



Full wwPDB EM Validation Report ⓘ

Jun 24, 2026 – 10:59 AM EDT

PDB ID : 9P8C / pdb_00009p8c
EMDB ID : EMD-71372
Title : In situ human Hibernating class1 (rotate3) without E tRNA state 80S ribosome
Authors : Wei, Z.; Yong, X.
Deposited on : 2025-06-22
Resolution : 3.11 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

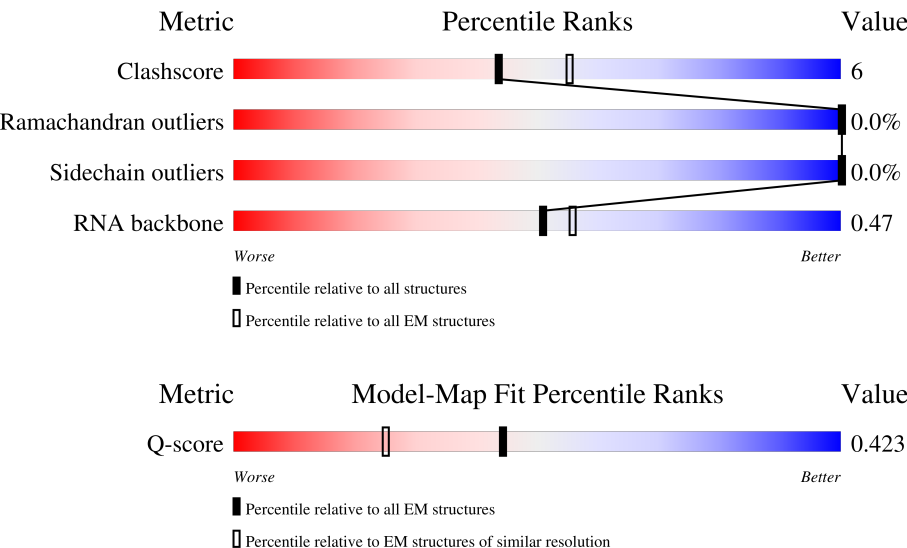
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.11 Å.

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



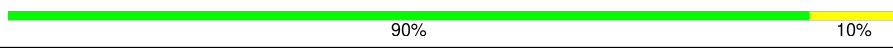
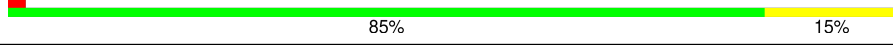
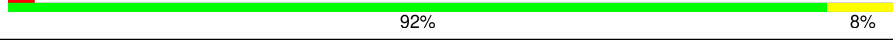
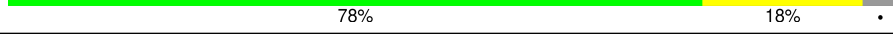
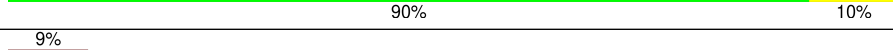
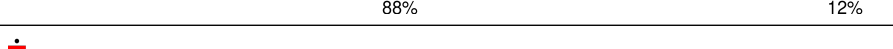
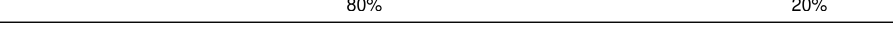
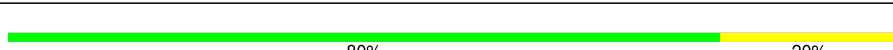
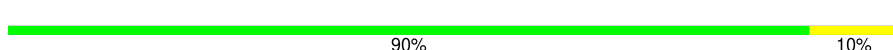
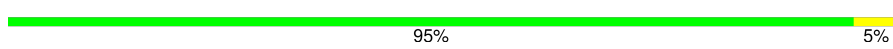
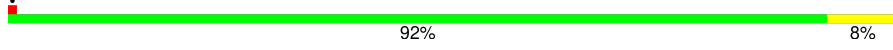
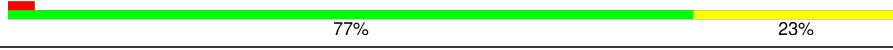
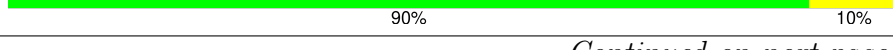
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	14465 (2.61 - 3.61)

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	CD	408	7% 12% 87%
2	CI	31	68% 100%
3	L5	5070	41% 27% 28%

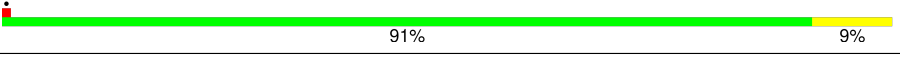
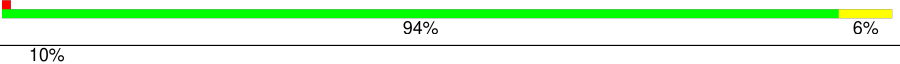
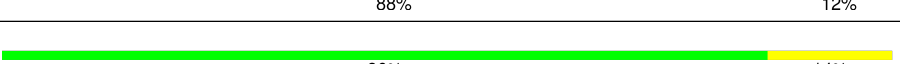
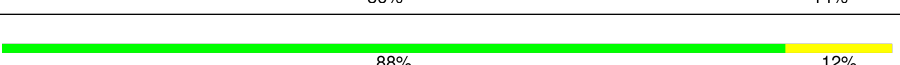
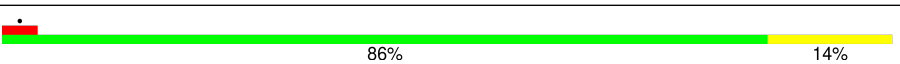
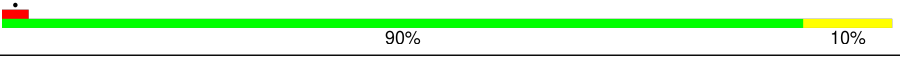
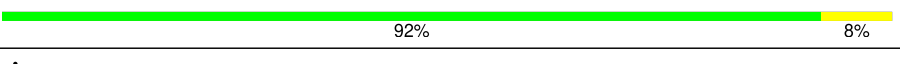
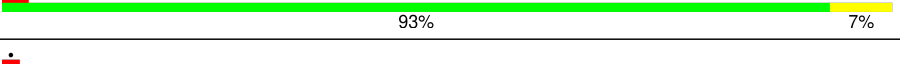
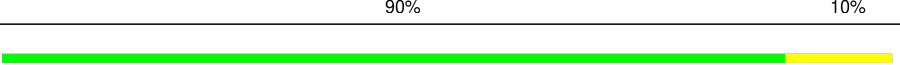
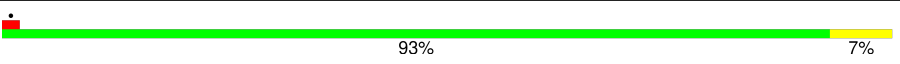
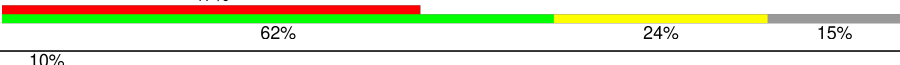
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Mol	Chain	Length	Quality of chain
4	L7	120	
5	L8	156	
6	LA	248	
7	LB	402	
8	LC	368	
9	LD	293	
10	LE	250	
11	LF	225	
12	LG	241	
13	LH	190	
14	LI	213	
15	LJ	176	
16	LL	210	
17	LM	139	
18	LN	203	
19	LO	201	
20	LP	153	
21	LQ	187	
22	LR	187	
23	LS	175	
24	LT	159	
25	LU	101	
26	LV	131	
27	LW	124	
28	LX	120	

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Mol	Chain	Length	Quality of chain
29	LY	134	
30	LZ	135	
31	La	147	
32	Lb	121	
33	Lc	98	
34	Ld	107	
35	Le	128	
36	Lf	109	
37	Lg	114	
38	Lh	122	
39	Li	102	
40	Lj	86	
41	Lk	69	
42	Ll	50	
43	Lm	52	
44	Ln	24	
45	Lo	105	
46	Lp	91	
47	Lr	125	
48	Ls	196	
49	Lt	157	
50	SA	221	
51	SB	214	
52	SC	222	
53	SE	262	

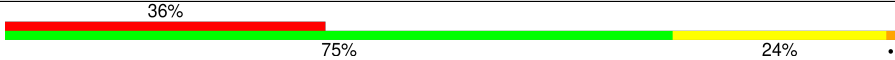
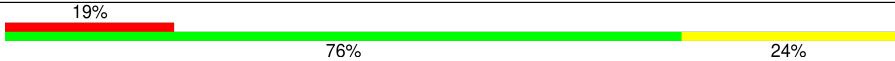
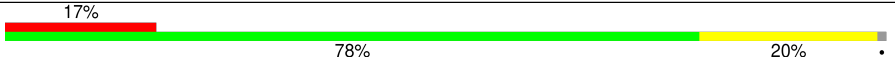
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Mol	Chain	Length	Quality of chain
54	SG	237	
55	SH	189	
56	SI	206	
57	SJ	185	
58	SL	153	
59	SN	150	
60	SO	140	
61	SV	83	
62	SW	129	
63	SX	141	
64	SY	131	
65	Sa	102	
66	Sb	83	
67	Se	58	
68	S2	1740	
69	SR	135	
70	SD	227	
71	SF	189	
72	SK	98	
73	SM	122	
74	SP	121	
75	SQ	144	
76	SS	145	
77	ST	143	
78	SU	104	

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Mol	Chain	Length	Quality of chain
79	SZ	75	
80	Sc	64	
81	Sd	55	
82	Sf	67	
83	Sg	313	
84	CB	856	
85	CA	356	

2 Entry composition

There are 89 unique types of molecules in this entry. The entry contains 226556 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called SERPINE1 mRNA-binding protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
1	CD	55	Total	C	N	O	0	0
			440	263	87	90		

- Molecule 2 is a protein called Transcription factor BTF3.

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

- Molecule 3 is a RNA chain called 28S rRNA.

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

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

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

- Molecule 5 is a RNA chain called 5.8S rRNA.

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

- Molecule 6 is a protein called 60S ribosomal protein L8.

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

- Molecule 7 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 8 is a protein called 60S ribosomal protein L4.

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

- Molecule 9 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 10 is a protein called Large ribosomal subunit protein eL6.

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

- Molecule 11 is a protein called 60S ribosomal protein L7.

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

- Molecule 12 is a protein called 60S ribosomal protein L7a.

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

- Molecule 13 is a protein called 60S ribosomal protein L9.

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

- Molecule 14 is a protein called Ribosomal protein uL16-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	LI	205	Total	C	N	O	S	0	0
			1658	1052	318	274	14		

- Molecule 15 is a protein called 60S ribosomal protein L11.

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

- Molecule 16 is a protein called Large ribosomal subunit protein eL13.

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

- Molecule 17 is a protein called 60S ribosomal protein L14.

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

- Molecule 18 is a protein called 60S ribosomal protein L15.

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

- Molecule 19 is a protein called 60S ribosomal protein L13a.

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

- Molecule 20 is a protein called 60S ribosomal protein L17.

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

- Molecule 21 is a protein called 60S ribosomal protein L18.

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

- Molecule 22 is a protein called 60S ribosomal protein L19.

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

- Molecule 23 is a protein called 60S ribosomal protein L18a.

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

- Molecule 24 is a protein called 60S ribosomal protein L21.

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

- Molecule 25 is a protein called Heparin-binding protein HBp15.

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

- Molecule 26 is a protein called 60S ribosomal protein L23.

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

- Molecule 27 is a protein called Ribosomal protein L24.

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

- Molecule 28 is a protein called 60S ribosomal protein L23a.

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

- Molecule 29 is a protein called 60S ribosomal protein L26.

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

- Molecule 30 is a protein called 60S ribosomal protein L27.

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

- Molecule 31 is a protein called 60S ribosomal protein L27a.

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

- Molecule 32 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 33 is a protein called 60S ribosomal protein L30.

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

- Molecule 34 is a protein called 60S ribosomal protein L31.

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

- Molecule 35 is a protein called 60S ribosomal protein L32.

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

- Molecule 36 is a protein called 60S ribosomal protein L35a.

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

- Molecule 37 is a protein called 60S ribosomal protein L34.

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

- Molecule 38 is a protein called 60S ribosomal protein L35.

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

- Molecule 39 is a protein called 60S ribosomal protein L36.

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

- Molecule 40 is a protein called 60S ribosomal protein L37.

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

- Molecule 41 is a protein called 60S ribosomal protein L38.

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

- Molecule 42 is a protein called 60S ribosomal protein L39.

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

- Molecule 43 is a protein called Large ribosomal subunit protein eL40.

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

- Molecule 44 is a protein called 60S ribosomal protein L41.

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

- Molecule 45 is a protein called 60S ribosomal protein L36a.

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

- Molecule 46 is a protein called 60S ribosomal protein L37a.

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

- Molecule 47 is a protein called 60S ribosomal protein L28.

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

- Molecule 48 is a protein called 60S acidic ribosomal protein P0.

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

- Molecule 49 is a protein called Large ribosomal subunit protein uL11.

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

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

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

- Molecule 51 is a protein called 40S ribosomal protein S3a.

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

- Molecule 52 is a protein called 40S ribosomal protein S2.

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

- Molecule 53 is a protein called Small ribosomal subunit protein eS4, X isoform.

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

- Molecule 54 is a protein called 40S ribosomal protein S6.

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

- Molecule 55 is a protein called Small ribosomal subunit protein eS7.

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

- Molecule 56 is a protein called 40S ribosomal protein S8.

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

- Molecule 57 is a protein called 40S ribosomal protein S9.

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

- Molecule 58 is a protein called 40S ribosomal protein S11.

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

- Molecule 59 is a protein called 40S ribosomal protein S13.

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

- Molecule 60 is a protein called Small ribosomal subunit protein uS11.

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

- Molecule 61 is a protein called Small ribosomal subunit protein eS21.

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

- Molecule 62 is a protein called 40S ribosomal protein S15a.

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

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

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

- Molecule 64 is a protein called 40S ribosomal protein S24.

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

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

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

- Molecule 66 is a protein called Small ribosomal subunit protein eS27.

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

- Molecule 67 is a protein called Small ribosomal subunit protein eS30.

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

- Molecule 68 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	S2	1740	Total	C	N	O	P	0	0
			36952	16508	6600	12105	1739		

- Molecule 69 is a protein called Small ribosomal subunit protein eS17.

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

- Molecule 70 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 71 is a protein called 40S ribosomal protein S5.

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

- Molecule 72 is a protein called 40S ribosomal protein S10.

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

- Molecule 73 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 74 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 75 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 76 is a protein called 40S ribosomal protein S18.

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

- Molecule 77 is a protein called 40S ribosomal protein S19.

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

- Molecule 78 is a protein called 40S ribosomal protein S20.

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

- Molecule 79 is a protein called Small ribosomal subunit protein eS25.

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

- Molecule 80 is a protein called 40S ribosomal protein S28.

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

- Molecule 81 is a protein called 40S ribosomal protein S29.

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

- Molecule 82 is a protein called Ubiquitin-40S ribosomal protein S27a.

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

- Molecule 83 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 84 is a protein called Elongation factor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	CB	846	Total	C	N	O	S	0	0
			6605	4193	1136	1232	44		

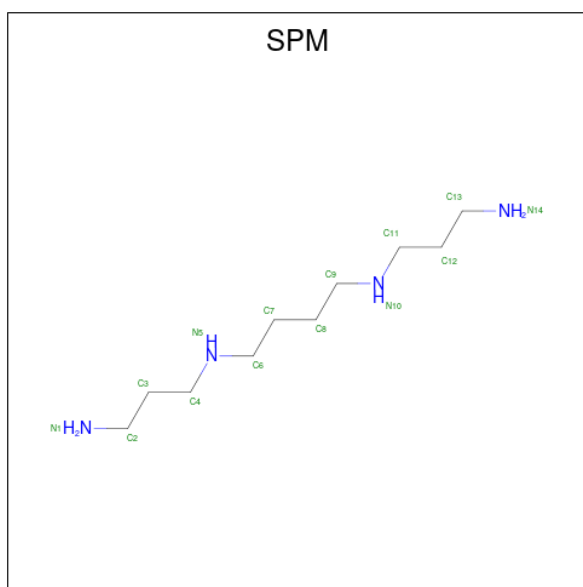
- Molecule 85 is a protein called Proliferation-associated protein 2G4.

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

- Molecule 86 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
86	L5	177	Total	Mg	0
			177	177	
86	L7	3	Total	Mg	0
			3	3	
86	L8	5	Total	Mg	0
			5	5	
86	LA	1	Total	Mg	0
			1	1	
86	LI	1	Total	Mg	0
			1	1	
86	LP	1	Total	Mg	0
			1	1	
86	LV	1	Total	Mg	0
			1	1	
86	Le	1	Total	Mg	0
			1	1	
86	Lj	1	Total	Mg	0
			1	1	
86	SG	1	Total	Mg	0
			1	1	
86	S2	26	Total	Mg	0
			26	26	

- Molecule 87 is SPERMINE (CCD ID: SPM) (formula: C₁₀H₂₆N₄) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 88 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 89 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

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

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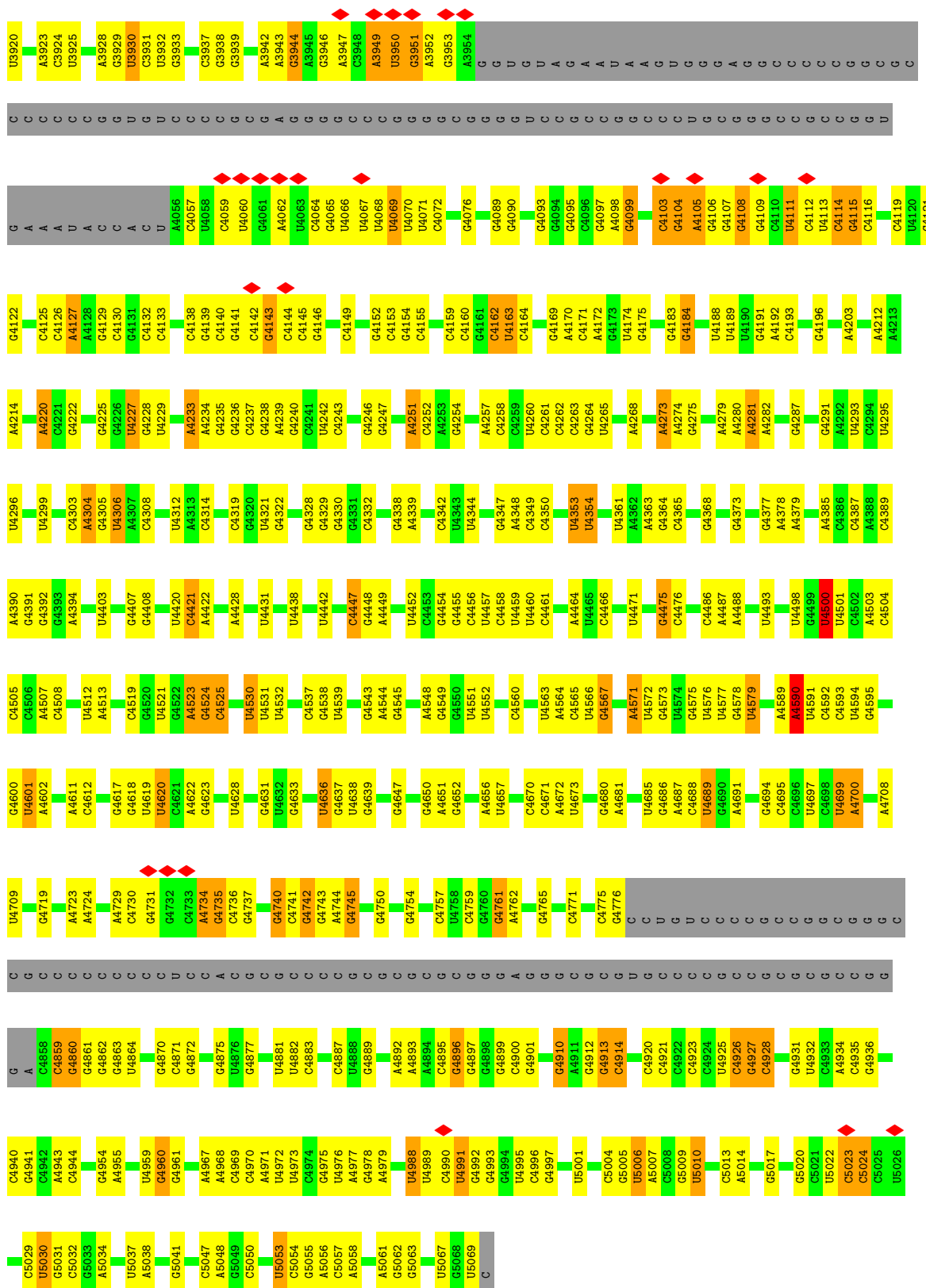
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Mol	Chain	Residues	Atoms		AltConf
89	Lj	1	Total 1	Zn 1	0
89	Lm	1	Total 1	Zn 1	0
89	Lo	1	Total 1	Zn 1	0
89	Lp	1	Total 1	Zn 1	0
89	Sa	1	Total 1	Zn 1	0



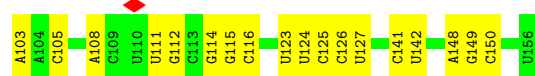








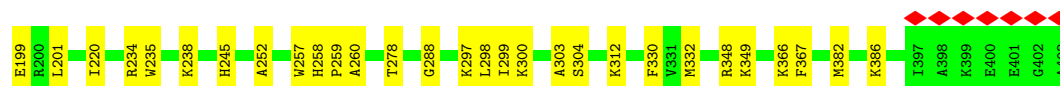
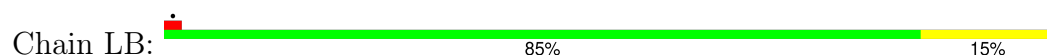
• Molecule 5: 5.8S rRNA



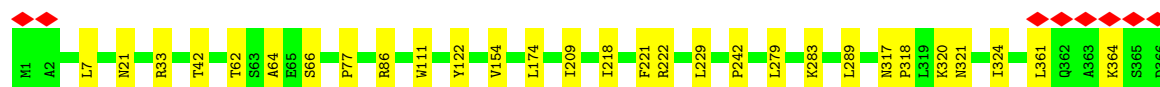
• Molecule 6: 60S ribosomal protein L8



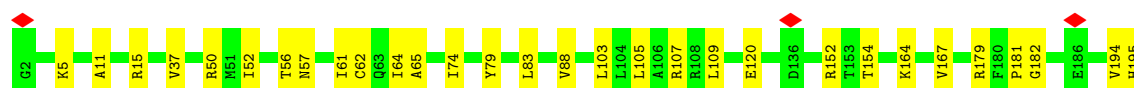
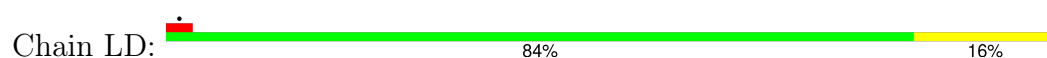
• Molecule 7: Large ribosomal subunit protein uL3

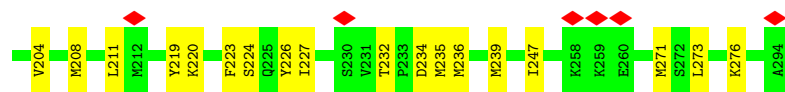


• Molecule 8: 60S ribosomal protein L4

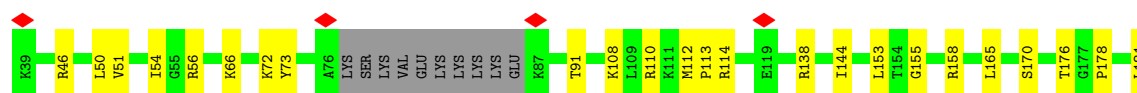
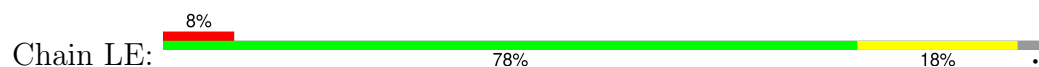


• Molecule 9: Large ribosomal subunit protein uL18





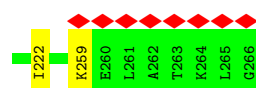
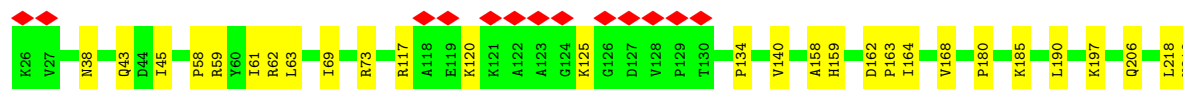
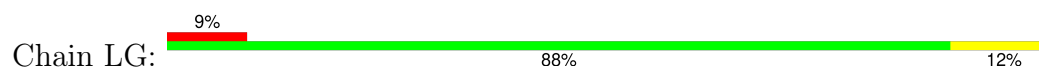
- Molecule 10: Large ribosomal subunit protein eL6



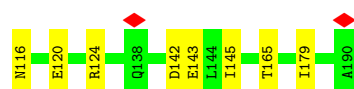
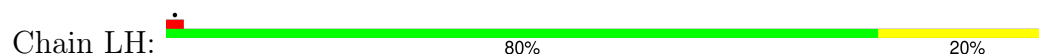
- Molecule 11: 60S ribosomal protein L7



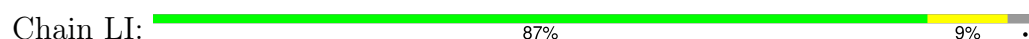
- Molecule 12: 60S ribosomal protein L7a

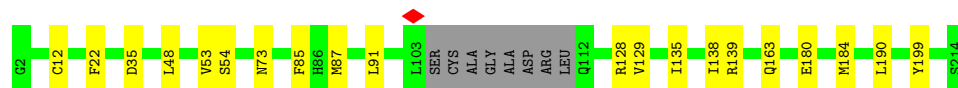


- Molecule 13: 60S ribosomal protein L9

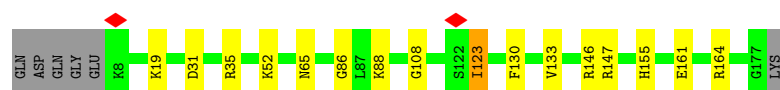
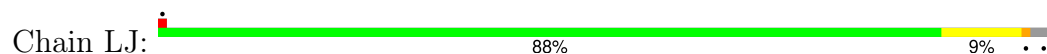


- Molecule 14: Ribosomal protein uL16-like

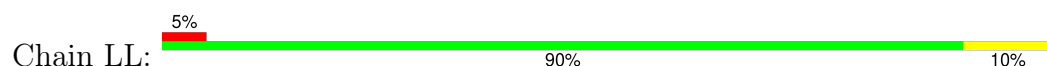




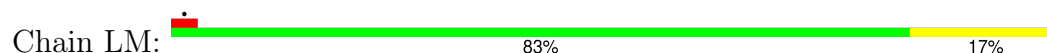
- Molecule 15: 60S ribosomal protein L11



- Molecule 16: Large ribosomal subunit protein eL13



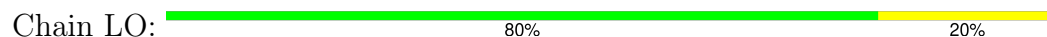
- Molecule 17: 60S ribosomal protein L14



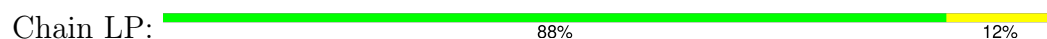
- Molecule 18: 60S ribosomal protein L15



- Molecule 19: 60S ribosomal protein L13a



- Molecule 20: 60S ribosomal protein L17





- Molecule 21: 60S ribosomal protein L18

Chain LQ: 90% 10%



- Molecule 22: 60S ribosomal protein L19

Chain LR: 6% 86% 14%



- Molecule 23: 60S ribosomal protein L18a

Chain LS: 95% 5%



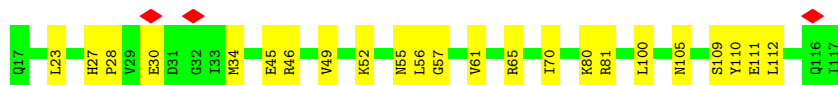
- Molecule 24: 60S ribosomal protein L21

Chain LT: 92% 8%



- Molecule 25: Heparin-binding protein HBp15

Chain LU: 77% 23%

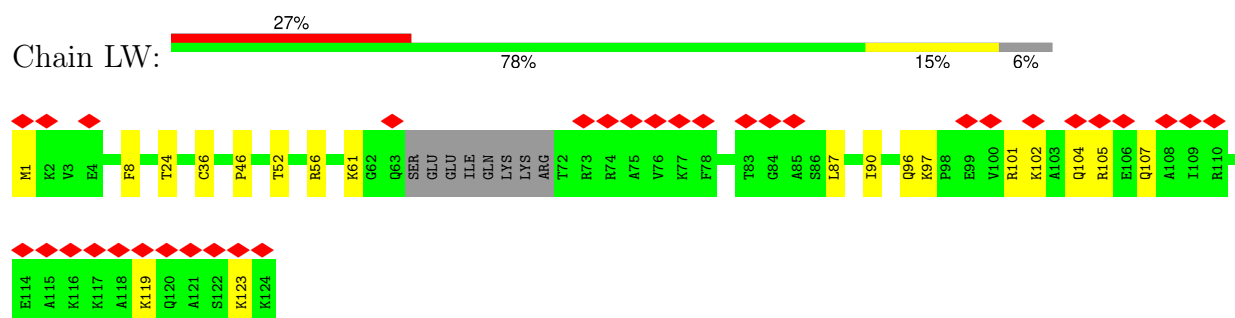


- Molecule 26: 60S ribosomal protein L23

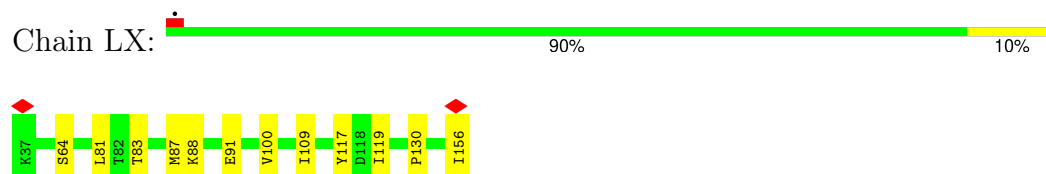
Chain LV: 88% 12%



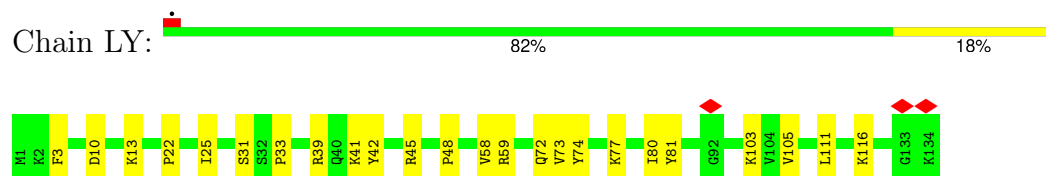
- Molecule 27: Ribosomal protein L24



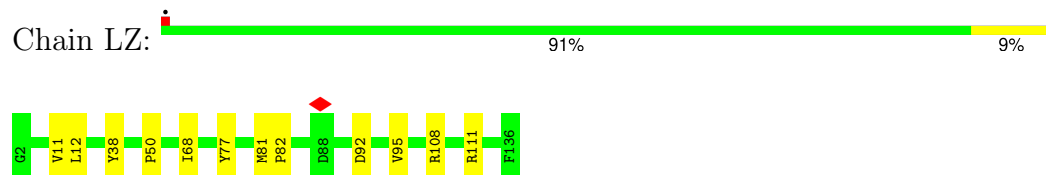
- Molecule 28: 60S ribosomal protein L23a



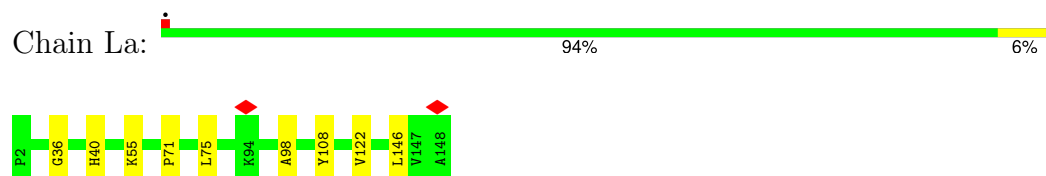
- Molecule 29: 60S ribosomal protein L26



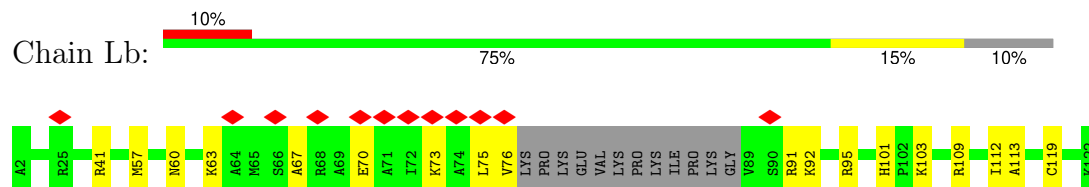
- Molecule 30: 60S ribosomal protein L27



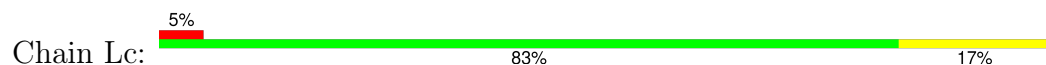
- Molecule 31: 60S ribosomal protein L27a



- Molecule 32: Large ribosomal subunit protein eL29

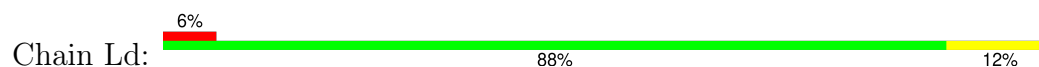


- Molecule 33: 60S ribosomal protein L30





- Molecule 34: 60S ribosomal protein L31



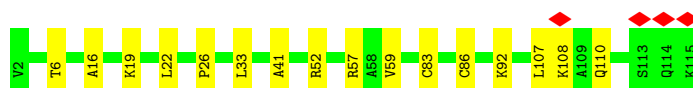
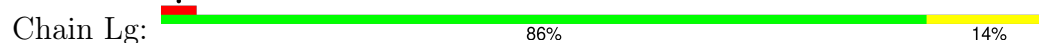
- Molecule 35: 60S ribosomal protein L32



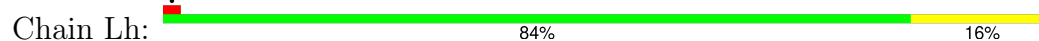
- Molecule 36: 60S ribosomal protein L35a



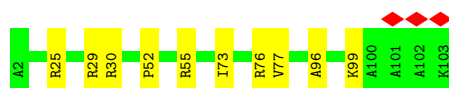
- Molecule 37: 60S ribosomal protein L34



- Molecule 38: 60S ribosomal protein L35

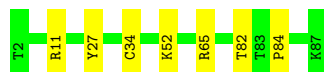


- Molecule 39: 60S ribosomal protein L36



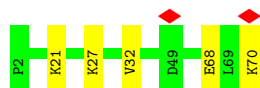
- Molecule 40: 60S ribosomal protein L37

Chain Lj:  92% 8%



- Molecule 41: 60S ribosomal protein L38

Chain Lk:  93% 7%



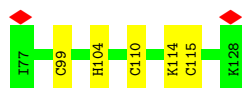
- Molecule 42: 60S ribosomal protein L39

Chain Ll:  78% 22%



- Molecule 43: Large ribosomal subunit protein eL40

Chain Lm:  90% 10%



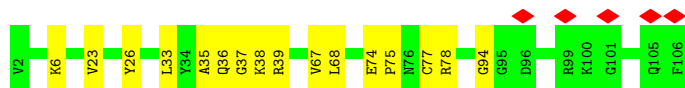
- Molecule 44: 60S ribosomal protein L41

Chain Ln:  88% 12%



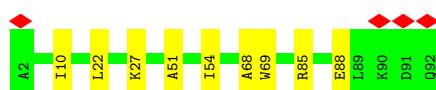
- Molecule 45: 60S ribosomal protein L36a

Chain Lo:  5% 85% 15%

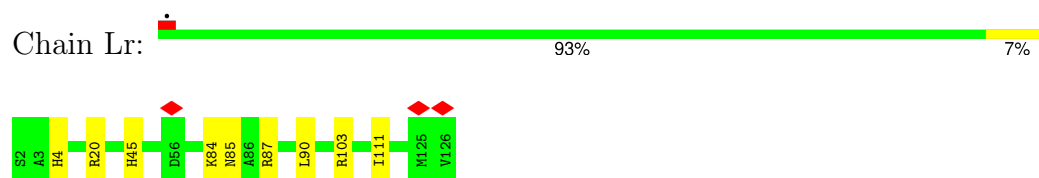


- Molecule 46: 60S ribosomal protein L37a

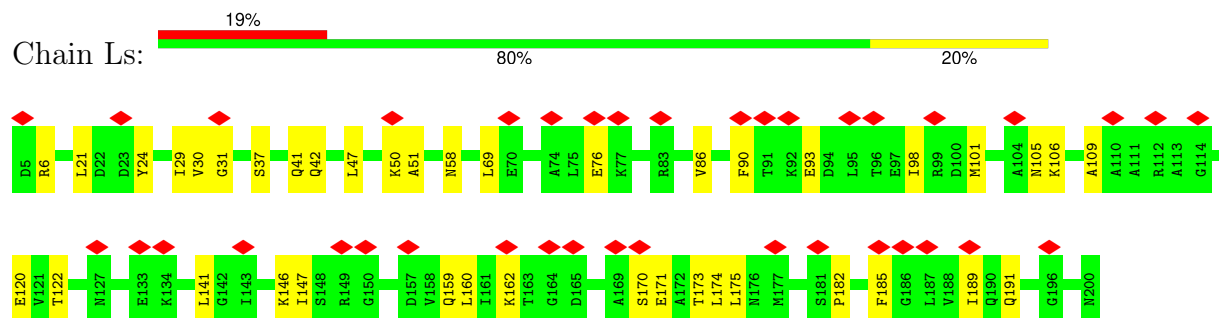
Chain Lp:  90% 10%



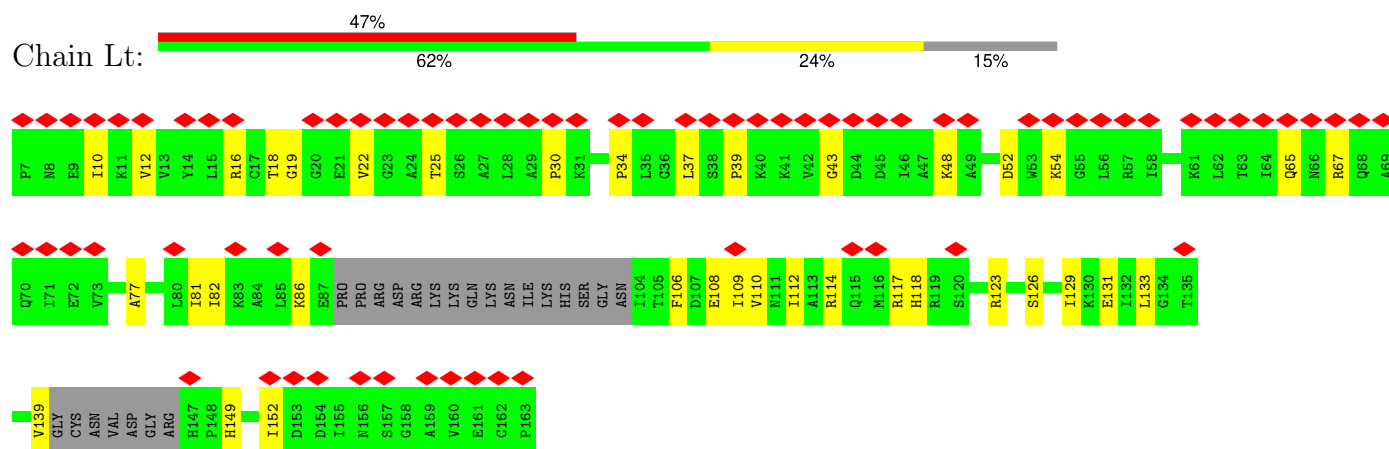
- Molecule 47: 60S ribosomal protein L28



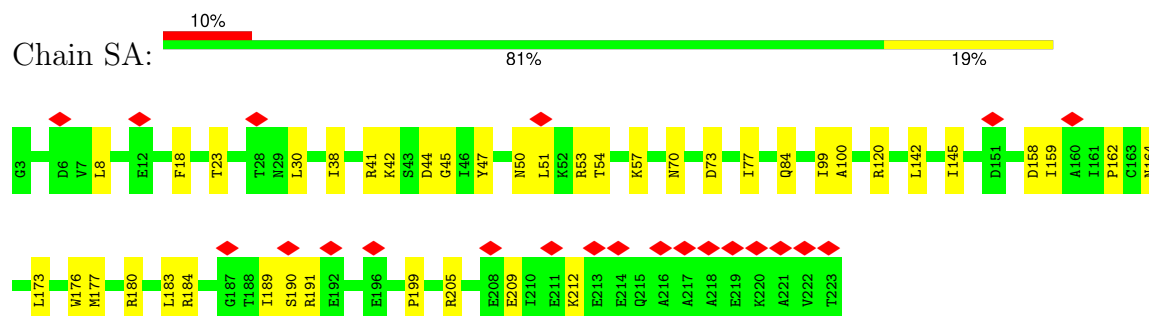
- Molecule 48: 60S acidic ribosomal protein P0



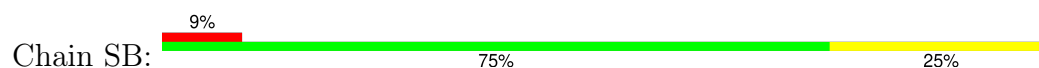
- Molecule 49: Large ribosomal subunit protein uL11

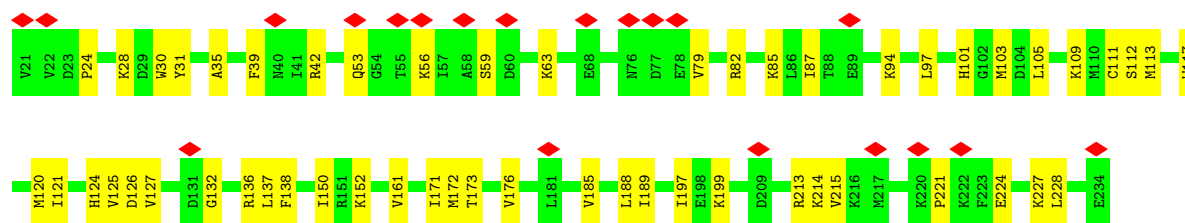


- Molecule 50: 40S ribosomal protein SA



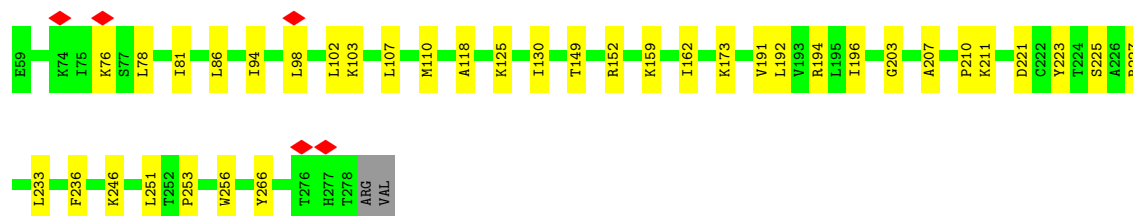
- Molecule 51: 40S ribosomal protein S3a





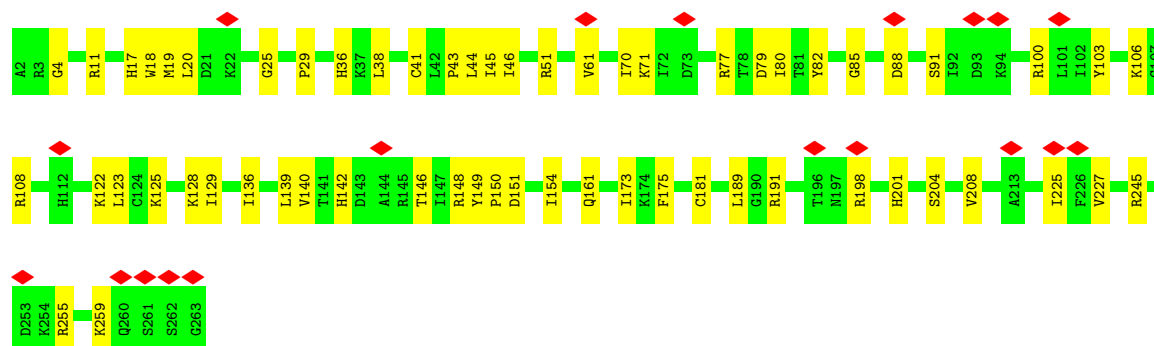
- Molecule 52: 40S ribosomal protein S2

Chain SC: 82% 17%



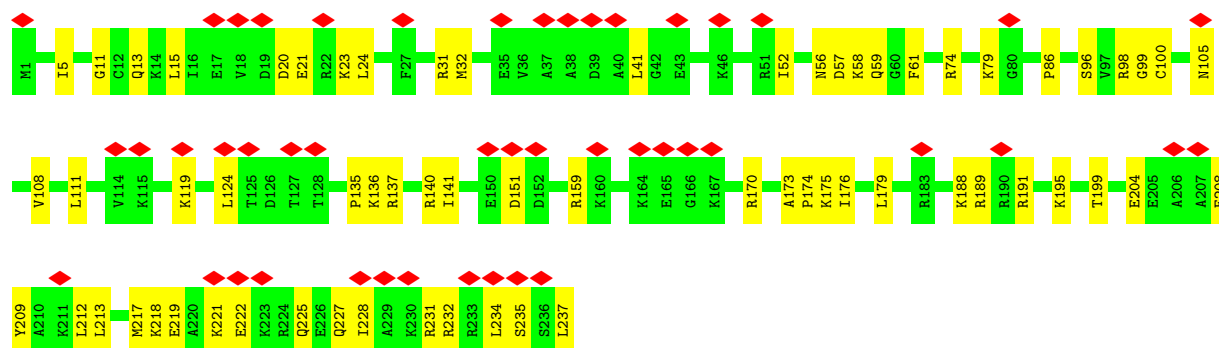
- Molecule 53: Small ribosomal subunit protein eS4, X isoform

Chain SE: 7% 77% 23%



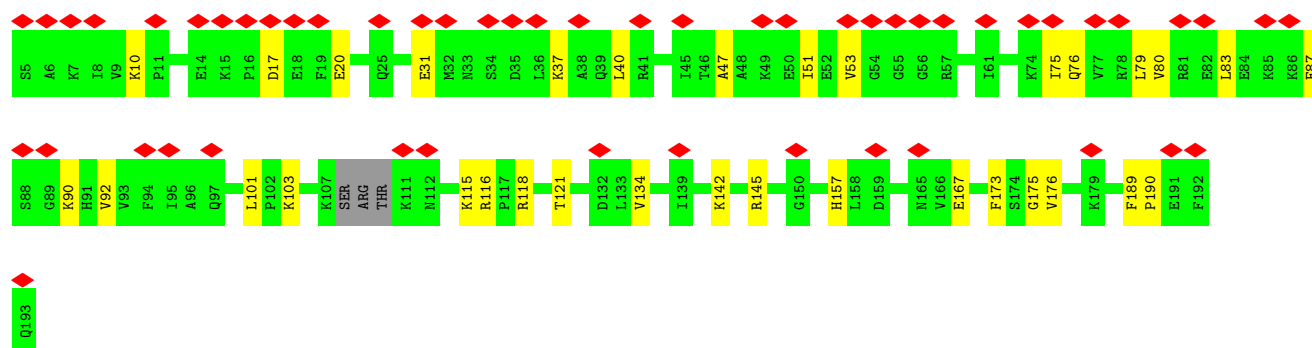
- Molecule 54: 40S ribosomal protein S6

Chain SG: 19% 73% 27%



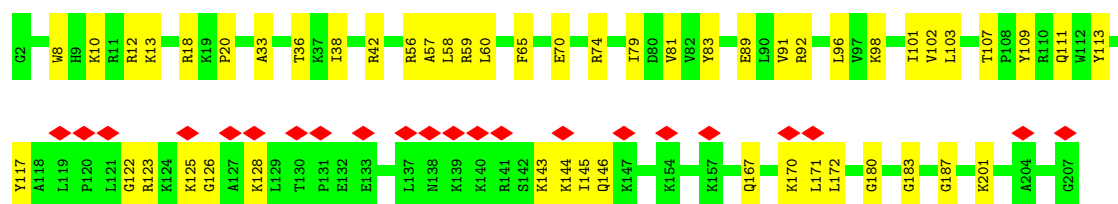
- Molecule 55: Small ribosomal subunit protein eS7

Chain SH: 



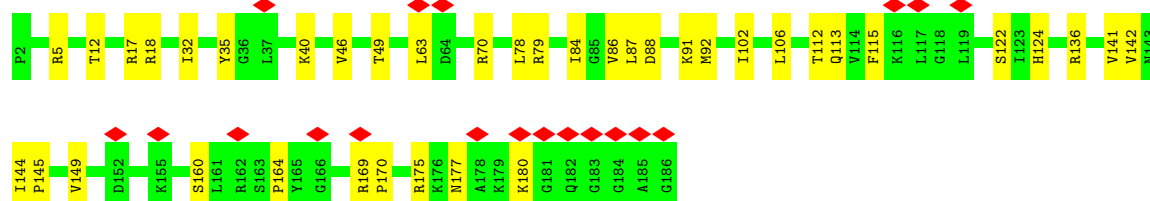
- Molecule 56: 40S ribosomal protein S8

Chain SI: 



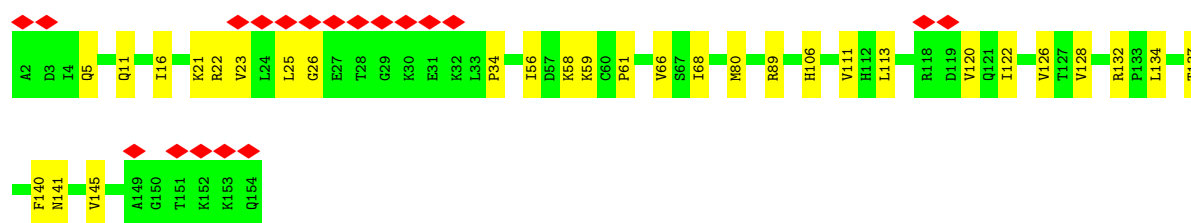
- Molecule 57: 40S ribosomal protein S9

Chain SJ: 



- Molecule 58: 40S ribosomal protein S11

Chain SL: 

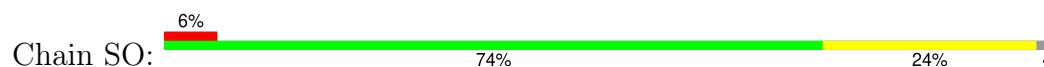


- Molecule 59: 40S ribosomal protein S13

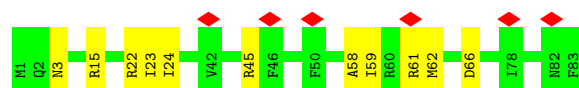
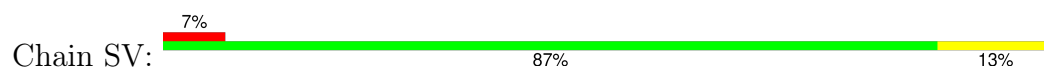
Chain SN: 



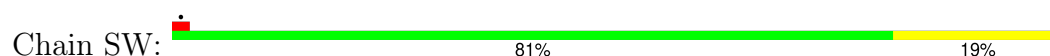
- Molecule 60: Small ribosomal subunit protein uS11



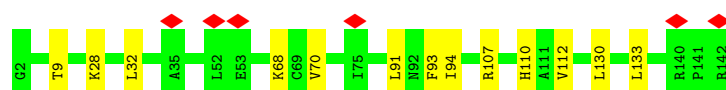
- Molecule 61: Small ribosomal subunit protein eS21



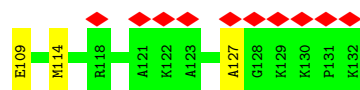
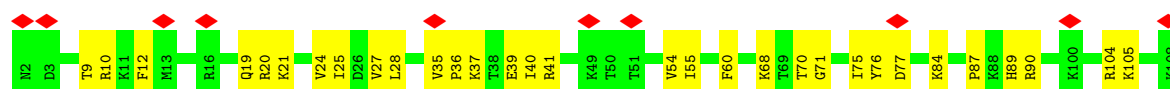
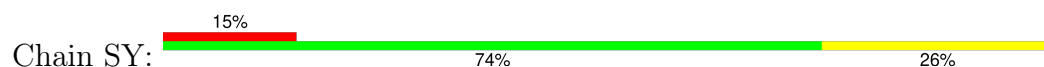
- Molecule 62: 40S ribosomal protein S15a



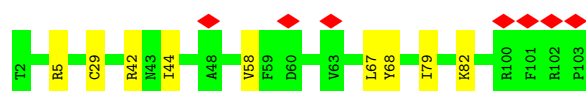
- Molecule 63: 40S ribosomal protein S23



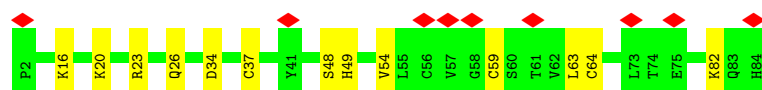
- Molecule 64: 40S ribosomal protein S24

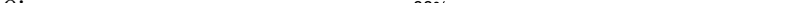


- Molecule 65: 40S ribosomal protein S26

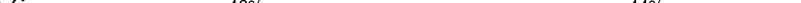


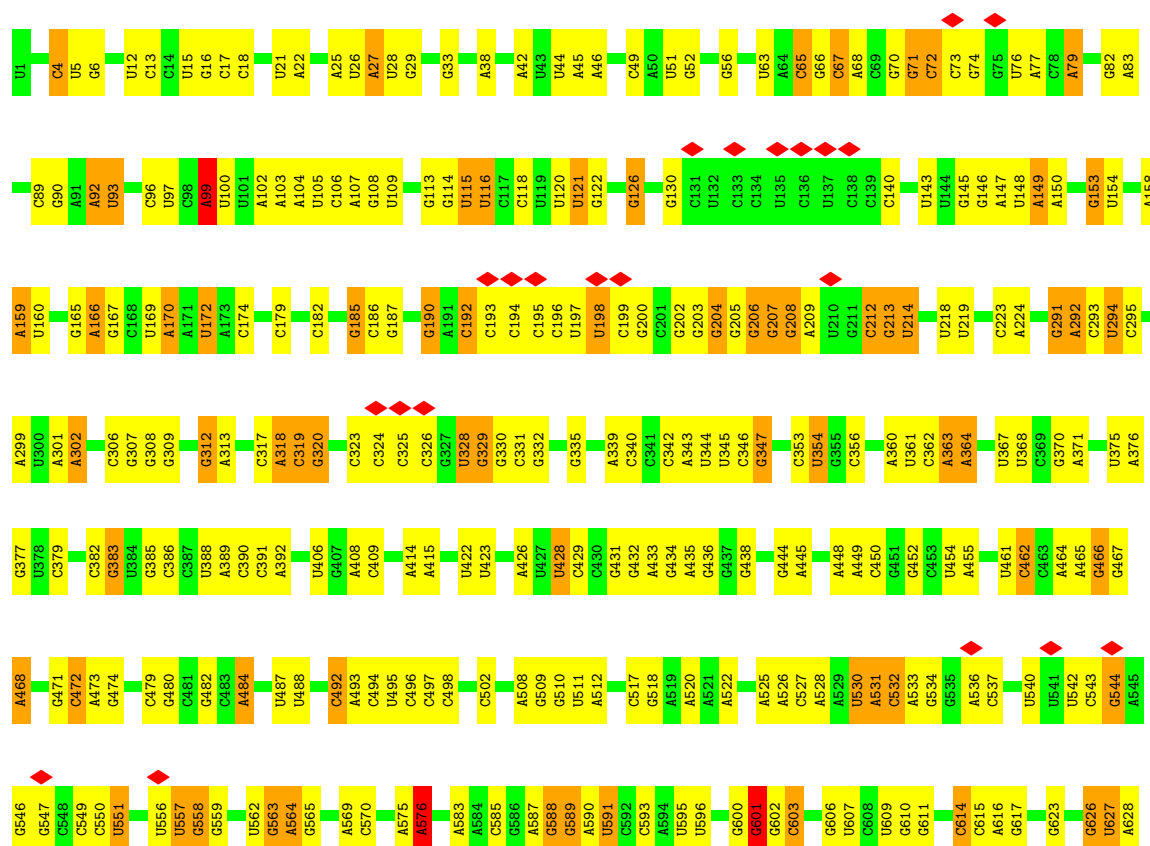
- Chain Sb: 

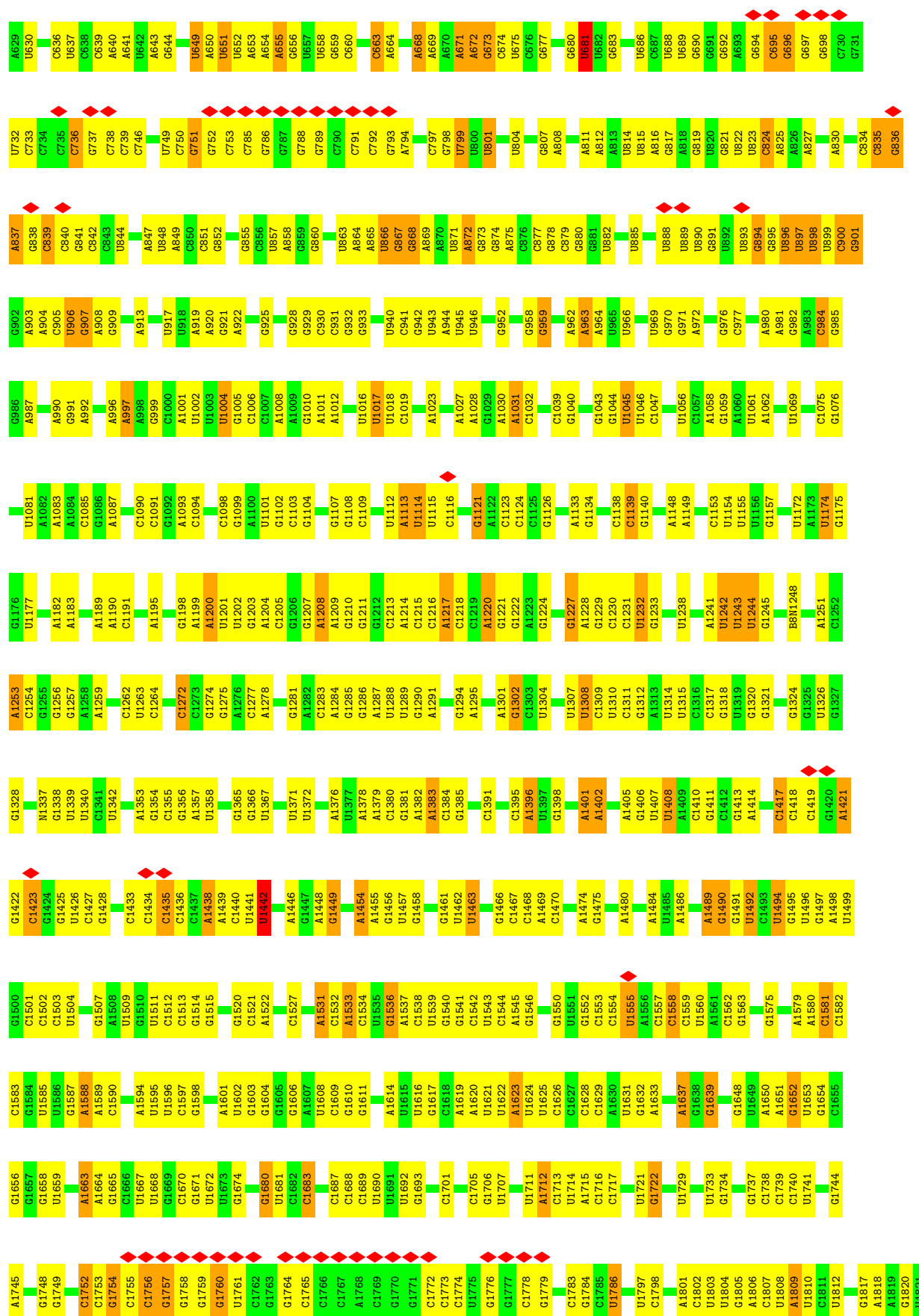


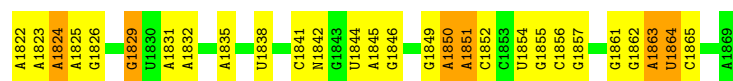
- Chain Se: 



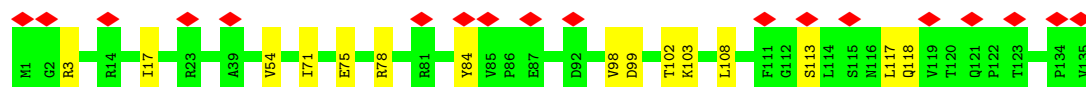
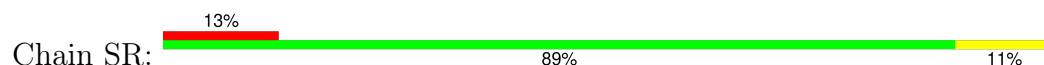
- Chain S2: 



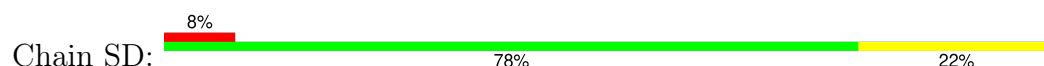




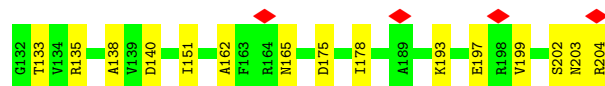
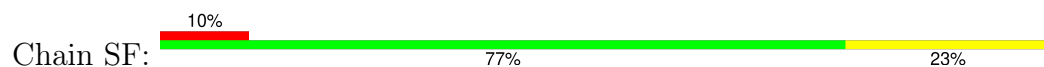
- Molecule 69: Small ribosomal subunit protein eS17



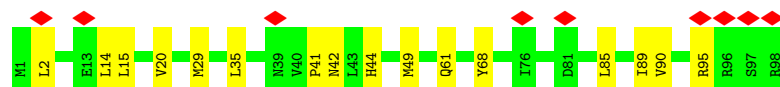
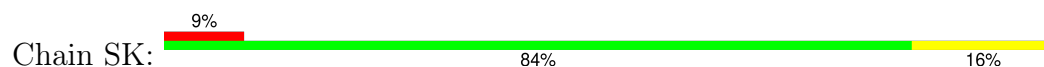
- Molecule 70: Small ribosomal subunit protein uS3



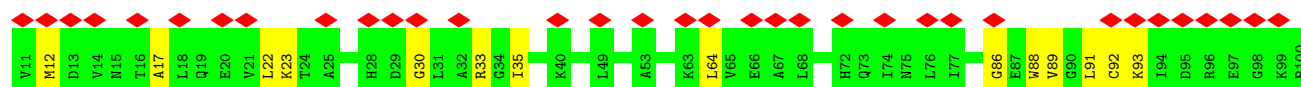
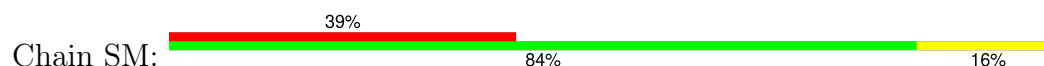
- Molecule 71: 40S ribosomal protein S5

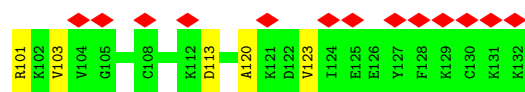


- Molecule 72: 40S ribosomal protein S10

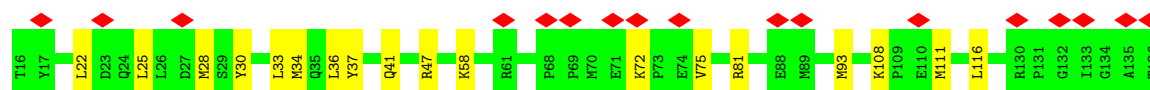
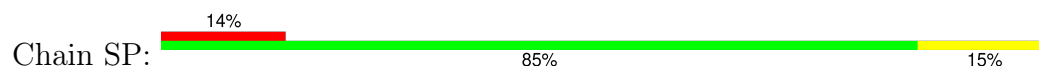


- Molecule 73: Small ribosomal subunit protein eS12

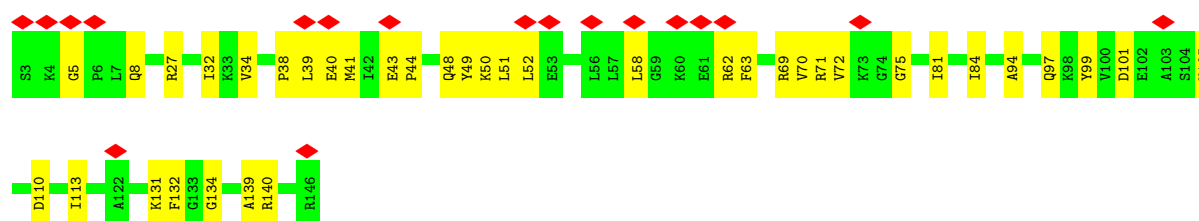
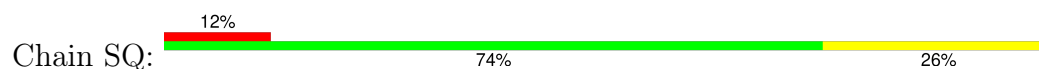




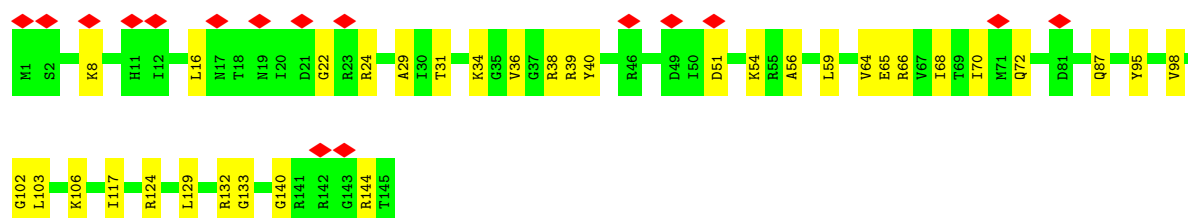
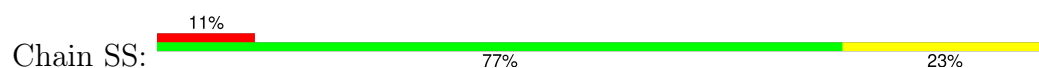
- Molecule 74: Small ribosomal subunit protein uS19



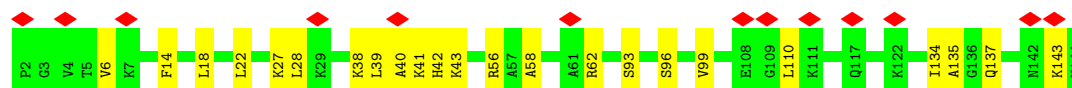
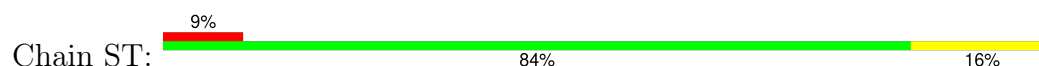
- Molecule 75: Small ribosomal subunit protein uS9



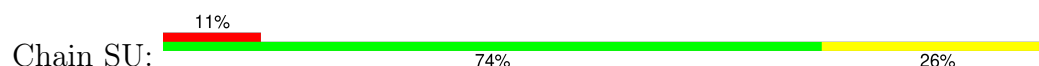
- Molecule 76: 40S ribosomal protein S18



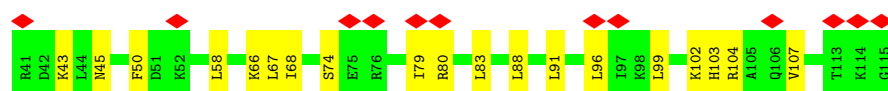
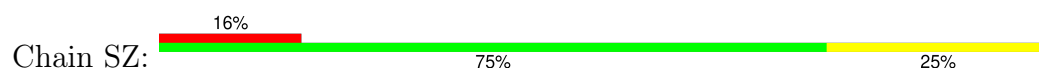
- Molecule 77: 40S ribosomal protein S19



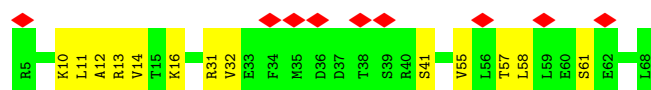
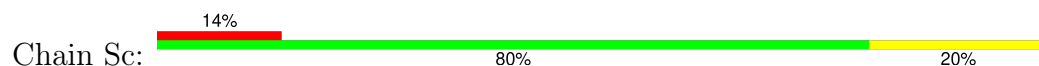
- Molecule 78: 40S ribosomal protein S20



