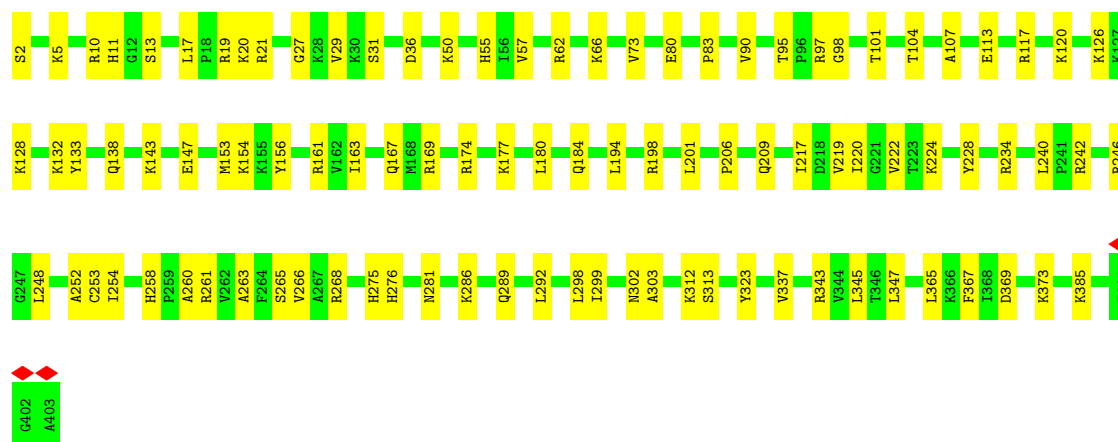
• Molecule 5: 60S ribosomal protein L8

Chain LA: 77% 23%



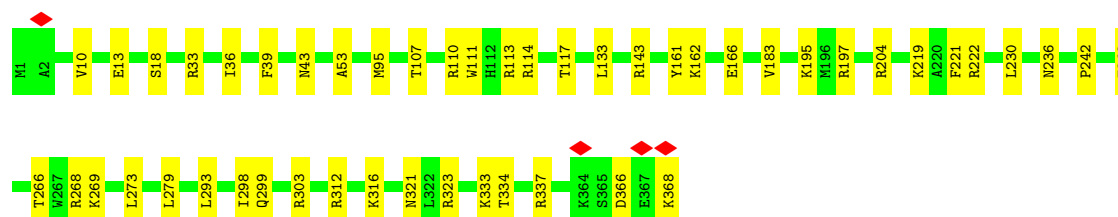
• Molecule 6: Large ribosomal subunit protein uL3

Chain LB: 76% 24%



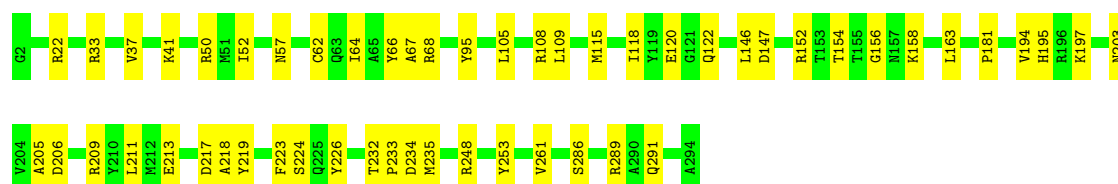
• Molecule 7: 60S ribosomal protein L4

Chain LC: 87% 13%

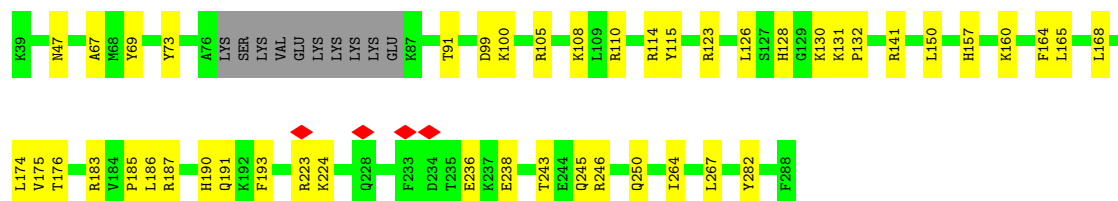
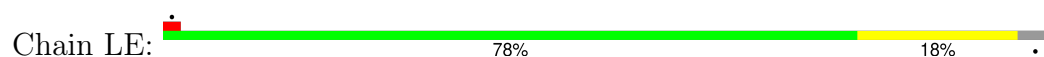


• Molecule 8: Large ribosomal subunit protein uL18

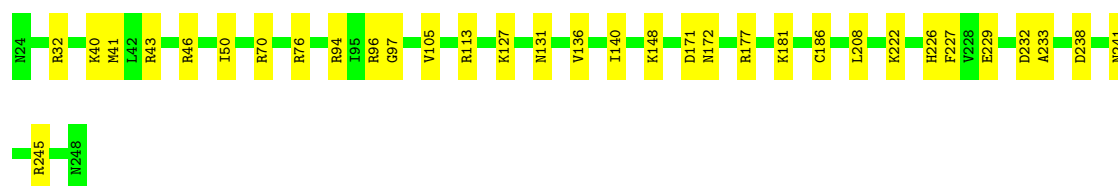
Chain LD: 82% 18%



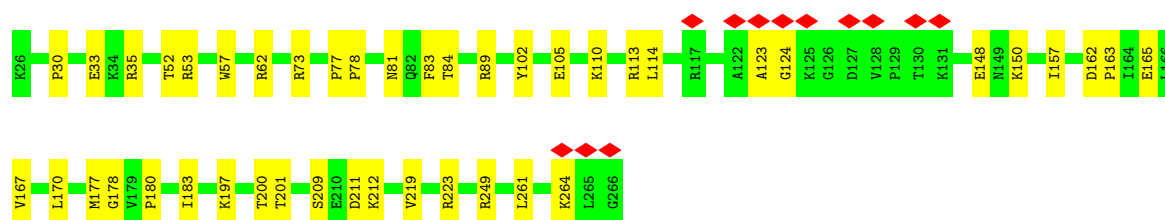
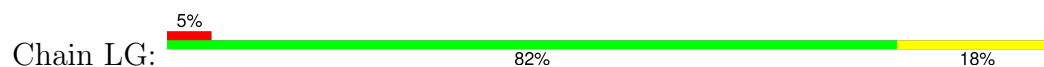
- Molecule 9: Large ribosomal subunit protein eL6



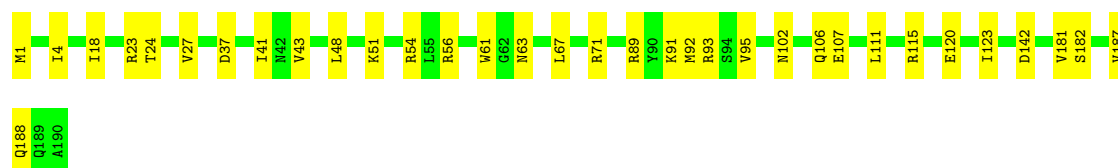
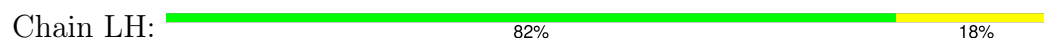
- Molecule 10: 60S ribosomal protein L7



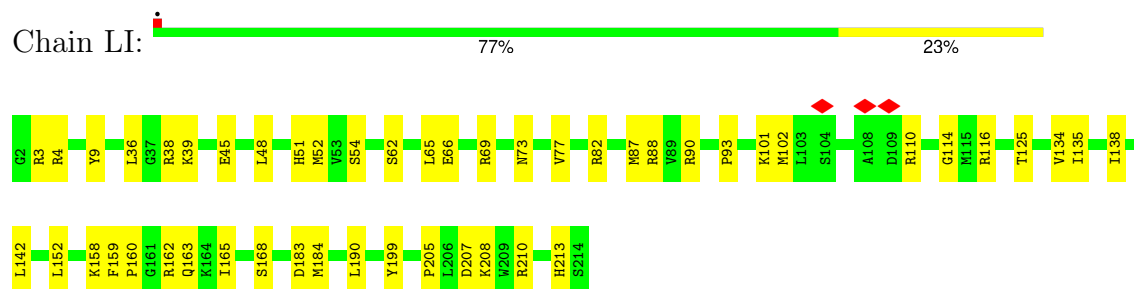
- Molecule 11: 60S ribosomal protein L7a



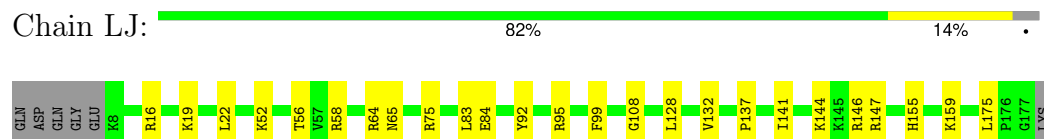
- Molecule 12: 60S ribosomal protein L9



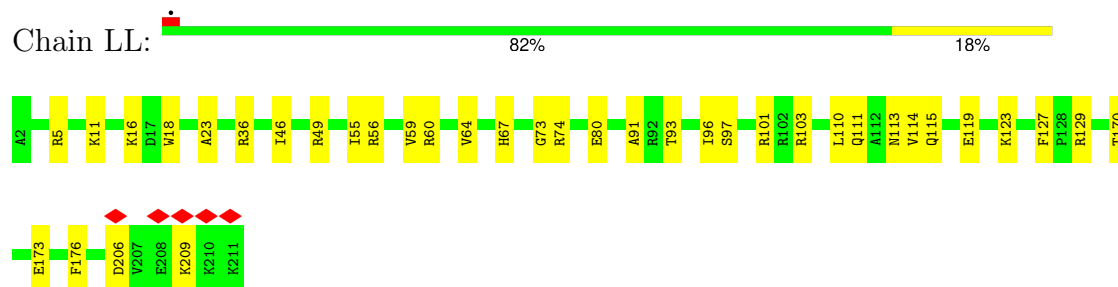
- Molecule 13: Ribosomal protein uL16-like



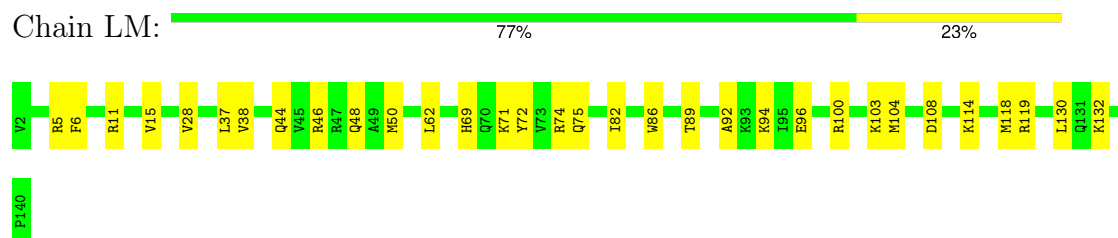
- Molecule 14: 60S ribosomal protein L11



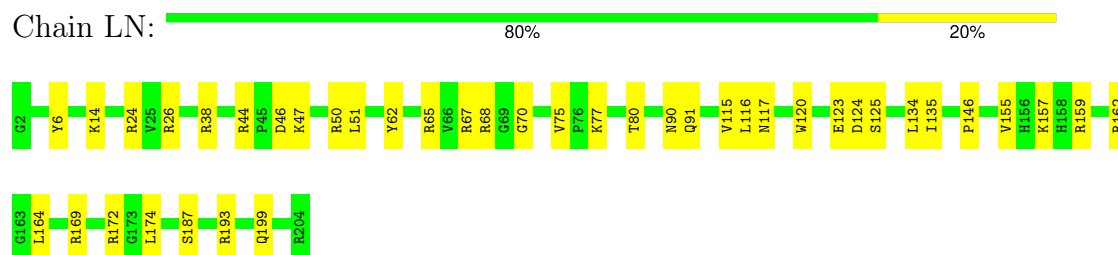
- Molecule 15: Large ribosomal subunit protein eL13



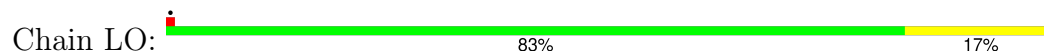
- Molecule 16: 60S ribosomal protein L14

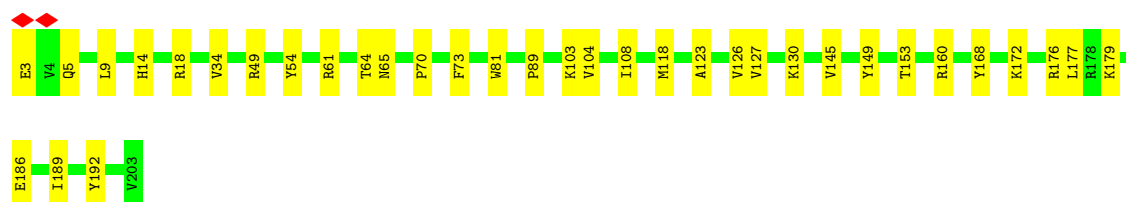


- Molecule 17: 60S ribosomal protein L15



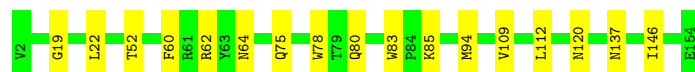
- Molecule 18: 60S ribosomal protein L13a





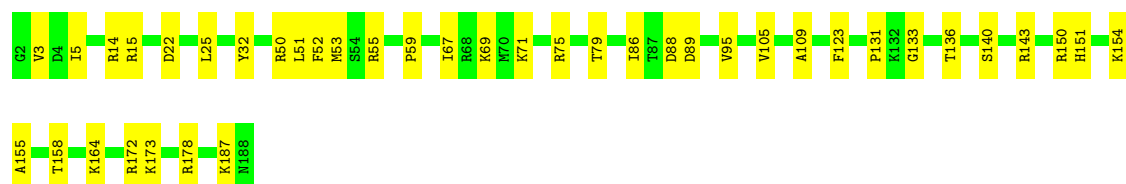
- Molecule 19: 60S ribosomal protein L17

Chain LP: 89% 11%



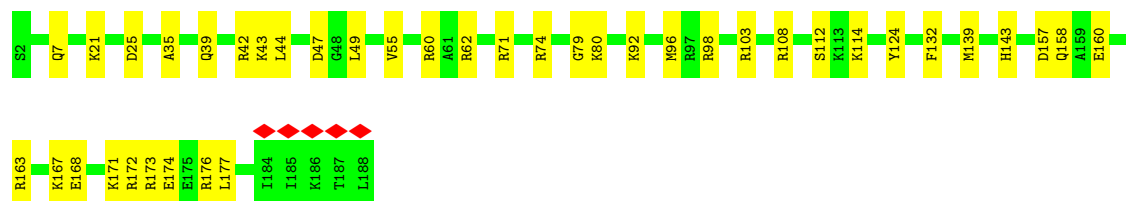
- Molecule 20: 60S ribosomal protein L18

Chain LQ: 79% 21%



- Molecule 21: 60S ribosomal protein L19

Chain LR: 79% 21%



- Molecule 22: 60S ribosomal protein L18a

Chain LS: 89% 11%



- Molecule 23: 60S ribosomal protein L21

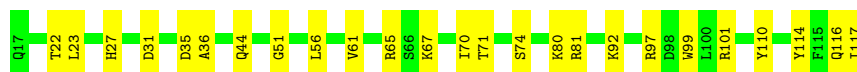
Chain LT: 78% 22%





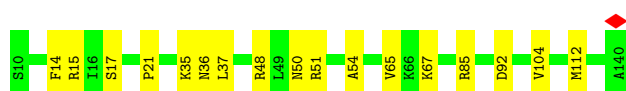
- Molecule 24: Heparin-binding protein HBp15

Chain LU: 75% 25%



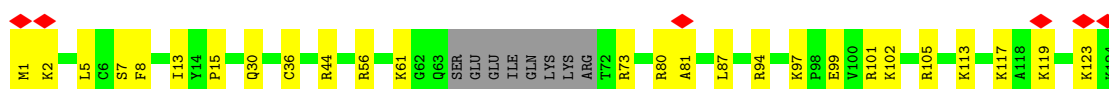
- Molecule 25: 60S ribosomal protein L23

Chain LV: 87% 13%



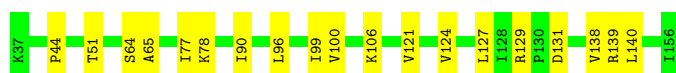
- Molecule 26: Ribosomal protein L24

Chain LW: 5% 73% 21% 6%



- Molecule 27: 60S ribosomal protein L23a

Chain LX: 84% 16%



- Molecule 28: 60S ribosomal protein L26

Chain LY: 90% 10%



- Molecule 29: 60S ribosomal protein L27

Chain LZ: 82% 18%

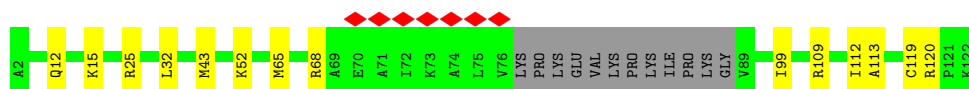
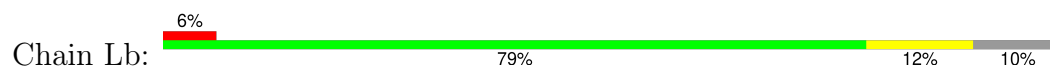


- Molecule 30: 60S ribosomal protein L27a

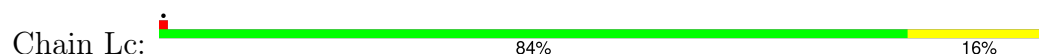
Chain La: 87% 13%



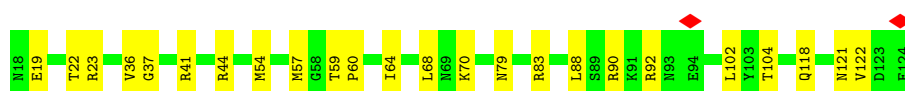
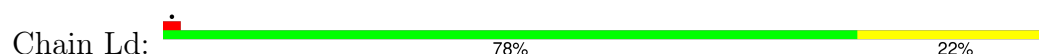
- Molecule 31: Large ribosomal subunit protein eL29



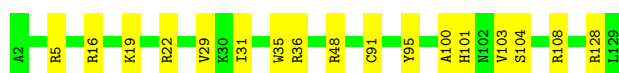
- Molecule 32: 60S ribosomal protein L30



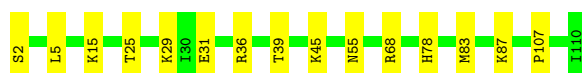
- Molecule 33: 60S ribosomal protein L31



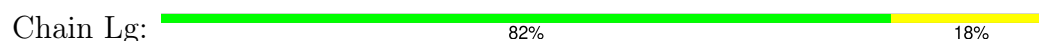
- Molecule 34: 60S ribosomal protein L32



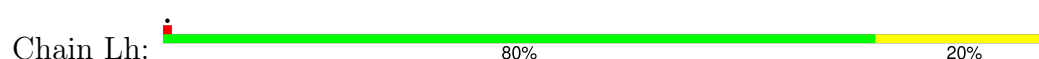
- Molecule 35: 60S ribosomal protein L35a



- Molecule 36: 60S ribosomal protein L34



- Molecule 37: 60S ribosomal protein L35





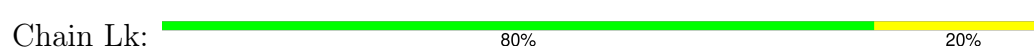
- Molecule 38: 60S ribosomal protein L36



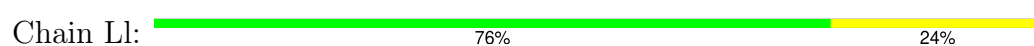
- Molecule 39: 60S ribosomal protein L37



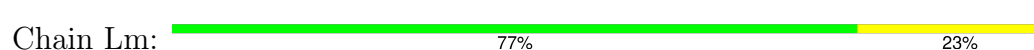
- Molecule 40: 60S ribosomal protein L38



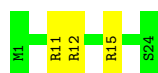
- Molecule 41: 60S ribosomal protein L39



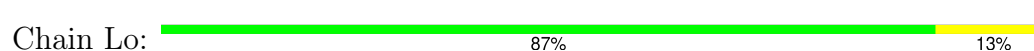
- Molecule 42: Large ribosomal subunit protein eL40



- Molecule 43: 60S ribosomal protein L41

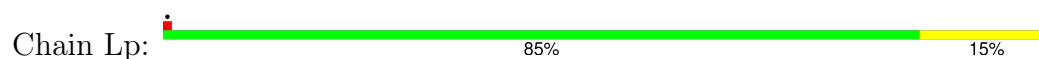


- Molecule 44: 60S ribosomal protein L36a





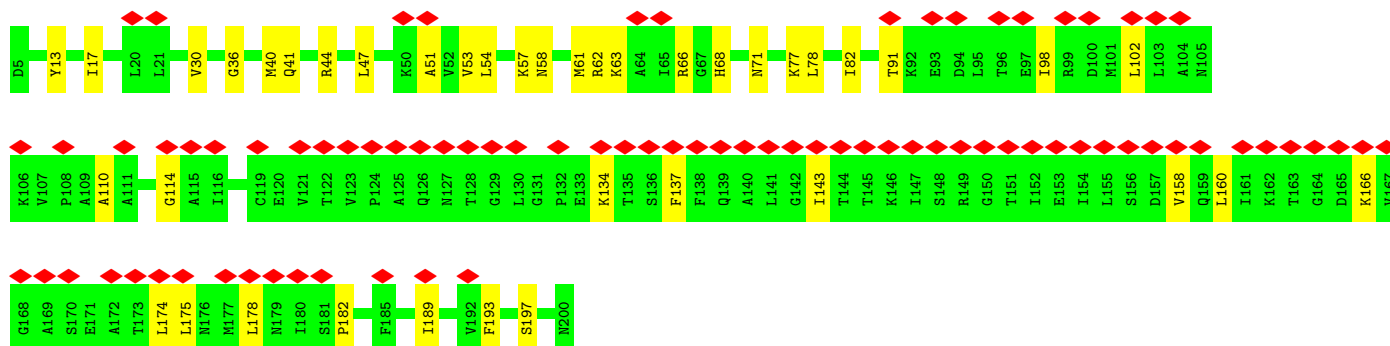
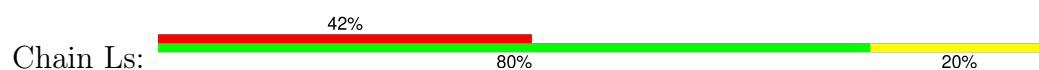
- Molecule 45: 60S ribosomal protein L37a



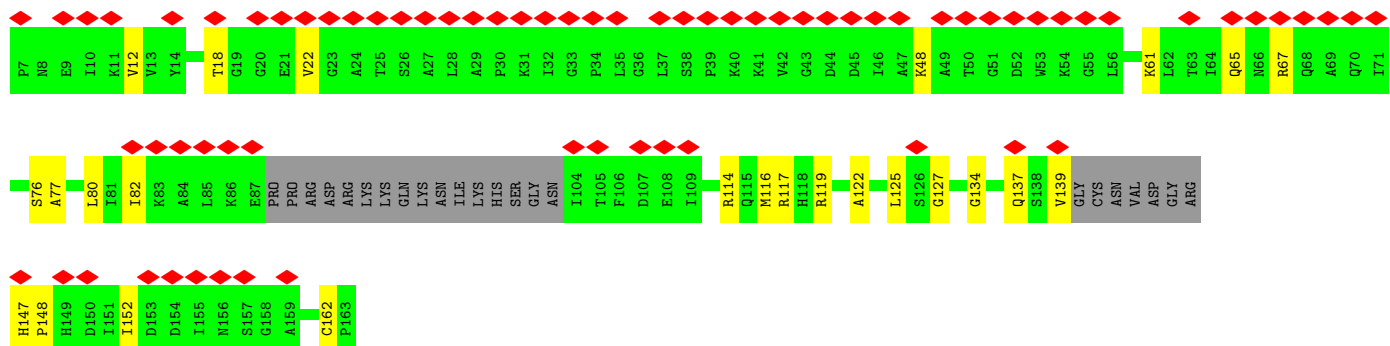
- Molecule 46: 60S ribosomal protein L28



- Molecule 47: 60S acidic ribosomal protein P0



- Molecule 48: Large ribosomal subunit protein uL11



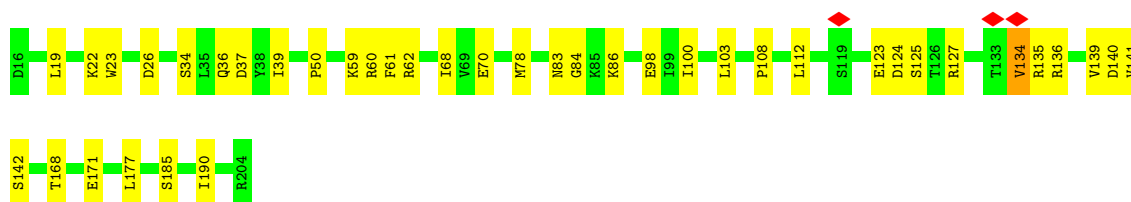
- Molecule 49: Small ribosomal subunit protein uS3

Chain SD:  81% 19%



- Molecule 50: 40S ribosomal protein S5

Chain SF:  79% 21%



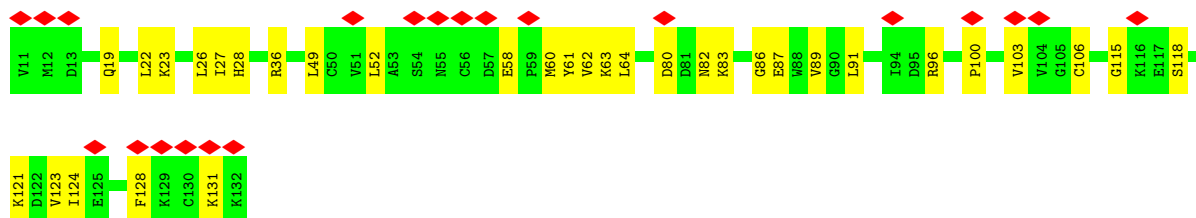
- Molecule 51: 40S ribosomal protein S10

Chain SK:  68% 32%



- Molecule 52: Small ribosomal subunit protein eS12

Chain SM:  17% 73% 27%



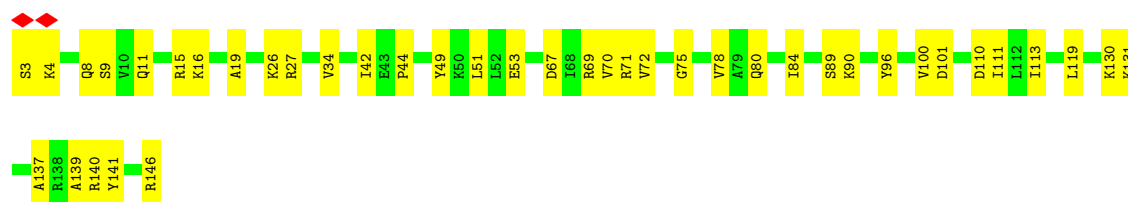
- Molecule 53: Small ribosomal subunit protein uS19

Chain SP:  6% 79% 21%

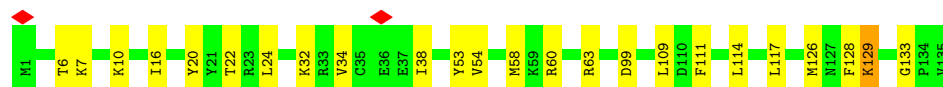
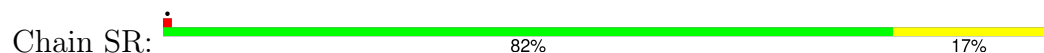


- Molecule 54: Small ribosomal subunit protein uS9

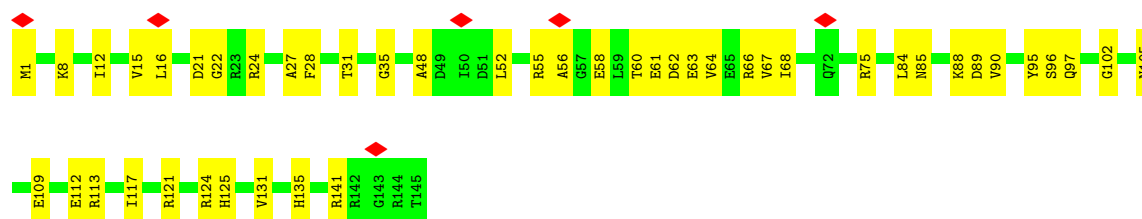
Chain SQ:  72% 28%



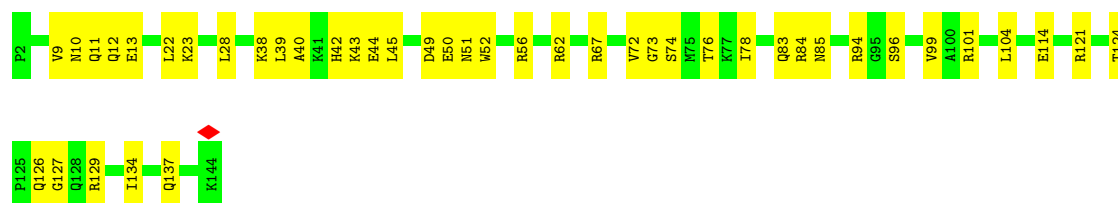
- Molecule 55: Small ribosomal subunit protein eS17



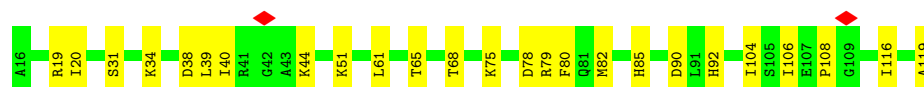
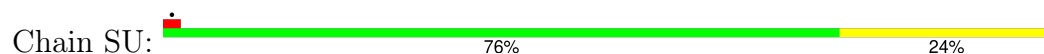
- Molecule 56: 40S ribosomal protein S18



- Molecule 57: 40S ribosomal protein S19

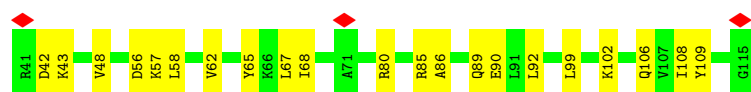


- Molecule 58: 40S ribosomal protein S20

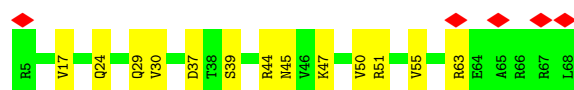
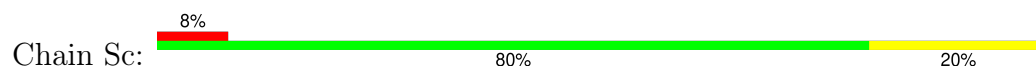


- Molecule 59: Small ribosomal subunit protein eS25





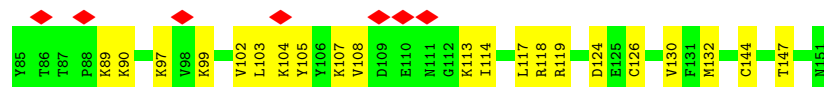
- Molecule 60: 40S ribosomal protein S28



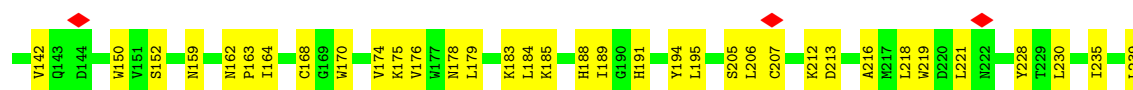
- Molecule 61: 40S ribosomal protein S29



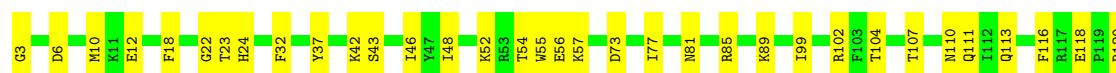
- Molecule 62: Ubiquitin-40S ribosomal protein S27a



- Molecule 63: Receptor of activated protein C kinase 1

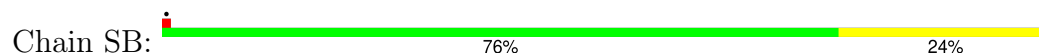


- Molecule 64: 40S ribosomal protein SA

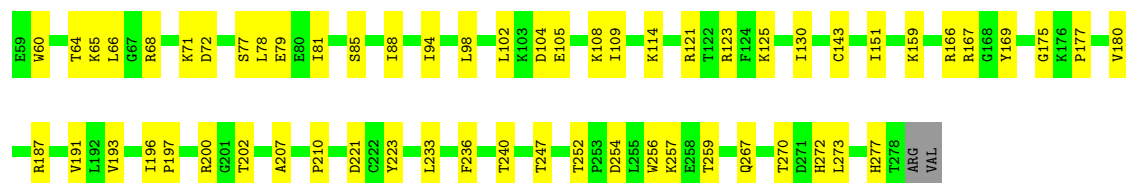




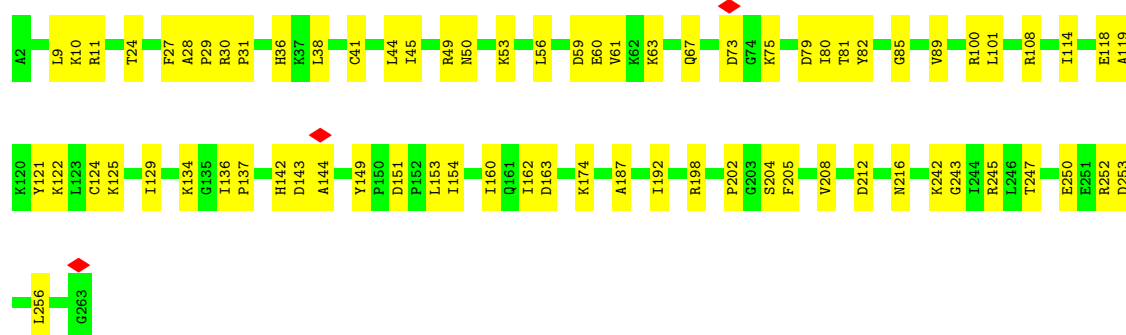
- Molecule 65: 40S ribosomal protein S3a



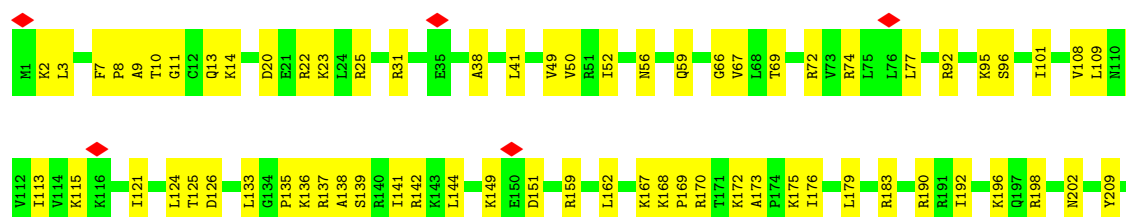
- Molecule 66: 40S ribosomal protein S2



- Molecule 67: Small ribosomal subunit protein eS4, X isoform



- Molecule 68: 40S ribosomal protein S6





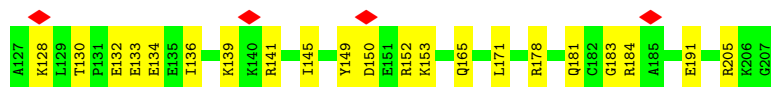
- Molecule 69: Small ribosomal subunit protein eS7

Chain SH: 71% 28%



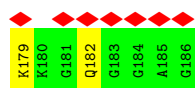
- Molecule 70: 40S ribosomal protein S8

Chain SI: 73% 27%



- Molecule 71: 40S ribosomal protein S9

Chain SJ: 5% 83% 17%



- Molecule 72: 40S ribosomal protein S11

Chain SL: 5% 79% 21%

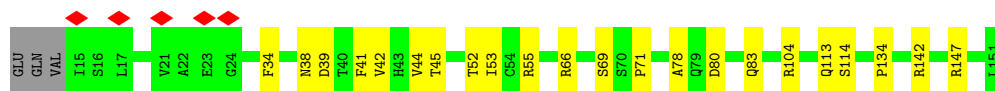
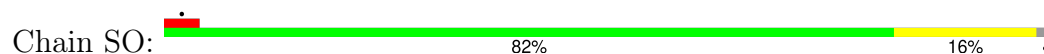


- Molecule 73: 40S ribosomal protein S13

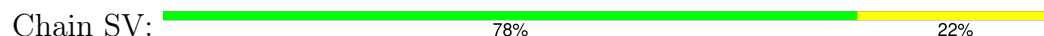
Chain SN: 88% 12%



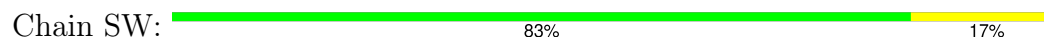
- Molecule 74: Small ribosomal subunit protein uS11



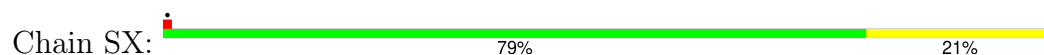
- Molecule 75: Small ribosomal subunit protein eS21



- Molecule 76: 40S ribosomal protein S15a



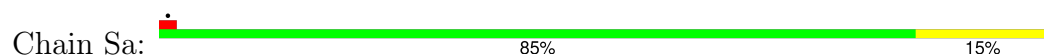
- Molecule 77: 40S ribosomal protein S23

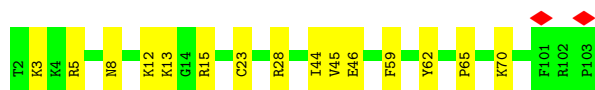


- Molecule 78: 40S ribosomal protein S24

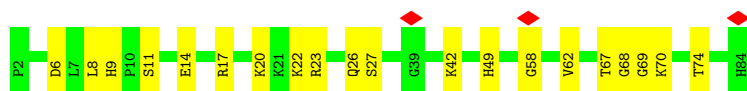
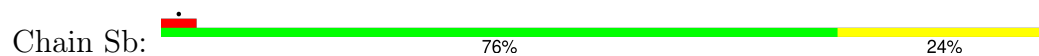


- Molecule 79: 40S ribosomal protein S26

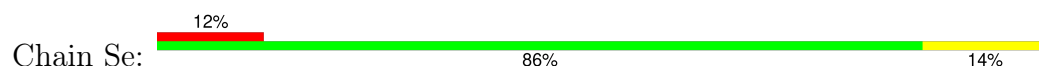




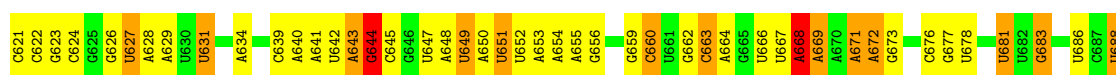
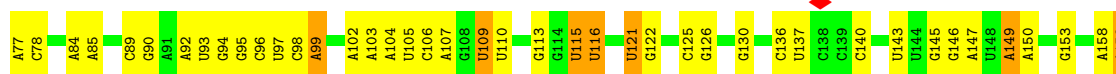
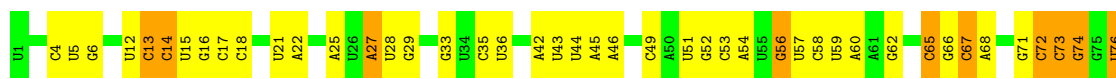
- Molecule 80: Small ribosomal subunit protein eS27



- Molecule 81: Small ribosomal subunit protein eS30



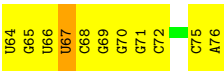
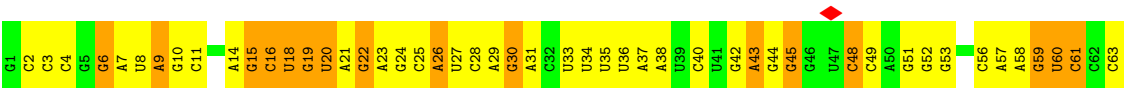
- Molecule 82: 18S rRNA [Homo sapiens]



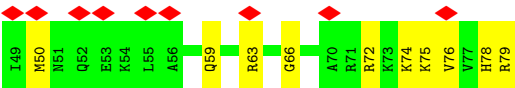
C1767	U1692	U1621	A1545	C1464	U1390	U1308	G1236	U1156	A1084	A1001	G921	G836	U689
C1772	G1693	U1622	C1546	C1468	C1391	C1309	U1239	U1160	G1086	U1002	G925	A837	G692
C1773	U1694	A1623	C1547	A1469	G1393	C1311	A1240	U1160	C1086	U1003	G925	G838	
C1774	A1695	C1628	U1549	G1475	A1396	U1314	A1241	G1165	C1091	G1005	G928	C840	C695
U1775	A1699	C1629	G1550	U1476	U1397	U1314	U1242	U1170	G1092	A1008	G929	G841	G696
C1776	C1700	A1630	U1551	A1477	C1397	G1320	U1243	A1170	A1093	A1008	G930	C842	C697
G1777	G1701	G1631	G1552	U1477	G1398	G1321	U1244	U1172	C1094	U1009	G933	U844	G698
C1778	C1702	A1632	C1553	C1482	A1402	G1322	G1245	U1173	G1097	A1011	G934	G845	U732
G1779		A1633				G1322			U1097	A1012		G846	C733
C1780	G1703	A1634	A1556		A1402	U1323	B8N1248	U1174	C1098	U1013	U940	A847	
C1781	C1704	C1557	C1557	A1489	A1405	G1324	A1261	G1175	G1099	U1013	C941		C736
C1782	C1705	C1558	C1558	G1490	G1406	G1325	A1261	G1176	A1100	G1014	C942	G851	C737
C1783	G1706	G1638	C1559	G1491	U1407	U1326	C1262	U1177	U1101	U1015	G942	C852	C738
		G1639	U1560	U1492	U1408	G1327	A1263	U1178	G1102	U1016	U943	G851	
U1711	U1711	A1640	A1561	C1493	A1409	G1328	G1264	G1179	C1103	U1017	A944		C738
C1785		A1640	A1561	C1493	A1409	G1328	G1264	G1179	C1103	U1017	A944		
U1786	A1712	G1562	U1494	U1494	C1410	U1329	G1255	U1174	G1098	U1018	U945	G855	U747
	C1713	G1563	G1495	G1411	G1256	G1330	G1256	A1182	G1104	U1019	U946	C748	C748
	U1714	C1644	U1496	U1496	C1412	C1331	G1257	A1182	G1107	A1020	G947	U749	U749
	A1715	C1645	G1566	C1497	G1413	A1332	A1258	G1187	G1108	A1020	C948	C750	C750
			G1567	A1498	A1414	U1333	A1259	A1188	C1109	A1023	G949	U863	G751
U1719	A1719	G1648	C1568	C1501	C1415	G1337	C1264	A1189	U1112	U1025	G952	A864	C752
U1720	U1720	U1649	A1569	C1502	C1416	U1338	C1264	A1190	U1113	C1026	C953	A865	C753
U1721	U1721	A1650	A1575	C1503	C1418	G1338			U1114	A1027	U954	U866	
G1722		A1651	G1575	U1504	C1419		C1267	A1195	U1115	A1028		G867	G788
A1801	C1802	G1652	C1655	U1505	C1419	U1342	C1268		U1116	A1028			
C1803	U1803	U1653	A1579	U1506	G1420	G1345	G1269	G1198	C1116	G1029	G959	A870	C791
U1804	C1804	G1654	A1580	A1506	A1421	U1346	C1271	A1199	C1117	A1030	U960	C792	C792
C1805	U1729	G1655	C1581	G1507	G1422	U1347	C1271	A1200	G1121	C1032	G961	G874	G793
U1806		G1656	C1582		C1423	U1347	C1272	U1201	G1121	C1032	A962	A875	A794
U1807	U1733	G1657		G1510	G1424	G1348	C1273	U1202	A1122	C1033	A963	C876	A795
C1808	G1734	G1658	U1585	U1511	G1425	U1349	G1274	G1203	C1123	A1034	A964	C877	G796
U1809	A1735	U1659	G1586	C1512	U1426	U1350	G1275	A1204	C1124	A1035	U965	C877	
U1810	G1736	G1660	U1587	C1513	U1427	U1351	A1276	C1205	C1125	A1036	U966	C797	G797
C1811	G1737	A1661	A1588	G1514	G1427	G1351	C1276	G1206	G1126	G1037	U966	G880	G798
U1812	C1738	U1662	A1589	G1515	G1428		C1277	G1207	G1126			U799	U799
C1813	G1739	A1663	U1593	G1516	C1433	A1357	A1278	G1207	G1126			U888	U800
U1814	C1740	G1664	C1593	C1517	C1434	U1358	C1279	A1208	G1129	U1045	G970	U889	U801
A1815	U1741	G1665	C1597	C1518	C1436	U1359	G1280	A1209	G1130	U1046	G971	U890	
		G1666	G1598	U1519	C1437	U1360	C1281		C1047		A972	G891	
G1744	A1744	U1667	U1599	C1521	A1438	U1367	C1282	C1215	A1133	C1048	G976	G894	A808
A1745	U1745	G1668	G1600	G1524	U1438	U1368	G1283	C1216	U1137	A1049	G977	G894	A811
		G1669	U1600		U1442	A1369	G1286	C1218	C1138	A1050	G978	U895	A812
U1821	G1748	C1670		G1528	U1443	U1370	A1287	C1219	G1139	U1056	A980	U897	A813
A1822	G1749	G1603	G1603	C1528	C1443	U1371	U1288	A1220	C1140	C1057	A981	U898	U814
	C1750	G1604	G1605	G1528	U1444	U1372	G1289	G1222	G1141	A1058	G982	U899	
A1825	C1752	U1673	G1606	A1531	G1447	C1373	A1291	G1223	A1143	U1061	G985	C900	G821
	G1753	U1677	G1609	C1532	A1448	C1374	C1292	G1224	A1144	A1062	G985	G901	U822
C1829	C1754	A1678	C1609	A1533	G1449	U1375	A1293	U1225	A1145	C1063	C988	G902	U823
U1830	C1755	U1679		C1536	U1452	U1376	A1295	G1226	C1146		C989	A903	C824
A1831	G1756	G1680	G1612	U1537	C1453	A1378	A1295	G1227	C1147	U1068	A990	G907	A825
C1832	C1757	U1681	G1613	C1537	C1453	U1379	A1295	G1227	C1148	U1069	G991	U826	A827
A1834	G1758	C1682	A1614	U1538	A1454	C1380	A1301	U1228	A1148	A1070	A992	G907	
C1835	U1759	C1683	U1615	U1539	A1455	G1381	G1302	C1230	A1149			U827	
A1836	G1760	U1686	U1616	G1540	G1456	A1382	C1303	C1231	G1151	C1079	A996	G910	A830
	U1761	G1686	C1617	C1541	G1456	A1383	U1304	U1232	U1152	A1080	A997	G910	A830
C1837	C1762	C1687	G1618	C1542	G1461	A1384	U1306	U1233	U1153	U1081	A998	A913	G832
U1839		C1689	U1619	U1543	U1462	G1385	U1306	C1234	U1154	A1082	C999	A919	C833
C1840			A1620	C1544	U1463		U1307	G1235	U1155	A1083	C1000	A920	C835



• Molecule 83: Z site tRNA [Homo sapiens]



• Molecule 84: Transcription factor BTF3



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	7312	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.519	Depositor
Minimum map value	-0.244	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.033	Depositor
Recommended contour level	0.0717	Depositor
Map size ($\text{\AA}$)	546.816, 546.816, 546.816	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.068, 1.068, 1.068	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 3HE, UR3, HMT, MA6, UY1, SPM, 1MA, OMU, 5MC, B8N, MG, ZN, A2M, OMC, 6MZ, 4AC, G7M, OMG, PSU, SPD

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	Pt	0.12	0/1761	0.27	0/2741
2	L5	0.17	0/85098	0.28	0/132762
3	L7	0.14	0/2861	0.23	0/4459
4	L8	0.16	0/3631	0.29	0/5657
5	LA	0.16	0/1936	0.36	0/2596
6	LB	0.15	0/3306	0.35	0/4424
7	LC	0.15	0/2981	0.34	0/4002
8	LD	0.14	0/2428	0.32	0/3252
9	LE	0.15	0/1973	0.39	0/2645
10	LF	0.15	0/1905	0.30	0/2539
11	LG	0.16	0/1960	0.34	0/2637
12	LH	0.14	0/1537	0.30	0/2066
13	LI	0.14	0/1751	0.34	0/2340
14	LJ	0.14	0/1385	0.35	0/1852
15	LL	0.14	0/1732	0.30	0/2315
16	LM	0.16	0/1161	0.34	0/1554
17	LN	0.15	0/1746	0.30	0/2338
18	LO	0.15	0/1682	0.32	0/2250
19	LP	0.15	0/1268	0.35	0/1701
20	LQ	0.15	0/1537	0.32	0/2052
21	LR	0.15	0/1582	0.36	0/2091
22	LS	0.15	0/1493	0.33	0/2003
23	LT	0.14	0/1326	0.29	0/1770
24	LU	0.17	0/839	0.42	0/1126
25	LV	0.15	0/993	0.34	0/1332
26	LW	0.21	0/959	0.41	0/1270
27	LX	0.14	0/1002	0.32	0/1345
28	LY	0.14	0/1132	0.35	0/1504
29	LZ	0.15	0/1130	0.34	0/1507
30	La	0.14	0/1191	0.31	0/1591
31	Lb	0.14	0/889	0.35	0/1175

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Lc	0.14	0/774	0.32	0/1038
33	Ld	0.15	0/903	0.33	0/1216
34	Le	0.15	0/1071	0.30	0/1429
35	Lf	0.15	0/895	0.30	0/1198
36	Lg	0.14	0/916	0.32	0/1220
37	Lh	0.13	0/1023	0.30	0/1351
38	Li	0.14	0/843	0.29	0/1115
39	Lj	0.14	0/720	0.32	0/952
40	Lk	0.14	0/575	0.32	0/761
41	Ll	0.13	0/454	0.26	0/599
42	Lm	0.14	0/435	0.37	0/575
43	Ln	0.14	0/231	0.32	0/294
44	Lo	0.15	0/876	0.33	0/1156
45	Lp	0.15	0/718	0.31	0/953
46	Lr	0.15	0/1017	0.34	0/1364
47	Ls	0.13	0/1519	0.34	0/2052
48	Lt	0.16	0/1009	0.50	0/1363
49	SD	0.12	0/1793	0.30	0/2414
50	SF	0.14	0/1516	0.37	1/2037 (0.0%)
51	SK	0.16	0/851	0.44	0/1147
52	SM	0.13	0/950	0.38	0/1275
53	SP	0.13	0/1003	0.37	0/1342
54	SQ	0.19	0/1160	0.42	0/1553
55	SR	0.16	0/1105	0.43	0/1484
56	SS	0.14	0/1216	0.36	0/1628
57	ST	0.15	0/1131	0.41	0/1515
58	SU	0.16	0/831	0.43	0/1115
59	SZ	0.16	0/604	0.48	0/810
60	Sc	0.14	0/508	0.33	0/680
61	Sd	0.13	0/470	0.32	0/623
62	Sf	0.15	0/560	0.45	0/745
63	Sg	0.16	0/2493	0.36	0/3394
64	SA	0.15	0/1778	0.36	0/2416
65	SB	0.15	0/1765	0.36	0/2362
66	SC	0.15	0/1744	0.35	0/2357
67	SE	0.14	0/2118	0.36	0/2849
68	SG	0.14	0/1946	0.36	0/2590
69	SH	0.17	0/1519	0.42	0/2033
70	SI	0.14	0/1715	0.35	0/2287
71	SJ	0.13	0/1550	0.32	0/2069
72	SL	0.14	0/1268	0.34	0/1696
73	SN	0.13	0/1232	0.31	0/1656
74	SO	0.17	0/1037	0.38	0/1391

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	SV	0.14	0/643	0.35	0/860
76	SW	0.16	0/1051	0.34	0/1406
77	SX	0.13	0/1116	0.34	0/1490
78	SY	0.14	0/1083	0.35	0/1438
79	Sa	0.15	0/836	0.36	0/1121
80	Sb	0.15	0/665	0.33	0/891
81	Se	0.14	0/465	0.39	0/612
82	S2	0.18	2/39756 (0.0%)	0.28	0/61939
83	Zt	0.14	0/1779	0.35	0/2771
84	CI	0.16	0/247	0.30	0/323
All	All	0.16	2/231658 (0.0%)	0.31	1/339851 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	S2	668	A2M	O3'-P	5.01	1.61	1.56
82	S2	99	A2M	O3'-P	5.00	1.61	1.56

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	SF	134	VAL	N-CA-C	-5.36	107.39	111.62

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	Pt	1576	0	803	30	0
2	L5	78444	0	39714	1490	0
3	L7	2561	0	1295	38	0
4	L8	3315	0	1685	68	0
5	LA	1898	0	1993	45	0
6	LB	3238	0	3376	76	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	LC	2927	0	3104	36	0
8	LD	2382	0	2410	38	0
9	LE	1935	0	2096	37	0
10	LF	1870	0	1996	24	0
11	LG	1927	0	2074	29	0
12	LH	1518	0	1601	21	0
13	LI	1711	0	1749	31	0
14	LJ	1362	0	1399	15	0
15	LL	1701	0	1818	31	0
16	LM	1138	0	1204	25	0
17	LN	1701	0	1749	34	0
18	LO	1650	0	1794	28	0
19	LP	1242	0	1269	12	0
20	LQ	1513	0	1628	31	0
21	LR	1566	0	1729	29	0
22	LS	1453	0	1490	15	0
23	LT	1298	0	1366	30	0
24	LU	825	0	850	23	0
25	LV	979	0	1039	13	0
26	LW	945	0	1003	19	0
27	LX	985	0	1066	13	0
28	LY	1115	0	1205	11	0
29	LZ	1107	0	1182	18	0
30	La	1162	0	1213	14	0
31	Lb	876	0	948	12	0
32	Lc	764	0	804	11	0
33	Ld	888	0	930	17	0
34	Le	1053	0	1147	15	0
35	Lf	876	0	912	12	0
36	Lg	906	0	998	17	0
37	Lh	1015	0	1148	22	0
38	Li	832	0	917	9	0
39	Lj	705	0	737	21	0
40	Lk	569	0	637	11	0
41	Ll	444	0	483	10	0
42	Lm	429	0	465	10	0
43	Ln	230	0	276	2	0
44	Lo	862	0	929	11	0
45	Lp	708	0	756	12	0
46	Lr	1002	0	1068	12	0
47	Ls	1496	0	1540	28	0
48	Lt	998	0	1032	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
49	SD	1765	0	1865	28	0
50	SF	1495	0	1549	31	0
51	SK	827	0	854	25	0
52	SM	940	0	965	20	0
53	SP	985	0	1031	20	0
54	SQ	1142	0	1213	37	0
55	SR	1090	0	1149	20	0
56	SS	1198	0	1261	32	0
57	ST	1112	0	1146	31	0
58	SU	821	0	883	20	0
59	SZ	598	0	656	16	0
60	Sc	506	0	536	10	0
61	Sd	459	0	452	15	0
62	Sf	548	0	551	16	0
63	Sg	2436	0	2393	55	0
64	SA	1741	0	1746	41	0
65	SB	1738	0	1809	34	0
66	SC	1707	0	1791	41	0
67	SE	2076	0	2177	50	0
68	SG	1923	0	2089	61	0
69	SH	1497	0	1590	37	0
70	SI	1686	0	1772	40	0
71	SJ	1525	0	1640	25	0
72	SL	1247	0	1323	23	0
73	SN	1208	0	1294	12	0
74	SO	1024	0	1050	17	0
75	SV	636	0	637	14	0
76	SW	1034	0	1080	19	0
77	SX	1098	0	1167	24	0
78	SY	1065	0	1142	32	0
79	Sa	821	0	870	14	0
80	Sb	651	0	672	15	0
81	Se	459	0	503	9	0
82	S2	36953	0	18679	697	0
83	Zt	1593	0	809	37	0
84	CI	247	0	282	23	0
85	L5	179	0	0	0	0
85	L7	3	0	0	0	0
85	L8	4	0	0	0	0
85	LA	1	0	0	0	0
85	LP	1	0	0	0	0
85	LV	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
85	Le	1	0	0	0	0
85	Lj	1	0	0	0	0
85	S2	27	0	0	0	0
85	SS	1	0	0	0	0
86	L5	98	0	182	8	0
87	L5	90	0	171	10	0
87	LN	10	0	19	2	0
88	L5	20	0	23	2	0
89	L5	39	0	36	8	0
90	Lg	1	0	0	0	0
90	Lj	1	0	0	0	0
90	Lm	1	0	0	0	0
90	Lo	1	0	0	0	0
90	Lp	1	0	0	0	0
90	Sa	1	0	0	0	0
All	All	220030	0	163684	3540	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 10.

