



Full wwPDB EM Validation Report ⓘ

Dec 16, 2025 – 04:34 PM EST

PDB ID : 9P73 / pdb_00009p73
EMDB ID : EMD-71332
Title : In situ human eEF2-A/P-P/E state 80S ribosome
Authors : Wei, Z.; Yong, Z.
Deposited on : 2025-06-20
Resolution : 2.66 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:

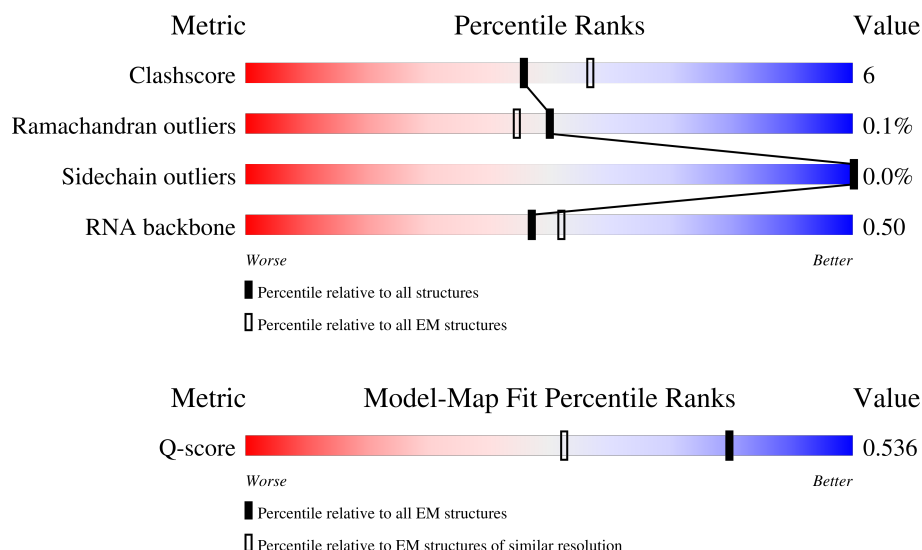
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive 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 2.66 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.



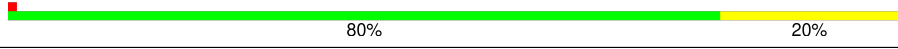
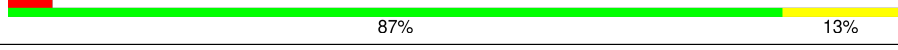
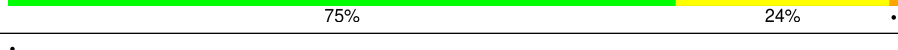
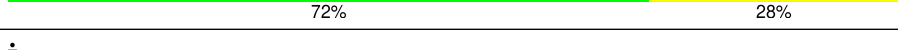
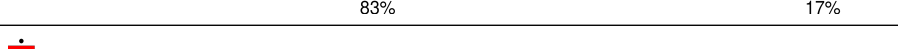
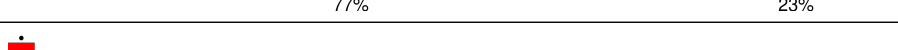
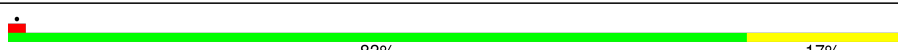
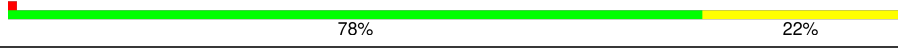
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	9119 (2.16 - 3.16)

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	AP	71	
2	CB	856	
3	PE	75	

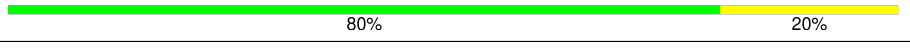
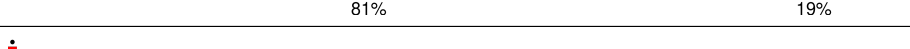
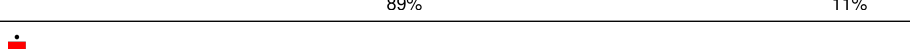
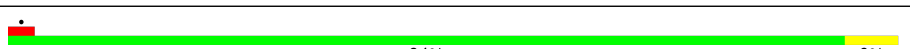
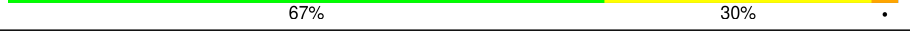
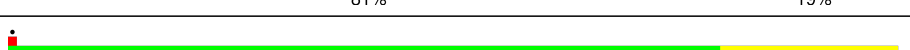
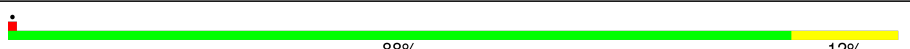
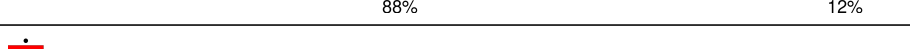
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Mol	Chain	Length	Quality of chain
4	SD	227	
5	SF	189	
6	SK	98	
7	SM	122	
8	SP	127	
9	SQ	144	
10	SR	135	
11	SS	145	
12	ST	143	
13	SU	104	
14	SZ	75	
15	Sc	64	
16	Sd	55	
17	Sf	67	
18	Sg	313	
19	SA	221	
20	SB	214	
21	SC	222	
22	SE	262	
23	SG	237	
24	SH	189	
25	SI	206	
26	SJ	185	
27	SL	153	
28	SN	150	

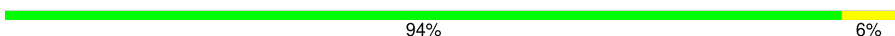
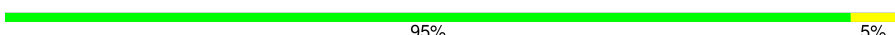
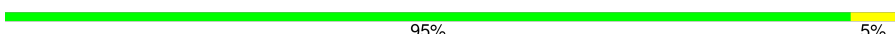
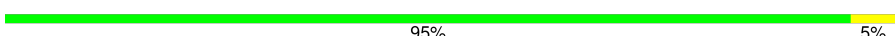
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Mol	Chain	Length	Quality of chain
29	SO	140	
30	SV	83	
31	SW	129	
32	SX	141	
33	SY	131	
34	Sa	102	
35	Sb	83	
36	S2	1740	
37	LR	187	
38	LW	124	
39	CI	31	
40	L5	3655	
41	L7	120	
42	L8	156	
43	LA	248	
44	LB	402	
45	LC	368	
46	LD	293	
47	LE	250	
48	LF	225	
49	LG	241	
50	LH	190	
51	LI	213	
52	LJ	176	
53	LL	210	

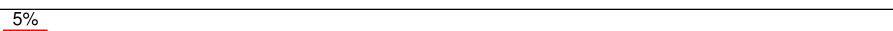
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Mol	Chain	Length	Quality of chain
54	LM	139	
55	LN	203	
56	LO	201	
57	LP	153	
58	LQ	187	
59	LS	175	
60	LT	159	
61	LU	101	
62	LV	131	
63	LX	120	
64	LY	134	
65	LZ	135	
66	La	147	
67	Lb	121	
68	Lc	98	
69	Ld	107	
70	Le	128	
71	Lf	109	
72	Lg	114	
73	Lh	122	
74	Li	102	
75	Lj	86	
76	Lk	69	
77	Ll	50	
78	Lm	52	

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Mol	Chain	Length	Quality of chain
79	Ln	24	 79%21%
80	Lo	105	 83%17%
81	Lp	91	 90%10%
82	Lr	125	 88%12%
83	Ls	196	 25%79%21%
84	Lt	157	 10%64%21%15%
85	CH	132	 5%80%20%

2 Entry composition

There are 89 unique types of molecules in this entry. The entry contains 227131 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called A/P site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	AP	71	Total	C	N	O	P	0	0
			1514	677	275	492	70		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AP	3	C	U	conflict	GB 2583636049
AP	?	-	U	deletion	GB 2583636049
AP	?	-	U	deletion	GB 2583636049

- Molecule 2 is a protein called Elongation factor 2.

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

- Molecule 3 is a RNA chain called P/E site tRNA.

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

- Molecule 4 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 5 is a protein called 40S ribosomal protein S5.

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

- Molecule 6 is a protein called 40S ribosomal protein S10.

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

- Molecule 7 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 8 is a protein called 40S ribosomal protein S15.

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

- Molecule 9 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 10 is a protein called Small ribosomal subunit protein eS17.

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

- Molecule 11 is a protein called 40S ribosomal protein S18.

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

- Molecule 12 is a protein called 40S ribosomal protein S19.

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

- Molecule 13 is a protein called 40S ribosomal protein S20.

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

- Molecule 14 is a protein called Small ribosomal subunit protein eS25.

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

- Molecule 15 is a protein called 40S ribosomal protein S28.

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

- Molecule 16 is a protein called 40S ribosomal protein S29.

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

- Molecule 17 is a protein called Ubiquitin-40S ribosomal protein S27a.

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

- Molecule 18 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 19 is a protein called 40S ribosomal protein SA.

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

- Molecule 20 is a protein called 40S ribosomal protein S3a.

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

- Molecule 21 is a protein called 40S ribosomal protein S2.

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

- Molecule 22 is a protein called Small ribosomal subunit protein eS4, X isoform.

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

- Molecule 23 is a protein called 40S ribosomal protein S6.

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

- Molecule 24 is a protein called Small ribosomal subunit protein eS7.

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

- Molecule 25 is a protein called 40S ribosomal protein S8.

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

- Molecule 26 is a protein called 40S ribosomal protein S9.

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

- Molecule 27 is a protein called 40S ribosomal protein S11.

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

- Molecule 28 is a protein called 40S ribosomal protein S13.

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

- Molecule 29 is a protein called Small ribosomal subunit protein uS11.

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

- Molecule 30 is a protein called Small ribosomal subunit protein eS21.

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

- Molecule 31 is a protein called 40S ribosomal protein S15a.

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

- Molecule 32 is a protein called 40S ribosomal protein S23.

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

- Molecule 33 is a protein called 40S ribosomal protein S24.

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

- Molecule 34 is a protein called 40S ribosomal protein S26.

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

- Molecule 35 is a protein called Small ribosomal subunit protein eS27.

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

- Molecule 36 is a RNA chain called 18S rRNA [Homo sapiens].

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

- Molecule 37 is a protein called 60S ribosomal protein L19.

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

- Molecule 38 is a protein called Ribosomal protein L24.

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

- Molecule 39 is a protein called Transcription factor BTF3.

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

- Molecule 40 is a RNA chain called 28S rRNA.

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

- Molecule 41 is a RNA chain called 5S rRNA.

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

- Molecule 42 is a RNA chain called 5.8S rRNA.

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

- Molecule 43 is a protein called 60S ribosomal protein L8.

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

- Molecule 44 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 45 is a protein called 60S ribosomal protein L4.

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

- Molecule 46 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 47 is a protein called Large ribosomal subunit protein eL6.

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

- Molecule 48 is a protein called 60S ribosomal protein L7.

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

- Molecule 49 is a protein called 60S ribosomal protein L7a.

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

- Molecule 50 is a protein called 60S ribosomal protein L9.

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

- Molecule 51 is a protein called Ribosomal protein uL16-like.

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

- Molecule 52 is a protein called 60S ribosomal protein L11.

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

- Molecule 53 is a protein called Large ribosomal subunit protein eL13.

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

- Molecule 54 is a protein called 60S ribosomal protein L14.

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

- Molecule 55 is a protein called 60S ribosomal protein L15.

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

- Molecule 56 is a protein called 60S ribosomal protein L13a.

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

- Molecule 57 is a protein called 60S ribosomal protein L17.

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

- Molecule 58 is a protein called 60S ribosomal protein L18.

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

- Molecule 59 is a protein called 60S ribosomal protein L18a.

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

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

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

- Molecule 61 is a protein called Heparin-binding protein HBp15.

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

- Molecule 62 is a protein called 60S ribosomal protein L23.

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

- Molecule 63 is a protein called 60S ribosomal protein L23a.

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

- Molecule 64 is a protein called 60S ribosomal protein L26.

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

- Molecule 65 is a protein called 60S ribosomal protein L27.

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

- Molecule 66 is a protein called 60S ribosomal protein L27a.

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

- Molecule 67 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 68 is a protein called 60S ribosomal protein L30.

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

- Molecule 69 is a protein called 60S ribosomal protein L31.

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

- Molecule 70 is a protein called 60S ribosomal protein L32.

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

- Molecule 71 is a protein called 60S ribosomal protein L35a.

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

- Molecule 72 is a protein called 60S ribosomal protein L34.

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

- Molecule 73 is a protein called 60S ribosomal protein L35.

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

- Molecule 74 is a protein called 60S ribosomal protein L36.

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

- Molecule 75 is a protein called 60S ribosomal protein L37.

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

- Molecule 76 is a protein called 60S ribosomal protein L38.

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

- Molecule 77 is a protein called 60S ribosomal protein L39.

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

- Molecule 78 is a protein called Large ribosomal subunit protein eL40.

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

- Molecule 79 is a protein called 60S ribosomal protein L41.

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

- Molecule 80 is a protein called 60S ribosomal protein L36a.

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

- Molecule 81 is a protein called 60S ribosomal protein L37a.

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

- Molecule 82 is a protein called 60S ribosomal protein L28.

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

- Molecule 83 is a protein called 60S acidic ribosomal protein P0.

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

- Molecule 84 is a protein called Large ribosomal subunit protein uL11.

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

- Molecule 85 is a protein called Endothelial differentiation-related factor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	CH	132	Total	C	N	O		0	0
			1018	625	199	194			

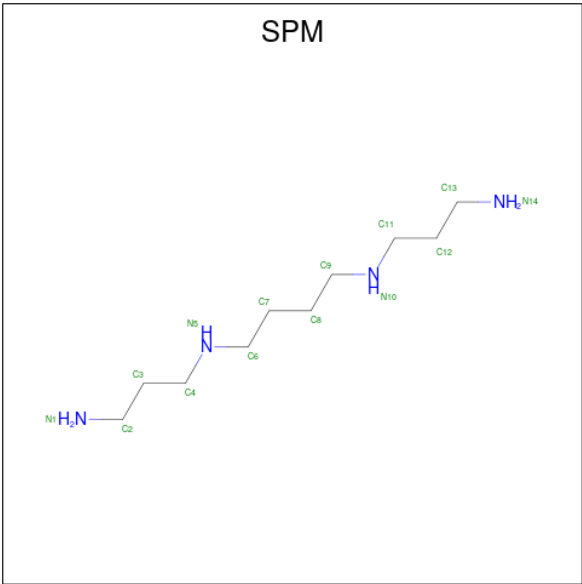
- Molecule 86 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
86	SS	1	Total	Mg	0
			1	1	
86	SG	1	Total	Mg	0
			1	1	
86	S2	25	Total	Mg	0
			25	25	
86	L5	178	Total	Mg	0
			178	178	
86	L7	3	Total	Mg	0
			3	3	
86	L8	4	Total	Mg	0
			4	4	
86	LA	1	Total	Mg	0
			1	1	
86	LB	1	Total	Mg	0
			1	1	
86	LI	1	Total	Mg	0
			1	1	
86	LP	1	Total	Mg	0
			1	1	
86	LV	1	Total	Mg	0
			1	1	
86	Le	1	Total	Mg	0
			1	1	

- Molecule 87 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 88 is SPERMINE (CCD ID: SPM) (formula: C₁₀H₂₆N₄) (labeled as "Ligand of Interest" by depositor).



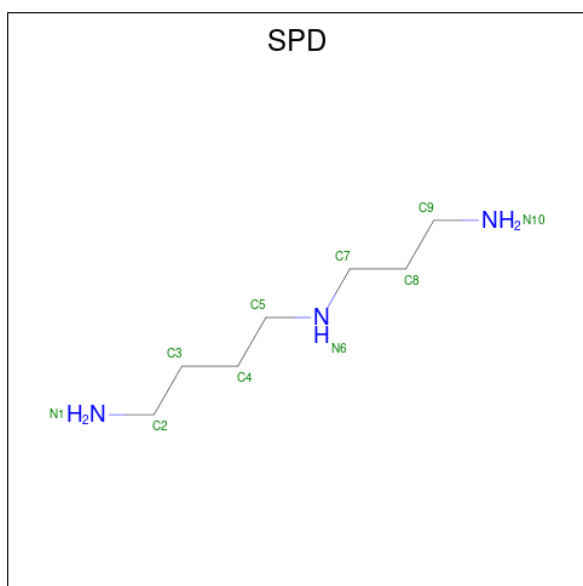
Mol	Chain	Residues	Atoms			AltConf
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	
88	L5	1	Total	C	N	0
			14	10	4	

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

- Molecule 89 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$) (labeled as "Ligand of Interest" by depositor).



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

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Mol	Chain	Residues	Atoms			AltConf
89	L8	1	Total	C	N	0
			10	7	3	
89	LN	1	Total	C	N	0
			10	7	3	

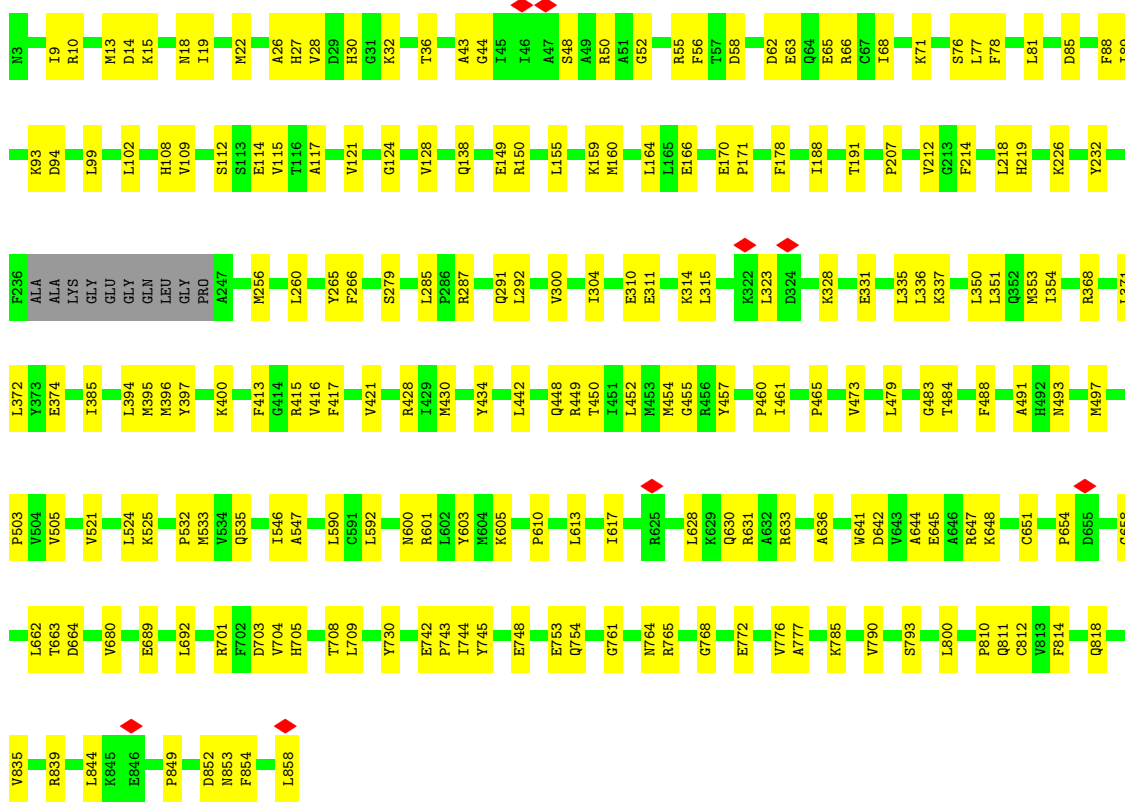
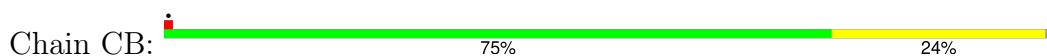
3 Residue-property plots

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: A/P site tRNA

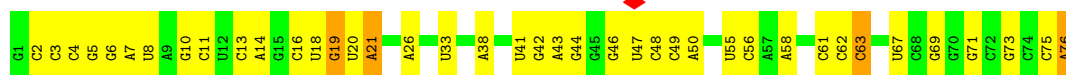


- Molecule 2: Elongation factor 2



- Molecule 3: P/E site tRNA

Chain PE: 



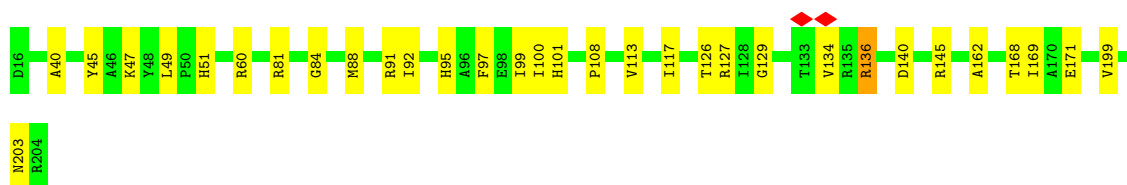
- Molecule 4: Small ribosomal subunit protein uS3

Chain SD: 



- Molecule 5: 40S ribosomal protein S5

Chain SF: 



- Molecule 6: 40S ribosomal protein S10

Chain SK: 



- Molecule 7: Small ribosomal subunit protein eS12

Chain SM: 

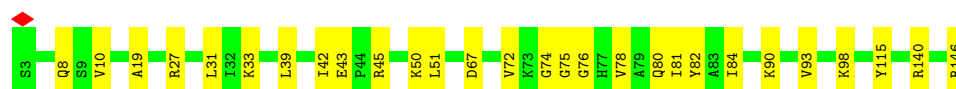
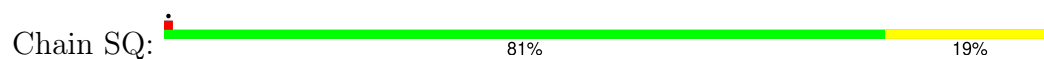


- Molecule 8: 40S ribosomal protein S15

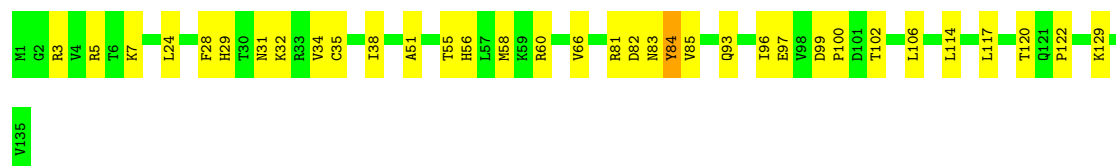
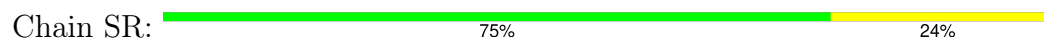
Chain SP: 



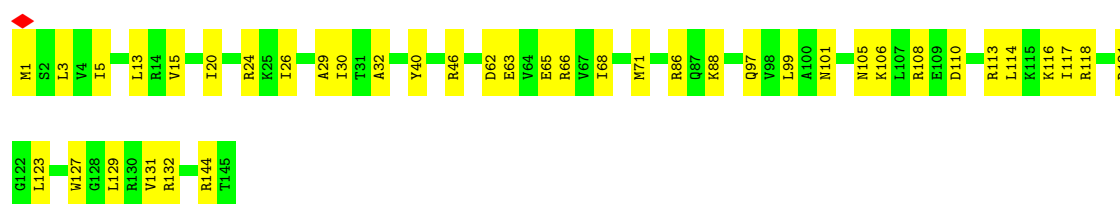
- Molecule 9: Small ribosomal subunit protein uS9



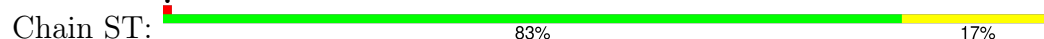
- Molecule 10: Small ribosomal subunit protein eS17



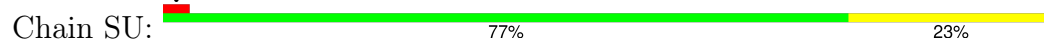
- Molecule 11: 40S ribosomal protein S18



- Molecule 12: 40S ribosomal protein S19



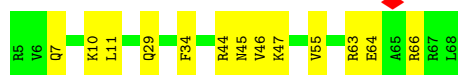
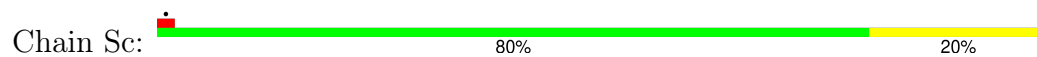
- Molecule 13: 40S ribosomal protein S20



- Molecule 14: Small ribosomal subunit protein eS25



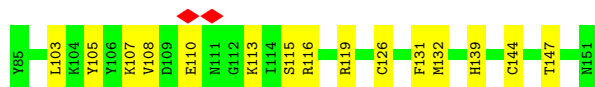
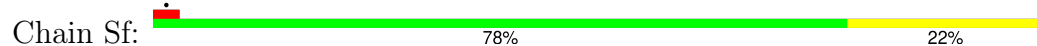
- Molecule 15: 40S ribosomal protein S28



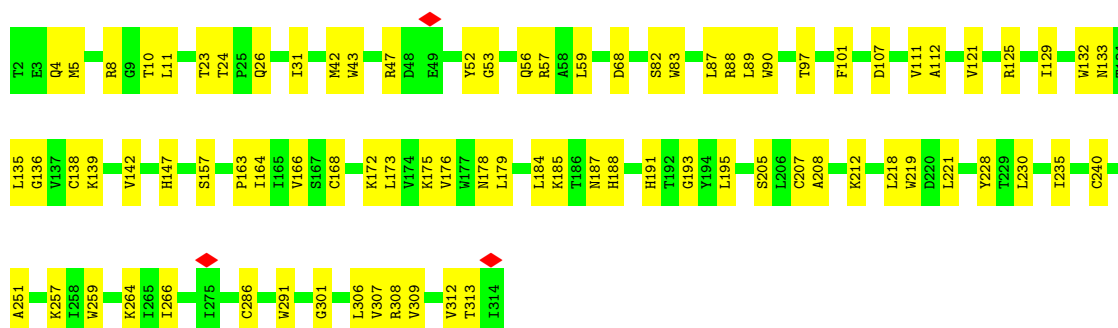
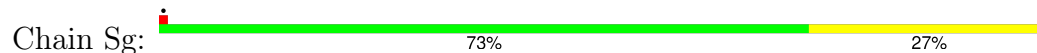
- Molecule 16: 40S ribosomal protein S29



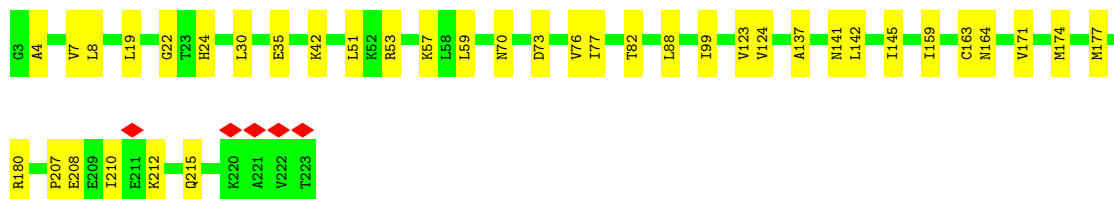
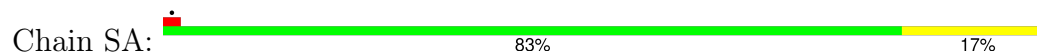
- Molecule 17: Ubiquitin-40S ribosomal protein S27a



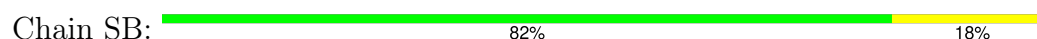
- Molecule 18: Receptor of activated protein C kinase 1



- Molecule 19: 40S ribosomal protein SA



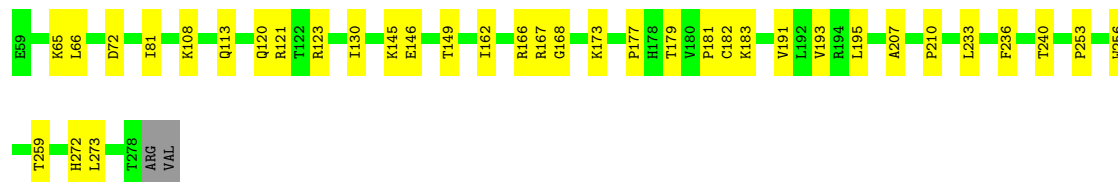
- Molecule 20: 40S ribosomal protein S3a





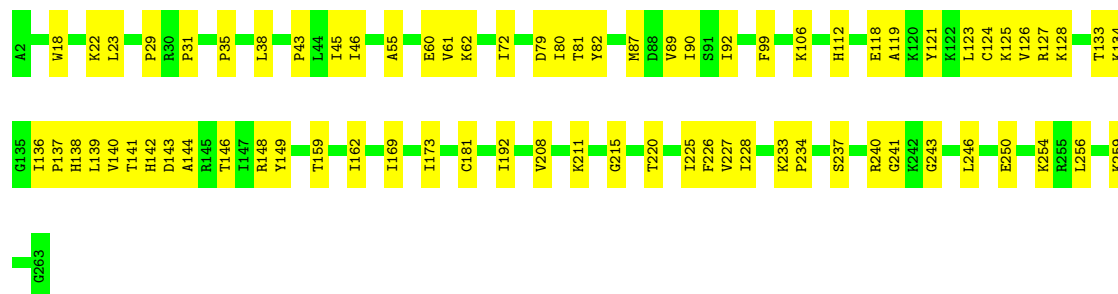
- Molecule 21: 40S ribosomal protein S2

Chain SC: 83% 16%



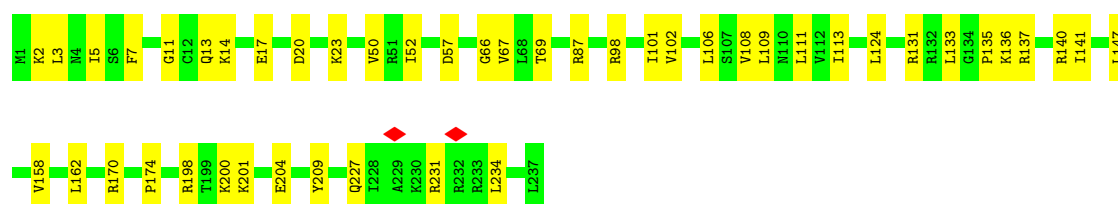
- Molecule 22: Small ribosomal subunit protein eS4, X isoform

Chain SE: 72% 28%



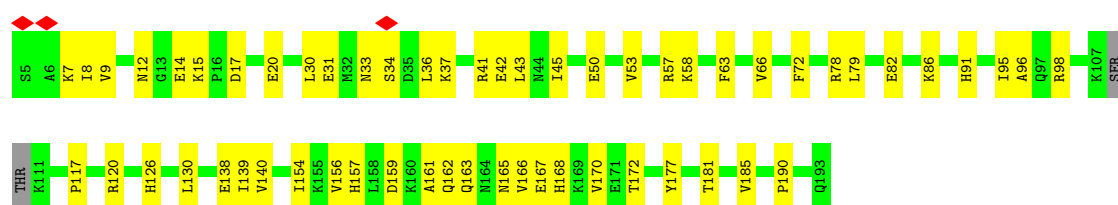
- Molecule 23: 40S ribosomal protein S6

Chain SG: 81% 19%

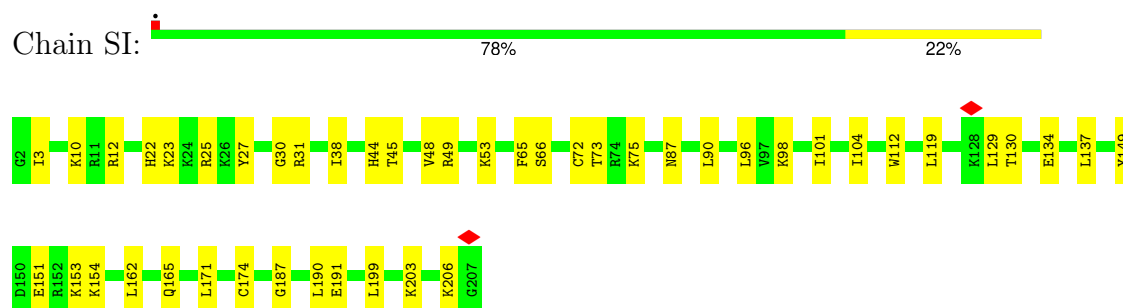


- Molecule 24: Small ribosomal subunit protein eS7

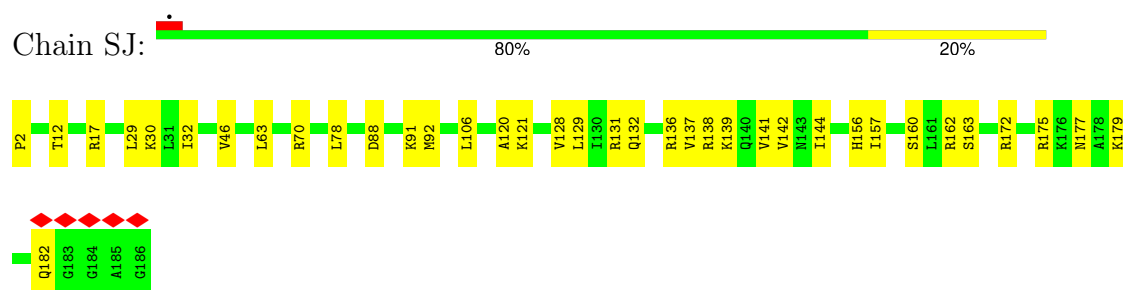
Chain SH: 68% 30%



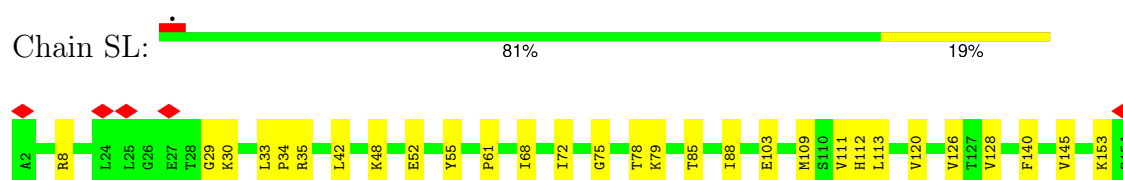
- Molecule 25: 40S ribosomal protein S8



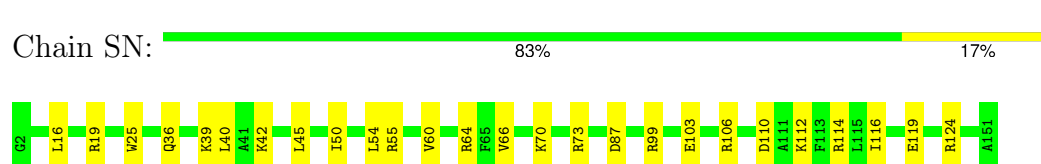
- Molecule 26: 40S ribosomal protein S9



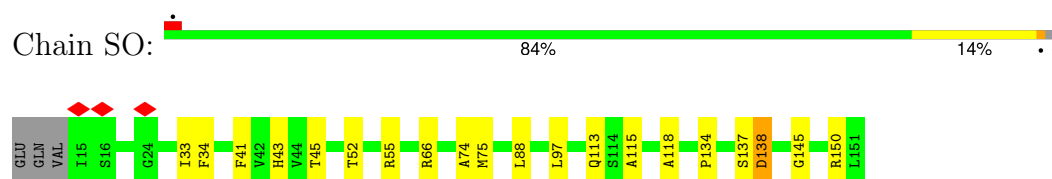
- Molecule 27: 40S ribosomal protein S11



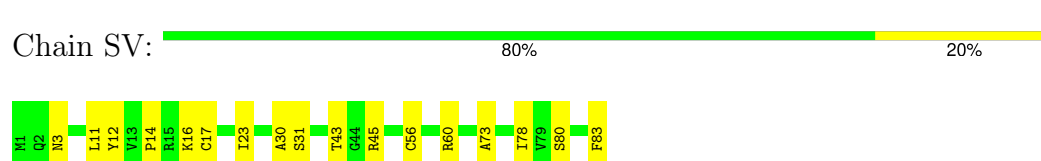
- Molecule 28: 40S ribosomal protein S13



- Molecule 29: Small ribosomal subunit protein uS11



- Molecule 30: Small ribosomal subunit protein eS21



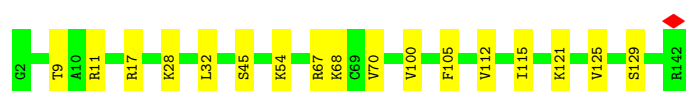
- Molecule 31: 40S ribosomal protein S15a

Chain SW:  81% 19%



- Molecule 32: 40S ribosomal protein S23

Chain SX:  88% 12%



- Molecule 33: 40S ribosomal protein S24

Chain SY:  78% 22%



- Molecule 34: 40S ribosomal protein S26

Chain Sa:  82% 18%



- Molecule 35: Small ribosomal subunit protein eS27

Chain Sb:  78% 22%



- Molecule 36: 18S rRNA [Homo sapiens]

Chain S2:  55% 37% 7%



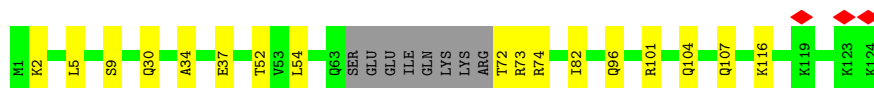
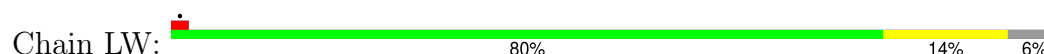
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G1714	C1628	G1527	G1421	G1312	G1237	C1124	U1018	A919	C834	C676	C600	A520	G438	G332
A1715	C1629	G1528	G1422	G1320	U1238	C1129	C1019	A920	C835	G677	G601	A525	A439	A339
G1718	G1632	A1531	G1423	G1321	U1239	G1130	A1020	G925	G836	U681	A604	A526	C441	C340
U1721	A1633	A1532	G1424	G1326	U1242	A1133	A1023	G928	A837	G682	U607	A527	C442	C342
G1722	A1634	A1533	G1425	U1327	U1243	G1134	A1024	G929	C838	G683	C608	A528	A445	A343
G1723	G1637	G1536	C1433	G1327	U1244	C1138	A1027	G930	C840	U686	U609	A529	A448	C346
A1724	G1638	A1537	C1434	U1328	U1248	C1139	G1028	G931	C841	C687	G610	U530	A449	C347
U1725	G1639	U1542	C1435	U1333	B811248	C1139	G1029	C930	C842	U688	G611	U531	A450	A348
G1726	G1639	U1543	C1436	U1337	A1251	C1140	A1030	G933	G845	U689	U612	C532	A451	A349
G1727	U1643	C1544	C1437	M1337	G1252	G1144	A1031	G942	C846	G691	G613	A533	G452	C350
U1728	U1644	A1545	C1438	G1338	G1253	A1144	G1032	G943	A847	G692	C614	G534	G453	U354
C1645	C1645	G1546	U1442	U1342	G1254	A1145	G1033	G944	C851	A693	C615	G535	G454	A360
U1730	U1730	U1547	U1443	U1348	G1255	G1149	G1037	A944	C852	G694	G617	U544	C455	U361
G1731	G1648	G1550	G1449	G1348	G1257	A1153	U1045	U946	G857	G696	G623	C539	U461	C362
G1736	A1651	A1556	A1452	G1354	A1258	C1153	U1046	C953	A858	G697	U627	U541	C462	A363
G1737	G1652	C1557	C1453	C1355	G1259	U1154	A1055	A962	G859	G731	A628	U542	C463	A364
C1740	U1653	C1558	A1454	G1356	A1260	G1171	U1056	A963	G860	U732	U631	U543	C464	U367
U1744	G1654	C1559	G1357	A1357	C1261	U1174	G1057	A964	U863	C733	U634	G544	A465	U368
G1745	C1655	U1560	U1457	U1358	G1268	U1177	G1058	A965	A864	C736	A634	G545	G467	C369
G1748	G1656	U1561	G1458	U1365	C1271	U1177	A1060	U966	A865	C737	G635	G546	A468	U370
C1752	U1657	C1562	U1462	U1367	C1272	G1187	U1061	U969	U866	C738	C636	G547	G471	A371
G1753	A1661	A1569	C1464	U1371	G1273	G1187	A1062	G970	G867	C739	U637	C548	C472	G377
G1754	U1662	C1574	U1465	U1372	G1274	A1195	G1067	G971	A870	C746	C638	C549	A473	U377
G1755	A1663	G1574	G1473	C1373	A1276	A1199	C1067	A980	U874	U749	C639	A555	G474	C382
C1756	U1664	A1579	A1474	A1376	C1277	A1200	A1080	A981	A875	C750	A640	U556	U384	G383
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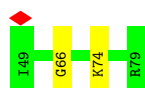
- Molecule 37: 60S ribosomal protein L19



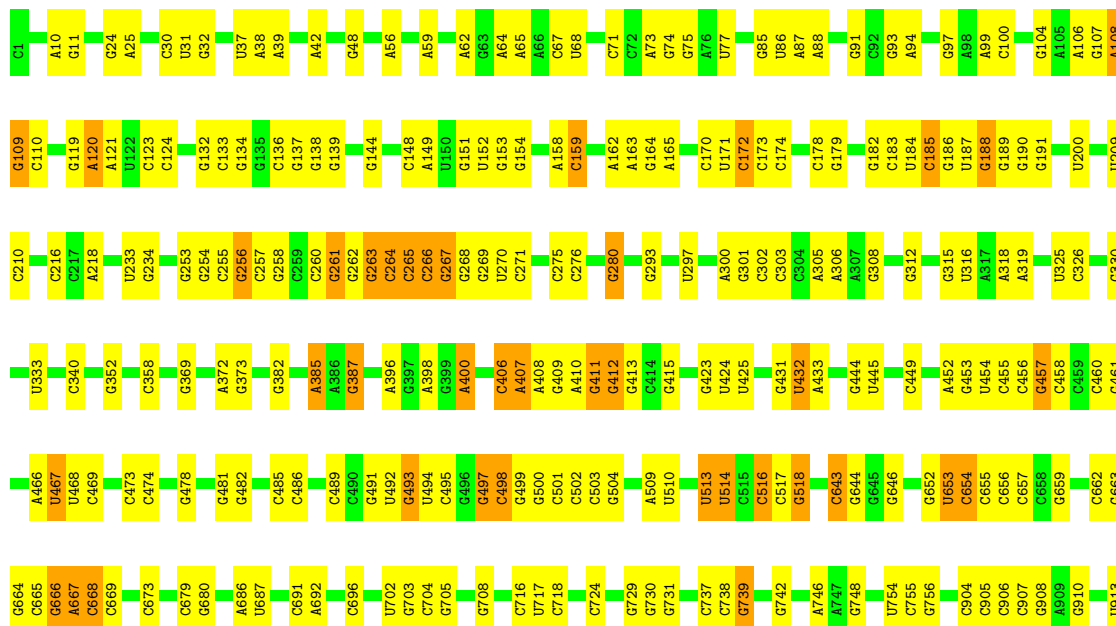
- Molecule 38: Ribosomal protein L24



- Molecule 39: Transcription factor BTF3

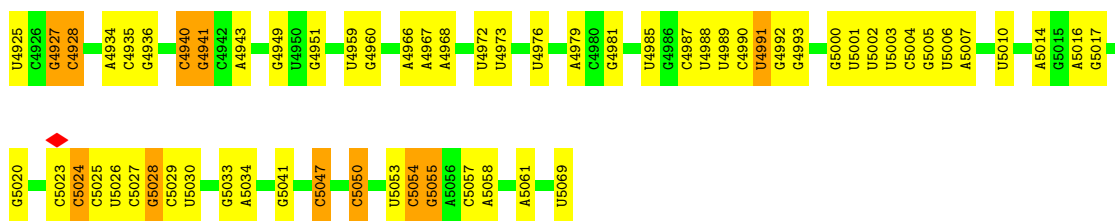


- Molecule 40: 28S rRNA

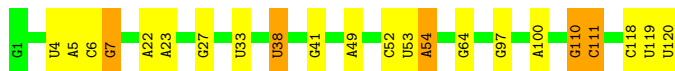
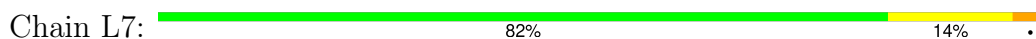


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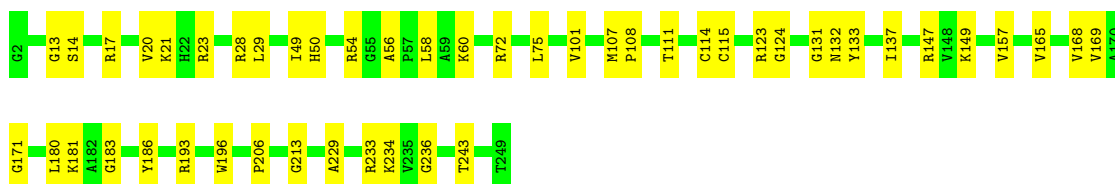
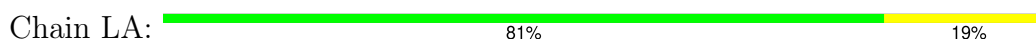
• Molecule 41: 5S rRNA



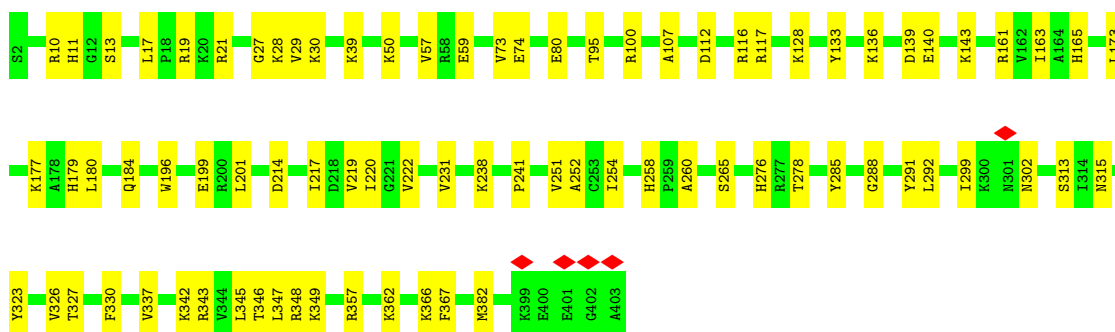
• Molecule 42: 5.8S rRNA



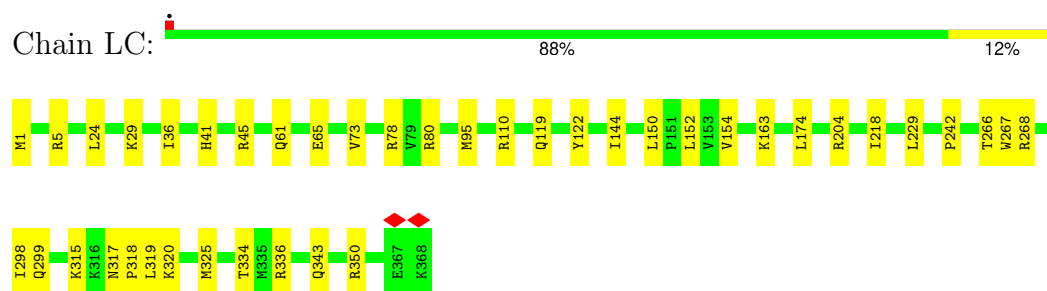
• Molecule 43: 60S ribosomal protein L8



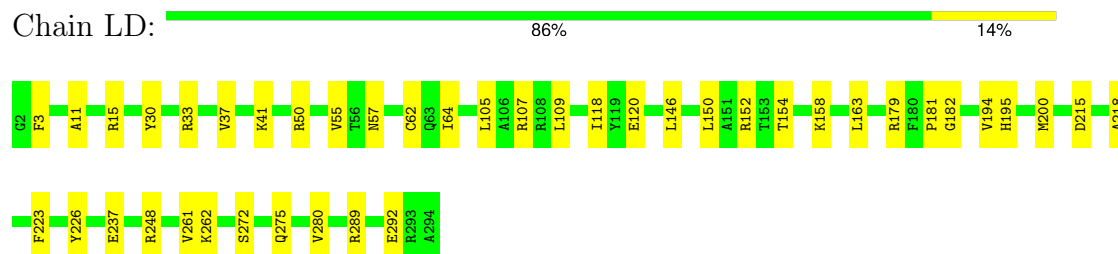
• Molecule 44: Large ribosomal subunit protein uL3



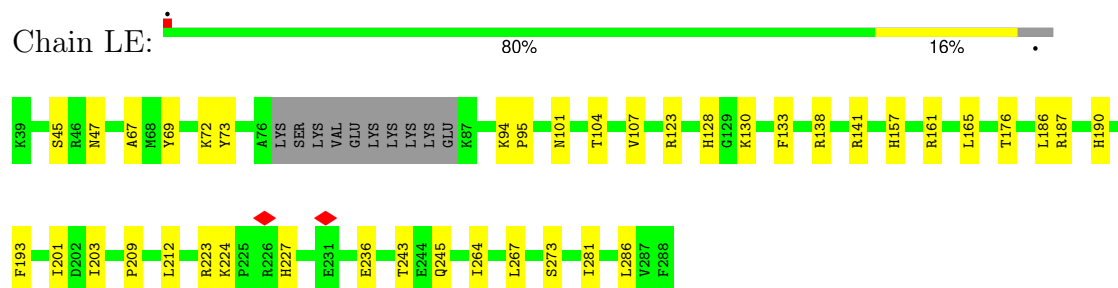
• Molecule 45: 60S ribosomal protein L4



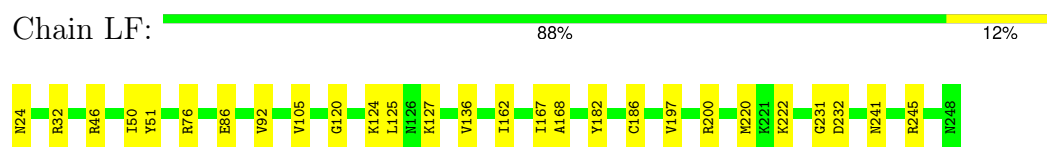
- Molecule 46: Large ribosomal subunit protein uL18



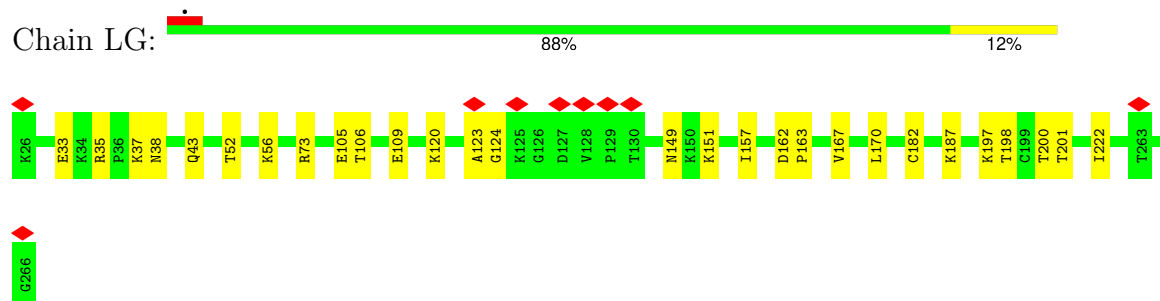
- Molecule 47: Large ribosomal subunit protein eL6



- Molecule 48: 60S ribosomal protein L7

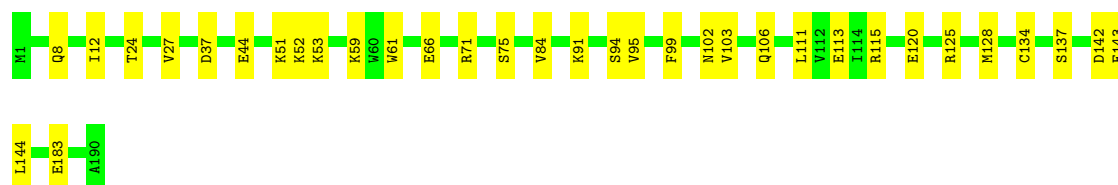


- Molecule 49: 60S ribosomal protein L7a



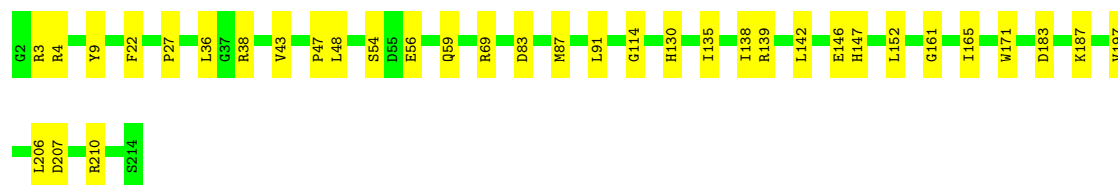
- Molecule 50: 60S ribosomal protein L9

Chain LH:  82% 18%



- Molecule 51: Ribosomal protein uL16-like

Chain LI:  84% 16%



- Molecule 52: 60S ribosomal protein L11

Chain LJ:  82% 15%



- Molecule 53: Large ribosomal subunit protein eL13

Chain LL:  89% 11%



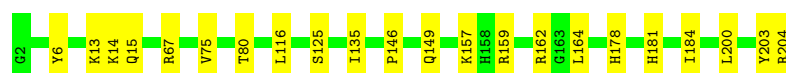
- Molecule 54: 60S ribosomal protein L14

Chain LM:  88% 12%



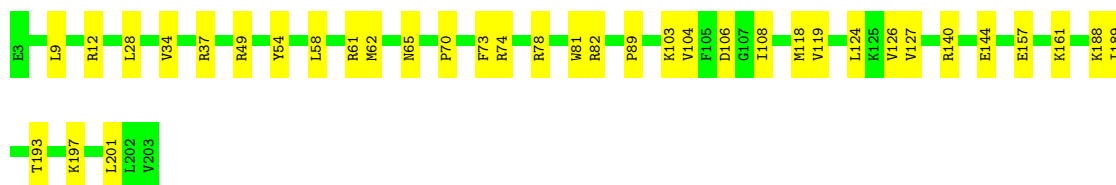
- Molecule 55: 60S ribosomal protein L15

Chain LN:  89% 11%



- Molecule 56: 60S ribosomal protein L13a

Chain LO:  82% 18%



- Molecule 57: 60S ribosomal protein L17

Chain LP: 86% 14%



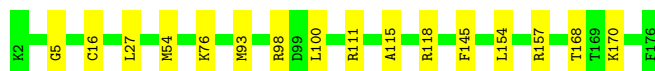
- Molecule 58: 60S ribosomal protein L18

Chain LQ: 91% 9%



- Molecule 59: 60S ribosomal protein L18a

Chain LS: 91% 9%



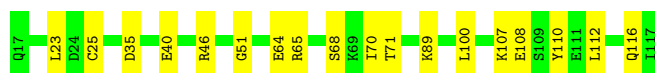
- Molecule 60: 60S ribosomal protein L21

Chain LT: 90% 10%



- Molecule 61: Heparin-binding protein HBp15

Chain LU: 82% 18%



- Molecule 62: 60S ribosomal protein L23

Chain LV: 91% 9%



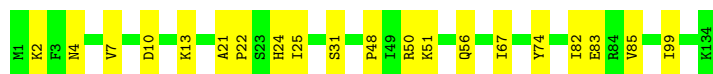
- Molecule 63: 60S ribosomal protein L23a

Chain LX:  89% 11%



- Molecule 64: 60S ribosomal protein L26

Chain LY:  85% 15%



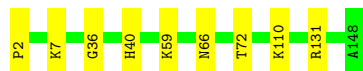
- Molecule 65: 60S ribosomal protein L27

Chain LZ:  87% 13%



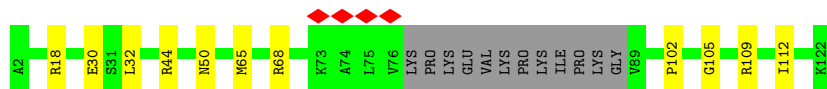
- Molecule 66: 60S ribosomal protein L27a

Chain La:  94% 6%



- Molecule 67: Large ribosomal subunit protein eL29

Chain Lb:  81% 9% 10%



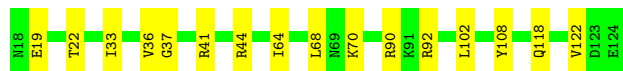
- Molecule 68: 60S ribosomal protein L30

Chain Lc:  79% 21%



- Molecule 69: 60S ribosomal protein L31

Chain Ld:  85% 15%



- Molecule 70: 60S ribosomal protein L32

Chain Le:  91% 9%

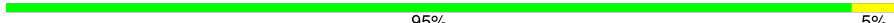


- Molecule 71: 60S ribosomal protein L35a

Chain Lf:  95% 5%



- Molecule 72: 60S ribosomal protein L34

Chain Lg:  95% 5%



- Molecule 73: 60S ribosomal protein L35

Chain Lh:  89% 11%



- Molecule 74: 60S ribosomal protein L36

Chain Li:  95% 5%



- Molecule 75: 60S ribosomal protein L37

Chain Lj:  86% 14%



- Molecule 76: 60S ribosomal protein L38

Chain Lk:  86% 14%



- Molecule 77: 60S ribosomal protein L39

Chain Ll:  80% 20%



- Molecule 78: Large ribosomal subunit protein eL40

Chain Lm:  90% 10%



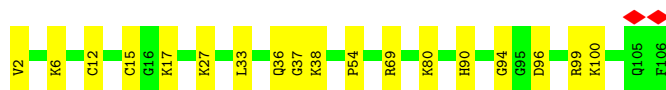
- Molecule 79: 60S ribosomal protein L41

Chain Ln:  79% 21%



- Molecule 80: 60S ribosomal protein L36a

Chain Lo:  83% 17%



- Molecule 81: 60S ribosomal protein L37a

Chain Lp:  90% 10%



- Molecule 82: 60S ribosomal protein L28

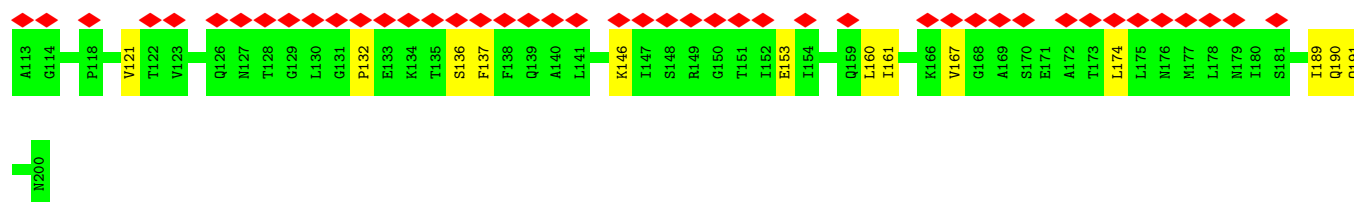
Chain Lr:  88% 12%



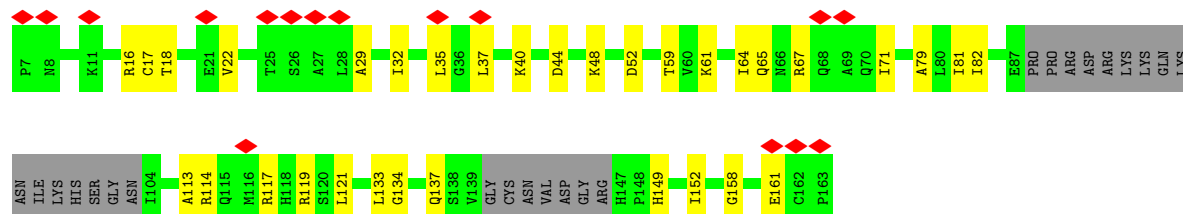
- Molecule 83: 60S acidic ribosomal protein P0

Chain Ls:  25% 79% 21%

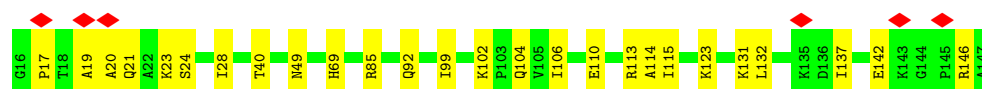
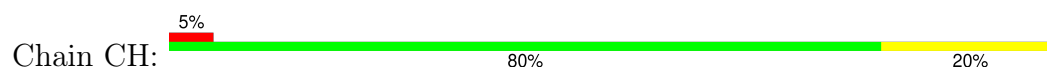




- Molecule 84: Large ribosomal subunit protein uL11



- Molecule 85: Endothelial differentiation-related factor 1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	130154	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)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.252	Depositor
Minimum map value	-0.070	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.0159	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: ZN, B8N, OMC, 1MA, UY1, MA6, MG, A2M, 5MC, OMU, G7M, UR3, SPD, 4AC, SPM, OMG, PSU, 6MZ

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	AP	0.15	0/1692	0.24	0/2634
2	CB	0.18	0/6734	0.39	0/9094
3	PE	0.20	0/1778	0.31	0/2767
4	SD	0.19	0/1793	0.31	0/2414
5	SF	0.18	0/1516	0.38	0/2037
6	SK	0.20	0/851	0.42	0/1147
7	SM	0.14	0/950	0.39	0/1275
8	SP	0.18	0/1065	0.31	0/1423
9	SQ	0.18	0/1160	0.37	0/1553
10	SR	0.25	0/1105	0.50	0/1484
11	SS	0.19	0/1216	0.36	0/1628
12	ST	0.18	0/1131	0.32	0/1515
13	SU	0.19	0/831	0.40	0/1115
14	SZ	0.19	0/604	0.38	0/810
15	Sc	0.18	0/508	0.34	0/680
16	Sd	0.21	0/470	0.32	0/623
17	Sf	0.19	0/560	0.44	0/745
18	Sg	0.16	0/2493	0.40	0/3394
19	SA	0.22	0/1778	0.36	0/2416
20	SB	0.21	0/1765	0.38	0/2362
21	SC	0.23	0/1744	0.39	0/2357
22	SE	0.18	0/2118	0.36	0/2849
23	SG	0.16	0/1946	0.32	0/2590
24	SH	0.17	0/1519	0.37	0/2033
25	SI	0.18	0/1715	0.36	0/2287
26	SJ	0.16	0/1550	0.32	0/2069
27	SL	0.20	0/1268	0.30	0/1696
28	SN	0.21	0/1232	0.31	0/1656
29	SO	0.23	0/1037	0.41	0/1391
30	SV	0.18	0/643	0.30	0/860
31	SW	0.23	0/1051	0.37	0/1406

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	SX	0.21	0/1116	0.38	0/1490
33	SY	0.16	0/1083	0.36	0/1438
34	Sa	0.25	0/836	0.39	0/1121
35	Sb	0.19	0/665	0.32	0/891
36	S2	0.25	0/39756	0.28	0/61939
37	LR	0.29	0/1582	0.40	0/2091
38	LW	0.23	0/959	0.30	0/1270
39	CI	0.15	0/247	0.27	0/323
40	L5	0.34	0/85098	0.32	0/132762
41	L7	0.33	0/2861	0.27	0/4459
42	L8	0.34	0/3631	0.29	0/5657
43	LA	0.34	0/1936	0.44	0/2596
44	LB	0.31	0/3306	0.40	0/4424
45	LC	0.32	0/2981	0.38	0/4002
46	LD	0.26	0/2428	0.35	0/3252
47	LE	0.25	0/1973	0.40	0/2645
48	LF	0.32	0/1905	0.33	0/2539
49	LG	0.26	0/1960	0.37	0/2637
50	LH	0.27	0/1537	0.37	0/2066
51	LI	0.28	0/1751	0.32	0/2340
52	LJ	0.24	0/1385	0.39	0/1852
53	LL	0.27	0/1732	0.34	0/2315
54	LM	0.29	0/1161	0.39	0/1554
55	LN	0.33	0/1746	0.36	0/2338
56	LO	0.32	0/1682	0.37	0/2250
57	LP	0.33	0/1268	0.43	0/1701
58	LQ	0.32	0/1537	0.37	0/2052
59	LS	0.31	0/1493	0.36	0/2003
60	LT	0.29	0/1326	0.33	0/1770
61	LU	0.24	0/839	0.49	0/1126
62	LV	0.30	0/993	0.39	0/1332
63	LX	0.28	0/1002	0.34	0/1345
64	LY	0.28	0/1132	0.36	0/1504
65	LZ	0.26	0/1130	0.34	0/1507
66	La	0.31	0/1191	0.34	0/1591
67	Lb	0.24	0/889	0.41	0/1175
68	Lc	0.27	0/774	0.39	0/1038
69	Ld	0.30	0/903	0.38	0/1216
70	Le	0.34	0/1071	0.35	0/1429
71	Lf	0.33	0/895	0.37	0/1198
72	Lg	0.30	0/916	0.35	0/1220
73	Lh	0.27	0/1023	0.37	0/1351
74	Li	0.24	0/843	0.32	0/1115

