



Full wwPDB EM Validation Report ⓘ

Dec 16, 2025 – 03:58 PM EST

PDB ID : 9P76 / pdb_00009p76
EMDB ID : EMD-71333
Title : In situ human eEF1A-A/T-P state 80S ribosome
Authors : Wei, Z.; Yong, X.
Deposited on : 2025-06-20
Resolution : 2.83 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

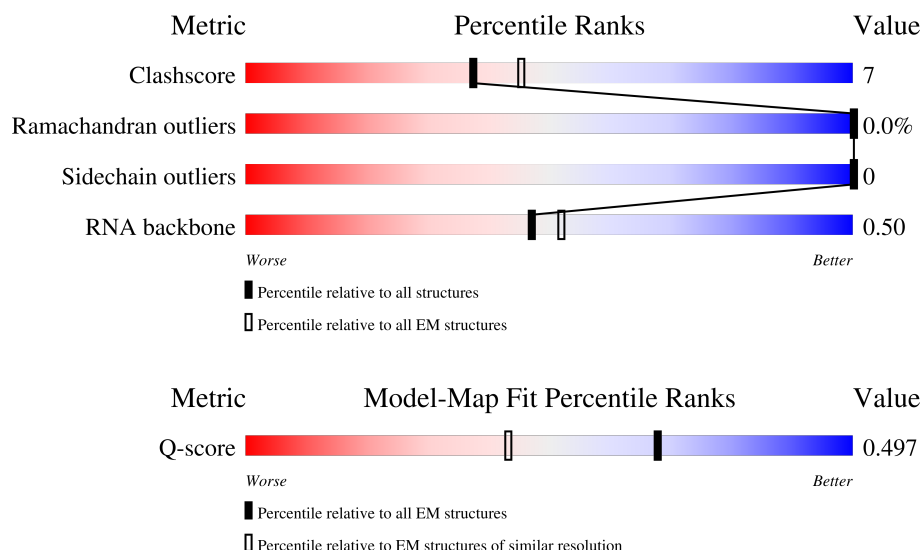
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.83 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.



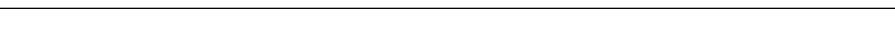
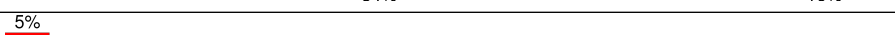
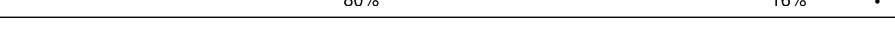
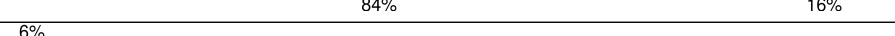
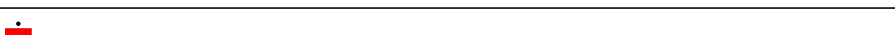
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	11847 (2.33 - 3.33)

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

Mol	Chain	Length	Quality of chain
1	CI	31	
2	Pt	74	
3	CF	441	

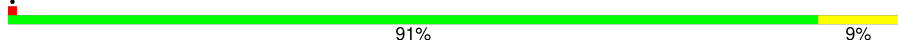
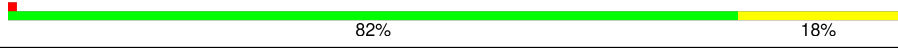
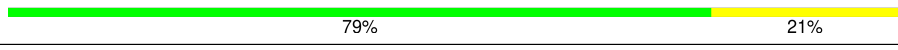
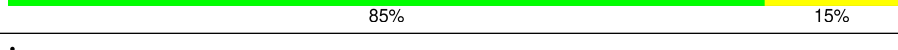
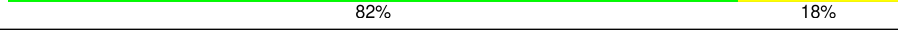
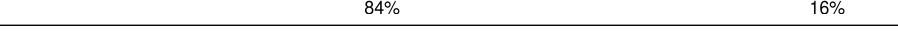
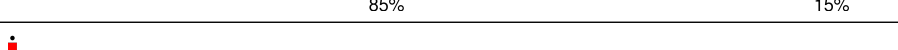
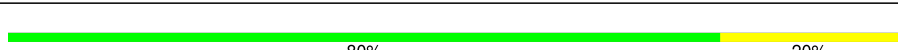
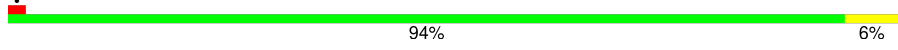
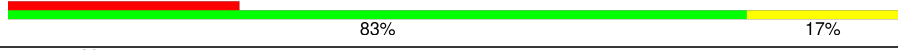
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Mol	Chain	Length	Quality of chain
4	AT	76	
5	L5	3655	
6	L7	120	
7	L8	156	
8	LA	248	
9	LB	402	
10	LC	368	
11	LD	293	
12	LE	250	
13	LF	225	
14	LG	241	
15	LH	190	
16	LI	213	
17	LJ	176	
18	LL	210	
19	LM	139	
20	LN	203	
21	LO	201	
22	LP	153	
23	LQ	187	
24	LR	187	
25	LS	175	
26	LT	159	
27	LU	101	
28	LV	131	

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Mol	Chain	Length	Quality of chain
29	LW	124	
30	LX	120	
31	LY	134	
32	LZ	135	
33	La	147	
34	Lb	121	
35	Lc	98	
36	Ld	107	
37	Le	128	
38	Lf	109	
39	Lg	114	
40	Lh	122	
41	Li	102	
42	Lj	86	
43	Lk	69	
44	Ll	50	
45	Lm	52	
46	Ln	24	
47	Lo	105	
48	Lp	91	
49	Lr	125	
50	Ls	196	
51	Lt	157	
52	SD	227	
53	SF	189	

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Mol	Chain	Length	Quality of chain
54	SK	98	
55	SM	122	
56	SP	121	
57	SQ	144	
58	SR	135	
59	SS	145	
60	ST	143	
61	SU	104	
62	SZ	75	
63	Sc	64	
64	Sd	55	
65	Sf	67	
66	Sg	313	
67	SA	221	
68	SB	214	
69	SC	220	
70	SE	262	
71	SG	237	
72	SH	189	
73	SI	206	
74	SJ	185	
75	SL	153	
76	SN	150	
77	SO	137	
78	SV	83	

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Mol	Chain	Length	Quality of chain
79	SW	129	 81%19%
80	SX	141	 82%18%
81	SY	131	 5%76%24%
82	Sa	102	 83%17%
83	Sb	83	 82%18%
84	Se	58	 12%81%19%
85	S2	1740	 49%42%9%

2 Entry composition [i](#)

There are 89 unique types of molecules in this entry. The entry contains 223377 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Transcription factor BTF3.

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

- Molecule 2 is a RNA chain called P site tRNA.

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

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Pt	3	C	U	conflict	GB X64278
Pt	?	-	U	deletion	GB X64278
Pt	?	-	G	deletion	GB X64278
Pt	19	G	U	conflict	GB X64278
Pt	50	U	-	insertion	GB X64278
Pt	74	C	-	insertion	GB X64278

- Molecule 3 is a protein called Elongation factor 1-alpha 1.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	CF	441	Total	C	N	O	P	S	0	0
			3383	2148	581	636	1	17		

- Molecule 4 is a RNA chain called AT site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	AT	76	Total	C	N	O	P	0	0
			1616	723	291	527	75		

- Molecule 5 is a RNA chain called 28S rRNA.

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

- Molecule 6 is a RNA chain called 5S rRNA.

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

- Molecule 7 is a RNA chain called 5.8S rRNA.

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

- Molecule 8 is a protein called 60S ribosomal protein L8.

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

- Molecule 9 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 10 is a protein called Large ribosomal subunit protein uL4.

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

- Molecule 11 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 12 is a protein called Large ribosomal subunit protein eL6.

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

- Molecule 13 is a protein called 60S ribosomal protein L7.

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

- Molecule 14 is a protein called 60S ribosomal protein L7a.

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

- Molecule 15 is a protein called 60S ribosomal protein L9.

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

- Molecule 16 is a protein called Ribosomal protein uL16-like.

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

- Molecule 17 is a protein called 60S ribosomal protein L11.

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

- Molecule 18 is a protein called Large ribosomal subunit protein eL13.

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

- Molecule 19 is a protein called 60S ribosomal protein L14.

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

- Molecule 20 is a protein called 60S ribosomal protein L15.

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

- Molecule 21 is a protein called 60S ribosomal protein L13a.

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

- Molecule 22 is a protein called 60S ribosomal protein L17.

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

- Molecule 23 is a protein called 60S ribosomal protein L18.

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

- Molecule 24 is a protein called 60S ribosomal protein L19.

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

- Molecule 25 is a protein called 60S ribosomal protein L18a.

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

- Molecule 26 is a protein called 60S ribosomal protein L21.

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

- Molecule 27 is a protein called Heparin-binding protein HBp15.

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

- Molecule 28 is a protein called 60S ribosomal protein L23.

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

- Molecule 29 is a protein called Ribosomal protein L24.

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

- Molecule 30 is a protein called 60S ribosomal protein L23a.

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

- Molecule 31 is a protein called 60S ribosomal protein L26.

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

- Molecule 32 is a protein called 60S ribosomal protein L27.

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

- Molecule 33 is a protein called 60S ribosomal protein L27a.

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

- Molecule 34 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 35 is a protein called 60S ribosomal protein L30.

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

- Molecule 36 is a protein called 60S ribosomal protein L31.

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

- Molecule 37 is a protein called 60S ribosomal protein L32.

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

- Molecule 38 is a protein called 60S ribosomal protein L35a.

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

- Molecule 39 is a protein called 60S ribosomal protein L34.

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

- Molecule 40 is a protein called 60S ribosomal protein L35.

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

- Molecule 41 is a protein called 60S ribosomal protein L36.

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

- Molecule 42 is a protein called 60S ribosomal protein L37.

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

- Molecule 43 is a protein called 60S ribosomal protein L38.

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

- Molecule 44 is a protein called 60S ribosomal protein L39.

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

- Molecule 45 is a protein called Large ribosomal subunit protein eL40.

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

- Molecule 46 is a protein called 60S ribosomal protein L41.

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

- Molecule 47 is a protein called 60S ribosomal protein L36a.

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

- Molecule 48 is a protein called 60S ribosomal protein L37a.

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

- Molecule 49 is a protein called 60S ribosomal protein L28.

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

- Molecule 50 is a protein called 60S acidic ribosomal protein P0.

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

- Molecule 51 is a protein called Large ribosomal subunit protein uL11.

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

- Molecule 52 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 53 is a protein called 40S ribosomal protein S5.

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

- Molecule 54 is a protein called 40S ribosomal protein S10.

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

- Molecule 55 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 56 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 57 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 58 is a protein called Small ribosomal subunit protein eS17.

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

- Molecule 59 is a protein called 40S ribosomal protein S18.

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

- Molecule 60 is a protein called 40S ribosomal protein S19.

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

- Molecule 61 is a protein called 40S ribosomal protein S20.

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

- Molecule 62 is a protein called Small ribosomal subunit protein eS25.

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

- Molecule 63 is a protein called 40S ribosomal protein S28.

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

- Molecule 64 is a protein called 40S ribosomal protein S29.

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

- Molecule 65 is a protein called Ubiquitin-40S ribosomal protein S27a.

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

- Molecule 66 is a protein called Receptor of activated protein C kinase 1.

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

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

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

- Molecule 68 is a protein called 40S ribosomal protein S3a.

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

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

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

- Molecule 70 is a protein called Small ribosomal subunit protein eS4, X isoform.

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

- Molecule 71 is a protein called 40S ribosomal protein S6.

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

- Molecule 72 is a protein called Small ribosomal subunit protein eS7.

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

- Molecule 73 is a protein called 40S ribosomal protein S8.

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

- Molecule 74 is a protein called 40S ribosomal protein S9.

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

- Molecule 75 is a protein called 40S ribosomal protein S11.

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

- Molecule 76 is a protein called 40S ribosomal protein S13.

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

- Molecule 77 is a protein called 40S ribosomal protein S14.

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

- Molecule 78 is a protein called Small ribosomal subunit protein eS21.

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

- Molecule 79 is a protein called 40S ribosomal protein S15a.

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

- Molecule 80 is a protein called 40S ribosomal protein S23.

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

- Molecule 81 is a protein called 40S ribosomal protein S24.

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

- Molecule 82 is a protein called 40S ribosomal protein S26.

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

- Molecule 83 is a protein called Small ribosomal subunit protein eS27.

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

- Molecule 84 is a protein called Small ribosomal subunit protein eS30.

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

- Molecule 85 is a RNA chain called 18S rRNA.

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

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

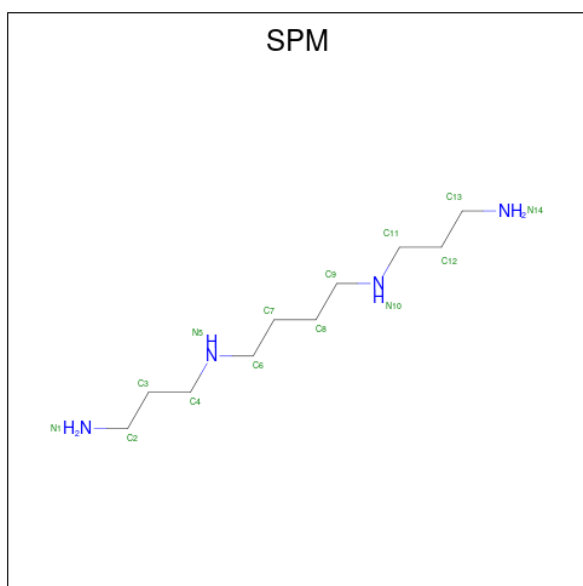
Mol	Chain	Residues	Atoms		AltConf
86	L5	178	Total	Mg	0
			178	178	
86	L7	3	Total	Mg	0
			3	3	
86	L8	4	Total	Mg	0
			4	4	
86	LA	1	Total	Mg	0
			1	1	
86	LB	1	Total	Mg	0
			1	1	
86	LP	1	Total	Mg	0
			1	1	
86	LV	1	Total	Mg	0
			1	1	
86	Le	1	Total	Mg	0
			1	1	
86	Lj	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
86	SS	1	Total	Mg	0
			1	1	
86	SG	1	Total	Mg	0
			1	1	
86	S2	26	Total	Mg	0
			26	26	

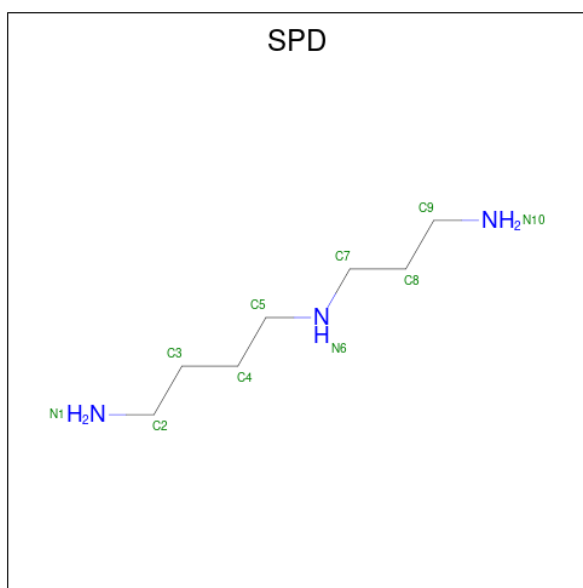
- Molecule 87 is SPERMINE (CCD ID: SPM) (formula: $C_{10}H_{26}N_4$) (labeled as "Ligand of Interest" by depositor).



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

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

Interest" by depositor).



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

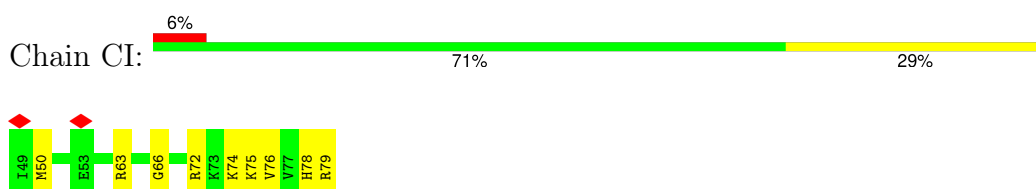
- Molecule 89 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

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

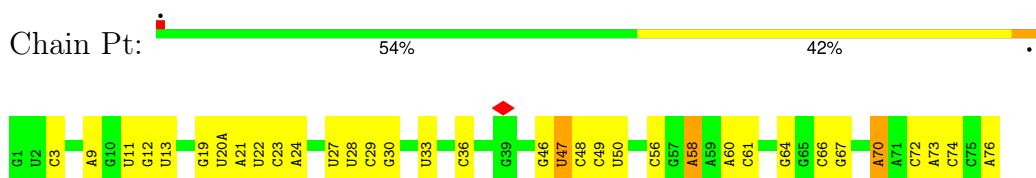
3 Residue-property plots [i](#)

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

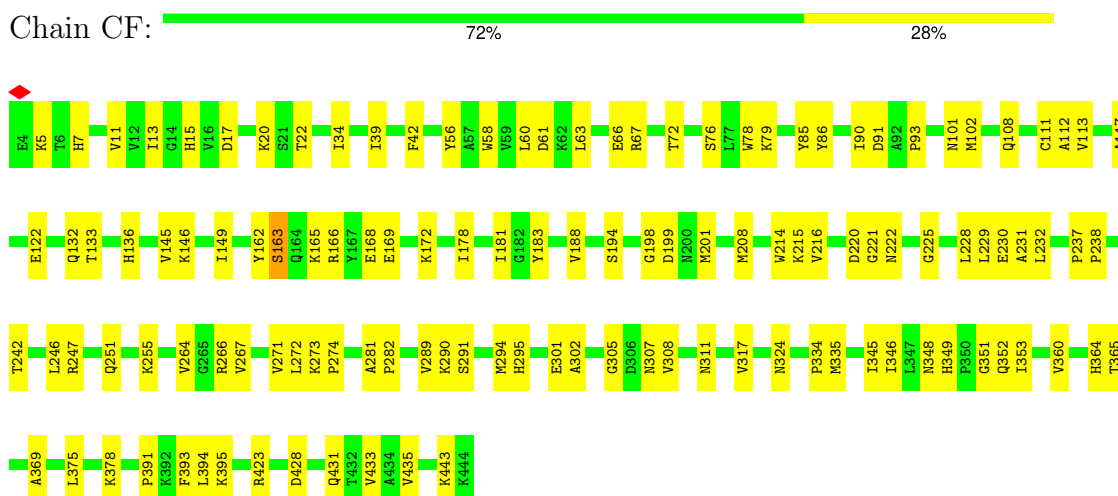
- Molecule 1: Transcription factor BTF3



- Molecule 2: P site tRNA



- Molecule 3: Elongation factor 1-alpha 1

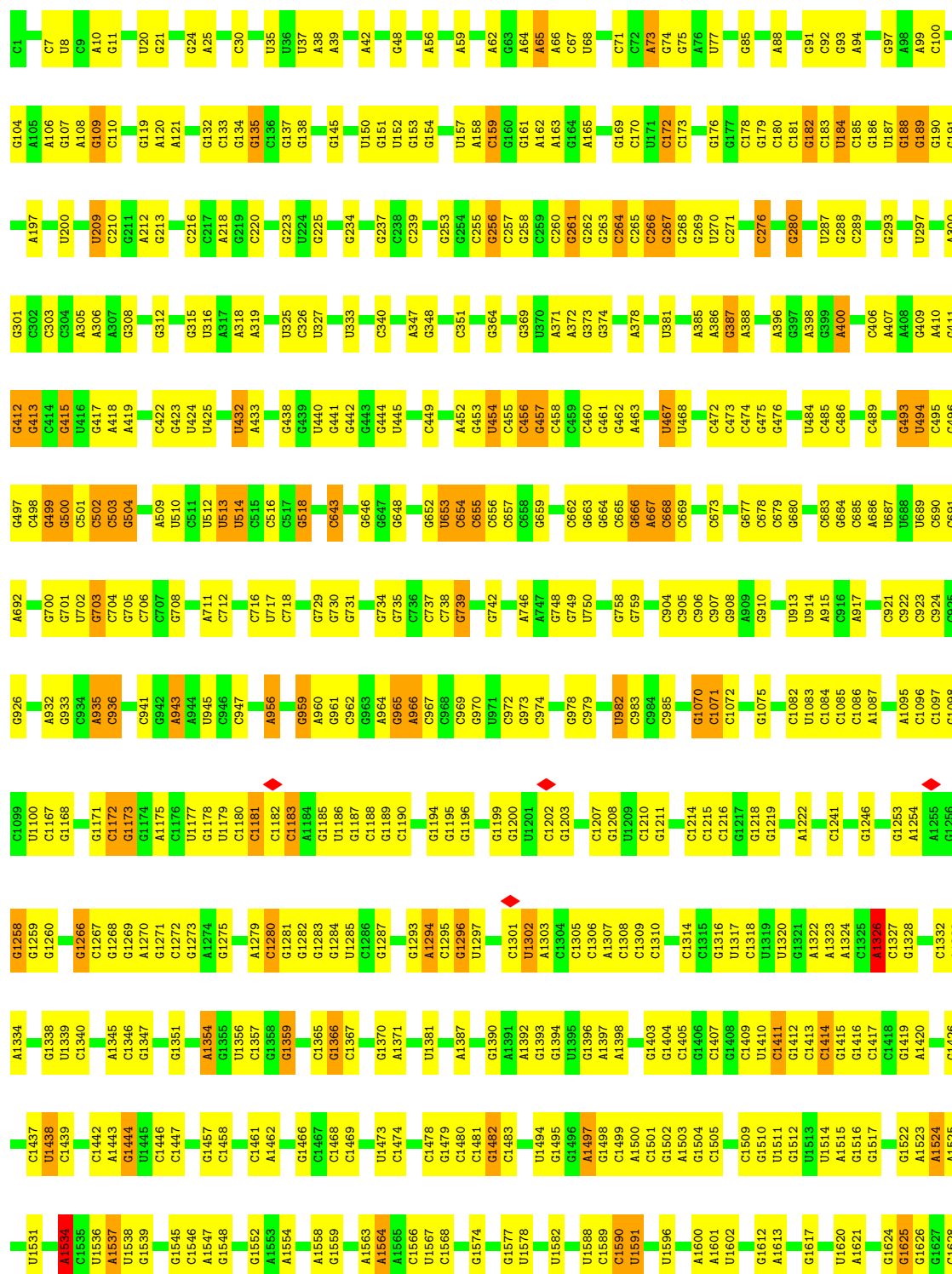


- Molecule 4: AT site tRNA

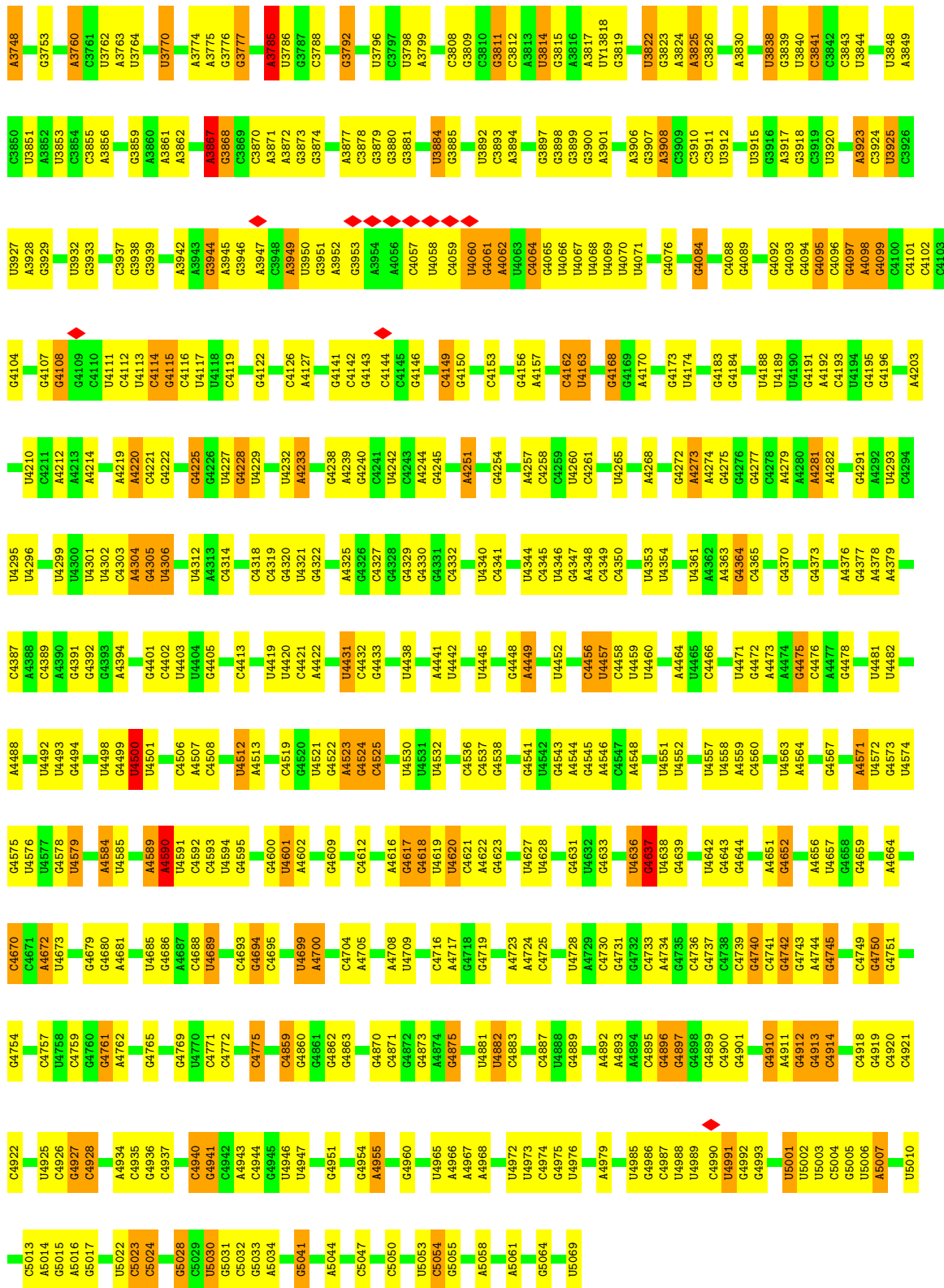


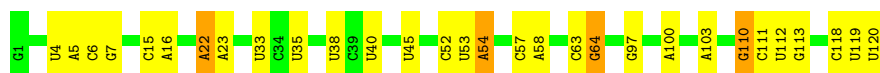


● Molecule 5: 28S rRNA

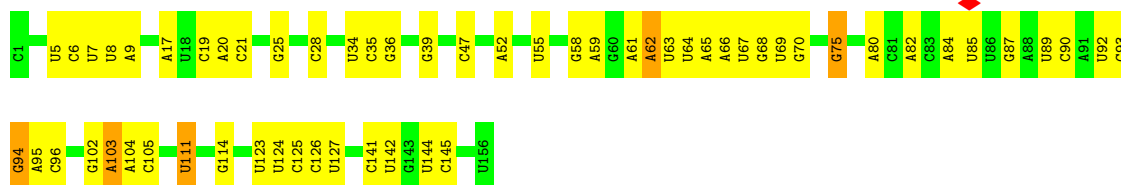


U3657	C3658	C2907	A2812	A2623	A2529	G2424	C2325	G2092	G1991	G1910	G1810	U1726	A1631
C3659	C2908	U2908	A2813	G2624	A2537	U2425	G2326	A2093	U1992	C1911	G1811	U1727	A1632
C3660	C2909	C2910	A2815	C2627	A2537	U2436	U2329	G2094	C1993	G1912	G1815	U1730	G1633
G3661	C3584	G3585	G2816	U2632	U2538	C2437	G2330	G2096	C1994	C1913	G1818	C1731	A1634
A3662	A3662	C3585	G2822	U2633	C2539	G2448	G2331	G2097	G1995	C1914	G1819	C1732	A1637
A3663	A3663	C3588	G2823	U2634	C2540	A2449	G2332	G2098	C1996	G1917	G1818	G1733	A1637
G3664	G3664	G3589	C2824	U2635	A2543	G2453	G2333	C2101	A1998	U1918	G1819	G1734	A1638
G3665	G3665	C3590	A2825	U2636	G2544	G2453	G2335	G2102	A1999	G1919	G1820	U1735	U1639
C3666	C3666	C3591	A2826	U2637	U2545	G2458	G2336	G2103	G2000	C1920	U1821	C1640	G1641
C3670	C3670	G3592	G2827	U2638	G2546	G2458	G2337	G2104	G2001	C1921	G1822	C1740	A1642
C3673	C3673	C3593	U2828	U2639	G2547	C2464	A2347	A2105	A2002	G1922	G1824	G1741	A1642
G3674	G3674	C3594	U2829	G2640	G2550	C2465	G2348	G2106	G2003	G1925	A1825	A1742	C1645
C3685	C3685	U3595	A2832	A2641	G2550	G2465	U2349	C2107	G2004	G1925	U1834	A1743	A1646
G3686	G3686	A3596	G2742	G2648	U2554	U2468	U2350	G2110	G2005	G1931	U1835	U1744	U1647
A3687	A3687	C3597	A2743	G2649	U2554	C2469	C2351	G2111	U2006	C1932	G1836	G1750	G1654
U3688	U3688	A3598	A2744	G2650	G2555	G2470	G2352	G2112	G2007	A1932	A1837	C1755	C1655
G3689	G3689	G3600	A2745	U2651	U2556	G2471	A2360	G2249	U2008	G1933	G1837	C1756	C1661
U3690	U3690	A3601	A2746	G2652	G2557	G2471	G2361	G2250	A2009	A1934	G1842	U1757	C1662
G3691	G3691	C3602	G2749	C2653	C2560	G2474	U2362	G2251	A2010	C1935	G1846	G1758	C1663
A3692	A3692	U3603	G2750	C2654	C2560	G2475	G2364	G2252	A2012	G1936	C1847	G1759	G1667
U3693	U3693	C3604	G2751	C2655	A2565	C2476	A2368	G2253	A2017	A1942	C1848	G1760	A1668
G3694	G3694	A3605	G2752	G2656	C2568	C2477	A2369	C2254	C2018	A1943	G1855	G1761	A1669
A3695	A3695	U3606	A2753	G2657	C2568	C2478	A2370	C2255	C2019	G1949	C1856	C1762	C1672
U3696	U3696	C3607	A2754	U2658	U2569	C2479	A2371	C2256	U2020	G1951	C1857	G1763	U1672
G3697	G3697	A3608	A2755	G2659	U2570	G2480	C2372	C2257	U2021	G1952	C1858	G1764	U1673
C3698	C3698	C3609	A2756	G2660	C2571	C2481	A2373	C2258	G2022	G1953	C1859	A1765	A1765
C3701	C3701	A3610	U2757	U2661	C2572	C2482	G2374	G2259	C2023	U1954	U1860	A1766	C1676
U3707	U3707	G3615	G2758	U2662	A2573	C2483	A2381	G2260	G2024	G1955	U1861	A1767	U1677
C3708	C3708	G3616	U2759	C2663	C2574	C2484	A2382	G2261	A2025	G1956	U1862	C1768	C1678
U3709	U3709	A3617	G2760	U2664	U2575	C2485	U2383	G2262	A2026	U1957	C1869	G1769	A1679
G3710	G3710	C3618	U2761	G2665	C2576	C2486	U2384	G2263	A2034	A1960	U1866	A1770	G1680
A3711	A3711	G3619	U2762	C2666	U2577	C2487	A2385	G2264	G2035	G1961	C1867	C1771	U1683
C3712	C3712	A3620	G2763	U2667	C2578	C2488	U2386	G2265	G2046	A1962	C1868	C1772	A1684
U3713	U3713	C3621	A2764	C2668	U2580	C2489	U2387	G2266	U2047	G1969	C1869	U1773	G1695
A3717	A3717	G3622	U2765	U2669	A2581	C2490	A2388	G2267	G2048	C1970	C1870	A1774	C1696
C3718	C3718	A3623	G2766	G2670	C2582	C2491	A2389	G2268	G2049	C1971	C1871	U1775	U1687
G3719	G3719	C3624	U2767	C2671	A2583	C2492	A2390	G2269	G2050	C1972	C1872	U1779	G1688
U3720	U3720	G3625	U2768	C2672	C2584	C2493	A2391	G2270	G2051	C1973	C1873	A1780	C1696
C3721	C3721	A3626	U2769	U2670	U2585	C2494	A2392	G2271	U2052	U1974	G1874	U1781	G1697
A3722	A3722	G3627	U2770	C2671	C2586	C2495	A2393	G2272	G2053	G1975	C1875	U1782	C1698
C3723	C3723	U3628	G2771	U2672	C2587	C2496	A2394	G2273	G2054	C1976	C1876	C1785	A1786
U3724	U3724	A3629	U2772	C2673	U2588	C2497	A2395	G2274	G2055	C1977	C1877	A1787	G1700
A3725	A3725	C3630	G2773	U2674	C2589	C2498	A2396	G2275	G2056	C1978	C1878	A1788	A1701
C3726	C3726	G3631	U2774	C2675	U2590	C2499	A2397	G2276	G2057	C1979	C1879	U1792	C1702
A3727	A3727	U3632	G2775	U2676	C2591	C2500	A2398	G2277	A2069	U1980	G1890	C1789	C1703
C3728	C3728	A3633	U2776	C2677	C2592	C2501	A2399	G2278	G2070	U1981	C1891	U1793	G1704
G3729	G3729	G3634	U2777	U2678	U2593	C2502	A2400	G2279	G2071	G1982	A1892	U1794	G1705
A3730	A3730	A3635	G2778	C2679	C2594	C2503	A2401	G2280	G2072	A1983	G1893	A1802	C1717
U3731	U3731	C3636	U2779	U2680	C2595	C2504	A2402	G2281	G2073	A1984	G1894	G1803	C1718
C3732	C3732	U3637	U2780	C2681	U2596	C2505	A2403	G2282	G2074	A1985	G1895	A1804	A1719
A3733	A3733	G3638	G2781	U2682	C2597	C2506	A2404	G2283	G2075	C1986	C1896	G1805	C1719
G3734	G3734	A3639	U2782	C2683	C2598	C2507	A2405	G2284	G2076	U1987	C1897	A1806	U1725
C3735	C3735	U3640	U2783	U2684	U2599	C2508	A2406	G2285	G2077	G1988	C1898	C1807	
A3736	A3736	A3641	G2784	C2685	C2600	C2509	A2407	G2286	G2078	U1989	G1899		
C3737	C3737	G3642	U2785	U2686	C2601	C2510	A2408	G2287	G2079	U1990	C1900		
A3738	A3738	U3643	U2786	C2687	C2602	C2511	A2409	G2288	G2080	A1991	C1901		
G3739	G3739	A3644	U2787	U2688	C2603	C2512	A2410	G2289	G2081	A1992	C1902		
C3740	C3740	C3645	G2788	C2689	C2604	C2513	A2411	G2290	G2082	A1993	C1903		
A3741	A3741	G3646	U2789	U2690	C2605	C2514	A2412	G2291	G2083	A1994	C1904		
C3742	C3742	A3647	U2790	C2691	C2606	C2515	A2413	G2292	G2084	A1995	C1905		
G3743	G3743	U3648	U2791	U2692	C2607	C2516	A2414	G2293	G2085	A1996	C1906		
A3744	A3744	C3649	G2792	C2693	C2608	C2517	A2415	G2294	G2086	A1997	C1907		
C3745	C3745	A3650	U2793	U2694	C2609	C2518	A2416	G2295	G2087	A1998	C1908		
U3746	U3746	G3651	U2794	C2695	C2610	C2519	A2417	G2296	G2088	A1999	C1909		
A3747	A3747	U3652	U2795	U2696	C2611	C2520	A2418	G2297	G2089	A2000	C1910		
C3748	C3748	A3653	G2796	C2697	C2612	C2521	A2419	G2298	G2090	A2001	C1911		
G3749	G3749	C3654	U2797	U2698	C2613	C2522	A2420	G2299	G2091	A2002	C1912		
A3750	A3750	U3655	U2798	C2699	C2614	C2523	A2421	G2300	G2092	A2003	C1913		
C3751	C3751	A3656	U2799	U2700	C2615	C2524	A2422	G2301	G2093	A2004	C1914		
U3752	U3752	G3657	G2800	C2701	C2616	C2525	A2423	G2302	G2094	A2005	C1915		
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C3754	C3754	A3659	U2802	C2703	C2618	C2527	A2425	G2304	G2096	A2007	C1917		
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A3756	A3756	C3661	U2804	C2705	C2620	C2529	A2427	G2306	G2098	A2009	C1919		
C3757	C3757	A3662	U2805	U2706	C2621	C2530	A2428	G2307	G2099	A2010	C1920		
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A3759	A3759	U3664	U2807	U2708	C2623	C2532	A2430	G2309	G2101	A2012	C1922		
C3760	C3760	A3665	G2808	C2709	C2624	C2533	A2431	G2310	G2102	A2013	C1923		
G3761	G3761	C3666	U2809	U2710	C2625	C2534	A2432	G2311	G2103	A2014	C1924		
A3762	A3762	U3667	G2810	C2711	C2626	C2535	A2433	G2312	G2104	A2015	C1925		
C3763	C3763	A3668	U2811	U2712	C2627	C2536	A2434	G2313	G2105	A2016	C1926		
U3764	U3764	G3669	G2812	C2713	C2628	C2537	A2435	G2314	G2106	A2017	C1927		
A3765	A3765	U3670	U2813	U2714	C2629	C2538	A2436	G2315	G2107	A2018	C1928		
C3766	C3766	A3671	G2814	C2715	C2630	C2539	A2437	G2316	G2108	A2019	C1929		
G3767	G3767	C3672	U2815	U2716	C2631	C2540	A2438	G2317	G2109	A2020	C1930		
A3768	A3768	U3673	G2816	C2717	C2632	C2541	A2439	G2318	G2110	A2021	C1931		
C3769	C3769	A3674	U2817	U2718	C2633	C2542	A2440	G2319	G2111	A2022	C1932		
U3770	U3770	G3675	G2818	C2719	C2634	C2543	A2441	G2320	G2112	A2023	C1933		
A3771	A3771	C3676	U2819	U2720	C2635	C2544	A2442	G2321	G2113	A2024	C1934		
C3772	C3772	A3677	G2820	C2721	C2636	C2545	A2443	G2322	G2114	A2025	C1935		
G3773	G3773	U3678	U2821	U2722	C2637	C2546	A2444	G2323	G2115	A2026	C1936		
A3774	A3774	C3679	G2822	C2723	C2638	C2547	A2445	G2324	G2116	A2027	C1937		
C3775	C3775	A3680	U2823	U2724	C2639	C2548	A2446	G2325	G2117	A2028	C1938		
U3776	U3776	G3681	G2824	C2725	C2640	C2549	A2447	G2326	G2118	A2029	C1939		
A3777	A3777	U3682	U2825	U2726	C2641	C2550	A2448	G2327	G2119	A2030	C1940		
C3778	C3778	A3683	G2826	C2727	C2642	C2551	A2449	G2328	G2120	A2031	C1941		

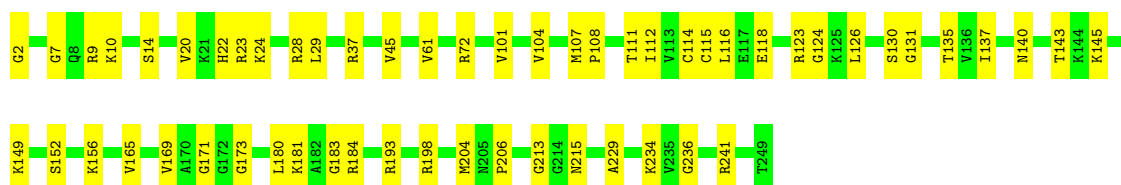
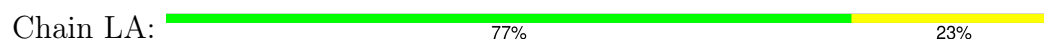




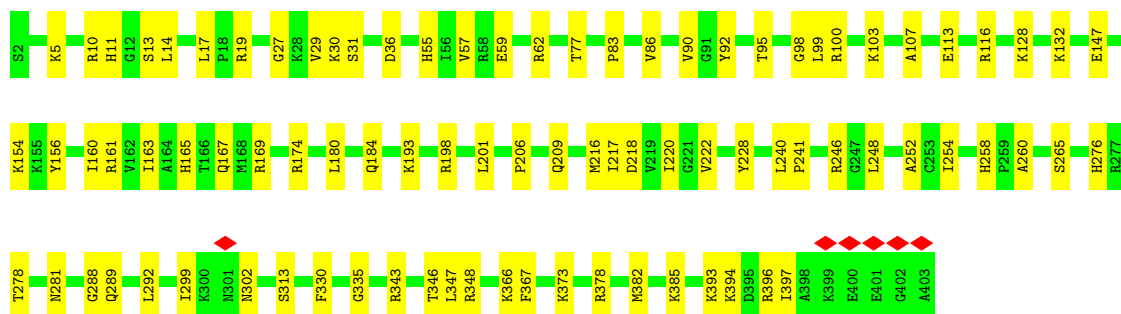
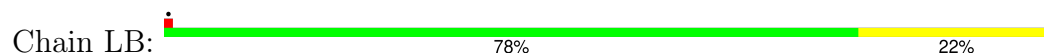
- Molecule 7: 5.8S rRNA



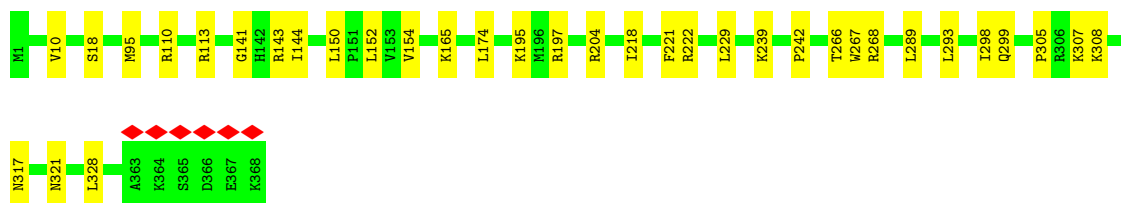
- Molecule 8: 60S ribosomal protein L8



- Molecule 9: Large ribosomal subunit protein uL3

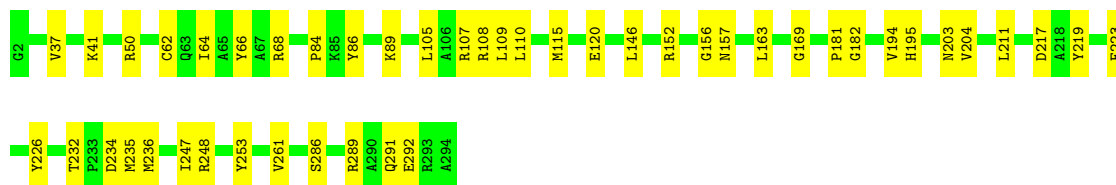


- Molecule 10: Large ribosomal subunit protein uL4



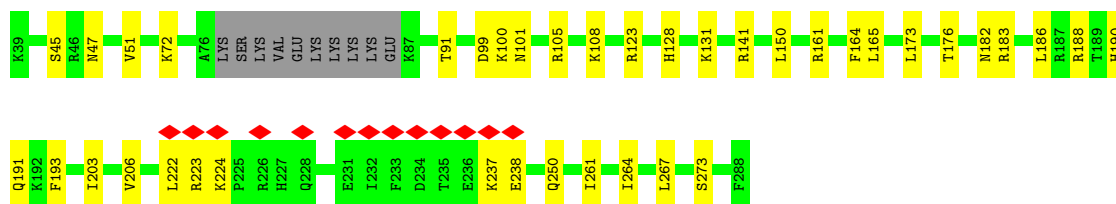
- Molecule 11: Large ribosomal subunit protein uL18

Chain LD:  84% 16%



- Molecule 12: Large ribosomal subunit protein eL6

Chain LE:  5% 80% 16%



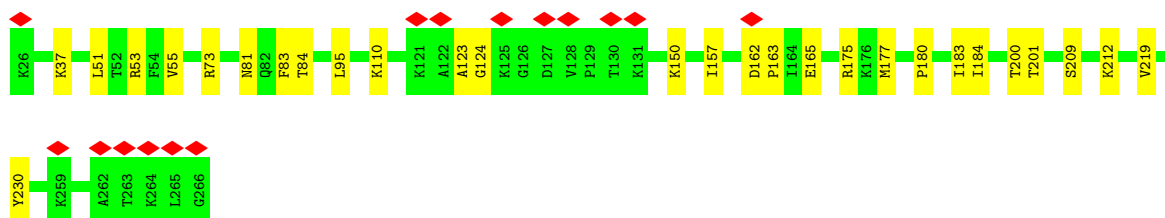
- Molecule 13: 60S ribosomal protein L7

Chain LF:  84% 16%



- Molecule 14: 60S ribosomal protein L7a

Chain LG:  6% 88% 12%



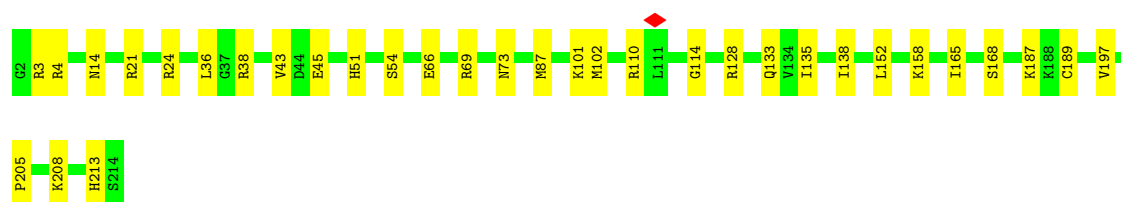
- Molecule 15: 60S ribosomal protein L9

Chain LH:  86% 14%



- Molecule 16: Ribosomal protein uL16-like

Chain LI:  85% 15%



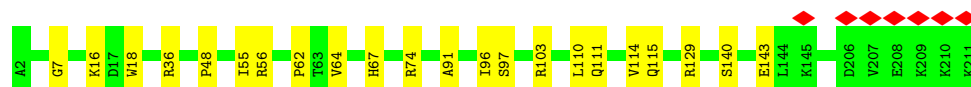
- Molecule 17: 60S ribosomal protein L11

Chain LJ: 80% 17%



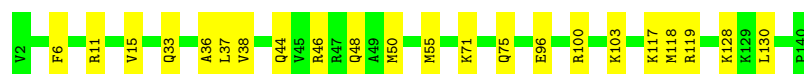
- Molecule 18: Large ribosomal subunit protein eL13

Chain LL: 90% 10%



- Molecule 19: 60S ribosomal protein L14

Chain LM: 84% 16%



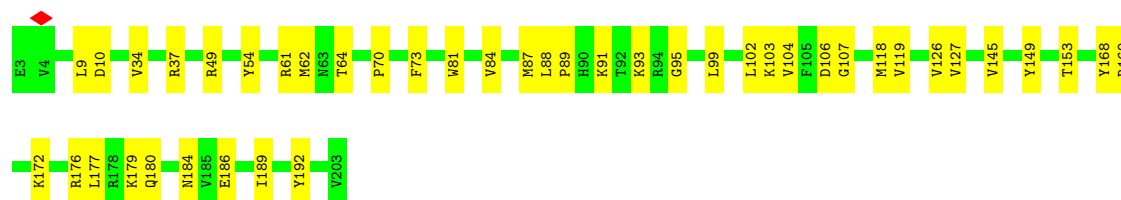
- Molecule 20: 60S ribosomal protein L15

Chain LN: 89% 11%



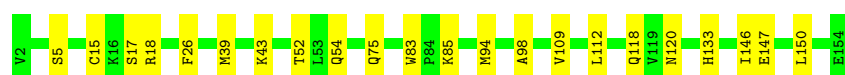
- Molecule 21: 60S ribosomal protein L13a

Chain LO: 79% 21%



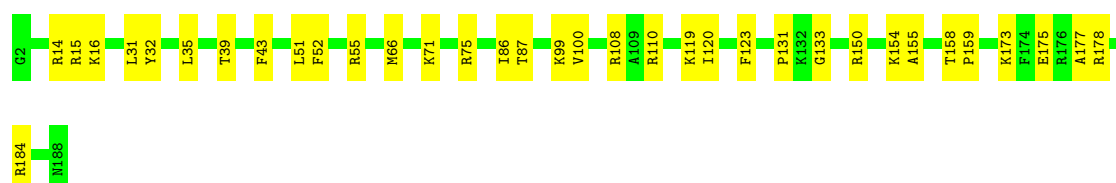
- Molecule 22: 60S ribosomal protein L17

Chain LP:  86% 14%



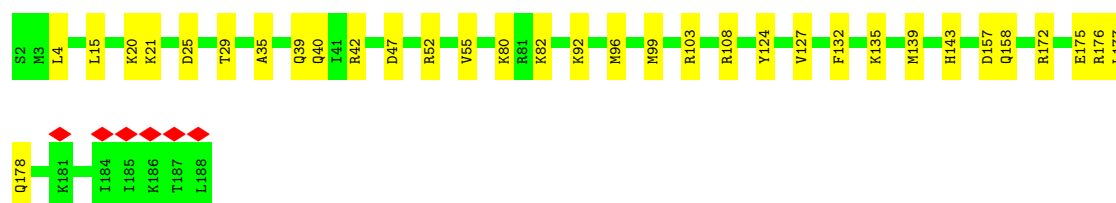
- Molecule 23: 60S ribosomal protein L18

Chain LQ:  81% 19%



- Molecule 24: 60S ribosomal protein L19

Chain LR:  82% 18%



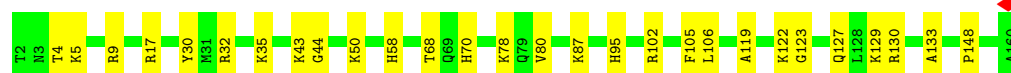
- Molecule 25: 60S ribosomal protein L18a

Chain LS:  83% 17%



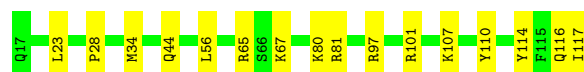
- Molecule 26: 60S ribosomal protein L21

Chain LT:  82% 18%



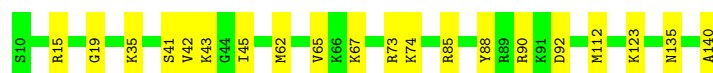
- Molecule 27: Heparin-binding protein HBp15

Chain LU:  84% 16%



- Molecule 28: 60S ribosomal protein L23

Chain LV:  85% 15%

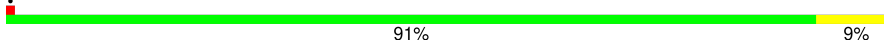


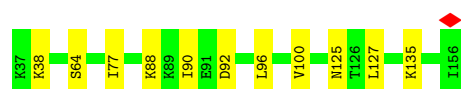
- Molecule 29: Ribosomal protein L24

Chain LW:  77% 17% 6%



- Molecule 30: 60S ribosomal protein L23a

Chain LX:  91% 9%



- Molecule 31: 60S ribosomal protein L26

Chain LY:  82% 18%



- Molecule 32: 60S ribosomal protein L27

Chain LZ:  79% 21%



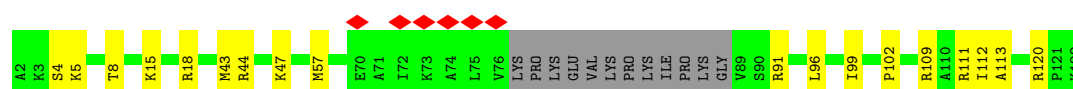
- Molecule 33: 60S ribosomal protein L27a

Chain La:  89% 11%



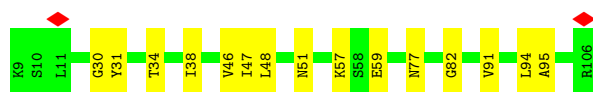
- Molecule 34: Large ribosomal subunit protein eL29

Chain Lb:  5% 75% 15% 10%



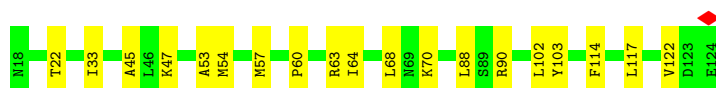
- Molecule 35: 60S ribosomal protein L30

Chain Lc:  85% 15%



- Molecule 36: 60S ribosomal protein L31

Chain Ld:  82% 18%



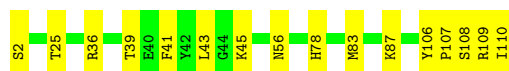
- Molecule 37: 60S ribosomal protein L32

Chain Le:  84% 16%



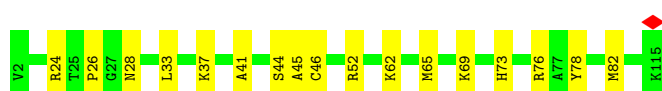
- Molecule 38: 60S ribosomal protein L35a

Chain Lf:  85% 15%



- Molecule 39: 60S ribosomal protein L34

Chain Lg:  85% 15%



- Molecule 40: 60S ribosomal protein L35

Chain Lh:  83% 17%



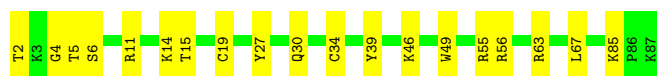
- Molecule 41: 60S ribosomal protein L36

Chain Li:  90% 10%



- Molecule 42: 60S ribosomal protein L37

Chain Lj:  78% 22%



- Molecule 43: 60S ribosomal protein L38

Chain Lk:  75% 25%



- Molecule 44: 60S ribosomal protein L39

Chain Ll:  80% 20%



- Molecule 45: Large ribosomal subunit protein eL40

Chain Lm:  88% 12%



- Molecule 46: 60S ribosomal protein L41

Chain Ln:  79% 21%



- Molecule 47: 60S ribosomal protein L36a

Chain Lo:  5% 87% 13%



- Molecule 48: 60S ribosomal protein L37a

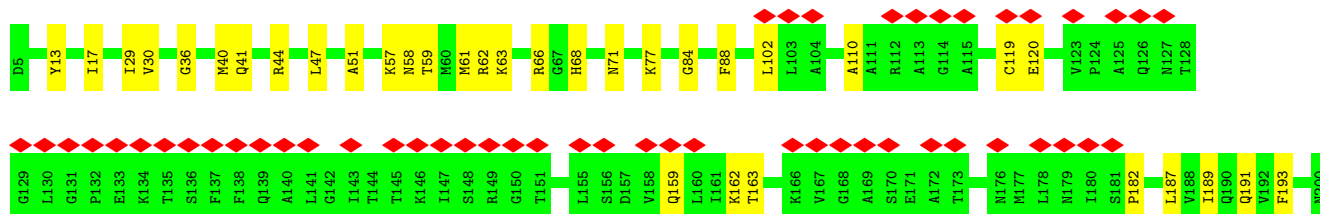
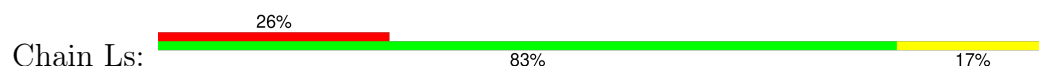
Chain Lp:  89% 11%



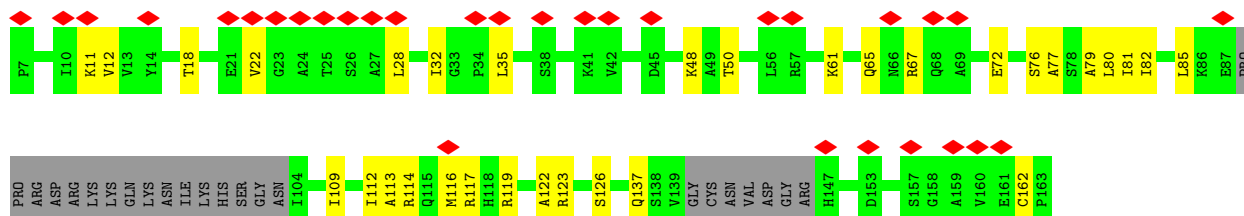
- Molecule 49: 60S ribosomal protein L28



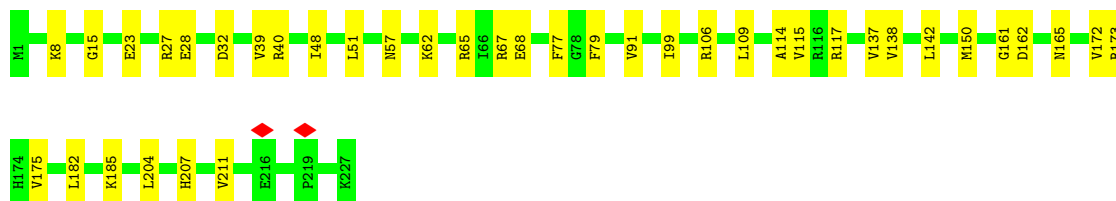
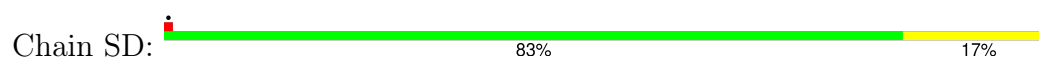
- Molecule 50: 60S acidic ribosomal protein P0



- Molecule 51: Large ribosomal subunit protein uL11

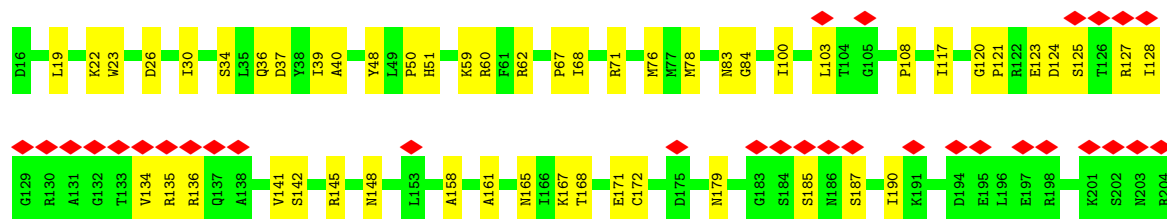


- Molecule 52: Small ribosomal subunit protein uS3



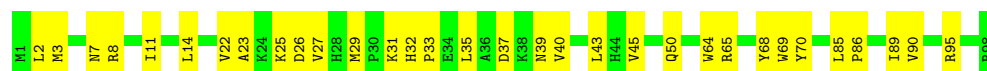
- Molecule 53: 40S ribosomal protein S5





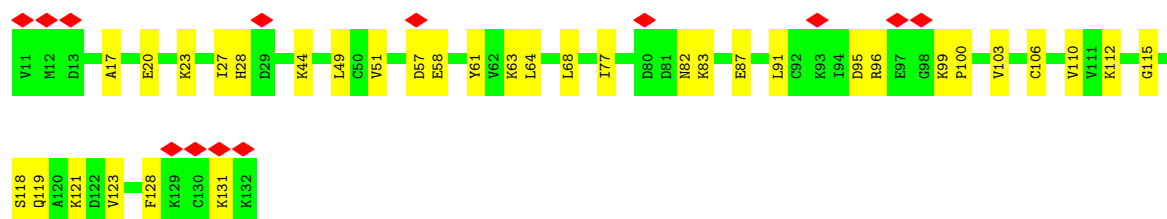
- Molecule 54: 40S ribosomal protein S10

Chain SK: 67% 33%



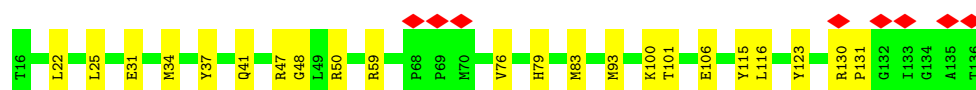
- Molecule 55: Small ribosomal subunit protein eS12

Chain SM: 11% 72% 28%



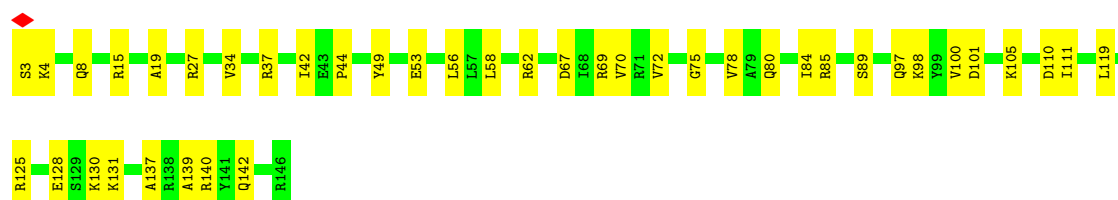
- Molecule 56: Small ribosomal subunit protein uS19

Chain SP: 7% 82% 18%



- Molecule 57: Small ribosomal subunit protein uS9

Chain SQ: 72% 28%

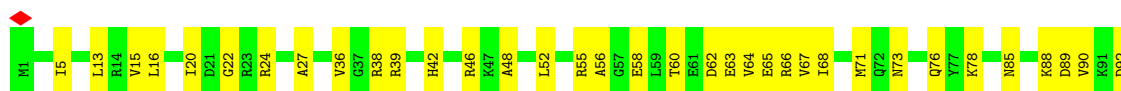


- Molecule 58: Small ribosomal subunit protein eS17

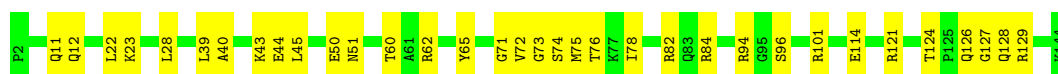
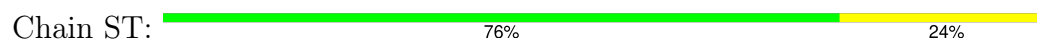
Chain SR: 87% 12%



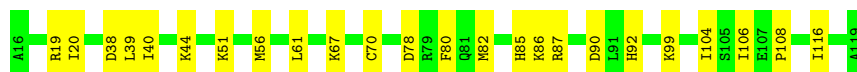
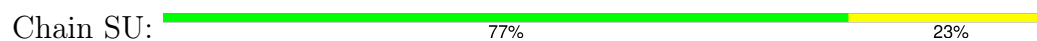
- Molecule 59: 40S ribosomal protein S18



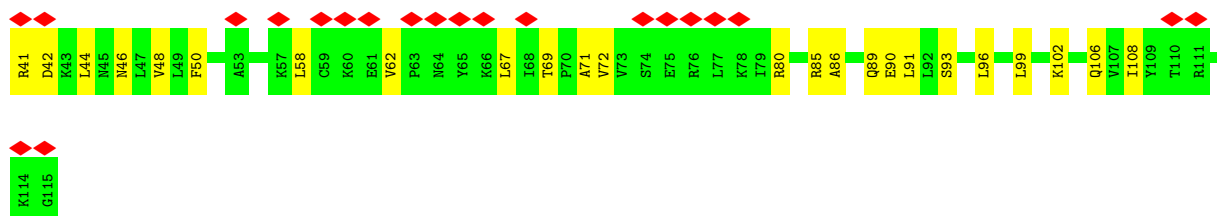
- Molecule 60: 40S ribosomal protein S19



- Molecule 61: 40S ribosomal protein S20



- Molecule 62: Small ribosomal subunit protein eS25



- Molecule 63: 40S ribosomal protein S28



- Molecule 64: 40S ribosomal protein S29

Chain Sd:  82% 18%



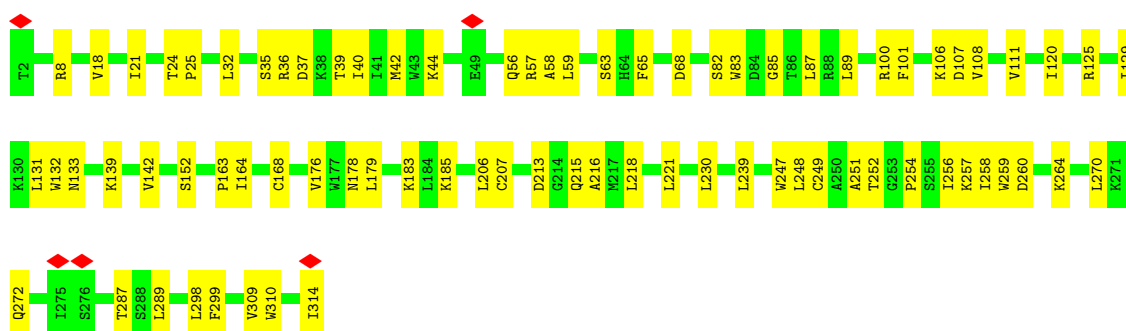
- Molecule 65: Ubiquitin-40S ribosomal protein S27a

Chain Sf:  12% 67% 33%



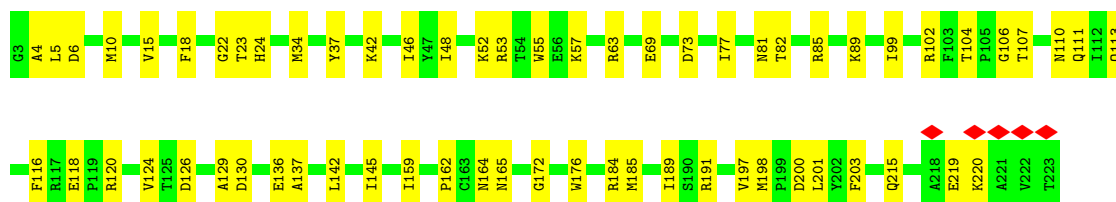
- Molecule 66: Receptor of activated protein C kinase 1

Chain Sg:  75% 25%



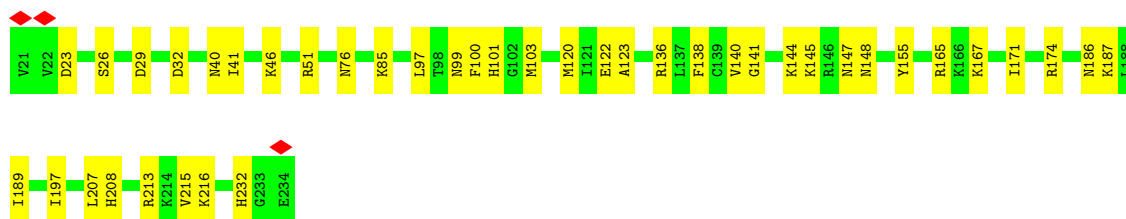
- Molecule 67: 40S ribosomal protein SA

Chain SA:  71% 29%



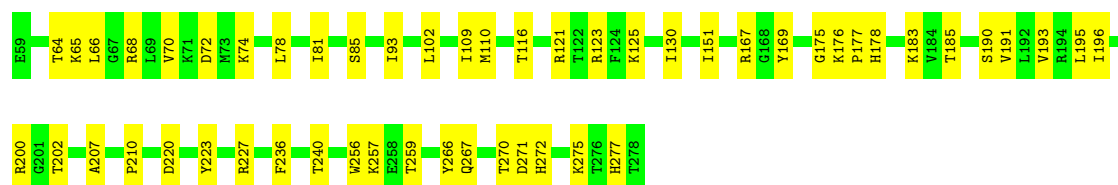
- Molecule 68: 40S ribosomal protein S3a

Chain SB:  81% 19%



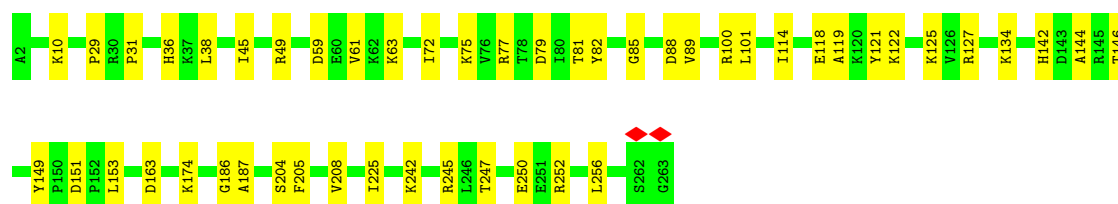
- Molecule 69: 40S ribosomal protein S2

Chain SC:  76% 24%



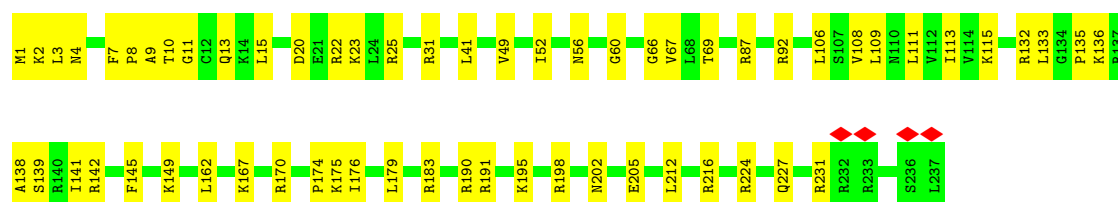
- Molecule 70: Small ribosomal subunit protein eS4, X isoform

Chain SE:  81% 19%



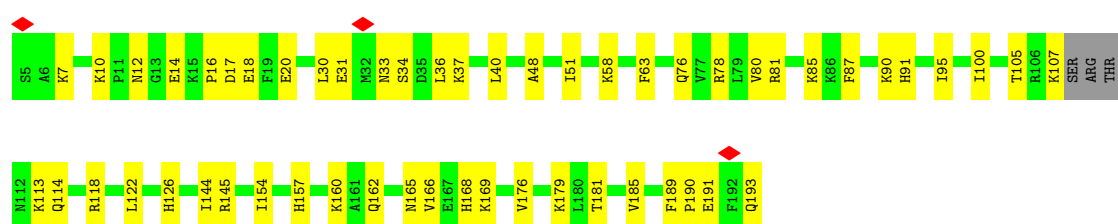
- Molecule 71: 40S ribosomal protein S6

Chain SG:  74% 26%



- Molecule 72: Small ribosomal subunit protein eS7

Chain SH:  69% 29%



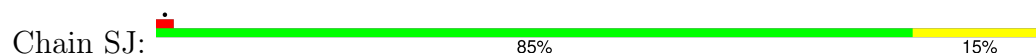
- Molecule 73: 40S ribosomal protein S8

Chain SI:  79% 21%

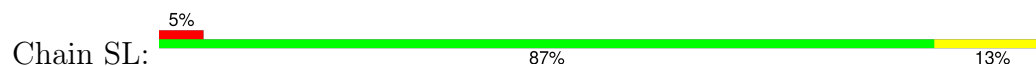




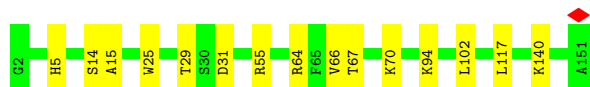
- Molecule 74: 40S ribosomal protein S9



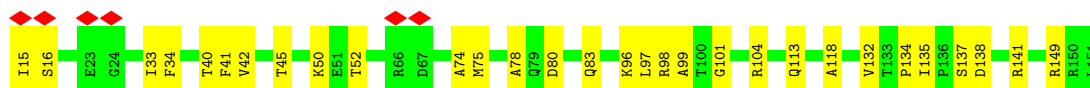
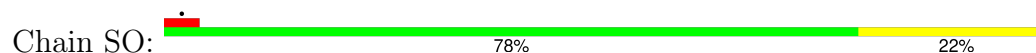
- Molecule 75: 40S ribosomal protein S11