- Molecule 79: Small ribosomal subunit protein eS25



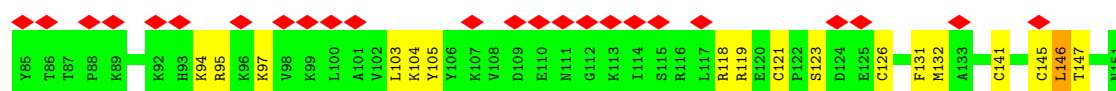
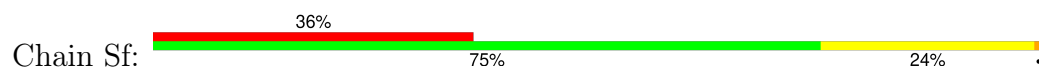
- Molecule 80: 40S ribosomal protein S28



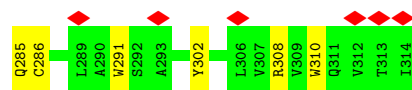
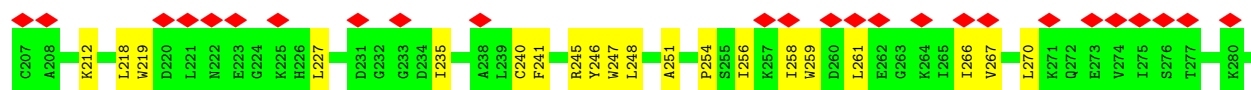
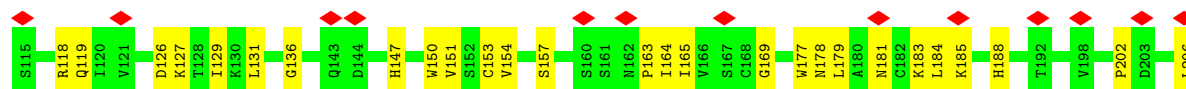
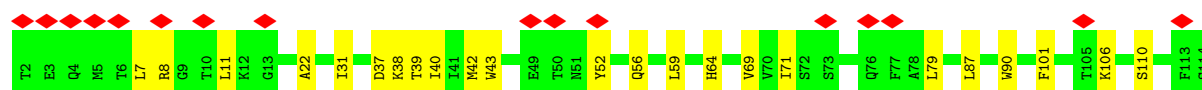
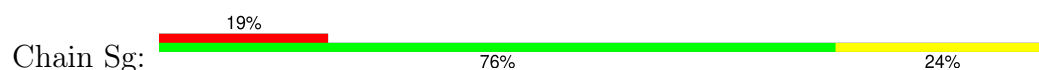
- Molecule 81: 40S ribosomal protein S29



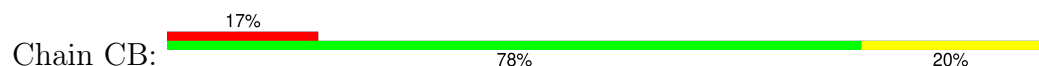
- Molecule 82: Ubiquitin-40S ribosomal protein S27a

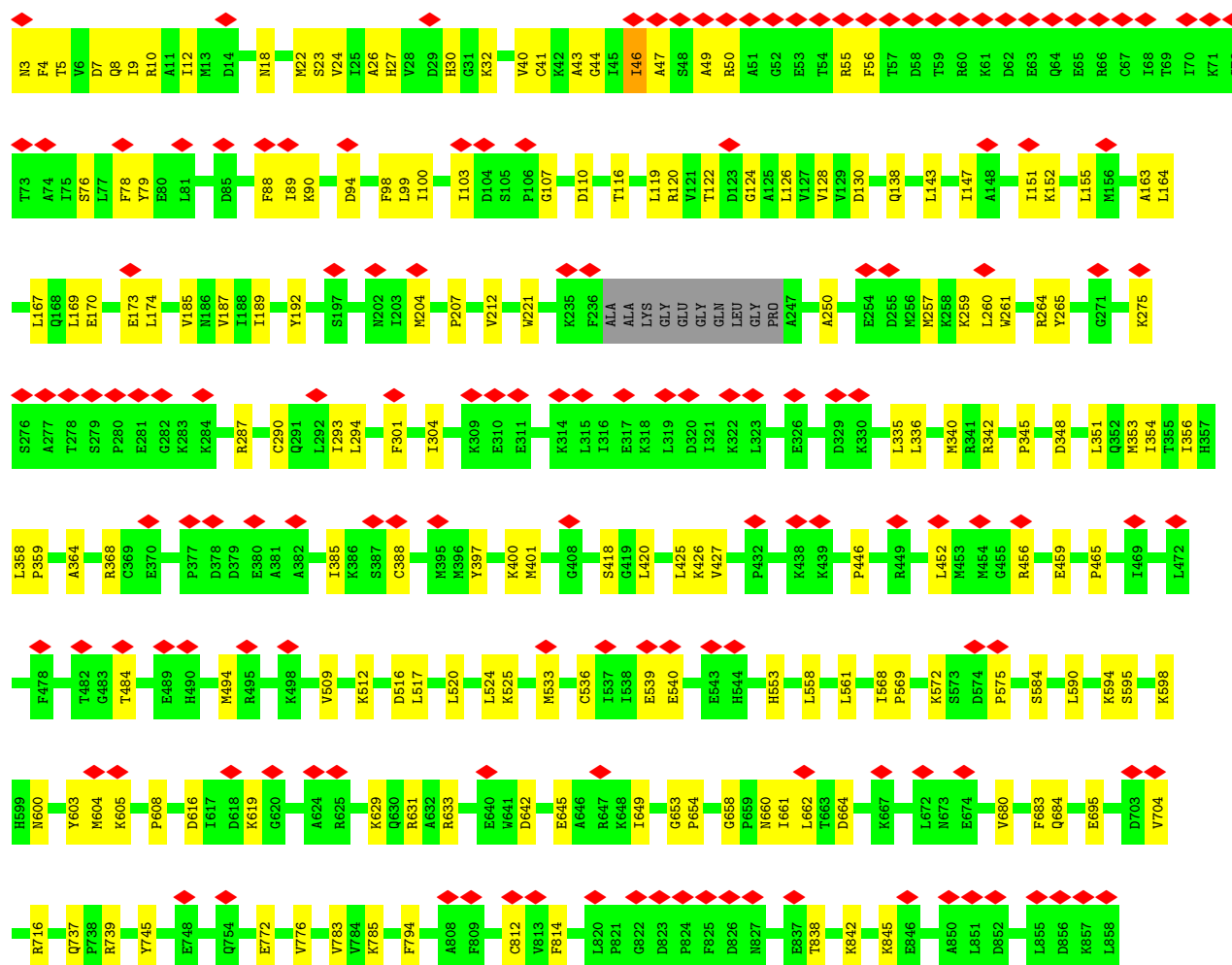


- Molecule 83: Receptor of activated protein C kinase 1

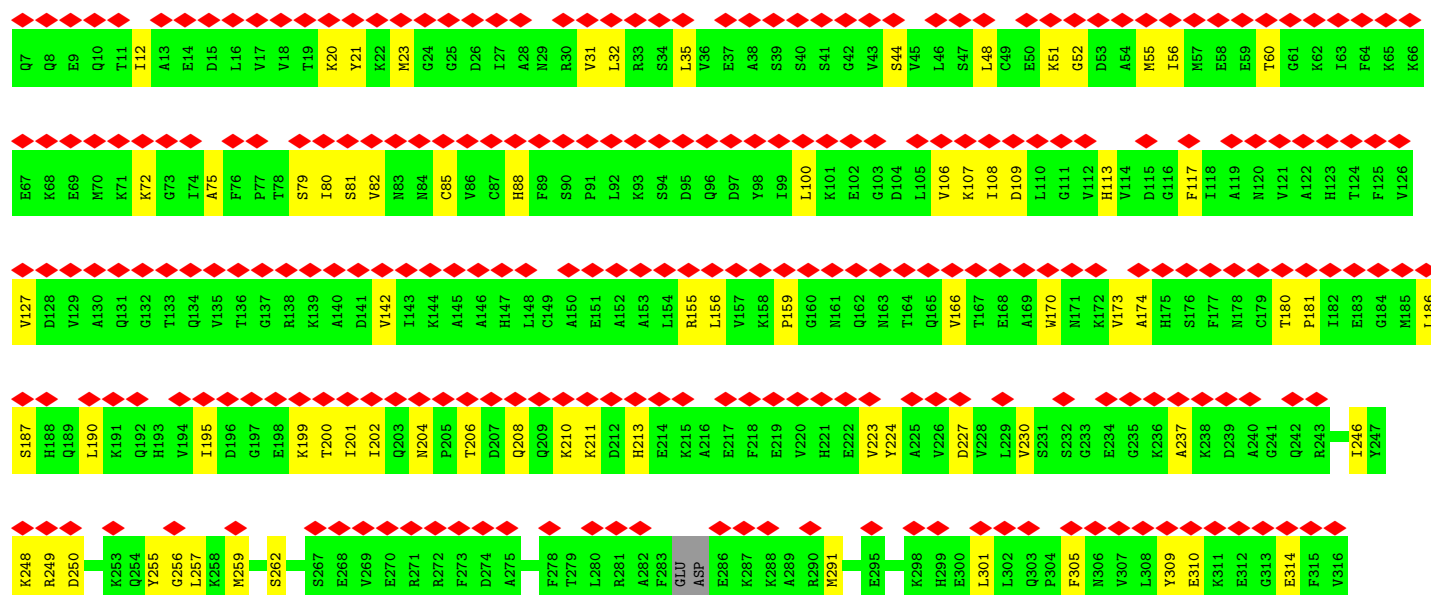
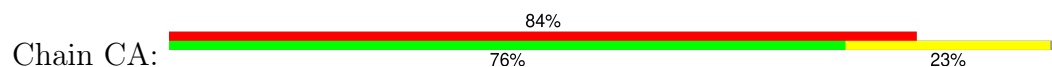


- Molecule 84: Elongation factor 2





• Molecule 85: Proliferation-associated protein 2G4



A317	Q318	F319	K320	F321	T322	V323	L324	L325	M326	P327	N328	G329	P330	M331	R332	I333	T334	S335	G336	P337	F338	E339	P340	D341	L342	Y343	K344	S345	E346	M347	E348	V349	Q350	D351	A352	E353	L354	K355	A356	L357	L358	Q359	S360	S361	A362
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	12945	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	0.115	Depositor
Minimum map value	-0.048	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.02	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: 6MZ, PSU, SPM, 4AC, MG, OMU, OMG, OMC, A2M, ZN, 5MC, 1MA, SPD, B8N, G7M, UY1, UR3, MA6

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	CD	0.16	0/447	0.32	0/592
2	CI	0.14	0/247	0.31	0/323
3	L5	0.33	0/85098	0.33	2/132762 (0.0%)
4	L7	0.32	0/2861	0.29	0/4459
5	L8	0.32	0/3631	0.31	0/5657
6	LA	0.33	0/1936	0.39	0/2596
7	LB	0.30	0/3306	0.38	0/4424
8	LC	0.31	0/2981	0.38	0/4002
9	LD	0.25	0/2428	0.36	0/3252
10	LE	0.24	0/1973	0.34	0/2645
11	LF	0.31	0/1905	0.36	0/2539
12	LG	0.27	0/1960	0.37	0/2637
13	LH	0.29	0/1537	0.38	0/2066
14	LI	0.28	0/1697	0.34	0/2266
15	LJ	0.25	0/1385	0.39	0/1852
16	LL	0.28	0/1732	0.36	0/2315
17	LM	0.29	0/1161	0.39	0/1554
18	LN	0.33	0/1746	0.37	0/2338
19	LO	0.31	0/1682	0.37	0/2250
20	LP	0.32	0/1268	0.44	0/1701
21	LQ	0.32	0/1537	0.39	0/2052
22	LR	0.27	0/1582	0.33	0/2091
23	LS	0.32	0/1493	0.37	0/2003
24	LT	0.29	0/1326	0.31	0/1770
25	LU	0.24	0/839	0.41	0/1126
26	LV	0.29	0/993	0.36	0/1332
27	LW	0.24	0/959	0.34	0/1270
28	LX	0.29	0/1002	0.38	0/1345
29	LY	0.28	0/1132	0.36	0/1504
30	LZ	0.26	0/1130	0.37	0/1507
31	La	0.31	0/1191	0.33	0/1591

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Lb	0.26	0/889	0.40	0/1175
33	Lc	0.28	0/774	0.37	0/1038
34	Ld	0.28	0/903	0.38	0/1216
35	Le	0.31	0/1071	0.34	0/1429
36	Lf	0.33	0/895	0.39	0/1198
37	Lg	0.29	0/916	0.35	0/1220
38	Lh	0.26	0/1023	0.36	0/1351
39	Li	0.25	0/843	0.34	0/1115
40	Lj	0.31	0/720	0.40	0/952
41	Lk	0.25	0/575	0.30	0/761
42	Ll	0.29	0/454	0.32	0/599
43	Lm	0.28	0/435	0.36	0/575
44	Ln	0.25	0/231	0.31	0/294
45	Lo	0.27	0/876	0.36	0/1156
46	Lp	0.32	0/718	0.41	0/953
47	Lr	0.31	0/1017	0.38	0/1364
48	Ls	0.20	0/1519	0.41	0/2052
49	Lt	0.19	0/1009	0.47	0/1363
50	SA	0.23	0/1778	0.40	0/2416
51	SB	0.21	0/1765	0.39	0/2362
52	SC	0.23	0/1744	0.39	0/2357
53	SE	0.21	0/2118	0.37	0/2849
54	SG	0.20	0/1946	0.42	0/2590
55	SH	0.20	0/1519	0.42	0/2033
56	SI	0.21	0/1715	0.39	0/2287
57	SJ	0.20	0/1550	0.37	0/2069
58	SL	0.22	0/1268	0.33	0/1696
59	SN	0.22	0/1232	0.33	0/1656
60	SO	0.24	0/1037	0.41	0/1391
61	SV	0.19	0/643	0.31	0/860
62	SW	0.24	0/1051	0.36	0/1406
63	SX	0.23	0/1116	0.39	0/1490
64	SY	0.20	0/1083	0.39	0/1438
65	Sa	0.25	0/836	0.38	0/1121
66	Sb	0.19	0/665	0.38	0/891
67	Se	0.18	0/465	0.38	0/612
68	S2	0.26	1/39756 (0.0%)	0.32	0/61939
69	SR	0.23	0/1105	0.46	0/1484
70	SD	0.22	0/1793	0.36	0/2414
71	SF	0.21	0/1516	0.41	0/2037
72	SK	0.22	0/851	0.42	0/1147
73	SM	0.19	0/950	0.45	0/1275
74	SP	0.19	0/1003	0.35	0/1342

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	SQ	0.21	0/1160	0.38	0/1553
76	SS	0.19	0/1216	0.37	0/1628
77	ST	0.20	0/1131	0.34	0/1515
78	SU	0.22	0/831	0.45	0/1115
79	SZ	0.21	0/604	0.42	0/810
80	Sc	0.19	0/508	0.34	0/680
81	Sd	0.23	0/470	0.37	0/623
82	Sf	0.20	0/560	0.52	1/745 (0.1%)
83	Sg	0.19	0/2493	0.42	0/3394
84	CB	0.20	0/6734	0.38	1/9094 (0.0%)
85	CA	0.17	0/2810	0.39	0/3780
All	All	0.28	1/238055 (0.0%)	0.35	4/347731 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	S2	484	A2M	O3'-P	5.21	1.61	1.56

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	1931	C	OP1-P-O3'	-8.84	81.48	108.00
3	L5	1931	C	OP2-P-O3'	-8.57	82.30	108.00
84	CB	46	ILE	N-CA-C	-6.31	107.14	113.20
82	Sf	146	LEU	CB-CA-C	-5.50	109.25	115.79

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	CD	440	0	402	5	0
2	CI	247	0	283	0	0
3	L5	78444	0	39716	758	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	L7	2561	0	1295	24	0
5	L8	3315	0	1685	22	0
6	LA	1898	0	1993	17	0
7	LB	3238	0	3376	41	0
8	LC	2927	0	3104	20	0
9	LD	2382	0	2410	30	0
10	LE	1935	0	2096	32	0
11	LF	1870	0	1996	15	0
12	LG	1927	0	2074	19	0
13	LH	1518	0	1601	23	0
14	LI	1658	0	1697	14	0
15	LJ	1362	0	1399	10	0
16	LL	1701	0	1818	19	0
17	LM	1138	0	1204	17	0
18	LN	1701	0	1749	17	0
19	LO	1650	0	1794	28	0
20	LP	1242	0	1269	12	0
21	LQ	1513	0	1628	14	0
22	LR	1566	0	1729	16	0
23	LS	1453	0	1490	5	0
24	LT	1298	0	1366	10	0
25	LU	825	0	850	12	0
26	LV	979	0	1039	10	0
27	LW	945	0	1003	15	0
28	LX	985	0	1066	8	0
29	LY	1115	0	1205	14	0
30	LZ	1107	0	1182	7	0
31	La	1162	0	1213	6	0
32	Lb	876	0	948	12	0
33	Lc	764	0	804	10	0
34	Ld	888	0	930	9	0
35	Le	1053	0	1147	12	0
36	Lf	876	0	912	9	0
37	Lg	906	0	998	11	0
38	Lh	1015	0	1148	17	0
39	Li	832	0	917	7	0
40	Lj	705	0	737	6	0
41	Lk	569	0	637	3	0
42	Ll	444	0	483	9	0
43	Lm	429	0	465	3	0
44	Ln	230	0	276	3	0
45	Lo	862	0	929	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	Lp	708	0	756	6	0
47	Lr	1002	0	1068	8	0
48	Ls	1496	0	1540	24	0
49	Lt	998	0	1032	26	0
50	SA	1741	0	1744	31	0
51	SB	1738	0	1809	36	0
52	SC	1707	0	1791	26	0
53	SE	2076	0	2177	43	0
54	SG	1923	0	2088	48	0
55	SH	1497	0	1590	23	0
56	SI	1686	0	1772	37	0
57	SJ	1525	0	1640	25	0
58	SL	1247	0	1323	21	0
59	SN	1208	0	1294	14	0
60	SO	1024	0	1050	26	0
61	SV	636	0	637	13	0
62	SW	1034	0	1080	17	0
63	SX	1098	0	1167	9	0
64	SY	1065	0	1142	26	0
65	Sa	821	0	870	10	0
66	Sb	651	0	669	8	0
67	Se	459	0	503	6	0
68	S2	36952	0	18678	540	0
69	SR	1090	0	1149	10	0
70	SD	1765	0	1865	31	0
71	SF	1495	0	1549	29	0
72	SK	827	0	854	9	0
73	SM	940	0	965	13	0
74	SP	985	0	1031	12	0
75	SQ	1142	0	1213	28	0
76	SS	1198	0	1261	22	0
77	ST	1112	0	1146	13	0
78	SU	821	0	883	18	0
79	SZ	598	0	656	14	0
80	Sc	506	0	536	10	0
81	Sd	459	0	449	5	0
82	Sf	548	0	551	17	0
83	Sg	2436	0	2389	45	0
84	CB	6605	0	6679	113	0
85	CA	2764	0	2779	54	0
86	L5	177	0	0	0	0
86	L7	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
86	L8	5	0	0	0	0
86	LA	1	0	0	0	0
86	LI	1	0	0	0	0
86	LP	1	0	0	0	0
86	LV	1	0	0	0	0
86	Le	1	0	0	0	0
86	Lj	1	0	0	0	0
86	S2	26	0	0	0	0
86	SG	1	0	0	0	0
87	L5	98	0	182	6	0
88	L5	90	0	171	1	0
88	LN	10	0	19	0	0
89	Lg	1	0	0	0	0
89	Lj	1	0	0	0	0
89	Lm	1	0	0	0	0
89	Lo	1	0	0	0	0
89	Lp	1	0	0	0	0
89	Sa	1	0	0	0	0
All	All	226556	0	171810	2568	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 6.