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	Lj	0.34	0/720	0.42	0/952
76	Lk	0.24	0/575	0.34	0/761
77	Ll	0.30	0/454	0.28	0/599
78	Lm	0.27	0/435	0.35	0/575
79	Ln	0.23	0/231	0.32	0/294
80	Lo	0.29	0/876	0.34	0/1156
81	Lp	0.29	0/718	0.38	0/953
82	Lr	0.31	0/1017	0.36	0/1364
83	Ls	0.14	0/1519	0.38	0/2052
84	Lt	0.15	0/1009	0.45	0/1363
85	CH	0.16	0/1028	0.40	0/1376
All	All	0.29	0/238947	0.33	0/349679

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
10	SR	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
10	SR	81	ARG	Sidechain

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	AP	1514	0	770	22	0
2	CB	6605	0	6679	133	0
3	PE	1593	0	810	22	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	SD	1765	0	1865	28	0
5	SF	1495	0	1549	26	0
6	SK	827	0	854	14	0
7	SM	940	0	965	11	0
8	SP	1045	0	1095	19	0
9	SQ	1142	0	1213	21	0
10	SR	1090	0	1149	21	0
11	SS	1198	0	1261	29	0
12	ST	1112	0	1146	18	0
13	SU	821	0	883	18	0
14	SZ	598	0	656	17	0
15	Sc	506	0	536	8	0
16	Sd	459	0	452	5	0
17	Sf	548	0	551	9	0
18	Sg	2436	0	2393	55	0
19	SA	1741	0	1746	25	0
20	SB	1738	0	1809	26	0
21	SC	1707	0	1791	23	0
22	SE	2076	0	2177	52	0
23	SG	1923	0	2089	40	0
24	SH	1497	0	1590	37	0
25	SI	1686	0	1772	31	0
26	SJ	1525	0	1640	26	0
27	SL	1247	0	1323	18	0
28	SN	1208	0	1294	18	0
29	SO	1024	0	1050	16	0
30	SV	636	0	637	11	0
31	SW	1034	0	1080	20	0
32	SX	1098	0	1167	16	0
33	SY	1065	0	1142	21	0
34	Sa	821	0	870	14	0
35	Sb	651	0	672	14	0
36	S2	36952	0	18678	409	0
37	LR	1566	0	1729	13	0
38	LW	945	0	1003	15	0
39	CI	247	0	283	2	0
40	L5	78444	0	39719	673	0
41	L7	2561	0	1295	12	0
42	L8	3315	0	1685	23	0
43	LA	1898	0	1993	41	0
44	LB	3238	0	3376	61	0
45	LC	2927	0	3104	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	LD	2382	0	2410	33	0
47	LE	1935	0	2096	27	0
48	LF	1870	0	1996	19	0
49	LG	1927	0	2074	19	0
50	LH	1518	0	1601	22	0
51	LI	1711	0	1749	22	0
52	LJ	1362	0	1399	15	0
53	LL	1701	0	1818	20	0
54	LM	1138	0	1204	16	0
55	LN	1701	0	1749	19	0
56	LO	1650	0	1794	29	0
57	LP	1242	0	1269	15	0
58	LQ	1513	0	1628	14	0
59	LS	1453	0	1490	12	0
60	LT	1298	0	1366	15	0
61	LU	825	0	850	13	0
62	LV	979	0	1039	9	0
63	LX	985	0	1066	8	0
64	LY	1115	0	1205	14	0
65	LZ	1107	0	1182	11	0
66	La	1162	0	1213	9	0
67	Lb	876	0	948	9	0
68	Lc	764	0	804	13	0
69	Ld	888	0	930	11	0
70	Le	1053	0	1147	9	0
71	Lf	876	0	912	3	0
72	Lg	906	0	998	5	0
73	Lh	1015	0	1148	14	0
74	Li	832	0	917	5	0
75	Lj	705	0	737	9	0
76	Lk	569	0	637	8	0
77	Ll	444	0	483	7	0
78	Lm	429	0	465	4	0
79	Ln	230	0	276	3	0
80	Lo	862	0	929	12	0
81	Lp	708	0	756	7	0
82	Lr	1002	0	1068	9	0
83	Ls	1496	0	1540	28	0
84	Lt	998	0	1032	25	0
85	CH	1018	0	1064	19	0
86	L5	178	0	0	0	0
86	L7	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
86	L8	4	0	0	0	0
86	LA	1	0	0	0	0
86	LB	1	0	0	0	0
86	LI	1	0	0	0	0
86	LP	1	0	0	0	0
86	LV	1	0	0	0	0
86	Le	1	0	0	0	0
86	S2	25	0	0	0	0
86	SG	1	0	0	0	0
86	SS	1	0	0	0	0
87	Lg	1	0	0	0	0
87	Lj	1	0	0	0	0
87	Lm	1	0	0	0	0
87	Lo	1	0	0	0	0
87	Lp	1	0	0	0	0
87	Sa	1	0	0	0	0
88	L5	98	0	182	5	0
89	L5	80	0	152	3	0
89	L8	10	0	19	0	0
89	LN	10	0	19	0	0
All	All	227131	0	170902	2350	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