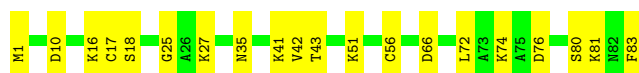
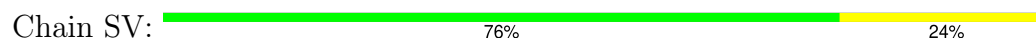
- Molecule 76: 40S ribosomal protein S13



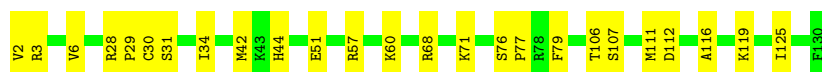
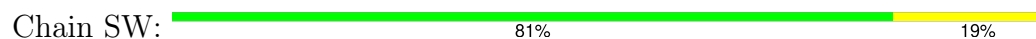
- Molecule 77: 40S ribosomal protein S14



- Molecule 78: Small ribosomal subunit protein eS21



- Molecule 79: 40S ribosomal protein S15a



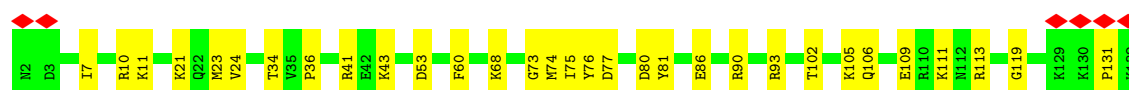
- Molecule 80: 40S ribosomal protein S23

Chain SX:  82% 18%



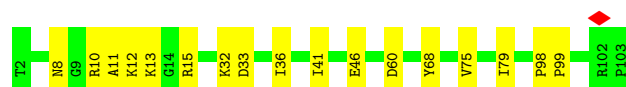
- Molecule 81: 40S ribosomal protein S24

Chain SY:  5% 76% 24%



- Molecule 82: 40S ribosomal protein S26

Chain Sa:  83% 17%



- Molecule 83: Small ribosomal subunit protein eS27

Chain Sb:  82% 18%



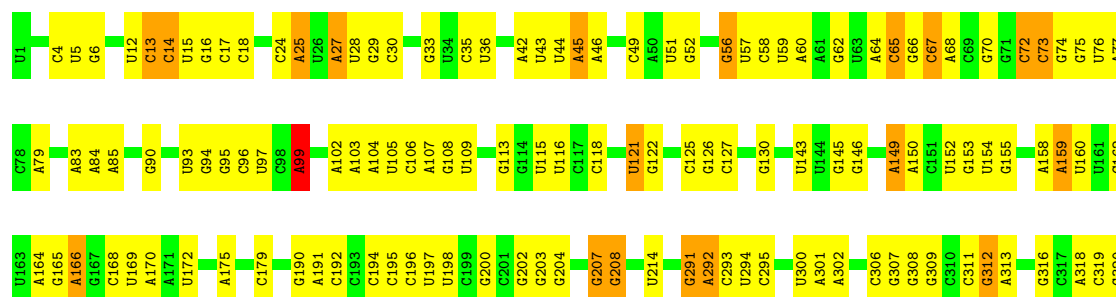
- Molecule 84: Small ribosomal subunit protein eS30

Chain Se:  12% 81% 19%

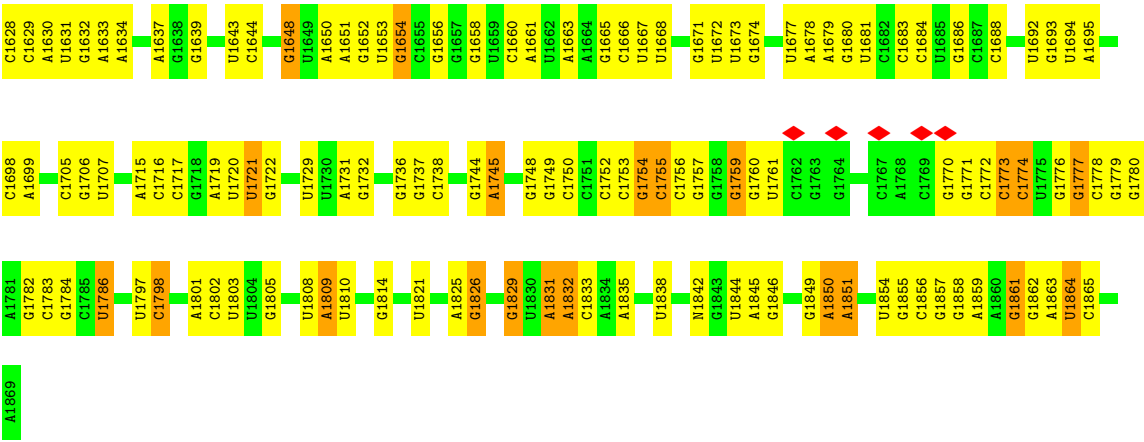


- Molecule 85: 18S rRNA

Chain S2:  49% 42% 9%



U1551	U1457	U1377	C1216	C1128	A1027	C951	C876	G752	G645	G563	A484	U406	C323
G1552	G1458	A1378	A1217	G1129	A1028	A955	C877	C753	U649	G564	A485	G407	C324
C1553	C1554	A1379	C1218	G1130	G1029	A956	C878	G754	A560	G565	A486	G408	C325
U1555	U1463	A1383	G1221	C1132	A1031	G959	C879	G755	U651	U566	U488	C409	C326
A1556	G1466	C1384	G1222	A1133	G1032	G961	G881	C791	A855	C570	C492	A414	G327
G1557	G1385	G1385	A1223	U1136	G1033	A963	U888	C792	G656	A493	A493	A415	G328
C1558	G1388	G1302	G1224	U1137	G1037	A962	U889	C793	U571	C494	C494	G426	G329
C1559	U1477	C1303	A1227	C1138	U1045	A964	U890	A794	U575	C495	C495	G427	G332
U1560	U1478	U1304	G1228	U1046	U1046	U965	G891	A795	A576	C496	C496	U428	G333
A1561	G1479	C1305	G1229	A1142	U1047	U966	U892	C797	U582	C497	C497	C429	C334
C1562	C1482	U1308	C1230	A1143	C1047	U967	U893	C798	U583	C502	C502	C430	C335
G1563	G1393	C1309	G1231	A1144	G1048	U968	U896	U799	A664	C503	C503	G431	A339
	G1394	U1310	U1232	A1145	A1055	U969	U897	U801	A587	G504	G504	G432	C340
	A1487	C1311	U1239	C1146	U1056	G971	U898	U809	A588	C505	C505	G433	C341
G1567	C1488	G1312	U1240	A1147	U1061	A972	U899	A809	A508	A508	A508	G434	C342
C1568	U1489	A1313	A1241	C1148	U1062	A981	C900	U814	A509	G609	G609	A435	A348
A1569	G1490	U1314	U1242	A1149	A1063	G982	C901	U815	U591	A516	A516	G436	A349
	G1491	U1315	U1243	A1150	A1064	A983	G902	U816	C592	C517	C517	G437	C350
G1573	U1492	C1317	U1244	C1151	U1081	C984	A904	A816	C593	G518	G518	G438	G351
C1574	G1493	G1318	G1245	G1152	A1082	G985	C905	G821	A519	A519	A519	C441	C352
G1575	U1494	U1319	B801248	U1153	A1083	G986	C906	U822	U595	A520	A520	C442	C353
G1576	G1495	G1320	A1251	C1154	A1084	G987	C907	U823	U596	A521	A521	U443	U354
U1577	U1496	U1321	A1252	U1155	A1085	A988	A908	U824	G601	A522	A522	G444	A360
G1578	G1497	G1322	A1253	U1156	U1086	G989	C909	A825	A604	A525	A525	U361	C362
U1579	A1498	G1323	U1254	G1157	A1087	G991	G910	A830	A605	A526	A526	A448	A363
A1580	U1499	U1324	B801248	U1158	A1088	G992	A913	C834	G683	C627	C627	A449	A364
C1581	G1500	G1325	A1255	G1159	U1089	G993	U917	C835	G684	A528	A528	C450	U367
C1582	G1501	U1326	A1256	U1160	U1090	A996	U918	C836	A685	U609	U609	G451	U368
	G1502	G1327	A1257	C1161	C1091	A997	U919	G836	C686	G610	G610	G452	U369
G1503	G1503	U1328	A1258	U1162	A1092	A998	A920	A837	C687	C530	C530	C453	C370
U1504	U1504	G1329	C1264	G1175	A1093	A999	G921	G838	U688	C532	C532	U454	G371
U1505	U1505	U1330	G1265	U1176	C1094	G999	G922	C839	G689	A533	A533	A455	U372
U1506	G1506	U1331	C1266	U1177	C1095	U1002	A922	C840	G690	C615	C615	C456	U373
C1507	G1507	G1332	C1267	U1178	G1096	U1003	G925	G841	G691	C537	C537	U461	G374
U1508	U1508	U1333	A1271	G1187	G1097	U1004	A926	C842	A616	U540	U540	C462	U375
U1509	C1417	C1334	G1272	A1188	C1098	U1005	C927	C843	A693	U541	U541	C463	A376
G1510	C1418	G1335	G1273	A1189	G1099	U1006	G928	U844	G694	U542	U542	A464	G377
U1511	C1419	U1336	G1274	A1190	A1100	U1007	G929	A847	C695	C543	C543	A465	U378
U1512	C1420	G1337	G1275	A1191	U1101	G1010	C930	C851	G696	G626	G626	G466	C379
U1513	G1421	U1338	G1276	A1192	G1102	A1011	G931	G852	U627	U543	U543	A467	U380
U1514	G1422	U1339	G1277	A1193	C1109	A1012	G932	G853	C730	A545	A545	A468	C382
U1515	C1423	G1340	G1278	A1194	C1110	U1013	G933	G854	G731	G546	G546	A469	G383
U1516	U1516	U1341	G1279	A1195	C1111	G1014	G934	G855	U732	C547	C547	G470	U384
U1517	U1517	G1342	G1280	A1196	C1112	A1015	U940	G856	C733	C550	C550	G471	G385
U1518	U1518	U1343	C1283	A1197	U1113	U1016	G941	U863	A634	U551	U551	C472	C386
U1519	U1519	G1344	G1284	A1198	U1114	U1017	G942	A864	G635	U552	U552	A473	U387
U1520	U1520	U1345	A1285	A1199	U1115	U1018	U943	A865	G636	G553	G553	G474	U388
C1521	C1521	G1346	G1286	A1200	U1116	C1019	U944	U866	C639	A554	A554	A475	A389
U1522	U1522	U1347	G1287	U1201	U1117	A1020	U945	G867	U747	U557	U557	A476	C390
C1523	C1523	G1348	U1288	U1202	A1122	A1023	G947	A870	G748	G558	G558	G480	A392
U1524	U1524	U1349	U1289	G1203	C1123	U1024	C948	G874	U749	A641	A641	C481	A393
U1525	U1525	G1350	G1290	A1204	C1124	A1025	C949	A875	G751	U642	U642	C482	A394
U1526	U1526	U1351	A1291	C1215	C1125	C1026	C950			G644	G644	C483	C399



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	119172	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.140	Depositor
Minimum map value	-0.058	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.011	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: SPM, MG, G7M, OMC, 5MC, PSU, SEP, A2M, B8N, 4AC, ZN, OMG, OMU, UY1, 6MZ, UR3, 1MA, MA6, SPD

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	CI	0.16	0/247	0.30	0/323
2	Pt	0.13	0/1761	0.26	0/2741
3	CF	0.14	0/3442	0.40	0/4656
4	AT	0.12	0/1805	0.25	0/2809
5	L5	0.21	0/85098	0.30	1/132762 (0.0%)
6	L7	0.19	0/2861	0.25	0/4459
7	L8	0.20	0/3631	0.28	0/5657
8	LA	0.21	0/1936	0.42	0/2596
9	LB	0.20	0/3306	0.37	0/4424
10	LC	0.19	0/2981	0.36	0/4002
11	LD	0.16	0/2428	0.33	0/3252
12	LE	0.17	0/1973	0.41	0/2645
13	LF	0.18	0/1905	0.31	0/2539
14	LG	0.18	0/1960	0.39	0/2637
15	LH	0.18	0/1537	0.35	0/2066
16	LI	0.17	0/1751	0.33	0/2340
17	LJ	0.16	0/1385	0.38	0/1852
18	LL	0.17	0/1732	0.33	0/2315
19	LM	0.18	0/1161	0.37	0/1554
20	LN	0.19	0/1746	0.34	0/2338
21	LO	0.20	0/1682	0.35	0/2250
22	LP	0.20	0/1268	0.40	0/1701
23	LQ	0.20	0/1537	0.37	0/2052
24	LR	0.17	0/1582	0.35	0/2091
25	LS	0.19	0/1493	0.36	0/2003
26	LT	0.18	0/1326	0.33	0/1770
27	LU	0.18	0/839	0.45	0/1126
28	LV	0.18	0/993	0.35	0/1332
29	LW	0.17	0/959	0.38	0/1270
30	LX	0.16	0/1002	0.32	0/1345
31	LY	0.19	0/1132	0.38	0/1504

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	LZ	0.17	0/1130	0.35	0/1507
33	La	0.18	0/1191	0.31	0/1591
34	Lb	0.16	0/889	0.41	0/1175
35	Lc	0.18	0/774	0.38	0/1038
36	Ld	0.18	0/903	0.34	0/1216
37	Le	0.21	0/1071	0.38	0/1429
38	Lf	0.20	0/895	0.37	0/1198
39	Lg	0.18	0/916	0.34	0/1220
40	Lh	0.16	0/1023	0.32	0/1351
41	Li	0.16	0/843	0.35	0/1115
42	Lj	0.19	0/720	0.36	0/952
43	Lk	0.19	0/575	0.47	0/761
44	Ll	0.17	0/454	0.29	0/599
45	Lm	0.17	0/435	0.36	0/575
46	Ln	0.16	0/231	0.31	0/294
47	Lo	0.17	0/876	0.35	0/1156
48	Lp	0.17	0/718	0.32	0/953
49	Lr	0.17	0/1017	0.33	0/1364
50	Ls	0.12	0/1519	0.34	0/2052
51	Lt	0.16	0/1009	0.50	0/1363
52	SD	0.13	0/1793	0.30	0/2414
53	SF	0.15	0/1516	0.36	0/2037
54	SK	0.16	0/851	0.43	0/1147
55	SM	0.14	0/950	0.40	0/1275
56	SP	0.17	0/1003	0.40	0/1342
57	SQ	0.15	0/1160	0.39	0/1553
58	SR	0.16	0/1105	0.45	0/1484
59	SS	0.14	0/1216	0.37	0/1628
60	ST	0.15	0/1131	0.40	0/1515
61	SU	0.17	0/831	0.47	0/1115
62	SZ	0.17	0/604	0.48	0/810
63	Sc	0.16	0/508	0.40	0/680
64	Sd	0.14	0/470	0.37	0/623
65	Sf	0.16	0/560	0.48	0/745
66	Sg	0.13	0/2493	0.38	0/3394
67	SA	0.15	0/1778	0.35	0/2416
68	SB	0.14	0/1765	0.37	0/2362
69	SC	0.15	0/1744	0.34	0/2357
70	SE	0.14	0/2118	0.37	0/2849
71	SG	0.15	0/1946	0.37	0/2590
72	SH	0.16	0/1519	0.41	0/2033
73	SI	0.16	0/1715	0.37	0/2287
74	SJ	0.13	0/1550	0.32	0/2069

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	SL	0.15	0/1268	0.34	0/1696
76	SN	0.13	0/1232	0.29	0/1656
77	SO	0.17	0/1037	0.39	0/1391
78	SV	0.16	0/643	0.39	0/860
79	SW	0.18	0/1051	0.38	0/1406
80	SX	0.15	0/1116	0.35	0/1490
81	SY	0.15	0/1083	0.40	0/1438
82	Sa	0.15	0/836	0.33	0/1121
83	Sb	0.16	0/665	0.37	0/891
84	Se	0.14	0/465	0.38	0/612
85	S2	0.18	0/39756	0.28	0/61939
All	All	0.19	0/235126	0.32	1/344545 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
77	SO	0	1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	1703	C	C2'-C3'-O3'	5.16	117.24	109.50

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
77	SO	137	SER	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	CI	247	0	283	14	0
2	Pt	1576	0	803	20	0
3	CF	3383	0	3431	80	0
4	AT	1616	0	824	30	0
5	L5	78444	0	39718	961	0
6	L7	2561	0	1295	16	0
7	L8	3315	0	1685	36	0
8	LA	1898	0	1993	44	0
9	LB	3238	0	3376	67	0
10	LC	2927	0	3104	28	0
11	LD	2382	0	2410	31	0
12	LE	1935	0	2096	29	0
13	LF	1870	0	1996	28	0
14	LG	1927	0	2074	17	0
15	LH	1518	0	1601	19	0
16	LI	1711	0	1749	22	0
17	LJ	1362	0	1399	18	0
18	LL	1701	0	1818	22	0
19	LM	1138	0	1204	16	0
20	LN	1701	0	1749	21	0
21	LO	1650	0	1794	32	0
22	LP	1242	0	1269	16	0
23	LQ	1513	0	1628	26	0
24	LR	1566	0	1729	26	0
25	LS	1453	0	1490	20	0
26	LT	1298	0	1366	23	0
27	LU	825	0	850	14	0
28	LV	979	0	1039	14	0
29	LW	945	0	1003	18	0
30	LX	985	0	1066	8	0
31	LY	1115	0	1205	16	0
32	LZ	1107	0	1182	17	0
33	La	1162	0	1213	12	0
34	Lb	876	0	948	16	0
35	Lc	764	0	804	8	0
36	Ld	888	0	930	11	0
37	Le	1053	0	1147	16	0
38	Lf	876	0	912	10	0
39	Lg	906	0	998	16	0
40	Lh	1015	0	1148	19	0
41	Li	832	0	917	7	0
42	Lj	705	0	737	19	0
43	Lk	569	0	637	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	Ll	444	0	483	11	0
45	Lm	429	0	465	5	0
46	Ln	230	0	276	4	0
47	Lo	862	0	929	10	0
48	Lp	708	0	756	9	0
49	Lr	1002	0	1068	4	0
50	Ls	1496	0	1540	22	0
51	Lt	998	0	1032	26	0
52	SD	1765	0	1865	27	0
53	SF	1495	0	1549	38	0
54	SK	827	0	854	23	0
55	SM	940	0	965	21	0
56	SP	985	0	1031	17	0
57	SQ	1142	0	1213	31	0
58	SR	1090	0	1149	13	0
59	SS	1198	0	1261	33	0
60	ST	1112	0	1146	24	0
61	SU	821	0	883	17	0
62	SZ	598	0	656	19	0
63	Sc	506	0	536	14	0
64	Sd	459	0	452	10	0
65	Sf	548	0	551	17	0
66	Sg	2436	0	2393	50	0
67	SA	1741	0	1746	48	0
68	SB	1738	0	1809	25	0
69	SC	1707	0	1791	39	0
70	SE	2076	0	2177	33	0
71	SG	1923	0	2089	60	0
72	SH	1497	0	1590	40	0
73	SI	1686	0	1772	34	0
74	SJ	1525	0	1640	22	0
75	SL	1247	0	1323	13	0
76	SN	1208	0	1294	14	0
77	SO	1024	0	1050	19	0
78	SV	636	0	637	16	0
79	SW	1034	0	1080	24	0
80	SX	1098	0	1167	22	0
81	SY	1065	0	1142	22	0
82	Sa	821	0	870	12	0
83	Sb	651	0	672	13	0
84	Se	459	0	503	11	0
85	S2	36953	0	18678	537	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
86	L5	178	0	0	0	0
86	L7	3	0	0	0	0
86	L8	4	0	0	0	0
86	LA	1	0	0	0	0
86	LB	1	0	0	0	0
86	LP	1	0	0	0	0
86	LV	1	0	0	0	0
86	Le	1	0	0	0	0
86	Lj	1	0	0	0	0
86	S2	26	0	0	0	0
86	SG	1	0	0	0	0
86	SS	1	0	0	0	0
87	L5	98	0	182	4	0
88	L5	90	0	171	3	0
88	LN	10	0	19	0	0
89	Lg	1	0	0	0	0
89	Lj	1	0	0	0	0
89	Lm	1	0	0	0	0
89	Lo	1	0	0	0	0
89	Lp	1	0	0	0	0
89	Sa	1	0	0	0	0
All	All	223377	0	167075	2774	0

