



Full wwPDB EM Validation Report ⓘ

Jun 25, 2026 – 09:00 pm BST

PDB ID : 9TV2 / pdb_00009tv2
EMDB ID : EMD-56286
Title : 80S ribosomes from primary B-cells infected with delta v-snoRNA1 EBV
Authors : Fedorenko, A.; Bashan, A.; Yonath, A.
Deposited on : 2026-01-11
Resolution : 2.10 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

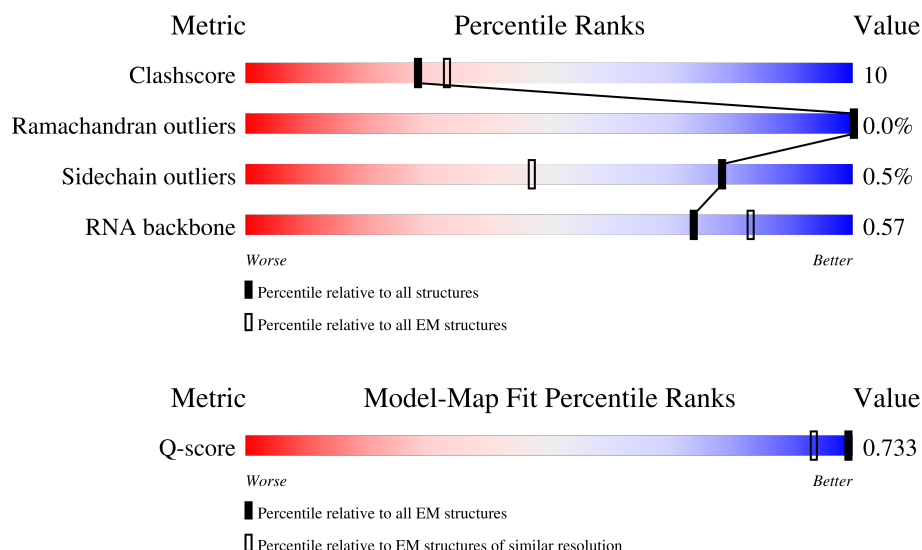
EMDB validation analysis : 0.0.1.dev132
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 2.10 Å.

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














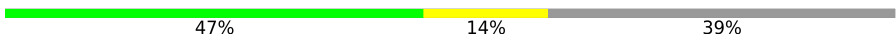













Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	2317 (1.60 - 2.60)

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	L5	5054	
2	L7	121	
3	L8	156	














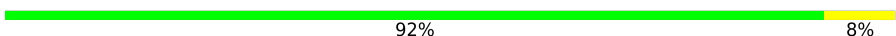



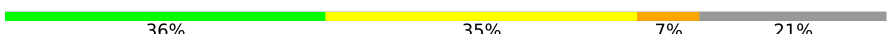
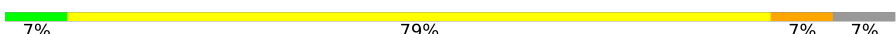






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Mol	Chain	Length	Quality of chain
4	LA	257	
5	LB	403	
6	LC	427	
7	LD	297	
8	LE	288	
9	LF	248	
10	LG	266	
11	LH	192	
12	LI	214	
13	LJ	178	
14	LL	211	
15	LM	215	
16	LN	204	
17	LO	203	
18	LP	184	
19	LQ	188	
20	LR	196	
21	LS	176	
22	LT	160	
23	LU	128	
24	LV	140	
25	LW	157	
26	LX	156	
27	LY	145	
28	LZ	136	

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Mol	Chain	Length	Quality of chain
29	La	148	
30	Lb	159	
31	Lc	115	
32	Ld	125	
33	Le	135	
34	Lf	110	
35	Lg	117	
36	Lh	123	
37	Li	105	
38	Lj	97	
39	Lk	70	
40	Ll	51	
41	Lm	128	
42	Ln	25	
43	Lo	106	
44	Lp	92	
45	Lr	137	
46	S2	1869	
47	S6	14	
48	SA	295	
49	SB	264	
50	SC	293	
51	SD	243	
52	SE	263	
53	SF	204	

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Mol	Chain	Length	Quality of chain
54	SG	249	
55	SH	194	
56	SI	208	
57	SJ	194	
58	SK	165	
59	SL	158	
60	SN	151	
61	SO	151	
62	SP	145	
63	SQ	146	
64	SR	135	
65	SS	152	
66	ST	145	
67	SU	119	
68	SV	83	
69	SW	130	
70	SX	143	
71	SY	133	
72	SZ	125	
73	Sa	115	
74	Sb	84	
75	Sc	69	
76	Sd	56	
77	Se	98	
78	Sg	308	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
46	A2M	S2	1383	-	-	X	-

2 Entry composition

There are 83 unique types of molecules in this entry. The entry contains 184489 atoms, of which 13 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	L5	3068	Total	C	N	O	P	0	0
			65889	29386	12068	21367	3068		

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	L7	119	Total	C	N	O	P	0	0
			2538	1132	455	833	118		

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	L8	144	Total	C	N	O	P	0	0
			3072	1371	548	1009	144		

- Molecule 4 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	LA	245	Total	C	N	O	S	0	0
			1805	1130	365	304	6		

- Molecule 5 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	LB	391	Total	C	N	O	S	0	0
			2962	1890	559	501	12		

- Molecule 6 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	LC	350	Total	C	N	O	S	0	0
			2721	1717	540	451	13		

- Molecule 7 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	LD	277	Total	C	N	O	S	0	0
			2135	1358	387	378	12		

- Molecule 8 is a protein called Large ribosomal subunit protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	LE	188	Total	C	N	O	S	0	0
			1495	967	278	247	3		

- Molecule 9 is a protein called Large ribosomal subunit protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	LF	218	Total	C	N	O	S	0	0
			1773	1136	337	291	9		

- Molecule 10 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	LG	202	Total	C	N	O	S	0	0
			1496	962	278	252	4		

- Molecule 11 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	LH	180	Total	C	N	O	S	0	0
			1320	839	243	232	6		

- Molecule 12 is a protein called 60S ribosomal protein L10-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	LI	195	Total	C	N	O	S	0	0
			1475	940	277	247	11		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LI	49	CYS	GLY	conflict	UNP Q96L21

- Molecule 13 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	LJ	136	Total	C	N	O	S	0	0
			965	616	177	166	6		

- Molecule 14 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	LL	188	Total	C	N	O	S	0	0
			1406	883	290	229	4		

- Molecule 15 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	LM	132	Total	C	N	O	S	0	0
			1062	679	205	171	7		

- Molecule 16 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	LN	203	Total	C	N	O	S	0	0
			1695	1069	356	266	4		

- Molecule 17 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	LO	198	Total	C	N	O	S	0	0
			1579	1018	306	250	5		

- Molecule 18 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	LP	150	Total	C	N	O	S	0	0
			1182	741	232	200	9		

- Molecule 19 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	LQ	187	Total	C	N	O	S	0	0
			1473	919	303	246	5		

- Molecule 20 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	LR	152	Total	C	N	O	S	0	0
			1190	745	254	182	9		

- Molecule 21 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	LS	170	Total	C	N	O	S	0	0
			1376	879	262	225	10		

- Molecule 22 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	LT	148	Total	C	N	O	S	0	0
			1164	740	231	188	5		

- Molecule 23 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	LU	88	Total	C	N	O	S	0	0
			599	390	107	101	1		

- Molecule 24 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	LV	130	Total	C	N	O	S	0	0
			932	589	173	165	5		

- Molecule 25 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LW	61	Total	C	N	O	S	0	0
			477	304	91	80	2		

- Molecule 26 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LX	117	Total	C	N	O	S	0	0
			898	579	166	152	1		

- Molecule 27 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	LY	128	Total	C	N	O	S	0	0
			998	632	200	163	3		

- Molecule 28 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	LZ	135	Total	C	N	O	S	0	0
			1037	670	191	173	3		

- Molecule 29 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	La	145	Total	C	N	O	S	0	0
			1116	708	229	176	3		

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Lb	84	Total	C	N	O	S	0	0
			610	380	127	102	1		

- Molecule 31 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Lc	85	Total	C	N	O	S	0	0
			629	400	109	114	6		

- Molecule 32 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Ld	97	Total	C	N	O	S	0	0
			769	491	151	126	1		

- Molecule 33 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Le	126	Total	C	N	O	S	0	0
			988	625	201	157	5		

- Molecule 34 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Lf	107	Total	C	N	O	S	0	0
			826	526	163	134	3		

- Molecule 35 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Lg	101	Total	C	N	O	S	0	0
			772	483	157	126	6		

- Molecule 36 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Lh	121	Total	C	N	O	S	0	0
			934	589	189	155	1		

- Molecule 37 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Li	92	Total	C	N	O	S	0	0
			682	429	138	111	4		

- Molecule 38 is a protein called Large ribosomal subunit protein eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Lj	86	Total	C	N	O	S	0	0
			687	422	152	108	5		

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Lk	64	Total	C	N	O	S	0	0
			446	284	83	78	1		

- Molecule 40 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	Ll	49	Total	C	N	O	0	0
			400	256	83	61		

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Lm	48	Total	C	N	O	S	0	0
			361	221	75	59	6		

- Molecule 42 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Ln	25	Total	C	N	O	S	0	0
			193	118	48	26	1		

- Molecule 43 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Lo	93	Total	C	N	O	S	0	0
			723	454	145	118	6		

- Molecule 44 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Lp	87	Total	C	N	O	S	0	0
			645	407	121	110	7		

- Molecule 45 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Lr	119	Total	C	N	O	S	1	0
			933	578	192	159	4		

- Molecule 46 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	S2	1481	Total	C	H	N	O	P	0	0
			31703	14174	13	5713	10323	1480		

- Molecule 47 is a RNA chain called E-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	S6	13	Total	C	N	O	P	0	0
			281	125	55	88	13		

- Molecule 48 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	SA	205	Total	C	N	O	S	0	0
			1571	1006	279	279	7		

- Molecule 49 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	SB	209	Total	C	N	O	S	0	0
			1599	1020	291	275	13		

- Molecule 50 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	SC	212	Total	C	N	O	S	0	0
			1546	1006	261	270	9		

- Molecule 51 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	SD	206	Total	C	N	O	S	0	0
			1372	887	241	238	6		

- Molecule 52 is a protein called Small ribosomal subunit protein eS4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	SE	257	Total	C	N	O	S	0	0
			1943	1247	361	327	8		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
53	SF	178	Total	C	N	O	S	0	0
			1329	841	252	229	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SG	179	Total	C	N	O	S	0	0
			1287	811	260	211	5		

- Molecule 55 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms				AltConf	Trace
55	SH	146	Total	C	N	O		
			1021	659	190	172	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
56	SI	169	Total	C	N	O	S		
			1288	812	247	225	4	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SJ	178	Total	C	N	O	S		
			1328	852	267	207	2	0	0

- Molecule 58 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	SK	81	Total	C	N	O	S		
			595	392	107	91	5	0	0

- Molecule 59 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SL	132	Total	C	N	O	S		
			1017	647	190	174	6	0	0

- Molecule 60 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	SN	142	Total	C	N	O	S		
			1077	694	201	181	1	0	0

- Molecule 61 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	SO	124	Total	C	N	O	S		
			892	548	177	162	5	0	0

- Molecule 62 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	SP	114	Total	C	N	O	S	0	0
			841	542	156	137	6		

- Molecule 63 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	SQ	140	Total	C	N	O	S	0	0
			1065	681	200	181	3		

- Molecule 64 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	SR	117	Total	C	N	O	S	0	0
			839	533	159	143	4		

- Molecule 65 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	SS	139	Total	C	N	O	S	0	0
			1057	676	210	170	1		

- Molecule 66 is a protein called Small ribosomal subunit protein eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	ST	142	Total	C	N	O	S	0	0
			1055	662	205	186	2		

- Molecule 67 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	SU	83	Total	C	N	O	S	0	0
			601	376	118	103	4		

- Molecule 68 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	SV	83	Total	C	N	O	S	0	0
			622	385	114	118	5		

- Molecule 69 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	SW	129	Total	C	N	O	S	0	0
			1020	651	189	174	6		

- Molecule 70 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	SX	139	Total	C	N	O	S	0	0
			1060	669	211	177	3		

- Molecule 71 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	SY	117	Total	C	N	O	S	0	0
			934	592	184	153	5		

- Molecule 72 is a protein called Small ribosomal subunit protein eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	SZ	70	Total	C	N	O	S	0	0
			518	333	92	92	1		

- Molecule 73 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Sa	98	Total	C	N	O	S	0	0
			740	465	150	120	5		

- Molecule 74 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Sb	61	Total	C	N	O	S	0	0
			463	294	88	79	2		

- Molecule 75 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Sc	53	Total	C	N	O	S	0	0
			370	228	76	65	1		

- Molecule 76 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Sd	45	Total	C	N	O	S	0	0
			356	220	74	57	5		

- Molecule 77 is a protein called FAU ubiquitin like and ribosomal protein S30 fusion.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Se	45	Total	C	N	O	S	0	0
			341	208	78	54	1		

- Molecule 78 is a protein called RS8_HUMAN Small ribosomal subunit protein eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Sg	273	Total	C	N	O	S	0	0
			2031	1298	355	369	9		

- Molecule 79 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
79	L5	139	Total	Mg	0
			139	139	
79	L7	3	Total	Mg	0
			3	3	
79	L8	3	Total	Mg	0
			3	3	
79	LP	1	Total	Mg	0
			1	1	
79	LV	1	Total	Mg	0
			1	1	
79	S2	16	Total	Mg	0
			16	16	

- Molecule 80 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		AltConf
80	L5	51	Total	K	0
			51	51	
80	L7	1	Total	K	0
			1	1	
80	LA	2	Total	K	0
			2	2	
80	LH	1	Total	K	0
			1	1	

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Mol	Chain	Residues	Atoms	AltConf
80	LI	1	Total K 1 1	0
80	LN	1	Total K 1 1	0
80	Lb	1	Total K 1 1	0
80	Le	1	Total K 1 1	0
80	Lf	1	Total K 1 1	0
80	Lo	1	Total K 1 1	0
80	S2	11	Total K 11 11	0
80	SL	1	Total K 1 1	0
80	SO	1	Total K 1 1	0
80	Sd	1	Total K 1 1	0

- Molecule 81 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms	AltConf
81	L5	12	Total Na 12 12	0

- Molecule 82 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

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Mol	Chain	Residues	Atoms		AltConf
82	Sd	1	Total	Zn	0
			1	1	

- Molecule 83 is water.

Mol	Chain	Residues	Atoms		AltConf
83	L5	1500	Total	O	0
			1500	1500	
83	L7	14	Total	O	0
			14	14	
83	L8	32	Total	O	0
			32	32	
83	LA	22	Total	O	0
			22	22	
83	LB	26	Total	O	0
			26	26	
83	LC	25	Total	O	0
			25	25	
83	LD	1	Total	O	0
			1	1	
83	LF	14	Total	O	0
			14	14	
83	LG	2	Total	O	0
			2	2	
83	LH	1	Total	O	0
			1	1	
83	LL	14	Total	O	0
			14	14	
83	LM	1	Total	O	0
			1	1	
83	LN	19	Total	O	0
			19	19	
83	LO	9	Total	O	0
			9	9	
83	LP	11	Total	O	0
			11	11	
83	LQ	18	Total	O	0
			18	18	
83	LR	3	Total	O	0
			3	3	
83	LS	2	Total	O	0
			2	2	

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Mol	Chain	Residues	Atoms		AltConf
83	LT	11	Total 11	O 11	0
83	LV	3	Total 3	O 3	0
83	LW	1	Total 1	O 1	0
83	LX	2	Total 2	O 2	0
83	LY	2	Total 2	O 2	0
83	LZ	1	Total 1	O 1	0
83	La	23	Total 23	O 23	0
83	Lb	5	Total 5	O 5	0
83	Ld	2	Total 2	O 2	0
83	Le	12	Total 12	O 12	0
83	Lf	9	Total 9	O 9	0
83	Lg	9	Total 9	O 9	0
83	Li	1	Total 1	O 1	0
83	Lj	11	Total 11	O 11	0
83	Ll	2	Total 2	O 2	0
83	Ln	3	Total 3	O 3	0
83	Lo	7	Total 7	O 7	0
83	Lp	3	Total 3	O 3	0
83	Lr	4	Total 4	O 4	0
83	S2	202	Total 202	O 202	0
83	S6	2	Total 2	O 2	0

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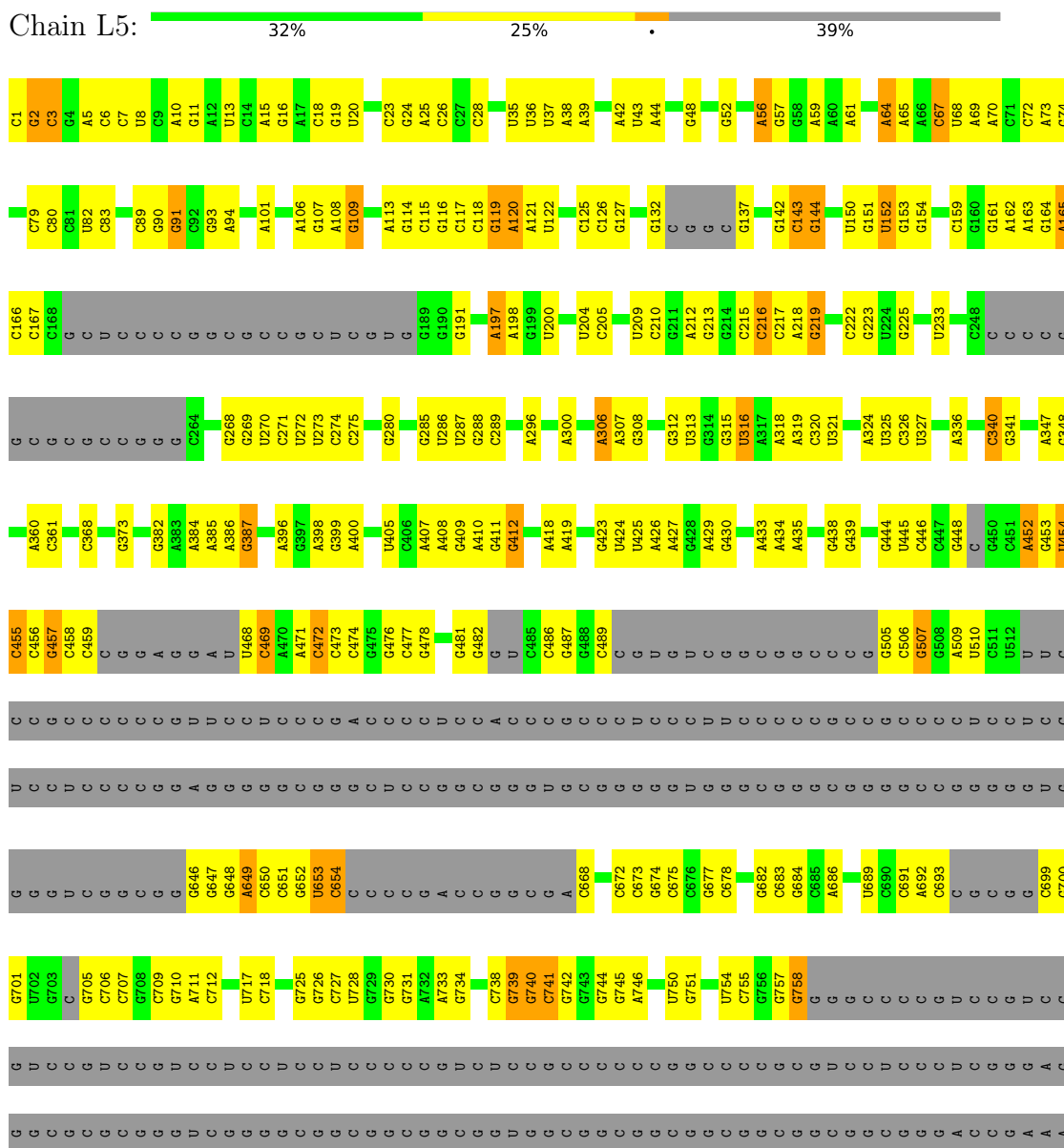
Continued from previous page...

Mol	Chain	Residues	Atoms		AltConf
83	SI	2	Total 2	O 2	0
83	SL	2	Total 2	O 2	0
83	SN	1	Total 1	O 1	0
83	SO	1	Total 1	O 1	0
83	SQ	1	Total 1	O 1	0
83	SS	2	Total 2	O 2	0
83	SU	1	Total 1	O 1	0
83	SX	1	Total 1	O 1	0
83	Sa	2	Total 2	O 2	0

3 Residue-property plots

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

• Molecule 1: 28S rRNA

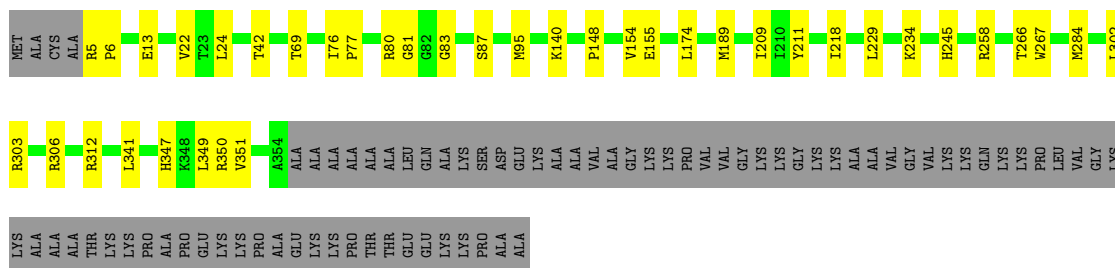




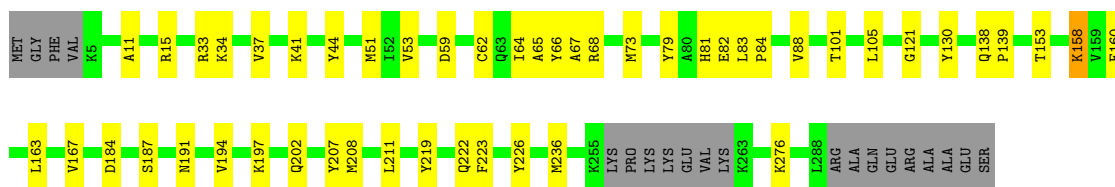
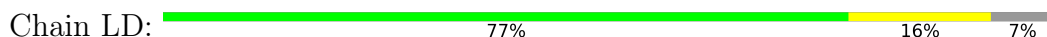




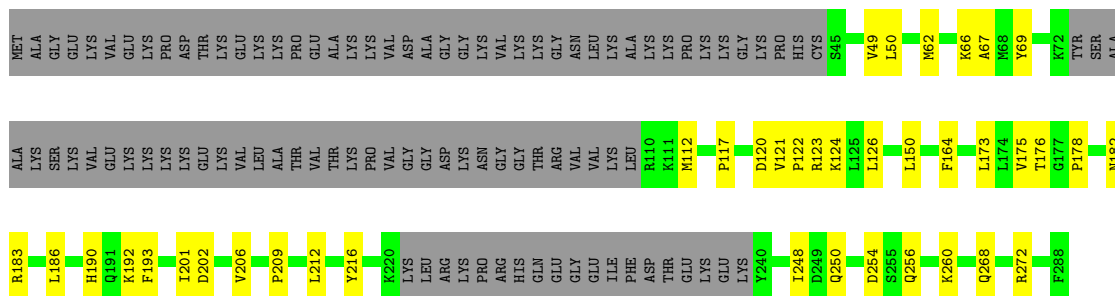
- Molecule 6: 60S ribosomal protein L4



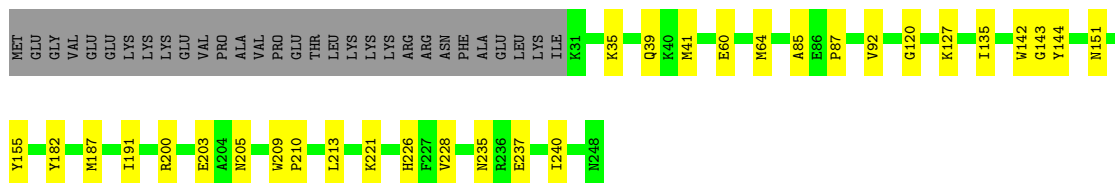
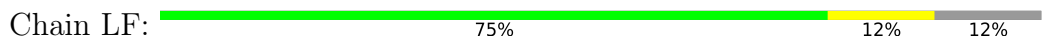
- Molecule 7: 60S ribosomal protein L5



- Molecule 8: Large ribosomal subunit protein eL6



- Molecule 9: Large ribosomal subunit protein uL30



- Molecule 10: 60S ribosomal protein L7a

ASP
VAL
GLU
LYS
LYS
LYS

• Molecule 15: 60S ribosomal protein L14


Chain LM:  47% 14% 39%

MET V2 F3 F6 V9 G10 R11 G18 L24 V28 Q33 A36 D39 G40 P41 C42 F52 K53 L62 H66 S67 Q70 W77 I82 K85 W86 T89 R100 M104 D108 V112 M113 M118 E126 A133 LEU

LEU LYS ALA SER PRO LYS ALA PRO GLY THR LYS THR ALA ALA ALA ALA LYS VAL PRO ALA LYS THR ILE THR ALA SER LYS LYS ALA PRO ALA GLN LYS VAL PRO ALA GLN LYS THR GLN LYS ALA ALA PRO LYS ALA GLN


LYS GLY GLN LYS PRO ALA LYS ALA PRO GLY THR LYS THR ALA SER GLY LYS LYS ALA

• Molecule 16: 60S ribosomal protein L15

Chain LN:  84% 16%

MET G2 L10 S16 R20 W28 Q32 R41 P42 A48 Y53 K56 Y59 V60 R67 P84 H87 A95 L113 W120 V121 G122 E131 L134 I135 F138 R143 T165 R169 G177 H178 H181 R193 R204

• Molecule 17: 60S ribosomal protein L13a

Chain LO:  80% 18% .

MET ALA GLU VAL V6 V7 V8 L22 K25 R31 Y48 R49 L52 K53 Y54 F57 M62 N65 P76 S77 R78 W81 L99 R117 M118 V119 V120 P121 L124 L138 L141 V145 Y149 V152 H178 M175 R176 K179 Q180 A181

V185 I189 Y192 L196 K197 T198 L201 L202 V203


• Molecule 18: 60S ribosomal protein L17

Chain LP:  73% 9% 18%

MET V2 P8 ASN P11 K16 S17 R18 L22 Q54 R61 W83 M94 H116 A122 P123 R128 I136 Y139 I146 E147 M148 I149 A153 GLU GLN ILE VAL PRO LYS PRO GLU GLU VAL ALA GLN LYS LYS ILE SER GLN LYS

LEU LYS LYS LYS LYS LEU MET MET ARG GLU

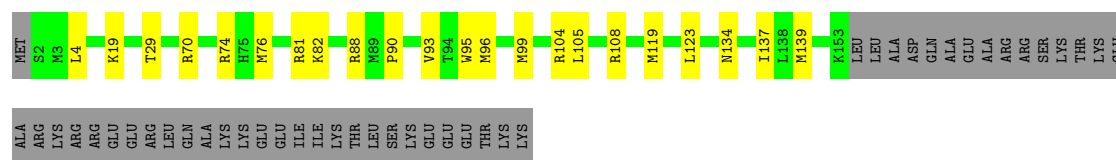
• Molecule 19: 60S ribosomal protein L18

Chain LQ:  85% 15% .


MET G2 K9 R15 R26 L27 L28 V29 K30 F34 R38 T39 N40 S41 T42 F43 R50 L51 F52 M53 S64 T79 D88 D89 Y90 R91 V92 K99 R108 L121 Q125 G133 K144 P159 A177 R184 N188

• Molecule 20: 60S ribosomal protein L19

Chain LR:  66% 11% 22%




- Molecule 21: 60S ribosomal protein L18a

Chain LS:  79% 18% .



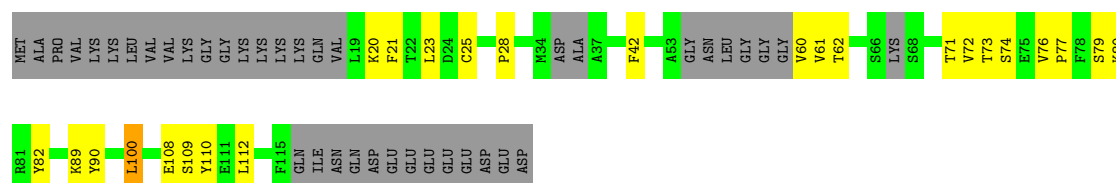
- Molecule 22: 60S ribosomal protein L21

Chain LT:  80% 12% 8%




- Molecule 23: 60S ribosomal protein L22

Chain LU:  49% 19% . 31%



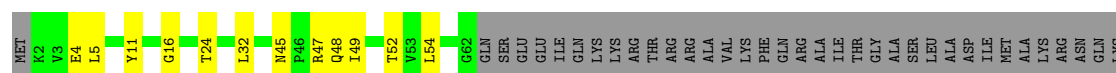
- Molecule 24: 60S ribosomal protein L23

Chain LV:  81% 12% 7%



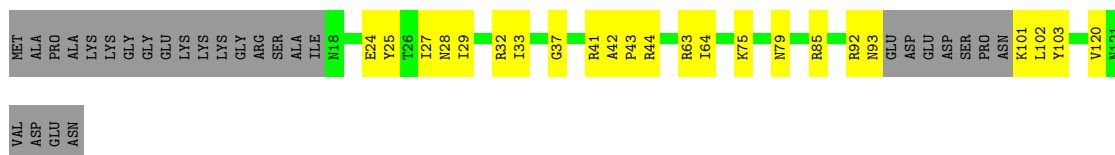
- Molecule 25: 60S ribosomal protein L24

Chain LW:  31% 8% 61%

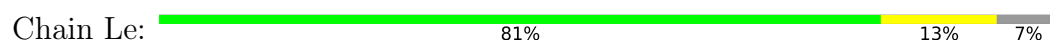




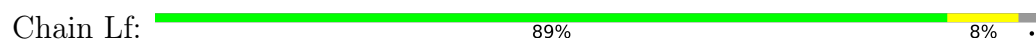
- Molecule 32: 60S ribosomal protein L31



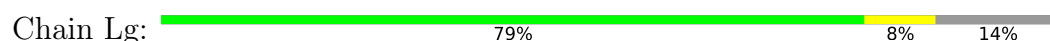
- Molecule 33: 60S ribosomal protein L32



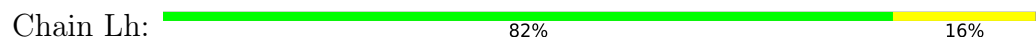
- Molecule 34: 60S ribosomal protein L35a



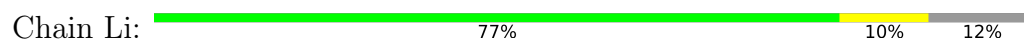
- Molecule 35: 60S ribosomal protein L34




- Molecule 36: 60S ribosomal protein L35



- Molecule 37: 60S ribosomal protein L36




- Molecule 38: Large ribosomal subunit protein eL37

Chain Lj:  73% 15% 11%




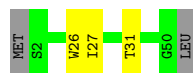
- Molecule 39: 60S ribosomal protein L38

Chain Lk:  81% 10% 9%



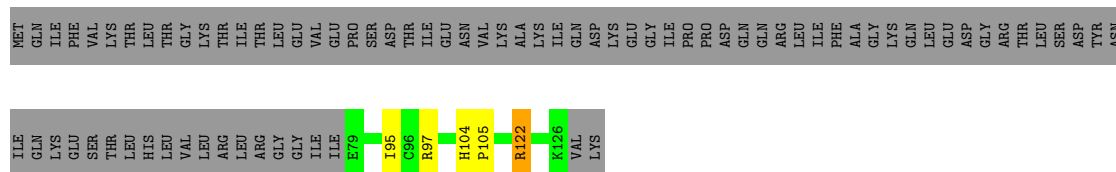
- Molecule 40: 60S ribosomal protein L39

Chain Ll:  90% 6% .