All (2350) 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)
40:L5:1095:A:H2	40:L5:1200:G:N1	1.45	1.15
40:L5:1095:A:C2	40:L5:1200:G:N1	2.19	1.05
3:PE:26:A:H61	3:PE:44:G:H1	1.06	0.91
40:L5:1100:U:H3	40:L5:1194:G:H1	1.23	0.87
36:S2:1815:A:H8	40:L5:3806:G:H21	1.20	0.83
36:S2:1729:U:H3	36:S2:1805:G:H1	1.25	0.83
20:SB:103:MET:HG3	20:SB:215:VAL:HG12	1.60	0.82
36:S2:1033:G:H1	36:S2:1080:A:HO2'	1.26	0.82
2:CB:18:ASN:HD21	2:CB:94:ASP:H	1.27	0.81
1:AP:50:U:H3	1:AP:64:G:H1	1.26	0.81
3:PE:26:A:N6	3:PE:44:G:H1	1.79	0.79
36:S2:1812:U:H2'	36:S2:1813:A:H8	1.47	0.79
5:SF:140:ASP:HB2	15:Sc:46:VAL:HG12	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:S2:1722:G:H2'	36:S2:1723:G:H8	1.47	0.79
15:Sc:44:ARG:HH12	15:Sc:63:ARG:HH11	1.31	0.79
40:L5:3773:U:H3	40:L5:3775:A:H62	1.32	0.78
36:S2:1656:G:H1	36:S2:1668:U:H3	1.31	0.77
50:LH:106:GLN:HB2	50:LH:111:LEU:HB3	1.67	0.77
18:Sg:87:LEU:HB2	18:Sg:101:PHE:HB2	1.67	0.77
17:Sf:126:CYS:SG	17:Sf:144:CYS:N	2.57	0.76
2:CB:454:MET:HB2	2:CB:457:TYR:HB2	1.66	0.75
2:CB:121:VAL:HG13	2:CB:415:ARG:HB2	1.68	0.74
84:Lt:65:GLN:HG3	84:Lt:67:ARG:H	1.53	0.74
1:AP:18:G:O2'	1:AP:57:G:N2	2.21	0.73
36:S2:1748:G:H1	36:S2:1786:U:H3	1.37	0.73
51:LI:36:LEU:HD11	51:LI:69:ARG:HH11	1.53	0.73
23:SG:13:GLN:NE2	36:S2:153:G:N3	2.37	0.73
25:SI:98:LYS:HB3	36:S2:377:G:H5'	1.70	0.72
40:L5:4775:C:H41	40:L5:4859:C:H42	1.37	0.72
40:L5:1095:A:N1	40:L5:1200:G:O6	2.23	0.72
43:LA:28:ARG:HD2	43:LA:123:ARG:HG3	1.71	0.72
40:L5:2611:A:H5'	40:L5:2688:G:H4'	1.72	0.72
40:L5:4897:G:N2	40:L5:4924:C:O2	2.22	0.72
36:S2:925:G:H1	36:S2:1017:U:H3	1.37	0.71
2:CB:58:ASP:HB3	2:CB:63:GLU:HB3	1.72	0.71
2:CB:772:GLU:HB3	2:CB:785:LYS:HB2	1.73	0.71
18:Sg:107:ASP:HB2	18:Sg:125:ARG:HD2	1.71	0.71
40:L5:2520:C:O2	40:L5:2640:G:N2	2.23	0.71
40:L5:2601:A:N6	40:L5:2744:A:OP2	2.24	0.71
58:LQ:68:ARG:HA	58:LQ:71:LYS:HE3	1.72	0.71
35:Sb:11:SER:OG	35:Sb:14:GLU:OE1	2.08	0.71
36:S2:1722:G:H2'	36:S2:1723:G:C8	2.26	0.71
3:PE:14:A:H61	3:PE:21:A:H2	1.39	0.71
40:L5:3701:OMC:H5	40:L5:3748:A:H62	1.35	0.71
2:CB:448:GLN:HB2	2:CB:473:VAL:HG13	1.73	0.70
13:SU:49:LYS:HB3	13:SU:92:HIS:HB2	1.73	0.70
31:SW:2:VAL:N	36:S2:1091:C:HO2'	1.88	0.70
22:SE:211:LYS:HE2	22:SE:215:GLY:HA2	1.74	0.70
40:L5:497:G:H21	40:L5:498:C:H41	1.37	0.69
40:L5:2092:G:O2'	40:L5:2262:G:N2	2.26	0.69
40:L5:1414:C:H2'	40:L5:1415:G:H8	1.56	0.69
40:L5:3773:U:O4	40:L5:3775:A:N7	2.25	0.69
40:L5:1994:C:H2'	40:L5:1995:G:H8	1.58	0.69
43:LA:54:ARG:HH11	43:LA:58:LEU:HD21	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:Lt:117:ARG:HH12	84:Lt:121:LEU:HD13	1.56	0.69
23:SG:2:LYS:HB2	23:SG:108:VAL:HG12	1.74	0.69
52:LJ:112:HIS:ND1	52:LJ:125:ILE:O	2.25	0.69
84:Lt:16:ARG:HE	84:Lt:17:CYS:H	1.41	0.68
40:L5:171:U:H4'	53:LL:135:LYS:HG2	1.75	0.68
19:SA:77:ILE:HD11	19:SA:124:VAL:HG22	1.76	0.68
22:SE:173:ILE:HG21	22:SE:227:VAL:HG11	1.76	0.68
22:SE:125:LYS:HB3	22:SE:142:HIS:HB3	1.75	0.68
22:SE:127:ARG:HG3	22:SE:142:HIS:HA	1.76	0.67
36:S2:1752:C:N3	36:S2:1779:G:N1	2.39	0.67
2:CB:452:LEU:HD13	2:CB:461:ILE:HD12	1.76	0.67
21:SC:66:LEU:HD11	21:SC:81:ILE:HD12	1.76	0.67
40:L5:4623:OMG:OP1	44:LB:19:ARG:NH2	2.27	0.67
85:CH:17:PRO:HG2	85:CH:21:GLN:HB2	1.75	0.67
25:SI:31:ARG:HH12	25:SI:48:VAL:HG12	1.58	0.67
40:L5:1997:U:H4'	83:Ls:44:ARG:HH12	1.59	0.67
7:SM:89:VAL:HG21	7:SM:109:VAL:HG11	1.76	0.67
6:SK:24:LYS:O	6:SK:42:ASN:ND2	2.28	0.67
23:SG:162:LEU:HD11	23:SG:170:ARG:HG2	1.77	0.67
33:SY:10:ARG:HG3	33:SY:24:VAL:HG23	1.77	0.67
19:SA:70:ASN:HB3	19:SA:73:ASP:HB2	1.77	0.67
22:SE:45:ILE:HA	22:SE:61:VAL:HG11	1.77	0.67
36:S2:1658:G:OP2	36:S2:1660:C:N4	2.27	0.67
24:SH:31:GLU:HA	24:SH:37:LYS:HG3	1.76	0.66
83:Ls:53:VAL:HG12	83:Ls:89:VAL:HG22	1.77	0.66
19:SA:163:CYS:SG	19:SA:164:ASN:N	2.69	0.66
40:L5:3680:U:OP1	43:LA:54:ARG:NH2	2.29	0.66
36:S2:557:U:H2'	36:S2:558:G:C8	2.31	0.66
40:L5:1932:A:OP1	56:LO:49:ARG:NH2	2.28	0.66
40:L5:1402:C:N3	40:L5:1415:G:N1	2.31	0.66
8:SP:111:MET:HA	11:SS:117:ILE:HD11	1.78	0.65
24:SH:17:ASP:HB2	24:SH:20:GLU:HB3	1.79	0.65
36:S2:928:G:H2'	36:S2:929:G:C8	2.30	0.65
22:SE:31:PRO:HA	22:SE:81:THR:HB	1.77	0.65
24:SH:34:SER:O	24:SH:78:ARG:NH2	2.29	0.65
54:LM:15:VAL:HG22	54:LM:50:MET:HE1	1.79	0.65
49:LG:167:VAL:HG12	49:LG:170:LEU:HD12	1.78	0.65
51:LI:56:GLU:HG3	51:LI:161:GLY:HA3	1.79	0.65
18:Sg:157:SER:HB3	18:Sg:164:ILE:HG22	1.78	0.65
40:L5:2486:G:O6	40:L5:2493:G:O6	2.15	0.65
28:SN:103:GLU:O	28:SN:106:ARG:NH1	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SD:67:ARG:HD3	6:SK:96:ARG:HG2	1.79	0.65
26:SJ:177:ASN:ND2	36:S2:560:A:OP2	2.29	0.65
40:L5:2458:C:H5''	55:LN:67:ARG:HD2	1.79	0.65
1:AP:21:A:H61	1:AP:46:G:H2'	1.61	0.65
22:SE:38:LEU:HD22	36:S2:346:C:H5''	1.78	0.65
40:L5:137:G:H2'	40:L5:138:G:H8	1.62	0.65
40:L5:2083:C:OP2	58:LQ:14:ARG:NH2	2.30	0.65
40:L5:2557:G:H1	40:L5:2570:U:H3	1.44	0.65
2:CB:76:SER:HB3	2:CB:454:MET:HE1	1.79	0.64
4:SD:42:THR:OG1	4:SD:45:ARG:O	2.15	0.64
11:SS:63:GLU:HG2	11:SS:66:ARG:HH21	1.61	0.64
36:S2:106:C:H2'	36:S2:107:A:H8	1.60	0.64
32:SX:100:VAL:HG12	32:SX:125:VAL:HG22	1.78	0.64
19:SA:207:PRO:HA	19:SA:210:ILE:HG22	1.78	0.64
27:SL:35:ARG:NH2	27:SL:55:TYR:O	2.31	0.64
40:L5:387:G:HO2'	40:L5:412:G:H1	1.46	0.64
36:S2:1228:A:H2'	36:S2:1229:G:C8	2.31	0.64
36:S2:1277:C:H2'	36:S2:1278:A:H8	1.61	0.64
40:L5:1669:A:OP1	67:Lb:18:ARG:NH2	2.30	0.64
46:LD:272:SER:HB3	46:LD:275:GLN:HG3	1.79	0.64
22:SE:128:LYS:HG2	22:SE:140:VAL:HB	1.78	0.64
23:SG:137:ARG:HB3	23:SG:140:ARG:HG2	1.78	0.64
84:Lt:37:LEU:HA	84:Lt:40:LYS:HE3	1.79	0.64
40:L5:3949:A:OP1	40:L5:4065:G:N2	2.30	0.64
40:L5:4472:G:O2'	78:Lm:100:TYR:O	2.16	0.64
10:SR:100:PRO:HG2	10:SR:122:PRO:HD3	1.80	0.64
40:L5:2351:OMC:HM22	45:LC:95:MET:HG3	1.80	0.64
50:LH:95:VAL:HG12	78:Lm:82:LEU:HD13	1.79	0.64
36:S2:885:U:O2	36:S2:901:G:O6	2.15	0.64
40:L5:3697:U:H5''	40:L5:3698:G:H5'	1.80	0.64
30:SV:14:PRO:HG2	30:SV:23:ILE:HD12	1.79	0.63
37:LR:108:ARG:NH2	40:L5:2899:C:OP1	2.31	0.63
40:L5:268:G:H2'	40:L5:269:G:H8	1.63	0.63
43:LA:29:LEU:O	43:LA:123:ARG:NH1	2.27	0.63
27:SL:42:LEU:HD13	27:SL:72:ILE:HD11	1.80	0.63
40:L5:1974:U:H4'	40:L5:1975:G:H3'	1.80	0.63
45:LC:110:ARG:HB2	55:LN:204:ARG:HH21	1.64	0.63
56:LO:81:TRP:HB2	56:LO:104:VAL:HG21	1.79	0.63
2:CB:744:ILE:HD13	2:CB:818:GLN:HB3	1.80	0.63
6:SK:80:ARG:HH11	6:SK:87:PRO:HA	1.63	0.63
40:L5:1095:A:H2	40:L5:1200:G:H1	0.69	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:2695:A:OP1	76:Lk:35:LYS:NZ	2.30	0.63
36:S2:1536:G:H2'	36:S2:1537:A:H8	1.64	0.63
19:SA:77:ILE:HG22	19:SA:99:ILE:HB	1.81	0.63
22:SE:192:ILE:HG12	22:SE:243:GLY:HA3	1.81	0.63
42:L8:75:OMG:OP2	64:LY:74:TYR:OH	2.17	0.63
32:SX:68:LYS:NZ	36:S2:616:A:OP1	2.32	0.62
40:L5:4092:G:N7	40:L5:4114:C:N4	2.48	0.62
14:SZ:96:LEU:HD12	14:SZ:97:ILE:HG12	1.81	0.62
37:LR:173:ARG:HG2	37:LR:176:ARG:HH12	1.63	0.62
40:L5:2658:G:N2	40:L5:2676:A:OP2	2.32	0.62
43:LA:147:ARG:HG2	43:LA:157:VAL:HG22	1.81	0.62
40:L5:184:U:O2	40:L5:253:G:N2	2.31	0.62
49:LG:106:THR:OG1	49:LG:109:GLU:OE1	2.17	0.62
56:LO:34:VAL:HG22	56:LO:103:LYS:HB2	1.82	0.62
23:SG:131:ARG:HB2	38:LW:82:ILE:HG22	1.82	0.62
26:SJ:121:LYS:HD2	36:S2:527:C:H4'	1.80	0.62
40:L5:513:U:N3	40:L5:516:C:OP2	2.28	0.62
40:L5:3811:G:O2'	40:L5:3814:U:OP2	2.16	0.62
40:L5:4094:G:N2	40:L5:4115:G:OP2	2.32	0.62
46:LD:280:VAL:HG23	51:LI:206:LEU:HD11	1.80	0.62
2:CB:764:ASN:ND2	2:CB:768:GLY:O	2.32	0.62
23:SG:133:LEU:HD12	36:S2:65:C:C4	2.35	0.62
26:SJ:132:GLN:OE1	36:S2:562:U:O2'	2.17	0.62
47:LE:281:ILE:HD12	47:LE:286:LEU:HD11	1.81	0.62
6:SK:21:MET:HG2	6:SK:49:MET:HE3	1.82	0.62
82:Lr:26:SER:OG	82:Lr:28:GLU:OE1	2.16	0.62
83:Ls:47:LEU:HD23	83:Ls:51:ALA:HB3	1.82	0.62
40:L5:4927:G:H5''	40:L5:4928:C:H5	1.65	0.62
51:LI:87:MET:HG2	51:LI:138:ILE:HG12	1.82	0.62
2:CB:232:TYR:HE2	2:CB:292:LEU:HB3	1.64	0.62
4:SD:172:VAL:HG22	4:SD:185:LYS:HG2	1.81	0.62
36:S2:329:G:H2'	36:S2:330:G:H8	1.64	0.62
40:L5:67:C:OP2	40:L5:312:G:N2	2.33	0.62
16:Sd:8:TRP:HZ3	36:S2:1512:C:H5''	1.65	0.62
18:Sg:176:VAL:HG23	18:Sg:185:LYS:HB2	1.82	0.62
36:S2:1228:A:H2'	36:S2:1229:G:H8	1.65	0.62
40:L5:4281:A:H2'	40:L5:4282:A:H2'	1.81	0.62
2:CB:692:LEU:O	2:CB:839:ARG:NH1	2.33	0.61
2:CB:89:ILE:HD11	2:CB:93:LYS:HB3	1.83	0.61
56:LO:37:ARG:HD2	56:LO:108:ILE:HD11	1.81	0.61
36:S2:165:G:OP2	36:S2:165:G:N2	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:2295:C:O2'	45:LC:45:ARG:NH2	2.32	0.61
40:L5:4221:C:OP1	88:L5:5263:SPM:N14	2.33	0.61
40:L5:4251:A:H5''	52:LJ:108:GLY:HA3	1.81	0.61
68:Lc:20:LEU:O	68:Lc:24:SER:OG	2.15	0.61
85:CH:23:LYS:HG3	85:CH:28:ILE:HD11	1.82	0.61
2:CB:66:ARG:HE	2:CB:68:ILE:HD12	1.65	0.61
19:SA:30:LEU:HD21	19:SA:35:GLU:HG2	1.81	0.61
36:S2:1812:U:H2'	36:S2:1813:A:C8	2.31	0.61
40:L5:3641:U:OP2	40:L5:3646:A:N6	2.33	0.61
22:SE:144:ALA:HB3	36:S2:121:OMU:HM23	1.83	0.61
40:L5:1499:C:OP1	58:LQ:150:ARG:NH2	2.34	0.61
43:LA:107:MET:HB3	43:LA:111:THR:HG21	1.82	0.61
83:Ls:102:LEU:HD21	83:Ls:189:ILE:HD11	1.83	0.61
21:SC:166:ARG:HD3	21:SC:181:PRO:HG3	1.83	0.61
18:Sg:208:ALA:HB2	18:Sg:218:LEU:HD13	1.82	0.61
21:SC:173:LYS:HD3	30:SV:3:ASN:HA	1.81	0.61
67:Lb:102:PRO:HA	67:Lb:109:ARG:HH22	1.66	0.61
77:Ll:9:ILE:HD12	77:Ll:51:LEU:HD11	1.81	0.61
18:Sg:4:GLN:H	18:Sg:313:THR:HG22	1.65	0.61
40:L5:3710:G:O2'	40:L5:3712:A:OP2	2.19	0.61
40:L5:4992:G:H2'	40:L5:4993:G:C8	2.36	0.61
40:L5:5016:A:C2	40:L5:5033:G:N2	2.66	0.61
33:SY:9:THR:HG22	33:SY:25:ILE:HG22	1.82	0.61
36:S2:1777:G:H2'	36:S2:1778:C:H6	1.66	0.61
2:CB:654:PRO:HD2	2:CB:658:GLY:HA3	1.83	0.61
38:LW:52:THR:HG22	38:LW:54:LEU:H	1.65	0.61
40:L5:3633:C:OP1	88:L5:5291:SPM:N10	2.30	0.61
40:L5:4100:C:OP2	40:L5:4101:C:N4	2.34	0.60
84:Lt:81:ILE:HD12	84:Lt:113:ALA:HB1	1.83	0.60
51:LI:48:LEU:HB2	51:LI:142:LEU:HD23	1.83	0.60
40:L5:919:C:OP1	54:LM:69:HIS:ND1	2.30	0.60
40:L5:3717:A:H2'	40:L5:3718:A2M:H8	1.83	0.60
1:AP:29:C:H2'	1:AP:30:G:H8	1.66	0.60
15:Sc:7:GLN:HE22	15:Sc:10:LYS:HD3	1.66	0.60
21:SC:210:PRO:HD3	21:SC:236:PHE:CE2	2.37	0.60
68:Lc:99:PRO:HG3	68:Lc:104:ILE:HG12	1.82	0.60
19:SA:7:VAL:HG13	19:SA:8:LEU:HD12	1.83	0.60
36:S2:150:A:N6	36:S2:168:C:O2	2.35	0.60
25:SI:87:ASN:HB3	25:SI:90:LEU:HD23	1.82	0.60
40:L5:1645:C:OP1	45:LC:80:ARG:NH2	2.30	0.60
40:L5:4076:G:OP1	49:LG:73:ARG:NE	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:LY:22:PRO:HD2	64:LY:25:ILE:HD11	1.82	0.60
4:SD:38:GLU:HG2	4:SD:49:ILE:HB	1.83	0.60
33:SY:14:THR:HG23	33:SY:21:LYS:HG2	1.84	0.60
40:L5:1975:G:N2	40:L5:1983:A:OP1	2.35	0.60
36:S2:1130:G:OP2	36:S2:1130:G:N2	2.32	0.60
58:LQ:70:MET:HE1	58:LQ:137:VAL:HB	1.84	0.60
2:CB:155:LEU:HB3	2:CB:212:VAL:HG12	1.84	0.60
24:SH:53:VAL:HG11	24:SH:172:THR:HA	1.82	0.60
32:SX:28:LYS:HE2	32:SX:32:LEU:HD11	1.83	0.60
40:L5:1404:G:O6	40:L5:1413:C:N4	2.35	0.60
36:S2:981:A:H2'	36:S2:982:G:C8	2.37	0.59
40:L5:1095:A:H2	40:L5:1200:G:C2	2.18	0.59
40:L5:1175:A:H2	40:L5:1185:G:H1	1.49	0.59
52:LJ:141:ILE:HA	52:LJ:144:LYS:HG2	1.83	0.59
4:SD:18:LYS:HE3	4:SD:39:VAL:HB	1.83	0.59
40:L5:1100:U:O4	40:L5:1194:G:O6	2.20	0.59
62:LV:13:LYS:HD3	62:LV:128:LEU:HD22	1.84	0.59
40:L5:1402:C:O2	40:L5:1415:G:N2	2.18	0.59
64:LY:4:ASN:HB3	64:LY:7:VAL:HG12	1.83	0.59
83:Ls:24:TYR:HB2	83:Ls:90:PHE:HB3	1.84	0.59
22:SE:62:LYS:HA	22:SE:80:ILE:HD11	1.84	0.59
40:L5:664:G:N2	40:L5:666:G:O6	2.35	0.59
83:Ls:20:LEU:HD12	83:Ls:54:LEU:HD22	1.84	0.59
18:Sg:89:LEU:HB2	18:Sg:101:PHE:HE1	1.65	0.59
25:SI:22:HIS:HB3	36:S2:433:A:H5''	1.84	0.59
40:L5:1700:G:H5''	40:L5:1704:C:H42	1.67	0.59
40:L5:4910:G:N2	56:LO:106:ASP:O	2.36	0.59
54:LM:119:ARG:HG3	56:LO:189:ILE:HG23	1.85	0.59
37:LR:44:LEU:HD22	37:LR:49:LEU:HD12	1.85	0.59
14:SZ:99:LEU:HD11	14:SZ:102:LYS:HB2	1.85	0.59
36:S2:1536:G:H2'	36:S2:1537:A:C8	2.38	0.59
40:L5:1697:G:H22	40:L5:2084:C:P	2.26	0.59
40:L5:3868:G:H22	40:L5:3900:G:H1'	1.67	0.59
2:CB:368:ARG:HG2	2:CB:372:LEU:HD23	1.85	0.59
25:SI:10:LYS:NZ	36:S2:370:G:O2'	2.36	0.59
25:SI:149:TYR:HB3	25:SI:153:LYS:HZ3	1.68	0.59
44:LB:222:VAL:O	44:LB:343:ARG:NH1	2.36	0.59
8:SP:130:ARG:HD3	8:SP:131:PRO:HD2	1.85	0.59
18:Sg:132:TRP:CD1	18:Sg:138:CYS:HA	2.38	0.59
36:S2:549:C:H4'	85:CH:19:ALA:H	1.67	0.59
40:L5:4615:C:H5''	44:LB:357:ARG:HD2	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:449:ARG:NH1	36:S2:51:U:O2'	2.36	0.59
61:LU:46:ARG:HH22	61:LU:89:LYS:HE2	1.67	0.59
2:CB:524:LEU:HD22	2:CB:546:ILE:HD11	1.85	0.58
18:Sg:24:THR:HG22	18:Sg:26:GLN:H	1.67	0.58
21:SC:65:LYS:HD2	21:SC:273:LEU:HD13	1.84	0.58
32:SX:17:ARG:NH2	36:S2:658:U:O2	2.36	0.58
43:LA:114:CYS:HB3	43:LA:165:VAL:HB	1.84	0.58
44:LB:107:ALA:HB2	44:LB:201:LEU:HD22	1.85	0.58
27:SL:75:GLY:HA3	27:SL:88:ILE:HD12	1.84	0.58
47:LE:223:ARG:NH2	47:LE:236:GLU:O	2.36	0.58
4:SD:54:ARG:HH22	4:SD:56:GLN:HB3	1.68	0.58
20:SB:222:LYS:NZ	20:SB:224:GLU:OE1	2.36	0.58
40:L5:1972:G:H2'	40:L5:1973:G:C8	2.38	0.58
47:LE:243:THR:HG22	47:LE:245:GLN:H	1.68	0.58
53:LL:64:VAL:HA	53:LL:67:HIS:CD2	2.37	0.58
2:CB:503:PRO:HG3	2:CB:535:GLN:HG3	1.86	0.58
3:PE:16:C:O2'	3:PE:19:G:OP2	2.22	0.58
36:S2:928:G:H1	36:S2:1013:U:H3	1.50	0.58
36:S2:1417:C:H42	36:S2:1422:G:H22	1.51	0.58
40:L5:1994:C:H2'	40:L5:1995:G:C8	2.38	0.58
41:L7:7:G:OP1	46:LD:33:ARG:NH1	2.36	0.58
7:SM:33:ARG:HD2	7:SM:91:LEU:HD11	1.85	0.58
36:S2:207:G:H3'	36:S2:208:G:H8	1.68	0.58
42:L8:52:A:H5'	77:Ll:21:ARG:HD3	1.86	0.58
46:LD:223:PHE:HB3	46:LD:226:TYR:HB2	1.85	0.58
55:LN:159:ARG:HB3	55:LN:164:LEU:HB2	1.84	0.58
40:L5:1095:A:N1	40:L5:1200:G:C6	2.71	0.58
40:L5:1176:C:H42	40:L5:1184:A:H61	1.52	0.58
36:S2:1550:G:H3'	36:S2:1579:A:H61	1.68	0.58
40:L5:382:G:N1	40:L5:385:A:OP2	2.36	0.58
40:L5:4322:G:N2	40:L5:4325:A:OP2	2.35	0.58
21:SC:193:VAL:HG11	21:SC:240:THR:HG22	1.86	0.58
28:SN:99:ARG:NH2	28:SN:119:GLU:OE2	2.37	0.58
40:L5:369:G:N2	40:L5:372:A:OP2	2.33	0.58
40:L5:2108:G:H2'	40:L5:2109:G:H8	1.69	0.58
54:LM:36:ALA:HB3	54:LM:55:MET:HE1	1.84	0.58
59:LS:76:LYS:NZ	59:LS:100:LEU:O	2.36	0.58
5:SF:88:MET:HG3	5:SF:91:ARG:HH21	1.69	0.58
40:L5:1281:G:N1	47:LE:128:HIS:HB2	2.19	0.58
2:CB:754:GLN:HG3	83:Ls:136:SER:HB3	1.85	0.58
19:SA:141:ASN:ND2	30:SV:31:SER:O	2.29	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:SG:66:GLY:HA2	36:S2:1745:A:H1'	1.85	0.58
21:SC:183:LYS:HA	21:SC:195:LEU:O	2.04	0.57
40:L5:4260:U:H2'	40:L5:4261:C:C6	2.39	0.57
2:CB:149:GLU:O	2:CB:368:ARG:NH1	2.36	0.57
6:SK:41:PRO:HG2	6:SK:44:HIS:HD2	1.69	0.57
18:Sg:88:ARG:HH11	18:Sg:97:THR:HG21	1.68	0.57
25:SI:75:LYS:HD2	36:S2:303:C:H5'	1.86	0.57
85:CH:92:GLN:NE2	85:CH:110:GLU:OE1	2.34	0.57
13:SU:55:ARG:HG2	13:SU:87:ARG:HD2	1.86	0.57
31:SW:32:LYS:O	31:SW:36:ARG:HG2	2.03	0.57
35:Sb:33:MET:HE2	35:Sb:48:SER:HA	1.86	0.57
40:L5:2568:C:H2'	40:L5:2569:G:H8	1.68	0.57
40:L5:2579:G:N2	40:L5:2582:A:OP2	2.32	0.57
44:LB:219:VAL:HG11	44:LB:337:VAL:HG13	1.85	0.57
68:Lc:17:ARG:HD2	68:Lc:103:ASP:HA	1.86	0.57
20:SB:85:LYS:HB2	20:SB:101:HIS:HB3	1.85	0.57
26:SJ:30:LYS:NZ	85:CH:40:THR:OG1	2.38	0.57
36:S2:1722:G:H22	36:S2:1813:A:H1'	1.70	0.57
40:L5:665:C:H4'	40:L5:666:G:H5'	1.85	0.57
50:LH:44:GLU:HG3	54:LM:2:VAL:HG12	1.86	0.57
69:Ld:19:GLU:OE2	69:Ld:92:ARG:NH1	2.37	0.57
2:CB:265:TYR:HA	2:CB:287:ARG:HA	1.86	0.57
2:CB:385:ILE:HG23	2:CB:417:PHE:HB3	1.84	0.57
40:L5:3946:G:H1	40:L5:4067:U:H3	1.50	0.57
68:Lc:51:ASN:HB2	68:Lc:77:ASN:HB2	1.87	0.57
73:Lh:99:GLU:HA	73:Lh:102:LEU:HD22	1.87	0.57
2:CB:628:LEU:HD11	2:CB:647:ARG:HA	1.87	0.57
2:CB:636:ALA:HA	2:CB:641:TRP:HB2	1.87	0.57
18:Sg:68:ASP:HB3	18:Sg:111:VAL:HG22	1.86	0.57
21:SC:210:PRO:HB3	21:SC:240:THR:HG21	1.87	0.57
36:S2:969:U:O2	36:S2:971:G:N1	2.38	0.57
36:S2:1776:G:N2	36:S2:1776:G:OP2	2.38	0.57
36:S2:1811:C:H2'	36:S2:1812:U:O4'	2.05	0.57
40:L5:1489:G:H5'	66:La:131:ARG:HH12	1.69	0.57
40:L5:2407:G:O6	77:Ll:2:SER:N	2.38	0.57
44:LB:50:LYS:HB2	44:LB:345:LEU:HD11	1.87	0.57
80:Lo:33:LEU:HA	80:Lo:38:LYS:HG2	1.85	0.57
21:SC:191:VAL:HG11	21:SC:236:PHE:HA	1.85	0.57
26:SJ:160:SER:O	26:SJ:163:SER:OG	2.21	0.57
36:S2:864:A:H2'	36:S2:865:A:H8	1.69	0.57
50:LH:106:GLN:HG3	50:LH:111:LEU:HD23	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:LL:80:GLU:HG3	53:LL:110:LEU:HD12	1.87	0.57
83:Ls:29:ILE:HG12	83:Ls:191:GLN:HG2	1.86	0.57
83:Ls:76:GLU:HA	83:Ls:79:LEU:HD13	1.85	0.57
1:AP:18:G:O6	1:AP:55:U:O2	2.22	0.57
36:S2:64:A:N6	36:S2:83:A:OP2	2.38	0.57
40:L5:1503:A:H62	58:LQ:87:THR:HG21	1.69	0.57
40:L5:3599:A:H2'	40:L5:3600:G:C8	2.40	0.57
36:S2:186:C:H2'	36:S2:187:G:C8	2.40	0.57
36:S2:328:U:H5	38:LW:116:LYS:HG2	1.68	0.57
36:S2:482:G:N2	36:S2:484:A2M:H3'	2.19	0.57
36:S2:628:A:N6	36:S2:1500:G:O2'	2.38	0.57
47:LE:264:ILE:HD11	47:LE:267:LEU:HD22	1.86	0.57
25:SI:27:TYR:HB3	25:SI:49:ARG:HH12	1.70	0.57
36:S2:1764:G:H5'	36:S2:1765:C:H5''	1.87	0.57
38:LW:9:SER:HA	38:LW:52:THR:HG23	1.86	0.57
40:L5:24:G:N7	75:Lj:46:LYS:NZ	2.53	0.57
40:L5:662:C:N4	40:L5:663:G:O6	2.38	0.57
36:S2:51:U:H2'	36:S2:52:G:C8	2.40	0.56
36:S2:146:G:H1	36:S2:173:A:H61	1.53	0.56
40:L5:178:C:N4	40:L5:179:G:O6	2.38	0.56
40:L5:2845:A:H61	40:L5:3843:C:H42	1.52	0.56
40:L5:4742:G:OP1	40:L5:4900:C:N4	2.38	0.56
44:LB:117:ARG:HA	44:LB:177:LYS:HD2	1.87	0.56
36:S2:588:G:H4'	36:S2:589:G:H5'	1.86	0.56
36:S2:830:A:OP2	36:S2:846:G:N2	2.37	0.56
52:LJ:29:SER:OG	52:LJ:67:LYS:O	2.22	0.56
11:SS:129:LEU:HD23	11:SS:144:ARG:HH21	1.70	0.56
20:SB:57:ILE:HG22	20:SB:59:SER:H	1.70	0.56
29:SO:137:SER:O	36:S2:942:G:N2	2.33	0.56
36:S2:692:G:O6	36:S2:738:C:O2'	2.23	0.56
40:L5:174:C:OP1	53:LL:129:ARG:NH2	2.38	0.56
40:L5:4076:G:H5'	49:LG:73:ARG:HG3	1.88	0.56
56:LO:58:LEU:HD21	56:LO:74:ARG:HH21	1.70	0.56
40:L5:4594:U:H2'	40:L5:4595:G:H8	1.70	0.56
31:SW:107:SER:HB2	36:S2:860:G:H21	1.70	0.56
10:SR:97:GLU:HG3	10:SR:120:THR:HG21	1.85	0.56
14:SZ:80:ARG:HD2	36:S2:1598:G:H3'	1.87	0.56
16:Sd:38:MET:HE3	16:Sd:43:PHE:HA	1.88	0.56
27:SL:61:PRO:HB3	27:SL:68:ILE:HD11	1.88	0.56
36:S2:1354:G:N2	36:S2:1357:A:OP2	2.36	0.56
38:LW:2:LYS:NZ	62:LV:92:ASP:O	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:LD:182:GLY:HA2	46:LD:194:VAL:HG23	1.87	0.56
57:LP:131:ARG:HG3	57:LP:137:ASN:OD1	2.06	0.56
2:CB:590:LEU:HD13	2:CB:603:TYR:HD2	1.70	0.56
36:S2:51:U:H2'	36:S2:52:G:H8	1.70	0.56
40:L5:2491:C:H2'	40:L5:2492:C:C6	2.40	0.56
40:L5:3774:A:H2'	40:L5:3775:A:C8	2.40	0.56
45:LC:1:MET:O	45:LC:29:LYS:NZ	2.38	0.56
83:Ls:17:ILE:HD11	83:Ls:64:ALA:HB3	1.88	0.56
21:SC:72:ASP:OD2	21:SC:272:HIS:NE2	2.28	0.56
36:S2:323:C:H2'	36:S2:327:G:H1	1.70	0.56
40:L5:1094:G:O6	40:L5:1201:U:O2	2.24	0.56
40:L5:2484:A:N6	40:L5:2494:U:H3	2.04	0.56
40:L5:4126:C:OP1	49:LG:37:LYS:NZ	2.39	0.56
40:L5:4431:PSU:OP2	51:LI:3:ARG:NH2	2.37	0.56
47:LE:190:HIS:HB3	47:LE:193:PHE:HD1	1.70	0.56
54:LM:50:MET:HE2	54:LM:55:MET:HG2	1.88	0.56
40:L5:1942:A:H2'	40:L5:1943:A:C8	2.41	0.56
40:L5:3717:A:H2'	40:L5:3718:A2M:C8	2.36	0.56
40:L5:3717:A:OP2	40:L5:3735:G:N2	2.38	0.56
82:Lr:47:LYS:HB2	82:Lr:102:TYR:CZ	2.40	0.56
4:SD:136:VAL:HG12	4:SD:186:VAL:HG22	1.87	0.56
6:SK:14:LEU:HD22	6:SK:35:LEU:HD23	1.87	0.56
40:L5:4279:A:H5'	40:L5:4281:A:H1'	1.88	0.56
42:L8:96:C:H5''	73:Lh:66:LYS:HG2	1.88	0.56
2:CB:150:ARG:HG3	2:CB:371:LEU:HD22	1.86	0.55
14:SZ:68:ILE:HB	14:SZ:109:TYR:HB2	1.88	0.55
24:SH:42:GLU:HG2	24:SH:43:LEU:HD22	1.88	0.55
29:SO:134:PRO:HB3	36:S2:944:A:H5''	1.86	0.55
36:S2:520:A:O2'	36:S2:825:A:N3	2.37	0.55
36:S2:640:A:H2'	36:S2:641:A:C8	2.41	0.55
40:L5:109:G:OP2	53:LL:74:ARG:NH2	2.38	0.55
40:L5:1258:G:H2'	40:L5:1259:G:C8	2.42	0.55
40:L5:1339:U:H2'	40:L5:1340:OMC:C6	2.40	0.55
40:L5:4478:G:O2'	40:L5:4602:A:N1	2.39	0.55
36:S2:329:G:H2'	36:S2:330:G:C8	2.40	0.55
36:S2:907:G:H2'	36:S2:908:A:C8	2.40	0.55
40:L5:4340:U:O2	89:L5:5261:SPD:N10	2.39	0.55
40:L5:4967:A:H2'	40:L5:4968:A:H8	1.71	0.55
2:CB:48:SER:HB2	2:CB:55:ARG:HH12	1.72	0.55
23:SG:50:VAL:HG11	23:SG:111:LEU:HB3	1.89	0.55
40:L5:2846:G:O2'	62:LV:19:GLY:O	2.24	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:3700:C:O2'	40:L5:3774:A:N3	2.38	0.55
40:L5:4967:A:H2'	40:L5:4968:A:C8	2.41	0.55
18:Sg:240:CYS:HG	18:Sg:291:TRP:CD1	2.25	0.55
40:L5:5006:U:H4'	40:L5:5007:A:H5'	1.89	0.55
83:Ls:96:THR:HG22	83:Ls:99:ARG:HH21	1.72	0.55
2:CB:304:ILE:HG21	2:CB:336:LEU:HB2	1.89	0.55
40:L5:1480:C:O2'	40:L5:1482:G:OP2	2.24	0.55
40:L5:2489:C:H4'	40:L5:2491:C:H42	1.70	0.55
40:L5:3898:G:H5'	44:LB:254:ILE:HG13	1.88	0.55
52:LJ:159:LYS:HG2	52:LJ:163:MET:HE2	1.88	0.55
67:Lb:109:ARG:HA	67:Lb:112:ILE:HG12	1.88	0.55
11:SS:46:ARG:HG2	12:ST:35:ASP:HB2	1.89	0.55
34:Sa:38:LYS:HD2	34:Sa:83:VAL:HG21	1.88	0.55
36:S2:1528:G:O2'	36:S2:1666:C:OP1	2.24	0.55
36:S2:1562:C:H2'	36:S2:1563:G:H8	1.72	0.55
49:LG:38:ASN:ND2	49:LG:43:GLN:OE1	2.40	0.55
50:LH:12:ILE:HB	50:LH:53:LYS:HB2	1.89	0.55
63:LX:124:VAL:HG22	63:LX:138:VAL:HG13	1.89	0.55
2:CB:279:SER:HB3	2:CB:285:LEU:HD21	1.89	0.55
20:SB:32:ASP:OD2	20:SB:94:LYS:NZ	2.38	0.55
36:S2:1030:A:H2'	36:S2:1031:A2M:H8	1.87	0.55
36:S2:1588:A:H2'	36:S2:1589:A:C8	2.41	0.55
40:L5:2324:C:O2'	70:Le:98:GLU:OE1	2.24	0.55
61:LU:40:GLU:OE1	61:LU:65:ARG:NH1	2.39	0.55
83:Ls:29:ILE:HG13	83:Ls:190:GLN:HB2	1.88	0.55
33:SY:104:ARG:HG3	33:SY:107:ARG:HH21	1.72	0.55
33:SY:104:ARG:HH22	36:S2:507:G:P	2.29	0.55
36:S2:1171:G:O2'	36:S2:1187:G:O6	2.22	0.55
40:L5:1259:G:H2'	40:L5:1260:G:H8	1.72	0.55
40:L5:4274:A:H2'	40:L5:4275:G:C8	2.42	0.55
40:L5:4571:A2M:H2'	40:L5:4572:U:H6	1.71	0.55
44:LB:59:GLU:HB2	44:LB:366:LYS:HE2	1.88	0.55
80:Lo:99:ARG:HE	80:Lo:100:LYS:H	1.55	0.55
85:CH:85:ARG:NH1	85:CH:110:GLU:OE2	2.38	0.55
2:CB:88:PHE:HD2	2:CB:226:LYS:HD3	1.72	0.54
21:SC:146:GLU:HB3	21:SC:149:THR:HG22	1.89	0.54
36:S2:525:A:H2'	36:S2:526:A:H8	1.71	0.54
38:LW:2:LYS:HZ3	62:LV:92:ASP:HB2	1.71	0.54
69:Ld:90:ARG:HD3	69:Ld:102:LEU:HD13	1.88	0.54
36:S2:367:U:H4'	36:S2:371:A:C8	2.43	0.54
40:L5:2809:G:O2'	40:L5:4644:G:OP1	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LB:10:ARG:NH1	44:LB:11:HIS:O	2.41	0.54
47:LE:161:ARG:NH1	47:LE:273:SER:OG	2.40	0.54
1:AP:19:G:H4'	1:AP:20(A):U:H5'	1.89	0.54
18:Sg:10:THR:HG22	18:Sg:308:ARG:HG2	1.88	0.54
27:SL:126:VAL:HG12	27:SL:145:VAL:HG22	1.89	0.54
40:L5:1971:C:H1'	83:Ls:41:GLN:HE22	1.72	0.54
40:L5:4242:U:H3	40:L5:4281:A:H2	1.52	0.54
44:LB:57:VAL:HG22	44:LB:73:VAL:HG12	1.89	0.54
72:Lg:42:PRO:HB2	72:Lg:53:LEU:HD12	1.89	0.54
24:SH:117:PRO:HG2	24:SH:120:ARG:HG2	1.88	0.54
32:SX:17:ARG:HH12	36:S2:659:G:H21	1.54	0.54
40:L5:136:C:N4	73:Lh:77:LYS:O	2.41	0.54
40:L5:1328:G:O2'	40:L5:2349:A:OP1	2.25	0.54
40:L5:1777:C:O2'	46:LD:3:PHE:O	2.25	0.54
40:L5:1971:C:O2	83:Ls:41:GLN:NE2	2.41	0.54
40:L5:2362:U:H2'	40:L5:2363:A2M:H8	1.88	0.54
48:LF:105:VAL:HG13	48:LF:136:VAL:HG12	1.88	0.54
63:LX:73:HIS:HB3	63:LX:116:LEU:HD23	1.89	0.54
83:Ls:137:PHE:HB3	83:Ls:174:LEU:HD21	1.89	0.54
40:L5:4537:C:H2'	40:L5:4538:G:C8	2.42	0.54
66:La:72:THR:HG22	66:La:110:LYS:HB3	1.88	0.54
84:Lt:32:ILE:HA	84:Lt:35:LEU:HD13	1.89	0.54
2:CB:323:LEU:HD23	2:CB:328:LYS:HE3	1.89	0.54
17:Sf:108:VAL:HB	17:Sf:113:LYS:H	1.73	0.54
31:SW:86:LEU:HD21	31:SW:113:HIS:HB2	1.90	0.54
36:S2:639:C:H2'	36:S2:640:A:H8	1.73	0.54
37:LR:168:GLU:OE1	37:LR:172:ARG:NH2	2.41	0.54
40:L5:1332:C:H2'	40:L5:1333:A:H8	1.73	0.54
40:L5:1404:G:N7	40:L5:1408:G:N2	2.55	0.54
84:Lt:117:ARG:NE	84:Lt:119:ARG:H	2.06	0.54
2:CB:300:VAL:HG12	2:CB:315:LEU:HD22	1.90	0.54
2:CB:488:PHE:HB3	2:CB:491:ALA:HB2	1.90	0.54
32:SX:9:THR:HG22	36:S2:681:PSU:H4'	1.89	0.54
36:S2:350:C:HO2'	36:S2:383:G:H1	1.45	0.54
40:L5:2568:C:H2'	40:L5:2569:G:C8	2.43	0.54
40:L5:3937:C:H1'	55:LN:125:SER:HB3	1.90	0.54
3:PE:3:C:O2'	40:L5:3715:U:OP1	2.24	0.54
40:L5:2484:A:H62	40:L5:2494:U:H3	1.55	0.54
2:CB:10:ARG:HA	2:CB:13:MET:HG2	1.90	0.54
33:SY:21:LYS:HD2	33:SY:75:ILE:HD11	1.90	0.54
36:S2:942:G:H2'	36:S2:943:U:C6	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:3910:C:H2'	40:L5:3911:C:C6	2.43	0.54
3:PE:26:A:N1	3:PE:44:G:N2	2.48	0.54
23:SG:20:ASP:HB3	23:SG:23:LYS:HD3	1.90	0.54
40:L5:2754:G:OP2	65:LZ:133:LYS:NZ	2.39	0.54
40:L5:4441:A:H5''	51:LI:114:GLY:HA2	1.89	0.54
43:LA:229:ALA:HB3	43:LA:234:LYS:HB3	1.88	0.54
45:LC:154:VAL:HG11	45:LC:174:LEU:HD11	1.89	0.54
22:SE:43:PRO:HG2	22:SE:46:ILE:HG12	1.88	0.53
23:SG:135:PRO:HG2	23:SG:141:ILE:HG13	1.89	0.53
25:SI:119:LEU:HD11	25:SI:153:LYS:HG3	1.90	0.53
40:L5:280:G:H5''	55:LN:14:LYS:HE2	1.90	0.53
40:L5:935:A:O2'	54:LM:44:GLN:O	2.25	0.53
40:L5:2008:U:H1'	40:L5:2011:C:H5	1.72	0.53
40:L5:2382:A:N1	40:L5:2829:U:O2'	2.36	0.53
44:LB:315:ASN:HD21	44:LB:326:VAL:H	1.56	0.53
62:LV:65:VAL:HG23	62:LV:73:ARG:HA	1.89	0.53
20:SB:88:THR:HG22	20:SB:98:THR:HG22	1.90	0.53
40:L5:2108:G:H2'	40:L5:2109:G:C8	2.43	0.53
40:L5:3823:G:OP2	40:L5:3823:G:N2	2.32	0.53
40:L5:3953:G:N2	40:L5:4059:C:O2'	2.41	0.53
49:LG:157:ILE:HA	49:LG:201:THR:HG22	1.90	0.53
52:LJ:112:HIS:HD2	52:LJ:117:ILE:HD11	1.73	0.53
53:LL:48:PRO:HG3	73:Lh:118:LYS:HE2	1.90	0.53
36:S2:689:U:H3'	36:S2:690:G:H21	1.73	0.53
69:Ld:64:ILE:HG23	69:Ld:68:LEU:HD23	1.90	0.53
13:SU:35:VAL:HG11	13:SU:110:VAL:HG21	1.89	0.53
20:SB:109:LYS:O	20:SB:113:MET:HG2	2.09	0.53
26:SJ:12:THR:HG23	36:S2:520:A:H5''	1.91	0.53
26:SJ:63:LEU:HD22	26:SJ:70:ARG:HB2	1.88	0.53
36:S2:639:C:H2'	36:S2:640:A:C8	2.43	0.53
36:S2:1422:G:H4'	36:S2:1423:C:H3'	1.91	0.53
64:LY:2:LYS:HD2	64:LY:7:VAL:HG13	1.90	0.53
2:CB:9:ILE:HD12	2:CB:99:LEU:HD13	1.90	0.53
2:CB:630:GLN:HA	2:CB:633:ARG:HG2	1.89	0.53
5:SF:113:VAL:O	5:SF:117:ILE:HG12	2.08	0.53
36:S2:118:C:H1'	36:S2:445:A:C5	2.44	0.53
36:S2:1277:C:H2'	36:S2:1278:A:C8	2.42	0.53
40:L5:3736:A:H2'	40:L5:3737:A:C8	2.44	0.53
2:CB:22:MET:HA	2:CB:124:GLY:O	2.09	0.53
2:CB:219:HIS:HA	2:CB:337:LYS:HE3	1.90	0.53
2:CB:745:TYR:CE2	2:CB:812:CYS:HB2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:SU:19:ARG:HH22	13:SU:93:SER:H	1.57	0.53
17:Sf:139:HIS:O	17:Sf:147:THR:HA	2.09	0.53
32:SX:105:PHE:HD1	32:SX:121:LYS:HB3	1.74	0.53
40:L5:491:G:H2'	40:L5:492:U:C6	2.44	0.53
40:L5:2758:G:O2'	40:L5:2765:A:N3	2.34	0.53
40:L5:3732:A:H2'	40:L5:3733:A:C8	2.44	0.53
52:LJ:35:ARG:HD2	52:LJ:123:ILE:HA	1.90	0.53
59:LS:27:LEU:HB3	60:LT:148:PRO:HB3	1.91	0.53
63:LX:148:ASP:HA	63:LX:151:ASN:HB2	1.90	0.53
22:SE:148:ARG:NH1	36:S2:124:U:OP1	2.41	0.53
22:SE:233:LYS:HD2	22:SE:234:PRO:HD2	1.90	0.53
43:LA:101:VAL:HG22	43:LA:165:VAL:HG22	1.90	0.53
22:SE:208:VAL:HG21	22:SE:225:ILE:HG13	1.91	0.53
40:L5:2296:G:O2'	45:LC:242:PRO:O	2.23	0.53
40:L5:4742:G:H2'	40:L5:4743:G:C8	2.43	0.53
1:AP:37:A:O2'	40:L5:3760:A:N1	2.42	0.53
18:Sg:31:ILE:HG22	18:Sg:43:TRP:HB2	1.90	0.53
25:SI:25:ARG:HA	36:S2:448:A:H5''	1.91	0.53
26:SJ:136:ARG:HD3	26:SJ:160:SER:HA	1.91	0.53
29:SO:43:HIS:CD2	29:SO:55:ARG:HB2	2.43	0.53
40:L5:158:A:H5''	40:L5:159:C:H2'	1.91	0.53
40:L5:2400:G:H21	72:Lg:6:THR:HG22	1.73	0.53
40:L5:4457:PSU:H1'	44:LB:252:ALA:HB3	1.91	0.53
46:LD:62:CYS:HB3	46:LD:105:LEU:HD22	1.89	0.53
10:SR:114:LEU:HB2	10:SR:117:LEU:HG	1.91	0.53
22:SE:79:ASP:HB3	22:SE:82:TYR:HB2	1.91	0.53
36:S2:106:C:H2'	36:S2:107:A:C8	2.44	0.53
49:LG:33:GLU:OE2	49:LG:35:ARG:NH1	2.41	0.53
69:Ld:33:ILE:HD11	69:Ld:44:ARG:HB3	1.91	0.53
22:SE:133:THR:HG22	22:SE:134:LYS:HG2	1.91	0.52
34:Sa:41:ILE:HG23	34:Sa:68:TYR:CE1	2.43	0.52
40:L5:93:G:H2'	40:L5:94:A:C8	2.45	0.52
40:L5:1741:G:O2'	40:L5:1781:PSU:OP2	2.26	0.52
2:CB:642:ASP:HB3	2:CB:645:GLU:HB3	1.90	0.52
23:SG:227:GLN:HB3	23:SG:231:ARG:HH21	1.73	0.52
36:S2:145:G:H2'	36:S2:146:G:C8	2.44	0.52
36:S2:388:U:H2'	36:S2:389:A:C8	2.44	0.52
40:L5:3732:A:H2'	40:L5:3733:A:H8	1.73	0.52
40:L5:4537:C:H2'	40:L5:4538:G:H8	1.73	0.52
44:LB:80:GLU:OE1	44:LB:323:TYR:OH	2.24	0.52
80:Lo:12:CYS:HB3	80:Lo:15:CYS:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SQ:74:GLY:O	9:SQ:80:GLN:NE2	2.29	0.52
22:SE:106:LYS:NZ	36:S2:846:G:OP1	2.43	0.52
36:S2:885:U:O2	36:S2:901:G:C6	2.63	0.52
38:LW:72:THR:OG1	38:LW:74:ARG:NH2	2.43	0.52
83:Ls:66:ARG:HA	83:Ls:69:LEU:HD23	1.91	0.52
4:SD:123:LEU:HD13	4:SD:136:VAL:HG22	1.91	0.52
11:SS:132:ARG:HD3	36:S2:1623:A:C6	2.45	0.52
36:S2:186:C:H2'	36:S2:187:G:H8	1.75	0.52
40:L5:10:A:H2'	40:L5:11:G:C8	2.45	0.52
40:L5:653:U:H2'	40:L5:654:C:C6	2.44	0.52
40:L5:1188:C:H2'	40:L5:1189:G:C8	2.45	0.52
12:ST:62:ARG:HH22	36:S2:1543:U:P	2.32	0.52
29:SO:34:PHE:HB3	29:SO:41:PHE:HB2	1.91	0.52
33:SY:57:VAL:HB	33:SY:60:PHE:HE2	1.73	0.52
36:S2:888:U:H4'	36:S2:889:U:H5'	1.91	0.52
40:L5:3720:G:H22	40:L5:3733:A:H2	1.57	0.52
40:L5:4058:U:H4'	40:L5:4059:C:C5	2.45	0.52
40:L5:4742:G:H2'	40:L5:4743:G:H8	1.74	0.52
46:LD:64:ILE:HD13	46:LD:109:LEU:HD22	1.91	0.52
36:S2:388:U:H2'	36:S2:389:A:H8	1.75	0.52
40:L5:3950:U:H3'	40:L5:3951:G:C8	2.44	0.52
40:L5:4363:A:H5''	80:Lo:36:GLN:HG2	1.91	0.52
4:SD:76:ARG:HG3	6:SK:68:TYR:HE1	1.74	0.52
19:SA:145:ILE:HG23	19:SA:159:ILE:HB	1.92	0.52
31:SW:11:LEU:HD12	31:SW:74:VAL:HB	1.92	0.52
35:Sb:45:THR:HG22	35:Sb:82:LYS:HE3	1.90	0.52
40:L5:1333:A:H2'	40:L5:1334:A:C8	2.45	0.52
40:L5:1933:G:H2'	40:L5:1934:A:C8	2.45	0.52
40:L5:1979:A:H2	40:L5:1987:C:H42	1.58	0.52
40:L5:1969:G:H4'	83:Ls:36:GLY:HA2	1.91	0.52
40:L5:2017:A:O2'	40:L5:2018:C:O5'	2.28	0.52
40:L5:4260:U:H2'	40:L5:4261:C:H6	1.74	0.52
43:LA:180:LEU:HD21	81:Lp:22:LEU:HB3	1.91	0.52
55:LN:13:LYS:HE3	74:Li:45:ARG:HH11	1.75	0.52
36:S2:796:G:N2	36:S2:798:G:O6	2.43	0.52
36:S2:1705:C:H2'	36:S2:1706:G:C8	2.45	0.52
43:LA:137:ILE:HD11	43:LA:149:LYS:HB2	1.92	0.52
83:Ls:146:LYS:HE3	83:Ls:153:GLU:HB3	1.92	0.52
7:SM:31:LEU:HD22	7:SM:89:VAL:HG13	1.92	0.52
22:SE:29:PRO:HA	36:S2:496:C:H5'	1.90	0.52
32:SX:105:PHE:CE2	32:SX:112:VAL:HB	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:330:G:N7	89:L5:5284:SPD:N1	2.58	0.52
40:L5:4717:A:OP2	44:LB:30:LYS:NZ	2.29	0.52
2:CB:26:ALA:HB3	2:CB:32:LYS:HE3	1.92	0.51
7:SM:33:ARG:HG3	36:S2:1284:A:C8	2.45	0.51
8:SP:97:TYR:OH	36:S2:1268:C:O2	2.27	0.51
20:SB:124:HIS:HA	20:SB:137:LEU:O	2.10	0.51
33:SY:104:ARG:NH2	36:S2:507:G:OP2	2.38	0.51
40:L5:1866:U:OP1	51:LI:4:ARG:NH1	2.42	0.51
4:SD:96:LEU:HD22	4:SD:190:LEU:HD13	1.92	0.51
8:SP:51:ARG:NH1	36:S2:1300:U:O2	2.43	0.51
18:Sg:59:LEU:HD23	18:Sg:90:TRP:CG	2.45	0.51
36:S2:28:U:H2'	36:S2:29:G:H8	1.75	0.51
36:S2:1777:G:H2'	36:S2:1778:C:C6	2.44	0.51
40:L5:261:G:H2'	40:L5:262:G:C8	2.45	0.51
44:LB:74:GLU:OE1	44:LB:285:TYR:OH	2.16	0.51
65:LZ:5:MET:O	65:LZ:28:ASN:ND2	2.43	0.51
9:SQ:8:GLN:HG2	9:SQ:27:ARG:HB2	1.91	0.51
22:SE:124:CYS:HB3	22:SE:141:THR:OG1	2.10	0.51
23:SG:14:LYS:HD3	23:SG:124:LEU:HB2	1.93	0.51
36:S2:1232:PSU:H2'	36:S2:1233:G:H8	1.75	0.51
36:S2:1779:G:H2'	36:S2:1780:G:C8	2.46	0.51
40:L5:729:G:H5''	48:LF:76:ARG:HD2	1.93	0.51
40:L5:1326:A2M:H2'	40:L5:1327:C:C6	2.45	0.51
40:L5:1942:A:H2'	40:L5:1943:A:H8	1.74	0.51
44:LB:315:ASN:ND2	44:LB:326:VAL:H	2.08	0.51
12:ST:108:GLU:OE2	12:ST:121:ARG:NE	2.39	0.51
20:SB:150:ILE:HG12	36:S2:1124:C:H5''	1.92	0.51
21:SC:113:GLN:HG3	21:SC:120:GLN:HG3	1.92	0.51
23:SG:102:VAL:HG23	23:SG:106:LEU:HD12	1.93	0.51
36:S2:1217:A:H2'	36:S2:1218:C:C6	2.46	0.51
37:LR:168:GLU:HA	37:LR:171:LYS:HG2	1.93	0.51
40:L5:2318:G:N2	40:L5:2321:G:OP2	2.35	0.51
40:L5:4966:A:H5''	44:LB:128:LYS:HG3	1.92	0.51
73:Lh:95:LEU:HB3	73:Lh:99:GLU:HG3	1.93	0.51
2:CB:397:TYR:HE2	2:CB:497:MET:HE3	1.76	0.51
3:PE:5:G:H2'	3:PE:6:G:H8	1.75	0.51
7:SM:128:PHE:O	7:SM:132:LYS:HG2	2.10	0.51
40:L5:62:A:N3	40:L5:77:U:O2'	2.34	0.51
40:L5:260:C:H2'	40:L5:261:G:C8	2.45	0.51
40:L5:408:A:O2'	40:L5:411:G:OP2	2.25	0.51
40:L5:467:U:C4	40:L5:468:U:H1'	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1548:G:O2'	40:L5:2812:A:N3	2.39	0.51
40:L5:1870:C:H2'	40:L5:1871:A2M:H8	1.92	0.51
40:L5:3911:C:H2'	40:L5:3912:U:H6	1.74	0.51
40:L5:4084:G:O6	43:LA:72:ARG:NH2	2.44	0.51
50:LH:103:VAL:HG11	50:LH:144:LEU:HD21	1.92	0.51
60:LT:44:GLY:HA2	60:LT:95:HIS:HB3	1.92	0.51
22:SE:126:VAL:HG22	22:SE:139:LEU:HD21	1.91	0.51
24:SH:8:ILE:HG13	24:SH:9:VAL:HG23	1.92	0.51
36:S2:1396:A:N7	36:S2:1449:G:O6	2.42	0.51
61:LU:25:CYS:O	61:LU:68:SER:OG	2.29	0.51
25:SI:151:GLU:HA	25:SI:154:LYS:HE2	1.93	0.51
36:S2:695:C:H41	36:S2:737:G:H21	1.58	0.51
36:S2:1724:A:H5''	62:LV:70:PRO:HG3	1.93	0.51
36:S2:1779:G:H2'	36:S2:1780:G:H8	1.75	0.51
40:L5:121:A:H62	40:L5:152:U:H3	1.58	0.51
43:LA:20:VAL:HA	43:LA:23:ARG:HG3	1.91	0.51
7:SM:91:LEU:HD22	7:SM:106:CYS:HB2	1.92	0.51
14:SZ:73:VAL:HG12	14:SZ:79:ILE:HD11	1.93	0.51
36:S2:1203:G:H2'	36:S2:1204:A:C8	2.45	0.51
40:L5:4524:G:C2	44:LB:252:ALA:HB1	2.46	0.51
55:LN:146:PRO:HB2	73:Lh:104:THR:HG23	1.93	0.51
84:Lt:158:GLY:HA2	84:Lt:161:GLU:HB2	1.93	0.51
5:SF:134:VAL:H	5:SF:203:ASN:HD21	1.58	0.51
22:SE:220:THR:HB	22:SE:225:ILE:HD11	1.93	0.51
25:SI:101:ILE:HD12	25:SI:190:LEU:HD11	1.93	0.51
40:L5:1993:C:H2'	40:L5:1994:C:C6	2.46	0.51
46:LD:150:LEU:HD12	52:LJ:146:ARG:HG3	1.93	0.51
46:LD:200:MET:HB3	46:LD:237:GLU:HG2	1.93	0.51
56:LO:54:TYR:OH	56:LO:73:PHE:O	2.28	0.51
68:Lc:48:LEU:HD11	68:Lc:60:ILE:HG21	1.91	0.51
13:SU:86:LYS:NZ	36:S2:1404:U:O4	2.37	0.51
17:Sf:110:GLU:OE2	17:Sf:113:LYS:NZ	2.40	0.51
35:Sb:19:HIS:HD2	35:Sb:21:LYS:H	1.59	0.51
36:S2:692:G:N7	36:S2:693:A:N6	2.59	0.51
36:S2:1748:G:O6	38:LW:73:ARG:NH2	2.39	0.51
40:L5:4987:C:OP2	44:LB:116:ARG:NH2	2.44	0.51
41:L7:120:U:H4'	46:LD:262:LYS:HG2	1.92	0.51
61:LU:64:GLU:HG3	61:LU:71:THR:HB	1.93	0.51
64:LY:50:ARG:NH1	64:LY:51:LYS:HB3	2.26	0.51
3:PE:41:U:H2'	3:PE:42:G:H8	1.76	0.50
4:SD:113:LEU:HD11	4:SD:117:ARG:HD2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Sf:103:LEU:HD12	17:Sf:105:TYR:CE1	2.46	0.50
18:Sg:163:PRO:HB2	18:Sg:179:LEU:HB2	1.92	0.50
23:SG:162:LEU:HD13	36:S2:67:C:C5	2.46	0.50
33:SY:119:GLY:HA2	36:S2:85:A:H5'	1.93	0.50
40:L5:1269:G:HO2'	40:L5:1440:U:HO2'	1.44	0.50
85:CH:113:ARG:O	85:CH:115:ILE:N	2.44	0.50
2:CB:428:ARG:NH2	2:CB:434:TYR:OH	2.44	0.50
2:CB:745:TYR:HB2	2:CB:814:PHE:HA	1.94	0.50
12:ST:104:LEU:HD22	12:ST:121:ARG:HD2	1.92	0.50
22:SE:125:LYS:HB2	22:SE:226:PHE:CD1	2.46	0.50
27:SL:78:THR:HG22	27:SL:79:LYS:HG3	1.93	0.50
36:S2:24:C:HO2'	36:S2:25:A:H8	1.58	0.50
36:S2:659:G:O2'	36:S2:662:G:O2'	2.26	0.50
36:S2:1405:A:H2'	36:S2:1406:G:O4'	2.11	0.50
36:S2:1417:C:O2	36:S2:1422:G:O6	2.29	0.50
37:LR:167:LYS:HG2	37:LR:170:ARG:HH21	1.76	0.50
40:L5:3664:G:H2'	40:L5:3665:G:H8	1.76	0.50
41:L7:23:A:N3	41:L7:118:C:O2'	2.36	0.50
57:LP:54:GLN:HA	57:LP:83:TRP:CD1	2.46	0.50
33:SY:34:THR:O	36:S2:570:C:O2'	2.28	0.50
40:L5:1175:A:H2	40:L5:1185:G:H22	1.59	0.50
40:L5:1591:U:OP2	40:L5:2856:C:O2'	2.18	0.50
44:LB:217:ILE:HD12	44:LB:347:LEU:HB3	1.92	0.50
1:AP:43:A:H2'	1:AP:44:A:H8	1.77	0.50
2:CB:166:GLU:HG2	50:LH:99:PHE:HE1	1.77	0.50
4:SD:167:TYR:CE2	4:SD:204:LEU:HD23	2.46	0.50
12:ST:18:LEU:HD22	12:ST:58:ALA:HA	1.92	0.50
28:SN:40:LEU:HB3	28:SN:50:ILE:HG12	1.92	0.50
36:S2:851:C:H5''	36:S2:852:G:H5'	1.93	0.50
37:LR:62:ARG:NH2	40:L5:4648:A:OP1	2.43	0.50
40:L5:1466:G:OP2	67:Lb:44:ARG:NH2	2.45	0.50
40:L5:2017:A:O2'	40:L5:2018:C:H6	1.94	0.50
40:L5:2745:A:H2'	40:L5:2746:A:C8	2.47	0.50
40:L5:4278:C:HO2'	40:L5:4281:A:H8	1.58	0.50
40:L5:4473:A:H5''	78:Lm:95:ILE:HD12	1.92	0.50
48:LF:220:MET:HB3	48:LF:232:ASP:OD2	2.10	0.50
12:ST:4:VAL:HG11	12:ST:136:GLY:HA2	1.94	0.50
15:Sc:64:GLU:OE2	15:Sc:66:ARG:HG2	2.12	0.50
19:SA:76:VAL:HG12	19:SA:123:VAL:HB	1.94	0.50
19:SA:212:LYS:O	19:SA:215:GLN:HG3	2.11	0.50
20:SB:87:ILE:HG22	20:SB:101:HIS:HB2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:SG:5:ILE:HG22	23:SG:113:ILE:HD11	1.93	0.50
36:S2:1010:G:H2'	36:S2:1011:A:C8	2.47	0.50
36:S2:1595:U:H2'	36:S2:1596:U:C6	2.46	0.50
40:L5:268:G:H2'	40:L5:269:G:C8	2.45	0.50
40:L5:1617:G:H1'	40:L5:2513:A:N6	2.26	0.50
40:L5:2745:A:H2'	40:L5:2746:A:H8	1.77	0.50
40:L5:4612:C:C2	50:LH:120:GLU:HB2	2.47	0.50
51:LI:9:TYR:O	51:LI:59:GLN:NE2	2.43	0.50
13:SU:93:SER:OG	13:SU:95:SER:O	2.29	0.50
40:L5:2543:A:H2	40:L5:2773:G:H22	1.59	0.50
40:L5:2848:G:O2'	40:L5:3838:U:O4	2.21	0.50
40:L5:3910:C:H2'	40:L5:3911:C:H6	1.77	0.50
74:LI:41:ARG:O	74:LI:45:ARG:HG2	2.11	0.50
2:CB:790:VAL:HA	2:CB:793:SER:HB3	1.93	0.50
4:SD:31:GLU:HG3	85:CH:69:HIS:ND1	2.27	0.50
8:SP:124:LYS:HD3	36:S2:1239:U:H5''	1.93	0.50
26:SJ:162:ARG:NH2	36:S2:583:A:OP2	2.44	0.50
29:SO:55:ARG:NH2	36:S2:953:C:O2	2.44	0.50
40:L5:1172:C:O2'	40:L5:1173:G:O5'	2.28	0.50
40:L5:1646:A:O2'	75:Lj:49:TRP:O	2.28	0.50
40:L5:3822:PSU:OP1	88:L5:5291:SPM:N5	2.39	0.50
40:L5:4611:A:H2	50:LH:120:GLU:HB3	1.76	0.50
41:L7:6:C:O2'	46:LD:50:ARG:NH2	2.45	0.50
2:CB:48:SER:HB2	2:CB:55:ARG:HH22	1.77	0.50
2:CB:648:LYS:HB3	2:CB:664:ASP:HB2	1.93	0.50
36:S2:1736:G:H2'	36:S2:1737:G:C8	2.47	0.50
40:L5:2411:C:H2'	40:L5:2412:A:H8	1.76	0.50
40:L5:3950:U:H3'	40:L5:3951:G:H8	1.77	0.50
47:LE:94:LYS:HE2	47:LE:107:VAL:HG11	1.93	0.50
36:S2:964:A:H2'	36:S2:965:U:H6	1.77	0.50
36:S2:1144:A:H2'	36:S2:1145:A:C8	2.47	0.50
40:L5:492:U:H2'	40:L5:493:G:C8	2.47	0.50
40:L5:497:G:N2	40:L5:498:C:H41	2.05	0.50
40:L5:3680:U:H5''	43:LA:54:ARG:HH21	1.77	0.50
8:SP:57:LEU:HD11	8:SP:83:MET:HE2	1.93	0.49
10:SR:35:CYS:HA	10:SR:38:ILE:HG12	1.92	0.49
25:SI:130:THR:HG23	25:SI:134:GLU:HG3	1.93	0.49
40:L5:172:C:H4'	40:L5:173:C:H5'	1.94	0.49
40:L5:3611:A:H2	40:L5:5016:A:H8	1.59	0.49
41:L7:38:U:N3	41:L7:41:G:OP2	2.34	0.49
44:LB:57:VAL:HB	44:LB:367:PHE:HB3	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:LC:73:VAL:HB	45:LC:78:ARG:HH12	1.77	0.49
80:Lo:2:VAL:N	80:Lo:90:HIS:O	2.45	0.49
2:CB:662:LEU:HD11	2:CB:704:VAL:HG13	1.93	0.49
2:CB:663:THR:OG1	2:CB:703:ASP:OD1	2.31	0.49
2:CB:753:GLU:HG3	83:Ls:132:PRO:O	2.12	0.49
13:SU:26:SER:HB3	13:SU:110:VAL:HG23	1.93	0.49
20:SB:171:ILE:HD11	20:SB:197:ILE:HA	1.94	0.49
40:L5:1703:C:O2'	40:L5:1704:C:OP1	2.28	0.49
40:L5:4584:A:H2'	40:L5:4585:U:O4'	2.12	0.49
50:LH:128:MET:HE2	50:LH:134:CYS:HB2	1.93	0.49
22:SE:31:PRO:HG2	22:SE:38:LEU:HB2	1.93	0.49
32:SX:54:LYS:HG2	32:SX:70:VAL:HG12	1.95	0.49
36:S2:634:A:H2'	36:S2:635:G:H8	1.76	0.49
40:L5:2093:A:N3	40:L5:2094:G:N1	2.61	0.49
40:L5:2095:A:O2'	48:LF:32:ARG:NH2	2.45	0.49
40:L5:4188:U:H2'	40:L5:4189:U:C6	2.48	0.49
44:LB:173:LEU:HD22	44:LB:342:LYS:HD2	1.94	0.49
60:LT:27:LEU:HB3	60:LT:31:MET:HE3	1.94	0.49
8:SP:56:LEU:HD22	8:SP:80:LEU:HD11	1.94	0.49
9:SQ:72:VAL:HG11	9:SQ:84:ILE:HD11	1.95	0.49
27:SL:85:THR:HG22	27:SL:112:HIS:HA	1.94	0.49
27:SL:113:LEU:HD11	27:SL:120:VAL:HG21	1.94	0.49
33:SY:33:ALA:HB2	36:S2:582:U:H1'	1.95	0.49
36:S2:996:A:H2'	36:S2:997:A:C8	2.47	0.49
36:S2:1616:U:O2'	36:S2:1661:A:N3	2.40	0.49
40:L5:2741:U:H2'	43:LA:50:HIS:CD2	2.48	0.49
40:L5:3861:A:H2'	40:L5:3862:A:C8	2.47	0.49
42:L8:58:G:N7	75:Lj:63:ARG:NH2	2.47	0.49
49:LG:200:THR:HG22	49:LG:201:THR:HG23	1.93	0.49
50:LH:137:SER:OG	50:LH:143:GLU:HB3	2.12	0.49
55:LN:200:LEU:HB3	55:LN:204:ARG:NH1	2.28	0.49
68:Lc:38:ILE:HD11	68:Lc:46:VAL:HG21	1.94	0.49
7:SM:57:ASP:OD1	36:S2:1285:G:N1	2.46	0.49
10:SR:56:HIS:NE2	36:S2:1465:A:OP1	2.43	0.49
11:SS:118:ARG:HE	11:SS:123:LEU:HD21	1.77	0.49
36:S2:533:A:H62	36:S2:550:C:H42	1.60	0.49
36:S2:562:U:H2'	36:S2:563:G:C8	2.47	0.49
36:S2:1438:A:H2'	36:S2:1439:A:C8	2.48	0.49
40:L5:85:G:O2'	40:L5:97:G:O6	2.24	0.49
43:LA:13:GLY:O	43:LA:17:ARG:HG3	2.13	0.49
44:LB:288:GLY:HA3	44:LB:330:PHE:CE1	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LE:141:ARG:NH2	71:Lf:110:ILE:O	2.45	0.49
8:SP:131:PRO:HA	36:S2:1237:C:H5'	1.95	0.49
11:SS:114:LEU:HA	11:SS:117:ILE:HG22	1.94	0.49
36:S2:690:G:H3'	36:S2:691:G:H21	1.77	0.49
36:S2:1037:G:H4'	36:S2:1845:A:H4'	1.94	0.49
40:L5:652:G:H2'	40:L5:653:U:C6	2.47	0.49
40:L5:2521:G:H5'	40:L5:2640:G:H1'	1.94	0.49
75:Lj:2:THR:HG22	75:Lj:4:GLY:H	1.78	0.49
82:Lr:47:LYS:O	82:Lr:103:ARG:HD2	2.13	0.49
84:Lt:59:THR:HG22	84:Lt:61:LYS:HD3	1.94	0.49
3:PE:13:C:H2'	3:PE:14:A:H8	1.78	0.49
4:SD:204:LEU:HB2	4:SD:207:HIS:HB2	1.94	0.49
23:SG:3:LEU:HD23	23:SG:109:LEU:HB3	1.94	0.49
24:SH:63:PHE:HA	24:SH:95:ILE:O	2.12	0.49
28:SN:112:LYS:O	28:SN:116:ILE:HD12	2.13	0.49
32:SX:17:ARG:HH22	36:S2:659:G:N2	2.11	0.49
33:SY:10:ARG:HA	36:S2:839:C:H41	1.77	0.49
36:S2:96:C:H2'	36:S2:97:U:C6	2.47	0.49
36:S2:1805:G:H2'	36:S2:1806:A:C8	2.47	0.49
40:L5:513:U:H3'	40:L5:514:U:H4'	1.94	0.49
40:L5:1628:C:OP1	43:LA:14:SER:OG	2.29	0.49
40:L5:2763:U:H4'	40:L5:2764:A:H5''	1.95	0.49
40:L5:3880:G:H2'	40:L5:3881:G:C8	2.48	0.49
48:LF:127:LYS:HB2	60:LT:133:ALA:HB3	1.94	0.49
64:LY:10:ASP:HB3	64:LY:13:LYS:HB2	1.95	0.49
76:Lk:5:ILE:HD11	76:Lk:43:TYR:HB3	1.94	0.49
26:SJ:136:ARG:HA	26:SJ:141:VAL:HA	1.94	0.49
36:S2:17:C:H2'	36:S2:18:C:C6	2.47	0.49
36:S2:170:A:H2'	36:S2:171:A:C8	2.48	0.49
39:CI:74:LYS:HA	61:LU:116:GLN:HB2	1.95	0.49
46:LD:41:LYS:NZ	60:LT:32:ARG:O	2.44	0.49
10:SR:60:ARG:HH21	10:SR:66:VAL:HG13	1.78	0.49
10:SR:83:ASN:O	10:SR:84:TYR:C	2.56	0.49
11:SS:113:ARG:HA	11:SS:116:LYS:HE2	1.94	0.49
23:SG:57:ASP:HA	23:SG:106:LEU:HD23	1.94	0.49
33:SY:6:THR:O	33:SY:27:VAL:HA	2.12	0.49
33:SY:105:LYS:O	33:SY:109:GLU:HG2	2.12	0.49
40:L5:2744:A:H2'	40:L5:2745:A:C8	2.48	0.49
45:LC:110:ARG:HG3	55:LN:204:ARG:HE	1.78	0.49
47:LE:157:HIS:HD2	47:LE:187:ARG:NH1	2.10	0.49
8:SP:18:ARG:NH1	11:SS:88:LYS:O	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:S2:556:U:OP1	85:CH:146:ARG:NH2	2.45	0.49
36:S2:677:G:N1	36:S2:1027:A:OP2	2.34	0.49
40:L5:717:U:H2'	40:L5:718:C:C6	2.47	0.49
40:L5:748:G:O6	59:LS:98:ARG:NH2	2.31	0.49
40:L5:1837:A:OP2	60:LT:130:ARG:NH1	2.39	0.49
40:L5:3641:U:H5	40:L5:3646:A:N7	2.11	0.49
40:L5:4070:U:H2'	40:L5:4071:U:C6	2.48	0.49
40:L5:4459:U:H2'	40:L5:4460:U:C6	2.47	0.49
57:LP:8:PRO:HD3	57:LP:149:ILE:HD13	1.94	0.49
62:LV:37:LEU:HD23	62:LV:65:VAL:HG12	1.94	0.49
68:Lc:38:ILE:HG21	68:Lc:63:TYR:HB3	1.94	0.49
76:Lk:8:ILE:HG23	76:Lk:56:LEU:HD12	1.95	0.49
6:SK:80:ARG:NH1	6:SK:87:PRO:HA	2.28	0.48
15:Sc:11:LEU:HD12	15:Sc:55:VAL:HG12	1.93	0.48
18:Sg:259:TRP:CD1	18:Sg:266:ILE:HA	2.48	0.48
18:Sg:301:GLY:HA2	18:Sg:307:VAL:HG12	1.95	0.48
21:SC:130:ILE:HG23	21:SC:162:ILE:HD11	1.95	0.48
26:SJ:172:ARG:HA	26:SJ:175:ARG:HG2	1.94	0.48
40:L5:4184:G:H5'	43:LA:233:ARG:HB2	1.95	0.48
71:Lf:29:LYS:HB2	71:Lf:83:MET:HE3	1.95	0.48
2:CB:266:PHE:HD2	2:CB:291:GLN:HG2	1.77	0.48
18:Sg:147:HIS:CD2	18:Sg:175:LYS:HD2	2.48	0.48
40:L5:3619:G:H22	40:L5:3624:A:H1'	1.77	0.48
40:L5:4239:A:H2'	40:L5:4240:G:C8	2.48	0.48
44:LB:133:TYR:O	44:LB:136:LYS:HG2	2.13	0.48
53:LL:111:GLN:HA	53:LL:114:VAL:HG22	1.95	0.48
67:Lb:65:MET:SD	67:Lb:68:ARG:NH1	2.87	0.48
70:Le:26:ASP:OD1	70:Le:26:ASP:N	2.46	0.48
2:CB:13:MET:HA	2:CB:19:ILE:HD11	1.94	0.48
3:PE:5:G:H2'	3:PE:6:G:C8	2.48	0.48
28:SN:55:ARG:HD3	36:S2:1017:U:H5'	1.95	0.48
32:SX:129:SER:HB2	36:S2:29:G:H4'	1.95	0.48
36:S2:609:U:H2'	36:S2:610:G:H8	1.78	0.48
36:S2:1083:A:N7	36:S2:1841:C:O2'	2.37	0.48
40:L5:2255:C:OP1	48:LF:24:ASN:N	2.46	0.48
40:L5:3760:A:H4'	40:L5:3761:C:H5''	1.95	0.48
48:LF:50:ILE:HD12	48:LF:186:CYS:HB3	1.95	0.48
5:SF:168:THR:HB	5:SF:171:GLU:HG3	1.95	0.48
31:SW:115:GLU:HB3	31:SW:118:ARG:HH21	1.78	0.48
36:S2:327:G:H5''	36:S2:328:U:C2	2.47	0.48
36:S2:472:C:O2'	36:S2:474:G:OP1	2.22	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:S2:525:A:H2'	36:S2:526:A:C8	2.47	0.48
36:S2:549:C:H5''	85:CH:20:ALA:HB3	1.94	0.48
36:S2:1395:C:H1'	36:S2:1474:A:C5	2.49	0.48
36:S2:1457:U:H2'	36:S2:1458:G:H8	1.78	0.48
40:L5:982:U:OP1	47:LE:73:TYR:OH	2.21	0.48
40:L5:3773:U:C4	40:L5:3775:A:N7	2.81	0.48
40:L5:3930:U:H3	40:L5:4180:G:H1	1.61	0.48
44:LB:29:VAL:HA	44:LB:220:ILE:HD13	1.94	0.48
44:LB:220:ILE:HG23	44:LB:278:THR:HG22	1.95	0.48
2:CB:27:HIS:HB3	2:CB:30:HIS:CD2	2.48	0.48
2:CB:56:PHE:HB3	2:CB:455:GLY:HA3	1.94	0.48
5:SF:40:ALA:HB1	5:SF:45:TYR:CG	2.48	0.48
24:SH:37:LYS:HB3	24:SH:41:ARG:NH1	2.28	0.48
26:SJ:142:VAL:HG12	26:SJ:144:ILE:H	1.79	0.48
31:SW:37:PHE:HE1	31:SW:41:MET:HE3	1.78	0.48
36:S2:1805:G:H2'	36:S2:1806:A:H8	1.77	0.48
37:LR:127:VAL:HG12	37:LR:132:PHE:HD2	1.79	0.48
40:L5:68:U:OP1	55:LN:178:HIS:ND1	2.42	0.48
40:L5:1332:C:H2'	40:L5:1333:A:C8	2.48	0.48
43:LA:131:GLY:H	43:LA:169:VAL:HG13	1.78	0.48
52:LJ:30:GLY:O	52:LJ:32:ARG:N	2.47	0.48
2:CB:311:GLU:HA	2:CB:314:LYS:HG2	1.94	0.48
11:SS:101:ASN:ND2	52:LJ:119:TYR:O	2.46	0.48
14:SZ:69:THR:H	14:SZ:72:VAL:HG12	1.79	0.48
18:Sg:257:LYS:HB3	18:Sg:259:TRP:NE1	2.29	0.48
40:L5:325:U:H2'	40:L5:326:C:C6	2.48	0.48
40:L5:1345:A:H2'	40:L5:1346:C:C6	2.48	0.48
43:LA:49:ILE:HD13	43:LA:60:LYS:HE3	1.95	0.48
50:LH:8:GLN:HE22	50:LH:71:ARG:HD3	1.79	0.48
59:LS:154:LEU:HB3	59:LS:157:ARG:HD3	1.96	0.48
2:CB:395:MET:HE1	2:CB:491:ALA:HB1	1.96	0.48
2:CB:479:LEU:HD11	2:CB:483:GLY:HA3	1.95	0.48
6:SK:14:LEU:HD23	6:SK:21:MET:HE1	1.96	0.48
10:SR:31:ASN:HA	10:SR:34:VAL:HG22	1.96	0.48
24:SH:157:HIS:HB3	24:SH:190:PRO:HG3	1.96	0.48
26:SJ:88:ASP:HB3	26:SJ:91:LYS:HB2	1.94	0.48
36:S2:538:U:H2'	36:S2:539:C:C6	2.48	0.48
36:S2:1013:U:OP1	36:S2:1129:G:O2'	2.31	0.48
36:S2:1215:C:O2'	36:S2:1645:C:OP2	2.31	0.48
36:S2:1736:G:H2'	36:S2:1737:G:H8	1.79	0.48
36:S2:1797:U:H2'	36:S2:1798:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1187:G:OP2	40:L5:1187:G:N2	2.38	0.48
40:L5:1984:A:N7	40:L5:2010:A:O2'	2.35	0.48
44:LB:258:HIS:HA	44:LB:260:ALA:N	2.27	0.48
46:LD:181:PRO:HD2	46:LD:195:HIS:CD2	2.48	0.48
65:LZ:11:VAL:HG12	65:LZ:82:PRO:HA	1.95	0.48
18:Sg:11:LEU:HD21	18:Sg:53:GLY:H	1.79	0.48
19:SA:4:ALA:HA	30:SV:80:SER:HB3	1.95	0.48
24:SH:30:LEU:HG	24:SH:33:ASN:HD22	1.78	0.48
36:S2:29:G:H2'	36:S2:30:C:C6	2.49	0.48
36:S2:159:A2M:O5'	36:S2:159:A2M:H8	2.13	0.48
36:S2:328:U:O2'	36:S2:329:G:O5'	2.28	0.48
36:S2:1812:U:C2	36:S2:1813:A:C8	3.02	0.48
40:L5:663:G:H2'	40:L5:664:G:C8	2.48	0.48
40:L5:2588:C:OP1	40:L5:2768:C:O2'	2.28	0.48
40:L5:4620:OMU:OP2	40:L5:4670:C:N4	2.39	0.48
40:L5:4736:C:H2'	40:L5:4737:G:H8	1.79	0.48
44:LB:220:ILE:HG12	44:LB:278:THR:HG22	1.96	0.48
84:Lt:16:ARG:HD2	84:Lt:32:ILE:HD13	1.95	0.48
21:SC:259:THR:HG21	30:SV:16:LYS:H	1.79	0.48
23:SG:147:LEU:HD13	38:LW:101:ARG:HH11	1.79	0.48
24:SH:140:VAL:HG12	28:SN:19:ARG:HD2	1.96	0.48
36:S2:205:G:H2'	36:S2:206:G:H8	1.79	0.48
40:L5:423:G:H5'	57:LP:26:PHE:HZ	1.78	0.48
40:L5:1662:C:H2'	40:L5:1663:C:C6	2.49	0.48
40:L5:3923:A:H2'	40:L5:3924:C:C6	2.49	0.48
42:L8:141:C:H2'	42:L8:142:U:C6	2.48	0.48
55:LN:157:LYS:O	55:LN:162:ARG:NH1	2.47	0.48
83:Ls:161:ILE:HG12	83:Ls:167:VAL:HG22	1.95	0.48
9:SQ:19:ALA:HB2	9:SQ:75:GLY:HA3	1.95	0.48
10:SR:99:ASP:HB3	10:SR:102:THR:HG23	1.95	0.48
18:Sg:184:LEU:HD21	18:Sg:187:ASN:HD21	1.79	0.48
19:SA:82:THR:HG22	19:SA:171:VAL:HG21	1.96	0.48
25:SI:165:GLN:HB3	25:SI:171:LEU:HD23	1.95	0.48
36:S2:929:G:H2'	36:S2:930:C:O4'	2.14	0.48
40:L5:106:A:H2'	40:L5:107:G:O4'	2.13	0.48
40:L5:1446:C:H2'	40:L5:1447:C:C6	2.49	0.48
40:L5:1464:C:H5''	67:Lb:32:LEU:HD12	1.95	0.48
40:L5:4875:G:H5''	59:LS:170:LYS:HE3	1.95	0.48
44:LB:28:LYS:HG3	44:LB:30:LYS:HG3	1.96	0.48
1:AP:29:C:H2'	1:AP:30:G:C8	2.47	0.47
2:CB:434:TYR:CE1	2:CB:442:LEU:HD12	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:SQ:45:ARG:HH21	36:S2:1593:C:H4'	1.78	0.47
17:Sf:107:LYS:O	17:Sf:115:SER:OG	2.29	0.47
18:Sg:47:ARG:HG2	18:Sg:52:TYR:CZ	2.49	0.47
18:Sg:212:LYS:HD2	18:Sg:235:ILE:HG12	1.95	0.47
20:SB:155:TYR:OH	36:S2:989:C:OP2	2.27	0.47
36:S2:1337:4AC:H2'	36:S2:1338:G:C8	2.48	0.47
40:L5:210:C:HO2'	40:L5:233:U:HO2'	1.60	0.47
40:L5:308:G:OP2	40:L5:308:G:N2	2.39	0.47
40:L5:934:C:H41	45:LC:350:ARG:HH21	1.62	0.47
40:L5:1352:C:O2'	40:L5:1356:U:OP1	2.29	0.47
43:LA:180:LEU:HD22	81:Lp:18:TYR:HB3	1.96	0.47
51:LI:54:SER:OG	51:LI:130:HIS:O	2.32	0.47
12:ST:62:ARG:CZ	36:S2:1542:C:H5''	2.44	0.47
18:Sg:191:HIS:CG	18:Sg:195:LEU:HD21	2.49	0.47
36:S2:1201:U:H2'	36:S2:1202:U:C6	2.49	0.47
36:S2:1217:A:H2'	36:S2:1218:C:H6	1.79	0.47
36:S2:1643:U:H2'	36:S2:1644:C:C6	2.49	0.47
36:S2:1714:U:H2'	36:S2:1715:A:C8	2.49	0.47
40:L5:959:G:C8	47:LE:123:ARG:HG2	2.50	0.47
40:L5:1298:C:H2'	40:L5:1299:G:C8	2.49	0.47
40:L5:4196:OMG:HM23	40:L5:4196:OMG:H1'	1.67	0.47
42:L8:67:U:H2'	42:L8:68:G:H8	1.79	0.47
48:LF:162:ILE:HD12	48:LF:167:ILE:HB	1.96	0.47
56:LO:61:ARG:HA	56:LO:70:PRO:HD2	1.96	0.47
56:LO:193:THR:HG22	56:LO:197:LYS:HE2	1.94	0.47
8:SP:93:MET:SD	8:SP:104:GLN:NE2	2.86	0.47
21:SC:167:ARG:HB3	21:SC:177:PRO:HB2	1.96	0.47
23:SG:98:ARG:NH2	23:SG:101:ILE:O	2.30	0.47
29:SO:45:THR:HA	29:SO:52:THR:HA	1.97	0.47
36:S2:604:A:N3	36:S2:639:C:O2'	2.42	0.47
36:S2:1010:G:H2'	36:S2:1011:A:H8	1.79	0.47
40:L5:2045:G:O6	40:L5:3870:C:O2'	2.31	0.47
64:LY:50:ARG:HH11	64:LY:51:LYS:HB3	1.79	0.47
4:SD:29:LEU:HB3	4:SD:34:TYR:HB2	1.95	0.47
18:Sg:107:ASP:OD2	18:Sg:125:ARG:NH1	2.47	0.47
33:SY:87:PRO:HB2	33:SY:89:HIS:CD2	2.49	0.47
40:L5:737:C:C5	40:L5:739:G:H5''	2.49	0.47
40:L5:1254:A:H5''	40:L5:1255:A:H5''	1.96	0.47
40:L5:2072:C:OP1	58:LQ:2:GLY:N	2.48	0.47
40:L5:2611:A:H2'	40:L5:2612:G:C8	2.49	0.47
45:LC:266:THR:HG22	45:LC:267:TRP:H	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:LP:16:LYS:HG2	57:LP:149:ILE:HG12	1.95	0.47
58:LQ:43:PHE:CD2	58:LQ:133:GLY:HA3	2.49	0.47
69:Ld:92:ARG:HA	69:Ld:102:LEU:HD23	1.96	0.47
2:CB:232:TYR:CE2	2:CB:292:LEU:HB3	2.46	0.47
2:CB:396:MET:HB2	2:CB:416:VAL:HG12	1.95	0.47
2:CB:839:ARG:HE	2:CB:844:LEU:HB2	1.79	0.47
6:SK:94:LEU:HD23	6:SK:95:ARG:HG3	1.96	0.47
12:ST:52:TRP:HA	12:ST:55:THR:HG22	1.96	0.47
18:Sg:8:ARG:HB2	18:Sg:309:VAL:HG23	1.96	0.47
18:Sg:89:LEU:HB2	18:Sg:101:PHE:CE1	2.49	0.47
21:SC:210:PRO:HD3	21:SC:236:PHE:HE2	1.77	0.47
34:Sa:79:ILE:HD13	36:S2:1863:A:H1'	1.97	0.47
37:LR:105:LEU:HD23	37:LR:138:LEU:HD23	1.95	0.47
40:L5:173:C:H5''	53:LL:129:ARG:HH12	1.79	0.47
43:LA:206:PRO:HG3	43:LA:213:GLY:HA3	1.96	0.47
78:Lm:99:CYS:HB2	78:Lm:114:LYS:HE3	1.94	0.47
1:AP:41:G:H2'	1:AP:42:A:H8	1.79	0.47
2:CB:160:MET:HG2	2:CB:164:LEU:HD23	1.96	0.47
4:SD:161:GLY:HA3	36:S2:1388:A:H61	1.78	0.47
8:SP:81:ARG:NH1	8:SP:98:ASN:HA	2.29	0.47
36:S2:16:G:H2'	36:S2:17:C:C6	2.49	0.47
36:S2:634:A:H2'	36:S2:635:G:C8	2.49	0.47
40:L5:1733:G:N3	40:L5:4214:A:H2'	2.29	0.47
40:L5:2539:C:H2'	40:L5:2540:C:C6	2.50	0.47
40:L5:2845:A:H61	40:L5:3843:C:N4	2.13	0.47
40:L5:4589:A:N1	40:L5:4621:C:O2'	2.46	0.47
40:L5:5016:A:H2	40:L5:5033:G:H21	1.55	0.47
54:LM:104:MET:HG3	54:LM:108:ASP:HB2	1.96	0.47
63:LX:127:LEU:HD11	63:LX:135:LYS:HE3	1.96	0.47
80:Lo:27:LYS:HD3	80:Lo:27:LYS:HA	1.67	0.47
82:Lr:90:LEU:HD22	82:Lr:111:ILE:HG23	1.97	0.47
2:CB:81:LEU:HD23	2:CB:85:ASP:HB3	1.96	0.47
2:CB:849:PRO:HB2	2:CB:854:PHE:HE2	1.80	0.47
7:SM:36:ARG:HE	7:SM:40:LYS:HG3	1.79	0.47
8:SP:78:THR:HA	36:S2:1298:G:H4'	1.97	0.47
8:SP:92:SER:HB2	8:SP:107:ILE:HD13	1.97	0.47
18:Sg:101:PHE:CD2	18:Sg:136:GLY:HA2	2.50	0.47
18:Sg:112:ALA:HB3	18:Sg:121:VAL:HG12	1.96	0.47
29:SO:33:ILE:HB	29:SO:97:LEU:HD23	1.97	0.47
40:L5:956:A:H1'	40:L5:2076:G:H5''	1.96	0.47
40:L5:3873:G:H2'	40:L5:3874:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4088:C:H2'	40:L5:4089:G:C8	2.50	0.47
40:L5:4238:G:H2'	40:L5:4239:A:C8	2.50	0.47
40:L5:4456:OMC:HM21	44:LB:241:PRO:HD3	1.97	0.47
84:Lt:22:VAL:HA	84:Lt:48:LYS:HG2	1.97	0.47
2:CB:14:ASP:OD1	2:CB:15:LYS:N	2.47	0.47
20:SB:179:ASN:HD21	20:SB:183:GLU:HB3	1.79	0.47
24:SH:98:ARG:O	36:S2:913:A:N6	2.34	0.47
24:SH:126:HIS:CE1	24:SH:181:THR:HG23	2.50	0.47
40:L5:137:G:H2'	40:L5:138:G:C8	2.47	0.47
40:L5:387:G:O2'	40:L5:412:G:N1	2.41	0.47
40:L5:425:U:H4'	57:LP:6:LEU:HD21	1.97	0.47
40:L5:1359:G:H4'	55:LN:203:TYR:HB2	1.96	0.47
40:L5:3917:A:H2'	40:L5:3918:G:H8	1.79	0.47
42:L8:62:A:OP1	73:Lh:52:LYS:NZ	2.44	0.47
47:LE:223:ARG:HA	47:LE:224:LYS:HA	1.73	0.47
49:LG:187:LYS:HB2	49:LG:198:THR:HG23	1.96	0.47
57:LP:5:SER:OG	57:LP:118:GLN:OE1	2.31	0.47
68:Lc:50:ASN:ND2	68:Lc:76:GLY:O	2.48	0.47
5:SF:81:ARG:HH21	36:S2:1536:G:H5'	1.79	0.47
14:SZ:56:ASP:OD1	14:SZ:57:LYS:N	2.48	0.47
26:SJ:128:VAL:O	26:SJ:132:GLN:HG2	2.15	0.47
36:S2:1724:A:H2'	36:S2:1725:U:C6	2.50	0.47
40:L5:10:A:H2'	40:L5:11:G:H8	1.79	0.47
40:L5:1725:U:H2'	40:L5:1726:U:H6	1.80	0.47
40:L5:1743:A:N1	40:L5:1789:C:O2'	2.47	0.47
40:L5:1932:A:H8	56:LO:49:ARG:HH22	1.63	0.47
40:L5:4935:C:H2'	40:L5:4936:G:C8	2.50	0.47
42:L8:75:OMG:HM23	42:L8:75:OMG:H1'	1.72	0.47
66:La:36:GLY:HA3	66:La:40:HIS:CE1	2.50	0.47
25:SI:134:GLU:HA	25:SI:137:LEU:HG	1.97	0.47
30:SV:73:ALA:HB1	30:SV:78:ILE:HB	1.95	0.47
34:Sa:11:ALA:HB3	34:Sa:33:ASP:HB2	1.97	0.47
35:Sb:22:LYS:HE3	36:S2:1129:G:H5''	1.97	0.47
36:S2:1139:C:H2'	36:S2:1140:G:O4'	2.14	0.47
36:S2:1589:A:N3	36:S2:1653:U:O2'	2.46	0.47
40:L5:433:A:C2	40:L5:3867:A2M:H4'	2.50	0.47
40:L5:1538:U:H2'	40:L5:1539:G:H8	1.80	0.47
40:L5:4723:A:H2'	40:L5:4724:A:C8	2.50	0.47
40:L5:4743:G:H2'	40:L5:4744:A:C8	2.49	0.47
40:L5:4906:C:H2'	40:L5:4907:G:H8	1.79	0.47
53:LL:59:VAL:HG21	53:LL:73:GLY:HA3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:LM:33:GLN:HB2	59:LS:145:PHE:HZ	1.80	0.47
1:AP:50:U:H2'	1:AP:51:C:C6	2.50	0.46
2:CB:641:TRP:CZ2	2:CB:701:ARG:HD3	2.50	0.46
10:SR:28:PHE:HA	10:SR:55:THR:HG21	1.97	0.46
12:ST:85:ASN:HB3	12:ST:88:MET:HB2	1.96	0.46
13:SU:48:LEU:HD13	13:SU:93:SER:HB3	1.97	0.46
22:SE:87:MET:HE1	22:SE:123:LEU:HB2	1.96	0.46
22:SE:125:LYS:O	22:SE:142:HIS:N	2.48	0.46
24:SH:57:ARG:HD3	24:SH:91:HIS:CD2	2.50	0.46
31:SW:14:ILE:HG22	31:SW:25:VAL:HG11	1.96	0.46
32:SX:45:SER:HB3	36:S2:649:PSU:H1'	1.97	0.46
36:S2:102:A:H4'	36:S2:104:A:C8	2.50	0.46
36:S2:857:U:H2'	36:S2:858:A:C8	2.50	0.46
36:S2:1606:G:N2	36:S2:1632:G:H1'	2.30	0.46
38:LW:5:LEU:HD12	38:LW:30:GLN:NE2	2.30	0.46
40:L5:99:A:H5''	55:LN:184:ILE:HD12	1.96	0.46
40:L5:305:A:OP2	55:LN:15:GLN:NE2	2.42	0.46
40:L5:352:G:O2'	42:L8:22:U:O4	2.32	0.46
40:L5:1259:G:H2'	40:L5:1260:G:C8	2.50	0.46
40:L5:2059:C:O2	59:LS:118:ARG:NH2	2.48	0.46
40:L5:2351:OMC:HM23	40:L5:2351:OMC:H1'	1.71	0.46
40:L5:5027:C:O2'	40:L5:5028:G:H5''	2.15	0.46
45:LC:218:ILE:HA	45:LC:229:LEU:HD22	1.97	0.46
54:LM:132:LYS:HE3	54:LM:132:LYS:HB3	1.81	0.46
2:CB:27:HIS:HA	2:CB:138:GLN:HB3	1.97	0.46
2:CB:430:MET:HG3	2:CB:484:THR:OG1	2.15	0.46
3:PE:6:G:H2'	3:PE:7:A:C8	2.50	0.46
9:SQ:140:ARG:HB2	36:S2:1644:C:H4'	1.98	0.46
18:Sg:56:GLN:HG2	18:Sg:57:ARG:HG2	1.97	0.46
29:SO:75:MET:HG3	29:SO:118:ALA:HB2	1.96	0.46
31:SW:62:VAL:HG11	35:Sb:8:LEU:HG	1.97	0.46
36:S2:43:U:OP2	36:S2:485:A:N6	2.42	0.46
36:S2:454:U:H2'	36:S2:455:A:H8	1.80	0.46
36:S2:1144:A:H5'	36:S2:1355:C:H41	1.79	0.46
40:L5:1613:A:H5''	43:LA:183:GLY:CA	2.46	0.46
40:L5:1824:G:H5''	60:LT:35:LYS:HE2	1.96	0.46
40:L5:1982:G:H2'	40:L5:1983:A:O4'	2.16	0.46
40:L5:3893:C:O2'	40:L5:4979:A:N1	2.48	0.46
40:L5:5047:C:O2'	40:L5:5050:C:OP2	2.26	0.46
41:L7:27:G:H5''	46:LD:57:ASN:ND2	2.30	0.46
49:LG:162:ASP:HB3	49:LG:163:PRO:HD3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:LG:182:CYS:HB3	49:LG:222:ILE:HD12	1.96	0.46
2:CB:450:THR:OG1	2:CB:461:ILE:O	2.33	0.46
18:Sg:10:THR:HB	18:Sg:306:LEU:HD21	1.97	0.46
21:SC:108:LYS:HD2	21:SC:233:LEU:HD13	1.97	0.46
36:S2:204:G:H2'	36:S2:205:G:O4'	2.16	0.46
36:S2:1713:C:H2'	36:S2:1714:U:C6	2.51	0.46
36:S2:1845:A:H2'	36:S2:1846:G:C8	2.51	0.46
40:L5:293:G:OP1	88:L5:5264:SPM:N1	2.34	0.46
40:L5:1187:G:H2'	40:L5:1188:C:C6	2.50	0.46
40:L5:4088:C:H2'	40:L5:4089:G:H8	1.80	0.46
44:LB:140:GLU:HA	44:LB:143:LYS:HE3	1.98	0.46
56:LO:119:VAL:N	59:LS:168:THR:O	2.43	0.46
73:Lh:73:TYR:HB3	73:Lh:79:LYS:HG2	1.97	0.46
9:SQ:33:LYS:NZ	36:S2:1425:G:O3'	2.49	0.46
23:SG:11:GLY:HA2	36:S2:166:A2M:HM'1	1.97	0.46
27:SL:153:LYS:HA	27:SL:153:LYS:HD3	1.73	0.46
28:SN:64:ARG:HD3	28:SN:70:LYS:HG2	1.98	0.46
34:Sa:7:ASN:HB2	36:S2:1865:C:O2	2.14	0.46
36:S2:695:C:H41	36:S2:737:G:N2	2.12	0.46
36:S2:907:G:H2'	36:S2:908:A:H8	1.80	0.46
38:LW:96:GLN:HB2	38:LW:101:ARG:HE	1.79	0.46
40:L5:5000:G:O2'	44:LB:382:MET:HE1	2.16	0.46
45:LC:65:GLU:HG2	45:LC:80:ARG:HH11	1.79	0.46
60:LT:88:ARG:NH1	67:Lb:30:GLU:OE2	2.48	0.46
83:Ls:39:GLN:O	83:Ls:42:GLN:HG3	2.15	0.46
84:Lt:117:ARG:HE	84:Lt:119:ARG:H	1.62	0.46
5:SF:95:HIS:O	5:SF:99:ILE:HD12	2.15	0.46
18:Sg:101:PHE:HB3	18:Sg:132:TRP:CZ3	2.51	0.46
36:S2:391:C:H2'	36:S2:392:A:H8	1.80	0.46
36:S2:1226:G:N1	36:S2:1639:G7M:OP2	2.43	0.46
36:S2:1724:A:H2'	36:S2:1725:U:H6	1.80	0.46
40:L5:88:A:N7	58:LQ:173:LYS:NZ	2.63	0.46
40:L5:270:U:H2'	40:L5:271:C:C6	2.51	0.46
40:L5:1846:G:H2'	40:L5:1847:C:C6	2.50	0.46
40:L5:2696:A:H5'	76:Lk:70:LYS:HE2	1.96	0.46
41:L7:4:U:H2'	41:L7:5:A:H8	1.80	0.46
52:LJ:26:VAL:HG11	52:LJ:32:ARG:HB3	1.97	0.46
55:LN:116:LEU:HD22	55:LN:135:ILE:HD11	1.97	0.46
65:LZ:50:PRO:HD3	65:LZ:68:ILE:HG12	1.95	0.46
75:Lj:60:GLY:HA2	75:Lj:64:MET:SD	2.55	0.46
5:SF:60:ARG:HD2	36:S2:1679:A:H2'	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:SK:24:LYS:HE3	6:SK:65:ARG:HE	1.79	0.46
9:SQ:78:VAL:HG22	36:S2:1673:U:H5''	1.98	0.46
14:SZ:102:LYS:HA	14:SZ:107:VAL:HG23	1.98	0.46
28:SN:16:LEU:HD12	36:S2:919:A:H5''	1.97	0.46
28:SN:124:ARG:NH2	36:S2:1024:A:OP2	2.41	0.46
31:SW:94:LEU:HD21	31:SW:102:ILE:HG13	1.97	0.46
34:Sa:23:CYS:HB3	34:Sa:28:ARG:H	1.81	0.46
36:S2:106:C:OP1	36:S2:431:G:O2'	2.26	0.46
36:S2:527:C:H2'	36:S2:528:A:C8	2.50	0.46
36:S2:1337:4AC:O5'	36:S2:1337:4AC:H6	2.15	0.46
40:L5:75:G:O2'	53:LL:101:ARG:NH1	2.40	0.46
40:L5:1996:C:N4	40:L5:2000:G:H22	2.14	0.46
40:L5:2257:C:O2'	40:L5:2259:G:OP2	2.32	0.46
40:L5:2553:A:OP2	40:L5:2574:G:O2'	2.29	0.46