All (3540) 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)
89:L5:5297:HMT:C6	89:L5:5297:HMT:C7	1.77	1.60
89:L5:5297:HMT:C7	89:L5:5297:HMT:C8	1.79	1.58
2:L5:2706:G:N7	84:CI:78:HIS:NE2	1.64	1.38
24:LU:117:ILE:C	84:CI:75:LYS:H	1.36	1.32
2:L5:2706:G:N7	84:CI:78:HIS:CD2	2.10	1.19
2:L5:2706:G:C8	84:CI:78:HIS:NE2	2.19	1.10
24:LU:116:GLN:O	84:CI:74:LYS:HA	1.56	1.04
24:LU:117:ILE:C	84:CI:75:LYS:N	2.18	1.01
2:L5:2557:G:H1	2:L5:2570:U:H3	1.05	0.98
2:L5:1996:C:N4	2:L5:2000:G:H22	1.61	0.97
2:L5:4887:C:N4	2:L5:4932:U:H3	1.63	0.97
82:S2:1351:G:H1	82:S2:1360:U:H3	1.12	0.96
83:Zt:26:A:N6	83:Zt:44:G:H1	1.62	0.96
2:L5:3944:G:H1	2:L5:4069:U:H3	1.13	0.95
2:L5:1996:C:H42	2:L5:2000:G:N2	1.63	0.94
2:L5:1996:C:H42	2:L5:2000:G:H22	0.95	0.94
82:S2:1033:G:H1	82:S2:1080:A:HO2'	1.10	0.94
83:Zt:26:A:H61	83:Zt:44:G:H1	0.96	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1656:G:H1	82:S2:1668:U:H3	1.07	0.93
82:S2:1324:G:H1	82:S2:1504:U:H3	1.03	0.92
2:L5:4946:U:HO2'	35:Lf:2:SER:N	1.71	0.88
83:Zt:6:G:H1	83:Zt:67:U:H3	0.92	0.88
2:L5:4887:C:H42	2:L5:4932:U:H3	0.92	0.87
2:L5:4775:C:H41	2:L5:4859:C:H42	1.21	0.87
82:S2:1737:G:H1	82:S2:1797:U:H3	1.22	0.87
76:SW:2:VAL:N	82:S2:1091:C:HO2'	1.73	0.87
82:S2:110:U:H3	82:S2:351:G:H1	1.20	0.86
2:L5:2706:G:C5	84:CI:78:HIS:NE2	2.45	0.85
82:S2:1417:C:N4	82:S2:1422:G:H22	1.75	0.84
82:S2:1748:G:H1	82:S2:1786:U:H3	0.85	0.84
2:L5:2706:G:C5	84:CI:78:HIS:CD2	2.66	0.83
2:L5:1100:U:H3	2:L5:1194:G:H1	1.22	0.83
82:S2:1417:C:H42	82:S2:1422:G:N2	1.76	0.82
82:S2:1776:G:N2	82:S2:1777:G:N7	2.27	0.82
2:L5:2007:G:H21	2:L5:2012:A:H62	1.27	0.82
2:L5:4763:U:HO2'	22:LS:174:THR:HG1	1.27	0.81
82:S2:1417:C:H42	82:S2:1422:G:H22	1.27	0.81
33:Ld:70:LYS:NZ	84:CI:66:GLY:HA3	1.95	0.81
24:LU:116:GLN:O	84:CI:74:LYS:CA	2.29	0.80
82:S2:1606:G:H1	82:S2:1632:G:HO2'	1.27	0.80
2:L5:4098:A:H2'	2:L5:4099:G:H4'	1.64	0.80
2:L5:2520:C:O2	2:L5:2640:G:N2	2.15	0.79
62:Sf:126:CYS:SG	62:Sf:144:CYS:N	2.53	0.79
1:Pt:50:U:H3	1:Pt:64:G:H1	0.81	0.79
82:S2:925:G:H1	82:S2:1017:U:H3	1.31	0.78
2:L5:1095:A:H2	2:L5:1200:G:H1	1.32	0.78
2:L5:5024:C:H41	2:L5:5028:G:H21	1.31	0.76
2:L5:3954:A:H1'	2:L5:4058:U:H5'	1.67	0.76
2:L5:4774:C:O2'	2:L5:4775:C:O2	2.03	0.76
26:LW:119:LYS:O	26:LW:123:LYS:HB2	1.86	0.75
2:L5:1870:C:H2'	2:L5:1871:A2M:H8	1.69	0.74
2:L5:2845:A:H61	2:L5:3843:C:H42	1.32	0.74
54:SQ:72:VAL:HG11	54:SQ:80:GLN:HG3	1.68	0.74
54:SQ:4:LYS:HE3	82:S2:1423:C:H41	1.52	0.74
82:S2:1417:C:N3	82:S2:1422:G:N1	2.35	0.73
26:LW:80:ARG:NH2	68:SG:8:PRO:O	2.21	0.73
57:ST:12:GLN:NE2	82:S2:1593:C:O2	2.21	0.73
82:S2:1729:U:H3	82:S2:1805:G:H1	1.36	0.73
82:S2:106:C:H2'	82:S2:107:A:H8	1.54	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1743:A:N1	2:L5:1789:C:O2'	2.23	0.72
2:L5:3641:U:OP2	2:L5:3646:A:N6	2.23	0.72
68:SG:11:GLY:HA2	82:S2:166:A2M:HM'1	1.72	0.72
2:L5:518:G:H1	2:L5:643:C:H2'	1.54	0.72
2:L5:664:G:N2	2:L5:666:G:O6	2.23	0.72
2:L5:4546:A:N7	5:LA:215:ASN:ND2	2.37	0.72
63:Sg:206:LEU:HD12	63:Sg:218:LEU:HD12	1.70	0.72
2:L5:2495:U:H2'	2:L5:2496:G:H8	1.55	0.72
50:SF:127:ARG:HG2	50:SF:136:ARG:HE	1.55	0.72
2:L5:4638:U:H3	2:L5:4661:G:H1	1.35	0.72
2:L5:381:U:H4'	2:L5:415:G:H5'	1.71	0.71
2:L5:2362:U:H2'	2:L5:2363:A2M:H8	1.72	0.71
2:L5:1563:A:N6	82:S2:1028:A:N1	2.39	0.71
2:L5:1971:C:O2	47:Ls:41:GLN:NE2	2.23	0.71
63:Sg:152:SER:HG	63:Sg:168:CYS:HG	1.37	0.71
2:L5:512:U:H3	2:L5:647:G:H1	1.38	0.70
82:S2:94:G:HO2'	82:S2:508:A:HO2'	1.34	0.70
2:L5:4896:G:H21	2:L5:4926:C:H42	1.40	0.70
2:L5:184:U:O2	2:L5:253:G:N2	2.23	0.70
2:L5:1414:C:H2'	2:L5:1415:G:H8	1.57	0.70
2:L5:4910:G:H4'	6:LB:95:THR:HG22	1.72	0.70
2:L5:3823:G:N2	2:L5:3823:G:OP2	2.23	0.70
2:L5:4102:C:H1'	2:L5:4108:G:H1	1.56	0.70
54:SQ:140:ARG:HB2	82:S2:1644:C:H4'	1.73	0.70
76:SW:107:SER:HB2	82:S2:860:G:H21	1.55	0.70
32:Lc:78:ASN:HD21	45:Lp:43:GLY:HA3	1.57	0.70
68:SG:168:LYS:NZ	82:S2:74:G:O6	2.23	0.70
82:S2:110:U:O2	82:S2:351:G:N2	2.23	0.70
65:SB:40:ASN:HD21	65:SB:76:ASN:HB2	1.57	0.69
2:L5:3594:C:O2	2:L5:3597:G:N2	2.25	0.69
65:SB:122:GLU:HG2	65:SB:140:VAL:HG12	1.74	0.69
2:L5:2611:A:H5'	2:L5:2688:G:H4'	1.75	0.69
6:LB:10:ARG:NH1	6:LB:11:HIS:O	2.24	0.69
82:S2:1581:C:H5'	82:S2:1582:C:H5	1.58	0.69
2:L5:1408:G:O2'	2:L5:1411:C:N4	2.25	0.69
5:LA:107:MET:HB3	5:LA:111:THR:HG21	1.75	0.69
2:L5:935:A:N7	16:LM:46:ARG:NH2	2.41	0.68
2:L5:4541:G:N2	2:L5:4544:A:OP2	2.26	0.68
2:L5:267:G:H2'	2:L5:268:G:H8	1.58	0.68
2:L5:2601:A:N6	2:L5:2744:A:OP2	2.25	0.68
82:S2:1422:G:H4'	82:S2:1423:C:H3'	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:388:U:H2'	82:S2:389:A:H8	1.57	0.68
2:L5:2702:C:OP1	24:LU:101:ARG:NH2	2.25	0.68
2:L5:4126:C:H5''	2:L5:4127:A:H5''	1.76	0.68
57:ST:126:GLN:HB2	57:ST:129:ARG:HH21	1.59	0.68
66:SC:210:PRO:HB3	66:SC:240:THR:HG21	1.75	0.68
81:Se:41:ARG:NH2	82:S2:639:C:OP1	2.27	0.68
2:L5:24:G:N7	39:Lj:46:LYS:NZ	2.42	0.68
2:L5:2622:G:O6	24:LU:81:ARG:NH2	2.27	0.68
33:Ld:90:ARG:HD3	33:Ld:102:LEU:HD13	1.75	0.67
63:Sg:63:SER:HB2	82:S2:1398:G:H1'	1.76	0.67
2:L5:327:U:O2'	38:Li:30:ARG:NH1	2.27	0.67
82:S2:1658:G:OP2	82:S2:1660:C:N4	2.28	0.67
31:Lb:109:ARG:HA	31:Lb:112:ILE:HG12	1.76	0.67
83:Zt:15:G:N2	83:Zt:20:U:OP1	2.28	0.67
7:LC:39:PHE:O	7:LC:43:ASN:ND2	2.26	0.67
72:SL:35:ARG:NH2	72:SL:55:TYR:O	2.27	0.67
77:SX:107:ARG:HG3	77:SX:110:HIS:HB3	1.77	0.67
66:SC:200:ARG:O	71:SJ:54:ARG:NH2	2.26	0.67
82:S2:454:U:H2'	82:S2:455:A:H8	1.60	0.67
82:S2:508:A:H3'	82:S2:509:OMG:H8	1.58	0.67
45:Lp:38:THR:HA	45:Lp:45:THR:HA	1.76	0.67
68:SG:198:ARG:NH1	82:S2:126:G:OP2	2.28	0.67
21:LR:176:ARG:NH2	82:S2:910:G:OP1	2.28	0.67
59:SZ:58:LEU:HD12	59:SZ:62:VAL:HG21	1.77	0.67
73:SN:14:SER:HB3	82:S2:1016:U:H5''	1.75	0.67
83:Zt:15:G:H22	83:Zt:48:C:H42	1.43	0.67
2:L5:2092:G:O2'	2:L5:2262:G:N2	2.28	0.67
2:L5:2780:C:H2'	2:L5:2781:G:H8	1.58	0.67
2:L5:3697:U:H5''	2:L5:3698:G:H5'	1.77	0.67
64:SA:89:LYS:HD2	64:SA:201:LEU:HG	1.77	0.67
2:L5:323:C:H2'	2:L5:324:A:H8	1.60	0.66
2:L5:2400:G:H21	36:Lg:6:THR:HG22	1.60	0.66
40:Lk:68:GLU:HG3	40:Lk:70:LYS:H	1.58	0.66
2:L5:308:G:OP2	2:L5:308:G:N2	2.23	0.66
2:L5:1499:C:OP1	20:LQ:150:ARG:NH2	2.28	0.66
7:LC:230:LEU:HD21	7:LC:236:ASN:H	1.59	0.66
2:L5:1818:G:OP2	2:L5:1818:G:N2	2.23	0.66
17:LN:146:PRO:HB2	37:Lh:104:THR:HG23	1.77	0.66
68:SG:66:GLY:HA2	82:S2:1745:A:H1'	1.76	0.66
2:L5:369:G:N2	2:L5:372:A:OP2	2.26	0.66
12:LH:102:ASN:HB2	12:LH:115:ARG:HB2	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:3937:C:H1'	17:LN:125:SER:HB3	1.76	0.66
54:SQ:131:LYS:HB2	54:SQ:140:ARG:HH22	1.61	0.66
2:L5:2845:A:H61	2:L5:3843:C:N4	1.94	0.66
63:Sg:252:THR:HG21	63:Sg:257:LYS:HD2	1.78	0.66
68:SG:135:PRO:HG2	68:SG:141:ILE:HG22	1.76	0.66
82:S2:140:C:H42	82:S2:313:A:H61	1.43	0.66
82:S2:557:U:H2'	82:S2:558:G:C8	2.30	0.66
2:L5:2484:A:H62	2:L5:2494:U:H3	1.44	0.66
4:L8:94:G:H21	39:Lj:82:THR:HB	1.60	0.66
24:LU:65:ARG:HG2	24:LU:67:LYS:H	1.61	0.66
53:SP:37:TYR:O	56:SS:88:LYS:NZ	2.28	0.66
74:SO:104:ARG:NH2	82:S2:959:G:OP1	2.29	0.66
82:S2:482:G:N1	82:S2:485:A:OP2	2.28	0.66
82:S2:587:A:H5'	82:S2:592:C:H41	1.60	0.66
2:L5:513:U:N3	2:L5:516:C:OP2	2.29	0.66
2:L5:1982:G:N2	2:L5:2009:A:O2'	2.29	0.65
2:L5:2103:G:N7	2:L5:2104:G:N2	2.43	0.65
82:S2:928:G:H2'	82:S2:929:G:C8	2.31	0.65
82:S2:1130:G:N2	82:S2:1130:G:OP2	2.29	0.65
24:LU:116:GLN:O	84:CI:74:LYS:CB	2.44	0.65
30:La:103:VAL:HB	30:La:108:TYR:HB2	1.78	0.65
71:SJ:124:HIS:HD2	81:Se:31:ARG:HE	1.43	0.65
73:SN:70:LYS:NZ	82:S2:1020:A:N7	2.43	0.65
2:L5:1704:C:O3'	10:LF:46:ARG:NH1	2.29	0.65
12:LH:106:GLN:HB2	12:LH:111:LEU:HB3	1.78	0.65
52:SM:96:ARG:NH2	52:SM:100:PRO:O	2.29	0.65
82:S2:1562:C:H2'	82:S2:1563:G:H8	1.59	0.65
2:L5:2059:C:H2'	2:L5:2060:G:H8	1.61	0.65
2:L5:1670:G:OP1	31:Lb:12:GLN:NE2	2.28	0.65
89:L5:5297:HMT:C7	89:L5:5297:HMT:C16	2.69	0.65
65:SB:26:SER:O	65:SB:51:ARG:NH2	2.30	0.65
65:SB:103:MET:HG3	65:SB:215:VAL:HG12	1.79	0.65
83:Zt:19:G:O2'	83:Zt:48:C:N4	2.26	0.65
2:L5:4601:U:H2'	2:L5:4602:A:H8	1.61	0.65
6:LB:90:VAL:HG23	6:LB:163:ILE:HD11	1.78	0.65
82:S2:613:G:N1	82:S2:629:A:OP2	2.27	0.65
70:SI:70:GLU:OE2	72:SL:21:LYS:NZ	2.29	0.65
2:L5:4094:G:N2	2:L5:4115:G:OP2	2.30	0.64
2:L5:4098:A:N1	2:L5:4112:C:N4	2.45	0.64
51:SK:25:LYS:NZ	82:S2:1497:G:N7	2.40	0.64
60:Sc:29:GLN:HA	60:Sc:45:ASN:HA	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2020:U:H2'	2:L5:2021:G:H8	1.61	0.64
71:SJ:136:ARG:NH1	71:SJ:159:PHE:O	2.30	0.64
82:S2:830:A:OP2	82:S2:846:G:N2	2.30	0.64
52:SM:49:LEU:HD21	52:SM:123:VAL:HG11	1.79	0.64
82:S2:300:U:H2'	82:S2:301:A:H8	1.62	0.64
2:L5:2007:G:N2	2:L5:2012:A:H62	1.95	0.64
2:L5:4457:PSU:OP1	25:LV:50:ASN:ND2	2.27	0.64
2:L5:2351:OMC:HM22	7:LC:95:MET:HG3	1.80	0.64
5:LA:137:ILE:HD11	5:LA:149:LYS:HB2	1.80	0.64
68:SG:176:ILE:HG12	68:SG:179:LEU:HD11	1.78	0.64
63:Sg:40:ILE:HB	63:Sg:59:LEU:HB2	1.78	0.64
2:L5:1095:A:N1	2:L5:1200:G:O6	2.31	0.64
2:L5:1996:C:O3'	47:Ls:44:ARG:NH1	2.30	0.64
63:Sg:258:ILE:HG23	63:Sg:267:VAL:HG23	1.80	0.64
2:L5:262:G:H2'	2:L5:263:G:H8	1.62	0.64
11:LG:150:LYS:NZ	11:LG:177:MET:O	2.31	0.64
47:Ls:62:ARG:HB3	47:Ls:66:ARG:HH12	1.63	0.64
55:SR:22:THR:O	63:Sg:212:LYS:NZ	2.30	0.64
61:Sd:17:GLY:O	61:Sd:27:ARG:NH1	2.31	0.64
2:L5:4443:C:O2	2:L5:4444:C:N4	2.31	0.64
5:LA:104:VAL:HA	5:LA:107:MET:HE3	1.80	0.64
47:Ls:68:HIS:O	47:Ls:71:ASN:ND2	2.30	0.64
54:SQ:139:ALA:HB2	82:S2:1650:A:H5''	1.80	0.64
67:SE:153:LEU:O	67:SE:174:LYS:NZ	2.30	0.64
82:S2:149:A:H3'	82:S2:150:A:H8	1.62	0.64
18:LO:34:VAL:HG22	18:LO:103:LYS:HB2	1.80	0.63
82:S2:1396:A:N7	82:S2:1449:G:O6	2.30	0.63
2:L5:460:C:H2'	2:L5:461:G:H8	1.64	0.63
2:L5:4403:PSU:HN3	2:L5:4440:G:H1	1.44	0.63
68:SG:169:PRO:O	82:S2:72:C:N4	2.32	0.63
2:L5:2034:G:O2'	22:LS:118:ARG:NH1	2.30	0.63
21:LR:172:ARG:NH1	82:S2:909:G:OP1	2.30	0.63
53:SP:135:ALA:HB2	82:S2:1235:G:H21	1.64	0.63
82:S2:1808:U:H2'	82:S2:1809:A:H8	1.63	0.63
57:ST:101:ARG:NH2	82:S2:1566:G:N7	2.47	0.63
76:SW:111:MET:HE1	76:SW:119:LYS:HD2	1.81	0.63
82:S2:747:U:N3	82:S2:796:G:N1	2.46	0.63
1:Pt:73:A:N3	13:LI:110:ARG:NH1	2.47	0.63
2:L5:4431:PSU:OP2	13:LI:3:ARG:NH2	2.31	0.63
82:S2:1228:A:H2'	82:S2:1229:G:H8	1.64	0.63
2:L5:25:A:H61	2:L5:58:G:H1	1.47	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2295:C:H2'	2:L5:2296:G:H8	1.63	0.63
2:L5:4522:G:O2'	2:L5:4525:C:OP2	2.17	0.63
69:SH:105:THR:HG23	69:SH:107:LYS:H	1.62	0.63
2:L5:2093:A:N3	2:L5:2094:G:N1	2.46	0.63
4:L8:67:U:H2'	4:L8:68:G:H8	1.63	0.63
52:SM:58:GLU:HB3	52:SM:61:TYR:HB2	1.81	0.63
67:SE:31:PRO:HA	67:SE:81:THR:HB	1.80	0.63
2:L5:2758:G:O2'	2:L5:2765:A:N3	2.30	0.63
8:LD:232:THR:OG1	8:LD:234:ASP:OD1	2.16	0.63
10:LF:105:VAL:HG13	10:LF:136:VAL:HG12	1.81	0.63
65:SB:144:LYS:HD3	65:SB:208:HIS:HB3	1.79	0.63
82:S2:1513:C:H2'	82:S2:1514:G:H8	1.63	0.63
2:L5:4594:U:H2'	2:L5:4595:G:H8	1.64	0.62
12:LH:51:LYS:HE2	12:LH:54:ARG:HH12	1.64	0.62
42:Lm:99:CYS:HB2	42:Lm:114:LYS:HE3	1.79	0.62
61:Sd:2:GLY:N	82:S2:1271:C:O2	2.31	0.62
82:S2:1030:A:H2'	82:S2:1031:A2M:H8	1.80	0.62
83:Zt:6:G:O6	83:Zt:67:U:O4	2.16	0.62
2:L5:3619:G:H22	2:L5:3624:A:H1'	1.64	0.62
82:S2:1228:A:H2'	82:S2:1229:G:C8	2.33	0.62
82:S2:1243:U:OP2	82:S2:1518:C:O2'	2.15	0.62
82:S2:1277:C:H2'	82:S2:1278:A:H8	1.64	0.62
2:L5:1332:C:H2'	2:L5:1333:A:H8	1.63	0.62
2:L5:3726:A:H2'	2:L5:3727:A:C8	2.35	0.62
2:L5:4566:U:O2'	6:LB:234:ARG:NH1	2.32	0.62
82:S2:165:G:OP2	82:S2:165:G:N2	2.32	0.62
7:LC:107:THR:O	7:LC:111:TRP:NE1	2.30	0.62
2:L5:1100:U:O3'	2:L5:1167:C:N4	2.32	0.62
2:L5:4305:G:N7	23:LT:87:LYS:NZ	2.42	0.62
9:LE:164:PHE:HA	9:LE:175:VAL:HG12	1.81	0.62
48:Lt:65:GLN:HG3	48:Lt:67:ARG:H	1.63	0.62
2:L5:3870:C:H2'	2:L5:3871:A:H8	1.64	0.62
4:L8:155:C:OP1	11:LG:89:ARG:NH1	2.32	0.62
5:LA:29:LEU:O	5:LA:123:ARG:NH1	2.33	0.62
16:LM:15:VAL:HG22	16:LM:50:MET:HE1	1.82	0.62
2:L5:5002:U:OP2	6:LB:385:LYS:NZ	2.31	0.62
6:LB:83:PRO:O	6:LB:167:GLN:NE2	2.33	0.62
25:LV:35:LYS:HB2	25:LV:67:LYS:HG3	1.82	0.62
65:SB:205:TYR:CD1	82:S2:1122:A:H4'	2.34	0.62
82:S2:1748:G:O6	82:S2:1786:U:O4	2.17	0.62
83:Zt:22:G:H2'	83:Zt:23:A:H8	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:184:U:O2'	2:L5:189:G:O4'	2.17	0.62
2:L5:2599:G:N2	2:L5:2747:U:O4	2.32	0.62
2:L5:2764:A:H2'	2:L5:2765:A:H8	1.65	0.62
2:L5:3717:A:H2'	2:L5:3718:A2M:H8	1.82	0.62
14:LJ:141:ILE:HA	14:LJ:144:LYS:HD2	1.81	0.62
57:ST:124:THR:HG23	57:ST:127:GLY:H	1.64	0.62
82:S2:350:C:HO2'	82:S2:383:G:H1	1.43	0.62
2:L5:73:A:N7	15:LL:103:ARG:NH2	2.47	0.62
50:SF:134:VAL:HG12	50:SF:135:ARG:HG2	1.81	0.62
79:Sa:12:LYS:NZ	82:S2:1086:G:OP2	2.29	0.62
82:S2:1605:G:N2	82:S2:1633:A:OP2	2.32	0.62
22:LS:76:LYS:NZ	22:LS:100:LEU:O	2.33	0.62
78:SY:124:ASN:HD22	82:S2:84:A:H5''	1.64	0.62
2:L5:1354:A:N6	2:L5:1503:A:O4'	2.33	0.61
2:L5:4129:G:O6	2:L5:4156:G:N2	2.33	0.61
24:LU:44:GLN:HB2	24:LU:56:LEU:HD21	1.82	0.61
26:LW:7:SER:HB2	26:LW:13:ILE:HD11	1.80	0.61
33:Ld:36:VAL:HG21	33:Ld:44:ARG:HG2	1.81	0.61
82:S2:1004:PSU:H2'	82:S2:1005:G:H8	1.65	0.61
83:Zt:68:C:H2'	83:Zt:69:G:C8	2.35	0.61
2:L5:4301:U:OP2	2:L5:4303:C:N4	2.33	0.61
2:L5:4413:C:O2	13:LI:158:LYS:NZ	2.32	0.61
69:SH:191:GLU:O	69:SH:193:GLN:NE2	2.27	0.61
77:SX:48:LYS:HB3	77:SX:75:ILE:HD12	1.83	0.61
2:L5:330:G:N7	87:L5:5284:SPD:N1	2.48	0.61
2:L5:3661:G:H4'	2:L5:3662:A:H5'	1.82	0.61
2:L5:4474:A:OP2	2:L5:4476:C:N4	2.33	0.61
2:L5:300:A:H2'	2:L5:301:G:H8	1.65	0.61
73:SN:64:ARG:HD3	73:SN:70:LYS:HG2	1.81	0.61
78:SY:111:LYS:NZ	82:S2:54:A:OP1	2.28	0.61
82:S2:889:U:OP2	82:S2:896:U:N3	2.33	0.61
2:L5:4277:G:H5''	23:LT:17:ARG:HG2	1.83	0.61
82:S2:588:G:H4'	82:S2:589:G:H5'	1.82	0.61
2:L5:364:G:O6	39:Lj:55:ARG:NH2	2.33	0.61
2:L5:3589:G:N2	2:L5:3590:G:O6	2.33	0.61
4:L8:150:C:N4	11:LG:52:THR:O	2.34	0.61
40:Lk:8:ILE:HD11	40:Lk:56:LEU:HD13	1.82	0.61
66:SC:191:VAL:HG11	66:SC:236:PHE:HA	1.82	0.61
67:SE:79:ASP:HB3	67:SE:82:TYR:HB2	1.83	0.61
2:L5:1326:A2M:H2'	2:L5:1327:C:C6	2.36	0.61
2:L5:1396:G:HO2'	2:L5:1468:C:HO2'	1.46	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2520:C:H2'	2:L5:2521:G:H8	1.66	0.61
2:L5:3672:G:OP2	2:L5:3672:G:N2	2.32	0.61
2:L5:3824:A:H3'	2:L5:3825:A2M:H8	1.81	0.61
39:Lj:19:CYS:SG	39:Lj:34:CYS:HB2	2.41	0.61
58:SU:116:ILE:HG13	58:SU:119:ALA:H	1.66	0.61
66:SC:167:ARG:HB3	66:SC:177:PRO:HB2	1.83	0.61
2:L5:4458:C:OP1	6:LB:11:HIS:NE2	2.31	0.61
21:LR:98:ARG:NH1	21:LR:132:PHE:O	2.34	0.61
82:S2:874:G:H2'	82:S2:875:A:H8	1.65	0.61
2:L5:4873:G:N7	18:LO:179:LYS:NZ	2.48	0.61
89:L5:5297:HMT:C7	89:L5:5297:HMT:N1	2.61	0.61
11:LG:81:ASN:O	11:LG:84:THR:OG1	2.19	0.61
82:S2:1179:G:N2	82:S2:1182:A:OP2	2.30	0.61
2:L5:382:G:N1	2:L5:385:A:OP2	2.34	0.60
2:L5:2444:U:HO2'	4:L8:112:G:HO2'	1.46	0.60
18:LO:126:VAL:HG13	18:LO:127:VAL:HG13	1.83	0.60
82:S2:136:C:H5''	82:S2:137:U:H5''	1.82	0.60
2:L5:1979:A:N6	2:L5:1984:A:OP1	2.27	0.60
15:LL:80:GLU:OE2	15:LL:113:ASN:ND2	2.34	0.60
40:Lk:24:LYS:HD3	40:Lk:69:LEU:HD21	1.83	0.60
66:SC:267:GLN:OE1	75:SV:35:ASN:ND2	2.34	0.60
68:SG:202:ASN:ND2	82:S2:125:C:OP1	2.33	0.60
2:L5:1626:G:OP2	17:LN:77:LYS:NZ	2.33	0.60
2:L5:2893:U:O2'	70:SI:88:ASN:ND2	2.33	0.60
2:L5:3668:C:OP1	5:LA:8:GLN:NE2	2.30	0.60
53:SP:130:ARG:HD3	53:SP:131:PRO:HD2	1.82	0.60
54:SQ:89:SER:OG	54:SQ:119:LEU:O	2.19	0.60
64:SA:22:GLY:O	64:SA:24:HIS:ND1	2.34	0.60
67:SE:27:PHE:O	82:S2:495:U:O2'	2.19	0.60
69:SH:142:LYS:HB3	76:SW:54:ASP:HB3	1.82	0.60
82:S2:1337:4AC:H2'	82:S2:1338:G:H8	1.65	0.60
2:L5:1982:G:H1'	2:L5:2010:A:H4'	1.83	0.60
2:L5:2554:U:O2	2:L5:2764:A:N7	2.34	0.60
2:L5:3880:G:H2'	2:L5:3881:G:C8	2.36	0.60
2:L5:4525:C:OP1	6:LB:246:ARG:NH2	2.29	0.60
50:SF:19:LEU:HD11	50:SF:50:PRO:HD3	1.82	0.60
66:SC:257:LYS:O	75:SV:16:LYS:NZ	2.34	0.60
82:S2:90:G:OP1	82:S2:445:A:N6	2.30	0.60
2:L5:3938:G:O6	2:L5:4172:A:N6	2.33	0.60
49:SD:99:ILE:HG23	49:SD:173:ARG:HH21	1.66	0.60
66:SC:68:ARG:HG2	66:SC:277:HIS:HB2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1829:G:H1'	82:S2:1850:MA6:H2	1.83	0.60
2:L5:332:C:OP2	87:L5:5284:SPD:N10	2.34	0.60
2:L5:1933:G:H2'	2:L5:1934:A:C8	2.37	0.60
2:L5:2835:A:O2'	6:LB:228:TYR:O	2.18	0.60
22:LS:15:ARG:HD2	22:LS:25:PRO:HG2	1.83	0.60
2:L5:2856:C:O2	6:LB:242:ARG:NH2	2.33	0.60
2:L5:4670:C:O2'	2:L5:4672:A:OP2	2.18	0.60
50:SF:124:ASP:OD1	50:SF:125:SER:N	2.30	0.60
51:SK:14:LEU:HD22	51:SK:35:LEU:HD23	1.83	0.60
51:SK:85:LEU:HD21	51:SK:89:ILE:HB	1.84	0.60
54:SQ:49:TYR:O	54:SQ:53:GLU:HB2	2.01	0.60
67:SE:144:ALA:HB3	82:S2:121:OMU:HM23	1.84	0.60
82:S2:1759:G:N2	82:S2:1760:G:O6	2.34	0.60
2:L5:1739:G:N3	2:L5:1742:A:N6	2.49	0.60
2:L5:3917:A:H2'	2:L5:3918:G:H8	1.67	0.60
78:SY:74:MET:SD	78:SY:90:ARG:NH1	2.75	0.60
2:L5:2577:C:OP1	29:LZ:111:ARG:NH2	2.35	0.60
5:LA:114:CYS:HB3	5:LA:165:VAL:HB	1.84	0.60
66:SC:193:VAL:HG11	66:SC:240:THR:HG22	1.83	0.60
68:SG:92:ARG:O	82:S2:453:C:O2'	2.18	0.60
70:SI:133:GLU:HA	70:SI:136:ILE:HG12	1.83	0.60
78:SY:111:LYS:NZ	82:S2:56:G:OP1	2.30	0.60
2:L5:1700:G:H5''	2:L5:1704:C:H42	1.66	0.60
2:L5:1906:U:H2'	2:L5:1907:A:H8	1.67	0.60
2:L5:2298:U:OP1	7:LC:204:ARG:NE	2.34	0.60
74:SO:134:PRO:HB3	82:S2:944:A:H5''	1.84	0.60
82:S2:941:C:H2'	82:S2:942:G:H8	1.67	0.60
2:L5:4563:U:H2'	2:L5:4564:A:H8	1.65	0.59
6:LB:292:LEU:HB2	6:LB:298:LEU:HD12	1.84	0.59
51:SK:8:ARG:NH2	82:S2:1314:U:O2'	2.34	0.59
68:SG:2:LYS:HB2	68:SG:108:VAL:HG12	1.83	0.59
82:S2:1652:G:H1	82:S2:1672:U:H3	1.49	0.59
2:L5:1532:G:OP2	39:Lj:31:LYS:NZ	2.33	0.59
2:L5:1994:C:H2'	2:L5:1995:G:C8	2.36	0.59
53:SP:40:ARG:NH2	82:S2:1615:U:O4	2.35	0.59
60:Sc:17:VAL:HA	60:Sc:30:VAL:HG12	1.84	0.59
71:SJ:162:ARG:NH1	82:S2:582:U:OP1	2.34	0.59
83:Zt:68:C:H2'	83:Zt:69:G:H8	1.65	0.59
2:L5:1969:G:H4'	47:Ls:36:GLY:HA2	1.84	0.59
2:L5:2448:G:O2'	5:LA:21:LYS:NZ	2.30	0.59
8:LD:52:ILE:HA	8:LD:147:ASP:HB3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SS:141:ARG:NH1	82:S2:1524:G:OP2	2.33	0.59
58:SU:20:ILE:HG22	58:SU:116:ILE:HG22	1.84	0.59
64:SA:155:ARG:NH2	82:S2:1137:U:O2'	2.35	0.59
4:L8:21:C:OP1	7:LC:195:LYS:NZ	2.35	0.59
19:LP:109:VAL:HA	19:LP:112:LEU:HD13	1.84	0.59
22:LS:147:ASP:HB3	22:LS:150:ILE:HB	1.82	0.59
50:SF:168:THR:OG1	50:SF:171:GLU:OE1	2.19	0.59
68:SG:77:LEU:HD12	68:SG:95:LYS:HD3	1.83	0.59
74:SO:55:ARG:NH2	82:S2:954:U:O2	2.35	0.59
2:L5:4239:A:H2'	2:L5:4240:G:C8	2.37	0.59
4:L8:19:C:H2'	4:L8:20:A:H8	1.66	0.59
82:S2:1528:G:O2'	82:S2:1666:C:OP1	2.19	0.59
2:L5:1100:U:O4	2:L5:1194:G:O6	2.21	0.59
2:L5:1457:G:O2'	20:LQ:75:ARG:NH2	2.36	0.59
2:L5:4163:U:OP2	11:LG:53:ARG:NH2	2.35	0.59
2:L5:4699:U:H1'	2:L5:4700:A:H5''	1.84	0.59
21:LR:39:GLN:OE1	21:LR:42:ARG:NH1	2.36	0.59
40:Lk:26:LYS:HB2	40:Lk:69:LEU:HD12	1.84	0.59
40:Lk:54:GLU:OE2	40:Lk:58:GLN:NE2	2.26	0.59
67:SE:11:ARG:NH1	67:SE:24:THR:OG1	2.36	0.59
68:SG:135:PRO:HA	82:S2:169:U:H5''	1.84	0.59
83:Zt:30:G:H2'	83:Zt:31:A:H8	1.67	0.59
9:LE:91:THR:HA	9:LE:108:LYS:HA	1.83	0.59
44:Lo:78:ARG:O	44:Lo:80:LYS:NZ	2.36	0.59
76:SW:3:ARG:HH22	76:SW:28:ARG:HH21	1.49	0.59
82:S2:300:U:H2'	82:S2:301:A:C8	2.37	0.59
2:L5:441:G:H2'	2:L5:442:G:H8	1.68	0.59
2:L5:512:U:O4	2:L5:647:G:O6	2.21	0.59
2:L5:1927:U:OP1	2:L5:1949:U:O2'	2.15	0.59
2:L5:2845:A:N6	2:L5:3843:C:H42	2.01	0.59
18:LO:9:LEU:HD23	18:LO:118:MET:HB2	1.85	0.59
32:Lc:48:LEU:HD13	32:Lc:57:LYS:HG3	1.83	0.59
56:SS:8:LYS:HZ1	56:SS:60:THR:HA	1.68	0.59
64:SA:73:ASP:HB3	64:SA:120:ARG:HB2	1.85	0.59
78:SY:36:PRO:HG3	82:S2:570:C:H4'	1.83	0.59
2:L5:40:G:N7	87:L5:5262:SPD:N1	2.51	0.59
2:L5:1844:G:H5''	31:Lb:25:ARG:HH22	1.68	0.59
2:L5:2770:C:H2'	2:L5:2771:G:H8	1.67	0.59
2:L5:4728:U:OP1	6:LB:132:LYS:NZ	2.32	0.59
7:LC:293:LEU:O	7:LC:299:GLN:NE2	2.33	0.59
2:L5:1253:G:H2'	2:L5:1256:G:H5'	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1932:A:OP1	18:LO:49:ARG:NH2	2.28	0.59
2:L5:2899:C:OP1	21:LR:108:ARG:NH2	2.34	0.59
2:L5:3787:G:H1'	2:L5:3789:C:H41	1.68	0.59
2:L5:4075:U:OP1	11:LG:249:ARG:NH2	2.36	0.59
2:L5:4097:G:O6	2:L5:4098:A:N6	2.36	0.59
2:L5:4363:A:H5''	44:Lo:36:GLN:HG2	1.84	0.59
3:L7:7:G:OP1	8:LD:33:ARG:NH1	2.35	0.59
77:SX:90:CYS:HB3	77:SX:130:LEU:HD22	1.85	0.59
82:S2:60:A:N3	82:S2:316:G:O2'	2.35	0.59
82:S2:463:C:O2'	82:S2:466:G:O6	2.17	0.59
50:SF:60:ARG:HD2	82:S2:1679:A:H2'	1.85	0.58
54:SQ:19:ALA:HB2	54:SQ:75:GLY:HA3	1.85	0.58
82:S2:795:A:H2'	82:S2:796:G:C8	2.38	0.58
2:L5:62:A:N3	2:L5:77:U:O2'	2.33	0.58
2:L5:2386:U:H2'	2:L5:2387:G:H8	1.67	0.58
6:LB:10:ARG:NH2	6:LB:265:SER:O	2.36	0.58
40:Lk:24:LYS:HB2	40:Lk:35:LYS:HB2	1.83	0.58
57:ST:73:GLY:O	57:ST:94:ARG:NH2	2.36	0.58
82:S2:145:G:H2'	82:S2:146:G:C8	2.38	0.58
2:L5:2613:C:OP1	36:Lg:24:ARG:NH2	2.36	0.58
2:L5:2870:A:OP2	2:L5:2879:A:N6	2.33	0.58
2:L5:3633:C:OP1	86:L5:5292:SPM:N10	2.37	0.58
2:L5:4304:A:OP2	2:L5:4305:G:N2	2.35	0.58
48:Lt:77:ALA:HB3	48:Lt:80:LEU:HB2	1.84	0.58
70:SI:22:HIS:HB3	82:S2:433:A:H5''	1.83	0.58
82:S2:71:G:N2	82:S2:73:C:OP1	2.36	0.58
82:S2:1841:C:H2'	82:S2:1842:4AC:H6	1.86	0.58
2:L5:1849:U:H3'	15:LL:5:ARG:HH12	1.67	0.58
2:L5:4239:A:H2'	2:L5:4240:G:H8	1.68	0.58
2:L5:4868:G:O2'	2:L5:4872:G:OP1	2.21	0.58
4:L8:39:G:OP1	37:Lh:86:LYS:NZ	2.35	0.58
17:LN:159:ARG:HB3	17:LN:164:LEU:HB2	1.85	0.58
62:Sf:97:LYS:NZ	82:S2:1289:U:OP2	2.30	0.58
2:L5:423:G:OP1	19:LP:62:ARG:NH1	2.36	0.58
2:L5:3796:U:HO2'	82:S2:1720:U:HO2'	1.49	0.58
2:L5:4992:G:H2'	2:L5:4993:G:C8	2.38	0.58
3:L7:28:C:OP2	8:LD:57:ASN:ND2	2.36	0.58
56:SS:85:ASN:OD1	56:SS:97:GLN:NE2	2.36	0.58
68:SG:31:ARG:NH1	82:S2:1745:A:O3'	2.35	0.58
2:L5:417:G:OP1	2:L5:2329:U:O2'	2.22	0.58
6:LB:95:THR:OG1	6:LB:98:GLY:O	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LB:138:GLN:O	6:LB:143:LYS:NZ	2.37	0.58
11:LG:180:PRO:HG3	11:LG:219:VAL:HG13	1.85	0.58
12:LH:187:VAL:HG12	12:LH:188:GLN:HG3	1.86	0.58
39:Lj:2:THR:HG22	39:Lj:4:GLY:H	1.69	0.58
49:SD:32:ASP:OD2	49:SD:65:ARG:NH1	2.36	0.58
51:SK:31:LYS:HZ3	51:SK:40:VAL:H	1.49	0.58
2:L5:3689:G:O2'	2:L5:3818:UY1:OP2	2.20	0.58
2:L5:3868:G:H22	2:L5:3900:G:H1'	1.69	0.58
2:L5:4676:G:OP1	6:LB:281:ASN:ND2	2.37	0.58
17:LN:157:LYS:O	17:LN:162:ARG:NH1	2.37	0.58
63:Sg:57:ARG:NH2	63:Sg:94:THR:O	2.36	0.58
68:SG:183:ARG:NH2	82:S2:316:G:OP2	2.36	0.58
2:L5:1563:A:H2'	2:L5:1564:A:C8	2.38	0.58
63:Sg:129:ILE:HB	63:Sg:142:VAL:HB	1.85	0.58
82:S2:629:A:O2'	82:S2:631:U:OP1	2.21	0.58
2:L5:67:C:N4	2:L5:325:U:O2'	2.36	0.58
2:L5:3928:A:OP1	17:LN:90:ASN:ND2	2.36	0.58
2:L5:4683:U:OP2	2:L5:4706:G:N1	2.35	0.58
20:LQ:50:ARG:HH21	20:LQ:140:SER:HB2	1.69	0.58
62:Sf:119:ARG:HB3	62:Sf:132:MET:HB2	1.85	0.58
82:S2:1536:G:H2'	82:S2:1537:A:H8	1.69	0.58
82:S2:1550:G:O2'	82:S2:1558:C:O2	2.22	0.58
2:L5:4993:G:H22	2:L5:5058:A:H2	1.52	0.58
15:LL:64:VAL:HA	15:LL:67:HIS:HD2	1.69	0.58
51:SK:27:VAL:HB	51:SK:43:LEU:HD12	1.85	0.58
52:SM:63:LYS:HD3	52:SM:64:LEU:HD22	1.85	0.58
54:SQ:8:GLN:HG3	54:SQ:27:ARG:HE	1.69	0.58
82:S2:851:C:H5''	82:S2:852:G:H5'	1.86	0.58
82:S2:1831:A:O2'	82:S2:1832:6MZ:H8	2.04	0.58
2:L5:325:U:H2'	2:L5:326:C:C6	2.39	0.57
6:LB:117:ARG:HA	6:LB:177:LYS:HD2	1.86	0.57
20:LQ:79:THR:HB	20:LQ:136:THR:HG22	1.86	0.57
56:SS:55:ARG:N	56:SS:58:GLU:OE2	2.34	0.57
57:ST:40:ALA:HB3	57:ST:43:LYS:HG2	1.84	0.57
1:Pt:76:A:H2'	2:L5:4397:A:H1'	1.85	0.57
2:L5:2397:G:O6	36:Lg:4:ARG:NH2	2.31	0.57
49:SD:40:ARG:NH2	58:SU:106:ILE:O	2.38	0.57
59:SZ:85:ARG:NH2	82:S2:1597:C:OP2	2.35	0.57
74:SO:142:ARG:NH1	79:Sa:23:CYS:O	2.37	0.57
76:SW:71:LYS:NZ	82:S2:1156:U:OP1	2.37	0.57
2:L5:500:G:OP1	2:L5:504:G:N2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4212:A:N1	23:LT:3:ASN:ND2	2.45	0.57
2:L5:4620:OMU:OP2	2:L5:4670:C:N4	2.37	0.57
63:Sg:176:VAL:HG23	63:Sg:185:LYS:HB2	1.86	0.57
77:SX:51:VAL:HA	77:SX:72:VAL:HG22	1.86	0.57
78:SY:34:THR:O	82:S2:570:C:O2'	2.21	0.57
82:S2:1144:A:H2'	82:S2:1145:A:C8	2.38	0.57
2:L5:1094:G:O6	2:L5:1201:U:O2	2.22	0.57
2:L5:1270:A:H8	2:L5:2106:G:H21	1.52	0.57
2:L5:2335:C:H2'	2:L5:2336:G:H8	1.69	0.57
2:L5:1326:A2M:OP2	2:L5:4445:U:O2'	2.22	0.57
2:L5:1461:C:H2'	2:L5:1462:A:H8	1.69	0.57
2:L5:2017:A:O2'	2:L5:2018:C:O5'	2.21	0.57
2:L5:4472:G:O2'	42:Lm:100:TYR:O	2.22	0.57
14:LJ:146:ARG:HG2	14:LJ:147:ARG:HG3	1.87	0.57
49:SD:40:ARG:HA	58:SU:108:PRO:HB3	1.85	0.57
59:SZ:80:ARG:O	82:S2:1598:G:O2'	2.19	0.57
82:S2:388:U:H2'	82:S2:389:A:C8	2.38	0.57
82:S2:468:A2M:H2'	82:S2:469:A:C8	2.38	0.57
82:S2:600:G:H2'	82:S2:601:OMG:H8	1.68	0.57
82:S2:639:C:H2'	82:S2:640:A:H8	1.69	0.57
82:S2:808:A:H2	82:S2:855:G:H22	1.51	0.57
1:Pt:33:U:H3'	54:SQ:146:ARG:HH22	1.70	0.57
2:L5:4896:G:H2'	2:L5:4897:G:C8	2.40	0.57
13:LI:38:ARG:NH1	13:LI:45:GLU:OE1	2.31	0.57
20:LQ:86:ILE:HD12	20:LQ:105:VAL:HG22	1.87	0.57
51:SK:2:LEU:HD21	82:S2:1289:U:H4'	1.86	0.57
82:S2:981:A:H2'	82:S2:982:G:C8	2.39	0.57
2:L5:1502:G:H1	20:LQ:89:ASP:HA	1.70	0.57
2:L5:4274:A:H2'	2:L5:4275:G:H8	1.69	0.57
68:SG:136:LYS:HB2	82:S2:65:C:H41	1.70	0.57
2:L5:1279:A:OP1	9:LE:131:LYS:NZ	2.37	0.57
2:L5:2083:C:OP2	20:LQ:14:ARG:NH2	2.37	0.57
2:L5:2517:A:H5'	36:Lg:62:LYS:HD3	1.87	0.57
2:L5:4951:G:H2'	2:L5:4952:G:H8	1.70	0.57
10:LF:40:LYS:HA	10:LF:43:ARG:HE	1.70	0.57
2:L5:950:G:H2'	2:L5:951:G:H8	1.70	0.57
2:L5:3666:C:OP1	5:LA:234:LYS:NZ	2.27	0.57
86:L5:5289:SPM:H21	87:L5:5290:SPD:H102	1.70	0.57
2:L5:121:A:OP1	11:LG:110:LYS:NZ	2.35	0.57
2:L5:1346:C:H2'	2:L5:1347:G:H8	1.68	0.57
2:L5:3695:PSU:HN3	2:L5:3820:G:H1	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4184:G:H5'	5:LA:233:ARG:HB2	1.85	0.57
2:L5:4627:U:O2'	6:LB:55:HIS:ND1	2.34	0.57
55:SR:7:LYS:NZ	82:S2:1373:C:OP1	2.36	0.57
58:SU:85:HIS:ND1	82:S2:1447:G:OP1	2.38	0.57
82:S2:223:C:H2'	82:S2:224:A:C8	2.40	0.57
82:S2:1692:U:H2'	82:S2:1693:G:C8	2.40	0.57
2:L5:137:G:H2'	2:L5:138:G:H8	1.69	0.56
2:L5:3855:C:H2'	2:L5:3856:A:H8	1.70	0.56
2:L5:4177:C:H2'	2:L5:4178:A:H8	1.70	0.56
2:L5:4314:C:OP1	23:LT:70:HIS:ND1	2.37	0.56
20:LQ:15:ARG:NH1	20:LQ:52:PHE:O	2.34	0.56
24:LU:99:TRP:HE1	84:CI:59:GLN:HB2	1.69	0.56
36:Lg:45:ALA:HB3	36:Lg:82:MET:HE2	1.86	0.56
58:SU:51:LYS:HB3	58:SU:90:ASP:HB2	1.87	0.56
63:Sg:107:ASP:HB2	63:Sg:125:ARG:HG3	1.87	0.56
66:SC:196:ILE:HB	66:SC:223:TYR:HB2	1.86	0.56
67:SE:100:ARG:HB2	67:SE:114:ILE:HD13	1.86	0.56
82:S2:1560:U:O2	82:S2:1575:G:O6	2.23	0.56
1:Pt:23:C:H2'	1:Pt:24:A:C8	2.40	0.56
39:Lj:14:LYS:NZ	41:Ll:51:LEU:OXT	2.38	0.56
67:SE:45:ILE:HG13	67:SE:61:VAL:HG11	1.85	0.56
69:SH:154:ILE:HB	69:SH:185:VAL:HG22	1.87	0.56
78:SY:102:THR:OG1	78:SY:106:GLN:OE1	2.23	0.56
80:Sb:14:GLU:HA	80:Sb:17:ARG:HG2	1.85	0.56
83:Zt:48:C:H2'	83:Zt:59:G:H1'	1.86	0.56
2:L5:13:U:OP2	87:L5:5287:SPD:N10	2.38	0.56
2:L5:705:G:OP1	34:Le:5:ARG:NH2	2.39	0.56
2:L5:1332:C:H2'	2:L5:1333:A:C8	2.40	0.56
2:L5:1646:A:O2'	39:Lj:49:TRP:O	2.22	0.56
2:L5:1867:A:H2'	2:L5:1868:A:C8	2.40	0.56
2:L5:3615:G:H1'	26:LW:44:ARG:HD3	1.87	0.56
2:L5:4238:G:H2'	2:L5:4239:A:H8	1.69	0.56
2:L5:4954:G:H2'	2:L5:4955:A:H8	1.70	0.56
2:L5:5064:G:H21	19:LP:75:GLN:HE22	1.54	0.56
13:LI:54:SER:HB3	13:LI:135:ILE:HD11	1.86	0.56
15:LL:46:ILE:HB	15:LL:49:ARG:HB2	1.87	0.56
53:SP:81:ARG:NH2	53:SP:117:GLY:O	2.38	0.56
59:SZ:65:TYR:HB3	83:Zt:34:U:H5'	1.87	0.56
74:SO:45:THR:HA	74:SO:52:THR:HA	1.86	0.56
78:SY:119:GLY:HA2	82:S2:85:A:H5'	1.87	0.56
82:S2:737:G:H8	82:S2:738:C:H4'	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:495:C:H2'	2:L5:496:G:C8	2.41	0.56
2:L5:665:C:H4'	2:L5:666:G:H5'	1.87	0.56
2:L5:1667:G:N1	2:L5:2281:U:OP2	2.29	0.56
2:L5:1759:G:N2	2:L5:1773:U:O2	2.37	0.56
2:L5:4389:C:H2'	2:L5:4390:A:H8	1.69	0.56
2:L5:4667:C:OP1	6:LB:224:LYS:NZ	2.32	0.56
7:LC:110:ARG:O	7:LC:113:ARG:NH1	2.37	0.56
68:SG:162:LEU:HG	68:SG:167:LYS:HE3	1.86	0.56
70:SI:141:ARG:HD3	70:SI:145:ILE:HG21	1.87	0.56
82:S2:28:U:H2'	82:S2:29:G:H8	1.70	0.56
82:S2:907:G:H2'	82:S2:908:A:C8	2.40	0.56
1:Pt:40:C:HO2'	82:S2:1640:A:HO2'	1.47	0.56
2:L5:267:G:H2'	2:L5:268:G:C8	2.40	0.56
2:L5:268:G:H2'	2:L5:269:G:H8	1.69	0.56
2:L5:1655:C:OP2	30:La:26:ARG:NH1	2.38	0.56
2:L5:2846:G:OP1	25:LV:85:ARG:NH2	2.36	0.56
2:L5:2846:G:H2'	2:L5:2847:G:H8	1.70	0.56
2:L5:4315:A:OP1	23:LT:69:GLN:NE2	2.39	0.56
2:L5:4523:A2M:H5''	2:L5:4524:G:H5'	1.86	0.56
82:S2:323:C:H2'	82:S2:327:G:H1	1.70	0.56
82:S2:1174:PSU:H2'	82:S2:1175:G:H8	1.71	0.56
82:S2:1360:U:O2'	82:S2:1379:A:OP2	2.22	0.56
2:L5:153:G:H2'	2:L5:154:G:H8	1.71	0.56
2:L5:419:A:N3	2:L5:1332:C:O2'	2.36	0.56
2:L5:2706:G:C6	84:CI:78:HIS:CD2	2.92	0.56
2:L5:2706:G:O6	84:CI:78:HIS:HD2	1.89	0.56
2:L5:4565:C:OP1	18:LO:65:ASN:ND2	2.34	0.56
58:SU:19:ARG:HH11	58:SU:92:HIS:HB3	1.69	0.56
65:SB:136:ARG:HB2	65:SB:218:LEU:HD11	1.86	0.56
2:L5:2539:C:H2'	2:L5:2540:C:C6	2.41	0.56
2:L5:4657:U:O2'	2:L5:4659:G:OP2	2.24	0.56
4:L8:142:U:OP1	17:LN:38:ARG:NH2	2.39	0.56
6:LB:161:ARG:HG2	6:LB:184:GLN:HA	1.88	0.56
33:Ld:64:ILE:HG23	33:Ld:68:LEU:HD23	1.88	0.56
67:SE:192:ILE:HG12	67:SE:243:GLY:HA3	1.87	0.56
82:S2:223:C:H2'	82:S2:224:A:H8	1.70	0.56
2:L5:1327:C:H2'	2:L5:1328:G:C8	2.41	0.56
10:LF:227:PHE:N	10:LF:233:ALA:O	2.39	0.56
34:Le:108:ARG:HD2	34:Le:128:ARG:HB2	1.86	0.56
82:S2:49:C:OP1	82:S2:471:G:N2	2.39	0.56
1:Pt:33:U:OP2	54:SQ:146:ARG:NH1	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L8:96:C:H2'	4:L8:97:A:C8	2.40	0.56
51:SK:55:ARG:NH1	51:SK:78:TYR:OH	2.38	0.56
65:SB:146:ARG:HH21	82:S2:1122:A:H1'	1.70	0.56
67:SE:49:ARG:NH1	82:S2:495:U:OP1	2.39	0.56
72:SL:33:LEU:HD12	72:SL:34:PRO:HD2	1.87	0.56
2:L5:120:A:N1	2:L5:148:C:O2'	2.34	0.56
2:L5:150:U:OP2	11:LG:200:THR:OG1	2.20	0.56
2:L5:4419:U:OP1	2:L5:4475:G:N2	2.39	0.56
2:L5:5030:U:H2'	2:L5:5031:G:H8	1.71	0.56
40:Lk:26:LYS:NZ	40:Lk:28:ASN:OD1	2.38	0.56
56:SS:109:GLU:HA	56:SS:112:GLU:HG2	1.88	0.56
64:SA:37:TYR:OH	75:SV:66:ASP:OD2	2.18	0.56
82:S2:520:A:O2'	82:S2:825:A:N3	2.38	0.56
1:Pt:35:A:OP2	54:SQ:146:ARG:NH2	2.38	0.55
2:L5:462:G:H2'	2:L5:463:A:C8	2.41	0.55
2:L5:968:C:OP2	9:LE:110:ARG:NH2	2.39	0.55
2:L5:2533:C:OP1	27:LX:139:ARG:NH1	2.39	0.55
2:L5:4645:C:OP2	21:LR:62:ARG:NH1	2.40	0.55
2:L5:4870:G:OP2	16:LM:5:ARG:NH1	2.29	0.55
4:L8:62:A:OP1	37:Lh:52:LYS:NZ	2.37	0.55
11:LG:209:SER:HA	11:LG:212:LYS:HG3	1.88	0.55
12:LH:93:ARG:NE	12:LH:142:ASP:O	2.35	0.55
33:Ld:70:LYS:HZ2	84:CI:66:GLY:HA3	1.70	0.55
56:SS:27:ALA:HB2	56:SS:52:LEU:HD12	1.88	0.55
56:SS:48:ALA:O	56:SS:66:ARG:NH2	2.40	0.55
82:S2:472:C:O2	82:S2:475:C:N4	2.39	0.55
82:S2:640:A:H2'	82:S2:641:A:C8	2.41	0.55
2:L5:1514:U:H2'	2:L5:1515:A:C8	2.41	0.55
2:L5:4076:G:OP1	11:LG:73:ARG:NE	2.38	0.55
2:L5:4088:C:H2'	2:L5:4089:G:H8	1.71	0.55
2:L5:4220:6MZ:O1P	2:L5:4220:6MZ:H8	2.06	0.55
4:L8:5:U:H2'	4:L8:6:C:H6	1.71	0.55
33:Ld:70:LYS:HZ1	84:CI:66:GLY:HA3	1.71	0.55
54:SQ:110:ASP:N	54:SQ:110:ASP:OD1	2.33	0.55
67:SE:50:ASN:O	67:SE:53:LYS:NZ	2.33	0.55
2:L5:2576:G:OP1	29:LZ:48:ARG:NH2	2.39	0.55
2:L5:4537:C:H2'	2:L5:4538:G:H8	1.71	0.55
2:L5:4742:G:OP1	2:L5:4900:C:N4	2.36	0.55
82:S2:432:G:H2'	82:S2:433:A:C8	2.41	0.55
2:L5:1982:G:H2'	2:L5:1983:A:O4'	2.07	0.55
2:L5:2624:G:OP2	24:LU:97:ARG:NH2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L8:153:C:H2'	4:L8:154:G:H8	1.71	0.55
51:SK:50:GLN:HE22	82:S2:1276:A:H1'	1.71	0.55
69:SH:145:ARG:HE	76:SW:51:GLU:HB2	1.72	0.55
79:Sa:12:LYS:HG3	79:Sa:15:ARG:HB2	1.89	0.55
2:L5:109:G:OP2	15:LL:74:ARG:NH2	2.40	0.55
2:L5:691:C:H2'	2:L5:692:A:C8	2.41	0.55
2:L5:1333:A:H2'	2:L5:1334:A:H8	1.72	0.55
2:L5:2848:G:O2'	2:L5:3838:U:O4	2.23	0.55
8:LD:62:CYS:HB3	8:LD:105:LEU:HD22	1.88	0.55
13:LI:62:SER:HA	13:LI:65:LEU:HD12	1.86	0.55
33:Ld:54:MET:HE3	33:Ld:60:PRO:HA	1.86	0.55
49:SD:8:LYS:HG2	58:SU:61:LEU:HD11	1.87	0.55
50:SF:84:GLY:O	82:S2:1673:U:O2'	2.18	0.55
82:S2:941:C:H2'	82:S2:942:G:C8	2.42	0.55
2:L5:714:G:H2'	2:L5:715:G:H8	1.72	0.55
2:L5:1727:U:OP1	10:LF:131:ASN:ND2	2.39	0.55
2:L5:1983:A:H4'	2:L5:1984:A:C8	2.41	0.55
2:L5:4272:G:OP2	2:L5:4272:G:N2	2.28	0.55
2:L5:4274:A:H2'	2:L5:4275:G:C8	2.42	0.55
3:L7:23:A:N3	3:L7:118:C:O2'	2.32	0.55
47:Ls:174:LEU:O	47:Ls:178:LEU:HB2	2.07	0.55
49:SD:15:GLY:HA3	61:Sd:50:ILE:HG23	1.88	0.55
54:SQ:78:VAL:HG12	82:S2:1673:U:H5''	1.89	0.55
65:SB:150:ILE:HG12	82:S2:1124:C:H5''	1.87	0.55
66:SC:94:ILE:O	66:SC:98:LEU:N	2.37	0.55
66:SC:121:ARG:HH12	66:SC:123:ARG:HE	1.53	0.55
2:L5:1346:C:H2'	2:L5:1347:G:C8	2.41	0.55
2:L5:4139:G:H21	2:L5:4140:C:H41	1.53	0.55
2:L5:4587:G:OP1	18:LO:61:ARG:NH1	2.37	0.55
62:Sf:89:LYS:NZ	62:Sf:90:LYS:O	2.35	0.55
64:SA:77:ILE:HG13	64:SA:99:ILE:HB	1.88	0.55
67:SE:73:ASP:OD2	67:SE:122:LYS:NZ	2.39	0.55
82:S2:639:C:H2'	82:S2:640:A:C8	2.42	0.55
82:S2:1215:C:H42	82:S2:1220:A:H61	1.54	0.55
82:S2:1461:G:H3'	82:S2:1463:U:H3	1.72	0.55
2:L5:678:C:OP1	46:Lr:95:HIS:ND1	2.34	0.55
2:L5:4088:C:OP1	5:LA:37:ARG:NH1	2.39	0.55
4:L8:123:U:H2'	4:L8:126:C:H42	1.72	0.55
8:LD:223:PHE:HB3	8:LD:226:TYR:HB2	1.89	0.55
33:Ld:23:ARG:HG2	33:Ld:121:ASN:HA	1.88	0.55
50:SF:36:GLN:NE2	50:SF:37:ASP:OD1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SZ:42:ASP:OD1	59:SZ:43:LYS:N	2.39	0.55
63:Sg:87:LEU:HB2	63:Sg:101:PHE:HB2	1.88	0.55
78:SY:90:ARG:HA	78:SY:93:ARG:HD2	1.87	0.55
82:S2:1240:A:N3	82:S2:1267:C:O2'	2.33	0.55
2:L5:279:A:OP1	17:LN:50:ARG:NH1	2.40	0.55
2:L5:3944:G:O6	2:L5:4069:U:O4	2.24	0.55
2:L5:4389:C:H2'	2:L5:4390:A:C8	2.42	0.55
2:L5:4473:A:O2'	42:Lm:122:ARG:NH2	2.40	0.55
10:LF:127:LYS:HB2	23:LT:133:ALA:HB3	1.87	0.55
13:LI:152:LEU:HB3	13:LI:165:ILE:HD12	1.88	0.55
26:LW:2:LYS:HE3	26:LW:15:PRO:HB3	1.89	0.55
66:SC:77:SER:OG	66:SC:79:GLU:OE1	2.25	0.55
68:SG:3:LEU:HD23	68:SG:109:LEU:HB3	1.89	0.55
68:SG:59:GLN:OE1	68:SG:72:ARG:NH2	2.40	0.55
70:SI:88:ASN:OD1	70:SI:205:ARG:NH2	2.40	0.55
81:Se:56:ASN:HB3	82:S2:606:G:H5''	1.88	0.55
2:L5:4347:G:H2'	2:L5:4348:A:C8	2.42	0.55
2:L5:4586:G:O6	2:L5:4717:A:N6	2.40	0.55
3:L7:63:C:H5'	3:L7:64:G:H5''	1.89	0.55
4:L8:96:C:H5''	37:Lh:66:LYS:HG2	1.89	0.55
14:LJ:95:ARG:HD3	14:LJ:175:LEU:HB2	1.89	0.55
56:SS:15:VAL:HG12	56:SS:16:LEU:HG	1.89	0.55
63:Sg:260:ASP:O	63:Sg:264:LYS:N	2.39	0.55
82:S2:1275:G:N2	82:S2:1506:A:OP2	2.37	0.55
2:L5:137:G:H2'	2:L5:138:G:C8	2.42	0.54
2:L5:148:C:OP2	11:LG:197:LYS:NZ	2.31	0.54
2:L5:2017:A:O2'	2:L5:2018:C:H6	1.90	0.54
2:L5:3893:C:H2'	2:L5:3894:A:H8	1.73	0.54
8:LD:37:VAL:HG12	8:LD:50:ARG:HD3	1.89	0.54
23:LT:119:ALA:HA	23:LT:122:LYS:HE3	1.88	0.54
70:SI:84:ASN:HD22	70:SI:100:CYS:HB3	1.72	0.54
82:S2:1337:4AC:H2'	82:S2:1338:G:C8	2.42	0.54
82:S2:1348:G:H2'	82:S2:1349:G:H8	1.72	0.54
2:L5:2407:G:N2	2:L5:2407:G:OP2	2.40	0.54
2:L5:3599:A:H2'	2:L5:3600:G:C8	2.41	0.54
5:LA:80:GLU:HB2	5:LA:170:ALA:HA	1.88	0.54
9:LE:165:LEU:HD11	9:LE:176:THR:HG22	1.89	0.54
22:LS:83:ARG:HG3	22:LS:125:GLN:HB2	1.89	0.54
54:SQ:141:TYR:OH	82:S2:1668:U:OP2	2.25	0.54
82:S2:602:G:H3'	82:S2:603:C:H2'	1.89	0.54
2:L5:135:G:H22	37:Lh:94:ARG:HG2	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:172:C:H4'	2:L5:173:C:H5'	1.88	0.54
2:L5:429:A:H2'	2:L5:430:G:H8	1.71	0.54
2:L5:469:C:O2	9:LE:105:ARG:NE	2.36	0.54
2:L5:1683:PSU:OP1	30:La:44:ASN:ND2	2.39	0.54
42:Lm:79:GLU:OE2	42:Lm:81:SER:OG	2.20	0.54
70:SI:81:VAL:HG22	70:SI:102:VAL:HG12	1.90	0.54
70:SI:98:LYS:HG3	70:SI:178:ARG:HG2	1.89	0.54
70:SI:106:SER:HB3	70:SI:171:LEU:HG	1.89	0.54
1:Pt:38:C:O2'	82:S2:1058:A:OP1	2.22	0.54
2:L5:444:G:H2'	2:L5:445:U:H6	1.71	0.54
2:L5:1091:C:H2'	2:L5:1092:G:H8	1.72	0.54
2:L5:1327:C:H2'	2:L5:1328:G:H8	1.72	0.54
2:L5:1334:A:H2'	2:L5:1335:G:H8	1.72	0.54
2:L5:2486:G:O6	2:L5:2493:G:O6	2.25	0.54
2:L5:4736:C:H2'	2:L5:4737:G:H8	1.72	0.54
6:LB:29:VAL:HG12	6:LB:31:SER:H	1.73	0.54
8:LD:64:ILE:HD13	8:LD:109:LEU:HD22	1.88	0.54
54:SQ:42:ILE:HG23	54:SQ:44:PRO:HD2	1.89	0.54
82:S2:695:C:N4	82:S2:736:C:O2'	2.40	0.54
82:S2:980:A:H2'	82:S2:981:A:C8	2.42	0.54
82:S2:1217:A:H2'	82:S2:1218:C:C6	2.43	0.54
2:L5:438:G:OP1	34:Le:16:ARG:NH1	2.36	0.54
2:L5:1795:A:N3	3:L7:79:U:O2'	2.41	0.54
2:L5:2647:A:H3'	2:L5:2648:G:H8	1.72	0.54
2:L5:4723:A:O2'	6:LB:101:THR:O	2.25	0.54
11:LG:83:PHE:HA	11:LG:183:ILE:HD13	1.88	0.54
14:LJ:22:LEU:HD22	14:LJ:128:LEU:HD12	1.89	0.54
67:SE:44:LEU:HD23	67:SE:82:TYR:HB3	1.90	0.54
82:S2:323:C:H2'	82:S2:327:G:H22	1.72	0.54
82:S2:1417:C:O2	82:S2:1422:G:O6	2.26	0.54
82:S2:1719:A:N6	82:S2:1814:G:O2'	2.40	0.54
2:L5:429:A:H2'	2:L5:430:G:C8	2.43	0.54
2:L5:667:A:H5''	2:L5:668:C:H5''	1.89	0.54
2:L5:1872:G:O2'	2:L5:4219:A:N3	2.36	0.54
2:L5:3664:G:H2'	2:L5:3665:G:H8	1.73	0.54
2:L5:4594:U:H2'	2:L5:4595:G:C8	2.43	0.54
4:L8:43:A:H2'	4:L8:44:A:H8	1.72	0.54
16:LM:100:ARG:HA	16:LM:103:LYS:HG2	1.89	0.54
58:SU:80:PHE:HB3	61:Sd:52:PHE:HB3	1.88	0.54
63:Sg:22:ALA:HB1	63:Sg:71:ILE:HG23	1.89	0.54
66:SC:72:ASP:OD2	66:SC:272:HIS:NE2	2.32	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SE:80:ILE:HG23	67:SE:81:THR:HG23	1.89	0.54
80:Sb:42:LYS:HE3	80:Sb:58:GLY:H	1.71	0.54
82:S2:420:G:O2'	82:S2:660:C:N3	2.39	0.54
2:L5:262:G:H2'	2:L5:263:G:C8	2.41	0.54
2:L5:1802:A:N3	23:LT:130:ARG:NH2	2.55	0.54
2:L5:2756:G:O6	29:LZ:51:ARG:NH2	2.38	0.54
4:L8:67:U:H2'	4:L8:68:G:C8	2.42	0.54
28:LY:83:GLU:OE1	28:LY:84:ARG:NH1	2.41	0.54
46:Lr:28:GLU:OE2	46:Lr:31:ASN:ND2	2.38	0.54
65:SB:186:ASN:HA	65:SB:189:ILE:HD12	1.90	0.54
77:SX:28:LYS:HE2	77:SX:32:LEU:HD22	1.90	0.54
82:S2:1845:A:H2'	82:S2:1846:G:C8	2.43	0.54
2:L5:426:A:H2'	2:L5:427:A:H8	1.73	0.54
2:L5:502:C:H3'	2:L5:503:C:H3'	1.90	0.54
2:L5:748:G:O6	22:LS:98:ARG:NH2	2.41	0.54
2:L5:2406:G:O6	2:L5:2785:C:N4	2.41	0.54
2:L5:2777:G:H5''	2:L5:2778:G:H5'	1.89	0.54
3:L7:6:C:O2'	8:LD:50:ARG:NH2	2.40	0.54
3:L7:119:U:C2	8:LD:261:VAL:HG11	2.42	0.54
8:LD:122:GLN:O	8:LD:248:ARG:NH2	2.41	0.54
26:LW:105:ARG:NH2	68:SG:149:LYS:O	2.40	0.54
50:SF:100:ILE:HD11	50:SF:108:PRO:HB3	1.90	0.54
55:SR:60:ARG:HA	55:SR:63:ARG:HG2	1.90	0.54
63:Sg:32:LEU:HA	63:Sg:42:MET:HA	1.90	0.54
63:Sg:254:PRO:O	63:Sg:272:GLN:NE2	2.41	0.54
79:Sa:23:CYS:HB3	79:Sa:28:ARG:H	1.72	0.54
83:Zt:64:U:H2'	83:Zt:65:G:H8	1.72	0.54
2:L5:515:C:H41	2:L5:647:G:H21	1.53	0.54
2:L5:2318:G:N2	2:L5:2321:G:OP2	2.29	0.54
2:L5:2495:U:H2'	2:L5:2496:G:C8	2.40	0.54
2:L5:4174:U:H2'	2:L5:4175:G:H8	1.73	0.54
4:L8:47:C:H1'	4:L8:61:A:H2'	1.90	0.54
5:LA:20:VAL:HA	5:LA:23:ARG:HG3	1.89	0.54
6:LB:258:HIS:HA	6:LB:260:ALA:H	1.73	0.54
11:LG:167:VAL:HG12	11:LG:170:LEU:HD12	1.90	0.54
57:ST:56:ARG:NE	82:S2:1541:G:OP1	2.34	0.54
82:S2:1259:A:H62	82:S2:1518:C:H3'	1.73	0.54
2:L5:1890:G:OP2	2:L5:1890:G:N2	2.32	0.54
2:L5:2572:C:O2'	29:LZ:112:ARG:NH2	2.40	0.54
2:L5:4954:G:H2'	2:L5:4955:A:C8	2.43	0.54
6:LB:222:VAL:O	6:LB:343:ARG:NH1	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SH:100:ILE:HG21	69:SH:122:LEU:HD12	1.90	0.54
82:S2:1244:PSU:H2'	82:S2:1245:G:H8	1.73	0.54
82:S2:1568:C:H2'	82:S2:1569:A:C8	2.43	0.54
83:Zt:15:G:N2	83:Zt:48:C:H42	2.06	0.54
2:L5:2275:G:H2'	2:L5:2276:A:C8	2.43	0.53
2:L5:2640:G:H2'	2:L5:2641:A:C8	2.43	0.53
2:L5:4238:G:H2'	2:L5:4239:A:C8	2.43	0.53
2:L5:4420:U:H5''	2:L5:4421:C:H5	1.72	0.53
2:L5:4604:G:N2	2:L5:4607:A:OP2	2.36	0.53
3:L7:99:G:OP2	22:LS:55:LYS:NZ	2.31	0.53
28:LY:67:ILE:O	28:LY:84:ARG:NH2	2.38	0.53
56:SS:60:THR:OG1	56:SS:62:ASP:OD1	2.22	0.53
73:SN:15:ALA:HB2	80:Sb:20:LYS:HD3	1.89	0.53
78:SY:11:LYS:NZ	82:S2:832:G:O6	2.41	0.53
79:Sa:5:ARG:HH21	82:S2:1864:U:H3'	1.72	0.53
83:Zt:16:C:H1'	83:Zt:18:U:H5''	1.90	0.53
2:L5:85:G:O2'	2:L5:97:G:O6	2.22	0.53
2:L5:1281:G:H5'	7:LC:323:ARG:HB2	1.90	0.53
2:L5:2460:A:OP2	87:LN:301:SPD:N10	2.42	0.53
8:LD:211:LEU:HB3	8:LD:219:TYR:HB2	1.90	0.53
50:SF:124:ASP:O	50:SF:139:VAL:N	2.38	0.53
66:SC:65:LYS:HD2	66:SC:273:LEU:HD13	1.89	0.53
71:SJ:149:VAL:HG11	71:SJ:157:ILE:HD11	1.90	0.53
74:SO:113:GLN:OE1	79:Sa:46:GLU:N	2.41	0.53
78:SY:41:ARG:NH2	78:SY:52:PRO:O	2.41	0.53
82:S2:1726:G:H1	82:S2:1808:U:H3	1.55	0.53
82:S2:1845:A:H2'	82:S2:1846:G:H8	1.72	0.53
2:L5:1511:U:H2'	2:L5:1512:G:H8	1.73	0.53
2:L5:3610:A:H2'	2:L5:3611:A:H8	1.72	0.53
2:L5:3796:U:O2'	82:S2:1720:U:O2'	2.21	0.53
30:La:36:GLY:HA3	30:La:40:HIS:CE1	2.43	0.53
63:Sg:18:VAL:O	63:Sg:287:THR:OG1	2.25	0.53
63:Sg:89:LEU:HB3	63:Sg:99:ARG:HB3	1.90	0.53
82:S2:888:U:H4'	82:S2:889:U:H5'	1.89	0.53
2:L5:287:U:H2'	2:L5:288:G:C8	2.44	0.53
2:L5:2475:G:N1	27:LX:51:THR:O	2.28	0.53
2:L5:3774:A:H2'	2:L5:3775:A:C8	2.43	0.53
2:L5:4107:G:N2	2:L5:4108:G:O6	2.41	0.53
2:L5:4716:C:H2'	2:L5:4717:A:H8	1.72	0.53
2:L5:4997:G:H1	2:L5:5053:U:H3	1.57	0.53
16:LM:119:ARG:HG3	18:LO:189:ILE:HG23	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LP:64:ASN:ND2	19:LP:80:GLN:OE1	2.39	0.53
20:LQ:151:HIS:ND1	20:LQ:164:LYS:O	2.38	0.53
29:LZ:9:LYS:NZ	29:LZ:83:THR:O	2.34	0.53
64:SA:102:ARG:HH12	82:S2:1377:U:H3'	1.73	0.53
82:S2:454:U:H2'	82:S2:455:A:C8	2.42	0.53
82:S2:1656:G:O6	82:S2:1668:U:O4	2.27	0.53
82:S2:1744:G:O2'	82:S2:1789:G:N2	2.29	0.53
2:L5:2519:U:O2'	2:L5:2530:U:O2	2.21	0.53
2:L5:3870:C:H2'	2:L5:3871:A:C8	2.43	0.53
2:L5:3873:G:H2'	2:L5:3874:G:C8	2.43	0.53
2:L5:4897:G:H2'	2:L5:4898:G:H8	1.74	0.53
3:L7:64:G:H2'	3:L7:65:G:C8	2.44	0.53
5:LA:79:ALA:HA	5:LA:169:VAL:HA	1.89	0.53
18:LO:186:GLU:OE1	18:LO:186:GLU:N	2.41	0.53
50:SF:59:LYS:HB3	50:SF:62:ARG:HG3	1.90	0.53
54:SQ:130:LYS:NZ	54:SQ:131:LYS:O	2.41	0.53
63:Sg:106:LYS:HB3	63:Sg:125:ARG:HB2	1.91	0.53
71:SJ:109:ARG:NH2	71:SJ:111:GLN:OE1	2.41	0.53
71:SJ:145:PRO:HD2	82:S2:522:A:H5''	1.90	0.53
82:S2:1172:U:H2'	82:S2:1173:A:H8	1.74	0.53
82:S2:1536:G:H2'	82:S2:1537:A:C8	2.42	0.53
2:L5:1983:A:H4'	2:L5:1984:A:H8	1.74	0.53
2:L5:2295:C:H2'	2:L5:2296:G:C8	2.42	0.53
2:L5:2884:G:H2'	2:L5:2885:A:H8	1.73	0.53
2:L5:4520:G:N2	6:LB:253:CYS:SG	2.82	0.53
3:L7:28:C:H1'	3:L7:54:A:H61	1.74	0.53
3:L7:64:G:H2'	3:L7:65:G:H8	1.73	0.53
6:LB:217:ILE:HD12	6:LB:347:LEU:HB3	1.91	0.53
23:LT:43:LYS:O	23:LT:58:HIS:ND1	2.42	0.53
25:LV:21:PRO:HA	25:LV:54:ALA:HA	1.90	0.53
50:SF:127:ARG:H	50:SF:135:ARG:HD2	1.73	0.53
64:SA:118:GLU:HG3	66:SC:65:LYS:HE2	1.90	0.53
69:SH:165:ASN:O	69:SH:169:LYS:NZ	2.37	0.53
1:Pt:50:U:O2	1:Pt:64:G:N2	2.23	0.53
2:L5:959:G:O2'	2:L5:2263:A:N6	2.41	0.53
17:LN:70:GLY:O	87:LN:301:SPD:N6	2.41	0.53
51:SK:31:LYS:NZ	51:SK:40:VAL:H	2.05	0.53
54:SQ:67:ASP:OD2	54:SQ:69:ARG:NH1	2.42	0.53
69:SH:31:GLU:HA	69:SH:37:LYS:HG3	1.91	0.53
76:SW:6:VAL:HG13	76:SW:29:PRO:HB2	1.90	0.53
82:S2:291:G:H2'	82:S2:292:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1115:U:O2'	82:S2:1117:C:OP2	2.27	0.53
2:L5:293:G:OP1	86:L5:5265:SPM:N1	2.38	0.53
2:L5:1241:C:H1'	31:Lb:119:CYS:HA	1.90	0.53
2:L5:1820:C:H2'	2:L5:1822:U:H5'	1.90	0.53
2:L5:2296:G:O2'	7:LC:242:PRO:O	2.23	0.53
5:LA:229:ALA:HB3	5:LA:234:LYS:HB3	1.91	0.53
9:LE:190:HIS:HB3	9:LE:193:PHE:HD2	1.73	0.53
27:LX:121:VAL:HA	27:LX:140:LEU:HA	1.91	0.53
50:SF:78:MET:HE3	82:S2:1222:G:H5''	1.89	0.53
52:SM:91:LEU:HD12	52:SM:106:CYS:HB2	1.91	0.53
56:SS:88:LYS:H	56:SS:95:TYR:HD1	1.57	0.53
63:Sg:164:ILE:HG22	63:Sg:178:ASN:HA	1.91	0.53
74:SO:38:ASN:ND2	82:S2:960:U:OP2	2.39	0.53
77:SX:68:LYS:HB3	77:SX:91:LEU:HD13	1.90	0.53
82:S2:329:G:H2'	82:S2:330:G:C8	2.44	0.53
2:L5:370:U:HO2'	39:Lj:16:HIS:HD1	1.57	0.53
2:L5:4373:G:N7	44:Lo:61:LYS:NZ	2.48	0.53
2:L5:4730:C:H2'	2:L5:4731:G:C8	2.44	0.53
6:LB:219:VAL:HG11	6:LB:337:VAL:HG13	1.89	0.53
46:Lr:26:SER:OG	46:Lr:28:GLU:OE1	2.21	0.53
68:SG:133:LEU:HB2	82:S2:65:C:C2	2.43	0.53
82:S2:525:A:H2'	82:S2:526:A:H8	1.72	0.53
82:S2:979:C:H2'	82:S2:980:A:H8	1.74	0.53
2:L5:121:A:H62	2:L5:152:U:H3	1.57	0.53
2:L5:1243:C:H2'	2:L5:1244:G:H8	1.74	0.53
2:L5:1366:G:H5''	15:LL:36:ARG:HH12	1.73	0.53
2:L5:3807:A:HO2'	82:S2:1816:G:HO2'	1.57	0.53
2:L5:4906:C:H2'	2:L5:4907:G:H8	1.74	0.53
2:L5:5057:C:H2'	2:L5:5058:A:C8	2.44	0.53
12:LH:89:ARG:HD3	12:LH:91:LYS:HE3	1.91	0.53
34:Le:101:HIS:O	34:Le:128:ARG:NH2	2.42	0.53
47:Ls:143:ILE:HD12	47:Ls:158:VAL:HG11	1.90	0.53
53:SP:81:ARG:NH1	53:SP:120:SER:OG	2.41	0.53
64:SA:198:MET:HG2	64:SA:200:ASP:H	1.74	0.53
68:SG:20:ASP:HB3	68:SG:23:LYS:HB2	1.89	0.53
68:SG:23:LYS:HE3	68:SG:41:LEU:HA	1.90	0.53
80:Sb:68:GLY:O	82:S2:928:G:N2	2.37	0.53
82:S2:527:C:H2'	82:S2:528:A:C8	2.43	0.53
2:L5:1207:C:H2'	2:L5:1208:G:H8	1.73	0.52
4:L8:130:C:H2'	4:L8:131:G:H8	1.73	0.52
20:LQ:155:ALA:O	20:LQ:158:THR:OG1	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SM:83:LYS:NZ	52:SM:103:VAL:O	2.42	0.52
67:SE:108:ARG:NH1	82:S2:847:A:OP1	2.42	0.52
68:SG:22:ARG:HG3	68:SG:25:ARG:HH12	1.74	0.52
78:SY:119:GLY:O	82:S2:84:A:O2'	2.25	0.52
82:S2:996:A:H2'	82:S2:997:A:C8	2.44	0.52
2:L5:441:G:H2'	2:L5:442:G:C8	2.44	0.52
2:L5:1351:G:O6	20:LQ:55:ARG:NH1	2.42	0.52
2:L5:1655:C:OP1	2:L5:1679:A:O2'	2.22	0.52
2:L5:1697:G:H22	2:L5:2084:C:P	2.32	0.52
2:L5:1998:A:N6	47:Ls:40:MET:SD	2.82	0.52
2:L5:2101:C:H2'	2:L5:2102:G:C8	2.44	0.52
2:L5:2389:A:H4'	33:Ld:70:LYS:HG3	1.91	0.52
2:L5:3723:A:H2'	2:L5:3724:A:H8	1.74	0.52
13:LI:4:ARG:NH1	13:LI:9:TYR:OH	2.40	0.52
16:LM:104:MET:HG3	16:LM:108:ASP:HB2	1.91	0.52
56:SS:12:ILE:HG22	56:SS:21:ASP:HA	1.91	0.52
66:SC:78:LEU:HD12	66:SC:81:ILE:HD12	1.91	0.52
77:SX:20:GLN:OE1	82:S2:1165:G:N1	2.40	0.52
78:SY:41:ARG:HA	78:SY:55:ILE:HG21	1.91	0.52
2:L5:280:G:OP2	17:LN:44:ARG:NH1	2.41	0.52
2:L5:1197:C:H2'	2:L5:1198:G:H8	1.74	0.52
3:L7:49:A:H5''	8:LD:224:SER:HB2	1.90	0.52
15:LL:111:GLN:O	15:LL:115:GLN:HG2	2.09	0.52
56:SS:121:ARG:HG3	56:SS:131:VAL:HB	1.90	0.52
68:SG:170:ARG:NH1	82:S2:72:C:O2	2.42	0.52
69:SH:164:ASN:OD1	69:SH:165:ASN:ND2	2.43	0.52
82:S2:98:C:OP2	82:S2:426:A:O2'	2.24	0.52
2:L5:1826:G:H4'	31:Lb:43:MET:HE3	1.92	0.52
2:L5:4088:C:H2'	2:L5:4089:G:C8	2.44	0.52
2:L5:4281:A:H2'	2:L5:4282:A:H2'	1.91	0.52
2:L5:4584:A:H2'	2:L5:4585:U:O4'	2.09	0.52
15:LL:59:VAL:HG21	15:LL:73:GLY:HA3	1.91	0.52
43:Ln:11:ARG:NH2	82:S2:1844:U:OP1	2.42	0.52
46:Lr:32:LEU:HD21	46:Lr:50:GLY:HA2	1.90	0.52
60:Sc:24:GLN:NE2	82:S2:1218:C:O2'	2.42	0.52
75:SV:17:CYS:HB3	75:SV:22:ARG:H	1.73	0.52
77:SX:28:LYS:NZ	82:S2:1189:A:OP1	2.36	0.52
82:S2:1754:G:N7	82:S2:1779:G:N2	2.57	0.52
2:L5:32:G:H21	2:L5:50:C:H5	1.56	0.52
2:L5:38:A:H61	2:L5:41:C:H3'	1.75	0.52
2:L5:1984:A:N6	2:L5:2010:A:O2'	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2079:G:H2'	2:L5:2080:U:C6	2.45	0.52
2:L5:2620:G:H1	2:L5:2636:U:H3	1.57	0.52
2:L5:4353:PSU:H5'	2:L5:4354:U:H5'	1.89	0.52
2:L5:4622:A:H2'	2:L5:4623:OMG:C8	2.45	0.52
2:L5:4966:A:H5''	6:LB:128:LYS:HG3	1.91	0.52
67:SE:134:LYS:N	82:S2:298:G:OP1	2.38	0.52
68:SG:7:PHE:HD1	68:SG:113:ILE:HB	1.72	0.52
82:S2:1588:A:H2'	82:S2:1589:A:C8	2.44	0.52
2:L5:64:A:H1'	2:L5:76:A:H1'	1.90	0.52
2:L5:447:C:H2'	2:L5:448:G:H8	1.73	0.52
2:L5:2080:U:H2'	2:L5:2081:C:C6	2.44	0.52
2:L5:3816:A:OP1	2:L5:3818:UY1:N1	2.43	0.52
2:L5:3893:C:H2'	2:L5:3894:A:C8	2.45	0.52
36:Lg:41:ALA:O	36:Lg:52:ARG:NH1	2.37	0.52
67:SE:125:LYS:O	67:SE:142:HIS:N	2.43	0.52
75:SV:15:ARG:NH1	75:SV:33:GLN:OE1	2.43	0.52
78:SY:41:ARG:HH21	78:SY:53:ASP:HA	1.74	0.52
82:S2:329:G:H2'	82:S2:330:G:H8	1.75	0.52
82:S2:1208:A:H2'	82:S2:1209:A:H8	1.75	0.52
2:L5:86:U:H2'	2:L5:87:A:H8	1.74	0.52
2:L5:1258:G:H2'	2:L5:1259:G:C8	2.44	0.52
2:L5:3933:G:H2'	2:L5:3934:G:H8	1.74	0.52
2:L5:4327:C:OP1	23:LT:70:HIS:NE2	2.43	0.52
2:L5:4872:G:OP2	16:LM:94:LYS:NZ	2.40	0.52
6:LB:206:PRO:HG2	6:LB:209:GLN:HG3	1.91	0.52
32:Lc:38:ILE:HD11	32:Lc:46:VAL:HG21	1.90	0.52
49:SD:45:ARG:NH1	49:SD:85:GLU:OE1	2.42	0.52
51:SK:51:SER:OG	82:S2:1277:C:OP1	2.28	0.52
65:SB:99:ASN:OD1	65:SB:100:PHE:N	2.39	0.52
69:SH:58:LYS:HB2	69:SH:90:LYS:HG2	1.90	0.52
71:SJ:45:ARG:NH2	82:S2:522:A:OP2	2.39	0.52
82:S2:601:OMG:H2'	82:S2:602:G:C8	2.45	0.52
1:Pt:43:A:H2'	1:Pt:44:A:C8	2.45	0.52
2:L5:418:A:H4'	2:L5:2311:C:H5'	1.92	0.52
2:L5:1876:U:H2'	2:L5:1877:G:C8	2.45	0.52
2:L5:1895:G:OP1	10:LF:96:ARG:NH2	2.41	0.52
2:L5:2375:A:H2'	2:L5:2376:A:H8	1.73	0.52
2:L5:4981:G:H3'	2:L5:4982:A:H8	1.75	0.52
9:LE:223:ARG:NH2	9:LE:236:GLU:O	2.43	0.52
39:Lj:2:THR:O	39:Lj:7:SER:OG	2.25	0.52
49:SD:23:GLU:OE2	49:SD:27:ARG:NE	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:Sd:7:TYR:OH	82:S2:1274:G:N7	2.32	0.52
77:SX:54:LYS:NZ	77:SX:94:ILE:O	2.41	0.52
82:S2:516:A:N1	82:S2:643:A:O2'	2.38	0.52
82:S2:929:G:H2'	82:S2:930:C:O4'	2.09	0.52
2:L5:1194:G:H2'	2:L5:1195:G:H8	1.73	0.52
2:L5:1411:C:H2'	2:L5:1412:G:C8	2.44	0.52
2:L5:1618:G:OP1	39:Lj:13:ASN:ND2	2.35	0.52
2:L5:3722:G:H2'	2:L5:3723:A:H8	1.74	0.52
4:L8:60:G:O6	4:L8:96:C:O2'	2.27	0.52
6:LB:29:VAL:HA	6:LB:220:ILE:HD13	1.92	0.52
21:LR:21:LYS:HE3	21:LR:55:VAL:HA	1.92	0.52
29:LZ:100:VAL:HG23	29:LZ:106:LEU:HB3	1.92	0.52
47:Ls:114:GLY:HA2	47:Ls:166:LYS:HD2	1.92	0.52
70:SI:25:ARG:HA	82:S2:448:A:H5''	1.91	0.52
82:S2:1220:A:N3	82:S2:1677:U:O2'	2.41	0.52
2:L5:418:A:C2	4:L8:17:A:H1'	2.45	0.52
2:L5:2274:C:H2'	2:L5:2275:G:C8	2.45	0.52
2:L5:3633:C:H2'	2:L5:3634:G:C8	2.44	0.52
2:L5:4188:U:H2'	2:L5:4189:U:C6	2.45	0.52
2:L5:4232:U:H5'	44:Lo:3:ASN:HB3	1.92	0.52
2:L5:4688:C:H2'	2:L5:4689:PSU:C6	2.44	0.52
2:L5:4887:C:N3	2:L5:4932:U:O2	2.43	0.52
3:L7:57:C:H2'	3:L7:58:A:H8	1.75	0.52
7:LC:13:GLU:OE1	7:LC:161:TYR:OH	2.25	0.52
63:Sg:68:ASP:HB3	63:Sg:111:VAL:HG22	1.92	0.52
68:SG:136:LYS:NZ	68:SG:175:LYS:O	2.35	0.52
82:S2:655:A:H4'	82:S2:656:G:H3'	1.92	0.52
82:S2:656:G:N2	82:S2:663:C:H5''	2.24	0.52
82:S2:672:A:N6	82:S2:1027:A:OP1	2.35	0.52
2:L5:1461:C:H2'	2:L5:1462:A:C8	2.46	0.51
2:L5:1787:A:O5'	86:L5:5259:SPM:N14	2.42	0.51
2:L5:1971:C:H2'	2:L5:1972:G:C8	2.45	0.51
2:L5:3723:A:H2'	2:L5:3724:A:C8	2.45	0.51
2:L5:3787:G:N3	2:L5:3789:C:N4	2.58	0.51
2:L5:4064:C:N4	2:L5:4065:G:O6	2.43	0.51
2:L5:4340:U:N3	88:L5:5296:3HE:O1	2.43	0.51
2:L5:4622:A:H2'	2:L5:4623:OMG:H8	1.75	0.51
4:L8:90:C:HO2'	28:LY:24:HIS:HD1	1.58	0.51
82:S2:467:G:H2'	82:S2:468:A2M:H8	1.92	0.51
82:S2:1201:U:H2'	82:S2:1202:U:C6	2.45	0.51
2:L5:2457:G:OP1	17:LN:65:ARG:NH2	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2809:G:O2'	2:L5:4644:G:OP1	2.28	0.51
2:L5:3805:U:H2'	2:L5:3806:G:H8	1.75	0.51
2:L5:4321:U:H2'	2:L5:4322:G:C8	2.45	0.51
2:L5:4759:C:H2'	2:L5:4760:G:C8	2.45	0.51
3:L7:34:C:N3	3:L7:46:C:O2'	2.40	0.51
6:LB:107:ALA:HB2	6:LB:201:LEU:HD22	1.92	0.51
8:LD:146:LEU:HB2	8:LD:163:LEU:HD12	1.93	0.51
11:LG:157:ILE:HA	11:LG:201:THR:HG22	1.92	0.51
82:S2:1206:G:O2'	82:S2:1208:A:OP1	2.23	0.51
2:L5:161:G:H2'	2:L5:162:A:H8	1.76	0.51
2:L5:1095:A:C2	2:L5:1200:G:N1	2.68	0.51
2:L5:1390:G:N2	2:L5:1393:G:OP2	2.33	0.51
2:L5:1824:G:H2'	2:L5:1825:A:C8	2.45	0.51
2:L5:3819:G:H2'	2:L5:3820:G:H8	1.75	0.51
26:LW:7:SER:OG	26:LW:8:PHE:N	2.43	0.51
82:S2:603:C:N4	82:S2:620:G:O6	2.43	0.51
2:L5:93:G:H2'	2:L5:94:A:C8	2.46	0.51
2:L5:752:G:O6	2:L5:912:G:N2	2.43	0.51
2:L5:1172:C:HO2'	2:L5:1173:G:H8	1.58	0.51
2:L5:3661:G:N7	5:LA:152:SER:OG	2.36	0.51
49:SD:66:ILE:HD11	49:SD:86:LEU:HB3	1.92	0.51
69:SH:20:GLU:HG2	69:SH:48:ALA:HB3	1.92	0.51
70:SI:3:ILE:O	70:SI:30:GLY:N	2.41	0.51
1:Pt:33:U:N3	1:Pt:36:C:OP2	2.43	0.51
2:L5:1253:G:O2'	2:L5:1257:A:N7	2.43	0.51
2:L5:1345:A:H2'	2:L5:1346:C:C6	2.46	0.51
2:L5:1787:A:N3	2:L5:4210:U:O2'	2.43	0.51
2:L5:1825:A:H2'	2:L5:1826:G:C8	2.46	0.51
2:L5:2706:G:C6	84:CI:78:HIS:HD2	2.28	0.51
15:LL:206:ASP:HA	15:LL:209:LYS:HD3	1.93	0.51
64:SA:111:GLN:HA	64:SA:116:PHE:CG	2.45	0.51
65:SB:98:THR:O	65:SB:232:HIS:NE2	2.44	0.51
78:SY:80:ASP:OD1	78:SY:81:TYR:N	2.43	0.51
82:S2:1777:G:H2'	82:S2:1778:C:H6	1.75	0.51
2:L5:444:G:OP2	35:Lf:55:ASN:ND2	2.40	0.51
2:L5:942:G:H3'	10:LF:148:LYS:HD2	1.93	0.51
2:L5:3718:A2M:H2'	2:L5:3719:A:O4'	2.10	0.51
2:L5:3848:U:H2'	2:L5:3849:A:C8	2.45	0.51
8:LD:181:PRO:HD2	8:LD:195:HIS:CD2	2.46	0.51
21:LR:160:GLU:OE1	21:LR:163:ARG:NH2	2.41	0.51
23:LT:119:ALA:O	23:LT:123:GLY:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Ls:110:ALA:HA	47:Ls:182:PRO:HG2	1.92	0.51
48:Lt:76:SER:OG	48:Lt:116:MET:SD	2.64	0.51
54:SQ:3:SER:OG	54:SQ:4:LYS:N	2.44	0.51
63:Sg:175:LYS:HB3	63:Sg:184:LEU:HD11	1.92	0.51
63:Sg:191:HIS:CG	63:Sg:195:LEU:HD21	2.46	0.51
68:SG:92:ARG:NH1	82:S2:1738:C:OP1	2.37	0.51
68:SG:135:PRO:HG3	68:SG:144:LEU:HD13	1.93	0.51
82:S2:1277:C:H2'	82:S2:1278:A:C8	2.44	0.51
82:S2:1657:G:H1	82:S2:1667:U:H3	1.57	0.51
2:L5:359:A:N3	2:L5:363:A:O2'	2.42	0.51
2:L5:4459:U:H2'	2:L5:4460:U:C6	2.45	0.51
2:L5:4504:C:H2'	2:L5:4505:C:H6	1.75	0.51
2:L5:5055:G:N2	33:Ld:118:GLN:OE1	2.38	0.51
11:LG:30:PRO:HG2	29:LZ:124:THR:HA	1.93	0.51
46:Lr:54:ALA:HA	46:Lr:61:VAL:HG23	1.92	0.51
49:SD:42:THR:OG1	49:SD:45:ARG:O	2.26	0.51
2:L5:1283:G:N1	2:L5:2076:G:OP1	2.24	0.51
2:L5:1328:G:O2'	2:L5:2349:A:OP1	2.29	0.51
2:L5:2751:G:H2'	2:L5:2752:G:H8	1.75	0.51
2:L5:2910:G:N2	2:L5:3585:G:O2'	2.44	0.51
5:LA:184:ARG:NH2	45:Lp:14:TYR:OH	2.40	0.51
14:LJ:83:LEU:HD22	14:LJ:132:VAL:HG11	1.93	0.51
62:Sf:103:LEU:HB2	62:Sf:105:TYR:CE2	2.45	0.51
66:SC:108:LYS:HD2	66:SC:233:LEU:HD13	1.93	0.51
69:SH:111:LYS:HE3	82:S2:796:G:H21	1.74	0.51
82:S2:1304:U:H2'	82:S2:1305:C:C6	2.46	0.51
82:S2:1808:U:H2'	82:S2:1809:A:C8	2.46	0.51
2:L5:1503:A:H4'	2:L5:1504:G:H5'	1.93	0.51
2:L5:1631:A:H2	5:LA:208:GLU:HG3	1.75	0.51
2:L5:1992:U:H4'	2:L5:1993:C:H5''	1.93	0.51
2:L5:2007:G:H21	2:L5:2012:A:N6	2.04	0.51
2:L5:2671:C:H2'	2:L5:2672:C:C6	2.45	0.51
2:L5:4111:U:H2'	2:L5:4112:C:H5	1.75	0.51
4:L8:148:A:H2'	4:L8:149:G:C8	2.46	0.51
29:LZ:11:VAL:HG12	29:LZ:82:PRO:HA	1.93	0.51
37:Lh:88:THR:HB	37:Lh:91:MET:HB2	1.93	0.51
52:SM:86:GLY:HA2	52:SM:89:VAL:HG12	1.93	0.51
68:SG:50:VAL:HA	68:SG:113:ILE:HA	1.92	0.51
70:SI:114:GLU:HB3	70:SI:136:ILE:HD12	1.93	0.51
73:SN:66:VAL:HG13	73:SN:67:THR:HG23	1.92	0.51
82:S2:528:A:H2'	82:S2:529:A:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1511:U:H2'	2:L5:1512:G:C8	2.46	0.51
2:L5:1733:G:N3	2:L5:4214:A:H2'	2.26	0.51
2:L5:2588:C:OP1	2:L5:2768:C:O2'	2.27	0.51
2:L5:3610:A:H2'	2:L5:3611:A:C8	2.46	0.51
2:L5:4089:G:H2'	2:L5:4090:G:H8	1.75	0.51
2:L5:4695:C:O2	42:Lm:106:ARG:NH2	2.43	0.51
2:L5:4997:G:H2'	2:L5:4998:G:H8	1.76	0.51
8:LD:67:ALA:HB1	23:LT:31:MET:HE2	1.92	0.51
12:LH:1:MET:HE1	22:LS:140:PRO:HB2	1.92	0.51
47:Ls:13:TYR:O	47:Ls:17:ILE:HG12	2.11	0.51
82:S2:109:PSU:H2'	82:S2:110:U:C6	2.46	0.51
82:S2:543:C:H3'	82:S2:544:G:H8	1.76	0.51
2:L5:256:G:H2'	2:L5:257:C:C6	2.46	0.50
2:L5:426:A:H2'	2:L5:427:A:C8	2.46	0.50
2:L5:659:G:H2'	2:L5:660:A:H8	1.75	0.50
2:L5:2272:C:H2'	2:L5:2273:G:H8	1.76	0.50
2:L5:2503:G:O6	5:LA:72:ARG:NH1	2.38	0.50
2:L5:3848:U:H2'	2:L5:3849:A:H8	1.76	0.50
2:L5:4095:G:H22	2:L5:4099:G:H22	1.58	0.50
2:L5:4156:G:H5''	2:L5:4157:A:H2'	1.93	0.50
4:L8:8:U:H2'	4:L8:9:A:C8	2.45	0.50
6:LB:299:ILE:HB	6:LB:313:SER:HB3	1.92	0.50
19:LP:94:MET:HE1	19:LP:146:ILE:HB	1.93	0.50
20:LQ:67:ILE:HD11	20:LQ:95:VAL:HG13	1.93	0.50
26:LW:56:ARG:HE	26:LW:61:LYS:HB2	1.77	0.50
63:Sg:205:SER:HA	63:Sg:221:LEU:HB2	1.93	0.50
77:SX:52:LEU:HD11	77:SX:73:GLN:HB2	1.92	0.50
78:SY:10:ARG:HA	82:S2:839:C:H41	1.76	0.50
82:S2:432:G:H2'	82:S2:433:A:H8	1.76	0.50
82:S2:1831:A:O2'	82:S2:1832:6MZ:O5'	2.23	0.50
1:Pt:47:U:O2'	1:Pt:50:U:OP1	2.27	0.50
2:L5:7:C:H2'	2:L5:8:U:C6	2.47	0.50
2:L5:268:G:H2'	2:L5:269:G:C8	2.46	0.50
2:L5:2764:A:H2'	2:L5:2765:A:C8	2.45	0.50
2:L5:3809:G:OP2	2:L5:3809:G:N2	2.33	0.50
2:L5:4612:C:C2	12:LH:120:GLU:HB2	2.46	0.50
5:LA:206:PRO:HG3	5:LA:213:GLY:HA3	1.93	0.50
7:LC:262:GLU:HB3	7:LC:273:LEU:HD13	1.93	0.50
8:LD:120:GLU:O	8:LD:248:ARG:NH1	2.44	0.50
49:SD:32:ASP:OD1	49:SD:57:ASN:ND2	2.44	0.50