All (2568) 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)
3:L5:1177:U:H3	3:L5:1183:C:H42	1.09	1.01
3:L5:4887:C:N4	3:L5:4932:U:H3	1.59	0.99
3:L5:3944:G:H1	3:L5:4069:U:H3	0.98	0.95
3:L5:2557:G:H1	3:L5:2570:U:H3	1.10	0.94
68:S2:677:G:H21	68:S2:1028:A:H62	1.17	0.93
3:L5:1177:U:H3	3:L5:1183:C:N4	1.67	0.92
68:S2:1652:G:H1	68:S2:1672:U:H3	1.13	0.91
3:L5:2845:A:H61	3:L5:3843:C:H42	1.20	0.90
68:S2:1324:G:H1	68:S2:1504:U:H3	1.18	0.87
3:L5:4997:G:H1	3:L5:5053:U:H3	1.23	0.85
68:S2:1729:U:H3	68:S2:1805:G:H1	1.23	0.85
3:L5:3946:G:H1	3:L5:4067:U:H3	0.86	0.84
68:S2:1748:G:H1	68:S2:1786:U:H3	0.87	0.83
53:SE:38:LEU:HD22	68:S2:346:C:H5"	1.61	0.83
84:CB:23:SER:HB3	84:CB:122:THR:HG21	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:1417:C:N4	68:S2:1422:G:H22	1.78	0.82
68:S2:1417:C:H42	68:S2:1422:G:N2	1.78	0.81
3:L5:4887:C:H42	3:L5:4932:U:H3	0.85	0.81
36:Lf:29:LYS:HZ3	36:Lf:83:MET:HE1	1.43	0.81
60:SO:99:ALA:H	60:SO:133:THR:HG22	1.47	0.80
53:SE:139:LEU:HD22	53:SE:150:PRO:HB3	1.64	0.79
68:S2:1533:A:H62	68:S2:1602:U:H3	1.31	0.78
53:SE:79:ASP:HB3	53:SE:82:TYR:HB2	1.65	0.78
84:CB:616:ASP:HA	84:CB:619:LYS:HE2	1.65	0.78
56:SI:126:GLY:H	56:SI:128:LYS:HZ3	1.29	0.78
84:CB:745:TYR:HE2	84:CB:812:CYS:HB2	1.48	0.78
3:L5:1095:A:N1	3:L5:1200:G:O6	2.16	0.77
68:S2:1737:G:H1	68:S2:1797:U:H3	1.34	0.75
52:SC:194:ARG:HG2	52:SC:225:SER:HB3	1.67	0.75
68:S2:1417:C:N3	68:S2:1422:G:N1	2.33	0.75
71:SF:49:LEU:HD12	75:SQ:50:LYS:HG2	1.69	0.75
60:SO:61:LYS:HG2	60:SO:76:LEU:HB3	1.68	0.74
3:L5:2845:A:H61	3:L5:3843:C:N4	1.85	0.74
68:S2:1656:G:H1	68:S2:1668:U:H3	1.31	0.74
64:SY:10:ARG:HA	68:S2:839:C:H41	1.51	0.74
70:SD:60:GLY:HA3	70:SD:65:ARG:H	1.52	0.74
68:S2:528:A:H61	68:S2:557:U:H3	1.33	0.74
20:LP:107:LEU:HD12	20:LP:152:GLU:HG3	1.69	0.73
55:SH:51:ILE:HD11	55:SH:176:VAL:HG12	1.70	0.73
68:S2:677:G:N2	68:S2:1028:A:H62	1.85	0.73
61:SV:22:ARG:HH22	61:SV:59:ILE:HG23	1.53	0.73
68:S2:1337:4AC:H2'	68:S2:1338:G:H8	1.52	0.73
68:S2:1435:C:H41	78:SU:19:ARG:HD2	1.51	0.73
64:SY:60:PHE:HA	64:SY:70:THR:O	1.89	0.73
84:CB:110:ASP:HB3	84:CB:553:HIS:HB2	1.71	0.73
10:LE:72:LYS:HB2	32:Lb:119:CYS:HB3	1.69	0.73
3:L5:1270:A:H8	3:L5:2106:G:H21	1.37	0.72
68:S2:1550:G:H3'	68:S2:1579:A:H61	1.53	0.72
84:CB:40:VAL:HG13	84:CB:47:ALA:HB1	1.70	0.72
3:L5:2458:C:H5''	18:LN:67:ARG:HD2	1.72	0.72
67:Se:38:TYR:O	67:Se:42:PHE:HB2	1.89	0.72
68:S2:140:C:H42	68:S2:313:A:H61	1.38	0.71
68:S2:851:C:H5''	68:S2:852:G:H5'	1.70	0.71
84:CB:745:TYR:HB2	84:CB:814:PHE:HA	1.73	0.71
13:LH:106:GLN:HB2	13:LH:111:LEU:HB3	1.73	0.71
3:L5:2611:A:H5'	3:L5:2688:G:H4'	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SH:83:LEU:HB3	55:SH:92:VAL:HG11	1.71	0.71
3:L5:1500:A:H5''	3:L5:1501:C:H5''	1.74	0.70
83:Sg:87:LEU:HB2	83:Sg:101:PHE:HB2	1.73	0.70
12:LG:159:HIS:ND1	12:LG:185:LYS:HA	2.07	0.70
48:Ls:42:GLN:HE22	48:Ls:105:ASN:HB2	1.55	0.70
68:S2:1277:C:H2'	68:S2:1278:A:H8	1.56	0.70
75:SQ:32:ILE:HG12	75:SQ:39:LEU:HD23	1.71	0.70
3:L5:2101:C:H2'	3:L5:2102:G:H2'	1.74	0.70
68:S2:588:G:H4'	68:S2:589:G:H5'	1.74	0.70
83:Sg:259:TRP:HB3	83:Sg:266:ILE:HA	1.72	0.69
49:Lt:19:GLY:HA2	49:Lt:48:LYS:HZ3	1.56	0.69
60:SO:146:ARG:HG3	65:Sa:29:CYS:HB2	1.75	0.69
3:L5:158:A:H5''	3:L5:159:C:H2'	1.74	0.69
3:L5:2845:A:N6	3:L5:3843:C:H42	1.89	0.69
58:SL:58:LYS:HE3	58:SL:59:LYS:HE3	1.75	0.69
75:SQ:34:VAL:HG12	75:SQ:70:VAL:HB	1.75	0.69
3:L5:1404:G:N7	3:L5:1408:G:N2	2.40	0.69
65:Sa:82:LYS:HE3	68:S2:1209:A:H5''	1.75	0.68
83:Sg:153:CYS:HB3	83:Sg:169:GLY:H	1.56	0.68
3:L5:4162:C:H5	12:LG:73:ARG:HH12	1.39	0.68
11:LF:105:VAL:HG13	11:LF:136:VAL:HG12	1.76	0.68
76:SS:22:GLY:HA2	76:SS:56:ALA:HB3	1.75	0.68
3:L5:1778:C:H5''	9:LD:5:LYS:HG3	1.76	0.68
3:L5:4910:G:H4'	7:LB:95:THR:HG22	1.76	0.68
68:S2:1228:A:H2'	68:S2:1229:G:C8	2.28	0.68
85:CA:156:LEU:HD11	85:CA:166:VAL:HG22	1.74	0.68
13:LH:102:ASN:HB2	13:LH:115:ARG:HB2	1.74	0.68
54:SG:234:LEU:HD11	54:SG:237:LEU:HB3	1.76	0.68
3:L5:1332:C:H2'	3:L5:1333:A:H8	1.58	0.68
3:L5:4740:G:O6	3:L5:4959:U:O2	2.11	0.68
68:S2:166:A2M:H2'	68:S2:167:G:C8	2.29	0.68
68:S2:885:U:O2	68:S2:901:G:O6	2.11	0.68
72:SK:15:LEU:HD22	72:SK:49:MET:HE2	1.76	0.68
3:L5:1177:U:N3	3:L5:1183:C:N4	2.31	0.67
79:SZ:102:LYS:HA	79:SZ:107:VAL:HG12	1.74	0.67
56:SI:57:ALA:HB2	56:SI:183:GLY:HA2	1.75	0.67
56:SI:145:ILE:HG21	68:S2:190:G:H5'	1.77	0.67
85:CA:181:PRO:HB2	85:CA:204:ASN:HB2	1.76	0.67
3:L5:3717:A:H2'	3:L5:3718:A2M:H8	1.77	0.67
61:SV:15:ARG:HH21	61:SV:24:ILE:HD13	1.59	0.67
80:Sc:31:ARG:HD2	80:Sc:41:SER:HB2	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:Lo:33:LEU:HA	45:Lo:38:LYS:HG2	1.77	0.67
3:L5:1414:C:H2'	3:L5:1415:G:H8	1.58	0.67
75:SQ:58:LEU:HD12	75:SQ:62:ARG:HD2	1.75	0.67
59:SN:14:SER:HB3	68:S2:1016:U:H5''	1.77	0.67
3:L5:512:U:H3	3:L5:647:G:H1	1.41	0.66
83:Sg:129:ILE:HD11	83:Sg:151:VAL:HG11	1.75	0.66
48:Ls:141:LEU:HD22	48:Ls:174:LEU:HD13	1.77	0.66
49:Lt:131:GLU:HA	49:Lt:152:ILE:HD12	1.77	0.66
54:SG:159:ARG:HG3	54:SG:173:ALA:HB2	1.77	0.66
68:S2:600:G:H2'	68:S2:601:OMG:H8	1.60	0.66
68:S2:1594:A:H5''	79:SZ:104:ARG:HB3	1.78	0.66
83:Sg:247:TRP:HB3	83:Sg:258:ILE:HD11	1.76	0.66
85:CA:75:ALA:HB2	85:CA:113:HIS:HB3	1.77	0.66
28:LX:156:ILE:HD11	85:CA:291:MET:HB2	1.76	0.66
25:LU:65:ARG:HB3	25:LU:70:ILE:HG12	1.76	0.66
68:S2:940:U:H3	68:S2:1002:U:H3	1.40	0.66
68:S2:1228:A:H2'	68:S2:1229:G:H8	1.60	0.66
3:L5:1550:G:H1	3:L5:1578:U:H3	1.42	0.66
60:SO:52:THR:HG21	68:S2:952:G:H21	1.59	0.66
68:S2:1302:G:H1	68:S2:1307:U:H3	1.43	0.65
74:SP:22:LEU:HA	74:SP:25:LEU:HB2	1.77	0.65
70:SD:204:LEU:HB2	70:SD:207:HIS:HB2	1.79	0.65
3:L5:505:G:O6	3:L5:653:U:O4	2.15	0.65
3:L5:1824:G:H5''	24:LT:35:LYS:HE2	1.79	0.65
85:CA:187:SER:HB2	85:CA:201:ILE:HB	1.77	0.65
8:LC:218:ILE:HA	8:LC:229:LEU:HD13	1.77	0.65
85:CA:255:TYR:HB3	85:CA:301:LEU:HD11	1.76	0.65
3:L5:4910:G:H22	19:LO:107:GLY:HA3	1.61	0.65
6:LA:114:CYS:HB3	6:LA:165:VAL:HB	1.77	0.65
3:L5:138:G:H2'	3:L5:139:G:H8	1.62	0.65
3:L5:2495:U:H2'	3:L5:2496:G:H8	1.61	0.65
84:CB:654:PRO:HD2	84:CB:658:GLY:HA3	1.78	0.65
9:LD:62:CYS:HB3	9:LD:105:LEU:HD22	1.78	0.65
3:L5:135:G:H5''	38:Lh:96:ASN:HB2	1.79	0.64
75:SQ:51:LEU:HD11	75:SQ:81:ILE:HD12	1.79	0.64
52:SC:191:VAL:HG11	52:SC:236:PHE:HA	1.78	0.64
3:L5:432:U:H1'	87:L5:5293:SPM:H82	1.79	0.64
3:L5:1802:A:H5''	3:L5:1803:G:H5'	1.77	0.64
6:LA:104:VAL:HA	6:LA:107:MET:HE2	1.79	0.64
26:LV:99:GLU:HB3	27:LW:24:THR:HG23	1.79	0.64
52:SC:210:PRO:HD3	52:SC:236:PHE:HE2	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:527:C:H2'	68:S2:528:A:H8	1.62	0.64
54:SG:21:GLU:HA	54:SG:24:LEU:HB2	1.78	0.64
51:SB:124:HIS:HA	51:SB:137:LEU:O	1.97	0.64
54:SG:218:LYS:HD2	54:SG:221:LYS:HE2	1.79	0.64
70:SD:170:THR:HG22	70:SD:187:LYS:HG2	1.80	0.64
73:SM:64:LEU:HD13	82:Sf:104:LYS:HZ3	1.63	0.64
3:L5:2909:C:H1'	3:L5:3585:G:H1	1.63	0.64
49:Lt:65:GLN:HG3	49:Lt:67:ARG:H	1.62	0.64
80:Sc:10:LYS:HZ1	80:Sc:61:SER:HB2	1.63	0.64
84:CB:388:CYS:HB2	84:CB:418:SER:HA	1.80	0.64
3:L5:4353:PSU:H5'	3:L5:4354:U:H5'	1.79	0.64
77:ST:18:LEU:HD22	77:ST:58:ALA:HA	1.79	0.64
77:ST:40:ALA:HB3	77:ST:43:LYS:HG2	1.79	0.64
3:L5:2521:G:H4'	37:Lg:26:PRO:HD2	1.79	0.64
49:Lt:114:ARG:HD3	49:Lt:129:ILE:HG22	1.79	0.64
55:SH:101:LEU:HD12	55:SH:116:ARG:HG3	1.80	0.64
68:S2:1112:U:O2	68:S2:1121:G:O6	2.16	0.64
48:Ls:69:LEU:HD21	48:Ls:76:GLU:HB3	1.79	0.63
17:LM:100:ARG:HA	17:LM:103:LYS:HG2	1.80	0.63
84:CB:524:LEU:HD12	84:CB:536:CYS:HB3	1.80	0.63
38:Lh:95:LEU:HB3	38:Lh:99:GLU:HG3	1.81	0.63
55:SH:145:ARG:HH11	62:SW:49:GLU:HG2	1.63	0.63
68:S2:116:OMU:HN3	68:S2:347:G:H1	1.44	0.63
68:S2:1422:G:H4'	68:S2:1423:C:H3'	1.80	0.63
3:L5:2362:U:H2'	3:L5:2363:A2M:H8	1.81	0.63
69:SR:99:ASP:HB3	69:SR:102:THR:HG23	1.81	0.63
3:L5:3861:A:H2'	3:L5:3862:A:H8	1.64	0.63
34:Ld:90:ARG:HD3	34:Ld:102:LEU:HD13	1.79	0.63
3:L5:1199:G:H2'	3:L5:1200:G:C8	2.34	0.63
21:LQ:39:THR:HG22	21:LQ:41:SER:H	1.64	0.63
3:L5:2745:A:H2'	3:L5:2746:A:H8	1.64	0.62
9:LD:223:PHE:HB3	9:LD:226:TYR:HB2	1.80	0.62
53:SE:88:ASP:HA	53:SE:122:LYS:HD2	1.80	0.62
59:SN:20:ARG:HH21	62:SW:56:HIS:HB3	1.64	0.62
68:S2:207:G:H3'	68:S2:208:G:H8	1.64	0.62
3:L5:964:A:H2'	3:L5:965:G:H4'	1.81	0.62
12:LG:120:LYS:HE3	12:LG:125:LYS:HG3	1.81	0.62
64:SY:104:ARG:HH12	68:S2:492:C:H5	1.48	0.62
68:S2:223:C:H2'	68:S2:224:A:C8	2.33	0.62
68:S2:649:PSU:H2'	68:S2:650:A:H8	1.64	0.62
70:SD:37:VAL:HG23	70:SD:50:ILE:HG13	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Ls:120:GLU:HG2	48:Ls:162:LYS:HA	1.81	0.62
52:SC:192:LEU:HB3	52:SC:227:ARG:HB3	1.81	0.62
53:SE:29:PRO:HA	68:S2:496:C:H5'	1.82	0.62
3:L5:505:G:H1	3:L5:653:U:H3	0.73	0.62
3:L5:1174:G:H1	3:L5:1186:U:H3	1.47	0.62
62:SW:69:LEU:HD21	62:SW:72:CYS:HB3	1.81	0.62
3:L5:1942:A:H2'	3:L5:1943:A:C8	2.34	0.62
78:SU:22:ILE:HD11	78:SU:112:VAL:HB	1.81	0.62
87:L5:5293:SPM:H132	19:LO:91:LYS:HB3	1.80	0.62
68:S2:5:U:H2'	68:S2:6:G:H8	1.64	0.62
68:S2:1603:G:H4'	76:SS:38:ARG:HH22	1.64	0.62
3:L5:3937:C:H1'	18:LN:125:SER:HB3	1.82	0.62
3:L5:696:C:H1'	10:LE:225:PRO:HB3	1.82	0.62
60:SO:134:PRO:HB3	68:S2:944:A:H5''	1.82	0.62
75:SQ:49:TYR:HD1	75:SQ:52:LEU:HD11	1.65	0.62
49:Lt:39:PRO:HB2	49:Lt:43:GLY:HA3	1.81	0.61
68:S2:166:A2M:H2'	68:S2:167:G:H8	1.63	0.61
85:CA:310:GLU:HG3	85:CA:314:GLU:HB2	1.82	0.61
16:LL:64:VAL:HA	16:LL:67:HIS:CD2	2.35	0.61
53:SE:18:TRP:HB3	53:SE:20:LEU:HD13	1.82	0.61
56:SI:144:LYS:HD3	68:S2:192:C:H41	1.63	0.61
68:S2:149:A:N7	68:S2:169:U:O2	2.33	0.61
60:SO:98:ARG:HB2	60:SO:132:VAL:HG23	1.80	0.61
70:SD:59:LEU:HD23	70:SD:66:ILE:HG13	1.82	0.61
3:L5:3599:A:H2'	3:L5:3600:G:C8	2.36	0.61
10:LE:224:LYS:HG3	10:LE:227:HIS:HB3	1.81	0.61
3:L5:679:C:H2'	3:L5:680:G:H8	1.64	0.61
83:Sg:248:LEU:HD23	83:Sg:259:TRP:HE1	1.65	0.61
19:LO:34:VAL:HG22	19:LO:103:LYS:HB2	1.83	0.61
68:S2:1030:A:H2'	68:S2:1031:A2M:H8	1.82	0.61
78:SU:50:VAL:HB	78:SU:91:LEU:HD13	1.82	0.61
3:L5:257:C:H2'	3:L5:258:G:C8	2.35	0.61
3:L5:3848:U:H2'	3:L5:3849:A:H8	1.65	0.61
3:L5:1629:G:H1	6:LA:208:GLU:HG2	1.65	0.61
53:SE:45:ILE:HA	53:SE:61:VAL:HG21	1.83	0.61
62:SW:27:ILE:HB	62:SW:61:ILE:HB	1.82	0.61
68:S2:1588:A:H2'	68:S2:1589:A:C8	2.35	0.61
7:LB:90:VAL:HG22	7:LB:104:THR:HG23	1.82	0.61
54:SG:204:GLU:O	54:SG:208:GLU:HG3	2.01	0.61
58:SL:59:LYS:HG2	58:SL:134:LEU:HD22	1.82	0.61
68:S2:557:U:H2'	68:S2:558:G:C8	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:928:G:H2'	68:S2:929:G:C8	2.35	0.61
68:S2:1277:C:H2'	68:S2:1278:A:C8	2.35	0.61
3:L5:4363:A:H5''	45:Lo:36:GLN:HG2	1.82	0.60
68:S2:804:U:C2	68:S2:860:G:N1	2.69	0.60
68:S2:1536:G:H2'	68:S2:1537:A:H8	1.65	0.60
3:L5:4274:A:H2'	3:L5:4275:G:H8	1.66	0.60
72:SK:85:LEU:HD12	72:SK:89:ILE:HG13	1.82	0.60
83:Sg:302:TYR:HE2	83:Sg:308:ARG:HD2	1.65	0.60
3:L5:1994:C:H2'	3:L5:1995:G:C8	2.36	0.60
6:LA:137:ILE:HD11	6:LA:149:LYS:HB2	1.82	0.60
12:LG:58:PRO:HD2	12:LG:61:ILE:HD12	1.84	0.60
68:S2:925:G:H1	68:S2:1017:U:H3	1.48	0.60
3:L5:1175:A:H2	3:L5:1185:G:H22	1.48	0.60
3:L5:2335:C:H2'	3:L5:2336:G:H8	1.66	0.60
19:LO:61:ARG:HA	19:LO:70:PRO:HD2	1.83	0.60
49:Lt:34:PRO:HA	49:Lt:37:LEU:HG	1.84	0.60
60:SO:101:GLY:HA3	60:SO:134:PRO:HD2	1.82	0.60
68:S2:165:G:H2'	68:S2:166:A2M:H8	1.83	0.60
3:L5:422:C:H2'	3:L5:423:G:H8	1.66	0.60
68:S2:677:G:H21	68:S2:1028:A:N6	1.92	0.60
68:S2:1302:G:N2	68:S2:1307:U:O4	2.31	0.60
74:SP:37:TYR:HB3	74:SP:41:GLN:HB2	1.82	0.60
3:L5:2884:G:H2'	3:L5:2885:A:H8	1.67	0.60
7:LB:136:LYS:HB2	7:LB:142:GLY:HA3	1.83	0.60
22:LR:105:LEU:HD23	22:LR:138:LEU:HD23	1.83	0.60
57:SJ:46:VAL:HG11	57:SJ:106:LEU:HD21	1.81	0.60
60:SO:34:PHE:HB3	60:SO:41:PHE:HB2	1.82	0.60
3:L5:2554:U:O2	3:L5:2764:A:N7	2.34	0.60
84:CB:653:GLY:HA2	84:CB:660:ASN:HB2	1.82	0.60
50:SA:184:ARG:HA	50:SA:189:ILE:HB	1.82	0.60
51:SB:103:MET:HB3	51:SB:215:VAL:HG22	1.83	0.60
54:SG:135:PRO:HA	68:S2:169:U:H5''	1.83	0.60
30:LZ:50:PRO:HD3	30:LZ:68:ILE:HG12	1.84	0.60
32:Lb:109:ARG:HA	32:Lb:112:ILE:HG12	1.84	0.60
50:SA:41:ARG:HE	50:SA:45:GLY:HA2	1.67	0.59
68:S2:1752:C:H42	68:S2:1755:C:H5	1.50	0.59
3:L5:746:A:H2'	3:L5:747:A:C8	2.37	0.59
3:L5:1195:G:H2'	3:L5:1196:G:C8	2.37	0.59
55:SH:103:LYS:HG3	55:SH:116:ARG:HH22	1.66	0.59
64:SY:27:VAL:HG21	64:SY:35:VAL:HG21	1.85	0.59
68:S2:104:A:N6	68:S2:356:C:O2	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:1010:G:H2'	68:S2:1011:A:H8	1.66	0.59
68:S2:1581:C:H5'	68:S2:1582:C:H5	1.68	0.59
71:SF:123:GLU:HG2	71:SF:140:ASP:HA	1.83	0.59
3:L5:2745:A:H2'	3:L5:2746:A:C8	2.37	0.59
49:Lt:123:ARG:HD2	49:Lt:129:ILE:HD11	1.84	0.59
68:S2:943:U:H2'	68:S2:944:A:H8	1.67	0.59
76:SS:24:ARG:HB2	76:SS:29:ALA:HB2	1.84	0.59
83:Sg:157:SER:HB3	83:Sg:164:ILE:HG12	1.83	0.59
84:CB:512:LYS:HD3	84:CB:569:PRO:HB2	1.83	0.59
3:L5:4093:G:H1	3:L5:4114:C:H2'	1.68	0.59
3:L5:4742:G:H2'	3:L5:4743:G:C8	2.38	0.59
4:L7:83:A:H4'	11:LF:224:THR:HB	1.84	0.59
68:S2:1324:G:N2	68:S2:1504:U:O2	2.28	0.59
3:L5:4736:C:H2'	3:L5:4737:G:H8	1.67	0.59
54:SG:20:ASP:HB3	54:SG:23:LYS:HG2	1.84	0.59
68:S2:1748:G:O6	68:S2:1786:U:O4	2.19	0.59
84:CB:385:ILE:HG22	84:CB:418:SER:HB2	1.84	0.59
3:L5:4742:G:H2'	3:L5:4743:G:H8	1.68	0.59
15:LJ:86:GLY:HA3	15:LJ:130:PHE:HE2	1.66	0.59
68:S2:1562:C:H2'	68:S2:1563:G:H8	1.66	0.59
10:LE:165:LEU:HD11	10:LE:176:THR:HB	1.85	0.59
54:SG:135:PRO:HG2	54:SG:141:ILE:HG22	1.84	0.59
85:CA:31:VAL:HG21	85:CA:56:ILE:HD11	1.85	0.59
85:CA:100:LEU:HD21	85:CA:127:VAL:HG11	1.85	0.59
68:S2:28:U:H2'	68:S2:29:G:H8	1.67	0.58
68:S2:511:U:H2'	68:S2:512:A:H8	1.68	0.58
76:SS:36:VAL:HG23	76:SS:40:TYR:HB3	1.84	0.58
76:SS:98:VAL:HG11	76:SS:106:LYS:HG3	1.84	0.58
3:L5:2709:C:H5'	22:LR:43:LYS:HD2	1.84	0.58
3:L5:3664:G:H2'	3:L5:3665:G:H8	1.68	0.58
68:S2:878:G:H1	68:S2:908:A:H61	1.50	0.58
84:CB:354:ILE:HG23	84:CB:358:LEU:HD12	1.85	0.58
3:L5:502:C:H3'	3:L5:503:C:H3'	1.83	0.58
3:L5:4699:U:H1'	3:L5:4700:A:H5''	1.85	0.58
53:SE:100:ARG:HH12	53:SE:122:LYS:HA	1.68	0.58
3:L5:2297:G:H4'	8:LC:242:PRO:HB2	1.84	0.58
3:L5:4274:A:H2'	3:L5:4275:G:C8	2.38	0.58
12:LG:162:ASP:HB2	12:LG:163:PRO:HD3	1.84	0.58
25:LU:28:PRO:HB2	25:LU:34:MET:HB3	1.83	0.58
68:S2:5:U:H2'	68:S2:6:G:C8	2.38	0.58
85:CA:246:ILE:HB	85:CA:305:PHE:HB2	1.83	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4126:C:H5''	3:L5:4127:A:H5''	1.85	0.58
7:LB:29:VAL:HG12	7:LB:31:SER:H	1.67	0.58
14:LI:91:LEU:HD13	14:LI:135:ILE:HA	1.85	0.58
42:LI:43:HIS:HB3	42:LI:46:ARG:HB2	1.86	0.58
53:SE:44:LEU:HD21	53:SE:70:ILE:HD11	1.84	0.58
68:S2:609:U:H2'	68:S2:610:G:H8	1.68	0.58
68:S2:1401:A:H2'	68:S2:1402:A:C8	2.37	0.58
68:S2:1722:G:O6	68:S2:1812:U:O2	2.22	0.58
51:SB:111:CYS:HB3	65:Sa:68:TYR:HB2	1.86	0.58
58:SL:132:ARG:HD3	68:S2:114:G:H5'	1.84	0.58
63:SX:70:VAL:HG11	63:SX:94:ILE:HG21	1.85	0.58
68:S2:614:C:H2'	68:S2:626:G:H8	1.68	0.58
68:S2:1075:C:H2'	68:S2:1076:G:H8	1.67	0.58
70:SD:39:VAL:HG12	70:SD:48:ILE:HG12	1.85	0.58
76:SS:87:GLN:HA	76:SS:95:TYR:HD1	1.69	0.58
84:CB:44:GLY:HA3	84:CB:47:ALA:HB3	1.85	0.58
84:CB:207:PRO:HG2	84:CB:261:TRP:CE2	2.39	0.58
35:Le:105:SER:HA	35:Le:108:ARG:HG2	1.86	0.58
68:S2:640:A:H2'	68:S2:641:A:C8	2.38	0.58
68:S2:1650:A:H5''	75:SQ:139:ALA:HB2	1.86	0.58
16:LL:48:PRO:HG3	38:Lh:118:LYS:HE2	1.84	0.58
26:LV:13:LYS:HD2	26:LV:128:LEU:HD11	1.84	0.58
63:SX:9:THR:HG22	68:S2:681:PSU:H4'	1.85	0.58
64:SY:9:THR:H	68:S2:837:A:H61	1.52	0.58
71:SF:18:LYS:HD3	71:SF:22:LYS:HA	1.86	0.58
9:LD:182:GLY:HA2	9:LD:194:VAL:HG23	1.86	0.58
53:SE:45:ILE:HG13	53:SE:61:VAL:HG11	1.85	0.58
68:S2:454:U:H2'	68:S2:455:A:H8	1.68	0.58
3:L5:4859:C:H2'	3:L5:4860:G:H8	1.69	0.57
3:L5:4992:G:H2'	3:L5:4993:G:C8	2.39	0.57
48:Ls:160:LEU:HD21	48:Ls:171:GLU:HB3	1.86	0.57
3:L5:1177:U:C4	3:L5:1183:C:N4	2.72	0.57
3:L5:4859:C:H2'	3:L5:4860:G:C8	2.39	0.57
68:S2:931:C:H2'	68:S2:932:G:C8	2.39	0.57
75:SQ:131:LYS:HB2	75:SQ:140:ARG:HH22	1.69	0.57
3:L5:4174:U:H2'	3:L5:4175:G:H8	1.68	0.57
3:L5:512:U:O4	3:L5:647:G:O6	2.21	0.57
3:L5:1461:C:H2'	3:L5:1462:A:C8	2.40	0.57
3:L5:4537:C:H2'	3:L5:4538:G:H8	1.69	0.57
3:L5:4563:U:H2'	3:L5:4564:A:H8	1.69	0.57
50:SA:145:ILE:HG12	50:SA:159:ILE:HD13	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SG:170:ARG:HH12	68:S2:67:C:H5	1.51	0.57
54:SG:199:THR:HG21	68:S2:126:G:C8	2.40	0.57
68:S2:1652:G:O6	68:S2:1672:U:O4	2.22	0.57
84:CB:22:MET:HA	84:CB:124:GLY:O	2.05	0.57
3:L5:2656:U:H5'	30:LZ:38:TYR:HB3	1.86	0.57
33:Lc:44:LYS:HB3	33:Lc:104:ILE:HD13	1.86	0.57
53:SE:201:HIS:HB3	53:SE:204:SER:HB3	1.87	0.57
64:SY:36:PRO:HG2	64:SY:39:GLU:HB2	1.86	0.57
84:CB:264:ARG:HH12	84:CB:275:LYS:HE3	1.69	0.57
3:L5:3619:G:H22	3:L5:3624:A:H1'	1.69	0.57
13:LH:89:ARG:HG3	13:LH:145:ILE:HG23	1.85	0.57
3:L5:968:C:H5'	10:LE:110:ARG:HD3	1.87	0.57
46:Lp:10:ILE:HG22	46:Lp:27:LYS:HG3	1.87	0.57
54:SG:13:GLN:NE2	68:S2:153:G:H21	2.02	0.57
55:SH:31:GLU:HA	55:SH:37:LYS:HG3	1.85	0.57
55:SH:101:LEU:HB2	55:SH:116:ARG:HD3	1.85	0.57
82:Sf:132:MET:HG2	82:Sf:141:CYS:HB2	1.86	0.57
84:CB:50:ARG:HH22	84:CB:456:ARG:HH12	1.52	0.57
3:L5:162:A:H2'	3:L5:163:A:H8	1.70	0.57
3:L5:2611:A:H2'	3:L5:2612:G:C8	2.40	0.57
3:L5:4743:G:H2'	3:L5:4744:A:C8	2.39	0.57
53:SE:45:ILE:HB	53:SE:80:ILE:HG22	1.87	0.57
55:SH:10:LYS:HE2	55:SH:47:ALA:HA	1.85	0.57
51:SB:105:LEU:HD13	51:SB:213:ARG:HA	1.87	0.57
68:S2:66:G:H2'	68:S2:67:C:H4'	1.87	0.57
68:S2:562:U:H2'	68:S2:563:G:C8	2.40	0.57
3:L5:172:C:H4'	3:L5:173:C:H5'	1.87	0.57
60:SO:78:ALA:HB1	60:SO:119:LEU:HG	1.85	0.57
71:SF:122:ARG:HH22	71:SF:193:LYS:HD3	1.70	0.57
3:L5:1346:C:H2'	3:L5:1347:G:H8	1.70	0.56
6:LA:20:VAL:HA	6:LA:23:ARG:HG3	1.87	0.56
10:LE:114:ARG:HH21	47:Lr:87:ARG:HH12	1.53	0.56
16:LL:87:HIS:HE1	16:LL:89:LYS:HD2	1.69	0.56
36:Lf:45:LYS:HD2	36:Lf:105:LEU:HA	1.87	0.56
68:S2:1201:U:H2'	68:S2:1202:U:C6	2.41	0.56
84:CB:604:MET:HG2	84:CB:704:VAL:HA	1.87	0.56
3:L5:3946:G:O6	3:L5:4067:U:O4	2.21	0.56
27:LW:96:GLN:HB2	27:LW:101:ARG:HE	1.69	0.56
44:Ln:10:MET:HE2	68:S2:1172:U:H4'	1.86	0.56
47:Lr:90:LEU:HD22	47:Lr:111:ILE:HG23	1.87	0.56
68:S2:1598:G:H3'	79:SZ:80:ARG:HD2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SD:114:ALA:HB3	70:SD:117:ARG:HB2	1.87	0.56
3:L5:1086:C:H2'	3:L5:1087:A:H8	1.70	0.56
3:L5:3873:G:H2'	3:L5:3874:G:C8	2.41	0.56
3:L5:3944:G:O6	3:L5:4069:U:O4	2.23	0.56
3:L5:5006:U:H4'	3:L5:5007:A:H5'	1.87	0.56
57:SJ:63:LEU:HD23	57:SJ:70:ARG:HB2	1.88	0.56
68:S2:874:G:H2'	68:S2:875:A:H8	1.70	0.56
75:SQ:97:GLN:HB3	75:SQ:105:LYS:HE2	1.86	0.56
3:L5:3610:A:H2'	3:L5:3611:A:H8	1.70	0.56
60:SO:57:THR:HG22	60:SO:60:MET:HE3	1.86	0.56
64:SY:41:ARG:HA	64:SY:55:ILE:HG21	1.88	0.56
68:S2:996:A:H2'	68:S2:997:A:C8	2.41	0.56
29:LY:10:ASP:HB3	29:LY:13:LYS:HB2	1.85	0.56
68:S2:1417:C:N4	68:S2:1422:G:N2	2.40	0.56
70:SD:8:LYS:HB3	78:SU:61:LEU:HD21	1.88	0.56
84:CB:509:VAL:HG12	84:CB:572:LYS:HG3	1.88	0.56
53:SE:123:LEU:HD23	53:SE:161:GLN:HA	1.86	0.56
68:S2:1244:PSU:H2'	68:S2:1245:G:H8	1.70	0.56
79:SZ:79:ILE:HB	79:SZ:83:LEU:HD23	1.87	0.56
3:L5:4988:U:H4'	3:L5:4989:U:H5	1.71	0.56
3:L5:3949:A:H1'	3:L5:3950:U:H5	1.71	0.56
27:LW:119:LYS:HG2	27:LW:123:LYS:HE3	1.87	0.56
84:CB:43:ALA:HB2	84:CB:351:LEU:HD21	1.87	0.56
3:L5:1812:C:H1'	32:Lb:57:MET:HE2	1.87	0.56
3:L5:4618:OMG:H5'	26:LV:15:ARG:HB2	1.87	0.56
6:LA:31:ALA:HB2	6:LA:123:ARG:HH21	1.71	0.56
17:LM:36:ALA:HB3	17:LM:55:MET:HE1	1.88	0.56
84:CB:10:ARG:HH22	84:CB:420:LEU:HD11	1.71	0.56
3:L5:701:G:H2'	3:L5:702:U:C6	2.41	0.56
9:LD:65:ALA:HB2	9:LD:74:ILE:HD13	1.88	0.56
14:LI:87:MET:HG2	14:LI:138:ILE:HG12	1.86	0.56
83:Sg:40:ILE:HD11	83:Sg:59:LEU:HD12	1.86	0.56
3:L5:2400:G:H21	37:Lg:6:THR:HG22	1.71	0.55
3:L5:3861:A:H2'	3:L5:3862:A:C8	2.41	0.55
3:L5:4960:G:H2'	3:L5:4961:G:H8	1.70	0.55
15:LJ:146:ARG:HG2	15:LJ:147:ARG:HG3	1.87	0.55
3:L5:2480:G:H2'	3:L5:2481:G:H8	1.72	0.55
3:L5:4887:C:N3	3:L5:4932:U:O2	2.39	0.55
68:S2:1417:C:O2	68:S2:1422:G:O6	2.23	0.55
84:CB:56:PHE:HD2	84:CB:456:ARG:H	1.54	0.55
84:CB:147:ILE:HD11	84:CB:192:TYR:HB2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:64:A:H1'	3:L5:76:A:H1'	1.89	0.55
3:L5:93:G:H2'	3:L5:94:A:C8	2.42	0.55
3:L5:3736:A:H2'	3:L5:3737:A:C8	2.41	0.55
60:SO:146:ARG:HH12	68:S2:1857:G:H3'	1.71	0.55
3:L5:71:C:H1'	16:LL:62:PRO:O	2.07	0.55
84:CB:103:ILE:HD13	84:CB:122:THR:HG22	1.88	0.55
85:CA:142[A]:VAL:HG23	85:CA:230:VAL:HG12	1.89	0.55
3:L5:4571:A2M:HM'2	3:L5:4572:U:H5'	1.87	0.55
13:LH:89:ARG:HD3	13:LH:91:LYS:HE2	1.87	0.55
68:S2:1304:U:H5''	82:Sf:94:LYS:HA	1.88	0.55
68:S2:1705:C:H2'	68:S2:1706:G:C8	2.42	0.55
83:Sg:202:PRO:HD3	83:Sg:241:PHE:HB3	1.88	0.55
3:L5:121:A:H62	3:L5:152:U:H3	1.55	0.55
3:L5:2016:C:H2'	3:L5:2017:A:H8	1.71	0.55
33:Lc:45:LEU:HD23	33:Lc:96:ILE:HD12	1.88	0.55
49:Lt:117:ARG:HE	49:Lt:133:LEU:HD11	1.71	0.55
68:S2:149:A:H3'	68:S2:150:A:H8	1.72	0.55
68:S2:1010:G:H2'	68:S2:1011:A:C8	2.41	0.55
3:L5:505:G:N2	3:L5:653:U:O2	2.28	0.55
3:L5:3748:A:H5''	6:LA:243:THR:HB	1.88	0.55
16:LL:64:VAL:HA	16:LL:67:HIS:HD2	1.72	0.55
26:LV:43:LYS:HG3	26:LV:60:MET:HG2	1.88	0.55
58:SL:5:GLN:HE22	58:SL:11:GLN:HB2	1.72	0.55
68:S2:388:U:H2'	68:S2:389:A:H8	1.72	0.55
68:S2:1499:U:H4'	70:SD:176:LEU:HD11	1.88	0.55
68:S2:1854:U:H2'	68:S2:1855:G:H8	1.70	0.55
69:SR:98:VAL:HG21	69:SR:117:LEU:HD12	1.88	0.55
3:L5:3867:A2M:H8	3:L5:3867:A2M:H5''	1.88	0.55
20:LP:116:HIS:HB3	20:LP:149:ILE:HB	1.88	0.55
25:LU:100:LEU:HD13	25:LU:112:LEU:HD23	1.88	0.55
34:Ld:64:ILE:HG23	34:Ld:68:LEU:HD23	1.89	0.55
62:SW:11:LEU:HD12	62:SW:74:VAL:HB	1.87	0.55
64:SY:10:ARG:HA	68:S2:839:C:N4	2.21	0.55
68:S2:1562:C:H2'	68:S2:1563:G:C8	2.41	0.55
3:L5:3736:A:H2'	3:L5:3737:A:H8	1.72	0.55
11:LF:199:LYS:HG3	11:LF:200:ARG:HG2	1.88	0.55
16:LL:48:PRO:HB2	38:Lh:120:ALA:HB2	1.88	0.55
54:SG:11:GLY:HA2	68:S2:166:A2M:HM'1	1.89	0.55
68:S2:692:G:H1'	68:S2:739:C:H1'	1.88	0.55
3:L5:3917:A:H2'	3:L5:3918:G:H8	1.71	0.55
3:L5:4321:U:H2'	3:L5:4322:G:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L7:4:U:H2'	4:L7:5:A:H8	1.71	0.55
14:LI:48:LEU:O	14:LI:139:ARG:HA	2.07	0.55
29:LY:59:ARG:HB2	29:LY:103:LYS:HD2	1.89	0.55
51:SB:109:LYS:HD2	51:SB:113:MET:HE3	1.88	0.55
53:SE:71:LYS:HG3	53:SE:91:SER:HB3	1.89	0.55
68:S2:159:A2M:O5'	68:S2:159:A2M:H8	2.06	0.55
68:S2:525:A:H2'	68:S2:526:A:H8	1.71	0.55
75:SQ:38:PRO:HG2	75:SQ:41:MET:HG2	1.88	0.55
68:S2:639:C:H2'	68:S2:640:A:H8	1.72	0.54
77:ST:14:PHE:HE2	77:ST:62:ARG:HB3	1.71	0.54
4:L7:49:A:H5''	9:LD:224:SER:HB3	1.89	0.54
68:S2:671:A:H4'	68:S2:672:A:H5''	1.89	0.54
83:Sg:286:CYS:HA	83:Sg:302:TYR:HD1	1.72	0.54
3:L5:2411:C:H2'	3:L5:2412:A:H8	1.71	0.54
10:LE:178:PRO:HD2	10:LE:181:LEU:HD12	1.88	0.54
49:Lt:110:VAL:O	49:Lt:114:ARG:HG2	2.07	0.54
51:SB:39:PHE:HE1	51:SB:189:ILE:HD11	1.73	0.54
52:SC:81:ILE:HG23	52:SC:86:LEU:HB2	1.88	0.54
68:S2:12:U:H2'	68:S2:13:C:C6	2.42	0.54
68:S2:1382:A:H2'	68:S2:1383:A2M:H8	1.89	0.54
74:SP:111:MET:HE2	76:SS:117:ILE:HB	1.89	0.54
3:L5:1502:G:H1	21:LQ:89:ASP:HA	1.72	0.54
49:Lt:82:ILE:HG22	49:Lt:86:LYS:HE2	1.90	0.54
54:SG:79:LYS:HD3	54:SG:86:PRO:HG2	1.88	0.54
77:ST:39:LEU:HD13	77:ST:56:ARG:HH21	1.71	0.54
3:L5:162:A:H2'	3:L5:163:A:C8	2.42	0.54
3:L5:491:G:H2'	3:L5:492:U:C6	2.42	0.54
18:LN:116:LEU:HD22	18:LN:135:ILE:HD11	1.88	0.54
50:SA:120:ARG:HD2	52:SC:266:TYR:HB3	1.90	0.54
68:S2:1098:C:H2'	68:S2:1099:G:C8	2.42	0.54
68:S2:1227:G:H1	68:S2:1531:A:H61	1.56	0.54
69:SR:98:VAL:HB	69:SR:118:GLN:O	2.06	0.54
83:Sg:178:ASN:HD22	83:Sg:185:LYS:HE3	1.71	0.54
84:CB:170:GLU:HG2	84:CB:173:GLU:HG2	1.90	0.54
3:L5:1820:C:H2'	3:L5:1822:U:H5'	1.90	0.54
3:L5:4612:C:C2	13:LH:120:GLU:HB2	2.43	0.54
4:L7:15:C:H2'	4:L7:16:A:H8	1.72	0.54
68:S2:1457:U:H2'	68:S2:1458:G:H8	1.73	0.54
78:SU:24:LEU:HB3	78:SU:32:LEU:HD11	1.90	0.54
1:CD:185:PHE:CE1	1:CD:191:ARG:HG2	2.43	0.54
68:S2:1805:G:H2'	68:S2:1806:A:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:CB:3:ASN:HA	84:CB:46:ILE:HA	1.90	0.54
84:CB:76:SER:HB3	84:CB:99:LEU:HD11	1.90	0.54
3:L5:1846:G:H2'	3:L5:1847:C:C6	2.43	0.54
3:L5:2709:C:H42	85:CA:257:LEU:H	1.56	0.54
12:LG:38:ASN:HB3	12:LG:43:GLN:HG2	1.89	0.54
22:LR:99:MET:HE1	22:LR:127:VAL:HG12	1.90	0.54
68:S2:291:G:H2'	68:S2:292:A:C8	2.43	0.54
70:SD:163:PRO:HA	70:SD:166:TYR:CZ	2.42	0.54
73:SM:30:GLY:HA3	73:SM:113:ASP:HB3	1.89	0.54
3:L5:3785:A2M:H2	3:L5:4551:U:O2	2.08	0.54
8:LC:361:LEU:HG	8:LC:364:LYS:HE2	1.89	0.54
54:SG:213:LEU:HD22	54:SG:217:MET:HG2	1.89	0.54
68:S2:26:U:H2'	68:S2:27:A2M:H8	1.89	0.54
68:S2:223:C:H2'	68:S2:224:A:H8	1.71	0.54
71:SF:126:THR:HG23	71:SF:128:ILE:H	1.71	0.54
76:SS:34:LYS:HG3	76:SS:103:LEU:HD23	1.89	0.54
9:LD:232:THR:HB	9:LD:235:MET:HG3	1.90	0.54
9:LD:232:THR:HG22	9:LD:234:ASP:H	1.73	0.54
10:LE:144:ILE:HG12	10:LE:196:ALA:HB2	1.90	0.54
19:LO:126:VAL:HG13	19:LO:127:VAL:HG13	1.90	0.54
50:SA:209:GLU:HA	50:SA:212:LYS:HG2	1.90	0.54
64:SY:87:PRO:HG2	64:SY:90:ARG:HG3	1.89	0.54
66:Sb:54:VAL:HG23	66:Sb:63:LEU:HB2	1.90	0.54
3:L5:268:G:H2'	3:L5:269:G:H8	1.73	0.53
11:LF:24:ASN:HB2	11:LF:27:GLU:HB2	1.90	0.53
68:S2:1314:U:H2'	72:SK:2:LEU:HD12	1.90	0.53
3:L5:136:C:H41	38:Lh:77:LYS:HA	1.72	0.53
3:L5:1600:A:H5'	20:LP:133:HIS:HA	1.90	0.53
60:SO:26:ASN:HD22	65:Sa:58:VAL:HG11	1.73	0.53
68:S2:655:A:H4'	68:S2:656:G:H3'	1.90	0.53
68:S2:864:A:H2'	68:S2:865:A:H8	1.73	0.53
68:S2:1711:U:H2'	68:S2:1712:A:H8	1.74	0.53
3:L5:1503:A:H4'	3:L5:1504:G:H5'	1.89	0.53
8:LC:221:PHE:HB2	8:LC:229:LEU:HD11	1.91	0.53
29:LY:33:PRO:HG2	29:LY:105:VAL:HG12	1.90	0.53
51:SB:87:ILE:H	51:SB:101:HIS:HB2	1.72	0.53
68:S2:1395:C:H1'	68:S2:1474:A:C5	2.43	0.53
68:S2:1850:MA6:H8	68:S2:1850:MA6:O5'	2.09	0.53
3:L5:3848:U:H2'	3:L5:3849:A:C8	2.43	0.53
4:L7:110:G:H2'	4:L7:111:C:C6	2.44	0.53
54:SG:176:ILE:HG23	54:SG:179:LEU:HD11	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:CB:26:ALA:HB2	84:CB:128:VAL:HB	1.90	0.53
3:L5:1332:C:H2'	3:L5:1333:A:C8	2.41	0.53
3:L5:4184:G:H5'	6:LA:233:ARG:HB2	1.89	0.53
54:SG:175:LYS:HG3	68:S2:77:A:H2	1.73	0.53
68:S2:329:G:H2'	68:S2:330:G:H8	1.73	0.53
85:CA:21:TYR:HE1	85:CA:117:PHE:HB3	1.73	0.53
18:LN:138:PHE:HA	18:LN:143:ARG:HD2	1.89	0.53
48:Ls:29:ILE:HD11	48:Ls:191:GLN:HB2	1.90	0.53
54:SG:228:ILE:HA	54:SG:231:ARG:HG2	1.89	0.53
68:S2:1610:G:H2'	68:S2:1611:G:C8	2.44	0.53
68:S2:1805:G:H2'	68:S2:1806:A:C8	2.44	0.53
68:S2:1841:C:H2'	68:S2:1842:4AC:H6	1.90	0.53
84:CB:264:ARG:NH1	84:CB:275:LYS:HE3	2.24	0.53
84:CB:600:ASN:HD21	84:CB:716:ARG:HA	1.73	0.53
3:L5:179:G:H2'	3:L5:180:C:C6	2.43	0.53
3:L5:679:C:H2'	3:L5:680:G:C8	2.43	0.53
3:L5:1414:C:H2'	3:L5:1415:G:C8	2.43	0.53
3:L5:1748:U:H2'	3:L5:1749:A:C8	2.44	0.53
3:L5:2008:U:H1'	3:L5:2011:C:H5	1.73	0.53
13:LH:12:ILE:HG12	13:LH:18:ILE:HD12	1.89	0.53
36:Lf:15:LYS:HB3	36:Lf:25:THR:HG23	1.91	0.53
68:S2:120:U:H2'	68:S2:121:OMU:H6	1.90	0.53
68:S2:929:G:H2'	68:S2:930:C:O4'	2.09	0.53
3:L5:260:C:H2'	3:L5:261:G:H8	1.74	0.53
3:L5:4459:U:H2'	3:L5:4460:U:C6	2.44	0.53
3:L5:4530:UR3:H2'	3:L5:4531:U:H2'	1.90	0.53
4:L7:63:C:H5'	4:L7:64:G:H5''	1.91	0.53
68:S2:1513:C:H2'	68:S2:1514:G:H8	1.74	0.53
68:S2:1610:G:H2'	68:S2:1611:G:H8	1.73	0.53
10:LE:277:LEU:HB2	36:Lf:4:ARG:HB3	1.89	0.53
68:S2:106:C:H2'	68:S2:107:A:H8	1.74	0.53
68:S2:1075:C:H2'	68:S2:1076:G:C8	2.44	0.53
68:S2:1189:A:H2'	68:S2:1190:A:H8	1.74	0.53
68:S2:1218:C:H1'	68:S2:1683:C:H42	1.73	0.53
84:CB:41:CYS:HA	84:CB:49:ALA:HA	1.91	0.53
68:S2:1101:U:H2'	68:S2:1102:G:H8	1.74	0.53
72:SK:14:LEU:HD22	72:SK:35:LEU:HD23	1.91	0.53
1:CD:185:PHE:HE1	1:CD:191:ARG:HG2	1.73	0.52
3:L5:86:U:H2'	3:L5:87:A:C8	2.44	0.52
3:L5:1346:C:H2'	3:L5:1347:G:C8	2.44	0.52
3:L5:2480:G:H2'	3:L5:2481:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LU:49:VAL:HB	25:LU:57:GLY:HA3	1.91	0.52
48:Ls:37:SER:O	48:Ls:41:GLN:HG2	2.09	0.52
57:SJ:145:PRO:HD2	68:S2:522:A:H5''	1.91	0.52
58:SL:126:VAL:HG12	58:SL:145:VAL:HG22	1.91	0.52
68:S2:525:A:H2'	68:S2:526:A:C8	2.45	0.52
68:S2:867:OMG:H8	68:S2:867:OMG:H5''	1.74	0.52
68:S2:1174:PSU:H2'	68:S2:1175:G:H8	1.73	0.52
68:S2:1217:A:H2'	68:S2:1218:C:C6	2.45	0.52
68:S2:1692:U:H2'	68:S2:1693:G:C8	2.43	0.52
84:CB:10:ARG:NH1	84:CB:465:PRO:HD3	2.24	0.52
3:L5:46:U:H5''	16:LL:16:LYS:HG3	1.90	0.52
3:L5:3610:A:H2'	3:L5:3611:A:C8	2.44	0.52
8:LC:62:THR:HG22	8:LC:64:ALA:H	1.74	0.52
51:SB:173:THR:HA	51:SB:176:VAL:HG12	1.92	0.52
68:S2:1407:U:H2'	68:S2:1408:U:C6	2.44	0.52
85:CA:60:THR:HB	85:CA:72:LYS:HB3	1.90	0.52
3:L5:138:G:H2'	3:L5:139:G:C8	2.43	0.52
3:L5:1382:G:H2'	3:L5:1383:G:H8	1.75	0.52
3:L5:3661:G:H4'	3:L5:3662:A:H5'	1.90	0.52
3:L5:3697:U:H5''	3:L5:3698:G:H5'	1.92	0.52
68:S2:432:G:H2'	68:S2:433:A:C8	2.44	0.52
3:L5:3718:A2M:H2'	3:L5:3719:A:O4'	2.10	0.52
30:LZ:77:TYR:HD2	33:Lc:39:ARG:HD3	1.74	0.52
53:SE:191:ARG:HD2	53:SE:245:ARG:HH11	1.73	0.52
68:S2:70:G:N2	68:S2:79:A:H62	2.07	0.52
68:S2:1253:A:H4'	68:S2:1254:C:H5''	1.91	0.52
68:S2:1560:U:O2	68:S2:1575:G:O6	2.27	0.52
68:S2:1845:A:H2'	68:S2:1846:G:C8	2.45	0.52
3:L5:133:C:H42	38:Lh:79:LYS:NZ	2.08	0.52
3:L5:2884:G:H2'	3:L5:2885:A:C8	2.44	0.52
21:LQ:35:LEU:O	21:LQ:39:THR:HB	2.09	0.52
29:LY:31:SER:HA	29:LY:48:PRO:HA	1.91	0.52
33:Lc:102:SER:HA	33:Lc:106:ARG:HH12	1.73	0.52
68:S2:1203:G:H2'	68:S2:1204:A:C8	2.43	0.52
77:ST:96:SER:HB2	77:ST:99:VAL:HG12	1.90	0.52
78:SU:18:HIS:CE1	78:SU:96:GLU:HG2	2.45	0.52
85:CA:81:SER:HB2	85:CA:85:CYS:HB3	1.91	0.52
3:L5:2303:C:H5''	35:Le:104:SER:HB3	1.92	0.52
3:L5:3899:OMG:HM22	3:L5:3900:G:H5'	1.92	0.52
3:L5:3911:C:H2'	3:L5:3912:U:H6	1.74	0.52
9:LD:83:LEU:HB3	9:LD:88:VAL:HB	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LH:44:GLU:HB3	13:LH:58:ASP:HB2	1.92	0.52
18:LN:146:PRO:HB2	38:Lh:104:THR:HG23	1.92	0.52
52:SC:173:LYS:HD3	61:SV:3:ASN:HA	1.92	0.52
3:L5:325:U:H2'	3:L5:326:C:C6	2.45	0.52
35:Le:89:LEU:HD13	35:Le:118:LEU:HD22	1.92	0.52
56:SI:98:LYS:HB3	68:S2:377:G:H5'	1.90	0.52
63:SX:28:LYS:O	63:SX:32:LEU:HB2	2.10	0.52
68:S2:1808:U:H2'	68:S2:1809:A:H8	1.75	0.52
71:SF:101:HIS:HB2	71:SF:108:PRO:HG3	1.91	0.52
71:SF:175:ASP:HA	71:SF:178:ILE:HD12	1.90	0.52
84:CB:290:CYS:HA	84:CB:294:LEU:HB2	1.91	0.52
3:L5:4246:G:H2'	3:L5:4247:G:H8	1.75	0.52
3:L5:4594:U:H2'	3:L5:4595:G:H8	1.75	0.52
37:Lg:16:ALA:HA	37:Lg:19:LYS:HE2	1.92	0.52
51:SB:59:SER:O	51:SB:63:LYS:HG2	2.10	0.52
55:SH:142:LYS:HB3	62:SW:54:ASP:HB3	1.91	0.52
56:SI:143:LYS:HD3	56:SI:146:GLN:HB2	1.91	0.52
68:S2:527:C:H2'	68:S2:528:A:C8	2.42	0.52
68:S2:569:A:H2'	68:S2:570:C:O4'	2.10	0.52
80:Sc:14:VAL:HA	80:Sc:32:VAL:HG12	1.92	0.52
83:Sg:246:TYR:HB3	83:Sg:261:LEU:HG	1.90	0.52
3:L5:153:G:H2'	3:L5:154:G:H8	1.75	0.52
57:SJ:169:ARG:HH12	57:SJ:175:ARG:HD3	1.74	0.52
72:SK:61:GLN:HB3	72:SK:68:TYR:HB2	1.92	0.52
3:L5:2902:G:N2	3:L5:3597:G:H1	2.08	0.52
3:L5:4537:C:H2'	3:L5:4538:G:C8	2.45	0.52
13:LH:18:ILE:HG12	13:LH:27:VAL:HG22	1.91	0.52
45:Lo:74:GLU:HG3	45:Lo:77:CYS:H	1.75	0.52
68:S2:508:A:H3'	68:S2:509:OMG:H8	1.75	0.52
68:S2:1231:C:H42	68:S2:1527:C:H42	1.58	0.52
68:S2:1845:A:H2'	68:S2:1846:G:H8	1.74	0.52
79:SZ:74:SER:HA	79:SZ:79:ILE:HG12	1.92	0.52
79:SZ:99:LEU:HD11	79:SZ:102:LYS:HB2	1.92	0.52
3:L5:928:C:H2'	3:L5:929:A:C8	2.45	0.51
3:L5:2090:U:H4'	3:L5:2091:C:H3'	1.92	0.51
3:L5:2250:C:H2'	3:L5:2251:G:C8	2.45	0.51
3:L5:3597:G:H2'	3:L5:3598:C:H6	1.75	0.51
5:L8:67:U:H2'	5:L8:68:G:H8	1.75	0.51
65:Sa:79:ILE:HD13	68:S2:1863:A:H1'	1.91	0.51
68:S2:1628:C:H2'	68:S2:1629:C:C6	2.45	0.51
68:S2:1711:U:H2'	68:S2:1712:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1974:U:H4'	3:L5:1975:G:H3'	1.92	0.51
3:L5:2708:U:H3	85:CA:257:LEU:HD23	1.75	0.51
20:LP:4:TYR:CE1	20:LP:18:ARG:HD2	2.46	0.51
68:S2:866:PSU:H2'	68:S2:867:OMG:C8	2.46	0.51
78:SU:56:MET:HB2	78:SU:86:LYS:HB3	1.92	0.51
3:L5:461:G:H2'	3:L5:462:G:H8	1.75	0.51
3:L5:1754:U:H2'	3:L5:1755:C:C5	2.45	0.51
3:L5:3910:C:H2'	3:L5:3911:C:C6	2.46	0.51
9:LD:211:LEU:HB3	9:LD:219:TYR:HB2	1.92	0.51
56:SI:103:LEU:HD22	56:SI:170:LYS:HB3	1.92	0.51
68:S2:1446:A:H5''	78:SU:58:THR:HG23	1.92	0.51
70:SD:72:VAL:HB	72:SK:20:VAL:HG11	1.93	0.51
82:Sf:123:SER:HB3	82:Sf:126:CYS:SG	2.50	0.51
1:CD:218:TRP:CE2	70:SD:142:LEU:HB2	2.44	0.51
48:Ls:31:GLY:HA2	48:Ls:86:VAL:HG12	1.92	0.51
49:Lt:22:VAL:HA	49:Lt:48:LYS:HG2	1.92	0.51
71:SF:22:LYS:HG3	71:SF:23:TRP:CD2	2.45	0.51
83:Sg:106:LYS:HD3	83:Sg:126:ASP:HA	1.92	0.51
84:CB:301:PHE:CD1	84:CB:336:LEU:HD11	2.46	0.51
3:L5:1999:A:H2'	3:L5:2000:G:C4	2.46	0.51
3:L5:4152:G:H2'	3:L5:4153:C:C6	2.46	0.51
10:LE:91:THR:HG22	10:LE:108:LYS:HG3	1.91	0.51
35:Le:108:ARG:HD2	35:Le:128:ARG:HB2	1.93	0.51
49:Lt:25:THR:HA	49:Lt:30:PRO:HD3	1.92	0.51
68:S2:1729:U:O2	68:S2:1805:G:N2	2.32	0.51
3:L5:436:C:H2'	3:L5:437:G:H8	1.75	0.51
3:L5:2569:G:H2'	3:L5:2570:U:C6	2.46	0.51
9:LD:64:ILE:HD13	9:LD:109:LEU:HD22	1.92	0.51
9:LD:271:MET:HE2	9:LD:276:LYS:HG2	1.92	0.51
33:Lc:26:LYS:HE2	33:Lc:98:ASP:HB3	1.93	0.51
68:S2:391:C:H2'	68:S2:392:A:H8	1.76	0.51
84:CB:18:ASN:HD21	84:CB:94:ASP:H	1.58	0.51
3:L5:86:U:H2'	3:L5:87:A:H8	1.76	0.51
3:L5:1867:A:H2'	3:L5:1868:A:C8	2.46	0.51
3:L5:4238:G:H2'	3:L5:4239:A:H8	1.76	0.51
3:L5:5037:U:H2'	3:L5:5038:A:C8	2.44	0.51
4:L7:58:A:H2'	4:L7:59:G:H8	1.76	0.51
7:LB:58:ARG:HA	7:LB:366:LYS:HG3	1.93	0.51
30:LZ:11:VAL:HG12	30:LZ:82:PRO:HA	1.93	0.51
57:SJ:142:VAL:HG12	57:SJ:144:ILE:H	1.76	0.51
68:S2:353:C:H2'	68:S2:354:OMU:H6	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:CB:5:THR:HG23	84:CB:7:ASP:H	1.76	0.51
85:CA:257:LEU:HD12	85:CA:262:SER:HB3	1.93	0.51
3:L5:2744:A:H2'	3:L5:2745:A:C8	2.46	0.51
3:L5:3641:U:H5	3:L5:3646:A:N7	2.09	0.51
8:LC:289:LEU:HD11	21:LQ:31:LEU:HB2	1.93	0.51
3:L5:260:C:H2'	3:L5:261:G:C8	2.46	0.51
3:L5:3720:G:H22	3:L5:3733:A:H2	1.58	0.51
3:L5:4103:C:H4'	3:L5:4104:G:C5	2.45	0.51
76:SS:102:GLY:O	76:SS:106:LYS:HG2	2.10	0.51
84:CB:257:MET:HA	84:CB:260:LEU:HB2	1.93	0.51
3:L5:2634:C:H5'	22:LR:59:SER:HA	1.92	0.51
3:L5:3726:A:H2'	3:L5:3727:A:C8	2.45	0.51
12:LG:134:PRO:HB3	12:LG:206:GLN:HB3	1.92	0.51
51:SB:53:GLN:HB2	51:SB:56:LYS:HE3	1.93	0.51
85:CA:351:ASP:HB3	85:CA:354:LEU:HB2	1.92	0.51
3:L5:1976:G:H21	49:Lt:139:VAL:HG12	1.76	0.50
3:L5:4098:A:H2'	3:L5:4099:G:H4'	1.92	0.50
3:L5:4344:U:H3	3:L5:4368:G:H1	1.58	0.50
26:LV:87:SER:HA	26:LV:97:TYR:HB3	1.93	0.50
56:SI:74:ARG:HB2	56:SI:109:TYR:CE1	2.45	0.50
68:S2:1756:C:H5''	68:S2:1757:G:H21	1.75	0.50
79:SZ:68:ILE:HG22	79:SZ:88:LEU:HD11	1.93	0.50
82:Sf:132:MET:HA	82:Sf:141:CYS:HA	1.92	0.50
3:L5:135:G:H21	38:Lh:97:LYS:N	2.08	0.50
3:L5:3717:A:H2'	3:L5:3718:A2M:C8	2.40	0.50
51:SB:31:TYR:HD1	51:SB:94:LYS:HA	1.76	0.50
54:SG:5:ILE:HD12	54:SG:124:LEU:HD22	1.93	0.50
76:SS:65:GLU:HA	76:SS:68:ILE:HG12	1.92	0.50
78:SU:67:LYS:HG2	78:SU:78:ASP:HB2	1.94	0.50
84:CB:594:LYS:HE2	84:CB:598:LYS:HD2	1.93	0.50
3:L5:1538:U:H2'	3:L5:1539:G:H8	1.76	0.50
3:L5:5055:G:H21	34:Ld:118:GLN:HE22	1.59	0.50
5:L8:36:G:C5	38:Lh:89:ARG:HD3	2.47	0.50
24:LT:44:GLY:HA2	24:LT:95:HIS:HB3	1.92	0.50
51:SB:97:LEU:HB3	51:SB:228:LEU:HD21	1.93	0.50
51:SB:132:GLY:HA3	51:SB:221:PRO:HB3	1.93	0.50
54:SG:58:LYS:HE2	54:SG:105:ASN:HA	1.93	0.50
56:SI:122:GLY:HA2	56:SI:167:GLN:HG2	1.93	0.50
76:SS:51:ASP:HB3	76:SS:54:LYS:HD3	1.94	0.50
3:L5:10:A:H2'	3:L5:11:G:H8	1.75	0.50
3:L5:505:G:H2'	3:L5:506:C:C6	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L7:58:A:H2'	4:L7:59:G:C8	2.47	0.50
10:LE:226:ARG:HD3	10:LE:226:ARG:H	1.76	0.50
54:SG:222:GLU:HA	54:SG:225:GLN:HB2	1.93	0.50
68:S2:1102:G:H2'	68:S2:1103:C:C6	2.47	0.50
3:L5:4736:C:H2'	3:L5:4737:G:C8	2.46	0.50
10:LE:46:ARG:HH11	10:LE:66:LYS:HG2	1.76	0.50
54:SG:219:GLU:HA	54:SG:222:GLU:HB2	1.92	0.50
68:S2:517:OMC:HM22	68:S2:518:G:H5'	1.92	0.50
68:S2:639:C:H2'	68:S2:640:A:C8	2.47	0.50
85:CA:20:LYS:HA	85:CA:23:MET:HG2	1.94	0.50
3:L5:161:G:H2'	3:L5:162:A:H8	1.77	0.50
3:L5:173:C:H5''	16:LL:129:ARG:NH1	2.27	0.50
3:L5:422:C:H2'	3:L5:423:G:C8	2.46	0.50
3:L5:2640:G:H2'	3:L5:2641:A:C8	2.47	0.50
25:LU:52:LYS:HE3	25:LU:55:ASN:HD21	1.76	0.50
43:Lm:110:CYS:HB3	43:Lm:115:CYS:SG	2.51	0.50
50:SA:84:GLN:HG2	50:SA:100:ALA:HB1	1.93	0.50
54:SG:235:SER:HB2	68:S2:786:G:C6	2.46	0.50
55:SH:40:LEU:HD21	55:SH:79:LEU:HD22	1.93	0.50
68:S2:204:G:H2'	68:S2:205:G:O4'	2.11	0.50
68:S2:1461:G:H3'	68:S2:1463:U:H3	1.77	0.50
68:S2:1536:G:H2'	68:S2:1537:A:C8	2.45	0.50
71:SF:135:ARG:HH12	71:SF:203:ASN:HB2	1.76	0.50
83:Sg:206:LEU:HD12	83:Sg:227:LEU:HD13	1.93	0.50
3:L5:1172:C:HO2'	3:L5:1173:G:H8	1.58	0.50
3:L5:1295:C:H4'	3:L5:1296:G:C8	2.46	0.50
3:L5:1333:A:H2'	3:L5:1334:A:C8	2.47	0.50
3:L5:3722:G:H2'	3:L5:3723:A:H8	1.76	0.50
3:L5:4260:U:H2'	3:L5:4261:C:C6	2.47	0.50
5:L8:96:C:H5''	38:Lh:66:LYS:HG2	1.94	0.50
19:LO:12:ARG:HB2	19:LO:37:ARG:HH11	1.76	0.50
22:LR:172:ARG:HD2	22:LR:176:ARG:HH12	1.76	0.50
32:Lb:92:LYS:HA	32:Lb:95:ARG:HG2	1.92	0.50
52:SC:251:LEU:HD13	61:SV:23:ILE:HD11	1.93	0.50
55:SH:17:ASP:HB2	55:SH:20:GLU:HB3	1.93	0.50
55:SH:87:PHE:HB3	55:SH:90:LYS:HD2	1.94	0.50
64:SY:25:ILE:HD11	64:SY:60:PHE:HZ	1.77	0.50
64:SY:37:LYS:HA	64:SY:40:ILE:HG22	1.94	0.50
68:S2:857:U:H2'	68:S2:858:A:C8	2.47	0.50
68:S2:1174:PSU:H2'	68:S2:1175:G:C8	2.47	0.50
84:CB:155:LEU:HB3	84:CB:212:VAL:HG23	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:691:C:H2'	3:L5:692:A:C8	2.46	0.50
3:L5:3770:U:H2'	3:L5:3771:C:C6	2.46	0.50
7:LB:367:PHE:HB2	27:LW:1:MET:HG3	1.94	0.50
48:Ls:141:LEU:HD21	48:Ls:171:GLU:HA	1.92	0.50
51:SB:112:SER:HB3	65:Sa:68:TYR:CZ	2.47	0.50
60:SO:117:ARG:HG2	60:SO:121:ARG:HD2	1.94	0.50
64:SY:21:LYS:HB2	64:SY:75:ILE:HG23	1.92	0.50
85:CA:200:THR:HG23	85:CA:213:HIS:NE2	2.26	0.50
3:L5:677:G:H2'	3:L5:678:C:C6	2.47	0.50
3:L5:4174:U:H2'	3:L5:4175:G:C8	2.47	0.50
3:L5:4688:C:H2'	3:L5:4689:PSU:C6	2.47	0.50
3:L5:4960:G:H2'	3:L5:4961:G:C8	2.47	0.50
7:LB:288:GLY:HA3	7:LB:330:PHE:CE1	2.47	0.50
10:LE:243:THR:HG22	10:LE:245:GLN:H	1.77	0.50
17:LM:6:PHE:H	17:LM:11:ARG:NH2	2.10	0.50
48:Ls:24:TYR:CG	48:Ls:90:PHE:HB3	2.47	0.50
48:Ls:147:ILE:HD11	84:CB:187:VAL:HG12	1.93	0.50
50:SA:18:PHE:HD2	50:SA:51:LEU:HD11	1.77	0.50
51:SB:85:LYS:HB2	51:SB:101:HIS:HB3	1.93	0.50
66:Sb:34:ASP:HB3	66:Sb:82:LYS:HE2	1.92	0.50
68:S2:1856:C:H2'	68:S2:1857:G:C8	2.46	0.50
3:L5:32:G:H21	3:L5:50:C:H5	1.58	0.49
3:L5:426:A:H2'	3:L5:427:A:C8	2.47	0.49
3:L5:1332:C:H5''	35:Le:29:VAL:HB	1.94	0.49
3:L5:3867:A2M:H2'	3:L5:3868:G:O4'	2.11	0.49
3:L5:3868:G:H22	3:L5:3900:G:H1'	1.77	0.49
3:L5:4108:G:H2'	3:L5:4109:G:H8	1.77	0.49
3:L5:4935:C:H2'	3:L5:4936:G:C8	2.46	0.49
41:Lk:27:LYS:HG2	41:Lk:32:VAL:HG22	1.93	0.49
42:Ll:12:PHE:CE2	42:Ll:51:LEU:HD22	2.46	0.49
64:SY:41:ARG:HG3	64:SY:55:ILE:HB	1.94	0.49
65:Sa:5:ARG:HH21	68:S2:1864:U:H3'	1.76	0.49
68:S2:198:U:H2'	68:S2:199:C:H2'	1.93	0.49
68:S2:543:C:H3'	68:S2:544:G:H8	1.77	0.49
68:S2:943:U:C2	68:S2:944:A:C8	3.00	0.49
68:S2:1338:G:H2'	68:S2:1339:U:C6	2.47	0.49
84:CB:631:ARG:HH21	84:CB:649:ILE:HB	1.77	0.49
3:L5:1628:C:H42	6:LA:3:ARG:HD3	1.78	0.49
3:L5:2099:G:H5'	11:LF:31:LYS:HE2	1.94	0.49
3:L5:2897:G:H2'	3:L5:2898:G:C8	2.47	0.49
59:SN:63:VAL:HG21	59:SN:71:ILE:HG12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SW:28:ARG:HD2	68:S2:921:G:C5	2.46	0.49
64:SY:54:VAL:HG23	64:SY:75:ILE:HD12	1.94	0.49
68:S2:329:G:H2'	68:S2:330:G:C8	2.47	0.49
68:S2:342:C:H2'	68:S2:343:A:C8	2.47	0.49
68:S2:388:U:H2'	68:S2:389:A:C8	2.47	0.49
68:S2:1217:A:H2'	68:S2:1218:C:H6	1.77	0.49
68:S2:1438:A:H2'	68:S2:1439:A:C8	2.47	0.49
68:S2:1543:U:H4'	75:SQ:43:GLU:CD	2.36	0.49
3:L5:318:A:H2'	3:L5:319:A:C8	2.48	0.49
3:L5:426:A:H2'	3:L5:427:A:H8	1.76	0.49
3:L5:1339:U:H2'	3:L5:1340:OMC:C6	2.47	0.49
3:L5:1743:A:H5'	9:LD:11:ALA:HB1	1.94	0.49
3:L5:4927:G:H5''	3:L5:4928:C:C5	2.47	0.49
5:L8:115:G:H2'	5:L8:116:C:H6	1.78	0.49
38:Lh:4:ILE:HD12	38:Lh:53:SER:HB3	1.94	0.49
52:SC:94:ILE:HD11	52:SC:159:LYS:HG2	1.93	0.49
53:SE:43:PRO:HG2	53:SE:46:ILE:HG12	1.93	0.49
68:S2:434:G:H2'	68:S2:435:A:C8	2.48	0.49
68:S2:494:C:N4	68:S2:509:OMG:HN22	2.10	0.49
68:S2:1582:C:H2'	68:S2:1583:C:C6	2.47	0.49
3:L5:160:G:H2'	3:L5:161:G:H8	1.76	0.49
3:L5:3871:A:H2'	3:L5:3872:A:H8	1.78	0.49
3:L5:4507:A:H2'	3:L5:4508:C:C6	2.47	0.49
9:LD:181:PRO:HD2	9:LD:195:HIS:CD2	2.46	0.49
17:LM:65:PRO:HG2	17:LM:68:ALA:HB2	1.95	0.49
54:SG:137:ARG:HB3	54:SG:140:ARG:HG2	1.94	0.49
57:SJ:113:GLN:HG2	57:SJ:149:VAL:HG21	1.94	0.49
58:SL:111:VAL:HG12	58:SL:140:PHE:HB2	1.93	0.49
3:L5:2777:G:H5''	3:L5:2778:G:H5'	1.94	0.49
16:LL:178:ALA:HB1	31:La:146:LEU:HD21	1.94	0.49
50:SA:77:ILE:HG12	50:SA:99:ILE:HB	1.93	0.49
60:SO:146:ARG:NH1	68:S2:1857:G:H3'	2.26	0.49
68:S2:118:C:H1'	68:S2:445:A:C5	2.47	0.49
68:S2:212:C:H2'	68:S2:213:G:C8	2.48	0.49
3:L5:2475:G:H5''	3:L5:2476:G:C8	2.47	0.49
3:L5:2520:C:H2'	3:L5:2521:G:H8	1.76	0.49
3:L5:2897:G:H2'	3:L5:2898:G:H8	1.78	0.49
7:LB:107:ALA:HB2	7:LB:201:LEU:HD22	1.93	0.49
13:LH:24:THR:HA	13:LH:37:ASP:HA	1.94	0.49
57:SJ:124:HIS:CD2	67:Se:31:ARG:HD2	2.48	0.49
64:SY:87:PRO:HB2	64:SY:89:HIS:CD2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:102:A:H4'	68:S2:104:A:C8	2.47	0.49
68:S2:673:G:H2'	68:S2:674:C:C6	2.47	0.49
68:S2:1244:PSU:H2'	68:S2:1245:G:C8	2.47	0.49
83:Sg:8:ARG:HD3	83:Sg:52:TYR:HE1	1.78	0.49
3:L5:323:C:H2'	3:L5:324:A:H8	1.77	0.49
3:L5:729:G:H5''	11:LF:76:ARG:HD2	1.95	0.49
3:L5:1733:G:N3	3:L5:4214:A:H2'	2.28	0.49
3:L5:1812:C:H2'	3:L5:1813:U:C6	2.48	0.49
3:L5:2553:A:H61	3:L5:2764:A:H3'	1.76	0.49
3:L5:2749:C:H2'	3:L5:2750:G:C8	2.47	0.49
3:L5:4926:C:H5''	3:L5:4927:G:H21	1.78	0.49
7:LB:17:LEU:HD21	7:LB:235:TRP:HH2	1.76	0.49
62:SW:3:ARG:HD3	62:SW:6:VAL:HG12	1.93	0.49
62:SW:106:THR:HG21	62:SW:121:THR:HG23	1.95	0.49
68:S2:454:U:H2'	68:S2:455:A:C8	2.47	0.49
68:S2:904:A:H8	68:S2:905:C:C5	2.30	0.49
68:S2:1213:C:H2'	68:S2:1214:A:C8	2.48	0.49
68:S2:1383:A2M:H2'	68:S2:1384:C:H6	1.78	0.49
68:S2:1491:G:H2'	68:S2:1492:U:C6	2.48	0.49
3:L5:187:U:H2'	3:L5:245:C:H1'	1.94	0.49
3:L5:425:U:H4'	20:LP:6:LEU:HD21	1.93	0.49
3:L5:3880:G:H2'	3:L5:3881:G:C8	2.48	0.49
3:L5:4347:G:H2'	3:L5:4348:A:C8	2.48	0.49
3:L5:4730:C:H2'	3:L5:4731:G:C8	2.48	0.49
11:LF:127:LYS:HB2	24:LT:133:ALA:HB3	1.93	0.49
26:LV:106:VAL:HG12	26:LV:112:MET:HA	1.94	0.49
42:L1:38:ASN:HB3	42:L1:41:ARG:HG2	1.93	0.49
44:Ln:9:ARG:HH22	68:S2:1707:U:H5'	1.78	0.49
52:SC:78:LEU:HD12	52:SC:98:LEU:HD13	1.94	0.49
65:Sa:42:ARG:HB2	65:Sa:67:LEU:HB2	1.94	0.49
68:S2:1622:U:H4'	76:SS:133:GLY:HA2	1.93	0.49
68:S2:1829:G:H1'	68:S2:1850:MA6:H2	1.94	0.49
76:SS:59:LEU:HD23	76:SS:64:VAL:HG22	1.94	0.49
82:Sf:119:ARG:HB3	82:Sf:132:MET:HB2	1.94	0.49
3:L5:150:U:H5'	12:LG:140:VAL:HG12	1.95	0.49
3:L5:716:C:OP1	8:LC:317:ASN:HB2	2.12	0.49
3:L5:1207:C:H2'	3:L5:1208:G:H8	1.78	0.49
3:L5:4967:A:H2'	3:L5:4968:A:H8	1.77	0.49
3:L5:4968:A:H2'	3:L5:4969:C:C6	2.47	0.49
49:Lt:123:ARG:HH21	49:Lt:126:SER:N	2.11	0.49
50:SA:184:ARG:HG2	50:SA:191:ARG:HG2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SG:209:TYR:CE1	54:SG:212:LEU:HD22	2.48	0.49
58:SL:128:VAL:HB	58:SL:140:PHE:HB3	1.94	0.49
68:S2:1801:A:H2'	68:S2:1802:C:C6	2.48	0.49
75:SQ:94:ALA:O	75:SQ:97:GLN:HG3	2.13	0.49
78:SU:22:ILE:HG23	78:SU:89:ILE:HB	1.95	0.49
82:Sf:118:ARG:HB2	82:Sf:131:PHE:HD2	1.78	0.49
3:L5:3870:C:H2'	3:L5:3871:A:H8	1.78	0.49
3:L5:4392:OMG:N3	3:L5:4447:5MC:HM52	2.28	0.49
8:LC:321:ASN:HB3	8:LC:324:ILE:HB	1.95	0.49
50:SA:205:ARG:HH22	69:SR:84:TYR:HB2	1.77	0.49
75:SQ:43:GLU:HB2	75:SQ:44:PRO:HD3	1.94	0.49
79:SZ:43:LYS:HE2	79:SZ:45:ASN:HB2	1.95	0.49
83:Sg:127:LYS:HG2	83:Sg:150:TRP:H	1.77	0.49
3:L5:3721:U:H2'	3:L5:3722:G:H8	1.77	0.48
3:L5:5056:A:H2'	3:L5:5057:C:C6	2.48	0.48
26:LV:21:PRO:HA	26:LV:54:ALA:HA	1.95	0.48
50:SA:191:ARG:HG3	61:SV:45:ARG:HH12	1.78	0.48
62:SW:104:LEU:HB3	62:SW:125:ILE:HD12	1.95	0.48
68:S2:943:U:H2'	68:S2:944:A:C8	2.47	0.48
68:S2:1541:G:H2'	68:S2:1542:C:C6	2.48	0.48
82:Sf:103:LEU:HG	82:Sf:104:LYS:H	1.79	0.48
82:Sf:103:LEU:HD12	82:Sf:105:TYR:CE1	2.48	0.48
85:CA:199:LYS:HE3	85:CA:224:TYR:OH	2.13	0.48
3:L5:1326:A2M:H2'	3:L5:1327:C:C6	2.48	0.48
3:L5:2091:C:H1'	3:L5:2094:G:H8	1.78	0.48
3:L5:3910:C:H2'	3:L5:3911:C:H6	1.76	0.48
7:LB:46:PHE:HE2	7:LB:81:THR:HB	1.78	0.48
50:SA:54:THR:HA	50:SA:162:PRO:HG2	1.94	0.48
56:SI:56:ARG:HA	56:SI:180:GLY:HA2	1.95	0.48
75:SQ:110:ASP:HA	75:SQ:113:ILE:HG12	1.93	0.48
85:CA:227:ASP:HA	85:CA:320:LYS:HB3	1.95	0.48
3:L5:490:C:H2'	3:L5:491:G:C8	2.48	0.48
3:L5:701:G:H2'	3:L5:702:U:H6	1.76	0.48
3:L5:2038:U:H2'	3:L5:2039:G:O4'	2.13	0.48
3:L5:2079:G:H2'	3:L5:2080:U:H6	1.78	0.48
3:L5:2487:G:C4	3:L5:2489:C:H5''	2.48	0.48
3:L5:4138:C:H3'	3:L5:4139:G:H8	1.77	0.48
3:L5:5004:C:H2'	3:L5:5005:G:O4'	2.12	0.48
13:LH:59:LYS:HE2	13:LH:66:GLU:HG3	1.95	0.48
21:LQ:80:ALA:HB3	21:LQ:100:VAL:HG12	1.94	0.48
55:SH:118:ARG:HD3	55:SH:121:THR:HG21	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Se:32:ALA:HB2	68:S2:525:A:H5''	1.95	0.48
68:S2:166:A2M:HM'3	68:S2:166:A2M:H1'	1.48	0.48
68:S2:1689:C:H2'	68:S2:1690:U:C6	2.48	0.48
74:SP:30:TYR:HA	74:SP:33:LEU:HB2	1.96	0.48
75:SQ:58:LEU:HD21	75:SQ:63:PHE:HE2	1.78	0.48
3:L5:1298:C:H2'	3:L5:1299:G:C8	2.48	0.48
3:L5:1933:G:H2'	3:L5:1934:A:C8	2.49	0.48
18:LN:159:ARG:HB3	18:LN:164:LEU:HB2	1.94	0.48
25:LU:80:LYS:HZ1	25:LU:109:SER:H	1.60	0.48
40:Lj:27:TYR:HA	40:Lj:34:CYS:HA	1.96	0.48
53:SE:151:ASP:HB3	53:SE:154:ILE:HG13	1.95	0.48
68:S2:414:A:H2'	68:S2:415:A:H8	1.78	0.48
68:S2:1797:U:H2'	68:S2:1798:C:C6	2.48	0.48
70:SD:158:ILE:HG23	70:SD:189:MET:HE1	1.95	0.48
73:SM:120:ALA:HA	73:SM:123:VAL:HG12	1.95	0.48
84:CB:265:TYR:HA	84:CB:287:ARG:HA	1.95	0.48
85:CA:170:TRP:HA	85:CA:173:VAL:HG12	1.96	0.48
3:L5:170:C:H42	3:L5:266:C:H42	1.60	0.48
3:L5:4238:G:H2'	3:L5:4239:A:C8	2.48	0.48
50:SA:209:GLU:HB3	50:SA:212:LYS:HE2	1.95	0.48
68:S2:808:A:H2	68:S2:855:G:H22	1.62	0.48
68:S2:1103:C:H2'	68:S2:1104:G:H8	1.78	0.48
68:S2:1410:C:H2'	68:S2:1411:G:H8	1.78	0.48
68:S2:1687:C:H2'	68:S2:1688:C:H6	1.79	0.48
73:SM:93:LYS:HD3	73:SM:101:ARG:HA	1.96	0.48
74:SP:75:VAL:HA	74:SP:93:MET:O	2.13	0.48
3:L5:462:G:H2'	3:L5:463:A:C8	2.48	0.48
3:L5:1356:U:H2'	3:L5:1357:C:C6	2.48	0.48
3:L5:1503:A:H62	21:LQ:87:THR:HG21	1.78	0.48
3:L5:1994:C:H2'	3:L5:1995:G:H8	1.79	0.48
3:L5:2634:C:N4	25:LU:81:ARG:HH22	2.12	0.48
3:L5:2815:A2M:HM'3	3:L5:2815:A2M:H1'	1.49	0.48
3:L5:4389:C:H2'	3:L5:4390:A:C8	2.48	0.48
5:L8:94:G:C5	40:Lj:84:PRO:HG3	2.48	0.48
7:LB:60:VAL:HG12	7:LB:62:ARG:H	1.78	0.48
8:LC:33:ARG:HG3	8:LC:122:TYR:HE2	1.79	0.48
29:LY:74:TYR:HD2	29:LY:77:LYS:HB2	1.79	0.48
52:SC:149:THR:HG22	52:SC:152:ARG:HH21	1.78	0.48
64:SY:25:ILE:HD11	64:SY:60:PHE:CZ	2.49	0.48
68:S2:509:OMG:H2'	68:S2:510:G:H8	1.78	0.48
68:S2:1199:A:H2'	68:S2:1200:A:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:161:G:H2'	3:L5:162:A:C8	2.49	0.48
3:L5:1870:C:H2'	3:L5:1871:A2M:H8	1.95	0.48
5:L8:66:A:H2'	5:L8:67:U:C6	2.49	0.48
23:LS:11:LYS:HE3	23:LS:29:ARG:HG3	1.96	0.48
54:SG:231:ARG:HG3	54:SG:232:ARG:HG2	1.95	0.48
68:S2:656:G:N2	68:S2:663:C:H5''	2.29	0.48
3:L5:4069:U:H2'	3:L5:4070:U:C6	2.48	0.48
3:L5:4089:G:H2'	3:L5:4090:G:H8	1.79	0.48
3:L5:4920:C:H2'	3:L5:4921:C:C6	2.48	0.48
8:LC:209:ILE:HB	8:LC:229:LEU:HD23	1.94	0.48
18:LN:200:LEU:HD22	18:LN:204:ARG:NH1	2.29	0.48
19:LO:15:LEU:HB2	19:LO:18:ARG:HB2	1.96	0.48
19:LO:125:LYS:HG3	19:LO:129:LEU:HD12	1.96	0.48
29:LY:111:LEU:HD22	29:LY:116:LYS:HG3	1.96	0.48
51:SB:171:ILE:HD11	51:SB:197:ILE:HD13	1.95	0.48
52:SC:110:MET:HG3	52:SC:125:LYS:HB3	1.95	0.48
68:S2:1457:U:H2'	68:S2:1458:G:C8	2.49	0.48
3:L5:2106:G:H2'	3:L5:2107:C:O4'	2.14	0.48
3:L5:4920:C:H2'	3:L5:4921:C:H6	1.77	0.48
5:L8:82:A:N7	5:L8:84:A:H3'	2.29	0.48
28:LX:64:SER:HB2	38:Lh:69:LEU:HD13	1.96	0.48
52:SC:196:ILE:HB	52:SC:223:TYR:HB2	1.94	0.48
57:SJ:136:ARG:HE	57:SJ:160:SER:HA	1.79	0.48
59:SN:31:ASP:HA	59:SN:34:LYS:HD2	1.96	0.48
68:S2:602:G:H3'	68:S2:603:C:H2'	1.95	0.48
68:S2:1407:U:H4'	75:SQ:71:ARG:NH2	2.29	0.48
68:S2:1631:U:H2'	68:S2:1632:G:O4'	2.14	0.48
3:L5:318:A:H2'	3:L5:319:A:H8	1.78	0.48
3:L5:1490:G:H2'	3:L5:1491:A:H8	1.79	0.48
3:L5:1846:G:H2'	3:L5:1847:C:H6	1.79	0.48
3:L5:1939:A:H5'	3:L5:1940:G:H4'	1.96	0.48
3:L5:1995:G:H2'	3:L5:1996:C:C6	2.49	0.48
3:L5:4089:G:H2'	3:L5:4090:G:C8	2.48	0.48
3:L5:4500:PSU:H2'	3:L5:4501:U:C6	2.49	0.48
3:L5:4503:A:H2'	3:L5:4504:C:C6	2.49	0.48
3:L5:4525:C:H5''	7:LB:245:HIS:HB3	1.95	0.48
51:SB:117:TRP:CD2	51:SB:152:LYS:HE2	2.49	0.48
54:SG:32:MET:HG2	54:SG:100:CYS:HB2	1.96	0.48
57:SJ:164:PRO:HB3	57:SJ:170:PRO:HA	1.96	0.48
68:S2:186:C:H2'	68:S2:187:G:C8	2.49	0.48
68:S2:1616:U:H2'	68:S2:1617:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:1674:G:H5''	71:SF:86:LYS:HD2	1.95	0.48
82:Sf:105:TYR:CD2	82:Sf:118:ARG:HG3	2.49	0.48
3:L5:4723:A:H2'	3:L5:4724:A:C8	2.49	0.47
8:LC:7:LEU:HG	8:LC:21:ASN:HB3	1.96	0.47
11:LF:41:MET:HE2	32:Lb:113:ALA:HB2	1.96	0.47
22:LR:180:LYS:O	22:LR:183:GLU:HG3	2.14	0.47
29:LY:22:PRO:HD2	29:LY:25:ILE:HD11	1.96	0.47
45:Lo:6:LYS:HG3	45:Lo:94:GLY:HA3	1.96	0.47
52:SC:207:ALA:HB2	68:S2:4:C:H4'	1.96	0.47
56:SI:42:ARG:HG2	56:SI:59:ARG:HB2	1.96	0.47
68:S2:146:G:H2'	68:S2:147:A:O4'	2.13	0.47
70:SD:74:GLN:HB2	70:SD:84:VAL:HG11	1.96	0.47
70:SD:136:VAL:HG12	70:SD:186:VAL:HG22	1.96	0.47
71:SF:19:LEU:HD23	71:SF:109:LEU:HD11	1.96	0.47
84:CB:304:ILE:HG23	84:CB:335:LEU:HD23	1.96	0.47
84:CB:590:LEU:HD12	84:CB:605:LYS:HG3	1.96	0.47
3:L5:457:G:H2'	3:L5:458:C:C6	2.49	0.47
3:L5:1188:C:H2'	3:L5:1189:G:C8	2.48	0.47
3:L5:2363:A2M:H2'	3:L5:2364:OMG:O4'	2.15	0.47
3:L5:2602:G:H2'	3:L5:2603:C:C6	2.48	0.47
7:LB:57:VAL:HG22	7:LB:73:VAL:HG22	1.95	0.47
10:LE:51:VAL:HG12	10:LE:54:ILE:HB	1.95	0.47
13:LH:94:SER:OG	13:LH:142:ASP:HB3	2.14	0.47
68:S2:192:C:H2'	68:S2:193:C:C6	2.49	0.47
68:S2:980:A:H2'	68:S2:981:A:C8	2.48	0.47
81:Sd:23:VAL:HG21	81:Sd:38:MET:HE3	1.96	0.47
83:Sg:259:TRP:HA	83:Sg:267:VAL:H	1.78	0.47
3:L5:92:C:C2	31:La:55:LYS:HE2	2.49	0.47
3:L5:1392:A:H2'	3:L5:1393:G:C8	2.49	0.47
3:L5:2558:C:H2'	3:L5:2559:G:H8	1.80	0.47
3:L5:3923:A:H2'	3:L5:3924:C:C6	2.48	0.47
10:LE:243:THR:H	10:LE:246:ARG:HD2	1.79	0.47
27:LW:102:LYS:O	27:LW:105:ARG:HG3	2.14	0.47
35:Le:35:TRP:CZ2	35:Le:56:PRO:HD2	2.49	0.47
53:SE:175:PHE:HE1	53:SE:225:ILE:HG21	1.80	0.47
60:SO:129:ILE:HG21	65:Sa:44:ILE:HG21	1.97	0.47
62:SW:53:ILE:HB	62:SW:60:LYS:HB2	1.96	0.47
68:S2:382:C:H2'	68:S2:383:G:C8	2.49	0.47
68:S2:509:OMG:H2'	68:S2:510:G:C8	2.49	0.47
68:S2:1692:U:H2'	68:S2:1693:G:H8	1.79	0.47
83:Sg:165:ILE:HG23	83:Sg:177:TRP:HE3	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CD:193:PHE:HB3	1:CD:196:HIS:HB2	1.95	0.47
3:L5:2295:C:H2'	3:L5:2296:G:H8	1.78	0.47
3:L5:2542:G:H2'	3:L5:2543:A:C8	2.50	0.47
3:L5:4745:G:H1	3:L5:4955:A:H61	1.61	0.47
4:L7:15:C:H2'	4:L7:16:A:C8	2.49	0.47
6:LA:206:PRO:HG3	6:LA:213:GLY:HA3	1.95	0.47
7:LB:92:TYR:HB2	7:LB:159:VAL:HB	1.95	0.47
35:Le:91:CYS:HB3	35:Le:95:TYR:HD2	1.80	0.47
42:Ll:9:ILE:HD12	42:Ll:51:LEU:HD12	1.96	0.47
51:SB:127:VAL:HG11	51:SB:176:VAL:HG13	1.97	0.47
51:SB:150:ILE:HG13	68:S2:1124:C:H5''	1.95	0.47
68:S2:674:C:H2'	68:S2:675:U:C6	2.49	0.47
68:S2:1467:C:H2'	68:S2:1468:C:C6	2.49	0.47
69:SR:17:ILE:HD11	69:SR:54:VAL:HA	1.96	0.47
84:CB:164:LEU:HD21	84:CB:174:LEU:HD22	1.95	0.47
84:CB:400:LYS:HG2	84:CB:401:MET:H	1.80	0.47
3:L5:268:G:H2'	3:L5:269:G:C8	2.49	0.47
3:L5:1304:C:H2'	3:L5:1305:C:C6	2.50	0.47
3:L5:1444:G:H1	3:L5:2104:G:N2	2.12	0.47
3:L5:1645:C:H2'	3:L5:1646:A:C8	2.49	0.47
3:L5:2474:G:H2'	3:L5:2502:G:N2	2.28	0.47
3:L5:3930:U:H2'	3:L5:3931:C:C6	2.49	0.47
3:L5:4188:U:H2'	3:L5:4189:U:C6	2.49	0.47
3:L5:4246:G:H2'	3:L5:4247:G:C8	2.49	0.47
3:L5:4572:U:H2'	3:L5:4573:G:C8	2.50	0.47
4:L7:111:C:H2'	4:L7:112:U:O4'	2.15	0.47
33:Lc:79:ILE:HA	33:Lc:90:ARG:HG2	1.96	0.47
50:SA:30:LEU:HD13	50:SA:38:ILE:HG13	1.95	0.47
51:SB:125:VAL:HG22	51:SB:172:MET:HE3	1.96	0.47
68:S2:17:C:H2'	68:S2:18:C:H6	1.80	0.47
68:S2:1103:C:H2'	68:S2:1104:G:C8	2.48	0.47
68:S2:1733:U:H2'	68:S2:1734:G:O4'	2.14	0.47
70:SD:69:LEU:HA	70:SD:72:VAL:HG12	1.97	0.47
75:SQ:5:GLY:H	75:SQ:27:ARG:NH1	2.13	0.47
77:ST:42:HIS:CD2	77:ST:43:LYS:HE3	2.49	0.47
3:L5:755:C:H2'	3:L5:756:G:C8	2.49	0.47
3:L5:1086:C:H2'	3:L5:1087:A:C8	2.49	0.47
3:L5:4486:C:H2'	3:L5:4487:A:O4'	2.15	0.47
3:L5:4743:G:H2'	3:L5:4744:A:H8	1.77	0.47
20:LP:84:PRO:HB2	20:LP:87:SER:HB2	1.96	0.47
25:LU:27:HIS:O	25:LU:30:GLU:HG2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SY:105:LYS:O	64:SY:109:GLU:HG2	2.14	0.47
64:SY:114:MET:HE1	64:SY:127:ALA:HB3	1.96	0.47
68:S2:121:OMU:H1'	68:S2:121:OMU:HM23	1.74	0.47
68:S2:907:G:H2'	68:S2:908:A:H8	1.80	0.47
68:S2:1093:A:H2'	68:S2:1094:C:H6	1.78	0.47
68:S2:1454:A:C8	69:SR:3:ARG:HG2	2.49	0.47
68:S2:1713:C:H2'	68:S2:1714:U:C6	2.49	0.47
75:SQ:134:GLY:HA3	75:SQ:140:ARG:HA	1.95	0.47
85:CA:82:VAL:HB	85:CA:106:VAL:HG12	1.96	0.47
3:L5:109:G:H5'	16:LL:92:ARG:CZ	2.44	0.47
3:L5:173:C:H5''	16:LL:129:ARG:HH12	1.79	0.47
3:L5:287:U:H2'	3:L5:288:G:C8	2.50	0.47
3:L5:717:U:H2'	3:L5:718:C:C6	2.49	0.47
3:L5:1195:G:H2'	3:L5:1196:G:H8	1.77	0.47
3:L5:1511:U:H2'	3:L5:1512:G:H8	1.80	0.47
3:L5:1847:C:H2'	3:L5:1848:C:C6	2.49	0.47
3:L5:2107:C:H2'	3:L5:2108:G:H8	1.79	0.47
3:L5:2520:C:H2'	3:L5:2521:G:C8	2.50	0.47
3:L5:3870:C:H2'	3:L5:3871:A:C8	2.50	0.47
3:L5:4279:A:H5'	3:L5:4281:A:H1'	1.97	0.47
3:L5:4601:U:H2'	3:L5:4602:A:H8	1.79	0.47
3:L5:4761:G:H2'	3:L5:4762:A:C8	2.50	0.47
17:LM:6:PHE:H	17:LM:11:ARG:HH21	1.62	0.47
17:LM:63:LYS:HE2	17:LM:63:LYS:HB2	1.77	0.47
30:LZ:92:ASP:HB3	30:LZ:95:VAL:HG12	1.97	0.47
50:SA:50:ASN:HB3	50:SA:53:ARG:HB2	1.96	0.47
53:SE:149:TYR:HB3	54:SG:209:TYR:CE1	2.50	0.47
57:SJ:17:ARG:HG3	57:SJ:18:ARG:HG2	1.96	0.47
57:SJ:46:VAL:HG22	57:SJ:102:ILE:HD11	1.97	0.47
58:SL:89:ARG:HE	58:SL:106:HIS:HB2	1.80	0.47
68:S2:342:C:H2'	68:S2:343:A:H8	1.80	0.47
68:S2:375:U:H2'	68:S2:376:A:C8	2.49	0.47
68:S2:511:U:H2'	68:S2:512:A:C8	2.50	0.47
68:S2:610:G:H2'	68:S2:611:G:H8	1.79	0.47
68:S2:1093:A:H2'	68:S2:1094:C:C6	2.49	0.47
68:S2:1680:G:H2'	68:S2:1681:U:C6	2.49	0.47
79:SZ:50:PHE:CZ	79:SZ:58:LEU:HD13	2.50	0.47
83:Sg:119:GLN:HB3	83:Sg:131:LEU:HD11	1.97	0.47
84:CB:89:ILE:HG12	84:CB:356:ILE:HA	1.96	0.47
3:L5:928:C:H2'	3:L5:929:A:H8	1.80	0.47
3:L5:1251:C:H2'	3:L5:1252:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1461:C:H2'	3:L5:1462:A:H8	1.79	0.47
3:L5:1509:C:H2'	3:L5:1510:G:H8	1.80	0.47
3:L5:2079:G:H2'	3:L5:2080:U:C6	2.49	0.47
3:L5:4125:C:H5'	12:LG:45:ILE:HD12	1.97	0.47
3:L5:4913:G:H4'	3:L5:4914:C:O5'	2.14	0.47
10:LE:114:ARG:NH2	47:Lr:87:ARG:HH12	2.12	0.47
17:LM:24:LEU:HD11	17:LM:86:TRP:CG	2.49	0.47
27:LW:52:THR:O	27:LW:56:ARG:HG2	2.15	0.47
32:Lb:67:ALA:O	32:Lb:70:GLU:HG2	2.14	0.47
47:Lr:45:HIS:CG	47:Lr:103:ARG:HH22	2.33	0.47
54:SG:98:ARG:HD2	54:SG:99:GLY:H	1.80	0.47
58:SL:89:ARG:HH21	58:SL:106:HIS:CG	2.33	0.47
68:S2:653:A:H2'	68:S2:654:A:O4'	2.14	0.47
68:S2:804:U:N3	68:S2:860:G:N1	2.62	0.47
68:S2:962:A:H2'	68:S2:963:A:O4'	2.15	0.47
68:S2:1101:U:H2'	68:S2:1102:G:C8	2.50	0.47
68:S2:1490:OMG:HM23	68:S2:1490:OMG:H1'	1.77	0.47
80:Sc:10:LYS:NZ	80:Sc:61:SER:HB2	2.30	0.47
80:Sc:13:ARG:HA	80:Sc:55:VAL:HG12	1.97	0.47
83:Sg:251:ALA:HA	83:Sg:256:ILE:HD13	1.97	0.47
84:CB:143:LEU:HD21	84:CB:185:VAL:HG13	1.97	0.47
85:CA:195:ILE:HG22	85:CA:248:LYS:HE3	1.96	0.47
3:L5:713:C:H2'	3:L5:714:G:C8	2.50	0.47
3:L5:4239:A:H2'	3:L5:4240:G:C8	2.49	0.47
3:L5:4896:G:H2'	3:L5:4897:G:H8	1.80	0.47
3:L5:5029:C:HO2'	3:L5:5030:U:H6	1.63	0.47
26:LV:18:LEU:HD13	26:LV:54:ALA:HB3	1.97	0.47
33:Lc:48:LEU:HD11	33:Lc:60:ILE:HG21	1.97	0.47
68:S2:461:U:H2'	68:S2:462:OMC:H6	1.80	0.47
68:S2:879:C:H3'	68:S2:880:G:H21	1.80	0.47
77:ST:27:LYS:HE3	77:ST:110:LEU:HG	1.95	0.47
3:L5:269:G:H2'	3:L5:270:U:C6	2.50	0.47
3:L5:288:G:H2'	3:L5:289:C:C6	2.49	0.47
3:L5:1084:C:H2'	3:L5:1085:C:C6	2.49	0.47
3:L5:1730:U:H2'	3:L5:1731:C:C6	2.50	0.47
3:L5:2372:U:H2'	3:L5:2373:C:C6	2.49	0.47
3:L5:3855:C:H2'	3:L5:3856:A:H8	1.79	0.47
3:L5:4991:U:H2'	3:L5:4992:G:C8	2.50	0.47
27:LW:97:LYS:O	27:LW:101:ARG:HG2	2.15	0.47
28:LX:100:VAL:HG21	28:LX:109:ILE:HD11	1.97	0.47
31:La:98:ALA:HB1	31:La:122:VAL:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:497:C:H2'	68:S2:498:C:C6	2.50	0.47
68:S2:1687:C:H2'	68:S2:1688:C:C6	2.50	0.47
83:Sg:147:HIS:CD2	83:Sg:169:GLY:HA3	2.50	0.47
3:L5:2277:C:H5''	21:LQ:3:VAL:HG11	1.97	0.46
3:L5:2372:U:H2'	3:L5:2373:C:H6	1.81	0.46
3:L5:2465:C:H2'	3:L5:2466:G:O4'	2.15	0.46
16:LL:110:LEU:O	16:LL:114:VAL:HG13	2.15	0.46
19:LO:84:VAL:HG11	19:LO:102:LEU:HD22	1.97	0.46
27:LW:104:GLN:O	27:LW:107:GLN:HG3	2.15	0.46
68:S2:885:U:C2	68:S2:901:G:O6	2.67	0.46
68:S2:907:G:H2'	68:S2:908:A:C8	2.50	0.46
68:S2:1189:A:H2'	68:S2:1190:A:C8	2.50	0.46
78:SU:66:ARG:NH2	78:SU:75:LYS:HD3	2.29	0.46
82:Sf:141:CYS:HB3	82:Sf:145:CYS:HB2	1.39	0.46
83:Sg:163:PRO:HB2	83:Sg:179:LEU:HD21	1.97	0.46
84:CB:772:GLU:HB3	84:CB:785:LYS:HB2	1.96	0.46
3:L5:136:C:N4	38:Lh:77:LYS:HA	2.30	0.46
3:L5:261:G:H2'	3:L5:262:G:H8	1.80	0.46
3:L5:433:A:C2	3:L5:3867:A2M:H4'	2.50	0.46
3:L5:1095:A:N1	3:L5:1200:G:C6	2.82	0.46
3:L5:2749:C:H2'	3:L5:2750:G:H8	1.80	0.46
3:L5:4897:G:H1'	3:L5:4926:C:H42	1.80	0.46
7:LB:148:LYS:HD2	7:LB:148:LYS:HA	1.66	0.46
11:LF:197:VAL:O	11:LF:201:PHE:HB2	2.15	0.46
13:LH:165:THR:HG21	13:LH:179:ILE:HG13	1.95	0.46
21:LQ:43:PHE:CD2	21:LQ:133:GLY:HA3	2.51	0.46
22:LR:19:LYS:HB2	22:LR:19:LYS:HE2	1.76	0.46
31:La:71:PRO:HG2	31:La:108:TYR:HA	1.96	0.46
59:SN:46:THR:O	59:SN:50:ILE:HG12	2.15	0.46
68:S2:433:A:H2'	68:S2:434:G:C8	2.50	0.46
68:S2:807:G:H2'	68:S2:808:A:H8	1.80	0.46
71:SF:100:ILE:HD11	71:SF:108:PRO:HB3	1.97	0.46
84:CB:397:TYR:HD1	84:CB:484:THR:HG22	1.80	0.46
84:CB:680:VAL:O	84:CB:684:GLN:HG2	2.15	0.46
3:L5:262:G:H2'	3:L5:263:G:C8	2.50	0.46
3:L5:416:U:H4'	3:L5:2330:G:H4'	1.95	0.46
3:L5:1812:C:H2'	3:L5:1813:U:H6	1.80	0.46
3:L5:4273:A:H2'	3:L5:4274:A:C8	2.51	0.46
3:L5:4454:G:H2'	3:L5:4455:G:H8	1.79	0.46
3:L5:4638:U:H2'	3:L5:4639:G:N3	2.31	0.46
87:L5:5268:SPM:H32	18:LN:81:TYR:CE1	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:LS:140:PRO:HA	23:LS:143:LYS:HB2	1.97	0.46
54:SG:23:LYS:HD3	54:SG:41:LEU:HD12	1.97	0.46
57:SJ:12:THR:HB	68:S2:520:A:H5''	1.96	0.46
68:S2:576:A2M:HM'3	68:S2:576:A2M:H1'	1.69	0.46
68:S2:1823:A:H2'	68:S2:1824:A:C8	2.51	0.46
3:L5:233:U:O2'	3:L5:234:G:H2'	2.16	0.46
3:L5:398:A2M:HM'3	3:L5:398:A2M:H1'	1.57	0.46
3:L5:1978:C:H3'	3:L5:1979:A:H8	1.81	0.46
3:L5:3664:G:H2'	3:L5:3665:G:C8	2.48	0.46
3:L5:3684:G:H2'	3:L5:3685:C:C6	2.50	0.46
3:L5:4104:G:H5'	3:L5:4105:A:C8	2.50	0.46
25:LU:105:ASN:ND2	25:LU:111:GLU:HB2	2.30	0.46
28:LX:88:LYS:HA	28:LX:91:GLU:HG2	1.97	0.46
64:SY:28:LEU:HG	64:SY:68:LYS:HD2	1.98	0.46
68:S2:28:U:H2'	68:S2:29:G:C8	2.48	0.46
68:S2:557:U:H3'	68:S2:558:G:H2'	1.97	0.46
68:S2:651:PSU:H2'	68:S2:652:U:C6	2.51	0.46
68:S2:1232:PSU:H2'	68:S2:1233:G:C8	2.51	0.46
84:CB:107:GLY:O	84:CB:138:GLN:HG2	2.15	0.46
85:CA:80:ILE:HG12	85:CA:108:ILE:HG12	1.97	0.46
3:L5:139:G:H2'	3:L5:140:G:C8	2.50	0.46
3:L5:441:G:H2'	3:L5:442:G:H8	1.79	0.46
3:L5:457:G:H2'	3:L5:458:C:H6	1.81	0.46
3:L5:4523:A2M:H5''	3:L5:4524:G:H5'	1.97	0.46
3:L5:4565:C:H2'	3:L5:4566:U:H6	1.81	0.46
3:L5:4618:OMG:HM23	3:L5:4618:OMG:H1'	1.74	0.46
4:L7:4:U:H2'	4:L7:5:A:C8	2.50	0.46
5:L8:88:A:H2'	5:L8:89:U:O4'	2.16	0.46
7:LB:234:ARG:HD3	7:LB:235:TRP:HE1	1.81	0.46
14:LI:190:LEU:HD23	14:LI:199:TYR:HA	1.97	0.46
36:Lf:51:TYR:HE1	36:Lf:70:ILE:HG13	1.81	0.46
42:Ll:41:ARG:HA	42:Ll:41:ARG:HD2	1.68	0.46
68:S2:169:U:H2'	68:S2:170:A:H8	1.80	0.46
68:S2:1737:G:H2'	68:S2:1738:C:C6	2.51	0.46
70:SD:132:LYS:HG3	70:SD:156:LEU:HB3	1.97	0.46
84:CB:12:ILE:HD12	84:CB:99:LEU:HB2	1.96	0.46
84:CB:590:LEU:HD21	84:CB:603:TYR:HB3	1.96	0.46
3:L5:1458:C:H5''	21:LQ:69:LYS:HD2	1.97	0.46
7:LB:220:ILE:HG12	7:LB:278:THR:HG23	1.97	0.46
31:La:36:GLY:HA3	31:La:40:HIS:CE1	2.50	0.46
51:SB:138:PHE:CD1	51:SB:214:LYS:HB3	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:293:C:O2'	68:S2:294:U:H3'	2.15	0.46
68:S2:468:A2M:HM'3	68:S2:468:A2M:H1'	1.48	0.46
68:S2:811:A:H2'	68:S2:812:A:C8	2.50	0.46
68:S2:1667:U:H2'	68:S2:1668:U:C6	2.51	0.46
68:S2:1822:A:H2'	68:S2:1823:A:C8	2.50	0.46
84:CB:539:GLU:HG2	84:CB:540:GLU:H	1.81	0.46
84:CB:595:SER:HB2	84:CB:600:ASN:HB2	1.97	0.46
85:CA:52:GLY:O	85:CA:56:ILE:HG12	2.15	0.46
3:L5:745:G:H2'	3:L5:746:A:C8	2.51	0.46
3:L5:1252:C:C4	3:L5:1253:G:H1'	2.51	0.46
3:L5:2605:G:H2'	3:L5:2606:G:C8	2.51	0.46
4:L7:55:A:H4'	15:LJ:155:HIS:HB2	1.97	0.46
9:LD:107:ARG:HH12	9:LD:120:GLU:HA	1.80	0.46
16:LL:103:ARG:H	16:LL:103:ARG:HD3	1.79	0.46
19:LO:159:LYS:HG2	19:LO:163:LYS:HE3	1.97	0.46
20:LP:24:VAL:HG12	20:LP:86:LYS:HG2	1.98	0.46
28:LX:81:LEU:HG	28:LX:83:THR:HG23	1.97	0.46
54:SG:195:LYS:HE2	54:SG:195:LYS:HB2	1.70	0.46
68:S2:530:U:H2'	68:S2:531:A:C8	2.50	0.46
68:S2:1018:U:H2'	68:S2:1019:C:C6	2.51	0.46
68:S2:1222:G:H5''	71:SF:78:MET:HE1	1.96	0.46
68:S2:1502:C:H2'	68:S2:1503:C:H6	1.81	0.46
3:L5:1278:C:H2'	3:L5:1279:A:O4'	2.15	0.46
3:L5:4543:G:H2'	3:L5:4544:A:C8	2.50	0.46
3:L5:4563:U:H2'	3:L5:4564:A:C8	2.50	0.46
3:L5:4927:G:H5''	3:L5:4928:C:H5	1.81	0.46
3:L5:5023:C:H3'	3:L5:5024:C:H4'	1.98	0.46
53:SE:19:MET:HB2	53:SE:51:ARG:HH22	1.80	0.46
54:SG:31:ARG:HH22	68:S2:1745:A:H4'	1.81	0.46
54:SG:59:GLN:HB2	54:SG:61:PHE:HD1	1.80	0.46
55:SH:167:GLU:HG3	55:SH:189:PHE:HE2	1.79	0.46
58:SL:16:ILE:HG23	58:SL:34:PRO:HG2	1.98	0.46
68:S2:51:U:H2'	68:S2:52:G:H8	1.80	0.46
68:S2:815:U:H2'	68:S2:816:A:C8	2.51	0.46
84:CB:260:LEU:HD12	84:CB:293:ILE:HD11	1.97	0.46
84:CB:516:ASP:HB3	84:CB:568:ILE:HG12	1.98	0.46
3:L5:286:U:H2'	3:L5:287:U:C6	2.51	0.46
3:L5:978:G:H2'	3:L5:979:C:C6	2.51	0.46
3:L5:1084:C:H2'	3:L5:1085:C:H6	1.79	0.46
3:L5:1308:C:H2'	3:L5:1309:C:C6	2.50	0.46
3:L5:1590:C:H4'	3:L5:2857:A:H5'	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2683:C:H2'	3:L5:2684:C:C6	2.51	0.46
3:L5:4967:A:H2'	3:L5:4968:A:C8	2.50	0.46
18:LN:158:HIS:HB3	18:LN:161:MET:HE2	1.97	0.46
41:Lk:68:GLU:HG3	41:Lk:70:LYS:H	1.81	0.46
48:Ls:30:VAL:HB	48:Ls:189:ILE:HD13	1.97	0.46
48:Ls:170:SER:HA	48:Ls:173:THR:HG22	1.98	0.46
68:S2:793:G:H2'	68:S2:794:A:H8	1.81	0.46
68:S2:1384:C:C2	68:S2:1385:G:C8	3.04	0.46
68:S2:1511:U:H2'	68:S2:1512:C:C6	2.50	0.46
71:SF:39:ILE:HG23	71:SF:68:ILE:HG21	1.98	0.46
75:SQ:40:GLU:HA	75:SQ:48:GLN:HE21	1.80	0.46
84:CB:50:ARG:HH21	84:CB:55:ARG:HA	1.80	0.46
3:L5:737:C:C4	3:L5:739:G:H5''	2.51	0.46
3:L5:937:U:C6	17:LM:46:ARG:HD2	2.50	0.46
3:L5:1616:U:H2'	3:L5:1617:G:H8	1.81	0.46
3:L5:2029:A:H2'	3:L5:2030:A:C8	2.51	0.46
3:L5:2909:C:H1'	3:L5:3585:G:N1	2.30	0.46
3:L5:4111:U:H2'	3:L5:4112:C:C5	2.51	0.46
3:L5:4578:G:H2'	3:L5:4579:PSU:C6	2.50	0.46
17:LM:24:LEU:H	17:LM:43:THR:HG21	1.81	0.46
35:Le:78:LEU:HB3	47:Lr:20:ARG:HD2	1.98	0.46
48:Ls:160:LEU:HD13	48:Ls:175:LEU:HD21	1.98	0.46
56:SI:42:ARG:HE	56:SI:59:ARG:HD3	1.81	0.46
68:S2:532:C:H2'	68:S2:533:A:H8	1.81	0.46
3:L5:1274:A:O2'	3:L5:1275:G:H8	1.99	0.45
3:L5:1327:C:H2'	3:L5:1328:G:C8	2.51	0.45
3:L5:1662:C:H2'	3:L5:1663:C:C6	2.50	0.45
3:L5:2411:C:H2'	3:L5:2412:A:C8	2.51	0.45
3:L5:3598:C:H2'	3:L5:3599:A:C8	2.51	0.45
3:L5:4251:A:H5''	15:LJ:108:GLY:HA3	1.97	0.45
16:LL:111:GLN:HA	16:LL:114:VAL:HG22	1.97	0.45
27:LW:101:ARG:HB3	54:SG:151:ASP:OD2	2.16	0.45
30:LZ:12:LEU:HB2	30:LZ:81:MET:HB3	1.98	0.45
37:Lg:22:LEU:HD13	37:Lg:22:LEU:HA	1.81	0.45
53:SE:19:MET:HE3	53:SE:108:ARG:HD3	1.98	0.45
56:SI:8:TRP:CE3	56:SI:20:PRO:HB3	2.52	0.45
56:SI:79:ILE:HG21	56:SI:170:LYS:HE3	1.97	0.45
57:SJ:5:ARG:HG3	68:S2:38:A:OP1	2.16	0.45
58:SL:23:VAL:HG23	58:SL:25:LEU:HG	1.96	0.45
68:S2:159:A2M:HM'3	68:S2:159:A2M:H1'	1.64	0.45
68:S2:894:G:H2'	68:S2:895:G:C4	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:1754:G:N2	68:S2:1779:G:H1'	2.31	0.45
71:SF:138:ALA:HB3	71:SF:204:ARG:HA	1.97	0.45
84:CB:301:PHE:HD1	84:CB:336:LEU:HD11	1.80	0.45
3:L5:1468:C:H2'	3:L5:1469:C:H6	1.81	0.45
3:L5:3871:A:H2'	3:L5:3872:A:C8	2.51	0.45
3:L5:4163:U:H1'	12:LG:69:ILE:HD13	1.98	0.45
4:L7:3:C:H2'	4:L7:4:U:C6	2.50	0.45
4:L7:23:A:H2'	4:L7:24:C:C6	2.51	0.45
12:LG:158:ALA:HB2	12:LG:190:LEU:HD12	1.98	0.45
39:Li:96:ALA:O	39:Li:99:LYS:HG3	2.16	0.45
68:S2:1689:C:H2'	68:S2:1690:U:H6	1.81	0.45
84:CB:26:ALA:HB3	84:CB:32:LYS:HE2	1.97	0.45
84:CB:695:GLU:HG3	84:CB:842:LYS:NZ	2.31	0.45
3:L5:400:A2M:HM'3	3:L5:400:A2M:H1'	1.55	0.45
3:L5:1273:G:C6	10:LE:73:TYR:HB2	2.50	0.45
3:L5:1499:C:H2'	3:L5:1500:A:O4'	2.17	0.45
3:L5:1569:U:H2'	3:L5:1570:G:C8	2.51	0.45
3:L5:1824:G:H2'	3:L5:1825:A:C8	2.51	0.45
3:L5:1878:G:H2'	3:L5:1879:C:C6	2.51	0.45
3:L5:2787:A2M:HM'2	3:L5:2787:A2M:H1'	1.71	0.45
3:L5:3599:A:H2'	3:L5:3600:G:H8	1.79	0.45
4:L7:60:G:H2'	4:L7:61:G:H8	1.81	0.45
18:LN:140:LYS:HD3	18:LN:140:LYS:HA	1.59	0.45
27:LW:8:PHE:CE2	27:LW:46:PRO:HB3	2.51	0.45
29:LY:73:VAL:HA	29:LY:80:ILE:HG22	1.98	0.45
48:Ls:122:THR:HA	48:Ls:159:GLN:HA	1.98	0.45
60:SO:143:LYS:HB2	68:S2:1047:C:H5''	1.97	0.45
68:S2:27:A2M:H1'	68:S2:27:A2M:HM'3	1.53	0.45
68:S2:99:A2M:HM'2	68:S2:100:U:H5'	1.97	0.45
68:S2:1856:C:H2'	68:S2:1857:G:H8	1.82	0.45
76:SS:16:LEU:HD11	76:SS:72:GLN:HE21	1.82	0.45
84:CB:604:MET:HE2	84:CB:704:VAL:HG22	1.99	0.45
3:L5:441:G:H2'	3:L5:442:G:C8	2.52	0.45
3:L5:989:U:H1'	3:L5:1065:G:N2	2.31	0.45
3:L5:2789:A:H1'	42:Ll:45:ARG:HH22	1.80	0.45
3:L5:4977:A:H2'	3:L5:4978:G:O4'	2.17	0.45
25:LU:45:GLU:HG3	25:LU:46:ARG:HG2	1.99	0.45
32:Lb:101:HIS:CE1	32:Lb:103:LYS:HG2	2.52	0.45
43:Lm:99:CYS:HB2	43:Lm:114:LYS:HE3	1.96	0.45
50:SA:42:LYS:HG3	50:SA:44:ASP:H	1.82	0.45
50:SA:173:LEU:HD23	50:SA:177:MET:HE1	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SE:106:LYS:HB3	53:SE:108:ARG:NH2	2.30	0.45
56:SI:107:THR:HG23	56:SI:111:GLN:HE22	1.82	0.45
68:S2:746:C:N4	68:S2:797:C:H42	2.15	0.45
68:S2:945:U:H2'	68:S2:946:U:C6	2.52	0.45
68:S2:991:G:C6	68:S2:1134:G:H4'	2.51	0.45
68:S2:1396:A:N7	68:S2:1449:G:O6	2.50	0.45
75:SQ:58:LEU:HD23	75:SQ:58:LEU:H	1.81	0.45
77:ST:22:LEU:HD13	77:ST:28:LEU:HD22	1.98	0.45
84:CB:119:LEU:HD22	84:CB:151:ILE:HG13	1.97	0.45
3:L5:4385:A:H61	3:L5:4531:U:H5'	1.82	0.45
3:L5:4454:G:H2'	3:L5:4455:G:C8	2.52	0.45
87:L5:5289:SPM:HN0	87:L5:5289:SPM:H72	1.56	0.45
54:SG:136:LYS:O	54:SG:176:ILE:HD12	2.15	0.45
59:SN:29:THR:O	59:SN:33:VAL:HG23	2.17	0.45
68:S2:206:G:H3'	68:S2:207:G:H8	1.81	0.45
68:S2:1425:G:H5''	75:SQ:69:ARG:HH22	1.82	0.45
68:S2:1623:A:N6	76:SS:132:ARG:HH11	2.14	0.45
68:S2:1738:C:H2'	68:S2:1739:C:C6	2.52	0.45
70:SD:71:ALA:O	70:SD:75:LYS:HG2	2.16	0.45
84:CB:221:TRP:CG	84:CB:340:MET:HB3	2.50	0.45
3:L5:1811:G:H2'	3:L5:1812:C:C6	2.52	0.45
3:L5:3833:C:H2'	3:L5:3834:C:H6	1.82	0.45
39:Li:73:ILE:O	39:Li:77:VAL:HG22	2.17	0.45
49:Lt:16:ARG:HG3	49:Lt:18:THR:HG22	1.99	0.45
53:SE:146:THR:HG21	68:S2:122:G:H21	1.82	0.45
55:SH:10:LYS:HE3	55:SH:20:GLU:HG2	1.99	0.45
58:SL:68:ILE:HD11	58:SL:141:ASN:HB2	1.99	0.45
68:S2:92:A:H61	68:S2:444:G:H1'	1.82	0.45
68:S2:1198:G:H2'	68:S2:1199:A:C8	2.51	0.45
68:S2:1290:G:H2'	68:S2:1291:A:O4'	2.16	0.45
68:S2:1425:G:H2'	68:S2:1426:U:C6	2.51	0.45
72:SK:41:PRO:HD2	72:SK:44:HIS:HD2	1.80	0.45
85:CA:208:GLN:HA	85:CA:211:LYS:HE3	1.99	0.45
3:L5:1669:A:H4'	3:L5:1685:G:N2	2.31	0.45
3:L5:1981:G:H2'	3:L5:1982:G:C8	2.52	0.45
3:L5:3841:OMC:HM23	3:L5:3841:OMC:H1'	1.78	0.45
3:L5:4152:G:H2'	3:L5:4153:C:H6	1.80	0.45
3:L5:4697:U:H4'	43:Lm:104:HIS:CE1	2.52	0.45
16:LL:125:ILE:HG21	16:LL:147:ALA:HB2	1.99	0.45
24:LT:93:ILE:HA	24:LT:96:ILE:HG12	1.98	0.45
42:Ll:48:LYS:HD3	42:Ll:48:LYS:HA	1.76	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:70:G:H21	68:S2:79:A:H62	1.62	0.45
68:S2:877:C:H2'	68:S2:878:G:C8	2.51	0.45
71:SF:17:ILE:HG13	71:SF:46:ALA:HB3	1.99	0.45
3:L5:261:G:H2'	3:L5:262:G:C8	2.52	0.45
3:L5:461:G:H2'	3:L5:462:G:C8	2.52	0.45
3:L5:1191:C:H2'	3:L5:1192:C:H6	1.82	0.45
7:LB:300:LYS:O	7:LB:304:SER:HB3	2.16	0.45
19:LO:81:TRP:HB2	19:LO:104:VAL:HG21	1.99	0.45
27:LW:8:PHE:HE1	27:LW:36:CYS:HB3	1.82	0.45
42:Ll:36:ARG:HB3	42:Ll:37:TYR:HD1	1.82	0.45
49:Lt:54:LYS:HD2	49:Lt:54:LYS:HA	1.76	0.45
51:SB:121:ILE:HG12	51:SB:161:VAL:HG13	1.99	0.45
55:SH:115:LYS:HD2	68:S2:868:G:C2	2.52	0.45
56:SI:125:LYS:H	56:SI:128:LYS:HZ1	1.65	0.45
58:SL:59:LYS:HB3	58:SL:134:LEU:HD13	1.97	0.45
62:SW:28:ARG:HD2	68:S2:921:G:C6	2.52	0.45
68:S2:186:C:H2'	68:S2:187:G:H8	1.82	0.45
68:S2:466:G:H2'	68:S2:467:G:O4'	2.17	0.45
68:S2:981:A:H2'	68:S2:982:G:C8	2.51	0.45
82:Sf:121:CYS:HB2	82:Sf:145:CYS:HB3	1.59	0.45
83:Sg:101:PHE:CE2	83:Sg:136:GLY:HA2	2.51	0.45
83:Sg:254:PRO:HD3	83:Sg:285:GLN:HG3	1.99	0.45
84:CB:4:PHE:HB2	84:CB:8:GLN:NE2	2.32	0.45
84:CB:79:TYR:CZ	84:CB:351:LEU:HG	2.52	0.45
3:L5:1323:A2M:H2'	3:L5:1324:A:O4'	2.17	0.45
3:L5:2340:C:H4'	8:LC:42:THR:HG23	1.99	0.45
3:L5:2716:C:H2'	3:L5:2717:G:C8	2.51	0.45
3:L5:2743:A:H2'	3:L5:2744:A:C8	2.52	0.45
3:L5:4685:U:H2'	3:L5:4686:G:C8	2.52	0.45
5:L8:141:C:H2'	5:L8:142:U:C6	2.50	0.45
22:LR:139:MET:HG2	22:LR:143:HIS:CE1	2.51	0.45
45:Lo:75:PRO:HA	45:Lo:78:ARG:HH21	1.82	0.45
51:SB:120:MET:HE1	68:S2:987:A:C6	2.52	0.45
51:SB:136:ARG:NH1	68:S2:941:C:H5''	2.32	0.45
54:SG:227:GLN:HB3	54:SG:231:ARG:NH2	2.31	0.45
56:SI:36:THR:HB	56:SI:96:LEU:HB2	1.98	0.45
66:Sb:37:CYS:HB3	66:Sb:59:CYS:HB3	1.54	0.45
68:S2:17:C:H2'	68:S2:18:C:C6	2.52	0.45
68:S2:595:U:H2'	68:S2:596:U:C6	2.51	0.45
68:S2:867:OMG:HM23	68:S2:867:OMG:H1'	1.69	0.45
68:S2:1310:U:H2'	68:S2:1311:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SF:199:VAL:HA	71:SF:202:SER:HB3	1.98	0.45
83:Sg:42:MET:SD	83:Sg:56:GLN:HB3	2.57	0.45
83:Sg:183:LYS:HE2	83:Sg:184:LEU:O	2.17	0.45
3:L5:714:G:H2'	3:L5:715:G:H8	1.81	0.45
3:L5:1269:G:H2'	3:L5:1270:A:C4	2.52	0.45
3:L5:2500:U:H2'	3:L5:2501:C:C6	2.52	0.45
3:L5:4970:C:C2	3:L5:4971:A:C8	3.04	0.45
3:L5:5031:G:H2'	3:L5:5032:C:C6	2.52	0.45
7:LB:258:HIS:HA	7:LB:260:ALA:N	2.31	0.45
10:LE:261:ILE:HA	10:LE:267:LEU:HD23	1.98	0.45
13:LH:10:VAL:HG23	13:LH:55:LEU:HB3	1.99	0.45
33:Lc:55:LEU:HD21	37:Lg:92:LYS:HE3	1.98	0.45
39:Li:76:ARG:HD3	39:Li:76:ARG:HA	1.66	0.45
49:Lt:48:LYS:HA	49:Lt:48:LYS:HD2	1.71	0.45
56:SI:172:LEU:HA	56:SI:172:LEU:HD23	1.82	0.45
63:SX:68:LYS:HG2	63:SX:91:LEU:HD22	1.99	0.45
68:S2:12:U:H2'	68:S2:13:C:H6	1.81	0.45
68:S2:530:U:H2'	68:S2:531:A:H8	1.83	0.45
68:S2:1317:C:H2'	68:S2:1318:G:H8	1.82	0.45
68:S2:1383:A2M:H1'	68:S2:1383:A2M:HM'3	1.50	0.45
3:L5:1190:C:H2'	3:L5:1191:C:C6	2.52	0.44
3:L5:1662:C:H2'	3:L5:1663:C:H6	1.82	0.44
3:L5:2495:U:H2'	3:L5:2496:G:C8	2.46	0.44
3:L5:2555:G:H2'	3:L5:2556:G:H8	1.82	0.44
3:L5:4154:G:H2'	3:L5:4155:C:C6	2.51	0.44
9:LD:103:LEU:HG	9:LD:247:ILE:HG21	1.99	0.44
21:LQ:50:ARG:HA	21:LQ:53:MET:HE3	1.99	0.44
22:LR:36:ASN:HD21	85:CA:256:GLY:H	1.66	0.44
38:Lh:107:GLN:O	38:Lh:111:GLU:HG3	2.17	0.44
54:SG:52:ILE:HA	54:SG:111:LEU:HD13	1.99	0.44
55:SH:37:LYS:HA	55:SH:40:LEU:HB2	1.99	0.44
63:SX:107:ARG:HG3	63:SX:110:HIS:HB3	1.99	0.44
66:Sb:48:SER:HB2	66:Sb:49:HIS:HD2	1.82	0.44
68:S2:71:G:H3'	68:S2:72:C:H4'	1.99	0.44
68:S2:1262:C:H2'	68:S2:1263:U:O4'	2.17	0.44
68:S2:1289:U:C5	82:Sf:97:LYS:HE2	2.52	0.44
68:S2:1421:A:H3'	68:S2:1422:G:C8	2.52	0.44
68:S2:1496:U:H4'	81:Sd:24:CYS:HB2	1.99	0.44
70:SD:140:GLY:HA3	70:SD:182:LEU:HD12	1.98	0.44
74:SP:81:ARG:HA	74:SP:116:LEU:HB2	1.99	0.44
80:Sc:11:LEU:HD23	80:Sc:57:THR:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1683:PSU:H2'	3:L5:1684:A:C8	2.52	0.44
3:L5:2387:G:H2'	3:L5:2388:A:H8	1.80	0.44
3:L5:2709:C:N4	85:CA:257:LEU:H	2.14	0.44
3:L5:3893:C:H2'	3:L5:3894:A:H8	1.82	0.44
4:L7:92:C:H2'	4:L7:93:G:H8	1.81	0.44
14:LI:53:VAL:HG11	24:LT:158:PHE:HZ	1.80	0.44
14:LI:54:SER:HB3	14:LI:135:ILE:HD11	1.99	0.44
49:Lt:117:ARG:HG2	49:Lt:118:HIS:H	1.82	0.44
52:SC:102:LEU:HD12	52:SC:130:ILE:HG12	1.99	0.44
68:S2:906:U:H2'	68:S2:907:G:C8	2.53	0.44
68:S2:1058:A:H2'	68:S2:1059:G:C8	2.52	0.44
69:SR:75:GLU:O	69:SR:78:ARG:HG3	2.17	0.44
76:SS:124:ARG:HE	76:SS:129:LEU:HB2	1.82	0.44
83:Sg:38:LYS:HD2	83:Sg:64:HIS:HA	1.98	0.44
83:Sg:188:HIS:HB3	83:Sg:219:TRP:CE2	2.52	0.44
85:CA:155:ARG:HD2	85:CA:357:LEU:HB2	1.98	0.44
3:L5:2021:G:H5'	48:Ls:58:ASN:ND2	2.32	0.44
3:L5:3883:U:H2'	3:L5:3884:PSU:C6	2.53	0.44
3:L5:4594:U:H2'	3:L5:4595:G:C8	2.52	0.44
3:L5:4622:A:H4'	7:LB:13:SER:HB2	1.98	0.44
14:LI:35:ASP:HA	14:LI:87:MET:O	2.17	0.44
17:LM:62:LEU:HD21	17:LM:82:ILE:HD11	1.99	0.44
19:LO:181:ALA:O	19:LO:185:VAL:HG22	2.18	0.44
38:Lh:88:THR:HG22	38:Lh:90:ALA:H	1.81	0.44
52:SC:76:LYS:HA	52:SC:76:LYS:HD3	1.74	0.44
68:S2:1011:A:H2'	68:S2:1012:A:C8	2.51	0.44
68:S2:1713:C:H2'	68:S2:1714:U:H6	1.82	0.44
70:SD:106:ARG:HG3	70:SD:175:VAL:HG22	1.99	0.44
74:SP:108:LYS:HB3	74:SP:111:MET:HG2	1.99	0.44
80:Sc:58:LEU:HD23	80:Sc:58:LEU:HA	1.87	0.44
81:Sd:19:ARG:HD3	81:Sd:32:ARG:HD2	1.99	0.44
3:L5:254:G:H2'	3:L5:255:C:O4'	2.18	0.44
3:L5:1076:C:H2'	3:L5:1077:C:C6	2.53	0.44
3:L5:1081:C:O2'	3:L5:1082:C:H5'	2.17	0.44
3:L5:3867:A2M:H1'	3:L5:3867:A2M:HM'3	1.53	0.44
3:L5:4098:A:C5	3:L5:4099:G:H1'	2.53	0.44
3:L5:4196:OMG:HM23	3:L5:4196:OMG:H1'	1.70	0.44
5:L8:47:C:H1'	5:L8:61:A:H2'	1.99	0.44
20:LP:131:ARG:HG3	20:LP:137:ASN:OD1	2.16	0.44
21:LQ:85:THR:HA	21:LQ:104:ARG:O	2.17	0.44
22:LR:98:ARG:HD2	22:LR:133:LYS:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SA:18:PHE:CZ	50:SA:177:MET:HE3	2.52	0.44
54:SG:32:MET:HA	54:SG:52:ILE:HB	1.99	0.44
54:SG:56:ASN:HB2	54:SG:108:VAL:HB	2.00	0.44
57:SJ:124:HIS:NE2	67:Se:35:ARG:HB2	2.32	0.44
61:SV:58:ALA:HA	61:SV:61:ARG:HE	1.83	0.44
62:SW:36:ARG:HA	62:SW:39:THR:HG22	2.00	0.44
68:S2:115:U:H2'	68:S2:116:OMU:H6	2.00	0.44
68:S2:1208:A:H2'	68:S2:1209:A:C8	2.52	0.44
68:S2:1285:G:H5'	73:SM:35:ILE:HD12	1.99	0.44
76:SS:31:THR:HA	76:SS:36:VAL:HG13	1.99	0.44
84:CB:524:LEU:HD22	84:CB:561:LEU:HD11	1.98	0.44
85:CA:354:LEU:HD23	85:CA:357:LEU:HD21	1.99	0.44
3:L5:1705:G:H2'	3:L5:1706:A:O4'	2.18	0.44
3:L5:1831:G:H2'	3:L5:1832:C:O4'	2.17	0.44
3:L5:2570:U:H2'	3:L5:2571:C:C6	2.53	0.44
3:L5:2732:G:H2'	3:L5:2733:C:C6	2.51	0.44
3:L5:2751:G:H2'	3:L5:2752:G:H8	1.82	0.44
3:L5:2890:C:H2'	3:L5:2891:U:C6	2.53	0.44
3:L5:3746:A:H5''	6:LA:244:GLY:HA3	1.98	0.44
3:L5:4067:U:H2'	3:L5:4068:U:C6	2.52	0.44
19:LO:18:ARG:HD3	19:LO:18:ARG:HA	1.80	0.44
54:SG:209:TYR:O	54:SG:213:LEU:HG	2.18	0.44
58:SL:11:GLN:HB3	58:SL:56:ILE:HG13	2.00	0.44
60:SO:28:PHE:HA	60:SO:92:ALA:O	2.18	0.44
68:S2:564:A:H2'	68:S2:565:G:O4'	2.17	0.44
68:S2:589:G:H8	68:S2:591:U:H2'	1.83	0.44
68:S2:942:G:H2'	68:S2:943:U:C6	2.52	0.44
70:SD:161:GLY:O	70:SD:164:VAL:HG12	2.18	0.44
73:SM:86:GLY:HA2	73:SM:89:VAL:HG12	1.98	0.44
83:Sg:245:ARG:HD2	83:Sg:247:TRP:CD2	2.53	0.44
84:CB:174:LEU:HD23	84:CB:294:LEU:HD13	2.00	0.44
3:L5:2714:G:H2'	3:L5:2715:G:H8	1.81	0.44
3:L5:3928:A:H2'	3:L5:3929:G:O4'	2.18	0.44
3:L5:4530:UR3:O5'	3:L5:4530:UR3:H6	2.18	0.44
3:L5:4734:A:O2'	3:L5:4735:G:H5''	2.17	0.44
17:LM:86:TRP:CE2	17:LM:92:ALA:HB2	2.52	0.44
19:LO:56:ALA:O	19:LO:60:LYS:HG2	2.17	0.44
29:LY:41:LYS:HE3	29:LY:42:TYR:CZ	2.52	0.44
53:SE:125:LYS:H	53:SE:142:HIS:HD2	1.66	0.44
56:SI:201:LYS:HA	56:SI:201:LYS:HD3	1.81	0.44
68:S2:1512:C:H2'	68:S2:1513:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:1545:A:H4'	75:SQ:75:GLY:N	2.33	0.44
68:S2:1764:G:H5'	68:S2:1765:C:H5''	1.98	0.44
68:S2:1844:U:H2'	68:S2:1845:A:C8	2.53	0.44
71:SF:103:LEU:HD11	71:SF:178:ILE:HD13	1.99	0.44
71:SF:162:ALA:HA	71:SF:165:ASN:HD21	1.83	0.44
83:Sg:7:LEU:HA	83:Sg:310:TRP:HD1	1.82	0.44
3:L5:952:G:H4'	36:Lf:75:THR:HG22	2.00	0.44
3:L5:1176:C:H2'	3:L5:1177:U:C6	2.53	0.44
3:L5:1444:G:H1	3:L5:2104:G:H21	1.66	0.44
3:L5:1621:A:H5''	3:L5:2451:A:H5'	1.99	0.44
3:L5:2870:A:H2'	3:L5:2871:A:C8	2.53	0.44
3:L5:4132:C:H2'	3:L5:4133:C:O4'	2.17	0.44
5:L8:78:G:H2'	5:L8:79:G:C8	2.53	0.44
9:LD:164:LYS:HD2	9:LD:164:LYS:HA	1.84	0.44
15:LJ:161:GLU:HG2	15:LJ:164:ARG:NH2	2.33	0.44
20:LP:94:MET:HE1	20:LP:146:ILE:HB	1.99	0.44
33:Lc:48:LEU:HD13	33:Lc:71:VAL:HG13	2.00	0.44
57:SJ:35:TYR:HD1	57:SJ:112:THR:HG21	1.83	0.44
63:SX:91:LEU:HD21	67:Se:6:LEU:HD23	1.99	0.44
68:S2:367:U:H4'	68:S2:371:A:C8	2.53	0.44
68:S2:436:OMG:HM23	68:S2:436:OMG:H1'	1.84	0.44
68:S2:1540:G:H2'	68:S2:1541:G:H8	1.83	0.44
84:CB:116:THR:O	84:CB:120:ARG:HG2	2.18	0.44
84:CB:629:LYS:HB3	84:CB:633:ARG:NH2	2.32	0.44
85:CA:107:LYS:HD2	85:CA:318:GLN:OE1	2.18	0.44
3:L5:6:C:H5''	12:LG:197:LYS:HB3	1.99	0.44
3:L5:746:A:H2'	3:L5:747:A:H8	1.80	0.44
3:L5:951:G:H2'	3:L5:952:G:H8	1.83	0.44
3:L5:1175:A:H2	3:L5:1185:G:H1	1.65	0.44
3:L5:1444:G:H2'	3:L5:1445:U:O4'	2.18	0.44
3:L5:1557:C:H2'	3:L5:1558:A:C8	2.52	0.44
3:L5:2664:G:H4'	3:L5:2677:G:H4'	2.00	0.44
7:LB:165:HIS:HA	7:LB:179:HIS:O	2.17	0.44
27:LW:87:LEU:HD12	27:LW:90:ILE:HD11	2.00	0.44
51:SB:185:VAL:O	51:SB:189:ILE:HG12	2.18	0.44
52:SC:78:LEU:HD23	52:SC:81:ILE:HD12	2.00	0.44
52:SC:107:LEU:HD23	52:SC:233:LEU:HD21	1.99	0.44
55:SH:134:VAL:HG12	55:SH:173:PHE:CD2	2.53	0.44
56:SI:33:ALA:HA	68:S2:379:C:H5'	1.98	0.44
57:SJ:78:LEU:HB3	57:SJ:92:MET:SD	2.58	0.44
60:SO:136:PRO:HG2	60:SO:139:SER:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SX:107:ARG:HD3	63:SX:112:VAL:HG22	1.99	0.44
68:S2:484:A2M:H8	68:S2:484:A2M:O5'	2.17	0.44
68:S2:694:G:H2'	68:S2:695:C:O4'	2.18	0.44
68:S2:878:G:H1	68:S2:908:A:N6	2.16	0.44
68:S2:984:C:H2'	68:S2:985:G:C8	2.53	0.44
68:S2:1494:U:H5''	68:S2:1496:U:OP2	2.18	0.44
68:S2:1532:C:H3'	68:S2:1637:A:H62	1.83	0.44
73:SM:23:LYS:HD3	73:SM:23:LYS:HA	1.74	0.44
78:SU:66:ARG:HH22	78:SU:75:LYS:HD3	1.82	0.44
84:CB:164:LEU:HD12	84:CB:301:PHE:HE2	1.83	0.44
84:CB:259:LYS:HD2	84:CB:264:ARG:NH2	2.33	0.44
84:CB:575:PRO:HD2	84:CB:794:PHE:CE1	2.51	0.44
3:L5:10:A:H2'	3:L5:11:G:C8	2.52	0.44
3:L5:424:U:H2'	3:L5:425:U:C6	2.53	0.44
3:L5:1478:C:H2'	3:L5:1479:G:H8	1.83	0.44
3:L5:2824:OMC:H1'	3:L5:2824:OMC:HM23	1.69	0.44
3:L5:5031:G:H2'	3:L5:5032:C:H6	1.83	0.44
4:L7:3:C:H2'	4:L7:4:U:H6	1.83	0.44
10:LE:50:LEU:HD22	10:LE:56:ARG:HA	1.99	0.44
13:LH:50:LYS:HB3	13:LH:50:LYS:HE3	1.84	0.44
19:LO:10:ASP:HB2	19:LO:117:ARG:HB3	2.00	0.44
29:LY:58:VAL:HG23	29:LY:59:ARG:HG2	2.00	0.44
35:Le:42:ASP:HA	35:Le:47:ARG:NH2	2.32	0.44
50:SA:38:ILE:HD12	50:SA:47:TYR:HB3	1.99	0.44
50:SA:190:SER:HA	61:SV:45:ARG:HH22	1.82	0.44
54:SG:57:ASP:HB2	54:SG:61:PHE:O	2.18	0.44
68:S2:736:C:H2'	68:S2:737:G:C4	2.53	0.44
68:S2:1043:G:H2'	68:S2:1044:G:O4'	2.18	0.44
71:SF:40:ALA:H	71:SF:68:ILE:HG23	1.82	0.44
73:SM:92:CYS:HB3	73:SM:103:VAL:HG12	1.99	0.44
84:CB:27:HIS:HB3	84:CB:30:HIS:NE2	2.33	0.44
84:CB:345:PRO:HG2	84:CB:348:ASP:HB2	2.00	0.44
3:L5:732:A:H2'	3:L5:733:A:O4'	2.18	0.43
3:L5:742:G:H2'	3:L5:743:G:H8	1.82	0.43
3:L5:2715:G:H2'	3:L5:2716:C:C6	2.53	0.43
3:L5:2746:A:H3'	3:L5:2747:U:H6	1.83	0.43
3:L5:4113:U:H4'	3:L5:4115:G:C2	2.53	0.43
3:L5:4456:OMC:HM23	3:L5:4456:OMC:H1'	1.64	0.43
3:L5:4993:G:H22	3:L5:5058:A:H2	1.66	0.43
8:LC:222:ARG:HD2	29:LY:3:PHE:HZ	1.83	0.43
10:LE:112:MET:HE3	10:LE:113:PRO:HD2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LF:182:TYR:CZ	11:LF:203:GLU:HG2	2.53	0.43
13:LH:93:ARG:HD2	13:LH:143:GLU:HG3	2.00	0.43
13:LH:114:ILE:HB	13:LH:124:ARG:HB2	2.00	0.43
68:S2:319:C:H2'	68:S2:320:G:H8	1.82	0.43
68:S2:496:C:H2'	68:S2:497:C:H6	1.82	0.43
68:S2:816:A:H2'	68:S2:817:G:O4'	2.18	0.43
68:S2:1201:U:H2'	68:S2:1202:U:H6	1.81	0.43
68:S2:1232:PSU:H2'	68:S2:1233:G:H8	1.82	0.43
68:S2:1308:U:H2'	68:S2:1309:C:C6	2.53	0.43
75:SQ:48:GLN:NE2	75:SQ:52:LEU:HD23	2.33	0.43
79:SZ:91:LEU:HD11	79:SZ:96:LEU:HD12	1.99	0.43
84:CB:342:ARG:HA	84:CB:342:ARG:HD3	1.83	0.43
84:CB:364:ALA:HB1	84:CB:368:ARG:HD3	2.00	0.43
84:CB:452:LEU:HD23	84:CB:459:GLU:O	2.18	0.43
3:L5:419:A:H61	5:L8:15:G:H1'	1.82	0.43
10:LE:277:LEU:HD23	10:LE:277:LEU:HA	1.83	0.43
19:LO:124:LEU:HB3	19:LO:126:VAL:HG12	2.00	0.43
48:Ls:146:LYS:HE3	48:Ls:146:LYS:HB2	1.86	0.43
49:Lt:12:VAL:HG11	49:Lt:65:GLN:H	1.83	0.43
50:SA:176:TRP:CE2	50:SA:199:PRO:HG3	2.53	0.43
51:SB:109:LYS:O	51:SB:113:MET:HG2	2.18	0.43
54:SG:232:ARG:HH12	68:S2:785:C:H5'	1.83	0.43
56:SI:81:VAL:HG12	56:SI:91:VAL:HG23	2.00	0.43
66:Sb:16:LYS:HE3	66:Sb:16:LYS:HB2	1.79	0.43
68:S2:610:G:H2'	68:S2:611:G:C8	2.53	0.43
68:S2:680:G:H2'	68:S2:681:PSU:C6	2.54	0.43
68:S2:815:U:H2'	68:S2:816:A:H8	1.83	0.43
68:S2:1442:OMU:HM23	68:S2:1442:OMU:H1'	1.82	0.43
73:SM:91:LEU:HD12	73:SM:91:LEU:HA	1.92	0.43
84:CB:426:LYS:HD2	84:CB:446:PRO:HB3	2.01	0.43
84:CB:838:THR:HG22	84:CB:842:LYS:HD2	1.99	0.43
1:CD:195:ARG:HD3	68:S2:1489:A:OP2	2.19	0.43
3:L5:755:C:H2'	3:L5:756:G:H8	1.83	0.43
3:L5:1095:A:H2	3:L5:1200:G:H1	1.61	0.43
3:L5:1468:C:H2'	3:L5:1469:C:C6	2.53	0.43
3:L5:2254:G:H4'	3:L5:2255:C:C6	2.53	0.43
3:L5:4996:C:H4'	34:Ld:26:THR:HG23	2.00	0.43
8:LC:86:ARG:HD2	8:LC:86:ARG:HA	1.75	0.43
17:LM:97:ALA:HA	17:LM:100:ARG:HG2	2.00	0.43
34:Ld:92:ARG:HD3	34:Ld:101:LYS:HZ1	1.82	0.43
48:Ls:50:LYS:HD2	48:Ls:101:MET:SD	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SA:177:MET:HB2	50:SA:177:MET:HE2	1.55	0.43
56:SI:38:ILE:HD11	56:SI:96:LEU:HD21	2.00	0.43
57:SJ:177:ASN:HA	57:SJ:180:LYS:HB3	2.00	0.43
68:S2:615:C:H2'	68:S2:616:A:O4'	2.19	0.43
68:S2:1113:A:O2'	68:S2:1114:U:H5'	2.18	0.43
70:SD:214:LYS:HG3	70:SD:216:GLU:H	1.83	0.43
71:SF:130:ARG:HG2	71:SF:133:THR:O	2.18	0.43
72:SK:29:MET:HB3	72:SK:42:ASN:HB2	1.99	0.43
83:Sg:206:LEU:HD11	83:Sg:218:LEU:HB3	2.00	0.43
84:CB:147:ILE:HG21	84:CB:189:ILE:HG22	1.99	0.43
84:CB:152:LYS:HB3	84:CB:359:PRO:HG3	2.00	0.43
84:CB:425:LEU:HG	84:CB:427:VAL:HG13	1.99	0.43
3:L5:1721:G:H2'	3:L5:1722:C:H6	1.83	0.43
3:L5:2018:C:H2'	3:L5:2019:C:C6	2.53	0.43
3:L5:4619:U:H2'	3:L5:4620:OMU:H6	1.98	0.43
5:L8:115:G:H2'	5:L8:116:C:C6	2.53	0.43
10:LE:244:GLU:O	10:LE:248:ILE:HG12	2.18	0.43
19:LO:88:LEU:HD12	19:LO:99:LEU:HD13	2.01	0.43
36:Lf:4:ARG:HG2	36:Lf:6:TRP:O	2.18	0.43
53:SE:17:HIS:HA	53:SE:19:MET:HE2	2.00	0.43
58:SL:21:LYS:HD3	58:SL:21:LYS:HA	1.76	0.43
64:SY:10:ARG:HH21	64:SY:24:VAL:HG11	1.84	0.43
68:S2:15:U:H2'	68:S2:16:G:O4'	2.17	0.43
68:S2:1139:C:H2'	68:S2:1140:G:O4'	2.19	0.43
68:S2:1410:C:H2'	68:S2:1411:G:C8	2.53	0.43
68:S2:1538:C:H2'	68:S2:1539:U:C6	2.52	0.43
68:S2:1554:C:H2'	68:S2:1555:U:C5	2.54	0.43
68:S2:1650:A:H2'	68:S2:1651:A:O4'	2.18	0.43
75:SQ:40:GLU:HA	75:SQ:48:GLN:NE2	2.33	0.43
84:CB:88:PHE:HE1	84:CB:250:ALA:HA	1.83	0.43
84:CB:517:LEU:HA	84:CB:520:LEU:HB3	2.00	0.43
85:CA:208:GLN:HG2	85:CA:211:LYS:NZ	2.32	0.43
3:L5:139:G:H2'	3:L5:140:G:H8	1.82	0.43
3:L5:424:U:H2'	3:L5:425:U:H6	1.83	0.43
3:L5:1721:G:H2'	3:L5:1722:C:C6	2.53	0.43
3:L5:2018:C:H2'	3:L5:2019:C:H6	1.83	0.43
3:L5:2636:U:H2'	3:L5:2637:U:C6	2.53	0.43
3:L5:3893:C:H2'	3:L5:3894:A:C8	2.53	0.43
3:L5:5057:C:H2'	3:L5:5058:A:C8	2.54	0.43
19:LO:108:ILE:HD12	19:LO:160:ARG:CZ	2.49	0.43
27:LW:96:GLN:H	27:LW:101:ARG:HH21	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Ls:21:LEU:HD22	48:Ls:90:PHE:HE2	1.82	0.43
53:SE:38:LEU:HA	53:SE:41:CYS:SG	2.58	0.43
53:SE:128:LYS:HG2	53:SE:140:VAL:HG22	2.00	0.43
54:SG:188:LYS:HE3	54:SG:188:LYS:HB3	1.87	0.43
58:SL:113:LEU:HD21	58:SL:120:VAL:HG11	1.99	0.43
59:SN:78:LYS:HA	59:SN:78:LYS:HD3	1.80	0.43
64:SY:19:GLN:HB3	64:SY:77:ASP:CG	2.44	0.43
68:S2:116:OMU:HM23	68:S2:116:OMU:H1'	1.69	0.43
68:S2:1208:A:H2'	68:S2:1209:A:H8	1.84	0.43
68:S2:1380:C:H2'	68:S2:1381:G:C8	2.54	0.43
72:SK:90:VAL:HG21	72:SK:95:ARG:HB2	2.01	0.43
74:SP:72:LYS:HB3	74:SP:93:MET:HE3	1.99	0.43
76:SS:39:ARG:CZ	77:ST:38:LYS:HG3	2.48	0.43
80:Sc:12:ALA:HB1	80:Sc:32:VAL:HB	2.00	0.43
3:L5:327:U:O2'	39:Li:30:ARG:HD2	2.18	0.43
3:L5:454:U:H2'	3:L5:455:C:O4'	2.19	0.43
3:L5:1340:OMC:HM23	3:L5:1340:OMC:H1'	1.73	0.43
3:L5:1647:U:OP1	88:L5:5291:SPD:H51	2.19	0.43
3:L5:1806:G:H2'	3:L5:1807:C:H6	1.81	0.43
3:L5:2632:PSU:H2'	3:L5:2633:U:C6	2.53	0.43
3:L5:2706:G:H22	3:L5:2709:C:H5''	1.83	0.43
3:L5:3622:C:H2'	3:L5:3623:C:C6	2.54	0.43
3:L5:4342:C:O3'	45:Lo:37:GLY:HA3	2.19	0.43
10:LE:229:GLU:HG3	10:LE:231:GLU:HG2	2.00	0.43
12:LG:164:ILE:O	12:LG:168:VAL:HG13	2.18	0.43
29:LY:72:GLN:HB3	29:LY:81:TYR:HB2	2.01	0.43
50:SA:23:THR:HA	50:SA:164:ASN:HB3	2.00	0.43
50:SA:180:ARG:O	50:SA:184:ARG:HB2	2.18	0.43
68:S2:363:A:H4'	68:S2:364:A:H4'	2.00	0.43
68:S2:1625:U:H2'	68:S2:1626:C:C6	2.53	0.43
77:ST:6:VAL:HG12	77:ST:135:ALA:HB2	2.01	0.43
3:L5:1490:G:H2'	3:L5:1491:A:C8	2.54	0.43
3:L5:1725:U:H2'	3:L5:1726:U:H6	1.83	0.43
3:L5:2020:U:H2'	3:L5:2021:G:H8	1.83	0.43
3:L5:2078:C:H2'	3:L5:2079:G:C8	2.53	0.43
3:L5:4233:A:C5	3:L5:4235:G:C8	3.07	0.43
4:L7:74:A:H61	4:L7:100:A:H3'	1.84	0.43
9:LD:179:ARG:HA	9:LD:179:ARG:HD3	1.82	0.43
48:Ls:93:GLU:HB2	48:Ls:98:ILE:HD11	2.00	0.43
56:SI:89:GLU:O	56:SI:92:ARG:HG2	2.18	0.43
64:SY:12:PHE:HE1	64:SY:21:LYS:HB3	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:1031:A2M:H2'	68:S2:1032:C:C6	2.54	0.43
68:S2:1337:4AC:H2'	68:S2:1338:G:C8	2.41	0.43
68:S2:1469:A:H2'	68:S2:1470:C:C6	2.53	0.43
68:S2:1712:A:H2'	68:S2:1713:C:C6	2.54	0.43
68:S2:1808:U:H2'	68:S2:1809:A:C8	2.52	0.43
73:SM:33:ARG:HH11	73:SM:89:VAL:HG22	1.83	0.43
75:SQ:72:VAL:HG21	75:SQ:84:ILE:HD11	2.01	0.43
82:Sf:118:ARG:HB2	82:Sf:131:PHE:CD2	2.54	0.43
85:CA:79:SER:HB3	85:CA:109:ASP:HB2	2.01	0.43
3:L5:18:C:H2'	3:L5:19:G:H8	1.84	0.43
3:L5:137:G:H2'	3:L5:138:G:C8	2.54	0.43
3:L5:737:C:C5	3:L5:739:G:H5''	2.54	0.43
3:L5:1871:A2M:HM'3	3:L5:1871:A2M:H1'	1.72	0.43
3:L5:2109:G:H2'	3:L5:2110:C:C6	2.54	0.43
6:LA:177:LYS:HD2	46:Lp:69:TRP:CH2	2.54	0.43
7:LB:181:MET:HE3	7:LB:181:MET:HB2	1.90	0.43
7:LB:238:LYS:HE2	7:LB:238:LYS:HB2	1.71	0.43
27:LW:8:PHE:HE2	27:LW:46:PRO:HB3	1.84	0.43
49:Lt:108:GLU:O	49:Lt:112:ILE:HG12	2.19	0.43
50:SA:8:LEU:HD12	50:SA:191:ARG:HH12	1.84	0.43
51:SB:224:GLU:HB2	51:SB:227:LYS:HG2	2.01	0.43
52:SC:207:ALA:O	52:SC:211:LYS:HB2	2.19	0.43
53:SE:18:TRP:HB3	53:SE:20:LEU:CD1	2.47	0.43
53:SE:125:LYS:H	53:SE:142:HIS:CD2	2.37	0.43
71:SF:122:ARG:HG2	80:Sc:57:THR:HG21	1.99	0.43
79:SZ:67:LEU:HD12	79:SZ:67:LEU:HA	1.79	0.43
83:Sg:212:LYS:HD2	83:Sg:235:ILE:HG12	2.01	0.43
84:CB:78:PHE:HA	84:CB:98:PHE:O	2.18	0.43
3:L5:1098:G:H2'	3:L5:1099:C:H6	1.83	0.43
3:L5:1333:A:H2'	3:L5:1334:A:H8	1.82	0.43
3:L5:2413:U:H2'	3:L5:2414:G:H8	1.84	0.43
3:L5:3690:U:H2'	3:L5:3691:G:O4'	2.19	0.43
3:L5:4070:U:H2'	3:L5:4071:U:C6	2.53	0.43
3:L5:4070:U:H2'	3:L5:4071:U:H6	1.84	0.43
3:L5:4872:G:C2	19:LO:203:VAL:HG23	2.54	0.43
3:L5:4936:G:C5	10:LE:183:ARG:HD3	2.53	0.43
15:LJ:35:ARG:HB3	15:LJ:123:ILE:HA	2.01	0.43
16:LL:92:ARG:NH2	16:LL:98:VAL:HB	2.34	0.43
46:Lp:85:ARG:O	46:Lp:88:GLU:HG2	2.18	0.43
50:SA:158:ASP:O	61:SV:66:ASP:HA	2.19	0.43
53:SE:36:HIS:CD2	53:SE:85:GLY:HA3	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SE:173:ILE:HD13	53:SE:173:ILE:HA	1.84	0.43
56:SI:171:LEU:HA	56:SI:171:LEU:HD23	1.82	0.43
57:SJ:79:ARG:NH2	68:S2:819:G:H5''	2.34	0.43
57:SJ:84:ILE:HG13	57:SJ:86:VAL:HG13	2.00	0.43
68:S2:1182:A:C5	68:S2:1183:A:H1'	2.54	0.43
68:S2:1426:U:H2'	68:S2:1427:C:C6	2.54	0.43
68:S2:1663:A:O2'	68:S2:1664:A:H5'	2.19	0.43
3:L5:1191:C:H2'	3:L5:1192:C:C6	2.53	0.43
3:L5:1683:PSU:H2'	3:L5:1684:A:H8	1.84	0.43
3:L5:2483:G:C6	3:L5:2496:G:C6	3.06	0.43
3:L5:4262:C:H2'	3:L5:4263:C:H6	1.84	0.43
3:L5:4968:A:H2'	3:L5:4969:C:H6	1.83	0.43
4:L7:6:C:H4'	9:LD:52:ILE:HD13	2.00	0.43
10:LE:183:ARG:HA	10:LE:183:ARG:HD2	1.83	0.43
20:LP:37:LYS:HB3	20:LP:37:LYS:HE2	1.71	0.43
26:LV:109:LYS:HE2	26:LV:109:LYS:HB2	1.88	0.43
32:Lb:75:LEU:HD23	32:Lb:76:VAL:HG22	2.01	0.43
37:Lg:107:LEU:O	37:Lg:110:GLN:HG3	2.19	0.43
52:SC:253:PRO:HA	52:SC:256:TRP:CE2	2.54	0.43
57:SJ:46:VAL:HA	57:SJ:49:THR:HG22	2.01	0.43
62:SW:3:ARG:HH12	62:SW:28:ARG:NH2	2.17	0.43
66:Sb:54:VAL:HG22	66:Sb:64:CYS:HB2	2.01	0.43
68:S2:107:A:H2'	68:S2:108:G:H8	1.83	0.43
68:S2:174:OMC:HM23	68:S2:174:OMC:H1'	1.71	0.43
68:S2:1462:U:H5''	68:S2:1463:U:C4	2.53	0.43
68:S2:1474:A:H2'	68:S2:1475:G:C8	2.54	0.43
71:SF:99:ILE:HG23	79:SZ:67:LEU:HD11	2.01	0.43
84:CB:776:VAL:HG22	84:CB:783:VAL:HG23	1.99	0.43
3:L5:50:C:C2	3:L5:51:A:C8	3.07	0.42
3:L5:179:G:H2'	3:L5:180:C:H6	1.82	0.42
3:L5:455:C:O2'	3:L5:456:C:H5'	2.19	0.42
3:L5:1617:G:H1'	3:L5:2513:A:N6	2.33	0.42
3:L5:2484:A:H62	3:L5:2494:U:H3	1.66	0.42
3:L5:4159:C:H2'	3:L5:4160:C:C6	2.53	0.42
87:L5:5292:SPM:HN0	87:L5:5292:SPM:H132	1.46	0.42
8:LC:154:VAL:HG11	8:LC:174:LEU:HD11	2.01	0.42
11:LF:241:ASN:O	11:LF:245:ARG:HG2	2.19	0.42
13:LH:105:ILE:HG23	13:LH:109:GLY:HA2	2.01	0.42
15:LJ:88:LYS:HE3	15:LJ:88:LYS:HB3	1.90	0.42
19:LO:129:LEU:HD23	19:LO:129:LEU:HA	1.88	0.42
24:LT:14:MET:HE1	24:LT:55:LYS:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:107:A:H2'	68:S2:108:G:C8	2.53	0.42
68:S2:317:C:H2'	68:S2:318:A:C4	2.53	0.42
68:S2:389:A:H2'	68:S2:390:C:C6	2.54	0.42
68:S2:824:C:H2'	68:S2:825:A:C8	2.54	0.42
68:S2:1005:G:H2'	68:S2:1006:C:C6	2.53	0.42
68:S2:1209:A:H2'	68:S2:1210:G:C8	2.54	0.42
68:S2:1353:A:H2'	68:S2:1354:G:O4'	2.19	0.42
68:S2:1608:U:H2'	68:S2:1609:C:C6	2.54	0.42
70:SD:109:LEU:HD12	70:SD:184:ILE:HD11	2.01	0.42
82:Sf:146:LEU:HB3	82:Sf:147:THR:H	1.66	0.42
83:Sg:22:ALA:HB1	83:Sg:71:ILE:HG12	2.01	0.42
83:Sg:69:VAL:HA	83:Sg:79:LEU:O	2.19	0.42
85:CA:174:ALA:HB1	85:CA:180:THR:HA	2.00	0.42
85:CA:190:LEU:HB2	85:CA:223:VAL:HB	2.00	0.42
3:L5:160:G:H2'	3:L5:161:G:C8	2.53	0.42
3:L5:277:G:H5''	18:LN:5:LYS:NZ	2.34	0.42
3:L5:690:C:H4'	47:Lr:85:ASN:ND2	2.34	0.42
3:L5:918:G:H5'	17:LM:72:TYR:CZ	2.55	0.42
3:L5:1751:A:H2'	3:L5:1752:G:H8	1.84	0.42
3:L5:2436:U:O4	28:LX:130:PRO:HG3	2.19	0.42
3:L5:2448:G:H2'	3:L5:2449:A:C8	2.54	0.42
3:L5:2720:C:H2'	3:L5:2721:G:O4'	2.20	0.42
3:L5:4538:G:H2'	3:L5:4539:U:C6	2.54	0.42
87:L5:5293:SPM:H112	19:LO:91:LYS:HD3	2.00	0.42
7:LB:258:HIS:HA	7:LB:260:ALA:H	1.83	0.42
10:LE:210:LYS:HD3	10:LE:210:LYS:HA	1.82	0.42
17:LM:85:LYS:O	17:LM:89:THR:HG23	2.18	0.42
56:SI:57:ALA:HB1	56:SI:60:LEU:HD21	2.01	0.42
60:SO:26:ASN:ND2	65:Sa:58:VAL:HG11	2.34	0.42
68:S2:1017:U:H2'	68:S2:1018:U:C6	2.54	0.42
68:S2:1531:A:H2'	68:S2:1532:C:C6	2.54	0.42
68:S2:1623:A:N6	76:SS:132:ARG:HD3	2.35	0.42
71:SF:91:ARG:HD2	79:SZ:103:HIS:CE1	2.54	0.42
78:SU:42:GLY:O	78:SU:46:LYS:HG2	2.18	0.42
78:SU:106:ILE:HD12	78:SU:106:ILE:HA	1.93	0.42
84:CB:164:LEU:HD12	84:CB:301:PHE:CE2	2.53	0.42
85:CA:249:ARG:HD2	85:CA:250:ASP:N	2.34	0.42
3:L5:1554:A:H61	3:L5:1573:G:H1'	1.84	0.42
3:L5:1604:G:H2'	3:L5:1605:G:C8	2.54	0.42
3:L5:1779:U:H2'	3:L5:1780:A:C8	2.54	0.42
3:L5:2044:U:C2	7:LB:259:PRO:HB3	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2066:C:O2'	36:Lf:79:GLY:HA2	2.19	0.42
3:L5:2558:C:H2'	3:L5:2559:G:C8	2.54	0.42
3:L5:3684:G:H2'	3:L5:3685:C:H6	1.83	0.42
3:L5:3917:A:H2'	3:L5:3918:G:C8	2.53	0.42
3:L5:4236:G:H2'	3:L5:4237:C:H6	1.84	0.42
3:L5:4260:U:H2'	3:L5:4261:C:H6	1.84	0.42
3:L5:5009:G:H2'	3:L5:5010:PSU:H6	1.85	0.42
5:L8:148:A:H2'	5:L8:149:G:C8	2.54	0.42
7:LB:348:ARG:HG2	7:LB:349:LYS:O	2.19	0.42
19:LO:47:PHE:HA	19:LO:136:ALA:HB2	2.01	0.42
21:LQ:27:LEU:HD21	47:Lr:4:HIS:HB3	2.01	0.42
27:LW:56:ARG:HB3	27:LW:61:LYS:HB2	2.02	0.42
45:Lo:35:ALA:O	45:Lo:39:ARG:HG3	2.20	0.42
51:SB:35:ALA:HB3	51:SB:42:ARG:HA	2.01	0.42
51:SB:136:ARG:HD2	51:SB:138:PHE:CZ	2.54	0.42
54:SG:119:LYS:HD2	54:SG:119:LYS:HA	1.86	0.42
63:SX:93:PHE:HB3	63:SX:133:LEU:HD23	2.01	0.42
64:SY:20:ARG:HB3	64:SY:76:TYR:CD2	2.54	0.42
68:S2:16:G:H2'	68:S2:17:C:C6	2.54	0.42
68:S2:1320:G:H2'	68:S2:1321:G:O4'	2.20	0.42
68:S2:1398:G:H22	68:S2:1448:A:H2	1.67	0.42
68:S2:1455:A:H2'	68:S2:1456:G:H8	1.84	0.42
71:SF:42:LYS:HD2	71:SF:42:LYS:HA	1.78	0.42
84:CB:30:HIS:CE1	84:CB:130:ASP:H	2.37	0.42
84:CB:525:LYS:HA	84:CB:525:LYS:HD3	1.84	0.42
84:CB:584:SER:O	84:CB:608:PRO:HG3	2.19	0.42
3:L5:1847:C:H4'	21:LQ:152:PHE:CZ	2.54	0.42
3:L5:1906:U:H2'	3:L5:1907:A:H8	1.84	0.42
3:L5:1942:A:H2'	3:L5:1943:A:H8	1.79	0.42
3:L5:1985:G:H2'	3:L5:1986:U:C6	2.54	0.42
3:L5:1993:C:H4'	49:Lt:149:HIS:CD2	2.55	0.42
3:L5:2378:G:N2	3:L5:2380:G:H3'	2.35	0.42
3:L5:3695:PSU:HN3	3:L5:3820:G:H1	1.66	0.42
3:L5:3824:A:H3'	3:L5:3825:A2M:H8	1.99	0.42
3:L5:4578:G:H2'	3:L5:4579:PSU:H6	1.83	0.42
13:LH:41:ILE:HG22	13:LH:43:VAL:HG13	2.00	0.42
25:LU:56:LEU:HD23	25:LU:61:VAL:O	2.20	0.42
34:Ld:33:ILE:HD13	34:Ld:33:ILE:HA	1.91	0.42
45:Lo:26:TYR:HB3	45:Lo:67:VAL:HB	2.01	0.42
60:SO:97:LEU:HD21	60:SO:108:PRO:HG3	2.01	0.42
68:S2:149:A:N7	68:S2:169:U:C2	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:194:C:H2'	68:S2:195:C:C6	2.54	0.42
68:S2:1139:C:H5	68:S2:1149:A:H62	1.66	0.42
85:CA:202:ILE:HB	85:CA:213:HIS:CD2	2.55	0.42
3:L5:163:A:H2'	3:L5:164:G:H8	1.85	0.42
3:L5:1294:A:O2'	3:L5:1295:C:H5'	2.18	0.42
3:L5:1519:C:H2'	3:L5:1520:C:H6	1.84	0.42
3:L5:1774:C:H2'	3:L5:1775:A:O4'	2.20	0.42
3:L5:4691:A:O3'	13:LH:71:ARG:HD2	2.19	0.42
4:L7:19:C:H2'	4:L7:20:U:C6	2.54	0.42
5:L8:94:G:H1'	40:Lj:82:THR:O	2.20	0.42
8:LC:283:LYS:HB3	8:LC:283:LYS:HE2	1.72	0.42
14:LI:91:LEU:HD21	14:LI:129:VAL:HB	2.01	0.42
19:LO:165:LYS:HE2	19:LO:165:LYS:HB2	1.92	0.42
37:Lg:57:ARG:HG2	37:Lg:59:VAL:HG13	2.02	0.42
37:Lg:108:LYS:HA	37:Lg:108:LYS:HD3	1.91	0.42
44:Ln:1:MET:HB2	68:S2:1706:G:H5'	2.01	0.42
48:Ls:47:LEU:HD22	48:Ls:51:ALA:HB3	2.01	0.42
53:SE:129:ILE:HG22	53:SE:139:LEU:HB2	2.02	0.42
53:SE:255:ARG:HH22	68:S2:819:G:H4'	1.85	0.42
57:SJ:115:PHE:HZ	57:SJ:122:SER:C	2.27	0.42
59:SN:91:LEU:HD23	59:SN:91:LEU:HA	1.92	0.42
64:SY:9:THR:H	68:S2:837:A:N6	2.15	0.42
68:S2:96:C:H2'	68:S2:97:U:C6	2.54	0.42
68:S2:1011:A:H2'	68:S2:1012:A:H8	1.84	0.42
68:S2:1440:C:H2'	68:S2:1441:U:C6	2.54	0.42
68:S2:1511:U:H2'	68:S2:1512:C:H6	1.83	0.42
68:S2:1619:A:OP1	74:SP:47:ARG:HD3	2.19	0.42
68:S2:1620:A:H1'	68:S2:1624:U:OP2	2.20	0.42
68:S2:1740:C:H2'	68:S2:1741:U:C6	2.55	0.42
71:SF:193:LYS:O	71:SF:197:GLU:HG2	2.20	0.42
85:CA:186:LEU:HD13	85:CA:202:ILE:HA	2.00	0.42
3:L5:7:C:H2'	3:L5:8:U:C6	2.55	0.42
3:L5:965:G:N2	3:L5:2092:G:H1'	2.35	0.42
3:L5:1098:G:H2'	3:L5:1099:C:C6	2.55	0.42
3:L5:1383:G:H2'	3:L5:1384:C:C6	2.55	0.42
3:L5:2461:G:H2'	3:L5:2462:C:C6	2.55	0.42
3:L5:4236:G:H4'	3:L5:4328:G:O2'	2.19	0.42
3:L5:4680:G:H2'	3:L5:4681:A:C8	2.54	0.42
3:L5:5062:G:C2	3:L5:5063:G:C8	3.08	0.42
6:LA:180:LEU:HD21	46:Lp:22:LEU:HB3	2.02	0.42
7:LB:303:ALA:HB3	7:LB:312:LYS:HG3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LP:4:TYR:OH	20:LP:18:ARG:HG3	2.19	0.42
22:LR:104:ARG:HD2	22:LR:108:ARG:NH2	2.34	0.42
32:Lb:73:LYS:HA	32:Lb:73:LYS:HD3	1.80	0.42
41:Lk:21:LYS:HA	41:Lk:21:LYS:HD3	1.81	0.42
56:SI:13:LYS:HB2	58:SL:137:THR:HG21	2.00	0.42
60:SO:94:HIS:CE1	60:SO:128:ARG:HG2	2.55	0.42
68:S2:51:U:H2'	68:S2:52:G:C8	2.54	0.42
68:S2:601:OMG:C6	68:S2:602:G:C6	3.07	0.42
70:SD:99:ILE:HG12	70:SD:173:ARG:HH21	1.84	0.42
70:SD:150:MET:HB3	70:SD:152:PHE:CE1	2.54	0.42
71:SF:72:LEU:HA	71:SF:151:ILE:HD11	2.02	0.42
83:Sg:118:ARG:HA	83:Sg:118:ARG:HD2	1.93	0.42
84:CB:50:ARG:NH2	84:CB:456:ARG:HH22	2.17	0.42
84:CB:76:SER:HA	84:CB:100:ILE:O	2.20	0.42
85:CA:352:ALA:HA	85:CA:355:LYS:HD3	2.01	0.42
3:L5:448:G:H2'	3:L5:450:G:H5'	2.01	0.42
3:L5:1754:U:H2'	3:L5:1755:C:C6	2.55	0.42
3:L5:2095:A:H1'	3:L5:2096:G:N2	2.35	0.42
3:L5:3732:A:H2'	3:L5:3733:A:H8	1.83	0.42
3:L5:4163:U:H5'	3:L5:4164:C:H5''	2.00	0.42
3:L5:4577:U:H2'	3:L5:4578:G:H8	1.85	0.42
7:LB:117:ARG:HA	7:LB:177:LYS:HD2	2.01	0.42
12:LG:218:LEU:O	12:LG:222:ILE:HG12	2.20	0.42
17:LM:104:MET:SD	19:LO:199:HIS:HB3	2.60	0.42
18:LN:84:PRO:HA	18:LN:87:HIS:CG	2.54	0.42
29:LY:39:ARG:HG3	29:LY:45:ARG:HA	2.02	0.42
31:La:75:LEU:HD23	31:La:75:LEU:HA	1.88	0.42
32:Lb:60:ASN:HA	32:Lb:63:LYS:HE3	2.01	0.42
49:Lt:106:PHE:HB2	49:Lt:109:ILE:HG12	2.01	0.42
49:Lt:133:LEU:HD23	49:Lt:133:LEU:HA	1.82	0.42
50:SA:57:LYS:HD3	50:SA:57:LYS:HA	1.90	0.42
57:SJ:32:ILE:HD11	57:SJ:40:LYS:HA	2.02	0.42
57:SJ:87:LEU:HD21	57:SJ:91:LYS:O	2.19	0.42
59:SN:15:ALA:HB1	66:Sb:26:GLN:HB3	2.00	0.42
62:SW:81:VAL:HG21	62:SW:125:ILE:HD13	2.02	0.42
68:S2:49:C:H2'	68:S2:472:C:H41	1.85	0.42
68:S2:185:G:N1	68:S2:214:U:N3	2.68	0.42
69:SR:103:LYS:NZ	69:SR:113:SER:H	2.17	0.42
76:SS:140:GLY:O	76:SS:144:ARG:HG2	2.19	0.42
3:L5:388:A:H5'	3:L5:389:A:H5'	2.02	0.42
3:L5:481:G:H2'	3:L5:482:G:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1326:A2M:HM'3	3:L5:1326:A2M:H1'	1.41	0.42
3:L5:1510:G:H2'	3:L5:1511:U:C6	2.55	0.42
3:L5:1962:A:H2	3:L5:2024:G:H21	1.67	0.42
3:L5:2625:U:H1'	3:L5:4647:G:N7	2.35	0.42
3:L5:2849:A:H62	3:L5:3838:U:H3	1.67	0.42
3:L5:4524:G:N3	7:LB:252:ALA:HB1	2.35	0.42
3:L5:4592:C:H2'	3:L5:4593:C:C6	2.55	0.42
5:L8:29:G:H5''	16:LL:27:ASN:HB3	2.01	0.42
7:LB:39:LYS:HD3	7:LB:39:LYS:HA	1.75	0.42
18:LN:159:ARG:H	18:LN:159:ARG:HG3	1.62	0.42
35:Le:42:ASP:HA	35:Le:47:ARG:HH22	1.85	0.42
37:Lg:33:LEU:HD23	37:Lg:33:LEU:HA	1.83	0.42
37:Lg:41:ALA:O	37:Lg:52:ARG:HD3	2.20	0.42
38:Lh:21:LEU:HD11	38:Lh:25:LYS:HE2	2.01	0.42
56:SI:83:TYR:HB3	56:SI:101:ILE:HD12	2.02	0.42
64:SY:60:PHE:CD1	64:SY:71:GLY:HA3	2.55	0.42
68:S2:496:C:H2'	68:S2:497:C:C6	2.55	0.42
68:S2:1004:PSU:H2'	68:S2:1005:G:H8	1.85	0.42
68:S2:1651:A:H2'	68:S2:1652:G:H8	1.83	0.42
68:S2:1670:C:H2'	68:S2:1671:G:C8	2.54	0.42
70:SD:90:LYS:HE2	70:SD:90:LYS:HB2	1.90	0.42
83:Sg:240:CYS:HB2	83:Sg:291:TRP:CD1	2.54	0.42
84:CB:662:LEU:HB2	84:CB:683:PHE:CD1	2.55	0.42
3:L5:276:C:H2'	39:Li:29:ARG:HH22	1.84	0.42
3:L5:1633:G:H5'	3:L5:1634:A:OP1	2.20	0.42
3:L5:4251:A:H2'	3:L5:4252:C:O4'	2.19	0.42
3:L5:4504:C:H2'	3:L5:4505:C:C6	2.55	0.42
4:L7:108:G:OP1	9:LD:273:LEU:HB2	2.20	0.42
11:LF:164:LYS:HB2	11:LF:164:LYS:HE2	1.83	0.42
51:SB:199:LYS:HD3	51:SB:199:LYS:HA	1.71	0.42
54:SG:15:LEU:HG	68:S2:154:U:O2'	2.19	0.42
64:SY:84:LYS:HA	64:SY:84:LYS:HD2	1.88	0.42
68:S2:344:U:H2'	68:S2:345:U:C6	2.55	0.42
68:S2:549:C:H2'	68:S2:550:C:C6	2.55	0.42
68:S2:696:G:H21	68:S2:737:G:N2	2.18	0.42
68:S2:835:C:H5'	68:S2:836:G:H5'	2.02	0.42
68:S2:958:G:C6	68:S2:959:G:C6	3.08	0.42
75:SQ:132:PHE:HB2	78:SU:77:TRP:CD1	2.55	0.42
77:ST:143:LYS:HE3	77:ST:143:LYS:HB2	1.92	0.42
83:Sg:59:LEU:HB3	83:Sg:90:TRP:CE3	2.55	0.42
84:CB:24:VAL:HG12	84:CB:126:LEU:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:233:U:H1'	3:L5:234:G:C8	2.55	0.42
3:L5:2036:C:H2'	3:L5:2037:C:C6	2.54	0.42
3:L5:2555:G:H2'	3:L5:2556:G:C8	2.55	0.42
3:L5:2638:G:N1	3:L5:2718:U:H2'	2.35	0.42
3:L5:3932:U:H2'	3:L5:3933:G:H8	1.84	0.42
3:L5:4171:C:H2'	3:L5:4172:A:O4'	2.20	0.42
3:L5:4458:C:H2'	3:L5:4459:U:C6	2.55	0.42
4:L7:17:C:H2'	4:L7:18:C:C6	2.55	0.42
5:L8:2:G:C2	5:L8:3:A:C8	3.08	0.42
5:L8:6:C:H2'	5:L8:7:U:C6	2.54	0.42
13:LH:4:ILE:HG12	13:LH:61:TRP:CH2	2.55	0.42
22:LR:32:ILE:HD13	22:LR:44:LEU:HD13	2.01	0.42
36:Lf:22:ARG:HA	36:Lf:22:ARG:HD3	1.89	0.42
42:Ll:12:PHE:HE2	42:Ll:51:LEU:HD22	1.83	0.42
48:Ls:106:LYS:HD2	48:Ls:185:PHE:HA	2.02	0.42
56:SI:70:GLU:OE2	58:SL:21:LYS:HG2	2.20	0.42
59:SN:54:LEU:HD23	59:SN:54:LEU:HA	1.89	0.42
68:S2:121:OMU:H2'	68:S2:122:G:C8	2.55	0.42
68:S2:319:C:H2'	68:S2:320:G:C8	2.55	0.42
68:S2:1339:U:H2'	68:S2:1340:U:C6	2.55	0.42
75:SQ:8:GLN:HG3	75:SQ:99:TYR:CE1	2.54	0.42
83:Sg:181:ASN:HD21	83:Sg:185:LYS:NZ	2.18	0.42
3:L5:734:G:H2'	3:L5:735:G:H8	1.84	0.41
3:L5:1314:C:C2	3:L5:1315:C:C5	3.08	0.41
3:L5:1323:A2M:HM'3	3:L5:1323:A2M:H1'	1.47	0.41
3:L5:1558:A:H2'	3:L5:1559:G:H8	1.85	0.41
3:L5:1743:A:H1'	9:LD:15:ARG:CZ	2.50	0.41
3:L5:2727:C:H2'	3:L5:2728:U:C6	2.54	0.41
3:L5:2861:OMC:HM23	3:L5:2861:OMC:H1'	1.74	0.41
3:L5:3830:A2M:HM'3	3:L5:3830:A2M:H1'	1.61	0.41
3:L5:4227:OMU:H1'	3:L5:4227:OMU:HM23	1.85	0.41
3:L5:4263:C:H2'	3:L5:4264:G:O4'	2.19	0.41
3:L5:4897:G:H1'	3:L5:4926:C:N4	2.35	0.41
6:LA:247:ARG:HB3	68:S2:1069:U:H4'	2.01	0.41
8:LC:111:TRP:CD1	8:LC:111:TRP:H	2.36	0.41
13:LH:98:HIS:CE1	84:CB:167:LEU:HD21	2.55	0.41
21:LQ:35:LEU:HD23	21:LQ:35:LEU:HA	1.95	0.41
23:LS:30:MET:HG2	24:LT:151:LEU:HB2	2.02	0.41
28:LX:87:MET:HB3	85:CA:259:MET:HE1	2.02	0.41
29:LY:41:LYS:HE3	29:LY:42:TYR:OH	2.19	0.41
40:Lj:52:LYS:HE2	40:Lj:52:LYS:HB2	1.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SB:30:TRP:CD2	60:SO:19:PRO:HG3	2.55	0.41
58:SL:80:MET:HE2	58:SL:122:ILE:HG13	2.02	0.41
68:S2:919:A:H8	68:S2:919:A:OP2	2.02	0.41
68:S2:984:C:H2'	68:S2:985:G:H8	1.85	0.41
68:S2:1114:U:O2'	68:S2:1115:U:H2'	2.20	0.41
68:S2:1272:OMC:HM23	68:S2:1272:OMC:H1'	1.84	0.41
68:S2:1597:C:H4'	68:S2:1603:G:O6	2.20	0.41
68:S2:1804:U:H2'	68:S2:1805:G:C8	2.55	0.41
69:SR:71:ILE:O	69:SR:75:GLU:HG2	2.20	0.41
3:L5:1080:C:H2'	3:L5:1081:C:C6	2.55	0.41
3:L5:1176:C:H2'	3:L5:1177:U:H6	1.84	0.41
3:L5:1577:G:O2'	3:L5:1612:G:H4'	2.21	0.41
3:L5:1858:A:H2'	3:L5:1859:C:H6	1.85	0.41
3:L5:2415:U:H2'	3:L5:2416:G:C8	2.55	0.41
3:L5:2491:C:H2'	3:L5:2492:C:C6	2.55	0.41
3:L5:2683:C:H2'	3:L5:2684:C:H6	1.85	0.41
3:L5:4281:A:H2'	3:L5:4282:A:H2'	2.01	0.41
7:LB:76:VAL:HB	7:LB:332:MET:HG2	2.03	0.41
7:LB:300:LYS:O	7:LB:304:SER:CB	2.68	0.41
9:LD:61:ILE:HG12	9:LD:79:TYR:CE2	2.55	0.41
14:LI:12:CYS:HB3	14:LI:128:ARG:NH2	2.36	0.41
17:LM:11:ARG:HG2	17:LM:57:LEU:HD22	2.01	0.41
49:Lt:77:ALA:O	49:Lt:81:ILE:HG12	2.20	0.41
51:SB:79:VAL:HG21	51:SB:82:ARG:NH2	2.35	0.41
53:SE:181:CYS:HA	53:SE:227:VAL:HA	2.01	0.41
61:SV:22:ARG:NH2	61:SV:58:ALA:HB3	2.36	0.41
61:SV:58:ALA:HA	61:SV:61:ARG:NE	2.35	0.41
61:SV:59:ILE:HA	61:SV:62:MET:HG2	2.02	0.41
68:S2:575:A:H2'	68:S2:576:A2M:O4'	2.20	0.41
68:S2:658:U:H5'	68:S2:659:G:C8	2.55	0.41
68:S2:804:U:C2	68:S2:860:G:C2	3.08	0.41
68:S2:941:C:H2'	68:S2:942:G:C8	2.55	0.41
68:S2:1039:C:H2'	68:S2:1040:G:C8	2.55	0.41
68:S2:1365:G:H2'	68:S2:1366:G:H8	1.85	0.41
70:SD:58:VAL:HG12	70:SD:66:ILE:HD11	2.02	0.41
70:SD:173:ARG:HD3	70:SD:173:ARG:HA	1.73	0.41
84:CB:533:MET:HB3	84:CB:533:MET:HE3	1.78	0.41
3:L5:60:G:H2'	3:L5:61:A:H8	1.86	0.41
3:L5:478:G:H2'	3:L5:479:G:C8	2.55	0.41
3:L5:2264:C:H2'	3:L5:2265:G:O4'	2.20	0.41
3:L5:3722:G:H2'	3:L5:3723:A:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4143:G:C2	3:L5:4145:C:H1'	2.55	0.41
3:L5:4169:G:H4'	3:L5:4171:C:C2	2.55	0.41
3:L5:4192:A:H2'	3:L5:4193:C:H6	1.84	0.41
3:L5:4242:U:H3	3:L5:4281:A:H2	1.68	0.41
3:L5:4611:A:H2'	3:L5:4612:C:H6	1.85	0.41
3:L5:4623:OMG:HM23	3:L5:4623:OMG:H1'	1.71	0.41
4:L7:22:A:H2'	4:L7:23:A:C8	2.55	0.41
11:LF:60:GLU:O	11:LF:64:MET:HG3	2.20	0.41
12:LG:117:ARG:HA	12:LG:117:ARG:HD2	1.79	0.41
15:LJ:31:ASP:O	15:LJ:35:ARG:HG3	2.20	0.41
19:LO:58:LEU:HD23	19:LO:58:LEU:HA	1.89	0.41
22:LR:35:ALA:HA	22:LR:40:GLN:NE2	2.35	0.41
47:Lr:84:LYS:HE3	47:Lr:84:LYS:HB3	1.89	0.41
52:SC:118:ALA:HB2	68:S2:1486:A:H4'	2.02	0.41
54:SG:189:ARG:HH21	68:S2:331:C:H5''	1.85	0.41
55:SH:157:HIS:HB3	55:SH:190:PRO:HG3	2.02	0.41
60:SO:18:GLY:HA2	60:SO:19:PRO:HD3	1.93	0.41
62:SW:78:ARG:HA	62:SW:125:ILE:HG22	2.01	0.41
66:Sb:20:LYS:HA	66:Sb:23:ARG:NH1	2.35	0.41
68:S2:328:U:HO2'	68:S2:329:G:H8	1.67	0.41
68:S2:1803:U:H2'	68:S2:1804:U:C6	2.55	0.41
3:L5:1074:G:H3'	3:L5:1075:G:H8	1.84	0.41
3:L5:2413:U:H2'	3:L5:2414:G:C8	2.56	0.41
3:L5:4071:U:H2'	3:L5:4072:C:C6	2.55	0.41
3:L5:4407:G:H2'	3:L5:4408:G:H8	1.85	0.41
3:L5:4590:A2M:H1'	3:L5:4590:A2M:HM'3	1.60	0.41
9:LD:236:MET:O	9:LD:239:MET:HG3	2.20	0.41
25:LU:23:LEU:HD23	25:LU:110:TYR:HB2	2.02	0.41
56:SI:125:LYS:HA	56:SI:125:LYS:HD3	1.93	0.41
57:SJ:87:LEU:HD23	57:SJ:88:ASP:O	2.20	0.41
60:SO:37:PHE:HE1	60:SO:105:THR:HG21	1.84	0.41
68:S2:976:G:H2'	68:S2:977:C:H6	1.86	0.41
68:S2:1558:C:H2'	68:S2:1559:C:C6	2.56	0.41
77:ST:134:ILE:HA	77:ST:137:GLN:HG2	2.01	0.41
85:CA:159:PRO:HD3	85:CA:325:LEU:HD22	2.02	0.41
3:L5:481:G:H2'	3:L5:482:G:C8	2.56	0.41
3:L5:960:A:H2'	3:L5:970:G:N7	2.35	0.41
3:L5:1751:A:H2'	3:L5:1752:G:C8	2.56	0.41
3:L5:2078:C:H2'	3:L5:2079:G:H8	1.85	0.41
3:L5:2273:G:H2'	3:L5:2274:C:C6	2.56	0.41
3:L5:2533:C:H2'	3:L5:2534:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2716:C:H2'	3:L5:2717:G:H8	1.85	0.41
3:L5:3899:OMG:H5'	7:LB:257:TRP:NE1	2.36	0.41
3:L5:4364:G:H2'	3:L5:4365:C:C6	2.56	0.41
6:LA:163:ARG:HE	6:LA:163:ARG:HB2	1.63	0.41
7:LB:56:ILE:O	7:LB:73:VAL:HA	2.20	0.41
7:LB:298:LEU:HD13	7:LB:298:LEU:HA	1.94	0.41
8:LC:279:LEU:HD23	8:LC:279:LEU:HA	1.79	0.41
16:LL:126:LEU:HD12	16:LL:126:LEU:HA	1.91	0.41
17:LM:126:GLU:HB3	19:LO:181:ALA:HB1	2.02	0.41
19:LO:43:ILE:HD11	19:LO:138:LEU:HD13	2.02	0.41
23:LS:13:VAL:HB	23:LS:63:TYR:HB3	2.02	0.41
45:Lo:23:VAL:HG13	45:Lo:68:LEU:HB3	2.03	0.41
49:Lt:48:LYS:HE3	49:Lt:52:ASP:OD1	2.21	0.41
55:SH:75:ILE:HG23	55:SH:79:LEU:HD23	2.01	0.41
56:SI:65:PHE:HA	56:SI:187:GLY:O	2.21	0.41
60:SO:98:ARG:HG2	60:SO:99:ALA:O	2.20	0.41
68:S2:649:PSU:H2'	68:S2:650:A:C8	2.50	0.41
68:S2:804:U:N3	68:S2:860:G:C6	2.88	0.41
68:S2:897:U:H2'	68:S2:898:U:H4'	2.02	0.41
68:S2:1588:A:H2'	68:S2:1589:A:H8	1.84	0.41
68:S2:1590:C:H4'	68:S2:1653:U:H4'	2.02	0.41
68:S2:1651:A:H2'	68:S2:1652:G:C8	2.55	0.41
68:S2:1778:C:H2'	68:S2:1779:G:O4'	2.21	0.41
68:S2:1817:G:H2'	68:S2:1818:A:C8	2.55	0.41
73:SM:17:ALA:HB1	73:SM:123:VAL:HB	2.03	0.41
84:CB:558:LEU:HD13	84:CB:572:LYS:HE3	2.01	0.41
84:CB:737:GLN:HB3	84:CB:739:ARG:NH1	2.36	0.41
85:CA:88:HIS:HB3	85:CA:246:ILE:HD13	2.03	0.41
3:L5:137:G:H2'	3:L5:138:G:H8	1.86	0.41
3:L5:713:C:H2'	3:L5:714:G:H8	1.85	0.41
3:L5:1080:C:H2'	3:L5:1081:C:H6	1.85	0.41
3:L5:1266:G:O6	32:Lb:91:ARG:HB2	2.20	0.41
3:L5:1677:PSU:H4'	3:L5:1680:G:C2	2.56	0.41
3:L5:1893:C:H1'	3:L5:1937:C:O2	2.21	0.41
3:L5:1959:U:H4'	3:L5:1960:A:H5''	2.02	0.41
3:L5:4129:G:H2'	3:L5:4130:C:C6	2.55	0.41
3:L5:4740:G:C6	3:L5:4959:U:O2	2.74	0.41
3:L5:4861:G:H2'	3:L5:4862:G:H8	1.86	0.41
12:LG:63:LEU:HD22	18:LN:33:LEU:HD21	2.03	0.41
15:LJ:19:LYS:HE3	15:LJ:133:VAL:HG21	2.02	0.41
49:Lt:10:ILE:HG21	49:Lt:65:GLN:HB3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SA:142:LEU:HD12	50:SA:142:LEU:HA	1.91	0.41
52:SC:207:ALA:O	52:SC:210:PRO:HD2	2.21	0.41
53:SE:29:PRO:HG3	68:S2:496:C:OP1	2.20	0.41
55:SH:145:ARG:HA	55:SH:145:ARG:HD3	1.82	0.41
56:SI:113:TYR:CE1	56:SI:117:TYR:HD2	2.39	0.41
68:S2:106:C:H5'	68:S2:431:G:O2'	2.21	0.41
68:S2:1328:OMG:H1'	68:S2:1328:OMG:HM23	1.80	0.41
68:S2:1797:U:H2'	68:S2:1798:C:H6	1.85	0.41
73:SM:22:LEU:HD21	73:SM:88:TRP:HB3	2.02	0.41
84:CB:212:VAL:C	84:CB:353:MET:HE1	2.45	0.41
85:CA:51:LYS:HD2	85:CA:55:MET:HE2	2.02	0.41
3:L5:272:U:H2'	3:L5:273:U:C6	2.55	0.41
3:L5:700:G:N1	3:L5:701:G:C6	2.89	0.41
3:L5:727:C:H2'	3:L5:728:U:C6	2.55	0.41
3:L5:1345:A:H2'	3:L5:1346:C:C6	2.56	0.41
3:L5:2373:C:H2'	3:L5:2374:A:C8	2.56	0.41
3:L5:2431:A:H2'	3:L5:2432:U:C6	2.56	0.41
3:L5:3911:C:H2'	3:L5:3912:U:C6	2.54	0.41
3:L5:3932:U:H2'	3:L5:3933:G:C8	2.55	0.41
3:L5:4566:U:H2'	3:L5:4567:G:O4'	2.21	0.41
3:L5:4650:G:H2'	3:L5:4651:A:O4'	2.20	0.41
3:L5:4729:A:H61	3:L5:5067:U:H2'	1.86	0.41
5:L8:67:U:H2'	5:L8:68:G:C8	2.54	0.41
6:LA:54:ARG:HG2	6:LA:56:ALA:H	1.86	0.41
7:LB:382:MET:O	7:LB:386:LYS:HG3	2.20	0.41
9:LD:152:ARG:HG3	9:LD:154:THR:HG23	2.02	0.41
9:LD:204:VAL:O	9:LD:208:MET:HG3	2.21	0.41
11:LF:75:ALA:HB2	24:LT:140:PHE:CE2	2.56	0.41
14:LI:54:SER:HA	14:LI:163:GLN:HG3	2.03	0.41
22:LR:168:GLU:O	22:LR:172:ARG:HG2	2.20	0.41
26:LV:82:ILE:HG22	26:LV:125:CYS:SG	2.60	0.41
35:Le:7:LEU:HB2	35:Le:93:LYS:HB3	2.03	0.41
51:SB:31:TYR:CD1	51:SB:94:LYS:HA	2.55	0.41
53:SE:11:ARG:NH2	53:SE:25:GLY:HA3	2.35	0.41
55:SH:53:VAL:HG12	55:SH:175:GLY:HA3	2.02	0.41
56:SI:10:LYS:HE3	56:SI:10:LYS:HB3	1.85	0.41
59:SN:49:GLN:HA	59:SN:52:VAL:HG22	2.02	0.41
61:SV:15:ARG:HE	61:SV:15:ARG:HB2	1.61	0.41
68:S2:636:C:H2'	68:S2:637:U:C6	2.55	0.41
68:S2:750:C:C6	68:S2:751:G:H4'	2.56	0.41
68:S2:882:U:H1'	68:S2:905:C:C2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:890:U:O4	68:S2:896:U:H2'	2.20	0.41
68:S2:1039:C:H2'	68:S2:1040:G:H8	1.86	0.41
77:ST:41:LYS:HE2	77:ST:93:SER:OG	2.20	0.41
83:Sg:37:ASP:HB3	83:Sg:39:THR:HG22	2.03	0.41
83:Sg:256:ILE:HB	83:Sg:270:LEU:HB2	2.02	0.41
3:L5:278:G:H1'	18:LN:50:ARG:HD3	2.03	0.41
3:L5:2539:C:H2'	3:L5:2540:C:C6	2.56	0.41
3:L5:2746:A:H3'	3:L5:2747:U:C6	2.55	0.41
3:L5:3721:U:H2'	3:L5:3722:G:C8	2.55	0.41
3:L5:4069:U:H2'	3:L5:4070:U:H6	1.85	0.41
3:L5:4460:U:H2'	3:L5:4461:C:H6	1.86	0.41
3:L5:4591:U:H2'	3:L5:4592:C:C6	2.56	0.41
3:L5:4954:G:H2'	3:L5:4955:A:H8	1.85	0.41
14:LI:85:PHE:HE2	14:LI:87:MET:HE2	1.85	0.41
38:Lh:66:LYS:HA	38:Lh:66:LYS:HD3	1.87	0.41
52:SC:203:GLY:O	52:SC:221:ASP:HA	2.21	0.41
56:SI:42:ARG:HG3	56:SI:58:LEU:HB2	2.03	0.41
58:SL:22:ARG:NH2	58:SL:26:GLY:HA3	2.35	0.41
68:S2:89:C:H2'	68:S2:90:G:H8	1.84	0.41
68:S2:194:C:H2'	68:S2:195:C:H6	1.86	0.41
68:S2:1220:A:H2'	68:S2:1221:G:O4'	2.21	0.41
68:S2:1738:C:H2'	68:S2:1739:C:H6	1.85	0.41
68:S2:1806:A:H2'	68:S2:1807:C:C6	2.55	0.41
70:SD:5:ILE:HG22	70:SD:6:SER:H	1.86	0.41
84:CB:189:ILE:HD11	84:CB:204:MET:HA	2.02	0.41
3:L5:35:U:H4'	3:L5:1525:A:C2	2.56	0.41
3:L5:683:C:H2'	3:L5:684:G:O4'	2.21	0.41
3:L5:965:G:H1'	3:L5:2093:A:N1	2.36	0.41
3:L5:1534:A2M:N3	40:Lj:11:ARG:HB2	2.35	0.41
3:L5:2293:U:H2'	3:L5:2294:G:C8	2.56	0.41
3:L5:2532:C:H2'	3:L5:2533:C:C6	2.56	0.41
3:L5:2533:C:H2'	3:L5:2534:C:H6	1.86	0.41
3:L5:2633:U:H2'	3:L5:2634:C:C6	2.55	0.41
3:L5:4262:C:H2'	3:L5:4263:C:C6	2.55	0.41
3:L5:4308:C:O2'	3:L5:4338:G:H4'	2.20	0.41
3:L5:4475:G:OP2	3:L5:4476:C:H5''	2.20	0.41
3:L5:4892:A:H2'	3:L5:4893:A:O4'	2.20	0.41
4:L7:35:U:H2'	4:L7:36:C:O4'	2.20	0.41
5:L8:8:U:H2'	5:L8:9:A:C8	2.55	0.41
8:LC:66:SER:HA	8:LC:77:PRO:HA	2.03	0.41
9:LD:164:LYS:HA	9:LD:167:VAL:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LE:138:ARG:HE	10:LE:170:SER:C	2.28	0.41
10:LE:153:LEU:HD11	10:LE:195:ILE:HG13	2.03	0.41
10:LE:258:LEU:O	10:LE:262:LYS:HG2	2.21	0.41
12:LG:180:PRO:HG2	12:LG:219:VAL:HG13	2.03	0.41
12:LG:259:LYS:HE3	12:LG:259:LYS:HB3	1.87	0.41
19:LO:168:TYR:CE2	19:LO:172:LYS:HD2	2.55	0.41
30:LZ:108:ARG:HG2	30:LZ:111:ARG:HH21	1.86	0.41
35:Le:82:VAL:O	35:Le:86:GLU:HG2	2.21	0.41
50:SA:51:LEU:HA	50:SA:54:THR:HG22	2.03	0.41
50:SA:183:LEU:HD23	50:SA:183:LEU:HA	1.84	0.41
53:SE:100:ARG:NH1	53:SE:122:LYS:HG3	2.36	0.41
56:SI:12:ARG:HG2	56:SI:18:ARG:NH2	2.36	0.41
58:SL:61:PRO:HA	58:SL:66:VAL:HG23	2.02	0.41
59:SN:114:ARG:HA	59:SN:114:ARG:HD3	1.88	0.41
61:SV:15:ARG:HH21	61:SV:24:ILE:HG21	1.85	0.41
63:SX:130:LEU:HA	63:SX:130:LEU:HD23	1.74	0.41
67:Se:39:ASN:ND2	68:S2:551:U:H4'	2.35	0.41
68:S2:428:OMU:P	68:S2:429:C:H41	2.44	0.41
68:S2:601:OMG:HM23	68:S2:601:OMG:H1'	1.83	0.41
68:S2:848:U:H2'	68:S2:849:A:H8	1.86	0.41
68:S2:963:A:H2'	68:S2:964:A:C8	2.55	0.41
68:S2:1241:A:O2'	68:S2:1243:U:H5'	2.20	0.41
68:S2:1405:A:H2'	68:S2:1406:G:O4'	2.21	0.41
68:S2:1501:C:H2'	68:S2:1502:C:C6	2.56	0.41
68:S2:1514:G:H2'	68:S2:1515:G:H8	1.85	0.41
68:S2:1823:A:H2'	68:S2:1824:A:H8	1.86	0.41
70:SD:202:LYS:HD2	70:SD:202:LYS:HA	1.70	0.41
75:SQ:101:ASP:HA	83:Sg:56:GLN:O	2.21	0.41
78:SU:49:LYS:HG3	78:SU:92:HIS:HB2	2.02	0.41
83:Sg:11:LEU:HD13	83:Sg:43:TRP:CG	2.56	0.41
83:Sg:11:LEU:HD11	83:Sg:31:ILE:HD11	2.02	0.41
84:CB:484:THR:HG21	84:CB:494:MET:HB2	2.03	0.41
85:CA:249:ARG:HD2	85:CA:250:ASP:C	2.46	0.41
3:L5:909:A:H2'	3:L5:910:G:H8	1.86	0.41
3:L5:1511:U:H2'	3:L5:1512:G:C8	2.56	0.41
3:L5:1519:C:H2'	3:L5:1520:C:C6	2.55	0.41
3:L5:2587:A:H8	3:L5:2588:C:C4	2.39	0.41
3:L5:2871:A:H2'	3:L5:2872:C:O4'	2.21	0.41
3:L5:3951:G:H8	3:L5:3951:G:OP2	2.03	0.41
3:L5:4306:OMU:H1'	3:L5:4306:OMU:HM23	1.69	0.41
3:L5:4685:U:H2'	3:L5:4686:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L8:19:C:H2'	5:L8:20:A:C8	2.56	0.41
34:Ld:117:LEU:HD23	34:Ld:117:LEU:HA	1.91	0.41
40:Lj:65:ARG:H	40:Lj:65:ARG:HG3	1.63	0.41
55:SH:76:GLN:O	55:SH:80:VAL:HG13	2.21	0.41
56:SI:81:VAL:HG22	56:SI:102:VAL:HG12	2.02	0.41
56:SI:123:ARG:HD2	56:SI:123:ARG:HA	1.92	0.41
68:S2:301:A:H2'	68:S2:302:A:O4'	2.22	0.41
68:S2:1391:OMC:HM23	68:S2:1391:OMC:H1'	1.74	0.41
68:S2:1559:C:H2'	68:S2:1560:U:O4'	2.21	0.41
68:S2:1670:C:H2'	68:S2:1671:G:H8	1.86	0.41
68:S2:1688:C:H2'	68:S2:1689:C:H6	1.86	0.41
73:SM:12:MET:HE2	73:SM:12:MET:HB2	1.96	0.41
74:SP:28:MET:HE1	74:SP:36:LEU:HG	2.03	0.41
74:SP:58:LYS:HE3	74:SP:58:LYS:HB3	1.96	0.41
80:Sc:16:LYS:HE2	80:Sc:16:LYS:HB2	1.94	0.41
84:CB:143:LEU:HA	84:CB:143:LEU:HD12	1.83	0.41
84:CB:163:ALA:HB1	84:CB:169:LEU:HD12	2.02	0.41
84:CB:512:LYS:HE3	84:CB:512:LYS:HB3	1.87	0.41
85:CA:206:THR:O	85:CA:210:LYS:HB2	2.21	0.41
3:L5:1368:A:H2'	3:L5:1369:C:O4'	2.21	0.40
3:L5:1578:U:H2'	3:L5:1579:C:C6	2.55	0.40
3:L5:1858:A:H2'	3:L5:1859:C:C6	2.56	0.40
3:L5:2491:C:H2'	3:L5:2492:C:N1	2.36	0.40
3:L5:3597:G:H2'	3:L5:3598:C:C6	2.53	0.40
3:L5:4303:C:O2'	3:L5:4304:A:H2'	2.20	0.40
7:LB:136:LYS:HG3	7:LB:146:LEU:HD11	2.03	0.40
7:LB:234:ARG:HD3	7:LB:235:TRP:NE1	2.36	0.40
9:LD:56:THR:HG22	9:LD:57:ASN:H	1.86	0.40
9:LD:220:LYS:HE2	9:LD:220:LYS:HB3	1.85	0.40
10:LE:155:GLY:O	10:LE:158:ARG:HG3	2.21	0.40
10:LE:225:PRO:HG2	10:LE:226:ARG:HH11	1.86	0.40
14:LI:180:GLU:O	14:LI:184:MET:HB2	2.20	0.40
18:LN:113:LEU:HB2	18:LN:134:LEU:HD12	2.02	0.40
28:LX:117:TYR:O	28:LX:119:ILE:HG23	2.21	0.40
33:Lc:87:LYS:HB3	33:Lc:89:TYR:CE2	2.56	0.40
51:SB:185:VAL:HA	51:SB:188:LEU:HG	2.04	0.40
53:SE:103:TYR:CD2	53:SE:189:LEU:HD11	2.56	0.40
53:SE:259:LYS:HA	53:SE:259:LYS:HD2	1.89	0.40
54:SG:174:PRO:HB3	68:S2:65:C:C6	2.56	0.40
59:SN:67:THR:HG23	59:SN:69:ASN:H	1.86	0.40
62:SW:50:PHE:HB2	62:SW:63:VAL:HG22	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:344:U:H2'	68:S2:345:U:H6	1.85	0.40
68:S2:1355:C:H2'	68:S2:1356:G:O4'	2.22	0.40
81:Sd:38:MET:HE1	81:Sd:46:TYR:HB2	2.03	0.40
82:Sf:121:CYS:HB3	82:Sf:141:CYS:HB2	1.51	0.40
84:CB:661:ILE:HD13	84:CB:661:ILE:HA	1.88	0.40
84:CB:845:LYS:HD2	84:CB:845:LYS:HA	1.82	0.40
85:CA:79:SER:O	85:CA:108:ILE:HA	2.21	0.40
85:CA:237:ALA:HA	85:CA:309:TYR:O	2.21	0.40
3:L5:173:C:H2'	3:L5:174:C:C6	2.57	0.40
3:L5:323:C:H2'	3:L5:324:A:C8	2.54	0.40
3:L5:1492:G:H4'	32:Lb:41:ARG:NH2	2.36	0.40
3:L5:1509:C:H2'	3:L5:1510:G:C8	2.55	0.40
3:L5:1514:U:H2'	3:L5:1515:A:C8	2.56	0.40
3:L5:2349:A:H5''	3:L5:2350:U:H5''	2.03	0.40
3:L5:2373:C:H5''	34:Ld:50:ARG:HH21	1.86	0.40
3:L5:4991:U:H2'	3:L5:4992:G:H8	1.84	0.40
7:LB:297:LYS:HG3	7:LB:299:ILE:HG23	2.02	0.40
8:LC:318:PRO:C	8:LC:320:LYS:H	2.29	0.40
13:LH:100:PRO:O	13:LH:116:ASN:HB3	2.21	0.40
15:LJ:52:LYS:HB3	15:LJ:65:ASN:HA	2.03	0.40
16:LL:119:GLU:HG2	16:LL:123:LYS:HE3	2.03	0.40
20:LP:112:LEU:HD23	20:LP:112:LEU:HA	1.89	0.40
24:LT:33:ILE:HD13	24:LT:33:ILE:HA	1.92	0.40
34:Ld:27:ILE:O	34:Ld:83:ARG:HA	2.20	0.40
37:Lg:83:CYS:SG	37:Lg:86:CYS:HB2	2.61	0.40
52:SC:94:ILE:HD13	52:SC:162:ILE:HG13	2.02	0.40
53:SE:77:ARG:NH2	68:S2:121:OMU:H5'	2.36	0.40
53:SE:136:ILE:HG21	53:SE:148:ARG:HD2	2.04	0.40
56:SI:143:LYS:HD3	56:SI:143:LYS:HA	1.83	0.40
59:SN:80:LEU:HD23	59:SN:80:LEU:H	1.87	0.40
68:S2:145:G:H2'	68:S2:146:G:C8	2.56	0.40
68:S2:207:G:C5	68:S2:208:G:C5	3.10	0.40
68:S2:422:U:H2'	68:S2:423:U:C6	2.55	0.40
68:S2:558:G:H1'	68:S2:559:G:C8	2.56	0.40
68:S2:1157:G:N3	68:S2:1157:G:H5'	2.36	0.40
68:S2:1204:A:H2'	68:S2:1205:C:C6	2.57	0.40
68:S2:1229:G:H2'	68:S2:1230:C:C6	2.56	0.40
68:S2:1238:U:H3	68:S2:1242:U:H5	1.69	0.40
68:S2:1379:A:H2'	68:S2:1380:C:C6	2.56	0.40
68:S2:1474:A:H8	68:S2:1474:A:OP1	2.04	0.40
76:SS:66:ARG:O	76:SS:70:ILE:HG12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:SU:66:ARG:HG3	78:SU:76:THR:O	2.20	0.40
84:CB:9:ILE:HD13	84:CB:9:ILE:HA	1.85	0.40
84:CB:664:ASP:HA	84:CB:704:VAL:HB	2.02	0.40
85:CA:12:ILE:HD12	85:CA:12:ILE:HA	1.92	0.40
3:L5:67:C:O3'	18:LN:177:GLY:HA2	2.21	0.40
3:L5:491:G:H2'	3:L5:492:U:H6	1.83	0.40
3:L5:749:G:C6	3:L5:912:G:C8	3.10	0.40
3:L5:1504:G:H2'	3:L5:1505:C:C6	2.56	0.40
3:L5:1693:U:H2'	3:L5:1694:C:O4'	2.21	0.40
3:L5:1824:G:H2'	3:L5:1825:A:H8	1.87	0.40
3:L5:2709:C:H42	85:CA:256:GLY:HA2	1.87	0.40
3:L5:2844:A:O2'	3:L5:4631:G:H4'	2.22	0.40
3:L5:4524:G:C2	7:LB:252:ALA:HB1	2.57	0.40
5:L8:108:A:C2	5:L8:112:G:C6	3.09	0.40
6:LA:171:GLY:O	46:Lp:68:ALA:HB2	2.20	0.40
9:LD:37:VAL:HG12	9:LD:50:ARG:HD3	2.03	0.40
9:LD:227:ILE:HA	9:LD:227:ILE:HD13	1.87	0.40
10:LE:186:LEU:HD23	10:LE:186:LEU:HA	1.93	0.40
13:LH:105:ILE:HD13	13:LH:105:ILE:HA	1.90	0.40
14:LI:73:ASN:HB2	14:LI:87:MET:HE1	2.02	0.40
22:LR:10:LEU:HD22	22:LR:38:ARG:HG2	2.03	0.40
22:LR:145:LEU:HD12	22:LR:145:LEU:HA	1.80	0.40
51:SB:126:ASP:OD1	51:SB:136:ARG:HG3	2.21	0.40
54:SG:74:ARG:HA	54:SG:96:SER:HA	2.02	0.40
57:SJ:136:ARG:HA	57:SJ:141:VAL:HA	2.03	0.40
68:S2:104:A:N6	68:S2:356:C:C2	2.87	0.40
68:S2:1031:A2M:H1'	68:S2:1031:A2M:HM'3	1.51	0.40
68:S2:1190:A:H2'	68:S2:1191:C:O4'	2.22	0.40
68:S2:1291:A:H62	82:Sf:95:ARG:NH1	2.19	0.40
68:S2:1595:U:H2'	68:S2:1596:U:C6	2.56	0.40
71:SF:103:LEU:HA	79:SZ:66:LYS:HD2	2.02	0.40
76:SS:8:LYS:HE2	76:SS:8:LYS:HB2	1.91	0.40
85:CA:32:LEU:HA	85:CA:35:LEU:HD12	2.03	0.40
85:CA:325:LEU:HD23	85:CA:325:LEU:HA	1.84	0.40
3:L5:248:C:H2'	3:L5:249:C:H6	1.86	0.40
3:L5:1788:A:H2'	14:LI:22:PHE:CZ	2.56	0.40
3:L5:1845:U:H2'	3:L5:1846:G:C8	2.57	0.40
3:L5:2638:G:H1	3:L5:2718:U:H2'	1.87	0.40
3:L5:2671:C:H2'	3:L5:2672:C:C6	2.57	0.40
3:L5:3633:C:H2'	3:L5:3634:G:C8	2.57	0.40
3:L5:3794:C:H2'	3:L5:3795:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4420:U:H5''	3:L5:4421:C:H5	1.86	0.40
3:L5:4507:A:H2'	3:L5:4508:C:H6	1.85	0.40
12:LG:59:ARG:HG2	12:LG:62:ARG:NH2	2.35	0.40
23:LS:161:ARG:HE	23:LS:164:LYS:HB2	1.87	0.40
48:Ls:6:ARG:HA	48:Ls:6:ARG:HD2	1.83	0.40
48:Ls:109:ALA:O	48:Ls:182:PRO:HG2	2.21	0.40
51:SB:24:PRO:O	51:SB:28:LYS:HG2	2.22	0.40
52:SC:246:LYS:HB3	52:SC:246:LYS:HE2	1.82	0.40
54:SG:191:ARG:HD2	68:S2:312:G:H2'	2.03	0.40
68:S2:218:U:H2'	68:S2:219:U:C6	2.57	0.40
68:S2:556:U:C6	68:S2:557:U:H4'	2.57	0.40
68:S2:1759:G:H2'	68:S2:1760:G:C8	2.56	0.40
69:SR:108:LEU:HD23	69:SR:108:LEU:HA	1.83	0.40
70:SD:158:ILE:HG13	70:SD:164:VAL:HG23	2.03	0.40
74:SP:30:TYR:O	74:SP:34:MET:HG2	2.21	0.40
83:Sg:110:SER:HB2	83:Sg:154:VAL:HG12	2.03	0.40
84:CB:90:LYS:HB2	84:CB:90:LYS:HE3	1.85	0.40
84:CB:642:ASP:HB3	84:CB:645:GLU:HB2	2.02	0.40
3:L5:159:C:OP2	39:Li:25:ARG:HB3	2.21	0.40
3:L5:300:A:H2'	3:L5:301:G:H8	1.85	0.40
3:L5:710:G:H2'	3:L5:711:A:C8	2.57	0.40
3:L5:731:G:C6	3:L5:932:A:C4	3.09	0.40
3:L5:1933:G:H8	3:L5:1933:G:O5'	2.05	0.40
3:L5:2508:U:H2'	3:L5:2509:C:H6	1.86	0.40
3:L5:2588:C:H4'	3:L5:2589:C:H5''	2.03	0.40
3:L5:2608:G:H2'	3:L5:2609:G:H8	1.86	0.40
3:L5:3671:G:O2'	3:L5:3672:G:H5'	2.21	0.40
3:L5:4389:C:H2'	3:L5:4390:A:H8	1.85	0.40
7:LB:195:ASP:O	7:LB:199:GLU:HG2	2.21	0.40
11:LF:134:ARG:HA	11:LF:137:GLU:HG3	2.03	0.40
24:LT:146:LYS:HE2	24:LT:146:LYS:HB2	1.77	0.40
39:Li:52:PRO:HA	39:Li:55:ARG:HE	1.86	0.40
46:Lp:51:ALA:HB3	46:Lp:54:ILE:HD12	2.04	0.40
50:SA:70:ASN:HB3	50:SA:73:ASP:OD2	2.21	0.40
52:SC:103:LYS:HD3	52:SC:103:LYS:HA	1.79	0.40
53:SE:4:GLY:HA3	68:S2:92:A:O2'	2.21	0.40
53:SE:198:ARG:HG2	53:SE:208:VAL:HG22	2.03	0.40
60:SO:95:ILE:O	60:SO:129:ILE:HA	2.22	0.40
68:S2:21:U:H2'	68:S2:22:A:C8	2.56	0.40
68:S2:63:U:H1'	68:S2:170:A:C2	2.56	0.40
68:S2:479:C:H2'	68:S2:480:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:S2:871:U:H3'	68:S2:872:A:H4'	2.03	0.40
68:S2:900:C:H5'	68:S2:901:G:N7	2.37	0.40
68:S2:1090:C:H2'	68:S2:1091:C:C6	2.56	0.40
68:S2:1090:C:H2'	68:S2:1091:C:H6	1.86	0.40
68:S2:1658:G:H2'	68:S2:1659:U:O4'	2.22	0.40
68:S2:1716:C:H2'	68:S2:1717:C:H6	1.87	0.40
68:S2:1854:U:H2'	68:S2:1855:G:C8	2.54	0.40
71:SF:107:ASN:HB3	71:SF:110:GLN:HB3	2.02	0.40
78:SU:48:LEU:HD23	78:SU:93:SER:HB3	2.03	0.40
81:Sd:6:LEU:H	81:Sd:6:LEU:HD23	1.87	0.40
85:CA:44:SER:O	85:CA:48:LEU:HG	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	CD	51/408 (12%)	50 (98%)	1 (2%)	0	100	100
2	CI	29/31 (94%)	27 (93%)	2 (7%)	0	100	100
6	LA	246/248 (99%)	234 (95%)	12 (5%)	0	100	100
7	LB	400/402 (100%)	388 (97%)	12 (3%)	0	100	100
8	LC	366/368 (100%)	352 (96%)	14 (4%)	0	100	100
9	LD	291/293 (99%)	280 (96%)	11 (4%)	0	100	100
10	LE	236/250 (94%)	221 (94%)	15 (6%)	0	100	100
11	LF	223/225 (99%)	218 (98%)	5 (2%)	0	100	100
12	LG	239/241 (99%)	228 (95%)	11 (5%)	0	100	100
13	LH	188/190 (99%)	177 (94%)	11 (6%)	0	100	100
14	LI	201/213 (94%)	198 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	LJ	168/176 (96%)	161 (96%)	6 (4%)	1 (1%)	21	50
16	LL	208/210 (99%)	203 (98%)	5 (2%)	0	100	100
17	LM	137/139 (99%)	132 (96%)	5 (4%)	0	100	100
18	LN	201/203 (99%)	196 (98%)	5 (2%)	0	100	100
19	LO	199/201 (99%)	195 (98%)	4 (2%)	0	100	100
20	LP	151/153 (99%)	144 (95%)	7 (5%)	0	100	100
21	LQ	185/187 (99%)	180 (97%)	5 (3%)	0	100	100
22	LR	185/187 (99%)	180 (97%)	5 (3%)	0	100	100
23	LS	173/175 (99%)	169 (98%)	4 (2%)	0	100	100
24	LT	157/159 (99%)	152 (97%)	5 (3%)	0	100	100
25	LU	99/101 (98%)	93 (94%)	6 (6%)	0	100	100
26	LV	129/131 (98%)	122 (95%)	7 (5%)	0	100	100
27	LW	112/124 (90%)	110 (98%)	2 (2%)	0	100	100
28	LX	118/120 (98%)	116 (98%)	2 (2%)	0	100	100
29	LY	132/134 (98%)	124 (94%)	8 (6%)	0	100	100
30	LZ	133/135 (98%)	123 (92%)	10 (8%)	0	100	100
31	La	145/147 (99%)	140 (97%)	5 (3%)	0	100	100
32	Lb	105/121 (87%)	99 (94%)	6 (6%)	0	100	100
33	Lc	96/98 (98%)	94 (98%)	2 (2%)	0	100	100
34	Ld	105/107 (98%)	102 (97%)	3 (3%)	0	100	100
35	Le	126/128 (98%)	122 (97%)	4 (3%)	0	100	100
36	Lf	107/109 (98%)	104 (97%)	3 (3%)	0	100	100
37	Lg	112/114 (98%)	111 (99%)	1 (1%)	0	100	100
38	Lh	120/122 (98%)	116 (97%)	4 (3%)	0	100	100
39	Li	100/102 (98%)	95 (95%)	5 (5%)	0	100	100
40	Lj	84/86 (98%)	81 (96%)	3 (4%)	0	100	100
41	Lk	67/69 (97%)	65 (97%)	2 (3%)	0	100	100
42	Ll	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
43	Lm	50/52 (96%)	50 (100%)	0	0	100	100
44	Ln	22/24 (92%)	22 (100%)	0	0	100	100
45	Lo	103/105 (98%)	99 (96%)	4 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
46	Lp	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
47	Lr	123/125 (98%)	118 (96%)	5 (4%)	0	100	100
48	Ls	194/196 (99%)	180 (93%)	14 (7%)	0	100	100
49	Lt	128/157 (82%)	109 (85%)	19 (15%)	0	100	100
50	SA	219/221 (99%)	206 (94%)	13 (6%)	0	100	100
51	SB	212/214 (99%)	203 (96%)	9 (4%)	0	100	100
52	SC	218/222 (98%)	210 (96%)	8 (4%)	0	100	100
53	SE	260/262 (99%)	251 (96%)	9 (4%)	0	100	100
54	SG	235/237 (99%)	221 (94%)	14 (6%)	0	100	100
55	SH	182/189 (96%)	167 (92%)	15 (8%)	0	100	100
56	SI	204/206 (99%)	194 (95%)	10 (5%)	0	100	100
57	SJ	183/185 (99%)	173 (94%)	10 (6%)	0	100	100
58	SL	151/153 (99%)	143 (95%)	8 (5%)	0	100	100
59	SN	148/150 (99%)	143 (97%)	5 (3%)	0	100	100
60	SO	135/140 (96%)	124 (92%)	11 (8%)	0	100	100
61	SV	81/83 (98%)	79 (98%)	2 (2%)	0	100	100
62	SW	127/129 (98%)	124 (98%)	3 (2%)	0	100	100
63	SX	139/141 (99%)	131 (94%)	8 (6%)	0	100	100
64	SY	129/131 (98%)	126 (98%)	3 (2%)	0	100	100
65	Sa	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
66	Sb	81/83 (98%)	77 (95%)	4 (5%)	0	100	100
67	Se	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
69	SR	133/135 (98%)	129 (97%)	4 (3%)	0	100	100
70	SD	225/227 (99%)	222 (99%)	3 (1%)	0	100	100
71	SF	187/189 (99%)	173 (92%)	14 (8%)	0	100	100
72	SK	96/98 (98%)	89 (93%)	7 (7%)	0	100	100
73	SM	120/122 (98%)	109 (91%)	11 (9%)	0	100	100
74	SP	119/121 (98%)	116 (98%)	3 (2%)	0	100	100
75	SQ	142/144 (99%)	139 (98%)	3 (2%)	0	100	100
76	SS	143/145 (99%)	134 (94%)	9 (6%)	0	100	100
77	ST	141/143 (99%)	141 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
78	SU	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
79	SZ	73/75 (97%)	65 (89%)	8 (11%)	0	100	100
80	Sc	62/64 (97%)	60 (97%)	2 (3%)	0	100	100
81	Sd	53/55 (96%)	53 (100%)	0	0	100	100
82	Sf	65/67 (97%)	57 (88%)	8 (12%)	0	100	100
83	Sg	311/313 (99%)	287 (92%)	24 (8%)	0	100	100
84	CB	842/856 (98%)	812 (96%)	30 (4%)	0	100	100
85	CA	350/356 (98%)	332 (95%)	18 (5%)	0	100	100
All	All	12905/13527 (95%)	12350 (96%)	554 (4%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
15	LJ	123	ILE