40:L5:3664:G:H2'	40:L5:3665:G:C8	2.50	0.46
40:L5:3723:A:H2'	40:L5:3724:A:C8	2.51	0.46
42:L8:37:A:OP2	73:Lh:89:ARG:HD2	2.16	0.46
42:L8:90:C:H1'	64:LY:24:HIS:HB3	1.98	0.46
85:CH:99:ILE:HG23	85:CH:123:LYS:HB3	1.97	0.46
2:CB:26:ALA:HB2	2:CB:128:VAL:HB	1.97	0.46
12:ST:42:HIS:NE2	12:ST:43:LYS:HE3	2.30	0.46
20:SB:88:THR:HA	20:SB:98:THR:HA	1.98	0.46
20:SB:199:LYS:HB2	20:SB:199:LYS:HE2	1.73	0.46
23:SG:2:LYS:HG2	23:SG:17:GLU:HG2	1.96	0.46
36:S2:1841:C:H2'	36:S2:1842:4AC:H6	1.98	0.46
40:L5:3861:A:H2'	40:L5:3862:A:H8	1.81	0.46
40:L5:4591:U:H2'	40:L5:4592:C:C6	2.50	0.46
53:LL:105:LYS:HB3	53:LL:105:LYS:HE2	1.76	0.46
63:LX:145:ASP:HB3	63:LX:148:ASP:OD1	2.16	0.46
2:CB:351:LEU:HA	2:CB:354:ILE:HG12	1.98	0.46
2:CB:505:VAL:O	2:CB:547:ALA:HA	2.16	0.46
4:SD:167:TYR:CD1	4:SD:200:PRO:HG2	2.51	0.46
26:SJ:138:ARG:HD2	26:SJ:156:HIS:HB2	1.98	0.46
36:S2:964:A:H2'	36:S2:965:U:C6	2.50	0.46
40:L5:71:C:H1'	53:LL:62:PRO:O	2.15	0.46
40:L5:1244:G:H2'	40:L5:1245:C:H6	1.80	0.46
40:L5:1390:G:N2	40:L5:1393:G:OP2	2.41	0.46
40:L5:2824:OMC:HM23	40:L5:2824:OMC:H1'	1.75	0.46
40:L5:3848:U:H2'	40:L5:3849:A:C8	2.51	0.46
83:Ls:50:LYS:HG3	83:Ls:101:MET:HE1	1.96	0.46
7:SM:62:VAL:HA	7:SM:65:VAL:HG22	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Sg:82:SER:OG	18:Sg:83:TRP:N	2.49	0.46
19:SA:208:GLU:O	19:SA:212:LYS:HG2	2.16	0.46
24:SH:162:GLN:O	24:SH:163:GLN:NE2	2.48	0.46
31:SW:55:ASP:HB3	35:Sb:25:VAL:HG13	1.97	0.46
36:S2:1754:G:N7	36:S2:1779:G:N2	2.64	0.46
40:L5:1241:C:H5'	47:LE:72:LYS:NZ	2.31	0.46
40:L5:2303:C:H5''	70:Le:104:SER:HB3	1.98	0.46
46:LD:289:ARG:O	46:LD:292:GLU:HG3	2.16	0.46
68:Lc:80:GLU:HA	68:Lc:83:THR:HB	1.98	0.46
84:Lt:29:ALA:HB1	84:Lt:44:ASP:HB2	1.97	0.46
2:CB:350:LEU:HD23	2:CB:353:MET:HE2	1.98	0.46
3:PE:62:C:H2'	3:PE:63:C:C6	2.51	0.46
11:SS:5:ILE:N	14:SZ:50:PHE:O	2.41	0.46
11:SS:15:VAL:HG22	11:SS:68:ILE:HD11	1.98	0.46
15:Sc:10:LYS:HE2	15:Sc:34:PHE:HE2	1.80	0.46
23:SG:158:VAL:HG21	38:LW:82:ILE:HD11	1.98	0.46
24:SH:177:TYR:O	24:SH:181:THR:HB	2.16	0.46
26:SJ:78:LEU:HD22	26:SJ:92:MET:HA	1.97	0.46
28:SN:73:ARG:HH21	36:S2:916:A:H1'	1.81	0.46
36:S2:317:C:H2'	36:S2:318:A:C4	2.51	0.46
36:S2:432:G:H2'	36:S2:433:A:C8	2.51	0.46
36:S2:461:U:H2'	36:S2:462:OMC:C6	2.51	0.46
38:LW:34:ALA:HA	38:LW:37:GLU:HG2	1.98	0.46
40:L5:691:C:H2'	40:L5:692:A:C8	2.51	0.46
40:L5:3599:A:H2'	40:L5:3600:G:H8	1.78	0.46
21:SC:182:CYS:HB2	31:SW:95:PRO:HB2	1.98	0.45
26:SJ:131:ARG:HA	26:SJ:131:ARG:HD2	1.78	0.45
33:SY:11:LYS:HB2	33:SY:24:VAL:HG22	1.98	0.45
40:L5:1743:A:O4'	46:LD:15:ARG:HD2	2.17	0.45
40:L5:4910:G:H4'	44:LB:95:THR:HG22	1.99	0.45
42:L8:102:G:OP2	42:L8:104:A:O2'	2.29	0.45
44:LB:17:LEU:O	44:LB:19:ARG:N	2.49	0.45
46:LD:152:ARG:HG3	46:LD:154:THR:HG23	1.98	0.45
2:CB:10:ARG:HH12	2:CB:14:ASP:HB3	1.82	0.45
5:SF:129:GLY:O	5:SF:136:ARG:NH1	2.50	0.45
18:Sg:173:LEU:HD11	18:Sg:187:ASN:HB3	1.99	0.45
20:SB:123:ALA:HB2	20:SB:168:MET:HE3	1.98	0.45
24:SH:7:LYS:NZ	24:SH:15:LYS:O	2.38	0.45
36:S2:455:A:H2'	36:S2:456:C:H6	1.81	0.45
36:S2:637:U:O2	85:CH:49:ASN:ND2	2.45	0.45
36:S2:1337:4AC:H2'	36:S2:1338:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1867:A:H2'	40:L5:1868:A:C8	2.51	0.45
40:L5:2570:U:H2'	40:L5:2571:C:C6	2.51	0.45
40:L5:2654:C:H2'	40:L5:2655:C:H6	1.82	0.45
40:L5:3689:G:O2'	40:L5:3818:UY1:OP2	2.31	0.45
40:L5:3953:G:H1'	40:L5:4060:U:H1'	1.97	0.45
85:CH:92:GLN:HE21	85:CH:110:GLU:CD	2.23	0.45
1:AP:2:U:H2'	1:AP:3:C:H6	1.80	0.45
2:CB:50:ARG:HG3	2:CB:52:GLY:H	1.80	0.45
18:Sg:188:HIS:HB3	18:Sg:219:TRP:CE2	2.52	0.45
24:SH:9:VAL:HG12	24:SH:45:ILE:H	1.82	0.45
28:SN:25:TRP:CD2	35:Sb:82:LYS:HD3	2.51	0.45
35:Sb:55:LEU:HD23	35:Sb:55:LEU:HA	1.85	0.45
36:S2:212:C:N4	36:S2:213:G:O6	2.50	0.45
36:S2:348:A:H2'	36:S2:349:A:C8	2.51	0.45
36:S2:440:G:OP1	36:S2:1798:C:O2'	2.32	0.45
36:S2:1208:A:H2'	36:S2:1209:A:H8	1.81	0.45
36:S2:1651:A:H2'	36:S2:1652:G:H8	1.81	0.45
40:L5:170:C:H42	40:L5:266:C:H42	1.63	0.45
40:L5:1534:A2M:HM'3	40:L5:1637:A:C4	2.52	0.45
40:L5:1669:A:H4'	40:L5:1685:G:N2	2.32	0.45
40:L5:1705:G:H2'	40:L5:1706:A:O4'	2.16	0.45
40:L5:2730:U:H2'	40:L5:2731:C:C6	2.52	0.45
40:L5:4504:C:H2'	40:L5:4505:C:C6	2.51	0.45
40:L5:5004:C:H2'	40:L5:5005:G:O4'	2.16	0.45
48:LF:46:ARG:O	48:LF:50:ILE:HG12	2.16	0.45
64:LY:82:ILE:HG22	64:LY:83:GLU:H	1.81	0.45
2:CB:112:SER:O	2:CB:115:VAL:HG12	2.16	0.45
2:CB:761:GLY:O	2:CB:765:ARG:HG2	2.16	0.45
2:CB:776:VAL:HG13	2:CB:777:ALA:H	1.81	0.45
27:SL:48:LYS:O	27:SL:52:GLU:HG3	2.16	0.45
36:S2:867:OMG:HM23	36:S2:867:OMG:H1'	1.77	0.45
36:S2:1692:U:H2'	36:S2:1693:G:C8	2.52	0.45
36:S2:1718:G:C6	36:S2:1813:A:N6	2.85	0.45
40:L5:256:G:H2'	40:L5:257:C:C6	2.51	0.45
40:L5:468:U:C5	40:L5:469:C:H5	2.35	0.45
40:L5:1308:C:H2'	40:L5:1309:C:C6	2.51	0.45
40:L5:2666:U:O2'	40:L5:2668:G:N7	2.44	0.45
40:L5:3765:G:O2'	40:L5:3767:C:N4	2.49	0.45
40:L5:4940:C:H5'	40:L5:4941:G:H5''	1.97	0.45
40:L5:5002:U:H2'	40:L5:5003:U:C6	2.51	0.45
41:L7:4:U:H2'	41:L7:5:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:LC:318:PRO:HB2	45:LC:325:MET:HE2	1.98	0.45
47:LE:95:PRO:HA	47:LE:104:THR:HG22	1.98	0.45
70:Le:19:LYS:HE3	70:Le:19:LYS:HB3	1.85	0.45
2:CB:170:GLU:HG2	2:CB:171:PRO:HD2	1.98	0.45
5:SF:127:ARG:HB3	5:SF:136:ARG:HB3	1.98	0.45
7:SM:35:ILE:HD11	7:SM:61:TYR:CE2	2.52	0.45
10:SR:24:LEU:HB3	10:SR:58:MET:SD	2.57	0.45
10:SR:99:ASP:OD2	19:SA:42:LYS:HD2	2.17	0.45
14:SZ:73:VAL:HG21	14:SZ:88:LEU:HD21	1.99	0.45
22:SE:22:LYS:HG3	22:SE:23:LEU:HD12	1.99	0.45
25:SI:38:ILE:HD11	25:SI:96:LEU:HD21	1.98	0.45
32:SX:105:PHE:CD1	32:SX:121:LYS:HB3	2.52	0.45
36:S2:1628:C:H2'	36:S2:1629:C:C6	2.51	0.45
37:LR:20:LYS:HD3	40:L5:2823:G:N7	2.31	0.45
40:L5:37:U:H2'	40:L5:38:A:O4'	2.16	0.45
40:L5:99:A:H2'	40:L5:100:C:O2	2.17	0.45
40:L5:1097:C:H2'	40:L5:1098:G:C8	2.52	0.45
43:LA:114:CYS:N	43:LA:165:VAL:O	2.49	0.45
45:LC:5:ARG:HD2	45:LC:24:LEU:O	2.17	0.45
45:LC:144:ILE:HG13	45:LC:144:ILE:O	2.16	0.45
81:Lp:51:ALA:HB3	81:Lp:54:ILE:HD12	1.98	0.45
2:CB:36:THR:HG22	2:CB:102:LEU:HD11	1.98	0.45
16:Sd:3:HIS:H	16:Sd:3:HIS:CD2	2.35	0.45
24:SH:91:HIS:CD2	24:SH:172:THR:HG21	2.52	0.45
36:S2:349:A:H2'	36:S2:350:C:C6	2.51	0.45
36:S2:1722:G:N3	36:S2:1723:G:C8	2.85	0.45
40:L5:478:G:OP1	82:Lr:66:ARG:NH2	2.42	0.45
40:L5:1509:C:H5''	66:La:2:PRO:HD3	1.98	0.45
40:L5:2696:A:H62	76:Lk:35:LYS:NZ	2.14	0.45
40:L5:4620:OMU:HM23	40:L5:4620:OMU:H1'	1.81	0.45
44:LB:165:HIS:HA	44:LB:179:HIS:O	2.16	0.45
44:LB:299:ILE:HB	44:LB:313:SER:HB3	1.98	0.45
45:LC:163:LYS:HE3	45:LC:163:LYS:HB3	1.74	0.45
50:LH:61:TRP:CZ3	54:LM:33:GLN:HG3	2.52	0.45
58:LQ:9:LYS:HA	58:LQ:9:LYS:HD3	1.78	0.45
64:LY:31:SER:HA	64:LY:48:PRO:HA	1.99	0.45
2:CB:601:ARG:HB2	2:CB:708:THR:OG1	2.17	0.45
2:CB:839:ARG:HD2	2:CB:839:ARG:HA	1.77	0.45
12:ST:18:LEU:HG	12:ST:134:ILE:HD13	1.98	0.45
18:Sg:205:SER:O	18:Sg:221:LEU:N	2.49	0.45
25:SI:162:LEU:HD11	25:SI:191:GLU:HG2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:SL:29:GLY:HA3	27:SL:30:LYS:HA	1.57	0.45
40:L5:190:G:H2'	40:L5:191:G:H8	1.82	0.45
40:L5:1340:OMC:HM23	40:L5:1340:OMC:H1'	1.74	0.45
40:L5:3867:A2M:HM'3	40:L5:3867:A2M:H1'	1.58	0.45
40:L5:4749:C:H2'	40:L5:4750:G:O4'	2.16	0.45
43:LA:75:LEU:HD12	43:LA:75:LEU:HA	1.84	0.45
45:LC:36:ILE:HD12	45:LC:122:TYR:CE2	2.52	0.45
51:LI:47:PRO:HB3	51:LI:171:TRP:CZ2	2.51	0.45
2:CB:28:VAL:HG22	2:CB:108:HIS:HA	1.98	0.45
2:CB:449:ARG:HD3	2:CB:460:PRO:HB3	1.99	0.45
10:SR:3:ARG:HG3	36:S2:1454:A:C8	2.52	0.45
10:SR:106:LEU:HD21	19:SA:19:LEU:HD11	1.97	0.45
22:SE:55:ALA:HB1	22:SE:60:GLU:HB2	1.99	0.45
25:SI:44:HIS:ND1	36:S2:1740:C:OP1	2.47	0.45
36:S2:528:A:H2'	36:S2:529:A:C8	2.52	0.45
36:S2:611:G:H2'	36:S2:612:U:H6	1.82	0.45
40:L5:424:U:H2'	40:L5:425:U:C6	2.52	0.45
40:L5:1084:C:H2'	40:L5:1085:C:H6	1.82	0.45
40:L5:1179:U:H3'	40:L5:1180:C:H5''	1.98	0.45
40:L5:1961:G:N2	40:L5:2024:G:O2'	2.49	0.45
40:L5:3726:A:H2'	40:L5:3727:A:C8	2.51	0.45
40:L5:3856:A:H5''	57:LP:83:TRP:O	2.17	0.45
40:L5:4859:C:H2'	40:L5:4860:G:C8	2.52	0.45
40:L5:4893:A:OP1	56:LO:188:LYS:NZ	2.36	0.45
42:L8:67:U:H2'	42:L8:68:G:C8	2.52	0.45
50:LH:27:VAL:HG12	50:LH:84:VAL:HG21	1.97	0.45
53:LL:103:ARG:H	53:LL:103:ARG:HD3	1.82	0.45
54:LM:25:VAL:HB	54:LM:38:VAL:HG13	1.98	0.45
82:Lr:28:GLU:OE2	82:Lr:31:ASN:ND2	2.42	0.45
2:CB:689:GLU:O	2:CB:730:TYR:OH	2.26	0.45
10:SR:83:ASN:C	10:SR:85:VAL:N	2.75	0.45
12:ST:31:PRO:HB3	12:ST:102:ARG:HH11	1.82	0.45
20:SB:185:VAL:O	20:SB:189:ILE:HG13	2.16	0.45
21:SC:207:ALA:HB2	36:S2:4:C:H4'	1.99	0.45
22:SE:18:TRP:HH2	22:SE:31:PRO:HD3	1.81	0.45
22:SE:89:VAL:HA	22:SE:99:PHE:O	2.17	0.45
22:SE:141:THR:HG23	22:SE:143:ASP:N	2.32	0.45
29:SO:150:ARG:NH2	36:S2:1854:U:OP1	2.45	0.45
36:S2:883:U:N3	36:S2:904:A:C6	2.85	0.45
36:S2:1031:A2M:H1'	36:S2:1031:A2M:HM'3	1.63	0.45
40:L5:1444:G:N2	40:L5:2103:G:H1	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:1739:G:N3	40:L5:1742:A:N6	2.65	0.45
40:L5:1773:U:H2'	40:L5:1774:C:C6	2.52	0.45
40:L5:3748:A:H5''	43:LA:243:THR:HB	1.99	0.45
60:LT:28:ALA:O	60:LT:32:ARG:HG2	2.17	0.45
2:CB:188:ILE:HA	2:CB:191:THR:HG22	1.99	0.45
3:PE:41:U:H2'	3:PE:42:G:C8	2.52	0.45
9:SQ:43:GLU:HG2	36:S2:1542:C:O2'	2.17	0.45
10:SR:29:HIS:HA	10:SR:32:LYS:HE3	1.99	0.45
16:Sd:10:HIS:NE2	36:S2:1261:C:O2'	2.44	0.45
19:SA:177:MET:HE1	19:SA:180:ARG:HH21	1.81	0.45
36:S2:689:U:H3'	36:S2:690:G:N2	2.32	0.45
40:L5:120:A:H2'	40:L5:149:A:H61	1.82	0.45
40:L5:1204:C:H2'	40:L5:1205:G:C8	2.52	0.45
40:L5:1392:A:H2'	40:L5:1393:G:C8	2.52	0.45
50:LH:94:SER:OG	50:LH:142:ASP:HB3	2.16	0.45
65:LZ:42:LEU:HD21	65:LZ:96:VAL:HG12	1.99	0.45
83:Ls:17:ILE:HG22	83:Ls:54:LEU:HD21	1.99	0.45
22:SE:138:HIS:CD2	22:SE:148:ARG:HG2	2.52	0.44
23:SG:67:VAL:HG12	23:SG:69:THR:HG22	1.97	0.44
35:Sb:72:ARG:HH22	36:S2:1119:A:H2'	1.81	0.44
36:S2:1683:C:H2'	36:S2:1684:C:H6	1.81	0.44
40:L5:318:A:H2'	40:L5:319:A:C8	2.52	0.44
40:L5:2298:U:H5''	45:LC:204:ARG:HH21	1.81	0.44
40:L5:3654:G:O2'	40:L5:3693:U:OP1	2.30	0.44
40:L5:4318:C:H4'	80:Lo:17:LYS:HA	1.99	0.44
44:LB:292:LEU:HD23	44:LB:292:LEU:HA	1.85	0.44
49:LG:105:GLU:HB2	49:LG:109:GLU:HB3	1.98	0.44
50:LH:24:THR:HA	50:LH:37:ASP:HA	1.99	0.44
53:LL:63:THR:HG21	66:La:66:ASN:HB3	1.99	0.44
11:SS:24:ARG:HG3	11:SS:29:ALA:HB2	1.98	0.44
14:SZ:91:LEU:HG	14:SZ:96:LEU:HD11	1.99	0.44
15:Sc:29:GLN:HG2	15:Sc:45:ASN:HB3	1.99	0.44
31:SW:28:ARG:HH22	36:S2:1093:A:H5''	1.82	0.44
34:Sa:45:VAL:HG11	34:Sa:53:ILE:HG13	1.99	0.44
36:S2:461:U:H2'	36:S2:462:OMC:H6	1.82	0.44
36:S2:1221:G:H2'	36:S2:1222:G:C8	2.52	0.44
40:L5:1475:G:H2'	40:L5:1476:C:C6	2.53	0.44
40:L5:1516:G:O2'	53:LL:18:TRP:NE1	2.50	0.44
40:L5:1996:C:H42	40:L5:2000:G:N2	2.15	0.44
40:L5:2364:OMG:HM23	40:L5:2364:OMG:H1'	1.75	0.44
40:L5:3848:U:H2'	40:L5:3849:A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4106:G:H3'	40:L5:4107:G:H8	1.82	0.44
76:Lk:47:ILE:HD11	76:Lk:56:LEU:HD13	1.99	0.44
84:Lt:16:ARG:HE	84:Lt:17:CYS:N	2.09	0.44
2:CB:592:LEU:HD12	2:CB:603:TYR:CE2	2.51	0.44
20:SB:111:CYS:HB3	34:Sa:68:TYR:HD2	1.82	0.44
23:SG:174:PRO:HB3	36:S2:65:C:C6	2.53	0.44
26:SJ:2:PRO:HG2	36:S2:428:OMU:H4'	1.99	0.44
28:SN:36:GLN:HG2	28:SN:54:LEU:HD11	1.99	0.44
36:S2:159:A2M:HM'3	36:S2:159:A2M:H1'	1.54	0.44
36:S2:563:G:O2'	36:S2:564:A:OP1	2.33	0.44
36:S2:694:G:H2'	36:S2:695:C:O4'	2.17	0.44
36:S2:874:G:H2'	36:S2:875:A:H8	1.82	0.44
36:S2:885:U:C2	36:S2:901:G:O6	2.69	0.44
36:S2:1227:G:C2	36:S2:1228:A:C8	3.06	0.44
36:S2:1288:OMU:HN3	36:S2:1311:C:H42	1.64	0.44
40:L5:185:C:O2'	40:L5:187:U:H5'	2.18	0.44
40:L5:1188:C:H2'	40:L5:1189:G:H8	1.82	0.44
40:L5:4301:U:OP2	40:L5:4303:C:N4	2.50	0.44
40:L5:4775:C:H41	40:L5:4859:C:N4	2.11	0.44
40:L5:4906:C:H2'	40:L5:4907:G:C8	2.52	0.44
2:CB:43:ALA:HB3	2:CB:77:LEU:HD13	1.99	0.44
3:PE:43:A:H2'	3:PE:44:G:C8	2.52	0.44
27:SL:103:GLU:HG3	32:SX:11:ARG:HB2	1.98	0.44
40:L5:432:U:H1'	88:L5:5292:SPM:H82	2.00	0.44
40:L5:492:U:H2'	40:L5:493:G:H8	1.83	0.44
40:L5:1081:C:O2'	40:L5:1082:C:H5'	2.16	0.44
40:L5:1952:G:H4'	59:LS:93:MET:HG2	2.00	0.44
40:L5:2461:G:H2'	40:L5:2462:C:C6	2.52	0.44
40:L5:2632:PSU:H2'	40:L5:2633:U:C6	2.53	0.44
40:L5:3687:A:O2'	43:LA:236:GLY:N	2.50	0.44
40:L5:3782:5MC:OP1	79:Ln:23:ARG:NH2	2.44	0.44
40:L5:4392:OMG:HM21	40:L5:4394:A:H2'	1.99	0.44
40:L5:4536:OMC:HM22	40:L5:4537:C:O4'	2.17	0.44
44:LB:258:HIS:HA	44:LB:260:ALA:H	1.81	0.44
51:LI:152:LEU:HB3	51:LI:165:ILE:HD12	1.99	0.44
58:LQ:172:ARG:NH2	66:La:59:LYS:HA	2.32	0.44
2:CB:207:PRO:HA	2:CB:212:VAL:HG22	2.00	0.44
9:SQ:76:GLY:HA3	36:S2:1672:U:O3'	2.18	0.44
10:SR:93:GLN:HE21	10:SR:96:ILE:HG12	1.82	0.44
13:SU:67:LYS:HG2	13:SU:78:ASP:HB2	1.99	0.44
23:SG:52:ILE:HA	23:SG:111:LEU:HD23	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:SJ:46:VAL:HG21	26:SJ:106:LEU:HD21	1.99	0.44
34:Sa:41:ILE:HG23	34:Sa:68:TYR:HE1	1.83	0.44
36:S2:1473:G:N2	36:S2:1476:A:OP2	2.46	0.44
40:L5:1326:A2M:HM'3	40:L5:1326:A2M:H1'	1.62	0.44
40:L5:3690:U:H2'	40:L5:3691:G:O4'	2.18	0.44
40:L5:3865:A:H61	40:L5:3881:G:H1	1.65	0.44
40:L5:3911:C:H2'	40:L5:3912:U:C6	2.51	0.44
40:L5:4508:C:N3	40:L5:4512:U:H5	2.15	0.44
46:LD:41:LYS:NZ	60:LT:30:TYR:O	2.37	0.44
57:LP:17:SER:HB2	57:LP:98:ALA:HB2	1.98	0.44
70:Le:91:CYS:HB3	70:Le:95:TYR:HD2	1.83	0.44
70:Le:98:GLU:HG3	70:Le:123:THR:OG1	2.17	0.44
77:Ll:23:ILE:HG23	77:Ll:38:ASN:HB2	1.99	0.44
80:Lo:6:LYS:HG3	80:Lo:94:GLY:HA3	2.00	0.44
84:Lt:64:ILE:HB	84:Lt:71:ILE:HG13	1.99	0.44
4:SD:7:LYS:HD3	4:SD:7:LYS:HA	1.84	0.44
18:Sg:251:ALA:HB1	18:Sg:286:CYS:HB3	1.98	0.44
19:SA:163:CYS:SG	19:SA:174:MET:HG3	2.58	0.44
24:SH:154:ILE:HB	24:SH:185:VAL:HG23	1.98	0.44
24:SH:166:VAL:O	24:SH:170:VAL:HG13	2.16	0.44
29:SO:33:ILE:HA	29:SO:41:PHE:O	2.18	0.44
36:S2:1199:A:H2'	36:S2:1200:A:C8	2.52	0.44
37:LR:171:LYS:O	37:LR:174:GLU:HG3	2.17	0.44
40:L5:189:G:H2'	40:L5:190:G:H8	1.83	0.44
40:L5:1398:A:N1	40:L5:1419:G:O2'	2.48	0.44
40:L5:1700:G:H5''	40:L5:1704:C:N4	2.33	0.44
40:L5:1857:C:H2'	40:L5:1858:A:H8	1.82	0.44
40:L5:4524:G:N3	44:LB:252:ALA:HB1	2.33	0.44
45:LC:293:LEU:O	45:LC:299:GLN:NE2	2.47	0.44
51:LI:48:LEU:O	51:LI:139:ARG:HA	2.17	0.44
59:LS:5:GLY:O	59:LS:111:ARG:NH2	2.50	0.44
79:Ln:12:ARG:HG3	79:Ln:15:ARG:HH12	1.81	0.44
2:CB:9:ILE:HD11	2:CB:78:PHE:HB2	2.00	0.44
2:CB:159:LYS:NZ	2:CB:218:LEU:HB2	2.33	0.44
4:SD:161:GLY:O	4:SD:164:VAL:HG12	2.17	0.44
11:SS:40:TYR:CZ	11:SS:97:GLN:HG2	2.52	0.44
11:SS:132:ARG:NH1	36:S2:1623:A:N1	2.65	0.44
22:SE:89:VAL:HG11	22:SE:119:ALA:HB1	2.00	0.44
22:SE:92:ILE:HG21	33:SY:17:LEU:HD21	2.00	0.44
22:SE:162:ILE:HG22	22:SE:169:ILE:HD13	1.99	0.44
24:SH:139:ILE:HG23	24:SH:156:VAL:HG13	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:SV:30:ALA:O	30:SV:60:ARG:HD3	2.17	0.44
36:S2:223:C:H2'	36:S2:224:A:C8	2.52	0.44
36:S2:495:U:H2'	36:S2:496:C:O4'	2.18	0.44
40:L5:444:G:H2'	40:L5:445:U:C6	2.52	0.44
40:L5:907:C:H2'	40:L5:908:G:H8	1.82	0.44
40:L5:1613:A:H5''	43:LA:183:GLY:HA2	2.00	0.44
40:L5:1881:C:H5'	40:L5:2281:U:H1'	1.98	0.44
40:L5:2411:C:H2'	40:L5:2412:A:C8	2.52	0.44
40:L5:4911:A:OP2	44:LB:100:ARG:HD3	2.16	0.44
43:LA:115:CYS:SG	43:LA:124:GLY:HA3	2.58	0.44
44:LB:348:ARG:HG2	44:LB:349:LYS:O	2.18	0.44
45:LC:298:ILE:HD13	58:LQ:131:PRO:HB3	1.99	0.44
46:LD:55:VAL:HG11	46:LD:158:LYS:HE3	1.99	0.44
50:LH:102:ASN:HB2	50:LH:115:ARG:HB2	1.99	0.44
50:LH:113:GLU:OE2	50:LH:125:ARG:NH1	2.51	0.44
55:LN:149:GLN:NE2	73:Lh:99:GLU:O	2.51	0.44
1:AP:23:C:H2'	1:AP:24:A:C8	2.53	0.44
9:SQ:10:VAL:HG12	9:SQ:98:LYS:HD3	2.00	0.44
36:S2:107:A:H2'	36:S2:108:G:C8	2.53	0.44
36:S2:382:C:H2'	36:S2:383:G:C8	2.53	0.44
40:L5:162:A:H2'	40:L5:163:A:H8	1.83	0.44
40:L5:518:G:N1	40:L5:643:C:H2'	2.33	0.44
40:L5:1414:C:H2'	40:L5:1415:G:C8	2.45	0.44
40:L5:1802:A:N3	60:LT:130:ARG:NH2	2.62	0.44
40:L5:4101:C:N3	40:L5:4107:G:N2	2.66	0.44
41:L7:110:G:H2'	41:L7:111:C:C6	2.52	0.44
43:LA:133:TYR:HB3	43:LA:168:VAL:HG12	1.99	0.44
44:LB:163:ILE:HG22	44:LB:180:LEU:HD22	2.00	0.44
61:LU:112:LEU:HD23	61:LU:112:LEU:H	1.82	0.44
85:CH:24:SER:H	85:CH:28:ILE:HG13	1.82	0.44
3:PE:2:C:H2'	3:PE:3:C:C6	2.53	0.44
14:SZ:103:HIS:NE2	36:S2:1593:C:OP1	2.36	0.44
30:SV:17:CYS:HB2	30:SV:56:CYS:HB3	1.99	0.44
36:S2:677:G:H21	36:S2:1028:A:H62	1.65	0.44
40:L5:978:G:H2'	40:L5:979:C:C6	2.53	0.44
40:L5:3684:G:H2'	40:L5:3685:C:C6	2.53	0.44
40:L5:4458:C:H2'	40:L5:4459:U:C6	2.52	0.44
41:L7:119:U:C2	46:LD:261:VAL:HG21	2.53	0.44
64:LY:82:ILE:HD11	64:LY:99:ILE:HD11	2.00	0.44
83:Ls:36:GLY:H	83:Ls:39:GLN:HE21	1.64	0.44
85:CH:85:ARG:HH12	85:CH:106:ILE:HG23	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:337:LYS:HB3	2:CB:337:LYS:HE2	1.64	0.43
2:CB:479:LEU:HD21	2:CB:483:GLY:HA3	1.99	0.43
5:SF:92:ILE:HD13	5:SF:169:ILE:HG21	2.00	0.43
26:SJ:137:VAL:HG22	26:SJ:157:ILE:HD12	2.00	0.43
36:S2:455:A:H2'	36:S2:456:C:C6	2.52	0.43
36:S2:945:U:H2'	36:S2:946:U:C6	2.53	0.43
36:S2:991:G:C6	36:S2:1134:G:H4'	2.53	0.43
36:S2:1232:PSU:H2'	36:S2:1233:G:C8	2.51	0.43
36:S2:1648:G:O2'	36:S2:1674:G:O6	2.31	0.43
40:L5:148:C:OP2	49:LG:197:LYS:NZ	2.51	0.43
40:L5:702:U:H2'	40:L5:703:G:O4'	2.18	0.43
40:L5:1577:G:O2'	40:L5:1612:G:H4'	2.18	0.43
40:L5:2583:C:OP2	72:Lg:76:ARG:NH1	2.48	0.43
40:L5:2626:U:O2	61:LU:89:LYS:HD2	2.17	0.43
41:L7:52:C:O2'	41:L7:54:A:N7	2.49	0.43
42:L8:39:G:H1'	42:L8:103:A:N6	2.33	0.43
44:LB:196:TRP:O	44:LB:199:GLU:HG2	2.18	0.43
54:LM:104:MET:HE1	56:LO:201:LEU:HD11	2.00	0.43
69:Ld:22:THR:HG23	69:Ld:122:VAL:HG23	2.00	0.43
74:Li:76:ARG:HD3	74:Li:76:ARG:HA	1.72	0.43
77:Ll:26:TRP:CD1	77:Ll:26:TRP:H	2.36	0.43
85:CH:102:LYS:HB3	85:CH:104:GLN:HG2	1.99	0.43
3:PE:75:C:O2'	80:Lo:54:PRO:O	2.26	0.43
11:SS:105:ASN:HA	11:SS:108:ARG:HG2	1.98	0.43
20:SB:186:ASN:HA	20:SB:189:ILE:HD12	2.00	0.43
33:SY:103:SER:HB3	33:SY:106:GLN:OE1	2.18	0.43
36:S2:906:U:H2'	36:S2:907:G:C8	2.53	0.43
36:S2:1255:G:OP1	36:S2:1256:G:O2'	2.28	0.43
40:L5:188:G:O2'	40:L5:190:G:OP2	2.24	0.43
40:L5:267:G:H2'	40:L5:268:G:C8	2.53	0.43
40:L5:1979:A:C6	40:L5:1980:U:H5	2.36	0.43
40:L5:3722:G:H2'	40:L5:3723:A:H8	1.83	0.43
40:L5:4347:G:H2'	40:L5:4348:A:C8	2.52	0.43
48:LF:241:ASN:O	48:LF:245:ARG:HG2	2.18	0.43
85:CH:131:LYS:HG2	85:CH:142:GLU:HA	1.99	0.43
2:CB:9:ILE:HG22	2:CB:13:MET:HE2	1.99	0.43
2:CB:400:LYS:HB2	2:CB:413:PHE:HD2	1.82	0.43
6:SK:64:TRP:CD1	16:Sd:23:VAL:HG13	2.54	0.43
11:SS:20:ILE:HG22	11:SS:32:ALA:HB3	1.99	0.43
19:SA:8:LEU:HD23	19:SA:59:LEU:HD13	2.00	0.43
23:SG:87:ARG:HH22	36:S2:162:C:H5''	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LW:96:GLN:HB2	38:LW:101:ARG:HH21	1.83	0.43
40:L5:754:U:H2'	40:L5:755:C:C6	2.53	0.43
40:L5:4238:G:H2'	40:L5:4239:A:H8	1.83	0.43
44:LB:27:GLY:HA2	44:LB:276:HIS:CD2	2.53	0.43
57:LP:107:LEU:HD23	57:LP:107:LEU:H	1.83	0.43
61:LU:100:LEU:HD13	61:LU:112:LEU:HD12	2.00	0.43
64:LY:21:ALA:HB1	64:LY:25:ILE:HG13	2.00	0.43
70:Le:35:TRP:CH2	70:Le:55:MET:HG2	2.52	0.43
84:Lt:37:LEU:HD23	84:Lt:40:LYS:HZ1	1.83	0.43
2:CB:10:ARG:NH1	2:CB:14:ASP:HB3	2.33	0.43
2:CB:71:LYS:HD3	2:CB:114:GLU:OE2	2.19	0.43
2:CB:605:LYS:HD2	2:CB:705:HIS:NE2	2.33	0.43
20:SB:77:ASP:N	20:SB:77:ASP:OD1	2.52	0.43
22:SE:139:LEU:O	22:SE:146:THR:HA	2.19	0.43
36:S2:1328:OMG:HM23	36:S2:1328:OMG:H1'	1.86	0.43
36:S2:1752:C:H42	36:S2:1778:C:H42	1.67	0.43
40:L5:1281:G:C6	47:LE:128:HIS:HB2	2.53	0.43
40:L5:1344:C:H1'	53:LL:10:LEU:HD11	1.99	0.43
40:L5:1577:G:C8	43:LA:181:LYS:HE3	2.53	0.43
40:L5:2693:G:OP2	76:Lk:33:LYS:NZ	2.48	0.43
42:L8:150:C:N4	49:LG:52:THR:O	2.49	0.43
47:LE:186:LEU:HD13	47:LE:212:LEU:HD21	1.99	0.43
57:LP:107:LEU:HD12	57:LP:152:GLU:HG3	2.00	0.43
65:LZ:9:LYS:HD2	65:LZ:83:THR:O	2.18	0.43
65:LZ:123:LYS:O	65:LZ:124:THR:OG1	2.27	0.43
84:Lt:16:ARG:HD3	84:Lt:18:THR:HG22	2.00	0.43
84:Lt:48:LYS:HZ2	84:Lt:52:ASP:HA	1.83	0.43
3:PE:76:A:H62	40:L5:4371:G:H5'	1.84	0.43
4:SD:167:TYR:HD1	4:SD:200:PRO:HG2	1.84	0.43
11:SS:68:ILE:HA	11:SS:71:MET:HE3	2.00	0.43
17:Sf:116:ARG:HG2	17:Sf:131:PHE:HE2	1.84	0.43
25:SI:72:CYS:HG	25:SI:112:TRP:CG	2.36	0.43
31:SW:115:GLU:HA	31:SW:118:ARG:HB2	2.00	0.43
36:S2:512:A:H4'	36:S2:576:A2M:H2	2.01	0.43
36:S2:896:U:C2	36:S2:897:U:H5	2.37	0.43
36:S2:1748:G:O6	36:S2:1786:U:O4	2.36	0.43
39:CI:66:GLY:HA3	69:Ld:70:LYS:NZ	2.34	0.43
40:L5:1998:A:O2'	40:L5:1999:A:H5'	2.19	0.43
40:L5:4981:G:O6	44:LB:21:ARG:NH2	2.51	0.43
45:LC:41:HIS:NE2	45:LC:45:ARG:HD2	2.33	0.43
45:LC:334:THR:HG21	48:LF:51:TYR:OH	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LE:45:SER:C	47:LE:47:ASN:H	2.26	0.43
47:LE:201:ILE:HG13	47:LE:203:ILE:HG23	1.99	0.43
56:LO:126:VAL:HG13	56:LO:127:VAL:HG13	2.00	0.43
1:AP:2:U:H2'	1:AP:3:C:C6	2.53	0.43
2:CB:400:LYS:HD2	2:CB:532:PRO:HG3	2.00	0.43
2:CB:852:ASP:OD1	2:CB:853:ASN:N	2.52	0.43
8:SP:29:SER:H	8:SP:32:GLN:NE2	2.17	0.43
25:SI:12:ARG:NH1	36:S2:103:A:H5'	2.34	0.43
29:SO:138:ASP:HB3	36:S2:984:C:O2'	2.18	0.43
29:SO:145:GLY:O	34:Sa:22:ARG:NH2	2.51	0.43
35:Sb:19:HIS:CD2	35:Sb:21:LYS:H	2.35	0.43
36:S2:189:U:H1'	36:S2:211:G:N2	2.33	0.43
36:S2:490:C:O2'	36:S2:574:A:N1	2.50	0.43
36:S2:845:G:H2'	36:S2:846:G:C8	2.54	0.43
36:S2:906:U:H2'	36:S2:907:G:H8	1.84	0.43
36:S2:1098:C:H2'	36:S2:1099:G:C8	2.54	0.43
40:L5:1186:U:H2'	40:L5:1187:G:N3	2.34	0.43
40:L5:1914:C:H4'	56:LO:89:PRO:HD3	2.01	0.43
40:L5:2777:G:H5''	40:L5:2778:G:H5'	2.01	0.43
40:L5:4342:C:O3'	80:Lo:37:GLY:HA3	2.18	0.43
40:L5:4913:G:H4'	40:L5:4914:C:O5'	2.17	0.43
50:LH:51:LYS:HG3	50:LH:52:LYS:N	2.33	0.43
51:LI:207:ASP:HA	51:LI:210:ARG:HG2	2.00	0.43
73:Lh:52:LYS:HA	73:Lh:52:LYS:HD3	1.74	0.43
2:CB:109:VAL:HG11	40:L5:4605:A:O2'	2.18	0.43
7:SM:26:LEU:HD23	7:SM:31:LEU:HD21	2.01	0.43
20:SB:127:VAL:HG23	20:SB:177:GLN:HG3	1.99	0.43
27:SL:111:VAL:HG12	27:SL:140:PHE:HB2	2.00	0.43
36:S2:115:U:H2'	36:S2:116:OMU:H6	2.00	0.43
36:S2:1491:G:H2'	36:S2:1492:U:C6	2.54	0.43
36:S2:1824:A:O2'	36:S2:1825:A:O4'	2.30	0.43
40:L5:262:G:H2'	40:L5:263:G:C8	2.53	0.43
40:L5:400:A2M:HM'3	40:L5:400:A2M:H1'	1.60	0.43
40:L5:1806:G:H2'	40:L5:1807:C:H6	1.84	0.43
40:L5:4699:U:H1'	40:L5:4700:A:H5''	1.99	0.43
43:LA:108:PRO:HG3	81:Lp:90:LYS:HD2	2.01	0.43
44:LB:128:LYS:HD2	44:LB:128:LYS:HA	1.83	0.43
45:LC:315:LYS:HD2	48:LF:168:ALA:HB1	2.01	0.43
49:LG:120:LYS:HA	49:LG:120:LYS:HD3	1.81	0.43
51:LI:183:ASP:O	51:LI:187:LYS:HG2	2.19	0.43
1:AP:3:C:H42	1:AP:70:A:N6	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:SU:40:ILE:HG12	13:SU:50:VAL:HG11	2.01	0.43
14:SZ:57:LYS:HA	14:SZ:60:LYS:HG2	1.99	0.43
14:SZ:99:LEU:HD21	14:SZ:102:LYS:HB2	1.99	0.43
18:Sg:11:LEU:HB2	18:Sg:307:VAL:HG23	2.00	0.43
25:SI:206:LYS:HD2	25:SI:206:LYS:HA	1.80	0.43
34:Sa:13:LYS:HD3	34:Sa:13:LYS:HA	1.72	0.43
40:L5:4594:U:H2'	40:L5:4595:G:C8	2.50	0.43
40:L5:4910:G:H1	56:LO:108:ILE:H	1.67	0.43
51:LI:43:VAL:HG21	51:LI:197:VAL:HG13	2.00	0.43
57:LP:116:HIS:HB3	57:LP:149:ILE:HB	2.00	0.43
4:SD:196:GLY:HA3	4:SD:201:LYS:HE3	2.01	0.43
8:SP:44:ARG:HH21	8:SP:53:GLN:NE2	2.16	0.43
9:SQ:90:LYS:HA	9:SQ:93:VAL:HG22	2.01	0.43
11:SS:121:ARG:HG3	11:SS:131:VAL:HB	2.01	0.43
13:SU:56:MET:HB2	13:SU:86:LYS:HB3	2.00	0.43
18:Sg:133:ASN:HB3	18:Sg:139:LYS:HE2	2.00	0.43
22:SE:137:PRO:HG2	22:SE:149:TYR:HA	2.01	0.43
25:SI:65:PHE:CD2	25:SI:104:ILE:HD13	2.53	0.43
36:S2:27:A2M:H1'	36:S2:27:A2M:HM'3	1.57	0.43
36:S2:27:A2M:H2'	36:S2:28:U:O4'	2.19	0.43
36:S2:29:G:H2'	36:S2:30:C:H6	1.83	0.43
36:S2:1550:G:O2'	36:S2:1558:C:O2	2.33	0.43
36:S2:1850:MA6:H8	36:S2:1850:MA6:O5'	2.19	0.43
40:L5:1084:C:H2'	40:L5:1085:C:C6	2.53	0.43
40:L5:1444:G:H22	40:L5:2104:G:H21	1.67	0.43
40:L5:2495:U:H2'	40:L5:2496:G:H8	1.84	0.43
40:L5:4881:U:C4	54:LM:113:MET:HG3	2.54	0.43
40:L5:5024:C:C5	40:L5:5025:C:H1'	2.54	0.43
44:LB:117:ARG:HG2	44:LB:180:LEU:HD12	2.00	0.43
45:LC:318:PRO:C	45:LC:320:LYS:H	2.26	0.43
57:LP:112:LEU:HD23	57:LP:150:LEU:HD12	2.01	0.43
63:LX:80:PRO:HG2	63:LX:155:ILE:HG21	2.01	0.43
84:Lt:149:HIS:HA	84:Lt:152:ILE:HG12	2.01	0.43
1:AP:7:G:O2'	1:AP:49:C:O4'	2.34	0.43
1:AP:43:A:H2'	1:AP:44:A:C8	2.54	0.43
8:SP:30:TYR:O	8:SP:34:MET:HG2	2.19	0.43
18:Sg:133:ASN:HD21	18:Sg:135:LEU:HB2	1.83	0.43
23:SG:201:LYS:NZ	36:S2:124:U:OP1	2.52	0.43
36:S2:573:U:O2	36:S2:576:A2M:H8	2.19	0.43
36:S2:644:OMG:HM23	36:S2:644:OMG:H1'	1.89	0.43
36:S2:962:A:N1	36:S2:1055:A:O2'	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:LW:104:GLN:O	38:LW:107:GLN:HG3	2.19	0.43
40:L5:1251:C:H2'	40:L5:1252:C:C6	2.54	0.43
40:L5:2664:G:H4'	40:L5:2677:G:H4'	2.00	0.43
54:LM:96:GLU:O	54:LM:100:ARG:HG2	2.19	0.43
56:LO:58:LEU:HD23	56:LO:58:LEU:HA	1.85	0.43
84:Lt:114:ARG:CZ	84:Lt:117:ARG:HD2	2.49	0.43
3:PE:38:A:O2'	36:S2:1058:A:OP1	2.28	0.42
23:SG:198:ARG:O	23:SG:201:LYS:HG3	2.19	0.42
26:SJ:136:ARG:NH1	26:SJ:139:LYS:HA	2.34	0.42
36:S2:1279:C:H2'	36:S2:1280:G:H8	1.84	0.42
40:L5:170:C:H42	40:L5:266:C:N4	2.17	0.42
40:L5:947:C:OP1	45:LC:336:ARG:NH1	2.50	0.42
40:L5:2569:G:H2'	40:L5:2570:U:C6	2.54	0.42
40:L5:3830:A2M:HM'3	40:L5:3830:A2M:H1'	1.81	0.42
40:L5:3893:C:H2'	40:L5:3894:A:C8	2.54	0.42
40:L5:5053:U:H5'	40:L5:5054:C:C5	2.54	0.42
41:L7:49:A:N6	46:LD:57:ASN:O	2.52	0.42
47:LE:128:HIS:ND1	47:LE:128:HIS:O	2.52	0.42
57:LP:122:ALA:HB3	57:LP:143:PRO:HG2	2.00	0.42
61:LU:65:ARG:HG3	61:LU:70:ILE:HG13	2.00	0.42
81:Lp:85:ARG:O	81:Lp:88:GLU:HG2	2.19	0.42
2:CB:160:MET:HE1	2:CB:214:PHE:HB3	2.01	0.42
2:CB:748:GLU:HB3	2:CB:811:GLN:HG3	2.01	0.42
4:SD:62:LYS:HE3	4:SD:62:LYS:HB3	1.89	0.42
13:SU:51:LYS:HD3	13:SU:51:LYS:HA	1.74	0.42
19:SA:53:ARG:HD2	30:SV:83:PHE:CZ	2.54	0.42
23:SG:133:LEU:HD21	36:S2:168:C:O2	2.19	0.42
23:SG:136:LYS:HB2	36:S2:65:C:H41	1.84	0.42
36:S2:511:U:H2'	36:S2:512:A:H8	1.83	0.42
36:S2:656:G:H5'	36:S2:662:G:N2	2.34	0.42
36:S2:746:C:O2'	36:S2:798:G:N2	2.41	0.42
36:S2:1286:G:N2	36:S2:1312:G:O2'	2.52	0.42
40:L5:123:C:H2'	40:L5:124:C:H6	1.84	0.42
40:L5:1333:A:H2'	40:L5:1334:A:H8	1.82	0.42
40:L5:1444:G:N2	40:L5:2104:G:H21	2.16	0.42
40:L5:1497:A:N6	58:LQ:175:GLU:O	2.52	0.42
40:L5:1743:A:H5'	46:LD:11:ALA:HB1	2.00	0.42
40:L5:4523:A2M:HM'3	40:L5:4523:A2M:H1'	1.85	0.42
44:LB:161:ARG:HG2	44:LB:184:GLN:HA	2.01	0.42
44:LB:214:ASP:OD2	44:LB:362:LYS:HA	2.19	0.42
45:LC:150:LEU:O	45:LC:152:LEU:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:LO:140:ARG:O	56:LO:144:GLU:HG3	2.19	0.42
58:LQ:19:LYS:HE3	58:LQ:19:LYS:HB3	1.88	0.42
73:Lh:89:ARG:O	73:Lh:93:ARG:HG2	2.19	0.42
83:Ls:13:TYR:O	83:Ls:17:ILE:HG23	2.19	0.42
5:SF:145:ARG:HD3	15:Sc:47:LYS:HG3	2.01	0.42
5:SF:162:ALA:HB3	5:SF:169:ILE:HD13	2.00	0.42
13:SU:61:LEU:HB2	13:SU:82:MET:HB3	2.01	0.42
18:Sg:172:LYS:HE3	18:Sg:193:GLY:HA2	2.00	0.42
21:SC:253:PRO:HA	21:SC:256:TRP:CE2	2.54	0.42
24:SH:50:GLU:OE2	24:SH:58:LYS:HB3	2.20	0.42
36:S2:115:U:H2'	36:S2:116:OMU:C6	2.48	0.42
36:S2:205:G:H2'	36:S2:206:G:C8	2.54	0.42
36:S2:1560:U:H2'	36:S2:1561:A:H8	1.83	0.42
40:L5:31:U:H2'	40:L5:32:G:O4'	2.19	0.42
40:L5:460:C:H2'	40:L5:461:G:H8	1.84	0.42
40:L5:667:A:H5''	40:L5:668:C:H5''	2.01	0.42
40:L5:1503:A:H4'	40:L5:1504:G:H5'	2.00	0.42
40:L5:1514:U:H2'	40:L5:1515:A:C8	2.53	0.42
40:L5:2478:C:H2'	40:L5:2479:G:H5'	2.01	0.42
40:L5:3723:A:H2'	40:L5:3724:A:H8	1.85	0.42
40:L5:4859:C:H2'	40:L5:4860:G:H8	1.85	0.42
44:LB:302:ASN:HB2	44:LB:313:SER:HA	2.02	0.42
46:LD:107:ARG:HD2	46:LD:107:ARG:HA	1.74	0.42
52:LJ:95:ARG:HD2	52:LJ:177:GLY:HA3	2.01	0.42
84:Lt:134:GLY:HA2	84:Lt:137:GLN:CD	2.43	0.42
1:AP:18:G:O6	1:AP:55:U:C2	2.72	0.42
1:AP:24:A:H2'	1:AP:25:C:C6	2.54	0.42
2:CB:310:GLU:HG2	2:CB:311:GLU:N	2.35	0.42
9:SQ:51:LEU:HG	9:SQ:81:ILE:HG23	2.02	0.42
20:SB:137:LEU:HD13	20:SB:215:VAL:HB	2.01	0.42
35:Sb:54:VAL:HG23	35:Sb:63:LEU:HB2	2.00	0.42
36:S2:150:A:N6	36:S2:168:C:C2	2.88	0.42
36:S2:291:G:H2'	36:S2:292:A:C8	2.54	0.42
36:S2:1562:C:H2'	36:S2:1563:G:C8	2.52	0.42
40:L5:270:U:H2'	40:L5:271:C:H6	1.84	0.42
40:L5:1324:A:O2'	40:L5:1326:A2M:OP1	2.30	0.42
40:L5:1494:U:H2'	40:L5:1495:G:H8	1.84	0.42
40:L5:1683:PSU:H2'	40:L5:1684:A:C8	2.54	0.42
40:L5:2306:G:H1'	40:L5:2332:A:N6	2.34	0.42
40:L5:2676:A:OP2	40:L5:2676:A:H8	2.02	0.42
40:L5:4680:G:H2'	40:L5:4681:A:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:LA:186:TYR:HB2	43:LA:196:TRP:CZ3	2.54	0.42
43:LA:234:LYS:HG3	43:LA:234:LYS:O	2.19	0.42
47:LE:209:PRO:HB2	47:LE:212:LEU:HD13	2.02	0.42
64:LY:82:ILE:HD12	64:LY:85:VAL:HG21	2.01	0.42
83:Ls:121:VAL:HG23	83:Ls:160:LEU:HD22	2.01	0.42
2:CB:160:MET:HE2	2:CB:178:PHE:CZ	2.55	0.42
4:SD:8:LYS:HG2	13:SU:61:LEU:HD11	2.02	0.42
14:SZ:80:ARG:HD3	14:SZ:80:ARG:HA	1.75	0.42
20:SB:167:LYS:O	20:SB:170:GLU:HG3	2.20	0.42
20:SB:226:GLY:HA2	40:L5:4101:C:OP1	2.19	0.42
23:SG:234:LEU:HD21	36:S2:787:G:H3'	2.01	0.42
24:SH:165:ASN:HA	24:SH:168:HIS:HE2	1.84	0.42
28:SN:54:LEU:HD12	28:SN:60:VAL:HG21	2.00	0.42
31:SW:115:GLU:HB3	31:SW:118:ARG:NH2	2.35	0.42
36:S2:1376:A:H2'	36:S2:1377:U:O4'	2.20	0.42
40:L5:162:A:H2'	40:L5:163:A:C8	2.54	0.42
40:L5:1633:G:H5'	40:L5:1634:A:OP1	2.19	0.42
40:L5:1806:G:H2'	40:L5:1807:C:C6	2.55	0.42
40:L5:2079:G:H2'	40:L5:2080:U:C6	2.55	0.42
40:L5:2297:G:H4'	45:LC:242:PRO:HB2	2.00	0.42
40:L5:2372:U:H2'	40:L5:2373:C:C6	2.55	0.42
40:L5:3707:U:H2'	40:L5:3708:C:C6	2.54	0.42
52:LJ:78:LYS:HE3	52:LJ:82:ILE:HD11	2.02	0.42
52:LJ:165:TRP:CZ2	52:LJ:169:LYS:HD3	2.55	0.42
68:Lc:13:SER:HB3	68:Lc:17:ARG:NH1	2.35	0.42
22:SE:72:ILE:HD12	22:SE:90:ILE:HD12	2.02	0.42
25:SI:199:LEU:HD23	25:SI:199:LEU:HA	1.93	0.42
26:SJ:17:ARG:NH1	36:S2:21:U:O2	2.52	0.42
29:SO:74:ALA:HB1	29:SO:115:ALA:HB2	2.00	0.42
35:Sb:34:ASP:O	35:Sb:79:PHE:HA	2.20	0.42
40:L5:907:C:H2'	40:L5:908:G:C8	2.54	0.42
40:L5:2020:U:H2'	40:L5:2021:G:H8	1.84	0.42
40:L5:2021:G:OP1	83:Ls:58:ASN:N	2.40	0.42
40:L5:2284:G:OP1	66:La:7:LYS:NZ	2.47	0.42
40:L5:2375:A:H2'	40:L5:2376:A:C8	2.55	0.42
40:L5:2459:G:N2	40:L5:2462:C:OP2	2.47	0.42
40:L5:4739:C:H2'	40:L5:4740:G:H5'	2.01	0.42
40:L5:5024:C:H41	40:L5:5028:G:H21	1.67	0.42
40:L5:5055:G:N2	69:Ld:118:GLN:OE1	2.51	0.42
69:Ld:36:VAL:HG21	69:Ld:44:ARG:HD3	2.01	0.42
75:Lj:67:LEU:HD23	75:Lj:67:LEU:HA	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SS:99:LEU:HD12	11:SS:99:LEU:O	2.19	0.42
22:SE:159:THR:HB	22:SE:173:ILE:HB	2.01	0.42
27:SL:120:VAL:HG22	27:SL:145:VAL:HG11	2.01	0.42
31:SW:22:LYS:HD3	35:Sb:3:LEU:HA	2.01	0.42
36:S2:323:C:O2'	36:S2:325:C:N4	2.53	0.42
40:L5:1788:A:H2'	51:LI:22:PHE:CZ	2.55	0.42
40:L5:1869:G:C6	89:L5:5286:SPD:H31	2.54	0.42
40:L5:2497:C:H2'	40:L5:2498:C:C6	2.55	0.42
56:LO:189:ILE:HG22	56:LO:193:THR:OG1	2.19	0.42
2:CB:266:PHE:CD2	2:CB:291:GLN:HG2	2.54	0.42
2:CB:651:CYS:SG	2:CB:680:VAL:HG22	2.59	0.42
11:SS:13:LEU:HD22	11:SS:20:ILE:HD11	2.01	0.42
23:SG:133:LEU:HB2	36:S2:65:C:N3	2.35	0.42
23:SG:200:LYS:O	23:SG:204:GLU:HG2	2.20	0.42
24:SH:33:ASN:ND2	24:SH:36:LEU:HB3	2.34	0.42
24:SH:82:GLU:O	24:SH:86:LYS:HG2	2.20	0.42
24:SH:130:LEU:HB2	24:SH:177:TYR:HE2	1.84	0.42
24:SH:163:GLN:O	24:SH:167:GLU:HG2	2.20	0.42
31:SW:37:PHE:CE1	31:SW:41:MET:HE3	2.55	0.42
36:S2:434:G:H2'	36:S2:435:A:C8	2.55	0.42
36:S2:496:C:H2'	36:S2:497:C:C6	2.55	0.42
36:S2:674:C:H2'	36:S2:675:U:C6	2.54	0.42
36:S2:1306:U:H2'	36:S2:1307:U:C6	2.55	0.42
36:S2:1681:U:H2'	36:S2:1682:C:C6	2.55	0.42
36:S2:1839:U:H2'	36:S2:1840:U:C6	2.55	0.42
40:L5:138:G:H2'	40:L5:139:G:H8	1.85	0.42
40:L5:257:C:H2'	40:L5:258:G:C8	2.55	0.42
40:L5:267:G:H2'	40:L5:268:G:H8	1.84	0.42
40:L5:1317:U:H2'	40:L5:1318:C:C6	2.55	0.42
40:L5:1662:C:H2'	40:L5:1663:C:H6	1.85	0.42
40:L5:2459:G:H2'	40:L5:2461:G:OP2	2.19	0.42
40:L5:4113:U:H4'	40:L5:4115:G:C6	2.54	0.42
40:L5:4119:C:H42	72:Lg:100:GLN:CD	2.28	0.42
40:L5:4139:G:H1'	40:L5:4146:G:C6	2.54	0.42
40:L5:4691:A:OP1	50:LH:75:SER:OG	2.37	0.42
44:LB:136:LYS:HA	44:LB:139:ASP:OD1	2.20	0.42
47:LE:133:PHE:O	47:LE:138:ARG:NH2	2.48	0.42
75:Lj:52:LYS:O	75:Lj:55:ARG:HG2	2.19	0.42
84:Lt:114:ARG:HG3	84:Lt:133:LEU:HD11	2.02	0.42
2:CB:628:LEU:HD13	2:CB:631:ARG:HH21	1.85	0.42
4:SD:134:CYS:SG	4:SD:135:GLU:N	2.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SF:49:LEU:HD12	9:SQ:50:LYS:HG2	2.01	0.42
11:SS:106:LYS:HD2	11:SS:106:LYS:HA	1.83	0.42
13:SU:64:THR:HG22	13:SU:77:TRP:CE3	2.55	0.42
14:SZ:99:LEU:HD12	14:SZ:109:TYR:CE1	2.55	0.42
18:Sg:23:THR:HB	18:Sg:31:ILE:HG13	2.01	0.42
24:SH:130:LEU:HB2	24:SH:177:TYR:CE2	2.55	0.42
31:SW:111:MET:HE2	31:SW:119:LYS:HD2	2.01	0.42
36:S2:342:C:H2'	36:S2:343:A:H8	1.85	0.42
36:S2:887:U:H3	36:S2:900:C:H5	1.68	0.42
36:S2:1103:C:H2'	36:S2:1104:G:C8	2.54	0.42
36:S2:1558:C:H2'	36:S2:1559:C:C6	2.55	0.42
36:S2:1829:G:H1'	36:S2:1850:MA6:H2	2.02	0.42
40:L5:654:C:OP1	45:LC:268:ARG:NH2	2.53	0.42
40:L5:716:C:OP1	45:LC:317:ASN:HB2	2.20	0.42
40:L5:964:A:C6	40:L5:966:A:H1'	2.55	0.42
40:L5:1283:G:N1	40:L5:2076:G:OP1	2.41	0.42
40:L5:2631:U:O4	61:LU:51:GLY:N	2.51	0.42
40:L5:4274:A:H2'	40:L5:4275:G:H8	1.81	0.42
40:L5:4345:C:H2'	40:L5:4346:U:C6	2.55	0.42
40:L5:4622:A:H4'	44:LB:13:SER:HB2	2.01	0.42
44:LB:238:LYS:HE2	44:LB:238:LYS:HB2	1.86	0.42
44:LB:337:VAL:HG11	44:LB:345:LEU:HD13	2.01	0.42
46:LD:33:ARG:O	46:LD:37:VAL:HG22	2.20	0.42
53:LL:182:LEU:HA	74:Li:7:MET:HE1	2.01	0.42
56:LO:62:MET:HG2	56:LO:65:ASN:H	1.85	0.42
56:LO:124:LEU:HD23	56:LO:124:LEU:HA	1.88	0.42
63:LX:65:ALA:HB2	73:Lh:69:LEU:HD11	2.02	0.42
82:Lr:38:PHE:O	82:Lr:45:HIS:NE2	2.42	0.42
2:CB:644:ALA:O	2:CB:648:LYS:HG3	2.19	0.42
2:CB:835:VAL:O	2:CB:839:ARG:HG2	2.19	0.42
5:SF:84:GLY:O	36:S2:1673:U:O2'	2.35	0.42
6:SK:3:MET:HE1	6:SK:48:ALA:HB2	2.01	0.42
12:ST:114:GLU:HB3	12:ST:124:THR:HG22	2.02	0.42
18:Sg:164:ILE:HD12	18:Sg:178:ASN:HA	2.01	0.42
18:Sg:207:CYS:SG	18:Sg:219:TRP:HB2	2.60	0.42
19:SA:137:ALA:HB1	19:SA:142:LEU:HB3	2.01	0.42
21:SC:121:ARG:NH1	21:SC:123:ARG:HD3	2.35	0.42
22:SE:181:CYS:HA	22:SE:227:VAL:HA	2.02	0.42
25:SI:45:THR:HG23	25:SI:53:LYS:HG3	2.02	0.42
36:S2:15:U:H2'	36:S2:16:G:O4'	2.20	0.42
36:S2:52:G:H2'	36:S2:53:C:H6	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:S2:980:A:H2'	36:S2:981:A:C8	2.54	0.42
36:S2:1279:C:H2'	36:S2:1280:G:C8	2.54	0.42
36:S2:1781:A:H5''	36:S2:1783:C:N4	2.35	0.42
40:L5:481:G:H2'	40:L5:482:G:C8	2.55	0.42
40:L5:1962:A:H2	40:L5:2024:G:H21	1.67	0.42
40:L5:2029:A:H2'	40:L5:2030:A:C8	2.54	0.42
40:L5:2448:G:H2'	40:L5:2449:A:C8	2.55	0.42
40:L5:3685:C:H5'	43:LA:193:ARG:CZ	2.50	0.42
40:L5:4585:U:H2'	40:L5:4586:G:C8	2.55	0.42
40:L5:4761:G:P	56:LO:37:ARG:HH22	2.43	0.42
54:LM:33:GLN:O	54:LM:33:GLN:HG2	2.19	0.42
84:Lt:79:ALA:HA	84:Lt:82:ILE:HG12	2.01	0.42
2:CB:13:MET:SD	2:CB:465:PRO:HD2	2.60	0.41
5:SF:101:HIS:HB2	5:SF:108:PRO:HG3	2.02	0.41
18:Sg:24:THR:HG22	18:Sg:26:GLN:N	2.33	0.41
22:SE:240:ARG:NE	22:SE:241:GLY:H	2.18	0.41
22:SE:254:LYS:HE3	22:SE:254:LYS:HB3	1.88	0.41
36:S2:509:OMG:H2'	36:S2:510:G:H8	1.85	0.41
36:S2:1457:U:H2'	36:S2:1458:G:C8	2.55	0.41
40:L5:163:A:H2'	40:L5:164:G:H8	1.85	0.41
40:L5:1204:C:H2'	40:L5:1205:G:H8	1.85	0.41
40:L5:1248:C:H2'	40:L5:1249:C:H6	1.85	0.41
40:L5:3709:U:H2'	40:L5:3710:G:O4'	2.19	0.41
40:L5:3946:G:H2'	40:L5:3947:A:H8	1.85	0.41
42:L8:36:G:C5	73:Lh:89:ARG:HD3	2.55	0.41
46:LD:41:LYS:HD2	60:LT:93:ILE:HD13	2.01	0.41
46:LD:118:ILE:H	46:LD:118:ILE:HD12	1.85	0.41
47:LE:224:LYS:HD3	47:LE:227:HIS:ND1	2.35	0.41
51:LI:146:GLU:HG2	51:LI:147:HIS:N	2.35	0.41
2:CB:62:ASP:HA	2:CB:65:GLU:HB3	2.02	0.41
2:CB:331:GLU:HA	2:CB:335:LEU:HB2	2.02	0.41
2:CB:858:LEU:HD12	2:CB:858:LEU:HA	1.94	0.41
3:PE:61:C:H2'	3:PE:62:C:H6	1.84	0.41
4:SD:106:ARG:HG3	4:SD:175:VAL:HG22	2.01	0.41
5:SF:134:VAL:HG11	5:SF:199:VAL:HB	2.02	0.41
24:SH:43:LEU:HD12	24:SH:72:PHE:CD2	2.55	0.41
25:SI:174:CYS:HB2	25:SI:190:LEU:HD21	2.01	0.41
26:SJ:179:LYS:HA	26:SJ:182:GLN:HG3	2.02	0.41
28:SN:60:VAL:HG13	28:SN:66:VAL:HG21	2.02	0.41
28:SN:87:ASP:OD1	28:SN:87:ASP:N	2.50	0.41
36:S2:93:PSU:H2'	36:S2:94:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:S2:160:U:O2'	36:S2:161:U:H3'	2.20	0.41
36:S2:1365:G:H2'	36:S2:1366:G:H8	1.85	0.41
36:S2:1438:A:H2'	36:S2:1439:A:H8	1.85	0.41
36:S2:1813:A:C3'	36:S2:1814:G:H5'	2.51	0.41
43:LA:171:GLY:O	81:Lp:68:ALA:HB2	2.21	0.41
45:LC:283:LYS:HB3	45:LC:283:LYS:HE2	1.83	0.41
52:LJ:94:LEU:O	52:LJ:174:ILE:HA	2.20	0.41
59:LS:16:CYS:SG	59:LS:54:MET:HG2	2.60	0.41
67:Lb:105:GLY:O	67:Lb:109:ARG:HG2	2.20	0.41
84:Lt:48:LYS:HA	84:Lt:48:LYS:HD2	1.75	0.41
2:CB:533:MET:HE3	2:CB:533:MET:HB3	1.85	0.41
2:CB:745:TYR:HE2	2:CB:812:CYS:HB2	1.84	0.41
11:SS:62:ASP:O	11:SS:65:GLU:HG3	2.19	0.41
12:ST:84:ARG:NH2	36:S2:1605:G:OP1	2.53	0.41
25:SI:129:LEU:HD12	25:SI:129:LEU:HA	1.92	0.41
26:SJ:162:ARG:HH22	36:S2:583:A:P	2.43	0.41
28:SN:39:LYS:O	28:SN:42:LYS:HG3	2.21	0.41
30:SV:11:LEU:HD12	30:SV:12:TYR:HD1	1.85	0.41
32:SX:67:ARG:HG3	32:SX:115:ILE:HG12	2.02	0.41
34:Sa:10:ARG:HH12	36:S2:1859:A:P	2.43	0.41
36:S2:116:OMU:H1'	36:S2:116:OMU:HM23	1.83	0.41
36:S2:1320:G:H2'	36:S2:1321:G:O4'	2.20	0.41
36:S2:1382:A:H2'	36:S2:1383:A2M:H8	2.02	0.41
36:S2:1597:C:H4'	36:S2:1603:G:O6	2.20	0.41
40:L5:108:A:N1	40:L5:333:U:O2'	2.52	0.41
40:L5:724:C:H1'	45:LC:343:GLN:HG2	2.03	0.41
40:L5:1195:G:H2'	40:L5:1196:G:C8	2.55	0.41
40:L5:1578:U:H2'	40:L5:1579:C:C6	2.55	0.41
40:L5:1693:U:H2'	40:L5:1694:C:O4'	2.20	0.41
40:L5:1811:G:H2'	40:L5:1812:C:C6	2.56	0.41
40:L5:2060:G:N2	59:LS:115:ALA:HB2	2.36	0.41
40:L5:4776:G:O6	40:L5:4859:C:N4	2.53	0.41
40:L5:5057:C:H2'	40:L5:5058:A:C8	2.56	0.41
46:LD:120:GLU:O	46:LD:248:ARG:NH1	2.53	0.41
51:LI:54:SER:HB3	51:LI:135:ILE:HD11	2.02	0.41
56:LO:12:ARG:HD3	56:LO:37:ARG:NH2	2.34	0.41
69:Ld:37:GLY:O	69:Ld:41:ARG:HG3	2.19	0.41
19:SA:51:LEU:HD23	19:SA:51:LEU:HA	1.88	0.41
22:SE:141:THR:HG23	22:SE:143:ASP:H	1.84	0.41
24:SH:138:GLU:HG2	24:SH:159:ASP:OD1	2.21	0.41
30:SV:43:THR:HG23	30:SV:45:ARG:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:SW:57:ARG:HD2	36:S2:919:A:H4'	2.03	0.41
36:S2:99:A2M:H8	36:S2:99:A2M:O5'	2.20	0.41
36:S2:550:C:H5'	85:CH:19:ALA:HB3	2.01	0.41
36:S2:656:G:N2	36:S2:663:C:H5''	2.35	0.41
36:S2:675:U:H2'	36:S2:676:C:H6	1.85	0.41
36:S2:1365:G:H2'	36:S2:1366:G:C8	2.55	0.41
36:S2:1568:C:H2'	36:S2:1569:A:C8	2.55	0.41
36:S2:1672:U:H2'	36:S2:1673:U:C6	2.55	0.41
40:L5:1489:G:C5'	66:La:131:ARG:HH12	2.33	0.41
40:L5:4098:A:H2'	40:L5:4099:G:H4'	2.02	0.41
44:LB:39:LYS:HA	44:LB:39:LYS:HD2	1.89	0.41
48:LF:182:TYR:HB3	48:LF:200:ARG:HG3	2.03	0.41
56:LO:28:LEU:HD23	56:LO:28:LEU:HA	1.94	0.41
81:Lp:46:LYS:HD2	81:Lp:46:LYS:HA	1.89	0.41
2:CB:311:GLU:HG2	2:CB:314:LYS:HE2	2.02	0.41
2:CB:521:VAL:O	2:CB:525:LYS:HG2	2.21	0.41
2:CB:742:GLU:HA	2:CB:743:PRO:HD3	1.86	0.41
10:SR:7:LYS:HB2	10:SR:7:LYS:HE3	1.77	0.41
10:SR:83:ASN:HB3	10:SR:84:TYR:H	1.67	0.41
19:SA:22:GLY:C	19:SA:24:HIS:H	2.28	0.41
19:SA:57:LYS:HD2	19:SA:57:LYS:HA	1.87	0.41
21:SC:168:GLY:N	21:SC:179:THR:O	2.34	0.41
22:SE:256:LEU:HD13	22:SE:259:LYS:HD3	2.02	0.41
24:SH:36:LEU:HD21	24:SH:79:LEU:HB3	2.03	0.41
36:S2:1709:G:HO2'	40:L5:3763:A:H61	1.68	0.41
37:LR:183:GLU:O	37:LR:186:LYS:HG3	2.21	0.41
40:L5:123:C:H2'	40:L5:124:C:C6	2.54	0.41
40:L5:1356:U:H2'	40:L5:1357:C:C6	2.56	0.41
40:L5:1697:G:H2'	40:L5:1698:C:C6	2.55	0.41
40:L5:1794:A:H5''	40:L5:4214:A:N6	2.35	0.41
40:L5:2110:C:N4	40:L5:2111:G:O6	2.53	0.41
40:L5:4625:C:O2'	40:L5:4626:A:H5'	2.20	0.41
40:L5:5002:U:H2'	40:L5:5003:U:H6	1.85	0.41
44:LB:10:ARG:NH2	44:LB:265:SER:O	2.46	0.41
61:LU:23:LEU:HD13	61:LU:110:TYR:HB2	2.02	0.41
61:LU:107:LYS:O	61:LU:108:GLU:HG3	2.21	0.41
71:Lf:46:ARG:HH21	71:Lf:89:ARG:NH2	2.18	0.41
77:Ll:25:GLN:OE1	77:Ll:28:ARG:NH1	2.53	0.41
2:CB:27:HIS:CG	2:CB:28:VAL:N	2.89	0.41
2:CB:800:LEU:HD23	2:CB:810:PRO:HG3	2.02	0.41
5:SF:91:ARG:HD2	14:SZ:103:HIS:CE1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SF:134:VAL:N	5:SF:203:ASN:HD21	2.18	0.41
9:SQ:39:LEU:HD21	9:SQ:51:LEU:HB3	2.03	0.41
12:ST:104:LEU:HB3	12:ST:121:ARG:HD2	2.03	0.41
23:SG:3:LEU:HB3	23:SG:5:ILE:HD11	2.02	0.41
23:SG:137:ARG:O	23:SG:141:ILE:HD12	2.20	0.41
26:SJ:120:ALA:HB2	26:SJ:129:LEU:HD12	2.03	0.41
36:S2:441:C:H2'	36:S2:442:C:C6	2.55	0.41
36:S2:600:G:H2'	36:S2:601:OMG:H8	1.86	0.41
40:L5:264:C:H2'	40:L5:265:C:C5	2.55	0.41
40:L5:469:C:N4	47:LE:101:ASN:OD1	2.53	0.41
40:L5:679:C:H2'	40:L5:680:G:H8	1.84	0.41
40:L5:755:C:H2'	40:L5:756:G:H8	1.85	0.41
40:L5:1327:C:H2'	40:L5:1328:G:C8	2.56	0.41
40:L5:1541:C:H5''	43:LA:21:LYS:HG2	2.02	0.41
40:L5:1794:A:H5''	40:L5:4214:A:H61	1.85	0.41
40:L5:1824:G:H2'	40:L5:1825:A:C8	2.55	0.41
40:L5:1857:C:H2'	40:L5:1858:A:C8	2.54	0.41
40:L5:2293:U:H2'	40:L5:2294:G:C8	2.56	0.41
40:L5:2422:OMC:HM23	40:L5:2422:OMC:H1'	1.84	0.41
40:L5:4507:A:H2'	40:L5:4508:C:C6	2.55	0.41
40:L5:4638:U:H2'	40:L5:4639:G:N3	2.36	0.41
40:L5:4991:U:H2'	40:L5:4992:G:C8	2.56	0.41
42:L8:40:A:H2'	42:L8:41:A:C8	2.56	0.41
44:LB:112:ASP:O	44:LB:116:ARG:HG3	2.20	0.41
44:LB:291:TYR:CD2	44:LB:327:THR:HG23	2.55	0.41
56:LO:78:ARG:HA	56:LO:78:ARG:HD2	1.90	0.41
2:CB:374:GLU:HG2	2:CB:493:ASN:O	2.20	0.41
5:SF:97:PHE:HA	5:SF:100:ILE:HG12	2.02	0.41
13:SU:67:LYS:HE3	13:SU:76:THR:HG22	2.03	0.41
36:S2:428:OMU:H6	36:S2:428:OMU:H2'	1.90	0.41
36:S2:1407:U:H2'	36:S2:1408:U:C6	2.56	0.41
36:S2:1525:C:H2'	36:S2:1526:G:H8	1.86	0.41
36:S2:1775:U:H2'	36:S2:1776:G:C4	2.55	0.41
40:L5:86:U:H2'	40:L5:87:A:C8	2.56	0.41
40:L5:300:A:H2'	40:L5:301:G:H8	1.85	0.41
40:L5:655:C:P	45:LC:268:ARG:HH12	2.44	0.41
40:L5:705:G:P	70:Le:5:ARG:HH22	2.43	0.41
40:L5:1197:C:H2'	40:L5:1198:G:C8	2.55	0.41
40:L5:1244:G:H2'	40:L5:1245:C:C6	2.54	0.41
40:L5:1978:C:H2'	40:L5:1979:A:C8	2.55	0.41
40:L5:2000:G:O2'	40:L5:2001:G:N7	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L5:4239:A:H2'	40:L5:4240:G:H8	1.86	0.41
43:LA:132:ASN:O	43:LA:169:VAL:HG12	2.20	0.41
45:LC:318:PRO:O	45:LC:319:LEU:HB2	2.21	0.41
48:LF:92:VAL:O	48:LF:120:GLY:HA2	2.20	0.41
53:LL:142:GLU:HG3	53:LL:146:LEU:HD12	2.03	0.41
58:LQ:172:ARG:HA	58:LQ:176:ARG:HD2	2.02	0.41
64:LY:56:GLN:HB3	64:LY:67:ILE:HD13	2.03	0.41
65:LZ:28:ASN:HB2	65:LZ:77:TYR:OH	2.20	0.41
76:Lk:54:GLU:O	76:Lk:58:GLN:HG2	2.20	0.41
3:PE:13:C:H2'	3:PE:14:A:C8	2.56	0.41
5:SF:126:THR:O	5:SF:136:ARG:HB3	2.20	0.41
6:SK:58:VAL:HG21	6:SK:69:TRP:HB3	2.02	0.41
9:SQ:42:ILE:HD13	9:SQ:42:ILE:HA	1.89	0.41
11:SS:123:LEU:HD12	11:SS:127:TRP:CZ2	2.56	0.41
13:SU:64:THR:HG22	13:SU:77:TRP:HE3	1.86	0.41
23:SG:7:PHE:HB2	23:SG:113:ILE:HD13	2.03	0.41
25:SI:23:LYS:HE2	25:SI:23:LYS:HB3	1.79	0.41
29:SO:88:LEU:HD23	29:SO:88:LEU:HA	1.88	0.41
33:SY:120:THR:O	33:SY:124:ASN:HB2	2.21	0.41
40:L5:153:G:H2'	40:L5:154:G:H8	1.85	0.41
40:L5:406:C:O2'	40:L5:407:A:OP1	2.37	0.41
40:L5:965:G:N2	40:L5:2092:G:H1'	2.36	0.41
40:L5:1199:G:H2'	40:L5:1200:G:H8	1.85	0.41
40:L5:1269:G:O2'	40:L5:1440:U:O2'	2.20	0.41
40:L5:2409:U:H5	40:L5:2783:A:N1	2.19	0.41
40:L5:2500:U:H2'	40:L5:2501:C:H6	1.85	0.41
40:L5:3808:OMC:HM23	40:L5:3808:OMC:H1'	1.83	0.41
40:L5:3822:PSU:H3'	40:L5:3823:G:N2	2.36	0.41
40:L5:3867:A2M:H2'	40:L5:3868:G:O4'	2.20	0.41
40:L5:4520:G:H2'	40:L5:4521:PSU:O4'	2.20	0.41
40:L5:4593:C:H2'	40:L5:4594:U:H6	1.86	0.41
40:L5:4771:C:H2'	40:L5:4772:C:C6	2.56	0.41
42:L8:94:G:H21	75:Lj:82:THR:HB	1.85	0.41
46:LD:146:LEU:HB2	46:LD:163:LEU:HD12	2.02	0.41
56:LO:9:LEU:HD23	56:LO:118:MET:HB2	2.03	0.41
67:Lb:50:ASN:O	67:Lb:50:ASN:ND2	2.50	0.41
68:Lc:57:LYS:HB2	68:Lc:57:LYS:HE3	1.84	0.41
80:Lo:96:ASP:OD1	80:Lo:96:ASP:N	2.53	0.41
1:AP:41:G:H2'	1:AP:42:A:C8	2.55	0.41
2:CB:394:LEU:HD11	2:CB:421:VAL:HG23	2.03	0.41
2:CB:600:ASN:HB3	2:CB:709:LEU:HD22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:PE:33:U:OP2	9:SQ:146:ARG:NH1	2.54	0.41
5:SF:47:LYS:NZ	9:SQ:115:TYR:O	2.54	0.41
8:SP:111:MET:HG2	11:SS:117:ILE:HD11	2.03	0.41
10:SR:51:ALA:O	10:SR:55:THR:HG23	2.21	0.41
11:SS:86:ARG:HH22	11:SS:110:ASP:CG	2.29	0.41
12:ST:39:LEU:HD11	12:ST:52:TRP:CE3	2.55	0.41
18:Sg:129:ILE:O	18:Sg:142:VAL:HG22	2.20	0.41
18:Sg:228:TYR:CE2	18:Sg:264:LYS:HD2	2.56	0.41
18:Sg:228:TYR:HD2	18:Sg:230:LEU:HD22	1.86	0.41
22:SE:112:HIS:NE2	22:SE:237:SER:O	2.52	0.41
22:SE:136:ILE:HG23	22:SE:149:TYR:CE1	2.56	0.41
22:SE:246:LEU:HD13	22:SE:250:GLU:HB2	2.01	0.41
23:SG:5:ILE:HD13	23:SG:111:LEU:HB2	2.02	0.41
23:SG:198:ARG:HD2	36:S2:125:C:OP2	2.21	0.41
24:SH:66:VAL:HG22	24:SH:96:ALA:HB1	2.01	0.41
25:SI:66:SER:HA	25:SI:73:THR:HG22	2.02	0.41
33:SY:128:GLY:C	33:SY:131:PRO:HD2	2.46	0.41
36:S2:902:G:O2'	36:S2:903:A:O4'	2.39	0.41
36:S2:1531:A:H2'	36:S2:1532:C:C6	2.56	0.41
40:L5:319:A:H1'	40:L5:3726:A:N3	2.36	0.41
40:L5:466:A:H2'	40:L5:467:U:C6	2.56	0.41
40:L5:1097:C:H2'	40:L5:1098:G:H8	1.86	0.41
40:L5:1346:C:H2'	40:L5:1347:G:H8	1.86	0.41
40:L5:1351:G:O4'	45:LC:119:GLN:NE2	2.53	0.41
40:L5:1523:A:N3	40:L5:4389:C:O2'	2.51	0.41
40:L5:1762:C:H5'	40:L5:1764:G:H22	1.86	0.41
40:L5:1846:G:H2'	40:L5:1847:C:H6	1.85	0.41
40:L5:2519:U:H1'	40:L5:2520:C:C6	2.56	0.41
40:L5:2559:G:H2'	40:L5:2560:C:O4'	2.21	0.41
40:L5:2811:G:N1	40:L5:2814:C:OP2	2.47	0.41
40:L5:4085:A:C5	49:LG:56:LYS:HD3	2.55	0.41
40:L5:4303:C:O2'	40:L5:4304:A:H2'	2.21	0.41
40:L5:4305:G:C6	60:LT:80:VAL:HG21	2.55	0.41
40:L5:4353:PSU:H5'	40:L5:4354:U:H5'	2.02	0.41
40:L5:4740:G:O6	40:L5:4959:U:O2	2.39	0.41
40:L5:4919:G:H2'	40:L5:4920:C:C6	2.56	0.41
42:L8:102:G:H5''	75:Lj:39:TYR:HE1	1.84	0.41
46:LD:41:LYS:HB2	60:LT:68:THR:O	2.21	0.41
46:LD:179:ARG:HD3	46:LD:179:ARG:HA	1.84	0.41
46:LD:215:ASP:HB3	46:LD:218:ALA:HB3	2.02	0.41
47:LE:165:LEU:HD11	47:LE:176:THR:HG22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:LF:124:LYS:HG3	48:LF:197:VAL:HG11	2.02	0.41
49:LG:123:ALA:HA	49:LG:124:GLY:HA2	1.86	0.41
50:LH:59:LYS:HE2	50:LH:66:GLU:HG3	2.03	0.41
51:LI:38:ARG:HD3	51:LI:83:ASP:HB3	2.03	0.41
55:LN:6:TYR:CZ	74:Li:40:VAL:HG22	2.55	0.41
66:La:7:LYS:HB3	66:La:7:LYS:HE2	1.83	0.41
68:Lc:48:LEU:HD13	68:Lc:71:VAL:HG13	2.03	0.41
79:Ln:1:MET:HE2	79:Ln:5:TRP:CZ2	2.55	0.41
80:Lo:69:ARG:NH2	80:Lo:80:LYS:HD3	2.36	0.41
82:Lr:54:ALA:HA	82:Lr:61:VAL:HG23	2.02	0.41
83:Ls:58:ASN:HD21	83:Ls:82:ILE:C	2.29	0.41
85:CH:132:LEU:HA	85:CH:137:ILE:HG23	2.01	0.41
1:AP:64:G:H4'	51:LI:27:PRO:HA	2.02	0.41
2:CB:44:GLY:HA2	2:CB:77:LEU:HD22	2.03	0.41
3:PE:42:G:H2'	3:PE:43:A:H8	1.86	0.41
21:SC:145:LYS:H	21:SC:145:LYS:HG2	1.65	0.41
22:SE:87:MET:HE3	22:SE:87:MET:HB2	1.89	0.41
25:SI:3:ILE:O	25:SI:30:GLY:N	2.43	0.41
27:SL:8:ARG:HH21	36:S2:390:C:H4'	1.86	0.41
27:SL:33:LEU:HD12	27:SL:34:PRO:HD2	2.02	0.41
32:SX:105:PHE:HE2	32:SX:112:VAL:HB	1.86	0.41
36:S2:943:U:C2	36:S2:944:A:C8	3.09	0.41
40:L5:358:C:H5	45:LC:61:GLN:HE22	1.69	0.41
40:L5:1213:G:H5''	40:L5:1214:C:H5'	2.03	0.41
40:L5:1304:C:H2'	40:L5:1305:C:C6	2.56	0.41
40:L5:2421:G:OP2	40:L5:2828:U:H1'	2.21	0.41
40:L5:3920:PSU:H2'	40:L5:3921:U:C6	2.56	0.41
40:L5:4927:G:H5''	40:L5:4928:C:C5	2.49	0.41
42:L8:47:C:H1'	42:L8:61:A:H2'	2.02	0.41
48:LF:125:LEU:HD23	48:LF:125:LEU:HA	1.95	0.41
51:LI:91:LEU:HD23	51:LI:91:LEU:HA	1.94	0.41
65:LZ:14:LEU:O	72:Lg:88:ARG:HG2	2.20	0.41
2:CB:117:ALA:HA	2:CB:497:MET:HE2	2.02	0.40
5:SF:51:HIS:NE2	36:S2:1674:G:OP1	2.45	0.40
11:SS:105:ASN:OD1	11:SS:106:LYS:N	2.53	0.40
12:ST:12:GLN:NE2	36:S2:1593:C:O2	2.51	0.40
18:Sg:5:MET:SD	18:Sg:312:VAL:HG22	2.61	0.40
18:Sg:184:LEU:HD21	18:Sg:187:ASN:ND2	2.36	0.40
20:SB:217:MET:HE2	20:SB:220:LYS:HG2	2.04	0.40
22:SE:192:ILE:HD12	22:SE:228:ILE:HD11	2.02	0.40
28:SN:110:ASP:O	28:SN:114:ARG:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:S2:57:U:OP1	36:S2:504:G:O2'	2.39	0.40
36:S2:99:A2M:HM'3	36:S2:99:A2M:H1'	1.75	0.40
36:S2:203:G:H3'	36:S2:204:G:C8	2.56	0.40
36:S2:1310:U:H2'	36:S2:1311:C:C6	2.56	0.40
40:L5:457:G:H2'	40:L5:458:C:C6	2.56	0.40
40:L5:473:C:H2'	40:L5:474:C:C6	2.56	0.40
40:L5:1197:C:H2'	40:L5:1198:G:H8	1.86	0.40
40:L5:2844:A:O2'	40:L5:4631:G:H4'	2.21	0.40
40:L5:4918:C:H2'	40:L5:4919:G:C8	2.56	0.40
48:LF:222:LYS:HB3	48:LF:231:GLY:HA2	2.02	0.40
69:Ld:68:LEU:HA	69:Ld:108:TYR:HB2	2.03	0.40
2:CB:50:ARG:HB3	2:CB:55:ARG:NH1	2.35	0.40
2:CB:256:MET:O	2:CB:260:LEU:HB2	2.21	0.40
4:SD:190:LEU:HB3	4:SD:200:PRO:HD3	2.02	0.40
12:ST:127:GLY:O	12:ST:131:LEU:HD23	2.20	0.40
17:Sf:119:ARG:HB3	17:Sf:132:MET:HB2	2.03	0.40
18:Sg:235:ILE:H	18:Sg:235:ILE:HD12	1.85	0.40
19:SA:88:LEU:HD23	19:SA:88:LEU:HA	1.91	0.40
22:SE:149:TYR:HB3	23:SG:209:TYR:HB2	2.04	0.40
24:SH:159:ASP:C	24:SH:161:ALA:H	2.27	0.40
25:SI:65:PHE:HA	25:SI:187:GLY:O	2.21	0.40
28:SN:45:LEU:HD23	28:SN:45:LEU:HA	1.88	0.40
29:SO:66:ARG:HE	36:S2:962:A:H4'	1.86	0.40
36:S2:52:G:H2'	36:S2:53:C:C6	2.57	0.40
36:S2:1019:C:H2'	36:S2:1020:A:O4'	2.21	0.40
36:S2:1088:U:H4'	36:S2:1089:G:OP2	2.22	0.40
36:S2:1103:C:H2'	36:S2:1104:G:H8	1.86	0.40
36:S2:1523:C:H2'	36:S2:1524:G:H8	1.87	0.40
40:L5:302:C:H2'	40:L5:303:C:H6	1.87	0.40
40:L5:1588:U:H2'	40:L5:1589:C:C6	2.56	0.40
40:L5:1749:A:H2'	40:L5:1750:G:C8	2.57	0.40
40:L5:2474:G:H2'	40:L5:2502:G:N2	2.36	0.40
40:L5:2640:G:H2'	40:L5:2641:A:C8	2.56	0.40
40:L5:2654:C:H2'	40:L5:2655:C:C6	2.57	0.40
40:L5:2741:U:H2'	43:LA:50:HIS:HD2	1.84	0.40
40:L5:4476:C:O2'	40:L5:4478:G:OP2	2.31	0.40
40:L5:4770:U:H2'	40:L5:4771:C:C6	2.56	0.40
40:L5:5003:U:H2'	40:L5:5004:C:C6	2.56	0.40
42:L8:60:G:OP1	63:LX:68:ARG:NH2	2.47	0.40
42:L8:92:U:H2'	42:L8:93:C:O4'	2.21	0.40
43:LA:54:ARG:HG2	43:LA:56:ALA:H	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LB:231:VAL:HG21	44:LB:251:VAL:HG23	2.04	0.40
48:LF:86:GLU:HB3	60:LT:135:PRO:HB3	2.03	0.40
62:LV:42:VAL:HB	62:LV:45:ILE:HG13	2.03	0.40
1:AP:3:C:H42	1:AP:70:A:H61	1.70	0.40
2:CB:226:LYS:HB2	2:CB:226:LYS:HE2	1.82	0.40
4:SD:60:GLY:H	4:SD:65:ARG:HB2	1.86	0.40
8:SP:81:ARG:HH12	8:SP:98:ASN:HA	1.85	0.40
9:SQ:31:LEU:HB3	9:SQ:67:ASP:OD1	2.21	0.40
9:SQ:90:LYS:HE2	9:SQ:90:LYS:HB3	1.78	0.40
10:SR:5:ARG:HH21	36:S2:1454:A:H3'	1.86	0.40
17:Sf:105:TYR:HE2	17:Sf:131:PHE:CG	2.40	0.40
18:Sg:168:CYS:HB2	18:Sg:195:LEU:HD13	2.03	0.40
22:SE:35:PRO:HB3	22:SE:144:ALA:H	1.86	0.40
22:SE:118:GLU:HG2	22:SE:121:TYR:OH	2.21	0.40
27:SL:88:ILE:HD11	27:SL:109:MET:HE2	2.03	0.40
34:Sa:37:LYS:HA	34:Sa:71:LEU:O	2.21	0.40
36:S2:71:G:N2	36:S2:73:C:OP1	2.55	0.40
36:S2:1218:C:H1'	36:S2:1683:C:H42	1.86	0.40
36:S2:1723:G:H2'	36:S2:1724:A:C8	2.56	0.40
40:L5:302:C:H2'	40:L5:303:C:C6	2.56	0.40
40:L5:2749:C:H2'	40:L5:2750:G:C8	2.57	0.40
40:L5:4070:U:H2'	40:L5:4071:U:H6	1.85	0.40
40:L5:4236:G:H4'	40:L5:4328:G:O2'	2.22	0.40
43:LA:131:GLY:N	43:LA:169:VAL:HG13	2.35	0.40
47:LE:67:ALA:HA	47:LE:69:TYR:CE2	2.56	0.40
47:LE:130:LYS:HD2	47:LE:130:LYS:N	2.36	0.40
53:LL:47:ALA:HB3	53:LL:48:PRO:HD3	2.03	0.40
56:LO:157:GLU:HG3	56:LO:161:LYS:HE3	2.04	0.40
61:LU:35:ASP:N	61:LU:35:ASP:OD1	2.52	0.40
68:Lc:17:ARG:O	68:Lc:21:VAL:HG23	2.22	0.40
2:CB:613:LEU:O	2:CB:617:ILE:HG13	2.21	0.40
5:SF:51:HIS:HE1	9:SQ:82:TYR:HE2	1.68	0.40
5:SF:100:ILE:HD11	5:SF:108:PRO:HB3	2.02	0.40
11:SS:1:MET:SD	11:SS:3:LEU:HB3	2.62	0.40
18:Sg:42:MET:HE1	18:Sg:56:GLN:NE2	2.37	0.40
18:Sg:166:VAL:HG12	18:Sg:176:VAL:HG12	2.02	0.40
23:SG:50:VAL:CG1	23:SG:111:LEU:HB3	2.51	0.40
24:SH:12:ASN:ND2	24:SH:14:GLU:HB2	2.35	0.40
24:SH:36:LEU:HD13	24:SH:78:ARG:HD3	2.03	0.40
25:SI:199:LEU:O	25:SI:203:LYS:HG2	2.21	0.40
29:SO:113:GLN:OE1	34:Sa:46:GLU:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:SW:41:MET:HE2	31:SW:129:PHE:HB3	2.04	0.40
37:LR:110:ARG:HE	37:LR:110:ARG:HB3	1.72	0.40
40:L5:120:A:H2'	40:L5:149:A:N6	2.36	0.40
40:L5:467:U:N3	40:L5:468:U:O2'	2.49	0.40
40:L5:1080:C:H2'	40:L5:1081:C:H6	1.85	0.40
40:L5:1298:C:H2'	40:L5:1299:G:H8	1.85	0.40
40:L5:1734:G:N2	40:L5:1735:U:O4	2.35	0.40
40:L5:1996:C:H42	40:L5:2000:G:H22	1.69	0.40
40:L5:2407:G:H2'	77:L1:13:LEU:HD22	2.03	0.40
40:L5:2560:C:H2'	40:L5:2561:C:C6	2.57	0.40
40:L5:2580:U:P	65:LZ:36:ARG:HH22	2.44	0.40
40:L5:3917:A:H2'	40:L5:3918:G:C8	2.57	0.40
42:L8:5:U:H2'	42:L8:6:C:H6	1.87	0.40
49:LG:149:ASN:HB3	49:LG:151:LYS:HD3	2.02	0.40
53:LL:42:LYS:HB3	53:LL:42:LYS:HE2	1.74	0.40
57:LP:109:VAL:HA	57:LP:112:LEU:HD13	2.04	0.40
65:LZ:135:ARG:HD2	65:LZ:135:ARG:HA	1.77	0.40
82:Lr:16:PHE:HB3	82:Lr:27:THR:H	1.86	0.40
84:Lt:29:ALA:HA	84:Lt:32:ILE:HG12	2.04	0.40
4:SD:164:VAL:O	4:SD:168:VAL:HG22	2.21	0.40
8:SP:29:SER:OG	8:SP:30:TYR:N	2.55	0.40
11:SS:26:ILE:O	11:SS:30:ILE:HG12	2.22	0.40
13:SU:43:ALA:HB1	13:SU:48:LEU:HB2	2.02	0.40
20:SB:103:MET:HG2	20:SB:188:LEU:HD13	2.04	0.40
26:SJ:29:LEU:HA	26:SJ:32:ILE:HG12	2.03	0.40
27:SL:111:VAL:HG11	27:SL:128:VAL:HG11	2.03	0.40
33:SY:21:LYS:O	33:SY:74:MET:HA	2.22	0.40
36:S2:1730:U:H2'	36:S2:1731:A:C8	2.57	0.40
36:S2:1844:U:H2'	36:S2:1845:A:C8	2.57	0.40
40:L5:1248:C:H2'	40:L5:1249:C:C6	2.57	0.40
40:L5:1278:C:H2'	40:L5:1279:A:O4'	2.21	0.40
40:L5:1666:C:O2'	40:L5:1688:G:OP1	2.31	0.40
40:L5:3886:G:H5''	56:LO:82:ARG:NH2	2.37	0.40
44:LB:220:ILE:HB	44:LB:346:THR:HB	2.03	0.40
46:LD:30:TYR:HA	46:LD:33:ARG:HB3	2.02	0.40
48:LF:200:ARG:HA	48:LF:200:ARG:HD3	1.93	0.40
50:LH:91:LYS:HD2	50:LH:183:GLU:OE2	2.21	0.40
55:LN:75:VAL:HG11	55:LN:80:THR:HG22	2.04	0.40
55:LN:178:HIS:HA	55:LN:181:HIS:NE2	2.37	0.40
62:LV:87:SER:HA	62:LV:97:TYR:HB3	2.03	0.40
70:Le:82:VAL:HG13	70:Le:114:ARG:HG2	2.04	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	
2	CB	842/856 (98%)	786 (93%)	55 (6%)	1 (0%)	48	67
4	SD	225/227 (99%)	219 (97%)	5 (2%)	1 (0%)	30	46
5	SF	187/189 (99%)	168 (90%)	18 (10%)	1 (0%)	25	40
6	SK	96/98 (98%)	87 (91%)	9 (9%)	0	100	100
7	SM	120/122 (98%)	116 (97%)	4 (3%)	0	100	100
8	SP	125/127 (98%)	123 (98%)	2 (2%)	0	100	100
9	SQ	142/144 (99%)	135 (95%)	7 (5%)	0	100	100
10	SR	133/135 (98%)	126 (95%)	5 (4%)	2 (2%)	8	14
11	SS	143/145 (99%)	136 (95%)	7 (5%)	0	100	100
12	ST	141/143 (99%)	139 (99%)	2 (1%)	0	100	100
13	SU	102/104 (98%)	99 (97%)	3 (3%)	0	100	100
14	SZ	73/75 (97%)	66 (90%)	7 (10%)	0	100	100
15	Sc	62/64 (97%)	58 (94%)	4 (6%)	0	100	100
16	Sd	53/55 (96%)	52 (98%)	1 (2%)	0	100	100
17	Sf	65/67 (97%)	59 (91%)	6 (9%)	0	100	100
18	Sg	311/313 (99%)	287 (92%)	24 (8%)	0	100	100
19	SA	219/221 (99%)	210 (96%)	9 (4%)	0	100	100
20	SB	212/214 (99%)	208 (98%)	4 (2%)	0	100	100
21	SC	218/222 (98%)	204 (94%)	14 (6%)	0	100	100
22	SE	260/262 (99%)	245 (94%)	15 (6%)	0	100	100
23	SG	235/237 (99%)	225 (96%)	10 (4%)	0	100	100
24	SH	182/189 (96%)	168 (92%)	14 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
25	SI	204/206 (99%)	191 (94%)	13 (6%)	0	100	100
26	SJ	183/185 (99%)	178 (97%)	5 (3%)	0	100	100
27	SL	151/153 (99%)	146 (97%)	5 (3%)	0	100	100
28	SN	148/150 (99%)	146 (99%)	2 (1%)	0	100	100
29	SO	135/140 (96%)	128 (95%)	6 (4%)	1 (1%)	19	31
30	SV	81/83 (98%)	77 (95%)	4 (5%)	0	100	100
31	SW	127/129 (98%)	120 (94%)	7 (6%)	0	100	100
32	SX	139/141 (99%)	131 (94%)	8 (6%)	0	100	100
33	SY	129/131 (98%)	124 (96%)	5 (4%)	0	100	100
34	Sa	100/102 (98%)	96 (96%)	4 (4%)	0	100	100
35	Sb	81/83 (98%)	75 (93%)	6 (7%)	0	100	100
37	LR	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
38	LW	112/124 (90%)	109 (97%)	3 (3%)	0	100	100
39	CI	29/31 (94%)	29 (100%)	0	0	100	100
43	LA	246/248 (99%)	228 (93%)	18 (7%)	0	100	100
44	LB	400/402 (100%)	382 (96%)	18 (4%)	0	100	100
45	LC	366/368 (100%)	350 (96%)	16 (4%)	0	100	100
46	LD	291/293 (99%)	279 (96%)	12 (4%)	0	100	100
47	LE	236/250 (94%)	221 (94%)	15 (6%)	0	100	100
48	LF	223/225 (99%)	216 (97%)	7 (3%)	0	100	100
49	LG	239/241 (99%)	224 (94%)	15 (6%)	0	100	100
50	LH	188/190 (99%)	178 (95%)	10 (5%)	0	100	100
51	LI	211/213 (99%)	207 (98%)	4 (2%)	0	100	100
52	LJ	168/176 (96%)	159 (95%)	8 (5%)	1 (1%)	22	35
53	LL	208/210 (99%)	202 (97%)	6 (3%)	0	100	100
54	LM	137/139 (99%)	132 (96%)	5 (4%)	0	100	100
55	LN	201/203 (99%)	199 (99%)	2 (1%)	0	100	100
56	LO	199/201 (99%)	195 (98%)	4 (2%)	0	100	100
57	LP	151/153 (99%)	147 (97%)	4 (3%)	0	100	100
58	LQ	185/187 (99%)	177 (96%)	8 (4%)	0	100	100
59	LS	173/175 (99%)	165 (95%)	8 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
60	LT	157/159 (99%)	152 (97%)	5 (3%)	0	100	100
61	LU	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
62	LV	129/131 (98%)	125 (97%)	4 (3%)	0	100	100
63	LX	118/120 (98%)	117 (99%)	1 (1%)	0	100	100
64	LY	132/134 (98%)	129 (98%)	3 (2%)	0	100	100
65	LZ	133/135 (98%)	127 (96%)	6 (4%)	0	100	100
66	La	145/147 (99%)	140 (97%)	5 (3%)	0	100	100
67	Lb	105/121 (87%)	99 (94%)	6 (6%)	0	100	100
68	Lc	96/98 (98%)	93 (97%)	3 (3%)	0	100	100
69	Ld	105/107 (98%)	103 (98%)	2 (2%)	0	100	100
70	Le	126/128 (98%)	124 (98%)	2 (2%)	0	100	100
71	Lf	107/109 (98%)	104 (97%)	3 (3%)	0	100	100
72	Lg	112/114 (98%)	110 (98%)	2 (2%)	0	100	100
73	Lh	120/122 (98%)	116 (97%)	4 (3%)	0	100	100
74	Li	100/102 (98%)	99 (99%)	1 (1%)	0	100	100
75	Lj	84/86 (98%)	82 (98%)	2 (2%)	0	100	100
76	Lk	67/69 (97%)	66 (98%)	1 (2%)	0	100	100
77	Ll	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
78	Lm	50/52 (96%)	49 (98%)	1 (2%)	0	100	100
79	Ln	22/24 (92%)	22 (100%)	0	0	100	100
80	Lo	103/105 (98%)	99 (96%)	4 (4%)	0	100	100
81	Lp	89/91 (98%)	84 (94%)	5 (6%)	0	100	100
82	Lr	123/125 (98%)	119 (97%)	4 (3%)	0	100	100
83	Ls	194/196 (99%)	181 (93%)	13 (7%)	0	100	100
84	Lt	128/157 (82%)	110 (86%)	18 (14%)	0	100	100
85	CH	130/132 (98%)	108 (83%)	21 (16%)	1 (1%)	16	28
All	All	12594/12843 (98%)	12007 (95%)	579 (5%)	8 (0%)	50	67