49:SD:175:VAL:HB	49:SD:182:LEU:HB3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SB:171:ILE:HG22	65:SB:174:ARG:HE	1.77	0.50
68:SG:67:VAL:HG12	68:SG:69:THR:HG22	1.93	0.50
74:SO:147:ARG:HH22	82:S2:1854:U:P	2.34	0.50
77:SX:63:ASN:OD1	82:S2:624:C:N4	2.42	0.50
82:S2:17:C:H2'	82:S2:18:C:C6	2.46	0.50
82:S2:1797:U:H2'	82:S2:1798:C:C6	2.47	0.50
2:L5:65:A:H61	2:L5:75:G:H1'	1.76	0.50
2:L5:425:U:H2'	2:L5:426:A:H8	1.76	0.50
2:L5:1197:C:H2'	2:L5:1198:G:C8	2.46	0.50
2:L5:1305:C:OP1	4:L8:7:U:O2'	2.29	0.50
2:L5:2404:A:O2'	39:Lj:12:ARG:O	2.29	0.50
2:L5:3785:A2M:H2	2:L5:4551:U:O2	2.11	0.50
13:LI:87:MET:HG2	13:LI:138:ILE:HG12	1.92	0.50
18:LO:168:TYR:CE2	18:LO:172:LYS:HD2	2.46	0.50
57:ST:84:ARG:NH1	82:S2:1605:G:OP1	2.36	0.50
63:Sg:124:SER:OG	63:Sg:125:ARG:N	2.45	0.50
66:SC:94:ILE:HD11	66:SC:159:LYS:HG2	1.93	0.50
68:SG:136:LYS:O	68:SG:176:ILE:HG13	2.11	0.50
70:SI:130:THR:O	70:SI:134:GLU:HB2	2.12	0.50
82:S2:751:G:H1'	82:S2:793:G:H21	1.75	0.50
82:S2:1203:G:H2'	82:S2:1204:A:C8	2.47	0.50
82:S2:1447:G:H2'	82:S2:1448:A:C8	2.47	0.50
2:L5:1176:C:H42	2:L5:1184:A:H61	1.57	0.50
2:L5:1309:C:H2'	2:L5:1310:C:C6	2.47	0.50
2:L5:1613:A:H5''	5:LA:183:GLY:HA2	1.93	0.50
2:L5:2008:U:N3	2:L5:2011:C:OP2	2.29	0.50
2:L5:3727:A:H2'	2:L5:3728:A:C8	2.46	0.50
2:L5:4092:G:N7	2:L5:4114:C:N4	2.59	0.50
5:LA:13:GLY:O	5:LA:17:ARG:HG3	2.11	0.50
12:LH:115:ARG:HD3	12:LH:123:ILE:HD12	1.94	0.50
38:Li:55:ARG:O	38:Li:59:GLU:HG2	2.11	0.50
57:ST:62:ARG:NH2	82:S2:1543:U:OP2	2.38	0.50
61:Sd:19:ARG:NH2	82:S2:1661:A:OP1	2.40	0.50
69:SH:10:LYS:HE3	69:SH:17:ASP:HB3	1.94	0.50
72:SL:133:PRO:O	82:S2:383:G:O2'	2.29	0.50
82:S2:1410:C:H2'	82:S2:1411:G:H8	1.76	0.50
2:L5:86:U:H2'	2:L5:87:A:C8	2.46	0.50
2:L5:1601:A:OP1	39:Lj:5:THR:OG1	2.25	0.50
2:L5:3684:G:H2'	2:L5:3685:C:C6	2.46	0.50
2:L5:4501:U:OP1	6:LB:5:LYS:NZ	2.44	0.50
2:L5:4909:A:OP2	6:LB:156:TYR:OH	2.28	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LJ:84:GLU:OE2	14:LJ:92:TYR:OH	2.22	0.50
19:LP:60:PHE:O	19:LP:78:TRP:NE1	2.44	0.50
21:LR:92:LYS:HG2	21:LR:96:MET:HE3	1.94	0.50
30:La:84:GLU:OE1	30:La:87:ARG:NH2	2.44	0.50
64:SA:85:ARG:NH1	64:SA:203:PHE:O	2.44	0.50
64:SA:147:LEU:HD13	64:SA:161:ILE:HB	1.94	0.50
82:S2:1010:G:H2'	82:S2:1011:A:H8	1.77	0.50
2:L5:422:C:H2'	2:L5:423:G:H8	1.77	0.50
2:L5:1802:A:H5''	2:L5:1803:G:H5'	1.93	0.50
2:L5:2891:U:OP2	21:LR:74:ARG:NE	2.42	0.50
2:L5:4246:G:H2'	2:L5:4247:G:H8	1.76	0.50
2:L5:4575:G:H2'	2:L5:4576:PSU:H6	1.77	0.50
4:L8:65:A:OP1	37:Lh:56:ARG:NE	2.41	0.50
5:LA:116:LEU:HB3	5:LA:126:LEU:HB2	1.92	0.50
26:LW:8:PHE:HB3	26:LW:36:CYS:HB3	1.94	0.50
68:SG:121:ILE:HB	68:SG:125:THR:HG23	1.94	0.50
78:SY:5:VAL:HG12	78:SY:43:LYS:HE3	1.93	0.50
80:Sb:26:GLN:NE2	82:S2:921:G:OP2	2.44	0.50
82:S2:317:C:H2'	82:S2:318:A:C4	2.46	0.50
82:S2:1753:C:H5'	82:S2:1780:G:H22	1.77	0.50
82:S2:1801:A:H2'	82:S2:1802:C:C6	2.47	0.50
83:Zt:64:U:H2'	83:Zt:65:G:C8	2.47	0.50
2:L5:1687:U:H2'	2:L5:1688:G:C8	2.45	0.50
2:L5:1942:A:N3	2:L5:4432:C:O2'	2.32	0.50
2:L5:1995:G:O2'	48:Lt:122:ALA:O	2.24	0.50
2:L5:2386:U:H2'	2:L5:2387:G:C8	2.47	0.50
2:L5:4680:G:H2'	2:L5:4681:A:C8	2.46	0.50
4:L8:12:G:N2	19:LP:120:ASN:OD1	2.35	0.50
8:LD:108:ARG:CZ	8:LD:253:TYR:HB2	2.41	0.50
8:LD:194:VAL:HA	8:LD:197:LYS:HD2	1.94	0.50
13:LI:88:ARG:HG2	13:LI:90:ARG:HD2	1.93	0.50
15:LL:91:ALA:HB1	15:LL:96:ILE:HB	1.92	0.50
49:SD:28:GLU:OE2	49:SD:65:ARG:NH2	2.44	0.50
67:SE:10:LYS:NZ	82:S2:95:G:OP1	2.34	0.50
82:S2:649:PSU:H2'	82:S2:650:A:H8	1.77	0.50
82:S2:979:C:H2'	82:S2:980:A:C8	2.47	0.50
82:S2:1598:G:N2	82:S2:1599:U:O4	2.36	0.50
1:Pt:34:A:OP2	54:SQ:146:ARG:NH2	2.44	0.50
2:L5:654:C:H2'	2:L5:655:C:C6	2.47	0.50
2:L5:1741:G:O6	3:L7:103:A:O2'	2.21	0.50
2:L5:2745:A:H2'	2:L5:2746:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4291:G:H4'	2:L5:4292:A:H5''	1.93	0.50
6:LB:113:GLU:OE2	6:LB:169:ARG:NH1	2.45	0.50
10:LF:41:MET:HE2	31:Lb:113:ALA:HB2	1.94	0.50
16:LM:46:ARG:O	16:LM:48:GLN:NE2	2.31	0.50
29:LZ:84:ARG:NH2	29:LZ:85:TYR:OH	2.45	0.50
62:Sf:117:LEU:HD12	62:Sf:118:ARG:HD3	1.94	0.50
67:SE:121:TYR:HA	67:SE:163:ASP:HA	1.94	0.50
82:S2:368:U:H3'	82:S2:369:C:H2'	1.93	0.50
82:S2:1239:U:N3	82:S2:1242:U:OP2	2.35	0.50
82:S2:1858:G:H2'	82:S2:1859:A:H8	1.77	0.50
83:Zt:22:G:H2'	83:Zt:23:A:C8	2.45	0.50
2:L5:94:A:H5''	30:La:34:ASN:HB2	1.92	0.50
2:L5:424:U:H2'	2:L5:425:U:C6	2.47	0.50
2:L5:2407:G:O6	41:Ll:2:SER:N	2.45	0.50
27:LX:78:LYS:HD3	27:LX:99:ILE:HG22	1.94	0.50
50:SF:22:LYS:HG3	50:SF:23:TRP:CD2	2.47	0.50
51:SK:85:LEU:HD12	51:SK:86:PRO:HD2	1.94	0.50
59:SZ:99:LEU:HD21	59:SZ:102:LYS:HB2	1.93	0.50
80:Sb:22:LYS:HE3	82:S2:1129:G:H5''	1.94	0.50
80:Sb:67:THR:OG1	80:Sb:70:LYS:O	2.23	0.50
82:S2:895:G:H2'	82:S2:896:U:H4'	1.94	0.50
82:S2:1398:G:H22	82:S2:1448:A:H2	1.58	0.50
82:S2:1550:G:H3'	82:S2:1579:A:H61	1.77	0.50
82:S2:1657:G:H2'	82:S2:1658:G:H8	1.77	0.50
2:L5:97:G:OP1	15:LL:16:LYS:NZ	2.36	0.49
2:L5:500:G:N2	2:L5:504:G:O2'	2.25	0.49
2:L5:1961:G:O2'	2:L5:2025:A:N6	2.45	0.49
2:L5:1994:C:H2'	2:L5:1995:G:H8	1.76	0.49
2:L5:2000:G:O2'	2:L5:2001:G:N7	2.44	0.49
2:L5:2458:C:H5''	17:LN:67:ARG:HD2	1.93	0.49
2:L5:2570:U:H2'	2:L5:2571:C:C6	2.47	0.49
2:L5:4322:G:N2	2:L5:4325:A:OP2	2.36	0.49
2:L5:4638:U:H3'	2:L5:4639:G:H21	1.77	0.49
2:L5:5005:G:N2	2:L5:5041:G:O2'	2.45	0.49
6:LB:258:HIS:HA	6:LB:260:ALA:N	2.26	0.49
50:SF:26:ASP:N	50:SF:26:ASP:OD1	2.45	0.49
62:Sf:108:VAL:HB	62:Sf:113:LYS:H	1.76	0.49
63:Sg:82:SER:OG	63:Sg:83:TRP:N	2.45	0.49
71:SJ:136:ARG:HA	71:SJ:141:VAL:HA	1.94	0.49
82:S2:940:U:H3	82:S2:1002:U:H3	1.60	0.49
2:L5:180:C:H2'	2:L5:181:C:H6	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:690:C:OP1	46:Lr:87:ARG:NH1	2.45	0.49
2:L5:1308:C:H2'	2:L5:1309:C:C6	2.47	0.49
2:L5:1555:G:O6	45:Lp:4:ARG:NH1	2.41	0.49
2:L5:1669:A:H5''	31:Lb:15:LYS:HD2	1.94	0.49
2:L5:2033:A:OP1	13:LI:162:ARG:NH2	2.35	0.49
2:L5:3777:G:H22	2:L5:3816:A:P	2.36	0.49
2:L5:4527:G:OP2	2:L5:4527:G:N2	2.35	0.49
2:L5:4775:C:N4	2:L5:4859:C:H42	2.00	0.49
18:LO:186:GLU:HA	18:LO:189:ILE:HB	1.93	0.49
52:SM:23:LYS:O	52:SM:27:ILE:HG12	2.12	0.49
72:SL:39:ASN:O	82:S2:292:A:O2'	2.23	0.49
75:SV:30:ALA:O	75:SV:60:ARG:HD3	2.12	0.49
82:S2:807:G:H2'	82:S2:808:A:H8	1.75	0.49
2:L5:713:C:O2	9:LE:130:LYS:NZ	2.41	0.49
2:L5:1392:A:H2'	2:L5:1393:G:C8	2.47	0.49
2:L5:1977:C:O2'	2:L5:1978:C:OP1	2.31	0.49
2:L5:2610:G:H2'	2:L5:2611:A:C8	2.47	0.49
2:L5:3659:G:OP1	5:LA:241:ARG:NH1	2.45	0.49
2:L5:4537:C:H2'	2:L5:4538:G:C8	2.47	0.49
2:L5:4629:U:H2'	2:L5:4630:G:H8	1.76	0.49
2:L5:4940:C:O2'	9:LE:246:ARG:NH2	2.45	0.49
2:L5:4967:A:H2'	2:L5:4968:A:C8	2.46	0.49
2:L5:4991:U:H2'	2:L5:4992:G:H8	1.76	0.49
18:LO:61:ARG:HA	18:LO:70:PRO:HD2	1.95	0.49
41:LI:23:ILE:HG23	41:LI:38:ASN:HB2	1.93	0.49
63:Sg:159:ASN:ND2	63:Sg:162:ASN:OD1	2.43	0.49
66:SC:259:THR:HG21	75:SV:16:LYS:H	1.77	0.49
78:SY:21:LYS:HE2	78:SY:75:ILE:HD11	1.94	0.49
82:S2:1854:U:H2'	82:S2:1855:G:H8	1.76	0.49
2:L5:1578:U:H2'	2:L5:1579:C:C6	2.47	0.49
4:L8:75:OMG:OP2	28:LY:74:TYR:OH	2.25	0.49
5:LA:108:PRO:HB2	45:Lp:86:LEU:HD23	1.94	0.49
27:LX:64:SER:HB2	37:Lh:69:LEU:HD13	1.94	0.49
62:Sf:89:LYS:O	82:S2:1507:G:N2	2.40	0.49
63:Sg:21:ILE:HG21	63:Sg:299:PHE:HB2	1.93	0.49
82:S2:5:U:H2'	82:S2:6:G:C8	2.47	0.49
82:S2:1289:U:H2'	82:S2:1290:G:C8	2.47	0.49
82:S2:1545:A:N3	82:S2:1671:G:O2'	2.31	0.49
83:Zt:67:U:H2'	83:Zt:68:C:C6	2.48	0.49
2:L5:400:A2M:H2'	2:L5:401:G:O4'	2.13	0.49
2:L5:475:G:H2'	2:L5:476:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1857:C:H2'	2:L5:1858:A:C8	2.47	0.49
2:L5:4458:C:H2'	2:L5:4459:U:C6	2.48	0.49
2:L5:4895:C:O2'	16:LM:132:LYS:NZ	2.38	0.49
2:L5:4991:U:H2'	2:L5:4992:G:C8	2.47	0.49
5:LA:114:CYS:N	5:LA:165:VAL:O	2.46	0.49
6:LB:57:VAL:HG22	6:LB:73:VAL:HG22	1.94	0.49
29:LZ:46:ILE:HA	29:LZ:70:SER:HA	1.93	0.49
48:Lt:114:ARG:NH2	48:Lt:162:CYS:SG	2.86	0.49
62:Sf:99:LYS:NZ	82:S2:1287:A:OP1	2.39	0.49
82:S2:1048:G:H21	82:S2:1070:A:H62	1.60	0.49
82:S2:1146:C:O2'	82:S2:1150:A:N1	2.42	0.49
82:S2:1242:U:O2	82:S2:1517:G:O2'	2.27	0.49
82:S2:1515:G:H2'	82:S2:1516:G:C8	2.48	0.49
82:S2:1705:C:H2'	82:S2:1706:G:C8	2.48	0.49
2:L5:264:C:H2'	2:L5:265:C:C4	2.47	0.49
2:L5:310:G:H2'	2:L5:311:G:H8	1.76	0.49
2:L5:444:G:H2'	2:L5:445:U:C6	2.47	0.49
2:L5:474:C:H2'	2:L5:475:G:C8	2.47	0.49
14:LJ:56:THR:OG1	14:LJ:64:ARG:N	2.43	0.49
26:LW:97:LYS:O	26:LW:99:GLU:N	2.43	0.49
51:SK:64:TRP:HB3	61:Sd:23:VAL:HA	1.95	0.49
63:Sg:129:ILE:O	63:Sg:142:VAL:N	2.44	0.49
64:SA:37:TYR:OH	64:SA:57:LYS:NZ	2.45	0.49
73:SN:2:GLY:N	82:S2:1092:G:OP1	2.45	0.49
82:S2:527:C:H2'	82:S2:528:A:H8	1.77	0.49
82:S2:1320:G:H2'	82:S2:1321:G:O4'	2.13	0.49
82:S2:1617:G:N1	82:S2:1620:A:OP2	2.46	0.49
2:L5:62:A:OP1	17:LN:172:ARG:NH1	2.38	0.49
2:L5:1414:C:H2'	2:L5:1415:G:C8	2.43	0.49
2:L5:1942:A:H2'	2:L5:1943:A:C8	2.48	0.49
2:L5:2638:G:N1	2:L5:2718:U:H2'	2.28	0.49
2:L5:2739:C:O2	5:LA:188:LYS:NZ	2.37	0.49
2:L5:2784:C:H2'	2:L5:2785:C:H6	1.78	0.49
2:L5:4911:A:OP1	6:LB:97:ARG:NH2	2.38	0.49
7:LC:298:ILE:HD13	20:LQ:131:PRO:HB3	1.93	0.49
9:LE:141:ARG:NH1	9:LE:191:GLN:O	2.44	0.49
47:Ls:17:ILE:HD12	47:Ls:54:LEU:HD21	1.93	0.49
55:SR:60:ARG:NH1	82:S2:1464:C:O3'	2.46	0.49
58:SU:68:THR:O	61:Sd:40:ARG:NH1	2.45	0.49
68:SG:49:VAL:HB	68:SG:115:LYS:HG2	1.94	0.49
68:SG:227:GLN:HB3	68:SG:231:ARG:HH21	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:207:G:H2'	2:L5:208:A:C8	2.47	0.49
2:L5:325:U:H3'	38:Li:28:ARG:HH21	1.78	0.49
2:L5:1825:A:H2'	2:L5:1826:G:H8	1.78	0.49
2:L5:2749:C:H2'	2:L5:2750:G:C8	2.48	0.49
2:L5:2763:U:H4'	2:L5:2764:A:H5''	1.93	0.49
2:L5:4084:G:O6	5:LA:70:LYS:NZ	2.42	0.49
2:L5:4208:U:H2'	2:L5:4209:G:H8	1.77	0.49
2:L5:4345:C:H2'	2:L5:4346:U:C6	2.48	0.49
2:L5:4941:G:O3'	9:LE:187:ARG:NH2	2.45	0.49
11:LG:165:GLU:OE2	17:LN:26:ARG:NH1	2.45	0.49
19:LP:52:THR:HG23	19:LP:85:LYS:HG3	1.94	0.49
24:LU:114:TYR:CE2	84:CI:50:MET:HG3	2.47	0.49
55:SR:16:ILE:HD11	55:SR:54:VAL:HG21	1.94	0.49
60:Sc:37:ASP:OD1	60:Sc:39:SER:OG	2.25	0.49
79:Sa:44:ILE:HG23	79:Sa:45:VAL:HG13	1.95	0.49
2:L5:965:G:H21	2:L5:2092:G:H1'	1.78	0.49
2:L5:1558:A:H2'	2:L5:1559:G:H8	1.78	0.49
2:L5:2843:U:O2'	2:L5:4632:U:OP1	2.28	0.49
2:L5:3607:U:H2'	2:L5:3608:A:C8	2.48	0.49
2:L5:4630:G:H2'	2:L5:4631:G:H8	1.77	0.49
2:L5:4691:A:O3'	12:LH:71:ARG:HD3	2.13	0.49
4:L8:43:A:H2'	4:L8:44:A:C8	2.47	0.49
20:LQ:15:ARG:HB3	20:LQ:52:PHE:HB3	1.95	0.49
26:LW:105:ARG:NE	68:SG:151:ASP:OD1	2.45	0.49
52:SM:82:ASN:OD1	52:SM:83:LYS:N	2.46	0.49
66:SC:60:TRP:O	66:SC:71:LYS:NZ	2.37	0.49
82:S2:1653:U:H2'	82:S2:1654:G:C8	2.47	0.49
2:L5:181:C:H2'	2:L5:182:G:C8	2.48	0.49
2:L5:224:U:O2	7:LC:219:LYS:NZ	2.41	0.49
2:L5:1584:G:O6	87:L5:5285:SPD:N1	2.46	0.49
2:L5:2701:U:H3	2:L5:2715:G:H1	1.60	0.49
2:L5:4237:C:H2'	2:L5:4238:G:C8	2.47	0.49
2:L5:4260:U:H2'	2:L5:4261:C:H6	1.77	0.49
18:LO:81:TRP:HB2	18:LO:104:VAL:HG21	1.95	0.49
33:Ld:22:THR:HG23	33:Ld:122:VAL:HG13	1.95	0.49
41:Ll:28:ARG:HA	41:Ll:33:ASN:ND2	2.27	0.49
55:SR:109:LEU:HD13	64:SA:52:LYS:HB2	1.94	0.49
57:ST:11:GLN:HB2	82:S2:1542:C:H4'	1.95	0.49
65:SB:97:LEU:HD23	65:SB:232:HIS:CG	2.48	0.49
66:SC:85:SER:OG	75:SV:25:GLY:O	2.26	0.49
82:S2:1468:C:H2'	82:S2:1469:A:H8	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1199:G:H2'	2:L5:1200:G:H8	1.78	0.48
2:L5:1333:A:H2'	2:L5:1334:A:C8	2.47	0.48
2:L5:1480:C:O2'	2:L5:1482:G:OP2	2.30	0.48
2:L5:3939:G:O2'	2:L5:4076:G:N2	2.42	0.48
5:LA:147:ARG:HH21	5:LA:155:LYS:HG3	1.78	0.48
15:LL:23:ALA:HB3	17:LN:199:GLN:HA	1.94	0.48
52:SM:87:GLU:HG3	52:SM:103:VAL:HG11	1.94	0.48
57:ST:121:ARG:HH21	82:S2:1563:G:H5''	1.78	0.48
70:SI:43:ILE:HD13	82:S2:305:U:H1'	1.95	0.48
72:SL:3:ASP:OD1	72:SL:4:ILE:N	2.46	0.48
82:S2:35:C:H5''	82:S2:579:C:H5''	1.95	0.48
82:S2:96:C:H2'	82:S2:97:U:C6	2.48	0.48
82:S2:538:U:H2'	82:S2:539:C:C6	2.48	0.48
82:S2:952:G:H2'	82:S2:953:C:C6	2.47	0.48
82:S2:1199:A:H2'	82:S2:1200:A:C8	2.48	0.48
82:S2:1773:C:H2'	82:S2:1774:C:H5''	1.94	0.48
1:Pt:22:U:H2'	1:Pt:23:C:C6	2.48	0.48
2:L5:248:C:O2	28:LY:121:ARG:NH2	2.41	0.48
2:L5:287:U:H2'	2:L5:288:G:H8	1.79	0.48
2:L5:447:C:H2'	2:L5:448:G:C8	2.48	0.48
2:L5:951:G:H2'	2:L5:952:G:H8	1.79	0.48
2:L5:1194:G:H2'	2:L5:1195:G:C8	2.47	0.48
2:L5:1241:C:O2'	31:Lb:120:ARG:O	2.30	0.48
2:L5:1243:C:H2'	2:L5:1244:G:C8	2.48	0.48
2:L5:1315:C:H2'	2:L5:1316:OMG:H8	1.78	0.48
2:L5:1405:C:H2'	2:L5:1406:G:H8	1.77	0.48
2:L5:4237:C:OP1	2:L5:4327:C:O2'	2.30	0.48
2:L5:4343:U:O2'	44:Lo:31:ASP:OD1	2.30	0.48
2:L5:4643:G:H2'	2:L5:4644:G:H8	1.78	0.48
3:L7:114:U:H2'	3:L7:115:A:H8	1.79	0.48
4:L8:65:A:O2'	37:Lh:10:ARG:NH2	2.47	0.48
12:LH:41:ILE:HG22	12:LH:43:VAL:HG13	1.95	0.48
13:LI:66:GLU:OE2	13:LI:69:ARG:NH2	2.31	0.48
24:LU:36:ALA:HB1	24:LU:70:ILE:HD11	1.95	0.48
50:SF:141:VAL:HG12	60:Sc:47:LYS:HG2	1.94	0.48
55:SR:10:LYS:HG2	55:SR:53:TYR:CE2	2.48	0.48
72:SL:23:VAL:HG23	72:SL:25:LEU:HG	1.95	0.48
80:Sb:62:VAL:HG23	80:Sb:74:THR:HG21	1.94	0.48
82:S2:1419:C:H41	82:S2:1421:A:H2	1.60	0.48
2:L5:358:C:H2'	2:L5:359:A:C8	2.48	0.48
2:L5:475:G:H2'	2:L5:476:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1195:G:H2'	2:L5:1196:G:C8	2.49	0.48
2:L5:1399:G:H2'	2:L5:1400:G:H8	1.78	0.48
2:L5:1669:A:N3	2:L5:1852:U:O2'	2.40	0.48
2:L5:1683:PSU:H2'	2:L5:1684:A:H8	1.78	0.48
2:L5:2011:C:H3'	2:L5:2012:A:H8	1.78	0.48
2:L5:2869:U:O2'	2:L5:2881:A:N7	2.31	0.48
2:L5:4732:G:N2	2:L5:4734:A:N7	2.62	0.48
21:LR:168:GLU:HA	21:LR:171:LYS:HE3	1.95	0.48
64:SA:145:ILE:HG23	64:SA:159:ILE:HB	1.96	0.48
66:SC:125:LYS:HA	66:SC:143:CYS:HA	1.95	0.48
76:SW:6:VAL:HG12	76:SW:34:ILE:HD11	1.93	0.48
78:SY:76:TYR:OH	78:SY:86:GLU:OE1	2.25	0.48
82:S2:1013:U:H2'	82:S2:1014:G:H8	1.79	0.48
2:L5:921:C:H2'	2:L5:922:C:C6	2.49	0.48
2:L5:1824:G:H5''	23:LT:35:LYS:HE2	1.95	0.48
2:L5:2078:C:H2'	2:L5:2079:G:C8	2.48	0.48
2:L5:2084:C:C4	20:LQ:14:ARG:HD2	2.49	0.48
2:L5:2708:U:H1'	84:CI:79:ARG:HH22	1.78	0.48
4:L8:6:C:H2'	4:L8:7:U:C6	2.48	0.48
4:L8:141:C:H2'	4:L8:142:U:C6	2.49	0.48
37:Lh:89:ARG:O	37:Lh:93:ARG:HG2	2.14	0.48
58:SU:40:ILE:O	58:SU:44:LYS:HG2	2.13	0.48
67:SE:36:HIS:NE2	67:SE:143:ASP:OD1	2.46	0.48
82:S2:1215:C:N4	82:S2:1220:A:H61	2.12	0.48
82:S2:1455:A:H2'	82:S2:1456:G:H8	1.78	0.48
82:S2:1713:C:H2'	82:S2:1714:U:C6	2.49	0.48
83:Zt:27:U:H2'	83:Zt:28:C:C6	2.49	0.48
1:Pt:20(A):U:O4'	14:LJ:58:ARG:NH2	2.46	0.48
2:L5:257:C:H2'	2:L5:258:G:C8	2.48	0.48
2:L5:956:A:H1'	2:L5:2076:G:H5''	1.94	0.48
2:L5:2444:U:O2'	4:L8:112:G:O2'	2.22	0.48
2:L5:4642:U:H2'	2:L5:4643:G:H8	1.78	0.48
17:LN:120:TRP:HE1	17:LN:123:GLU:HB3	1.78	0.48
18:LO:14:HIS:HD2	18:LO:123:ALA:HB3	1.78	0.48
40:Lk:5:ILE:HG21	40:Lk:11:PHE:HB2	1.95	0.48
54:SQ:110:ASP:OD1	54:SQ:111:ILE:HD12	2.13	0.48
62:Sf:102:VAL:HG22	62:Sf:104:LYS:HG2	1.96	0.48
64:SA:184:ARG:HE	64:SA:191:ARG:HA	1.78	0.48
2:L5:173:C:H5''	15:LL:129:ARG:HH12	1.77	0.48
2:L5:173:C:H2'	2:L5:174:C:C6	2.49	0.48
2:L5:261:G:H2'	2:L5:262:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:966:A:OP2	2:L5:2092:G:N2	2.44	0.48
2:L5:1876:U:H2'	2:L5:1877:G:H8	1.79	0.48
2:L5:2274:C:H2'	2:L5:2275:G:H8	1.78	0.48
2:L5:2897:G:H2'	2:L5:2898:G:H8	1.78	0.48
6:LB:367:PHE:HB2	26:LW:1:MET:HB2	1.96	0.48
57:ST:44:GLU:HG3	57:ST:45:LEU:HD12	1.96	0.48
57:ST:49:ASP:OD1	57:ST:50:GLU:N	2.47	0.48
58:SU:19:ARG:HB3	58:SU:92:HIS:CE1	2.49	0.48
59:SZ:86:ALA:HA	59:SZ:89:GLN:HE21	1.78	0.48
73:SN:29:THR:OG1	73:SN:31:ASP:OD1	2.28	0.48
78:SY:11:LYS:HB2	78:SY:24:VAL:HG12	1.95	0.48
82:S2:325:C:N3	82:S2:326:C:O2'	2.44	0.48
82:S2:1842:4AC:H2'	82:S2:1843:G:C8	2.49	0.48
2:L5:163:A:H2'	2:L5:164:G:H8	1.79	0.48
2:L5:184:U:H3	2:L5:253:G:H1	1.57	0.48
2:L5:260:C:H2'	2:L5:261:G:C8	2.49	0.48
2:L5:323:C:H2'	2:L5:324:A:C8	2.47	0.48
2:L5:1464:C:H5''	31:Lb:32:LEU:HD12	1.95	0.48
2:L5:1494:U:H2'	2:L5:1495:G:H8	1.78	0.48
2:L5:1847:C:H2'	2:L5:1848:C:C6	2.49	0.48
2:L5:2411:C:H2'	2:L5:2412:A:H8	1.78	0.48
2:L5:2492:C:H2'	2:L5:2493:G:H8	1.77	0.48
2:L5:4251:A:H5''	14:LJ:108:GLY:HA3	1.96	0.48
3:L7:82:G:H2'	3:L7:83:A:C8	2.48	0.48
25:LV:92:ASP:O	26:LW:2:LYS:NZ	2.46	0.48
47:Ls:30:VAL:HA	47:Ls:189:ILE:HA	1.96	0.48
68:SG:172:LYS:NZ	82:S2:67:C:OP2	2.38	0.48
82:S2:610:G:H2'	82:S2:611:G:H8	1.78	0.48
82:S2:1804:U:H2'	82:S2:1805:G:H8	1.79	0.48
83:Zt:60:U:H2'	83:Zt:61:C:H5	1.77	0.48
1:Pt:51:C:H2'	1:Pt:52:G:C8	2.49	0.48
2:L5:1070:G:O2'	2:L5:1071:C:O5'	2.29	0.48
2:L5:1091:C:H2'	2:L5:1092:G:C8	2.49	0.48
2:L5:2769:U:N3	36:Lg:69:LYS:HD3	2.28	0.48
2:L5:2897:G:H2'	2:L5:2898:G:C8	2.48	0.48
2:L5:3867:A2M:H2'	2:L5:3868:G:O4'	2.13	0.48
2:L5:3933:G:H2'	2:L5:3934:G:C8	2.49	0.48
2:L5:4069:U:H2'	2:L5:4070:U:H6	1.79	0.48
2:L5:4452:U:OP2	2:L5:4522:G:N1	2.30	0.48
2:L5:4504:C:H2'	2:L5:4505:C:C6	2.49	0.48
2:L5:4524:G:H2'	2:L5:4525:C:H6	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L8:19:C:H2'	4:L8:20:A:C8	2.48	0.48
16:LM:71:LYS:O	16:LM:75:GLN:HG3	2.13	0.48
29:LZ:51:ARG:HB2	29:LZ:65:ARG:HB3	1.94	0.48
30:La:127:LYS:HD3	38:Li:8:ALA:HB2	1.95	0.48
34:Le:35:TRP:O	34:Le:36:ARG:NH1	2.44	0.48
65:SB:123:ALA:HB2	65:SB:165:ARG:HG2	1.95	0.48
66:SC:166:ARG:HB3	66:SC:247:THR:HB	1.94	0.48
69:SH:49:LYS:NZ	69:SH:50:GLU:O	2.45	0.48
82:S2:1275:G:H22	82:S2:1506:A:P	2.35	0.48
2:L5:294:G:OP2	2:L5:296:A:O2'	2.27	0.48
2:L5:1591:U:OP2	2:L5:2856:C:O2'	2.30	0.48
2:L5:1837:A:OP2	23:LT:130:ARG:NH1	2.47	0.48
2:L5:4122:G:O3'	36:Lg:90:ARG:NH2	2.47	0.48
2:L5:4178:A:OP2	17:LN:91:GLN:NE2	2.35	0.48
2:L5:4643:G:H2'	2:L5:4644:G:C8	2.49	0.48
2:L5:4964:C:H2'	2:L5:4965:U:C6	2.49	0.48
4:L8:138:C:H2'	4:L8:139:G:C8	2.49	0.48
49:SD:51:LEU:HD12	49:SD:91:VAL:HG12	1.95	0.48
57:ST:114:GLU:OE1	57:ST:114:GLU:N	2.46	0.48
61:Sd:13:LYS:HG3	82:S2:1556:A:N7	2.29	0.48
61:Sd:21:CYS:HB3	61:Sd:26:ASN:H	1.79	0.48
68:SG:159:ARG:NH1	82:S2:76:U:O2'	2.47	0.48
82:S2:1842:4AC:H2'	82:S2:1843:G:H8	1.79	0.48
2:L5:1348:U:H2'	2:L5:1349:G:C8	2.49	0.48
2:L5:1478:C:H2'	2:L5:1479:G:H8	1.78	0.48
2:L5:1779:U:H2'	2:L5:1780:A:C8	2.49	0.48
2:L5:2021:G:OP1	47:Ls:58:ASN:N	2.44	0.48
2:L5:2348:G:OP1	2:L5:2351:OMC:N4	2.46	0.48
2:L5:4237:C:H2'	2:L5:4238:G:H8	1.79	0.48
2:L5:4633:G:H22	2:L5:4663:G:H2'	1.79	0.48
2:L5:4685:U:H2'	2:L5:4686:G:C8	2.49	0.48
11:LG:178:GLY:O	11:LG:223:ARG:NH2	2.46	0.48
12:LH:18:ILE:HG12	12:LH:27:VAL:HG22	1.95	0.48
21:LR:157:ASP:OD1	21:LR:158:GLN:N	2.47	0.48
33:Ld:37:GLY:O	33:Ld:41:ARG:HG3	2.14	0.48
54:SQ:100:VAL:HG22	54:SQ:101:ASP:H	1.78	0.48
71:SJ:124:HIS:CD2	81:Se:35:ARG:HD2	2.49	0.48
78:SY:57:VAL:HG12	78:SY:73:GLY:HA2	1.96	0.48
81:Se:56:ASN:ND2	82:S2:606:G:O4'	2.46	0.48
83:Zt:30:G:H2'	83:Zt:31:A:C8	2.48	0.48
83:Zt:75:C:H3'	83:Zt:76:A:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1188:C:H2'	2:L5:1189:G:H8	1.79	0.47
2:L5:1705:G:H5''	10:LF:177:ARG:HG2	1.95	0.47
2:L5:2521:G:H2'	2:L5:2522:G:H8	1.79	0.47
2:L5:2759:G:O2'	2:L5:2760:G:O4'	2.28	0.47
2:L5:4324:A:H2'	2:L5:4325:A:C8	2.49	0.47
2:L5:5037:U:H2'	2:L5:5038:A:C8	2.49	0.47
4:L8:60:G:O6	37:Lh:62:ASN:ND2	2.31	0.47
4:L8:92:U:H2'	4:L8:93:C:O4'	2.14	0.47
6:LB:50:LYS:HB2	6:LB:345:LEU:HD11	1.95	0.47
8:LD:217:ASP:OD1	8:LD:218:ALA:N	2.47	0.47
10:LF:94:ARG:NH2	10:LF:97:GLY:O	2.35	0.47
48:Lt:18:THR:O	48:Lt:61:LYS:NZ	2.46	0.47
48:Lt:117:ARG:HE	48:Lt:119:ARG:H	1.60	0.47
50:SF:60:ARG:HE	82:S2:1679:A:P	2.37	0.47
57:ST:42:HIS:HE2	57:ST:43:LYS:HE3	1.79	0.47
64:SA:110:ASN:HB3	64:SA:113:GLN:HE22	1.79	0.47
68:SG:7:PHE:CE2	68:SG:9:ALA:HB3	2.49	0.47
68:SG:138:ALA:HA	68:SG:176:ILE:HD11	1.95	0.47
82:S2:89:C:H2'	82:S2:90:G:C8	2.49	0.47
82:S2:1103:C:H2'	82:S2:1104:G:C8	2.49	0.47
82:S2:1276:A:C6	82:S2:1322:G:H1'	2.49	0.47
82:S2:1407:U:H2'	82:S2:1408:U:C6	2.48	0.47
2:L5:490:C:H2'	2:L5:491:G:C8	2.48	0.47
2:L5:2654:C:H2'	2:L5:2655:C:H6	1.79	0.47
2:L5:2658:G:O2'	2:L5:2675:G:N2	2.46	0.47
2:L5:3670:C:H2'	2:L5:3671:G:C8	2.49	0.47
2:L5:4080:C:H2'	2:L5:4081:G:H8	1.79	0.47
2:L5:4356:G:H2'	2:L5:4357:G:H8	1.79	0.47
2:L5:4578:G:H2'	2:L5:4579:PSU:H6	1.79	0.47
3:L7:15:C:H2'	3:L7:16:A:H8	1.79	0.47
51:SK:11:ILE:HD11	51:SK:40:VAL:HG11	1.96	0.47
54:SQ:80:GLN:O	54:SQ:84:ILE:HG13	2.14	0.47
67:SE:247:THR:N	67:SE:250:GLU:OE2	2.43	0.47
69:SH:118:ARG:HD3	69:SH:121:THR:HG21	1.96	0.47
78:SY:11:LYS:NZ	82:S2:831:G:O6	2.46	0.47
78:SY:77:ASP:OD1	78:SY:77:ASP:N	2.47	0.47
82:S2:671:A:H4'	82:S2:672:A:H5''	1.95	0.47
82:S2:835:C:H4'	82:S2:836:G:C8	2.49	0.47
82:S2:1142:G:N2	82:S2:1145:A:OP2	2.35	0.47
82:S2:1687:C:H2'	82:S2:1688:C:C6	2.49	0.47
82:S2:1722:G:O6	82:S2:1812:U:O2	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:978:G:OP1	9:LE:47:ASN:ND2	2.42	0.47
2:L5:1419:G:H5''	20:LQ:71:LYS:NZ	2.29	0.47
2:L5:2335:C:H2'	2:L5:2336:G:C8	2.49	0.47
2:L5:2361:G:N2	2:L5:3860:A:OP2	2.42	0.47
50:SF:103:LEU:HD11	59:SZ:67:LEU:HD22	1.95	0.47
50:SF:123:GLU:OE1	60:Sc:63:ARG:NH2	2.46	0.47
52:SM:128:PHE:HA	52:SM:131:LYS:HG2	1.97	0.47
69:SH:91:HIS:ND1	69:SH:169:LYS:HG2	2.29	0.47
74:SO:113:GLN:HE22	79:Sa:45:VAL:HA	1.79	0.47
77:SX:68:LYS:NZ	82:S2:616:A:OP1	2.48	0.47
82:S2:328:U:O2'	82:S2:329:G:O5'	2.31	0.47
82:S2:468:A2M:HM'3	82:S2:468:A2M:H1'	1.53	0.47
82:S2:1172:U:H2'	82:S2:1173:A:C8	2.50	0.47
82:S2:1217:A:H2'	82:S2:1218:C:H6	1.78	0.47
82:S2:1643:U:H2'	82:S2:1644:C:C6	2.50	0.47
2:L5:179:G:H2'	2:L5:180:C:C6	2.48	0.47
2:L5:1179:U:OP2	8:LD:289:ARG:NH2	2.38	0.47
2:L5:1718:C:O2'	10:LF:181:LYS:NZ	2.47	0.47
2:L5:2297:G:H4'	7:LC:242:PRO:HB2	1.97	0.47
2:L5:4095:G:H2'	2:L5:4096:C:C6	2.50	0.47
2:L5:4192:A:H2'	2:L5:4193:C:H6	1.79	0.47
7:LC:162:LYS:N	7:LC:166:GLU:OE2	2.35	0.47
18:LO:3:GLU:OE1	18:LO:5:GLN:NE2	2.41	0.47
39:Lj:2:THR:HB	39:Lj:6:SER:HB2	1.95	0.47
54:SQ:110:ASP:O	54:SQ:113:ILE:N	2.43	0.47
64:SA:177:MET:SD	64:SA:180:ARG:NH2	2.87	0.47
70:SI:31:ARG:NH2	82:S2:381:C:OP1	2.47	0.47
71:SJ:40:LYS:NZ	82:S2:641:A:OP1	2.31	0.47
72:SL:68:ILE:HD11	72:SL:141:ASN:HB2	1.96	0.47
82:S2:5:U:H2'	82:S2:6:G:H8	1.79	0.47
82:S2:1280:G:H2'	82:S2:1281:G:H8	1.79	0.47
82:S2:1800:A:H3'	82:S2:1801:A:H8	1.79	0.47
82:S2:1801:A:H2'	82:S2:1802:C:H6	1.80	0.47
2:L5:1095:A:N1	2:L5:1200:G:C6	2.83	0.47
2:L5:1259:G:H2'	2:L5:1260:G:H8	1.79	0.47
2:L5:2430:C:H2'	2:L5:2431:A:H8	1.79	0.47
2:L5:4968:A:OP1	6:LB:120:LYS:N	2.45	0.47
4:L8:130:C:H2'	4:L8:131:G:C8	2.49	0.47
17:LN:155:VAL:O	17:LN:162:ARG:NH2	2.47	0.47
24:LU:23:LEU:HD23	24:LU:110:TYR:HB2	1.95	0.47
32:Lc:47:ILE:HD12	32:Lc:94:LEU:HD11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Ls:102:LEU:HD23	47:Ls:189:ILE:HG13	1.96	0.47
81:Se:8:ARG:HG2	81:Se:11:LYS:HD3	1.96	0.47
82:S2:1221:G:H2'	82:S2:1222:G:H8	1.80	0.47
82:S2:1539:U:H2'	82:S2:1540:G:C8	2.50	0.47
2:L5:123:C:H2'	2:L5:124:C:H6	1.79	0.47
2:L5:146:G:H2'	2:L5:147:A:H8	1.79	0.47
2:L5:162:A:H2'	2:L5:163:A:H8	1.80	0.47
2:L5:3898:G:H5'	6:LB:254:ILE:HG13	1.97	0.47
2:L5:4070:U:H2'	2:L5:4071:U:H6	1.79	0.47
2:L5:4194:U:O2'	13:LI:116:ARG:NH2	2.46	0.47
2:L5:4967:A:H2'	2:L5:4968:A:H8	1.80	0.47
3:L7:35:U:O2	3:L7:45:U:O2'	2.32	0.47
5:LA:112:ILE:HG22	5:LA:135:THR:HG23	1.97	0.47
50:SF:34:SER:HA	60:Sc:55:VAL:HG23	1.96	0.47
64:SA:18:PHE:HD1	64:SA:23:THR:HG21	1.79	0.47
67:SE:242:LYS:HA	67:SE:242:LYS:HD3	1.76	0.47
70:SI:57:ALA:HB2	70:SI:183:GLY:HA2	1.96	0.47
75:SV:17:CYS:HB2	75:SV:56:CYS:HB3	1.96	0.47
76:SW:62:VAL:HG11	80:Sb:8:LEU:HG	1.96	0.47
82:S2:52:G:H2'	82:S2:53:C:C6	2.50	0.47
82:S2:1644:C:H2'	82:S2:1645:C:C6	2.50	0.47
83:Zt:15:G:N1	83:Zt:48:C:N3	2.63	0.47
2:L5:239:C:H2'	2:L5:240:G:C8	2.49	0.47
2:L5:270:U:H2'	2:L5:271:C:C6	2.49	0.47
2:L5:347:A:H2'	2:L5:348:G:C8	2.49	0.47
2:L5:351:C:OP2	7:LC:197:ARG:NH1	2.32	0.47
2:L5:454:U:H2'	2:L5:455:C:O4'	2.15	0.47
2:L5:1305:C:OP1	87:L5:5288:SPD:N1	2.48	0.47
2:L5:1328:G:H2'	2:L5:1329:G:C8	2.49	0.47
2:L5:1554:A:OP1	45:Lp:5:THR:OG1	2.28	0.47
2:L5:1703:C:OP1	2:L5:1704:C:N4	2.48	0.47
2:L5:1903:G:OP1	35:Lf:87:LYS:NZ	2.43	0.47
2:L5:2257:C:O2'	2:L5:2259:G:OP2	2.27	0.47
2:L5:2520:C:H2'	2:L5:2521:G:C8	2.47	0.47
2:L5:2554:U:C2	2:L5:2764:A:N7	2.83	0.47
2:L5:2581:A:H2'	2:L5:2582:A:C8	2.49	0.47
2:L5:2638:G:H22	2:L5:2719:C:P	2.37	0.47
2:L5:2808:G:O3'	21:LR:60:ARG:NH1	2.47	0.47
2:L5:3744:OMG:HM23	2:L5:3744:OMG:H1'	1.72	0.47
2:L5:4246:G:H2'	2:L5:4247:G:C8	2.49	0.47
2:L5:4621:C:H2'	2:L5:4622:A:H8	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4727:A:OP1	6:LB:133:TYR:N	2.47	0.47
2:L5:4750:G:H2'	2:L5:4751:G:H8	1.79	0.47
2:L5:5025:C:H2'	2:L5:5028:G:H1'	1.96	0.47
3:L7:110:G:H2'	3:L7:111:C:C6	2.49	0.47
5:LA:107:MET:O	5:LA:139:HIS:NE2	2.47	0.47
10:LF:171:ASP:OD1	10:LF:172:ASN:N	2.47	0.47
17:LN:169:ARG:HG3	17:LN:174:LEU:HD12	1.96	0.47
32:Lc:58:SER:HB3	36:Lg:96:LEU:HD13	1.95	0.47
52:SM:60:MET:HA	52:SM:63:LYS:HB3	1.97	0.47
53:SP:93:MET:HE1	53:SP:106:GLU:OE1	2.15	0.47
57:ST:74:SER:O	57:ST:78:ILE:HD12	2.15	0.47
62:Sf:103:LEU:HD12	62:Sf:105:TYR:CZ	2.50	0.47
63:Sg:216:ALA:N	63:Sg:230:LEU:O	2.43	0.47
64:SA:184:ARG:HG2	64:SA:189:ILE:HB	1.97	0.47
77:SX:9:THR:HG22	82:S2:681:PSU:H4'	1.95	0.47
82:S2:54:A:H3'	82:S2:451:G:H22	1.80	0.47
82:S2:66:G:H2'	82:S2:67:C:H4'	1.97	0.47
82:S2:116:OMU:HM23	82:S2:116:OMU:H1'	1.71	0.47
82:S2:146:G:H2'	82:S2:147:A:C8	2.49	0.47
82:S2:375:U:H2'	82:S2:376:A:C8	2.50	0.47
82:S2:379:C:H2'	82:S2:380:G:C8	2.49	0.47
82:S2:495:U:H2'	82:S2:496:C:O4'	2.13	0.47
82:S2:1424:G:H2'	82:S2:1425:G:H8	1.78	0.47
82:S2:1547:C:H3'	82:S2:1548:G:H8	1.80	0.47
2:L5:669:C:OP1	46:Lr:71:ARG:NH1	2.34	0.47
2:L5:1339:U:H2'	2:L5:1340:OMC:C6	2.50	0.47
2:L5:1756:U:O2'	2:L5:1758:G:OP2	2.27	0.47
2:L5:2568:C:H2'	2:L5:2569:G:C8	2.50	0.47
2:L5:2615:C:H2'	2:L5:2616:C:H6	1.80	0.47
2:L5:4089:G:H2'	2:L5:4090:G:C8	2.50	0.47
2:L5:4139:G:N2	2:L5:4140:C:H41	2.12	0.47
2:L5:4906:C:H2'	2:L5:4907:G:C8	2.50	0.47
2:L5:5027:C:HO2'	2:L5:5028:G:H5''	1.80	0.47
3:L7:94:C:H2'	3:L7:95:C:H6	1.80	0.47
3:L7:114:U:H2'	3:L7:115:A:C8	2.50	0.47
4:L8:144:U:H2'	4:L8:145:C:C6	2.50	0.47
15:LL:60:ARG:NH1	15:LL:67:HIS:O	2.45	0.47
15:LL:176:PHE:O	30:La:138:LYS:NZ	2.44	0.47
17:LN:51:LEU:O	17:LN:117:ASN:ND2	2.45	0.47
31:Lb:65:MET:HG3	31:Lb:68:ARG:HH12	1.80	0.47
51:SK:37:ASP:OD1	51:SK:37:ASP:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:Sf:108:VAL:HG12	62:Sf:114:ILE:HA	1.97	0.47
68:SG:74:ARG:NH1	68:SG:96:SER:OG	2.48	0.47
69:SH:51:ILE:HG21	69:SH:179:LYS:HG2	1.97	0.47
70:SI:10:LYS:O	70:SI:18:ARG:NH1	2.48	0.47
75:SV:74:LYS:NZ	75:SV:83:PHE:HB3	2.30	0.47
82:S2:433:A:H2'	82:S2:434:G:C8	2.49	0.47
82:S2:1491:G:H2'	82:S2:1492:U:C6	2.50	0.47
82:S2:1692:U:H2'	82:S2:1693:G:H8	1.79	0.47
2:L5:214:G:H2'	2:L5:215:C:C6	2.50	0.47
2:L5:458:C:OP2	9:LE:114:ARG:NH2	2.47	0.47
2:L5:494:U:H2'	2:L5:495:C:C6	2.50	0.47
2:L5:1316:OMG:HM23	2:L5:1316:OMG:H1'	1.73	0.47
2:L5:1628:C:OP2	5:LA:9:ARG:HD2	2.15	0.47
2:L5:1884:C:H2'	2:L5:1885:G:H8	1.79	0.47
2:L5:2627:C:OP1	24:LU:92:LYS:NZ	2.41	0.47
2:L5:4163:U:H5'	2:L5:4164:C:H5''	1.96	0.47
8:LD:41:LYS:NZ	23:LT:32:ARG:O	2.41	0.47
26:LW:73:ARG:NH2	82:S2:1749:G:O6	2.41	0.47
65:SB:180:ASP:N	65:SB:183:GLU:OE2	2.36	0.47
80:Sb:11:SER:OG	80:Sb:14:GLU:OE1	2.32	0.47
2:L5:1364:U:OP2	15:LL:36:ARG:NH2	2.31	0.47
2:L5:1578:U:H2'	2:L5:1579:C:H6	1.79	0.47
2:L5:1884:C:H2'	2:L5:1885:G:C8	2.51	0.47
2:L5:1914:C:H4'	18:LO:89:PRO:HD3	1.95	0.47
2:L5:2411:C:H2'	2:L5:2412:A:C8	2.50	0.47
2:L5:2641:A:H2'	2:L5:2642:A:O4'	2.15	0.47
2:L5:3866:C:H2'	2:L5:3867:A2M:O4'	2.15	0.47
2:L5:4441:A:H5''	13:LI:114:GLY:HA2	1.97	0.47
9:LE:243:THR:HG22	9:LE:245:GLN:H	1.80	0.47
27:LX:124:VAL:HG22	27:LX:138:VAL:HG13	1.96	0.47
49:SD:126:ILE:O	49:SD:129:SER:OG	2.28	0.47
71:SJ:136:ARG:HD3	71:SJ:160:SER:HA	1.98	0.47
72:SL:111:VAL:HG12	72:SL:140:PHE:HB2	1.96	0.47
2:L5:461:G:H2'	2:L5:462:G:H8	1.80	0.46
2:L5:1081:C:O2'	2:L5:1082:C:H5'	2.14	0.46
2:L5:1683:PSU:H2'	2:L5:1684:A:C8	2.50	0.46
2:L5:2375:A:H2'	2:L5:2376:A:C8	2.50	0.46
2:L5:2406:G:N7	41:Ll:2:SER:N	2.63	0.46
2:L5:4069:U:H2'	2:L5:4070:U:C6	2.51	0.46
2:L5:4153:C:H2'	2:L5:4154:G:C8	2.50	0.46
2:L5:4475:G:O6	42:Lm:125:LYS:NZ	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:5004:C:H2'	2:L5:5005:G:O4'	2.15	0.46
13:LI:183:ASP:OD1	13:LI:184:MET:N	2.48	0.46
21:LR:103:ARG:HG2	21:LR:124:TYR:CE2	2.50	0.46
48:Lt:82:ILE:HG12	48:Lt:137:GLN:HG2	1.97	0.46
56:SS:124:ARG:NH1	82:S2:1521:C:OP2	2.45	0.46
63:Sg:283:PRO:O	63:Sg:285:GLN:NE2	2.48	0.46
64:SA:10:MET:HE3	64:SA:55:TRP:HB2	1.96	0.46
70:SI:89:GLU:OE1	70:SI:92:ARG:NH2	2.48	0.46
76:SW:52:ILE:HG12	76:SW:61:ILE:HG12	1.96	0.46
82:S2:436:OMG:H2'	82:S2:437:G:H8	1.79	0.46
82:S2:484:A2M:HM'3	82:S2:484:A2M:H1'	1.64	0.46
82:S2:1221:G:H2'	82:S2:1222:G:C8	2.49	0.46
82:S2:1657:G:H2'	82:S2:1658:G:C8	2.49	0.46
2:L5:6:C:H2'	2:L5:7:C:C6	2.50	0.46
2:L5:265:C:H1'	2:L5:266:C:H5''	1.98	0.46
2:L5:425:U:H2'	2:L5:426:A:C8	2.50	0.46
2:L5:702:U:H2'	2:L5:703:G:O4'	2.16	0.46
2:L5:959:G:C8	9:LE:123:ARG:HG2	2.50	0.46
2:L5:1558:A:H2'	2:L5:1559:G:C8	2.50	0.46
2:L5:2709:C:H5''	21:LR:43:LYS:HD2	1.97	0.46
2:L5:3946:G:N2	2:L5:4067:U:O2	2.48	0.46
2:L5:4622:A:H4'	6:LB:13:SER:HB2	1.97	0.46
4:L8:70:G:H1'	4:L8:88:A:H61	1.81	0.46
15:LL:127:PHE:HB2	37:Lh:118:LYS:HB3	1.96	0.46
79:Sa:13:LYS:HD3	79:Sa:13:LYS:HA	1.71	0.46
82:S2:1098:C:H2'	82:S2:1099:G:C8	2.50	0.46
82:S2:1805:G:H2'	82:S2:1806:A:H8	1.80	0.46
2:L5:208:A:N3	2:L5:232:G:O2'	2.46	0.46
2:L5:714:G:H2'	2:L5:715:G:C8	2.50	0.46
2:L5:746:A:H2'	2:L5:747:A:C8	2.51	0.46
2:L5:1410:U:H3	31:Lb:52:LYS:NZ	2.13	0.46
2:L5:3707:U:H2'	2:L5:3708:C:C6	2.51	0.46
2:L5:4196:OMG:HM23	2:L5:4196:OMG:H1'	1.76	0.46
2:L5:4616:A:H2'	2:L5:4617:G:O4'	2.15	0.46
2:L5:4723:A:H2'	2:L5:4724:A:C8	2.51	0.46
2:L5:4743:G:H2'	2:L5:4744:A:C8	2.50	0.46
3:L7:55:A:H4'	14:LJ:155:HIS:HB2	1.96	0.46
6:LB:289:GLN:HE22	6:LB:292:LEU:HD11	1.80	0.46
50:SF:185:SER:H	50:SF:190:ILE:HD11	1.80	0.46
62:Sf:124:ASP:OD1	62:Sf:124:ASP:N	2.45	0.46
65:SB:145:LYS:HB2	65:SB:145:LYS:HE3	1.72	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SE:122:LYS:N	67:SE:162:ILE:O	2.48	0.46
82:S2:116:OMU:HN3	82:S2:347:G:H1	1.63	0.46
82:S2:382:C:H2'	82:S2:383:G:C8	2.49	0.46
82:S2:807:G:H2'	82:S2:808:A:C8	2.50	0.46
82:S2:1749:G:H2'	82:S2:1750:C:C6	2.50	0.46
2:L5:10:A:H2'	2:L5:11:G:H8	1.81	0.46
2:L5:473:C:H2'	2:L5:474:C:C6	2.50	0.46
2:L5:1878:G:H2'	2:L5:1879:C:C6	2.50	0.46
2:L5:2412:A:H2'	2:L5:2413:U:C6	2.50	0.46
2:L5:2610:G:H2'	2:L5:2611:A:H8	1.80	0.46
2:L5:2787:A2M:HM'2	2:L5:2787:A2M:H1'	1.70	0.46
2:L5:4128:A:O2'	11:LG:33:GLU:O	2.27	0.46
2:L5:4208:U:H2'	2:L5:4209:G:C8	2.51	0.46
2:L5:4410:G:C6	2:L5:4433:G:C6	3.03	0.46
2:L5:4507:A:H2'	2:L5:4508:C:C6	2.51	0.46
2:L5:4704:C:H2'	2:L5:4705:A:C8	2.51	0.46
10:LF:241:ASN:O	10:LF:245:ARG:HG2	2.15	0.46
17:LN:46:ASP:OD1	17:LN:47:LYS:N	2.48	0.46
23:LT:44:GLY:HA2	23:LT:95:HIS:HB3	1.97	0.46
29:LZ:61:LYS:HE3	29:LZ:65:ARG:HD2	1.96	0.46
30:La:72:THR:HG22	30:La:110:LYS:HB3	1.97	0.46
32:Lc:48:LEU:O	32:Lc:74:TYR:N	2.46	0.46
35:Lf:25:THR:HB	35:Lf:87:LYS:HD3	1.97	0.46
56:SS:22:GLY:HA2	56:SS:56:ALA:HB3	1.97	0.46
58:SU:65:THR:O	58:SU:78:ASP:N	2.37	0.46
63:Sg:207:CYS:HB3	63:Sg:221:LEU:HD21	1.98	0.46
66:SC:207:ALA:HB2	82:S2:4:C:H4'	1.97	0.46
82:S2:835:C:H4'	82:S2:836:G:H8	1.80	0.46
82:S2:1562:C:H2'	82:S2:1563:G:C8	2.47	0.46
2:L5:88:A:OP1	20:LQ:172:ARG:NH2	2.46	0.46
2:L5:952:G:H2'	2:L5:953:C:C6	2.50	0.46
2:L5:962:C:H2'	2:L5:1702:C:H41	1.81	0.46
2:L5:1348:U:H2'	2:L5:1349:G:H8	1.79	0.46
2:L5:4524:G:H2'	2:L5:4525:C:C6	2.50	0.46
2:L5:4674:C:H2'	2:L5:4675:U:C6	2.51	0.46
12:LH:48:LEU:HD21	12:LH:56:ARG:HB2	1.96	0.46
29:LZ:50:PRO:HD3	29:LZ:68:ILE:HG12	1.97	0.46
44:Lo:6:LYS:HG3	44:Lo:94:GLY:HA3	1.98	0.46
54:SQ:15:ARG:HH22	82:S2:1444:U:P	2.39	0.46
56:SS:63:GLU:O	56:SS:67:VAL:HG23	2.16	0.46
62:Sf:130:VAL:HB	82:S2:1310:U:H5''	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SA:3:GLY:N	64:SA:56:GLU:OE1	2.48	0.46
64:SA:6:ASP:OD1	64:SA:6:ASP:N	2.48	0.46
82:S2:626:G:H5''	82:S2:627:OMU:H5'	1.97	0.46
82:S2:1380:C:H2'	82:S2:1381:G:C8	2.51	0.46
2:L5:713:C:H2'	2:L5:714:G:C8	2.50	0.46
2:L5:755:C:H2'	2:L5:756:G:H8	1.81	0.46
2:L5:964:A:H2'	2:L5:965:G:H4'	1.98	0.46
2:L5:966:A:H5''	2:L5:2092:G:H22	1.81	0.46
2:L5:1090:G:OP1	23:LT:142:ARG:NE	2.39	0.46
2:L5:1399:G:H2'	2:L5:1400:G:C8	2.50	0.46
2:L5:1541:C:H5''	5:LA:21:LYS:HG2	1.98	0.46
2:L5:1677:PSU:H4'	2:L5:1680:G:C2	2.50	0.46
2:L5:2284:G:OP1	30:La:7:LYS:NZ	2.41	0.46
2:L5:2823:G:H2'	2:L5:2824:OMC:C6	2.51	0.46
2:L5:4561:C:H2'	2:L5:4562:C:C6	2.50	0.46
2:L5:4601:U:OP2	2:L5:4609:G:N1	2.40	0.46
2:L5:4688:C:H2'	2:L5:4689:PSU:H6	1.80	0.46
2:L5:4764:A:OP1	22:LS:156:HIS:ND1	2.36	0.46
8:LD:234:ASP:OD1	8:LD:235:MET:N	2.49	0.46
15:LL:119:GLU:HG2	15:LL:123:LYS:HE2	1.96	0.46
17:LN:75:VAL:HG21	17:LN:80:THR:HG22	1.97	0.46
18:LO:108:ILE:HD12	18:LO:160:ARG:CZ	2.45	0.46
51:SK:80:ARG:HH22	51:SK:90:VAL:HG12	1.81	0.46
53:SP:39:ALA:N	82:S2:1613:G:OP2	2.49	0.46
69:SH:111:LYS:HE3	82:S2:796:G:N2	2.31	0.46
82:S2:293:C:O2'	82:S2:294:U:H3'	2.16	0.46
82:S2:656:G:H21	82:S2:663:C:H5''	1.80	0.46
82:S2:811:A:H2'	82:S2:812:A:H8	1.81	0.46
82:S2:945:U:H2'	82:S2:946:U:C6	2.51	0.46
82:S2:948:C:H2'	82:S2:949:G:H8	1.81	0.46
82:S2:1050:A:H62	82:S2:1068:G:H21	1.62	0.46
82:S2:1255:G:OP1	82:S2:1256:G:O2'	2.24	0.46
82:S2:1278:A:H2'	82:S2:1279:C:C6	2.51	0.46
82:S2:1628:C:H2'	82:S2:1629:C:C6	2.49	0.46
2:L5:50:C:C2	2:L5:51:A:C8	3.03	0.46
2:L5:284:G:H2'	2:L5:285:G:H8	1.80	0.46
2:L5:1089:G:H2'	2:L5:1090:G:H8	1.80	0.46
2:L5:2078:C:H2'	2:L5:2079:G:H8	1.81	0.46
2:L5:2580:U:OP1	29:LZ:36:ARG:NH1	2.34	0.46
2:L5:3660:C:P	5:LA:241:ARG:HH22	2.38	0.46
2:L5:5056:A:H2'	2:L5:5057:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L8:9:A:H2'	4:L8:10:G:H8	1.81	0.46
9:LE:150:LEU:HD11	9:LE:164:PHE:HB2	1.98	0.46
19:LP:19:GLY:HA3	19:LP:22:LEU:HD11	1.98	0.46
53:SP:122:THR:HG1	82:S2:1622:U:H3	1.64	0.46
63:Sg:37:ASP:OD1	63:Sg:39:THR:OG1	2.28	0.46
63:Sg:289:LEU:HD11	63:Sg:298:LEU:HD21	1.97	0.46
67:SE:160:ILE:HD12	67:SE:162:ILE:HD11	1.97	0.46
72:SL:68:ILE:HD13	72:SL:131:CYS:HB3	1.97	0.46
82:S2:1112:U:O2	82:S2:1121:G:O6	2.34	0.46
1:Pt:51:C:H2'	1:Pt:52:G:H8	1.81	0.46
2:L5:33:A:H3'	2:L5:47:A:H61	1.81	0.46
2:L5:88:A:N7	20:LQ:173:LYS:NZ	2.64	0.46
2:L5:1800:U:H2'	2:L5:1801:A:H8	1.80	0.46
2:L5:2394:G:O4'	2:L5:2397:G:N2	2.49	0.46
2:L5:2666:U:OP2	21:LR:124:TYR:OH	2.21	0.46
2:L5:3869:OMC:C2	86:L5:5293:SPM:H32	2.50	0.46
2:L5:3916:G:H2'	2:L5:3917:A:C8	2.51	0.46
2:L5:3917:A:H2'	2:L5:3918:G:C8	2.50	0.46
2:L5:4212:A:N6	2:L5:4219:A:OP2	2.46	0.46
2:L5:4261:C:OP1	14:LJ:19:LYS:NZ	2.45	0.46
2:L5:4742:G:H2'	2:L5:4743:G:C8	2.50	0.46
4:L8:5:U:H2'	4:L8:6:C:C6	2.50	0.46
21:LR:173:ARG:O	21:LR:176:ARG:NH1	2.49	0.46
24:LU:114:TYR:CD2	84:CI:50:MET:HG3	2.51	0.46
53:SP:128:HIS:CE1	82:S2:1521:C:H1'	2.51	0.46
67:SE:56:LEU:N	67:SE:60:GLU:OE1	2.37	0.46
73:SN:93:LYS:HA	73:SN:150:VAL:HG21	1.97	0.46
2:L5:209:U:OP1	28:LY:63:LYS:NZ	2.39	0.46
2:L5:460:C:H2'	2:L5:461:G:C8	2.49	0.46
2:L5:679:C:H2'	2:L5:680:G:C8	2.51	0.46
2:L5:978:G:H2'	2:L5:979:C:C6	2.51	0.46
2:L5:1494:U:H2'	2:L5:1495:G:C8	2.51	0.46
2:L5:1645:C:H2'	2:L5:1646:A:C8	2.50	0.46
2:L5:1725:U:H2'	2:L5:1726:U:H6	1.81	0.46
2:L5:1764:G:H4'	2:L5:1769:G:C6	2.51	0.46
2:L5:2376:A:H2'	2:L5:2377:C:C6	2.51	0.46
2:L5:2633:U:H2'	2:L5:2634:C:H6	1.81	0.46
2:L5:4156:G:H3'	2:L5:4157:A:H8	1.80	0.46
2:L5:4578:G:H2'	2:L5:4579:PSU:C6	2.50	0.46
3:L7:15:C:H2'	3:L7:16:A:C8	2.51	0.46
3:L7:58:A:H2'	3:L7:59:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LH:24:THR:HA	12:LH:37:ASP:HA	1.98	0.46
37:Lh:36:VAL:HG13	37:Lh:37:THR:HG23	1.97	0.46
46:Lr:16:PHE:HB3	46:Lr:27:THR:H	1.81	0.46
48:Lt:125:LEU:HG	48:Lt:127:GLY:H	1.81	0.46
65:SB:167:LYS:O	65:SB:171:ILE:HG12	2.15	0.46
66:SC:121:ARG:NH1	66:SC:123:ARG:HE	2.13	0.46
68:SG:13:GLN:NE2	82:S2:153:G:N3	2.59	0.46
70:SI:139:LYS:HB2	70:SI:139:LYS:HE2	1.69	0.46
78:SY:9:THR:H	82:S2:837:A:N6	2.14	0.46
82:S2:429:C:H2'	82:S2:430:C:C6	2.51	0.46
82:S2:525:A:H2'	82:S2:526:A:C8	2.50	0.46
82:S2:1392:U:H2'	82:S2:1393:G:C8	2.51	0.46
2:L5:10:A:H2'	2:L5:11:G:C8	2.51	0.46
2:L5:736:C:OP1	16:LM:74:ARG:NH2	2.41	0.46
2:L5:739:G:HO2'	2:L5:740:G:H8	1.62	0.46
2:L5:1290:G:H2'	2:L5:1291:G:C8	2.51	0.46
2:L5:3600:G:H2'	2:L5:3601:C:C6	2.51	0.46
2:L5:4128:A:H1'	11:LG:35:ARG:HB2	1.97	0.46
2:L5:5046:U:P	33:Ld:83:ARG:HH12	2.39	0.46
6:LB:286:LYS:HB2	6:LB:365:LEU:HD11	1.98	0.46
21:LR:44:LEU:HD22	21:LR:49:LEU:HD12	1.97	0.46
48:Lt:22:VAL:HA	48:Lt:48:LYS:HG2	1.96	0.46
57:ST:22:LEU:HD11	57:ST:28:LEU:HD21	1.98	0.46
64:SA:32:PHE:CG	82:S2:1097:G:H4'	2.51	0.46
69:SH:17:ASP:HB2	69:SH:20:GLU:HB2	1.98	0.46
82:S2:543:C:H3'	82:S2:544:G:C8	2.50	0.46
82:S2:824:C:H2'	82:S2:825:A:C8	2.51	0.46
82:S2:1606:G:O2'	82:S2:1632:G:N2	2.49	0.46
2:L5:666:G:N7	2:L5:668:C:N4	2.65	0.45
2:L5:1186:U:H3'	2:L5:1187:G:H21	1.81	0.45
2:L5:1278:C:H2'	2:L5:1279:A:O4'	2.16	0.45
2:L5:1942:A:H2'	2:L5:1943:A:H8	1.81	0.45
2:L5:3867:A2M:HM'3	2:L5:3867:A2M:H1'	1.59	0.45
2:L5:4981:G:O6	6:LB:21:ARG:NH2	2.48	0.45
8:LD:209:ARG:O	8:LD:213:GLU:HG2	2.16	0.45
11:LG:102:TYR:OH	11:LG:211:ASP:OD2	2.25	0.45
15:LL:56:ARG:NH1	15:LL:74:ARG:O	2.40	0.45
20:LQ:133:GLY:O	20:LQ:136:THR:OG1	2.26	0.45
54:SQ:90:LYS:HB3	54:SQ:90:LYS:HE2	1.79	0.45
58:SU:51:LYS:HD3	82:S2:1433:C:N4	2.31	0.45
58:SU:104:ILE:HB	58:SU:106:ILE:HG12	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SE:89:VAL:HG11	67:SE:119:ALA:HB1	1.98	0.45
68:SG:52:ILE:HA	68:SG:111:LEU:HD23	1.98	0.45
72:SL:17:PHE:CG	82:S2:222:U:H5''	2.51	0.45
75:SV:40:ASP:OD1	75:SV:44:GLY:N	2.49	0.45
82:S2:43:U:OP2	82:S2:485:A:N6	2.38	0.45
82:S2:496:C:H2'	82:S2:497:C:H6	1.81	0.45
2:L5:67:C:H41	2:L5:325:U:HO2'	1.62	0.45
2:L5:1413:C:H2'	2:L5:1414:C:C6	2.51	0.45
2:L5:1563:A:OP1	82:S2:678:U:O2'	2.31	0.45
2:L5:1751:A:H2'	2:L5:1752:G:C8	2.50	0.45
2:L5:2041:A:H62	2:L5:4434:C:H1'	1.81	0.45
2:L5:2081:C:H2'	2:L5:2082:G:H8	1.80	0.45
2:L5:2281:U:H2'	2:L5:2282:A:H8	1.81	0.45
2:L5:2857:A:H2'	2:L5:2858:A:O4'	2.16	0.45
2:L5:3732:A:H2'	2:L5:3733:A:H8	1.81	0.45
2:L5:3911:C:H2'	2:L5:3912:U:H6	1.80	0.45
2:L5:4080:C:H2'	2:L5:4081:G:C8	2.51	0.45
2:L5:4986:G:H1'	6:LB:174:ARG:NH2	2.30	0.45
6:LB:147:GLU:OE2	6:LB:198:ARG:NH2	2.31	0.45
16:LM:118:MET:HG2	18:LO:192:TYR:CZ	2.52	0.45
24:LU:27:HIS:HB3	24:LU:114:TYR:HE1	1.82	0.45
26:LW:99:GLU:HB3	26:LW:102:LYS:HE3	1.97	0.45
27:LX:129:ARG:NH2	27:LX:131:ASP:OD2	2.49	0.45
28:LY:55:VAL:HG12	28:LY:106:ILE:HA	1.98	0.45
56:SS:89:ASP:OD1	56:SS:90:VAL:N	2.49	0.45
62:Sf:147:THR:OG1	82:S2:1292:C:O2'	2.27	0.45
70:SI:150:ASP:HA	70:SI:153:LYS:HG2	1.98	0.45
76:SW:2:VAL:N	82:S2:1091:C:O2'	2.42	0.45
82:S2:212:C:H2'	82:S2:213:G:C8	2.51	0.45
82:S2:897:U:H2'	82:S2:898:U:H4'	1.97	0.45
82:S2:1804:U:H2'	82:S2:1805:G:C8	2.51	0.45
2:L5:302:C:H2'	2:L5:303:C:H6	1.82	0.45
2:L5:418:A:H2'	2:L5:419:A:C8	2.50	0.45
2:L5:745:G:H2'	2:L5:746:A:C8	2.51	0.45
2:L5:749:G:C6	2:L5:912:G:C8	3.05	0.45
2:L5:1845:U:H2'	2:L5:1846:G:H8	1.82	0.45
2:L5:2328:G:H2'	2:L5:2329:U:C6	2.52	0.45
2:L5:2608:G:H2'	2:L5:2609:G:H8	1.81	0.45
2:L5:2621:A:H2'	2:L5:2622:G:C8	2.52	0.45
2:L5:2875:C:OP1	45:Lp:23:ARG:NH2	2.45	0.45
2:L5:4765:G:OP1	12:LH:23:ARG:NE	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SQ:113:ILE:HD13	54:SQ:113:ILE:HA	1.78	0.45
63:Sg:178:ASN:HB2	63:Sg:185:LYS:HD3	1.97	0.45
63:Sg:207:CYS:SG	63:Sg:219:TRP:HB2	2.56	0.45
69:SH:51:ILE:HD11	69:SH:176:VAL:HG12	1.99	0.45
72:SL:104:LYS:O	77:SX:11:ARG:NH2	2.46	0.45
82:S2:15:U:H2'	82:S2:16:G:O4'	2.17	0.45
82:S2:1501:C:H2'	82:S2:1502:C:H6	1.81	0.45
82:S2:1817:G:H2'	82:S2:1818:A:C8	2.51	0.45
82:S2:1850:MA6:H8	82:S2:1850:MA6:O5'	2.17	0.45
2:L5:221:C:H2'	2:L5:222:C:C6	2.52	0.45
2:L5:280:G:H5''	17:LN:14:LYS:HE2	1.99	0.45
2:L5:918:G:H5'	16:LM:72:TYR:CZ	2.51	0.45
2:L5:1393:G:O2'	2:L5:4352:U:OP1	2.33	0.45
2:L5:2438:A:OP1	27:LX:106:LYS:NZ	2.42	0.45
2:L5:4411:G:H2'	2:L5:4412:C:H6	1.82	0.45
2:L5:4590:A2M:H1'	2:L5:4590:A2M:HM'3	1.56	0.45
3:L7:19:C:H2'	3:L7:20:U:C6	2.52	0.45
13:LI:39:LYS:HE3	13:LI:39:LYS:HB2	1.75	0.45
16:LM:86:TRP:O	16:LM:89:THR:OG1	2.27	0.45
20:LQ:88:ASP:HB2	20:LQ:109:ALA:HB2	1.97	0.45
65:SB:23:ASP:N	65:SB:23:ASP:OD1	2.48	0.45
65:SB:146:ARG:HB2	65:SB:149:GLN:HB2	1.97	0.45
65:SB:229:MET:O	65:SB:233:GLY:N	2.32	0.45
66:SC:259:THR:HG23	75:SV:16:LYS:HZ3	1.82	0.45
68:SG:190:ARG:NH2	82:S2:334:C:OP2	2.42	0.45
69:SH:126:HIS:CE1	69:SH:181:THR:HG23	2.51	0.45
70:SI:126:GLY:O	70:SI:128:LYS:NZ	2.44	0.45
78:SY:108:LYS:NZ	82:S2:506:G:OP1	2.47	0.45
82:S2:864:A:H2'	82:S2:865:A:H8	1.82	0.45
82:S2:1244:PSU:H2'	82:S2:1245:G:C8	2.50	0.45
82:S2:1779:G:H2'	82:S2:1780:G:C8	2.51	0.45
2:L5:6:C:H2'	2:L5:7:C:H6	1.82	0.45
2:L5:28:C:P	17:LN:193:ARG:HH22	2.39	0.45
2:L5:1178:G:H2'	8:LD:286:SER:HB3	1.97	0.45
2:L5:2365:OMC:HM23	2:L5:2365:OMC:H1'	1.84	0.45
2:L5:2374:A:H2'	2:L5:2375:A:H8	1.81	0.45
2:L5:3667:C:H2'	2:L5:3668:C:H6	1.82	0.45
2:L5:4346:U:O2'	44:Lo:80:LYS:O	2.34	0.45
2:L5:4769:G:H2'	2:L5:4770:U:H6	1.82	0.45
2:L5:5036:C:H2'	2:L5:5037:U:C6	2.52	0.45
5:LA:7:GLY:HA2	5:LA:10:LYS:HG3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LH:107:GLU:N	12:LH:107:GLU:OE1	2.49	0.45
27:LX:77:ILE:HD13	27:LX:100:VAL:HG12	1.98	0.45
50:SF:70:GLU:OE2	50:SF:86:LYS:NZ	2.32	0.45
53:SP:100:LYS:HD3	82:S2:1240:A:C8	2.50	0.45
54:SQ:16:LYS:NZ	82:S2:1648:G:O6	2.36	0.45
56:SS:62:ASP:OD1	56:SS:62:ASP:N	2.48	0.45
65:SB:147:ASN:OD1	65:SB:148:ASN:N	2.50	0.45
66:SC:169:TYR:OH	66:SC:175:GLY:O	2.24	0.45
67:SE:198:ARG:HA	67:SE:208:VAL:HA	1.98	0.45
74:SO:34:PHE:HB3	74:SO:41:PHE:HB2	1.99	0.45
82:S2:16:G:H2'	82:S2:17:C:C6	2.51	0.45
82:S2:57:U:O2'	82:S2:499:G:N3	2.48	0.45
82:S2:644:OMG:H2'	82:S2:645:C:C6	2.51	0.45
82:S2:1426:U:H2'	82:S2:1427:C:C6	2.51	0.45
82:S2:1844:U:H2'	82:S2:1845:A:C8	2.52	0.45
2:L5:318:A:H2'	2:L5:319:A:C8	2.50	0.45
2:L5:974:C:H5''	10:LF:43:ARG:NH1	2.31	0.45
2:L5:977:C:OP1	7:LC:333:LYS:NZ	2.41	0.45
2:L5:1290:G:H2'	2:L5:1291:G:H8	1.82	0.45
2:L5:1323:A2M:H2'	2:L5:1324:A:O4'	2.17	0.45
2:L5:2018:C:H2'	2:L5:2019:C:C6	2.52	0.45
2:L5:2279:A:O2'	34:Le:48:ARG:NH2	2.50	0.45
2:L5:2303:C:H5''	34:Le:104:SER:HB3	1.99	0.45
2:L5:2347:A:OP1	34:Le:22:ARG:NH2	2.32	0.45
2:L5:2634:C:H2'	2:L5:2635:U:H6	1.81	0.45
2:L5:2682:G:H2'	2:L5:2683:C:H6	1.81	0.45
2:L5:3872:A:H2'	2:L5:3873:G:H8	1.81	0.45
3:L7:60:G:H2'	3:L7:61:G:H8	1.81	0.45
10:LF:136:VAL:HG23	10:LF:140:ILE:HD13	1.99	0.45
13:LI:73:ASN:HB2	13:LI:87:MET:HE1	1.99	0.45
47:Ls:77:LYS:HE2	47:Ls:193:PHE:HE1	1.81	0.45
51:SK:31:LYS:HZ3	51:SK:39:ASN:N	2.14	0.45
52:SM:36:ARG:HB3	82:S2:1286:G:O6	2.16	0.45
64:SA:104:THR:O	64:SA:107:THR:OG1	2.34	0.45
82:S2:556:U:H3'	82:S2:557:U:H4'	1.99	0.45
82:S2:1101:U:H2'	82:S2:1102:G:C8	2.51	0.45
1:Pt:50:U:O4	1:Pt:64:G:O6	2.35	0.45
2:L5:1287:G:C2	9:LE:132:PRO:HG3	2.52	0.45
2:L5:1577:G:O2'	2:L5:1612:G:H4'	2.16	0.45
2:L5:1654:G:C6	2:L5:3914:U:H5''	2.52	0.45
2:L5:1759:G:H1	2:L5:1773:U:H3	1.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1979:A:H1'	2:L5:1988:G:N2	2.31	0.45
2:L5:2694:G:H5'	2:L5:2695:A:C2	2.51	0.45
2:L5:4113:U:H4'	2:L5:4115:G:C5	2.51	0.45
3:L7:2:U:H3	3:L7:117:G:H1	1.64	0.45
4:L8:140:C:H2'	4:L8:141:C:C6	2.51	0.45
6:LB:27:GLY:HA2	6:LB:276:HIS:CD2	2.52	0.45
6:LB:50:LYS:NZ	6:LB:337:VAL:O	2.44	0.45
6:LB:369:ASP:OD1	6:LB:373:LYS:NZ	2.46	0.45
7:LC:33:ARG:HG2	7:LC:36:ILE:HD12	1.99	0.45
9:LE:157:HIS:HA	9:LE:160:LYS:HE3	1.98	0.45
65:SB:63:LYS:HE2	65:SB:90:ASP:HA	1.98	0.45
68:SG:126:ASP:OD1	68:SG:126:ASP:N	2.47	0.45
77:SX:17:ARG:HH22	82:S2:659:G:N2	2.15	0.45
81:Se:41:ARG:HG3	81:Se:42:PHE:CD1	2.52	0.45
82:S2:1269:G:H2'	82:S2:1270:G:H8	1.81	0.45
82:S2:1279:C:H2'	82:S2:1280:G:C8	2.51	0.45
82:S2:1503:C:H2'	82:S2:1504:U:C6	2.52	0.45
2:L5:67:C:OP2	2:L5:312:G:N2	2.50	0.45
2:L5:310:G:H2'	2:L5:311:G:C8	2.52	0.45
2:L5:691:C:H2'	2:L5:692:A:H8	1.81	0.45
2:L5:1199:G:H2'	2:L5:1200:G:C8	2.51	0.45
2:L5:1621:A:H2'	2:L5:1622:U:C6	2.52	0.45
2:L5:2079:G:H2'	2:L5:2080:U:H6	1.82	0.45
2:L5:2394:G:O2'	2:L5:2819:U:O4	2.31	0.45
2:L5:2658:G:N2	2:L5:2676:A:OP2	2.49	0.45
2:L5:4153:C:H2'	2:L5:4154:G:H8	1.82	0.45
2:L5:4383:U:H2'	2:L5:4384:U:C6	2.52	0.45
2:L5:4691:A:H2'	2:L5:4692:A:O4'	2.15	0.45
89:L5:5297:HMT:C7	89:L5:5297:HMT:C9	2.94	0.45
7:LC:183:VAL:HA	7:LC:204:ARG:HB3	1.99	0.45
9:LE:186:LEU:N	9:LE:250:GLN:OE1	2.44	0.45
14:LJ:99:PHE:HB2	14:LJ:159:LYS:HE3	1.98	0.45
20:LQ:22:ASP:HB3	20:LQ:25:LEU:HB3	1.99	0.45
56:SS:75:ARG:NH1	56:SS:95:TYR:HB2	2.32	0.45
63:Sg:239:LEU:HD11	63:Sg:248:LEU:HD21	1.98	0.45
79:Sa:70:LYS:NZ	82:S2:988:C:OP2	2.50	0.45
82:S2:96:C:H2'	82:S2:97:U:H6	1.82	0.45
82:S2:652:U:H2'	82:S2:653:A:C8	2.52	0.45
82:S2:1680:G:H2'	82:S2:1681:U:C6	2.52	0.45
2:L5:499:G:H2'	2:L5:499:G:N3	2.32	0.45
2:L5:1296:G:H2'	2:L5:1297:U:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1382:G:H2'	2:L5:1383:G:H8	1.81	0.45
2:L5:1490:G:H2'	2:L5:1491:A:H8	1.82	0.45
2:L5:1751:A:H2'	2:L5:1752:G:H8	1.80	0.45
2:L5:2568:C:H2'	2:L5:2569:G:H8	1.82	0.45
2:L5:2683:C:H2'	2:L5:2684:C:H6	1.81	0.45
2:L5:2800:G:H1'	39:Lj:9:GLY:HA3	1.98	0.45
3:L7:4:U:H2'	3:L7:5:A:C8	2.52	0.45
4:L8:138:C:H2'	4:L8:139:G:H8	1.82	0.45
6:LB:20:LYS:O	6:LB:275:HIS:ND1	2.49	0.45
13:LI:52:MET:HE3	13:LI:163:GLN:HG2	1.98	0.45
51:SK:64:TRP:CD2	61:Sd:23:VAL:HG22	2.52	0.45
56:SS:125:HIS:CD2	56:SS:131:VAL:HG11	2.52	0.45
66:SC:187:ARG:NH2	82:S2:1142:G:OP1	2.49	0.45
68:SG:192:ILE:HG22	68:SG:196:LYS:HE3	1.98	0.45
82:S2:919:A:O2'	82:S2:1020:A:N1	2.50	0.45
83:Zt:27:U:H2'	83:Zt:28:C:H6	1.82	0.45
2:L5:491:G:H2'	2:L5:492:U:H6	1.81	0.45
2:L5:980:U:H2'	2:L5:981:C:C6	2.52	0.45
2:L5:1567:U:H2'	2:L5:1568:C:H6	1.82	0.45
2:L5:1646:A:H2'	2:L5:1647:U:C6	2.52	0.45
2:L5:2063:G:H2'	2:L5:2064:G:H8	1.82	0.45
2:L5:2323:C:H2'	2:L5:2324:C:C6	2.52	0.45
2:L5:2555:G:H2'	2:L5:2556:G:C8	2.51	0.45
2:L5:3717:A:H2'	2:L5:3718:A2M:C8	2.46	0.45
2:L5:4589:A:N1	2:L5:4621:C:O2'	2.49	0.45
3:L7:107:G:H2'	3:L7:108:G:H8	1.82	0.45
46:Lr:38:PHE:O	46:Lr:45:HIS:NE2	2.33	0.45
47:Ls:58:ASN:C	47:Ls:62:ARG:HE	2.25	0.45
47:Ls:160:LEU:HD11	47:Ls:175:LEU:HD21	1.98	0.45
53:SP:37:TYR:HB3	53:SP:41:GLN:HB2	1.98	0.45
57:ST:39:LEU:HD23	57:ST:39:LEU:HA	1.75	0.45
58:SU:79:ARG:NH2	82:S2:1669:G:OP1	2.50	0.45
64:SA:54:THR:HG21	64:SA:163:CYS:HB3	1.99	0.45
66:SC:180:VAL:HG23	66:SC:197:PRO:HG3	1.99	0.45
80:Sb:68:GLY:C	82:S2:928:G:H21	2.25	0.45
82:S2:35:C:H2'	82:S2:36:U:C6	2.51	0.45
82:S2:212:C:H2'	82:S2:213:G:H8	1.82	0.45
82:S2:373:G:H2'	82:S2:374:G:H8	1.81	0.45
82:S2:1116:C:H2'	82:S2:1117:C:C6	2.52	0.45
82:S2:1208:A:H2'	82:S2:1209:A:C8	2.52	0.45
82:S2:1288:OMU:HN3	82:S2:1311:C:H42	1.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1720:U:H5''	82:S2:1721:U:H5''	1.98	0.45
82:S2:1736:G:H2'	82:S2:1737:G:H8	1.81	0.45
2:L5:44:A:N3	2:L5:94:A:H2	2.16	0.44
2:L5:162:A:H2'	2:L5:163:A:C8	2.52	0.44
2:L5:270:U:H2'	2:L5:271:C:H6	1.81	0.44
2:L5:1304:C:H2'	2:L5:1305:C:C6	2.52	0.44
2:L5:2649:G:H2'	2:L5:2650:G:C8	2.51	0.44
2:L5:3932:U:H2'	2:L5:3933:G:H8	1.82	0.44
2:L5:4452:U:H5'	89:L5:5297:HMT:H16	1.99	0.44
2:L5:4592:C:H2'	2:L5:4593:C:C6	2.51	0.44
2:L5:5053:U:H5'	2:L5:5054:C:C4	2.52	0.44
7:LC:268:ARG:HH12	7:LC:269:LYS:HE2	1.81	0.44
20:LQ:3:VAL:HG13	20:LQ:5:ILE:HG12	2.00	0.44
56:SS:64:VAL:O	56:SS:68:ILE:HG12	2.16	0.44
67:SE:122:LYS:HE2	67:SE:124:CYS:SG	2.57	0.44
69:SH:65:PRO:HB2	69:SH:67:PRO:HD2	1.99	0.44
82:S2:27:A2M:H1'	82:S2:27:A2M:HM'3	1.51	0.44
82:S2:51:U:H2'	82:S2:52:G:H8	1.82	0.44
82:S2:649:PSU:H2'	82:S2:650:A:C8	2.51	0.44
82:S2:668:A2M:HM'3	82:S2:668:A2M:H1'	1.55	0.44
82:S2:1407:U:H2'	82:S2:1408:U:H6	1.82	0.44
82:S2:1702:G:O6	82:S2:1836:G:N2	2.50	0.44
2:L5:90:G:OP2	2:L5:92:C:N4	2.41	0.44
2:L5:1566:C:H2'	2:L5:1567:U:H6	1.81	0.44
2:L5:2060:G:H4'	22:LS:118:ARG:HG3	1.99	0.44
2:L5:2413:U:H2'	2:L5:2414:G:H8	1.82	0.44
2:L5:3588:C:H2'	2:L5:3589:G:O4'	2.17	0.44
2:L5:3718:A2M:HM'3	2:L5:3718:A2M:H1'	1.57	0.44
2:L5:4210:U:H3	2:L5:4222:G:H1	1.65	0.44
2:L5:4299:PSU:H2'	2:L5:4300:U:C6	2.53	0.44
2:L5:4452:U:H5'	89:L5:5297:HMT:H7	1.98	0.44
11:LG:162:ASP:HB3	11:LG:163:PRO:HD3	1.99	0.44
16:LM:28:VAL:HB	16:LM:37:LEU:HB3	1.99	0.44
21:LR:47:ASP:HB3	84:CI:76:VAL:O	2.18	0.44
23:LT:144:ASN:HB2	23:LT:146:LYS:HE2	1.98	0.44
24:LU:22:THR:HA	24:LU:71:THR:HA	1.99	0.44
36:Lg:64:LEU:HD23	36:Lg:67:LEU:HD12	1.99	0.44
49:SD:142:LEU:HD13	49:SD:150:MET:HE2	1.99	0.44
69:SH:18:GLU:OE1	69:SH:18:GLU:N	2.50	0.44
82:S2:89:C:H2'	82:S2:90:G:H8	1.81	0.44
82:S2:352:U:H2'	82:S2:353:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:747:U:O2	82:S2:796:G:N2	2.51	0.44
82:S2:1242:U:H4'	82:S2:1243:U:H5''	1.99	0.44
2:L5:400:A2M:HM'3	2:L5:400:A2M:H1'	1.52	0.44
2:L5:1534:A2M:H8	2:L5:1637:A:H61	1.81	0.44
2:L5:1768:C:H42	2:L5:1772:C:H41	1.65	0.44
2:L5:2743:A:H2'	2:L5:2744:A:C8	2.52	0.44
2:L5:3708:C:H2'	2:L5:3709:U:C6	2.52	0.44
2:L5:3867:A2M:H2'	2:L5:3868:G:C8	2.53	0.44
2:L5:4345:C:H2'	2:L5:4346:U:H6	1.82	0.44
2:L5:4523:A2M:H1'	2:L5:4558:U:C4	2.51	0.44
2:L5:4913:G:H4'	2:L5:4914:C:O5'	2.17	0.44
2:L5:4929:C:OP1	16:LM:114:LYS:NZ	2.37	0.44
8:LD:156:GLY:HA2	8:LD:181:PRO:HG3	1.99	0.44
11:LG:261:LEU:HA	11:LG:264:LYS:HB3	1.99	0.44
20:LQ:178:ARG:N	30:La:51:GLY:HA2	2.31	0.44
48:Lt:12:VAL:HG11	48:Lt:65:GLN:H	1.82	0.44
63:Sg:183:LYS:HD2	63:Sg:183:LYS:HA	1.82	0.44
66:SC:252:THR:OG1	66:SC:254:ASP:OD1	2.29	0.44
66:SC:256:TRP:CD2	76:SW:68:ARG:HD3	2.52	0.44
77:SX:68:LYS:HG2	77:SX:91:LEU:HD22	1.99	0.44
82:S2:376:A:H2'	82:S2:377:G:O4'	2.18	0.44
82:S2:835:C:N3	82:S2:839:C:N4	2.65	0.44
2:L5:158:A:N1	2:L5:276:C:O2'	2.38	0.44
2:L5:189:G:H2'	2:L5:190:G:H8	1.83	0.44
2:L5:695:G:H3'	2:L5:696:C:H4'	1.99	0.44
2:L5:727:C:H2'	2:L5:728:U:C6	2.52	0.44
2:L5:1195:G:H2'	2:L5:1196:G:H8	1.82	0.44
2:L5:1519:C:H2'	2:L5:1520:C:H6	1.82	0.44
2:L5:1594:C:O2'	2:L5:1597:G:H1'	2.17	0.44
2:L5:2055:G:O5'	18:LO:130:LYS:NZ	2.47	0.44
2:L5:2631:U:O4	24:LU:51:GLY:N	2.51	0.44
2:L5:3687:A:O2'	5:LA:236:GLY:N	2.47	0.44
2:L5:4070:U:H2'	2:L5:4071:U:C6	2.53	0.44
2:L5:4082:G:H2'	2:L5:4083:U:C6	2.53	0.44
6:LB:240:LEU:HB2	6:LB:248:LEU:HA	2.00	0.44
12:LH:95:VAL:HG12	42:Lm:82:LEU:HD13	1.98	0.44
23:LT:102:ARG:O	23:LT:106:LEU:HG	2.17	0.44
30:La:30:GLY:O	30:La:40:HIS:NE2	2.38	0.44
54:SQ:137:ALA:N	82:S2:1650:A:OP1	2.51	0.44
65:SB:29:ASP:OD1	65:SB:29:ASP:N	2.50	0.44
67:SE:9:LEU:HB2	67:SE:30:ARG:HD3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SE:29:PRO:HA	82:S2:496:C:H5'	1.99	0.44
68:SG:7:PHE:HD2	68:SG:10:THR:HG22	1.81	0.44
69:SH:37:LYS:HA	69:SH:40:LEU:HB3	2.00	0.44
82:S2:1605:G:H2'	82:S2:1606:G:C4	2.53	0.44
83:Zt:9:A:O2'	83:Zt:45:G:N3	2.43	0.44
2:L5:717:U:H2'	2:L5:718:C:C6	2.53	0.44
2:L5:951:G:H2'	2:L5:952:G:C8	2.52	0.44
2:L5:982:U:OP1	9:LE:73:TYR:OH	2.20	0.44
2:L5:1332:C:H5''	34:Le:29:VAL:HB	1.97	0.44
2:L5:1637:A:OP1	2:L5:1640:C:N4	2.48	0.44
2:L5:2358:G:H2'	2:L5:2359:U:O4'	2.17	0.44
2:L5:2696:A:H62	40:Lk:35:LYS:NZ	2.15	0.44
2:L5:2699:C:H2'	2:L5:2700:G:C8	2.52	0.44
2:L5:2756:G:H2'	2:L5:2757:A:C8	2.52	0.44
2:L5:3758:U:H2'	2:L5:3765:G:N2	2.32	0.44
2:L5:3922[A]:G:H4'	2:L5:4183:G:H22	1.82	0.44
2:L5:4094:G:H1	2:L5:4114:C:H2'	1.83	0.44
2:L5:4111:U:H2'	2:L5:4112:C:C5	2.53	0.44
2:L5:4587:G:H5''	18:LO:61:ARG:HH12	1.82	0.44
4:L8:78:G:O2'	37:Lh:45:SER:OG	2.31	0.44
8:LD:41:LYS:HG3	23:LT:93:ILE:HG21	1.99	0.44
21:LR:174:GLU:HA	21:LR:177:LEU:HB2	2.00	0.44
30:La:110:LYS:HG3	30:La:128:PHE:HB2	2.00	0.44
47:Ls:47:LEU:HD23	47:Ls:53:VAL:HB	2.00	0.44
49:SD:146:ARG:NH1	82:S2:1489:A:N3	2.64	0.44
54:SQ:111:ILE:HD12	54:SQ:111:ILE:H	1.82	0.44
55:SR:6:THR:HA	82:S2:1373:C:H5'	1.99	0.44
55:SR:111:PHE:HE1	64:SA:12:GLU:HG3	1.83	0.44
57:ST:10:ASN:HB3	57:ST:13:GLU:OE2	2.17	0.44
61:Sd:54:LYS:NZ	82:S2:1482:C:OP1	2.50	0.44
67:SE:187:ALA:O	67:SE:245:ARG:NH1	2.43	0.44
82:S2:159:A2M:HM'3	82:S2:159:A2M:H1'	1.54	0.44
82:S2:354:OMU:HM23	82:S2:354:OMU:H1'	1.71	0.44
82:S2:509:OMG:H2'	82:S2:510:G:H8	1.82	0.44
82:S2:1004:PSU:H2'	82:S2:1005:G:C8	2.48	0.44
82:S2:1093:A:H2'	82:S2:1094:C:C6	2.52	0.44
82:S2:1597:C:H4'	82:S2:1603:G:O6	2.17	0.44
82:S2:1667:U:H2'	82:S2:1668:U:C6	2.53	0.44
83:Zt:67:U:H2'	83:Zt:68:C:H6	1.82	0.44
1:Pt:56:C:N4	44:Lo:104:ILE:HG21	2.33	0.44
2:L5:65:A:N6	2:L5:75:G:H1'	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:133:C:N4	2:L5:134:G:N3	2.66	0.44
2:L5:275:C:H2'	2:L5:276:C:C6	2.53	0.44
2:L5:684:G:H5''	9:LE:100:LYS:HE3	2.00	0.44
2:L5:1296:G:H2'	2:L5:1297:U:C6	2.53	0.44
2:L5:1705:G:OP1	2:L5:1705:G:N2	2.26	0.44
2:L5:1830:G:H2'	2:L5:1831:G:C8	2.53	0.44
2:L5:2087:C:P	7:LC:303:ARG:HH22	2.41	0.44
2:L5:2458:C:O2'	2:L5:3671:G:N3	2.44	0.44
2:L5:4220:6MZ:O2'	2:L5:4222:G:OP1	2.27	0.44
2:L5:4754:G:N1	2:L5:4880:C:N3	2.66	0.44
51:SK:90:VAL:HG21	51:SK:95:ARG:HB2	2.00	0.44
68:SG:170:ARG:NH1	82:S2:71:G:O6	2.50	0.44
70:SI:10:LYS:NZ	82:S2:370:G:O2'	2.51	0.44
76:SW:30:CYS:SG	76:SW:31:SER:N	2.90	0.44
77:SX:129:SER:HB2	82:S2:29:G:H4'	1.99	0.44
80:Sb:23:ARG:NH1	80:Sb:27:SER:O	2.51	0.44
82:S2:92:A:H61	82:S2:444:G:H1'	1.83	0.44
82:S2:1198:G:H2'	82:S2:1199:A:H8	1.82	0.44
82:S2:1345:G:OP1	82:S2:1688:C:O2'	2.35	0.44
82:S2:1405:A:H2'	82:S2:1406:G:O4'	2.17	0.44
82:S2:1744:G:HO2'	82:S2:1789:G:H22	1.60	0.44
82:S2:1856:C:H2'	82:S2:1857:G:C8	2.52	0.44
2:L5:161:G:H2'	2:L5:162:A:C8	2.53	0.44
2:L5:689:U:H2'	2:L5:690:C:C6	2.52	0.44
2:L5:700:G:H2'	2:L5:701:G:C8	2.53	0.44
2:L5:1908:A:H2'	2:L5:1909:G:O4'	2.18	0.44
2:L5:2351:OMC:HM23	2:L5:2351:OMC:H1'	1.71	0.44
2:L5:3607:U:H2'	2:L5:3608:A:H8	1.82	0.44
2:L5:3700:C:H2'	2:L5:3746:A:H61	1.83	0.44
2:L5:3765:G:O2'	2:L5:3767:C:N4	2.51	0.44
2:L5:3787:G:H1'	2:L5:3789:C:N4	2.31	0.44
2:L5:3825:A2M:H2'	2:L5:3826:C:C6	2.53	0.44
2:L5:3927:U:H2'	2:L5:3928:A:C8	2.52	0.44
2:L5:4454:G:H1	2:L5:4526:U:H3	1.65	0.44
2:L5:4523:A2M:H2'	2:L5:4559:A:N7	2.32	0.44
2:L5:4593:C:H2'	2:L5:4594:U:H6	1.83	0.44
2:L5:4667:C:H2'	2:L5:4668:U:O4'	2.18	0.44
4:L8:58:G:N7	39:Lj:63:ARG:NH2	2.49	0.44
22:LS:69:GLU:HG3	22:LS:71:SER:H	1.82	0.44
56:SS:61:GLU:HA	56:SS:64:VAL:HG12	1.99	0.44
59:SZ:48:VAL:HG23	59:SZ:80:ARG:HD2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SA:42:LYS:HD2	64:SA:48:ILE:HD11	1.99	0.44
76:SW:111:MET:HE3	76:SW:116:ALA:HA	1.99	0.44
78:SY:22:GLN:HB2	78:SY:72:PHE:CZ	2.53	0.44
82:S2:28:U:H2'	82:S2:29:G:C8	2.51	0.44
82:S2:106:C:H2'	82:S2:107:A:C8	2.43	0.44
82:S2:1736:G:H2'	82:S2:1737:G:C8	2.53	0.44
82:S2:1737:G:O6	82:S2:1797:U:O4	2.35	0.44
1:Pt:27:U:H2'	1:Pt:28:U:H6	1.83	0.44
2:L5:1716:G:H2'	2:L5:1717:C:C6	2.52	0.44
2:L5:1823:G:H2'	2:L5:1824:G:C8	2.52	0.44
2:L5:2041:A:N7	2:L5:4434:C:O2'	2.50	0.44
2:L5:2081:C:H2'	2:L5:2082:G:C8	2.53	0.44
2:L5:2283:G:H2'	2:L5:2284:G:H8	1.82	0.44
2:L5:2521:G:H2'	2:L5:2522:G:C8	2.53	0.44
2:L5:2699:C:H2'	2:L5:2700:G:H8	1.83	0.44
2:L5:3841:OMC:HM23	2:L5:3841:OMC:H1'	1.80	0.44
2:L5:3844:PSU:H2'	2:L5:3845:A:H8	1.82	0.44
2:L5:3937:C:O2'	17:LN:124:ASP:OD1	2.36	0.44
2:L5:4086:G:C8	27:LX:44:PRO:HG3	2.53	0.44
2:L5:4565:C:H2'	2:L5:4566:U:H6	1.81	0.44
2:L5:4637:OMG:HM23	2:L5:4637:OMG:H1'	1.72	0.44
2:L5:4685:U:H2'	2:L5:4686:G:H8	1.83	0.44
2:L5:5030:U:C2	2:L5:5031:G:C8	3.05	0.44
3:L7:58:A:H2'	3:L7:59:G:C8	2.53	0.44
4:L8:7:U:H2'	4:L8:8:U:C6	2.52	0.44