- Molecule 41: Ubiquitin-60S ribosomal protein L40

Chain Lm:  34% . . 62%




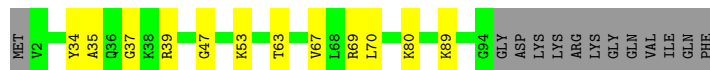
- Molecule 42: 60S ribosomal protein L41

Chain Ln:  92% 8%




- Molecule 43: 60S ribosomal protein L36a

Chain Lo:  76% 11% 12%

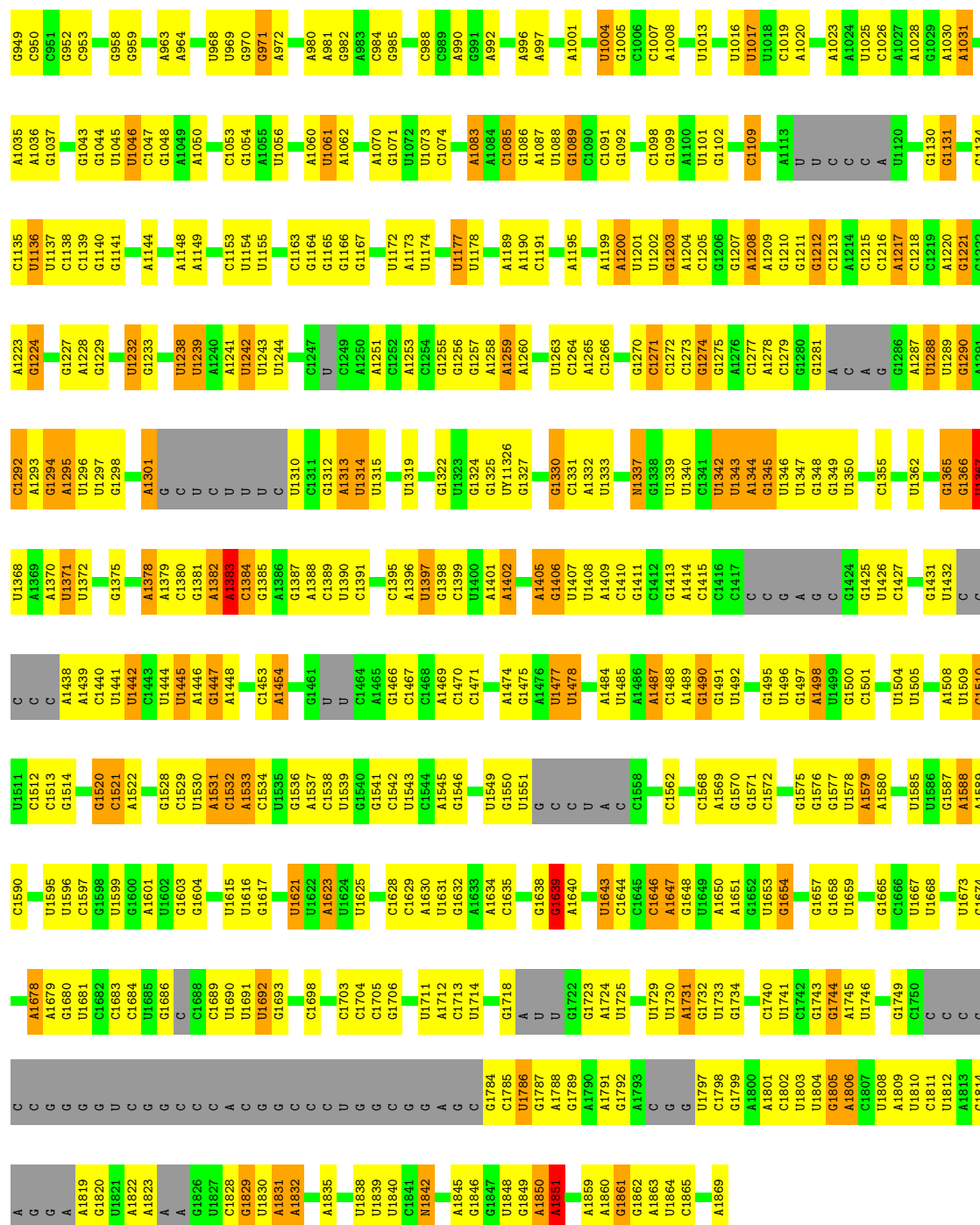


- Molecule 44: 60S ribosomal protein L37a

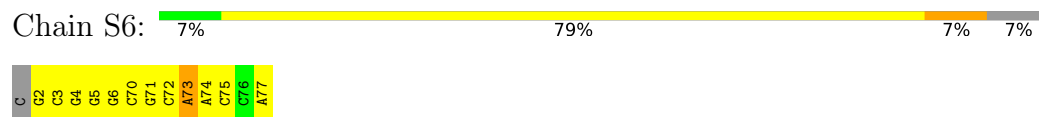
Chain Lp:  82% 13% 5%



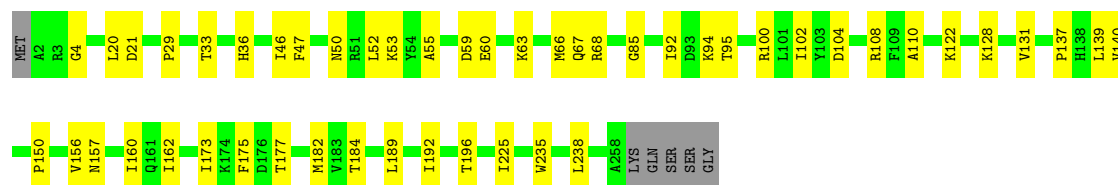
- 



• Molecule 47: E-site tRNA

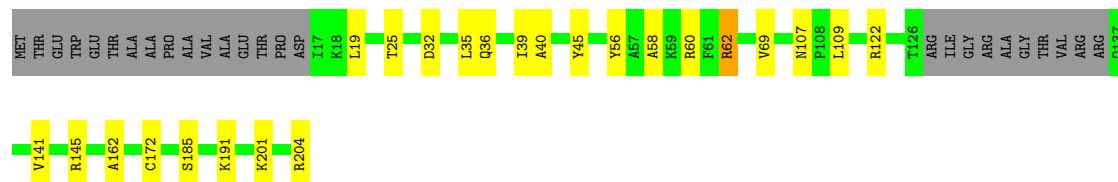


• Molecule 48: 40S ribosomal protein SA



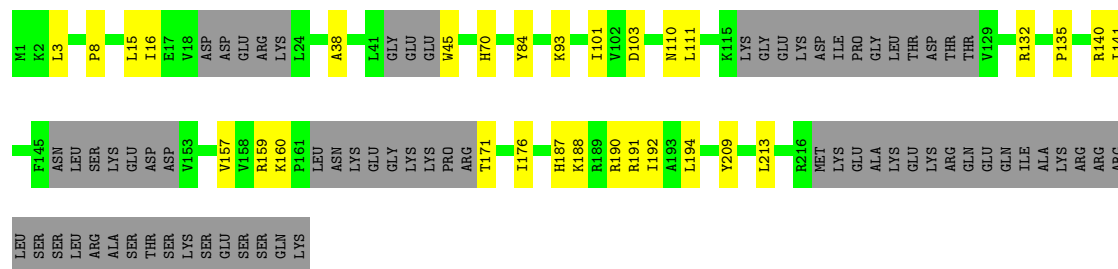
- Molecule 53: 40S ribosomal protein S5

Chain SF: 75% 11% 13%



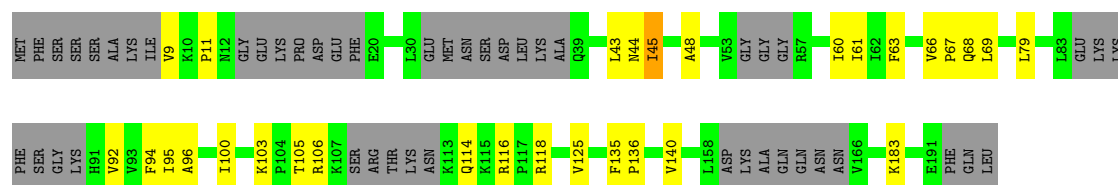
- Molecule 54: 40S ribosomal protein S6

Chain SG: 60% 12% 28%



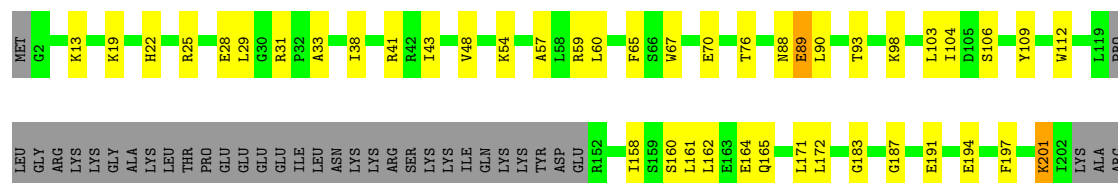
- Molecule 55: 40S ribosomal protein S7

Chain SH: 60% 15% 25%




- Molecule 56: 40S ribosomal protein S8

Chain SI: 60% 20% 19%




LYS
GLY
LYS

- Molecule 57: 40S ribosomal protein S9

Chain SJ:  86% 6% 8%

MET P2 V3 E21 L25 G33 K47 I102 E107 Q111 T112 R127 K179 LYS GLY GLN GLY GLY ALA ALA GLY GLY ASP ASP ASP GLU GLU GLU ASP

- Molecule 58: 40S ribosomal protein S10


Chain SK:  36% 13% 51%

M1 L2 M3 R8 L14 M21 K24 K25 D26 V27 H32 P33 E34 L35 K38 N39 V40 P41 M42 L43 H44 K47 A48 M49 L52 Y68 W69 I76 GLN TYR LEU ARG ASP TYR LEU HIS LEU PRO PRO GLU ILE VAL P91 R95 ARG SER ARG ARG GLU

THR GLY ARG PRO ARG PRO LYS GLY LEU GLY ARG PRO ALA ARG THR ARG THR ARG SER ARG ALA VAL PRO GLY ALA ASP LYS LYS ALA GLU ALA GLY TYR ALA GLY SER ALA THR THR GLU PHE GLN PHE ARG GLY PHE GLY ARG ARG


GLY
GLN
PRO
PRO
GLN

- Molecule 59: Small ribosomal subunit protein uS17

Chain SL:  75% 8% 16%

MET ALA ASP ILE Q5 Y10 K21 ARG VAL LEU LEU GLY GLU THR GLY LYS LYS L33 P61 V66 T78 K79 M80 K81 I86 R89 I96 K136 T137 K144 K147 ALA ALA GLY THR THR LYS GLN PHE GLN LYS PHE

- Molecule 60: 40S ribosomal protein S13

Chain SN:  83% 11% 6%

MET G2 K9 A15 L16 P17 R19 T29 V33 T46 I50 I53 L54 R55 A61 H80 R114 K130 W139 S143 SER THR ALA SER ALA LEU VAL ALA

- Molecule 61: 40S ribosomal protein S14

Chain SO:  66% 15% 18%


MET ALA PRO ARG LYS GLY LYS GLU LYS GLU GLU GLN VAL ILE SER LEU LEU GLY PRO GLN VAL Y26 Y27 F28 T45 S48 G49 K50 E51 G59 M60 K61 E68 Y72 K75 L76 A77 A78 Q79 I95 Q113 R117 A118 K125 I129

T133 P134 I135 P136 S137 ASP S139 R146 R150 LEU

- Molecule 62: 40S ribosomal protein S15

Chain SP:  68% 10% 21%

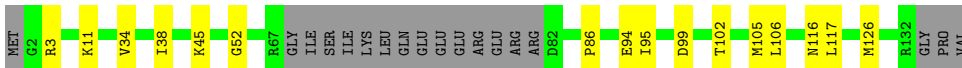
- Molecule 63: 40S ribosomal protein S16

Chain SQ:  80% 15% . .



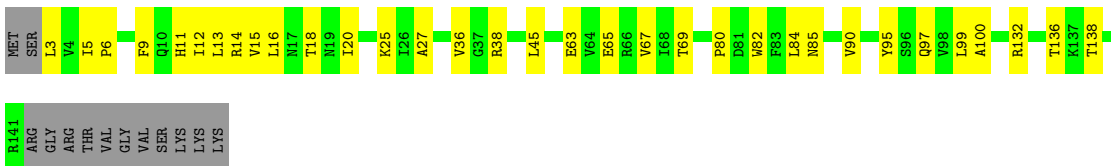
- Molecule 64: 40S ribosomal protein S17

Chain SR:




- Molecule 65: 40S ribosomal protein S18

Chain SS: 70% 22% 9%



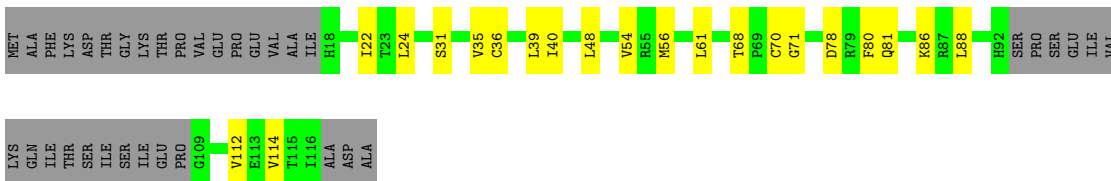
- Molecule 66: Small ribosomal subunit protein eS19

Chain ST:  84% 12% ..



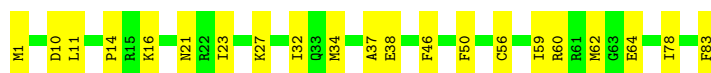
- Molecule 67: 40S ribosomal protein S20

Chain SU:



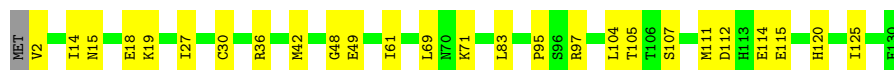
- Molecule 68: 40S ribosomal protein S21

Chain SV: 



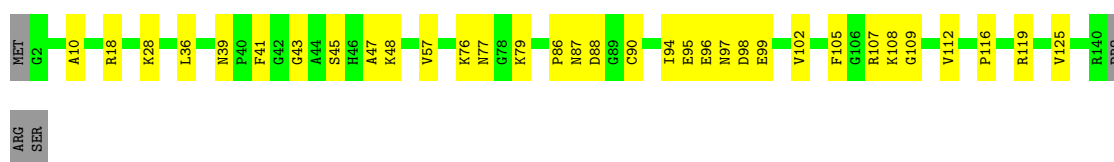
- Molecule 69: 40S ribosomal protein S15a

Chain SW: 79% 20%



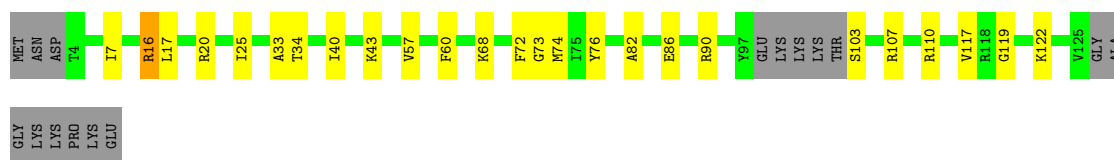
- Molecule 70: 40S ribosomal protein S23

Chain SX: 74% 23%



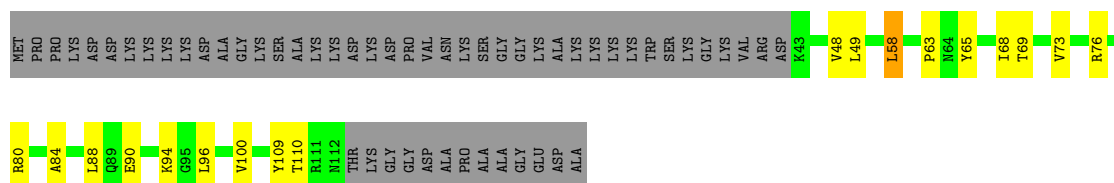
- Molecule 71: 40S ribosomal protein S24

Chain SY: 69% 18% 12%



- Molecule 72: Small ribosomal subunit protein eS25

Chain SZ: 42% 14% 44%



- Molecule 73: 40S ribosomal protein S26

Chain Sa: 70% 15% 15%

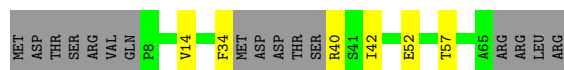


- Molecule 74: 40S ribosomal protein S27

Chain Sb: 61% 12% 27%



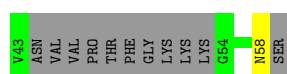
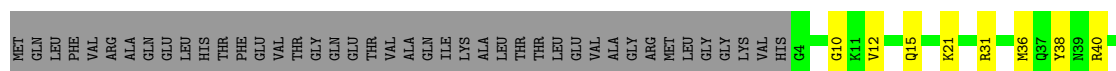
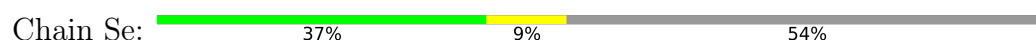
- Molecule 75: 40S ribosomal protein S28



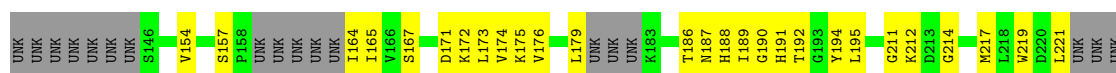
- Molecule 76: 40S ribosomal protein S29



- Molecule 77: FAU ubiquitin like and ribosomal protein S30 fusion



- Molecule 78: RS8_HUMAN Small ribosomal subunit protein eS8



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	386469	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	36.8	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.176	Depositor
Minimum map value	-0.067	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.005	Depositor
Map size (Å)	395.52, 395.52, 395.52	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.824, 0.824, 0.824	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MA6, 1MA, OMG, MG, A2M, UR3, OMU, HIC, 6MZ, PSU, V5N, G7M, NMM, 5MC, 4AC, NA, OMC, UY1, K, ZN

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	L5	0.18	2/70851 (0.0%)	0.32	0/110438
2	L7	0.13	0/2836	0.27	0/4421
3	L8	0.15	0/3336	0.27	0/5194
4	LA	0.12	0/1843	0.33	0/2490
5	LB	0.22	0/3015	0.36	0/4070
6	LC	0.11	0/2774	0.27	0/3742
7	LD	0.12	0/2178	0.27	0/2940
8	LE	0.11	0/1525	0.26	0/2054
9	LF	0.11	0/1807	0.28	0/2418
10	LG	0.10	0/1525	0.25	0/2081
11	LH	0.10	0/1337	0.25	0/1815
12	LI	0.10	0/1513	0.25	0/2045
13	LJ	0.10	0/978	0.27	0/1319
14	LL	0.10	0/1433	0.26	0/1941
15	LM	0.11	0/1084	0.24	0/1457
16	LN	0.11	0/1740	0.29	0/2331
17	LO	0.12	0/1611	0.27	0/2166
18	LP	0.11	0/1207	0.29	0/1624
19	LQ	0.12	0/1497	0.31	0/2008
20	LR	0.10	0/1206	0.24	0/1609
21	LS	0.12	0/1413	0.28	0/1901
22	LT	0.11	0/1189	0.30	0/1595
23	LU	0.09	0/606	0.31	0/823
24	LV	0.11	0/946	0.29	0/1279
25	LW	0.10	0/490	0.23	0/662
26	LX	0.11	0/915	0.27	0/1242
27	LY	0.09	0/1015	0.26	0/1364
28	LZ	0.11	0/1060	0.27	0/1430
29	La	0.11	0/1131	0.28	0/1513
30	Lb	0.09	0/622	0.24	0/838
31	Lc	0.09	0/639	0.22	0/867

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Ld	0.11	0/782	0.27	0/1059
33	Le	0.12	0/1006	0.32	0/1354
34	Lf	0.11	0/845	0.29	0/1139
35	Lg	0.11	0/782	0.28	0/1048
36	Lh	0.10	0/942	0.22	0/1259
37	Li	0.09	0/692	0.23	0/929
38	Lj	0.12	0/702	0.29	0/932
39	Lk	0.10	0/451	0.28	0/611
40	Ll	0.11	0/410	0.26	0/548
41	Lm	0.10	0/367	0.27	0/492
42	Ln	0.14	0/194	0.30	0/254
43	Lo	0.11	0/735	0.26	0/978
44	Lp	0.10	0/655	0.27	0/877
45	Lr	0.11	0/946	0.25	0/1273
46	S2	0.19	4/33571 (0.0%)	0.30	0/52275
47	S6	0.13	0/313	0.26	0/484
48	SA	0.09	0/1606	0.25	0/2190
49	SB	0.10	0/1626	0.25	0/2192
50	SC	0.10	0/1581	0.25	0/2154
51	SD	0.10	0/1393	0.23	0/1902
52	SE	0.09	0/1985	0.26	0/2692
53	SF	0.09	0/1349	0.24	0/1824
54	SG	0.10	0/1302	0.24	0/1757
55	SH	0.09	0/1033	0.23	0/1403
56	SI	0.09	0/1313	0.25	0/1773
57	SJ	0.09	0/1353	0.21	0/1835
58	SK	0.10	0/613	0.25	0/834
59	SL	0.10	0/1037	0.24	0/1401
60	SN	0.09	0/1101	0.23	0/1497
61	SO	0.11	0/903	0.27	0/1215
62	SP	0.08	0/857	0.21	0/1159
63	SQ	0.09	0/1082	0.25	0/1455
64	SR	0.08	0/852	0.21	0/1157
65	SS	0.10	0/1075	0.29	1/1455 (0.1%)
66	ST	0.08	0/1061	0.22	0/1431
67	SU	0.08	0/607	0.21	0/822
68	SV	0.09	0/629	0.22	0/844
69	SW	0.10	0/1037	0.25	0/1390
70	SX	0.09	0/1077	0.25	0/1442
71	SY	0.08	0/950	0.23	0/1267
72	SZ	0.08	0/524	0.22	0/715
73	Sa	0.10	0/753	0.23	0/1016
74	Sb	0.09	0/470	0.24	0/629

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	Sc	0.08	0/371	0.21	0/500
76	Sd	0.10	0/362	0.23	0/480
77	Se	0.07	0/343	0.21	0/451
78	Sg	0.08	0/2080	0.24	0/2838
All	All	0.16	6/191040 (0.0%)	0.29	1/280909 (0.0%)

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L5	1530	A2M	O3'-P	5.26	1.61	1.56
46	S2	576	A2M	O3'-P	5.08	1.61	1.56
46	S2	484	A2M	O3'-P	5.08	1.61	1.56
1	L5	3771	A2M	O3'-P	5.03	1.61	1.56
46	S2	1031	A2M	O3'-P	5.01	1.61	1.56
46	S2	668	A2M	O3'-P	5.01	1.61	1.56

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
65	SS	100	ALA	CB-CA-C	-5.69	110.03	116.63

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	L5	65889	0	33349	1112	0
2	L7	2538	0	1286	37	0
3	L8	3072	0	1561	70	0
4	LA	1805	0	1803	24	0
5	LB	2962	0	2899	48	0
6	LC	2721	0	2817	34	0
7	LD	2135	0	2062	34	0
8	LE	1495	0	1586	29	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	LF	1773	0	1838	23	0
10	LG	1496	0	1464	20	0
11	LH	1320	0	1283	36	0
12	LI	1475	0	1389	24	0
13	LJ	965	0	899	47	0
14	LL	1406	0	1385	14	0
15	LM	1062	0	1084	30	0
16	LN	1695	0	1738	25	0
17	LO	1579	0	1669	33	0
18	LP	1182	0	1184	16	0
19	LQ	1473	0	1543	19	0
20	LR	1190	0	1249	22	0
21	LS	1376	0	1375	26	0
22	LT	1164	0	1194	19	0
23	LU	599	0	518	20	0
24	LV	932	0	945	15	0
25	LW	477	0	440	10	0
26	LX	898	0	922	7	0
27	LY	998	0	1022	18	0
28	LZ	1037	0	1032	27	0
29	La	1116	0	1130	16	0
30	Lb	610	0	558	5	0
31	Lc	629	0	614	9	0
32	Ld	769	0	787	18	0
33	Le	988	0	1020	14	0
34	Lf	826	0	829	6	0
35	Lg	772	0	813	9	0
36	Lh	934	0	983	13	0
37	Li	682	0	667	11	0
38	Lj	687	0	695	12	0
39	Lk	446	0	406	4	0
40	Ll	400	0	404	4	0
41	Lm	361	0	347	3	0
42	Ln	193	0	192	5	0
43	Lo	723	0	741	14	0
44	Lp	645	0	661	13	0
45	Lr	933	0	955	7	0
46	S2	31690	13	16052	659	0
47	S6	281	0	145	17	0
48	SA	1571	0	1565	35	0
49	SB	1599	0	1585	46	0
50	SC	1546	0	1535	33	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
51	SD	1372	0	1271	49	0
52	SE	1943	0	1960	34	0
53	SF	1329	0	1317	16	0
54	SG	1287	0	1247	24	0
55	SH	1021	0	949	24	0
56	SI	1288	0	1237	32	0
57	SJ	1328	0	1293	11	0
58	SK	595	0	546	24	0
59	SL	1017	0	984	10	0
60	SN	1077	0	1070	16	0
61	SO	892	0	888	22	0
62	SP	841	0	813	11	0
63	SQ	1065	0	1095	17	0
64	SR	839	0	804	17	0
65	SS	1057	0	1059	25	0
66	ST	1055	0	1034	16	0
67	SU	601	0	596	14	0
68	SV	622	0	609	16	0
69	SW	1020	0	1054	20	0
70	SX	1060	0	1106	26	0
71	SY	934	0	970	20	0
72	SZ	518	0	522	12	0
73	Sa	740	0	764	16	0
74	Sb	463	0	466	8	0
75	Sc	370	0	364	6	0
76	Sd	356	0	344	5	0
77	Se	341	0	360	9	0
78	Sg	2031	0	1911	56	0
79	L5	139	0	0	0	0
79	L7	3	0	0	0	0
79	L8	3	0	0	0	0
79	LP	1	0	0	0	0
79	LV	1	0	0	0	0
79	S2	16	0	0	0	0
80	L5	51	0	0	0	0
80	L7	1	0	0	0	0
80	LA	2	0	0	0	0
80	LH	1	0	0	0	0
80	LI	1	0	0	0	0
80	LN	1	0	0	0	0
80	Lb	1	0	0	0	0
80	Le	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
80	Lf	1	0	0	0	0
80	Lo	1	0	0	0	0
80	S2	11	0	0	0	0
80	SL	1	0	0	0	0
80	SO	1	0	0	0	0
80	Sd	1	0	0	0	0
81	L5	12	0	0	0	0
82	Lg	1	0	0	0	0
82	Lj	1	0	0	0	0
82	Lm	1	0	0	0	0
82	Lo	1	0	0	0	0
82	Lp	1	0	0	0	0
82	Sa	1	0	0	0	0
82	Sd	1	0	0	0	0
83	L5	1500	0	0	7	0
83	L7	14	0	0	0	0
83	L8	32	0	0	0	0
83	LA	22	0	0	0	0
83	LB	26	0	0	0	0
83	LC	25	0	0	0	0
83	LD	1	0	0	0	0
83	LF	14	0	0	0	0
83	LG	2	0	0	0	0
83	LH	1	0	0	0	0
83	LL	14	0	0	0	0
83	LM	1	0	0	0	0
83	LN	19	0	0	1	0
83	LO	9	0	0	0	0
83	LP	11	0	0	0	0
83	LQ	18	0	0	0	0
83	LR	3	0	0	0	0
83	LS	2	0	0	0	0
83	LT	11	0	0	0	0
83	LV	3	0	0	0	0
83	LW	1	0	0	0	0
83	LX	2	0	0	0	0
83	LY	2	0	0	0	0
83	LZ	1	0	0	0	0
83	La	23	0	0	1	0
83	Lb	5	0	0	0	0
83	Ld	2	0	0	0	0
83	Le	12	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
83	Lf	9	0	0	0	0
83	Lg	9	0	0	0	0
83	Li	1	0	0	0	0
83	Lj	11	0	0	0	0
83	Ll	2	0	0	0	0
83	Ln	3	0	0	0	0
83	Lo	7	0	0	0	0
83	Lp	3	0	0	0	0
83	Lr	4	0	0	0	0
83	S2	202	0	0	2	0
83	S6	2	0	0	0	0
83	SI	2	0	0	1	0
83	SL	2	0	0	0	0
83	SN	1	0	0	0	0
83	SO	1	0	0	0	0
83	SQ	1	0	0	0	0
83	SS	2	0	0	0	0
83	SU	1	0	0	0	0
83	SX	1	0	0	0	0
83	Sa	2	0	0	0	0
All	All	184476	13	130853	2984	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 10.