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	SF	136	ARG
85	CH	114	ALA

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Mol	Chain	Res	Type
10	SR	84	TYR
52	LJ	31	ASP
10	SR	129	LYS
4	SD	143	ARG
29	SO	138	ASP
2	CB	610	PRO

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	
2	CB	722/728 (99%)	722 (100%)	0	100	100
4	SD	190/190 (100%)	190 (100%)	0	100	100
5	SF	159/159 (100%)	159 (100%)	0	100	100
6	SK	89/89 (100%)	89 (100%)	0	100	100
7	SM	102/104 (98%)	102 (100%)	0	100	100
8	SP	113/113 (100%)	113 (100%)	0	100	100
9	SQ	119/119 (100%)	119 (100%)	0	100	100
10	SR	122/122 (100%)	121 (99%)	1 (1%)	79	89
11	SS	126/126 (100%)	126 (100%)	0	100	100
12	ST	113/113 (100%)	113 (100%)	0	100	100
13	SU	94/94 (100%)	94 (100%)	0	100	100
14	SZ	66/66 (100%)	66 (100%)	0	100	100
15	Sc	57/57 (100%)	57 (100%)	0	100	100
16	Sd	48/48 (100%)	48 (100%)	0	100	100
17	Sf	60/60 (100%)	60 (100%)	0	100	100
18	Sg	272/272 (100%)	272 (100%)	0	100	100
19	SA	183/183 (100%)	183 (100%)	0	100	100
20	SB	195/195 (100%)	195 (100%)	0	100	100
21	SC	186/188 (99%)	186 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
22	SE	224/224 (100%)	224 (100%)	0	100	100
23	SG	207/207 (100%)	207 (100%)	0	100	100
24	SH	166/169 (98%)	166 (100%)	0	100	100
25	SI	178/178 (100%)	178 (100%)	0	100	100
26	SJ	161/161 (100%)	161 (100%)	0	100	100
27	SL	137/137 (100%)	137 (100%)	0	100	100
28	SN	130/130 (100%)	130 (100%)	0	100	100
29	SO	107/110 (97%)	107 (100%)	0	100	100
30	SV	67/67 (100%)	67 (100%)	0	100	100
31	SW	112/112 (100%)	112 (100%)	0	100	100
32	SX	113/113 (100%)	113 (100%)	0	100	100
33	SY	113/113 (100%)	113 (100%)	0	100	100
34	Sa	89/89 (100%)	89 (100%)	0	100	100
35	Sb	75/75 (100%)	75 (100%)	0	100	100
37	LR	166/166 (100%)	166 (100%)	0	100	100
38	LW	95/103 (92%)	95 (100%)	0	100	100
39	CI	25/25 (100%)	25 (100%)	0	100	100
43	LA	190/190 (100%)	190 (100%)	0	100	100
44	LB	348/348 (100%)	348 (100%)	0	100	100
45	LC	306/306 (100%)	306 (100%)	0	100	100
46	LD	246/247 (100%)	246 (100%)	0	100	100
47	LE	212/222 (96%)	212 (100%)	0	100	100
48	LF	194/194 (100%)	194 (100%)	0	100	100
49	LG	203/205 (99%)	203 (100%)	0	100	100
50	LH	169/169 (100%)	169 (100%)	0	100	100
51	LI	180/180 (100%)	180 (100%)	0	100	100
52	LJ	143/148 (97%)	143 (100%)	0	100	100
53	LL	176/176 (100%)	176 (100%)	0	100	100
54	LM	118/118 (100%)	118 (100%)	0	100	100
55	LN	171/171 (100%)	171 (100%)	0	100	100
56	LO	173/173 (100%)	173 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
57	LP	134/134 (100%)	134 (100%)	0	100	100
58	LQ	164/164 (100%)	164 (100%)	0	100	100
59	LS	156/156 (100%)	156 (100%)	0	100	100
60	LT	139/139 (100%)	139 (100%)	0	100	100
61	LU	91/91 (100%)	91 (100%)	0	100	100
62	LV	101/101 (100%)	101 (100%)	0	100	100
63	LX	108/108 (100%)	108 (100%)	0	100	100
64	LY	124/124 (100%)	124 (100%)	0	100	100
65	LZ	117/117 (100%)	117 (100%)	0	100	100
66	La	120/120 (100%)	120 (100%)	0	100	100
67	Lb	88/101 (87%)	88 (100%)	0	100	100
68	Lc	83/83 (100%)	83 (100%)	0	100	100
69	Ld	98/98 (100%)	98 (100%)	0	100	100
70	Le	114/114 (100%)	114 (100%)	0	100	100
71	Lf	88/88 (100%)	88 (100%)	0	100	100
72	Lg	98/98 (100%)	98 (100%)	0	100	100
73	Lh	109/109 (100%)	109 (100%)	0	100	100
74	Li	86/86 (100%)	86 (100%)	0	100	100
75	Lj	73/73 (100%)	73 (100%)	0	100	100
76	Lk	64/64 (100%)	64 (100%)	0	100	100
77	Ll	47/47 (100%)	47 (100%)	0	100	100
78	Lm	48/48 (100%)	48 (100%)	0	100	100
79	Ln	23/23 (100%)	23 (100%)	0	100	100
80	Lo	93/93 (100%)	93 (100%)	0	100	100
81	Lp	74/74 (100%)	74 (100%)	0	100	100
82	Lr	109/109 (100%)	109 (100%)	0	100	100
83	Ls	162/164 (99%)	162 (100%)	0	100	100
84	Lt	107/130 (82%)	107 (100%)	0	100	100
85	CH	106/106 (100%)	106 (100%)	0	100	100
All	All	10934/11014 (99%)	10933 (100%)	1 (0%)	100	100

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

Mol	Chain	Res	Type
10	SR	82	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (100) such sidechains are listed below:

Mol	Chain	Res	Type
2	CB	3	ASN
2	CB	18	ASN
2	CB	101	ASN
2	CB	145	GLN
2	CB	168	GLN
2	CB	270	ASN
2	CB	365	GLN
2	CB	660	ASN
2	CB	696	ASN
2	CB	715	HIS
4	SD	165	ASN
5	SF	107	ASN
5	SF	114	ASN
5	SF	118	ASN
5	SF	203	ASN
6	SK	28	HIS
6	SK	44	HIS
7	SM	19	GLN
9	SQ	11	GLN
9	SQ	142	GLN
10	SR	93	GLN
11	SS	72	GLN
12	ST	126	GLN
15	Sc	29	GLN
17	Sf	91	ASN
17	Sf	151	ASN
18	Sg	20	GLN
18	Sg	26	GLN
18	Sg	56	GLN
18	Sg	272	GLN
20	SB	101	HIS
21	SC	113	GLN
22	SE	98	ASN
22	SE	138	HIS
22	SE	214	ASN
23	SG	105	ASN
23	SG	225	GLN
24	SH	44	ASN

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Mol	Chain	Res	Type
24	SH	91	HIS
25	SI	116	HIS
26	SJ	140	GLN
26	SJ	156	HIS
32	SX	46	HIS
32	SX	92	ASN
37	LR	40	GLN
38	LW	17	HIS
43	LA	8	GLN
43	LA	50	HIS
43	LA	215	ASN
44	LB	121	ASN
44	LB	167	GLN
44	LB	209	GLN
44	LB	315	ASN
45	LC	112	HIS
45	LC	178	ASN
45	LC	215	ASN
45	LC	329	ASN
46	LD	131	ASN
46	LD	202	GLN
46	LD	282	GLN
48	LF	63	GLN
48	LF	80	ASN
48	LF	119	ASN
49	LG	225	ASN
50	LH	138	GLN
50	LH	189	GLN
51	LI	92	HIS
53	LL	19	GLN
54	LM	34	ASN
56	LO	26	GLN
56	LO	42	ASN
56	LO	50	ASN
56	LO	167	HIS
56	LO	180	GLN
57	LP	97	ASN
57	LP	133	HIS
59	LS	125	GLN
63	LX	57	GLN
63	LX	93	ASN
64	LY	20	ASN

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Mol	Chain	Res	Type
66	La	34	ASN
66	La	60	HIS
66	La	67	GLN
66	La	120	GLN
68	Lc	72	HIS
70	Le	23	HIS
70	Le	52	GLN
70	Le	117	GLN
71	Lf	21	GLN
71	Lf	99	HIS
73	Lh	30	GLN
73	Lh	65	GLN
74	Li	92	ASN
78	Lm	87	GLN
80	Lo	102	GLN
82	Lr	21	ASN
83	Ls	39	GLN
83	Ls	41	GLN
85	CH	51	GLN
85	CH	100	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AP	69/71 (97%)	11 (15%)	0
3	PE	74/75 (98%)	21 (28%)	1 (1%)
36	S2	1715/1740 (98%)	374 (21%)	3 (0%)
40	L5	3643/3655 (99%)	729 (20%)	15 (0%)
41	L7	119/120 (99%)	11 (9%)	0
42	L8	155/156 (99%)	24 (15%)	0
All	All	5775/5817 (99%)	1170 (20%)	19 (0%)

All (1170) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AP	8	U
1	AP	9	A
1	AP	11	U
1	AP	13	U
1	AP	14	A
1	AP	19	G

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Mol	Chain	Res	Type
1	AP	21	A
1	AP	47	U
1	AP	48	C
1	AP	56	C
1	AP	58	A
3	PE	4	C
3	PE	8	U
3	PE	10	G
3	PE	11	C
3	PE	19	G
3	PE	20	U
3	PE	21	A
3	PE	46	G
3	PE	47	U
3	PE	48	C
3	PE	49	C
3	PE	50	A
3	PE	55	U
3	PE	56	C
3	PE	58	A
3	PE	63	C
3	PE	67	U
3	PE	69	G
3	PE	71	G
3	PE	73	G
3	PE	76	A
36	S2	4	C
36	S2	14	C
36	S2	17	C
36	S2	25	A
36	S2	33	G
36	S2	42	A
36	S2	44	U
36	S2	45	A
36	S2	46	A
36	S2	56	G
36	S2	58	C
36	S2	62	G
36	S2	67	C
36	S2	68	A
36	S2	72	C
36	S2	73	C

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Mol	Chain	Res	Type
36	S2	74	G
36	S2	76	U
36	S2	92	A
36	S2	99	A2M
36	S2	103	A
36	S2	113	G
36	S2	115	U
36	S2	126	G
36	S2	130	G
36	S2	142	C
36	S2	143	U
36	S2	149	A
36	S2	155	G
36	S2	158	A
36	S2	162	C
36	S2	163	U
36	S2	168	C
36	S2	175	A
36	S2	182	C
36	S2	190	G
36	S2	196	C
36	S2	197	U
36	S2	198	U
36	S2	200	G
36	S2	203	G
36	S2	204	G
36	S2	206	G
36	S2	207	G
36	S2	208	G
36	S2	209	A
36	S2	289	G
36	S2	291	G
36	S2	292	A
36	S2	295	C
36	S2	302	A
36	S2	305	U
36	S2	306	C
36	S2	307	G
36	S2	308	G
36	S2	309	G
36	S2	311	C
36	S2	312	G

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Mol	Chain	Res	Type
36	S2	318	A
36	S2	319	C
36	S2	323	C
36	S2	324	C
36	S2	325	C
36	S2	326	C
36	S2	328	U
36	S2	329	G
36	S2	332	G
36	S2	339	A
36	S2	340	C
36	S2	347	G
36	S2	360	A
36	S2	361	U
36	S2	362	C
36	S2	364	A
36	S2	368	U
36	S2	369	C
36	S2	370	G
36	S2	385	G
36	S2	386	C
36	S2	398	A
36	S2	408	A
36	S2	409	C
36	S2	426	A
36	S2	438	G
36	S2	448	A
36	S2	449	A
36	S2	450	C
36	S2	452	G
36	S2	464	A
36	S2	465	A
36	S2	466	G
36	S2	471	G
36	S2	472	C
36	S2	473	A
36	S2	474	G
36	S2	482	G
36	S2	487	U
36	S2	488	U
36	S2	492	C
36	S2	493	A

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Mol	Chain	Res	Type
36	S2	502	C
36	S2	516	A
36	S2	531	A
36	S2	532	C
36	S2	533	A
36	S2	534	G
36	S2	536	A
36	S2	537	C
36	S2	540	U
36	S2	542	U
36	S2	544	G
36	S2	546	G
36	S2	547	G
36	S2	555	A
36	S2	557	U
36	S2	558	G
36	S2	563	G
36	S2	564	A
36	S2	566	U
36	S2	576	A2M
36	S2	583	A
36	S2	587	A
36	S2	589	G
36	S2	590	A
36	S2	591	U
36	S2	592	C
36	S2	604	A
36	S2	607	U
36	S2	614	C
36	S2	617	G
36	S2	623	G
36	S2	627	OMU
36	S2	628	A
36	S2	631	U
36	S2	643	A
36	S2	644	OMG
36	S2	655	A
36	S2	660	C
36	S2	664	A
36	S2	668	A2M
36	S2	669	A
36	S2	671	A

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Mol	Chain	Res	Type
36	S2	672	A
36	S2	673	G
36	S2	683	OMG
36	S2	688	U
36	S2	689	U
36	S2	692	G
36	S2	693	A
36	S2	696	G
36	S2	697	G
36	S2	731	G
36	S2	732	U
36	S2	733	C
36	S2	736	C
36	S2	738	C
36	S2	749	U
36	S2	751	G
36	S2	752	G
36	S2	753	C
36	S2	788	G
36	S2	791	C
36	S2	792	C
36	S2	798	G
36	S2	799	OMU
36	S2	801	PSU
36	S2	821	G
36	S2	822	U
36	S2	823	U
36	S2	824	C
36	S2	827	A
36	S2	830	A
36	S2	834	C
36	S2	835	C
36	S2	836	G
36	S2	837	A
36	S2	838	G
36	S2	839	C
36	S2	840	C
36	S2	841	G
36	S2	842	C
36	S2	847	A
36	S2	867	OMG
36	S2	870	A

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Mol	Chain	Res	Type
36	S2	874	G
36	S2	888	U
36	S2	889	U
36	S2	891	G
36	S2	896	U
36	S2	897	U
36	S2	898	U
36	S2	899	U
36	S2	900	C
36	S2	901	G
36	S2	903	A
36	S2	913	A
36	S2	920	A
36	S2	930	C
36	S2	933	G
36	S2	943	U
36	S2	963	A
36	S2	971	G
36	S2	990	A
36	S2	992	A
36	S2	999	G
36	S2	1001	A
36	S2	1002	U
36	S2	1008	A
36	S2	1017	U
36	S2	1023	A
36	S2	1027	A
36	S2	1030	A
36	S2	1060	A
36	S2	1061	U
36	S2	1062	A
36	S2	1067	C
36	S2	1080	A
36	S2	1083	A
36	S2	1085	C
36	S2	1108	G
36	S2	1109	C
36	S2	1113	A
36	S2	1116	C
36	S2	1119	A
36	S2	1120	U
36	S2	1133	A

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Mol	Chain	Res	Type
36	S2	1138	C
36	S2	1149	A
36	S2	1153	C
36	S2	1154	U
36	S2	1195	A
36	S2	1200	A
36	S2	1207	G
36	S2	1208	A
36	S2	1215	C
36	S2	1216	C
36	S2	1217	A
36	S2	1220	A
36	S2	1224	G
36	S2	1227	G
36	S2	1242	U
36	S2	1243	U
36	S2	1251	A
36	S2	1253	A
36	S2	1256	G
36	S2	1257	G
36	S2	1259	A
36	S2	1271	C
36	S2	1272	OMC
36	S2	1274	G
36	S2	1275	G
36	S2	1283	C
36	S2	1284	A
36	S2	1286	G
36	S2	1288	OMU
36	S2	1290	G
36	S2	1294	G
36	S2	1301	A
36	S2	1302	G
36	S2	1303	C
36	S2	1308	U
36	S2	1333	U
36	S2	1342	U
36	S2	1348	G
36	S2	1357	A
36	S2	1358	U
36	S2	1371	U
36	S2	1373	C

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Mol	Chain	Res	Type
36	S2	1376	A
36	S2	1378	A
36	S2	1382	A
36	S2	1401	A
36	S2	1402	A
36	S2	1404	U
36	S2	1413	G
36	S2	1414	A
36	S2	1418	C
36	S2	1419	C
36	S2	1420	G
36	S2	1421	A
36	S2	1422	G
36	S2	1423	C
36	S2	1433	C
36	S2	1435	C
36	S2	1436	C
36	S2	1437	C
36	S2	1439	A
36	S2	1442	OMU
36	S2	1449	G
36	S2	1452	A
36	S2	1454	A
36	S2	1462	U
36	S2	1463	U
36	S2	1480	A
36	S2	1484	A
36	S2	1489	A
36	S2	1490	OMG
36	S2	1492	U
36	S2	1494	U
36	S2	1495	G
36	S2	1497	G
36	S2	1498	A
36	S2	1521	C
36	S2	1522	A
36	S2	1531	A
36	S2	1533	A
36	S2	1536	G
36	S2	1544	C
36	S2	1546	G
36	S2	1556	A

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Mol	Chain	Res	Type
36	S2	1574	C
36	S2	1580	A
36	S2	1581	C
36	S2	1582	C
36	S2	1587	G
36	S2	1588	A
36	S2	1600	G
36	S2	1604	G
36	S2	1606	G
36	S2	1621	U
36	S2	1623	A
36	S2	1633	A
36	S2	1634	A
36	S2	1637	A
36	S2	1648	G
36	S2	1654	G
36	S2	1663	A
36	S2	1665	G
36	S2	1683	C
36	S2	1686	G
36	S2	1698	C
36	S2	1715	A
36	S2	1721	U
36	S2	1722	G
36	S2	1726	G
36	S2	1727	G
36	S2	1728	U
36	S2	1744	G
36	S2	1745	A
36	S2	1752	C
36	S2	1753	C
36	S2	1754	G
36	S2	1756	C
36	S2	1757	G
36	S2	1758	G
36	S2	1759	G
36	S2	1761	U
36	S2	1772	C
36	S2	1773	C
36	S2	1774	C
36	S2	1775	U
36	S2	1777	G

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Mol	Chain	Res	Type
36	S2	1782	G
36	S2	1783	C
36	S2	1784	G
36	S2	1786	U
36	S2	1798	C
36	S2	1807	C
36	S2	1809	A
36	S2	1813	A
36	S2	1814	G
36	S2	1815	A
36	S2	1821	U
36	S2	1823	A
36	S2	1824	A
36	S2	1831	A
36	S2	1835	A
36	S2	1838	U
36	S2	1849	G
36	S2	1851	MA6
36	S2	1861	G
36	S2	1862	G
36	S2	1863	A
36	S2	1865	C
40	L5	25	A
40	L5	30	C
40	L5	39	A
40	L5	42	A
40	L5	48	G
40	L5	56	A
40	L5	59	A
40	L5	64	A
40	L5	65	A
40	L5	73	A
40	L5	74	G
40	L5	91	G
40	L5	104	G
40	L5	108	A
40	L5	109	G
40	L5	110	C
40	L5	119	G
40	L5	120	A
40	L5	132	G
40	L5	133	C

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Mol	Chain	Res	Type
40	L5	134	G
40	L5	144	G
40	L5	151	G
40	L5	159	C
40	L5	165	A
40	L5	172	C
40	L5	182	G
40	L5	183	C
40	L5	185	C
40	L5	186	G
40	L5	188	G
40	L5	200	U
40	L5	209	U
40	L5	216	C
40	L5	218	A
40	L5	234	G
40	L5	254	G
40	L5	255	C
40	L5	256	G
40	L5	261	G
40	L5	263	G
40	L5	264	C
40	L5	265	C
40	L5	266	C
40	L5	267	G
40	L5	275	C
40	L5	276	C
40	L5	280	G
40	L5	297	U
40	L5	306	A
40	L5	315	G
40	L5	316	U
40	L5	340	C
40	L5	373	G
40	L5	385	A
40	L5	387	G
40	L5	396	A
40	L5	407	A
40	L5	409	G
40	L5	410	A
40	L5	411	G
40	L5	412	G

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Mol	Chain	Res	Type
40	L5	413	G
40	L5	415	G
40	L5	431	G
40	L5	432	U
40	L5	449	C
40	L5	452	A
40	L5	453	G
40	L5	454	U
40	L5	455	C
40	L5	456	C
40	L5	457	G
40	L5	467	U
40	L5	485	C
40	L5	486	C
40	L5	489	C
40	L5	493	G
40	L5	494	U
40	L5	495	C
40	L5	497	G
40	L5	498	C
40	L5	499	G
40	L5	500	G
40	L5	501	C
40	L5	502	C
40	L5	503	C
40	L5	504	G
40	L5	509	A
40	L5	510	U
40	L5	513	U
40	L5	514	U
40	L5	516	C
40	L5	517	C
40	L5	518	G
40	L5	643	C
40	L5	644	G
40	L5	646	G
40	L5	653	U
40	L5	654	C
40	L5	656	C
40	L5	657	C
40	L5	659	G
40	L5	666	G

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Mol	Chain	Res	Type
40	L5	667	A
40	L5	668	C
40	L5	669	C
40	L5	673	C
40	L5	686	A
40	L5	687	U
40	L5	696	C
40	L5	704	C
40	L5	708	G
40	L5	730	G
40	L5	731	G
40	L5	738	C
40	L5	739	G
40	L5	742	G
40	L5	746	A
40	L5	904	C
40	L5	905	C
40	L5	906	C
40	L5	910	G
40	L5	913	U
40	L5	914	U
40	L5	915	A
40	L5	917	A
40	L5	923	C
40	L5	924	C
40	L5	926	G
40	L5	932	A
40	L5	933	G
40	L5	934	C
40	L5	936	C
40	L5	944	A
40	L5	945	U
40	L5	946	C
40	L5	958	G
40	L5	959	G
40	L5	960	A
40	L5	961	G
40	L5	962	C
40	L5	963	G
40	L5	965	G
40	L5	966	A
40	L5	967	C

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Mol	Chain	Res	Type
40	L5	969	C
40	L5	970	G
40	L5	982	U
40	L5	985	C
40	L5	989	U
40	L5	1070	G
40	L5	1072	C
40	L5	1075	G
40	L5	1082	C
40	L5	1083	U
40	L5	1095	A
40	L5	1168	G
40	L5	1171	G
40	L5	1172	C
40	L5	1173	G
40	L5	1179	U
40	L5	1180	C
40	L5	1181	C
40	L5	1182	C
40	L5	1183	C
40	L5	1200	G
40	L5	1202	C
40	L5	1203	G
40	L5	1210	C
40	L5	1211	G
40	L5	1214	C
40	L5	1215	C
40	L5	1216	C
40	L5	1218	G
40	L5	1219	G
40	L5	1222	A
40	L5	1246	G
40	L5	1253	G
40	L5	1254	A
40	L5	1257	A
40	L5	1262	G
40	L5	1266	G
40	L5	1267	C
40	L5	1269	G
40	L5	1270	A
40	L5	1271	G
40	L5	1272	C

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Mol	Chain	Res	Type
40	L5	1273	G
40	L5	1275	G
40	L5	1277	G
40	L5	1280	C
40	L5	1284	G
40	L5	1285	U
40	L5	1287	G
40	L5	1293	G
40	L5	1294	A
40	L5	1295	C
40	L5	1296	G
40	L5	1301	C
40	L5	1314	C
40	L5	1326	A2M
40	L5	1337	A
40	L5	1354	A
40	L5	1359	G
40	L5	1365	C
40	L5	1366	G
40	L5	1379	C
40	L5	1387	A
40	L5	1394	G
40	L5	1397	A
40	L5	1398	A
40	L5	1401	C
40	L5	1404	G
40	L5	1405	C
40	L5	1407	C
40	L5	1409	C
40	L5	1410	U
40	L5	1415	G
40	L5	1416	G
40	L5	1417	C
40	L5	1420	A
40	L5	1437	C
40	L5	1439	C
40	L5	1442	C
40	L5	1443	A
40	L5	1444	G
40	L5	1446	C
40	L5	1482	G
40	L5	1483	C

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Mol	Chain	Res	Type
40	L5	1489	G
40	L5	1497	A
40	L5	1498	G
40	L5	1502	G
40	L5	1517	G
40	L5	1534	A2M
40	L5	1535	C
40	L5	1537	A
40	L5	1547	A
40	L5	1562	G
40	L5	1564	A
40	L5	1566	C
40	L5	1578	U
40	L5	1591	U
40	L5	1596	U
40	L5	1624	G
40	L5	1625	OMG
40	L5	1626	G
40	L5	1631	A
40	L5	1633	G
40	L5	1634	A
40	L5	1638	A
40	L5	1640	C
40	L5	1641	G
40	L5	1642	A
40	L5	1654	G
40	L5	1661	C
40	L5	1676	C
40	L5	1677	PSU
40	L5	1691	G
40	L5	1694	C
40	L5	1697	G
40	L5	1699	A
40	L5	1700	G
40	L5	1702	C
40	L5	1704	C
40	L5	1705	G
40	L5	1717	C
40	L5	1718	C
40	L5	1719	A
40	L5	1721	G
40	L5	1731	C

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Mol	Chain	Res	Type
40	L5	1734	G
40	L5	1740	C
40	L5	1741	G
40	L5	1742	A
40	L5	1750	G
40	L5	1757	U
40	L5	1758	G
40	L5	1760	G
40	L5	1761	G
40	L5	1762	C
40	L5	1763	C
40	L5	1764	G
40	L5	1765	A
40	L5	1766	A
40	L5	1767	A
40	L5	1768	C
40	L5	1770	A
40	L5	1785	C
40	L5	1787	A
40	L5	1797	G
40	L5	1803	G
40	L5	1804	A
40	L5	1806	G
40	L5	1810	G
40	L5	1815	G
40	L5	1820	C
40	L5	1821	G
40	L5	1822	U
40	L5	1834	U
40	L5	1836	G
40	L5	1837	A
40	L5	1842	G
40	L5	1855	G
40	L5	1869	G
40	L5	1882	U
40	L5	1892	A
40	L5	1897	A
40	L5	1917	A
40	L5	1918	U
40	L5	1919	G
40	L5	1920	C
40	L5	1921	C

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Mol	Chain	Res	Type
40	L5	1922	G
40	L5	1925	G
40	L5	1931	C
40	L5	1932	A
40	L5	1936	C
40	L5	1940	G
40	L5	1948	G
40	L5	1951	G
40	L5	1960	A
40	L5	1961	G
40	L5	1962	A
40	L5	1965	G
40	L5	1971	C
40	L5	1974	U
40	L5	1975	G
40	L5	1978	C
40	L5	1980	U
40	L5	1981	G
40	L5	1982	G
40	L5	1983	A
40	L5	1984	A
40	L5	1985	G
40	L5	1986	U
40	L5	1989	G
40	L5	1991	A
40	L5	1992	U
40	L5	1993	C
40	L5	1997	U
40	L5	1999	A
40	L5	2002	A
40	L5	2004	U
40	L5	2005	G
40	L5	2011	C
40	L5	2016	C
40	L5	2017	A
40	L5	2018	C
40	L5	2024	G
40	L5	2026	A
40	L5	2046	G
40	L5	2048	U
40	L5	2055	G
40	L5	2056	G

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Mol	Chain	Res	Type
40	L5	2069	A
40	L5	2084	C
40	L5	2092	G
40	L5	2093	A
40	L5	2095	A
40	L5	2096	G
40	L5	2097	U
40	L5	2098	G
40	L5	2101	C
40	L5	2102	G
40	L5	2103	G
40	L5	2107	C
40	L5	2108	G
40	L5	2111	G
40	L5	2112	G
40	L5	2250	C
40	L5	2252	G
40	L5	2256	C
40	L5	2261	G
40	L5	2289	C
40	L5	2300	A
40	L5	2301	G
40	L5	2313	A
40	L5	2314	G
40	L5	2331	G
40	L5	2333	G
40	L5	2345	G
40	L5	2348	G
40	L5	2351	OMC
40	L5	2360	A
40	L5	2364	OMG
40	L5	2389	A
40	L5	2395	A
40	L5	2397	G
40	L5	2411	C
40	L5	2412	A
40	L5	2417	A
40	L5	2425	U
40	L5	2447	U
40	L5	2450	G
40	L5	2453	A
40	L5	2464	C

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Mol	Chain	Res	Type
40	L5	2465	C
40	L5	2469	C
40	L5	2471	G
40	L5	2474	G
40	L5	2475	G
40	L5	2478	C
40	L5	2479	G
40	L5	2484	A
40	L5	2485	U
40	L5	2486	G
40	L5	2487	G
40	L5	2488	C
40	L5	2489	C
40	L5	2490	U
40	L5	2491	C
40	L5	2494	U
40	L5	2504	C
40	L5	2505	C
40	L5	2506	G
40	L5	2513	A
40	L5	2519	U
40	L5	2529	A
40	L5	2537	A
40	L5	2544	G
40	L5	2546	G
40	L5	2547	G
40	L5	2554	U
40	L5	2555	G
40	L5	2559	G
40	L5	2560	C
40	L5	2565	A
40	L5	2573	A
40	L5	2583	C
40	L5	2586	G
40	L5	2587	A
40	L5	2589	C
40	L5	2601	A
40	L5	2627	C
40	L5	2653	C
40	L5	2662	G
40	L5	2669	C
40	L5	2675	G

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Mol	Chain	Res	Type
40	L5	2676	A
40	L5	2687	U
40	L5	2694	G
40	L5	2695	A
40	L5	2696	A
40	L5	2703	G
40	L5	2706	G
40	L5	2708	U
40	L5	2710	C
40	L5	2711	G
40	L5	2712	G
40	L5	2721	G
40	L5	2724	G
40	L5	2726	G
40	L5	2739	C
40	L5	2742	G
40	L5	2743	A
40	L5	2757	A
40	L5	2761	U
40	L5	2763	U
40	L5	2769	U
40	L5	2770	C
40	L5	2788	U
40	L5	2790	U
40	L5	2806	A
40	L5	2814	C
40	L5	2815	A2M
40	L5	2826	U
40	L5	2827	G
40	L5	2838	G
40	L5	2855	G
40	L5	2867	C
40	L5	2877	G
40	L5	2900	U
40	L5	2902	G
40	L5	2903	G
40	L5	2904	U
40	L5	2905	C
40	L5	2907	G
40	L5	2908	U
40	L5	3588	C
40	L5	3590	G

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Mol	Chain	Res	Type
40	L5	3591	C
40	L5	3594	C
40	L5	3595	U
40	L5	3596	A
40	L5	3597	G
40	L5	3599	A
40	L5	3605	C
40	L5	3616	U
40	L5	3617	G
40	L5	3626	G
40	L5	3630	A
40	L5	3635	A
40	L5	3644	U
40	L5	3646	A
40	L5	3648	A
40	L5	3662	A
40	L5	3664	G
40	L5	3670	C
40	L5	3673	C
40	L5	3674	G
40	L5	3701	OMC
40	L5	3710	G
40	L5	3711	A
40	L5	3713	U
40	L5	3727	A
40	L5	3748	A
40	L5	3753	G
40	L5	3754	G
40	L5	3760	A
40	L5	3764	U
40	L5	3770	U
40	L5	3773	U
40	L5	3774	A
40	L5	3775	A
40	L5	3776	G
40	L5	3777	G
40	L5	3785	A2M
40	L5	3786	U
40	L5	3792	OMG
40	L5	3811	G
40	L5	3812	C
40	L5	3814	U

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Mol	Chain	Res	Type
40	L5	3817	A
40	L5	3819	G
40	L5	3824	A
40	L5	3838	U
40	L5	3839	G
40	L5	3840	U
40	L5	3877	A
40	L5	3878	C
40	L5	3879	G
40	L5	3885	G
40	L5	3890	A
40	L5	3892	U
40	L5	3897	G
40	L5	3901	A
40	L5	3906	A
40	L5	3907	G
40	L5	3908	A
40	L5	3915	U
40	L5	3938	G
40	L5	3947	A
40	L5	3948	C
40	L5	3949	A
40	L5	3950	U
40	L5	3951	G
40	L5	3953	G
40	L5	4059	C
40	L5	4060	U
40	L5	4061	G
40	L5	4062	A
40	L5	4064	C
40	L5	4076	G
40	L5	4084	G
40	L5	4093	G
40	L5	4095	G
40	L5	4097	G
40	L5	4099	G
40	L5	4101	C
40	L5	4103	C
40	L5	4104	G
40	L5	4106	G
40	L5	4108	G
40	L5	4111	U

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Mol	Chain	Res	Type
40	L5	4114	C
40	L5	4115	G
40	L5	4116	C
40	L5	4117	U
40	L5	4122	G
40	L5	4127	A
40	L5	4139	G
40	L5	4140	C
40	L5	4141	G
40	L5	4142	C
40	L5	4143	G
40	L5	4144	C
40	L5	4146	G
40	L5	4150	G
40	L5	4162	C
40	L5	4163	U
40	L5	4166	G
40	L5	4168	G
40	L5	4170	A
40	L5	4183	G
40	L5	4184	G
40	L5	4191	G
40	L5	4203	A
40	L5	4212	A
40	L5	4222	G
40	L5	4225	G
40	L5	4228	OMG
40	L5	4229	U
40	L5	4233	A
40	L5	4243	C
40	L5	4251	A
40	L5	4254	G
40	L5	4257	A
40	L5	4258	C
40	L5	4265	U
40	L5	4268	A
40	L5	4273	A
40	L5	4291	G
40	L5	4304	A
40	L5	4305	G
40	L5	4314	C
40	L5	4319	C

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Mol	Chain	Res	Type
40	L5	4329	G
40	L5	4330	G
40	L5	4332	C
40	L5	4338	G
40	L5	4349	C
40	L5	4350	C
40	L5	4354	U
40	L5	4373	G
40	L5	4376	A
40	L5	4377	G
40	L5	4378	A
40	L5	4379	A
40	L5	4387	C
40	L5	4391	G
40	L5	4394	A
40	L5	4405	G
40	L5	4421	C
40	L5	4422	A
40	L5	4438	U
40	L5	4448	G
40	L5	4449	A
40	L5	4464	A
40	L5	4466	C
40	L5	4475	G
40	L5	4488	A
40	L5	4500	PSU
40	L5	4512	U
40	L5	4513	A
40	L5	4519	C
40	L5	4524	G
40	L5	4545	G
40	L5	4548	A
40	L5	4549	G
40	L5	4560	C
40	L5	4567	G
40	L5	4569	U
40	L5	4575	G
40	L5	4584	A
40	L5	4589	A
40	L5	4590	A2M
40	L5	4600	G
40	L5	4601	U

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Mol	Chain	Res	Type
40	L5	4636	PSU
40	L5	4637	OMG
40	L5	4656	A
40	L5	4670	C
40	L5	4672	A
40	L5	4687	A
40	L5	4694	G
40	L5	4695	C
40	L5	4700	A
40	L5	4708	A
40	L5	4709	U
40	L5	4719	G
40	L5	4734	A
40	L5	4740	G
40	L5	4741	C
40	L5	4742	G
40	L5	4745	G
40	L5	4750	G
40	L5	4754	G
40	L5	4757	C
40	L5	4759	C
40	L5	4761	G
40	L5	4764	A
40	L5	4765	G
40	L5	4771	C
40	L5	4772	C
40	L5	4775	C
40	L5	4859	C
40	L5	4863	G
40	L5	4867	G
40	L5	4870	G
40	L5	4871	C
40	L5	4875	G
40	L5	4882	U
40	L5	4883	C
40	L5	4889	G
40	L5	4895	C
40	L5	4896	G
40	L5	4898	G
40	L5	4899	G
40	L5	4900	C
40	L5	4901	G

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Mol	Chain	Res	Type
40	L5	4910	G
40	L5	4912	G
40	L5	4914	C
40	L5	4922	C
40	L5	4925	U
40	L5	4927	G
40	L5	4928	C
40	L5	4934	A
40	L5	4940	C
40	L5	4941	G
40	L5	4943	A
40	L5	4949	G
40	L5	4951	G
40	L5	4960	G
40	L5	4976	U
40	L5	4985	U
40	L5	4988	U
40	L5	4989	U
40	L5	4990	C
40	L5	4991	U
40	L5	5014	A
40	L5	5017	G
40	L5	5020	G
40	L5	5023	C
40	L5	5024	C
40	L5	5026	U
40	L5	5028	G
40	L5	5029	C
40	L5	5030	U
40	L5	5034	A
40	L5	5041	G
40	L5	5047	C
40	L5	5050	C
40	L5	5054	C
40	L5	5055	G
40	L5	5061	A
40	L5	5069	U
41	L7	7	G
41	L7	22	A
41	L7	33	U
41	L7	38	U
41	L7	53	U

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Mol	Chain	Res	Type
41	L7	54	A
41	L7	64	G
41	L7	97	G
41	L7	100	A
41	L7	110	G
41	L7	111	C
42	L8	23	C
42	L8	25	G
42	L8	34	U
42	L8	35	C
42	L8	59	A
42	L8	62	A
42	L8	63	U
42	L8	80	A
42	L8	82	A
42	L8	84	A
42	L8	85	U
42	L8	86	U
42	L8	87	G
42	L8	94	G
42	L8	103	A
42	L8	105	C
42	L8	111	U
42	L8	114	G
42	L8	123	U
42	L8	124	U
42	L8	125	C
42	L8	126	C
42	L8	127	U
42	L8	153	C

All (19) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	PE	18	U
36	S2	291	G
36	S2	563	G
36	S2	688	U
40	L5	406	C
40	L5	914	U
40	L5	1082	C
40	L5	1590	C

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Mol	Chain	Res	Type
40	L5	1633	G
40	L5	1703	C
40	L5	1977	C
40	L5	2416	G
40	L5	2485	U
40	L5	2675	G
40	L5	2760	G
40	L5	3673	C
40	L5	4600	G
40	L5	4699	U
40	L5	4913	G

