



Full wwPDB EM Validation Report ⓘ

Dec 15, 2025 – 08:22 PM EST

PDB ID : 9P9H / pdb_00009p9h
EMDB ID : EMD-71411
Title : In situ human unrotated hibernating with CCDC124 state 80S ribosome
Authors : Wei, Z.; Yong, X.
Deposited on : 2025-06-24
Resolution : 2.84 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

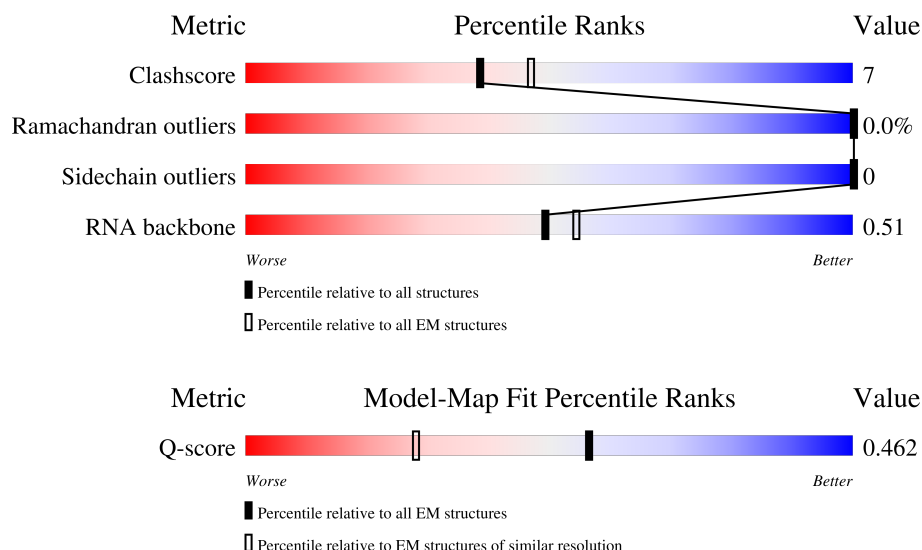
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

1 Overall quality at a glance

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

The reported resolution of this entry is 2.84 Å.

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



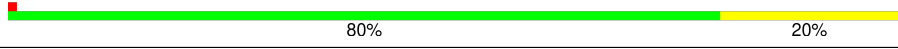
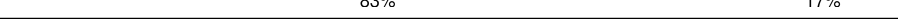
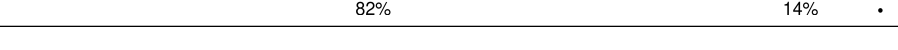
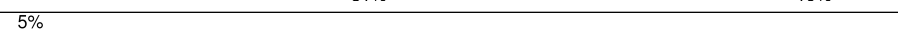
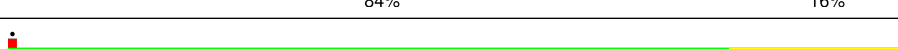
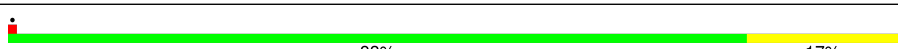
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	11884 (2.34 - 3.34)

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	CI	31	
2	L5	3675	
3	L7	120	

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

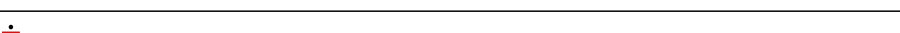
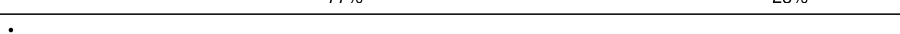
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Mol	Chain	Length	Quality of chain
29	LZ	135	
30	La	147	
31	Lb	121	
32	Lc	98	
33	Ld	107	
34	Le	128	
35	Lf	109	
36	Lg	114	
37	Lh	122	
38	Li	102	
39	Lj	86	
40	Lk	69	
41	Ll	50	
42	Lm	52	
43	Ln	24	
44	Lo	105	
45	Lp	91	
46	Lr	125	
47	Ls	196	
48	Lt	157	
49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

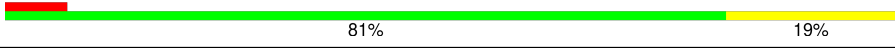
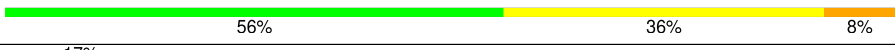
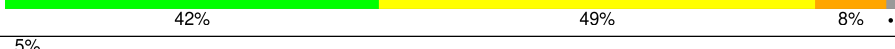
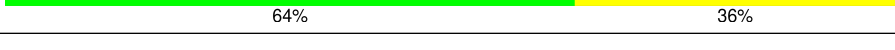
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Mol	Chain	Length	Quality of chain
54	SQ	144	
55	SR	135	
56	SS	145	
57	ST	143	
58	SU	104	
59	SZ	75	
60	Sc	64	
61	Sd	55	
62	Sf	67	
63	Sg	313	
64	SA	221	
65	SB	214	
66	SC	222	
67	SE	262	
68	SG	237	
69	SH	189	
70	SI	206	
71	SJ	185	
72	SL	153	
73	SN	150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

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Mol	Chain	Length	Quality of chain
79	Sa	102	
80	Sb	83	
81	Se	58	
82	S2	1740	
83	CB	856	
84	Et	76	
85	CE	73	

2 Entry composition

There are 89 unique types of molecules in this entry. The entry contains 225614 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 Transcription factor BTF3.

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

- Molecule 2 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	L5	3655	Total	C	N	O	P	1	0
			78445	34968	14346	25476	3655		

- Molecule 3 is a RNA chain called 5S rRNA.

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

- Molecule 4 is a RNA chain called 5.8S rRNA.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 26 is a protein called Ribosomal protein L24.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 72 is a protein called 40S ribosomal protein S11.

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

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

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

- Molecule 74 is a protein called Small ribosomal subunit protein uS11.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 82 is a RNA chain called 18S rRNA.

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

- Molecule 83 is a protein called Elongation factor 2.

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

- Molecule 84 is a RNA chain called E site tRNA.

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

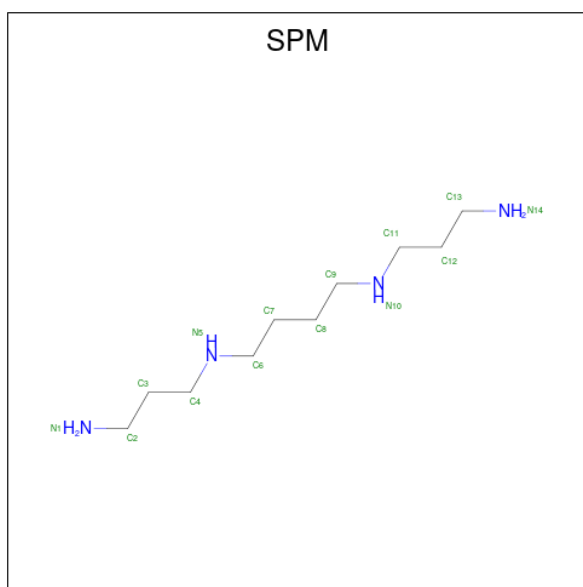
- Molecule 85 is a protein called Coiled-coil domain-containing protein 124.

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

- 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	LB	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	SS	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	L8	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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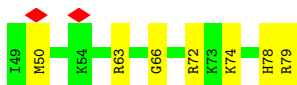
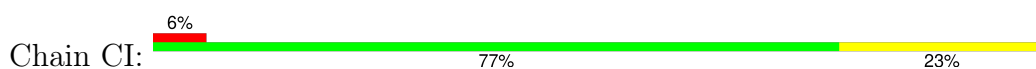
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Mol	Chain	Residues	Atoms		AltConf
89	Lj	1	Total 1	Zn 1	0
89	Lm	1	Total 1	Zn 1	0
89	Lo	1	Total 1	Zn 1	0
89	Lp	1	Total 1	Zn 1	0
89	Sa	1	Total 1	Zn 1	0

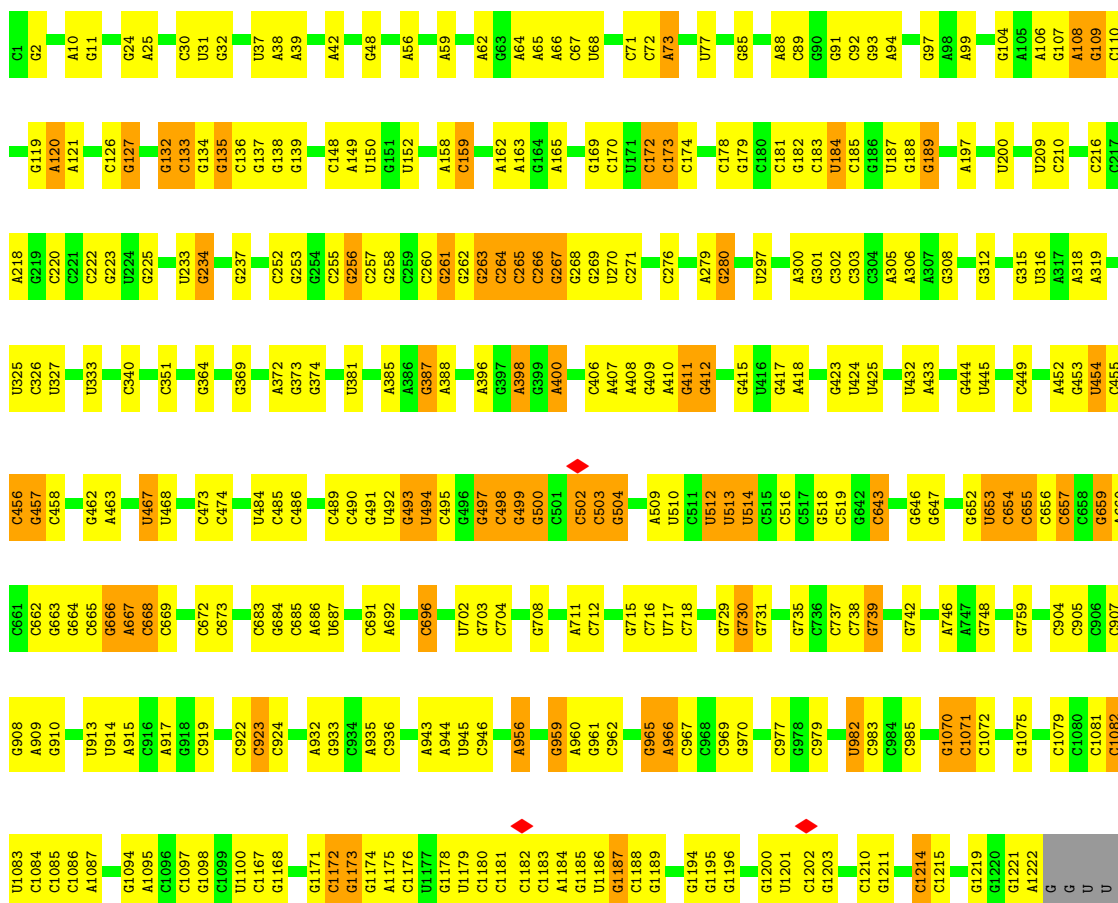
3 Residue-property plots

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

• Molecule 1: Transcription factor BTF3



• Molecule 2: 28S rRNA

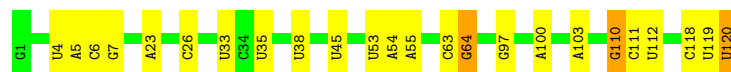
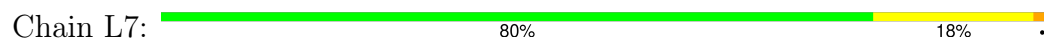




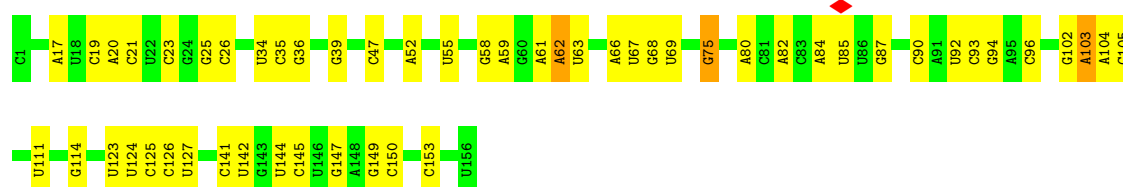
G4754	G4631	G4545	G4448	G4330	G4238	C4126	A3942	A3856	G3744	A3652	G2903	A2789
C4757	U4636	A4546	A4449	G4331	A4239	A4127	G3946	A3861	A3748	A3653	G2903	U2790
U4758	U4637	A4547	C4456	C4332	C4240	C4133	A3947	A3862	G3753	G3654	U2904	A2806
G4759	U4638	U4551	C4457	U4340	U4242	C4140	C3948	A3865	A3760	G3659	C2905	A2807
G4760	U4639	U4552	U4458	C4341	A2251	C4141	U3950	C3866	A3775	C3660	C2906	G2808
G4761	G4644	U4557	U4459	C4345	G4254	C4142	G3951	U3867	A3776	G3661	G2907	G2809
G4765	G4652	U4558	U4460	U4346	G4254	C4143	G3952	C3868	A3777	G3662	U2810	G2810
G4769	G4652	U4559	A4464	U4347	A4257	C4144	G3953	G3873	A3778	G3663	G2909	G2811
A4943	G4656	C4560	C4466	A4348	C4258	C4145	A3954	G3874	A3779	G3664	G2910	A2812
U4946	A4656	G4567	U4471	C4349	C4259	G4146	A4056	G3874	A3775	G3665	C3584	A2813
G4951	U4670	A4571	G4472	C4350	U4260	C4149	C4057	A3877	G3776	C3670	G3585	C2814
G4954	C4671	U4572	U4354	U4353	C4261	C4153	U4058	C3878	G3777	C3673	G3590	A2815
A4955	U4673	U4576	G4475	U4361	U4265	C4154	U4060	C3879	C3782	G3674	C3591	G2822
G4960	G4679	U4577	C4476	A4362	A4268	C4155	A4061	G3880	A3783	G3684	C3593	U2826
G4966	G4680	U4578	U4477	A4363	A4273	C4156	U4063	G3881	U3786	G3685	C3594	U2827
A4967	A4681	U4579	A4488	C4370	A4274	A4157	G4065	U3884	G3792	C3688	U3595	U2828
A4968	U4685	U4579	G4493	C4373	C4275	C4162	U4066	G3885	G3796	U3689	C3596	U2829
U4972	G4686	U4584	U4494	A4376	A4279	U4163	U4067	U3892	U3796	U3690	C3598	A2832
U4973	A4687	U4585	U4498	C4377	A4280	G4169	U4069	G3897	A3799	A3592	G3600	A2835
U4976	U4688	U4587	G4499	A4378	A4281	C4170	U4070	G3898	C3808	U3693	A3604	U2836
A4979	U4689	U4588	U4500	A4379	A4282	C4171	U4071	G3899	G3812	U3694	U3606	G2837
U4985	G4694	A4589	C4504	C4387	G4291	C4183	G4076	G3900	G3811	C3696	U3607	U2839
U4986	C4695	U4591	C4505	A4388	U4292	G4184	G4084	A3901	C3812	U3697	A3608	A2844
U4987	U4699	C4592	C4506	C4389	U4293	G4187	C4088	A3906	C3813	G3698	G3609	A2845
U4988	A4700	A4593	A4507	A4390	C4294	U4188	C4089	G3907	U3814	C3701	A3611	G2846
U4989	A4708	U4594	C4508	C4391	U4296	U4189	G4092	C3910	A3817	U3707	G3615	G2847
C4990	C4710	U4594	C4509	C4392	U4299	U4190	G4093	C3911	U3718	C3708	G3616	G2848
U4991	C4711	U4600	U4512	A4394	U4300	G4191	G4094	C3912	G3710	U3709	C3617	C2855
U4992	G4717	A4601	G4513	C4401	U4301	G4195	G4095	U3915	A3711	G3719	C3618	C2856
U4993	G4718	A4602	G4514	C4402	U4302	C4196	C4096	A3916	G3721	A3720	A3630	C2861
U4994	A4719	G4606	G4515	U4403	C4303	A4203	G4097	A3917	A3722	A3721	A3635	A2864
U4995	G4719	A4607	C4520	U4403	A4304	G4204	A4098	G3918	A3727	A3726	C3636	U2865
U5001	C4725	A4611	U4521	C4413	U4305	A4214	G4099	C3919	A3727	A3725	G3627	C2866
U5002	C4733	C4612	G4522	A4414	U4306	C4222	C4100	U3920	A3727	A3724	A3630	C2867
U5003	A4734	A4523	A4524	A4415	U4307	C4221	C4101	U3921	A3727	A3723	A3635	A2870
C5004	G4739	U4616	C4525	U4419	A4312	C4222	C4102	A3923	A3727	A3722	C3636	A2871
G5005	G4740	G4617	U4530	U4420	A4313	G4222	C4103	C3924	A3727	A3721	G3625	G2876
U5006	G4741	U4618	U4531	C4421	A4314	G4222	G4104	U3925	A3727	A3720	G3626	G2877
A5007	G4742	U4619	U4532	A4422	A4315	G4225	G4107	A3928	A3727	A3719	U3637	G2878
U5010	G4743	C4621	U4535	U4431	C4318	U4226	G4108	G3929	A3727	A3718	U3638	A2879
A5014	A4744	A4622	C4536	U4438	C4319	U4227	G4109	U3932	A3727	A3717	G3641	C2893
G5015	G4745	G4624	C4537	U4439	G4322	U4229	U4111	G3933	A3727	A3716	U3644	U2892
A5016	C4749	C4625	G4538	A4441	A4325	U4232	U4112	C3937	A3727	A3715	U3644	A2893
G5017	G4750	U4626	A4543	U4442	G4327	A4233	U4113	G3938	A3727	A3714	A3646	A2894
		U4628	A4544	C4447	G4328	G4236	G4115	G3939	A3727	A3713	A3647	C2899
					G4329	C4237	C4116		A3727	A3712	U2900	



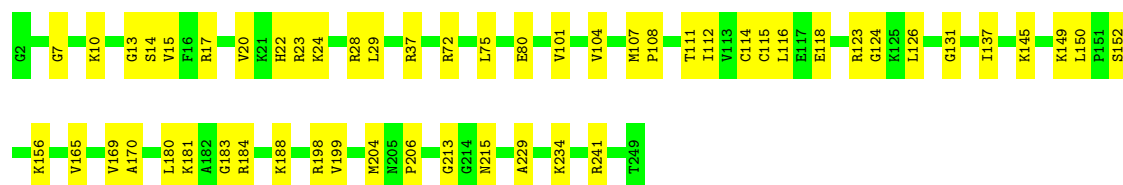
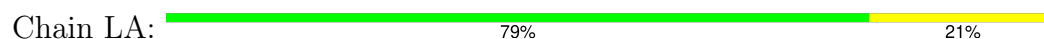
• Molecule 3: 5S rRNA



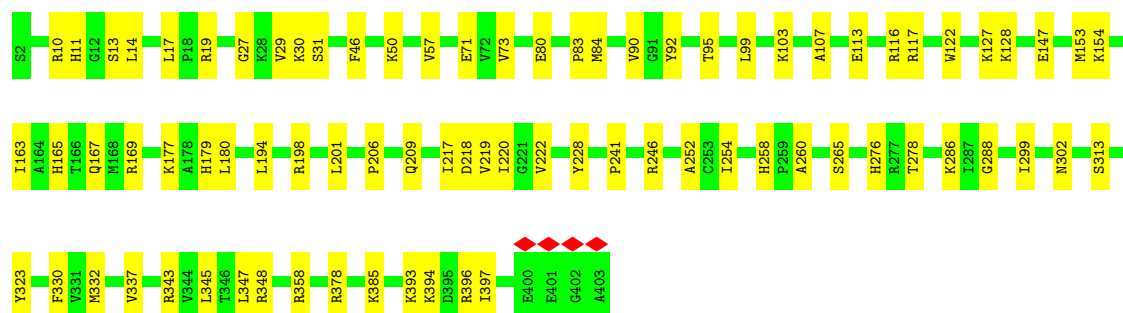
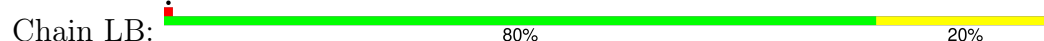
• Molecule 4: 5.8S rRNA



• Molecule 5: 60S ribosomal protein L8

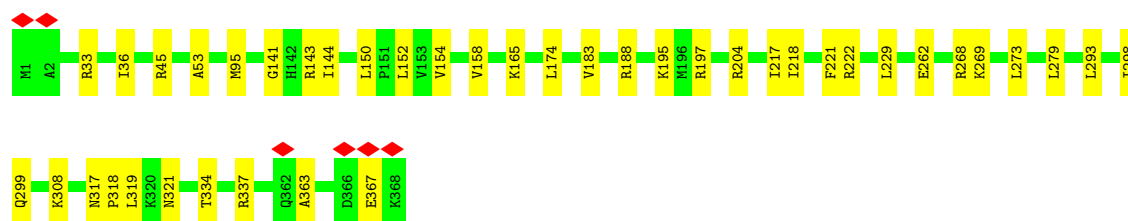


• Molecule 6: Large ribosomal subunit protein uL3



• Molecule 7: 60S ribosomal protein L4





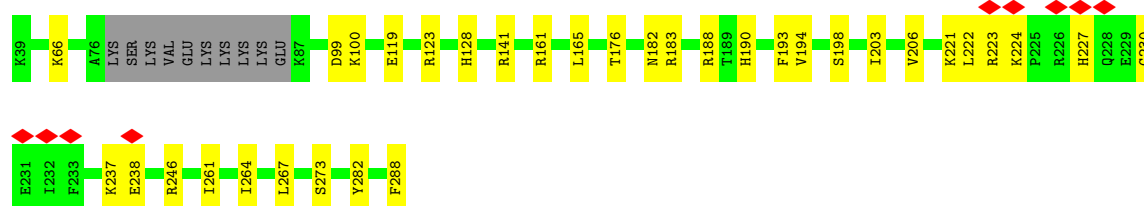
- Molecule 8: Large ribosomal subunit protein uL18

Chain LD: 83% 17%



- Molecule 9: Large ribosomal subunit protein eL6

Chain LE: 82% 14%



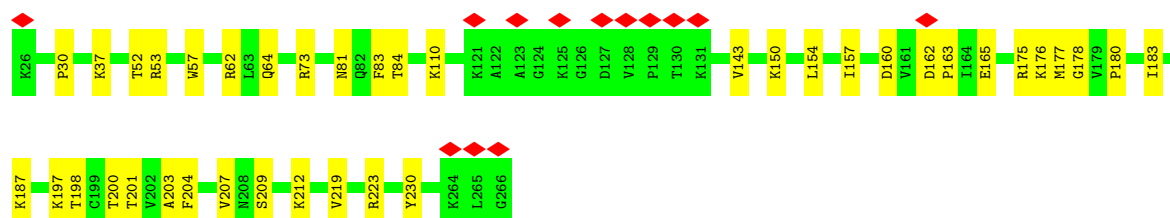
- Molecule 10: 60S ribosomal protein L7

Chain LF: 81% 19%

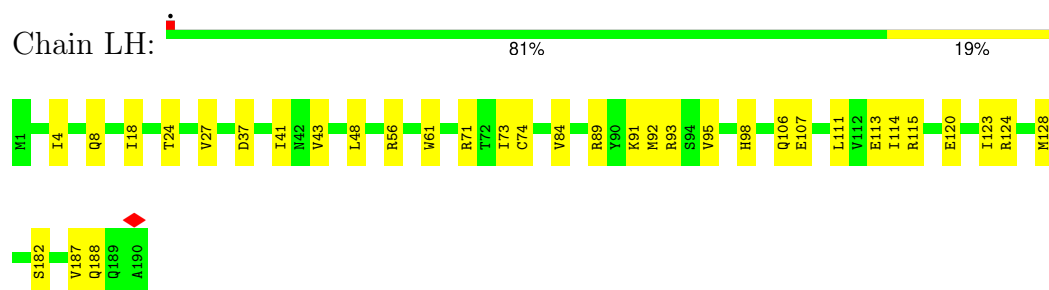


- Molecule 11: 60S ribosomal protein L7a

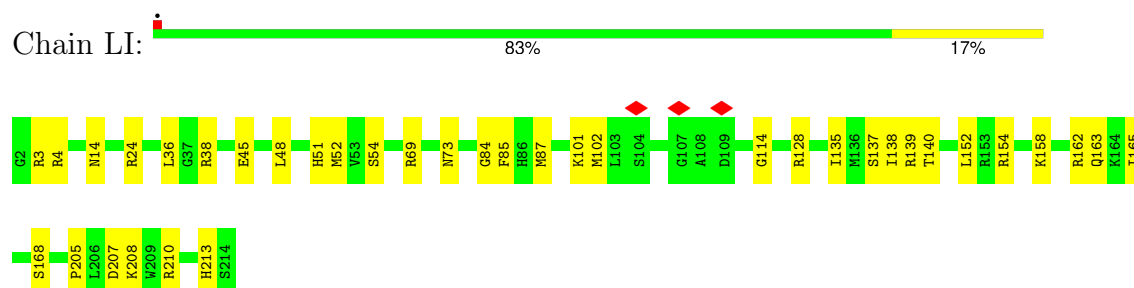
Chain LG: 5% 84% 16%



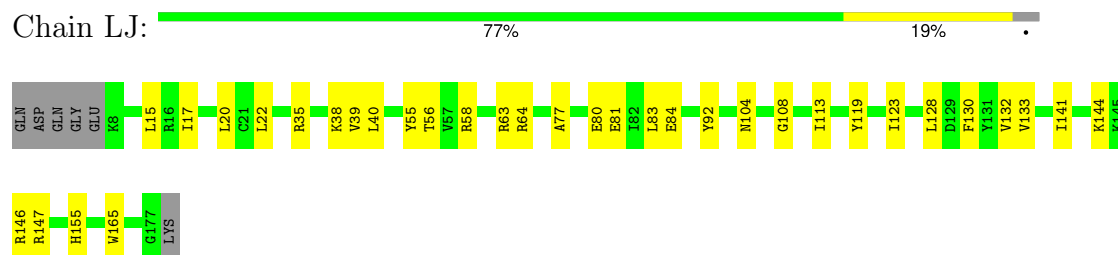
- Molecule 12: 60S ribosomal protein L9



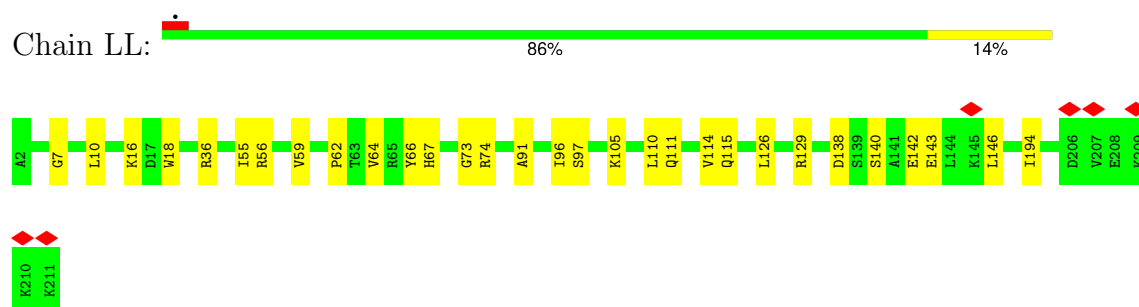
- Molecule 13: Ribosomal protein uL16-like



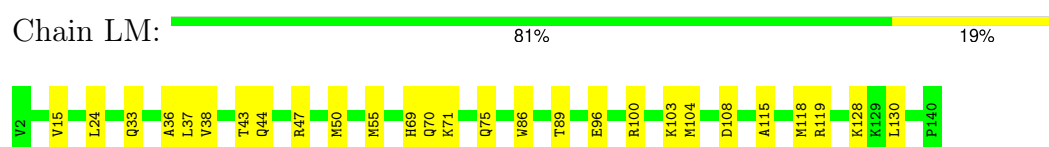
- Molecule 14: 60S ribosomal protein L11



- Molecule 15: Large ribosomal subunit protein eL13



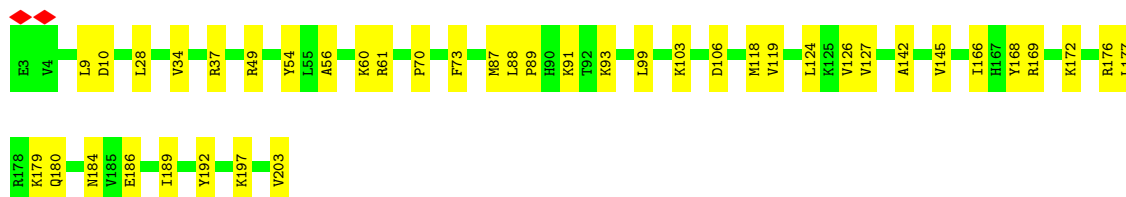
- Molecule 16: 60S ribosomal protein L14



• Molecule 17: 60S ribosomal protein L15

Chain LN:  86% 14%

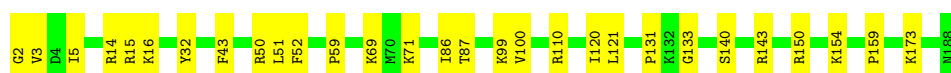
• Molecule 18: 60S ribosomal protein L13a

Chain LO:  80% 20%

• Molecule 19: 60S ribosomal protein L17

Chain LP:  82% 18%

• Molecule 20: 60S ribosomal protein L18

Chain LQ:  84% 16%

• Molecule 21: 60S ribosomal protein L19

Chain LR:  86% 14%

• Molecule 22: 60S ribosomal protein L18a

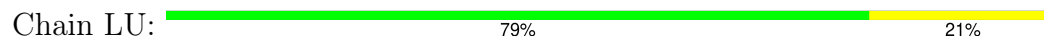
Chain LS:  88% 12%

• Molecule 23: 60S ribosomal protein L21

Chain LT:  87% 13%



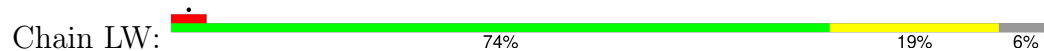
- Molecule 24: Heparin-binding protein HBp15



- Molecule 25: 60S ribosomal protein L23



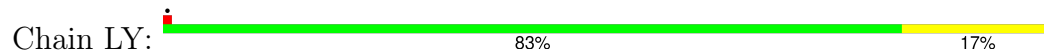
- Molecule 26: Ribosomal protein L24



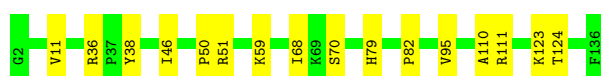
- Molecule 27: 60S ribosomal protein L23a



- Molecule 28: 60S ribosomal protein L26



- Molecule 29: 60S ribosomal protein L27

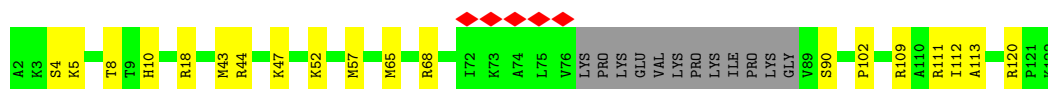
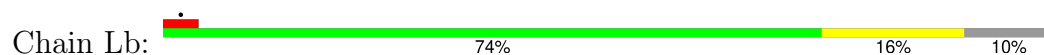


- Molecule 30: 60S ribosomal protein L27a

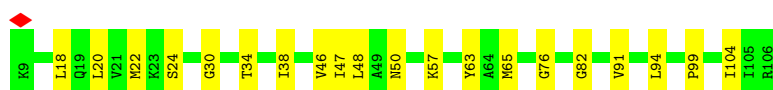
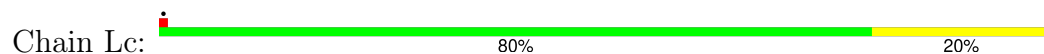




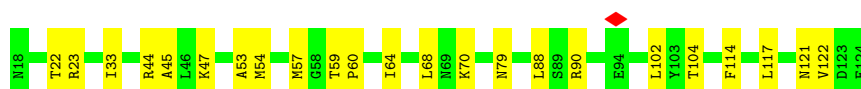
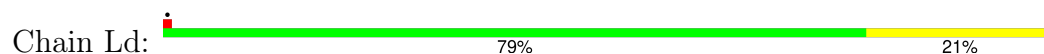
- Molecule 31: Large ribosomal subunit protein eL29



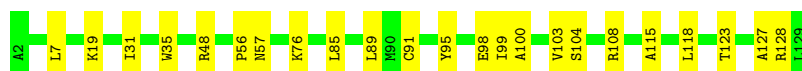
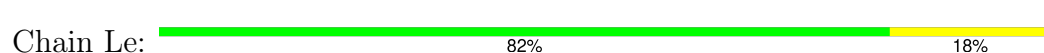
- Molecule 32: 60S ribosomal protein L30



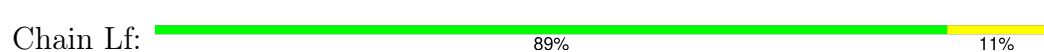
- Molecule 33: 60S ribosomal protein L31



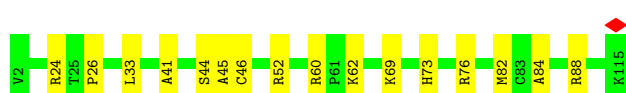
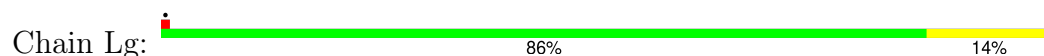
- Molecule 34: 60S ribosomal protein L32



- Molecule 35: 60S ribosomal protein L35a



- Molecule 36: 60S ribosomal protein L34



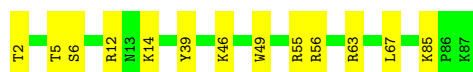
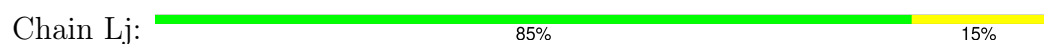
- Molecule 37: 60S ribosomal protein L35



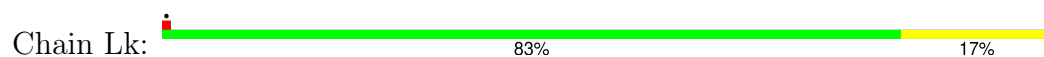
- Molecule 38: 60S ribosomal protein L36



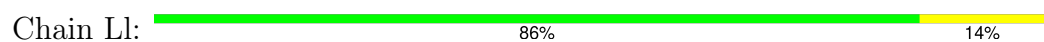
- Molecule 39: 60S ribosomal protein L37



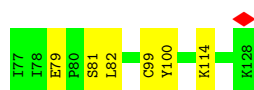
- Molecule 40: 60S ribosomal protein L38



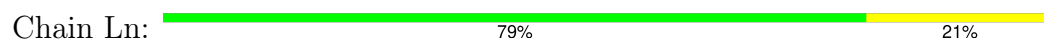
- Molecule 41: 60S ribosomal protein L39



- Molecule 42: Large ribosomal subunit protein eL40



- Molecule 43: 60S ribosomal protein L41

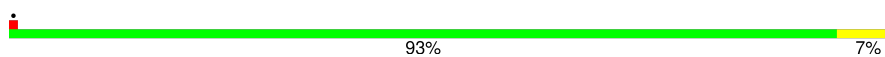


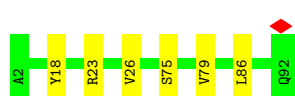
- Molecule 44: 60S ribosomal protein L36a

Chain Lo:  86% 14%



- Molecule 45: 60S ribosomal protein L37a

Chain Lp:  93% 7%



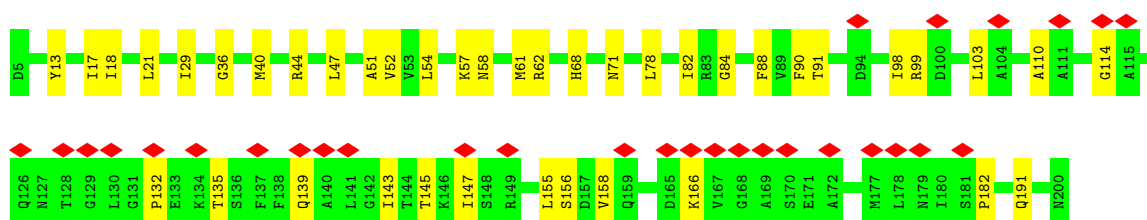
- Molecule 46: 60S ribosomal protein L28

Chain Lr:  92% 8%



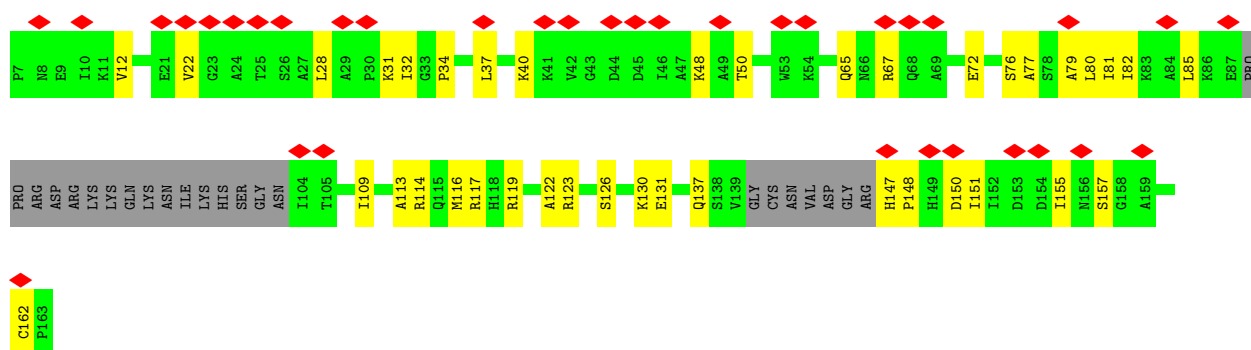
- Molecule 47: 60S acidic ribosomal protein P0

Chain Ls:  15% 79% 21%



- Molecule 48: Large ribosomal subunit protein uL11

Chain Lt:  22% 61% 25% 15%

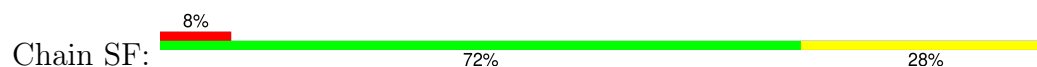


- Molecule 49: Small ribosomal subunit protein uS3

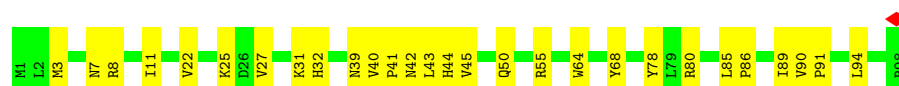
Chain SD:  88% 12%



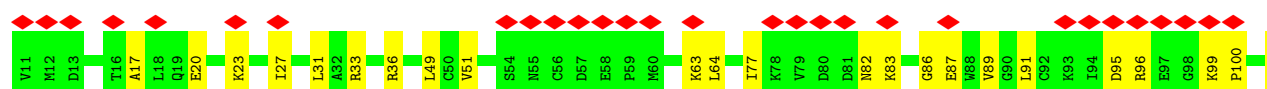
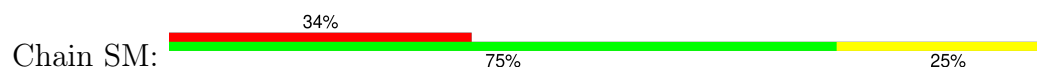
- Molecule 50: 40S ribosomal protein S5



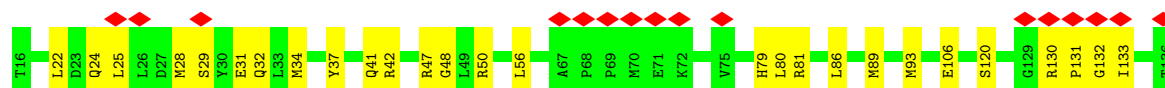
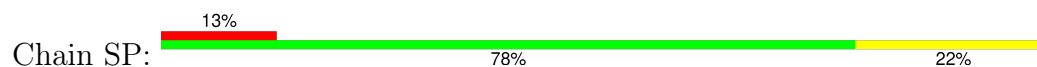
- Molecule 51: 40S ribosomal protein S10



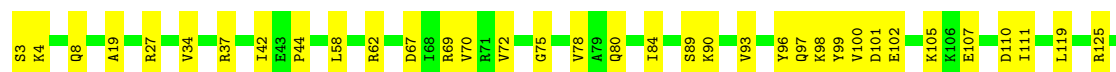
- Molecule 52: Small ribosomal subunit protein eS12

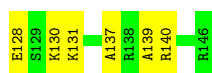


- Molecule 53: Small ribosomal subunit protein uS19

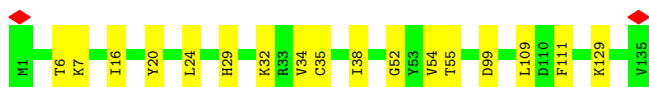


- Molecule 54: Small ribosomal subunit protein uS9

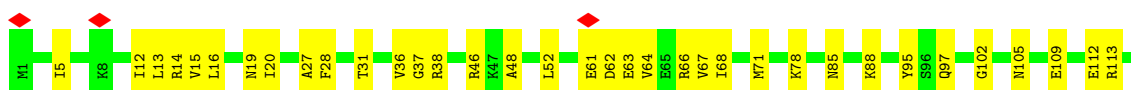




- Molecule 55: Small ribosomal subunit protein eS17



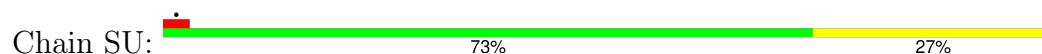
- Molecule 56: 40S ribosomal protein S18



- Molecule 57: 40S ribosomal protein S19



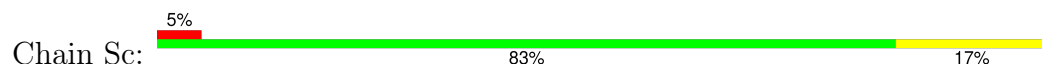
- Molecule 58: 40S ribosomal protein S20



- Molecule 59: Small ribosomal subunit protein eS25



- Molecule 60: 40S ribosomal protein S28





- Molecule 61: 40S ribosomal protein S29

Chain Sd: 67% 33%



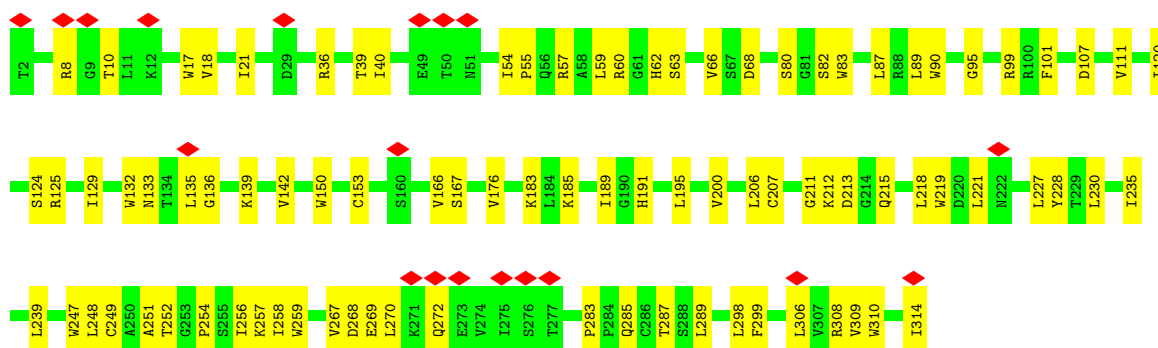
- Molecule 62: Ubiquitin-40S ribosomal protein S27a

Chain Sf: 13% 64% 36%



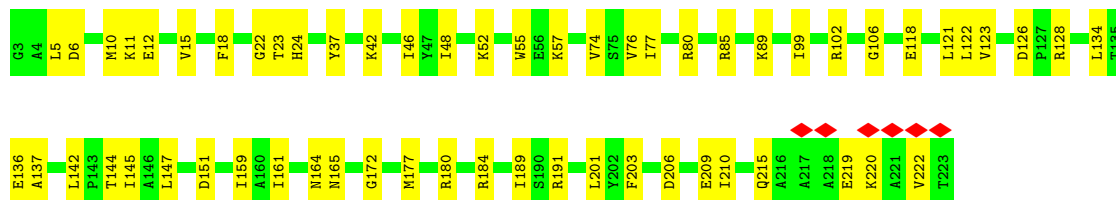
- Molecule 63: Receptor of activated protein C kinase 1

Chain Sg: 6% 72% 28%



- Molecule 64: 40S ribosomal protein SA

Chain SA: 73% 27%



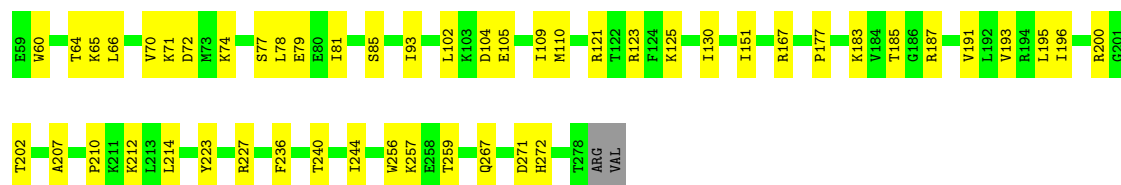
- Molecule 65: 40S ribosomal protein S3a

Chain SB: 79% 21%



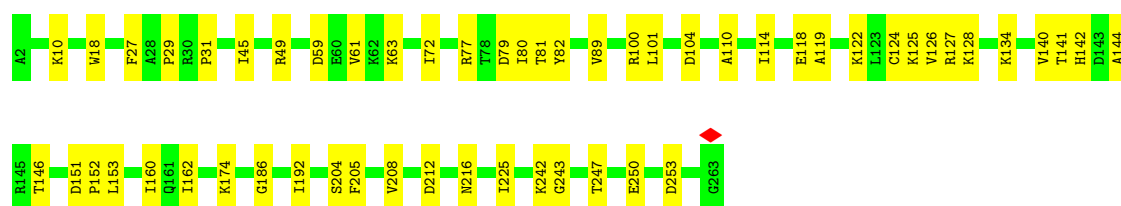
- Molecule 66: 40S ribosomal protein S2

Chain SC: 77% 23%



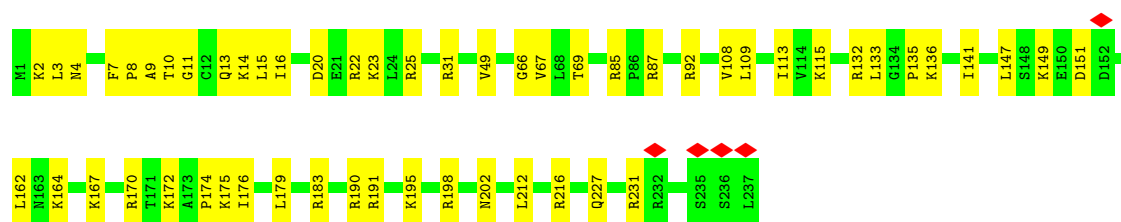
- Molecule 67: Small ribosomal subunit protein eS4, X isoform

Chain SE: 79% 21%



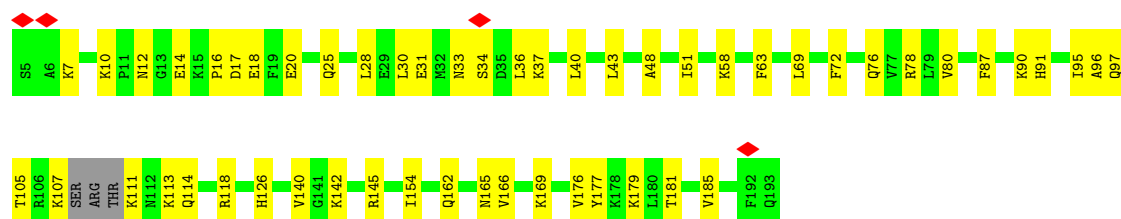
- Molecule 68: 40S ribosomal protein S6

Chain SG: 77% 23%

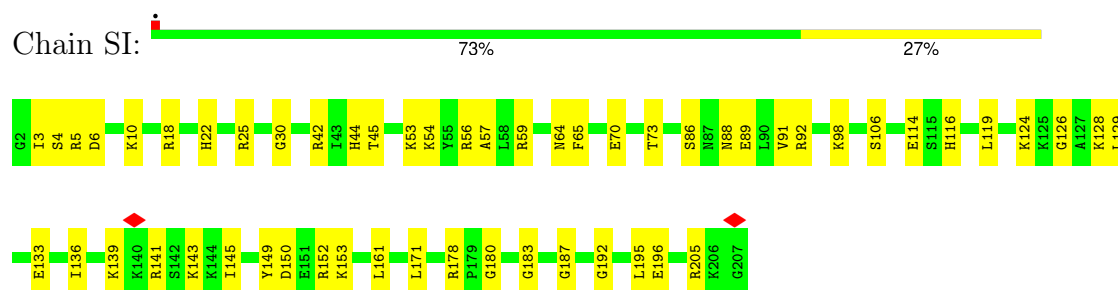


- Molecule 69: Small ribosomal subunit protein eS7

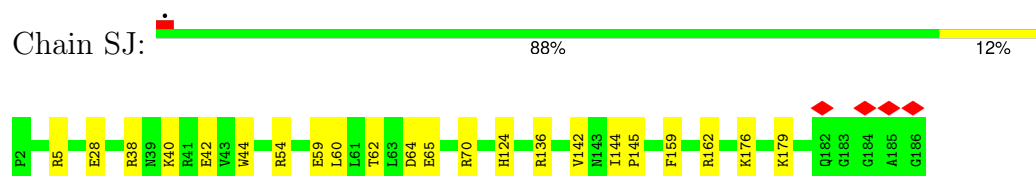
Chain SH: 70% 28%



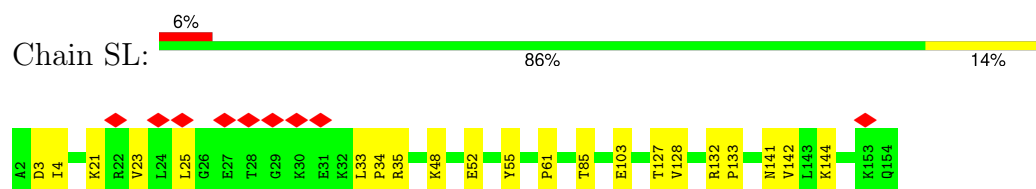
- Molecule 70: 40S ribosomal protein S8



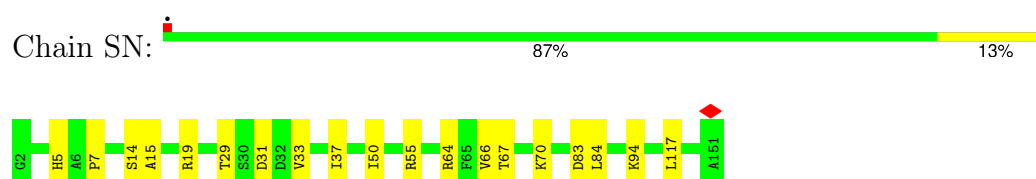
- Molecule 71: 40S ribosomal protein S9



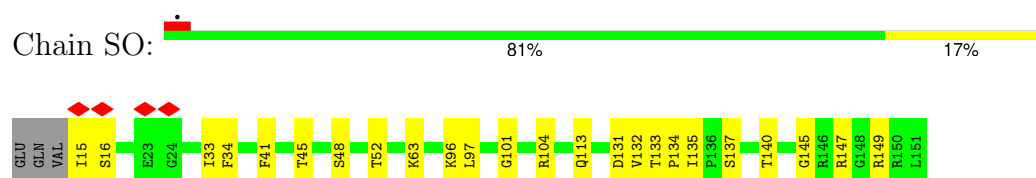
- Molecule 72: 40S ribosomal protein S11



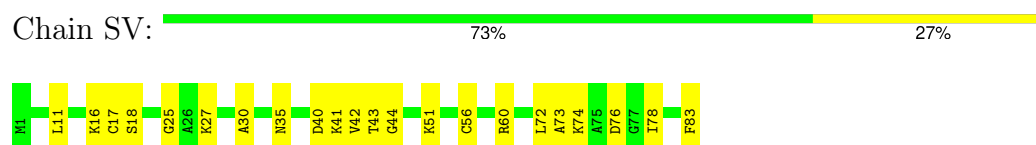
- Molecule 73: 40S ribosomal protein S13



- Molecule 74: Small ribosomal subunit protein uS11



- Molecule 75: Small ribosomal subunit protein eS21



- Molecule 76: 40S ribosomal protein S15a

Chain SW:  81% 19%



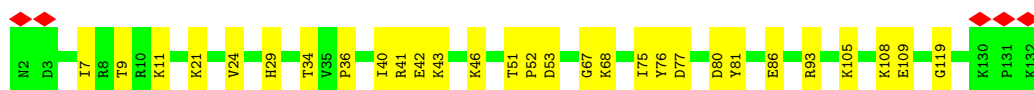
- Molecule 77: 40S ribosomal protein S23

Chain SX:  77% 23%



- Molecule 78: 40S ribosomal protein S24

Chain SY:  78% 22%



- Molecule 79: 40S ribosomal protein S26

Chain Sa:  83% 17%



- Molecule 80: Small ribosomal subunit protein eS27

Chain Sb:  76% 24%



- Molecule 81: Small ribosomal subunit protein eS30

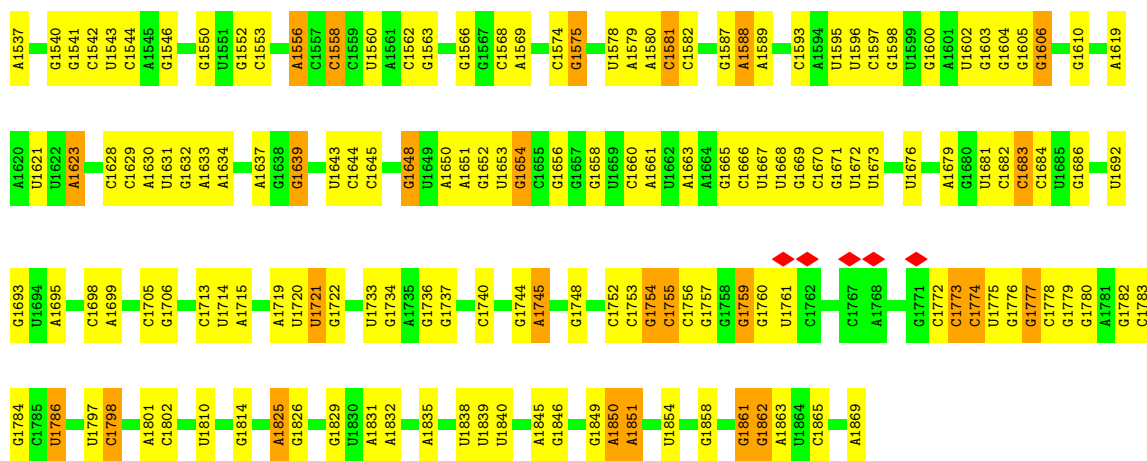
Chain Se:  7% 81% 19%



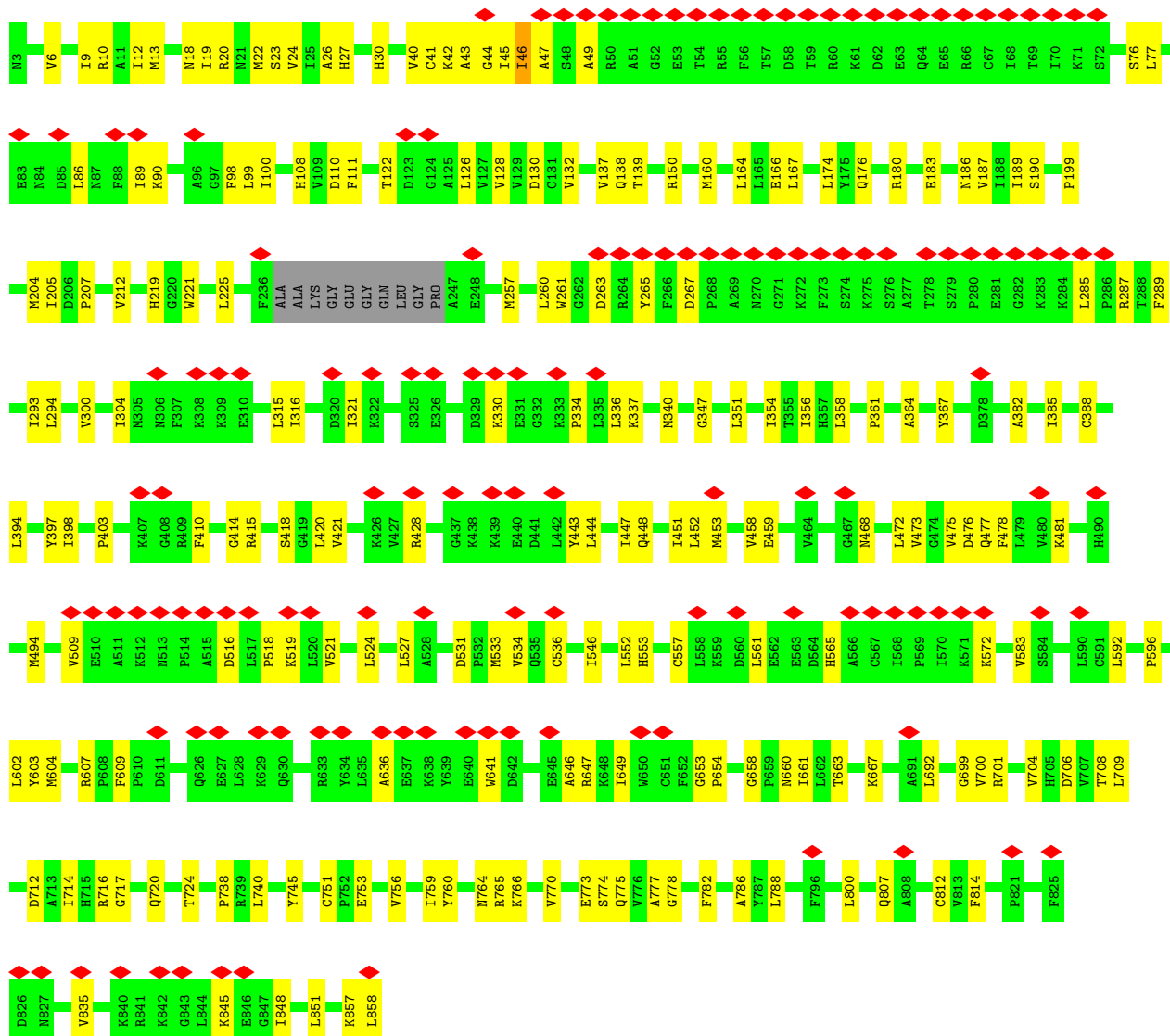
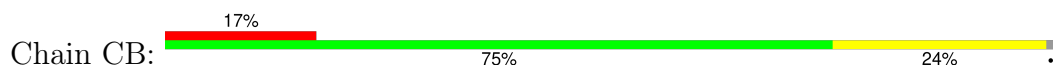
- Molecule 82: 18S rRNA

Chain S2:  56% 36% 8%

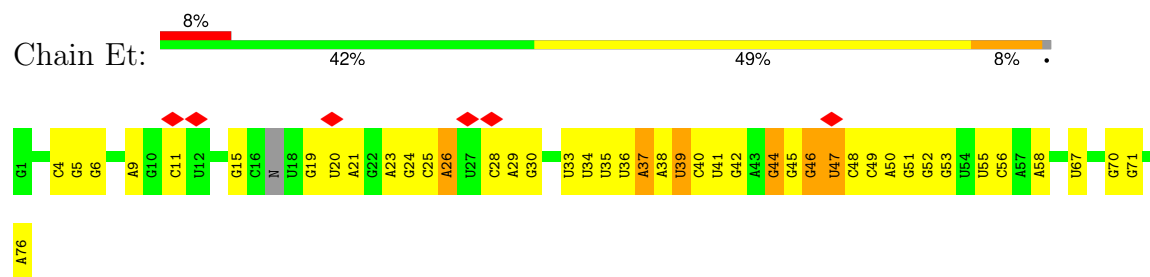
C1433	U1326	U1239	A1133	G925	G836	U689	G601	A519	C436	U328	C179	G95	U1
C1434	G1327	A1240	A1137	G928	A837	G692	A604	A520	G437	G329	C186	A99	C4
C1435	G1328	A1241	C1138	G929	G838	A693	A605	A521	A438	G330	C187	A102	G6
C1436	N1337	U1242	C1139	G930	C840	G695	G606	A522	C441	G332	G190	A103	C13
C1437	G1338	U1244	G1140	G931	G841	G696	G607	A525	C442	G333	A191	A104	C14
A1438	U1342	B81248	A1143	G932	C842	G697	G608	A526	A445	C334	A192	U105	C16
A1439	U1347	A1251	A1144	G933	G843	G698	C614	A527	A448	A339	A193	A106	G16
U1442	G1348	C1252	A1145	G934	G845	G699	G615	A528	A449	C340	C194	A107	C17
A1446	U1349	A1253	A1146	G935	G846	G730	G616	A529	A450	G347	C195	G108	C18
A1447	G1351	G1254	A1147	G936	A847	G731	A616	A531	C450	A348	C196	U109	
A1448	U1352	U1255	A1148	G937	A848	G732	G617	A532	C451	A349	U197	G113	A25
G1449	G1354	G1256	A1149	G938	G851	G733	G623	A533	C452	C350	U198	G114	U26
G1450	C1355	U1257	A1150	G939	G852	C736	G624	A536	C453	A349	U199	U115	A27
A1452	A1356	A1258	A1151	G940	G853	C737	C629	C537	U454	C350	U199	U116	U28
A1453	G1357	A1259	U1152	G941	G854	C738	A629	U540	C455	U352	G200	C117	G29
A1454	A1358	U1260	U1153	G942	G855	C739	A630	U541	C456	U353	G201	C118	C30
U1463	U1359	C1264	U1154	G943	G856	C740	A631	U542	C462	A360	G202	U121	G33
U1477	U1360	C1267	U1155	G944	G857	C741	A641	U543	C463	C362	G203	G122	A38
U1478	U1367	U1271	U1156	G945	G858	C742	A642	U544	C464	A363	G204	G125	G41
G1479	U1371	C1272	U1157	G946	G859	C743	A643	U545	C465	A364	U214	G126	A42
A1480	U1372	G1273	A1158	G947	G860	C744	A644	U546	C466	U367	C223	G130	U43
G1481	C1373	G1274	A1159	G948	G861	C745	A645	U547	C467	U368	A224	U44	U44
G1482	G1374	G1275	A1160	G949	G862	C746	A646	U548	C468	C369	G370	A45	A45
G1375	A1276	A1276	A1161	G950	G863	C747	A647	U549	C469	A371	G371	U137	A46
A1487	C1277	C1277	A1162	G951	G864	C748	A648	U550	C470	U372	G291	G142	C49
C1488	A1376	A1278	A1163	G952	G865	C749	A649	U551	C471	G373	A292	U143	A50
A1488	U1377	C1279	U1201	G953	G866	C750	A650	U552	C472	U374	C293	U144	U51
A1489	A1378	C1280	U1202	G954	G867	C751	A651	U553	C473	U375	U294	U145	G52
A1490	G1379	C1281	G1203	G955	G868	C752	A652	U554	C474	A376	C295	G146	
G1491	A1383	C1282	A1204	G956	G869	C753	A653	U555	C475	G377	G296		
C1493	U1286	G1286	U1205	G957	G870	C754	A654	U556	C476	U378	G297		G56
U1494	A1287	A1287	G1206	G958	G871	C755	A655	U557	C477	C379	A302	A149	U57
U1495	U1388	U1288	A1208	G959	G872	C756	A656	U558	C478	U380	A150	A150	C58
G1496	G1389	U1289	C1215	G960	G873	C757	A657	U559	C479	C381	C151	U152	U59
G1497	G1394	U1290	C1216	G961	G874	C758	A658	U560	C480	C382	U152	G153	A64
A1498	A1291	A1291	A1217	G962	G875	C759	A659	U561	C481	C383	U153	U154	G65
U1499	G1398	C1218	C1218	G963	G876	C760	A660	U562	C482	U384	G309	A158	G66
G1500	U1294	A1295	U1101	G964	G877	C761	A661	U563	C483	U385	C310	A159	C67
A1401	A1295	A1295	G1102	G965	G878	C762	A662	U564	C484	U386	C311	U160	A69
C1512	A1402	G1298	C1109	G966	G879	C763	A663	U565	C485	U387	A313	C162	G71
C1513	G1513	G1299	U1112	G967	G880	C764	A664	U566	C486	U388	G316	G165	C72
G1514	A1405	A1299	U1113	G968	G881	C765	A665	U567	C487	U389	C317	G166	C73
C1518	G1406	A1301	U1114	G969	G882	C766	A666	U568	C488	U390	A318	A166	G74
U1519	U1407	G1302	U1115	G970	G883	C767	A667	U569	C489	U391	C319	G167	U76
U1519	U1408	C1303	U1116	G971	G884	C768	A668	U570	C490	U392	G320	C168	G75
G1520	G1413	U1304	U1117	G972	G885	C769	A669	U571	C491	U393	G420	U169	A83
C1521	U1308	U1228	A1228	G973	G886	C770	A670	U572	C492	U394	U428	A171	A84
G1528	C1309	C1229	C1117	G974	G887	C771	A671	U573	C493	U395	C323	C324	A85
C1417	U1310	C1230	U1118	G975	G888	C772	A672	U574	C494	U396	C325	U172	U93
C1418	C1231	C1231	U1119	G976	G889	C773	A673	U575	C495	U397	C326	A175	G94
C1419	U1311	U1232	G1121	G977	G890	C774	A674	U576	C496	U398	G327		
G1420	G1312	A1313	G1122	G978	G891	C775	A675	U577	C497	U399			
A1531	A1532	A1533	C1123	G979	G892	C776	A676	U578	C498	U400			
G1536	G1536	G1536	G1124	G980	G893	C777	A677	U579	C499	U401			



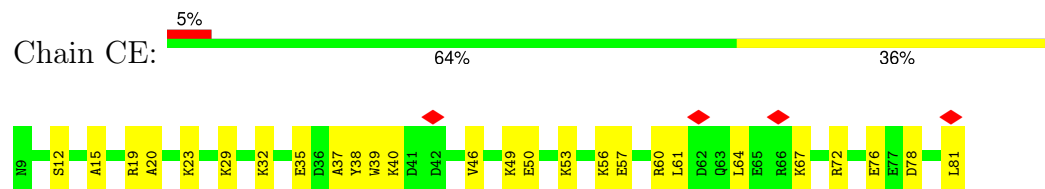
• Molecule 83: Elongation factor 2



● Molecule 84: E site tRNA



● Molecule 85: Coiled-coil domain-containing protein 124



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	86934	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	0.165	Depositor
Minimum map value	-0.047	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0136	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: A2M, UR3, ZN, OMU, UY1, B8N, PSU, MA6, MG, OMG, 4AC, 5MC, SPD, OMC, 6MZ, SPM, 1MA, G7M

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	CI	0.16	0/247	0.30	0/323
2	L5	0.29	0/85098	0.30	0/132762
3	L7	0.27	0/2861	0.25	0/4459
4	L8	0.28	0/3631	0.28	0/5657
5	LA	0.29	0/1936	0.42	0/2596
6	LB	0.26	0/3306	0.40	0/4424
7	LC	0.27	0/2981	0.37	0/4002
8	LD	0.22	0/2428	0.33	0/3252
9	LE	0.22	0/1973	0.40	0/2645
10	LF	0.26	0/1905	0.33	0/2539
11	LG	0.23	0/1960	0.38	0/2637
12	LH	0.23	0/1537	0.36	0/2066
13	LI	0.24	0/1751	0.35	0/2340
14	LJ	0.20	0/1385	0.40	0/1852
15	LL	0.23	0/1732	0.31	0/2315
16	LM	0.26	0/1161	0.40	0/1554
17	LN	0.28	0/1746	0.34	0/2338
18	LO	0.27	0/1682	0.37	0/2250
19	LP	0.28	0/1268	0.41	0/1701
20	LQ	0.28	0/1537	0.37	0/2052
21	LR	0.24	0/1582	0.37	0/2091
22	LS	0.27	0/1493	0.36	0/2003
23	LT	0.24	0/1326	0.33	0/1770
24	LU	0.25	0/839	0.52	0/1126
25	LV	0.25	0/993	0.37	0/1332
26	LW	0.22	0/959	0.37	0/1270
27	LX	0.23	0/1002	0.36	0/1345
28	LY	0.24	0/1132	0.36	0/1504
29	LZ	0.23	0/1130	0.37	0/1507
30	La	0.26	0/1191	0.32	0/1591
31	Lb	0.21	0/889	0.38	0/1175

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Lc	0.25	0/774	0.38	0/1038
33	Ld	0.25	0/903	0.38	0/1216
34	Le	0.27	0/1071	0.33	0/1429
35	Lf	0.28	0/895	0.37	0/1198
36	Lg	0.25	0/916	0.33	0/1220
37	Lh	0.22	0/1023	0.33	0/1351
38	Li	0.21	0/843	0.30	0/1115
39	Lj	0.28	0/720	0.40	0/952
40	Lk	0.21	0/575	0.42	0/761
41	Ll	0.26	0/454	0.30	0/599
42	Lm	0.23	0/435	0.35	0/575
43	Ln	0.26	0/231	0.35	0/294
44	Lo	0.26	0/876	0.35	0/1156
45	Lp	0.25	0/718	0.34	0/953
46	Lr	0.25	0/1017	0.33	0/1364
47	Ls	0.13	0/1519	0.34	0/2052
48	Lt	0.16	0/1009	0.48	0/1363
49	SD	0.15	0/1793	0.30	0/2414
50	SF	0.18	0/1516	0.37	0/2037
51	SK	0.18	0/851	0.46	0/1147
52	SM	0.14	0/950	0.39	0/1275
53	SP	0.17	0/1003	0.39	0/1342
54	SQ	0.18	0/1160	0.40	0/1553
55	SR	0.19	0/1105	0.47	0/1484
56	SS	0.18	0/1216	0.38	0/1628
57	ST	0.17	0/1131	0.38	0/1515
58	SU	0.19	0/831	0.49	0/1115
59	SZ	0.19	0/604	0.46	0/810
60	Sc	0.19	0/508	0.39	0/680
61	Sd	0.18	0/470	0.32	0/623
62	Sf	0.15	0/560	0.46	0/745
63	Sg	0.15	0/2493	0.39	0/3394
64	SA	0.19	0/1778	0.37	0/2416
65	SB	0.19	0/1765	0.38	0/2362
66	SC	0.21	0/1744	0.36	0/2357
67	SE	0.18	0/2118	0.36	0/2849
68	SG	0.16	0/1946	0.36	0/2590
69	SH	0.18	0/1519	0.42	0/2033
70	SI	0.21	0/1715	0.37	0/2287
71	SJ	0.17	0/1550	0.32	0/2069
72	SL	0.21	0/1268	0.31	0/1696
73	SN	0.19	0/1232	0.27	0/1656
74	SO	0.23	0/1037	0.41	0/1391

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	SV	0.20	0/643	0.38	0/860
76	SW	0.23	0/1051	0.35	0/1406
77	SX	0.20	0/1116	0.37	0/1490
78	SY	0.18	0/1083	0.42	0/1438
79	Sa	0.22	0/836	0.35	0/1121
80	Sb	0.20	0/665	0.37	0/891
81	Se	0.16	0/465	0.38	0/612
82	S2	0.24	0/39756	0.28	0/61939
83	CB	0.15	0/6734	0.37	1/9094 (0.0%)
84	Et	0.27	0/1778	0.44	0/2767
85	CE	0.21	0/616	0.47	0/812
All	All	0.25	0/237246	0.33	1/347012 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
54	SQ	0	1
74	SO	0	1
All	All	0	2

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
83	CB	46	ILE	N-CA-C	-6.57	106.89	113.20

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
74	SO	137	SER	Peptide
54	SQ	107	GLU	Peptide

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	CI	247	0	283	12	0
2	L5	78445	0	39719	780	0
3	L7	2561	0	1295	15	0
4	L8	3315	0	1685	26	0
5	LA	1898	0	1993	40	0
6	LB	3238	0	3376	58	0
7	LC	2927	0	3104	32	0
8	LD	2382	0	2410	34	0
9	LE	1935	0	2096	27	0
10	LF	1870	0	1996	33	0
11	LG	1927	0	2074	28	0
12	LH	1518	0	1601	24	0
13	LI	1711	0	1749	25	0
14	LJ	1362	0	1396	31	0
15	LL	1701	0	1818	25	0
16	LM	1138	0	1204	20	0
17	LN	1701	0	1749	23	0
18	LO	1650	0	1794	32	0
19	LP	1242	0	1269	19	0
20	LQ	1513	0	1628	20	0
21	LR	1566	0	1729	21	0
22	LS	1453	0	1490	15	0
23	LT	1298	0	1366	18	0
24	LU	825	0	850	15	0
25	LV	979	0	1039	10	0
26	LW	945	0	1003	23	0
27	LX	985	0	1066	9	0
28	LY	1115	0	1205	16	0
29	LZ	1107	0	1182	12	0
30	La	1162	0	1213	10	0
31	Lb	876	0	948	19	0
32	Lc	764	0	804	12	0
33	Ld	888	0	930	14	0
34	Le	1053	0	1147	16	0
35	Lf	876	0	912	10	0
36	Lg	906	0	998	14	0
37	Lh	1015	0	1148	14	0
38	Li	832	0	917	7	0
39	Lj	705	0	737	13	0
40	Lk	569	0	637	8	0
41	Ll	444	0	483	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	Lm	429	0	465	5	0
43	Ln	230	0	276	4	0
44	Lo	862	0	929	35	0
45	Lp	708	0	756	5	0
46	Lr	1002	0	1068	6	0
47	Ls	1496	0	1540	79	0
48	Lt	998	0	1032	54	0
49	SD	1765	0	1865	18	0
50	SF	1495	0	1549	64	0
51	SK	827	0	854	21	0
52	SM	940	0	965	18	0
53	SP	985	0	1031	38	0
54	SQ	1142	0	1213	28	0
55	SR	1090	0	1149	14	0
56	SS	1198	0	1261	28	0
57	ST	1112	0	1146	29	0
58	SU	821	0	883	21	0
59	SZ	598	0	656	17	0
60	Sc	506	0	536	11	0
61	Sd	459	0	452	16	0
62	Sf	548	0	551	19	0
63	Sg	2436	0	2393	57	0
64	SA	1741	0	1746	42	0
65	SB	1738	0	1809	31	0
66	SC	1707	0	1791	35	0
67	SE	2076	0	2177	37	0
68	SG	1923	0	2089	49	0
69	SH	1497	0	1590	39	0
70	SI	1686	0	1772	40	0
71	SJ	1525	0	1640	15	0
72	SL	1247	0	1323	14	0
73	SN	1208	0	1294	14	0
74	SO	1024	0	1050	17	0
75	SV	636	0	637	16	0
76	SW	1034	0	1080	19	0
77	SX	1098	0	1165	28	0
78	SY	1065	0	1142	21	0
79	Sa	821	0	870	13	0
80	Sb	651	0	672	15	0
81	Se	459	0	503	12	0
82	S2	36953	0	18679	457	0
83	CB	6605	0	6678	273	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
84	Et	1593	0	810	50	0
85	CE	613	0	625	63	0
86	L5	177	0	0	0	0
86	L7	3	0	0	0	0
86	L8	5	0	0	0	0
86	LA	1	0	0	0	0
86	LB	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
86	SS	1	0	0	0	0
87	L5	98	0	182	4	0
88	L5	80	0	152	4	0
88	L8	10	0	19	0	0
88	LN	10	0	19	1	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	225614	0	170127	2733	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 7.