All (2984) 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)
15:LM:112:VAL:HG11	17:LO:201:LEU:HD11	1.28	1.12
46:S2:1362:U:H4'	46:S2:1371:U:H3	1.18	1.08
15:LM:112:VAL:CG1	17:LO:201:LEU:HD11	1.92	0.99
17:LO:175:MET:HE3	17:LO:179:LYS:HD3	1.44	0.98
49:SB:110:MET:SD	49:SB:113:MET:CE	2.52	0.98
51:SD:127:MET:HE2	51:SD:127:MET:HA	1.45	0.96
1:L5:3590:A:H2'	1:L5:3591:C:O4'	1.67	0.95
17:LO:22:ILE:HD13	17:LO:120:VAL:HG11	1.48	0.94
12:LI:190:LEU:HB3	12:LI:197:VAL:HG11	1.48	0.93
49:SB:110:MET:HA	49:SB:113:MET:CE	1.98	0.92
46:S2:1130:G:H2'	46:S2:1131:G:H5''	1.47	0.92
49:SB:110:MET:SD	49:SB:113:MET:HE3	2.10	0.91
27:LY:30:MET:HB3	27:LY:101:PRO:HG3	1.52	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SD:29:LEU:HD23	51:SD:65:ARG:HH21	1.36	0.90
20:LR:4:LEU:HD11	20:LR:29:THR:HG23	1.52	0.90
1:L5:4237:A:H5''	13:LJ:108:GLY:HA3	1.54	0.90
49:SB:144:LYS:HD3	49:SB:208:HIS:HB3	1.55	0.89
46:S2:928:G:H1	46:S2:1013:U:H3	1.14	0.88
46:S2:1270:G:H2'	46:S2:1271:C:H5''	1.56	0.88
65:SS:5:ILE:HD12	65:SS:6:PRO:HD2	1.53	0.86
1:L5:3703:A:H2'	1:L5:3704:A2M:H8	1.56	0.86
46:S2:44:U:O2'	46:S2:45:A:H2'	1.75	0.86
49:SB:110:MET:SD	49:SB:113:MET:HE1	2.15	0.86
49:SB:110:MET:HA	49:SB:113:MET:HE3	1.58	0.86
17:LO:22:ILE:CD1	17:LO:120:VAL:HG11	2.05	0.86
46:S2:166:A2M:HM'2	46:S2:167:G:H5'	1.55	0.86
1:L5:2601:A:H5'	1:L5:2678:G:H4'	1.56	0.85
46:S2:164:A:H3'	46:S2:165:G:H21	1.41	0.85
1:L5:1202:G:O2'	1:L5:1203:U:H5'	1.77	0.85
46:S2:512:A2M:H4'	46:S2:576:A2M:H2	1.57	0.84
46:S2:1270:G:C2'	46:S2:1271:C:H5''	2.08	0.84
1:L5:4245:C:OP1	13:LJ:51:SER:HB3	1.77	0.84
1:L5:1:C:N3	3:L8:156:U:O4	2.11	0.84
46:S2:455:A:H2'	46:S2:456:C:H6	1.43	0.84
46:S2:1597:C:H4'	46:S2:1603:G:C6	2.13	0.84
78:Sg:87:LEU:HB2	78:Sg:101:PHE:HB2	1.59	0.83
10:LG:230:TYR:O	10:LG:234:ARG:HG2	1.78	0.83
1:L5:2874:G:H5''	46:S2:1804:U:O2'	1.78	0.83
1:L5:1:C:C4	3:L8:156:U:O4	2.32	0.82
46:S2:981:A:H2'	46:S2:982:G:C8	2.13	0.82
46:S2:1088:U:H4'	46:S2:1089:G:OP2	1.78	0.82
23:LU:28:PRO:HB3	23:LU:100:LEU:HD21	1.59	0.82
5:LB:56:ILE:HD13	5:LB:365:LEU:HD22	1.61	0.82
13:LJ:12:MET:HE3	13:LJ:137:PRO:HB2	1.61	0.82
1:L5:3703:A:H2'	1:L5:3704:A2M:C8	2.10	0.82
46:S2:1362:U:H4'	46:S2:1371:U:N3	1.95	0.81
44:Lp:47:MET:CE	44:Lp:57:CYS:HB2	2.10	0.81
1:L5:3704:A2M:H2	1:L5:3920:G:O4'	1.81	0.81
46:S2:925:G:H1	46:S2:1017:U:H3	1.25	0.81
58:SK:49:MET:HE2	58:SK:49:MET:HA	1.61	0.81
6:LC:209:ILE:HB	6:LC:229:LEU:HD13	1.63	0.80
1:L5:1:C:H2'	1:L5:2:G:C8	2.16	0.80
46:S2:1381:G:H3'	46:S2:1382:A:H5''	1.63	0.80
1:L5:711:A:H2'	1:L5:712:C:C6	2.17	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1536:G:H2'	46:S2:1537:A:H8	1.47	0.80
15:LM:112:VAL:CG1	17:LO:201:LEU:CD1	2.60	0.80
55:SH:60:ILE:HB	55:SH:92:VAL:HG22	1.64	0.80
46:S2:1678:A2M:O2'	46:S2:1679:A:H5'	1.83	0.79
46:S2:1395:C:O2'	46:S2:1396:A:H5'	1.80	0.79
46:S2:455:A:H2'	46:S2:456:C:C6	2.16	0.79
55:SH:44:ASN:H	55:SH:68:GLN:HE22	1.27	0.79
1:L5:1:C:N3	3:L8:156:U:C4	2.51	0.79
46:S2:359:U:OP2	70:SX:18:ARG:HD3	1.83	0.79
46:S2:1228:A:H2'	46:S2:1229:G:C8	2.17	0.79
1:L5:904:G:H2'	1:L5:905:U:C6	2.17	0.79
32:Ld:92:ARG:HA	32:Ld:102:LEU:CD2	2.13	0.79
16:LN:10:LEU:HG	37:Li:44:ILE:HD12	1.65	0.79
51:SD:140:GLY:HA3	51:SD:182:LEU:HD12	1.65	0.79
54:SG:157:VAL:HG21	54:SG:176:ILE:HD11	1.65	0.79
12:LI:181:PHE:CZ	12:LI:197:VAL:HG21	2.18	0.78
46:S2:1588:A:H2'	46:S2:1589:A:C8	2.19	0.78
56:SI:194:GLU:HG3	59:SL:10:TYR:CD2	2.19	0.78
15:LM:39:ASP:OD2	15:LM:70:GLN:HG3	1.84	0.78
1:L5:4580:U:H2'	1:L5:4581:G:H8	1.48	0.78
11:LH:105:ILE:HD12	11:LH:136:VAL:H	1.47	0.78
61:SO:113:GLN:HE22	73:Sa:45:VAL:HA	1.46	0.78
1:L5:2507:A:H5'	35:Lg:62:LYS:HE3	1.64	0.78
44:Lp:47:MET:HE2	44:Lp:57:CYS:HB2	1.64	0.78
23:LU:25:CYS:HB3	23:LU:112:LEU:HD12	1.66	0.78
1:L5:2873:G:O2'	46:S2:1805:G:H4'	1.84	0.78
1:L5:2628:G:O2'	1:L5:2629:U:H5'	1.84	0.77
1:L5:4523:C:H2'	1:L5:4524:G:C8	2.19	0.77
47:S6:72:C:H2'	47:S6:73:A:C8	2.20	0.77
46:S2:1536:G:H2'	46:S2:1537:A:C8	2.19	0.77
31:Lc:21:VAL:HG11	31:Lc:96:ILE:HD12	1.65	0.77
46:S2:1801:A:H2'	46:S2:1802:C:C6	2.19	0.77
17:LO:196:LEU:HD22	17:LO:201:LEU:HD12	1.66	0.77
1:L5:691:C:H2'	1:L5:692:A:C8	2.19	0.77
1:L5:973:C:OP2	8:LE:66:LYS:HE2	1.85	0.77
17:LO:22:ILE:HD13	17:LO:120:VAL:CG1	2.14	0.77
20:LR:137:ILE:HA	46:S2:392:A:OP1	1.85	0.77
58:SK:14:LEU:HD12	58:SK:35:LEU:HD13	1.67	0.76
46:S2:512:A2M:HM'2	46:S2:513:G:H5'	1.66	0.76
1:L5:1692:C:H2'	1:L5:1693:G:O4'	1.86	0.76
1:L5:2804:C:H5'	1:L5:2805:A2M:OP2	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1203:G:H2'	46:S2:1204:A:C8	2.20	0.76
46:S2:1487:A:C4'	50:SC:118:ALA:HB1	2.15	0.76
46:S2:215:G:H2'	46:S2:216:C:C6	2.21	0.76
47:S6:2:G:H1	47:S6:73:A:H2	1.34	0.76
58:SK:49:MET:HG3	58:SK:69:TRP:CE3	2.21	0.76
12:LI:36:LEU:HD11	12:LI:69:ARG:HE	1.50	0.76
27:LY:26:ARG:O	27:LY:30:MET:HG3	1.86	0.76
1:L5:4490:C:H2'	1:L5:4491:C:C6	2.21	0.75
6:LC:140:LYS:HE2	6:LC:245:HIS:HB2	1.68	0.75
65:SS:13:LEU:HB2	65:SS:20:ILE:HB	1.68	0.75
46:S2:942:G:H2'	46:S2:943:U:C6	2.21	0.75
61:SO:125:LYS:HB3	73:Sa:58:VAL:HG12	1.67	0.75
47:S6:72:C:H2'	47:S6:73:A:H8	1.49	0.75
1:L5:4611:C:O2'	1:L5:4612:A:H5'	1.86	0.75
46:S2:145:G:H2'	46:S2:146:G:C8	2.22	0.75
1:L5:2884:A:H5''	56:SI:88:ASN:OD1	1.86	0.75
1:L5:2341:OMC:HM23	6:LC:95:MET:HG3	1.67	0.75
1:L5:468:U:H1'	1:L5:689:U:O2	1.87	0.75
1:L5:4443:PSU:H1'	5:LB:252:ALA:HB3	1.69	0.75
63:SQ:62:ARG:HD2	63:SQ:108:ILE:HD11	1.68	0.75
46:S2:1407:U:H2'	46:S2:1408:U:C6	2.21	0.75
1:L5:2405:OMU:O2'	1:L5:2406:G:H5'	1.85	0.74
1:L5:1629:G:H5'	1:L5:1630:A:OP1	1.86	0.74
1:L5:4109:C:O2'	1:L5:4110:G:H5'	1.87	0.74
1:L5:1938:A:H2'	1:L5:1939:A:C8	2.23	0.74
46:S2:1803:U:H2'	46:S2:1804:U:O4'	1.87	0.74
1:L5:4557:A2M:O2'	1:L5:4558:U:H5'	1.85	0.74
43:Lo:69:ARG:NH1	43:Lo:80:LYS:HD3	2.02	0.74
65:SS:15:VAL:HG12	65:SS:16:LEU:HG	1.68	0.74
1:L5:1204:C:H3'	1:L5:1205:G:C5'	2.17	0.74
46:S2:107:A:H2'	46:S2:108:G:C8	2.21	0.74
1:L5:4576:A2M:HM'2	1:L5:4577:U:H5'	1.69	0.74
47:S6:70:C:H2'	47:S6:71:G:H8	1.52	0.74
7:LD:79:TYR:O	7:LD:82:GLU:HG2	1.88	0.74
28:LZ:57:MET:HG2	28:LZ:61:LYS:HD3	1.69	0.74
33:Le:21:ILE:HD11	33:Le:53:ILE:HG12	1.68	0.74
51:SD:135:GLU:HG3	51:SD:153:VAL:CG2	2.17	0.74
1:L5:1573:G:O2'	1:L5:1608:G:H4'	1.88	0.73
46:S2:1164:G:O2'	46:S2:1165:G:H5'	1.87	0.73
1:L5:4591:A:H2'	1:L5:4592:G:O4'	1.88	0.73
8:LE:209:PRO:HD2	8:LE:212:LEU:HD12	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:167:G:OP1	54:SG:8:PRO:HB3	1.87	0.73
72:SZ:65:TYR:OH	72:SZ:76:ARG:HG2	1.87	0.73
74:Sb:19:HIS:HB3	74:Sb:22:LYS:HG3	1.69	0.73
1:L5:1701:G:H2'	1:L5:1702:A:O4'	1.88	0.73
1:L5:4865:C:H2'	1:L5:4866:U:O4'	1.89	0.73
1:L5:4976:U:O2'	1:L5:4977:G:H5'	1.87	0.73
6:LC:76:ILE:HG13	6:LC:77:PRO:HD2	1.70	0.73
11:LH:63:ASN:O	11:LH:67:LEU:HG	1.89	0.73
46:S2:1378:A:H4'	46:S2:1379:A:O5'	1.87	0.73
54:SG:70:HIS:HE1	54:SG:101:ILE:HG21	1.54	0.73
1:L5:4101:G:H5'	1:L5:4102:C:C5	2.24	0.73
46:S2:640:A:H2'	46:S2:641:A:C8	2.23	0.73
1:L5:948:C:O2'	1:L5:949:G:H5'	1.89	0.73
1:L5:1917:C:O2	15:LM:53:LYS:HE2	1.87	0.73
32:Ld:92:ARG:HA	32:Ld:102:LEU:HD23	1.69	0.73
6:LC:154:VAL:HG11	6:LC:174:LEU:HD11	1.69	0.72
1:L5:740:G:H2'	1:L5:741:C:C6	2.23	0.72
1:L5:3896:C:H2'	1:L5:3897:C:C6	2.24	0.72
9:LF:41:MET:HE2	30:Lb:113:ALA:HB2	1.72	0.72
56:SI:160:SER:O	56:SI:164:GLU:HG3	1.88	0.72
60:SN:16:LEU:HD12	60:SN:17:PRO:HD2	1.70	0.72
1:L5:468:U:H5''	1:L5:469:C:OP1	1.88	0.72
1:L5:4872:C:H2'	1:L5:4873:U:O4'	1.89	0.72
20:LR:137:ILE:HD12	46:S2:392:A:OP2	1.87	0.72
1:L5:2743:G:O2'	1:L5:2744:G:H5'	1.90	0.72
13:LJ:20:LEU:HB3	13:LJ:74:VAL:HG23	1.69	0.72
15:LM:126:GLU:HA	15:LM:126:GLU:OE1	1.89	0.72
1:L5:4577:U:H2'	1:L5:4578:C:C6	2.24	0.72
21:LS:15:ARG:HB3	21:LS:27:LEU:HD23	1.72	0.72
1:L5:1080:C:H2'	1:L5:1081:A:H8	1.54	0.72
1:L5:162:A:H2'	1:L5:163:A:H8	1.54	0.72
1:L5:2257:U:OP1	45:Lr:37:SER:HB2	1.89	0.72
1:L5:3701:PSU:H5''	47:S6:4:G:H21	1.53	0.72
1:L5:3718:A:H2'	1:L5:3719:A:C8	2.25	0.72
54:SG:70:HIS:CE1	54:SG:101:ILE:HG21	2.25	0.72
54:SG:157:VAL:CG2	54:SG:176:ILE:HD11	2.20	0.72
51:SD:59:LEU:HD21	51:SD:88:ALA:HB3	1.70	0.72
1:L5:2616:U:O2	23:LU:89:LYS:HD3	1.90	0.71
2:L7:39:C:H4'	13:LJ:47:THR:HG23	1.72	0.71
3:L8:128:C:H2'	3:L8:129:C:C6	2.25	0.71
13:LJ:158:SER:OG	13:LJ:161:GLU:HG3	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:LM:112:VAL:HG13	17:LO:201:LEU:CD1	2.20	0.71
69:SW:104:LEU:HD23	69:SW:125:ILE:HA	1.71	0.71
1:L5:4445:U:H2'	1:L5:4446:U:C6	2.24	0.71
3:L8:155:C:H2'	3:L8:156:U:H5''	1.72	0.71
25:LW:45:ASN:HB3	25:LW:48:GLN:OE1	1.90	0.71
48:SA:134:LEU:HD22	48:SA:144:THR:HG21	1.71	0.71
55:SH:140:VAL:HG12	60:SN:19:ARG:HD2	1.70	0.71
1:L5:683:C:H2'	1:L5:684:G:O4'	1.89	0.71
1:L5:4523:C:H2'	1:L5:4524:G:H8	1.54	0.71
6:LC:5:ARG:HD2	6:LC:24:LEU:O	1.91	0.71
19:LQ:64:SER:HB3	19:LQ:92:VAL:CG2	2.21	0.71
78:Sg:173:LEU:HD21	78:Sg:189:ILE:HG13	1.72	0.71
38:Lj:83:THR:HG23	38:Lj:84:PRO:HD2	1.73	0.71
46:S2:984:C:O2'	46:S2:985:G:H5'	1.91	0.71
1:L5:4246:U:H2'	1:L5:4247:C:C6	2.26	0.71
49:SB:110:MET:HA	49:SB:113:MET:HE2	1.73	0.71
1:L5:4333:G:O2'	1:L5:4334:A:H5'	1.90	0.71
67:SU:31:SER:O	67:SU:35:VAL:HG23	1.91	0.71
1:L5:1414:C:C2'	1:L5:1415:G:H5'	2.20	0.70
1:L5:4866:U:HO2'	1:L5:4867:U:H5	1.38	0.70
32:Ld:92:ARG:HG3	32:Ld:102:LEU:HD21	1.72	0.70
5:LB:163:ILE:CG2	5:LB:180:LEU:HD21	2.20	0.70
27:LY:76:LYS:HE3	40:Ll:31:THR:HB	1.71	0.70
35:Lg:94:ALA:O	35:Lg:98:GLU:HG3	1.91	0.70
46:S2:158:A:H2'	46:S2:159:A2M:O4'	1.92	0.70
1:L5:4260:A:H2'	1:L5:4261:G:C8	2.25	0.70
1:L5:272:U:H2'	1:L5:273:U:C6	2.27	0.70
1:L5:2621:U:H1'	23:LU:82:TYR:CD1	2.26	0.70
31:Lc:34:THR:HG23	31:Lc:95:ALA:HB2	1.73	0.70
46:S2:164:A:O2'	46:S2:165:G:H5'	1.92	0.70
1:L5:4448:C:O2'	1:L5:4449:U:H5'	1.90	0.70
46:S2:12:U:H2'	46:S2:13:C:C6	2.26	0.70
1:L5:4973:U:H2'	1:L5:5046:A:N7	2.06	0.70
46:S2:563:G:O2'	46:S2:564:A:H5''	1.92	0.70
47:S6:3:C:H2'	47:S6:4:G:C8	2.27	0.70
11:LH:105:ILE:CG2	11:LH:109:GLY:HA2	2.22	0.70
17:LO:8:VAL:HG12	17:LO:117:ARG:HG3	1.74	0.70
1:L5:1889:C:H1'	1:L5:1933:C:O2	1.92	0.70
1:L5:3740:G:C2'	1:L5:3741:G:H5'	2.22	0.70
13:LJ:89:VAL:HG11	13:LJ:109:ILE:HG13	1.74	0.70
47:S6:74:A:O2'	47:S6:75:C:H5'	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1063:G:O2'	1:L5:1064:G:H5'	1.91	0.70
1:L5:93:G:H2'	1:L5:94:A:C8	2.27	0.69
1:L5:162:A:H2'	1:L5:163:A:C8	2.28	0.69
57:SJ:127:ARG:HD3	77:Se:31:ARG:HD3	1.72	0.69
65:SS:11:HIS:C	65:SS:12:ILE:HD12	2.17	0.69
18:LP:94:MET:HE1	18:LP:146:ILE:HB	1.75	0.69
46:S2:1228:A:H2'	46:S2:1229:G:H8	1.55	0.69
46:S2:120:U:H2'	46:S2:121:OMU:H6	1.74	0.69
1:L5:1658:C:H2'	1:L5:1659:C:C6	2.27	0.69
18:LP:94:MET:HG2	18:LP:148:MET:HE3	1.75	0.69
56:SI:103:LEU:HD23	56:SI:172:LEU:HD23	1.73	0.69
1:L5:268:G:H2'	1:L5:269:G:C8	2.28	0.69
1:L5:3707:U:O2'	1:L5:3708:G:H5'	1.92	0.69
11:LH:61:TRP:CH2	15:LM:33:GLN:HG3	2.28	0.69
20:LR:95:TRP:CH2	20:LR:99:MET:HE3	2.28	0.69
33:Le:21:ILE:HD12	33:Le:21:ILE:O	1.93	0.69
46:S2:1381:G:C3'	46:S2:1382:A:H5''	2.22	0.69
46:S2:44:U:HO2'	46:S2:45:A:H2'	1.58	0.69
1:L5:1206:G:O2'	1:L5:1207:G:H5'	1.93	0.69
8:LE:209:PRO:HD2	8:LE:212:LEU:CD1	2.22	0.69
23:LU:60:VAL:O	23:LU:74:SER:HA	1.92	0.69
28:LZ:87:VAL:HG12	28:LZ:127:ASN:HD22	1.58	0.69
46:S2:222:U:O2'	46:S2:223:C:H5'	1.92	0.69
1:L5:2560:U:H2'	1:L5:2561:C:C6	2.28	0.69
1:L5:2830:A:O2'	1:L5:2831:G:H5'	1.93	0.69
2:L7:39:C:H4'	13:LJ:47:THR:CG2	2.22	0.69
46:S2:367:U:H4'	46:S2:371:A:C8	2.27	0.69
46:S2:559:G:O2'	46:S2:560:A:H5''	1.91	0.69
1:L5:1204:C:H3'	1:L5:1205:G:H5'	1.73	0.69
50:SC:94:ILE:HG21	50:SC:162:ILE:HD12	1.74	0.69
71:SY:86:GLU:OE1	71:SY:90:ARG:HD2	1.93	0.69
2:L7:62:U:OP2	7:LD:276:LYS:HE3	1.91	0.68
8:LE:176:THR:HB	8:LE:186:LEU:HD23	1.75	0.68
63:SQ:62:ARG:HD2	63:SQ:108:ILE:CD1	2.23	0.68
1:L5:1350:A:H5'	19:LQ:108:ARG:HH21	1.57	0.68
46:S2:1345:G:H5'	46:S2:1689:C:H5'	1.75	0.68
46:S2:1487:A:H4'	50:SC:118:ALA:HB1	1.73	0.68
1:L5:740:G:H2'	1:L5:741:C:H6	1.58	0.68
1:L5:905:U:H2'	1:L5:906:G:O4'	1.92	0.68
1:L5:2704:G:C2'	1:L5:2705:G:H5'	2.23	0.68
1:L5:4561:G:H3'	83:L5:5412:HOH:O	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LV:99:GLU:OE2	25:LW:24:THR:HG22	1.92	0.68
46:S2:1217:A:H2'	46:S2:1218:C:C6	2.29	0.68
1:L5:4685:U:H1'	1:L5:4686:A:H5''	1.75	0.68
1:L5:1547:C:C2'	1:L5:1548:G:H5'	2.23	0.68
12:LI:35:ASP:O	12:LI:36:LEU:HD23	1.94	0.68
1:L5:1814:G:H2'	1:L5:1816:C:OP2	1.94	0.68
1:L5:4732:C:O2'	1:L5:4733:C:H5'	1.93	0.68
3:L8:133:G:O2'	3:L8:134:G:H5'	1.94	0.68
68:SV:37:ALA:HA	68:SV:50:PHE:HB3	1.74	0.68
1:L5:2704:G:H2'	1:L5:2705:G:H5'	1.76	0.68
1:L5:4580:U:H2'	1:L5:4581:G:C8	2.29	0.68
1:L5:692:A:H2'	1:L5:693:C:C6	2.29	0.68
1:L5:1587:U:OP1	5:LB:243:LYS:HG2	1.93	0.68
13:LJ:15:LEU:HD12	13:LJ:165:TRP:HB2	1.75	0.68
29:La:2:PRO:HG2	29:La:5:LEU:HG	1.74	0.68
46:S2:51:U:H2'	46:S2:52:G:C8	2.29	0.68
46:S2:1091:C:HO2'	69:SW:2:VAL:N	1.91	0.67
3:L8:79:G:O2'	3:L8:80:A:H5'	1.93	0.67
15:LM:62:LEU:HD21	15:LM:82:ILE:HD11	1.74	0.67
46:S2:51:U:H2'	46:S2:52:G:H8	1.58	0.67
1:L5:2529:C:H2'	1:L5:2530:C:C6	2.28	0.67
1:L5:4605:U:H2'	1:L5:4606:OMU:H6	1.76	0.67
45:Lr:84:LYS:HD3	45:Lr:88:ALA:HB1	1.74	0.67
46:S2:928:G:H2'	46:S2:929:G:C8	2.29	0.67
46:S2:1595:U:H2'	46:S2:1596:U:C6	2.30	0.67
49:SB:125:VAL:CG1	49:SB:169:MET:HG2	2.23	0.67
1:L5:121:A:H5''	1:L5:122:U:OP2	1.94	0.67
11:LH:41:ILE:HG22	11:LH:43:VAL:HG13	1.76	0.67
1:L5:1586:C:H5''	1:L5:1587:U:O5'	1.95	0.67
1:L5:4116:C:H2'	1:L5:4117:G:H8	1.59	0.67
2:L7:108:G:O2'	2:L7:109:U:H5'	1.93	0.67
29:La:2:PRO:HD2	29:La:5:LEU:HD12	1.75	0.67
1:L5:216:C:H5'	1:L5:219:G:O2'	1.94	0.67
65:SS:38:ARG:HB3	66:ST:45:LEU:HD21	1.75	0.67
1:L5:3718:A:H2'	1:L5:3719:A:H8	1.59	0.67
2:L7:111:C:H2'	2:L7:112:U:O4'	1.94	0.67
1:L5:1071:C:H3'	1:L5:1072:A:H5''	1.76	0.67
1:L5:1328:C:H2'	1:L5:1329:A:H8	1.60	0.67
1:L5:4903:C:H2'	1:L5:4904:G:H8	1.59	0.67
46:S2:59:U:H5''	46:S2:503:C:N4	2.10	0.67
46:S2:512:A2M:H4'	46:S2:576:A2M:C2	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SC:167:ARG:HB3	50:SC:177:PRO:HB2	1.76	0.67
1:L5:1782:A:H2'	1:L5:1785:C:C5	2.30	0.67
1:L5:2734:A:H2'	1:L5:2735:A:C8	2.29	0.67
1:L5:3659:C:H5	1:L5:4065:C:H4'	1.60	0.67
1:L5:4466:A:H2'	1:L5:4467:U:O4'	1.94	0.67
1:L5:1269:G:H2'	1:L5:1270:A:H5'	1.76	0.66
1:L5:2386:A:C8	1:L5:2804:C:H2'	2.29	0.66
13:LJ:82:ILE:HA	13:LJ:85:LYS:HD3	1.77	0.66
1:L5:1269:G:C2'	1:L5:1270:A:H5'	2.25	0.66
1:L5:4732:C:H2'	1:L5:4733:C:H6	1.59	0.66
44:Lp:8:VAL:O	44:Lp:11:VAL:HG22	1.96	0.66
46:S2:576:A2M:HM'2	46:S2:577:U:H5'	1.77	0.66
46:S2:848:U:H2'	46:S2:849:A:H8	1.61	0.66
46:S2:1365:G:H2'	46:S2:1366:G:C8	2.31	0.66
52:SE:137:PRO:HB2	52:SE:150:PRO:HD2	1.77	0.66
58:SK:38:LYS:O	58:SK:40:VAL:HG23	1.96	0.66
46:S2:1797:U:H2'	46:S2:1798:C:C6	2.31	0.66
65:SS:63:GLU:O	65:SS:67:VAL:HG23	1.96	0.66
1:L5:4876:G:H2'	1:L5:4877:A:H5'	1.76	0.66
46:S2:1533:A:C8	46:S2:1604:G:H1'	2.30	0.66
1:L5:481:G:O2'	1:L5:482:G:H5'	1.96	0.66
1:L5:4732:C:H2'	1:L5:4733:C:C6	2.31	0.66
7:LD:191:ASN:ND2	7:LD:194:VAL:HG23	2.10	0.66
46:S2:1533:A:H2	46:S2:1536:G:N3	1.93	0.66
1:L5:673:C:O2'	1:L5:674:G:H5'	1.95	0.66
1:L5:745:G:H2'	1:L5:746:A:O4'	1.96	0.66
1:L5:1803:C:O2'	1:L5:1804:C:H5'	1.95	0.66
18:LP:54:GLN:HA	18:LP:83:TRP:CD1	2.30	0.66
19:LQ:79:THR:OG1	19:LQ:99:LYS:HD3	1.95	0.66
46:S2:1621:U:OP1	46:S2:1621:U:H2'	1.96	0.66
1:L5:4952:A:H2'	1:L5:4953:A:H8	1.61	0.66
71:SY:72:PHE:CE1	71:SY:74:MET:HE2	2.30	0.66
1:L5:2873:G:H1'	46:S2:1806:A:OP1	1.96	0.66
1:L5:4101:G:O2'	1:L5:4102:C:H5'	1.95	0.66
42:Ln:14:LYS:HE3	46:S2:1172:U:O3'	1.96	0.66
46:S2:1585:U:O4	66:ST:67:NMM:HG2	1.96	0.66
46:S2:1272:C:O2'	46:S2:1273:C:H5'	1.95	0.66
48:SA:19:LEU:HD11	64:SR:106:LEU:HD11	1.78	0.66
1:L5:2711:G:C2'	1:L5:2712:G:H5'	2.25	0.65
1:L5:3707:U:C2'	1:L5:3708:G:H5'	2.26	0.65
46:S2:1487:A:C1'	50:SC:118:ALA:HB1	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1287:G:O2'	1:L5:1288:C:H5'	1.96	0.65
46:S2:1713:C:O2'	46:S2:1714:U:H5'	1.96	0.65
77:Se:36:MET:HE3	77:Se:40:ARG:HH21	1.60	0.65
54:SG:209:TYR:CZ	54:SG:213:LEU:HD13	2.31	0.65
1:L5:1842:G:H2'	1:L5:1843:C:C6	2.31	0.65
46:S2:1657:G:O2'	46:S2:1658:G:H5'	1.96	0.65
55:SH:11:PRO:HG2	55:SH:44:ASN:HD22	1.60	0.65
1:L5:2735:A:H2'	1:L5:2736:A:C8	2.32	0.65
1:L5:4187:G:O2'	1:L5:4188:U:H5'	1.96	0.65
1:L5:4973:U:H3'	1:L5:5046:A:H62	1.62	0.65
5:LB:113:GLU:HG3	5:LB:178:ALA:HB2	1.78	0.65
46:S2:810:A:H5'	46:S2:811:A:OP2	1.95	0.65
46:S2:1130:G:C2'	46:S2:1131:G:H5''	2.24	0.65
46:S2:1277:C:H2'	46:S2:1278:A:H8	1.60	0.65
46:S2:1301:A:H3'	46:S2:1301:A:N3	2.12	0.65