16:LM:96:GLU:O	16:LM:100:ARG:HG2	2.17	0.44
67:SE:38:LEU:HA	67:SE:41:CYS:SG	2.58	0.44
82:S2:696:G:H8	82:S2:733:C:H41	1.65	0.44
82:S2:1047:C:H2'	82:S2:1048:G:O4'	2.17	0.44
82:S2:1146:C:H2'	82:S2:1147:C:C6	2.52	0.44
82:S2:1198:G:H2'	82:S2:1199:A:C8	2.52	0.44
82:S2:1476:A:H4'	82:S2:1477:U:H5''	2.00	0.44
82:S2:1760:G:N1	82:S2:1774:C:OP1	2.51	0.44
2:L5:75:G:O2'	15:LL:101:ARG:NH1	2.38	0.44
2:L5:95:G:OP2	15:LL:11:LYS:NZ	2.51	0.44
2:L5:406:C:O2'	2:L5:407:A:OP1	2.33	0.44
2:L5:1334:A:H2'	2:L5:1335:G:C8	2.51	0.44
2:L5:1419:G:H5''	20:LQ:71:LYS:HZ2	1.82	0.44
2:L5:1569:U:H2'	2:L5:1570:G:H8	1.83	0.44
2:L5:1802:A:O2'	23:LT:108:ARG:NH2	2.51	0.44
2:L5:2632:PSU:H2'	2:L5:2633:U:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2649:G:H2'	2:L5:2650:G:H8	1.83	0.44
2:L5:2696:A:OP1	40:Lk:26:LYS:NZ	2.50	0.44
2:L5:2844:A:N6	2:L5:3839:G:O2'	2.51	0.44
2:L5:2884:G:H2'	2:L5:2885:A:C8	2.53	0.44
2:L5:2903:G:H1'	2:L5:2904:U:C5	2.53	0.44
2:L5:3611:A:H2	2:L5:5016:A:H8	1.66	0.44
2:L5:3736:A:H2'	2:L5:3737:A:C8	2.52	0.44
2:L5:4517:A:OP2	6:LB:2:SER:N	2.51	0.44
2:L5:4695:C:H2'	2:L5:4696:C:O4'	2.17	0.44
4:L8:90:C:H2'	4:L8:91:A:C8	2.53	0.44
6:LB:17:LEU:O	6:LB:19:ARG:N	2.50	0.44
9:LE:67:ALA:HA	9:LE:69:TYR:CE2	2.52	0.44
58:SU:38:ASP:OD1	58:SU:39:LEU:N	2.51	0.44
64:SA:42:LYS:HD3	64:SA:46:ILE:HB	2.00	0.44
67:SE:59:ASP:O	67:SE:63:LYS:HG3	2.18	0.44
69:SH:43:LEU:HB3	69:SH:72:PHE:CE1	2.53	0.44
69:SH:165:ASN:HA	69:SH:168:HIS:HE1	1.83	0.44
70:SI:141:ARG:HA	70:SI:141:ARG:CZ	2.48	0.44
74:SO:44:VAL:HG12	74:SO:53:ILE:HB	2.00	0.44
82:S2:526:A:H2'	82:S2:527:C:C6	2.53	0.44
82:S2:605:A:N3	82:S2:639:C:H1'	2.33	0.44
82:S2:1688:C:H2'	82:S2:1689:C:H6	1.81	0.44
82:S2:1700:C:O2	82:S2:1834:A:N6	2.50	0.44
2:L5:184:U:O2	2:L5:253:G:C2	2.71	0.43
2:L5:443:G:OP1	35:Lf:68:ARG:NH2	2.51	0.43
2:L5:457:G:H2'	2:L5:458:C:C6	2.53	0.43
2:L5:457:G:OP1	9:LE:115:TYR:HB3	2.17	0.43
2:L5:2063:G:H2'	2:L5:2064:G:C8	2.53	0.43
2:L5:2109:G:H2'	2:L5:2110:C:C6	2.52	0.43
2:L5:2250:C:H2'	2:L5:2251:G:C8	2.53	0.43
2:L5:2347:A:C4	34:Le:31:ILE:HD11	2.52	0.43
2:L5:2692:U:H2'	2:L5:2693:G:O4'	2.18	0.43
2:L5:4319:C:H2'	2:L5:4320:G:H8	1.82	0.43
2:L5:4402:C:N3	2:L5:4403:PSU:N1	2.65	0.43
2:L5:4617:G:OP1	6:LB:62:ARG:NH1	2.50	0.43
2:L5:4717:A:H4'	6:LB:20:LYS:HD3	2.00	0.43
6:LB:153:MET:HB3	6:LB:194:LEU:HD11	2.00	0.43
10:LF:238:ASP:O	10:LF:241:ASN:ND2	2.49	0.43
13:LI:205:PRO:HD2	13:LI:208:LYS:HE2	2.01	0.43
50:SF:140:ASP:OD1	50:SF:140:ASP:N	2.51	0.43
55:SR:24:LEU:HB2	55:SR:58:MET:HE1	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:ST:96:SER:HB3	57:ST:99:VAL:HB	1.99	0.43
59:SZ:106:GLN:HG3	59:SZ:108:ILE:HD11	2.00	0.43
62:Sf:107:LYS:NZ	62:Sf:108:VAL:O	2.45	0.43
63:Sg:251:ALA:HA	63:Sg:256:ILE:HD13	2.00	0.43
65:SB:33:VAL:HA	65:SB:96:CYS:HB2	2.00	0.43
65:SB:40:ASN:OD1	65:SB:41:ILE:HD12	2.18	0.43
66:SC:114:LYS:HD2	82:S2:1358:U:H5'	2.00	0.43
68:SG:56:ASN:HB2	68:SG:108:VAL:HG22	1.99	0.43
82:S2:644:OMG:HM23	82:S2:644:OMG:H1'	1.70	0.43
82:S2:688:U:H1'	82:S2:689:U:OP2	2.18	0.43
2:L5:715:G:OP1	7:LC:321:ASN:ND2	2.46	0.43
2:L5:919:C:OP1	16:LM:69:HIS:ND1	2.26	0.43
2:L5:1298:C:H2'	2:L5:1299:G:H8	1.82	0.43
2:L5:1354:A:H62	2:L5:1502:G:HO2'	1.62	0.43
2:L5:1503:A:H1'	2:L5:1504:G:C8	2.53	0.43
2:L5:1548:G:O2'	2:L5:2812:A:N3	2.47	0.43
2:L5:2102:G:N2	2:L5:2104:G:H1	2.15	0.43
2:L5:2389:A:H2'	2:L5:2390:G:C8	2.53	0.43
2:L5:2459:G:N2	2:L5:2462:C:OP2	2.45	0.43
2:L5:2861:OMC:HM23	2:L5:2861:OMC:H1'	1.70	0.43
2:L5:2877:G:H2'	2:L5:2878:G:O4'	2.18	0.43
2:L5:3619:G:H4'	21:LR:79:GLY:O	2.19	0.43
2:L5:3701:OMC:H4'	2:L5:3702:A:H5''	1.99	0.43
2:L5:3825:A2M:H1'	2:L5:3825:A2M:HM'3	1.51	0.43
2:L5:4174:U:H2'	2:L5:4175:G:C8	2.52	0.43
2:L5:4551:U:H2'	2:L5:4552:PSU:C6	2.53	0.43
5:LA:27:ALA:HB3	5:LA:128:ARG:HH22	1.82	0.43
6:LB:36:ASP:OD1	6:LB:36:ASP:N	2.50	0.43
11:LG:57:TRP:O	11:LG:62:ARG:NH1	2.51	0.43
14:LJ:52:LYS:HB3	14:LJ:65:ASN:HA	1.99	0.43
42:Lm:93:LYS:HD3	42:Lm:102:ARG:HG2	1.98	0.43
50:SF:142:SER:HB3	60:Sc:50:VAL:HG22	2.00	0.43
58:SU:61:LEU:HB2	58:SU:82:MET:HB3	2.00	0.43
64:SA:215:GLN:O	64:SA:219:GLU:HG2	2.17	0.43
70:SI:165:GLN:HB3	70:SI:171:LEU:HD23	2.00	0.43
72:SL:98:LYS:HD3	72:SL:99:TYR:CZ	2.53	0.43
74:SO:42:VAL:HG11	74:SO:78:ALA:HA	2.01	0.43
78:SY:105:LYS:O	78:SY:109:GLU:HG2	2.18	0.43
82:S2:323:C:H5'	82:S2:324:C:OP1	2.18	0.43
82:S2:563:G:O2'	82:S2:564:A:OP1	2.34	0.43
82:S2:944:A:H2'	82:S2:945:U:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1174:PSU:H2'	82:S2:1175:G:C8	2.51	0.43
82:S2:1846:G:H2'	82:S2:1847:G:C8	2.53	0.43
2:L5:907:C:H2'	2:L5:908:G:C8	2.53	0.43
2:L5:1095:A:H2	2:L5:1200:G:N1	2.09	0.43
2:L5:1281:G:C6	9:LE:128:HIS:HB2	2.53	0.43
2:L5:1358:G:OP1	7:LC:117:THR:N	2.39	0.43
2:L5:1468:C:H2'	2:L5:1469:C:H6	1.83	0.43
2:L5:1647:U:H5''	87:L5:5291:SPD:H72	1.99	0.43
2:L5:1850:A:N3	2:L5:2283:G:O2'	2.46	0.43
2:L5:2557:G:N2	2:L5:2570:U:O2	2.32	0.43
2:L5:2578:G:N7	29:LZ:17:ARG:NH2	2.62	0.43
2:L5:2831:G:H2'	2:L5:2832:A:H8	1.84	0.43
2:L5:3627:OMG:HM23	2:L5:3627:OMG:H1'	1.83	0.43
2:L5:3736:A:H2'	2:L5:3737:A:H8	1.83	0.43
2:L5:3788:C:N4	2:L5:3812:C:O4'	2.51	0.43
2:L5:3936:A:N6	2:L5:4175:G:O6	2.51	0.43
2:L5:3949:A:OP1	2:L5:4065:G:N2	2.52	0.43
2:L5:5062:G:H2'	2:L5:5063:G:H8	1.82	0.43
32:Lc:82:GLY:HA2	32:Lc:91:VAL:HG12	2.00	0.43
44:Lo:63:THR:O	44:Lo:87:ARG:NH1	2.51	0.43
57:ST:134:ILE:HA	57:ST:137:GLN:HG2	2.00	0.43
64:SA:140:VAL:HG13	64:SA:142:LEU:HB2	2.00	0.43
66:SC:202:THR:OG1	66:SC:221:ASP:HB3	2.18	0.43
66:SC:202:THR:HG1	66:SC:221:ASP:HB3	1.83	0.43
68:SG:31:ARG:HG3	68:SG:101:ILE:HG13	2.00	0.43
72:SL:126:VAL:HG12	72:SL:145:VAL:HG22	2.00	0.43
76:SW:125:ILE:HD12	76:SW:125:ILE:HA	1.85	0.43
78:SY:89:HIS:CE1	78:SY:90:ARG:HG3	2.53	0.43
82:S2:77:A:H2'	82:S2:78:C:C6	2.53	0.43
82:S2:102:A:H4'	82:S2:104:A:C8	2.53	0.43
82:S2:1189:A:H2'	82:S2:1190:A:H8	1.83	0.43
1:Pt:27:U:H2'	1:Pt:28:U:C6	2.53	0.43
2:L5:19:G:P	37:Lh:93:ARG:HE	2.42	0.43
2:L5:49:U:H2'	2:L5:50:C:H6	1.82	0.43
2:L5:126:C:H2'	2:L5:127:G:H8	1.84	0.43
2:L5:271:C:H2'	2:L5:272:U:H6	1.82	0.43
2:L5:2028:C:H2'	2:L5:2029:A:H8	1.83	0.43
2:L5:2436:U:H3'	27:LX:127:LEU:HD22	2.00	0.43
2:L5:2654:C:H2'	2:L5:2655:C:C6	2.53	0.43
2:L5:3722:G:H2'	2:L5:3723:A:C8	2.52	0.43
2:L5:3830:A2M:H1'	2:L5:3830:A2M:HM'3	1.63	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LE:99:ASP:OD1	9:LE:99:ASP:N	2.51	0.43
23:LT:112:ASN:HB3	23:LT:128:LEU:HD23	2.00	0.43
46:Lr:28:GLU:HG2	46:Lr:31:ASN:HB2	2.01	0.43
47:Ls:134:LYS:HD2	47:Ls:137:PHE:HE2	1.84	0.43
52:SM:28:HIS:CE1	52:SM:115:GLY:HA3	2.54	0.43
55:SR:128:PHE:CD2	55:SR:129:LYS:HG3	2.54	0.43
64:SA:164:ASN:OD1	64:SA:165:ASN:N	2.51	0.43
67:SE:202:PRO:HB2	72:SL:42:LEU:HD23	1.99	0.43
72:SL:128:VAL:HG12	72:SL:142:VAL:HA	2.00	0.43
73:SN:37:ILE:HG23	73:SN:50:ILE:HG21	2.00	0.43
80:Sb:49:HIS:ND1	80:Sb:69:GLY:O	2.51	0.43
82:S2:344:U:H2'	82:S2:345:U:C6	2.54	0.43
82:S2:512:A:H4'	82:S2:576:A2M:H2	2.00	0.43
82:S2:653:A:H2'	82:S2:654:A:O4'	2.18	0.43
82:S2:959:G:H1'	82:S2:964:A:H61	1.83	0.43
82:S2:1091:C:N4	82:S2:1092:G:O6	2.51	0.43
82:S2:1093:A:H2'	82:S2:1094:C:H6	1.82	0.43
2:L5:73:A:N6	15:LL:103:ARG:HH22	2.16	0.43
2:L5:227:A:N6	2:L5:242:U:O4'	2.51	0.43
2:L5:963:G:N2	10:LF:32:ARG:HH22	2.17	0.43
2:L5:1426:G:N1	2:L5:1458:C:OP2	2.46	0.43
2:L5:1875:C:H2'	2:L5:1876:U:C6	2.54	0.43
2:L5:2890:C:H2'	2:L5:2891:U:C6	2.53	0.43
2:L5:3609:G:H2'	2:L5:3610:A:H8	1.82	0.43
2:L5:4299:PSU:H2'	2:L5:4300:U:H6	1.84	0.43
2:L5:4305:G:O5'	23:LT:83:LYS:NZ	2.51	0.43
2:L5:4424:A:C4	2:L5:4425:G:C8	3.07	0.43
2:L5:4672:A:OP1	25:LV:17:SER:OG	2.33	0.43
7:LC:366:ASP:HB3	7:LC:368:LYS:HE2	2.01	0.43
55:SR:133:GLY:HA3	65:SB:152:LYS:HD3	1.99	0.43
64:SA:126:ASP:OD1	64:SA:165:ASN:ND2	2.51	0.43
64:SA:184:ARG:NE	64:SA:191:ARG:HD3	2.33	0.43
71:SJ:64:ASP:OD1	71:SJ:65:GLU:N	2.52	0.43
78:SY:104:ARG:HG2	78:SY:108:LYS:HE2	1.99	0.43
82:S2:207:G:H3'	82:S2:208:G:H8	1.82	0.43
82:S2:1215:C:H42	82:S2:1220:A:N6	2.16	0.43
82:S2:1269:G:H2'	82:S2:1270:G:C8	2.53	0.43
82:S2:1390:U:H2'	82:S2:1391:OMC:C6	2.53	0.43
82:S2:1531:A:H2'	82:S2:1532:C:C6	2.54	0.43
82:S2:1538:C:H2'	82:S2:1539:U:C6	2.53	0.43
82:S2:1540:G:H2'	82:S2:1541:G:H8	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:Zt:26:A:N1	83:Zt:44:G:N2	2.54	0.43
2:L5:158:A:H5''	2:L5:159:C:H2'	2.00	0.43
2:L5:416:U:H2'	2:L5:417:G:O4'	2.19	0.43
2:L5:1617:G:H1'	2:L5:2513:A:N6	2.33	0.43
2:L5:1949:U:H2'	2:L5:1950:U:C6	2.53	0.43
2:L5:2323:C:H2'	2:L5:2324:C:H6	1.83	0.43
2:L5:2543:A:H2	2:L5:2773:G:H22	1.66	0.43
2:L5:4244:A:H2'	2:L5:4245:G:O4'	2.18	0.43
2:L5:4619:U:H2'	2:L5:4620:OMU:H6	2.00	0.43
2:L5:4972:PSU:H2'	2:L5:4973:PSU:C6	2.53	0.43
10:LF:113:ARG:NH1	10:LF:208:LEU:O	2.39	0.43
13:LI:101:LYS:NZ	13:LI:102:MET:O	2.48	0.43
15:LL:123:LYS:HA	37:Lh:122:LYS:HE3	2.00	0.43
18:LO:54:TYR:OH	18:LO:73:PHE:O	2.36	0.43
29:LZ:84:ARG:NH2	36:Lg:102:ILE:HG21	2.33	0.43
36:Lg:33:LEU:HD23	36:Lg:33:LEU:HA	1.88	0.43
66:SC:270:THR:HA	66:SC:273:LEU:HB2	1.99	0.43
70:SI:36:THR:HG22	70:SI:96:LEU:HD12	2.01	0.43
70:SI:47:ARG:HH22	82:S2:446:G:P	2.41	0.43
71:SJ:179:LYS:HA	71:SJ:182:GLN:HG3	2.01	0.43
79:Sa:3:LYS:HA	82:S2:1861:G:H5''	2.01	0.43
82:S2:52:G:H2'	82:S2:53:C:H6	1.83	0.43
82:S2:811:A:H2'	82:S2:812:A:C8	2.53	0.43
82:S2:1177:PSU:H2'	82:S2:1178:U:C6	2.53	0.43
82:S2:1373:C:H2'	82:S2:1374:C:H6	1.83	0.43
83:Zt:75:C:H3'	83:Zt:76:A:C8	2.53	0.43
2:L5:138:G:H2'	2:L5:139:G:H8	1.82	0.43
2:L5:318:A:H2'	2:L5:319:A:H8	1.83	0.43
2:L5:711:A:H2'	2:L5:712:C:C6	2.54	0.43
2:L5:908:G:H2'	2:L5:909:A:H8	1.83	0.43
2:L5:909:A:H2'	2:L5:910:G:H8	1.83	0.43
2:L5:2683:C:H2'	2:L5:2684:C:C6	2.53	0.43
2:L5:4503:A:H2'	2:L5:4504:C:C6	2.53	0.43
2:L5:4636:PSU:N1	33:Ld:79:ASN:OD1	2.51	0.43
2:L5:4736:C:H4'	2:L5:5068:G:C4	2.53	0.43
2:L5:4927:G:H5''	2:L5:4928:C:H5	1.83	0.43
4:L8:140:C:H2'	4:L8:141:C:H6	1.83	0.43
9:LE:168:LEU:HD11	9:LE:174:LEU:HB2	2.00	0.43
11:LG:105:GLU:OE2	11:LG:113:ARG:NH1	2.52	0.43
16:LM:6:PHE:H	16:LM:11:ARG:NH2	2.16	0.43
51:SK:5:LYS:O	51:SK:8:ARG:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SP:95:GLY:HA2	53:SP:104:GLN:HA	1.99	0.43
56:SS:28:PHE:O	56:SS:31:THR:OG1	2.30	0.43
58:SU:31:SER:O	58:SU:34:LYS:HG3	2.18	0.43
64:SA:81:ASN:ND2	64:SA:204:TYR:OH	2.51	0.43
64:SA:220:LYS:HA	64:SA:220:LYS:HD3	1.81	0.43
66:SC:66:LEU:HD21	66:SC:88:ILE:HD13	2.00	0.43
70:SI:44:HIS:ND1	82:S2:1740:C:OP1	2.41	0.43
72:SL:112:HIS:HB3	72:SL:141:ASN:OD1	2.19	0.43
82:S2:174:OMC:HM23	82:S2:174:OMC:H1'	1.82	0.43
83:Zt:2:C:H2'	83:Zt:3:C:C6	2.53	0.43
2:L5:303:C:OP2	17:LN:68:ARG:NH2	2.38	0.43
2:L5:674:G:H2'	2:L5:675:C:C6	2.53	0.43
2:L5:1341:U:H2'	2:L5:1342:A:C8	2.54	0.43
2:L5:1567:U:H2'	2:L5:1568:C:C6	2.53	0.43
2:L5:1656:U:H2'	2:L5:1657:G:H8	1.84	0.43
2:L5:1952:G:OP1	22:LS:139:ARG:NE	2.52	0.43
2:L5:2368:A:N6	2:L5:2827:G:O2'	2.51	0.43
2:L5:2407:G:H2'	41:L1:13:LEU:HD22	2.01	0.43
2:L5:2674:A:C6	45:Lp:42:CYS:HA	2.54	0.43
2:L5:3896:C:O2'	6:LB:268:ARG:NH2	2.49	0.43
2:L5:3951:G:H1'	2:L5:4062:A:H61	1.83	0.43
2:L5:4291:G:H5'	2:L5:4293:PSU:C6	2.54	0.43
2:L5:4600:G:N2	2:L5:4601:U:O4	2.52	0.43
4:L8:28:C:H2'	4:L8:29:G:C8	2.54	0.43
6:LB:117:ARG:HG2	6:LB:180:LEU:HD12	2.01	0.43
8:LD:95:TYR:HA	8:LD:158:LYS:HG2	2.00	0.43
24:LU:35:ASP:OD1	24:LU:35:ASP:N	2.51	0.43
49:SD:223:ILE:HD11	63:Sg:189:ILE:HD12	2.01	0.43
50:SF:185:SER:O	50:SF:185:SER:OG	2.36	0.43
67:SE:136:ILE:HD12	67:SE:149:TYR:CE1	2.54	0.43
67:SE:212:ASP:OD1	67:SE:216:ASN:N	2.51	0.43
77:SX:32:LEU:HD12	77:SX:32:LEU:HA	1.88	0.43
82:S2:1226:G:N1	82:S2:1639:G7M:OP2	2.46	0.43
82:S2:1711:U:H2'	82:S2:1712:A:C8	2.54	0.43
2:L5:755:C:H2'	2:L5:756:G:C8	2.54	0.43
2:L5:1317:U:H2'	2:L5:1318:C:C6	2.54	0.43
2:L5:2634:C:H2'	2:L5:2635:U:C6	2.54	0.43
2:L5:2642:A:C2	40:Lk:2:PRO:HD2	2.54	0.43
2:L5:2695:A:H1'	2:L5:2697:A:N7	2.34	0.43
2:L5:3659:G:H2'	2:L5:3660:C:C6	2.54	0.43
2:L5:3932:U:H2'	2:L5:3933:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4277:G:H2'	2:L5:4278:C:C6	2.53	0.43
2:L5:4579:PSU:H2'	2:L5:4580:U:C6	2.54	0.43
2:L5:4761:G:N2	2:L5:4766:C:O3'	2.52	0.43
2:L5:4910:G:N1	18:LO:108:ILE:O	2.52	0.43
21:LR:139:MET:HG2	21:LR:143:HIS:CE1	2.54	0.43
49:SD:106:ARG:HG3	49:SD:175:VAL:HG22	2.01	0.43
49:SD:211:VAL:O	55:SR:20:TYR:OH	2.29	0.43
51:SK:61:GLN:HB3	51:SK:68:TYR:HB2	2.00	0.43
54:SQ:110:ASP:CG	54:SQ:111:ILE:HD12	2.44	0.43
57:ST:23:LYS:HD3	57:ST:51:ASN:HD22	1.84	0.43
57:ST:104:LEU:HD22	57:ST:121:ARG:HD2	2.01	0.43
67:SE:45:ILE:HD12	67:SE:80:ILE:HD11	2.00	0.43
75:SV:42:VAL:HG23	75:SV:43:THR:HG23	1.99	0.43
82:S2:107:A:H61	82:S2:354:OMU:C4	2.32	0.43
82:S2:496:C:H2'	82:S2:497:C:C6	2.53	0.43
82:S2:1204:A:H2'	82:S2:1205:C:C6	2.53	0.43
82:S2:1558:C:H2'	82:S2:1559:C:C6	2.53	0.43
2:L5:396:A:H2'	2:L5:397:G:C8	2.54	0.43
2:L5:455:C:O2'	2:L5:456:C:H5'	2.18	0.43
2:L5:1960:A:C8	47:Ls:63:LYS:HE2	2.53	0.43
2:L5:1996:C:N4	2:L5:2000:G:N2	2.39	0.43
2:L5:2090:U:H4'	2:L5:2091:C:H3'	2.01	0.43
2:L5:2744:A:H2'	2:L5:2745:A:C8	2.54	0.43
2:L5:2837:OMU:HM23	2:L5:2837:OMU:H1'	1.86	0.43
2:L5:3721:U:H2'	2:L5:3722:G:H8	1.84	0.43
2:L5:3754:G:O6	2:L5:3771:C:N4	2.51	0.43
2:L5:3927:U:H2'	2:L5:3928:A:H8	1.83	0.43
2:L5:4883:C:H2'	2:L5:4884:G:C8	2.54	0.43
2:L5:4921:C:H2'	2:L5:4922:C:H6	1.84	0.43
4:L8:26:C:O2'	7:LC:53:ALA:O	2.35	0.43
12:LH:63:ASN:O	12:LH:67:LEU:HG	2.18	0.43
23:LT:68:THR:OG1	23:LT:71:ALA:O	2.35	0.43
54:SQ:96:TYR:HA	54:SQ:100:VAL:HG12	2.01	0.43
56:SS:35:GLY:HA2	82:S2:1630:A:O2'	2.19	0.43
56:SS:102:GLY:HA2	56:SS:105:ASN:HD21	1.84	0.43
65:SB:167:LYS:HB2	65:SB:167:LYS:HE2	1.87	0.43
69:SH:76:GLN:O	69:SH:80:VAL:HG23	2.19	0.43
82:S2:160:U:O2'	82:S2:162:C:O5'	2.36	0.43
82:S2:386:C:H2'	82:S2:387:C:C6	2.53	0.43
82:S2:609:U:H2'	82:S2:610:G:H8	1.84	0.43
82:S2:1010:G:H2'	82:S2:1011:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1025:U:H2'	82:S2:1026:C:O4'	2.19	0.43
2:L5:233:U:O2'	2:L5:234:G:H8	2.02	0.42
2:L5:474:C:H2'	2:L5:475:G:H8	1.84	0.42
2:L5:2689:C:H2'	2:L5:2690:C:C6	2.53	0.42
2:L5:3911:C:H2'	2:L5:3912:U:C6	2.54	0.42
2:L5:4186:A:H2'	2:L5:4187:G:H8	1.84	0.42
2:L5:4934:A:H2'	2:L5:4935:C:C6	2.53	0.42
4:L8:95:A:N3	37:Lh:63:GLN:NE2	2.66	0.42
21:LR:80:LYS:HA	21:LR:80:LYS:HD2	1.82	0.42
26:LW:5:LEU:HD12	26:LW:30:GLN:NE2	2.34	0.42
35:Lf:45:LYS:HA	35:Lf:107:PRO:HD2	2.01	0.42
47:Ls:62:ARG:HB3	47:Ls:66:ARG:NH1	2.32	0.42
63:Sg:131:LEU:O	63:Sg:139:LYS:N	2.51	0.42
67:SE:75:LYS:NZ	82:S2:122:G:OP1	2.39	0.42
82:S2:12:U:H2'	82:S2:13:C:C6	2.53	0.42
82:S2:12:U:H2'	82:S2:13:C:H6	1.83	0.42
82:S2:181:A:OP2	82:S2:182:C:O2'	2.33	0.42
82:S2:1347:U:H3'	82:S2:1348:G:H21	1.84	0.42
2:L5:85:G:H1'	2:L5:86:U:H5	1.84	0.42
2:L5:325:U:P	38:Li:28:ARG:HH22	2.42	0.42
2:L5:480:C:H2'	2:L5:481:G:C8	2.54	0.42
2:L5:705:G:H2'	2:L5:706:C:C6	2.54	0.42
2:L5:1662:C:H2'	2:L5:1663:C:C6	2.54	0.42
2:L5:1662:C:H2'	2:L5:1663:C:H6	1.84	0.42
2:L5:1976:G:H22	48:Lt:139:VAL:HG11	1.83	0.42
2:L5:2039:G:OP2	2:L5:2040:A:O2'	2.35	0.42
2:L5:3716:C:H3'	2:L5:3735:G:H22	1.85	0.42
2:L5:4589:A:OP2	87:L5:5290:SPD:N10	2.52	0.42
2:L5:4592:C:H2'	2:L5:4593:C:H6	1.85	0.42
2:L5:4601:U:H2'	2:L5:4602:A:C8	2.48	0.42
2:L5:4672:A:OP1	25:LV:15:ARG:NH2	2.47	0.42
2:L5:4716:C:H5''	6:LB:276:HIS:O	2.20	0.42
6:LB:302:ASN:HB2	6:LB:313:SER:HA	2.02	0.42
12:LH:92:MET:HG2	12:LH:181:VAL:HG22	2.00	0.42
13:LI:93:PRO:HB2	13:LI:125:THR:HB	2.00	0.42
17:LN:115:VAL:HA	17:LN:134:LEU:HD13	2.01	0.42
32:Lc:30:GLY:O	32:Lc:34:THR:OG1	2.29	0.42
41:Ll:24:PRO:HD2	41:Ll:27:ILE:HG13	2.01	0.42
48:Lt:134:GLY:HA3	48:Lt:152:ILE:HD11	2.01	0.42
56:SS:1:MET:SD	56:SS:1:MET:N	2.91	0.42
69:SH:37:LYS:HD2	69:SH:40:LEU:HD23	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:484:A2M:H8	82:S2:484:A2M:O5'	2.19	0.42
82:S2:698:G:H2'	82:S2:733:C:C4	2.54	0.42
2:L5:188:G:O2'	2:L5:190:G:OP2	2.32	0.42
2:L5:217:C:OP2	2:L5:219:G:O2'	2.23	0.42
2:L5:408:A:O2'	2:L5:411:G:OP2	2.27	0.42
2:L5:972:C:C6	9:LE:126:LEU:HD13	2.55	0.42
2:L5:1273:G:C5	9:LE:73:TYR:HB2	2.54	0.42
2:L5:1307:A:H2'	2:L5:1308:C:C6	2.53	0.42
2:L5:1519:C:H2'	2:L5:1520:C:C6	2.54	0.42
2:L5:2098:G:H2'	2:L5:2099:G:C8	2.54	0.42
2:L5:2811:G:N2	2:L5:2813:A:H3'	2.33	0.42
2:L5:3920:PSU:H2'	2:L5:3921:U:C6	2.54	0.42
2:L5:4896:G:H2'	2:L5:4897:G:H8	1.83	0.42
8:LD:205:ALA:HB1	8:LD:233:PRO:HB3	2.00	0.42
13:LI:51:HIS:CD2	13:LI:168:SER:HB3	2.53	0.42
25:LV:36:ASN:ND2	25:LV:67:LYS:HG2	2.34	0.42
37:Lh:107:GLN:O	37:Lh:111:GLU:HG3	2.19	0.42
47:Ls:91:THR:HG21	47:Ls:98:ILE:HG13	2.01	0.42
55:SR:32:LYS:NZ	82:S2:1452:A:OP2	2.53	0.42
57:ST:9:VAL:O	57:ST:11:GLN:NE2	2.52	0.42
74:SO:80:ASP:O	74:SO:83:GLN:HG3	2.19	0.42
82:S2:573:U:H1'	82:S2:576:A2M:N7	2.33	0.42
82:S2:943:U:H2'	82:S2:944:A:H8	1.83	0.42
82:S2:1605:G:H1'	82:S2:1634:A:H61	1.85	0.42
82:S2:1803:U:H2'	82:S2:1804:U:C6	2.54	0.42
83:Zt:51:G:H2'	83:Zt:52:G:H8	1.84	0.42
1:Pt:58:A:O2'	1:Pt:60:A:OP2	2.28	0.42
2:L5:269:G:H2'	2:L5:270:U:C6	2.54	0.42
2:L5:1084:C:H2'	2:L5:1085:C:H6	1.84	0.42
2:L5:1516:G:O2'	15:LL:18:TRP:NE1	2.53	0.42
2:L5:1574:G:OP2	21:LR:92:LYS:NZ	2.49	0.42
2:L5:2540:C:H5''	36:Lg:65:MET:HE3	2.02	0.42
2:L5:2616:C:C2	2:L5:2722:G:N2	2.87	0.42
2:L5:2804:OMC:H2'	2:L5:2805:C:H6	1.85	0.42
2:L5:4159:C:H2'	2:L5:4160:C:C6	2.55	0.42
4:L8:129:C:H2'	4:L8:130:C:H6	1.85	0.42
17:LN:116:LEU:HD22	17:LN:135:ILE:HD11	2.01	0.42
26:LW:81:ALA:HB2	26:LW:87:LEU:HG	2.01	0.42
41:Ll:23:ILE:HD11	41:Ll:28:ARG:HE	1.84	0.42
42:Lm:99:CYS:HB3	42:Lm:115:CYS:HB3	2.00	0.42
45:Lp:49:ARG:HG3	45:Lp:55:TRP:CE2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Lr:8:MET:HE3	46:Lr:8:MET:HB3	1.83	0.42
61:Sd:3:HIS:CE1	61:Sd:5:GLN:HB2	2.54	0.42
66:SC:102:LEU:HD22	66:SC:130:ILE:HD12	2.01	0.42
71:SJ:18:ARG:HH22	82:S2:4:C:H1'	1.85	0.42
74:SO:39:ASP:N	74:SO:69:SER:HB3	2.33	0.42
82:S2:14:C:H2'	82:S2:15:U:C6	2.53	0.42
82:S2:115:U:H2'	82:S2:116:OMU:C6	2.49	0.42
82:S2:651:PSU:H2'	82:S2:652:U:C6	2.54	0.42
82:S2:656:G:H5'	82:S2:662:G:N2	2.35	0.42
82:S2:813:A:H2'	82:S2:814:PSU:O4'	2.19	0.42
82:S2:874:G:H2'	82:S2:875:A:C8	2.49	0.42
82:S2:1031:A2M:H2'	82:S2:1032:C:O4'	2.19	0.42
82:S2:1414:A:H2'	82:S2:1415:C:C6	2.55	0.42
82:S2:1428:G:N1	82:S2:1585:U:O4'	2.53	0.42
82:S2:1511:U:H2'	82:S2:1512:C:C6	2.54	0.42
82:S2:1533:A:H2	82:S2:1536:G:N3	2.17	0.42
83:Zt:43:A:H3'	83:Zt:44:G:H8	1.84	0.42
2:L5:197:A:H2'	2:L5:198:A:C8	2.55	0.42
2:L5:325:U:H2'	2:L5:326:C:H6	1.84	0.42
2:L5:1186:U:H2'	2:L5:1187:G:N3	2.34	0.42
2:L5:1207:C:H2'	2:L5:1208:G:C8	2.53	0.42
2:L5:1357:C:O2'	7:LC:114:ARG:NH2	2.45	0.42
2:L5:1703:C:O2'	2:L5:1704:C:O5'	2.33	0.42
2:L5:1981:G:N1	2:L5:1982:G:O6	2.53	0.42
2:L5:2353:U:H2'	2:L5:2354:G:C8	2.54	0.42
2:L5:2730:U:H2'	2:L5:2731:C:C6	2.55	0.42
2:L5:3825:A2M:H2'	2:L5:3826:C:H6	1.84	0.42
2:L5:4300:U:H2'	2:L5:4301:U:C6	2.55	0.42
3:L7:57:C:H2'	3:L7:58:A:C8	2.54	0.42
5:LA:131:GLY:H	5:LA:169:VAL:HG13	1.84	0.42
6:LB:17:LEU:HD23	6:LB:17:LEU:HA	1.89	0.42
13:LI:36:LEU:HD13	13:LI:87:MET:HE3	2.01	0.42
14:LJ:19:LYS:HD3	14:LJ:75:ARG:HH12	1.84	0.42
28:LY:67:ILE:HD12	28:LY:107:THR:HG21	2.01	0.42
32:Lc:78:ASN:OD1	32:Lc:78:ASN:N	2.52	0.42
36:Lg:44:SER:OG	36:Lg:46:CYS:SG	2.60	0.42
54:SQ:34:VAL:HG22	54:SQ:70:VAL:HB	2.02	0.42
55:SR:34:VAL:O	55:SR:38:ILE:HG12	2.20	0.42
71:SJ:39:ASN:HB2	82:S2:642:U:P	2.59	0.42
72:SL:22:ARG:NH1	72:SL:23:VAL:O	2.52	0.42
82:S2:16:G:H5'	82:S2:669:A:H61	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:342:C:H2'	82:S2:343:A:H8	1.84	0.42
82:S2:976:G:H2'	82:S2:977:C:C6	2.54	0.42
82:S2:1018:U:H2'	82:S2:1019:C:C6	2.54	0.42
82:S2:1351:G:O2'	82:S2:1378:A:N1	2.46	0.42
82:S2:1373:C:H2'	82:S2:1374:C:C6	2.53	0.42
82:S2:1733:U:H2'	82:S2:1734:G:O4'	2.19	0.42
82:S2:1803:U:H2'	82:S2:1804:U:H6	1.84	0.42
1:Pt:33:U:H3'	54:SQ:146:ARG:NH2	2.34	0.42
2:L5:73:A:H62	15:LL:103:ARG:HH22	1.68	0.42
2:L5:279:A:H5''	17:LN:47:LYS:NZ	2.35	0.42
2:L5:728:U:OP1	10:LF:76:ARG:NH2	2.46	0.42
2:L5:920:C:H2'	2:L5:921:C:C6	2.54	0.42
2:L5:1273:G:C6	9:LE:73:TYR:HB2	2.54	0.42
2:L5:1368:A:H2'	2:L5:1369:C:O4'	2.20	0.42
2:L5:1717:C:H2'	2:L5:1718:C:C4	2.55	0.42
2:L5:1811:G:H2'	2:L5:1812:C:C6	2.54	0.42
2:L5:2581:A:H1'	2:L5:2654:C:O2'	2.20	0.42
2:L5:2749:C:H2'	2:L5:2750:G:H8	1.84	0.42
2:L5:4208:U:P	23:LT:6:GLY:HA3	2.59	0.42
2:L5:4237:C:O3'	2:L5:4326:G:N2	2.53	0.42
2:L5:4262:C:H2'	2:L5:4263:C:H6	1.84	0.42
2:L5:4947:U:H2'	2:L5:4948:C:C6	2.54	0.42
2:L5:4969:C:H2'	2:L5:4970:C:H6	1.83	0.42
2:L5:4970:C:C2	2:L5:4971:A:C8	3.08	0.42
4:L8:26:C:H2'	4:L8:27:U:C6	2.55	0.42
6:LB:154:LYS:HE2	6:LB:154:LYS:HB2	1.75	0.42
7:LC:221:PHE:O	7:LC:222:ARG:HG2	2.19	0.42
9:LE:223:ARG:HH22	9:LE:238:GLU:HG3	1.85	0.42
12:LH:93:ARG:HG2	12:LH:182:SER:HB3	2.02	0.42
16:LM:62:LEU:HD21	16:LM:82:ILE:HD11	2.00	0.42
16:LM:86:TRP:CE2	16:LM:92:ALA:HB2	2.54	0.42
30:La:76:ASP:OD1	30:La:77:LYS:N	2.52	0.42
35:Lf:36:ARG:O	35:Lf:39:THR:OG1	2.27	0.42
49:SD:77:PHE:HB2	49:SD:79:PHE:CE1	2.55	0.42
51:SK:80:ARG:NH2	51:SK:89:ILE:O	2.38	0.42
53:SP:56:LEU:HD22	53:SP:80:LEU:HD11	2.01	0.42
74:SO:55:ARG:NH1	82:S2:953:C:O2	2.42	0.42
82:S2:468:A2M:H2'	82:S2:469:A:H8	1.81	0.42
82:S2:900:C:H5'	82:S2:901:G:N7	2.34	0.42
82:S2:1031:A2M:H1'	82:S2:1031:A2M:HM'3	1.81	0.42
2:L5:66:A:N6	2:L5:282:C:O2'	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:139:G:H2'	2:L5:140:G:C8	2.55	0.42
2:L5:286:U:H2'	2:L5:287:U:C6	2.54	0.42
2:L5:1187:G:OP2	2:L5:1187:G:N2	2.44	0.42
2:L5:1298:C:H2'	2:L5:1299:G:C8	2.55	0.42
2:L5:1566:C:H2'	2:L5:1567:U:C6	2.54	0.42
2:L5:1721:G:H2'	2:L5:1722:C:C6	2.55	0.42
2:L5:1749:A:H2'	2:L5:1750:G:C8	2.55	0.42
2:L5:2374:A:H2'	2:L5:2375:A:C8	2.55	0.42
2:L5:2539:C:H2'	2:L5:2540:C:H6	1.82	0.42
2:L5:2891:U:H2'	2:L5:2892:C:O4'	2.20	0.42
2:L5:3825:A2M:H2'	2:L5:3826:C:O4'	2.20	0.42
2:L5:3938:G:P	17:LN:24:ARG:HE	2.43	0.42
2:L5:3946:G:H2'	2:L5:3947:A:H5''	2.02	0.42
2:L5:4175:G:H2'	2:L5:4176:C:C6	2.55	0.42
2:L5:4313:A:H2'	2:L5:4314:C:O4'	2.19	0.42
2:L5:5018:C:H2'	2:L5:5019:A:H8	1.85	0.42
7:LC:279:LEU:HD23	7:LC:279:LEU:HA	1.89	0.42
9:LE:264:ILE:HD11	9:LE:267:LEU:HD22	2.02	0.42
10:LF:222:LYS:N	10:LF:232:ASP:OD1	2.41	0.42
16:LM:130:LEU:HB3	18:LO:177:LEU:HD11	2.01	0.42
21:LR:7:GLN:NE2	21:LR:35:ALA:O	2.41	0.42
29:LZ:135:ARG:HA	29:LZ:135:ARG:HD2	1.88	0.42
35:Lf:29:LYS:HG3	35:Lf:83:MET:HE1	2.00	0.42
47:Ls:57:LYS:O	47:Ls:61:MET:HG2	2.20	0.42
49:SD:204:LEU:HB2	49:SD:207:HIS:HB2	2.02	0.42
57:ST:72:VAL:O	57:ST:76:THR:HG23	2.19	0.42
59:SZ:99:LEU:HD11	59:SZ:102:LYS:HB2	2.02	0.42
67:SE:36:HIS:CG	67:SE:85:GLY:HA3	2.54	0.42
68:SG:137:ARG:NE	82:S2:171:A:OP1	2.51	0.42
76:SW:19:LYS:NZ	82:S2:1152:U:O3'	2.53	0.42
77:SX:105:PHE:CE2	77:SX:112:VAL:HB	2.54	0.42
82:S2:867:OMG:H1'	82:S2:867:OMG:HM23	1.83	0.42
82:S2:888:U:O2'	82:S2:898:U:N3	2.52	0.42
82:S2:902:G:O2'	82:S2:903:A:O4'	2.37	0.42
2:L5:4:G:H2'	2:L5:5:A:H8	1.85	0.42
2:L5:20:U:H3'	2:L5:21:G:C8	2.55	0.42
2:L5:1340:OMC:H2'	2:L5:1341:U:C6	2.55	0.42
2:L5:1342:A:H2'	2:L5:1343:A:C8	2.55	0.42
2:L5:1352:C:O2'	2:L5:1356:U:OP1	2.37	0.42
2:L5:1552:G:O2'	2:L5:1574:G:N2	2.52	0.42
2:L5:1580:C:H2'	2:L5:1581:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1666:C:H2'	2:L5:1667:G:O4'	2.19	0.42
2:L5:1846:G:H2'	2:L5:1847:C:C6	2.54	0.42
2:L5:2018:C:H2'	2:L5:2019:C:H6	1.84	0.42
2:L5:2397:G:C8	2:L5:2399:G:C8	3.08	0.42
2:L5:3605:C:OP2	21:LR:71:ARG:NE	2.52	0.42
2:L5:3923:A:H2'	2:L5:3924:C:C6	2.55	0.42
2:L5:4113:U:H4'	2:L5:4115:G:C4	2.54	0.42
2:L5:4551:U:H2'	2:L5:4552:PSU:H6	1.84	0.42
2:L5:4621:C:H2'	2:L5:4622:A:C8	2.55	0.42
2:L5:4736:C:H2'	2:L5:4737:G:C8	2.54	0.42
2:L5:5044:A:H2'	2:L5:5045:G:H8	1.85	0.42
3:L7:33:U:H2'	3:L7:34:C:C6	2.55	0.42
8:LD:206:ASP:HA	8:LD:209:ARG:HG2	2.01	0.42
11:LG:148:GLU:OE2	17:LN:6:TYR:OH	2.29	0.42
12:LH:4:ILE:HG12	12:LH:61:TRP:CH2	2.55	0.42
15:LL:110:LEU:O	15:LL:114:VAL:HG13	2.20	0.42
20:LQ:59:PRO:HG3	20:LQ:143:ARG:HA	2.02	0.42
39:Lj:27:TYR:HA	39:Lj:34:CYS:HA	2.02	0.42
52:SM:52:LEU:HD11	52:SM:62:VAL:HG12	2.01	0.42
56:SS:15:VAL:HG13	56:SS:68:ILE:HD11	2.01	0.42
65:SB:89:GLU:OE2	65:SB:99:ASN:HB3	2.20	0.42
68:SG:14:LYS:HG2	68:SG:124:LEU:HD12	2.02	0.42
68:SG:38:ALA:HB2	68:SG:50:VAL:HG12	2.02	0.42
71:SJ:59:GLU:O	71:SJ:62:THR:OG1	2.37	0.42
79:Sa:8:ASN:ND2	82:S2:1861:G:OP1	2.52	0.42
82:S2:21:U:H2'	82:S2:22:A:H8	1.84	0.42
82:S2:602:G:OP2	82:S2:603:C:O2'	2.30	0.42
82:S2:666:U:H2'	82:S2:667:U:C6	2.54	0.42
82:S2:1215:C:O2'	82:S2:1645:C:OP2	2.30	0.42
82:S2:1539:U:H2'	82:S2:1540:G:H8	1.83	0.42
82:S2:1749:G:H2'	82:S2:1750:C:H6	1.85	0.42
83:Zt:44:G:H3'	83:Zt:45:G:C8	2.55	0.42
2:L5:28:C:OP1	17:LN:187:SER:OG	2.27	0.42
2:L5:44:A:H5''	86:L5:5265:SPM:H81	2.02	0.42
2:L5:288:G:H2'	2:L5:289:C:C6	2.55	0.42
2:L5:423:G:H2'	2:L5:424:U:C6	2.55	0.42
2:L5:1926:C:H2'	2:L5:1927:U:C6	2.55	0.42
2:L5:3715:U:H2'	2:L5:3716:C:O4'	2.19	0.42
2:L5:4208:U:OP1	2:L5:4334:U:O2'	2.26	0.42
2:L5:4705:A:H2'	2:L5:4706:G:O4'	2.20	0.42
2:L5:4748:U:H3	2:L5:4952:G:H1	1.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4926:C:H5''	2:L5:4927:G:H21	1.83	0.42
2:L5:4935:C:H2'	2:L5:4936:G:C8	2.54	0.42
4:L8:27:U:H2'	4:L8:28:C:C6	2.54	0.42
20:LQ:32:TYR:HD2	20:LQ:51:LEU:HD11	1.85	0.42
23:LT:127:GLN:NE2	23:LT:129:LYS:O	2.49	0.42
34:Le:19:LYS:HE3	34:Le:19:LYS:HB3	1.87	0.42
36:Lg:60:ARG:HD2	36:Lg:60:ARG:HA	1.79	0.42
44:Lo:74:GLU:HB3	44:Lo:77:CYS:HB3	2.02	0.42
65:SB:94:LYS:HA	65:SB:94:LYS:HD2	1.82	0.42
68:SG:136:LYS:N	82:S2:170:A:OP1	2.43	0.42
72:SL:120:VAL:HG22	72:SL:145:VAL:HG11	2.02	0.42
72:SL:153:LYS:HD3	72:SL:153:LYS:HA	1.82	0.42
82:S2:647:U:H2'	82:S2:648:A:H8	1.85	0.42
82:S2:944:A:H2'	82:S2:945:U:C6	2.55	0.42
82:S2:1129:G:H2'	82:S2:1130:G:N3	2.35	0.42
82:S2:1303:C:H2'	82:S2:1304:U:C6	2.55	0.42
84:CI:63:ARG:HD2	84:CI:63:ARG:HA	1.85	0.42
2:L5:935:A:O2'	16:LM:44:GLN:O	2.29	0.42
2:L5:1495:G:H4'	20:LQ:187:LYS:HE3	2.01	0.42
2:L5:1998:A:O2'	2:L5:2019:C:O2'	2.23	0.42
2:L5:2111:G:N2	2:L5:2252:G:O4'	2.53	0.42
2:L5:2508:U:H2'	2:L5:2509:C:H6	1.85	0.42
2:L5:2558:C:H2'	2:L5:2559:G:C8	2.55	0.42
2:L5:2632:PSU:H2'	2:L5:2633:U:H6	1.85	0.42
2:L5:2682:G:H2'	2:L5:2683:C:C6	2.55	0.42
2:L5:3832:U:H2'	2:L5:3833:C:H6	1.84	0.42
2:L5:3833:C:H2'	2:L5:3834:C:H6	1.85	0.42
2:L5:3852:A:N7	2:L5:3853:PSU:N1	2.67	0.42
2:L5:4177:C:H2'	2:L5:4178:A:C8	2.51	0.42
2:L5:4524:G:N3	6:LB:252:ALA:HB1	2.35	0.42
2:L5:4708:A:N3	2:L5:4709:U:H5'	2.35	0.42
2:L5:4770:U:H2'	2:L5:4771:C:C6	2.55	0.42
2:L5:5047:C:O2'	2:L5:5050:C:OP2	2.28	0.42
4:L8:75:OMG:H2'	4:L8:76:C:C6	2.54	0.42
5:LA:101:VAL:HG22	5:LA:165:VAL:HG22	2.02	0.42
7:LC:266:THR:N	7:LC:269:LYS:O	2.51	0.42
11:LG:114:LEU:HD23	11:LG:114:LEU:HA	1.92	0.42
32:Lc:50:ASN:ND2	32:Lc:76:GLY:O	2.53	0.42
48:Lt:12:VAL:HG11	48:Lt:65:GLN:N	2.35	0.42
54:SQ:11:GLN:OE1	54:SQ:71:ARG:NH2	2.44	0.42
63:Sg:205:SER:C	63:Sg:221:LEU:HD23	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SG:162:LEU:O	68:SG:167:LYS:NZ	2.51	0.42
70:SI:45:THR:HG23	70:SI:53:LYS:HG3	2.02	0.42
77:SX:28:LYS:O	77:SX:32:LEU:HB2	2.19	0.42
82:S2:845:G:H2'	82:S2:846:G:C8	2.55	0.42
82:S2:1139:C:H2'	82:S2:1140:G:O4'	2.20	0.42
82:S2:1384:C:C2	82:S2:1385:G:C8	3.07	0.42
82:S2:1435:C:O2'	82:S2:1436:C:O4'	2.35	0.42
82:S2:1740:C:H2'	82:S2:1741:U:C6	2.54	0.42
82:S2:1777:G:H2'	82:S2:1778:C:C6	2.52	0.42
2:L5:239:C:H5'	28:LY:33:PRO:HD3	2.02	0.41
2:L5:325:U:O5'	38:Li:28:ARG:NH2	2.53	0.41
2:L5:387:G:HO2'	2:L5:412:G:H1	1.66	0.41
2:L5:1403:G:N2	2:L5:1415:G:C4	2.88	0.41
2:L5:1460:C:H2'	2:L5:1461:C:H6	1.84	0.41
2:L5:1672:U:H2'	2:L5:1673:U:C6	2.55	0.41
2:L5:1701:A:C2	2:L5:1702:C:H5	2.38	0.41
2:L5:4291:G:H8	2:L5:4328:G:H2'	1.85	0.41
2:L5:4340:U:H3	88:L5:5296:3HE:C11	2.32	0.41
2:L5:4392:OMG:N2	2:L5:4395:U:O2	2.49	0.41
2:L5:4761:G:H2'	2:L5:4762:A:C8	2.55	0.41
86:L5:5293:SPM:H31	86:L5:5293:SPM:H62	1.82	0.41
4:L8:28:C:H2'	4:L8:29:G:H8	1.84	0.41
13:LI:48:LEU:HB2	13:LI:142:LEU:HA	2.01	0.41
16:LM:38:VAL:HG21	16:LM:50:MET:HB3	2.02	0.41
18:LO:149:TYR:O	18:LO:153:THR:OG1	2.27	0.41
21:LR:167:LYS:HB3	21:LR:167:LYS:HE2	1.80	0.41
22:LS:113:MET:HE3	22:LS:113:MET:HB3	1.86	0.41
34:Le:91:CYS:HB3	34:Le:95:TYR:HD2	1.85	0.41
38:Li:99:LYS:HE2	38:Li:99:LYS:HB2	1.77	0.41
52:SM:19:GLN:O	52:SM:22:LEU:HG	2.19	0.41
60:Sc:44:ARG:NH2	60:Sc:63:ARG:HH11	2.18	0.41
70:SI:83:TYR:HB3	70:SI:101:ILE:HD11	2.02	0.41
78:SY:4:THR:H	78:SY:32:LYS:HZ3	1.67	0.41
78:SY:42:GLU:HA	78:SY:52:PRO:HB3	2.02	0.41
82:S2:14:C:O2	82:S2:668:A2M:H2	2.19	0.41
82:S2:509:OMG:HM23	82:S2:509:OMG:H1'	1.77	0.41
82:S2:1324:G:O6	82:S2:1504:U:O4	2.37	0.41
1:Pt:8:U:O2'	1:Pt:21:A:N1	2.45	0.41
2:L5:362:A:N6	41:Ll:37:TYR:O	2.49	0.41
2:L5:480:C:H2'	2:L5:481:G:H8	1.86	0.41
2:L5:737:C:C5	2:L5:739:G:H5''	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1389:U:OP1	2:L5:1497:A:O2'	2.24	0.41
2:L5:1857:C:H2'	2:L5:1858:A:H8	1.85	0.41
2:L5:2300:A:N7	7:LC:143:ARG:NH1	2.68	0.41
2:L5:2306:G:N2	2:L5:2331:G:O2'	2.52	0.41
2:L5:2364:OMG:HM23	2:L5:2364:OMG:H1'	1.90	0.41
2:L5:2415:U:H2'	2:L5:2416:G:C8	2.55	0.41
2:L5:2544:G:N1	4:L8:124:U:OP1	2.54	0.41
2:L5:3871:A:H2'	2:L5:3872:A:C8	2.55	0.41
2:L5:5064:G:N2	19:LP:75:GLN:HE22	2.18	0.41
3:L7:7:G:H5''	8:LD:22:ARG:HD3	2.01	0.41
4:L8:66:A:H2'	4:L8:67:U:C6	2.55	0.41
6:LB:66:LYS:HB2	25:LV:14:PHE:CE2	2.55	0.41
6:LB:303:ALA:HB3	6:LB:312:LYS:HG3	2.03	0.41
23:LT:50:LYS:HB3	23:LT:50:LYS:HE2	1.80	0.41
27:LX:65:ALA:HB2	37:Lh:69:LEU:HD11	2.02	0.41
48:Lt:147:HIS:HA	48:Lt:148:PRO:HD3	1.89	0.41
51:SK:4:PRO:HD2	51:SK:7:ASN:HD21	1.85	0.41
58:SU:75:LYS:NZ	82:S2:1252:C:OP1	2.46	0.41
67:SE:137:PRO:HG3	68:SG:209:TYR:CZ	2.55	0.41
67:SE:252:ARG:O	67:SE:256:LEU:HG	2.19	0.41
70:SI:116:HIS:O	70:SI:152:ARG:NH2	2.40	0.41
71:SJ:41:ARG:N	82:S2:642:U:OP1	2.52	0.41
72:SL:94:HIS:O	72:SL:103:GLU:N	2.53	0.41
74:SO:71:PRO:HB3	74:SO:114:SER:OG	2.20	0.41
82:S2:445:A:H2'	82:S2:446:G:C8	2.56	0.41
82:S2:1037:G:H4'	82:S2:1845:A:H4'	2.02	0.41
82:S2:1079:C:H4'	82:S2:1182:A:H61	1.85	0.41
82:S2:1614:A:H2'	82:S2:1615:U:C6	2.54	0.41
82:S2:1839:U:H2'	82:S2:1840:U:C6	2.54	0.41
83:Zt:2:C:H2'	83:Zt:3:C:H6	1.85	0.41
2:L5:301:G:H2'	2:L5:302:C:C6	2.55	0.41
2:L5:678:C:H2'	2:L5:679:C:C6	2.55	0.41
2:L5:1210:C:OP1	10:LF:70:ARG:HD3	2.20	0.41
2:L5:1404:G:N7	2:L5:1408:G:N1	2.68	0.41
2:L5:1570:G:O6	45:Lp:2:ALA:N	2.54	0.41
2:L5:2308:A:OP1	34:Le:101:HIS:NE2	2.54	0.41
2:L5:4195:G:O2'	2:L5:4442:PSU:OP1	2.21	0.41
4:L8:67:U:OP1	39:Lj:87:LYS:HG2	2.20	0.41
7:LC:10:VAL:O	7:LC:18:SER:OG	2.30	0.41
7:LC:133:LEU:HD23	7:LC:133:LEU:HA	1.94	0.41
29:LZ:12:LEU:HB2	29:LZ:81:MET:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SF:112:LEU:HD13	50:SF:177:LEU:HD21	2.01	0.41
53:SP:25:LEU:HA	53:SP:28:MET:HB2	2.01	0.41
55:SR:7:LYS:HG3	82:S2:1373:C:OP1	2.20	0.41
56:SS:135:HIS:ND1	82:S2:1232:PSU:OP2	2.53	0.41
61:Sd:14:PHE:HB2	82:S2:1661:A:H8	1.85	0.41
67:SE:100:ARG:NH2	67:SE:118:GLU:OE2	2.53	0.41
70:SI:31:ARG:NE	82:S2:380:G:OP1	2.39	0.41
79:Sa:44:ILE:HG21	79:Sa:65:PRO:HD2	2.01	0.41
82:S2:207:G:H3'	82:S2:208:G:C8	2.55	0.41
82:S2:441:C:H2'	82:S2:442:C:C6	2.55	0.41
82:S2:1062:A:H2'	82:S2:1063:C:C6	2.56	0.41
82:S2:1240:A:H2'	82:S2:1241:A:C8	2.56	0.41
82:S2:1294:G:H3'	82:S2:1295:A:H8	1.86	0.41
82:S2:1337:4AC:O5'	82:S2:1337:4AC:H6	2.20	0.41
82:S2:1518:C:H5''	82:S2:1519:U:H5''	2.03	0.41
82:S2:1805:G:H2'	82:S2:1806:A:C8	2.55	0.41
2:L5:342:G:H2'	2:L5:343:C:C6	2.55	0.41
2:L5:491:G:H2'	2:L5:492:U:C6	2.55	0.41
2:L5:679:C:H2'	2:L5:680:G:H8	1.85	0.41
2:L5:1175:A:H2	2:L5:1185:G:H22	1.69	0.41
2:L5:1625:OMG:P	86:L5:5268:SPM:HN5	2.43	0.41
2:L5:1730:U:H1'	23:LT:101:SER:HB3	2.01	0.41
2:L5:2324:C:H2'	2:L5:2325:C:C6	2.55	0.41
2:L5:2378:G:N2	2:L5:2381:A:OP2	2.53	0.41
2:L5:2864:A:H2'	2:L5:2865:U:C6	2.55	0.41
2:L5:3796:U:H2'	2:L5:3797:C:C6	2.54	0.41
2:L5:4071:U:H2'	2:L5:4072:C:H6	1.86	0.41
2:L5:4620:OMU:H1'	2:L5:4620:OMU:HM23	1.84	0.41
2:L5:4960:G:H2'	2:L5:4961:G:C8	2.55	0.41
2:L5:5006:U:H4'	2:L5:5007:A:H5'	2.02	0.41
4:L8:82:A:N7	4:L8:84:A:H3'	2.35	0.41
26:LW:94:ARG:HA	26:LW:101:ARG:NH2	2.35	0.41
49:SD:29:LEU:HD22	49:SD:58:VAL:HG23	2.02	0.41
49:SD:163:PRO:HA	49:SD:166:TYR:CZ	2.55	0.41
63:Sg:163:PRO:HB2	63:Sg:179:LEU:HB2	2.01	0.41
69:SH:30:LEU:O	69:SH:33:ASN:ND2	2.53	0.41
71:SJ:147:PHE:CE1	82:S2:824:C:H5'	2.55	0.41
72:SL:131:CYS:SG	72:SL:141:ASN:ND2	2.94	0.41
81:Se:32:ALA:HB2	82:S2:525:A:H5''	2.03	0.41
82:S2:458:A:H2'	82:S2:459:C:H6	1.85	0.41
82:S2:544:G:H2'	82:S2:545:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:601:OMG:HM23	82:S2:601:OMG:H1'	1.87	0.41
82:S2:610:G:C6	82:S2:634:A:C6	3.09	0.41
82:S2:676:C:H2'	82:S2:677:G:O4'	2.21	0.41
82:S2:1713:C:H2'	82:S2:1714:U:H6	1.85	0.41
82:S2:1798:C:H2'	82:S2:1799:G:O4'	2.20	0.41
1:Pt:38:C:H2'	1:Pt:39:G:O4'	2.20	0.41
1:Pt:62:C:H2'	1:Pt:63:G:H8	1.86	0.41
2:L5:422:C:H2'	2:L5:423:G:C8	2.55	0.41
2:L5:677:G:H2'	2:L5:678:C:C6	2.55	0.41
2:L5:737:C:C4	2:L5:739:G:H5''	2.56	0.41
2:L5:907:C:H2'	2:L5:908:G:H8	1.86	0.41
2:L5:952:G:H2'	2:L5:953:C:H6	1.85	0.41
2:L5:982:U:H2'	2:L5:983:C:C6	2.56	0.41
2:L5:1190:C:H2'	2:L5:1191:C:C6	2.56	0.41
2:L5:1538:U:H2'	2:L5:1539:G:H8	1.85	0.41
2:L5:1631:A:C2	5:LA:204:MET:HG2	2.55	0.41
2:L5:2633:U:H2'	2:L5:2634:C:C6	2.55	0.41
2:L5:3934:G:H2'	2:L5:3935:C:C6	2.56	0.41
2:L5:4273:A:H2'	2:L5:4274:A:C8	2.56	0.41
2:L5:4313:A:H4'	23:LT:71:ALA:HB3	2.03	0.41
2:L5:4535:A:H2'	2:L5:4536:OMC:H6	1.86	0.41
2:L5:4605:A:H2'	2:L5:4606:G:C8	2.55	0.41
2:L5:4921:C:H2'	2:L5:4922:C:C6	2.55	0.41
2:L5:4967:A:P	6:LB:126:LYS:H	2.44	0.41
8:LD:66:TYR:HE2	8:LD:68:ARG:HE	1.68	0.41
32:Lc:23:LYS:HB3	32:Lc:23:LYS:HE3	1.86	0.41
33:Ld:57:MET:HG2	33:Ld:88:LEU:HD23	2.03	0.41
35:Lf:5:LEU:HA	35:Lf:5:LEU:HD23	1.88	0.41
53:SP:47:ARG:NE	82:S2:1619:A:OP1	2.39	0.41
56:SS:113:ARG:O	56:SS:117:ILE:HG12	2.21	0.41
57:ST:38:LYS:NZ	82:S2:1628:C:OP1	2.44	0.41
63:Sg:125:ARG:HD3	63:Sg:150:TRP:CE2	2.56	0.41
63:Sg:212:LYS:HA	63:Sg:235:ILE:HG13	2.02	0.41
65:SB:57:ILE:HG22	65:SB:59:SER:H	1.85	0.41
69:SH:30:LEU:HG	69:SH:33:ASN:HD22	1.85	0.41
69:SH:83:LEU:HB3	69:SH:92:VAL:HG21	2.03	0.41
70:SI:181:GLN:HE21	82:S2:379:C:P	2.44	0.41
73:SN:4:MET:HG2	73:SN:5:HIS:CD2	2.55	0.41
73:SN:91:LEU:HB3	73:SN:122:ILE:HG12	2.03	0.41
82:S2:1218:C:H2'	82:S2:1219:C:C6	2.56	0.41
82:S2:1567:G:H2'	82:S2:1568:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:72:C:H5	15:LL:67:HIS:HD1	1.68	0.41
2:L5:102:G:O2'	2:L5:1381:U:O2'	2.33	0.41
2:L5:734:G:H22	2:L5:929:A:H2	1.67	0.41
2:L5:4727:A:H2'	2:L5:4728:U:O4'	2.20	0.41
2:L5:5002:U:H2'	2:L5:5003:U:C6	2.55	0.41
8:LD:152:ARG:HG3	8:LD:154:THR:HG23	2.03	0.41
8:LD:203:ASN:OD1	8:LD:203:ASN:N	2.51	0.41
8:LD:211:LEU:HD12	8:LD:223:PHE:HE2	1.85	0.41
9:LE:223:ARG:HB3	9:LE:224:LYS:HB2	2.03	0.41
27:LX:90:ILE:HG12	27:LX:96:LEU:HD23	2.02	0.41
47:Ls:193:PHE:HA	47:Ls:197:SER:O	2.20	0.41
50:SF:22:LYS:NZ	50:SF:98:GLU:OE2	2.42	0.41
50:SF:83:ASN:OD1	82:S2:1651:A:O2'	2.34	0.41
51:SK:32:HIS:CD2	51:SK:45:VAL:HG11	2.55	0.41
56:SS:84:LEU:HD23	56:SS:96:SER:C	2.46	0.41
63:Sg:170:TRP:HA	63:Sg:194:TYR:HB2	2.02	0.41
67:SE:101:LEU:HD12	67:SE:101:LEU:HA	1.89	0.41
70:SI:132:GLU:O	70:SI:136:ILE:HG23	2.20	0.41
74:SO:66:ARG:HG2	82:S2:962:A:H5''	2.03	0.41
77:SX:5:ARG:N	82:S2:1160:U:OP2	2.52	0.41
81:Se:41:ARG:HG3	81:Se:42:PHE:HD1	1.85	0.41
82:S2:145:G:H2'	82:S2:146:G:H8	1.82	0.41
82:S2:839:C:O2'	82:S2:841:G:O4'	2.37	0.41
82:S2:1232:PSU:H2'	82:S2:1233:G:C8	2.55	0.41
82:S2:1802:C:H2'	82:S2:1803:U:H6	1.86	0.41
82:S2:1821:U:O4	82:S2:1822:A:N6	2.53	0.41
2:L5:248:C:H2'	2:L5:249:C:H6	1.86	0.41
2:L5:302:C:H2'	2:L5:303:C:C6	2.55	0.41
2:L5:416:U:H4'	2:L5:2330:G:H4'	2.03	0.41
2:L5:2571:C:H2'	2:L5:2572:C:C6	2.55	0.41
2:L5:2745:A:H2'	2:L5:2746:A:C8	2.55	0.41
2:L5:2824:OMC:HM23	2:L5:2824:OMC:H1'	1.71	0.41
2:L5:2856:C:H2'	2:L5:2857:A:O4'	2.21	0.41
2:L5:2904:U:O2	2:L5:3591:C:H2'	2.19	0.41
2:L5:3650:C:H2'	2:L5:3651:A:C8	2.55	0.41
2:L5:3856:A:H5''	19:LP:83:TRP:O	2.20	0.41
2:L5:4194:U:N3	2:L5:4198:G:OP2	2.53	0.41
2:L5:4407:G:H2'	2:L5:4408:G:C8	2.55	0.41
2:L5:4621:C:OP1	25:LV:48:ARG:NE	2.41	0.41
3:L7:19:C:H2'	3:L7:20:U:H6	1.85	0.41
4:L8:96:C:OP1	37:Lh:70:ARG:NH2	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LD:115:MET:HG2	8:LD:118:ILE:HD11	2.03	0.41
13:LI:36:LEU:HD21	13:LI:69:ARG:NH1	2.36	0.41
13:LI:190:LEU:HD23	13:LI:199:TYR:HA	2.02	0.41
13:LI:207:ASP:OD1	13:LI:210:ARG:NH1	2.54	0.41
15:LL:170:THR:OG1	15:LL:173:GLU:HG3	2.21	0.41
16:LM:100:ARG:HA	16:LM:103:LYS:HE3	2.03	0.41
54:SQ:9:SER:HB3	54:SQ:26:LYS:HG3	2.02	0.41
55:SR:99:ASP:OD2	64:SA:42:LYS:NZ	2.36	0.41
56:SS:24:ARG:H	56:SS:24:ARG:HG2	1.67	0.41
63:Sg:4:GLN:O	63:Sg:313:THR:N	2.47	0.41
65:SB:138:PHE:O	65:SB:213:ARG:N	2.54	0.41
66:SC:256:TRP:CE2	76:SW:68:ARG:HD3	2.56	0.41
67:SE:129:ILE:HD11	67:SE:154:ILE:HG22	2.03	0.41
71:SJ:147:PHE:HE1	82:S2:824:C:H5'	1.85	0.41
82:S2:327:G:H5''	82:S2:328:U:C2	2.56	0.41
82:S2:462:OMC:HM23	82:S2:462:OMC:H1'	1.88	0.41
82:S2:943:U:H2'	82:S2:944:A:C8	2.56	0.41
1:Pt:29:C:H2'	1:Pt:30:G:H8	1.86	0.41
2:L5:153:G:H2'	2:L5:154:G:C8	2.53	0.41
2:L5:492:U:H2'	2:L5:493:G:O4'	2.19	0.41
2:L5:978:G:H2'	2:L5:979:C:H6	1.84	0.41
2:L5:1545:G:H2'	2:L5:1546:C:C6	2.56	0.41
2:L5:1952:G:H2'	2:L5:1953:U:H6	1.85	0.41
2:L5:2102:G:H1'	2:L5:2103:G:C8	2.55	0.41
2:L5:2558:C:H2'	2:L5:2559:G:H8	1.86	0.41
2:L5:2849:A:O2'	2:L5:2855:G:N7	2.50	0.41
2:L5:2893:U:H2'	2:L5:2894:A:C8	2.56	0.41
2:L5:4173:G:H2'	2:L5:4174:U:C6	2.56	0.41
2:L5:4176:C:H2'	2:L5:4177:C:C6	2.56	0.41
2:L5:4344:U:H2'	2:L5:4345:C:C6	2.56	0.41
2:L5:4407:G:H2'	2:L5:4408:G:H8	1.86	0.41
2:L5:4460:U:H2'	2:L5:4461:C:H6	1.85	0.41
2:L5:4524:G:C2	6:LB:252:ALA:HB1	2.56	0.41
6:LB:90:VAL:HG22	6:LB:104:THR:HG23	2.02	0.41
9:LE:150:LEU:HD12	9:LE:175:VAL:HG11	2.02	0.41
20:LQ:50:ARG:HA	20:LQ:53:MET:HE3	2.02	0.41
45:Lp:49:ARG:NH1	45:Lp:68:ALA:O	2.39	0.41
47:Ls:78:LEU:O	47:Ls:82:ILE:HG12	2.20	0.41
49:SD:213:PRO:HB3	55:SR:20:TYR:CE1	2.56	0.41
55:SR:126:MET:HG2	64:SA:43:SER:HB2	2.02	0.41
67:SE:136:ILE:HD12	67:SE:149:TYR:HE1	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SH:25:GLN:O	69:SH:28:LEU:HG	2.21	0.41
75:SV:11:LEU:HD23	75:SV:11:LEU:H	1.86	0.41
82:S2:602:G:N2	82:S2:621:C:N3	2.69	0.41
82:S2:1165:G:OP2	82:S2:1165:G:N2	2.31	0.41
82:S2:1229:G:H2'	82:S2:1230:C:C6	2.56	0.41
82:S2:1329:U:O2'	82:S2:1332:A:OP2	2.29	0.41
1:Pt:71:A:H2'	1:Pt:72:C:C6	2.55	0.41
2:L5:208:A:C2	2:L5:233:U:H5''	2.55	0.41
2:L5:271:C:H2'	2:L5:272:U:C6	2.56	0.41
2:L5:307:A:N3	2:L5:310:G:O2'	2.48	0.41
2:L5:457:G:H2'	2:L5:458:C:H6	1.85	0.41
2:L5:1281:G:OP1	7:LC:316:LYS:NZ	2.46	0.41
2:L5:1431:C:H2'	2:L5:1432:G:O4'	2.21	0.41
2:L5:1512:G:H2'	2:L5:1513:U:C6	2.55	0.41
2:L5:1585:C:N4	87:L5:5285:SPD:HN11	2.19	0.41
2:L5:1806:G:H2'	2:L5:1807:C:H6	1.84	0.41
2:L5:1845:U:H2'	2:L5:1846:G:C8	2.55	0.41
2:L5:1846:G:H2'	2:L5:1847:C:H6	1.86	0.41
2:L5:2413:U:H2'	2:L5:2414:G:C8	2.56	0.41
2:L5:2526:C:H2'	2:L5:2527:A:C8	2.56	0.41
2:L5:2542:G:H2'	2:L5:2543:A:C8	2.55	0.41
2:L5:2589:C:H2'	2:L5:2590:G:O4'	2.21	0.41
2:L5:2728:U:H2'	2:L5:2729:C:C6	2.56	0.41
2:L5:2803:U:H2'	2:L5:2804:OMC:C6	2.56	0.41
2:L5:2878:G:OP2	2:L5:2879:A:O2'	2.33	0.41
2:L5:3660:C:OP1	5:LA:241:ARG:NH2	2.50	0.41
2:L5:3709:U:H2'	2:L5:3710:G:C8	2.56	0.41
2:L5:4638:U:H2'	2:L5:4639:G:N3	2.35	0.41
2:L5:4642:U:H2'	2:L5:4643:G:C8	2.54	0.41
2:L5:4704:C:H2'	2:L5:4705:A:H8	1.86	0.41
2:L5:4769:G:H5''	18:LO:176:ARG:HD3	2.03	0.41
3:L7:110:G:H2'	3:L7:111:C:H6	1.85	0.41
4:L8:69:PSU:H2'	4:L8:70:G:O4'	2.20	0.41
13:LI:51:HIS:HB3	13:LI:134:VAL:HG13	2.02	0.41
21:LR:25:ASP:OD2	84:CI:72:ARG:NH2	2.52	0.41
24:LU:61:VAL:HG22	24:LU:74:SER:HB2	2.03	0.41
26:LW:113:LYS:O	26:LW:117:LYS:HG2	2.21	0.41
33:Ld:59:THR:OG1	33:Ld:104:THR:OG1	2.28	0.41
34:Le:100:ALA:HB3	34:Le:103:VAL:HG23	2.02	0.41
35:Lf:15:LYS:HB3	35:Lf:25:THR:HG23	2.02	0.41
38:Li:59:GLU:HA	38:Li:62:LYS:HE3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SD:135:GLU:HB3	49:SD:157:MET:HE3	2.02	0.41
52:SM:80:ASP:N	52:SM:80:ASP:OD1	2.53	0.41
52:SM:124:ILE:HD13	52:SM:124:ILE:HA	1.94	0.41
53:SP:27:ASP:OD1	53:SP:27:ASP:N	2.46	0.41
56:SS:125:HIS:HE1	82:S2:1609:C:H4'	1.86	0.41
57:ST:42:HIS:NE2	57:ST:43:LYS:HE3	2.35	0.41
57:ST:67:ARG:HD3	82:S2:1587:G:N7	2.36	0.41
57:ST:129:ARG:HG3	82:S2:1416:C:OP1	2.21	0.41
59:SZ:68:ILE:HB	59:SZ:109:TYR:HB2	2.02	0.41
59:SZ:86:ALA:O	59:SZ:90:GLU:HG2	2.21	0.41
59:SZ:92:LEU:HD11	59:SZ:109:TYR:CE1	2.56	0.41
61:Sd:2:GLY:HA3	61:Sd:6:LEU:HD21	2.02	0.41
63:Sg:8:ARG:HB3	63:Sg:309:VAL:HG13	2.01	0.41
63:Sg:213:ASP:OD1	63:Sg:213:ASP:N	2.53	0.41
63:Sg:289:LEU:HD12	63:Sg:289:LEU:HA	1.93	0.41
65:SB:52:THR:HG23	65:SB:57:ILE:HA	2.02	0.41
67:SE:151:ASP:HA	68:SG:212:LEU:HD21	2.03	0.41
67:SE:253:ASP:OD1	67:SE:253:ASP:N	2.54	0.41
68:SG:173:ALA:HB3	82:S2:78:C:H5'	2.02	0.41
69:SH:7:LYS:HD3	69:SH:10:LYS:HB3	2.03	0.41
70:SI:76:THR:OG1	70:SI:77:ARG:N	2.53	0.41
71:SJ:58:ARG:O	71:SJ:62:THR:HG23	2.21	0.41
77:SX:46:HIS:CD2	77:SX:103:ALA:HB2	2.56	0.41
77:SX:86:PRO:HG3	77:SX:121:LYS:HD2	2.03	0.41
77:SX:90:CYS:HA	77:SX:93:PHE:CD2	2.56	0.41
82:S2:383:G:H2'	82:S2:384:U:C6	2.56	0.41
82:S2:490:C:H2'	82:S2:491:C:C6	2.56	0.41
82:S2:1330:G:N7	82:S2:1492:U:H3'	2.36	0.41
82:S2:1452:A:O2'	82:S2:1475:G:N2	2.54	0.41
82:S2:1515:G:H2'	82:S2:1516:G:H8	1.82	0.41
82:S2:1693:G:H2'	82:S2:1694:U:C6	2.56	0.41
82:S2:1737:G:H2'	82:S2:1738:C:C6	2.56	0.41
2:L5:35:U:H4'	2:L5:1525:A:H2	1.85	0.41
2:L5:135:G:N7	37:Lh:97:LYS:HG3	2.36	0.41
2:L5:221:C:H2'	2:L5:222:C:H6	1.86	0.41
2:L5:266:C:HO2'	2:L5:267:G:H8	1.64	0.41
2:L5:720:G:H2'	2:L5:721:G:H8	1.86	0.41
2:L5:1174:G:H2'	2:L5:1175:A:C8	2.56	0.41
2:L5:2274:C:H5''	7:LC:312:ARG:HB3	2.03	0.41
2:L5:2327:G:H2'	2:L5:2328:G:H8	1.86	0.41
2:L5:2609:G:H2'	2:L5:2610:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2881:A:H3'	2:L5:2882:A:H8	1.86	0.41
2:L5:3600:G:H2'	2:L5:3601:C:H6	1.86	0.41
2:L5:4451:G:H1'	89:L5:5297:HMT:H26	2.03	0.41
2:L5:4920:C:H2'	2:L5:4921:C:H6	1.86	0.41
2:L5:4938:A:P	9:LE:183:ARG:HH21	2.44	0.41
2:L5:5029:C:O2'	2:L5:5030:U:H6	2.04	0.41
3:L7:71:G:H2'	3:L7:72:U:C6	2.56	0.41
6:LB:80:GLU:OE1	6:LB:323:TYR:OH	2.34	0.41
14:LJ:16:ARG:HH21	14:LJ:137:PRO:HA	1.85	0.41
18:LO:54:TYR:CD1	18:LO:145:VAL:HG21	2.56	0.41
24:LU:31:ASP:OD2	24:LU:114:TYR:OH	2.28	0.41
35:Lf:78:HIS:HB3	35:Lf:83:MET:HB3	2.03	0.41
45:Lp:61:MET:HE3	45:Lp:61:MET:HB3	1.88	0.41
47:Ls:44:ARG:HD3	47:Ls:44:ARG:HA	1.93	0.41
53:SP:77:LYS:HB3	53:SP:102:PHE:CD1	2.56	0.41
63:Sg:228:TYR:CE2	63:Sg:264:LYS:HG2	2.56	0.41
63:Sg:270:LEU:HD13	63:Sg:310:TRP:CE3	2.55	0.41
67:SE:204:SER:OG	67:SE:205:PHE:N	2.54	0.41
70:SI:149:TYR:O	70:SI:153:LYS:HG2	2.21	0.41
71:SJ:132:GLN:HB2	71:SJ:134:HIS:CD2	2.56	0.41
76:SW:57:ARG:NH2	80:Sb:26:GLN:HB2	2.36	0.41
82:S2:15:U:O2'	82:S2:669:A:N6	2.50	0.41
82:S2:677:G:N1	82:S2:1027:A:OP2	2.34	0.41
82:S2:1034:A:H3'	82:S2:1035:A:H8	1.86	0.41
83:Zt:23:A:H2'	83:Zt:24:G:C8	2.56	0.41
83:Zt:26:A:N6	83:Zt:44:G:N1	2.32	0.41
1:Pt:6:C:H2'	1:Pt:7:G:C8	2.55	0.40
2:L5:152:U:C2	2:L5:153:G:C8	3.09	0.40
2:L5:1266:G:H5'	31:Lb:99:ILE:HD11	2.04	0.40
2:L5:1269:G:O2'	2:L5:1270:A:O4'	2.34	0.40
2:L5:1748:U:H2'	2:L5:1749:A:C8	2.56	0.40
2:L5:1879:C:H2'	2:L5:1880:G:O4'	2.21	0.40
2:L5:2402:G:H2'	2:L5:2403:A:H8	1.86	0.40
2:L5:2412:A:H2'	2:L5:2413:U:H6	1.86	0.40
2:L5:2544:G:H22	4:L8:124:U:H4'	1.86	0.40
2:L5:2565:A:H3'	2:L5:2566:G:H8	1.85	0.40
2:L5:2862:G:N3	2:L5:3624:A:H2'	2.35	0.40
2:L5:3633:C:H2'	2:L5:3634:G:H8	1.85	0.40
2:L5:4344:U:H2'	2:L5:4345:C:H6	1.86	0.40
3:L7:2:U:O4	3:L7:117:G:O6	2.39	0.40
7:LC:334:THR:HG22	7:LC:337:ARG:HH21	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LD:291:GLN:NE2	13:LI:213:HIS:O	2.39	0.40
10:LF:50:ILE:HD12	10:LF:186:CYS:HB3	2.03	0.40
11:LG:77:PRO:HA	11:LG:78:PRO:HD3	1.94	0.40
15:LL:55:ILE:O	15:LL:97:SER:OG	2.37	0.40
22:LS:27:LEU:HB3	23:LT:148:PRO:HB3	2.03	0.40
28:LY:4:ASN:HB3	28:LY:7:VAL:HG22	2.03	0.40
46:Lr:59:GLY:O	46:Lr:121:GLN:NE2	2.32	0.40
49:SD:75:LYS:NZ	51:SK:18:GLU:HG3	2.36	0.40
52:SM:118:SER:O	52:SM:121:LYS:NZ	2.51	0.40
54:SQ:51:LEU:HD23	54:SQ:51:LEU:HA	1.93	0.40
64:SA:32:PHE:CD1	82:S2:1097:G:H4'	2.56	0.40
65:SB:73:ASP:OD1	65:SB:73:ASP:N	2.54	0.40
66:SC:109:ILE:HD11	66:SC:151:ILE:HD11	2.03	0.40
68:SG:139:SER:HA	68:SG:142:ARG:HB2	2.02	0.40
70:SI:191:GLU:HG3	72:SL:19:ASN:ND2	2.36	0.40
71:SJ:176:LYS:HA	71:SJ:179:LYS:HG2	2.02	0.40
78:SY:129:LYS:HD3	78:SY:129:LYS:HA	1.86	0.40
80:Sb:6:ASP:OD1	80:Sb:9:HIS:N	2.49	0.40
82:S2:864:A:H2'	82:S2:865:A:C8	2.55	0.40
82:S2:1107:G:C6	82:S2:1126:G:C6	3.09	0.40
83:Zt:51:G:H2'	83:Zt:52:G:C8	2.56	0.40
2:L5:123:C:H2'	2:L5:124:C:C6	2.57	0.40
2:L5:1537:A:H2'	2:L5:1538:U:C6	2.56	0.40
2:L5:1814:C:H2'	2:L5:1816:C:H5	1.87	0.40
2:L5:2056:G:H4'	18:LO:18:ARG:HH22	1.86	0.40
2:L5:2277:C:H2'	2:L5:2278:G:C8	2.55	0.40
2:L5:2598:A:H2'	2:L5:2599:G:O4'	2.22	0.40
2:L5:2779:C:H2'	2:L5:2780:C:C6	2.57	0.40
2:L5:3642:A:C8	39:Lj:3:LYS:HE2	2.56	0.40
2:L5:4323:A:C2	8:LD:146:LEU:HD23	2.57	0.40
2:L5:4769:G:H2'	2:L5:4770:U:C6	2.56	0.40
2:L5:4979:A:OP1	6:LB:228:TYR:HB2	2.21	0.40
2:L5:4997:G:H2'	2:L5:4998:G:C8	2.55	0.40
4:L8:4:C:H2'	4:L8:5:U:C6	2.57	0.40
4:L8:109:C:H3'	39:Lj:20:ARG:HH22	1.85	0.40
5:LA:28:ARG:HE	5:LA:28:ARG:HB2	1.74	0.40
5:LA:186:TYR:HB2	5:LA:196:TRP:CZ3	2.57	0.40
6:LB:263:ALA:HB3	6:LB:266:VAL:HG23	2.03	0.40
10:LF:226:HIS:HB3	10:LF:229:GLU:HG2	2.03	0.40
11:LG:123:ALA:HA	11:LG:124:GLY:HA2	1.80	0.40
15:LL:93:THR:HA	37:Lh:116:LEU:HD13	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LN:38:ARG:HA	17:LN:62:TYR:HA	2.04	0.40
20:LQ:69:LYS:HD3	20:LQ:69:LYS:HA	1.85	0.40
20:LQ:154:LYS:HB3	20:LQ:154:LYS:HE2	1.83	0.40
24:LU:80:LYS:HG2	24:LU:110:TYR:CE2	2.56	0.40
28:LY:106:ILE:HG21	28:LY:109:LEU:HD23	2.03	0.40
33:Ld:19:GLU:OE2	33:Ld:92:ARG:NH2	2.54	0.40
36:Lg:60:ARG:HB2	36:Lg:63:VAL:HG23	2.03	0.40
36:Lg:61:PRO:HA	36:Lg:64:LEU:HD12	2.02	0.40
50:SF:39:ILE:HG23	50:SF:68:ILE:HD13	2.03	0.40
52:SM:26:LEU:HD11	52:SM:89:VAL:HA	2.03	0.40
53:SP:81:ARG:NH1	53:SP:120:SER:HG	2.18	0.40
55:SR:114:LEU:HD12	55:SR:117:LEU:HD11	2.02	0.40
63:Sg:174:VAL:HG23	63:Sg:188:HIS:HB2	2.02	0.40
67:SE:28:ALA:O	82:S2:496:C:H4'	2.22	0.40
68:SG:133:LEU:HD12	82:S2:65:C:C4	2.57	0.40
69:SH:17:ASP:OD1	69:SH:17:ASP:N	2.53	0.40
70:SI:184:ARG:HD2	82:S2:219:U:H1'	2.02	0.40
71:SJ:28:GLU:OE2	71:SJ:44:TRP:NE1	2.42	0.40
73:SN:29:THR:O	73:SN:33:VAL:HG23	2.21	0.40
82:S2:89:C:O2	82:S2:499:G:H4'	2.21	0.40
82:S2:943:U:C2	82:S2:944:A:C8	3.09	0.40
82:S2:1305:C:H2'	82:S2:1306:U:C6	2.56	0.40
82:S2:1348:G:OP2	82:S2:1348:G:N2	2.51	0.40
2:L5:197:A:N6	2:L5:242:U:H3	2.20	0.40
2:L5:252:C:H2'	2:L5:253:G:C8	2.56	0.40
2:L5:370:U:H2'	2:L5:371:A:C8	2.57	0.40
2:L5:385:A:O2'	2:L5:387:G:H5'	2.21	0.40
2:L5:388:A:H5'	2:L5:389:A:H5'	2.03	0.40
2:L5:965:G:N2	2:L5:2092:G:H1'	2.37	0.40
2:L5:1614:C:H2'	2:L5:1615:C:C6	2.56	0.40
2:L5:1993:C:H2'	2:L5:1994:C:C6	2.57	0.40
2:L5:2325:C:OP1	34:Le:101:HIS:ND1	2.44	0.40
2:L5:2422:OMC:HM23	2:L5:2422:OMC:H1'	1.83	0.40
2:L5:4456:OMC:HM23	2:L5:4456:OMC:H1'	1.90	0.40
2:L5:4524:G:OP1	2:L5:4559:A:N6	2.52	0.40
2:L5:4544:A:H5''	5:LA:213:GLY:HA3	2.03	0.40
2:L5:4662:C:O2'	2:L5:5004:C:OP1	2.38	0.40
2:L5:5027:C:O2'	2:L5:5028:G:H5''	2.21	0.40
5:LA:22:HIS:O	5:LA:24:LYS:NZ	2.53	0.40
13:LI:159:PHE:HA	13:LI:160:PRO:HD3	1.94	0.40
17:LN:120:TRP:HZ2	17:LN:123:GLU:HG2	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LP:137:ASN:HD22	19:LP:137:ASN:HA	1.69	0.40
25:LV:104:VAL:HB	25:LV:112:MET:HE3	2.02	0.40
41:Ll:16:LYS:HD3	41:Ll:19:GLN:HE21	1.86	0.40
49:SD:192:TRP:NE1	49:SD:201:LYS:O	2.47	0.40
50:SF:61:PHE:CD2	60:Sc:51:ARG:HD3	2.56	0.40
50:SF:171:GLU:OE2	59:SZ:106:GLN:NE2	2.54	0.40
63:Sg:133:ASN:HB3	63:Sg:139:LYS:HD2	2.02	0.40
66:SC:104:ASP:OD1	66:SC:105:GLU:N	2.53	0.40
69:SH:33:ASN:ND2	69:SH:36:LEU:HB3	2.35	0.40
70:SI:10:LYS:HD3	82:S2:387:C:P	2.61	0.40
70:SI:117:TYR:HB3	70:SI:119:LEU:HD23	2.02	0.40
71:SJ:111:GLN:HE21	71:SJ:123:ILE:HG13	1.85	0.40
79:Sa:59:PHE:HB2	79:Sa:62:TYR:HB2	2.04	0.40
82:S2:218:U:H2'	82:S2:219:U:C6	2.56	0.40
82:S2:1368:U:O2'	82:S2:1370:A:N7	2.46	0.40
82:S2:1391:OMC:HM23	82:S2:1391:OMC:H1'	1.92	0.40
82:S2:1844:U:H2'	82:S2:1845:A:H8	1.86	0.40
2:L5:212:A:H2'	2:L5:213:G:H8	1.86	0.40
2:L5:229:G:H2'	2:L5:230:G:H8	1.87	0.40
2:L5:326:C:H2'	2:L5:327:U:C6	2.56	0.40
2:L5:1577:G:H5'	2:L5:1578:U:H5''	2.04	0.40
2:L5:1589:C:H2'	2:L5:1590:C:C6	2.57	0.40
2:L5:1973:G:O2'	48:Lt:117:ARG:NH2	2.54	0.40
2:L5:2059:C:H2'	2:L5:2060:G:C8	2.48	0.40
2:L5:2555:G:H2'	2:L5:2556:G:H8	1.87	0.40
2:L5:2574:G:O6	2:L5:2760:G:N2	2.54	0.40
2:L5:2823:G:H2'	2:L5:2824:OMC:H6	1.87	0.40
2:L5:3794:C:H2'	2:L5:3795:A:C8	2.57	0.40
2:L5:3814:U:H2'	2:L5:3815:G:C8	2.56	0.40
2:L5:4186:A:H2'	2:L5:4187:G:C8	2.57	0.40
2:L5:4473:A:P	42:Lm:102:ARG:HH21	2.44	0.40
2:L5:4980:C:H3'	2:L5:4981:G:H21	1.85	0.40
4:L8:123:U:H2'	4:L8:126:C:N4	2.34	0.40
4:L8:145:C:H2'	4:L8:146:U:C6	2.57	0.40
6:LB:261:ARG:HB3	18:LO:64:THR:HG21	2.04	0.40
20:LQ:32:TYR:OH	20:LQ:123:PHE:O	2.36	0.40
21:LR:112:SER:OG	21:LR:114:LYS:HG3	2.21	0.40
39:Lj:67:LEU:HA	39:Lj:67:LEU:HD23	1.82	0.40
43:Ln:12:ARG:HG2	43:Ln:15:ARG:HH21	1.86	0.40
48:Lt:117:ARG:HG3	48:Lt:119:ARG:HG3	2.03	0.40
57:ST:39:LEU:HD21	57:ST:52:TRP:CZ3	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SA:73:ASP:O	64:SA:120:ARG:N	2.52	0.40
64:SA:184:ARG:HG3	64:SA:189:ILE:HD12	2.03	0.40
66:SC:64:THR:HG22	66:SC:66:LEU:N	2.36	0.40
68:SG:170:ARG:HG3	82:S2:72:C:N3	2.37	0.40
82:S2:534:G:H2'	82:S2:535:G:C8	2.56	0.40
82:S2:959:G:H1'	82:S2:964:A:N6	2.36	0.40
82:S2:1171:G:O2'	82:S2:1187:G:O6	2.39	0.40
82:S2:1287:A:N6	82:S2:1288:OMU:O2	2.55	0.40
82:S2:1510:G:H2'	82:S2:1511:U:O4'	2.22	0.40
82:S2:1688:C:H2'	82:S2:1689:C:C6	2.57	0.40
2:L5:20:U:H3'	2:L5:21:G:H8	1.85	0.40
2:L5:169:G:O6	2:L5:170:C:N4	2.55	0.40
2:L5:239:C:H2'	2:L5:240:G:H8	1.86	0.40
2:L5:325:U:H3'	38:Li:28:ARG:NH2	2.35	0.40
2:L5:346:G:H2'	2:L5:347:A:C8	2.57	0.40
2:L5:928:C:H2'	2:L5:929:A:C8	2.57	0.40
2:L5:1473:U:H2'	2:L5:1474:C:C6	2.56	0.40
2:L5:1956:A:H2'	2:L5:1957:U:H6	1.85	0.40
2:L5:4203:A:N3	2:L5:4221:C:H5'	2.36	0.40
2:L5:4279:A:H5'	2:L5:4281:A:H1'	2.03	0.40
2:L5:4291:G:OP1	44:Lo:18:HIS:NE2	2.54	0.40
2:L5:4938:A:H1'	9:LE:185:PRO:HG3	2.03	0.40
9:LE:282:TYR:HE1	35:Lf:31:GLU:HG2	1.87	0.40
13:LI:77:VAL:HG22	13:LI:82:ARG:HA	2.03	0.40
25:LV:37:LEU:HD23	25:LV:65:VAL:HG12	2.03	0.40
25:LV:48:ARG:HG2	25:LV:51:ARG:CZ	2.52	0.40
47:Ls:47:LEU:HD11	47:Ls:51:ALA:HB3	2.02	0.40
53:SP:134:GLY:H	82:S2:1236:G:H4'	1.87	0.40
57:ST:83:GLN:NE2	57:ST:85:ASN:OD1	2.54	0.40
59:SZ:56:ASP:OD1	59:SZ:57:LYS:N	2.54	0.40
63:Sg:256:ILE:HD11	63:Sg:286:CYS:SG	2.62	0.40
67:SE:63:LYS:O	67:SE:67:GLN:HG3	2.21	0.40
69:SH:18:GLU:C	69:SH:20:GLU:H	2.29	0.40
69:SH:78:ARG:O	69:SH:81:ARG:HG2	2.20	0.40
82:S2:1328:OMG:H1'	82:S2:1328:OMG:HM23	1.85	0.40
82:S2:1348:G:H2'	82:S2:1349:G:C8	2.56	0.40
82:S2:1612:G:H2'	82:S2:1613:G:H8	1.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	LA	246/248 (99%)	232 (94%)	14 (6%)	0	100	100
6	LB	400/402 (100%)	380 (95%)	20 (5%)	0	100	100
7	LC	366/368 (100%)	353 (96%)	13 (4%)	0	100	100
8	LD	291/293 (99%)	281 (97%)	10 (3%)	0	100	100
9	LE	236/250 (94%)	223 (94%)	13 (6%)	0	100	100
10	LF	223/225 (99%)	214 (96%)	9 (4%)	0	100	100
11	LG	239/241 (99%)	225 (94%)	14 (6%)	0	100	100
12	LH	188/190 (99%)	182 (97%)	6 (3%)	0	100	100
13	LI	211/213 (99%)	202 (96%)	9 (4%)	0	100	100
14	LJ	168/176 (96%)	162 (96%)	6 (4%)	0	100	100
15	LL	208/210 (99%)	199 (96%)	9 (4%)	0	100	100
16	LM	137/139 (99%)	132 (96%)	5 (4%)	0	100	100
17	LN	201/203 (99%)	197 (98%)	4 (2%)	0	100	100
18	LO	199/201 (99%)	195 (98%)	4 (2%)	0	100	100
19	LP	151/153 (99%)	145 (96%)	6 (4%)	0	100	100
20	LQ	185/187 (99%)	182 (98%)	3 (2%)	0	100	100
21	LR	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
22	LS	173/175 (99%)	168 (97%)	5 (3%)	0	100	100
23	LT	157/159 (99%)	155 (99%)	2 (1%)	0	100	100
24	LU	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
25	LV	129/131 (98%)	127 (98%)	2 (2%)	0	100	100
26	LW	112/124 (90%)	109 (97%)	3 (3%)	0	100	100
27	LX	118/120 (98%)	117 (99%)	1 (1%)	0	100	100
28	LY	132/134 (98%)	127 (96%)	5 (4%)	0	100	100
29	LZ	133/135 (98%)	126 (95%)	7 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	La	145/147 (99%)	141 (97%)	4 (3%)	0	100	100
31	Lb	105/121 (87%)	97 (92%)	8 (8%)	0	100	100
32	Lc	96/98 (98%)	94 (98%)	2 (2%)	0	100	100
33	Ld	105/107 (98%)	103 (98%)	2 (2%)	0	100	100
34	Le	126/128 (98%)	125 (99%)	1 (1%)	0	100	100
35	Lf	107/109 (98%)	105 (98%)	2 (2%)	0	100	100
36	Lg	112/114 (98%)	109 (97%)	3 (3%)	0	100	100
37	Lh	120/122 (98%)	117 (98%)	3 (2%)	0	100	100
38	Li	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
39	Lj	84/86 (98%)	83 (99%)	1 (1%)	0	100	100
40	Lk	67/69 (97%)	66 (98%)	1 (2%)	0	100	100
41	Ll	48/50 (96%)	46 (96%)	2 (4%)	0	100	100
42	Lm	50/52 (96%)	49 (98%)	1 (2%)	0	100	100
43	Ln	22/24 (92%)	22 (100%)	0	0	100	100
44	Lo	103/105 (98%)	98 (95%)	5 (5%)	0	100	100
45	Lp	89/91 (98%)	86 (97%)	3 (3%)	0	100	100
46	Lr	123/125 (98%)	119 (97%)	4 (3%)	0	100	100
47	Ls	194/196 (99%)	182 (94%)	12 (6%)	0	100	100
48	Lt	128/157 (82%)	113 (88%)	15 (12%)	0	100	100
49	SD	225/227 (99%)	219 (97%)	6 (3%)	0	100	100
50	SF	187/189 (99%)	176 (94%)	11 (6%)	0	100	100
51	SK	96/98 (98%)	90 (94%)	6 (6%)	0	100	100
52	SM	120/122 (98%)	110 (92%)	10 (8%)	0	100	100
53	SP	119/121 (98%)	117 (98%)	2 (2%)	0	100	100
54	SQ	142/144 (99%)	134 (94%)	8 (6%)	0	100	100
55	SR	133/135 (98%)	124 (93%)	8 (6%)	1 (1%)	16	51
56	SS	143/145 (99%)	135 (94%)	8 (6%)	0	100	100
57	ST	141/143 (99%)	138 (98%)	3 (2%)	0	100	100
58	SU	102/104 (98%)	99 (97%)	3 (3%)	0	100	100
59	SZ	73/75 (97%)	67 (92%)	6 (8%)	0	100	100
60	Sc	62/64 (97%)	60 (97%)	2 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
61	Sd	53/55 (96%)	53 (100%)	0	0	100	100
62	Sf	65/67 (97%)	58 (89%)	7 (11%)	0	100	100
63	Sg	311/313 (99%)	295 (95%)	16 (5%)	0	100	100
64	SA	219/221 (99%)	208 (95%)	11 (5%)	0	100	100
65	SB	212/214 (99%)	204 (96%)	8 (4%)	0	100	100
66	SC	218/222 (98%)	204 (94%)	14 (6%)	0	100	100
67	SE	260/262 (99%)	252 (97%)	8 (3%)	0	100	100
68	SG	235/237 (99%)	223 (95%)	12 (5%)	0	100	100
69	SH	182/189 (96%)	167 (92%)	15 (8%)	0	100	100
70	SI	204/206 (99%)	193 (95%)	11 (5%)	0	100	100
71	SJ	183/185 (99%)	175 (96%)	7 (4%)	1 (0%)	25	60
72	SL	151/153 (99%)	145 (96%)	6 (4%)	0	100	100
73	SN	148/150 (99%)	145 (98%)	3 (2%)	0	100	100
74	SO	135/140 (96%)	127 (94%)	8 (6%)	0	100	100
75	SV	81/83 (98%)	76 (94%)	5 (6%)	0	100	100
76	SW	127/129 (98%)	122 (96%)	5 (4%)	0	100	100
77	SX	139/141 (99%)	136 (98%)	3 (2%)	0	100	100
78	SY	129/131 (98%)	124 (96%)	5 (4%)	0	100	100
79	Sa	100/102 (98%)	99 (99%)	1 (1%)	0	100	100
80	Sb	81/83 (98%)	76 (94%)	5 (6%)	0	100	100
81	Se	56/58 (97%)	52 (93%)	4 (7%)	0	100	100
84	CI	29/31 (94%)	29 (100%)	0	0	100	100
All	All	11672/11907 (98%)	11192 (96%)	478 (4%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
71	SJ	138	ARG
55	SR	129	LYS