All (2733) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Lo:106:PHE:CZ	85:CE:39:TRP:CG	1.93	1.53
53:SP:130:ARG:NH1	83:CB:858:LEU:HD23	1.24	1.43
82:S2:1825:A:N6	83:CB:717:GLY:HA3	1.12	1.39
53:SP:133:ILE:HG21	83:CB:709:LEU:N	1.36	1.37
82:S2:1825:A:N6	83:CB:717:GLY:CA	1.87	1.37
82:S2:1825:A:C2	83:CB:714:ILE:HG13	1.59	1.37
48:Lt:34:PRO:CG	83:CB:775:GLN:O	1.79	1.31
82:S2:1825:A:H2	83:CB:714:ILE:CG1	1.42	1.30
47:Ls:147:ILE:CG1	83:CB:204:MET:SD	2.20	1.29

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Lo:106:PHE:CZ	85:CE:39:TRP:CD2	2.20	1.28
53:SP:130:ARG:NH1	83:CB:858:LEU:CD2	1.95	1.28
47:Ls:155:LEU:CD1	83:CB:263:ASP:OD2	1.82	1.27
1:CI:79:ARG:NH1	2:L5:2708:U:O2'	1.68	1.26
47:Ls:155:LEU:HD12	83:CB:263:ASP:OD2	1.23	1.25
50:SF:133:THR:HA	84:Et:40:C:O5'	1.35	1.24
50:SF:131:ALA:O	84:Et:39:U:H4'	1.35	1.24
48:Lt:34:PRO:HB3	83:CB:777:ALA:N	1.52	1.22
82:S2:1825:A:C2	83:CB:714:ILE:CG1	2.19	1.22
47:Ls:139:GLN:HB3	83:CB:180:ARG:CD	1.70	1.20
53:SP:133:ILE:HG23	83:CB:708:THR:CB	1.71	1.19
53:SP:130:ARG:HH11	83:CB:858:LEU:CD2	1.54	1.19
47:Ls:139:GLN:OE1	83:CB:180:ARG:HD3	1.03	1.18
50:SF:133:THR:C	84:Et:39:U:HO2'	1.51	1.17
2:L5:4419:U:O2	83:CB:765:ARG:NE	1.80	1.15
47:Ls:147:ILE:CG2	83:CB:204:MET:SD	2.35	1.14
50:SF:131:ALA:O	84:Et:39:U:C4'	1.96	1.14
44:Lo:106:PHE:CE2	85:CE:39:TRP:CE2	2.36	1.13
44:Lo:106:PHE:HZ	85:CE:39:TRP:CD2	1.59	1.13
2:L5:1776:A:H5''	85:CE:64:LEU:CD1	1.78	1.13
44:Lo:106:PHE:HE2	85:CE:39:TRP:CE2	1.66	1.13
47:Ls:147:ILE:HG13	83:CB:204:MET:SD	1.86	1.12
2:L5:1776:A:C5'	85:CE:64:LEU:HD13	1.78	1.12
47:Ls:139:GLN:OE1	83:CB:180:ARG:CD	1.97	1.12
50:SF:134:VAL:CG2	84:Et:40:C:O2'	1.99	1.11
47:Ls:139:GLN:CD	83:CB:180:ARG:HD3	1.76	1.11
48:Lt:34:PRO:HG2	83:CB:775:GLN:O	0.94	1.10
50:SF:130:ARG:NH1	84:Et:37:A:H8	1.48	1.10
2:L5:4419:U:O2	83:CB:765:ARG:CD	2.00	1.10
53:SP:133:ILE:HG23	83:CB:708:THR:HB	1.17	1.09
53:SP:133:ILE:HG23	83:CB:708:THR:CA	1.81	1.08
50:SF:130:ARG:NH1	84:Et:37:A:C8	2.17	1.08
48:Lt:37:LEU:HD11	83:CB:777:ALA:HB1	1.20	1.08
50:SF:133:THR:CA	84:Et:39:U:O2'	2.01	1.08
53:SP:133:ILE:CG2	83:CB:709:LEU:N	2.17	1.07
50:SF:133:THR:C	84:Et:39:U:O2'	1.96	1.06
53:SP:133:ILE:CG2	83:CB:708:THR:HB	1.85	1.06
82:S2:1825:A:H62	83:CB:717:GLY:CA	1.56	1.05
48:Lt:34:PRO:HA	83:CB:777:ALA:HA	1.39	1.04
44:Lo:106:PHE:CZ	85:CE:39:TRP:CD1	2.44	1.04
44:Lo:106:PHE:HZ	85:CE:39:TRP:CG	1.49	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SF:134:VAL:HG23	84:Et:40:C:O2'	1.55	1.04
53:SP:133:ILE:HG21	83:CB:709:LEU:H	0.89	1.03
47:Ls:147:ILE:HG12	83:CB:204:MET:SD	1.94	1.03
14:LJ:55:TYR:OH	85:CE:49:LYS:HE2	1.59	1.03
48:Lt:34:PRO:HG2	83:CB:775:GLN:C	1.84	1.02
2:L5:1996:C:H42	2:L5:2000:G:N2	1.55	1.02
44:Lo:106:PHE:CE1	85:CE:39:TRP:HA	1.95	1.02
47:Ls:147:ILE:HG23	83:CB:204:MET:SD	1.99	1.02
44:Lo:106:PHE:CE2	85:CE:39:TRP:CD2	2.48	0.99
50:SF:133:THR:CA	84:Et:40:C:O5'	2.11	0.99
2:L5:2009:A:H1'	83:CB:760:TYR:CE2	1.96	0.98
47:Ls:139:GLN:NE2	83:CB:180:ARG:HA	1.78	0.97
47:Ls:132:PRO:O	83:CB:187:VAL:HB	1.64	0.97
48:Lt:34:PRO:CG	83:CB:777:ALA:H	1.78	0.96
48:Lt:37:LEU:HD11	83:CB:777:ALA:CB	1.95	0.96
48:Lt:34:PRO:HB3	83:CB:777:ALA:CA	1.95	0.95
48:Lt:34:PRO:CB	83:CB:777:ALA:N	2.29	0.95
47:Ls:139:GLN:HB3	83:CB:180:ARG:HD2	1.44	0.95
44:Lo:106:PHE:CZ	85:CE:39:TRP:CB	2.48	0.95
53:SP:130:ARG:HH12	83:CB:858:LEU:HD23	1.14	0.95
44:Lo:106:PHE:CE2	85:CE:39:TRP:CD1	2.54	0.94
2:L5:1996:C:N4	2:L5:2000:G:H22	1.66	0.93
47:Ls:155:LEU:CD1	83:CB:263:ASP:CG	2.42	0.93
82:S2:1748:G:H1	82:S2:1786:U:H3	1.00	0.93
82:S2:1825:A:H61	83:CB:717:GLY:CA	1.77	0.92
2:L5:3946:G:H1	2:L5:4067:U:H3	1.13	0.92
53:SP:130:ARG:HH11	83:CB:858:LEU:HD21	1.31	0.92
82:S2:1825:A:H2	83:CB:714:ILE:HG12	1.34	0.92
2:L5:1996:C:H42	2:L5:2000:G:H22	0.96	0.91
12:LH:98:HIS:HE1	83:CB:166:GLU:OE2	1.52	0.91
1:CI:74:LYS:HA	24:LU:116:GLN:O	1.70	0.90
2:L5:4419:U:C1'	83:CB:765:ARG:HG3	2.00	0.90
2:L5:1776:A:H5''	85:CE:64:LEU:HD13	0.93	0.90
48:Lt:34:PRO:HG3	83:CB:777:ALA:H	1.34	0.90
50:SF:130:ARG:HH12	84:Et:37:A:H8	0.91	0.90
47:Ls:139:GLN:CD	83:CB:180:ARG:CD	2.42	0.89
47:Ls:147:ILE:HG21	83:CB:204:MET:CG	2.03	0.89
53:SP:133:ILE:CG2	83:CB:708:THR:C	2.45	0.89
50:SF:133:THR:HA	84:Et:39:U:O2'	1.72	0.88
47:Ls:139:GLN:HE22	83:CB:180:ARG:HA	1.39	0.88
44:Lo:106:PHE:CE2	85:CE:39:TRP:CG	2.62	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Lo:106:PHE:CE2	85:CE:39:TRP:NE1	2.41	0.88
82:S2:1825:A:N3	83:CB:714:ILE:HG13	1.87	0.88
48:Lt:34:PRO:CB	83:CB:777:ALA:H	1.87	0.88
47:Ls:139:GLN:HB3	83:CB:180:ARG:NE	1.87	0.88
53:SP:133:ILE:CG2	83:CB:708:THR:CA	2.52	0.88
2:L5:2007:G:H21	2:L5:2012:A:H62	1.20	0.87
65:SB:103:MET:HG3	65:SB:215:VAL:HG12	1.56	0.87
2:L5:4419:U:H1'	83:CB:765:ARG:HG3	1.55	0.86
82:S2:1825:A:N6	83:CB:717:GLY:N	2.25	0.85
62:Sf:126:CYS:SG	62:Sf:144:CYS:N	2.49	0.84
15:LL:64:VAL:HA	15:LL:67:HIS:HD2	1.39	0.84
47:Ls:139:GLN:CB	83:CB:180:ARG:NE	2.41	0.84
47:Ls:139:GLN:CB	83:CB:180:ARG:CD	2.55	0.84
47:Ls:156:SER:HB3	83:CB:263:ASP:OD2	1.76	0.84
48:Lt:34:PRO:CA	83:CB:777:ALA:HA	2.08	0.84
47:Ls:139:GLN:NE2	83:CB:183:GLU:HB2	1.94	0.83
53:SP:133:ILE:CG2	83:CB:709:LEU:H	1.83	0.83
2:L5:1100:U:H3	2:L5:1194:G:H1	1.27	0.83
48:Lt:31:LYS:HA	83:CB:774:SER:HB2	1.60	0.83
47:Ls:139:GLN:CG	83:CB:180:ARG:NE	2.43	0.82
47:Ls:147:ILE:HG21	83:CB:204:MET:HB3	1.60	0.82
2:L5:4419:U:O2	83:CB:765:ARG:CG	2.27	0.82
44:Lo:106:PHE:CE1	85:CE:39:TRP:CA	2.63	0.81
47:Ls:147:ILE:CG1	83:CB:204:MET:CE	2.59	0.80
2:L5:2009:A:H1'	83:CB:760:TYR:HE2	1.41	0.80
47:Ls:147:ILE:HG21	83:CB:204:MET:CB	2.10	0.80
47:Ls:147:ILE:HG21	83:CB:204:MET:SD	2.22	0.80
82:S2:925:G:H1	82:S2:1017:U:H3	1.30	0.80
82:S2:1825:A:H61	83:CB:717:GLY:N	1.78	0.80
2:L5:1777:C:OP2	85:CE:64:LEU:HD21	1.81	0.79
47:Ls:139:GLN:CD	83:CB:180:ARG:NE	2.40	0.79
66:SC:210:PRO:HB3	66:SC:240:THR:HG21	1.63	0.79
14:LJ:55:TYR:OH	85:CE:49:LYS:CE	2.31	0.79
82:S2:1776:G:N2	82:S2:1777:G:N7	2.31	0.79
82:S2:1239:U:C5	83:CB:667:LYS:HD2	2.18	0.79
26:LW:100:VAL:HG12	26:LW:104:GLN:HE22	1.47	0.79
53:SP:133:ILE:HG23	83:CB:708:THR:HA	1.63	0.78
47:Ls:147:ILE:HG12	83:CB:204:MET:CE	2.13	0.78
2:L5:1095:A:H2	2:L5:1200:G:H1	1.24	0.77
2:L5:1776:A:O5'	85:CE:64:LEU:HD22	1.85	0.77
47:Ls:139:GLN:CD	83:CB:180:ARG:HE	1.92	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4419:U:O2	83:CB:765:ARG:HG3	1.84	0.77
65:SB:122:GLU:HG2	65:SB:140:VAL:HG12	1.67	0.77
2:L5:4910:G:H4'	6:LB:95:THR:HG22	1.67	0.76
48:Lt:31:LYS:HA	83:CB:774:SER:CB	2.15	0.76
82:S2:1239:U:C4	83:CB:667:LYS:HD3	2.20	0.76
82:S2:1239:U:O4	83:CB:667:LYS:HG3	1.85	0.76
47:Ls:147:ILE:CB	83:CB:204:MET:SD	2.72	0.76
53:SP:133:ILE:HG21	83:CB:708:THR:C	2.11	0.76
82:S2:1239:U:O4	83:CB:667:LYS:CG	2.34	0.76
83:CB:110:ASP:HB3	83:CB:553:HIS:HB2	1.67	0.75
2:L5:5024:C:H41	2:L5:5028:G:H21	1.31	0.75
54:SQ:72:VAL:HG11	54:SQ:80:GLN:HG3	1.68	0.75
66:SC:193:VAL:HG11	66:SC:240:THR:HG22	1.69	0.75
48:Lt:34:PRO:O	83:CB:777:ALA:O	2.04	0.75
48:Lt:34:PRO:CB	83:CB:777:ALA:CA	2.65	0.74
47:Ls:139:GLN:CD	83:CB:180:ARG:HA	2.11	0.74
2:L5:3701:OMC:H5	2:L5:3748:A:H62	1.35	0.74
50:SF:134:VAL:HG12	50:SF:135:ARG:HG2	1.68	0.74
14:LJ:55:TYR:CE1	85:CE:46:VAL:HG12	2.22	0.74
82:S2:1239:U:C4	83:CB:667:LYS:CD	2.69	0.74
50:SF:133:THR:O	84:Et:39:U:O2'	1.93	0.73
19:LP:109:VAL:HA	19:LP:112:LEU:HD13	1.70	0.73
47:Ls:147:ILE:CG2	83:CB:204:MET:HB3	2.18	0.73
2:L5:2611:A:H5'	2:L5:2688:G:H4'	1.71	0.73
82:S2:94:G:HO2'	82:S2:508:A:HO2'	1.36	0.72
2:L5:1702:C:H4'	7:LC:308:LYS:HD2	1.72	0.72
33:Ld:90:ARG:HD3	33:Ld:102:LEU:HD13	1.72	0.72
69:SH:154:ILE:HB	69:SH:185:VAL:HG22	1.71	0.72
47:Ls:139:GLN:CG	83:CB:180:ARG:HE	1.99	0.72
63:Sg:247:TRP:HB3	63:Sg:258:ILE:HD11	1.70	0.72
2:L5:497:G:H1	2:L5:657:C:H42	1.38	0.71
2:L5:1982:G:H5'	48:Lt:28:LEU:HD13	1.71	0.71
68:SG:2:LYS:HB2	68:SG:108:VAL:HG12	1.71	0.71
84:Et:44:G:H2'	84:Et:45:G:C8	2.24	0.71
16:LM:15:VAL:HG22	16:LM:50:MET:HE1	1.72	0.71
82:S2:1239:U:O4	83:CB:667:LYS:CD	2.38	0.71
2:L5:3594:C:O2	2:L5:3597:G:N2	2.24	0.71
50:SF:133:THR:CB	84:Et:40:C:O5'	2.39	0.71
57:ST:12:GLN:NE2	82:S2:1593:C:O2	2.23	0.71
2:L5:4546:A:N7	5:LA:215:ASN:ND2	2.39	0.70
69:SH:105:THR:HG23	69:SH:107:LYS:H	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:664:G:N2	2:L5:666:G:O6	2.25	0.70
2:L5:387:G:HO2'	2:L5:412:G:H1	1.39	0.70
5:LA:104:VAL:HA	5:LA:107:MET:HE3	1.73	0.70
67:SE:208:VAL:HG11	67:SE:225:ILE:HG13	1.73	0.70
84:Et:15:G:N2	84:Et:48:C:O2	2.25	0.70
47:Ls:155:LEU:HD13	83:CB:263:ASP:CG	2.15	0.70
76:SW:2:VAL:N	82:S2:1091:C:HO2'	1.90	0.70
47:Ls:147:ILE:CG2	83:CB:204:MET:CB	2.70	0.69
83:CB:42:LYS:HG2	83:CB:347:GLY:HA3	1.73	0.69
44:Lo:106:PHE:CE1	85:CE:39:TRP:CB	2.75	0.69
2:L5:2484:A:H62	2:L5:2494:U:H3	1.41	0.69
83:CB:225:LEU:HD12	83:CB:260:LEU:HB3	1.74	0.69
2:L5:2009:A:C8	83:CB:756:VAL:CG1	2.75	0.69
2:L5:2092:G:O2'	2:L5:2262:G:N2	2.26	0.69
2:L5:2351:OMC:HM22	7:LC:95:MET:HG3	1.74	0.69
2:L5:3954:A:H1'	2:L5:4058:U:H5'	1.75	0.69
82:S2:1658:G:OP2	82:S2:1660:C:N4	2.25	0.69
82:S2:1684:C:HO2'	84:Et:34:U:H6	1.38	0.69
2:L5:184:U:O2	2:L5:253:G:N2	2.23	0.69
2:L5:2702:C:OP1	24:LU:101:ARG:NH2	2.24	0.69
2:L5:4946:U:HO2'	35:Lf:2:SER:N	1.90	0.69
47:Ls:147:ILE:HG13	83:CB:204:MET:CE	2.22	0.69
48:Lt:65:GLN:HG3	48:Lt:67:ARG:H	1.57	0.69
52:SM:51:VAL:HG12	52:SM:77:ILE:HB	1.74	0.69
2:L5:3937:C:H1'	17:LN:125:SER:HB3	1.74	0.69
2:L5:4242:U:H3	2:L5:4281:A:H2	1.38	0.68
62:Sf:99:LYS:NZ	82:S2:1287:A:OP1	2.25	0.68
26:LW:80:ARG:NH2	68:SG:8:PRO:O	2.26	0.68
2:L5:748:G:O6	22:LS:98:ARG:NH2	2.26	0.68
49:SD:106:ARG:HG3	49:SD:175:VAL:HG22	1.75	0.68
83:CB:561:LEU:HA	83:CB:565:HIS:HB2	1.74	0.68
2:L5:1995:G:O2'	48:Lt:122:ALA:O	2.11	0.68
13:LI:205:PRO:HD2	13:LI:208:LYS:HE2	1.76	0.68
2:L5:2007:G:N2	2:L5:2012:A:H62	1.91	0.68
68:SG:183:ARG:NH2	82:S2:316:G:OP2	2.26	0.68
80:Sb:14:GLU:HA	80:Sb:17:ARG:HG2	1.76	0.68
5:LA:107:MET:HB3	5:LA:111:THR:HG21	1.73	0.68
66:SC:187:ARG:NH2	82:S2:1143:A:OP2	2.27	0.67
87:L5:5290:SPM:H112	18:LO:91:LYS:HD3	1.75	0.67
57:ST:124:THR:HG23	57:ST:127:GLY:H	1.60	0.67
2:L5:1669:A:OP1	31:Lb:18:ARG:NH2	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4607:A:H4'	83:CB:552:LEU:HD13	1.77	0.67
17:LN:157:LYS:O	17:LN:162:ARG:NH1	2.27	0.67
18:LO:34:VAL:HG22	18:LO:103:LYS:HB2	1.77	0.67
2:L5:665:C:H4'	2:L5:666:G:H5'	1.75	0.67
82:S2:940:U:H3	82:S2:1002:U:H3	1.40	0.67
26:LW:56:ARG:HE	26:LW:61:LYS:HB2	1.59	0.67
84:Et:28:C:H2'	84:Et:29:A:H8	1.60	0.67
82:S2:1058:A:H5'	85:CE:12:SER:CB	2.24	0.67
50:SF:124:ASP:OD1	50:SF:125:SER:N	2.25	0.67
76:SW:71:LYS:NZ	82:S2:1156:U:OP1	2.28	0.67
63:Sg:87:LEU:HB2	63:Sg:101:PHE:HB2	1.77	0.67
2:L5:2458:C:H5''	17:LN:67:ARG:HD2	1.77	0.67
5:LA:29:LEU:O	5:LA:123:ARG:NH1	2.28	0.67
2:L5:1414:C:H2'	2:L5:1415:G:H8	1.60	0.66
6:LB:90:VAL:HG23	6:LB:163:ILE:HD11	1.77	0.66
74:SO:104:ARG:NH2	82:S2:959:G:OP1	2.27	0.66
82:S2:1239:U:O4	83:CB:667:LYS:HD3	1.95	0.66
2:L5:2554:U:O2	2:L5:2764:A:N7	2.28	0.66
21:LR:172:ARG:NH1	82:S2:909:G:OP1	2.28	0.66
76:SW:107:SER:HB2	82:S2:860:G:H21	1.59	0.66
12:LH:106:GLN:HB2	12:LH:111:LEU:HB3	1.78	0.66
82:S2:747:U:N3	82:S2:796:G:N1	2.44	0.66
12:LH:98:HIS:CE1	83:CB:166:GLU:OE2	2.42	0.66
51:SK:50:GLN:HE22	82:S2:1276:A:H1'	1.60	0.66
68:SG:132:ARG:NH2	82:S2:152:U:O4'	2.28	0.66
6:LB:222:VAL:O	6:LB:343:ARG:NH1	2.29	0.66
14:LJ:55:TYR:CD1	85:CE:46:VAL:CG1	2.79	0.66
81:Se:41:ARG:NH2	82:S2:639:C:OP1	2.29	0.66
80:Sb:34:ASP:O	80:Sb:79:PHE:HA	1.95	0.66
1:CI:79:ARG:NH1	2:L5:2708:U:HO2'	1.93	0.66
25:LV:35:LYS:HB2	25:LV:67:LYS:HG3	1.76	0.66
56:SS:85:ASN:OD1	56:SS:97:GLN:NE2	2.28	0.66
2:L5:2520:C:O2	2:L5:2640:G:N2	2.28	0.66
40:Lk:8:ILE:HD11	40:Lk:56:LEU:HD13	1.77	0.66
85:CE:46:VAL:HA	85:CE:49:LYS:HD2	1.78	0.66
83:CB:604:MET:HG2	83:CB:704:VAL:HA	1.78	0.65
82:S2:533:A:H61	82:S2:550:C:H42	1.44	0.65
4:L8:75:OMG:OP2	28:LY:74:TYR:OH	2.15	0.65
30:La:84:GLU:OE1	30:La:87:ARG:NH2	2.30	0.65
48:Lt:151:ILE:O	48:Lt:155:ILE:HB	1.97	0.65
2:L5:1095:A:N1	2:L5:1200:G:O6	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SG:7:PHE:HD2	68:SG:10:THR:HG22	1.62	0.65
2:L5:4525:C:OP1	6:LB:246:ARG:NH2	2.28	0.65
2:L5:4910:G:N2	18:LO:106:ASP:O	2.30	0.65
47:Ls:58:ASN:ND2	47:Ls:84:GLY:O	2.24	0.65
50:SF:168:THR:OG1	50:SF:171:GLU:OE1	2.15	0.65
68:SG:135:PRO:HG2	68:SG:141:ILE:HG22	1.78	0.65
82:S2:1536:G:H2'	82:S2:1537:A:H8	1.62	0.65
83:CB:509:VAL:HG12	83:CB:572:LYS:HG3	1.79	0.65
22:LS:76:LYS:NZ	22:LS:100:LEU:O	2.31	0.64
6:LB:10:ARG:NH1	6:LB:11:HIS:O	2.30	0.64
48:Lt:130:LYS:NZ	48:Lt:157:SER:O	2.30	0.64
82:S2:751:G:H1'	82:S2:793:G:H21	1.61	0.64
1:CI:78:HIS:NE2	2:L5:2706:G:N7	2.44	0.64
82:S2:628:A:N6	82:S2:1500:G:O2'	2.30	0.64
2:L5:68:U:OP1	17:LN:178:HIS:ND1	2.31	0.64
40:Lk:54:GLU:OE2	40:Lk:58:GLN:NE2	2.27	0.64
2:L5:4281:A:H2'	2:L5:4282:A:H2'	1.79	0.64
19:LP:39:MET:HG2	19:LP:43:LYS:HD3	1.79	0.64
69:SH:114:GLN:HE22	82:S2:874:G:H21	1.45	0.64
23:LT:43:LYS:O	23:LT:58:HIS:ND1	2.31	0.64
64:SA:89:LYS:HD2	64:SA:201:LEU:HG	1.79	0.64
2:L5:2601:A:N6	2:L5:2744:A:OP2	2.28	0.64
82:S2:928:G:H2'	82:S2:929:G:C8	2.32	0.64
2:L5:1994:C:H2'	2:L5:1995:G:C8	2.33	0.64
2:L5:3641:U:OP2	2:L5:3646:A:N6	2.31	0.64
46:Lr:26:SER:OG	46:Lr:28:GLU:OE1	2.15	0.64
49:SD:142:LEU:HD13	49:SD:150:MET:HE2	1.80	0.64
70:SI:98:LYS:HB3	82:S2:377:G:H5'	1.80	0.64
2:L5:1704:C:O3'	10:LF:46:ARG:NH1	2.31	0.63
53:SP:133:ILE:CG2	83:CB:708:THR:CB	2.52	0.63
24:LU:65:ARG:HG2	24:LU:67:LYS:H	1.63	0.63
58:SU:51:LYS:HB3	58:SU:90:ASP:HB2	1.80	0.63
83:CB:692:LEU:HD11	83:CB:738:PRO:HB2	1.80	0.63
54:SQ:19:ALA:HB2	54:SQ:75:GLY:HA3	1.81	0.63
71:SJ:162:ARG:NH1	82:S2:582:U:OP1	2.30	0.63
83:CB:385:ILE:HG22	83:CB:418:SER:HB2	1.81	0.63
68:SG:22:ARG:HG3	68:SG:25:ARG:HH12	1.64	0.63
82:S2:1829:G:H1'	82:S2:1850:MA6:H2	1.79	0.63
2:L5:1982:G:N2	2:L5:2009:A:O2'	2.32	0.63
2:L5:2495:U:H2'	2:L5:2496:G:H8	1.64	0.63
48:Lt:117:ARG:HE	48:Lt:119:ARG:H	1.45	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SE:45:ILE:HG13	67:SE:61:VAL:HG11	1.79	0.63
67:SE:153:LEU:O	67:SE:174:LYS:NZ	2.31	0.63
12:LH:106:GLN:NE2	12:LH:113:GLU:OE2	2.31	0.63
2:L5:3946:G:N2	2:L5:4067:U:O2	2.32	0.63
2:L5:170:C:H42	2:L5:266:C:H42	1.47	0.63
2:L5:4431:PSU:OP2	13:LI:3:ARG:NH2	2.28	0.62
31:Lb:109:ARG:HA	31:Lb:112:ILE:HG12	1.81	0.62
67:SE:79:ASP:HB3	67:SE:82:TYR:HB2	1.81	0.62
2:L5:4092:G:N7	2:L5:4114:C:N4	2.45	0.62
5:LA:137:ILE:HD11	5:LA:149:LYS:HB2	1.82	0.62
63:Sg:252:THR:HG21	63:Sg:257:LYS:HD2	1.81	0.62
14:LJ:55:TYR:CD1	85:CE:46:VAL:HG12	2.35	0.62
2:L5:1100:U:O3'	2:L5:1167:C:N4	2.32	0.62
2:L5:2009:A:C1'	83:CB:760:TYR:CE2	2.78	0.62
14:LJ:146:ARG:HG2	14:LJ:147:ARG:HG3	1.81	0.62
2:L5:327:U:O2'	38:Li:30:ARG:NH1	2.32	0.62
2:L5:4987:C:OP2	6:LB:116:ARG:NH2	2.32	0.62
84:Et:6:G:H1	84:Et:67:U:H3	1.47	0.62
40:Lk:26:LYS:HB2	40:Lk:69:LEU:HD12	1.81	0.62
49:SD:40:ARG:NH2	58:SU:106:ILE:O	2.32	0.62
58:SU:80:PHE:HB3	61:Sd:52:PHE:HB3	1.81	0.62
82:S2:587:A:H5'	82:S2:592:C:H41	1.64	0.62
2:L5:67:C:OP2	2:L5:312:G:N2	2.30	0.62
33:Ld:64:ILE:HG23	33:Ld:68:LEU:HD23	1.82	0.62
44:Lo:106:PHE:HZ	85:CE:39:TRP:CB	1.98	0.62
47:Ls:145:THR:O	83:CB:183:GLU:CG	2.47	0.62
51:SK:85:LEU:HD21	51:SK:89:ILE:HB	1.80	0.62
67:SE:144:ALA:HB3	82:S2:121:OMU:HM23	1.80	0.62
2:L5:1499:C:OP1	20:LQ:150:ARG:NH2	2.33	0.62
11:LG:209:SER:HA	11:LG:212:LYS:HG3	1.82	0.62
77:SX:105:PHE:HD1	77:SX:121:LYS:HB3	1.65	0.62
82:S2:106:C:H2'	82:S2:107:A:H8	1.65	0.62
82:S2:1417:C:O2	82:S2:1422:G:O6	2.18	0.62
2:L5:2758:G:O2'	2:L5:2765:A:N3	2.30	0.62
2:L5:4419:U:O4'	83:CB:765:ARG:HG3	2.00	0.61
82:S2:1639:G7M:H5''	84:Et:30:G:OP1	2.00	0.61
2:L5:4992:G:H2'	2:L5:4993:G:C8	2.36	0.61
50:SF:127:ARG:HG2	50:SF:136:ARG:HE	1.64	0.61
64:SA:118:GLU:HG3	66:SC:65:LYS:HE2	1.82	0.61
14:LJ:141:ILE:HA	14:LJ:144:LYS:HD2	1.82	0.61
18:LO:180:GLN:NE2	18:LO:184:ASN:OD1	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SF:34:SER:HA	60:Sc:55:VAL:HG23	1.81	0.61
54:SQ:58:LEU:HB3	54:SQ:62:ARG:HD2	1.82	0.61
70:SI:70:GLU:OE2	72:SL:21:LYS:NZ	2.32	0.61
82:S2:1536:G:H2'	82:S2:1537:A:C8	2.35	0.61
2:L5:3811:G:O2'	2:L5:3814:U:OP2	2.18	0.61
62:Sf:108:VAL:HG12	62:Sf:114:ILE:HA	1.81	0.61
13:LI:87:MET:HG2	13:LI:138:ILE:HG12	1.81	0.61
47:Ls:139:GLN:HE21	83:CB:183:GLU:CD	2.08	0.61
50:SF:84:GLY:O	82:S2:1673:U:O2'	2.16	0.61
59:SZ:99:LEU:HD21	59:SZ:102:LYS:HB2	1.82	0.61
2:L5:2899:C:OP1	21:LR:108:ARG:NH2	2.31	0.61
47:Ls:17:ILE:HD12	47:Ls:54:LEU:HD21	1.82	0.61
48:Lt:37:LEU:CD1	83:CB:777:ALA:HB1	2.13	0.61
82:S2:1422:G:H4'	82:S2:1423:C:H3'	1.82	0.61
62:Sf:144:CYS:HB2	62:Sf:146:LEU:HD23	1.82	0.61
72:SL:85:THR:HG21	82:S2:373:G:H4'	1.83	0.61
2:L5:2695:A:OP1	40:Lk:35:LYS:NZ	2.27	0.61
58:SU:70:CYS:SG	82:S2:1491:G:O2'	2.57	0.61
63:Sg:213:ASP:OD2	63:Sg:215:GLN:NE2	2.34	0.61
83:CB:636:ALA:HA	83:CB:641:TRP:H	1.66	0.61
26:LW:80:ARG:HH22	82:S2:167:G:H4'	1.66	0.61
67:SE:29:PRO:HA	82:S2:496:C:H5'	1.83	0.61
2:L5:1802:A:N3	23:LT:130:ARG:NH2	2.48	0.61
2:L5:3688:U:OP2	5:LA:198:ARG:NH2	2.34	0.61
49:SD:99:ILE:HG23	49:SD:173:ARG:HH21	1.63	0.61
55:SR:109:LEU:HD13	64:SA:52:LYS:HB2	1.83	0.61
2:L5:2557:G:H1	2:L5:2570:U:H3	1.48	0.60
2:L5:4088:C:OP1	5:LA:37:ARG:NH1	2.34	0.60
49:SD:8:LYS:HG2	58:SU:61:LEU:HD11	1.82	0.60
56:SS:27:ALA:HB2	56:SS:52:LEU:HD12	1.82	0.60
58:SU:26:SER:HB3	58:SU:110:VAL:HA	1.83	0.60
66:SC:200:ARG:O	71:SJ:54:ARG:NH2	2.30	0.60
2:L5:4472:G:O2'	42:Lm:100:TYR:O	2.20	0.60
5:LA:114:CYS:HB3	5:LA:165:VAL:HB	1.84	0.60
17:LN:155:VAL:O	17:LN:162:ARG:NH2	2.33	0.60
82:S2:1228:A:H2'	82:S2:1229:G:C8	2.36	0.60
83:CB:745:TYR:HB2	83:CB:814:PHE:HA	1.83	0.60
50:SF:131:ALA:O	84:Et:39:U:C5'	2.49	0.60
72:SL:35:ARG:NH2	72:SL:55:TYR:O	2.35	0.60
72:SL:133:PRO:HG2	82:S2:383:G:H21	1.66	0.60
83:CB:137:VAL:HG22	83:CB:807:GLN:HE21	1.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:500:G:N2	2:L5:504:G:O2'	2.28	0.60
2:L5:2658:G:N2	2:L5:2676:A:OP2	2.33	0.60
6:LB:107:ALA:HB2	6:LB:201:LEU:HD22	1.82	0.60
52:SM:91:LEU:HD12	52:SM:106:CYS:HB2	1.82	0.60
53:SP:48:GLY:O	53:SP:50:ARG:NH1	2.35	0.60
61:Sd:54:LYS:NZ	82:S2:1482:C:OP1	2.35	0.60
67:SE:49:ARG:NH2	82:S2:496:C:OP1	2.32	0.60
69:SH:177:TYR:O	69:SH:181:THR:HB	2.02	0.60
82:S2:1239:U:C5	83:CB:667:LYS:CD	2.84	0.60
2:L5:4618:OMG:H5'	25:LV:15:ARG:HB2	1.83	0.60
71:SJ:40:LYS:NZ	82:S2:641:A:OP1	2.32	0.60
82:S2:1058:A:H5'	85:CE:12:SER:HB3	1.83	0.60
83:CB:524:LEU:HD22	83:CB:561:LEU:HD11	1.84	0.60
50:SF:185:SER:H	50:SF:190:ILE:HD11	1.67	0.60
51:SK:25:LYS:NZ	82:S2:1497:G:N7	2.44	0.60
57:ST:22:LEU:HG	57:ST:28:LEU:HD21	1.82	0.60
78:SY:11:LYS:HB2	78:SY:24:VAL:HG12	1.84	0.60
78:SY:21:LYS:HE2	78:SY:75:ILE:HD11	1.83	0.60
82:S2:1550:G:H3'	82:S2:1579:A:H61	1.66	0.60
2:L5:4153:C:H5''	27:LX:38:LYS:HD2	1.83	0.60
21:LR:39:GLN:OE1	21:LR:42:ARG:NH1	2.34	0.60
2:L5:1175:A:H2	2:L5:1185:G:H22	1.49	0.60
2:L5:1366:G:H5''	15:LL:36:ARG:HH12	1.67	0.60
2:L5:2362:U:H2'	2:L5:2363:A2M:H8	1.83	0.60
44:Lo:106:PHE:CZ	85:CE:39:TRP:HB3	2.37	0.60
70:SI:88:ASN:OD1	70:SI:205:ARG:NH2	2.34	0.60
77:SX:107:ARG:HG3	77:SX:110:HIS:HB3	1.83	0.60
82:S2:1277:C:H2'	82:S2:1278:A:H8	1.66	0.60
83:CB:43:ALA:HB2	83:CB:351:LEU:HD21	1.84	0.60
2:L5:1776:A:C4'	85:CE:64:LEU:HD13	2.32	0.60
43:Ln:1:MET:HG3	82:S2:1706:G:H5'	1.83	0.60
56:SS:130:ARG:NH2	82:S2:1230:C:OP1	2.35	0.60
59:SZ:58:LEU:HD12	59:SZ:62:VAL:HG21	1.84	0.60
66:SC:183:LYS:HA	66:SC:195:LEU:O	2.02	0.60
82:S2:1639:G7M:C5'	84:Et:30:G:OP1	2.50	0.60
2:L5:4419:U:O2	83:CB:765:ARG:HD3	1.99	0.60
8:LD:223:PHE:HB3	8:LD:226:TYR:HB2	1.84	0.60
53:SP:130:ARG:HD3	53:SP:131:PRO:HD2	1.84	0.60
2:L5:500:G:OP1	2:L5:504:G:N2	2.35	0.59
2:L5:1503:A:H62	20:LQ:87:THR:HG21	1.66	0.59
47:Ls:147:ILE:HG12	83:CB:204:MET:HE2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:CB:641:TRP:HZ3	83:CB:649:ILE:HD11	1.67	0.59
50:SF:131:ALA:C	84:Et:39:U:H4'	2.23	0.59
68:SG:66:GLY:HA2	82:S2:1745:A:H1'	1.84	0.59
53:SP:130:ARG:HH12	83:CB:858:LEU:CD2	1.87	0.59
82:S2:838:G:H1	82:S2:840:C:HO2'	1.48	0.59
49:SD:172:VAL:HG22	49:SD:185:LYS:HG2	1.85	0.59
82:S2:554:A:HO2'	82:S2:555:A:H8	1.48	0.59
82:S2:874:G:H2'	82:S2:875:A:H8	1.67	0.59
2:L5:4594:U:H2'	2:L5:4595:G:H8	1.67	0.59
64:SA:77:ILE:HG13	64:SA:99:ILE:HB	1.84	0.59
2:L5:659:G:H2'	2:L5:660:A:H8	1.67	0.59
2:L5:4107:G:N2	2:L5:4108:G:O6	2.33	0.59
47:Ls:139:GLN:HE22	83:CB:183:GLU:HB2	1.67	0.59
2:L5:4097:G:O6	2:L5:4098:A:N6	2.36	0.59
16:LM:100:ARG:HA	16:LM:103:LYS:HG2	1.85	0.59
54:SQ:78:VAL:HG12	82:S2:1673:U:H5''	1.85	0.59
63:Sg:206:LEU:HD12	63:Sg:218:LEU:HD12	1.84	0.59
70:SI:150:ASP:HA	70:SI:153:LYS:HG2	1.84	0.59
78:SY:34:THR:O	82:S2:570:C:O2'	2.20	0.59
2:L5:1703:C:O2'	2:L5:1704:C:O4'	2.21	0.59
2:L5:3868:G:H22	2:L5:3900:G:H1'	1.66	0.59
2:L5:513:U:N3	2:L5:516:C:OP2	2.33	0.58
42:Lm:99:CYS:HB2	42:Lm:114:LYS:HE3	1.85	0.58
50:SF:134:VAL:HG22	84:Et:40:C:O2'	1.99	0.58
83:CB:759:ILE:HG12	83:CB:800:LEU:HD11	1.85	0.58
84:Et:5:G:H2'	84:Et:6:G:H8	1.67	0.58
2:L5:1339:U:H2'	2:L5:1340:OMC:C6	2.38	0.58
2:L5:1996:C:O3'	47:Ls:44:ARG:NH1	2.35	0.58
2:L5:3717:A:H2'	2:L5:3718:A2M:H8	1.84	0.58
44:Lo:2:VAL:N	44:Lo:90:HIS:O	2.36	0.58
49:SD:32:ASP:OD1	49:SD:57:ASN:ND2	2.35	0.58
65:SB:99:ASN:OD1	65:SB:100:PHE:N	2.37	0.58
75:SV:51:LYS:NZ	75:SV:76:ASP:OD1	2.23	0.58
82:S2:640:A:H2'	82:S2:641:A:C8	2.39	0.58
84:Et:28:C:H2'	84:Et:29:A:C8	2.39	0.58
8:LD:64:ILE:HD13	8:LD:109:LEU:HD22	1.85	0.58
59:SZ:80:ARG:O	82:S2:1598:G:O2'	2.18	0.58
82:S2:1825:A:N6	83:CB:717:GLY:H	2.00	0.58
2:L5:1739:G:N3	2:L5:1742:A:N6	2.51	0.58
2:L5:2017:A:O2'	2:L5:2018:C:H6	1.86	0.58
2:L5:2460:A:OP2	88:LN:301:SPD:N10	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LD:62:CYS:HB3	8:LD:105:LEU:HD22	1.84	0.58
26:LW:80:ARG:NH1	82:S2:167:G:O2'	2.36	0.58
40:Lk:27:LYS:O	40:Lk:70:LYS:NZ	2.35	0.58
72:SL:33:LEU:HD12	72:SL:34:PRO:HD2	1.85	0.58
2:L5:919:C:OP1	16:LM:69:HIS:ND1	2.22	0.58
2:L5:3736:A:H2'	2:L5:3737:A:C8	2.38	0.58
2:L5:4887:C:H42	2:L5:4932:U:H3	1.50	0.58
24:LU:44:GLN:HB2	24:LU:56:LEU:HD21	1.84	0.58
54:SQ:125:ARG:HB2	82:S2:1648:G:H5''	1.86	0.58
63:Sg:68:ASP:HB3	63:Sg:111:VAL:HG22	1.84	0.58
2:L5:2007:G:H21	2:L5:2012:A:N6	1.97	0.58
13:LI:85:PHE:HE2	13:LI:87:MET:HE2	1.67	0.58
28:LY:67:ILE:O	28:LY:84:ARG:NH2	2.36	0.58
52:SM:63:LYS:HD3	52:SM:64:LEU:HD22	1.85	0.58
66:SC:267:GLN:OE1	75:SV:35:ASN:ND2	2.36	0.58
69:SH:7:LYS:HD3	69:SH:10:LYS:HB3	1.84	0.58
2:L5:24:G:N7	39:Lj:46:LYS:NZ	2.50	0.58
2:L5:184:U:O2'	2:L5:189:G:O4'	2.22	0.58
2:L5:1396:G:N7	30:La:110:LYS:NZ	2.49	0.58
2:L5:2020:U:H2'	2:L5:2021:G:H8	1.68	0.58
42:Lm:79:GLU:OE2	42:Lm:81:SER:OG	2.19	0.58
51:SK:31:LYS:HZ3	51:SK:40:VAL:H	1.52	0.58
62:Sf:92:LYS:NZ	82:S2:1271:C:OP1	2.33	0.58
68:SG:176:ILE:HG12	68:SG:179:LEU:HD11	1.86	0.58
83:CB:257:MET:HA	83:CB:260:LEU:HB2	1.86	0.58
83:CB:596:PRO:HD3	83:CB:724:THR:HB	1.86	0.58
2:L5:1776:A:H5''	85:CE:64:LEU:CG	2.32	0.58
52:SM:36:ARG:NH1	82:S2:1310:U:OP1	2.36	0.58
54:SQ:100:VAL:HG22	54:SQ:101:ASP:H	1.68	0.58
74:SO:15:ILE:HG23	74:SO:16:SER:H	1.68	0.58
82:S2:165:G:OP2	82:S2:165:G:N2	2.29	0.58
83:CB:189:ILE:HD11	83:CB:204:MET:HA	1.86	0.58
2:L5:2093:A:N3	2:L5:2094:G:N1	2.51	0.58
2:L5:2468:U:O2'	2:L5:2506:G:N2	2.37	0.58
6:LB:165:HIS:HB3	6:LB:180:LEU:HD23	1.86	0.58
39:Lj:14:LYS:NZ	41:Ll:51:LEU:OXT	2.37	0.58
2:L5:4076:G:OP1	11:LG:73:ARG:NE	2.36	0.58
8:LD:120:GLU:O	8:LD:248:ARG:NH1	2.36	0.58
69:SH:165:ASN:O	69:SH:169:LYS:NZ	2.31	0.58
70:SI:22:HIS:HB3	82:S2:433:A:H5''	1.84	0.58
84:Et:46:G:H5'	84:Et:47:U:H5''	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:935:A:O2'	16:LM:44:GLN:O	2.22	0.57
9:LE:161:ARG:NH1	9:LE:273:SER:OG	2.37	0.57
47:Ls:135:THR:HG21	83:CB:187:VAL:HG11	1.85	0.57
50:SF:133:THR:HA	84:Et:40:C:P	2.43	0.57
51:SK:8:ARG:NH2	82:S2:1314:U:O2'	2.37	0.57
68:SG:133:LEU:HD12	82:S2:65:C:C4	2.39	0.57
83:CB:44:GLY:HA3	83:CB:47:ALA:HB3	1.86	0.57
2:L5:1961:G:N2	2:L5:2024:G:O2'	2.37	0.57
4:L8:52:A:H5'	41:Ll:21:ARG:HD3	1.86	0.57
7:LC:298:ILE:HD13	20:LQ:131:PRO:HB3	1.85	0.57
83:CB:304:ILE:HG21	83:CB:336:LEU:HD13	1.86	0.57
83:CB:447:ILE:HG12	83:CB:472:LEU:HD13	1.85	0.57
2:L5:1094:G:O6	2:L5:1201:U:O2	2.22	0.57
2:L5:2017:A:O2'	2:L5:2018:C:O5'	2.19	0.57
6:LB:10:ARG:NH2	6:LB:265:SER:O	2.36	0.57
83:CB:524:LEU:HD12	83:CB:536:CYS:HB3	1.86	0.57
2:L5:4098:A:H2'	2:L5:4099:G:H4'	1.86	0.57
68:SG:11:GLY:HA2	82:S2:166:A2M:HM'1	1.86	0.57
2:L5:1992:U:H4'	2:L5:1993:C:H5''	1.86	0.57
2:L5:4873:G:N7	18:LO:179:LYS:NZ	2.49	0.57
63:Sg:107:ASP:HB2	63:Sg:125:ARG:HG3	1.87	0.57
69:SH:63:PHE:HA	69:SH:95:ILE:O	2.05	0.57
57:ST:126:GLN:HB2	57:ST:129:ARG:HH21	1.69	0.57
70:SI:106:SER:HB3	70:SI:171:LEU:HG	1.87	0.57
2:L5:2295:C:O2'	7:LC:45:ARG:NH2	2.38	0.57
6:LB:80:GLU:OE1	6:LB:323:TYR:OH	2.23	0.57
8:LD:41:LYS:NZ	23:LT:32:ARG:O	2.35	0.57
46:Lr:28:GLU:OE2	46:Lr:31:ASN:ND2	2.32	0.57
67:SE:100:ARG:HB2	67:SE:114:ILE:HD13	1.86	0.57
68:SG:92:ARG:O	82:S2:453:C:O2'	2.21	0.57
83:CB:607:ARG:HD3	83:CB:701:ARG:HD3	1.87	0.57
2:L5:62:A:N3	2:L5:77:U:O2'	2.33	0.57
2:L5:2516:G:O2'	36:Lg:62:LYS:NZ	2.38	0.57
4:L8:62:A:OP1	37:Lh:52:LYS:NZ	2.34	0.57
24:LU:28:PRO:HB2	24:LU:34:MET:HG3	1.87	0.57
50:SF:133:THR:OG1	84:Et:40:C:O5'	2.22	0.57
63:Sg:63:SER:HB2	82:S2:1398:G:H1'	1.86	0.57
63:Sg:254:PRO:O	63:Sg:272:GLN:NE2	2.38	0.57
77:SX:68:LYS:HB3	77:SX:91:LEU:HD13	1.85	0.57
2:L5:4725:C:OP1	6:LB:103:LYS:NZ	2.37	0.57
17:LN:164:LEU:O	17:LN:169:ARG:NH2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Ls:68:HIS:O	47:Ls:71:ASN:ND2	2.38	0.57
54:SQ:67:ASP:OD2	54:SQ:69:ARG:NH1	2.38	0.57
54:SQ:80:GLN:O	54:SQ:84:ILE:HG13	2.05	0.57
82:S2:695:C:N4	82:S2:736:C:O2'	2.38	0.57
47:Ls:145:THR:O	83:CB:183:GLU:HG2	2.05	0.57
58:SU:85:HIS:ND1	82:S2:1447:G:OP1	2.37	0.57
82:S2:508:A:H3'	82:S2:509:OMG:H8	1.69	0.57
2:L5:966:A:OP2	2:L5:2092:G:N2	2.38	0.56
11:LG:180:PRO:HG3	11:LG:219:VAL:HG13	1.86	0.56
16:LM:71:LYS:O	16:LM:75:GLN:HG3	2.05	0.56
44:Lo:106:PHE:CE1	85:CE:39:TRP:CG	2.82	0.56
56:SS:5:ILE:N	59:SZ:50:PHE:O	2.36	0.56
69:SH:12:ASN:ND2	69:SH:14:GLU:OE2	2.38	0.56
83:CB:27:HIS:ND1	83:CB:138:GLN:HB2	2.20	0.56
2:L5:267:G:OP1	37:Lh:109:ARG:NH2	2.37	0.56
2:L5:1281:G:N1	9:LE:128:HIS:HB2	2.20	0.56
2:L5:5002:U:OP2	6:LB:385:LYS:NZ	2.39	0.56
48:Lt:77:ALA:HB3	48:Lt:80:LEU:HB2	1.87	0.56
74:SO:135:ILE:O	82:S2:943:U:O2'	2.22	0.56
83:CB:76:SER:HB3	83:CB:99:LEU:HD11	1.87	0.56
2:L5:1914:C:H4'	18:LO:89:PRO:HD3	1.86	0.56
2:L5:1942:A:H2'	2:L5:1943:A:C8	2.39	0.56
2:L5:2613:C:OP1	36:Lg:24:ARG:NH2	2.38	0.56
3:L7:6:C:O2'	8:LD:50:ARG:NH2	2.38	0.56
6:LB:17:LEU:O	6:LB:19:ARG:N	2.37	0.56
9:LE:165:LEU:HD11	9:LE:176:THR:HG22	1.87	0.56
21:LR:176:ARG:NH2	82:S2:910:G:OP1	2.38	0.56
48:Lt:37:LEU:HD21	83:CB:777:ALA:C	2.30	0.56
51:SK:31:LYS:NZ	51:SK:40:VAL:H	2.04	0.56
62:Sf:97:LYS:NZ	82:S2:1289:U:OP2	2.36	0.56
74:SO:134:PRO:HB3	82:S2:944:A:H5''	1.87	0.56
82:S2:1228:A:H2'	82:S2:1229:G:H8	1.70	0.56
2:L5:1993:C:H2'	2:L5:1994:C:C6	2.41	0.56
2:L5:4094:G:N2	2:L5:4115:G:OP2	2.39	0.56
16:LM:36:ALA:HB3	16:LM:55:MET:HE1	1.87	0.56
44:Lo:106:PHE:O	85:CE:38:TYR:CZ	2.58	0.56
68:SG:198:ARG:NH1	82:S2:126:G:OP2	2.37	0.56
74:SO:34:PHE:HB3	74:SO:41:PHE:HB2	1.88	0.56
82:S2:1354:G:N2	82:S2:1357:A:OP2	2.34	0.56
2:L5:966:A:H5''	2:L5:2092:G:H22	1.69	0.56
6:LB:83:PRO:O	6:LB:167:GLN:NE2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LP:17:SER:HB2	19:LP:98:ALA:HB2	1.88	0.56
50:SF:36:GLN:NE2	50:SF:37:ASP:OD1	2.39	0.56
53:SP:31:GLU:HA	53:SP:34:MET:HE2	1.86	0.56
73:SN:55:ARG:HD3	82:S2:1017:U:H5'	1.88	0.56
82:S2:1226:G:N1	82:S2:1639:G7M:OP2	2.30	0.56
2:L5:1079:C:O2	2:L5:1221:G:N2	2.29	0.56
41:Ll:28:ARG:HA	41:Ll:33:ASN:HD22	1.71	0.56
48:Lt:34:PRO:CA	83:CB:777:ALA:CA	2.83	0.56
69:SH:111:LYS:HE3	82:S2:796:G:H21	1.71	0.56
78:SY:80:ASP:OD1	78:SY:81:TYR:N	2.39	0.56
2:L5:2478:C:N3	2:L5:2591:A:O2'	2.39	0.56
2:L5:4220:6MZ:H2'	2:L5:4222:G:H5''	1.88	0.56
2:L5:4340:U:O2	88:L5:5260:SPD:N10	2.39	0.56
19:LP:116:HIS:HB3	19:LP:149:ILE:HB	1.86	0.56
44:Lo:33:LEU:HA	44:Lo:38:LYS:HG2	1.88	0.56
61:Sd:19:ARG:NH2	82:S2:1661:A:OP1	2.38	0.56
82:S2:543:C:H3'	82:S2:544:G:H8	1.71	0.56
2:L5:1969:G:H4'	47:Ls:36:GLY:HA2	1.88	0.56
2:L5:2832:A:OP1	33:Ld:47:LYS:NZ	2.29	0.56
2:L5:3611:A:H2	2:L5:5016:A:H8	1.52	0.56
2:L5:4279:A:H5'	2:L5:4281:A:H1'	1.87	0.56
83:CB:745:TYR:HE2	83:CB:812:CYS:HB2	1.71	0.56
28:LY:4:ASN:HB3	28:LY:7:VAL:HG22	1.86	0.56
2:L5:2407:G:O6	41:Ll:2:SER:N	2.39	0.56
11:LG:165:GLU:OE2	17:LN:26:ARG:NH1	2.36	0.56
18:LO:9:LEU:HD23	18:LO:118:MET:HB2	1.88	0.56
52:SM:96:ARG:NH2	52:SM:100:PRO:O	2.39	0.56
2:L5:184:U:H3	2:L5:253:G:H1	1.54	0.55
36:Lg:45:ALA:HB3	36:Lg:82:MET:HE2	1.88	0.55
64:SA:22:GLY:O	64:SA:24:HIS:ND1	2.38	0.55
83:CB:835:VAL:HG11	83:CB:848:ILE:HD11	1.88	0.55
2:L5:2083:C:OP2	20:LQ:14:ARG:NH2	2.33	0.55
2:L5:4163:U:OP2	11:LG:53:ARG:NH2	2.40	0.55
5:LA:118:GLU:OE2	5:LA:156:LYS:NZ	2.39	0.55
6:LB:219:VAL:HG11	6:LB:337:VAL:HG13	1.88	0.55
66:SC:259:THR:HG23	75:SV:16:LYS:HZ3	1.70	0.55
68:SG:136:LYS:NZ	68:SG:175:LYS:O	2.34	0.55
69:SH:34:SER:OG	69:SH:78:ARG:NH2	2.38	0.55
2:L5:158:A:N1	2:L5:276:C:O2'	2.37	0.55
2:L5:4098:A:N1	2:L5:4112:C:N4	2.53	0.55
13:LI:152:LEU:HB3	13:LI:165:ILE:HD12	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Lc:38:ILE:HD11	32:Lc:46:VAL:HG21	1.89	0.55
48:Lt:50:THR:OG1	48:Lt:72:GLU:OE1	2.23	0.55
58:SU:48:LEU:HG	58:SU:93:SER:HB3	1.88	0.55
2:L5:2009:A:C1'	83:CB:760:TYR:HE2	2.14	0.55
2:L5:5023:C:OP2	70:SI:124:LYS:NZ	2.40	0.55
72:SL:103:GLU:HG3	77:SX:11:ARG:HB2	1.87	0.55
82:S2:795:A:H2'	82:S2:796:G:C8	2.42	0.55
83:CB:388:CYS:HB2	83:CB:418:SER:HA	1.88	0.55
2:L5:1759:G:H1	2:L5:1773:U:H3	1.54	0.55
2:L5:4537:C:H2'	2:L5:4538:G:H8	1.70	0.55
22:LS:173:ASN:ND2	22:LS:175:PHE:O	2.40	0.55
67:SE:146:THR:HG21	82:S2:122:G:H21	1.70	0.55
69:SH:31:GLU:HA	69:SH:37:LYS:HG3	1.89	0.55
1:CI:50:MET:HG3	24:LU:114:TYR:CD2	2.42	0.55
2:L5:109:G:OP2	15:LL:74:ARG:NH2	2.35	0.55
5:LA:229:ALA:HB3	5:LA:234:LYS:HB3	1.87	0.55
8:LD:204:VAL:HB	8:LD:236:MET:HE1	1.88	0.55
8:LD:232:THR:OG1	8:LD:234:ASP:OD1	2.20	0.55
10:LF:243:LEU:O	10:LF:247:MET:HB2	2.06	0.55
13:LI:38:ARG:NH1	13:LI:45:GLU:OE1	2.37	0.55
26:LW:100:VAL:O	26:LW:104:GLN:NE2	2.40	0.55
50:SF:39:ILE:HG23	50:SF:68:ILE:HD13	1.88	0.55
60:Sc:37:ASP:OD1	60:Sc:39:SER:OG	2.25	0.55
64:SA:126:ASP:OD1	64:SA:165:ASN:ND2	2.39	0.55
83:CB:453:MET:HA	83:CB:458:VAL:HG12	1.89	0.55
83:CB:583:VAL:HG22	83:CB:700:VAL:HG22	1.87	0.55
2:L5:1332:C:H2'	2:L5:1333:A:H8	1.72	0.55
54:SQ:4:LYS:HE3	82:S2:1423:C:H41	1.72	0.55
66:SC:109:ILE:HD11	66:SC:151:ILE:HD11	1.88	0.55
2:L5:702:U:H2'	2:L5:703:G:O4'	2.07	0.55
2:L5:1726:U:H5'	10:LF:135:ILE:HD11	1.89	0.55
2:L5:2318:G:N2	2:L5:2321:G:OP2	2.34	0.55
7:LC:262:GLU:HB3	7:LC:273:LEU:HD13	1.89	0.55
11:LG:57:TRP:O	11:LG:62:ARG:NH1	2.40	0.55
50:SF:40:ALA:HB3	50:SF:67:PRO:HA	1.88	0.55
57:ST:2:PRO:HD2	82:S2:1419:C:H42	1.71	0.55
63:Sg:89:LEU:HB3	63:Sg:99:ARG:HB3	1.88	0.55
67:SE:151:ASP:HA	68:SG:212:LEU:HD21	1.89	0.55
2:L5:121:A:OP1	11:LG:110:LYS:NZ	2.32	0.55
2:L5:261:G:H2'	2:L5:262:G:C8	2.42	0.55
2:L5:4413:C:O2	13:LI:158:LYS:NZ	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LW:105:ARG:NH2	68:SG:149:LYS:O	2.40	0.55
33:Ld:22:THR:HG23	33:Ld:122:VAL:HG13	1.88	0.55
47:Ls:110:ALA:HA	47:Ls:182:PRO:HG2	1.89	0.55
66:SC:102:LEU:HD22	66:SC:130:ILE:HD12	1.87	0.55
68:SG:7:PHE:HD1	68:SG:113:ILE:HB	1.72	0.55
70:SI:91:VAL:HG11	70:SI:205:ARG:HH12	1.72	0.55
82:S2:888:U:H4'	82:S2:889:U:H5'	1.89	0.55
2:L5:1100:U:O4	2:L5:1194:G:O6	2.25	0.55
29:LZ:46:ILE:HA	29:LZ:70:SER:HA	1.88	0.55
57:ST:74:SER:O	57:ST:78:ILE:HD12	2.07	0.55
65:SB:144:LYS:HD3	65:SB:208:HIS:HB3	1.88	0.55
83:CB:18:ASN:HD22	83:CB:98:PHE:HE1	1.53	0.55
50:SF:171:GLU:OE2	59:SZ:106:GLN:NE2	2.37	0.54
56:SS:36:VAL:HG21	56:SS:71:MET:HE3	1.89	0.54
62:Sf:110:GLU:HG2	62:Sf:113:LYS:HD3	1.89	0.54
74:SO:145:GLY:O	79:Sa:22:ARG:NH2	2.40	0.54
75:SV:42:VAL:HG23	75:SV:43:THR:HG23	1.88	0.54
82:S2:942:G:H2'	82:S2:943:U:C6	2.42	0.54
82:S2:1255:G:OP1	82:S2:1256:G:O2'	2.23	0.54
85:CE:72:ARG:HH11	85:CE:76:GLU:HG2	1.71	0.54
2:L5:502:C:H3'	2:L5:503:C:H3'	1.89	0.54
2:L5:2486:G:O6	2:L5:2493:G:O6	2.26	0.54
15:LL:64:VAL:HA	15:LL:67:HIS:CD2	2.31	0.54
22:LS:161:ARG:HD2	22:LS:164:LYS:HB2	1.88	0.54
24:LU:23:LEU:HD23	24:LU:110:TYR:HB2	1.89	0.54
36:Lg:44:SER:OG	36:Lg:46:CYS:SG	2.65	0.54
63:Sg:258:ILE:HG23	63:Sg:267:VAL:HG23	1.89	0.54
2:L5:1328:G:O2'	2:L5:2349:A:OP1	2.25	0.54
5:LA:101:VAL:HG22	5:LA:165:VAL:HG22	1.88	0.54
56:SS:88:LYS:H	56:SS:95:TYR:HD1	1.55	0.54
83:CB:26:ALA:HB2	83:CB:128:VAL:HB	1.90	0.54
83:CB:354:ILE:HG23	83:CB:358:LEU:HD12	1.90	0.54
2:L5:2495:U:H2'	2:L5:2496:G:C8	2.42	0.54
40:Lk:24:LYS:HD3	40:Lk:69:LEU:HD21	1.89	0.54
70:SI:143:LYS:NZ	82:S2:202:G:OP1	2.41	0.54
82:S2:981:A:H2'	82:S2:982:G:C8	2.42	0.54
82:S2:1513:C:H2'	82:S2:1514:G:H8	1.72	0.54
2:L5:305:A:OP2	17:LN:15:GLN:NE2	2.36	0.54
2:L5:729:G:H5''	10:LF:76:ARG:HD2	1.90	0.54
2:L5:2845:A:H61	2:L5:3843:C:H42	1.54	0.54
2:L5:4363:A:H5''	44:Lo:36:GLN:HG2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:LL:91:ALA:HB1	15:LL:96:ILE:HB	1.90	0.54
50:SF:30:ILE:HG23	50:SF:117:ILE:HD11	1.89	0.54
55:SR:16:ILE:HD11	55:SR:54:VAL:HG21	1.89	0.54
61:Sd:17:GLY:O	61:Sd:27:ARG:NH1	2.41	0.54
82:S2:1606:G:N2	82:S2:1632:G:H1'	2.22	0.54
83:CB:12:ILE:HD12	83:CB:99:LEU:HB2	1.88	0.54
2:L5:223:G:OP2	7:LC:165:LYS:NZ	2.40	0.54
2:L5:1333:A:H2'	2:L5:1334:A:C8	2.43	0.54
2:L5:4620:OMU:OP2	2:L5:4670:C:N4	2.33	0.54
2:L5:4774:C:O2'	2:L5:4775:C:O2	2.25	0.54
18:LO:54:TYR:OH	18:LO:73:PHE:O	2.25	0.54
57:ST:62:ARG:NH2	82:S2:1543:U:OP2	2.36	0.54
63:Sg:8:ARG:HB3	63:Sg:309:VAL:HG13	1.89	0.54
69:SH:10:LYS:NZ	69:SH:16:PRO:O	2.41	0.54
2:L5:4617:G:OP2	6:LB:358:ARG:NH2	2.40	0.54
2:L5:4941:G:OP2	9:LE:188:ARG:NH2	2.32	0.54
8:LD:156:GLY:HA2	8:LD:181:PRO:HG3	1.89	0.54
18:LO:186:GLU:OE1	18:LO:186:GLU:N	2.40	0.54
57:ST:65:TYR:HE1	57:ST:128:GLN:HG3	1.72	0.54
63:Sg:249:CYS:HB3	63:Sg:258:ILE:HD13	1.90	0.54
2:L5:4967:A:H2'	2:L5:4968:A:C8	2.42	0.54
8:LD:291:GLN:NE2	13:LI:213:HIS:O	2.32	0.54
30:La:87:ARG:HG3	30:La:120:GLN:HE22	1.73	0.54
50:SF:133:THR:N	84:Et:39:U:O2'	2.41	0.54
54:SQ:3:SER:OG	54:SQ:4:LYS:N	2.40	0.54
57:ST:121:ARG:HH21	82:S2:1563:G:H5''	1.71	0.54
1:CI:79:ARG:HH22	2:L5:2708:U:H1'	1.72	0.54
2:L5:1591:U:OP2	2:L5:2856:C:O2'	2.20	0.54
2:L5:1933:G:H2'	2:L5:1934:A:C8	2.43	0.54
2:L5:2745:A:H2'	2:L5:2746:A:C8	2.43	0.54
2:L5:3717:A:H2'	2:L5:3718:A2M:C8	2.38	0.54
5:LA:108:PRO:HB2	45:Lp:86:LEU:HD23	1.90	0.54
48:Lt:82:ILE:HG12	48:Lt:137:GLN:HG2	1.90	0.54
48:Lt:114:ARG:NH2	48:Lt:126:SER:OG	2.41	0.54
51:SK:27:VAL:HB	51:SK:43:LEU:HD12	1.90	0.54
56:SS:109:GLU:HA	56:SS:112:GLU:HG2	1.90	0.54
66:SC:72:ASP:OD2	66:SC:272:HIS:NE2	2.40	0.54
1:CI:50:MET:HG3	24:LU:114:TYR:CE2	2.42	0.54
2:L5:88:A:N7	20:LQ:173:LYS:NZ	2.56	0.54
2:L5:364:G:O6	39:Lj:55:ARG:NH2	2.41	0.54
16:LM:119:ARG:HG3	18:LO:189:ILE:HG23	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LQ:99:LYS:HZ2	20:LQ:121:LEU:HD11	1.73	0.54
35:Lf:43:LEU:O	35:Lf:109:ARG:NH2	2.41	0.54
63:Sg:18:VAL:O	63:Sg:287:THR:OG1	2.26	0.54
63:Sg:129:ILE:HB	63:Sg:142:VAL:HB	1.89	0.54
82:S2:557:U:H2'	82:S2:558:G:C8	2.43	0.54
82:S2:889:U:OP2	82:S2:896:U:N3	2.41	0.54
82:S2:1203:G:H2'	82:S2:1204:A:C8	2.42	0.54
83:CB:40:VAL:HG13	83:CB:47:ALA:HB1	1.88	0.54
2:L5:4220:6MZ:O5'	2:L5:4220:6MZ:H8	2.09	0.53
4:L8:58:G:N7	39:Lj:63:ARG:NH2	2.44	0.53
10:LF:96:ARG:HH12	10:LF:224:THR:HG22	1.72	0.53
14:LJ:84:GLU:OE2	14:LJ:92:TYR:OH	2.25	0.53
50:SF:134:VAL:HG23	84:Et:40:C:HO2'	1.70	0.53
54:SQ:130:LYS:NZ	54:SQ:131:LYS:O	2.41	0.53
64:SA:37:TYR:OH	64:SA:57:LYS:NZ	2.38	0.53
82:S2:118:C:H1'	82:S2:445:A:C5	2.43	0.53
2:L5:1214:C:N3	31:Lb:90:SER:OG	2.41	0.53
2:L5:1734:G:N2	2:L5:1735:U:O4	2.34	0.53
2:L5:1837:A:OP2	23:LT:130:ARG:NH1	2.38	0.53
2:L5:4537:C:H2'	2:L5:4538:G:C8	2.42	0.53
32:Lc:99:PRO:HG3	32:Lc:104:ILE:HB	1.90	0.53
48:Lt:34:PRO:HB3	83:CB:777:ALA:C	2.32	0.53
58:SU:68:THR:O	61:Sd:40:ARG:NH1	2.40	0.53
64:SA:18:PHE:HD1	64:SA:23:THR:HG21	1.71	0.53
70:SI:10:LYS:O	70:SI:18:ARG:NH1	2.41	0.53
2:L5:4694:G:H4'	12:LH:71:ARG:HH12	1.73	0.53
51:SK:55:ARG:NH1	51:SK:78:TYR:OH	2.41	0.53
66:SC:77:SER:OG	66:SC:79:GLU:OE1	2.26	0.53
74:SO:33:ILE:HB	74:SO:97:LEU:HD23	1.91	0.53
83:CB:150:ARG:HH22	83:CB:199:PRO:HD2	1.73	0.53
72:SL:128:VAL:HG12	72:SL:142:VAL:HA	1.90	0.53
76:SW:111:MET:HE1	76:SW:119:LYS:HD2	1.89	0.53
80:Sb:20:LYS:NZ	82:S2:1016:U:OP2	2.41	0.53
82:S2:851:C:H5''	82:S2:852:G:H5'	1.89	0.53
83:CB:27:HIS:HB2	83:CB:139:THR:HG23	1.90	0.53
49:SD:138:VAL:HG13	49:SD:182:LEU:HD21	1.91	0.53
72:SL:133:PRO:O	82:S2:383:G:O2'	2.25	0.53
77:SX:70:VAL:HG11	77:SX:94:ILE:HG21	1.89	0.53
82:S2:1013:U:OP1	82:S2:1129:G:O2'	2.26	0.53
2:L5:1994:C:H2'	2:L5:1995:G:H8	1.73	0.53
2:L5:3911:C:H2'	2:L5:3912:U:H6	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4260:U:H2'	2:L5:4261:C:C6	2.44	0.53
7:LC:218:ILE:HA	7:LC:229:LEU:HD22	1.89	0.53
28:LY:2:LYS:HD2	28:LY:7:VAL:HG23	1.89	0.53
47:Ls:139:GLN:HG2	83:CB:180:ARG:HE	1.74	0.53
73:SN:70:LYS:NZ	82:S2:1020:A:N7	2.55	0.53
80:Sb:62:VAL:HG23	80:Sb:74:THR:HG21	1.91	0.53
82:S2:1581:C:H5'	82:S2:1582:C:H5	1.74	0.53
82:S2:1825:A:C2	83:CB:714:ILE:HG12	2.19	0.53
2:L5:691:C:H2'	2:L5:692:A:C8	2.43	0.53
2:L5:735:G:H5''	16:LM:70:GLN:HG3	1.91	0.53
9:LE:223:ARG:HH22	9:LE:238:GLU:HG3	1.74	0.53
18:LO:168:TYR:CE2	18:LO:172:LYS:HD2	2.44	0.53
59:SZ:106:GLN:HG3	59:SZ:108:ILE:HD11	1.89	0.53
66:SC:257:LYS:O	75:SV:16:LYS:NZ	2.40	0.53
73:SN:66:VAL:HG13	73:SN:67:THR:HG23	1.90	0.53
82:S2:902:G:O2'	82:S2:903:A:O4'	2.27	0.53
2:L5:71:C:H1'	15:LL:62:PRO:O	2.09	0.53
19:LP:118:GLN:OE1	19:LP:120:ASN:ND2	2.41	0.53
28:LY:76:LYS:HE2	41:Ll:31:THR:HB	1.89	0.53
47:Ls:29:ILE:HG22	47:Ls:88:PHE:HD1	1.72	0.53
50:SF:78:MET:HE3	82:S2:1222:G:H5''	1.90	0.53
80:Sb:11:SER:N	80:Sb:14:GLU:OE2	2.42	0.53
25:LV:92:ASP:O	26:LW:2:LYS:NZ	2.42	0.53
46:Lr:38:PHE:O	46:Lr:45:HIS:NE2	2.31	0.53
82:S2:455:A:H2'	82:S2:456:C:H6	1.74	0.53
2:L5:267:G:H2'	2:L5:268:G:H8	1.74	0.53
2:L5:1756:U:O2'	2:L5:1758:G:OP2	2.24	0.53
26:LW:123:LYS:HD2	82:S2:320:G:H5''	1.90	0.53
47:Ls:135:THR:CG2	83:CB:187:VAL:HG11	2.39	0.53
51:SK:3:MET:HE1	51:SK:11:ILE:HD12	1.90	0.53
64:SA:85:ARG:NH1	64:SA:203:PHE:O	2.40	0.53
2:L5:1241:C:O2'	31:Lb:120:ARG:O	2.27	0.52
2:L5:1258:G:H2'	2:L5:1259:G:C8	2.44	0.52
2:L5:1548:G:O2'	2:L5:2812:A:N3	2.38	0.52
2:L5:2084:C:O2	20:LQ:16:LYS:NZ	2.42	0.52
7:LC:293:LEU:O	7:LC:299:GLN:NE2	2.39	0.52
31:Lb:102:PRO:O	31:Lb:109:ARG:NH2	2.41	0.52
54:SQ:131:LYS:HB2	54:SQ:140:ARG:HH22	1.74	0.52
56:SS:48:ALA:O	56:SS:66:ARG:NH2	2.42	0.52
60:Sc:66:ARG:HH12	60:Sc:68:LEU:HD23	1.74	0.52
81:Se:58:ASN:ND2	82:S2:608:C:O4'	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:553:U:O4	82:S2:554:A:N6	2.40	0.52
82:S2:1684:C:O2'	84:Et:34:U:H6	1.92	0.52
82:S2:1773:C:H2'	82:S2:1774:C:H5''	1.91	0.52
35:Lf:78:HIS:HB3	35:Lf:83:MET:HB3	1.91	0.52
39:Lj:2:THR:HB	39:Lj:6:SER:HB2	1.90	0.52
79:Sa:41:ILE:HD12	79:Sa:68:TYR:HD2	1.74	0.52
83:CB:410:PHE:HB2	83:CB:476:ASP:CG	2.34	0.52
2:L5:2624:G:OP2	24:LU:97:ARG:NH2	2.42	0.52
2:L5:5016:A:C2	2:L5:5033:G:N2	2.74	0.52
20:LQ:15:ARG:NH1	20:LQ:52:PHE:O	2.41	0.52
72:SL:3:ASP:OD1	72:SL:4:ILE:N	2.42	0.52
2:L5:93:G:H2'	2:L5:94:A:C8	2.45	0.52
2:L5:2568:C:H2'	2:L5:2569:G:H8	1.73	0.52
2:L5:4612:C:C2	12:LH:120:GLU:HB2	2.44	0.52
2:L5:4717:A:OP2	6:LB:30:LYS:NZ	2.32	0.52
18:LO:54:TYR:CD1	18:LO:145:VAL:HG21	2.44	0.52
52:SM:82:ASN:OD1	52:SM:83:LYS:N	2.42	0.52
53:SP:79:HIS:HD2	82:S2:1298:G:C4	2.28	0.52
66:SC:60:TRP:O	66:SC:71:LYS:NZ	2.37	0.52
68:SG:13:GLN:NE2	82:S2:153:G:N3	2.57	0.52
83:CB:394:LEU:HD11	83:CB:421:VAL:HG23	1.92	0.52
84:Et:26:A:H62	84:Et:44:G:H21	1.58	0.52
2:L5:2696:A:OP1	40:Lk:26:LYS:NZ	2.42	0.52
47:Ls:99:ARG:HG3	47:Ls:103:LEU:HD13	1.92	0.52
66:SC:207:ALA:HB2	82:S2:4:C:H4'	1.92	0.52
69:SH:51:ILE:HG21	69:SH:179:LYS:HG2	1.91	0.52
82:S2:1777:G:H2'	82:S2:1778:C:H6	1.73	0.52
83:CB:30:HIS:CE1	83:CB:130:ASP:H	2.28	0.52
10:LF:41:MET:HE2	31:Lb:113:ALA:HB2	1.90	0.52
18:LO:197:LYS:NZ	18:LO:203:VAL:O	2.42	0.52
50:SF:60:ARG:HD2	82:S2:1679:A:H2'	1.92	0.52
54:SQ:42:ILE:HG23	54:SQ:44:PRO:HD2	1.91	0.52
56:SS:15:VAL:HG12	56:SS:16:LEU:HG	1.91	0.52
67:SE:125:LYS:O	67:SE:142:HIS:N	2.42	0.52
2:L5:1270:A:H8	2:L5:2106:G:H21	1.57	0.52
2:L5:2745:A:H2'	2:L5:2746:A:H8	1.75	0.52
2:L5:2756:G:O6	29:LZ:51:ARG:NH2	2.30	0.52
37:Lh:80:PRO:HD2	37:Lh:83:LEU:HD12	1.91	0.52
54:SQ:89:SER:OG	54:SQ:119:LEU:O	2.25	0.52
58:SU:40:ILE:O	58:SU:44:LYS:HG2	2.09	0.52
64:SA:10:MET:HE3	64:SA:55:TRP:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SN:64:ARG:NH2	82:S2:919:A:OP2	2.41	0.52
48:Lt:119:ARG:NH1	48:Lt:123:ARG:HH12	2.08	0.52
49:SD:161:GLY:HA3	82:S2:1388:A:H61	1.75	0.52
61:Sd:2:GLY:N	82:S2:1271:C:O2	2.42	0.52
82:S2:367:U:H4'	82:S2:371:A:C8	2.45	0.52
82:S2:1010:G:H2'	82:S2:1011:A:C8	2.45	0.52
82:S2:1405:A:H2'	82:S2:1406:G:O4'	2.10	0.52
2:L5:2517:A:H5'	36:Lg:62:LYS:HD3	1.91	0.52
2:L5:4601:U:H2'	2:L5:4602:A:H8	1.75	0.52
9:LE:264:ILE:HD11	9:LE:267:LEU:HD22	1.92	0.52
48:Lt:85:LEU:HD13	48:Lt:109:ILE:HD12	1.90	0.52
57:ST:11:GLN:HB2	82:S2:1542:C:H4'	1.92	0.52
72:SL:61:PRO:HG3	72:SL:141:ASN:HB3	1.92	0.52
83:CB:646:ALA:HA	83:CB:649:ILE:HG12	1.92	0.52
2:L5:4478:G:O2'	2:L5:4602:A:N1	2.42	0.52
4:L8:39:G:OP1	37:Lh:86:LYS:NZ	2.43	0.52
65:SB:32:ASP:OD1	65:SB:46:LYS:NZ	2.38	0.52
68:SG:20:ASP:HB3	68:SG:23:LYS:HB2	1.91	0.52
2:L5:1961:G:O2'	2:L5:2025:A:N6	2.44	0.51
2:L5:3823:G:OP2	2:L5:3823:G:N2	2.35	0.51
33:Ld:23:ARG:HG2	33:Ld:121:ASN:HA	1.92	0.51
44:Lo:106:PHE:HZ	85:CE:39:TRP:CE3	2.19	0.51
54:SQ:140:ARG:HB2	82:S2:1644:C:H4'	1.92	0.51
78:SY:119:GLY:HA2	82:S2:85:A:H5'	1.91	0.51
83:CB:518:PRO:HA	83:CB:521:VAL:HG22	1.91	0.51
2:L5:268:G:H2'	2:L5:269:G:H8	1.75	0.51
2:L5:1070:G:O2'	2:L5:1071:C:O5'	2.26	0.51
2:L5:1509:C:H5''	30:La:2:PRO:HD3	1.92	0.51
7:LC:363:ALA:O	7:LC:367:GLU:HB3	2.10	0.51
51:SK:85:LEU:HD12	51:SK:86:PRO:HD2	1.91	0.51
62:Sf:102:VAL:HG22	62:Sf:104:LYS:HG2	1.92	0.51
76:SW:6:VAL:HG12	76:SW:34:ILE:HD11	1.93	0.51
76:SW:6:VAL:HG13	76:SW:29:PRO:HB2	1.91	0.51
83:CB:527:LEU:HD21	83:CB:557:CYS:HB3	1.93	0.51
48:Lt:34:PRO:HB3	83:CB:777:ALA:O	2.10	0.51
64:SA:76:VAL:HG12	64:SA:123:VAL:HB	1.91	0.51
65:SB:167:LYS:O	65:SB:171:ILE:HG12	2.10	0.51
68:SG:3:LEU:HD23	68:SG:109:LEU:HB3	1.91	0.51
68:SG:191:ARG:HH12	82:S2:312:G:H2'	1.75	0.51
69:SH:162:GLN:HE22	69:SH:166:VAL:HB	1.75	0.51
76:SW:111:MET:HE3	76:SW:116:ALA:HA	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:672:A:N6	82:S2:1027:A:OP1	2.41	0.51
82:S2:1130:G:OP2	82:S2:1130:G:N2	2.34	0.51
82:S2:1748:G:O6	82:S2:1786:U:O4	2.28	0.51
82:S2:1801:A:H2'	82:S2:1802:C:C6	2.46	0.51
2:L5:1718:C:O2'	10:LF:181:LYS:NZ	2.43	0.51
2:L5:3898:G:H5'	6:LB:254:ILE:HG13	1.92	0.51
6:LB:50:LYS:HB2	6:LB:345:LEU:HD11	1.92	0.51
17:LN:146:PRO:HB2	37:Lh:104:THR:HG23	1.93	0.51
53:SP:37:TYR:O	56:SS:88:LYS:NZ	2.43	0.51
77:SX:124:LYS:NZ	82:S2:29:G:OP1	2.40	0.51
82:S2:1610:G:O6	82:S2:1630:A:N6	2.43	0.51
2:L5:1268:G:N7	31:Lb:111:ARG:NH2	2.53	0.51
2:L5:1411:C:H2'	2:L5:1412:G:C8	2.45	0.51
2:L5:4274:A:H2'	2:L5:4275:G:C8	2.45	0.51
2:L5:4967:A:H2'	2:L5:4968:A:H8	1.75	0.51
59:SZ:41:ARG:HH12	59:SZ:44:LEU:HG	1.75	0.51
62:Sf:103:LEU:HB2	62:Sf:105:TYR:CE2	2.45	0.51
65:SB:26:SER:O	65:SB:51:ARG:NH2	2.43	0.51
77:SX:48:LYS:HB3	77:SX:75:ILE:HD12	1.91	0.51
2:L5:1683:PSU:OP1	30:La:44:ASN:ND2	2.42	0.51
9:LE:141:ARG:NH2	35:Lf:110:ILE:O	2.44	0.51
11:LG:157:ILE:HA	11:LG:201:THR:HG22	1.93	0.51
17:LN:46:ASP:OD1	17:LN:47:LYS:N	2.43	0.51
56:SS:28:PHE:O	56:SS:31:THR:OG1	2.25	0.51
66:SC:121:ARG:NH1	66:SC:123:ARG:HE	2.09	0.51
82:S2:525:A:H2'	82:S2:526:A:H8	1.75	0.51
2:L5:308:G:OP2	2:L5:308:G:N2	2.35	0.51
2:L5:1867:A:H2'	2:L5:1868:A:C8	2.46	0.51
6:LB:288:GLY:HA3	6:LB:330:PHE:CE1	2.46	0.51
10:LF:171:ASP:OD1	10:LF:172:ASN:N	2.43	0.51
14:LJ:104:ASN:HD22	14:LJ:133:VAL:HG13	1.75	0.51
47:Ls:29:ILE:HG22	47:Ls:88:PHE:CD1	2.46	0.51
52:SM:23:LYS:O	52:SM:27:ILE:HG12	2.10	0.51
58:SU:96:GLU:OE1	58:SU:99:LYS:N	2.36	0.51
63:Sg:239:LEU:HD11	63:Sg:248:LEU:HD21	1.93	0.51
67:SE:204:SER:OG	67:SE:205:PHE:N	2.39	0.51
67:SE:247:THR:N	67:SE:250:GLU:OE2	2.39	0.51
70:SI:3:ILE:O	70:SI:30:GLY:N	2.42	0.51
82:S2:145:G:H2'	82:S2:146:G:C8	2.45	0.51
6:LB:57:VAL:HG22	6:LB:73:VAL:HG22	1.93	0.51
47:Ls:139:GLN:NE2	83:CB:183:GLU:CB	2.70	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SI:45:THR:HG23	70:SI:53:LYS:HG3	1.93	0.51
80:Sb:67:THR:OG1	80:Sb:70:LYS:O	2.21	0.51
85:CE:60:ARG:NH1	85:CE:61:LEU:HG	2.26	0.51
2:L5:2009:A:C8	83:CB:756:VAL:HG13	2.46	0.51
47:Ls:13:TYR:O	47:Ls:17:ILE:HG12	2.11	0.51
67:SE:31:PRO:HA	67:SE:81:THR:HB	1.93	0.51
67:SE:126:VAL:HA	67:SE:141:THR:HA	1.93	0.51
82:S2:57:U:OP1	82:S2:504:G:O2'	2.29	0.51
82:S2:964:A:H2'	82:S2:965:U:H6	1.76	0.51
82:S2:1421:A:H5''	82:S2:1422:G:H2'	1.92	0.51
82:S2:1588:A:H2'	82:S2:1589:A:C8	2.46	0.51
12:LH:92:MET:HE2	12:LH:179:ILE:HG22	1.93	0.51
14:LJ:58:ARG:CZ	85:CE:39:TRP:CD2	2.87	0.51
33:Ld:59:THR:OG1	33:Ld:104:THR:OG1	2.25	0.51
38:Li:55:ARG:O	38:Li:59:GLU:HG2	2.11	0.51
56:SS:14:ARG:HH11	56:SS:19:ASN:HB3	1.76	0.51
61:Sd:12:ARG:NH1	82:S2:1513:C:OP1	2.31	0.51
66:SC:191:VAL:HG11	66:SC:236:PHE:HA	1.93	0.51
69:SH:10:LYS:HE3	69:SH:17:ASP:HB3	1.93	0.51
85:CE:29:LYS:HA	85:CE:32:LYS:HZ2	1.75	0.51
2:L5:351:C:OP2	7:LC:197:ARG:NH1	2.34	0.50
2:L5:2102:G:H1'	2:L5:2103:G:C8	2.46	0.50
2:L5:4636:PSU:N1	33:Ld:79:ASN:OD1	2.43	0.50
2:L5:4896:G:H2'	2:L5:4897:G:C8	2.47	0.50
12:LH:107:GLU:N	12:LH:107:GLU:OE1	2.44	0.50
18:LO:126:VAL:HG13	18:LO:127:VAL:HG13	1.92	0.50
47:Ls:147:ILE:CG2	83:CB:186:ASN:HB3	2.41	0.50
78:SY:108:LYS:NZ	82:S2:506:G:OP1	2.38	0.50
82:S2:1058:A:H5'	85:CE:12:SER:HB2	1.93	0.50
2:L5:387:G:O2'	2:L5:412:G:N1	2.36	0.50
2:L5:717:U:H2'	2:L5:718:C:C6	2.46	0.50
2:L5:1438:U:H4'	10:LF:31:LYS:HE3	1.93	0.50
2:L5:4927:G:H5''	2:L5:4928:C:H5	1.76	0.50
18:LO:10:ASP:OD2	18:LO:37:ARG:NH2	2.44	0.50
53:SP:56:LEU:HD22	53:SP:80:LEU:HD11	1.92	0.50
57:ST:44:GLU:HG3	57:ST:45:LEU:HD12	1.93	0.50
65:SB:40:ASN:HD21	65:SB:76:ASN:HB2	1.77	0.50
71:SJ:136:ARG:NH1	71:SJ:159:PHE:O	2.40	0.50
77:SX:142:ARG:C	83:CB:477:GLN:O	2.54	0.50
82:S2:28:U:H2'	82:S2:29:G:H8	1.76	0.50
82:S2:107:A:H2'	82:S2:108:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2577:C:OP1	29:LZ:111:ARG:NH2	2.44	0.50
4:L8:21:C:OP1	7:LC:195:LYS:NZ	2.42	0.50
15:LL:7:GLY:O	30:La:49:HIS:NE2	2.40	0.50
63:Sg:40:ILE:HB	63:Sg:59:LEU:HB2	1.93	0.50
79:Sa:41:ILE:HD12	79:Sa:68:TYR:CD2	2.45	0.50
82:S2:1033:G:N1	82:S2:1080:A:O2'	2.39	0.50
82:S2:1845:A:H2'	82:S2:1846:G:C8	2.46	0.50
1:CI:78:HIS:NE2	2:L5:2706:G:C8	2.75	0.50
2:L5:2018:C:H2'	2:L5:2019:C:C6	2.46	0.50
2:L5:4589:A:N1	2:L5:4621:C:O2'	2.41	0.50
13:LI:207:ASP:OD1	13:LI:210:ARG:NH1	2.44	0.50
26:LW:7:SER:OG	26:LW:8:PHE:N	2.45	0.50
50:SF:22:LYS:HG3	50:SF:23:TRP:CD2	2.46	0.50
64:SA:128:ARG:NH2	64:SA:151:ASP:O	2.44	0.50
2:L5:418:A:C2	4:L8:17:A:H1'	2.47	0.50
2:L5:1802:A:H5''	2:L5:1803:G:H5'	1.93	0.50
2:L5:3732:A:H2'	2:L5:3733:A:H8	1.76	0.50
7:LC:144:ILE:HG13	7:LC:144:ILE:O	2.11	0.50
24:LU:36:ALA:HB1	24:LU:70:ILE:HD11	1.93	0.50
47:Ls:139:GLN:CG	83:CB:180:ARG:CD	2.88	0.50
64:SA:137:ALA:HB1	64:SA:142:LEU:HB3	1.94	0.50
69:SH:140:VAL:HG12	73:SN:19:ARG:HD3	1.94	0.50
71:SJ:38:ARG:N	71:SJ:42:GLU:OE2	2.30	0.50
82:S2:436:OMG:OP2	82:S2:471:G:O2'	2.23	0.50
83:CB:27:HIS:HB3	83:CB:30:HIS:CD2	2.47	0.50
2:L5:1697:G:H22	2:L5:2084:C:P	2.35	0.50
2:L5:3707:U:H2'	2:L5:3708:C:C6	2.46	0.50
2:L5:5064:G:N2	19:LP:75:GLN:HE22	2.10	0.50
6:LB:378:ARG:HE	26:LW:32:LEU:HD21	1.75	0.50
21:LR:92:LYS:HG2	21:LR:96:MET:HE3	1.94	0.50
63:Sg:57:ARG:HE	63:Sg:95:GLY:HA3	1.76	0.50
66:SC:78:LEU:HD12	66:SC:81:ILE:HD12	1.93	0.50
66:SC:196:ILE:HB	66:SC:223:TYR:HB2	1.92	0.50
82:S2:455:A:H2'	82:S2:456:C:C6	2.46	0.50
2:L5:654:C:H2'	2:L5:655:C:C6	2.47	0.50
2:L5:2300:A:N7	7:LC:143:ARG:NH1	2.60	0.50
2:L5:3910:C:H2'	2:L5:3911:C:C6	2.47	0.50
19:LP:107:LEU:HD13	19:LP:152:GLU:HG3	1.93	0.50
63:Sg:176:VAL:HG23	63:Sg:185:LYS:HB2	1.94	0.50
70:SI:133:GLU:HA	70:SI:136:ILE:HG12	1.92	0.50
82:S2:159:A2M:O5'	82:S2:159:A2M:H8	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:137:G:H2'	2:L5:138:G:H8	1.77	0.50
2:L5:1617:G:H1'	2:L5:2513:A:N6	2.26	0.50
14:LJ:38:LYS:HD2	14:LJ:123:ILE:HD11	1.94	0.50
58:SU:79:ARG:NH2	82:S2:1669:G:OP1	2.42	0.50
68:SG:135:PRO:HA	82:S2:169:U:H5''	1.93	0.50
68:SG:190:ARG:NH2	82:S2:334:C:OP2	2.40	0.50
82:S2:482:G:N1	82:S2:485:A:OP2	2.39	0.50
2:L5:1655:C:OP2	30:La:26:ARG:NH1	2.45	0.50
2:L5:3697:U:H5''	2:L5:3698:G:H5'	1.93	0.50
2:L5:4239:A:H2'	2:L5:4240:G:C8	2.47	0.50
2:L5:4591:U:H2'	2:L5:4592:C:C6	2.47	0.50
4:L8:141:C:H2'	4:L8:142:U:C6	2.47	0.50
6:LB:147:GLU:OE2	6:LB:198:ARG:NH2	2.32	0.50
8:LD:182:GLY:HA2	8:LD:194:VAL:HG23	1.93	0.50
12:LH:48:LEU:HD21	12:LH:56:ARG:HB2	1.93	0.50
45:Lp:75:SER:O	45:Lp:79:VAL:HG23	2.12	0.50
51:SK:22:VAL:HG22	51:SK:68:TYR:HD1	1.76	0.50
51:SK:64:TRP:HB3	61:Sd:23:VAL:HA	1.94	0.50
63:Sg:195:LEU:HA	63:Sg:211:GLY:HA3	1.93	0.50
66:SC:85:SER:OG	75:SV:25:GLY:O	2.29	0.50
69:SH:20:GLU:HG2	69:SH:48:ALA:HB3	1.93	0.50
70:SI:141:ARG:HD3	70:SI:145:ILE:HG21	1.93	0.50
74:SO:45:THR:HA	74:SO:52:THR:HA	1.94	0.50
78:SY:51:THR:OG1	78:SY:53:ASP:OD1	2.23	0.50
78:SY:119:GLY:O	82:S2:84:A:O2'	2.27	0.50
82:S2:149:A:H3'	82:S2:150:A:H8	1.76	0.50
83:CB:609:PHE:CZ	83:CB:661:ILE:HG12	2.46	0.50
85:CE:72:ARG:NH1	85:CE:76:GLU:HG2	2.27	0.50
2:L5:1628:C:OP1	5:LA:14:SER:OG	2.29	0.49
2:L5:2809:G:O2'	2:L5:4644:G:OP1	2.28	0.49
5:LA:181:LYS:HB2	5:LA:184:ARG:HG3	1.94	0.49
6:LB:218:ASP:OD2	6:LB:348:ARG:NH2	2.32	0.49
15:LL:111:GLN:O	15:LL:115:GLN:HG2	2.12	0.49
57:ST:60:THR:HG22	57:ST:75:MET:HE2	1.94	0.49
65:SB:97:LEU:HB3	65:SB:232:HIS:NE2	2.27	0.49
82:S2:960:U:O2'	82:S2:962:A:N7	2.37	0.49
2:L5:1662:C:H2'	2:L5:1663:C:C6	2.47	0.49
2:L5:3641:U:H5	2:L5:3646:A:N7	2.09	0.49
10:LF:157:ARG:HE	10:LF:248:ASN:HB2	1.77	0.49
50:SF:60:ARG:NH2	82:S2:1679:A:OP1	2.43	0.49
50:SF:141:VAL:HG12	60:Sc:47:LYS:HG2	1.92	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SA:184:ARG:HE	64:SA:191:ARG:HA	1.77	0.49
68:SG:170:ARG:HG3	82:S2:72:C:N3	2.27	0.49
82:S2:1562:C:H2'	82:S2:1563:G:H8	1.76	0.49
2:L5:433:A:C2	2:L5:3867:A2M:H4'	2.46	0.49
6:LB:394:LYS:HA	6:LB:397:ILE:HG12	1.94	0.49
8:LD:217:ASP:N	8:LD:217:ASP:OD1	2.41	0.49
9:LE:190:HIS:HB3	9:LE:193:PHE:HD2	1.77	0.49
12:LH:18:ILE:HG12	12:LH:27:VAL:HG22	1.94	0.49
14:LJ:58:ARG:HG2	85:CE:39:TRP:HE3	1.76	0.49
26:LW:2:LYS:HE3	26:LW:15:PRO:HB3	1.94	0.49
47:Ls:139:GLN:OE1	83:CB:180:ARG:HA	2.12	0.49
47:Ls:143:ILE:HD12	47:Ls:158:VAL:HG11	1.95	0.49
52:SM:49:LEU:HD21	52:SM:123:VAL:HG11	1.94	0.49
77:SX:28:LYS:HE2	77:SX:32:LEU:HD22	1.93	0.49
78:SY:105:LYS:NZ	82:S2:507:G:O6	2.36	0.49
82:S2:1337:4AC:O5'	82:S2:1337:4AC:H6	2.12	0.49
2:L5:173:C:OP1	15:LL:129:ARG:NH1	2.46	0.49
2:L5:325:U:H2'	2:L5:326:C:C6	2.47	0.49
2:L5:512:U:H3	2:L5:647:G:H1	1.60	0.49
2:L5:1283:G:N1	2:L5:2076:G:OP1	2.33	0.49
2:L5:3659:G:OP1	5:LA:241:ARG:NH1	2.45	0.49
6:LB:258:HIS:HA	6:LB:260:ALA:N	2.26	0.49
8:LD:66:TYR:HE2	8:LD:68:ARG:HE	1.60	0.49
22:LS:27:LEU:HB3	23:LT:148:PRO:HB3	1.94	0.49
48:Lt:76:SER:OG	48:Lt:116:MET:SD	2.69	0.49
61:Sd:46:TYR:O	61:Sd:50:ILE:HD12	2.12	0.49
73:SN:14:SER:HB3	82:S2:1016:U:H5''	1.95	0.49
76:SW:3:ARG:HH22	76:SW:28:ARG:HH21	1.60	0.49
76:SW:44:HIS:NE2	76:SW:112:ASP:OD2	2.42	0.49
79:Sa:8:ASN:ND2	82:S2:1861:G:OP1	2.42	0.49
82:S2:928:G:H1	82:S2:1013:U:H3	1.59	0.49
2:L5:10:A:H2'	2:L5:11:G:C8	2.48	0.49
2:L5:1480:C:O2'	2:L5:1482:G:OP2	2.31	0.49
2:L5:1516:G:O2'	15:LL:18:TRP:NE1	2.45	0.49
2:L5:3880:G:H2'	2:L5:3881:G:C8	2.47	0.49
2:L5:4188:U:H2'	2:L5:4189:U:C6	2.48	0.49
50:SF:81:ARG:O	50:SF:85:LYS:NZ	2.34	0.49
56:SS:46:ARG:NH1	57:ST:50:GLU:OE2	2.45	0.49
82:S2:1288:OMU:HN3	82:S2:1311:C:H42	1.60	0.49
82:S2:1720:U:H5''	82:S2:1721:U:H5''	1.94	0.49
2:L5:2279:A:O2'	34:Le:48:ARG:NH2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2491:C:H2'	2:L5:2492:C:C6	2.47	0.49
2:L5:2739:C:O2	5:LA:188:LYS:NZ	2.43	0.49
2:L5:3615:G:H1'	26:LW:44:ARG:HD3	1.95	0.49
2:L5:3720:G:H22	2:L5:3733:A:H2	1.58	0.49
75:SV:73:ALA:HB1	75:SV:78:ILE:HB	1.95	0.49
82:S2:49:C:H2'	82:S2:472:C:H41	1.76	0.49
2:L5:2101:C:H2'	2:L5:2102:G:C8	2.47	0.49
2:L5:2539:C:H2'	2:L5:2540:C:C6	2.48	0.49
2:L5:2568:C:H2'	2:L5:2569:G:C8	2.48	0.49
2:L5:4459:U:H2'	2:L5:4460:U:C6	2.47	0.49
6:LB:299:ILE:HB	6:LB:313:SER:HB3	1.94	0.49
29:LZ:50:PRO:HD3	29:LZ:68:ILE:HG12	1.95	0.49
56:SS:132:ARG:NH1	82:S2:1623:A:N1	2.60	0.49
67:SE:104:ASP:HB3	67:SE:110:ALA:HB2	1.93	0.49
69:SH:87:PHE:HB3	69:SH:90:LYS:HD2	1.95	0.49
70:SI:116:HIS:O	70:SI:152:ARG:NH2	2.38	0.49
71:SJ:60:LEU:HD22	71:SJ:70:ARG:HA	1.95	0.49
82:S2:1098:C:H2'	82:S2:1099:G:C8	2.47	0.49
82:S2:1407:U:H2'	82:S2:1408:U:C6	2.47	0.49
83:CB:403:PRO:HA	83:CB:410:PHE:HA	1.94	0.49
1:CI:78:HIS:CD2	2:L5:2706:G:N7	2.81	0.49
2:L5:1646:A:O2'	39:Lj:49:TRP:O	2.25	0.49
2:L5:1985:G:N2	2:L5:2003:G:O2'	2.46	0.49
2:L5:4699:U:H1'	2:L5:4700:A:H5''	1.94	0.49
18:LO:119:VAL:N	22:LS:168:THR:O	2.44	0.49
25:LV:87:SER:OG	26:LW:19:ARG:NH1	2.46	0.49
55:SR:32:LYS:NZ	82:S2:1452:A:OP2	2.45	0.49
64:SA:106:GLY:N	64:SA:136:GLU:OE2	2.34	0.49
82:S2:207:G:H3'	82:S2:208:G:H8	1.78	0.49
82:S2:1277:C:H2'	82:S2:1278:A:C8	2.47	0.49
82:S2:1528:G:O2'	82:S2:1666:C:OP1	2.30	0.49
82:S2:1684:C:H1'	84:Et:34:U:OP1	2.13	0.49
2:L5:148:C:OP2	11:LG:197:LYS:NZ	2.42	0.49
2:L5:280:G:H5''	17:LN:14:LYS:HE2	1.93	0.49
2:L5:308:G:O6	17:LN:12:ARG:NH1	2.46	0.49
2:L5:2764:A:H2'	2:L5:2765:A:H8	1.78	0.49
2:L5:2835:A:O2'	6:LB:228:TYR:O	2.27	0.49
2:L5:4966:A:H5''	6:LB:128:LYS:HG3	1.93	0.49
6:LB:217:ILE:HD12	6:LB:347:LEU:HB3	1.95	0.49
53:SP:132:GLY:HA2	83:CB:708:THR:HG21	1.95	0.49
77:SX:128:VAL:HG23	77:SX:138:LYS:HD2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:SY:7:ILE:HG12	78:SY:43:LYS:HD3	1.94	0.49
78:SY:41:ARG:NH2	78:SY:52:PRO:O	2.45	0.49
2:L5:1097:C:H2'	2:L5:1098:G:C8	2.48	0.49
2:L5:1332:C:H2'	2:L5:1333:A:C8	2.47	0.49
2:L5:1500:A:H5''	2:L5:1501:C:H5''	1.95	0.49
2:L5:1743:A:N1	2:L5:1789:C:O2'	2.44	0.49
2:L5:1998:A:O2'	2:L5:1999:A:O4'	2.29	0.49
2:L5:2744:A:H2'	2:L5:2745:A:C8	2.47	0.49
2:L5:4225:G:OP1	13:LI:24:ARG:NH2	2.39	0.49
2:L5:4457:PSU:H1'	6:LB:252:ALA:HB3	1.95	0.49
2:L5:4935:C:H2'	2:L5:4936:G:C8	2.47	0.49
14:LJ:22:LEU:HD22	14:LJ:128:LEU:HD12	1.94	0.49
15:LL:56:ARG:NH1	15:LL:74:ARG:O	2.40	0.49
26:LW:56:ARG:HE	26:LW:61:LYS:CB	2.26	0.49
43:Ln:12:ARG:HG2	43:Ln:15:ARG:HH21	1.78	0.49
50:SF:49:LEU:HD12	50:SF:50:PRO:HD2	1.94	0.49
50:SF:161:ALA:O	50:SF:165:ASN:ND2	2.40	0.49
51:SK:41:PRO:HG2	51:SK:44:HIS:CG	2.48	0.49
68:SG:172:LYS:NZ	82:S2:67:C:OP2	2.34	0.49
73:SN:29:THR:OG1	73:SN:31:ASP:OD1	2.27	0.49
85:CE:78:ASP:HA	85:CE:81:LEU:HB3	1.95	0.49
2:L5:158:A:H5''	2:L5:159:C:H2'	1.96	0.48
2:L5:2716:C:O3'	24:LU:107:LYS:NZ	2.46	0.48
2:L5:3664:G:H2'	2:L5:3665:G:H8	1.78	0.48
22:LS:99:ASP:OD1	22:LS:100:LEU:N	2.43	0.48
34:Le:108:ARG:HD2	34:Le:128:ARG:HB2	1.93	0.48
54:SQ:96:TYR:HA	54:SQ:100:VAL:HG12	1.95	0.48
65:SB:171:ILE:HG22	65:SB:174:ARG:HE	1.78	0.48
81:Se:11:LYS:O	81:Se:15:GLN:HG3	2.13	0.48
82:S2:84:A:N3	82:S2:150:A:O2'	2.46	0.48
2:L5:1326:A2M:H2'	2:L5:1327:C:C6	2.48	0.48
2:L5:1503:A:H4'	2:L5:1504:G:H5'	1.95	0.48
7:LC:154:VAL:HG11	7:LC:174:LEU:HD11	1.95	0.48
9:LE:119:GLU:HG3	34:Le:7:LEU:HD22	1.94	0.48
31:Lb:5:LYS:HE2	31:Lb:8:THR:HB	1.94	0.48
69:SH:69:LEU:HD13	69:SH:96:ALA:HB2	1.96	0.48
75:SV:30:ALA:O	75:SV:60:ARG:HD3	2.13	0.48
80:Sb:49:HIS:ND1	80:Sb:69:GLY:O	2.46	0.48
82:S2:1533:A:H62	82:S2:1602:U:H3	1.61	0.48
82:S2:1568:C:H2'	82:S2:1569:A:C8	2.48	0.48
82:S2:1595:U:H2'	82:S2:1596:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:121:A:H62	2:L5:152:U:H3	1.62	0.48
2:L5:369:G:N2	2:L5:372:A:OP2	2.42	0.48
2:L5:497:G:N2	2:L5:498:C:H41	2.11	0.48
2:L5:1344:C:H1'	15:LL:10:LEU:HD11	1.95	0.48
2:L5:1866:U:OP1	13:LI:4:ARG:NH1	2.36	0.48
2:L5:2903:G:H1'	2:L5:2904:U:H5	1.78	0.48
2:L5:3619:G:H22	2:L5:3624:A:H1'	1.77	0.48
2:L5:4940:C:O2'	9:LE:246:ARG:NH2	2.45	0.48
5:LA:180:LEU:HD22	45:Lp:18:TYR:HB3	1.96	0.48
34:Le:91:CYS:HB3	34:Le:95:TYR:HD2	1.77	0.48
60:Sc:39:SER:HB2	79:Sa:51:ARG:HH12	1.77	0.48
62:Sf:95:ARG:HH12	82:S2:1291:A:H62	1.60	0.48
63:Sg:207:CYS:HB3	63:Sg:221:LEU:HD21	1.95	0.48
64:SA:134:LEU:HD21	64:SA:144:THR:HG21	1.96	0.48
70:SI:54:LYS:NZ	82:S2:381:C:OP2	2.45	0.48
2:L5:467:U:C4	2:L5:468:U:H1'	2.48	0.48
2:L5:1320:U:O2'	2:L5:1891:A:N1	2.45	0.48
2:L5:1461:C:H2'	2:L5:1462:A:C8	2.48	0.48
2:L5:4584:A:H2'	2:L5:4585:U:O4'	2.13	0.48
12:LH:41:ILE:HG22	12:LH:43:VAL:HG13	1.95	0.48
12:LH:61:TRP:CZ3	16:LM:33:GLN:HG3	2.49	0.48
13:LI:54:SER:HB3	13:LI:135:ILE:HD11	1.95	0.48
19:LP:54:GLN:HA	19:LP:83:TRP:CD1	2.47	0.48
27:LX:122:ALA:N	27:LX:139:ARG:O	2.43	0.48
63:Sg:82:SER:OG	63:Sg:83:TRP:N	2.45	0.48
65:SB:85:LYS:HB2	65:SB:101:HIS:HB3	1.94	0.48
70:SI:89:GLU:OE1	70:SI:92:ARG:NH2	2.46	0.48
82:S2:5:U:H2'	82:S2:6:G:H8	1.78	0.48
82:S2:106:C:H2'	82:S2:107:A:C8	2.46	0.48
82:S2:1144:A:H2'	82:S2:1145:A:C8	2.48	0.48
82:S2:1652:G:H1	82:S2:1672:U:H3	1.60	0.48
83:CB:205:ILE:HD12	83:CB:212:VAL:HG22	1.96	0.48
2:L5:1095:A:N1	2:L5:1200:G:C6	2.81	0.48
2:L5:1324:A:O2'	2:L5:1326:A2M:OP1	2.24	0.48
2:L5:1777:C:P	85:CE:64:LEU:HD11	2.54	0.48
2:L5:2049:G:HO2'	2:L5:3884:PSU:HO2'	1.54	0.48
2:L5:2588:C:OP1	2:L5:2768:C:O2'	2.27	0.48
2:L5:4769:G:H5''	18:LO:176:ARG:HD3	1.96	0.48
7:LC:268:ARG:NH1	7:LC:269:LYS:HE2	2.29	0.48
11:LG:150:LYS:NZ	11:LG:177:MET:O	2.46	0.48
78:SY:29:HIS:O	78:SY:67:GLY:HA2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1115:U:O2'	82:S2:1117:C:OP2	2.30	0.48
2:L5:1326:A2M:HM'3	2:L5:1326:A2M:H1'	1.63	0.48
2:L5:4347:G:H2'	2:L5:4348:A:C8	2.48	0.48
70:SI:25:ARG:HA	82:S2:448:A:H5''	1.95	0.48
82:S2:1438:A:H2'	82:S2:1439:A:C8	2.49	0.48
2:L5:172:C:H4'	2:L5:173:C:H5'	1.96	0.48
2:L5:423:G:H21	19:LP:118:GLN:NE2	2.10	0.48
2:L5:500:G:H1'	2:L5:504:G:H3'	1.95	0.48
2:L5:4345:C:H2'	2:L5:4346:U:C6	2.48	0.48
6:LB:153:MET:HB3	6:LB:194:LEU:HD11	1.95	0.48
14:LJ:63:ARG:HH11	44:Lo:106:PHE:HB2	1.79	0.48
44:Lo:106:PHE:HE1	85:CE:39:TRP:CA	2.22	0.48
50:SF:142:SER:HB3	60:Sc:50:VAL:HG22	1.94	0.48
51:SK:32:HIS:CD2	51:SK:45:VAL:HG11	2.48	0.48
52:SM:128:PHE:HA	52:SM:131:LYS:HG2	1.96	0.48
54:SQ:110:ASP:OD1	54:SQ:111:ILE:HD12	2.13	0.48
59:SZ:42:ASP:OD1	59:SZ:42:ASP:N	2.44	0.48
62:Sf:139:HIS:O	62:Sf:147:THR:HA	2.13	0.48
63:Sg:166:VAL:HG12	63:Sg:176:VAL:HG12	1.95	0.48
68:SG:202:ASN:ND2	82:S2:125:C:OP1	2.39	0.48
69:SH:51:ILE:HD11	69:SH:176:VAL:HG12	1.96	0.48
70:SI:57:ALA:HB2	70:SI:183:GLY:HA2	1.95	0.48
82:S2:17:C:O2'	82:S2:1194:A:N1	2.38	0.48
82:S2:1337:4AC:H2'	82:S2:1338:G:H8	1.78	0.48
82:S2:1435:C:O2'	82:S2:1436:C:O4'	2.30	0.48
83:CB:221:TRP:CG	83:CB:340:MET:HB3	2.49	0.48
2:L5:1367:C:O2'	2:L5:1369:C:OP2	2.26	0.48
2:L5:2009:A:N6	83:CB:782:PHE:CZ	2.82	0.48
2:L5:2583:C:OP2	36:Lg:76:ARG:NH1	2.46	0.48
2:L5:4113:U:H4'	2:L5:4115:G:C6	2.48	0.48
2:L5:4897:G:OP1	16:LM:128:LYS:NZ	2.45	0.48
7:LC:141:GLY:O	7:LC:204:ARG:NH1	2.35	0.48
12:LH:114:ILE:HB	12:LH:124:ARG:HB2	1.95	0.48
15:LL:142:GLU:HA	15:LL:146:LEU:HD12	1.95	0.48
21:LR:127:VAL:HG12	21:LR:132:PHE:HD2	1.78	0.48
24:LU:63:ILE:HD13	24:LU:72:VAL:HG22	1.96	0.48
44:Lo:106:PHE:HZ	85:CE:39:TRP:HB3	1.75	0.48
56:SS:64:VAL:O	56:SS:68:ILE:HG12	2.13	0.48
82:S2:329:G:H2'	82:S2:330:G:C8	2.49	0.48
82:S2:907:G:H2'	82:S2:908:A:C8	2.48	0.48
83:CB:361:PRO:HB3	83:CB:415:ARG:NH2	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2411:C:H2'	2:L5:2412:A:C8	2.49	0.48
2:L5:4305:G:N7	23:LT:87:LYS:NZ	2.53	0.48
2:L5:4769:G:OP1	18:LO:176:ARG:NH1	2.43	0.48
4:L8:19:C:H2'	4:L8:20:A:C8	2.48	0.48
8:LD:234:ASP:OD1	8:LD:235:MET:N	2.47	0.48
10:LF:127:LYS:HB2	23:LT:133:ALA:HB3	1.96	0.48
10:LF:237:GLU:HG2	22:LS:38:VAL:HG22	1.96	0.48
58:SU:56:MET:HB2	58:SU:86:LYS:HG3	1.95	0.48
65:SB:168:MET:HB2	65:SB:197:ILE:HD13	1.96	0.48
69:SH:30:LEU:O	69:SH:33:ASN:ND2	2.47	0.48
83:CB:41:CYS:HA	83:CB:49:ALA:HA	1.96	0.48
2:L5:138:G:H2'	2:L5:139:G:H8	1.79	0.48
2:L5:737:C:C5	2:L5:739:G:H5'	2.49	0.48
2:L5:1095:A:C2	2:L5:1200:G:N1	2.65	0.48
2:L5:2018:C:H2'	2:L5:2019:C:H6	1.79	0.48
2:L5:2846:G:OP1	25:LV:85:ARG:NH2	2.47	0.48
2:L5:3732:A:H2'	2:L5:3733:A:C8	2.49	0.48
3:L7:23:A:N3	3:L7:118:C:O2'	2.36	0.48
8:LD:86:TYR:HE1	8:LD:247:ILE:HG13	1.78	0.48
19:LP:114:ILE:HA	19:LP:150:LEU:HD23	1.96	0.48
55:SR:29:HIS:CD2	63:Sg:36:ARG:HH21	2.32	0.48
57:ST:40:ALA:HB3	57:ST:43:LYS:HG2	1.96	0.48
59:SZ:85:ARG:NH2	82:S2:1597:C:OP2	2.39	0.48
67:SE:192:ILE:HG12	67:SE:243:GLY:HA3	1.96	0.48
73:SN:15:ALA:HB2	80:Sb:20:LYS:HD3	1.95	0.48
77:SX:105:PHE:CD1	77:SX:121:LYS:HB3	2.45	0.48
2:L5:374:G:OP2	39:Lj:56:ARG:NH1	2.38	0.47
2:L5:490:C:H2'	2:L5:491:G:C8	2.48	0.47
2:L5:1942:A:H2'	2:L5:1943:A:H8	1.78	0.47
6:LB:27:GLY:HA2	6:LB:276:HIS:CD2	2.49	0.47
24:LU:39:PHE:HD1	24:LU:90:TYR:CD2	2.32	0.47
50:SF:26:ASP:N	50:SF:26:ASP:OD1	2.46	0.47
50:SF:83:ASN:OD1	82:S2:1651:A:O2'	2.28	0.47
65:SB:171:ILE:HD11	65:SB:197:ILE:HA	1.95	0.47
80:Sb:11:SER:OG	80:Sb:14:GLU:OE1	2.30	0.47
83:CB:19:ILE:HD12	83:CB:99:LEU:HD23	1.95	0.47
2:L5:178:C:N4	2:L5:179:G:O6	2.47	0.47
2:L5:1176:C:H42	2:L5:1184:A:H61	1.61	0.47
2:L5:1776:A:P	85:CE:64:LEU:HD22	2.54	0.47
2:L5:4622:A:H4'	6:LB:13:SER:HB2	1.95	0.47
6:LB:14:LEU:HD22	6:LB:17:LEU:HD11	1.94	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LJ:58:ARG:CZ	85:CE:39:TRP:CE3	2.96	0.47
15:LL:110:LEU:O	15:LL:114:VAL:HG13	2.15	0.47
25:LV:43:LYS:HE2	25:LV:62:MET:HE3	1.95	0.47
63:Sg:212:LYS:HA	63:Sg:235:ILE:HG13	1.95	0.47
78:SY:105:LYS:O	78:SY:109:GLU:HG2	2.14	0.47
79:Sa:13:LYS:HD3	79:Sa:13:LYS:HA	1.71	0.47
82:S2:325:C:N3	82:S2:326:C:O2'	2.45	0.47
82:S2:1383:A2M:HM'3	82:S2:1383:A2M:H1'	1.64	0.47
2:L5:256:G:H2'	2:L5:257:C:C6	2.49	0.47
2:L5:519:C:H1'	2:L5:643:C:C2	2.49	0.47
2:L5:667:A:H5''	2:L5:668:C:H5''	1.96	0.47
2:L5:2029:A:H2'	2:L5:2030:A:C8	2.48	0.47
2:L5:4095:G:H2'	2:L5:4096:C:C6	2.50	0.47
2:L5:4149:C:OP1	29:LZ:59:LYS:N	2.47	0.47
4:L8:150:C:N4	11:LG:52:THR:O	2.47	0.47
10:LF:213:LEU:HB3	10:LF:247:MET:HG3	1.97	0.47
10:LF:241:ASN:O	10:LF:245:ARG:HG2	2.14	0.47
12:LH:89:ARG:HD3	12:LH:91:LYS:HE3	1.96	0.47
13:LI:36:LEU:HD11	13:LI:69:ARG:HD2	1.97	0.47
21:LR:157:ASP:OD1	21:LR:158:GLN:N	2.47	0.47
37:Lh:89:ARG:O	37:Lh:93:ARG:HG2	2.15	0.47
50:SF:19:LEU:HD11	50:SF:50:PRO:HD3	1.95	0.47
51:SK:42:ASN:HA	51:SK:45:VAL:HG12	1.96	0.47
63:Sg:133:ASN:HB3	63:Sg:139:LYS:HD2	1.97	0.47
68:SG:162:LEU:HG	68:SG:167:LYS:HE3	1.95	0.47
82:S2:1550:G:O2'	82:S2:1558:C:O2	2.25	0.47
2:L5:1461:C:H2'	2:L5:1462:A:H8	1.78	0.47
2:L5:1727:U:OP1	10:LF:131:ASN:ND2	2.46	0.47
2:L5:2811:G:N1	2:L5:2814:C:OP2	2.42	0.47
2:L5:4301:U:OP2	2:L5:4303:C:N4	2.47	0.47
14:LJ:55:TYR:CE1	85:CE:46:VAL:CG1	2.94	0.47
47:Ls:114:GLY:HA2	47:Ls:166:LYS:HD2	1.96	0.47
52:SM:110:VAL:O	52:SM:112:LYS:NZ	2.45	0.47
63:Sg:124:SER:OG	63:Sg:125:ARG:N	2.46	0.47
82:S2:223:C:H2'	82:S2:224:A:C8	2.50	0.47
82:S2:329:G:H2'	82:S2:330:G:H8	1.79	0.47
2:L5:97:G:OP1	15:LL:16:LYS:NZ	2.37	0.47
2:L5:170:C:H42	2:L5:266:C:N4	2.12	0.47
2:L5:2284:G:OP1	30:La:7:LYS:NZ	2.43	0.47
2:L5:2411:C:H2'	2:L5:2412:A:H8	1.78	0.47
2:L5:2580:U:OP1	29:LZ:36:ARG:NH1	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:2640:G:H2'	2:L5:2641:A:C8	2.50	0.47
2:L5:3917:A:H2'	2:L5:3918:G:H8	1.79	0.47
4:L8:75:OMG:HM23	4:L8:75:OMG:H1'	1.70	0.47
17:LN:140:LYS:HD3	17:LN:140:LYS:HA	1.66	0.47
47:Ls:139:GLN:HA	83:CB:180:ARG:CZ	2.44	0.47
54:SQ:102:GLU:HA	54:SQ:105:LYS:HB3	1.97	0.47
63:Sg:39:THR:HG22	63:Sg:60:ARG:HG2	1.96	0.47
67:SE:247:THR:OG1	67:SE:250:GLU:OE1	2.33	0.47
68:SG:191:ARG:HH22	82:S2:312:G:H2'	1.80	0.47
82:S2:17:C:H2'	82:S2:18:C:C6	2.49	0.47
82:S2:604:A:N3	82:S2:639:C:O2'	2.42	0.47
82:S2:996:A:H2'	82:S2:997:A:C8	2.49	0.47
83:CB:6:VAL:HA	83:CB:9:ILE:HB	1.96	0.47
83:CB:190:SER:HB2	83:CB:204:MET:HE2	1.96	0.47
2:L5:169:G:O6	2:L5:170:C:N4	2.48	0.47
2:L5:1194:G:H2'	2:L5:1195:G:C8	2.50	0.47
2:L5:3661:G:N7	5:LA:152:SER:OG	2.44	0.47
6:LB:29:VAL:HG12	6:LB:31:SER:H	1.80	0.47
23:LT:102:ARG:O	23:LT:106:LEU:HG	2.14	0.47
57:ST:83:GLN:OE1	57:ST:93:SER:OG	2.30	0.47
82:S2:747:U:C2	82:S2:796:G:N1	2.83	0.47
82:S2:1491:G:H2'	82:S2:1492:U:C6	2.49	0.47
2:L5:99:A:H5''	17:LN:184:ILE:HD12	1.96	0.47
2:L5:257:C:H2'	2:L5:258:G:C8	2.50	0.47
2:L5:1846:G:H2'	2:L5:1847:C:C6	2.49	0.47
2:L5:1855:G:OP1	31:Lb:4:SER:HB2	2.14	0.47
2:L5:1899:G:O2'	34:Le:57:ASN:OD1	2.31	0.47
2:L5:2910:G:N2	2:L5:3585:G:O2'	2.47	0.47
2:L5:3796:U:HO2'	82:S2:1720:U:HO2'	1.56	0.47
2:L5:4251:A:H5''	14:LJ:108:GLY:HA3	1.96	0.47
10:LF:57:TYR:OH	10:LF:189:ASP:OD1	2.30	0.47
12:LH:115:ARG:HD3	12:LH:123:ILE:HD12	1.96	0.47
20:LQ:154:LYS:NZ	20:LQ:159:PRO:O	2.46	0.47
46:Lr:119:ARG:HA	46:Lr:122:LYS:HE3	1.95	0.47
49:SD:32:ASP:OD2	49:SD:65:ARG:NH1	2.48	0.47
49:SD:77:PHE:HB2	49:SD:79:PHE:CE1	2.49	0.47
51:SK:32:HIS:HD2	51:SK:45:VAL:HG11	1.80	0.47
57:ST:84:ARG:NH1	82:S2:1605:G:OP1	2.41	0.47
62:Sf:105:TYR:HE1	62:Sf:131:PHE:HD2	1.62	0.47
66:SC:110:MET:HG2	66:SC:125:LYS:HB3	1.97	0.47
66:SC:227:ARG:NH2	82:S2:663:C:O2'	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SE:127:ARG:HG3	67:SE:142:HIS:HA	1.96	0.47
75:SV:74:LYS:HZ1	75:SV:83:PHE:HB3	1.80	0.47
82:S2:16:G:H2'	82:S2:17:C:C6	2.50	0.47
82:S2:349:A:H2'	82:S2:350:C:C6	2.49	0.47
82:S2:520:A:O2'	82:S2:825:A:N3	2.40	0.47