3:L8:120:G:O2'	3:L8:121:G:H5'	1.96	0.65
46:S2:1388:A:H61	51:SD:161:GLY:HA3	1.61	0.65
46:S2:1667:U:H2'	46:S2:1668:U:C6	2.32	0.65
1:L5:56:A:O2'	1:L5:57:G:H5'	1.97	0.65
1:L5:418:A:C2	3:L8:17:A:H1'	2.31	0.65
1:L5:4260:A:H2'	1:L5:4261:G:H8	1.61	0.65
17:LO:118:MET:HE3	21:LS:167:PHE:HB3	1.79	0.65
26:LX:82:THR:O	26:LX:82:THR:HG22	1.96	0.65
46:S2:1631:U:C2'	46:S2:1632:G:H5'	2.26	0.65
46:S2:1653:U:H2'	46:S2:1654:G:C8	2.32	0.65
48:SA:18:PHE:CZ	48:SA:177:MET:HE3	2.31	0.65
49:SB:180:ASP:O	49:SB:184:VAL:HG23	1.97	0.65
78:Sg:83:TRP:HA	78:Sg:107:ASP:HB3	1.77	0.65
1:L5:2560:U:O2'	1:L5:2561:C:H5'	1.97	0.65
46:S2:495:U:H2'	46:S2:496:C:O4'	1.97	0.65
46:S2:1211:G:H2'	46:S2:1212:G:O4'	1.97	0.65
1:L5:2025:A:H2'	1:L5:2026:A:C8	2.32	0.64
11:LH:92:MET:HE2	11:LH:179:ILE:HG22	1.78	0.64
1:L5:74:G:H5'	14:LL:59:VAL:HB	1.79	0.64
1:L5:1304:C:H2'	1:L5:1305:C:C6	2.31	0.64
1:L5:1938:A:H2'	1:L5:1939:A:H8	1.59	0.64
37:Li:26:HIS:O	37:Li:29:ARG:HG2	1.96	0.64
46:S2:59:U:H2'	46:S2:61:A:OP2	1.97	0.64
46:S2:628:A:OP1	46:S2:628:A:H2'	1.97	0.64
1:L5:2659:C:H2'	1:L5:2660:C:O4'	1.98	0.64
1:L5:4236:G:H2'	13:LJ:129:ASP:OD1	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LH:90:TYR:CZ	11:LH:184:LYS:HG2	2.32	0.64
14:LL:170:THR:OG1	14:LL:173:GLU:HG3	1.98	0.64
46:S2:1387:G:H2'	46:S2:1388:A:O4'	1.97	0.64
55:SH:11:PRO:HG2	55:SH:44:ASN:ND2	2.13	0.64
55:SH:79:LEU:HD23	55:SH:94:PHE:CZ	2.32	0.64
63:SQ:62:ARG:CD	63:SQ:108:ILE:HD11	2.28	0.64
1:L5:438:G:O2'	1:L5:439:G:H5'	1.98	0.64
1:L5:2330:C:H4'	6:LC:42:THR:HG23	1.79	0.64
1:L5:4876:G:C2'	1:L5:4877:A:H5'	2.28	0.64
5:LB:224:LYS:HG2	5:LB:340:THR:HG22	1.80	0.64
17:LO:181:ALA:O	17:LO:185:VAL:HG22	1.98	0.64
46:S2:1382:A:H2'	46:S2:1383:A2M:H8	1.79	0.64
1:L5:4592:G:H2'	1:L5:4593:A:C8	2.33	0.64
15:LM:39:ASP:OD1	15:LM:41:PRO:HD3	1.97	0.64
1:L5:3741:G:H2'	1:L5:3742:A:O4'	1.97	0.64
5:LB:173:LEU:HD22	5:LB:342:LYS:HD2	1.78	0.64
51:SD:127:MET:HA	51:SD:127:MET:CE	2.26	0.64
1:L5:3670:G:H2'	1:L5:3671:C:C6	2.32	0.64
1:L5:4987:U:H4'	5:LB:374:PHE:O	1.98	0.64
2:L7:114:U:H4'	7:LD:73:MET:HE1	1.78	0.64
46:S2:344:U:H2'	46:S2:345:U:C6	2.32	0.64
48:SA:9:GLN:OE1	48:SA:9:GLN:HA	1.98	0.64
53:SF:58:ALA:HB3	53:SF:62:ARG:NH2	2.13	0.64
57:SJ:47:LYS:HZ2	57:SJ:47:LYS:HB3	1.63	0.64
70:SX:94:ILE:HD13	70:SX:125:VAL:HG11	1.80	0.64
1:L5:2529:C:H2'	1:L5:2530:C:H6	1.62	0.64
12:LI:73:ASN:O	12:LI:77:VAL:HG23	1.97	0.64
46:S2:464:A:H4'	46:S2:465:A:OP2	1.97	0.64
53:SF:32:ASP:O	53:SF:36:GLN:HG3	1.98	0.64
1:L5:25:A:H2'	1:L5:26:C:H6	1.62	0.64
1:L5:2735:A:H2'	1:L5:2736:A:H8	1.63	0.64
20:LR:137:ILE:HD12	46:S2:392:A:P	2.37	0.64
46:S2:1265:A:H5'	46:S2:1266:C:OP2	1.97	0.64
70:SX:109:GLY:O	70:SX:119:ARG:HD3	1.97	0.63
1:L5:152:U:O3'	16:LN:56:LYS:HE2	1.96	0.63
12:LI:181:PHE:HZ	12:LI:197:VAL:HG21	1.60	0.63
20:LR:137:ILE:HG23	46:S2:392:A:OP1	1.97	0.63
46:S2:1869:A:C4	49:SB:115:LYS:HE3	2.32	0.63
51:SD:135:GLU:HG3	51:SD:153:VAL:HG22	1.79	0.63
46:S2:144:U:O2'	46:S2:145:G:H5'	1.98	0.63
46:S2:153:G:O2'	46:S2:154:U:H5'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:3866:G:H2'	1:L5:3867:G:C8	2.33	0.63
1:L5:4949:C:O2'	1:L5:4950:U:H5'	1.97	0.63
24:LV:13:LYS:HE3	24:LV:128:LEU:CD1	2.27	0.63
64:SR:11:LYS:HA	64:SR:11:LYS:HE3	1.80	0.63
1:L5:741:C:H2'	1:L5:742:G:O4'	1.98	0.63
3:L8:89:U:H2'	3:L8:90:C:C6	2.33	0.63
46:S2:575:A:H2'	46:S2:576:A2M:O4'	1.98	0.63
46:S2:1382:A:H2'	46:S2:1383:A2M:O4'	1.98	0.63
1:L5:1077:U:H1'	1:L5:1211:G:N2	2.14	0.63
1:L5:1560:A:H3'	1:L5:1561:A:C8	2.34	0.63
1:L5:1560:A:H2'	1:L5:1561:A:O4'	1.98	0.63
1:L5:2661:C:OP1	44:Lp:46:LYS:HE2	1.99	0.63
1:L5:2876:U:P	46:S2:1732:G:H4'	2.38	0.63
1:L5:4218:U:H4'	1:L5:4219:A:O4'	1.98	0.63
1:L5:4902:C:O2'	1:L5:4903:C:H5'	1.99	0.63
46:S2:468:A2M:HM'2	46:S2:469:A:H5'	1.80	0.63
58:SK:49:MET:HE1	58:SK:52:LEU:HD12	1.81	0.63
1:L5:916:C:H2'	1:L5:919:C:H4'	1.81	0.63
1:L5:4568:C:O2'	1:L5:4569:C:H5'	1.99	0.63
46:S2:1337:4AC:CM7	46:S2:1337:4AC:H5	2.29	0.63
52:SE:192:ILE:HD13	52:SE:238:LEU:HD13	1.80	0.63
1:L5:325:U:H2'	1:L5:326:C:C6	2.34	0.63
42:Ln:14:LYS:HE3	46:S2:1173:A:P	2.38	0.63
1:L5:1270:A:OP2	1:L5:1270:A:H2'	1.99	0.63
1:L5:3859:G:H2'	1:L5:3860:G:C8	2.34	0.63
1:L5:3866:G:O2'	1:L5:3867:G:H5'	1.99	0.63
3:L8:33:G:H5''	3:L8:34:U:OP1	1.99	0.63
18:LP:94:MET:SD	18:LP:148:MET:HE3	2.39	0.63
46:S2:1711:U:H2'	46:S2:1712:A:H8	1.63	0.63
58:SK:49:MET:HE2	58:SK:49:MET:CA	2.28	0.63
1:L5:2:G:H2'	1:L5:3:C:C6	2.33	0.62
1:L5:674:G:H2'	1:L5:675:C:C6	2.33	0.62
1:L5:2323:G:N7	6:LC:189:MET:HE3	2.14	0.62
11:LH:81:ILE:O	11:LH:85:THR:HG23	1.98	0.62
12:LI:35:ASP:C	12:LI:36:LEU:HD23	2.24	0.62
46:S2:316:G:O2'	46:S2:317:C:H5'	1.99	0.62
1:L5:1746:G:H5'	12:LI:40:LYS:HD3	1.80	0.62
1:L5:2437:U:O2'	1:L5:2438:G:H5'	1.99	0.62
1:L5:4952:A:H2'	1:L5:4953:A:C8	2.34	0.62
2:L7:58:A:H2'	2:L7:59:G:C8	2.33	0.62
2:L7:58:A:H2'	2:L7:59:G:H8	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LG:218:LEU:O	10:LG:222:ILE:HD12	1.98	0.62
42:Ln:24:SER:HB3	46:S2:1718:G:H4'	1.80	0.62
46:S2:562:U:H2'	46:S2:563:G:C8	2.35	0.62
21:LS:16:CYS:SG	21:LS:25:PRO:HB3	2.39	0.62
22:LT:83:LYS:HD2	22:LT:85:LEU:HD21	1.79	0.62
1:L5:143:C:H5''	1:L5:144:G:C5'	2.30	0.62
1:L5:2056:G:O2'	1:L5:2057:U:H5'	1.98	0.62
1:L5:2876:U:OP1	46:S2:1732:G:H4'	2.00	0.62
25:LW:47:ARG:HG2	25:LW:54:LEU:HB3	1.80	0.62
1:L5:23:C:H2'	1:L5:24:G:O4'	1.99	0.62
1:L5:4225:A:H2'	1:L5:4226:G:C8	2.34	0.62
14:LL:180:ALA:O	14:LL:184:MET:HG3	1.98	0.62
28:LZ:115:LYS:HE3	28:LZ:119:GLU:OE2	2.00	0.62
46:S2:124:U:H2'	46:S2:125:C:O4'	1.99	0.62
46:S2:224:A:H2'	46:S2:225:G:C8	2.34	0.62
1:L5:4178:A:H2'	1:L5:4179:C:H6	1.64	0.62
5:LB:87:VAL:HB	5:LB:110:ILE:HD12	1.81	0.62
18:LP:94:MET:CG	18:LP:148:MET:HE3	2.28	0.62
73:Sa:21:ILE:HD13	73:Sa:72:HIS:HB3	1.81	0.62
1:L5:905:U:O2'	1:L5:906:G:H5'	2.00	0.62
23:LU:28:PRO:CB	23:LU:100:LEU:HD21	2.30	0.62
27:LY:41:LYS:HE2	27:LY:42:TYR:CE1	2.34	0.62
46:S2:671:A:H4'	46:S2:672:A:OP1	1.99	0.62
61:SO:75:MET:HE3	61:SO:79:GLN:OE1	1.99	0.62
61:SO:125:LYS:HB3	73:Sa:58:VAL:CG1	2.30	0.62
63:SQ:28:GLY:HA3	63:SQ:67:ASP:OD1	2.00	0.62
1:L5:4977:G:H2'	1:L5:4978:G:N3	2.14	0.62
54:SG:3:LEU:HD12	54:SG:16:ILE:HD11	1.82	0.62
1:L5:1:C:H2'	1:L5:2:G:H8	1.63	0.62
1:L5:268:G:H2'	1:L5:269:G:H8	1.64	0.62
22:LT:45:MET:CE	22:LT:94:GLU:HB3	2.28	0.62
6:LC:76:ILE:HG13	6:LC:77:PRO:CD	2.30	0.62
46:S2:81:U:H2'	46:S2:82:G:O4'	1.99	0.62
49:SB:109:LYS:O	49:SB:113:MET:HG3	1.99	0.62
3:L8:5:U:H2'	3:L8:6:C:H6	1.65	0.61
11:LH:162:GLN:HG3	11:LH:179:ILE:O	1.99	0.61
13:LJ:12:MET:CE	13:LJ:137:PRO:HB2	2.29	0.61
16:LN:138:PHE:HA	16:LN:143:ARG:HD2	1.81	0.61
19:LQ:159:PRO:HA	19:LQ:188:ASN:O	1.99	0.61
46:S2:164:A:C2'	46:S2:165:G:H5'	2.30	0.61
46:S2:512:A2M:CM'	46:S2:513:G:H5'	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:Sg:57:ARG:HD3	78:Sg:95:GLY:HA3	1.81	0.61
1:L5:4060:C:O2'	1:L5:4061:U:H5'	2.00	0.61
46:S2:1238:PSU:O4	46:S2:1242:U:H5	1.84	0.61
46:S2:1409:A:H2'	46:S2:1410:C:C6	2.34	0.61
1:L5:1600:G:H2'	1:L5:1601:G:C8	2.34	0.61
1:L5:4421:U:O2'	1:L5:4422:U:H5'	1.99	0.61
11:LH:27:VAL:HG23	11:LH:80:MET:HE2	1.82	0.61
46:S2:118:C:H1'	46:S2:445:A:C5	2.35	0.61
46:S2:1217:A:H2'	46:S2:1218:C:H6	1.64	0.61
1:L5:711:A:OP1	8:LE:192:LYS:HD2	2.00	0.61
1:L5:904:G:H2'	1:L5:905:U:H6	1.65	0.61
1:L5:1066:C:H2'	1:L5:1067:G:C8	2.35	0.61
1:L5:1080:C:H2'	1:L5:1081:A:C8	2.35	0.61
1:L5:4328:C:O3'	43:Lo:37:GLY:HA3	2.00	0.61
1:L5:4709:A:N3	5:LB:101:THR:HG21	2.15	0.61
1:L5:1414:C:O2'	1:L5:1415:G:H5'	2.00	0.61
1:L5:2405:OMU:HM22	1:L5:2406:G:O4'	2.00	0.61
3:L8:94:G:N3	38:Lj:82:THR:HG23	2.15	0.61
44:Lp:47:MET:HE1	44:Lp:57:CYS:HB2	1.82	0.61
46:S2:392:A:O2'	46:S2:393:U:H5'	2.00	0.61
46:S2:1347:U:H5'	46:S2:1485:U:O2'	2.00	0.61
46:S2:1397:U:O4	63:SQ:12:VAL:HA	1.99	0.61
1:L5:1813:U:H2'	1:L5:1814:G:O4'	2.00	0.61
1:L5:3717:C:O2'	1:L5:3718:A:H5'	2.00	0.61
1:L5:3740:G:H2'	1:L5:3741:G:H5'	1.82	0.61
24:LV:13:LYS:HE3	24:LV:128:LEU:HD11	1.83	0.61
46:S2:16:G:H2'	46:S2:17:C:C6	2.36	0.61
46:S2:616:A:N3	77:Se:12:VAL:HG21	2.16	0.61
46:S2:1388:A:C2	51:SD:205:PRO:HG2	2.36	0.61
52:SE:100:ARG:HH12	52:SE:122:LYS:HA	1.66	0.61
65:SS:5:ILE:HD11	65:SS:9:PHE:CG	2.35	0.61
65:SS:6:PRO:HG2	65:SS:9:PHE:HB2	1.81	0.61
1:L5:2875:A:O3'	46:S2:1732:G:H4'	2.01	0.61
1:L5:3772:U:O2	1:L5:3800:U:H4'	2.01	0.61
46:S2:1220:A:H2'	46:S2:1221:G:O4'	2.01	0.61
46:S2:1289:U:H3	46:S2:1310:U:H3	1.46	0.61
46:S2:1616:U:H2'	46:S2:1617:G:O4'	2.00	0.61
68:SV:1:MET:HB3	68:SV:10:ASP:OD1	2.01	0.61
78:Sg:188:HIS:C	78:Sg:189:ILE:HD12	2.26	0.61
1:L5:1335:U:H2'	1:L5:1336:OMC:C6	2.36	0.61
1:L5:1419:U:O2'	1:L5:1420:G:H5'	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4213:OMU:HM22	1:L5:4214:OMG:O4'	2.00	0.61
1:L5:4592:G:O2'	1:L5:4593:A:H5'	2.01	0.61
1:L5:4895:A:H4'	5:LB:95:THR:HG22	1.81	0.61
13:LJ:99:PHE:CD2	13:LJ:163:MET:HG3	2.36	0.61
14:LL:191:LEU:O	14:LL:195:ARG:HG3	2.00	0.61
46:S2:29:G:H2'	46:S2:30:C:C6	2.36	0.61
46:S2:1474:A:H2'	46:S2:1475:G:O4'	2.00	0.61
46:S2:1712:A:H2'	46:S2:1713:C:C6	2.36	0.61
72:SZ:68:ILE:HB	72:SZ:109:TYR:HB2	1.82	0.61
1:L5:727:C:O2'	1:L5:728:U:H5'	2.01	0.61
49:SB:125:VAL:HG13	49:SB:169:MET:HG2	1.80	0.61
52:SE:173:ILE:HD11	52:SE:235:TRP:CE3	2.34	0.61
69:SW:30:CYS:SG	69:SW:61:ILE:HD11	2.41	0.61
1:L5:108:A:H4'	1:L5:109:G:OP1	2.01	0.61
1:L5:4488:C:H2'	1:L5:4489:A:H5'	1.82	0.61
46:S2:218:U:H2'	46:S2:219:U:C6	2.36	0.61
1:L5:953:G:C8	8:LE:123:ARG:HG2	2.36	0.60
1:L5:1817:G:H21	1:L5:1818:U:C5'	2.13	0.60
1:L5:2630:G:H2'	1:L5:2631:A:C8	2.36	0.60
46:S2:215:G:H2'	46:S2:216:C:H6	1.65	0.60
46:S2:344:U:H2'	46:S2:345:U:H6	1.66	0.60
60:SN:53:ILE:HD13	74:Sb:52:THR:HG21	1.81	0.60
1:L5:271:C:O2'	1:L5:272:U:H5'	2.01	0.60
1:L5:1500:G:H2'	1:L5:1501:C:C6	2.36	0.60
1:L5:1817:G:H21	1:L5:1818:U:H5'	1.64	0.60
1:L5:3896:C:H2'	1:L5:3897:C:H6	1.66	0.60
32:Ld:101:LYS:O	32:Ld:102:LEU:HD23	2.02	0.60
46:S2:319:C:H2'	46:S2:320:G:O4'	2.02	0.60
1:L5:2711:G:O2'	1:L5:2712:G:H5'	2.01	0.60
5:LB:163:ILE:HG23	5:LB:180:LEU:HD21	1.84	0.60
28:LZ:120:GLU:O	28:LZ:124:THR:HG23	2.00	0.60
46:S2:1621:U:OP2	46:S2:1621:U:H6	1.83	0.60
1:L5:3694:C:O2'	1:L5:3695:U:H5'	2.00	0.60
1:L5:4403:C:H2'	1:L5:4408:G:O4'	2.00	0.60
1:L5:4894:A:O4'	1:L5:4897:G:H1'	2.02	0.60
5:LB:258:HIS:HA	5:LB:259:PRO:C	2.27	0.60
46:S2:392:A:C2'	46:S2:393:U:H5'	2.31	0.60
46:S2:1568:C:H2'	46:S2:1569:A:C8	2.37	0.60
71:SY:57:VAL:HB	71:SY:60:PHE:HE2	1.66	0.60
1:L5:915:C:O2'	1:L5:916:C:H5'	2.02	0.60
5:LB:224:LYS:HG2	5:LB:340:THR:CG2	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LJ:99:PHE:CE2	13:LJ:163:MET:HA	2.36	0.60
1:L5:4102:C:H4'	1:L5:4103:U:OP2	2.01	0.60
32:Ld:93:ASN:HB2	32:Ld:103:TYR:HD2	1.66	0.60
46:S2:656:G:H5'	46:S2:662:G:N2	2.17	0.60
46:S2:1409:A:H2'	46:S2:1410:C:H6	1.66	0.60
63:SQ:107:GLU:O	63:SQ:111:ILE:HG13	2.02	0.60
1:L5:119:G:H3'	1:L5:120:A:H5''	1.83	0.60
1:L5:1613:G:H1'	1:L5:2503:A:N6	2.17	0.60
1:L5:4116:C:H2'	1:L5:4117:G:C8	2.35	0.60
46:S2:1520:G:N3	46:S2:1520:G:H2'	2.16	0.60
46:S2:1603:G:O6	65:SS:25:LYS:HG3	2.02	0.60
46:S2:1784:G:O2'	46:S2:1785:C:H5'	2.02	0.60
71:SY:110:ARG:HG2	71:SY:110:ARG:HH11	1.67	0.60
78:Sg:173:LEU:CD2	78:Sg:189:ILE:HG13	2.32	0.60
1:L5:166:C:H2'	1:L5:167:C:C6	2.37	0.60
1:L5:1945:U:O2'	1:L5:1946:U:H5'	2.01	0.60
11:LH:95:VAL:O	11:LH:177:ASP:HA	2.02	0.60
46:S2:612:U:H4'	77:Se:15:GLN:OE1	2.02	0.60
1:L5:1723:U:O2'	1:L5:1724:U:H5'	2.02	0.59
1:L5:2282:C:H2'	1:L5:2283:U:C6	2.38	0.59
51:SD:172:VAL:HG22	51:SD:185:LYS:HG2	1.84	0.59
53:SF:122:ARG:HG2	75:Sc:57:THR:HG21	1.83	0.59
1:L5:1207:G:H2'	1:L5:1210:C:H5'	1.84	0.59
2:L7:55:A:H4'	13:LJ:155:HIS:HB2	1.84	0.59
46:S2:1109:C:N3	64:SR:126:MET:HG3	2.16	0.59
46:S2:1381:G:H2'	46:S2:1382:A:O4'	2.02	0.59
56:SI:106:SER:HB3	56:SI:171:LEU:HG	1.82	0.59
1:L5:1064:G:O2'	1:L5:1065:C:H5'	2.01	0.59
12:LI:181:PHE:HZ	12:LI:197:VAL:CG2	2.15	0.59
15:LM:2:VAL:HG23	15:LM:3:PHE:N	2.17	0.59
33:Le:35:TRP:CZ2	33:Le:56:PRO:HD2	2.37	0.59
1:L5:1341:A:H2'	1:L5:1342:C:C6	2.38	0.59
1:L5:3929:A:H2'	1:L5:3930:G:O4'	2.01	0.59
46:S2:439:A:O2'	46:S2:440:G:H5'	2.03	0.59
46:S2:464:A:H5''	46:S2:465:A:N7	2.17	0.59
51:SD:118:ALA:O	51:SD:122:VAL:HG23	2.03	0.59
58:SK:27:VAL:HB	58:SK:43:LEU:HD13	1.83	0.59
11:LH:82:LYS:HE3	11:LH:88:PHE:CE1	2.37	0.59
46:S2:44:U:H2'	83:S2:2018:HOH:O	2.01	0.59
51:SD:29:LEU:HD23	51:SD:65:ARG:NH2	2.14	0.59
54:SG:135:PRO:HB2	54:SG:141:ILE:HG13	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SZ:90:GLU:O	72:SZ:94:LYS:HG3	2.03	0.59
1:L5:2592:G:H2'	1:L5:2593:C:C6	2.38	0.59
49:SB:164:ILE:HG23	49:SB:201:CYS:SG	2.43	0.59
1:L5:4735:C:H2'	1:L5:4736:G:O4'	2.03	0.59
83:L5:6156:HOH:O	9:LF:205:ASN:HB3	2.02	0.59
5:LB:122:TRP:CH2	5:LB:127:LYS:HG2	2.36	0.59
6:LC:13:GLU:HG2	6:LC:155:GLU:OE2	2.02	0.59
29:La:76:ASP:HB3	29:La:115:GLY:HA3	1.83	0.59
46:S2:377:G:H5'	56:SI:98:LYS:HB3	1.85	0.59
55:SH:100:ILE:HG12	55:SH:125:VAL:HG21	1.85	0.59
1:L5:2509:U:H1'	1:L5:2510:C:C6	2.38	0.59
1:L5:4748:A:O2'	1:L5:4749:U:H5'	2.03	0.59
38:Lj:64:MET:O	38:Lj:68:LYS:HG2	2.02	0.59
46:S2:1828:C:H2'	46:S2:1829:G:O4'	2.03	0.59
68:SV:38:GLU:HG3	68:SV:50:PHE:HA	1.83	0.59
7:LD:191:ASN:HD22	7:LD:194:VAL:HG23	1.67	0.59
46:S2:145:G:H2'	46:S2:146:G:H8	1.68	0.59
49:SB:120:MET:HB2	49:SB:142:PHE:CD2	2.38	0.59
59:SL:80:MET:HG2	59:SL:86:ILE:HG22	1.85	0.59
1:L5:1717:G:H2'	1:L5:1718:C:C6	2.38	0.59
1:L5:2518:G:H2'	1:L5:2519:A:O4'	2.03	0.59
24:LV:29:ALA:O	24:LV:118:THR:HG22	2.02	0.59
32:Ld:63:ARG:HD2	32:Ld:103:TYR:CD1	2.38	0.59
38:Lj:31:LYS:HB3	38:Lj:33:THR:HG22	1.84	0.59
78:Sg:87:LEU:HD21	78:Sg:122:SER:HB3	1.85	0.59
1:L5:444:G:O2'	1:L5:445:U:H5'	2.03	0.58
1:L5:4224:G:H2'	1:L5:4225:A:C8	2.38	0.58
1:L5:4378:OMG:H2'	1:L5:4433:5MC:HM51	1.85	0.58
3:L8:21:C:O2'	3:L8:22:U:H5'	2.03	0.58
46:S2:1447:OMG:O2'	46:S2:1448:A:H5'	2.03	0.58
56:SI:70:GLU:HB3	56:SI:112:TRP:CH2	2.38	0.58
61:SO:113:GLN:NE2	73:Sa:45:VAL:HA	2.17	0.58
1:L5:1328:C:H2'	1:L5:1329:A:C8	2.37	0.58
1:L5:4903:C:H2'	1:L5:4904:G:C8	2.37	0.58
16:LN:121:VAL:HG11	16:LN:131:GLU:HG3	1.84	0.58
46:S2:529:A:H2'	46:S2:530:U:C6	2.37	0.58
46:S2:1531:A:H2'	46:S2:1532:C:C6	2.37	0.58
54:SG:190:ARG:NH1	54:SG:194:LEU:HD21	2.18	0.58
9:LF:35:LYS:O	9:LF:39:GLN:HG2	2.03	0.58
13:LJ:35:ARG:O	13:LJ:39:VAL:HG23	2.03	0.58
37:Li:63:VAL:O	37:Li:63:VAL:HG12	2.01	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:845:G:H2'	46:S2:846:G:O4'	2.03	0.58
46:S2:945:U:H2'	46:S2:946:U:C6	2.39	0.58
46:S2:1545:A:H2'	46:S2:1546:G:C8	2.38	0.58
48:SA:198:MET:HG2	48:SA:199:PRO:HD2	1.85	0.58
38:Lj:39:TYR:CD1	38:Lj:40:PRO:HA	2.39	0.58
46:S2:340:C:H2'	46:S2:341:C:C6	2.39	0.58
1:L5:2438:G:H2'	1:L5:2439:A:C8	2.38	0.58
11:LH:61:TRP:CZ3	15:LM:33:GLN:HG3	2.37	0.58
46:S2:1733:U:H2'	46:S2:1734:G:O4'	2.02	0.58
59:SL:80:MET:HG2	59:SL:86:ILE:CG2	2.32	0.58
1:L5:1084:G:O2'	1:L5:1085:C:H5'	2.03	0.58
1:L5:2873:G:O2'	1:L5:2874:G:H5'	2.03	0.58
1:L5:3722:A:H2'	1:L5:3723:A:C8	2.39	0.58
1:L5:4988:U:H2'	1:L5:4989:C:C6	2.38	0.58
4:LA:80:GLU:HG2	44:Lp:76:ALA:HB1	1.84	0.58
5:LB:185:VAL:O	5:LB:193:LYS:HD3	2.03	0.58
46:S2:107:A:H2'	46:S2:108:G:H8	1.64	0.58
46:S2:1223:A:H2'	46:S2:1224:G:O4'	2.03	0.58
1:L5:706:C:O2'	1:L5:707:C:H5'	2.04	0.58
1:L5:2455:C:H2'	1:L5:2456:G:O4'	2.03	0.58
46:S2:1859:A:O2'	46:S2:1860:A:H5'	2.03	0.58
1:L5:4558:U:H2'	1:L5:4559:G:C8	2.39	0.58
8:LE:268:GLN:O	8:LE:272:ARG:HG3	2.03	0.58
49:SB:120:MET:HB2	49:SB:142:PHE:CE2	2.39	0.58
1:L5:1842:G:H2'	1:L5:1843:C:H6	1.69	0.58
46:S2:102:A:H4'	46:S2:104:A:C8	2.39	0.58
46:S2:333:G:O2'	46:S2:334:C:H5'	2.03	0.58
49:SB:68:GLU:OE1	49:SB:83:LYS:HE3	2.04	0.58
1:L5:4237:A:C5'	13:LJ:108:GLY:HA3	2.32	0.58
46:S2:164:A:H3'	46:S2:165:G:N2	2.17	0.58
51:SD:164:VAL:HG13	51:SD:168:VAL:HG21	1.86	0.58
1:L5:3926:U:H4'	10:LG:75:LYS:HZ1	1.68	0.57
3:L8:66:A:H2'	3:L8:67:U:C6	2.38	0.57
5:LB:220:ILE:HG12	5:LB:278:THR:HG23	1.85	0.57
78:Sg:157:SER:HB2	78:Sg:164:ILE:CD1	2.34	0.57
1:L5:3920:G:H2'	1:L5:3921:C:C6	2.40	0.57
10:LG:160:ASP:O	10:LG:187:LYS:HD3	2.03	0.57
46:S2:12:U:H2'	46:S2:13:C:H6	1.68	0.57
46:S2:483:C:H2'	46:S2:484:A2M:O4'	2.04	0.57
48:SA:85:ARG:HD3	48:SA:203:PHE:O	2.04	0.57
1:L5:2626:U:O2'	1:L5:2627:U:H5'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LB:355:THR:O	5:LB:360:LEU:HD11	2.04	0.57
46:S2:116:OMU:O5'	46:S2:116:OMU:H6	2.04	0.57
46:S2:560:A:C2'	46:S2:561:A:H5'	2.35	0.57
46:S2:1740:C:H2'	46:S2:1741:U:C6	2.39	0.57
1:L5:1245:G:O6	30:Lb:90:SER:HA	2.04	0.57