5.3.2 Protein sidechains ⓘ

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

entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	LA	190/190 (100%)	190 (100%)	0	100	100
6	LB	348/348 (100%)	348 (100%)	0	100	100
7	LC	306/306 (100%)	306 (100%)	0	100	100
8	LD	246/247 (100%)	246 (100%)	0	100	100
9	LE	212/222 (96%)	212 (100%)	0	100	100
10	LF	194/194 (100%)	194 (100%)	0	100	100
11	LG	203/205 (99%)	203 (100%)	0	100	100
12	LH	169/169 (100%)	169 (100%)	0	100	100
13	LI	180/180 (100%)	180 (100%)	0	100	100
14	LJ	143/148 (97%)	143 (100%)	0	100	100
15	LL	176/176 (100%)	176 (100%)	0	100	100
16	LM	118/118 (100%)	118 (100%)	0	100	100
17	LN	171/171 (100%)	171 (100%)	0	100	100
18	LO	173/173 (100%)	173 (100%)	0	100	100
19	LP	134/134 (100%)	134 (100%)	0	100	100
20	LQ	164/164 (100%)	164 (100%)	0	100	100
21	LR	166/166 (100%)	166 (100%)	0	100	100
22	LS	156/156 (100%)	156 (100%)	0	100	100
23	LT	139/139 (100%)	139 (100%)	0	100	100
24	LU	91/91 (100%)	91 (100%)	0	100	100
25	LV	101/101 (100%)	101 (100%)	0	100	100
26	LW	95/103 (92%)	95 (100%)	0	100	100
27	LX	108/108 (100%)	108 (100%)	0	100	100
28	LY	124/124 (100%)	124 (100%)	0	100	100
29	LZ	117/117 (100%)	117 (100%)	0	100	100
30	La	120/120 (100%)	120 (100%)	0	100	100
31	Lb	88/101 (87%)	88 (100%)	0	100	100
32	Lc	83/83 (100%)	83 (100%)	0	100	100
33	Ld	98/98 (100%)	98 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	Le	114/114 (100%)	114 (100%)	0	100	100
35	Lf	88/88 (100%)	88 (100%)	0	100	100
36	Lg	98/98 (100%)	98 (100%)	0	100	100
37	Lh	109/109 (100%)	109 (100%)	0	100	100
38	Li	86/86 (100%)	86 (100%)	0	100	100
39	Lj	73/73 (100%)	73 (100%)	0	100	100
40	Lk	64/64 (100%)	64 (100%)	0	100	100
41	Ll	47/47 (100%)	47 (100%)	0	100	100
42	Lm	48/48 (100%)	48 (100%)	0	100	100
43	Ln	23/23 (100%)	23 (100%)	0	100	100
44	Lo	93/93 (100%)	93 (100%)	0	100	100
45	Lp	74/74 (100%)	74 (100%)	0	100	100
46	Lr	109/109 (100%)	109 (100%)	0	100	100
47	Ls	162/164 (99%)	162 (100%)	0	100	100
48	Lt	107/130 (82%)	107 (100%)	0	100	100
49	SD	190/190 (100%)	190 (100%)	0	100	100
50	SF	159/159 (100%)	159 (100%)	0	100	100
51	SK	89/89 (100%)	89 (100%)	0	100	100
52	SM	102/104 (98%)	102 (100%)	0	100	100
53	SP	107/107 (100%)	107 (100%)	0	100	100
54	SQ	119/119 (100%)	119 (100%)	0	100	100
55	SR	122/122 (100%)	122 (100%)	0	100	100
56	SS	126/126 (100%)	126 (100%)	0	100	100
57	ST	113/113 (100%)	113 (100%)	0	100	100
58	SU	94/94 (100%)	94 (100%)	0	100	100
59	SZ	66/66 (100%)	66 (100%)	0	100	100
60	Sc	57/57 (100%)	57 (100%)	0	100	100
61	Sd	48/48 (100%)	48 (100%)	0	100	100
62	Sf	60/60 (100%)	60 (100%)	0	100	100
63	Sg	272/272 (100%)	272 (100%)	0	100	100
64	SA	183/183 (100%)	183 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
65	SB	195/195 (100%)	195 (100%)	0	100	100
66	SC	186/188 (99%)	186 (100%)	0	100	100
67	SE	224/224 (100%)	224 (100%)	0	100	100
68	SG	207/207 (100%)	207 (100%)	0	100	100
69	SH	166/169 (98%)	165 (99%)	1 (1%)	84	88
70	SI	178/178 (100%)	178 (100%)	0	100	100
71	SJ	161/161 (100%)	161 (100%)	0	100	100
72	SL	137/137 (100%)	137 (100%)	0	100	100
73	SN	130/130 (100%)	130 (100%)	0	100	100
74	SO	107/110 (97%)	107 (100%)	0	100	100
75	SV	67/67 (100%)	67 (100%)	0	100	100
76	SW	112/112 (100%)	112 (100%)	0	100	100
77	SX	113/113 (100%)	113 (100%)	0	100	100
78	SY	113/113 (100%)	113 (100%)	0	100	100
79	Sa	89/89 (100%)	89 (100%)	0	100	100
80	Sb	75/75 (100%)	75 (100%)	0	100	100
81	Se	47/47 (100%)	47 (100%)	0	100	100
84	CI	25/25 (100%)	25 (100%)	0	100	100
All	All	10147/10221 (99%)	10146 (100%)	1 (0%)	100	100

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
69	SH	162	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (82) such sidechains are listed below:

Mol	Chain	Res	Type
5	LA	50	HIS
6	LB	68	ASN
6	LB	184	GLN
6	LB	203	GLN
6	LB	289	GLN
7	LC	38	ASN
7	LC	112	HIS

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Mol	Chain	Res	Type
7	LC	329	ASN
7	LC	347	HIS
10	LF	192	HIS
11	LG	64	GLN
11	LG	112	GLN
12	LH	39	ASN
12	LH	78	GLN
12	LH	98	HIS
12	LH	116	ASN
12	LH	138	GLN
13	LI	73	ASN
13	LI	166	HIS
14	LJ	71	HIS
15	LL	19	GLN
15	LL	149	GLN
16	LM	34	ASN
17	LN	32	GLN
17	LN	199	GLN
18	LO	26	GLN
18	LO	180	GLN
19	LP	75	GLN
22	LS	23	HIS
22	LS	108	GLN
22	LS	173	ASN
23	LT	131	GLN
23	LT	144	ASN
24	LU	94	ASN
25	LV	77	HIS
26	LW	79	GLN
28	LY	14	ASN
28	LY	61	HIS
30	La	28	HIS
30	La	34	ASN
35	Lf	99	HIS
41	Ll	19	GLN
46	Lr	4	HIS
46	Lr	21	ASN
46	Lr	31	ASN
48	Lt	65	GLN
49	SD	145	GLN
49	SD	159	HIS
51	SK	32	HIS

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Mol	Chain	Res	Type
51	SK	50	GLN
51	SK	84	HIS
52	SM	19	GLN
52	SM	119	GLN
53	SP	103	ASN
56	SS	11	HIS
56	SS	87	GLN
59	SZ	89	GLN
60	Sc	24	GLN
63	Sg	147	HIS
64	SA	9	GLN
64	SA	84	GLN
64	SA	132	GLN
65	SB	53	GLN
65	SB	75	GLN
65	SB	95	ASN
66	SC	267	GLN
67	SE	50	ASN
67	SE	188	ASN
68	SG	56	ASN
69	SH	76	GLN
69	SH	165	ASN
70	SI	35	ASN
72	SL	19	ASN
72	SL	141	ASN
73	SN	105	ASN
75	SV	35	ASN
76	SW	5	ASN
77	SX	31	HIS
78	SY	89	HIS
78	SY	124	ASN
79	Sa	8	ASN
79	Sa	72	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	Pt	72/74 (97%)	19 (26%)	0
2	L5	3643/3655 (99%)	762 (20%)	15 (0%)
3	L7	119/120 (99%)	12 (10%)	0
4	L8	155/156 (99%)	26 (16%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
82	S2	1714/1740 (98%)	391 (22%)	3 (0%)
83	Zt	74/75 (98%)	43 (58%)	0
All	All	5777/5820 (99%)	1253 (21%)	18 (0%)

All (1253) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	Pt	9	A
1	Pt	13	U
1	Pt	19	G
1	Pt	21	A
1	Pt	46	G
1	Pt	47	U
1	Pt	48	C
1	Pt	49	C
1	Pt	56	C
1	Pt	58	A
1	Pt	59	A
1	Pt	61	C
1	Pt	66	C
1	Pt	67	G
1	Pt	70	A
1	Pt	72	C
1	Pt	74	C
1	Pt	75	C
1	Pt	76	A
2	L5	2	G
2	L5	13	U
2	L5	25	A
2	L5	30	C
2	L5	39	A
2	L5	42	A
2	L5	48	G
2	L5	56	A
2	L5	59	A
2	L5	64	A
2	L5	65	A
2	L5	73	A
2	L5	74	G
2	L5	76	A
2	L5	91	G
2	L5	104	G

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Mol	Chain	Res	Type
2	L5	109	G
2	L5	110	C
2	L5	119	G
2	L5	120	A
2	L5	132	G
2	L5	133	C
2	L5	134	G
2	L5	135	G
2	L5	145	G
2	L5	159	C
2	L5	164	G
2	L5	165	A
2	L5	172	C
2	L5	181	C
2	L5	182	G
2	L5	183	C
2	L5	184	U
2	L5	185	C
2	L5	187	U
2	L5	188	G
2	L5	200	U
2	L5	209	U
2	L5	210	C
2	L5	216	C
2	L5	218	A
2	L5	220	C
2	L5	234	G
2	L5	255	C
2	L5	256	G
2	L5	261	G
2	L5	263	G
2	L5	264	C
2	L5	265	C
2	L5	266	C
2	L5	267	G
2	L5	280	G
2	L5	281	U
2	L5	297	U
2	L5	306	A
2	L5	315	G
2	L5	316	U
2	L5	340	C

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Mol	Chain	Res	Type
2	L5	357	U
2	L5	358	C
2	L5	363	A
2	L5	373	G
2	L5	385	A
2	L5	387	G
2	L5	388	A
2	L5	396	A
2	L5	406	C
2	L5	407	A
2	L5	409	G
2	L5	410	A
2	L5	411	G
2	L5	412	G
2	L5	413	G
2	L5	415	G
2	L5	432	U
2	L5	440	U
2	L5	449	C
2	L5	450	G
2	L5	452	A
2	L5	453	G
2	L5	454	U
2	L5	456	C
2	L5	457	G
2	L5	467	U
2	L5	472	C
2	L5	484	U
2	L5	485	C
2	L5	486	C
2	L5	489	C
2	L5	493	G
2	L5	494	U
2	L5	497	G
2	L5	498	C
2	L5	499	G
2	L5	500	G
2	L5	502	C
2	L5	503	C
2	L5	504	G
2	L5	509	A
2	L5	510	U

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Mol	Chain	Res	Type
2	L5	512	U
2	L5	513	U
2	L5	514	U
2	L5	518	G
2	L5	643	C
2	L5	645	G
2	L5	646	G
2	L5	654	C
2	L5	655	C
2	L5	656	C
2	L5	657	C
2	L5	659	G
2	L5	666	G
2	L5	667	A
2	L5	668	C
2	L5	669	C
2	L5	673	C
2	L5	685	C
2	L5	686	A
2	L5	687	U
2	L5	696	C
2	L5	700	G
2	L5	704	C
2	L5	708	G
2	L5	731	G
2	L5	738	C
2	L5	739	G
2	L5	742	G
2	L5	750	U
2	L5	759	G
2	L5	904	C
2	L5	905	C
2	L5	906	C
2	L5	910	G
2	L5	913	U
2	L5	914	U
2	L5	915	A
2	L5	917	A
2	L5	923	C
2	L5	924	C
2	L5	926	G
2	L5	932	A

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Mol	Chain	Res	Type
2	L5	933	G
2	L5	935	A
2	L5	936	C
2	L5	941	C
2	L5	943	A
2	L5	944	A
2	L5	945	U
2	L5	956	A
2	L5	959	G
2	L5	960	A
2	L5	961	G
2	L5	962	C
2	L5	965	G
2	L5	966	A
2	L5	967	C
2	L5	969	C
2	L5	970	G
2	L5	982	U
2	L5	985	C
2	L5	1070	G
2	L5	1071	C
2	L5	1072	C
2	L5	1075	G
2	L5	1082	C
2	L5	1083	U
2	L5	1168	G
2	L5	1171	G
2	L5	1172	C
2	L5	1173	G
2	L5	1179	U
2	L5	1180	C
2	L5	1181	C
2	L5	1182	C
2	L5	1183	C
2	L5	1187	G
2	L5	1202	C
2	L5	1203	G
2	L5	1210	C
2	L5	1211	G
2	L5	1214	C
2	L5	1215	C
2	L5	1219	G

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Mol	Chain	Res	Type
2	L5	1222	A
2	L5	1246	G
2	L5	1253	G
2	L5	1254	A
2	L5	1257	A
2	L5	1258	G
2	L5	1266	G
2	L5	1267	C
2	L5	1269	G
2	L5	1271	G
2	L5	1272	C
2	L5	1273	G
2	L5	1275	G
2	L5	1280	C
2	L5	1284	G
2	L5	1285	U
2	L5	1287	G
2	L5	1293	G
2	L5	1294	A
2	L5	1295	C
2	L5	1296	G
2	L5	1301	C
2	L5	1302	U
2	L5	1314	C
2	L5	1326	A2M
2	L5	1337	A
2	L5	1344	C
2	L5	1345	A
2	L5	1354	A
2	L5	1359	G
2	L5	1364	U
2	L5	1365	C
2	L5	1366	G
2	L5	1367	C
2	L5	1379	C
2	L5	1387	A
2	L5	1394	G
2	L5	1397	A
2	L5	1404	G
2	L5	1407	C
2	L5	1409	C
2	L5	1410	U

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Mol	Chain	Res	Type
2	L5	1411	C
2	L5	1414	C
2	L5	1415	G
2	L5	1417	C
2	L5	1420	A
2	L5	1425	G
2	L5	1437	C
2	L5	1439	C
2	L5	1442	C
2	L5	1443	A
2	L5	1444	G
2	L5	1446	C
2	L5	1447	C
2	L5	1457	G
2	L5	1482	G
2	L5	1483	C
2	L5	1497	A
2	L5	1498	G
2	L5	1502	G
2	L5	1504	G
2	L5	1517	G
2	L5	1523	A
2	L5	1524	A2M
2	L5	1534	A2M
2	L5	1537	A
2	L5	1547	A
2	L5	1562	G
2	L5	1564	A
2	L5	1566	C
2	L5	1574	G
2	L5	1578	U
2	L5	1591	U
2	L5	1596	U
2	L5	1624	G
2	L5	1625	OMG
2	L5	1631	A
2	L5	1633	G
2	L5	1634	A
2	L5	1638	A
2	L5	1640	C
2	L5	1654	G
2	L5	1661	C

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Mol	Chain	Res	Type
2	L5	1676	C
2	L5	1677	PSU
2	L5	1678	C
2	L5	1691	G
2	L5	1699	A
2	L5	1700	G
2	L5	1701	A
2	L5	1702	C
2	L5	1704	C
2	L5	1705	G
2	L5	1717	C
2	L5	1718	C
2	L5	1719	A
2	L5	1731	C
2	L5	1734	G
2	L5	1740	C
2	L5	1742	A
2	L5	1750	G
2	L5	1753	G
2	L5	1757	U
2	L5	1758	G
2	L5	1761	G
2	L5	1762	C
2	L5	1763	C
2	L5	1764	G
2	L5	1765	A
2	L5	1766	A
2	L5	1767	A
2	L5	1768	C
2	L5	1770	A
2	L5	1785	C
2	L5	1787	A
2	L5	1803	G
2	L5	1804	A
2	L5	1806	G
2	L5	1810	G
2	L5	1815	G
2	L5	1821	G
2	L5	1822	U
2	L5	1836	G
2	L5	1837	A
2	L5	1842	G