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

All (2774) 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)
1:CI:79:ARG:NH1	5:L5:2708:U:O2'	1.64	1.29
5:L5:1996:C:H42	5:L5:2000:G:H22	1.10	0.98
5:L5:1996:C:H42	5:L5:2000:G:N2	1.66	0.93
5:L5:4946:U:HO2'	38:Lf:2:SER:N	1.67	0.92
1:CI:74:LYS:HA	27:LU:116:GLN:O	1.68	0.91
4:AT:51:U:H3	4:AT:65:G:H1	1.12	0.89
85:S2:1652:G:H1	85:S2:1672:U:H3	1.20	0.87
85:S2:1748:G:H1	85:S2:1786:U:H3	0.87	0.86
85:S2:928:G:H1	85:S2:1013:U:H3	1.21	0.86
85:S2:925:G:H1	85:S2:1017:U:H3	1.24	0.84
5:L5:1996:C:N4	5:L5:2000:G:H22	1.77	0.82
18:LL:64:VAL:HA	18:LL:67:HIS:HD2	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:1656:G:H1	85:S2:1668:U:H3	1.27	0.81
57:SQ:72:VAL:HG11	57:SQ:80:GLN:HG3	1.62	0.80
3:CF:13:ILE:HD12	3:CF:136:HIS:HB3	1.65	0.79
5:L5:3946:G:H1	5:L5:4067:U:H3	0.80	0.79
1:CI:79:ARG:NH1	5:L5:2708:U:HO2'	1.77	0.78
85:S2:940:U:H3	85:S2:1002:U:H3	1.30	0.78
85:S2:1776:G:N2	85:S2:1777:G:N7	2.33	0.77
5:L5:2049:G:HO2'	5:L5:3884:PSU:HO2'	1.31	0.77
68:SB:103:MET:HG3	68:SB:215:VAL:HG12	1.66	0.77
85:S2:1033:G:H1	85:S2:1080:A:HO2'	1.32	0.77
5:L5:2702:C:OP1	27:LU:101:ARG:NH2	2.19	0.76
3:CF:15:HIS:HE2	3:CF:133:THR:HG1	1.30	0.76
5:L5:664:G:N2	5:L5:666:G:O6	2.19	0.76
5:L5:4242:U:H3	5:L5:4281:A:H2	1.35	0.75
5:L5:2557:G:H1	5:L5:2570:U:H3	1.34	0.74
65:Sf:126:CYS:SG	65:Sf:144:CYS:N	2.57	0.74
69:SC:210:PRO:HB3	69:SC:240:THR:HG21	1.68	0.74
5:L5:3717:A:H2'	5:L5:3718:A2M:H8	1.68	0.73
5:L5:2611:A:H5'	5:L5:2688:G:H4'	1.70	0.73
5:L5:184:U:O2	5:L5:253:G:N2	2.21	0.73
5:L5:665:C:H4'	5:L5:666:G:H5'	1.70	0.73
5:L5:1702:C:H4'	10:LC:308:LYS:HD2	1.71	0.73
5:L5:3641:U:OP2	5:L5:3646:A:N6	2.22	0.72
5:L5:2458:C:H5''	20:LN:67:ARG:HD2	1.70	0.72
5:L5:4910:G:H4'	9:LB:95:THR:HG22	1.72	0.72
66:Sg:87:LEU:HB2	66:Sg:101:PHE:HB2	1.71	0.72
4:AT:61:A:OP1	4:AT:63:C:N4	2.22	0.71
60:ST:12:GLN:NE2	85:S2:1593:C:O2	2.23	0.71
5:L5:2300:A:N7	10:LC:143:ARG:NH1	2.38	0.71
70:SE:79:ASP:HB3	70:SE:82:TYR:HB2	1.72	0.71
53:SF:134:VAL:HG12	53:SF:135:ARG:HG2	1.73	0.71
85:S2:851:C:H5''	85:S2:852:G:H5'	1.73	0.71
5:L5:1172:C:H42	5:L5:1188:C:H42	1.37	0.70
5:L5:1366:G:H5''	18:LL:36:ARG:HH12	1.56	0.70
66:Sg:247:TRP:HB3	66:Sg:258:ILE:HD11	1.71	0.70
65:Sf:99:LYS:NZ	85:S2:1287:A:OP1	2.24	0.70
85:S2:94:G:HO2'	85:S2:508:A:HO2'	1.40	0.70
5:L5:4098:A:N1	5:L5:4112:C:N4	2.40	0.70
25:LS:76:LYS:NZ	25:LS:100:LEU:O	2.25	0.70
19:LM:15:VAL:HG22	19:LM:50:MET:HE1	1.73	0.69
4:AT:24:C:N3	4:AT:25:A:N6	2.39	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SQ:131:LYS:HB2	57:SQ:140:ARG:HH22	1.57	0.69
3:CF:93:PRO:HD2	3:CF:102:MET:HB3	1.73	0.69
77:SO:104:ARG:NH2	85:S2:959:G:OP1	2.24	0.69
85:S2:628:A:N6	85:S2:1500:G:O2'	2.25	0.69
5:L5:172:C:H4'	5:L5:173:C:H5'	1.74	0.69
15:LH:106:GLN:HB2	15:LH:111:LEU:HB3	1.73	0.69
27:LU:65:ARG:HG2	27:LU:67:LYS:H	1.57	0.69
5:L5:4546:A:N7	8:LA:215:ASN:ND2	2.40	0.69
8:LA:114:CYS:HB3	8:LA:165:VAL:HB	1.75	0.69
5:L5:3946:G:N2	5:L5:4067:U:O2	2.24	0.69
8:LA:107:MET:HB3	8:LA:111:THR:HG21	1.74	0.69
1:CI:72:ARG:NH2	24:LR:25:ASP:OD2	2.26	0.68
28:LV:35:LYS:HB2	28:LV:67:LYS:HG3	1.74	0.68
71:SG:198:ARG:NH1	85:S2:126:G:OP2	2.25	0.68
9:LB:289:GLN:HE22	9:LB:292:LEU:HD11	1.58	0.68
85:S2:838:G:H1	85:S2:840:C:HO2'	1.42	0.68
3:CF:360:VAL:HA	3:CF:369:ALA:HA	1.74	0.68
73:SI:88:ASN:OD1	73:SI:205:ARG:NH2	2.27	0.68
75:SL:85:THR:HG21	85:S2:373:G:H4'	1.76	0.68
85:S2:1754:G:N7	85:S2:1779:G:N2	2.41	0.68
53:SF:127:ARG:HG2	53:SF:136:ARG:HE	1.59	0.68
13:LF:243:LEU:O	13:LF:247:MET:HB2	1.94	0.68
59:SS:22:GLY:HA2	59:SS:56:ALA:HB3	1.76	0.68
57:SQ:4:LYS:HE3	85:S2:1423:C:H41	1.58	0.68
56:SP:130:ARG:HD3	56:SP:131:PRO:HD2	1.75	0.67
59:SS:85:ASN:OD1	59:SS:97:GLN:NE2	2.26	0.67
5:L5:500:G:H1'	5:L5:504:G:H3'	1.74	0.67
71:SG:11:GLY:HA2	85:S2:166:A2M:HM'1	1.76	0.67
66:Sg:152:SER:HG	66:Sg:168:CYS:HG	1.41	0.67
5:L5:4594:U:H2'	5:L5:4595:G:H8	1.60	0.67
5:L5:748:G:O6	25:LS:98:ARG:NH2	2.27	0.67
5:L5:2486:G:O6	5:L5:2493:G:O6	2.13	0.67
22:LP:39:MET:HG2	22:LP:43:LYS:HD3	1.75	0.67
5:L5:2093:A:N3	5:L5:2094:G:N1	2.43	0.67
9:LB:10:ARG:NH1	9:LB:11:HIS:O	2.27	0.67
5:L5:4162:C:H5	14:LG:73:ARG:HH12	1.43	0.67
85:S2:1417:C:O2	85:S2:1422:G:O6	2.13	0.67
61:SU:51:LYS:HB3	61:SU:90:ASP:HB2	1.77	0.67
85:S2:751:G:H1'	85:S2:793:G:H21	1.59	0.66
5:L5:3701:OMC:H5	5:L5:3748:A:H62	1.43	0.66
34:Lb:109:ARG:HA	34:Lb:112:ILE:HG12	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SU:19:ARG:HH11	61:SU:92:HIS:HB3	1.59	0.66
57:SQ:58:LEU:HB3	57:SQ:62:ARG:HD2	1.76	0.66
66:Sg:206:LEU:HD12	66:Sg:218:LEU:HD12	1.77	0.66
69:SC:193:VAL:HG11	69:SC:240:THR:HG22	1.77	0.66
66:Sg:252:THR:HG21	66:Sg:257:LYS:HD2	1.78	0.66
72:SH:154:ILE:HB	72:SH:185:VAL:HG22	1.76	0.66
43:Lk:54:GLU:OE2	43:Lk:58:GLN:NE2	2.29	0.66
56:SP:37:TYR:O	59:SS:88:LYS:NZ	2.28	0.66
5:L5:3937:C:H1'	20:LN:125:SER:HB3	1.78	0.66
85:S2:1277:C:H2'	85:S2:1278:A:H8	1.61	0.66
3:CF:163:SEP:O2P	3:CF:165:LYS:NZ	2.28	0.66
5:L5:2092:G:O2'	5:L5:2262:G:N2	2.29	0.66
5:L5:2601:A:N6	5:L5:2744:A:OP2	2.28	0.66
5:L5:2758:G:O2'	5:L5:2765:A:N3	2.25	0.65
13:LF:105:VAL:HG13	13:LF:136:VAL:HG12	1.79	0.65
85:S2:1228:A:H2'	85:S2:1229:G:H8	1.60	0.65
53:SF:84:GLY:O	85:S2:1673:U:O2'	2.13	0.65
5:L5:1973:G:O2'	51:Lt:117:ARG:NH1	2.28	0.65
5:L5:4525:C:OP1	9:LB:246:ARG:NH2	2.28	0.65
8:LA:29:LEU:O	8:LA:123:ARG:NH1	2.30	0.65
9:LB:90:VAL:HG23	9:LB:163:ILE:HD11	1.78	0.65
15:LH:106:GLN:NE2	15:LH:113:GLU:OE2	2.30	0.65
50:Ls:58:ASN:ND2	50:Ls:84:GLY:O	2.22	0.65
84:Se:41:ARG:NH2	85:S2:639:C:OP1	2.29	0.65
3:CF:246:LEU:O	3:CF:247:ARG:NH1	2.29	0.65
5:L5:4992:G:H2'	5:L5:4993:G:C8	2.32	0.65
80:SX:107:ARG:HG3	80:SX:110:HIS:HB3	1.77	0.65
5:L5:188:G:N2	5:L5:190:G:O6	2.30	0.65
67:SA:102:ARG:HH12	85:S2:1377:U:H3'	1.61	0.65
71:SG:135:PRO:HG2	71:SG:141:ILE:HG22	1.76	0.65
72:SH:7:LYS:HD3	72:SH:10:LYS:HB3	1.79	0.65
1:CI:66:GLY:HA3	36:Ld:70:LYS:NZ	2.12	0.65
5:L5:1563:A:N6	85:S2:1028:A:N1	2.45	0.65
67:SA:102:ARG:NH1	85:S2:1378:A:OP2	2.30	0.65
74:SJ:162:ARG:NH1	85:S2:582:U:OP1	2.29	0.65
85:S2:1658:G:OP2	85:S2:1660:C:N4	2.30	0.65
5:L5:2351:OMC:HM22	10:LC:95:MET:HG3	1.79	0.65
22:LP:109:VAL:HA	22:LP:112:LEU:HD13	1.78	0.65
54:SK:50:GLN:HE22	85:S2:1276:A:H1'	1.62	0.65
65:Sf:97:LYS:NZ	85:S2:1289:U:OP2	2.30	0.65
85:S2:106:C:H2'	85:S2:107:A:H8	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:864:A:H2'	85:S2:865:A:H8	1.62	0.64
5:L5:1172:C:HO2'	5:L5:1173:G:H8	1.45	0.64
5:L5:1669:A:OP1	34:Lb:18:ARG:NH2	2.30	0.64
5:L5:4305:G:N7	26:LT:87:LYS:NZ	2.43	0.64
51:Lt:117:ARG:HE	51:Lt:119:ARG:H	1.45	0.64
5:L5:109:G:OP2	18:LL:74:ARG:NH2	2.30	0.64
5:L5:4092:G:N7	5:L5:4114:C:N4	2.45	0.64
8:LA:137:ILE:HD11	8:LA:149:LYS:HB2	1.79	0.64
24:LR:172:ARG:NH1	85:S2:909:G:OP1	2.29	0.64
71:SG:183:ARG:NH2	85:S2:316:G:OP2	2.31	0.64
72:SH:105:THR:HG23	72:SH:107:LYS:H	1.61	0.64
85:S2:1562:C:H2'	85:S2:1563:G:H8	1.62	0.64
5:L5:1095:A:H2	5:L5:1200:G:H1	1.43	0.64
9:LB:222:VAL:O	9:LB:343:ARG:NH1	2.30	0.64
29:LW:105:ARG:NH2	71:SG:149:LYS:O	2.30	0.64
71:SG:202:ASN:ND2	85:S2:125:C:OP1	2.31	0.64
85:S2:928:G:H2'	85:S2:929:G:C8	2.33	0.64
3:CF:353:ILE:HB	3:CF:394:LEU:HB2	1.80	0.64
57:SQ:140:ARG:HB2	85:S2:1644:C:H4'	1.78	0.64
5:L5:1995:G:O2'	51:Lt:122:ALA:O	2.12	0.64
5:L5:2554:U:O2	5:L5:2764:A:N7	2.30	0.64
61:SU:61:LEU:HB2	61:SU:82:MET:HB3	1.80	0.64
85:S2:747:U:N3	85:S2:796:G:N1	2.46	0.64
5:L5:1994:C:H2'	5:L5:1995:G:C8	2.33	0.64
5:L5:2083:C:OP2	23:LQ:14:ARG:NH2	2.29	0.64
81:SY:74:MET:SD	81:SY:90:ARG:NH1	2.71	0.64
5:L5:1982:G:N2	5:L5:2009:A:O2'	2.31	0.63
5:L5:4225:G:OP1	16:LI:24:ARG:NH2	2.30	0.63
3:CF:294:MET:HB2	3:CF:308:VAL:HG12	1.81	0.63
5:L5:67:C:OP2	5:L5:312:G:N2	2.30	0.63
52:SD:8:LYS:HG2	61:SU:61:LEU:HD11	1.78	0.63
71:SG:22:ARG:HG3	71:SG:25:ARG:HH12	1.63	0.63
71:SG:190:ARG:NH2	85:S2:334:C:OP2	2.31	0.63
5:L5:1414:C:H2'	5:L5:1415:G:H8	1.62	0.63
49:Lr:28:GLU:OE2	49:Lr:31:ASN:ND2	2.30	0.63
85:S2:1203:G:H2'	85:S2:1204:A:C8	2.33	0.63
5:L5:3659:G:OP1	8:LA:241:ARG:NH1	2.32	0.63
5:L5:4431:PSU:OP2	16:LI:3:ARG:NH2	2.29	0.63
85:S2:948:C:H2'	85:S2:949:G:H8	1.63	0.63
5:L5:500:G:OP1	5:L5:504:G:N2	2.31	0.63
7:L8:62:A:OP1	40:Lh:52:LYS:NZ	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SI:133:GLU:HA	73:SI:136:ILE:HG12	1.80	0.63
71:SG:132:ARG:NH2	85:S2:152:U:O4'	2.32	0.63
85:S2:1228:A:H2'	85:S2:1229:G:C8	2.34	0.63
5:L5:2658:G:N2	5:L5:2676:A:OP2	2.31	0.63
16:LI:205:PRO:HD2	16:LI:208:LYS:HE2	1.79	0.63
83:Sb:20:LYS:NZ	85:S2:1016:U:OP2	2.32	0.63
85:S2:165:G:OP2	85:S2:165:G:N2	2.28	0.63
5:L5:262:G:H2'	5:L5:263:G:H8	1.63	0.63
17:LJ:146:ARG:HG2	17:LJ:147:ARG:HG3	1.81	0.63
60:ST:124:THR:HG23	60:ST:127:GLY:H	1.64	0.63
85:S2:1129:G:H3'	85:S2:1130:G:H21	1.64	0.63
5:L5:1405:C:N3	5:L5:1413:C:N4	2.46	0.62
5:L5:1726:U:H5'	13:LF:135:ILE:HD11	1.81	0.62
5:L5:4873:G:N7	21:LO:179:LYS:NZ	2.43	0.62
33:La:84:GLU:OE1	33:La:87:ARG:NH2	2.33	0.62
71:SG:92:ARG:NH1	85:S2:1738:C:OP1	2.29	0.62
5:L5:387:G:HO2'	5:L5:412:G:H1	1.45	0.62
58:SR:32:LYS:NZ	85:S2:1452:A:OP2	2.33	0.62
32:LZ:9:LYS:NZ	32:LZ:83:THR:O	2.28	0.62
53:SF:34:SER:HA	63:Sc:55:VAL:HG23	1.80	0.62
72:SH:114:GLN:HE22	85:S2:874:G:H21	1.47	0.62
5:L5:62:A:N3	5:L5:77:U:O2'	2.30	0.62
17:LJ:38:LYS:HD2	17:LJ:123:ILE:HD11	1.82	0.62
5:L5:3811:G:O2'	5:L5:3814:U:OP2	2.17	0.62
52:SD:106:ARG:HG3	52:SD:175:VAL:HG22	1.82	0.62
73:SI:22:HIS:HB3	85:S2:433:A:H5''	1.81	0.62
80:SX:68:LYS:HB3	80:SX:91:LEU:HD13	1.81	0.62
9:LB:107:ALA:HB2	9:LB:201:LEU:HD22	1.82	0.62
53:SF:36:GLN:NE2	53:SF:37:ASP:OD1	2.33	0.62
5:L5:1785:C:OP1	16:LI:133:GLN:NE2	2.32	0.62
5:L5:4717:A:OP2	9:LB:30:LYS:NZ	2.28	0.62
83:Sb:14:GLU:HA	83:Sb:17:ARG:HG2	1.81	0.62
3:CF:272:LEU:HB3	3:CF:302:ALA:HB3	1.82	0.62
21:LO:34:VAL:HG22	21:LO:103:LYS:HB2	1.82	0.62
36:Ld:90:ARG:HD3	36:Ld:102:LEU:HD13	1.82	0.62
40:Lh:80:PRO:HD2	40:Lh:83:LEU:HD12	1.82	0.62
85:S2:993:G:OP1	85:S2:1131:G:N2	2.28	0.62
3:CF:194:SER:HB3	3:CF:199:ASP:HB2	1.81	0.61
22:LP:17:SER:HB2	22:LP:98:ALA:HB2	1.82	0.61
36:Ld:64:ILE:HG23	36:Ld:68:LEU:HD23	1.82	0.61
57:SQ:89:SER:OG	57:SQ:119:LEU:O	2.18	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SB:26:SER:O	68:SB:51:ARG:NH2	2.33	0.61
5:L5:2845:A:H61	5:L5:3843:C:H42	1.46	0.61
54:SK:25:LYS:NZ	85:S2:1497:G:N7	2.48	0.61
67:SA:126:ASP:OD1	67:SA:165:ASN:ND2	2.33	0.61
73:SI:70:GLU:OE2	75:SL:21:LYS:NZ	2.31	0.61
5:L5:1499:C:OP1	23:LQ:150:ARG:NH2	2.33	0.61
8:LA:104:VAL:HA	8:LA:107:MET:HE3	1.82	0.61
70:SE:153:LEU:O	70:SE:174:LYS:NZ	2.33	0.61
2:Pt:50:U:H3	2:Pt:64:G:H1	0.77	0.61
5:L5:679:C:H2'	5:L5:680:G:H8	1.65	0.61
5:L5:2624:G:OP2	27:LU:97:ARG:NH2	2.32	0.61
5:L5:1739:G:N3	5:L5:1742:A:N6	2.48	0.61
66:Sg:107:ASP:HB2	66:Sg:125:ARG:HG3	1.82	0.61
82:Sa:8:ASN:ND2	85:S2:1861:G:OP1	2.33	0.61
85:S2:1536:G:H2'	85:S2:1537:A:H8	1.65	0.61
5:L5:1734:G:N2	5:L5:1735:U:O4	2.27	0.61
5:L5:2832:A:OP1	36:Ld:47:LYS:NZ	2.28	0.61
7:L8:58:G:N7	42:Lj:63:ARG:NH2	2.37	0.61
43:Lk:8:ILE:HD11	43:Lk:56:LEU:HD13	1.83	0.61
46:Ln:1:MET:HG3	85:S2:1706:G:H5'	1.81	0.61
66:Sg:32:LEU:HA	66:Sg:42:MET:HA	1.83	0.61
69:SC:72:ASP:OD2	69:SC:272:HIS:NE2	2.28	0.61
70:SE:146:THR:HG21	85:S2:122:G:H21	1.65	0.61
85:S2:1729:U:H3	85:S2:1805:G:H1	1.45	0.61
5:L5:99:A:H5''	20:LN:184:ILE:HD12	1.82	0.61
5:L5:4097:G:O6	5:L5:4098:A:N6	2.34	0.61
70:SE:125:LYS:O	70:SE:142:HIS:N	2.33	0.61
72:SH:160:LYS:HD3	72:SH:189:PHE:HB3	1.81	0.61
81:SY:34:THR:O	85:S2:570:C:O2'	2.17	0.61
1:CI:75:LYS:H	27:LU:117:ILE:C	2.09	0.61
5:L5:513:U:N3	5:L5:516:C:OP2	2.30	0.61
5:L5:1320:U:O2'	5:L5:1891:A:N1	2.32	0.61
53:SF:168:THR:OG1	53:SF:171:GLU:OE1	2.19	0.61
85:S2:557:U:H2'	85:S2:558:G:C8	2.36	0.61
4:AT:12:G:H22	4:AT:23:U:H3	1.49	0.61
71:SG:2:LYS:HB2	71:SG:108:VAL:HG12	1.83	0.61
71:SG:66:GLY:HA2	85:S2:1745:A:H1'	1.82	0.61
5:L5:1332:C:H2'	5:L5:1333:A:H8	1.66	0.61
5:L5:2484:A:H62	5:L5:2494:U:H3	1.49	0.61
5:L5:4618:OMG:H5'	28:LV:15:ARG:HB2	1.83	0.61
70:SE:88:ASP:OD1	70:SE:122:LYS:NZ	2.24	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SI:25:ARG:HA	85:S2:448:A:H5''	1.81	0.61
3:CF:201:MET:HG3	3:CF:228:LEU:HD12	1.83	0.60
5:L5:3949:A:N1	5:L5:4064:C:N4	2.34	0.60
29:LW:80:ARG:NH2	71:SG:8:PRO:O	2.33	0.60
55:SM:96:ARG:NH2	55:SM:100:PRO:O	2.34	0.60
5:L5:2613:C:OP1	39:Lg:24:ARG:NH2	2.34	0.60
71:SG:176:ILE:HG12	71:SG:179:LEU:HD11	1.83	0.60
71:SG:183:ARG:HH12	85:S2:316:G:H5''	1.66	0.60
71:SG:191:ARG:HH12	85:S2:312:G:H2'	1.66	0.60
5:L5:137:G:H2'	5:L5:138:G:H8	1.66	0.60
5:L5:1326:A2M:H2'	5:L5:1327:C:C6	2.36	0.60
64:Sd:2:GLY:N	85:S2:1271:C:O2	2.33	0.60
81:SY:76:TYR:OH	81:SY:86:GLU:OE1	2.18	0.60
85:S2:70:G:H21	85:S2:79:A:H62	1.49	0.60
5:L5:170:C:H42	5:L5:266:C:H42	1.49	0.60
5:L5:1942:A:H2'	5:L5:1943:A:C8	2.37	0.60
66:Sg:68:ASP:HB3	66:Sg:111:VAL:HG22	1.83	0.60
68:SB:171:ILE:HG22	68:SB:174:ARG:HE	1.66	0.60
74:SJ:11:LYS:NZ	85:S2:24:C:OP1	2.29	0.60
5:L5:1548:G:O2'	5:L5:2812:A:N3	2.32	0.60
6:L7:6:C:O2'	11:LD:50:ARG:NH2	2.35	0.60
85:S2:609:U:H2'	85:S2:610:G:H8	1.66	0.60
85:S2:1748:G:O6	85:S2:1786:U:O4	2.20	0.60
16:LI:87:MET:HG2	16:LI:138:ILE:HG12	1.83	0.60
69:SC:200:ARG:O	74:SJ:54:ARG:NH2	2.32	0.60
85:S2:1337:4AC:H2'	85:S2:1338:G:H8	1.66	0.60
85:S2:1550:G:H3'	85:S2:1579:A:H61	1.67	0.60
57:SQ:78:VAL:HG12	85:S2:1673:U:H5''	1.84	0.60
72:SH:51:ILE:HG21	72:SH:179:LYS:HG2	1.82	0.60
73:SI:106:SER:HB3	73:SI:171:LEU:HG	1.83	0.60
79:SW:2:VAL:N	85:S2:1091:C:HO2'	2.00	0.60
5:L5:2756:G:O6	32:LZ:51:ARG:NH2	2.29	0.60
9:LB:147:GLU:OE2	9:LB:198:ARG:NH2	2.34	0.60
67:SA:37:TYR:OH	78:SV:66:ASP:OD2	2.19	0.60
72:SH:165:ASN:O	72:SH:169:LYS:NZ	2.28	0.60
85:S2:1759:G:N2	85:S2:1760:G:O6	2.33	0.60
5:L5:158:A:N1	5:L5:276:C:O2'	2.32	0.60
7:L8:111:U:OP2	44:LI:8:ARG:NH1	2.35	0.60
10:LC:141:GLY:O	10:LC:204:ARG:NH1	2.30	0.60
57:SQ:19:ALA:HB2	57:SQ:75:GLY:HA3	1.84	0.60
85:S2:1013:U:OP1	85:S2:1129:G:O2'	2.19	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:1100:U:O3'	5:L5:1167:C:N4	2.35	0.60
5:L5:3717:A:H2'	5:L5:3718:A2M:C8	2.31	0.60
5:L5:4279:A:H5'	5:L5:4281:A:H1'	1.84	0.60
51:Lt:18:THR:O	51:Lt:61:LYS:NZ	2.35	0.60
5:L5:4897:G:OP1	19:LM:128:LYS:NZ	2.35	0.59
10:LC:110:ARG:O	10:LC:113:ARG:NH1	2.32	0.59
11:LD:120:GLU:O	11:LD:248:ARG:NH1	2.35	0.59
70:SE:49:ARG:NH2	85:S2:496:C:OP1	2.32	0.59
75:SL:133:PRO:O	85:S2:383:G:O2'	2.20	0.59
9:LB:113:GLU:OE2	9:LB:169:ARG:NH1	2.34	0.59
52:SD:40:ARG:NH2	61:SU:106:ILE:O	2.35	0.59
65:Sf:89:LYS:NZ	65:Sf:90:LYS:O	2.33	0.59
66:Sg:40:ILE:HB	66:Sg:59:LEU:HB2	1.83	0.59
69:SC:267:GLN:OE1	78:SV:35:ASN:ND2	2.35	0.59
72:SH:162:GLN:HE22	72:SH:166:VAL:HB	1.66	0.59
5:L5:758:G:H4'	15:LH:51:LYS:HE3	1.84	0.59
20:LN:146:PRO:HB2	40:Lh:104:THR:HG23	1.83	0.59
44:Ll:28:ARG:HA	44:Ll:33:ASN:HD22	1.66	0.59
5:L5:4274:A:H2'	5:L5:4275:G:C8	2.37	0.59
5:L5:4537:C:H2'	5:L5:4538:G:H8	1.66	0.59
53:SF:30:ILE:HG23	53:SF:117:ILE:HD11	1.84	0.59
5:L5:88:A:N7	23:LQ:173:LYS:NZ	2.50	0.59
5:L5:1759:G:H1	5:L5:1773:U:H3	1.50	0.59
11:LD:223:PHE:HB3	11:LD:226:TYR:HB2	1.85	0.59
49:Lr:26:SER:OG	49:Lr:28:GLU:OE1	2.17	0.59
50:Ls:68:HIS:O	50:Ls:71:ASN:ND2	2.36	0.59
70:SE:144:ALA:HB3	85:S2:121:OMU:HM23	1.85	0.59
85:S2:508:A:H3'	85:S2:509:OMG:H8	1.65	0.59
85:S2:1854:U:H2'	85:S2:1855:G:H8	1.66	0.59
5:L5:378:A:O2'	5:L5:413:G:N2	2.35	0.59
7:L8:93:C:HO2'	7:L8:94:G:H8	1.49	0.59
17:LJ:136:ARG:NH2	17:LJ:161:GLU:OE2	2.32	0.59
26:LT:43:LYS:O	26:LT:58:HIS:ND1	2.35	0.59
59:SS:5:ILE:N	62:SZ:50:PHE:O	2.35	0.59
69:SC:227:ARG:NH2	85:S2:663:C:O2'	2.35	0.59
85:S2:695:C:N4	85:S2:736:C:O2'	2.36	0.59
3:CF:108:GLN:HE22	3:CF:251:GLN:HG3	1.66	0.59
5:L5:267:G:OP1	40:Lh:109:ARG:NH2	2.36	0.59
5:L5:4910:G:N2	21:LO:106:ASP:O	2.36	0.59
54:SK:8:ARG:NH2	85:S2:1314:U:O2'	2.36	0.59
70:SE:45:ILE:HG13	70:SE:61:VAL:HG11	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:SW:107:SER:HB2	85:S2:860:G:H21	1.66	0.59
5:L5:1933:G:H2'	5:L5:1934:A:C8	2.38	0.59
5:L5:3664:G:H2'	5:L5:3665:G:H8	1.68	0.59
5:L5:4725:C:OP1	9:LB:103:LYS:NZ	2.34	0.59
16:LI:14:ASN:O	16:LI:128:ARG:NH2	2.26	0.59
51:Lt:114:ARG:NH2	51:Lt:126:SER:OG	2.36	0.59
52:SD:161:GLY:HA3	85:S2:1388:A:H61	1.68	0.59
55:SM:51:VAL:HG12	55:SM:77:ILE:HB	1.84	0.59
63:Sc:66:ARG:HH12	63:Sc:68:LEU:HD23	1.68	0.59
67:SA:22:GLY:O	67:SA:24:HIS:ND1	2.36	0.59
1:CI:50:MET:HG3	27:LU:114:TYR:CE2	2.37	0.59
5:L5:1866:U:OP1	16:LI:4:ARG:NH1	2.35	0.59
17:LJ:141:ILE:HA	17:LJ:144:LYS:HD2	1.84	0.59
25:LS:95:ARG:NH2	25:LS:112:ASP:OD2	2.36	0.59
85:S2:482:G:N1	85:S2:485:A:OP2	2.34	0.59
2:Pt:20(A):U:O4'	17:LJ:58:ARG:NH2	2.36	0.58
5:L5:966:A:OP2	5:L5:2092:G:N2	2.34	0.58
69:SC:176:LYS:O	69:SC:200:ARG:NH2	2.35	0.58
5:L5:1704:C:O3'	13:LF:46:ARG:NH1	2.36	0.58
5:L5:3666:C:OP1	8:LA:234:LYS:NZ	2.29	0.58
85:S2:1829:G:H1'	85:S2:1850:MA6:H2	1.84	0.58
71:SG:170:ARG:NH1	85:S2:72:C:O2	2.36	0.58
5:L5:1500:A:H5''	5:L5:1501:C:H5''	1.85	0.58
5:L5:2899:C:OP1	24:LR:108:ARG:NH2	2.36	0.58
5:L5:3822:PSU:OP1	87:L5:5291:SPM:N5	2.29	0.58
61:SU:85:HIS:ND1	85:S2:1447:G:OP1	2.36	0.58
85:S2:874:G:H2'	85:S2:875:A:H8	1.68	0.58
85:S2:981:A:H2'	85:S2:982:G:C8	2.38	0.58
5:L5:3732:A:H2'	5:L5:3733:A:H8	1.69	0.58
49:Lr:38:PHE:O	49:Lr:45:HIS:NE2	2.30	0.58
51:Lt:77:ALA:HB3	51:Lt:80:LEU:HB2	1.85	0.58
3:CF:11:VAL:HG12	3:CF:90:ILE:HB	1.85	0.58
5:L5:1979:A:N6	5:L5:1984:A:OP1	2.36	0.58
51:Lt:12:VAL:HG11	51:Lt:65:GLN:H	1.67	0.58
60:ST:65:TYR:HE1	60:ST:128:GLN:HG3	1.69	0.58
85:S2:795:A:H2'	85:S2:796:G:C8	2.39	0.58
5:L5:3799:A:N3	5:L5:4506:C:O2'	2.32	0.58
5:L5:4088:C:OP1	8:LA:37:ARG:NH1	2.36	0.58
5:L5:4098:A:H2'	5:L5:4099:G:H4'	1.85	0.58
11:LD:41:LYS:NZ	26:LT:32:ARG:O	2.35	0.58
29:LW:56:ARG:HH21	29:LW:61:LYS:HB3	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:49:C:H2'	85:S2:472:C:H41	1.68	0.58
85:S2:1240:A:N3	85:S2:1267:C:O2'	2.33	0.58
5:L5:1741:G:O6	6:L7:103:A:O2'	2.19	0.58
5:L5:1857:C:H2'	5:L5:1858:A:H8	1.68	0.58
5:L5:4986:G:H1'	9:LB:174:ARG:HH21	1.68	0.58
8:LA:101:VAL:HG22	8:LA:165:VAL:HG22	1.85	0.58
16:LI:21:ARG:O	16:LI:24:ARG:NH1	2.37	0.58
69:SC:121:ARG:HH12	69:SC:123:ARG:HE	1.52	0.58
14:LG:180:PRO:HG3	14:LG:219:VAL:HG13	1.85	0.58
60:ST:126:GLN:HB2	60:ST:129:ARG:HH21	1.68	0.58
77:SO:134:PRO:HB3	85:S2:944:A:H5''	1.85	0.58
5:L5:4472:G:O2'	45:Lm:100:TYR:O	2.21	0.57
61:SU:20:ILE:HG22	61:SU:116:ILE:HG22	1.85	0.57
62:SZ:99:LEU:HD21	62:SZ:102:LYS:HB2	1.86	0.57
79:SW:71:LYS:NZ	85:S2:1156:U:OP1	2.37	0.57
85:S2:1096:G:H1	85:S2:1136:U:H3	1.50	0.57
85:S2:1286:G:N2	85:S2:1312:G:O2'	2.36	0.57
10:LC:218:ILE:HA	10:LC:229:LEU:HD22	1.86	0.57
52:SD:15:GLY:HA3	64:Sd:50:ILE:HG23	1.86	0.57
57:SQ:3:SER:OG	57:SQ:4:LYS:N	2.36	0.57
67:SA:89:LYS:HD2	67:SA:201:LEU:HG	1.84	0.57
4:AT:51:U:O4	4:AT:65:G:O6	2.21	0.57
5:L5:4094:G:N2	5:L5:4115:G:OP2	2.37	0.57
5:L5:4413:C:O2	16:LI:158:LYS:NZ	2.37	0.57
66:Sg:63:SER:HB2	85:S2:1398:G:H1'	1.86	0.57
71:SG:2:LYS:HD3	71:SG:15:LEU:HD21	1.86	0.57
85:S2:1528:G:O2'	85:S2:1666:C:OP1	2.22	0.57
5:L5:4301:U:OP2	5:L5:4303:C:N4	2.37	0.57
7:L8:67:U:H2'	7:L8:68:G:H8	1.70	0.57
9:LB:378:ARG:HE	29:LW:32:LEU:HD21	1.68	0.57
22:LP:18:ARG:NH2	22:LP:147:GLU:OE1	2.37	0.57
72:SH:20:GLU:HG2	72:SH:48:ALA:HB3	1.86	0.57
80:SX:68:LYS:NZ	85:S2:616:A:OP1	2.37	0.57
5:L5:4153:C:H5''	30:LX:38:LYS:HD2	1.87	0.57
45:Lm:99:CYS:HB2	45:Lm:114:LYS:HE3	1.86	0.57
72:SH:34:SER:OG	72:SH:78:ARG:NH2	2.36	0.57
75:SL:35:ARG:NH2	75:SL:55:TYR:O	2.37	0.57
4:AT:67:C:H2'	4:AT:68:G:H8	1.69	0.57
5:L5:1339:U:H2'	5:L5:1340:OMC:C6	2.39	0.57
5:L5:4095:G:N7	5:L5:4096:C:N4	2.52	0.57
18:LL:64:VAL:HA	18:LL:67:HIS:CD2	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SS:46:ARG:NH1	60:ST:50:GLU:OE2	2.38	0.57
85:S2:84:A:N3	85:S2:150:A:O2'	2.37	0.57
85:S2:888:U:H4'	85:S2:889:U:H5'	1.86	0.57
5:L5:1932:A:OP1	21:LO:49:ARG:NH2	2.26	0.57
5:L5:3611:A:H2	5:L5:5016:A:H8	1.52	0.57
5:L5:4274:A:H2'	5:L5:4275:G:H8	1.70	0.57
5:L5:4775:C:H41	5:L5:4859:C:H42	1.52	0.57
51:Lt:65:GLN:HG3	51:Lt:67:ARG:H	1.68	0.57
85:S2:533:A:H61	85:S2:550:C:H42	1.52	0.57
2:Pt:33:U:N3	2:Pt:36:C:OP2	2.33	0.57
3:CF:72:THR:HB	3:CF:93:PRO:HA	1.86	0.57
5:L5:2516:G:O2'	39:Lg:62:LYS:NZ	2.38	0.57
5:L5:5064:G:H21	22:LP:75:GLN:HE22	1.52	0.57
10:LC:298:ILE:HD13	23:LQ:131:PRO:HB3	1.87	0.57
21:LO:9:LEU:HD23	21:LO:118:MET:HB2	1.87	0.57
57:SQ:97:GLN:HE21	66:Sg:58:ALA:HB3	1.69	0.57
60:ST:22:LEU:HG	60:ST:28:LEU:HD21	1.87	0.57
66:Sg:176:VAL:HG23	66:Sg:185:LYS:HB2	1.86	0.57
85:S2:1589:A:N3	85:S2:1653:U:O2'	2.38	0.57
3:CF:132:GLN:O	3:CF:136:HIS:ND1	2.29	0.57
5:L5:513:U:H3'	5:L5:514:U:H4'	1.87	0.57
5:L5:4107:G:N2	5:L5:4108:G:O6	2.36	0.57
66:Sg:216:ALA:N	66:Sg:230:LEU:O	2.37	0.57
75:SL:33:LEU:HD12	75:SL:34:PRO:HD2	1.87	0.57
85:S2:1354:G:N2	85:S2:1357:A:OP2	2.29	0.57
3:CF:273:LYS:HE2	3:CF:301:GLU:HG2	1.87	0.57
9:LB:17:LEU:O	9:LB:19:ARG:N	2.37	0.57
11:LD:152:ARG:O	11:LD:157:ASN:ND2	2.38	0.57
15:LH:187:VAL:HG12	15:LH:188:GLN:HG3	1.87	0.57
55:SM:63:LYS:HD3	55:SM:64:LEU:HD22	1.86	0.57
65:Sf:144:CYS:HB2	65:Sf:146:LEU:HD23	1.87	0.57
85:S2:1536:G:H2'	85:S2:1537:A:C8	2.40	0.57
5:L5:1727:U:OP1	13:LF:131:ASN:ND2	2.37	0.56
29:LW:7:SER:HB2	29:LW:13:ILE:HD11	1.86	0.56
45:Lm:79:GLU:OE2	45:Lm:81:SER:OG	2.23	0.56
5:L5:1628:C:OP1	8:LA:14:SER:OG	2.23	0.56
9:LB:10:ARG:NH2	9:LB:265:SER:O	2.38	0.56
24:LR:92:LYS:HG2	24:LR:96:MET:HE3	1.87	0.56
66:Sg:129:ILE:HB	66:Sg:142:VAL:HB	1.87	0.56
72:SH:157:HIS:HB3	72:SH:190:PRO:HG3	1.87	0.56
85:S2:1144:A:H5'	85:S2:1355:C:H41	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:184:U:O2'	5:L5:189:G:O4'	2.23	0.56
5:L5:2568:C:H2'	5:L5:2569:G:H8	1.71	0.56
5:L5:4238:G:H2'	5:L5:4239:A:H8	1.71	0.56
64:Sd:12:ARG:NH1	85:S2:1513:C:OP1	2.27	0.56
66:Sg:120:ILE:HB	66:Sg:132:TRP:HB2	1.86	0.56
68:SB:40:ASN:HD21	68:SB:76:ASN:HB2	1.69	0.56
71:SG:162:LEU:HG	71:SG:167:LYS:HE3	1.86	0.56
71:SG:191:ARG:HH22	85:S2:312:G:H2'	1.70	0.56
72:SH:111:LYS:HE3	85:S2:796:G:H21	1.69	0.56
74:SJ:145:PRO:HD2	85:S2:522:A:H5''	1.87	0.56
85:S2:1606:G:N1	85:S2:1632:G:O2'	2.32	0.56
5:L5:2007:G:H21	5:L5:2012:A:H62	1.52	0.56
55:SM:91:LEU:HD12	55:SM:106:CYS:HB2	1.88	0.56
62:SZ:58:LEU:HD12	62:SZ:62:VAL:HG21	1.85	0.56
66:Sg:164:ILE:HG22	66:Sg:178:ASN:HA	1.86	0.56
85:S2:368:U:H3'	85:S2:369:C:H2'	1.88	0.56
85:S2:1277:C:H2'	85:S2:1278:A:C8	2.39	0.56
85:S2:1581:C:H5'	85:S2:1582:C:H5	1.71	0.56
4:AT:67:C:H2'	4:AT:68:G:C8	2.40	0.56
5:L5:327:U:O2'	41:Li:30:ARG:NH1	2.38	0.56
5:L5:1279:A:OP1	12:LE:131:LYS:NZ	2.38	0.56
5:L5:1969:G:H4'	50:Ls:36:GLY:HA2	1.87	0.56
5:L5:2411:C:H2'	5:L5:2412:A:C8	2.41	0.56
5:L5:2745:A:H2'	5:L5:2746:A:H8	1.71	0.56
5:L5:3736:A:H2'	5:L5:3737:A:C8	2.40	0.56
5:L5:4340:U:O2	88:L5:5261:SPD:N10	2.39	0.56
26:LT:44:GLY:HA2	26:LT:95:HIS:HB3	1.88	0.56
52:SD:162:ASP:OD1	52:SD:165:ASN:ND2	2.35	0.56
68:SB:99:ASN:OD1	68:SB:100:PHE:N	2.39	0.56
68:SB:122:GLU:HG2	68:SB:140:VAL:HG12	1.87	0.56
85:S2:436:OMG:OP2	85:S2:471:G:O2'	2.23	0.56
2:Pt:50:U:O2	2:Pt:64:G:N2	2.21	0.56
5:L5:1283:G:N1	5:L5:2076:G:OP1	2.30	0.56
5:L5:4347:G:H2'	5:L5:4348:A:C8	2.41	0.56
9:LB:161:ARG:HG2	9:LB:184:GLN:HA	1.88	0.56
73:SI:150:ASP:HA	73:SI:153:LYS:HG2	1.88	0.56
79:SW:3:ARG:HH22	79:SW:28:ARG:HH21	1.54	0.56
85:S2:1010:G:H2'	85:S2:1011:A:C8	2.41	0.56
85:S2:1513:C:H2'	85:S2:1514:G:H8	1.69	0.56
85:S2:1736:G:H2'	85:S2:1737:G:H8	1.71	0.56
55:SM:28:HIS:CE1	55:SM:115:GLY:HA3	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:Sg:21:ILE:HG21	66:Sg:299:PHE:HB2	1.88	0.56
66:Sg:213:ASP:OD2	66:Sg:215:GLN:NE2	2.39	0.56
77:SO:15:ILE:HG23	77:SO:16:SER:H	1.71	0.56
5:L5:1095:A:N1	5:L5:1200:G:O6	2.39	0.56
5:L5:1703:C:O2'	5:L5:1704:C:O4'	2.20	0.56
5:L5:2580:U:OP1	32:LZ:36:ARG:NH1	2.33	0.56
42:Lj:2:THR:HB	42:Lj:6:SER:HB2	1.88	0.56
42:Lj:14:LYS:NZ	44:Ll:51:LEU:OXT	2.38	0.56
81:SY:119:GLY:HA2	85:S2:85:A:H5'	1.88	0.56
85:S2:159:A2M:H2	85:S2:467:G:H21	1.71	0.56
5:L5:2910:G:N2	5:L5:3585:G:O2'	2.38	0.56
11:LD:232:THR:OG1	11:LD:234:ASP:OD1	2.22	0.56
17:LJ:83:LEU:HD22	17:LJ:132:VAL:HG11	1.87	0.56
18:LL:111:GLN:HA	18:LL:114:VAL:HG22	1.88	0.56
3:CF:58:TRP:HA	3:CF:61:ASP:HB2	1.86	0.56
4:AT:63:C:H2'	4:AT:64:G:H8	1.71	0.56
5:L5:3633:C:OP1	87:L5:5291:SPM:N10	2.39	0.56
5:L5:5023:C:OP2	73:SI:124:LYS:NZ	2.39	0.56
17:LJ:17:ILE:HD12	17:LJ:80:GLU:HG2	1.88	0.56
52:SD:99:ILE:HG23	52:SD:173:ARG:HH21	1.70	0.56
59:SS:109:GLU:HA	59:SS:112:GLU:HG2	1.88	0.56
85:S2:1347:U:H2'	85:S2:1348:G:N3	2.21	0.56
1:CI:50:MET:HG3	27:LU:114:TYR:CD2	2.41	0.55
5:L5:1346:C:H2'	5:L5:1347:G:H8	1.71	0.55
5:L5:4537:C:H2'	5:L5:4538:G:C8	2.40	0.55
5:L5:268:G:H2'	5:L5:269:G:H8	1.70	0.55
5:L5:2362:U:H2'	5:L5:2363:A2M:H8	1.87	0.55
5:L5:4302:U:H4'	26:LT:5:LYS:HD3	1.86	0.55
85:S2:28:U:H2'	85:S2:29:G:H8	1.72	0.55
5:L5:239:C:OP1	31:LY:46:SER:OG	2.24	0.55
5:L5:1241:C:O2'	34:Lb:120:ARG:O	2.23	0.55
21:LO:54:TYR:CD1	21:LO:145:VAL:HG21	2.42	0.55
25:LS:68:PHE:O	25:LS:70:LYS:NZ	2.40	0.55
15:LH:120:GLU:OE2	15:LH:124:ARG:NH1	2.31	0.55
50:Ls:120:GLU:HB3	50:Ls:163:THR:HG22	1.87	0.55
81:SY:41:ARG:HH21	81:SY:53:ASP:HA	1.72	0.55
5:L5:1480:C:O2'	5:L5:1482:G:OP2	2.24	0.55
5:L5:3615:G:H1'	29:LW:44:ARG:HD3	1.89	0.55
5:L5:4281:A:H2'	5:L5:4282:A:H2'	1.88	0.55
21:LO:62:MET:HE2	21:LO:64:THR:HB	1.88	0.55
38:Lf:43:LEU:O	38:Lf:109:ARG:NH2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SA:37:TYR:OH	67:SA:57:LYS:NZ	2.39	0.55
71:SG:133:LEU:HD12	85:S2:65:C:C4	2.42	0.55
74:SJ:124:HIS:HD2	84:Se:31:ARG:HE	1.55	0.55
5:L5:667:A:H5''	5:L5:668:C:H5''	1.88	0.55
5:L5:2876:OMG:HM22	5:L5:2877:G:H5'	1.88	0.55
5:L5:4670:C:O2'	5:L5:4672:A:OP2	2.22	0.55
85:S2:1101:U:H2'	85:S2:1102:G:C8	2.42	0.55
85:S2:1422:G:H4'	85:S2:1423:C:H3'	1.88	0.55
4:AT:14:A:H3'	4:AT:15:G:H8	1.72	0.55
5:L5:2744:A:H2'	5:L5:2745:A:C8	2.41	0.55
8:LA:118:GLU:OE2	8:LA:156:LYS:NZ	2.40	0.55
9:LB:165:HIS:HB3	9:LB:180:LEU:HD23	1.88	0.55
13:LF:127:LYS:HB2	26:LT:133:ALA:HB3	1.88	0.55
17:LJ:84:GLU:OE2	17:LJ:92:TYR:OH	2.22	0.55
72:SH:31:GLU:HA	72:SH:37:LYS:HG3	1.89	0.55
81:SY:80:ASP:OD1	81:SY:81:TYR:N	2.40	0.55
81:SY:119:GLY:O	85:S2:84:A:O2'	2.23	0.55
83:Sb:62:VAL:HG23	83:Sb:74:THR:HG21	1.89	0.55
85:S2:1171:G:O2'	85:S2:1187:G:O6	2.21	0.55
85:S2:1203:G:H2'	85:S2:1204:A:H8	1.72	0.55
3:CF:281:ALA:HB2	3:CF:334:PRO:HB2	1.89	0.55
4:AT:15:G:N2	4:AT:49:C:C2	2.75	0.55
5:L5:502:C:H3'	5:L5:503:C:H3'	1.89	0.55
5:L5:2324:C:O2'	37:Le:98:GLU:OE1	2.24	0.55
16:LI:66:GLU:OE2	16:LI:69:ARG:NH2	2.27	0.55
38:Lf:78:HIS:HB3	38:Lf:83:MET:HB3	1.89	0.55
55:SM:118:SER:O	55:SM:121:LYS:NZ	2.39	0.55
68:SB:186:ASN:HA	68:SB:189:ILE:HD12	1.89	0.55
5:L5:1281:G:N1	12:LE:128:HIS:HB2	2.21	0.55
5:L5:1294:A:H1'	5:L5:1296:G:C2	2.42	0.55
5:L5:4419:U:OP1	5:L5:4475:G:N2	2.38	0.55
39:Lg:41:ALA:O	39:Lg:52:ARG:NH1	2.37	0.55
60:ST:121:ARG:HH21	85:S2:1563:G:H5''	1.72	0.55
67:SA:10:MET:HE3	67:SA:55:TRP:HB2	1.89	0.55
71:SG:7:PHE:HD2	71:SG:10:THR:HG22	1.71	0.55
3:CF:162:TYR:HB3	3:CF:208:MET:HB3	1.89	0.54
4:AT:16:C:O2'	4:AT:19:G:OP1	2.24	0.54
5:L5:2000:G:O2'	5:L5:2001:G:N7	2.40	0.54
5:L5:3654:G:O2'	5:L5:3693:U:OP1	2.25	0.54
11:LD:41:LYS:NZ	26:LT:30:TYR:O	2.30	0.54
47:Lo:78:ARG:O	47:Lo:80:LYS:NZ	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SQ:142:GLN:NE2	85:S2:1527:C:OP1	2.30	0.54
71:SG:20:ASP:HB3	71:SG:23:LYS:HB2	1.89	0.54
71:SG:31:ARG:NH1	85:S2:1745:A:O3'	2.40	0.54
76:SN:70:LYS:NZ	85:S2:1020:A:N7	2.55	0.54
85:S2:604:A:N3	85:S2:639:C:O2'	2.38	0.54
85:S2:1259:A:H1'	85:S2:1264:C:H42	1.70	0.54
5:L5:1669:A:H4'	5:L5:1685:G:N2	2.22	0.54
59:SS:105:ASN:HB2	59:SS:108:ARG:HH21	1.72	0.54
59:SS:121:ARG:HG3	59:SS:131:VAL:HB	1.88	0.54
67:SA:118:GLU:HG3	69:SC:65:LYS:HE2	1.88	0.54
85:S2:878:G:H22	85:S2:908:A:H2	1.55	0.54
85:S2:1337:4AC:H2'	85:S2:1338:G:C8	2.42	0.54
2:Pt:23:C:H2'	2:Pt:24:A:C8	2.43	0.54
5:L5:4775:C:H41	5:L5:4859:C:N4	2.06	0.54
26:LT:119:ALA:HA	26:LT:122:LYS:HE3	1.88	0.54
47:Lo:33:LEU:HA	47:Lo:38:LYS:HG2	1.89	0.54
5:L5:965:G:H21	5:L5:2092:G:H1'	1.72	0.54
5:L5:3688:U:OP2	8:LA:198:ARG:NH2	2.39	0.54
5:L5:3861:A:H2'	5:L5:3862:A:C8	2.42	0.54
5:L5:3868:G:H22	5:L5:3900:G:H1'	1.73	0.54
5:L5:3946:G:O6	5:L5:4067:U:O4	2.25	0.54
5:L5:4126:C:OP1	14:LG:37:LYS:NZ	2.40	0.54
7:L8:75:OMG:OP2	31:LY:74:TYR:OH	2.22	0.54
9:LB:92:TYR:HB3	9:LB:99:LEU:HD22	1.90	0.54
52:SD:28:GLU:OE2	52:SD:65:ARG:NH2	2.41	0.54
52:SD:32:ASP:OD1	52:SD:57:ASN:ND2	2.40	0.54
68:SB:32:ASP:OD1	68:SB:46:LYS:NZ	2.38	0.54
77:SO:135:ILE:O	85:S2:943:U:O2'	2.26	0.54
85:S2:145:G:H2'	85:S2:146:G:C8	2.42	0.54
5:L5:935:A:O2'	19:LM:44:GLN:O	2.26	0.54
5:L5:1324:A:O2'	5:L5:1326:A2M:OP1	2.24	0.54
5:L5:2017:A:O2'	5:L5:2018:C:O5'	2.24	0.54
5:L5:2637:U:OP1	39:Lg:28:ASN:ND2	2.37	0.54
5:L5:4239:A:H2'	5:L5:4240:G:C8	2.42	0.54
53:SF:124:ASP:OD1	53:SF:125:SER:N	2.30	0.54
85:S2:1677:U:H2'	85:S2:1678:A:H8	1.73	0.54
4:AT:18:G:H21	4:AT:59:A:H5'	1.73	0.54
5:L5:417:G:OP1	5:L5:2329:U:O2'	2.25	0.54
5:L5:1396:G:N7	33:La:110:LYS:NZ	2.51	0.54
5:L5:3798:U:OP2	28:LV:74:LYS:NZ	2.40	0.54
22:LP:118:GLN:OE1	22:LP:120:ASN:ND2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Lp:38:THR:HA	48:Lp:45:THR:HA	1.90	0.54
5:L5:1258:G:H2'	5:L5:1259:G:C8	2.42	0.54
5:L5:2520:C:H2'	5:L5:2521:G:H8	1.72	0.54
14:LG:157:ILE:HA	14:LG:201:THR:HG22	1.89	0.54
58:SR:109:LEU:HD13	67:SA:52:LYS:HB2	1.89	0.54
60:ST:62:ARG:NH2	85:S2:1543:U:OP2	2.33	0.54
80:SX:17:ARG:HH12	85:S2:659:G:H21	1.56	0.54
85:S2:543:C:H3'	85:S2:544:G:H8	1.71	0.54
85:S2:1115:U:O2'	85:S2:1117:C:OP2	2.24	0.54
3:CF:215:LYS:NZ	3:CF:216:VAL:O	2.41	0.54
5:L5:1514:U:H2'	5:L5:1515:A:C8	2.42	0.54
71:SG:13:GLN:NE2	85:S2:153:G:N3	2.56	0.54
5:L5:654:C:O3'	10:LC:268:ARG:NH1	2.39	0.54
5:L5:1509:C:H5''	33:La:2:PRO:HD3	1.90	0.54
57:SQ:42:ILE:HG23	57:SQ:44:PRO:HD2	1.89	0.54
60:ST:101:ARG:NH2	85:S2:1566:G:N7	2.54	0.54
5:L5:1305:C:OP1	7:L8:7:U:O2'	2.25	0.54
5:L5:2411:C:H2'	5:L5:2412:A:H8	1.71	0.54
5:L5:4220:6MZ:O5'	5:L5:4220:6MZ:H8	2.08	0.54
5:L5:4238:G:H2'	5:L5:4239:A:C8	2.42	0.54
8:LA:229:ALA:HB3	8:LA:234:LYS:HB3	1.89	0.54
12:LE:261:ILE:HG23	12:LE:267:LEU:HD23	1.90	0.54
67:SA:120:ARG:HD2	69:SC:266:TYR:HB3	1.89	0.54
85:S2:1208:A:H2'	85:S2:1209:A:H8	1.73	0.54
5:L5:5002:U:OP2	9:LB:385:LYS:NZ	2.38	0.53
12:LE:161:ARG:NH1	12:LE:273:SER:OG	2.40	0.53
59:SS:130:ARG:NH2	85:S2:1230:C:OP1	2.41	0.53
66:Sg:37:ASP:OD1	66:Sg:39:THR:OG1	2.23	0.53
71:SG:136:LYS:NZ	71:SG:175:LYS:O	2.30	0.53
85:S2:866:PSU:H2'	85:S2:867:OMG:C8	2.43	0.53
5:L5:518:G:H1	5:L5:643:C:H2'	1.73	0.53
5:L5:1818:G:O2'	5:L5:1820:C:OP2	2.22	0.53
5:L5:2745:A:H2'	5:L5:2746:A:C8	2.44	0.53
5:L5:4149:C:OP1	32:LZ:59:LYS:N	2.40	0.53
27:LU:28:PRO:HB2	27:LU:34:MET:HG3	1.90	0.53
50:Ls:13:TYR:O	50:Ls:17:ILE:HG12	2.08	0.53
53:SF:127:ARG:HG2	53:SF:136:ARG:HB2	1.89	0.53
60:ST:84:ARG:NH1	85:S2:1605:G:OP1	2.32	0.53
65:Sf:103:LEU:HB2	65:Sf:105:TYR:CE2	2.43	0.53
85:S2:752:G:OP2	85:S2:752:G:N2	2.34	0.53
5:L5:85:G:O2'	5:L5:97:G:O6	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:121:A:OP1	14:LG:110:LYS:NZ	2.32	0.53
5:L5:2846:G:O2'	28:LV:19:GLY:O	2.20	0.53
5:L5:4769:G:OP1	21:LO:176:ARG:NH1	2.34	0.53
5:L5:4860:G:H5'	21:LO:169:ARG:HD2	1.90	0.53
53:SF:141:VAL:HG12	63:Sc:47:LYS:HG2	1.89	0.53
70:SE:10:LYS:NZ	85:S2:95:G:OP1	2.33	0.53
72:SH:144:ILE:HG23	72:SH:154:ILE:HG13	1.90	0.53
85:S2:5:U:H2'	85:S2:6:G:H8	1.73	0.53
85:S2:1610:G:O6	85:S2:1630:A:N6	2.42	0.53
5:L5:121:A:H62	5:L5:152:U:H3	1.56	0.53
5:L5:433:A:C2	5:L5:3867:A2M:H4'	2.43	0.53
5:L5:1333:A:H2'	5:L5:1334:A:C8	2.43	0.53
5:L5:1837:A:OP2	26:LT:130:ARG:NH1	2.42	0.53
5:L5:1994:C:H2'	5:L5:1995:G:H8	1.74	0.53
5:L5:2521:G:H4'	39:Lg:26:PRO:HD2	1.89	0.53
5:L5:4940:C:H5'	5:L5:4941:G:H5''	1.89	0.53
5:L5:4967:A:H2'	5:L5:4968:A:H8	1.72	0.53
71:SG:1:MET:HE2	71:SG:106:LEU:HB2	1.91	0.53
71:SG:3:LEU:HD23	71:SG:109:LEU:HB3	1.90	0.53
4:AT:3:C:H2'	4:AT:4:U:H6	1.73	0.53
5:L5:1177:U:O2'	11:LD:286:SER:OG	2.23	0.53
5:L5:1494:U:H2'	5:L5:1495:G:H8	1.72	0.53
5:L5:1802:A:N3	26:LT:130:ARG:NH2	2.54	0.53
5:L5:4260:U:H2'	5:L5:4261:C:C6	2.44	0.53
5:L5:4617:G:OP1	9:LB:62:ARG:NH1	2.37	0.53
21:LO:168:TYR:CE2	21:LO:172:LYS:HD2	2.44	0.53
77:SO:34:PHE:HB3	77:SO:41:PHE:HB2	1.90	0.53
85:S2:629:A:O2'	85:S2:631:U:OP1	2.27	0.53
5:L5:702:U:H2'	5:L5:703:G:O4'	2.09	0.53
9:LB:14:LEU:HD22	9:LB:17:LEU:HD11	1.88	0.53
11:LD:62:CYS:HB3	11:LD:105:LEU:HD22	1.89	0.53
85:S2:107:A:H2'	85:S2:108:G:C8	2.43	0.53
85:S2:587:A:H5'	85:S2:592:C:H41	1.74	0.53
85:S2:1201:U:H2'	85:S2:1202:U:C6	2.43	0.53
85:S2:1259:A:N6	85:S2:1519:U:O5'	2.41	0.53
85:S2:1360:U:O2'	85:S2:1379:A:OP2	2.27	0.53
85:S2:1736:G:H2'	85:S2:1737:G:C8	2.43	0.53
85:S2:1754:G:OP1	85:S2:1780:G:N2	2.41	0.53
85:S2:1773:C:H2'	85:S2:1774:C:H5''	1.91	0.53
5:L5:73:A:N7	18:LL:103:ARG:NH2	2.56	0.53
5:L5:223:G:OP2	10:LC:165:LYS:NZ	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:1667:G:N1	5:L5:2281:U:OP2	2.31	0.53
11:LD:64:ILE:HD13	11:LD:109:LEU:HD22	1.91	0.53
32:LZ:50:PRO:HD3	32:LZ:68:ILE:HG12	1.90	0.53
34:Lb:5:LYS:HE2	34:Lb:8:THR:HB	1.89	0.53
62:SZ:80:ARG:O	85:S2:1598:G:O2'	2.18	0.53
67:SA:77:ILE:HG13	67:SA:99:ILE:HB	1.91	0.53
80:SX:48:LYS:HB3	80:SX:75:ILE:HD12	1.90	0.53
41:Li:55:ARG:O	41:Li:59:GLU:HG2	2.09	0.53
72:SH:100:ILE:HG21	72:SH:122:LEU:HD12	1.91	0.53
81:SY:21:LYS:HE2	81:SY:75:ILE:HD11	1.90	0.53
85:S2:942:G:H2'	85:S2:943:U:C6	2.44	0.53
5:L5:325:U:H2'	5:L5:326:C:C6	2.44	0.53
5:L5:351:C:OP2	10:LC:197:ARG:NH1	2.31	0.53
17:LJ:22:LEU:HD22	17:LJ:128:LEU:HD12	1.91	0.53
51:Lt:114:ARG:NH1	51:Lt:126:SER:O	2.38	0.53
57:SQ:8:GLN:HG3	57:SQ:27:ARG:HE	1.74	0.53
69:SC:191:VAL:HG11	69:SC:236:PHE:HA	1.90	0.53
73:SI:126:GLY:O	73:SI:128:LYS:NZ	2.40	0.53
76:SN:64:ARG:NH2	85:S2:919:A:OP2	2.37	0.53
85:S2:588:G:OP2	85:S2:588:G:N2	2.36	0.53
85:S2:838:G:N1	85:S2:840:C:O2'	2.41	0.53
5:L5:717:U:H2'	5:L5:718:C:C6	2.44	0.53
5:L5:2102:G:H1'	5:L5:2103:G:C8	2.44	0.53
5:L5:4260:U:H2'	5:L5:4261:C:H6	1.74	0.53
11:LD:217:ASP:N	11:LD:217:ASP:OD1	2.42	0.53
19:LM:71:LYS:O	19:LM:75:GLN:HG3	2.09	0.53
67:SA:18:PHE:HD1	67:SA:23:THR:HG21	1.74	0.53
67:SA:42:LYS:HD2	67:SA:48:ILE:HD11	1.90	0.53
72:SH:10:LYS:NZ	72:SH:16:PRO:O	2.42	0.53
37:Le:108:ARG:HD2	37:Le:128:ARG:HB2	1.91	0.52
42:Lj:27:TYR:HA	42:Lj:34:CYS:HA	1.91	0.52
72:SH:87:PHE:HB3	72:SH:90:LYS:HD2	1.89	0.52
5:L5:305:A:OP2	20:LN:15:GLN:NE2	2.29	0.52
5:L5:1178:G:H2'	11:LD:286:SER:HB3	1.90	0.52
5:L5:1646:A:O2'	42:Lj:49:TRP:O	2.22	0.52
5:L5:1718:C:O2'	13:LF:181:LYS:NZ	2.41	0.52
23:LQ:15:ARG:NH1	23:LQ:52:PHE:O	2.39	0.52
64:Sd:8:TRP:HZ3	85:S2:1512:C:H5''	1.73	0.52
79:SW:111:MET:HE1	79:SW:119:LYS:HD2	1.92	0.52
85:S2:1777:G:H2'	85:S2:1778:C:H6	1.74	0.52
5:L5:364:G:O6	42:Lj:55:ARG:NH2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:1307:A:H2'	5:L5:1308:C:C6	2.43	0.52
5:L5:1577:G:O2'	5:L5:1612:G:H4'	2.09	0.52
5:L5:1802:A:H5''	5:L5:1803:G:H5'	1.90	0.52
5:L5:1961:G:N2	5:L5:2024:G:O2'	2.40	0.52
5:L5:2017:A:O2'	5:L5:2018:C:H6	1.92	0.52
5:L5:2848:G:O2'	5:L5:3838:U:O4	2.23	0.52
36:Ld:22:THR:HG23	36:Ld:122:VAL:HG13	1.92	0.52
43:Lk:26:LYS:HB2	43:Lk:69:LEU:HD12	1.91	0.52
3:CF:346:ILE:HD11	3:CF:394:LEU:HD13	1.91	0.52
7:L8:95:A:N3	40:Lh:63:GLN:NE2	2.57	0.52
28:LV:112:MET:SD	28:LV:135:ASN:ND2	2.73	0.52
52:SD:138:VAL:HG13	52:SD:182:LEU:HD21	1.91	0.52
85:S2:17:C:O2'	85:S2:1194:A:N1	2.36	0.52
85:S2:1098:C:H2'	85:S2:1099:G:C8	2.44	0.52
5:L5:300:A:H2'	5:L5:301:G:H8	1.74	0.52
19:LM:119:ARG:HG3	21:LO:189:ILE:HG23	1.90	0.52
47:Lo:2:VAL:N	47:Lo:90:HIS:O	2.42	0.52
5:L5:3661:G:N7	8:LA:152:SER:OG	2.39	0.52
5:L5:3707:U:H2'	5:L5:3708:C:C6	2.44	0.52
5:L5:4694:G:H4'	15:LH:71:ARG:HH12	1.74	0.52
11:LD:204:VAL:HB	11:LD:236:MET:HE1	1.91	0.52
39:Lg:44:SER:OG	39:Lg:46:CYS:SG	2.62	0.52
68:SB:144:LYS:HD3	68:SB:208:HIS:HB3	1.90	0.52
73:SI:89:GLU:OE1	73:SI:92:ARG:NH2	2.42	0.52
73:SI:98:LYS:HB3	85:S2:377:G:H5'	1.92	0.52
5:L5:180:C:H2'	5:L5:181:C:H6	1.74	0.52
5:L5:4441:A:H5''	16:LI:114:GLY:HA2	1.90	0.52
5:L5:4935:C:H2'	5:L5:4936:G:C8	2.45	0.52
65:Sf:107:LYS:NZ	65:Sf:108:VAL:O	2.42	0.52
65:Sf:133:ALA:HB3	65:Sf:140:TYR:HB3	1.92	0.52
71:SG:49:VAL:HB	71:SG:115:LYS:HG2	1.91	0.52
74:SJ:142:VAL:HG12	74:SJ:144:ILE:H	1.75	0.52
5:L5:2588:C:OP1	5:L5:2768:C:O2'	2.25	0.52
6:L7:52:C:O2'	6:L7:54:A:N7	2.40	0.52
14:LG:165:GLU:OE2	20:LN:26:ARG:NH1	2.40	0.52
54:SK:31:LYS:HZ3	54:SK:40:VAL:H	1.58	0.52
5:L5:152:U:OP2	20:LN:49:ARG:NH2	2.28	0.52
5:L5:1095:A:C2	5:L5:1200:G:N1	2.70	0.52
5:L5:1270:A:H8	5:L5:2106:G:H21	1.57	0.52
5:L5:2652:G:N1	48:Lp:58:GLY:O	2.40	0.52
5:L5:2764:A:H2'	5:L5:2765:A:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LM:38:VAL:HG21	19:LM:50:MET:HB3	1.92	0.52
69:SC:259:THR:HG23	78:SV:16:LYS:HZ3	1.75	0.52
85:S2:1845:A:H2'	85:S2:1846:G:C8	2.45	0.52
5:L5:3898:G:H5'	9:LB:254:ILE:HG13	1.92	0.52
25:LS:15:ARG:HD2	25:LS:25:PRO:HG2	1.92	0.52
65:Sf:124:ASP:OD1	65:Sf:124:ASP:N	2.43	0.52
66:Sg:260:ASP:O	66:Sg:264:LYS:N	2.43	0.52
70:SE:151:ASP:OD2	71:SG:216:ARG:NH2	2.42	0.52
71:SG:92:ARG:O	85:S2:453:C:O2'	2.21	0.52
5:L5:1100:U:H3	5:L5:1194:G:H1	1.58	0.51
12:LE:222:LEU:HB2	12:LE:237:LYS:HD2	1.91	0.51
12:LE:264:ILE:HD11	12:LE:267:LEU:HD22	1.91	0.51
28:LV:42:VAL:HB	28:LV:45:ILE:HG13	1.92	0.51
51:Lt:50:THR:OG1	51:Lt:72:GLU:OE1	2.24	0.51
66:Sg:107:ASP:OD2	66:Sg:125:ARG:NH1	2.43	0.51
73:SI:143:LYS:NZ	85:S2:202:G:OP1	2.43	0.51
85:S2:1643:U:H2'	85:S2:1644:C:C6	2.44	0.51
4:AT:27:G:H22	4:AT:45:A:H2	1.59	0.51
5:L5:1914:C:H4'	21:LO:89:PRO:HD3	1.92	0.51
5:L5:2318:G:N2	5:L5:2321:G:OP2	2.39	0.51
5:L5:4456:OMC:HM21	9:LB:241:PRO:HD3	1.91	0.51
9:LB:206:PRO:HG2	9:LB:209:GLN:HG3	1.91	0.51
61:SU:40:ILE:O	61:SU:44:LYS:HG2	2.11	0.51
70:SE:29:PRO:HA	85:S2:496:C:H5'	1.91	0.51
84:Se:41:ARG:HG3	84:Se:42:PHE:HD1	1.76	0.51
85:S2:889:U:OP2	85:S2:896:U:N3	2.43	0.51
5:L5:257:C:H2'	5:L5:258:G:C8	2.46	0.51
5:L5:1317:U:H2'	5:L5:1318:C:C6	2.45	0.51
5:L5:1971:C:O2	50:Ls:41:GLN:NE2	2.43	0.51
5:L5:3697:U:H5''	5:L5:3698:G:H5'	1.91	0.51
5:L5:4685:U:H2'	5:L5:4686:G:C8	2.46	0.51
18:LL:140:SER:HA	18:LL:143:GLU:HG2	1.92	0.51
31:LY:10:ASP:HB3	31:LY:13:LYS:HB2	1.93	0.51
53:SF:171:GLU:OE2	62:SZ:106:GLN:NE2	2.42	0.51
57:SQ:37:ARG:NH2	85:S2:1543:U:OP1	2.39	0.51
57:SQ:80:GLN:O	57:SQ:84:ILE:HG13	2.11	0.51
61:SU:70:CYS:SG	85:S2:1491:G:O2'	2.54	0.51
82:Sa:12:LYS:HG3	82:Sa:15:ARG:HB2	1.92	0.51
5:L5:1328:G:O2'	5:L5:2349:A:OP1	2.28	0.51
5:L5:4875:G:H5''	25:LS:170:LYS:HE3	1.93	0.51
5:L5:4967:A:H2'	5:L5:4968:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LB:95:THR:OG1	9:LB:98:GLY:O	2.22	0.51
23:LQ:154:LYS:NZ	23:LQ:159:PRO:O	2.37	0.51
55:SM:110:VAL:O	55:SM:112:LYS:NZ	2.41	0.51
56:SP:31:GLU:HA	56:SP:34:MET:HE2	1.93	0.51
73:SI:141:ARG:HD3	73:SI:145:ILE:HG21	1.91	0.51
85:S2:1598:G:N2	85:S2:1599:U:O4	2.42	0.51
3:CF:272:LEU:O	3:CF:302:ALA:N	2.43	0.51
5:L5:262:G:H2'	5:L5:263:G:C8	2.44	0.51
5:L5:308:G:O6	20:LN:12:ARG:NH1	2.44	0.51
5:L5:369:G:N2	5:L5:372:A:OP2	2.37	0.51
5:L5:1767:A:H2'	5:L5:1769:G:H5''	1.92	0.51
5:L5:1857:C:H2'	5:L5:1858:A:C8	2.45	0.51
5:L5:2492:C:H2'	5:L5:2493:G:H8	1.74	0.51
5:L5:4459:U:H2'	5:L5:4460:U:C6	2.45	0.51
5:L5:4571:A2M:H2'	5:L5:4572:U:H6	1.75	0.51
6:L7:119:U:C2	11:LD:261:VAL:HG11	2.46	0.51
12:LE:141:ARG:NH1	12:LE:191:GLN:O	2.44	0.51
12:LE:161:ARG:O	12:LE:182:ASN:ND2	2.44	0.51
52:SD:32:ASP:OD2	52:SD:65:ARG:NH1	2.43	0.51
60:ST:74:SER:O	60:ST:78:ILE:HD12	2.10	0.51
69:SC:109:ILE:HD11	69:SC:151:ILE:HD11	1.92	0.51
69:SC:121:ARG:NH1	69:SC:123:ARG:HE	2.08	0.51
70:SE:38:LEU:HD23	85:S2:346:C:H5''	1.93	0.51
71:SG:4:ASN:ND2	85:S2:154:U:O2	2.34	0.51
78:SV:17:CYS:HB2	78:SV:56:CYS:HB3	1.91	0.51
82:Sa:11:ALA:HB3	82:Sa:33:ASP:HB2	1.92	0.51
5:L5:197:A:N1	5:L5:225:G:O2'	2.41	0.51
5:L5:4941:G:OP2	12:LE:188:ARG:NH2	2.36	0.51
10:LC:154:VAL:HG11	10:LC:174:LEU:HD11	1.92	0.51
15:LH:24:THR:HA	15:LH:37:ASP:HA	1.93	0.51
29:LW:123:LYS:HD2	85:S2:320:G:H5''	1.93	0.51
60:ST:40:ALA:HB3	60:ST:43:LYS:HG2	1.91	0.51
71:SG:227:GLN:HB3	71:SG:231:ARG:HH21	1.76	0.51
77:SO:45:THR:HA	77:SO:52:THR:HA	1.92	0.51
85:S2:1144:A:H2'	85:S2:1145:A:C8	2.46	0.51
5:L5:303:C:OP2	20:LN:68:ARG:NH2	2.41	0.51
5:L5:501:C:O2'	5:L5:648:G:OP1	2.29	0.51
5:L5:2468:U:O2'	5:L5:2506:G:N2	2.44	0.51
5:L5:2568:C:H2'	5:L5:2569:G:C8	2.46	0.51
5:L5:4523:A2M:H5''	5:L5:4524:G:H5'	1.93	0.51
5:L5:5016:A:C2	5:L5:5033:G:N2	2.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LB:77:THR:OG1	9:LB:335:GLY:O	2.26	0.51
12:LE:91:THR:HA	12:LE:108:LYS:HA	1.93	0.51
5:L5:711:A:H2'	5:L5:712:C:C6	2.46	0.51
5:L5:1187:G:OP2	5:L5:1187:G:N2	2.36	0.51
5:L5:1523:A:N3	5:L5:4389:C:O2'	2.42	0.51
50:Ls:110:ALA:HA	50:Ls:182:PRO:HG2	1.93	0.51
59:SS:15:VAL:HG12	59:SS:16:LEU:HG	1.93	0.51
66:Sg:251:ALA:HA	66:Sg:256:ILE:HD13	1.92	0.51
76:SN:14:SER:HB3	85:S2:1016:U:H5''	1.93	0.51
79:SW:6:VAL:HG13	79:SW:29:PRO:HB2	1.91	0.51
80:SX:105:PHE:HD1	80:SX:121:LYS:HB3	1.75	0.51
84:Se:31:ARG:NH2	85:S2:525:A:O3'	2.44	0.51
85:S2:640:A:H2'	85:S2:641:A:C8	2.46	0.51
5:L5:907:C:H2'	5:L5:908:G:H8	1.76	0.51
5:L5:1538:U:H2'	5:L5:1539:G:H8	1.76	0.51
5:L5:1617:G:H1'	5:L5:2513:A:N6	2.26	0.51
5:L5:1655:C:OP2	33:La:26:ARG:NH1	2.44	0.51
5:L5:2845:A:H61	5:L5:3843:C:N4	2.09	0.51
5:L5:3861:A:H2'	5:L5:3862:A:H8	1.74	0.51
5:L5:3917:A:H2'	5:L5:3918:G:H8	1.76	0.51
5:L5:3944:G:H1	5:L5:4069:U:H3	1.59	0.51
5:L5:4591:U:H2'	5:L5:4592:C:C6	2.46	0.51
9:LB:83:PRO:O	9:LB:167:GLN:NE2	2.43	0.51
66:Sg:133:ASN:HB3	66:Sg:139:LYS:HD2	1.92	0.51
5:L5:2020:U:H2'	5:L5:2021:G:H8	1.76	0.51
5:L5:4594:U:H2'	5:L5:4595:G:C8	2.42	0.51
17:LJ:42:GLN:HG2	17:LJ:117:ILE:HD12	1.92	0.51
77:SO:75:MET:HG3	77:SO:118:ALA:HB2	1.91	0.51
83:Sb:36:LYS:HB2	83:Sb:78:SER:HB3	1.92	0.51
85:S2:948:C:H2'	85:S2:949:G:C8	2.45	0.51
85:S2:1279:C:H2'	85:S2:1280:G:H8	1.76	0.51
5:L5:173:C:OP1	18:LL:129:ARG:NH1	2.44	0.50
5:L5:1503:A:H4'	5:L5:1504:G:H5'	1.93	0.50
5:L5:1516:G:O2'	18:LL:18:TRP:NE1	2.41	0.50
5:L5:2666:U:O2'	5:L5:2668:G:N7	2.38	0.50
5:L5:2765:A:H2'	5:L5:2766:A:C8	2.46	0.50
5:L5:3736:A:H2'	5:L5:3737:A:H8	1.76	0.50
5:L5:4492:U:O2'	5:L5:4512:U:O2	2.25	0.50
21:LO:186:GLU:OE1	21:LO:186:GLU:N	2.44	0.50
24:LR:127:VAL:HG12	24:LR:132:PHE:HD2	1.76	0.50
66:Sg:18:VAL:O	66:Sg:287:THR:OG1	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SC:169:TYR:OH	69:SC:175:GLY:O	2.26	0.50
69:SC:196:ILE:HB	69:SC:223:TYR:HB2	1.92	0.50
78:SV:42:VAL:HG23	78:SV:43:THR:HG23	1.93	0.50
80:SX:90:CYS:HA	80:SX:93:PHE:HD2	1.75	0.50
5:L5:1333:A:H2'	5:L5:1334:A:H8	1.75	0.50
5:L5:2478:C:N3	5:L5:2591:A:O2'	2.44	0.50
5:L5:2638:G:H22	5:L5:2719:C:P	2.33	0.50
5:L5:4522:G:O2'	5:L5:4525:C:OP2	2.24	0.50
5:L5:4912:G:N2	9:LB:156:TYR:OH	2.44	0.50
5:L5:5030:U:H2'	5:L5:5031:G:H8	1.76	0.50
9:LB:258:HIS:HA	9:LB:260:ALA:N	2.25	0.50
9:LB:302:ASN:HB2	9:LB:313:SER:HA	1.93	0.50
51:Lt:22:VAL:HA	51:Lt:48:LYS:HG2	1.94	0.50
52:SD:51:LEU:HD12	52:SD:91:VAL:HG12	1.93	0.50
53:SF:40:ALA:HB3	53:SF:67:PRO:HA	1.92	0.50
67:SA:145:ILE:HG23	67:SA:159:ILE:HB	1.93	0.50
85:S2:57:U:OP1	85:S2:504:G:O2'	2.29	0.50
85:S2:67:C:N4	85:S2:70:G:N7	2.59	0.50
85:S2:1405:A:H2'	85:S2:1406:G:O4'	2.11	0.50
3:CF:251:GLN:N	3:CF:264:VAL:O	2.44	0.50
5:L5:68:U:OP1	20:LN:178:HIS:ND1	2.39	0.50
5:L5:153:G:H2'	5:L5:154:G:H8	1.77	0.50
5:L5:256:G:H2'	5:L5:257:C:C6	2.46	0.50
5:L5:965:G:N2	5:L5:2092:G:H1'	2.26	0.50
5:L5:1411:C:H2'	5:L5:1412:G:C8	2.46	0.50
5:L5:1683:PSU:OP1	33:La:44:ASN:ND2	2.42	0.50
5:L5:2622:G:O6	27:LU:81:ARG:NH2	2.45	0.50
5:L5:4987:C:OP2	9:LB:116:ARG:NH2	2.45	0.50
7:L8:142:U:OP1	20:LN:38:ARG:NH2	2.39	0.50
53:SF:22:LYS:HG3	53:SF:23:TRP:CD2	2.46	0.50
74:SJ:41:ARG:N	85:S2:642:U:OP1	2.45	0.50
79:SW:6:VAL:HG12	79:SW:34:ILE:HD11	1.92	0.50
85:S2:1372:U:OP1	85:S2:1385:G:N2	2.40	0.50
3:CF:42:PHE:HE1	3:CF:67:ARG:HH21	1.59	0.50
5:L5:184:U:H3	5:L5:253:G:H1	1.60	0.50
5:L5:700:G:N1	5:L5:701:G:C6	2.80	0.50
5:L5:1942:A:H2'	5:L5:1943:A:H8	1.76	0.50
5:L5:1979:A:H1'	5:L5:1988:G:N2	2.27	0.50
5:L5:1983:A:O2'	5:L5:2011:C:OP1	2.29	0.50
13:LF:41:MET:HE2	34:Lb:113:ALA:HB2	1.92	0.50
66:Sg:89:LEU:HB2	66:Sg:101:PHE:HE1	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SC:70:VAL:HG21	69:SC:93:ILE:HG23	1.94	0.50
70:SE:208:VAL:HG11	70:SE:225:ILE:HG13	1.93	0.50
71:SG:224:ARG:HH21	71:SG:227:GLN:HG3	1.75	0.50
3:CF:63:LEU:HB2	3:CF:66:GLU:HB2	1.94	0.50
4:AT:18:G:N2	4:AT:59:A:OP2	2.43	0.50
5:L5:3722:G:H2'	5:L5:3723:A:H8	1.76	0.50
14:LG:175:ARG:HG2	14:LG:230:TYR:CD2	2.47	0.50
18:LL:111:GLN:O	18:LL:115:GLN:HG2	2.11	0.50
21:LO:126:VAL:HG13	21:LO:127:VAL:HG13	1.94	0.50
52:SD:211:VAL:O	58:SR:20:TYR:OH	2.26	0.50
57:SQ:53:GLU:OE1	57:SQ:85:ARG:NH2	2.44	0.50
67:SA:184:ARG:HG2	67:SA:189:ILE:HB	1.93	0.50
69:SC:167:ARG:HB3	69:SC:177:PRO:HB2	1.92	0.50
75:SL:126:VAL:HG12	75:SL:145:VAL:HG22	1.92	0.50
82:Sa:32:LYS:NZ	85:S2:989:C:O2	2.45	0.50
5:L5:371:A:N3	5:L5:1531:U:O2'	2.42	0.50
5:L5:1510:G:H2'	5:L5:1511:U:C6	2.47	0.50
9:LB:220:ILE:HB	9:LB:346:THR:HB	1.94	0.50
31:LY:2:LYS:HD2	31:LY:7:VAL:HG23	1.91	0.50
35:Lc:82:GLY:HA2	35:Lc:91:VAL:HG12	1.93	0.50
36:Ld:54:MET:HE3	36:Ld:60:PRO:HA	1.92	0.50
59:SS:27:ALA:HB2	59:SS:52:LEU:HD12	1.93	0.50
78:SV:51:LYS:NZ	78:SV:76:ASP:OD1	2.43	0.50
85:S2:60:A:N3	85:S2:316:G:O2'	2.40	0.50
85:S2:1588:A:H2'	85:S2:1589:A:C8	2.46	0.50
85:S2:1770:G:OP1	85:S2:1771:G:N2	2.36	0.50
2:Pt:29:C:H2'	2:Pt:30:G:H8	1.77	0.50
3:CF:149:ILE:HA	3:CF:188:VAL:HG23	1.92	0.50
5:L5:1332:C:H2'	5:L5:1333:A:C8	2.47	0.50
5:L5:1370:G:O6	10:LC:239:LYS:NZ	2.45	0.50
5:L5:2045:G:O6	5:L5:3870:C:O2'	2.29	0.50
5:L5:2696:A:H62	43:Lk:35:LYS:NZ	2.09	0.50
8:LA:181:LYS:HB2	8:LA:184:ARG:HG3	1.94	0.50
16:LI:152:LEU:HB3	16:LI:165:ILE:HD12	1.93	0.50
35:Lc:51:ASN:HB2	35:Lc:77:ASN:HB2	1.92	0.50
54:SK:31:LYS:NZ	54:SK:40:VAL:H	2.10	0.50
67:SA:106:GLY:N	67:SA:136:GLU:OE2	2.34	0.50
85:S2:649:PSU:H2'	85:S2:650:A:H8	1.76	0.50
85:S2:1010:G:H2'	85:S2:1011:A:H8	1.75	0.50
5:L5:293:G:N2	20:LN:178:HIS:O	2.36	0.50
5:L5:4769:G:H5''	21:LO:176:ARG:HD3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:4965:U:H4'	5:L5:4966:A:H5'	1.94	0.50
29:LW:101:ARG:NH2	71:SG:145:PHE:O	2.39	0.50
59:SS:60:THR:OG1	59:SS:62:ASP:OD1	2.25	0.50
60:ST:73:GLY:O	60:ST:94:ARG:NH2	2.43	0.50
85:S2:528:A:H2'	85:S2:529:A:C8	2.46	0.50
85:S2:595:U:H2'	85:S2:596:U:C6	2.47	0.50
85:S2:1084:A:OP1	85:S2:1858:G:O2'	2.27	0.50
85:S2:1720:U:H5''	85:S2:1721:U:H5''	1.93	0.50
5:L5:386:A:O2'	31:LY:87:ARG:NH1	2.45	0.50
5:L5:387:G:O2'	5:L5:412:G:N1	2.38	0.50
5:L5:1326:A2M:H2'	5:L5:1327:C:H6	1.76	0.50
5:L5:1662:C:H2'	5:L5:1663:C:C6	2.47	0.50
5:L5:2347:A:C4	37:Le:31:ILE:HD11	2.47	0.50
24:LR:39:GLN:OE1	24:LR:42:ARG:NH1	2.44	0.50
53:SF:26:ASP:OD1	53:SF:26:ASP:N	2.45	0.50
55:SM:58:GLU:HB3	55:SM:61:TYR:HB2	1.94	0.50
75:SL:103:GLU:HG3	80:SX:11:ARG:HB2	1.94	0.50
79:SW:28:ARG:HH22	85:S2:1093:A:H5''	1.76	0.50
84:Se:41:ARG:HG3	84:Se:42:PHE:CD1	2.47	0.50
85:S2:964:A:H2'	85:S2:965:U:H6	1.77	0.50
85:S2:1438:A:H2'	85:S2:1439:A:C8	2.47	0.50
5:L5:66:A:O2'	5:L5:326:C:O2	2.30	0.49
5:L5:729:G:H5''	13:LF:76:ARG:HD2	1.94	0.49
5:L5:964:A:H2'	5:L5:965:G:H4'	1.93	0.49
5:L5:1307:A:H2'	5:L5:1308:C:H6	1.77	0.49
5:L5:2870:A:H2'	5:L5:2871:A:C8	2.47	0.49
5:L5:3589:G:N2	5:L5:3590:G:O6	2.45	0.49
5:L5:3796:U:HO2'	85:S2:1720:U:HO2'	1.60	0.49
5:L5:4095:G:H2'	5:L5:4096:C:C6	2.47	0.49
5:L5:4501:U:OP1	9:LB:5:LYS:NZ	2.45	0.49
5:L5:4991:U:H2'	5:L5:4992:G:C8	2.47	0.49
13:LF:37:PHE:HZ	34:Lb:113:ALA:HB1	1.77	0.49
22:LP:54:GLN:HA	22:LP:83:TRP:CD1	2.47	0.49
29:LW:7:SER:OG	29:LW:8:PHE:N	2.45	0.49
59:SS:39:ARG:NE	85:S2:1629:C:OP1	2.36	0.49
62:SZ:41:ARG:HH12	62:SZ:44:LEU:HG	1.77	0.49
64:Sd:14:PHE:HB2	85:S2:1661:A:H8	1.77	0.49
71:SG:67:VAL:HG12	71:SG:69:THR:HG22	1.93	0.49
71:SG:175:LYS:HG3	85:S2:77:A:H2	1.76	0.49
76:SN:66:VAL:HG13	76:SN:67:THR:HG23	1.93	0.49
83:Sb:11:SER:OG	83:Sb:14:GLU:OE1	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:106:C:OP1	85:S2:431:G:O2'	2.27	0.49
5:L5:1390:G:N2	5:L5:1393:G:OP2	2.40	0.49
5:L5:2539:C:H2'	5:L5:2540:C:C6	2.47	0.49
5:L5:3788:C:N4	5:L5:3812:C:OP2	2.43	0.49
5:L5:4584:A:H2'	5:L5:4585:U:O4'	2.12	0.49
27:LU:44:GLN:HB2	27:LU:56:LEU:HD21	1.94	0.49
52:SD:40:ARG:HA	61:SU:108:PRO:HB3	1.93	0.49
55:SM:44:LYS:HE3	65:Sf:129:GLY:H	1.77	0.49
70:SE:127:ARG:HG3	70:SE:142:HIS:HA	1.93	0.49
85:S2:17:C:H2'	85:S2:18:C:C6	2.47	0.49
3:CF:15:HIS:NE2	3:CF:133:THR:OG1	2.29	0.49
5:L5:10:A:H2'	5:L5:11:G:C8	2.47	0.49
5:L5:1645:C:H2'	5:L5:1646:A:C8	2.46	0.49
5:L5:4620:OMU:OP2	5:L5:4670:C:N4	2.38	0.49
87:L5:5292:SPM:H112	21:LO:91:LYS:HD3	1.94	0.49
14:LG:81:ASN:O	14:LG:84:THR:OG1	2.25	0.49
81:SY:10:ARG:HA	85:S2:839:C:H41	1.76	0.49
2:Pt:23:C:H2'	2:Pt:24:A:H8	1.77	0.49
5:L5:97:G:OP1	18:LL:16:LYS:NZ	2.37	0.49
5:L5:1824:G:H2'	5:L5:1825:A:C8	2.47	0.49
5:L5:2407:G:O6	44:Ll:2:SER:N	2.46	0.49
8:LA:112:ILE:HG22	8:LA:135:THR:HG23	1.94	0.49
18:LL:110:LEU:O	18:LL:114:VAL:HG13	2.13	0.49
54:SK:3:MET:HE1	54:SK:11:ILE:HD12	1.92	0.49
55:SM:57:ASP:OD1	85:S2:1285:G:N1	2.34	0.49
5:L5:7:C:H2'	5:L5:8:U:C6	2.47	0.49
5:L5:691:C:H2'	5:L5:692:A:C8	2.48	0.49
5:L5:956:A:H1'	5:L5:2076:G:H5''	1.94	0.49
5:L5:2101:C:H2'	5:L5:2102:G:C8	2.48	0.49
5:L5:2724:G:O2'	5:L5:2726:G:OP2	2.30	0.49
5:L5:4251:A:H5''	17:LJ:108:GLY:HA3	1.94	0.49
12:LE:186:LEU:N	12:LE:250:GLN:OE1	2.44	0.49
12:LE:223:ARG:HB3	12:LE:224:LYS:HB2	1.93	0.49
13:LF:157:ARG:HE	13:LF:248:ASN:HB2	1.78	0.49
14:LG:162:ASP:HB3	14:LG:163:PRO:HD3	1.94	0.49
57:SQ:98:LYS:O	66:Sg:57:ARG:NH1	2.34	0.49
66:Sg:152:SER:OG	66:Sg:168:CYS:SG	2.57	0.49
67:SA:137:ALA:HB1	67:SA:142:LEU:HB3	1.93	0.49
68:SB:167:LYS:O	68:SB:171:ILE:HG12	2.11	0.49
85:S2:323:C:H2'	85:S2:327:G:H22	1.77	0.49
5:L5:2693:G:OP1	43:Lk:35:LYS:HE2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:4102:C:H1'	5:L5:4108:G:H1	1.77	0.49
5:L5:4954:G:H2'	5:L5:4955:A:C8	2.48	0.49
5:L5:5024:C:H41	5:L5:5028:G:H21	1.60	0.49
40:Lh:73:TYR:HB3	40:Lh:79:LYS:HG2	1.94	0.49
58:SR:29:HIS:HA	58:SR:32:LYS:HG2	1.95	0.49
71:SG:139:SER:OG	71:SG:142:ARG:NH2	2.43	0.49
72:SH:12:ASN:ND2	72:SH:14:GLU:OE2	2.45	0.49
72:SH:118:ARG:NH1	85:S2:686:PSU:O4	2.36	0.49
79:SW:60:LYS:NZ	85:S2:921:G:O6	2.45	0.49
85:S2:1518:C:H5''	85:S2:1519:U:H5''	1.95	0.49
3:CF:7:HIS:HA	3:CF:86:TYR:O	2.12	0.49
5:L5:162:A:H2'	5:L5:163:A:C8	2.48	0.49
5:L5:169:G:O6	5:L5:170:C:N4	2.46	0.49
5:L5:2520:C:H2'	5:L5:2521:G:C8	2.48	0.49
5:L5:2543:A:H2	5:L5:2773:G:H22	1.60	0.49
16:LI:101:LYS:NZ	16:LI:102:MET:O	2.45	0.49
31:LY:31:SER:HA	31:LY:48:PRO:HA	1.94	0.49
52:SD:142:LEU:HD13	52:SD:150:MET:HE2	1.94	0.49
53:SF:123:GLU:OE1	63:Sc:63:ARG:NH2	2.46	0.49
66:Sg:254:PRO:O	66:Sg:272:GLN:NE2	2.46	0.49
85:S2:656:G:H21	85:S2:663:C:H5''	1.77	0.49
85:S2:1562:C:H2'	85:S2:1563:G:C8	2.46	0.49
5:L5:3911:C:H2'	5:L5:3912:U:H6	1.77	0.49
5:L5:4327:C:OP1	26:LT:70:HIS:NE2	2.46	0.49
5:L5:4699:U:H1'	5:L5:4700:A:H5''	1.94	0.49
6:L7:35:U:O2	6:L7:45:U:O2'	2.30	0.49
13:LF:96:ARG:HH12	13:LF:224:THR:HG22	1.78	0.49
18:LL:55:ILE:O	18:LL:97:SER:OG	2.27	0.49
61:SU:56:MET:HB2	61:SU:86:LYS:HG3	1.94	0.49
73:SI:141:ARG:NH2	85:S2:192:C:OP2	2.45	0.49
85:S2:149:A:H3'	85:S2:150:A:H8	1.78	0.49
85:S2:207:G:H3'	85:S2:208:G:H8	1.78	0.49
2:Pt:50:U:O4	2:Pt:64:G:O6	2.31	0.49
4:AT:24:C:H2'	4:AT:25:A:C8	2.48	0.49
5:L5:1308:C:H2'	5:L5:1309:C:C6	2.48	0.49
5:L5:1346:C:H2'	5:L5:1347:G:C8	2.46	0.49
5:L5:4563:U:H2'	5:L5:4564:A:H8	1.78	0.49
5:L5:4742:G:H2'	5:L5:4743:G:H8	1.78	0.49
7:L8:141:C:H2'	7:L8:142:U:C6	2.47	0.49
30:LX:127:LEU:HD11	30:LX:135:LYS:HE3	1.95	0.49
32:LZ:12:LEU:HB2	32:LZ:81:MET:HB3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:468:A2M:H2'	85:S2:469:A:O4'	2.13	0.49
85:S2:1845:A:H2'	85:S2:1846:G:H8	1.78	0.49
3:CF:101:ASN:HD21	4:AT:1:G:H4'	1.77	0.49
5:L5:1086:C:H2'	5:L5:1087:A:H8	1.78	0.49
5:L5:1700:G:H5''	5:L5:1704:C:H42	1.77	0.49
5:L5:4536:OMC:HM22	5:L5:4537:C:O4'	2.13	0.49
23:LQ:32:TYR:OH	23:LQ:123:PHE:O	2.30	0.49
28:LV:123:LYS:N	28:LV:140:ALA:OXT	2.46	0.49
31:LY:67:ILE:O	31:LY:84:ARG:NH2	2.46	0.49
55:SM:128:PHE:HD1	55:SM:131:LYS:HZ3	1.60	0.49
62:SZ:91:LEU:HG	62:SZ:96:LEU:HD21	1.95	0.49
72:SH:145:ARG:HE	79:SW:51:GLU:HB2	1.78	0.49
79:SW:30:CYS:SG	79:SW:31:SER:N	2.85	0.49
85:S2:1545:A:N3	85:S2:1671:G:O2'	2.36	0.49
85:S2:1628:C:H2'	85:S2:1629:C:C6	2.47	0.49
2:Pt:56:C:O4'	17:LJ:64:ARG:NE	2.42	0.48
5:L5:444:G:H2'	5:L5:445:U:C6	2.47	0.48
5:L5:1601:A:OP1	42:Lj:5:THR:OG1	2.23	0.48
5:L5:2061:U:O2'	25:LS:111:ARG:NH1	2.46	0.48
5:L5:2749:C:H2'	5:L5:2750:G:C8	2.48	0.48
5:L5:3726:A:H2'	5:L5:3727:A:C8	2.48	0.48
5:L5:3893:C:H2'	5:L5:3894:A:C8	2.48	0.48
10:LC:266:THR:HG22	10:LC:267:TRP:H	1.77	0.48
19:LM:100:ARG:HA	19:LM:103:LYS:HG2	1.95	0.48
56:SP:37:TYR:HB3	56:SP:41:GLN:HB2	1.94	0.48
59:SS:38:ARG:O	59:SS:42:HIS:ND1	2.34	0.48
75:SL:61:PRO:HG3	75:SL:141:ASN:HB3	1.95	0.48
85:S2:1441:U:O2	85:S2:1443:C:N4	2.35	0.48
85:S2:1755:C:H2'	85:S2:1756:C:C6	2.47	0.48
5:L5:1872:G:O2'	5:L5:4219:A:N3	2.39	0.48
5:L5:2811:G:N1	5:L5:2814:C:OP2	2.41	0.48
5:L5:4672:A:OP1	28:LV:15:ARG:NH2	2.37	0.48
5:L5:4730:C:N4	5:L5:4731:G:O6	2.46	0.48
15:LH:51:LYS:HG3	15:LH:52:LYS:H	1.77	0.48
21:LO:61:ARG:HA	21:LO:70:PRO:HD2	1.95	0.48
28:LV:88:TYR:OH	28:LV:90:ARG:NH2	2.43	0.48
30:LX:64:SER:HB2	40:Lh:69:LEU:HD13	1.95	0.48
56:SP:100:LYS:HB2	85:S2:1240:A:C6	2.48	0.48
68:SB:123:ALA:HB2	68:SB:165:ARG:HG2	1.95	0.48
71:SG:135:PRO:HA	85:S2:169:U:H5''	1.94	0.48
3:CF:215:LYS:HZ3	3:CF:222:ASN:HB3	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AT:2:U:H2'	4:AT:3:C:C6	2.49	0.48
5:L5:2378:G:N2	5:L5:2381:A:OP2	2.46	0.48
5:L5:4736:C:H2'	5:L5:4737:G:H8	1.78	0.48
15:LH:107:GLU:N	15:LH:107:GLU:OE1	2.46	0.48
16:LI:51:HIS:CD2	16:LI:168:SER:HB3	2.48	0.48
54:SK:2:LEU:HD21	85:S2:1289:U:H4'	1.95	0.48
71:SG:52:ILE:HA	71:SG:111:LEU:HD23	1.96	0.48
81:SY:36:PRO:HG3	85:S2:570:C:H4'	1.95	0.48
85:S2:102:A:H4'	85:S2:104:A:C8	2.48	0.48
85:S2:441:C:H2'	85:S2:442:C:C6	2.48	0.48
3:CF:111:CYS:SG	3:CF:112:ALA:N	2.85	0.48
5:L5:280:G:OP2	20:LN:44:ARG:NH1	2.45	0.48
5:L5:419:A:N3	5:L5:1332:C:O2'	2.42	0.48
5:L5:438:G:OP1	37:Le:16:ARG:NH1	2.39	0.48
5:L5:2611:A:H2'	5:L5:2612:G:C8	2.49	0.48
5:L5:3664:G:H2'	5:L5:3665:G:C8	2.48	0.48
9:LB:258:HIS:HA	9:LB:260:ALA:H	1.78	0.48
15:LH:93:ARG:HG2	15:LH:182:SER:HB3	1.96	0.48
26:LT:127:GLN:NE2	26:LT:129:LYS:O	2.46	0.48
53:SF:71:ARG:NH2	53:SF:148:ASN:OD1	2.42	0.48
54:SK:14:LEU:HD22	54:SK:35:LEU:HD23	1.95	0.48
61:SU:67:LYS:HG2	61:SU:78:ASP:HB2	1.94	0.48
68:SB:120:MET:HE1	85:S2:987:A:C6	2.48	0.48
80:SX:105:PHE:CD1	80:SX:121:LYS:HB3	2.49	0.48
85:S2:90:G:OP1	85:S2:445:A:N6	2.47	0.48
85:S2:1457:U:H2'	85:S2:1458:G:H8	1.78	0.48
85:S2:1801:A:H2'	85:S2:1802:C:C6	2.47	0.48
5:L5:1327:C:H2'	5:L5:1328:G:C8	2.48	0.48
5:L5:1558:A:H2'	5:L5:1559:G:H8	1.79	0.48
5:L5:1591:U:OP2	5:L5:2856:C:O2'	2.20	0.48
5:L5:2824:OMC:H1'	5:L5:2824:OMC:HM23	1.70	0.48
5:L5:3641:U:H5	5:L5:3646:A:N7	2.11	0.48
5:L5:3856:A:H5''	22:LP:83:TRP:O	2.14	0.48
5:L5:3945:A:H2'	5:L5:3946:G:C8	2.48	0.48
6:L7:63:C:H5'	6:L7:64:G:H5''	1.95	0.48
11:LD:181:PRO:HD2	11:LD:195:HIS:CD2	2.48	0.48
29:LW:2:LYS:HE3	29:LW:15:PRO:HB3	1.95	0.48
31:LY:22:PRO:HD2	31:LY:25:ILE:HD11	1.96	0.48
32:LZ:11:VAL:HG12	32:LZ:82:PRO:HA	1.96	0.48
55:SM:128:PHE:HA	55:SM:131:LYS:HG2	1.96	0.48
71:SG:170:ARG:HA	85:S2:72:C:H42	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SH:51:ILE:HD11	72:SH:176:VAL:HG12	1.96	0.48
85:S2:902:G:O2'	85:S2:903:A:O4'	2.32	0.48
3:CF:178:ILE:HB	3:CF:183:TYR:HB2	1.95	0.48
5:L5:679:C:H2'	5:L5:680:G:C8	2.47	0.48
5:L5:718:C:OP1	13:LF:217:ARG:NH1	2.41	0.48
5:L5:4638:U:OP1	5:L5:5044:A:O2'	2.31	0.48
7:L8:102:G:H5''	42:Lj:39:TYR:HE1	1.77	0.48
52:SD:109:LEU:HD21	52:SD:115:VAL:HA	1.96	0.48
60:ST:44:GLU:HG3	60:ST:45:LEU:HD12	1.96	0.48
70:SE:187:ALA:O	70:SE:245:ARG:NH1	2.40	0.48
85:S2:455:A:H2'	85:S2:456:C:C6	2.49	0.48
3:CF:360:VAL:HG12	3:CF:369:ALA:HB2	1.96	0.48
5:L5:318:A:H2'	5:L5:319:A:C8	2.49	0.48
5:L5:1279:A:O2'	5:L5:1281:G:N7	2.38	0.48
5:L5:1972:G:H2'	5:L5:1973:G:C8	2.49	0.48
5:L5:2018:C:H2'	5:L5:2019:C:C6	2.49	0.48
5:L5:2743:A:H2'	5:L5:2744:A:C8	2.49	0.48
5:L5:3656:A:H2'	5:L5:3657:U:H6	1.78	0.48
5:L5:3880:G:H2'	5:L5:3881:G:C8	2.48	0.48
5:L5:4069:U:H2'	5:L5:4070:U:C6	2.48	0.48
5:L5:5005:G:N2	5:L5:5041:G:O2'	2.46	0.48
7:L8:21:C:OP1	10:LC:195:LYS:NZ	2.46	0.48
21:LO:10:ASP:OD2	21:LO:37:ARG:NH2	2.47	0.48
54:SK:31:LYS:HZ3	54:SK:39:ASN:N	2.11	0.48
57:SQ:110:ASP:OD1	57:SQ:111:ILE:HD12	2.14	0.48
59:SS:36:VAL:HG21	59:SS:71:MET:HE3	1.95	0.48
66:Sg:106:LYS:HB3	66:Sg:125:ARG:HB2	1.94	0.48
70:SE:100:ARG:HB2	70:SE:114:ILE:HD13	1.94	0.48
79:SW:3:ARG:HD3	79:SW:6:VAL:HG22	1.96	0.48
85:S2:1554:C:OP2	85:S2:1555:U:O2'	2.30	0.48
85:S2:1617:G:N1	85:S2:1620:A:OP2	2.46	0.48
1:CI:78:HIS:NE2	5:L5:2706:G:N7	2.61	0.48
5:L5:93:G:H2'	5:L5:94:A:C8	2.49	0.48
5:L5:1855:G:OP1	34:Lb:4:SER:HB2	2.14	0.48
5:L5:2491:C:O2'	5:L5:2492:C:O4'	2.25	0.48
5:L5:2580:U:HO2'	32:LZ:79:HIS:CE1	2.29	0.48
5:L5:3867:A2M:H2'	5:L5:3868:G:O4'	2.14	0.48
5:L5:5064:G:N2	22:LP:75:GLN:HE22	2.11	0.48
15:LH:18:ILE:HG12	15:LH:27:VAL:HG22	1.95	0.48
33:La:102:ASP:HA	33:La:125:LYS:HB2	1.95	0.48
42:Lj:2:THR:HG22	42:Lj:4:GLY:H	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SD:137:VAL:HB	52:SD:185:LYS:HB2	1.94	0.48
52:SD:172:VAL:HG22	52:SD:185:LYS:HG2	1.95	0.48
55:SM:82:ASN:OD1	55:SM:83:LYS:N	2.47	0.48
58:SR:29:HIS:CD2	66:Sg:36:ARG:HH21	2.31	0.48
69:SC:257:LYS:O	78:SV:16:LYS:NZ	2.46	0.48
76:SN:55:ARG:HD3	85:S2:1017:U:H5'	1.96	0.48
77:SO:33:ILE:HB	77:SO:97:LEU:HD23	1.95	0.48
85:S2:639:C:H2'	85:S2:640:A:C8	2.48	0.48
5:L5:1552:G:O2'	5:L5:1574:G:N2	2.34	0.48
5:L5:1960:A:C8	50:Ls:63:LYS:HE2	2.48	0.48
5:L5:2298:U:OP1	10:LC:204:ARG:NE	2.46	0.48
5:L5:2696:A:OP1	43:Lk:26:LYS:NZ	2.47	0.48
5:L5:2749:C:H2'	5:L5:2750:G:H8	1.78	0.48
5:L5:2899:C:P	24:LR:108:ARG:HH22	2.36	0.48
5:L5:4239:A:H2'	5:L5:4240:G:H8	1.79	0.48
5:L5:4524:G:C2	9:LB:252:ALA:HB1	2.49	0.48
14:LG:150:LYS:NZ	14:LG:177:MET:O	2.46	0.48
21:LO:54:TYR:OH	21:LO:73:PHE:O	2.31	0.48
29:LW:97:LYS:O	29:LW:99:GLU:N	2.45	0.48
53:SF:39:ILE:HG23	53:SF:68:ILE:HD13	1.95	0.48
53:SF:51:HIS:NE2	85:S2:1674:G:OP1	2.44	0.48
67:SA:42:LYS:HD3	67:SA:46:ILE:HB	1.95	0.48
69:SC:102:LEU:HD22	69:SC:130:ILE:HD12	1.96	0.48
71:SG:2:LYS:HB3	71:SG:15:LEU:HD11	1.96	0.48
71:SG:170:ARG:HG3	85:S2:72:C:N3	2.28	0.48
85:S2:1407:U:H2'	85:S2:1408:U:C6	2.49	0.48
1:CI:75:LYS:O	27:LU:117:ILE:C	2.56	0.48
4:AT:3:C:H2'	4:AT:4:U:C6	2.49	0.48
4:AT:60:A:H2'	4:AT:61:A:O4'	2.14	0.48
5:L5:3732:A:H2'	5:L5:3733:A:C8	2.46	0.48
5:L5:3867:A2M:HM'3	5:L5:3867:A2M:H1'	1.56	0.48
5:L5:3910:C:H2'	5:L5:3911:C:H6	1.78	0.48
17:LJ:63:ARG:HH11	47:Lo:106:PHE:HB2	1.79	0.48
59:SS:88:LYS:H	59:SS:95:TYR:HD1	1.59	0.48
66:Sg:163:PRO:HB2	66:Sg:179:LEU:HD12	1.94	0.48
79:SW:44:HIS:NE2	79:SW:112:ASP:OD2	2.36	0.48
85:S2:5:U:H2'	85:S2:6:G:C8	2.49	0.48
85:S2:1550:G:O2'	85:S2:1558:C:O2	2.23	0.48
5:L5:2275:G:H2'	5:L5:2276:A:C8	2.49	0.47
5:L5:4060:U:H2'	5:L5:4061:G:C8	2.49	0.47
5:L5:4910:G:H22	21:LO:107:GLY:HA3	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:5006:U:H4'	5:L5:5007:A:H5'	1.96	0.47
7:L8:75:OMG:HM23	7:L8:75:OMG:H1'	1.75	0.47
9:LB:29:VAL:HG12	9:LB:31:SER:H	1.79	0.47
22:LP:52:THR:HG23	22:LP:85:LYS:HG3	1.96	0.47
26:LT:102:ARG:O	26:LT:106:LEU:HG	2.14	0.47
53:SF:19:LEU:HD11	53:SF:50:PRO:HD3	1.96	0.47
54:SK:85:LEU:HD21	54:SK:89:ILE:HB	1.96	0.47
57:SQ:110:ASP:OD1	57:SQ:110:ASP:N	2.46	0.47
65:Sf:92:LYS:NZ	85:S2:1271:C:OP1	2.44	0.47
67:SA:172:GLY:HA3	67:SA:203:PHE:HD1	1.78	0.47
72:SH:10:LYS:HE3	72:SH:17:ASP:HB3	1.96	0.47
79:SW:57:ARG:HD2	85:S2:919:A:H4'	1.95	0.47
81:SY:105:LYS:O	81:SY:109:GLU:HG2	2.14	0.47
85:S2:325:C:N3	85:S2:326:C:O2'	2.46	0.47
85:S2:747:U:O2	85:S2:796:G:N2	2.47	0.47
85:S2:1680:G:H2'	85:S2:1681:U:C6	2.49	0.47
3:CF:79:LYS:HD2	3:CF:295:HIS:HB3	1.96	0.47
5:L5:267:G:H2'	5:L5:268:G:H8	1.78	0.47
5:L5:1340:OMC:HM23	5:L5:1340:OMC:H1'	1.72	0.47
5:L5:1899:G:O2'	37:Le:57:ASN:OD1	2.31	0.47
5:L5:2640:G:H2'	5:L5:2641:A:C8	2.49	0.47
5:L5:2861:OMC:HM23	5:L5:2861:OMC:H1'	1.68	0.47
5:L5:3595:U:H5''	5:L5:3597:G:OP2	2.14	0.47
5:L5:4088:C:H2'	5:L5:4089:G:C8	2.50	0.47
5:L5:4601:U:H2'	5:L5:4602:A:H8	1.78	0.47
8:LA:131:GLY:H	8:LA:169:VAL:HG13	1.78	0.47
11:LD:211:LEU:HB3	11:LD:219:TYR:HB2	1.96	0.47
75:SL:3:ASP:OD1	75:SL:4:ILE:N	2.47	0.47
85:S2:16:G:H2'	85:S2:17:C:C6	2.50	0.47
85:S2:66:G:H2'	85:S2:67:C:H4'	1.95	0.47
3:CF:290:LYS:HE3	85:S2:488:U:H5''	1.96	0.47
5:L5:1677:PSU:H4'	5:L5:1680:G:C2	2.49	0.47
5:L5:1696:C:H5'	5:L5:1719:A:H1'	1.97	0.47
5:L5:1867:A:H2'	5:L5:1868:A:C8	2.49	0.47
5:L5:4523:A2M:H1'	5:L5:4558:U:C4	2.50	0.47
13:LF:182:TYR:HB3	13:LF:200:ARG:HG3	1.96	0.47
20:LN:46:ASP:OD1	20:LN:47:LYS:N	2.47	0.47
56:SP:100:LYS:HG2	56:SP:101:THR:HG23	1.96	0.47
57:SQ:130:LYS:NZ	57:SQ:131:LYS:O	2.46	0.47
72:SH:113:LYS:HA	72:SH:113:LYS:HD2	1.68	0.47
74:SJ:59:GLU:O	74:SJ:62:THR:OG1	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Pt:3:C:H42	2:Pt:70:A:H61	1.61	0.47
2:Pt:29:C:H2'	2:Pt:30:G:C8	2.49	0.47
4:AT:65:G:H3'	4:AT:66:G:H8	1.79	0.47
5:L5:162:A:H2'	5:L5:163:A:H8	1.78	0.47
5:L5:1175:A:H2	5:L5:1185:G:H22	1.62	0.47
5:L5:1280:C:O2'	10:LC:321:ASN:OD1	2.20	0.47
5:L5:4743:G:H2'	5:L5:4744:A:C8	2.49	0.47
8:LA:45:VAL:HG22	8:LA:61:VAL:HG22	1.96	0.47
9:LB:394:LYS:HA	9:LB:397:ILE:HG12	1.96	0.47
61:SU:80:PHE:HB3	64:Sd:52:PHE:HB3	1.95	0.47
69:SC:207:ALA:HB2	85:S2:4:C:H4'	1.96	0.47
77:SO:42:VAL:HG11	77:SO:78:ALA:HA	1.95	0.47
85:S2:945:U:H2'	85:S2:946:U:C6	2.50	0.47
5:L5:106:A:H2'	5:L5:107:G:O4'	2.14	0.47
5:L5:1371:A:N1	7:L8:28:C:O2'	2.45	0.47
5:L5:1392:A:H2'	5:L5:1393:G:C8	2.49	0.47
5:L5:2515:G:OP1	39:Lg:37:LYS:NZ	2.31	0.47
5:L5:3619:G:H22	5:L5:3624:A:H1'	1.79	0.47
32:LZ:46:ILE:HA	32:LZ:70:SER:HA	1.96	0.47
51:Lt:82:ILE:HG12	51:Lt:137:GLN:HG2	1.97	0.47
57:SQ:67:ASP:OD2	57:SQ:69:ARG:NH1	2.46	0.47
67:SA:164:ASN:OD1	67:SA:165:ASN:N	2.48	0.47
69:SC:64:THR:HG22	69:SC:66:LEU:H	1.79	0.47
77:SO:101:GLY:HA3	77:SO:134:PRO:HD2	1.97	0.47
85:S2:866:PSU:H2'	85:S2:867:OMG:H8	1.80	0.47
85:S2:1189:A:H2'	85:S2:1190:A:H8	1.80	0.47
85:S2:1533:A:H2	85:S2:1536:G:N3	2.13	0.47
5:L5:181:C:H2'	5:L5:182:G:C8	2.50	0.47
5:L5:423:G:H21	22:LP:118:GLN:NE2	2.11	0.47
5:L5:3690:U:H2'	5:L5:3691:G:O4'	2.15	0.47
5:L5:4750:G:H2'	5:L5:4751:G:C8	2.50	0.47
5:L5:4750:G:H2'	5:L5:4751:G:H8	1.79	0.47
8:LA:140:ASN:ND2	8:LA:143:THR:OG1	2.48	0.47
53:SF:145:ARG:HH12	63:Sc:47:LYS:HE2	1.79	0.47
54:SK:27:VAL:HB	54:SK:43:LEU:HD12	1.96	0.47
57:SQ:34:VAL:HG22	57:SQ:70:VAL:HB	1.96	0.47
70:SE:89:VAL:HG11	70:SE:119:ALA:HB1	1.97	0.47
85:S2:24:C:O2'	85:S2:25:A:H8	1.97	0.47
85:S2:468:A2M:HM'3	85:S2:468:A2M:H1'	1.73	0.47
85:S2:553:U:O4	85:S2:554:A:N6	2.44	0.47
3:CF:364:HIS:CD2	3:CF:365:THR:H	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:10:A:H2'	5:L5:11:G:H8	1.79	0.47
5:L5:261:G:H2'	5:L5:262:G:C8	2.50	0.47
5:L5:1175:A:H2	5:L5:1185:G:H1	1.59	0.47
5:L5:1466:G:OP2	34:Lb:44:ARG:NH2	2.48	0.47
5:L5:1504:G:H2'	5:L5:1505:C:C6	2.49	0.47
5:L5:1514:U:H2'	5:L5:1515:A:H8	1.78	0.47
5:L5:1918:U:O2'	5:L5:1920:C:OP2	2.33	0.47
5:L5:3932:U:H2'	5:L5:3933:G:H8	1.79	0.47
5:L5:4093:G:H3'	5:L5:4094:G:H8	1.80	0.47
5:L5:4188:U:H2'	5:L5:4189:U:C6	2.50	0.47
5:L5:4304:A:OP2	5:L5:4305:G:N2	2.44	0.47
5:L5:4322:G:N2	5:L5:4325:A:OP2	2.40	0.47
7:L8:67:U:H2'	7:L8:68:G:C8	2.48	0.47
8:LA:108:PRO:HB2	48:Lp:86:LEU:HD23	1.95	0.47
10:LC:289:LEU:HD21	23:LQ:31:LEU:HB2	1.97	0.47
13:LF:162:ILE:HD12	13:LF:167:ILE:HB	1.97	0.47
13:LF:241:ASN:O	13:LF:245:ARG:HG2	2.14	0.47
19:LM:96:GLU:O	19:LM:100:ARG:HG2	2.14	0.47
20:LN:200:LEU:HD22	20:LN:204:ARG:NH1	2.29	0.47
22:LP:5:SER:OG	22:LP:118:GLN:NE2	2.47	0.47
23:LQ:155:ALA:O	23:LQ:158:THR:OG1	2.31	0.47
43:Lk:25:ILE:HD13	43:Lk:57:LYS:HZ3	1.78	0.47
54:SK:65:ARG:NH1	64:Sd:20:SER:OG	2.48	0.47
66:Sg:289:LEU:HD11	66:Sg:298:LEU:HD21	1.95	0.47
69:SC:185:THR:OG1	85:S2:1155:U:OP1	2.31	0.47
70:SE:72:ILE:HD12	70:SE:77:ARG:HG3	1.97	0.47
72:SH:191:GLU:O	72:SH:193:GLN:NE2	2.33	0.47
80:SX:9:THR:HG22	85:S2:681:PSU:H4'	1.97	0.47
80:SX:28:LYS:HE2	80:SX:32:LEU:HD22	1.96	0.47
85:S2:51:U:H2'	85:S2:52:G:H8	1.80	0.47
85:S2:929:G:H2'	85:S2:930:C:O4'	2.14	0.47
5:L5:158:A:H5''	5:L5:159:C:H2'	1.97	0.47
5:L5:1503:A:H62	23:LQ:87:THR:HG21	1.79	0.47
5:L5:1811:G:H21	34:Lb:57:MET:HE2	1.80	0.47
5:L5:2279:A:O2'	37:Le:48:ARG:NH2	2.48	0.47
5:L5:3932:U:H2'	5:L5:3933:G:C8	2.49	0.47
5:L5:4742:G:H2'	5:L5:4743:G:C8	2.50	0.47
21:LO:149:TYR:O	21:LO:153:THR:OG1	2.30	0.47
31:LY:4:ASN:HB3	31:LY:7:VAL:HG22	1.96	0.47
40:Lh:89:ARG:O	40:Lh:93:ARG:HG2	2.15	0.47
48:Lp:75:SER:O	48:Lp:79:VAL:HG23	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Ls:62:ARG:HB3	50:Ls:66:ARG:HH12	1.80	0.47
72:SH:30:LEU:O	72:SH:33:ASN:ND2	2.48	0.47
76:SN:29:THR:OG1	76:SN:31:ASP:OD1	2.23	0.47
82:Sa:79:ILE:HD11	85:S2:1864:U:H5'	1.96	0.47
85:S2:516:A:N1	85:S2:643:A:O2'	2.41	0.47
85:S2:1208:A:H2'	85:S2:1209:A:C8	2.50	0.47
85:S2:1577:G:O2'	85:S2:1579:A:N3	2.41	0.47
4:AT:18:G:O2'	4:AT:58:G:N2	2.37	0.47
5:L5:267:G:H2'	5:L5:268:G:C8	2.50	0.47
5:L5:1356:U:H2'	5:L5:1357:C:C6	2.50	0.47
5:L5:2610:G:H2'	5:L5:2611:A:C8	2.50	0.47
38:Lf:25:THR:HB	38:Lf:87:LYS:HD3	1.97	0.47
42:Lj:85:LYS:HB3	42:Lj:85:LYS:HE3	1.74	0.47
51:Lt:76:SER:OG	51:Lt:116:MET:SD	2.63	0.47
52:SD:39:VAL:HG12	52:SD:48:ILE:HG12	1.96	0.47
54:SK:85:LEU:HD12	54:SK:86:PRO:HD2	1.96	0.47
66:Sg:82:SER:OG	66:Sg:83:TRP:N	2.48	0.47
5:L5:424:U:H2'	5:L5:425:U:C6	2.50	0.47
5:L5:457:G:H2'	5:L5:458:C:H6	1.79	0.47
5:L5:1743:A:N1	5:L5:1789:C:O2'	2.45	0.47
5:L5:1869:G:C6	88:L5:5285:SPD:H32	2.50	0.47
5:L5:2083:C:P	23:LQ:14:ARG:HH22	2.37	0.47
5:L5:3951:G:H1'	5:L5:4062:A:H61	1.79	0.47
5:L5:4088:C:H2'	5:L5:4089:G:H8	1.80	0.47
5:L5:4232:U:H5''	47:Lo:3:ASN:O	2.15	0.47