2:L5:1194:G:H2'	2:L5:1195:G:H8	1.80	0.47
2:L5:1877:G:O6	31:Lb:10:HIS:NE2	2.46	0.47
2:L5:1932:A:OP1	18:LO:49:ARG:NH2	2.27	0.47
9:LE:223:ARG:HB3	9:LE:224:LYS:HB2	1.96	0.47
10:LF:182:TYR:HB3	10:LF:200:ARG:HG3	1.96	0.47
12:LH:4:ILE:HG12	12:LH:61:TRP:CH2	2.50	0.47
16:LM:130:LEU:HB3	18:LO:177:LEU:HD11	1.96	0.47
20:LQ:50:ARG:HH21	20:LQ:140:SER:HB2	1.80	0.47
63:Sg:120:ILE:HB	63:Sg:132:TRP:HB2	1.97	0.47
65:SB:23:ASP:N	65:SB:23:ASP:OD1	2.48	0.47
70:SI:4:SER:OG	70:SI:6:ASP:OD2	2.26	0.47
82:S2:66:G:H2'	82:S2:67:C:H4'	1.97	0.47
82:S2:159:A2M:HM'3	82:S2:159:A2M:H1'	1.58	0.47
83:CB:653:GLY:HA2	83:CB:660:ASN:HB2	1.97	0.47
85:CE:56:LYS:O	85:CE:60:ARG:HD3	2.14	0.47
2:L5:715:G:OP1	7:LC:321:ASN:ND2	2.44	0.47
2:L5:2382:A:N1	2:L5:2829:U:O2'	2.45	0.47
2:L5:3923:A:H2'	2:L5:3924:C:C6	2.50	0.47
2:L5:4441:A:H5''	13:LI:114:GLY:HA2	1.97	0.47
2:L5:4606:G:P	83:CB:27:HIS:HE2	2.37	0.47
11:LG:154:LEU:HB3	11:LG:204:PHE:HB2	1.97	0.47
47:Ls:91:THR:HG21	47:Ls:98:ILE:HG13	1.97	0.47
71:SJ:64:ASP:OD1	71:SJ:65:GLU:N	2.48	0.47
79:Sa:87:ARG:NH1	79:Sa:94:ASP:OD1	2.48	0.47
81:Se:41:ARG:HG3	81:Se:42:PHE:HD1	1.80	0.47
81:Se:41:ARG:HG3	81:Se:42:PHE:CD1	2.50	0.47
82:S2:1144:A:H5'	82:S2:1355:C:H41	1.80	0.47
82:S2:1736:G:H2'	82:S2:1737:G:C8	2.49	0.47
2:L5:1298:C:H2'	2:L5:1299:G:C8	2.50	0.47
2:L5:2021:G:OP1	47:Ls:58:ASN:N	2.44	0.47
2:L5:3799:A:N3	2:L5:4506:C:O2'	2.42	0.47
2:L5:3841:OMC:HM23	2:L5:3841:OMC:H1'	1.76	0.47
2:L5:4742:G:H2'	2:L5:4743:G:H8	1.80	0.47
11:LG:162:ASP:HB3	11:LG:163:PRO:HD3	1.96	0.47
14:LJ:56:THR:OG1	14:LJ:64:ARG:N	2.44	0.47
50:SF:187:SER:OG	50:SF:190:ILE:HG12	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SA:206:ASP:HB3	64:SA:209:GLU:OE1	2.15	0.47
82:S2:793:G:H2'	82:S2:794:A:H8	1.80	0.47
84:Et:51:G:H2'	84:Et:52:G:H8	1.81	0.47
2:L5:106:A:H2'	2:L5:107:G:O4'	2.15	0.46
2:L5:444:G:H2'	2:L5:445:U:C6	2.50	0.46
2:L5:1188:C:H2'	2:L5:1189:G:H8	1.80	0.46
2:L5:1333:A:H2'	2:L5:1334:A:H8	1.78	0.46
2:L5:1601:A:OP1	39:Lj:5:THR:OG1	2.22	0.46
2:L5:1995:G:H2'	2:L5:1996:C:C6	2.50	0.46
2:L5:2299:G:O6	7:LC:188:ARG:NH2	2.48	0.46
2:L5:3908:A:N7	2:L5:4449:A:N6	2.63	0.46
2:L5:4954:G:H2'	2:L5:4955:A:C8	2.49	0.46
5:LA:206:PRO:HG3	5:LA:213:GLY:HA3	1.96	0.46
8:LD:205:ALA:HB1	8:LD:233:PRO:HB3	1.97	0.46
17:LN:75:VAL:HG21	17:LN:80:THR:HG22	1.97	0.46
49:SD:115:VAL:HG21	49:SD:138:VAL:HG11	1.97	0.46
54:SQ:8:GLN:HG3	54:SQ:27:ARG:HE	1.80	0.46
63:Sg:289:LEU:HD11	63:Sg:298:LEU:HD21	1.97	0.46
78:SY:77:ASP:OD1	78:SY:77:ASP:N	2.47	0.46
82:S2:51:U:H2'	82:S2:52:G:C8	2.50	0.46
82:S2:454:U:H2'	82:S2:455:A:H8	1.80	0.46
82:S2:656:G:N2	82:S2:663:C:H5''	2.30	0.46
82:S2:656:G:H5'	82:S2:662:G:N2	2.30	0.46
82:S2:1692:U:H2'	82:S2:1693:G:C8	2.50	0.46
83:CB:207:PRO:HG2	83:CB:261:TRP:CE2	2.50	0.46
2:L5:497:G:H21	2:L5:498:C:H41	1.63	0.46
2:L5:2298:U:OP1	7:LC:204:ARG:NE	2.47	0.46
2:L5:2637:U:HO2'	2:L5:2718:U:HO2'	1.62	0.46
2:L5:3950:U:H3	2:L5:4063:U:H3	1.62	0.46
2:L5:4504:C:H2'	2:L5:4505:C:C6	2.50	0.46
20:LQ:3:VAL:HG13	20:LQ:5:ILE:HG12	1.97	0.46
32:Lc:47:ILE:HD12	32:Lc:94:LEU:HD11	1.96	0.46
49:SD:223:ILE:HD11	63:Sg:189:ILE:HD12	1.97	0.46
51:SK:7:ASN:HB2	51:SK:40:VAL:HG22	1.98	0.46
64:SA:102:ARG:NH1	82:S2:1378:A:OP2	2.46	0.46
66:SC:70:VAL:HG21	66:SC:93:ILE:HG23	1.97	0.46
68:SG:85:ARG:O	68:SG:87:ARG:NH1	2.49	0.46
82:S2:528:A:H2'	82:S2:529:A:C8	2.50	0.46
82:S2:1286:G:N2	82:S2:1312:G:O2'	2.49	0.46
82:S2:1337:4AC:H2'	82:S2:1338:G:C8	2.50	0.46
2:L5:907:C:H2'	2:L5:908:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:908:G:H2'	2:L5:909:A:H8	1.79	0.46
2:L5:1308:C:OP1	18:LO:93:LYS:NZ	2.46	0.46
2:L5:1408:G:O2'	2:L5:1411:C:N4	2.48	0.46
2:L5:1696:C:H5'	2:L5:1719:A:H1'	1.97	0.46
2:L5:2009:A:C8	83:CB:756:VAL:HG11	2.49	0.46
2:L5:2725:A:N6	21:LR:88:ARG:O	2.48	0.46
2:L5:4115:G:O2'	2:L5:4116:C:O5'	2.32	0.46
11:LG:83:PHE:HA	11:LG:183:ILE:HD13	1.97	0.46
18:LO:166:ILE:HG12	18:LO:169:ARG:HH21	1.80	0.46
19:LP:122:ALA:HB3	19:LP:143:PRO:HG2	1.97	0.46
34:Le:76:LYS:HD2	34:Le:98:GLU:CD	2.41	0.46
54:SQ:139:ALA:HB2	82:S2:1650:A:H5''	1.96	0.46
57:ST:42:HIS:NE2	57:ST:43:LYS:HE3	2.30	0.46
57:ST:114:GLU:OE1	57:ST:114:GLU:N	2.47	0.46
77:SX:90:CYS:HA	77:SX:93:PHE:HD2	1.79	0.46
82:S2:51:U:H2'	82:S2:52:G:H8	1.81	0.46
82:S2:468:A2M:HM'3	82:S2:468:A2M:H1'	1.68	0.46
82:S2:693:A:H2'	82:S2:694:G:C8	2.51	0.46
82:S2:962:A:N1	82:S2:1055:A:O2'	2.47	0.46
82:S2:1755:C:H2'	82:S2:1756:C:C6	2.51	0.46
83:CB:132:VAL:HG13	83:CB:167:LEU:HD11	1.97	0.46
2:L5:965:G:N2	2:L5:2092:G:H1'	2.30	0.46
14:LJ:83:LEU:HD22	14:LJ:132:VAL:HG11	1.97	0.46
16:LM:96:GLU:O	16:LM:100:ARG:HG2	2.15	0.46
25:LV:42:VAL:HB	25:LV:45:ILE:HG13	1.98	0.46
61:Sd:14:PHE:HB2	82:S2:1661:A:H8	1.81	0.46
65:SB:186:ASN:HA	65:SB:189:ILE:HD12	1.98	0.46
67:SE:100:ARG:NH2	67:SE:118:GLU:OE2	2.48	0.46
69:SH:145:ARG:HE	76:SW:51:GLU:HB2	1.81	0.46
82:S2:598:G:O2'	82:S2:605:A:N1	2.46	0.46
82:S2:1189:A:H2'	82:S2:1190:A:H8	1.81	0.46
82:S2:1656:G:H1	82:S2:1668:U:H3	1.63	0.46
83:CB:219:HIS:HB2	83:CB:221:TRP:CD1	2.50	0.46
2:L5:2111:G:N2	2:L5:2251:G:O2'	2.48	0.46
2:L5:2112:G:H5''	2:L5:2251:G:H1	1.79	0.46
2:L5:3796:U:O2'	82:S2:1720:U:O2'	2.26	0.46
33:Ld:53:ALA:HA	33:Ld:88:LEU:HD21	1.97	0.46
50:SF:103:LEU:HD11	59:SZ:67:LEU:HD22	1.97	0.46
55:SR:52:GLY:O	55:SR:55:THR:OG1	2.33	0.46
62:Sf:124:ASP:OD1	62:Sf:124:ASP:N	2.45	0.46
68:SG:2:LYS:HB3	68:SG:15:LEU:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SJ:145:PRO:HD2	82:S2:522:A:H5''	1.98	0.46
73:SN:5:HIS:HB3	73:SN:117:LEU:HD13	1.98	0.46
82:S2:1643:U:H2'	82:S2:1644:C:C6	2.50	0.46
2:L5:300:A:H2'	2:L5:301:G:H8	1.81	0.46
2:L5:1414:C:H2'	2:L5:1415:G:C8	2.47	0.46
2:L5:1695:U:O2'	2:L5:1719:A:N3	2.39	0.46
2:L5:4476:C:O2'	2:L5:4478:G:OP2	2.26	0.46
2:L5:4543:G:H2'	2:L5:4544:A:C8	2.50	0.46
4:L8:96:C:H5''	37:Lh:66:LYS:HG2	1.98	0.46
9:LE:161:ARG:O	9:LE:182:ASN:ND2	2.49	0.46
10:LF:46:ARG:HH21	31:Lb:102:PRO:HG3	1.81	0.46
32:Lc:48:LEU:HD13	32:Lc:57:LYS:HG3	1.98	0.46
47:Ls:139:GLN:HE22	83:CB:180:ARG:CA	2.19	0.46
60:Sc:10:LYS:HE2	60:Sc:34:PHE:HD2	1.81	0.46
70:SI:141:ARG:NH2	82:S2:192:C:OP2	2.49	0.46
70:SI:149:TYR:O	70:SI:153:LYS:HG2	2.16	0.46
76:SW:27:ILE:HG13	76:SW:61:ILE:HB	1.97	0.46
80:Sb:68:GLY:O	82:S2:928:G:N2	2.44	0.46
83:CB:164:LEU:HD21	83:CB:174:LEU:HD22	1.98	0.46
2:L5:455:C:O2'	2:L5:456:C:H5'	2.15	0.46
2:L5:1390:G:N2	2:L5:1393:G:OP2	2.40	0.46
2:L5:3867:A2M:HM'3	2:L5:3867:A2M:H1'	1.65	0.46
6:LB:302:ASN:HB2	6:LB:313:SER:HA	1.98	0.46
50:SF:127:ARG:HG2	50:SF:136:ARG:HB2	1.98	0.46
56:SS:137:LYS:NZ	82:S2:1236:G:O6	2.49	0.46
63:Sg:10:THR:HG22	63:Sg:308:ARG:HG2	1.97	0.46
64:SA:184:ARG:HG2	64:SA:189:ILE:HB	1.97	0.46
65:SB:136:ARG:HB3	65:SB:216:LYS:HG3	1.96	0.46
65:SB:214:LYS:NZ	82:S2:943:U:OP1	2.39	0.46
69:SH:126:HIS:CE1	69:SH:181:THR:HG23	2.51	0.46
77:SX:52:LEU:HD11	77:SX:73:GLN:HB2	1.97	0.46
82:S2:5:U:H2'	82:S2:6:G:C8	2.51	0.46
82:S2:327:G:H5''	82:S2:328:U:C2	2.50	0.46
82:S2:1775:U:H2'	82:S2:1776:G:C2	2.51	0.46
2:L5:4088:C:H2'	2:L5:4089:G:C8	2.51	0.46
7:LC:183:VAL:HA	7:LC:204:ARG:HB3	1.97	0.46
26:LW:7:SER:HB2	26:LW:13:ILE:HD11	1.97	0.46
28:LY:10:ASP:HB3	28:LY:13:LYS:HB2	1.98	0.46
30:La:72:THR:HG22	30:La:110:LYS:HB3	1.98	0.46
48:Lt:31:LYS:CB	83:CB:773:GLU:O	2.64	0.46
66:SC:121:ARG:HH12	66:SC:123:ARG:HE	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SC:271:ASP:OD1	66:SC:272:HIS:N	2.49	0.46
67:SE:134:LYS:N	82:S2:298:G:OP1	2.45	0.46
69:SH:30:LEU:HG	69:SH:33:ASN:HD22	1.81	0.46
70:SI:126:GLY:O	70:SI:128:LYS:NZ	2.48	0.46
82:S2:102:A:H4'	82:S2:104:A:C8	2.51	0.46
82:S2:1189:A:H2'	82:S2:1190:A:C8	2.51	0.46
83:CB:89:ILE:HG12	83:CB:356:ILE:HA	1.97	0.46
2:L5:162:A:H2'	2:L5:163:A:C8	2.51	0.46
2:L5:1647:U:OP1	88:L5:5288:SPD:H51	2.16	0.46
2:L5:2474:G:H2'	2:L5:2502:G:N2	2.30	0.46
5:LA:116:LEU:HB3	5:LA:126:LEU:HB2	1.96	0.46
9:LE:261:ILE:HG23	9:LE:267:LEU:HD23	1.97	0.46
48:Lt:28:LEU:HD23	48:Lt:28:LEU:H	1.81	0.46
50:SF:132:GLY:C	84:Et:39:U:O2'	2.59	0.46
54:SQ:37:ARG:NH2	82:S2:1543:U:OP1	2.39	0.46
56:SS:37:GLY:N	82:S2:1630:A:H5'	2.31	0.46
68:SG:4:ASN:ND2	82:S2:154:U:O2	2.47	0.46
70:SI:98:LYS:HG3	70:SI:178:ARG:HG2	1.98	0.46
76:SW:62:VAL:HG11	80:Sb:8:LEU:HG	1.97	0.46
78:SY:76:TYR:OH	78:SY:86:GLU:OE1	2.19	0.46
82:S2:420:G:O2'	82:S2:660:C:N3	2.45	0.46
2:L5:197:A:N1	2:L5:225:G:O2'	2.47	0.46
2:L5:233:U:HO2'	2:L5:234:G:H8	1.63	0.46
2:L5:417:G:OP1	2:L5:2329:U:O2'	2.28	0.46
2:L5:1398:A:N1	2:L5:1419:G:O2'	2.48	0.46
2:L5:1725:U:H2'	2:L5:1726:U:H6	1.81	0.46
2:L5:2033:A:OP1	13:LI:162:ARG:NH2	2.46	0.46
87:L5:5290:SPM:H31	87:L5:5290:SPM:H62	1.79	0.46
3:L7:120:U:H5''	8:LD:262:LYS:HG2	1.96	0.46
8:LD:181:PRO:HD2	8:LD:195:HIS:CD2	2.51	0.46
10:LF:162:ILE:HD12	10:LF:167:ILE:HB	1.98	0.46
19:LP:52:THR:HG23	19:LP:85:LYS:HG3	1.98	0.46
35:Lf:45:LYS:NZ	35:Lf:108:SER:HA	2.31	0.46
36:Lg:82:MET:HE3	36:Lg:82:MET:HB2	1.88	0.46
46:Lr:47:LYS:O	46:Lr:103:ARG:HD2	2.16	0.46
52:SM:87:GLU:HG3	52:SM:103:VAL:HG11	1.98	0.46
67:SE:59:ASP:O	67:SE:63:LYS:HG3	2.16	0.46
69:SH:33:ASN:ND2	69:SH:36:LEU:HB3	2.30	0.46
70:SI:44:HIS:ND1	82:S2:1740:C:OP1	2.38	0.46
82:S2:1420:G:O2'	82:S2:1421:A:N3	2.49	0.46
82:S2:1667:U:H2'	82:S2:1668:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:659:G:H2'	2:L5:660:A:C8	2.50	0.45
2:L5:1340:OMC:HM23	2:L5:1340:OMC:H1'	1.75	0.45
2:L5:2580:U:O2'	29:LZ:79:HIS:ND1	2.44	0.45
2:L5:2724:G:O2'	2:L5:2726:G:OP2	2.31	0.45
8:LD:179:ARG:HD3	8:LD:179:ARG:HA	1.72	0.45
11:LG:187:LYS:HB2	11:LG:198:THR:HG23	1.97	0.45
64:SA:74:VAL:HG23	64:SA:121:LEU:HB3	1.97	0.45
72:SL:132:ARG:HD3	82:S2:114:G:H5'	1.97	0.45
77:SX:60:LYS:H	77:SX:114:ASP:HB2	1.81	0.45
2:L5:4389:C:H2'	2:L5:4390:A:C8	2.51	0.45
2:L5:4775:C:H41	2:L5:4859:C:N4	2.14	0.45
2:L5:5004:C:H2'	2:L5:5005:G:O4'	2.15	0.45
5:LA:114:CYS:N	5:LA:165:VAL:O	2.49	0.45
12:LH:93:ARG:HG2	12:LH:182:SER:HB3	1.97	0.45
21:LR:175:GLU:O	21:LR:178:GLN:HG3	2.17	0.45
53:SP:22:LEU:HA	53:SP:25:LEU:HB2	1.99	0.45
57:ST:6:VAL:HG12	57:ST:135:ALA:HB2	1.99	0.45
81:Se:31:ARG:NH2	82:S2:525:A:O3'	2.49	0.45
82:S2:115:U:H2'	82:S2:116:OMU:C6	2.46	0.45
82:S2:1010:G:H2'	82:S2:1011:A:H8	1.81	0.45
83:CB:531:ASP:HB3	83:CB:534:VAL:HG12	1.98	0.45
2:L5:150:U:OP2	11:LG:200:THR:OG1	2.27	0.45
2:L5:498:C:C2	2:L5:499:G:H1'	2.51	0.45
2:L5:2009:A:N6	83:CB:782:PHE:HZ	2.14	0.45
2:L5:3856:A:H5''	19:LP:83:TRP:O	2.16	0.45
2:L5:4401:G:H2'	2:L5:4402:C:H6	1.80	0.45
14:LJ:15:LEU:HD12	14:LJ:165:TRP:HB2	1.98	0.45
26:LW:19:ARG:NH2	26:LW:37:GLU:OE2	2.50	0.45
29:LZ:123:LYS:O	29:LZ:124:THR:OG1	2.24	0.45
47:Ls:18:ILE:HD12	47:Ls:21:LEU:HD11	1.98	0.45
53:SP:81:ARG:NH1	53:SP:120:SER:OG	2.49	0.45
63:Sg:21:ILE:HG21	63:Sg:299:PHE:HB2	1.98	0.45
69:SH:18:GLU:OE1	69:SH:18:GLU:N	2.49	0.45
70:SI:56:ARG:HA	70:SI:180:GLY:HA2	1.98	0.45
82:S2:932:G:O2'	82:S2:934:G:OP2	2.28	0.45
82:S2:1240:A:N3	82:S2:1267:C:O2'	2.41	0.45
83:CB:18:ASN:HB3	83:CB:98:PHE:HD1	1.81	0.45
2:L5:318:A:H2'	2:L5:319:A:C8	2.52	0.45
2:L5:1494:U:H2'	2:L5:1495:G:H8	1.81	0.45
2:L5:3595:U:H5''	2:L5:3597:G:OP2	2.16	0.45
6:LB:258:HIS:HA	6:LB:260:ALA:H	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LE:222:LEU:HB2	9:LE:237:LYS:HD2	1.97	0.45
11:LG:73:ARG:HD3	11:LG:73:ARG:HA	1.81	0.45
18:LO:61:ARG:HA	18:LO:70:PRO:HD2	1.98	0.45
57:ST:72:VAL:O	57:ST:76:THR:HG23	2.16	0.45
68:SG:170:ARG:NH1	82:S2:72:C:O2	2.50	0.45
83:CB:428:ARG:HG2	83:CB:444:LEU:HD13	1.99	0.45
2:L5:252:C:H2'	2:L5:253:G:H8	1.82	0.45
2:L5:1269:G:O2'	2:L5:1270:A:O4'	2.30	0.45
2:L5:1733:G:N3	2:L5:4214:A:H2'	2.31	0.45
2:L5:2072:C:OP1	20:LQ:2:GLY:N	2.50	0.45
2:L5:4508:C:N3	2:L5:4512:U:H5	2.14	0.45
2:L5:4536:OMC:HM22	2:L5:4537:C:O4'	2.17	0.45
4:L8:66:A:H2'	4:L8:67:U:C6	2.51	0.45
4:L8:67:U:H2'	4:L8:68:G:H8	1.81	0.45
8:LD:108:ARG:CZ	8:LD:253:TYR:HB2	2.47	0.45
33:Ld:114:PHE:HA	33:Ld:117:LEU:HD12	1.99	0.45
47:Ls:29:ILE:HD11	47:Ls:191:GLN:HG2	1.97	0.45
54:SQ:98:LYS:O	63:Sg:57:ARG:NH1	2.38	0.45
56:SS:63:GLU:O	56:SS:67:VAL:HG23	2.17	0.45
61:Sd:8:TRP:HZ3	82:S2:1512:C:H5''	1.82	0.45
63:Sg:17:TRP:HB2	63:Sg:36:ARG:HD3	1.98	0.45
66:SC:104:ASP:OD1	66:SC:105:GLU:N	2.49	0.45
68:SG:49:VAL:HB	68:SG:115:LYS:HG2	1.97	0.45
78:SY:68:LYS:HE2	78:SY:68:LYS:HB3	1.78	0.45
80:Sb:42:LYS:HE3	80:Sb:57:VAL:HG22	1.98	0.45
82:S2:1221:G:O2'	82:S2:1676:U:O2	2.33	0.45
2:L5:303:C:OP2	17:LN:68:ARG:NH2	2.44	0.45
2:L5:327:U:HO2'	38:Li:30:ARG:HH11	1.60	0.45
2:L5:1577:G:O2'	2:L5:1612:G:H4'	2.16	0.45
2:L5:1912:G:N2	18:LO:87:MET:HE2	2.32	0.45
2:L5:2306:G:H1'	2:L5:2332:A:N6	2.32	0.45
2:L5:2611:A:H2'	2:L5:2612:G:C8	2.51	0.45
2:L5:3861:A:H2'	2:L5:3862:A:C8	2.52	0.45
2:L5:3932:U:H2'	2:L5:3933:G:C8	2.52	0.45
2:L5:4345:C:H2'	2:L5:4346:U:H6	1.81	0.45
2:L5:4775:C:H41	2:L5:4859:C:H42	1.65	0.45
5:LA:28:ARG:HD2	5:LA:123:ARG:HG3	1.99	0.45
37:Lh:95:LEU:HD22	37:Lh:99:GLU:HG3	1.97	0.45
48:Lt:34:PRO:HG3	83:CB:775:GLN:O	1.98	0.45
50:SF:132:GLY:C	84:Et:39:U:H4'	2.41	0.45
54:SQ:97:GLN:HB2	54:SQ:105:LYS:HG3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SR:99:ASP:OD2	64:SA:42:LYS:NZ	2.31	0.45
64:SA:42:LYS:HD3	64:SA:46:ILE:HB	1.98	0.45
68:SG:7:PHE:CE2	68:SG:9:ALA:HB3	2.51	0.45
77:SX:142:ARG:CG	83:CB:443:TYR:OH	2.65	0.45
81:Se:12:VAL:HG23	82:S2:616:A:H1'	1.97	0.45
82:S2:525:A:H2'	82:S2:526:A:C8	2.51	0.45
82:S2:563:G:O2'	82:S2:564:A:OP1	2.33	0.45
82:S2:929:G:H2'	82:S2:930:C:O4'	2.17	0.45
83:CB:23:SER:HB3	83:CB:122:THR:HG21	1.98	0.45
2:L5:162:A:H2'	2:L5:163:A:H8	1.81	0.45
2:L5:381:U:H4'	2:L5:415:G:H5'	1.98	0.45
2:L5:1811:G:H21	31:Lb:57:MET:HE2	1.82	0.45
2:L5:2846:G:O2'	25:LV:19:GLY:O	2.28	0.45
2:L5:3664:G:H2'	2:L5:3665:G:C8	2.52	0.45
2:L5:3726:A:H2'	2:L5:3727:A:C8	2.51	0.45
2:L5:4587:G:OP1	18:LO:61:ARG:NH1	2.46	0.45
6:LB:50:LYS:NZ	6:LB:337:VAL:O	2.47	0.45
8:LD:152:ARG:HG3	8:LD:154:THR:HG23	1.99	0.45
10:LF:37:PHE:HZ	31:Lb:113:ALA:HB1	1.82	0.45
10:LF:182:TYR:CZ	10:LF:203:GLU:HG2	2.52	0.45
38:Li:35:LYS:HE3	38:Li:35:LYS:HB3	1.81	0.45
49:SD:55:THR:HA	49:SD:58:VAL:HG12	1.98	0.45
81:Se:8:ARG:HG2	81:Se:11:LYS:HD3	1.99	0.45
82:S2:29:G:H2'	82:S2:30:C:C6	2.52	0.45
82:S2:629:A:O2'	82:S2:631:U:OP1	2.34	0.45
82:S2:1201:U:H2'	82:S2:1202:U:C6	2.52	0.45
82:S2:1231:C:O2'	82:S2:1253:A:N6	2.50	0.45
82:S2:1232:PSU:H2'	82:S2:1233:G:C8	2.52	0.45
82:S2:1736:G:H2'	82:S2:1737:G:H8	1.82	0.45
82:S2:1825:A:H62	83:CB:717:GLY:HA3	0.60	0.45
83:CB:316:ILE:HA	83:CB:321:ILE:HD12	1.98	0.45
85:CE:35:GLU:HA	85:CE:38:TYR:HB3	1.98	0.45
2:L5:1613:A:H5''	5:LA:183:GLY:CA	2.47	0.45
2:L5:2521:G:H4'	36:Lg:26:PRO:HD2	1.98	0.45
2:L5:4315:A:OP1	23:LT:69:GLN:NE2	2.47	0.45
2:L5:4524:G:C2	6:LB:252:ALA:HB1	2.52	0.45
16:LM:24:LEU:HB2	16:LM:43:THR:HG21	1.99	0.45
21:LR:19:LYS:HB2	21:LR:19:LYS:HE2	1.82	0.45
53:SP:24:GLN:O	53:SP:28:MET:HB2	2.16	0.45
55:SR:29:HIS:HA	55:SR:32:LYS:HG2	1.99	0.45
56:SS:62:ASP:OD1	56:SS:62:ASP:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SS:121:ARG:HG3	56:SS:131:VAL:HB	1.99	0.45
57:ST:39:LEU:HA	57:ST:39:LEU:HD23	1.74	0.45
59:SZ:91:LEU:HG	59:SZ:96:LEU:HD21	1.99	0.45
64:SA:145:ILE:HG12	64:SA:159:ILE:HB	1.98	0.45
69:SH:142:LYS:HB3	76:SW:54:ASP:HB3	1.98	0.45
80:Sb:42:LYS:HZ1	80:Sb:58:GLY:H	1.65	0.45
83:CB:160:MET:HE3	83:CB:174:LEU:HD21	1.99	0.45
83:CB:516:ASP:HA	83:CB:519:LYS:HE2	1.97	0.45
83:CB:603:TYR:HE2	83:CB:708:THR:HG23	1.81	0.45
2:L5:2676:A:OP2	2:L5:2676:A:H8	2.00	0.45
2:L5:4093:G:H3'	2:L5:4094:G:H8	1.82	0.45
20:LQ:32:TYR:HD2	20:LQ:51:LEU:HD11	1.80	0.45
32:Lc:65:MET:HE3	32:Lc:65:MET:HB3	1.90	0.45
48:Lt:81:ILE:HD13	48:Lt:113:ALA:HB1	1.99	0.45
53:SP:130:ARG:NH1	83:CB:858:LEU:HD21	2.00	0.45
68:SG:67:VAL:HG12	68:SG:69:THR:HG22	1.99	0.45
73:SN:83:ASP:OD1	73:SN:84:LEU:N	2.49	0.45
77:SX:105:PHE:CE2	77:SX:112:VAL:HB	2.51	0.45
85:CE:50:GLU:HA	85:CE:53:LYS:HE3	1.98	0.45
2:L5:424:U:H2'	2:L5:425:U:C6	2.52	0.45
2:L5:3611:A:C2	2:L5:5016:A:H8	2.34	0.45
6:LB:113:GLU:OE2	6:LB:169:ARG:NH1	2.50	0.45
12:LH:8:GLN:HG2	12:LH:74:CYS:SG	2.57	0.45
13:LI:52:MET:HE3	13:LI:163:GLN:HG2	1.99	0.45
37:Lh:107:GLN:O	37:Lh:111:GLU:HG3	2.17	0.45
64:SA:6:ASP:OD1	64:SA:6:ASP:N	2.49	0.45
67:SE:10:LYS:NZ	82:S2:95:G:OP1	2.33	0.45
82:S2:563:G:HO2'	82:S2:564:A:P	2.39	0.45
82:S2:1259:A:N6	82:S2:1519:U:O5'	2.50	0.45
2:L5:965:G:H21	2:L5:2092:G:H1'	1.82	0.44
2:L5:1895:G:OP1	10:LF:96:ARG:NH2	2.47	0.44
2:L5:4742:G:OP1	2:L5:4900:C:N4	2.35	0.44
15:LL:126:LEU:N	15:LL:138:ASP:OD2	2.27	0.44
19:LP:5:SER:OG	19:LP:118:GLN:NE2	2.50	0.44
27:LX:121:VAL:HA	27:LX:140:LEU:HA	1.99	0.44
54:SQ:98:LYS:HE3	54:SQ:99:TYR:CZ	2.53	0.44
63:Sg:62:HIS:NE2	63:Sg:80:SER:OG	2.35	0.44
68:SG:87:ARG:HD3	68:SG:87:ARG:HA	1.70	0.44
82:S2:674:C:H2'	82:S2:675:U:C6	2.52	0.44
82:S2:1139:C:H5	82:S2:1149:A:H62	1.66	0.44
82:S2:1217:A:H2'	82:S2:1218:C:C6	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1681:U:H2'	82:S2:1682:C:C6	2.51	0.44
2:L5:197:A:N3	2:L5:222:C:O2'	2.49	0.44
2:L5:4302:U:H4'	23:LT:5:LYS:HD3	2.00	0.44
7:LC:150:LEU:O	7:LC:152:LEU:N	2.50	0.44
15:LL:55:ILE:O	15:LL:97:SER:OG	2.32	0.44
33:Ld:54:MET:HE3	33:Ld:60:PRO:HA	1.98	0.44
47:Ls:52:VAL:HG12	47:Ls:90:PHE:HB2	1.99	0.44
63:Sg:191:HIS:ND1	63:Sg:195:LEU:HD21	2.32	0.44
65:SB:29:ASP:OD1	65:SB:29:ASP:N	2.51	0.44
65:SB:145:LYS:HB2	65:SB:145:LYS:HE3	1.73	0.44
74:SO:149:ARG:NH2	82:S2:961:G:OP1	2.50	0.44
77:SX:28:LYS:NZ	82:S2:1189:A:OP1	2.40	0.44
82:S2:99:A2M:H8	82:S2:99:A2M:O5'	2.18	0.44
82:S2:576:A2M:HM'3	82:S2:576:A2M:H1'	1.82	0.44
82:S2:1084:A:OP1	82:S2:1858:G:O2'	2.28	0.44
83:CB:654:PRO:HD2	83:CB:658:GLY:HA3	1.98	0.44
2:L5:423:G:H5'	19:LP:26:PHE:HZ	1.83	0.44
2:L5:684:G:H5''	9:LE:100:LYS:HE3	1.99	0.44
2:L5:2079:G:H2'	2:L5:2080:U:C6	2.53	0.44
2:L5:4274:A:H2'	2:L5:4275:G:H8	1.82	0.44
2:L5:4291:G:H5'	2:L5:4293:PSU:C6	2.52	0.44
2:L5:4524:G:N3	6:LB:252:ALA:HB1	2.32	0.44
5:LA:131:GLY:H	5:LA:169:VAL:HG13	1.82	0.44
20:LQ:86:ILE:HD11	20:LQ:100:VAL:HG11	1.98	0.44
21:LR:176:ARG:NH1	21:LR:177:LEU:HG	2.33	0.44
33:Ld:57:MET:HG2	33:Ld:88:LEU:HD23	2.00	0.44
51:SK:31:LYS:HZ3	51:SK:39:ASN:N	2.15	0.44
56:SS:38:ARG:HD2	57:ST:45:LEU:HD11	1.99	0.44
57:ST:39:LEU:HD21	57:ST:52:TRP:CZ3	2.53	0.44
58:SU:19:ARG:HB3	58:SU:92:HIS:CD2	2.53	0.44
59:SZ:86:ALA:HA	59:SZ:89:GLN:HE21	1.81	0.44
63:Sg:268:ASP:OD1	63:Sg:269:GLU:N	2.50	0.44
67:SE:101:LEU:HD12	67:SE:101:LEU:HA	1.85	0.44
82:S2:1850:MA6:H8	82:S2:1850:MA6:O5'	2.18	0.44
83:CB:219:HIS:CE1	83:CB:337:LYS:HE2	2.51	0.44
2:L5:4456:OMC:HM21	6:LB:241:PRO:HD3	1.99	0.44
2:L5:4594:U:H2'	2:L5:4595:G:C8	2.48	0.44
9:LE:183:ARG:HA	9:LE:183:ARG:HD2	1.80	0.44
13:LI:101:LYS:NZ	13:LI:102:MET:O	2.48	0.44
15:LL:140:SER:HA	15:LL:143:GLU:HG2	1.99	0.44
25:LV:107:ASN:ND2	25:LV:111:GLU:OE2	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Lm:79:GLU:CD	42:Lm:81:SER:HG	2.21	0.44
53:SP:37:TYR:HB3	53:SP:41:GLN:HB2	1.98	0.44
55:SR:35:CYS:HA	55:SR:38:ILE:HG12	1.99	0.44
64:SA:18:PHE:CD1	64:SA:23:THR:HG21	2.51	0.44
68:SG:136:LYS:HB2	82:S2:65:C:H41	1.83	0.44
82:S2:27:A2M:HM'3	82:S2:27:A2M:H1'	1.63	0.44
82:S2:830:A:OP2	82:S2:846:G:N2	2.50	0.44
83:CB:225:LEU:HB2	83:CB:257:MET:HE3	1.99	0.44
2:L5:72:C:H5	15:LL:67:HIS:HD1	1.64	0.44
2:L5:138:G:H2'	2:L5:139:G:C8	2.52	0.44
2:L5:662:C:H2'	2:L5:663:G:H8	1.83	0.44
2:L5:979:C:OP2	9:LE:66:LYS:HD3	2.17	0.44
2:L5:1282:G:OP2	9:LE:128:HIS:NE2	2.51	0.44
2:L5:1537:A:H2'	2:L5:1538:U:C6	2.53	0.44
2:L5:1751:A:H2'	2:L5:1752:G:C8	2.53	0.44
2:L5:2347:A:C4	34:Le:31:ILE:HD11	2.53	0.44
2:L5:2570:U:H2'	2:L5:2571:C:C6	2.53	0.44
11:LG:143:VAL:HG22	11:LG:203:ALA:HB2	1.99	0.44
49:SD:27:ARG:NH1	82:S2:1498:A:OP2	2.42	0.44
50:SF:131:ALA:O	84:Et:39:U:O4'	2.33	0.44
72:SL:127:THR:HB	72:SL:144:LYS:HB3	1.99	0.44
82:S2:136:C:H5''	82:S2:137:U:H5''	2.00	0.44
82:S2:194:C:H2'	82:S2:195:C:H6	1.83	0.44
82:S2:835:C:H4'	82:S2:836:G:C8	2.53	0.44
82:S2:1215:C:O2'	82:S2:1645:C:OP2	2.34	0.44
82:S2:1628:C:H2'	82:S2:1629:C:C6	2.51	0.44
82:S2:1801:A:H2'	82:S2:1802:C:H6	1.82	0.44
83:CB:10:ARG:HH22	83:CB:420:LEU:HD11	1.83	0.44
2:L5:1327:C:H2'	2:L5:1328:G:C8	2.53	0.44
2:L5:1818:G:O2'	2:L5:1820:C:OP2	2.27	0.44
2:L5:2864:A:H2'	2:L5:2865:U:C6	2.52	0.44
2:L5:4126:C:OP1	11:LG:37:LYS:NZ	2.51	0.44
7:LC:334:THR:HG22	7:LC:337:ARG:HH21	1.82	0.44
9:LE:198:SER:OG	9:LE:288:PHE:O	2.25	0.44
12:LH:187:VAL:HG12	12:LH:188:GLN:HG3	2.00	0.44
13:LI:48:LEU:O	13:LI:139:ARG:HA	2.17	0.44
47:Ls:139:GLN:O	83:CB:180:ARG:NH1	2.50	0.44
49:SD:163:PRO:O	49:SD:167:TYR:HB2	2.18	0.44
62:Sf:85:TYR:CA	83:CB:647:ARG:HH22	2.30	0.44
82:S2:1037:G:H4'	82:S2:1845:A:H4'	1.98	0.44
82:S2:1653:U:H2'	82:S2:1654:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:CB:176:GLN:O	83:CB:180:ARG:HG2	2.18	0.44
84:Et:51:G:H2'	84:Et:52:G:C8	2.52	0.44
2:L5:132:G:H2'	2:L5:133:C:H4'	1.99	0.44
2:L5:268:G:H2'	2:L5:269:G:C8	2.52	0.44
2:L5:1359:G:H4'	17:LN:203:TYR:HB2	2.00	0.44
2:L5:1662:C:H2'	2:L5:1663:C:H6	1.83	0.44
2:L5:2848:G:O2'	2:L5:3838:U:O4	2.25	0.44
2:L5:3813:A:N3	2:L5:4538:G:O2'	2.45	0.44
2:L5:3932:U:H2'	2:L5:3933:G:H8	1.83	0.44
6:LB:165:HIS:HA	6:LB:179:HIS:O	2.17	0.44
9:LE:99:ASP:OD1	9:LE:99:ASP:N	2.50	0.44
36:Lg:69:LYS:HG3	36:Lg:73:HIS:CD2	2.53	0.44
44:Lo:74:GLU:HB3	44:Lo:77:CYS:HB3	2.00	0.44
47:Ls:139:GLN:HE21	83:CB:183:GLU:HB2	1.76	0.44
53:SP:34:MET:HB3	53:SP:42:ARG:HG3	1.98	0.44
58:SU:87:ARG:HH22	82:S2:1447:G:P	2.41	0.44
64:SA:220:LYS:HA	64:SA:220:LYS:HD3	1.84	0.44
68:SG:147:LEU:HD12	68:SG:151:ASP:HB2	2.00	0.44
69:SH:37:LYS:HA	69:SH:40:LEU:HB3	1.99	0.44
74:SO:101:GLY:HA3	74:SO:134:PRO:HD2	1.99	0.44
77:SX:63:ASN:OD1	82:S2:624:C:N4	2.42	0.44
82:S2:494:C:N4	82:S2:509:OMG:HN22	2.16	0.44
82:S2:1221:G:H2'	82:S2:1222:G:C8	2.53	0.44
82:S2:1589:A:N3	82:S2:1653:U:O2'	2.44	0.44
2:L5:1084:C:H2'	2:L5:1085:C:H6	1.83	0.44
2:L5:2326:G:H5''	34:Le:127:ALA:HB1	1.99	0.44
2:L5:3911:C:H2'	2:L5:3912:U:C6	2.51	0.44
3:L7:119:U:C2	8:LD:261:VAL:HG11	2.53	0.44
6:LB:46:PHE:CZ	6:LB:84:MET:HG2	2.52	0.44
8:LD:33:ARG:O	8:LD:37:VAL:HG22	2.18	0.44
11:LG:81:ASN:O	11:LG:84:THR:OG1	2.32	0.44
11:LG:175:ARG:HG2	11:LG:230:TYR:CD2	2.53	0.44
16:LM:115:ALA:HB1	18:LO:192:TYR:HB3	2.00	0.44
17:LN:200:LEU:HD22	17:LN:204:ARG:NH1	2.32	0.44
47:Ls:78:LEU:O	47:Ls:82:ILE:HG12	2.17	0.44
49:SD:215:ASP:OD1	49:SD:216:GLU:N	2.45	0.44
62:Sf:107:LYS:NZ	62:Sf:108:VAL:O	2.51	0.44
70:SI:45:THR:OG1	82:S2:308:G:OP1	2.28	0.44
70:SI:86:SER:OG	82:S2:376:A:N3	2.44	0.44
82:S2:116:OMU:HN3	82:S2:347:G:H1	1.65	0.44
82:S2:659:G:O2'	82:S2:662:G:O2'	2.28	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1677:PSU:H4'	2:L5:1680:G:C2	2.53	0.44
2:L5:1741:G:O6	3:L7:103:A:O2'	2.27	0.44
2:L5:3599:A:H2'	2:L5:3600:G:C8	2.52	0.44
10:LF:46:ARG:NH2	31:Lb:102:PRO:HG3	2.33	0.44
26:LW:5:LEU:HD12	26:LW:30:GLN:NE2	2.33	0.44
33:Ld:44:ARG:HA	33:Ld:47:LYS:HE3	1.99	0.44
57:ST:104:LEU:HD22	57:ST:121:ARG:HD2	2.00	0.44
69:SH:18:GLU:C	69:SH:20:GLU:H	2.26	0.44
78:SY:9:THR:HG22	82:S2:837:A:N6	2.32	0.44
82:S2:573:U:O2	82:S2:576:A2M:H8	2.17	0.44
82:S2:1777:G:H2'	82:S2:1778:C:C6	2.53	0.44
2:L5:66:A:O2'	2:L5:326:C:O2	2.36	0.43
2:L5:454:U:H2'	2:L5:455:C:O4'	2.18	0.43
2:L5:2399:G:O2'	2:L5:2822:G:O2'	2.34	0.43
2:L5:2730:U:H2'	2:L5:2731:C:C6	2.53	0.43
2:L5:3873:G:H2'	2:L5:3874:G:C8	2.53	0.43
2:L5:4156:G:H5''	2:L5:4157:A:H2'	2.00	0.43
2:L5:4419:U:OP1	2:L5:4475:G:N2	2.49	0.43
2:L5:4611:A:H2'	2:L5:4612:C:H6	1.83	0.43
2:L5:4743:G:H2'	2:L5:4744:A:C8	2.53	0.43
2:L5:4897:G:H2'	2:L5:4898:G:H8	1.81	0.43
14:LJ:17:ILE:HD12	14:LJ:80:GLU:HG2	2.00	0.43
16:LM:104:MET:HG3	16:LM:108:ASP:HB2	2.00	0.43
16:LM:118:MET:HG2	18:LO:192:TYR:CZ	2.53	0.43
23:LT:28:ALA:O	23:LT:32:ARG:HG2	2.18	0.43
29:LZ:11:VAL:HG12	29:LZ:82:PRO:HA	2.00	0.43
41:Ll:12:PHE:CE2	41:Ll:51:LEU:HD22	2.53	0.43
66:SC:64:THR:HG22	66:SC:66:LEU:H	1.83	0.43
67:SE:72:ILE:HD12	67:SE:77:ARG:HB2	2.00	0.43
79:Sa:12:LYS:HG3	79:Sa:15:ARG:HB2	2.00	0.43
82:S2:495:U:H2'	82:S2:496:C:O4'	2.18	0.43
2:L5:696:C:H42	9:LE:221:LYS:HG3	1.82	0.43
2:L5:711:A:H2'	2:L5:712:C:C6	2.53	0.43
2:L5:3928:A:H2'	2:L5:3929:G:O4'	2.17	0.43
2:L5:4111:U:H2'	2:L5:4112:C:H5	1.83	0.43
2:L5:4419:U:O2'	83:CB:764:ASN:HB3	2.18	0.43
4:L8:26:C:O2'	7:LC:53:ALA:O	2.35	0.43
18:LO:88:LEU:HD12	18:LO:99:LEU:HD13	2.01	0.43
52:SM:91:LEU:HD23	52:SM:91:LEU:HA	1.80	0.43
56:SS:102:GLY:HA2	56:SS:105:ASN:HD21	1.83	0.43
60:Sc:10:LYS:HE2	60:Sc:34:PHE:CD2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SE:18:TRP:HH2	67:SE:31:PRO:HD3	1.82	0.43
67:SE:80:ILE:HG23	67:SE:81:THR:HG23	2.00	0.43
67:SE:152:PRO:HG2	68:SG:216:ARG:HG3	2.00	0.43
82:S2:186:C:H2'	82:S2:187:G:H8	1.83	0.43
2:L5:473:C:H2'	2:L5:474:C:C6	2.53	0.43
2:L5:1081:C:C2'	2:L5:1082:C:H5'	2.49	0.43
2:L5:4913:G:H4'	2:L5:4914:C:O5'	2.17	0.43
4:L8:102:G:OP2	4:L8:104:A:O2'	2.30	0.43
6:LB:206:PRO:HG2	6:LB:209:GLN:HG3	1.99	0.43
27:LX:127:LEU:HD11	27:LX:135:LYS:HE3	2.01	0.43
55:SR:111:PHE:HE1	64:SA:12:GLU:HG3	1.84	0.43
57:ST:101:ARG:NH2	82:S2:1566:G:N7	2.65	0.43
59:SZ:86:ALA:O	59:SZ:90:GLU:HG2	2.18	0.43
63:Sg:10:THR:HB	63:Sg:306:LEU:HD21	2.00	0.43
64:SA:177:MET:SD	64:SA:180:ARG:NH2	2.92	0.43
66:SC:185:THR:OG1	82:S2:1155:U:OP1	2.27	0.43
68:SG:174:PRO:HB3	82:S2:65:C:C6	2.54	0.43
70:SI:65:PHE:HA	70:SI:187:GLY:O	2.18	0.43
77:SX:54:LYS:NZ	77:SX:94:ILE:O	2.49	0.43
77:SX:107:ARG:HG2	77:SX:112:VAL:HG22	2.00	0.43
82:S2:441:C:H2'	82:S2:442:C:C6	2.53	0.43
82:S2:1047:C:H2'	82:S2:1048:G:O4'	2.18	0.43
83:CB:24:VAL:HG12	83:CB:126:LEU:HD23	2.00	0.43
83:CB:108:HIS:HB2	83:CB:111:PHE:CD2	2.52	0.43
2:L5:907:C:H2'	2:L5:908:G:C8	2.53	0.43
2:L5:2864:A:H2'	2:L5:2865:U:H6	1.83	0.43
2:L5:2870:A:H2'	2:L5:2871:A:C8	2.53	0.43
2:L5:3684:G:H2'	2:L5:3685:C:C6	2.54	0.43
2:L5:4238:G:H2'	2:L5:4239:A:C8	2.53	0.43
88:L5:5282:SPD:H82	88:L5:5282:SPD:H51	1.78	0.43
9:LE:194:VAL:O	35:Lf:108:SER:OG	2.29	0.43
13:LI:73:ASN:HB2	13:LI:87:MET:HE1	2.00	0.43
50:SF:130:ARG:CZ	84:Et:37:A:C8	2.97	0.43
55:SR:24:LEU:HD23	55:SR:34:VAL:HG21	2.00	0.43
57:ST:96:SER:HB3	57:ST:99:VAL:HB	1.99	0.43
67:SE:186:GLY:HA3	82:S2:809:A:OP1	2.19	0.43
70:SI:150:ASP:HA	70:SI:153:LYS:CG	2.48	0.43
72:SL:23:VAL:HG23	72:SL:25:LEU:HG	2.00	0.43
75:SV:74:LYS:NZ	75:SV:83:PHE:HB3	2.33	0.43
83:CB:603:TYR:CD2	83:CB:706:ASP:HB3	2.54	0.43
83:CB:770:VAL:HA	83:CB:786:ALA:HA	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:173:C:H2'	2:L5:174:C:C6	2.53	0.43
2:L5:264:C:H2'	2:L5:265:C:C4	2.53	0.43
2:L5:494:U:H2'	2:L5:495:C:C6	2.54	0.43
2:L5:1981:G:N1	2:L5:1982:G:O6	2.51	0.43
2:L5:4076:G:H5'	11:LG:73:ARG:HG3	2.00	0.43
5:LA:80:GLU:HB2	5:LA:170:ALA:HA	1.99	0.43
10:LF:236:ARG:HD3	10:LF:239:GLN:HB2	2.01	0.43
12:LH:128:MET:SD	12:LH:157:SER:HB3	2.58	0.43
62:Sf:85:TYR:C	83:CB:647:ARG:HH22	2.27	0.43
63:Sg:54:ILE:HD12	63:Sg:55:PRO:HD2	2.00	0.43
70:SI:141:ARG:NE	82:S2:191:A:OP1	2.52	0.43
82:S2:291:G:HO2'	82:S2:292:A:P	2.41	0.43
82:S2:348:A:H2'	82:S2:349:A:C8	2.53	0.43
84:Et:5:G:H2'	84:Et:6:G:C8	2.51	0.43
85:CE:37:ALA:HA	85:CE:40:LYS:HB2	2.01	0.43
1:CI:66:GLY:HA3	33:Ld:70:LYS:NZ	2.34	0.43
2:L5:491:G:H2'	2:L5:492:U:C6	2.54	0.43
2:L5:716:C:OP1	7:LC:317:ASN:HB2	2.19	0.43
2:L5:1466:G:OP2	31:Lb:44:ARG:NH2	2.51	0.43
2:L5:2465:C:H2'	2:L5:2466:G:O4'	2.19	0.43
2:L5:4088:C:H2'	2:L5:4089:G:H8	1.83	0.43
2:L5:4392:OMG:H2'	2:L5:4447:5MC:HM51	2.01	0.43
2:L5:5057:C:H2'	2:L5:5058:A:C8	2.54	0.43
4:L8:58:G:O6	39:Lj:63:ARG:NH1	2.52	0.43
8:LD:203:ASN:OD1	8:LD:203:ASN:N	2.51	0.43
14:LJ:104:ASN:HB2	14:LJ:133:VAL:HA	1.99	0.43
17:LN:90:ASN:O	44:Lo:48:TYR:OH	2.33	0.43
28:LY:22:PRO:HD2	28:LY:25:ILE:HD11	2.00	0.43
65:SB:124:HIS:HA	65:SB:137:LEU:O	2.19	0.43
70:SI:64:ASN:OD1	70:SI:73:THR:HG22	2.18	0.43
70:SI:139:LYS:HE2	70:SI:139:LYS:HB2	1.70	0.43
71:SJ:28:GLU:OE2	71:SJ:44:TRP:NE1	2.41	0.43
82:S2:194:C:H2'	82:S2:195:C:C6	2.53	0.43
82:S2:1278:A:H2'	82:S2:1279:C:C6	2.54	0.43
2:L5:2404:A:H1'	39:Lj:12:ARG:HH21	1.82	0.43
2:L5:2667:C:O4'	21:LR:96:MET:HG2	2.18	0.43
2:L5:3690:U:H2'	2:L5:3691:G:O4'	2.19	0.43
2:L5:4322:G:N2	2:L5:4325:A:OP2	2.43	0.43
3:L7:110:G:H2'	3:L7:111:C:C6	2.54	0.43
5:LA:13:GLY:O	5:LA:17:ARG:HG3	2.18	0.43
5:LA:22:HIS:O	5:LA:24:LYS:NZ	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LB:393:LYS:HG3	6:LB:396:ARG:HH21	1.83	0.43
9:LE:203:ILE:O	9:LE:206:VAL:HG22	2.19	0.43
10:LF:105:VAL:HG13	10:LF:136:VAL:HG12	2.01	0.43
19:LP:76:TRP:CD1	19:LP:76:TRP:H	2.36	0.43
26:LW:52:THR:O	26:LW:56:ARG:HG2	2.18	0.43
50:SF:79:HIS:O	50:SF:81:ARG:N	2.47	0.43
58:SU:38:ASP:OD1	58:SU:39:LEU:N	2.51	0.43
63:Sg:183:LYS:HA	63:Sg:183:LYS:HD2	1.85	0.43
75:SV:17:CYS:HB2	75:SV:56:CYS:HB3	2.01	0.43
78:SY:36:PRO:O	78:SY:40:ILE:HD12	2.18	0.43
82:S2:152:U:H2'	82:S2:153:G:C8	2.54	0.43
82:S2:1243:U:OP2	82:S2:1518:C:O2'	2.25	0.43
83:CB:382:ALA:HA	83:CB:385:ILE:HG12	2.00	0.43
84:Et:23:A:H2'	84:Et:24:G:C8	2.54	0.43
2:L5:262:G:H2'	2:L5:263:G:C8	2.53	0.43
2:L5:1195:G:H2'	2:L5:1196:G:C8	2.54	0.43
2:L5:3827:G:O2'	2:L5:3829:G:OP2	2.36	0.43
2:L5:4238:G:H2'	2:L5:4239:A:H8	1.84	0.43
3:L7:63:C:H5'	3:L7:64:G:H5''	2.01	0.43
4:L8:36:G:C5	37:Lh:89:ARG:HD3	2.54	0.43
4:L8:144:U:H2'	4:L8:145:C:C6	2.53	0.43
7:LC:279:LEU:HD23	7:LC:279:LEU:HA	1.87	0.43
12:LH:24:THR:HA	12:LH:37:ASP:HA	2.01	0.43
18:LO:124:LEU:HD23	18:LO:124:LEU:HA	1.87	0.43
54:SQ:90:LYS:HA	54:SQ:93:VAL:HG22	2.00	0.43
64:SA:184:ARG:NE	64:SA:191:ARG:HD3	2.33	0.43
65:SB:83:LYS:HD3	65:SB:106:THR:HG22	2.01	0.43
68:SG:14:LYS:HE2	68:SG:16:ILE:HD11	2.01	0.43
71:SJ:5:ARG:HB3	82:S2:38:A:H5''	2.01	0.43
75:SV:18:SER:HB3	75:SV:72:LEU:HD21	2.01	0.43
76:SW:28:ARG:HB3	76:SW:29:PRO:HD3	2.00	0.43
78:SY:9:THR:HG22	82:S2:837:A:H61	1.84	0.43
79:Sa:59:PHE:HB2	79:Sa:62:TYR:HB2	2.01	0.43
82:S2:293:C:O2'	82:S2:294:U:H3'	2.19	0.43
82:S2:517:OMC:H2'	82:S2:518:G:O4'	2.18	0.43
83:CB:851:LEU:HD23	83:CB:857:LYS:HZ1	1.84	0.43
2:L5:922:C:H2'	2:L5:923:C:O4'	2.19	0.43
2:L5:1175:A:H2	2:L5:1185:G:H1	1.66	0.43
2:L5:2421:G:OP2	2:L5:2828:U:H1'	2.19	0.43
2:L5:4887:C:N4	2:L5:4932:U:H3	2.15	0.43
7:LC:318:PRO:O	7:LC:319:LEU:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LF:147:LEU:O	10:LF:151:ASN:ND2	2.43	0.43
10:LF:214:SER:OG	10:LF:215:SER:N	2.51	0.43
34:Le:35:TRP:CZ2	34:Le:56:PRO:HD2	2.54	0.43
37:Lh:52:LYS:HA	37:Lh:52:LYS:HD3	1.81	0.43
44:Lo:106:PHE:CZ	85:CE:39:TRP:CE3	2.97	0.43
47:Ls:156:SER:CB	83:CB:263:ASP:OD2	2.58	0.43
48:Lt:37:LEU:HD21	83:CB:778:GLY:N	2.34	0.43
63:Sg:59:LEU:HD23	63:Sg:90:TRP:CD2	2.54	0.43
69:SH:58:LYS:HA	69:SH:58:LYS:HD2	1.82	0.43
82:S2:639:C:H2'	82:S2:640:A:C8	2.54	0.43
82:S2:1560:U:O2	82:S2:1575:G:O6	2.37	0.43
82:S2:1683:C:H2'	82:S2:1684:C:H6	1.84	0.43
83:CB:20:ARG:HB3	83:CB:100:ILE:HG23	2.01	0.43
2:L5:1563:A:N6	82:S2:1028:A:N1	2.66	0.43
2:L5:1683:PSU:H2'	2:L5:1684:A:C8	2.54	0.43
2:L5:1826:G:H4'	31:Lb:43:MET:HE3	2.01	0.43
2:L5:1998:A:N6	47:Ls:40:MET:SD	2.92	0.43
2:L5:2664:G:H4'	2:L5:2677:G:H4'	2.00	0.43
2:L5:2671:C:H2'	2:L5:2672:C:C6	2.54	0.43
3:L7:55:A:H4'	14:LJ:155:HIS:HB2	2.00	0.43
6:LB:154:LYS:HE2	6:LB:154:LYS:HB2	1.70	0.43
14:LJ:77:ALA:O	14:LJ:81:GLU:HG2	2.18	0.43
14:LJ:113:ILE:HD11	56:SS:14:ARG:HD3	2.00	0.43
15:LL:111:GLN:HA	15:LL:114:VAL:HG22	2.01	0.43
28:LY:72:GLN:HE21	28:LY:74:TYR:HD1	1.67	0.43
32:Lc:38:ILE:HG21	32:Lc:63:TYR:HB3	1.99	0.43
51:SK:91:PRO:HB2	51:SK:94:LEU:HD23	2.01	0.43
56:SS:13:LEU:HD22	56:SS:20:ILE:HD11	2.00	0.43
63:Sg:270:LEU:HD13	63:Sg:310:TRP:CE3	2.54	0.43
64:SA:11:LYS:O	64:SA:15:VAL:HG23	2.18	0.43
67:SE:122:LYS:HE2	67:SE:124:CYS:SG	2.58	0.43
82:S2:166:A2M:HM'3	82:S2:166:A2M:H1'	1.68	0.43
82:S2:693:A:H2'	82:S2:694:G:N7	2.33	0.43
82:S2:834:C:H42	82:S2:839:C:H42	1.66	0.43
82:S2:1101:U:H2'	82:S2:1102:G:C8	2.54	0.43
82:S2:1217:A:H2'	82:S2:1218:C:H6	1.83	0.43
83:CB:452:LEU:HD23	83:CB:459:GLU:O	2.19	0.43
2:L5:1278:C:H2'	2:L5:1279:A:O4'	2.18	0.42
2:L5:1404:G:N7	2:L5:1408:G:N1	2.67	0.42
2:L5:1613:A:H5''	5:LA:183:GLY:HA2	2.01	0.42
2:L5:1631:A:C2	5:LA:204:MET:HG2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:1847:C:H2'	2:L5:1848:C:C6	2.54	0.42
2:L5:2017:A:HO2'	2:L5:2018:C:C5'	2.31	0.42
2:L5:2809:G:H5''	21:LR:63:CYS:SG	2.59	0.42
2:L5:3654:G:O2'	2:L5:3693:U:OP1	2.28	0.42
2:L5:3782:5MC:OP1	43:Ln:23:ARG:NH2	2.52	0.42
2:L5:4084:G:O6	5:LA:72:ARG:NH2	2.51	0.42
2:L5:4590:A2M:HM'3	2:L5:4590:A2M:H1'	1.79	0.42
2:L5:4859:C:H2'	2:L5:4860:G:H8	1.84	0.42
2:L5:4927:G:H5''	2:L5:4928:C:C5	2.54	0.42
7:LC:33:ARG:HG2	7:LC:36:ILE:HD12	2.01	0.42
12:LH:95:VAL:HG12	42:Lm:82:LEU:HD13	2.01	0.42
26:LW:47:ARG:HE	26:LW:54:LEU:HD22	1.84	0.42
28:LY:23:SER:HA	28:LY:26:ARG:HB2	2.00	0.42
35:Lf:45:LYS:HA	35:Lf:107:PRO:HD2	2.01	0.42
60:Sc:44:ARG:NH2	60:Sc:63:ARG:HH11	2.17	0.42
66:SC:167:ARG:HB3	66:SC:177:PRO:HB2	2.00	0.42
82:S2:1259:A:H1'	82:S2:1264:C:N4	2.34	0.42
2:L5:490:C:H2'	2:L5:491:G:H8	1.83	0.42
2:L5:1669:A:H4'	2:L5:1685:G:N2	2.34	0.42
2:L5:3861:A:H2'	2:L5:3862:A:H8	1.84	0.42
2:L5:4327:C:OP1	23:LT:70:HIS:NE2	2.51	0.42
2:L5:5006:U:H4'	2:L5:5007:A:H5'	2.01	0.42
6:LB:92:TYR:HB3	6:LB:99:LEU:HD22	2.00	0.42
7:LC:221:PHE:O	7:LC:222:ARG:HG2	2.20	0.42
23:LT:44:GLY:HA2	23:LT:95:HIS:HB3	2.01	0.42
32:Lc:47:ILE:HB	32:Lc:94:LEU:HG	2.02	0.42
38:Li:76:ARG:HD3	38:Li:76:ARG:HA	1.79	0.42
48:Lt:114:ARG:NH2	48:Lt:162:CYS:SG	2.92	0.42
56:SS:61:GLU:HA	56:SS:64:VAL:HG12	2.01	0.42
57:ST:62:ARG:CZ	82:S2:1542:C:H5''	2.49	0.42
63:Sg:135:LEU:HD23	63:Sg:135:LEU:HA	1.89	0.42
63:Sg:200:VAL:HA	63:Sg:206:LEU:O	2.19	0.42
64:SA:42:LYS:HD2	64:SA:48:ILE:HD11	2.01	0.42
65:SB:147:ASN:OD1	65:SB:148:ASN:N	2.52	0.42
73:SN:29:THR:O	73:SN:33:VAL:HG23	2.19	0.42
82:S2:454:U:H2'	82:S2:455:A:C8	2.54	0.42
82:S2:1139:C:H2'	82:S2:1140:G:O4'	2.18	0.42
82:S2:1705:C:H2'	82:S2:1706:G:C8	2.54	0.42
83:CB:90:LYS:HE3	83:CB:90:LYS:HB2	1.74	0.42
85:CE:20:ALA:O	85:CE:23:LYS:HG3	2.18	0.42
2:L5:92:C:OP2	2:L5:4341:C:O2'	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:457:G:H2'	2:L5:458:C:C6	2.54	0.42
2:L5:1346:C:H2'	2:L5:1347:G:H8	1.84	0.42
2:L5:1979:A:H1'	2:L5:1988:G:N2	2.34	0.42
2:L5:4187:G:OP1	87:L5:5266:SPM:H111	2.19	0.42
2:L5:4742:G:H2'	2:L5:4743:G:C8	2.54	0.42
3:L7:111:C:H2'	3:L7:112:U:O4'	2.19	0.42
6:LB:17:LEU:HD23	6:LB:17:LEU:HA	1.78	0.42
10:LF:92:VAL:O	10:LF:120:GLY:HA2	2.19	0.42
13:LI:14:ASN:O	13:LI:128:ARG:NH2	2.24	0.42
18:LO:56:ALA:O	18:LO:60:LYS:HG2	2.18	0.42
31:Lb:43:MET:HE2	31:Lb:47:LYS:NZ	2.34	0.42
32:Lc:18:LEU:O	32:Lc:22:MET:HG2	2.19	0.42
43:Ln:17:ARG:NH1	82:S2:1173:A:OP1	2.53	0.42
48:Lt:34:PRO:CG	83:CB:777:ALA:N	2.58	0.42
54:SQ:110:ASP:OD1	54:SQ:110:ASP:N	2.49	0.42
65:SB:167:LYS:HE2	65:SB:167:LYS:HB2	1.82	0.42
70:SI:161:LEU:HD23	70:SI:195:LEU:HG	2.00	0.42
74:SO:63:LYS:HD3	74:SO:63:LYS:HA	1.87	0.42
74:SO:147:ARG:HH22	82:S2:1854:U:P	2.43	0.42
76:SW:5:ASN:HB3	76:SW:8:ALA:HB3	2.00	0.42
82:S2:1347:U:H2'	82:S2:1348:G:N3	2.34	0.42
82:S2:1540:G:H2'	82:S2:1541:G:H8	1.85	0.42
82:S2:1779:G:H2'	82:S2:1780:G:C8	2.53	0.42
83:CB:86:LEU:HD12	83:CB:89:ILE:HD12	2.00	0.42
2:L5:89:C:OP1	30:La:59:LYS:NZ	2.41	0.42
2:L5:1084:C:H2'	2:L5:1085:C:C6	2.54	0.42
2:L5:1625:OMG:HM23	17:LN:81:TYR:HE2	1.84	0.42
2:L5:2073:C:OP1	10:LF:212:LYS:HE3	2.19	0.42
2:L5:2765:A:H2'	2:L5:2766:A:C8	2.54	0.42
2:L5:2808:G:O3'	21:LR:60:ARG:NH1	2.51	0.42
4:L8:102:G:H5''	39:Lj:39:TYR:HE1	1.83	0.42
6:LB:220:ILE:HG12	6:LB:278:THR:HG23	2.00	0.42
11:LG:176:LYS:HD3	38:Li:43:MET:HE1	2.02	0.42
19:LP:85:LYS:O	19:LP:89:GLU:HG3	2.20	0.42
27:LX:82:THR:HG21	37:Lh:37:THR:HG22	2.01	0.42
44:Lo:78:ARG:O	44:Lo:80:LYS:NZ	2.52	0.42
47:Ls:47:LEU:HD11	47:Ls:51:ALA:HB3	2.02	0.42
65:SB:214:LYS:HE2	65:SB:216:LYS:HE3	2.02	0.42
82:S2:1733:U:H2'	82:S2:1734:G:O4'	2.20	0.42
82:S2:1797:U:H2'	82:S2:1798:C:C6	2.54	0.42
2:L5:120:A:H2'	2:L5:149:A:H61	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:252:C:H2'	2:L5:253:G:C8	2.54	0.42
2:L5:408:A:O2'	2:L5:411:G:OP2	2.26	0.42
2:L5:1703:C:O2'	2:L5:1704:C:O5'	2.37	0.42
2:L5:2368:A:N6	2:L5:2827:G:O2'	2.51	0.42
2:L5:2424:OMG:H1'	2:L5:2424:OMG:HM23	1.80	0.42
2:L5:2492:C:H2'	2:L5:2493:G:C8	2.54	0.42
2:L5:2558:C:H2'	2:L5:2559:G:H8	1.84	0.42
2:L5:2638:G:H22	2:L5:2719:C:P	2.42	0.42
2:L5:3718:A2M:H2'	2:L5:3719:A:O4'	2.19	0.42
2:L5:3937:C:O2'	17:LN:124:ASP:OD1	2.38	0.42
2:L5:4685:U:H2'	2:L5:4686:G:C8	2.54	0.42
5:LA:20:VAL:HA	5:LA:23:ARG:HG3	1.99	0.42
10:LF:228:VAL:HG12	22:LS:38:VAL:HG12	2.02	0.42
16:LM:86:TRP:O	16:LM:89:THR:OG1	2.33	0.42
26:LW:97:LYS:O	26:LW:99:GLU:N	2.51	0.42
64:SA:180:ARG:HH11	64:SA:184:ARG:HH11	1.68	0.42
64:SA:206:ASP:O	64:SA:210:ILE:HD12	2.18	0.42
67:SE:253:ASP:N	67:SE:253:ASP:OD1	2.51	0.42
75:SV:40:ASP:OD1	75:SV:44:GLY:N	2.52	0.42
82:S2:804:U:H2'	82:S2:805:U:C6	2.54	0.42
83:CB:265:TYR:HA	83:CB:287:ARG:HA	2.01	0.42
83:CB:448:GLN:HB3	83:CB:473:VAL:HG23	2.01	0.42
2:L5:37:U:H2'	2:L5:38:A:O4'	2.19	0.42
2:L5:400:A2M:H1'	2:L5:400:A2M:HM'3	1.63	0.42
2:L5:959:G:C8	9:LE:123:ARG:HG2	2.55	0.42
2:L5:2303:C:H5''	34:Le:104:SER:HB3	2.02	0.42
2:L5:2492:C:H2'	2:L5:2493:G:H8	1.85	0.42
2:L5:2517:A:N3	2:L5:2539:C:O2'	2.50	0.42
2:L5:2607:C:O5'	21:LR:96:MET:HE1	2.20	0.42
2:L5:3725:G:N7	38:Li:67:LYS:NZ	2.50	0.42
2:L5:4419:U:C2	83:CB:765:ARG:HG3	2.54	0.42
4:L8:90:C:H1'	28:LY:24:HIS:HB3	2.01	0.42
23:LT:4:THR:OG1	23:LT:9:ARG:HD3	2.19	0.42
28:LY:74:TYR:HE2	28:LY:77:LYS:HG3	1.85	0.42
44:Lo:4:VAL:HG23	44:Lo:93:LEU:HD23	2.02	0.42
63:Sg:227:LEU:HD23	63:Sg:228:TYR:HB2	2.01	0.42
66:SC:202:THR:HG23	71:SJ:54:ARG:HH22	1.85	0.42
67:SE:128:LYS:HG2	67:SE:140:VAL:HB	2.01	0.42
67:SE:242:LYS:HD3	67:SE:242:LYS:HA	1.75	0.42
68:SG:31:ARG:NH1	82:S2:1745:A:O3'	2.52	0.42
68:SG:164:LYS:HE2	68:SG:164:LYS:HB2	1.90	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SG:227:GLN:HB3	68:SG:231:ARG:HH21	1.84	0.42
77:SX:28:LYS:O	77:SX:32:LEU:HB2	2.19	0.42
77:SX:34:THR:HG21	82:S2:1189:A:H4'	2.01	0.42
83:CB:174:LEU:HD23	83:CB:294:LEU:HD13	2.02	0.42
83:CB:289:PHE:HA	83:CB:293:ILE:HD12	2.00	0.42
83:CB:592:LEU:HA	83:CB:602:LEU:O	2.20	0.42
83:CB:609:PHE:CD2	83:CB:699:GLY:HA2	2.55	0.42
84:Et:52:G:H2'	84:Et:53:G:C8	2.54	0.42
2:L5:398:A2M:HM'3	2:L5:398:A2M:H1'	1.79	0.42
2:L5:1396:G:HO2'	2:L5:1468:C:HO2'	1.57	0.42
2:L5:1410:U:H3	31:Lb:52:LYS:NZ	2.17	0.42
2:L5:4535:A:H2'	2:L5:4536:OMC:H6	1.84	0.42
2:L5:4940:C:H5'	2:L5:4941:G:H5''	2.01	0.42
5:LA:7:GLY:HA2	5:LA:10:LYS:HG3	2.02	0.42
8:LD:211:LEU:HB3	8:LD:219:TYR:HB2	2.02	0.42
16:LM:37:LEU:HD12	16:LM:37:LEU:HA	1.82	0.42
20:LQ:110:ARG:HG3	20:LQ:120:ILE:HD12	2.01	0.42
22:LS:69:GLU:HG3	22:LS:71:SER:H	1.84	0.42
32:Lc:30:GLY:O	32:Lc:34:THR:OG1	2.26	0.42
33:Ld:33:ILE:HD11	33:Ld:45:ALA:HA	2.00	0.42
39:Lj:67:LEU:HD23	39:Lj:67:LEU:HA	1.87	0.42
41:Ll:28:ARG:HA	41:Ll:33:ASN:ND2	2.33	0.42
44:Lo:106:PHE:HE2	85:CE:39:TRP:CZ2	2.27	0.42
59:SZ:48:VAL:HG23	59:SZ:80:ARG:HD2	2.01	0.42
63:Sg:101:PHE:CD2	63:Sg:136:GLY:HA2	2.54	0.42
63:Sg:207:CYS:SG	63:Sg:219:TRP:HB2	2.60	0.42
66:SC:214:LEU:HD22	66:SC:244:ILE:HD11	2.02	0.42
72:SL:48:LYS:HD3	72:SL:52:GLU:OE2	2.20	0.42
77:SX:88:ASP:HA	82:S2:617:G:H4'	2.01	0.42
82:S2:1393:G:H2'	82:S2:1394:G:C8	2.55	0.42
82:S2:1401:A:H2'	82:S2:1402:A:C8	2.54	0.42
2:L5:85:G:O2'	2:L5:97:G:O6	2.31	0.42
2:L5:137:G:H2'	2:L5:138:G:C8	2.53	0.42
2:L5:1281:G:C6	9:LE:128:HIS:HB2	2.55	0.42
2:L5:1444:G:H22	2:L5:2104:G:N2	2.18	0.42
2:L5:1824:G:H5''	23:LT:35:LYS:HE2	2.01	0.42
2:L5:3867:A2M:H2'	2:L5:3868:G:O4'	2.19	0.42
2:L5:4458:C:H2'	2:L5:4459:U:C6	2.55	0.42
2:L5:4859:C:H2'	2:L5:4860:G:C8	2.55	0.42
15:LL:59:VAL:HG21	15:LL:73:GLY:HA3	2.01	0.42
15:LL:194:ILE:HD12	15:LL:194:ILE:HA	1.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LQ:43:PHE:CD2	20:LQ:133:GLY:HA3	2.55	0.42
23:LT:39:ILE:HG13	23:LT:102:ARG:HE	1.85	0.42
28:LY:47:MET:HE3	28:LY:48:PRO:HD2	2.01	0.42
28:LY:50:ARG:NH1	28:LY:51:LYS:HB3	2.35	0.42
34:Le:98:GLU:HG2	34:Le:123:THR:OG1	2.20	0.42
39:Lj:85:LYS:HB3	39:Lj:85:LYS:HE3	1.71	0.42
50:SF:167:LYS:HA	59:SZ:71:ALA:HB1	2.02	0.42
64:SA:5:LEU:HD11	75:SV:41:LYS:HD2	2.01	0.42
64:SA:215:GLN:O	64:SA:219:GLU:HG2	2.19	0.42
67:SE:212:ASP:OD1	67:SE:216:ASN:N	2.52	0.42
69:SH:63:PHE:HB3	69:SH:97:GLN:HG3	2.01	0.42
81:Se:56:ASN:ND2	82:S2:606:G:O4'	2.48	0.42
82:S2:601:OMG:HM23	82:S2:601:OMG:H1'	1.71	0.42
82:S2:888:U:O2'	82:S2:898:U:N3	2.49	0.42
1:CI:63:ARG:HD2	1:CI:63:ARG:HA	1.85	0.42
2:L5:108:A:N1	2:L5:333:U:O2'	2.50	0.42
2:L5:1178:G:H2'	8:LD:286:SER:HB3	2.01	0.42
2:L5:1392:A:H2'	2:L5:1393:G:C8	2.55	0.42
2:L5:2521:G:H5'	2:L5:2640:G:H1'	2.02	0.42
2:L5:3610:A:H2'	2:L5:3611:A:C8	2.55	0.42
2:L5:4113:U:H4'	2:L5:4115:G:C5	2.55	0.42
2:L5:4195:G:OP1	2:L5:4221:C:O2'	2.36	0.42
6:LB:117:ARG:HA	6:LB:177:LYS:HD2	2.01	0.42
13:LI:51:HIS:CD2	13:LI:168:SER:HB3	2.54	0.42
16:LM:38:VAL:O	16:LM:47:ARG:HA	2.18	0.42
28:LY:50:ARG:HB3	28:LY:53:ASP:OD2	2.20	0.42
48:Lt:34:PRO:CB	83:CB:777:ALA:O	2.68	0.42
48:Lt:147:HIS:HA	48:Lt:148:PRO:HD3	1.83	0.42
52:SM:20:GLU:HG2	52:SM:119:GLN:HB2	2.00	0.42
52:SM:31:LEU:HG	52:SM:33:ARG:HG3	2.01	0.42
53:SP:93:MET:HE1	53:SP:106:GLU:OE1	2.19	0.42
56:SS:78:LYS:HD3	56:SS:78:LYS:HA	1.76	0.42
66:SC:74:LYS:HA	66:SC:74:LYS:HD3	1.89	0.42
69:SH:76:GLN:O	69:SH:80:VAL:HG23	2.20	0.42
74:SO:113:GLN:OE1	79:Sa:46:GLU:N	2.53	0.42
79:Sa:34:LYS:NZ	82:S2:1862:G:N7	2.61	0.42
83:CB:9:ILE:O	83:CB:13:MET:HB2	2.20	0.42
83:CB:398:ILE:HD13	83:CB:414:GLY:HA3	2.02	0.42
1:CI:72:ARG:NH2	21:LR:25:ASP:OD2	2.48	0.42
2:L5:462:G:H2'	2:L5:463:A:C8	2.54	0.42
2:L5:499:G:H2'	2:L5:499:G:N3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:691:C:H2'	2:L5:692:A:H8	1.85	0.42
2:L5:730:G:OP2	10:LF:76:ARG:NE	2.48	0.42
2:L5:982:U:H2'	2:L5:983:C:C6	2.55	0.42
2:L5:1345:A:H2'	2:L5:1346:C:C6	2.55	0.42
2:L5:1538:U:H2'	2:L5:1539:G:H8	1.85	0.42
2:L5:2335:C:H2'	2:L5:2336:G:H8	1.85	0.42
2:L5:2415:U:H2'	2:L5:2416:G:C8	2.55	0.42
2:L5:2845:A:H61	2:L5:3843:C:N4	2.18	0.42
2:L5:4638:U:H2'	2:L5:4639:G:N3	2.35	0.42
2:L5:4987:C:P	6:LB:116:ARG:HH22	2.42	0.42
4:L8:67:U:H2'	4:L8:68:G:C8	2.55	0.42
4:L8:92:U:H2'	4:L8:93:C:O4'	2.20	0.42
9:LE:227:HIS:HE1	9:LE:230:GLY:HA2	1.83	0.42
14:LJ:35:ARG:O	14:LJ:39:VAL:HG23	2.20	0.42
19:LP:32:THR:HG23	19:LP:58:VAL:HG11	2.00	0.42
21:LR:105:LEU:HD23	21:LR:138:LEU:HD23	2.01	0.42
32:Lc:82:GLY:HA2	32:Lc:91:VAL:HG12	2.02	0.42
36:Lg:41:ALA:O	36:Lg:52:ARG:HD3	2.20	0.42
50:SF:112:LEU:HD13	50:SF:177:LEU:HD21	2.02	0.42
52:SM:17:ALA:O	52:SM:20:GLU:HG3	2.18	0.42
58:SU:104:ILE:HB	58:SU:106:ILE:HG12	2.01	0.42
60:Sc:44:ARG:HH22	60:Sc:63:ARG:HH11	1.68	0.42
65:SB:71:LEU:HD22	65:SB:82:ARG:HD2	2.02	0.42
74:SO:96:LYS:HD3	74:SO:132:VAL:HG11	2.02	0.42
78:SY:93:ARG:HH21	82:S2:575:A:P	2.42	0.42
82:S2:562:U:H2'	82:S2:563:G:C8	2.55	0.42
82:S2:867:OMG:H1'	82:S2:867:OMG:HM23	1.75	0.42
82:S2:1232:PSU:H2'	82:S2:1233:G:H8	1.85	0.42
82:S2:1759:G:N2	82:S2:1760:G:O6	2.51	0.42
83:CB:300:VAL:HG12	83:CB:315:LEU:HD13	2.01	0.42
83:CB:475:VAL:HA	83:CB:478:PHE:CD2	2.55	0.42
85:CE:67:LYS:H	85:CE:67:LYS:HG2	1.56	0.42
2:L5:223:G:H4'	2:L5:225:G:C8	2.54	0.41
2:L5:1870:C:H2'	2:L5:1871:A2M:H8	2.02	0.41
2:L5:2622:G:O6	24:LU:81:ARG:NH2	2.53	0.41
2:L5:2823:G:N7	21:LR:20:LYS:HD3	2.35	0.41
2:L5:3760:A:N6	83:CB:720:GLN:OE1	2.53	0.41
2:L5:3893:C:O2'	2:L5:4979:A:N1	2.50	0.41
2:L5:4524:G:OP1	2:L5:4559:A:N6	2.47	0.41
5:LA:115:CYS:SG	5:LA:124:GLY:HA3	2.60	0.41
21:LR:99:MET:HE2	21:LR:99:MET:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LS:15:ARG:HD2	22:LS:25:PRO:HG2	2.01	0.41
25:LV:111:GLU:H	25:LV:111:GLU:CD	2.28	0.41
31:Lb:65:MET:HG3	31:Lb:68:ARG:HH12	1.85	0.41
48:Lt:79:ALA:HA	48:Lt:82:ILE:HG22	2.01	0.41
57:ST:71:GLY:O	57:ST:75:MET:HG2	2.20	0.41
58:SU:19:ARG:HH11	58:SU:92:HIS:HB3	1.85	0.41
58:SU:32:LEU:CD1	58:SU:85:HIS:HB2	2.50	0.41
82:S2:186:C:H2'	82:S2:187:G:C8	2.55	0.41
82:S2:838:G:N1	82:S2:840:C:O2'	2.50	0.41
82:S2:1597:C:H4'	82:S2:1603:G:O6	2.19	0.41
82:S2:1713:C:H2'	82:S2:1714:U:C6	2.55	0.41
83:CB:740:LEU:HD11	83:CB:835:VAL:HG23	2.01	0.41
2:L5:513:U:H3'	2:L5:514:U:H4'	2.01	0.41
2:L5:1172:C:O2'	2:L5:1173:G:H8	2.03	0.41
2:L5:1382:G:OP1	15:LL:66:TYR:OH	2.34	0.41
2:L5:2264:C:H2'	2:L5:2265:G:O4'	2.20	0.41
2:L5:3822:PSU:OP1	87:L5:5289:SPM:N5	2.32	0.41
2:L5:4389:C:H2'	2:L5:4390:A:H8	1.85	0.41
3:L7:35:U:O2	3:L7:45:U:O2'	2.35	0.41
6:LB:29:VAL:HA	6:LB:220:ILE:HD13	2.01	0.41
11:LG:178:GLY:O	11:LG:223:ARG:NH2	2.53	0.41
21:LR:35:ALA:HA	21:LR:40:GLN:OE1	2.20	0.41
46:Lr:47:LYS:HB2	46:Lr:102:TYR:CZ	2.55	0.41
49:SD:213:PRO:HB3	55:SR:20:TYR:CE1	2.55	0.41
53:SP:29:SER:HB3	53:SP:32:GLN:NE2	2.34	0.41
69:SH:25:GLN:O	69:SH:28:LEU:HG	2.20	0.41
74:SO:131:ASP:OD1	74:SO:133:THR:OG1	2.33	0.41
82:S2:1348:G:OP2	82:S2:1348:G:N2	2.50	0.41
82:S2:1417:C:O2	82:S2:1422:G:C6	2.74	0.41
83:CB:364:ALA:HA	83:CB:367:TYR:CZ	2.56	0.41
83:CB:533:MET:HE3	83:CB:533:MET:HB3	1.75	0.41
85:CE:57:GLU:HA	85:CE:60:ARG:NH1	2.35	0.41
2:L5:956:A:H1'	2:L5:2076:G:H5''	2.01	0.41
2:L5:3722:G:H2'	2:L5:3723:A:H8	1.84	0.41
2:L5:4227:OMU:HM23	2:L5:4227:OMU:H1'	1.85	0.41
5:LA:112:ILE:HD11	45:Lp:79:VAL:HG22	2.03	0.41
14:LJ:119:TYR:CG	56:SS:12:ILE:HG12	2.56	0.41
27:LX:64:SER:HB2	37:Lh:69:LEU:HD13	2.01	0.41
50:SF:123:GLU:OE1	60:Sc:63:ARG:NH2	2.53	0.41
50:SF:131:ALA:HB3	84:Et:39:U:H1'	2.02	0.41
58:SU:61:LEU:HB2	58:SU:82:MET:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:Sd:56:ASP:OXT	82:S2:1480:A:O2'	2.32	0.41
63:Sg:283:PRO:O	63:Sg:285:GLN:NE2	2.53	0.41
68:SG:174:PRO:HG3	82:S2:65:C:C2	2.55	0.41
69:SH:118:ARG:HA	69:SH:118:ARG:HD3	1.91	0.41
78:SY:42:GLU:O	78:SY:46:LYS:HG3	2.20	0.41
82:S2:1839:U:H2'	82:S2:1840:U:C6	2.55	0.41
83:CB:753:GLU:HA	83:CB:756:VAL:HB	2.01	0.41
2:L5:302:C:H2'	2:L5:303:C:C6	2.55	0.41
2:L5:1777:C:OP2	85:CE:64:LEU:CD2	2.63	0.41
2:L5:1869:G:C6	88:L5:5284:SPD:H32	2.55	0.41
2:L5:2409:U:H5	2:L5:2783:A:N1	2.18	0.41
2:L5:3865:A:H61	2:L5:3881:G:H1	1.67	0.41
2:L5:4619:U:H2'	2:L5:4620:OMU:H6	2.01	0.41
7:LC:334:THR:HG21	10:LF:51:TYR:OH	2.20	0.41
20:LQ:69:LYS:HA	20:LQ:69:LYS:HD3	1.90	0.41
50:SF:130:ARG:NH2	84:Et:37:A:N7	2.69	0.41
56:SS:113:ARG:O	56:SS:117:ILE:HG12	2.19	0.41
61:Sd:13:LYS:HG3	82:S2:1556:A:C8	2.55	0.41
62:Sf:108:VAL:HB	62:Sf:113:LYS:H	1.86	0.41
63:Sg:153:CYS:O	63:Sg:167:SER:HA	2.20	0.41
65:SB:141:GLY:HA3	65:SB:207:LEU:HD23	2.03	0.41
71:SJ:176:LYS:HA	71:SJ:179:LYS:HG2	2.01	0.41
79:Sa:39:PHE:CE2	79:Sa:41:ILE:HD11	2.54	0.41
81:Se:8:ARG:NH1	82:S2:615:C:O3'	2.53	0.41
83:CB:766:LYS:HB3	83:CB:788:LEU:HD11	2.02	0.41
2:L5:2861:OMC:H1'	2:L5:2861:OMC:HM23	1.86	0.41
2:L5:4522:G:O2'	2:L5:4525:C:OP2	2.31	0.41
2:L5:4607:A:H5'	83:CB:552:LEU:HD22	2.02	0.41
2:L5:4637:OMG:HM23	2:L5:4637:OMG:H1'	1.78	0.41
6:LB:337:VAL:HG11	6:LB:345:LEU:HD13	2.03	0.41
9:LE:282:TYR:HE1	35:Lf:31:GLU:HG2	1.85	0.41
13:LI:84:GLY:O	13:LI:140:THR:OG1	2.29	0.41
19:LP:95:LEU:HD23	19:LP:95:LEU:HA	1.95	0.41
22:LS:93:MET:HE1	22:LS:117:HIS:CE1	2.55	0.41
32:Lc:50:ASN:ND2	32:Lc:76:GLY:O	2.54	0.41
50:SF:59:LYS:HB3	50:SF:62:ARG:HG3	2.03	0.41
50:SF:60:ARG:HE	82:S2:1679:A:P	2.43	0.41
63:Sg:101:PHE:CE2	63:Sg:136:GLY:HA2	2.55	0.41
63:Sg:125:ARG:HD3	63:Sg:150:TRP:CE2	2.56	0.41
69:SH:43:LEU:HB3	69:SH:72:PHE:CE1	2.56	0.41
82:S2:71:G:H2'	82:S2:72:C:H4'	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:S2:1328:OMG:H1'	82:S2:1328:OMG:HM23	1.81	0.41
82:S2:1670:C:H2'	82:S2:1671:G:C8	2.55	0.41
82:S2:1845:A:H2'	82:S2:1846:G:H8	1.84	0.41
83:CB:44:GLY:HA2	83:CB:77:LEU:HA	2.02	0.41
83:CB:451:ILE:HG13	83:CB:459:GLU:O	2.20	0.41
84:Et:25:C:H2'	84:Et:26:A:H5''	2.02	0.41
2:L5:279:A:OP2	17:LN:8:GLN:NE2	2.42	0.41
2:L5:654:C:O3'	7:LC:268:ARG:NH1	2.52	0.41
2:L5:1973:G:O2'	48:Lt:117:ARG:NH2	2.48	0.41
2:L5:2743:A:H2'	2:L5:2744:A:C8	2.56	0.41
2:L5:4318:C:H4'	44:Lo:17:LYS:HA	2.02	0.41
2:L5:4739:C:H2'	2:L5:4740:G:H5'	2.03	0.41
8:LD:52:ILE:HA	8:LD:147:ASP:HB3	2.02	0.41
8:LD:86:TYR:CE1	8:LD:247:ILE:HG13	2.55	0.41
11:LG:30:PRO:HG2	29:LZ:124:THR:HA	2.02	0.41
17:LN:159:ARG:HB3	17:LN:164:LEU:HB2	2.01	0.41
34:Le:19:LYS:HE3	34:Le:19:LYS:HB3	1.90	0.41
34:Le:89:LEU:HD13	34:Le:118:LEU:HD22	2.03	0.41
34:Le:99:ILE:HD13	34:Le:108:ARG:HB2	2.03	0.41
47:Ls:57:LYS:O	47:Ls:61:MET:HG2	2.20	0.41
51:SK:64:TRP:CD2	61:Sd:23:VAL:HG22	2.55	0.41
53:SP:86:LEU:H	53:SP:89:MET:CE	2.33	0.41
66:SC:212:LYS:HE2	66:SC:212:LYS:HB3	1.86	0.41
68:SG:191:ARG:NH1	82:S2:312:G:H2'	2.35	0.41
73:SN:7:PRO:HG3	82:S2:996:A:H5''	2.01	0.41
82:S2:352:U:H2'	82:S2:353:C:C6	2.56	0.41
82:S2:382:C:H2'	82:S2:383:G:C8	2.56	0.41
82:S2:1754:G:N7	82:S2:1779:G:N2	2.67	0.41
83:CB:27:HIS:HB3	83:CB:30:HIS:NE2	2.36	0.41
2:L5:270:U:H2'	2:L5:271:C:C6	2.56	0.41
2:L5:492:U:H2'	2:L5:493:G:O4'	2.20	0.41
2:L5:1174:G:H1	2:L5:1186:U:H3	1.68	0.41
2:L5:1972:G:H2'	2:L5:1973:G:C8	2.56	0.41
2:L5:2060:G:N2	22:LS:115:ALA:HB2	2.36	0.41
2:L5:2422:OMC:HM23	2:L5:2422:OMC:H1'	1.90	0.41
2:L5:2656:U:H5''	29:LZ:38:TYR:HB3	2.02	0.41
2:L5:2844:A:O2'	2:L5:4631:G:H4'	2.21	0.41
2:L5:3689:G:O2'	2:L5:3818:UY1:OP2	2.34	0.41
2:L5:3785:A2M:H2	2:L5:4551:U:O2	2.20	0.41
2:L5:4102:C:H1'	2:L5:4108:G:H1	1.86	0.41
2:L5:4260:U:H2'	2:L5:4261:C:H6	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L8:39:G:H1'	4:L8:103:A:N6	2.36	0.41
4:L8:47:C:H1'	4:L8:61:A:H2'	2.01	0.41
6:LB:286:LYS:HB3	6:LB:332:MET:HB3	2.03	0.41
8:LD:209:ARG:O	8:LD:213:GLU:HG2	2.21	0.41
18:LO:28:LEU:HD23	18:LO:28:LEU:HA	1.95	0.41
22:LS:83:ARG:HG3	22:LS:125:GLN:HB2	2.02	0.41
27:LX:81:LEU:HG	27:LX:83:THR:HG23	2.03	0.41
55:SR:7:LYS:HG3	82:S2:1373:C:OP1	2.20	0.41
55:SR:109:LEU:HG	55:SR:111:PHE:HD2	1.85	0.41
62:Sf:117:LEU:HD12	62:Sf:118:ARG:HD3	2.01	0.41
64:SA:147:LEU:HD13	64:SA:161:ILE:HB	2.03	0.41
67:SE:27:PHE:O	82:S2:495:U:O2'	2.38	0.41
70:SI:114:GLU:HG3	70:SI:119:LEU:O	2.21	0.41
71:SJ:142:VAL:HG12	71:SJ:144:ILE:H	1.85	0.41
76:SW:106:THR:OG1	76:SW:111:MET:HE2	2.21	0.41
82:S2:1374:C:H2'	82:S2:1375:G:O4'	2.21	0.41
83:CB:397:TYR:HB2	83:CB:494:MET:SD	2.61	0.41
83:CB:712:ASP:O	83:CB:716:ARG:HG2	2.20	0.41
83:CB:751:CYS:O	83:CB:782:PHE:HB2	2.21	0.41
85:CE:15:ALA:O	85:CE:19:ARG:HB2	2.21	0.41
2:L5:135:G:N3	2:L5:135:G:H2'	2.36	0.41
2:L5:1308:C:H2'	2:L5:1309:C:C6	2.56	0.41
2:L5:3607:U:H2'	2:L5:3608:A:C8	2.56	0.41
2:L5:4291:G:H4'	2:L5:4292:A:H5''	2.03	0.41
2:L5:4306:OMU:HM23	2:L5:4306:OMU:H1'	1.93	0.41
2:L5:4419:U:O4'	83:CB:765:ARG:CG	2.66	0.41
2:L5:4578:G:H2'	2:L5:4579:PSU:C6	2.56	0.41
2:L5:4770:U:H2'	2:L5:4771:C:C6	2.56	0.41
8:LD:37:VAL:HG12	8:LD:50:ARG:HD3	2.02	0.41
11:LG:160:ASP:OD1	11:LG:160:ASP:N	2.54	0.41
15:LL:18:TRP:CD1	15:LL:18:TRP:H	2.38	0.41
29:LZ:95:VAL:HG12	29:LZ:110:ALA:HA	2.03	0.41
32:Lc:20:LEU:O	32:Lc:24:SER:HB3	2.21	0.41
34:Le:85:LEU:HD21	34:Le:115:ALA:HB2	2.02	0.41
35:Lf:29:LYS:HB2	35:Lf:83:MET:HE1	2.02	0.41
53:SP:133:ILE:HG22	83:CB:708:THR:HB	1.91	0.41
59:SZ:102:LYS:HA	59:SZ:102:LYS:HD3	1.81	0.41
64:SA:80:ARG:HH21	64:SA:126:ASP:HB2	1.86	0.41
65:SB:120:MET:HE1	82:S2:987:A:C6	2.56	0.41
66:SC:64:THR:HG22	66:SC:66:LEU:N	2.35	0.41
68:SG:195:LYS:HD3	82:S2:126:G:H5'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SH:58:LYS:HB2	69:SH:90:LYS:HG2	2.03	0.41
75:SV:27:LYS:HD3	75:SV:27:LYS:HA	1.86	0.41
77:SX:9:THR:HG22	82:S2:681:PSU:H4'	2.03	0.41
83:CB:330:LYS:HD3	83:CB:334:PRO:HB2	2.03	0.41
2:L5:260:C:H2'	2:L5:261:G:C8	2.55	0.41
2:L5:262:G:H2'	2:L5:263:G:H8	1.85	0.41
2:L5:1352:C:O2'	2:L5:1356:U:OP1	2.34	0.41
2:L5:1403:G:N2	2:L5:1415:G:C4	2.89	0.41
2:L5:1751:A:H2'	2:L5:1752:G:H8	1.86	0.41
2:L5:1776:A:C5'	85:CE:64:LEU:HD22	2.51	0.41
2:L5:2276:A:H2'	2:L5:2277:C:O4'	2.21	0.41
2:L5:2448:G:H2'	2:L5:2449:A:C8	2.56	0.41
2:L5:2461:G:H2'	2:L5:2462:C:C6	2.55	0.41
2:L5:2543:A:H2	2:L5:2773:G:H22	1.68	0.41
2:L5:2876:OMG:HM22	2:L5:2877:G:H5'	2.02	0.41
2:L5:2878:G:OP2	2:L5:2879:A:O2'	2.28	0.41
2:L5:4236:G:H4'	2:L5:4328:G:O2'	2.21	0.41
2:L5:4680:G:H2'	2:L5:4681:A:C8	2.55	0.41
2:L5:4710:C:H2'	2:L5:4711:C:C6	2.56	0.41
2:L5:4749:C:H2'	2:L5:4750:G:O4'	2.21	0.41
2:L5:4920:C:H2'	2:L5:4921:C:H6	1.86	0.41
2:L5:5002:U:H2'	2:L5:5003:U:C6	2.56	0.41
3:L7:7:G:H5''	8:LD:22:ARG:HD3	2.03	0.41
4:L8:149:G:H21	11:LG:64:GLN:HE22	1.69	0.41
6:LB:71:GLU:HB2	26:LW:2:LYS:HD3	2.02	0.41
6:LB:122:TRP:CE2	6:LB:127:LYS:HE3	2.56	0.41
13:LI:207:ASP:HA	13:LI:210:ARG:HG2	2.03	0.41
14:LJ:20:LEU:HD21	14:LJ:130:PHE:CD2	2.56	0.41
14:LJ:55:TYR:CD1	85:CE:46:VAL:HG11	2.54	0.41
16:LM:37:LEU:HD22	22:LS:75:VAL:HG23	2.02	0.41
18:LO:142:ALA:HA	18:LO:145:VAL:HG12	2.02	0.41
28:LY:74:TYR:CE2	28:LY:77:LYS:HG3	2.56	0.41
34:Le:100:ALA:HB3	34:Le:103:VAL:HG23	2.03	0.41
35:Lf:92:LEU:HD23	35:Lf:92:LEU:HA	1.90	0.41
36:Lg:33:LEU:HD23	36:Lg:33:LEU:HA	1.91	0.41
47:Ls:139:GLN:OE1	83:CB:180:ARG:CB	2.69	0.41
47:Ls:145:THR:O	83:CB:183:GLU:CD	2.63	0.41
48:Lt:12:VAL:HG11	48:Lt:65:GLN:N	2.36	0.41
48:Lt:114:ARG:NH1	48:Lt:126:SER:O	2.44	0.41
52:SM:95:ASP:HB3	52:SM:99:LYS:HB3	2.03	0.41
53:SP:133:ILE:CG2	83:CB:708:THR:HA	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SQ:128:GLU:HG2	54:SQ:137:ALA:HB1	2.02	0.41
57:ST:113:VAL:HG22	57:ST:123:LEU:HD23	2.02	0.41
59:SZ:68:ILE:HB	59:SZ:109:TYR:HB2	2.03	0.41
64:SA:122:LEU:HD22	64:SA:137:ALA:HB2	2.01	0.41
64:SA:172:GLY:HA3	64:SA:203:PHE:HD1	1.85	0.41
64:SA:219:GLU:HA	64:SA:222:VAL:HG12	2.03	0.41
67:SE:160:ILE:HD12	67:SE:162:ILE:HD11	2.02	0.41
69:SH:91:HIS:ND1	69:SH:169:LYS:HG2	2.35	0.41
70:SI:42:ARG:HH21	70:SI:59:ARG:NH1	2.19	0.41
70:SI:141:ARG:HA	70:SI:141:ARG:CZ	2.51	0.41
73:SN:37:ILE:HG23	73:SN:50:ILE:HG21	2.03	0.41
75:SV:11:LEU:HD23	75:SV:11:LEU:H	1.85	0.41
76:SW:57:ARG:NH2	80:Sb:26:GLN:HB2	2.36	0.41
76:SW:125:ILE:HA	76:SW:125:ILE:HD12	1.84	0.41
77:SX:139:GLU:HG2	83:CB:443:TYR:CE1	2.56	0.41
82:S2:43:U:OP2	82:S2:485:A:N6	2.47	0.41
82:S2:484:A2M:H8	82:S2:484:A2M:O5'	2.20	0.41
82:S2:693:A:H2	82:S2:739:C:H4'	1.84	0.41
82:S2:747:U:O2	82:S2:796:G:C2	2.74	0.41
82:S2:1223:A:H2'	82:S2:1224:G:O4'	2.21	0.41
82:S2:1446:A:O2'	82:S2:1447:G:H5''	2.20	0.41
83:CB:22:MET:HE2	83:CB:22:MET:HB2	1.95	0.41
83:CB:45:ILE:HG13	83:CB:46:ILE:N	2.36	0.41
83:CB:845:LYS:HA	83:CB:845:LYS:HD2	1.92	0.41
2:L5:126:C:H2'	2:L5:127:G:H8	1.85	0.41
2:L5:267:G:H2'	2:L5:268:G:C8	2.54	0.41
2:L5:1247:U:H2'	2:L5:1248:C:C6	2.56	0.41
2:L5:2412:A:H2'	2:L5:2413:U:C6	2.56	0.41
2:L5:2749:C:H2'	2:L5:2750:G:C8	2.56	0.41
3:L7:4:U:H2'	3:L7:5:A:C8	2.56	0.41
3:L7:26:C:O2'	14:LJ:147:ARG:NH1	2.52	0.41
20:LQ:59:PRO:HG3	20:LQ:143:ARG:HA	2.02	0.41
24:LU:80:LYS:HG2	24:LU:110:TYR:CE2	2.54	0.41
37:Lh:104:THR:O	37:Lh:108:GLN:HG2	2.21	0.41
48:Lt:131:GLU:OE2	48:Lt:155:ILE:HG21	2.21	0.41
50:SF:182:LYS:HE3	50:SF:182:LYS:HB2	1.89	0.41
51:SK:80:ARG:HH22	51:SK:90:VAL:HG12	1.86	0.41
52:SM:86:GLY:HA2	52:SM:89:VAL:HG12	2.02	0.41
53:SP:47:ARG:NE	82:S2:1619:A:OP1	2.40	0.41
55:SR:6:THR:HA	82:S2:1373:C:H5'	2.03	0.41
61:Sd:3:HIS:CE1	61:Sd:5:GLN:HB2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:Sd:41:GLN:OE1	61:Sd:41:GLN:N	2.54	0.41
62:Sf:125:GLU:HG2	62:Sf:126:CYS:N	2.36	0.41
64:SA:164:ASN:OD1	64:SA:165:ASN:N	2.54	0.41
65:SB:136:ARG:O	65:SB:215:VAL:HA	2.21	0.41
68:SG:133:LEU:HB2	82:S2:65:C:C2	2.56	0.41
68:SG:136:LYS:O	68:SG:176:ILE:HG13	2.20	0.41
71:SJ:59:GLU:O	71:SJ:62:THR:OG1	2.32	0.41
79:Sa:36:ILE:HD11	79:Sa:75:VAL:HG12	2.02	0.41
82:S2:433:A:H2'	82:S2:434:G:C8	2.57	0.41
82:S2:462:OMC:HM23	82:S2:462:OMC:H1'	1.85	0.41
82:S2:692:G:N7	82:S2:693:A:N6	2.68	0.41
82:S2:815:U:C2	82:S2:816:A:C8	3.09	0.41
82:S2:1025:U:H2'	82:S2:1026:C:O4'	2.21	0.41
82:S2:1540:G:H2'	82:S2:1541:G:C8	2.56	0.41
83:CB:267:ASP:HB2	83:CB:285:LEU:HD23	2.02	0.41
2:L5:73:A:H5''	15:LL:105:LYS:HD3	2.02	0.40
2:L5:652:G:H2'	2:L5:653:U:C6	2.56	0.40
2:L5:1086:C:H2'	2:L5:1087:A:H8	1.85	0.40
2:L5:1631:A:C8	5:LA:199:VAL:HG21	2.56	0.40
2:L5:1962:A:H2	2:L5:2024:G:H21	1.67	0.40
2:L5:2497:C:H2'	2:L5:2498:C:H6	1.86	0.40
2:L5:4070:U:H2'	2:L5:4071:U:C6	2.56	0.40
5:LA:145:LYS:HA	5:LA:145:LYS:HD3	1.86	0.40
7:LC:158:VAL:HG12	7:LC:217:ILE:HD12	2.02	0.40
8:LD:239:MET:HA	8:LD:242:LYS:NZ	2.35	0.40
10:LF:148:LYS:O	10:LF:152:GLU:HG2	2.21	0.40
11:LG:207:VAL:O	11:LG:212:LYS:NZ	2.55	0.40
13:LI:51:HIS:ND1	13:LI:137:SER:OG	2.49	0.40
21:LR:82:LYS:HA	21:LR:82:LYS:HD2	1.89	0.40
23:LT:50:LYS:HB3	23:LT:50:LYS:HE2	1.80	0.40
28:LY:126:ARG:HG2	28:LY:130:LYS:HE2	2.03	0.40
36:Lg:60:ARG:HD2	36:Lg:60:ARG:HA	1.84	0.40
48:Lt:22:VAL:HA	48:Lt:48:LYS:HG2	2.02	0.40
48:Lt:28:LEU:O	48:Lt:32:ILE:HD12	2.20	0.40
58:SU:52:GLY:HA3	82:S2:1401:A:H4'	2.03	0.40
66:SC:256:TRP:CE2	76:SW:68:ARG:HD3	2.56	0.40
69:SH:17:ASP:OD1	69:SH:17:ASP:N	2.51	0.40
70:SI:192:GLY:O	70:SI:196:GLU:HG3	2.22	0.40
82:S2:368:U:H3'	82:S2:369:C:H2'	2.03	0.40
82:S2:496:C:H2'	82:S2:497:C:H6	1.86	0.40
82:S2:880:G:H3'	82:S2:881:G:H8	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
83:CB:13:MET:HE2	83:CB:468:ASN:HB3	2.03	0.40
83:CB:649:ILE:HD13	83:CB:663:THR:HB	2.03	0.40
84:Et:40:C:H2'	84:Et:41:U:H6	1.86	0.40
2:L5:302:C:H2'	2:L5:303:C:H6	1.87	0.40
2:L5:423:G:H2'	2:L5:424:U:C6	2.57	0.40
2:L5:1974:U:H4'	2:L5:1975:G:H3'	2.03	0.40
2:L5:2683:C:H2'	2:L5:2684:C:C6	2.57	0.40
2:L5:4196:OMG:HM23	2:L5:4196:OMG:H1'	1.70	0.40
2:L5:4232:U:H5'	44:Lo:3:ASN:HB3	2.03	0.40
2:L5:4616:A:H2'	2:L5:4617:G:O4'	2.21	0.40
2:L5:4906:C:H2'	2:L5:4907:G:H8	1.86	0.40
2:L5:5015:G:H2'	2:L5:5016:A:C2	2.57	0.40
12:LH:27:VAL:HG12	12:LH:84:VAL:HG21	2.03	0.40
12:LH:43:VAL:HG21	12:LH:73:ILE:HD13	2.03	0.40
27:LX:80:PRO:HA	27:LX:98:PHE:HA	2.01	0.40
48:Lt:114:ARG:O	48:Lt:117:ARG:HG2	2.22	0.40
48:Lt:150:ASP:OD1	48:Lt:151:ILE:N	2.53	0.40
63:Sg:191:HIS:CD2	63:Sg:195:LEU:HD11	2.56	0.40
65:SB:114:VAL:O	82:S2:1869:A:N6	2.53	0.40
70:SI:5:ARG:NE	82:S2:379:C:O2	2.54	0.40
82:S2:64:A:N6	82:S2:83:A:OP2	2.54	0.40
82:S2:835:C:H4'	82:S2:836:G:H8	1.86	0.40
82:S2:1112:U:O2	82:S2:1121:G:O6	2.40	0.40
82:S2:1719:A:N6	82:S2:1814:G:O2'	2.54	0.40
2:L5:31:U:H2'	2:L5:32:G:O4'	2.21	0.40
2:L5:1186:U:H2'	2:L5:1187:G:N3	2.36	0.40
2:L5:1558:A:H2'	2:L5:1559:G:C8	2.56	0.40
2:L5:1794:A:H5''	2:L5:4214:A:H61	1.86	0.40
2:L5:2632:PSU:H2'	2:L5:2633:U:C6	2.56	0.40
2:L5:3951:G:H1'	2:L5:4062:A:H61	1.86	0.40
2:L5:4169:G:H4'	2:L5:4171:C:C2	2.56	0.40
2:L5:4232:U:H5''	44:Lo:3:ASN:O	2.21	0.40
5:LA:75:LEU:HD12	5:LA:75:LEU:HA	1.91	0.40
5:LA:150:LEU:HD11	5:LA:156:LYS:HD2	2.03	0.40
26:LW:102:LYS:HA	26:LW:105:ARG:HG2	2.03	0.40
36:Lg:84:ALA:O	36:Lg:88:ARG:HG3	2.20	0.40
40:Lk:25:ILE:HD13	40:Lk:57:LYS:HZ3	1.84	0.40
45:Lp:23:ARG:HA	45:Lp:26:VAL:HG12	2.04	0.40
47:Ls:58:ASN:O	47:Ls:62:ARG:NE	2.42	0.40
48:Lt:37:LEU:HA	48:Lt:40:LYS:HE3	2.03	0.40
50:SF:100:ILE:HD11	50:SF:108:PRO:HB3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SM:112:LYS:HE2	52:SM:112:LYS:HB2	1.83	0.40
54:SQ:34:VAL:HG22	54:SQ:70:VAL:HB	2.03	0.40
63:Sg:230:LEU:HD11	63:Sg:259:TRP:CG	2.56	0.40
63:Sg:251:ALA:HA	63:Sg:256:ILE:HD13	2.04	0.40
65:SB:67:PHE:CE2	74:SO:48:SER:HB3	2.56	0.40
74:SO:140:THR:HB	82:S2:1046:PSU:H1'	2.03	0.40
77:SX:22:TRP:HE3	77:SX:28:LYS:HD2	1.85	0.40
81:Se:36:MET:SD	81:Se:40:ARG:NE	2.87	0.40
82:S2:323:C:H5'	82:S2:324:C:OP1	2.21	0.40
82:S2:737:G:H2'	82:S2:738:C:H4'	2.03	0.40
82:S2:1406:G:H2'	82:S2:1407:U:C6	2.57	0.40
83:CB:447:ILE:HG21	83:CB:472:LEU:HD22	2.03	0.40
2:L5:223:G:N7	7:LC:165:LYS:HE3	2.37	0.40
2:L5:1307:A:H2'	2:L5:1308:C:C6	2.57	0.40
2:L5:1494:U:H2'	2:L5:1495:G:C8	2.57	0.40
2:L5:1806:G:H2'	2:L5:1807:C:H6	1.86	0.40
2:L5:3652:A:H2'	2:L5:3653:A:C5	2.56	0.40
2:L5:4153:C:H2'	2:L5:4154:G:H8	1.87	0.40
2:L5:4571:A2M:H2'	2:L5:4572:U:H6	1.86	0.40
3:L7:4:U:H2'	3:L7:5:A:H8	1.86	0.40
3:L7:7:G:OP1	8:LD:33:ARG:NH1	2.52	0.40
5:LA:131:GLY:N	5:LA:169:VAL:HG13	2.36	0.40
8:LD:53:VAL:HG11	8:LD:159:VAL:HA	2.03	0.40
20:LQ:32:TYR:HD1	20:LQ:32:TYR:HA	1.72	0.40
36:Lg:41:ALA:O	36:Lg:52:ARG:NH1	2.49	0.40
67:SE:89:VAL:HG11	67:SE:119:ALA:HB1	2.02	0.40
70:SI:129:LEU:HD12	70:SI:129:LEU:HA	1.91	0.40
77:SX:68:LYS:HG2	77:SX:91:LEU:HD22	2.04	0.40
82:S2:874:G:H2'	82:S2:875:A:C8	2.52	0.40
83:CB:521:VAL:HA	83:CB:524:LEU:HB2	2.03	0.40
83:CB:524:LEU:HD11	83:CB:546:ILE:HD11	2.04	0.40
84:Et:39:U:H2'	84:Et:40:C:H6	1.87	0.40
2:L5:683:C:H2'	2:L5:684:G:O4'	2.21	0.40
2:L5:1081:C:O2'	2:L5:1082:C:H5'	2.21	0.40
2:L5:1419:G:H5''	20:LQ:71:LYS:NZ	2.37	0.40
2:L5:1588:U:H2'	2:L5:1589:C:C6	2.57	0.40
2:L5:1645:C:H2'	2:L5:1646:A:C8	2.56	0.40
2:L5:4069:U:H2'	2:L5:4070:U:C6	2.57	0.40
2:L5:4305:G:C6	23:LT:80:VAL:HG21	2.56	0.40
2:L5:4415:A:OP1	13:LI:154:ARG:NH2	2.54	0.40
2:L5:4625:C:O2'	2:L5:4626:A:H5'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L5:4991:U:H2'	2:L5:4992:G:C8	2.56	0.40
5:LA:14:SER:OG	5:LA:15:VAL:N	2.54	0.40
14:LJ:40:LEU:HD23	14:LJ:40:LEU:HA	1.92	0.40
27:LX:88:LYS:HE3	27:LX:88:LYS:HB2	1.95	0.40
50:SF:97:PHE:HA	50:SF:100:ILE:HG12	2.03	0.40
63:Sg:66:VAL:HA	63:Sg:82:SER:HB2	2.03	0.40
63:Sg:314:ILE:HD12	63:Sg:314:ILE:HA	1.92	0.40
64:SA:57:LYS:HA	64:SA:57:LYS:HD2	1.79	0.40
65:SB:89:GLU:OE2	65:SB:99:ASN:HB3	2.21	0.40
69:SH:113:LYS:HA	69:SH:113:LYS:HD2	1.64	0.40
71:SJ:124:HIS:HD2	81:Se:31:ARG:HE	1.69	0.40
73:SN:94:LYS:HE2	73:SN:94:LYS:HB2	1.93	0.40
77:SX:52:LEU:N	77:SX:71:ARG:O	2.53	0.40
80:Sb:33:MET:HE3	80:Sb:48:SER:HA	2.04	0.40
82:S2:1351:G:O2'	82:S2:1378:A:N1	2.55	0.40
82:S2:1360:U:O2'	82:S2:1379:A:OP2	2.33	0.40
84:Et:25:C:H3'	84:Et:26:A:H5''	2.03	0.40
85:CE:57:GLU:O	85:CE:61:LEU:HB2	2.21	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	CI	29/31 (94%)	29 (100%)	0	0	100	100
5	LA	246/248 (99%)	228 (93%)	18 (7%)	0	100	100
6	LB	400/402 (100%)	383 (96%)	17 (4%)	0	100	100
7	LC	366/368 (100%)	351 (96%)	15 (4%)	0	100	100
8	LD	291/293 (99%)	283 (97%)	8 (3%)	0	100	100
9	LE	236/250 (94%)	224 (95%)	12 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	LF	223/225 (99%)	216 (97%)	7 (3%)	0	100	100
11	LG	239/241 (99%)	225 (94%)	14 (6%)	0	100	100
12	LH	188/190 (99%)	184 (98%)	4 (2%)	0	100	100
13	LI	211/213 (99%)	204 (97%)	7 (3%)	0	100	100
14	LJ	168/176 (96%)	162 (96%)	6 (4%)	0	100	100
15	LL	208/210 (99%)	201 (97%)	7 (3%)	0	100	100
16	LM	137/139 (99%)	131 (96%)	6 (4%)	0	100	100
17	LN	201/203 (99%)	198 (98%)	3 (2%)	0	100	100
18	LO	199/201 (99%)	194 (98%)	5 (2%)	0	100	100
19	LP	151/153 (99%)	146 (97%)	5 (3%)	0	100	100
20	LQ	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
21	LR	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
22	LS	173/175 (99%)	164 (95%)	9 (5%)	0	100	100
23	LT	157/159 (99%)	153 (98%)	4 (2%)	0	100	100
24	LU	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
25	LV	129/131 (98%)	123 (95%)	6 (5%)	0	100	100
26	LW	112/124 (90%)	107 (96%)	5 (4%)	0	100	100
27	LX	118/120 (98%)	117 (99%)	1 (1%)	0	100	100
28	LY	132/134 (98%)	129 (98%)	3 (2%)	0	100	100
29	LZ	133/135 (98%)	125 (94%)	8 (6%)	0	100	100
30	La	145/147 (99%)	138 (95%)	7 (5%)	0	100	100
31	Lb	105/121 (87%)	99 (94%)	6 (6%)	0	100	100
32	Lc	96/98 (98%)	93 (97%)	3 (3%)	0	100	100
33	Ld	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
34	Le	126/128 (98%)	125 (99%)	1 (1%)	0	100	100
35	Lf	107/109 (98%)	106 (99%)	1 (1%)	0	100	100
36	Lg	112/114 (98%)	111 (99%)	1 (1%)	0	100	100
37	Lh	120/122 (98%)	116 (97%)	4 (3%)	0	100	100
38	Li	100/102 (98%)	98 (98%)	2 (2%)	0	100	100
39	Lj	84/86 (98%)	83 (99%)	1 (1%)	0	100	100
40	Lk	67/69 (97%)	65 (97%)	2 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	Ll	48/50 (96%)	48 (100%)	0	0	100	100
42	Lm	50/52 (96%)	50 (100%)	0	0	100	100
43	Ln	22/24 (92%)	22 (100%)	0	0	100	100
44	Lo	103/105 (98%)	98 (95%)	5 (5%)	0	100	100
45	Lp	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
46	Lr	123/125 (98%)	121 (98%)	2 (2%)	0	100	100
47	Ls	194/196 (99%)	180 (93%)	14 (7%)	0	100	100
48	Lt	128/157 (82%)	111 (87%)	17 (13%)	0	100	100
49	SD	225/227 (99%)	219 (97%)	6 (3%)	0	100	100
50	SF	187/189 (99%)	175 (94%)	12 (6%)	0	100	100
51	SK	96/98 (98%)	87 (91%)	9 (9%)	0	100	100
52	SM	120/122 (98%)	113 (94%)	7 (6%)	0	100	100
53	SP	119/121 (98%)	116 (98%)	3 (2%)	0	100	100
54	SQ	142/144 (99%)	130 (92%)	12 (8%)	0	100	100
55	SR	133/135 (98%)	126 (95%)	6 (4%)	1 (1%)	16	32
56	SS	143/145 (99%)	134 (94%)	9 (6%)	0	100	100
57	ST	141/143 (99%)	138 (98%)	3 (2%)	0	100	100
58	SU	102/104 (98%)	100 (98%)	2 (2%)	0	100	100
59	SZ	73/75 (97%)	66 (90%)	7 (10%)	0	100	100
60	Sc	62/64 (97%)	59 (95%)	3 (5%)	0	100	100
61	Sd	53/55 (96%)	53 (100%)	0	0	100	100
62	Sf	65/67 (97%)	56 (86%)	9 (14%)	0	100	100
63	Sg	311/313 (99%)	291 (94%)	20 (6%)	0	100	100
64	SA	219/221 (99%)	207 (94%)	12 (6%)	0	100	100
65	SB	212/214 (99%)	202 (95%)	10 (5%)	0	100	100
66	SC	218/222 (98%)	203 (93%)	15 (7%)	0	100	100
67	SE	260/262 (99%)	247 (95%)	13 (5%)	0	100	100
68	SG	235/237 (99%)	222 (94%)	13 (6%)	0	100	100
69	SH	182/189 (96%)	169 (93%)	13 (7%)	0	100	100
70	SI	204/206 (99%)	192 (94%)	12 (6%)	0	100	100
71	SJ	183/185 (99%)	176 (96%)	7 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
72	SL	151/153 (99%)	147 (97%)	4 (3%)	0	100	100
73	SN	148/150 (99%)	146 (99%)	2 (1%)	0	100	100
74	SO	135/140 (96%)	127 (94%)	8 (6%)	0	100	100
75	SV	81/83 (98%)	76 (94%)	5 (6%)	0	100	100
76	SW	127/129 (98%)	122 (96%)	5 (4%)	0	100	100
77	SX	139/141 (99%)	134 (96%)	5 (4%)	0	100	100
78	SY	129/131 (98%)	123 (95%)	6 (5%)	0	100	100
79	Sa	100/102 (98%)	98 (98%)	2 (2%)	0	100	100
80	Sb	81/83 (98%)	77 (95%)	4 (5%)	0	100	100
81	Se	56/58 (97%)	51 (91%)	5 (9%)	0	100	100
83	CB	842/856 (98%)	811 (96%)	30 (4%)	1 (0%)	48	69
85	CE	71/73 (97%)	70 (99%)	1 (1%)	0	100	100
All	All	12585/12836 (98%)	12046 (96%)	537 (4%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
83	CB	481	LYS
55	SR	129	LYS