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Mol	Chain	Res	Type
2	L5	1855	G
2	L5	1869	G
2	L5	1882	U
2	L5	1888	A
2	L5	1893	C
2	L5	1897	A
2	L5	1916	G
2	L5	1917	A
2	L5	1918	U
2	L5	1919	G
2	L5	1920	C
2	L5	1921	C
2	L5	1922	G
2	L5	1925	G
2	L5	1931	C
2	L5	1932	A
2	L5	1940	G
2	L5	1948	G
2	L5	1951	G
2	L5	1961	G
2	L5	1962	A
2	L5	1965	G
2	L5	1974	U
2	L5	1975	G
2	L5	1978	C
2	L5	1980	U
2	L5	1981	G
2	L5	1982	G
2	L5	1983	A
2	L5	1984	A
2	L5	1985	G
2	L5	1986	U
2	L5	1991	A
2	L5	1993	C
2	L5	1997	U
2	L5	1999	A
2	L5	2001	G
2	L5	2002	A
2	L5	2003	G
2	L5	2004	U
2	L5	2005	G
2	L5	2011	C

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Mol	Chain	Res	Type
2	L5	2017	A
2	L5	2018	C
2	L5	2024	G
2	L5	2026	A
2	L5	2046	G
2	L5	2048	U
2	L5	2055	G
2	L5	2056	G
2	L5	2069	A
2	L5	2084	C
2	L5	2092	G
2	L5	2093	A
2	L5	2094	G
2	L5	2095	A
2	L5	2096	G
2	L5	2097	U
2	L5	2098	G
2	L5	2099	G
2	L5	2101	C
2	L5	2102	G
2	L5	2103	G
2	L5	2107	C
2	L5	2110	C
2	L5	2112	G
2	L5	2250	C
2	L5	2252	G
2	L5	2256	C
2	L5	2258	C
2	L5	2268	A
2	L5	2289	C
2	L5	2300	A
2	L5	2301	G
2	L5	2313	A
2	L5	2316	G
2	L5	2322	G
2	L5	2331	G
2	L5	2333	G
2	L5	2348	G
2	L5	2349	A
2	L5	2351	OMC
2	L5	2360	A
2	L5	2364	OMG

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Mol	Chain	Res	Type
2	L5	2395	A
2	L5	2397	G
2	L5	2402	G
2	L5	2410	C
2	L5	2417	A
2	L5	2422	OMC
2	L5	2425	U
2	L5	2453	A
2	L5	2464	C
2	L5	2465	C
2	L5	2469	C
2	L5	2471	G
2	L5	2474	G
2	L5	2475	G
2	L5	2478	C
2	L5	2479	G
2	L5	2483	G
2	L5	2484	A
2	L5	2485	U
2	L5	2486	G
2	L5	2487	G
2	L5	2488	C
2	L5	2489	C
2	L5	2490	U
2	L5	2494	U
2	L5	2504	C
2	L5	2505	C
2	L5	2506	G
2	L5	2507	A
2	L5	2513	A
2	L5	2519	U
2	L5	2529	A
2	L5	2537	A
2	L5	2544	G
2	L5	2546	G
2	L5	2547	G
2	L5	2554	U
2	L5	2555	G
2	L5	2556	G
2	L5	2560	C
2	L5	2565	A
2	L5	2567	G

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Mol	Chain	Res	Type
2	L5	2573	A
2	L5	2581	A
2	L5	2583	C
2	L5	2587	A
2	L5	2589	C
2	L5	2600	A
2	L5	2627	C
2	L5	2653	C
2	L5	2662	G
2	L5	2669	C
2	L5	2676	A
2	L5	2687	U
2	L5	2694	G
2	L5	2695	A
2	L5	2696	A
2	L5	2703	G
2	L5	2706	G
2	L5	2707	U
2	L5	2708	U
2	L5	2709	C
2	L5	2710	C
2	L5	2711	G
2	L5	2719	C
2	L5	2721	G
2	L5	2724	G
2	L5	2726	G
2	L5	2739	C
2	L5	2742	G
2	L5	2743	A
2	L5	2754	G
2	L5	2761	U
2	L5	2763	U
2	L5	2769	U
2	L5	2770	C
2	L5	2787	A2M
2	L5	2788	U
2	L5	2790	U
2	L5	2794	C
2	L5	2799	G
2	L5	2802	C
2	L5	2806	A
2	L5	2814	C

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Mol	Chain	Res	Type
2	L5	2826	U
2	L5	2827	G
2	L5	2829	U
2	L5	2835	A
2	L5	2855	G
2	L5	2867	C
2	L5	2877	G
2	L5	2894	A
2	L5	2895	A
2	L5	2899	C
2	L5	2900	U
2	L5	2902	G
2	L5	2903	G
2	L5	2904	U
2	L5	2905	C
2	L5	2907	G
2	L5	2908	U
2	L5	3590	G
2	L5	3591	C
2	L5	3592	G
2	L5	3594	C
2	L5	3595	U
2	L5	3596	A
2	L5	3597	G
2	L5	3604	A
2	L5	3605	C
2	L5	3616	U
2	L5	3617	G
2	L5	3626	G
2	L5	3630	A
2	L5	3635	A
2	L5	3643	A
2	L5	3644	U
2	L5	3646	A
2	L5	3653	A
2	L5	3662	A
2	L5	3664	G
2	L5	3670	C
2	L5	3673	C
2	L5	3674	G
2	L5	3701	OMC
2	L5	3710	G

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Mol	Chain	Res	Type
2	L5	3711	A
2	L5	3713	U
2	L5	3714	G
2	L5	3726	A
2	L5	3727	A
2	L5	3748	A
2	L5	3753	G
2	L5	3760	A
2	L5	3764	U
2	L5	3770	U
2	L5	3774	A
2	L5	3775	A
2	L5	3776	G
2	L5	3777	G
2	L5	3778	U
2	L5	3784	A
2	L5	3785	A2M
2	L5	3786	U
2	L5	3792	OMG
2	L5	3811	G
2	L5	3812	C
2	L5	3814	U
2	L5	3817	A
2	L5	3819	G
2	L5	3824	A
2	L5	3839	G
2	L5	3840	U
2	L5	3876	A
2	L5	3877	A
2	L5	3878	C
2	L5	3879	G
2	L5	3892	U
2	L5	3897	G
2	L5	3898	G
2	L5	3901	A
2	L5	3906	A
2	L5	3907	G
2	L5	3908	A
2	L5	3915	U
2	L5	3923	A
2	L5	3938	G
2	L5	3939	G

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Mol	Chain	Res	Type
2	L5	3942	A
2	L5	3945	A
2	L5	3947	A
2	L5	3949	A
2	L5	3950	U
2	L5	3951	G
2	L5	3952	A
2	L5	3953	G
2	L5	4057	C
2	L5	4058	U
2	L5	4059	C
2	L5	4061	G
2	L5	4062	A
2	L5	4064	C
2	L5	4065	G
2	L5	4067	U
2	L5	4068	U
2	L5	4069	U
2	L5	4076	G
2	L5	4084	G
2	L5	4093	G
2	L5	4095	G
2	L5	4097	G
2	L5	4098	A
2	L5	4099	G
2	L5	4101	C
2	L5	4104	G
2	L5	4108	G
2	L5	4111	U
2	L5	4114	C
2	L5	4115	G
2	L5	4116	C
2	L5	4119	C
2	L5	4122	G
2	L5	4127	A
2	L5	4133	C
2	L5	4141	G
2	L5	4142	C
2	L5	4143	G
2	L5	4144	C
2	L5	4146	G
2	L5	4149	C

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Mol	Chain	Res	Type
2	L5	4150	G
2	L5	4162	C
2	L5	4163	U
2	L5	4170	A
2	L5	4183	G
2	L5	4184	G
2	L5	4191	G
2	L5	4213	A
2	L5	4220	6MZ
2	L5	4222	G
2	L5	4225	G
2	L5	4229	U
2	L5	4233	A
2	L5	4234	A
2	L5	4241	C
2	L5	4243	C
2	L5	4251	A
2	L5	4254	G
2	L5	4257	A
2	L5	4258	C
2	L5	4265	U
2	L5	4268	A
2	L5	4273	A
2	L5	4280	A
2	L5	4281	A
2	L5	4296	PSU
2	L5	4305	G
2	L5	4306	OMU
2	L5	4314	C
2	L5	4326	G
2	L5	4329	G
2	L5	4330	G
2	L5	4332	C
2	L5	4349	C
2	L5	4350	C
2	L5	4354	U
2	L5	4373	G
2	L5	4377	G
2	L5	4378	A
2	L5	4379	A
2	L5	4387	C
2	L5	4391	G

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Mol	Chain	Res	Type
2	L5	4393	G
2	L5	4394	A
2	L5	4410	G
2	L5	4421	C
2	L5	4422	A
2	L5	4430	G
2	L5	4436	U
2	L5	4438	U
2	L5	4444	C
2	L5	4447	5MC
2	L5	4448	G
2	L5	4449	A
2	L5	4464	A
2	L5	4466	C
2	L5	4475	G
2	L5	4476	C
2	L5	4488	A
2	L5	4500	PSU
2	L5	4512	U
2	L5	4513	A
2	L5	4518	A
2	L5	4519	C
2	L5	4523	A2M
2	L5	4524	G
2	L5	4528	G
2	L5	4545	G
2	L5	4548	A
2	L5	4549	G
2	L5	4560	C
2	L5	4567	G
2	L5	4575	G
2	L5	4584	A
2	L5	4589	A
2	L5	4590	A2M
2	L5	4601	U
2	L5	4617	G
2	L5	4636	PSU
2	L5	4637	OMG
2	L5	4652	G
2	L5	4656	A
2	L5	4670	C
2	L5	4672	A

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Mol	Chain	Res	Type
2	L5	4677	U
2	L5	4694	G
2	L5	4695	C
2	L5	4700	A
2	L5	4708	A
2	L5	4709	U
2	L5	4719	G
2	L5	4734	A
2	L5	4740	G
2	L5	4741	C
2	L5	4742	G
2	L5	4745	G
2	L5	4754	G
2	L5	4757	C
2	L5	4759	C
2	L5	4761	G
2	L5	4765	G
2	L5	4771	C
2	L5	4772	C
2	L5	4775	C
2	L5	4859	C
2	L5	4870	G
2	L5	4871	C
2	L5	4875	G
2	L5	4877	G
2	L5	4881	U
2	L5	4882	U
2	L5	4883	C
2	L5	4889	G
2	L5	4895	C
2	L5	4896	G
2	L5	4897	G
2	L5	4899	G
2	L5	4900	C
2	L5	4901	G
2	L5	4910	G
2	L5	4912	G
2	L5	4914	C
2	L5	4922	C
2	L5	4925	U
2	L5	4926	C
2	L5	4927	G

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Mol	Chain	Res	Type
2	L5	4928	C
2	L5	4934	A
2	L5	4940	C
2	L5	4941	G
2	L5	4943	A
2	L5	4944	C
2	L5	4949	G
2	L5	4955	A
2	L5	4960	G
2	L5	4976	U
2	L5	4985	U
2	L5	4988	U
2	L5	4989	U
2	L5	4991	U
2	L5	4995	U
2	L5	5006	U
2	L5	5013	C
2	L5	5014	A
2	L5	5017	G
2	L5	5022	U
2	L5	5024	C
2	L5	5026	U
2	L5	5028	G
2	L5	5030	U
2	L5	5034	A
2	L5	5041	G
2	L5	5047	C
2	L5	5050	C
2	L5	5054	C
2	L5	5055	G
2	L5	5061	A
2	L5	5069	U
3	L7	7	G
3	L7	22	A
3	L7	33	U
3	L7	38	U
3	L7	53	U
3	L7	54	A
3	L7	64	G
3	L7	89	G
3	L7	91	C
3	L7	97	G

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Mol	Chain	Res	Type
3	L7	100	A
3	L7	110	G
4	L8	23	C
4	L8	25	G
4	L8	34	U
4	L8	35	C
4	L8	39	G
4	L8	59	A
4	L8	62	A
4	L8	63	U
4	L8	75	OMG
4	L8	80	A
4	L8	82	A
4	L8	84	A
4	L8	85	U
4	L8	86	U
4	L8	87	G
4	L8	94	G
4	L8	99	U
4	L8	103	A
4	L8	105	C
4	L8	111	U
4	L8	114	G
4	L8	124	U
4	L8	125	C
4	L8	126	C
4	L8	127	U
4	L8	150	C
82	S2	13	C
82	S2	14	C
82	S2	25	A
82	S2	33	G
82	S2	42	A
82	S2	44	U
82	S2	45	A
82	S2	46	A
82	S2	56	G
82	S2	58	C
82	S2	59	U
82	S2	62	G
82	S2	65	C
82	S2	67	C

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Mol	Chain	Res	Type
82	S2	68	A
82	S2	72	C
82	S2	73	C
82	S2	74	G
82	S2	76	U
82	S2	99	A2M
82	S2	103	A
82	S2	113	G
82	S2	115	U
82	S2	130	G
82	S2	143	U
82	S2	149	A
82	S2	158	A
82	S2	160	U
82	S2	162	C
82	S2	168	C
82	S2	170	A
82	S2	171	A
82	S2	175	A
82	S2	190	G
82	S2	191	A
82	S2	196	C
82	S2	197	U
82	S2	198	U
82	S2	200	G
82	S2	203	G
82	S2	204	G
82	S2	206	G
82	S2	207	G
82	S2	208	G
82	S2	209	A
82	S2	211	G
82	S2	212	C
82	S2	214	U
82	S2	220	U
82	S2	291	G
82	S2	292	A
82	S2	295	C
82	S2	302	A
82	S2	303	C
82	S2	305	U
82	S2	306	C

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Mol	Chain	Res	Type
82	S2	307	G
82	S2	308	G
82	S2	309	G
82	S2	311	C
82	S2	312	G
82	S2	313	A
82	S2	318	A
82	S2	319	C
82	S2	323	C
82	S2	324	C
82	S2	325	C
82	S2	326	C
82	S2	328	U
82	S2	329	G
82	S2	332	G
82	S2	335	G
82	S2	339	A
82	S2	340	C
82	S2	347	G
82	S2	351	G
82	S2	360	A
82	S2	362	C
82	S2	364	A
82	S2	368	U
82	S2	370	G
82	S2	381	C
82	S2	383	G
82	S2	385	G
82	S2	386	C
82	S2	407	G
82	S2	408	A
82	S2	409	C
82	S2	426	A
82	S2	438	G
82	S2	448	A
82	S2	449	A
82	S2	450	C
82	S2	452	G
82	S2	464	A
82	S2	465	A
82	S2	471	G
82	S2	472	C

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Mol	Chain	Res	Type
82	S2	473	A
82	S2	474	G
82	S2	476	A
82	S2	482	G
82	S2	487	U
82	S2	488	U
82	S2	492	C
82	S2	493	A
82	S2	502	C
82	S2	516	A
82	S2	517	OMC
82	S2	530	U
82	S2	531	A
82	S2	532	C
82	S2	536	A
82	S2	537	C
82	S2	540	U
82	S2	542	U
82	S2	544	G
82	S2	546	G
82	S2	547	G
82	S2	551	U
82	S2	557	U
82	S2	558	G
82	S2	559	G
82	S2	563	G
82	S2	564	A
82	S2	576	A2M
82	S2	583	A
82	S2	587	A
82	S2	589	G
82	S2	590	A
82	S2	591	U
82	S2	593	C
82	S2	604	A
82	S2	606	G
82	S2	607	U
82	S2	614	C
82	S2	617	G
82	S2	622	C
82	S2	623	G
82	S2	628	A

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Mol	Chain	Res	Type
82	S2	631	U
82	S2	643	A
82	S2	644	OMG
82	S2	660	C
82	S2	663	C
82	S2	664	A
82	S2	668	A2M
82	S2	669	A
82	S2	671	A
82	S2	672	A
82	S2	673	G
82	S2	683	OMG
82	S2	688	U
82	S2	689	U
82	S2	692	G
82	S2	695	C
82	S2	696	G
82	S2	697	G
82	S2	698	G
82	S2	732	U
82	S2	733	C
82	S2	736	C
82	S2	737	G
82	S2	738	C
82	S2	749	U
82	S2	751	G
82	S2	752	G
82	S2	753	C
82	S2	788	G
82	S2	791	C
82	S2	792	C
82	S2	793	G
82	S2	798	G
82	S2	799	OMU
82	S2	801	PSU
82	S2	821	G
82	S2	822	U
82	S2	823	U
82	S2	824	C
82	S2	827	A
82	S2	830	A
82	S2	834	C

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Mol	Chain	Res	Type
82	S2	835	C
82	S2	836	G
82	S2	837	A
82	S2	838	G
82	S2	839	C
82	S2	842	C
82	S2	844	U
82	S2	847	A
82	S2	867	OMG
82	S2	870	A
82	S2	874	G
82	S2	877	C
82	S2	880	G
82	S2	888	U
82	S2	889	U
82	S2	891	G
82	S2	894	G
82	S2	896	U
82	S2	897	U
82	S2	898	U
82	S2	899	U
82	S2	900	C
82	S2	901	G
82	S2	903	A
82	S2	913	A
82	S2	920	A
82	S2	933	G
82	S2	934	G
82	S2	963	A
82	S2	970	G
82	S2	971	G
82	S2	972	A
82	S2	978	G
82	S2	985	G
82	S2	990	A
82	S2	992	A
82	S2	999	G
82	S2	1001	A
82	S2	1002	U
82	S2	1008	A
82	S2	1017	U
82	S2	1023	A

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Mol	Chain	Res	Type
82	S2	1027	A
82	S2	1045	PSU
82	S2	1061	U
82	S2	1062	A
82	S2	1080	A
82	S2	1083	A
82	S2	1085	C
82	S2	1109	C
82	S2	1113	A
82	S2	1116	C
82	S2	1121	G
82	S2	1123	C
82	S2	1126	G
82	S2	1133	A
82	S2	1138	C
82	S2	1139	C
82	S2	1148	A
82	S2	1150	A
82	S2	1153	C
82	S2	1154	U
82	S2	1155	U
82	S2	1170	A
82	S2	1195	A
82	S2	1200	A
82	S2	1207	G
82	S2	1208	A
82	S2	1215	C
82	S2	1217	A
82	S2	1220	A
82	S2	1224	G
82	S2	1227	G
82	S2	1242	U
82	S2	1243	U
82	S2	1248	B8N
82	S2	1251	A
82	S2	1253	A
82	S2	1256	G
82	S2	1257	G
82	S2	1259	A
82	S2	1264	C
82	S2	1271	C
82	S2	1272	OMC

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Mol	Chain	Res	Type
82	S2	1274	G
82	S2	1275	G
82	S2	1281	G
82	S2	1282	A
82	S2	1283	C
82	S2	1286	G
82	S2	1288	OMU
82	S2	1290	G
82	S2	1294	G
82	S2	1295	A
82	S2	1301	A
82	S2	1302	G
82	S2	1303	C
82	S2	1308	U
82	S2	1333	U
82	S2	1342	U
82	S2	1357	A
82	S2	1358	U
82	S2	1371	U
82	S2	1375	G
82	S2	1376	A
82	S2	1378	A
82	S2	1382	A
82	S2	1402	A
82	S2	1406	G
82	S2	1413	G
82	S2	1414	A
82	S2	1418	C
82	S2	1419	C
82	S2	1420	G
82	S2	1421	A
82	S2	1422	G
82	S2	1423	C
82	S2	1433	C
82	S2	1435	C
82	S2	1438	A
82	S2	1442	OMU
82	S2	1449	G
82	S2	1454	A
82	S2	1463	U
82	S2	1489	A
82	S2	1490	OMG

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Mol	Chain	Res	Type
82	S2	1492	U
82	S2	1494	U
82	S2	1495	G
82	S2	1497	G
82	S2	1498	A
82	S2	1507	G
82	S2	1520	G
82	S2	1521	C
82	S2	1531	A
82	S2	1533	A
82	S2	1544	C
82	S2	1546	G
82	S2	1552	G
82	S2	1553	C
82	S2	1556	A
82	S2	1558	C
82	S2	1560	U
82	S2	1575	G
82	S2	1580	A
82	S2	1581	C
82	S2	1582	C
82	S2	1585	U
82	S2	1587	G
82	S2	1588	A
82	S2	1600	G
82	S2	1604	G
82	S2	1606	G
82	S2	1621	U
82	S2	1623	A
82	S2	1630	A
82	S2	1631	U
82	S2	1633	A
82	S2	1634	A
82	S2	1637	A
82	S2	1638	G
82	S2	1648	G
82	S2	1649	U
82	S2	1654	G
82	S2	1663	A
82	S2	1665	G
82	S2	1680	G
82	S2	1683	C

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Mol	Chain	Res	Type
82	S2	1686	G
82	S2	1695	A
82	S2	1699	A
82	S2	1713	C
82	S2	1715	A
82	S2	1721	U
82	S2	1722	G
82	S2	1729	U
82	S2	1744	G
82	S2	1745	A
82	S2	1752	C
82	S2	1753	C
82	S2	1754	G
82	S2	1755	C
82	S2	1756	C
82	S2	1757	G
82	S2	1759	G
82	S2	1761	U
82	S2	1772	C
82	S2	1773	C
82	S2	1774	C
82	S2	1777	G
82	S2	1782	G
82	S2	1783	C
82	S2	1784	G
82	S2	1786	U
82	S2	1798	C
82	S2	1810	U
82	S2	1825	A
82	S2	1829	G
82	S2	1831	A
82	S2	1835	A
82	S2	1838	U
82	S2	1849	G
82	S2	1851	MA6
82	S2	1852	C
82	S2	1861	G
82	S2	1862	G
82	S2	1863	A
82	S2	1864	U
82	S2	1865	C
83	Zt	4	C

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Mol	Chain	Res	Type
83	Zt	6	G
83	Zt	7	A
83	Zt	8	U
83	Zt	9	A
83	Zt	10	G
83	Zt	11	C
83	Zt	14	A
83	Zt	15	G
83	Zt	16	C
83	Zt	18	U
83	Zt	19	G
83	Zt	20	U
83	Zt	21	A
83	Zt	22	G
83	Zt	25	C
83	Zt	26	A
83	Zt	29	A
83	Zt	30	G
83	Zt	33	U
83	Zt	35	U
83	Zt	36	U
83	Zt	37	A
83	Zt	38	A
83	Zt	40	C
83	Zt	42	G
83	Zt	43	A
83	Zt	45	G
83	Zt	48	C
83	Zt	49	C
83	Zt	53	G
83	Zt	56	C
83	Zt	57	A
83	Zt	58	A
83	Zt	59	G
83	Zt	60	U
83	Zt	61	C
83	Zt	63	C
83	Zt	66	U
83	Zt	67	U
83	Zt	70	G
83	Zt	71	G
83	Zt	72	C

All (18) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	L5	406	C
2	L5	493	G
2	L5	914	U
2	L5	1082	C
2	L5	1633	G
2	L5	1977	C
2	L5	2416	G
2	L5	2485	U
2	L5	2675	G
2	L5	2760	G
2	L5	3673	C
2	L5	4447	5MC
2	L5	4600	G
2	L5	4699	U
2	L5	4913	G
82	S2	291	G
82	S2	563	G
82	S2	688	U

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

178 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	OMG	L5	2364	85,2	19,26,27	1.15	2 (10%)	21,38,41	0.81	1 (4%)
2	OMU	L5	4498	2	19,22,23	3.37	7 (36%)	25,31,34	1.81	5 (20%)
2	A2M	L5	2815	2	18,25,26	1.18	1 (5%)	20,36,39	1.80	7 (35%)
82	PSU	S2	105	82	18,21,22	1.07	1 (5%)	21,30,33	1.86	4 (19%)
82	OMU	S2	354	82	19,22,23	3.35	7 (36%)	25,31,34	1.82	5 (20%)
2	PSU	L5	1781	2	18,21,22	1.07	1 (5%)	21,30,33	1.81	4 (19%)
82	OMU	S2	1326	82	19,22,23	3.37	7 (36%)	25,31,34	1.81	5 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	PSU	L5	1677	2	18,21,22	1.09	2 (11%)	21,30,33	1.95	5 (23%)
82	A2M	S2	159	82	18,25,26	1.29	1 (5%)	20,36,39	1.91	7 (35%)
82	PSU	S2	966	82,85	18,21,22	1.05	1 (5%)	21,30,33	1.85	4 (19%)
82	OMG	S2	1490	82	19,26,27	1.20	2 (10%)	21,38,41	0.73	0
2	A2M	L5	4571	2	18,25,26	1.29	2 (11%)	20,36,39	2.00	6 (30%)
2	PSU	L5	4431	2	18,21,22	1.10	1 (5%)	21,30,33	1.94	5 (23%)
82	PSU	S2	866	82	18,21,22	1.13	1 (5%)	21,30,33	1.92	5 (23%)
2	PSU	L5	4636	2	18,21,22	1.11	1 (5%)	21,30,33	2.04	6 (28%)
82	PSU	S2	651	82	18,21,22	1.14	1 (5%)	21,30,33	1.89	4 (19%)
2	PSU	L5	3637	2	18,21,22	1.11	1 (5%)	21,30,33	2.04	5 (23%)
82	PSU	S2	649	82	18,21,22	1.07	1 (5%)	21,30,33	1.90	4 (19%)
2	PSU	L5	4457	2	18,21,22	1.10	1 (5%)	21,30,33	1.91	5 (23%)
82	A2M	S2	1383	82	18,25,26	1.34	2 (11%)	20,36,39	2.27	5 (25%)
2	A2M	L5	2401	2	18,25,26	1.22	2 (11%)	20,36,39	1.97	6 (30%)
82	PSU	S2	109	82	18,21,22	1.11	1 (5%)	21,30,33	1.89	4 (19%)
82	OMG	S2	683	82	19,26,27	1.16	2 (10%)	21,38,41	0.80	1 (4%)
2	A2M	L5	1326	85,2	18,25,26	1.20	1 (5%)	20,36,39	1.90	8 (40%)
2	OMC	L5	2861	2	19,22,23	0.56	0	25,31,34	1.00	2 (8%)
2	PSU	L5	3844	2	18,21,22	1.10	1 (5%)	21,30,33	1.91	4 (19%)
2	PSU	L5	1862	2	18,21,22	1.12	1 (5%)	21,30,33	1.89	4 (19%)
82	OMC	S2	517	82	19,22,23	0.54	0	25,31,34	0.64	0
82	A2M	S2	668	82,85	18,25,26	1.29	3 (16%)	20,36,39	1.98	6 (30%)
2	PSU	L5	3884	2	18,21,22	1.11	1 (5%)	21,30,33	1.89	4 (19%)
2	OMC	L5	1340	2	19,22,23	0.53	0	25,31,34	0.74	0
2	PSU	L5	4552	2	18,21,22	1.06	1 (5%)	21,30,33	1.86	4 (19%)
82	PSU	S2	1081	82	18,21,22	1.13	1 (5%)	21,30,33	1.91	5 (23%)
2	OMC	L5	4536	2	19,22,23	0.58	0	25,31,34	0.79	0
2	OMG	L5	4637	2	19,26,27	1.14	2 (10%)	21,38,41	0.86	1 (4%)
82	MA6	S2	1850	82	19,26,27	1.51	3 (15%)	18,38,41	3.39	3 (16%)
82	PSU	S2	686	82	18,21,22	1.11	1 (5%)	21,30,33	1.90	5 (23%)
2	PSU	L5	4972	2	18,21,22	1.09	1 (5%)	21,30,33	1.90	6 (28%)
2	OMG	L5	4370	2	19,26,27	1.13	2 (10%)	21,38,41	0.81	1 (4%)
2	PSU	L5	4521	85,2	18,21,22	1.11	1 (5%)	21,30,33	1.88	4 (19%)
2	OMG	L5	4228	2	19,26,27	1.18	3 (15%)	21,38,41	0.95	1 (4%)
2	PSU	L5	1683	2	18,21,22	1.10	1 (5%)	21,30,33	1.88	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	PSU	L5	4493	2	18,21,22	1.08	1 (5%)	21,30,33	1.92	5 (23%)
82	PSU	S2	1367	82	18,21,22	1.12	1 (5%)	21,30,33	1.90	4 (19%)
2	OMC	L5	3887	2	19,22,23	0.54	0	25,31,34	0.78	0
82	PSU	S2	93	82	18,21,22	1.10	1 (5%)	21,30,33	1.83	4 (19%)
2	PSU	L5	1782	2	18,21,22	1.15	1 (5%)	21,30,33	1.91	4 (19%)
2	A2M	L5	3785	85,2	18,25,26	1.34	2 (11%)	20,36,39	2.71	6 (30%)
82	MA6	S2	1851	82	19,26,27	1.51	3 (15%)	18,38,41	3.40	3 (16%)
2	A2M	L5	1534	85,2	18,25,26	1.27	2 (11%)	20,36,39	2.01	6 (30%)
2	OMC	L5	2824	2	19,22,23	0.54	0	25,31,34	0.81	1 (4%)
82	OMU	S2	799	82	19,22,23	3.43	7 (36%)	25,31,34	1.78	5 (20%)
2	PSU	L5	1582	2	18,21,22	1.12	1 (5%)	21,30,33	1.75	4 (19%)
2	A2M	L5	400	2	18,25,26	1.29	2 (11%)	20,36,39	1.95	7 (35%)
2	PSU	L5	3695	2	18,21,22	1.09	1 (5%)	21,30,33	1.88	5 (23%)
2	A2M	L5	3718	2	18,25,26	1.25	2 (11%)	20,36,39	2.00	5 (25%)
2	OMG	L5	3627	2	19,26,27	1.15	2 (10%)	21,38,41	0.87	1 (4%)
2	PSU	L5	3851	85,2	18,21,22	1.08	1 (5%)	21,30,33	1.80	4 (19%)
82	OMC	S2	1703	82	19,22,23	0.53	0	25,31,34	0.70	1 (4%)
82	A2M	S2	166	82	18,25,26	1.33	2 (11%)	20,36,39	2.17	7 (35%)
82	PSU	S2	1046	82	18,21,22	1.11	1 (5%)	21,30,33	1.80	4 (19%)
2	OMG	L5	2424	2	19,26,27	1.16	2 (10%)	21,38,41	0.81	1 (4%)
82	OMG	S2	1328	82	19,26,27	1.12	2 (10%)	21,38,41	0.81	1 (4%)
2	OMG	L5	2876	2	19,26,27	1.15	2 (10%)	21,38,41	0.81	1 (4%)
2	OMG	L5	4499	2	19,26,27	1.13	2 (10%)	21,38,41	0.83	1 (4%)
82	PSU	S2	1004	82	18,21,22	1.09	1 (5%)	21,30,33	1.84	4 (19%)
82	PSU	S2	1174	82	18,21,22	1.10	1 (5%)	21,30,33	1.86	4 (19%)
2	PSU	L5	4293	2	18,21,22	1.13	2 (11%)	21,30,33	1.93	4 (19%)
2	OMG	L5	4196	1,2	19,26,27	1.14	2 (10%)	21,38,41	0.84	1 (4%)
2	OMG	L5	3899	2	19,26,27	1.16	2 (10%)	21,38,41	0.79	1 (4%)
2	PSU	L5	4296	2	18,21,22	1.10	1 (5%)	21,30,33	1.96	5 (23%)
82	OMC	S2	174	82	19,22,23	0.51	0	25,31,34	0.70	0
82	PSU	S2	406	82	18,21,22	1.12	1 (5%)	21,30,33	1.84	4 (19%)
2	6MZ	L5	4220	2	17,25,26	3.50	7 (41%)	15,36,39	2.64	4 (26%)
82	B8N	S2	1248	82	25,29,30	3.29	6 (24%)	28,42,45	1.98	8 (28%)
2	OMU	L5	4306	2	19,22,23	3.34	7 (36%)	25,31,34	1.77	4 (16%)
2	OMU	L5	3925	2	19,22,23	3.32	7 (36%)	25,31,34	1.87	5 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	OMC	L5	2365	85,2	19,22,23	0.53	0	25,31,34	0.63	0
2	OMG	L5	1522	2	19,26,27	1.15	2 (10%)	21,38,41	0.90	1 (4%)
2	UY1	L5	3818	2	19,22,23	4.96	9 (47%)	21,31,34	2.02	6 (28%)
2	PSU	L5	5001	2	18,21,22	1.10	1 (5%)	21,30,33	1.82	4 (19%)
2	UR3	L5	4530	2	19,22,23	2.78	7 (36%)	26,32,35	1.58	3 (11%)
2	PSU	L5	1536	2	18,21,22	1.11	1 (5%)	21,30,33	1.99	4 (19%)
82	PSU	S2	801	82	18,21,22	1.11	1 (5%)	21,30,33	1.85	4 (19%)
2	OMC	L5	3701	2	19,22,23	0.56	0	25,31,34	0.82	1 (4%)
2	PSU	L5	4579	2	18,21,22	1.07	1 (5%)	21,30,33	1.81	4 (19%)
2	PSU	L5	4353	2	18,21,22	1.10	1 (5%)	21,30,33	1.91	5 (23%)
82	A2M	S2	484	82	18,25,26	1.20	1 (5%)	20,36,39	1.81	6 (30%)
2	PSU	L5	4403	2	18,21,22	1.02	1 (5%)	21,30,33	1.84	5 (23%)
2	A2M	L5	4590	2	18,25,26	1.26	2 (11%)	20,36,39	2.12	7 (35%)
82	PSU	S2	681	82	18,21,22	1.07	1 (5%)	21,30,33	1.88	4 (19%)
82	A2M	S2	576	82	18,25,26	1.21	2 (11%)	20,36,39	1.97	5 (25%)
2	PSU	L5	4973	2	18,21,22	1.08	1 (5%)	21,30,33	1.87	4 (19%)
2	PSU	L5	4673	2	18,21,22	1.08	1 (5%)	21,30,33	1.87	4 (19%)
2	A2M	L5	1871	85,2	18,25,26	1.32	2 (11%)	20,36,39	2.02	6 (30%)
2	PSU	L5	3639	2	18,21,22	1.12	1 (5%)	21,30,33	1.91	4 (19%)
2	A2M	L5	4523	85,2	18,25,26	1.35	2 (11%)	20,36,39	2.23	6 (30%)
2	A2M	L5	2787	2	18,25,26	1.24	2 (11%)	20,36,39	1.76	5 (25%)
82	OMU	S2	1288	82	19,22,23	3.38	7 (36%)	25,31,34	1.80	5 (20%)
4	OMG	L8	75	4	19,26,27	1.12	2 (10%)	21,38,41	0.84	1 (4%)
2	PSU	L5	1744	85,2	18,21,22	1.08	1 (5%)	21,30,33	1.90	6 (28%)
2	PSU	L5	4471	2	18,21,22	1.06	1 (5%)	21,30,33	1.83	4 (19%)
82	OMU	S2	627	82	19,22,23	3.37	7 (36%)	25,31,34	1.80	5 (20%)
82	OMC	S2	1272	82	19,22,23	0.53	0	25,31,34	0.82	1 (4%)
2	PSU	L5	1792	2	18,21,22	1.06	1 (5%)	21,30,33	1.86	4 (19%)
82	OMG	S2	601	82	19,26,27	1.14	2 (10%)	21,38,41	0.92	1 (4%)
2	PSU	L5	3822	2	18,21,22	1.13	2 (11%)	21,30,33	1.99	6 (28%)
2	OMG	L5	4494	2	19,26,27	1.15	2 (10%)	21,38,41	0.81	1 (4%)
2	PSU	L5	4532	2	18,21,22	1.11	1 (5%)	21,30,33	1.89	4 (19%)
82	OMG	S2	644	82	19,26,27	1.13	2 (10%)	21,38,41	0.84	1 (4%)
2	A2M	L5	1323	2	18,25,26	1.26	3 (16%)	20,36,39	2.02	7 (35%)
82	4AC	S2	1337	82	21,24,25	0.37	0	28,34,37	0.64	1 (3%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
82	OMC	S2	1391	82	19,22,23	0.51	0	25,31,34	0.67	0
2	A2M	L5	3867	2	18,25,26	1.28	3 (16%)	20,36,39	1.86	7 (35%)
82	PSU	S2	1045	82	18,21,22	1.10	1 (5%)	21,30,33	1.89	4 (19%)
82	A2M	S2	468	82	18,25,26	1.25	2 (11%)	20,36,39	1.96	6 (30%)
2	A2M	L5	398	2	18,25,26	1.29	2 (11%)	20,36,39	2.10	6 (30%)
2	OMU	L5	2837	2	19,22,23	3.35	7 (36%)	25,31,34	1.85	5 (20%)
82	OMG	S2	867	82	19,26,27	1.13	2 (10%)	21,38,41	0.87	1 (4%)
2	OMG	L5	4392	2	19,26,27	1.14	2 (10%)	21,38,41	0.82	1 (4%)
82	PSU	S2	1177	82	18,21,22	1.11	1 (5%)	21,30,33	1.87	4 (19%)
2	OMG	L5	1316	2	19,26,27	1.19	2 (10%)	21,38,41	0.80	1 (4%)
2	PSU	L5	3853	85,2	18,21,22	1.07	1 (5%)	21,30,33	1.78	4 (19%)
82	OMU	S2	1442	82	19,22,23	3.40	7 (36%)	25,31,34	1.80	5 (20%)
82	OMU	S2	116	82	19,22,23	3.33	7 (36%)	25,31,34	1.69	5 (20%)
2	OMC	L5	2351	85,2	19,22,23	0.54	0	25,31,34	0.83	1 (4%)
2	PSU	L5	1860	2	18,21,22	1.13	1 (5%)	21,30,33	1.90	4 (19%)
2	OMU	L5	4620	2	19,22,23	3.34	7 (36%)	25,31,34	1.77	4 (16%)
2	PSU	L5	2632	2	18,21,22	1.09	1 (5%)	21,30,33	1.99	5 (23%)
82	G7M	S2	1639	1,82	20,26,27	2.45	6 (30%)	16,39,42	1.11	1 (6%)
82	PSU	S2	863	82	18,21,22	1.10	1 (5%)	21,30,33	1.87	4 (19%)
82	6MZ	S2	1832	82,85	21,26,26	1.32	2 (9%)	22,39,39	1.78	2 (9%)
2	1MA	L5	1322	85,2	17,25,26	0.93	2 (11%)	17,37,40	1.10	2 (11%)
2	A2M	L5	3830	2	18,25,26	1.30	2 (11%)	20,36,39	2.10	6 (30%)
2	OMC	L5	3869	2	19,22,23	0.51	0	25,31,34	0.64	0
82	A2M	S2	27	82	18,25,26	1.33	2 (11%)	20,36,39	2.00	6 (30%)
2	OMC	L5	3808	2	19,22,23	0.59	0	25,31,34	0.95	2 (8%)
82	OMG	S2	436	82	19,26,27	1.12	2 (10%)	21,38,41	0.83	1 (4%)
2	OMG	L5	4623	2	19,26,27	1.15	2 (10%)	21,38,41	0.82	1 (4%)
2	PSU	L5	4576	2	18,21,22	1.08	1 (5%)	21,30,33	1.86	5 (23%)
2	OMC	L5	2422	85,2	19,22,23	0.54	0	25,31,34	0.69	0
2	PSU	L5	4312	2	18,21,22	1.08	1 (5%)	21,30,33	1.89	4 (19%)
2	OMG	L5	4618	2	19,26,27	1.15	2 (10%)	21,38,41	0.82	1 (4%)
2	PSU	L5	4500	2	18,21,22	1.13	1 (5%)	21,30,33	1.95	5 (23%)
2	PSU	L5	5010	2	18,21,22	1.13	1 (5%)	21,30,33	1.91	4 (19%)
82	OMG	S2	509	82	19,26,27	1.14	2 (10%)	21,38,41	0.83	1 (4%)
2	5MC	L5	4447	2	19,22,23	0.63	0	26,32,35	0.54	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	5MC	L5	3782	85,2	19,22,23	0.52	0	26,32,35	0.80	1 (3%)
82	PSU	S2	1056	82	18,21,22	1.07	1 (5%)	21,30,33	1.88	5 (23%)
4	PSU	L8	55	4	18,21,22	1.13	1 (5%)	21,30,33	1.90	4 (19%)
2	OMG	L5	1625	2	19,26,27	1.19	2 (10%)	21,38,41	0.83	1 (4%)
2	A2M	L5	2363	85,2	18,25,26	1.29	2 (11%)	20,36,39	1.98	6 (30%)
82	PSU	S2	814	82	18,21,22	1.12	1 (5%)	21,30,33	1.88	4 (19%)
2	OMC	L5	2804	2	19,22,23	0.53	0	25,31,34	0.65	0
2	A2M	L5	1524	2	18,25,26	1.29	2 (11%)	20,36,39	2.13	6 (30%)
2	PSU	L5	4689	2	18,21,22	1.04	1 (5%)	21,30,33	1.88	4 (19%)
4	PSU	L8	69	4	18,21,22	1.09	1 (5%)	21,30,33	1.82	5 (23%)
2	PSU	L5	4442	2	18,21,22	1.13	1 (5%)	21,30,33	2.06	6 (28%)
82	PSU	S2	1232	82	18,21,22	1.13	1 (5%)	21,30,33	1.87	4 (19%)
2	OMC	L5	4456	2	19,22,23	0.56	0	25,31,34	0.79	1 (4%)
82	OMU	S2	121	82	19,22,23	3.39	7 (36%)	25,31,34	1.79	5 (20%)
2	A2M	L5	3825	2	18,25,26	1.28	2 (11%)	20,36,39	1.98	6 (30%)
82	OMC	S2	462	82	19,22,23	0.52	0	25,31,34	0.78	1 (4%)
2	PSU	L5	2839	2	18,21,22	1.08	1 (5%)	21,30,33	1.93	5 (23%)
82	OMU	S2	172	82	19,22,23	3.38	7 (36%)	25,31,34	1.82	5 (20%)
2	OMG	L5	3792	2	19,26,27	1.15	2 (10%)	21,38,41	0.81	1 (4%)
2	OMG	L5	3744	2	19,26,27	1.14	2 (10%)	21,38,41	0.80	1 (4%)
2	OMC	L5	3841	2	19,22,23	0.51	0	25,31,34	0.70	1 (4%)
82	OMU	S2	428	82	19,22,23	3.37	7 (36%)	25,31,34	1.83	5 (20%)
2	PSU	L5	3920	85,2	18,21,22	1.08	1 (5%)	21,30,33	1.89	5 (23%)
2	OMU	L5	4227	2	19,22,23	3.36	7 (36%)	25,31,34	1.83	5 (20%)
82	A2M	S2	1031	82	18,25,26	1.24	2 (11%)	20,36,39	2.02	6 (30%)
2	PSU	L5	4299	2	18,21,22	1.10	1 (5%)	21,30,33	1.93	4 (19%)
82	PSU	S2	1244	82	18,21,22	1.14	1 (5%)	21,30,33	1.88	4 (19%)
82	4AC	S2	1842	82	21,24,25	0.38	0	28,34,37	0.45	0
2	PSU	L5	4628	2	18,21,22	1.00	1 (5%)	21,30,33	1.85	4 (19%)
2	PSU	L5	4361	2	18,21,22	1.07	1 (5%)	21,30,33	1.83	4 (19%)
82	A2M	S2	99	82,85	18,25,26	1.25	2 (11%)	20,36,39	1.98	5 (25%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	OMG	L5	2364	85,2	-	2/5/27/28	0/3/3/3
2	OMU	L5	4498	2	-	0/9/27/28	0/2/2/2
2	A2M	L5	2815	2	-	2/5/27/28	0/3/3/3
82	PSU	S2	105	82	-	0/7/25/26	0/2/2/2
82	OMU	S2	354	82	-	1/9/27/28	0/2/2/2
2	PSU	L5	1781	2	-	1/7/25/26	0/2/2/2
82	OMU	S2	1326	82	-	0/9/27/28	0/2/2/2
2	PSU	L5	1677	2	-	2/7/25/26	0/2/2/2
82	A2M	S2	159	82	-	2/5/27/28	0/3/3/3
82	PSU	S2	966	82,85	-	0/7/25/26	0/2/2/2
82	OMG	S2	1490	82	-	1/5/27/28	0/3/3/3
2	A2M	L5	4571	2	-	0/5/27/28	0/3/3/3
2	PSU	L5	4431	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	866	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	4636	2	-	1/7/25/26	0/2/2/2
82	PSU	S2	651	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	3637	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	649	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	4457	2	-	0/7/25/26	0/2/2/2
82	A2M	S2	1383	82	-	3/5/27/28	0/3/3/3
2	A2M	L5	2401	2	-	0/5/27/28	0/3/3/3
82	PSU	S2	109	82	-	0/7/25/26	0/2/2/2
82	OMG	S2	683	82	-	2/5/27/28	0/3/3/3
2	A2M	L5	1326	85,2	-	3/5/27/28	0/3/3/3
2	OMC	L5	2861	2	-	3/9/27/28	0/2/2/2
2	PSU	L5	3844	2	-	1/7/25/26	0/2/2/2
2	PSU	L5	1862	2	-	0/7/25/26	0/2/2/2
82	OMC	S2	517	82	-	3/9/27/28	0/2/2/2
82	A2M	S2	668	82,85	-	3/5/27/28	0/3/3/3
2	PSU	L5	3884	2	-	0/7/25/26	0/2/2/2
2	OMC	L5	1340	2	-	1/9/27/28	0/2/2/2
2	PSU	L5	4552	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	1081	82	-	1/7/25/26	0/2/2/2
2	OMC	L5	4536	2	-	0/9/27/28	0/2/2/2
2	OMG	L5	4637	2	-	1/5/27/28	0/3/3/3
82	MA6	S2	1850	82	-	1/7/29/30	0/3/3/3
82	PSU	S2	686	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	4972	2	-	0/7/25/26	0/2/2/2
2	OMG	L5	4370	2	-	0/5/27/28	0/3/3/3
2	PSU	L5	4521	85,2	-	2/7/25/26	0/2/2/2
2	OMG	L5	4228	2	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	PSU	L5	1683	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4493	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	1367	82	-	0/7/25/26	0/2/2/2
2	OMC	L5	3887	2	-	2/9/27/28	0/2/2/2
82	PSU	S2	93	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	1782	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	3785	85,2	-	0/5/27/28	0/3/3/3
82	MA6	S2	1851	82	-	2/7/29/30	0/3/3/3
2	A2M	L5	1534	85,2	-	2/5/27/28	0/3/3/3
2	OMC	L5	2824	2	-	1/9/27/28	0/2/2/2
82	OMU	S2	799	82	-	2/9/27/28	0/2/2/2
2	PSU	L5	1582	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	400	2	-	1/5/27/28	0/3/3/3
2	PSU	L5	3695	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	3718	2	-	1/5/27/28	0/3/3/3
2	OMG	L5	3627	2	-	0/5/27/28	0/3/3/3
2	PSU	L5	3851	85,2	-	1/7/25/26	0/2/2/2
82	OMC	S2	1703	82	-	0/9/27/28	0/2/2/2
82	A2M	S2	166	82	-	0/5/27/28	0/3/3/3
82	PSU	S2	1046	82	-	0/7/25/26	0/2/2/2
2	OMG	L5	2424	2	-	0/5/27/28	0/3/3/3
82	OMG	S2	1328	82	-	0/5/27/28	0/3/3/3
2	OMG	L5	2876	2	-	0/5/27/28	0/3/3/3
2	OMG	L5	4499	2	-	0/5/27/28	0/3/3/3
82	PSU	S2	1004	82	-	0/7/25/26	0/2/2/2
82	PSU	S2	1174	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	4293	2	-	1/7/25/26	0/2/2/2
2	OMG	L5	4196	1,2	-	1/5/27/28	0/3/3/3
2	OMG	L5	3899	2	-	2/5/27/28	0/3/3/3
2	PSU	L5	4296	2	-	2/7/25/26	0/2/2/2
82	OMC	S2	174	82	-	0/9/27/28	0/2/2/2
82	PSU	S2	406	82	-	0/7/25/26	0/2/2/2
2	6MZ	L5	4220	2	-	4/5/27/28	0/3/3/3
82	B8N	S2	1248	82	-	4/16/34/35	0/2/2/2
2	OMU	L5	4306	2	-	0/9/27/28	0/2/2/2
2	OMU	L5	3925	2	-	0/9/27/28	0/2/2/2
2	OMC	L5	2365	85,2	-	0/9/27/28	0/2/2/2
2	OMG	L5	1522	2	-	0/5/27/28	0/3/3/3
2	UY1	L5	3818	2	-	1/9/27/28	0/2/2/2
2	PSU	L5	5001	2	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	UR3	L5	4530	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	1536	2	-	2/7/25/26	0/2/2/2
82	PSU	S2	801	82	-	2/7/25/26	0/2/2/2
2	OMC	L5	3701	2	-	4/9/27/28	0/2/2/2
2	PSU	L5	4579	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4353	2	-	0/7/25/26	0/2/2/2
82	A2M	S2	484	82	-	1/5/27/28	0/3/3/3
2	PSU	L5	4403	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	4590	2	-	4/5/27/28	0/3/3/3
82	PSU	S2	681	82	-	0/7/25/26	0/2/2/2
82	A2M	S2	576	82	-	4/5/27/28	0/3/3/3
2	PSU	L5	4973	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4673	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	1871	85,2	-	0/5/27/28	0/3/3/3
2	PSU	L5	3639	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	4523	85,2	-	1/5/27/28	0/3/3/3
2	A2M	L5	2787	2	-	3/5/27/28	0/3/3/3
82	OMU	S2	1288	82	-	2/9/27/28	0/2/2/2
4	OMG	L8	75	4	-	1/5/27/28	0/3/3/3
2	PSU	L5	1744	85,2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4471	2	-	0/7/25/26	0/2/2/2
82	OMU	S2	627	82	-	5/9/27/28	0/2/2/2
82	OMC	S2	1272	82	-	2/9/27/28	0/2/2/2
2	PSU	L5	1792	2	-	0/7/25/26	0/2/2/2
82	OMG	S2	601	82	-	0/5/27/28	0/3/3/3
2	PSU	L5	3822	2	-	2/7/25/26	0/2/2/2
2	OMG	L5	4494	2	-	0/5/27/28	0/3/3/3
2	PSU	L5	4532	2	-	0/7/25/26	0/2/2/2
82	OMG	S2	644	82	-	4/5/27/28	0/3/3/3
2	A2M	L5	1323	2	-	3/5/27/28	0/3/3/3
82	4AC	S2	1337	82	-	1/11/29/30	0/2/2/2
82	OMC	S2	1391	82	-	0/9/27/28	0/2/2/2
2	A2M	L5	3867	2	-	1/5/27/28	0/3/3/3
82	PSU	S2	1045	82	-	2/7/25/26	0/2/2/2
82	A2M	S2	468	82	-	1/5/27/28	0/3/3/3
2	A2M	L5	398	2	-	0/5/27/28	0/3/3/3
2	OMU	L5	2837	2	-	0/9/27/28	0/2/2/2
82	OMG	S2	867	82	-	1/5/27/28	0/3/3/3
2	OMG	L5	4392	2	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
82	PSU	S2	1177	82	-	0/7/25/26	0/2/2/2
2	OMG	L5	1316	2	-	1/5/27/28	0/3/3/3
2	PSU	L5	3853	85,2	-	0/7/25/26	0/2/2/2
82	OMU	S2	1442	82	-	2/9/27/28	0/2/2/2
82	OMU	S2	116	82	-	1/9/27/28	0/2/2/2
2	OMC	L5	2351	85,2	-	2/9/27/28	0/2/2/2
2	PSU	L5	1860	2	-	0/7/25/26	0/2/2/2
2	OMU	L5	4620	2	-	0/9/27/28	0/2/2/2
2	PSU	L5	2632	2	-	0/7/25/26	0/2/2/2
82	G7M	S2	1639	1,82	-	0/3/25/26	0/3/3/3
82	PSU	S2	863	82	-	0/7/25/26	0/2/2/2
82	6MZ	S2	1832	82,85	-	7/8/28/28	0/3/3/3
2	1MA	L5	1322	85,2	-	0/3/25/26	0/3/3/3
2	A2M	L5	3830	2	-	1/5/27/28	0/3/3/3
2	OMC	L5	3869	2	-	0/9/27/28	0/2/2/2
82	A2M	S2	27	82	-	1/5/27/28	0/3/3/3
2	OMC	L5	3808	2	-	0/9/27/28	0/2/2/2
82	OMG	S2	436	82	-	0/5/27/28	0/3/3/3
2	OMG	L5	4623	2	-	1/5/27/28	0/3/3/3
2	PSU	L5	4576	2	-	0/7/25/26	0/2/2/2
2	OMC	L5	2422	85,2	-	2/9/27/28	0/2/2/2
2	PSU	L5	4312	2	-	0/7/25/26	0/2/2/2
2	OMG	L5	4618	2	-	2/5/27/28	0/3/3/3
2	PSU	L5	4500	2	-	3/7/25/26	0/2/2/2
2	PSU	L5	5010	2	-	2/7/25/26	0/2/2/2
82	OMG	S2	509	82	-	1/5/27/28	0/3/3/3
2	5MC	L5	4447	2	-	5/7/25/26	0/2/2/2
2	5MC	L5	3782	85,2	-	0/7/25/26	0/2/2/2
82	PSU	S2	1056	82	-	0/7/25/26	0/2/2/2
4	PSU	L8	55	4	-	0/7/25/26	0/2/2/2
2	OMG	L5	1625	2	-	2/5/27/28	0/3/3/3
2	A2M	L5	2363	85,2	-	0/5/27/28	0/3/3/3
82	PSU	S2	814	82	-	0/7/25/26	0/2/2/2
2	OMC	L5	2804	2	-	0/9/27/28	0/2/2/2
2	A2M	L5	1524	2	-	3/5/27/28	0/3/3/3
2	PSU	L5	4689	2	-	0/7/25/26	0/2/2/2
4	PSU	L8	69	4	-	0/7/25/26	0/2/2/2
2	PSU	L5	4442	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	1232	82	-	0/7/25/26	0/2/2/2
2	OMC	L5	4456	2	-	0/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
82	OMU	S2	121	82	-	0/9/27/28	0/2/2/2
2	A2M	L5	3825	2	-	1/5/27/28	0/3/3/3
82	OMC	S2	462	82	-	0/9/27/28	0/2/2/2
2	PSU	L5	2839	2	-	0/7/25/26	0/2/2/2
82	OMU	S2	172	82	-	0/9/27/28	0/2/2/2
2	OMG	L5	3792	2	-	2/5/27/28	0/3/3/3
2	OMG	L5	3744	2	-	1/5/27/28	0/3/3/3
2	OMC	L5	3841	2	-	1/9/27/28	0/2/2/2
82	OMU	S2	428	82	-	3/9/27/28	0/2/2/2
2	PSU	L5	3920	85,2	-	0/7/25/26	0/2/2/2
2	OMU	L5	4227	2	-	0/9/27/28	0/2/2/2
82	A2M	S2	1031	82	-	0/5/27/28	0/3/3/3
2	PSU	L5	4299	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	1244	82	-	0/7/25/26	0/2/2/2
82	4AC	S2	1842	82	-	0/11/29/30	0/2/2/2
2	PSU	L5	4628	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4361	2	-	0/7/25/26	0/2/2/2
82	A2M	S2	99	82,85	-	2/5/27/28	0/3/3/3

All (346) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	3818	UY1	C6-C5	12.90	1.49	1.35
2	L5	3818	UY1	C2-N1	12.00	1.52	1.36
82	S2	1442	OMU	C2-N1	8.53	1.51	1.38
82	S2	799	OMU	C2-N1	8.51	1.51	1.38
2	L5	4220	6MZ	C3'-C2'	-8.35	1.30	1.53
82	S2	121	OMU	C2-N1	8.28	1.51	1.38
82	S2	627	OMU	C2-N1	8.27	1.51	1.38
82	S2	1288	OMU	C2-N1	8.27	1.51	1.38
82	S2	172	OMU	C2-N1	8.25	1.51	1.38
2	L5	4498	OMU	C2-N1	8.24	1.51	1.38
2	L5	4620	OMU	C2-N1	8.22	1.51	1.38
82	S2	354	OMU	C2-N1	8.19	1.51	1.38
82	S2	428	OMU	C2-N1	8.19	1.51	1.38
2	L5	2837	OMU	C2-N1	8.19	1.51	1.38
2	L5	4306	OMU	C2-N1	8.18	1.51	1.38
82	S2	1326	OMU	C2-N1	8.16	1.51	1.38
2	L5	4227	OMU	C2-N1	8.15	1.51	1.38
2	L5	3925	OMU	C2-N1	8.07	1.51	1.38
82	S2	116	OMU	C2-N1	8.05	1.51	1.38
82	S2	1248	B8N	C6-N1	7.92	1.55	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	3818	UY1	C2-N3	7.86	1.50	1.37
82	S2	1248	B8N	C4-N3	-7.75	1.26	1.40
2	L5	4220	6MZ	O4'-C1'	-7.40	1.31	1.40
82	S2	1248	B8N	C4-C5	7.09	1.63	1.47
82	S2	799	OMU	C2-N3	7.07	1.50	1.38
82	S2	172	OMU	C2-N3	7.02	1.50	1.38
82	S2	1326	OMU	C2-N3	6.98	1.50	1.38
82	S2	116	OMU	C2-N3	6.97	1.50	1.38
82	S2	121	OMU	C2-N3	6.97	1.50	1.38
82	S2	428	OMU	C2-N3	6.94	1.50	1.38
2	L5	4498	OMU	C2-N3	6.94	1.50	1.38
82	S2	1288	OMU	C2-N3	6.93	1.50	1.38
82	S2	1442	OMU	C2-N3	6.93	1.50	1.38
82	S2	627	OMU	C2-N3	6.92	1.50	1.38
2	L5	4227	OMU	C2-N3	6.92	1.50	1.38
2	L5	4620	OMU	C2-N3	6.85	1.49	1.38
2	L5	3925	OMU	C2-N3	6.84	1.49	1.38
82	S2	354	OMU	C2-N3	6.83	1.49	1.38
2	L5	2837	OMU	C2-N3	6.81	1.49	1.38
2	L5	4306	OMU	C2-N3	6.80	1.49	1.38
2	L5	4530	UR3	C2-N1	6.63	1.47	1.38
2	L5	4530	UR3	C6-C5	6.31	1.49	1.35
82	S2	1248	B8N	C2-N1	6.00	1.56	1.39
82	S2	428	OMU	C6-C5	5.95	1.48	1.35
82	S2	354	OMU	C6-C5	5.93	1.48	1.35
82	S2	799	OMU	C6-C5	5.91	1.48	1.35
82	S2	1288	OMU	C6-C5	5.91	1.48	1.35
2	L5	4498	OMU	C6-C5	5.91	1.48	1.35
82	S2	121	OMU	C6-C5	5.91	1.48	1.35
2	L5	4530	UR3	C2-N3	5.89	1.50	1.39
2	L5	4227	OMU	C6-C5	5.88	1.48	1.35
82	S2	172	OMU	C6-C5	5.88	1.48	1.35
82	S2	1326	OMU	C6-C5	5.87	1.48	1.35
82	S2	116	OMU	C6-C5	5.85	1.48	1.35
82	S2	627	OMU	C6-C5	5.85	1.48	1.35
2	L5	4620	OMU	C6-C5	5.85	1.48	1.35
2	L5	4306	OMU	C6-C5	5.83	1.48	1.35
82	S2	1442	OMU	C6-C5	5.82	1.48	1.35
2	L5	3925	OMU	C6-C5	5.82	1.48	1.35
2	L5	2837	OMU	C6-C5	5.79	1.48	1.35
2	L5	3818	UY1	C6-N1	5.55	1.45	1.36
82	S2	1248	B8N	C6-C5	5.51	1.42	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	4306	OMU	O4-C4	-5.50	1.13	1.24
2	L5	3925	OMU	O4-C4	-5.49	1.13	1.24
2	L5	4620	OMU	O4-C4	-5.48	1.13	1.24
2	L5	2837	OMU	O4-C4	-5.48	1.13	1.24
82	S2	1326	OMU	O4-C4	-5.46	1.13	1.24
2	L5	4227	OMU	O4-C4	-5.42	1.13	1.24
82	S2	1639	G7M	C2-N3	5.42	1.46	1.33
82	S2	121	OMU	O4-C4	-5.42	1.13	1.24
2	L5	4498	OMU	O4-C4	-5.42	1.13	1.24
82	S2	354	OMU	O4-C4	-5.41	1.14	1.24
82	S2	116	OMU	O4-C4	-5.41	1.14	1.24
82	S2	1442	OMU	O4-C4	-5.41	1.14	1.24
82	S2	172	OMU	O4-C4	-5.40	1.14	1.24
82	S2	799	OMU	O4-C4	-5.39	1.14	1.24
82	S2	428	OMU	O4-C4	-5.39	1.14	1.24
82	S2	627	OMU	O4-C4	-5.38	1.14	1.24
82	S2	1288	OMU	O4-C4	-5.35	1.14	1.24
82	S2	1639	G7M	C4-N3	4.97	1.49	1.37
82	S2	1639	G7M	C2-N2	4.93	1.45	1.34
2	L5	4220	6MZ	O4'-C4'	4.67	1.55	1.45
2	L5	3818	UY1	C4-N3	4.58	1.47	1.38
82	S2	627	OMU	C4-N3	4.50	1.46	1.38
82	S2	1326	OMU	C4-N3	4.43	1.46	1.38
82	S2	1288	OMU	C4-N3	4.42	1.46	1.38
2	L5	4220	6MZ	C5'-C4'	-4.41	1.38	1.51
82	S2	172	OMU	C4-N3	4.40	1.46	1.38
82	S2	1442	OMU	C4-N3	4.39	1.46	1.38
82	S2	428	OMU	C4-N3	4.38	1.46	1.38
2	L5	4227	OMU	C4-N3	4.38	1.46	1.38
2	L5	2837	OMU	C4-N3	4.38	1.46	1.38
82	S2	799	OMU	C4-N3	4.37	1.46	1.38
82	S2	121	OMU	C4-N3	4.33	1.46	1.38
2	L5	4220	6MZ	C6-C5	-4.29	1.38	1.44
2	L5	4498	OMU	C4-N3	4.28	1.45	1.38
2	L5	4306	OMU	C4-N3	4.26	1.45	1.38
82	S2	354	OMU	C4-N3	4.25	1.45	1.38
82	S2	116	OMU	C4-N3	4.22	1.45	1.38
2	L5	4620	OMU	C4-N3	4.20	1.45	1.38
2	L5	3925	OMU	C4-N3	4.16	1.45	1.38
82	S2	1832	6MZ	C6-C5	-4.00	1.38	1.44
2	L5	1582	PSU	C6-C5	3.85	1.39	1.35
2	L5	1782	PSU	C6-C5	3.77	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	S2	866	PSU	C6-C5	3.75	1.39	1.35
82	S2	1850	MA6	C6-C5	-3.75	1.39	1.44
82	S2	801	PSU	C6-C5	3.74	1.39	1.35
82	S2	1232	PSU	C6-C5	3.73	1.39	1.35
4	L8	55	PSU	C6-C5	3.73	1.39	1.35
82	S2	1244	PSU	C6-C5	3.73	1.39	1.35
82	S2	93	PSU	C6-C5	3.73	1.39	1.35
82	S2	1177	PSU	C6-C5	3.72	1.39	1.35
82	S2	1046	PSU	C6-C5	3.72	1.39	1.35
2	L5	3637	PSU	C6-C5	3.71	1.39	1.35
82	S2	1367	PSU	C6-C5	3.71	1.39	1.35
82	S2	651	PSU	C6-C5	3.70	1.39	1.35
82	S2	1851	MA6	C6-C5	-3.70	1.39	1.44
2	L5	4532	PSU	C6-C5	3.68	1.39	1.35
2	L5	4500	PSU	C6-C5	3.67	1.39	1.35
82	S2	1248	B8N	C1'-C5	3.66	1.58	1.50
82	S2	406	PSU	C6-C5	3.66	1.39	1.35
82	S2	686	PSU	C6-C5	3.66	1.39	1.35
82	S2	1639	G7M	C6-N1	3.66	1.43	1.37
2	L5	1860	PSU	C6-C5	3.64	1.39	1.35
82	S2	109	PSU	C6-C5	3.63	1.39	1.35
82	S2	814	PSU	C6-C5	3.62	1.39	1.35
2	L5	1781	PSU	C6-C5	3.61	1.39	1.35
2	L5	1683	PSU	C6-C5	3.60	1.39	1.35
2	L5	5010	PSU	C6-C5	3.59	1.39	1.35
2	L5	3639	PSU	C6-C5	3.58	1.39	1.35
82	S2	1081	PSU	C6-C5	3.58	1.39	1.35
2	L5	1862	PSU	C6-C5	3.58	1.39	1.35
2	L5	4299	PSU	C6-C5	3.58	1.39	1.35
2	L5	1792	PSU	C6-C5	3.58	1.39	1.35
2	L5	3853	PSU	C6-C5	3.58	1.39	1.35
2	L5	4293	PSU	C6-C5	3.56	1.39	1.35
82	S2	1045	PSU	C6-C5	3.56	1.39	1.35
2	L5	5001	PSU	C6-C5	3.56	1.39	1.35
2	L5	3851	PSU	C6-C5	3.55	1.39	1.35
2	L5	4431	PSU	C6-C5	3.55	1.39	1.35
82	S2	1174	PSU	C6-C5	3.55	1.39	1.35
2	L5	1536	PSU	C6-C5	3.55	1.39	1.35
2	L5	3818	UY1	O4-C4	-3.55	1.16	1.23
2	L5	4471	PSU	C6-C5	3.55	1.39	1.35
82	S2	863	PSU	C6-C5	3.55	1.39	1.35
2	L5	3884	PSU	C6-C5	3.54	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	4361	PSU	C6-C5	3.53	1.39	1.35
2	L5	4442	PSU	C6-C5	3.53	1.39	1.35
82	S2	1004	PSU	C6-C5	3.52	1.39	1.35
2	L5	4296	PSU	C6-C5	3.52	1.39	1.35
2	L5	4353	PSU	C6-C5	3.51	1.39	1.35
2	L5	3844	PSU	C6-C5	3.51	1.39	1.35
82	S2	1850	MA6	C6-N6	3.51	1.45	1.37
4	L8	69	PSU	C6-C5	3.50	1.39	1.35
82	S2	1851	MA6	C6-N6	3.49	1.45	1.37
2	L5	2632	PSU	C6-C5	3.49	1.39	1.35
2	L5	4493	PSU	C6-C5	3.49	1.39	1.35
2	L5	4521	PSU	C6-C5	3.49	1.39	1.35
2	L5	4972	PSU	C6-C5	3.49	1.39	1.35
82	S2	105	PSU	C6-C5	3.49	1.39	1.35
2	L5	3695	PSU	C6-C5	3.48	1.39	1.35
2	L5	4636	PSU	C6-C5	3.48	1.39	1.35
2	L5	4579	PSU	C6-C5	3.47	1.39	1.35
2	L5	3822	PSU	C6-C5	3.46	1.39	1.35
2	L5	4457	PSU	C6-C5	3.46	1.39	1.35
2	L5	3920	PSU	C6-C5	3.45	1.39	1.35
82	S2	649	PSU	C6-C5	3.44	1.39	1.35
82	S2	966	PSU	C6-C5	3.44	1.39	1.35
2	L5	4552	PSU	C6-C5	3.43	1.39	1.35
2	L5	4523	A2M	O5'-C5'	-3.42	1.34	1.44
2	L5	398	A2M	O5'-C5'	-3.42	1.34	1.44
2	L5	4312	PSU	C6-C5	3.42	1.39	1.35
2	L5	1744	PSU	C6-C5	3.41	1.39	1.35
2	L5	4673	PSU	C6-C5	3.41	1.39	1.35
82	S2	681	PSU	C6-C5	3.41	1.39	1.35
82	S2	1056	PSU	C6-C5	3.41	1.39	1.35
82	S2	1383	A2M	O5'-C5'	-3.41	1.34	1.44
2	L5	3785	A2M	O5'-C5'	-3.40	1.34	1.44
2	L5	4576	PSU	C6-C5	3.39	1.39	1.35
82	S2	668	A2M	O5'-C5'	-3.39	1.34	1.44
2	L5	4973	PSU	C6-C5	3.36	1.39	1.35
2	L5	3830	A2M	O5'-C5'	-3.35	1.34	1.44
82	S2	166	A2M	O5'-C5'	-3.35	1.34	1.44
2	L5	2839	PSU	C6-C5	3.34	1.39	1.35
82	S2	99	A2M	O5'-C5'	-3.34	1.34	1.44
82	S2	1639	G7M	C5-C6	3.33	1.54	1.45
2	L5	400	A2M	O5'-C5'	-3.33	1.34	1.44
2	L5	4571	A2M	O5'-C5'	-3.33	1.34	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	2787	A2M	O5'-C5'	-3.33	1.34	1.44
2	L5	1323	A2M	O5'-C5'	-3.33	1.34	1.44
2	L5	3825	A2M	O5'-C5'	-3.32	1.34	1.44
2	L5	1534	A2M	O5'-C5'	-3.31	1.34	1.44
2	L5	3718	A2M	O5'-C5'	-3.31	1.34	1.44
2	L5	3818	UY1	C1'-C5	3.30	1.57	1.50
2	L5	4689	PSU	C6-C5	3.29	1.38	1.35
2	L5	1871	A2M	O5'-C5'	-3.29	1.34	1.44
2	L5	2815	A2M	O5'-C5'	-3.28	1.34	1.44
82	S2	27	A2M	O5'-C5'	-3.28	1.34	1.44
2	L5	1524	A2M	O5'-C5'	-3.27	1.34	1.44
82	S2	576	A2M	O5'-C5'	-3.27	1.34	1.44
82	S2	468	A2M	O5'-C5'	-3.26	1.34	1.44
82	S2	1031	A2M	O5'-C5'	-3.26	1.34	1.44
2	L5	2401	A2M	O5'-C5'	-3.25	1.34	1.44
2	L5	1677	PSU	C6-C5	3.22	1.38	1.35
2	L5	2363	A2M	O5'-C5'	-3.22	1.34	1.44
82	S2	484	A2M	O5'-C5'	-3.20	1.34	1.44
2	L5	3818	UY1	O2-C2	-3.20	1.16	1.23
2	L5	1326	A2M	O5'-C5'	-3.19	1.34	1.44
2	L5	4590	A2M	O5'-C5'	-3.19	1.34	1.44
2	L5	3867	A2M	O5'-C5'	-3.18	1.34	1.44
2	L5	4403	PSU	C6-C5	3.12	1.38	1.35
2	L5	4628	PSU	C6-C5	3.11	1.38	1.35
82	S2	159	A2M	O5'-C5'	-3.08	1.35	1.44
2	L5	1316	OMG	C8-N7	-3.08	1.30	1.34
82	S2	1490	OMG	C8-N7	-3.04	1.30	1.34
82	S2	601	OMG	C8-N7	-3.04	1.30	1.34
2	L5	2364	OMG	C8-N7	-3.02	1.30	1.34
2	L5	1625	OMG	C8-N7	-2.98	1.30	1.34
82	S2	683	OMG	C8-N7	-2.95	1.30	1.34
2	L5	4618	OMG	C8-N7	-2.95	1.30	1.34
82	S2	1288	OMU	C5-C4	2.93	1.50	1.43
82	S2	644	OMG	C8-N7	-2.92	1.30	1.34
82	S2	799	OMU	C5-C4	2.89	1.50	1.43
2	L5	2876	OMG	C8-N7	-2.89	1.30	1.34
2	L5	4196	OMG	C8-N7	-2.89	1.30	1.34
2	L5	3899	OMG	C8-N7	-2.89	1.30	1.34
82	S2	627	OMU	C5-C4	2.89	1.50	1.43
82	S2	1328	OMG	C8-N7	-2.89	1.30	1.34
2	L5	3792	OMG	C8-N7	-2.89	1.30	1.34
82	S2	428	OMU	C5-C4	2.89	1.50	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	4392	OMG	C8-N7	-2.88	1.30	1.34
2	L5	3925	OMU	C5-C4	2.88	1.49	1.43
82	S2	354	OMU	C5-C4	2.87	1.49	1.43
2	L5	4623	OMG	C8-N7	-2.87	1.30	1.34
2	L5	2424	OMG	C8-N7	-2.87	1.30	1.34
2	L5	4637	OMG	C8-N7	-2.87	1.30	1.34
82	S2	172	OMU	C5-C4	2.86	1.49	1.43
2	L5	3744	OMG	C8-N7	-2.86	1.30	1.34
82	S2	509	OMG	C8-N7	-2.85	1.30	1.34
2	L5	4227	OMU	C5-C4	2.85	1.49	1.43
2	L5	3627	OMG	C8-N7	-2.84	1.30	1.34
82	S2	1326	OMU	C5-C4	2.84	1.49	1.43
2	L5	4494	OMG	C8-N7	-2.84	1.30	1.34
2	L5	1522	OMG	C8-N7	-2.83	1.30	1.34
2	L5	4370	OMG	C8-N7	-2.83	1.30	1.34
82	S2	121	OMU	C5-C4	2.82	1.49	1.43
2	L5	4498	OMU	C5-C4	2.82	1.49	1.43
2	L5	4499	OMG	C8-N7	-2.82	1.30	1.34
82	S2	1639	G7M	C2-N1	2.81	1.44	1.37
82	S2	1442	OMU	C5-C4	2.80	1.49	1.43
82	S2	121	OMU	C6-N1	2.80	1.44	1.38
2	L5	2837	OMU	C5-C4	2.79	1.49	1.43
2	L5	4306	OMU	C5-C4	2.79	1.49	1.43
82	S2	867	OMG	C8-N7	-2.79	1.30	1.34
82	S2	1490	OMG	C5-C6	-2.77	1.42	1.47
82	S2	116	OMU	C5-C4	2.76	1.49	1.43
82	S2	1288	OMU	C6-N1	2.75	1.44	1.38
4	L8	75	OMG	C8-N7	-2.75	1.30	1.34
82	S2	799	OMU	C6-N1	2.75	1.44	1.38
2	L5	3785	A2M	C1'-N9	-2.75	1.43	1.49
2	L5	4620	OMU	C5-C4	2.74	1.49	1.43
82	S2	436	OMG	C8-N7	-2.71	1.30	1.34
82	S2	354	OMU	C6-N1	2.71	1.44	1.38
2	L5	4498	OMU	C6-N1	2.71	1.44	1.38
82	S2	1442	OMU	C6-N1	2.70	1.44	1.38
2	L5	4228	OMG	C8-N7	-2.70	1.30	1.34
2	L5	2837	OMU	C6-N1	2.68	1.44	1.38
2	L5	4220	6MZ	O3'-C3'	2.67	1.49	1.43
82	S2	627	OMU	C6-N1	2.65	1.44	1.38
2	L5	4306	OMU	C6-N1	2.65	1.44	1.38
82	S2	1326	OMU	C6-N1	2.64	1.44	1.38
82	S2	116	OMU	C6-N1	2.64	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	1871	A2M	C1'-N9	-2.63	1.43	1.49
2	L5	4227	OMU	C6-N1	2.63	1.44	1.38
2	L5	4530	UR3	C6-N1	2.62	1.44	1.38
82	S2	1851	MA6	C2-N3	2.61	1.36	1.32
2	L5	2876	OMG	C5-C6	-2.60	1.42	1.47
2	L5	3925	OMU	C6-N1	2.59	1.44	1.38
82	S2	428	OMU	C6-N1	2.59	1.44	1.38
82	S2	166	A2M	C1'-N9	-2.58	1.43	1.49
82	S2	683	OMG	C5-C6	-2.58	1.42	1.47
82	S2	172	OMU	C6-N1	2.58	1.44	1.38
2	L5	2424	OMG	C5-C6	-2.57	1.42	1.47
2	L5	4494	OMG	C5-C6	-2.57	1.42	1.47
82	S2	1383	A2M	C1'-N9	-2.57	1.43	1.49
2	L5	1625	OMG	C5-C6	-2.56	1.42	1.47
82	S2	1850	MA6	C2-N3	2.56	1.36	1.32
2	L5	4620	OMU	C6-N1	2.55	1.44	1.38
2	L5	1316	OMG	C5-C6	-2.55	1.42	1.47
82	S2	867	OMG	C5-C6	-2.55	1.42	1.47
2	L5	4623	OMG	C5-C6	-2.54	1.42	1.47
2	L5	4530	UR3	O2-C2	-2.54	1.17	1.22
2	L5	3792	OMG	C5-C6	-2.53	1.42	1.47
2	L5	3899	OMG	C5-C6	-2.52	1.42	1.47
2	L5	3830	A2M	C1'-N9	-2.51	1.43	1.49
2	L5	2364	OMG	C5-C6	-2.51	1.42	1.47
2	L5	4590	A2M	C1'-N9	-2.51	1.43	1.49
2	L5	3744	OMG	C5-C6	-2.50	1.42	1.47
82	S2	27	A2M	C1'-N9	-2.46	1.43	1.49
2	L5	4637	OMG	C5-C6	-2.46	1.42	1.47
82	S2	601	OMG	C5-C6	-2.45	1.42	1.47
2	L5	4370	OMG	C5-C6	-2.45	1.42	1.47
2	L5	2363	A2M	C1'-N9	-2.44	1.43	1.49
2	L5	4392	OMG	C5-C6	-2.44	1.42	1.47
2	L5	3627	OMG	C5-C6	-2.43	1.42	1.47
2	L5	1522	OMG	C5-C6	-2.43	1.42	1.47
82	S2	1328	OMG	C5-C6	-2.42	1.42	1.47
2	L5	4196	OMG	C5-C6	-2.42	1.42	1.47
82	S2	644	OMG	C5-C6	-2.42	1.42	1.47
2	L5	4571	A2M	C1'-N9	-2.42	1.43	1.49
4	L8	75	OMG	C5-C6	-2.41	1.42	1.47
2	L5	4618	OMG	C5-C6	-2.41	1.42	1.47
2	L5	4499	OMG	C5-C6	-2.39	1.42	1.47
2	L5	1322	1MA	C8-N7	-2.39	1.31	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	4228	OMG	C5-C6	-2.39	1.42	1.47
2	L5	4523	A2M	C1'-N9	-2.39	1.44	1.49
82	S2	436	OMG	C5-C6	-2.38	1.42	1.47
82	S2	509	OMG	C5-C6	-2.37	1.42	1.47
2	L5	3825	A2M	C1'-N9	-2.30	1.44	1.49
82	S2	576	A2M	C1'-N9	-2.30	1.44	1.49
82	S2	99	A2M	C1'-N9	-2.29	1.44	1.49
2	L5	4530	UR3	C5-C4	2.29	1.49	1.43
2	L5	1322	1MA	C5-C4	-2.28	1.37	1.43
82	S2	668	A2M	C1'-N9	-2.28	1.44	1.49
2	L5	4530	UR3	C3U-N3	2.28	1.51	1.47
2	L5	3867	A2M	O4'-C4'	-2.22	1.40	1.45
82	S2	1832	6MZ	C2-N3	2.21	1.35	1.32
82	S2	468	A2M	C1'-N9	-2.20	1.44	1.49
2	L5	3718	A2M	C1'-N9	-2.19	1.44	1.49
2	L5	1524	A2M	O4'-C4'	-2.18	1.40	1.45
82	S2	1031	A2M	C1'-N9	-2.17	1.44	1.49
2	L5	1323	A2M	O4'-C4'	-2.16	1.40	1.45
2	L5	2401	A2M	C1'-N9	-2.14	1.44	1.49
2	L5	400	A2M	C1'-N9	-2.12	1.44	1.49
2	L5	398	A2M	C1'-N9	-2.11	1.44	1.49
2	L5	3818	UY1	C4-C5	2.11	1.50	1.44
2	L5	4220	6MZ	C2-N3	2.11	1.35	1.32
2	L5	3867	A2M	C1'-N9	-2.11	1.44	1.49
82	S2	668	A2M	O4'-C4'	-2.10	1.40	1.45
2	L5	1534	A2M	C1'-N9	-2.10	1.44	1.49
2	L5	2787	A2M	C1'-N9	-2.10	1.44	1.49
2	L5	1323	A2M	C1'-N9	-2.05	1.44	1.49
2	L5	1677	PSU	C4-C5	-2.03	1.38	1.44
2	L5	4293	PSU	C4-C5	-2.03	1.38	1.44
2	L5	3822	PSU	O4'-C1'	-2.02	1.41	1.43
2	L5	4228	OMG	C5-C4	-2.01	1.38	1.43