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	CD	46/328 (14%)	46 (100%)	0	100	100
2	CI	25/25 (100%)	25 (100%)	0	100	100
6	LA	190/190 (100%)	190 (100%)	0	100	100
7	LB	348/348 (100%)	348 (100%)	0	100	100
8	LC	306/306 (100%)	306 (100%)	0	100	100
9	LD	246/247 (100%)	246 (100%)	0	100	100
10	LE	212/222 (96%)	212 (100%)	0	100	100
11	LF	194/194 (100%)	194 (100%)	0	100	100
12	LG	203/205 (99%)	203 (100%)	0	100	100
13	LH	169/169 (100%)	169 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	LI	175/180 (97%)	175 (100%)	0	100	100
15	LJ	143/148 (97%)	143 (100%)	0	100	100
16	LL	176/176 (100%)	175 (99%)	1 (1%)	78	81
17	LM	118/118 (100%)	118 (100%)	0	100	100
18	LN	171/171 (100%)	171 (100%)	0	100	100
19	LO	173/173 (100%)	173 (100%)	0	100	100
20	LP	134/134 (100%)	134 (100%)	0	100	100
21	LQ	164/164 (100%)	164 (100%)	0	100	100
22	LR	166/166 (100%)	166 (100%)	0	100	100
23	LS	156/156 (100%)	156 (100%)	0	100	100
24	LT	139/139 (100%)	139 (100%)	0	100	100
25	LU	91/91 (100%)	91 (100%)	0	100	100
26	LV	101/101 (100%)	101 (100%)	0	100	100
27	LW	95/103 (92%)	95 (100%)	0	100	100
28	LX	108/108 (100%)	108 (100%)	0	100	100
29	LY	124/124 (100%)	124 (100%)	0	100	100
30	LZ	117/117 (100%)	117 (100%)	0	100	100
31	La	120/120 (100%)	120 (100%)	0	100	100
32	Lb	88/101 (87%)	88 (100%)	0	100	100
33	Lc	83/83 (100%)	83 (100%)	0	100	100
34	Ld	98/98 (100%)	98 (100%)	0	100	100
35	Le	114/114 (100%)	114 (100%)	0	100	100
36	Lf	88/88 (100%)	88 (100%)	0	100	100
37	Lg	98/98 (100%)	98 (100%)	0	100	100
38	Lh	109/109 (100%)	109 (100%)	0	100	100
39	Li	86/86 (100%)	86 (100%)	0	100	100
40	Lj	73/73 (100%)	73 (100%)	0	100	100
41	Lk	64/64 (100%)	64 (100%)	0	100	100
42	Ll	47/47 (100%)	47 (100%)	0	100	100
43	Lm	48/48 (100%)	48 (100%)	0	100	100
44	Ln	23/23 (100%)	23 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
45	Lo	93/93 (100%)	93 (100%)	0	100	100
46	Lp	74/74 (100%)	74 (100%)	0	100	100
47	Lr	109/109 (100%)	109 (100%)	0	100	100
48	Ls	162/164 (99%)	162 (100%)	0	100	100
49	Lt	107/130 (82%)	107 (100%)	0	100	100
50	SA	183/183 (100%)	183 (100%)	0	100	100
51	SB	195/195 (100%)	195 (100%)	0	100	100
52	SC	186/188 (99%)	186 (100%)	0	100	100
53	SE	224/224 (100%)	224 (100%)	0	100	100
54	SG	207/207 (100%)	207 (100%)	0	100	100
55	SH	166/169 (98%)	166 (100%)	0	100	100
56	SI	178/178 (100%)	178 (100%)	0	100	100
57	SJ	161/161 (100%)	161 (100%)	0	100	100
58	SL	137/137 (100%)	137 (100%)	0	100	100
59	SN	130/130 (100%)	130 (100%)	0	100	100
60	SO	107/110 (97%)	107 (100%)	0	100	100
61	SV	67/67 (100%)	67 (100%)	0	100	100
62	SW	112/112 (100%)	112 (100%)	0	100	100
63	SX	113/113 (100%)	113 (100%)	0	100	100
64	SY	113/113 (100%)	113 (100%)	0	100	100
65	Sa	89/89 (100%)	89 (100%)	0	100	100
66	Sb	75/75 (100%)	75 (100%)	0	100	100
67	Se	47/47 (100%)	47 (100%)	0	100	100
69	SR	122/122 (100%)	122 (100%)	0	100	100
70	SD	190/190 (100%)	190 (100%)	0	100	100
71	SF	159/159 (100%)	159 (100%)	0	100	100
72	SK	89/89 (100%)	89 (100%)	0	100	100
73	SM	102/104 (98%)	102 (100%)	0	100	100
74	SP	107/107 (100%)	107 (100%)	0	100	100
75	SQ	119/119 (100%)	119 (100%)	0	100	100
76	SS	126/126 (100%)	126 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
77	ST	113/113 (100%)	113 (100%)	0	100	100
78	SU	94/94 (100%)	94 (100%)	0	100	100
79	SZ	66/66 (100%)	66 (100%)	0	100	100
80	Sc	57/57 (100%)	57 (100%)	0	100	100
81	Sd	48/48 (100%)	48 (100%)	0	100	100
82	Sf	60/60 (100%)	60 (100%)	0	100	100
83	Sg	272/272 (100%)	272 (100%)	0	100	100
84	CB	722/728 (99%)	722 (100%)	0	100	100
85	CA	303/305 (99%)	303 (100%)	0	100	100
All	All	11213/11582 (97%)	11212 (100%)	1 (0%)	100	100