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	CI	25/25 (100%)	25 (100%)	0	100	100
5	LA	190/190 (100%)	190 (100%)	0	100	100
6	LB	348/348 (100%)	348 (100%)	0	100	100
7	LC	306/306 (100%)	306 (100%)	0	100	100
8	LD	246/247 (100%)	246 (100%)	0	100	100
9	LE	212/222 (96%)	212 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	LF	194/194 (100%)	194 (100%)	0	100	100
11	LG	203/205 (99%)	203 (100%)	0	100	100
12	LH	169/169 (100%)	169 (100%)	0	100	100
13	LI	180/180 (100%)	180 (100%)	0	100	100
14	LJ	143/148 (97%)	143 (100%)	0	100	100
15	LL	176/176 (100%)	176 (100%)	0	100	100
16	LM	118/118 (100%)	118 (100%)	0	100	100
17	LN	171/171 (100%)	171 (100%)	0	100	100
18	LO	173/173 (100%)	173 (100%)	0	100	100
19	LP	134/134 (100%)	134 (100%)	0	100	100
20	LQ	164/164 (100%)	164 (100%)	0	100	100
21	LR	166/166 (100%)	166 (100%)	0	100	100
22	LS	156/156 (100%)	156 (100%)	0	100	100
23	LT	139/139 (100%)	139 (100%)	0	100	100
24	LU	91/91 (100%)	91 (100%)	0	100	100
25	LV	101/101 (100%)	101 (100%)	0	100	100
26	LW	95/103 (92%)	95 (100%)	0	100	100
27	LX	108/108 (100%)	108 (100%)	0	100	100
28	LY	124/124 (100%)	124 (100%)	0	100	100
29	LZ	117/117 (100%)	117 (100%)	0	100	100
30	La	120/120 (100%)	120 (100%)	0	100	100
31	Lb	88/101 (87%)	88 (100%)	0	100	100
32	Lc	83/83 (100%)	83 (100%)	0	100	100
33	Ld	98/98 (100%)	98 (100%)	0	100	100
34	Le	114/114 (100%)	114 (100%)	0	100	100
35	Lf	88/88 (100%)	88 (100%)	0	100	100
36	Lg	98/98 (100%)	98 (100%)	0	100	100
37	Lh	109/109 (100%)	109 (100%)	0	100	100
38	Li	86/86 (100%)	86 (100%)	0	100	100
39	Lj	73/73 (100%)	73 (100%)	0	100	100
40	Lk	64/64 (100%)	64 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	Ll	47/47 (100%)	47 (100%)	0	100	100
42	Lm	48/48 (100%)	48 (100%)	0	100	100
43	Ln	23/23 (100%)	23 (100%)	0	100	100
44	Lo	93/93 (100%)	93 (100%)	0	100	100
45	Lp	74/74 (100%)	74 (100%)	0	100	100
46	Lr	109/109 (100%)	109 (100%)	0	100	100
47	Ls	162/164 (99%)	162 (100%)	0	100	100
48	Lt	107/130 (82%)	107 (100%)	0	100	100
49	SD	190/190 (100%)	190 (100%)	0	100	100
50	SF	159/159 (100%)	159 (100%)	0	100	100
51	SK	89/89 (100%)	89 (100%)	0	100	100
52	SM	102/104 (98%)	102 (100%)	0	100	100
53	SP	107/107 (100%)	107 (100%)	0	100	100
54	SQ	119/119 (100%)	119 (100%)	0	100	100
55	SR	122/122 (100%)	122 (100%)	0	100	100
56	SS	126/126 (100%)	126 (100%)	0	100	100
57	ST	113/113 (100%)	113 (100%)	0	100	100
58	SU	94/94 (100%)	94 (100%)	0	100	100
59	SZ	66/66 (100%)	66 (100%)	0	100	100
60	Sc	57/57 (100%)	57 (100%)	0	100	100
61	Sd	48/48 (100%)	48 (100%)	0	100	100
62	Sf	60/60 (100%)	60 (100%)	0	100	100
63	Sg	272/272 (100%)	272 (100%)	0	100	100
64	SA	183/183 (100%)	183 (100%)	0	100	100
65	SB	195/195 (100%)	195 (100%)	0	100	100
66	SC	186/188 (99%)	186 (100%)	0	100	100
67	SE	224/224 (100%)	224 (100%)	0	100	100
68	SG	207/207 (100%)	207 (100%)	0	100	100
69	SH	166/169 (98%)	166 (100%)	0	100	100
70	SI	178/178 (100%)	178 (100%)	0	100	100
71	SJ	161/161 (100%)	161 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
72	SL	137/137 (100%)	137 (100%)	0	100	100
73	SN	130/130 (100%)	130 (100%)	0	100	100
74	SO	107/110 (97%)	107 (100%)	0	100	100
75	SV	67/67 (100%)	67 (100%)	0	100	100
76	SW	112/112 (100%)	112 (100%)	0	100	100
77	SX	113/113 (100%)	113 (100%)	0	100	100
78	SY	113/113 (100%)	113 (100%)	0	100	100
79	Sa	89/89 (100%)	89 (100%)	0	100	100
80	Sb	75/75 (100%)	75 (100%)	0	100	100
81	Se	47/47 (100%)	47 (100%)	0	100	100
83	CB	722/728 (99%)	722 (100%)	0	100	100
85	CE	62/62 (100%)	62 (100%)	0	100	100
All	All	10931/11011 (99%)	10931 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (81) such sidechains are listed below:

Mol	Chain	Res	Type
5	LA	97	ASN
6	LB	68	ASN
6	LB	145	GLN
6	LB	184	GLN
6	LB	203	GLN
6	LB	301	ASN
7	LC	329	ASN
7	LC	347	HIS
10	LF	239	GLN
11	LG	64	GLN
11	LG	112	GLN
12	LH	98	HIS
12	LH	138	GLN
13	LI	59	GLN
14	LJ	112	HIS
15	LL	19	GLN
15	LL	149	GLN
16	LM	34	ASN
17	LN	117	ASN

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Mol	Chain	Res	Type
18	LO	50	ASN
18	LO	199	HIS
19	LP	97	ASN
19	LP	118	GLN
19	LP	137	ASN
22	LS	23	HIS
22	LS	37	HIS
22	LS	108	GLN
23	LT	144	ASN
24	LU	94	ASN
25	LV	77	HIS
26	LW	79	GLN
26	LW	104	GLN
28	LY	61	HIS
30	La	34	ASN
30	La	67	GLN
30	La	120	GLN
31	Lb	60	ASN
34	Le	52	GLN
38	Li	15	HIS
39	Lj	66	HIS
41	Ll	33	ASN
42	Lm	117	HIS
45	Lp	33	GLN
46	Lr	4	HIS
46	Lr	21	ASN
47	Ls	71	ASN
48	Lt	65	GLN
48	Lt	149	HIS
50	SF	29	GLN
51	SK	28	HIS
51	SK	32	HIS
52	SM	19	GLN
54	SQ	48	GLN
58	SU	81	GLN
58	SU	92	HIS
59	SZ	89	GLN
61	Sd	5	GLN
62	Sf	93	HIS
63	Sg	285	GLN
64	SA	9	GLN
64	SA	84	GLN

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Mol	Chain	Res	Type
64	SA	132	GLN
65	SB	76	ASN
65	SB	95	ASN
65	SB	158	HIS
66	SC	267	GLN
68	SG	227	GLN
69	SH	76	GLN
69	SH	114	GLN
69	SH	162	GLN
70	SI	35	ASN
70	SI	52	ASN
72	SL	19	ASN
72	SL	65	ASN
73	SN	105	ASN
75	SV	35	ASN
77	SX	16	HIS
79	Sa	72	HIS
83	CB	168	GLN
83	CB	803	ASN
83	CB	807	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	L5	3643/3675 (99%)	711 (19%)	15 (0%)
3	L7	119/120 (99%)	9 (7%)	0
4	L8	155/156 (99%)	24 (15%)	0
82	S2	1714/1740 (98%)	360 (21%)	4 (0%)
84	Et	73/76 (96%)	25 (34%)	0
All	All	5704/5767 (98%)	1129 (19%)	19 (0%)

All (1129) RNA backbone outliers are listed below:

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

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Mol	Chain	Res	Type
2	L5	59	A
2	L5	64	A
2	L5	65	A
2	L5	73	A
2	L5	91	G
2	L5	104	G
2	L5	108	A
2	L5	109	G
2	L5	110	C
2	L5	119	G
2	L5	120	A
2	L5	127	G
2	L5	132	G
2	L5	133	C
2	L5	134	G
2	L5	135	G
2	L5	136	C
2	L5	159	C
2	L5	165	A
2	L5	172	C
2	L5	173	C
2	L5	181	C
2	L5	182	G
2	L5	183	C
2	L5	184	U
2	L5	185	C
2	L5	187	U
2	L5	188	G
2	L5	189	G
2	L5	200	U
2	L5	209	U
2	L5	210	C
2	L5	216	C
2	L5	218	A
2	L5	220	C
2	L5	234	G
2	L5	237	G
2	L5	255	C
2	L5	256	G
2	L5	261	G
2	L5	263	G
2	L5	264	C

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Mol	Chain	Res	Type
2	L5	265	C
2	L5	266	C
2	L5	267	G
2	L5	280	G
2	L5	297	U
2	L5	306	A
2	L5	315	G
2	L5	316	U
2	L5	340	C
2	L5	373	G
2	L5	385	A
2	L5	387	G
2	L5	388	A
2	L5	396	A
2	L5	407	A
2	L5	409	G
2	L5	410	A
2	L5	411	G
2	L5	412	G
2	L5	432	U
2	L5	449	C
2	L5	452	A
2	L5	453	G
2	L5	454	U
2	L5	456	C
2	L5	457	G
2	L5	467	U
2	L5	484	U
2	L5	485	C
2	L5	486	C
2	L5	489	C
2	L5	494	U
2	L5	497	G
2	L5	498	C
2	L5	499	G
2	L5	500	G
2	L5	502	C
2	L5	503	C
2	L5	504	G
2	L5	509	A
2	L5	510	U
2	L5	512	U

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Mol	Chain	Res	Type
2	L5	513	U
2	L5	514	U
2	L5	518	G
2	L5	643	C
2	L5	646	G
2	L5	653	U
2	L5	654	C
2	L5	655	C
2	L5	656	C
2	L5	657	C
2	L5	659	G
2	L5	666	G
2	L5	667	A
2	L5	668	C
2	L5	669	C
2	L5	672	C
2	L5	673	C
2	L5	685	C
2	L5	686	A
2	L5	687	U
2	L5	696	C
2	L5	704	C
2	L5	708	G
2	L5	730	G
2	L5	731	G
2	L5	738	C
2	L5	739	G
2	L5	742	G
2	L5	746	A
2	L5	759	G
2	L5	904	C
2	L5	905	C
2	L5	910	G
2	L5	913	U
2	L5	914	U
2	L5	915	A
2	L5	917	A
2	L5	923	C
2	L5	924	C
2	L5	932	A
2	L5	933	G
2	L5	936	C

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Mol	Chain	Res	Type
2	L5	943	A
2	L5	944	A
2	L5	945	U
2	L5	946	C
2	L5	956	A
2	L5	959	G
2	L5	960	A
2	L5	961	G
2	L5	962	C
2	L5	965	G
2	L5	966	A
2	L5	967	C
2	L5	969	C
2	L5	970	G
2	L5	977	C
2	L5	982	U
2	L5	985	C
2	L5	1070	G
2	L5	1071	C
2	L5	1072	C
2	L5	1075	G
2	L5	1082	C
2	L5	1083	U
2	L5	1168	G
2	L5	1171	G
2	L5	1172	C
2	L5	1173	G
2	L5	1179	U
2	L5	1180	C
2	L5	1181	C
2	L5	1182	C
2	L5	1183	C
2	L5	1187	G
2	L5	1202	C
2	L5	1203	G
2	L5	1210	C
2	L5	1211	G
2	L5	1214	C
2	L5	1215	C
2	L5	1219	G
2	L5	1222	A
2	L5	1246	G

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Mol	Chain	Res	Type
2	L5	1253	G
2	L5	1254	A
2	L5	1257	A
2	L5	1258	G
2	L5	1262	G
2	L5	1266	G
2	L5	1267	C
2	L5	1269	G
2	L5	1271	G
2	L5	1272	C
2	L5	1273	G
2	L5	1275	G
2	L5	1280	C
2	L5	1284	G
2	L5	1285	U
2	L5	1287	G
2	L5	1293	G
2	L5	1294	A
2	L5	1295	C
2	L5	1296	G
2	L5	1301	C
2	L5	1326	A2M
2	L5	1337	A
2	L5	1354	A
2	L5	1359	G
2	L5	1365	C
2	L5	1366	G
2	L5	1367	C
2	L5	1379	C
2	L5	1387	A
2	L5	1394	G
2	L5	1397	A
2	L5	1398	A
2	L5	1403	G
2	L5	1404	G
2	L5	1407	C
2	L5	1409	C
2	L5	1410	U
2	L5	1411	C
2	L5	1414	C
2	L5	1417	C
2	L5	1420	A

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Mol	Chain	Res	Type
2	L5	1425	G
2	L5	1437	C
2	L5	1439	C
2	L5	1442	C
2	L5	1443	A
2	L5	1444	G
2	L5	1446	C
2	L5	1447	C
2	L5	1482	G
2	L5	1483	C
2	L5	1497	A
2	L5	1498	G
2	L5	1502	G
2	L5	1517	G
2	L5	1524	A2M
2	L5	1534	A2M
2	L5	1537	A
2	L5	1547	A
2	L5	1566	C
2	L5	1578	U
2	L5	1591	U
2	L5	1596	U
2	L5	1621	A
2	L5	1624	G
2	L5	1625	OMG
2	L5	1631	A
2	L5	1633	G
2	L5	1634	A
2	L5	1638	A
2	L5	1640	C
2	L5	1641	G
2	L5	1642	A
2	L5	1654	G
2	L5	1661	C
2	L5	1676	C
2	L5	1677	PSU
2	L5	1678	C
2	L5	1694	C
2	L5	1697	G
2	L5	1699	A
2	L5	1700	G
2	L5	1701	A

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Mol	Chain	Res	Type
2	L5	1702	C
2	L5	1704	C
2	L5	1705	G
2	L5	1717	C
2	L5	1718	C
2	L5	1719	A
2	L5	1721	G
2	L5	1726	U
2	L5	1731	C
2	L5	1734	G
2	L5	1742	A
2	L5	1750	G
2	L5	1755	C
2	L5	1757	U
2	L5	1758	G
2	L5	1760	G
2	L5	1761	G
2	L5	1762	C
2	L5	1763	C
2	L5	1764	G
2	L5	1765	A
2	L5	1766	A
2	L5	1767	A
2	L5	1768	C
2	L5	1770	A
2	L5	1787	A
2	L5	1804	A
2	L5	1806	G
2	L5	1810	G
2	L5	1815	G
2	L5	1821	G
2	L5	1822	U
2	L5	1834	U
2	L5	1836	G
2	L5	1837	A
2	L5	1842	G
2	L5	1855	G
2	L5	1869	G
2	L5	1882	U
2	L5	1897	A
2	L5	1917	A
2	L5	1918	U

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Mol	Chain	Res	Type
2	L5	1919	G
2	L5	1920	C
2	L5	1921	C
2	L5	1922	G
2	L5	1925	G
2	L5	1930	U
2	L5	1931	C
2	L5	1932	A
2	L5	1940	G
2	L5	1948	G
2	L5	1951	G
2	L5	1961	G
2	L5	1962	A
2	L5	1974	U
2	L5	1975	G
2	L5	1978	C
2	L5	1980	U
2	L5	1981	G
2	L5	1982	G
2	L5	1983	A
2	L5	1984	A
2	L5	1985	G
2	L5	1986	U
2	L5	1991	A
2	L5	1993	C
2	L5	1997	U
2	L5	1998	A
2	L5	1999	A
2	L5	2001	G
2	L5	2002	A
2	L5	2003	G
2	L5	2004	U
2	L5	2011	C
2	L5	2017	A
2	L5	2018	C
2	L5	2024	G
2	L5	2026	A
2	L5	2046	G
2	L5	2048	U
2	L5	2055	G
2	L5	2056	G
2	L5	2069	A

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Mol	Chain	Res	Type
2	L5	2084	C
2	L5	2085	G
2	L5	2092	G
2	L5	2093	A
2	L5	2095	A
2	L5	2097	U
2	L5	2098	G
2	L5	2101	C
2	L5	2102	G
2	L5	2107	C
2	L5	2110	C
2	L5	2111	G
2	L5	2112	G
2	L5	2250	C
2	L5	2252	G
2	L5	2256	C
2	L5	2261	G
2	L5	2289	C
2	L5	2300	A
2	L5	2301	G
2	L5	2313	A
2	L5	2333	G
2	L5	2348	G
2	L5	2351	OMC
2	L5	2360	A
2	L5	2364	OMG
2	L5	2383	C
2	L5	2395	A
2	L5	2397	G
2	L5	2417	A
2	L5	2425	U
2	L5	2450	G
2	L5	2453	A
2	L5	2464	C
2	L5	2465	C
2	L5	2469	C
2	L5	2471	G
2	L5	2474	G
2	L5	2475	G
2	L5	2478	C
2	L5	2479	G
2	L5	2483	G

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Mol	Chain	Res	Type
2	L5	2484	A
2	L5	2485	U
2	L5	2487	G
2	L5	2488	C
2	L5	2489	C
2	L5	2490	U
2	L5	2494	U
2	L5	2504	C
2	L5	2505	C
2	L5	2506	G
2	L5	2507	A
2	L5	2513	A
2	L5	2519	U
2	L5	2529	A
2	L5	2537	A
2	L5	2544	G
2	L5	2546	G
2	L5	2547	G
2	L5	2554	U
2	L5	2555	G
2	L5	2556	G
2	L5	2560	C
2	L5	2565	A
2	L5	2567	G
2	L5	2573	A
2	L5	2583	C
2	L5	2587	A
2	L5	2589	C
2	L5	2602	G
2	L5	2618	G
2	L5	2627	C
2	L5	2653	C
2	L5	2662	G
2	L5	2669	C
2	L5	2675	G
2	L5	2676	A
2	L5	2687	U
2	L5	2694	G
2	L5	2695	A
2	L5	2696	A
2	L5	2706	G
2	L5	2707	U

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Mol	Chain	Res	Type
2	L5	2708	U
2	L5	2710	C
2	L5	2711	G
2	L5	2712	G
2	L5	2721	G
2	L5	2724	G
2	L5	2726	G
2	L5	2739	C
2	L5	2742	G
2	L5	2743	A
2	L5	2746	A
2	L5	2761	U
2	L5	2763	U
2	L5	2769	U
2	L5	2770	C
2	L5	2788	U
2	L5	2790	U
2	L5	2806	A
2	L5	2814	C
2	L5	2826	U
2	L5	2827	G
2	L5	2829	U
2	L5	2838	G
2	L5	2855	G
2	L5	2867	C
2	L5	2877	G
2	L5	2892	C
2	L5	2894	A
2	L5	2899	C
2	L5	2900	U
2	L5	2902	G
2	L5	2903	G
2	L5	2904	U
2	L5	2905	C
2	L5	2907	G
2	L5	2908	U
2	L5	3590	G
2	L5	3591	C
2	L5	3592	G
2	L5	3594	C
2	L5	3595	U
2	L5	3596	A

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Mol	Chain	Res	Type
2	L5	3597	G
2	L5	3604	A
2	L5	3605	C
2	L5	3616	U
2	L5	3617	G
2	L5	3626	G
2	L5	3630	A
2	L5	3635	A
2	L5	3644	U
2	L5	3646	A
2	L5	3648	A
2	L5	3662	A
2	L5	3664	G
2	L5	3670	C
2	L5	3673	C
2	L5	3674	G
2	L5	3691	G
2	L5	3701	OMC
2	L5	3710	G
2	L5	3711	A
2	L5	3713	U
2	L5	3726	A
2	L5	3727	A
2	L5	3748	A
2	L5	3753	G
2	L5	3760	A
2	L5	3770	U
2	L5	3774	A
2	L5	3775	A
2	L5	3776	G
2	L5	3777	G
2	L5	3785	A2M
2	L5	3786	U
2	L5	3792	OMG
2	L5	3811	G
2	L5	3812	C
2	L5	3814	U
2	L5	3817	A
2	L5	3819	G
2	L5	3824	A
2	L5	3838	U
2	L5	3839	G

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Mol	Chain	Res	Type
2	L5	3840	U
2	L5	3867	A2M
2	L5	3877	A
2	L5	3878	C
2	L5	3879	G
2	L5	3885	G
2	L5	3892	U
2	L5	3897	G
2	L5	3901	A
2	L5	3906	A
2	L5	3907	G
2	L5	3908	A
2	L5	3915	U
2	L5	3923	A
2	L5	3938	G
2	L5	3939	G
2	L5	3942	A
2	L5	3947	A
2	L5	3949	A
2	L5	3950	U
2	L5	3953	G
2	L5	4057	C
2	L5	4058	U
2	L5	4059	C
2	L5	4061	G
2	L5	4062	A
2	L5	4064	C
2	L5	4065	G
2	L5	4068	U
2	L5	4076	G
2	L5	4084	G
2	L5	4095	G
2	L5	4097	G
2	L5	4098	A
2	L5	4099	G
2	L5	4101	C
2	L5	4104	G
2	L5	4108	G
2	L5	4111	U
2	L5	4112	C
2	L5	4114	C
2	L5	4115	G

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Mol	Chain	Res	Type
2	L5	4116	C
2	L5	4122	G
2	L5	4127	A
2	L5	4133	C
2	L5	4140	C
2	L5	4141	G
2	L5	4142	C
2	L5	4143	G
2	L5	4144	C
2	L5	4146	G
2	L5	4149	C
2	L5	4162	C
2	L5	4163	U
2	L5	4170	A
2	L5	4183	G
2	L5	4184	G
2	L5	4191	G
2	L5	4203	A
2	L5	4222	G
2	L5	4225	G
2	L5	4229	U
2	L5	4233	A
2	L5	4251	A
2	L5	4254	G
2	L5	4257	A
2	L5	4258	C
2	L5	4265	U
2	L5	4268	A
2	L5	4273	A
2	L5	4281	A
2	L5	4291	G
2	L5	4295	U
2	L5	4304	A
2	L5	4305	G
2	L5	4306	OMU
2	L5	4314	C
2	L5	4319	C
2	L5	4329	G
2	L5	4330	G
2	L5	4332	C
2	L5	4349	C
2	L5	4350	C

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Mol	Chain	Res	Type
2	L5	4354	U
2	L5	4373	G
2	L5	4376	A
2	L5	4377	G
2	L5	4378	A
2	L5	4379	A
2	L5	4387	C
2	L5	4391	G
2	L5	4394	A
2	L5	4420	U
2	L5	4421	C
2	L5	4422	A
2	L5	4438	U
2	L5	4448	G
2	L5	4449	A
2	L5	4464	A
2	L5	4466	C
2	L5	4475	G
2	L5	4488	A
2	L5	4500	PSU
2	L5	4512	U
2	L5	4513	A
2	L5	4515	G
2	L5	4519	C
2	L5	4524	G
2	L5	4525	C
2	L5	4545	G
2	L5	4548	A
2	L5	4557	U
2	L5	4560	C
2	L5	4567	G
2	L5	4575	G
2	L5	4584	A
2	L5	4589	A
2	L5	4590	A2M
2	L5	4600	G
2	L5	4601	U
2	L5	4617	G
2	L5	4636	PSU
2	L5	4637	OMG
2	L5	4652	G
2	L5	4656	A