All (646) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	1851	MA6	N1-C6-N6	-12.35	102.56	116.83
82	S2	1850	MA6	N1-C6-N6	-12.32	102.59	116.83
2	L5	3785	A2M	C4'-O4'-C1'	-8.80	101.87	109.92
82	S2	1832	6MZ	N3-C2-N1	-6.27	120.17	128.67
82	S2	1850	MA6	N3-C2-N1	-6.26	120.17	128.67
82	S2	1851	MA6	N3-C2-N1	-6.22	120.22	128.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4523	A2M	C4'-O4'-C1'	-6.16	104.29	109.92
2	L5	4220	6MZ	N3-C2-N1	-6.13	120.35	128.67
2	L5	3925	OMU	C4-N3-C2	-5.89	119.30	126.61
82	S2	428	OMU	C4-N3-C2	-5.70	119.54	126.61
2	L5	4227	OMU	C4-N3-C2	-5.69	119.55	126.61
2	L5	1524	A2M	C4'-O4'-C1'	-5.68	104.73	109.92
82	S2	172	OMU	C4-N3-C2	-5.65	119.60	126.61
82	S2	1326	OMU	C4-N3-C2	-5.63	119.62	126.61
2	L5	2837	OMU	C4-N3-C2	-5.62	119.63	126.61
82	S2	627	OMU	C4-N3-C2	-5.62	119.63	126.61
82	S2	354	OMU	C4-N3-C2	-5.60	119.67	126.61
2	L5	4498	OMU	C4-N3-C2	-5.59	119.67	126.61
82	S2	1383	A2M	C4'-O4'-C1'	-5.58	104.81	109.92
82	S2	1288	OMU	C4-N3-C2	-5.56	119.70	126.61
2	L5	4220	6MZ	C4'-O4'-C1'	-5.52	104.87	109.92
82	S2	1442	OMU	C4-N3-C2	-5.49	119.80	126.61
2	L5	4306	OMU	C4-N3-C2	-5.49	119.80	126.61
2	L5	4530	UR3	C4-N3-C2	-5.47	120.18	124.58
2	L5	3637	PSU	N1-C2-N3	5.46	120.93	115.17
2	L5	4620	OMU	C4-N3-C2	-5.43	119.88	126.61
82	S2	799	OMU	C4-N3-C2	-5.41	119.89	126.61
82	S2	121	OMU	C4-N3-C2	-5.29	120.05	126.61
82	S2	1248	B8N	C5-C4-N3	5.15	125.50	116.15
2	L5	4636	PSU	C4-N3-C2	-5.15	119.28	126.37
82	S2	116	OMU	C4-N3-C2	-5.11	120.26	126.61
2	L5	4442	PSU	N1-C2-N3	5.03	120.47	115.17
2	L5	4442	PSU	C4-N3-C2	-5.01	119.47	126.37
2	L5	4312	PSU	C4-N3-C2	-5.00	119.48	126.37
2	L5	2632	PSU	C4-N3-C2	-5.00	119.49	126.37
2	L5	5010	PSU	C4-N3-C2	-4.96	119.54	126.37
2	L5	3637	PSU	C4-N3-C2	-4.96	119.54	126.37
2	L5	4296	PSU	C4-N3-C2	-4.95	119.55	126.37
2	L5	1860	PSU	C4-N3-C2	-4.95	119.56	126.37
2	L5	1536	PSU	C4-N3-C2	-4.95	119.56	126.37
82	S2	649	PSU	C4-N3-C2	-4.94	119.56	126.37
2	L5	1536	PSU	N1-C2-N3	4.94	120.38	115.17
2	L5	4636	PSU	N1-C2-N3	4.94	120.38	115.17
2	L5	3818	UY1	C4-N3-C2	-4.92	119.59	126.37
82	S2	166	A2M	C4'-O4'-C1'	-4.92	105.42	109.92
2	L5	4521	PSU	C4-N3-C2	-4.91	119.60	126.37
82	S2	863	PSU	C4-N3-C2	-4.91	119.60	126.37
2	L5	4293	PSU	C4-N3-C2	-4.91	119.60	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4299	PSU	C4-N3-C2	-4.91	119.61	126.37
2	L5	2632	PSU	N1-C2-N3	4.91	120.34	115.17
2	L5	2839	PSU	C4-N3-C2	-4.90	119.62	126.37
2	L5	4431	PSU	N1-C2-N3	4.89	120.33	115.17
2	L5	4590	A2M	C4'-O4'-C1'	-4.89	105.45	109.92
2	L5	1677	PSU	C4-N3-C2	-4.88	119.65	126.37
2	L5	4500	PSU	C4-N3-C2	-4.87	119.66	126.37
2	L5	3830	A2M	C4'-O4'-C1'	-4.86	105.47	109.92
82	S2	1174	PSU	C4-N3-C2	-4.86	119.67	126.37
2	L5	3884	PSU	C4-N3-C2	-4.86	119.67	126.37
2	L5	3920	PSU	C4-N3-C2	-4.86	119.67	126.37
82	S2	1056	PSU	C4-N3-C2	-4.86	119.68	126.37
82	S2	814	PSU	C4-N3-C2	-4.85	119.69	126.37
2	L5	4500	PSU	N1-C2-N3	4.85	120.28	115.17
2	L5	3639	PSU	C4-N3-C2	-4.85	119.69	126.37
2	L5	3844	PSU	C4-N3-C2	-4.84	119.70	126.37
2	L5	4457	PSU	C4-N3-C2	-4.84	119.70	126.37
2	L5	4299	PSU	N1-C2-N3	4.84	120.28	115.17
2	L5	3822	PSU	C4-N3-C2	-4.84	119.71	126.37
2	L5	398	A2M	C4'-O4'-C1'	-4.84	105.50	109.92
2	L5	4296	PSU	N1-C2-N3	4.84	120.27	115.17
2	L5	1677	PSU	N1-C2-N3	4.83	120.27	115.17
2	L5	1871	A2M	C4'-O4'-C1'	-4.82	105.51	109.92
82	S2	1045	PSU	C4-N3-C2	-4.82	119.73	126.37
82	S2	866	PSU	C4-N3-C2	-4.82	119.73	126.37
2	L5	4353	PSU	C4-N3-C2	-4.81	119.74	126.37
82	S2	1004	PSU	C4-N3-C2	-4.81	119.74	126.37
82	S2	686	PSU	C4-N3-C2	-4.81	119.75	126.37
82	S2	1081	PSU	C4-N3-C2	-4.80	119.75	126.37
2	L5	4532	PSU	N1-C2-N3	4.80	120.23	115.17
2	L5	1744	PSU	C4-N3-C2	-4.80	119.75	126.37
82	S2	109	PSU	C4-N3-C2	-4.80	119.76	126.37
82	S2	651	PSU	C4-N3-C2	-4.80	119.76	126.37
82	S2	866	PSU	N1-C2-N3	4.79	120.22	115.17
2	L5	1862	PSU	C4-N3-C2	-4.79	119.77	126.37
4	L8	55	PSU	C4-N3-C2	-4.79	119.78	126.37
4	L8	55	PSU	N1-C2-N3	4.79	120.22	115.17
2	L5	3695	PSU	C4-N3-C2	-4.79	119.78	126.37
2	L5	4431	PSU	C4-N3-C2	-4.79	119.78	126.37
2	L5	4972	PSU	C4-N3-C2	-4.79	119.78	126.37
82	S2	1367	PSU	N1-C2-N3	4.78	120.21	115.17
2	L5	1792	PSU	N1-C2-N3	4.78	120.21	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4493	PSU	N1-C2-N3	4.78	120.21	115.17
2	L5	4493	PSU	C4-N3-C2	-4.78	119.78	126.37
2	L5	3844	PSU	N1-C2-N3	4.77	120.20	115.17
82	S2	801	PSU	N1-C2-N3	4.77	120.20	115.17
2	L5	4532	PSU	C4-N3-C2	-4.76	119.81	126.37
2	L5	1792	PSU	C4-N3-C2	-4.76	119.82	126.37
2	L5	5001	PSU	C4-N3-C2	-4.76	119.82	126.37
2	L5	1782	PSU	N1-C2-N3	4.76	120.18	115.17
2	L5	3822	PSU	N1-C2-N3	4.76	120.18	115.17
2	L5	3639	PSU	N1-C2-N3	4.75	120.18	115.17
2	L5	4457	PSU	N1-C2-N3	4.75	120.18	115.17
82	S2	651	PSU	N1-C2-N3	4.75	120.18	115.17
2	L5	4689	PSU	N1-C2-N3	4.75	120.17	115.17
2	L5	4471	PSU	N1-C2-N3	4.74	120.17	115.17
2	L5	1782	PSU	C4-N3-C2	-4.74	119.84	126.37
2	L5	4361	PSU	C4-N3-C2	-4.74	119.84	126.37
2	L5	4673	PSU	C4-N3-C2	-4.74	119.84	126.37
82	S2	1244	PSU	C4-N3-C2	-4.74	119.84	126.37
82	S2	105	PSU	N1-C2-N3	4.74	120.17	115.17
82	S2	681	PSU	N1-C2-N3	4.74	120.17	115.17
2	L5	1683	PSU	C4-N3-C2	-4.74	119.85	126.37
82	S2	681	PSU	C4-N3-C2	-4.74	119.85	126.37
2	L5	4293	PSU	N1-C2-N3	4.73	120.16	115.17
82	S2	966	PSU	C4-N3-C2	-4.72	119.86	126.37
2	L5	1683	PSU	N1-C2-N3	4.72	120.14	115.17
82	S2	1232	PSU	C4-N3-C2	-4.72	119.87	126.37
82	S2	109	PSU	N1-C2-N3	4.72	120.14	115.17
2	L5	4353	PSU	N1-C2-N3	4.72	120.14	115.17
82	S2	686	PSU	N1-C2-N3	4.71	120.14	115.17
82	S2	1232	PSU	N1-C2-N3	4.71	120.14	115.17
82	S2	1045	PSU	N1-C2-N3	4.71	120.14	115.17
2	L5	2839	PSU	N1-C2-N3	4.71	120.14	115.17
2	L5	1862	PSU	N1-C2-N3	4.70	120.12	115.17
2	L5	1860	PSU	N1-C2-N3	4.69	120.12	115.17
82	S2	1081	PSU	N1-C2-N3	4.69	120.11	115.17
2	L5	5010	PSU	N1-C2-N3	4.69	120.11	115.17
82	S2	105	PSU	C4-N3-C2	-4.68	119.92	126.37
2	L5	3920	PSU	N1-C2-N3	4.68	120.11	115.17
82	S2	1056	PSU	N1-C2-N3	4.68	120.10	115.17
82	S2	406	PSU	N1-C2-N3	4.68	120.10	115.17
82	S2	1177	PSU	C4-N3-C2	-4.68	119.93	126.37
82	S2	1367	PSU	C4-N3-C2	-4.68	119.93	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	1244	PSU	N1-C2-N3	4.68	120.10	115.17
82	S2	1177	PSU	N1-C2-N3	4.68	120.10	115.17
2	L5	4552	PSU	C4-N3-C2	-4.67	119.93	126.37
2	L5	4973	PSU	C4-N3-C2	-4.67	119.94	126.37
2	L5	3695	PSU	N1-C2-N3	4.67	120.09	115.17
2	L5	4972	PSU	N1-C2-N3	4.67	120.09	115.17
82	S2	93	PSU	N1-C2-N3	4.67	120.09	115.17
82	S2	649	PSU	N1-C2-N3	4.67	120.09	115.17
2	L5	4552	PSU	N1-C2-N3	4.66	120.09	115.17
2	L5	4628	PSU	C4-N3-C2	-4.66	119.95	126.37
82	S2	801	PSU	C4-N3-C2	-4.66	119.95	126.37
2	L5	1744	PSU	N1-C2-N3	4.66	120.08	115.17
82	S2	814	PSU	N1-C2-N3	4.66	120.08	115.17
2	L5	4579	PSU	C4-N3-C2	-4.66	119.96	126.37
82	S2	93	PSU	C4-N3-C2	-4.66	119.96	126.37
82	S2	1046	PSU	C4-N3-C2	-4.65	119.96	126.37
2	L5	4403	PSU	C4-N3-C2	-4.65	119.97	126.37
2	L5	4576	PSU	N1-C2-N3	4.64	120.07	115.17
2	L5	1781	PSU	C4-N3-C2	-4.64	119.98	126.37
82	S2	966	PSU	N1-C2-N3	4.64	120.06	115.17
2	L5	4312	PSU	N1-C2-N3	4.64	120.06	115.17
82	S2	863	PSU	N1-C2-N3	4.63	120.05	115.17
2	L5	4673	PSU	N1-C2-N3	4.63	120.05	115.17
2	L5	4628	PSU	N1-C2-N3	4.62	120.05	115.17
2	L5	1781	PSU	N1-C2-N3	4.62	120.04	115.17
4	L8	69	PSU	C4-N3-C2	-4.61	120.02	126.37
2	L5	4576	PSU	C4-N3-C2	-4.61	120.02	126.37
2	L5	1582	PSU	N1-C2-N3	4.61	120.03	115.17
2	L5	4973	PSU	N1-C2-N3	4.59	120.01	115.17
82	S2	1174	PSU	N1-C2-N3	4.59	120.01	115.17
82	S2	406	PSU	C4-N3-C2	-4.58	120.06	126.37
2	L5	3884	PSU	N1-C2-N3	4.58	120.00	115.17
2	L5	3853	PSU	C4-N3-C2	-4.58	120.06	126.37
82	S2	27	A2M	C4'-O4'-C1'	-4.57	105.74	109.92
2	L5	4361	PSU	N1-C2-N3	4.56	119.98	115.17
2	L5	4471	PSU	C4-N3-C2	-4.55	120.10	126.37
82	S2	1031	A2M	C4'-O4'-C1'	-4.55	105.75	109.92
82	S2	1046	PSU	N1-C2-N3	4.55	119.97	115.17
2	L5	4521	PSU	N1-C2-N3	4.55	119.97	115.17
2	L5	3851	PSU	C4-N3-C2	-4.55	120.10	126.37
2	L5	5001	PSU	N1-C2-N3	4.55	119.96	115.17
2	L5	4579	PSU	N1-C2-N3	4.54	119.96	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	L8	69	PSU	N1-C2-N3	4.54	119.95	115.17
2	L5	3718	A2M	C4'-O4'-C1'	-4.53	105.78	109.92
82	S2	1004	PSU	N1-C2-N3	4.53	119.95	115.17
2	L5	3851	PSU	N1-C2-N3	4.53	119.94	115.17
2	L5	3853	PSU	N1-C2-N3	4.52	119.93	115.17
82	S2	1248	B8N	C4-N3-C2	-4.51	120.07	125.62
2	L5	4689	PSU	C4-N3-C2	-4.50	120.18	126.37
2	L5	2363	A2M	C4'-O4'-C1'	-4.47	105.83	109.92
2	L5	3818	UY1	N1-C2-N3	4.42	119.83	115.17
2	L5	4403	PSU	N1-C2-N3	4.40	119.81	115.17
82	S2	99	A2M	C4'-O4'-C1'	-4.31	105.98	109.92
82	S2	1383	A2M	C3'-C2'-C1'	-4.31	94.56	102.81
2	L5	3785	A2M	C1'-N9-C4	-4.29	119.11	126.64
2	L5	1582	PSU	C4-N3-C2	-4.28	120.48	126.37
82	S2	166	A2M	C1'-N9-C4	-4.25	119.17	126.64
82	S2	1383	A2M	C1'-N9-C4	-4.21	119.24	126.64
82	S2	1832	6MZ	C2-N1-C6	4.19	119.85	116.60
2	L5	4590	A2M	C1'-N9-C4	-4.16	119.32	126.64
82	S2	576	A2M	C4'-O4'-C1'	-4.14	106.14	109.92
2	L5	3925	OMU	N3-C2-N1	4.11	120.24	114.89
2	L5	3830	A2M	C1'-N9-C4	-4.10	119.44	126.64
82	S2	354	OMU	N3-C2-N1	4.10	120.22	114.89
2	L5	1534	A2M	C4'-O4'-C1'	-4.05	106.22	109.92
82	S2	121	OMU	N3-C2-N1	4.04	120.16	114.89
82	S2	468	A2M	C4'-O4'-C1'	-4.03	106.23	109.92
2	L5	4498	OMU	N3-C2-N1	4.02	120.13	114.89
2	L5	2401	A2M	C1'-N9-C4	-4.01	119.60	126.64
2	L5	4571	A2M	C1'-N9-C4	-3.99	119.64	126.64
2	L5	1323	A2M	C4'-O4'-C1'	-3.95	106.31	109.92
2	L5	4227	OMU	N3-C2-N1	3.93	120.00	114.89
82	S2	668	A2M	C1'-N9-C4	-3.91	119.76	126.64
82	S2	428	OMU	N3-C2-N1	3.91	119.98	114.89
82	S2	799	OMU	N3-C2-N1	3.90	119.96	114.89
2	L5	1323	A2M	C1'-N9-C4	-3.89	119.80	126.64
2	L5	4523	A2M	C1'-N9-C4	-3.89	119.81	126.64
2	L5	2837	OMU	N3-C2-N1	3.88	119.95	114.89
2	L5	3825	A2M	C4'-O4'-C1'	-3.88	106.37	109.92
82	S2	1288	OMU	N3-C2-N1	3.87	119.93	114.89
82	S2	1031	A2M	C1'-N9-C4	-3.86	119.86	126.64
82	S2	172	OMU	N3-C2-N1	3.85	119.91	114.89
2	L5	398	A2M	C1'-N9-C4	-3.85	119.87	126.64
2	L5	4571	A2M	C4'-O4'-C1'	-3.84	106.41	109.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4620	OMU	N3-C2-N1	3.83	119.87	114.89
82	S2	668	A2M	C4'-O4'-C1'	-3.82	106.42	109.92
82	S2	1248	B8N	C1'-C5-C4	3.81	123.39	117.61
82	S2	27	A2M	C1'-N9-C4	-3.81	119.95	126.64
2	L5	4306	OMU	N3-C2-N1	3.80	119.83	114.89
82	S2	1442	OMU	N3-C2-N1	3.80	119.83	114.89
2	L5	2401	A2M	C4'-O4'-C1'	-3.77	106.47	109.92
2	L5	1871	A2M	C1'-N9-C4	-3.76	120.03	126.64
2	L5	3718	A2M	C1'-N9-C4	-3.76	120.03	126.64
82	S2	1326	OMU	N3-C2-N1	3.75	119.77	114.89
82	S2	99	A2M	C1'-N9-C4	-3.74	120.06	126.64
82	S2	116	OMU	N3-C2-N1	3.74	119.76	114.89
2	L5	400	A2M	C4'-O4'-C1'	-3.72	106.52	109.92
2	L5	4523	A2M	C3'-C2'-C1'	-3.71	95.70	102.81
2	L5	3925	OMU	C5-C4-N3	3.71	120.00	114.80
2	L5	3825	A2M	C1'-N9-C4	-3.70	120.14	126.64
82	S2	468	A2M	C1'-N9-C4	-3.70	120.14	126.64
82	S2	627	OMU	N3-C2-N1	3.69	119.69	114.89
2	L5	1534	A2M	C1'-N9-C4	-3.68	120.17	126.64
82	S2	627	OMU	C5-C4-N3	3.68	119.95	114.80
2	L5	398	A2M	C3'-C2'-C1'	-3.64	95.83	102.81
82	S2	1326	OMU	C5-C4-N3	3.63	119.89	114.80
82	S2	159	A2M	C1'-N9-C4	-3.63	120.26	126.64
2	L5	2837	OMU	C5-C4-N3	3.61	119.86	114.80
2	L5	4220	6MZ	C2-N1-C6	3.61	119.40	116.60
2	L5	4227	OMU	C5-C4-N3	3.60	119.84	114.80
82	S2	1383	A2M	O3'-C3'-C2'	3.59	121.22	111.19
2	L5	4220	6MZ	C9-N6-C6	-3.58	119.53	122.85
2	L5	4306	OMU	C5-C4-N3	3.57	119.81	114.80
82	S2	1850	MA6	C2-N1-C6	3.57	120.34	116.84
82	S2	576	A2M	C1'-N9-C4	-3.54	120.43	126.64
2	L5	4530	UR3	C5-C4-N3	3.53	119.69	115.04
2	L5	4620	OMU	C5-C4-N3	3.53	119.74	114.80
82	S2	1442	OMU	C5-C4-N3	3.53	119.74	114.80
82	S2	1248	B8N	N3-C2-N1	3.52	121.02	116.72
82	S2	428	OMU	C5-C4-N3	3.51	119.71	114.80
82	S2	354	OMU	C5-C4-N3	3.50	119.71	114.80
2	L5	2363	A2M	C1'-N9-C4	-3.50	120.49	126.64
2	L5	4498	OMU	C5-C4-N3	3.50	119.70	114.80
2	L5	400	A2M	C1'-N9-C4	-3.50	120.49	126.64
82	S2	1288	OMU	C5-C4-N3	3.49	119.69	114.80
82	S2	172	OMU	C5-C4-N3	3.49	119.69	114.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	484	A2M	C1'-N9-C4	-3.47	120.54	126.64
82	S2	799	OMU	C5-C4-N3	3.46	119.65	114.80
2	L5	3830	A2M	C3'-C2'-C1'	-3.46	96.19	102.81
2	L5	3867	A2M	C1'-N9-C4	-3.45	120.57	126.64
2	L5	398	A2M	O3'-C3'-C2'	3.44	120.81	111.19
82	S2	166	A2M	O3'-C3'-C2'	3.43	120.79	111.19
2	L5	2815	A2M	C4'-O4'-C1'	-3.42	106.80	109.92
82	S2	1851	MA6	C2-N1-C6	3.41	120.18	116.84
2	L5	1534	A2M	C3'-C2'-C1'	-3.39	96.33	102.81
2	L5	3818	UY1	C6-C5-C4	3.37	120.45	118.17
82	S2	576	A2M	O3'-C3'-C2'	3.36	120.60	111.19
2	L5	1536	PSU	O2-C2-N1	-3.36	119.32	122.79
82	S2	116	OMU	C5-C4-N3	3.33	119.47	114.80
2	L5	1326	A2M	C1'-N9-C4	-3.33	120.80	126.64
82	S2	121	OMU	C5-C4-N3	3.32	119.45	114.80
2	L5	3867	A2M	C4'-O4'-C1'	-3.31	106.89	109.92
82	S2	166	A2M	C3'-C2'-C1'	-3.30	96.48	102.81
2	L5	1326	A2M	C4'-O4'-C1'	-3.30	106.90	109.92
2	L5	3825	A2M	O3'-C3'-C2'	3.26	120.32	111.19
2	L5	4571	A2M	O3'-C3'-C2'	3.26	120.31	111.19
82	S2	484	A2M	O3'-C3'-C2'	3.25	120.27	111.19
2	L5	1524	A2M	O3'-C3'-C2'	3.24	120.26	111.19
82	S2	1031	A2M	C3'-C2'-C1'	-3.22	96.63	102.81
2	L5	2787	A2M	C1'-N9-C4	-3.22	120.98	126.64
2	L5	2787	A2M	O3'-C3'-C2'	3.22	120.20	111.19
2	L5	4590	A2M	C3'-C2'-C1'	-3.21	96.66	102.81
82	S2	159	A2M	O3'-C3'-C2'	3.19	120.11	111.19
2	L5	2401	A2M	O3'-C3'-C2'	3.18	120.08	111.19
2	L5	4590	A2M	O3'-C3'-C2'	3.17	120.06	111.19
2	L5	3718	A2M	C3'-C2'-C1'	-3.17	96.75	102.81
82	S2	1031	A2M	O3'-C3'-C2'	3.16	120.03	111.19
2	L5	3830	A2M	O3'-C3'-C2'	3.16	120.02	111.19
2	L5	4689	PSU	C6-N1-C2	-3.15	119.77	122.69
2	L5	400	A2M	O3'-C3'-C2'	3.14	119.98	111.19
2	L5	1871	A2M	C3'-C2'-C1'	-3.13	96.82	102.81
2	L5	1524	A2M	C1'-N9-C4	-3.12	121.16	126.64
82	S2	99	A2M	O3'-C3'-C2'	3.09	119.83	111.19
2	L5	3718	A2M	O3'-C3'-C2'	3.08	119.80	111.19
82	S2	468	A2M	O3'-C3'-C2'	3.06	119.75	111.19
82	S2	159	A2M	C4'-O4'-C1'	-3.06	107.13	109.92
2	L5	2861	OMC	C1'-N1-C2	3.05	125.18	118.44
82	S2	99	A2M	C3'-C2'-C1'	-3.05	96.97	102.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	576	A2M	C3'-C2'-C1'	-3.04	96.99	102.81
2	L5	2363	A2M	C3'-C2'-C1'	-3.03	97.00	102.81
2	L5	3818	UY1	C6-N1-C2	-3.03	119.88	122.69
2	L5	1683	PSU	O2-C2-N1	-3.03	119.67	122.79
2	L5	4689	PSU	O2-C2-N1	-3.02	119.67	122.79
2	L5	3808	OMC	C1'-N1-C2	3.01	125.09	118.44
82	S2	1442	OMU	O4-C4-C5	-3.01	119.97	125.16
82	S2	627	OMU	O4-C4-C5	-3.01	119.98	125.16
2	L5	2837	OMU	O4-C4-C5	-3.00	119.99	125.16
82	S2	668	A2M	O4'-C1'-C2'	2.98	111.69	106.61
2	L5	1326	A2M	O3'-C3'-C2'	2.98	119.52	111.19
82	S2	27	A2M	O3'-C3'-C2'	2.98	119.52	111.19
82	S2	1326	OMU	O4-C4-C5	-2.96	120.05	125.16
82	S2	27	A2M	C3'-C2'-C1'	-2.96	97.14	102.81
82	S2	172	OMU	O4-C4-C5	-2.95	120.07	125.16
2	L5	4227	OMU	O4-C4-C5	-2.94	120.09	125.16
2	L5	1323	A2M	C2'-C1'-N9	2.93	119.07	112.56
82	S2	1639	G7M	C2-N1-C6	-2.93	119.74	125.11
82	S2	428	OMU	O4-C4-C5	-2.93	120.11	125.16
2	L5	4493	PSU	O2-C2-N1	-2.92	119.78	122.79
2	L5	3822	PSU	O2-C2-N1	-2.92	119.78	122.79
4	L8	55	PSU	O2-C2-N1	-2.92	119.78	122.79
2	L5	4628	PSU	O2-C2-N1	-2.91	119.79	122.79
82	S2	668	A2M	O3'-C3'-C2'	2.90	119.32	111.19
2	L5	2815	A2M	O3'-C3'-C2'	2.90	119.29	111.19
2	L5	4523	A2M	O3'-C3'-C2'	2.90	119.29	111.19
2	L5	3785	A2M	O3'-C3'-C2'	2.90	119.29	111.19
2	L5	3637	PSU	C6-N1-C2	-2.89	120.00	122.69
2	L5	2787	A2M	O4'-C1'-C2'	2.89	111.54	106.61
2	L5	4442	PSU	O2-C2-N1	-2.89	119.81	122.79
82	S2	159	A2M	C3'-C2'-C1'	-2.88	97.29	102.81
2	L5	1782	PSU	O2-C2-N1	-2.87	119.83	122.79
82	S2	109	PSU	O2-C2-N1	-2.87	119.83	122.79
2	L5	3925	OMU	O4-C4-C5	-2.86	120.23	125.16
82	S2	1177	PSU	O2-C2-N1	-2.86	119.84	122.79
2	L5	4403	PSU	O2-C2-N1	-2.85	119.84	122.79
82	S2	1367	PSU	O2-C2-N1	-2.85	119.85	122.79
2	L5	3825	A2M	C3'-C2'-C1'	-2.85	97.36	102.81
2	L5	4673	PSU	O2-C2-N1	-2.85	119.85	122.79
2	L5	1871	A2M	O3'-C3'-C2'	2.84	119.15	111.19
2	L5	4636	PSU	O2-C2-N1	-2.83	119.87	122.79
82	S2	799	OMU	O4-C4-C5	-2.83	120.28	125.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4431	PSU	O2-C2-N1	-2.83	119.87	122.79
82	S2	866	PSU	O2-C2-N1	-2.83	119.87	122.79
2	L5	4498	OMU	O4-C4-C5	-2.82	120.30	125.16
2	L5	1323	A2M	O4'-C1'-C2'	2.81	111.41	106.61
82	S2	1288	OMU	O4-C4-C5	-2.81	120.31	125.16
2	L5	2815	A2M	C1'-N9-C4	-2.81	121.70	126.64
2	L5	4620	OMU	O4-C4-C5	-2.81	120.31	125.16
2	L5	4532	PSU	O2-C2-N1	-2.81	119.89	122.79
2	L5	4500	PSU	O2-C2-N1	-2.81	119.89	122.79
82	S2	681	PSU	O2-C2-N1	-2.80	119.90	122.79
82	S2	121	OMU	O4-C4-C5	-2.80	120.33	125.16
2	L5	4306	OMU	O4-C4-C5	-2.80	120.34	125.16
82	S2	801	PSU	O2-C2-N1	-2.78	119.92	122.79
2	L5	4353	PSU	O2-C2-N1	-2.77	119.93	122.79
2	L5	3844	PSU	O2-C2-N1	-2.77	119.93	122.79
2	L5	3867	A2M	O3'-C3'-C2'	2.77	118.93	111.19
82	S2	105	PSU	O2-C2-N1	-2.77	119.93	122.79
2	L5	1534	A2M	O3'-C3'-C2'	2.77	118.93	111.19
2	L5	4299	PSU	O2-C2-N1	-2.77	119.94	122.79
2	L5	1677	PSU	O2-C2-N1	-2.76	119.94	122.79
2	L5	4576	PSU	O2-C2-N1	-2.76	119.95	122.79
4	L8	69	PSU	O2-C2-N1	-2.75	119.95	122.79
2	L5	4972	PSU	O2-C2-N1	-2.75	119.95	122.79
2	L5	4457	PSU	O2-C2-N1	-2.74	119.96	122.79
2	L5	3884	PSU	O2-C2-N1	-2.74	119.96	122.79
82	S2	354	OMU	O4-C4-C5	-2.74	120.44	125.16
82	S2	406	PSU	O2-C2-N1	-2.74	119.96	122.79
2	L5	4296	PSU	O2-C2-N1	-2.74	119.97	122.79
82	S2	468	A2M	C3'-C2'-C1'	-2.73	97.57	102.81
2	L5	3785	A2M	C3'-C2'-C1'	-2.73	97.57	102.81
2	L5	4471	PSU	O2-C2-N1	-2.72	119.98	122.79
82	S2	651	PSU	O2-C2-N1	-2.72	119.98	122.79
82	S2	1056	PSU	O2-C2-N1	-2.72	119.98	122.79
2	L5	4571	A2M	C3'-C2'-C1'	-2.72	97.60	102.81
82	S2	1045	PSU	O2-C2-N1	-2.71	119.99	122.79
82	S2	814	PSU	O2-C2-N1	-2.71	119.99	122.79
82	S2	116	OMU	O4-C4-C5	-2.71	120.48	125.16
2	L5	1524	A2M	O4'-C1'-C2'	2.71	111.23	106.61
2	L5	4521	PSU	O2-C2-N1	-2.71	120.00	122.79
82	S2	966	PSU	O2-C2-N1	-2.70	120.00	122.79
2	L5	2839	PSU	O2-C2-N1	-2.70	120.01	122.79
82	S2	1248	B8N	O4-C4-N3	-2.69	115.62	119.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	2363	A2M	O3'-C3'-C2'	2.69	118.72	111.19
2	L5	4552	PSU	O2-C2-N1	-2.69	120.01	122.79
2	L5	1323	A2M	O3'-C3'-C2'	2.69	118.71	111.19
2	L5	1677	PSU	C6-C5-C4	2.69	119.99	118.17
2	L5	3920	PSU	O2-C2-N1	-2.69	120.02	122.79
2	L5	1860	PSU	O2-C2-N1	-2.68	120.02	122.79
82	S2	1244	PSU	O2-C2-N1	-2.68	120.02	122.79
82	S2	686	PSU	O2-C2-N1	-2.68	120.02	122.79
82	S2	1174	PSU	O2-C2-N1	-2.68	120.02	122.79
2	L5	1582	PSU	C6-N1-C2	-2.68	120.20	122.69
2	L5	4973	PSU	O2-C2-N1	-2.68	120.03	122.79
2	L5	5010	PSU	O2-C2-N1	-2.66	120.04	122.79
82	S2	1232	PSU	O2-C2-N1	-2.65	120.05	122.79
2	L5	1862	PSU	O2-C2-N1	-2.65	120.06	122.79
2	L5	1326	A2M	C2'-C1'-N9	2.64	118.43	112.56
2	L5	1781	PSU	O2-C2-N1	-2.64	120.07	122.79
2	L5	4576	PSU	C6-N1-C2	-2.64	120.24	122.69
2	L5	1744	PSU	O2-C2-N1	-2.64	120.07	122.79
2	L5	400	A2M	C3'-C2'-C1'	-2.64	97.76	102.81
2	L5	3785	A2M	O4'-C1'-N9	2.63	112.23	108.75
82	S2	406	PSU	C6-N1-C2	-2.63	120.25	122.69
2	L5	4579	PSU	O2-C2-N1	-2.63	120.08	122.79
82	S2	93	PSU	O2-C2-N1	-2.63	120.08	122.79
2	L5	1582	PSU	O2-C2-N1	-2.62	120.08	122.79
2	L5	4361	PSU	O2-C2-N1	-2.62	120.09	122.79
2	L5	2632	PSU	C6-C5-C4	2.61	119.94	118.17
2	L5	1792	PSU	O2-C2-N1	-2.61	120.10	122.79
2	L5	3639	PSU	O2-C2-N1	-2.60	120.11	122.79
2	L5	3637	PSU	O2-C2-N1	-2.59	120.11	122.79
2	L5	2632	PSU	O2-C2-N1	-2.59	120.12	122.79
2	L5	4471	PSU	C6-N1-C2	-2.59	120.29	122.69
2	L5	4293	PSU	O2-C2-N1	-2.58	120.13	122.79
2	L5	3853	PSU	O2-C2-N1	-2.58	120.13	122.79
2	L5	4636	PSU	C6-C5-C4	2.57	119.91	118.17
2	L5	4431	PSU	C6-N1-C2	-2.56	120.31	122.69
82	S2	1046	PSU	O2-C2-N1	-2.56	120.15	122.79
82	S2	801	PSU	C6-N1-C2	-2.56	120.32	122.69
82	S2	1367	PSU	C6-N1-C2	-2.55	120.32	122.69
2	L5	1677	PSU	C6-N1-C2	-2.55	120.32	122.69
2	L5	3851	PSU	O2-C2-N1	-2.55	120.16	122.79
82	S2	681	PSU	C6-N1-C2	-2.54	120.33	122.69
2	L5	4628	PSU	C6-N1-C2	-2.54	120.33	122.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	1004	PSU	O2-C2-N1	-2.54	120.17	122.79
82	S2	484	A2M	O4'-C4'-C3'	2.53	110.18	105.15
2	L5	4973	PSU	C6-N1-C2	-2.53	120.34	122.69
2	L5	1782	PSU	C6-N1-C2	-2.52	120.35	122.69
2	L5	4442	PSU	O4'-C1'-C2'	2.52	108.63	105.15
4	L8	55	PSU	C6-N1-C2	-2.52	120.36	122.69
2	L5	1683	PSU	C6-N1-C2	-2.51	120.36	122.69
2	L5	4312	PSU	O2-C2-N1	-2.51	120.20	122.79
2	L5	2351	OMC	C1'-N1-C2	2.51	123.98	118.44
2	L5	1536	PSU	C6-N1-C2	-2.50	120.37	122.69
2	L5	4579	PSU	C6-N1-C2	-2.50	120.37	122.69
2	L5	4500	PSU	C6-N1-C2	-2.49	120.38	122.69
82	S2	484	A2M	O4'-C1'-C2'	2.49	110.86	106.61
2	L5	1522	OMG	O6-C6-C5	2.49	129.26	124.32
2	L5	4673	PSU	C6-N1-C2	-2.49	120.38	122.69
2	L5	3867	A2M	C2'-C1'-N9	2.49	118.08	112.56
2	L5	4196	OMG	O6-C6-C5	2.49	129.25	124.32
2	L5	3818	UY1	O2-C2-N1	-2.48	120.23	122.79
82	S2	649	PSU	O2-C2-N1	-2.48	120.23	122.79
82	S2	1177	PSU	C6-N1-C2	-2.48	120.39	122.69
82	S2	1081	PSU	O2-C2-N1	-2.48	120.23	122.79
2	L5	2401	A2M	C3'-C2'-C1'	-2.47	98.07	102.81
2	L5	4442	PSU	C6-N1-C2	-2.47	120.40	122.69
2	L5	1323	A2M	C3'-C2'-C1'	-2.47	98.08	102.81
2	L5	3695	PSU	O2-C2-N1	-2.47	120.24	122.79
2	L5	3822	PSU	O4'-C1'-C2'	2.47	108.57	105.15
2	L5	4552	PSU	C6-N1-C2	-2.47	120.40	122.69
2	L5	4637	OMG	O6-C6-C5	2.46	129.20	124.32
2	L5	3830	A2M	C4-C5-N7	2.46	111.94	109.34
82	S2	1232	PSU	C6-N1-C2	-2.46	120.41	122.69
2	L5	2824	OMC	C1'-N1-C2	2.46	123.87	118.44
82	S2	105	PSU	C6-N1-C2	-2.45	120.42	122.69
2	L5	2815	A2M	C4-C5-N7	2.45	111.92	109.34
4	L8	69	PSU	C6-N1-C2	-2.45	120.42	122.69
2	L5	5001	PSU	O2-C2-N1	-2.44	120.27	122.79
2	L5	4493	PSU	C6-N1-C2	-2.44	120.42	122.69
2	L5	1534	A2M	C4-C5-N7	2.44	111.92	109.34
2	L5	4392	OMG	O6-C6-C5	2.43	129.15	124.32
2	L5	1326	A2M	O4'-C1'-C2'	2.43	110.75	106.61
2	L5	1524	A2M	C4-C5-N7	2.42	111.90	109.34
82	S2	644	OMG	O6-C6-C5	2.42	129.13	124.32
82	S2	509	OMG	O6-C6-C5	2.42	129.12	124.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	863	PSU	O2-C2-N1	-2.42	120.30	122.79
2	L5	3627	OMG	O6-C6-C5	2.42	129.11	124.32
2	L5	3822	PSU	C6-N1-C2	-2.41	120.45	122.69
82	S2	436	OMG	O6-C6-C5	2.41	129.10	124.32
2	L5	4457	PSU	C6-N1-C2	-2.41	120.45	122.69
2	L5	4532	PSU	C6-N1-C2	-2.41	120.45	122.69
2	L5	4523	A2M	C4-C5-N7	2.41	111.88	109.34
82	S2	109	PSU	C6-N1-C2	-2.41	120.46	122.69
2	L5	4456	OMC	C1'-N1-C2	2.39	123.73	118.44
2	L5	4571	A2M	O4'-C1'-C2'	2.39	110.68	106.61
2	L5	4623	OMG	O6-C6-C5	2.39	129.06	124.32
82	S2	166	A2M	C4-C5-N7	2.39	111.86	109.34
2	L5	4228	OMG	O6-C6-C5	2.38	129.05	124.32
2	L5	4353	PSU	C6-N1-C2	-2.38	120.48	122.69
2	L5	1862	PSU	C6-N1-C2	-2.38	120.48	122.69
2	L5	4571	A2M	C4-C5-N7	2.38	111.85	109.34
82	S2	1244	PSU	C6-N1-C2	-2.38	120.48	122.69
2	L5	3844	PSU	C6-N1-C2	-2.38	120.48	122.69
2	L5	4499	OMG	O6-C6-C5	2.38	129.03	124.32
4	L8	75	OMG	O6-C6-C5	2.38	129.03	124.32
82	S2	99	A2M	C4-C5-N7	2.38	111.85	109.34
82	S2	651	PSU	C6-N1-C2	-2.38	120.49	122.69
82	S2	462	OMC	C1'-N1-C2	2.38	123.69	118.44
2	L5	4494	OMG	O6-C6-C5	2.37	129.03	124.32
2	L5	2787	A2M	O4'-C4'-C3'	2.37	109.86	105.15
2	L5	4370	OMG	O6-C6-C5	2.37	129.03	124.32
2	L5	1871	A2M	C4-C5-N7	2.37	111.84	109.34
2	L5	2363	A2M	C4-C5-N7	2.37	111.84	109.34
2	L5	2787	A2M	C4-C5-N7	2.36	111.83	109.34
2	L5	4530	UR3	C6-N1-C2	-2.36	119.87	121.80
2	L5	2401	A2M	O4'-C1'-C2'	2.36	110.63	106.61
82	S2	1328	OMG	O6-C6-C5	2.36	129.00	124.32
2	L5	1871	A2M	O4'-C1'-C2'	2.36	110.63	106.61
2	L5	2401	A2M	C4-C5-N7	2.36	111.83	109.34
82	S2	468	A2M	C4-C5-N7	2.36	111.83	109.34
2	L5	4293	PSU	C6-N1-C2	-2.36	120.50	122.69
82	S2	1272	OMC	C1'-N1-C2	2.36	123.64	118.44
82	S2	867	OMG	O6-C6-C5	2.35	128.99	124.32
2	L5	3884	PSU	C6-N1-C2	-2.35	120.51	122.69
2	L5	2424	OMG	O6-C6-C5	2.34	128.96	124.32
82	S2	576	A2M	C4-C5-N7	2.34	111.81	109.34
82	S2	601	OMG	O6-C6-C5	2.34	128.95	124.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	2364	OMG	O6-C6-C5	2.33	128.95	124.32
2	L5	1781	PSU	C6-N1-C2	-2.33	120.53	122.69
2	L5	4296	PSU	C6-N1-C2	-2.33	120.53	122.69
2	L5	3867	A2M	C4-C5-N7	2.33	111.80	109.34
2	L5	4442	PSU	C6-C5-C4	2.33	119.75	118.17
2	L5	3851	PSU	C6-N1-C2	-2.33	120.53	122.69
82	S2	428	OMU	O2-C2-N1	-2.33	119.77	122.80
82	S2	93	PSU	C6-N1-C2	-2.33	120.53	122.69
2	L5	2839	PSU	C6-N1-C2	-2.32	120.54	122.69
82	S2	814	PSU	C6-N1-C2	-2.32	120.54	122.69
2	L5	4590	A2M	C4-C5-N7	2.32	111.79	109.34
82	S2	166	A2M	O4'-C1'-C2'	2.32	110.56	106.61
82	S2	866	PSU	C6-N1-C2	-2.32	120.54	122.69
2	L5	2861	OMC	C1'-N1-C6	-2.32	115.83	120.78
2	L5	3792	OMG	O6-C6-C5	2.32	128.91	124.32
2	L5	3867	A2M	C3'-C2'-C1'	-2.31	98.37	102.81
2	L5	1323	A2M	C4-C5-N7	2.31	111.78	109.34
2	L5	3744	OMG	O6-C6-C5	2.31	128.90	124.32
2	L5	3808	OMC	C1'-N1-C6	-2.31	115.85	120.78
2	L5	4972	PSU	C6-N1-C2	-2.30	120.56	122.69
2	L5	3695	PSU	C6-N1-C2	-2.30	120.56	122.69
2	L5	1316	OMG	O6-C6-C5	2.30	128.88	124.32
2	L5	3718	A2M	C4-C5-N7	2.30	111.77	109.34
2	L5	3639	PSU	C6-N1-C2	-2.30	120.56	122.69
2	L5	1326	A2M	C4-C5-N7	2.30	111.77	109.34
82	S2	1045	PSU	C6-N1-C2	-2.30	120.56	122.69
2	L5	4227	OMU	O2-C2-N1	-2.30	119.81	122.80
2	L5	3785	A2M	C4-C5-N7	2.30	111.76	109.34
82	S2	159	A2M	C4-C5-N7	2.30	111.76	109.34
82	S2	1081	PSU	C6-N1-C2	-2.29	120.56	122.69
82	S2	354	OMU	O2-C2-N1	-2.29	119.81	122.80
82	S2	1056	PSU	C6-N1-C2	-2.29	120.57	122.69
82	S2	1248	B8N	O4'-C1'-C2'	2.29	108.32	105.15
2	L5	4403	PSU	O4'-C1'-C2'	2.29	108.32	105.15
82	S2	683	OMG	O6-C6-C5	2.29	128.85	124.32
82	S2	27	A2M	O4'-C1'-C2'	2.28	110.50	106.61
2	L5	4618	OMG	O6-C6-C5	2.28	128.85	124.32
2	L5	400	A2M	C4-C5-N7	2.28	111.75	109.34
2	L5	3899	OMG	O6-C6-C5	2.28	128.85	124.32
82	S2	1081	PSU	C6-C5-C4	2.28	119.71	118.17
2	L5	1322	1MA	C5-C6-N1	-2.28	110.68	113.95
82	S2	484	A2M	C4-C5-N7	2.28	111.74	109.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	686	PSU	C6-N1-C2	-2.28	120.58	122.69
2	L5	1744	PSU	C6-N1-C2	-2.27	120.59	122.69
2	L5	4299	PSU	C6-N1-C2	-2.27	120.59	122.69
2	L5	1792	PSU	C6-N1-C2	-2.26	120.59	122.69
2	L5	2632	PSU	C6-N1-C2	-2.26	120.59	122.69
2	L5	5001	PSU	C6-N1-C2	-2.26	120.59	122.69
82	S2	1046	PSU	C6-N1-C2	-2.26	120.60	122.69
2	L5	1625	OMG	O6-C6-C5	2.26	128.79	124.32
82	S2	159	A2M	O3'-C3'-C4'	-2.25	104.61	111.08
2	L5	400	A2M	O4'-C1'-C2'	2.25	110.45	106.61
2	L5	3825	A2M	C4-C5-N7	2.25	111.72	109.34
82	S2	1031	A2M	C4-C5-N7	2.25	111.72	109.34
2	L5	4590	A2M	O4'-C1'-C2'	2.25	110.44	106.61
2	L5	398	A2M	C4-C5-N7	2.25	111.71	109.34
2	L5	3825	A2M	O4'-C1'-C2'	2.24	110.43	106.61
2	L5	4403	PSU	C6-N1-C2	-2.24	120.61	122.69
2	L5	4498	OMU	O2-C2-N1	-2.24	119.88	122.80
82	S2	1004	PSU	C6-N1-C2	-2.24	120.61	122.69
82	S2	468	A2M	O4'-C1'-C2'	2.24	110.42	106.61
2	L5	2876	OMG	O6-C6-C5	2.24	128.75	124.32
82	S2	27	A2M	C4-C5-N7	2.23	111.70	109.34
82	S2	1383	A2M	C4-C5-N7	2.23	111.69	109.34
82	S2	668	A2M	C4-C5-N7	2.23	111.69	109.34
2	L5	3925	OMU	O2-C2-N1	-2.22	119.90	122.80
2	L5	4296	PSU	C6-C5-C4	2.22	119.67	118.17
2	L5	4636	PSU	C6-N1-C2	-2.21	120.64	122.69
2	L5	1534	A2M	C2'-C1'-N9	2.21	117.46	112.56
2	L5	3920	PSU	C6-N1-C2	-2.20	120.65	122.69
2	L5	1860	PSU	C6-N1-C2	-2.20	120.65	122.69
2	L5	2815	A2M	C2'-C1'-N9	2.20	117.43	112.56
82	S2	966	PSU	C6-N1-C2	-2.19	120.66	122.69
82	S2	484	A2M	C4'-O4'-C1'	-2.19	107.92	109.92
82	S2	1174	PSU	C6-N1-C2	-2.19	120.66	122.69
2	L5	3782	5MC	C1'-N1-C6	-2.18	117.56	121.15
2	L5	2363	A2M	O4'-C1'-C2'	2.18	110.32	106.61
2	L5	4431	PSU	C6-C5-C4	2.18	119.64	118.17
2	L5	3867	A2M	O4'-C1'-C2'	2.17	110.31	106.61
2	L5	1524	A2M	C2'-C1'-N9	2.17	117.38	112.56
2	L5	3830	A2M	O4'-C1'-C2'	2.17	110.30	106.61
2	L5	1322	1MA	N1-C6-N6	2.16	125.14	119.71
82	S2	121	OMU	O2-C2-N1	-2.16	119.98	122.80
2	L5	3822	PSU	C6-C5-C4	2.16	119.63	118.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4361	PSU	C6-N1-C2	-2.16	120.69	122.69
2	L5	1744	PSU	O4'-C1'-C2'	2.16	108.13	105.15
2	L5	4523	A2M	O4'-C1'-C2'	2.15	110.26	106.61
82	S2	668	A2M	O4'-C4'-C3'	2.14	109.41	105.15
82	S2	1326	OMU	O2-C2-N1	-2.14	120.01	122.80
2	L5	3853	PSU	C6-N1-C2	-2.14	120.70	122.69
2	L5	2839	PSU	C6-C5-C4	2.14	119.62	118.17
82	S2	863	PSU	C6-N1-C2	-2.14	120.71	122.69
82	S2	1248	B8N	O4-C4-C5	-2.14	118.88	122.58
2	L5	4457	PSU	O4'-C1'-C2'	2.14	108.11	105.15
2	L5	4576	PSU	O4'-C1'-C2'	2.14	108.11	105.15
82	S2	172	OMU	O2-C2-N1	-2.13	120.02	122.80
2	L5	5010	PSU	C6-N1-C2	-2.13	120.72	122.69
82	S2	799	OMU	C1'-N1-C2	2.12	121.40	117.59
82	S2	1337	4AC	N4-C4-N3	2.12	117.31	113.87
2	L5	1326	A2M	O4'-C4'-C3'	2.12	109.35	105.15
2	L5	4636	PSU	O4'-C1'-C2'	2.11	108.08	105.15
2	L5	1326	A2M	C3'-C2'-C1'	-2.11	98.76	102.81
4	L8	69	PSU	O4'-C1'-C2'	2.10	108.06	105.15
2	L5	3701	OMC	C1'-N1-C2	2.10	123.08	118.44
82	S2	649	PSU	C6-N1-C2	-2.10	120.74	122.69
2	L5	400	A2M	C2'-C1'-N9	2.10	117.22	112.56
2	L5	3695	PSU	O4'-C1'-C2'	2.09	108.05	105.15
2	L5	4972	PSU	O4'-C1'-C2'	2.09	108.05	105.15
2	L5	2837	OMU	O2-C2-N1	-2.09	120.08	122.80
82	S2	866	PSU	C6-C5-C4	2.09	119.58	118.17
82	S2	1248	B8N	C31-N3-C4	2.09	120.13	117.18
82	S2	1031	A2M	O4'-C1'-C2'	2.08	110.15	106.61
2	L5	3841	OMC	C1'-N1-C2	2.07	123.01	118.44
2	L5	1744	PSU	C6-C5-C4	2.06	119.56	118.17
82	S2	116	OMU	O2-C2-N1	-2.06	120.12	122.80
2	L5	4521	PSU	C6-N1-C2	-2.06	120.78	122.69
82	S2	627	OMU	O2-C2-N1	-2.06	120.12	122.80
2	L5	3818	UY1	O4'-C1'-C2'	2.05	108.16	104.56
2	L5	2815	A2M	C3'-C2'-C1'	-2.05	98.88	102.81
82	S2	1288	OMU	O2-C2-N1	-2.05	120.13	122.80
82	S2	166	A2M	C6-C5-C4	-2.05	113.92	117.90
2	L5	4500	PSU	C6-C5-C4	2.05	119.55	118.17
82	S2	1442	OMU	C1'-N1-C2	2.04	121.26	117.59
2	L5	3920	PSU	O4'-C1'-C2'	2.04	107.97	105.15
2	L5	3637	PSU	C6-C5-C4	2.03	119.54	118.17
82	S2	1056	PSU	O4'-C1'-C2'	2.03	107.96	105.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4590	A2M	C6-C5-C4	-2.03	113.96	117.90
82	S2	1703	OMC	C1'-N1-C2	2.02	122.91	118.44
2	L5	2815	A2M	O4'-C4'-C3'	2.02	109.16	105.15
2	L5	4312	PSU	C6-N1-C2	-2.01	120.82	122.69
82	S2	686	PSU	C6-C5-C4	2.01	119.53	118.17
2	L5	4493	PSU	C6-C5-C4	2.01	119.53	118.17
2	L5	4353	PSU	C6-C5-C4	2.01	119.53	118.17
2	L5	4972	PSU	C6-C5-C4	2.01	119.53	118.17
2	L5	398	A2M	O4'-C1'-C2'	2.01	110.03	106.61
82	S2	159	A2M	C2'-C1'-N9	2.01	117.01	112.56

There are no chirality outliers.

All (155) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	L8	75	OMG	C1'-C2'-O2'-CM2
2	L5	400	A2M	C1'-C2'-O2'-CM'
2	L5	1316	OMG	C1'-C2'-O2'-CM2
2	L5	1323	A2M	C1'-C2'-O2'-CM'
2	L5	1326	A2M	O4'-C4'-C5'-O5'
2	L5	1326	A2M	C3'-C4'-C5'-O5'
2	L5	1326	A2M	C1'-C2'-O2'-CM'
2	L5	1340	OMC	C1'-C2'-O2'-CM2
2	L5	1625	OMG	O4'-C4'-C5'-O5'
2	L5	2351	OMC	C1'-C2'-O2'-CM2
2	L5	2364	OMG	O4'-C4'-C5'-O5'
2	L5	2787	A2M	C1'-C2'-O2'-CM'
2	L5	2824	OMC	C1'-C2'-O2'-CM2
2	L5	2861	OMC	C1'-C2'-O2'-CM2
2	L5	3701	OMC	O4'-C4'-C5'-O5'
2	L5	3718	A2M	C1'-C2'-O2'-CM'
2	L5	3744	OMG	C1'-C2'-O2'-CM2
2	L5	3792	OMG	O4'-C4'-C5'-O5'
2	L5	3825	A2M	C1'-C2'-O2'-CM'
2	L5	3830	A2M	C1'-C2'-O2'-CM'
2	L5	3867	A2M	C1'-C2'-O2'-CM'
2	L5	4196	OMG	C1'-C2'-O2'-CM2
2	L5	4220	6MZ	C5-C6-N6-C9
2	L5	4220	6MZ	N1-C6-N6-C9
2	L5	4220	6MZ	O4'-C4'-C5'-O5'
2	L5	4447	5MC	C2'-C1'-N1-C2
2	L5	4447	5MC	C2'-C1'-N1-C6

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Mol	Chain	Res	Type	Atoms
2	L5	4500	PSU	O4'-C4'-C5'-O5'
2	L5	4590	A2M	O4'-C4'-C5'-O5'
2	L5	4590	A2M	C1'-C2'-O2'-CM'
2	L5	4637	OMG	C1'-C2'-O2'-CM2
82	S2	27	A2M	C1'-C2'-O2'-CM'
82	S2	116	OMU	C1'-C2'-O2'-CM2
82	S2	159	A2M	C1'-C2'-O2'-CM'
82	S2	354	OMU	C1'-C2'-O2'-CM2
82	S2	468	A2M	C1'-C2'-O2'-CM'
82	S2	484	A2M	C1'-C2'-O2'-CM'
82	S2	644	OMG	O4'-C4'-C5'-O5'
82	S2	644	OMG	C1'-C2'-O2'-CM2
82	S2	668	A2M	C1'-C2'-O2'-CM'
82	S2	683	OMG	C3'-C4'-C5'-O5'
82	S2	1248	B8N	O4'-C4'-C5'-O5'
82	S2	1272	OMC	O4'-C4'-C5'-O5'
82	S2	1288	OMU	O4'-C4'-C5'-O5'
82	S2	1337	4AC	N3-C4-N4-C7
82	S2	1383	A2M	C1'-C2'-O2'-CM'
82	S2	1442	OMU	O4'-C4'-C5'-O5'
82	S2	1832	6MZ	C5-C6-N6-C9
82	S2	1832	6MZ	N1-C6-N6-C9
82	S2	1832	6MZ	C5'-O5'-P-O1P
82	S2	1832	6MZ	C5'-O5'-P-O3P
82	S2	1851	MA6	C5-C6-N6-C9
82	S2	1248	B8N	N34-C33-C34-O36
2	L5	1323	A2M	O4'-C4'-C5'-O5'
2	L5	1536	PSU	C3'-C4'-C5'-O5'
2	L5	2787	A2M	C3'-C4'-C5'-O5'
2	L5	3701	OMC	C3'-C4'-C5'-O5'
2	L5	4500	PSU	C3'-C4'-C5'-O5'
2	L5	4590	A2M	C3'-C4'-C5'-O5'
2	L5	4618	OMG	C3'-C4'-C5'-O5'
82	S2	517	OMC	C3'-C4'-C5'-O5'
82	S2	517	OMC	O4'-C4'-C5'-O5'
82	S2	801	PSU	C3'-C4'-C5'-O5'
82	S2	1272	OMC	C3'-C4'-C5'-O5'
82	S2	1288	OMU	C3'-C4'-C5'-O5'
82	S2	1832	6MZ	O4'-C4'-C5'-O5'
2	L5	1524	A2M	C3'-C4'-C5'-O5'
2	L5	1536	PSU	O4'-C4'-C5'-O5'
2	L5	1625	OMG	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
2	L5	2422	OMC	C3'-C4'-C5'-O5'
2	L5	3899	OMG	O4'-C4'-C5'-O5'
2	L5	3899	OMG	C3'-C4'-C5'-O5'
2	L5	4618	OMG	O4'-C4'-C5'-O5'
82	S2	576	A2M	O4'-C4'-C5'-O5'
82	S2	683	OMG	O4'-C4'-C5'-O5'
82	S2	1045	PSU	C3'-C4'-C5'-O5'
82	S2	1045	PSU	O4'-C4'-C5'-O5'
82	S2	1442	OMU	C3'-C4'-C5'-O5'
2	L5	3792	OMG	C3'-C4'-C5'-O5'
2	L5	4220	6MZ	C3'-C4'-C5'-O5'
82	S2	1248	B8N	C3'-C4'-C5'-O5'
2	L5	1323	A2M	C3'-C4'-C5'-O5'
2	L5	1524	A2M	O4'-C4'-C5'-O5'
2	L5	2364	OMG	C3'-C4'-C5'-O5'
82	S2	576	A2M	C3'-C4'-C5'-O5'
82	S2	644	OMG	C3'-C4'-C5'-O5'
82	S2	799	OMU	C3'-C4'-C5'-O5'
2	L5	2422	OMC	O4'-C4'-C5'-O5'
2	L5	2787	A2M	O4'-C4'-C5'-O5'
2	L5	4296	PSU	O4'-C4'-C5'-O5'
82	S2	99	A2M	O4'-C4'-C5'-O5'
82	S2	799	OMU	O4'-C4'-C5'-O5'
82	S2	627	OMU	C2'-C1'-N1-C6
2	L5	1534	A2M	C3'-C2'-O2'-CM'
2	L5	4296	PSU	C3'-C4'-C5'-O5'
82	S2	668	A2M	O4'-C4'-C5'-O5'
82	S2	801	PSU	O4'-C4'-C5'-O5'
2	L5	4590	A2M	C4'-C5'-O5'-P
82	S2	1832	6MZ	C5'-O5'-P-O2P
82	S2	1832	6MZ	C3'-C4'-C5'-O5'
82	S2	668	A2M	C3'-C4'-C5'-O5'
82	S2	509	OMG	C1'-C2'-O2'-CM2
82	S2	99	A2M	C3'-C4'-C5'-O5'
82	S2	1383	A2M	O4'-C4'-C5'-O5'
2	L5	3701	OMC	O4'-C1'-N1-C6
82	S2	1383	A2M	C3'-C4'-C5'-O5'
2	L5	4447	5MC	O4'-C1'-N1-C6
82	S2	627	OMU	O4'-C1'-N1-C6
2	L5	3701	OMC	O4'-C1'-N1-C2
2	L5	1534	A2M	C4'-C5'-O5'-P
2	L5	4500	PSU	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
82	S2	576	A2M	C4'-C5'-O5'-P
82	S2	1850	MA6	C5-C6-N6-C10
2	L5	3822	PSU	C3'-C4'-C5'-O5'
82	S2	627	OMU	O4'-C4'-C5'-O5'
82	S2	627	OMU	C2'-C1'-N1-C2
2	L5	3844	PSU	C4'-C5'-O5'-P
2	L5	1677	PSU	O4'-C1'-C5-C4
2	L5	4521	PSU	O4'-C1'-C5-C4
2	L5	4636	PSU	O4'-C1'-C5-C4
2	L5	5010	PSU	O4'-C1'-C5-C4
2	L5	3818	UY1	C4'-C5'-O5'-P
2	L5	3887	OMC	C4'-C5'-O5'-P
82	S2	1081	PSU	C4'-C5'-O5'-P
2	L5	4293	PSU	O4'-C4'-C5'-O5'
2	L5	4447	5MC	O4'-C1'-N1-C2
82	S2	1851	MA6	C4'-C5'-O5'-P
2	L5	4523	A2M	O4'-C4'-C5'-O5'
82	S2	627	OMU	O4'-C1'-N1-C2
82	S2	644	OMG	C4'-C5'-O5'-P
2	L5	1781	PSU	C3'-C4'-C5'-O5'
2	L5	3841	OMC	C1'-C2'-O2'-CM2
82	S2	576	A2M	C1'-C2'-O2'-CM'
82	S2	1490	OMG	C4'-C5'-O5'-P
82	S2	428	OMU	O4'-C1'-N1-C6
2	L5	2815	A2M	O4'-C4'-C5'-O5'
2	L5	4623	OMG	C3'-C4'-C5'-O5'
2	L5	4521	PSU	O4'-C1'-C5-C6
2	L5	5010	PSU	O4'-C1'-C5-C6
82	S2	428	OMU	C2'-C1'-N1-C6
2	L5	1524	A2M	C3'-C2'-O2'-CM'
2	L5	2351	OMC	O4'-C4'-C5'-O5'
2	L5	3887	OMC	C3'-C4'-C5'-O5'
2	L5	3822	PSU	O4'-C4'-C5'-O5'
82	S2	159	A2M	O4'-C4'-C5'-O5'
82	S2	517	OMC	C4'-C5'-O5'-P
2	L5	2815	A2M	C3'-C2'-O2'-CM'
2	L5	1677	PSU	O4'-C4'-C5'-O5'
2	L5	2861	OMC	O4'-C4'-C5'-O5'
2	L5	3851	PSU	C3'-C4'-C5'-O5'
2	L5	4447	5MC	O4'-C4'-C5'-O5'
82	S2	428	OMU	O4'-C4'-C5'-O5'
2	L5	2861	OMC	C2'-C1'-N1-C2

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Mol	Chain	Res	Type	Atoms
82	S2	867	OMG	C4'-C5'-O5'-P
82	S2	1248	B8N	N34-C33-C34-O35

There are no ring outliers.

99 monomers are involved in 163 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	L5	2364	OMG	1	0
82	S2	354	OMU	2	0
2	L5	1677	PSU	1	0
82	S2	159	A2M	1	0
2	L5	4431	PSU	1	0
2	L5	4636	PSU	1	0
82	S2	651	PSU	1	0
82	S2	649	PSU	2	0
2	L5	4457	PSU	1	0
82	S2	109	PSU	1	0
2	L5	1326	A2M	2	0
2	L5	2861	OMC	1	0
2	L5	3844	PSU	1	0
82	S2	668	A2M	2	0
2	L5	1340	OMC	2	0
2	L5	4552	PSU	2	0
2	L5	4536	OMC	1	0
2	L5	4637	OMG	1	0
82	S2	1850	MA6	2	0
2	L5	4972	PSU	1	0
2	L5	1683	PSU	3	0
2	L5	3785	A2M	1	0
2	L5	1534	A2M	1	0
2	L5	2824	OMC	3	0
2	L5	400	A2M	2	0
2	L5	3695	PSU	1	0
2	L5	3718	A2M	4	0
2	L5	3627	OMG	1	0
82	S2	166	A2M	1	0
82	S2	1328	OMG	1	0
82	S2	1004	PSU	2	0
82	S2	1174	PSU	2	0
2	L5	4293	PSU	1	0
2	L5	4196	OMG	1	0
82	S2	174	OMC	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	L5	4220	6MZ	2	0
2	L5	2365	OMC	1	0
2	L5	3818	UY1	2	0
2	L5	3701	OMC	1	0
2	L5	4579	PSU	3	0
2	L5	4353	PSU	1	0
82	S2	484	A2M	2	0
2	L5	4403	PSU	2	0
2	L5	4590	A2M	1	0
82	S2	681	PSU	1	0
82	S2	576	A2M	2	0
2	L5	4973	PSU	1	0
2	L5	1871	A2M	1	0
2	L5	4523	A2M	3	0
2	L5	2787	A2M	1	0
82	S2	1288	OMU	2	0
4	L8	75	OMG	2	0
82	S2	627	OMU	1	0
82	S2	601	OMG	3	0
82	S2	644	OMG	2	0
2	L5	1323	A2M	1	0
82	S2	1337	4AC	3	0
82	S2	1391	OMC	2	0
2	L5	3867	A2M	4	0
82	S2	468	A2M	4	0
2	L5	2837	OMU	1	0
82	S2	867	OMG	1	0
2	L5	4392	OMG	1	0
82	S2	1177	PSU	1	0
2	L5	1316	OMG	2	0
2	L5	3853	PSU	1	0
82	S2	116	OMU	3	0
2	L5	2351	OMC	3	0
2	L5	4620	OMU	3	0
2	L5	2632	PSU	2	0
82	S2	1639	G7M	1	0
82	S2	1832	6MZ	2	0
2	L5	3830	A2M	1	0
2	L5	3869	OMC	1	0
82	S2	27	A2M	1	0
82	S2	436	OMG	1	0
2	L5	4623	OMG	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	L5	4576	PSU	1	0
2	L5	2422	OMC	1	0
82	S2	509	OMG	3	0
2	L5	1625	OMG	1	0
2	L5	2363	A2M	1	0
82	S2	814	PSU	1	0
2	L5	2804	OMC	2	0
2	L5	4689	PSU	2	0
4	L8	69	PSU	1	0
2	L5	4442	PSU	1	0
82	S2	1232	PSU	2	0
2	L5	4456	OMC	1	0
82	S2	121	OMU	1	0
2	L5	3825	A2M	5	0
82	S2	462	OMC	1	0
2	L5	3744	OMG	1	0
2	L5	3841	OMC	1	0
2	L5	3920	PSU	1	0
82	S2	1031	A2M	3	0
2	L5	4299	PSU	2	0
82	S2	1244	PSU	2	0
82	S2	1842	4AC	3	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 244 ligands modelled in this entry, 225 are monoatomic - leaving 19 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
86	SPM	L5	5264	-	13,13,13	0.35	0	12,12,12	0.95	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
87	SPD	L5	5284	-	9,9,9	0.33	0	8,8,8	0.85	0
87	SPD	L5	5262	-	9,9,9	0.33	0	8,8,8	0.95	0
87	SPD	L5	5288	-	9,9,9	0.32	0	8,8,8	0.86	0
86	SPM	L5	5292	-	13,13,13	0.35	0	12,12,12	0.95	0
86	SPM	L5	5265	-	13,13,13	0.35	0	12,12,12	0.99	0
86	SPM	L5	5289	-	13,13,13	0.36	0	12,12,12	0.91	0
87	SPD	L5	5285	-	9,9,9	0.33	0	8,8,8	0.83	0
87	SPD	L5	5286	-	9,9,9	0.33	0	8,8,8	0.82	0
87	SPD	LN	301	-	9,9,9	0.32	0	8,8,8	0.87	0
88	3HE	L5	5296	-	21,21,21	0.41	0	23,30,30	0.93	1 (4%)
87	SPD	L5	5283	-	9,9,9	0.33	0	8,8,8	0.84	0
89	HMT	L5	5297	-	41,43,43	4.55	15 (36%)	43,66,66	2.01	14 (32%)
86	SPM	L5	5268	-	13,13,13	0.35	0	12,12,12	1.01	0
86	SPM	L5	5293	-	13,13,13	0.35	0	12,12,12	0.90	0
87	SPD	L5	5291	-	9,9,9	0.32	0	8,8,8	0.80	0
87	SPD	L5	5287	-	9,9,9	0.32	0	8,8,8	0.87	0
87	SPD	L5	5290	-	9,9,9	0.32	0	8,8,8	0.92	0
86	SPM	L5	5259	-	13,13,13	0.35	0	12,12,12	0.98	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
86	SPM	L5	5264	-	-	3/11/11/11	-
87	SPD	L5	5284	-	-	3/7/7/7	-
87	SPD	L5	5262	-	-	1/7/7/7	-
87	SPD	L5	5288	-	-	2/7/7/7	-
86	SPM	L5	5292	-	-	3/11/11/11	-
86	SPM	L5	5265	-	-	5/11/11/11	-
86	SPM	L5	5289	-	-	5/11/11/11	-
87	SPD	L5	5285	-	-	2/7/7/7	-
87	SPD	L5	5286	-	-	0/7/7/7	-
87	SPD	LN	301	-	-	1/7/7/7	-
88	3HE	L5	5296	-	-	1/8/36/36	0/2/2/2
87	SPD	L5	5283	-	-	1/7/7/7	-
89	HMT	L5	5297	-	-	8/27/74/74	0/5/5/5
86	SPM	L5	5268	-	-	3/11/11/11	-
86	SPM	L5	5293	-	-	1/11/11/11	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
87	SPD	L5	5291	-	-	2/7/7/7	-
87	SPD	L5	5287	-	-	3/7/7/7	-
87	SPD	L5	5290	-	-	2/7/7/7	-
86	SPM	L5	5259	-	-	2/11/11/11	-

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
89	L5	5297	HMT	C8-C7	18.29	1.79	1.52
89	L5	5297	HMT	C7-C6	12.08	1.77	1.51
89	L5	5297	HMT	C5-C4	-10.08	1.36	1.51
89	L5	5297	HMT	C10-N1	7.58	1.57	1.47
89	L5	5297	HMT	C1-C2	7.05	1.43	1.32
89	L5	5297	HMT	O4-C19	5.82	1.45	1.34
89	L5	5297	HMT	C9-N1	-4.87	1.34	1.48
89	L5	5297	HMT	O4-C3	-4.42	1.36	1.44
89	L5	5297	HMT	C12-C9	3.62	1.60	1.54
89	L5	5297	HMT	O3-C2	3.20	1.41	1.35
89	L5	5297	HMT	O7-C22	2.65	1.41	1.33
89	L5	5297	HMT	C3-C2	-2.54	1.44	1.50
89	L5	5297	HMT	O2-C15	2.44	1.42	1.38
89	L5	5297	HMT	O1-C14	2.41	1.42	1.38
89	L5	5297	HMT	C21-C22	2.28	1.55	1.50

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
89	L5	5297	HMT	O4-C19-C20	5.73	121.75	111.24
89	L5	5297	HMT	O7-C22-C21	5.06	120.05	111.16
89	L5	5297	HMT	C3-O4-C19	-3.88	111.14	117.24
89	L5	5297	HMT	O1-C14-C13	3.29	132.23	127.86
89	L5	5297	HMT	O2-C15-C16	3.04	131.90	127.86
89	L5	5297	HMT	C25-C24-C20	-2.83	108.74	115.34
89	L5	5297	HMT	O4-C19-O5	-2.59	119.37	123.95
89	L5	5297	HMT	C17-O1-C14	2.42	108.55	105.32
89	L5	5297	HMT	O5-C19-C20	-2.32	118.88	124.07
89	L5	5297	HMT	C10-N1-C9	-2.19	101.58	107.65
89	L5	5297	HMT	C18-O3-C2	-2.15	112.97	116.53
89	L5	5297	HMT	C13-C5-C6	-2.12	117.08	119.39
89	L5	5297	HMT	C16-C15-C14	-2.10	119.40	122.03
88	L5	5296	3HE	C9-C13-C12	-2.10	110.94	114.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
89	L5	5297	HMT	C17-O2-C15	2.09	108.12	105.32

There are no chirality outliers.