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

Mol	Chain	Res	Type
16	LL	59	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (80) such sidechains are listed below:

Mol	Chain	Res	Type
1	CD	291	ASN
6	LA	97	ASN
7	LB	42	HIS
7	LB	184	GLN
7	LB	289	GLN
8	LC	38	ASN
8	LC	43	ASN
8	LC	215	ASN
9	LD	131	ASN
9	LD	175	HIS
9	LD	229	ASN
9	LD	244	HIS
9	LD	250	ASN
10	LE	266	GLN
12	LG	81	ASN
12	LG	227	ASN
13	LH	78	GLN
13	LH	102	ASN
13	LH	169	ASN

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Mol	Chain	Res	Type
16	LL	111	GLN
17	LM	34	ASN
17	LM	44	GLN
19	LO	180	GLN
19	LO	199	HIS
20	LP	133	HIS
22	LR	40	GLN
25	LU	94	ASN
25	LU	116	GLN
28	LX	57	GLN
28	LX	125	ASN
29	LY	40	GLN
29	LY	72	GLN
31	La	34	ASN
31	La	39	HIS
31	La	60	HIS
31	La	62	HIS
38	Lh	20	GLN
38	Lh	62	ASN
38	Lh	101	ASN
38	Lh	107	GLN
40	Lj	13	ASN
48	Ls	42	GLN
48	Ls	58	ASN
48	Ls	139	GLN
49	Lt	115	GLN
53	SE	36	HIS
56	SI	9	HIS
56	SI	52	ASN
56	SI	165	GLN
57	SJ	75	ASN
57	SJ	111	GLN
59	SN	36	GLN
59	SN	90	HIS
60	SO	26	ASN
61	SV	2	GLN
61	SV	33	GLN
65	Sa	8	ASN
66	Sb	9	HIS
67	Se	58	ASN
69	SR	74	GLN
70	SD	74	GLN

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Mol	Chain	Res	Type
71	SF	79	HIS
72	SK	44	HIS
74	SP	35	GLN
75	SQ	35	ASN
75	SQ	48	GLN
77	ST	126	GLN
78	SU	81	GLN
78	SU	85	HIS
83	Sg	119	GLN
83	Sg	181	ASN
83	Sg	188	HIS
84	CB	168	GLN
84	CB	291	GLN
84	CB	357	HIS
84	CB	660	ASN
84	CB	673	ASN
85	CA	113	HIS
85	CA	120	ASN
85	CA	134	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
3	L5	3643/5070 (71%)	781 (21%)	15 (0%)
4	L7	119/120 (99%)	10 (8%)	0
5	L8	155/156 (99%)	28 (18%)	0
68	S2	1715/1740 (98%)	410 (23%)	5 (0%)
All	All	5632/7086 (79%)	1229 (21%)	20 (0%)

All (1229) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	L5	2	G
3	L5	25	A
3	L5	30	C
3	L5	39	A
3	L5	42	A
3	L5	48	G
3	L5	56	A
3	L5	59	A
3	L5	64	A

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Mol	Chain	Res	Type
3	L5	65	A
3	L5	72	C
3	L5	73	A
3	L5	91	G
3	L5	104	G
3	L5	108	A
3	L5	109	G
3	L5	110	C
3	L5	116	G
3	L5	119	G
3	L5	120	A
3	L5	128	C
3	L5	132	G
3	L5	133	C
3	L5	134	G
3	L5	135	G
3	L5	136	C
3	L5	139	G
3	L5	144	G
3	L5	151	G
3	L5	159	C
3	L5	165	A
3	L5	166	C
3	L5	182	G
3	L5	183	C
3	L5	184	U
3	L5	185	C
3	L5	186	G
3	L5	187	U
3	L5	188	G
3	L5	189	G
3	L5	197	A
3	L5	200	U
3	L5	209	U
3	L5	216	C
3	L5	218	A
3	L5	234	G
3	L5	255	C
3	L5	256	G
3	L5	265	C
3	L5	266	C
3	L5	267	G

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Mol	Chain	Res	Type
3	L5	275	C
3	L5	278	G
3	L5	280	G
3	L5	297	U
3	L5	306	A
3	L5	315	G
3	L5	316	U
3	L5	340	C
3	L5	373	G
3	L5	379	G
3	L5	385	A
3	L5	387	G
3	L5	388	A
3	L5	396	A
3	L5	407	A
3	L5	409	G
3	L5	410	A
3	L5	411	G
3	L5	412	G
3	L5	413	G
3	L5	449	C
3	L5	452	A
3	L5	453	G
3	L5	454	U
3	L5	456	C
3	L5	457	G
3	L5	464	G
3	L5	467	U
3	L5	468	U
3	L5	479	G
3	L5	484	U
3	L5	485	C
3	L5	486	C
3	L5	489	C
3	L5	494	U
3	L5	497	G
3	L5	498	C
3	L5	499	G
3	L5	502	C
3	L5	503	C
3	L5	504	G
3	L5	505	G

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Mol	Chain	Res	Type
3	L5	507	G
3	L5	509	A
3	L5	510	U
3	L5	512	U
3	L5	513	U
3	L5	514	U
3	L5	518	G
3	L5	643	C
3	L5	644	G
3	L5	655	C
3	L5	656	C
3	L5	657	C
3	L5	659	G
3	L5	666	G
3	L5	667	A
3	L5	668	C
3	L5	669	C
3	L5	673	C
3	L5	674	G
3	L5	686	A
3	L5	687	U
3	L5	696	C
3	L5	701	G
3	L5	704	C
3	L5	730	G
3	L5	731	G
3	L5	738	C
3	L5	739	G
3	L5	742	G
3	L5	750	U
3	L5	758	G
3	L5	904	C
3	L5	905	C
3	L5	906	C
3	L5	913	U
3	L5	914	U
3	L5	915	A
3	L5	917	A
3	L5	918	G
3	L5	923	C
3	L5	924	C
3	L5	926	G

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Mol	Chain	Res	Type
3	L5	932	A
3	L5	933	G
3	L5	935	A
3	L5	936	C
3	L5	943	A
3	L5	945	U
3	L5	946	C
3	L5	956	A
3	L5	958	G
3	L5	959	G
3	L5	960	A
3	L5	961	G
3	L5	962	C
3	L5	965	G
3	L5	966	A
3	L5	967	C
3	L5	969	C
3	L5	970	G
3	L5	982	U
3	L5	985	C
3	L5	989	U
3	L5	1070	G
3	L5	1071	C
3	L5	1072	C
3	L5	1075	G
3	L5	1076	C
3	L5	1082	C
3	L5	1083	U
3	L5	1095	A
3	L5	1100	U
3	L5	1168	G
3	L5	1171	G
3	L5	1172	C
3	L5	1173	G
3	L5	1178	G
3	L5	1179	U
3	L5	1180	C
3	L5	1181	C
3	L5	1182	C
3	L5	1183	C
3	L5	1200	G
3	L5	1202	C

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Mol	Chain	Res	Type
3	L5	1203	G
3	L5	1210	C
3	L5	1211	G
3	L5	1214	C
3	L5	1215	C
3	L5	1216	C
3	L5	1218	G
3	L5	1219	G
3	L5	1222	A
3	L5	1246	G
3	L5	1253	G
3	L5	1254	A
3	L5	1255	A
3	L5	1257	A
3	L5	1260	G
3	L5	1262	G
3	L5	1266	G
3	L5	1267	C
3	L5	1269	G
3	L5	1270	A
3	L5	1271	G
3	L5	1272	C
3	L5	1273	G
3	L5	1275	G
3	L5	1277	G
3	L5	1280	C
3	L5	1284	G
3	L5	1287	G
3	L5	1293	G
3	L5	1294	A
3	L5	1295	C
3	L5	1296	G
3	L5	1312	A
3	L5	1314	C
3	L5	1326	A2M
3	L5	1337	A
3	L5	1354	A
3	L5	1359	G
3	L5	1365	C
3	L5	1366	G
3	L5	1367	C
3	L5	1387	A

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Mol	Chain	Res	Type
3	L5	1394	G
3	L5	1397	A
3	L5	1398	A
3	L5	1404	G
3	L5	1407	C
3	L5	1409	C
3	L5	1410	U
3	L5	1411	C
3	L5	1413	C
3	L5	1415	G
3	L5	1417	C
3	L5	1418	C
3	L5	1420	A
3	L5	1435	G
3	L5	1437	C
3	L5	1439	C
3	L5	1442	C
3	L5	1443	A
3	L5	1444	G
3	L5	1446	C
3	L5	1447	C
3	L5	1457	G
3	L5	1480	C
3	L5	1483	C
3	L5	1497	A
3	L5	1498	G
3	L5	1502	G
3	L5	1516	G
3	L5	1517	G
3	L5	1523	A
3	L5	1524	A2M
3	L5	1534	A2M
3	L5	1535	C
3	L5	1536	PSU
3	L5	1537	A
3	L5	1547	A
3	L5	1563	A
3	L5	1564	A
3	L5	1566	C
3	L5	1574	G
3	L5	1576	G
3	L5	1578	U

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Mol	Chain	Res	Type
3	L5	1591	U
3	L5	1596	U
3	L5	1597	G
3	L5	1613	A
3	L5	1621	A
3	L5	1624	G
3	L5	1625	OMG
3	L5	1626	G
3	L5	1631	A
3	L5	1633	G
3	L5	1634	A
3	L5	1638	A
3	L5	1641	G
3	L5	1642	A
3	L5	1654	G
3	L5	1661	C
3	L5	1676	C
3	L5	1677	PSU
3	L5	1680	G
3	L5	1694	C
3	L5	1697	G
3	L5	1699	A
3	L5	1700	G
3	L5	1701	A
3	L5	1703	C
3	L5	1704	C
3	L5	1705	G
3	L5	1717	C
3	L5	1718	C
3	L5	1719	A
3	L5	1731	C
3	L5	1741	G
3	L5	1742	A
3	L5	1750	G
3	L5	1753	G
3	L5	1755	C
3	L5	1756	U
3	L5	1757	U
3	L5	1758	G
3	L5	1760	G
3	L5	1761	G
3	L5	1762	C

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Mol	Chain	Res	Type
3	L5	1763	C
3	L5	1764	G
3	L5	1765	A
3	L5	1766	A
3	L5	1767	A
3	L5	1768	C
3	L5	1770	A
3	L5	1775	A
3	L5	1787	A
3	L5	1804	A
3	L5	1810	G
3	L5	1815	G
3	L5	1821	G
3	L5	1833	G
3	L5	1836	G
3	L5	1837	A
3	L5	1842	G
3	L5	1855	G
3	L5	1869	G
3	L5	1882	U
3	L5	1892	A
3	L5	1897	A
3	L5	1899	G
3	L5	1917	A
3	L5	1918	U
3	L5	1919	G
3	L5	1920	C
3	L5	1921	C
3	L5	1922	G
3	L5	1925	G
3	L5	1930	U
3	L5	1931	C
3	L5	1932	A
3	L5	1936	C
3	L5	1948	G
3	L5	1961	G
3	L5	1962	A
3	L5	1969	G
3	L5	1974	U
3	L5	1975	G
3	L5	1978	C
3	L5	1979	A

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Mol	Chain	Res	Type
3	L5	1980	U
3	L5	1981	G
3	L5	1982	G
3	L5	1984	A
3	L5	1985	G
3	L5	1989	G
3	L5	1991	A
3	L5	1992	U
3	L5	1993	C
3	L5	1997	U
3	L5	1998	A
3	L5	1999	A
3	L5	2001	G
3	L5	2002	A
3	L5	2003	G
3	L5	2004	U
3	L5	2005	G
3	L5	2011	C
3	L5	2024	G
3	L5	2025	A
3	L5	2026	A
3	L5	2034	G
3	L5	2044	U
3	L5	2046	G
3	L5	2048	U
3	L5	2052	G
3	L5	2055	G
3	L5	2056	G
3	L5	2069	A
3	L5	2084	C
3	L5	2085	G
3	L5	2092	G
3	L5	2093	A
3	L5	2094	G
3	L5	2095	A
3	L5	2096	G
3	L5	2097	U
3	L5	2098	G
3	L5	2099	G
3	L5	2101	C
3	L5	2102	G
3	L5	2107	C

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Mol	Chain	Res	Type
3	L5	2112	G
3	L5	2250	C
3	L5	2252	G
3	L5	2256	C
3	L5	2259	G
3	L5	2289	C
3	L5	2300	A
3	L5	2301	G
3	L5	2306	G
3	L5	2313	A
3	L5	2316	G
3	L5	2331	G
3	L5	2332	A
3	L5	2333	G
3	L5	2348	G
3	L5	2351	OMC
3	L5	2360	A
3	L5	2389	A
3	L5	2395	A
3	L5	2397	G
3	L5	2398	U
3	L5	2401	A2M
3	L5	2411	C
3	L5	2417	A
3	L5	2425	U
3	L5	2453	A
3	L5	2464	C
3	L5	2465	C
3	L5	2469	C
3	L5	2470	C
3	L5	2471	G
3	L5	2474	G
3	L5	2475	G
3	L5	2478	C
3	L5	2479	G
3	L5	2483	G
3	L5	2484	A
3	L5	2485	U
3	L5	2487	G
3	L5	2488	C
3	L5	2489	C
3	L5	2490	U

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Mol	Chain	Res	Type
3	L5	2493	G
3	L5	2494	U
3	L5	2504	C
3	L5	2506	G
3	L5	2513	A
3	L5	2518	G
3	L5	2519	U
3	L5	2520	C
3	L5	2529	A
3	L5	2537	A
3	L5	2544	G
3	L5	2546	G
3	L5	2547	G
3	L5	2554	U
3	L5	2555	G
3	L5	2560	C
3	L5	2565	A
3	L5	2573	A
3	L5	2583	C
3	L5	2586	G
3	L5	2587	A
3	L5	2589	C
3	L5	2602	G
3	L5	2606	G
3	L5	2612	G
3	L5	2618	G
3	L5	2627	C
3	L5	2643	G
3	L5	2653	C
3	L5	2658	G
3	L5	2662	G
3	L5	2669	C
3	L5	2673	G
3	L5	2675	G
3	L5	2676	A
3	L5	2687	U
3	L5	2694	G
3	L5	2695	A
3	L5	2696	A
3	L5	2702	C
3	L5	2703	G
3	L5	2707	U

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Mol	Chain	Res	Type
3	L5	2708	U
3	L5	2709	C
3	L5	2710	C
3	L5	2711	G
3	L5	2716	C
3	L5	2719	C
3	L5	2721	G
3	L5	2724	G
3	L5	2726	G
3	L5	2739	C
3	L5	2742	G
3	L5	2743	A
3	L5	2746	A
3	L5	2747	U
3	L5	2761	U
3	L5	2763	U
3	L5	2764	A
3	L5	2769	U
3	L5	2770	C
3	L5	2788	U
3	L5	2790	U
3	L5	2806	A
3	L5	2826	U
3	L5	2827	G
3	L5	2828	U
3	L5	2829	U
3	L5	2835	A
3	L5	2855	G
3	L5	2877	G
3	L5	2892	C
3	L5	2900	U
3	L5	2901	G
3	L5	2902	G
3	L5	2903	G
3	L5	2904	U
3	L5	2905	C
3	L5	2907	G
3	L5	2908	U
3	L5	3588	C
3	L5	3590	G
3	L5	3591	C
3	L5	3592	G

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Mol	Chain	Res	Type
3	L5	3594	C
3	L5	3595	U
3	L5	3596	A
3	L5	3597	G
3	L5	3599	A
3	L5	3605	C
3	L5	3615	G
3	L5	3617	G
3	L5	3626	G
3	L5	3630	A
3	L5	3635	A
3	L5	3644	U
3	L5	3646	A
3	L5	3648	A
3	L5	3662	A
3	L5	3664	G
3	L5	3670	C
3	L5	3672	G
3	L5	3673	C
3	L5	3674	G
3	L5	3691	G
3	L5	3701	OMC
3	L5	3710	G
3	L5	3711	A
3	L5	3713	U
3	L5	3726	A
3	L5	3727	A
3	L5	3748	A
3	L5	3760	A
3	L5	3764	U
3	L5	3774	A
3	L5	3775	A
3	L5	3776	G
3	L5	3777	G
3	L5	3778	U
3	L5	3785	A2M
3	L5	3786	U
3	L5	3792	OMG
3	L5	3810	C
3	L5	3811	G
3	L5	3812	C
3	L5	3814	U

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Mol	Chain	Res	Type
3	L5	3817	A
3	L5	3819	G
3	L5	3824	A
3	L5	3838	U
3	L5	3839	G
3	L5	3840	U
3	L5	3867	A2M
3	L5	3877	A
3	L5	3878	C
3	L5	3879	G
3	L5	3890	A
3	L5	3892	U
3	L5	3897	G
3	L5	3898	G
3	L5	3901	A
3	L5	3906	A
3	L5	3907	G
3	L5	3908	A
3	L5	3915	U
3	L5	3930	U
3	L5	3938	G
3	L5	3939	G
3	L5	3942	A
3	L5	3943	A
3	L5	3944	G
3	L5	3947	A
3	L5	3949	A
3	L5	3950	U
3	L5	3951	G
3	L5	3952	A
3	L5	3953	G
3	L5	4057	C
3	L5	4059	C
3	L5	4060	U
3	L5	4062	A
3	L5	4064	C
3	L5	4065	G
3	L5	4066	U
3	L5	4069	U
3	L5	4076	G
3	L5	4095	G
3	L5	4097	G

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Mol	Chain	Res	Type
3	L5	4099	G
3	L5	4103	C
3	L5	4104	G
3	L5	4105	A
3	L5	4106	G
3	L5	4107	G
3	L5	4108	G
3	L5	4111	U
3	L5	4114	C
3	L5	4115	G
3	L5	4116	C
3	L5	4119	C
3	L5	4121	G
3	L5	4122	G
3	L5	4127	A
3	L5	4140	C
3	L5	4141	G
3	L5	4142	C
3	L5	4143	G
3	L5	4144	C
3	L5	4146	G
3	L5	4149	C
3	L5	4162	C
3	L5	4163	U
3	L5	4170	A
3	L5	4183	G
3	L5	4184	G
3	L5	4191	G
3	L5	4203	A
3	L5	4212	A
3	L5	4220	6MZ
3	L5	4222	G
3	L5	4225	G
3	L5	4228	OMG
3	L5	4229	U
3	L5	4233	A
3	L5	4234	A
3	L5	4243	C
3	L5	4251	A
3	L5	4254	G
3	L5	4257	A
3	L5	4258	C

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Mol	Chain	Res	Type
3	L5	4265	U
3	L5	4268	A
3	L5	4273	A
3	L5	4280	A
3	L5	4281	A
3	L5	4287	G
3	L5	4291	G
3	L5	4295	U
3	L5	4304	A
3	L5	4305	G
3	L5	4314	C
3	L5	4319	C
3	L5	4329	G
3	L5	4330	G
3	L5	4332	C
3	L5	4339	A
3	L5	4349	C
3	L5	4350	C
3	L5	4354	U
3	L5	4373	G
3	L5	4377	G
3	L5	4378	A
3	L5	4379	A
3	L5	4387	C
3	L5	4391	G
3	L5	4394	A
3	L5	4421	C
3	L5	4422	A
3	L5	4428	A
3	L5	4438	U
3	L5	4448	G
3	L5	4449	A
3	L5	4452	U
3	L5	4464	A
3	L5	4466	C
3	L5	4475	G
3	L5	4488	A
3	L5	4500	PSU
3	L5	4512	U
3	L5	4513	A
3	L5	4519	C
3	L5	4524	G

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Mol	Chain	Res	Type
3	L5	4525	C
3	L5	4545	G
3	L5	4548	A
3	L5	4549	G
3	L5	4560	C
3	L5	4567	G
3	L5	4575	G
3	L5	4589	A
3	L5	4590	A2M
3	L5	4600	G
3	L5	4601	U
3	L5	4617	G
3	L5	4633	G
3	L5	4636	PSU
3	L5	4637	OMG
3	L5	4652	G
3	L5	4656	A
3	L5	4657	U
3	L5	4670	C
3	L5	4671	C
3	L5	4672	A
3	L5	4687	A
3	L5	4694	G
3	L5	4695	C
3	L5	4700	A
3	L5	4708	A
3	L5	4709	U
3	L5	4719	G
3	L5	4734	A
3	L5	4735	G
3	L5	4740	G
3	L5	4741	C
3	L5	4742	G
3	L5	4745	G
3	L5	4750	G
3	L5	4754	G
3	L5	4757	C
3	L5	4759	C
3	L5	4761	G
3	L5	4765	G
3	L5	4771	C
3	L5	4775	C

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Mol	Chain	Res	Type
3	L5	4776	G
3	L5	4859	C
3	L5	4860	G
3	L5	4863	G
3	L5	4864	U
3	L5	4870	G
3	L5	4871	C
3	L5	4875	G
3	L5	4877	G
3	L5	4881	U
3	L5	4882	U
3	L5	4883	C
3	L5	4889	G
3	L5	4895	C
3	L5	4896	G
3	L5	4899	G
3	L5	4900	C
3	L5	4901	G
3	L5	4910	G
3	L5	4912	G
3	L5	4914	C
3	L5	4923	C
3	L5	4925	U
3	L5	4926	C
3	L5	4927	G
3	L5	4928	C
3	L5	4931	G
3	L5	4934	A
3	L5	4940	C
3	L5	4941	G
3	L5	4943	A
3	L5	4944	C
3	L5	4960	G
3	L5	4975	G
3	L5	4976	U
3	L5	4979	A
3	L5	4988	U
3	L5	4990	C
3	L5	4991	U
3	L5	4995	U
3	L5	5006	U
3	L5	5013	C

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Mol	Chain	Res	Type
3	L5	5014	A
3	L5	5017	G
3	L5	5020	G
3	L5	5022	U
3	L5	5023	C
3	L5	5024	C
3	L5	5030	U
3	L5	5034	A
3	L5	5041	G
3	L5	5047	C
3	L5	5048	A
3	L5	5050	C
3	L5	5053	U
3	L5	5054	C
3	L5	5061	A
3	L5	5069	U
4	L7	7	G
4	L7	24	C
4	L7	33	U
4	L7	37	G
4	L7	38	U
4	L7	53	U
4	L7	64	G
4	L7	100	A
4	L7	110	G
4	L7	120	U
5	L8	23	C
5	L8	25	G
5	L8	34	U
5	L8	35	C
5	L8	39	G
5	L8	49	G
5	L8	59	A
5	L8	61	A
5	L8	62	A
5	L8	63	U
5	L8	78	G
5	L8	80	A
5	L8	82	A
5	L8	83	C
5	L8	84	A
5	L8	85	U

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Mol	Chain	Res	Type
5	L8	87	G
5	L8	94	G
5	L8	103	A
5	L8	105	C
5	L8	111	U
5	L8	114	G
5	L8	123	U
5	L8	124	U
5	L8	125	C
5	L8	126	C
5	L8	127	U
5	L8	150	C
68	S2	4	C
68	S2	25	A
68	S2	33	G
68	S2	42	A
68	S2	44	U
68	S2	45	A
68	S2	46	A
68	S2	56	G
68	S2	65	C
68	S2	67	C
68	S2	68	A
68	S2	71	G
68	S2	72	C
68	S2	73	C
68	S2	74	G
68	S2	76	U
68	S2	79	A
68	S2	82	G
68	S2	83	A
68	S2	92	A
68	S2	93	PSU
68	S2	99	A2M
68	S2	103	A
68	S2	113	G
68	S2	115	U
68	S2	126	G
68	S2	130	G
68	S2	143	U
68	S2	148	U
68	S2	149	A

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Mol	Chain	Res	Type
68	S2	153	G
68	S2	158	A
68	S2	160	U
68	S2	170	A
68	S2	172	OMU
68	S2	179	C
68	S2	182	C
68	S2	185	G
68	S2	190	G
68	S2	192	C
68	S2	196	C
68	S2	197	U
68	S2	198	U
68	S2	200	G
68	S2	202	G
68	S2	203	G
68	S2	204	G
68	S2	206	G
68	S2	207	G
68	S2	208	G
68	S2	209	A
68	S2	212	C
68	S2	213	G
68	S2	214	U
68	S2	291	G
68	S2	292	A
68	S2	294	U
68	S2	295	C
68	S2	299	A
68	S2	302	A
68	S2	306	C
68	S2	307	G
68	S2	308	G
68	S2	309	G
68	S2	312	G
68	S2	318	A
68	S2	319	C
68	S2	320	G
68	S2	323	C
68	S2	324	C
68	S2	325	C
68	S2	326	C

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Mol	Chain	Res	Type
68	S2	328	U
68	S2	329	G
68	S2	332	G
68	S2	335	G
68	S2	339	A
68	S2	340	C
68	S2	347	G
68	S2	360	A
68	S2	361	U
68	S2	362	C
68	S2	363	A
68	S2	364	A
68	S2	368	U
68	S2	370	G
68	S2	383	G
68	S2	385	G
68	S2	386	C
68	S2	408	A
68	S2	409	C
68	S2	426	A
68	S2	438	G
68	S2	448	A
68	S2	449	A
68	S2	450	C
68	S2	452	G
68	S2	464	A
68	S2	465	A
68	S2	466	G
68	S2	471	G
68	S2	472	C
68	S2	473	A
68	S2	474	G
68	S2	482	G
68	S2	487	U
68	S2	488	U
68	S2	492	C
68	S2	493	A
68	S2	495	U
68	S2	502	C
68	S2	530	U
68	S2	531	A
68	S2	532	C