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Mol	Chain	Res	Type
2	L5	4670	C
2	L5	4672	A
2	L5	4679	G
2	L5	4687	A
2	L5	4694	G
2	L5	4695	C
2	L5	4700	A
2	L5	4708	A
2	L5	4709	U
2	L5	4719	G
2	L5	4733	C
2	L5	4734	A
2	L5	4740	G
2	L5	4741	C
2	L5	4742	G
2	L5	4745	G
2	L5	4754	G
2	L5	4757	C
2	L5	4759	C
2	L5	4761	G
2	L5	4765	G
2	L5	4771	C
2	L5	4772	C
2	L5	4775	C
2	L5	4859	C
2	L5	4870	G
2	L5	4871	C
2	L5	4875	G
2	L5	4882	U
2	L5	4883	C
2	L5	4889	G
2	L5	4895	C
2	L5	4896	G
2	L5	4897	G
2	L5	4899	G
2	L5	4900	C
2	L5	4901	G
2	L5	4910	G
2	L5	4912	G
2	L5	4914	C
2	L5	4922	C
2	L5	4925	U

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Mol	Chain	Res	Type
2	L5	4926	C
2	L5	4927	G
2	L5	4928	C
2	L5	4934	A
2	L5	4940	C
2	L5	4941	G
2	L5	4943	A
2	L5	4951	G
2	L5	4955	A
2	L5	4960	G
2	L5	4976	U
2	L5	4985	U
2	L5	4988	U
2	L5	4989	U
2	L5	4991	U
2	L5	4995	U
2	L5	5007	A
2	L5	5013	C
2	L5	5014	A
2	L5	5017	G
2	L5	5022	U
2	L5	5023	C
2	L5	5024	C
2	L5	5028	G
2	L5	5030	U
2	L5	5034	A
2	L5	5041	G
2	L5	5050	C
2	L5	5054	C
2	L5	5055	G
2	L5	5061	A
2	L5	5069	U
3	L7	33	U
3	L7	38	U
3	L7	53	U
3	L7	54	A
3	L7	64	G
3	L7	97	G
3	L7	100	A
3	L7	110	G
3	L7	120	U
4	L8	23	C

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Mol	Chain	Res	Type
4	L8	25	G
4	L8	34	U
4	L8	35	C
4	L8	59	A
4	L8	62	A
4	L8	63	U
4	L8	80	A
4	L8	82	A
4	L8	84	A
4	L8	85	U
4	L8	87	G
4	L8	94	G
4	L8	103	A
4	L8	105	C
4	L8	111	U
4	L8	114	G
4	L8	123	U
4	L8	124	U
4	L8	125	C
4	L8	126	C
4	L8	127	U
4	L8	147	G
4	L8	153	C
82	S2	13	C
82	S2	14	C
82	S2	17	C
82	S2	25	A
82	S2	33	G
82	S2	41	G
82	S2	44	U
82	S2	45	A
82	S2	46	A
82	S2	56	G
82	S2	58	C
82	S2	59	U
82	S2	65	C
82	S2	67	C
82	S2	68	A
82	S2	72	C
82	S2	73	C
82	S2	74	G
82	S2	76	U

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Mol	Chain	Res	Type
82	S2	99	A2M
82	S2	103	A
82	S2	113	G
82	S2	114	G
82	S2	115	U
82	S2	126	G
82	S2	130	G
82	S2	142	C
82	S2	143	U
82	S2	149	A
82	S2	158	A
82	S2	160	U
82	S2	162	C
82	S2	170	A
82	S2	175	A
82	S2	179	C
82	S2	190	G
82	S2	191	A
82	S2	196	C
82	S2	197	U
82	S2	198	U
82	S2	200	G
82	S2	203	G
82	S2	204	G
82	S2	207	G
82	S2	208	G
82	S2	214	U
82	S2	291	G
82	S2	292	A
82	S2	295	C
82	S2	302	A
82	S2	306	C
82	S2	307	G
82	S2	308	G
82	S2	309	G
82	S2	311	C
82	S2	312	G
82	S2	313	A
82	S2	318	A
82	S2	319	C
82	S2	323	C
82	S2	324	C

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Mol	Chain	Res	Type
82	S2	325	C
82	S2	326	C
82	S2	328	U
82	S2	329	G
82	S2	332	G
82	S2	339	A
82	S2	340	C
82	S2	347	G
82	S2	360	A
82	S2	362	C
82	S2	364	A
82	S2	368	U
82	S2	370	G
82	S2	385	G
82	S2	386	C
82	S2	398	A
82	S2	407	G
82	S2	408	A
82	S2	409	C
82	S2	436	OMG
82	S2	438	G
82	S2	448	A
82	S2	449	A
82	S2	450	C
82	S2	452	G
82	S2	464	A
82	S2	465	A
82	S2	471	G
82	S2	472	C
82	S2	473	A
82	S2	474	G
82	S2	476	A
82	S2	482	G
82	S2	487	U
82	S2	488	U
82	S2	492	C
82	S2	493	A
82	S2	502	C
82	S2	516	A
82	S2	517	OMC
82	S2	531	A
82	S2	532	C

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Mol	Chain	Res	Type
82	S2	536	A
82	S2	537	C
82	S2	540	U
82	S2	542	U
82	S2	544	G
82	S2	546	G
82	S2	547	G
82	S2	557	U
82	S2	558	G
82	S2	559	G
82	S2	563	G
82	S2	564	A
82	S2	576	A2M
82	S2	583	A
82	S2	587	A
82	S2	589	G
82	S2	590	A
82	S2	591	U
82	S2	593	C
82	S2	604	A
82	S2	614	C
82	S2	617	G
82	S2	623	G
82	S2	628	A
82	S2	631	U
82	S2	643	A
82	S2	644	OMG
82	S2	655	A
82	S2	660	C
82	S2	664	A
82	S2	668	A2M
82	S2	669	A
82	S2	671	A
82	S2	672	A
82	S2	673	G
82	S2	683	OMG
82	S2	688	U
82	S2	689	U
82	S2	692	G
82	S2	696	G
82	S2	697	G
82	S2	698	G

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Mol	Chain	Res	Type
82	S2	731	G
82	S2	732	U
82	S2	733	C
82	S2	736	C
82	S2	737	G
82	S2	738	C
82	S2	749	U
82	S2	751	G
82	S2	752	G
82	S2	753	C
82	S2	788	G
82	S2	791	C
82	S2	792	C
82	S2	798	G
82	S2	799	OMU
82	S2	801	PSU
82	S2	821	G
82	S2	822	U
82	S2	823	U
82	S2	824	C
82	S2	830	A
82	S2	834	C
82	S2	835	C
82	S2	836	G
82	S2	837	A
82	S2	838	G
82	S2	839	C
82	S2	842	C
82	S2	844	U
82	S2	847	A
82	S2	867	OMG
82	S2	870	A
82	S2	874	G
82	S2	877	C
82	S2	878	G
82	S2	880	G
82	S2	888	U
82	S2	889	U
82	S2	891	G
82	S2	893	U
82	S2	894	G
82	S2	896	U

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Mol	Chain	Res	Type
82	S2	897	U
82	S2	898	U
82	S2	899	U
82	S2	900	C
82	S2	901	G
82	S2	903	A
82	S2	913	A
82	S2	920	A
82	S2	930	C
82	S2	933	G
82	S2	934	G
82	S2	943	U
82	S2	963	A
82	S2	970	G
82	S2	971	G
82	S2	972	A
82	S2	985	G
82	S2	990	A
82	S2	992	A
82	S2	999	G
82	S2	1001	A
82	S2	1008	A
82	S2	1017	U
82	S2	1023	A
82	S2	1027	A
82	S2	1060	A
82	S2	1061	U
82	S2	1062	A
82	S2	1080	A
82	S2	1083	A
82	S2	1085	C
82	S2	1109	C
82	S2	1113	A
82	S2	1114	U
82	S2	1116	C
82	S2	1121	G
82	S2	1123	C
82	S2	1133	A
82	S2	1138	C
82	S2	1148	A
82	S2	1150	A
82	S2	1153	C

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Mol	Chain	Res	Type
82	S2	1154	U
82	S2	1195	A
82	S2	1207	G
82	S2	1208	A
82	S2	1215	C
82	S2	1216	C
82	S2	1217	A
82	S2	1224	G
82	S2	1227	G
82	S2	1242	U
82	S2	1243	U
82	S2	1248	B8N
82	S2	1251	A
82	S2	1253	A
82	S2	1256	G
82	S2	1257	G
82	S2	1259	A
82	S2	1271	C
82	S2	1272	OMC
82	S2	1274	G
82	S2	1275	G
82	S2	1283	C
82	S2	1286	G
82	S2	1288	OMU
82	S2	1294	G
82	S2	1295	A
82	S2	1301	A
82	S2	1302	G
82	S2	1303	C
82	S2	1304	U
82	S2	1308	U
82	S2	1342	U
82	S2	1357	A
82	S2	1358	U
82	S2	1371	U
82	S2	1372	U
82	S2	1376	A
82	S2	1378	A
82	S2	1402	A
82	S2	1413	G
82	S2	1418	C
82	S2	1419	C

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Mol	Chain	Res	Type
82	S2	1420	G
82	S2	1421	A
82	S2	1422	G
82	S2	1423	C
82	S2	1433	C
82	S2	1435	C
82	S2	1437	C
82	S2	1438	A
82	S2	1439	A
82	S2	1442	OMU
82	S2	1449	G
82	S2	1454	A
82	S2	1463	U
82	S2	1478	U
82	S2	1487	A
82	S2	1489	A
82	S2	1490	OMG
82	S2	1492	U
82	S2	1494	U
82	S2	1495	G
82	S2	1497	G
82	S2	1498	A
82	S2	1521	C
82	S2	1531	A
82	S2	1533	A
82	S2	1544	C
82	S2	1546	G
82	S2	1552	G
82	S2	1553	C
82	S2	1556	A
82	S2	1558	C
82	S2	1574	C
82	S2	1575	G
82	S2	1578	U
82	S2	1580	A
82	S2	1581	C
82	S2	1587	G
82	S2	1588	A
82	S2	1600	G
82	S2	1604	G
82	S2	1606	G
82	S2	1621	U

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Mol	Chain	Res	Type
82	S2	1623	A
82	S2	1631	U
82	S2	1633	A
82	S2	1634	A
82	S2	1637	A
82	S2	1648	G
82	S2	1654	G
82	S2	1663	A
82	S2	1665	G
82	S2	1683	C
82	S2	1686	G
82	S2	1695	A
82	S2	1698	C
82	S2	1699	A
82	S2	1715	A
82	S2	1721	U
82	S2	1722	G
82	S2	1744	G
82	S2	1745	A
82	S2	1752	C
82	S2	1753	C
82	S2	1754	G
82	S2	1755	C
82	S2	1757	G
82	S2	1759	G
82	S2	1761	U
82	S2	1772	C
82	S2	1773	C
82	S2	1774	C
82	S2	1777	G
82	S2	1782	G
82	S2	1783	C
82	S2	1784	G
82	S2	1786	U
82	S2	1798	C
82	S2	1810	U
82	S2	1825	A
82	S2	1826	G
82	S2	1831	A
82	S2	1835	A
82	S2	1838	U
82	S2	1849	G

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Mol	Chain	Res	Type
82	S2	1851	MA6
82	S2	1861	G
82	S2	1862	G
82	S2	1863	A
82	S2	1865	C
84	Et	4	C
84	Et	9	A
84	Et	11	C
84	Et	19	G
84	Et	20	U
84	Et	21	A
84	Et	26	A
84	Et	33	U
84	Et	35	U
84	Et	36	U
84	Et	37	A
84	Et	38	A
84	Et	39	U
84	Et	42	G
84	Et	44	G
84	Et	46	G
84	Et	47	U
84	Et	49	C
84	Et	50	A
84	Et	55	U
84	Et	56	C
84	Et	58	A
84	Et	70	G
84	Et	71	G
84	Et	76	A

All (19) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	L5	406	C
2	L5	493	G
2	L5	914	U
2	L5	1082	C
2	L5	1590	C
2	L5	1633	G
2	L5	1703	C
2	L5	1977	C

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Mol	Chain	Res	Type
2	L5	2416	G
2	L5	2675	G
2	L5	2760	G
2	L5	3673	C
2	L5	4600	G
2	L5	4699	U
2	L5	4913	G
82	S2	291	G
82	S2	563	G
82	S2	688	U
82	S2	1477	U

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$
82	OMG	S2	436	82	19,26,27	1.22	3 (15%)	21,38,41	0.84	1 (4%)
2	PSU	L5	2632	2	18,21,22	1.10	1 (5%)	21,30,33	1.97	5 (23%)
82	OMU	S2	1288	82	19,22,23	3.40	7 (36%)	25,31,34	1.75	5 (20%)
82	OMG	S2	1490	82	19,26,27	1.29	3 (15%)	21,38,41	0.64	0
2	OMG	L5	4370	2	19,26,27	1.28	3 (15%)	21,38,41	0.77	1 (4%)
2	OMG	L5	4618	2	19,26,27	1.25	3 (15%)	21,38,41	0.79	1 (4%)
2	OMC	L5	3701	2	19,22,23	0.71	0	25,31,34	1.74	4 (16%)
2	PSU	L5	4576	2	18,21,22	1.09	1 (5%)	21,30,33	1.94	4 (19%)
2	PSU	L5	1782	2	18,21,22	1.07	1 (5%)	21,30,33	1.89	4 (19%)
82	A2M	S2	484	82	18,25,26	1.24	2 (11%)	20,36,39	1.77	6 (30%)
82	PSU	S2	681	82	18,21,22	1.06	1 (5%)	21,30,33	1.87	4 (19%)
2	OMG	L5	4196	2	19,26,27	1.25	3 (15%)	21,38,41	0.77	1 (4%)
2	PSU	L5	1677	2	18,21,22	1.05	1 (5%)	21,30,33	1.91	3 (14%)
2	OMU	L5	3925	2	19,22,23	3.21	7 (36%)	25,31,34	1.94	5 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
82	A2M	S2	166	82	18,25,26	1.31	2 (11%)	20,36,39	2.08	6 (30%)
2	5MC	L5	3782	2,86	19,22,23	0.69	0	26,32,35	0.80	1 (3%)
82	A2M	S2	159	82	18,25,26	1.24	2 (11%)	20,36,39	1.88	6 (30%)
2	OMC	L5	2365	2,86	19,22,23	0.63	0	25,31,34	0.59	0
82	OMU	S2	1326	82	19,22,23	3.32	7 (36%)	25,31,34	1.84	5 (20%)
2	A2M	L5	2401	2	18,25,26	1.37	2 (11%)	20,36,39	2.11	7 (35%)
82	PSU	S2	1367	82	18,21,22	1.10	1 (5%)	21,30,33	1.91	4 (19%)
2	PSU	L5	5001	2	18,21,22	1.09	1 (5%)	21,30,33	1.89	4 (19%)
2	OMG	L5	2424	2	19,26,27	1.27	3 (15%)	21,38,41	0.71	0
4	PSU	L8	69	4	18,21,22	1.08	1 (5%)	21,30,33	2.04	6 (28%)
82	OMU	S2	428	82	19,22,23	3.32	7 (36%)	25,31,34	1.87	5 (20%)
82	OMG	S2	867	82	19,26,27	1.16	2 (10%)	21,38,41	0.83	1 (4%)
2	PSU	L5	1862	2	18,21,22	1.04	1 (5%)	21,30,33	2.01	4 (19%)
82	OMG	S2	1328	82	19,26,27	1.17	3 (15%)	21,38,41	0.81	1 (4%)
82	OMG	S2	601	82	19,26,27	1.19	2 (10%)	21,38,41	0.81	1 (4%)
2	OMC	L5	2804	2	19,22,23	0.63	0	25,31,34	0.67	0
2	PSU	L5	3853	2,86	18,21,22	1.09	1 (5%)	21,30,33	1.95	4 (19%)
2	OMC	L5	3869	2	19,22,23	0.62	0	25,31,34	0.71	0
2	A2M	L5	3825	2	18,25,26	1.36	3 (16%)	20,36,39	2.03	6 (30%)
2	PSU	L5	4521	2,86	18,21,22	1.11	3 (16%)	21,30,33	2.05	6 (28%)
2	PSU	L5	1744	2,86	18,21,22	1.08	1 (5%)	21,30,33	1.98	5 (23%)
2	A2M	L5	4590	2	18,25,26	1.30	2 (11%)	20,36,39	2.04	5 (25%)
2	OMG	L5	1625	2	19,26,27	1.31	3 (15%)	21,38,41	0.82	1 (4%)
2	OMU	L5	4227	2	19,22,23	3.27	7 (36%)	25,31,34	1.87	5 (20%)
2	OMG	L5	1316	2	19,26,27	1.34	3 (15%)	21,38,41	0.82	1 (4%)
2	A2M	L5	1524	2	18,25,26	1.43	3 (16%)	20,36,39	2.30	5 (25%)
2	A2M	L5	2363	2,86	18,25,26	1.39	3 (16%)	20,36,39	1.92	7 (35%)
2	PSU	L5	3822	2	18,21,22	1.09	1 (5%)	21,30,33	1.96	5 (23%)
82	OMU	S2	1442	82	19,22,23	3.33	7 (36%)	25,31,34	1.78	5 (20%)
2	PSU	L5	4532	2	18,21,22	1.07	1 (5%)	21,30,33	1.90	4 (19%)
2	OMG	L5	2876	2	19,26,27	1.28	3 (15%)	21,38,41	0.82	1 (4%)
2	OMG	L5	2364	2,86	19,26,27	1.28	3 (15%)	21,38,41	0.76	1 (4%)
82	OMC	S2	517	82	19,22,23	0.56	0	25,31,34	0.64	0
2	PSU	L5	4431	2	18,21,22	1.04	1 (5%)	21,30,33	1.90	4 (19%)
82	A2M	S2	668	82,86	18,25,26	1.43	3 (16%)	20,36,39	2.09	7 (35%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	UR3	L5	4530	2	19,22,23	2.63	7 (36%)	26,32,35	1.58	2 (7%)
2	PSU	L5	4972	2	18,21,22	1.02	1 (5%)	21,30,33	1.92	5 (23%)
82	PSU	S2	651	82	18,21,22	1.08	1 (5%)	21,30,33	1.96	4 (19%)
2	OMG	L5	4228	2	19,26,27	1.26	3 (15%)	21,38,41	0.99	1 (4%)
82	PSU	S2	863	82	18,21,22	1.09	1 (5%)	21,30,33	1.91	4 (19%)
82	PSU	S2	1056	82	18,21,22	1.07	2 (11%)	21,30,33	1.97	5 (23%)
2	PSU	L5	1860	2	18,21,22	1.10	1 (5%)	21,30,33	1.97	4 (19%)
2	PSU	L5	3695	2	18,21,22	1.05	2 (11%)	21,30,33	2.00	5 (23%)
2	PSU	L5	4299	2	18,21,22	1.05	1 (5%)	21,30,33	1.88	4 (19%)
2	PSU	L5	4493	2	18,21,22	1.06	1 (5%)	21,30,33	1.88	4 (19%)
82	PSU	S2	801	82	18,21,22	1.11	1 (5%)	21,30,33	1.82	4 (19%)
2	OMC	L5	3887	2	19,22,23	0.60	0	25,31,34	0.67	0
2	PSU	L5	3920	2,86	18,21,22	1.05	2 (11%)	21,30,33	1.97	5 (23%)
2	UY1	L5	3818	2	19,22,23	4.82	10 (52%)	21,31,34	2.00	5 (23%)
2	A2M	L5	1323	2	18,25,26	1.36	3 (16%)	20,36,39	1.96	7 (35%)
82	OMU	S2	799	82	19,22,23	3.36	7 (36%)	25,31,34	1.80	5 (20%)
82	OMG	S2	509	82	19,26,27	1.19	2 (10%)	21,38,41	0.81	1 (4%)
82	A2M	S2	27	82	18,25,26	1.31	2 (11%)	20,36,39	2.04	6 (30%)
2	PSU	L5	3639	2	18,21,22	1.08	2 (11%)	21,30,33	2.06	5 (23%)
82	PSU	S2	1232	82	18,21,22	1.09	1 (5%)	21,30,33	1.91	4 (19%)
82	PSU	S2	1081	82	18,21,22	1.03	1 (5%)	21,30,33	1.96	5 (23%)
2	PSU	L5	4471	2	18,21,22	1.05	1 (5%)	21,30,33	1.91	4 (19%)
2	PSU	L5	4457	2	18,21,22	1.05	2 (11%)	21,30,33	2.09	6 (28%)
82	OMU	S2	627	82	19,22,23	3.38	7 (36%)	25,31,34	1.80	5 (20%)
2	OMG	L5	4494	2	19,26,27	1.27	3 (15%)	21,38,41	0.81	1 (4%)
2	OMG	L5	1522	2	19,26,27	1.30	3 (15%)	21,38,41	0.86	1 (4%)
2	OMC	L5	3841	2	19,22,23	0.63	0	25,31,34	0.72	0
2	PSU	L5	4403	2	18,21,22	1.03	1 (5%)	21,30,33	1.98	6 (28%)
2	OMG	L5	4637	2	19,26,27	1.25	3 (15%)	21,38,41	0.86	1 (4%)
2	PSU	L5	4353	2	18,21,22	1.10	2 (11%)	21,30,33	2.05	6 (28%)
2	PSU	L5	4312	2	18,21,22	1.09	2 (11%)	21,30,33	1.97	4 (19%)
2	PSU	L5	4579	2	18,21,22	1.07	1 (5%)	21,30,33	1.99	4 (19%)
82	OMU	S2	116	82	19,22,23	3.30	7 (36%)	25,31,34	1.76	5 (20%)
2	PSU	L5	4552	2	18,21,22	1.11	2 (11%)	21,30,33	2.01	5 (23%)
2	OMG	L5	3627	2	19,26,27	1.26	3 (15%)	21,38,41	0.87	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	OMG	L5	3792	2	19,26,27	1.28	3 (15%)	21,38,41	0.74	1 (4%)
82	A2M	S2	1031	82	18,25,26	1.30	3 (16%)	20,36,39	2.10	5 (25%)
2	PSU	L5	4442	2	18,21,22	1.09	1 (5%)	21,30,33	2.03	6 (28%)
2	PSU	L5	3851	2	18,21,22	1.04	1 (5%)	21,30,33	1.95	4 (19%)
82	PSU	S2	649	82	18,21,22	1.06	1 (5%)	21,30,33	2.01	5 (23%)
2	OMU	L5	4620	2	19,22,23	3.17	7 (36%)	25,31,34	1.71	4 (16%)
82	PSU	S2	814	82	18,21,22	1.06	1 (5%)	21,30,33	1.83	4 (19%)
2	OMG	L5	3744	2	19,26,27	1.24	3 (15%)	21,38,41	0.81	1 (4%)
82	PSU	S2	93	82	18,21,22	1.08	1 (5%)	21,30,33	1.82	4 (19%)
2	OMC	L5	2351	2,86	19,22,23	0.67	0	25,31,34	0.90	1 (4%)
82	PSU	S2	1174	82	18,21,22	1.06	1 (5%)	21,30,33	1.95	4 (19%)
82	B8N	S2	1248	82	25,29,30	3.25	6 (24%)	28,42,45	1.98	7 (25%)
2	OMC	L5	2824	2	19,22,23	0.61	0	25,31,34	0.63	0
82	PSU	S2	105	82	18,21,22	1.09	1 (5%)	21,30,33	1.90	4 (19%)
2	PSU	L5	3884	2	18,21,22	1.08	2 (11%)	21,30,33	1.96	4 (19%)
2	PSU	L5	1792	2	18,21,22	1.01	1 (5%)	21,30,33	1.90	4 (19%)
2	A2M	L5	4571	2	18,25,26	1.45	4 (22%)	20,36,39	2.00	8 (40%)
2	PSU	L5	4689	2	18,21,22	1.07	2 (11%)	21,30,33	2.07	4 (19%)
82	PSU	S2	109	82	18,21,22	1.08	2 (11%)	21,30,33	1.93	4 (19%)
2	PSU	L5	3844	2	18,21,22	1.12	1 (5%)	21,30,33	1.92	4 (19%)
82	PSU	S2	1046	82	18,21,22	1.09	1 (5%)	21,30,33	1.91	4 (19%)
2	A2M	L5	3867	2	18,25,26	1.42	3 (16%)	20,36,39	1.85	7 (35%)
2	PSU	L5	4973	2	18,21,22	1.05	1 (5%)	21,30,33	1.98	5 (23%)
2	A2M	L5	4523	2,86	18,25,26	1.46	4 (22%)	20,36,39	2.17	5 (25%)
2	A2M	L5	3830	2	18,25,26	1.34	2 (11%)	20,36,39	2.12	5 (25%)
2	A2M	L5	1534	2,86	18,25,26	1.46	4 (22%)	20,36,39	1.83	6 (30%)
82	PSU	S2	866	82	18,21,22	1.09	1 (5%)	21,30,33	1.98	5 (23%)
82	PSU	S2	1004	82	18,21,22	1.09	1 (5%)	21,30,33	1.95	4 (19%)
2	PSU	L5	4500	2	18,21,22	1.14	2 (11%)	21,30,33	2.05	5 (23%)
2	A2M	L5	1326	2	18,25,26	1.38	3 (16%)	20,36,39	1.89	7 (35%)
2	A2M	L5	398	2	18,25,26	1.33	2 (11%)	20,36,39	2.11	5 (25%)
4	OMG	L8	75	4	19,26,27	1.23	3 (15%)	21,38,41	0.80	1 (4%)
2	A2M	L5	2815	2	18,25,26	1.32	3 (16%)	20,36,39	1.92	7 (35%)
2	PSU	L5	4628	2	18,21,22	1.01	1 (5%)	21,30,33	1.86	5 (23%)
82	PSU	S2	1244	82	18,21,22	1.08	1 (5%)	21,30,33	1.93	5 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	PSU	L5	4296	2	18,21,22	1.05	1 (5%)	21,30,33	1.95	4 (19%)
82	OMU	S2	121	82	19,22,23	3.29	7 (36%)	25,31,34	1.82	5 (20%)
2	PSU	L5	4361	2	18,21,22	1.05	1 (5%)	21,30,33	1.86	4 (19%)
2	PSU	L5	3637	2	18,21,22	1.08	1 (5%)	21,30,33	2.02	5 (23%)
82	OMC	S2	462	82	19,22,23	0.54	0	25,31,34	0.69	0
2	OMG	L5	3899	2	19,26,27	1.30	3 (15%)	21,38,41	0.85	1 (4%)
82	4AC	S2	1842	82	21,24,25	0.39	0	28,34,37	0.48	0
2	PSU	L5	4293	2	18,21,22	1.08	2 (11%)	21,30,33	1.99	4 (19%)
2	A2M	L5	400	2	18,25,26	1.39	4 (22%)	20,36,39	2.03	7 (35%)
2	PSU	L5	1582	2	18,21,22	1.05	1 (5%)	21,30,33	1.81	4 (19%)
82	OMU	S2	354	82	19,22,23	3.25	7 (36%)	25,31,34	1.88	5 (20%)
2	A2M	L5	1871	2,86	18,25,26	1.46	4 (22%)	20,36,39	2.24	6 (30%)
82	A2M	S2	576	82	18,25,26	1.29	2 (11%)	20,36,39	1.96	5 (25%)
82	A2M	S2	1383	82	18,25,26	1.29	2 (11%)	20,36,39	2.21	5 (25%)
2	OMC	L5	2861	2	19,22,23	0.63	0	25,31,34	0.77	1 (4%)
2	OMC	L5	4536	2	19,22,23	0.65	0	25,31,34	0.75	0
82	OMC	S2	1272	82	19,22,23	0.55	0	25,31,34	0.85	1 (4%)
2	PSU	L5	2839	2	18,21,22	1.08	2 (11%)	21,30,33	2.01	5 (23%)
2	6MZ	L5	4220	2	21,26,26	1.41	2 (9%)	22,39,39	3.24	9 (40%)
82	PSU	S2	406	82	18,21,22	1.06	1 (5%)	21,30,33	1.98	5 (23%)
2	PSU	L5	1536	2	18,21,22	1.05	1 (5%)	21,30,33	1.90	4 (19%)
2	OMG	L5	4499	2	19,26,27	1.23	3 (15%)	21,38,41	0.74	1 (4%)
82	OMU	S2	172	82	19,22,23	3.31	7 (36%)	25,31,34	1.85	5 (20%)
2	OMC	L5	1340	2	19,22,23	0.67	0	25,31,34	0.80	0
2	OMC	L5	3808	2,86	19,22,23	0.69	0	25,31,34	0.81	1 (4%)
2	PSU	L5	4673	2,86	18,21,22	1.07	1 (5%)	21,30,33	1.93	4 (19%)
2	OMG	L5	4392	2	19,26,27	1.26	3 (15%)	21,38,41	0.80	1 (4%)
2	OMC	L5	4456	2	19,22,23	0.71	1 (5%)	25,31,34	0.77	1 (4%)
2	OMC	L5	2422	2,86	19,22,23	0.63	0	25,31,34	0.69	0
2	OMG	L5	4623	2	19,26,27	1.27	3 (15%)	21,38,41	0.86	1 (4%)
82	PSU	S2	1177	82	18,21,22	1.08	2 (11%)	21,30,33	1.98	4 (19%)
2	1MA	L5	1322	2,86	17,25,26	1.07	2 (11%)	17,37,40	1.17	3 (17%)
82	G7M	S2	1639	82	20,26,27	2.39	7 (35%)	16,39,42	1.11	1 (6%)
2	PSU	L5	4636	2	18,21,22	1.10	1 (5%)	21,30,33	2.04	6 (28%)
82	OMC	S2	174	82	19,22,23	0.53	0	25,31,34	0.65	0
2	A2M	L5	3718	2	18,25,26	1.28	2 (11%)	20,36,39	2.03	5 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
82	MA6	S2	1850	82	19,26,27	1.46	3 (15%)	18,38,41	3.46	3 (16%)
4	PSU	L8	55	4	18,21,22	1.04	1 (5%)	21,30,33	1.98	4 (19%)
2	PSU	L5	1781	2	18,21,22	1.05	1 (5%)	21,30,33	1.83	4 (19%)
2	A2M	L5	2787	2	18,25,26	1.35	2 (11%)	20,36,39	1.78	4 (20%)
2	OMU	L5	4306	2	19,22,23	3.22	7 (36%)	25,31,34	1.88	5 (20%)
82	PSU	S2	686	82	18,21,22	1.05	1 (5%)	21,30,33	1.93	4 (19%)
2	5MC	L5	4447	2	19,22,23	0.87	0	26,32,35	0.65	0
82	OMC	S2	1391	82	19,22,23	0.56	0	25,31,34	0.68	0
82	6MZ	S2	1832	82,86	21,26,26	1.27	1 (4%)	22,39,39	1.88	3 (13%)
82	OMG	S2	644	82	19,26,27	1.19	3 (15%)	21,38,41	0.82	1 (4%)
2	OMU	L5	4498	2	19,22,23	3.22	7 (36%)	25,31,34	1.85	5 (20%)
82	PSU	S2	966	82,86	18,21,22	1.07	1 (5%)	21,30,33	1.88	4 (19%)
82	PSU	S2	1045	82	18,21,22	1.06	1 (5%)	21,30,33	1.96	4 (19%)
82	MA6	S2	1851	82	19,26,27	1.47	3 (15%)	18,38,41	3.57	3 (16%)
2	PSU	L5	1683	2	18,21,22	1.09	2 (11%)	21,30,33	2.11	5 (23%)
82	A2M	S2	468	82	18,25,26	1.34	2 (11%)	20,36,39	2.07	6 (30%)
2	A2M	L5	3785	2,86	18,25,26	1.43	3 (16%)	20,36,39	2.49	7 (35%)
82	A2M	S2	99	82,86	18,25,26	1.34	2 (11%)	20,36,39	2.06	5 (25%)
2	PSU	L5	5010	2	18,21,22	1.10	1 (5%)	21,30,33	1.94	4 (19%)
82	4AC	S2	1337	82	21,24,25	0.40	0	28,34,37	0.81	2 (7%)
82	OMC	S2	1703	82	19,22,23	0.61	0	25,31,34	0.59	0
82	OMG	S2	683	82	19,26,27	1.20	2 (10%)	21,38,41	0.80	1 (4%)
2	OMU	L5	2837	2	19,22,23	3.24	7 (36%)	25,31,34	1.88	5 (20%)

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
82	OMG	S2	436	82	-	2/5/27/28	0/3/3/3
2	PSU	L5	2632	2	-	0/7/25/26	0/2/2/2
82	OMU	S2	1288	82	-	2/9/27/28	0/2/2/2
82	OMG	S2	1490	82	-	1/5/27/28	0/3/3/3
2	OMG	L5	4370	2	-	0/5/27/28	0/3/3/3
2	OMG	L5	4618	2	-	2/5/27/28	0/3/3/3
2	OMC	L5	3701	2	-	6/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	PSU	L5	4576	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	1782	2	-	0/7/25/26	0/2/2/2
82	A2M	S2	484	82	-	0/5/27/28	0/3/3/3
82	PSU	S2	681	82	-	0/7/25/26	0/2/2/2
2	OMG	L5	4196	2	-	1/5/27/28	0/3/3/3
2	PSU	L5	1677	2	-	3/7/25/26	0/2/2/2
2	OMU	L5	3925	2	-	0/9/27/28	0/2/2/2
82	A2M	S2	166	82	-	1/5/27/28	0/3/3/3
2	5MC	L5	3782	2,86	-	1/7/25/26	0/2/2/2
82	A2M	S2	159	82	-	1/5/27/28	0/3/3/3
2	OMC	L5	2365	2,86	-	0/9/27/28	0/2/2/2
82	OMU	S2	1326	82	-	0/9/27/28	0/2/2/2
2	A2M	L5	2401	2	-	0/5/27/28	0/3/3/3
82	PSU	S2	1367	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	5001	2	-	0/7/25/26	0/2/2/2
2	OMG	L5	2424	2	-	0/5/27/28	0/3/3/3
4	PSU	L8	69	4	-	0/7/25/26	0/2/2/2
82	OMU	S2	428	82	-	6/9/27/28	0/2/2/2
82	OMG	S2	867	82	-	3/5/27/28	0/3/3/3
2	PSU	L5	1862	2	-	0/7/25/26	0/2/2/2
82	OMG	S2	1328	82	-	0/5/27/28	0/3/3/3
82	OMG	S2	601	82	-	1/5/27/28	0/3/3/3
2	OMC	L5	2804	2	-	0/9/27/28	0/2/2/2
2	PSU	L5	3853	2,86	-	0/7/25/26	0/2/2/2
2	OMC	L5	3869	2	-	1/9/27/28	0/2/2/2
2	A2M	L5	3825	2	-	0/5/27/28	0/3/3/3
2	PSU	L5	4521	2,86	-	0/7/25/26	0/2/2/2
2	PSU	L5	1744	2,86	-	0/7/25/26	0/2/2/2
2	A2M	L5	4590	2	-	3/5/27/28	0/3/3/3
2	OMG	L5	1625	2	-	2/5/27/28	0/3/3/3
2	OMU	L5	4227	2	-	0/9/27/28	0/2/2/2
2	OMG	L5	1316	2	-	0/5/27/28	0/3/3/3
2	A2M	L5	1524	2	-	2/5/27/28	0/3/3/3
2	A2M	L5	2363	2,86	-	0/5/27/28	0/3/3/3
2	PSU	L5	3822	2	-	0/7/25/26	0/2/2/2
82	OMU	S2	1442	82	-	2/9/27/28	0/2/2/2
2	PSU	L5	4532	2	-	0/7/25/26	0/2/2/2
2	OMG	L5	2876	2	-	2/5/27/28	0/3/3/3
2	OMG	L5	2364	2,86	-	2/5/27/28	0/3/3/3
82	OMC	S2	517	82	-	2/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	PSU	L5	4431	2	-	0/7/25/26	0/2/2/2
82	A2M	S2	668	82,86	-	2/5/27/28	0/3/3/3
2	UR3	L5	4530	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4972	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	651	82	-	0/7/25/26	0/2/2/2
2	OMG	L5	4228	2	-	0/5/27/28	0/3/3/3
82	PSU	S2	863	82	-	0/7/25/26	0/2/2/2
82	PSU	S2	1056	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	1860	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	3695	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4299	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4493	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	801	82	-	2/7/25/26	0/2/2/2
2	OMC	L5	3887	2	-	1/9/27/28	0/2/2/2
2	PSU	L5	3920	2,86	-	0/7/25/26	0/2/2/2
2	UY1	L5	3818	2	-	2/9/27/28	0/2/2/2
2	A2M	L5	1323	2	-	2/5/27/28	0/3/3/3
82	OMU	S2	799	82	-	2/9/27/28	0/2/2/2
82	OMG	S2	509	82	-	0/5/27/28	0/3/3/3
82	A2M	S2	27	82	-	1/5/27/28	0/3/3/3
2	PSU	L5	3639	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	1232	82	-	0/7/25/26	0/2/2/2
82	PSU	S2	1081	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	4471	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4457	2	-	0/7/25/26	0/2/2/2
82	OMU	S2	627	82	-	1/9/27/28	0/2/2/2
2	OMG	L5	4494	2	-	0/5/27/28	0/3/3/3
2	OMG	L5	1522	2	-	0/5/27/28	0/3/3/3
2	OMC	L5	3841	2	-	1/9/27/28	0/2/2/2
2	PSU	L5	4403	2	-	0/7/25/26	0/2/2/2
2	OMG	L5	4637	2	-	2/5/27/28	0/3/3/3
2	PSU	L5	4353	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4312	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	4579	2	-	0/7/25/26	0/2/2/2
82	OMU	S2	116	82	-	0/9/27/28	0/2/2/2
2	PSU	L5	4552	2	-	0/7/25/26	0/2/2/2
2	OMG	L5	3627	2	-	0/5/27/28	0/3/3/3
2	OMG	L5	3792	2	-	2/5/27/28	0/3/3/3
82	A2M	S2	1031	82	-	0/5/27/28	0/3/3/3
2	PSU	L5	4442	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	3851	2	-	1/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
82	PSU	S2	649	82	-	0/7/25/26	0/2/2/2
2	OMU	L5	4620	2	-	0/9/27/28	0/2/2/2
82	PSU	S2	814	82	-	0/7/25/26	0/2/2/2
2	OMG	L5	3744	2	-	0/5/27/28	0/3/3/3
82	PSU	S2	93	82	-	0/7/25/26	0/2/2/2
2	OMC	L5	2351	2,86	-	2/9/27/28	0/2/2/2
82	PSU	S2	1174	82	-	0/7/25/26	0/2/2/2
82	B8N	S2	1248	82	-	4/16/34/35	0/2/2/2
2	OMC	L5	2824	2	-	0/9/27/28	0/2/2/2
82	PSU	S2	105	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	3884	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	1792	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	4571	2	-	0/5/27/28	0/3/3/3
2	PSU	L5	4689	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	109	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	3844	2	-	1/7/25/26	0/2/2/2
82	PSU	S2	1046	82	-	0/7/25/26	0/2/2/2
2	A2M	L5	3867	2	-	2/5/27/28	0/3/3/3
2	PSU	L5	4973	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	4523	2,86	-	0/5/27/28	0/3/3/3
2	A2M	L5	3830	2	-	0/5/27/28	0/3/3/3
2	A2M	L5	1534	2,86	-	1/5/27/28	0/3/3/3
82	PSU	S2	866	82	-	0/7/25/26	0/2/2/2
82	PSU	S2	1004	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	4500	2	-	3/7/25/26	0/2/2/2
2	A2M	L5	1326	2	-	4/5/27/28	0/3/3/3
2	A2M	L5	398	2	-	1/5/27/28	0/3/3/3
4	OMG	L8	75	4	-	1/5/27/28	0/3/3/3
2	A2M	L5	2815	2	-	2/5/27/28	0/3/3/3
2	PSU	L5	4628	2	-	0/7/25/26	0/2/2/2
82	PSU	S2	1244	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	4296	2	-	0/7/25/26	0/2/2/2
82	OMU	S2	121	82	-	0/9/27/28	0/2/2/2
2	PSU	L5	4361	2	-	0/7/25/26	0/2/2/2
2	PSU	L5	3637	2	-	0/7/25/26	0/2/2/2
82	OMC	S2	462	82	-	0/9/27/28	0/2/2/2
2	OMG	L5	3899	2	-	2/5/27/28	0/3/3/3
82	4AC	S2	1842	82	-	0/11/29/30	0/2/2/2
2	PSU	L5	4293	2	-	0/7/25/26	0/2/2/2
2	A2M	L5	400	2	-	1/5/27/28	0/3/3/3
2	PSU	L5	1582	2	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
82	OMU	S2	354	82	-	0/9/27/28	0/2/2/2
2	A2M	L5	1871	2,86	-	0/5/27/28	0/3/3/3
82	A2M	S2	576	82	-	3/5/27/28	0/3/3/3
82	A2M	S2	1383	82	-	3/5/27/28	0/3/3/3
2	OMC	L5	2861	2	-	0/9/27/28	0/2/2/2
2	OMC	L5	4536	2	-	0/9/27/28	0/2/2/2
82	OMC	S2	1272	82	-	2/9/27/28	0/2/2/2
2	PSU	L5	2839	2	-	0/7/25/26	0/2/2/2
2	6MZ	L5	4220	2	-	2/8/28/28	0/3/3/3
82	PSU	S2	406	82	-	0/7/25/26	0/2/2/2
2	PSU	L5	1536	2	-	2/7/25/26	0/2/2/2
2	OMG	L5	4499	2	-	0/5/27/28	0/3/3/3
82	OMU	S2	172	82	-	0/9/27/28	0/2/2/2
2	OMC	L5	1340	2	-	1/9/27/28	0/2/2/2
2	OMC	L5	3808	2,86	-	0/9/27/28	0/2/2/2
2	PSU	L5	4673	2,86	-	0/7/25/26	0/2/2/2
2	OMG	L5	4392	2	-	0/5/27/28	0/3/3/3
2	OMC	L5	4456	2	-	0/9/27/28	0/2/2/2
2	OMC	L5	2422	2,86	-	2/9/27/28	0/2/2/2
2	OMG	L5	4623	2	-	0/5/27/28	0/3/3/3
82	PSU	S2	1177	82	-	0/7/25/26	0/2/2/2
2	1MA	L5	1322	2,86	-	0/3/25/26	0/3/3/3
82	G7M	S2	1639	82	-	2/3/25/26	0/3/3/3
2	PSU	L5	4636	2	-	0/7/25/26	0/2/2/2
82	OMC	S2	174	82	-	0/9/27/28	0/2/2/2
2	A2M	L5	3718	2	-	0/5/27/28	0/3/3/3
82	MA6	S2	1850	82	-	0/7/29/30	0/3/3/3
4	PSU	L8	55	4	-	0/7/25/26	0/2/2/2
2	PSU	L5	1781	2	-	1/7/25/26	0/2/2/2
2	A2M	L5	2787	2	-	2/5/27/28	0/3/3/3
2	OMU	L5	4306	2	-	0/9/27/28	0/2/2/2
82	PSU	S2	686	82	-	0/7/25/26	0/2/2/2
2	5MC	L5	4447	2	-	4/7/25/26	0/2/2/2
82	OMC	S2	1391	82	-	0/9/27/28	0/2/2/2
82	6MZ	S2	1832	82,86	-	3/8/28/28	0/3/3/3
82	OMG	S2	644	82	-	3/5/27/28	0/3/3/3
2	OMU	L5	4498	2	-	0/9/27/28	0/2/2/2
82	PSU	S2	966	82,86	-	0/7/25/26	0/2/2/2
82	PSU	S2	1045	82	-	2/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
82	MA6	S2	1851	82	-	1/7/29/30	0/3/3/3
2	PSU	L5	1683	2	-	0/7/25/26	0/2/2/2
82	A2M	S2	468	82	-	0/5/27/28	0/3/3/3
2	A2M	L5	3785	2,86	-	1/5/27/28	0/3/3/3
82	A2M	S2	99	82,86	-	2/5/27/28	0/3/3/3
2	PSU	L5	5010	2	-	0/7/25/26	0/2/2/2
82	4AC	S2	1337	82	-	1/11/29/30	0/2/2/2
82	OMC	S2	1703	82	-	1/9/27/28	0/2/2/2
82	OMG	S2	683	82	-	2/5/27/28	0/3/3/3
2	OMU	L5	2837	2	-	0/9/27/28	0/2/2/2

All (402) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	3818	UY1	C6-C5	12.47	1.49	1.35
2	L5	3818	UY1	C2-N1	11.60	1.51	1.36
82	S2	1288	OMU	C2-N1	8.58	1.51	1.38
82	S2	799	OMU	C2-N1	8.31	1.51	1.38
82	S2	627	OMU	C2-N1	8.18	1.51	1.38
82	S2	1442	OMU	C2-N1	8.10	1.51	1.38
82	S2	172	OMU	C2-N1	8.09	1.51	1.38
82	S2	428	OMU	C2-N1	8.08	1.51	1.38
82	S2	116	OMU	C2-N1	8.08	1.51	1.38
82	S2	1248	B8N	C4-N3	-8.04	1.26	1.40
82	S2	1326	OMU	C2-N1	8.02	1.51	1.38
82	S2	121	OMU	C2-N1	8.00	1.51	1.38
2	L5	4227	OMU	C2-N1	7.97	1.50	1.38
2	L5	2837	OMU	C2-N1	7.86	1.50	1.38
2	L5	4306	OMU	C2-N1	7.85	1.50	1.38
82	S2	354	OMU	C2-N1	7.84	1.50	1.38
2	L5	3925	OMU	C2-N1	7.82	1.50	1.38
82	S2	1248	B8N	C6-N1	7.78	1.55	1.36
2	L5	4498	OMU	C2-N1	7.64	1.50	1.38
2	L5	4620	OMU	C2-N1	7.60	1.50	1.38
2	L5	3818	UY1	C2-N3	7.57	1.49	1.37
82	S2	627	OMU	C2-N3	6.96	1.50	1.38
82	S2	1248	B8N	C4-C5	6.91	1.63	1.47
82	S2	1442	OMU	C2-N3	6.87	1.49	1.38
82	S2	799	OMU	C2-N3	6.86	1.49	1.38
82	S2	116	OMU	C2-N3	6.84	1.49	1.38
82	S2	1288	OMU	C2-N3	6.83	1.49	1.38
82	S2	1326	OMU	C2-N3	6.81	1.49	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	S2	428	OMU	C2-N3	6.79	1.49	1.38
82	S2	172	OMU	C2-N3	6.77	1.49	1.38
82	S2	121	OMU	C2-N3	6.72	1.49	1.38
2	L5	4227	OMU	C2-N3	6.68	1.49	1.38
82	S2	354	OMU	C2-N3	6.58	1.49	1.38
2	L5	2837	OMU	C2-N3	6.57	1.49	1.38
2	L5	4306	OMU	C2-N3	6.53	1.49	1.38
2	L5	4498	OMU	C2-N3	6.51	1.49	1.38
2	L5	3925	OMU	C2-N3	6.45	1.49	1.38
2	L5	4620	OMU	C2-N3	6.40	1.49	1.38
2	L5	4530	UR3	C6-C5	6.20	1.49	1.35
2	L5	4530	UR3	C2-N1	5.98	1.46	1.38
82	S2	627	OMU	C6-C5	5.89	1.48	1.35
82	S2	1288	OMU	C6-C5	5.88	1.48	1.35
82	S2	1248	B8N	C2-N1	5.86	1.56	1.39
82	S2	799	OMU	C6-C5	5.83	1.48	1.35
82	S2	172	OMU	C6-C5	5.80	1.48	1.35
82	S2	428	OMU	C6-C5	5.79	1.48	1.35
82	S2	1442	OMU	C6-C5	5.79	1.48	1.35
82	S2	1326	OMU	C6-C5	5.78	1.48	1.35
2	L5	4620	OMU	O4-C4	-5.72	1.13	1.24
82	S2	121	OMU	C6-C5	5.71	1.48	1.35
82	S2	354	OMU	C6-C5	5.71	1.48	1.35
2	L5	3925	OMU	O4-C4	-5.71	1.13	1.24
2	L5	4498	OMU	C6-C5	5.68	1.48	1.35
2	L5	4227	OMU	C6-C5	5.67	1.48	1.35
2	L5	4306	OMU	O4-C4	-5.66	1.13	1.24
82	S2	116	OMU	C6-C5	5.65	1.48	1.35
2	L5	2837	OMU	C6-C5	5.63	1.48	1.35
2	L5	4498	OMU	O4-C4	-5.62	1.13	1.24
2	L5	4227	OMU	O4-C4	-5.59	1.13	1.24
2	L5	2837	OMU	O4-C4	-5.58	1.13	1.24
82	S2	116	OMU	O4-C4	-5.57	1.13	1.24
82	S2	354	OMU	O4-C4	-5.56	1.13	1.24
2	L5	4306	OMU	C6-C5	5.56	1.48	1.35
2	L5	4620	OMU	C6-C5	5.56	1.48	1.35
82	S2	1326	OMU	O4-C4	-5.55	1.13	1.24
2	L5	3925	OMU	C6-C5	5.54	1.47	1.35
2	L5	4530	UR3	C2-N3	5.49	1.49	1.39
82	S2	121	OMU	O4-C4	-5.48	1.13	1.24
82	S2	428	OMU	O4-C4	-5.48	1.13	1.24
82	S2	799	OMU	O4-C4	-5.47	1.13	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	S2	627	OMU	O4-C4	-5.46	1.13	1.24
82	S2	1442	OMU	O4-C4	-5.46	1.13	1.24
82	S2	1288	OMU	O4-C4	-5.44	1.13	1.24
82	S2	172	OMU	O4-C4	-5.43	1.13	1.24
2	L5	3818	UY1	C6-N1	5.26	1.44	1.36
82	S2	1639	G7M	C2-N3	5.24	1.46	1.33
82	S2	1248	B8N	C6-C5	5.17	1.42	1.35
82	S2	1639	G7M	C4-N3	4.84	1.48	1.37
82	S2	1639	G7M	C2-N2	4.83	1.45	1.34
2	L5	4220	6MZ	C6-C5	-4.57	1.37	1.44
82	S2	627	OMU	C4-N3	4.47	1.46	1.38
2	L5	3818	UY1	C4-N3	4.37	1.47	1.38
82	S2	1442	OMU	C4-N3	4.35	1.46	1.38
82	S2	172	OMU	C4-N3	4.32	1.46	1.38
82	S2	1288	OMU	C4-N3	4.32	1.46	1.38
82	S2	1326	OMU	C4-N3	4.31	1.46	1.38
82	S2	428	OMU	C4-N3	4.28	1.45	1.38
82	S2	116	OMU	C4-N3	4.25	1.45	1.38
82	S2	121	OMU	C4-N3	4.20	1.45	1.38
82	S2	799	OMU	C4-N3	4.20	1.45	1.38
82	S2	354	OMU	C4-N3	4.15	1.45	1.38
2	L5	4498	OMU	C4-N3	4.06	1.45	1.38
2	L5	2837	OMU	C4-N3	4.05	1.45	1.38
2	L5	4227	OMU	C4-N3	4.05	1.45	1.38
2	L5	4306	OMU	C4-N3	4.00	1.45	1.38
82	S2	1832	6MZ	C6-C5	-3.88	1.38	1.44
82	S2	1851	MA6	C6-C5	-3.86	1.38	1.44
2	L5	3925	OMU	C4-N3	3.84	1.45	1.38
82	S2	1850	MA6	C6-C5	-3.83	1.39	1.44
2	L5	4620	OMU	C4-N3	3.81	1.45	1.38
2	L5	3818	UY1	O4-C4	-3.76	1.16	1.23
2	L5	2401	A2M	O5'-C5'	-3.70	1.33	1.44
2	L5	2876	OMG	C8-N7	-3.61	1.29	1.34
82	S2	801	PSU	C6-C5	3.60	1.39	1.35
82	S2	1639	G7M	C6-N1	3.60	1.43	1.37
2	L5	3825	A2M	O5'-C5'	-3.55	1.33	1.44
2	L5	2787	A2M	O5'-C5'	-3.53	1.33	1.44
82	S2	668	A2M	O5'-C5'	-3.53	1.33	1.44
82	S2	1248	B8N	C1'-C5	3.52	1.58	1.50
2	L5	3785	A2M	O5'-C5'	-3.49	1.34	1.44
82	S2	93	PSU	C6-C5	3.48	1.39	1.35
82	S2	99	A2M	O5'-C5'	-3.48	1.34	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	3830	A2M	O5'-C5'	-3.48	1.34	1.44
2	L5	3844	PSU	C6-C5	3.47	1.39	1.35
2	L5	1326	A2M	O5'-C5'	-3.47	1.34	1.44
2	L5	5010	PSU	C6-C5	3.46	1.39	1.35
2	L5	4500	PSU	C6-C5	3.46	1.39	1.35
2	L5	1871	A2M	O5'-C5'	-3.46	1.34	1.44
82	S2	1367	PSU	C6-C5	3.46	1.39	1.35
82	S2	1031	A2M	O5'-C5'	-3.46	1.34	1.44
2	L5	400	A2M	O5'-C5'	-3.46	1.34	1.44
82	S2	1232	PSU	C6-C5	3.46	1.39	1.35
2	L5	1625	OMG	C8-N7	-3.45	1.29	1.34
2	L5	1323	A2M	O5'-C5'	-3.45	1.34	1.44
82	S2	468	A2M	O5'-C5'	-3.44	1.34	1.44
82	S2	1244	PSU	C6-C5	3.44	1.39	1.35
2	L5	1524	A2M	O5'-C5'	-3.43	1.34	1.44
82	S2	866	PSU	C6-C5	3.42	1.39	1.35
2	L5	2363	A2M	O5'-C5'	-3.42	1.34	1.44
82	S2	966	PSU	C6-C5	3.41	1.39	1.35
82	S2	1383	A2M	O5'-C5'	-3.40	1.34	1.44
82	S2	1004	PSU	C6-C5	3.40	1.39	1.35
82	S2	27	A2M	O5'-C5'	-3.40	1.34	1.44
2	L5	2815	A2M	O5'-C5'	-3.40	1.34	1.44
82	S2	651	PSU	C6-C5	3.39	1.39	1.35
2	L5	1860	PSU	C6-C5	3.39	1.39	1.35
2	L5	4571	A2M	O5'-C5'	-3.39	1.34	1.44
82	S2	105	PSU	C6-C5	3.38	1.39	1.35
82	S2	1851	MA6	C6-N6	3.38	1.45	1.37
2	L5	2632	PSU	C6-C5	3.38	1.39	1.35
82	S2	576	A2M	O5'-C5'	-3.38	1.34	1.44
2	L5	4552	PSU	C6-C5	3.37	1.39	1.35
2	L5	4312	PSU	C6-C5	3.37	1.39	1.35
82	S2	863	PSU	C6-C5	3.37	1.39	1.35
82	S2	1850	MA6	C6-N6	3.36	1.45	1.37
2	L5	1782	PSU	C6-C5	3.36	1.39	1.35
2	L5	5001	PSU	C6-C5	3.36	1.39	1.35
82	S2	1177	PSU	C6-C5	3.35	1.39	1.35
2	L5	3867	A2M	O5'-C5'	-3.35	1.34	1.44
2	L5	3792	OMG	C8-N7	-3.34	1.29	1.34
82	S2	814	PSU	C6-C5	3.32	1.39	1.35
2	L5	398	A2M	O5'-C5'	-3.32	1.34	1.44
82	S2	166	A2M	O5'-C5'	-3.32	1.34	1.44
2	L5	4590	A2M	O5'-C5'	-3.32	1.34	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	S2	109	PSU	C6-C5	3.31	1.39	1.35
2	L5	3718	A2M	O5'-C5'	-3.31	1.34	1.44
82	S2	484	A2M	O5'-C5'	-3.31	1.34	1.44
2	L5	4523	A2M	O5'-C5'	-3.30	1.34	1.44
2	L5	3818	UY1	O2-C2	-3.30	1.16	1.23
2	L5	4576	PSU	C6-C5	3.30	1.38	1.35
2	L5	1522	OMG	C8-N7	-3.30	1.29	1.34
2	L5	1781	PSU	C6-C5	3.29	1.38	1.35
2	L5	1316	OMG	C8-N7	-3.29	1.29	1.34
2	L5	4493	PSU	C6-C5	3.28	1.38	1.35
2	L5	3818	UY1	C1'-C5	3.27	1.57	1.50
82	S2	1174	PSU	C6-C5	3.27	1.38	1.35
82	S2	1045	PSU	C6-C5	3.26	1.38	1.35
82	S2	1046	PSU	C6-C5	3.26	1.38	1.35
82	S2	686	PSU	C6-C5	3.26	1.38	1.35
2	L5	2364	OMG	C8-N7	-3.25	1.29	1.34
2	L5	4618	OMG	C8-N7	-3.25	1.29	1.34
82	S2	1490	OMG	C8-N7	-3.25	1.29	1.34
2	L5	1744	PSU	C6-C5	3.25	1.38	1.35
2	L5	4532	PSU	C6-C5	3.25	1.38	1.35
2	L5	4392	OMG	C8-N7	-3.24	1.29	1.34
2	L5	4636	PSU	C6-C5	3.24	1.38	1.35
82	S2	649	PSU	C6-C5	3.23	1.38	1.35
2	L5	3853	PSU	C6-C5	3.23	1.38	1.35
82	S2	406	PSU	C6-C5	3.23	1.38	1.35
2	L5	1862	PSU	C6-C5	3.23	1.38	1.35
4	L8	69	PSU	C6-C5	3.21	1.38	1.35
2	L5	4353	PSU	C6-C5	3.21	1.38	1.35
2	L5	3822	PSU	C6-C5	3.20	1.38	1.35
2	L5	4196	OMG	C8-N7	-3.20	1.29	1.34
2	L5	4579	PSU	C6-C5	3.20	1.38	1.35
2	L5	4673	PSU	C6-C5	3.20	1.38	1.35
2	L5	4521	PSU	C6-C5	3.19	1.38	1.35
2	L5	4494	OMG	C8-N7	-3.19	1.29	1.34
2	L5	1683	PSU	C6-C5	3.19	1.38	1.35
2	L5	4442	PSU	C6-C5	3.19	1.38	1.35
82	S2	1639	G7M	C5-C6	3.18	1.53	1.45
2	L5	3637	PSU	C6-C5	3.18	1.38	1.35
2	L5	4296	PSU	C6-C5	3.18	1.38	1.35
2	L5	4293	PSU	C6-C5	3.18	1.38	1.35
82	S2	681	PSU	C6-C5	3.18	1.38	1.35
2	L5	3899	OMG	C8-N7	-3.17	1.29	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	4370	OMG	C8-N7	-3.17	1.29	1.34
2	L5	4637	OMG	C8-N7	-3.17	1.29	1.34
82	S2	159	A2M	O5'-C5'	-3.16	1.35	1.44
2	L5	4973	PSU	C6-C5	3.15	1.38	1.35
2	L5	4299	PSU	C6-C5	3.15	1.38	1.35
2	L5	4431	PSU	C6-C5	3.14	1.38	1.35
4	L8	75	OMG	C8-N7	-3.14	1.29	1.34
82	S2	1056	PSU	C6-C5	3.14	1.38	1.35
2	L5	2424	OMG	C8-N7	-3.13	1.29	1.34
4	L8	55	PSU	C6-C5	3.13	1.38	1.35
2	L5	4361	PSU	C6-C5	3.13	1.38	1.35
2	L5	3744	OMG	C8-N7	-3.13	1.29	1.34
2	L5	4471	PSU	C6-C5	3.12	1.38	1.35
2	L5	1582	PSU	C6-C5	3.12	1.38	1.35
2	L5	3627	OMG	C8-N7	-3.12	1.30	1.34
2	L5	2839	PSU	C6-C5	3.11	1.38	1.35
2	L5	3884	PSU	C6-C5	3.10	1.38	1.35
82	S2	436	OMG	C8-N7	-3.10	1.30	1.34
2	L5	4499	OMG	C8-N7	-3.09	1.30	1.34
2	L5	4689	PSU	C6-C5	3.09	1.38	1.35
2	L5	1534	A2M	O5'-C5'	-3.09	1.35	1.44
2	L5	4623	OMG	C8-N7	-3.09	1.30	1.34
2	L5	4972	PSU	C6-C5	3.08	1.38	1.35
82	S2	601	OMG	C8-N7	-3.06	1.30	1.34
82	S2	644	OMG	C8-N7	-3.06	1.30	1.34
2	L5	3695	PSU	C6-C5	3.06	1.38	1.35
82	S2	1081	PSU	C6-C5	3.05	1.38	1.35
82	S2	668	A2M	O4'-C4'	-3.04	1.38	1.45
2	L5	3851	PSU	C6-C5	3.04	1.38	1.35
82	S2	1490	OMG	C5-C6	-3.04	1.41	1.47
2	L5	4228	OMG	C8-N7	-3.03	1.30	1.34
2	L5	1792	PSU	C6-C5	3.03	1.38	1.35
2	L5	4628	PSU	C6-C5	2.99	1.38	1.35
82	S2	509	OMG	C8-N7	-2.99	1.30	1.34
82	S2	683	OMG	C8-N7	-2.98	1.30	1.34
2	L5	1871	A2M	C1'-N9	-2.96	1.42	1.49
2	L5	3785	A2M	C1'-N9	-2.96	1.42	1.49
82	S2	867	OMG	C8-N7	-2.95	1.30	1.34
2	L5	3639	PSU	C6-C5	2.93	1.38	1.35
2	L5	3920	PSU	C6-C5	2.93	1.38	1.35
2	L5	1536	PSU	C6-C5	2.92	1.38	1.35
82	S2	1328	OMG	C8-N7	-2.91	1.30	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	1316	OMG	C5-C6	-2.89	1.41	1.47
2	L5	4403	PSU	C6-C5	2.88	1.38	1.35
82	S2	627	OMU	C5-C4	2.87	1.49	1.43
2	L5	2424	OMG	C5-C6	-2.86	1.41	1.47
2	L5	1534	A2M	C1'-N9	-2.86	1.42	1.49
2	L5	4523	A2M	C1'-N9	-2.85	1.42	1.49
2	L5	4457	PSU	C6-C5	2.84	1.38	1.35
2	L5	4370	OMG	C5-C6	-2.83	1.41	1.47
2	L5	1522	OMG	C5-C6	-2.82	1.41	1.47
2	L5	4494	OMG	C5-C6	-2.81	1.41	1.47
82	S2	1288	OMU	C5-C4	2.80	1.49	1.43
2	L5	1625	OMG	C5-C6	-2.80	1.41	1.47
2	L5	1322	1MA	C8-N7	-2.79	1.30	1.34
2	L5	1677	PSU	C6-C5	2.79	1.38	1.35
82	S2	799	OMU	C5-C4	2.79	1.49	1.43
2	L5	3792	OMG	C5-C6	-2.78	1.41	1.47
2	L5	4623	OMG	C5-C6	-2.78	1.42	1.47
2	L5	2364	OMG	C5-C6	-2.78	1.42	1.47
82	S2	1326	OMU	C5-C4	2.78	1.49	1.43
82	S2	172	OMU	C5-C4	2.77	1.49	1.43
2	L5	4530	UR3	O2-C2	-2.76	1.17	1.22
82	S2	1639	G7M	C2-N1	2.75	1.44	1.37
2	L5	3825	A2M	C1'-N9	-2.75	1.43	1.49
2	L5	2401	A2M	C1'-N9	-2.74	1.43	1.49
2	L5	3627	OMG	C5-C6	-2.73	1.42	1.47
2	L5	4637	OMG	C5-C6	-2.72	1.42	1.47
2	L5	3899	OMG	C5-C6	-2.71	1.42	1.47
2	L5	3744	OMG	C5-C6	-2.71	1.42	1.47
82	S2	428	OMU	C5-C4	2.71	1.49	1.43
2	L5	4228	OMG	C5-C6	-2.70	1.42	1.47
2	L5	4392	OMG	C5-C6	-2.70	1.42	1.47
82	S2	1442	OMU	C5-C4	2.70	1.49	1.43
2	L5	4196	OMG	C5-C6	-2.69	1.42	1.47
2	L5	4498	OMU	C5-C4	2.68	1.49	1.43
82	S2	1288	OMU	C6-N1	2.68	1.44	1.38
2	L5	4571	A2M	C1'-N9	-2.68	1.43	1.49
4	L8	75	OMG	C5-C6	-2.68	1.42	1.47
2	L5	2876	OMG	C5-C6	-2.68	1.42	1.47
2	L5	4499	OMG	C5-C6	-2.66	1.42	1.47
82	S2	627	OMU	C6-N1	2.65	1.44	1.38
2	L5	4227	OMU	C5-C4	2.65	1.49	1.43
82	S2	121	OMU	C5-C4	2.64	1.49	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
82	S2	436	OMG	C5-C6	-2.63	1.42	1.47
82	S2	354	OMU	C5-C4	2.63	1.49	1.43
2	L5	2837	OMU	C5-C4	2.62	1.49	1.43
2	L5	4618	OMG	C5-C6	-2.62	1.42	1.47
82	S2	1442	OMU	C6-N1	2.62	1.44	1.38
82	S2	799	OMU	C6-N1	2.62	1.44	1.38
82	S2	867	OMG	C5-C6	-2.62	1.42	1.47
2	L5	3925	OMU	C5-C4	2.61	1.49	1.43
82	S2	683	OMG	C5-C6	-2.61	1.42	1.47
82	S2	509	OMG	C5-C6	-2.61	1.42	1.47
2	L5	1524	A2M	O4'-C4'	-2.61	1.39	1.45
2	L5	1322	1MA	C5-C4	-2.60	1.36	1.43
2	L5	4571	A2M	O4'-C4'	-2.60	1.39	1.45
82	S2	576	A2M	C1'-N9	-2.59	1.43	1.49
82	S2	644	OMG	C5-C6	-2.59	1.42	1.47
82	S2	601	OMG	C5-C6	-2.58	1.42	1.47
82	S2	468	A2M	C1'-N9	-2.58	1.43	1.49
82	S2	116	OMU	C5-C4	2.57	1.49	1.43
82	S2	121	OMU	C6-N1	2.56	1.44	1.38
2	L5	4498	OMU	C6-N1	2.56	1.44	1.38
82	S2	354	OMU	C6-N1	2.55	1.44	1.38
82	S2	668	A2M	C1'-N9	-2.54	1.43	1.49
82	S2	1328	OMG	C5-C6	-2.54	1.42	1.47
82	S2	428	OMU	C6-N1	2.54	1.44	1.38
2	L5	2363	A2M	O4'-C4'	-2.53	1.39	1.45
2	L5	1534	A2M	O4'-C4'	-2.53	1.39	1.45
82	S2	1326	OMU	C6-N1	2.52	1.44	1.38
2	L5	3830	A2M	C1'-N9	-2.51	1.43	1.49
82	S2	1383	A2M	C1'-N9	-2.51	1.43	1.49
2	L5	1524	A2M	C1'-N9	-2.51	1.43	1.49
2	L5	2787	A2M	C1'-N9	-2.50	1.43	1.49
2	L5	1326	A2M	C1'-N9	-2.49	1.43	1.49
82	S2	99	A2M	C1'-N9	-2.48	1.43	1.49
2	L5	4306	OMU	C5-C4	2.47	1.49	1.43
2	L5	4620	OMU	C6-N1	2.47	1.44	1.38
82	S2	172	OMU	C6-N1	2.45	1.43	1.38
2	L5	4590	A2M	C1'-N9	-2.44	1.43	1.49
2	L5	4530	UR3	C6-N1	2.43	1.43	1.38
2	L5	2837	OMU	C6-N1	2.43	1.43	1.38
82	S2	116	OMU	C6-N1	2.43	1.43	1.38
2	L5	4306	OMU	C6-N1	2.42	1.43	1.38
82	S2	166	A2M	C1'-N9	-2.41	1.44	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	2363	A2M	C1'-N9	-2.41	1.44	1.49
2	L5	4620	OMU	C5-C4	2.40	1.48	1.43
2	L5	3867	A2M	O4'-C4'	-2.40	1.39	1.45
2	L5	4227	OMU	C6-N1	2.39	1.43	1.38
2	L5	3925	OMU	C6-N1	2.37	1.43	1.38
2	L5	1323	A2M	O4'-C4'	-2.36	1.39	1.45
2	L5	1316	OMG	C5-C4	-2.34	1.37	1.43
2	L5	400	A2M	C1'-N9	-2.33	1.44	1.49
2	L5	1326	A2M	O4'-C4'	-2.31	1.39	1.45
82	S2	1031	A2M	C1'-N9	-2.31	1.44	1.49
2	L5	398	A2M	C1'-N9	-2.29	1.44	1.49
2	L5	1871	A2M	O4'-C4'	-2.29	1.39	1.45
2	L5	2815	A2M	O4'-C4'	-2.29	1.39	1.45
82	S2	159	A2M	C1'-N9	-2.27	1.44	1.49
2	L5	4523	A2M	O3'-C3'	-2.26	1.37	1.43
82	S2	27	A2M	C1'-N9	-2.26	1.44	1.49
2	L5	4370	OMG	C5-C4	-2.26	1.37	1.43
2	L5	1522	OMG	C5-C4	-2.26	1.37	1.43
2	L5	3867	A2M	C1'-N9	-2.25	1.44	1.49
2	L5	2364	OMG	C5-C4	-2.22	1.37	1.43
2	L5	3818	UY1	O4'-C1'	-2.22	1.40	1.43
2	L5	4392	OMG	C5-C4	-2.22	1.37	1.43
2	L5	3718	A2M	C1'-N9	-2.21	1.44	1.49
2	L5	2424	OMG	C5-C4	-2.21	1.37	1.43
2	L5	3627	OMG	C5-C4	-2.20	1.37	1.43
2	L5	4530	UR3	C5-C4	2.19	1.49	1.43
82	S2	1851	MA6	C2-N3	2.19	1.35	1.32
2	L5	4523	A2M	O4'-C4'	-2.19	1.40	1.45
2	L5	4494	OMG	C5-C4	-2.18	1.37	1.43
2	L5	3785	A2M	O4'-C1'	-2.18	1.38	1.40
2	L5	400	A2M	O3'-C3'	-2.17	1.37	1.43
2	L5	4228	OMG	C5-C4	-2.17	1.37	1.43
2	L5	4220	6MZ	C6-N1	-2.16	1.31	1.34
2	L5	3744	OMG	C5-C4	-2.16	1.37	1.43
2	L5	3899	OMG	C5-C4	-2.16	1.37	1.43
82	S2	1850	MA6	C2-N3	2.16	1.35	1.32
2	L5	4623	OMG	C5-C4	-2.14	1.37	1.43
2	L5	4353	PSU	C4-C5	-2.14	1.38	1.44
2	L5	4196	OMG	C5-C4	-2.14	1.37	1.43
2	L5	4637	OMG	C5-C4	-2.12	1.37	1.43
82	S2	1490	OMG	C5-C4	-2.12	1.37	1.43
2	L5	2876	OMG	C5-C4	-2.11	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L5	4689	PSU	C4-C5	-2.11	1.38	1.44
2	L5	4521	PSU	C4-C5	-2.11	1.38	1.44
2	L5	3884	PSU	C4-C5	-2.10	1.38	1.44
4	L8	75	OMG	C5-C4	-2.09	1.37	1.43
2	L5	4499	OMG	C5-C4	-2.09	1.38	1.43
82	S2	484	A2M	C1'-N9	-2.09	1.44	1.49
2	L5	1323	A2M	C1'-N9	-2.08	1.44	1.49
2	L5	1625	OMG	C5-C4	-2.08	1.38	1.43
2	L5	4293	PSU	C4-C5	-2.07	1.38	1.44
2	L5	3639	PSU	C4-C5	-2.07	1.38	1.44
2	L5	3825	A2M	O4'-C4'	-2.06	1.40	1.45
2	L5	2839	PSU	C4-C5	-2.05	1.38	1.44
2	L5	1871	A2M	O3'-C3'	-2.05	1.37	1.43
82	S2	644	OMG	C5-C4	-2.05	1.38	1.43
2	L5	3695	PSU	C4-C5	-2.04	1.38	1.44
2	L5	4500	PSU	C4-C5	-2.04	1.38	1.44
2	L5	400	A2M	O4'-C4'	-2.04	1.40	1.45
82	S2	1639	G7M	O6-C6	-2.04	1.18	1.23
2	L5	4618	OMG	C5-C4	-2.04	1.38	1.43
2	L5	3792	OMG	C5-C4	-2.04	1.38	1.43
82	S2	1031	A2M	O4'-C4'	-2.03	1.40	1.45
2	L5	4521	PSU	O4'-C1'	-2.03	1.41	1.43
2	L5	2815	A2M	C1'-N9	-2.03	1.44	1.49
2	L5	4456	OMC	C4-N3	-2.03	1.30	1.34
82	S2	1177	PSU	C4-C5	-2.03	1.38	1.44
2	L5	1683	PSU	C4-C5	-2.03	1.38	1.44
2	L5	4530	UR3	C3U-N3	2.02	1.50	1.47
2	L5	4552	PSU	C4-C5	-2.02	1.38	1.44
82	S2	1328	OMG	C5-C4	-2.02	1.38	1.43
82	S2	1056	PSU	C4-C5	-2.02	1.38	1.44
2	L5	3818	UY1	C4-C5	2.01	1.49	1.44
82	S2	436	OMG	C5-C4	-2.01	1.38	1.43
2	L5	4312	PSU	C4-C5	-2.01	1.38	1.44
2	L5	1534	A2M	O3'-C3'	-2.01	1.38	1.43
2	L5	3920	PSU	C4-C5	-2.01	1.38	1.44
2	L5	4571	A2M	O3'-C3'	-2.01	1.38	1.43
82	S2	109	PSU	C4-C5	-2.01	1.38	1.44
2	L5	4457	PSU	C4-C5	-2.00	1.38	1.44