All (48) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
89	L5	5297	HMT	C1-C2-O3-C18
89	L5	5297	HMT	C3-C2-O3-C18
89	L5	5297	HMT	C25-C26-C27-O9
86	L5	5292	SPM	C7-C8-C9-N10
89	L5	5297	HMT	C21-C22-O7-C23
86	L5	5265	SPM	N5-C6-C7-C8
87	L5	5288	SPD	N6-C7-C8-C9
86	L5	5268	SPM	N10-C11-C12-C13
86	L5	5289	SPM	N10-C11-C12-C13
89	L5	5297	HMT	O8-C22-O7-C23
86	L5	5264	SPM	C7-C8-C9-N10
86	L5	5265	SPM	C8-C9-N10-C11
86	L5	5265	SPM	C12-C11-N10-C9
86	L5	5289	SPM	C7-C6-N5-C4
87	L5	5291	SPD	C4-C5-N6-C7
87	L5	5285	SPD	C2-C3-C4-C5
87	L5	5287	SPD	C3-C4-C5-N6
89	L5	5297	HMT	C25-C26-C27-C28
89	L5	5297	HMT	C25-C26-C27-C29
86	L5	5289	SPM	C7-C8-C9-N10
86	L5	5264	SPM	C6-C7-C8-C9
86	L5	5259	SPM	C6-C7-C8-C9
87	L5	5283	SPD	C2-C3-C4-C5
86	L5	5289	SPM	C6-C7-C8-C9
87	L5	5262	SPD	C2-C3-C4-C5
86	L5	5264	SPM	C11-C12-C13-N14
86	L5	5289	SPM	N1-C2-C3-C4
87	L5	5284	SPD	C7-C8-C9-N10
89	L5	5297	HMT	C20-C24-C25-C26
87	L5	5291	SPD	N6-C7-C8-C9
86	L5	5292	SPM	N10-C11-C12-C13
87	L5	5287	SPD	C4-C5-N6-C7
87	L5	5287	SPD	C2-C3-C4-C5
86	L5	5292	SPM	C8-C9-N10-C11
87	L5	5290	SPD	C7-C8-C9-N10
86	L5	5268	SPM	C8-C9-N10-C11

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Mol	Chain	Res	Type	Atoms
87	LN	301	SPD	C8-C7-N6-C5
87	L5	5290	SPD	C2-C3-C4-C5
86	L5	5293	SPM	C7-C6-N5-C4
86	L5	5265	SPM	C7-C6-N5-C4
87	L5	5285	SPD	N6-C7-C8-C9
86	L5	5265	SPM	C6-C7-C8-C9
88	L5	5296	3HE	C7-C8-C9-C10
87	L5	5284	SPD	C8-C7-N6-C5
86	L5	5259	SPM	C11-C12-C13-N14
87	L5	5288	SPD	C7-C8-C9-N10
87	L5	5284	SPD	N1-C2-C3-C4
86	L5	5268	SPM	C7-C8-C9-N10

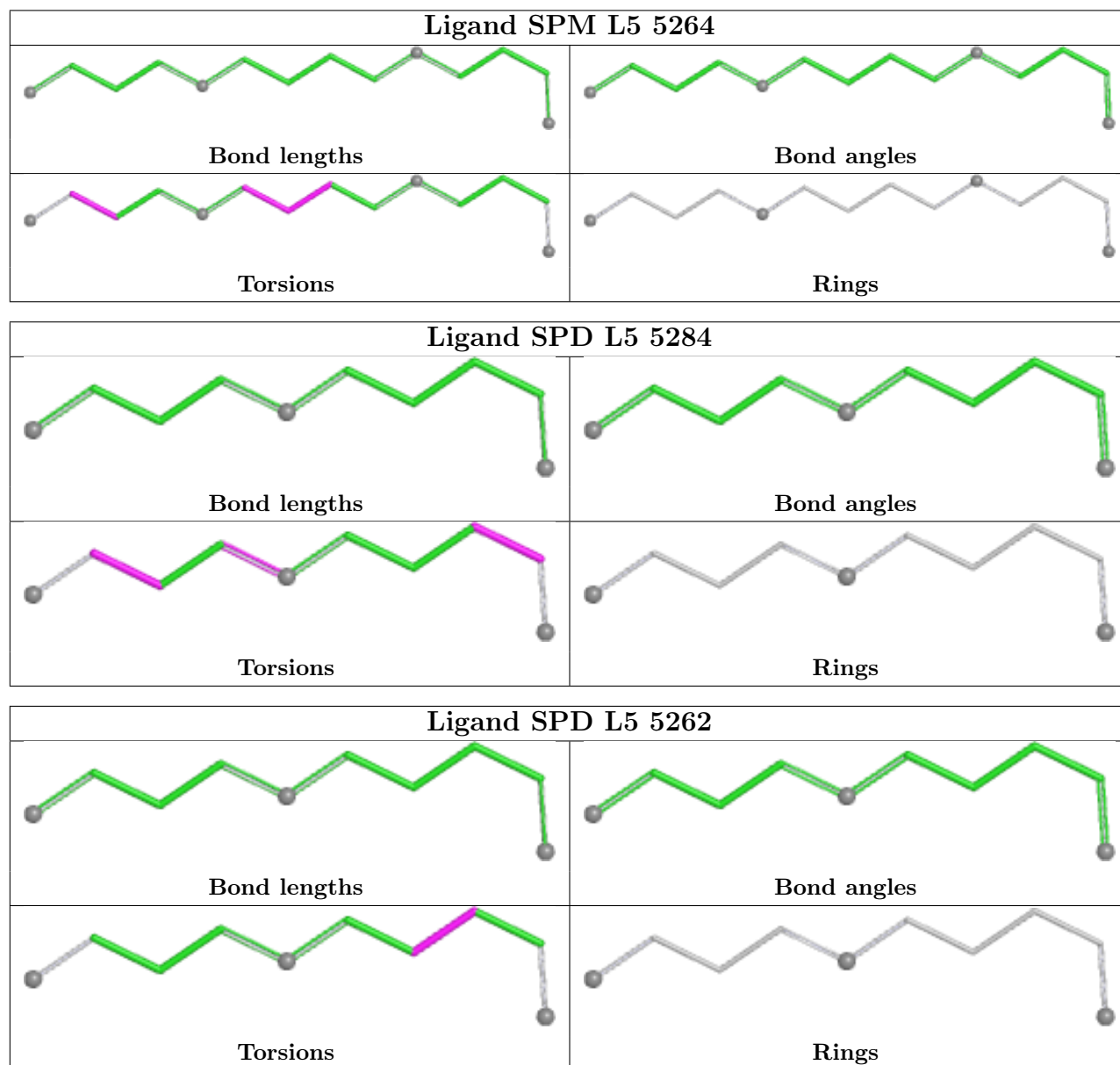
There are no ring outliers.

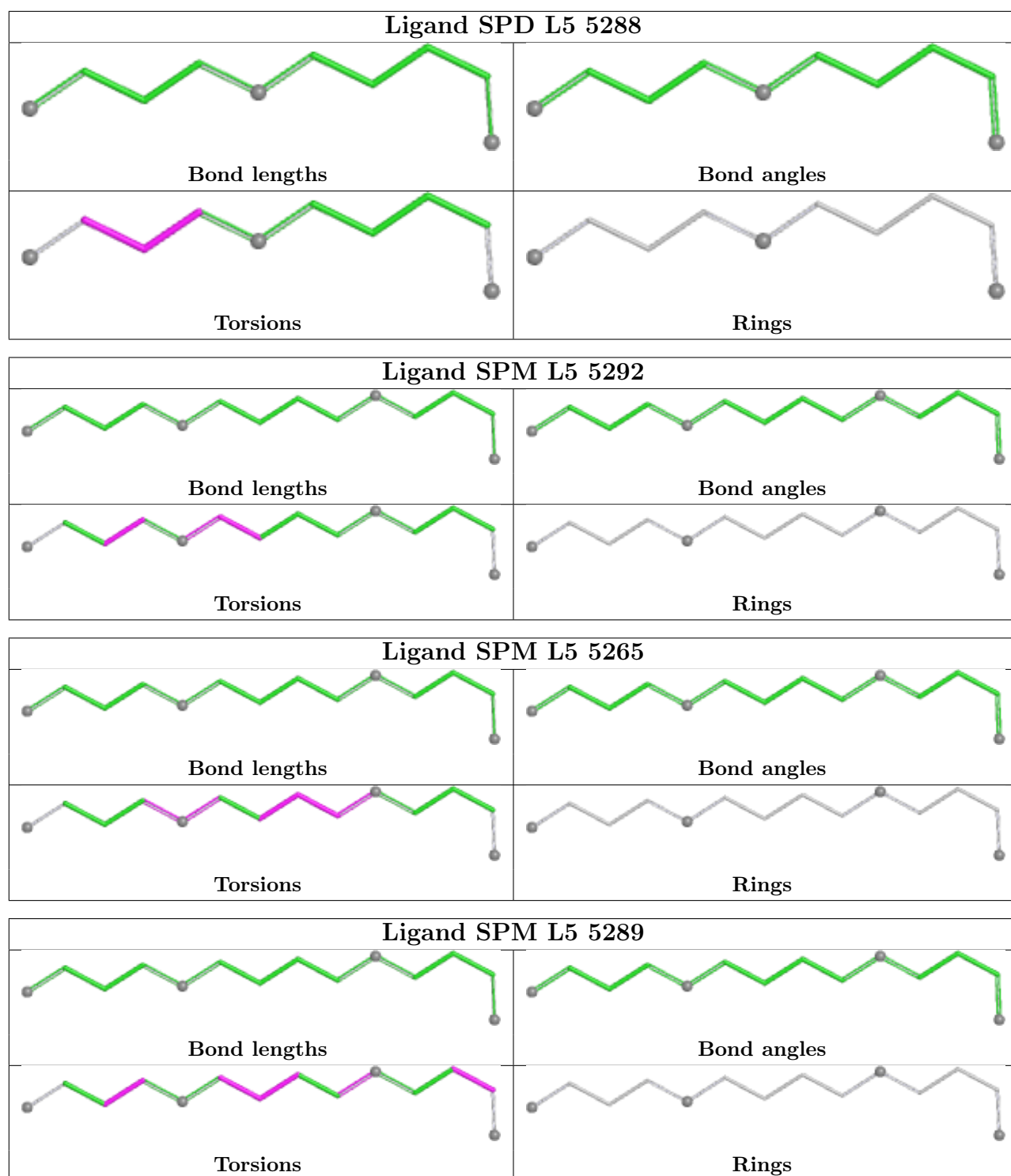
16 monomers are involved in 29 short contacts:

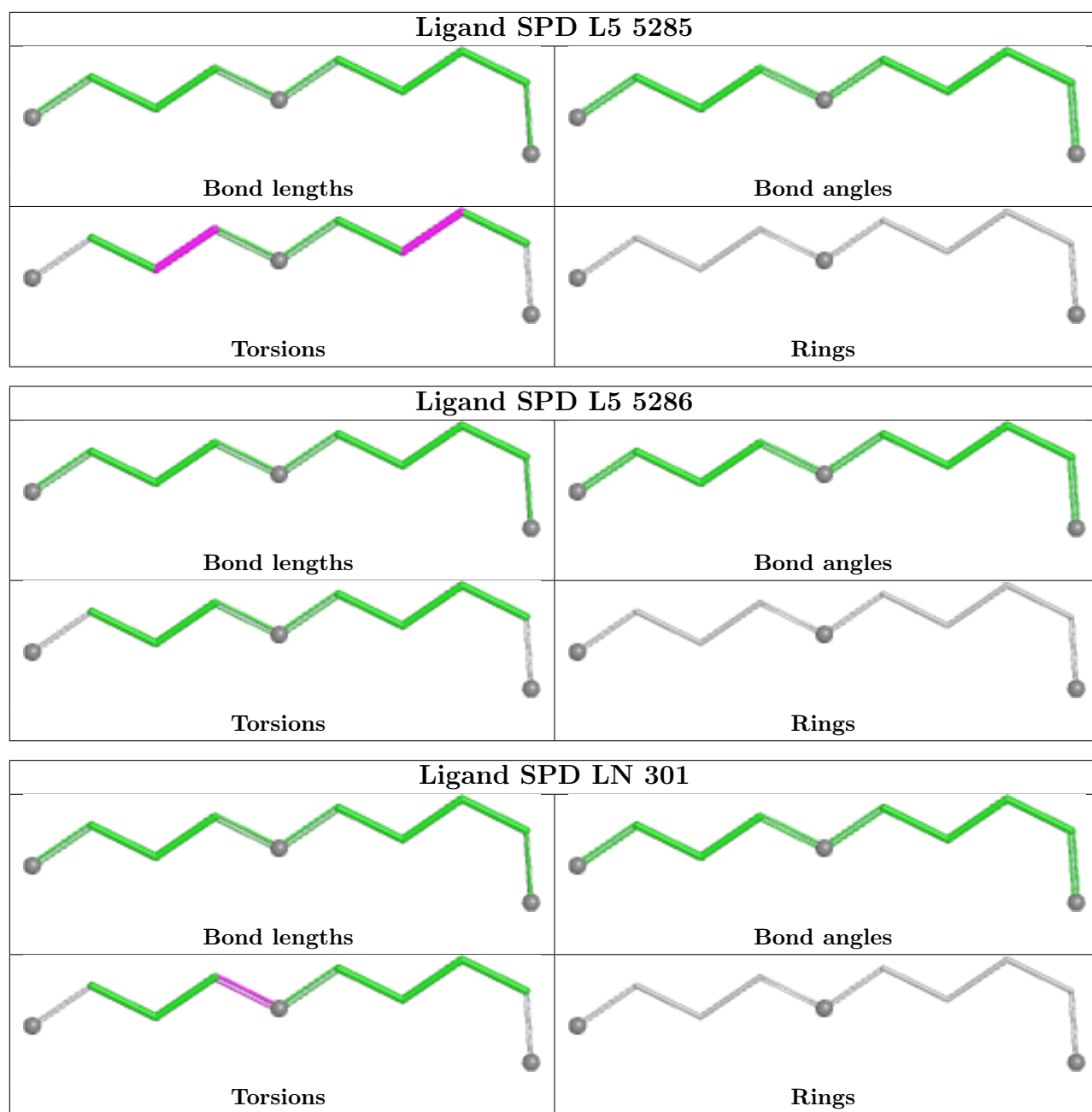
Mol	Chain	Res	Type	Clashes	Symm-Clashes
87	L5	5284	SPD	2	0
87	L5	5262	SPD	1	0
87	L5	5288	SPD	1	0
86	L5	5292	SPM	1	0
86	L5	5265	SPM	2	0
86	L5	5289	SPM	1	0
87	L5	5285	SPD	2	0
87	LN	301	SPD	2	0
88	L5	5296	3HE	2	0
89	L5	5297	HMT	8	0
86	L5	5268	SPM	1	0
86	L5	5293	SPM	2	0
87	L5	5291	SPD	1	0
87	L5	5287	SPD	1	0
87	L5	5290	SPD	2	0
86	L5	5259	SPM	1	0

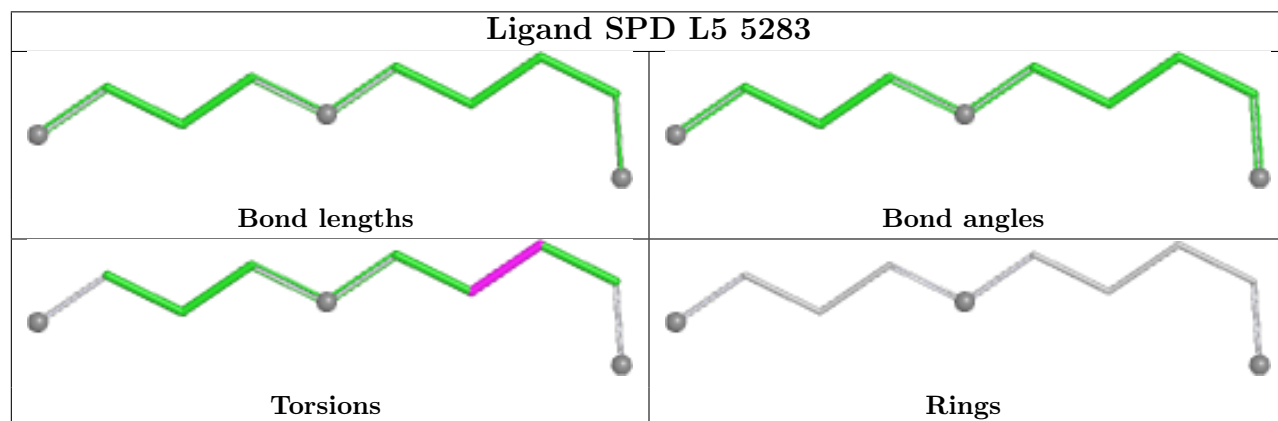
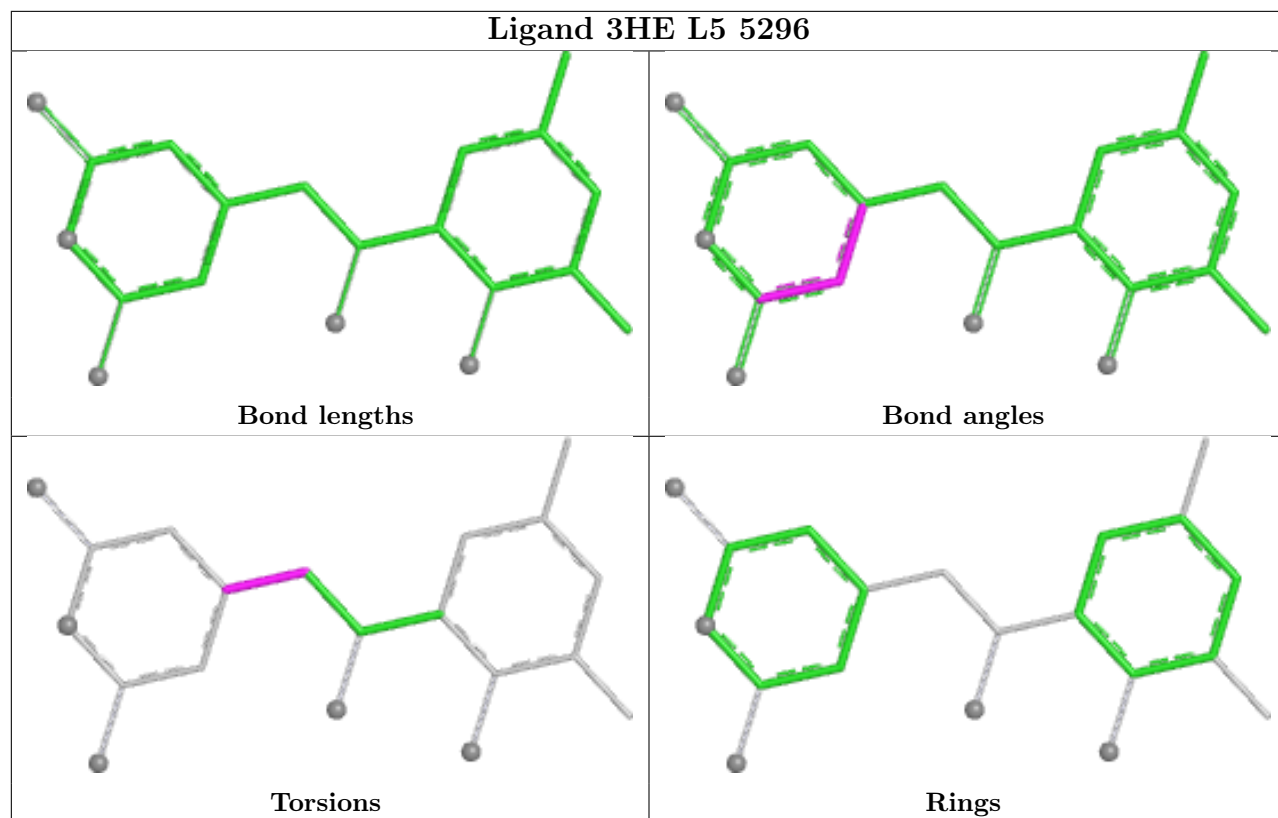
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the

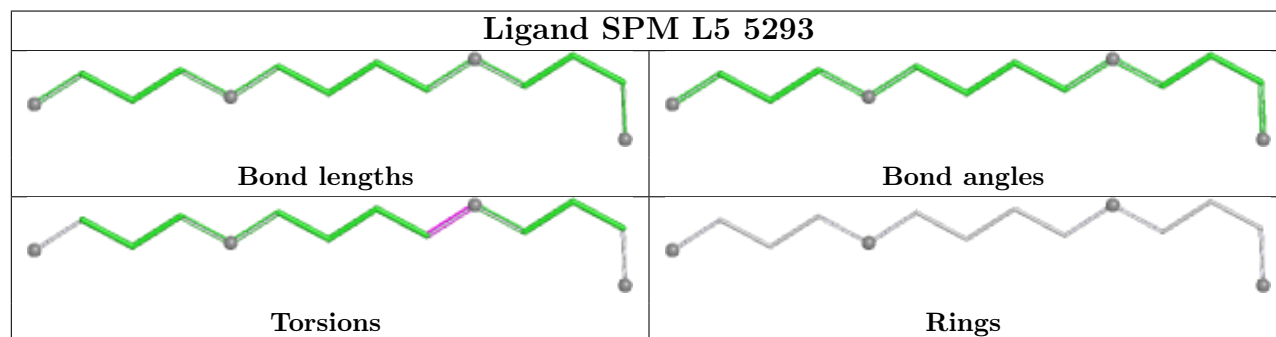
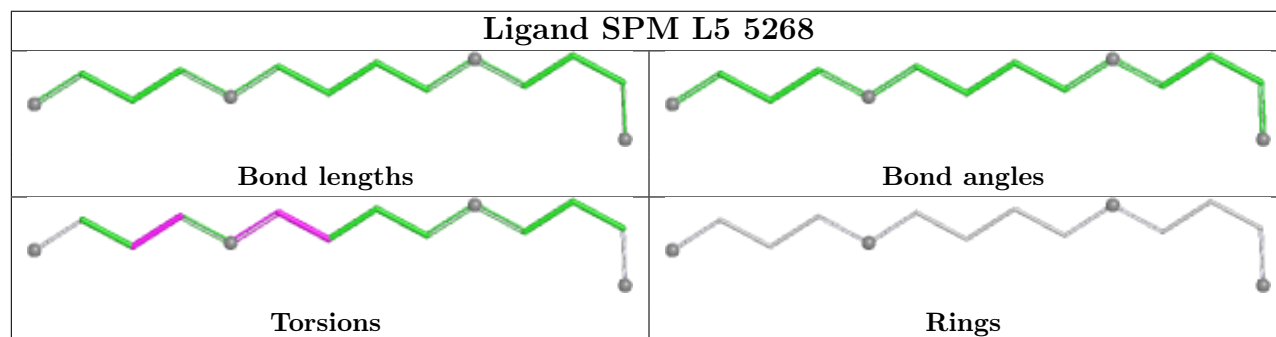
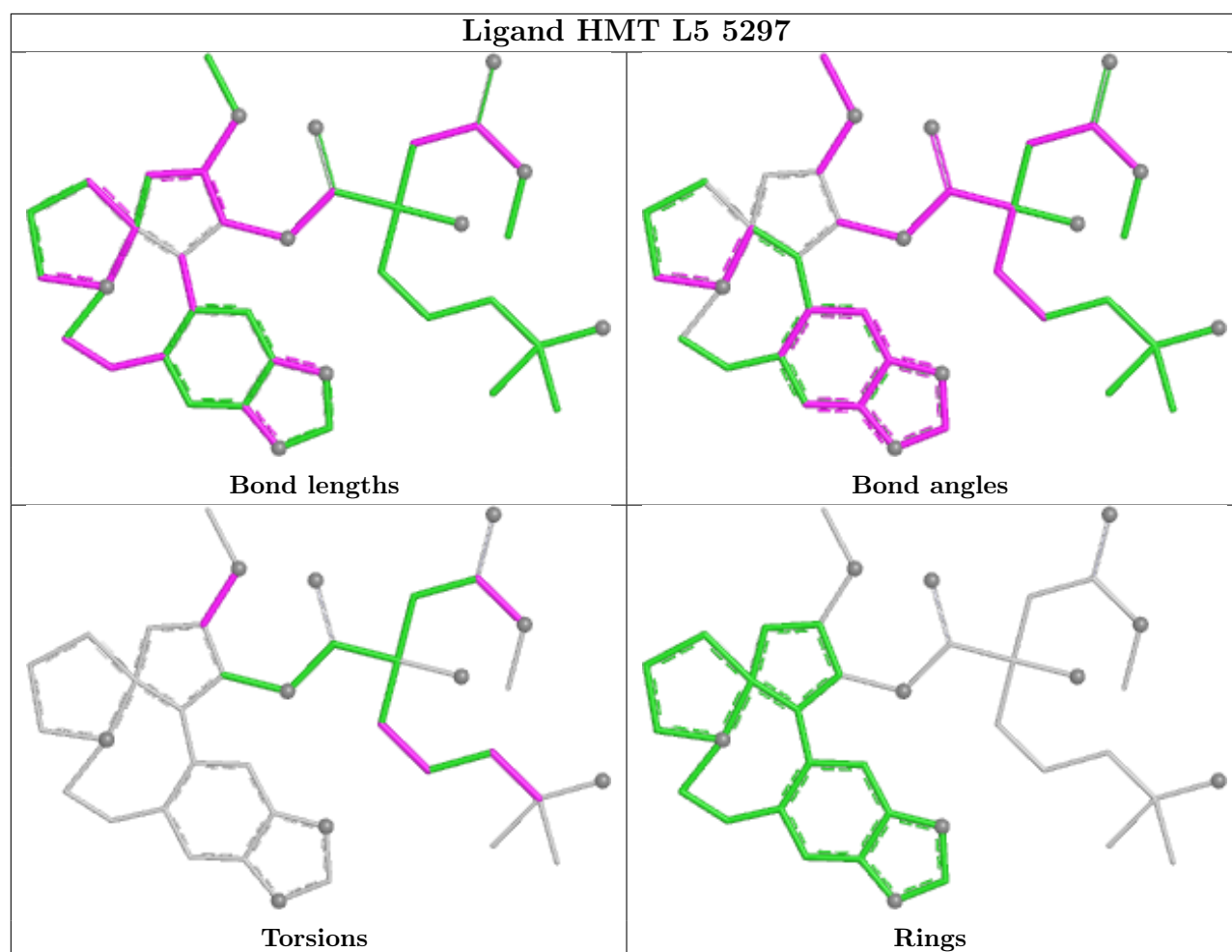
average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

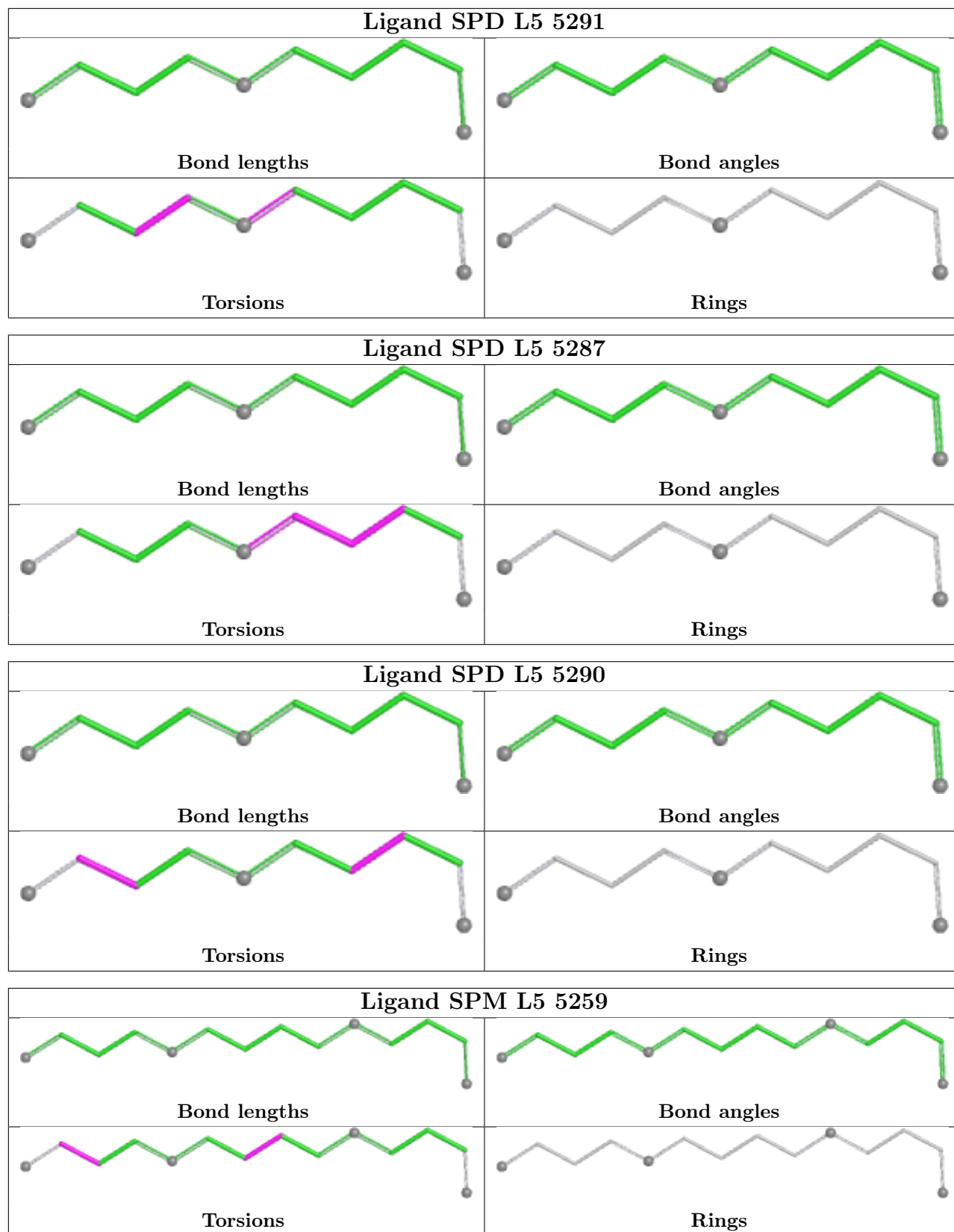












5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	L5	10
82	S2	5
1	Pt	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	S2	753:C	O3'	785:C	P	29.10
1	L5	1706:A	O3'	1716:G	P	22.00
1	L5	2910:G	O3'	3584:C	P	21.10
1	L5	760:G	O3'	903:C	P	17.10
1	L5	519:C	O3'	642:G	P	15.85
1	L5	4776:G	O3'	4858:C	P	14.95
1	S2	698:G	O3'	730:C	P	14.89
1	L5	2112:G	O3'	2249:C	P	14.72
1	L5	3954:A	O3'	4056:A	P	13.01
1	S2	739:C	O3'	746:C	P	12.79
1	L5	990:C	O3'	1064:G	P	12.33
1	Pt	15:G	O3'	18:G	P	10.04
1	L5	1222:A	O3'	1234:G	P	9.20
1	S2	225:G	O3'	287:U	P	7.57
1	L5	1100:U	O3'	1167:C	P	7.12
1	S2	1831:A	O3'	1832:6MZ	P	4.22

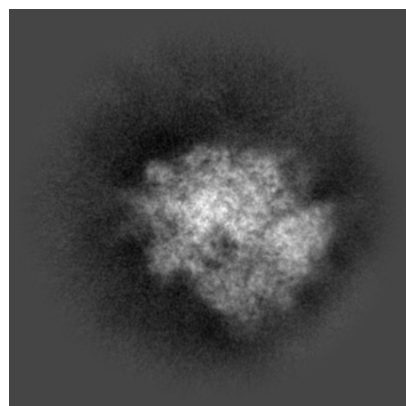
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71378. These allow visual inspection of the internal detail of the map and identification of artifacts.

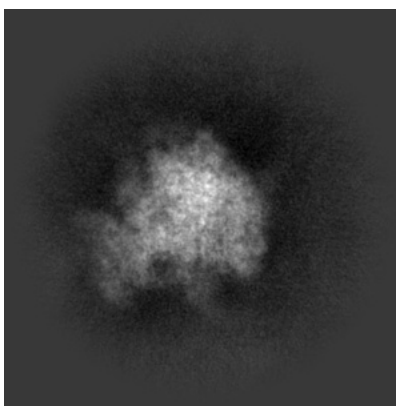
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

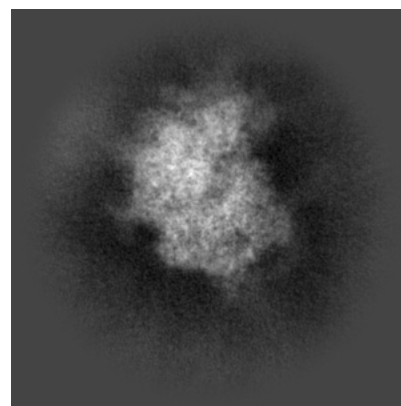
6.1.1 Primary map



X

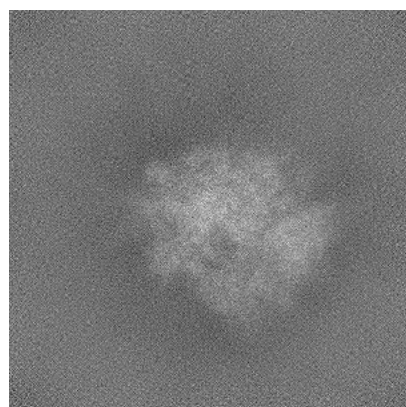


Y

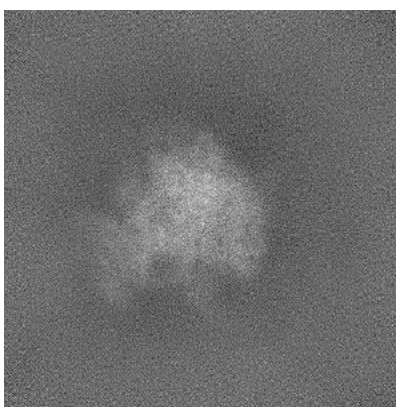


Z

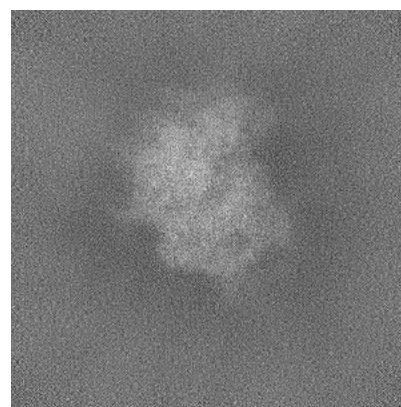
6.1.2 Raw map



X



Y

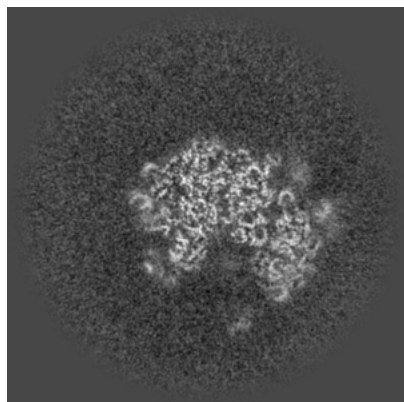


Z

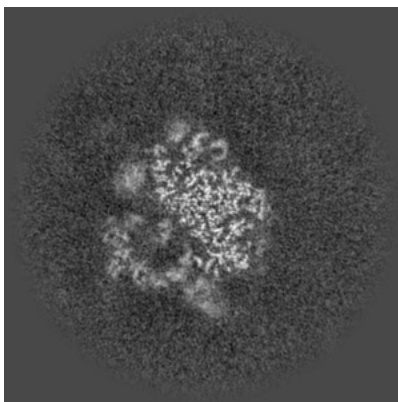
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

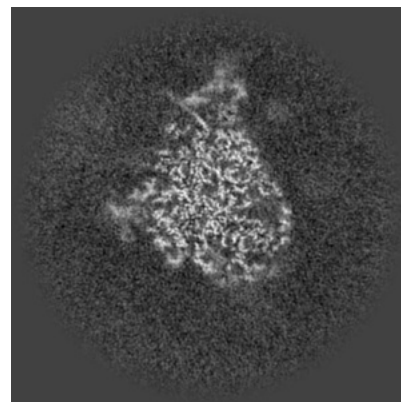
6.2.1 Primary map



X Index: 256

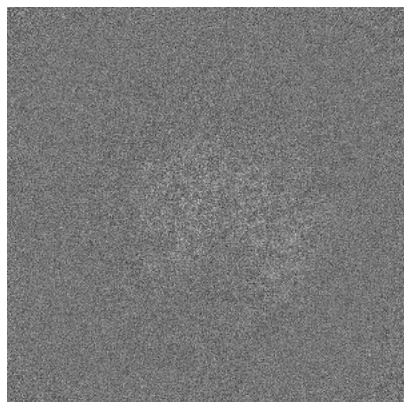


Y Index: 256

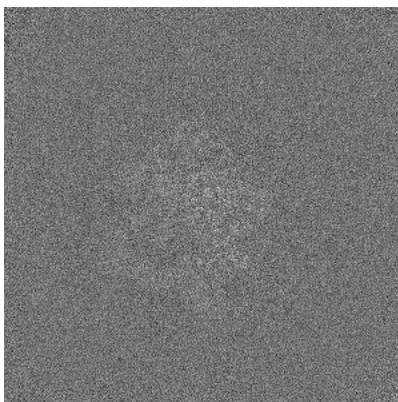


Z Index: 256

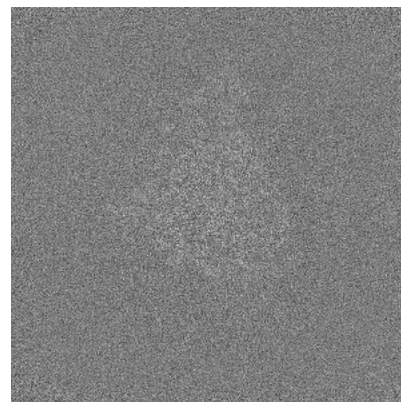
6.2.2 Raw map



X Index: 256



Y Index: 256

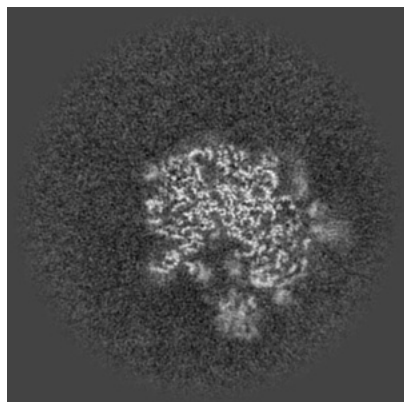


Z Index: 256

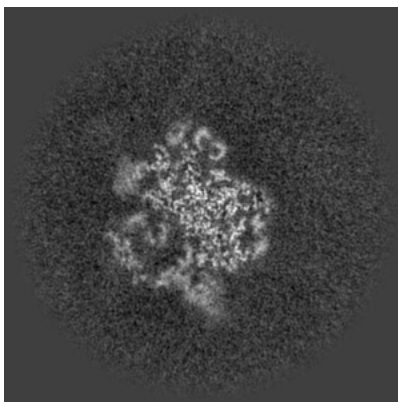
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

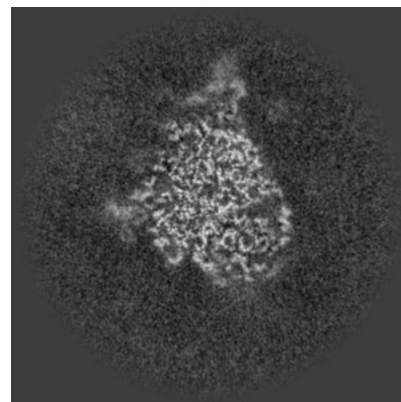
6.3.1 Primary map



X Index: 243

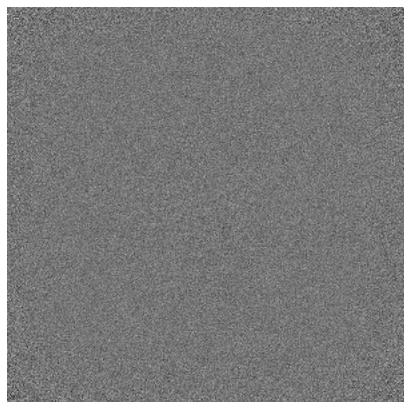


Y Index: 251

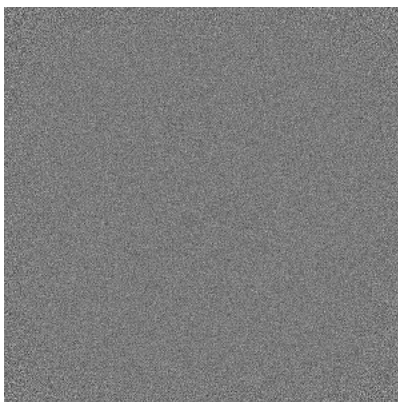


Z Index: 258

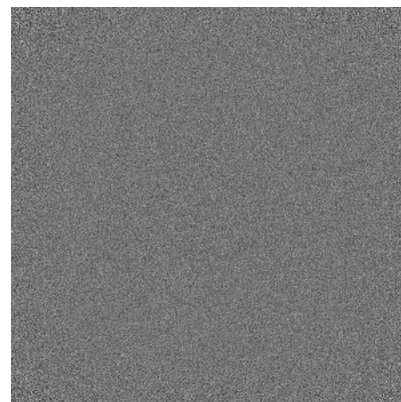
6.3.2 Raw map



X Index: 0



Y Index: 0

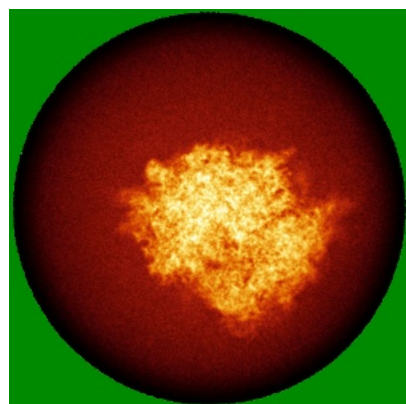


Z Index: 0

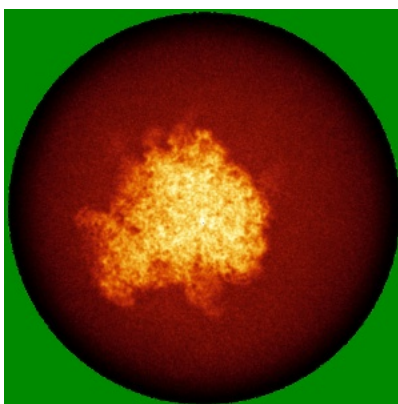
The images above show the largest variance slices of the map in three orthogonal directions.

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

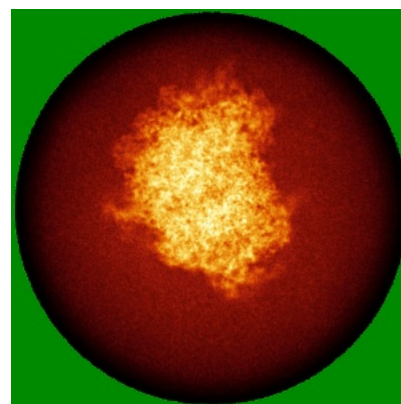
6.4.1 Primary map



X

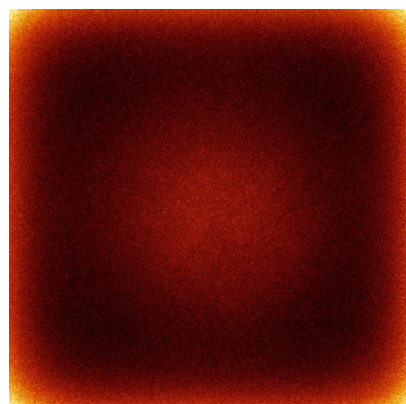


Y

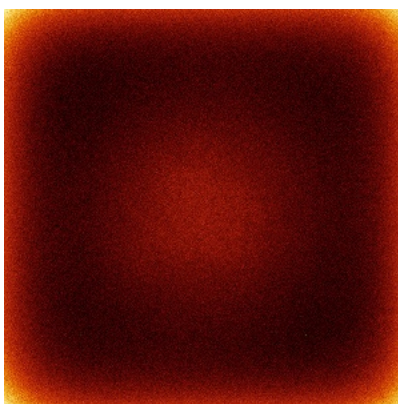


Z

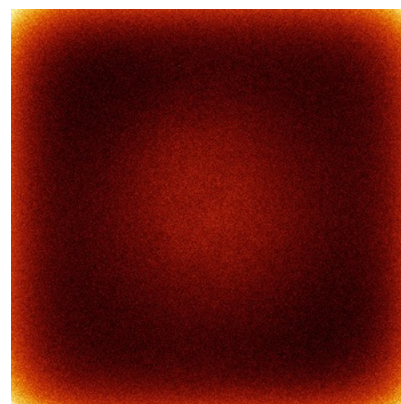
6.4.2 Raw map



X



Y

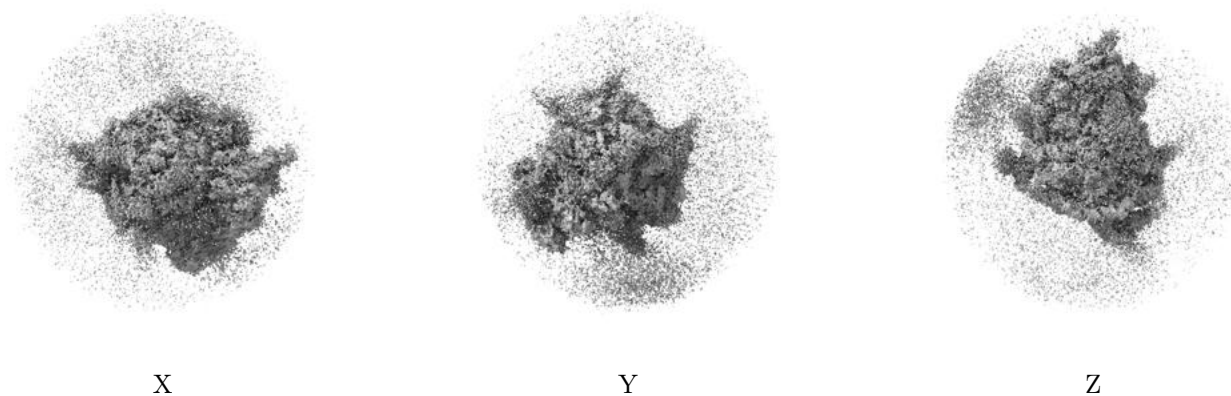


Z

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

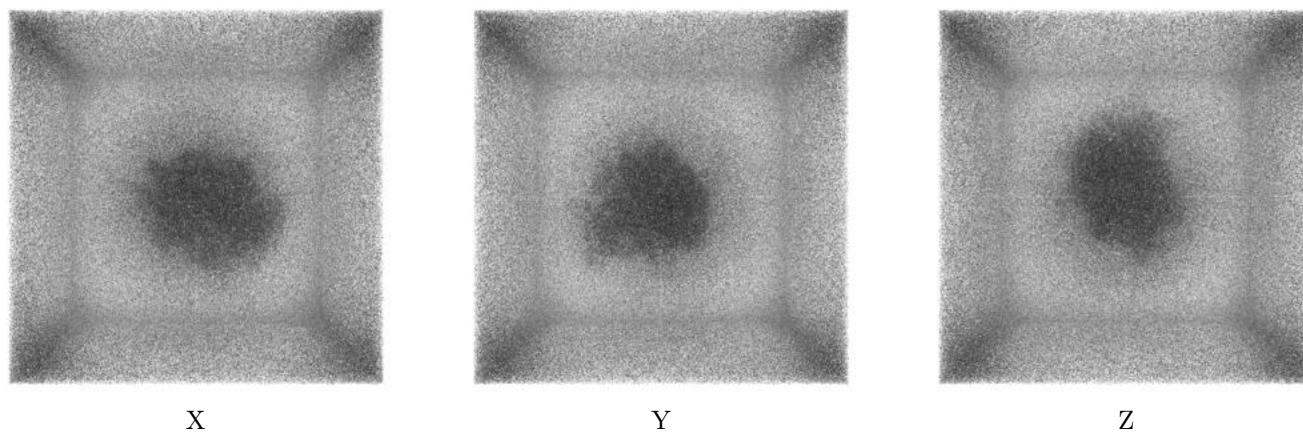
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0717. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

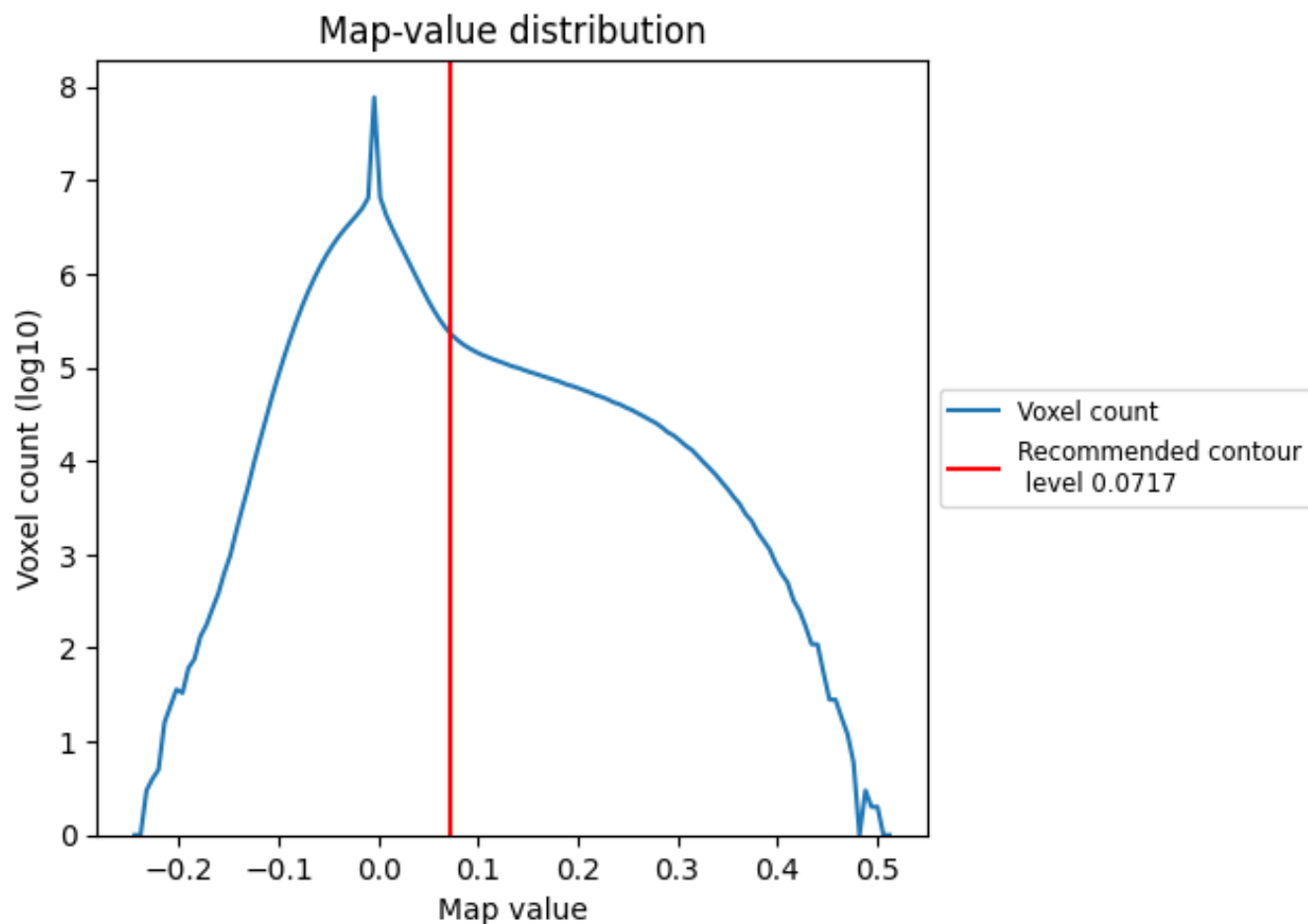
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

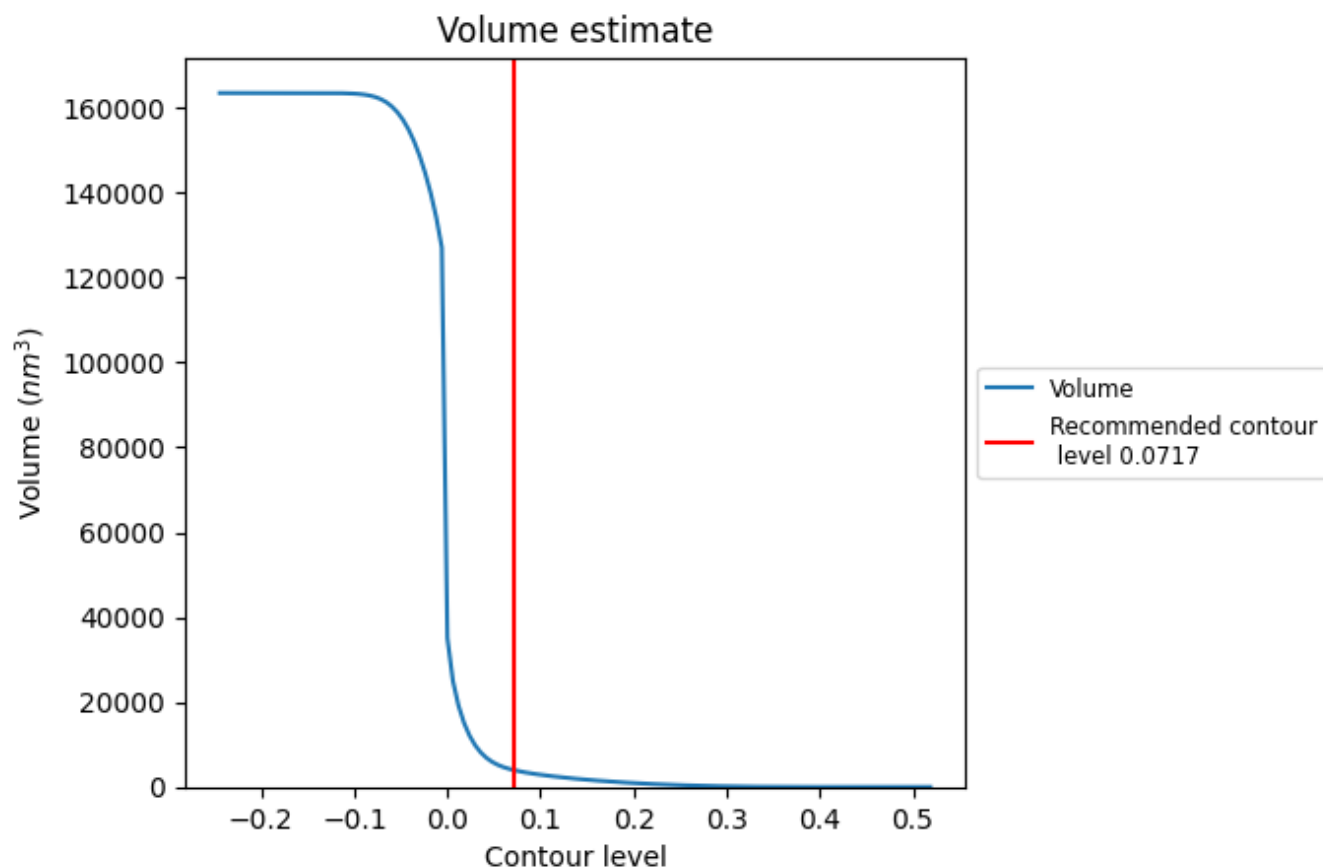
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

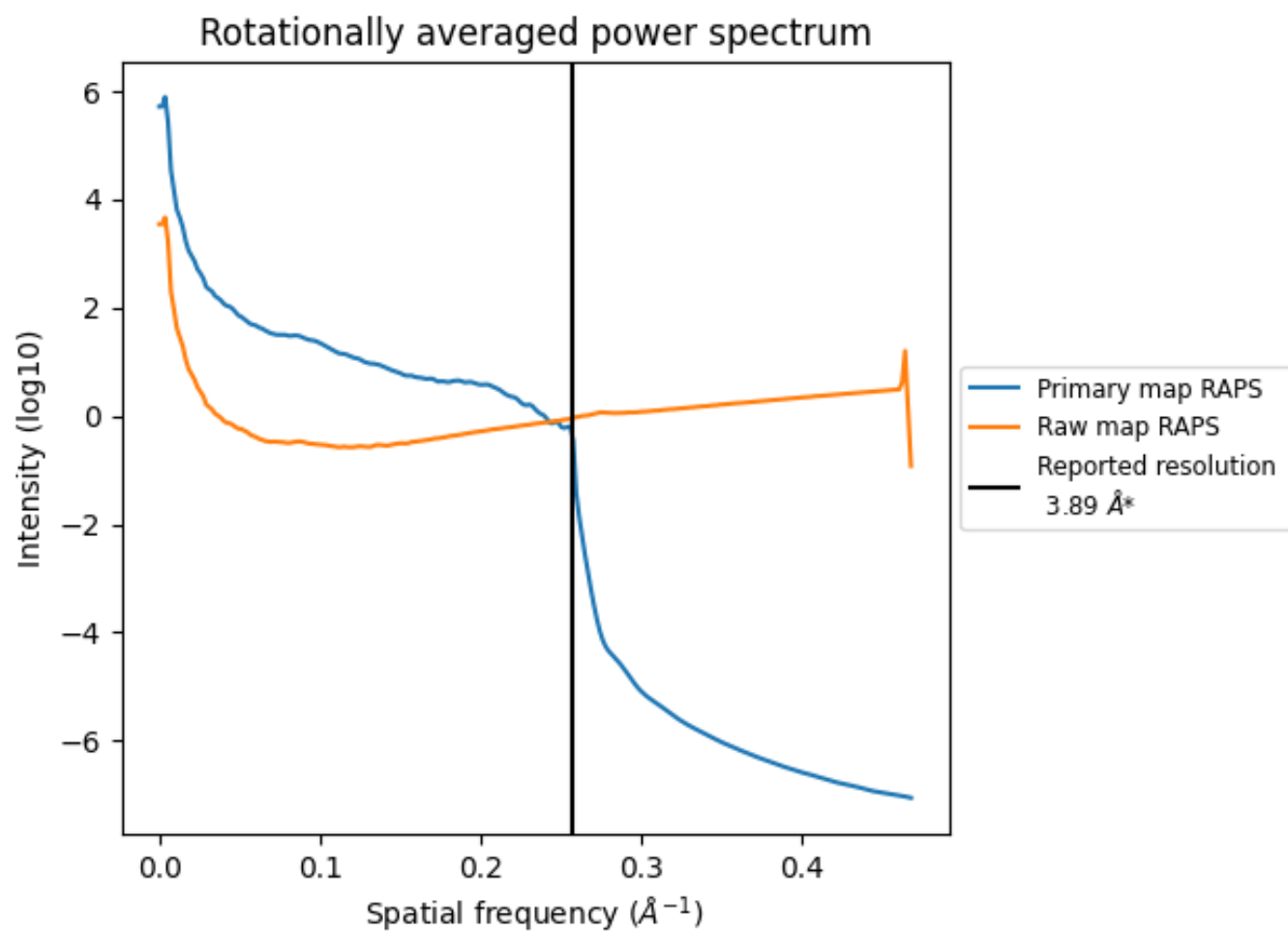
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3963 nm^3 ; this corresponds to an approximate mass of 3580 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](#)

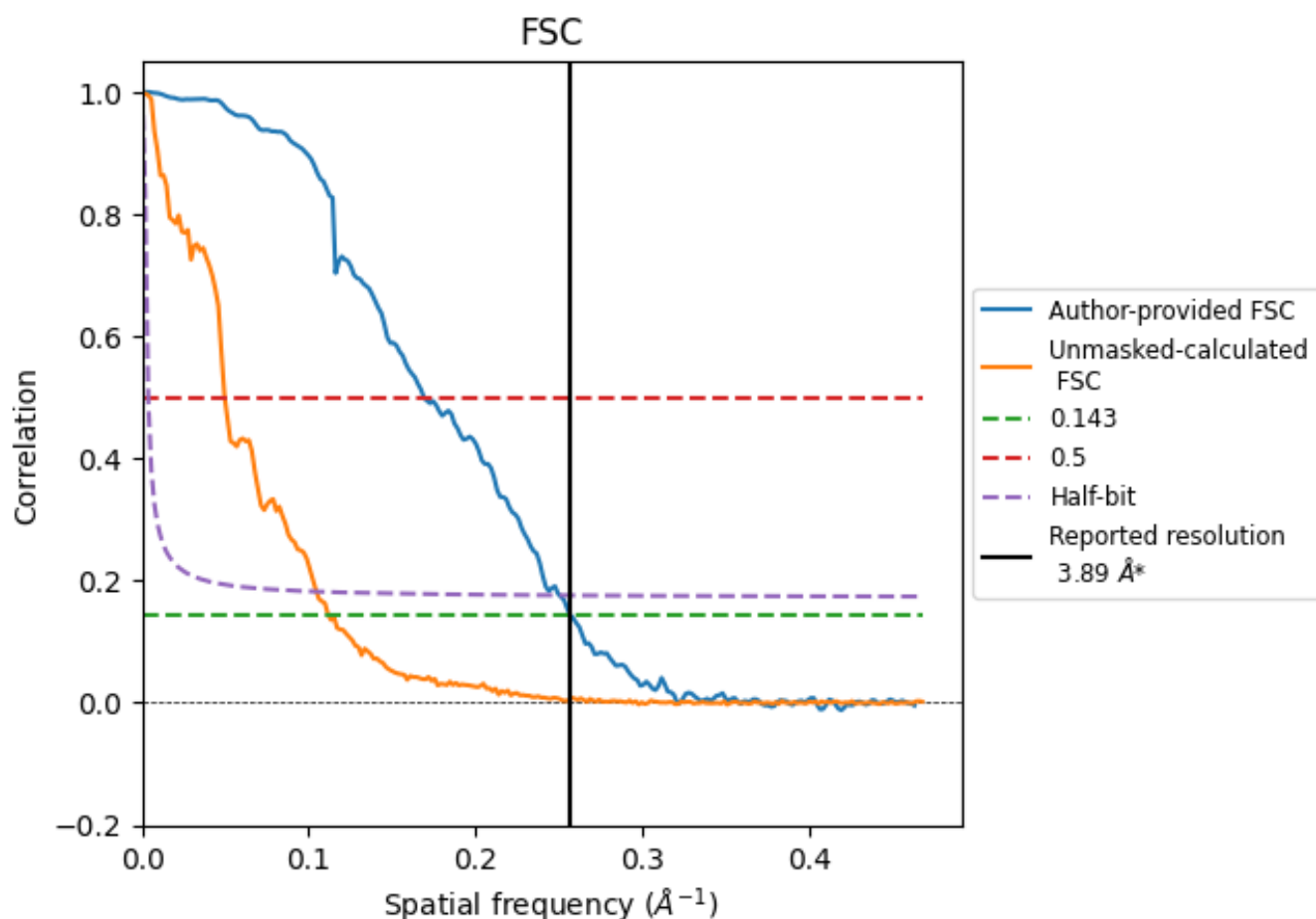


*Reported resolution corresponds to spatial frequency of 0.257 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.257 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

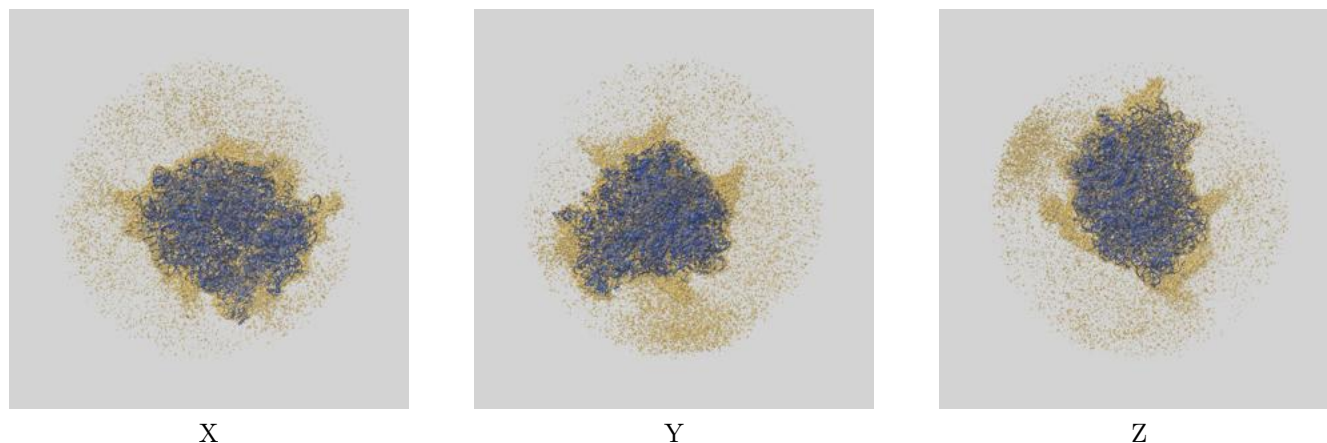
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.89	-	-
Author-provided FSC curve	3.89	5.92	3.99
Unmasked-calculated*	8.95	20.20	9.56

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 8.95 differs from the reported value 3.89 by more than 10 %

9 Map-model fit [i](#)

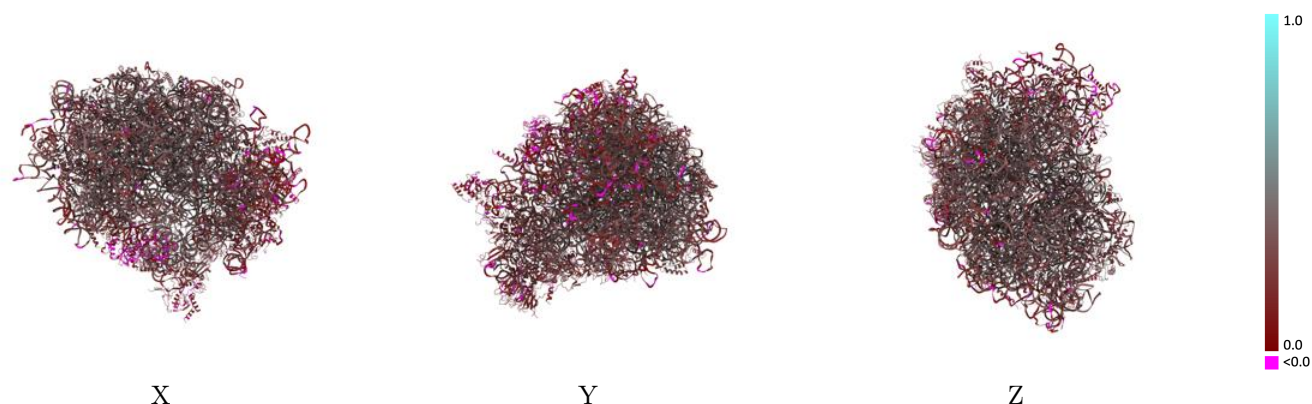
This section contains information regarding the fit between EMDB map EMD-71378 and PDB model 9P8I. Per-residue inclusion information can be found in section 3 on page 24.

9.1 Map-model overlay [i](#)



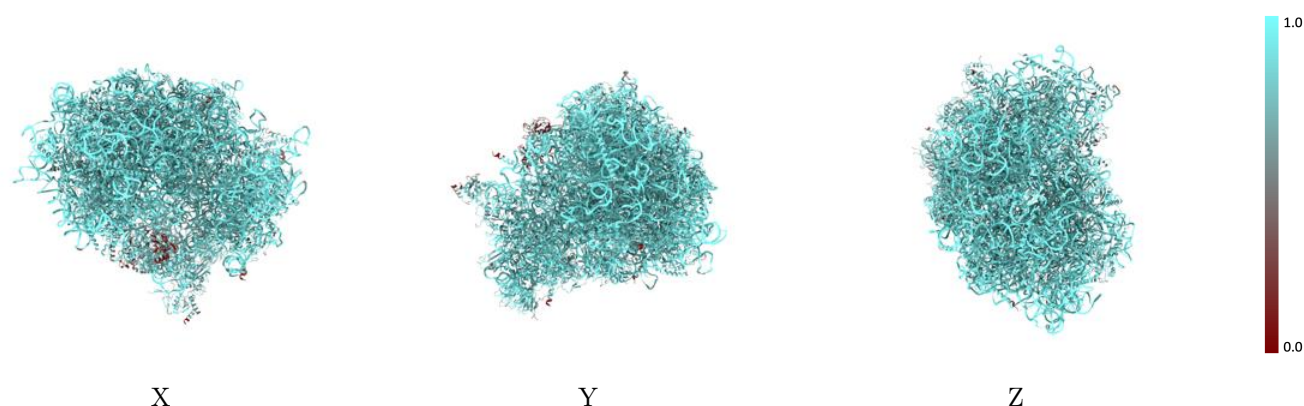
The images above show the 3D surface view of the map at the recommended contour level 0.0717 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



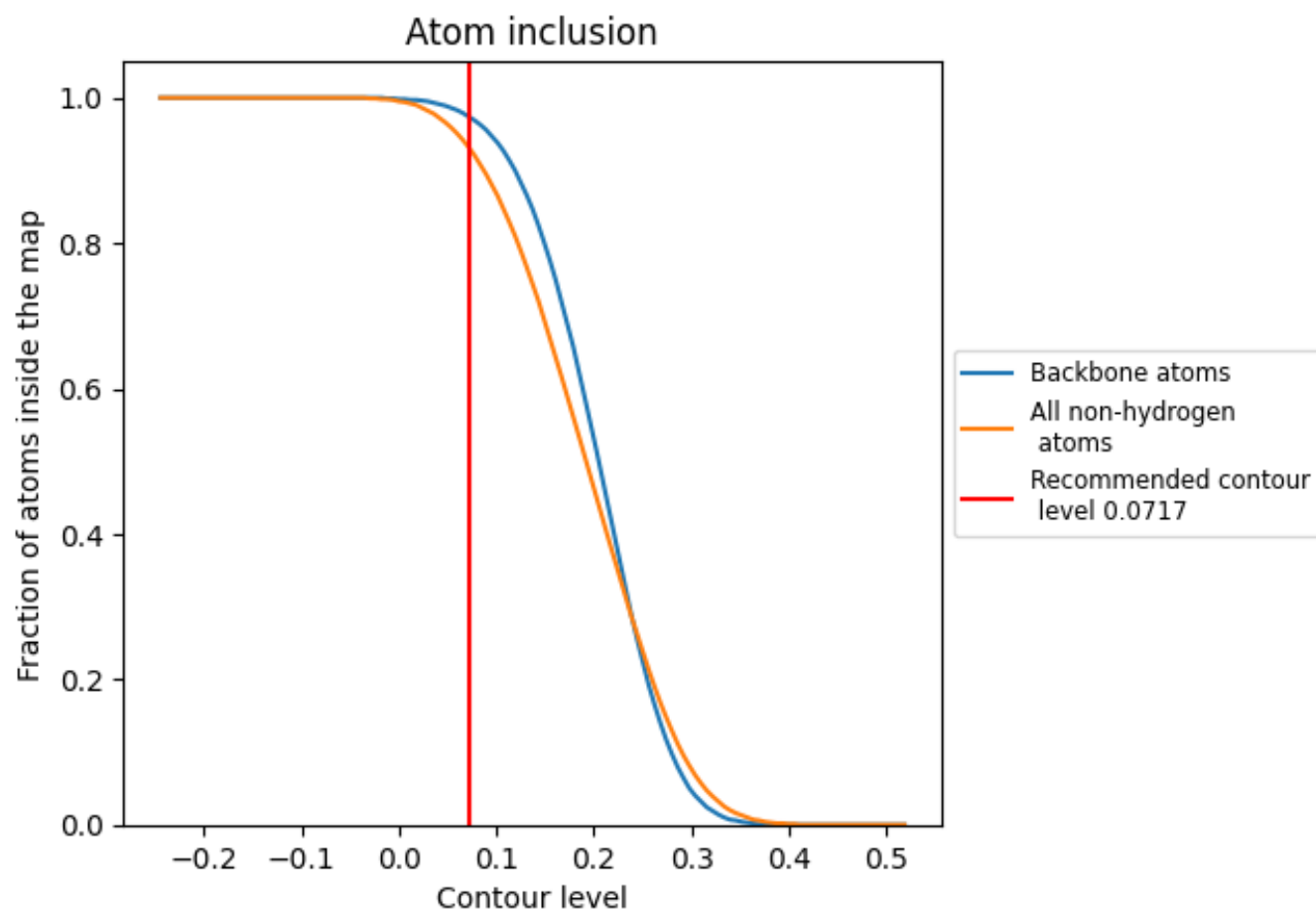
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0717).

9.4 Atom inclusion ⓘ



At the recommended contour level, 97% of all backbone atoms, 93% 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 (0.0717) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9320	 0.3000
CI	 0.5610	 0.1690
L5	 0.9850	 0.3310
L7	 0.9960	 0.3520
L8	 0.9920	 0.3450
LA	 0.9150	 0.3640
LB	 0.8940	 0.3380
LC	 0.8930	 0.3360
LD	 0.8840	 0.2910
LE	 0.8750	 0.2820
LF	 0.8780	 0.3160
LG	 0.8490	 0.2960
LH	 0.8700	 0.3270
LI	 0.8840	 0.3280
LJ	 0.8620	 0.2790
LL	 0.8860	 0.3170
LM	 0.8860	 0.3100
LN	 0.9230	 0.3540
LO	 0.8880	 0.3320
LP	 0.8810	 0.3320
LQ	 0.8920	 0.3490
LR	 0.8790	 0.2960
LS	 0.9130	 0.3500
LT	 0.9170	 0.3460
LU	 0.8960	 0.2820
LV	 0.8820	 0.3510
LW	 0.8140	 0.2150
LX	 0.9070	 0.3330
LY	 0.9140	 0.3160
LZ	 0.9140	 0.3210
La	 0.9170	 0.3530
Lb	 0.8490	 0.2750
Lc	 0.8730	 0.3220
Ld	 0.9050	 0.3330
Le	 0.8880	 0.3500



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Chain	Atom inclusion	Q-score
Lf	 0.9170	 0.3650
Lg	 0.9240	 0.3480
Lh	 0.8860	 0.3080
Li	 0.8760	 0.3150
Lj	 0.9480	 0.3490
Lk	 0.9010	 0.2920
Ll	 0.9030	 0.3170
Lm	 0.8990	 0.3480
Ln	 0.9230	 0.2810
Lo	 0.8920	 0.3410
Lp	 0.9100	 0.3360
Lr	 0.9090	 0.3410
Ls	 0.5250	 0.0480
Lt	 0.4110	 0.0230
Pt	 0.9520	 0.2660
S2	 0.9830	 0.2870
SA	 0.8740	 0.2910
SB	 0.8600	 0.2960
SC	 0.8750	 0.2940
SD	 0.8760	 0.2390
SE	 0.8780	 0.2050
SF	 0.8320	 0.2320
SG	 0.8670	 0.1770
SH	 0.8250	 0.2380
SI	 0.8520	 0.2450
SJ	 0.8240	 0.1990
SK	 0.8670	 0.1880
SL	 0.8450	 0.2660
SM	 0.6690	 0.0910
SN	 0.8590	 0.3120
SO	 0.8500	 0.3030
SP	 0.8390	 0.2160
SQ	 0.8490	 0.2170
SR	 0.8390	 0.2390
SS	 0.8300	 0.2180
ST	 0.8710	 0.2240
SU	 0.8610	 0.2160
SV	 0.8750	 0.2880
SW	 0.8950	 0.3200
SX	 0.8390	 0.2580
SY	 0.8250	 0.1620
SZ	 0.7980	 0.2200

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Chain	Atom inclusion	Q-score
Sa	 0.8870	 0.3040
Sb	 0.8590	 0.2800
Sc	 0.7920	 0.2430
Sd	 0.9270	 0.2370
Se	 0.8150	 0.1870
Sf	 0.7970	 0.1640
Sg	 0.8430	 0.1890
Zt	 0.9260	 0.1430