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Mol	Chain	Res	Type
68	S2	534	G
68	S2	536	A
68	S2	537	C
68	S2	540	U
68	S2	542	U
68	S2	544	G
68	S2	546	G
68	S2	547	G
68	S2	551	U
68	S2	557	U
68	S2	558	G
68	S2	563	G
68	S2	564	A
68	S2	576	A2M
68	S2	583	A
68	S2	585	C
68	S2	587	A
68	S2	588	G
68	S2	589	G
68	S2	590	A
68	S2	591	U
68	S2	593	C
68	S2	601	OMG
68	S2	603	C
68	S2	606	G
68	S2	607	U
68	S2	614	C
68	S2	617	G
68	S2	623	G
68	S2	626	G
68	S2	627	OMU
68	S2	628	A
68	S2	630	U
68	S2	643	A
68	S2	644	OMG
68	S2	655	A
68	S2	660	C
68	S2	663	C
68	S2	664	A
68	S2	668	A2M
68	S2	669	A
68	S2	671	A

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Mol	Chain	Res	Type
68	S2	672	A
68	S2	673	G
68	S2	681	PSU
68	S2	683	OMG
68	S2	688	U
68	S2	689	U
68	S2	690	G
68	S2	695	C
68	S2	696	G
68	S2	697	G
68	S2	698	G
68	S2	732	U
68	S2	733	C
68	S2	736	C
68	S2	738	C
68	S2	749	U
68	S2	751	G
68	S2	752	G
68	S2	753	C
68	S2	788	G
68	S2	789	G
68	S2	791	C
68	S2	792	C
68	S2	798	G
68	S2	799	OMU
68	S2	801	PSU
68	S2	821	G
68	S2	822	U
68	S2	823	U
68	S2	824	C
68	S2	827	A
68	S2	830	A
68	S2	834	C
68	S2	835	C
68	S2	836	G
68	S2	837	A
68	S2	838	G
68	S2	839	C
68	S2	840	C
68	S2	841	G
68	S2	842	C
68	S2	844	U

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Mol	Chain	Res	Type
68	S2	847	A
68	S2	867	OMG
68	S2	868	G
68	S2	869	A
68	S2	872	A
68	S2	873	G
68	S2	888	U
68	S2	889	U
68	S2	891	G
68	S2	893	U
68	S2	894	G
68	S2	896	U
68	S2	897	U
68	S2	898	U
68	S2	899	U
68	S2	900	C
68	S2	901	G
68	S2	903	A
68	S2	906	U
68	S2	907	G
68	S2	909	G
68	S2	913	A
68	S2	917	U
68	S2	920	A
68	S2	922	A
68	S2	933	G
68	S2	959	G
68	S2	963	A
68	S2	969	U
68	S2	970	G
68	S2	971	G
68	S2	972	A
68	S2	984	C
68	S2	990	A
68	S2	992	A
68	S2	997	A
68	S2	999	G
68	S2	1001	A
68	S2	1008	A
68	S2	1017	U
68	S2	1023	A
68	S2	1027	A

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Mol	Chain	Res	Type
68	S2	1045	PSU
68	S2	1061	U
68	S2	1062	A
68	S2	1083	A
68	S2	1085	C
68	S2	1087	A
68	S2	1107	G
68	S2	1108	G
68	S2	1109	C
68	S2	1113	A
68	S2	1114	U
68	S2	1116	C
68	S2	1121	G
68	S2	1123	C
68	S2	1126	G
68	S2	1133	A
68	S2	1138	C
68	S2	1139	C
68	S2	1148	A
68	S2	1153	C
68	S2	1154	U
68	S2	1155	U
68	S2	1195	A
68	S2	1200	A
68	S2	1207	G
68	S2	1208	A
68	S2	1211	G
68	S2	1215	C
68	S2	1216	C
68	S2	1217	A
68	S2	1220	A
68	S2	1224	G
68	S2	1227	G
68	S2	1242	U
68	S2	1243	U
68	S2	1251	A
68	S2	1253	A
68	S2	1256	G
68	S2	1257	G
68	S2	1259	A
68	S2	1264	C
68	S2	1274	G

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Mol	Chain	Res	Type
68	S2	1275	G
68	S2	1281	G
68	S2	1283	C
68	S2	1284	A
68	S2	1286	G
68	S2	1287	A
68	S2	1294	G
68	S2	1295	A
68	S2	1301	A
68	S2	1302	G
68	S2	1308	U
68	S2	1312	G
68	S2	1315	U
68	S2	1342	U
68	S2	1357	A
68	S2	1358	U
68	S2	1371	U
68	S2	1372	U
68	S2	1376	A
68	S2	1378	A
68	S2	1396	A
68	S2	1401	A
68	S2	1402	A
68	S2	1408	U
68	S2	1413	G
68	S2	1414	A
68	S2	1417	C
68	S2	1418	C
68	S2	1419	C
68	S2	1421	A
68	S2	1423	C
68	S2	1428	G
68	S2	1433	C
68	S2	1434	C
68	S2	1435	C
68	S2	1436	C
68	S2	1438	A
68	S2	1442	OMU
68	S2	1449	G
68	S2	1454	A
68	S2	1463	U
68	S2	1466	G

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Mol	Chain	Res	Type
68	S2	1480	A
68	S2	1484	A
68	S2	1489	A
68	S2	1490	OMG
68	S2	1492	U
68	S2	1494	U
68	S2	1495	G
68	S2	1497	G
68	S2	1498	A
68	S2	1507	G
68	S2	1509	U
68	S2	1520	G
68	S2	1521	C
68	S2	1522	A
68	S2	1531	A
68	S2	1533	A
68	S2	1534	C
68	S2	1536	G
68	S2	1544	C
68	S2	1546	G
68	S2	1552	G
68	S2	1553	C
68	S2	1555	U
68	S2	1557	C
68	S2	1558	C
68	S2	1580	A
68	S2	1581	C
68	S2	1585	U
68	S2	1587	G
68	S2	1588	A
68	S2	1601	A
68	S2	1604	G
68	S2	1606	G
68	S2	1614	A
68	S2	1621	U
68	S2	1623	A
68	S2	1633	A
68	S2	1637	A
68	S2	1639	G7M
68	S2	1648	G
68	S2	1652	G
68	S2	1654	G

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Mol	Chain	Res	Type
68	S2	1663	A
68	S2	1665	G
68	S2	1680	G
68	S2	1683	C
68	S2	1701	C
68	S2	1712	A
68	S2	1715	A
68	S2	1721	U
68	S2	1722	G
68	S2	1744	G
68	S2	1749	G
68	S2	1752	C
68	S2	1753	C
68	S2	1754	G
68	S2	1756	C
68	S2	1757	G
68	S2	1758	G
68	S2	1760	G
68	S2	1761	U
68	S2	1772	C
68	S2	1773	C
68	S2	1774	C
68	S2	1776	G
68	S2	1783	C
68	S2	1784	G
68	S2	1786	U
68	S2	1809	A
68	S2	1810	U
68	S2	1820	G
68	S2	1824	A
68	S2	1825	A
68	S2	1826	G
68	S2	1829	G
68	S2	1831	A
68	S2	1835	A
68	S2	1838	U
68	S2	1849	G
68	S2	1851	MA6
68	S2	1852	C
68	S2	1861	G
68	S2	1862	G
68	S2	1863	A

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Mol	Chain	Res	Type
68	S2	1864	U
68	S2	1865	C

All (20) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	L5	406	C
3	L5	914	U
3	L5	1082	C
3	L5	1633	G
3	L5	1698	C
3	L5	1703	C
3	L5	2416	G
3	L5	2675	G
3	L5	2760	G
3	L5	2763	U
3	L5	3673	C
3	L5	3951	G
3	L5	4600	G
3	L5	4699	U
3	L5	4913	G
68	S2	291	G
68	S2	531	A
68	S2	563	G
68	S2	688	U
68	S2	867	OMG

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

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	$\# Z > 2$
3	OMG	L5	3899	3	23,26,27	0.66	0	32,38,41	0.53	0
68	6MZ	S2	1832	86,68	22,25,26	3.00	5 (22%)	29,36,39	2.25	9 (31%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	UR3	L5	4530	3	19,22,23	2.63	7 (36%)	26,32,35	1.57	3 (11%)
5	OMG	L8	75	5	23,26,27	0.53	0	32,38,41	0.50	0
3	PSU	L5	4442	3	18,21,22	1.06	1 (5%)	21,30,33	2.01	6 (28%)
3	PSU	L5	4493	3	18,21,22	1.11	2 (11%)	21,30,33	1.84	4 (19%)
3	OMG	L5	4228	3	23,26,27	0.55	0	32,38,41	0.58	0
3	A2M	L5	2815	3	22,25,26	1.23	1 (4%)	30,36,39	1.53	7 (23%)
3	OMC	L5	2824	3	19,22,23	0.69	0	25,31,34	0.61	0
3	OMG	L5	3792	3	23,26,27	0.57	0	32,38,41	0.53	0
68	OMU	S2	1442	68	19,22,23	3.29	7 (36%)	25,31,34	1.86	5 (20%)
3	OMC	L5	2804	3	19,22,23	0.70	0	25,31,34	0.60	0
3	A2M	L5	3867	3	22,25,26	1.29	2 (9%)	30,36,39	1.52	8 (26%)
3	PSU	L5	1782	3	18,21,22	1.04	2 (11%)	21,30,33	1.84	4 (19%)
3	A2M	L5	4590	3	22,25,26	1.23	2 (9%)	30,36,39	1.51	7 (23%)
3	OMG	L5	1625	3	23,26,27	0.58	0	32,38,41	0.46	0
68	OMC	S2	174	68	19,22,23	0.60	0	25,31,34	0.68	0
3	PSU	L5	4312	3	18,21,22	1.10	2 (11%)	21,30,33	1.92	4 (19%)
3	PSU	L5	4689	3	18,21,22	1.07	2 (11%)	21,30,33	1.92	4 (19%)
68	MA6	S2	1851	68	23,26,27	1.34	3 (13%)	33,38,41	3.42	12 (36%)
68	OMC	S2	462	68	19,22,23	0.57	0	25,31,34	0.79	1 (4%)
3	A2M	L5	3718	3	22,25,26	1.19	1 (4%)	30,36,39	1.55	6 (20%)
3	OMU	L5	4498	3	19,22,23	3.20	7 (36%)	25,31,34	1.86	5 (20%)
3	OMC	L5	3701	86,3	19,22,23	0.63	0	25,31,34	0.59	0
3	OMG	L5	4623	3	23,26,27	0.60	0	32,38,41	0.50	0
3	PSU	L5	4521	86,3	18,21,22	1.11	1 (5%)	21,30,33	1.99	4 (19%)
3	PSU	L5	4628	3	18,21,22	1.07	2 (11%)	21,30,33	2.03	4 (19%)
68	OMG	S2	644	68	23,26,27	0.51	0	32,38,41	0.53	0
3	PSU	L5	1781	3	18,21,22	1.05	1 (5%)	21,30,33	1.83	4 (19%)
3	PSU	L5	3844	3	18,21,22	1.10	1 (5%)	21,30,33	1.92	4 (19%)
68	OMG	S2	436	68	23,26,27	0.57	0	32,38,41	0.63	0
3	OMC	L5	2422	86,3	19,22,23	0.63	0	25,31,34	0.60	0
68	A2M	S2	468	68	22,25,26	1.20	1 (4%)	30,36,39	1.61	9 (30%)
3	PSU	L5	4403	3	18,21,22	1.06	2 (11%)	21,30,33	1.95	5 (23%)
3	1MA	L5	1322	86,3	21,25,26	0.63	0	30,37,40	0.81	2 (6%)
3	PSU	L5	1792	3	18,21,22	1.05	1 (5%)	21,30,33	1.89	4 (19%)
3	OMG	L5	2876	3	23,26,27	0.56	0	32,38,41	0.53	0
3	A2M	L5	3825	3	22,25,26	1.30	2 (9%)	30,36,39	1.60	9 (30%)
3	A2M	L5	3830	3	22,25,26	1.26	2 (9%)	30,36,39	1.55	7 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
68	PSU	S2	1081	68	18,21,22	1.01	1 (5%)	21,30,33	1.96	5 (23%)
3	PSU	L5	4636	3	18,21,22	1.08	2 (11%)	21,30,33	2.22	6 (28%)
3	OMU	L5	4620	3	19,22,23	3.19	7 (36%)	25,31,34	1.77	5 (20%)
68	G7M	S2	1639	68	23,26,27	2.68	9 (39%)	34,39,42	2.58	11 (32%)
3	PSU	L5	3851	3	18,21,22	1.06	1 (5%)	21,30,33	1.91	4 (19%)
3	PSU	L5	4431	3	18,21,22	1.11	2 (11%)	21,30,33	2.02	5 (23%)
68	OMC	S2	1391	68	19,22,23	0.59	0	25,31,34	0.70	0
68	OMU	S2	799	68	19,22,23	3.38	7 (36%)	25,31,34	1.84	5 (20%)
3	PSU	L5	1582	3	18,21,22	1.07	1 (5%)	21,30,33	1.77	4 (19%)
3	A2M	L5	4523	86,3	22,25,26	1.38	3 (13%)	30,36,39	1.56	9 (30%)
3	A2M	L5	1871	86,3	22,25,26	1.34	3 (13%)	30,36,39	1.65	6 (20%)
3	OMG	L5	2424	3	23,26,27	0.55	0	32,38,41	0.47	0
68	OMG	S2	1328	68	23,26,27	0.52	0	32,38,41	0.44	0
3	PSU	L5	4296	3	18,21,22	1.10	1 (5%)	21,30,33	2.11	5 (23%)
68	OMG	S2	601	68	23,26,27	0.63	0	32,38,41	0.91	2 (6%)
68	A2M	S2	668	86,68	22,25,26	1.36	2 (9%)	30,36,39	1.59	8 (26%)
3	OMU	L5	3925	3	19,22,23	3.14	7 (36%)	25,31,34	1.93	5 (20%)
3	OMC	L5	2861	3	19,22,23	0.64	0	25,31,34	0.89	2 (8%)
3	OMG	L5	4370	3	23,26,27	0.60	0	32,38,41	0.53	0
3	PSU	L5	4972	3	18,21,22	1.09	2 (11%)	21,30,33	1.91	4 (19%)
3	PSU	L5	4552	3	18,21,22	1.10	2 (11%)	21,30,33	1.98	4 (19%)
68	PSU	S2	681	68	18,21,22	1.06	2 (11%)	21,30,33	1.98	4 (19%)
68	PSU	S2	1056	68	18,21,22	1.12	2 (11%)	21,30,33	2.03	5 (23%)
3	A2M	L5	1534	86,3	22,25,26	1.28	2 (9%)	30,36,39	1.47	9 (30%)
68	OMU	S2	121	68	19,22,23	3.30	7 (36%)	25,31,34	1.64	4 (16%)
68	PSU	S2	406	68	18,21,22	1.04	2 (11%)	21,30,33	1.96	3 (14%)
68	OMU	S2	428	68	19,22,23	3.35	7 (36%)	25,31,34	1.79	4 (16%)
68	A2M	S2	159	68	22,25,26	1.20	2 (9%)	30,36,39	1.55	7 (23%)
3	PSU	L5	4293	3	18,21,22	1.12	2 (11%)	21,30,33	1.93	4 (19%)
3	A2M	L5	3785	86,3	22,25,26	1.15	1 (4%)	30,36,39	1.57	9 (30%)
3	OMG	L5	4494	3	23,26,27	0.60	0	32,38,41	0.46	0
3	PSU	L5	2839	3	18,21,22	1.03	2 (11%)	21,30,33	1.74	3 (14%)
3	OMC	L5	3841	3	19,22,23	0.70	0	25,31,34	0.52	0
3	PSU	L5	4299	3	18,21,22	1.09	2 (11%)	21,30,33	1.96	5 (23%)
3	OMG	L5	4196	3	23,26,27	0.55	0	32,38,41	0.44	0
3	OMC	L5	1340	3	19,22,23	0.63	0	25,31,34	0.72	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
68	OMU	S2	627	68	19,22,23	3.31	7 (36%)	25,31,34	1.82	5 (20%)
3	PSU	L5	1860	3	18,21,22	1.07	2 (11%)	21,30,33	1.98	4 (19%)
3	OMG	L5	4392	3	23,26,27	0.60	0	32,38,41	0.58	0
3	PSU	L5	5001	3	18,21,22	1.08	2 (11%)	21,30,33	1.93	4 (19%)
68	PSU	S2	651	68	18,21,22	1.05	1 (5%)	21,30,33	2.02	5 (23%)
68	4AC	S2	1337	68	21,24,25	0.36	0	28,34,37	0.46	0
3	OMC	L5	4536	3	19,22,23	0.66	0	25,31,34	0.63	0
3	OMG	L5	3627	3	23,26,27	0.65	0	32,38,41	0.58	0
3	PSU	L5	5010	3	18,21,22	1.05	1 (5%)	21,30,33	1.88	4 (19%)
68	A2M	S2	166	68	22,25,26	1.26	1 (4%)	30,36,39	1.58	7 (23%)
3	PSU	L5	4361	3	18,21,22	1.08	2 (11%)	21,30,33	1.97	4 (19%)
68	OMG	S2	1490	68	23,26,27	0.56	0	32,38,41	0.49	0
3	OMC	L5	2351	3	19,22,23	0.70	0	25,31,34	1.13	2 (8%)
68	A2M	S2	1383	68	22,25,26	1.23	1 (4%)	30,36,39	1.56	6 (20%)
68	PSU	S2	1174	68	18,21,22	1.10	2 (11%)	21,30,33	1.92	4 (19%)
3	A2M	L5	4571	3	22,25,26	1.32	2 (9%)	30,36,39	1.61	10 (33%)
68	PSU	S2	109	68	18,21,22	1.10	1 (5%)	21,30,33	1.95	4 (19%)
3	OMG	L5	3744	3	23,26,27	0.61	0	32,38,41	0.52	0
68	OMU	S2	1326	68	19,22,23	3.27	7 (36%)	25,31,34	1.86	5 (20%)
3	A2M	L5	398	3	22,25,26	1.23	1 (4%)	30,36,39	1.61	7 (23%)
3	OMG	L5	4499	3	23,26,27	0.60	0	32,38,41	0.55	0
68	OMC	S2	1272	68	19,22,23	0.55	0	25,31,34	0.97	2 (8%)
68	PSU	S2	1244	68	18,21,22	1.10	1 (5%)	21,30,33	1.91	4 (19%)
68	PSU	S2	1045	68	18,21,22	1.13	1 (5%)	21,30,33	1.95	4 (19%)
68	PSU	S2	686	68	18,21,22	1.09	1 (5%)	21,30,33	1.92	4 (19%)
68	B8N	S2	1248	68	25,29,30	3.26	6 (24%)	28,42,45	1.85	7 (25%)
68	A2M	S2	1031	68	22,25,26	1.22	1 (4%)	30,36,39	1.52	8 (26%)
68	PSU	S2	649	68	18,21,22	1.14	2 (11%)	21,30,33	1.93	4 (19%)
68	A2M	S2	27	68	22,25,26	1.28	2 (9%)	30,36,39	1.55	7 (23%)
3	PSU	L5	2632	3	18,21,22	1.05	2 (11%)	21,30,33	1.99	6 (28%)
3	PSU	L5	3695	3	18,21,22	1.05	2 (11%)	21,30,33	1.98	4 (19%)
3	5MC	L5	3782	86,3	19,22,23	0.66	0	26,32,35	0.87	1 (3%)
68	OMC	S2	1703	68	19,22,23	0.61	0	25,31,34	0.55	0
68	4AC	S2	1842	68	21,24,25	0.41	0	28,34,37	0.45	0
3	PSU	L5	4973	3	18,21,22	1.06	2 (11%)	21,30,33	2.11	6 (28%)
68	A2M	S2	484	68	22,25,26	1.17	1 (4%)	30,36,39	1.49	7 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	A2M	L5	2363	86,3	22,25,26	1.30	2 (9%)	30,36,39	1.51	8 (26%)
68	PSU	S2	1367	68	18,21,22	1.08	1 (5%)	21,30,33	1.97	4 (19%)
3	PSU	L5	4673	3	18,21,22	1.11	2 (11%)	21,30,33	1.86	4 (19%)
68	PSU	S2	966	86,68	18,21,22	1.05	1 (5%)	21,30,33	1.83	4 (19%)
3	OMC	L5	2365	3	19,22,23	0.65	0	25,31,34	0.56	0
3	PSU	L5	3920	86,3	18,21,22	1.10	2 (11%)	21,30,33	1.92	5 (23%)
68	PSU	S2	1046	68	18,21,22	1.08	1 (5%)	21,30,33	2.02	6 (28%)
68	OMG	S2	509	68	23,26,27	0.45	0	32,38,41	0.49	0
68	PSU	S2	814	68	18,21,22	1.07	1 (5%)	21,30,33	1.98	5 (23%)
3	OMG	L5	1522	3	23,26,27	0.63	0	32,38,41	0.62	0
68	OMC	S2	517	68	19,22,23	0.55	0	25,31,34	0.66	0
3	UY1	L5	3818	3	19,22,23	4.80	9 (47%)	21,31,34	1.92	5 (23%)
68	PSU	S2	105	68	18,21,22	1.04	1 (5%)	21,30,33	1.87	4 (19%)
3	5MC	L5	4447	3	19,22,23	0.87	1 (5%)	26,32,35	0.68	0
3	A2M	L5	1326	3	22,25,26	1.31	2 (9%)	30,36,39	1.63	11 (36%)
3	PSU	L5	3822	3	18,21,22	1.10	1 (5%)	21,30,33	1.96	5 (23%)
3	A2M	L5	2401	3	22,25,26	1.25	1 (4%)	30,36,39	1.60	7 (23%)
68	PSU	S2	863	68	18,21,22	1.13	2 (11%)	21,30,33	1.96	5 (23%)
3	PSU	L5	1536	3	18,21,22	1.11	2 (11%)	21,30,33	2.06	4 (19%)
68	OMU	S2	172	68	19,22,23	3.33	7 (36%)	25,31,34	1.80	5 (20%)
3	A2M	L5	1323	3	22,25,26	1.37	3 (13%)	30,36,39	1.62	9 (30%)
3	PSU	L5	3853	86,3	18,21,22	1.06	1 (5%)	21,30,33	1.97	5 (23%)
68	OMG	S2	683	68	23,26,27	0.53	0	32,38,41	0.51	0
68	A2M	S2	576	68	22,25,26	1.17	1 (4%)	30,36,39	1.58	7 (23%)
3	PSU	L5	3639	3	18,21,22	1.12	3 (16%)	21,30,33	1.94	5 (23%)
3	OMU	L5	4227	3	19,22,23	3.19	7 (36%)	25,31,34	1.94	5 (20%)
3	PSU	L5	1862	3	18,21,22	1.06	2 (11%)	21,30,33	1.97	5 (23%)
68	PSU	S2	1232	68	18,21,22	1.05	1 (5%)	21,30,33	2.08	5 (23%)
3	OMG	L5	4618	3	23,26,27	0.58	0	32,38,41	0.49	0
68	OMU	S2	116	68	19,22,23	3.34	7 (36%)	25,31,34	1.68	4 (16%)
3	OMC	L5	3869	3	19,22,23	0.65	0	25,31,34	0.58	0
68	PSU	S2	1004	68	18,21,22	1.04	1 (5%)	21,30,33	1.94	5 (23%)
5	PSU	L8	69	5	18,21,22	1.06	2 (11%)	21,30,33	1.92	4 (19%)
3	PSU	L5	1677	3	18,21,22	1.14	3 (16%)	21,30,33	2.15	7 (33%)
3	OMC	L5	4456	3	19,22,23	0.70	0	25,31,34	0.71	0
68	PSU	S2	93	68	18,21,22	1.05	1 (5%)	21,30,33	1.81	3 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	6MZ	L5	4220	3	22,25,26	2.94	6 (27%)	29,36,39	2.41	10 (34%)
3	A2M	L5	400	3	22,25,26	1.31	2 (9%)	30,36,39	1.61	7 (23%)
3	PSU	L5	4353	3	18,21,22	1.07	2 (11%)	21,30,33	2.14	6 (28%)
68	PSU	S2	1177	68	18,21,22	1.14	2 (11%)	21,30,33	2.08	5 (23%)
68	MA6	S2	1850	68	23,26,27	1.28	3 (13%)	33,38,41	3.29	11 (33%)
3	OMU	L5	4306	3	19,22,23	3.16	7 (36%)	25,31,34	1.68	4 (16%)
3	A2M	L5	1524	3	22,25,26	1.31	3 (13%)	30,36,39	1.54	7 (23%)
3	A2M	L5	2787	86,3	22,25,26	1.19	2 (9%)	30,36,39	1.50	6 (20%)
3	PSU	L5	3884	3	18,21,22	1.09	2 (11%)	21,30,33	1.99	5 (23%)
68	PSU	S2	866	68	18,21,22	1.11	2 (11%)	21,30,33	2.00	6 (28%)
3	PSU	L5	4579	3	18,21,22	1.02	1 (5%)	21,30,33	1.92	4 (19%)
3	PSU	L5	3637	3	18,21,22	1.10	1 (5%)	21,30,33	2.02	5 (23%)
68	OMG	S2	867	68	23,26,27	0.53	0	32,38,41	0.62	0
3	OMG	L5	2364	86,3	23,26,27	0.59	0	32,38,41	0.42	0
3	PSU	L5	4457	3	18,21,22	1.08	3 (16%)	21,30,33	2.01	6 (28%)
5	PSU	L8	55	5	18,21,22	1.12	1 (5%)	21,30,33	1.89	4 (19%)
3	PSU	L5	4500	3	18,21,22	1.07	2 (11%)	21,30,33	2.11	5 (23%)
68	PSU	S2	801	68	18,21,22	1.09	1 (5%)	21,30,33	1.87	4 (19%)
68	OMU	S2	1288	68	19,22,23	3.46	7 (36%)	25,31,34	1.89	7 (28%)
3	OMC	L5	3808	3	19,22,23	0.69	0	25,31,34	0.85	2 (8%)
3	OMG	L5	4637	3	23,26,27	0.59	0	32,38,41	0.49	0
3	OMC	L5	3887	3	19,22,23	0.66	0	25,31,34	0.68	0
3	PSU	L5	1683	3	18,21,22	1.09	2 (11%)	21,30,33	1.97	4 (19%)
3	PSU	L5	4576	3	18,21,22	1.10	1 (5%)	21,30,33	1.95	5 (23%)
68	A2M	S2	99	86,68	22,25,26	1.28	1 (4%)	30,36,39	1.58	7 (23%)
3	OMG	L5	1316	3	23,26,27	0.68	0	32,38,41	0.54	0
3	PSU	L5	4532	3	18,21,22	1.07	1 (5%)	21,30,33	2.09	5 (23%)
3	PSU	L5	4471	3	18,21,22	1.04	1 (5%)	21,30,33	1.82	4 (19%)
3	OMU	L5	2837	3	19,22,23	3.27	7 (36%)	25,31,34	1.92	5 (20%)
68	OMU	S2	354	68	19,22,23	3.24	7 (36%)	25,31,34	1.74	5 (20%)
3	PSU	L5	1744	3	18,21,22	1.11	2 (11%)	21,30,33	2.05	5 (23%)

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
3	OMG	L5	3899	3	-	3/9/27/28	0/3/3/3
68	6MZ	S2	1832	86,68	-	2/9/27/28	0/3/3/3
3	UR3	L5	4530	3	-	0/7/25/26	0/2/2/2
5	OMG	L8	75	5	-	1/9/27/28	0/3/3/3
3	PSU	L5	4442	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4493	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4228	3	-	2/9/27/28	0/3/3/3
3	A2M	L5	2815	3	-	2/9/27/28	0/3/3/3
3	OMC	L5	2824	3	-	1/9/27/28	0/2/2/2
3	OMG	L5	3792	3	-	2/9/27/28	0/3/3/3
68	OMU	S2	1442	68	-	2/9/27/28	0/2/2/2
3	OMC	L5	2804	3	-	0/9/27/28	0/2/2/2
3	A2M	L5	3867	3	-	3/9/27/28	0/3/3/3
3	PSU	L5	1782	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	4590	3	-	4/9/27/28	0/3/3/3
3	OMG	L5	1625	3	-	2/9/27/28	0/3/3/3
68	OMC	S2	174	68	-	1/9/27/28	0/2/2/2
3	PSU	L5	4312	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4689	3	-	0/7/25/26	0/2/2/2
68	MA6	S2	1851	68	-	1/11/29/30	0/3/3/3
68	OMC	S2	462	68	-	0/9/27/28	0/2/2/2
3	A2M	L5	3718	3	-	0/9/27/28	0/3/3/3
3	OMU	L5	4498	3	-	0/9/27/28	0/2/2/2
3	OMC	L5	3701	86,3	-	6/9/27/28	0/2/2/2
3	OMG	L5	4623	3	-	3/9/27/28	0/3/3/3
3	PSU	L5	4521	86,3	-	2/7/25/26	0/2/2/2
3	PSU	L5	4628	3	-	0/7/25/26	0/2/2/2
68	OMG	S2	644	68	-	3/9/27/28	0/3/3/3
3	PSU	L5	1781	3	-	2/7/25/26	0/2/2/2
3	PSU	L5	3844	3	-	1/7/25/26	0/2/2/2
68	OMG	S2	436	68	-	1/9/27/28	0/3/3/3
3	OMC	L5	2422	86,3	-	0/9/27/28	0/2/2/2
68	A2M	S2	468	68	-	1/9/27/28	0/3/3/3
3	PSU	L5	4403	3	-	0/7/25/26	0/2/2/2
3	1MA	L5	1322	86,3	-	2/7/25/26	0/3/3/3
3	PSU	L5	1792	3	-	1/7/25/26	0/2/2/2
3	OMG	L5	2876	3	-	1/9/27/28	0/3/3/3
3	A2M	L5	3825	3	-	1/9/27/28	0/3/3/3
3	A2M	L5	3830	3	-	1/9/27/28	0/3/3/3
68	PSU	S2	1081	68	-	1/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PSU	L5	4636	3	-	3/7/25/26	0/2/2/2
3	OMU	L5	4620	3	-	1/9/27/28	0/2/2/2
68	G7M	S2	1639	68	-	2/7/25/26	0/3/3/3
3	PSU	L5	3851	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4431	3	-	0/7/25/26	0/2/2/2
68	OMC	S2	1391	68	-	1/9/27/28	0/2/2/2
68	OMU	S2	799	68	-	0/9/27/28	0/2/2/2
3	PSU	L5	1582	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	4523	86,3	-	0/9/27/28	0/3/3/3
3	A2M	L5	1871	86,3	-	0/9/27/28	0/3/3/3
3	OMG	L5	2424	3	-	0/9/27/28	0/3/3/3
68	OMG	S2	1328	68	-	0/9/27/28	0/3/3/3
3	PSU	L5	4296	3	-	0/7/25/26	0/2/2/2
68	OMG	S2	601	68	-	5/9/27/28	0/3/3/3
68	A2M	S2	668	86,68	-	2/9/27/28	0/3/3/3
3	OMU	L5	3925	3	-	1/9/27/28	0/2/2/2
3	OMC	L5	2861	3	-	1/9/27/28	0/2/2/2
3	OMG	L5	4370	3	-	0/9/27/28	0/3/3/3
3	PSU	L5	4972	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4552	3	-	0/7/25/26	0/2/2/2
68	PSU	S2	681	68	-	2/7/25/26	0/2/2/2
68	PSU	S2	1056	68	-	2/7/25/26	0/2/2/2
3	A2M	L5	1534	86,3	-	1/9/27/28	0/3/3/3
68	OMU	S2	121	68	-	1/9/27/28	0/2/2/2
68	PSU	S2	406	68	-	0/7/25/26	0/2/2/2
68	OMU	S2	428	68	-	4/9/27/28	0/2/2/2
68	A2M	S2	159	68	-	1/9/27/28	0/3/3/3
3	PSU	L5	4293	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	3785	86,3	-	3/9/27/28	0/3/3/3
3	OMG	L5	4494	3	-	1/9/27/28	0/3/3/3
3	PSU	L5	2839	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	3841	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	4299	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4196	3	-	1/9/27/28	0/3/3/3
3	OMC	L5	1340	3	-	1/9/27/28	0/2/2/2
68	OMU	S2	627	68	-	3/9/27/28	0/2/2/2
3	PSU	L5	1860	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4392	3	-	0/9/27/28	0/3/3/3
3	PSU	L5	5001	3	-	0/7/25/26	0/2/2/2
68	PSU	S2	651	68	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
68	4AC	S2	1337	68	-	0/11/29/30	0/2/2/2
3	OMC	L5	4536	3	-	0/9/27/28	0/2/2/2
3	OMG	L5	3627	3	-	0/9/27/28	0/3/3/3
3	PSU	L5	5010	3	-	0/7/25/26	0/2/2/2
68	A2M	S2	166	68	-	2/9/27/28	0/3/3/3
3	PSU	L5	4361	3	-	0/7/25/26	0/2/2/2
68	OMG	S2	1490	68	-	2/9/27/28	0/3/3/3
3	OMC	L5	2351	3	-	2/9/27/28	0/2/2/2
68	A2M	S2	1383	68	-	3/9/27/28	0/3/3/3
68	PSU	S2	1174	68	-	0/7/25/26	0/2/2/2
3	A2M	L5	4571	3	-	0/9/27/28	0/3/3/3
68	PSU	S2	109	68	-	0/7/25/26	0/2/2/2
3	OMG	L5	3744	3	-	0/9/27/28	0/3/3/3
68	OMU	S2	1326	68	-	0/9/27/28	0/2/2/2
3	A2M	L5	398	3	-	1/9/27/28	0/3/3/3
3	OMG	L5	4499	3	-	0/9/27/28	0/3/3/3
68	OMC	S2	1272	68	-	0/9/27/28	0/2/2/2
68	PSU	S2	1244	68	-	0/7/25/26	0/2/2/2
68	PSU	S2	1045	68	-	2/7/25/26	0/2/2/2
68	PSU	S2	686	68	-	0/7/25/26	0/2/2/2
68	B8N	S2	1248	68	-	4/16/34/35	0/2/2/2
68	A2M	S2	1031	68	-	1/9/27/28	0/3/3/3
68	PSU	S2	649	68	-	0/7/25/26	0/2/2/2
68	A2M	S2	27	68	-	1/9/27/28	0/3/3/3
3	PSU	L5	2632	3	-	2/7/25/26	0/2/2/2
3	PSU	L5	3695	3	-	0/7/25/26	0/2/2/2
3	5MC	L5	3782	86,3	-	1/7/25/26	0/2/2/2
68	OMC	S2	1703	68	-	1/9/27/28	0/2/2/2
68	4AC	S2	1842	68	-	0/11/29/30	0/2/2/2
3	PSU	L5	4973	3	-	0/7/25/26	0/2/2/2
68	A2M	S2	484	68	-	0/9/27/28	0/3/3/3
3	A2M	L5	2363	86,3	-	1/9/27/28	0/3/3/3
68	PSU	S2	1367	68	-	0/7/25/26	0/2/2/2
3	PSU	L5	4673	3	-	0/7/25/26	0/2/2/2
68	PSU	S2	966	86,68	-	0/7/25/26	0/2/2/2
3	OMC	L5	2365	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	3920	86,3	-	0/7/25/26	0/2/2/2
68	PSU	S2	1046	68	-	0/7/25/26	0/2/2/2
68	OMG	S2	509	68	-	0/9/27/28	0/3/3/3
68	PSU	S2	814	68	-	0/7/25/26	0/2/2/2
3	OMG	L5	1522	3	-	0/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
68	OMC	S2	517	68	-	1/9/27/28	0/2/2/2
3	UY1	L5	3818	3	-	4/9/27/28	0/2/2/2
68	PSU	S2	105	68	-	0/7/25/26	0/2/2/2
3	5MC	L5	4447	3	-	4/7/25/26	0/2/2/2
3	A2M	L5	1326	3	-	4/9/27/28	0/3/3/3
3	PSU	L5	3822	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	2401	3	-	2/9/27/28	0/3/3/3
68	PSU	S2	863	68	-	0/7/25/26	0/2/2/2
3	PSU	L5	1536	3	-	2/7/25/26	0/2/2/2
68	OMU	S2	172	68	-	2/9/27/28	0/2/2/2
3	A2M	L5	1323	3	-	2/9/27/28	0/3/3/3
3	PSU	L5	3853	86,3	-	0/7/25/26	0/2/2/2
68	OMG	S2	683	68	-	2/9/27/28	0/3/3/3
68	A2M	S2	576	68	-	4/9/27/28	0/3/3/3
3	PSU	L5	3639	3	-	0/7/25/26	0/2/2/2
3	OMU	L5	4227	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	1862	3	-	0/7/25/26	0/2/2/2
68	PSU	S2	1232	68	-	0/7/25/26	0/2/2/2
3	OMG	L5	4618	3	-	2/9/27/28	0/3/3/3
68	OMU	S2	116	68	-	1/9/27/28	0/2/2/2
3	OMC	L5	3869	3	-	0/9/27/28	0/2/2/2
68	PSU	S2	1004	68	-	0/7/25/26	0/2/2/2
5	PSU	L8	69	5	-	0/7/25/26	0/2/2/2
3	PSU	L5	1677	3	-	1/7/25/26	0/2/2/2
3	OMC	L5	4456	3	-	1/9/27/28	0/2/2/2
68	PSU	S2	93	68	-	2/7/25/26	0/2/2/2
3	6MZ	L5	4220	3	-	2/9/27/28	0/3/3/3
3	A2M	L5	400	3	-	1/9/27/28	0/3/3/3
3	PSU	L5	4353	3	-	0/7/25/26	0/2/2/2
68	PSU	S2	1177	68	-	0/7/25/26	0/2/2/2
68	MA6	S2	1850	68	-	0/11/29/30	0/3/3/3
3	OMU	L5	4306	3	-	1/9/27/28	0/2/2/2
3	A2M	L5	1524	3	-	3/9/27/28	0/3/3/3
3	A2M	L5	2787	86,3	-	5/9/27/28	0/3/3/3
3	PSU	L5	3884	3	-	0/7/25/26	0/2/2/2
68	PSU	S2	866	68	-	0/7/25/26	0/2/2/2
3	PSU	L5	4579	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	3637	3	-	0/7/25/26	0/2/2/2
68	OMG	S2	867	68	-	4/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	OMG	L5	2364	86,3	-	3/9/27/28	0/3/3/3
3	PSU	L5	4457	3	-	0/7/25/26	0/2/2/2
5	PSU	L8	55	5	-	0/7/25/26	0/2/2/2
3	PSU	L5	4500	3	-	3/7/25/26	0/2/2/2
68	PSU	S2	801	68	-	3/7/25/26	0/2/2/2
68	OMU	S2	1288	68	-	3/9/27/28	0/2/2/2
3	OMC	L5	3808	3	-	0/9/27/28	0/2/2/2
3	OMG	L5	4637	3	-	3/9/27/28	0/3/3/3
3	OMC	L5	3887	3	-	1/9/27/28	0/2/2/2
3	PSU	L5	1683	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4576	3	-	0/7/25/26	0/2/2/2
68	A2M	S2	99	86,68	-	2/9/27/28	0/3/3/3
3	OMG	L5	1316	3	-	0/9/27/28	0/3/3/3
3	PSU	L5	4532	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4471	3	-	0/7/25/26	0/2/2/2
3	OMU	L5	2837	3	-	0/9/27/28	0/2/2/2
68	OMU	S2	354	68	-	0/9/27/28	0/2/2/2
3	PSU	L5	1744	3	-	0/7/25/26	0/2/2/2

All (326) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	S2	1832	6MZ	C6-N6	12.40	1.48	1.34
3	L5	3818	UY1	C6-C5	12.33	1.48	1.35
3	L5	4220	6MZ	C6-N6	11.81	1.47	1.34
3	L5	3818	UY1	C2-N1	11.55	1.51	1.36
68	S2	1288	OMU	C2-N1	9.02	1.52	1.38
68	S2	799	OMU	C2-N1	8.39	1.51	1.38
68	S2	428	OMU	C2-N1	8.16	1.51	1.38
68	S2	121	OMU	C2-N1	8.09	1.51	1.38
3	L5	2837	OMU	C2-N1	8.05	1.51	1.38
68	S2	116	OMU	C2-N1	8.04	1.51	1.38
68	S2	627	OMU	C2-N1	7.99	1.51	1.38
68	S2	172	OMU	C2-N1	7.98	1.51	1.38
68	S2	1442	OMU	C2-N1	7.98	1.51	1.38
68	S2	1248	B8N	C4-N3	-7.89	1.26	1.40
68	S2	1248	B8N	C6-N1	7.87	1.55	1.36
68	S2	1326	OMU	C2-N1	7.83	1.50	1.38
3	L5	3818	UY1	C2-N3	7.74	1.50	1.37
68	S2	354	OMU	C2-N1	7.72	1.50	1.38
3	L5	4227	OMU	C2-N1	7.70	1.50	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	4498	OMU	C2-N1	7.66	1.50	1.38
3	L5	4306	OMU	C2-N1	7.56	1.50	1.38
3	L5	4620	OMU	C2-N1	7.53	1.50	1.38
3	L5	3925	OMU	C2-N1	7.36	1.50	1.38
68	S2	799	OMU	C2-N3	7.03	1.50	1.38
68	S2	1248	B8N	C4-C5	7.01	1.63	1.47
68	S2	172	OMU	C2-N3	7.01	1.50	1.38
68	S2	1288	OMU	C2-N3	6.93	1.50	1.38
68	S2	428	OMU	C2-N3	6.93	1.50	1.38
68	S2	116	OMU	C2-N3	6.91	1.50	1.38
68	S2	627	OMU	C2-N3	6.81	1.49	1.38
68	S2	1442	OMU	C2-N3	6.66	1.49	1.38
68	S2	1639	G7M	C4-N3	6.66	1.49	1.34
3	L5	2837	OMU	C2-N3	6.64	1.49	1.38
68	S2	354	OMU	C2-N3	6.62	1.49	1.38
68	S2	1326	OMU	C2-N3	6.62	1.49	1.38
68	S2	121	OMU	C2-N3	6.58	1.49	1.38
3	L5	4620	OMU	C2-N3	6.53	1.49	1.38
3	L5	4227	OMU	C2-N3	6.48	1.49	1.38
3	L5	4498	OMU	C2-N3	6.46	1.49	1.38
3	L5	4306	OMU	C2-N3	6.41	1.49	1.38
3	L5	3925	OMU	C2-N3	6.36	1.49	1.38
3	L5	4530	UR3	C6-C5	6.11	1.49	1.35
3	L5	4530	UR3	C2-N1	5.98	1.46	1.38
68	S2	121	OMU	C6-C5	5.92	1.48	1.35
68	S2	116	OMU	C6-C5	5.88	1.48	1.35
68	S2	1248	B8N	C2-N1	5.86	1.56	1.39
68	S2	799	OMU	C6-C5	5.85	1.48	1.35
68	S2	428	OMU	C6-C5	5.85	1.48	1.35
68	S2	172	OMU	C6-C5	5.83	1.48	1.35
68	S2	354	OMU	C6-C5	5.80	1.48	1.35
68	S2	1288	OMU	C6-C5	5.77	1.48	1.35
68	S2	1442	OMU	C6-C5	5.76	1.48	1.35
3	L5	3925	OMU	O4-C4	-5.73	1.13	1.24
3	L5	4620	OMU	C6-C5	5.73	1.48	1.35
68	S2	627	OMU	C6-C5	5.73	1.48	1.35
3	L5	4227	OMU	C6-C5	5.70	1.48	1.35
3	L5	2837	OMU	C6-C5	5.70	1.48	1.35
68	S2	1326	OMU	C6-C5	5.67	1.48	1.35
3	L5	4306	OMU	C6-C5	5.65	1.48	1.35
3	L5	4306	OMU	O4-C4	-5.64	1.13	1.24
68	S2	1639	G7M	C2-N3	5.64	1.46	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	3925	OMU	C6-C5	5.62	1.48	1.35
3	L5	4498	OMU	C6-C5	5.62	1.48	1.35
3	L5	2837	OMU	O4-C4	-5.59	1.13	1.24
68	S2	627	OMU	O4-C4	-5.57	1.13	1.24
68	S2	1442	OMU	O4-C4	-5.56	1.13	1.24
68	S2	1326	OMU	O4-C4	-5.56	1.13	1.24
3	L5	4498	OMU	O4-C4	-5.55	1.13	1.24
68	S2	354	OMU	O4-C4	-5.52	1.13	1.24
68	S2	1288	OMU	O4-C4	-5.51	1.13	1.24
3	L5	4530	UR3	C2-N3	5.50	1.49	1.39
3	L5	4620	OMU	O4-C4	-5.50	1.13	1.24
68	S2	799	OMU	O4-C4	-5.48	1.13	1.24
68	S2	121	OMU	O4-C4	-5.46	1.13	1.24
3	L5	4227	OMU	O4-C4	-5.41	1.14	1.24
68	S2	116	OMU	O4-C4	-5.39	1.14	1.24
68	S2	172	OMU	O4-C4	-5.39	1.14	1.24
68	S2	428	OMU	O4-C4	-5.36	1.14	1.24
68	S2	1248	B8N	C6-C5	5.32	1.42	1.35
3	L5	3818	UY1	C6-N1	5.22	1.44	1.36
68	S2	1639	G7M	C2-N2	4.95	1.45	1.34
68	S2	1639	G7M	C5-N7	-4.72	1.33	1.39
68	S2	428	OMU	C4-N3	4.46	1.46	1.38
68	S2	627	OMU	C4-N3	4.45	1.46	1.38
68	S2	116	OMU	C4-N3	4.44	1.46	1.38
68	S2	172	OMU	C4-N3	4.38	1.46	1.38
68	S2	1326	OMU	C4-N3	4.38	1.46	1.38
3	L5	3818	UY1	C4-N3	4.37	1.47	1.38
68	S2	1288	OMU	C4-N3	4.31	1.46	1.38
68	S2	799	OMU	C4-N3	4.25	1.45	1.38
68	S2	1442	OMU	C4-N3	4.16	1.45	1.38
68	S2	121	OMU	C4-N3	4.11	1.45	1.38
68	S2	354	OMU	C4-N3	4.04	1.45	1.38
3	L5	4498	OMU	C4-N3	4.03	1.45	1.38
3	L5	2837	OMU	C4-N3	3.98	1.45	1.38
3	L5	4227	OMU	C4-N3	3.95	1.45	1.38
3	L5	4620	OMU	C4-N3	3.91	1.45	1.38
3	L5	3818	UY1	O4-C4	-3.86	1.16	1.23
68	S2	1639	G7M	C5-C6	3.85	1.54	1.43
3	L5	3925	OMU	C4-N3	3.77	1.45	1.38
3	L5	3825	A2M	O5'-C5'	-3.76	1.33	1.44
3	L5	3830	A2M	O5'-C5'	-3.70	1.33	1.44
3	L5	400	A2M	O5'-C5'	-3.70	1.33	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	1323	A2M	O5'-C5'	-3.62	1.33	1.44
68	S2	1248	B8N	C1'-C5	3.60	1.58	1.50
68	S2	649	PSU	C6-C5	3.58	1.39	1.35
3	L5	2363	A2M	O5'-C5'	-3.57	1.33	1.44
68	S2	99	A2M	O5'-C5'	-3.56	1.33	1.44
3	L5	2815	A2M	O5'-C5'	-3.56	1.33	1.44
3	L5	4306	OMU	C4-N3	3.55	1.44	1.38
68	S2	863	PSU	C6-C5	3.54	1.39	1.35
68	S2	1045	PSU	C6-C5	3.54	1.39	1.35
3	L5	3867	A2M	O5'-C5'	-3.53	1.33	1.44
3	L5	2787	A2M	O5'-C5'	-3.52	1.33	1.44
68	S2	468	A2M	O5'-C5'	-3.51	1.34	1.44
68	S2	1383	A2M	O5'-C5'	-3.50	1.34	1.44
3	L5	4493	PSU	C6-C5	3.50	1.39	1.35
3	L5	1326	A2M	O5'-C5'	-3.49	1.34	1.44
3	L5	4571	A2M	O5'-C5'	-3.49	1.34	1.44
3	L5	4220	6MZ	C5-C4	-3.48	1.32	1.39
3	L5	1871	A2M	O5'-C5'	-3.47	1.34	1.44
68	S2	109	PSU	C6-C5	3.47	1.39	1.35
5	L8	55	PSU	C6-C5	3.47	1.39	1.35
68	S2	484	A2M	O5'-C5'	-3.46	1.34	1.44
68	S2	668	A2M	O5'-C5'	-3.45	1.34	1.44
68	S2	1244	PSU	C6-C5	3.43	1.39	1.35
68	S2	801	PSU	C6-C5	3.42	1.39	1.35
3	L5	398	A2M	O5'-C5'	-3.42	1.34	1.44
3	L5	4590	A2M	O5'-C5'	-3.40	1.34	1.44
68	S2	1031	A2M	O5'-C5'	-3.40	1.34	1.44
68	S2	686	PSU	C6-C5	3.39	1.39	1.35
68	S2	1177	PSU	C6-C5	3.39	1.39	1.35
3	L5	3822	PSU	C6-C5	3.35	1.39	1.35
68	S2	166	A2M	O5'-C5'	-3.35	1.34	1.44
68	S2	814	PSU	C6-C5	3.35	1.39	1.35
68	S2	1056	PSU	C6-C5	3.35	1.39	1.35
68	S2	1367	PSU	C6-C5	3.34	1.39	1.35
3	L5	3718	A2M	O5'-C5'	-3.34	1.34	1.44
68	S2	866	PSU	C6-C5	3.34	1.39	1.35
68	S2	27	A2M	O5'-C5'	-3.34	1.34	1.44
3	L5	4673	PSU	C6-C5	3.34	1.39	1.35
3	L5	3785	A2M	O5'-C5'	-3.33	1.34	1.44
3	L5	1524	A2M	O5'-C5'	-3.33	1.34	1.44
3	L5	4296	PSU	C6-C5	3.33	1.39	1.35
3	L5	1792	PSU	C6-C5	3.32	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	4576	PSU	C6-C5	3.32	1.39	1.35
3	L5	4312	PSU	C6-C5	3.30	1.38	1.35
68	S2	105	PSU	C6-C5	3.30	1.38	1.35
3	L5	2401	A2M	O5'-C5'	-3.29	1.34	1.44
3	L5	4521	PSU	C6-C5	3.29	1.38	1.35
3	L5	1683	PSU	C6-C5	3.28	1.38	1.35
3	L5	4220	6MZ	C5-N7	-3.28	1.33	1.39
3	L5	1534	A2M	O5'-C5'	-3.28	1.34	1.44
3	L5	4293	PSU	C6-C5	3.26	1.38	1.35
68	S2	966	PSU	C6-C5	3.26	1.38	1.35
3	L5	1744	PSU	C6-C5	3.25	1.38	1.35
3	L5	3844	PSU	C6-C5	3.25	1.38	1.35
3	L5	3637	PSU	C6-C5	3.24	1.38	1.35
3	L5	1781	PSU	C6-C5	3.24	1.38	1.35
68	S2	576	A2M	O5'-C5'	-3.23	1.34	1.44
3	L5	4552	PSU	C6-C5	3.22	1.38	1.35
3	L5	5010	PSU	C6-C5	3.21	1.38	1.35
68	S2	93	PSU	C6-C5	3.21	1.38	1.35
3	L5	4431	PSU	C6-C5	3.21	1.38	1.35
68	S2	1832	6MZ	C5-N7	-3.20	1.33	1.39
68	S2	1046	PSU	C6-C5	3.19	1.38	1.35
3	L5	3818	UY1	O2-C2	-3.18	1.16	1.23
3	L5	4523	A2M	O5'-C5'	-3.18	1.34	1.44
3	L5	1862	PSU	C6-C5	3.18	1.38	1.35
3	L5	4299	PSU	C6-C5	3.17	1.38	1.35
3	L5	4361	PSU	C6-C5	3.17	1.38	1.35
3	L5	3818	UY1	C1'-C5	3.16	1.57	1.50
3	L5	1536	PSU	C6-C5	3.16	1.38	1.35
3	L5	4972	PSU	C6-C5	3.15	1.38	1.35
3	L5	4471	PSU	C6-C5	3.15	1.38	1.35
68	S2	159	A2M	O5'-C5'	-3.12	1.35	1.44
3	L5	3851	PSU	C6-C5	3.12	1.38	1.35
3	L5	1860	PSU	C6-C5	3.11	1.38	1.35
3	L5	5001	PSU	C6-C5	3.11	1.38	1.35
68	S2	1174	PSU	C6-C5	3.11	1.38	1.35
68	S2	651	PSU	C6-C5	3.10	1.38	1.35
3	L5	1582	PSU	C6-C5	3.09	1.38	1.35
68	S2	1004	PSU	C6-C5	3.08	1.38	1.35
3	L5	1782	PSU	C6-C5	3.08	1.38	1.35
3	L5	2632	PSU	C6-C5	3.07	1.38	1.35
3	L5	4442	PSU	C6-C5	3.07	1.38	1.35
68	S2	406	PSU	C6-C5	3.07	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	1677	PSU	C6-C5	3.06	1.38	1.35
68	S2	1832	6MZ	C5-C4	-3.06	1.33	1.39
3	L5	3920	PSU	C6-C5	3.05	1.38	1.35
5	L8	69	PSU	C6-C5	3.02	1.38	1.35
3	L5	4532	PSU	C6-C5	3.02	1.38	1.35
68	S2	1081	PSU	C6-C5	3.01	1.38	1.35
3	L5	3884	PSU	C6-C5	3.01	1.38	1.35
3	L5	3853	PSU	C6-C5	3.00	1.38	1.35
68	S2	1851	MA6	C6-N6	3.00	1.45	1.36
68	S2	681	PSU	C6-C5	2.99	1.38	1.35
3	L5	4628	PSU	C6-C5	2.97	1.38	1.35
3	L5	4636	PSU	C6-C5	2.97	1.38	1.35
3	L5	3695	PSU	C6-C5	2.96	1.38	1.35
3	L5	4500	PSU	C6-C5	2.95	1.38	1.35
3	L5	4457	PSU	C6-C5	2.95	1.38	1.35
68	S2	668	A2M	O4'-C4'	-2.94	1.38	1.45
3	L5	4973	PSU	C6-C5	2.94	1.38	1.35
3	L5	4579	PSU	C6-C5	2.93	1.38	1.35
3	L5	4220	6MZ	C8-N9	-2.93	1.32	1.37
68	S2	1232	PSU	C6-C5	2.92	1.38	1.35
68	S2	1850	MA6	C6-N6	2.90	1.44	1.36
3	L5	4353	PSU	C6-C5	2.88	1.38	1.35
68	S2	1442	OMU	C5-C4	2.85	1.49	1.43
68	S2	121	OMU	C5-C4	2.83	1.49	1.43
3	L5	4403	PSU	C6-C5	2.83	1.38	1.35
3	L5	4689	PSU	C6-C5	2.81	1.38	1.35
68	S2	1832	6MZ	C8-N9	-2.80	1.32	1.37
68	S2	116	OMU	C5-C4	2.80	1.49	1.43
3	L5	3639	PSU	C6-C5	2.80	1.38	1.35
3	L5	4571	A2M	O4'-C4'	-2.79	1.38	1.45
68	S2	172	OMU	C5-C4	2.78	1.49	1.43
68	S2	1639	G7M	C2-N1	2.78	1.44	1.37
3	L5	1524	A2M	O4'-C4'	-2.77	1.38	1.45
3	L5	4530	UR3	O2-C2	-2.77	1.17	1.22
68	S2	1288	OMU	C6-N1	2.76	1.44	1.38
68	S2	1326	OMU	C5-C4	2.75	1.49	1.43
68	S2	428	OMU	C5-C4	2.74	1.49	1.43
3	L5	1323	A2M	O4'-C4'	-2.71	1.39	1.45
3	L5	4227	OMU	C5-C4	2.71	1.49	1.43
68	S2	354	OMU	C5-C4	2.68	1.49	1.43
3	L5	2839	PSU	C6-C5	2.68	1.38	1.35
68	S2	1851	MA6	C5-C4	-2.68	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	4620	OMU	C5-C4	2.66	1.49	1.43
3	L5	4523	A2M	O3'-C3'	-2.65	1.36	1.43
3	L5	1326	A2M	O4'-C4'	-2.65	1.39	1.45
68	S2	799	OMU	C5-C4	2.64	1.49	1.43
3	L5	2363	A2M	O4'-C4'	-2.64	1.39	1.45
68	S2	116	OMU	C6-N1	2.64	1.44	1.38
3	L5	4498	OMU	C5-C4	2.62	1.49	1.43
3	L5	3925	OMU	C5-C4	2.62	1.49	1.43
68	S2	799	OMU	C6-N1	2.60	1.44	1.38
68	S2	172	OMU	C6-N1	2.60	1.44	1.38
68	S2	1288	OMU	C5-C4	2.59	1.49	1.43
68	S2	1832	6MZ	C6-N1	-2.57	1.31	1.35
68	S2	627	OMU	C6-N1	2.56	1.44	1.38
68	S2	1442	OMU	C6-N1	2.56	1.44	1.38
68	S2	121	OMU	C6-N1	2.56	1.44	1.38
3	L5	2837	OMU	C5-C4	2.56	1.49	1.43
3	L5	4530	UR3	C6-N1	2.56	1.44	1.38
3	L5	3825	A2M	O4'-C4'	-2.56	1.39	1.45
68	S2	627	OMU	C5-C4	2.56	1.49	1.43
68	S2	1639	G7M	O6-C6	-2.55	1.18	1.23
68	S2	354	OMU	C6-N1	2.54	1.44	1.38
68	S2	428	OMU	C6-N1	2.53	1.44	1.38
68	S2	1326	OMU	C6-N1	2.52	1.44	1.38
3	L5	4306	OMU	C5-C4	2.51	1.49	1.43
3	L5	3639	PSU	C4-C5	-2.48	1.37	1.44
68	S2	1850	MA6	C5-C4	-2.48	1.34	1.39
3	L5	4306	OMU	C6-N1	2.47	1.44	1.38
3	L5	4220	6MZ	C6-N1	-2.47	1.31	1.35
68	S2	1639	G7M	C6-N1	2.46	1.43	1.38
3	L5	4523	A2M	O4'-C4'	-2.43	1.39	1.45
3	L5	4620	OMU	C6-N1	2.40	1.43	1.38
3	L5	4498	OMU	C6-N1	2.40	1.43	1.38
3	L5	400	A2M	O4'-C4'	-2.38	1.39	1.45
3	L5	2837	OMU	C6-N1	2.34	1.43	1.38
3	L5	4353	PSU	C4-C5	-2.33	1.37	1.44
3	L5	4227	OMU	C6-N1	2.32	1.43	1.38
3	L5	3867	A2M	O4'-C4'	-2.31	1.39	1.45
3	L5	4590	A2M	O4'-C4'	-2.29	1.39	1.45
3	L5	3884	PSU	C4-C5	-2.29	1.38	1.44
3	L5	1534	A2M	O4'-C4'	-2.28	1.39	1.45
3	L5	1323	A2M	O3'-C3'	-2.27	1.37	1.43
68	S2	159	A2M	O3'-C3'	-2.26	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	S2	27	A2M	O4'-C4'	-2.25	1.40	1.45
3	L5	3920	PSU	C4-C5	-2.25	1.38	1.44
3	L5	4530	UR3	C5-C4	2.24	1.49	1.43
3	L5	3925	OMU	C6-N1	2.24	1.43	1.38
3	L5	4689	PSU	C4-C5	-2.23	1.38	1.44
68	S2	1177	PSU	C4-C5	-2.22	1.38	1.44
3	L5	2839	PSU	C4-C5	-2.22	1.38	1.44
3	L5	1536	PSU	C4-C5	-2.22	1.38	1.44
3	L5	4293	PSU	C4-C5	-2.19	1.38	1.44
68	S2	1639	G7M	C4-N9	-2.18	1.32	1.38
68	S2	1174	PSU	C4-C5	-2.17	1.38	1.44
3	L5	4972	PSU	C4-C5	-2.17	1.38	1.44
68	S2	1851	MA6	C4-N9	-2.16	1.33	1.37
3	L5	4431	PSU	C4-C5	-2.16	1.38	1.44
3	L5	4628	PSU	C4-C5	-2.15	1.38	1.44
3	L5	1677	PSU	O4'-C1'	-2.14	1.40	1.43
5	L8	69	PSU	C4-C5	-2.12	1.38	1.44
3	L5	4530	UR3	C3U-N3	2.12	1.50	1.47
3	L5	4312	PSU	C4-C5	-2.12	1.38	1.44
68	S2	681	PSU	C4-C5	-2.11	1.38	1.44
3	L5	4403	PSU	O4'-C1'	-2.10	1.40	1.43
3	L5	1744	PSU	C4-C5	-2.10	1.38	1.44
68	S2	1056	PSU	C4-C5	-2.10	1.38	1.44
3	L5	4457	PSU	O4'-C1'	-2.10	1.40	1.43
3	L5	4500	PSU	C4-C5	-2.09	1.38	1.44
3	L5	3830	A2M	O4'-C4'	-2.09	1.40	1.45
3	L5	1860	PSU	C4-C5	-2.09	1.38	1.44
3	L5	4299	PSU	C4-C5	-2.08	1.38	1.44
3	L5	1871	A2M	O4'-C4'	-2.08	1.40	1.45
68	S2	863	PSU	C4-C5	-2.08	1.38	1.44
3	L5	4220	6MZ	C4-N9	-2.08	1.33	1.37
68	S2	866	PSU	C4-C5	-2.08	1.38	1.44
3	L5	4973	PSU	C4-C5	-2.07	1.38	1.44
3	L5	1871	A2M	O3'-C3'	-2.07	1.37	1.43
3	L5	4673	PSU	C4-C5	-2.07	1.38	1.44
3	L5	1524	A2M	O3'-C3'	-2.05	1.37	1.43
3	L5	1862	PSU	C4-C5	-2.05	1.38	1.44
3	L5	4447	5MC	C4-N3	-2.05	1.30	1.34
68	S2	1850	MA6	C5-N7	-2.05	1.35	1.39
3	L5	4457	PSU	C4-C5	-2.04	1.38	1.44
68	S2	406	PSU	C4-C5	-2.04	1.38	1.44
3	L5	2632	PSU	C4-C5	-2.03	1.38	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	3695	PSU	C4-C5	-2.03	1.38	1.44
3	L5	4361	PSU	C4-C5	-2.03	1.38	1.44
3	L5	1782	PSU	C4-C5	-2.02	1.38	1.44
3	L5	5001	PSU	C4-C5	-2.02	1.38	1.44
3	L5	4636	PSU	C4-C5	-2.02	1.38	1.44
3	L5	4493	PSU	C4-C5	-2.02	1.38	1.44
3	L5	4552	PSU	C4-C5	-2.01	1.38	1.44
3	L5	3639	PSU	O4'-C1'	-2.01	1.41	1.43
3	L5	3818	UY1	O4'-C1'	-2.01	1.41	1.43
3	L5	1683	PSU	C4-C5	-2.01	1.38	1.44
68	S2	649	PSU	C4-C5	-2.01	1.38	1.44
3	L5	1677	PSU	C4-C5	-2.01	1.38	1.44
3	L5	2787	A2M	O3'-C3'	-2.00	1.38	1.43