5:L5:4627:U:O2'	9:LB:55:HIS:ND1	2.39	0.47
5:L5:4642:U:H2'	5:L5:4643:G:C8	2.50	0.47
9:LB:220:ILE:HG12	9:LB:278:THR:HG23	1.96	0.47
38:Lf:41:PHE:HE1	38:Lf:110:ILE:HD13	1.80	0.47
62:SZ:85:ARG:NH2	85:S2:1597:C:OP2	2.38	0.47
73:SI:57:ALA:HB2	73:SI:183:GLY:HA2	1.97	0.47
78:SV:1:MET:HB3	78:SV:10:ASP:HB2	1.96	0.47
84:Se:28:LYS:HD3	84:Se:32:ALA:HB1	1.96	0.47
85:S2:99:A2M:HM'3	85:S2:99:A2M:H1'	1.53	0.47
85:S2:1129:G:H3'	85:S2:1130:G:N2	2.30	0.47
85:S2:1844:U:H2'	85:S2:1845:A:C8	2.50	0.47
5:L5:287:U:H2'	5:L5:288:G:C8	2.50	0.46
5:L5:1468:C:H2'	5:L5:1469:C:H6	1.81	0.46
5:L5:2084:C:O2	23:LQ:16:LYS:NZ	2.47	0.46
5:L5:3841:OMC:HM23	5:L5:3841:OMC:H1'	1.72	0.46
5:L5:4728:U:OP1	9:LB:132:LYS:NZ	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LM:36:ALA:HB3	19:LM:55:MET:HE1	1.96	0.46
52:SD:62:LYS:O	52:SD:67:ARG:NH2	2.41	0.46
57:SQ:139:ALA:HB2	85:S2:1650:A:H5''	1.97	0.46
70:SE:204:SER:OG	70:SE:205:PHE:N	2.41	0.46
71:SG:7:PHE:CE2	71:SG:9:ALA:HB3	2.50	0.46
85:S2:352:U:H2'	85:S2:353:C:C6	2.50	0.46
85:S2:1779:G:H2'	85:S2:1780:G:C8	2.50	0.46
3:CF:145:VAL:O	3:CF:183:TYR:OH	2.25	0.46
3:CF:146:LYS:NZ	3:CF:423:ARG:HH22	2.13	0.46
5:L5:280:G:H5''	20:LN:14:LYS:HE2	1.97	0.46
5:L5:1494:U:H2'	5:L5:1495:G:C8	2.50	0.46
5:L5:1996:C:O3'	50:Ls:44:ARG:NH1	2.46	0.46
5:L5:3718:A2M:HM'3	5:L5:3718:A2M:H1'	1.70	0.46
5:L5:4345:C:H2'	5:L5:4346:U:H6	1.80	0.46
5:L5:4476:C:O2'	5:L5:4478:G:OP2	2.30	0.46
5:L5:4918:C:H2'	5:L5:4919:G:H8	1.81	0.46
5:L5:4991:U:H2'	5:L5:4992:G:H8	1.79	0.46
13:LF:171:ASP:OD1	13:LF:172:ASN:N	2.47	0.46
19:LM:46:ARG:O	19:LM:48:GLN:NE2	2.36	0.46
20:LN:155:VAL:O	20:LN:162:ARG:NH2	2.48	0.46
32:LZ:136:PHE:O	39:Lg:78:TYR:OH	2.30	0.46
39:Lg:45:ALA:HB3	39:Lg:82:MET:HE2	1.96	0.46
70:SE:134:LYS:NZ	85:S2:127:C:O2	2.48	0.46
85:S2:367:U:H4'	85:S2:371:A:C8	2.51	0.46
85:S2:656:G:H5'	85:S2:662:G:N2	2.30	0.46
85:S2:693:A:H2'	85:S2:694:G:C8	2.50	0.46
85:S2:1491:G:H2'	85:S2:1492:U:C6	2.50	0.46
5:L5:737:C:C5	5:L5:739:G:H5''	2.51	0.46
5:L5:1974:U:H4'	5:L5:1975:G:H3'	1.97	0.46
5:L5:2335:C:H2'	5:L5:2336:G:H8	1.79	0.46
5:L5:2517:A:H5'	39:Lg:62:LYS:HD3	1.97	0.46
5:L5:2671:C:H2'	5:L5:2672:C:C6	2.51	0.46
5:L5:3910:C:H2'	5:L5:3911:C:C6	2.50	0.46
5:L5:4541:G:N2	5:L5:4544:A:OP2	2.40	0.46
7:L8:19:C:H2'	7:L8:20:A:C8	2.49	0.46
57:SQ:128:GLU:HG2	57:SQ:137:ALA:HB1	1.97	0.46
65:Sf:117:LEU:HD12	65:Sf:118:ARG:HD3	1.97	0.46
66:Sg:8:ARG:HB3	66:Sg:309:VAL:HG13	1.97	0.46
67:SA:104:THR:O	67:SA:107:THR:OG1	2.33	0.46
74:SJ:114:VAL:HG23	74:SJ:126:ALA:HB1	1.97	0.46
85:S2:576:A2M:HM'3	85:S2:576:A2M:H1'	1.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:1146:C:O2'	85:S2:1150:A:N1	2.46	0.46
5:L5:170:C:H42	5:L5:266:C:N4	2.13	0.46
5:L5:1339:U:OP1	33:La:8:THR:OG1	2.33	0.46
5:L5:1733:G:N3	5:L5:4214:A:H2'	2.30	0.46
5:L5:2835:A:O2'	9:LB:228:TYR:O	2.29	0.46
5:L5:3908:A:N7	5:L5:4449:A:N6	2.63	0.46
5:L5:4974:C:N4	5:L5:4975:G:O6	2.48	0.46
7:L8:66:A:H2'	7:L8:67:U:C6	2.50	0.46
64:Sd:2:GLY:HA3	64:Sd:6:LEU:HD21	1.97	0.46
69:SC:271:ASP:OD1	69:SC:272:HIS:N	2.48	0.46
70:SE:151:ASP:HA	71:SG:212:LEU:HD21	1.98	0.46
74:SJ:164:PRO:HB3	74:SJ:170:PRO:HA	1.97	0.46
81:SY:77:ASP:OD1	81:SY:77:ASP:N	2.48	0.46
85:S2:1142:G:N2	85:S2:1145:A:OP2	2.37	0.46
3:CF:229:LEU:HA	3:CF:232:LEU:HG	1.96	0.46
3:CF:345:ILE:N	3:CF:435:VAL:O	2.39	0.46
4:AT:44:A:H2'	4:AT:45:A:C8	2.50	0.46
4:AT:63:C:H2'	4:AT:64:G:C8	2.50	0.46
5:L5:318:A:H2'	5:L5:319:A:H8	1.81	0.46
5:L5:2306:G:H1'	5:L5:2332:A:N6	2.31	0.46
5:L5:2777:G:H5''	5:L5:2778:G:H5'	1.97	0.46
5:L5:3721:U:H2'	5:L5:3722:G:H8	1.79	0.46
5:L5:4761:G:H2'	5:L5:4762:A:C8	2.51	0.46
8:LA:206:PRO:HG3	8:LA:213:GLY:HA3	1.97	0.46
24:LR:15:LEU:HD22	24:LR:52:ARG:HB2	1.98	0.46
24:LR:176:ARG:NH2	85:S2:910:G:OP1	2.47	0.46
35:Lc:38:ILE:HD11	35:Lc:46:VAL:HG21	1.97	0.46
59:SS:38:ARG:HD2	60:ST:45:LEU:HD11	1.97	0.46
59:SS:48:ALA:O	59:SS:66:ARG:NH2	2.49	0.46
67:SA:63:ARG:HG3	67:SA:185:MET:HE1	1.97	0.46
85:S2:152:U:H2'	85:S2:153:G:C8	2.50	0.46
85:S2:563:G:O2'	85:S2:564:A:OP1	2.31	0.46
85:S2:907:G:H2'	85:S2:908:A:C8	2.50	0.46
85:S2:1808:U:H2'	85:S2:1809:A:H8	1.81	0.46
3:CF:102:MET:HE3	3:CF:136:HIS:CD2	2.51	0.46
5:L5:1438:U:H4'	13:LF:31:LYS:HE3	1.98	0.46
5:L5:2481:G:H2'	5:L5:2482:C:C6	2.50	0.46
5:L5:3720:G:H22	5:L5:3733:A:H2	1.64	0.46
5:L5:3848:U:H2'	5:L5:3849:A:C8	2.50	0.46
11:LD:146:LEU:HB2	11:LD:163:LEU:HD12	1.98	0.46
29:LW:5:LEU:HD12	29:LW:30:GLN:NE2	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:Lc:34:THR:HG23	35:Lc:95:ALA:HB2	1.97	0.46
63:Sc:17:VAL:HA	63:Sc:30:VAL:HG12	1.98	0.46
68:SB:186:ASN:OD1	68:SB:187:LYS:N	2.49	0.46
78:SV:74:LYS:O	78:SV:81:LYS:NZ	2.41	0.46
80:SX:107:ARG:HG2	80:SX:112:VAL:HG22	1.97	0.46
85:S2:747:U:C2	85:S2:796:G:N1	2.84	0.46
3:CF:214:TRP:CZ2	3:CF:231:ALA:HB2	2.51	0.46
3:CF:214:TRP:HZ2	3:CF:231:ALA:HB2	1.81	0.46
5:L5:1097:C:H2'	5:L5:1098:G:C8	2.51	0.46
5:L5:1770:A:N7	5:L5:1771:U:N3	2.64	0.46
5:L5:1846:G:H2'	5:L5:1847:C:C6	2.50	0.46
5:L5:2413:U:H2'	5:L5:2414:G:H8	1.81	0.46
5:L5:2693:G:OP2	43:Lk:33:LYS:NZ	2.41	0.46
5:L5:2716:C:O3'	27:LU:107:LYS:NZ	2.48	0.46
5:L5:2765:A:H2'	5:L5:2766:A:H8	1.80	0.46
5:L5:4524:G:OP1	5:L5:4559:A:N6	2.43	0.46
15:LH:89:ARG:HD3	15:LH:91:LYS:HE3	1.98	0.46
19:LM:130:LEU:HB3	21:LO:177:LEU:HD11	1.96	0.46
29:LW:56:ARG:HE	29:LW:61:LYS:CB	2.29	0.46
30:LX:90:ILE:HG12	30:LX:96:LEU:HD23	1.98	0.46
37:Le:76:LYS:HD2	37:Le:98:GLU:CD	2.41	0.46
37:Le:99:ILE:HD13	37:Le:108:ARG:HB2	1.98	0.46
40:Lh:107:GLN:O	40:Lh:111:GLU:HG3	2.16	0.46
53:SF:142:SER:HB3	63:Sc:50:VAL:HG22	1.97	0.46
56:SP:93:MET:HE1	56:SP:106:GLU:OE1	2.16	0.46
62:SZ:106:GLN:HG3	62:SZ:108:ILE:HD11	1.96	0.46
77:SO:113:GLN:OE1	82:Sa:46:GLU:N	2.48	0.46
85:S2:17:C:H2'	85:S2:18:C:H6	1.80	0.46
85:S2:106:C:H2'	85:S2:107:A:C8	2.48	0.46
85:S2:1652:G:N2	85:S2:1672:U:O2	2.37	0.46
85:S2:1719:A:N6	85:S2:1814:G:O2'	2.49	0.46
3:CF:282:PRO:HG2	3:CF:324:ASN:HA	1.98	0.46
4:AT:26:C:H2'	4:AT:27:G:H8	1.79	0.46
5:L5:71:C:H1'	18:LL:62:PRO:O	2.16	0.46
5:L5:418:A:C2	7:L8:17:A:H1'	2.50	0.46
5:L5:1982:G:H5'	51:Lt:28:LEU:HD13	1.97	0.46
5:L5:2583:C:OP2	39:Lg:76:ARG:NH1	2.47	0.46
5:L5:3848:U:H2'	5:L5:3849:A:H8	1.81	0.46
5:L5:4457:PSU:H1'	9:LB:252:ALA:HB3	1.98	0.46
5:L5:4638:U:H2'	5:L5:4639:G:N3	2.31	0.46
5:L5:4688:C:H2'	5:L5:4689:PSU:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:L7:15:C:H2'	6:L7:16:A:H8	1.81	0.46
9:LB:27:GLY:HA2	9:LB:276:HIS:CD2	2.50	0.46
38:Lf:45:LYS:NZ	38:Lf:108:SER:HA	2.31	0.46
56:SP:123:TYR:OH	59:SS:120:HIS:NE2	2.44	0.46
57:SQ:100:VAL:HG22	57:SQ:101:ASP:H	1.80	0.46
68:SB:145:LYS:HB2	68:SB:145:LYS:HE3	1.70	0.46
77:SO:40:THR:HG21	77:SO:74:ALA:HB2	1.97	0.46
85:S2:1047:C:H2'	85:S2:1048:G:O4'	2.16	0.46
3:CF:198:GLY:HA2	3:CF:201:MET:HE1	1.98	0.46
5:L5:260:C:H2'	5:L5:261:G:C8	2.51	0.46
5:L5:1084:C:H2'	5:L5:1085:C:H6	1.81	0.46
5:L5:1558:A:H2'	5:L5:1559:G:C8	2.50	0.46
5:L5:1824:G:H5''	26:LT:35:LYS:HE2	1.98	0.46
5:L5:1878:G:H2'	5:L5:1879:C:C6	2.51	0.46
5:L5:4305:G:C6	26:LT:80:VAL:HG21	2.51	0.46
7:L8:58:G:O6	42:Lj:63:ARG:NH1	2.45	0.46
16:LI:38:ARG:NH1	16:LI:45:GLU:OE1	2.44	0.46
33:La:36:GLY:HA3	33:La:40:HIS:CE1	2.50	0.46
54:SK:32:HIS:CD2	54:SK:45:VAL:HG11	2.51	0.46
57:SQ:130:LYS:HA	57:SQ:137:ALA:HA	1.98	0.46
60:ST:114:GLU:OE1	60:ST:114:GLU:N	2.48	0.46
62:SZ:86:ALA:HA	62:SZ:89:GLN:HE21	1.80	0.46
5:L5:457:G:H2'	5:L5:458:C:C6	2.51	0.46
5:L5:1457:G:O2'	23:LQ:75:ARG:NH2	2.46	0.46
7:L8:39:G:H1'	7:L8:103:A:N6	2.31	0.46
15:LH:27:VAL:HG12	15:LH:84:VAL:HG21	1.97	0.46
68:SB:23:ASP:OD1	68:SB:23:ASP:N	2.48	0.46
74:SJ:121:LYS:NZ	85:S2:528:A:H5'	2.30	0.46
85:S2:414:A:H2'	85:S2:415:A:H8	1.82	0.46
54:SK:23:ALA:HB3	54:SK:69:TRP:HZ3	1.82	0.45
55:SM:49:LEU:HD21	55:SM:123:VAL:HG11	1.97	0.45
59:SS:78:LYS:HD3	59:SS:78:LYS:HA	1.73	0.45
63:Sc:37:ASP:OD1	63:Sc:39:SER:OG	2.31	0.45
68:SB:85:LYS:HB2	68:SB:101:HIS:HB3	1.98	0.45
69:SC:110:MET:HG2	69:SC:125:LYS:HB3	1.97	0.45
72:SH:91:HIS:ND1	72:SH:169:LYS:HG2	2.30	0.45
80:SX:28:LYS:O	80:SX:32:LEU:HB2	2.16	0.45
85:S2:484:A2M:HM'3	85:S2:484:A2M:H1'	1.72	0.45
5:L5:444:G:H2'	5:L5:445:U:H6	1.81	0.45
5:L5:2412:A:H2'	5:L5:2413:U:C6	2.51	0.45
5:L5:2498:C:H2'	5:L5:2499:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:2803:U:H2'	5:L5:2804:OMC:H6	1.81	0.45
5:L5:5002:U:H2'	5:L5:5003:U:C6	2.51	0.45
18:LL:91:ALA:HB1	18:LL:96:ILE:HB	1.99	0.45
32:LZ:88:ASP:OD1	32:LZ:88:ASP:N	2.41	0.45
51:Lt:117:ARG:HG3	51:Lt:119:ARG:HG3	1.99	0.45
65:Sf:105:TYR:OH	85:S2:1310:U:OP2	2.33	0.45
69:SC:68:ARG:HG2	69:SC:277:HIS:HB2	1.97	0.45
73:SI:84:ASN:HD22	73:SI:100:CYS:HB3	1.80	0.45
83:Sb:33:MET:HE3	83:Sb:48:SER:HA	1.99	0.45
84:Se:39:ASN:HA	84:Se:43:VAL:HG12	1.99	0.45
85:S2:747:U:O2	85:S2:796:G:C2	2.69	0.45
85:S2:1390:U:H2'	85:S2:1391:OMC:C6	2.52	0.45
5:L5:1306:C:H2'	5:L5:1307:A:H8	1.81	0.45
5:L5:2361:G:O2'	5:L5:3859:G:O6	2.32	0.45
5:L5:3687:A:O2'	8:LA:236:GLY:N	2.48	0.45
5:L5:4066:U:H2'	5:L5:4067:U:H6	1.81	0.45
5:L5:4619:U:H2'	5:L5:4620:OMU:H6	1.98	0.45
5:L5:4896:G:H2'	5:L5:4897:G:C8	2.51	0.45
53:SF:59:LYS:HB3	53:SF:62:ARG:HG3	1.99	0.45
53:SF:100:ILE:HD11	53:SF:108:PRO:HB3	1.98	0.45
56:SP:22:LEU:HA	56:SP:25:LEU:HD12	1.97	0.45
57:SQ:15:ARG:HH22	85:S2:1444:U:P	2.39	0.45
72:SH:33:ASN:ND2	72:SH:36:LEU:HB3	2.31	0.45
79:SW:76:SER:OG	85:S2:1158:G:O3'	2.33	0.45
85:S2:692:G:N7	85:S2:693:A:N6	2.64	0.45
85:S2:1304:U:H2'	85:S2:1305:C:C6	2.52	0.45
85:S2:1850:MA6:H8	85:S2:1850:MA6:O5'	2.17	0.45
5:L5:270:U:H2'	5:L5:271:C:C6	2.52	0.45
5:L5:422:C:H2'	5:L5:423:G:H8	1.82	0.45
5:L5:1259:G:H2'	5:L5:1260:G:H8	1.80	0.45
5:L5:1268:G:N7	34:Lb:111:ARG:NH2	2.62	0.45
5:L5:1481:C:H5	41:Li:3:LEU:HB3	1.82	0.45
5:L5:1683:PSU:H2'	5:L5:1684:A:C8	2.52	0.45
5:L5:2021:G:OP1	50:Ls:58:ASN:N	2.42	0.45
5:L5:2607:C:O5'	24:LR:96:MET:HE1	2.16	0.45
5:L5:3785:A2M:H2	5:L5:4551:U:O2	2.16	0.45
5:L5:4882:U:OP1	19:LM:117:LYS:NZ	2.48	0.45
15:LH:4:ILE:HG12	15:LH:61:TRP:CH2	2.52	0.45
20:LN:157:LYS:O	20:LN:162:ARG:NH1	2.45	0.45
43:Lk:12:LEU:HB3	43:Lk:16:ARG:HH12	1.81	0.45
53:SF:185:SER:H	53:SF:190:ILE:HD11	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SU:38:ASP:OD1	61:SU:39:LEU:N	2.49	0.45
67:SA:184:ARG:NE	67:SA:191:ARG:HD3	2.31	0.45
72:SH:37:LYS:HD2	72:SH:40:LEU:HD23	1.99	0.45
85:S2:432:G:H2'	85:S2:433:A:C8	2.52	0.45
85:S2:1101:U:H2'	85:S2:1102:G:H8	1.80	0.45
85:S2:1495:G:H2'	85:S2:1496:U:C6	2.52	0.45
3:CF:17:ASP:H	3:CF:20:LYS:NZ	2.15	0.45
5:L5:161:G:H2'	5:L5:162:A:H8	1.82	0.45
5:L5:179:G:H2'	5:L5:180:C:C6	2.51	0.45
5:L5:400:A2M:HM'3	5:L5:400:A2M:H1'	1.60	0.45
5:L5:1942:A:N3	5:L5:4432:C:O2'	2.48	0.45
5:L5:4301:U:OP1	26:LT:78:LYS:NZ	2.40	0.45
5:L5:4589:A:N1	5:L5:4621:C:O2'	2.39	0.45
5:L5:4716:C:OP1	9:LB:276:HIS:ND1	2.49	0.45
7:L8:39:G:OP1	40:Lh:86:LYS:NZ	2.50	0.45
15:LH:61:TRP:CZ3	19:LM:33:GLN:HG3	2.51	0.45
58:SR:100:PRO:HG2	58:SR:122:PRO:HD3	1.99	0.45
58:SR:109:LEU:HG	58:SR:111:PHE:HD2	1.82	0.45
67:SA:215:GLN:O	67:SA:219:GLU:HG2	2.17	0.45
72:SH:63:PHE:HA	72:SH:95:ILE:O	2.17	0.45
73:SI:5:ARG:NE	85:S2:379:C:O2	2.49	0.45
77:SO:50:LYS:NZ	85:S2:951:C:H1'	2.32	0.45
81:SY:11:LYS:HB2	81:SY:24:VAL:HG12	1.98	0.45
85:S2:1259:A:H1'	85:S2:1264:C:N4	2.31	0.45
85:S2:1278:A:H2'	85:S2:1279:C:C6	2.52	0.45
5:L5:1534:A2M:H8	42:Lj:15:THR:OG1	2.17	0.45
5:L5:2495:U:H2'	5:L5:2496:G:H8	1.82	0.45
5:L5:2550:G:O2'	5:L5:2587:A:N1	2.49	0.45
5:L5:2809:G:O2'	5:L5:4644:G:OP1	2.30	0.45
23:LQ:110:ARG:HG3	23:LQ:120:ILE:HD12	1.98	0.45
25:LS:69:GLU:HG3	25:LS:71:SER:H	1.81	0.45
38:Lf:45:LYS:HA	38:Lf:107:PRO:HD2	1.98	0.45
72:SH:76:GLN:O	72:SH:80:VAL:HG23	2.17	0.45
72:SH:91:HIS:CE1	72:SH:169:LYS:HG2	2.52	0.45
73:SI:139:LYS:HE2	73:SI:139:LYS:HB2	1.70	0.45
80:SX:17:ARG:HH12	85:S2:659:G:N2	2.14	0.45
82:Sa:36:ILE:HD11	82:Sa:75:VAL:HG12	1.97	0.45
85:S2:671:A:H4'	85:S2:672:A:H5''	1.98	0.45
3:CF:117:ALA:HB3	3:CF:122:GLU:HG3	1.99	0.45
5:L5:264:C:H1'	40:Lh:112:ARG:HH21	1.82	0.45
5:L5:319:A:H1'	5:L5:3726:A:N3	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:1396:G:HO2'	5:L5:1468:C:HO2'	1.58	0.45
5:L5:4113:U:H4'	5:L5:4115:G:C5	2.51	0.45
5:L5:4232:U:H5'	47:Lo:3:ASN:HB3	1.99	0.45
5:L5:4920:C:H2'	5:L5:4921:C:H6	1.81	0.45
7:L8:5:U:H2'	7:L8:6:C:H6	1.82	0.45
8:LA:180:LEU:HD11	48:Lp:26:VAL:HG11	1.98	0.45
82:Sa:60:ASP:OD1	82:Sa:60:ASP:N	2.43	0.45
85:S2:293:C:O2'	85:S2:294:U:H3'	2.17	0.45
85:S2:1272:OMC:H1'	85:S2:1272:OMC:HM23	1.72	0.45
85:S2:1528:G:H2'	85:S2:1529:C:C6	2.52	0.45
85:S2:1731:A:H2'	85:S2:1732:G:C8	2.52	0.45
5:L5:2249:C:H2'	5:L5:2250:C:H5	1.81	0.45
5:L5:2326:G:H5''	37:Le:127:ALA:HB1	1.98	0.45
5:L5:2579:G:N2	5:L5:2582:A:OP2	2.42	0.45
5:L5:3823:G:OP2	5:L5:3823:G:N2	2.39	0.45
6:L7:23:A:N3	6:L7:118:C:O2'	2.38	0.45
8:LA:112:ILE:HD11	48:Lp:79:VAL:HG22	1.97	0.45
11:LD:108:ARG:CZ	11:LD:253:TYR:HB2	2.47	0.45
36:Ld:33:ILE:HD11	36:Ld:45:ALA:HA	1.99	0.45
46:Ln:12:ARG:HG2	46:Ln:15:ARG:HH21	1.81	0.45
53:SF:76:MET:HE1	53:SF:158:ALA:HB3	1.99	0.45
59:SS:62:ASP:OD1	59:SS:62:ASP:N	2.49	0.45
62:SZ:42:ASP:OD1	62:SZ:42:ASP:N	2.46	0.45
66:Sg:239:LEU:HD11	66:Sg:248:LEU:HD21	1.99	0.45
68:SB:155:TYR:OH	85:S2:989:C:OP2	2.30	0.45
71:SG:56:ASN:HB2	71:SG:108:VAL:HG22	1.99	0.45
72:SH:37:LYS:HA	72:SH:40:LEU:HB3	1.99	0.45
77:SO:149:ARG:NH2	85:S2:961:G:OP1	2.50	0.45
85:S2:45:A:N1	85:S2:480:G:O2'	2.45	0.45
85:S2:674:C:H2'	85:S2:675:U:C6	2.52	0.45
85:S2:1435:C:O2'	85:S2:1436:C:O4'	2.26	0.45
85:S2:1856:C:H2'	85:S2:1857:G:H8	1.82	0.45
1:CI:79:ARG:HH22	5:L5:2708:U:H1'	1.82	0.45
3:CF:229:LEU:HD13	3:CF:232:LEU:HD11	1.98	0.45
5:L5:3606:U:H2'	5:L5:3607:U:C6	2.52	0.45
5:L5:3663:A:N6	5:L5:4168:G:O2'	2.50	0.45
5:L5:3809:G:OP2	5:L5:3809:G:N2	2.35	0.45
5:L5:5004:C:H2'	5:L5:5005:G:O4'	2.16	0.45
7:L8:96:C:H5''	40:Lh:66:LYS:HG2	1.99	0.45
9:LB:240:LEU:HB2	9:LB:248:LEU:HA	1.99	0.45
10:LC:293:LEU:O	10:LC:299:GLN:NE2	2.39	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LD:291:GLN:NE2	16:LI:213:HIS:O	2.35	0.45
18:LL:56:ARG:NH1	18:LL:74:ARG:O	2.39	0.45
25:LS:161:ARG:HD2	25:LS:164:LYS:HB2	1.99	0.45
36:Ld:53:ALA:HA	36:Ld:88:LEU:HD21	1.98	0.45
50:Ls:29:ILE:HG22	50:Ls:88:PHE:CD1	2.52	0.45
52:SD:23:GLU:OE2	52:SD:27:ARG:NE	2.49	0.45
53:SF:78:MET:HE3	85:S2:1222:G:H5''	1.99	0.45
53:SF:161:ALA:O	53:SF:165:ASN:ND2	2.44	0.45
68:SB:147:ASN:OD1	68:SB:148:ASN:N	2.49	0.45
73:SI:98:LYS:HG3	73:SI:178:ARG:HG2	1.99	0.45
85:S2:118:C:H1'	85:S2:445:A:C5	2.52	0.45
85:S2:388:U:H2'	85:S2:389:A:C8	2.52	0.45
85:S2:1289:U:H2'	85:S2:1290:G:C8	2.52	0.45
85:S2:1417:C:N3	85:S2:1422:G:N1	2.64	0.45
85:S2:1731:A:H2'	85:S2:1732:G:H8	1.82	0.45
85:S2:1856:C:H2'	85:S2:1857:G:C8	2.52	0.45
2:Pt:73:A:N3	16:LI:110:ARG:NH1	2.65	0.45
3:CF:348:ASN:HD21	3:CF:431:GLN:HG3	1.82	0.45
5:L5:423:G:H5'	22:LP:26:PHE:HZ	1.81	0.45
5:L5:1070:G:O2'	5:L5:1071:C:O5'	2.34	0.45
5:L5:1359:G:H4'	20:LN:203:TYR:HB2	1.98	0.45
5:L5:2006:U:H2'	5:L5:2007:G:O4'	2.17	0.45
5:L5:4612:C:C2	15:LH:120:GLU:HB2	2.52	0.45
6:L7:110:G:H2'	6:L7:111:C:C6	2.52	0.45
9:LB:218:ASP:OD2	9:LB:348:ARG:NH2	2.34	0.45
32:LZ:47:ASP:N	32:LZ:69:LYS:O	2.43	0.45
35:Lc:48:LEU:HD13	35:Lc:57:LYS:HG3	1.98	0.45
51:Lt:119:ARG:CZ	51:Lt:123:ARG:HH12	2.29	0.45
59:SS:132:ARG:NH1	85:S2:1623:A:N1	2.65	0.45
66:Sg:249:CYS:HB3	66:Sg:258:ILE:HD13	1.99	0.45
71:SG:133:LEU:HB2	85:S2:65:C:N3	2.32	0.45
80:SX:140:ARG:HH22	80:SX:142:ARG:HH21	1.65	0.45
85:S2:1393:G:H2'	85:S2:1394:G:C8	2.52	0.45
5:L5:1725:U:H2'	5:L5:1726:U:H6	1.82	0.44
5:L5:2664:G:H4'	5:L5:2677:G:H4'	1.98	0.44
5:L5:4364:G:H2'	5:L5:4365:C:H6	1.82	0.44
5:L5:4627:U:H5''	9:LB:373:LYS:HG2	1.98	0.44
5:L5:4723:A:H2'	5:L5:4724:A:C8	2.52	0.44
5:L5:5001:PSU:H5''	9:LB:382:MET:HE1	1.99	0.44
8:LA:22:HIS:O	8:LA:24:LYS:NZ	2.48	0.44
9:LB:36:ASP:OD1	9:LB:36:ASP:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LP:94:MET:HE1	22:LP:146:ILE:HB	2.00	0.44
50:Ls:102:LEU:HD11	50:Ls:187:LEU:HD23	1.99	0.44
58:SR:10:LYS:HG2	58:SR:53:TYR:CE2	2.52	0.44
63:Sc:29:GLN:HA	63:Sc:45:ASN:HA	2.00	0.44
68:SB:138:PHE:O	68:SB:213:ARG:N	2.50	0.44
70:SE:186:GLY:HA3	85:S2:809:A:OP1	2.17	0.44
73:SI:10:LYS:NZ	85:S2:370:G:O2'	2.50	0.44
76:SN:5:HIS:HB3	76:SN:117:LEU:HD13	1.99	0.44
82:Sa:13:LYS:HA	82:Sa:13:LYS:HD3	1.68	0.44
85:S2:750:C:H42	85:S2:793:G:H1'	1.80	0.44
85:S2:1093:A:H2'	85:S2:1094:C:H6	1.81	0.44
5:L5:212:A:H2'	5:L5:213:G:H8	1.82	0.44
5:L5:493:G:O2'	5:L5:494:U:OP1	2.35	0.44
5:L5:1326:A2M:OP2	5:L5:4445:U:O2'	2.31	0.44
5:L5:3610:A:H2'	5:L5:3611:A:C8	2.53	0.44
9:LB:86:VAL:HG12	9:LB:201:LEU:HD23	1.99	0.44
11:LD:234:ASP:OD1	11:LD:235:MET:N	2.50	0.44
25:LS:27:LEU:HB3	26:LT:148:PRO:HB3	1.99	0.44
37:Le:35:TRP:CZ2	37:Le:56:PRO:HD2	2.52	0.44
53:SF:179:ASN:HB2	53:SF:187:SER:HB3	1.98	0.44
65:Sf:110:GLU:HG2	65:Sf:113:LYS:HD3	2.00	0.44
73:SI:45:THR:HG23	73:SI:53:LYS:HG3	1.99	0.44
81:SY:23:MET:O	81:SY:73:GLY:N	2.45	0.44
85:S2:1692:U:H2'	85:S2:1693:G:C8	2.52	0.44
2:Pt:24:A:O2'	5:L5:3770:U:O5'	2.29	0.44
3:CF:242:THR:HG23	3:CF:271:VAL:HG23	1.99	0.44
5:L5:454:U:H2'	5:L5:455:C:O4'	2.18	0.44
5:L5:652:G:H2'	5:L5:653:U:C6	2.52	0.44
5:L5:1095:A:N1	5:L5:1200:G:C6	2.85	0.44
5:L5:1995:G:H2'	5:L5:1996:C:C6	2.53	0.44
5:L5:2007:G:H2'	5:L5:2008:U:C6	2.52	0.44
5:L5:2399:G:O2'	5:L5:2822:G:O2'	2.33	0.44
5:L5:2864:A:H2'	5:L5:2865:U:C6	2.53	0.44
5:L5:2867:C:OP1	85:S2:368:U:N3	2.50	0.44
5:L5:4363:A:H5''	47:Lo:36:GLN:HG2	1.99	0.44
5:L5:4507:A:HO2'	28:LV:41:SER:HG	1.65	0.44
11:LD:107:ARG:NH1	11:LD:169:GLY:O	2.44	0.44
17:LJ:56:THR:OG1	17:LJ:64:ARG:N	2.46	0.44
23:LQ:43:PHE:CD2	23:LQ:133:GLY:HA3	2.52	0.44
23:LQ:99:LYS:HZ2	23:LQ:119:LYS:HD3	1.81	0.44
44:Ll:25:GLN:OE1	44:Ll:28:ARG:NH2	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SM:68:LEU:HD11	65:Sf:106:TYR:CE2	2.51	0.44
56:SP:48:GLY:O	56:SP:50:ARG:NH1	2.51	0.44
69:SC:64:THR:HG22	69:SC:66:LEU:N	2.32	0.44
73:SI:26:LYS:HE3	85:S2:444:G:O6	2.17	0.44
79:SW:28:ARG:NH2	85:S2:1093:A:H5''	2.32	0.44
85:S2:327:G:H5''	85:S2:328:U:C2	2.53	0.44
85:S2:689:U:H2'	85:S2:690:G:C4	2.52	0.44
85:S2:1694:U:O2'	85:S2:1833:C:O2'	2.29	0.44
5:L5:268:G:H2'	5:L5:269:G:C8	2.51	0.44
5:L5:423:G:H2'	5:L5:424:U:C6	2.53	0.44
5:L5:495:C:H2'	5:L5:496:G:C8	2.52	0.44
5:L5:1084:C:H2'	5:L5:1085:C:C6	2.52	0.44
5:L5:1620:U:H5''	42:Lj:30:GLN:HE21	1.82	0.44
5:L5:2408:U:OP1	44:Ll:42:ARG:NH1	2.44	0.44
8:LA:7:GLY:HA2	8:LA:10:LYS:HG3	2.00	0.44
15:LH:41:ILE:HG22	15:LH:43:VAL:HG13	1.98	0.44
56:SP:47:ARG:NE	85:S2:1619:A:OP1	2.40	0.44
59:SS:63:GLU:O	59:SS:67:VAL:HG23	2.18	0.44
67:SA:4:ALA:HA	78:SV:80:SER:HB3	1.99	0.44
71:SG:87:ARG:HD3	71:SG:87:ARG:HA	1.71	0.44
85:S2:1417:C:O2	85:S2:1422:G:C6	2.70	0.44
5:L5:1308:C:OP1	21:LO:93:LYS:NZ	2.42	0.44
5:L5:1703:C:O2'	5:L5:1704:C:O5'	2.35	0.44
5:L5:1806:G:H2'	5:L5:1807:C:H6	1.82	0.44
5:L5:4935:C:H2'	5:L5:4936:G:H8	1.80	0.44
8:LA:130:SER:HB2	8:LA:171:GLY:HA3	2.00	0.44
11:LD:182:GLY:HA2	11:LD:194:VAL:HG23	1.99	0.44
29:LW:56:ARG:HE	29:LW:61:LYS:HB2	1.82	0.44
32:LZ:95:VAL:HG12	32:LZ:110:ALA:HA	2.00	0.44
51:Lt:79:ALA:HA	51:Lt:82:ILE:HG22	2.00	0.44
52:SD:77:PHE:HB2	52:SD:79:PHE:CE1	2.52	0.44
54:SK:64:TRP:HB3	64:Sd:23:VAL:HA	1.99	0.44
65:Sf:105:TYR:HE1	65:Sf:131:PHE:HD2	1.65	0.44
72:SH:126:HIS:CE1	72:SH:181:THR:HG23	2.52	0.44
80:SX:90:CYS:HA	80:SX:93:PHE:CD2	2.52	0.44
85:S2:1030:A:H2'	85:S2:1031:A2M:H8	1.98	0.44
2:Pt:58:A:O2'	2:Pt:60:A:OP2	2.30	0.44
5:L5:24:G:N7	42:Lj:46:LYS:NZ	2.65	0.44
5:L5:35:U:H4'	5:L5:1525:A:C2	2.52	0.44
5:L5:1697:G:H22	5:L5:2084:C:P	2.41	0.44
5:L5:1998:A:N6	50:Ls:40:MET:SD	2.91	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:2909:C:H1'	5:L5:3585:G:H1	1.81	0.44
5:L5:3893:C:H2'	5:L5:3894:A:H8	1.83	0.44
5:L5:4590:A2M:HM'3	5:L5:4590:A2M:H1'	1.84	0.44
7:L8:102:G:OP2	7:L8:104:A:O2'	2.32	0.44
9:LB:299:ILE:HB	9:LB:313:SER:HB3	1.99	0.44
12:LE:190:HIS:HB3	12:LE:193:PHE:HD2	1.82	0.44
23:LQ:178:ARG:N	33:La:51:GLY:HA2	2.32	0.44
43:Lk:24:LYS:HB2	43:Lk:35:LYS:HB2	1.99	0.44
49:Lr:47:LYS:O	49:Lr:103:ARG:HD2	2.18	0.44
53:SF:128:ILE:HD13	85:S2:1683:C:H1'	2.00	0.44
58:SR:81:ARG:O	67:SA:85:ARG:NH2	2.50	0.44
62:SZ:48:VAL:HG23	62:SZ:80:ARG:HD2	1.99	0.44
85:S2:29:G:H2'	85:S2:30:C:C6	2.53	0.44
85:S2:955:A:N1	85:S2:968:U:O2'	2.39	0.44
85:S2:996:A:H2'	85:S2:997:A:C8	2.52	0.44
2:Pt:11:U:H2'	2:Pt:12:G:C8	2.52	0.44
5:L5:1327:C:H2'	5:L5:1328:G:H8	1.83	0.44
5:L5:1444:G:H22	5:L5:2104:G:N2	2.16	0.44
5:L5:1510:G:H2'	5:L5:1511:U:H6	1.82	0.44
5:L5:1613:A:H5''	8:LA:183:GLY:CA	2.48	0.44
5:L5:1984:A:N6	5:L5:2010:A:O2'	2.50	0.44
5:L5:3599:A:H2'	5:L5:3600:G:C8	2.52	0.44
5:L5:4070:U:H2'	5:L5:4071:U:C6	2.53	0.44
5:L5:4244:A:H2'	5:L5:4245:G:O4'	2.18	0.44
5:L5:4524:G:N3	9:LB:252:ALA:HB1	2.33	0.44
5:L5:4862:G:H2'	5:L5:4863:G:C8	2.53	0.44
6:L7:57:C:H2'	6:L7:58:A:H8	1.83	0.44
10:LC:10:VAL:O	10:LC:18:SER:OG	2.29	0.44
11:LD:289:ARG:O	11:LD:292:GLU:HG3	2.18	0.44
21:LO:81:TRP:HB2	21:LO:104:VAL:HG21	2.00	0.44
21:LO:119:VAL:N	25:LS:168:THR:O	2.47	0.44
85:S2:72:C:H5'	85:S2:73:C:C5	2.53	0.44
85:S2:149:A:N7	85:S2:169:U:O2	2.51	0.44
85:S2:291:G:H2'	85:S2:292:A:C8	2.53	0.44
85:S2:1093:A:H2'	85:S2:1094:C:C6	2.52	0.44
85:S2:1337:4AC:O5'	85:S2:1337:4AC:H6	2.17	0.44
3:CF:375:LEU:HD11	3:CF:394:LEU:HD11	2.00	0.44
3:CF:393:PHE:HE2	3:CF:395:LYS:HG2	1.83	0.44
4:AT:57:C:C5	5:L5:2009:A:H1'	2.53	0.44
5:L5:308:G:OP2	5:L5:308:G:N2	2.42	0.44
5:L5:1426:G:N1	5:L5:1458:C:OP2	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:1802:A:H4'	26:LT:105:PHE:CE1	2.53	0.44
5:L5:3708:C:H2'	5:L5:3709:U:C6	2.52	0.44
11:LD:110:LEU:HB3	11:LD:115:MET:O	2.18	0.44
56:SP:22:LEU:HA	56:SP:25:LEU:HB2	1.99	0.44
62:SZ:102:LYS:HA	62:SZ:102:LYS:HD3	1.85	0.44
66:Sg:100:ARG:CZ	85:S2:1399:C:H5''	2.48	0.44
69:SC:259:THR:HG21	78:SV:16:LYS:H	1.82	0.44
69:SC:271:ASP:O	69:SC:275:LYS:HG3	2.18	0.44
74:SJ:40:LYS:NZ	85:S2:641:A:OP1	2.36	0.44
74:SJ:124:HIS:CD2	84:Se:35:ARG:HD2	2.53	0.44
85:S2:943:U:C2	85:S2:944:A:C8	3.06	0.44
5:L5:684:G:H5''	12:LE:100:LYS:HE3	2.00	0.44
5:L5:972:C:H2'	5:L5:973:G:H8	1.82	0.44
5:L5:982:U:H2'	5:L5:983:C:C6	2.53	0.44
5:L5:1181:C:O2'	5:L5:1183:C:H5''	2.18	0.44
5:L5:1977:C:O2'	5:L5:1978:C:OP1	2.33	0.44
5:L5:2667:C:O4'	24:LR:96:MET:HG2	2.16	0.44
5:L5:4401:G:H2'	5:L5:4402:C:H6	1.82	0.44
5:L5:4458:C:H2'	5:L5:4459:U:C6	2.52	0.44
5:L5:4642:U:H2'	5:L5:4643:G:H8	1.82	0.44
5:L5:4745:G:H22	5:L5:4955:A:H2	1.66	0.44
5:L5:5002:U:H2'	5:L5:5003:U:H6	1.83	0.44
8:LA:114:CYS:N	8:LA:165:VAL:O	2.51	0.44
25:LS:173:ASN:ND2	25:LS:175:PHE:O	2.51	0.44
28:LV:43:LYS:HE2	28:LV:62:MET:HE3	2.00	0.44
36:Ld:57:MET:HG2	36:Ld:88:LEU:HD23	2.00	0.44
53:SF:167:LYS:HA	62:SZ:71:ALA:HB1	1.99	0.44
55:SM:20:GLU:HG2	55:SM:119:GLN:HB2	2.00	0.44
66:Sg:230:LEU:HD11	66:Sg:259:TRP:CG	2.53	0.44
85:S2:15:U:H2'	85:S2:16:G:O4'	2.18	0.44
85:S2:166:A2M:HM'3	85:S2:166:A2M:H1'	1.80	0.44
3:CF:58:TRP:CD1	3:CF:67:ARG:HG2	2.53	0.43
5:L5:178:C:N4	5:L5:179:G:O6	2.51	0.43
5:L5:189:G:H2'	5:L5:190:G:H8	1.81	0.43
5:L5:223:G:H4'	5:L5:225:G:N7	2.32	0.43
5:L5:1207:C:H2'	5:L5:1208:G:H8	1.82	0.43
5:L5:2007:G:H2'	5:L5:2008:U:H6	1.82	0.43
5:L5:2368:A:N6	5:L5:2827:G:O2'	2.50	0.43
5:L5:2491:C:H2'	5:L5:2492:C:C6	2.53	0.43
5:L5:2676:A:OP2	5:L5:2676:A:H8	2.01	0.43
5:L5:4344:U:H2'	5:L5:4345:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:4481:U:H2'	5:L5:4482:U:H6	1.82	0.43
9:LB:393:LYS:HG3	9:LB:396:ARG:HH21	1.83	0.43
14:LG:83:PHE:HA	14:LG:183:ILE:HD13	2.00	0.43
28:LV:92:ASP:O	29:LW:2:LYS:NZ	2.51	0.43
38:Lf:36:ARG:O	38:Lf:39:THR:OG1	2.31	0.43
47:Lo:11:PHE:O	47:Lo:81:ARG:NH2	2.51	0.43
55:SM:23:LYS:O	55:SM:27:ILE:HG12	2.18	0.43
65:Sf:103:LEU:HD12	65:Sf:105:TYR:CZ	2.53	0.43
72:SH:58:LYS:HA	72:SH:58:LYS:HD2	1.82	0.43
73:SI:4:SER:OG	73:SI:6:ASP:OD2	2.21	0.43
85:S2:609:U:H2'	85:S2:610:G:C8	2.51	0.43
85:S2:962:A:N1	85:S2:1055:A:O2'	2.51	0.43
85:S2:1279:C:H2'	85:S2:1280:G:C8	2.52	0.43
3:CF:428:ASP:HB3	3:CF:433:VAL:HG21	2.00	0.43
4:AT:3:C:H42	4:AT:71:A:H61	1.65	0.43
5:L5:209:U:OP1	31:LY:63:LYS:NZ	2.46	0.43
5:L5:1613:A:H5''	8:LA:183:GLY:HA2	2.00	0.43
5:L5:1890:G:OP2	5:L5:1890:G:N2	2.47	0.43
5:L5:1910:G:O2'	5:L5:1917:A:N1	2.45	0.43
5:L5:2292:C:H2'	5:L5:2293:U:C6	2.53	0.43
5:L5:2448:G:H2'	5:L5:2449:A:C8	2.53	0.43
5:L5:3825:A2M:H2'	5:L5:3826:C:O4'	2.18	0.43
5:L5:3927:U:H2'	5:L5:3928:A:C8	2.53	0.43
7:L8:90:C:H1'	31:LY:24:HIS:HB3	1.99	0.43
8:LA:145:LYS:HD3	8:LA:145:LYS:HA	1.81	0.43
10:LC:150:LEU:O	10:LC:152:LEU:N	2.51	0.43
51:Lt:12:VAL:HG11	51:Lt:65:GLN:N	2.31	0.43
53:SF:60:ARG:HD2	85:S2:1679:A:H2'	2.00	0.43
59:SS:64:VAL:O	59:SS:68:ILE:HG12	2.17	0.43
69:SC:178:HIS:HB2	69:SC:220:ASP:HB2	2.00	0.43
69:SC:202:THR:HG23	74:SJ:54:ARG:HH22	1.82	0.43
71:SG:23:LYS:HE3	71:SG:41:LEU:HA	2.00	0.43
72:SH:18:GLU:OE1	72:SH:18:GLU:N	2.51	0.43
81:SY:60:PHE:O	85:S2:571:U:O2'	2.36	0.43
85:S2:348:A:H2'	85:S2:349:A:C8	2.53	0.43
85:S2:375:U:H2'	85:S2:376:A:C8	2.54	0.43
85:S2:1705:C:H2'	85:S2:1706:G:C8	2.53	0.43
5:L5:180:C:H2'	5:L5:181:C:C6	2.53	0.43
5:L5:2409:U:H5	5:L5:2783:A:N1	2.17	0.43
5:L5:3928:A:H2'	5:L5:3929:G:O4'	2.18	0.43
5:L5:4508:C:N3	5:L5:4512:U:H5	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:5015:G:H2'	5:L5:5016:A:C2	2.53	0.43
7:L8:36:G:C5	40:Lh:89:ARG:HD3	2.54	0.43
11:LD:203:ASN:OD1	11:LD:203:ASN:N	2.51	0.43
12:LE:173:LEU:HD21	12:LE:191:GLN:HB3	2.00	0.43
23:LQ:35:LEU:O	23:LQ:39:THR:OG1	2.24	0.43
29:LW:113:LYS:O	29:LW:117:LYS:HG2	2.18	0.43
41:Li:76:ARG:HA	41:Li:76:ARG:HD3	1.79	0.43
66:Sg:65:PHE:C	66:Sg:82:SER:HG	2.26	0.43
70:SE:101:LEU:HD12	70:SE:101:LEU:HA	1.88	0.43
81:SY:113:ARG:NE	81:SY:131:PRO:HG2	2.33	0.43
85:S2:693:A:H2'	85:S2:694:G:N7	2.34	0.43
2:Pt:72:C:H3'	2:Pt:73:A:H8	1.83	0.43
5:L5:432:U:H1'	87:L5:5292:SPM:H82	2.00	0.43
5:L5:455:C:O2'	5:L5:456:C:H5'	2.17	0.43
5:L5:475:G:H2'	5:L5:476:G:H8	1.83	0.43
5:L5:654:C:H2'	5:L5:655:C:H6	1.84	0.43
5:L5:1461:C:H2'	5:L5:1462:A:C8	2.53	0.43
5:L5:3923:A:H2'	5:L5:3924:C:C6	2.53	0.43
5:L5:4911:A:OP2	9:LB:100:ARG:HD3	2.19	0.43
5:L5:5053:U:H3'	5:L5:5054:C:C6	2.53	0.43
8:LA:28:ARG:HD2	8:LA:123:ARG:HG3	2.01	0.43
29:LW:52:THR:O	29:LW:56:ARG:HG2	2.19	0.43
31:LY:23:SER:HA	31:LY:26:ARG:HB2	1.99	0.43
50:Ls:29:ILE:HD11	50:Ls:191:GLN:HG2	2.01	0.43
50:Ls:47:LEU:HD11	50:Ls:51:ALA:HB3	2.00	0.43
53:SF:185:SER:O	53:SF:185:SER:OG	2.31	0.43
61:SU:104:ILE:HB	61:SU:106:ILE:HG12	1.99	0.43
67:SA:37:TYR:CD1	67:SA:162:PRO:HG3	2.54	0.43
72:SH:30:LEU:HG	72:SH:33:ASN:HD22	1.84	0.43
72:SH:165:ASN:HA	72:SH:168:HIS:HE1	1.83	0.43
74:SJ:67:ASP:HB3	74:SJ:70:ARG:HB3	1.99	0.43
76:SN:25:TRP:CD1	83:Sb:82:LYS:HD2	2.54	0.43
85:S2:28:U:H2'	85:S2:29:G:C8	2.51	0.43
5:L5:1473:U:H2'	5:L5:1474:C:C6	2.53	0.43
5:L5:1511:U:H2'	5:L5:1512:G:H8	1.84	0.43
5:L5:2890:C:H2'	5:L5:2891:U:C6	2.54	0.43
5:L5:4277:G:H5''	26:LT:17:ARG:HG2	1.99	0.43
5:L5:4913:G:H4'	5:L5:4914:C:O5'	2.18	0.43
7:L8:47:C:H1'	7:L8:61:A:H2'	1.99	0.43
21:LO:88:LEU:HD12	21:LO:99:LEU:HD13	1.99	0.43
41:Li:33:LEU:HD21	41:Li:38:LYS:HD2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SF:103:LEU:HD11	62:SZ:67:LEU:HD22	1.99	0.43
59:SS:13:LEU:HD22	59:SS:20:ILE:HD11	1.99	0.43
59:SS:92:ASP:OD1	59:SS:92:ASP:N	2.51	0.43
83:Sb:11:SER:N	83:Sb:14:GLU:OE2	2.51	0.43
85:S2:835:C:H4'	85:S2:836:G:C8	2.54	0.43
85:S2:1017:U:H2'	85:S2:1018:U:H6	1.83	0.43
85:S2:1348:G:H2'	85:S2:1349:G:H8	1.83	0.43
85:S2:1558:C:H2'	85:S2:1559:C:C6	2.54	0.43
85:S2:1667:U:H2'	85:S2:1668:U:C6	2.54	0.43
2:Pt:22:U:H2'	2:Pt:23:C:H6	1.83	0.43
3:CF:146:LYS:HZ1	3:CF:423:ARG:HH22	1.65	0.43
5:L5:73:A:N6	18:LL:103:ARG:HH22	2.15	0.43
5:L5:716:C:OP1	10:LC:317:ASN:HB2	2.19	0.43
5:L5:1669:A:H4'	5:L5:1685:G:H22	1.82	0.43
5:L5:1996:C:N4	5:L5:2000:G:N2	2.46	0.43
5:L5:2399:G:HO2'	5:L5:2822:G:HO2'	1.63	0.43
5:L5:2844:A:O2'	5:L5:4631:G:H4'	2.19	0.43
5:L5:3871:A:H2'	5:L5:3872:A:C8	2.53	0.43
18:LL:48:PRO:HB2	40:Lh:120:ALA:HB2	2.00	0.43
42:Lj:67:LEU:HD23	42:Lj:67:LEU:HA	1.87	0.43
50:Ls:30:VAL:HA	50:Ls:189:ILE:HA	2.00	0.43
56:SP:79:HIS:HD2	85:S2:1298:G:C4	2.36	0.43
58:SR:60:ARG:HA	58:SR:63:ARG:HG2	2.00	0.43
64:Sd:54:LYS:NZ	85:S2:1482:C:OP1	2.52	0.43
71:SG:195:LYS:HD3	85:S2:126:G:H5'	2.00	0.43
75:SL:36:TYR:OH	85:S2:294:U:OP1	2.31	0.43
81:SY:7:ILE:HG12	81:SY:43:LYS:HD3	2.01	0.43
85:S2:1221:G:H2'	85:S2:1222:G:C8	2.54	0.43
85:S2:1410:C:H2'	85:S2:1411:G:H8	1.83	0.43
85:S2:1802:C:H2'	85:S2:1803:U:C6	2.54	0.43
3:CF:349:HIS:ND1	3:CF:351:GLY:O	2.52	0.43
5:L5:184:U:O2	5:L5:253:G:C2	2.72	0.43
5:L5:1302:U:H3'	5:L5:1303:A:H8	1.83	0.43
5:L5:1537:A:H2'	5:L5:1538:U:C6	2.54	0.43
5:L5:1662:C:H2'	5:L5:1663:C:H6	1.84	0.43
5:L5:2297:G:H4'	10:LC:242:PRO:HB2	2.00	0.43
5:L5:2436:U:OP2	30:LX:135:LYS:NZ	2.46	0.43
5:L5:2437:C:H1'	30:LX:125:ASN:HB3	2.00	0.43
5:L5:2695:A:OP1	43:Lk:35:LYS:NZ	2.28	0.43
5:L5:3855:C:H2'	5:L5:3856:A:H8	1.83	0.43
5:L5:4651:A:H2'	5:L5:4652:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:4680:G:H2'	5:L5:4681:A:C8	2.53	0.43
6:L7:111:C:H2'	6:L7:112:U:O4'	2.18	0.43
7:L8:70:G:H5''	31:LY:27:ARG:CZ	2.49	0.43
8:LA:173:GLY:O	48:Lp:69:TRP:NE1	2.51	0.43
11:LD:86:TYR:HE1	11:LD:247:ILE:HG13	1.83	0.43
24:LR:157:ASP:OD1	24:LR:158:GLN:N	2.52	0.43
31:LY:82:ILE:HG22	31:LY:83:GLU:H	1.84	0.43
32:LZ:41:ALA:HB2	32:LZ:77:TYR:HE1	1.83	0.43
40:Lh:70:ARG:HG2	40:Lh:83:LEU:HD22	2.01	0.43
51:Lt:85:LEU:HD13	51:Lt:109:ILE:HD12	2.01	0.43
60:ST:11:GLN:HB2	85:S2:1542:C:H4'	2.01	0.43
62:SZ:86:ALA:O	62:SZ:90:GLU:HG2	2.18	0.43
67:SA:69:GLU:HB2	69:SC:270:THR:HG21	1.99	0.43
67:SA:220:LYS:HD3	67:SA:220:LYS:HA	1.82	0.43
68:SB:97:LEU:HD23	68:SB:232:HIS:CD2	2.54	0.43
71:SG:174:PRO:O	85:S2:77:A:O2'	2.29	0.43
73:SI:3:ILE:O	73:SI:30:GLY:N	2.46	0.43
74:SJ:111:GLN:HE21	74:SJ:123:ILE:HG13	1.84	0.43
77:SO:96:LYS:HD3	77:SO:132:VAL:HG11	2.00	0.43
85:S2:634:A:H2'	85:S2:635:G:H8	1.84	0.43
85:S2:641:A:H2'	85:S2:642:U:O4'	2.18	0.43
85:S2:1831:A:O2'	85:S2:1832:6MZ:O5'	2.28	0.43
2:Pt:22:U:H2'	2:Pt:23:C:C6	2.53	0.43
3:CF:39:ILE:HD11	3:CF:56:TYR:CD1	2.54	0.43
3:CF:225:GLY:HA2	3:CF:230:GLU:CD	2.44	0.43
5:L5:381:U:H4'	5:L5:415:G:H5'	2.01	0.43
5:L5:1504:G:H2'	5:L5:1505:C:H6	1.84	0.43
5:L5:4113:U:H4'	5:L5:4115:G:C6	2.54	0.43
5:L5:4163:U:OP2	14:LG:53:ARG:NH2	2.52	0.43
5:L5:4578:G:H2'	5:L5:4579:PSU:C6	2.54	0.43
7:L8:52:A:H4'	44:Ll:19:GLN:HA	2.00	0.43
8:LA:20:VAL:HA	8:LA:23:ARG:HG3	1.99	0.43
8:LA:115:CYS:SG	8:LA:124:GLY:HA3	2.58	0.43
9:LB:57:VAL:HB	9:LB:367:PHE:HB3	2.00	0.43
12:LE:183:ARG:HA	12:LE:183:ARG:HD2	1.84	0.43
16:LI:54:SER:HB3	16:LI:135:ILE:HD11	2.01	0.43
18:LL:48:PRO:HG3	40:Lh:118:LYS:HE2	2.00	0.43
27:LU:23:LEU:HD23	27:LU:110:TYR:HB2	2.00	0.43
61:SU:87:ARG:HH22	85:S2:1447:G:P	2.42	0.43
67:SA:73:ASP:HB3	67:SA:120:ARG:HB2	2.01	0.43
69:SC:74:LYS:HA	69:SC:74:LYS:HD3	1.89	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:159:A2M:HM'3	85:S2:159:A2M:H1'	1.55	0.43
85:S2:575:A:H2'	85:S2:576:A2M:O4'	2.18	0.43
85:S2:1511:U:H2'	85:S2:1512:C:C6	2.54	0.43
85:S2:1514:G:H2'	85:S2:1515:G:C8	2.54	0.43
3:CF:352:GLN:HA	3:CF:395:LYS:HD3	2.01	0.43
5:L5:662:C:H2'	5:L5:663:G:C8	2.54	0.43
5:L5:978:G:H2'	5:L5:979:C:C6	2.53	0.43
5:L5:2407:G:H2'	44:L1:13:LEU:HD22	2.01	0.43
5:L5:3927:U:H2'	5:L5:3928:A:H8	1.84	0.43
5:L5:4156:G:H5''	5:L5:4157:A:H2'	2.00	0.43
14:LG:209:SER:HA	14:LG:212:LYS:HG3	2.00	0.43
24:LR:35:ALA:HA	24:LR:40:GLN:OE1	2.19	0.43
36:Ld:114:PHE:HA	36:Ld:117:LEU:HD12	2.01	0.43
46:Ln:2:ARG:NE	85:S2:1842:4AC:OP2	2.35	0.43
66:Sg:207:CYS:HB3	66:Sg:221:LEU:HD21	2.01	0.43
68:SB:29:ASP:OD1	68:SB:29:ASP:N	2.52	0.43
69:SC:85:SER:OG	78:SV:25:GLY:O	2.30	0.43
70:SE:31:PRO:HA	70:SE:81:THR:HB	2.00	0.43
70:SE:100:ARG:NH2	70:SE:118:GLU:OE2	2.51	0.43
71:SG:138:ALA:HA	71:SG:176:ILE:HD11	2.00	0.43
80:SX:70:VAL:HG11	80:SX:94:ILE:HG21	2.01	0.43
81:SY:93:ARG:HH21	85:S2:575:A:P	2.42	0.43
85:S2:517:OMC:H2'	85:S2:518:G:O4'	2.18	0.43
85:S2:1117:C:H2'	85:S2:1118:C:C6	2.53	0.43
3:CF:266:ARG:HD3	3:CF:305:GLY:HA2	2.01	0.43
4:AT:4:U:H2'	4:AT:5:C:C6	2.53	0.43
5:L5:689:U:H2'	5:L5:690:C:C6	2.54	0.43
5:L5:1194:G:H2'	5:L5:1195:G:H8	1.84	0.43
5:L5:1309:C:H2'	5:L5:1310:C:C6	2.53	0.43
5:L5:1628:C:OP2	8:LA:9:ARG:HD2	2.19	0.43
5:L5:1687:U:H2'	5:L5:1688:G:C8	2.54	0.43
5:L5:1779:U:H2'	5:L5:1780:A:C8	2.54	0.43
5:L5:2540:C:H5''	39:Lg:65:MET:HE3	2.00	0.43
5:L5:2823:G:N7	24:LR:20:LYS:HD3	2.33	0.43
5:L5:4563:U:C2	5:L5:4564:A:C8	3.07	0.43
5:L5:4918:C:H2'	5:L5:4919:G:C8	2.54	0.43
10:LC:144:ILE:HG13	10:LC:144:ILE:O	2.19	0.43
63:Sc:21:THR:OG1	63:Sc:22:GLY:N	2.51	0.43
67:SA:6:ASP:OD1	67:SA:6:ASP:N	2.51	0.43
74:SJ:29:LEU:HD23	84:Se:41:ARG:HD2	2.00	0.43
77:SO:141:ARG:NH2	85:S2:1856:C:OP1	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:51:U:H2'	85:S2:52:G:C8	2.54	0.43
85:S2:753:C:C4	85:S2:791:C:H4'	2.53	0.43
85:S2:881:G:N2	85:S2:906:U:H1'	2.34	0.43
85:S2:1287:A:N6	85:S2:1288:OMU:O2	2.52	0.43
3:CF:267:VAL:HG21	3:CF:302:ALA:HB1	2.01	0.42
5:L5:2648:G:H2'	5:L5:2649:G:H8	1.83	0.42
5:L5:2815:A2M:H2'	5:L5:2816:G:C8	2.53	0.42
5:L5:3721:U:H2'	5:L5:3722:G:C8	2.53	0.42
7:L8:6:C:H2'	7:L8:7:U:H6	1.84	0.42
13:LF:46:ARG:HH21	34:Lb:102:PRO:HG3	1.84	0.42
17:LJ:35:ARG:O	17:LJ:39:VAL:HG23	2.19	0.42
24:LR:80:LYS:HA	24:LR:80:LYS:HD2	1.83	0.42
37:Le:91:CYS:HB3	37:Le:95:TYR:HD2	1.84	0.42
58:SR:128:PHE:CD2	58:SR:129:LYS:HG3	2.54	0.42
60:ST:71:GLY:O	60:ST:75:MET:HG2	2.18	0.42
60:ST:96:SER:OG	85:S2:1568:C:OP1	2.32	0.42
68:SB:136:ARG:HB3	68:SB:216:LYS:HG3	2.01	0.42
85:S2:551:U:H2'	85:S2:552:G:C8	2.53	0.42
85:S2:564:A:H2'	85:S2:565:G:O4'	2.18	0.42
85:S2:1189:A:H2'	85:S2:1190:A:C8	2.54	0.42
85:S2:1597:C:H4'	85:S2:1603:G:C6	2.53	0.42
5:L5:374:G:OP2	42:Lj:56:ARG:NH1	2.43	0.42
5:L5:974:C:H5''	13:LF:43:ARG:NH1	2.34	0.42
5:L5:1932:A:H8	21:LO:49:ARG:NH2	2.17	0.42
5:L5:2421:G:OP2	5:L5:2828:U:H1'	2.19	0.42
5:L5:4507:A:H2'	5:L5:4508:C:C6	2.53	0.42
13:LF:214:SER:OG	13:LF:215:SER:N	2.52	0.42
23:LQ:66:MET:HE1	23:LQ:86:ILE:HD13	2.01	0.42
35:Lc:31:TYR:OH	35:Lc:59:GLU:OE1	2.27	0.42
50:Ls:77:LYS:HE2	50:Ls:193:PHE:HE1	1.84	0.42
50:Ls:159:GLN:NE2	50:Ls:162:LYS:HG3	2.34	0.42
56:SP:83:MET:HB3	56:SP:116:LEU:HD12	2.00	0.42
56:SP:115:TYR:OH	85:S2:1620:A:OP1	2.29	0.42
58:SR:33:ARG:HD3	58:SR:33:ARG:HA	1.85	0.42
59:SS:102:GLY:HA2	59:SS:105:ASN:HD21	1.84	0.42
67:SA:176:TRP:NE1	67:SA:197:VAL:O	2.50	0.42
82:Sa:10:ARG:HH12	85:S2:1859:A:P	2.41	0.42
85:S2:152:U:H2'	85:S2:153:G:H8	1.84	0.42
85:S2:909:G:H2'	85:S2:910:G:C8	2.53	0.42
85:S2:1174:PSU:H2'	85:S2:1175:G:H8	1.84	0.42
85:S2:1383:A2M:H1'	85:S2:1383:A2M:HM'3	1.58	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:1777:G:H2'	85:S2:1778:C:C6	2.54	0.42
5:L5:1086:C:H2'	5:L5:1087:A:C8	2.54	0.42
5:L5:1545:G:H2'	5:L5:1546:C:C6	2.54	0.42
5:L5:1563:A:H2'	5:L5:1564:A:C8	2.54	0.42
5:L5:1631:A:C2	8:LA:204:MET:HG2	2.53	0.42
5:L5:1847:C:H2'	5:L5:1848:C:C6	2.53	0.42
5:L5:2018:C:H2'	5:L5:2019:C:H6	1.83	0.42
5:L5:2296:G:O2'	10:LC:242:PRO:O	2.30	0.42
5:L5:2654:C:H2'	5:L5:2655:C:H6	1.84	0.42
5:L5:2903:G:H1'	5:L5:2904:U:C5	2.54	0.42
5:L5:4345:C:H2'	5:L5:4346:U:C6	2.53	0.42
9:LB:154:LYS:HE2	9:LB:154:LYS:HB2	1.72	0.42
17:LJ:95:ARG:H	17:LJ:98:ASN:ND2	2.17	0.42
24:LR:139:MET:HG2	24:LR:143:HIS:CE1	2.54	0.42
31:LY:50:ARG:HB3	31:LY:53:ASP:OD2	2.18	0.42
43:Lk:68:GLU:HG3	43:Lk:70:LYS:H	1.85	0.42
45:Lm:79:GLU:CD	45:Lm:81:SER:HG	2.26	0.42
60:ST:23:LYS:HD3	60:ST:51:ASN:HD22	1.83	0.42
69:SC:190:SER:HB3	85:S2:1143:A:H5'	2.02	0.42
70:SE:36:HIS:CG	70:SE:85:GLY:HA3	2.54	0.42
70:SE:247:THR:N	70:SE:250:GLU:OE2	2.45	0.42
72:SH:17:ASP:OD1	72:SH:17:ASP:N	2.52	0.42
74:SJ:174:LYS:NZ	85:S2:560:A:OP1	2.46	0.42
85:S2:601:OMG:HM23	85:S2:601:OMG:H1'	1.68	0.42
85:S2:649:PSU:H2'	85:S2:650:A:C8	2.53	0.42
85:S2:815:U:C2	85:S2:816:A:C8	3.07	0.42
85:S2:1291:A:OP2	85:S2:1302:G:O2'	2.33	0.42
5:L5:92:C:OP2	5:L5:4341:C:O2'	2.26	0.42
5:L5:150:U:OP2	14:LG:200:THR:OG1	2.27	0.42
5:L5:921:C:H2'	5:L5:922:C:C6	2.54	0.42
5:L5:1806:G:H2'	5:L5:1807:C:C6	2.54	0.42
5:L5:1981:G:N1	5:L5:1982:G:O6	2.52	0.42
5:L5:2034:G:H2'	5:L5:2035:C:C6	2.54	0.42
5:L5:2634:C:H2'	5:L5:2635:U:C6	2.54	0.42
5:L5:3633:C:H2'	5:L5:3634:G:C8	2.54	0.42
5:L5:5030:U:H2'	5:L5:5031:G:C8	2.55	0.42
32:LZ:123:LYS:O	32:LZ:124:THR:OG1	2.25	0.42
55:SM:17:ALA:O	55:SM:20:GLU:HG3	2.18	0.42
67:SA:37:TYR:HA	67:SA:53:ARG:HD3	2.00	0.42
67:SA:184:ARG:HE	67:SA:191:ARG:HD3	1.84	0.42
78:SV:74:LYS:NZ	78:SV:83:PHE:HB3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:1595:U:H2'	85:S2:1596:U:C6	2.54	0.42
1:CI:79:ARG:CZ	5:L5:2708:U:O2'	2.55	0.42
3:CF:255:LYS:HB2	3:CF:317:VAL:HG11	2.02	0.42
5:L5:737:C:C4	5:L5:739:G:H5''	2.54	0.42
5:L5:1351:G:O6	23:LQ:55:ARG:NH1	2.52	0.42
5:L5:1554:A:OP1	48:Lp:5:THR:OG1	2.31	0.42
5:L5:1642:A:H61	8:LA:2:GLY:C	2.27	0.42
5:L5:1976:G:N7	5:L5:2002:A:H2'	2.35	0.42
5:L5:2464:C:HO2'	5:L5:2465:C:H6	1.68	0.42
5:L5:4195:G:OP1	5:L5:4221:C:O2'	2.35	0.42
5:L5:4318:C:H4'	47:Lo:17:LYS:HA	2.01	0.42
5:L5:4563:U:H2'	5:L5:4564:A:C8	2.54	0.42
6:L7:22:A:H2'	6:L7:23:A:C8	2.55	0.42
9:LB:288:GLY:HA3	9:LB:330:PHE:CE1	2.54	0.42
10:LC:221:PHE:O	10:LC:222:ARG:HG2	2.20	0.42
11:LD:66:TYR:HE2	11:LD:68:ARG:HE	1.68	0.42
33:La:76:ASP:HB3	33:La:115:GLY:HA3	2.01	0.42
53:SF:60:ARG:NH2	85:S2:1679:A:OP1	2.49	0.42
60:ST:60:THR:HG22	60:ST:75:MET:HE2	2.02	0.42
66:Sg:131:LEU:O	66:Sg:139:LYS:N	2.52	0.42
70:SE:75:LYS:NZ	85:S2:122:G:OP1	2.37	0.42
71:SG:56:ASN:ND2	71:SG:60:GLY:O	2.52	0.42
73:SI:132:GLU:O	73:SI:136:ILE:HG23	2.19	0.42
80:SX:17:ARG:HH22	85:S2:659:G:H21	1.67	0.42
81:SY:102:THR:OG1	81:SY:106:GLN:OE1	2.37	0.42
84:Se:58:ASN:ND2	85:S2:606:G:H1'	2.35	0.42
85:S2:382:C:H2'	85:S2:383:G:C8	2.54	0.42
85:S2:1088:U:H4'	85:S2:1089:G:OP2	2.20	0.42
85:S2:1227:G:C2	85:S2:1228:A:C8	3.07	0.42
3:CF:76:SER:N	3:CF:91:ASP:OD1	2.47	0.42
4:AT:7:G:O2'	4:AT:50:C:H5'	2.19	0.42
5:L5:664:G:H2'	5:L5:665:C:C6	2.55	0.42
5:L5:2864:A:H2'	5:L5:2865:U:H6	1.85	0.42
5:L5:4637:OMG:HM23	5:L5:4637:OMG:H1'	1.70	0.42
5:L5:4920:C:H2'	5:L5:4921:C:C6	2.54	0.42
10:LC:305:PRO:HB2	10:LC:307:LYS:HG3	2.01	0.42
13:LF:228:VAL:HA	25:LS:39:VAL:HG22	2.01	0.42
35:Lc:47:ILE:HD12	35:Lc:94:LEU:HD11	2.02	0.42
63:Sc:44:ARG:NH1	63:Sc:61:SER:O	2.52	0.42
66:Sg:270:LEU:HD13	66:Sg:310:TRP:CE3	2.55	0.42
67:SA:111:GLN:HA	67:SA:116:PHE:CG	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SA:172:GLY:HA3	67:SA:203:PHE:CD1	2.54	0.42
68:SB:141:GLY:HA3	68:SB:207:LEU:HD23	2.01	0.42
70:SE:59:ASP:O	70:SE:63:LYS:HG3	2.20	0.42
70:SE:149:TYR:CD2	71:SG:205:GLU:HB3	2.54	0.42
76:SN:15:ALA:HB2	83:Sb:20:LYS:HD3	2.00	0.42
79:SW:106:THR:OG1	79:SW:111:MET:HE2	2.19	0.42
85:S2:70:G:N2	85:S2:79:A:H62	2.15	0.42
85:S2:1199:A:H2'	85:S2:1200:A:C8	2.54	0.42
5:L5:288:G:H2'	5:L5:289:C:C6	2.55	0.42
5:L5:677:G:H2'	5:L5:678:C:C6	2.54	0.42
5:L5:1096:C:H2'	5:L5:1097:C:C6	2.54	0.42
5:L5:1195:G:H2'	5:L5:1196:G:C8	2.55	0.42
5:L5:1875:C:H2'	5:L5:1876:U:C6	2.55	0.42
5:L5:4571:A2M:H1'	5:L5:4571:A2M:HM'3	1.81	0.42
5:L5:4739:C:H2'	5:L5:4740:G:H5'	2.02	0.42
6:L7:4:U:H2'	6:L7:5:A:H8	1.85	0.42
9:LB:59:GLU:HB2	9:LB:366:LYS:HE2	2.01	0.42
12:LE:99:ASP:OD1	12:LE:99:ASP:N	2.51	0.42
24:LR:99:MET:HE1	24:LR:127:VAL:O	2.20	0.42
59:SS:73:ASN:HB3	59:SS:76:GLN:OE1	2.19	0.42
66:Sg:230:LEU:HD21	66:Sg:259:TRP:CE2	2.55	0.42
70:SE:121:TYR:HA	70:SE:163:ASP:HA	2.01	0.42
85:S2:461:U:H2'	85:S2:462:OMC:H6	1.84	0.42
85:S2:697:G:OP2	85:S2:733:C:N4	2.35	0.42
85:S2:1324:G:HO2'	85:S2:1510:G:HO2'	1.63	0.42
3:CF:60:LEU:HD13	3:CF:78:TRP:HD1	1.84	0.42
5:L5:734:G:C2	5:L5:735:G:C8	3.07	0.42
5:L5:1419:G:H5''	23:LQ:71:LYS:NZ	2.35	0.42
5:L5:2732:G:H2'	5:L5:2733:C:C6	2.54	0.42
5:L5:4761:G:H2'	5:L5:4762:A:H8	1.85	0.42
6:L7:112:U:H2'	6:L7:113:G:H8	1.85	0.42
12:LE:223:ARG:HH22	12:LE:238:GLU:HG3	1.85	0.42
16:LI:73:ASN:HB2	16:LI:87:MET:HE1	2.01	0.42
31:LY:13:LYS:O	31:LY:17:ARG:HD3	2.20	0.42
52:SD:109:LEU:HD23	52:SD:109:LEU:HA	1.82	0.42
62:SZ:46:ASN:ND2	85:S2:1599:U:OP2	2.48	0.42
67:SA:126:ASP:OD2	67:SA:129:ALA:N	2.45	0.42
72:SH:81:ARG:O	72:SH:85:LYS:HG3	2.20	0.42
73:SI:130:THR:O	73:SI:134:GLU:HB2	2.20	0.42
74:SJ:2:PRO:HA	85:S2:509:OMG:OP1	2.19	0.42
79:SW:125:ILE:HD12	79:SW:125:ILE:HA	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:14:C:H2'	85:S2:15:U:C6	2.55	0.42
85:S2:27:A2M:HM'3	85:S2:27:A2M:H1'	1.60	0.42
85:S2:508:A:H3'	85:S2:509:OMG:C8	2.51	0.42
85:S2:1345:G:OP1	85:S2:1688:C:O2'	2.37	0.42
85:S2:1514:G:H2'	85:S2:1515:G:H8	1.85	0.42
85:S2:1716:C:H2'	85:S2:1717:C:H6	1.85	0.42
1:CI:63:ARG:HD2	1:CI:63:ARG:HA	1.85	0.42
5:L5:173:C:H5''	18:LL:129:ARG:HH12	1.83	0.42
5:L5:1403:G:N2	5:L5:1415:G:C4	2.88	0.42
5:L5:1685:G:N3	34:Lb:15:LYS:NZ	2.68	0.42
5:L5:1912:G:N2	21:LO:87:MET:HE2	2.34	0.42
5:L5:1953:U:H2'	5:L5:1954:U:C6	2.55	0.42
5:L5:2008:U:N3	5:L5:2011:C:OP2	2.32	0.42
5:L5:2413:U:H2'	5:L5:2414:G:C8	2.55	0.42
5:L5:2570:U:H2'	5:L5:2571:C:C6	2.55	0.42
5:L5:4272:G:OP2	5:L5:4272:G:N2	2.31	0.42
7:L8:8:U:H2'	7:L8:9:A:C8	2.54	0.42
35:Lc:30:GLY:O	35:Lc:34:THR:OG1	2.26	0.42
50:Ls:119:CYS:SG	50:Ls:120:GLU:N	2.93	0.42
60:ST:82:ARG:NH1	85:S2:1654:G:OP1	2.53	0.42
66:Sg:44:LYS:HG2	66:Sg:56:GLN:HB2	2.01	0.42
67:SA:184:ARG:HE	67:SA:191:ARG:HA	1.85	0.42
80:SX:46:HIS:CD2	80:SX:103:ALA:HB2	2.55	0.42
83:Sb:22:LYS:HE3	85:S2:1129:G:H5''	2.01	0.42
85:S2:737:G:H2'	85:S2:738:C:H4'	2.02	0.42
85:S2:863:PSU:O2	85:S2:864:A:N6	2.53	0.42
85:S2:1217:A:H2'	85:S2:1218:C:C6	2.54	0.42
85:S2:1568:C:H2'	85:S2:1569:A:C8	2.55	0.42
3:CF:113:VAL:HA	3:CF:149:ILE:O	2.20	0.42
5:L5:161:G:H2'	5:L5:162:A:C8	2.55	0.42
5:L5:475:G:H2'	5:L5:476:G:C8	2.55	0.42
5:L5:1413:C:H2'	5:L5:1414:C:C6	2.55	0.42
5:L5:2495:U:H2'	5:L5:2496:G:C8	2.55	0.42
5:L5:2846:G:OP1	28:LV:85:ARG:NH2	2.53	0.42
5:L5:3607:U:H2'	5:L5:3608:A:C8	2.55	0.42
5:L5:3627:OMG:HM23	5:L5:3627:OMG:H1'	1.87	0.42
5:L5:3656:A:H2'	5:L5:3657:U:C6	2.54	0.42
5:L5:4192:A:H2'	5:L5:4193:C:H6	1.84	0.42
5:L5:4306:OMU:HM23	5:L5:4306:OMU:H1'	1.87	0.42
5:L5:4979:A:OP1	9:LB:228:TYR:HB2	2.20	0.42
7:L8:89:U:H2'	7:L8:90:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LB:216:MET:HE2	9:LB:281:ASN:HB3	2.02	0.42
39:Lg:33:LEU:HD23	39:Lg:33:LEU:HA	1.89	0.42
66:Sg:24:THR:HA	66:Sg:25:PRO:HD3	1.91	0.42
76:SN:55:ARG:NH1	85:S2:1015:U:O2'	2.53	0.42
76:SN:140:LYS:HA	76:SN:140:LYS:HD3	1.90	0.42
80:SX:60:LYS:H	80:SX:114:ASP:HB2	1.84	0.42
85:S2:300:U:H2'	85:S2:301:A:H8	1.85	0.42
85:S2:613:G:N2	85:S2:626:G:OP1	2.52	0.42
85:S2:1174:PSU:H2'	85:S2:1175:G:C8	2.55	0.42
1:CI:76:VAL:O	24:LR:47:ASP:HB3	2.20	0.41
5:L5:513:U:H1'	5:L5:516:C:H41	1.85	0.41
5:L5:689:U:H2'	5:L5:690:C:H6	1.85	0.41
5:L5:1602:U:OP1	42:Lj:2:THR:OG1	2.30	0.41
5:L5:1764:G:H4'	5:L5:1769:G:C6	2.55	0.41
5:L5:1787:A:N3	5:L5:4210:U:O2'	2.48	0.41
5:L5:1895:G:OP1	13:LF:96:ARG:NH2	2.53	0.41
5:L5:2034:G:O2'	25:LS:118:ARG:NH1	2.46	0.41
5:L5:2376:A:H2'	5:L5:2377:C:C6	2.55	0.41
5:L5:2497:C:H2'	5:L5:2498:C:C6	2.55	0.41
5:L5:3718:A2M:H2'	5:L5:3719:A:O4'	2.20	0.41
9:LB:17:LEU:HD23	9:LB:17:LEU:HA	1.76	0.41
13:LF:126:ASN:H	13:LF:129:SER:HG	1.68	0.41
20:LN:149:GLN:NE2	40:Lh:99:GLU:O	2.53	0.41
21:LO:84:VAL:HG11	21:LO:102:LEU:HD22	2.02	0.41
25:LS:93:MET:HE1	25:LS:117:HIS:CE1	2.55	0.41
29:LW:99:GLU:HB3	29:LW:102:LYS:HE3	2.01	0.41
54:SK:22:VAL:HG22	54:SK:68:TYR:HD1	1.85	0.41
56:SP:59:ARG:HH21	56:SP:76:VAL:HG23	1.84	0.41
57:SQ:125:ARG:HB2	85:S2:1648:G:H5''	2.01	0.41
59:SS:55:ARG:N	59:SS:58:GLU:OE2	2.37	0.41
62:SZ:69:THR:H	62:SZ:72:VAL:HG22	1.85	0.41
67:SA:57:LYS:HD2	67:SA:57:LYS:HA	1.80	0.41
85:S2:641:A:O2'	85:S2:645:C:OP1	2.38	0.41
85:S2:1317:C:H2'	85:S2:1318:G:C8	2.55	0.41
3:CF:34:ILE:HD11	3:CF:39:ILE:HD12	2.02	0.41
5:L5:269:G:H2'	5:L5:270:U:C6	2.55	0.41
5:L5:462:G:H2'	5:L5:463:A:C8	2.54	0.41
5:L5:467:U:C4	5:L5:468:U:H1'	2.56	0.41
5:L5:1590:C:H3'	5:L5:1591:U:H4'	2.02	0.41
5:L5:2870:A:H2'	5:L5:2871:A:H8	1.84	0.41
5:L5:3661:G:H4'	5:L5:3662:A:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:3822:PSU:H3'	5:L5:3823:G:N2	2.35	0.41
5:L5:3911:C:H2'	5:L5:3912:U:C6	2.53	0.41
5:L5:4543:G:H2'	5:L5:4544:A:C8	2.55	0.41
12:LE:223:ARG:HA	12:LE:224:LYS:HA	1.80	0.41
19:LM:37:LEU:HD22	25:LS:75:VAL:HG23	2.02	0.41
25:LS:99:ASP:OD1	25:LS:100:LEU:N	2.51	0.41
39:Lg:41:ALA:O	39:Lg:52:ARG:HD3	2.20	0.41
39:Lg:69:LYS:HG3	39:Lg:73:HIS:CD2	2.55	0.41
54:SK:7:ASN:HB2	54:SK:40:VAL:HG22	2.01	0.41
54:SK:37:ASP:N	54:SK:37:ASP:OD1	2.48	0.41
60:ST:39:LEU:HD23	60:ST:39:LEU:HA	1.76	0.41
67:SA:81:ASN:OD1	67:SA:82:THR:N	2.52	0.41
68:SB:40:ASN:OD1	68:SB:41:ILE:HD12	2.20	0.41
68:SB:171:ILE:HD11	68:SB:197:ILE:HA	2.02	0.41
74:SJ:2:PRO:HD2	85:S2:429:C:P	2.60	0.41
85:S2:1457:U:H2'	85:S2:1458:G:C8	2.55	0.41
3:CF:335:MET:SD	3:CF:443:LYS:HE3	2.60	0.41
5:L5:473:C:H2'	5:L5:474:C:C6	2.55	0.41
5:L5:1207:C:H2'	5:L5:1208:G:C8	2.55	0.41
5:L5:1497:A:N6	23:LQ:175:GLU:O	2.53	0.41
5:L5:1730:U:H2'	5:L5:1731:C:C6	2.55	0.41
5:L5:2385:U:H2'	5:L5:2386:U:H6	1.86	0.41
5:L5:2621:A:H2'	5:L5:2622:G:C8	2.56	0.41
5:L5:2648:G:H2'	5:L5:2649:G:C8	2.55	0.41
5:L5:4069:U:H2'	5:L5:4070:U:H6	1.85	0.41
5:L5:4578:G:H2'	5:L5:4579:PSU:H6	1.85	0.41
6:L7:40:U:O2	17:LJ:75:ARG:NE	2.39	0.41
13:LF:213:LEU:HB3	13:LF:247:MET:HG3	2.03	0.41
24:LR:4:LEU:HD11	24:LR:29:THR:HG23	2.02	0.41
37:Le:85:LEU:HD21	37:Le:115:ALA:HB2	2.02	0.41
43:Lk:25:ILE:HD13	43:Lk:57:LYS:NZ	2.35	0.41
51:Lt:109:ILE:HA	51:Lt:112:ILE:HG12	2.03	0.41
51:Lt:119:ARG:NH2	51:Lt:123:ARG:HH12	2.18	0.41
62:SZ:90:GLU:O	62:SZ:93:SER:OG	2.27	0.41
63:Sc:66:ARG:NH1	63:Sc:68:LEU:HD23	2.34	0.41
73:SI:42:ARG:HH21	73:SI:59:ARG:NH1	2.17	0.41
74:SJ:132:GLN:HB2	74:SJ:134:HIS:CD2	2.55	0.41
75:SL:153:LYS:HD3	75:SL:153:LYS:HA	1.87	0.41
78:SV:27:LYS:HD3	78:SV:27:LYS:HA	1.87	0.41
85:S2:391:C:H2'	85:S2:392:A:H8	1.85	0.41
85:S2:399:C:H5	85:S2:680:G:H5''	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:433:A:H2'	85:S2:434:G:C8	2.55	0.41
85:S2:1026:C:H4'	85:S2:1161:U:H4'	2.03	0.41
85:S2:1330:G:N7	85:S2:1492:U:H3'	2.36	0.41
85:S2:1511:U:H2'	85:S2:1512:C:H6	1.85	0.41
5:L5:99:A:H2'	5:L5:100:C:O2	2.20	0.41
5:L5:212:A:H2'	5:L5:213:G:C8	2.55	0.41
5:L5:1282:G:OP2	12:LE:128:HIS:NE2	2.54	0.41
5:L5:1534:A2M:N3	42:Lj:11:ARG:HB2	2.35	0.41
5:L5:2380:G:N2	5:L5:2424:OMG:H5''	2.34	0.41
5:L5:2602:G:H2'	5:L5:2603:C:C6	2.56	0.41
5:L5:3610:A:H2'	5:L5:3611:A:H8	1.86	0.41
5:L5:4573:G:H2'	5:L5:4574:U:C6	2.55	0.41
5:L5:4704:C:H2'	5:L5:4705:A:C8	2.55	0.41
14:LG:95:LEU:HD23	14:LG:184:ILE:HD12	2.03	0.41
14:LG:123:ALA:HA	14:LG:124:GLY:HA2	1.86	0.41
15:LH:41:ILE:HG21	15:LH:73:ILE:HD11	2.01	0.41
26:LT:119:ALA:O	26:LT:123:GLY:N	2.53	0.41
27:LU:80:LYS:HG2	27:LU:110:TYR:CE2	2.54	0.41
33:La:72:THR:HG22	33:La:110:LYS:HB3	2.02	0.41
40:Lh:52:LYS:HA	40:Lh:52:LYS:HD3	1.84	0.41
44:Ll:25:GLN:NE2	44:Ll:28:ARG:HH12	2.19	0.41
70:SE:252:ARG:O	70:SE:256:LEU:HG	2.21	0.41
71:SG:133:LEU:HD23	71:SG:133:LEU:H	1.84	0.41
73:Sl:114:GLU:HG3	73:Sl:119:LEU:O	2.20	0.41
85:S2:155:G:C6	85:S2:164:A:C6	3.08	0.41
85:S2:880:G:H3'	85:S2:881:G:H8	1.84	0.41
85:S2:1114:U:O2'	85:S2:1115:U:H2'	2.20	0.41
85:S2:1406:G:H2'	85:S2:1407:U:C6	2.55	0.41
85:S2:1706:G:H2'	85:S2:1707:U:H6	1.86	0.41
2:Pt:47:U:O2'	2:Pt:50:U:OP1	2.30	0.41
3:CF:85:TYR:OH	3:CF:232:LEU:O	2.28	0.41
5:L5:347:A:H2'	5:L5:348:G:C8	2.54	0.41
5:L5:1194:G:H2'	5:L5:1195:G:C8	2.55	0.41
5:L5:1478:C:H2'	5:L5:1479:G:H8	1.85	0.41
5:L5:4892:A:H2'	5:L5:4893:A:O4'	2.21	0.41
12:LE:165:LEU:HD11	12:LE:176:THR:HG22	2.02	0.41
20:LN:80:THR:O	20:LN:80:THR:OG1	2.38	0.41
24:LR:176:ARG:NH1	24:LR:177:LEU:HG	2.36	0.41
26:LT:4:THR:OG1	26:LT:9:ARG:HD3	2.21	0.41
37:Le:19:LYS:HE3	37:Le:19:LYS:HB3	1.87	0.41
50:Ls:57:LYS:O	50:Ls:61:MET:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SF:83:ASN:OD1	85:S2:1651:A:O2'	2.29	0.41
58:SR:34:VAL:O	58:SR:38:ILE:HG12	2.19	0.41
66:Sg:230:LEU:HD11	66:Sg:259:TRP:CD1	2.56	0.41
67:SA:34:MET:HE1	67:SA:162:PRO:HB3	2.03	0.41
71:SG:149:LYS:HD2	71:SG:149:LYS:HA	1.92	0.41
73:SI:149:TYR:O	73:SI:153:LYS:HG2	2.20	0.41
78:SV:18:SER:HB3	78:SV:72:LEU:HD21	2.03	0.41
80:SX:140:ARG:NH2	80:SX:142:ARG:HH21	2.18	0.41
81:SY:68:LYS:HE2	81:SY:68:LYS:HB3	1.75	0.41
85:S2:496:C:H2'	85:S2:497:C:H6	1.86	0.41
85:S2:1025:U:H2'	85:S2:1026:C:O4'	2.20	0.41
85:S2:1177:PSU:H2'	85:S2:1178:U:C6	2.56	0.41
85:S2:1264:C:H4'	85:S2:1265:A:O4'	2.20	0.41
3:CF:132:GLN:HB3	3:CF:136:HIS:CE1	2.55	0.41
3:CF:166:ARG:O	3:CF:169:GLU:HG2	2.20	0.41
5:L5:20:U:H3'	5:L5:21:G:H8	1.84	0.41
5:L5:749:G:N2	5:L5:750:U:O4	2.36	0.41
5:L5:1338:G:H4'	5:L5:1339:U:H6	1.85	0.41
5:L5:1354:A:H5'	23:LQ:108:ARG:HH21	1.84	0.41
5:L5:2079:G:H2'	5:L5:2080:U:C6	2.56	0.41
5:L5:2640:G:H2'	5:L5:2641:A:H8	1.85	0.41
5:L5:3762:U:C2	5:L5:3763:A:C8	3.09	0.41
5:L5:3925:OMU:H1'	5:L5:3925:OMU:HM23	1.80	0.41
5:L5:4473:A:H5''	45:Lm:95:ILE:HD12	2.03	0.41
5:L5:4620:OMU:HM23	5:L5:4620:OMU:H1'	1.86	0.41
7:L8:92:U:H2'	7:L8:93:C:O4'	2.20	0.41
25:LS:83:ARG:HG3	25:LS:125:GLN:HB2	2.02	0.41
51:Lt:28:LEU:H	51:Lt:28:LEU:HD23	1.86	0.41
52:SD:115:VAL:HG21	52:SD:138:VAL:HG11	2.03	0.41
67:SA:110:ASN:HB3	67:SA:113:GLN:HE22	1.84	0.41
79:SW:111:MET:HE3	79:SW:116:ALA:HA	2.02	0.41
82:Sa:98:PRO:HA	82:Sa:99:PRO:HD3	1.96	0.41
84:Se:11:LYS:O	84:Se:15:GLN:HG3	2.20	0.41
85:S2:24:C:O2'	85:S2:25:A:O5'	2.39	0.41
85:S2:96:C:H2'	85:S2:97:U:C6	2.56	0.41
85:S2:1336:C:H2'	85:S2:1337:4AC:O4'	2.20	0.41
85:S2:1401:A:H2'	85:S2:1402:A:C8	2.55	0.41
3:CF:5:LYS:HG3	3:CF:85:TYR:HA	2.03	0.41
3:CF:220:ASP:OD1	3:CF:221:GLY:N	2.54	0.41
5:L5:683:C:H2'	5:L5:684:G:O4'	2.21	0.41
5:L5:947:C:H5''	12:LE:51:VAL:HG11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:1186:U:H2'	5:L5:1187:G:N3	2.36	0.41
5:L5:1297:U:OP1	38:Lf:56:ASN:HB2	2.19	0.41
5:L5:1567:U:H2'	5:L5:1568:C:C6	2.56	0.41
5:L5:2402:G:C2	5:L5:2403:A:C8	3.08	0.41
5:L5:2610:G:H2'	5:L5:2611:A:H8	1.85	0.41
5:L5:2634:C:H2'	5:L5:2635:U:H6	1.85	0.41
5:L5:2898:G:OP2	24:LR:135:LYS:NZ	2.38	0.41
5:L5:3777:G:O2'	5:L5:3815:G:O6	2.32	0.41
5:L5:4622:A:H4'	9:LB:13:SER:HB2	2.02	0.41
5:L5:4657:U:O2'	5:L5:4659:G:OP2	2.39	0.41
5:L5:4954:G:H2'	5:L5:4955:A:H8	1.83	0.41
7:L8:144:U:H2'	7:L8:145:C:C6	2.55	0.41
12:LE:101:ASN:O	12:LE:105:ARG:NH2	2.53	0.41
24:LR:82:LYS:HA	24:LR:82:LYS:HD2	1.86	0.41
32:LZ:22:LYS:NZ	32:LZ:132:GLN:O	2.47	0.41
37:Le:89:LEU:HD13	37:Le:118:LEU:HD22	2.02	0.41
43:Lk:61:PRO:HA	43:Lk:62:PRO:HD3	1.91	0.41
44:Ll:27:ILE:HG22	44:Ll:33:ASN:HD21	1.85	0.41
66:Sg:85:GLY:HA2	66:Sg:108:VAL:HG23	2.03	0.41
79:SW:57:ARG:HG2	85:S2:920:A:H4'	2.02	0.41
83:Sb:34:ASP:O	83:Sb:79:PHE:HA	2.21	0.41
85:S2:525:A:H2'	85:S2:526:A:C8	2.56	0.41
85:S2:1244:PSU:H2'	85:S2:1245:G:H8	1.84	0.41
85:S2:1616:U:O2'	85:S2:1661:A:N3	2.43	0.41
5:L5:108:A:N1	5:L5:333:U:O2'	2.50	0.41
5:L5:441:G:H2'	5:L5:442:G:H8	1.85	0.41
5:L5:467:U:N3	5:L5:468:U:O2'	2.51	0.41
5:L5:1100:U:H1'	5:L5:1167:C:H42	1.85	0.41
5:L5:1979:A:H61	5:L5:1984:A:P	2.43	0.41
5:L5:2364:OMG:HM23	5:L5:2364:OMG:H1'	1.82	0.41
5:L5:4173:G:H2'	5:L5:4174:U:C6	2.56	0.41
5:L5:4273:A:H2'	5:L5:4274:A:C8	2.56	0.41
5:L5:4616:A:H2'	5:L5:4617:G:O4'	2.21	0.41
5:L5:4966:A:H5''	9:LB:128:LYS:HG3	2.03	0.41
8:LA:116:LEU:HB3	8:LA:126:LEU:HB2	2.02	0.41
11:LD:41:LYS:HB2	26:LT:68:THR:O	2.21	0.41
12:LE:150:LEU:HD11	12:LE:164:PHE:HB2	2.03	0.41
14:LG:51:LEU:O	14:LG:55:VAL:HG23	2.21	0.41
15:LH:114:ILE:HB	15:LH:124:ARG:HB2	2.03	0.41
16:LI:36:LEU:HD11	16:LI:69:ARG:HD2	2.03	0.41
18:LL:7:GLY:O	33:La:49:HIS:NE2	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Lb:99:ILE:O	34:Lb:109:ARG:NH1	2.54	0.41
52:SD:114:ALA:HB3	52:SD:117:ARG:HG3	2.02	0.41
52:SD:204:LEU:HB2	52:SD:207:HIS:HB2	2.02	0.41
59:SS:89:ASP:OD1	59:SS:90:VAL:N	2.54	0.41
72:SH:118:ARG:HD3	72:SH:118:ARG:HA	1.92	0.41
73:SI:91:VAL:HG21	73:SI:205:ARG:HH12	1.85	0.41
73:SI:91:VAL:HG11	73:SI:205:ARG:HH12	1.84	0.41
77:SO:80:ASP:O	77:SO:83:GLN:HG3	2.20	0.41
79:SW:42:MET:HB3	79:SW:42:MET:HE2	1.85	0.41
85:S2:656:G:N2	85:S2:663:C:H5''	2.36	0.41
85:S2:1037:G:H4'	85:S2:1845:A:H4'	2.02	0.41
85:S2:1533:A:N7	85:S2:1604:G:H1'	2.36	0.41
85:S2:1620:A:H1'	85:S2:1624:U:OP2	2.21	0.41
85:S2:1621:U:O2'	85:S2:1622:U:H2'	2.21	0.41
3:CF:22:THR:HG23	3:CF:56:TYR:HB2	2.03	0.41
5:L5:135:G:N7	40:Lh:97:LYS:HE3	2.36	0.41
5:L5:935:A:O2'	5:L5:936:C:OP1	2.39	0.41
5:L5:959:G:C8	12:LE:123:ARG:HG2	2.56	0.41
5:L5:1600:A:H5'	22:LP:133:HIS:HA	2.03	0.41
5:L5:1739:G:H2'	5:L5:1740:C:C6	2.56	0.41
5:L5:1846:G:H2'	5:L5:1847:C:H6	1.85	0.41
5:L5:1956:A:H2'	5:L5:1957:U:C6	2.56	0.41
5:L5:2019:C:H2'	5:L5:2020:U:C6	2.56	0.41
5:L5:2045:G:O2'	5:L5:2046:G:H5''	2.21	0.41
5:L5:2303:C:H5''	37:Le:104:SER:HB3	2.03	0.41
5:L5:2415:U:H2'	5:L5:2416:G:C8	2.55	0.41
5:L5:2480:G:H2'	5:L5:2481:G:C8	2.56	0.41
5:L5:2863:G:O2'	24:LR:82:LYS:O	2.37	0.41
5:L5:3606:U:H2'	5:L5:3607:U:H6	1.86	0.41
5:L5:3870:C:H2'	5:L5:3871:A:H8	1.86	0.41
5:L5:4084:G:O6	8:LA:72:ARG:NH2	2.45	0.41
5:L5:4232:U:H1'	5:L5:4233:A:C2	2.55	0.41
5:L5:4593:C:H2'	5:L5:4594:U:H6	1.86	0.41
7:L8:7:U:H2'	7:L8:8:U:C6	2.56	0.41
17:LJ:48:PRO:HB3	17:LJ:72:CYS:HB3	2.03	0.41
18:LL:18:TRP:CD1	18:LL:18:TRP:H	2.38	0.41
23:LQ:32:TYR:HD2	23:LQ:51:LEU:HD11	1.86	0.41
24:LR:21:LYS:HE3	24:LR:55:VAL:HA	2.02	0.41
24:LR:103:ARG:HG2	24:LR:124:TYR:CE2	2.55	0.41
24:LR:175:GLU:O	24:LR:178:GLN:HG3	2.21	0.41
26:LT:50:LYS:HB3	26:LT:50:LYS:HE2	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:LZ:33:THR:C	32:LZ:35:ASP:H	2.29	0.41
38:Lf:106:TYR:O	38:Lf:108:SER:N	2.54	0.41
39:Lg:82:MET:HE3	39:Lg:82:MET:HB2	1.90	0.41
41:Li:68:ARG:HA	41:Li:68:ARG:HD3	1.80	0.41
44:Ll:28:ARG:HA	44:Ll:33:ASN:ND2	2.33	0.41
51:Lt:114:ARG:NH2	51:Lt:162:CYS:SG	2.94	0.41
54:SK:32:HIS:ND1	54:SK:33:PRO:HD2	2.36	0.41
55:SM:95:ASP:HB3	55:SM:99:LYS:HB3	2.01	0.41
55:SM:112:LYS:HE2	55:SM:112:LYS:HB2	1.84	0.41
56:SP:100:LYS:HB2	85:S2:1240:A:C5	2.56	0.41
69:SC:116:THR:HA	85:S2:1203:G:H4'	2.03	0.41
69:SC:183:LYS:HA	69:SC:195:LEU:O	2.20	0.41
70:SE:242:LYS:HD3	70:SE:242:LYS:HA	1.74	0.41
71:SG:7:PHE:HD1	71:SG:113:ILE:HB	1.86	0.41
73:SI:150:ASP:HA	73:SI:153:LYS:CG	2.50	0.41
74:SJ:64:ASP:OD1	74:SJ:65:GLU:N	2.54	0.41
75:SL:128:VAL:HG12	75:SL:142:VAL:HA	2.01	0.41
83:Sb:17:ARG:HH11	85:S2:1127:C:H4'	1.86	0.41
85:S2:520:A:O2'	85:S2:825:A:N3	2.45	0.41
85:S2:1656:G:O6	85:S2:1668:U:O4	2.39	0.41
3:CF:178:ILE:HA	3:CF:181:ILE:HG22	2.03	0.41
5:L5:441:G:H2'	5:L5:442:G:C8	2.56	0.41
5:L5:499:G:H2'	5:L5:499:G:N3	2.36	0.41
5:L5:1189:G:H2'	5:L5:1190:C:C6	2.55	0.41
5:L5:1345:A:H2'	5:L5:1346:C:C6	2.56	0.41
5:L5:1672:U:H2'	5:L5:1673:U:C6	2.57	0.41
5:L5:1984:A:H5'	5:L5:1986:U:P	2.61	0.41
9:LB:217:ILE:HD12	9:LB:347:LEU:HB3	2.02	0.41
9:LB:289:GLN:NE2	9:LB:292:LEU:HD11	2.32	0.41
13:LF:48:LYS:HE3	34:Lb:96:LEU:HD21	2.03	0.41
16:LI:187:LYS:HE3	16:LI:189:CYS:SG	2.61	0.41
22:LP:15:CYS:SG	22:LP:150:LEU:HB2	2.61	0.41
23:LQ:86:ILE:HD11	23:LQ:100:VAL:HG11	2.02	0.41
25:LS:5:GLY:O	25:LS:111:ARG:NH2	2.54	0.41
36:Ld:63:ARG:HD3	36:Ld:103:TYR:CD2	2.56	0.41
51:Lt:11:LYS:HD2	51:Lt:11:LYS:HA	1.95	0.41
57:SQ:97:GLN:HB2	57:SQ:105:LYS:HG3	2.03	0.41
59:SS:24:ARG:H	59:SS:24:ARG:HG2	1.73	0.41
59:SS:62:ASP:O	59:SS:65:GLU:HG3	2.21	0.41
66:Sg:35:SER:OG	66:Sg:36:ARG:N	2.54	0.41
66:Sg:314:ILE:HD12	66:Sg:314:ILE:HA	1.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SA:10:MET:SD	67:SA:15:VAL:HG22	2.61	0.41
67:SA:184:ARG:HG3	67:SA:189:ILE:HD12	2.02	0.41
67:SA:198:MET:HG2	67:SA:200:ASP:H	1.86	0.41
73:SI:141:ARG:HA	73:SI:141:ARG:CZ	2.51	0.41
79:SW:77:PRO:HG2	79:SW:79:PHE:CE2	2.56	0.41
80:SX:128:VAL:HG23	80:SX:138:LYS:HD2	2.02	0.41
85:S2:495:U:H2'	85:S2:496:C:O4'	2.20	0.41
85:S2:672:A:N6	85:S2:1027:A:OP1	2.50	0.41
85:S2:1309:C:H2'	85:S2:1310:U:O4'	2.20	0.41
85:S2:1323:U:H2'	85:S2:1324:G:C8	2.56	0.41
85:S2:1348:G:C8	85:S2:1349:G:C8	3.09	0.41
85:S2:1760:G:N1	85:S2:1774:C:OP1	2.54	0.41
85:S2:1797:U:H2'	85:S2:1798:C:C6	2.56	0.41
3:CF:274:PRO:HA	3:CF:289:VAL:HG13	2.03	0.40
3:CF:378:LYS:HE2	3:CF:391:PRO:HB3	2.02	0.40
5:L5:270:U:H2'	5:L5:271:C:H6	1.86	0.40
5:L5:705:G:H2'	5:L5:706:C:C6	2.56	0.40
5:L5:1588:U:H2'	5:L5:1589:C:C6	2.57	0.40
5:L5:2764:A:H2'	5:L5:2765:A:C8	2.54	0.40
7:L8:64:U:C2	7:L8:65:A:C8	3.09	0.40
8:LA:180:LEU:HD21	48:Lp:22:LEU:HB3	2.03	0.40
10:LC:328:LEU:HB3	13:LF:187:MET:HG3	2.03	0.40
12:LE:128:HIS:ND1	12:LE:128:HIS:O	2.54	0.40
19:LM:118:MET:HG2	21:LO:192:TYR:CZ	2.56	0.40
30:LX:77:ILE:HD13	30:LX:100:VAL:HG12	2.03	0.40
41:Li:90:LEU:HA	41:Li:93:VAL:HG22	2.03	0.40
46:Ln:17:ARG:NH1	85:S2:1173:A:OP1	2.54	0.40
51:Lt:32:ILE:HA	51:Lt:35:LEU:HD23	2.03	0.40
60:ST:72:VAL:O	60:ST:76:THR:HG23	2.21	0.40
63:Sc:10:LYS:HE2	63:Sc:34:PHE:CD2	2.56	0.40
69:SC:78:LEU:HD12	69:SC:81:ILE:HD12	2.04	0.40
71:SG:174:PRO:HB3	85:S2:65:C:C6	2.56	0.40
71:SG:191:ARG:NH2	85:S2:312:G:H2'	2.36	0.40
76:SN:64:ARG:HD3	76:SN:70:LYS:HG2	2.03	0.40
79:SW:28:ARG:HB3	79:SW:29:PRO:HD3	2.03	0.40
81:SY:111:LYS:NZ	85:S2:56:G:OP1	2.38	0.40
82:Sa:41:ILE:HD12	82:Sa:68:TYR:CD2	2.56	0.40
85:S2:432:G:H2'	85:S2:433:A:H8	1.85	0.40
5:L5:943:A:N6	13:LF:151:ASN:OD1	2.51	0.40
5:L5:1961:G:H8	50:Ls:59:THR:HG21	1.86	0.40
5:L5:2638:G:N1	5:L5:2718:U:H2'	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L5:4927:G:H5''	5:L5:4928:C:C5	2.57	0.40
12:LE:45:SER:C	12:LE:47:ASN:H	2.29	0.40
23:LQ:177:ALA:O	23:LQ:184:ARG:HB2	2.22	0.40
30:LX:88:LYS:O	30:LX:92:ASP:HB2	2.20	0.40
34:Lb:43:MET:HE2	34:Lb:47:LYS:NZ	2.36	0.40
47:Lo:4:VAL:HG23	47:Lo:93:LEU:HD23	2.03	0.40
53:SF:48:TYR:CE1	57:SQ:56:LEU:HD13	2.56	0.40
53:SF:120:GLY:HA2	53:SF:121:PRO:HD3	1.94	0.40
53:SF:167:LYS:HE3	53:SF:172:CYS:SG	2.61	0.40
66:Sg:183:LYS:HA	66:Sg:183:LYS:HD2	1.83	0.40
67:SA:5:LEU:HD11	78:SV:41:LYS:HD2	2.03	0.40
85:S2:35:C:H2'	85:S2:36:U:C6	2.56	0.40
85:S2:43:U:OP2	85:S2:485:A:N6	2.46	0.40
85:S2:1221:G:H2'	85:S2:1222:G:H8	1.86	0.40
85:S2:1349:G:H2'	85:S2:1350:U:C6	2.56	0.40
85:S2:1683:C:H2'	85:S2:1684:C:H6	1.87	0.40
3:CF:168:GLU:O	3:CF:172:LYS:HG2	2.21	0.40
3:CF:291:SER:O	3:CF:311:ASN:N	2.45	0.40
4:AT:61:A:H5''	4:AT:62:C:C5	2.56	0.40
5:L5:65:A:N6	5:L5:75:G:H1'	2.36	0.40
5:L5:1266:G:O6	34:Lb:91:ARG:HB2	2.22	0.40
5:L5:1338:G:H4'	5:L5:1339:U:C6	2.56	0.40
5:L5:1772:C:H2'	5:L5:1773:U:H6	1.86	0.40
5:L5:1952:G:OP1	25:LS:139:ARG:NE	2.55	0.40
5:L5:2022:C:H2'	5:L5:2023:C:O4'	2.21	0.40
5:L5:3685:C:H5'	8:LA:193:ARG:CZ	2.51	0.40
5:L5:3873:G:H2'	5:L5:3874:G:C8	2.57	0.40
5:L5:3945:A:H2'	5:L5:3946:G:H8	1.86	0.40
5:L5:4601:U:OP2	5:L5:4609:G:N1	2.42	0.40
9:LB:160:ILE:HG12	9:LB:193:LYS:HD3	2.02	0.40
10:LC:266:THR:HG22	10:LC:267:TRP:N	2.37	0.40
11:LD:84:PRO:HG3	11:LD:89:LYS:HA	2.03	0.40
11:LD:156:GLY:HA2	11:LD:181:PRO:HG3	2.03	0.40
12:LE:203:ILE:O	12:LE:206:VAL:HG22	2.21	0.40
21:LO:89:PRO:O	21:LO:95:GLY:HA3	2.21	0.40
42:Lj:19:CYS:SG	42:Lj:34:CYS:HB2	2.60	0.40
61:SU:99:LYS:HA	61:SU:99:LYS:HD3	1.89	0.40
63:Sc:13:ARG:CZ	63:Sc:35:MET:HE1	2.52	0.40
71:SG:174:PRO:HG3	85:S2:65:C:C2	2.56	0.40
76:SN:94:LYS:HE2	76:SN:94:LYS:HB2	1.93	0.40
77:SO:138:ASP:HB3	85:S2:984:C:O2'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:S2:1239:U:N3	85:S2:1242:U:OP2	2.42	0.40
85:S2:1513:C:H2'	85:S2:1514:G:C8	2.54	0.40
5:L5:37:U:H2'	5:L5:38:A:O4'	2.22	0.40
5:L5:460:C:H2'	5:L5:461:G:H8	1.86	0.40
5:L5:1199:G:H2'	5:L5:1200:G:C8	2.57	0.40
5:L5:1241:C:H5'	12:LE:72:LYS:HZ2	1.85	0.40
5:L5:1772:C:H2'	5:L5:1773:U:C6	2.57	0.40
5:L5:1972:G:C6	5:L5:1973:G:C6	3.10	0.40
5:L5:2539:C:H2'	5:L5:2540:C:H6	1.85	0.40
9:LB:147:GLU:CD	9:LB:198:ARG:HH22	2.26	0.40
28:LV:65:VAL:HG23	28:LV:73:ARG:HA	2.02	0.40
37:Le:35:TRP:HH2	37:Le:55:MET:HG2	1.86	0.40
52:SD:68:GLU:HB3	54:SK:70:TYR:CE1	2.57	0.40
54:SK:90:VAL:HG21	54:SK:95:ARG:HB2	2.04	0.40
55:SM:87:GLU:HG3	55:SM:103:VAL:HG11	2.04	0.40
57:SQ:49:TYR:O	57:SQ:53:GLU:HB2	2.21	0.40
59:SS:102:GLY:HA2	59:SS:105:ASN:ND2	2.36	0.40
69:SC:256:TRP:CD2	79:SW:68:ARG:HD3	2.56	0.40
76:SN:102:LEU:HD12	76:SN:102:LEU:HA	1.94	0.40
77:SO:98:ARG:HG2	77:SO:99:ALA:O	2.22	0.40
81:SY:10:ARG:HA	85:S2:839:C:N4	2.37	0.40
83:Sb:51:GLN:NE2	85:S2:927:C:O2	2.54	0.40
85:S2:12:U:H2'	85:S2:13:C:C6	2.56	0.40
85:S2:64:A:N6	85:S2:83:A:OP2	2.51	0.40
85:S2:669:A:H2'	85:S2:670:A:C8	2.57	0.40
85:S2:1749:G:H2'	85:S2:1750:C:C6	2.57	0.40
2:Pt:27:U:H2'	2:Pt:28:U:C6	2.57	0.40
3:CF:237:PRO:HA	3:CF:238:PRO:HD3	1.97	0.40
3:CF:266:ARG:HA	3:CF:307:ASN:HA	2.04	0.40
5:L5:190:G:H2'	5:L5:191:G:H8	1.87	0.40
5:L5:1647:U:OP1	88:L5:5290:SPD:H51	2.21	0.40
5:L5:2787:A2M:H1'	5:L5:2787:A2M:HM'2	1.82	0.40
5:L5:2804:OMC:C2	5:L5:2805:C:C5	3.10	0.40
5:L5:3760:A:C5	85:S2:1826:G:H4'	2.56	0.40
5:L5:3870:C:H2'	5:L5:3871:A:C8	2.56	0.40
5:L5:4320:G:H2'	5:L5:4321:U:C6	2.57	0.40
5:L5:4500:PSU:H2'	5:L5:4501:U:C6	2.57	0.40
5:L5:4633:G:N2	5:L5:4664:A:N7	2.70	0.40
5:L5:4749:C:H2'	5:L5:4750:G:O4'	2.21	0.40
5:L5:4862:G:H2'	5:L5:4863:G:H8	1.87	0.40
5:L5:4993:G:H22	5:L5:5058:A:H2	1.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:L7:15:C:H2'	6:L7:16:A:C8	2.55	0.40
8:LA:28:ARG:HE	8:LA:28:ARG:HB2	1.76	0.40
11:LD:37:VAL:HG12	11:LD:50:ARG:HD3	2.03	0.40
16:LI:43:VAL:HG21	16:LI:197:VAL:HG13	2.03	0.40
19:LM:6:PHE:H	19:LM:11:ARG:NH2	2.20	0.40
21:LO:180:GLN:NE2	21:LO:184:ASN:OD1	2.53	0.40
51:Lt:81:ILE:HD13	51:Lt:113:ALA:HB1	2.04	0.40
54:SK:26:ASP:HB3	54:SK:29:MET:HB2	2.04	0.40
67:SA:124:VAL:HG13	67:SA:130:ASP:HB2	2.02	0.40
73:SI:114:GLU:HB3	73:SI:136:ILE:HD12	2.04	0.40
75:SL:111:VAL:HG12	75:SL:140:PHE:HB2	2.04	0.40
85:S2:194:C:H2'	85:S2:195:C:H6	1.87	0.40
85:S2:472:C:O2	85:S2:475:C:N4	2.54	0.40
85:S2:946:U:H2'	85:S2:947:G:H8	1.87	0.40
85:S2:1421:A:H3'	85:S2:1422:G:C8	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	CI	29/31 (94%)	29 (100%)	0	0	100	100
3	CF	438/441 (99%)	420 (96%)	18 (4%)	0	100	100
8	LA	246/248 (99%)	229 (93%)	17 (7%)	0	100	100
9	LB	400/402 (100%)	383 (96%)	17 (4%)	0	100	100
10	LC	366/368 (100%)	353 (96%)	13 (4%)	0	100	100
11	LD	291/293 (99%)	280 (96%)	11 (4%)	0	100	100
12	LE	236/250 (94%)	221 (94%)	15 (6%)	0	100	100
13	LF	223/225 (99%)	215 (96%)	8 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	LG	239/241 (99%)	223 (93%)	16 (7%)	0	100	100
15	LH	188/190 (99%)	182 (97%)	6 (3%)	0	100	100
16	LI	211/213 (99%)	205 (97%)	6 (3%)	0	100	100
17	LJ	168/176 (96%)	161 (96%)	7 (4%)	0	100	100
18	LL	208/210 (99%)	198 (95%)	10 (5%)	0	100	100
19	LM	137/139 (99%)	130 (95%)	7 (5%)	0	100	100
20	LN	201/203 (99%)	198 (98%)	3 (2%)	0	100	100
21	LO	199/201 (99%)	197 (99%)	2 (1%)	0	100	100
22	LP	151/153 (99%)	145 (96%)	6 (4%)	0	100	100
23	LQ	185/187 (99%)	180 (97%)	5 (3%)	0	100	100
24	LR	185/187 (99%)	179 (97%)	6 (3%)	0	100	100
25	LS	173/175 (99%)	163 (94%)	10 (6%)	0	100	100
26	LT	157/159 (99%)	154 (98%)	3 (2%)	0	100	100
27	LU	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
28	LV	129/131 (98%)	125 (97%)	4 (3%)	0	100	100
29	LW	112/124 (90%)	108 (96%)	4 (4%)	0	100	100
30	LX	118/120 (98%)	115 (98%)	3 (2%)	0	100	100
31	LY	132/134 (98%)	129 (98%)	3 (2%)	0	100	100
32	LZ	133/135 (98%)	125 (94%)	8 (6%)	0	100	100
33	La	145/147 (99%)	141 (97%)	4 (3%)	0	100	100
34	Lb	105/121 (87%)	100 (95%)	5 (5%)	0	100	100
35	Lc	96/98 (98%)	93 (97%)	3 (3%)	0	100	100
36	Ld	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
37	Le	126/128 (98%)	124 (98%)	2 (2%)	0	100	100
38	Lf	107/109 (98%)	106 (99%)	1 (1%)	0	100	100
39	Lg	112/114 (98%)	110 (98%)	2 (2%)	0	100	100
40	Lh	120/122 (98%)	117 (98%)	3 (2%)	0	100	100
41	Li	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
42	Lj	84/86 (98%)	82 (98%)	2 (2%)	0	100	100
43	Lk	67/69 (97%)	65 (97%)	2 (3%)	0	100	100
44	Ll	48/50 (96%)	47 (98%)	1 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	Lm	50/52 (96%)	49 (98%)	1 (2%)	0	100	100
46	Ln	22/24 (92%)	22 (100%)	0	0	100	100
47	Lo	103/105 (98%)	98 (95%)	5 (5%)	0	100	100
48	Lp	89/91 (98%)	86 (97%)	3 (3%)	0	100	100
49	Lr	123/125 (98%)	119 (97%)	4 (3%)	0	100	100
50	Ls	194/196 (99%)	183 (94%)	11 (6%)	0	100	100
51	Lt	128/157 (82%)	111 (87%)	17 (13%)	0	100	100
52	SD	225/227 (99%)	218 (97%)	7 (3%)	0	100	100
53	SF	187/189 (99%)	176 (94%)	11 (6%)	0	100	100
54	SK	96/98 (98%)	89 (93%)	7 (7%)	0	100	100
55	SM	120/122 (98%)	112 (93%)	8 (7%)	0	100	100
56	SP	119/121 (98%)	114 (96%)	5 (4%)	0	100	100
57	SQ	142/144 (99%)	130 (92%)	12 (8%)	0	100	100
58	SR	133/135 (98%)	125 (94%)	7 (5%)	1 (1%)	16	32
59	SS	143/145 (99%)	134 (94%)	9 (6%)	0	100	100
60	ST	141/143 (99%)	137 (97%)	4 (3%)	0	100	100
61	SU	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
62	SZ	73/75 (97%)	64 (88%)	9 (12%)	0	100	100
63	Sc	62/64 (97%)	61 (98%)	1 (2%)	0	100	100
64	Sd	53/55 (96%)	52 (98%)	1 (2%)	0	100	100
65	Sf	65/67 (97%)	57 (88%)	8 (12%)	0	100	100
66	Sg	311/313 (99%)	293 (94%)	18 (6%)	0	100	100
67	SA	219/221 (99%)	204 (93%)	15 (7%)	0	100	100
68	SB	212/214 (99%)	206 (97%)	6 (3%)	0	100	100
69	SC	218/220 (99%)	206 (94%)	12 (6%)	0	100	100
70	SE	260/262 (99%)	249 (96%)	11 (4%)	0	100	100
71	SG	235/237 (99%)	222 (94%)	13 (6%)	0	100	100
72	SH	182/189 (96%)	168 (92%)	14 (8%)	0	100	100
73	SI	204/206 (99%)	194 (95%)	10 (5%)	0	100	100
74	SJ	183/185 (99%)	175 (96%)	7 (4%)	1 (0%)	25	44
75	SL	151/153 (99%)	144 (95%)	7 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
76	SN	148/150 (99%)	144 (97%)	4 (3%)	0	100	100
77	SO	135/137 (98%)	126 (93%)	9 (7%)	0	100	100
78	SV	81/83 (98%)	75 (93%)	6 (7%)	0	100	100
79	SW	127/129 (98%)	123 (97%)	4 (3%)	0	100	100
80	SX	139/141 (99%)	135 (97%)	4 (3%)	0	100	100
81	SY	129/131 (98%)	124 (96%)	5 (4%)	0	100	100
82	Sa	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
83	Sb	81/83 (98%)	77 (95%)	4 (5%)	0	100	100
84	Se	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
All	All	12110/12343 (98%)	11574 (96%)	534 (4%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
58	SR	129	LYS
74	SJ	138	ARG