1:L5:4224:G:H2'	1:L5:4225:A:H8	1.69	0.57
46:S2:101:U:H5''	56:SI:19:LYS:HE2	1.86	0.57
46:S2:394:G:H5'	59:SL:81:LYS:CB	2.35	0.57
46:S2:860:G:H2'	46:S2:861:A:O4'	2.04	0.57
46:S2:1139:C:H2'	46:S2:1140:G:O4'	2.04	0.57
46:S2:1628:C:H2'	46:S2:1629:C:C6	2.39	0.57
1:L5:4244:C:O2'	1:L5:4245:C:H5'	2.03	0.57
4:LA:137:ILE:HD11	4:LA:149:LYS:HB2	1.85	0.57
46:S2:527:C:O2'	46:S2:528:A:H5'	2.04	0.57
69:SW:97:ARG:HG2	69:SW:97:ARG:HH11	1.70	0.57
1:L5:1456:C:H5''	19:LQ:144:LYS:HG2	1.87	0.57
9:LF:60:GLU:O	9:LF:64:MET:HG3	2.04	0.57
10:LG:87:LEU:HD11	10:LG:182:CYS:SG	2.44	0.57
28:LZ:50:PRO:HD3	28:LZ:68:ILE:HG12	1.86	0.57
46:S2:1733:U:C2'	46:S2:1734:G:H5'	2.35	0.57
52:SE:173:ILE:HD11	52:SE:235:TRP:CD2	2.39	0.57
1:L5:2621:U:H1'	23:LU:82:TYR:CG	2.40	0.57
1:L5:4685:U:H4'	1:L5:4686:A:OP1	2.05	0.57
5:LB:113:GLU:OE1	5:LB:167:GLN:HA	2.04	0.57
36:Lh:53:SER:O	36:Lh:57:VAL:HG23	2.05	0.57
46:S2:1712:A:H2'	46:S2:1713:C:H6	1.70	0.57
63:SQ:51:LEU:HD11	63:SQ:81:ILE:CD1	2.35	0.57
1:L5:471:A:H2'	1:L5:472:C:C6	2.39	0.57
1:L5:1066:C:H2'	1:L5:1067:G:H8	1.68	0.57
1:L5:1210:C:H2'	1:L5:1211:G:O4'	2.05	0.57
1:L5:1586:C:H4'	1:L5:1587:U:OP2	2.03	0.57
1:L5:1734:A:O2'	1:L5:1735:G:H5'	2.05	0.57
1:L5:4488:C:C2'	1:L5:4489:A:H5'	2.35	0.57
2:L7:33:U:O2	7:LD:207:TYR:HB2	2.04	0.57
12:LI:48:LEU:O	12:LI:139:ARG:HA	2.05	0.57
24:LV:16:ILE:HD12	24:LV:17:SER:O	2.05	0.57
28:LZ:3:LYS:HE2	28:LZ:30:ASP:OD1	2.05	0.57
46:S2:857:U:H2'	46:S2:858:A:C8	2.40	0.57
46:S2:1487:A:H4'	50:SC:118:ALA:O	2.04	0.57
49:SB:173:THR:O	49:SB:177:GLN:HG2	2.04	0.57
66:ST:76:THR:HG21	66:ST:97:LYS:HG2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:454:U:O2'	1:L5:455:C:H5'	2.04	0.57
1:L5:1775:PSU:H2'	1:L5:1776:A:C8	2.40	0.57
1:L5:4490:C:H2'	1:L5:4491:C:H6	1.66	0.57
46:S2:1533:A:N3	46:S2:1533:A:H2'	2.18	0.57
46:S2:1639:G7M:H2'	46:S2:1640:A:C8	2.40	0.57
46:S2:1705:C:H2'	46:S2:1706:G:C8	2.40	0.57
48:SA:117:ARG:HG3	48:SA:119:PRO:HD3	1.87	0.57
56:SI:48:VAL:HG11	56:SI:54:LYS:HD2	1.85	0.57
78:Sg:290:ALA:O	78:Sg:298:LEU:HD12	2.05	0.57
1:L5:1245:G:C8	30:Lb:95:ARG:HG3	2.39	0.57
1:L5:2544:U:H5'	1:L5:2545:G:OP1	2.05	0.57
1:L5:2635:G:O2'	1:L5:2636:C:H5'	2.05	0.57
1:L5:2747:A:O2'	1:L5:2748:G:H5'	2.05	0.57
1:L5:4348:A:O2'	1:L5:4349:A:H5'	2.05	0.57
8:LE:117:PRO:HG2	8:LE:120:ASP:OD1	2.05	0.57
46:S2:805:U:O2'	46:S2:806:U:H5'	2.04	0.57
48:SA:76:VAL:HG23	48:SA:98:PRO:HA	1.87	0.57
51:SD:127:MET:HE2	51:SD:127:MET:CA	2.28	0.57
59:SL:61:PRO:HA	59:SL:66:VAL:CG2	2.34	0.57
71:SY:119:GLY:O	71:SY:122:LYS:HG3	2.05	0.57
1:L5:1663:G:H5'	1:L5:1684:G:OP1	2.05	0.56
1:L5:2592:G:H2'	1:L5:2593:C:H6	1.70	0.56
2:L7:28:C:H2'	2:L7:29:C:H5'	1.87	0.56
46:S2:340:C:H2'	46:S2:341:C:H6	1.68	0.56
51:SD:127:MET:CE	51:SD:131:ALA:HB3	2.35	0.56
56:SI:57:ALA:HB2	56:SI:183:GLY:HA2	1.86	0.56
78:Sg:174:VAL:HB	78:Sg:188:HIS:HB2	1.87	0.56
1:L5:2601:A:C5'	1:L5:2678:G:H4'	2.32	0.56
11:LH:62:GLY:HA2	11:LH:66:GLU:OE1	2.04	0.56
12:LI:197:VAL:HG12	12:LI:198:LYS:N	2.18	0.56
20:LR:134:ASN:OD1	20:LR:137:ILE:HG12	2.05	0.56
46:S2:806:U:O2'	46:S2:807:G:H5'	2.06	0.56
51:SD:135:GLU:HG3	51:SD:153:VAL:HG23	1.87	0.56
1:L5:677:G:H2'	1:L5:678:C:C6	2.40	0.56
1:L5:1862:U:H2'	1:L5:1863:A:O4'	2.05	0.56
1:L5:3898:U:O2'	1:L5:3899:G:H5'	2.05	0.56
2:L7:33:U:O2'	2:L7:34:C:H5'	2.05	0.56
17:LO:22:ILE:CD1	17:LO:120:VAL:CG1	2.79	0.56
46:S2:468:A2M:HM'2	46:S2:469:A:C4'	2.35	0.56
46:S2:940:U:H2'	46:S2:941:C:C6	2.41	0.56
46:S2:996:A:H2'	46:S2:997:A:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1086:G:O2'	46:S2:1087:A:H5'	2.05	0.56
46:S2:1148:A:H4'	46:S2:1149:A:O4'	2.06	0.56
46:S2:1189:A:OP1	70:SX:28:LYS:HD3	2.05	0.56
46:S2:1264:C:H4'	46:S2:1265:A:O4'	2.04	0.56
55:SH:69:LEU:HD13	55:SH:96:ALA:HB2	1.86	0.56
61:SO:146:ARG:HB2	73:Sa:29:CYS:SG	2.45	0.56
74:Sb:31:TYR:CD1	74:Sb:81:ARG:HG2	2.41	0.56
1:L5:1058:C:O2	1:L5:1058:C:H2'	2.05	0.56
1:L5:1457:C:H2'	1:L5:1458:A:H8	1.71	0.56
1:L5:1573:G:H5'	1:L5:1574:U:H5''	1.88	0.56
1:L5:2756:A:H2'	1:L5:2757:U:O4'	2.04	0.56
1:L5:2866:OMG:HM22	1:L5:2867:G:O5'	2.05	0.56
1:L5:3759:U:H2'	1:L5:3761:A:OP2	2.05	0.56
51:SD:69:LEU:O	51:SD:73:VAL:HG23	2.05	0.56
1:L5:1468:C:H2'	1:L5:1469:U:H6	1.70	0.56
1:L5:1508:G:O2'	1:L5:1509:U:H5'	2.06	0.56
28:LZ:25:ILE:HA	28:LZ:43:VAL:HG12	1.86	0.56
32:Ld:33:ILE:HG22	32:Ld:44:ARG:HG3	1.87	0.56
47:S6:3:C:H2'	47:S6:4:G:H8	1.68	0.56
75:Sc:40:ARG:HH21	75:Sc:42:ILE:HG23	1.71	0.56
78:Sg:245:ARG:NH2	78:Sg:312:VAL:HG11	2.21	0.56
1:L5:385:A:N3	1:L5:387:G:H5''	2.21	0.56
1:L5:4227:C:O2'	1:L5:4228:U:H5'	2.06	0.56
1:L5:4510:G:OP2	1:L5:4510:G:H4'	2.05	0.56
1:L5:4736:G:H2'	1:L5:4737:G:C8	2.40	0.56
32:Ld:25:TYR:O	32:Ld:85:ARG:HD2	2.06	0.56
46:S2:115:U:H2'	46:S2:116:OMU:C6	2.36	0.56
46:S2:874:G:H2'	46:S2:875:A:H8	1.69	0.56
50:SC:206:SER:HB3	50:SC:224:THR:HG21	1.86	0.56
1:L5:2640:G:O2'	1:L5:2641:C:H5'	2.04	0.56
1:L5:5003:C:OP1	56:SI:93:THR:HA	2.05	0.56
3:L8:29:G:O2'	3:L8:30:U:H5'	2.05	0.56
6:LC:266:THR:O	6:LC:267:TRP:HB2	2.05	0.56
48:SA:39:TYR:CD1	64:SR:105:MET:HB2	2.40	0.56
1:L5:650:C:H2'	1:L5:651:C:C6	2.40	0.56
1:L5:4756:U:H2'	1:L5:4846:C:C6	2.41	0.56
3:L8:144:U:H2'	3:L8:145:C:C6	2.41	0.56
17:LO:81:TRP:CZ2	17:LO:99:LEU:HD21	2.41	0.56
54:SG:187:HIS:O	54:SG:191:ARG:HG3	2.05	0.56
1:L5:677:G:H2'	1:L5:678:C:H6	1.71	0.56
1:L5:1468:C:H2'	1:L5:1469:U:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1547:C:H2'	1:L5:1548:G:H5'	1.88	0.56
1:L5:1658:C:H2'	1:L5:1659:C:H6	1.70	0.56
1:L5:2883:U:O2'	1:L5:2884:A:H5'	2.06	0.56
1:L5:3857:A:H2'	1:L5:3858:A:C8	2.41	0.56
1:L5:4233:G:O2'	1:L5:4234:A:H5'	2.05	0.56
8:LE:150:LEU:HD11	8:LE:164:PHE:HB2	1.86	0.56
9:LF:226:HIS:ND1	9:LF:228:VAL:HG22	2.20	0.56
24:LV:85:ARG:HG2	24:LV:85:ARG:HH11	1.69	0.56
31:Lc:28:VAL:HG13	31:Lc:97:ILE:HD11	1.88	0.56
46:S2:1383:A2M:H5''	51:SD:156:LEU:CD2	2.36	0.56
56:SI:38:ILE:HA	56:SI:60:LEU:O	2.06	0.56
56:SI:41:ARG:CZ	56:SI:43:ILE:HD12	2.35	0.56
67:SU:54:VAL:HB	67:SU:88:LEU:HB2	1.87	0.56
1:L5:116:G:H2'	1:L5:117:C:C6	2.40	0.56
1:L5:438:G:C2'	1:L5:439:G:H5'	2.35	0.56
1:L5:2709:C:O2'	1:L5:2710:C:H5'	2.04	0.56
1:L5:4605:U:H2'	1:L5:4606:OMU:C6	2.36	0.56
15:LM:9:VAL:HG21	15:LM:66:HIS:HB3	1.87	0.56
54:SG:135:PRO:HB3	54:SG:140:ARG:HB3	1.88	0.56
1:L5:1800:A:H4'	1:L5:1801:A:O5'	2.06	0.55
1:L5:4225:A:H2'	1:L5:4226:G:H8	1.71	0.55
20:LR:70:ARG:HG3	20:LR:70:ARG:HH11	1.71	0.55
20:LR:104:ARG:O	20:LR:108:ARG:HD2	2.06	0.55
46:S2:1845:A:H2'	46:S2:1846:G:C8	2.40	0.55
49:SB:48:LEU:HD23	49:SB:48:LEU:H	1.71	0.55
1:L5:505:G:H2'	1:L5:506:C:H6	1.71	0.55
1:L5:4534:A:H3'	1:L5:4534:A:N3	2.21	0.55
5:LB:168:MET:HG2	5:LB:178:ALA:HA	1.88	0.55
16:LN:60:VAL:CG2	16:LN:134:LEU:HB2	2.36	0.55
46:S2:557:U:O2'	46:S2:558:G:H5'	2.07	0.55
46:S2:559:G:HO2'	46:S2:560:A:H5''	1.69	0.55
67:SU:56:MET:HG3	67:SU:86:LYS:HE3	1.88	0.55
71:SY:110:ARG:HG2	71:SY:110:ARG:NH1	2.21	0.55
1:L5:1329:A:H2'	1:L5:1330:A:C8	2.42	0.55
1:L5:1498:G:O6	19:LQ:90:VAL:HG22	2.06	0.55
1:L5:2069:C:H5'	9:LF:213:LEU:O	2.06	0.55
60:SN:29:THR:O	60:SN:33:VAL:HG23	2.06	0.55
1:L5:673:C:H2'	1:L5:674:G:H8	1.71	0.55
1:L5:1457:C:H2'	1:L5:1458:A:C8	2.42	0.55
3:L8:7:U:H2'	3:L8:8:U:C6	2.42	0.55
46:S2:1292:C:H2'	46:S2:1293:A:O4'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1900:G:O2'	1:L5:1901:U:H5'	2.07	0.55
8:LE:206:VAL:HG22	8:LE:256:GLN:HB3	1.88	0.55
46:S2:509:OMG:OP1	57:SJ:2:PRO:HB3	2.06	0.55
46:S2:861:A:C6	55:SH:106:ARG:HD2	2.41	0.55
46:S2:1383:A2M:H2'	46:S2:1384:C:O4'	2.06	0.55
46:S2:1711:U:H2'	46:S2:1712:A:C8	2.41	0.55
77:Se:36:MET:HE3	77:Se:40:ARG:NH2	2.21	0.55
1:L5:3897:C:H2'	1:L5:3898:U:H6	1.70	0.55
46:S2:502:C:O4'	52:SE:66:MET:HG3	2.05	0.55
46:S2:1786:U:O2'	46:S2:1787:G:H5'	2.07	0.55
51:SD:175:VAL:HG21	51:SD:184:ILE:HD11	1.87	0.55
1:L5:3649:A:N3	1:L5:3649:A:H2'	2.21	0.55
1:L5:4178:A:H2'	1:L5:4179:C:C6	2.42	0.55
1:L5:4512:U:O2'	1:L5:4513:G:H5'	2.07	0.55
17:LO:185:VAL:O	17:LO:189:ILE:HG12	2.07	0.55
46:S2:963:A:H2'	46:S2:964:A:C8	2.41	0.55
46:S2:1019:C:O2'	46:S2:1020:A:H5'	2.06	0.55
48:SA:143:PRO:HB2	68:SV:34:MET:CE	2.37	0.55
61:SO:72:TYR:OH	61:SO:76:LEU:HD11	2.06	0.55
1:L5:4858:G:H4'	1:L5:4859:A:OP2	2.07	0.55
8:LE:178:PRO:HB3	8:LE:254:ASP:CG	2.32	0.55
31:Lc:29:LEU:HD11	31:Lc:87:LYS:HE3	1.89	0.55
49:SB:168:MET:HG2	49:SB:197:ILE:HG21	1.87	0.55
66:ST:42:HIS:HB3	66:ST:83:GLN:HB2	1.89	0.55
70:SX:88:ASP:OD1	77:Se:10:GLY:HA2	2.07	0.55
1:L5:4056:U:H2'	1:L5:4057:U:C6	2.41	0.55
10:LG:143:VAL:O	10:LG:147:VAL:HG23	2.07	0.55
27:LY:34:LEU:HD12	27:LY:44:VAL:O	2.07	0.55
45:Lr:84:LYS:HD3	45:Lr:88:ALA:CB	2.37	0.55
46:S2:1053:C:O2'	46:S2:1054:G:H5'	2.07	0.55
46:S2:1201:U:H2'	46:S2:1202:U:C6	2.42	0.55
48:SA:120:ARG:NH2	50:SC:267:GLN:HB2	2.22	0.55
68:SV:62:MET:HG3	68:SV:64:GLU:HG2	1.88	0.55
71:SY:117:VAL:O	71:SY:122:LYS:HG2	2.07	0.55
1:L5:143:C:H5''	1:L5:144:G:H5'	1.88	0.55
1:L5:668:C:OP2	6:LC:6:PRO:HG3	2.06	0.55
1:L5:1464:C:H2'	1:L5:1465:C:C6	2.42	0.55
1:L5:4866:U:O2'	1:L5:4867:U:H5	1.88	0.55
4:LA:80:GLU:HG2	44:Lp:76:ALA:CB	2.37	0.55
11:LH:93:ARG:HG2	11:LH:182:SER:OG	2.06	0.55
46:S2:595:U:O2'	46:S2:596:U:H5'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:662:G:H4'	46:S2:663:C:OP1	2.07	0.55
46:S2:875:A:H2'	46:S2:876:C:C6	2.41	0.55
46:S2:1690:U:H2'	46:S2:1691:U:C6	2.42	0.55
61:SO:61:LYS:HE2	61:SO:61:LYS:HA	1.89	0.55
1:L5:4361:C:H5''	1:L5:4362:A:OP1	2.07	0.54
1:L5:4443:PSU:H1'	5:LB:252:ALA:CB	2.36	0.54
46:S2:678:U:H2'	46:S2:679:A:H8	1.72	0.54
46:S2:1454:A:H5''	64:SR:3:ARG:HD2	1.88	0.54
1:L5:4154:G:H2'	1:L5:4155:G:H5'	1.89	0.54
25:LW:47:ARG:HH11	25:LW:54:LEU:HD13	1.72	0.54
28:LZ:87:VAL:HG12	28:LZ:127:ASN:ND2	2.22	0.54
46:S2:674:C:H2'	46:S2:675:U:C6	2.42	0.54
46:S2:1724:A:H2'	46:S2:1725:U:O4'	2.08	0.54
56:SI:76:THR:HG21	56:SI:104:ILE:HB	1.90	0.54
1:L5:468:U:O3'	1:L5:469:C:H6	1.90	0.54
1:L5:717:U:H2'	1:L5:718:C:C6	2.42	0.54
1:L5:3909:A:H2'	1:L5:3910:C:C6	2.42	0.54
1:L5:4755:G:H5''	17:LO:176:ARG:HD3	1.89	0.54
13:LJ:15:LEU:HD22	13:LJ:157:ILE:CD1	2.38	0.54
18:LP:128:ARG:HH11	18:LP:136:ILE:HD13	1.72	0.54
36:Lh:88:THR:O	36:Lh:92:ARG:HG3	2.07	0.54
46:S2:1362:U:C4'	46:S2:1371:U:H3	2.07	0.54
55:SH:45:ILE:O	55:SH:45:ILE:HG13	2.08	0.54
56:SI:90:LEU:HD21	83:SI:302:HOH:O	2.07	0.54
78:Sg:112:ALA:HB3	78:Sg:121:VAL:HG12	1.89	0.54
1:L5:1373:G:H1'	1:L5:1376:G:OP2	2.07	0.54
1:L5:1722:U:H5'	9:LF:135:ILE:HD11	1.89	0.54
1:L5:2059:G:OP1	21:LS:4:SER:HB3	2.08	0.54
1:L5:4111:C:H5'	10:LG:45:ILE:HD12	1.89	0.54
40:Ll:26:TRP:CE3	40:Ll:27:ILE:HD12	2.42	0.54
42:Ln:14:LYS:HE2	46:S2:1172:U:H5''	1.89	0.54
46:S2:1208:A:H2'	46:S2:1209:A:H8	1.72	0.54
46:S2:1542:C:O2'	46:S2:1543:U:H5'	2.07	0.54
50:SC:79:GLU:OE1	68:SV:11:LEU:HD21	2.07	0.54
56:SI:25:ARG:HB2	56:SI:28:GLU:HG3	1.89	0.54
63:SQ:109:LYS:HD2	63:SQ:120:LEU:HD13	1.88	0.54
1:L5:222:C:O2'	1:L5:223:G:H5'	2.08	0.54
1:L5:2449:G:H2'	1:L5:2451:G:OP2	2.07	0.54
1:L5:2805:A2M:H2'	1:L5:2806:G:C8	2.43	0.54
2:L7:3:C:H2'	2:L7:4:U:H6	1.73	0.54
3:L8:19:C:H2'	3:L8:20:A:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L8:131:G:O2'	3:L8:132:G:H5'	2.08	0.54
46:S2:958:G:H2'	46:S2:959:G:C8	2.42	0.54
46:S2:1809:A:H2'	46:S2:1810:U:C6	2.42	0.54
54:SG:38:ALA:O	54:SG:45:TRP:HB3	2.06	0.54
1:L5:126:C:H2'	1:L5:127:G:H8	1.73	0.54
1:L5:2401:C:H2'	1:L5:2402:A:C8	2.43	0.54
2:L7:3:C:H2'	2:L7:4:U:C6	2.43	0.54
46:S2:287:U:O2	52:SE:131:VAL:HG21	2.08	0.54
46:S2:1382:A:O2'	46:S2:1383:A2M:H5'	2.07	0.54
46:S2:1724:A:O2'	46:S2:1725:U:H5'	2.06	0.54
47:S6:5:G:H2'	47:S6:6:G:C8	2.42	0.54
51:SD:133:GLY:HA3	51:SD:156:LEU:O	2.08	0.54
51:SD:191:PRO:O	51:SD:199:GLY:HA3	2.08	0.54
54:SG:84:TYR:CE1	54:SG:93:LYS:HB2	2.43	0.54
70:SX:87:ASN:HB2	70:SX:90:CYS:SG	2.48	0.54
1:L5:164:G:C2'	1:L5:165:A:H5'	2.38	0.54
1:L5:306:A:OP1	37:Li:53:TYR:HE1	1.90	0.54
1:L5:2625:U:H2'	1:L5:2626:U:C6	2.43	0.54
1:L5:3712:A:H2'	1:L5:3713:A:C8	2.42	0.54
1:L5:3890:G:H5''	1:L5:3891:A:OP2	2.08	0.54
1:L5:4389:PSU:O2'	1:L5:4390:U:H5'	2.06	0.54
4:LA:83:HIS:CE1	4:LA:86:GLN:HB2	2.43	0.54
7:LD:211:LEU:HB3	7:LD:219:TYR:HB2	1.90	0.54
46:S2:1136:PSU:O2'	46:S2:1137:U:H5'	2.08	0.54
46:S2:1380:C:H2'	46:S2:1381:G:C8	2.42	0.54
46:S2:1389:C:OP2	64:SR:45:LYS:HE3	2.08	0.54
46:S2:1408:U:O2'	46:S2:1409:A:H5'	2.08	0.54
47:S6:70:C:H2'	47:S6:71:G:C8	2.39	0.54
48:SA:39:TYR:CE1	64:SR:105:MET:HB2	2.43	0.54
70:SX:41:PHE:CZ	70:SX:102:VAL:HG23	2.43	0.54
1:L5:1774:C:O2'	1:L5:1775:PSU:H5''	2.07	0.54
1:L5:3903:A:H2'	1:L5:3904:G:H8	1.73	0.54
11:LH:34:LEU:HD11	11:LH:149:ASN:O	2.08	0.54
36:Lh:36:VAL:HG23	36:Lh:37:THR:HG23	1.89	0.54
51:SD:72:VAL:HG13	58:SK:68:TYR:CD2	2.43	0.54
68:SV:32:ILE:HG12	68:SV:60:ARG:HD2	1.89	0.54
1:L5:4174:U:H2'	1:L5:4175:U:C6	2.42	0.54
9:LF:182:TYR:HB3	9:LF:200:ARG:HG3	1.90	0.54
37:Li:26:HIS:CE1	37:Li:29:ARG:HD2	2.43	0.54
46:S2:1070:A:H2'	46:S2:1071:G:O4'	2.07	0.54
46:S2:1101:U:H2'	46:S2:1102:G:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1203:G:H2'	46:S2:1204:A:H8	1.70	0.54
1:L5:4101:G:H5'	1:L5:4102:C:C4	2.42	0.54
3:L8:37:A:H5''	3:L8:39:G:O4'	2.08	0.54
19:LQ:64:SER:HB3	19:LQ:92:VAL:HG21	1.90	0.54
66:ST:114:GLU:CG	66:ST:124:THR:HG22	2.38	0.54
1:L5:700:G:H2'	1:L5:701:G:H8	1.73	0.53
1:L5:1296:G:H2'	1:L5:1297:C:C6	2.42	0.53
1:L5:1867:A2M:O2'	1:L5:1868:G:H5'	2.07	0.53
1:L5:1900:G:C2'	1:L5:1901:U:H5'	2.38	0.53
1:L5:3924:G:H4'	1:L5:3925:G:O5'	2.08	0.53
1:L5:4444:C:H2'	1:L5:4445:U:C6	2.44	0.53
1:L5:4450:A:H2'	1:L5:4450:A:N3	2.23	0.53
19:LQ:50:ARG:HA	19:LQ:53:MET:HG3	1.89	0.53
28:LZ:57:MET:HG2	28:LZ:61:LYS:CD	2.38	0.53
46:S2:15:U:H2'	46:S2:16:G:O4'	2.08	0.53
46:S2:804:U:H2'	46:S2:805:U:C6	2.43	0.53
46:S2:1703:OMC:H2'	46:S2:1704:C:O4'	2.08	0.53
63:SQ:97:GLN:HB3	63:SQ:105:LYS:HG3	1.90	0.53
1:L5:4259:A:H2'	1:L5:4260:A:C8	2.43	0.53
3:L8:67:U:H2'	3:L8:68:G:H8	1.72	0.53
3:L8:148:A:H2'	3:L8:149:G:C8	2.43	0.53
3:L8:155:C:H2'	3:L8:156:U:C5'	2.37	0.53
36:Lh:73:TYR:O	36:Lh:79:LYS:HE3	2.08	0.53
46:S2:528:A:O2'	46:S2:529:A:H5'	2.09	0.53
46:S2:1615:U:O2'	46:S2:1616:U:H5'	2.07	0.53
46:S2:1730:U:H2'	46:S2:1731:A:C1'	2.38	0.53
51:SD:51:LEU:HB3	51:SD:91:VAL:HG22	1.91	0.53
78:Sg:172:LYS:HD3	78:Sg:192:THR:C	2.33	0.53
1:L5:953:G:OP2	1:L5:953:G:H8	1.91	0.53
1:L5:1747:A:H2'	1:L5:1748:G:C8	2.44	0.53
1:L5:2559:G:H2'	1:L5:2560:U:C6	2.42	0.53
1:L5:2594:C:O2'	1:L5:2595:G:H5'	2.08	0.53
3:L8:75:OMG:HM22	3:L8:76:C:O4'	2.09	0.53
3:L8:113:C:H2'	3:L8:114:G:H5''	1.90	0.53
3:L8:145:C:O2'	3:L8:146:U:H5'	2.09	0.53
11:LH:19:THR:OG1	11:LH:26:ILE:HB	2.07	0.53
11:LH:105:ILE:HD12	11:LH:136:VAL:N	2.19	0.53
17:LO:141:LEU:HD23	17:LO:141:LEU:C	2.34	0.53
46:S2:438:G:N3	46:S2:438:G:H5''	2.24	0.53
48:SA:77:ILE:HG12	48:SA:99:ILE:HB	1.90	0.53
50:SC:66:LEU:O	50:SC:70:VAL:HG23	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2884:A:H2'	1:L5:2885:A:C8	2.43	0.53
1:L5:4355:A:H4'	43:Lo:67:VAL:CG2	2.38	0.53
46:S2:563:G:O2'	46:S2:564:A:H8	1.90	0.53
46:S2:1385:G:H4'	46:S2:1484:A:O4'	2.08	0.53
49:SB:175:GLU:HG3	49:SB:193:ILE:HG12	1.90	0.53
50:SC:183:LYS:HG3	69:SW:95:PRO:O	2.08	0.53
52:SE:59:ASP:OD2	52:SE:63:LYS:HE2	2.09	0.53
56:SI:103:LEU:CD2	56:SI:172:LEU:HD23	2.38	0.53
1:L5:153:G:H2'	1:L5:154:G:H8	1.72	0.53
1:L5:204:U:H2'	1:L5:205:C:C6	2.43	0.53
1:L5:385:A:H4'	1:L5:386:A:OP1	2.09	0.53
46:S2:496:C:OP1	52:SE:29:PRO:HD3	2.08	0.53
46:S2:918:PSU:O2'	46:S2:919:A:H5'	2.08	0.53
52:SE:95:THR:HA	71:SY:16:ARG:NH1	2.24	0.53
1:L5:1078:C:H2'	1:L5:1079:C:H6	1.72	0.53
1:L5:1779:C:C2'	1:L5:1780:U:H5'	2.39	0.53
1:L5:1825:G:C2'	1:L5:1826:G:H5'	2.38	0.53
1:L5:2341:OMC:HM22	1:L5:2342:U:H5'	1.90	0.53
1:L5:2346:U:H5''	3:L8:14:OMU:HM21	1.90	0.53
1:L5:2883:U:H2'	1:L5:2884:A:H8	1.73	0.53
3:L8:92:U:H2'	3:L8:93:C:O4'	2.09	0.53
24:LV:90:ARG:HB2	24:LV:92:ASP:OD2	2.08	0.53
46:S2:1073:U:H2'	46:S2:1074:C:H6	1.74	0.53
46:S2:1491:G:H2'	46:S2:1492:U:C6	2.44	0.53
46:S2:1723:G:O2'	46:S2:1724:A:H5'	2.09	0.53
55:SH:135:PHE:CG	55:SH:136:PRO:HA	2.44	0.53
78:Sg:214:GLY:HA2	78:Sg:236:ILE:HG13	1.90	0.53
1:L5:326:C:O2'	1:L5:327:U:H5'	2.09	0.53
1:L5:505:G:H2'	1:L5:506:C:C6	2.44	0.53
1:L5:1939:A:C2'	1:L5:1940:A:H5'	2.38	0.53
1:L5:2603:C:H4'	35:Lg:2:VAL:HG21	1.91	0.53
37:Li:59:GLU:O	37:Li:63:VAL:HG23	2.08	0.53
46:S2:570:C:O2	71:SY:34:THR:HB	2.09	0.53
46:S2:1798:C:H2'	46:S2:1799:G:O4'	2.08	0.53
1:L5:18:C:H4'	16:LN:138:PHE:CD2	2.44	0.53
1:L5:1081:A:N1	1:L5:1203:U:H5	2.07	0.53
1:L5:1444:G:H2'	1:L5:1445:C:C6	2.44	0.53