All (709) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	1851	MA6	N1-C6-N6	-12.05	102.17	116.86
68	S2	1850	MA6	N1-C6-N6	-11.64	102.67	116.86
68	S2	1851	MA6	C5-C6-N6	7.96	137.93	125.33
68	S2	1850	MA6	C5-C6-N6	7.80	137.68	125.33
68	S2	1639	G7M	C1'-N9-C4	7.33	148.14	126.49
68	S2	1639	G7M	C1'-N9-C8	-7.32	102.01	126.74
3	L5	4227	OMU	C4-N3-C2	-6.10	119.04	126.61
3	L5	3925	OMU	C4-N3-C2	-6.08	119.07	126.61
3	L5	2837	OMU	C4-N3-C2	-5.94	119.24	126.61
3	L5	4498	OMU	C4-N3-C2	-5.90	119.29	126.61
68	S2	1442	OMU	C4-N3-C2	-5.89	119.30	126.61
68	S2	1832	6MZ	N1-C2-N3	-5.88	119.68	128.58
68	S2	1326	OMU	C4-N3-C2	-5.87	119.33	126.61
68	S2	1851	MA6	N1-C2-N3	-5.76	119.86	128.58
3	L5	4220	6MZ	N1-C2-N3	-5.75	119.88	128.58
68	S2	1851	MA6	N9-C8-N7	-5.69	105.87	113.94
68	S2	1850	MA6	N1-C2-N3	-5.64	120.05	128.58
68	S2	627	OMU	C4-N3-C2	-5.58	119.68	126.61
68	S2	172	OMU	C4-N3-C2	-5.57	119.69	126.61
3	L5	4530	UR3	C4-N3-C2	-5.52	120.14	124.58
3	L5	4296	PSU	N1-C2-N3	5.45	120.92	115.17
68	S2	428	OMU	C4-N3-C2	-5.45	119.85	126.61
3	L5	4636	PSU	N1-C2-N3	5.44	120.91	115.17
3	L5	4636	PSU	C4-N3-C2	-5.43	118.89	126.37
68	S2	799	OMU	C4-N3-C2	-5.42	119.88	126.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	1677	PSU	C4-N3-C2	-5.40	118.93	126.37
3	L5	3637	PSU	N1-C2-N3	5.39	120.86	115.17
3	L5	4620	OMU	C4-N3-C2	-5.33	119.99	126.61
3	L5	4973	PSU	C4-N3-C2	-5.32	119.05	126.37
3	L5	4532	PSU	N1-C2-N3	5.30	120.76	115.17
3	L5	4296	PSU	C4-N3-C2	-5.26	119.12	126.37
3	L5	4500	PSU	N1-C2-N3	5.24	120.70	115.17
68	S2	1850	MA6	N9-C8-N7	-5.24	106.50	113.94
68	S2	1232	PSU	N1-C2-N3	5.22	120.67	115.17
68	S2	354	OMU	C4-N3-C2	-5.20	120.15	126.61
3	L5	4353	PSU	N1-C2-N3	5.18	120.63	115.17
68	S2	1177	PSU	C4-N3-C2	-5.18	119.24	126.37
3	L5	4521	PSU	C4-N3-C2	-5.18	119.24	126.37
68	S2	406	PSU	C4-N3-C2	-5.17	119.25	126.37
68	S2	116	OMU	C4-N3-C2	-5.16	120.20	126.61
3	L5	1536	PSU	N1-C2-N3	5.16	120.61	115.17
68	S2	1232	PSU	C4-N3-C2	-5.16	119.26	126.37
3	L5	1744	PSU	N1-C2-N3	5.15	120.61	115.17
68	S2	1046	PSU	N1-C2-N3	5.15	120.60	115.17
3	L5	1677	PSU	N1-C2-N3	5.15	120.60	115.17
3	L5	4532	PSU	C4-N3-C2	-5.15	119.28	126.37
68	S2	1367	PSU	C4-N3-C2	-5.13	119.30	126.37
68	S2	1081	PSU	C4-N3-C2	-5.13	119.31	126.37
3	L5	4552	PSU	N1-C2-N3	5.12	120.57	115.17
68	S2	1056	PSU	N1-C2-N3	5.11	120.56	115.17
3	L5	4306	OMU	C4-N3-C2	-5.10	120.28	126.61
68	S2	1177	PSU	N1-C2-N3	5.10	120.55	115.17
3	L5	4353	PSU	C4-N3-C2	-5.08	119.37	126.37
3	L5	4442	PSU	N1-C2-N3	5.07	120.52	115.17
68	S2	651	PSU	N1-C2-N3	5.07	120.52	115.17
3	L5	4457	PSU	C4-N3-C2	-5.07	119.38	126.37
3	L5	4628	PSU	N1-C2-N3	5.07	120.52	115.17
3	L5	3695	PSU	C4-N3-C2	-5.07	119.39	126.37
3	L5	4628	PSU	C4-N3-C2	-5.06	119.40	126.37
3	L5	1744	PSU	C4-N3-C2	-5.06	119.40	126.37
3	L5	1860	PSU	N1-C2-N3	5.06	120.50	115.17
68	S2	866	PSU	C4-N3-C2	-5.05	119.42	126.37
3	L5	4973	PSU	N1-C2-N3	5.05	120.49	115.17
3	L5	4361	PSU	N1-C2-N3	5.05	120.49	115.17
68	S2	1248	B8N	C5-C4-N3	5.04	125.30	116.15
3	L5	4403	PSU	C4-N3-C2	-5.03	119.44	126.37
3	L5	3822	PSU	N1-C2-N3	5.03	120.48	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	651	PSU	C4-N3-C2	-5.03	119.44	126.37
3	L5	4457	PSU	N1-C2-N3	5.03	120.47	115.17
3	L5	4299	PSU	N1-C2-N3	5.03	120.47	115.17
3	L5	5001	PSU	C4-N3-C2	-5.03	119.45	126.37
3	L5	4220	6MZ	N9-C8-N7	-5.02	106.82	113.94
3	L5	4293	PSU	C4-N3-C2	-5.00	119.49	126.37
3	L5	3920	PSU	C4-N3-C2	-4.99	119.50	126.37
3	L5	4361	PSU	C4-N3-C2	-4.98	119.51	126.37
68	S2	121	OMU	C4-N3-C2	-4.98	120.43	126.61
3	L5	4431	PSU	N1-C2-N3	4.98	120.42	115.17
3	L5	4500	PSU	C4-N3-C2	-4.97	119.53	126.37
68	S2	1367	PSU	N1-C2-N3	4.96	120.40	115.17
3	L5	4552	PSU	C4-N3-C2	-4.96	119.54	126.37
68	S2	814	PSU	N1-C2-N3	4.96	120.40	115.17
3	L5	1862	PSU	C4-N3-C2	-4.95	119.55	126.37
68	S2	814	PSU	C4-N3-C2	-4.95	119.55	126.37
3	L5	3695	PSU	N1-C2-N3	4.95	120.39	115.17
3	L5	4442	PSU	C4-N3-C2	-4.95	119.56	126.37
3	L5	2632	PSU	C4-N3-C2	-4.94	119.56	126.37
5	L8	55	PSU	N1-C2-N3	4.94	120.38	115.17
3	L5	4521	PSU	N1-C2-N3	4.94	120.38	115.17
68	S2	1004	PSU	N1-C2-N3	4.94	120.38	115.17
68	S2	109	PSU	C4-N3-C2	-4.94	119.57	126.37
3	L5	1536	PSU	C4-N3-C2	-4.94	119.57	126.37
3	L5	1792	PSU	N1-C2-N3	4.93	120.37	115.17
3	L5	4576	PSU	N1-C2-N3	4.93	120.36	115.17
3	L5	3844	PSU	N1-C2-N3	4.92	120.36	115.17
3	L5	3884	PSU	N1-C2-N3	4.92	120.36	115.17
3	L5	3822	PSU	C4-N3-C2	-4.91	119.61	126.37
3	L5	1862	PSU	N1-C2-N3	4.91	120.34	115.17
3	L5	3853	PSU	C4-N3-C2	-4.90	119.62	126.37
3	L5	4689	PSU	N1-C2-N3	4.90	120.34	115.17
3	L5	1683	PSU	N1-C2-N3	4.89	120.33	115.17
68	S2	686	PSU	C4-N3-C2	-4.89	119.63	126.37
3	L5	4431	PSU	C4-N3-C2	-4.89	119.64	126.37
3	L5	4312	PSU	C4-N3-C2	-4.88	119.65	126.37
3	L5	3853	PSU	N1-C2-N3	4.88	120.31	115.17
68	S2	649	PSU	C4-N3-C2	-4.88	119.66	126.37
68	S2	1046	PSU	C4-N3-C2	-4.87	119.66	126.37
3	L5	3637	PSU	C4-N3-C2	-4.87	119.66	126.37
3	L5	1683	PSU	C4-N3-C2	-4.87	119.67	126.37
3	L5	2632	PSU	N1-C2-N3	4.86	120.30	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	5010	PSU	N1-C2-N3	4.86	120.29	115.17
68	S2	681	PSU	N1-C2-N3	4.86	120.29	115.17
68	S2	866	PSU	N1-C2-N3	4.85	120.29	115.17
68	S2	681	PSU	C4-N3-C2	-4.85	119.69	126.37
3	L5	3851	PSU	N1-C2-N3	4.85	120.28	115.17
68	S2	105	PSU	N1-C2-N3	4.85	120.28	115.17
68	S2	649	PSU	N1-C2-N3	4.85	120.28	115.17
68	S2	93	PSU	C4-N3-C2	-4.85	119.69	126.37
3	L5	4579	PSU	N1-C2-N3	4.84	120.27	115.17
68	S2	109	PSU	N1-C2-N3	4.84	120.27	115.17
3	L5	4312	PSU	N1-C2-N3	4.84	120.27	115.17
68	S2	1045	PSU	N1-C2-N3	4.84	120.27	115.17
3	L5	3884	PSU	C4-N3-C2	-4.84	119.71	126.37
68	S2	686	PSU	N1-C2-N3	4.83	120.26	115.17
68	S2	1174	PSU	C4-N3-C2	-4.82	119.73	126.37
3	L5	4403	PSU	N1-C2-N3	4.82	120.25	115.17
68	S2	1244	PSU	C4-N3-C2	-4.81	119.75	126.37
3	L5	4576	PSU	C4-N3-C2	-4.80	119.75	126.37
3	L5	4972	PSU	C4-N3-C2	-4.80	119.76	126.37
3	L5	3818	UY1	C4-N3-C2	-4.80	119.76	126.37
5	L8	69	PSU	C4-N3-C2	-4.80	119.76	126.37
3	L5	5001	PSU	N1-C2-N3	4.80	120.23	115.17
68	S2	1244	PSU	N1-C2-N3	4.79	120.22	115.17
68	S2	863	PSU	N1-C2-N3	4.79	120.22	115.17
68	S2	1081	PSU	N1-C2-N3	4.79	120.22	115.17
68	S2	1288	OMU	C4-N3-C2	-4.78	120.67	126.61
3	L5	3851	PSU	C4-N3-C2	-4.78	119.79	126.37
68	S2	1832	6MZ	N9-C8-N7	-4.75	107.20	113.94
3	L5	3639	PSU	C4-N3-C2	-4.74	119.84	126.37
68	S2	406	PSU	N1-C2-N3	4.74	120.17	115.17
68	S2	863	PSU	C4-N3-C2	-4.74	119.84	126.37
3	L5	4299	PSU	C4-N3-C2	-4.74	119.84	126.37
68	S2	1174	PSU	N1-C2-N3	4.73	120.16	115.17
5	L8	69	PSU	N1-C2-N3	4.73	120.16	115.17
3	L5	3920	PSU	N1-C2-N3	4.73	120.15	115.17
3	L5	4293	PSU	N1-C2-N3	4.73	120.15	115.17
3	L5	1792	PSU	C4-N3-C2	-4.73	119.86	126.37
68	S2	105	PSU	C4-N3-C2	-4.73	119.86	126.37
68	S2	1056	PSU	C4-N3-C2	-4.72	119.87	126.37
3	L5	5010	PSU	C4-N3-C2	-4.72	119.87	126.37
3	L5	1781	PSU	C4-N3-C2	-4.71	119.88	126.37
3	L5	4673	PSU	N1-C2-N3	4.71	120.14	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	1004	PSU	C4-N3-C2	-4.70	119.90	126.37
3	L5	4220	6MZ	C9-N6-C6	-4.70	118.49	122.85
3	L5	4471	PSU	N1-C2-N3	4.70	120.12	115.17
3	L5	3639	PSU	N1-C2-N3	4.69	120.12	115.17
68	S2	1851	MA6	C4-N9-C8	4.69	110.66	105.74
3	L5	1781	PSU	N1-C2-N3	4.68	120.11	115.17
3	L5	4972	PSU	N1-C2-N3	4.67	120.09	115.17
68	S2	801	PSU	N1-C2-N3	4.64	120.06	115.17
3	L5	4471	PSU	C4-N3-C2	-4.64	119.98	126.37
68	S2	1832	6MZ	C5-C4-N3	-4.64	120.33	126.72
68	S2	966	PSU	N1-C2-N3	4.63	120.05	115.17
3	L5	3844	PSU	C4-N3-C2	-4.63	119.99	126.37
3	L5	4493	PSU	N1-C2-N3	4.62	120.05	115.17
68	S2	966	PSU	C4-N3-C2	-4.60	120.03	126.37
68	S2	1045	PSU	C4-N3-C2	-4.58	120.06	126.37
3	L5	1782	PSU	N1-C2-N3	4.57	119.99	115.17
3	L5	1860	PSU	C4-N3-C2	-4.55	120.10	126.37
3	L5	1582	PSU	N1-C2-N3	4.55	119.97	115.17
3	L5	4493	PSU	C4-N3-C2	-4.55	120.11	126.37
3	L5	4579	PSU	C4-N3-C2	-4.55	120.11	126.37
3	L5	4673	PSU	C4-N3-C2	-4.52	120.15	126.37
3	L5	1782	PSU	C4-N3-C2	-4.51	120.15	126.37
5	L8	55	PSU	C4-N3-C2	-4.51	120.16	126.37
3	L5	4220	6MZ	C5-C4-N3	-4.49	120.53	126.72
68	S2	801	PSU	C4-N3-C2	-4.47	120.21	126.37
3	L5	2839	PSU	C4-N3-C2	-4.46	120.23	126.37
3	L5	1582	PSU	C4-N3-C2	-4.45	120.23	126.37
3	L5	4689	PSU	C4-N3-C2	-4.43	120.27	126.37
68	S2	93	PSU	N1-C2-N3	4.40	119.81	115.17
68	S2	1639	G7M	C2-N3-C4	4.40	119.88	112.30
68	S2	1851	MA6	C5-C4-N3	-4.33	120.75	126.72
3	L5	2839	PSU	N1-C2-N3	4.30	119.70	115.17
3	L5	4227	OMU	N3-C2-N1	4.29	120.48	114.89
3	L5	3925	OMU	N3-C2-N1	4.23	120.40	114.89
3	L5	3830	A2M	C3'-C2'-C1'	-4.23	94.71	102.81
68	S2	1850	MA6	C5-C4-N3	-4.23	120.89	126.72
3	L5	1871	A2M	C3'-C2'-C1'	-4.19	94.78	102.81
68	S2	1288	OMU	C1'-N1-C2	4.18	125.11	117.59
68	S2	1248	B8N	C4-N3-C2	-4.12	120.55	125.62
3	L5	2837	OMU	N3-C2-N1	4.09	120.21	114.89
68	S2	1850	MA6	C4-N9-C8	4.05	109.99	105.74
68	S2	1639	G7M	C5-C6-N1	4.04	120.19	111.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	1326	OMU	C5-C4-N3	4.01	120.42	114.80
68	S2	1639	G7M	C5-C4-N3	-4.00	120.59	128.15
3	L5	3818	UY1	N1-C2-N3	3.98	119.36	115.17
68	S2	799	OMU	N3-C2-N1	3.94	120.02	114.89
68	S2	1442	OMU	C5-C4-N3	3.90	120.27	114.80
3	L5	4498	OMU	C5-C4-N3	3.89	120.25	114.80
3	L5	4620	OMU	N3-C2-N1	3.87	119.93	114.89
68	S2	576	A2M	C3'-C2'-C1'	-3.85	95.43	102.81
68	S2	627	OMU	C5-C4-N3	3.84	120.18	114.80
3	L5	4530	UR3	C5-C4-N3	3.83	120.09	115.04
68	S2	428	OMU	N3-C2-N1	3.83	119.88	114.89
68	S2	1442	OMU	N3-C2-N1	3.83	119.88	114.89
3	L5	4498	OMU	N3-C2-N1	3.83	119.88	114.89
68	S2	172	OMU	N3-C2-N1	3.79	119.83	114.89
3	L5	2837	OMU	C5-C4-N3	3.73	120.03	114.80
3	L5	3925	OMU	C5-C4-N3	3.73	120.03	114.80
3	L5	4220	6MZ	C4-N9-C8	3.72	109.64	105.74
68	S2	121	OMU	N3-C2-N1	3.72	119.73	114.89
3	L5	4306	OMU	N3-C2-N1	3.70	119.70	114.89
3	L5	4227	OMU	C5-C4-N3	3.69	119.97	114.80
68	S2	354	OMU	N3-C2-N1	3.68	119.68	114.89
68	S2	99	A2M	C3'-C2'-C1'	-3.66	95.79	102.81
3	L5	2401	A2M	C3'-C2'-C1'	-3.63	95.86	102.81
3	L5	4532	PSU	O2-C2-N1	-3.63	119.05	122.79
68	S2	1850	MA6	C4-C5-C6	3.61	119.65	115.91
68	S2	1850	MA6	C2-N1-C6	3.60	120.63	111.83
68	S2	1288	OMU	C5-C4-N3	3.59	119.83	114.80
68	S2	116	OMU	N3-C2-N1	3.58	119.55	114.89
68	S2	1851	MA6	C4-C5-C6	3.56	119.59	115.91
3	L5	4579	PSU	O2-C2-N1	-3.56	119.12	122.79
3	L5	4689	PSU	C6-N1-C2	-3.55	119.39	122.69
68	S2	1045	PSU	O2-C2-N1	-3.55	119.13	122.79
3	L5	3718	A2M	C3'-C2'-C1'	-3.54	96.03	102.81
68	S2	1851	MA6	C2-N1-C6	3.50	120.39	111.83
3	L5	1536	PSU	O2-C2-N1	-3.50	119.18	122.79
3	L5	4571	A2M	C3'-C2'-C1'	-3.50	96.10	102.81
68	S2	1326	OMU	N3-C2-N1	3.48	119.43	114.89
68	S2	627	OMU	N3-C2-N1	3.48	119.43	114.89
3	L5	398	A2M	O3'-C3'-C2'	3.48	120.92	111.19
3	L5	4636	PSU	C6-C5-C4	3.46	120.51	118.17
3	L5	398	A2M	C3'-C2'-C1'	-3.45	96.20	102.81
3	L5	4571	A2M	O3'-C3'-C2'	3.45	120.83	111.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	576	A2M	O3'-C3'-C2'	3.43	120.80	111.19
68	S2	1639	G7M	O6-C6-C5	-3.43	120.36	128.01
68	S2	116	OMU	C5-C4-N3	3.42	119.59	114.80
3	L5	4620	OMU	C5-C4-N3	3.41	119.57	114.80
68	S2	1832	6MZ	C2-N3-C4	3.40	120.14	111.83
68	S2	1639	G7M	CN7-N7-C5	3.40	131.04	126.80
3	L5	1323	A2M	C2'-C1'-N9	3.40	119.35	113.75
3	L5	4500	PSU	O2-C2-N1	-3.40	119.29	122.79
68	S2	172	OMU	C5-C4-N3	3.39	119.55	114.80
3	L5	2351	OMC	C1'-N1-C2	3.39	125.92	118.44
68	S2	354	OMU	C5-C4-N3	3.36	119.51	114.80
3	L5	4306	OMU	C5-C4-N3	3.34	119.48	114.80
3	L5	3818	UY1	C6-C5-C4	3.34	120.43	118.17
68	S2	428	OMU	C5-C4-N3	3.34	119.48	114.80
68	S2	627	OMU	O4-C4-C5	-3.34	119.40	125.16
3	L5	1860	PSU	O2-C2-N1	-3.34	119.35	122.79
68	S2	799	OMU	C5-C4-N3	3.34	119.47	114.80
68	S2	1639	G7M	N9-C4-N3	3.32	132.60	125.95
68	S2	1248	B8N	C1'-C5-C4	3.32	122.65	117.61
68	S2	1288	OMU	N3-C2-N1	3.31	119.20	114.89
3	L5	4220	6MZ	C2-N3-C4	3.30	119.89	111.83
68	S2	166	A2M	O3'-C3'-C2'	3.30	120.42	111.19
68	S2	1851	MA6	N3-C4-N9	3.29	132.77	127.17
68	S2	801	PSU	O2-C2-N1	-3.29	119.39	122.79
68	S2	1832	6MZ	C5-N7-C8	3.27	108.60	103.45
3	L5	4523	A2M	C3'-C2'-C1'	-3.27	96.54	102.81
68	S2	1383	A2M	O3'-C3'-C2'	3.27	120.33	111.19
3	L5	4220	6MZ	N3-C4-N9	3.26	132.71	127.17
68	S2	799	OMU	O4-C4-C5	-3.25	119.56	125.16
68	S2	121	OMU	C5-C4-N3	3.25	119.35	114.80
3	L5	4353	PSU	O2-C2-N1	-3.24	119.45	122.79
68	S2	27	A2M	C3'-C2'-C1'	-3.23	96.62	102.81
68	S2	468	A2M	O3'-C3'-C2'	3.23	120.22	111.19
68	S2	681	PSU	O2-C2-N1	-3.22	119.47	122.79
3	L5	4431	PSU	O2-C2-N1	-3.20	119.49	122.79
68	S2	1326	OMU	O4-C4-C5	-3.20	119.64	125.16
68	S2	1850	MA6	N3-C4-N9	3.19	132.60	127.17
3	L5	1871	A2M	O3'-C3'-C2'	3.19	120.11	111.19
3	L5	1860	PSU	C6-N1-C2	-3.18	119.74	122.69
68	S2	1851	MA6	C5-N7-C8	3.17	108.43	103.45
68	S2	1248	B8N	N3-C2-N1	3.16	120.58	116.72
3	L5	3825	A2M	C3'-C2'-C1'	-3.16	96.75	102.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	3718	A2M	O3'-C3'-C2'	3.15	120.00	111.19
68	S2	1851	MA6	C2-N3-C4	3.15	119.52	111.83
3	L5	4628	PSU	O2-C2-N1	-3.13	119.56	122.79
3	L5	2401	A2M	O3'-C3'-C2'	3.13	119.94	111.19
3	L5	4972	PSU	O2-C2-N1	-3.11	119.58	122.79
3	L5	1536	PSU	C6-N1-C2	-3.11	119.80	122.69
3	L5	4579	PSU	C6-N1-C2	-3.11	119.81	122.69
68	S2	468	A2M	C3'-C2'-C1'	-3.10	96.87	102.81
3	L5	3825	A2M	C4-N9-C1'	-3.10	119.39	126.63
3	L5	4523	A2M	C4-N9-C1'	-3.10	119.39	126.63
68	S2	668	A2M	C4-N9-C1'	-3.09	119.40	126.63
3	L5	1683	PSU	O2-C2-N1	-3.08	119.61	122.79
68	S2	681	PSU	C6-N1-C2	-3.08	119.83	122.69
3	L5	1871	A2M	C4-N9-C1'	-3.08	119.43	126.63
5	L8	69	PSU	O2-C2-N1	-3.08	119.62	122.79
3	L5	4973	PSU	O2-C2-N1	-3.07	119.62	122.79
3	L5	4353	PSU	C6-C5-C4	3.07	120.25	118.17
68	S2	1046	PSU	O2-C2-N1	-3.07	119.62	122.79
3	L5	1677	PSU	C6-C5-C4	3.07	120.24	118.17
68	S2	1056	PSU	C6-N1-C2	-3.06	119.85	122.69
68	S2	159	A2M	O3'-C3'-C2'	3.06	119.75	111.19
3	L5	400	A2M	O3'-C3'-C2'	3.06	119.74	111.19
3	L5	2787	A2M	O3'-C3'-C2'	3.05	119.71	111.19
3	L5	3853	PSU	O2-C2-N1	-3.04	119.66	122.79
68	S2	1639	G7M	C2-N1-C6	-3.03	119.62	125.11
68	S2	1081	PSU	O2-C2-N1	-3.03	119.67	122.79
3	L5	3830	A2M	O3'-C3'-C2'	3.02	119.65	111.19
68	S2	1288	OMU	O4-C4-C5	-3.02	119.95	125.16
68	S2	863	PSU	O2-C2-N1	-3.01	119.69	122.79
68	S2	1850	MA6	C5-N7-C8	3.01	108.17	103.45
3	L5	1524	A2M	O3'-C3'-C2'	3.00	119.59	111.19
3	L5	400	A2M	C3'-C2'-C1'	-3.00	97.06	102.81
3	L5	1323	A2M	C3'-C2'-C1'	-3.00	97.06	102.81
68	S2	1850	MA6	C2-N3-C4	2.99	119.13	111.83
3	L5	4636	PSU	O2-C2-N1	-2.99	119.71	122.79
68	S2	109	PSU	O2-C2-N1	-2.99	119.71	122.79
3	L5	4361	PSU	O2-C2-N1	-2.98	119.71	122.79
3	L5	2815	A2M	O3'-C3'-C2'	2.98	119.52	111.19
68	S2	651	PSU	O2-C2-N1	-2.97	119.72	122.79
68	S2	1174	PSU	O2-C2-N1	-2.97	119.72	122.79
3	L5	2837	OMU	O4-C4-C5	-2.96	120.06	125.16
3	L5	4590	A2M	C3'-C2'-C1'	-2.95	97.15	102.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	1383	A2M	C3'-C2'-C1'	-2.94	97.17	102.81
68	S2	1832	6MZ	N3-C4-N9	2.94	132.17	127.17
3	L5	4500	PSU	C6-N1-C2	-2.94	119.97	122.69
3	L5	398	A2M	C4-N9-C1'	-2.93	119.77	126.63
68	S2	1442	OMU	O4-C4-C5	-2.93	120.11	125.16
68	S2	1031	A2M	C3'-C2'-C1'	-2.93	97.20	102.81
68	S2	649	PSU	O2-C2-N1	-2.93	119.77	122.79
68	S2	1832	6MZ	C4-N9-C8	2.93	108.81	105.74
68	S2	1272	OMC	C1'-N1-C2	2.92	124.90	118.44
3	L5	4442	PSU	O2-C2-N1	-2.92	119.77	122.79
3	L5	4498	OMU	O4-C4-C5	-2.92	120.12	125.16
68	S2	159	A2M	C4-N9-C1'	-2.92	119.81	126.63
68	S2	484	A2M	C4-N9-C1'	-2.92	119.81	126.63
3	L5	1326	A2M	C4-N9-C1'	-2.91	119.82	126.63
5	L8	55	PSU	C6-N1-C2	-2.91	119.99	122.69
68	S2	99	A2M	O3'-C3'-C2'	2.91	119.33	111.19
3	L5	2401	A2M	C4-N9-C1'	-2.91	119.84	126.63
68	S2	1232	PSU	C6-C5-C4	2.90	120.13	118.17
3	L5	400	A2M	C4-N9-C1'	-2.90	119.84	126.63
3	L5	4521	PSU	O2-C2-N1	-2.90	119.80	122.79
3	L5	4552	PSU	C6-N1-C2	-2.89	120.00	122.69
3	L5	3637	PSU	C6-N1-C2	-2.89	120.01	122.69
68	S2	468	A2M	C4-N9-C1'	-2.88	119.89	126.63
3	L5	3884	PSU	O2-C2-N1	-2.88	119.81	122.79
68	S2	1045	PSU	C6-N1-C2	-2.88	120.02	122.69
3	L5	4500	PSU	C6-C5-C4	2.88	120.12	118.17
68	S2	166	A2M	C4-N9-C1'	-2.88	119.89	126.63
68	S2	1383	A2M	C4-N9-C1'	-2.88	119.90	126.63
68	S2	428	OMU	O4-C4-C5	-2.88	120.20	125.16
3	L5	3825	A2M	C1'-N9-C8	2.88	133.48	127.09
3	L5	4220	6MZ	C5-N7-C8	2.87	107.97	103.45
3	L5	3884	PSU	C6-N1-C2	-2.87	120.03	122.69
68	S2	866	PSU	O2-C2-N1	-2.87	119.83	122.79
68	S2	484	A2M	C1'-N9-C8	2.86	133.44	127.09
68	S2	1639	G7M	CN7-N7-C8	-2.86	120.47	124.79
3	L5	4227	OMU	O4-C4-C5	-2.86	120.23	125.16
3	L5	1677	PSU	O2-C2-N1	-2.85	119.85	122.79
68	S2	172	OMU	O4-C4-C5	-2.85	120.24	125.16
68	S2	27	A2M	C4-N9-C1'	-2.85	119.96	126.63
3	L5	3785	A2M	C4-N9-C1'	-2.85	119.98	126.63
68	S2	159	A2M	C1'-N9-C8	2.84	133.41	127.09
3	L5	1323	A2M	O3'-C3'-C2'	2.84	119.14	111.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	406	PSU	O2-C2-N1	-2.83	119.87	122.79
3	L5	4431	PSU	C6-N1-C2	-2.83	120.06	122.69
68	S2	99	A2M	C4-N9-C1'	-2.83	120.01	126.63
68	S2	966	PSU	O2-C2-N1	-2.83	119.87	122.79
3	L5	4673	PSU	C6-N1-C2	-2.83	120.07	122.69
3	L5	3718	A2M	C1'-N9-C8	2.82	133.36	127.09
3	L5	2861	OMC	C1'-N1-C2	2.82	124.67	118.44
3	L5	4590	A2M	C4-N9-C1'	-2.82	120.03	126.63
68	S2	1031	A2M	C4-N9-C1'	-2.82	120.04	126.63
68	S2	814	PSU	O2-C2-N1	-2.81	119.89	122.79
3	L5	3867	A2M	C4-N9-C1'	-2.81	120.05	126.63
3	L5	3925	OMU	O4-C4-C5	-2.81	120.31	125.16
68	S2	1832	6MZ	C4-C5-C6	2.81	119.12	116.78
3	L5	1871	A2M	C1'-N9-C8	2.80	133.31	127.09
68	S2	484	A2M	O3'-C3'-C2'	2.80	119.02	111.19
3	L5	4552	PSU	O2-C2-N1	-2.80	119.90	122.79
68	S2	116	OMU	O4-C4-C5	-2.80	120.34	125.16
68	S2	668	A2M	C1'-N9-C8	2.79	133.30	127.09
3	L5	3639	PSU	C6-N1-C2	-2.79	120.10	122.69
68	S2	1174	PSU	C6-N1-C2	-2.79	120.10	122.69
3	L5	3718	A2M	C4-N9-C1'	-2.79	120.11	126.63
3	L5	2787	A2M	O4'-C1'-C2'	2.79	111.39	106.59
68	S2	1004	PSU	O2-C2-N1	-2.79	119.92	122.79
68	S2	1056	PSU	O2-C2-N1	-2.78	119.92	122.79
68	S2	1004	PSU	C6-N1-C2	-2.78	120.11	122.69
3	L5	1792	PSU	O2-C2-N1	-2.78	119.92	122.79
3	L5	3825	A2M	O3'-C3'-C2'	2.77	118.95	111.19
3	L5	1534	A2M	C3'-C2'-C1'	-2.77	97.50	102.81
3	L5	3925	OMU	O2-C2-N1	-2.77	119.19	122.80
3	L5	4689	PSU	O2-C2-N1	-2.77	119.93	122.79
3	L5	4973	PSU	C6-C5-C4	2.77	120.04	118.17
3	L5	3695	PSU	O2-C2-N1	-2.76	119.94	122.79
68	S2	1046	PSU	C6-N1-C2	-2.76	120.13	122.69
3	L5	4523	A2M	C1'-N9-C8	2.75	133.20	127.09
68	S2	1367	PSU	O2-C2-N1	-2.75	119.96	122.79
3	L5	4576	PSU	O2-C2-N1	-2.74	119.96	122.79
68	S2	686	PSU	O2-C2-N1	-2.74	119.96	122.79
3	L5	3844	PSU	C6-N1-C2	-2.74	120.15	122.69
3	L5	4299	PSU	C6-N1-C2	-2.74	120.15	122.69
3	L5	1782	PSU	O2-C2-N1	-2.74	119.96	122.79
3	L5	4220	6MZ	C5-C6-N1	2.74	121.09	118.15
3	L5	2632	PSU	C6-C5-C4	2.74	120.02	118.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	1782	PSU	C6-N1-C2	-2.73	120.16	122.69
68	S2	668	A2M	O3'-C3'-C2'	2.73	118.83	111.19
3	L5	2363	A2M	C4-N9-C1'	-2.73	120.25	126.63
68	S2	166	A2M	C3'-C2'-C1'	-2.73	97.58	102.81
68	S2	1031	A2M	O3'-C3'-C2'	2.72	118.80	111.19
68	S2	576	A2M	C4-N9-C1'	-2.72	120.28	126.63
3	L5	4532	PSU	C6-N1-C2	-2.72	120.17	122.69
68	S2	27	A2M	O3'-C3'-C2'	2.72	118.79	111.19
68	S2	863	PSU	C6-N1-C2	-2.71	120.17	122.69
3	L5	5001	PSU	O2-C2-N1	-2.71	119.99	122.79
3	L5	4296	PSU	C6-C5-C4	2.71	120.00	118.17
3	L5	3818	UY1	O2-C2-N1	-2.71	120.00	122.79
68	S2	1177	PSU	C6-C5-C4	2.71	120.00	118.17
3	L5	4220	6MZ	C4-C5-C6	2.70	119.03	116.78
68	S2	1031	A2M	C1'-N9-C8	2.70	133.10	127.09
3	L5	1744	PSU	O2-C2-N1	-2.70	120.00	122.79
3	L5	1744	PSU	C6-N1-C2	-2.70	120.18	122.69
68	S2	649	PSU	C6-N1-C2	-2.70	120.19	122.69
3	L5	3639	PSU	O2-C2-N1	-2.70	120.01	122.79
68	S2	1248	B8N	O4-C4-N3	-2.70	115.61	119.99
3	L5	398	A2M	C1'-N9-C8	2.69	133.07	127.09
3	L5	4576	PSU	C6-N1-C2	-2.69	120.20	122.69
3	L5	400	A2M	C1'-N9-C8	2.68	133.05	127.09
68	S2	99	A2M	C1'-N9-C8	2.68	133.05	127.09
3	L5	4673	PSU	O2-C2-N1	-2.68	120.02	122.79
3	L5	4312	PSU	O2-C2-N1	-2.68	120.03	122.79
3	L5	4353	PSU	C6-N1-C2	-2.67	120.21	122.69
3	L5	4493	PSU	O2-C2-N1	-2.67	120.03	122.79
3	L5	2401	A2M	C1'-N9-C8	2.67	133.03	127.09
3	L5	2815	A2M	C2'-C1'-N9	2.67	118.15	113.75
68	S2	159	A2M	O3'-C3'-C4'	-2.67	103.42	111.08
3	L5	3808	OMC	C1'-N1-C2	2.67	124.33	118.44
68	S2	1056	PSU	C6-C5-C4	2.67	119.97	118.17
3	L5	2787	A2M	C4-N9-C1'	-2.67	120.39	126.63
68	S2	1244	PSU	O2-C2-N1	-2.67	120.04	122.79
3	L5	5010	PSU	C6-N1-C2	-2.67	120.22	122.69
3	L5	3785	A2M	O3'-C3'-C2'	2.67	118.65	111.19
3	L5	1524	A2M	O4'-C1'-C2'	2.66	111.17	106.59
3	L5	4628	PSU	C6-N1-C2	-2.66	120.22	122.69
5	L8	69	PSU	C6-N1-C2	-2.66	120.22	122.69
3	L5	1582	PSU	C6-N1-C2	-2.66	120.22	122.69
3	L5	3867	A2M	C1'-N9-C8	2.66	132.99	127.09

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	1326	A2M	O3'-C3'-C2'	2.65	118.61	111.19
68	S2	801	PSU	C6-N1-C2	-2.65	120.24	122.69
68	S2	1177	PSU	O2-C2-N1	-2.65	120.06	122.79
3	L5	4620	OMU	O4-C4-C5	-2.64	120.60	125.16
68	S2	166	A2M	C1'-N9-C8	2.64	132.95	127.09
3	L5	1792	PSU	C6-N1-C2	-2.63	120.25	122.69
3	L5	3867	A2M	C3'-C2'-C1'	-2.63	97.77	102.81
3	L5	1326	A2M	C2'-C1'-N9	2.62	118.06	113.75
3	L5	4442	PSU	C6-N1-C2	-2.61	120.27	122.69
3	L5	3844	PSU	O2-C2-N1	-2.61	120.09	122.79
68	S2	354	OMU	O4-C4-C5	-2.61	120.67	125.16
68	S2	468	A2M	C1'-N9-C8	2.59	132.85	127.09
3	L5	4590	A2M	C1'-N9-C8	2.59	132.84	127.09
3	L5	1683	PSU	C6-N1-C2	-2.59	120.29	122.69
68	S2	668	A2M	O4'-C1'-C2'	2.59	111.04	106.59
3	L5	1323	A2M	C4-N9-C1'	-2.59	120.58	126.63
3	L5	1862	PSU	O2-C2-N1	-2.59	120.12	122.79
3	L5	3851	PSU	O2-C2-N1	-2.59	120.12	122.79
68	S2	1232	PSU	O2-C2-N1	-2.58	120.12	122.79
3	L5	2351	OMC	C1'-N1-C6	-2.58	115.26	120.78
3	L5	4312	PSU	C6-N1-C2	-2.58	120.30	122.69
68	S2	27	A2M	C1'-N9-C8	2.58	132.82	127.09
3	L5	3818	UY1	C6-N1-C2	-2.58	120.30	122.69
3	L5	3822	PSU	C6-N1-C2	-2.58	120.30	122.69
3	L5	3785	A2M	C1'-N9-C8	2.57	132.80	127.09
3	L5	1582	PSU	O2-C2-N1	-2.57	120.14	122.79
3	L5	5010	PSU	O2-C2-N1	-2.57	120.14	122.79
3	L5	1326	A2M	C1'-N9-C8	2.56	132.79	127.09
3	L5	1534	A2M	C4-N9-C1'	-2.56	120.64	126.63
68	S2	651	PSU	C6-N1-C2	-2.56	120.31	122.69
3	L5	2787	A2M	C1'-N9-C8	2.56	132.78	127.09
3	L5	1781	PSU	O2-C2-N1	-2.56	120.15	122.79
3	L5	1524	A2M	C4-N9-C1'	-2.56	120.65	126.63
3	L5	4361	PSU	C6-N1-C2	-2.55	120.32	122.69
3	L5	4493	PSU	C6-N1-C2	-2.55	120.32	122.69
68	S2	1383	A2M	C1'-N9-C8	2.55	132.75	127.09
3	L5	2363	A2M	O4'-C1'-C2'	2.55	110.97	106.59
3	L5	1524	A2M	C4'-O4'-C1'	-2.53	103.87	109.47
3	L5	2815	A2M	C1'-N9-C8	2.53	132.72	127.09
3	L5	3822	PSU	O2-C2-N1	-2.53	120.18	122.79
3	L5	2815	A2M	C4-N9-C1'	-2.53	120.72	126.63
3	L5	4571	A2M	C4-N9-C1'	-2.52	120.73	126.63

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	1244	PSU	C6-N1-C2	-2.52	120.35	122.69
3	L5	2363	A2M	C1'-N9-C8	2.52	132.68	127.09
3	L5	4299	PSU	O2-C2-N1	-2.51	120.20	122.79
3	L5	1326	A2M	C3'-C2'-C1'	-2.51	97.99	102.81
68	S2	576	A2M	C1'-N9-C8	2.51	132.67	127.09
3	L5	1326	A2M	O4'-C1'-C2'	2.50	110.88	106.59
3	L5	3782	5MC	C1'-N1-C6	-2.49	117.05	121.15
3	L5	4972	PSU	C6-N1-C2	-2.48	120.39	122.69
3	L5	2632	PSU	O2-C2-N1	-2.48	120.23	122.79
68	S2	121	OMU	O4-C4-C5	-2.47	120.90	125.16
68	S2	866	PSU	C6-N1-C2	-2.47	120.40	122.69
68	S2	1851	MA6	C1'-N9-C8	-2.47	121.62	127.09
3	L5	2363	A2M	O3'-C3'-C2'	2.46	118.08	111.19
3	L5	4296	PSU	O2-C2-N1	-2.46	120.25	122.79
68	S2	468	A2M	O4'-C1'-C2'	2.46	110.83	106.59
5	L8	55	PSU	O2-C2-N1	-2.46	120.25	122.79
3	L5	4457	PSU	O2-C2-N1	-2.45	120.26	122.79
3	L5	1323	A2M	C1'-N9-C8	2.45	132.54	127.09
3	L5	3851	PSU	C6-N1-C2	-2.45	120.42	122.69
3	L5	4293	PSU	O2-C2-N1	-2.44	120.27	122.79
68	S2	109	PSU	C6-N1-C2	-2.43	120.44	122.69
68	S2	1177	PSU	C6-N1-C2	-2.43	120.44	122.69
3	L5	4306	OMU	O4-C4-C5	-2.43	120.98	125.16
3	L5	5001	PSU	C6-N1-C2	-2.43	120.44	122.69
68	S2	159	A2M	C3'-C2'-C1'	-2.43	98.16	102.81
68	S2	686	PSU	C6-N1-C2	-2.42	120.44	122.69
3	L5	4571	A2M	C1'-N9-C8	2.42	132.46	127.09
3	L5	3853	PSU	C6-N1-C2	-2.42	120.45	122.69
3	L5	1524	A2M	C1'-N9-C8	2.41	132.45	127.09
3	L5	3785	A2M	C2-N1-C6	-2.41	114.77	118.73
3	L5	1744	PSU	C6-C5-C4	2.41	119.80	118.17
3	L5	4471	PSU	C6-N1-C2	-2.40	120.46	122.69
3	L5	4296	PSU	C6-N1-C2	-2.40	120.46	122.69
3	L5	4457	PSU	C6-N1-C2	-2.40	120.46	122.69
68	S2	166	A2M	C6-C5-C4	-2.39	113.91	117.18
3	L5	4227	OMU	O2-C2-N1	-2.39	119.69	122.80
3	L5	3867	A2M	O3'-C3'-C2'	2.39	117.87	111.19
68	S2	1232	PSU	C6-N1-C2	-2.38	120.48	122.69
68	S2	105	PSU	C6-N1-C2	-2.38	120.48	122.69
68	S2	966	PSU	C6-N1-C2	-2.37	120.49	122.69
3	L5	3830	A2M	C4-N9-C1'	-2.37	121.10	126.63
68	S2	172	OMU	O2-C2-N1	-2.36	119.72	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	4590	A2M	O3'-C3'-C2'	2.36	117.80	111.19
68	S2	814	PSU	C6-N1-C2	-2.36	120.50	122.69
68	S2	1272	OMC	C1'-N1-C6	-2.36	115.74	120.78
68	S2	668	A2M	C2'-C1'-N9	2.36	117.63	113.75
3	L5	4471	PSU	O2-C2-N1	-2.36	120.36	122.79
3	L5	3867	A2M	C2'-C1'-N9	2.35	117.62	113.75
68	S2	1832	6MZ	C4-C5-N7	-2.35	107.90	110.58
3	L5	4571	A2M	C2'-C1'-N9	2.34	117.61	113.75
3	L5	3695	PSU	C6-N1-C2	-2.34	120.52	122.69
68	S2	1046	PSU	C6-C5-C4	2.33	119.75	118.17
3	L5	1534	A2M	O3'-C3'-C2'	2.33	117.70	111.19
3	L5	4636	PSU	C6-N1-C2	-2.33	120.53	122.69
68	S2	1639	G7M	N9-C8-N7	-2.33	106.83	112.48
3	L5	1534	A2M	C1'-N9-C8	2.32	132.25	127.09
3	L5	3637	PSU	O2-C2-N1	-2.31	120.40	122.79
68	S2	166	A2M	O4'-C1'-C2'	2.30	110.55	106.59
3	L5	4620	OMU	O2-C2-N1	-2.30	119.81	122.80
68	S2	601	OMG	C1'-N9-C4	2.30	133.27	126.49
3	L5	1323	A2M	O4'-C1'-C2'	2.29	110.53	106.59
68	S2	1326	OMU	O2-C2-N1	-2.29	119.82	122.80
3	L5	1862	PSU	C6-N1-C2	-2.29	120.57	122.69
3	L5	1781	PSU	C6-N1-C2	-2.28	120.57	122.69
3	L5	3637	PSU	C6-C5-C4	2.28	119.71	118.17
68	S2	105	PSU	O2-C2-N1	-2.28	120.44	122.79
3	L5	4523	A2M	C6-C5-C4	-2.28	114.07	117.18
3	L5	4590	A2M	C6-C5-C4	-2.27	114.07	117.18
68	S2	601	OMG	C1'-N9-C8	-2.27	120.28	126.73
3	L5	4403	PSU	O4'-C1'-C2'	2.27	108.29	105.15
3	L5	2632	PSU	C6-N1-C2	-2.27	120.59	122.69
3	L5	2839	PSU	C6-N1-C2	-2.27	120.59	122.69
3	L5	4973	PSU	C6-N1-C2	-2.26	120.59	122.69
3	L5	400	A2M	C6-C5-C4	-2.26	114.09	117.18
3	L5	3853	PSU	C6-C5-C4	2.26	119.70	118.17
3	L5	2815	A2M	C3'-C2'-C1'	-2.26	98.48	102.81
3	L5	4521	PSU	C6-N1-C2	-2.26	120.59	122.69
3	L5	4403	PSU	C6-C5-C4	2.26	119.70	118.17
3	L5	1322	1MA	N1-C6-N6	2.26	125.38	119.71
3	L5	4457	PSU	O4'-C1'-C2'	2.26	108.27	105.15
3	L5	3785	A2M	O4'-C4'-C3'	2.25	109.62	105.15
3	L5	3825	A2M	C6-C5-C4	-2.25	114.11	117.18
68	S2	814	PSU	C6-C5-C4	2.24	119.69	118.17
3	L5	1871	A2M	C6-C5-C4	-2.24	114.12	117.18

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	2401	A2M	C6-C5-C4	-2.24	114.12	117.18
3	L5	4498	OMU	O2-C2-N1	-2.24	119.89	122.80
3	L5	4299	PSU	C6-C5-C4	2.23	119.68	118.17
3	L5	4442	PSU	C6-C5-C4	2.23	119.68	118.17
68	S2	668	A2M	C6-C5-C4	-2.23	114.13	117.18
3	L5	3920	PSU	C6-N1-C2	-2.23	120.62	122.69
68	S2	354	OMU	O2-C2-N1	-2.23	119.89	122.80
68	S2	863	PSU	C6-C5-C4	2.23	119.68	118.17
3	L5	1534	A2M	O4'-C1'-C2'	2.23	110.42	106.59
3	L5	4530	UR3	C6-N1-C2	-2.22	119.98	121.80
3	L5	3920	PSU	O2-C2-N1	-2.22	120.50	122.79
68	S2	484	A2M	C6-C5-C4	-2.22	114.15	117.18
3	L5	2861	OMC	C1'-N1-C6	-2.21	116.05	120.78
3	L5	1862	PSU	C6-C5-C4	2.21	119.67	118.17
3	L5	1326	A2M	C6-C5-C4	-2.21	114.17	117.18
3	L5	3808	OMC	C1'-N1-C6	-2.20	116.07	120.78
68	S2	462	OMC	C1'-N1-C2	2.20	123.30	118.44
3	L5	3822	PSU	O4'-C1'-C2'	2.20	108.20	105.15
68	S2	1248	B8N	O4'-C1'-C2'	2.20	108.19	105.15
68	S2	1383	A2M	C6-C5-C4	-2.20	114.18	117.18
3	L5	4457	PSU	C6-C5-C4	2.19	119.65	118.17
3	L5	2363	A2M	C2-N1-C6	-2.19	115.13	118.73
68	S2	1367	PSU	C6-N1-C2	-2.19	120.66	122.69
3	L5	1677	PSU	C6-N1-C2	-2.19	120.66	122.69
68	S2	627	OMU	O2-C2-N1	-2.19	119.95	122.80
3	L5	2363	A2M	C3'-C2'-C1'	-2.18	98.63	102.81
68	S2	27	A2M	C6-C5-C4	-2.18	114.20	117.18
3	L5	3825	A2M	C2'-C1'-N9	2.18	117.33	113.75
68	S2	866	PSU	C6-C5-C4	2.18	119.64	118.17
3	L5	2787	A2M	O4'-C4'-C3'	2.18	109.47	105.15
3	L5	3830	A2M	C1'-N9-C8	2.18	131.92	127.09
3	L5	4523	A2M	O4'-C1'-C2'	2.18	110.33	106.59
3	L5	4571	A2M	O3'-C3'-C4'	-2.17	104.84	111.08
3	L5	4523	A2M	C5-C6-N1	2.16	123.01	117.51
68	S2	576	A2M	C6-C5-C4	-2.16	114.22	117.18
3	L5	4532	PSU	C6-C5-C4	2.16	119.63	118.17
3	L5	3785	A2M	C5-C6-N1	2.16	123.00	117.51
3	L5	3867	A2M	C6-C5-C4	-2.16	114.23	117.18
3	L5	3785	A2M	C3'-C2'-C1'	-2.16	98.67	102.81
3	L5	1524	A2M	C6-C5-C4	-2.16	114.23	117.18
3	L5	1322	1MA	CM1-N1-C6	-2.16	116.81	120.15
68	S2	1031	A2M	O4'-C1'-C2'	2.15	110.30	106.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	4636	PSU	O4'-C1'-C2'	2.15	108.12	105.15
3	L5	3718	A2M	C6-C5-C4	-2.14	114.26	117.18
68	S2	99	A2M	C2-N1-C6	-2.14	115.22	118.73
3	L5	4571	A2M	C2-N1-C6	-2.14	115.22	118.73
3	L5	4523	A2M	C2-N1-C6	-2.14	115.22	118.73
68	S2	27	A2M	O4'-C1'-C2'	2.13	110.26	106.59
68	S2	99	A2M	C6-C5-C4	-2.13	114.27	117.18
3	L5	3867	A2M	C2-N1-C6	-2.13	115.23	118.73
3	L5	4293	PSU	C6-N1-C2	-2.13	120.72	122.69
68	S2	468	A2M	C6-C5-C4	-2.13	114.27	117.18
3	L5	2401	A2M	C5-C6-N1	2.13	122.91	117.51
68	S2	484	A2M	O4'-C1'-C2'	2.13	110.25	106.59
3	L5	3884	PSU	C6-C5-C4	2.13	119.61	118.17
3	L5	4442	PSU	O4'-C1'-C2'	2.12	108.09	105.15
68	S2	668	A2M	O3'-C3'-C4'	-2.12	104.99	111.08
3	L5	3785	A2M	C6-C5-C4	-2.12	114.29	117.18
68	S2	1288	OMU	C1'-N1-C6	-2.12	116.25	120.78
3	L5	1326	A2M	C5-C6-N1	2.12	122.89	117.51
3	L5	2363	A2M	C5-C6-N1	2.12	122.89	117.51
3	L5	3785	A2M	O4'-C1'-C2'	2.12	110.23	106.59
3	L5	1323	A2M	C6-C5-C4	-2.11	114.29	117.18
3	L5	4523	A2M	CM'-O2'-C2'	-2.11	109.05	114.47
3	L5	398	A2M	C6-C5-C4	-2.11	114.29	117.18
68	S2	99	A2M	C5-C6-N1	2.11	122.87	117.51
68	S2	1288	OMU	O2-C2-N3	-2.11	117.60	121.49
3	L5	4973	PSU	O4'-C1'-C2'	2.11	108.07	105.15
3	L5	1326	A2M	C2-N1-C6	-2.11	115.27	118.73
68	S2	93	PSU	O2-C2-N1	-2.10	120.62	122.79
3	L5	1677	PSU	O4'-C1'-C2'	2.10	108.06	105.15
68	S2	1081	PSU	C6-N1-C2	-2.10	120.74	122.69
3	L5	400	A2M	O4'-C1'-C2'	2.10	110.21	106.59
68	S2	1031	A2M	C6-C5-C4	-2.10	114.31	117.18
3	L5	3920	PSU	O4'-C1'-C2'	2.10	108.05	105.15
3	L5	3825	A2M	C5-C6-N1	2.10	122.83	117.51
68	S2	1031	A2M	C2-N1-C6	-2.09	115.29	118.73
68	S2	468	A2M	C2'-C1'-N9	2.09	117.20	113.75
3	L5	4590	A2M	O4'-C1'-C2'	2.09	110.19	106.59
68	S2	468	A2M	C2-N1-C6	-2.09	115.30	118.73
3	L5	3825	A2M	C2-N1-C6	-2.09	115.30	118.73
68	S2	484	A2M	C5-C6-N1	2.09	122.81	117.51
68	S2	484	A2M	C2-N1-C6	-2.08	115.31	118.73
68	S2	651	PSU	C6-C5-C4	2.08	119.58	118.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	1534	A2M	C2-N1-C6	-2.08	115.31	118.73
3	L5	4523	A2M	O3'-C3'-C2'	2.08	117.01	111.19
3	L5	2363	A2M	C6-C5-C4	-2.08	114.34	117.18
3	L5	1534	A2M	C6-C5-C4	-2.08	114.34	117.18
3	L5	1534	A2M	CM'-O2'-C2'	-2.08	109.14	114.47
3	L5	2787	A2M	C2-N1-C6	-2.08	115.32	118.73
3	L5	1326	A2M	O4'-C4'-C3'	2.07	109.27	105.15
3	L5	2815	A2M	C6-C5-C4	-2.07	114.35	117.18
3	L5	2632	PSU	O4'-C1'-C2'	2.07	108.02	105.15
68	S2	27	A2M	C5-C6-N1	2.06	122.75	117.51
68	S2	668	A2M	C4'-O4'-C1'	-2.06	104.91	109.47
68	S2	1046	PSU	O4'-C1'-C2'	2.06	108.01	105.15
68	S2	1081	PSU	O4'-C1'-C2'	2.06	108.01	105.15
68	S2	866	PSU	O4'-C1'-C2'	2.06	108.00	105.15
68	S2	1031	A2M	C5-C6-N1	2.06	122.75	117.51
3	L5	1326	A2M	O3'-C3'-C4'	-2.06	105.17	111.08
3	L5	398	A2M	C5-C6-N1	2.06	122.73	117.51
3	L5	2401	A2M	C2-N1-C6	-2.06	115.35	118.73
3	L5	1871	A2M	C4'-O4'-C1'	-2.06	104.93	109.47
3	L5	2815	A2M	C5-C6-N1	2.05	122.72	117.51
3	L5	3830	A2M	C5-C6-N1	2.05	122.72	117.51
3	L5	1524	A2M	C5-C6-N1	2.05	122.72	117.51
68	S2	159	A2M	O4'-C1'-C2'	2.05	110.12	106.59
3	L5	3830	A2M	C4'-O4'-C1'	-2.05	104.94	109.47
3	L5	4403	PSU	O2-C2-N1	-2.05	120.67	122.79
3	L5	4571	A2M	C5-C6-N1	2.05	122.71	117.51
3	L5	4431	PSU	C6-C5-C4	2.05	119.56	118.17
68	S2	159	A2M	C6-C5-C4	-2.04	114.39	117.18
3	L5	4576	PSU	C6-C5-C4	2.04	119.55	118.17
68	S2	468	A2M	C5-C6-N1	2.04	122.68	117.51
3	L5	3639	PSU	C6-C5-C4	2.03	119.55	118.17
3	L5	400	A2M	C5-C6-N1	2.03	122.68	117.51
3	L5	4571	A2M	C6-C5-C4	-2.03	114.40	117.18
3	L5	4571	A2M	O4'-C1'-C2'	2.03	110.09	106.59
3	L5	1534	A2M	C5-C6-N1	2.02	122.65	117.51
3	L5	3718	A2M	C2-N1-C6	-2.02	115.41	118.73
3	L5	3825	A2M	O4'-C1'-C2'	2.02	110.07	106.59
68	S2	1442	OMU	O2-C2-N1	-2.02	120.17	122.80
68	S2	1248	B8N	O4-C4-C5	-2.02	119.09	122.58
3	L5	398	A2M	C2-N1-C6	-2.02	115.42	118.73
3	L5	2837	OMU	O2-C2-N1	-2.01	120.17	122.80
3	L5	3867	A2M	C5-C6-N1	2.01	122.62	117.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
68	S2	1383	A2M	O4'-C1'-C2'	2.01	110.05	106.59
68	S2	799	OMU	C1'-N1-C2	2.01	121.20	117.59
3	L5	4590	A2M	C5-C6-N1	2.01	122.61	117.51
3	L5	1323	A2M	C5-C6-N1	2.01	122.61	117.51
68	S2	576	A2M	C2-N1-C6	-2.01	115.43	118.73
3	L5	3830	A2M	C2-N1-C6	-2.00	115.44	118.73
68	S2	166	A2M	C5-C6-N1	2.00	122.60	117.51
68	S2	576	A2M	C5-C6-N1	2.00	122.60	117.51
3	L5	1677	PSU	C5-C6-N1	-2.00	119.36	122.14
3	L5	4353	PSU	O4'-C1'-C2'	2.00	107.92	105.15
3	L5	1323	A2M	C2-N1-C6	-2.00	115.44	118.73
68	S2	1004	PSU	C6-C5-C4	2.00	119.52	118.17

There are no chirality outliers.

All (179) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	L8	75	OMG	C1'-C2'-O2'-CM2
3	L5	398	A2M	C1'-C2'-O2'-CM'
3	L5	400	A2M	C1'-C2'-O2'-CM'
3	L5	1323	A2M	C1'-C2'-O2'-CM'
3	L5	1326	A2M	O4'-C4'-C5'-O5'
3	L5	1326	A2M	C3'-C4'-C5'-O5'
3	L5	1326	A2M	C1'-C2'-O2'-CM'
3	L5	1340	OMC	C1'-C2'-O2'-CM2
3	L5	1536	PSU	O4'-C4'-C5'-O5'
3	L5	1625	OMG	O4'-C4'-C5'-O5'
3	L5	2364	OMG	C1'-C2'-O2'-CM2
3	L5	2401	A2M	C3'-C4'-C5'-O5'
3	L5	2787	A2M	C1'-C2'-O2'-CM'
3	L5	2815	A2M	C1'-C2'-O2'-CM'
3	L5	2824	OMC	C1'-C2'-O2'-CM2
3	L5	2861	OMC	C1'-C2'-O2'-CM2
3	L5	3701	OMC	O4'-C4'-C5'-O5'
3	L5	3792	OMG	O4'-C4'-C5'-O5'
3	L5	3825	A2M	C1'-C2'-O2'-CM'
3	L5	3830	A2M	C1'-C2'-O2'-CM'
3	L5	3867	A2M	C1'-C2'-O2'-CM'
3	L5	3925	OMU	C1'-C2'-O2'-CM2
3	L5	4196	OMG	C1'-C2'-O2'-CM2
3	L5	4306	OMU	C1'-C2'-O2'-CM2
3	L5	4456	OMC	C1'-C2'-O2'-CM2

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Mol	Chain	Res	Type	Atoms
3	L5	4500	PSU	O4'-C4'-C5'-O5'
3	L5	4590	A2M	O4'-C4'-C5'-O5'
3	L5	4590	A2M	C1'-C2'-O2'-CM'
3	L5	4618	OMG	C1'-C2'-O2'-CM2
3	L5	4620	OMU	C1'-C2'-O2'-CM2
3	L5	4623	OMG	C1'-C2'-O2'-CM2
3	L5	4636	PSU	C2'-C1'-C5-C4
3	L5	4637	OMG	C1'-C2'-O2'-CM2
68	S2	27	A2M	C1'-C2'-O2'-CM'
68	S2	116	OMU	C1'-C2'-O2'-CM2
68	S2	121	OMU	C1'-C2'-O2'-CM2
68	S2	159	A2M	C1'-C2'-O2'-CM'
68	S2	166	A2M	C1'-C2'-O2'-CM'
68	S2	172	OMU	O4'-C4'-C5'-O5'
68	S2	174	OMC	C1'-C2'-O2'-CM2
68	S2	468	A2M	C1'-C2'-O2'-CM'
68	S2	576	A2M	C1'-C2'-O2'-CM'
68	S2	601	OMG	O4'-C4'-C5'-O5'
68	S2	601	OMG	C1'-C2'-O2'-CM2
68	S2	627	OMU	O4'-C4'-C5'-O5'
68	S2	644	OMG	O4'-C4'-C5'-O5'
68	S2	801	PSU	C3'-C4'-C5'-O5'
68	S2	867	OMG	C1'-C2'-O2'-CM2
68	S2	1031	A2M	C1'-C2'-O2'-CM'
68	S2	1248	B8N	C31-C32-C33-C34
68	S2	1383	A2M	C1'-C2'-O2'-CM'
68	S2	1391	OMC	C1'-C2'-O2'-CM2
68	S2	1832	6MZ	C5-C6-N6-C9
68	S2	1832	6MZ	N1-C6-N6-C9
3	L5	1536	PSU	C3'-C4'-C5'-O5'
3	L5	1625	OMG	C3'-C4'-C5'-O5'
3	L5	2401	A2M	O4'-C4'-C5'-O5'
3	L5	3785	A2M	O4'-C4'-C5'-O5'
3	L5	3867	A2M	C3'-C4'-C5'-O5'
3	L5	3899	OMG	O4'-C4'-C5'-O5'
3	L5	3899	OMG	C3'-C4'-C5'-O5'
3	L5	4500	PSU	C3'-C4'-C5'-O5'
3	L5	4590	A2M	C3'-C4'-C5'-O5'
3	L5	4637	OMG	O4'-C4'-C5'-O5'
68	S2	99	A2M	O4'-C4'-C5'-O5'
68	S2	172	OMU	C3'-C4'-C5'-O5'
68	S2	576	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
68	S2	627	OMU	C3'-C4'-C5'-O5'
68	S2	644	OMG	C3'-C4'-C5'-O5'
68	S2	683	OMG	C3'-C4'-C5'-O5'
68	S2	867	OMG	C3'-C4'-C5'-O5'
3	L5	1524	A2M	C3'-C4'-C5'-O5'
3	L5	2364	OMG	O4'-C4'-C5'-O5'
3	L5	3701	OMC	C3'-C4'-C5'-O5'
3	L5	3785	A2M	C3'-C4'-C5'-O5'
68	S2	93	PSU	C3'-C4'-C5'-O5'
68	S2	576	A2M	C3'-C4'-C5'-O5'
68	S2	801	PSU	O4'-C4'-C5'-O5'
68	S2	1045	PSU	C3'-C4'-C5'-O5'
68	S2	1045	PSU	O4'-C4'-C5'-O5'
68	S2	1442	OMU	O4'-C4'-C5'-O5'
3	L5	3792	OMG	C3'-C4'-C5'-O5'
3	L5	3818	UY1	C3'-C4'-C5'-O5'
68	S2	428	OMU	C2'-C1'-N1-C6
3	L5	1524	A2M	O4'-C4'-C5'-O5'
3	L5	1781	PSU	C3'-C4'-C5'-O5'
3	L5	3867	A2M	O4'-C4'-C5'-O5'
68	S2	601	OMG	C3'-C4'-C5'-O5'
3	L5	2632	PSU	O4'-C4'-C5'-O5'
3	L5	4220	6MZ	O4'-C4'-C5'-O5'
3	L5	4228	OMG	O4'-C4'-C5'-O5'
68	S2	93	PSU	O4'-C4'-C5'-O5'
68	S2	99	A2M	C3'-C4'-C5'-O5'
68	S2	668	A2M	C3'-C4'-C5'-O5'
68	S2	683	OMG	O4'-C4'-C5'-O5'
68	S2	1442	OMU	C3'-C4'-C5'-O5'
68	S2	1639	G7M	O4'-C4'-C5'-O5'
3	L5	4447	5MC	C2'-C1'-N1-C6
3	L5	2632	PSU	C3'-C4'-C5'-O5'
3	L5	2787	A2M	C3'-C4'-C5'-O5'
3	L5	4220	6MZ	C3'-C4'-C5'-O5'
68	S2	668	A2M	O4'-C4'-C5'-O5'
68	S2	867	OMG	O4'-C4'-C5'-O5'
68	S2	1639	G7M	C3'-C4'-C5'-O5'
3	L5	4228	OMG	C3'-C4'-C5'-O5'
3	L5	4637	OMG	C3'-C4'-C5'-O5'
3	L5	3818	UY1	C4'-C5'-O5'-P
3	L5	3818	UY1	O4'-C4'-C5'-O5'
68	S2	1248	B8N	N34-C33-C34-O36

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Mol	Chain	Res	Type	Atoms
3	L5	3701	OMC	C2'-C1'-N1-C6
68	S2	1490	OMG	C1'-C2'-O2'-CM2
3	L5	1781	PSU	O4'-C4'-C5'-O5'
3	L5	1534	A2M	C4'-C5'-O5'-P
3	L5	4590	A2M	C4'-C5'-O5'-P
3	L5	2787	A2M	C2'-C1'-N9-C8
3	L5	4447	5MC	O4'-C1'-N1-C6
68	S2	1056	PSU	C3'-C4'-C5'-O5'
68	S2	428	OMU	O4'-C1'-N1-C6
3	L5	4618	OMG	C3'-C4'-C5'-O5'
3	L5	3701	OMC	O4'-C1'-N1-C6
3	L5	4500	PSU	C4'-C5'-O5'-P
68	S2	644	OMG	C4'-C5'-O5'-P
68	S2	1851	MA6	C4'-C5'-O5'-P
68	S2	428	OMU	C2'-C1'-N1-C2
3	L5	4447	5MC	O4'-C1'-N1-C2
3	L5	2363	A2M	C3'-C2'-O2'-CM'
3	L5	3899	OMG	C3'-C2'-O2'-CM2
3	L5	4494	OMG	C3'-C2'-O2'-CM2
68	S2	627	OMU	C3'-C2'-O2'-CM2
68	S2	576	A2M	C4'-C5'-O5'-P
68	S2	1490	OMG	C4'-C5'-O5'-P
3	L5	4521	PSU	O4'-C1'-C5-C4
3	L5	4636	PSU	O4'-C1'-C5-C4
68	S2	1248	B8N	O4'-C1'-C5-C4
3	L5	2787	A2M	C2'-C1'-N9-C4
3	L5	2364	OMG	C3'-C4'-C5'-O5'
3	L5	4623	OMG	C3'-C4'-C5'-O5'
68	S2	801	PSU	C4'-C5'-O5'-P
3	L5	2876	OMG	C3'-C4'-C5'-O5'
68	S2	1056	PSU	O4'-C4'-C5'-O5'
68	S2	1383	A2M	O4'-C4'-C5'-O5'
3	L5	3844	PSU	C4'-C5'-O5'-P
68	S2	1081	PSU	C4'-C5'-O5'-P
3	L5	2815	A2M	O4'-C4'-C5'-O5'
3	L5	3782	5MC	O4'-C4'-C5'-O5'
68	S2	428	OMU	O4'-C1'-N1-C2
3	L5	4447	5MC	C2'-C1'-N1-C2
68	S2	1288	OMU	C2'-C1'-N1-C2
68	S2	867	OMG	C4'-C5'-O5'-P
68	S2	1703	OMC	O4'-C4'-C5'-O5'
3	L5	1322	1MA	C2'-C1'-N9-C8

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Mol	Chain	Res	Type	Atoms
68	S2	436	OMG	C1'-C2'-O2'-CM2
3	L5	1323	A2M	O4'-C4'-C5'-O5'
68	S2	681	PSU	C3'-C4'-C5'-O5'
3	L5	1677	PSU	O4'-C1'-C5-C6
3	L5	3818	UY1	O4'-C1'-C5-C6
3	L5	4521	PSU	O4'-C1'-C5-C6
68	S2	1248	B8N	O4'-C1'-C5-C6
68	S2	1288	OMU	C2'-C1'-N1-C6
68	S2	517	OMC	C3'-C2'-O2'-CM2
68	S2	1288	OMU	C4'-C5'-O5'-P
3	L5	2351	OMC	C2'-C1'-N1-C6
3	L5	3701	OMC	O4'-C1'-N1-C2
68	S2	601	OMG	C2'-C1'-N9-C8
68	S2	166	A2M	O4'-C4'-C5'-O5'
3	L5	1326	A2M	C4'-C5'-O5'-P
3	L5	1322	1MA	C2'-C1'-N9-C4
68	S2	601	OMG	C2'-C1'-N9-C4
3	L5	1524	A2M	C3'-C2'-O2'-CM'
3	L5	1792	PSU	O4'-C4'-C5'-O5'
3	L5	4623	OMG	O4'-C4'-C5'-O5'
3	L5	4636	PSU	O4'-C4'-C5'-O5'
68	S2	1383	A2M	C3'-C4'-C5'-O5'
3	L5	3785	A2M	C4'-C5'-O5'-P
3	L5	2787	A2M	O4'-C1'-N9-C8
3	L5	3701	OMC	C2'-C1'-N1-C2
68	S2	681	PSU	O4'-C4'-C5'-O5'
3	L5	3887	OMC	C4'-C5'-O5'-P
3	L5	2351	OMC	C2'-C1'-N1-C2

There are no ring outliers.