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	CI	25/25 (100%)	25 (100%)	0	100	100
3	CF	365/366 (100%)	365 (100%)	0	100	100
8	LA	190/190 (100%)	190 (100%)	0	100	100
9	LB	348/348 (100%)	348 (100%)	0	100	100
10	LC	306/306 (100%)	306 (100%)	0	100	100
11	LD	246/247 (100%)	246 (100%)	0	100	100
12	LE	212/222 (96%)	212 (100%)	0	100	100
13	LF	194/194 (100%)	194 (100%)	0	100	100
14	LG	203/205 (99%)	203 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
15	LH	169/169 (100%)	169 (100%)	0	100	100
16	LI	180/180 (100%)	180 (100%)	0	100	100
17	LJ	143/148 (97%)	143 (100%)	0	100	100
18	LL	176/176 (100%)	176 (100%)	0	100	100
19	LM	118/118 (100%)	118 (100%)	0	100	100
20	LN	171/171 (100%)	171 (100%)	0	100	100
21	LO	173/173 (100%)	173 (100%)	0	100	100
22	LP	134/134 (100%)	134 (100%)	0	100	100
23	LQ	164/164 (100%)	164 (100%)	0	100	100
24	LR	166/166 (100%)	166 (100%)	0	100	100
25	LS	156/156 (100%)	156 (100%)	0	100	100
26	LT	139/139 (100%)	139 (100%)	0	100	100
27	LU	91/91 (100%)	91 (100%)	0	100	100
28	LV	101/101 (100%)	101 (100%)	0	100	100
29	LW	95/103 (92%)	95 (100%)	0	100	100
30	LX	108/108 (100%)	108 (100%)	0	100	100
31	LY	124/124 (100%)	124 (100%)	0	100	100
32	LZ	117/117 (100%)	117 (100%)	0	100	100
33	La	120/120 (100%)	120 (100%)	0	100	100
34	Lb	88/101 (87%)	88 (100%)	0	100	100
35	Lc	83/83 (100%)	83 (100%)	0	100	100
36	Ld	98/98 (100%)	98 (100%)	0	100	100
37	Le	114/114 (100%)	114 (100%)	0	100	100
38	Lf	88/88 (100%)	88 (100%)	0	100	100
39	Lg	98/98 (100%)	98 (100%)	0	100	100
40	Lh	109/109 (100%)	109 (100%)	0	100	100
41	Li	86/86 (100%)	86 (100%)	0	100	100
42	Lj	73/73 (100%)	73 (100%)	0	100	100
43	Lk	64/64 (100%)	64 (100%)	0	100	100
44	Ll	47/47 (100%)	47 (100%)	0	100	100
45	Lm	48/48 (100%)	48 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
46	Ln	23/23 (100%)	23 (100%)	0	100	100
47	Lo	93/93 (100%)	93 (100%)	0	100	100
48	Lp	74/74 (100%)	74 (100%)	0	100	100
49	Lr	109/109 (100%)	109 (100%)	0	100	100
50	Ls	162/164 (99%)	162 (100%)	0	100	100
51	Lt	107/130 (82%)	107 (100%)	0	100	100
52	SD	190/190 (100%)	190 (100%)	0	100	100
53	SF	159/159 (100%)	159 (100%)	0	100	100
54	SK	89/89 (100%)	89 (100%)	0	100	100
55	SM	102/104 (98%)	102 (100%)	0	100	100
56	SP	107/107 (100%)	107 (100%)	0	100	100
57	SQ	119/119 (100%)	119 (100%)	0	100	100
58	SR	122/122 (100%)	122 (100%)	0	100	100
59	SS	126/126 (100%)	126 (100%)	0	100	100
60	ST	113/113 (100%)	113 (100%)	0	100	100
61	SU	94/94 (100%)	94 (100%)	0	100	100
62	SZ	66/66 (100%)	66 (100%)	0	100	100
63	Sc	57/57 (100%)	57 (100%)	0	100	100
64	Sd	48/48 (100%)	48 (100%)	0	100	100
65	Sf	60/60 (100%)	60 (100%)	0	100	100
66	Sg	272/272 (100%)	272 (100%)	0	100	100
67	SA	183/183 (100%)	183 (100%)	0	100	100
68	SB	195/195 (100%)	195 (100%)	0	100	100
69	SC	186/186 (100%)	186 (100%)	0	100	100
70	SE	224/224 (100%)	224 (100%)	0	100	100
71	SG	207/207 (100%)	207 (100%)	0	100	100
72	SH	166/169 (98%)	166 (100%)	0	100	100
73	SI	178/178 (100%)	178 (100%)	0	100	100
74	SJ	161/161 (100%)	161 (100%)	0	100	100
75	SL	137/137 (100%)	137 (100%)	0	100	100
76	SN	130/130 (100%)	130 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
77	SO	107/107 (100%)	107 (100%)	0	100	100
78	SV	67/67 (100%)	67 (100%)	0	100	100
79	SW	112/112 (100%)	112 (100%)	0	100	100
80	SX	113/113 (100%)	113 (100%)	0	100	100
81	SY	113/113 (100%)	113 (100%)	0	100	100
82	Sa	89/89 (100%)	89 (100%)	0	100	100
83	Sb	75/75 (100%)	75 (100%)	0	100	100
84	Se	47/47 (100%)	47 (100%)	0	100	100
All	All	10512/10582 (99%)	10512 (100%)	0	100	100

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (89) such sidechains are listed below:

Mol	Chain	Res	Type
3	CF	331	ASN
3	CF	352	GLN
8	LA	97	ASN
9	LB	68	ASN
9	LB	121	ASN
9	LB	289	GLN
9	LB	301	ASN
10	LC	41	HIS
10	LC	329	ASN
11	LD	202	GLN
13	LF	235	ASN
14	LG	112	GLN
15	LH	98	HIS
15	LH	138	GLN
16	LI	59	GLN
17	LJ	110	GLN
18	LL	111	GLN
18	LL	205	GLN
19	LM	34	ASN
20	LN	199	GLN
21	LO	26	GLN
21	LO	50	ASN
22	LP	75	GLN
22	LP	97	ASN

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Mol	Chain	Res	Type
22	LP	118	GLN
22	LP	120	ASN
22	LP	133	HIS
22	LP	137	ASN
24	LR	134	ASN
27	LU	94	ASN
29	LW	50	ASN
29	LW	79	GLN
30	LX	125	ASN
31	LY	61	HIS
33	La	34	ASN
33	La	67	GLN
33	La	120	GLN
34	Lb	60	ASN
35	Lc	51	ASN
35	Lc	72	HIS
37	Le	52	GLN
38	Lf	99	HIS
44	Ll	33	ASN
48	Lp	33	GLN
50	Ls	71	ASN
50	Ls	159	GLN
50	Ls	179	ASN
53	SF	29	GLN
53	SF	101	HIS
53	SF	118	ASN
53	SF	149	GLN
54	SK	32	HIS
54	SK	50	GLN
57	SQ	77	HIS
57	SQ	80	GLN
57	SQ	97	GLN
59	SS	11	HIS
60	ST	63	HIS
60	ST	85	ASN
62	SZ	89	GLN
64	Sd	37	ASN
65	Sf	93	HIS
65	Sf	139	HIS
66	Sg	26	GLN
66	Sg	119	GLN
66	Sg	272	GLN

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Mol	Chain	Res	Type
66	Sg	285	GLN
67	SA	9	GLN
67	SA	84	GLN
67	SA	132	GLN
68	SB	76	ASN
68	SB	118	GLN
68	SB	149	GLN
68	SB	158	HIS
68	SB	202	GLN
69	SC	267	GLN
72	SH	76	GLN
72	SH	162	GLN
73	SI	52	ASN
75	SL	65	ASN
76	SN	105	ASN
78	SV	35	ASN
79	SW	5	ASN
79	SW	90	GLN
80	SX	31	HIS
81	SY	112	ASN
82	Sa	72	HIS
83	Sb	51	GLN
84	Se	58	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	Pt	72/74 (97%)	15 (20%)	0
4	AT	74/76 (97%)	27 (36%)	0
5	L5	3643/3655 (99%)	731 (20%)	16 (0%)
6	L7	119/120 (99%)	11 (9%)	0
7	L8	155/156 (99%)	21 (13%)	0
85	S2	1714/1740 (98%)	378 (22%)	4 (0%)
All	All	5777/5821 (99%)	1183 (20%)	20 (0%)

All (1183) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	Pt	9	A
2	Pt	13	U
2	Pt	19	G

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Mol	Chain	Res	Type
2	Pt	21	A
2	Pt	46	G
2	Pt	47	U
2	Pt	48	C
2	Pt	49	C
2	Pt	58	A
2	Pt	61	C
2	Pt	66	C
2	Pt	67	G
2	Pt	70	A
2	Pt	74	C
2	Pt	76	A
4	AT	4	U
4	AT	8	U
4	AT	9	A
4	AT	12	G
4	AT	13	U
4	AT	14	A
4	AT	16	C
4	AT	20	U
4	AT	21	U
4	AT	22	A
4	AT	26	C
4	AT	27	G
4	AT	33	C
4	AT	37	C
4	AT	47	G
4	AT	48	U
4	AT	49	C
4	AT	50	C
4	AT	53	G
4	AT	57	C
4	AT	59	A
4	AT	60	A
4	AT	62	C
4	AT	65	G
4	AT	74	A
4	AT	76	C
4	AT	77	A
5	L5	25	A
5	L5	30	C
5	L5	39	A

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Mol	Chain	Res	Type
5	L5	42	A
5	L5	48	G
5	L5	56	A
5	L5	59	A
5	L5	64	A
5	L5	65	A
5	L5	73	A
5	L5	74	G
5	L5	91	G
5	L5	104	G
5	L5	109	G
5	L5	110	C
5	L5	119	G
5	L5	120	A
5	L5	132	G
5	L5	133	C
5	L5	134	G
5	L5	135	G
5	L5	145	G
5	L5	151	G
5	L5	157	U
5	L5	159	C
5	L5	165	A
5	L5	172	C
5	L5	176	G
5	L5	182	G
5	L5	183	C
5	L5	184	U
5	L5	185	C
5	L5	186	G
5	L5	187	U
5	L5	188	G
5	L5	189	G
5	L5	200	U
5	L5	209	U
5	L5	210	C
5	L5	216	C
5	L5	218	A
5	L5	220	C
5	L5	234	G
5	L5	237	G
5	L5	255	C

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Mol	Chain	Res	Type
5	L5	256	G
5	L5	261	G
5	L5	264	C
5	L5	265	C
5	L5	266	C
5	L5	267	G
5	L5	276	C
5	L5	280	G
5	L5	297	U
5	L5	306	A
5	L5	315	G
5	L5	316	U
5	L5	340	C
5	L5	373	G
5	L5	385	A
5	L5	387	G
5	L5	388	A
5	L5	396	A
5	L5	407	A
5	L5	409	G
5	L5	410	A
5	L5	411	G
5	L5	412	G
5	L5	413	G
5	L5	415	G
5	L5	432	U
5	L5	440	U
5	L5	449	C
5	L5	452	A
5	L5	453	G
5	L5	454	U
5	L5	456	C
5	L5	457	G
5	L5	467	U
5	L5	472	C
5	L5	484	U
5	L5	485	C
5	L5	486	C
5	L5	489	C
5	L5	493	G
5	L5	494	U
5	L5	497	G

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Mol	Chain	Res	Type
5	L5	498	C
5	L5	499	G
5	L5	500	G
5	L5	502	C
5	L5	503	C
5	L5	504	G
5	L5	509	A
5	L5	510	U
5	L5	512	U
5	L5	513	U
5	L5	514	U
5	L5	518	G
5	L5	643	C
5	L5	646	G
5	L5	653	U
5	L5	654	C
5	L5	655	C
5	L5	656	C
5	L5	657	C
5	L5	659	G
5	L5	666	G
5	L5	667	A
5	L5	668	C
5	L5	669	C
5	L5	673	C
5	L5	685	C
5	L5	686	A
5	L5	687	U
5	L5	703	G
5	L5	704	C
5	L5	708	G
5	L5	730	G
5	L5	731	G
5	L5	738	C
5	L5	739	G
5	L5	742	G
5	L5	746	A
5	L5	759	G
5	L5	904	C
5	L5	905	C
5	L5	906	C
5	L5	910	G

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Mol	Chain	Res	Type
5	L5	913	U
5	L5	914	U
5	L5	915	A
5	L5	917	A
5	L5	923	C
5	L5	924	C
5	L5	926	G
5	L5	932	A
5	L5	933	G
5	L5	935	A
5	L5	936	C
5	L5	941	C
5	L5	943	A
5	L5	945	U
5	L5	956	A
5	L5	959	G
5	L5	960	A
5	L5	961	G
5	L5	962	C
5	L5	965	G
5	L5	966	A
5	L5	967	C
5	L5	969	C
5	L5	970	G
5	L5	982	U
5	L5	985	C
5	L5	1070	G
5	L5	1071	C
5	L5	1072	C
5	L5	1075	G
5	L5	1082	C
5	L5	1083	U
5	L5	1168	G
5	L5	1171	G
5	L5	1172	C
5	L5	1173	G
5	L5	1179	U
5	L5	1180	C
5	L5	1181	C
5	L5	1182	C
5	L5	1183	C
5	L5	1202	C

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Mol	Chain	Res	Type
5	L5	1203	G
5	L5	1210	C
5	L5	1211	G
5	L5	1214	C
5	L5	1215	C
5	L5	1216	C
5	L5	1218	G
5	L5	1219	G
5	L5	1222	A
5	L5	1246	G
5	L5	1253	G
5	L5	1254	A
5	L5	1257	A
5	L5	1258	G
5	L5	1266	G
5	L5	1267	C
5	L5	1269	G
5	L5	1271	G
5	L5	1272	C
5	L5	1273	G
5	L5	1275	G
5	L5	1280	C
5	L5	1284	G
5	L5	1285	U
5	L5	1287	G
5	L5	1293	G
5	L5	1294	A
5	L5	1295	C
5	L5	1296	G
5	L5	1301	C
5	L5	1302	U
5	L5	1314	C
5	L5	1326	A2M
5	L5	1354	A
5	L5	1359	G
5	L5	1365	C
5	L5	1366	G
5	L5	1367	C
5	L5	1381	U
5	L5	1387	A
5	L5	1394	G
5	L5	1397	A

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Mol	Chain	Res	Type
5	L5	1398	A
5	L5	1404	G
5	L5	1407	C
5	L5	1409	C
5	L5	1410	U
5	L5	1411	C
5	L5	1414	C
5	L5	1416	G
5	L5	1417	C
5	L5	1420	A
5	L5	1437	C
5	L5	1438	U
5	L5	1439	C
5	L5	1442	C
5	L5	1443	A
5	L5	1444	G
5	L5	1446	C
5	L5	1447	C
5	L5	1482	G
5	L5	1483	C
5	L5	1497	A
5	L5	1498	G
5	L5	1502	G
5	L5	1517	G
5	L5	1524	A2M
5	L5	1534	A2M
5	L5	1537	A
5	L5	1547	A
5	L5	1564	A
5	L5	1566	C
5	L5	1578	U
5	L5	1591	U
5	L5	1596	U
5	L5	1621	A
5	L5	1624	G
5	L5	1625	OMG
5	L5	1626	G
5	L5	1631	A
5	L5	1633	G
5	L5	1634	A
5	L5	1637	A
5	L5	1638	A

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Mol	Chain	Res	Type
5	L5	1640	C
5	L5	1641	G
5	L5	1642	A
5	L5	1654	G
5	L5	1661	C
5	L5	1676	C
5	L5	1677	PSU
5	L5	1678	C
5	L5	1697	G
5	L5	1699	A
5	L5	1700	G
5	L5	1701	A
5	L5	1702	C
5	L5	1704	C
5	L5	1705	G
5	L5	1717	C
5	L5	1718	C
5	L5	1719	A
5	L5	1731	C
5	L5	1734	G
5	L5	1742	A
5	L5	1750	G
5	L5	1755	C
5	L5	1757	U
5	L5	1758	G
5	L5	1760	G
5	L5	1761	G
5	L5	1762	C
5	L5	1763	C
5	L5	1764	G
5	L5	1765	A
5	L5	1766	A
5	L5	1767	A
5	L5	1768	C
5	L5	1769	G
5	L5	1770	A
5	L5	1775	A
5	L5	1785	C
5	L5	1787	A
5	L5	1804	A
5	L5	1806	G
5	L5	1810	G

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Mol	Chain	Res	Type
5	L5	1815	G
5	L5	1821	G
5	L5	1822	U
5	L5	1834	U
5	L5	1836	G
5	L5	1837	A
5	L5	1842	G
5	L5	1855	G
5	L5	1869	G
5	L5	1882	U
5	L5	1892	A
5	L5	1897	A
5	L5	1917	A
5	L5	1918	U
5	L5	1919	G
5	L5	1920	C
5	L5	1921	C
5	L5	1922	G
5	L5	1925	G
5	L5	1931	C
5	L5	1932	A
5	L5	1936	C
5	L5	1948	G
5	L5	1951	G
5	L5	1961	G
5	L5	1962	A
5	L5	1974	U
5	L5	1975	G
5	L5	1978	C
5	L5	1980	U
5	L5	1981	G
5	L5	1982	G
5	L5	1983	A
5	L5	1984	A
5	L5	1985	G
5	L5	1986	U
5	L5	1991	A
5	L5	1993	C
5	L5	1997	U
5	L5	1998	A
5	L5	1999	A
5	L5	2001	G

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Mol	Chain	Res	Type
5	L5	2002	A
5	L5	2003	G
5	L5	2004	U
5	L5	2011	C
5	L5	2017	A
5	L5	2018	C
5	L5	2024	G
5	L5	2026	A
5	L5	2046	G
5	L5	2048	U
5	L5	2055	G
5	L5	2056	G
5	L5	2062	C
5	L5	2069	A
5	L5	2084	C
5	L5	2092	G
5	L5	2093	A
5	L5	2095	A
5	L5	2096	G
5	L5	2097	U
5	L5	2098	G
5	L5	2101	C
5	L5	2102	G
5	L5	2107	C
5	L5	2110	C
5	L5	2111	G
5	L5	2112	G
5	L5	2250	C
5	L5	2252	G
5	L5	2256	C
5	L5	2258	C
5	L5	2289	C
5	L5	2300	A
5	L5	2301	G
5	L5	2313	A
5	L5	2331	G
5	L5	2333	G
5	L5	2348	G
5	L5	2351	OMC
5	L5	2360	A
5	L5	2395	A
5	L5	2397	G

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Mol	Chain	Res	Type
5	L5	2408	U
5	L5	2417	A
5	L5	2425	U
5	L5	2453	A
5	L5	2464	C
5	L5	2465	C
5	L5	2469	C
5	L5	2471	G
5	L5	2474	G
5	L5	2475	G
5	L5	2478	C
5	L5	2479	G
5	L5	2483	G
5	L5	2484	A
5	L5	2485	U
5	L5	2486	G
5	L5	2487	G
5	L5	2488	C
5	L5	2489	C
5	L5	2490	U
5	L5	2494	U
5	L5	2504	C
5	L5	2505	C
5	L5	2506	G
5	L5	2513	A
5	L5	2519	U
5	L5	2520	C
5	L5	2529	A
5	L5	2537	A
5	L5	2544	G
5	L5	2546	G
5	L5	2547	G
5	L5	2554	U
5	L5	2555	G
5	L5	2560	C
5	L5	2565	A
5	L5	2573	A
5	L5	2583	C
5	L5	2586	G
5	L5	2587	A
5	L5	2589	C
5	L5	2601	A

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Mol	Chain	Res	Type
5	L5	2618	G
5	L5	2627	C
5	L5	2653	C
5	L5	2662	G
5	L5	2669	C
5	L5	2675	G
5	L5	2676	A
5	L5	2687	U
5	L5	2694	G
5	L5	2695	A
5	L5	2696	A
5	L5	2706	G
5	L5	2707	U
5	L5	2708	U
5	L5	2710	C
5	L5	2711	G
5	L5	2721	G
5	L5	2724	G
5	L5	2726	G
5	L5	2739	C
5	L5	2742	G
5	L5	2743	A
5	L5	2746	A
5	L5	2761	U
5	L5	2763	U
5	L5	2769	U
5	L5	2770	C
5	L5	2788	U
5	L5	2790	U
5	L5	2806	A
5	L5	2814	C
5	L5	2825	A
5	L5	2826	U
5	L5	2827	G
5	L5	2829	U
5	L5	2838	G
5	L5	2855	G
5	L5	2877	G
5	L5	2894	A
5	L5	2900	U
5	L5	2902	G
5	L5	2903	G