1:L5:2663:G:H5''	1:L5:2665:G:O4'	2.09	0.53
2:L7:39:C:C6	13:LJ:49:VAL:CG2	2.92	0.53
21:LS:82:LEU:C	21:LS:82:LEU:HD12	2.34	0.53
51:SD:193:ASP:O	51:SD:201:LYS:HA	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:Sg:25:PRO:HA	78:Sg:293:ALA:CB	2.39	0.53
1:L5:4222:G:H4'	1:L5:4314:G:O2'	2.09	0.53
9:LF:87:PRO:HG2	9:LF:144:TYR:CZ	2.44	0.53
15:LM:24:LEU:HD11	15:LM:86:TRP:CG	2.44	0.53
46:S2:407:G:N1	70:SX:36:LEU:HD21	2.23	0.53
46:S2:1383:A2M:O3'	51:SD:156:LEU:HD13	2.09	0.53
46:S2:1470:C:O2'	46:S2:1471:C:H5'	2.09	0.53
48:SA:145:ILE:HG12	48:SA:159:ILE:HB	1.91	0.53
52:SE:184:THR:C	52:SE:189:LEU:HD13	2.34	0.53
53:SF:141:VAL:HG13	53:SF:145:ARG:HG2	1.90	0.53
60:SN:16:LEU:CD1	60:SN:17:PRO:HD2	2.38	0.53
78:Sg:194:TYR:CE2	78:Sg:212:LYS:HD3	2.44	0.53
1:L5:1866:C:H2'	1:L5:1867:A2M:H8	1.90	0.53
1:L5:1917:C:N4	15:LM:18:GLY:HA2	2.24	0.53
1:L5:2622:PSU:H2'	1:L5:2623:U:C6	2.43	0.53
1:L5:4472:C:H2'	1:L5:4473:A:O4'	2.09	0.53
1:L5:4973:U:H3'	1:L5:5046:A:N6	2.24	0.53
29:La:90:ALA:HB3	29:La:120:GLN:NE2	2.23	0.53
46:S2:1166:G:O2'	46:S2:1167:G:H5'	2.08	0.53
55:SH:9:VAL:O	55:SH:9:VAL:HG12	2.09	0.53
1:L5:320:C:O2'	1:L5:321:U:H5'	2.09	0.52
1:L5:2581:A:H2'	1:L5:2582:U:H6	1.74	0.52
1:L5:4389:PSU:C2'	1:L5:4390:U:H5'	2.39	0.52
1:L5:4445:U:H2'	1:L5:4446:U:H6	1.68	0.52
1:L5:4953:A:H2'	1:L5:4954:C:H6	1.74	0.52
46:S2:318:A:H5'	46:S2:319:C:OP2	2.09	0.52
1:L5:274:C:O2'	1:L5:275:C:H5'	2.08	0.52
1:L5:3926:U:H4'	10:LG:75:LYS:NZ	2.24	0.52
1:L5:4078:G:H3'	1:L5:4100:G:H21	1.74	0.52
9:LF:209:TRP:CD1	9:LF:210:PRO:HD2	2.45	0.52
26:LX:110:LYS:HG2	26:LX:114:LYS:HD2	1.91	0.52
28:LZ:57:MET:SD	28:LZ:65:ARG:HD3	2.49	0.52
46:S2:829:C:OP1	52:SE:21:ASP:HB2	2.10	0.52
46:S2:1631:U:O2'	46:S2:1632:G:H5'	2.10	0.52
46:S2:1831:A:O2'	46:S2:1832:6MZ:H5'1	2.08	0.52
55:SH:63:PHE:HA	55:SH:95:ILE:O	2.09	0.52
69:SW:18:GLU:OE2	69:SW:69:LEU:HB2	2.09	0.52
72:SZ:48:VAL:HG12	72:SZ:80:ARG:HD2	1.90	0.52
1:L5:674:G:H2'	1:L5:675:C:H6	1.75	0.52
1:L5:4160:U:H2'	1:L5:4161:G:H8	1.75	0.52
1:L5:4847:G:H2'	1:L5:4848:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L7:45:U:H2'	2:L7:46:C:O4'	2.10	0.52
2:L7:89:G:H2'	2:L7:90:A:C8	2.43	0.52
46:S2:92:A:O2'	52:SE:4:GLY:HA3	2.10	0.52
46:S2:1413:G:O2'	46:S2:1414:A:H5'	2.09	0.52
49:SB:52:THR:HG23	49:SB:57:ILE:CD1	2.39	0.52
78:Sg:164:ILE:C	78:Sg:179:LEU:HD21	2.34	0.52
1:L5:25:A:H2'	1:L5:26:C:C6	2.43	0.52
1:L5:653:U:H2'	1:L5:654:C:C6	2.44	0.52
1:L5:965:U:H4'	1:L5:966:C:C6	2.45	0.52
1:L5:2883:U:H2'	1:L5:2884:A:C8	2.44	0.52
31:Lc:29:LEU:CD1	31:Lc:87:LYS:HE3	2.40	0.52
46:S2:1589:A:H2'	46:S2:1590:C:C6	2.45	0.52
1:L5:916:C:H2'	1:L5:919:C:C4'	2.39	0.52
1:L5:1394:A:H4'	1:L5:1413:G:OP1	2.08	0.52
2:L7:39:C:O2'	13:LJ:46:GLN:HB3	2.09	0.52
12:LI:152:LEU:HB3	12:LI:165:ILE:HD12	1.92	0.52
16:LN:165:THR:O	16:LN:169:ARG:HG3	2.09	0.52
32:Ld:93:ASN:HB2	32:Ld:103:TYR:CD2	2.45	0.52
38:Lj:83:THR:HG22	38:Lj:84:PRO:O	2.09	0.52
46:S2:1382:A:C2'	46:S2:1383:A2M:H5'	2.39	0.52
54:SG:188:LYS:O	54:SG:192:ILE:HD13	2.10	0.52
62:SP:56:LEU:HD22	62:SP:80:LEU:HD12	1.91	0.52
1:L5:204:U:H2'	1:L5:205:C:H6	1.74	0.52
1:L5:1691:U:H2'	1:L5:1692:C:C6	2.45	0.52
1:L5:2547:G:H2'	1:L5:2548:C:C6	2.45	0.52
1:L5:3716:U:O2'	1:L5:3717:C:H5'	2.09	0.52
6:LC:211:TYR:OH	6:LC:218:ILE:HD11	2.10	0.52
7:LD:163:LEU:O	7:LD:167:VAL:HG13	2.09	0.52
11:LH:105:ILE:CD1	11:LH:136:VAL:N	2.73	0.52
16:LN:10:LEU:HD23	37:Li:48:CYS:SG	2.50	0.52
46:S2:116:OMU:HN3	46:S2:347:G:H1	1.58	0.52
46:S2:1296:U:H2'	46:S2:1297:U:O4'	2.10	0.52
46:S2:1801:A:H2'	46:S2:1802:C:H6	1.74	0.52
49:SB:71:LEU:HD13	49:SB:84:PHE:CE1	2.44	0.52
70:SX:86:PRO:O	70:SX:87:ASN:HB2	2.09	0.52
1:L5:1723:U:C2'	1:L5:1724:U:H5'	2.40	0.52
1:L5:3676:U:O2'	1:L5:3677:G:H5'	2.09	0.52
1:L5:3701:PSU:C5'	47:S6:4:G:H21	2.23	0.52
1:L5:4736:G:H2'	1:L5:4737:G:H8	1.74	0.52
11:LH:59:LYS:HE2	11:LH:66:GLU:HB3	1.92	0.52
46:S2:1440:C:O2'	46:S2:1441:U:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1576:G:O2'	46:S2:1577:G:H5'	2.10	0.52
48:SA:132:GLN:HB3	48:SA:133:PRO:HD3	1.92	0.52
58:SK:14:LEU:HD22	58:SK:21:MET:HE1	1.91	0.52
1:L5:1500:G:H2'	1:L5:1501:C:H6	1.75	0.52
1:L5:1817:G:H3'	1:L5:1817:G:N3	2.25	0.52
1:L5:3853:A2M:O2'	1:L5:3854:G:H5'	2.10	0.52
13:LJ:22:LEU:HD13	13:LJ:43:LEU:HD23	1.90	0.52
17:LO:22:ILE:HD12	17:LO:120:VAL:HG11	1.91	0.52
46:S2:469:A:H2'	46:S2:470:G:H5''	1.91	0.52
46:S2:1477:U:C2'	46:S2:1478:U:H5'	2.40	0.52
46:S2:1477:U:H2'	46:S2:1478:U:H5'	1.92	0.52
1:L5:1555:G:O2'	1:L5:1556:A:H5'	2.10	0.52
1:L5:1729:G:N3	1:L5:4200:A:H2'	2.25	0.52
1:L5:4244:C:H5'	13:LJ:68:ILE:HG21	1.92	0.52
20:LR:95:TRP:CZ2	20:LR:99:MET:HE3	2.44	0.52
46:S2:678:U:H2'	46:S2:679:A:C8	2.45	0.52
49:SB:79:VAL:HB	49:SB:81:PHE:CE2	2.44	0.52
1:L5:1376:G:H4'	1:L5:1377:U:H6	1.74	0.52
1:L5:1456:C:H2'	1:L5:1457:C:H6	1.75	0.52
1:L5:1948:G:O2'	1:L5:1949:U:H5'	2.10	0.52
1:L5:3590:A:H2'	1:L5:3591:C:C4'	2.39	0.52
1:L5:4872:C:H2'	1:L5:4873:U:C6	2.44	0.52
1:L5:4962:A:O2'	1:L5:4963:G:H5'	2.10	0.52
3:L8:8:U:H2'	3:L8:9:A:C8	2.45	0.52
46:S2:832:G:O2'	46:S2:833:C:H5'	2.10	0.52
46:S2:1277:C:O2'	46:S2:1278:A:H5'	2.10	0.52
70:SX:95:GLU:O	70:SX:98:ASP:HB2	2.10	0.52
1:L5:106:A:H2'	1:L5:107:G:O4'	2.09	0.51
32:Ld:92:ARG:HG3	32:Ld:102:LEU:CD2	2.39	0.51
46:S2:1346:U:O2'	46:S2:1485:U:H1'	2.09	0.51
46:S2:1638:G:H5''	46:S2:1639:G7M:OP1	2.10	0.51
1:L5:457:G:H2'	1:L5:458:C:C6	2.44	0.51
1:L5:2872:A:H2	46:S2:1806:A:H5'	1.74	0.51
1:L5:4656:C:O3'	1:L5:4657:C:H3'	2.11	0.51
1:L5:4866:U:H4'	1:L5:4867:U:C5	2.45	0.51
7:LD:41:LYS:HB2	22:LT:68:THR:O	2.10	0.51
46:S2:1259:A:H1'	46:S2:1264:C:N4	2.24	0.51
46:S2:1271:C:H2'	46:S2:1272:C:C6	2.45	0.51
46:S2:1431:G:O2'	46:S2:1432:U:H5'	2.10	0.51
58:SK:49:MET:HG3	58:SK:69:TRP:CD2	2.45	0.51
67:SU:36:CYS:O	67:SU:40:ILE:HD12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1377:U:H2'	1:L5:1378:G:H5'	1.91	0.51
1:L5:2037:A:O2'	1:L5:2038:A:H5'	2.09	0.51
1:L5:4424:U:H2'	1:L5:4425:U:O4'	2.11	0.51
13:LJ:94:LEU:HD12	13:LJ:166:PHE:CE2	2.46	0.51
19:LQ:88:ASP:OD2	19:LQ:108:ARG:HG2	2.11	0.51
23:LU:23:LEU:CD2	23:LU:110:TYR:HB2	2.41	0.51
27:LY:69:LYS:H	27:LY:83:GLU:CG	2.23	0.51
46:S2:303:C:H2'	46:S2:304:C:O4'	2.10	0.51
46:S2:593:C:H5''	46:S2:594:A:OP2	2.11	0.51
46:S2:1512:C:O2'	46:S2:1513:C:H5'	2.10	0.51
58:SK:49:MET:CE	58:SK:52:LEU:HD12	2.39	0.51
1:L5:1499:A:H4'	1:L5:1500:G:H5'	1.93	0.51
3:L8:62:A:H4'	3:L8:63:U:O5'	2.11	0.51
46:S2:120:U:H1'	52:SE:33:THR:O	2.11	0.51
46:S2:947:G:O2'	46:S2:948:C:H5'	2.11	0.51
46:S2:1743:G:O2'	46:S2:1744:G:H5'	2.10	0.51
46:S2:1788:A:H2'	46:S2:1789:G:O4'	2.09	0.51
53:SF:19:LEU:HD21	53:SF:69:VAL:HG11	1.90	0.51
68:SV:16:LYS:HD2	68:SV:21:ASN:O	2.11	0.51
1:L5:307:A:O2'	1:L5:308:G:H5'	2.10	0.51
1:L5:2857:C:C2'	1:L5:2858:G:H5'	2.41	0.51
5:LB:173:LEU:HD22	5:LB:342:LYS:CD	2.40	0.51
39:Lk:35:LYS:HA	39:Lk:43:TYR:O	2.10	0.51
46:S2:385:G:H3'	59:SL:136:LYS:HB2	1.93	0.51
46:S2:595:U:H2'	46:S2:596:U:C6	2.45	0.51
46:S2:1810:U:O2'	46:S2:1811:C:H5'	2.10	0.51
52:SE:177:THR:HG23	52:SE:196:THR:O	2.10	0.51
54:SG:103:ASP:OD2	54:SG:103:ASP:C	2.53	0.51
61:SO:95:ILE:HB	61:SO:129:ILE:HG12	1.92	0.51
1:L5:646:G:H2'	1:L5:647:G:C8	2.45	0.51
1:L5:920:G:H2'	1:L5:921:G:H8	1.75	0.51
1:L5:2451:G:H2'	1:L5:2452:C:C6	2.46	0.51
1:L5:4056:U:H2'	1:L5:4057:U:H6	1.76	0.51
5:LB:378:ARG:HE	25:LW:32:LEU:HD21	1.76	0.51
26:LX:83:THR:O	26:LX:87:MET:HG2	2.11	0.51
46:S2:352:U:H2'	46:S2:353:C:C6	2.45	0.51
46:S2:386:C:H2'	46:S2:387:C:C6	2.46	0.51
46:S2:407:G:C6	70:SX:36:LEU:HD21	2.45	0.51
51:SD:162:ASP:N	51:SD:163:PRO:HD2	2.25	0.51
1:L5:35:U:H2'	1:L5:36:U:H5'	1.93	0.51
1:L5:445:U:H2'	1:L5:446:C:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:750:U:H2'	1:L5:751:G:O4'	2.10	0.51
1:L5:907:U:H4'	1:L5:909:A:N6	2.26	0.51
1:L5:974:U:H2'	1:L5:975:C:C6	2.46	0.51
1:L5:1530:A2M:HM'3	1:L5:1633:A:N3	2.25	0.51
1:L5:1867:A2M:C2'	1:L5:1868:G:H5'	2.41	0.51
1:L5:2875:A:O3'	46:S2:1732:G:C4'	2.58	0.51
2:L7:39:C:C6	13:LJ:49:VAL:HG21	2.45	0.51
9:LF:143:GLY:HA3	9:LF:240:ILE:HB	1.92	0.51
27:LY:51:LYS:HE2	27:LY:71:VAL:O	2.11	0.51
34:Lf:106:TYR:HA	34:Lf:107:PRO:C	2.36	0.51
46:S2:120:U:H2'	46:S2:121:OMU:C6	2.39	0.51
46:S2:917:U:H2'	46:S2:918:PSU:C6	2.46	0.51
49:SB:106:THR:HG22	49:SB:108:ASP:OD1	2.10	0.51
1:L5:1374:C:H5''	1:L5:1376:G:OP2	2.10	0.51
1:L5:1379:G:H2'	1:L5:1380:C:C6	2.46	0.51
1:L5:1419:U:C2'	1:L5:1420:G:H5'	2.41	0.51
1:L5:1798:A:H4'	22:LT:105:PHE:CD1	2.46	0.51
1:L5:3897:C:H2'	1:L5:3898:U:C6	2.45	0.51
2:L7:114:U:H4'	7:LD:73:MET:CE	2.39	0.51
6:LC:302:LEU:HD23	19:LQ:39:THR:HG22	1.93	0.51
32:Ld:63:ARG:HD2	32:Ld:103:TYR:HD1	1.74	0.51
46:S2:1212:G:OP1	46:S2:1212:G:H4'	2.08	0.51
46:S2:1845:A:H2'	46:S2:1846:G:H8	1.75	0.51
51:SD:59:LEU:HD23	51:SD:66:ILE:HD13	1.92	0.51
56:SI:29:LEU:C	56:SI:29:LEU:HD12	2.36	0.51
71:SY:57:VAL:HB	71:SY:60:PHE:CE2	2.45	0.51
1:L5:1820:G:H2'	1:L5:1821:A:C8	2.46	0.51
1:L5:2402:A:H2'	1:L5:2403:U:C6	2.46	0.51
1:L5:2720:U:H2'	1:L5:2721:C:C6	2.46	0.51
1:L5:4245:C:H5''	13:LJ:23:ASN:OD1	2.11	0.51
1:L5:4732:C:C2'	1:L5:4733:C:H5'	2.41	0.51
1:L5:4741:G:O2'	1:L5:4742:C:H5'	2.11	0.51
3:L8:92:U:C2'	3:L8:93:C:H5'	2.41	0.51
7:LD:83:LEU:N	7:LD:84:PRO:CD	2.74	0.51
11:LH:88:PHE:CE2	11:LH:151:ILE:HB	2.46	0.51
40:Ll:26:TRP:CZ3	40:Ll:27:ILE:HD12	2.45	0.51
46:S2:433:A:H5''	56:SI:22:HIS:HB3	1.93	0.51
46:S2:926:A:H4'	60:SN:90:HIS:CE1	2.45	0.51
46:S2:1407:U:H2'	46:S2:1408:U:H6	1.69	0.51
46:S2:1839:U:H2'	46:S2:1840:U:C6	2.46	0.51
71:SY:7:ILE:HD12	71:SY:43:LYS:CB	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1464:C:H2'	1:L5:1465:C:H6	1.75	0.51
1:L5:1486:G:O2'	1:L5:1487:A:H5'	2.11	0.51
1:L5:3918:U:H2'	1:L5:3919:G:H8	1.75	0.51
1:L5:4214:OMG:H5''	1:L5:4215:U:O4'	2.11	0.51
3:L8:3:A:O2'	18:LP:61:ARG:HD3	2.11	0.51
46:S2:121:OMU:HM22	46:S2:122:G:O4'	2.11	0.51
46:S2:468:A2M:CM'	46:S2:469:A:H5'	2.40	0.51
57:SJ:21:GLU:O	57:SJ:25:LEU:HG	2.11	0.51
66:ST:39:LEU:HG	66:ST:47:PRO:HG3	1.93	0.51
1:L5:1737:G:N3	1:L5:1777:PSU:H5''	2.26	0.50
1:L5:2875:A:H1'	46:S2:1731:A:O2'	2.11	0.50
1:L5:3592:U:H2'	1:L5:3593:U:C6	2.46	0.50
5:LB:56:ILE:HD13	5:LB:365:LEU:CD2	2.37	0.50
20:LR:105:LEU:HD21	20:LR:139:MET:HG2	1.94	0.50
49:SB:151:ARG:HG2	49:SB:151:ARG:HH11	1.75	0.50
67:SU:22:ILE:HD13	67:SU:114:VAL:HG22	1.93	0.50
1:L5:473:C:H2'	1:L5:474:C:H6	1.75	0.50
1:L5:2401:C:H2'	1:L5:2402:A:H8	1.75	0.50
27:LY:76:LYS:CE	40:Ll:31:THR:HB	2.40	0.50
33:Le:74:PHE:CE2	33:Le:121:ARG:HD3	2.45	0.50
46:S2:218:U:H2'	46:S2:219:U:H6	1.77	0.50
46:S2:809:A:H2'	46:S2:810:A:O4'	2.12	0.50
53:SF:162:ALA:HB2	53:SF:172:CYS:SG	2.51	0.50
56:SI:197:PHE:CZ	56:SI:201:LYS:HD2	2.46	0.50
78:Sg:25:PRO:HA	78:Sg:293:ALA:HB2	1.93	0.50
78:Sg:175:LYS:HG2	78:Sg:187:ASN:OD1	2.11	0.50
1:L5:4292:OMU:HM22	1:L5:4293:A:H5'	1.94	0.50
2:L7:19:C:H2'	2:L7:20:U:C6	2.47	0.50
3:L8:154:G:H2'	3:L8:155:C:C6	2.46	0.50
6:LC:148:PRO:O	45:Lr:72:LYS:HB3	2.10	0.50
13:LJ:93:GLU:O	13:LJ:94:LEU:HG	2.10	0.50
32:Ld:27:ILE:HG22	32:Ld:29:ILE:HD13	1.93	0.50
46:S2:526:A:O2'	46:S2:527:C:H5'	2.12	0.50
46:S2:560:A:O2'	46:S2:561:A:H5'	2.12	0.50
46:S2:1016:U:H5'	60:SN:15:ALA:O	2.10	0.50
46:S2:1484:A:H2'	46:S2:1485:U:H6	1.76	0.50
46:S2:1587:G:C8	66:ST:67:NMM:HAA2	2.46	0.50
50:SC:255:LEU:HD13	68:SV:23:ILE:HD11	1.93	0.50
65:SS:65:GLU:O	65:SS:69:THR:HG22	2.11	0.50
1:L5:1609:A:H5'	4:LA:183:GLY:CA	2.42	0.50
1:L5:2644:C:H2'	1:L5:2645:C:C6	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:3918:U:H2'	1:L5:3919:G:C8	2.47	0.50
1:L5:4512:U:C2'	1:L5:4513:G:H5'	2.41	0.50
3:L8:120:G:H2'	3:L8:121:G:H8	1.77	0.50
4:LA:186:TYR:HB2	4:LA:196:TRP:CZ3	2.46	0.50
9:LF:87:PRO:HG2	9:LF:144:TYR:CE2	2.46	0.50
12:LI:191:ILE:O	12:LI:197:VAL:HG13	2.11	0.50
31:Lc:36:LYS:O	31:Lc:40:GLN:HG2	2.12	0.50
46:S2:1271:C:H2'	46:S2:1272:C:H6	1.77	0.50
46:S2:1278:A:H2'	46:S2:1279:C:C6	2.46	0.50
46:S2:1520:G:N3	46:S2:1520:G:C2'	2.74	0.50
52:SE:47:PHE:CE2	52:SE:52:LEU:HD11	2.47	0.50
62:SP:30:TYR:O	62:SP:34:MET:HG3	2.11	0.50
65:SS:5:ILE:HD13	72:SZ:49:LEU:HB2	1.93	0.50
70:SX:39:ASN:ND2	70:SX:43:GLY:H	2.09	0.50
74:Sb:15:GLU:OE1	74:Sb:15:GLU:HA	2.11	0.50
78:Sg:239:LEU:HD21	78:Sg:250:ALA:HB2	1.93	0.50
1:L5:1294:C:H2'	1:L5:1295:G:H8	1.76	0.50
1:L5:2718:U:H2'	1:L5:2719:C:C6	2.46	0.50
7:LD:121:GLY:HA2	7:LD:130:TYR:OH	2.12	0.50
11:LH:103:VAL:HG11	11:LH:144:LEU:HD21	1.92	0.50
13:LJ:25:CYS:HA	13:LJ:69:ALA:HB2	1.93	0.50
15:LM:104:MET:HG2	15:LM:108:ASP:HB3	1.91	0.50
20:LR:70:ARG:HD3	20:LR:76:MET:SD	2.51	0.50
46:S2:945:U:H2'	46:S2:946:U:H6	1.77	0.50
46:S2:1098:C:H2'	46:S2:1099:G:C8	2.46	0.50
46:S2:1164:G:C2'	46:S2:1165:G:H5'	2.40	0.50
46:S2:1255:G:O4'	67:SU:71:GLY:HA3	2.12	0.50
46:S2:1829:G:H1'	46:S2:1850:MA6:H2	1.93	0.50
58:SK:14:LEU:HD23	58:SK:14:LEU:O	2.11	0.50
60:SN:16:LEU:HD12	60:SN:17:PRO:CD	2.40	0.50
1:L5:954:A:H2'	1:L5:964:G:N7	2.27	0.50
1:L5:3693:U:H2'	1:L5:3694:C:C6	2.46	0.50
1:L5:4379:G:O4'	1:L5:4433:5MC:HM52	2.12	0.50
1:L5:4723:G:H2'	1:L5:4724:C:O4'	2.11	0.50
31:Lc:18:LEU:O	31:Lc:22:MET:HG2	2.12	0.50
46:S2:1388:A:H2	51:SD:205:PRO:HG2	1.76	0.50
49:SB:146:ARG:HB2	49:SB:149:GLN:HB2	1.92	0.50
50:SC:94:ILE:CG2	50:SC:162:ILE:HD12	2.39	0.50
1:L5:653:U:H2'	1:L5:654:C:C5	2.47	0.50
1:L5:929:A:N6	15:LM:70:GLN:HE22	2.09	0.50
1:L5:1565:U:C5	44:Lp:2:ALA:HA	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1871:C:H2'	1:L5:1872:U:C6	2.47	0.50
1:L5:4330:U:H2'	1:L5:4331:C:C6	2.46	0.50
21:LS:1:MET:HG3	21:LS:39:VAL:HG11	1.92	0.50
46:S2:96:C:H2'	46:S2:97:U:C6	2.47	0.50
46:S2:1149:A:H2'	46:S2:1149:A:N3	2.27	0.50
46:S2:1190:A:H2'	46:S2:1191:C:O4'	2.11	0.50
46:S2:1438:A:H2'	46:S2:1439:A:C8	2.46	0.50
46:S2:1469:A:H2'	46:S2:1470:C:H6	1.76	0.50
48:SA:134:LEU:CD2	48:SA:144:THR:HG21	2.41	0.50
49:SB:25:PHE:HA	49:SB:28:LYS:HG3	1.93	0.50
68:SV:37:ALA:HB1	68:SV:46:PHE:CD1	2.47	0.50
1:L5:312:G:O2'	1:L5:313:U:H5'	2.11	0.50
1:L5:907:U:H4'	1:L5:909:A:H61	1.77	0.50
1:L5:2254:C:H2'	1:L5:2255:G:O4'	2.12	0.50
1:L5:2673:C:H2'	1:L5:2674:C:H6	1.77	0.50
1:L5:3920:G:H2'	1:L5:3921:C:H6	1.77	0.50
13:LJ:47:THR:HG23	13:LJ:47:THR:O	2.11	0.50
33:Le:67:LYS:HG2	33:Le:68:HIS:CD2	2.47	0.50
46:S2:224:A:O2'	46:S2:225:G:H5'	2.11	0.50
46:S2:659:G:H2'	46:S2:663:C:C5	2.46	0.50
46:S2:1208:A:H2'	46:S2:1209:A:C8	2.46	0.50
52:SE:20:LEU:HD21	52:SE:46:ILE:HD12	1.93	0.50
1:L5:1294:C:H2'	1:L5:1295:G:C8	2.46	0.50
1:L5:2396:G:C2'	1:L5:2397:G:H5'	2.41	0.50
1:L5:3622:C:C4'	1:L5:3811:A2M:H2	2.42	0.50
7:LD:184:ASP:HB3	7:LD:187:SER:OG	2.12	0.50
46:S2:443:U:H2'	46:S2:444:G:O4'	2.12	0.50
70:SX:94:ILE:CD1	70:SX:125:VAL:HG11	2.42	0.50
1:L5:1071:C:OP1	1:L5:1209:C:H4'	2.11	0.49
1:L5:4660:C:H2'	1:L5:4661:U:C6	2.46	0.49
3:L8:155:C:C2'	3:L8:156:U:H5''	2.39	0.49
46:S2:11:A:C2'	46:S2:12:U:H5'	2.42	0.49
46:S2:106:C:OP1	46:S2:432:G:H5'	2.12	0.49
46:S2:1019:C:C2'	46:S2:1020:A:H5'	2.42	0.49
46:S2:1232:PSU:H2'	46:S2:1233:G:C8	2.47	0.49
46:S2:1368:U:H2'	46:S2:1370:A:OP2	2.12	0.49
50:SC:103:LYS:O	50:SC:216:MET:HE2	2.12	0.49
1:L5:733:A:H2'	1:L5:734:G:O4'	2.11	0.49
1:L5:1295:G:O2'	1:L5:1296:G:H5'	2.12	0.49
1:L5:4196:U:O2'	1:L5:4197:C:H5'	2.12	0.49
1:L5:4920:C:H2'	1:L5:4921:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4920:C:H2'	1:L5:4921:G:H8	1.77	0.49
2:L7:19:C:H2'	2:L7:20:U:H6	1.78	0.49
5:LB:109:HIS:O	5:LB:110:ILE:HD13	2.12	0.49
13:LJ:39:VAL:HG21	13:LJ:126:TYR:HD2	1.77	0.49
13:LJ:44:THR:HG22	13:LJ:82:ILE:HD13	1.94	0.49
41:Lm:104:HIS:HB2	41:Lm:105:PRO:HD2	1.93	0.49
42:Ln:14:LYS:CE	46:S2:1172:U:O3'	2.60	0.49
51:SD:150:MET:HE2	51:SD:152:PHE:HZ	1.77	0.49
54:SG:190:ARG:O	54:SG:194:LEU:HG	2.12	0.49
5:LB:44:THR:O	5:LB:349:LYS:HG2	2.13	0.49
8:LE:121:VAL:CG1	8:LE:122:PRO:HD2	2.42	0.49
27:LY:69:LYS:H	27:LY:83:GLU:HG2	1.78	0.49
46:S2:97:U:O2'	46:S2:98:C:H5'	2.12	0.49
46:S2:1227:G:C2	46:S2:1228:A:C8	3.00	0.49
1:L5:1416:A:H5'	1:L5:1497:C:H5	1.76	0.49
1:L5:2771:G:O2'	1:L5:2772:U:H5'	2.12	0.49
1:L5:4444:C:H2'	1:L5:4445:U:H6	1.78	0.49
1:L5:4470:A:O2'	1:L5:4471:C:H5'	2.12	0.49
1:L5:4677:A:H4'	11:LH:71:ARG:HG2	1.94	0.49
36:Lh:89:ARG:O	36:Lh:93:ARG:HG2	2.12	0.49
46:S2:389:A:H2'	46:S2:390:C:C6	2.47	0.49
46:S2:468:A2M:HM'2	46:S2:469:A:C5'	2.42	0.49
46:S2:483:C:H5''	70:SX:48:LYS:HE3	1.94	0.49
46:S2:944:A:O2'	46:S2:945:U:H5'	2.12	0.49
46:S2:949:G:H2'	46:S2:950:C:C6	2.47	0.49
46:S2:1017:U:H5'	60:SN:55:ARG:HD3	1.95	0.49
46:S2:1239:PSU:H2'	46:S2:1241:A:OP2	2.12	0.49
46:S2:1406:G:H2'	46:S2:1407:U:C6	2.47	0.49