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	$\# Z > 2$
40	A2M	L5	4590	40	18,25,26	1.38	3 (16%)	20,36,39	2.14	5 (25%)
40	PSU	L5	4576	40	18,21,22	1.03	1 (5%)	21,30,33	1.93	4 (19%)
40	OMG	L5	2364	86,40	19,26,27	1.32	3 (15%)	21,38,41	0.71	0
40	OMC	L5	2861	40	19,22,23	0.68	0	25,31,34	0.80	1 (4%)
42	PSU	L8	55	42	18,21,22	1.03	1 (5%)	21,30,33	1.87	4 (19%)
40	PSU	L5	4293	40	18,21,22	1.07	2 (11%)	21,30,33	2.05	4 (19%)
40	OMC	L5	3808	40	19,22,23	0.72	0	25,31,34	0.89	2 (8%)
40	5MC	L5	3782	86,40	19,22,23	0.76	0	26,32,35	0.77	1 (3%)
40	OMG	L5	4618	40	19,26,27	1.30	3 (15%)	21,38,41	0.78	1 (4%)
40	PSU	L5	4579	40	18,21,22	1.05	2 (11%)	21,30,33	1.92	4 (19%)
40	A2M	L5	2401	40	18,25,26	1.44	3 (16%)	20,36,39	2.06	6 (30%)
36	OMU	S2	627	36	19,22,23	3.36	7 (36%)	25,31,34	1.79	4 (16%)
36	OMU	S2	1326	36	19,22,23	3.29	7 (36%)	25,31,34	1.88	5 (20%)
40	PSU	L5	3851	40	18,21,22	1.06	1 (5%)	21,30,33	1.98	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	OMG	L5	4623	40	19,26,27	1.31	3 (15%)	21,38,41	0.86	1 (4%)
36	PSU	S2	649	36	18,21,22	1.09	1 (5%)	21,30,33	1.96	4 (19%)
40	OMU	L5	4227	40	19,22,23	3.20	7 (36%)	25,31,34	1.86	4 (16%)
40	OMC	L5	3841	40	19,22,23	0.66	0	25,31,34	0.67	0
40	A2M	L5	398	40	18,25,26	1.33	2 (11%)	20,36,39	2.16	5 (25%)
40	PSU	L5	1860	40	18,21,22	1.07	2 (11%)	21,30,33	1.96	4 (19%)
36	PSU	S2	814	36	18,21,22	1.07	1 (5%)	21,30,33	1.83	4 (19%)
40	A2M	L5	1326	40	18,25,26	1.45	3 (16%)	20,36,39	1.90	7 (35%)
40	A2M	L5	4523	86,40	18,25,26	1.48	4 (22%)	20,36,39	2.14	5 (25%)
36	A2M	S2	1031	36	18,25,26	1.32	2 (11%)	20,36,39	2.02	5 (25%)
40	PSU	L5	2632	40	18,21,22	1.04	2 (11%)	21,30,33	2.02	5 (23%)
40	OMC	L5	3701	40	19,22,23	0.74	1 (5%)	25,31,34	1.83	4 (16%)
40	PSU	L5	1862	40	18,21,22	1.06	1 (5%)	21,30,33	2.01	4 (19%)
40	PSU	L5	5010	40	18,21,22	1.10	1 (5%)	21,30,33	1.90	4 (19%)
36	OMG	S2	1490	36	19,26,27	1.29	3 (15%)	21,38,41	0.65	0
40	PSU	L5	3822	40	18,21,22	1.03	1 (5%)	21,30,33	1.98	5 (23%)
36	PSU	S2	1046	36	18,21,22	1.08	2 (11%)	21,30,33	1.87	4 (19%)
36	6MZ	S2	1832	36,86	17,25,26	3.49	7 (41%)	15,36,39	2.52	3 (20%)
36	4AC	S2	1842	36	21,24,25	0.40	0	28,34,37	0.46	0
36	OMU	S2	172	36	19,22,23	3.31	7 (36%)	25,31,34	1.83	5 (20%)
40	A2M	L5	3825	40	18,25,26	1.41	3 (16%)	20,36,39	2.04	6 (30%)
40	PSU	L5	4673	86,40	18,21,22	1.09	2 (11%)	21,30,33	1.97	4 (19%)
36	PSU	S2	866	36	18,21,22	1.07	2 (11%)	21,30,33	2.01	6 (28%)
40	OMG	L5	1625	40	19,26,27	1.34	3 (15%)	21,38,41	0.79	1 (4%)
40	PSU	L5	5001	40	18,21,22	1.06	1 (5%)	21,30,33	1.91	4 (19%)
36	PSU	S2	801	36	18,21,22	1.11	1 (5%)	21,30,33	1.78	4 (19%)
36	OMG	S2	683	36	19,26,27	1.21	3 (15%)	21,38,41	0.77	1 (4%)
40	PSU	L5	1582	40	18,21,22	1.04	1 (5%)	21,30,33	1.81	4 (19%)
40	PSU	L5	3844	40	18,21,22	1.07	2 (11%)	21,30,33	1.90	4 (19%)
40	PSU	L5	4689	40	18,21,22	1.04	2 (11%)	21,30,33	1.98	4 (19%)
40	PSU	L5	4972	40	18,21,22	1.06	2 (11%)	21,30,33	1.92	4 (19%)
40	OMC	L5	3887	40	19,22,23	0.67	0	25,31,34	0.67	0
40	OMC	L5	2804	40	19,22,23	0.68	0	25,31,34	0.64	0
36	PSU	S2	681	36	18,21,22	1.03	1 (5%)	21,30,33	1.95	4 (19%)
36	A2M	S2	668	36,86	18,25,26	1.45	3 (16%)	20,36,39	2.14	6 (30%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
36	PSU	S2	105	36	18,21,22	1.06	1 (5%)	21,30,33	1.86	4 (19%)
36	OMC	S2	1391	36	19,22,23	0.58	0	25,31,34	0.63	0
40	PSU	L5	4312	40	18,21,22	1.07	2 (11%)	21,30,33	1.92	4 (19%)
40	PSU	L5	1744	86,40	18,21,22	1.07	2 (11%)	21,30,33	1.96	4 (19%)
40	A2M	L5	2363	86,40	18,25,26	1.44	3 (16%)	20,36,39	1.94	7 (35%)
40	PSU	L5	4471	40	18,21,22	1.05	2 (11%)	21,30,33	1.95	4 (19%)
40	OMG	L5	3899	40	19,26,27	1.33	3 (15%)	21,38,41	0.87	1 (4%)
40	PSU	L5	4532	40	18,21,22	1.09	2 (11%)	21,30,33	1.95	4 (19%)
40	OMC	L5	2422	86,40	19,22,23	0.66	0	25,31,34	0.74	1 (4%)
36	4AC	S2	1337	36	21,24,25	0.41	0	28,34,37	0.79	2 (7%)
40	PSU	L5	4636	40	18,21,22	1.09	2 (11%)	21,30,33	2.10	6 (28%)
36	OMG	S2	1328	36	19,26,27	1.19	3 (15%)	21,38,41	0.80	1 (4%)
40	OMG	L5	4392	40	19,26,27	1.35	3 (15%)	21,38,41	0.79	1 (4%)
36	OMU	S2	354	36	19,22,23	3.26	7 (36%)	25,31,34	1.92	5 (20%)
36	PSU	S2	1177	36	18,21,22	1.04	2 (11%)	21,30,33	1.98	4 (19%)
40	OMC	L5	3869	40	19,22,23	0.67	0	25,31,34	0.71	0
42	OMG	L8	75	42	19,26,27	1.27	3 (15%)	21,38,41	0.83	1 (4%)
40	OMC	L5	4456	40	19,22,23	0.76	1 (5%)	25,31,34	0.77	0
40	PSU	L5	3639	40	18,21,22	1.13	2 (11%)	21,30,33	2.04	4 (19%)
36	PSU	S2	93	36	18,21,22	1.06	1 (5%)	21,30,33	1.77	4 (19%)
40	1MA	L5	1322	86,40	17,25,26	1.14	2 (11%)	17,37,40	1.20	3 (17%)
40	PSU	L5	1792	40	18,21,22	1.05	1 (5%)	21,30,33	1.91	4 (19%)
36	OMU	S2	1442	36	19,22,23	3.31	7 (36%)	25,31,34	1.80	5 (20%)
40	OMC	L5	4536	40	19,22,23	0.68	0	25,31,34	0.71	0
36	PSU	S2	863	36	18,21,22	1.13	1 (5%)	21,30,33	1.89	4 (19%)
40	PSU	L5	4628	40	18,21,22	1.06	2 (11%)	21,30,33	2.02	4 (19%)
40	OMG	L5	4228	40	19,26,27	1.29	3 (15%)	21,38,41	0.90	1 (4%)
36	PSU	S2	1244	36	18,21,22	1.08	1 (5%)	21,30,33	1.99	5 (23%)
40	OMC	L5	2351	86,40	19,22,23	0.74	1 (5%)	25,31,34	0.88	1 (4%)
40	OMU	L5	2837	40	19,22,23	3.24	7 (36%)	25,31,34	1.91	5 (20%)
36	OMG	S2	601	36	19,26,27	1.19	2 (10%)	21,38,41	0.79	1 (4%)
36	PSU	S2	966	36,86	18,21,22	1.08	1 (5%)	21,30,33	1.98	4 (19%)
40	PSU	L5	4442	40	18,21,22	1.05	2 (11%)	21,30,33	2.06	6 (28%)
40	PSU	L5	3637	40	18,21,22	1.07	2 (11%)	21,30,33	2.00	5 (23%)
36	PSU	S2	1232	36	18,21,22	1.08	1 (5%)	21,30,33	1.93	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	PSU	L5	4403	40	18,21,22	1.05	2 (11%)	21,30,33	2.08	6 (28%)
40	PSU	L5	4973	40	18,21,22	1.03	2 (11%)	21,30,33	1.99	5 (23%)
40	A2M	L5	3785	86,40	18,25,26	1.57	3 (16%)	20,36,39	2.52	7 (35%)
36	A2M	S2	468	36	18,25,26	1.39	2 (11%)	20,36,39	2.06	6 (30%)
40	OMU	L5	4306	40	19,22,23	3.21	7 (36%)	25,31,34	1.90	5 (20%)
36	OMU	S2	799	36	19,22,23	3.39	7 (36%)	25,31,34	1.83	5 (20%)
40	OMC	L5	2365	86,40	19,22,23	0.66	0	25,31,34	0.59	0
40	A2M	L5	1524	40	18,25,26	1.50	4 (22%)	20,36,39	2.34	6 (30%)
36	OMU	S2	1288	36	19,22,23	3.35	7 (36%)	25,31,34	1.77	5 (20%)
40	UY1	L5	3818	40	19,22,23	4.79	9 (47%)	21,31,34	2.00	5 (23%)
36	A2M	S2	576	36	18,25,26	1.27	2 (11%)	20,36,39	1.99	5 (25%)
36	PSU	S2	1004	36	18,21,22	1.09	2 (11%)	21,30,33	1.94	5 (23%)
40	OMG	L5	4494	40	19,26,27	1.30	3 (15%)	21,38,41	0.79	1 (4%)
36	OMC	S2	1703	36	19,22,23	0.65	0	25,31,34	0.68	0
36	PSU	S2	1081	36	18,21,22	1.03	1 (5%)	21,30,33	1.81	5 (23%)
40	PSU	L5	1683	40	18,21,22	1.06	2 (11%)	21,30,33	2.00	4 (19%)
36	OMC	S2	462	36	19,22,23	0.59	0	25,31,34	0.78	0
40	PSU	L5	4353	40	18,21,22	1.07	2 (11%)	21,30,33	2.04	6 (28%)
40	PSU	L5	4296	40	18,21,22	1.10	2 (11%)	21,30,33	1.97	4 (19%)
36	PSU	S2	686	36	18,21,22	1.06	1 (5%)	21,30,33	1.99	5 (23%)
36	OMC	S2	174	36	19,22,23	0.57	0	25,31,34	0.80	1 (4%)
40	OMG	L5	1316	40	19,26,27	1.39	3 (15%)	21,38,41	0.84	0
36	PSU	S2	109	36	18,21,22	1.11	1 (5%)	21,30,33	2.02	6 (28%)
40	PSU	L5	3884	40	18,21,22	1.08	2 (11%)	21,30,33	1.97	4 (19%)
40	OMG	L5	3627	40	19,26,27	1.29	3 (15%)	21,38,41	0.86	1 (4%)
36	PSU	S2	1367	36	18,21,22	1.05	1 (5%)	21,30,33	1.90	4 (19%)
40	OMG	L5	3792	40	19,26,27	1.28	3 (15%)	21,38,41	0.82	1 (4%)
40	PSU	L5	1782	40	18,21,22	1.07	1 (5%)	21,30,33	1.96	5 (23%)
40	PSU	L5	4299	40	18,21,22	1.04	1 (5%)	21,30,33	1.94	4 (19%)
36	A2M	S2	99	36,86	18,25,26	1.33	2 (11%)	20,36,39	2.07	5 (25%)
36	OMG	S2	867	36	19,26,27	1.17	2 (10%)	21,38,41	0.85	1 (4%)
40	OMG	L5	2424	40	19,26,27	1.31	3 (15%)	21,38,41	0.68	0
40	OMU	L5	3925	40	19,22,23	3.19	7 (36%)	25,31,34	1.92	5 (20%)
40	PSU	L5	4500	40	18,21,22	1.08	2 (11%)	21,30,33	2.05	6 (28%)
36	MA6	S2	1851	36	19,26,27	1.49	3 (15%)	18,38,41	3.54	3 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	PSU	L5	1781	40	18,21,22	1.05	1 (5%)	21,30,33	1.84	4 (19%)
36	OMC	S2	1272	36	19,22,23	0.62	0	25,31,34	0.84	1 (4%)
36	OMC	S2	517	36	19,22,23	0.56	0	25,31,34	0.67	0
40	OMG	L5	4637	40	19,26,27	1.31	3 (15%)	21,38,41	0.77	1 (4%)
36	A2M	S2	1383	36	18,25,26	1.29	2 (11%)	20,36,39	2.28	5 (25%)
40	OMC	L5	1340	40	19,22,23	0.71	0	25,31,34	0.78	0
36	OMG	S2	436	36	19,26,27	1.21	3 (15%)	21,38,41	0.84	1 (4%)
40	A2M	L5	3830	40	18,25,26	1.41	3 (16%)	20,36,39	2.14	5 (25%)
36	A2M	S2	484	36	18,25,26	1.27	2 (11%)	20,36,39	1.79	7 (35%)
40	PSU	L5	4493	40	18,21,22	1.02	1 (5%)	21,30,33	1.91	4 (19%)
40	OMG	L5	4499	40	19,26,27	1.28	3 (15%)	21,38,41	0.76	1 (4%)
36	PSU	S2	651	36	18,21,22	1.08	1 (5%)	21,30,33	1.91	4 (19%)
40	OMG	L5	4370	40	19,26,27	1.30	3 (15%)	21,38,41	0.77	1 (4%)
36	B8N	S2	1248	36	25,29,30	3.25	7 (28%)	28,42,45	2.01	8 (28%)
40	A2M	L5	3718	40	18,25,26	1.34	3 (16%)	20,36,39	2.05	6 (30%)
40	PSU	L5	3695	40	18,21,22	1.03	2 (11%)	21,30,33	1.97	4 (19%)
36	PSU	S2	1056	36	18,21,22	1.05	2 (11%)	21,30,33	2.01	6 (28%)
36	PSU	S2	406	36	18,21,22	1.09	2 (11%)	21,30,33	2.02	4 (19%)
40	PSU	L5	3920	86,40	18,21,22	1.07	2 (11%)	21,30,33	1.96	4 (19%)
40	OMG	L5	3744	40	19,26,27	1.28	3 (15%)	21,38,41	0.80	1 (4%)
40	OMC	L5	2824	40	19,22,23	0.63	0	25,31,34	0.66	0
40	A2M	L5	4571	40	18,25,26	1.51	4 (22%)	20,36,39	2.03	7 (35%)
40	A2M	L5	1534	86,40	18,25,26	1.44	3 (16%)	20,36,39	1.80	7 (35%)
36	MA6	S2	1850	36	19,26,27	3.17	9 (47%)	18,38,41	3.46	4 (22%)
40	PSU	L5	4457	40	18,21,22	1.03	2 (11%)	21,30,33	2.02	5 (23%)
40	OMU	L5	4498	40	19,22,23	3.20	7 (36%)	25,31,34	1.92	5 (20%)
40	PSU	L5	2839	40	18,21,22	1.07	2 (11%)	21,30,33	2.01	4 (19%)
36	OMU	S2	121	36	19,22,23	3.33	7 (36%)	25,31,34	1.85	5 (20%)
36	PSU	S2	1045	36	18,21,22	1.06	1 (5%)	21,30,33	1.94	4 (19%)
40	A2M	L5	2787	40	18,25,26	1.40	2 (11%)	20,36,39	1.83	5 (25%)
40	A2M	L5	2815	40	18,25,26	1.35	3 (16%)	20,36,39	1.89	7 (35%)
40	PSU	L5	4521	86,40	18,21,22	1.08	2 (11%)	21,30,33	1.99	4 (19%)
40	PSU	L5	4552	40	18,21,22	1.08	2 (11%)	21,30,33	2.00	4 (19%)
40	5MC	L5	4447	40	19,22,23	0.96	2 (10%)	26,32,35	0.70	0
40	A2M	L5	3867	40	18,25,26	1.55	4 (22%)	20,36,39	1.92	7 (35%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
40	A2M	L5	400	40	18,25,26	1.46	4 (22%)	20,36,39	1.98	6 (30%)
40	PSU	L5	4361	40	18,21,22	1.02	1 (5%)	21,30,33	1.81	4 (19%)
40	A2M	L5	1871	86,40	18,25,26	1.56	4 (22%)	20,36,39	2.24	7 (35%)
40	PSU	L5	1536	40	18,21,22	1.06	2 (11%)	21,30,33	1.94	4 (19%)
42	PSU	L8	69	42	18,21,22	1.09	2 (11%)	21,30,33	2.04	6 (28%)
40	OMG	L5	4196	40	19,26,27	1.30	3 (15%)	21,38,41	0.73	1 (4%)
40	PSU	L5	4431	40	18,21,22	1.04	2 (11%)	21,30,33	1.95	4 (19%)
36	A2M	S2	27	36	18,25,26	1.35	2 (11%)	20,36,39	1.98	6 (30%)
40	OMG	L5	2876	40	19,26,27	1.29	3 (15%)	21,38,41	0.82	1 (4%)
40	OMG	L5	1522	40	19,26,27	1.33	3 (15%)	21,38,41	0.90	1 (4%)
40	OMU	L5	4620	40	19,22,23	3.13	7 (36%)	25,31,34	1.72	5 (20%)
36	PSU	S2	1174	36	18,21,22	1.07	2 (11%)	21,30,33	1.89	4 (19%)
40	A2M	L5	1323	40	18,25,26	1.44	3 (16%)	20,36,39	1.97	7 (35%)
36	A2M	S2	166	36	18,25,26	1.30	2 (11%)	20,36,39	2.18	6 (30%)
36	A2M	S2	159	36	18,25,26	1.29	2 (11%)	20,36,39	1.86	7 (35%)
36	OMG	S2	509	36	19,26,27	1.21	3 (15%)	21,38,41	0.81	1 (4%)
36	G7M	S2	1639	36,3	20,26,27	2.40	6 (30%)	16,39,42	1.11	1 (6%)
40	PSU	L5	1677	40	18,21,22	1.13	3 (16%)	21,30,33	2.12	5 (23%)
36	OMG	S2	644	36	19,26,27	1.18	2 (10%)	21,38,41	0.83	1 (4%)
40	6MZ	L5	4220	40	17,25,26	1.53	2 (11%)	15,36,39	2.60	3 (20%)
40	PSU	L5	3853	86,40	18,21,22	1.02	1 (5%)	21,30,33	1.90	4 (19%)
36	OMU	S2	428	36	19,22,23	3.31	7 (36%)	25,31,34	1.84	5 (20%)
40	UR3	L5	4530	40	19,22,23	2.61	7 (36%)	26,32,35	1.64	3 (11%)
36	OMU	S2	116	36	19,22,23	3.29	7 (36%)	25,31,34	1.69	4 (16%)

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
40	A2M	L5	4590	40	-	3/5/27/28	0/3/3/3
40	PSU	L5	4576	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	2364	86,40	-	3/5/27/28	0/3/3/3
40	OMC	L5	2861	40	-	0/9/27/28	0/2/2/2
42	PSU	L8	55	42	-	0/7/25/26	0/2/2/2
40	PSU	L5	4293	40	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
40	OMC	L5	3808	40	-	1/9/27/28	0/2/2/2
40	5MC	L5	3782	86,40	-	1/7/25/26	0/2/2/2
40	OMG	L5	4618	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	4579	40	-	0/7/25/26	0/2/2/2
40	A2M	L5	2401	40	-	1/5/27/28	0/3/3/3
36	OMU	S2	627	36	-	6/9/27/28	0/2/2/2
36	OMU	S2	1326	36	-	0/9/27/28	0/2/2/2
40	PSU	L5	3851	40	-	1/7/25/26	0/2/2/2
40	OMG	L5	4623	40	-	0/5/27/28	0/3/3/3
36	PSU	S2	649	36	-	0/7/25/26	0/2/2/2
40	OMU	L5	4227	40	-	0/9/27/28	0/2/2/2
40	OMC	L5	3841	40	-	0/9/27/28	0/2/2/2
40	A2M	L5	398	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	1860	40	-	0/7/25/26	0/2/2/2
36	PSU	S2	814	36	-	0/7/25/26	0/2/2/2
40	A2M	L5	1326	40	-	4/5/27/28	0/3/3/3
40	A2M	L5	4523	86,40	-	0/5/27/28	0/3/3/3
36	A2M	S2	1031	36	-	1/5/27/28	0/3/3/3
40	PSU	L5	2632	40	-	0/7/25/26	0/2/2/2
40	OMC	L5	3701	40	-	5/9/27/28	0/2/2/2
40	PSU	L5	1862	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	5010	40	-	0/7/25/26	0/2/2/2
36	OMG	S2	1490	36	-	1/5/27/28	0/3/3/3
40	PSU	L5	3822	40	-	0/7/25/26	0/2/2/2
36	PSU	S2	1046	36	-	0/7/25/26	0/2/2/2
36	6MZ	S2	1832	36,86	-	2/5/27/28	0/3/3/3
36	4AC	S2	1842	36	-	0/11/29/30	0/2/2/2
36	OMU	S2	172	36	-	0/9/27/28	0/2/2/2
40	A2M	L5	3825	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	4673	86,40	-	0/7/25/26	0/2/2/2
36	PSU	S2	866	36	-	0/7/25/26	0/2/2/2
40	OMG	L5	1625	40	-	2/5/27/28	0/3/3/3
40	PSU	L5	5001	40	-	0/7/25/26	0/2/2/2
36	PSU	S2	801	36	-	2/7/25/26	0/2/2/2
36	OMG	S2	683	36	-	2/5/27/28	0/3/3/3
40	PSU	L5	1582	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	3844	40	-	1/7/25/26	0/2/2/2
40	PSU	L5	4689	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4972	40	-	0/7/25/26	0/2/2/2
40	OMC	L5	3887	40	-	1/9/27/28	0/2/2/2
40	OMC	L5	2804	40	-	0/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
36	PSU	S2	681	36	-	0/7/25/26	0/2/2/2
36	A2M	S2	668	36,86	-	2/5/27/28	0/3/3/3
36	PSU	S2	105	36	-	0/7/25/26	0/2/2/2
36	OMC	S2	1391	36	-	0/9/27/28	0/2/2/2
40	PSU	L5	4312	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	1744	86,40	-	0/7/25/26	0/2/2/2
40	A2M	L5	2363	86,40	-	0/5/27/28	0/3/3/3
40	PSU	L5	4471	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	3899	40	-	3/5/27/28	0/3/3/3
40	PSU	L5	4532	40	-	0/7/25/26	0/2/2/2
40	OMC	L5	2422	86,40	-	2/9/27/28	0/2/2/2
36	4AC	S2	1337	36	-	1/11/29/30	0/2/2/2
40	PSU	L5	4636	40	-	2/7/25/26	0/2/2/2
36	OMG	S2	1328	36	-	0/5/27/28	0/3/3/3
40	OMG	L5	4392	40	-	0/5/27/28	0/3/3/3
36	OMU	S2	354	36	-	0/9/27/28	0/2/2/2
36	PSU	S2	1177	36	-	0/7/25/26	0/2/2/2
40	OMC	L5	3869	40	-	0/9/27/28	0/2/2/2
42	OMG	L8	75	42	-	1/5/27/28	0/3/3/3
40	OMC	L5	4456	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	3639	40	-	0/7/25/26	0/2/2/2
36	PSU	S2	93	36	-	0/7/25/26	0/2/2/2
40	1MA	L5	1322	86,40	-	0/3/25/26	0/3/3/3
40	PSU	L5	1792	40	-	0/7/25/26	0/2/2/2
36	OMU	S2	1442	36	-	2/9/27/28	0/2/2/2
40	OMC	L5	4536	40	-	0/9/27/28	0/2/2/2
36	PSU	S2	863	36	-	0/7/25/26	0/2/2/2
40	PSU	L5	4628	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	4228	40	-	2/5/27/28	0/3/3/3
36	PSU	S2	1244	36	-	0/7/25/26	0/2/2/2
40	OMC	L5	2351	86,40	-	1/9/27/28	0/2/2/2
40	OMU	L5	2837	40	-	0/9/27/28	0/2/2/2
36	OMG	S2	601	36	-	1/5/27/28	0/3/3/3
36	PSU	S2	966	36,86	-	0/7/25/26	0/2/2/2
40	PSU	L5	4442	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	3637	40	-	0/7/25/26	0/2/2/2
36	PSU	S2	1232	36	-	0/7/25/26	0/2/2/2
40	PSU	L5	4403	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4973	40	-	0/7/25/26	0/2/2/2
40	A2M	L5	3785	86,40	-	2/5/27/28	0/3/3/3
36	A2M	S2	468	36	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
40	OMU	L5	4306	40	-	0/9/27/28	0/2/2/2
36	OMU	S2	799	36	-	2/9/27/28	0/2/2/2
40	OMC	L5	2365	86,40	-	0/9/27/28	0/2/2/2
40	A2M	L5	1524	40	-	3/5/27/28	0/3/3/3
36	OMU	S2	1288	36	-	2/9/27/28	0/2/2/2
40	UY1	L5	3818	40	-	3/9/27/28	0/2/2/2
36	A2M	S2	576	36	-	3/5/27/28	0/3/3/3
36	PSU	S2	1004	36	-	0/7/25/26	0/2/2/2
40	OMG	L5	4494	40	-	1/5/27/28	0/3/3/3
36	OMC	S2	1703	36	-	1/9/27/28	0/2/2/2
36	PSU	S2	1081	36	-	1/7/25/26	0/2/2/2
40	PSU	L5	1683	40	-	0/7/25/26	0/2/2/2
36	OMC	S2	462	36	-	1/9/27/28	0/2/2/2
40	PSU	L5	4353	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4296	40	-	2/7/25/26	0/2/2/2
36	PSU	S2	686	36	-	0/7/25/26	0/2/2/2
36	OMC	S2	174	36	-	0/9/27/28	0/2/2/2
40	OMG	L5	1316	40	-	0/5/27/28	0/3/3/3
36	PSU	S2	109	36	-	0/7/25/26	0/2/2/2
40	PSU	L5	3884	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	3627	40	-	0/5/27/28	0/3/3/3
36	PSU	S2	1367	36	-	0/7/25/26	0/2/2/2
40	OMG	L5	3792	40	-	2/5/27/28	0/3/3/3
40	PSU	L5	1782	40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4299	40	-	0/7/25/26	0/2/2/2
36	A2M	S2	99	36,86	-	2/5/27/28	0/3/3/3
36	OMG	S2	867	36	-	2/5/27/28	0/3/3/3
40	OMG	L5	2424	40	-	0/5/27/28	0/3/3/3
40	OMU	L5	3925	40	-	1/9/27/28	0/2/2/2
40	PSU	L5	4500	40	-	3/7/25/26	0/2/2/2
36	MA6	S2	1851	36	-	1/7/29/30	0/3/3/3
40	PSU	L5	1781	40	-	1/7/25/26	0/2/2/2
36	OMC	S2	1272	36	-	2/9/27/28	0/2/2/2
36	OMC	S2	517	36	-	0/9/27/28	0/2/2/2
40	OMG	L5	4637	40	-	2/5/27/28	0/3/3/3
36	A2M	S2	1383	36	-	3/5/27/28	0/3/3/3
40	OMC	L5	1340	40	-	1/9/27/28	0/2/2/2
36	OMG	S2	436	36	-	0/5/27/28	0/3/3/3
40	A2M	L5	3830	40	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
36	A2M	S2	484	36	-	0/5/27/28	0/3/3/3
40	PSU	L5	4493	40	-	0/7/25/26	0/2/2/2
40	OMG	L5	4499	40	-	0/5/27/28	0/3/3/3
36	PSU	S2	651	36	-	0/7/25/26	0/2/2/2
40	OMG	L5	4370	40	-	0/5/27/28	0/3/3/3
36	B8N	S2	1248	36	-	1/16/34/35	0/2/2/2
40	A2M	L5	3718	40	-	0/5/27/28	0/3/3/3
40	PSU	L5	3695	40	-	0/7/25/26	0/2/2/2
36	PSU	S2	1056	36	-	0/7/25/26	0/2/2/2
36	PSU	S2	406	36	-	0/7/25/26	0/2/2/2
40	PSU	L5	3920	86,40	-	0/7/25/26	0/2/2/2
40	OMG	L5	3744	40	-	0/5/27/28	0/3/3/3
40	OMC	L5	2824	40	-	1/9/27/28	0/2/2/2
40	A2M	L5	4571	40	-	0/5/27/28	0/3/3/3
40	A2M	L5	1534	86,40	-	1/5/27/28	0/3/3/3
36	MA6	S2	1850	36	-	0/7/29/30	0/3/3/3
40	PSU	L5	4457	40	-	0/7/25/26	0/2/2/2
40	OMU	L5	4498	40	-	0/9/27/28	0/2/2/2
40	PSU	L5	2839	40	-	0/7/25/26	0/2/2/2
36	OMU	S2	121	36	-	0/9/27/28	0/2/2/2
36	PSU	S2	1045	36	-	2/7/25/26	0/2/2/2
40	A2M	L5	2787	40	-	3/5/27/28	0/3/3/3
40	A2M	L5	2815	40	-	2/5/27/28	0/3/3/3
40	PSU	L5	4521	86,40	-	0/7/25/26	0/2/2/2
40	PSU	L5	4552	40	-	0/7/25/26	0/2/2/2
40	5MC	L5	4447	40	-	4/7/25/26	0/2/2/2
40	A2M	L5	3867	40	-	2/5/27/28	0/3/3/3
40	A2M	L5	400	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	4361	40	-	0/7/25/26	0/2/2/2
40	A2M	L5	1871	86,40	-	0/5/27/28	0/3/3/3
40	PSU	L5	1536	40	-	2/7/25/26	0/2/2/2
42	PSU	L8	69	42	-	0/7/25/26	0/2/2/2
40	OMG	L5	4196	40	-	1/5/27/28	0/3/3/3
40	PSU	L5	4431	40	-	0/7/25/26	0/2/2/2
36	A2M	S2	27	36	-	1/5/27/28	0/3/3/3
40	OMG	L5	2876	40	-	0/5/27/28	0/3/3/3
40	OMG	L5	1522	40	-	0/5/27/28	0/3/3/3
40	OMU	L5	4620	40	-	0/9/27/28	0/2/2/2
36	PSU	S2	1174	36	-	0/7/25/26	0/2/2/2
40	A2M	L5	1323	40	-	2/5/27/28	0/3/3/3
36	A2M	S2	166	36	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
36	A2M	S2	159	36	-	1/5/27/28	0/3/3/3
36	OMG	S2	509	36	-	0/5/27/28	0/3/3/3
36	G7M	S2	1639	36,3	-	1/3/25/26	0/3/3/3
40	PSU	L5	1677	40	-	1/7/25/26	0/2/2/2
36	OMG	S2	644	36	-	3/5/27/28	0/3/3/3
40	6MZ	L5	4220	40	-	2/5/27/28	0/3/3/3
40	PSU	L5	3853	86,40	-	0/7/25/26	0/2/2/2
36	OMU	S2	428	36	-	4/9/27/28	0/2/2/2
40	UR3	L5	4530	40	-	0/7/25/26	0/2/2/2
36	OMU	S2	116	36	-	0/9/27/28	0/2/2/2

All (446) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3818	UY1	C6-C5	12.43	1.49	1.35
40	L5	3818	UY1	C2-N1	11.45	1.51	1.36
36	S2	799	OMU	C2-N1	8.55	1.51	1.38
36	S2	1832	6MZ	C3'-C2'	-8.49	1.30	1.53
36	S2	1288	OMU	C2-N1	8.34	1.51	1.38
36	S2	627	OMU	C2-N1	8.14	1.51	1.38
36	S2	172	OMU	C2-N1	8.12	1.51	1.38
36	S2	1850	MA6	C3'-C2'	-8.04	1.31	1.53
36	S2	121	OMU	C2-N1	8.03	1.51	1.38
36	S2	428	OMU	C2-N1	8.03	1.51	1.38
36	S2	116	OMU	C2-N1	8.01	1.51	1.38
36	S2	1442	OMU	C2-N1	7.98	1.51	1.38
36	S2	1326	OMU	C2-N1	7.96	1.50	1.38
36	S2	1248	B8N	C4-N3	-7.94	1.26	1.40
36	S2	354	OMU	C2-N1	7.87	1.50	1.38
40	L5	4306	OMU	C2-N1	7.81	1.50	1.38
36	S2	1248	B8N	C6-N1	7.76	1.55	1.36
40	L5	2837	OMU	C2-N1	7.74	1.50	1.38
40	L5	4227	OMU	C2-N1	7.70	1.50	1.38
40	L5	3925	OMU	C2-N1	7.66	1.50	1.38
40	L5	4498	OMU	C2-N1	7.62	1.50	1.38
40	L5	3818	UY1	C2-N3	7.57	1.49	1.37
36	S2	1832	6MZ	O4'-C1'	-7.44	1.31	1.40
40	L5	4620	OMU	C2-N1	7.44	1.50	1.38
36	S2	627	OMU	C2-N3	6.91	1.50	1.38
36	S2	1248	B8N	C4-C5	6.88	1.63	1.47
36	S2	799	OMU	C2-N3	6.87	1.49	1.38
36	S2	121	OMU	C2-N3	6.85	1.49	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	S2	1288	OMU	C2-N3	6.84	1.49	1.38
36	S2	428	OMU	C2-N3	6.80	1.49	1.38
36	S2	116	OMU	C2-N3	6.78	1.49	1.38
36	S2	1442	OMU	C2-N3	6.76	1.49	1.38
36	S2	172	OMU	C2-N3	6.76	1.49	1.38
40	L5	2837	OMU	C2-N3	6.65	1.49	1.38
36	S2	354	OMU	C2-N3	6.64	1.49	1.38
36	S2	1326	OMU	C2-N3	6.60	1.49	1.38
40	L5	4306	OMU	C2-N3	6.47	1.49	1.38
40	L5	4227	OMU	C2-N3	6.44	1.49	1.38
40	L5	4498	OMU	C2-N3	6.43	1.49	1.38
40	L5	3925	OMU	C2-N3	6.43	1.49	1.38
40	L5	4620	OMU	C2-N3	6.26	1.48	1.38
40	L5	4530	UR3	C6-C5	6.12	1.49	1.35
40	L5	4530	UR3	C2-N1	5.87	1.46	1.38
36	S2	1850	MA6	O4'-C1'	-5.85	1.33	1.40
36	S2	172	OMU	C6-C5	5.83	1.48	1.35
36	S2	799	OMU	C6-C5	5.83	1.48	1.35
36	S2	428	OMU	C6-C5	5.82	1.48	1.35
36	S2	1248	B8N	C2-N1	5.81	1.56	1.39
36	S2	627	OMU	C6-C5	5.80	1.48	1.35
36	S2	121	OMU	C6-C5	5.79	1.48	1.35
36	S2	1442	OMU	C6-C5	5.79	1.48	1.35
36	S2	1288	OMU	C6-C5	5.76	1.48	1.35
36	S2	354	OMU	C6-C5	5.74	1.48	1.35
40	L5	3925	OMU	O4-C4	-5.74	1.13	1.24
40	L5	4620	OMU	O4-C4	-5.73	1.13	1.24
36	S2	1326	OMU	C6-C5	5.73	1.48	1.35
36	S2	116	OMU	C6-C5	5.73	1.48	1.35
40	L5	4306	OMU	O4-C4	-5.71	1.13	1.24
40	L5	2837	OMU	O4-C4	-5.70	1.13	1.24
40	L5	2837	OMU	C6-C5	5.66	1.48	1.35
40	L5	4498	OMU	O4-C4	-5.63	1.13	1.24
40	L5	4227	OMU	O4-C4	-5.63	1.13	1.24
40	L5	4498	OMU	C6-C5	5.62	1.48	1.35
40	L5	4306	OMU	C6-C5	5.60	1.48	1.35
40	L5	4620	OMU	C6-C5	5.60	1.48	1.35
36	S2	354	OMU	O4-C4	-5.57	1.13	1.24
40	L5	4227	OMU	C6-C5	5.56	1.48	1.35
36	S2	1326	OMU	O4-C4	-5.55	1.13	1.24
40	L5	3925	OMU	C6-C5	5.54	1.47	1.35
36	S2	1442	OMU	O4-C4	-5.53	1.13	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	S2	121	OMU	O4-C4	-5.51	1.13	1.24
40	L5	4530	UR3	C2-N3	5.50	1.49	1.39
36	S2	428	OMU	O4-C4	-5.49	1.13	1.24
36	S2	116	OMU	O4-C4	-5.47	1.13	1.24
36	S2	1288	OMU	O4-C4	-5.46	1.13	1.24
36	S2	799	OMU	O4-C4	-5.43	1.13	1.24
36	S2	627	OMU	O4-C4	-5.43	1.13	1.24
36	S2	172	OMU	O4-C4	-5.39	1.14	1.24
36	S2	1639	G7M	C2-N3	5.29	1.46	1.33
36	S2	1248	B8N	C6-C5	5.27	1.42	1.35
40	L5	3818	UY1	C6-N1	5.23	1.44	1.36
36	S2	1639	G7M	C4-N3	4.95	1.49	1.37
36	S2	1639	G7M	C2-N2	4.88	1.45	1.34
40	L5	4220	6MZ	C6-C5	-4.86	1.37	1.44
36	S2	1832	6MZ	O4'-C4'	4.73	1.55	1.45
36	S2	627	OMU	C4-N3	4.51	1.46	1.38
36	S2	1832	6MZ	C5'-C4'	-4.43	1.38	1.51
40	L5	3818	UY1	C4-N3	4.38	1.47	1.38
36	S2	1288	OMU	C4-N3	4.33	1.46	1.38
36	S2	1326	OMU	C4-N3	4.32	1.46	1.38
36	S2	799	OMU	C4-N3	4.32	1.46	1.38
36	S2	1442	OMU	C4-N3	4.28	1.45	1.38
36	S2	121	OMU	C4-N3	4.25	1.45	1.38
36	S2	116	OMU	C4-N3	4.25	1.45	1.38
36	S2	1850	MA6	C5'-C4'	-4.24	1.38	1.51
36	S2	172	OMU	C4-N3	4.21	1.45	1.38
36	S2	428	OMU	C4-N3	4.17	1.45	1.38
36	S2	354	OMU	C4-N3	4.12	1.45	1.38
36	S2	1850	MA6	O4'-C4'	4.10	1.54	1.45
40	L5	4227	OMU	C4-N3	4.05	1.45	1.38
36	S2	1850	MA6	C6-C5	-4.02	1.38	1.44
40	L5	4498	OMU	C4-N3	4.00	1.45	1.38
40	L5	2837	OMU	C4-N3	3.99	1.45	1.38
36	S2	1851	MA6	C6-C5	-3.95	1.38	1.44
40	L5	3925	OMU	C4-N3	3.85	1.45	1.38
40	L5	4306	OMU	C4-N3	3.84	1.45	1.38
40	L5	3818	UY1	O4-C4	-3.77	1.16	1.23
36	S2	1832	6MZ	C6-C5	-3.74	1.39	1.44
40	L5	2401	A2M	O5'-C5'	-3.70	1.33	1.44
40	L5	4620	OMU	C4-N3	3.68	1.44	1.38
36	S2	801	PSU	C6-C5	3.68	1.39	1.35
40	L5	400	A2M	O5'-C5'	-3.65	1.33	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	S2	863	PSU	C6-C5	3.65	1.39	1.35
40	L5	1871	A2M	O5'-C5'	-3.61	1.33	1.44
40	L5	3825	A2M	O5'-C5'	-3.61	1.33	1.44
40	L5	2787	A2M	O5'-C5'	-3.61	1.33	1.44
36	S2	1248	B8N	C1'-C5	3.59	1.58	1.50
40	L5	3785	A2M	O5'-C5'	-3.59	1.33	1.44
40	L5	1326	A2M	O5'-C5'	-3.55	1.33	1.44
36	S2	1639	G7M	C6-N1	3.54	1.43	1.37
40	L5	3867	A2M	O5'-C5'	-3.53	1.33	1.44
40	L5	1524	A2M	O5'-C5'	-3.53	1.33	1.44
36	S2	468	A2M	O5'-C5'	-3.52	1.33	1.44
40	L5	1323	A2M	O5'-C5'	-3.52	1.33	1.44
36	S2	1850	MA6	C6-N6	3.50	1.45	1.37
40	L5	1625	OMG	C8-N7	-3.49	1.29	1.34
36	S2	576	A2M	O5'-C5'	-3.47	1.34	1.44
40	L5	5010	PSU	C6-C5	3.47	1.39	1.35
40	L5	2363	A2M	O5'-C5'	-3.46	1.34	1.44
36	S2	99	A2M	O5'-C5'	-3.46	1.34	1.44
40	L5	4571	A2M	O5'-C5'	-3.46	1.34	1.44
40	L5	3718	A2M	O5'-C5'	-3.45	1.34	1.44
40	L5	4590	A2M	O5'-C5'	-3.45	1.34	1.44
36	S2	27	A2M	O5'-C5'	-3.44	1.34	1.44
40	L5	1316	OMG	C8-N7	-3.44	1.29	1.34
36	S2	668	A2M	O5'-C5'	-3.44	1.34	1.44
40	L5	2815	A2M	O5'-C5'	-3.44	1.34	1.44
40	L5	3830	A2M	O5'-C5'	-3.43	1.34	1.44
36	S2	1031	A2M	O5'-C5'	-3.42	1.34	1.44
36	S2	814	PSU	C6-C5	3.41	1.39	1.35
36	S2	649	PSU	C6-C5	3.41	1.39	1.35
36	S2	651	PSU	C6-C5	3.41	1.39	1.35
40	L5	2364	OMG	C8-N7	-3.41	1.29	1.34
36	S2	166	A2M	O5'-C5'	-3.41	1.34	1.44
36	S2	1383	A2M	O5'-C5'	-3.40	1.34	1.44
40	L5	2876	OMG	C8-N7	-3.40	1.29	1.34
36	S2	484	A2M	O5'-C5'	-3.40	1.34	1.44
36	S2	1244	PSU	C6-C5	3.39	1.39	1.35
36	S2	966	PSU	C6-C5	3.39	1.39	1.35
36	S2	109	PSU	C6-C5	3.39	1.39	1.35
36	S2	1851	MA6	C6-N6	3.37	1.45	1.37
40	L5	4618	OMG	C8-N7	-3.37	1.29	1.34
36	S2	406	PSU	C6-C5	3.37	1.39	1.35
40	L5	398	A2M	O5'-C5'	-3.36	1.34	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	S2	1232	PSU	C6-C5	3.34	1.39	1.35
40	L5	4494	OMG	C8-N7	-3.34	1.29	1.34
36	S2	1004	PSU	C6-C5	3.33	1.39	1.35
36	S2	93	PSU	C6-C5	3.32	1.39	1.35
40	L5	1522	OMG	C8-N7	-3.31	1.29	1.34
40	L5	4637	OMG	C8-N7	-3.31	1.29	1.34
40	L5	3792	OMG	C8-N7	-3.31	1.29	1.34
36	S2	105	PSU	C6-C5	3.30	1.38	1.35
40	L5	3785	A2M	C1'-N9	-3.29	1.41	1.49
40	L5	3899	OMG	C8-N7	-3.28	1.29	1.34
40	L5	4523	A2M	O5'-C5'	-3.28	1.34	1.44
40	L5	4296	PSU	C6-C5	3.28	1.38	1.35
36	S2	159	A2M	O5'-C5'	-3.27	1.34	1.44
40	L5	4392	OMG	C8-N7	-3.26	1.29	1.34
36	S2	1367	PSU	C6-C5	3.26	1.38	1.35
40	L5	4196	OMG	C8-N7	-3.26	1.29	1.34
40	L5	3818	UY1	O2-C2	-3.25	1.16	1.23
36	S2	1174	PSU	C6-C5	3.25	1.38	1.35
36	S2	686	PSU	C6-C5	3.25	1.38	1.35
40	L5	1860	PSU	C6-C5	3.24	1.38	1.35
40	L5	4370	OMG	C8-N7	-3.24	1.29	1.34
40	L5	4499	OMG	C8-N7	-3.23	1.29	1.34
36	S2	1046	PSU	C6-C5	3.22	1.38	1.35
40	L5	1862	PSU	C6-C5	3.22	1.38	1.35
36	S2	1639	G7M	C5-C6	3.22	1.53	1.45
40	L5	3744	OMG	C8-N7	-3.21	1.29	1.34
36	S2	1045	PSU	C6-C5	3.21	1.38	1.35
40	L5	3818	UY1	C1'-C5	3.21	1.57	1.50
40	L5	1782	PSU	C6-C5	3.21	1.38	1.35
36	S2	1490	OMG	C8-N7	-3.20	1.29	1.34
40	L5	1744	PSU	C6-C5	3.18	1.38	1.35
36	S2	866	PSU	C6-C5	3.18	1.38	1.35
40	L5	1781	PSU	C6-C5	3.18	1.38	1.35
40	L5	4532	PSU	C6-C5	3.18	1.38	1.35
40	L5	2424	OMG	C8-N7	-3.17	1.29	1.34
40	L5	4972	PSU	C6-C5	3.17	1.38	1.35
40	L5	4623	OMG	C8-N7	-3.16	1.29	1.34
36	S2	1081	PSU	C6-C5	3.16	1.38	1.35
40	L5	4552	PSU	C6-C5	3.16	1.38	1.35
40	L5	4312	PSU	C6-C5	3.14	1.38	1.35
42	L8	75	OMG	C8-N7	-3.14	1.29	1.34
40	L5	4673	PSU	C6-C5	3.13	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	S2	1177	PSU	C6-C5	3.13	1.38	1.35
40	L5	3844	PSU	C6-C5	3.11	1.38	1.35
40	L5	5001	PSU	C6-C5	3.11	1.38	1.35
40	L5	3627	OMG	C8-N7	-3.10	1.30	1.34
40	L5	4636	PSU	C6-C5	3.09	1.38	1.35
42	L8	69	PSU	C6-C5	3.08	1.38	1.35
40	L5	1534	A2M	O5'-C5'	-3.07	1.35	1.44
40	L5	3639	PSU	C6-C5	3.07	1.38	1.35
36	S2	1490	OMG	C5-C6	-3.07	1.41	1.47
40	L5	3851	PSU	C6-C5	3.05	1.38	1.35
40	L5	2424	OMG	C5-C6	-3.04	1.41	1.47
40	L5	4293	PSU	C6-C5	3.04	1.38	1.35
36	S2	668	A2M	O4'-C4'	-3.04	1.38	1.45
40	L5	4392	OMG	C5-C6	-3.04	1.41	1.47
36	S2	1056	PSU	C6-C5	3.04	1.38	1.35
40	L5	4228	OMG	C8-N7	-3.04	1.30	1.34
36	S2	436	OMG	C8-N7	-3.03	1.30	1.34
40	L5	4500	PSU	C6-C5	3.03	1.38	1.35
42	L8	55	PSU	C6-C5	3.03	1.38	1.35
40	L5	1871	A2M	C1'-N9	-3.03	1.42	1.49
36	S2	601	OMG	C8-N7	-3.03	1.30	1.34
40	L5	4353	PSU	C6-C5	3.02	1.38	1.35
40	L5	2364	OMG	C5-C6	-3.02	1.41	1.47
40	L5	4431	PSU	C6-C5	3.00	1.38	1.35
40	L5	2632	PSU	C6-C5	3.00	1.38	1.35
40	L5	4299	PSU	C6-C5	2.99	1.38	1.35
40	L5	1792	PSU	C6-C5	2.99	1.38	1.35
40	L5	4579	PSU	C6-C5	2.99	1.38	1.35
36	S2	509	OMG	C8-N7	-2.98	1.30	1.34
36	S2	644	OMG	C8-N7	-2.97	1.30	1.34
40	L5	2839	PSU	C6-C5	2.97	1.38	1.35
40	L5	4471	PSU	C6-C5	2.97	1.38	1.35
40	L5	4493	PSU	C6-C5	2.97	1.38	1.35
40	L5	3822	PSU	C6-C5	2.96	1.38	1.35
36	S2	683	OMG	C8-N7	-2.96	1.30	1.34
40	L5	4521	PSU	C6-C5	2.96	1.38	1.35
40	L5	4576	PSU	C6-C5	2.96	1.38	1.35
40	L5	3695	PSU	C6-C5	2.95	1.38	1.35
40	L5	3637	PSU	C6-C5	2.95	1.38	1.35
40	L5	1316	OMG	C5-C6	-2.95	1.41	1.47
36	S2	1328	OMG	C8-N7	-2.95	1.30	1.34
40	L5	4973	PSU	C6-C5	2.94	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	S2	867	OMG	C8-N7	-2.92	1.30	1.34
40	L5	1322	1MA	C8-N7	-2.92	1.30	1.34
40	L5	3884	PSU	C6-C5	2.91	1.38	1.35
40	L5	4494	OMG	C5-C6	-2.90	1.41	1.47
40	L5	3920	PSU	C6-C5	2.89	1.38	1.35
40	L5	4618	OMG	C5-C6	-2.89	1.41	1.47
40	L5	1582	PSU	C6-C5	2.89	1.38	1.35
40	L5	4628	PSU	C6-C5	2.89	1.38	1.35
40	L5	1625	OMG	C5-C6	-2.88	1.41	1.47
36	S2	1850	MA6	O3'-C3'	2.88	1.50	1.43
40	L5	4637	OMG	C5-C6	-2.87	1.41	1.47
36	S2	681	PSU	C6-C5	2.87	1.38	1.35
40	L5	1522	OMG	C5-C6	-2.86	1.41	1.47
40	L5	4196	OMG	C5-C6	-2.86	1.41	1.47
36	S2	627	OMU	C5-C4	2.85	1.49	1.43
40	L5	4530	UR3	O2-C2	-2.85	1.17	1.22
40	L5	4623	OMG	C5-C6	-2.85	1.41	1.47
40	L5	4361	PSU	C6-C5	2.84	1.38	1.35
36	S2	468	A2M	C1'-N9	-2.84	1.42	1.49
40	L5	1683	PSU	C6-C5	2.83	1.38	1.35
40	L5	4228	OMG	C5-C6	-2.83	1.41	1.47
40	L5	4571	A2M	C1'-N9	-2.82	1.42	1.49
36	S2	172	OMU	C5-C4	2.82	1.49	1.43
40	L5	3627	OMG	C5-C6	-2.82	1.41	1.47
40	L5	4370	OMG	C5-C6	-2.82	1.41	1.47
40	L5	4499	OMG	C5-C6	-2.81	1.41	1.47
40	L5	4689	PSU	C6-C5	2.81	1.38	1.35
36	S2	121	OMU	C5-C4	2.81	1.49	1.43
40	L5	1323	A2M	O4'-C4'	-2.80	1.38	1.45
40	L5	4442	PSU	C6-C5	2.80	1.38	1.35
40	L5	1536	PSU	C6-C5	2.80	1.38	1.35
40	L5	1677	PSU	C6-C5	2.80	1.38	1.35
40	L5	2363	A2M	O4'-C4'	-2.80	1.38	1.45
40	L5	3830	A2M	C1'-N9	-2.79	1.43	1.49
36	S2	799	OMU	C5-C4	2.79	1.49	1.43
36	S2	428	OMU	C5-C4	2.78	1.49	1.43
36	S2	1326	OMU	C5-C4	2.77	1.49	1.43
40	L5	1871	A2M	O4'-C4'	-2.77	1.38	1.45
40	L5	4403	PSU	C6-C5	2.77	1.38	1.35
36	S2	1442	OMU	C5-C4	2.77	1.49	1.43
40	L5	3899	OMG	C5-C6	-2.77	1.42	1.47
40	L5	3867	A2M	O4'-C4'	-2.77	1.38	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	1524	A2M	O4'-C4'	-2.76	1.38	1.45
36	S2	354	OMU	C5-C4	2.76	1.49	1.43
40	L5	2787	A2M	C1'-N9	-2.75	1.43	1.49
40	L5	3792	OMG	C5-C6	-2.74	1.42	1.47
40	L5	1322	1MA	C5-C4	-2.73	1.36	1.43
36	S2	668	A2M	C1'-N9	-2.73	1.43	1.49
40	L5	2401	A2M	C1'-N9	-2.72	1.43	1.49
40	L5	4523	A2M	C1'-N9	-2.72	1.43	1.49
42	L8	75	OMG	C5-C6	-2.72	1.42	1.47
40	L5	3744	OMG	C5-C6	-2.71	1.42	1.47
40	L5	3825	A2M	C1'-N9	-2.71	1.43	1.49
36	S2	1639	G7M	C2-N1	2.70	1.44	1.37
40	L5	3853	PSU	C6-C5	2.70	1.38	1.35
36	S2	1288	OMU	C5-C4	2.69	1.49	1.43
36	S2	601	OMG	C5-C6	-2.67	1.42	1.47
40	L5	4571	A2M	O4'-C4'	-2.67	1.39	1.45
40	L5	1326	A2M	C1'-N9	-2.67	1.43	1.49
40	L5	1534	A2M	O4'-C4'	-2.67	1.39	1.45
36	S2	683	OMG	C5-C6	-2.66	1.42	1.47
36	S2	121	OMU	C6-N1	2.66	1.44	1.38
40	L5	2876	OMG	C5-C6	-2.65	1.42	1.47
36	S2	627	OMU	C6-N1	2.65	1.44	1.38
40	L5	1534	A2M	C1'-N9	-2.65	1.43	1.49
40	L5	4498	OMU	C5-C4	2.64	1.49	1.43
36	S2	1442	OMU	C6-N1	2.64	1.44	1.38
36	S2	436	OMG	C5-C6	-2.64	1.42	1.47
36	S2	1288	OMU	C6-N1	2.63	1.44	1.38
36	S2	1328	OMG	C5-C6	-2.63	1.42	1.47
36	S2	509	OMG	C5-C6	-2.62	1.42	1.47
40	L5	400	A2M	C1'-N9	-2.62	1.43	1.49
40	L5	4227	OMU	C5-C4	2.62	1.49	1.43
36	S2	99	A2M	C1'-N9	-2.62	1.43	1.49
36	S2	116	OMU	C5-C4	2.62	1.49	1.43
36	S2	799	OMU	C6-N1	2.61	1.44	1.38
40	L5	4457	PSU	C6-C5	2.61	1.38	1.35
36	S2	1383	A2M	C1'-N9	-2.60	1.43	1.49
36	S2	428	OMU	C6-N1	2.57	1.44	1.38
36	S2	1832	6MZ	O3'-C3'	2.57	1.49	1.43
40	L5	3785	A2M	O4'-C1'	-2.57	1.37	1.40
36	S2	867	OMG	C5-C6	-2.56	1.42	1.47
40	L5	4306	OMU	C5-C4	2.55	1.49	1.43
40	L5	1524	A2M	C1'-N9	-2.54	1.43	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	S2	644	OMG	C5-C6	-2.54	1.42	1.47
40	L5	1326	A2M	O4'-C4'	-2.54	1.39	1.45
36	S2	1326	OMU	C6-N1	2.53	1.44	1.38
40	L5	2837	OMU	C5-C4	2.53	1.49	1.43
40	L5	3867	A2M	C1'-N9	-2.53	1.43	1.49
40	L5	1316	OMG	C5-C4	-2.53	1.36	1.43
40	L5	4590	A2M	C1'-N9	-2.52	1.43	1.49
36	S2	172	OMU	C6-N1	2.51	1.44	1.38
40	L5	4498	OMU	C6-N1	2.51	1.44	1.38
40	L5	4523	A2M	O4'-C4'	-2.51	1.39	1.45
40	L5	3925	OMU	C5-C4	2.50	1.49	1.43
36	S2	116	OMU	C6-N1	2.50	1.44	1.38
40	L5	4392	OMG	C5-C4	-2.47	1.37	1.43
36	S2	576	A2M	C1'-N9	-2.45	1.43	1.49
36	S2	1031	A2M	C1'-N9	-2.45	1.43	1.49
36	S2	354	OMU	C6-N1	2.44	1.43	1.38
40	L5	2837	OMU	C6-N1	2.44	1.43	1.38
36	S2	27	A2M	C1'-N9	-2.42	1.43	1.49
40	L5	1677	PSU	O4'-C1'	-2.41	1.40	1.43
40	L5	4620	OMU	C6-N1	2.39	1.43	1.38
40	L5	4530	UR3	C6-N1	2.38	1.43	1.38
40	L5	4227	OMU	C6-N1	2.37	1.43	1.38
36	S2	1850	MA6	C2-N3	2.36	1.35	1.32
40	L5	4306	OMU	C6-N1	2.36	1.43	1.38
36	S2	166	A2M	C1'-N9	-2.35	1.44	1.49
40	L5	2424	OMG	C5-C4	-2.35	1.37	1.43
40	L5	1522	OMG	C5-C4	-2.34	1.37	1.43
36	S2	1850	MA6	C1'-N9	-2.34	1.44	1.49
40	L5	4370	OMG	C5-C4	-2.33	1.37	1.43
36	S2	159	A2M	C1'-N9	-2.33	1.44	1.49
40	L5	3925	OMU	C6-N1	2.33	1.43	1.38
40	L5	3884	PSU	C4-C5	-2.31	1.37	1.44
40	L5	4620	OMU	C5-C4	2.31	1.48	1.43
40	L5	4228	OMG	C5-C4	-2.31	1.37	1.43
40	L5	2876	OMG	C5-C4	-2.27	1.37	1.43
40	L5	1625	OMG	C5-C4	-2.27	1.37	1.43
40	L5	400	A2M	O4'-C4'	-2.27	1.39	1.45
40	L5	2815	A2M	O4'-C4'	-2.27	1.40	1.45
40	L5	3627	OMG	C5-C4	-2.26	1.37	1.43
40	L5	4623	OMG	C5-C4	-2.26	1.37	1.43
40	L5	2364	OMG	C5-C4	-2.25	1.37	1.43
40	L5	4353	PSU	C4-C5	-2.25	1.38	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3899	OMG	C5-C4	-2.25	1.37	1.43
42	L8	75	OMG	C5-C4	-2.25	1.37	1.43
40	L5	2363	A2M	C1'-N9	-2.25	1.44	1.49
40	L5	4637	OMG	C5-C4	-2.24	1.37	1.43
36	S2	1851	MA6	C2-N3	2.23	1.35	1.32
40	L5	4196	OMG	C5-C4	-2.23	1.37	1.43
40	L5	4447	5MC	C5-C4	-2.23	1.42	1.44
40	L5	3744	OMG	C5-C4	-2.23	1.37	1.43
40	L5	1871	A2M	O3'-C3'	-2.22	1.37	1.43
40	L5	3718	A2M	C1'-N9	-2.22	1.44	1.49
40	L5	1323	A2M	C1'-N9	-2.22	1.44	1.49
40	L5	398	A2M	C1'-N9	-2.21	1.44	1.49
40	L5	1683	PSU	C4-C5	-2.20	1.38	1.44
40	L5	3818	UY1	O4'-C1'	-2.20	1.40	1.43
40	L5	3825	A2M	O4'-C4'	-2.20	1.40	1.45
40	L5	4494	OMG	C5-C4	-2.19	1.37	1.43
40	L5	4499	OMG	C5-C4	-2.18	1.37	1.43
40	L5	3830	A2M	O4'-C4'	-2.18	1.40	1.45
40	L5	2839	PSU	C4-C5	-2.17	1.38	1.44
40	L5	4523	A2M	O3'-C3'	-2.16	1.37	1.43
40	L5	4293	PSU	C4-C5	-2.16	1.38	1.44
40	L5	3639	PSU	C4-C5	-2.16	1.38	1.44
40	L5	4618	OMG	C5-C4	-2.16	1.37	1.43
40	L5	1677	PSU	C4-C5	-2.16	1.38	1.44
40	L5	4456	OMC	C4-N3	-2.16	1.30	1.34
40	L5	2401	A2M	O4'-C4'	-2.14	1.40	1.45
36	S2	1490	OMG	C5-C4	-2.14	1.37	1.43
40	L5	4220	6MZ	C6-N1	-2.14	1.31	1.34
40	L5	3695	PSU	C4-C5	-2.14	1.38	1.44
40	L5	4689	PSU	C4-C5	-2.13	1.38	1.44
40	L5	4312	PSU	C4-C5	-2.13	1.38	1.44
40	L5	4673	PSU	C4-C5	-2.12	1.38	1.44
40	L5	4973	PSU	C4-C5	-2.12	1.38	1.44
40	L5	2815	A2M	C1'-N9	-2.11	1.44	1.49
40	L5	3920	PSU	C4-C5	-2.11	1.38	1.44
40	L5	4457	PSU	C4-C5	-2.11	1.38	1.44
36	S2	1248	B8N	O4'-C1'	-2.11	1.40	1.43
40	L5	3792	OMG	C5-C4	-2.11	1.37	1.43
40	L5	4500	PSU	C4-C5	-2.11	1.38	1.44
40	L5	4521	PSU	C4-C5	-2.10	1.38	1.44
40	L5	3844	PSU	C4-C5	-2.10	1.38	1.44
40	L5	4530	UR3	C5-C4	2.10	1.49	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
40	L5	3718	A2M	O4'-C4'	-2.10	1.40	1.45
36	S2	1832	6MZ	C6-N1	-2.09	1.31	1.34
36	S2	1174	PSU	C4-C5	-2.09	1.38	1.44
40	L5	1744	PSU	C4-C5	-2.09	1.38	1.44
40	L5	3867	A2M	O3'-C3'	-2.08	1.37	1.43
36	S2	1056	PSU	C4-C5	-2.08	1.38	1.44
40	L5	1536	PSU	C4-C5	-2.08	1.38	1.44
36	S2	1328	OMG	C5-C4	-2.08	1.38	1.43
42	L8	69	PSU	C4-C5	-2.07	1.38	1.44
36	S2	1004	PSU	C4-C5	-2.07	1.38	1.44
40	L5	4590	A2M	O4'-C4'	-2.06	1.40	1.45
36	S2	683	OMG	C5-C4	-2.06	1.38	1.43
40	L5	4628	PSU	C4-C5	-2.06	1.38	1.44
40	L5	4636	PSU	C4-C5	-2.06	1.38	1.44
40	L5	400	A2M	O3'-C3'	-2.05	1.37	1.43
40	L5	4579	PSU	C4-C5	-2.05	1.38	1.44
40	L5	4972	PSU	C4-C5	-2.05	1.38	1.44
40	L5	4442	PSU	O4'-C1'	-2.05	1.41	1.43
40	L5	3701	OMC	C4-N3	-2.05	1.30	1.34
40	L5	1524	A2M	O3'-C3'	-2.05	1.37	1.43
40	L5	4530	UR3	C3U-N3	2.04	1.50	1.47
40	L5	4403	PSU	C4-C5	-2.04	1.38	1.44
40	L5	4471	PSU	C4-C5	-2.04	1.38	1.44
36	S2	406	PSU	C4-C5	-2.04	1.38	1.44
36	S2	436	OMG	C5-C4	-2.04	1.38	1.43
40	L5	2351	OMC	C4-N3	-2.04	1.30	1.34
40	L5	4431	PSU	C4-C5	-2.03	1.38	1.44
40	L5	4296	PSU	C4-C5	-2.03	1.38	1.44
40	L5	1860	PSU	C4-C5	-2.02	1.38	1.44
36	S2	1177	PSU	C4-C5	-2.02	1.38	1.44
36	S2	866	PSU	C4-C5	-2.02	1.38	1.44
40	L5	4552	PSU	C4-C5	-2.02	1.38	1.44
36	S2	484	A2M	C1'-N9	-2.02	1.44	1.49
40	L5	3637	PSU	C4-C5	-2.01	1.38	1.44
36	S2	1046	PSU	C4-C5	-2.01	1.38	1.44
40	L5	4532	PSU	C4-C5	-2.01	1.38	1.44
40	L5	4571	A2M	O3'-C3'	-2.01	1.38	1.43
36	S2	509	OMG	C5-C4	-2.01	1.38	1.43
40	L5	4447	5MC	C4-N3	-2.00	1.30	1.34
40	L5	2632	PSU	C4-C5	-2.00	1.38	1.44