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Mol	Chain	Res	Type
5	L5	2904	U
5	L5	2905	C
5	L5	2907	G
5	L5	2908	U
5	L5	3588	C
5	L5	3590	G
5	L5	3591	C
5	L5	3592	G
5	L5	3594	C
5	L5	3595	U
5	L5	3596	A
5	L5	3597	G
5	L5	3604	A
5	L5	3605	C
5	L5	3626	G
5	L5	3630	A
5	L5	3635	A
5	L5	3644	U
5	L5	3646	A
5	L5	3648	A
5	L5	3662	A
5	L5	3670	C
5	L5	3673	C
5	L5	3674	G
5	L5	3691	G
5	L5	3701	OMC
5	L5	3710	G
5	L5	3711	A
5	L5	3713	U
5	L5	3727	A
5	L5	3748	A
5	L5	3753	G
5	L5	3760	A
5	L5	3764	U
5	L5	3770	U
5	L5	3774	A
5	L5	3775	A
5	L5	3776	G
5	L5	3777	G
5	L5	3785	A2M
5	L5	3786	U
5	L5	3792	OMG

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Mol	Chain	Res	Type
5	L5	3811	G
5	L5	3814	U
5	L5	3817	A
5	L5	3819	G
5	L5	3824	A
5	L5	3838	U
5	L5	3839	G
5	L5	3840	U
5	L5	3867	A2M
5	L5	3868	G
5	L5	3877	A
5	L5	3878	C
5	L5	3879	G
5	L5	3885	G
5	L5	3892	U
5	L5	3897	G
5	L5	3901	A
5	L5	3906	A
5	L5	3907	G
5	L5	3908	A
5	L5	3915	U
5	L5	3923	A
5	L5	3938	G
5	L5	3939	G
5	L5	3942	A
5	L5	3944	G
5	L5	3947	A
5	L5	3949	A
5	L5	3950	U
5	L5	3952	A
5	L5	3953	G
5	L5	4057	C
5	L5	4058	U
5	L5	4059	C
5	L5	4060	U
5	L5	4061	G
5	L5	4062	A
5	L5	4064	C
5	L5	4065	G
5	L5	4068	U
5	L5	4076	G
5	L5	4084	G

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Mol	Chain	Res	Type
5	L5	4095	G
5	L5	4097	G
5	L5	4098	A
5	L5	4099	G
5	L5	4101	C
5	L5	4104	G
5	L5	4108	G
5	L5	4111	U
5	L5	4114	C
5	L5	4115	G
5	L5	4116	C
5	L5	4117	U
5	L5	4119	C
5	L5	4122	G
5	L5	4127	A
5	L5	4141	G
5	L5	4142	C
5	L5	4143	G
5	L5	4144	C
5	L5	4146	G
5	L5	4149	C
5	L5	4150	G
5	L5	4162	C
5	L5	4163	U
5	L5	4168	G
5	L5	4170	A
5	L5	4183	G
5	L5	4184	G
5	L5	4191	G
5	L5	4203	A
5	L5	4212	A
5	L5	4222	G
5	L5	4225	G
5	L5	4228	OMG
5	L5	4229	U
5	L5	4233	A
5	L5	4251	A
5	L5	4254	G
5	L5	4257	A
5	L5	4258	C
5	L5	4265	U
5	L5	4268	A

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Mol	Chain	Res	Type
5	L5	4273	A
5	L5	4281	A
5	L5	4291	G
5	L5	4295	U
5	L5	4304	A
5	L5	4305	G
5	L5	4314	C
5	L5	4319	C
5	L5	4329	G
5	L5	4330	G
5	L5	4332	C
5	L5	4349	C
5	L5	4350	C
5	L5	4354	U
5	L5	4364	G
5	L5	4373	G
5	L5	4376	A
5	L5	4377	G
5	L5	4378	A
5	L5	4379	A
5	L5	4387	C
5	L5	4391	G
5	L5	4394	A
5	L5	4405	G
5	L5	4420	U
5	L5	4421	C
5	L5	4422	A
5	L5	4433	G
5	L5	4438	U
5	L5	4448	G
5	L5	4449	A
5	L5	4452	U
5	L5	4464	A
5	L5	4466	C
5	L5	4475	G
5	L5	4488	A
5	L5	4500	PSU
5	L5	4512	U
5	L5	4513	A
5	L5	4519	C
5	L5	4524	G
5	L5	4525	C

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Mol	Chain	Res	Type
5	L5	4545	G
5	L5	4548	A
5	L5	4557	U
5	L5	4560	C
5	L5	4567	G
5	L5	4575	G
5	L5	4584	A
5	L5	4589	A
5	L5	4590	A2M
5	L5	4600	G
5	L5	4601	U
5	L5	4617	G
5	L5	4636	PSU
5	L5	4637	OMG
5	L5	4652	G
5	L5	4656	A
5	L5	4670	C
5	L5	4672	A
5	L5	4679	G
5	L5	4693	C
5	L5	4694	G
5	L5	4695	C
5	L5	4700	A
5	L5	4708	A
5	L5	4709	U
5	L5	4719	G
5	L5	4733	C
5	L5	4734	A
5	L5	4740	G
5	L5	4741	C
5	L5	4742	G
5	L5	4745	G
5	L5	4750	G
5	L5	4754	G
5	L5	4757	C
5	L5	4759	C
5	L5	4761	G
5	L5	4765	G
5	L5	4771	C
5	L5	4772	C
5	L5	4775	C
5	L5	4859	C

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Mol	Chain	Res	Type
5	L5	4870	G
5	L5	4871	C
5	L5	4875	G
5	L5	4881	U
5	L5	4882	U
5	L5	4883	C
5	L5	4887	C
5	L5	4889	G
5	L5	4895	C
5	L5	4896	G
5	L5	4897	G
5	L5	4899	G
5	L5	4900	C
5	L5	4901	G
5	L5	4910	G
5	L5	4912	G
5	L5	4914	C
5	L5	4922	C
5	L5	4925	U
5	L5	4926	C
5	L5	4927	G
5	L5	4928	C
5	L5	4934	A
5	L5	4937	C
5	L5	4940	C
5	L5	4941	G
5	L5	4943	A
5	L5	4944	C
5	L5	4947	U
5	L5	4951	G
5	L5	4955	A
5	L5	4960	G
5	L5	4976	U
5	L5	4985	U
5	L5	4988	U
5	L5	4989	U
5	L5	4990	C
5	L5	4991	U
5	L5	5007	A
5	L5	5013	C
5	L5	5014	A
5	L5	5017	G

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Mol	Chain	Res	Type
5	L5	5022	U
5	L5	5023	C
5	L5	5024	C
5	L5	5028	G
5	L5	5030	U
5	L5	5032	C
5	L5	5034	A
5	L5	5041	G
5	L5	5047	C
5	L5	5050	C
5	L5	5054	C
5	L5	5055	G
5	L5	5061	A
5	L5	5069	U
6	L7	7	G
6	L7	22	A
6	L7	33	U
6	L7	38	U
6	L7	53	U
6	L7	54	A
6	L7	64	G
6	L7	97	G
6	L7	100	A
6	L7	110	G
6	L7	120	U
7	L8	25	G
7	L8	34	U
7	L8	35	C
7	L8	59	A
7	L8	62	A
7	L8	63	U
7	L8	80	A
7	L8	82	A
7	L8	84	A
7	L8	85	U
7	L8	87	G
7	L8	94	G
7	L8	103	A
7	L8	105	C
7	L8	111	U
7	L8	114	G
7	L8	123	U

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Mol	Chain	Res	Type
7	L8	124	U
7	L8	125	C
7	L8	126	C
7	L8	127	U
85	S2	13	C
85	S2	14	C
85	S2	25	A
85	S2	33	G
85	S2	42	A
85	S2	44	U
85	S2	45	A
85	S2	46	A
85	S2	56	G
85	S2	58	C
85	S2	59	U
85	S2	62	G
85	S2	65	C
85	S2	67	C
85	S2	68	A
85	S2	72	C
85	S2	73	C
85	S2	74	G
85	S2	75	G
85	S2	76	U
85	S2	99	A2M
85	S2	103	A
85	S2	113	G
85	S2	115	U
85	S2	130	G
85	S2	143	U
85	S2	149	A
85	S2	158	A
85	S2	160	U
85	S2	162	C
85	S2	168	C
85	S2	170	A
85	S2	175	A
85	S2	179	C
85	S2	190	G
85	S2	191	A
85	S2	196	C
85	S2	197	U

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Mol	Chain	Res	Type
85	S2	198	U
85	S2	200	G
85	S2	203	G
85	S2	204	G
85	S2	207	G
85	S2	208	G
85	S2	214	U
85	S2	291	G
85	S2	292	A
85	S2	295	C
85	S2	302	A
85	S2	306	C
85	S2	307	G
85	S2	308	G
85	S2	309	G
85	S2	311	C
85	S2	312	G
85	S2	313	A
85	S2	318	A
85	S2	319	C
85	S2	323	C
85	S2	324	C
85	S2	325	C
85	S2	326	C
85	S2	328	U
85	S2	329	G
85	S2	332	G
85	S2	339	A
85	S2	340	C
85	S2	347	G
85	S2	351	G
85	S2	360	A
85	S2	362	C
85	S2	364	A
85	S2	368	U
85	S2	370	G
85	S2	385	G
85	S2	386	C
85	S2	398	A
85	S2	407	G
85	S2	408	A
85	S2	409	C

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Mol	Chain	Res	Type
85	S2	426	A
85	S2	436	OMG
85	S2	438	G
85	S2	448	A
85	S2	449	A
85	S2	450	C
85	S2	452	G
85	S2	464	A
85	S2	465	A
85	S2	471	G
85	S2	472	C
85	S2	473	A
85	S2	474	G
85	S2	476	A
85	S2	482	G
85	S2	487	U
85	S2	488	U
85	S2	492	C
85	S2	493	A
85	S2	502	C
85	S2	516	A
85	S2	517	OMC
85	S2	531	A
85	S2	532	C
85	S2	536	A
85	S2	537	C
85	S2	540	U
85	S2	542	U
85	S2	544	G
85	S2	546	G
85	S2	547	G
85	S2	557	U
85	S2	558	G
85	S2	563	G
85	S2	564	A
85	S2	566	U
85	S2	576	A2M
85	S2	583	A
85	S2	587	A
85	S2	589	G
85	S2	590	A
85	S2	591	U

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Mol	Chain	Res	Type
85	S2	593	C
85	S2	604	A
85	S2	611	G
85	S2	614	C
85	S2	617	G
85	S2	623	G
85	S2	627	OMU
85	S2	628	A
85	S2	631	U
85	S2	643	A
85	S2	644	OMG
85	S2	655	A
85	S2	660	C
85	S2	664	A
85	S2	668	A2M
85	S2	669	A
85	S2	671	A
85	S2	672	A
85	S2	673	G
85	S2	678	U
85	S2	684	G
85	S2	688	U
85	S2	689	U
85	S2	692	G
85	S2	695	C
85	S2	696	G
85	S2	697	G
85	S2	698	G
85	S2	731	G
85	S2	732	U
85	S2	733	C
85	S2	736	C
85	S2	737	G
85	S2	738	C
85	S2	749	U
85	S2	751	G
85	S2	752	G
85	S2	753	C
85	S2	788	G
85	S2	791	C
85	S2	792	C
85	S2	798	G

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Mol	Chain	Res	Type
85	S2	799	OMU
85	S2	801	PSU
85	S2	821	G
85	S2	822	U
85	S2	823	U
85	S2	824	C
85	S2	830	A
85	S2	834	C
85	S2	835	C
85	S2	836	G
85	S2	837	A
85	S2	838	G
85	S2	839	C
85	S2	842	C
85	S2	844	U
85	S2	847	A
85	S2	867	OMG
85	S2	870	A
85	S2	874	G
85	S2	877	C
85	S2	878	G
85	S2	880	G
85	S2	888	U
85	S2	889	U
85	S2	891	G
85	S2	893	U
85	S2	896	U
85	S2	897	U
85	S2	898	U
85	S2	899	U
85	S2	900	C
85	S2	901	G
85	S2	903	A
85	S2	904	A
85	S2	913	A
85	S2	917	U
85	S2	920	A
85	S2	922	A
85	S2	933	G
85	S2	934	G
85	S2	943	U
85	S2	963	A

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Mol	Chain	Res	Type
85	S2	970	G
85	S2	971	G
85	S2	972	A
85	S2	985	G
85	S2	990	A
85	S2	992	A
85	S2	997	A
85	S2	999	G
85	S2	1008	A
85	S2	1017	U
85	S2	1023	A
85	S2	1027	A
85	S2	1060	A
85	S2	1061	U
85	S2	1062	A
85	S2	1083	A
85	S2	1085	C
85	S2	1087	A
85	S2	1109	C
85	S2	1113	A
85	S2	1114	U
85	S2	1116	C
85	S2	1121	G
85	S2	1123	C
85	S2	1133	A
85	S2	1138	C
85	S2	1148	A
85	S2	1150	A
85	S2	1153	C
85	S2	1154	U
85	S2	1170	A
85	S2	1195	A
85	S2	1207	G
85	S2	1208	A
85	S2	1215	C
85	S2	1216	C
85	S2	1217	A
85	S2	1224	G
85	S2	1227	G
85	S2	1242	U
85	S2	1243	U
85	S2	1248	B8N

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Mol	Chain	Res	Type
85	S2	1251	A
85	S2	1253	A
85	S2	1256	G
85	S2	1257	G
85	S2	1259	A
85	S2	1271	C
85	S2	1272	OMC
85	S2	1274	G
85	S2	1275	G
85	S2	1283	C
85	S2	1286	G
85	S2	1288	OMU
85	S2	1290	G
85	S2	1294	G
85	S2	1295	A
85	S2	1301	A
85	S2	1302	G
85	S2	1303	C
85	S2	1308	U
85	S2	1342	U
85	S2	1357	A
85	S2	1358	U
85	S2	1371	U
85	S2	1372	U
85	S2	1373	C
85	S2	1376	A
85	S2	1378	A
85	S2	1402	A
85	S2	1406	G
85	S2	1413	G
85	S2	1418	C
85	S2	1419	C
85	S2	1420	G
85	S2	1421	A
85	S2	1422	G
85	S2	1423	C
85	S2	1433	C
85	S2	1435	C
85	S2	1436	C
85	S2	1437	C
85	S2	1438	A
85	S2	1439	A

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Mol	Chain	Res	Type
85	S2	1442	OMU
85	S2	1449	G
85	S2	1454	A
85	S2	1463	U
85	S2	1466	G
85	S2	1478	U
85	S2	1479	G
85	S2	1487	A
85	S2	1489	A
85	S2	1490	OMG
85	S2	1492	U
85	S2	1494	U
85	S2	1495	G
85	S2	1497	G
85	S2	1498	A
85	S2	1521	C
85	S2	1522	A
85	S2	1531	A
85	S2	1533	A
85	S2	1534	C
85	S2	1544	C
85	S2	1552	G
85	S2	1553	C
85	S2	1556	A
85	S2	1558	C
85	S2	1560	U
85	S2	1573	G
85	S2	1574	C
85	S2	1575	G
85	S2	1578	U
85	S2	1580	A
85	S2	1581	C
85	S2	1587	G
85	S2	1588	A
85	S2	1600	G
85	S2	1604	G
85	S2	1606	G
85	S2	1621	U
85	S2	1623	A
85	S2	1631	U
85	S2	1633	A
85	S2	1634	A

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Mol	Chain	Res	Type
85	S2	1637	A
85	S2	1648	G
85	S2	1654	G
85	S2	1663	A
85	S2	1665	G
85	S2	1686	G
85	S2	1695	A
85	S2	1698	C
85	S2	1699	A
85	S2	1715	A
85	S2	1721	U
85	S2	1722	G
85	S2	1744	G
85	S2	1745	A
85	S2	1752	C
85	S2	1753	C
85	S2	1754	G
85	S2	1755	C
85	S2	1757	G
85	S2	1759	G
85	S2	1761	U
85	S2	1772	C
85	S2	1773	C
85	S2	1774	C
85	S2	1777	G
85	S2	1782	G
85	S2	1783	C
85	S2	1784	G
85	S2	1786	U
85	S2	1798	C
85	S2	1809	A
85	S2	1810	U
85	S2	1821	U
85	S2	1825	A
85	S2	1826	G
85	S2	1829	G
85	S2	1831	A
85	S2	1835	A
85	S2	1838	U
85	S2	1849	G
85	S2	1851	MA6
85	S2	1861	G

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Mol	Chain	Res	Type
85	S2	1862	G
85	S2	1863	A
85	S2	1864	U
85	S2	1865	C

All (20) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
5	L5	406	C
5	L5	493	G
5	L5	914	U
5	L5	1082	C
5	L5	1590	C
5	L5	1633	G
5	L5	1703	C
5	L5	1977	C
5	L5	2416	G
5	L5	2485	U
5	L5	2675	G
5	L5	2760	G
5	L5	3673	C
5	L5	4600	G
5	L5	4699	U
5	L5	4913	G
85	S2	291	G
85	S2	563	G
85	S2	688	U
85	S2	1477	U

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

179 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
5	A2M	L5	2363	5,86	18,25,26	1.28	2 (11%)	20,36,39	1.99	7 (35%)
85	PSU	S2	1004	85	18,21,22	1.13	1 (5%)	21,30,33	1.86	4 (19%)
5	OMG	L5	2364	5	19,26,27	1.18	3 (15%)	21,38,41	0.80	1 (4%)
85	OMC	S2	517	85	19,22,23	0.53	0	25,31,34	0.64	0
85	OMU	S2	354	85	19,22,23	3.33	7 (36%)	25,31,34	1.88	5 (20%)
5	OMG	L5	3899	5	19,26,27	1.21	2 (10%)	21,38,41	0.84	1 (4%)
85	PSU	S2	866	85	18,21,22	1.09	1 (5%)	21,30,33	1.81	5 (23%)
85	PSU	S2	651	85	18,21,22	1.10	1 (5%)	21,30,33	1.92	4 (19%)
5	PSU	L5	4493	5	18,21,22	1.05	1 (5%)	21,30,33	1.86	3 (14%)
5	PSU	L5	4532	5	18,21,22	1.10	1 (5%)	21,30,33	1.85	4 (19%)
5	PSU	L5	3853	5,86	18,21,22	1.04	1 (5%)	21,30,33	1.81	4 (19%)
85	PSU	S2	1177	85	18,21,22	1.06	1 (5%)	21,30,33	1.82	4 (19%)
5	A2M	L5	400	5	18,25,26	1.26	1 (5%)	20,36,39	2.03	7 (35%)
5	OMG	L5	3627	5	19,26,27	1.17	3 (15%)	21,38,41	0.88	1 (4%)
5	PSU	L5	4353	5	18,21,22	1.08	1 (5%)	21,30,33	1.91	4 (19%)
5	OMU	L5	4620	5	19,22,23	3.24	7 (36%)	25,31,34	1.75	5 (20%)
5	OMU	L5	2837	5	19,22,23	3.36	7 (36%)	25,31,34	1.86	4 (16%)
5	OMU	L5	4306	5	19,22,23	3.31	7 (36%)	25,31,34	1.82	4 (16%)
5	5MC	L5	4447	5	19,22,23	0.76	0	26,32,35	0.65	0
5	PSU	L5	1536	5	18,21,22	1.07	1 (5%)	21,30,33	1.88	4 (19%)
5	OMG	L5	2876	5	19,26,27	1.21	2 (10%)	21,38,41	0.83	1 (4%)
5	PSU	L5	4689	5	18,21,22	1.06	1 (5%)	21,30,33	1.97	4 (19%)
85	PSU	S2	686	85	18,21,22	1.08	1 (5%)	21,30,33	1.85	4 (19%)
5	PSU	L5	1782	5	18,21,22	1.07	1 (5%)	21,30,33	1.83	4 (19%)
85	PSU	S2	406	85	18,21,22	1.11	1 (5%)	21,30,33	1.98	5 (23%)
5	6MZ	L5	4220	5	17,25,26	3.52	6 (35%)	15,36,39	2.54	4 (26%)
5	A2M	L5	1326	5	18,25,26	1.20	1 (5%)	20,36,39	1.81	7 (35%)
85	OMU	S2	428	85	19,22,23	3.35	7 (36%)	25,31,34	1.85	5 (20%)
85	PSU	S2	681	85	18,21,22	1.06	1 (5%)	21,30,33	1.83	4 (19%)
85	A2M	S2	484	85	18,25,26	1.17	1 (5%)	20,36,39	1.79	5 (25%)
85	MA6	S2	1850	85	19,26,27	1.49	3 (15%)	18,38,41	3.37	3 (16%)
85	PSU	S2	105	85	18,21,22	1.07	1 (5%)	21,30,33	1.84	4 (19%)
5	PSU	L5	4636	5	18,21,22	1.10	1 (5%)	21,30,33	2.05	6 (28%)
5	PSU	L5	4299	5	18,21,22	1.01	1 (5%)	21,30,33	1.81	4 (19%)
5	PSU	L5	1683	5	18,21,22	1.08	1 (5%)	21,30,33	1.87	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
85	PSU	S2	1056	85	18,21,22	1.08	1 (5%)	21,30,33	1.91	4 (19%)
5	OMU	L5	4498	5	19,22,23	3.34	7 (36%)	25,31,34	1.86	5 (20%)
5	UR3	L5	4530	5	19,22,23	2.72	7 (36%)	26,32,35	1.60	3 (11%)
85	4AC	S2	1842	85	21,24,25	0.37	0	28,34,37	0.48	0
5	PSU	L5	1677	5	18,21,22	1.06	1 (5%)	21,30,33	1.87	3 (14%)
85	OMU	S2	799	85	19,22,23	3.39	7 (36%)	25,31,34	1.81	5 (20%)
85	PSU	S2	1244	85	18,21,22	1.09	1 (5%)	21,30,33	1.88	4 (19%)
85	PSU	S2	649	85	18,21,22	1.08	1 (5%)	21,30,33	1.93	3 (14%)
5	OMU	L5	4227	5	19,22,23	3.35	7 (36%)	25,31,34	1.82	5 (20%)
5	OMC	L5	4456	5	19,22,23	0.64	0	25,31,34	0.84	1 (4%)
5	PSU	L5	4500	5	18,21,22	1.11	1 (5%)	21,30,33	1.99	5 (23%)
5	PSU	L5	3920	5,86	18,21,22	1.05	1 (5%)	21,30,33	1.85	4 (19%)
5	OMG	L5	4196	5,2	19,26,27	1.17	2 (10%)	21,38,41	0.80	1 (4%)
85	PSU	S2	1046	85	18,21,22	1.12	1 (5%)	21,30,33	1.83	4 (19%)
85	A2M	S2	1031	85	18,25,26	1.24	2 (11%)	20,36,39	2.09	6 (30%)
5	A2M	L5	1534	5,86	18,25,26	1.31	3 (16%)	20,36,39	1.97	7 (35%)
85	PSU	S2	814	85	18,21,22	1.09	1 (5%)	21,30,33	1.79	4 (19%)
5	OMC	L5	3869	5	19,22,23	0.60	0	25,31,34	0.70	0
5	A2M	L5	2401	5	18,25,26	1.23	2 (11%)	20,36,39	2.06	5 (25%)
5	OMC	L5	3808	5	19,22,23	0.64	0	25,31,34	0.78	1 (4%)
5	OMG	L5	1522	5	19,26,27	1.21	3 (15%)	21,38,41	0.87	1 (4%)
5	OMC	L5	2804	5	19,22,23	0.61	0	25,31,34	0.88	1 (4%)
5	PSU	L5	3639	5	18,21,22	1.08	1 (5%)	21,30,33	1.85	4 (19%)
85	PSU	S2	1045	85	18,21,22	1.06	1 (5%)	21,30,33	1.87	4 (19%)
85	OMG	S2	1328	85	19,26,27	1.12	2 (10%)	21,38,41	0.83	1 (4%)
5	PSU	L5	4579	5	18,21,22	1.04	1 (5%)	21,30,33	1.86	4 (19%)
85	PSU	S2	1081	85	18,21,22	1.04	1 (5%)	21,30,33	1.82	5 (23%)
5	OMG	L5	2424	5	19,26,27	1.19	3 (15%)	21,38,41	0.79	1 (4%)
5	UY1	L5	3818	5	19,22,23	4.90	9 (47%)	21,31,34	1.92	5 (23%)
5	OMC	L5	4536	5	19,22,23	0.59	0	25,31,34	0.69	0
85	OMU	S2	172	85	19,22,23	3.37	7 (36%)	25,31,34	1.81	5 (20%)
5	PSU	L5	4521	5,86	18,21,22	1.09	1 (5%)	21,30,33	1.98	5 (23%)
5	PSU	L5	4431	5	18,21,22	1.04	1 (5%)	21,30,33	1.87	4 (19%)
85	OMG	S2	867	85	19,26,27	1.15	2 (10%)	21,38,41	0.83	1 (4%)
85	A2M	S2	166	85	18,25,26	1.30	2 (11%)	20,36,39	2.00	6 (30%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	OMG	L5	4618	5	19,26,27	1.17	2 (10%)	21,38,41	0.83	1 (4%)
5	OMC	L5	1340	5	19,22,23	0.59	0	25,31,34	0.83	0
85	OMU	S2	1442	85	19,22,23	3.40	7 (36%)	25,31,34	1.82	5 (20%)
5	PSU	L5	4972	5	18,21,22	1.07	1 (5%)	21,30,33	1.88	4 (19%)
5	OMG	L5	4637	5	19,26,27	1.17	2 (10%)	21,38,41	0.87	1 (4%)
85	PSU	S2	801	85	18,21,22	1.11	1 (5%)	21,30,33	1.86	4 (19%)
5	A2M	L5	1524	5	18,25,26	1.31	2 (11%)	20,36,39	2.31	6 (30%)
5	PSU	L5	4312	5	18,21,22	1.06	1 (5%)	21,30,33	1.90	4 (19%)
85	OMC	S2	1391	85	19,22,23	0.52	0	25,31,34	0.68	0
5	OMG	L5	1316	5	19,26,27	1.23	3 (15%)	21,38,41	0.89	1 (4%)
5	PSU	L5	1744	5,86	18,21,22	1.08	1 (5%)	21,30,33	1.90	4 (19%)
85	A2M	S2	159	85	18,25,26	1.19	1 (5%)	20,36,39	1.85	7 (35%)
5	OMG	L5	4499	5	19,26,27	1.16	2 (10%)	21,38,41	0.82	1 (4%)
85	A2M	S2	576	85	18,25,26	1.23	2 (11%)	20,36,39	1.95	5 (25%)
5	PSU	L5	4552	5	18,21,22	1.09	1 (5%)	21,30,33	1.90	4 (19%)
5	OMG	L5	4370	5	19,26,27	1.16	3 (15%)	21,38,41	0.83	1 (4%)
5	OMG	L5	1625	5	19,26,27	1.23	3 (15%)	21,38,41	0.82	1 (4%)
5	PSU	L5	5001	5	18,21,22	1.08	1 (5%)	21,30,33	1.84	4 (19%)
5	OMC	L5	2861	5	19,22,23	0.56	0	25,31,34	0.80	1 (4%)
5	PSU	L5	3884	5	18,21,22	1.07	1 (5%)	21,30,33	1.89	4 (19%)
7	PSU	L8	69	7	18,21,22	1.08	1 (5%)	21,30,33	1.82	5 (23%)
85	PSU	S2	109	85	18,21,22	1.06	1 (5%)	21,30,33	1.92	4 (19%)
5	A2M	L5	398	5	18,25,26	1.26	2 (11%)	20,36,39	2.10	5 (25%)
5	PSU	L5	4457	5	18,21,22	1.04	1 (5%)	21,30,33	1.96	5 (23%)
5	PSU	L5	3822	5	18,21,22	1.06	1 (5%)	21,30,33	1.82	5 (23%)
5	OMC	L5	3701	5	19,22,23	0.68	0	25,31,34	1.68	4 (16%)
85	OMU	S2	116	85	19,22,23	3.36	7 (36%)	25,31,34	1.77	4 (16%)
85	PSU	S2	1232	85	18,21,22	1.09	1 (5%)	21,30,33	1.85	4 (19%)
85	OMU	S2	1326	85	19,22,23	3.39	7 (36%)	25,31,34	1.83	5 (20%)
5	PSU	L5	3844	5	18,21,22	1.12	1 (5%)	21,30,33	1.84	4 (19%)
85	PSU	S2	966	85,86	18,21,22	1.09	1 (5%)	21,30,33	1.92	4 (19%)
5	PSU	L5	3695	5	18,21,22	1.07	1 (5%)	21,30,33	1.90	5 (23%)
5	A2M	L5	1323	5	18,25,26	1.25	2 (11%)	20,36,39	1.95	7 (35%)
5	OMC	L5	2365	5	19,22,23	0.57	0	25,31,34	0.60	0
5	OMG	L5	4494	5	19,26,27	1.19	3 (15%)	21,38,41	0.87	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	PSU	L5	2839	5	18,21,22	1.04	1 (5%)	21,30,33	1.82	4 (19%)
5	A2M	L5	3867	5	18,25,26	1.22	1 (5%)	20,36,39	1.79	6 (30%)
5	PSU	L5	2632	5	18,21,22	1.06	1 (5%)	21,30,33	1.82	4 (19%)
5	PSU	L5	1792	5	18,21,22	1.02	1 (5%)	21,30,33	1.89	3 (14%)
85	OMG	S2	509	85	19,26,27	1.14	2 (10%)	21,38,41	0.83	1 (4%)
5	OMC	L5	2824	5	19,22,23	0.55	0	25,31,34	0.63	0
5	A2M	L5	3830	5	18,25,26	1.24	2 (11%)	20,36,39	2.14	5 (25%)
5	A2M	L5	4590	5	18,25,26	1.23	2 (11%)	20,36,39	1.99	7 (35%)
5	PSU	L5	1781	5	18,21,22	1.05	1 (5%)	21,30,33	1.78	4 (19%)
85	OMG	S2	644	85	19,26,27	1.13	2 (10%)	21,38,41	0.86	1 (4%)
5	OMG	L5	3792	5	19,26,27	1.18	2 (10%)	21,38,41	0.83	1 (4%)
5	PSU	L5	4628	5	18,21,22	1.00	1 (5%)	21,30,33	1.82	4 (19%)
5	OMG	L5	3744	5	19,26,27	1.18	3 (15%)	21,38,41	0.81	1 (4%)
85	OMC	S2	174	85	19,22,23	0.53	0	25,31,34	0.65	0
5	1MA	L5	1322	5,86	17,25,26	0.99	2 (11%)	17,37,40	1.16	2 (11%)
5	PSU	L5	4296	5	18,21,22	1.08	1 (5%)	21,30,33	1.88	4 (19%)
5	PSU	L5	4403	5	18,21,22	1.04	1 (5%)	21,30,33	1.95	4 (19%)
5	A2M	L5	4523	5,86	18,25,26	1.33	3 (16%)	20,36,39	2.19	5 (25%)
85	OMU	S2	1288	85	19,22,23	3.39	7 (36%)	25,31,34	1.75	5 (20%)
85	OMG	S2	436	85	19,26,27	1.15	2 (10%)	21,38,41	0.82	1 (4%)
5	A2M	L5	3785	5,86	18,25,26	1.22	2 (11%)	20,36,39	2.32	7 (35%)
5	PSU	L5	1862	5	18,21,22	1.05	1 (5%)	21,30,33	1.91	4 (19%)
5	A2M	L5	1871	5,86	18,25,26	1.31	2 (11%)	20,36,39	2.24	5 (25%)
5	OMG	L5	4228	5	19,26,27	1.19	3 (15%)	21,38,41	0.97	1 (4%)
5	PSU	L5	4576	5	18,21,22	1.08	1 (5%)	21,30,33	1.85	5 (23%)
5	OMG	L5	4623	5	19,26,27	1.19	3 (15%)	21,38,41	0.92	1 (4%)
7	OMG	L8	75	7	19,26,27	1.16	3 (15%)	21,38,41	0.87	1 (4%)
85	OMU	S2	121	85	19,22,23	3.34	7 (36%)	25,31,34	1.85	5 (20%)
5	OMC	L5	2422	5,86	19,22,23	0.58	0	25,31,34	0.69	0
5	A2M	L5	3718	5	18,25,26	1.18	1 (5%)	20,36,39	1.94	5 (25%)
5	5MC	L5	3782	5,86	19,22,23	0.60	0	26,32,35	0.71	0
85	OMG	S2	601	85	19,26,27	1.13	2 (10%)	21,38,41	0.81	1 (4%)
85	OMU	S2	627	85	19,22,23	3.41	7 (36%)	25,31,34	1.82	4 (16%)
85	G7M	S2	1639	85,2	20,26,27	2.45	6 (30%)	16,39,42	1.10	1 (6%)
5	PSU	L5	1582	5	18,21,22	1.09	1 (5%)	21,30,33	1.86	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	PSU	L5	5010	5	18,21,22	1.08	1 (5%)	21,30,33	1.85	4 (19%)
85	A2M	S2	99	85,86	18,25,26	1.24	2 (11%)	20,36,39	2.02	6 (30%)
5	A2M	L5	4571	5	18,25,26	1.26	1 (5%)	20,36,39	1.96	5 (25%)
5	PSU	L5	4442	5	18,21,22	1.08	1 (5%)	21,30,33	1.90	5 (23%)
85	A2M	S2	468	85	18,25,26	1.25	2 (11%)	20,36,39	2.08	5 (25%)
7	PSU	L8	55	7	18,21,22	1.05	1 (5%)	21,30,33	1.89	4 (19%)
85	6MZ	S2	1832	85,86	21,26,26	1.31	3 (14%)	22,39,39	1.78	2 (9%)
85	OMG	S2	683	85	19,26,27	1.16	2 (10%)	21,38,41	0.81	1 (4%)
85	A2M	S2	668	85,86	18,25,26	1.31	3 (16%)	20,36,39	2.16	6 (30%)
5	A2M	L5	2815	5	18,25,26	1.17	1 (5%)	20,36,39	1.83	7 (35%)
5	OMU	L5	3925	5	19,22,23	3.32	7 (36%)	25,31,34	1.90	5 (20%)
85	OMC	S2	1703	85	19,22,23	0.55	0	25,31,34	0.60	0
85	OMG	S2	1490	85	19,26,27	1.19	2 (10%)	21,38,41	0.71	0
85	MA6	S2	1851	85	19,26,27	1.48	3 (15%)	18,38,41	3.51	3 (16%)
5	OMC	L5	2351	5,86	19,22,23	0.62	0	25,31,34	1.18	2 (8%)
5	OMC	L5	3887	5	19,22,23	0.57	0	25,31,34	0.77	0
85	OMC	S2	1272	85	19,22,23	0.57	0	25,31,34	1.10	2 (8%)
5	A2M	L5	2787	5	18,25,26	1.27	2 (11%)	20,36,39	1.81	6 (30%)
85	4AC	S2	1337	85	21,24,25	0.38	0	28,34,37	0.71	1 (3%)
85	PSU	S2	1174	85	18,21,22	1.10	1 (5%)	21,30,33	1.89	4 (19%)
5	A2M	L5	3825	5	18,25,26	1.24	2 (11%)	20,36,39	2.00	5 (25%)
85	B8N	S2	1248	85	25,29,30	3.28	6 (24%)	28,42,45	2.03	7 (25%)
3	SEP	CF	163	3	8,9,10	1.61	1 (12%)	7,12,14	1.30	1 (14%)
5	PSU	L5	4293	5	18,21,22	1.12	1 (5%)	21,30,33	1.96	4 (19%)
85	OMC	S2	462	85	19,22,23	0.54	0	25,31,34	0.71	0
5	OMC	L5	3841	5	19,22,23	0.56	0	25,31,34	0.69	1 (4%)
5	PSU	L5	4973	5	18,21,22	1.10	1 (5%)	21,30,33	1.94	4 (19%)
5	PSU	L5	4361	5	18,21,22	1.01	1 (5%)	21,30,33	1.80	3 (14%)
5	PSU	L5	3637	5	18,21,22	1.06	1 (5%)	21,30,33	2.02	5 (23%)
5	PSU	L5	4673	5,86	18,21,22	1.05	1 (5%)	21,30,33	1.82	4 (19%)
85	A2M	S2	27	85	18,25,26	1.23	1 (5%)	20,36,39	1.95	6 (30%)
5	PSU	L5	4471	5	18,21,22	1.05	1 (5%)	21,30,33	1.87	4 (19%)
85	PSU	S2	93	85	18,21,22	1.09	1 (5%)	21,30,33	1.78	4 (19%)
85	PSU	S2	863	85	18,21,22	1.11	1 (5%)	21,30,33	1.85	4 (19%)
5	PSU	L5	3851	5	18,21,22	1.02	1 (5%)	21,30,33	1.86	3 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
85	PSU	S2	1367	85	18,21,22	1.10	1 (5%)	21,30,33	1.91	4 (19%)
5	OMG	L5	4392	5	19,26,27	1.18	3 (15%)	21,38,41	0.82	1 (4%)
85	A2M	S2	1383	85	18,25,26	1.22	2 (11%)	20,36,39	2.17	5 (25%)
5	PSU	L5	1860	5	18,21,22	1.03	1 (5%)	21,30,33	1.85	4 (19%)

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
5	A2M	L5	2363	5,86	-	0/5/27/28	0/3/3/3
85	PSU	S2	1004	85	-	0/7/25/26	0/2/2/2
5	OMG	L5	2364	5	-	1/5/27/28	0/3/3/3
85	OMC	S2	517	85	-	2/9/27/28	0/2/2/2
85	OMU	S2	354	85	-	0/9/27/28	0/2/2/2
5	OMG	L5	3899	5	-	2/5/27/28	0/3/3/3
85	PSU	S2	866	85	-	0/7/25/26	0/2/2/2
85	PSU	S2	651	85	-	0/7/25/26	0/2/2/2
5	PSU	L5	4493	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	4532	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	3853	5,86	-	0/7/25/26	0/2/2/2
85	PSU	S2	1177	85	-	0/7/25/26	0/2/2/2
5	A2M	L5	400	5	-	1/5/27/28	0/3/3/3
5	OMG	L5	3627	5	-	0/5/27/28	0/3/3/3
5	PSU	L5	4353	5	-	0/7/25/26	0/2/2/2
5	OMU	L5	4620	5	-	0/9/27/28	0/2/2/2
5	OMU	L5	2837	5	-	0/9/27/28	0/2/2/2
5	OMU	L5	4306	5	-	0/9/27/28	0/2/2/2
5	5MC	L5	4447	5	-	4/7/25/26	0/2/2/2
5	PSU	L5	1536	5	-	2/7/25/26	0/2/2/2
5	OMG	L5	2876	5	-	1/5/27/28	0/3/3/3
5	PSU	L5	4689	5	-	0/7/25/26	0/2/2/2
85	PSU	S2	686	85	-	0/7/25/26	0/2/2/2
5	PSU	L5	1782	5	-	0/7/25/26	0/2/2/2
85	PSU	S2	406	85	-	0/7/25/26	0/2/2/2
5	6MZ	L5	4220	5	-	0/5/27/28	0/3/3/3
5	A2M	L5	1326	5	-	3/5/27/28	0/3/3/3
85	OMU	S2	428	85	-	6/9/27/28	0/2/2/2
85	PSU	S2	681	85	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
85	A2M	S2	484	85	-	0/5/27/28	0/3/3/3
85	MA6	S2	1850	85	-	0/7/29/30	0/3/3/3
85	PSU	S2	105	85	-	0/7/25/26	0/2/2/2
5	PSU	L5	4636	5	-	1/7/25/26	0/2/2/2
5	PSU	L5	4299	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	1683	5	-	0/7/25/26	0/2/2/2
85	PSU	S2	1056	85	-	0/7/25/26	0/2/2/2
5	OMU	L5	4498	5	-	0/9/27/28	0/2/2/2
5	UR3	L5	4530	5	-	0/7/25/26	0/2/2/2
85	4AC	S2	1842	85	-	0/11/29/30	0/2/2/2
5	PSU	L5	1677	5	-	3/7/25/26	0/2/2/2
85	OMU	S2	799	85	-	2/9/27/28	0/2/2/2
85	PSU	S2	1244	85	-	0/7/25/26	0/2/2/2
85	PSU	S2	649	85	-	0/7/25/26	0/2/2/2
5	OMU	L5	4227	5	-	0/9/27/28	0/2/2/2
5	OMC	L5	4456	5	-	0/9/27/28	0/2/2/2
5	PSU	L5	4500	5	-	3/7/25/26	0/2/2/2
5	PSU	L5	3920	5,86	-	0/7/25/26	0/2/2/2
5	OMG	L5	4196	5,2	-	1/5/27/28	0/3/3/3
85	PSU	S2	1046	85	-	0/7/25/26	0/2/2/2
85	A2M	S2	1031	85	-	0/5/27/28	0/3/3/3
5	A2M	L5	1534	5,86	-	1/5/27/28	0/3/3/3
85	PSU	S2	814	85	-	0/7/25/26	0/2/2/2
5	OMC	L5	3869	5	-	1/9/27/28	0/2/2/2
5	A2M	L5	2401	5	-	2/5/27/28	0/3/3/3
5	OMC	L5	3808	5	-	0/9/27/28	0/2/2/2
5	OMG	L5	1522	5	-	0/5/27/28	0/3/3/3
5	OMC	L5	2804	5	-	0/9/27/28	0/2/2/2
5	PSU	L5	3639	5	-	0/7/25/26	0/2/2/2
85	PSU	S2	1045	85	-	2/7/25/26	0/2/2/2
85	OMG	S2	1328	85	-	1/5/27/28	0/3/3/3
5	PSU	L5	4579	5	-	0/7/25/26	0/2/2/2
85	PSU	S2	1081	85	-	1/7/25/26	0/2/2/2
5	OMG	L5	2424	5	-	0/5/27/28	0/3/3/3
5	UY1	L5	3818	5	-	2/9/27/28	0/2/2/2
5	OMC	L5	4536	5	-	0/9/27/28	0/2/2/2
85	OMU	S2	172	85	-	0/9/27/28	0/2/2/2
5	PSU	L5	4521	5,86	-	0/7/25/26	0/2/2/2
5	PSU	L5	4431	5	-	0/7/25/26	0/2/2/2
85	OMG	S2	867	85	-	2/5/27/28	0/3/3/3
85	A2M	S2	166	85	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	OMG	L5	4618	5	-	2/5/27/28	0/3/3/3
5	OMC	L5	1340	5	-	1/9/27/28	0/2/2/2
85	OMU	S2	1442	85	-	2/9/27/28	0/2/2/2
5	PSU	L5	4972	5	-	0/7/25/26	0/2/2/2
5	OMG	L5	4637	5	-	3/5/27/28	0/3/3/3
85	PSU	S2	801	85	-	2/7/25/26	0/2/2/2
5	A2M	L5	1524	5	-	2/5/27/28	0/3/3/3
5	PSU	L5	4312	5	-	0/7/25/26	0/2/2/2
85	OMC	S2	1391	85	-	0/9/27/28	0/2/2/2
5	OMG	L5	1316	5	-	0/5/27/28	0/3/3/3
5	PSU	L5	1744	5,86	-	0/7/25/26	0/2/2/2
85	A2M	S2	159	85	-	1/5/27/28	0/3/3/3
5	OMG	L5	4499	5	-	1/5/27/28	0/3/3/3
85	A2M	S2	576	85	-	4/5/27/28	0/3/3/3
5	PSU	L5	4552	5	-	0/7/25/26	0/2/2/2
5	OMG	L5	4370	5	-	1/5/27/28	0/3/3/3
5	OMG	L5	1625	5	-	2/5/27/28	0/3/3/3
5	PSU	L5	5001	5	-	0/7/25/26	0/2/2/2
5	OMC	L5	2861	5	-	1/9/27/28	0/2/2/2
5	PSU	L5	3884	5	-	0/7/25/26	0/2/2/2
7	PSU	L8	69	7	-	0/7/25/26	0/2/2/2
85	PSU	S2	109	85	-	0/7/25/26	0/2/2/2
5	A2M	L5	398	5	-	1/5/27/28	0/3/3/3
5	PSU	L5	4457	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	3822	5	-	0/7/25/26	0/2/2/2
5	OMC	L5	3701	5	-	6/9/27/28	0/2/2/2
85	OMU	S2	116	85	-	0/9/27/28	0/2/2/2
85	PSU	S2	1232	85	-	0/7/25/26	0/2/2/2
85	OMU	S2	1326	85	-	0/9/27/28	0/2/2/2
5	PSU	L5	3844	5	-	1/7/25/26	0/2/2/2
85	PSU	S2	966	85,86	-	0/7/25/26	0/2/2/2
5	PSU	L5	3695	5	-	0/7/25/26	0/2/2/2
5	A2M	L5	1323	5	-	2/5/27/28	0/3/3/3
5	OMC	L5	2365	5	-	0/9/27/28	0/2/2/2
5	OMG	L5	4494	5	-	0/5/27/28	0/3/3/3
5	PSU	L5	2839	5	-	0/7/25/26	0/2/2/2
5	A2M	L5	3867	5	-	3/5/27/28	0/3/3/3
5	PSU	L5	2632	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	1792	5	-	0/7/25/26	0/2/2/2
85	OMG	S2	509	85	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	OMC	L5	2824	5	-	1/9/27/28	0/2/2/2
5	A2M	L5	3830	5	-	0/5/27/28	0/3/3/3
5	A2M	L5	4590	5	-	3/5/27/28	0/3/3/3
5	PSU	L5	1781	5	-	1/7/25/26	0/2/2/2
85	OMG	S2	644	85	-	4/5/27/28	0/3/3/3
5	OMG	L5	3792	5	-	2/5/27/28	0/3/3/3
5	PSU	L5	4628	5	-	0/7/25/26	0/2/2/2
5	OMG	L5	3744	5	-	0/5/27/28	0/3/3/3
85	OMC	S2	174	85	-	1/9/27/28	0/2/2/2
5	1MA	L5	1322	5,86	-	0/3/25/26	0/3/3/3
5	PSU	L5	4296	5	-	2/7/25/26	0/2/2/2
5	PSU	L5	4403	5	-	0/7/25/26	0/2/2/2
5	A2M	L5	4523	5,86	-	0/5/27/28	0/3/3/3
85	OMU	S2	1288	85	-	2/9/27/28	0/2/2/2
85	OMG	S2	436	85	-	2/5/27/28	0/3/3/3
5	A2M	L5	3785	5,86	-	3/5/27/28	0/3/3/3
5	PSU	L5	1862	5	-	0/7/25/26	0/2/2/2
5	A2M	L5	1871	5,86	-	0/5/27/28	0/3/3/3
5	OMG	L5	4228	5	-	2/5/27/28	0/3/3/3
5	PSU	L5	4576	5	-	0/7/25/26	0/2/2/2
5	OMG	L5	4623	5	-	0/5/27/28	0/3/3/3
7	OMG	L8	75	7	-	1/5/27/28	0/3/3/3
85	OMU	S2	121	85	-	0/9/27/28	0/2/2/2
5	OMC	L5	2422	5,86	-	2/9/27/28	0/2/2/2
5	A2M	L5	3718	5	-	1/5/27/28	0/3/3/3
5	5MC	L5	3782	5,86	-	1/7/25/26	0/2/2/2
85	OMG	S2	601	85	-	1/5/27/28	0/3/3/3
85	OMU	S2	627	85	-	4/9/27/28	0/2/2/2
85	G7M	S2	1639	85,2	-	0/3/25/26	0/3/3/3
5	PSU	L5	1582	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	5010	5	-	0/7/25/26	0/2/2/2
85	A2M	S2	99	85,86	-	3/5/27/28	0/3/3/3
5	A2M	L5	4571	5	-	0/5/27/28	0/3/3/3
5	PSU	L5	4442	5	-	0/7/25/26	0/2/2/2
85	A2M	S2	468	85	-	0/5/27/28	0/3/3/3
7	PSU	L8	55	7	-	0/7/25/26	0/2/2/2
85	6MZ	S2	1832	85,86	-	4/8/28/28	0/3/3/3
85	OMG	S2	683	85	-	0/5/27/28	0/3/3/3
85	A2M	S2	668	85,86	-	2/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	A2M	L5	2815	5	-	2/5/27/28	0/3/3/3
5	OMU	L5	3925	5	-	0/9/27/28	0/2/2/2
85	OMC	S2	1703	85	-	1/9/27/28	0/2/2/2
85	OMG	S2	1490	85	-	1/5/27/28	0/3/3/3
85	MA6	S2	1851	85	-	1/7/29/30	0/3/3/3
5	OMC	L5	2351	5,86	-	3/9/27/28	0/2/2/2
5	OMC	L5	3887	5	-	1/9/27/28	0/2/2/2
85	OMC	S2	1272	85	-	5/9/27/28	0/2/2/2
5	A2M	L5	2787	5	-	3/5/27/28	0/3/3/3
85	4AC	S2	1337	85	-	1/11/29/30	0/2/2/2
85	PSU	S2	1174	85	-	0/7/25/26	0/2/2/2
5	A2M	L5	3825	5	-	0/5/27/28	0/3/3/3
85	B8N	S2	1248	85	-	5/16/34/35	0/2/2/2
3	SEP	CF	163	3	-	6/6/8/10	-
5	PSU	L5	4293	5	-	0/7/25/26	0/2/2/2
85	OMC	S2	462	85	-	0/9/27/28	0/2/2/2
5	OMC	L5	3841	5	-	1/9/27/28	0/2/2/2
5	PSU	L5	4973	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	4361	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	3637	5	-	0/7/25/26	0/2/2/2
5	PSU	L5	4673	5,86	-	0/7/25/26	0/2/2/2
85	A2M	S2	27	85	-	1/5/27/28	0/3/3/3
5	PSU	L5	4471	5	-	1/7/25/26	0/2/2/2
85	PSU	S2	93	85	-	0/7/25/26	0/2/2/2
85	PSU	S2	863	85	-	0/7/25/26	0/2/2/2
5	PSU	L5	3851	5	-	1/7/25/26	0/2/2/2
85	PSU	S2	1367	85	-	0/7/25/26	0/2/2/2
5	OMG	L5	4392	5	-	0/5/27/28	0/3/3/3
85	A2M	S2	1383	85	-	3/5/27/28	0/3/3/3
5	PSU	L5	1860	5	-	0/7/25/26	0/2/2/2

All (351) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	L5	3818	UY1	C6-C5	12.73	1.49	1.35
5	L5	3818	UY1	C2-N1	11.79	1.52	1.36
85	S2	1442	OMU	C2-N1	8.47	1.51	1.38
85	S2	799	OMU	C2-N1	8.45	1.51	1.38
85	S2	627	OMU	C2-N1	8.41	1.51	1.38
5	L5	2837	OMU	C2-N1	8.34	1.51	1.38
85	S2	1288	OMU	C2-N1	8.33	1.51	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
85	S2	172	OMU	C2-N1	8.31	1.51	1.38
5	L5	4220	6MZ	C3'-C2'	-8.31	1.30	1.53
5	L5	3925	OMU	C2-N1	8.29	1.51	1.38
85	S2	116	OMU	C2-N1	8.29	1.51	1.38
85	S2	1326	OMU	C2-N1	8.29	1.51	1.38
5	L5	4227	OMU	C2-N1	8.28	1.51	1.38
5	L5	4498	OMU	C2-N1	8.25	1.51	1.38
5	L5	4306	OMU	C2-N1	8.20	1.51	1.38
85	S2	428	OMU	C2-N1	8.19	1.51	1.38
85	S2	121	OMU	C2-N1	8.16	1.51	1.38
85	S2	354	OMU	C2-N1	8.09	1.51	1.38
5	L5	4620	OMU	C2-N1	7.90	1.50	1.38
85	S2	1248	B8N	C6-N1	7.84	1.55	1.36
85	S2	1248	B8N	C4-N3	-7.84	1.26	1.40
5	L5	3818	UY1	C2-N3	7.78	1.50	1.37
5	L5	4220	6MZ	O4'-C1'	-7.36	1.31	1.40
85	S2	1248	B8N	C4-C5	7.11	1.63	1.47
85	S2	627	OMU	C2-N3	7.00	1.50	1.38
85	S2	1326	OMU	C2-N3	7.00	1.50	1.38
85	S2	1442	OMU	C2-N3	7.00	1.50	1.38
85	S2	172	OMU	C2-N3	6.97	1.50	1.38
85	S2	428	OMU	C2-N3	6.92	1.50	1.38
85	S2	116	OMU	C2-N3	6.91	1.50	1.38
85	S2	799	OMU	C2-N3	6.90	1.50	1.38
85	S2	1288	OMU	C2-N3	6.89	1.50	1.38
85	S2	354	OMU	C2-N3	6.86	1.49	1.38
5	L5	4227	OMU	C2-N3	6.85	1.49	1.38
85	S2	121	OMU	C2-N3	6.84	1.49	1.38
5	L5	2837	OMU	C2-N3	6.81	1.49	1.38
5	L5	4498	OMU	C2-N3	6.78	1.49	1.38
5	L5	4306	OMU	C2-N3	6.75	1.49	1.38
5	L5	3925	OMU	C2-N3	6.70	1.49	1.38
5	L5	4620	OMU	C2-N3	6.60	1.49	1.38
5	L5	4530	UR3	C2-N1	6.40	1.47	1.38
5	L5	4530	UR3	C6-C5	6.23	1.49	1.35
85	S2	1248	B8N	C2-N1	5.97	1.56	1.39
85	S2	1288	OMU	C6-C5	5.94	1.48	1.35
85	S2	627	OMU	C6-C5	5.93	1.48	1.35
85	S2	121	OMU	C6-C5	5.92	1.48	1.35
85	S2	172	OMU	C6-C5	5.89	1.48	1.35
85	S2	428	OMU	C6-C5	5.88	1.48	1.35
5	L5	2837	OMU	C6-C5	5.87	1.48	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	L5	4498	OMU	C6-C5	5.85	1.48	1.35
85	S2	1326	OMU	C6-C5	5.84	1.48	1.35
5	L5	4227	OMU	C6-C5	5.84	1.48	1.35
85	S2	799	OMU	C6-C5	5.83	1.48	1.35
85	S2	116	OMU	C6-C5	5.81	1.48	1.35
85	S2	354	OMU	C6-C5	5.80	1.48	1.35
85	S2	1442	OMU	C6-C5	5.78	1.48	1.35
5	L5	3925	OMU	C6-C5	5.76	1.48	1.35
5	L5	4306	OMU	C6-C5	5.71	1.48	1.35
5	L5	4530	UR3	C2-N3	5.71	1.50	1.39
5	L5	4620	OMU	C6-C5	5.70	1.48	1.35
5	L5	4620	OMU	O4-C4	-5.56	1.13	1.24
5	L5	4306	OMU	O4-C4	-5.53	1.13	1.24
85	S2	1326	OMU	O4-C4	-5.48	1.13	1.24
85	S2	121	OMU	O4-C4	-5.47	1.13	1.24
5	L5	3925	OMU	O4-C4	-5.47	1.13	1.24
5	L5	2837	OMU	O4-C4	-5.47	1.13	1.24
85	S2	1639	G7M	C2-N3	5.46	1.46	1.33
85	S2	1442	OMU	O4-C4	-5.45	1.13	1.24
85	S2	116	OMU	O4-C4	-5.44	1.13	1.24
5	L5	4227	OMU	O4-C4	-5.42	1.13	1.24
5	L5	4498	OMU	O4-C4	-5.42	1.13	1.24
85	S2	354	OMU	O4-C4	-5.41	1.14	1.24
85	S2	428	OMU	O4-C4	-5.41	1.14	1.24
5	L5	3818	UY1	C6-N1	5.40	1.45	1.36
85	S2	799	OMU	O4-C4	-5.39	1.14	1.24
85	S2	627	OMU	O4-C4	-5.38	1.14	1.24
85	S2	172	OMU	O4-C4	-5.38	1.14	1.24
85	S2	1248	B8N	C6-C5	5.34	1.42	1.35
85	S2	1288	OMU	O4-C4	-5.34	1.14	1.24
85	S2	1639	G7M	C4-N3	5.10	1.49	1.37
85	S2	1639	G7M	C2-N2	4.95	1.45	1.34
5	L5	4220	6MZ	O4'-C4'	4.88	1.55	1.45
5	L5	4220	6MZ	C6-C5	-4.54	1.37	1.44
5	L5	3818	UY1	C4-N3	4.50	1.47	1.38
85	S2	1326	OMU	C4-N3	4.48	1.46	1.38
85	S2	627	OMU	C4-N3	4.47	1.46	1.38
85	S2	1288	OMU	C4-N3	4.45	1.46	1.38
85	S2	1442	OMU	C4-N3	4.43	1.46	1.38
85	S2	799	OMU	C4-N3	4.37	1.46	1.38
85	S2	172	OMU	C4-N3	4.35	1.46	1.38
85	S2	428	OMU	C4-N3	4.35	1.46	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
85	S2	116	OMU	C4-N3	4.34	1.46	1.38
5	L5	4220	6MZ	C5'-C4'	-4.27	1.38	1.51
5	L5	4227	OMU	C4-N3	4.24	1.45	1.38
85	S2	354	OMU	C4-N3	4.21	1.45	1.38
5	L5	4498	OMU	C4-N3	4.19	1.45	1.38
5	L5	2837	OMU	C4-N3	4.17	1.45	1.38
85	S2	121	OMU	C4-N3	4.17	1.45	1.38
5	L5	4306	OMU	C4-N3	4.10	1.45	1.38
5	L5	3925	OMU	C4-N3	4.07	1.45	1.38
85	S2	1832	6MZ	C6-C5	-3.95	1.38	1.44
5	L5	4620	OMU	C4-N3	3.93	1.45	1.38
85	S2	1248	B8N	C1'-C5	3.74	1.58	1.50
85	S2	1004	PSU	C6-C5	3.73	1.39	1.35
5	L5	3844	PSU	C6-C5	3.72	1.39	1.35
85	S2	93	PSU	C6-C5	3.67	1.39	1.35
85	S2	863	PSU	C6-C5	3.64	1.39	1.35
85	S2	1850	MA6	C6-C5	-3.62	1.39	1.44
85	S2	651	PSU	C6-C5	3.62	1.39	1.35
5	L5	3818	UY1	O4-C4	-3.62	1.16	1.23
85	S2	406	PSU	C6-C5	3.61	1.39	1.35
85	S2	1367	PSU	C6-C5	3.61	1.39	1.35
5	L5	4293	PSU	C6-C5	3.61	1.39	1.35
85	S2	866	PSU	C6-C5	3.60	1.39	1.35
85	S2	1046	PSU	C6-C5	3.60	1.39	1.35
85	S2	1851	MA6	C6-N6	3.60	1.45	1.37
85	S2	1174	PSU	C6-C5	3.60	1.39	1.35
85	S2	966	PSU	C6-C5	3.59	1.39	1.35
85	S2	1639	G7M	C6-N1	3.58	1.43	1.37
85	S2	814	PSU	C6-C5	3.57	1.39	1.35
85	S2	801	PSU	C6-C5	3.57	1.39	1.35
85	S2	1244	PSU	C6-C5	3.57	1.39	1.35
5	L5	1782	PSU	C6-C5	3.55	1.39	1.35
5	L5	4532	PSU	C6-C5	3.54	1.39	1.35
85	S2	1232	PSU	C6-C5	3.54	1.39	1.35
5	L5	1781	PSU	C6-C5	3.53	1.39	1.35
85	S2	1851	MA6	C6-C5	-3.53	1.39	1.44
85	S2	1850	MA6	C6-N6	3.52	1.45	1.37
3	CF	163	SEP	P-O1P	3.51	1.61	1.50
5	L5	2632	PSU	C6-C5	3.50	1.39	1.35
5	L5	4973	PSU	C6-C5	3.50	1.39	1.35
5	L5	5010	PSU	C6-C5	3.50	1.39	1.35
85	S2	649	PSU	C6-C5	3.50	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
85	S2	105	PSU	C6-C5	3.49	1.39	1.35
5	L5	4972	PSU	C6-C5	3.49	1.39	1.35
85	S2	686	PSU	C6-C5	3.48	1.39	1.35
5	L5	4500	PSU	C6-C5	3.47	1.39	1.35
5	L5	1744	PSU	C6-C5	3.45	1.39	1.35
5	L5	4552	PSU	C6-C5	3.45	1.39	1.35
85	S2	576	A2M	O5'-C5'	-3.44	1.34	1.44
5	L5	1683	PSU	C6-C5	3.43	1.39	1.35
5	L5	4353	PSU	C6-C5	3.43	1.39	1.35
5	L5	2401	A2M	O5'-C5'	-3.43	1.34	1.44
85	S2	1045	PSU	C6-C5	3.43	1.39	1.35
5	L5	4312	PSU	C6-C5	3.42	1.39	1.35
5	L5	4296	PSU	C6-C5	3.42	1.39	1.35
5	L5	3884	PSU	C6-C5	3.41	1.39	1.35
5	L5	400	A2M	O5'-C5'	-3.41	1.34	1.44
85	S2	1056	PSU	C6-C5	3.41	1.39	1.35
5	L5	1862	PSU	C6-C5	3.41	1.39	1.35
5	L5	4521	PSU	C6-C5	3.41	1.39	1.35
5	L5	1582	PSU	C6-C5	3.41	1.39	1.35
85	S2	1081	PSU	C6-C5	3.41	1.39	1.35
5	L5	3825	A2M	O5'-C5'	-3.40	1.34	1.44
5	L5	3818	UY1	C1'-C5	3.40	1.58	1.50
5	L5	3830	A2M	O5'-C5'	-3.40	1.34	1.44
7	L8	69	PSU	C6-C5	3.40	1.39	1.35
85	S2	1177	PSU	C6-C5	3.40	1.39	1.35
7	L8	55	PSU	C6-C5	3.40	1.39	1.35
5	L5	2787	A2M	O5'-C5'	-3.39	1.34	1.44
5	L5	4636	PSU	C6-C5	3.39	1.39	1.35
5	L5	5001	PSU	C6-C5	3.38	1.39	1.35
5	L5	4442	PSU	C6-C5	3.38	1.39	1.35
85	S2	99	A2M	O5'-C5'	-3.38	1.34	1.44
5	L5	3639	PSU	C6-C5	3.38	1.39	1.35
5	L5	4571	A2M	O5'-C5'	-3.37	1.34	1.44
5	L5	3822	PSU	C6-C5	3.37	1.39	1.35
85	S2	681	PSU	C6-C5	3.37	1.39	1.35
5	L5	1536	PSU	C6-C5	3.37	1.39	1.35
85	S2	109	PSU	C6-C5	3.37	1.39	1.35
5	L5	4576	PSU	C6-C5	3.37	1.39	1.35
5	L5	1323	A2M	O5'-C5'	-3.36	1.34	1.44
5	L5	3637	PSU	C6-C5	3.36	1.39	1.35
5	L5	3695	PSU	C6-C5	3.36	1.39	1.35
5	L5	1871	A2M	O5'-C5'	-3.36	1.34	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	L5	4523	A2M	O5'-C5'	-3.36	1.34	1.44
5	L5	4431	PSU	C6-C5	3.36	1.39	1.35
5	L5	1524	A2M	O5'-C5'	-3.35	1.34	1.44
85	S2	1639	G7M	C5-C6	3.34	1.54	1.45
85	S2	1383	A2M	O5'-C5'	-3.34	1.34	1.44
5	L5	3853	PSU	C6-C5	3.34	1.39	1.35
85	S2	166	A2M	O5'-C5'	-3.34	1.34	1.44
5	L5	4493	PSU	C6-C5	3.33	1.39	1.35
5	L5	1326	A2M	O5'-C5'	-3.33	1.34	1.44
5	L5	3785	A2M	O5'-C5'	-3.33	1.34	1.44
5	L5	3920	PSU	C6-C5	3.33	1.39	1.35
85	S2	668	A2M	O5'-C5'	-3.31	1.34	1.44
5	L5	4471	PSU	C6-C5	3.31	1.39	1.35
5	L5	2815	A2M	O5'-C5'	-3.30	1.34	1.44
5	L5	398	A2M	O5'-C5'	-3.30	1.34	1.44
5	L5	4673	PSU	C6-C5	3.29	1.38	1.35
85	S2	1031	A2M	O5'-C5'	-3.29	1.34	1.44
5	L5	1860	PSU	C6-C5	3.29	1.38	1.35
85	S2	27	A2M	O5'-C5'	-3.28	1.34	1.44
85	S2	468	A2M	O5'-C5'	-3.26	1.34	1.44
5	L5	3867	A2M	O5'-C5'	-3.26	1.34	1.44
85	S2	484	A2M	O5'-C5'	-3.26	1.34	1.44
5	L5	2363	A2M	O5'-C5'	-3.26	1.34	1.44
5	L5	4579	PSU	C6-C5	3.26	1.38	1.35
5	L5	2876	OMG	C8-N7	-3.25	1.29	1.34
5	L5	4689	PSU	C6-C5	3.25	1.38	1.35
5	L5	4361	PSU	C6-C5	3.22	1.38	1.35
5	L5	3718	A2M	O5'-C5'	-3.22	1.34	1.44
5	L5	2839	PSU	C6-C5	3.22	1.38	1.35
5	L5	3818	UY1	O2-C2	-3.22	1.16	1.23
5	L5	1792	PSU	C6-C5	3.21	1.38	1.35
5	L5	4457	PSU	C6-C5	3.18	1.38	1.35
5	L5	4299	PSU	C6-C5	3.17	1.38	1.35
5	L5	3851	PSU	C6-C5	3.16	1.38	1.35
5	L5	4590	A2M	O5'-C5'	-3.15	1.35	1.44
5	L5	3792	OMG	C8-N7	-3.12	1.29	1.34
5	L5	1316	OMG	C8-N7	-3.12	1.30	1.34
5	L5	4628	PSU	C6-C5	3.10	1.38	1.35
5	L5	1677	PSU	C6-C5	3.09	1.38	1.35
5	L5	4403	PSU	C6-C5	3.08	1.38	1.35
85	S2	159	A2M	O5'-C5'	-3.08	1.35	1.44
5	L5	1625	OMG	C8-N7	-3.07	1.30	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
85	S2	867	OMG	C8-N7	-3.06	1.30	1.34
5	L5	1534	A2M	O5'-C5'	-3.05	1.35	1.44
5	L5	1522	OMG	C8-N7	-3.00	1.30	1.34
5	L5	3899	OMG	C8-N7	-3.00	1.30	1.34
5	L5	2364	OMG	C8-N7	-3.00	1.30	1.34
5	L5	4618	OMG	C8-N7	-2.99	1.30	1.34
5	L5	4494	OMG	C8-N7	-2.99	1.30	1.34
85	S2	1490	OMG	C8-N7	-2.99	1.30	1.34
85	S2	627	OMU	C5-C4	2.99	1.50	1.43
85	S2	1288	OMU	C5-C4	2.98	1.50	1.43
85	S2	683	OMG	C8-N7	-2.98	1.30	1.34
5	L5	4637	OMG	C8-N7	-2.97	1.30	1.34
5	L5	4196	OMG	C8-N7	-2.95	1.30	1.34
5	L5	3744	OMG	C8-N7	-2.95	1.30	1.34
7	L8	75	OMG	C8-N7	-2.93	1.30	1.34
5	L5	4392	OMG	C8-N7	-2.92	1.30	1.34
5	L5	2424	OMG	C8-N7	-2.91	1.30	1.34
5	L5	4499	OMG	C8-N7	-2.91	1.30	1.34
5	L5	4370	OMG	C8-N7	-2.90	1.30	1.34
5	L5	4623	OMG	C8-N7	-2.90	1.30	1.34
85	S2	601	OMG	C8-N7	-2.89	1.30	1.34
5	L5	3627	OMG	C8-N7	-2.89	1.30	1.34
85	S2	436	OMG	C8-N7	-2.88	1.30	1.34
85	S2	644	OMG	C8-N7	-2.87	1.30	1.34
85	S2	799	OMU	C5-C4	2.86	1.49	1.43
85	S2	1328	OMG	C8-N7	-2.85	1.30	1.34
85	S2	172	OMU	C5-C4	2.84	1.49	1.43
85	S2	428	OMU	C5-C4	2.82	1.49	1.43
5	L5	4498	OMU	C5-C4	2.82	1.49	1.43
5	L5	4227	OMU	C5-C4	2.81	1.49	1.43
85	S2	1326	OMU	C5-C4	2.81	1.49	1.43
85	S2	1442	OMU	C5-C4	2.80	1.49	1.43
85	S2	509	OMG	C8-N7	-2.80	1.30	1.34
85	S2	1639	G7M	C2-N1	2.79	1.44	1.37
5	L5	4228	OMG	C8-N7	-2.79	1.30	1.34
85	S2	354	OMU	C5-C4	2.78	1.49	1.43
5	L5	4220	6MZ	O3'-C3'	2.77	1.49	1.43
5	L5	3925	OMU	C5-C4	2.77	1.49	1.43
85	S2	116	OMU	C5-C4	2.75	1.49	1.43
5	L5	2837	OMU	C5-C4	2.75	1.49	1.43
85	S2	121	OMU	C5-C4	2.73	1.49	1.43
85	S2	799	OMU	C6-N1	2.73	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
85	S2	1490	OMG	C5-C6	-2.72	1.42	1.47
85	S2	1288	OMU	C6-N1	2.71	1.44	1.38
85	S2	354	OMU	C6-N1	2.71	1.44	1.38
5	L5	4530	UR3	O2-C2	-2.70	1.17	1.22
5	L5	4498	OMU	C6-N1	2.69	1.44	1.38
85	S2	627	OMU	C6-N1	2.68	1.44	1.38
85	S2	1326	OMU	C6-N1	2.68	1.44	1.38
85	S2	1442	OMU	C6-N1	2.67	1.44	1.38
85	S2	121	OMU	C6-N1	2.66	1.44	1.38
5	L5	4306	OMU	C6-N1	2.64	1.44	1.38
5	L5	4306	OMU	C5-C4	2.63	1.49	1.43
85	S2	668	A2M	O4'-C4'	-2.63	1.39	1.45
5	L5	2876	OMG	C5-C6	-2.63	1.42	1.47
5	L5	4392	OMG	C5-C6	-2.63	1.42	1.47
5	L5	1625	OMG	C5-C6	-2.62	1.42	1.47
5	L5	1522	OMG	C5-C6	-2.61	1.42	1.47
5	L5	4530	UR3	C6-N1	2.61	1.44	1.38
5	L5	2837	OMU	C6-N1	2.60	1.44	1.38
5	L5	3899	OMG	C5-C6	-2.60	1.42	1.47
5	L5	2424	OMG	C5-C6	-2.60	1.42	1.47
85	S2	172	OMU	C6-N1	2.59	1.44	1.38
5	L5	2364	OMG	C5-C6	-2.58	1.42	1.47
85	S2	428	OMU	C6-N1	2.58	1.44	1.38
5	L5	4620	OMU	C5-C4	2.58	1.49	1.43
5	L5	4227	OMU	C6-N1	2.57	1.44	1.38
85	S2	116	OMU	C6-N1	2.57	1.44	1.38
5	L5	4196	OMG	C5-C6	-2.57	1.42	1.47
5	L5	4494	OMG	C5-C6	-2.57	1.42	1.47
5	L5	3792	OMG	C5-C6	-2.56	1.42	1.47
85	S2	867	OMG	C5-C6	-2.56	1.42	1.47
5	L5	1322	1MA	C8-N7	-2.55	1.30	1.34
5	L5	4623	OMG	C5-C6	-2.55	1.42	1.47
5	L5	1316	OMG	C5-C6	-2.54	1.42	1.47
5	L5	3744	OMG	C5-C6	-2.53	1.42	1.47
5	L5	4637	OMG	C5-C6	-2.52	1.42	1.47
85	S2	1850	MA6	C2-N3	2.52	1.36	1.32
5	L5	3925	OMU	C6-N1	2.51	1.44	1.38
85	S2	683	OMG	C5-C6	-2.50	1.42	1.47
5	L5	4499	OMG	C5-C6	-2.49	1.42	1.47
7	L8	75	OMG	C5-C6	-2.49	1.42	1.47
5	L5	4620	OMU	C6-N1	2.48	1.44	1.38
5	L5	4370	OMG	C5-C6	-2.48	1.42	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
85	S2	644	OMG	C5-C6	-2.47	1.42	1.47
5	L5	4228	OMG	C5-C6	-2.47	1.42	1.47
85	S2	509	OMG	C5-C6	-2.47	1.42	1.47
5	L5	1871	A2M	C1'-N9	-2.46	1.43	1.49
5	L5	3627	OMG	C5-C6	-2.46	1.42	1.47
5	L5	4618	OMG	C5-C6	-2.45	1.42	1.47
85	S2	436	OMG	C5-C6	-2.45	1.42	1.47
85	S2	601	OMG	C5-C6	-2.44	1.42	1.47
85	S2	1851	MA6	C2-N3	2.43	1.35	1.32
85	S2	1328	OMG	C5-C6	-2.42	1.42	1.47
5	L5	1322	1MA	C5-C4	-2.42	1.37	1.43
5	L5	4530	UR3	C5-C4	2.31	1.49	1.43
5	L5	2787	A2M	C1'-N9	-2.29	1.44	1.49
5	L5	4523	A2M	C1'-N9	-2.29	1.44	1.49
5	L5	1534	A2M	O4'-C4'	-2.27	1.40	1.45
5	L5	2363	A2M	O4'-C4'	-2.25	1.40	1.45
5	L5	2401	A2M	C1'-N9	-2.24	1.44	1.49
5	L5	3785	A2M	C1'-N9	-2.23	1.44	1.49
5	L5	1316	OMG	C5-C4	-2.22	1.37	1.43
85	S2	468	A2M	C1'-N9	-2.21	1.44	1.49
85	S2	166	A2M	C1'-N9	-2.21	1.44	1.49
5	L5	4590	A2M	C1'-N9	-2.17	1.44	1.49
5	L5	1534	A2M	C1'-N9	-2.16	1.44	1.49
5	L5	1524	A2M	O4'-C4'	-2.16	1.40	1.45
85	S2	99	A2M	C1'-N9	-2.15	1.44	1.49
5	L5	4530	UR3	C3U-N3	2.15	1.50	1.47
85	S2	1031	A2M	C1'-N9	-2.13	1.44	1.49
85	S2	1383	A2M	C1'-N9	-2.12	1.44	1.49
5	L5	398	A2M	C1'-N9	-2.12	1.44	1.49
5	L5	3818	UY1	C4-C5	2.12	1.50	1.44
5	L5	4228	OMG	C5-C4	-2.11	1.37	1.43
5	L5	3830	A2M	C1'-N9	-2.10	1.44	1.49
5	L5	2424	OMG	C5-C4	-2.10	1.37	1.43
5	L5	3825	A2M	C1'-N9	-2.10	1.44	1.49
85	S2	668	A2M	C1'-N9	-2.09	1.44	1.49
85	S2	1832	6MZ	C2-N3	2.07	1.35	1.32
5	L5	4623	OMG	C5-C4	-2.07	1.38	1.43
5	L5	1323	A2M	O4'-C4'	-2.06	1.40	1.45
85	S2	576	A2M	C1'-N9	-2.06	1.44	1.49
5	L5	4392	OMG	C5-C4	-2.06	1.38	1.43
5	L5	2364	OMG	C5-C4	-2.05	1.38	1.43
5	L5	3744	OMG	C5-C4	-2.04	1.38	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	L5	1625	OMG	C5-C4	-2.03	1.38	1.43
5	L5	1522	OMG	C5-C4	-2.03	1.38	1.43
5	L5	4370	OMG	C5-C4	-2.02	1.38	1.43
5	L5	4494	OMG	C5-C4	-2.02	1.38	1.43
5	L5	3627	OMG	C5-C4	-2.02	1.38	1.43
85	S2	1832	6MZ	C6-N1	-2.01	1.31	1.34
7	L8	75	OMG	C5-C4	-2.01	1.38	1.43
5	L5	4523	A2M	O4'-C4'	-2.01	1.40	1.45