48:SA:111:GLN:HA	48:SA:116:PHE:CD1	2.47	0.49
67:SU:22:ILE:CD1	67:SU:114:VAL:HG22	2.42	0.49
70:SX:57:VAL:CG1	70:SX:116:PRO:HD2	2.43	0.49
1:L5:1582:G:O2'	1:L5:1583:G:H5'	2.13	0.49
1:L5:1832:G:H4'	22:LT:129:LYS:HG2	1.94	0.49
1:L5:2741:G:H5'	35:Lg:79:GLY:O	2.13	0.49
1:L5:3842:A:H5''	18:LP:83:TRP:O	2.11	0.49
1:L5:4384:C:H2'	1:L5:4385:U:H5'	1.93	0.49
1:L5:4510:G:C2	5:LB:252:ALA:HB1	2.47	0.49
2:L7:16:A:H2'	2:L7:17:C:C6	2.48	0.49
38:Lj:20:ARG:HD3	38:Lj:39:TYR:CZ	2.48	0.49
48:SA:1:MET:N	68:SV:78:ILE:HG22	2.27	0.49
1:L5:7:C:H2'	1:L5:8:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:419:A:N6	3:L8:15:G:H1'	2.28	0.49
1:L5:750:U:H1'	1:L5:911:A:C8	2.47	0.49
1:L5:1668:U:H2'	1:L5:1669:U:C6	2.48	0.49
1:L5:1747:A:H2'	1:L5:1748:G:H8	1.76	0.49
1:L5:4979:G:H2'	1:L5:4980:U:C6	2.47	0.49
13:LJ:15:LEU:HB2	13:LJ:165:TRP:CD1	2.48	0.49
13:LJ:27:GLY:HA2	13:LJ:68:ILE:CG1	2.43	0.49
15:LM:118:MET:HG2	17:LO:192:TYR:CZ	2.48	0.49
16:LN:193:ARG:HD3	83:LN:419:HOH:O	2.13	0.49
23:LU:76:VAL:HB	23:LU:77:PRO:HD2	1.94	0.49
46:S2:354:OMU:HM22	46:S2:355:G:O4'	2.12	0.49
46:S2:1533:A:N7	46:S2:1604:G:H1'	2.27	0.49
65:SS:36:VAL:HG23	65:SS:99:LEU:HD22	1.93	0.49
1:L5:1530:A2M:O2'	38:Lj:11:ARG:HG2	2.12	0.49
1:L5:1563:U:H2'	1:L5:1564:C:H6	1.77	0.49
1:L5:1664:A:C2'	1:L5:1665:A:H5'	2.43	0.49
1:L5:4109:C:C2'	1:L5:4110:G:H5'	2.42	0.49
1:L5:4171:G:O2'	1:L5:4172:A:H5'	2.12	0.49
3:L8:103:A:H3'	3:L8:104:A:H5''	1.95	0.49
10:LG:190:LEU:O	10:LG:193:LEU:HB2	2.12	0.49
11:LH:96:TYR:HA	11:LH:177:ASP:OD2	2.13	0.49
21:LS:28:TYR:CD2	21:LS:54:MET:HE1	2.48	0.49
46:S2:1504:U:O2'	46:S2:1505:U:H5'	2.12	0.49
67:SU:61:LEU:O	67:SU:81:GLN:HA	2.11	0.49
6:LC:303:ARG:NH1	6:LC:306:ARG:HD3	2.28	0.49
13:LJ:24:ILE:HG12	13:LJ:128:LEU:HB3	1.95	0.49
20:LR:70:ARG:HG3	20:LR:70:ARG:NH1	2.28	0.49
28:LZ:87:VAL:HB	28:LZ:89:ILE:CD1	2.42	0.49
46:S2:428:OMU:O3'	57:SJ:2:PRO:HD2	2.12	0.49
46:S2:949:G:H2'	46:S2:950:C:H6	1.78	0.49
46:S2:1155:U:O3'	69:SW:71:LYS:HE3	2.13	0.49
46:S2:1469:A:H2'	46:S2:1470:C:C6	2.48	0.49
46:S2:1730:U:H2'	46:S2:1731:A:H1'	1.94	0.49
47:S6:71:G:O2'	47:S6:72:C:H5'	2.13	0.49
48:SA:10:MET:HE2	48:SA:55:TRP:HB2	1.95	0.49
64:SR:94:GLU:O	64:SR:116:ASN:HB2	2.13	0.49
1:L5:2883:U:HO2'	1:L5:2884:A:H5'	1.78	0.49
1:L5:3639:A:C2	1:L5:3678:A:O4'	2.65	0.49
1:L5:3845:G:H4'	18:LP:139:TYR:CE1	2.48	0.49
1:L5:4325:A:H2'	1:L5:4326:U:H6	1.78	0.49
46:S2:587:A:H5'	46:S2:592:C:H41	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:628:A:N6	46:S2:1501:C:H5'	2.28	0.49
56:SI:65:PHE:HA	56:SI:187:GLY:O	2.13	0.49
61:SO:72:TYR:CZ	61:SO:76:LEU:HD11	2.48	0.49
67:SU:80:PHE:HB3	76:Sd:52:PHE:HB3	1.93	0.49
70:SX:41:PHE:HZ	70:SX:102:VAL:HG23	1.77	0.49
1:L5:673:C:H2'	1:L5:674:G:C8	2.47	0.49
1:L5:2518:G:H3'	1:L5:2518:G:N3	2.28	0.49
1:L5:4570:A:H2'	1:L5:4571:U:O4'	2.13	0.49
13:LJ:128:LEU:HD23	13:LJ:128:LEU:H	1.77	0.49
36:Lh:112:ARG:NH2	36:Lh:113:LEU:HD21	2.28	0.49
46:S2:1534:C:H5''	46:S2:1536:G:O4'	2.13	0.49
55:SH:43:LEU:HA	55:SH:68:GLN:NE2	2.28	0.49
1:L5:162:A:O2'	1:L5:163:A:H5'	2.12	0.48
1:L5:1305:C:H2'	1:L5:1306:C:C6	2.48	0.48
1:L5:3679:U:O3'	44:Lp:21:SER:HB2	2.13	0.48
1:L5:4623:OMG:H2'	1:L5:4624:U:C6	2.48	0.48
11:LH:20:LEU:HD12	11:LH:47:LEU:HG	1.94	0.48
15:LM:28:VAL:HG12	15:LM:67:SER:HA	1.95	0.48
15:LM:36:ALA:HB2	15:LM:52:PHE:CE1	2.48	0.48
46:S2:224:A:H2'	46:S2:225:G:O4'	2.13	0.48
47:S6:5:G:H2'	47:S6:6:G:H8	1.76	0.48
49:SB:171:ILE:HG21	49:SB:197:ILE:HG13	1.95	0.48
1:L5:286:U:H2'	1:L5:287:U:C6	2.48	0.48
1:L5:1080:C:O2'	1:L5:1081:A:H5'	2.13	0.48
1:L5:1314:C:OP1	29:La:21:ARG:HB3	2.13	0.48
1:L5:1585:C:H2'	1:L5:1586:C:C6	2.48	0.48
1:L5:2581:A:H2'	1:L5:2582:U:C6	2.48	0.48
1:L5:4552:U:H2'	1:L5:4553:G:O4'	2.14	0.48
1:L5:4850:C:O2'	1:L5:4851:C:H5'	2.12	0.48
1:L5:4991:U:H4'	1:L5:4992:A:C5'	2.43	0.48
43:Lo:63:THR:HG21	43:Lo:89:LYS:HG2	1.96	0.48
43:Lo:69:ARG:HH12	43:Lo:80:LYS:HZ2	1.61	0.48
46:S2:160:U:O2'	46:S2:161:U:H3'	2.13	0.48
46:S2:612:U:O2'	46:S2:613:G:H5'	2.13	0.48
46:S2:964:A:H1'	46:S2:1054:G:O2'	2.14	0.48
46:S2:1330:G:O5'	46:S2:1331:C:H3'	2.13	0.48
49:SB:31:TYR:CD1	49:SB:94:LYS:HA	2.49	0.48
69:SW:42:MET:HE2	69:SW:49:GLU:HA	1.95	0.48
1:L5:429:A:O2'	1:L5:430:G:H5'	2.14	0.48
1:L5:1681:G:H2'	1:L5:1682:C:C6	2.47	0.48
1:L5:2624:C:O2'	1:L5:2625:U:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4141:C:H2'	1:L5:4142:G:O4'	2.13	0.48
1:L5:4709:A:O2'	5:LB:101:THR:HG23	2.13	0.48
32:Ld:37:GLY:O	32:Ld:41:ARG:HG3	2.13	0.48
46:S2:85:A:H2'	46:S2:86:C:H6	1.78	0.48
46:S2:1533:A:C2	46:S2:1536:G:N3	2.79	0.48
1:L5:1681:G:H2'	1:L5:1682:C:H6	1.78	0.48
1:L5:4160:U:H2'	1:L5:4161:G:C8	2.48	0.48
9:LF:155:TYR:CD1	9:LF:187:MET:HE2	2.48	0.48
16:LN:120:TRP:CH2	16:LN:122:GLY:HA2	2.49	0.48
35:Lg:21:ARG:HG2	35:Lg:35:THR:HG22	1.94	0.48
46:S2:626:G:H3'	46:S2:626:G:N3	2.28	0.48
46:S2:1643:PSU:H2'	46:S2:1644:C:C6	2.49	0.48
53:SF:185:SER:O	53:SF:191:LYS:HE3	2.13	0.48
57:SJ:47:LYS:HG3	57:SJ:102:ILE:HD12	1.95	0.48
76:Sd:33:LYS:HG2	76:Sd:34:TYR:CE2	2.48	0.48
78:Sg:245:ARG:HH21	78:Sg:312:VAL:HG21	1.78	0.48
1:L5:69:A:O2'	1:L5:70:A:H5'	2.13	0.48
1:L5:300:A:H5'	16:LN:95:ALA:O	2.14	0.48
1:L5:347:A:H2'	1:L5:348:G:C8	2.48	0.48
1:L5:1641:C:H2'	1:L5:1642:A:C8	2.48	0.48
1:L5:1717:G:H2'	1:L5:1718:C:H6	1.78	0.48
1:L5:1728:C:O2'	1:L5:1729:G:H5'	2.14	0.48
1:L5:4953:A:H2'	1:L5:4954:C:C6	2.47	0.48
33:Le:21:ILE:HD12	33:Le:21:ILE:C	2.38	0.48
46:S2:147:A:C2'	46:S2:148:U:H5'	2.43	0.48
46:S2:1484:A:H2'	46:S2:1485:U:C6	2.48	0.48
51:SD:95:GLY:HA3	51:SD:129:SER:OG	2.13	0.48
66:ST:114:GLU:HG2	66:ST:124:THR:HG22	1.96	0.48
69:SW:83:LEU:HD11	69:SW:120:HIS:C	2.38	0.48
78:Sg:171:ASP:C	78:Sg:172:LYS:HG3	2.39	0.48
1:L5:89:C:C2'	1:L5:90:G:H5'	2.44	0.48
1:L5:2263:G:H2'	1:L5:2264:C:C6	2.49	0.48
1:L5:4277:G:H5'	1:L5:4279:PSU:C6	2.48	0.48
12:LI:152:LEU:O	12:LI:156:LYS:HG3	2.13	0.48
12:LI:197:VAL:CG1	12:LI:198:LYS:N	2.76	0.48
22:LT:45:MET:HE3	22:LT:94:GLU:HB3	1.94	0.48
31:Lc:38:ILE:HG21	31:Lc:63:TYR:HB3	1.95	0.48
46:S2:4:C:H4'	50:SC:207:ALA:HB2	1.95	0.48
46:S2:1410:C:H2'	46:S2:1411:G:H8	1.79	0.48
46:S2:1490:OMG:H5'	46:S2:1490:OMG:H8	1.79	0.48
78:Sg:190:GLY:HA3	78:Sg:217:MET:HE1	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:Sg:191:HIS:CE1	78:Sg:195:LEU:HD21	2.48	0.48
1:L5:316:U:OP1	1:L5:316:U:H3'	2.13	0.48
1:L5:1242:C:O2'	1:L5:1243:G:H5'	2.13	0.48
1:L5:1797:A:O2'	1:L5:1798:A:H5'	2.14	0.48
1:L5:1948:G:H4'	21:LS:93:MET:HG2	1.95	0.48
1:L5:2872:A:C2	46:S2:1806:A:H5'	2.49	0.48
1:L5:4894:A:H2'	5:LB:156:TYR:CE1	2.48	0.48
2:L7:115:A:O2'	2:L7:116:G:H5'	2.12	0.48
13:LJ:39:VAL:HG21	13:LJ:126:TYR:CD2	2.49	0.48
19:LQ:177:ALA:O	19:LQ:184:ARG:HB2	2.14	0.48
20:LR:81:ARG:HG2	20:LR:88:ARG:CZ	2.43	0.48
20:LR:119:MET:O	20:LR:123:LEU:HD12	2.14	0.48
46:S2:867:OMG:HM23	46:S2:867:OMG:H1'	1.71	0.48
46:S2:1365:G:O2'	46:S2:1366:G:P	2.72	0.48
61:SO:117:ARG:HH11	73:Sa:49:ALA:HA	1.77	0.48
62:SP:85:ILE:HD12	62:SP:111:MET:HB3	1.95	0.48
1:L5:3720:U:H2'	1:L5:3721:G:O4'	2.14	0.48
1:L5:4113:A:C2	10:LG:37:LYS:HD2	2.49	0.48
4:LA:117:GLU:HG2	4:LA:124:GLY:H	1.78	0.48
21:LS:47:PHE:CD1	22:LT:153:PRO:HG3	2.49	0.48
46:S2:1292:C:H3'	46:S2:1293:A:H8	1.77	0.48
46:S2:1390:U:H2'	46:S2:1391:OMC:C6	2.48	0.48
48:SA:111:GLN:HA	48:SA:116:PHE:CG	2.49	0.48
49:SB:136:ARG:HB2	49:SB:218:LEU:HD11	1.95	0.48
50:SC:166:ARG:NH2	68:SV:1:MET:HB2	2.29	0.48
1:L5:197:A:O2'	1:L5:198:A:H5'	2.14	0.48
1:L5:340:C:H4'	1:L5:341:G:OP2	2.13	0.48
1:L5:725:G:O2'	1:L5:726:G:H5'	2.14	0.48
1:L5:1338:A:O2'	1:L5:1339:A:H5'	2.13	0.48
1:L5:2341:OMC:HM23	6:LC:95:MET:CG	2.37	0.48
1:L5:2591:A:H2'	1:L5:2591:A:N3	2.29	0.48
3:L8:144:U:H2'	3:L8:145:C:H6	1.78	0.48
4:LA:177:LYS:HD2	44:Lp:69:TRP:CH2	2.49	0.48
13:LJ:44:THR:HG22	13:LJ:82:ILE:CD1	2.43	0.48
18:LP:128:ARG:NH1	18:LP:136:ILE:HD13	2.29	0.48
19:LQ:64:SER:HB3	19:LQ:92:VAL:HG23	1.92	0.48
46:S2:511:U:H2'	46:S2:512:A2M:H8	1.96	0.48
46:S2:529:A:H2'	46:S2:530:U:O4'	2.12	0.48
46:S2:875:A:H2'	46:S2:876:C:H6	1.77	0.48
1:L5:165:A:O2'	1:L5:166:C:H5'	2.14	0.48
1:L5:506:C:H2'	1:L5:507:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1069:G:H2'	1:L5:1070:C:C6	2.49	0.48
1:L5:1071:C:C3'	1:L5:1072:A:H5''	2.43	0.48
1:L5:1391:U:O2	1:L5:1465:C:H4'	2.13	0.48
1:L5:3638:A:H2'	1:L5:3639:A:C5	2.49	0.48
1:L5:4713:A:H5'	5:LB:130:PHE:H	1.78	0.48
20:LR:137:ILE:HG23	46:S2:392:A:P	2.53	0.48
23:LU:71:THR:HG23	23:LU:71:THR:O	2.14	0.48
46:S2:560:A:H2'	46:S2:561:A:H5'	1.95	0.48
46:S2:1446:A:O2'	46:S2:1447:OMG:H5''	2.14	0.48
1:L5:966:C:C6	8:LE:126:LEU:HD13	2.48	0.47
1:L5:1609:A:H5'	4:LA:183:GLY:HA2	1.95	0.47
1:L5:2601:A:H5'	1:L5:2678:G:C4'	2.36	0.47
1:L5:3638:A:H2'	1:L5:3639:A:C8	2.49	0.47
6:LC:350:ARG:HG2	6:LC:350:ARG:HH11	1.78	0.47
8:LE:183:ARG:HA	8:LE:183:ARG:HD2	1.59	0.47
46:S2:165:G:H1'	54:SG:110:ASN:HD22	1.78	0.47
46:S2:496:C:O5'	52:SE:29:PRO:HD3	2.14	0.47
46:S2:639:C:H2'	46:S2:640:A:H8	1.79	0.47
46:S2:1043:G:O2'	46:S2:1044:G:H5'	2.14	0.47
46:S2:1339:U:O2'	46:S2:1340:U:H5'	2.14	0.47
46:S2:1366:G:O2'	46:S2:1367:PSU:H6	1.97	0.47
46:S2:1383:A2M:H3'	46:S2:1383:A2M:C8	2.44	0.47
46:S2:1426:U:O2'	46:S2:1427:C:H5'	2.14	0.47
46:S2:1587:G:O6	66:ST:67:NMM:HD3	2.14	0.47
46:S2:1791:A:H2'	46:S2:1792:G:O4'	2.14	0.47
61:SO:78:ALA:HB3	61:SO:118:ALA:HB3	1.95	0.47
1:L5:67:C:O3'	16:LN:177:GLY:HA3	2.14	0.47
1:L5:1303:A:H2'	1:L5:1304:C:C6	2.49	0.47
1:L5:1925:A:H5'	1:L5:1926:U:OP1	2.15	0.47
1:L5:2025:A:O2'	1:L5:2026:A:H5'	2.13	0.47
1:L5:2039:A:H61	1:L5:4423:U:H5''	1.79	0.47
1:L5:2875:A:H5''	46:S2:1732:G:H1'	1.96	0.47
1:L5:4375:C:H2'	1:L5:4376:A:C8	2.49	0.47
1:L5:4846:C:O5'	1:L5:4846:C:H6	1.97	0.47
4:LA:17:ARG:HH11	4:LA:17:ARG:HB2	1.80	0.47
16:LN:16:SER:O	16:LN:20:ARG:HG3	2.13	0.47
28:LZ:89:ILE:H	28:LZ:89:ILE:HD12	1.80	0.47
46:S2:639:C:H2'	46:S2:640:A:C8	2.49	0.47
46:S2:649:PSU:H2'	46:S2:650:A:C8	2.49	0.47
46:S2:1025:U:H2'	46:S2:1026:C:O4'	2.14	0.47
47:S6:4:G:H22	47:S6:71:G:H1	1.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SA:76:VAL:HG11	48:SA:90:PHE:CD1	2.50	0.47
55:SH:66:VAL:N	55:SH:67:PRO:HD2	2.29	0.47
72:SZ:65:TYR:HB2	72:SZ:68:ILE:HG12	1.97	0.47
1:L5:433:A:C2	1:L5:3853:A2M:H4'	2.49	0.47
1:L5:473:C:H2'	1:L5:474:C:C6	2.48	0.47
1:L5:739:G:OP1	1:L5:739:G:H3'	2.14	0.47
1:L5:929:A:H61	15:LM:70:GLN:HE22	1.61	0.47
1:L5:1939:A:H2'	1:L5:1940:A:H5'	1.96	0.47
1:L5:2056:G:N2	21:LS:115:ALA:HB2	2.29	0.47
1:L5:2814:OMC:HM23	1:L5:2814:OMC:H1'	1.51	0.47
7:LD:65:ALA:HA	7:LD:73:MET:O	2.13	0.47
17:LO:48:TYR:CE2	17:LO:52:LEU:HD11	2.49	0.47
46:S2:166:A2M:CM'	46:S2:167:G:H5'	2.35	0.47
46:S2:1345:G:H5'	46:S2:1689:C:C5'	2.42	0.47
52:SE:128:LYS:HB2	52:SE:140:VAL:HB	1.95	0.47
56:SI:158:ILE:HD12	56:SI:162:LEU:HB3	1.95	0.47
62:SP:86:LEU:HB2	62:SP:89:MET:HG3	1.96	0.47
78:Sg:245:ARG:NH2	78:Sg:312:VAL:HG21	2.29	0.47
1:L5:1313:U:H2'	1:L5:1314:C:C6	2.49	0.47
1:L5:2039:A:N6	1:L5:4423:U:H5''	2.30	0.47
1:L5:3647:G:O2'	4:LA:156:LYS:HD2	2.15	0.47
1:L5:3835:A:O2'	1:L5:3836:C:H5'	2.14	0.47
3:L8:36:G:C5	36:Lh:89:ARG:HD3	2.49	0.47
7:LD:67:ALA:HB1	22:LT:31:MET:HE2	1.95	0.47
21:LS:127:MET:O	22:LT:152:GLU:HG2	2.14	0.47
22:LT:30:TYR:HA	22:LT:93:ILE:CD1	2.44	0.47
31:Lc:38:ILE:HD11	31:Lc:46:VAL:HG21	1.94	0.47
48:SA:122:LEU:HB2	48:SA:142:LEU:HD21	1.96	0.47
69:SW:111:MET:SD	69:SW:115:GLU:HG2	2.55	0.47
1:L5:10:A:H2'	1:L5:11:G:C8	2.49	0.47
1:L5:72:C:O2'	14:LL:60:ARG:HD2	2.14	0.47
1:L5:368:C:O4'	6:LC:83:GLY:HA3	2.13	0.47
1:L5:757:G:N3	1:L5:757:G:H2'	2.29	0.47
1:L5:1802:G:O2'	1:L5:1803:C:H5'	2.14	0.47
1:L5:2414:OMG:H8	1:L5:2414:OMG:O5'	1.96	0.47
1:L5:2628:G:N3	1:L5:2628:G:H5''	2.29	0.47
1:L5:3710:A2M:O2'	1:L5:3711:G:H5'	2.15	0.47
1:L5:4498:U:O2	1:L5:4498:U:H2'	2.14	0.47
1:L5:4912:G:N3	1:L5:4912:G:H5''	2.29	0.47
2:L7:28:C:O3'	13:LJ:138:GLY:HA2	2.13	0.47
46:S2:71:G:H2'	46:S2:72:C:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:379:C:H5'	56:SI:33:ALA:HA	1.97	0.47
46:S2:1538:C:H2'	46:S2:1539:U:C6	2.48	0.47
46:S2:1819:A:O2'	46:S2:1820:G:H5'	2.13	0.47
52:SE:50:ASN:O	52:SE:53:LYS:HE3	2.14	0.47
60:SN:15:ALA:HB2	74:Sb:20:LYS:HE3	1.95	0.47
61:SO:113:GLN:NE2	73:Sa:46:GLU:H	2.12	0.47
78:Sg:59:LEU:HD22	78:Sg:95:GLY:HA2	1.96	0.47
78:Sg:191:HIS:CD2	78:Sg:195:LEU:HD21	2.50	0.47
78:Sg:258:ILE:HD12	78:Sg:270:LEU:HD13	1.97	0.47
1:L5:1063:G:C2'	1:L5:1064:G:H5'	2.43	0.47
1:L5:1069:G:H2'	1:L5:1070:C:H6	1.79	0.47
1:L5:1271:G:H2'	1:L5:1272:C:O4'	2.14	0.47
1:L5:2041:G:O2'	1:L5:2042:G:H5''	2.13	0.47
1:L5:4375:C:H2'	1:L5:4376:A:H8	1.79	0.47
1:L5:4384:C:C2'	1:L5:4385:U:H5'	2.45	0.47
17:LO:48:TYR:HE2	17:LO:52:LEU:HD11	1.79	0.47
29:La:132:ARG:HD2	83:La:210:HOH:O	2.13	0.47
41:Lm:97:ARG:HG2	41:Lm:122:ARG:HG2	1.95	0.47
46:S2:952:G:H2'	46:S2:953:C:C6	2.50	0.47
46:S2:1278:A:H2'	46:S2:1279:C:H6	1.80	0.47
46:S2:1391:OMC:HM23	46:S2:1391:OMC:H1'	1.75	0.47
46:S2:1673:U:H2'	46:S2:1674:G:O4'	2.14	0.47
46:S2:1729:U:H3	46:S2:1805:G:H1	1.62	0.47
59:SL:79:LYS:HB2	59:SL:79:LYS:HE3	1.58	0.47
1:L5:2:G:H2'	1:L5:3:C:H6	1.80	0.47
1:L5:164:G:H2'	1:L5:165:A:H5'	1.97	0.47
1:L5:424:U:H2'	1:L5:425:U:C6	2.49	0.47
1:L5:648:G:H2'	1:L5:649:A:O4'	2.14	0.47
1:L5:758:G:N3	1:L5:758:G:H2'	2.30	0.47
1:L5:1083:G:O2'	1:L5:1084:G:H5'	2.14	0.47
1:L5:1506:G:H2'	1:L5:1507:U:C6	2.49	0.47
1:L5:2025:A:H2'	1:L5:2026:A:H8	1.78	0.47
1:L5:3916:U:H2'	1:L5:3917:C:C6	2.50	0.47
1:L5:4564:G:H2'	1:L5:4565:PSU:H6	1.80	0.47
1:L5:4579:C:O2'	1:L5:4580:U:H5'	2.14	0.47
1:L5:4890:C:H2'	1:L5:4891:C:C6	2.50	0.47
1:L5:5049:G:O2'	1:L5:5050:U:H5'	2.14	0.47
3:L8:66:A:H2'	3:L8:67:U:H6	1.79	0.47
11:LH:150:ASP:HB3	11:LH:153:LEU:HD12	1.97	0.47
14:LL:123:LYS:O	36:Lh:122:LYS:HG3	2.14	0.47
17:LO:196:LEU:HD22	17:LO:201:LEU:CD1	2.38	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Lj:20:ARG:HD3	38:Lj:39:TYR:CE2	2.49	0.47
43:Lo:69:ARG:HH12	43:Lo:80:LYS:NZ	2.13	0.47
46:S2:582:U:H1'	71:SY:33:ALA:HB2	1.95	0.47
46:S2:606:G:H1'	77:Se:58:ASN:ND2	2.29	0.47
46:S2:848:U:H2'	46:S2:849:A:C8	2.46	0.47
46:S2:1092:G:OP2	60:SN:9:LYS:HE3	2.15	0.47
52:SE:175:PHE:HE2	52:SE:225:ILE:HG21	1.79	0.47
58:SK:49:MET:HG3	58:SK:69:TRP:CZ3	2.50	0.47
1:L5:1453:G:O2'	1:L5:1454:C:H5'	2.15	0.47
1:L5:4564:G:H2'	1:L5:4565:PSU:C6	2.49	0.47
29:La:103:VAL:HG23	29:La:108:TYR:O	2.15	0.47
46:S2:468:A2M:HM'2	46:S2:469:A:O4'	2.15	0.47
46:S2:874:G:H2'	46:S2:875:A:C8	2.50	0.47
46:S2:1811:C:H2'	46:S2:1812:U:O4'	2.13	0.47
1:L5:68:U:H2'	1:L5:69:A:O4'	2.13	0.47
1:L5:325:U:H2'	1:L5:326:C:H6	1.77	0.47
1:L5:458:C:O2'	1:L5:459:C:H5'	2.14	0.47
1:L5:1444:G:H2'	1:L5:1445:C:H6	1.80	0.47
1:L5:1560:A:H3'	1:L5:1561:A:H8	1.78	0.47
1:L5:4198:A:H4'	1:L5:4199:A:O5'	2.14	0.47
1:L5:4685:U:C1'	1:L5:4686:A:H5''	2.42	0.47
10:LG:58:PRO:HD2	10:LG:61:ILE:HD12	1.96	0.47
19:LQ:121:LEU:HA	19:LQ:125:GLN:OE1	2.15	0.47
28:LZ:73:LYS:HE3	28:LZ:73:LYS:HB3	1.75	0.47
48:SA:130:ASP:O	48:SA:134:LEU:HG	2.15	0.47
49:SB:48:LEU:HD23	49:SB:48:LEU:N	2.30	0.47
50:SC:60:TRP:O	50:SC:62:PRO:HD3	2.14	0.47
1:L5:2374:U:H2'	1:L5:2375:U:C6	2.50	0.47
1:L5:2743:G:C2'	1:L5:2744:G:H5'	2.44	0.47
1:L5:2857:C:H2'	1:L5:2858:G:H5'	1.97	0.47
1:L5:3876:A:C8	1:L5:4557:A2M:HM'3	2.49	0.47
1:L5:4329:U:H2'	1:L5:4330:U:C6	2.50	0.47
1:L5:4921:G:O2'	1:L5:4922:C:H5'	2.15	0.47
3:L8:111:U:O2	3:L8:111:U:H3'	2.15	0.47
7:LD:62:CYS:SG	7:LD:101:THR:HG22	2.54	0.47
7:LD:84:PRO:HA	7:LD:88:VAL:O	2.15	0.47
15:LM:42:CYS:HG	15:LM:77:TRP:CD1	2.32	0.47
46:S2:946:U:H4'	46:S2:1046:PSU:OP1	2.15	0.47
46:S2:1204:A:H2'	46:S2:1205:C:C6	2.50	0.47
52:SE:160:ILE:HD12	52:SE:162:ILE:HD11	1.97	0.47
55:SH:103:LYS:HG3	55:SH:116:ARG:NH2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:SK:49:MET:HB3	58:SK:69:TRP:CE2	2.50	0.47
62:SP:18:ARG:HD3	65:SS:90:VAL:HA	1.97	0.47
62:SP:77:LYS:HG2	62:SP:102:PHE:CG	2.50	0.47
1:L5:115:C:OP1	16:LN:2:GLY:HA2	2.15	0.46
1:L5:166:C:H2'	1:L5:167:C:H6	1.78	0.46
1:L5:1274:C:H2'	1:L5:1275:A:O4'	2.15	0.46
1:L5:1293:U:O3'	34:Lf:58:VAL:HG13	2.15	0.46
1:L5:2630:G:H2'	1:L5:2631:A:H8	1.79	0.46
1:L5:2805:A2M:H2'	1:L5:2806:G:H8	1.79	0.46
1:L5:2813:G:O2'	1:L5:2814:OMC:H5''	2.15	0.46
1:L5:3634:A:H1'	1:L5:3771:A2M:N6	2.29	0.46
1:L5:4912:G:H5'	1:L5:4913:C:H5	1.80	0.46
1:L5:4919:A:H2'	1:L5:4920:C:C6	2.51	0.46
2:L7:4:U:H2'	2:L7:5:A:H8	1.81	0.46
4:LA:107:MET:SD	4:LA:113:VAL:HG11	2.55	0.46
5:LB:122:TRP:CZ2	5:LB:127:LYS:HG2	2.50	0.46
11:LH:109:GLY:O	11:LH:133:ALA:HA	2.16	0.46
23:LU:76:VAL:HB	23:LU:77:PRO:CD	2.44	0.46
46:S2:310:C:H2'	46:S2:311:C:C6	2.50	0.46