All (641) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	S2	1851	MA6	N1-C6-N6	-12.88	101.95	116.83
36	S2	1850	MA6	N1-C6-N6	-12.07	102.89	116.83
40	L5	3785	A2M	C4'-O4'-C1'	-8.03	102.57	109.92
40	L5	1524	A2M	C4'-O4'-C1'	-7.26	103.27	109.92
40	L5	4220	6MZ	N3-C2-N1	-6.61	119.69	128.67
36	S2	1832	6MZ	N3-C2-N1	-6.44	119.93	128.67
36	S2	1851	MA6	N3-C2-N1	-6.43	119.95	128.67
36	S2	1850	MA6	N3-C2-N1	-6.12	120.36	128.67
36	S2	1383	A2M	C4'-O4'-C1'	-6.03	104.41	109.92
40	L5	4498	OMU	C4-N3-C2	-6.01	119.15	126.61
40	L5	3925	OMU	C4-N3-C2	-5.98	119.19	126.61
40	L5	4220	6MZ	C9-N6-C6	-5.97	117.31	122.85
36	S2	354	OMU	C4-N3-C2	-5.95	119.23	126.61
40	L5	4530	UR3	C4-N3-C2	-5.87	119.86	124.58
36	S2	1326	OMU	C4-N3-C2	-5.85	119.35	126.61
40	L5	4227	OMU	C4-N3-C2	-5.85	119.35	126.61
40	L5	4306	OMU	C4-N3-C2	-5.78	119.44	126.61
40	L5	2837	OMU	C4-N3-C2	-5.74	119.49	126.61
36	S2	428	OMU	C4-N3-C2	-5.73	119.50	126.61
36	S2	121	OMU	C4-N3-C2	-5.71	119.53	126.61
40	L5	3701	OMC	C1'-N1-C2	5.69	131.00	118.44
36	S2	172	OMU	C4-N3-C2	-5.67	119.57	126.61
36	S2	627	OMU	C4-N3-C2	-5.59	119.68	126.61
36	S2	1442	OMU	C4-N3-C2	-5.57	119.70	126.61
36	S2	799	OMU	C4-N3-C2	-5.50	119.78	126.61
40	L5	1871	A2M	C4'-O4'-C1'	-5.48	104.90	109.92
40	L5	4523	A2M	C4'-O4'-C1'	-5.46	104.92	109.92
40	L5	1677	PSU	C4-N3-C2	-5.46	118.86	126.37
40	L5	4636	PSU	C4-N3-C2	-5.41	118.91	126.37
36	S2	1288	OMU	C4-N3-C2	-5.38	119.94	126.61
36	S2	166	A2M	C4'-O4'-C1'	-5.31	105.06	109.92
40	L5	4403	PSU	C4-N3-C2	-5.27	119.11	126.37
40	L5	4457	PSU	C4-N3-C2	-5.25	119.14	126.37
40	L5	3637	PSU	N1-C2-N3	5.25	120.70	115.17
36	S2	1248	B8N	C5-C4-N3	5.23	125.66	116.15
40	L5	3830	A2M	C4'-O4'-C1'	-5.23	105.14	109.92
40	L5	3639	PSU	N1-C2-N3	5.22	120.67	115.17
40	L5	4293	PSU	N1-C2-N3	5.18	120.63	115.17
36	S2	1832	6MZ	C2-N1-C6	5.18	120.62	116.60
40	L5	4636	PSU	N1-C2-N3	5.17	120.62	115.17
40	L5	4628	PSU	N1-C2-N3	5.16	120.61	115.17
42	L8	69	PSU	N1-C2-N3	5.15	120.60	115.17
40	L5	4293	PSU	C4-N3-C2	-5.15	119.28	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4552	PSU	N1-C2-N3	5.13	120.58	115.17
40	L5	1862	PSU	N1-C2-N3	5.12	120.57	115.17
40	L5	1683	PSU	C4-N3-C2	-5.10	119.34	126.37
40	L5	2632	PSU	N1-C2-N3	5.10	120.55	115.17
40	L5	3637	PSU	C4-N3-C2	-5.09	119.36	126.37
40	L5	3851	PSU	N1-C2-N3	5.08	120.53	115.17
40	L5	4403	PSU	N1-C2-N3	5.08	120.53	115.17
40	L5	4442	PSU	C4-N3-C2	-5.08	119.38	126.37
36	S2	1177	PSU	C4-N3-C2	-5.07	119.38	126.37
40	L5	4457	PSU	N1-C2-N3	5.06	120.51	115.17
40	L5	2839	PSU	N1-C2-N3	5.06	120.51	115.17
40	L5	4500	PSU	C4-N3-C2	-5.06	119.40	126.37
36	S2	406	PSU	N1-C2-N3	5.06	120.50	115.17
36	S2	1244	PSU	N1-C2-N3	5.06	120.50	115.17
40	L5	4590	A2M	C4'-O4'-C1'	-5.06	105.30	109.92
40	L5	4442	PSU	N1-C2-N3	5.05	120.50	115.17
40	L5	4521	PSU	C4-N3-C2	-5.05	119.41	126.37
40	L5	4500	PSU	N1-C2-N3	5.05	120.49	115.17
40	L5	4353	PSU	N1-C2-N3	5.05	120.49	115.17
36	S2	109	PSU	N1-C2-N3	5.04	120.48	115.17
36	S2	406	PSU	C4-N3-C2	-5.03	119.44	126.37
40	L5	2632	PSU	C4-N3-C2	-5.03	119.44	126.37
36	S2	1056	PSU	C4-N3-C2	-5.03	119.44	126.37
40	L5	1862	PSU	C4-N3-C2	-5.03	119.44	126.37
40	L5	1683	PSU	N1-C2-N3	5.02	120.47	115.17
40	L5	1677	PSU	N1-C2-N3	5.02	120.46	115.17
40	L5	4973	PSU	C4-N3-C2	-5.02	119.46	126.37
40	L5	4689	PSU	N1-C2-N3	5.01	120.45	115.17
40	L5	1744	PSU	C4-N3-C2	-5.00	119.48	126.37
36	S2	116	OMU	C4-N3-C2	-5.00	120.40	126.61
40	L5	4673	PSU	N1-C2-N3	5.00	120.45	115.17
36	S2	966	PSU	N1-C2-N3	5.00	120.44	115.17
36	S2	109	PSU	C4-N3-C2	-5.00	119.49	126.37
40	L5	4620	OMU	C4-N3-C2	-4.99	120.41	126.61
40	L5	4296	PSU	C4-N3-C2	-4.99	119.49	126.37
40	L5	4521	PSU	N1-C2-N3	4.99	120.43	115.17
40	L5	4552	PSU	C4-N3-C2	-4.99	119.50	126.37
36	S2	966	PSU	C4-N3-C2	-4.98	119.50	126.37
40	L5	3695	PSU	C4-N3-C2	-4.98	119.50	126.37
40	L5	4471	PSU	N1-C2-N3	4.98	120.42	115.17
40	L5	4353	PSU	C4-N3-C2	-4.98	119.51	126.37
40	L5	4296	PSU	N1-C2-N3	4.97	120.41	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4299	PSU	N1-C2-N3	4.97	120.41	115.17
40	L5	4973	PSU	N1-C2-N3	4.97	120.41	115.17
40	L5	1860	PSU	C4-N3-C2	-4.96	119.53	126.37
40	L5	1792	PSU	C4-N3-C2	-4.96	119.54	126.37
40	L5	4576	PSU	C4-N3-C2	-4.96	119.54	126.37
40	L5	3822	PSU	N1-C2-N3	4.96	120.40	115.17
40	L5	1782	PSU	N1-C2-N3	4.96	120.40	115.17
40	L5	3695	PSU	N1-C2-N3	4.96	120.40	115.17
40	L5	4471	PSU	C4-N3-C2	-4.96	119.54	126.37
36	S2	866	PSU	C4-N3-C2	-4.96	119.54	126.37
40	L5	3639	PSU	C4-N3-C2	-4.95	119.55	126.37
36	S2	681	PSU	C4-N3-C2	-4.95	119.55	126.37
40	L5	4493	PSU	C4-N3-C2	-4.95	119.55	126.37
40	L5	3818	UY1	C4-N3-C2	-4.95	119.56	126.37
36	S2	1056	PSU	N1-C2-N3	4.95	120.38	115.17
40	L5	1782	PSU	C4-N3-C2	-4.94	119.56	126.37
40	L5	4532	PSU	C4-N3-C2	-4.94	119.56	126.37
40	L5	4689	PSU	C4-N3-C2	-4.94	119.56	126.37
40	L5	4431	PSU	C4-N3-C2	-4.94	119.57	126.37
36	S2	1232	PSU	C4-N3-C2	-4.94	119.57	126.37
40	L5	4299	PSU	C4-N3-C2	-4.94	119.57	126.37
36	S2	686	PSU	N1-C2-N3	4.93	120.37	115.17
42	L8	69	PSU	C4-N3-C2	-4.93	119.58	126.37
40	L5	3920	PSU	N1-C2-N3	4.93	120.37	115.17
40	L5	3884	PSU	C4-N3-C2	-4.93	119.58	126.37
40	L5	1860	PSU	N1-C2-N3	4.92	120.36	115.17
36	S2	866	PSU	N1-C2-N3	4.92	120.36	115.17
40	L5	2839	PSU	C4-N3-C2	-4.92	119.60	126.37
36	S2	686	PSU	C4-N3-C2	-4.91	119.61	126.37
36	S2	681	PSU	N1-C2-N3	4.91	120.35	115.17
40	L5	4431	PSU	N1-C2-N3	4.91	120.34	115.17
36	S2	649	PSU	C4-N3-C2	-4.90	119.62	126.37
40	L5	3884	PSU	N1-C2-N3	4.90	120.34	115.17
36	S2	1367	PSU	C4-N3-C2	-4.90	119.62	126.37
40	L5	4579	PSU	N1-C2-N3	4.90	120.34	115.17
40	L5	3853	PSU	C4-N3-C2	-4.90	119.62	126.37
36	S2	1244	PSU	C4-N3-C2	-4.89	119.63	126.37
40	L5	1536	PSU	C4-N3-C2	-4.89	119.63	126.37
40	L5	4673	PSU	C4-N3-C2	-4.89	119.64	126.37
36	S2	1177	PSU	N1-C2-N3	4.89	120.32	115.17
40	L5	4312	PSU	C4-N3-C2	-4.88	119.64	126.37
40	L5	3920	PSU	C4-N3-C2	-4.88	119.65	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4628	PSU	C4-N3-C2	-4.87	119.66	126.37
36	S2	649	PSU	N1-C2-N3	4.87	120.31	115.17
40	L5	4532	PSU	N1-C2-N3	4.87	120.31	115.17
40	L5	1536	PSU	N1-C2-N3	4.87	120.31	115.17
36	S2	1045	PSU	N1-C2-N3	4.87	120.30	115.17
40	L5	1792	PSU	N1-C2-N3	4.86	120.30	115.17
40	L5	3851	PSU	C4-N3-C2	-4.86	119.67	126.37
40	L5	1744	PSU	N1-C2-N3	4.86	120.29	115.17
40	L5	4972	PSU	N1-C2-N3	4.85	120.28	115.17
40	L5	3844	PSU	C4-N3-C2	-4.85	119.69	126.37
36	S2	651	PSU	C4-N3-C2	-4.84	119.71	126.37
40	L5	5001	PSU	C4-N3-C2	-4.83	119.72	126.37
40	L5	3822	PSU	C4-N3-C2	-4.83	119.72	126.37
40	L5	5001	PSU	N1-C2-N3	4.82	120.26	115.17
36	S2	99	A2M	C4'-O4'-C1'	-4.82	105.51	109.92
40	L5	4493	PSU	N1-C2-N3	4.82	120.25	115.17
36	S2	1045	PSU	C4-N3-C2	-4.81	119.74	126.37
36	S2	1232	PSU	N1-C2-N3	4.81	120.25	115.17
36	S2	651	PSU	N1-C2-N3	4.81	120.24	115.17
40	L5	4312	PSU	N1-C2-N3	4.80	120.23	115.17
36	S2	863	PSU	C4-N3-C2	-4.80	119.76	126.37
42	L8	55	PSU	C4-N3-C2	-4.80	119.76	126.37
40	L5	5010	PSU	N1-C2-N3	4.79	120.22	115.17
40	L5	3844	PSU	N1-C2-N3	4.79	120.22	115.17
36	S2	1174	PSU	C4-N3-C2	-4.79	119.78	126.37
36	S2	1004	PSU	C4-N3-C2	-4.78	119.78	126.37
40	L5	4576	PSU	N1-C2-N3	4.78	120.21	115.17
40	L5	4361	PSU	C4-N3-C2	-4.77	119.80	126.37
40	L5	3853	PSU	N1-C2-N3	4.76	120.19	115.17
36	S2	1004	PSU	N1-C2-N3	4.76	120.19	115.17
40	L5	1781	PSU	N1-C2-N3	4.75	120.18	115.17
40	L5	1781	PSU	C4-N3-C2	-4.75	119.83	126.37
36	S2	863	PSU	N1-C2-N3	4.75	120.17	115.17
40	L5	4972	PSU	C4-N3-C2	-4.74	119.84	126.37
36	S2	1367	PSU	N1-C2-N3	4.73	120.15	115.17
42	L8	55	PSU	N1-C2-N3	4.72	120.15	115.17
36	S2	1046	PSU	N1-C2-N3	4.72	120.15	115.17
40	L5	4579	PSU	C4-N3-C2	-4.72	119.87	126.37
36	S2	1174	PSU	N1-C2-N3	4.72	120.14	115.17
36	S2	105	PSU	C4-N3-C2	-4.71	119.88	126.37
40	L5	1582	PSU	C4-N3-C2	-4.69	119.90	126.37
40	L5	5010	PSU	C4-N3-C2	-4.69	119.91	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	S2	814	PSU	C4-N3-C2	-4.68	119.93	126.37
36	S2	105	PSU	N1-C2-N3	4.68	120.10	115.17
36	S2	1046	PSU	C4-N3-C2	-4.67	119.93	126.37
36	S2	1081	PSU	C4-N3-C2	-4.67	119.94	126.37
36	S2	668	A2M	C4'-O4'-C1'	-4.66	105.65	109.92
36	S2	1383	A2M	C3'-C2'-C1'	-4.66	93.88	102.81
36	S2	468	A2M	C4'-O4'-C1'	-4.64	105.68	109.92
36	S2	93	PSU	C4-N3-C2	-4.62	120.01	126.37
40	L5	1582	PSU	N1-C2-N3	4.61	120.03	115.17
36	S2	814	PSU	N1-C2-N3	4.58	120.00	115.17
36	S2	801	PSU	N1-C2-N3	4.58	119.99	115.17
40	L5	3718	A2M	C4'-O4'-C1'	-4.55	105.75	109.92
36	S2	1248	B8N	C4-N3-C2	-4.55	120.02	125.62
40	L5	398	A2M	C4'-O4'-C1'	-4.55	105.76	109.92
36	S2	1081	PSU	N1-C2-N3	4.53	119.95	115.17
40	L5	4361	PSU	N1-C2-N3	4.52	119.94	115.17
40	L5	3701	OMC	C1'-N1-C6	-4.51	111.14	120.78
36	S2	27	A2M	C4'-O4'-C1'	-4.49	105.81	109.92
36	S2	93	PSU	N1-C2-N3	4.47	119.89	115.17
36	S2	801	PSU	C4-N3-C2	-4.45	120.25	126.37
36	S2	668	A2M	C1'-N9-C4	-4.43	118.85	126.64
36	S2	1031	A2M	C4'-O4'-C1'	-4.42	105.88	109.92
40	L5	3818	UY1	N1-C2-N3	4.40	119.81	115.17
40	L5	3825	A2M	C4'-O4'-C1'	-4.35	105.94	109.92
40	L5	3830	A2M	C3'-C2'-C1'	-4.31	94.55	102.81
40	L5	4220	6MZ	C2-N1-C6	4.31	119.94	116.60
40	L5	2401	A2M	C4'-O4'-C1'	-4.29	106.00	109.92
40	L5	4306	OMU	N3-C2-N1	4.26	120.44	114.89
40	L5	1871	A2M	C3'-C2'-C1'	-4.24	94.69	102.81
40	L5	398	A2M	C3'-C2'-C1'	-4.24	94.70	102.81
40	L5	3925	OMU	N3-C2-N1	4.19	120.34	114.89
40	L5	4498	OMU	N3-C2-N1	4.16	120.31	114.89
40	L5	1871	A2M	C1'-N9-C4	-4.15	119.34	126.64
36	S2	354	OMU	N3-C2-N1	4.13	120.27	114.89
40	L5	2837	OMU	N3-C2-N1	4.12	120.25	114.89
36	S2	121	OMU	N3-C2-N1	4.05	120.17	114.89
36	S2	468	A2M	C1'-N9-C4	-4.05	119.53	126.64
40	L5	4523	A2M	C3'-C2'-C1'	-4.03	95.10	102.81
40	L5	4571	A2M	C4'-O4'-C1'	-4.01	106.25	109.92
36	S2	576	A2M	C4'-O4'-C1'	-4.01	106.25	109.92
40	L5	400	A2M	C4'-O4'-C1'	-3.99	106.27	109.92
36	S2	1248	B8N	C1'-C5-C4	3.97	123.63	117.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4498	OMU	C5-C4-N3	3.95	120.33	114.80
40	L5	398	A2M	O3'-C3'-C2'	3.91	122.14	111.19
40	L5	4227	OMU	C5-C4-N3	3.91	120.28	114.80
36	S2	172	OMU	N3-C2-N1	3.89	119.96	114.89
36	S2	1326	OMU	C5-C4-N3	3.89	120.25	114.80
40	L5	2401	A2M	C1'-N9-C4	-3.88	119.82	126.64
36	S2	428	OMU	N3-C2-N1	3.88	119.94	114.89
40	L5	3825	A2M	C1'-N9-C4	-3.88	119.82	126.64
36	S2	1442	OMU	N3-C2-N1	3.88	119.94	114.89
40	L5	4590	A2M	C1'-N9-C4	-3.88	119.83	126.64
40	L5	3718	A2M	C3'-C2'-C1'	-3.88	95.38	102.81
36	S2	166	A2M	C1'-N9-C4	-3.86	119.86	126.64
36	S2	99	A2M	C3'-C2'-C1'	-3.85	95.44	102.81
40	L5	4590	A2M	C3'-C2'-C1'	-3.84	95.45	102.81
40	L5	4571	A2M	C1'-N9-C4	-3.83	119.91	126.64
40	L5	4620	OMU	N3-C2-N1	3.82	119.86	114.89
40	L5	4530	UR3	C5-C4-N3	3.80	120.04	115.04
40	L5	3867	A2M	C4'-O4'-C1'	-3.80	106.45	109.92
36	S2	99	A2M	C1'-N9-C4	-3.79	119.97	126.64
40	L5	3925	OMU	C5-C4-N3	3.77	120.08	114.80
36	S2	1326	OMU	N3-C2-N1	3.76	119.78	114.89
40	L5	4227	OMU	N3-C2-N1	3.76	119.78	114.89
36	S2	799	OMU	N3-C2-N1	3.75	119.77	114.89
36	S2	627	OMU	C5-C4-N3	3.73	120.02	114.80
40	L5	2363	A2M	C4'-O4'-C1'	-3.72	106.52	109.92
40	L5	398	A2M	C1'-N9-C4	-3.71	120.12	126.64
36	S2	1851	MA6	C2-N1-C6	3.70	120.47	116.84
36	S2	354	OMU	C5-C4-N3	3.68	119.95	114.80
36	S2	428	OMU	C5-C4-N3	3.67	119.95	114.80
36	S2	1383	A2M	C1'-N9-C4	-3.67	120.19	126.64
40	L5	3830	A2M	C1'-N9-C4	-3.67	120.20	126.64
36	S2	27	A2M	C1'-N9-C4	-3.63	120.26	126.64
36	S2	1031	A2M	C1'-N9-C4	-3.61	120.29	126.64
40	L5	1326	A2M	C1'-N9-C4	-3.61	120.30	126.64
36	S2	1850	MA6	C2-N1-C6	3.60	120.37	116.84
40	L5	3867	A2M	C1'-N9-C4	-3.60	120.31	126.64
36	S2	121	OMU	C5-C4-N3	3.60	119.84	114.80
36	S2	1288	OMU	N3-C2-N1	3.60	119.58	114.89
36	S2	799	OMU	C5-C4-N3	3.58	119.82	114.80
36	S2	1832	6MZ	C4'-O4'-C1'	-3.58	106.64	109.92
36	S2	1288	OMU	C5-C4-N3	3.58	119.82	114.80
40	L5	2815	A2M	C4'-O4'-C1'	-3.58	106.65	109.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4523	A2M	C1'-N9-C4	-3.57	120.36	126.64
36	S2	1442	OMU	C5-C4-N3	3.57	119.80	114.80
40	L5	400	A2M	C1'-N9-C4	-3.57	120.36	126.64
40	L5	4306	OMU	C5-C4-N3	3.57	119.80	114.80
40	L5	2837	OMU	C5-C4-N3	3.57	119.80	114.80
36	S2	627	OMU	N3-C2-N1	3.57	119.54	114.89
36	S2	172	OMU	C5-C4-N3	3.53	119.74	114.80
36	S2	576	A2M	C1'-N9-C4	-3.52	120.46	126.64
36	S2	166	A2M	O3'-C3'-C2'	3.52	121.03	111.19
40	L5	2401	A2M	O3'-C3'-C2'	3.52	121.03	111.19
36	S2	116	OMU	N3-C2-N1	3.50	119.44	114.89
40	L5	1323	A2M	C4'-O4'-C1'	-3.49	106.73	109.92
40	L5	1326	A2M	C4'-O4'-C1'	-3.49	106.73	109.92
36	S2	1248	B8N	N3-C2-N1	3.46	120.94	116.72
36	S2	116	OMU	C5-C4-N3	3.46	119.64	114.80
40	L5	1534	A2M	C4'-O4'-C1'	-3.45	106.77	109.92
40	L5	2787	A2M	C1'-N9-C4	-3.44	120.60	126.64
40	L5	2787	A2M	O3'-C3'-C2'	3.41	120.73	111.19
36	S2	166	A2M	C3'-C2'-C1'	-3.41	96.28	102.81
40	L5	3785	A2M	C1'-N9-C4	-3.40	120.66	126.64
40	L5	2363	A2M	C1'-N9-C4	-3.40	120.67	126.64
36	S2	1383	A2M	O3'-C3'-C2'	3.39	120.67	111.19
36	S2	468	A2M	C3'-C2'-C1'	-3.39	96.32	102.81
36	S2	576	A2M	O3'-C3'-C2'	3.39	120.66	111.19
36	S2	484	A2M	C1'-N9-C4	-3.37	120.73	126.64
40	L5	4620	OMU	C5-C4-N3	3.36	119.50	114.80
40	L5	3825	A2M	C3'-C2'-C1'	-3.35	96.38	102.81
36	S2	159	A2M	C1'-N9-C4	-3.34	120.77	126.64
40	L5	4571	A2M	C3'-C2'-C1'	-3.30	96.48	102.81
40	L5	2401	A2M	C3'-C2'-C1'	-3.29	96.51	102.81
40	L5	3718	A2M	C1'-N9-C4	-3.26	120.92	126.64
36	S2	1850	MA6	C4'-O4'-C1'	-3.24	106.96	109.92
36	S2	1031	A2M	C3'-C2'-C1'	-3.23	96.62	102.81
40	L5	1323	A2M	C2'-C1'-N9	3.22	119.70	112.56
40	L5	4403	PSU	O2-C2-N1	-3.20	119.48	122.79
40	L5	4628	PSU	O2-C2-N1	-3.20	119.49	122.79
40	L5	1536	PSU	O2-C2-N1	-3.19	119.50	122.79
36	S2	99	A2M	O3'-C3'-C2'	3.17	120.06	111.19
40	L5	4353	PSU	O2-C2-N1	-3.17	119.52	122.79
40	L5	1524	A2M	C1'-N9-C4	-3.17	121.08	126.64
40	L5	2839	PSU	O2-C2-N1	-3.16	119.53	122.79
36	S2	1326	OMU	O4-C4-C5	-3.15	119.72	125.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	3853	PSU	O2-C2-N1	-3.15	119.54	122.79
36	S2	1031	A2M	O3'-C3'-C2'	3.15	119.99	111.19
40	L5	2815	A2M	C1'-N9-C4	-3.14	121.12	126.64
40	L5	4442	PSU	O2-C2-N1	-3.14	119.55	122.79
36	S2	686	PSU	O2-C2-N1	-3.14	119.55	122.79
36	S2	1177	PSU	O2-C2-N1	-3.12	119.57	122.79
40	L5	3851	PSU	O2-C2-N1	-3.12	119.57	122.79
40	L5	1860	PSU	O2-C2-N1	-3.12	119.57	122.79
40	L5	2632	PSU	O2-C2-N1	-3.12	119.57	122.79
40	L5	4532	PSU	O2-C2-N1	-3.12	119.58	122.79
40	L5	4227	OMU	O4-C4-C5	-3.11	119.79	125.16
40	L5	3718	A2M	O3'-C3'-C2'	3.11	119.88	111.19
36	S2	159	A2M	C4'-O4'-C1'	-3.09	107.09	109.92
40	L5	3701	OMC	O2-C2-N3	-3.08	117.47	122.33
36	S2	1045	PSU	O2-C2-N1	-3.08	119.61	122.79
36	S2	668	A2M	O3'-C3'-C2'	3.08	119.82	111.19
40	L5	1524	A2M	O3'-C3'-C2'	3.08	119.81	111.19
36	S2	627	OMU	O4-C4-C5	-3.07	119.87	125.16
40	L5	1323	A2M	O3'-C3'-C2'	3.07	119.78	111.19
40	L5	5010	PSU	O2-C2-N1	-3.07	119.62	122.79
36	S2	159	A2M	O3'-C3'-C2'	3.06	119.76	111.19
40	L5	3822	PSU	O2-C2-N1	-3.06	119.64	122.79
40	L5	4628	PSU	C6-N1-C2	-3.05	119.86	122.69
40	L5	3920	PSU	O2-C2-N1	-3.05	119.65	122.79
40	L5	3818	UY1	C6-N1-C2	-3.05	119.86	122.69
40	L5	4689	PSU	O2-C2-N1	-3.04	119.65	122.79
36	S2	576	A2M	C3'-C2'-C1'	-3.03	97.00	102.81
40	L5	2837	OMU	O4-C4-C5	-3.03	119.93	125.16
40	L5	4576	PSU	O2-C2-N1	-3.03	119.66	122.79
40	L5	1323	A2M	C1'-N9-C4	-3.03	121.32	126.64
40	L5	400	A2M	C3'-C2'-C1'	-3.03	97.01	102.81
40	L5	3825	A2M	O3'-C3'-C2'	3.00	119.59	111.19
40	L5	3639	PSU	O2-C2-N1	-3.00	119.69	122.79
40	L5	1683	PSU	O2-C2-N1	-3.00	119.69	122.79
40	L5	5001	PSU	O2-C2-N1	-3.00	119.70	122.79
40	L5	3818	UY1	C6-C5-C4	3.00	120.20	118.17
36	S2	468	A2M	O3'-C3'-C2'	2.99	119.56	111.19
40	L5	4431	PSU	O2-C2-N1	-2.99	119.71	122.79
36	S2	1442	OMU	O4-C4-C5	-2.99	120.01	125.16
36	S2	406	PSU	O2-C2-N1	-2.98	119.71	122.79
36	S2	428	OMU	O4-C4-C5	-2.98	120.02	125.16
40	L5	1534	A2M	C1'-N9-C4	-2.98	121.40	126.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	1871	A2M	O3'-C3'-C2'	2.98	119.52	111.19
40	L5	4293	PSU	O2-C2-N1	-2.98	119.72	122.79
40	L5	4571	A2M	O3'-C3'-C2'	2.97	119.51	111.19
40	L5	4500	PSU	O2-C2-N1	-2.97	119.72	122.79
36	S2	1288	OMU	O4-C4-C5	-2.97	120.03	125.16
40	L5	3695	PSU	O2-C2-N1	-2.97	119.72	122.79
40	L5	4552	PSU	O2-C2-N1	-2.97	119.72	122.79
36	S2	799	OMU	O4-C4-C5	-2.95	120.08	125.16
40	L5	3830	A2M	O3'-C3'-C2'	2.95	119.43	111.19
36	S2	649	PSU	O2-C2-N1	-2.94	119.75	122.79
36	S2	966	PSU	O2-C2-N1	-2.94	119.76	122.79
40	L5	4296	PSU	O2-C2-N1	-2.94	119.76	122.79
36	S2	1639	G7M	C2-N1-C6	-2.94	119.74	125.11
40	L5	1534	A2M	C3'-C2'-C1'	-2.94	97.19	102.81
40	L5	4590	A2M	O3'-C3'-C2'	2.93	119.40	111.19
36	S2	1056	PSU	O2-C2-N1	-2.92	119.77	122.79
36	S2	116	OMU	O4-C4-C5	-2.92	120.12	125.16
40	L5	3925	OMU	O4-C4-C5	-2.92	120.12	125.16
42	L8	69	PSU	O2-C2-N1	-2.92	119.78	122.79
40	L5	4498	OMU	O4-C4-C5	-2.92	120.13	125.16
36	S2	109	PSU	O2-C2-N1	-2.92	119.78	122.79
40	L5	2839	PSU	C6-N1-C2	-2.92	119.98	122.69
40	L5	2363	A2M	C3'-C2'-C1'	-2.91	97.23	102.81
36	S2	866	PSU	O2-C2-N1	-2.91	119.78	122.79
36	S2	1004	PSU	O2-C2-N1	-2.91	119.78	122.79
40	L5	1744	PSU	O2-C2-N1	-2.91	119.78	122.79
36	S2	27	A2M	C3'-C2'-C1'	-2.90	97.25	102.81
40	L5	400	A2M	O3'-C3'-C2'	2.89	119.28	111.19
40	L5	4689	PSU	C6-N1-C2	-2.89	120.01	122.69
40	L5	3639	PSU	C6-N1-C2	-2.89	120.01	122.69
40	L5	4673	PSU	O2-C2-N1	-2.88	119.82	122.79
40	L5	1862	PSU	O2-C2-N1	-2.87	119.82	122.79
42	L8	69	PSU	C6-N1-C2	-2.87	120.02	122.69
40	L5	3884	PSU	O2-C2-N1	-2.87	119.83	122.79
40	L5	4306	OMU	O4-C4-C5	-2.87	120.22	125.16
40	L5	1677	PSU	O2-C2-N1	-2.87	119.83	122.79
40	L5	3844	PSU	O2-C2-N1	-2.86	119.84	122.79
36	S2	484	A2M	O3'-C3'-C2'	2.86	119.19	111.19
36	S2	354	OMU	O4-C4-C5	-2.86	120.23	125.16
36	S2	121	OMU	O4-C4-C5	-2.86	120.24	125.16
36	S2	1337	4AC	N4-C4-N3	2.85	118.50	113.87
40	L5	3785	A2M	O4'-C1'-N9	2.85	112.53	108.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	S2	1244	PSU	O2-C2-N1	-2.85	119.85	122.79
36	S2	484	A2M	C4'-O4'-C1'	-2.85	107.31	109.92
36	S2	172	OMU	O4-C4-C5	-2.85	120.25	125.16
36	S2	681	PSU	O2-C2-N1	-2.85	119.85	122.79
36	S2	668	A2M	O4'-C1'-C2'	2.83	111.44	106.61
36	S2	1174	PSU	O2-C2-N1	-2.83	119.87	122.79
40	L5	3867	A2M	C2'-C1'-N9	2.82	118.82	112.56
40	L5	4457	PSU	O2-C2-N1	-2.82	119.89	122.79
36	S2	1248	B8N	O4-C4-N3	-2.80	115.44	119.99
36	S2	863	PSU	O2-C2-N1	-2.80	119.90	122.79
40	L5	3785	A2M	C4-C5-N7	2.80	112.29	109.34
40	L5	2815	A2M	O3'-C3'-C2'	2.79	119.01	111.19
36	S2	1046	PSU	C6-N1-C2	-2.79	120.10	122.69
40	L5	3785	A2M	C3'-C2'-C1'	-2.78	97.48	102.81
36	S2	27	A2M	O3'-C3'-C2'	2.78	118.97	111.19
40	L5	3808	OMC	C1'-N1-C2	2.78	124.58	118.44
40	L5	5010	PSU	C6-N1-C2	-2.77	120.12	122.69
40	L5	4523	A2M	O3'-C3'-C2'	2.77	118.95	111.19
40	L5	4673	PSU	C6-N1-C2	-2.76	120.13	122.69
40	L5	4521	PSU	O2-C2-N1	-2.76	119.94	122.79
40	L5	4973	PSU	O2-C2-N1	-2.75	119.95	122.79
40	L5	1326	A2M	O3'-C3'-C2'	2.75	118.89	111.19
40	L5	4579	PSU	O2-C2-N1	-2.74	119.96	122.79
40	L5	2363	A2M	O3'-C3'-C2'	2.74	118.85	111.19
36	S2	651	PSU	O2-C2-N1	-2.74	119.97	122.79
40	L5	4972	PSU	O2-C2-N1	-2.74	119.97	122.79
40	L5	3818	UY1	O2-C2-N1	-2.73	119.97	122.79
40	L5	1582	PSU	O2-C2-N1	-2.73	119.97	122.79
40	L5	1782	PSU	O2-C2-N1	-2.73	119.98	122.79
40	L5	3701	OMC	O2-C2-N1	2.72	124.22	118.90
40	L5	1792	PSU	O2-C2-N1	-2.72	119.99	122.79
36	S2	1046	PSU	O2-C2-N1	-2.72	119.99	122.79
40	L5	4579	PSU	C6-N1-C2	-2.69	120.19	122.69
40	L5	4972	PSU	C6-N1-C2	-2.69	120.20	122.69
40	L5	2351	OMC	C1'-N1-C2	2.68	124.37	118.44
40	L5	3785	A2M	O3'-C3'-C2'	2.68	118.70	111.19
36	S2	1367	PSU	O2-C2-N1	-2.68	120.02	122.79
40	L5	4293	PSU	C6-N1-C2	-2.68	120.20	122.69
40	L5	3822	PSU	C6-N1-C2	-2.68	120.20	122.69
42	L8	55	PSU	O2-C2-N1	-2.67	120.03	122.79
36	S2	105	PSU	O2-C2-N1	-2.67	120.03	122.79
40	L5	2815	A2M	C2'-C1'-N9	2.67	118.49	112.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4500	PSU	C6-N1-C2	-2.66	120.22	122.69
40	L5	2363	A2M	C2'-C1'-N9	2.66	118.47	112.56
36	S2	1244	PSU	C6-N1-C2	-2.66	120.22	122.69
40	L5	2787	A2M	O4'-C1'-C2'	2.66	111.14	106.61
36	S2	1232	PSU	O2-C2-N1	-2.65	120.05	122.79
36	S2	814	PSU	O2-C2-N1	-2.65	120.06	122.79
40	L5	4471	PSU	O2-C2-N1	-2.65	120.06	122.79
40	L5	4493	PSU	O2-C2-N1	-2.64	120.06	122.79
40	L5	4299	PSU	O2-C2-N1	-2.64	120.07	122.79
40	L5	2787	A2M	C4-C5-N7	2.64	112.12	109.34
40	L5	4312	PSU	O2-C2-N1	-2.64	120.07	122.79
40	L5	3884	PSU	C6-N1-C2	-2.63	120.25	122.69
40	L5	1323	A2M	C4-C5-N7	2.62	112.11	109.34
36	S2	681	PSU	C6-N1-C2	-2.62	120.26	122.69
36	S2	801	PSU	C6-N1-C2	-2.62	120.26	122.69
40	L5	1677	PSU	C6-C5-C4	2.61	119.94	118.17
36	S2	1174	PSU	C6-N1-C2	-2.61	120.27	122.69
40	L5	4552	PSU	C6-N1-C2	-2.61	120.27	122.69
36	S2	801	PSU	O2-C2-N1	-2.60	120.11	122.79
40	L5	4353	PSU	C6-N1-C2	-2.60	120.28	122.69
36	S2	1004	PSU	C6-N1-C2	-2.59	120.28	122.69
40	L5	4442	PSU	C6-C5-C4	2.59	119.92	118.17
36	S2	406	PSU	C6-N1-C2	-2.59	120.28	122.69
40	L5	1326	A2M	C3'-C2'-C1'	-2.58	97.87	102.81
40	L5	3830	A2M	C4-C5-N7	2.58	112.06	109.34
40	L5	3851	PSU	C6-N1-C2	-2.58	120.30	122.69
40	L5	1323	A2M	C3'-C2'-C1'	-2.57	97.88	102.81
36	S2	354	OMU	O2-C2-N1	-2.57	119.46	122.80
40	L5	4620	OMU	O4-C4-C5	-2.56	120.75	125.16
40	L5	2632	PSU	C6-N1-C2	-2.56	120.31	122.69
36	S2	576	A2M	C4-C5-N7	2.56	112.04	109.34
40	L5	4636	PSU	O2-C2-N1	-2.55	120.16	122.79
40	L5	1534	A2M	C4-C5-N7	2.55	112.03	109.34
36	S2	27	A2M	C4-C5-N7	2.55	112.03	109.34
40	L5	4523	A2M	C4-C5-N7	2.55	112.03	109.34
40	L5	1524	A2M	O4'-C1'-C2'	2.55	110.95	106.61
40	L5	400	A2M	C4-C5-N7	2.54	112.02	109.34
36	S2	799	OMU	C1'-N1-C2	2.54	122.15	117.59
40	L5	1862	PSU	C6-N1-C2	-2.53	120.34	122.69
36	S2	966	PSU	C6-N1-C2	-2.53	120.34	122.69
36	S2	109	PSU	C6-N1-C2	-2.53	120.34	122.69
36	S2	866	PSU	C6-C5-C4	2.53	119.88	118.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	1683	PSU	C6-N1-C2	-2.53	120.34	122.69
40	L5	1536	PSU	C6-N1-C2	-2.53	120.35	122.69
36	S2	863	PSU	C6-N1-C2	-2.52	120.35	122.69
40	L5	3695	PSU	C6-N1-C2	-2.52	120.35	122.69
40	L5	4636	PSU	C6-C5-C4	2.52	119.87	118.17
36	S2	686	PSU	C6-N1-C2	-2.52	120.36	122.69
40	L5	4296	PSU	C6-N1-C2	-2.52	120.36	122.69
40	L5	2861	OMC	C1'-N1-C2	2.52	124.00	118.44
40	L5	4571	A2M	C4-C5-N7	2.51	111.99	109.34
40	L5	3867	A2M	C4-C5-N7	2.51	111.98	109.34
40	L5	1860	PSU	C6-N1-C2	-2.50	120.37	122.69
40	L5	4973	PSU	C6-N1-C2	-2.50	120.37	122.69
40	L5	1326	A2M	C4-C5-N7	2.50	111.98	109.34
42	L8	55	PSU	C6-N1-C2	-2.50	120.37	122.69
40	L5	3637	PSU	C6-N1-C2	-2.49	120.38	122.69
40	L5	1782	PSU	C6-N1-C2	-2.49	120.38	122.69
40	L5	4431	PSU	C6-N1-C2	-2.49	120.38	122.69
40	L5	1322	1MA	CM1-N1-C6	-2.49	116.30	120.15
36	S2	668	A2M	C2'-C1'-N9	2.48	118.08	112.56
40	L5	2401	A2M	C4-C5-N7	2.48	111.96	109.34
40	L5	3718	A2M	C4-C5-N7	2.48	111.96	109.34
40	L5	4312	PSU	C6-N1-C2	-2.48	120.39	122.69
40	L5	3925	OMU	O2-C2-N1	-2.48	119.57	122.80
40	L5	3920	PSU	C6-N1-C2	-2.48	120.39	122.69
40	L5	2837	OMU	O2-C2-N1	-2.48	119.57	122.80
40	L5	2363	A2M	C4-C5-N7	2.47	111.95	109.34
36	S2	651	PSU	C6-N1-C2	-2.47	120.40	122.69
40	L5	1871	A2M	C4-C5-N7	2.47	111.95	109.34
40	L5	1781	PSU	O2-C2-N1	-2.47	120.24	122.79
40	L5	4590	A2M	C4-C5-N7	2.47	111.94	109.34
40	L5	3844	PSU	C6-N1-C2	-2.46	120.40	122.69
36	S2	1045	PSU	C6-N1-C2	-2.46	120.41	122.69
40	L5	1323	A2M	O4'-C1'-C2'	2.46	110.81	106.61
36	S2	649	PSU	C6-N1-C2	-2.46	120.41	122.69
36	S2	99	A2M	C4-C5-N7	2.46	111.94	109.34
36	S2	1031	A2M	C4-C5-N7	2.45	111.93	109.34
40	L5	4521	PSU	C6-N1-C2	-2.44	120.42	122.69
40	L5	4299	PSU	C6-N1-C2	-2.43	120.43	122.69
36	S2	93	PSU	O2-C2-N1	-2.43	120.28	122.79
36	S2	174	OMC	C1'-N1-C2	2.42	123.79	118.44
40	L5	5001	PSU	C6-N1-C2	-2.42	120.44	122.69
40	L5	4361	PSU	O2-C2-N1	-2.42	120.29	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	S2	1272	OMC	C1'-N1-C2	2.42	123.78	118.44
40	L5	4471	PSU	C6-N1-C2	-2.41	120.46	122.69
40	L5	4500	PSU	C6-C5-C4	2.41	119.80	118.17
36	S2	159	A2M	C3'-C2'-C1'	-2.40	98.21	102.81
40	L5	2363	A2M	O4'-C1'-C2'	2.40	110.69	106.61
36	S2	484	A2M	C4-C5-N7	2.40	111.87	109.34
36	S2	1383	A2M	C4-C5-N7	2.39	111.87	109.34
40	L5	2815	A2M	C3'-C2'-C1'	-2.39	98.24	102.81
36	S2	1056	PSU	C6-N1-C2	-2.39	120.48	122.69
40	L5	3825	A2M	C4-C5-N7	2.39	111.86	109.34
40	L5	3899	OMG	O6-C6-C5	2.38	129.05	124.32
40	L5	4498	OMU	O2-C2-N1	-2.38	119.69	122.80
36	S2	1177	PSU	C6-N1-C2	-2.38	120.48	122.69
36	S2	109	PSU	C6-C5-C4	2.38	119.78	118.17
36	S2	1248	B8N	O4'-C1'-C2'	2.38	108.44	105.15
40	L5	4442	PSU	C6-N1-C2	-2.38	120.48	122.69
36	S2	105	PSU	C6-N1-C2	-2.37	120.49	122.69
40	L5	1792	PSU	C6-N1-C2	-2.37	120.49	122.69
36	S2	1367	PSU	C6-N1-C2	-2.37	120.49	122.69
36	S2	867	OMG	O6-C6-C5	2.36	129.00	124.32
40	L5	1524	A2M	C4-C5-N7	2.36	111.83	109.34
36	S2	866	PSU	C6-N1-C2	-2.36	120.50	122.69
36	S2	159	A2M	C4-C5-N7	2.35	111.83	109.34
40	L5	1534	A2M	O4'-C1'-C2'	2.35	110.61	106.61
36	S2	468	A2M	C4-C5-N7	2.35	111.82	109.34
40	L5	3718	A2M	C2'-C1'-N9	2.35	117.77	112.56
36	S2	1326	OMU	O2-C2-N1	-2.35	119.74	122.80
36	S2	166	A2M	C4-C5-N7	2.34	111.81	109.34
40	L5	4576	PSU	C6-N1-C2	-2.34	120.52	122.69
36	S2	814	PSU	C6-N1-C2	-2.34	120.52	122.69
40	L5	4403	PSU	C6-C5-C4	2.34	119.75	118.17
40	L5	1326	A2M	O4'-C1'-C2'	2.33	110.58	106.61
40	L5	1522	OMG	O6-C6-C5	2.33	128.95	124.32
36	S2	159	A2M	O4'-C1'-C2'	2.33	110.58	106.61
40	L5	4353	PSU	C6-C5-C4	2.33	119.75	118.17
36	S2	644	OMG	O6-C6-C5	2.33	128.94	124.32
40	L5	1582	PSU	C6-N1-C2	-2.33	120.53	122.69
40	L5	1744	PSU	C6-N1-C2	-2.33	120.53	122.69
40	L5	3792	OMG	O6-C6-C5	2.32	128.93	124.32
36	S2	1081	PSU	C6-N1-C2	-2.32	120.54	122.69
36	S2	1232	PSU	C6-N1-C2	-2.32	120.54	122.69
40	L5	1322	1MA	C5-C6-N1	-2.32	110.63	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	S2	1081	PSU	O2-C2-N1	-2.31	120.40	122.79
40	L5	3822	PSU	O4'-C1'-C2'	2.31	108.34	105.15
36	S2	601	OMG	O6-C6-C5	2.30	128.88	124.32
40	L5	1871	A2M	O4'-C1'-C2'	2.30	110.53	106.61
36	S2	1056	PSU	C6-C5-C4	2.29	119.72	118.17
40	L5	3853	PSU	C6-N1-C2	-2.29	120.56	122.69
36	S2	1328	OMG	O6-C6-C5	2.28	128.85	124.32
36	S2	436	OMG	O6-C6-C5	2.28	128.84	124.32
40	L5	2815	A2M	C4-C5-N7	2.28	111.75	109.34
40	L5	4493	PSU	C6-N1-C2	-2.28	120.58	122.69
42	L8	75	OMG	O6-C6-C5	2.27	128.82	124.32
40	L5	1781	PSU	C6-N1-C2	-2.26	120.59	122.69
36	S2	1288	OMU	C1'-N1-C2	2.26	121.66	117.59
40	L5	4532	PSU	C6-N1-C2	-2.26	120.59	122.69
36	S2	866	PSU	O4'-C1'-C2'	2.26	108.28	105.15
36	S2	93	PSU	C6-N1-C2	-2.25	120.60	122.69
40	L5	4392	OMG	O6-C6-C5	2.25	128.79	124.32
40	L5	3867	A2M	O4'-C1'-C2'	2.25	110.44	106.61
40	L5	4457	PSU	C6-N1-C2	-2.24	120.61	122.69
40	L5	4494	OMG	O6-C6-C5	2.24	128.76	124.32
36	S2	166	A2M	O4'-C1'-C2'	2.24	110.42	106.61
40	L5	398	A2M	C4-C5-N7	2.23	111.69	109.34
40	L5	3744	OMG	O6-C6-C5	2.23	128.74	124.32
40	L5	3627	OMG	O6-C6-C5	2.23	128.73	124.32
40	L5	1677	PSU	O4'-C1'-C2'	2.22	108.22	105.15
36	S2	121	OMU	O2-C2-N1	-2.21	119.92	122.80
40	L5	4442	PSU	O4'-C1'-C2'	2.21	108.21	105.15
40	L5	2876	OMG	O6-C6-C5	2.21	128.70	124.32
40	L5	4403	PSU	O4'-C1'-C2'	2.20	108.20	105.15
40	L5	3867	A2M	C3'-C2'-C1'	-2.20	98.60	102.81
36	S2	428	OMU	O2-C2-N1	-2.19	119.94	122.80
40	L5	4530	UR3	C6-N1-C2	-2.19	120.01	121.80
36	S2	468	A2M	O4'-C1'-C2'	2.19	110.34	106.61
40	L5	4361	PSU	C6-N1-C2	-2.18	120.66	122.69
36	S2	1244	PSU	C6-C5-C4	2.18	119.65	118.17
40	L5	2815	A2M	O4'-C1'-C2'	2.18	110.33	106.61
40	L5	4623	OMG	O6-C6-C5	2.18	128.65	124.32
36	S2	686	PSU	C6-C5-C4	2.18	119.64	118.17
40	L5	4228	OMG	O6-C6-C5	2.18	128.63	124.32
40	L5	1322	1MA	N1-C6-N6	2.17	125.17	119.71
42	L8	69	PSU	O4'-C1'-C2'	2.17	108.15	105.15
36	S2	683	OMG	O6-C6-C5	2.15	128.59	124.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4370	OMG	O6-C6-C5	2.15	128.59	124.32
40	L5	4403	PSU	C6-N1-C2	-2.15	120.69	122.69
40	L5	3785	A2M	O4'-C4'-C3'	2.15	109.42	105.15
40	L5	4636	PSU	O4'-C1'-C2'	2.15	108.12	105.15
40	L5	4637	OMG	O6-C6-C5	2.14	128.57	124.32
40	L5	2632	PSU	C6-C5-C4	2.14	119.62	118.17
36	S2	509	OMG	O6-C6-C5	2.14	128.56	124.32
36	S2	668	A2M	C4-C5-N7	2.14	111.60	109.34
36	S2	159	A2M	O3'-C3'-C4'	-2.14	104.94	111.08
40	L5	4571	A2M	O4'-C1'-C2'	2.13	110.24	106.61
36	S2	484	A2M	C3'-C2'-C1'	-2.13	98.72	102.81
40	L5	400	A2M	O4'-C1'-C2'	2.13	110.24	106.61
36	S2	1248	B8N	O4-C4-C5	-2.13	118.90	122.58
40	L5	4196	OMG	O6-C6-C5	2.12	128.52	124.32
42	L8	69	PSU	C6-C5-C4	2.11	119.60	118.17
40	L5	4620	OMU	O2-C2-N1	-2.11	120.05	122.80
36	S2	1337	4AC	C5-C4-N4	-2.11	119.38	122.94
40	L5	4973	PSU	C6-C5-C4	2.11	119.60	118.17
36	S2	484	A2M	O4'-C1'-C2'	2.11	110.20	106.61
40	L5	3782	5MC	C1'-N1-C6	-2.10	117.69	121.15
40	L5	1534	A2M	O3'-C3'-C4'	-2.10	105.05	111.08
36	S2	172	OMU	O2-C2-N1	-2.09	120.07	122.80
40	L5	4499	OMG	O6-C6-C5	2.09	128.46	124.32
40	L5	1524	A2M	O4'-C1'-N9	2.09	111.51	108.75
40	L5	3637	PSU	C6-C5-C4	2.09	119.58	118.17
40	L5	3808	OMC	C1'-N1-C6	-2.08	116.33	120.78
36	S2	484	A2M	C2'-C1'-N9	2.08	117.19	112.56
36	S2	27	A2M	O4'-C1'-C2'	2.08	110.16	106.61
40	L5	3867	A2M	O3'-C3'-C2'	2.08	117.00	111.19
40	L5	3825	A2M	O4'-C1'-C2'	2.08	110.14	106.61
40	L5	1326	A2M	C2'-C1'-N9	2.07	117.16	112.56
40	L5	4457	PSU	O4'-C1'-C2'	2.06	108.01	105.15
36	S2	1248	B8N	C31-N3-C4	2.06	120.10	117.18
40	L5	3637	PSU	O2-C2-N1	-2.05	120.67	122.79
40	L5	4618	OMG	O6-C6-C5	2.05	128.38	124.32
40	L5	4636	PSU	C6-N1-C2	-2.04	120.80	122.69
36	S2	109	PSU	O4'-C1'-C2'	2.04	107.98	105.15
40	L5	2401	A2M	O4'-C1'-C2'	2.04	110.09	106.61
40	L5	1871	A2M	C6-C5-C4	-2.04	113.93	117.90
40	L5	2422	OMC	C1'-N1-C2	2.04	122.95	118.44
36	S2	1004	PSU	C6-C5-C4	2.04	119.55	118.17
40	L5	1782	PSU	C6-C5-C4	2.04	119.55	118.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	L5	4353	PSU	O4'-C1'-C2'	2.03	107.95	105.15
40	L5	1625	OMG	O6-C6-C5	2.02	128.32	124.32
36	S2	1442	OMU	O2-C2-N1	-2.01	120.18	122.80
40	L5	4306	OMU	O2-C2-N1	-2.01	120.18	122.80
40	L5	2787	A2M	O4'-C4'-C3'	2.01	109.14	105.15
40	L5	1534	A2M	C2'-C1'-N9	2.00	117.01	112.56
40	L5	4571	A2M	C2'-C1'-N9	2.00	117.00	112.56
36	S2	1056	PSU	O4'-C1'-C2'	2.00	107.92	105.15
36	S2	1081	PSU	O4'-C1'-C2'	2.00	107.92	105.15
40	L5	4500	PSU	O4'-C1'-C2'	2.00	107.92	105.15

There are no chirality outliers.

All (131) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
42	L8	75	OMG	C1'-C2'-O2'-CM2
36	S2	27	A2M	C1'-C2'-O2'-CM'
36	S2	159	A2M	C1'-C2'-O2'-CM'
36	S2	462	OMC	C1'-C2'-O2'-CM2
36	S2	601	OMG	C1'-C2'-O2'-CM2
36	S2	644	OMG	O4'-C4'-C5'-O5'
36	S2	799	OMU	C3'-C4'-C5'-O5'
36	S2	799	OMU	O4'-C4'-C5'-O5'
36	S2	801	PSU	C3'-C4'-C5'-O5'
36	S2	867	OMG	C3'-C4'-C5'-O5'
36	S2	1031	A2M	C1'-C2'-O2'-CM'
36	S2	1272	OMC	O4'-C4'-C5'-O5'
36	S2	1288	OMU	O4'-C4'-C5'-O5'
36	S2	1337	4AC	N3-C4-N4-C7
36	S2	1383	A2M	C1'-C2'-O2'-CM'
36	S2	1442	OMU	O4'-C4'-C5'-O5'
40	L5	400	A2M	C1'-C2'-O2'-CM'
40	L5	1326	A2M	O4'-C4'-C5'-O5'
40	L5	1326	A2M	C1'-C2'-O2'-CM'
40	L5	1340	OMC	C1'-C2'-O2'-CM2
40	L5	1625	OMG	O4'-C4'-C5'-O5'
40	L5	1677	PSU	C2'-C1'-C5-C4
40	L5	2351	OMC	C1'-C2'-O2'-CM2
40	L5	2364	OMG	C1'-C2'-O2'-CM2
40	L5	2787	A2M	C1'-C2'-O2'-CM'
40	L5	2824	OMC	C1'-C2'-O2'-CM2
40	L5	3701	OMC	C2'-C1'-N1-C2

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Mol	Chain	Res	Type	Atoms
40	L5	3701	OMC	O4'-C4'-C5'-O5'
40	L5	3792	OMG	O4'-C4'-C5'-O5'
40	L5	3808	OMC	C1'-C2'-O2'-CM2
40	L5	3867	A2M	C1'-C2'-O2'-CM'
40	L5	4196	OMG	C1'-C2'-O2'-CM2
40	L5	4590	A2M	O4'-C4'-C5'-O5'
40	L5	4637	OMG	O4'-C4'-C5'-O5'
36	S2	99	A2M	O4'-C4'-C5'-O5'
36	S2	644	OMG	C3'-C4'-C5'-O5'
36	S2	683	OMG	C3'-C4'-C5'-O5'
36	S2	1272	OMC	C3'-C4'-C5'-O5'
40	L5	1323	A2M	O4'-C4'-C5'-O5'
40	L5	1326	A2M	C3'-C4'-C5'-O5'
40	L5	1536	PSU	C3'-C4'-C5'-O5'
40	L5	1536	PSU	O4'-C4'-C5'-O5'
40	L5	1625	OMG	C3'-C4'-C5'-O5'
40	L5	2364	OMG	O4'-C4'-C5'-O5'
40	L5	2815	A2M	O4'-C4'-C5'-O5'
40	L5	4500	PSU	C3'-C4'-C5'-O5'
40	L5	4500	PSU	O4'-C4'-C5'-O5'
40	L5	4590	A2M	C3'-C4'-C5'-O5'
40	L5	3701	OMC	C2'-C1'-N1-C6
36	S2	576	A2M	O4'-C4'-C5'-O5'
36	S2	801	PSU	O4'-C4'-C5'-O5'
36	S2	867	OMG	O4'-C4'-C5'-O5'
36	S2	1442	OMU	C3'-C4'-C5'-O5'
40	L5	3701	OMC	C3'-C4'-C5'-O5'
40	L5	4228	OMG	O4'-C4'-C5'-O5'
40	L5	4228	OMG	C3'-C4'-C5'-O5'
36	S2	627	OMU	O4'-C4'-C5'-O5'
36	S2	1288	OMU	C3'-C4'-C5'-O5'
36	S2	428	OMU	C2'-C1'-N1-C6
36	S2	627	OMU	C2'-C1'-N1-C6
40	L5	4447	5MC	C2'-C1'-N1-C6
36	S2	576	A2M	C3'-C4'-C5'-O5'
40	L5	2787	A2M	C3'-C4'-C5'-O5'
40	L5	3792	OMG	C3'-C4'-C5'-O5'
40	L5	3899	OMG	C3'-C4'-C5'-O5'
40	L5	4637	OMG	C3'-C4'-C5'-O5'
36	S2	683	OMG	O4'-C4'-C5'-O5'
36	S2	1045	PSU	C3'-C4'-C5'-O5'
36	S2	1045	PSU	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
40	L5	1323	A2M	C3'-C4'-C5'-O5'
40	L5	2364	OMG	C3'-C4'-C5'-O5'
40	L5	2815	A2M	C3'-C4'-C5'-O5'
40	L5	3867	A2M	C3'-C4'-C5'-O5'
36	S2	99	A2M	C3'-C4'-C5'-O5'
36	S2	668	A2M	O4'-C4'-C5'-O5'
36	S2	1248	B8N	N34-C33-C34-O36
40	L5	3899	OMG	O4'-C4'-C5'-O5'
36	S2	668	A2M	C3'-C4'-C5'-O5'
40	L5	4590	A2M	C4'-C5'-O5'-P
40	L5	4296	PSU	C3'-C4'-C5'-O5'
40	L5	3925	OMU	C1'-C2'-O2'-CM2
40	L5	1524	A2M	C3'-C4'-C5'-O5'
40	L5	4296	PSU	O4'-C4'-C5'-O5'
36	S2	1383	A2M	O4'-C4'-C5'-O5'
36	S2	428	OMU	C2'-C1'-N1-C2
36	S2	627	OMU	O4'-C1'-N1-C6
40	L5	4447	5MC	O4'-C1'-N1-C6
40	L5	3851	PSU	C3'-C4'-C5'-O5'
36	S2	428	OMU	O4'-C1'-N1-C6
36	S2	1703	OMC	O4'-C4'-C5'-O5'
40	L5	1524	A2M	O4'-C4'-C5'-O5'
36	S2	428	OMU	O4'-C1'-N1-C2
40	L5	3818	UY1	C4'-C5'-O5'-P
36	S2	627	OMU	C2'-C1'-N1-C2
40	L5	4447	5MC	C2'-C1'-N1-C2
36	S2	627	OMU	O4'-C1'-N1-C2
40	L5	4447	5MC	O4'-C1'-N1-C2
40	L5	3785	A2M	C3'-C2'-O2'-CM'
40	L5	4494	OMG	C3'-C2'-O2'-CM2
36	S2	576	A2M	C4'-C5'-O5'-P
36	S2	644	OMG	C4'-C5'-O5'-P
40	L5	1534	A2M	C4'-C5'-O5'-P
40	L5	4500	PSU	C4'-C5'-O5'-P
40	L5	3818	UY1	O4'-C1'-C5-C4
36	S2	627	OMU	C3'-C4'-C5'-O5'
36	S2	1383	A2M	C3'-C4'-C5'-O5'
40	L5	2422	OMC	C3'-C4'-C5'-O5'
40	L5	4220	6MZ	C3'-C4'-C5'-O5'
40	L5	4618	OMG	C3'-C4'-C5'-O5'
36	S2	1490	OMG	C4'-C5'-O5'-P
40	L5	3887	OMC	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
40	L5	3844	PSU	C4'-C5'-O5'-P
40	L5	2787	A2M	O4'-C4'-C5'-O5'
40	L5	4220	6MZ	O4'-C4'-C5'-O5'
40	L5	2401	A2M	C1'-C2'-O2'-CM'
36	S2	1639	G7M	C3'-C4'-C5'-O5'
40	L5	3818	UY1	O4'-C1'-C5-C6
40	L5	4636	PSU	O4'-C1'-C5-C6
40	L5	1524	A2M	C3'-C2'-O2'-CM'
40	L5	1781	PSU	C3'-C4'-C5'-O5'
40	L5	3785	A2M	O4'-C4'-C5'-O5'
40	L5	3701	OMC	O4'-C1'-N1-C6
40	L5	4636	PSU	C2'-C1'-C5-C6
40	L5	3899	OMG	C3'-C2'-O2'-CM2
36	S2	1832	6MZ	N1-C6-N6-C9
40	L5	2422	OMC	O4'-C4'-C5'-O5'
40	L5	3782	5MC	O4'-C4'-C5'-O5'
36	S2	1851	MA6	C4'-C5'-O5'-P
36	S2	1832	6MZ	C5-C6-N6-C9
36	S2	1081	PSU	C4'-C5'-O5'-P
40	L5	1326	A2M	C4'-C5'-O5'-P

There are no ring outliers.

61 monomers are involved in 84 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
40	L5	2364	OMG	1	0
40	L5	3808	OMC	1	0
40	L5	3782	5MC	1	0
40	L5	4623	OMG	1	0
36	S2	649	PSU	1	0
40	L5	1326	A2M	3	0
40	L5	4523	A2M	1	0
36	S2	1031	A2M	2	0
40	L5	2632	PSU	1	0
40	L5	3701	OMC	1	0
40	L5	3822	PSU	2	0
36	S2	1842	4AC	1	0
36	S2	681	PSU	1	0
40	L5	2363	A2M	1	0
40	L5	2422	OMC	1	0
36	S2	1337	4AC	3	0
36	S2	1328	OMG	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
40	L5	4392	OMG	1	0
42	L8	75	OMG	2	0
40	L5	4456	OMC	1	0
36	S2	93	PSU	1	0
40	L5	4536	OMC	1	0
40	L5	2351	OMC	2	0
36	S2	601	OMG	1	0
36	S2	1232	PSU	2	0
36	S2	1288	OMU	1	0
40	L5	3818	UY1	1	0
36	S2	576	A2M	2	0
40	L5	1683	PSU	1	0
36	S2	462	OMC	2	0
40	L5	4353	PSU	1	0
36	S2	99	A2M	2	0
36	S2	867	OMG	1	0
40	L5	1781	PSU	1	0
36	S2	1383	A2M	1	0
40	L5	1340	OMC	2	0
40	L5	3830	A2M	1	0
36	S2	484	A2M	1	0
40	L5	3718	A2M	2	0
40	L5	3920	PSU	1	0
40	L5	2824	OMC	1	0
40	L5	4571	A2M	1	0
40	L5	1534	A2M	1	0
36	S2	1850	MA6	2	0
40	L5	4457	PSU	1	0
36	S2	121	OMU	1	0
40	L5	4521	PSU	1	0
40	L5	3867	A2M	3	0
40	L5	400	A2M	1	0
40	L5	1871	A2M	1	0
40	L5	4196	OMG	1	0
40	L5	4431	PSU	1	0
36	S2	27	A2M	2	0
40	L5	4620	OMU	2	0
36	S2	166	A2M	1	0
36	S2	159	A2M	2	0
36	S2	509	OMG	1	0
36	S2	1639	G7M	1	0
36	S2	644	OMG	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
36	S2	428	OMU	2	0
36	S2	116	OMU	3	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 241 ligands modelled in this entry, 224 are monoatomic - leaving 17 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
88	SPM	L5	5263	-	13,13,13	0.34	0	12,12,12	0.96	0
89	SPD	L5	5285	-	9,9,9	0.33	0	8,8,8	0.94	0
89	SPD	L8	201	-	9,9,9	0.32	0	8,8,8	0.90	0
89	SPD	L5	5286	-	9,9,9	0.32	0	8,8,8	0.85	0
88	SPM	L5	5288	-	13,13,13	0.35	0	12,12,12	0.98	0
88	SPM	L5	5264	-	13,13,13	0.37	0	12,12,12	1.07	0
89	SPD	L5	5261	-	9,9,9	0.32	0	8,8,8	0.96	0
89	SPD	L5	5289	-	9,9,9	0.32	0	8,8,8	0.85	0
89	SPD	L5	5283	-	9,9,9	0.32	0	8,8,8	0.90	0
89	SPD	L5	5284	-	9,9,9	0.31	0	8,8,8	0.78	0
88	SPM	L5	5292	-	13,13,13	0.35	0	12,12,12	0.85	0
88	SPM	L5	5291	-	13,13,13	0.35	0	12,12,12	0.84	0
89	SPD	L5	5287	-	9,9,9	0.32	0	8,8,8	0.81	0
89	SPD	LN	301	-	9,9,9	0.35	0	8,8,8	0.92	0
88	SPM	L5	5267	-	13,13,13	0.36	0	12,12,12	0.94	0
88	SPM	L5	5258	-	13,13,13	0.36	0	12,12,12	0.93	0
89	SPD	L5	5290	-	9,9,9	0.32	0	8,8,8	0.83	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
88	SPM	L5	5263	-	-	4/11/11/11	-
89	SPD	L5	5285	-	-	4/7/7/7	-
89	SPD	L8	201	-	-	4/7/7/7	-
89	SPD	L5	5286	-	-	2/7/7/7	-
88	SPM	L5	5288	-	-	4/11/11/11	-
88	SPM	L5	5264	-	-	7/11/11/11	-
89	SPD	L5	5261	-	-	0/7/7/7	-
89	SPD	L5	5289	-	-	3/7/7/7	-
89	SPD	L5	5283	-	-	1/7/7/7	-
89	SPD	L5	5284	-	-	3/7/7/7	-
88	SPM	L5	5292	-	-	4/11/11/11	-
88	SPM	L5	5291	-	-	4/11/11/11	-
89	SPD	L5	5287	-	-	2/7/7/7	-
89	SPD	LN	301	-	-	2/7/7/7	-
88	SPM	L5	5267	-	-	4/11/11/11	-
88	SPM	L5	5258	-	-	4/11/11/11	-
89	SPD	L5	5290	-	-	4/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (56) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
88	L5	5264	SPM	N5-C6-C7-C8
89	L5	5284	SPD	C3-C4-C5-N6
88	L5	5263	SPM	N10-C11-C12-C13
88	L5	5292	SPM	N10-C11-C12-C13
89	L5	5285	SPD	N6-C7-C8-C9
89	L5	5289	SPD	N6-C7-C8-C9
88	L5	5263	SPM	C7-C6-N5-C4
88	L5	5291	SPM	C8-C9-N10-C11
89	LN	301	SPD	C8-C7-N6-C5
88	L5	5291	SPM	C7-C8-C9-N10
89	L8	201	SPD	C3-C4-C5-N6
89	L5	5285	SPD	C3-C4-C5-N6
88	L5	5267	SPM	C7-C8-C9-N10

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Mol	Chain	Res	Type	Atoms
88	L5	5264	SPM	C6-C7-C8-C9
88	L5	5288	SPM	C2-C3-C4-N5
89	L8	201	SPD	N6-C7-C8-C9
89	L5	5286	SPD	C3-C4-C5-N6
88	L5	5288	SPM	C12-C11-N10-C9
89	L8	201	SPD	C8-C7-N6-C5
88	L5	5258	SPM	C7-C6-N5-C4
89	L5	5290	SPD	C4-C5-N6-C7
89	L5	5285	SPD	C2-C3-C4-C5
88	L5	5267	SPM	C6-C7-C8-C9
89	L5	5286	SPD	C2-C3-C4-C5
89	L5	5290	SPD	C3-C4-C5-N6
88	L5	5288	SPM	C8-C9-N10-C11
88	L5	5258	SPM	C2-C3-C4-N5
88	L5	5267	SPM	C8-C9-N10-C11
88	L5	5288	SPM	N1-C2-C3-C4
88	L5	5292	SPM	C11-C12-C13-N14
88	L5	5292	SPM	C6-C7-C8-C9
88	L5	5264	SPM	C8-C9-N10-C11
88	L5	5258	SPM	C6-C7-C8-C9
89	L8	201	SPD	C2-C3-C4-C5
88	L5	5263	SPM	C3-C4-N5-C6
89	L5	5285	SPD	C7-C8-C9-N10
89	L5	5287	SPD	C8-C7-N6-C5
89	L5	5289	SPD	C7-C8-C9-N10
88	L5	5291	SPM	C6-C7-C8-C9
88	L5	5264	SPM	C12-C11-N10-C9
89	L5	5283	SPD	C2-C3-C4-C5
88	L5	5264	SPM	C7-C8-C9-N10
88	L5	5263	SPM	N5-C6-C7-C8
88	L5	5264	SPM	C2-C3-C4-N5
89	L5	5284	SPD	N6-C7-C8-C9
88	L5	5292	SPM	C8-C9-N10-C11
89	L5	5290	SPD	C8-C7-N6-C5
88	L5	5264	SPM	C7-C6-N5-C4
89	L5	5287	SPD	N6-C7-C8-C9
89	L5	5289	SPD	C2-C3-C4-C5
88	L5	5258	SPM	C3-C4-N5-C6
89	LN	301	SPD	C4-C5-N6-C7
89	L5	5284	SPD	C2-C3-C4-C5
89	L5	5290	SPD	N1-C2-C3-C4
88	L5	5267	SPM	C11-C12-C13-N14

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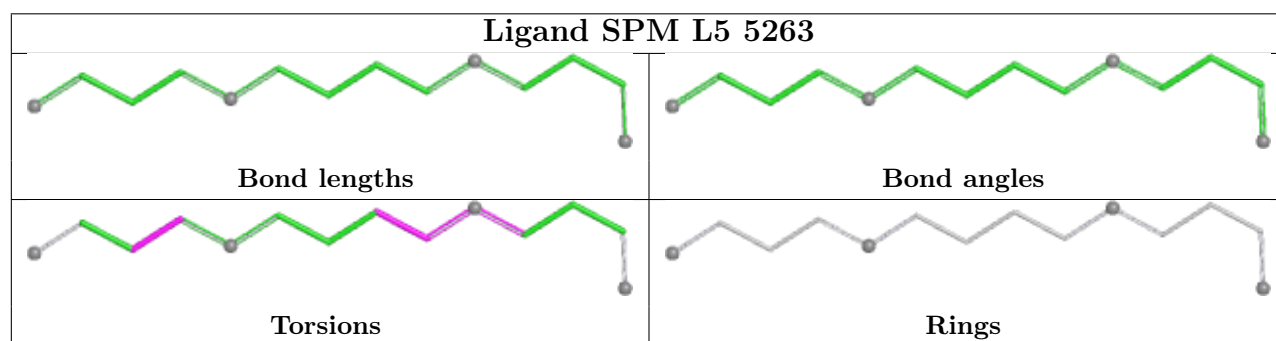
Mol	Chain	Res	Type	Atoms
88	L5	5291	SPM	C7-C6-N5-C4

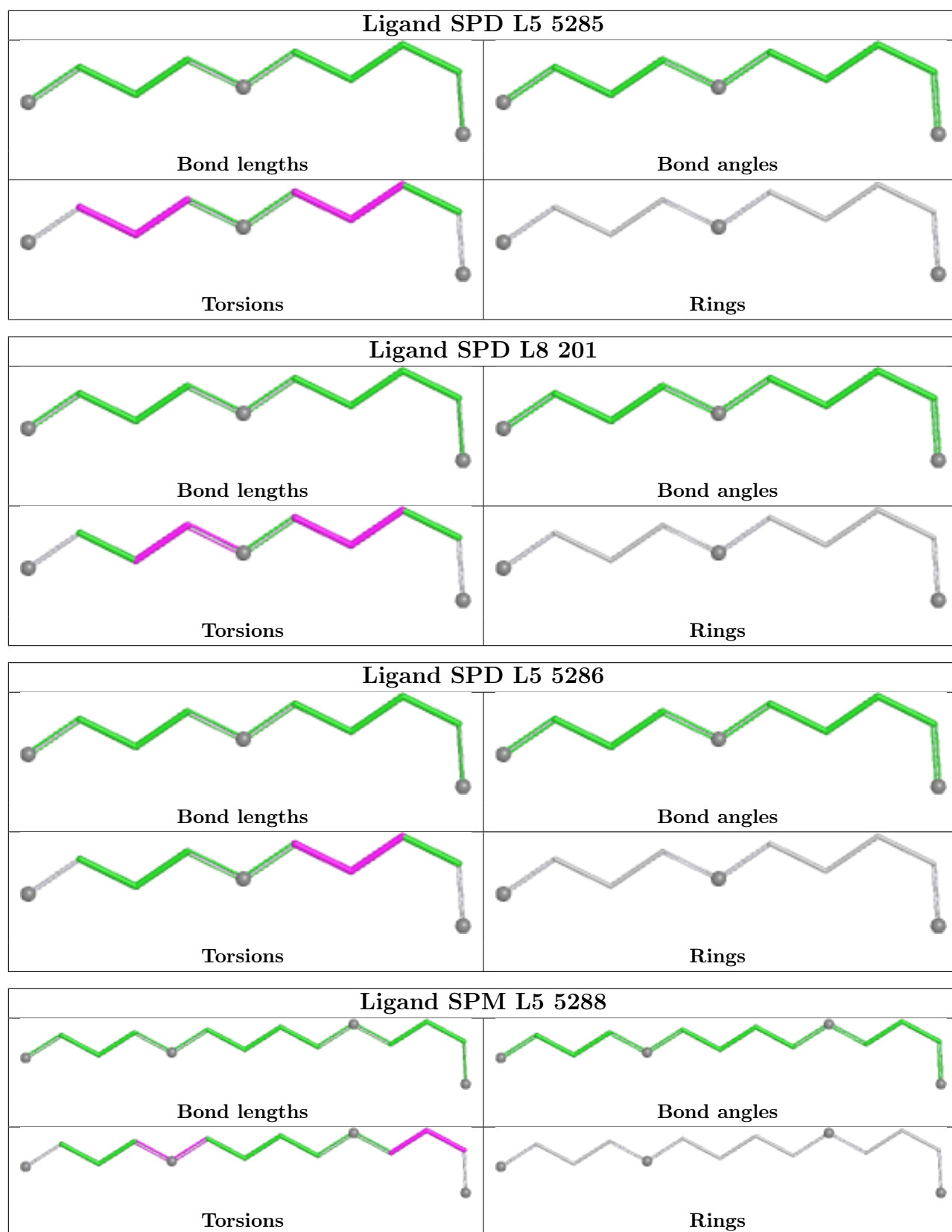
There are no ring outliers.