All (615) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
85	S2	1851	MA6	N1-C6-N6	-12.81	102.03	116.83
85	S2	1850	MA6	N1-C6-N6	-12.32	102.60	116.83
5	L5	1524	A2M	C4'-O4'-C1'	-6.99	103.52	109.92
5	L5	3785	A2M	C4'-O4'-C1'	-6.66	103.83	109.92
5	L5	4220	6MZ	N3-C2-N1	-6.27	120.16	128.67
85	S2	1851	MA6	N3-C2-N1	-6.27	120.16	128.67
85	S2	1832	6MZ	N3-C2-N1	-6.19	120.26	128.67
85	S2	1850	MA6	N3-C2-N1	-6.05	120.46	128.67
5	L5	3925	OMU	C4-N3-C2	-5.91	119.28	126.61
85	S2	428	OMU	C4-N3-C2	-5.75	119.48	126.61
5	L5	4498	OMU	C4-N3-C2	-5.70	119.54	126.61
85	S2	627	OMU	C4-N3-C2	-5.69	119.55	126.61
85	S2	354	OMU	C4-N3-C2	-5.66	119.58	126.61
5	L5	4530	UR3	C4-N3-C2	-5.63	120.05	124.58
5	L5	4227	OMU	C4-N3-C2	-5.62	119.63	126.61
5	L5	2837	OMU	C4-N3-C2	-5.59	119.67	126.61
85	S2	1326	OMU	C4-N3-C2	-5.58	119.68	126.61
85	S2	172	OMU	C4-N3-C2	-5.57	119.69	126.61
5	L5	4523	A2M	C4'-O4'-C1'	-5.56	104.83	109.92
85	S2	121	OMU	C4-N3-C2	-5.55	119.72	126.61
5	L5	1871	A2M	C4'-O4'-C1'	-5.54	104.85	109.92
85	S2	1442	OMU	C4-N3-C2	-5.52	119.76	126.61
5	L5	4306	OMU	C4-N3-C2	-5.51	119.77	126.61
85	S2	799	OMU	C4-N3-C2	-5.48	119.81	126.61
85	S2	1288	OMU	C4-N3-C2	-5.43	119.87	126.61
85	S2	1248	B8N	C5-C4-N3	5.38	125.92	116.15
85	S2	668	A2M	C4'-O4'-C1'	-5.36	105.01	109.92
85	S2	116	OMU	C4-N3-C2	-5.35	119.97	126.61
5	L5	3637	PSU	N1-C2-N3	5.32	120.78	115.17
5	L5	4636	PSU	C4-N3-C2	-5.27	119.11	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	3830	A2M	C4'-O4'-C1'	-5.23	105.13	109.92
85	S2	1383	A2M	C4'-O4'-C1'	-5.22	105.15	109.92
5	L5	3701	OMC	C1'-N1-C2	5.18	129.89	118.44
5	L5	1677	PSU	C4-N3-C2	-5.18	119.23	126.37
5	L5	3637	PSU	C4-N3-C2	-5.12	119.31	126.37
5	L5	4457	PSU	C4-N3-C2	-5.09	119.36	126.37
5	L5	4403	PSU	C4-N3-C2	-5.08	119.37	126.37
5	L5	4620	OMU	C4-N3-C2	-5.07	120.31	126.61
5	L5	4521	PSU	C4-N3-C2	-5.06	119.41	126.37
85	S2	649	PSU	C4-N3-C2	-5.06	119.41	126.37
5	L5	1792	PSU	C4-N3-C2	-5.04	119.42	126.37
5	L5	4500	PSU	C4-N3-C2	-5.03	119.45	126.37
5	L5	4973	PSU	C4-N3-C2	-5.01	119.47	126.37
5	L5	4636	PSU	N1-C2-N3	5.00	120.45	115.17
5	L5	4689	PSU	N1-C2-N3	5.00	120.44	115.17
5	L5	4689	PSU	C4-N3-C2	-4.99	119.50	126.37
85	S2	109	PSU	C4-N3-C2	-4.99	119.50	126.37
5	L5	4293	PSU	N1-C2-N3	4.98	120.42	115.17
5	L5	4500	PSU	N1-C2-N3	4.97	120.41	115.17
85	S2	406	PSU	C4-N3-C2	-4.97	119.53	126.37
5	L5	4471	PSU	C4-N3-C2	-4.96	119.54	126.37
85	S2	1174	PSU	C4-N3-C2	-4.95	119.55	126.37
85	S2	1056	PSU	C4-N3-C2	-4.95	119.55	126.37
5	L5	4312	PSU	C4-N3-C2	-4.93	119.58	126.37
85	S2	406	PSU	N1-C2-N3	4.93	120.36	115.17
5	L5	1744	PSU	C4-N3-C2	-4.92	119.59	126.37
5	L5	4552	PSU	C4-N3-C2	-4.92	119.60	126.37
5	L5	1862	PSU	C4-N3-C2	-4.92	119.60	126.37
5	L5	4293	PSU	C4-N3-C2	-4.91	119.60	126.37
85	S2	468	A2M	C4'-O4'-C1'	-4.91	105.43	109.92
85	S2	966	PSU	C4-N3-C2	-4.91	119.61	126.37
5	L5	4521	PSU	N1-C2-N3	4.91	120.34	115.17
5	L5	4493	PSU	C4-N3-C2	-4.90	119.62	126.37
85	S2	1045	PSU	C4-N3-C2	-4.90	119.63	126.37
5	L5	4442	PSU	C4-N3-C2	-4.89	119.63	126.37
5	L5	1582	PSU	C4-N3-C2	-4.89	119.63	126.37
85	S2	651	PSU	C4-N3-C2	-4.88	119.64	126.37
5	L5	1860	PSU	C4-N3-C2	-4.88	119.65	126.37
5	L5	3695	PSU	C4-N3-C2	-4.87	119.66	126.37
5	L5	4296	PSU	C4-N3-C2	-4.87	119.66	126.37
5	L5	4973	PSU	N1-C2-N3	4.86	120.29	115.17
5	L5	1683	PSU	C4-N3-C2	-4.86	119.68	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	3884	PSU	C4-N3-C2	-4.86	119.68	126.37
5	L5	4353	PSU	C4-N3-C2	-4.85	119.69	126.37
5	L5	3851	PSU	C4-N3-C2	-4.85	119.69	126.37
85	S2	651	PSU	N1-C2-N3	4.84	120.27	115.17
5	L5	4431	PSU	C4-N3-C2	-4.83	119.71	126.37
5	L5	4457	PSU	N1-C2-N3	4.83	120.26	115.17
85	S2	1244	PSU	C4-N3-C2	-4.83	119.72	126.37
85	S2	1232	PSU	C4-N3-C2	-4.83	119.72	126.37
85	S2	1367	PSU	C4-N3-C2	-4.83	119.72	126.37
5	L5	1862	PSU	N1-C2-N3	4.82	120.25	115.17
5	L5	1536	PSU	C4-N3-C2	-4.82	119.73	126.37
7	L8	55	PSU	C4-N3-C2	-4.82	119.74	126.37
85	S2	1046	PSU	C4-N3-C2	-4.81	119.75	126.37
5	L5	5010	PSU	C4-N3-C2	-4.81	119.75	126.37
5	L5	3818	UY1	C4-N3-C2	-4.81	119.75	126.37
85	S2	801	PSU	C4-N3-C2	-4.80	119.75	126.37
5	L5	1782	PSU	C4-N3-C2	-4.80	119.75	126.37
5	L5	4532	PSU	C4-N3-C2	-4.80	119.76	126.37
5	L5	4299	PSU	C4-N3-C2	-4.79	119.77	126.37
5	L5	3639	PSU	C4-N3-C2	-4.79	119.77	126.37
85	S2	1367	PSU	N1-C2-N3	4.79	120.22	115.17
85	S2	1177	PSU	C4-N3-C2	-4.78	119.79	126.37
85	S2	966	PSU	N1-C2-N3	4.78	120.21	115.17
5	L5	4972	PSU	C4-N3-C2	-4.78	119.79	126.37
85	S2	686	PSU	C4-N3-C2	-4.77	119.80	126.37
85	S2	863	PSU	C4-N3-C2	-4.77	119.80	126.37
5	L5	4673	PSU	C4-N3-C2	-4.77	119.80	126.37
5	L5	4312	PSU	N1-C2-N3	4.77	120.20	115.17
5	L5	5001	PSU	C4-N3-C2	-4.77	119.80	126.37
5	L5	3920	PSU	C4-N3-C2	-4.77	119.81	126.37
7	L8	55	PSU	N1-C2-N3	4.77	120.19	115.17
85	S2	1004	PSU	C4-N3-C2	-4.76	119.81	126.37
5	L5	4361	PSU	C4-N3-C2	-4.75	119.83	126.37
5	L5	4552	PSU	N1-C2-N3	4.75	120.18	115.17
5	L5	4576	PSU	C4-N3-C2	-4.74	119.83	126.37
5	L5	1536	PSU	N1-C2-N3	4.74	120.16	115.17
85	S2	1081	PSU	C4-N3-C2	-4.74	119.85	126.37
85	S2	1031	A2M	C4'-O4'-C1'	-4.73	105.59	109.92
5	L5	1744	PSU	N1-C2-N3	4.73	120.15	115.17
5	L5	4972	PSU	N1-C2-N3	4.72	120.15	115.17
5	L5	3884	PSU	N1-C2-N3	4.72	120.15	115.17
85	S2	814	PSU	C4-N3-C2	-4.72	119.87	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
85	S2	649	PSU	N1-C2-N3	4.71	120.13	115.17
5	L5	2839	PSU	C4-N3-C2	-4.70	119.89	126.37
5	L5	1792	PSU	N1-C2-N3	4.70	120.13	115.17
5	L5	4628	PSU	C4-N3-C2	-4.70	119.90	126.37
5	L5	2632	PSU	C4-N3-C2	-4.69	119.91	126.37
5	L5	4442	PSU	N1-C2-N3	4.69	120.12	115.17
5	L5	4353	PSU	N1-C2-N3	4.69	120.12	115.17
5	L5	3822	PSU	C4-N3-C2	-4.69	119.91	126.37
5	L5	3695	PSU	N1-C2-N3	4.69	120.11	115.17
5	L5	4431	PSU	N1-C2-N3	4.69	120.11	115.17
5	L5	3844	PSU	C4-N3-C2	-4.69	119.92	126.37
85	S2	1248	B8N	C4-N3-C2	-4.68	119.85	125.62
5	L5	4403	PSU	N1-C2-N3	4.68	120.11	115.17
85	S2	1244	PSU	N1-C2-N3	4.68	120.11	115.17
5	L5	4532	PSU	N1-C2-N3	4.68	120.11	115.17
85	S2	109	PSU	N1-C2-N3	4.68	120.10	115.17
5	L5	398	A2M	C4'-O4'-C1'	-4.68	105.64	109.92
85	S2	863	PSU	N1-C2-N3	4.68	120.10	115.17
5	L5	3920	PSU	N1-C2-N3	4.67	120.10	115.17
5	L5	3853	PSU	C4-N3-C2	-4.67	119.94	126.37
85	S2	105	PSU	N1-C2-N3	4.67	120.09	115.17
5	L5	4579	PSU	C4-N3-C2	-4.67	119.94	126.37
85	S2	1174	PSU	N1-C2-N3	4.67	120.09	115.17
5	L5	4471	PSU	N1-C2-N3	4.66	120.08	115.17
5	L5	1683	PSU	N1-C2-N3	4.65	120.08	115.17
5	L5	3844	PSU	N1-C2-N3	4.64	120.07	115.17
85	S2	105	PSU	C4-N3-C2	-4.64	119.98	126.37
7	L8	69	PSU	C4-N3-C2	-4.64	119.98	126.37
5	L5	4296	PSU	N1-C2-N3	4.64	120.06	115.17
5	L5	2632	PSU	N1-C2-N3	4.63	120.06	115.17
85	S2	1056	PSU	N1-C2-N3	4.63	120.05	115.17
5	L5	5010	PSU	N1-C2-N3	4.63	120.05	115.17
5	L5	4628	PSU	N1-C2-N3	4.62	120.04	115.17
5	L5	1781	PSU	C4-N3-C2	-4.62	120.01	126.37
5	L5	4493	PSU	N1-C2-N3	4.62	120.04	115.17
85	S2	1046	PSU	N1-C2-N3	4.61	120.03	115.17
5	L5	1582	PSU	N1-C2-N3	4.61	120.03	115.17
5	L5	4579	PSU	N1-C2-N3	4.61	120.03	115.17
5	L5	3853	PSU	N1-C2-N3	4.60	120.02	115.17
85	S2	681	PSU	C4-N3-C2	-4.60	120.04	126.37
85	S2	866	PSU	C4-N3-C2	-4.59	120.05	126.37
5	L5	1860	PSU	N1-C2-N3	4.59	120.01	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
85	S2	1045	PSU	N1-C2-N3	4.59	120.01	115.17
85	S2	686	PSU	N1-C2-N3	4.59	120.00	115.17
85	S2	1004	PSU	N1-C2-N3	4.58	120.00	115.17
85	S2	1232	PSU	N1-C2-N3	4.58	120.00	115.17
85	S2	801	PSU	N1-C2-N3	4.57	119.99	115.17
85	S2	93	PSU	C4-N3-C2	-4.57	120.08	126.37
85	S2	681	PSU	N1-C2-N3	4.56	119.98	115.17
5	L5	5001	PSU	N1-C2-N3	4.56	119.98	115.17
5	L5	1782	PSU	N1-C2-N3	4.55	119.97	115.17
5	L5	4576	PSU	N1-C2-N3	4.55	119.97	115.17
5	L5	3639	PSU	N1-C2-N3	4.55	119.97	115.17
85	S2	93	PSU	N1-C2-N3	4.55	119.97	115.17
85	S2	1177	PSU	N1-C2-N3	4.54	119.96	115.17
85	S2	1081	PSU	N1-C2-N3	4.54	119.95	115.17
5	L5	4299	PSU	N1-C2-N3	4.53	119.95	115.17
5	L5	1677	PSU	N1-C2-N3	4.53	119.94	115.17
5	L5	3851	PSU	N1-C2-N3	4.51	119.92	115.17
85	S2	866	PSU	N1-C2-N3	4.50	119.92	115.17
5	L5	4673	PSU	N1-C2-N3	4.50	119.91	115.17
5	L5	1781	PSU	N1-C2-N3	4.50	119.91	115.17
85	S2	166	A2M	C4'-O4'-C1'	-4.49	105.81	109.92
5	L5	2839	PSU	N1-C2-N3	4.49	119.90	115.17
7	L8	69	PSU	N1-C2-N3	4.49	119.90	115.17
5	L5	3822	PSU	N1-C2-N3	4.46	119.87	115.17
5	L5	4361	PSU	N1-C2-N3	4.46	119.87	115.17
85	S2	121	OMU	N3-C2-N1	4.41	120.64	114.89
85	S2	814	PSU	N1-C2-N3	4.41	119.82	115.17
5	L5	4220	6MZ	C9-N6-C6	-4.41	118.76	122.85
5	L5	3825	A2M	C4'-O4'-C1'	-4.37	105.92	109.92
5	L5	4498	OMU	N3-C2-N1	4.34	120.54	114.89
5	L5	2401	A2M	C4'-O4'-C1'	-4.31	105.98	109.92
5	L5	3830	A2M	C3'-C2'-C1'	-4.28	94.60	102.81
5	L5	3925	OMU	N3-C2-N1	4.27	120.45	114.89
85	S2	99	A2M	C4'-O4'-C1'	-4.26	106.02	109.92
85	S2	668	A2M	C1'-N9-C4	-4.25	119.17	126.64
85	S2	1832	6MZ	C2-N1-C6	4.25	119.90	116.60
5	L5	2837	OMU	N3-C2-N1	4.23	120.40	114.89
5	L5	1534	A2M	C4'-O4'-C1'	-4.22	106.06	109.92
5	L5	4590	A2M	C4'-O4'-C1'	-4.17	106.10	109.92
5	L5	1871	A2M	C3'-C2'-C1'	-4.17	94.82	102.81
85	S2	354	OMU	N3-C2-N1	4.16	120.31	114.89
5	L5	3818	UY1	N1-C2-N3	4.16	119.55	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
85	S2	1383	A2M	C3'-C2'-C1'	-4.14	94.89	102.81
85	S2	27	A2M	C4'-O4'-C1'	-4.11	106.16	109.92
85	S2	1248	B8N	C1'-C5-C4	4.09	123.82	117.61
5	L5	4220	6MZ	C2-N1-C6	4.08	119.77	116.60
5	L5	4523	A2M	C3'-C2'-C1'	-4.06	95.03	102.81
5	L5	4227	OMU	N3-C2-N1	4.04	120.16	114.89
5	L5	2363	A2M	C4'-O4'-C1'	-4.04	106.23	109.92
5	L5	1871	A2M	C1'-N9-C4	-4.02	119.58	126.64
5	L5	3701	OMC	C1'-N1-C6	-4.01	112.21	120.78
5	L5	400	A2M	C4'-O4'-C1'	-3.99	106.27	109.92
5	L5	4306	OMU	N3-C2-N1	3.98	120.07	114.89
5	L5	4620	OMU	N3-C2-N1	3.92	119.99	114.89
85	S2	428	OMU	N3-C2-N1	3.92	119.99	114.89
5	L5	3718	A2M	C4'-O4'-C1'	-3.90	106.36	109.92
5	L5	2401	A2M	C1'-N9-C4	-3.87	119.85	126.64
5	L5	4523	A2M	C1'-N9-C4	-3.85	119.89	126.64
5	L5	398	A2M	C3'-C2'-C1'	-3.84	95.45	102.81
85	S2	627	OMU	N3-C2-N1	3.82	119.87	114.89
85	S2	99	A2M	C1'-N9-C4	-3.82	119.93	126.64
85	S2	576	A2M	C4'-O4'-C1'	-3.81	106.44	109.92
5	L5	4590	A2M	C1'-N9-C4	-3.78	119.99	126.64
85	S2	1031	A2M	C1'-N9-C4	-3.78	119.99	126.64
85	S2	116	OMU	N3-C2-N1	3.78	119.81	114.89
85	S2	172	OMU	N3-C2-N1	3.78	119.81	114.89
85	S2	1288	OMU	N3-C2-N1	3.78	119.81	114.89
85	S2	1442	OMU	N3-C2-N1	3.77	119.80	114.89
85	S2	1383	A2M	C1'-N9-C4	-3.77	120.02	126.64
85	S2	468	A2M	C1'-N9-C4	-3.77	120.03	126.64
85	S2	1326	OMU	N3-C2-N1	3.76	119.78	114.89
85	S2	799	OMU	N3-C2-N1	3.74	119.76	114.89
85	S2	468	A2M	C3'-C2'-C1'	-3.74	95.65	102.81
5	L5	398	A2M	O3'-C3'-C2'	3.73	121.63	111.19
5	L5	2351	OMC	C1'-N1-C2	3.72	126.67	118.44
5	L5	4571	A2M	C4'-O4'-C1'	-3.69	106.55	109.92
85	S2	799	OMU	C5-C4-N3	3.68	119.95	114.80
5	L5	3785	A2M	C1'-N9-C4	-3.63	120.26	126.64
85	S2	1031	A2M	C3'-C2'-C1'	-3.61	95.89	102.81
85	S2	627	OMU	C5-C4-N3	3.60	119.84	114.80
85	S2	428	OMU	C5-C4-N3	3.60	119.84	114.80
5	L5	3825	A2M	C1'-N9-C4	-3.60	120.32	126.64
85	S2	159	A2M	C1'-N9-C4	-3.59	120.33	126.64
5	L5	3925	OMU	C5-C4-N3	3.58	119.81	114.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	398	A2M	C1'-N9-C4	-3.58	120.36	126.64
85	S2	1851	MA6	C2-N1-C6	3.57	120.34	116.84
5	L5	3830	A2M	C1'-N9-C4	-3.57	120.37	126.64
5	L5	4220	6MZ	C4'-O4'-C1'	-3.56	106.66	109.92
85	S2	576	A2M	O3'-C3'-C2'	3.56	121.15	111.19
85	S2	27	A2M	C1'-N9-C4	-3.55	120.40	126.64
85	S2	1326	OMU	C5-C4-N3	3.55	119.78	114.80
5	L5	2401	A2M	O3'-C3'-C2'	3.55	121.11	111.19
5	L5	400	A2M	C1'-N9-C4	-3.54	120.42	126.64
85	S2	576	A2M	C3'-C2'-C1'	-3.54	96.03	102.81
5	L5	1534	A2M	C3'-C2'-C1'	-3.54	96.04	102.81
85	S2	1442	OMU	C5-C4-N3	3.52	119.74	114.80
85	S2	484	A2M	C1'-N9-C4	-3.52	120.46	126.64
85	S2	172	OMU	C5-C4-N3	3.52	119.73	114.80
5	L5	4306	OMU	C5-C4-N3	3.51	119.71	114.80
5	L5	4530	UR3	C5-C4-N3	3.50	119.65	115.04
85	S2	354	OMU	C5-C4-N3	3.49	119.69	114.80
5	L5	2787	A2M	O3'-C3'-C2'	3.48	120.92	111.19
85	S2	1288	OMU	C5-C4-N3	3.47	119.67	114.80
85	S2	116	OMU	C5-C4-N3	3.47	119.66	114.80
5	L5	2401	A2M	C3'-C2'-C1'	-3.47	96.17	102.81
5	L5	4227	OMU	C5-C4-N3	3.46	119.65	114.80
5	L5	3825	A2M	C3'-C2'-C1'	-3.46	96.18	102.81
5	L5	1323	A2M	C4'-O4'-C1'	-3.45	106.76	109.92
85	S2	1850	MA6	C2-N1-C6	3.45	120.22	116.84
5	L5	4498	OMU	C5-C4-N3	3.42	119.60	114.80
85	S2	166	A2M	C1'-N9-C4	-3.41	120.66	126.64
85	S2	99	A2M	O3'-C3'-C2'	3.40	120.71	111.19
85	S2	1383	A2M	O3'-C3'-C2'	3.39	120.68	111.19
5	L5	400	A2M	O3'-C3'-C2'	3.38	120.64	111.19
5	L5	3718	A2M	C1'-N9-C4	-3.37	120.72	126.64
85	S2	468	A2M	O3'-C3'-C2'	3.36	120.60	111.19
85	S2	99	A2M	C3'-C2'-C1'	-3.36	96.38	102.81
5	L5	2837	OMU	C5-C4-N3	3.34	119.48	114.80
85	S2	1272	OMC	C1'-N1-C2	3.34	125.81	118.44
5	L5	1871	A2M	O3'-C3'-C2'	3.33	120.50	111.19
85	S2	166	A2M	O3'-C3'-C2'	3.32	120.47	111.19
5	L5	4571	A2M	O3'-C3'-C2'	3.31	120.45	111.19
5	L5	1524	A2M	O3'-C3'-C2'	3.31	120.45	111.19
5	L5	4571	A2M	C1'-N9-C4	-3.31	120.83	126.64
85	S2	121	OMU	C5-C4-N3	3.29	119.41	114.80
85	S2	1248	B8N	N3-C2-N1	3.29	120.73	116.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	3830	A2M	O3'-C3'-C2'	3.28	120.35	111.19
85	S2	1031	A2M	O3'-C3'-C2'	3.27	120.34	111.19
5	L5	4620	OMU	C5-C4-N3	3.22	119.31	114.80
5	L5	3718	A2M	O3'-C3'-C2'	3.22	120.19	111.19
5	L5	4590	A2M	C3'-C2'-C1'	-3.21	96.66	102.81
5	L5	2363	A2M	C1'-N9-C4	-3.20	121.02	126.64
5	L5	3867	A2M	C1'-N9-C4	-3.20	121.03	126.64
5	L5	2787	A2M	C1'-N9-C4	-3.19	121.05	126.64
5	L5	1323	A2M	C1'-N9-C4	-3.17	121.07	126.64
5	L5	3825	A2M	O3'-C3'-C2'	3.16	120.03	111.19
5	L5	3867	A2M	C4'-O4'-C1'	-3.16	107.03	109.92
85	S2	159	A2M	O3'-C3'-C2'	3.14	119.98	111.19
5	L5	4571	A2M	C3'-C2'-C1'	-3.14	96.79	102.81
85	S2	576	A2M	C1'-N9-C4	-3.13	121.13	126.64
5	L5	4523	A2M	O3'-C3'-C2'	3.11	119.88	111.19
5	L5	2815	A2M	C4'-O4'-C1'	-3.10	107.09	109.92
5	L5	3718	A2M	C3'-C2'-C1'	-3.09	96.88	102.81
85	S2	1442	OMU	O4-C4-C5	-3.09	119.83	125.16
5	L5	2363	A2M	C3'-C2'-C1'	-3.08	96.91	102.81
5	L5	2363	A2M	O3'-C3'-C2'	3.08	119.80	111.19
5	L5	1326	A2M	C1'-N9-C4	-3.07	121.24	126.64
5	L5	1534	A2M	C1'-N9-C4	-3.07	121.25	126.64
85	S2	1326	OMU	O4-C4-C5	-3.07	119.87	125.16
5	L5	1326	A2M	C4'-O4'-C1'	-3.07	107.12	109.92
5	L5	3851	PSU	O2-C2-N1	-3.06	119.63	122.79
5	L5	1323	A2M	O3'-C3'-C2'	3.05	119.73	111.19
5	L5	400	A2M	C3'-C2'-C1'	-3.04	96.98	102.81
85	S2	428	OMU	O4-C4-C5	-3.04	119.91	125.16
85	S2	484	A2M	O3'-C3'-C2'	3.04	119.70	111.19
85	S2	406	PSU	O2-C2-N1	-3.04	119.66	122.79
85	S2	1639	G7M	C2-N1-C6	-3.04	119.55	125.11
5	L5	2815	A2M	C1'-N9-C4	-3.03	121.32	126.64
5	L5	4689	PSU	O2-C2-N1	-3.00	119.70	122.79
85	S2	1248	B8N	O4-C4-N3	-3.00	115.12	119.99
5	L5	3785	A2M	O3'-C3'-C2'	2.98	119.51	111.19
85	S2	627	OMU	O4-C4-C5	-2.97	120.05	125.16
5	L5	3701	OMC	O2-C2-N3	-2.97	117.66	122.33
5	L5	2815	A2M	O3'-C3'-C2'	2.96	119.47	111.19
5	L5	4579	PSU	O2-C2-N1	-2.96	119.74	122.79
5	L5	1326	A2M	O3'-C3'-C2'	2.95	119.45	111.19
5	L5	4457	PSU	O2-C2-N1	-2.95	119.74	122.79
5	L5	4353	PSU	O2-C2-N1	-2.93	119.76	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
85	S2	109	PSU	O2-C2-N1	-2.93	119.77	122.79
85	S2	172	OMU	O4-C4-C5	-2.92	120.12	125.16
85	S2	799	OMU	O4-C4-C5	-2.92	120.12	125.16
5	L5	1323	A2M	C2'-C1'-N9	2.92	119.03	112.56
85	S2	27	A2M	O3'-C3'-C2'	2.91	119.34	111.19
5	L5	1524	A2M	C1'-N9-C4	-2.90	121.55	126.64
5	L5	3925	OMU	O4-C4-C5	-2.88	120.19	125.16
85	S2	651	PSU	O2-C2-N1	-2.88	119.82	122.79
5	L5	4293	PSU	O2-C2-N1	-2.88	119.82	122.79
85	S2	966	PSU	O2-C2-N1	-2.87	119.83	122.79
85	S2	116	OMU	O4-C4-C5	-2.86	120.23	125.16
5	L5	4500	PSU	O2-C2-N1	-2.86	119.84	122.79
5	L5	3818	UY1	C6-N1-C2	-2.86	120.04	122.69
85	S2	1367	PSU	O2-C2-N1	-2.84	119.86	122.79
5	L5	1536	PSU	O2-C2-N1	-2.84	119.86	122.79
5	L5	3818	UY1	C6-C5-C4	2.83	120.09	118.17
85	S2	159	A2M	C4'-O4'-C1'	-2.83	107.33	109.92
85	S2	1045	PSU	O2-C2-N1	-2.83	119.87	122.79
85	S2	681	PSU	O2-C2-N1	-2.82	119.88	122.79
5	L5	4306	OMU	O4-C4-C5	-2.81	120.31	125.16
85	S2	354	OMU	O4-C4-C5	-2.81	120.31	125.16
5	L5	3844	PSU	O2-C2-N1	-2.80	119.90	122.79
5	L5	4227	OMU	O4-C4-C5	-2.80	120.33	125.16
5	L5	4590	A2M	O3'-C3'-C2'	2.80	119.02	111.19
5	L5	1860	PSU	O2-C2-N1	-2.80	119.90	122.79
85	S2	27	A2M	C3'-C2'-C1'	-2.79	97.46	102.81
85	S2	1288	OMU	O4-C4-C5	-2.78	120.36	125.16
5	L5	4521	PSU	O2-C2-N1	-2.78	119.92	122.79
5	L5	4403	PSU	O2-C2-N1	-2.78	119.92	122.79
5	L5	2815	A2M	C2'-C1'-N9	2.78	118.73	112.56
85	S2	1244	PSU	O2-C2-N1	-2.76	119.94	122.79
7	L8	69	PSU	O2-C2-N1	-2.76	119.94	122.79
5	L5	4972	PSU	O2-C2-N1	-2.76	119.94	122.79
5	L5	4498	OMU	O4-C4-C5	-2.76	120.40	125.16
5	L5	4312	PSU	O2-C2-N1	-2.76	119.94	122.79
5	L5	3884	PSU	O2-C2-N1	-2.76	119.94	122.79
5	L5	4493	PSU	O2-C2-N1	-2.75	119.95	122.79
85	S2	801	PSU	O2-C2-N1	-2.75	119.96	122.79
85	S2	1174	PSU	O2-C2-N1	-2.75	119.96	122.79
5	L5	4552	PSU	O2-C2-N1	-2.74	119.96	122.79
5	L5	4296	PSU	O2-C2-N1	-2.74	119.96	122.79
5	L5	2351	OMC	C1'-N1-C6	-2.74	114.93	120.78

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	1781	PSU	O2-C2-N1	-2.73	119.97	122.79
85	S2	1004	PSU	O2-C2-N1	-2.72	119.98	122.79
5	L5	4689	PSU	C6-N1-C2	-2.72	120.17	122.69
5	L5	2837	OMU	O4-C4-C5	-2.72	120.47	125.16
85	S2	668	A2M	O3'-C3'-C2'	2.72	118.79	111.19
5	L5	2839	PSU	O2-C2-N1	-2.72	119.99	122.79
5	L5	2363	A2M	C2'-C1'-N9	2.71	118.58	112.56
5	L5	3695	PSU	O2-C2-N1	-2.71	120.00	122.79
5	L5	4973	PSU	O2-C2-N1	-2.71	120.00	122.79
5	L5	3818	UY1	O2-C2-N1	-2.70	120.00	122.79
85	S2	166	A2M	C3'-C2'-C1'	-2.70	97.63	102.81
85	S2	93	PSU	O2-C2-N1	-2.70	120.00	122.79
85	S2	1056	PSU	O2-C2-N1	-2.70	120.00	122.79
85	S2	668	A2M	C2'-C1'-N9	2.69	118.53	112.56
5	L5	2787	A2M	O4'-C1'-C2'	2.69	111.19	106.61
7	L8	55	PSU	O2-C2-N1	-2.68	120.03	122.79
5	L5	4620	OMU	O4-C4-C5	-2.68	120.54	125.16
85	S2	105	PSU	O2-C2-N1	-2.68	120.03	122.79
5	L5	3822	PSU	O2-C2-N1	-2.67	120.03	122.79
3	CF	163	SEP	OG-CB-CA	2.67	110.74	108.14
5	L5	1683	PSU	O2-C2-N1	-2.66	120.04	122.79
5	L5	1792	PSU	O2-C2-N1	-2.66	120.05	122.79
5	L5	4442	PSU	O2-C2-N1	-2.65	120.05	122.79
5	L5	4532	PSU	O2-C2-N1	-2.65	120.06	122.79
5	L5	1862	PSU	O2-C2-N1	-2.63	120.07	122.79
85	S2	1081	PSU	O2-C2-N1	-2.63	120.08	122.79
5	L5	4576	PSU	O2-C2-N1	-2.62	120.08	122.79
5	L5	3853	PSU	O2-C2-N1	-2.62	120.08	122.79
5	L5	4530	UR3	C6-N1-C2	-2.62	119.66	121.80
5	L5	2632	PSU	O2-C2-N1	-2.62	120.09	122.79
85	S2	1232	PSU	O2-C2-N1	-2.62	120.09	122.79
5	L5	3701	OMC	O2-C2-N1	2.61	124.01	118.90
5	L5	2804	OMC	C1'-N1-C2	2.61	124.19	118.44
5	L5	4636	PSU	O2-C2-N1	-2.60	120.10	122.79
85	S2	121	OMU	O4-C4-C5	-2.60	120.68	125.16
5	L5	4471	PSU	O2-C2-N1	-2.60	120.11	122.79
5	L5	3920	PSU	O2-C2-N1	-2.59	120.11	122.79
5	L5	5010	PSU	O2-C2-N1	-2.59	120.12	122.79
5	L5	3867	A2M	C2'-C1'-N9	2.59	118.30	112.56
5	L5	4628	PSU	O2-C2-N1	-2.58	120.13	122.79
85	S2	649	PSU	O2-C2-N1	-2.58	120.13	122.79
85	S2	484	A2M	C4'-O4'-C1'	-2.57	107.57	109.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	1323	A2M	O4'-C1'-C2'	2.57	110.98	106.61
5	L5	3639	PSU	O2-C2-N1	-2.56	120.14	122.79
85	S2	686	PSU	O2-C2-N1	-2.56	120.14	122.79
85	S2	1046	PSU	O2-C2-N1	-2.56	120.14	122.79
5	L5	2861	OMC	C1'-N1-C2	2.56	124.09	118.44
5	L5	4431	PSU	O2-C2-N1	-2.55	120.16	122.79
85	S2	799	OMU	C1'-N1-C2	2.55	122.17	117.59
85	S2	668	A2M	O4'-C1'-C2'	2.55	110.95	106.61
5	L5	1782	PSU	O2-C2-N1	-2.54	120.16	122.79
5	L5	4494	OMG	O6-C6-C5	2.54	129.36	124.32
5	L5	4623	OMG	O6-C6-C5	2.54	129.36	124.32
5	L5	1524	A2M	O4'-C1'-C2'	2.54	110.93	106.61
85	S2	1272	OMC	C1'-N1-C6	-2.54	115.36	120.78
85	S2	681	PSU	C6-N1-C2	-2.53	120.34	122.69
5	L5	1744	PSU	O2-C2-N1	-2.53	120.18	122.79
85	S2	866	PSU	O2-C2-N1	-2.52	120.19	122.79
5	L5	4293	PSU	C6-N1-C2	-2.52	120.35	122.69
5	L5	1677	PSU	O2-C2-N1	-2.52	120.19	122.79
5	L5	1323	A2M	C3'-C2'-C1'	-2.51	98.00	102.81
5	L5	3808	OMC	C1'-N1-C2	2.51	123.98	118.44
5	L5	5001	PSU	O2-C2-N1	-2.51	120.20	122.79
5	L5	1534	A2M	C4-C5-N7	2.50	111.98	109.34
85	S2	814	PSU	O2-C2-N1	-2.50	120.21	122.79
7	L8	75	OMG	O6-C6-C5	2.50	129.27	124.32
5	L5	3867	A2M	O3'-C3'-C2'	2.49	118.17	111.19
5	L5	1326	A2M	C4-C5-N7	2.49	111.97	109.34
5	L5	4636	PSU	C6-C5-C4	2.48	119.85	118.17
85	S2	863	PSU	O2-C2-N1	-2.48	120.23	122.79
85	S2	1337	4AC	N4-C4-N3	2.47	117.88	113.87
5	L5	4637	OMG	O6-C6-C5	2.47	129.23	124.32
5	L5	1582	PSU	O2-C2-N1	-2.47	120.24	122.79
5	L5	3785	A2M	C3'-C2'-C1'	-2.47	98.08	102.81
5	L5	4392	OMG	O6-C6-C5	2.47	129.21	124.32
5	L5	4590	A2M	C4-C5-N7	2.46	111.94	109.34
5	L5	4361	PSU	O2-C2-N1	-2.45	120.26	122.79
5	L5	2363	A2M	O4'-C1'-C2'	2.45	110.78	106.61
5	L5	2787	A2M	C4-C5-N7	2.44	111.92	109.34
5	L5	1322	1MA	C5-C6-N1	-2.44	110.45	113.95
5	L5	4299	PSU	O2-C2-N1	-2.44	120.27	122.79
85	S2	644	OMG	O6-C6-C5	2.44	129.15	124.32
5	L5	4673	PSU	O2-C2-N1	-2.43	120.28	122.79
5	L5	3785	A2M	C4-C5-N7	2.43	111.90	109.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
85	S2	354	OMU	O2-C2-N1	-2.43	119.64	122.80
5	L5	4370	OMG	O6-C6-C5	2.43	129.13	124.32
85	S2	1328	OMG	O6-C6-C5	2.42	129.12	124.32
5	L5	4499	OMG	O6-C6-C5	2.42	129.12	124.32
5	L5	4579	PSU	C6-N1-C2	-2.42	120.44	122.69
5	L5	4500	PSU	C6-N1-C2	-2.42	120.45	122.69
5	L5	1871	A2M	C4-C5-N7	2.41	111.89	109.34
85	S2	159	A2M	C3'-C2'-C1'	-2.41	98.19	102.81
5	L5	3718	A2M	C4-C5-N7	2.40	111.88	109.34
5	L5	1323	A2M	C4-C5-N7	2.40	111.87	109.34
85	S2	27	A2M	C4-C5-N7	2.40	111.87	109.34
85	S2	1177	PSU	O2-C2-N1	-2.39	120.32	122.79
85	S2	105	PSU	C6-N1-C2	-2.39	120.47	122.69
5	L5	3792	OMG	O6-C6-C5	2.39	129.06	124.32
5	L5	1316	OMG	O6-C6-C5	2.39	129.06	124.32
5	L5	3744	OMG	O6-C6-C5	2.38	129.05	124.32
85	S2	509	OMG	O6-C6-C5	2.38	129.04	124.32
85	S2	1383	A2M	C4-C5-N7	2.38	111.85	109.34
5	L5	1522	OMG	O6-C6-C5	2.37	129.03	124.32
85	S2	428	OMU	O2-C2-N1	-2.37	119.71	122.80
5	L5	3627	OMG	O6-C6-C5	2.37	129.02	124.32
5	L5	4196	OMG	O6-C6-C5	2.37	129.02	124.32
5	L5	3899	OMG	O6-C6-C5	2.37	129.01	124.32
85	S2	406	PSU	C6-N1-C2	-2.37	120.50	122.69
5	L5	4618	OMG	O6-C6-C5	2.37	129.01	124.32
5	L5	1534	A2M	O3'-C3'-C4'	-2.36	104.29	111.08
5	L5	3830	A2M	C4-C5-N7	2.36	111.83	109.34
5	L5	3695	PSU	C6-N1-C2	-2.36	120.50	122.69
5	L5	4403	PSU	O4'-C1'-C2'	2.36	108.41	105.15
85	S2	576	A2M	C4-C5-N7	2.36	111.83	109.34
85	S2	1367	PSU	C6-N1-C2	-2.36	120.50	122.69
5	L5	4628	PSU	C6-N1-C2	-2.35	120.51	122.69
85	S2	1248	B8N	O4'-C1'-C2'	2.35	108.40	105.15
85	S2	601	OMG	O6-C6-C5	2.34	128.96	124.32
5	L5	400	A2M	C4-C5-N7	2.34	111.81	109.34
85	S2	651	PSU	C6-N1-C2	-2.34	120.52	122.69
85	S2	93	PSU	C6-N1-C2	-2.33	120.53	122.69
5	L5	1326	A2M	C3'-C2'-C1'	-2.33	98.35	102.81
5	L5	2424	OMG	O6-C6-C5	2.33	128.94	124.32
5	L5	3867	A2M	C4-C5-N7	2.33	111.80	109.34
5	L5	4228	OMG	O6-C6-C5	2.33	128.93	124.32
5	L5	1534	A2M	C2'-C1'-N9	2.33	117.72	112.56

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	4571	A2M	C4-C5-N7	2.32	111.79	109.34
85	S2	166	A2M	C4-C5-N7	2.32	111.79	109.34
5	L5	4456	OMC	C1'-N1-C2	2.32	123.57	118.44
5	L5	1322	1MA	N1-C6-N6	2.32	125.54	119.71
85	S2	484	A2M	O4'-C1'-C2'	2.32	110.56	106.61
5	L5	1326	A2M	C2'-C1'-N9	2.32	117.70	112.56
5	L5	3637	PSU	C6-N1-C2	-2.31	120.54	122.69
5	L5	2876	OMG	O6-C6-C5	2.31	128.91	124.32
85	S2	121	OMU	O2-C2-N1	-2.31	119.79	122.80
85	S2	99	A2M	C4-C5-N7	2.31	111.78	109.34
85	S2	683	OMG	O6-C6-C5	2.31	128.90	124.32
85	S2	867	OMG	O6-C6-C5	2.31	128.90	124.32
5	L5	2401	A2M	C4-C5-N7	2.31	111.78	109.34
85	S2	159	A2M	C4-C5-N7	2.31	111.78	109.34
5	L5	4973	PSU	C6-N1-C2	-2.31	120.55	122.69
85	S2	484	A2M	C4-C5-N7	2.30	111.77	109.34
7	L8	55	PSU	C6-N1-C2	-2.30	120.55	122.69
5	L5	3884	PSU	C6-N1-C2	-2.30	120.56	122.69
85	S2	1031	A2M	C4-C5-N7	2.29	111.76	109.34
5	L5	4552	PSU	C6-N1-C2	-2.29	120.57	122.69
5	L5	2364	OMG	O6-C6-C5	2.29	128.85	124.32
85	S2	863	PSU	C6-N1-C2	-2.28	120.57	122.69
5	L5	3844	PSU	C6-N1-C2	-2.28	120.57	122.69
5	L5	2363	A2M	C4-C5-N7	2.28	111.75	109.34
7	L8	69	PSU	C6-N1-C2	-2.28	120.57	122.69
85	S2	468	A2M	C4-C5-N7	2.28	111.75	109.34
5	L5	2839	PSU	C6-N1-C2	-2.28	120.58	122.69
5	L5	2815	A2M	C4-C5-N7	2.28	111.74	109.34
5	L5	3637	PSU	C6-C5-C4	2.27	119.71	118.17
85	S2	1442	OMU	C1'-N1-C2	2.27	121.68	117.59
5	L5	4353	PSU	C6-N1-C2	-2.27	120.58	122.69
5	L5	4972	PSU	C6-N1-C2	-2.27	120.58	122.69
5	L5	1625	OMG	O6-C6-C5	2.27	128.82	124.32
5	L5	1524	A2M	C4-C5-N7	2.27	111.73	109.34
5	L5	3637	PSU	O2-C2-N1	-2.27	120.45	122.79
5	L5	3785	A2M	O4'-C4'-C3'	2.26	109.65	105.15
85	S2	1244	PSU	C6-N1-C2	-2.26	120.59	122.69
5	L5	4442	PSU	O4'-C1'-C2'	2.26	108.28	105.15
5	L5	398	A2M	C4-C5-N7	2.26	111.72	109.34
5	L5	1536	PSU	C6-N1-C2	-2.25	120.60	122.69
85	S2	1004	PSU	C6-N1-C2	-2.25	120.61	122.69
5	L5	2632	PSU	C6-N1-C2	-2.24	120.61	122.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	5010	PSU	C6-N1-C2	-2.24	120.61	122.69
85	S2	436	OMG	O6-C6-C5	2.24	128.76	124.32
5	L5	2787	A2M	O4'-C4'-C3'	2.24	109.60	105.15
85	S2	686	PSU	C6-N1-C2	-2.23	120.62	122.69
5	L5	3825	A2M	C4-C5-N7	2.23	111.69	109.34
5	L5	3785	A2M	O4'-C1'-N9	2.23	111.70	108.75
85	S2	801	PSU	C6-N1-C2	-2.23	120.62	122.69
7	L8	69	PSU	O4'-C1'-C2'	2.23	108.23	105.15
85	S2	668	A2M	C4-C5-N7	2.22	111.69	109.34
5	L5	4312	PSU	C6-N1-C2	-2.22	120.63	122.69
85	S2	27	A2M	O4'-C1'-C2'	2.21	110.38	106.61
5	L5	4296	PSU	C6-N1-C2	-2.21	120.64	122.69
5	L5	1534	A2M	O3'-C3'-C2'	2.21	117.37	111.19
5	L5	3920	PSU	C6-N1-C2	-2.21	120.64	122.69
5	L5	4498	OMU	O2-C2-N1	-2.20	119.93	122.80
5	L5	4442	PSU	C6-N1-C2	-2.20	120.65	122.69
5	L5	3853	PSU	C6-N1-C2	-2.20	120.65	122.69
85	S2	1046	PSU	C6-N1-C2	-2.20	120.65	122.69
5	L5	2815	A2M	C3'-C2'-C1'	-2.20	98.60	102.81
85	S2	866	PSU	C6-N1-C2	-2.20	120.65	122.69
5	L5	4576	PSU	C6-N1-C2	-2.19	120.66	122.69
5	L5	400	A2M	O4'-C1'-C2'	2.19	110.34	106.61
85	S2	866	PSU	O4'-C1'-C2'	2.18	108.17	105.15
5	L5	1683	PSU	C6-N1-C2	-2.18	120.67	122.69
5	L5	4532	PSU	C6-N1-C2	-2.18	120.67	122.69
5	L5	3822	PSU	O4'-C1'-C2'	2.18	108.17	105.15
5	L5	4431	PSU	C6-N1-C2	-2.17	120.67	122.69
5	L5	400	A2M	C2'-C1'-N9	2.17	117.39	112.56
5	L5	1862	PSU	C6-N1-C2	-2.17	120.68	122.69
85	S2	166	A2M	O4'-C1'-C2'	2.17	110.31	106.61
5	L5	2815	A2M	O4'-C1'-C2'	2.16	110.29	106.61
5	L5	4457	PSU	C6-N1-C2	-2.16	120.68	122.69
85	S2	966	PSU	C6-N1-C2	-2.16	120.68	122.69
5	L5	4523	A2M	C4-C5-N7	2.16	111.62	109.34
5	L5	5001	PSU	C6-N1-C2	-2.16	120.69	122.69
85	S2	1177	PSU	C6-N1-C2	-2.16	120.69	122.69
85	S2	1232	PSU	C6-N1-C2	-2.15	120.70	122.69
5	L5	1744	PSU	C6-N1-C2	-2.14	120.70	122.69
5	L5	4521	PSU	C6-N1-C2	-2.14	120.71	122.69
85	S2	159	A2M	O4'-C1'-C2'	2.13	110.24	106.61
5	L5	3639	PSU	C6-N1-C2	-2.13	120.72	122.69
5	L5	4636	PSU	O4'-C1'-C2'	2.12	108.09	105.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L5	4457	PSU	O4'-C1'-C2'	2.12	108.09	105.15
85	S2	814	PSU	C6-N1-C2	-2.12	120.72	122.69
5	L5	3822	PSU	C6-N1-C2	-2.12	120.72	122.69
5	L5	3925	OMU	O2-C2-N1	-2.12	120.04	122.80
5	L5	4620	OMU	O2-C2-N1	-2.12	120.04	122.80
85	S2	1326	OMU	O2-C2-N1	-2.11	120.05	122.80
5	L5	4521	PSU	C6-C5-C4	2.10	119.59	118.17
5	L5	1781	PSU	C6-N1-C2	-2.10	120.75	122.69
85	S2	1248	B8N	O4-C4-C5	-2.09	118.96	122.58
5	L5	3867	A2M	O4'-C4'-C3'	2.09	109.31	105.15
85	S2	1174	PSU	C6-N1-C2	-2.09	120.75	122.69
85	S2	1081	PSU	C6-N1-C2	-2.08	120.76	122.69
85	S2	1031	A2M	O4'-C1'-C2'	2.08	110.16	106.61
85	S2	406	PSU	C6-C5-C4	2.08	119.58	118.17
85	S2	99	A2M	O4'-C1'-C2'	2.08	110.15	106.61
5	L5	2787	A2M	C4'-O4'-C1'	-2.08	108.02	109.92
5	L5	4227	OMU	O2-C2-N1	-2.08	120.09	122.80
5	L5	4673	PSU	C6-N1-C2	-2.07	120.77	122.69
5	L5	4590	A2M	O4'-C1'-C2'	2.07	110.13	106.61
5	L5	1582	PSU	C6-N1-C2	-2.06	120.78	122.69
5	L5	1326	A2M	O4'-C1'-C2'	2.06	110.12	106.61
5	L5	1524	A2M	O4'-C1'-N9	2.05	111.46	108.75
85	S2	172	OMU	O2-C2-N1	-2.05	120.13	122.80
5	L5	4500	PSU	C6-C5-C4	2.05	119.55	118.17
5	L5	3695	PSU	O4'-C1'-C2'	2.04	107.98	105.15
5	L5	1782	PSU	C6-N1-C2	-2.04	120.80	122.69
85	S2	1056	PSU	C6-N1-C2	-2.03	120.80	122.69
85	S2	109	PSU	C6-N1-C2	-2.03	120.80	122.69
5	L5	1860	PSU	C6-N1-C2	-2.03	120.81	122.69
85	S2	1081	PSU	O4'-C1'-C2'	2.03	107.96	105.15
85	S2	1288	OMU	O2-C2-N1	-2.03	120.16	122.80
5	L5	4576	PSU	O4'-C1'-C2'	2.03	107.96	105.15
85	S2	159	A2M	C2'-C1'-N9	2.02	117.05	112.56
5	L5	4471	PSU	C6-N1-C2	-2.02	120.82	122.69
5	L5	3841	OMC	C1'-N1-C2	2.02	122.90	118.44
5	L5	4636	PSU	C6-N1-C2	-2.01	120.82	122.69
5	L5	4590	A2M	C6-C5-C4	-2.01	114.00	117.90
5	L5	4299	PSU	C6-N1-C2	-2.00	120.83	122.69
85	S2	1045	PSU	C6-N1-C2	-2.00	120.83	122.69

There are no chirality outliers.

All (157) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	CF	163	SEP	N-CA-CB-OG
3	CF	163	SEP	C-CA-CB-OG
3	CF	163	SEP	CA-CB-OG-P
3	CF	163	SEP	CB-OG-P-O2P
3	CF	163	SEP	CB-OG-P-O3P
7	L8	75	OMG	C1'-C2'-O2'-CM2
5	L5	400	A2M	C1'-C2'-O2'-CM'
5	L5	1326	A2M	O4'-C4'-C5'-O5'
5	L5	1340	OMC	C1'-C2'-O2'-CM2
5	L5	1625	OMG	O4'-C4'-C5'-O5'
5	L5	2351	OMC	C1'-C2'-O2'-CM2
5	L5	2787	A2M	C1'-C2'-O2'-CM'
5	L5	2824	OMC	C1'-C2'-O2'-CM2
5	L5	2861	OMC	C1'-C2'-O2'-CM2
5	L5	3701	OMC	O4'-C4'-C5'-O5'
5	L5	3792	OMG	O4'-C4'-C5'-O5'
5	L5	3841	OMC	C1'-C2'-O2'-CM2
5	L5	3867	A2M	C3'-C4'-C5'-O5'
5	L5	3867	A2M	C1'-C2'-O2'-CM'
5	L5	4196	OMG	C1'-C2'-O2'-CM2
5	L5	4500	PSU	O4'-C4'-C5'-O5'
5	L5	4590	A2M	O4'-C4'-C5'-O5'
5	L5	4637	OMG	O4'-C4'-C5'-O5'
5	L5	4637	OMG	C1'-C2'-O2'-CM2
85	S2	27	A2M	C1'-C2'-O2'-CM'
85	S2	99	A2M	C1'-C2'-O2'-CM'
85	S2	159	A2M	C1'-C2'-O2'-CM'
85	S2	576	A2M	C1'-C2'-O2'-CM'
85	S2	601	OMG	C1'-C2'-O2'-CM2
85	S2	644	OMG	O4'-C4'-C5'-O5'
85	S2	644	OMG	C1'-C2'-O2'-CM2
85	S2	1248	B8N	O4'-C4'-C5'-O5'
85	S2	1272	OMC	C1'-C2'-O2'-CM2
85	S2	1272	OMC	O4'-C4'-C5'-O5'
85	S2	1288	OMU	O4'-C4'-C5'-O5'
85	S2	1328	OMG	C1'-C2'-O2'-CM2
85	S2	1337	4AC	N3-C4-N4-C7
85	S2	1383	A2M	C1'-C2'-O2'-CM'
85	S2	1442	OMU	O4'-C4'-C5'-O5'
85	S2	1832	6MZ	C5-C6-N6-C9
85	S2	1832	6MZ	N1-C6-N6-C9
5	L5	1326	A2M	C3'-C4'-C5'-O5'
5	L5	3701	OMC	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
5	L5	4500	PSU	C3'-C4'-C5'-O5'
5	L5	4590	A2M	C3'-C4'-C5'-O5'
85	S2	436	OMG	O4'-C4'-C5'-O5'
85	S2	576	A2M	O4'-C4'-C5'-O5'
85	S2	576	A2M	C3'-C4'-C5'-O5'
85	S2	801	PSU	C3'-C4'-C5'-O5'
85	S2	867	OMG	C3'-C4'-C5'-O5'
85	S2	1272	OMC	C3'-C4'-C5'-O5'
5	L5	3701	OMC	C2'-C1'-N1-C2
5	L5	1323	A2M	O4'-C4'-C5'-O5'
5	L5	1536	PSU	C3'-C4'-C5'-O5'
5	L5	1536	PSU	O4'-C4'-C5'-O5'
5	L5	2401	A2M	C3'-C4'-C5'-O5'
5	L5	2815	A2M	O4'-C4'-C5'-O5'
5	L5	3867	A2M	O4'-C4'-C5'-O5'
5	L5	3899	OMG	O4'-C4'-C5'-O5'
5	L5	3899	OMG	C3'-C4'-C5'-O5'
85	S2	99	A2M	O4'-C4'-C5'-O5'
85	S2	517	OMC	C3'-C4'-C5'-O5'
85	S2	517	OMC	O4'-C4'-C5'-O5'
85	S2	799	OMU	C3'-C4'-C5'-O5'
85	S2	867	OMG	O4'-C4'-C5'-O5'
85	S2	1442	OMU	C3'-C4'-C5'-O5'
5	L5	1625	OMG	C3'-C4'-C5'-O5'
5	L5	3792	OMG	C3'-C4'-C5'-O5'
5	L5	4637	OMG	C3'-C4'-C5'-O5'
85	S2	644	OMG	C3'-C4'-C5'-O5'
85	S2	668	A2M	O4'-C4'-C5'-O5'
85	S2	799	OMU	O4'-C4'-C5'-O5'
85	S2	1248	B8N	C3'-C4'-C5'-O5'
85	S2	1288	OMU	C3'-C4'-C5'-O5'
5	L5	3701	OMC	C2'-C1'-N1-C6
5	L5	4447	5MC	C2'-C1'-N1-C6
5	L5	2787	A2M	C3'-C4'-C5'-O5'
85	S2	668	A2M	C3'-C4'-C5'-O5'
5	L5	1524	A2M	O4'-C4'-C5'-O5'
5	L5	1677	PSU	O4'-C4'-C5'-O5'
5	L5	4228	OMG	O4'-C4'-C5'-O5'
5	L5	4618	OMG	C3'-C4'-C5'-O5'
85	S2	436	OMG	C3'-C4'-C5'-O5'
85	S2	627	OMU	O4'-C4'-C5'-O5'
85	S2	801	PSU	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
5	L5	1524	A2M	C3'-C4'-C5'-O5'
5	L5	1677	PSU	C3'-C4'-C5'-O5'
5	L5	2401	A2M	O4'-C4'-C5'-O5'
5	L5	2815	A2M	C3'-C4'-C5'-O5'
5	L5	3785	A2M	O4'-C4'-C5'-O5'
5	L5	4228	OMG	C3'-C4'-C5'-O5'
85	S2	1248	B8N	N34-C33-C34-O36
3	CF	163	SEP	CB-OG-P-O1P
5	L5	3818	UY1	C4'-C5'-O5'-P
5	L5	4590	A2M	C4'-C5'-O5'-P
5	L5	1323	A2M	C3'-C4'-C5'-O5'
5	L5	4296	PSU	O4'-C4'-C5'-O5'
85	S2	99	A2M	C3'-C4'-C5'-O5'
85	S2	428	OMU	O4'-C4'-C5'-O5'
5	L5	2422	OMC	O4'-C4'-C5'-O5'
5	L5	4296	PSU	C3'-C4'-C5'-O5'
5	L5	2422	OMC	C3'-C4'-C5'-O5'
5	L5	3851	PSU	C3'-C4'-C5'-O5'
85	S2	1045	PSU	O4'-C4'-C5'-O5'
85	S2	1832	6MZ	C5'-O5'-P-O1P
85	S2	1248	B8N	C31-C32-C33-C34
5	L5	3782	5MC	O4'-C4'-C5'-O5'
5	L5	4618	OMG	O4'-C4'-C5'-O5'
85	S2	428	OMU	C3'-C4'-C5'-O5'
85	S2	1045	PSU	C3'-C4'-C5'-O5'
85	S2	428	OMU	C2'-C1'-N1-C6
5	L5	4447	5MC	C2'-C1'-N1-C2
5	L5	4447	5MC	O4'-C1'-N1-C6
5	L5	3701	OMC	O4'-C1'-N1-C6
5	L5	398	A2M	O4'-C4'-C5'-O5'
85	S2	627	OMU	C2'-C1'-N1-C6
5	L5	4447	5MC	O4'-C1'-N1-C2
5	L5	4499	OMG	C3'-C2'-O2'-CM2
5	L5	1534	A2M	C4'-C5'-O5'-P
85	S2	644	OMG	C4'-C5'-O5'-P
5	L5	3818	UY1	O4'-C1'-C5-C4
85	S2	1248	B8N	O4'-C1'-C5-C4
5	L5	4500	PSU	C4'-C5'-O5'-P
5	L5	1781	PSU	C3'-C4'-C5'-O5'
5	L5	2876	OMG	C3'-C4'-C5'-O5'
85	S2	576	A2M	C4'-C5'-O5'-P
85	S2	1851	MA6	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
85	S2	1383	A2M	O4'-C4'-C5'-O5'
5	L5	3701	OMC	O4'-C1'-N1-C2
85	S2	428	OMU	O4'-C1'-N1-C6
5	L5	3785	A2M	C3'-C2'-O2'-CM'
5	L5	3869	OMC	C3'-C2'-O2'-CM2
5	L5	4370	OMG	C3'-C2'-O2'-CM2
85	S2	174	OMC	C3'-C2'-O2'-CM2
5	L5	2364	OMG	O4'-C4'-C5'-O5'
5	L5	3785	A2M	C3'-C4'-C5'-O5'
85	S2	1832	6MZ	O4'-C4'-C5'-O5'
85	S2	627	OMU	O4'-C1'-N1-C6
5	L5	3844	PSU	C4'-C5'-O5'-P
85	S2	1490	OMG	C4'-C5'-O5'-P
85	S2	1703	OMC	O4'-C4'-C5'-O5'
5	L5	3718	A2M	C1'-C2'-O2'-CM'
5	L5	3887	OMC	C4'-C5'-O5'-P
85	S2	1383	A2M	C3'-C4'-C5'-O5'
5	L5	1677	PSU	O4'-C1'-C5-C6
5	L5	4636	PSU	O4'-C1'-C5-C6
5	L5	2351	OMC	C2'-C1'-N1-C6
5	L5	1326	A2M	C4'-C5'-O5'-P
5	L5	4471	PSU	C3'-C4'-C5'-O5'
5	L5	2351	OMC	O4'-C4'-C5'-O5'
5	L5	2787	A2M	O4'-C4'-C5'-O5'
85	S2	428	OMU	O4'-C1'-N1-C2
85	S2	627	OMU	O4'-C1'-N1-C2
85	S2	1272	OMC	C2'-C1'-N1-C6
85	S2	1081	PSU	C4'-C5'-O5'-P
85	S2	428	OMU	C2'-C1'-N1-C2
85	S2	1272	OMC	C2'-C1'-N1-C2

There are no ring outliers.