All (647) bond angle outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	1851	MA6	N1-C6-N6	-12.91	101.91	116.83
82	S2	1850	MA6	N1-C6-N6	-12.66	102.21	116.83
2	L5	3785	A2M	C4'-O4'-C1'	-7.88	102.70	109.92
2	L5	1524	A2M	C4'-O4'-C1'	-6.98	103.54	109.92
82	S2	1851	MA6	N3-C2-N1	-6.55	119.78	128.67
82	S2	1832	6MZ	N3-C2-N1	-6.51	119.84	128.67
2	L5	4220	6MZ	N3-C2-N1	-6.50	119.85	128.67
82	S2	1850	MA6	N3-C2-N1	-6.22	120.23	128.67
2	L5	3925	OMU	C4-N3-C2	-6.11	119.03	126.61
2	L5	4220	6MZ	O3P-P-O2P	-5.96	87.63	110.83
2	L5	4227	OMU	C4-N3-C2	-5.85	119.35	126.61
82	S2	428	OMU	C4-N3-C2	-5.79	119.42	126.61
2	L5	4498	OMU	C4-N3-C2	-5.76	119.45	126.61
82	S2	1326	OMU	C4-N3-C2	-5.76	119.46	126.61
2	L5	4306	OMU	C4-N3-C2	-5.76	119.46	126.61
82	S2	354	OMU	C4-N3-C2	-5.75	119.47	126.61
82	S2	172	OMU	C4-N3-C2	-5.73	119.50	126.61
2	L5	4523	A2M	C4'-O4'-C1'	-5.70	104.71	109.92
2	L5	2837	OMU	C4-N3-C2	-5.69	119.55	126.61
82	S2	627	OMU	C4-N3-C2	-5.60	119.66	126.61
2	L5	4530	UR3	C4-N3-C2	-5.60	120.08	124.58
82	S2	1383	A2M	C4'-O4'-C1'	-5.56	104.83	109.92
82	S2	121	OMU	C4-N3-C2	-5.56	119.71	126.61
82	S2	799	OMU	C4-N3-C2	-5.53	119.74	126.61
2	L5	4220	6MZ	O3P-P-O5'	-5.52	92.28	106.67
82	S2	1442	OMU	C4-N3-C2	-5.51	119.77	126.61
2	L5	1871	A2M	C4'-O4'-C1'	-5.49	104.89	109.92
2	L5	4220	6MZ	C9-N6-C6	-5.46	117.78	122.85
2	L5	1683	PSU	N1-C2-N3	5.45	120.92	115.17
2	L5	3701	OMC	C1'-N1-C2	5.39	130.35	118.44
2	L5	4689	PSU	N1-C2-N3	5.38	120.84	115.17
2	L5	4457	PSU	C4-N3-C2	-5.37	118.98	126.37
2	L5	3637	PSU	N1-C2-N3	5.31	120.77	115.17
2	L5	4220	6MZ	O3P-P-O1P	-5.27	88.03	107.80
82	S2	116	OMU	C4-N3-C2	-5.26	120.08	126.61
2	L5	4636	PSU	C4-N3-C2	-5.26	119.13	126.37
82	S2	1288	OMU	C4-N3-C2	-5.25	120.09	126.61
2	L5	4457	PSU	N1-C2-N3	5.25	120.70	115.17
2	L5	1677	PSU	C4-N3-C2	-5.20	119.21	126.37
2	L5	3830	A2M	C4'-O4'-C1'	-5.18	105.18	109.92
82	S2	1248	B8N	C5-C4-N3	5.18	125.56	116.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4353	PSU	N1-C2-N3	5.17	120.62	115.17
2	L5	1683	PSU	C4-N3-C2	-5.16	119.27	126.37
2	L5	3637	PSU	C4-N3-C2	-5.15	119.27	126.37
2	L5	3639	PSU	N1-C2-N3	5.14	120.59	115.17
2	L5	4521	PSU	N1-C2-N3	5.13	120.58	115.17
2	L5	4220	6MZ	O1P-P-O2P	5.13	130.82	110.83
2	L5	4552	PSU	N1-C2-N3	5.13	120.57	115.17
2	L5	4403	PSU	C4-N3-C2	-5.11	119.33	126.37
2	L5	1862	PSU	C4-N3-C2	-5.11	119.33	126.37
2	L5	4500	PSU	N1-C2-N3	5.09	120.54	115.17
4	L8	69	PSU	N1-C2-N3	5.09	120.53	115.17
2	L5	1862	PSU	N1-C2-N3	5.08	120.52	115.17
2	L5	4442	PSU	N1-C2-N3	5.06	120.51	115.17
82	S2	1081	PSU	C4-N3-C2	-5.06	119.40	126.37
2	L5	2839	PSU	N1-C2-N3	5.06	120.51	115.17
2	L5	4521	PSU	C4-N3-C2	-5.06	119.40	126.37
2	L5	3695	PSU	C4-N3-C2	-5.05	119.41	126.37
2	L5	4312	PSU	N1-C2-N3	5.05	120.49	115.17
2	L5	4293	PSU	C4-N3-C2	-5.05	119.42	126.37
2	L5	4293	PSU	N1-C2-N3	5.04	120.49	115.17
2	L5	3695	PSU	N1-C2-N3	5.03	120.48	115.17
2	L5	4579	PSU	N1-C2-N3	5.03	120.47	115.17
82	S2	649	PSU	N1-C2-N3	5.03	120.47	115.17
82	S2	1056	PSU	C4-N3-C2	-5.02	119.45	126.37
2	L5	3639	PSU	C4-N3-C2	-5.02	119.45	126.37
4	L8	55	PSU	N1-C2-N3	5.01	120.46	115.17
2	L5	3884	PSU	C4-N3-C2	-5.00	119.48	126.37
82	S2	649	PSU	C4-N3-C2	-5.00	119.48	126.37
2	L5	2632	PSU	N1-C2-N3	4.99	120.43	115.17
2	L5	3920	PSU	N1-C2-N3	4.99	120.43	115.17
82	S2	1045	PSU	C4-N3-C2	-4.99	119.50	126.37
2	L5	3853	PSU	N1-C2-N3	4.98	120.42	115.17
4	L8	55	PSU	C4-N3-C2	-4.98	119.51	126.37
2	L5	4636	PSU	N1-C2-N3	4.98	120.42	115.17
2	L5	4973	PSU	C4-N3-C2	-4.98	119.52	126.37
82	S2	1177	PSU	N1-C2-N3	4.98	120.42	115.17
2	L5	4973	PSU	N1-C2-N3	4.98	120.42	115.17
82	S2	1177	PSU	C4-N3-C2	-4.98	119.52	126.37
2	L5	4471	PSU	N1-C2-N3	4.97	120.42	115.17
2	L5	3818	UY1	C4-N3-C2	-4.97	119.52	126.37
4	L8	69	PSU	C4-N3-C2	-4.97	119.53	126.37
2	L5	1744	PSU	N1-C2-N3	4.97	120.41	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	406	PSU	C4-N3-C2	-4.97	119.53	126.37
82	S2	651	PSU	N1-C2-N3	4.96	120.40	115.17
2	L5	3851	PSU	N1-C2-N3	4.96	120.40	115.17
2	L5	4442	PSU	C4-N3-C2	-4.96	119.54	126.37
2	L5	4689	PSU	C4-N3-C2	-4.96	119.54	126.37
82	S2	406	PSU	N1-C2-N3	4.96	120.40	115.17
2	L5	1860	PSU	N1-C2-N3	4.96	120.40	115.17
82	S2	1045	PSU	N1-C2-N3	4.96	120.40	115.17
2	L5	3844	PSU	N1-C2-N3	4.96	120.40	115.17
2	L5	4620	OMU	C4-N3-C2	-4.95	120.47	126.61
2	L5	4579	PSU	C4-N3-C2	-4.94	119.57	126.37
82	S2	866	PSU	C4-N3-C2	-4.94	119.57	126.37
2	L5	1860	PSU	C4-N3-C2	-4.93	119.58	126.37
2	L5	4353	PSU	C4-N3-C2	-4.93	119.58	126.37
2	L5	4500	PSU	C4-N3-C2	-4.93	119.58	126.37
2	L5	4552	PSU	C4-N3-C2	-4.93	119.58	126.37
2	L5	3822	PSU	N1-C2-N3	4.93	120.36	115.17
2	L5	4296	PSU	C4-N3-C2	-4.92	119.59	126.37
82	S2	1004	PSU	C4-N3-C2	-4.92	119.59	126.37
82	S2	1081	PSU	N1-C2-N3	4.92	120.36	115.17
2	L5	5010	PSU	N1-C2-N3	4.92	120.35	115.17
82	S2	1004	PSU	N1-C2-N3	4.91	120.35	115.17
2	L5	4673	PSU	N1-C2-N3	4.91	120.35	115.17
2	L5	2839	PSU	C4-N3-C2	-4.91	119.60	126.37
2	L5	1792	PSU	C4-N3-C2	-4.91	119.61	126.37
82	S2	866	PSU	N1-C2-N3	4.90	120.34	115.17
2	L5	3884	PSU	N1-C2-N3	4.90	120.34	115.17
82	S2	686	PSU	C4-N3-C2	-4.90	119.62	126.37
82	S2	1174	PSU	C4-N3-C2	-4.90	119.63	126.37
2	L5	3853	PSU	C4-N3-C2	-4.89	119.63	126.37
82	S2	1056	PSU	N1-C2-N3	4.89	120.33	115.17
82	S2	105	PSU	N1-C2-N3	4.89	120.32	115.17
82	S2	1046	PSU	C4-N3-C2	-4.88	119.65	126.37
82	S2	863	PSU	C4-N3-C2	-4.87	119.66	126.37
82	S2	651	PSU	C4-N3-C2	-4.87	119.67	126.37
82	S2	1174	PSU	N1-C2-N3	4.86	120.30	115.17
82	S2	1232	PSU	N1-C2-N3	4.86	120.30	115.17
2	L5	4673	PSU	C4-N3-C2	-4.86	119.67	126.37
82	S2	109	PSU	C4-N3-C2	-4.86	119.68	126.37
82	S2	1832	6MZ	C2-N1-C6	4.86	120.37	116.60
2	L5	4296	PSU	N1-C2-N3	4.85	120.29	115.17
2	L5	2632	PSU	C4-N3-C2	-4.85	119.69	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	1782	PSU	N1-C2-N3	4.85	120.28	115.17
2	L5	4493	PSU	C4-N3-C2	-4.85	119.69	126.37
2	L5	4576	PSU	N1-C2-N3	4.85	120.28	115.17
2	L5	4972	PSU	N1-C2-N3	4.84	120.28	115.17
2	L5	3851	PSU	C4-N3-C2	-4.84	119.70	126.37
2	L5	4403	PSU	N1-C2-N3	4.84	120.27	115.17
2	L5	1744	PSU	C4-N3-C2	-4.84	119.71	126.37
2	L5	5010	PSU	C4-N3-C2	-4.83	119.72	126.37
82	S2	1244	PSU	N1-C2-N3	4.83	120.26	115.17
2	L5	4299	PSU	C4-N3-C2	-4.83	119.72	126.37
82	S2	1046	PSU	N1-C2-N3	4.83	120.26	115.17
82	S2	1244	PSU	C4-N3-C2	-4.82	119.73	126.37
2	L5	1792	PSU	N1-C2-N3	4.82	120.25	115.17
2	L5	5001	PSU	N1-C2-N3	4.82	120.25	115.17
2	L5	4532	PSU	C4-N3-C2	-4.82	119.73	126.37
82	S2	1232	PSU	C4-N3-C2	-4.82	119.73	126.37
2	L5	3920	PSU	C4-N3-C2	-4.82	119.73	126.37
2	L5	4312	PSU	C4-N3-C2	-4.82	119.73	126.37
82	S2	966	PSU	N1-C2-N3	4.82	120.25	115.17
2	L5	4431	PSU	C4-N3-C2	-4.82	119.74	126.37
2	L5	4972	PSU	C4-N3-C2	-4.81	119.74	126.37
82	S2	686	PSU	N1-C2-N3	4.81	120.24	115.17
2	L5	1536	PSU	C4-N3-C2	-4.81	119.75	126.37
82	S2	109	PSU	N1-C2-N3	4.81	120.24	115.17
82	S2	1031	A2M	C4'-O4'-C1'	-4.80	105.53	109.92
2	L5	4576	PSU	C4-N3-C2	-4.80	119.76	126.37
82	S2	1367	PSU	N1-C2-N3	4.80	120.23	115.17
82	S2	863	PSU	N1-C2-N3	4.79	120.22	115.17
2	L5	4628	PSU	N1-C2-N3	4.79	120.22	115.17
82	S2	105	PSU	C4-N3-C2	-4.78	119.78	126.37
2	L5	5001	PSU	C4-N3-C2	-4.78	119.78	126.37
2	L5	4431	PSU	N1-C2-N3	4.78	120.21	115.17
2	L5	3822	PSU	C4-N3-C2	-4.78	119.79	126.37
82	S2	468	A2M	C4'-O4'-C1'	-4.78	105.55	109.92
82	S2	814	PSU	C4-N3-C2	-4.78	119.79	126.37
2	L5	1536	PSU	N1-C2-N3	4.77	120.20	115.17
82	S2	1367	PSU	C4-N3-C2	-4.77	119.81	126.37
2	L5	4299	PSU	N1-C2-N3	4.76	120.19	115.17
82	S2	681	PSU	N1-C2-N3	4.76	120.18	115.17
2	L5	4361	PSU	C4-N3-C2	-4.75	119.83	126.37
2	L5	4532	PSU	N1-C2-N3	4.74	120.16	115.17
2	L5	4493	PSU	N1-C2-N3	4.73	120.16	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	1677	PSU	N1-C2-N3	4.73	120.15	115.17
2	L5	4471	PSU	C4-N3-C2	-4.72	119.86	126.37
82	S2	166	A2M	C4'-O4'-C1'	-4.72	105.60	109.92
82	S2	99	A2M	C4'-O4'-C1'	-4.70	105.62	109.92
2	L5	1582	PSU	N1-C2-N3	4.70	120.12	115.17
2	L5	1782	PSU	C4-N3-C2	-4.69	119.91	126.37
2	L5	4590	A2M	C4'-O4'-C1'	-4.68	105.64	109.92
2	L5	1781	PSU	C4-N3-C2	-4.67	119.93	126.37
82	S2	27	A2M	C4'-O4'-C1'	-4.67	105.65	109.92
2	L5	1781	PSU	N1-C2-N3	4.67	120.09	115.17
2	L5	3844	PSU	C4-N3-C2	-4.67	119.94	126.37
82	S2	801	PSU	N1-C2-N3	4.67	120.09	115.17
2	L5	4361	PSU	N1-C2-N3	4.66	120.09	115.17
82	S2	93	PSU	N1-C2-N3	4.65	120.07	115.17
82	S2	1248	B8N	C4-N3-C2	-4.64	119.90	125.62
82	S2	681	PSU	C4-N3-C2	-4.64	119.97	126.37
2	L5	4628	PSU	C4-N3-C2	-4.64	119.97	126.37
82	S2	93	PSU	C4-N3-C2	-4.63	119.99	126.37
82	S2	966	PSU	C4-N3-C2	-4.61	120.02	126.37
2	L5	1582	PSU	C4-N3-C2	-4.59	120.04	126.37
82	S2	801	PSU	C4-N3-C2	-4.55	120.11	126.37
2	L5	398	A2M	C4'-O4'-C1'	-4.52	105.78	109.92
82	S2	814	PSU	N1-C2-N3	4.52	119.94	115.17
2	L5	3718	A2M	C4'-O4'-C1'	-4.46	105.84	109.92
2	L5	2401	A2M	C4'-O4'-C1'	-4.43	105.87	109.92
2	L5	3818	UY1	N1-C2-N3	4.39	119.80	115.17
82	S2	668	A2M	C4'-O4'-C1'	-4.34	105.95	109.92
2	L5	1871	A2M	C3'-C2'-C1'	-4.32	94.53	102.81
82	S2	668	A2M	C1'-N9-C4	-4.24	119.18	126.64
2	L5	2401	A2M	C1'-N9-C4	-4.24	119.19	126.64
2	L5	3825	A2M	C4'-O4'-C1'	-4.24	106.05	109.92
82	S2	1383	A2M	C3'-C2'-C1'	-4.21	94.74	102.81
2	L5	3701	OMC	C1'-N1-C6	-4.20	111.81	120.78
2	L5	4523	A2M	C3'-C2'-C1'	-4.15	94.86	102.81
2	L5	3925	OMU	N3-C2-N1	4.15	120.30	114.89
2	L5	4220	6MZ	C2-N1-C6	4.15	119.82	116.60
2	L5	3830	A2M	C3'-C2'-C1'	-4.13	94.90	102.81
82	S2	354	OMU	N3-C2-N1	4.08	120.21	114.89
2	L5	400	A2M	C4'-O4'-C1'	-4.02	106.24	109.92
2	L5	4306	OMU	N3-C2-N1	4.02	120.12	114.89
2	L5	2837	OMU	N3-C2-N1	4.01	120.11	114.89
2	L5	4498	OMU	N3-C2-N1	3.99	120.09	114.89

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	1871	A2M	C1'-N9-C4	-3.99	119.64	126.64
82	S2	121	OMU	N3-C2-N1	3.98	120.08	114.89
82	S2	468	A2M	C1'-N9-C4	-3.98	119.64	126.64
82	S2	1851	MA6	C2-N1-C6	3.96	120.73	116.84
82	S2	172	OMU	N3-C2-N1	3.91	119.98	114.89
2	L5	4227	OMU	N3-C2-N1	3.91	119.97	114.89
2	L5	398	A2M	C3'-C2'-C1'	-3.90	95.33	102.81
2	L5	3925	OMU	C5-C4-N3	3.89	120.25	114.80
82	S2	166	A2M	C1'-N9-C4	-3.88	119.83	126.64
82	S2	799	OMU	N3-C2-N1	3.87	119.92	114.89
82	S2	428	OMU	N3-C2-N1	3.86	119.92	114.89
2	L5	3825	A2M	C1'-N9-C4	-3.84	119.89	126.64
82	S2	576	A2M	C4'-O4'-C1'	-3.82	106.42	109.92
82	S2	1326	OMU	N3-C2-N1	3.82	119.86	114.89
82	S2	1031	A2M	C1'-N9-C4	-3.82	119.93	126.64
2	L5	398	A2M	C1'-N9-C4	-3.80	119.96	126.64
2	L5	4498	OMU	C5-C4-N3	3.80	120.12	114.80
2	L5	4227	OMU	C5-C4-N3	3.80	120.12	114.80
2	L5	4590	A2M	C1'-N9-C4	-3.78	120.00	126.64
82	S2	1383	A2M	C1'-N9-C4	-3.77	120.01	126.64
82	S2	27	A2M	C1'-N9-C4	-3.77	120.02	126.64
2	L5	2363	A2M	C4'-O4'-C1'	-3.76	106.48	109.92
82	S2	428	OMU	C5-C4-N3	3.75	120.05	114.80
82	S2	99	A2M	C1'-N9-C4	-3.74	120.06	126.64
2	L5	2815	A2M	C4'-O4'-C1'	-3.74	106.50	109.92
2	L5	4306	OMU	C5-C4-N3	3.73	120.03	114.80
2	L5	4620	OMU	N3-C2-N1	3.72	119.74	114.89
82	S2	159	A2M	C1'-N9-C4	-3.72	120.11	126.64
82	S2	1442	OMU	N3-C2-N1	3.72	119.73	114.89
2	L5	4530	UR3	C5-C4-N3	3.70	119.91	115.04
82	S2	1326	OMU	C5-C4-N3	3.69	119.97	114.80
82	S2	1031	A2M	C3'-C2'-C1'	-3.69	95.74	102.81
2	L5	4571	A2M	C1'-N9-C4	-3.67	120.19	126.64
82	S2	627	OMU	C5-C4-N3	3.67	119.94	114.80
2	L5	398	A2M	O3'-C3'-C2'	3.65	121.40	111.19
2	L5	4523	A2M	C1'-N9-C4	-3.64	120.24	126.64
2	L5	4571	A2M	C4'-O4'-C1'	-3.64	106.59	109.92
2	L5	2401	A2M	O3'-C3'-C2'	3.64	121.37	111.19
82	S2	116	OMU	N3-C2-N1	3.64	119.63	114.89
82	S2	627	OMU	N3-C2-N1	3.64	119.63	114.89
82	S2	1288	OMU	N3-C2-N1	3.64	119.63	114.89
82	S2	354	OMU	C5-C4-N3	3.63	119.89	114.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	1442	OMU	C5-C4-N3	3.63	119.89	114.80
82	S2	1850	MA6	C2-N1-C6	3.62	120.39	116.84
82	S2	484	A2M	C1'-N9-C4	-3.61	120.29	126.64
82	S2	799	OMU	C5-C4-N3	3.61	119.86	114.80
82	S2	1248	B8N	C1'-C5-C4	3.61	123.09	117.61
82	S2	99	A2M	C3'-C2'-C1'	-3.60	95.91	102.81
2	L5	1326	A2M	C1'-N9-C4	-3.60	120.32	126.64
82	S2	576	A2M	C1'-N9-C4	-3.60	120.32	126.64
2	L5	3867	A2M	C1'-N9-C4	-3.58	120.35	126.64
2	L5	3718	A2M	C3'-C2'-C1'	-3.58	95.95	102.81
82	S2	121	OMU	C5-C4-N3	3.58	119.81	114.80
2	L5	2837	OMU	C5-C4-N3	3.55	119.78	114.80
82	S2	1248	B8N	N3-C2-N1	3.54	121.04	116.72
2	L5	1534	A2M	C4'-O4'-C1'	-3.52	106.70	109.92
82	S2	116	OMU	C5-C4-N3	3.52	119.72	114.80
82	S2	172	OMU	C5-C4-N3	3.51	119.72	114.80
2	L5	1326	A2M	C4'-O4'-C1'	-3.51	106.71	109.92
2	L5	3830	A2M	C1'-N9-C4	-3.51	120.48	126.64
2	L5	3785	A2M	C1'-N9-C4	-3.50	120.49	126.64
82	S2	1288	OMU	C5-C4-N3	3.48	119.68	114.80
2	L5	3718	A2M	C1'-N9-C4	-3.47	120.55	126.64
2	L5	4590	A2M	C3'-C2'-C1'	-3.45	96.21	102.81
2	L5	2787	A2M	O3'-C3'-C2'	3.42	120.77	111.19
2	L5	400	A2M	C1'-N9-C4	-3.42	120.63	126.64
2	L5	3825	A2M	C3'-C2'-C1'	-3.41	96.27	102.81
82	S2	468	A2M	C3'-C2'-C1'	-3.41	96.27	102.81
82	S2	159	A2M	C4'-O4'-C1'	-3.41	106.80	109.92
2	L5	1323	A2M	C4'-O4'-C1'	-3.40	106.81	109.92
2	L5	4220	6MZ	O5'-P-O2P	3.39	115.61	106.44
82	S2	576	A2M	O3'-C3'-C2'	3.39	120.68	111.19
2	L5	3867	A2M	C4'-O4'-C1'	-3.39	106.82	109.92
2	L5	4620	OMU	C5-C4-N3	3.39	119.54	114.80
82	S2	27	A2M	C3'-C2'-C1'	-3.34	96.41	102.81
2	L5	2363	A2M	C1'-N9-C4	-3.34	120.77	126.64
82	S2	1383	A2M	O3'-C3'-C2'	3.34	120.52	111.19
82	S2	166	A2M	O3'-C3'-C2'	3.31	120.44	111.19
2	L5	2401	A2M	C3'-C2'-C1'	-3.29	96.51	102.81
82	S2	576	A2M	C3'-C2'-C1'	-3.29	96.51	102.81
2	L5	2787	A2M	C1'-N9-C4	-3.26	120.91	126.64
2	L5	2815	A2M	C1'-N9-C4	-3.25	120.92	126.64
2	L5	1683	PSU	O2-C2-N1	-3.25	119.44	122.79
2	L5	1534	A2M	C3'-C2'-C1'	-3.24	96.60	102.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4689	PSU	C6-N1-C2	-3.24	119.69	122.69
4	L8	69	PSU	O2-C2-N1	-3.22	119.47	122.79
2	L5	1323	A2M	O3'-C3'-C2'	3.22	120.20	111.19
82	S2	1174	PSU	O2-C2-N1	-3.21	119.47	122.79
82	S2	166	A2M	C3'-C2'-C1'	-3.20	96.68	102.81
2	L5	1524	A2M	O3'-C3'-C2'	3.20	120.14	111.19
2	L5	4579	PSU	O2-C2-N1	-3.20	119.49	122.79
2	L5	3718	A2M	O3'-C3'-C2'	3.19	120.11	111.19
2	L5	400	A2M	C3'-C2'-C1'	-3.18	96.71	102.81
2	L5	3830	A2M	O3'-C3'-C2'	3.18	120.08	111.19
2	L5	1871	A2M	O3'-C3'-C2'	3.16	120.02	111.19
82	S2	99	A2M	O3'-C3'-C2'	3.15	120.01	111.19
82	S2	159	A2M	O3'-C3'-C2'	3.15	120.00	111.19
82	S2	1031	A2M	O3'-C3'-C2'	3.14	119.98	111.19
2	L5	400	A2M	O3'-C3'-C2'	3.13	119.96	111.19
2	L5	3825	A2M	O3'-C3'-C2'	3.13	119.95	111.19
2	L5	4689	PSU	O2-C2-N1	-3.12	119.57	122.79
2	L5	1323	A2M	C2'-C1'-N9	3.12	119.49	112.56
82	S2	428	OMU	O4-C4-C5	-3.12	119.78	125.16
2	L5	4500	PSU	O2-C2-N1	-3.11	119.58	122.79
2	L5	1524	A2M	C1'-N9-C4	-3.10	121.19	126.64
2	L5	3639	PSU	O2-C2-N1	-3.10	119.59	122.79
2	L5	1536	PSU	O2-C2-N1	-3.10	119.59	122.79
82	S2	116	OMU	O4-C4-C5	-3.08	119.85	125.16
2	L5	1323	A2M	C1'-N9-C4	-3.08	121.23	126.64
2	L5	4306	OMU	O4-C4-C5	-3.07	119.87	125.16
82	S2	468	A2M	O3'-C3'-C2'	3.07	119.77	111.19
2	L5	4576	PSU	O2-C2-N1	-3.07	119.63	122.79
2	L5	3844	PSU	O2-C2-N1	-3.04	119.65	122.79
2	L5	3818	UY1	C6-C5-C4	3.03	120.22	118.17
82	S2	1442	OMU	O4-C4-C5	-3.03	119.93	125.16
2	L5	3851	PSU	O2-C2-N1	-3.03	119.67	122.79
2	L5	4296	PSU	O2-C2-N1	-3.02	119.68	122.79
2	L5	1860	PSU	O2-C2-N1	-3.01	119.68	122.79
2	L5	2839	PSU	O2-C2-N1	-3.01	119.68	122.79
82	S2	627	OMU	O4-C4-C5	-3.01	119.97	125.16
82	S2	27	A2M	O3'-C3'-C2'	3.01	119.61	111.19
82	S2	1639	G7M	C2-N1-C6	-3.00	119.62	125.11
2	L5	4457	PSU	O2-C2-N1	-3.00	119.70	122.79
2	L5	1862	PSU	O2-C2-N1	-2.99	119.71	122.79
82	S2	649	PSU	O2-C2-N1	-2.99	119.71	122.79
2	L5	2363	A2M	C3'-C2'-C1'	-2.99	97.09	102.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4571	A2M	C3'-C2'-C1'	-2.98	97.10	102.81
82	S2	1337	4AC	N4-C4-N3	2.98	118.70	113.87
2	L5	3853	PSU	O2-C2-N1	-2.97	119.72	122.79
2	L5	3920	PSU	O2-C2-N1	-2.97	119.73	122.79
4	L8	55	PSU	O2-C2-N1	-2.96	119.74	122.79
2	L5	4532	PSU	O2-C2-N1	-2.96	119.74	122.79
82	S2	668	A2M	O3'-C3'-C2'	2.96	119.46	111.19
82	S2	1326	OMU	O4-C4-C5	-2.95	120.07	125.16
2	L5	3925	OMU	O4-C4-C5	-2.95	120.07	125.16
2	L5	4227	OMU	O4-C4-C5	-2.95	120.08	125.16
2	L5	4552	PSU	O2-C2-N1	-2.93	119.76	122.79
82	S2	109	PSU	O2-C2-N1	-2.93	119.77	122.79
2	L5	3818	UY1	C6-N1-C2	-2.93	119.97	122.69
2	L5	2837	OMU	O4-C4-C5	-2.93	120.11	125.16
2	L5	1744	PSU	O2-C2-N1	-2.92	119.77	122.79
2	L5	4571	A2M	O3'-C3'-C2'	2.92	119.37	111.19
2	L5	4521	PSU	O2-C2-N1	-2.92	119.78	122.79
2	L5	3785	A2M	O3'-C3'-C2'	2.92	119.35	111.19
82	S2	1004	PSU	O2-C2-N1	-2.91	119.79	122.79
82	S2	121	OMU	O4-C4-C5	-2.91	120.15	125.16
82	S2	1177	PSU	O2-C2-N1	-2.90	119.80	122.79
2	L5	5010	PSU	O2-C2-N1	-2.89	119.81	122.79
2	L5	4590	A2M	O3'-C3'-C2'	2.88	119.25	111.19
2	L5	3701	OMC	O2-C2-N3	-2.88	117.79	122.33
2	L5	4498	OMU	O4-C4-C5	-2.88	120.20	125.16
82	S2	1288	OMU	O4-C4-C5	-2.87	120.21	125.16
82	S2	172	OMU	O4-C4-C5	-2.87	120.21	125.16
82	S2	1244	PSU	O2-C2-N1	-2.87	119.83	122.79
82	S2	799	OMU	O4-C4-C5	-2.87	120.21	125.16
2	L5	3695	PSU	O2-C2-N1	-2.86	119.83	122.79
2	L5	2815	A2M	C2'-C1'-N9	2.86	118.92	112.56
2	L5	4442	PSU	O2-C2-N1	-2.86	119.84	122.79
82	S2	1367	PSU	O2-C2-N1	-2.86	119.84	122.79
82	S2	354	OMU	O4-C4-C5	-2.85	120.25	125.16
2	L5	4312	PSU	C6-N1-C2	-2.85	120.05	122.69
2	L5	1534	A2M	C1'-N9-C4	-2.84	121.64	126.64
2	L5	2363	A2M	O3'-C3'-C2'	2.84	119.14	111.19
82	S2	686	PSU	O2-C2-N1	-2.84	119.86	122.79
2	L5	4523	A2M	O3'-C3'-C2'	2.83	119.11	111.19
2	L5	2632	PSU	O2-C2-N1	-2.83	119.87	122.79
2	L5	4312	PSU	O2-C2-N1	-2.83	119.87	122.79
2	L5	4293	PSU	O2-C2-N1	-2.83	119.87	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	406	PSU	O2-C2-N1	-2.82	119.88	122.79
2	L5	4673	PSU	O2-C2-N1	-2.82	119.88	122.79
2	L5	2839	PSU	C6-N1-C2	-2.81	120.09	122.69
82	S2	651	PSU	O2-C2-N1	-2.81	119.89	122.79
82	S2	1232	PSU	O2-C2-N1	-2.81	119.89	122.79
2	L5	3844	PSU	C6-N1-C2	-2.80	120.09	122.69
2	L5	4403	PSU	O2-C2-N1	-2.80	119.90	122.79
82	S2	668	A2M	O4'-C1'-C2'	2.80	111.38	106.61
82	S2	681	PSU	C6-N1-C2	-2.80	120.10	122.69
2	L5	4431	PSU	O2-C2-N1	-2.77	119.94	122.79
2	L5	4500	PSU	C6-N1-C2	-2.77	120.12	122.69
82	S2	1045	PSU	O2-C2-N1	-2.76	119.94	122.79
82	S2	1081	PSU	O2-C2-N1	-2.76	119.94	122.79
2	L5	1326	A2M	O3'-C3'-C2'	2.76	118.91	111.19
82	S2	484	A2M	O3'-C3'-C2'	2.76	118.91	111.19
2	L5	1677	PSU	O2-C2-N1	-2.76	119.94	122.79
82	S2	1046	PSU	O2-C2-N1	-2.75	119.95	122.79
82	S2	966	PSU	O2-C2-N1	-2.75	119.96	122.79
2	L5	3822	PSU	O2-C2-N1	-2.74	119.96	122.79
2	L5	3884	PSU	O2-C2-N1	-2.74	119.96	122.79
2	L5	4972	PSU	O2-C2-N1	-2.74	119.97	122.79
2	L5	4353	PSU	O2-C2-N1	-2.73	119.97	122.79
2	L5	3785	A2M	C4-C5-N7	2.73	112.22	109.34
82	S2	866	PSU	O2-C2-N1	-2.73	119.97	122.79
2	L5	1871	A2M	C4-C5-N7	2.73	112.22	109.34
2	L5	4973	PSU	O2-C2-N1	-2.72	119.98	122.79
2	L5	1792	PSU	O2-C2-N1	-2.71	119.99	122.79
2	L5	1781	PSU	O2-C2-N1	-2.71	120.00	122.79
2	L5	1582	PSU	O2-C2-N1	-2.71	120.00	122.79
2	L5	4361	PSU	O2-C2-N1	-2.70	120.00	122.79
82	S2	966	PSU	C6-N1-C2	-2.69	120.19	122.69
2	L5	1683	PSU	C6-N1-C2	-2.68	120.20	122.69
2	L5	1326	A2M	C3'-C2'-C1'	-2.68	97.67	102.81
82	S2	1248	B8N	O4-C4-N3	-2.68	115.64	119.99
82	S2	801	PSU	O2-C2-N1	-2.67	120.03	122.79
2	L5	4636	PSU	O2-C2-N1	-2.67	120.03	122.79
82	S2	863	PSU	O2-C2-N1	-2.67	120.03	122.79
2	L5	2815	A2M	O3'-C3'-C2'	2.67	118.65	111.19
82	S2	1056	PSU	O2-C2-N1	-2.67	120.04	122.79
2	L5	1524	A2M	O4'-C1'-C2'	2.66	111.15	106.61
2	L5	3867	A2M	C2'-C1'-N9	2.66	118.47	112.56
2	L5	4620	OMU	O4-C4-C5	-2.66	120.58	125.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4353	PSU	C6-N1-C2	-2.66	120.22	122.69
2	L5	3818	UY1	O2-C2-N1	-2.65	120.05	122.79
2	L5	1782	PSU	O2-C2-N1	-2.64	120.07	122.79
2	L5	4552	PSU	C6-N1-C2	-2.63	120.25	122.69
2	L5	1782	PSU	C6-N1-C2	-2.63	120.25	122.69
2	L5	4353	PSU	C6-C5-C4	2.63	119.95	118.17
2	L5	3785	A2M	C3'-C2'-C1'	-2.63	97.77	102.81
2	L5	2815	A2M	C3'-C2'-C1'	-2.63	97.77	102.81
2	L5	4628	PSU	O2-C2-N1	-2.63	120.08	122.79
2	L5	3822	PSU	C6-N1-C2	-2.63	120.25	122.69
82	S2	159	A2M	C3'-C2'-C1'	-2.62	97.79	102.81
82	S2	105	PSU	O2-C2-N1	-2.62	120.09	122.79
2	L5	4220	6MZ	O1P-P-O5'	2.62	113.50	106.67
2	L5	3695	PSU	C6-N1-C2	-2.62	120.26	122.69
82	S2	1367	PSU	C6-N1-C2	-2.62	120.26	122.69
2	L5	2351	OMC	C1'-N1-C2	2.61	124.22	118.44
2	L5	4628	PSU	C6-N1-C2	-2.61	120.27	122.69
82	S2	93	PSU	O2-C2-N1	-2.61	120.09	122.79
82	S2	801	PSU	C6-N1-C2	-2.61	120.27	122.69
2	L5	4293	PSU	C6-N1-C2	-2.60	120.28	122.69
2	L5	3701	OMC	O2-C2-N1	2.60	124.00	118.90
2	L5	3920	PSU	C6-N1-C2	-2.60	120.28	122.69
2	L5	1323	A2M	C3'-C2'-C1'	-2.60	97.83	102.81
2	L5	4471	PSU	C6-N1-C2	-2.60	120.28	122.69
2	L5	4576	PSU	C6-N1-C2	-2.60	120.28	122.69
2	L5	3639	PSU	C6-N1-C2	-2.59	120.28	122.69
2	L5	2787	A2M	O4'-C1'-C2'	2.59	111.02	106.61
4	L8	69	PSU	C6-N1-C2	-2.59	120.29	122.69
2	L5	3718	A2M	C4-C5-N7	2.58	112.06	109.34
2	L5	3785	A2M	O4'-C1'-N9	2.58	112.16	108.75
2	L5	4579	PSU	C6-N1-C2	-2.57	120.31	122.69
82	S2	1177	PSU	C6-N1-C2	-2.57	120.31	122.69
2	L5	2632	PSU	C6-N1-C2	-2.56	120.31	122.69
2	L5	4493	PSU	O2-C2-N1	-2.56	120.14	122.79
82	S2	681	PSU	O2-C2-N1	-2.56	120.14	122.79
2	L5	1744	PSU	C6-N1-C2	-2.56	120.31	122.69
2	L5	4471	PSU	O2-C2-N1	-2.56	120.15	122.79
82	S2	1232	PSU	C6-N1-C2	-2.56	120.32	122.69
2	L5	5001	PSU	O2-C2-N1	-2.56	120.15	122.79
2	L5	4442	PSU	C6-N1-C2	-2.55	120.32	122.69
2	L5	5010	PSU	C6-N1-C2	-2.55	120.32	122.69
2	L5	4673	PSU	C6-N1-C2	-2.55	120.32	122.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
82	S2	93	PSU	C6-N1-C2	-2.55	120.33	122.69
82	S2	484	A2M	C4'-O4'-C1'	-2.54	107.60	109.92
2	L5	1860	PSU	C6-N1-C2	-2.54	120.34	122.69
82	S2	651	PSU	C6-N1-C2	-2.54	120.34	122.69
82	S2	1046	PSU	C6-N1-C2	-2.53	120.34	122.69
2	L5	2787	A2M	C4-C5-N7	2.52	112.00	109.34
4	L8	55	PSU	C6-N1-C2	-2.52	120.35	122.69
82	S2	649	PSU	C6-N1-C2	-2.51	120.36	122.69
2	L5	3853	PSU	C6-N1-C2	-2.51	120.36	122.69
82	S2	105	PSU	C6-N1-C2	-2.51	120.36	122.69
82	S2	1004	PSU	C6-N1-C2	-2.50	120.37	122.69
2	L5	4521	PSU	C6-N1-C2	-2.50	120.37	122.69
2	L5	4523	A2M	C4-C5-N7	2.50	111.97	109.34
2	L5	1323	A2M	C4-C5-N7	2.49	111.97	109.34
2	L5	3867	A2M	C4-C5-N7	2.49	111.97	109.34
82	S2	1174	PSU	C6-N1-C2	-2.49	120.38	122.69
2	L5	4973	PSU	C6-N1-C2	-2.49	120.38	122.69
2	L5	4299	PSU	O2-C2-N1	-2.49	120.22	122.79
82	S2	866	PSU	C6-C5-C4	2.48	119.85	118.17
2	L5	4571	A2M	C4-C5-N7	2.48	111.96	109.34
2	L5	4500	PSU	C6-C5-C4	2.48	119.84	118.17
82	S2	1383	A2M	C4-C5-N7	2.48	111.95	109.34
82	S2	354	OMU	O2-C2-N1	-2.47	119.58	122.80
2	L5	2815	A2M	C4-C5-N7	2.47	111.95	109.34
2	L5	1536	PSU	C6-N1-C2	-2.47	120.40	122.69
2	L5	400	A2M	C4-C5-N7	2.47	111.94	109.34
2	L5	5001	PSU	C6-N1-C2	-2.47	120.40	122.69
82	S2	814	PSU	O2-C2-N1	-2.47	120.25	122.79
2	L5	4442	PSU	C6-C5-C4	2.46	119.83	118.17
2	L5	1534	A2M	C4-C5-N7	2.46	111.94	109.34
2	L5	3808	OMC	C1'-N1-C2	2.46	123.87	118.44
2	L5	4498	OMU	O2-C2-N1	-2.45	119.61	122.80
2	L5	1323	A2M	O4'-C1'-C2'	2.45	110.78	106.61
82	S2	109	PSU	C6-N1-C2	-2.45	120.42	122.69
2	L5	4637	OMG	O6-C6-C5	2.45	129.17	124.32
82	S2	27	A2M	C4-C5-N7	2.45	111.92	109.34
2	L5	4972	PSU	C6-N1-C2	-2.44	120.42	122.69
2	L5	1524	A2M	C4-C5-N7	2.44	111.92	109.34
2	L5	4590	A2M	C4-C5-N7	2.44	111.92	109.34
82	S2	668	A2M	C2'-C1'-N9	2.43	117.96	112.56
82	S2	1244	PSU	C6-N1-C2	-2.43	120.44	122.69
82	S2	1272	OMC	C1'-N1-C2	2.43	123.81	118.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	3639	PSU	C6-C5-C4	2.43	119.81	118.17
2	L5	400	A2M	C2'-C1'-N9	2.43	117.95	112.56
2	L5	3925	OMU	O2-C2-N1	-2.43	119.64	122.80
2	L5	3884	PSU	C6-N1-C2	-2.42	120.44	122.69
2	L5	2401	A2M	C4-C5-N7	2.42	111.90	109.34
2	L5	3851	PSU	C6-N1-C2	-2.42	120.45	122.69
2	L5	4521	PSU	C6-C5-C4	2.41	119.80	118.17
2	L5	2363	A2M	C4-C5-N7	2.41	111.88	109.34
2	L5	2363	A2M	C2'-C1'-N9	2.41	117.90	112.56
2	L5	1326	A2M	C4-C5-N7	2.40	111.88	109.34
2	L5	4431	PSU	C6-N1-C2	-2.40	120.46	122.69
2	L5	2861	OMC	C1'-N1-C2	2.40	123.74	118.44
2	L5	1534	A2M	O3'-C3'-C4'	-2.40	104.19	111.08
2	L5	3830	A2M	C4-C5-N7	2.40	111.87	109.34
82	S2	863	PSU	C6-N1-C2	-2.40	120.47	122.69
82	S2	1031	A2M	C4-C5-N7	2.39	111.86	109.34
82	S2	99	A2M	C4-C5-N7	2.39	111.86	109.34
82	S2	484	A2M	O4'-C1'-C2'	2.39	110.68	106.61
82	S2	406	PSU	C6-N1-C2	-2.39	120.48	122.69
82	S2	1328	OMG	O6-C6-C5	2.38	129.05	124.32
2	L5	1582	PSU	C6-N1-C2	-2.38	120.48	122.69
82	S2	1045	PSU	C6-N1-C2	-2.38	120.48	122.69
2	L5	4228	OMG	O6-C6-C5	2.37	129.03	124.32
82	S2	468	A2M	C4-C5-N7	2.37	111.85	109.34
2	L5	3822	PSU	O4'-C1'-C2'	2.37	108.42	105.15
2	L5	1781	PSU	C6-N1-C2	-2.36	120.50	122.69
2	L5	3744	OMG	O6-C6-C5	2.36	128.99	124.32
2	L5	4296	PSU	C6-N1-C2	-2.35	120.51	122.69
82	S2	166	A2M	C4-C5-N7	2.35	111.83	109.34
82	S2	576	A2M	C4-C5-N7	2.35	111.83	109.34
82	S2	436	OMG	O6-C6-C5	2.35	128.99	124.32
82	S2	686	PSU	C6-N1-C2	-2.35	120.51	122.69
82	S2	866	PSU	C6-N1-C2	-2.34	120.52	122.69
2	L5	2837	OMU	O2-C2-N1	-2.34	119.75	122.80
2	L5	3637	PSU	C6-N1-C2	-2.34	120.52	122.69
2	L5	3825	A2M	C4-C5-N7	2.34	111.81	109.34
82	S2	601	OMG	O6-C6-C5	2.34	128.96	124.32
2	L5	4299	PSU	C6-N1-C2	-2.33	120.53	122.69
2	L5	4636	PSU	C6-C5-C4	2.33	119.74	118.17
82	S2	484	A2M	C4-C5-N7	2.32	111.79	109.34
82	S2	1056	PSU	C6-N1-C2	-2.32	120.54	122.69
2	L5	4392	OMG	O6-C6-C5	2.32	128.91	124.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	3899	OMG	O6-C6-C5	2.31	128.91	124.32
2	L5	4457	PSU	C6-N1-C2	-2.31	120.55	122.69
82	S2	1248	B8N	O4'-C1'-C2'	2.30	108.34	105.15
82	S2	509	OMG	O6-C6-C5	2.30	128.88	124.32
2	L5	4494	OMG	O6-C6-C5	2.30	128.87	124.32
2	L5	2363	A2M	O4'-C1'-C2'	2.29	110.52	106.61
2	L5	4361	PSU	C6-N1-C2	-2.29	120.56	122.69
2	L5	1683	PSU	C6-C5-C4	2.29	119.72	118.17
2	L5	398	A2M	C4-C5-N7	2.29	111.76	109.34
82	S2	159	A2M	C4-C5-N7	2.29	111.76	109.34
2	L5	4532	PSU	C6-N1-C2	-2.29	120.57	122.69
82	S2	428	OMU	O2-C2-N1	-2.27	119.84	122.80
2	L5	4571	A2M	O4'-C1'-C2'	2.27	110.48	106.61
2	L5	4571	A2M	C2'-C1'-N9	2.27	117.60	112.56
82	S2	1288	OMU	C1'-N1-C2	2.27	121.67	117.59
2	L5	1744	PSU	C6-C5-C4	2.27	119.70	118.17
2	L5	1862	PSU	C6-N1-C2	-2.27	120.59	122.69
2	L5	2815	A2M	O4'-C1'-C2'	2.27	110.47	106.61
2	L5	4623	OMG	O6-C6-C5	2.26	128.81	124.32
2	L5	1322	1MA	C5-C6-N1	-2.26	110.70	113.95
4	L8	69	PSU	O4'-C1'-C2'	2.26	108.28	105.15
82	S2	867	OMG	O6-C6-C5	2.26	128.81	124.32
82	S2	172	OMU	O2-C2-N1	-2.26	119.85	122.80
82	S2	1326	OMU	O2-C2-N1	-2.26	119.85	122.80
82	S2	668	A2M	C4-C5-N7	2.26	111.72	109.34
82	S2	1337	4AC	C5-C4-N4	-2.26	119.14	122.94
2	L5	1326	A2M	O4'-C1'-C2'	2.24	110.43	106.61
2	L5	4493	PSU	C6-N1-C2	-2.24	120.61	122.69
2	L5	3627	OMG	O6-C6-C5	2.23	128.75	124.32
4	L8	75	OMG	O6-C6-C5	2.23	128.75	124.32
2	L5	2876	OMG	O6-C6-C5	2.23	128.75	124.32
2	L5	3867	A2M	O3'-C3'-C2'	2.23	117.43	111.19
82	S2	644	OMG	O6-C6-C5	2.23	128.73	124.32
2	L5	1522	OMG	O6-C6-C5	2.23	128.73	124.32
2	L5	1322	1MA	N1-C6-N6	2.22	125.29	119.71
82	S2	406	PSU	C6-C5-C4	2.22	119.67	118.17
82	S2	683	OMG	O6-C6-C5	2.21	128.70	124.32
2	L5	4457	PSU	C6-C5-C4	2.21	119.66	118.17
82	S2	1056	PSU	C6-C5-C4	2.21	119.66	118.17
2	L5	3637	PSU	C6-C5-C4	2.21	119.66	118.17
2	L5	1326	A2M	C2'-C1'-N9	2.21	117.46	112.56
2	L5	4227	OMU	O2-C2-N1	-2.20	119.93	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4403	PSU	O4'-C1'-C2'	2.20	108.20	105.15
82	S2	814	PSU	C6-N1-C2	-2.20	120.65	122.69
82	S2	159	A2M	O4'-C1'-C2'	2.19	110.34	106.61
82	S2	1248	B8N	O4-C4-C5	-2.19	118.80	122.58
2	L5	2632	PSU	C6-C5-C4	2.18	119.65	118.17
2	L5	1792	PSU	C6-N1-C2	-2.18	120.67	122.69
82	S2	166	A2M	O4'-C1'-C2'	2.18	110.32	106.61
2	L5	4196	OMG	O6-C6-C5	2.18	128.63	124.32
2	L5	4618	OMG	O6-C6-C5	2.17	128.63	124.32
2	L5	4636	PSU	O4'-C1'-C2'	2.17	108.15	105.15
2	L5	2364	OMG	O6-C6-C5	2.17	128.62	124.32
2	L5	1534	A2M	O4'-C1'-C2'	2.16	110.29	106.61
82	S2	116	OMU	O2-C2-N1	-2.16	119.99	122.80
2	L5	4552	PSU	C6-C5-C4	2.15	119.63	118.17
4	L8	69	PSU	C6-C5-C4	2.15	119.63	118.17
2	L5	3782	5MC	C1'-N1-C6	-2.15	117.61	121.15
2	L5	4442	PSU	O4'-C1'-C2'	2.15	108.12	105.15
82	S2	649	PSU	C6-C5-C4	2.15	119.62	118.17
2	L5	2839	PSU	C6-C5-C4	2.15	119.62	118.17
2	L5	4370	OMG	O6-C6-C5	2.14	128.57	124.32
82	S2	627	OMU	O2-C2-N1	-2.14	120.01	122.80
2	L5	1322	1MA	CM1-N1-C6	-2.14	116.83	120.15
2	L5	3785	A2M	O4'-C4'-C3'	2.12	109.36	105.15
2	L5	2401	A2M	O4'-C1'-C2'	2.12	110.21	106.61
2	L5	4499	OMG	O6-C6-C5	2.12	128.52	124.32
82	S2	1081	PSU	C6-N1-C2	-2.11	120.73	122.69
82	S2	1081	PSU	O4'-C1'-C2'	2.11	108.07	105.15
82	S2	468	A2M	O4'-C1'-C2'	2.10	110.18	106.61
2	L5	3637	PSU	O2-C2-N1	-2.10	120.63	122.79
82	S2	799	OMU	C1'-N1-C2	2.09	121.34	117.59
82	S2	484	A2M	O4'-C4'-C3'	2.09	109.29	105.15
2	L5	4306	OMU	O2-C2-N1	-2.08	120.08	122.80
2	L5	400	A2M	O4'-C1'-C2'	2.08	110.16	106.61
2	L5	4636	PSU	C6-N1-C2	-2.08	120.76	122.69
2	L5	4403	PSU	C6-N1-C2	-2.08	120.76	122.69
2	L5	4403	PSU	C6-C5-C4	2.07	119.57	118.17
82	S2	1832	6MZ	O1P-P-O2P	2.07	118.91	110.83
2	L5	3792	OMG	O6-C6-C5	2.07	128.42	124.32
82	S2	121	OMU	O2-C2-N1	-2.07	120.11	122.80
2	L5	3867	A2M	O4'-C1'-C2'	2.07	110.13	106.61
2	L5	4571	A2M	O3'-C3'-C4'	-2.06	105.15	111.08
2	L5	3867	A2M	C3'-C2'-C1'	-2.06	98.85	102.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L5	4457	PSU	O4'-C1'-C2'	2.06	108.00	105.15
2	L5	1316	OMG	O6-C6-C5	2.06	128.40	124.32
2	L5	4456	OMC	C1'-N1-C2	2.05	122.98	118.44
2	L5	4628	PSU	O4'-C1'-C2'	2.05	107.99	105.15
2	L5	1625	OMG	O6-C6-C5	2.05	128.39	124.32
2	L5	4353	PSU	O4'-C1'-C2'	2.05	107.99	105.15
2	L5	3825	A2M	O4'-C1'-C2'	2.04	110.09	106.61
82	S2	1442	OMU	O2-C2-N1	-2.04	120.14	122.80
2	L5	4973	PSU	C6-C5-C4	2.04	119.55	118.17
2	L5	4972	PSU	C6-C5-C4	2.03	119.55	118.17
2	L5	2401	A2M	C6-C5-C4	-2.03	113.95	117.90
2	L5	1871	A2M	C6-C5-C4	-2.03	113.95	117.90
82	S2	27	A2M	O4'-C1'-C2'	2.02	110.05	106.61
2	L5	4521	PSU	O4'-C1'-C2'	2.02	107.94	105.15
82	S2	1244	PSU	C6-C5-C4	2.01	119.53	118.17
2	L5	3920	PSU	C6-C5-C4	2.01	119.53	118.17
2	L5	3695	PSU	O4'-C1'-C2'	2.00	107.92	105.15
82	S2	668	A2M	O3'-C3'-C4'	-2.00	105.34	111.08

There are no chirality outliers.

All (129) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	L8	75	OMG	C1'-C2'-O2'-CM2
2	L5	1326	A2M	O4'-C4'-C5'-O5'
2	L5	1326	A2M	C1'-C2'-O2'-CM'
2	L5	1340	OMC	C1'-C2'-O2'-CM2
2	L5	1625	OMG	O4'-C4'-C5'-O5'
2	L5	2351	OMC	C1'-C2'-O2'-CM2
2	L5	2787	A2M	C1'-C2'-O2'-CM'
2	L5	3701	OMC	O4'-C4'-C5'-O5'
2	L5	3792	OMG	O4'-C4'-C5'-O5'
2	L5	4196	OMG	C1'-C2'-O2'-CM2
2	L5	4220	6MZ	C5'-O5'-P-O2P
2	L5	4220	6MZ	C5'-O5'-P-O3P
2	L5	4637	OMG	O4'-C4'-C5'-O5'
82	S2	27	A2M	C1'-C2'-O2'-CM'
82	S2	159	A2M	C1'-C2'-O2'-CM'
82	S2	601	OMG	C1'-C2'-O2'-CM2
82	S2	644	OMG	O4'-C4'-C5'-O5'
82	S2	1248	B8N	O4'-C4'-C5'-O5'
82	S2	1272	OMC	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
82	S2	1288	OMU	O4'-C4'-C5'-O5'
82	S2	1337	4AC	N3-C4-N4-C7
82	S2	1383	A2M	C1'-C2'-O2'-CM'
82	S2	1442	OMU	O4'-C4'-C5'-O5'
82	S2	1832	6MZ	C5-C6-N6-C9
82	S2	1832	6MZ	N1-C6-N6-C9
2	L5	3701	OMC	C2'-C1'-N1-C2
2	L5	2364	OMG	O4'-C4'-C5'-O5'
2	L5	3701	OMC	C3'-C4'-C5'-O5'
2	L5	4500	PSU	C3'-C4'-C5'-O5'
2	L5	4500	PSU	O4'-C4'-C5'-O5'
2	L5	4590	A2M	O4'-C4'-C5'-O5'
2	L5	4590	A2M	C3'-C4'-C5'-O5'
82	S2	436	OMG	O4'-C4'-C5'-O5'
82	S2	576	A2M	O4'-C4'-C5'-O5'
82	S2	576	A2M	C3'-C4'-C5'-O5'
82	S2	683	OMG	C3'-C4'-C5'-O5'
82	S2	799	OMU	C3'-C4'-C5'-O5'
82	S2	799	OMU	O4'-C4'-C5'-O5'
82	S2	801	PSU	C3'-C4'-C5'-O5'
82	S2	867	OMG	C3'-C4'-C5'-O5'
82	S2	1272	OMC	C3'-C4'-C5'-O5'
82	S2	1288	OMU	C3'-C4'-C5'-O5'
2	L5	1323	A2M	O4'-C4'-C5'-O5'
2	L5	1536	PSU	C3'-C4'-C5'-O5'
2	L5	1536	PSU	O4'-C4'-C5'-O5'
2	L5	1625	OMG	C3'-C4'-C5'-O5'
2	L5	2815	A2M	O4'-C4'-C5'-O5'
2	L5	3792	OMG	C3'-C4'-C5'-O5'
2	L5	3867	A2M	C3'-C4'-C5'-O5'
82	S2	99	A2M	O4'-C4'-C5'-O5'
82	S2	683	OMG	O4'-C4'-C5'-O5'
82	S2	1442	OMU	C3'-C4'-C5'-O5'
2	L5	3701	OMC	C2'-C1'-N1-C6
2	L5	1326	A2M	C3'-C4'-C5'-O5'
82	S2	644	OMG	C3'-C4'-C5'-O5'
2	L5	4447	5MC	C2'-C1'-N1-C6
2	L5	1677	PSU	C3'-C4'-C5'-O5'
2	L5	2364	OMG	C3'-C4'-C5'-O5'
2	L5	2876	OMG	C3'-C4'-C5'-O5'
2	L5	3899	OMG	C3'-C4'-C5'-O5'
2	L5	4637	OMG	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
82	S2	436	OMG	C3'-C4'-C5'-O5'
82	S2	517	OMC	C3'-C4'-C5'-O5'
82	S2	668	A2M	O4'-C4'-C5'-O5'
82	S2	668	A2M	C3'-C4'-C5'-O5'
82	S2	1248	B8N	C3'-C4'-C5'-O5'
82	S2	428	OMU	C2'-C1'-N1-C6
2	L5	1677	PSU	O4'-C4'-C5'-O5'
2	L5	2787	A2M	C3'-C4'-C5'-O5'
2	L5	2815	A2M	C3'-C4'-C5'-O5'
82	S2	801	PSU	O4'-C4'-C5'-O5'
82	S2	867	OMG	O4'-C4'-C5'-O5'
2	L5	1524	A2M	O4'-C4'-C5'-O5'
2	L5	1524	A2M	C3'-C4'-C5'-O5'
2	L5	3867	A2M	O4'-C4'-C5'-O5'
82	S2	517	OMC	O4'-C4'-C5'-O5'
2	L5	3899	OMG	O4'-C4'-C5'-O5'
2	L5	4618	OMG	C3'-C4'-C5'-O5'
2	L5	1323	A2M	C3'-C4'-C5'-O5'
2	L5	2876	OMG	O4'-C4'-C5'-O5'
82	S2	99	A2M	C3'-C4'-C5'-O5'
2	L5	4590	A2M	C4'-C5'-O5'-P
2	L5	2422	OMC	O4'-C4'-C5'-O5'
82	S2	1045	PSU	O4'-C4'-C5'-O5'
2	L5	3841	OMC	C1'-C2'-O2'-CM2
82	S2	166	A2M	C1'-C2'-O2'-CM'
82	S2	867	OMG	C1'-C2'-O2'-CM2
2	L5	2422	OMC	C3'-C4'-C5'-O5'
2	L5	3851	PSU	C3'-C4'-C5'-O5'
82	S2	428	OMU	O4'-C4'-C5'-O5'
82	S2	1248	B8N	C31-C32-C33-C34
82	S2	1045	PSU	C3'-C4'-C5'-O5'
82	S2	1248	B8N	N34-C33-C34-O36
82	S2	1639	G7M	C3'-C4'-C5'-O5'
2	L5	4447	5MC	O4'-C1'-N1-C6
82	S2	428	OMU	O4'-C1'-N1-C6
2	L5	4447	5MC	O4'-C1'-N1-C2
2	L5	3818	UY1	C4'-C5'-O5'-P
2	L5	4447	5MC	C2'-C1'-N1-C2
82	S2	1383	A2M	O4'-C4'-C5'-O5'
2	L5	3701	OMC	O4'-C1'-N1-C6
2	L5	1534	A2M	C4'-C5'-O5'-P
2	L5	4500	PSU	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
2	L5	3818	UY1	O4'-C1'-C5-C4
82	S2	428	OMU	C3'-C4'-C5'-O5'
82	S2	1383	A2M	C3'-C4'-C5'-O5'
82	S2	576	A2M	C4'-C5'-O5'-P
2	L5	1781	PSU	C3'-C4'-C5'-O5'
82	S2	428	OMU	C2'-C1'-N1-C2
2	L5	3887	OMC	C4'-C5'-O5'-P
82	S2	627	OMU	O4'-C4'-C5'-O5'
2	L5	3785	A2M	C3'-C2'-O2'-CM'
82	S2	1490	OMG	C4'-C5'-O5'-P
2	L5	3782	5MC	O4'-C4'-C5'-O5'
2	L5	4618	OMG	O4'-C4'-C5'-O5'
82	S2	1703	OMC	O4'-C4'-C5'-O5'
82	S2	644	OMG	C4'-C5'-O5'-P
82	S2	1851	MA6	C4'-C5'-O5'-P
2	L5	398	A2M	O4'-C4'-C5'-O5'
82	S2	428	OMU	O4'-C1'-N1-C2
2	L5	400	A2M	C1'-C2'-O2'-CM'
2	L5	3844	PSU	C4'-C5'-O5'-P
2	L5	1677	PSU	O4'-C1'-C5-C6
2	L5	3869	OMC	C3'-C2'-O2'-CM2
2	L5	3701	OMC	O4'-C1'-N1-C2
2	L5	2351	OMC	O4'-C4'-C5'-O5'
82	S2	1832	6MZ	O4'-C4'-C5'-O5'
82	S2	1639	G7M	O4'-C4'-C5'-O5'
2	L5	1326	A2M	C4'-C5'-O5'-P

There are no ring outliers.