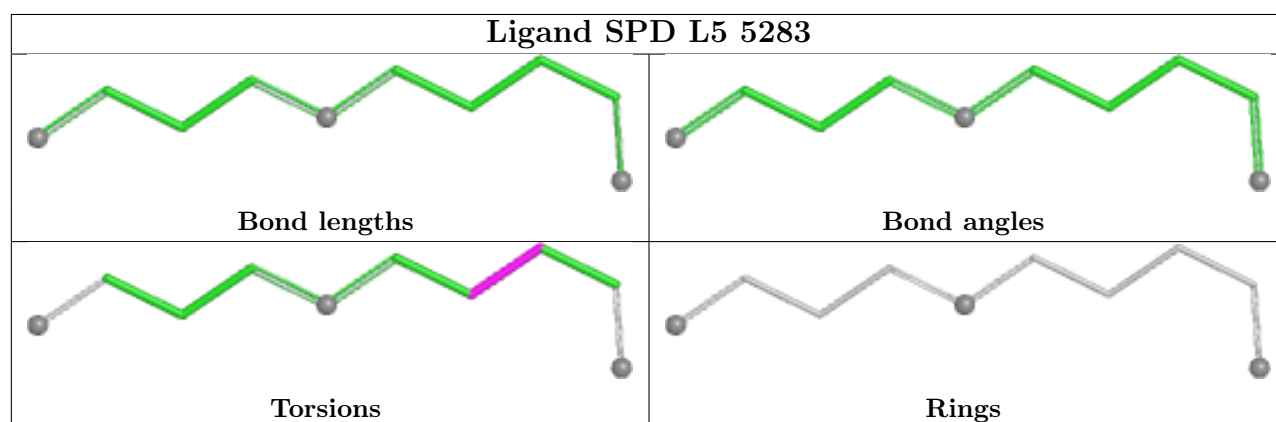
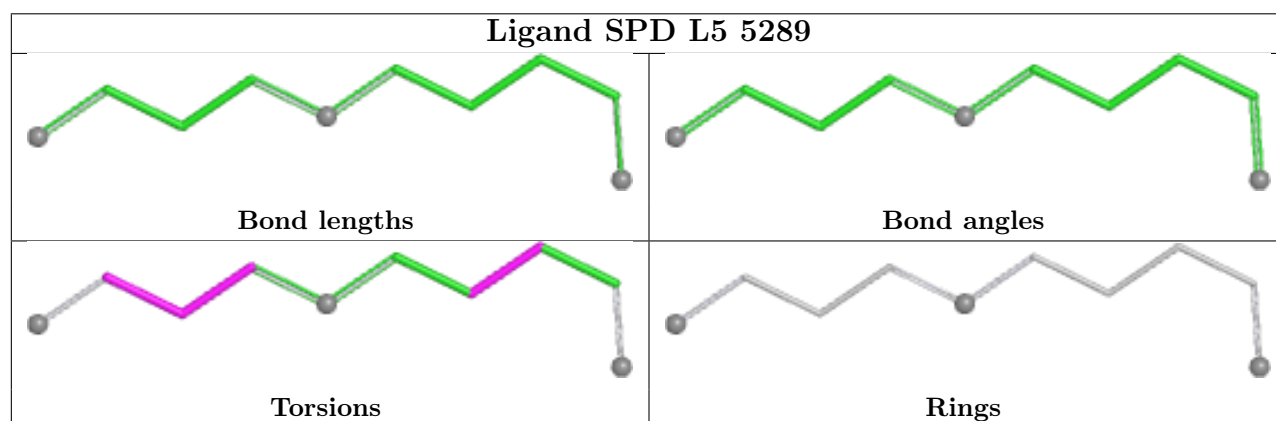
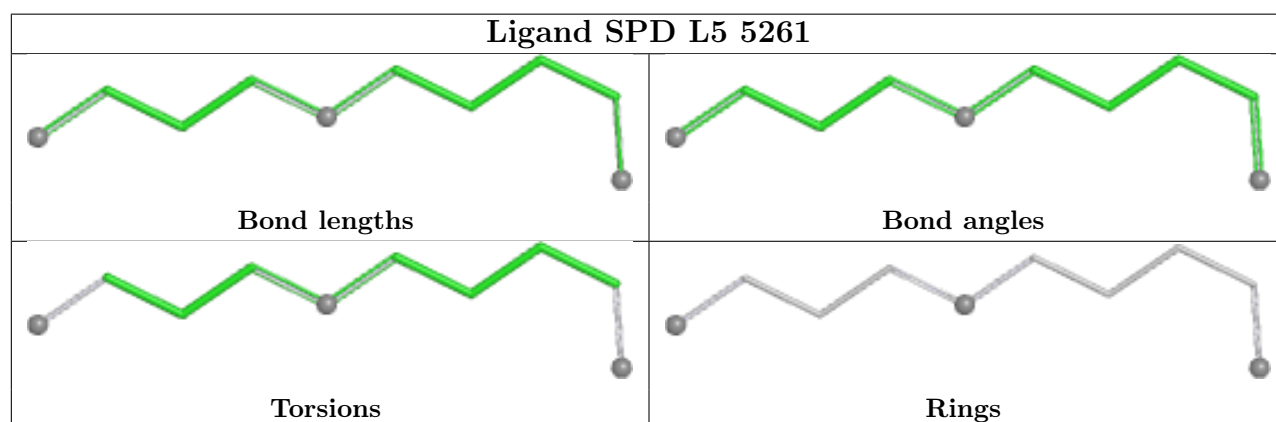
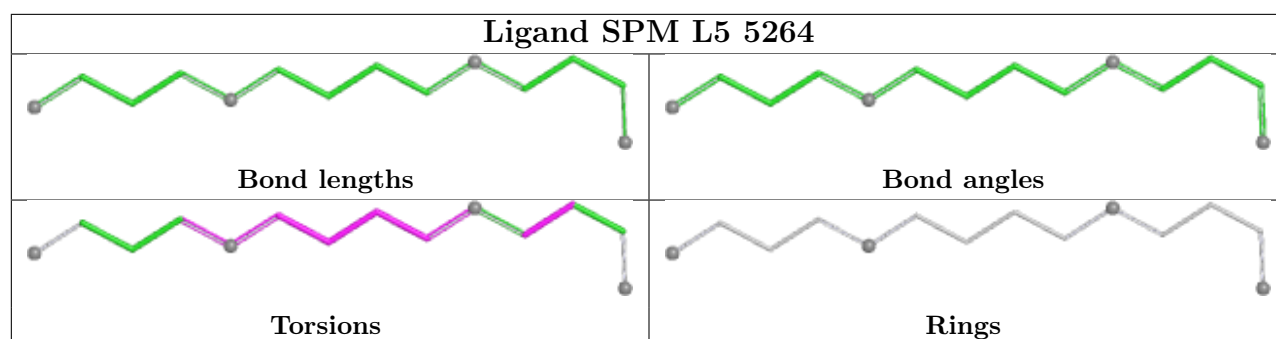
7 monomers are involved in 8 short contacts:

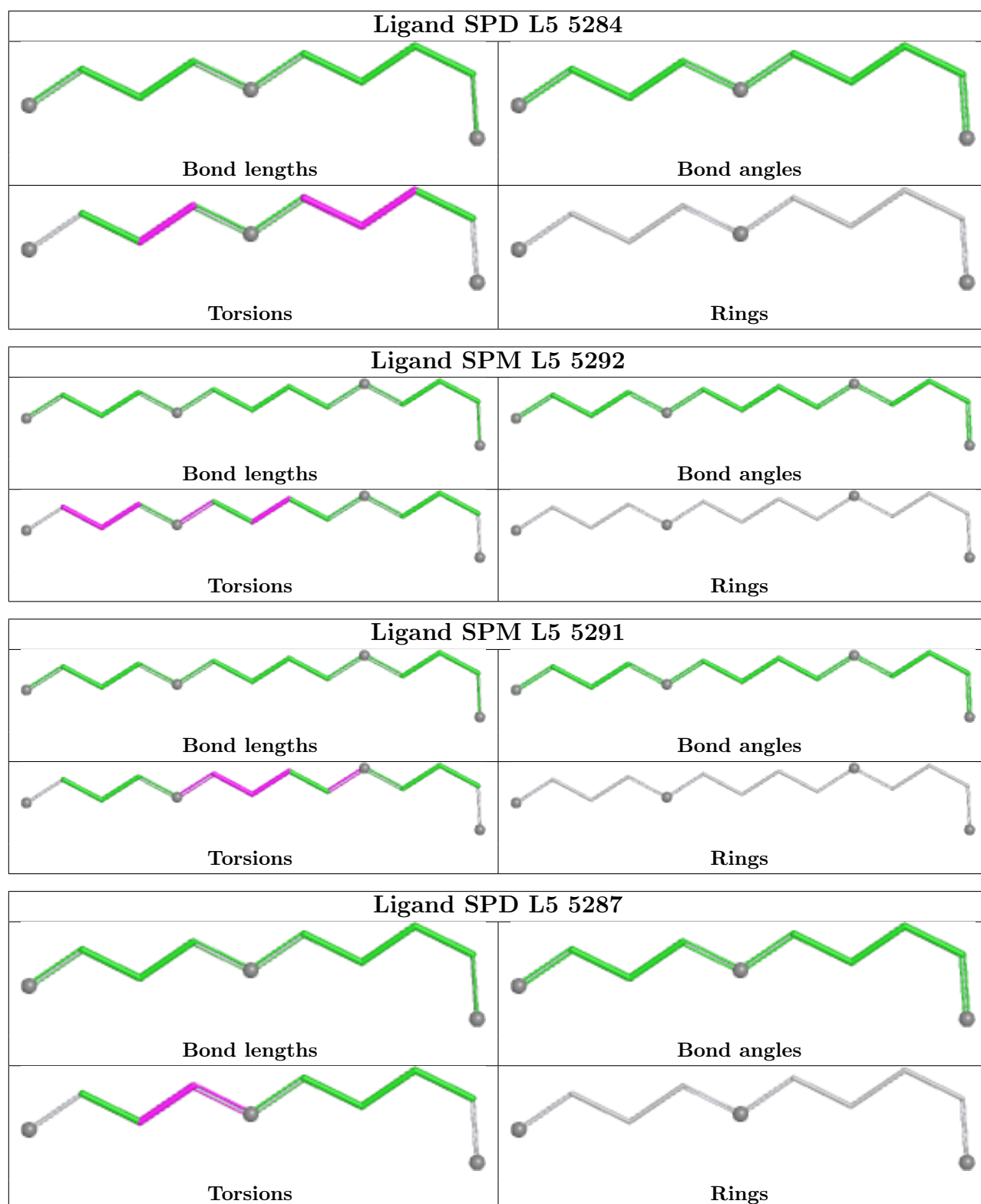
Mol	Chain	Res	Type	Clashes	Symm-Clashes
88	L5	5263	SPM	1	0
89	L5	5286	SPD	1	0
88	L5	5264	SPM	1	0
89	L5	5261	SPD	1	0
89	L5	5284	SPD	1	0
88	L5	5292	SPM	1	0
88	L5	5291	SPM	2	0

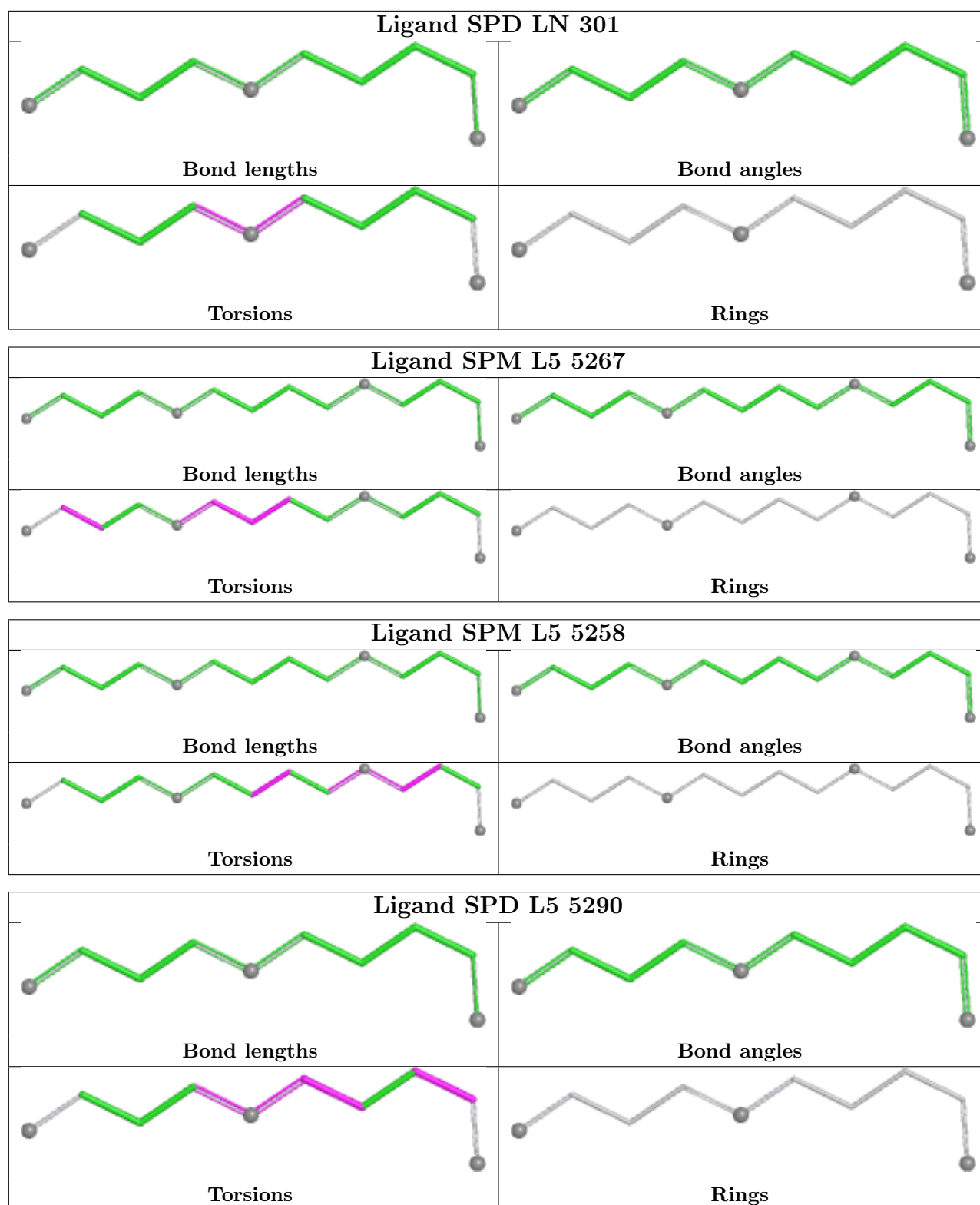
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.











5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
40	L5	10
36	S2	4
1	AP	1
3	PE	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	S2	753:C	O3'	785:C	P	28.44
1	L5	2910:G	O3'	3584:C	P	20.91
1	L5	1706:A	O3'	1716:G	P	20.70
1	L5	760:G	O3'	903:C	P	17.17
1	L5	3954:A	O3'	4056:A	P	16.36
1	L5	519:C	O3'	642:G	P	15.44
1	L5	4776:G	O3'	4858:C	P	15.10
1	S2	698:G	O3'	730:C	P	14.05
1	L5	2112:G	O3'	2249:C	P	13.37
1	L5	990:C	O3'	1064:G	P	12.99
1	S2	739:C	O3'	746:C	P	12.53
1	L5	1222:A	O3'	1234:G	P	12.12
1	AP	15:G	O3'	18:G	P	10.75
1	L5	1100:U	O3'	1167:C	P	7.10
1	S2	225:G	O3'	287:U	P	6.72
1	PE	16:C	O3'	18:U	P	5.74

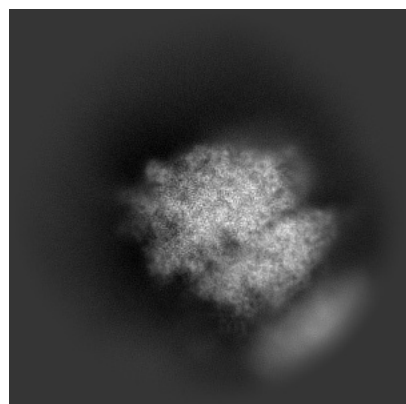
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71332. These allow visual inspection of the internal detail of the map and identification of artifacts.

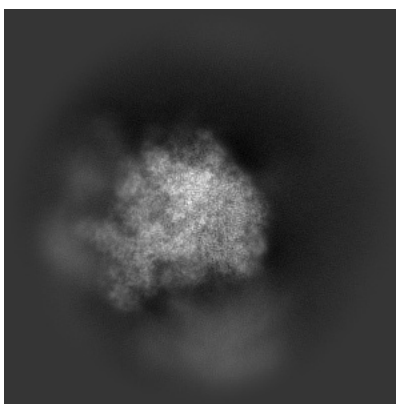
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

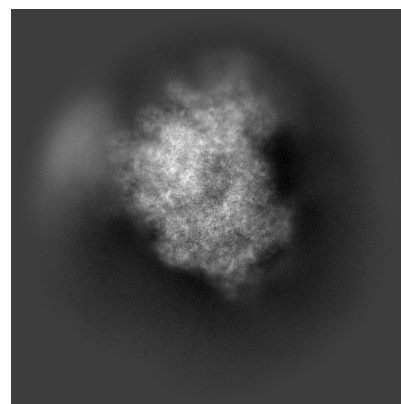
6.1.1 Primary map



X

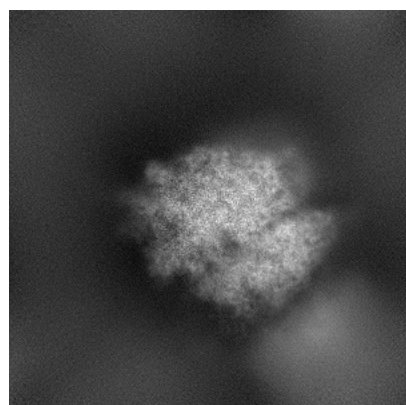


Y

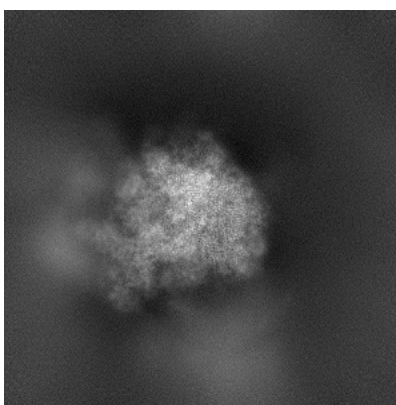


Z

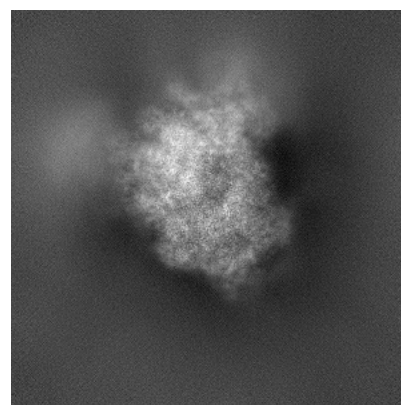
6.1.2 Raw map



X



Y

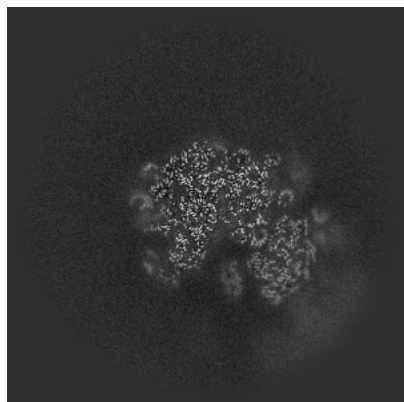


Z

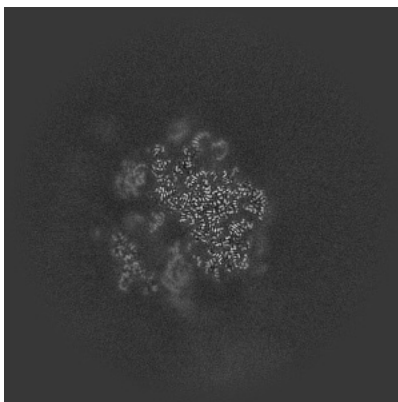
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

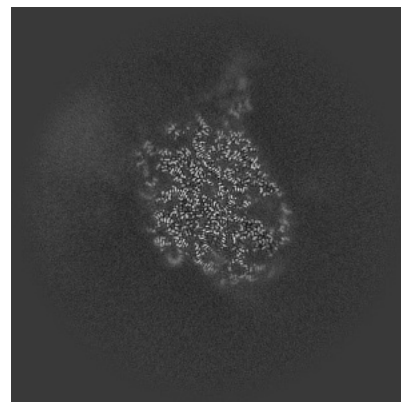
6.2.1 Primary map



X Index: 256

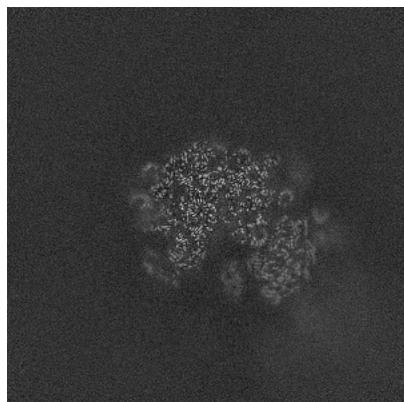


Y Index: 256

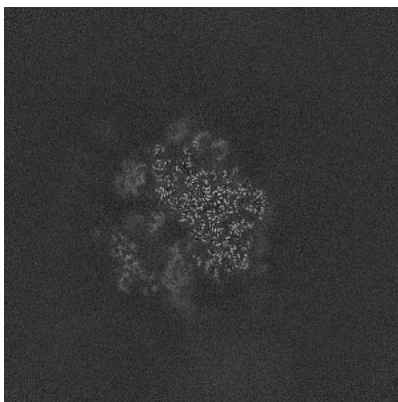


Z Index: 256

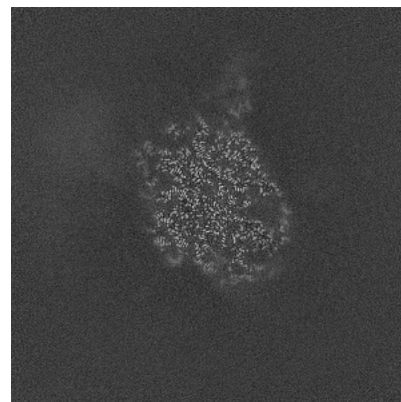
6.2.2 Raw map



X Index: 256



Y Index: 256

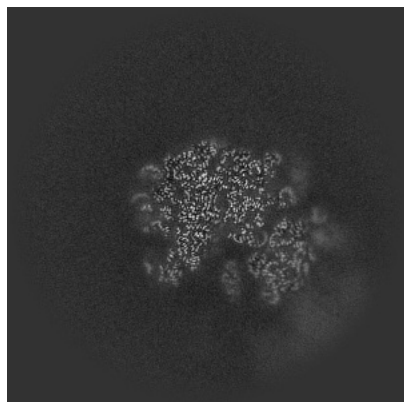


Z Index: 256

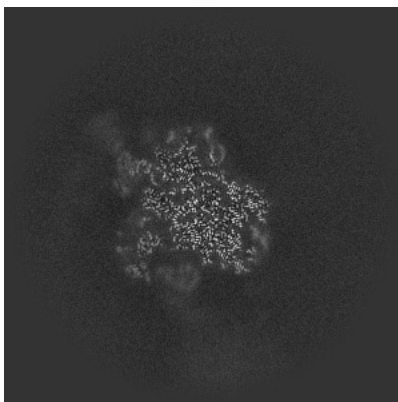
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

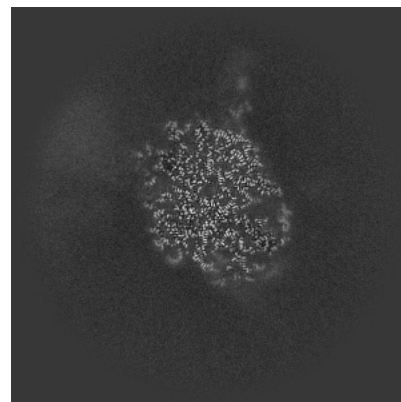
6.3.1 Primary map



X Index: 253

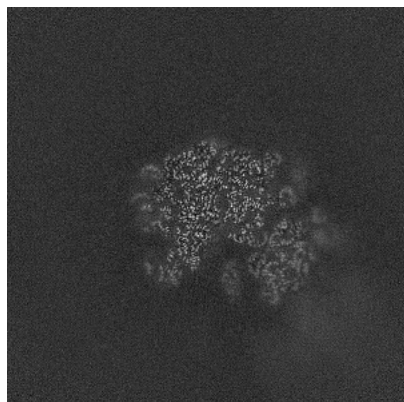


Y Index: 243

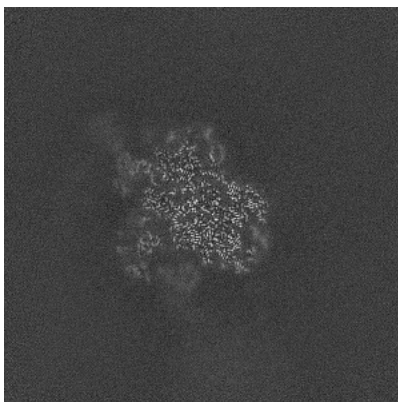


Z Index: 258

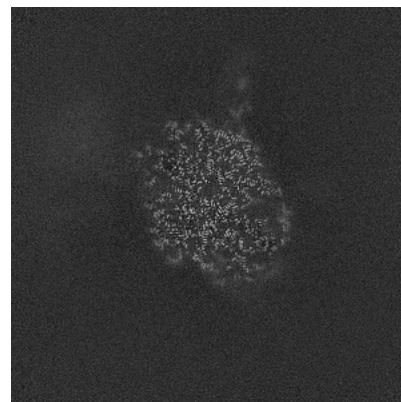
6.3.2 Raw map



X Index: 253



Y Index: 243

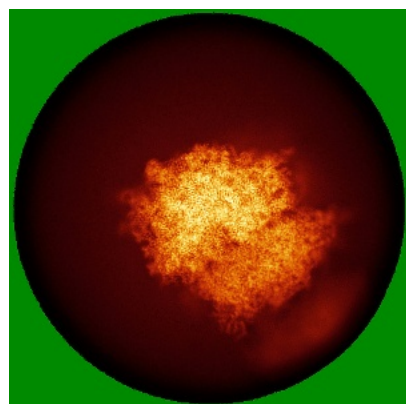


Z Index: 258

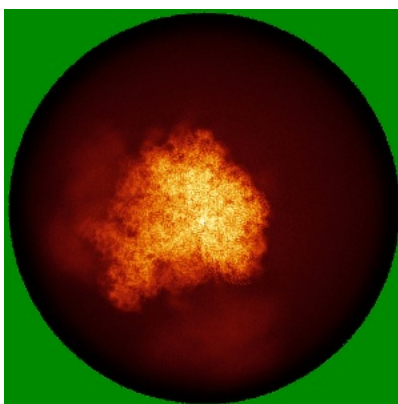
The images above show the largest variance slices of the map in three orthogonal directions.

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

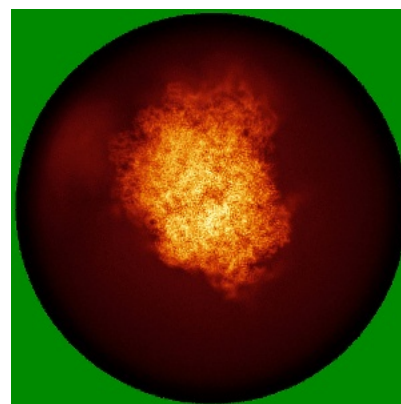
6.4.1 Primary map



X

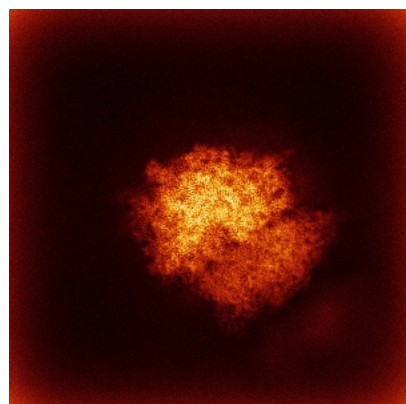


Y

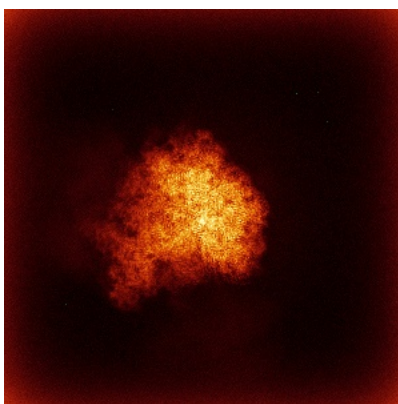


Z

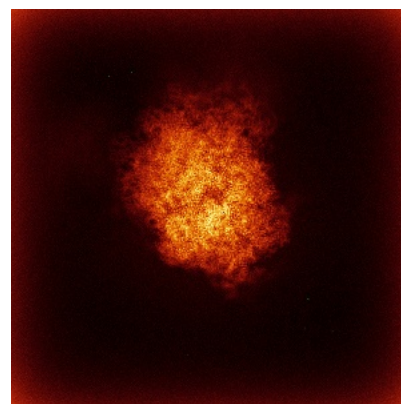
6.4.2 Raw map



X



Y

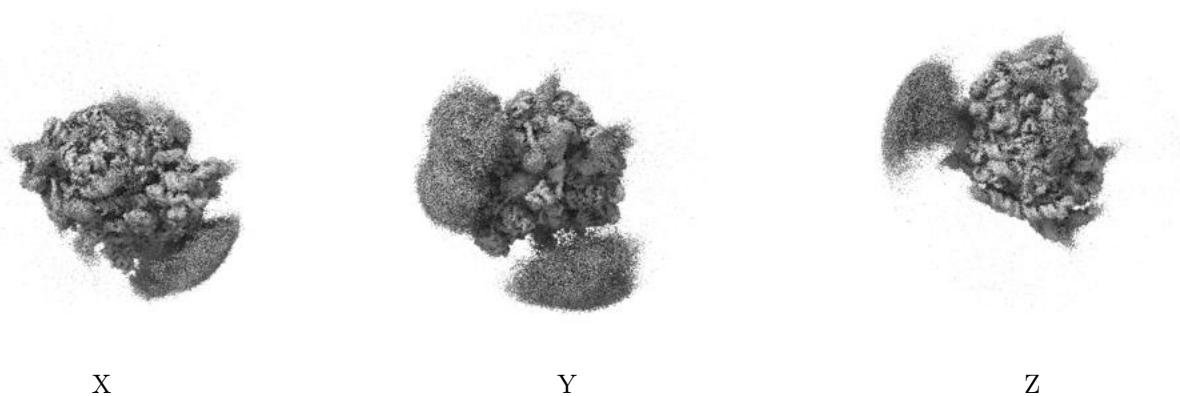


Z

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.

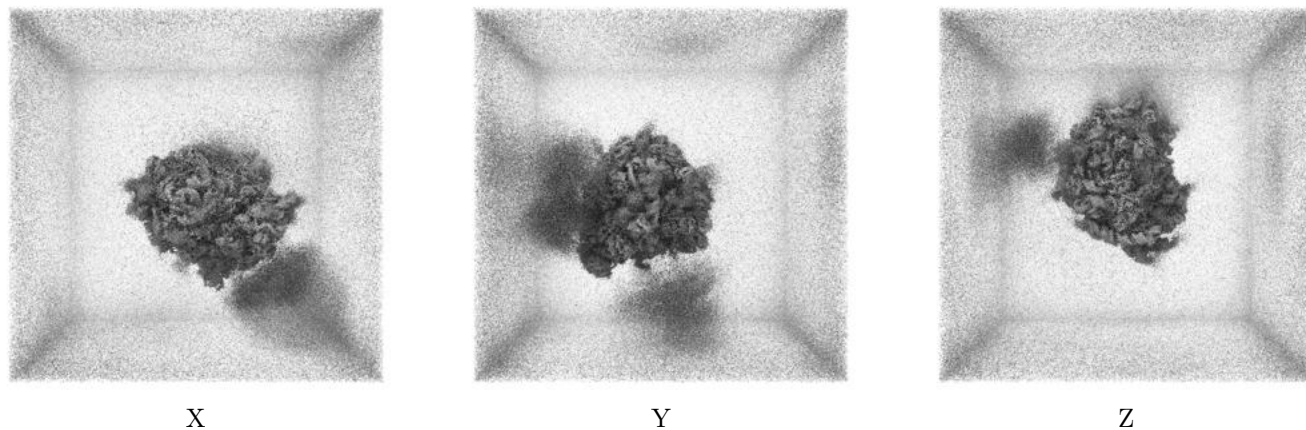
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0159. 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.

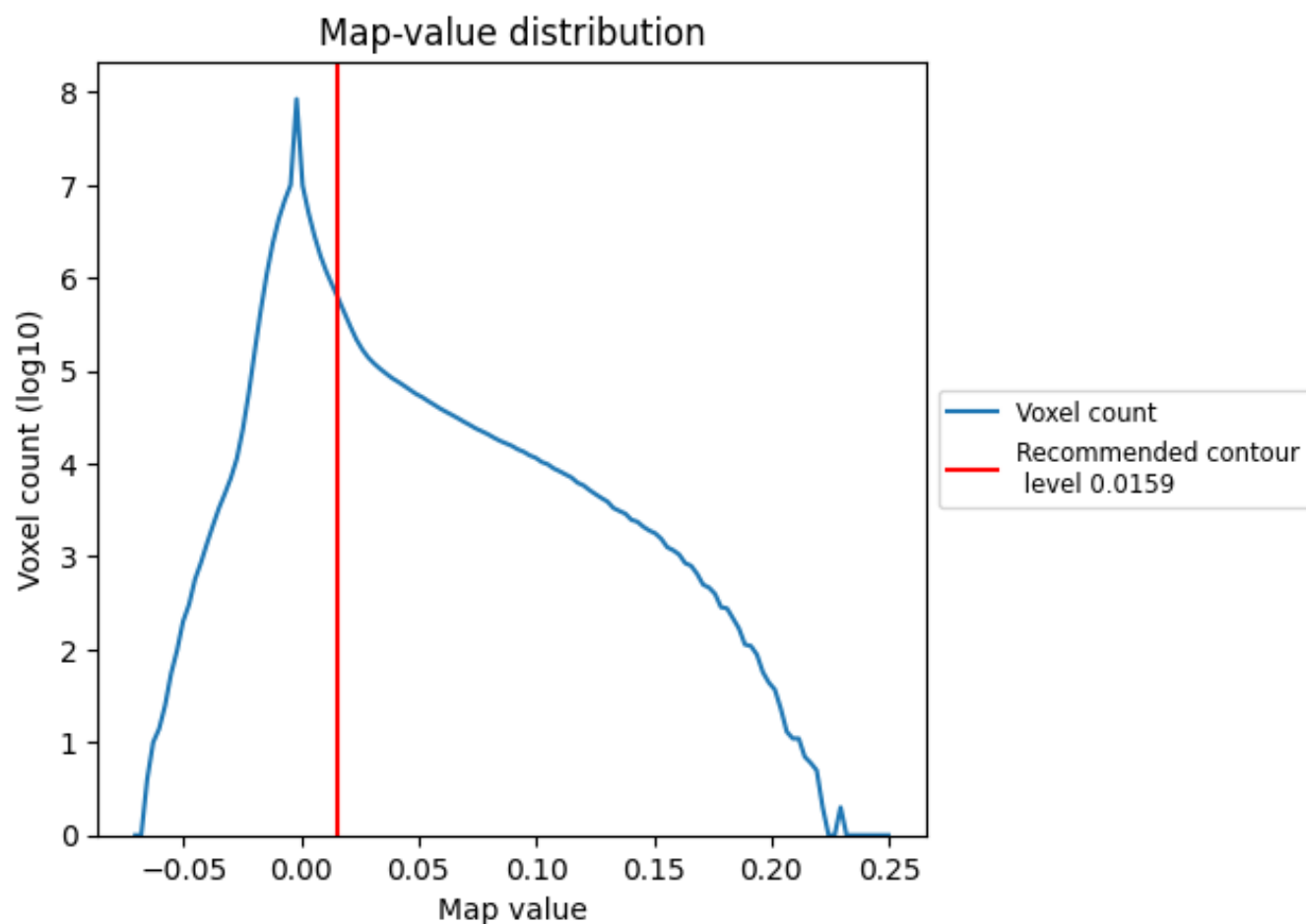
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

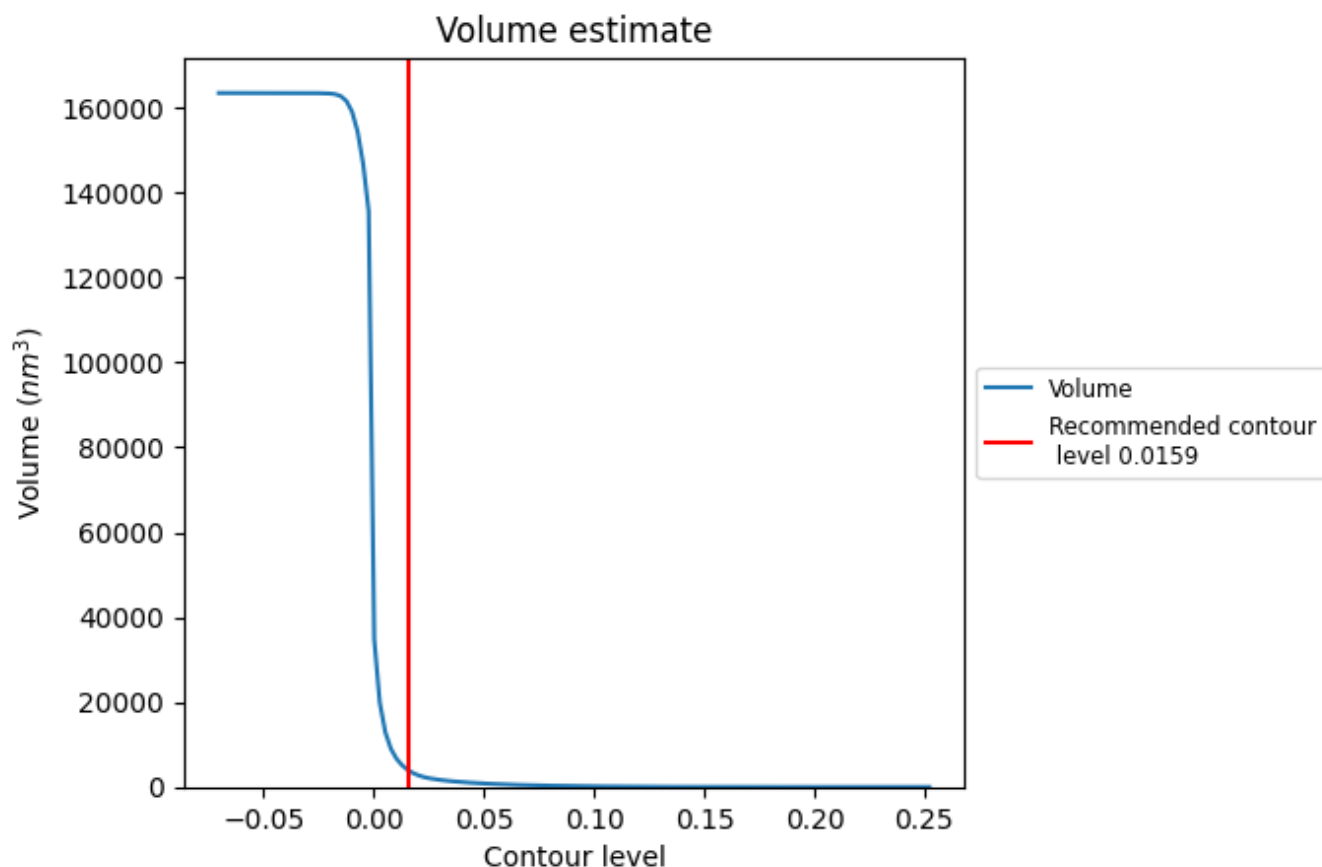
This section contains the results of statistical analysis of the map.

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.

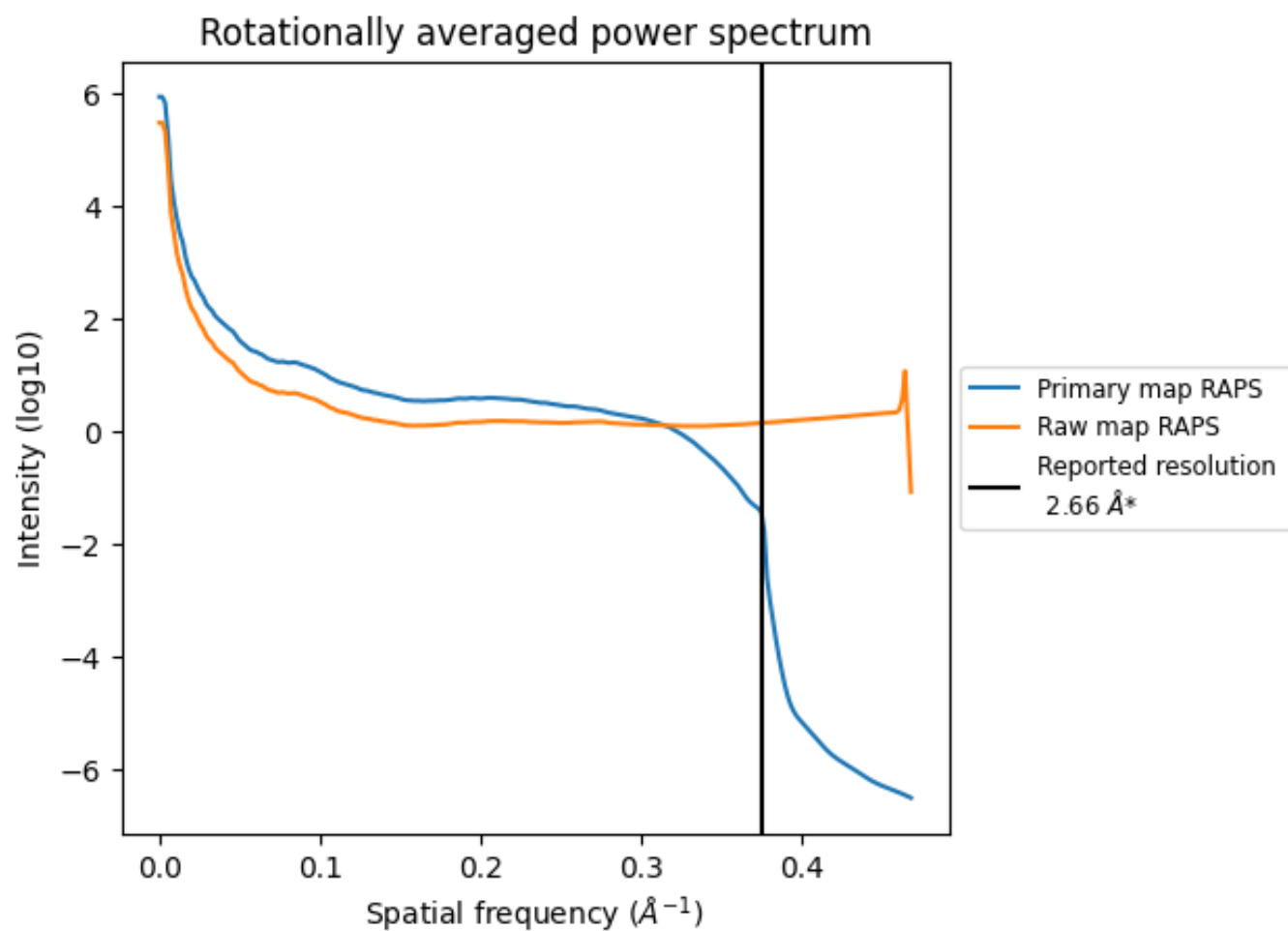
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3867 nm^3 ; this corresponds to an approximate mass of 3493 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 ⓘ

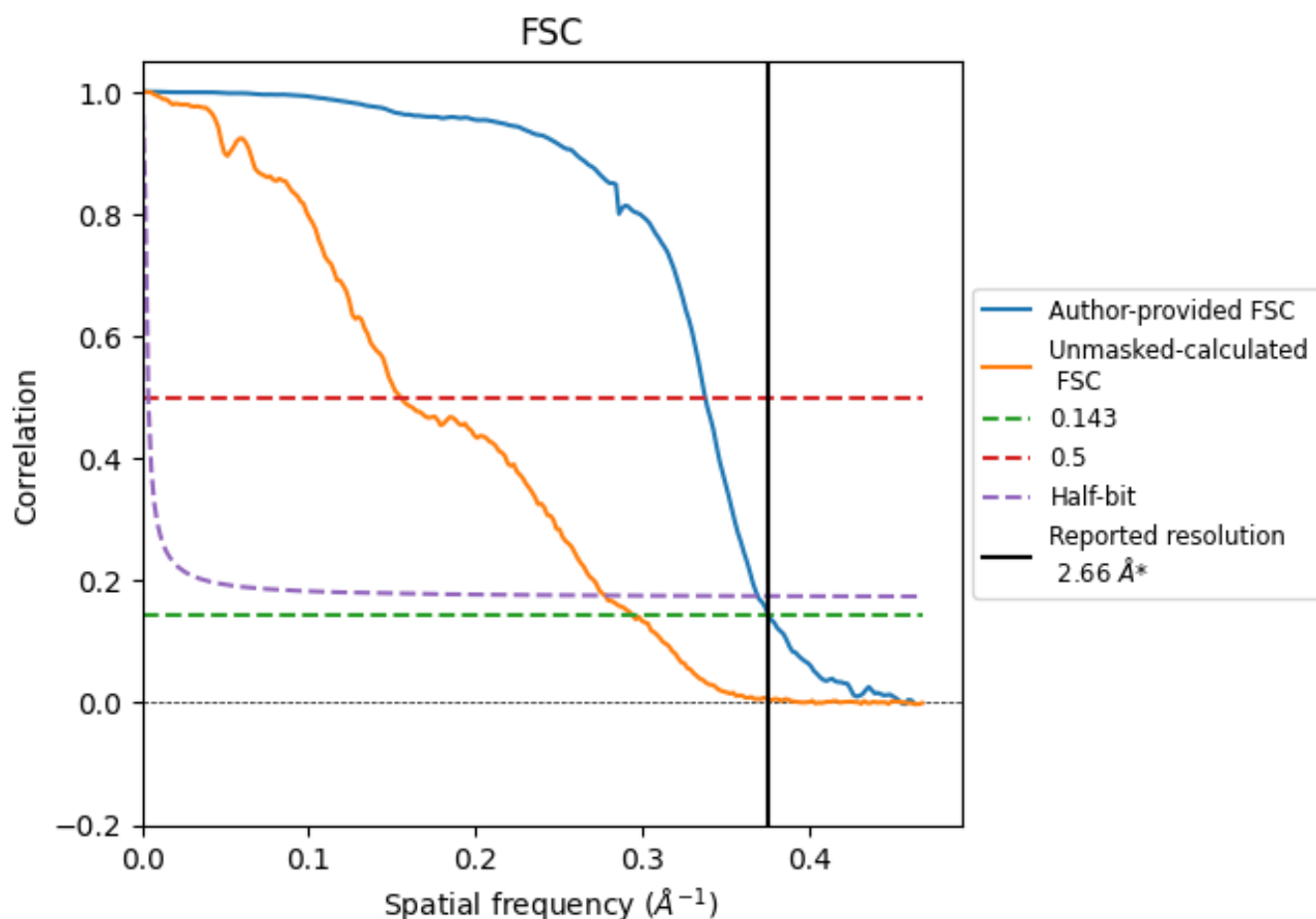


*Reported resolution corresponds to spatial frequency of 0.376 Å⁻¹

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 0.376 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

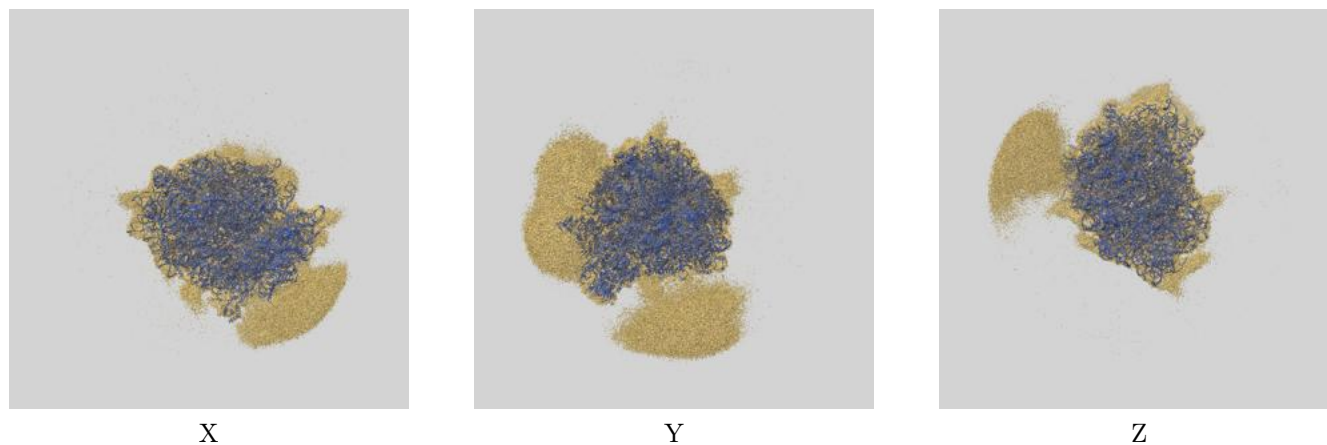
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.66	-	-
Author-provided FSC curve	2.66	2.96	2.71
Unmasked-calculated*	3.40	6.45	3.60

*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 3.40 differs from the reported value 2.66 by more than 10 %

9 Map-model fit [i](#)

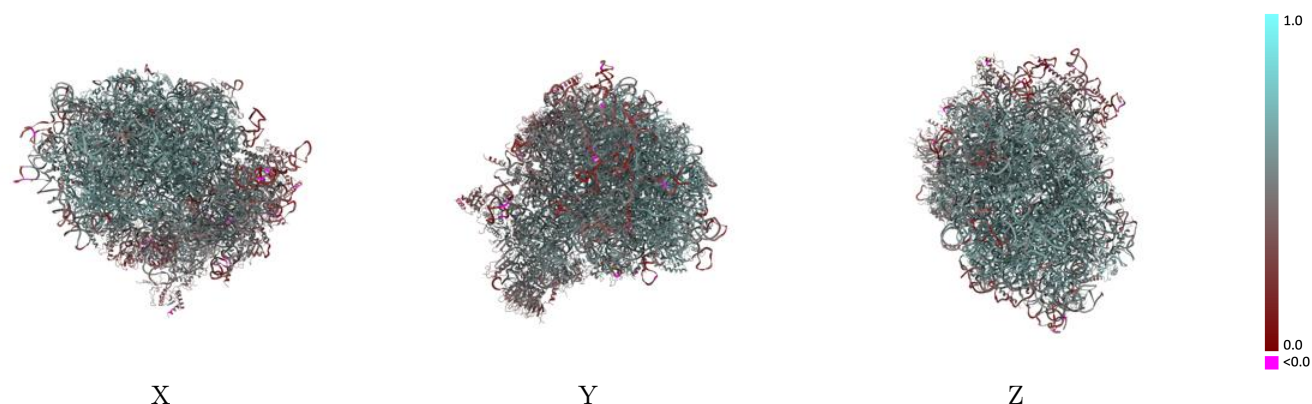
This section contains information regarding the fit between EMDB map EMD-71332 and PDB model 9P73. Per-residue inclusion information can be found in section [3](#) on page [23](#).

9.1 Map-model overlay [i](#)



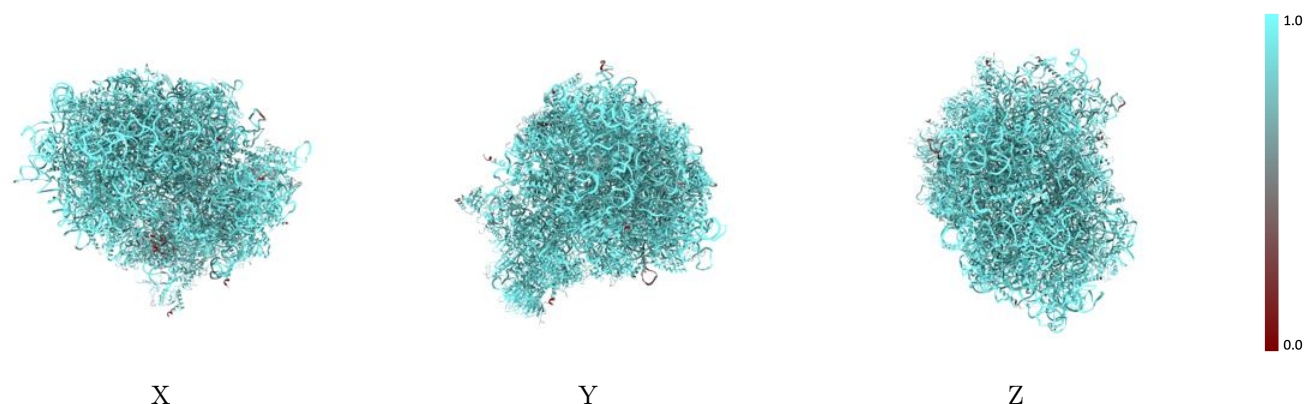
The images above show the 3D surface view of the map at the recommended contour level 0.0159 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



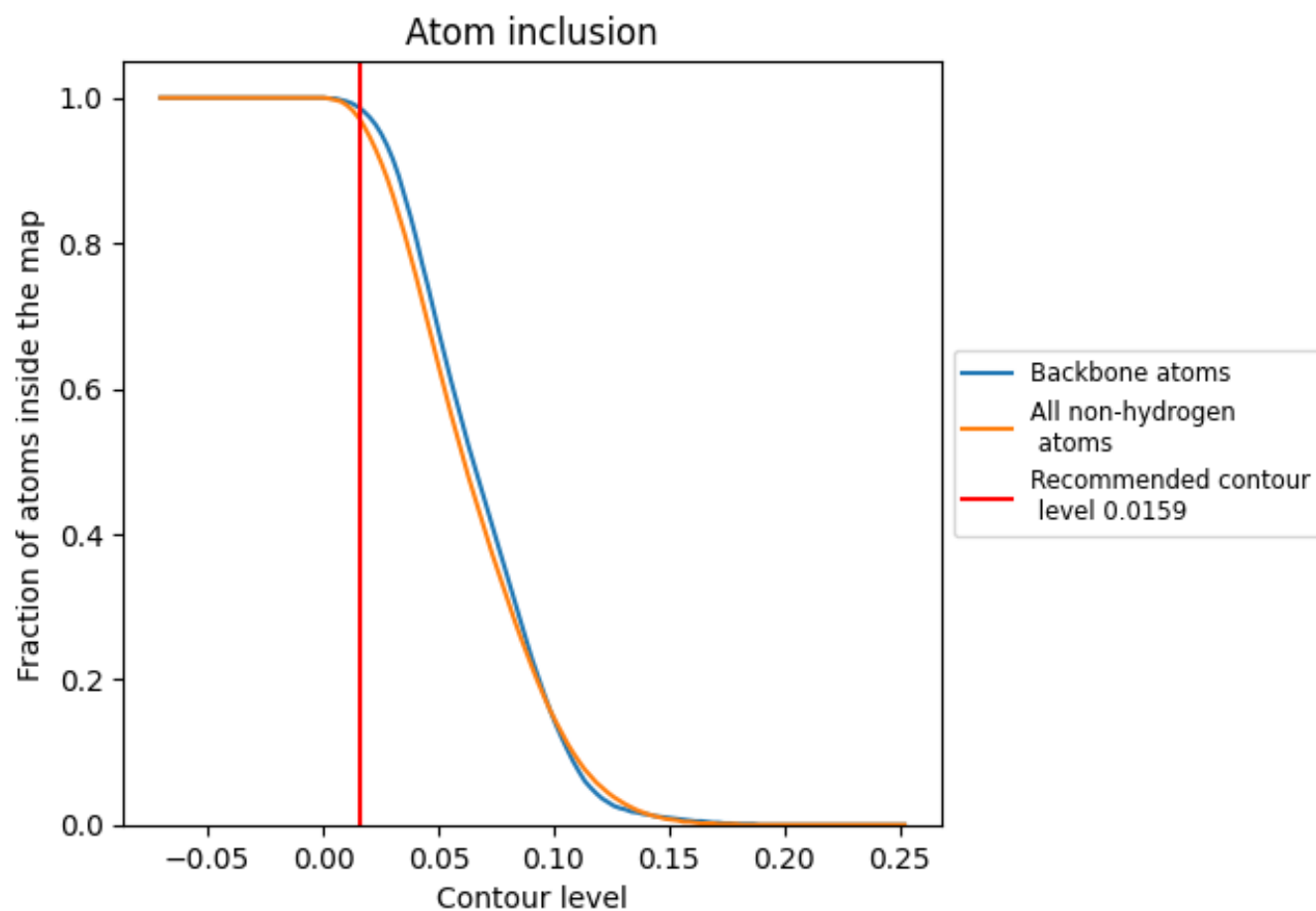
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0159).

9.4 Atom inclusion [i](#)



At the recommended contour level, 99% of all backbone atoms, 97% 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 (0.0159) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9710	 0.5360
AP	 0.9660	 0.4340
CB	 0.9200	 0.4470
CH	 0.8370	 0.4040
CI	 0.9120	 0.5240
L5	 0.9870	 0.5610
L7	 0.9990	 0.6040
L8	 0.9900	 0.5810
LA	 0.9940	 0.6170
LB	 0.9730	 0.6010
LC	 0.9770	 0.6020
LD	 0.9730	 0.5690
LE	 0.9520	 0.5510
LF	 0.9920	 0.6040
LG	 0.9410	 0.5520
LH	 0.9700	 0.5880
LI	 0.9780	 0.5980
LJ	 0.9580	 0.5480
LL	 0.9490	 0.5820
LM	 0.9800	 0.5860
LN	 0.9980	 0.6290
LO	 0.9870	 0.6040
LP	 0.9840	 0.6120
LQ	 0.9920	 0.6210
LR	 0.9380	 0.5430
LS	 0.9900	 0.6170
LT	 0.9790	 0.5910
LU	 0.9630	 0.5360
LV	 0.9840	 0.6050
LW	 0.8950	 0.4520
LX	 0.9780	 0.5920
LY	 0.9740	 0.5910
LZ	 0.9860	 0.5770
La	 0.9890	 0.6230
Lb	 0.9370	 0.5410



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Chain	Atom inclusion	Q-score
Lc	 0.9520	 0.5480
Ld	 0.9710	 0.5910
Le	 0.9910	 0.6200
Lf	 0.9930	 0.6240
Lg	 0.9830	 0.5980
Lh	 0.9680	 0.5860
Li	 0.9700	 0.5760
Lj	 0.9940	 0.6180
Lk	 0.9520	 0.5400
Ll	 0.9860	 0.6000
Lm	 0.9830	 0.6020
Ln	 0.9900	 0.5720
Lo	 0.9590	 0.5990
Lp	 0.9900	 0.6050
Lr	 0.9810	 0.6040
Ls	 0.6860	 0.3020
Lt	 0.7320	 0.2470
PE	 0.9740	 0.4420
S2	 0.9890	 0.5020
SA	 0.9440	 0.5000
SB	 0.9680	 0.5370
SC	 0.9800	 0.5290
SD	 0.9390	 0.4780
SE	 0.9720	 0.4880
SF	 0.9420	 0.4860
SG	 0.9280	 0.4290
SH	 0.9150	 0.4310
SI	 0.9470	 0.4800
SJ	 0.9450	 0.4680
SK	 0.9380	 0.4610
SL	 0.9360	 0.5200
SM	 0.8010	 0.3030
SN	 0.9700	 0.5360
SO	 0.9550	 0.5340
SP	 0.9490	 0.5080
SQ	 0.9450	 0.4820
SR	 0.9360	 0.4580
SS	 0.9240	 0.4990
ST	 0.9350	 0.4790
SU	 0.9250	 0.4340
SV	 0.9580	 0.5000
SW	 0.9880	 0.5450

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Chain	Atom inclusion	Q-score
SX	 0.9590	 0.5270
SY	 0.8970	 0.4090
SZ	 0.8950	 0.4640
Sa	 0.9680	 0.5410
Sb	 0.9550	 0.5130
Sc	 0.9140	 0.4510
Sd	 0.9820	 0.5480
Sf	 0.8760	 0.3700
Sg	 0.9320	 0.4130