79 monomers are involved in 121 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	L5	3899	OMG	2	0
3	L5	4530	UR3	2	0
3	L5	2815	A2M	1	0
3	L5	2824	OMC	1	0
68	S2	1442	OMU	1	0
3	L5	3867	A2M	4	0
3	L5	4590	A2M	1	0
68	S2	174	OMC	1	0
3	L5	4689	PSU	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
68	S2	462	OMC	1	0
3	L5	3718	A2M	3	0
3	L5	4623	OMG	1	0
68	S2	436	OMG	1	0
68	S2	468	A2M	1	0
3	L5	3825	A2M	1	0
3	L5	3830	A2M	1	0
3	L5	4620	OMU	1	0
68	S2	1391	OMC	1	0
3	L5	4523	A2M	1	0
3	L5	1871	A2M	2	0
68	S2	1328	OMG	1	0
68	S2	601	OMG	3	0
3	L5	2861	OMC	1	0
68	S2	681	PSU	2	0
3	L5	1534	A2M	1	0
68	S2	121	OMU	4	0
68	S2	428	OMU	1	0
68	S2	159	A2M	2	0
3	L5	3785	A2M	1	0
3	L5	3841	OMC	1	0
3	L5	4196	OMG	1	0
3	L5	1340	OMC	2	0
3	L5	4392	OMG	1	0
68	S2	651	PSU	1	0
68	S2	1337	4AC	2	0
3	L5	5010	PSU	1	0
68	S2	166	A2M	5	0
68	S2	1490	OMG	1	0
68	S2	1383	A2M	3	0
68	S2	1174	PSU	2	0
3	L5	4571	A2M	1	0
3	L5	398	A2M	1	0
68	S2	1272	OMC	1	0
68	S2	1244	PSU	2	0
68	S2	1031	A2M	3	0
68	S2	649	PSU	2	0
68	S2	27	A2M	2	0
3	L5	2632	PSU	1	0
3	L5	3695	PSU	1	0
68	S2	1842	4AC	1	0
68	S2	484	A2M	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	L5	2363	A2M	2	0
68	S2	509	OMG	4	0
68	S2	517	OMC	1	0
3	L5	4447	5MC	1	0
3	L5	1326	A2M	2	0
3	L5	1323	A2M	2	0
68	S2	576	A2M	2	0
3	L5	4227	OMU	1	0
68	S2	1232	PSU	2	0
3	L5	4618	OMG	2	0
68	S2	116	OMU	3	0
68	S2	1004	PSU	1	0
3	L5	1677	PSU	1	0
3	L5	4456	OMC	1	0
3	L5	400	A2M	1	0
3	L5	4353	PSU	1	0
68	S2	1850	MA6	2	0
3	L5	4306	OMU	1	0
3	L5	2787	A2M	1	0
3	L5	3884	PSU	1	0
68	S2	866	PSU	1	0
3	L5	4579	PSU	2	0
68	S2	867	OMG	3	0
3	L5	2364	OMG	1	0
3	L5	4500	PSU	1	0
3	L5	1683	PSU	2	0
68	S2	99	A2M	1	0
68	S2	354	OMU	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 241 ligands modelled in this entry, 224 are monoatomic - leaving 17 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	$\# Z > 2$
87	SPM	L5	5259	-	13,13,13	0.32	0	12,12,12	0.92	0
87	SPM	L5	5268	-	13,13,13	0.39	0	12,12,12	0.98	0
88	SPD	L5	5291	-	9,9,9	0.35	0	8,8,8	0.88	0
88	SPD	L5	5284	-	9,9,9	0.31	0	8,8,8	0.90	0
87	SPM	L5	5293	-	13,13,13	0.36	0	12,12,12	0.86	0
88	SPD	LN	301	-	9,9,9	0.32	0	8,8,8	0.86	0
87	SPM	L5	5289	-	13,13,13	0.36	0	12,12,12	1.00	0
87	SPM	L5	5292	-	13,13,13	0.35	0	12,12,12	0.81	0
87	SPM	L5	5264	-	13,13,13	0.36	0	12,12,12	1.03	0
88	SPD	L5	5287	-	9,9,9	0.30	0	8,8,8	0.88	0
88	SPD	L5	5288	-	9,9,9	0.30	0	8,8,8	0.88	0
88	SPD	L5	5290	-	9,9,9	0.34	0	8,8,8	0.87	0
88	SPD	L5	5283	-	9,9,9	0.35	0	8,8,8	0.79	0
88	SPD	L5	5286	-	9,9,9	0.32	0	8,8,8	0.85	0
87	SPM	L5	5265	-	13,13,13	0.36	0	12,12,12	1.12	0
88	SPD	L5	5285	-	9,9,9	0.32	0	8,8,8	0.87	0
88	SPD	L5	5262	-	9,9,9	0.31	0	8,8,8	1.05	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
87	SPM	L5	5259	-	-	2/11/11/11	-
87	SPM	L5	5268	-	-	4/11/11/11	-
88	SPD	L5	5291	-	-	2/7/7/7	-
88	SPD	L5	5284	-	-	1/7/7/7	-
87	SPM	L5	5293	-	-	3/11/11/11	-
88	SPD	LN	301	-	-	3/7/7/7	-
87	SPM	L5	5289	-	-	6/11/11/11	-
87	SPM	L5	5292	-	-	7/11/11/11	-
87	SPM	L5	5264	-	-	2/11/11/11	-
88	SPD	L5	5287	-	-	3/7/7/7	-
88	SPD	L5	5288	-	-	2/7/7/7	-
88	SPD	L5	5290	-	-	1/7/7/7	-
88	SPD	L5	5283	-	-	1/7/7/7	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
88	SPD	L5	5286	-	-	2/7/7/7	-
87	SPM	L5	5265	-	-	2/11/11/11	-
88	SPD	L5	5285	-	-	1/7/7/7	-
88	SPD	L5	5262	-	-	1/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (43) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
87	L5	5292	SPM	N10-C11-C12-C13
87	L5	5259	SPM	N5-C6-C7-C8
88	L5	5288	SPD	N6-C7-C8-C9
88	LN	301	SPD	C3-C4-C5-N6
88	L5	5287	SPD	C8-C7-N6-C5
87	L5	5292	SPM	C2-C3-C4-N5
87	L5	5293	SPM	N10-C11-C12-C13
87	L5	5289	SPM	C12-C11-N10-C9
87	L5	5265	SPM	C3-C4-N5-C6
88	L5	5284	SPD	C8-C7-N6-C5
87	L5	5268	SPM	C2-C3-C4-N5
87	L5	5264	SPM	C8-C9-N10-C11
88	L5	5291	SPD	C7-C8-C9-N10
88	L5	5287	SPD	C2-C3-C4-C5
87	L5	5292	SPM	C7-C8-C9-N10
87	L5	5289	SPM	C7-C6-N5-C4
87	L5	5289	SPM	C7-C8-C9-N10
87	L5	5293	SPM	C8-C9-N10-C11
88	L5	5283	SPD	N6-C7-C8-C9
88	LN	301	SPD	C2-C3-C4-C5
87	L5	5292	SPM	C6-C7-C8-C9
87	L5	5259	SPM	C6-C7-C8-C9
88	L5	5285	SPD	C2-C3-C4-C5
88	L5	5262	SPD	C2-C3-C4-C5
88	L5	5290	SPD	C3-C4-C5-N6
88	L5	5288	SPD	C3-C4-C5-N6
87	L5	5289	SPM	C3-C4-N5-C6
88	LN	301	SPD	C7-C8-C9-N10
87	L5	5289	SPM	C8-C9-N10-C11

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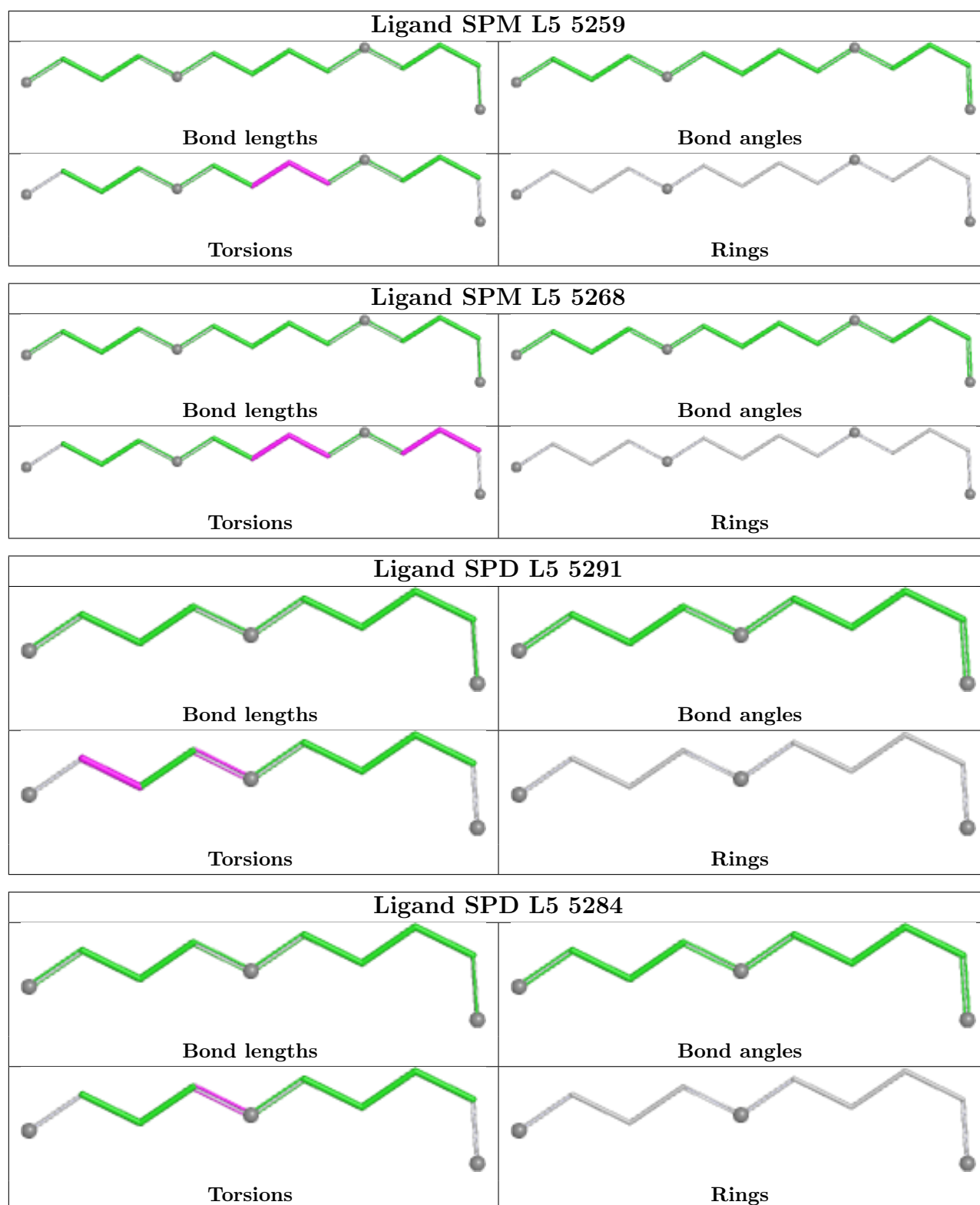
Mol	Chain	Res	Type	Atoms
88	L5	5291	SPD	C8-C7-N6-C5
87	L5	5293	SPM	C6-C7-C8-C9
87	L5	5264	SPM	N1-C2-C3-C4
87	L5	5292	SPM	C11-C12-C13-N14
87	L5	5292	SPM	C8-C9-N10-C11
87	L5	5268	SPM	C6-C7-C8-C9
88	L5	5286	SPD	C2-C3-C4-C5
87	L5	5265	SPM	N10-C11-C12-C13
88	L5	5287	SPD	C4-C5-N6-C7
87	L5	5289	SPM	C6-C7-C8-C9
87	L5	5268	SPM	N1-C2-C3-C4
88	L5	5286	SPD	C7-C8-C9-N10
87	L5	5268	SPM	N5-C6-C7-C8
87	L5	5292	SPM	C7-C6-N5-C4

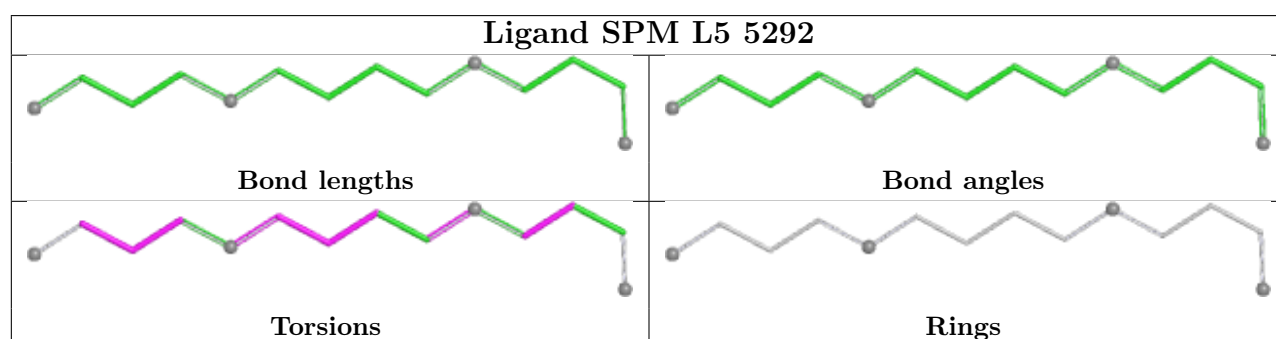
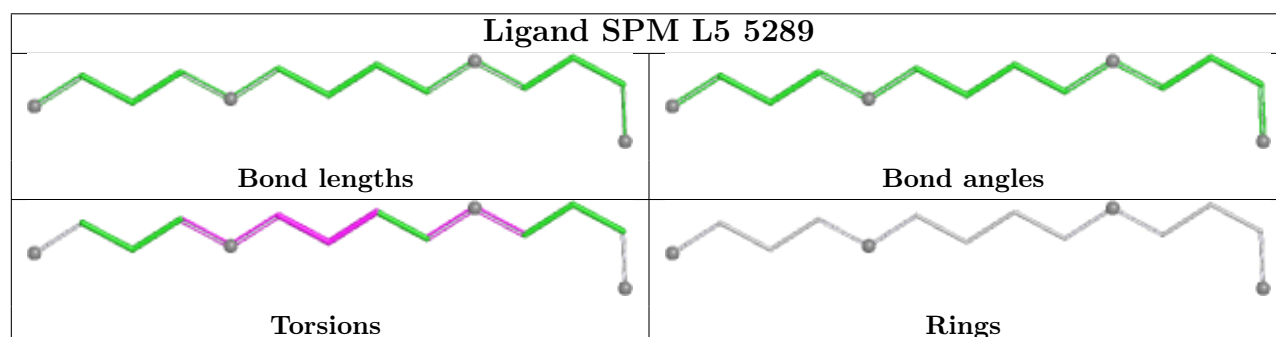
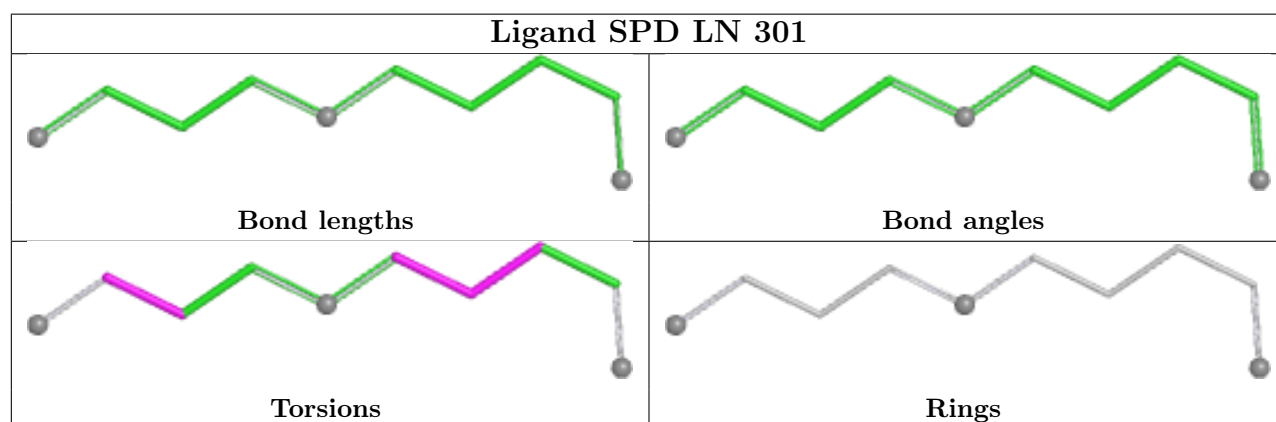
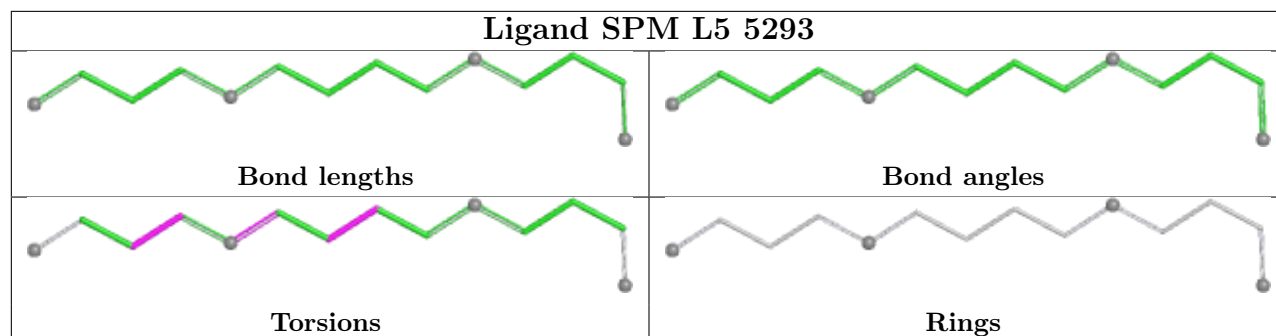
There are no ring outliers.

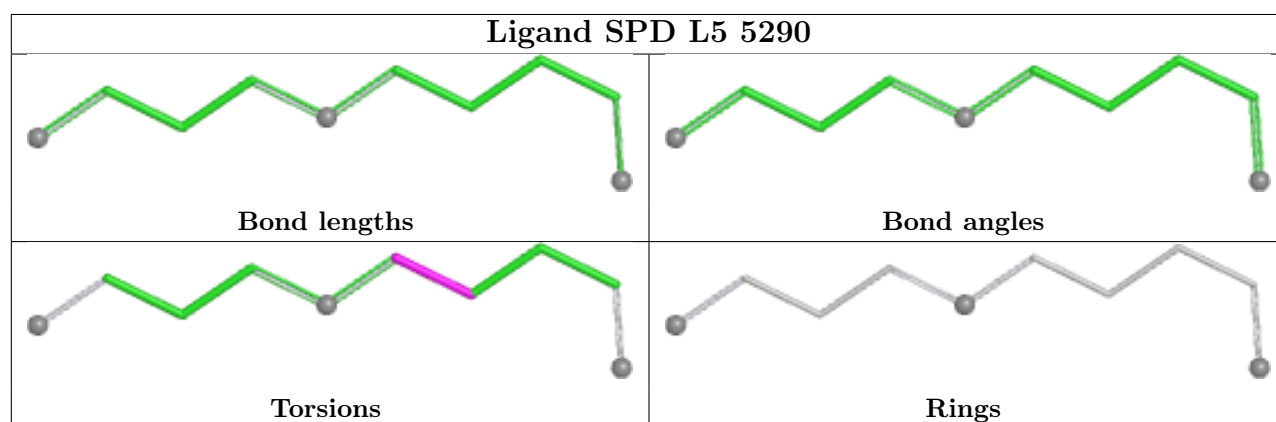
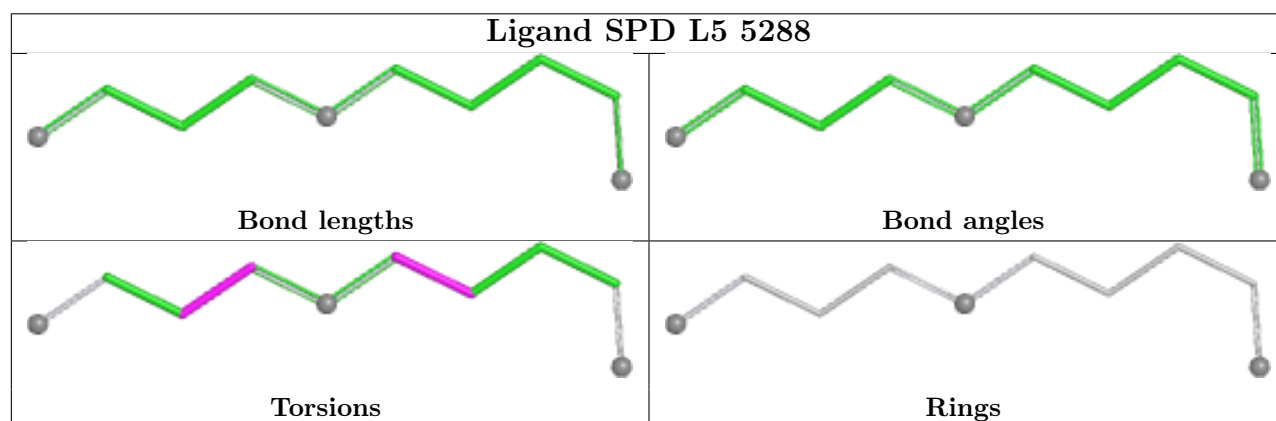
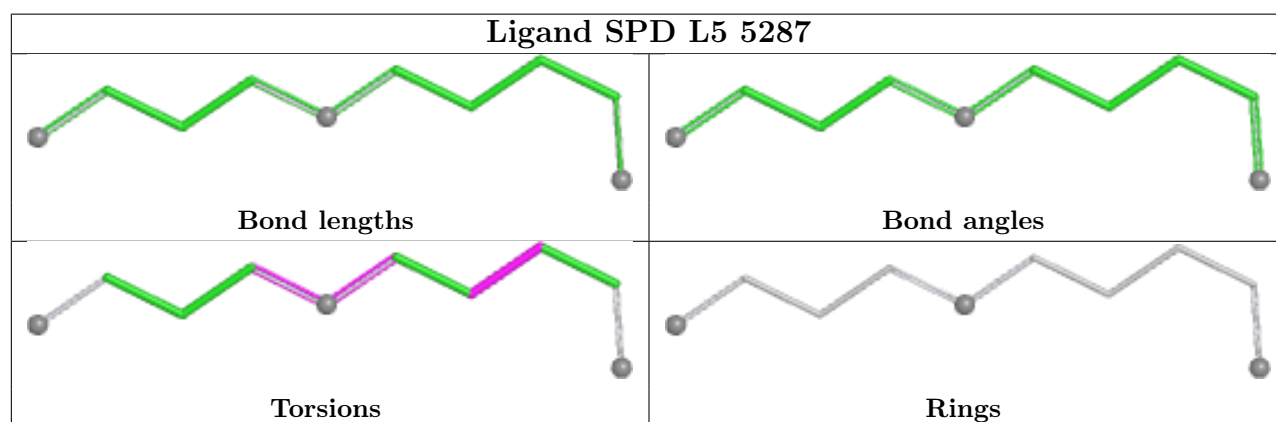
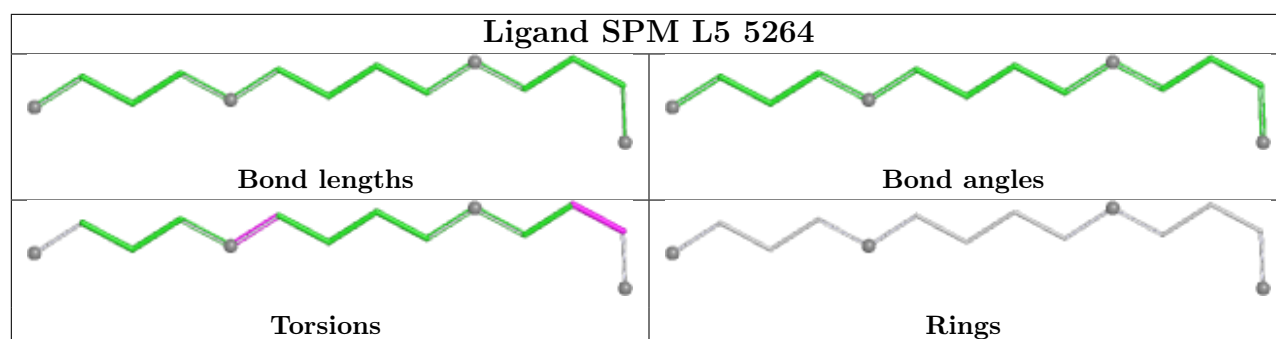
5 monomers are involved in 7 short contacts:

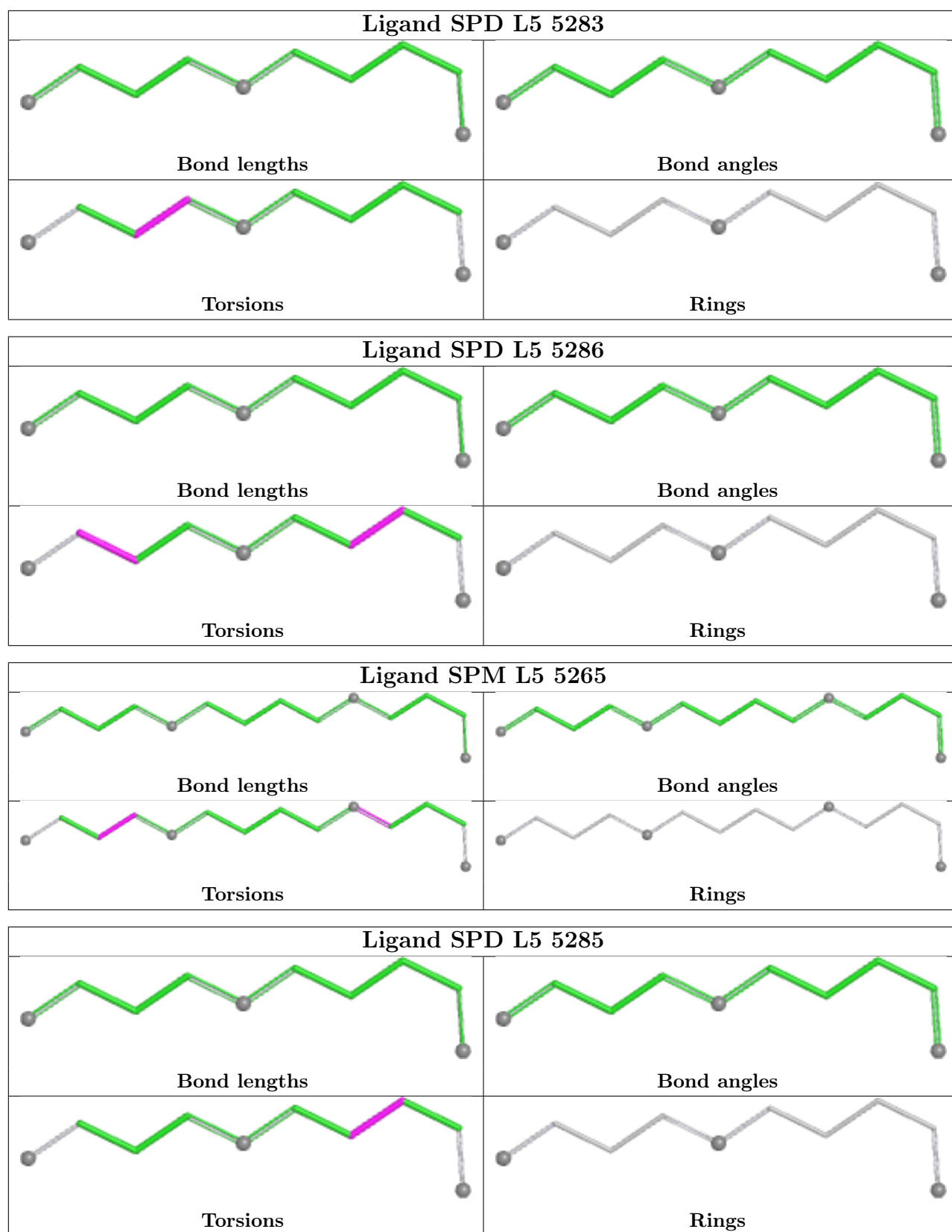
Mol	Chain	Res	Type	Clashes	Symm-Clashes
87	L5	5268	SPM	1	0
88	L5	5291	SPD	1	0
87	L5	5293	SPM	3	0
87	L5	5289	SPM	1	0
87	L5	5292	SPM	1	0

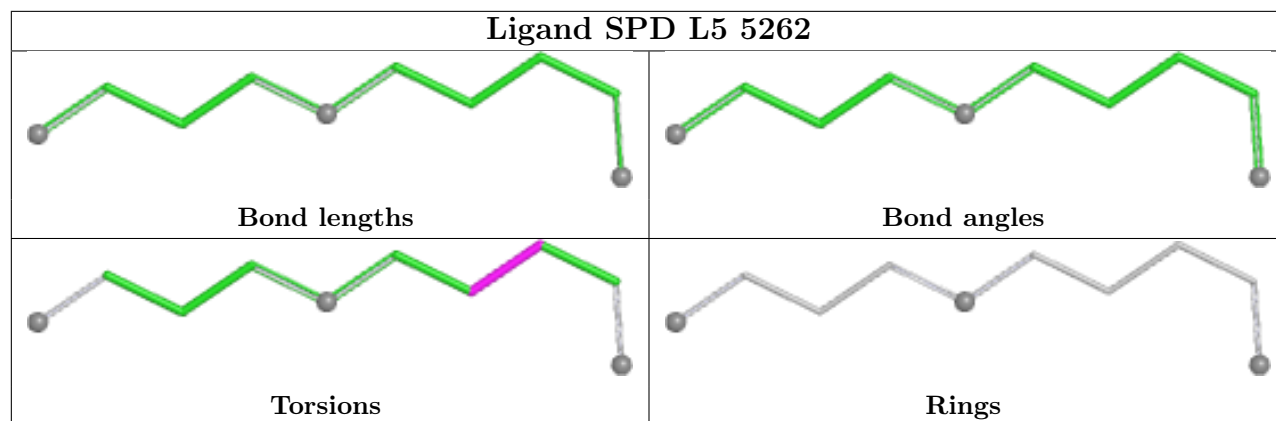
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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 [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
68	S2	4
3	L5	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	29.13
1	S2	698:G	O3'	730:C	P	14.33
1	S2	739:C	O3'	746:C	P	14.10
1	S2	225:G	O3'	287:U	P	7.15
1	L5	3818:UY1	O3'	3819:G	P	3.07

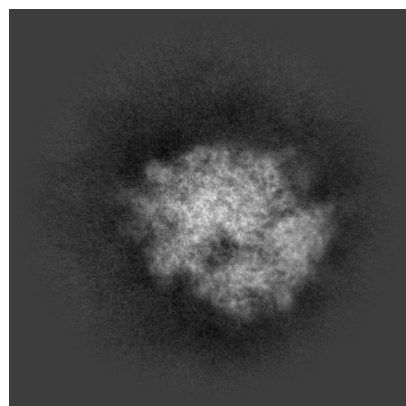
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71372. These allow visual inspection of the internal detail of the map and identification of artifacts.

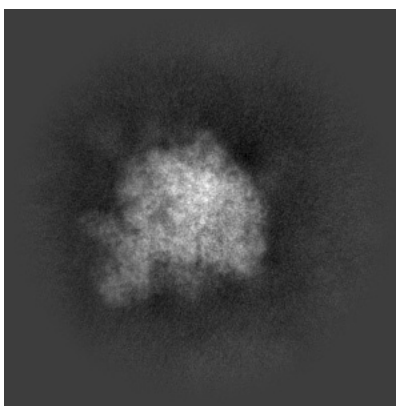
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

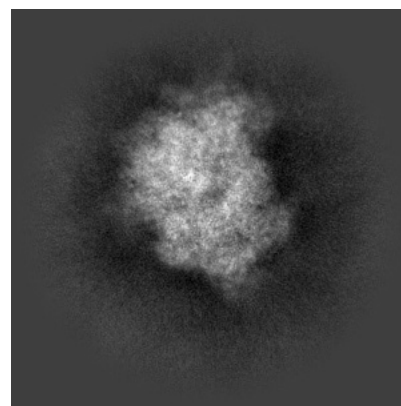
6.1.1 Primary map



X

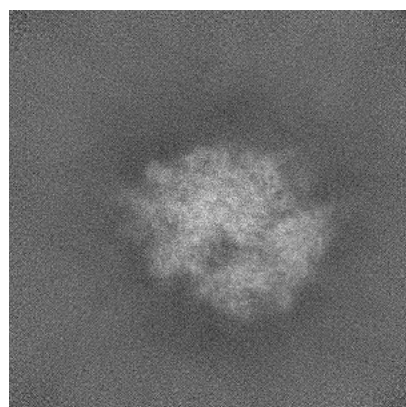


Y

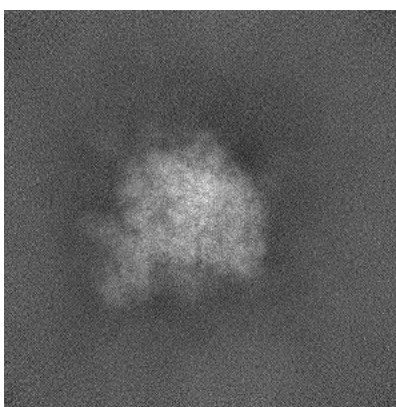


Z

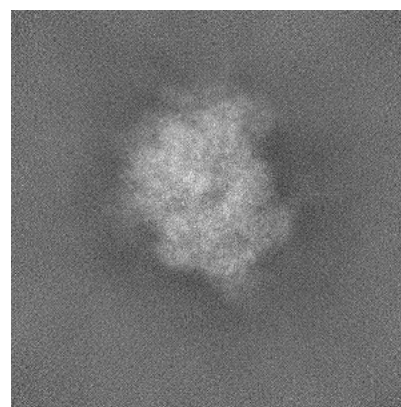
6.1.2 Raw map



X



Y

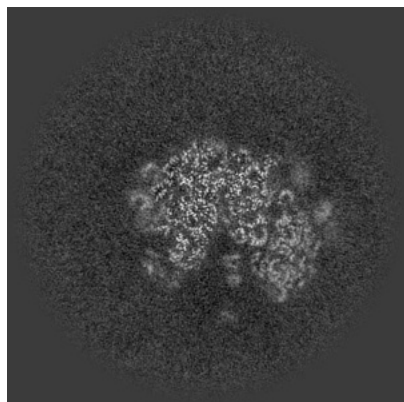


Z

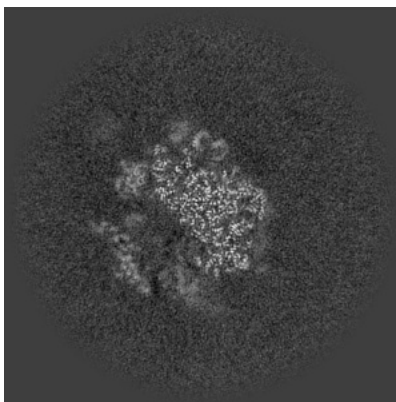
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

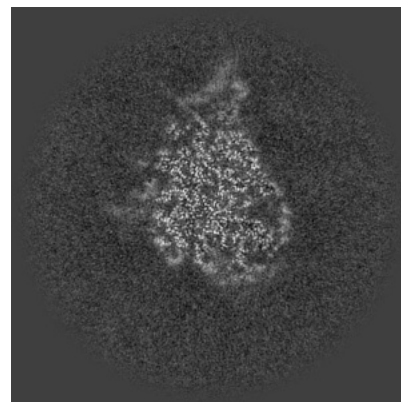
6.2.1 Primary map



X Index: 256

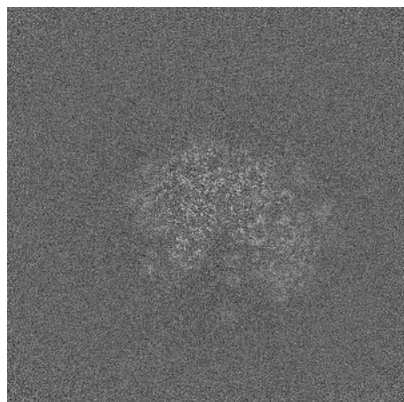


Y Index: 256

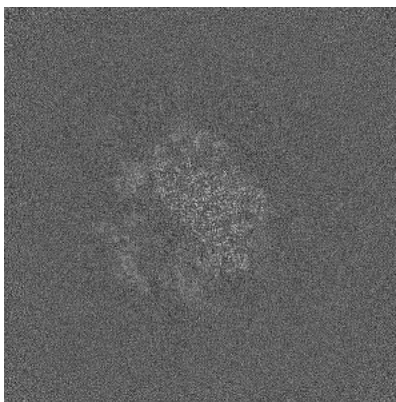


Z Index: 256

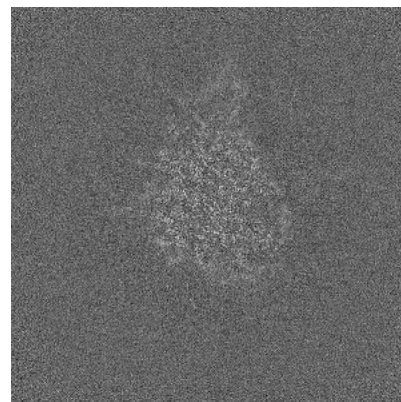
6.2.2 Raw map



X Index: 256



Y Index: 256

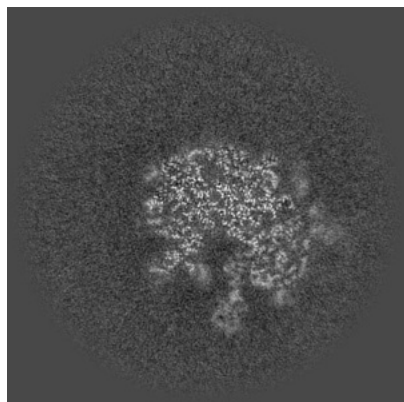


Z Index: 256

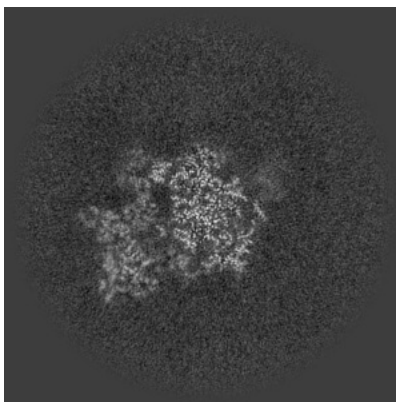
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

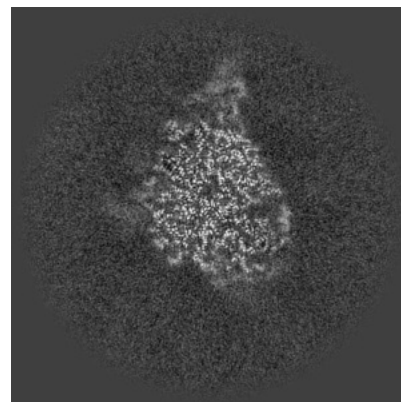
6.3.1 Primary map



X Index: 243

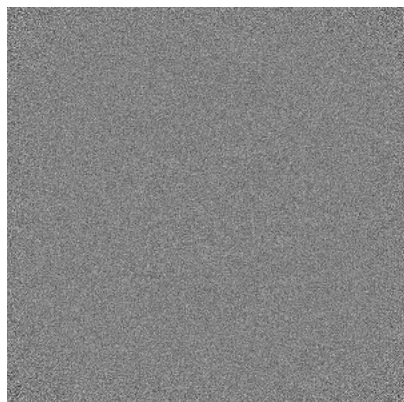


Y Index: 288

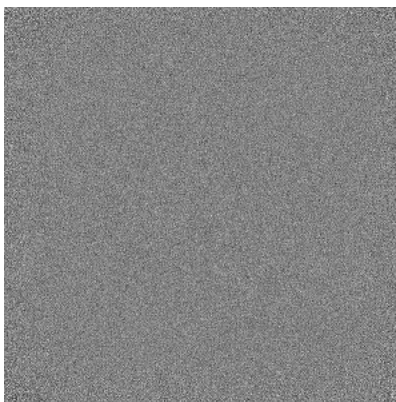


Z Index: 258

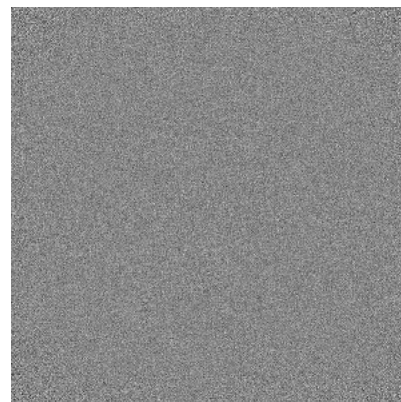
6.3.2 Raw map



X Index: 0



Y Index: 0

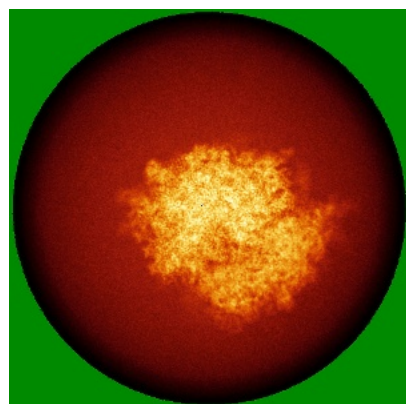


Z Index: 0

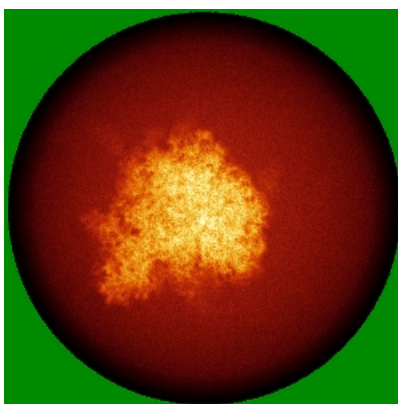
The images above show the largest variance slices of the map in three orthogonal directions.

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

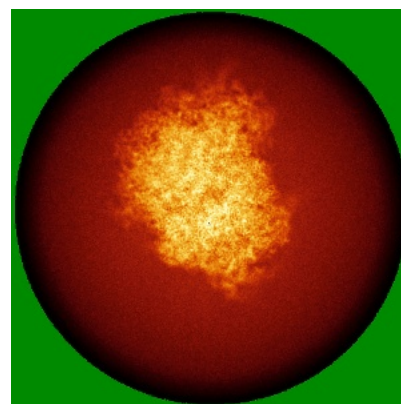
6.4.1 Primary map



X

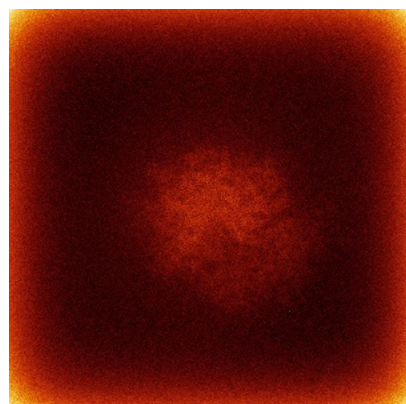


Y

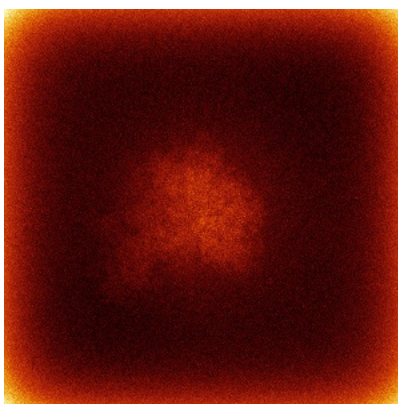


Z

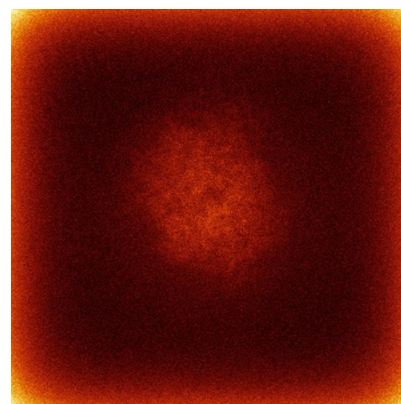
6.4.2 Raw map



X



Y

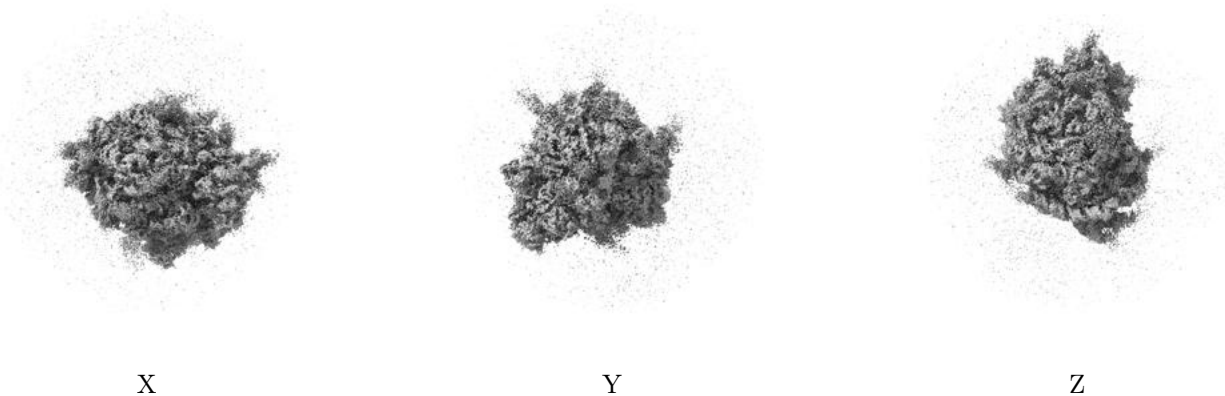


Z

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.

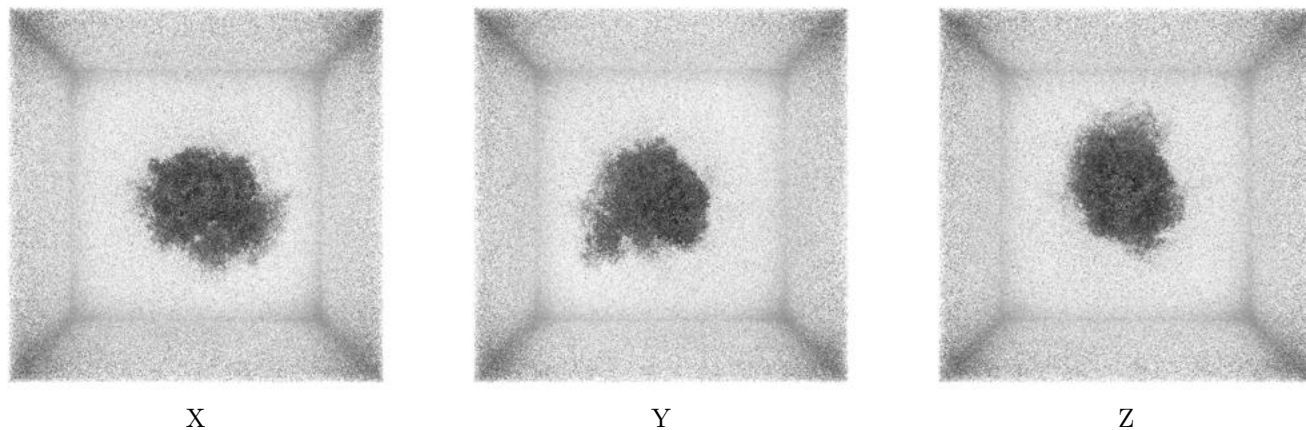
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.02. 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.

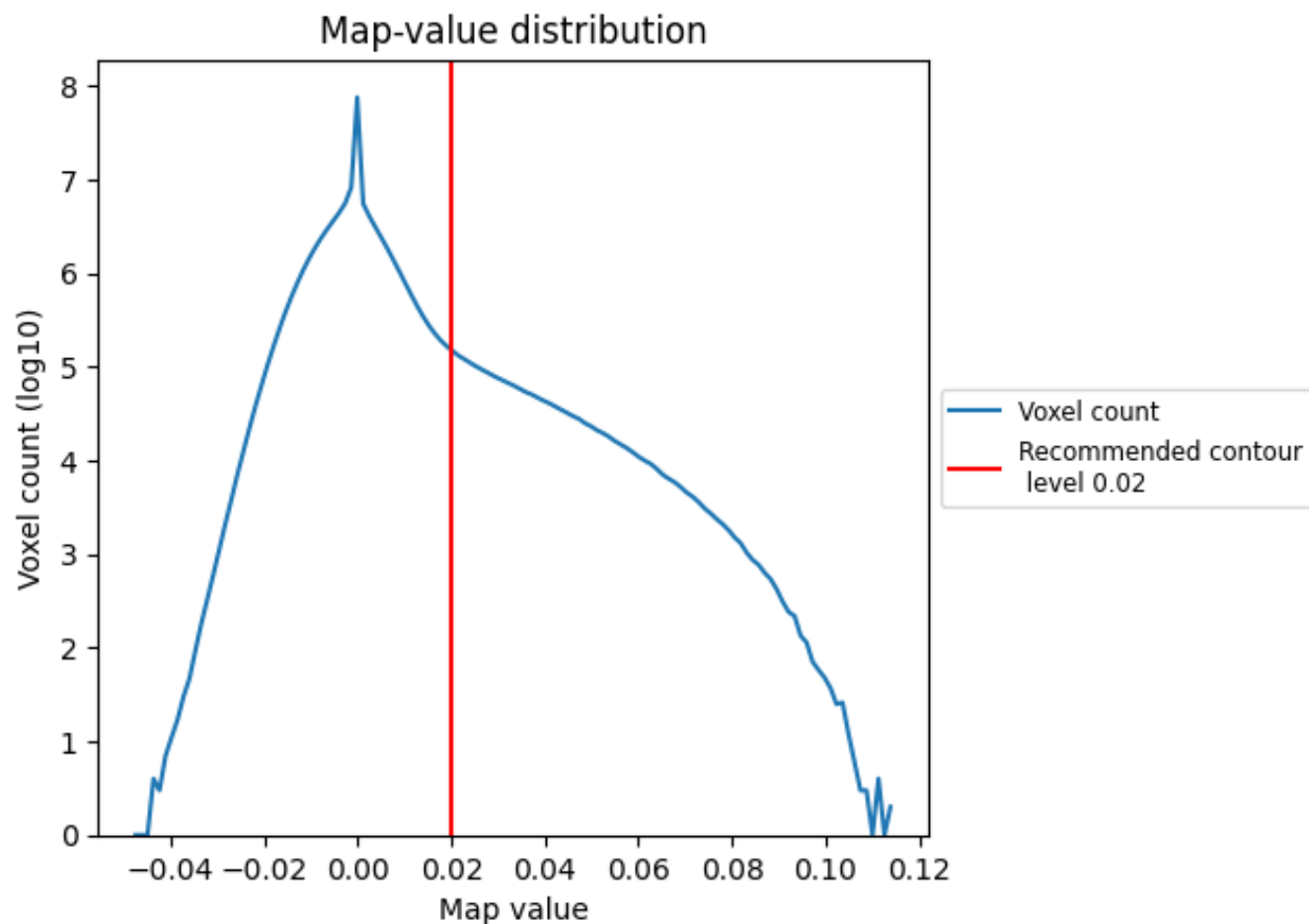
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

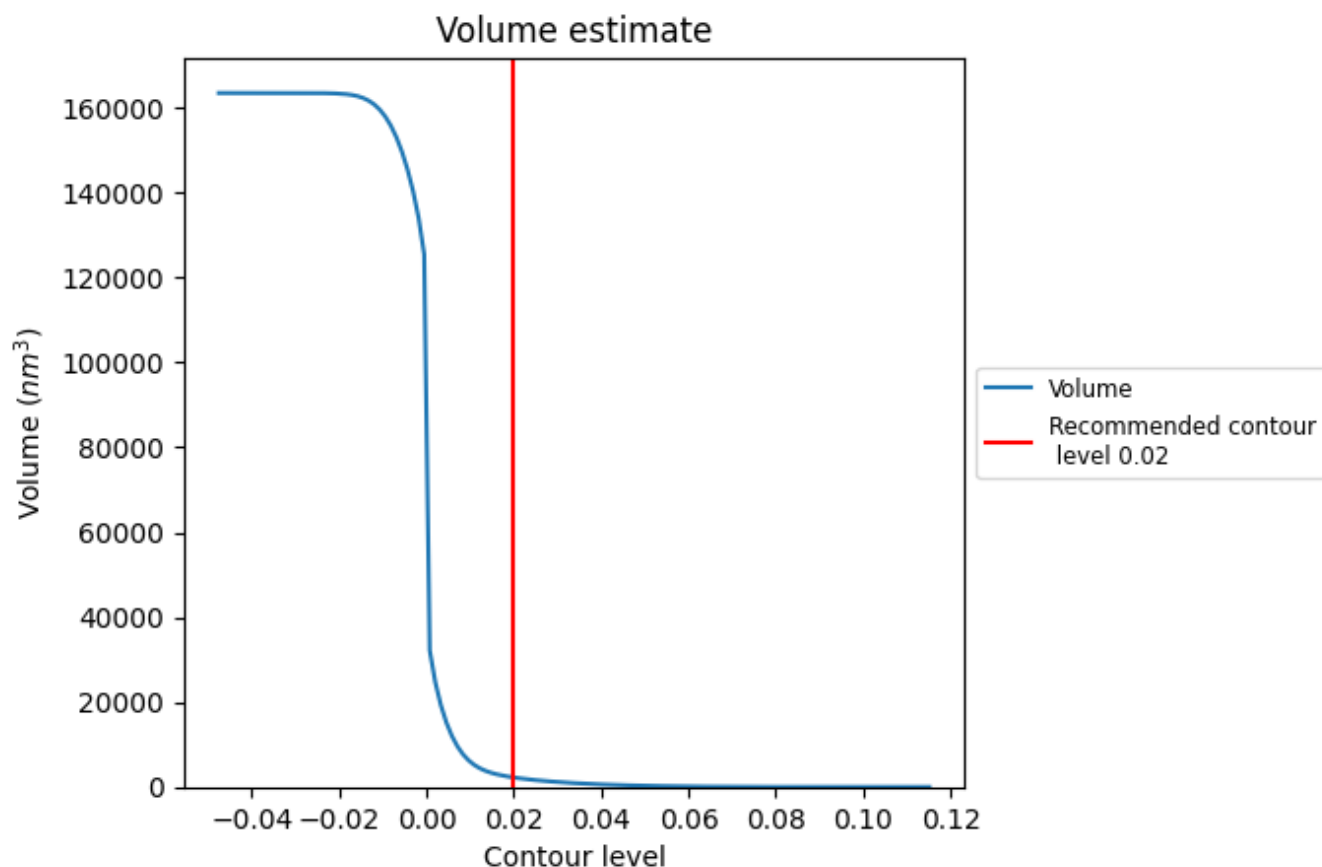
This section contains the results of statistical analysis of the map.

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.

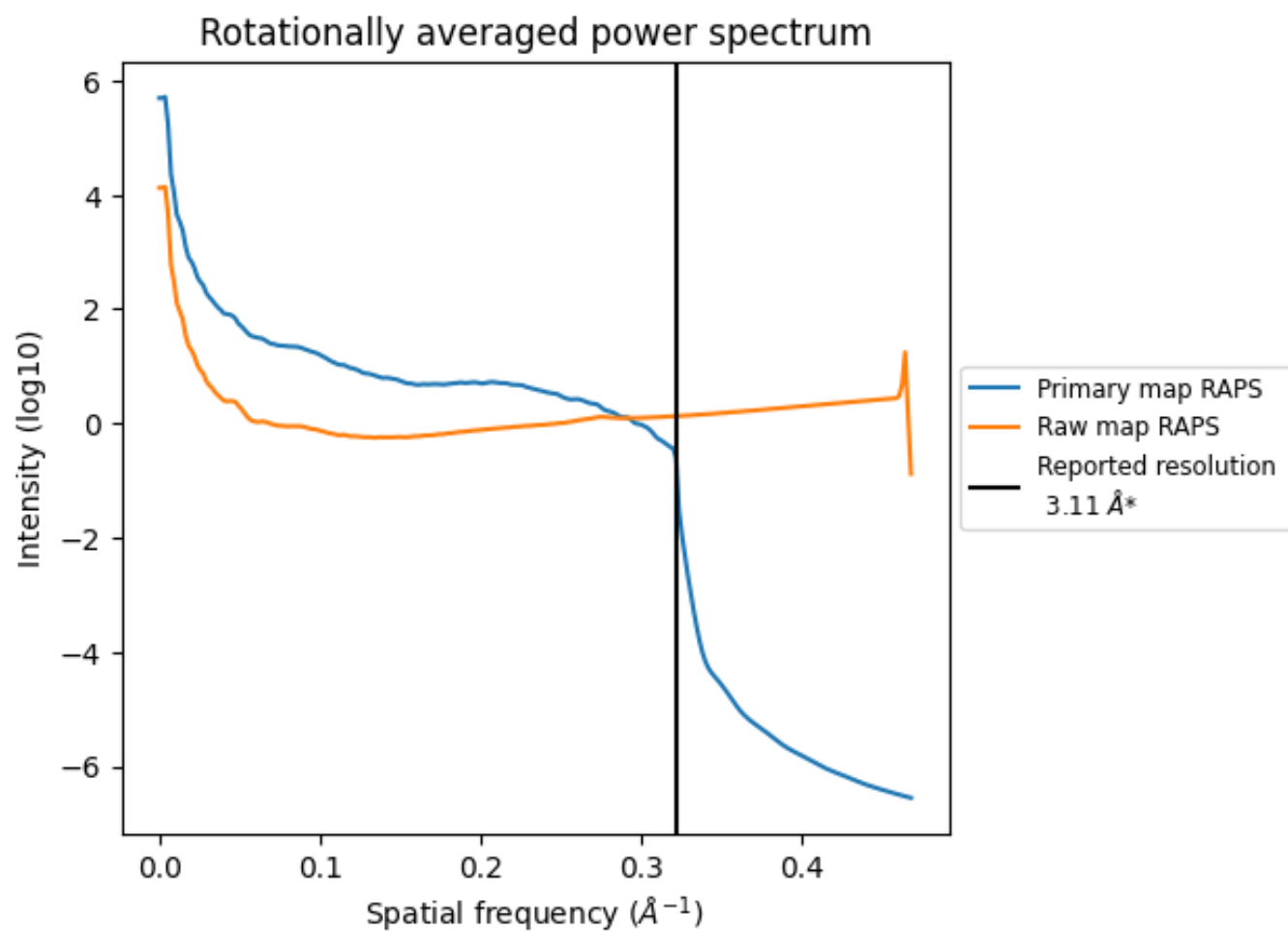
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2232 nm^3 ; this corresponds to an approximate mass of 2017 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](#)

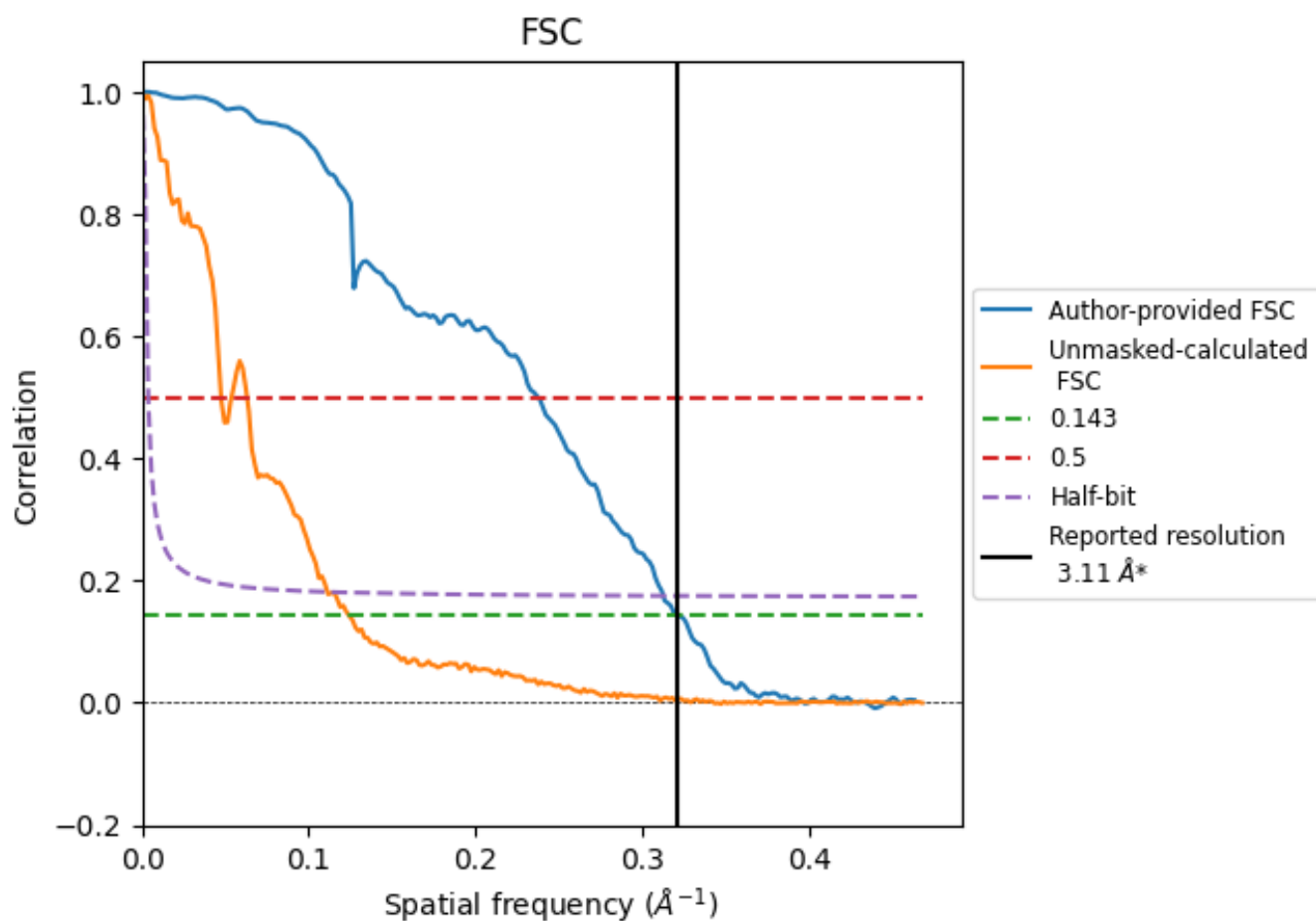


*Reported resolution corresponds to spatial frequency of 0.322 $\text{\AA}^{-1}$

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 0.322 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

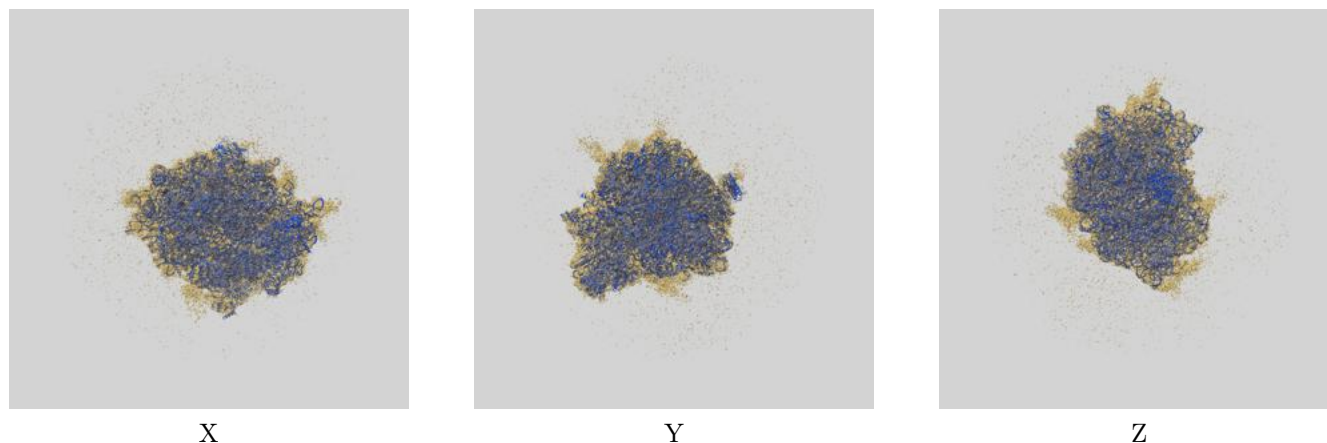
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.11	-	-
Author-provided FSC curve	3.11	4.21	3.20
Unmasked-calculated*	8.06	21.10	8.99

*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 8.06 differs from the reported value 3.11 by more than 10 %

9 Map-model fit [i](#)

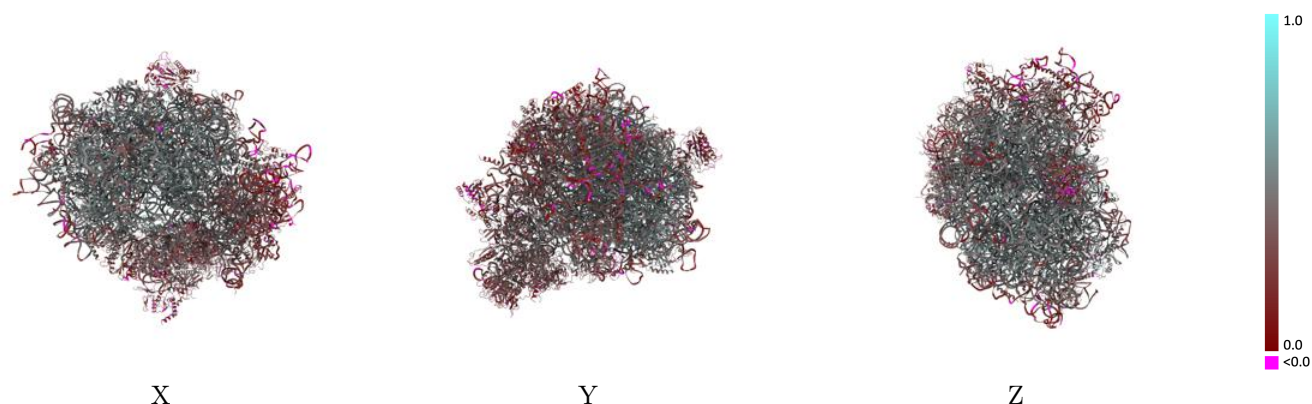
This section contains information regarding the fit between EMDB map EMD-71372 and PDB model 9P8C. Per-residue inclusion information can be found in section [3](#) on page [23](#).

9.1 Map-model overlay [i](#)



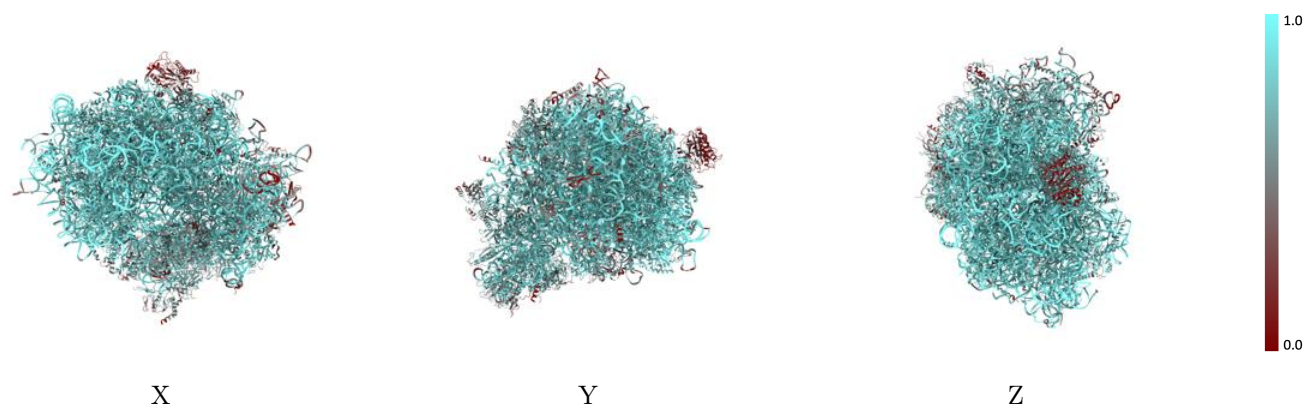
The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



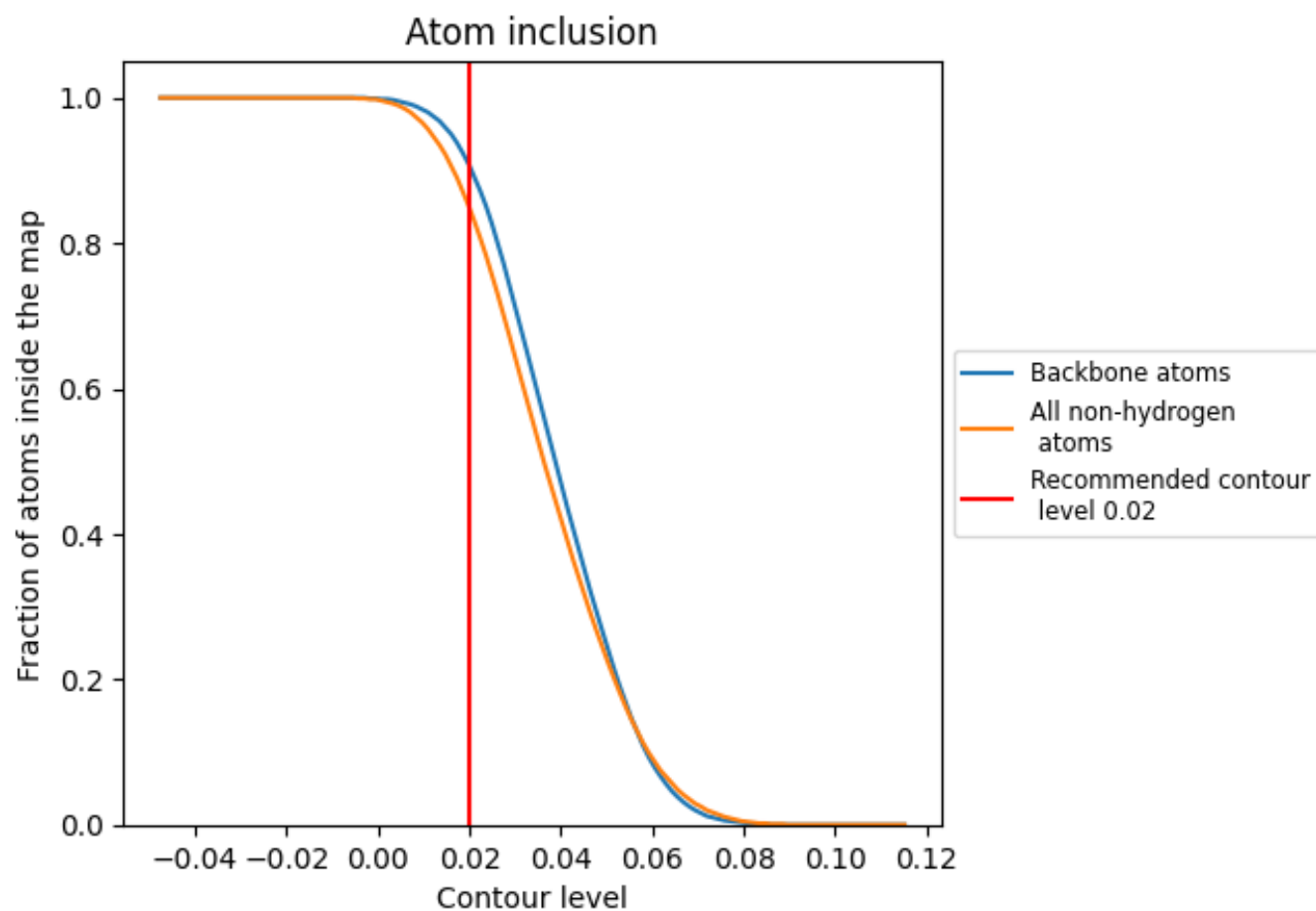
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.02).

9.4 Atom inclusion [i](#)



At the recommended contour level, 91% of all backbone atoms, 85% 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 (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8490	 0.4230
CA	 0.1920	 0.2220
CB	 0.6110	 0.3210
CD	 0.3830	 0.2330
CI	 0.3390	 0.3500
L5	 0.9440	 0.4610
L7	 0.9850	 0.4940
L8	 0.9580	 0.4790
LA	 0.9110	 0.5370
LB	 0.8710	 0.5050
LC	 0.8580	 0.5070
LD	 0.8310	 0.4620
LE	 0.7900	 0.4440
LF	 0.8740	 0.5040
LG	 0.7900	 0.4470
LH	 0.8180	 0.4870
LI	 0.8580	 0.5040
LJ	 0.8060	 0.4360
LL	 0.8400	 0.4750
LM	 0.8590	 0.4770
LN	 0.9330	 0.5380
LO	 0.8860	 0.5010
LP	 0.8860	 0.5150
LQ	 0.8790	 0.5200
LR	 0.8100	 0.4430
LS	 0.9200	 0.5200
LT	 0.8650	 0.4890
LU	 0.7870	 0.4080
LV	 0.8500	 0.5000
LW	 0.6380	 0.3500
LX	 0.8590	 0.4940
LY	 0.8400	 0.4830
LZ	 0.8380	 0.4710
La	 0.8970	 0.5260
Lb	 0.7650	 0.4160



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Chain	Atom inclusion	Q-score
Lc	 0.8290	 0.4660
Ld	 0.8030	 0.4880
Le	 0.8840	 0.5210
Lf	 0.9070	 0.5380
Lg	 0.8710	 0.4890
Lh	 0.8570	 0.4840
Li	 0.8010	 0.4640
Lj	 0.9350	 0.5270
Lk	 0.7540	 0.4340
Ll	 0.8700	 0.5000
Lm	 0.8530	 0.4980
Ln	 0.8660	 0.4800
Lo	 0.8360	 0.4860
Lp	 0.8580	 0.4940
Lr	 0.8580	 0.5070
Ls	 0.6170	 0.3010
Lt	 0.3820	 0.1910
S2	 0.9110	 0.3780
SA	 0.7050	 0.3650
SB	 0.6710	 0.3650
SC	 0.7750	 0.3980
SD	 0.6880	 0.3440
SE	 0.6970	 0.3100
SF	 0.6970	 0.3380
SG	 0.6190	 0.2610
SH	 0.5710	 0.2830
SI	 0.7290	 0.3670
SJ	 0.7170	 0.3230
SK	 0.6740	 0.2920
SL	 0.7310	 0.4000
SM	 0.4750	 0.2090
SN	 0.7780	 0.3950
SO	 0.7560	 0.4000
SP	 0.6580	 0.3320
SQ	 0.7300	 0.3420
SR	 0.6760	 0.3320
SS	 0.6650	 0.3250
ST	 0.6950	 0.3270
SU	 0.6770	 0.3210
SV	 0.6960	 0.3780
SW	 0.7930	 0.4120
SX	 0.7400	 0.4160

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Chain	Atom inclusion	Q-score
SY	 0.6710	 0.2570
SZ	 0.6520	 0.2980
Sa	 0.8010	 0.4290
Sb	 0.7060	 0.3730
Sc	 0.6710	 0.3430
Sd	 0.8370	 0.4050
Se	 0.6240	 0.3180
Sf	 0.5200	 0.2220
Sg	 0.6170	 0.2720