67 monomers are involved in 89 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
82	S2	436	OMG	1	0
2	L5	2632	PSU	1	0
82	S2	1288	OMU	1	0
2	L5	4618	OMG	1	0
2	L5	3701	OMC	1	0
82	S2	484	A2M	1	0
82	S2	681	PSU	1	0
2	L5	4196	OMG	1	0
2	L5	1677	PSU	1	0
82	S2	166	A2M	2	0
2	L5	3782	5MC	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
82	S2	159	A2M	2	0
2	L5	2424	OMG	1	0
82	S2	867	OMG	1	0
82	S2	1328	OMG	1	0
82	S2	601	OMG	1	0
2	L5	4590	A2M	1	0
2	L5	1625	OMG	1	0
2	L5	4227	OMU	1	0
2	L5	2363	A2M	1	0
2	L5	3822	PSU	1	0
2	L5	2876	OMG	1	0
82	S2	517	OMC	1	0
2	L5	4431	PSU	1	0
2	L5	3818	UY1	1	0
82	S2	509	OMG	2	0
82	S2	27	A2M	1	0
82	S2	1232	PSU	2	0
2	L5	4457	PSU	1	0
2	L5	3841	OMC	1	0
2	L5	4637	OMG	1	0
2	L5	4579	PSU	1	0
82	S2	116	OMU	2	0
2	L5	4620	OMU	2	0
2	L5	2351	OMC	1	0
2	L5	3884	PSU	1	0
2	L5	4571	A2M	1	0
82	S2	1046	PSU	1	0
2	L5	3867	A2M	3	0
2	L5	1326	A2M	3	0
2	L5	398	A2M	1	0
4	L8	75	OMG	2	0
82	S2	121	OMU	1	0
82	S2	462	OMC	1	0
2	L5	4293	PSU	1	0
2	L5	400	A2M	1	0
2	L5	1871	A2M	1	0
82	S2	576	A2M	2	0
82	S2	1383	A2M	1	0
2	L5	2861	OMC	1	0
2	L5	4536	OMC	2	0
2	L5	4220	6MZ	2	0
2	L5	1340	OMC	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	L5	4392	OMG	1	0
2	L5	4456	OMC	1	0
2	L5	2422	OMC	1	0
82	S2	1639	G7M	3	0
2	L5	4636	PSU	1	0
2	L5	3718	A2M	3	0
82	S2	1850	MA6	2	0
2	L5	4306	OMU	1	0
2	L5	4447	5MC	1	0
2	L5	1683	PSU	2	0
82	S2	468	A2M	1	0
2	L5	3785	A2M	1	0
82	S2	99	A2M	1	0
82	S2	1337	4AC	3	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 242 ligands modelled in this entry, 225 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	5262	-	13,13,13	0.36	0	12,12,12	0.88	0
88	SPD	L5	5283	-	9,9,9	0.33	0	8,8,8	0.91	0
88	SPD	L5	5282	-	9,9,9	0.31	0	8,8,8	0.77	0
87	SPM	L5	5290	-	13,13,13	0.36	0	12,12,12	0.87	0
87	SPM	L5	5266	-	13,13,13	0.37	0	12,12,12	1.12	0
87	SPM	L5	5263	-	13,13,13	0.35	0	12,12,12	1.00	0
88	SPD	L5	5281	-	9,9,9	0.33	0	8,8,8	0.84	0
87	SPM	L5	5286	86	13,13,13	0.36	0	12,12,12	1.00	0
88	SPD	L5	5284	-	9,9,9	0.32	0	8,8,8	0.82	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
88	SPD	LN	301	-	9,9,9	0.33	0	8,8,8	0.85	0
88	SPD	L5	5260	-	9,9,9	0.31	0	8,8,8	0.95	0
87	SPM	L5	5258	-	13,13,13	0.35	0	12,12,12	0.99	0
88	SPD	L8	202	-	9,9,9	0.33	0	8,8,8	0.93	0
88	SPD	L5	5287	-	9,9,9	0.31	0	8,8,8	0.85	0
88	SPD	L5	5285	-	9,9,9	0.32	0	8,8,8	0.84	0
88	SPD	L5	5288	-	9,9,9	0.33	0	8,8,8	0.80	0
87	SPM	L5	5289	-	13,13,13	0.36	0	12,12,12	0.86	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	5262	-	-	2/11/11/11	-
88	SPD	L5	5283	-	-	4/7/7/7	-
88	SPD	L5	5282	-	-	1/7/7/7	-
87	SPM	L5	5290	-	-	3/11/11/11	-
87	SPM	L5	5266	-	-	5/11/11/11	-
87	SPM	L5	5263	-	-	4/11/11/11	-
88	SPD	L5	5281	-	-	1/7/7/7	-
87	SPM	L5	5286	86	-	4/11/11/11	-
88	SPD	L5	5284	-	-	0/7/7/7	-
88	SPD	LN	301	-	-	1/7/7/7	-
88	SPD	L5	5260	-	-	0/7/7/7	-
87	SPM	L5	5258	-	-	2/11/11/11	-
88	SPD	L8	202	-	-	3/7/7/7	-
88	SPD	L5	5287	-	-	1/7/7/7	-
88	SPD	L5	5285	-	-	1/7/7/7	-
88	SPD	L5	5288	-	-	3/7/7/7	-
87	SPM	L5	5289	-	-	3/11/11/11	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (38) torsion outliers are listed below:

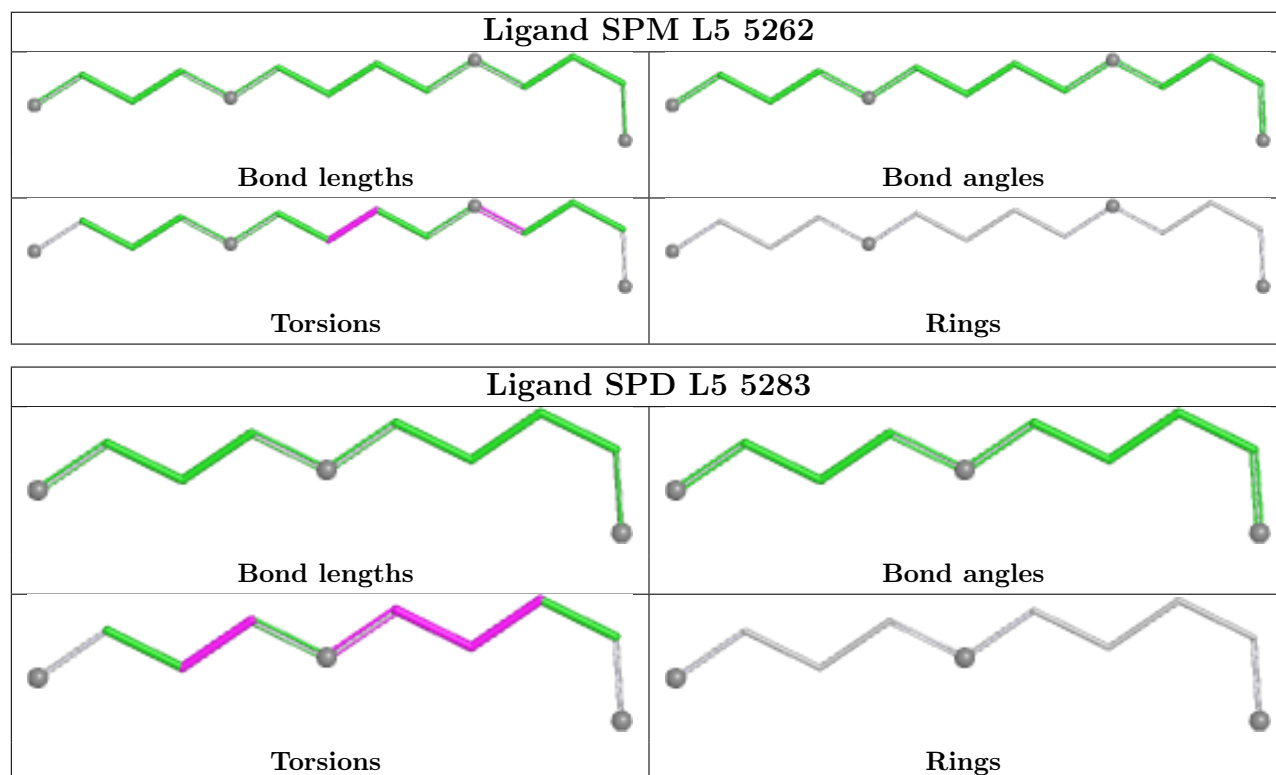
Mol	Chain	Res	Type	Atoms
88	L5	5283	SPD	C3-C4-C5-N6
87	L5	5289	SPM	C7-C8-C9-N10
88	L8	202	SPD	C3-C4-C5-N6
88	L5	5283	SPD	N6-C7-C8-C9
88	L5	5282	SPD	C3-C4-C5-N6
87	L5	5266	SPM	N10-C11-C12-C13
87	L5	5258	SPM	C3-C4-N5-C6
87	L5	5286	SPM	C12-C11-N10-C9
87	L5	5289	SPM	N10-C11-C12-C13
87	L5	5290	SPM	C8-C9-N10-C11
88	L5	5283	SPD	C4-C5-N6-C7
88	L5	5283	SPD	C2-C3-C4-C5
87	L5	5266	SPM	C7-C8-C9-N10
87	L5	5286	SPM	C7-C6-N5-C4
87	L5	5286	SPM	C8-C9-N10-C11
87	L5	5266	SPM	C2-C3-C4-N5
87	L5	5262	SPM	C6-C7-C8-C9
87	L5	5258	SPM	C6-C7-C8-C9
87	L5	5266	SPM	C6-C7-C8-C9
87	L5	5290	SPM	C6-C7-C8-C9
87	L5	5263	SPM	N5-C6-C7-C8
87	L5	5263	SPM	C7-C6-N5-C4
87	L5	5290	SPM	C7-C6-N5-C4
88	L5	5288	SPD	C4-C5-N6-C7
88	L5	5287	SPD	C2-C3-C4-C5
88	L5	5281	SPD	C2-C3-C4-C5
88	LN	301	SPD	C4-C5-N6-C7
87	L5	5263	SPM	N10-C11-C12-C13
87	L5	5286	SPM	N1-C2-C3-C4
88	L5	5288	SPD	C8-C7-N6-C5
87	L5	5266	SPM	N5-C6-C7-C8
88	L5	5288	SPD	N1-C2-C3-C4
87	L5	5263	SPM	C2-C3-C4-N5
88	L8	202	SPD	N6-C7-C8-C9
87	L5	5262	SPM	C3-C4-N5-C6
88	L8	202	SPD	C8-C7-N6-C5
87	L5	5289	SPM	N5-C6-C7-C8
88	L5	5285	SPD	C8-C7-N6-C5

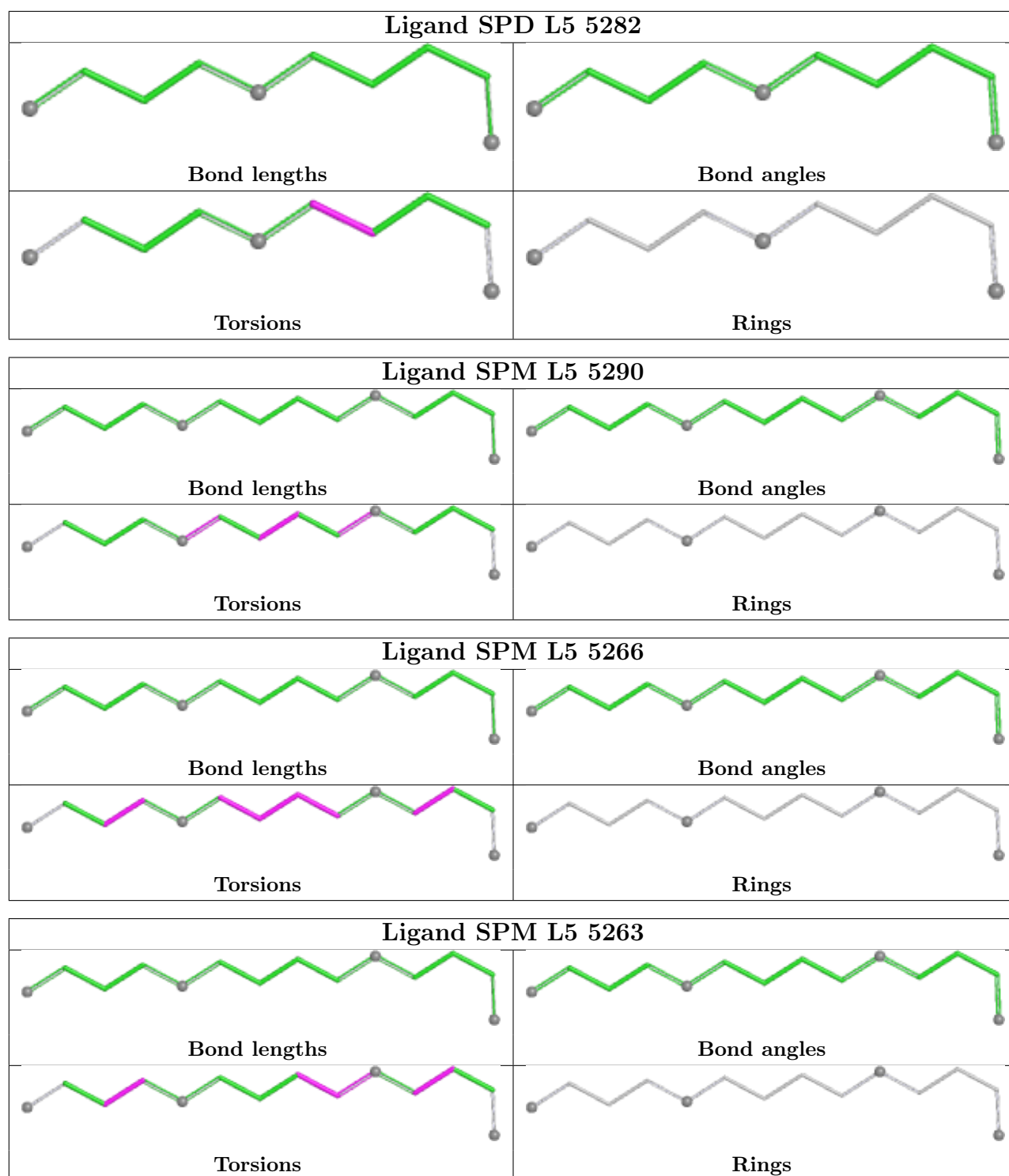
There are no ring outliers.

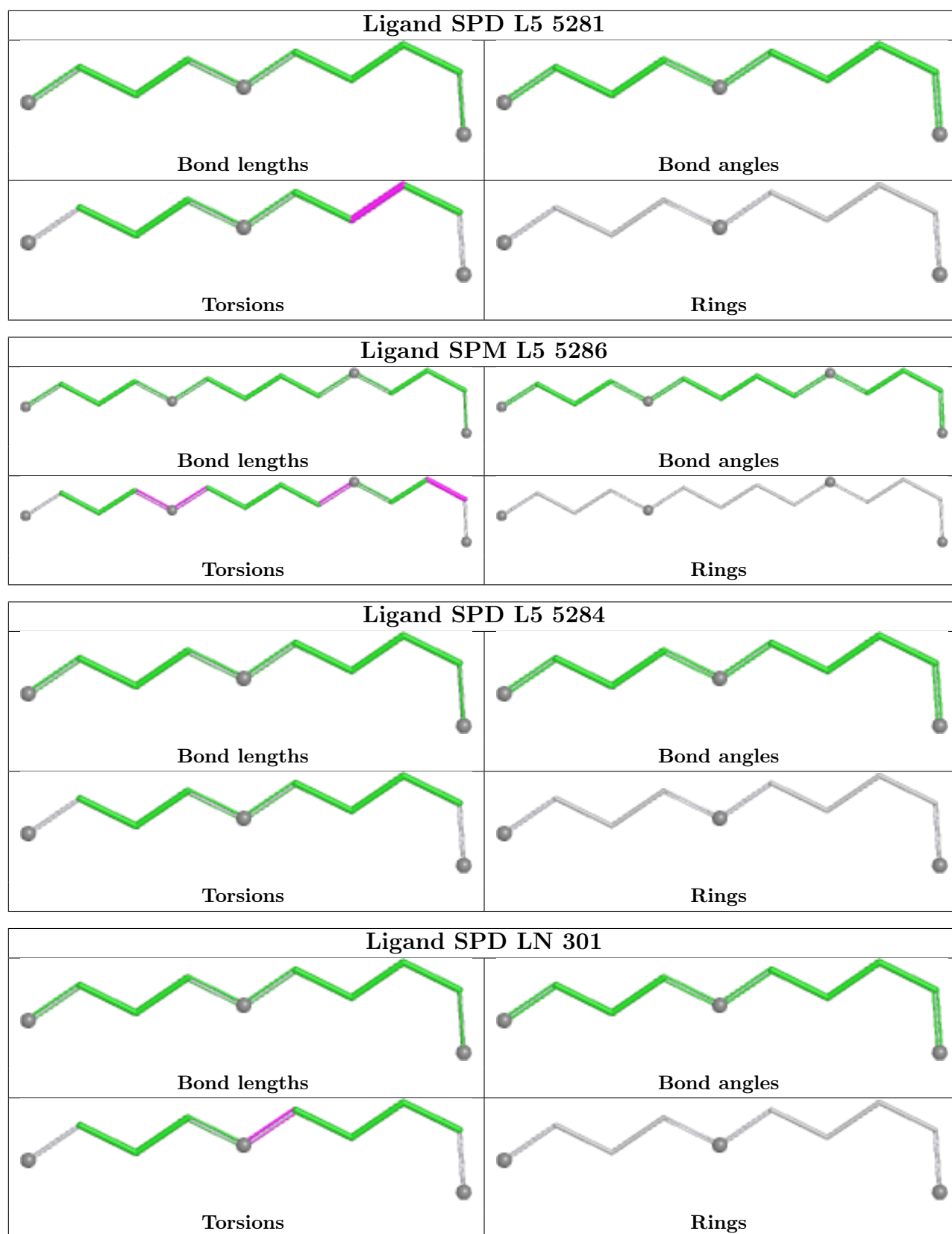
8 monomers are involved in 9 short contacts:

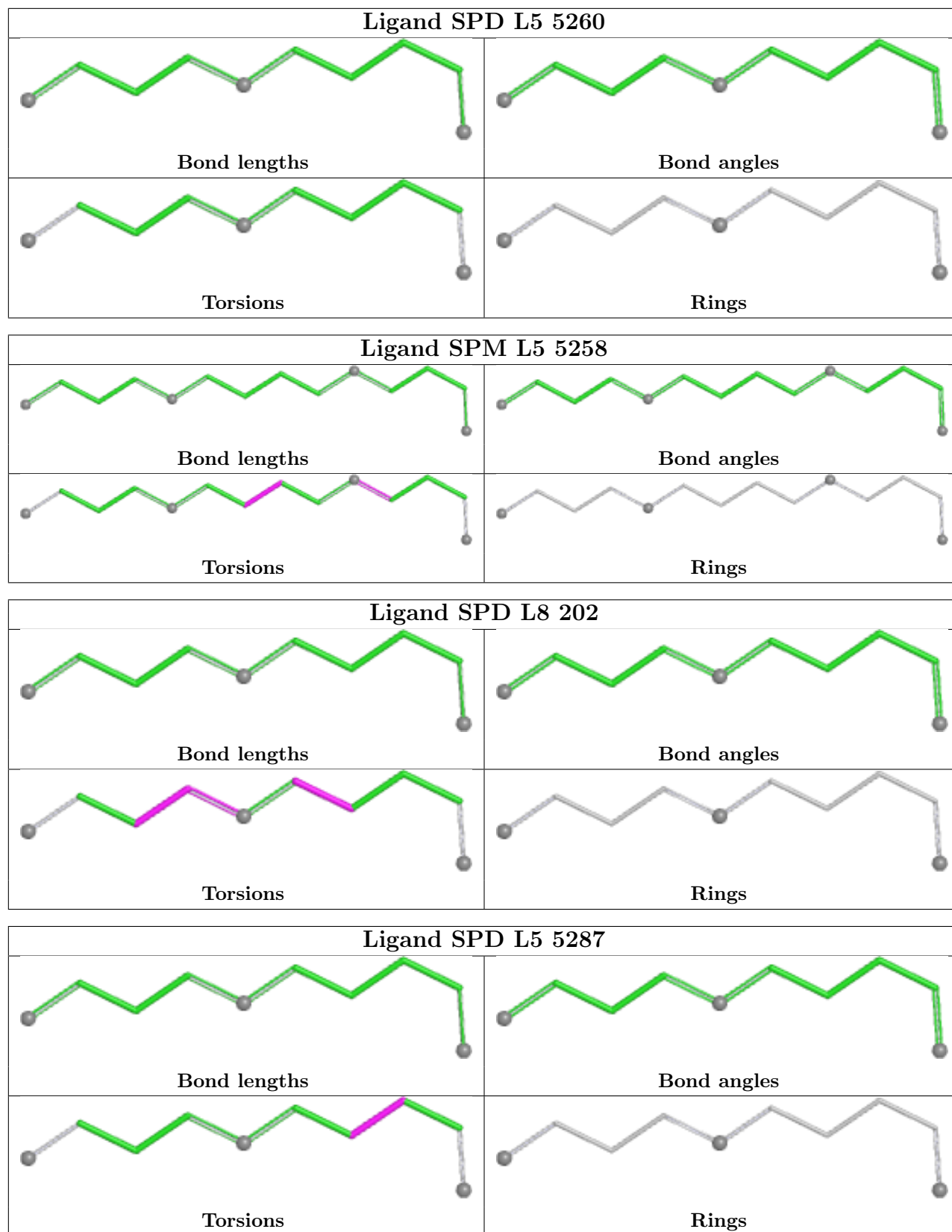
Mol	Chain	Res	Type	Clashes	Symm-Clashes
88	L5	5282	SPD	1	0
87	L5	5290	SPM	2	0
87	L5	5266	SPM	1	0
88	L5	5284	SPD	1	0
88	LN	301	SPD	1	0
88	L5	5260	SPD	1	0
88	L5	5288	SPD	1	0
87	L5	5289	SPM	1	0

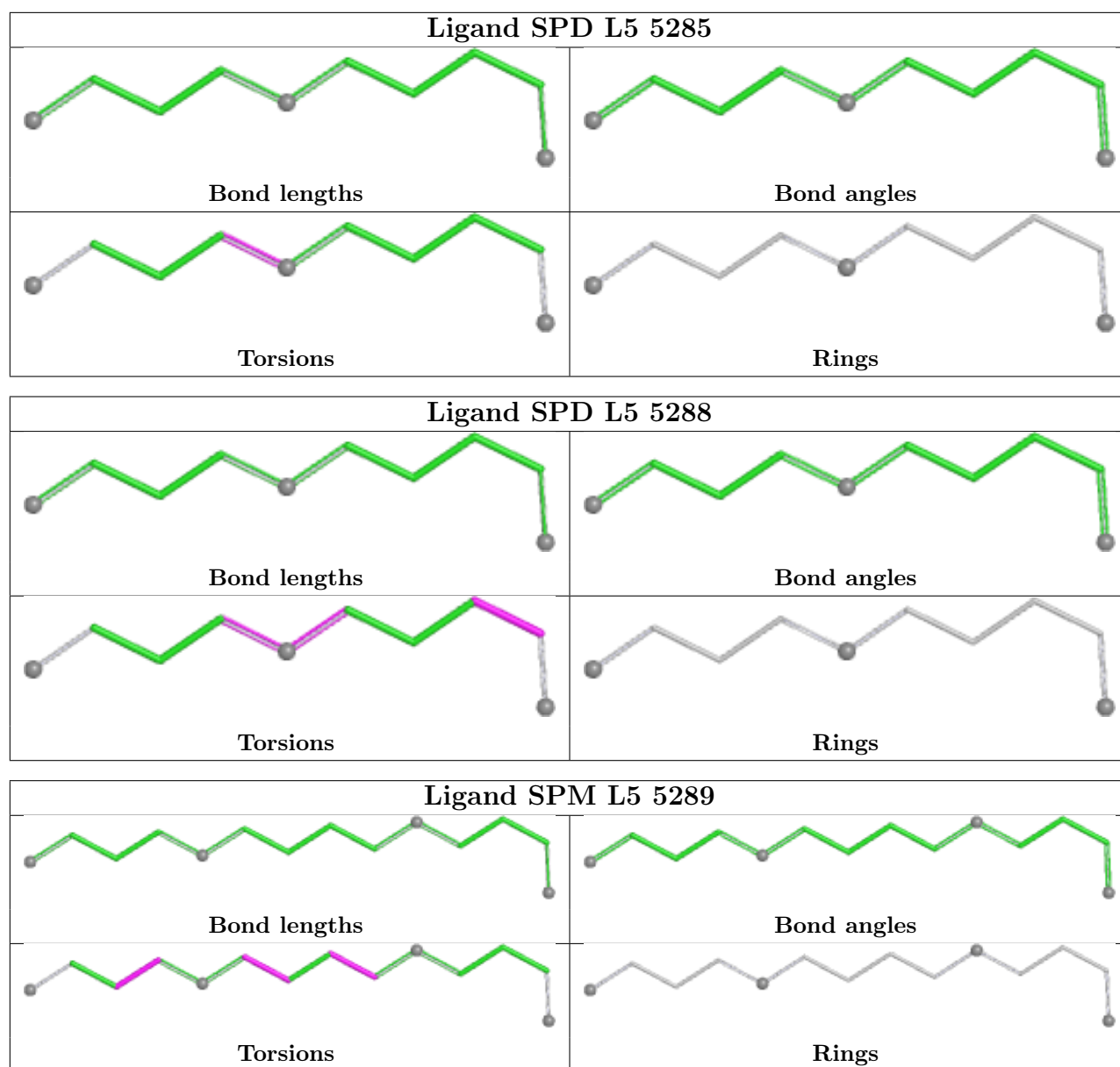
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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
2	L5	8
82	S2	5

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	29.36
1	L5	2910:G	O3'	3584:C	P	21.20
1	L5	760:G	O3'	903:C	P	16.82
1	L5	519:C	O3'	642:G	P	15.80
1	L5	2112:G	O3'	2249:C	P	15.23
1	L5	4776:G	O3'	4858:C	P	15.05
1	S2	698:G	O3'	730:C	P	14.63
1	L5	3954:A	O3'	4056:A	P	13.42
1	S2	739:C	O3'	746:C	P	12.44
1	L5	990:C	O3'	1064:G	P	12.35
1	S2	225:G	O3'	287:U	P	7.53
1	L5	1100:U	O3'	1167:C	P	7.01
1	S2	1831:A	O3'	1832:6MZ	P	4.27

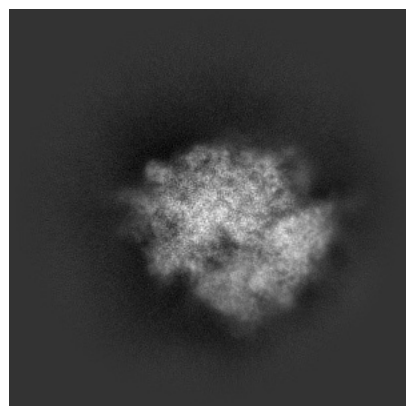
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71411. These allow visual inspection of the internal detail of the map and identification of artifacts.

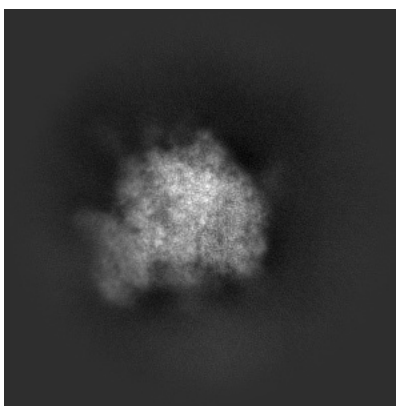
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

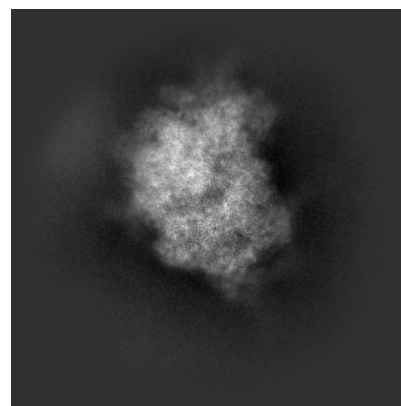
6.1.1 Primary map



X

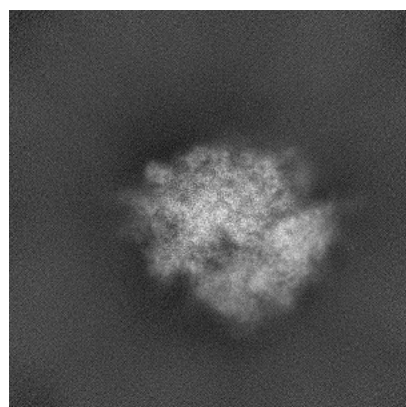


Y

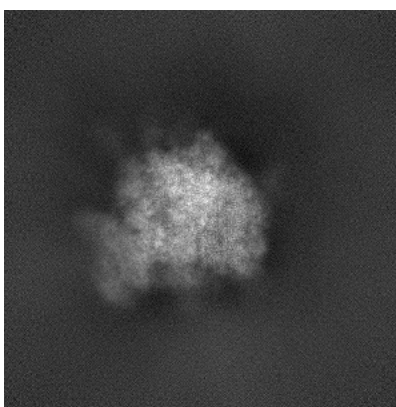


Z

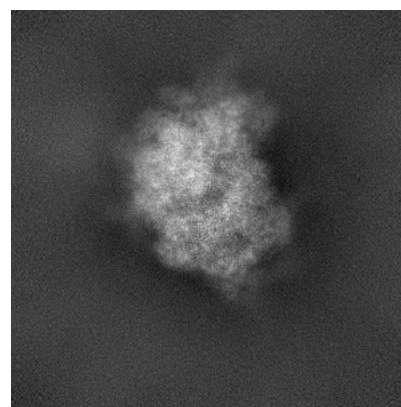
6.1.2 Raw map



X



Y

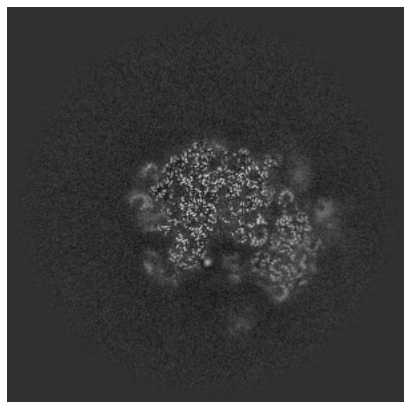


Z

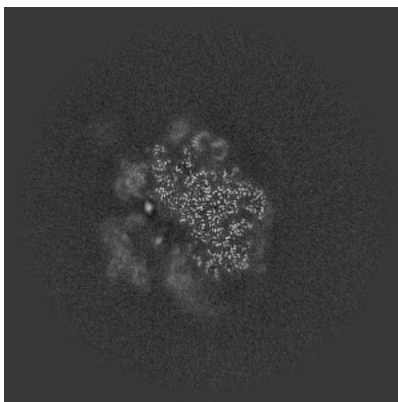
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

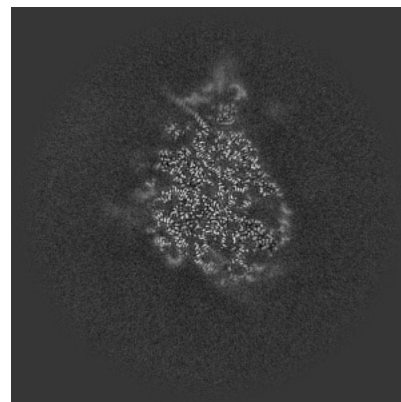
6.2.1 Primary map



X Index: 256

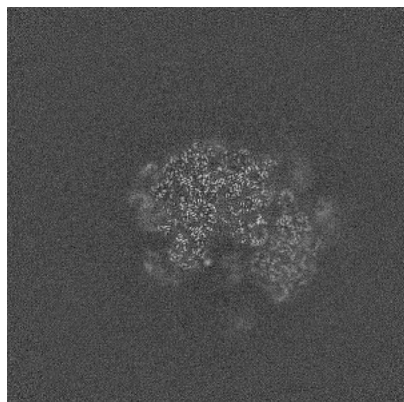


Y Index: 256

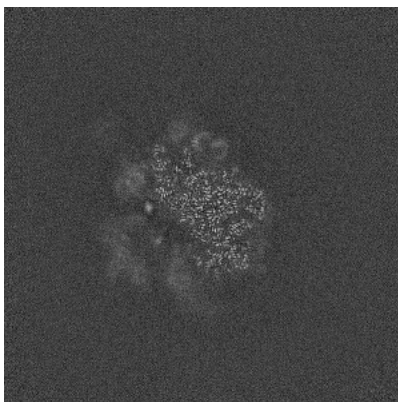


Z Index: 256

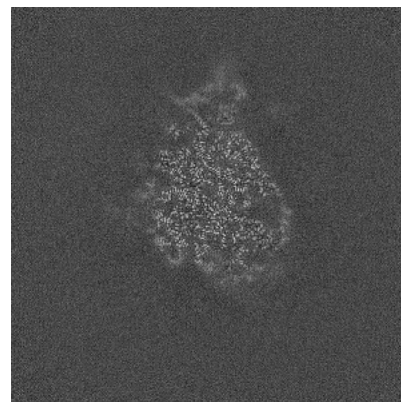
6.2.2 Raw map



X Index: 256



Y Index: 256

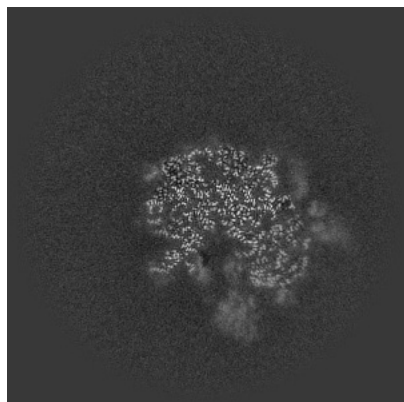


Z Index: 256

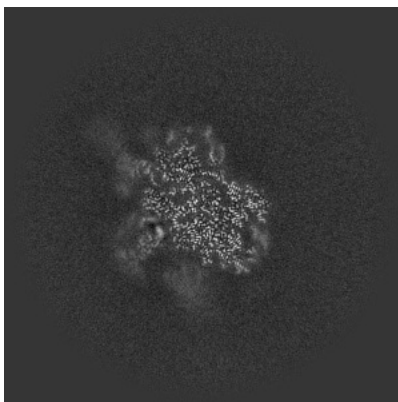
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

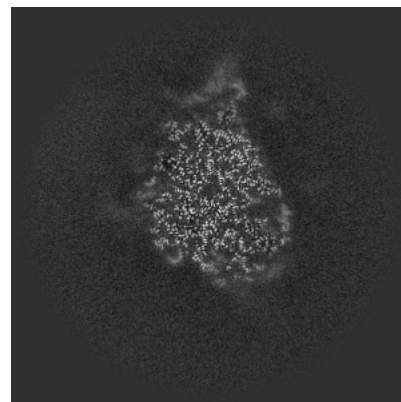
6.3.1 Primary map



X Index: 243

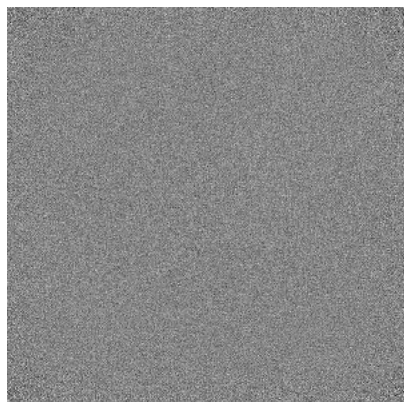


Y Index: 243

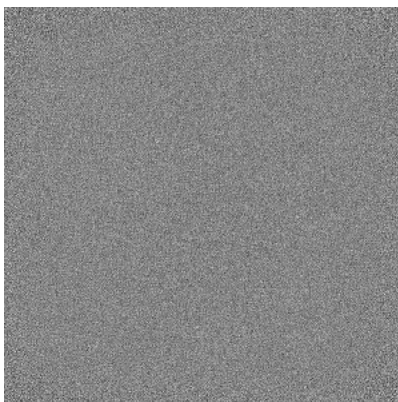


Z Index: 258

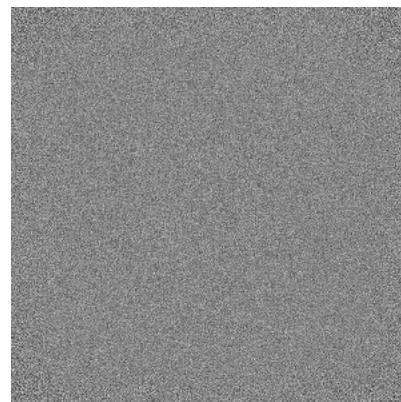
6.3.2 Raw map



X Index: 0



Y Index: 0

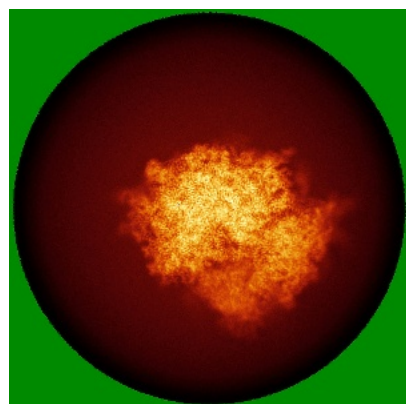


Z Index: 0

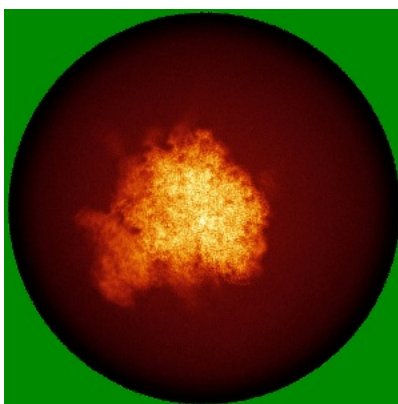
The images above show the largest variance slices of the map in three orthogonal directions.

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

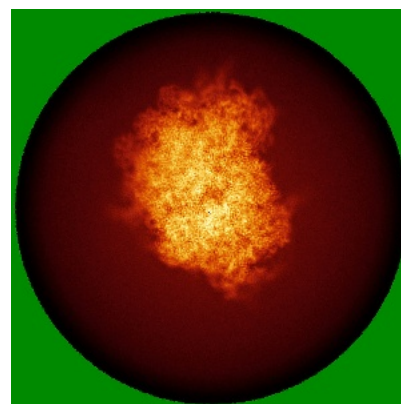
6.4.1 Primary map



X

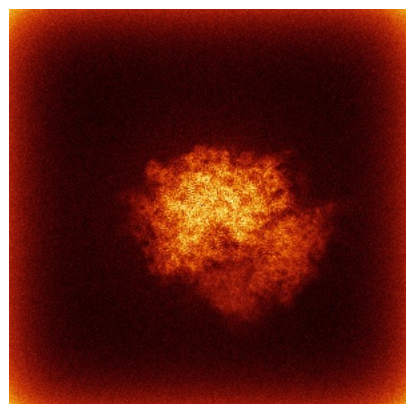


Y

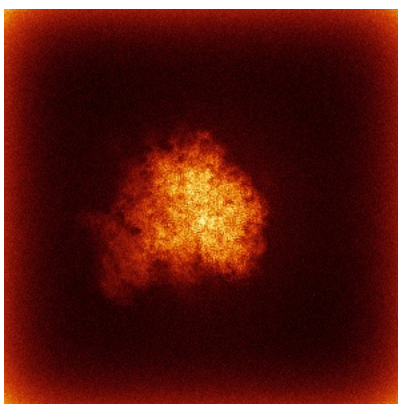


Z

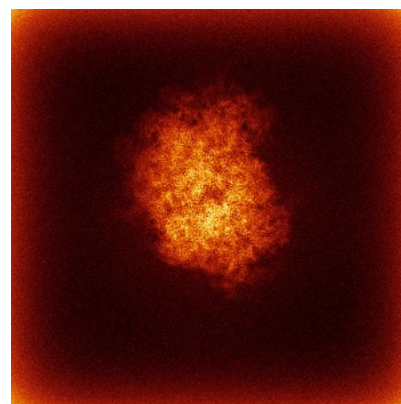
6.4.2 Raw map



X



Y

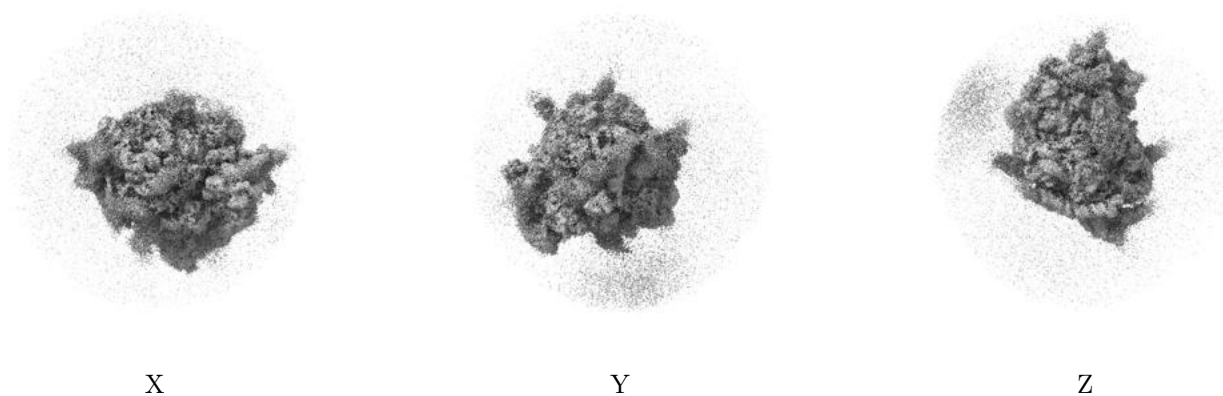


Z

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.

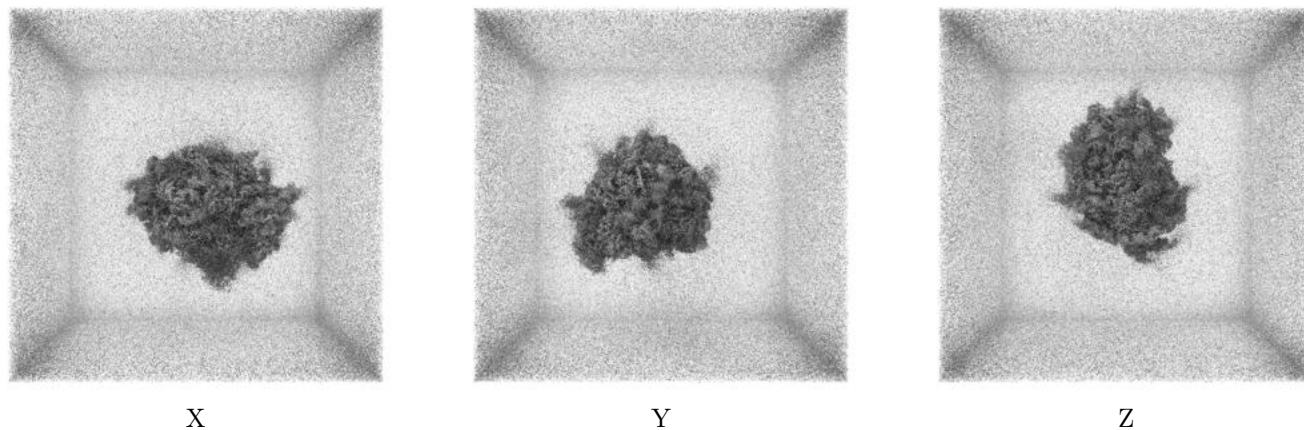
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0136. 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.

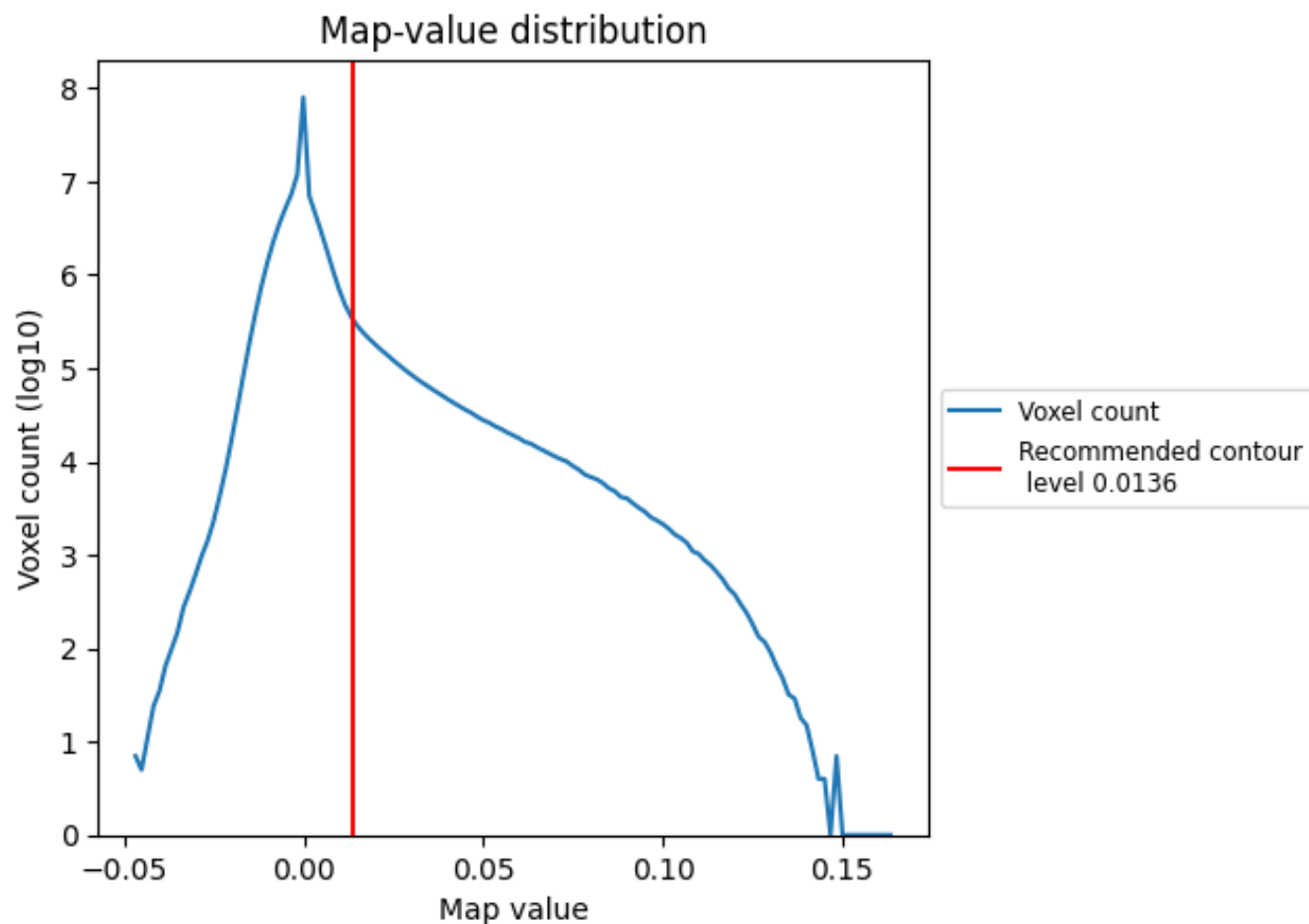
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

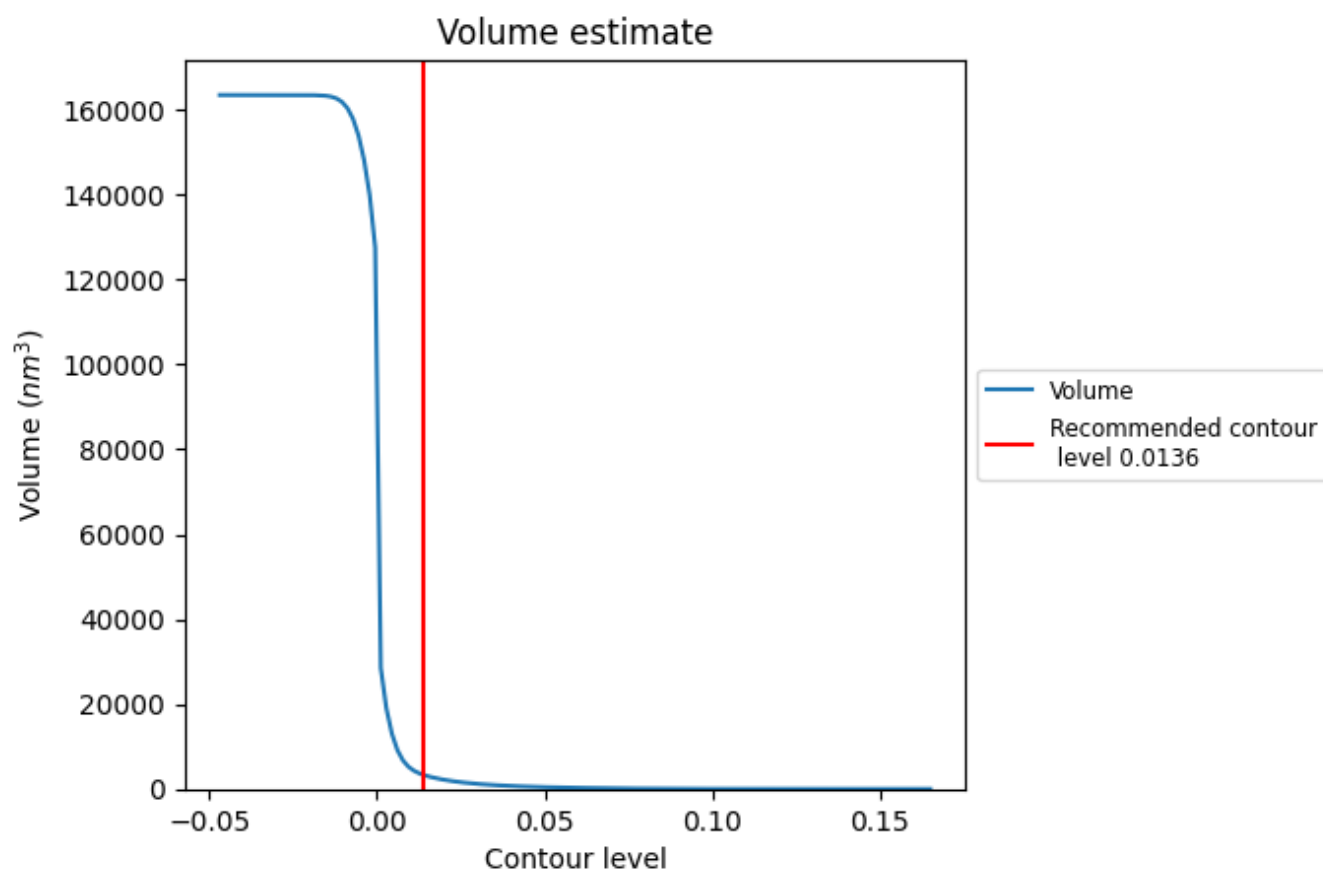
This section contains the results of statistical analysis of the map.

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.

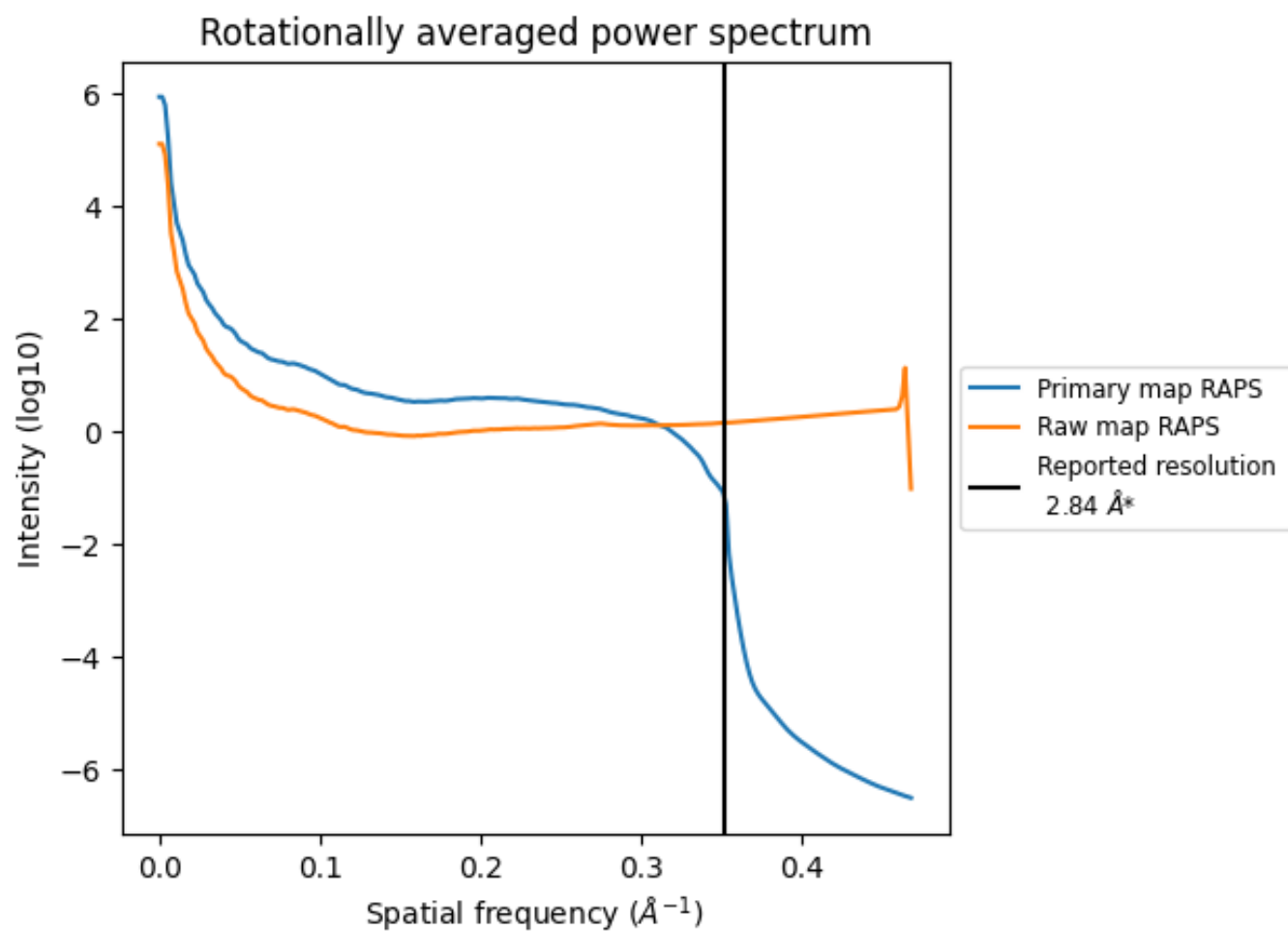
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3409 nm³; this corresponds to an approximate mass of 3080 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

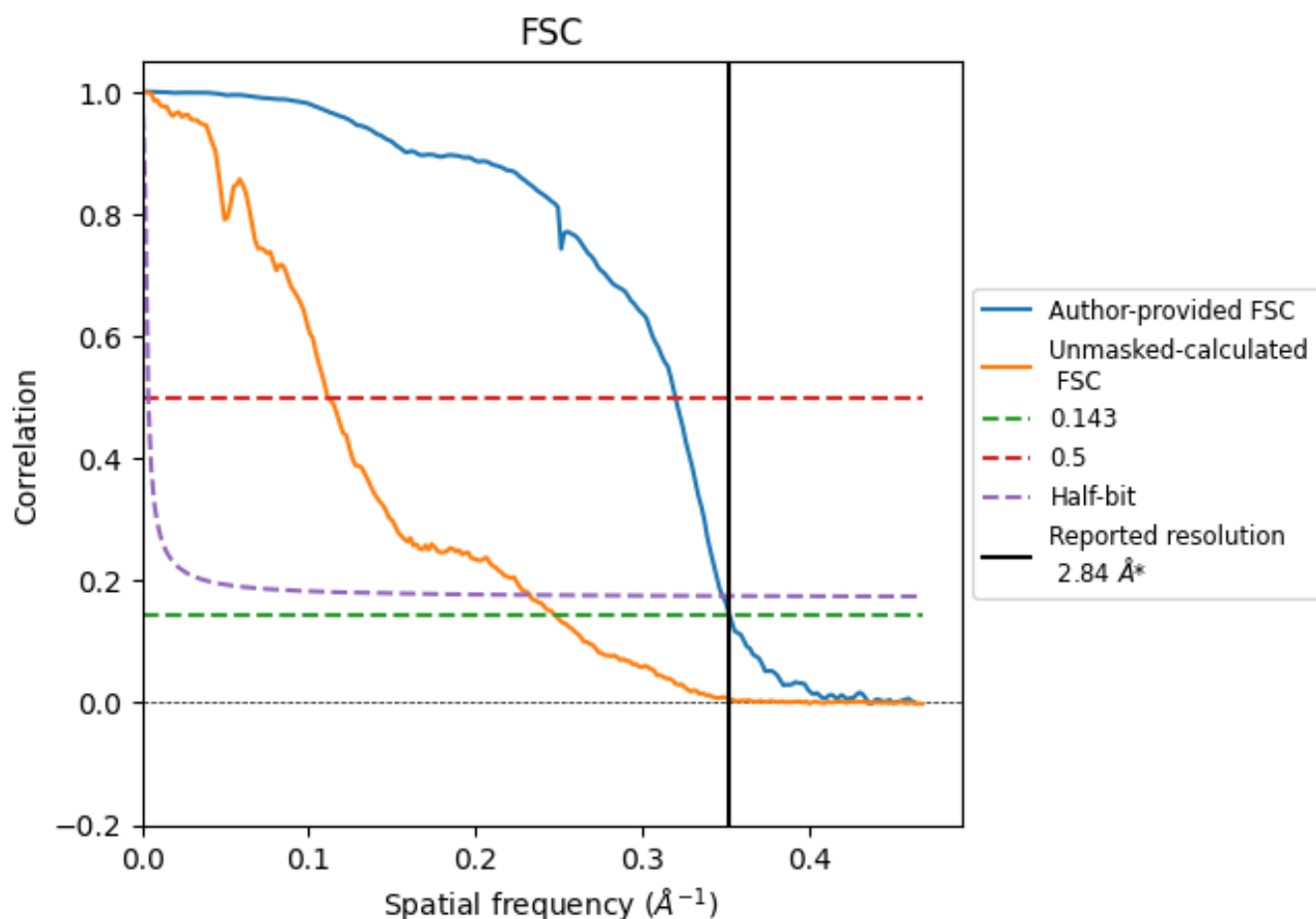


*Reported resolution corresponds to spatial frequency of 0.352 $\text{\AA}^{-1}$

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 0.352 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

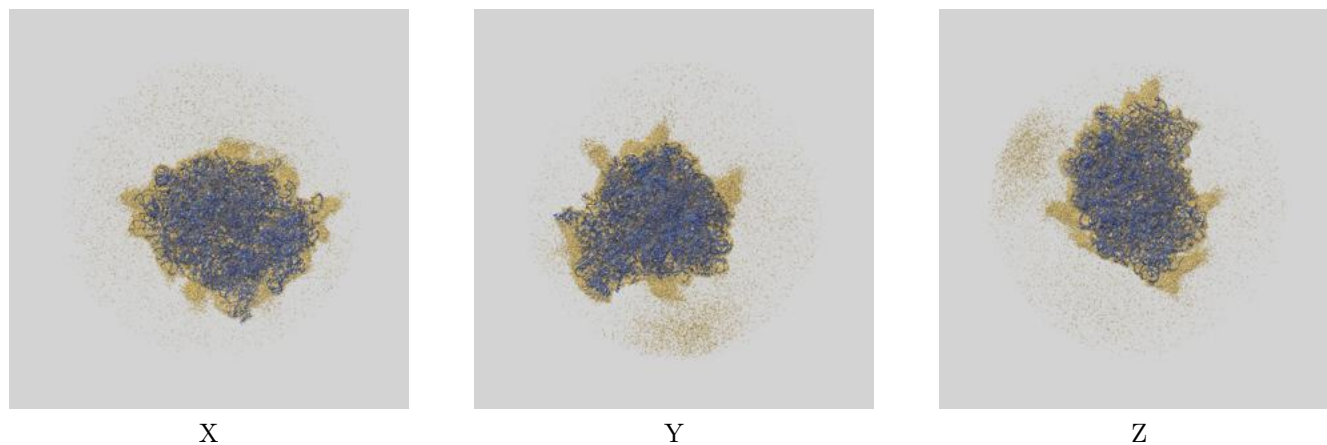
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.84	-	-
Author-provided FSC curve	2.84	3.12	2.87
Unmasked-calculated*	4.03	8.98	4.30

*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 4.03 differs from the reported value 2.84 by more than 10 %

9 Map-model fit [i](#)

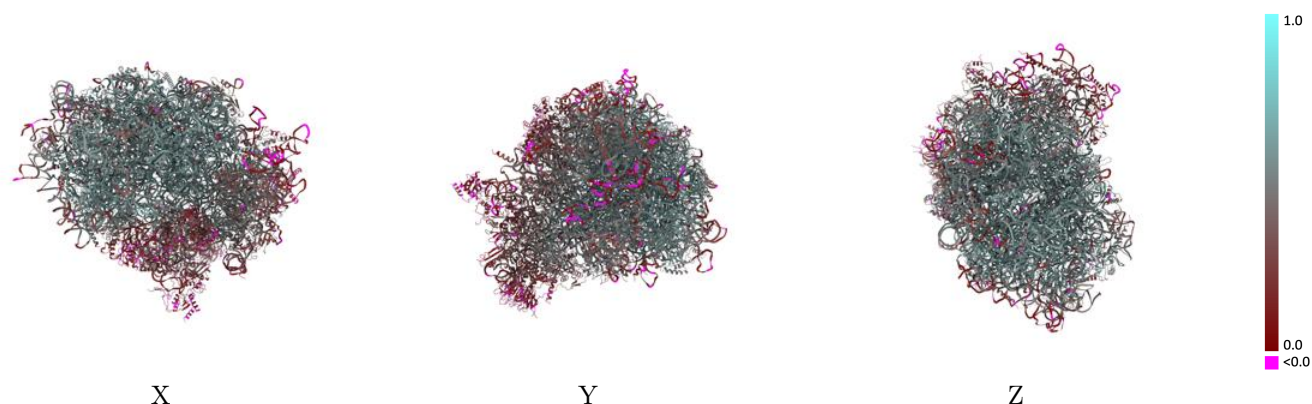
This section contains information regarding the fit between EMDB map EMD-71411 and PDB model 9P9H. Per-residue inclusion information can be found in section [3](#) on page [23](#).

9.1 Map-model overlay [i](#)



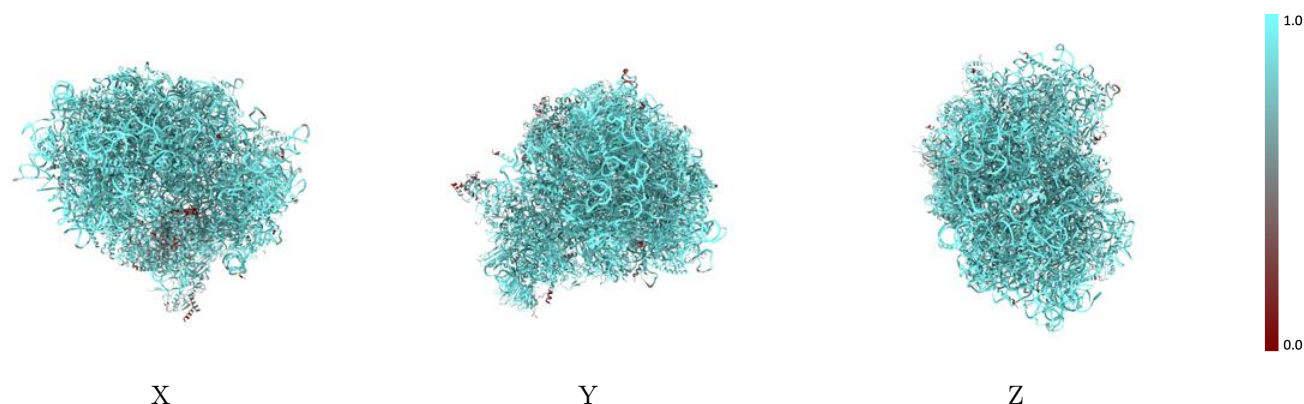
The images above show the 3D surface view of the map at the recommended contour level 0.0136 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



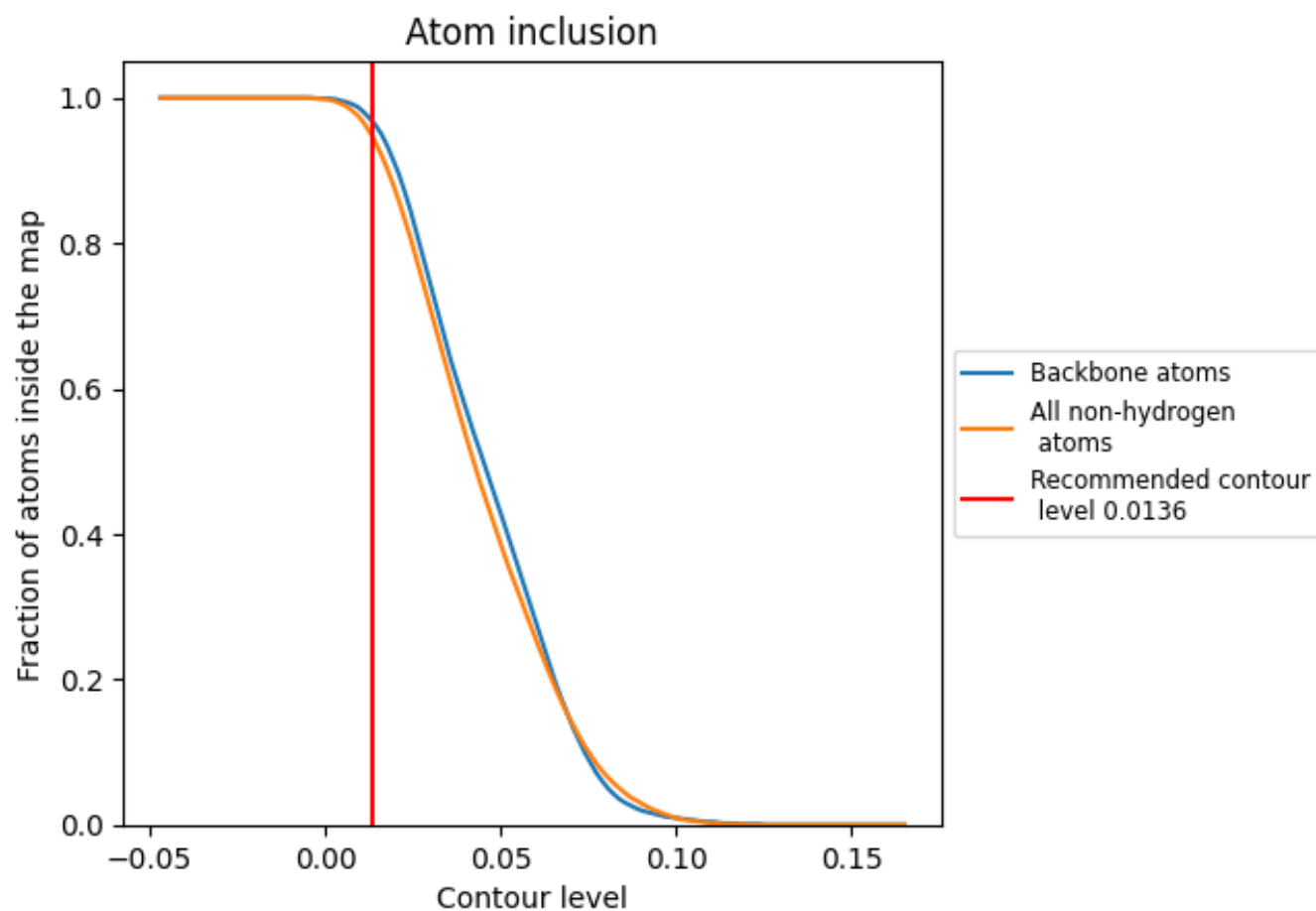
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0136).

9.4 Atom inclusion [i](#)



At the recommended contour level, 97% of all backbone atoms, 95% 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 (0.0136) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9460	 0.4620
CB	 0.6730	 0.2570
CE	 0.8260	 0.2460
CI	 0.7490	 0.3810
Et	 0.7460	 0.1930
L5	 0.9850	 0.5210
L7	 0.9980	 0.5680
L8	 0.9870	 0.5460
LA	 0.9880	 0.5860
LB	 0.9550	 0.5600
LC	 0.9560	 0.5570
LD	 0.9520	 0.5050
LE	 0.9090	 0.4830
LF	 0.9720	 0.5620
LG	 0.9040	 0.4920
LH	 0.9620	 0.5420
LI	 0.9460	 0.5470
LJ	 0.9110	 0.4550
LL	 0.9310	 0.5310
LM	 0.9650	 0.5450
LN	 0.9910	 0.6000
LO	 0.9650	 0.5620
LP	 0.9590	 0.5710
LQ	 0.9690	 0.5820
LR	 0.9140	 0.4990
LS	 0.9790	 0.5810
LT	 0.9430	 0.5400
LU	 0.9220	 0.4520
LV	 0.9650	 0.5710
LW	 0.8790	 0.3760
LX	 0.9470	 0.5380
LY	 0.9560	 0.5400
LZ	 0.9670	 0.5310
La	 0.9780	 0.5900
Lb	 0.9080	 0.4710



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Chain	Atom inclusion	Q-score
Lc	 0.9510	 0.5160
Ld	 0.9440	 0.5340
Le	 0.9730	 0.5760
Lf	 0.9750	 0.5880
Lg	 0.9610	 0.5540
Lh	 0.9510	 0.5340
Li	 0.9450	 0.5240
Lj	 0.9840	 0.5850
Lk	 0.9050	 0.4790
Ll	 0.9690	 0.5610
Lm	 0.9590	 0.5580
Ln	 0.9710	 0.5410
Lo	 0.9490	 0.5580
Lp	 0.9350	 0.5590
Lr	 0.9620	 0.5640
Ls	 0.7130	 0.1810
Lt	 0.6030	 0.0820
S2	 0.9840	 0.4110
SA	 0.9170	 0.4240
SB	 0.9090	 0.4480
SC	 0.9510	 0.4560
SD	 0.8940	 0.2670
SE	 0.9470	 0.4060
SF	 0.8540	 0.2930
SG	 0.8810	 0.2970
SH	 0.8880	 0.3550
SI	 0.9160	 0.4420
SJ	 0.9190	 0.3980
SK	 0.8770	 0.2060
SL	 0.9010	 0.4670
SM	 0.5390	 0.0760
SN	 0.9480	 0.5040
SO	 0.9190	 0.4540
SP	 0.7840	 0.2140
SQ	 0.9320	 0.2530
SR	 0.8800	 0.2970
SS	 0.8480	 0.2510
ST	 0.9050	 0.2460
SU	 0.8810	 0.2380
SV	 0.9500	 0.4440
SW	 0.9760	 0.5040
SX	 0.9320	 0.4620

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Chain	Atom inclusion	Q-score
SY	 0.8850	 0.3110
SZ	 0.8110	 0.2410
Sa	 0.9460	 0.4810
Sb	 0.9250	 0.4500
Sc	 0.8580	 0.3170
Sd	 0.9640	 0.2950
Se	 0.8470	 0.3160
Sf	 0.7580	 0.1350
Sg	 0.8490	 0.1650