75 monomers are involved in 106 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	L5	2363	A2M	1	0
5	L5	2364	OMG	1	0
85	S2	517	OMC	1	0
85	S2	866	PSU	2	0
85	S2	1177	PSU	1	0
5	L5	400	A2M	1	0
5	L5	3627	OMG	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	L5	4620	OMU	3	0
5	L5	4306	OMU	1	0
5	L5	2876	OMG	1	0
5	L5	4689	PSU	1	0
85	S2	686	PSU	1	0
5	L5	4220	6MZ	1	0
5	L5	1326	A2M	4	0
85	S2	681	PSU	1	0
85	S2	484	A2M	1	0
85	S2	1850	MA6	2	0
5	L5	1683	PSU	2	0
85	S2	1842	4AC	1	0
5	L5	1677	PSU	1	0
85	S2	1244	PSU	1	0
85	S2	649	PSU	2	0
5	L5	4456	OMC	1	0
5	L5	4500	PSU	1	0
85	S2	1031	A2M	1	0
5	L5	1534	A2M	2	0
5	L5	2804	OMC	2	0
5	L5	4579	PSU	2	0
5	L5	2424	OMG	1	0
5	L5	4536	OMC	1	0
5	L5	4431	PSU	1	0
85	S2	867	OMG	2	0
85	S2	166	A2M	2	0
5	L5	4618	OMG	1	0
5	L5	1340	OMC	2	0
5	L5	4637	OMG	1	0
85	S2	1391	OMC	1	0
85	S2	159	A2M	2	0
85	S2	576	A2M	2	0
5	L5	5001	PSU	1	0
5	L5	2861	OMC	1	0
5	L5	3884	PSU	1	0
5	L5	4457	PSU	1	0
5	L5	3822	PSU	2	0
5	L5	3701	OMC	1	0
5	L5	3867	A2M	3	0
85	S2	509	OMG	3	0
5	L5	2824	OMC	1	0
5	L5	4590	A2M	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	L5	4523	A2M	2	0
85	S2	1288	OMU	1	0
85	S2	436	OMG	1	0
5	L5	3785	A2M	1	0
7	L8	75	OMG	2	0
85	S2	121	OMU	1	0
5	L5	3718	A2M	4	0
85	S2	601	OMG	1	0
85	S2	99	A2M	1	0
5	L5	4571	A2M	2	0
85	S2	468	A2M	2	0
85	S2	1832	6MZ	1	0
5	L5	2815	A2M	1	0
5	L5	3925	OMU	1	0
5	L5	2351	OMC	1	0
85	S2	1272	OMC	1	0
5	L5	2787	A2M	1	0
85	S2	1337	4AC	4	0
85	S2	1174	PSU	2	0
5	L5	3825	A2M	1	0
3	CF	163	SEP	1	0
85	S2	462	OMC	1	0
5	L5	3841	OMC	1	0
85	S2	27	A2M	1	0
85	S2	863	PSU	1	0
85	S2	1383	A2M	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 242 ligands modelled in this entry, 225 are monoatomic - leaving 17 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
87	SPM	L5	5264	-	13,13,13	0.34	0	12,12,12	0.92	0
87	SPM	L5	5288	-	13,13,13	0.36	0	12,12,12	0.98	0
88	SPD	L5	5289	-	9,9,9	0.33	0	8,8,8	0.86	0
87	SPM	L5	5263	-	13,13,13	0.35	0	12,12,12	1.00	0
88	SPD	LN	301	-	9,9,9	0.32	0	8,8,8	0.84	0
88	SPD	L5	5261	-	9,9,9	0.32	0	8,8,8	0.95	0
88	SPD	L5	5285	-	9,9,9	0.32	0	8,8,8	0.81	0
88	SPD	L5	5282	-	9,9,9	0.34	0	8,8,8	0.84	0
88	SPD	L5	5283	-	9,9,9	0.32	0	8,8,8	0.88	0
88	SPD	L5	5284	-	9,9,9	0.32	0	8,8,8	0.87	0
87	SPM	L5	5267	-	13,13,13	0.35	0	12,12,12	0.99	0
88	SPD	L5	5286	-	9,9,9	0.33	0	8,8,8	0.88	0
88	SPD	L5	5290	-	9,9,9	0.33	0	8,8,8	0.68	0
87	SPM	L5	5291	-	13,13,13	0.36	0	12,12,12	0.88	0
87	SPM	L5	5258	-	13,13,13	0.35	0	12,12,12	0.93	0
87	SPM	L5	5292	-	13,13,13	0.35	0	12,12,12	0.91	0
88	SPD	L5	5287	-	9,9,9	0.32	0	8,8,8	0.84	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
87	SPM	L5	5264	-	-	2/11/11/11	-
87	SPM	L5	5288	-	-	5/11/11/11	-
88	SPD	L5	5289	-	-	2/7/7/7	-
87	SPM	L5	5263	-	-	6/11/11/11	-
88	SPD	LN	301	-	-	1/7/7/7	-
88	SPD	L5	5261	-	-	0/7/7/7	-
88	SPD	L5	5285	-	-	1/7/7/7	-
88	SPD	L5	5282	-	-	1/7/7/7	-
88	SPD	L5	5283	-	-	4/7/7/7	-
88	SPD	L5	5284	-	-	4/7/7/7	-
87	SPM	L5	5267	-	-	4/11/11/11	-
88	SPD	L5	5286	-	-	3/7/7/7	-
88	SPD	L5	5290	-	-	2/7/7/7	-
87	SPM	L5	5291	-	-	3/11/11/11	-
87	SPM	L5	5258	-	-	2/11/11/11	-
87	SPM	L5	5292	-	-	5/11/11/11	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
88	SPD	L5	5287	-	-	1/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (46) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
87	L5	5264	SPM	N5-C6-C7-C8
87	L5	5291	SPM	C7-C8-C9-N10
88	L5	5286	SPD	C3-C4-C5-N6
87	L5	5291	SPM	N5-C6-C7-C8
87	L5	5292	SPM	N10-C11-C12-C13
88	L5	5284	SPD	N6-C7-C8-C9
87	L5	5292	SPM	C8-C9-N10-C11
88	L5	5290	SPD	C8-C7-N6-C5
87	L5	5263	SPM	C7-C8-C9-N10
87	L5	5258	SPM	C3-C4-N5-C6
87	L5	5263	SPM	C3-C4-N5-C6
88	L5	5290	SPD	C4-C5-N6-C7
88	L5	5284	SPD	C3-C4-C5-N6
88	L5	5284	SPD	C4-C5-N6-C7
87	L5	5263	SPM	C8-C9-N10-C11
87	L5	5288	SPM	C7-C6-N5-C4
88	L5	5283	SPD	C8-C7-N6-C5
87	L5	5267	SPM	C2-C3-C4-N5
88	L5	5284	SPD	C2-C3-C4-C5
88	L5	5282	SPD	C2-C3-C4-C5
88	L5	5289	SPD	C2-C3-C4-C5
87	L5	5288	SPM	N1-C2-C3-C4
88	L5	5283	SPD	C7-C8-C9-N10
88	LN	301	SPD	C4-C5-N6-C7
87	L5	5288	SPM	C7-C8-C9-N10
87	L5	5292	SPM	C7-C6-N5-C4
88	L5	5283	SPD	N1-C2-C3-C4
87	L5	5288	SPM	C12-C11-N10-C9
88	L5	5286	SPD	C8-C7-N6-C5
87	L5	5292	SPM	C6-C7-C8-C9
87	L5	5263	SPM	N10-C11-C12-C13
87	L5	5263	SPM	C11-C12-C13-N14
87	L5	5288	SPM	C8-C9-N10-C11

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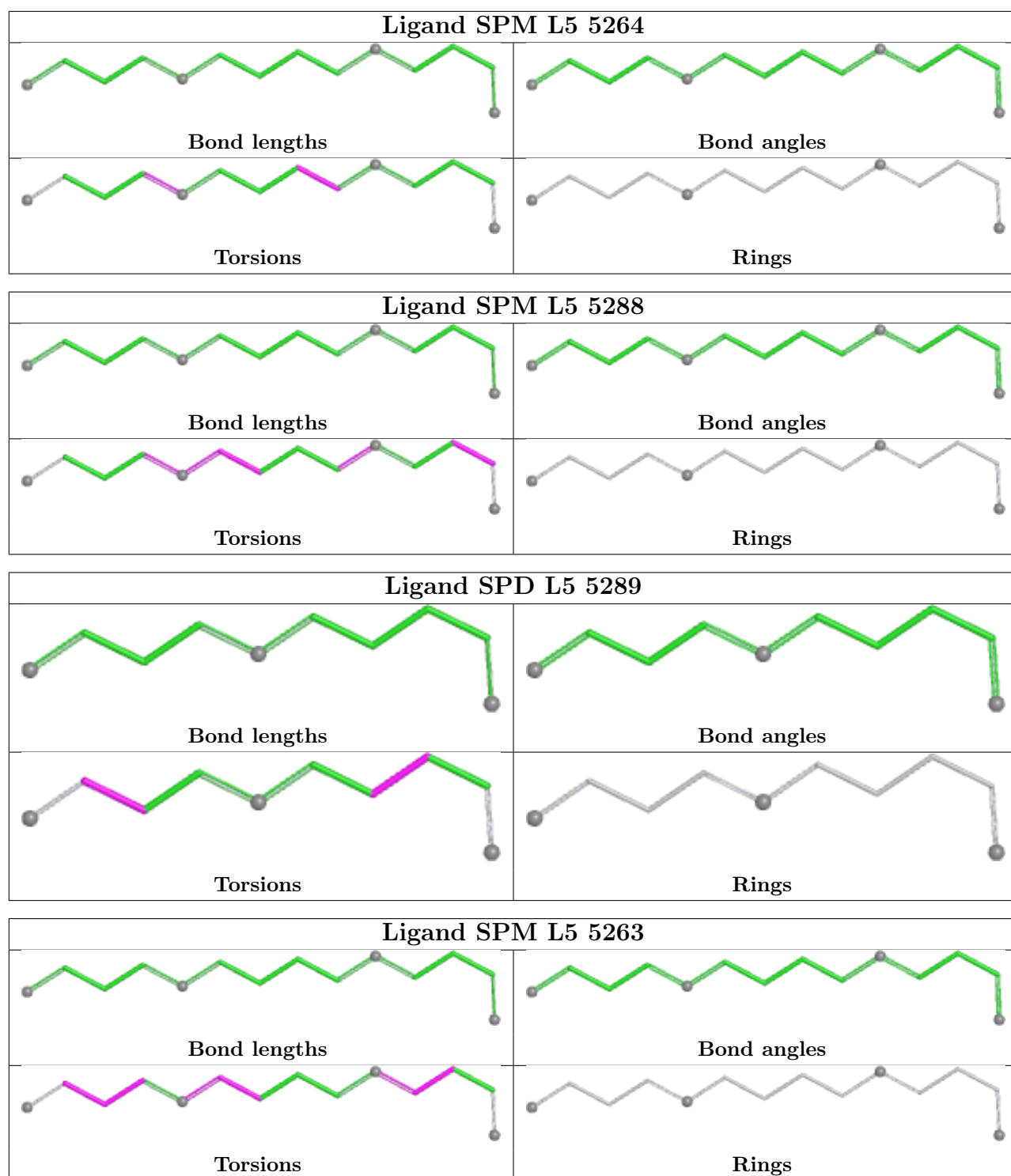
Mol	Chain	Res	Type	Atoms
87	L5	5292	SPM	C11-C12-C13-N14
88	L5	5283	SPD	C3-C4-C5-N6
87	L5	5264	SPM	C12-C11-N10-C9
87	L5	5267	SPM	C7-C6-N5-C4
87	L5	5263	SPM	C2-C3-C4-N5
87	L5	5267	SPM	N10-C11-C12-C13
88	L5	5286	SPD	N6-C7-C8-C9
88	L5	5285	SPD	C3-C4-C5-N6
87	L5	5258	SPM	C6-C7-C8-C9
87	L5	5267	SPM	C6-C7-C8-C9
87	L5	5291	SPM	C7-C6-N5-C4
88	L5	5287	SPD	C8-C7-N6-C5
88	L5	5289	SPD	C7-C8-C9-N10

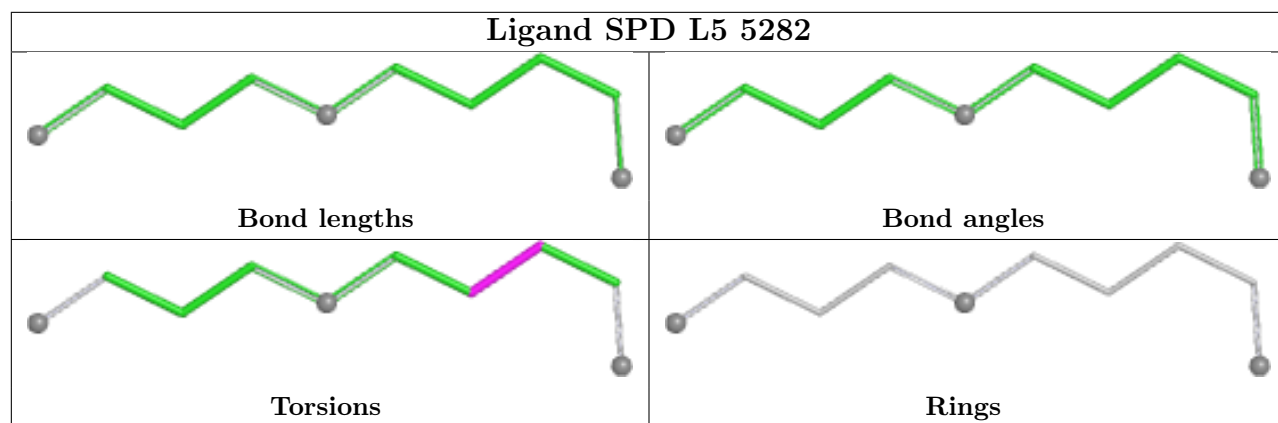
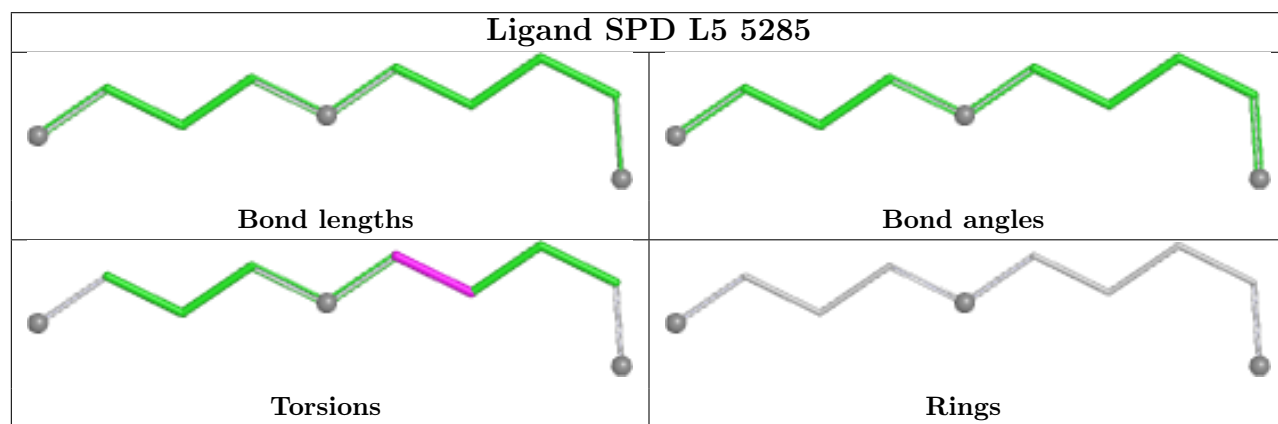
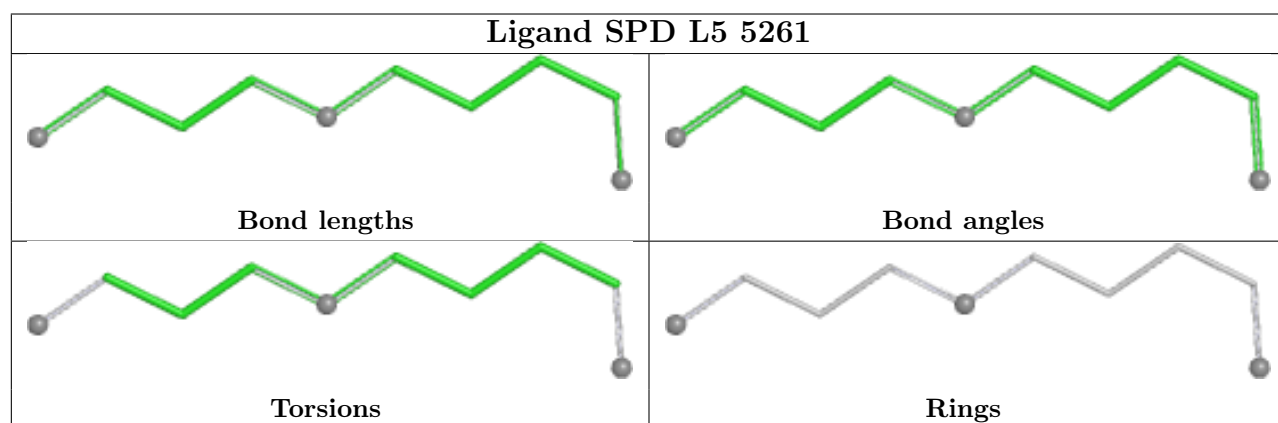
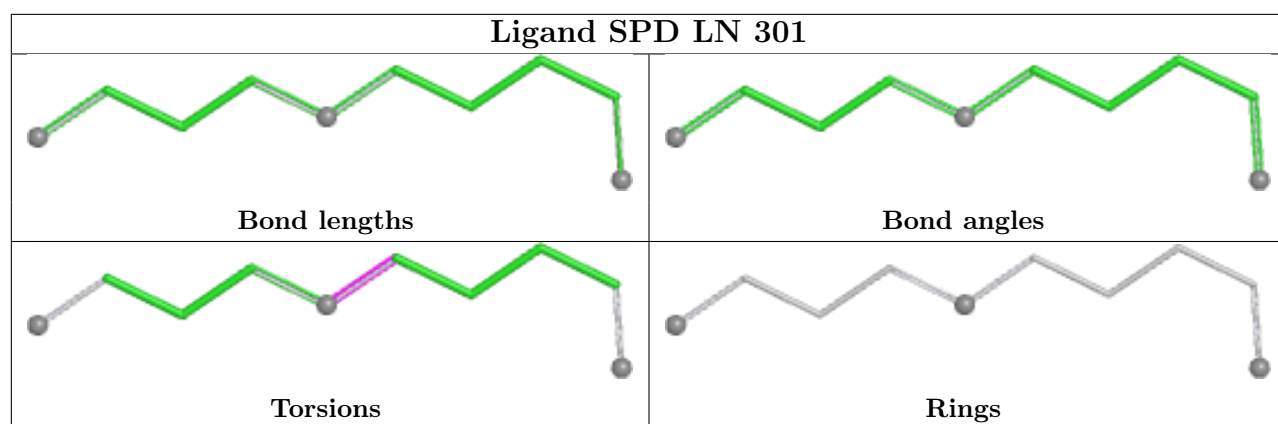
There are no ring outliers.

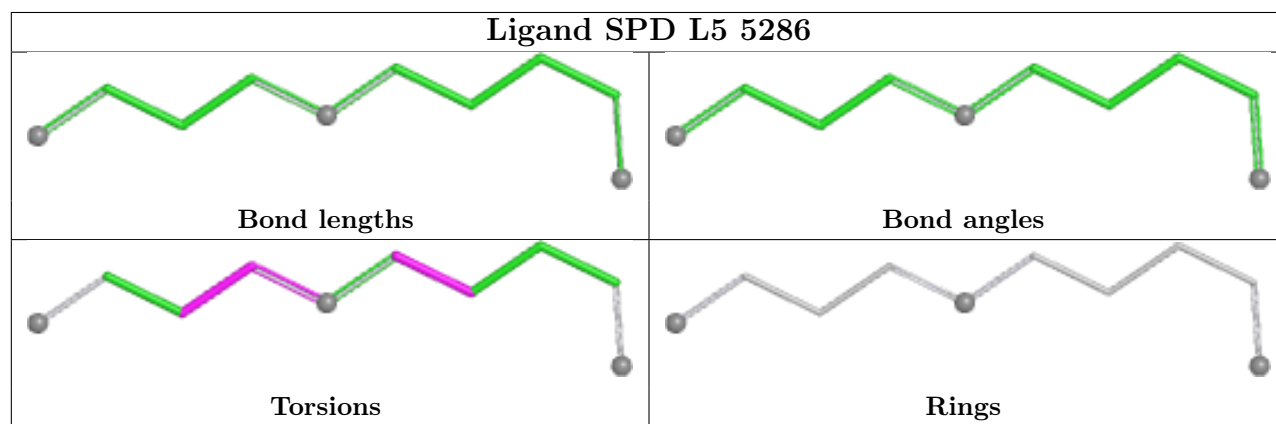
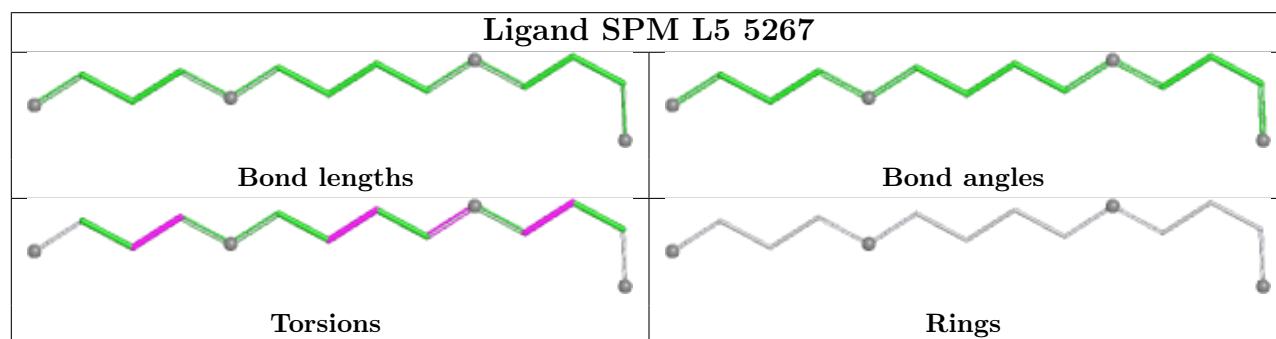
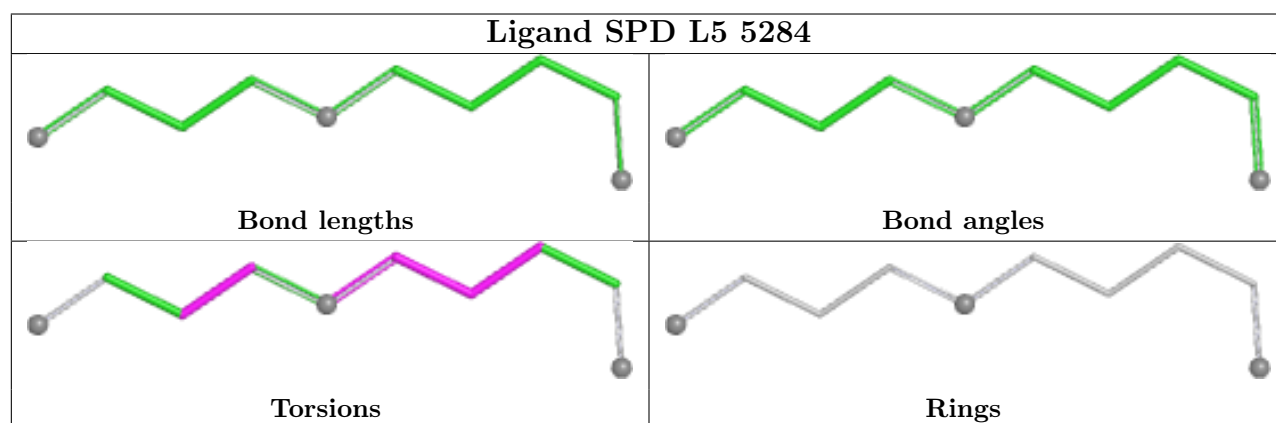
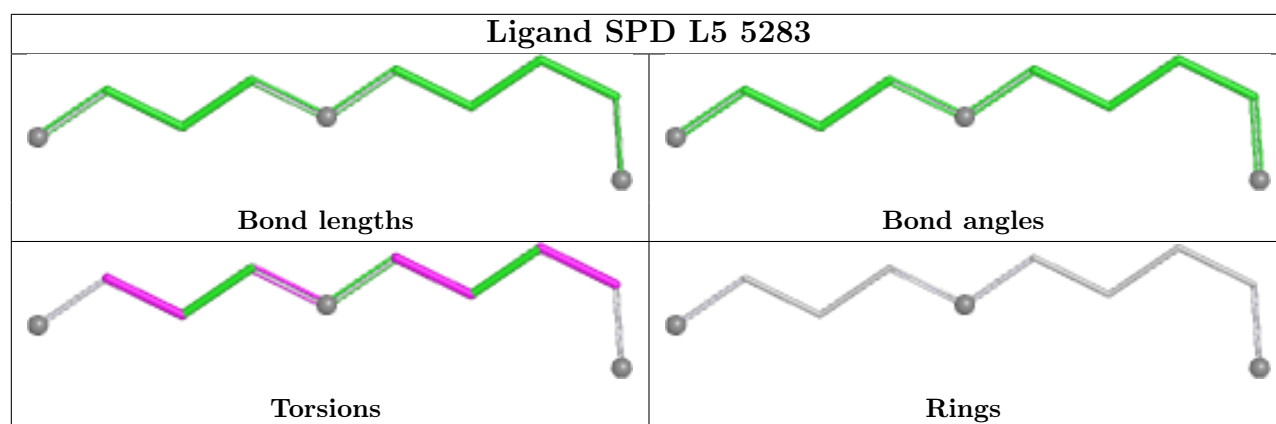
5 monomers are involved in 7 short contacts:

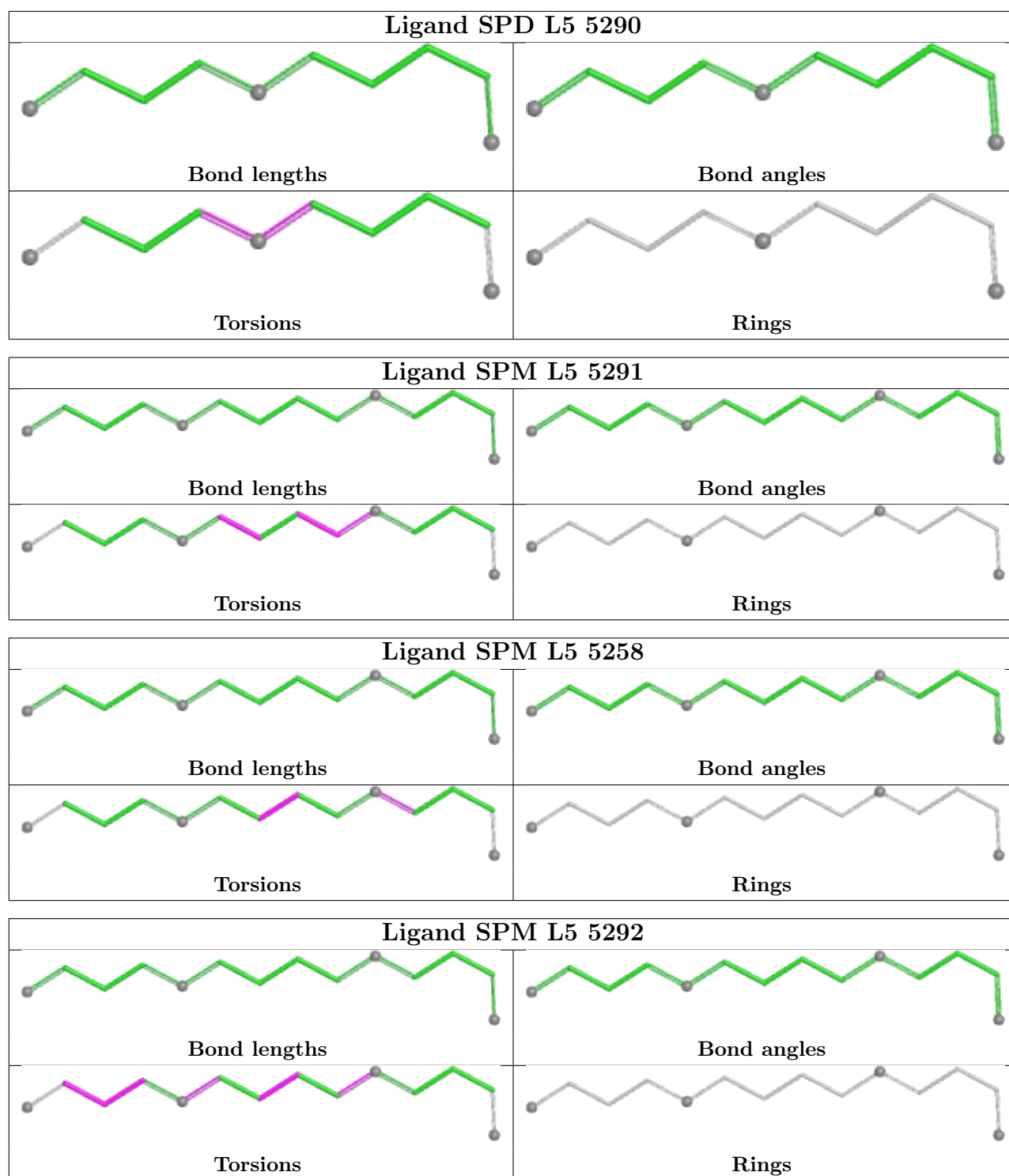
Mol	Chain	Res	Type	Clashes	Symm-Clashes
88	L5	5261	SPD	1	0
88	L5	5285	SPD	1	0
88	L5	5290	SPD	1	0
87	L5	5291	SPM	2	0
87	L5	5292	SPM	2	0

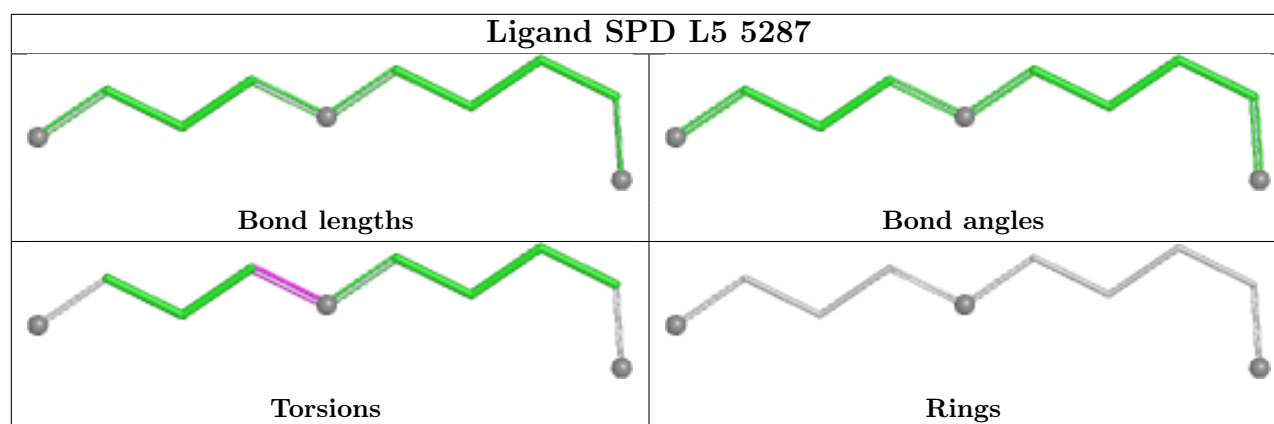
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
5	L5	10
85	S2	5
2	Pt	1
4	AT	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	28.79
1	L5	1706:A	O3'	1716:G	P	21.22
1	L5	2910:G	O3'	3584:C	P	21.08
1	L5	760:G	O3'	903:C	P	16.76
1	L5	519:C	O3'	642:G	P	15.26
1	S2	698:G	O3'	730:C	P	15.19
1	L5	4776:G	O3'	4858:C	P	15.09
1	L5	2112:G	O3'	2249:C	P	14.73
1	L5	3954:A	O3'	4056:A	P	14.36
1	S2	739:C	O3'	746:C	P	12.45
1	L5	990:C	O3'	1064:G	P	12.31
1	L5	1222:A	O3'	1234:G	P	10.58
1	Pt	15:G	O3'	18:G	P	9.82
1	S2	225:G	O3'	287:U	P	7.34
1	L5	1100:U	O3'	1167:C	P	6.76

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	S2	1831:A	O3'	1832:6MZ	P	4.39
1	AT	16:C	O3'	18:G	P	4.04

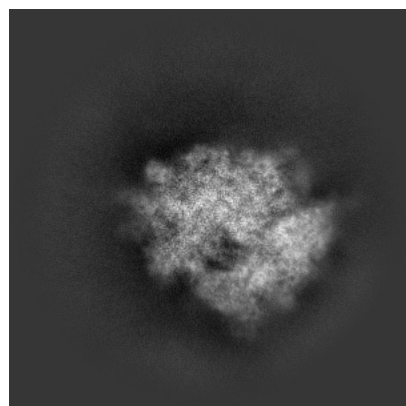
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71333. These allow visual inspection of the internal detail of the map and identification of artifacts.

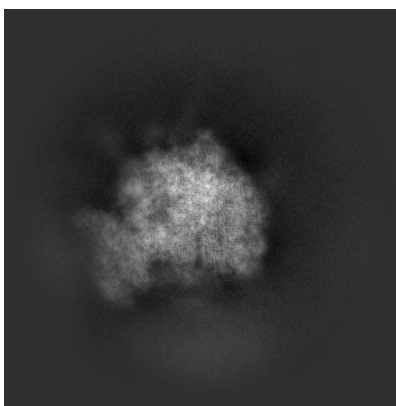
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

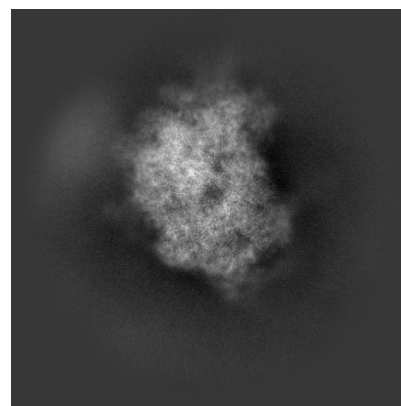
6.1.1 Primary map



X

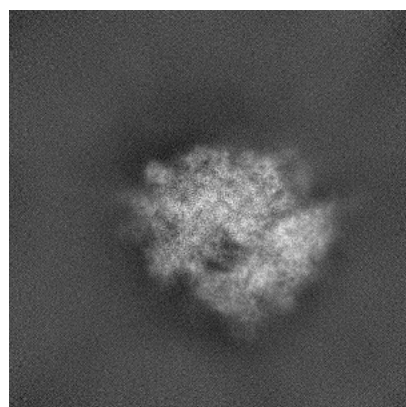


Y

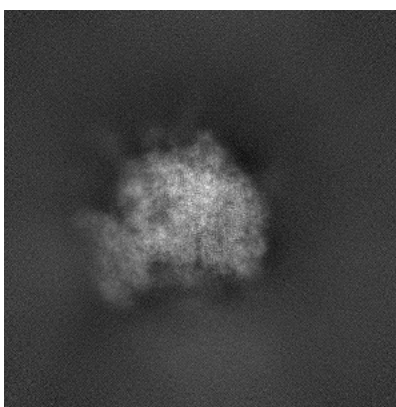


Z

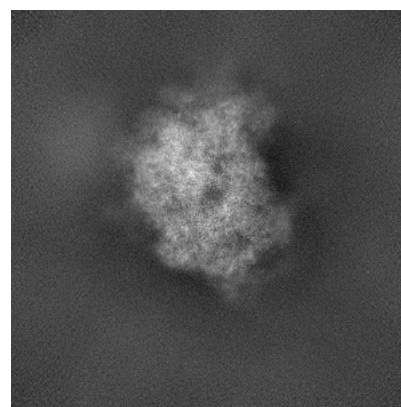
6.1.2 Raw map



X



Y

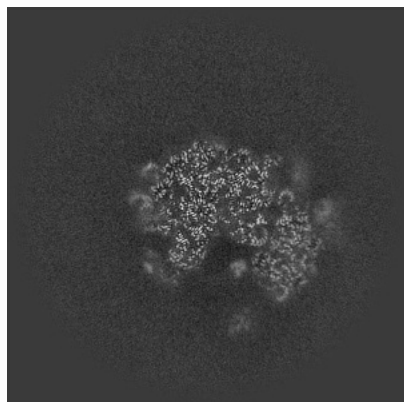


Z

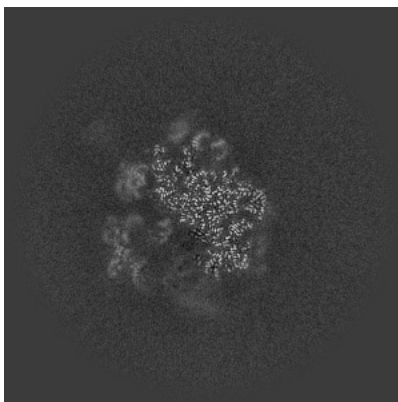
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

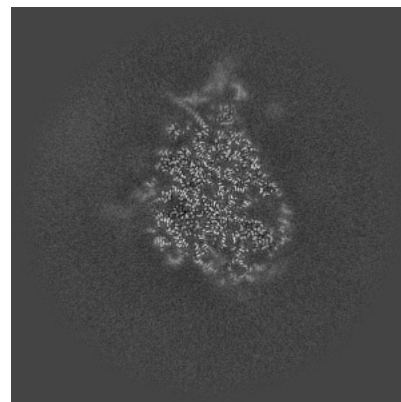
6.2.1 Primary map



X Index: 256

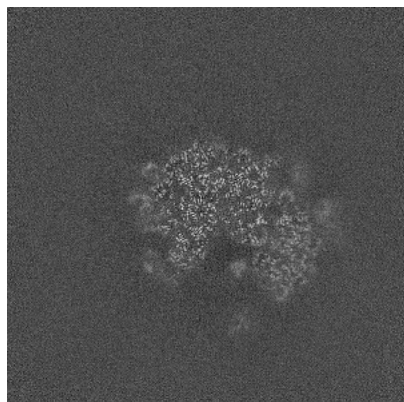


Y Index: 256

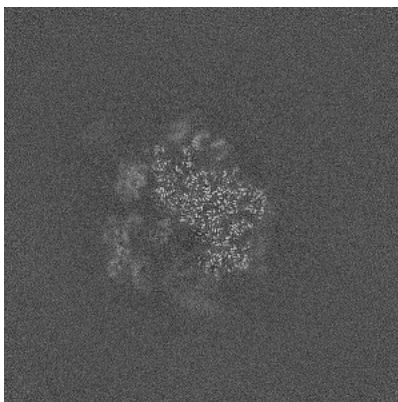


Z Index: 256

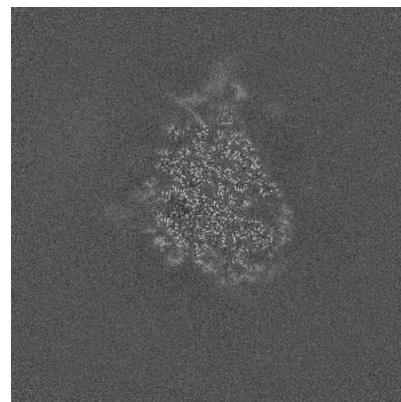
6.2.2 Raw map



X Index: 256



Y Index: 256

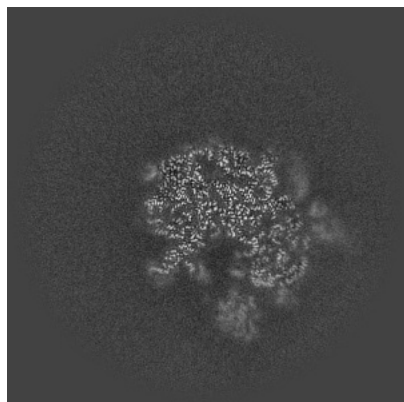


Z Index: 256

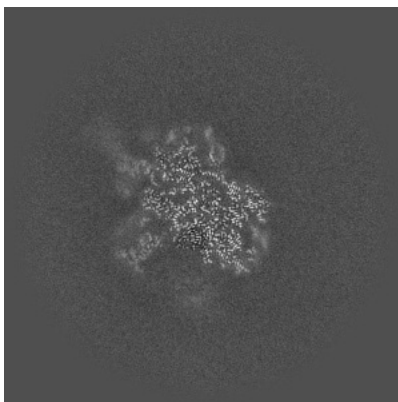
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

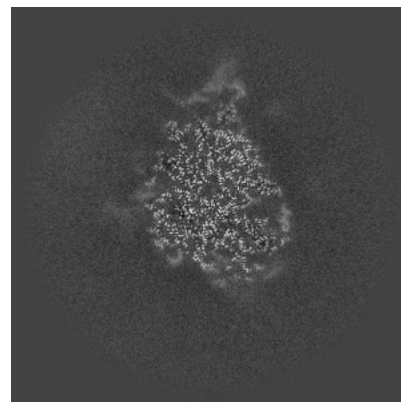
6.3.1 Primary map



X Index: 244

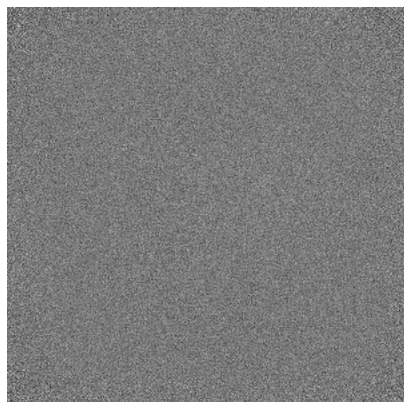


Y Index: 243

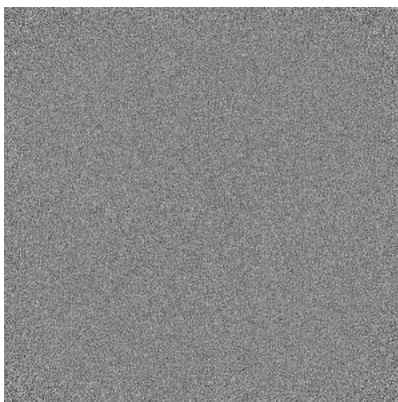


Z Index: 258

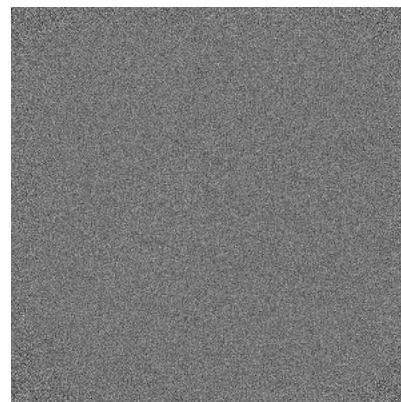
6.3.2 Raw map



X Index: 0



Y Index: 0

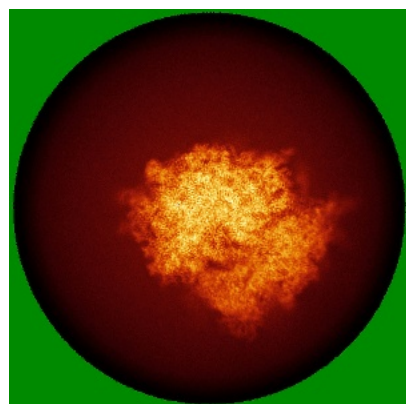


Z Index: 0

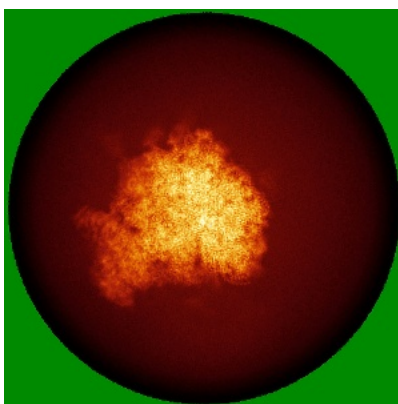
The images above show the largest variance slices of the map in three orthogonal directions.

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

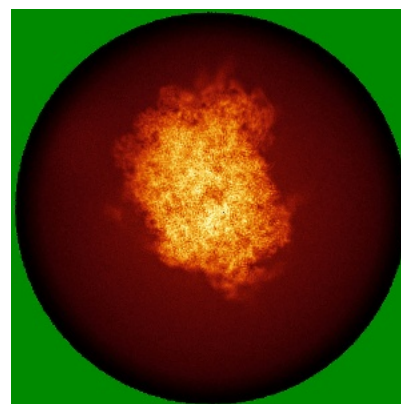
6.4.1 Primary map



X

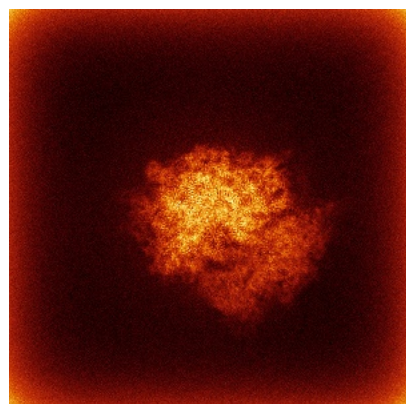


Y

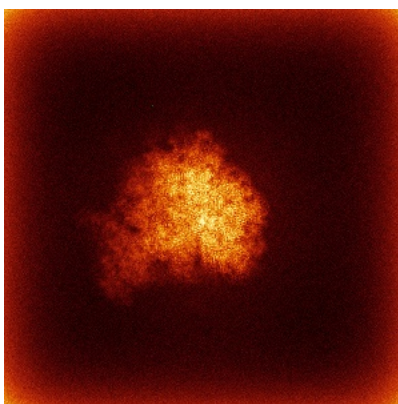


Z

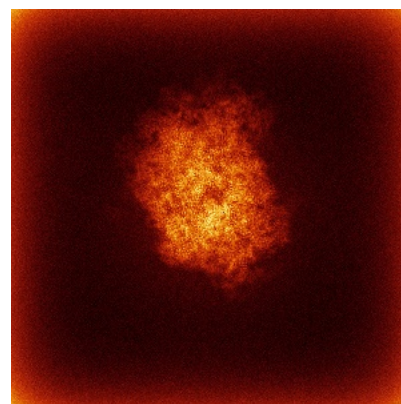
6.4.2 Raw map



X



Y

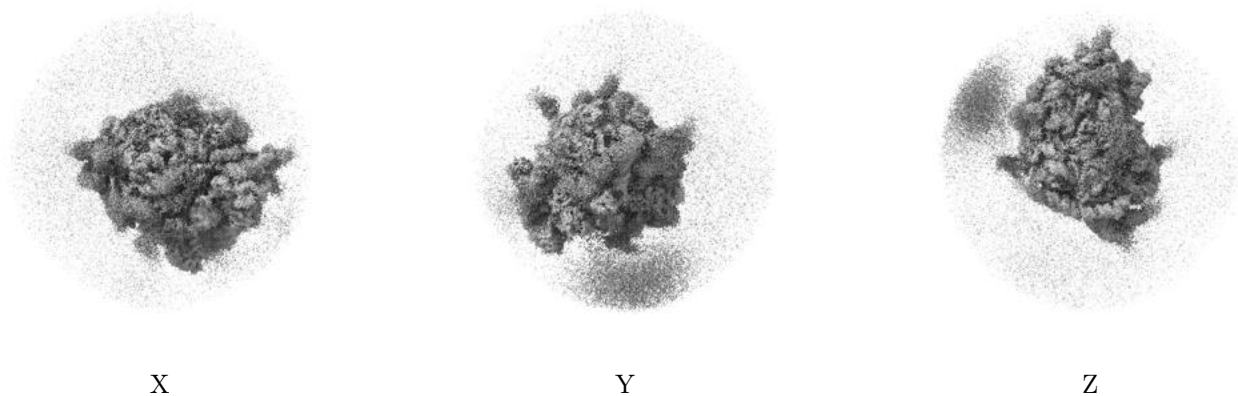


Z

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

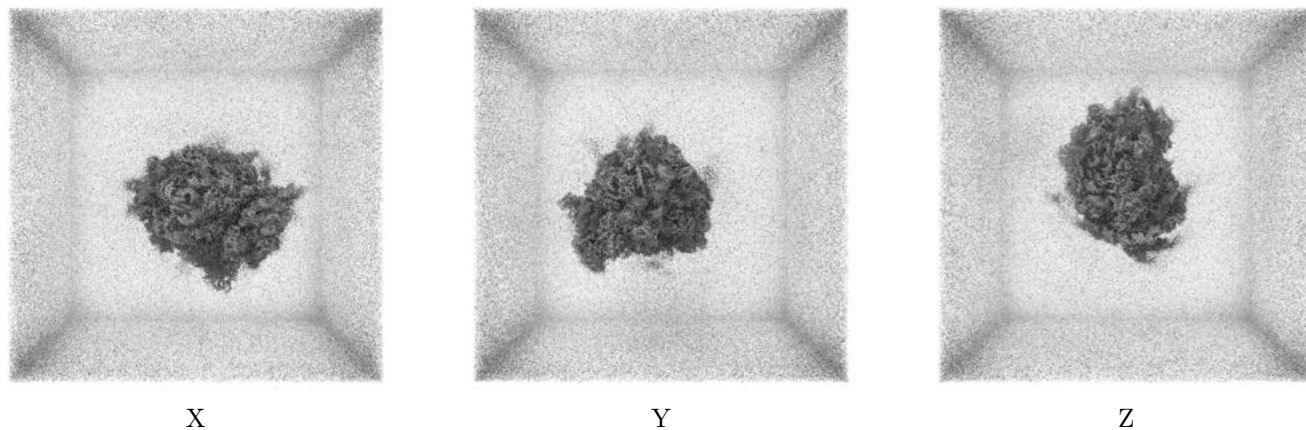
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.011. 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.

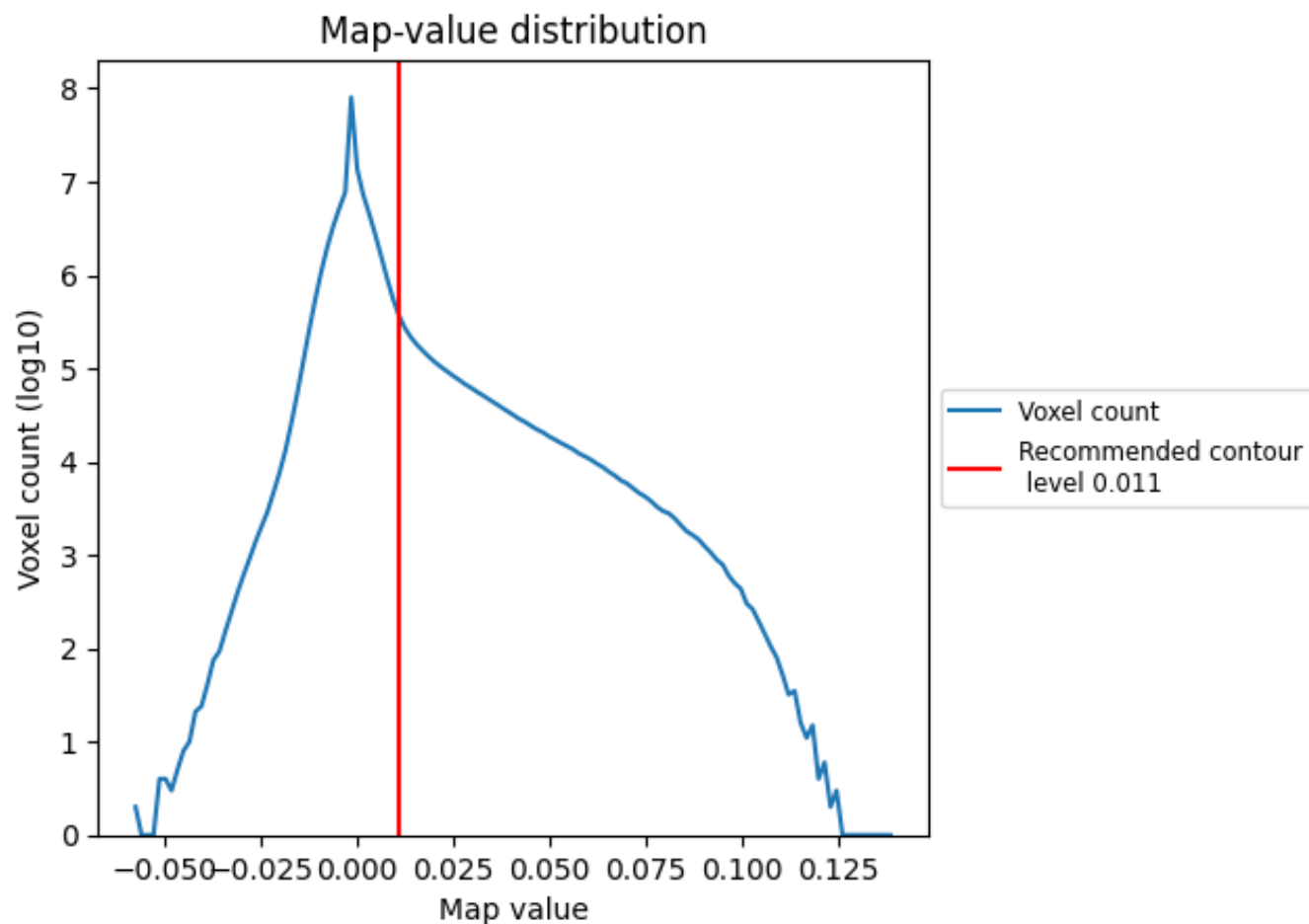
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

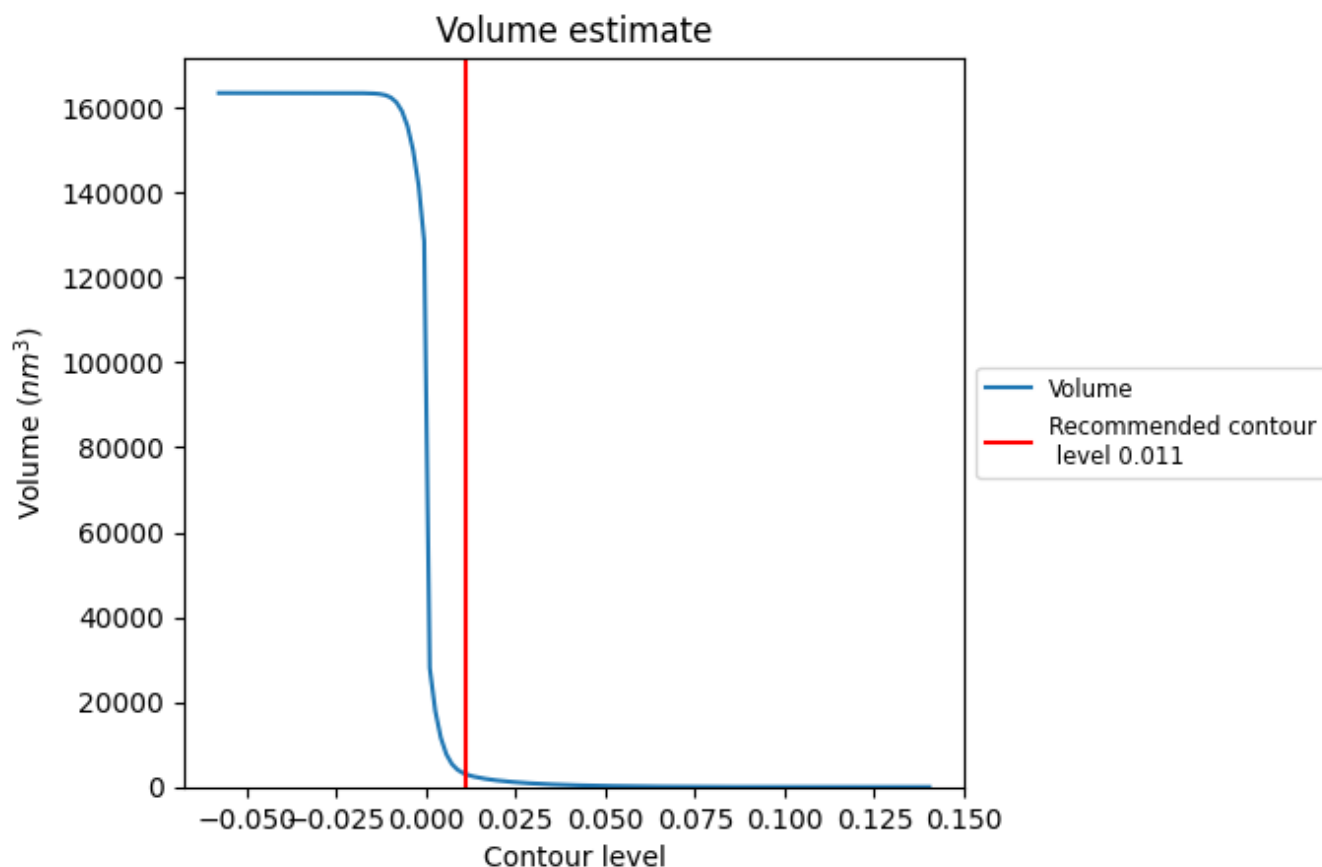
This section contains the results of statistical analysis of the map.

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.

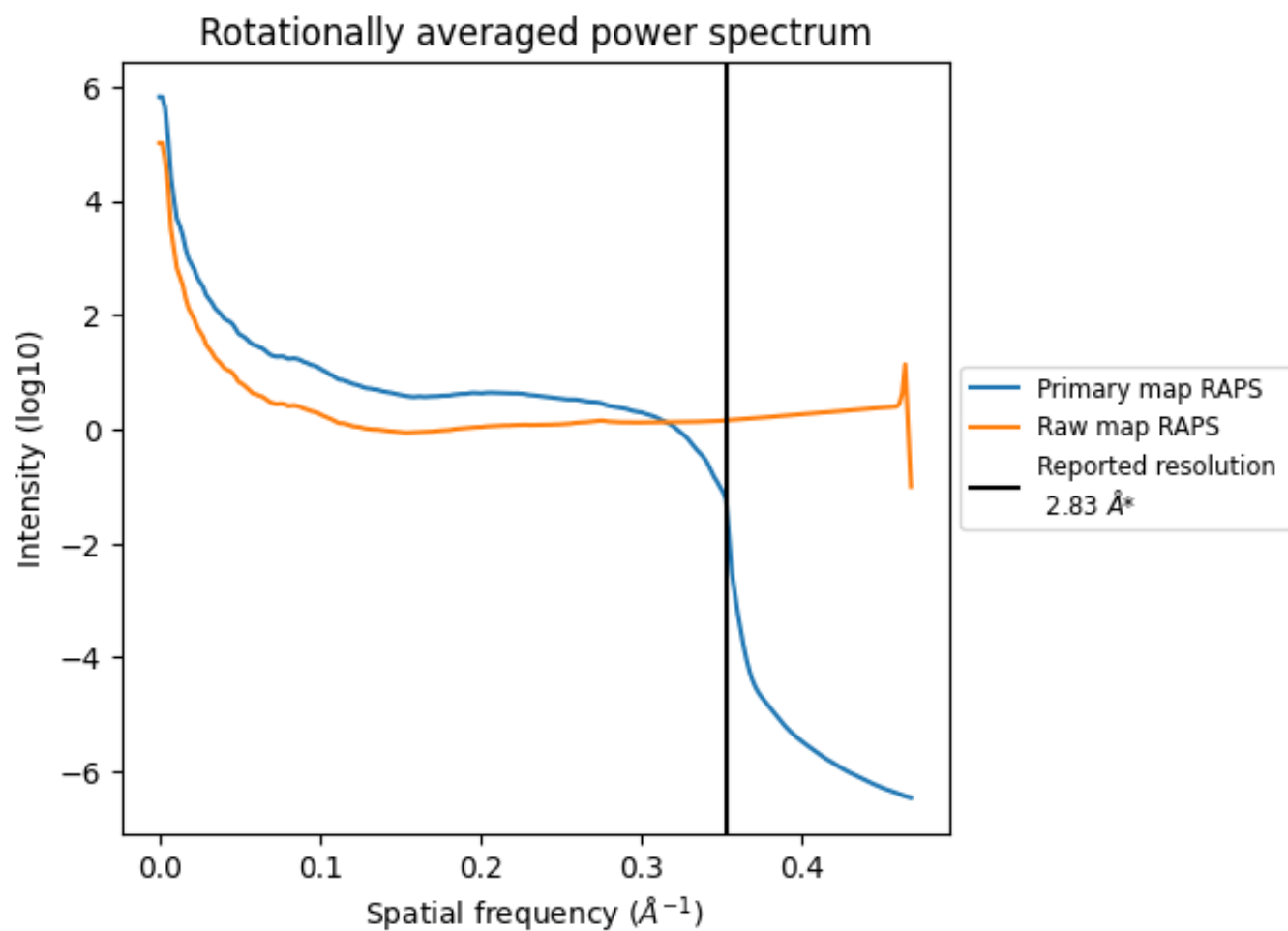
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3087 nm^3 ; this corresponds to an approximate mass of 2789 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 ⓘ

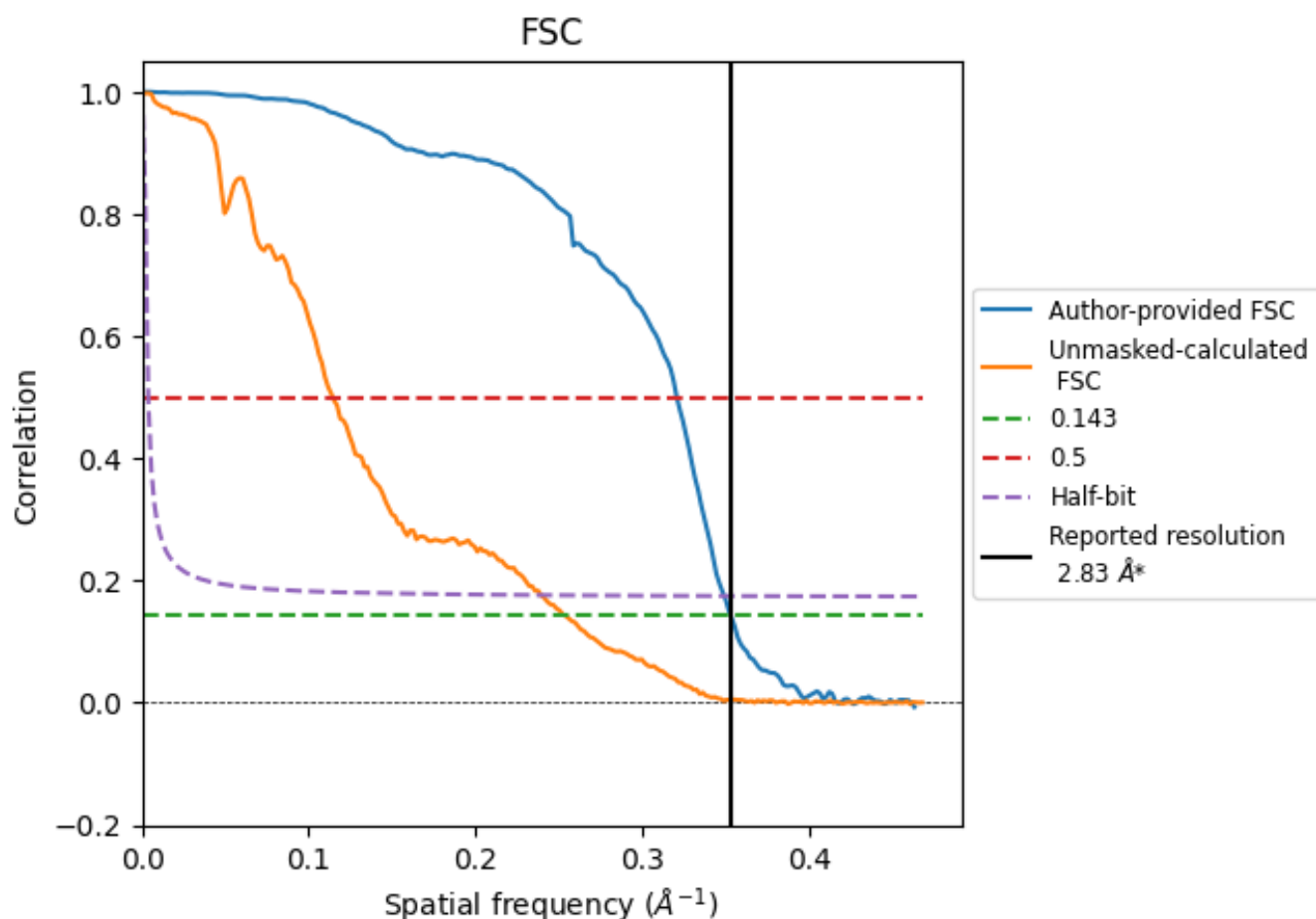


*Reported resolution corresponds to spatial frequency of 0.353 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.353 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

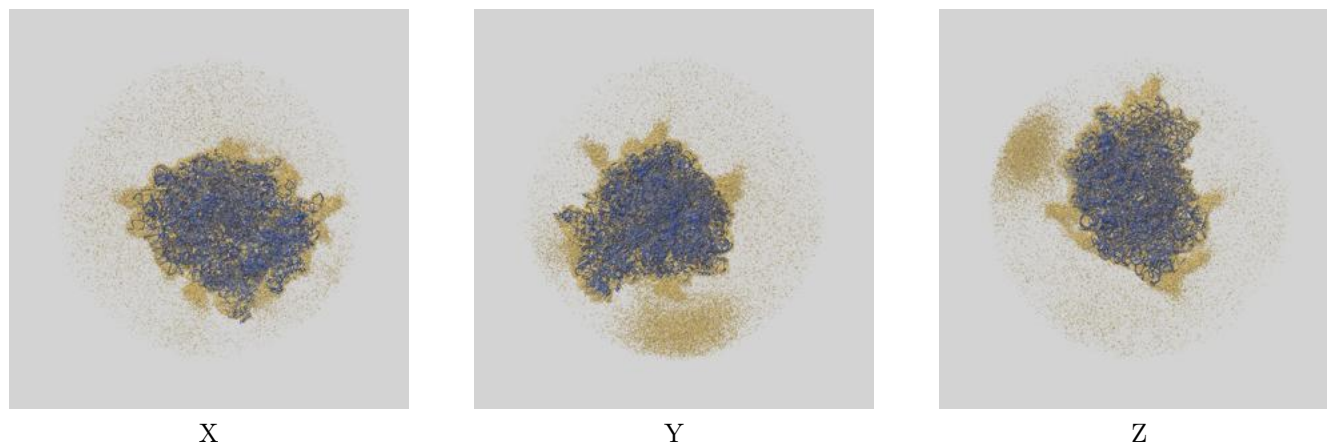
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.83	-	-
Author-provided FSC curve	2.83	3.12	2.86
Unmasked-calculated*	3.94	8.74	4.18

*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 3.94 differs from the reported value 2.83 by more than 10 %

9 Map-model fit [i](#)

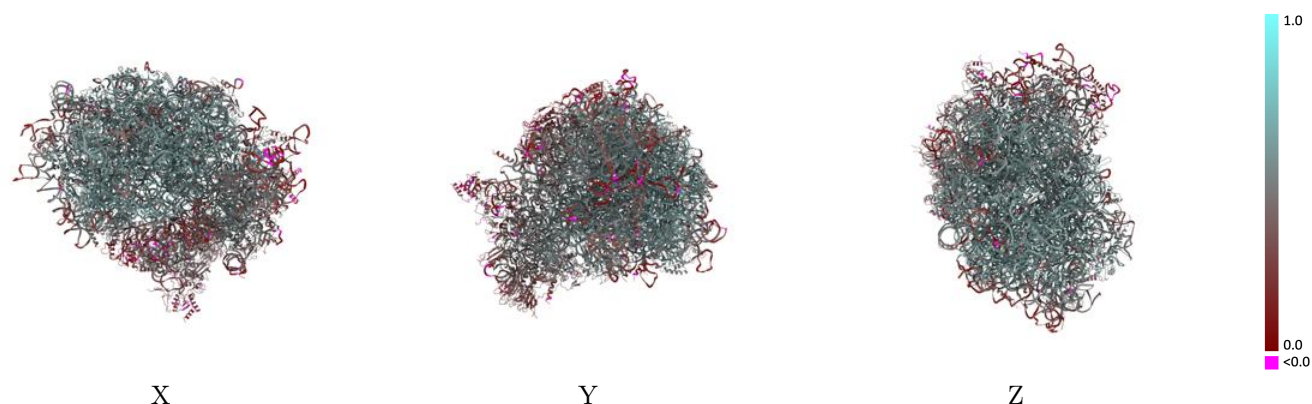
This section contains information regarding the fit between EMDB map EMD-71333 and PDB model 9P76. Per-residue inclusion information can be found in section 3 on page 23.

9.1 Map-model overlay [i](#)



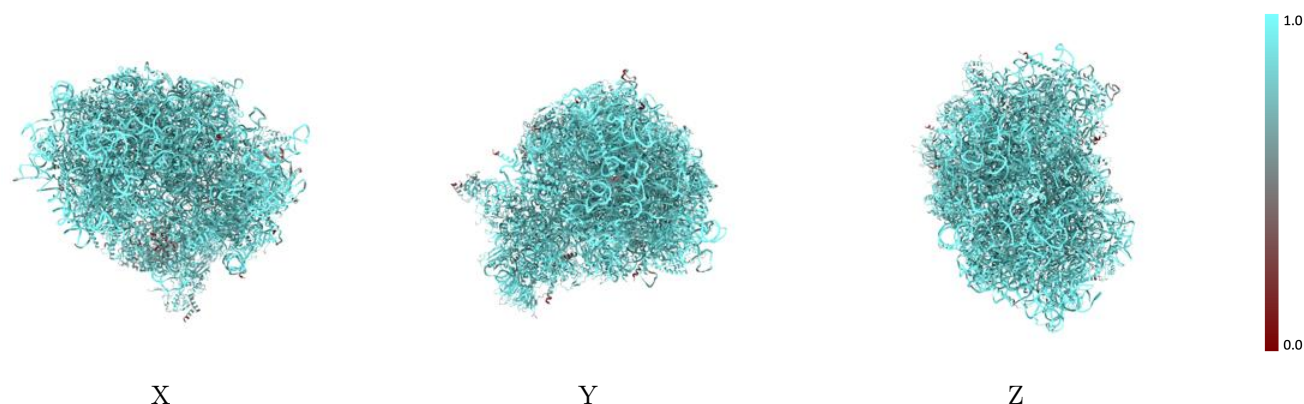
The images above show the 3D surface view of the map at the recommended contour level 0.011 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



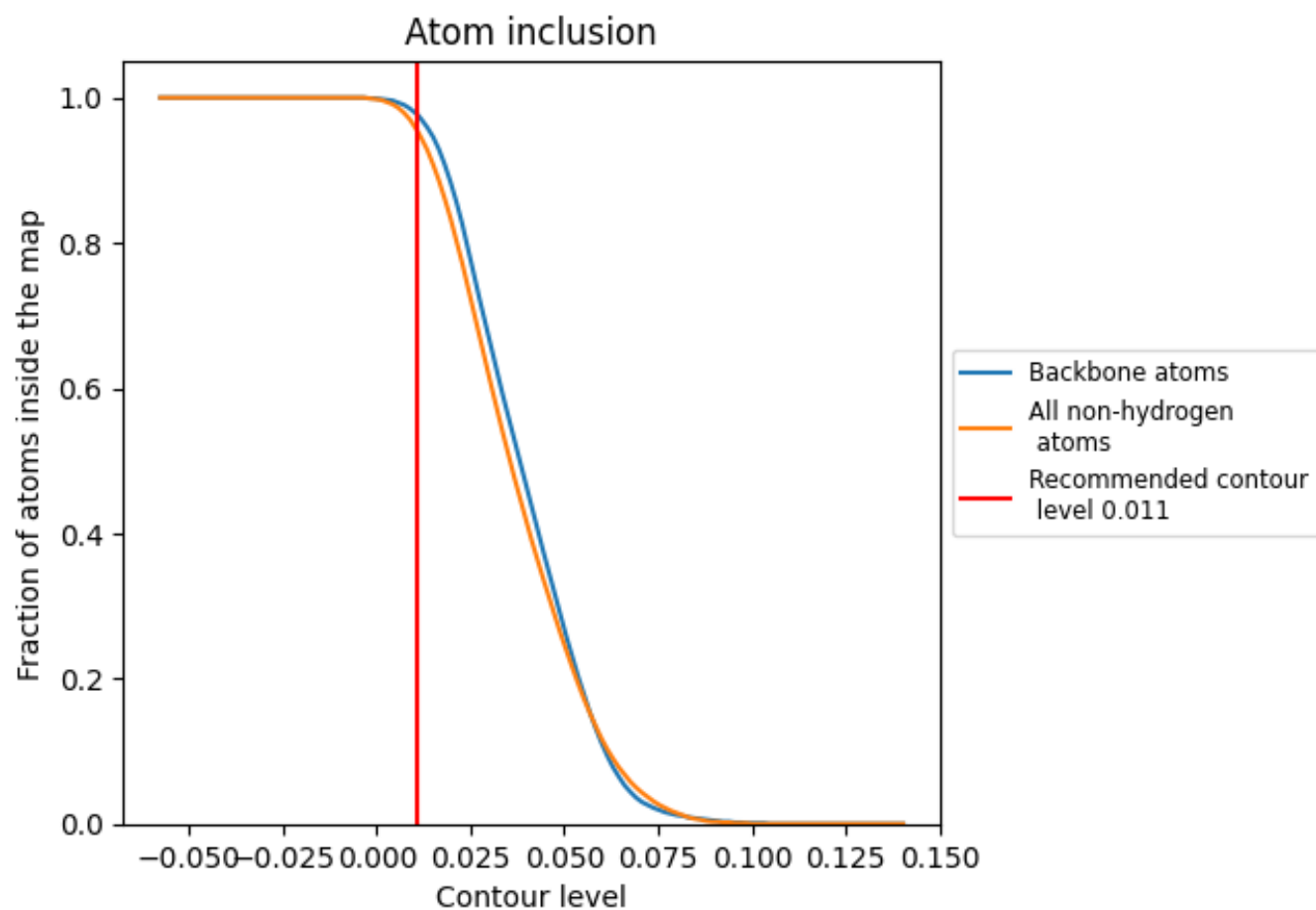
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.011).

9.4 Atom inclusion ⓘ



At the recommended contour level, 98% of all backbone atoms, 95% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.011) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9530	 0.4970
AT	 0.9730	 0.2490
CF	 0.9150	 0.2820
CI	 0.7280	 0.4080
L5	 0.9810	 0.5300
L7	 0.9970	 0.5750
L8	 0.9880	 0.5580
LA	 0.9800	 0.5910
LB	 0.9500	 0.5700
LC	 0.9570	 0.5720
LD	 0.9520	 0.5310
LE	 0.9030	 0.5020
LF	 0.9730	 0.5730
LG	 0.9080	 0.5060
LH	 0.9560	 0.5580
LI	 0.9480	 0.5660
LJ	 0.9310	 0.5030
LL	 0.9210	 0.5420
LM	 0.9650	 0.5600
LN	 0.9910	 0.6100
LO	 0.9630	 0.5730
LP	 0.9650	 0.5840
LQ	 0.9660	 0.5950
LR	 0.9110	 0.5140
LS	 0.9710	 0.5920
LT	 0.9450	 0.5530
LU	 0.9390	 0.4820
LV	 0.9550	 0.5770
LW	 0.8720	 0.3930
LX	 0.9380	 0.5510
LY	 0.9580	 0.5570
LZ	 0.9730	 0.5440
La	 0.9740	 0.5940
Lb	 0.9050	 0.4940
Lc	 0.9480	 0.5320



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Chain	Atom inclusion	Q-score
Ld	 0.9350	 0.5520
Le	 0.9750	 0.5900
Lf	 0.9830	 0.6020
Lg	 0.9620	 0.5680
Lh	 0.9400	 0.5480
Li	 0.9520	 0.5410
Lj	 0.9790	 0.5970
Lk	 0.8900	 0.4930
Ll	 0.9690	 0.5790
Lm	 0.9380	 0.5730
Ln	 0.9570	 0.5540
Lo	 0.8180	 0.5720
Lp	 0.9420	 0.5640
Lr	 0.9640	 0.5750
Ls	 0.6340	 0.2010
Lt	 0.6340	 0.1710
Pt	 0.9190	 0.4450
S2	 0.9840	 0.4680
SA	 0.9180	 0.4560
SB	 0.9170	 0.4900
SC	 0.9540	 0.4920
SD	 0.9020	 0.3800
SE	 0.9450	 0.4600
SF	 0.7670	 0.4200
SG	 0.8820	 0.3620
SH	 0.8830	 0.3780
SI	 0.9140	 0.4770
SJ	 0.9270	 0.4520
SK	 0.9120	 0.3390
SL	 0.9020	 0.5050
SM	 0.6910	 0.1680
SN	 0.9430	 0.5200
SO	 0.8930	 0.5140
SP	 0.8520	 0.3570
SQ	 0.9190	 0.4040
SR	 0.8860	 0.3890
SS	 0.8840	 0.3950
ST	 0.9310	 0.3990
SU	 0.9040	 0.3540
SV	 0.9500	 0.4620
SW	 0.9630	 0.5230
SX	 0.9260	 0.5080

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Chain	Atom inclusion	Q-score
SY	 0.8980	 0.3880
SZ	 0.6450	 0.3720
Sa	 0.9480	 0.5120
Sb	 0.9220	 0.4580
Sc	 0.8020	 0.3950
Sd	 0.9550	 0.4510
Se	 0.8290	 0.3980
Sf	 0.7860	 0.2150
Sg	 0.8850	 0.3180