46:S2:918:PSU:H2'	46:S2:919:A:O4'	2.15	0.46
46:S2:1366:G:O2'	46:S2:1367:PSU:P	2.73	0.46
58:SK:1:MET:HE2	58:SK:47:LYS:HB2	1.98	0.46
1:L5:2076:U:O2'	1:L5:2077:C:H5'	2.15	0.46
1:L5:2854:A:H5'	20:LR:82:LYS:O	2.15	0.46
1:L5:3676:U:H5'	1:L5:3804:UY1:OP2	2.16	0.46
3:L8:115:G:H2'	3:L8:116:C:H6	1.80	0.46
5:LB:201:LEU:O	5:LB:202:GLU:HB2	2.15	0.46
24:LV:91:LYS:HD3	24:LV:91:LYS:HA	1.73	0.46
46:S2:4:C:O2	46:S2:4:C:H2'	2.14	0.46
46:S2:853:C:C2	46:S2:854:A:C8	3.03	0.46
46:S2:1274:G:OP1	58:SK:1:MET:HG3	2.15	0.46
46:S2:1277:C:H2'	46:S2:1278:A:C8	2.45	0.46
49:SB:48:LEU:O	61:SO:51:GLU:HG3	2.15	0.46
54:SG:15:LEU:C	54:SG:15:LEU:HD13	2.40	0.46
63:SQ:105:LYS:HD2	63:SQ:105:LYS:C	2.41	0.46
78:Sg:32:LEU:HD21	78:Sg:42:MET:HG3	1.97	0.46
1:L5:948:C:C2'	1:L5:949:G:H5'	2.45	0.46
1:L5:2323:G:N7	6:LC:189:MET:CE	2.78	0.46
1:L5:3895:C:O2	1:L5:4382:A:N1	2.49	0.46
1:L5:4169:G:H2'	1:L5:4169:G:N3	2.30	0.46
1:L5:4459:A:O2'	1:L5:4460:A:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L8:128:C:H2'	3:L8:129:C:H6	1.78	0.46
46:S2:1047:C:O2'	46:S2:1048:G:H5'	2.14	0.46
48:SA:198:MET:HE1	64:SR:86:PRO:O	2.15	0.46
49:SB:89:GLU:OE2	49:SB:228:LEU:HD13	2.15	0.46
61:SO:28:PHE:HZ	73:Sa:58:VAL:HG21	1.79	0.46
69:SW:36:ARG:HA	69:SW:36:ARG:HD2	1.78	0.46
1:L5:965:U:H4'	1:L5:966:C:C5	2.50	0.46
1:L5:1242:C:H2'	1:L5:1243:G:H8	1.81	0.46
1:L5:1903:A:H2'	1:L5:1904:A:C8	2.50	0.46
1:L5:2830:A:C2'	1:L5:2831:G:H5'	2.45	0.46
1:L5:3898:U:C2'	1:L5:3899:G:H5'	2.45	0.46
1:L5:5023:A:H2'	1:L5:5024:U:C6	2.50	0.46
15:LM:100:ARG:HD3	17:LO:198:THR:O	2.15	0.46
16:LN:48:ALA:C	16:LN:53:TYR:HB3	2.40	0.46
46:S2:27:A2M:O2'	46:S2:28:U:H5'	2.14	0.46
46:S2:668:A2M:H8	46:S2:668:A2M:H2'	1.45	0.46
46:S2:1349:G:H2'	46:S2:1350:U:C6	2.50	0.46
46:S2:1405:A:H2'	46:S2:1406:G:O4'	2.15	0.46
76:Sd:33:LYS:HG2	76:Sd:34:TYR:CD2	2.50	0.46
1:L5:1470:C:O2'	1:L5:1471:G:H5'	2.16	0.46
1:L5:1843:C:H2'	1:L5:1844:C:C6	2.50	0.46
1:L5:2510:C:H2'	1:L5:2511:G:C8	2.50	0.46
1:L5:2545:G:H4'	28:LZ:108:ARG:NH2	2.30	0.46
1:L5:3642:A:H2'	1:L5:3643:U:H6	1.79	0.46
3:L8:11:C:O2'	3:L8:12:G:H5'	2.16	0.46
9:LF:144:TYR:CE2	9:LF:237:GLU:HG2	2.50	0.46
10:LG:163:PRO:HB2	10:LG:165:GLU:OE1	2.16	0.46
46:S2:159:A2M:H2	46:S2:468:A2M:O4'	2.16	0.46
46:S2:389:A:O2'	46:S2:390:C:H5'	2.16	0.46
46:S2:428:OMU:C4'	57:SJ:2:PRO:HD2	2.46	0.46
46:S2:1344:A:H4'	46:S2:1345:G:O5'	2.14	0.46
48:SA:1:MET:HA	48:SA:59:LEU:HB3	1.96	0.46
58:SK:32:HIS:CD2	58:SK:33:PRO:HD2	2.51	0.46
63:SQ:51:LEU:HD11	63:SQ:81:ILE:HD12	1.96	0.46
64:SR:34:VAL:O	64:SR:38:ILE:HG13	2.16	0.46
70:SX:48:LYS:HD3	70:SX:99:GLU:OE2	2.14	0.46
1:L5:101:A:H1'	29:La:66:ASN:ND2	2.31	0.46
1:L5:2683:G:H2'	1:L5:2684:G:N2	2.31	0.46
1:L5:3648:A:H5'	1:L5:3650:G:O4'	2.15	0.46
46:S2:1621:U:H6	46:S2:1621:U:P	2.39	0.46
71:SY:25:ILE:HD11	71:SY:73:GLY:HA3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SZ:100:VAL:CG2	72:SZ:110:THR:HG22	2.46	0.46
1:L5:2563:A:H2'	1:L5:2564:G:O4'	2.15	0.46
1:L5:3713:A:H2'	1:L5:3714:A:C8	2.51	0.46
1:L5:3756:U:H2'	1:L5:3757:C:H6	1.80	0.46
1:L5:4996:A:O2'	1:L5:4997:G:H5'	2.15	0.46
2:L7:57:C:H2'	2:L7:58:A:H8	1.80	0.46
6:LC:81:GLY:O	6:LC:87:SER:HB2	2.16	0.46
46:S2:416:U:H2'	46:S2:417:C:O4'	2.16	0.46
46:S2:1487:A:O4'	50:SC:118:ALA:HB1	2.15	0.46
46:S2:1690:U:H2'	46:S2:1691:U:H6	1.81	0.46
1:L5:1587:U:H5''	1:L5:4513:G:OP1	2.16	0.46
1:L5:1671:C:C4	1:L5:1673:PSU:H1'	2.51	0.46
1:L5:2061:G:H2'	1:L5:2062:C:O4'	2.16	0.46
1:L5:2331:A:O2'	1:L5:2332:G:H5'	2.16	0.46
9:LF:221:LYS:HD2	9:LF:221:LYS:HA	1.67	0.46
46:S2:1293:A:H2'	46:S2:1294:G:C1'	2.46	0.46
46:S2:1679:A:C2	53:SF:60:ARG:HG3	2.50	0.46
52:SE:67:GLN:O	52:SE:68:ARG:HB2	2.16	0.46
54:SG:70:HIS:CE1	54:SG:101:ILE:CG2	2.98	0.46
1:L5:386:A:O4'	27:LY:87:ARG:HD3	2.16	0.46
1:L5:1077:U:H1'	1:L5:1211:G:C2	2.50	0.46
1:L5:1814:G:H1'	1:L5:1818:U:C2	2.51	0.46
1:L5:2619:C:H2'	1:L5:2620:U:C6	2.51	0.46
1:L5:2806:G:H2'	1:L5:2807:C:H6	1.81	0.46
1:L5:4068:G:H2'	1:L5:4069:U:C6	2.51	0.46
1:L5:4565:PSU:O2'	1:L5:4566:U:H5'	2.16	0.46
7:LD:208:MET:HG3	7:LD:223:PHE:CZ	2.50	0.46
28:LZ:79:HIS:O	28:LZ:80:LEU:HD23	2.16	0.46
46:S2:29:G:H2'	46:S2:30:C:H6	1.78	0.46
46:S2:461:U:H2'	46:S2:462:OMC:H6	1.80	0.46
46:S2:494:C:N4	46:S2:509:OMG:HN22	2.13	0.46
46:S2:1289:U:H2'	46:S2:1290:G:C8	2.50	0.46
46:S2:1730:U:H2'	46:S2:1731:A:O4'	2.15	0.46
1:L5:3902:G:H2'	1:L5:3903:A:C8	2.51	0.46
1:L5:4858:G:N3	17:LO:175:MET:HG2	2.30	0.46
8:LE:164:PHE:CE1	8:LE:173:LEU:HD22	2.51	0.46
11:LH:150:ASP:O	11:LH:154:VAL:HG23	2.16	0.46
29:La:74:ASN:CG	29:La:114:LYS:HB3	2.41	0.46
46:S2:147:A:O2'	46:S2:148:U:H5'	2.16	0.46
52:SE:102:ILE:HG23	52:SE:182:MET:HE1	1.98	0.46
75:Sc:40:ARG:HH21	75:Sc:42:ILE:CG2	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:269:G:H2'	1:L5:270:U:C6	2.51	0.45
1:L5:1451:G:O2'	1:L5:1452:C:H5'	2.16	0.45
1:L5:1456:C:H2'	1:L5:1457:C:C6	2.51	0.45
1:L5:1948:G:HO2'	1:L5:1949:U:H5'	1.80	0.45
1:L5:3741:G:N2	1:L5:3756:U:H1'	2.31	0.45
1:L5:3879:C:H2'	1:L5:3880:A:C8	2.51	0.45
1:L5:4237:A:H5'	13:LJ:129:ASP:OD1	2.15	0.45
1:L5:4989:C:O2'	1:L5:4990:G:H5'	2.16	0.45
2:L7:31:G:O2'	2:L7:32:A:H5'	2.15	0.45
19:LQ:34:PHE:CE1	19:LQ:38:ARG:HG3	2.51	0.45
32:Ld:42:ALA:HB3	32:Ld:43:PRO:HD3	1.97	0.45
49:SB:187:LYS:O	49:SB:190:PRO:HD2	2.16	0.45
50:SC:183:LYS:HA	50:SC:195:LEU:O	2.16	0.45
1:L5:126:C:H2'	1:L5:127:G:C8	2.50	0.45
1:L5:319:A:O2'	1:L5:320:C:H5'	2.15	0.45
1:L5:911:A:H2'	1:L5:912:G:O4'	2.17	0.45
1:L5:1078:C:H2'	1:L5:1079:C:C6	2.50	0.45
1:L5:1735:G:O2'	1:L5:1736:C:H5'	2.16	0.45
1:L5:4058:C:C2	1:L5:4059:A:C8	3.04	0.45
10:LG:50:ASP:HB2	26:LX:40:ILE:HD12	1.97	0.45
23:LU:60:VAL:HG23	23:LU:61:VAL:N	2.32	0.45
33:Le:35:TRP:CE2	33:Le:56:PRO:HD2	2.51	0.45
46:S2:833:C:O2'	46:S2:834:C:H5'	2.17	0.45
46:S2:1101:U:H2'	46:S2:1102:G:H8	1.80	0.45
46:S2:1383:A2M:C8	46:S2:1383:A2M:C3'	2.93	0.45
56:SI:13:LYS:HG3	59:SL:137:THR:HG21	1.97	0.45
63:SQ:57:LEU:HD21	63:SQ:115:TYR:CD1	2.51	0.45
78:Sg:165:ILE:HD12	78:Sg:179:LEU:HD22	1.98	0.45
1:L5:79:C:H2'	1:L5:80:C:H6	1.81	0.45
1:L5:2719:C:H2'	1:L5:2720:U:O4'	2.16	0.45
1:L5:3851:A:H2'	1:L5:3852:C:H6	1.81	0.45
1:L5:4330:U:H2'	1:L5:4331:C:H6	1.80	0.45
1:L5:4613:U:H4'	5:LB:373:LYS:HD2	1.98	0.45
1:L5:4687:A:H2'	1:L5:4688:G:H5'	1.97	0.45
16:LN:178:HIS:HA	16:LN:181:HIS:NE2	2.31	0.45
32:Ld:75:LYS:HB2	32:Ld:79:ASN:O	2.15	0.45
46:S2:1004:PSU:H2'	46:S2:1005:G:C8	2.52	0.45
46:S2:1177:PSU:H2'	46:S2:1178:U:C6	2.51	0.45
46:S2:1210:G:O2'	46:S2:1211:G:H5'	2.16	0.45
46:S2:1444:U:O2'	46:S2:1445:PSU:H5''	2.16	0.45
46:S2:1623:A:N6	65:SS:132:ARG:HD3	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SH:105:THR:HG22	55:SH:106:ARG:N	2.30	0.45
1:L5:1354:G:H8	1:L5:1373:G:O6	2.00	0.45
1:L5:2511:G:H5'	1:L5:2630:G:H1'	1.97	0.45
1:L5:2578:C:H5''	1:L5:2579:C:H5''	1.96	0.45
1:L5:3909:A:H2'	1:L5:3910:C:H6	1.80	0.45
1:L5:4229:C:O2	1:L5:4229:C:H2'	2.15	0.45
1:L5:4671:U:H2'	1:L5:4672:G:C8	2.51	0.45
1:L5:4903:C:O2'	1:L5:4904:G:H5'	2.17	0.45
1:L5:4951:A:H2'	1:L5:4952:A:O4'	2.17	0.45
7:LD:66:TYR:HE2	7:LD:68:ARG:HE	1.65	0.45
24:LV:42:VAL:HB	24:LV:45:ILE:HG13	1.98	0.45
44:Lp:56:HIS:CE1	44:Lp:61:MET:HE3	2.52	0.45
46:S2:1398:G:C2	46:S2:1399:C:C6	3.04	0.45
50:SC:84:PHE:CZ	50:SC:264:SER:HA	2.51	0.45
58:SK:1:MET:HE2	58:SK:47:LYS:CB	2.46	0.45
67:SU:68:THR:HG23	67:SU:70:CYS:O	2.16	0.45
69:SW:14:ILE:HD11	69:SW:27:ILE:HD11	1.97	0.45
1:L5:163:A:H2'	1:L5:164:G:H8	1.82	0.45
1:L5:683:C:C2'	1:L5:684:G:H5'	2.46	0.45
1:L5:2441:A:C2'	1:L5:2442:G:H5'	2.46	0.45
1:L5:2541:A:C2'	1:L5:2542:G:H5'	2.47	0.45
1:L5:2617:C:O2	1:L5:2617:C:H2'	2.16	0.45
21:LS:84:TYR:HA	21:LS:123:SER:O	2.17	0.45
24:LV:13:LYS:CE	24:LV:128:LEU:HD11	2.46	0.45
34:Lf:29:LYS:HE2	34:Lf:83:MET:SD	2.57	0.45
46:S2:861:A:H4'	69:SW:107:SER:O	2.16	0.45
46:S2:1016:U:O2	60:SN:61:ALA:HB1	2.17	0.45
46:S2:1265:A:H2	46:S2:1266:C:C6	2.34	0.45
52:SE:102:ILE:CG2	52:SE:182:MET:HE1	2.47	0.45
61:SO:133:THR:O	61:SO:135:ILE:HG12	2.16	0.45
65:SS:84:LEU:HD12	65:SS:95:TYR:HB3	1.98	0.45
72:SZ:58:LEU:O	72:SZ:63:PRO:HD3	2.16	0.45
72:SZ:69:THR:O	72:SZ:73:VAL:HG23	2.17	0.45
78:Sg:78:ALA:O	78:Sg:89:LEU:HD12	2.17	0.45
1:L5:19:G:O2'	1:L5:20:U:H5'	2.17	0.45
1:L5:411:G:H4'	1:L5:412:G:H5''	1.99	0.45
1:L5:2402:A:H2'	1:L5:2403:U:H6	1.80	0.45
11:LH:117:PHE:O	11:LH:120:GLU:HG3	2.17	0.45
23:LU:62:THR:HB	23:LU:73:THR:OG1	2.17	0.45
46:S2:1337:4AC:H5	46:S2:1337:4AC:HM72	1.98	0.45
46:S2:1337:4AC:H5	46:S2:1337:4AC:HM73	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1383:A2M:H5''	51:SD:156:LEU:HD21	1.97	0.45
49:SB:121:ILE:HG12	49:SB:161:VAL:HG13	1.98	0.45
70:SX:105:PHE:HB3	70:SX:112:VAL:HG21	1.99	0.45
73:Sa:28:ARG:HG3	73:Sa:29:CYS:N	2.32	0.45
78:Sg:258:ILE:HD12	78:Sg:268:ASP:CB	2.46	0.45
1:L5:2673:C:H2'	1:L5:2674:C:C6	2.51	0.45
1:L5:2705:G:O2'	1:L5:2706:C:H5'	2.17	0.45
1:L5:4067:G:O2'	1:L5:4068:G:H5'	2.16	0.45
3:L8:70:G:H5''	27:LY:27:ARG:CZ	2.47	0.45
8:LE:202:ASP:O	8:LE:260:LYS:HE2	2.17	0.45
8:LE:216:TYR:CD1	8:LE:216:TYR:C	2.95	0.45
11:LH:96:TYR:CD2	11:LH:100:PRO:HA	2.52	0.45
19:LQ:9:LYS:HB3	19:LQ:9:LYS:HE3	1.75	0.45
28:LZ:53:VAL:HG12	28:LZ:57:MET:SD	2.56	0.45
33:Le:35:TRP:CZ2	33:Le:55:MET:HG2	2.52	0.45
36:Lh:41:ALA:HA	36:Lh:44:LEU:HD12	1.98	0.45
46:S2:428:OMU:O2	57:SJ:3:VAL:HG22	2.16	0.45
46:S2:484:A2M:H8	46:S2:484:A2M:O5'	2.16	0.45
46:S2:1337:4AC:O2'	67:SU:68:THR:HB	2.16	0.45
46:S2:1346:U:O2	46:S2:1383:A2M:H2	2.17	0.45
46:S2:1349:G:H21	48:SA:112:ILE:HD11	1.81	0.45
48:SA:42:LYS:HD3	64:SR:99:ASP:CG	2.42	0.45
49:SB:52:THR:HG23	49:SB:57:ILE:HD12	1.99	0.45
49:SB:82:ARG:HD3	49:SB:103:MET:SD	2.57	0.45
50:SC:206:SER:CB	50:SC:224:THR:HG21	2.47	0.45
52:SE:94:LYS:HD2	52:SE:94:LYS:HA	1.76	0.45
54:SG:159:ARG:HD3	54:SG:171:THR:HB	1.97	0.45
65:SS:27:ALA:HA	65:SS:45:LEU:CD1	2.47	0.45
65:SS:80:PRO:HB2	65:SS:82:TRP:CD1	2.52	0.45
1:L5:1628:A:N3	1:L5:1628:A:H2'	2.32	0.45
1:L5:1823:C:O2'	1:L5:1824:C:H5'	2.16	0.45
1:L5:2346:U:H5''	3:L8:14:OMU:CM2	2.47	0.45
1:L5:3627:U:C6	1:L5:3631:U:C4	3.05	0.45
1:L5:4488:C:H2'	1:L5:4489:A:C5'	2.47	0.45
1:L5:4918:C:H2'	1:L5:4919:A:O4'	2.17	0.45
3:L8:92:U:O2'	3:L8:93:C:H5'	2.16	0.45
4:LA:225:ILE:HD12	4:LA:226:ARG:H	1.82	0.45
12:LI:191:ILE:C	12:LI:197:VAL:HG13	2.42	0.45
16:LN:84:PRO:HA	16:LN:87:HIS:CG	2.51	0.45
25:LW:47:ARG:HG3	25:LW:47:ARG:NH1	2.30	0.45
46:S2:1004:PSU:H2'	46:S2:1005:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1520:G:H3'	46:S2:1521:C:C5	2.52	0.45
46:S2:1848:U:H2'	46:S2:1850:MA6:OP2	2.17	0.45
51:SD:170:THR:OG1	51:SD:187:LYS:HG2	2.17	0.45
52:SE:55:ALA:HB1	52:SE:60:GLU:HB2	1.98	0.45
56:SI:161:LEU:O	56:SI:165:GLN:HG3	2.17	0.45
63:SQ:22:VAL:HG11	63:SQ:71:ARG:NH2	2.31	0.45
67:SU:24:LEU:HD23	67:SU:112:VAL:HG22	1.99	0.45
1:L5:205:C:O2	1:L5:209:U:H5	2.00	0.45
1:L5:1718:C:O2'	1:L5:1719:A:H5'	2.17	0.45
1:L5:1879:G:O6	1:L5:1892:A:H2	1.99	0.45
1:L5:2814:OMC:O2'	1:L5:2815:A:H5'	2.16	0.45
1:L5:3665:U:O2'	4:LA:23:ARG:HD2	2.17	0.45
1:L5:4204:U:H5''	1:L5:4205:A:OP1	2.17	0.45
1:L5:4518:PSU:H2'	1:L5:4519:A:O4'	2.16	0.45
7:LD:33:ARG:O	7:LD:37:VAL:HG22	2.17	0.45
20:LR:74:ARG:O	20:LR:76:MET:HG2	2.16	0.45
21:LS:7:LEU:O	21:LS:103:ALA:HB1	2.17	0.45
24:LV:62:MET:HE3	24:LV:76:VAL:HG12	1.98	0.45
46:S2:159:A2M:HM'2	46:S2:160:U:H5'	1.98	0.45
46:S2:1438:A:H2'	46:S2:1439:A:H8	1.82	0.45
46:S2:1634:A:H2'	46:S2:1635:C:O4'	2.17	0.45
48:SA:38:ILE:C	48:SA:38:ILE:HD12	2.42	0.45
48:SA:41:ARG:HD2	48:SA:47:TYR:CZ	2.51	0.45
52:SE:192:ILE:CD1	52:SE:238:LEU:HD13	2.47	0.45
1:L5:1688:C:O2'	1:L5:1689:U:H5'	2.16	0.45
1:L5:1747:A:H5'	12:LI:194:GLY:HA2	1.99	0.45
1:L5:1820:G:H4'	7:LD:44:TYR:CE2	2.52	0.45
1:L5:2404:G:H2'	1:L5:2405:OMU:H6	1.99	0.45
1:L5:2705:G:H2'	1:L5:2706:C:C6	2.52	0.45
1:L5:2873:G:O2'	46:S2:1805:G:C4'	2.61	0.45
1:L5:4180:U:H3'	30:Lb:3:LYS:HD3	1.99	0.45
1:L5:4593:A:O5'	1:L5:4593:A:H8	2.00	0.45
1:L5:4694:A:N3	1:L5:4695:U:H5'	2.32	0.45
3:L8:155:C:H2'	3:L8:156:U:C4'	2.47	0.45
4:LA:133:TYR:HB3	4:LA:168:VAL:HG12	1.98	0.45
5:LB:122:TRP:CE2	5:LB:127:LYS:HE3	2.52	0.45
11:LH:61:TRP:CZ2	15:LM:33:GLN:HG3	2.52	0.45
12:LI:51:HIS:ND1	12:LI:137:SER:OG	2.48	0.45
38:Lj:39:TYR:CG	38:Lj:40:PRO:HA	2.51	0.45
43:Lo:35:ALA:O	43:Lo:39:ARG:HG3	2.16	0.45
46:S2:19:A:H2'	46:S2:20:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1842:4AC:O7	46:S2:1842:4AC:H5	2.17	0.45
51:SD:163:PRO:HA	51:SD:166:TYR:CZ	2.52	0.45
53:SF:141:VAL:CG1	53:SF:145:ARG:HG2	2.46	0.45
60:SN:53:ILE:CD1	74:Sb:52:THR:HG21	2.47	0.45
70:SX:77:ASN:CG	70:SX:79:LYS:HG3	2.42	0.45
1:L5:3892:A:H5''	6:LC:69:THR:OG1	2.17	0.44
1:L5:4273:G:H2'	1:L5:4274:C:C6	2.53	0.44
1:L5:4313:C:O2'	1:L5:4314:G:H5'	2.18	0.44
1:L5:4677:A:H2'	1:L5:4678:A:O4'	2.18	0.44
1:L5:4866:U:N3	15:LM:113:MET:HG2	2.32	0.44
1:L5:4979:G:H2'	1:L5:4980:U:H6	1.83	0.44
8:LE:67:ALA:HA	8:LE:69:TYR:CE2	2.51	0.44
12:LI:152:LEU:CB	12:LI:165:ILE:HD12	2.46	0.44
46:S2:1541:G:O2'	46:S2:1542:C:H5'	2.17	0.44
46:S2:1589:A:H2'	46:S2:1590:C:H6	1.80	0.44
48:SA:127:PRO:HA	48:SA:134:LEU:HD11	1.99	0.44
55:SH:48:ALA:HA	55:SH:61:ILE:O	2.17	0.44
65:SS:5:ILE:CD1	65:SS:6:PRO:HD2	2.37	0.44
65:SS:85:ASN:HB2	65:SS:97:GLN:CD	2.41	0.44
1:L5:382:G:H4'	1:L5:407:A:N1	2.31	0.44
1:L5:2058:C:O2'	1:L5:2059:G:H5'	2.17	0.44
1:L5:4362:A:H5''	1:L5:4363:G:O5'	2.16	0.44
4:LA:20:VAL:HA	4:LA:23:ARG:HG3	1.98	0.44
7:LD:59:ASP:OD1	7:LD:81:HIS:HB3	2.17	0.44
22:LT:45:MET:HE2	22:LT:94:GLU:HB3	1.98	0.44
24:LV:13:LYS:HE3	24:LV:128:LEU:HD12	1.99	0.44
46:S2:339:A:H2'	46:S2:340:C:C6	2.52	0.44
46:S2:1313:A:H4'	46:S2:1314:U:C2	2.52	0.44
46:S2:1325:G:H1'	46:S2:1510:G:H5''	1.99	0.44
46:S2:1487:A:C2'	50:SC:118:ALA:HB1	2.48	0.44
46:S2:1550:G:H3'	46:S2:1579:A:H61	1.81	0.44
49:SB:171:ILE:HD13	49:SB:197:ILE:HA	1.99	0.44
51:SD:175:VAL:CG2	51:SD:184:ILE:HD11	2.47	0.44
78:Sg:47:ARG:HG2	78:Sg:52:TYR:CE2	2.52	0.44
1:L5:288:G:H2'	1:L5:289:C:C6	2.53	0.44
1:L5:1077:U:O2'	1:L5:1078:C:H5'	2.17	0.44
1:L5:1587:U:O4	1:L5:4542:U:H5	2.00	0.44
1:L5:1745:A:H2'	1:L5:1746:G:C8	2.52	0.44
1:L5:1826:G:H2'	1:L5:1827:G:H8	1.83	0.44
1:L5:2510:C:H2'	1:L5:2511:G:H8	1.83	0.44
1:L5:2644:C:H2'	1:L5:2645:C:H6	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4387:G:H2'	1:L5:4388:C:H6	1.81	0.44
1:L5:4623:OMG:HM23	1:L5:4623:OMG:H1'	1.51	0.44
3:L8:115:G:H2'	3:L8:116:C:C6	2.51	0.44
7:LD:208:MET:SD	7:LD:236:MET:HE2	2.57	0.44
9:LF:187:MET:HE3	9:LF:187:MET:HB3	1.76	0.44
10:LG:230:TYR:HA	10:LG:233:ILE:HB	2.00	0.44
12:LI:48:LEU:HD23	12:LI:140:THR:CG2	2.47	0.44
39:Lk:19:ASP:OD2	39:Lk:38:CYS:HB3	2.17	0.44
46:S2:1298:G:H5'	62:SP:77:LYS:HB3	1.99	0.44
46:S2:1680:G:H2'	46:S2:1681:U:C6	2.53	0.44
46:S2:1830:U:O4'	46:S2:1851:MA6:H2	2.17	0.44
46:S2:1850:MA6:H103	46:S2:1851:MA6:H102	1.99	0.44
1:L5:43:U:H2'	1:L5:44:A:H5'	2.00	0.44
1:L5:683:C:O2'	1:L5:684:G:H5'	2.18	0.44
1:L5:946:G:H2'	1:L5:947:C:H6	1.82	0.44
1:L5:1878:U:C4	1:L5:2269:A:C2	3.05	0.44
1:L5:2693:G:O2'	1:L5:2694:C:H5'	2.17	0.44
1:L5:2884:A:H2'	1:L5:2885:A:H8	1.82	0.44
3:L8:5:U:H2'	3:L8:6:C:C6	2.49	0.44
28:LZ:58:GLY:O	28:LZ:62:ILE:HG13	2.18	0.44
46:S2:1447:OMG:C2'	46:S2:1448:A:H5'	2.47	0.44
46:S2:1631:U:H2'	46:S2:1632:G:O4'	2.16	0.44
50:SC:192:LEU:HB3	50:SC:227:ARG:HG3	1.99	0.44
60:SN:130:LYS:HE3	60:SN:139:TRP:O	2.17	0.44
1:L5:950:A:H8	1:L5:951:G:C8	2.34	0.44
1:L5:1304:C:H2'	1:L5:1305:C:H6	1.78	0.44
1:L5:2406:G:C2	1:L5:2415:U:H5'	2.53	0.44
1:L5:4494:C:C2'	1:L5:4495:U:H5'	2.48	0.44
3:L8:8:U:H2'	3:L8:9:A:H8	1.81	0.44
5:LB:303:ALA:HB2	5:LB:314:ILE:HA	1.98	0.44
6:LC:22:VAL:HG22	6:LC:258:ARG:CZ	2.48	0.44
6:LC:347:HIS:CE1	6:LC:351:VAL:CG2	3.00	0.44
7:LD:197:LYS:HB3	7:LD:202:GLN:HB2	2.00	0.44
8:LE:201:ILE:O	8:LE:201:ILE:HG13	2.17	0.44
46:S2:1019:C:H2'	46:S2:1020:A:O4'	2.17	0.44
46:S2:1263:U:H4'	76:Sd:27:ARG:HD2	1.99	0.44
46:S2:1324:G:O2'	46:S2:1325:G:H5'	2.18	0.44
46:S2:1401:A:H2'	46:S2:1402:A:C8	2.52	0.44
65:SS:14:ARG:HA	65:SS:18:THR:O	2.18	0.44
78:Sg:30:MET:SD	78:Sg:42:MET:HG3	2.58	0.44
1:L5:974:U:O2'	1:L5:975:C:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2586:G:O2'	1:L5:2587:G:H5'	2.17	0.44
1:L5:4544:U:O2'	1:L5:4545:A:H5'	2.18	0.44
1:L5:4901:G:O2'	1:L5:4902:C:H5'	2.18	0.44
3:L8:67:U:H2'	3:L8:68:G:C8	2.52	0.44
7:LD:34:LYS:HB3	7:LD:34:LYS:HE3	1.71	0.44
23:LU:20:LYS:CB	23:LU:73:THR:HG22	2.47	0.44
24:LV:112:MET:HE3	24:LV:112:MET:HB3	1.78	0.44
27:LY:69:LYS:N	27:LY:83:GLU:HG2	2.32	0.44
34:Lf:34:TYR:HA	34:Lf:81:SER:O	2.17	0.44
36:Lh:5:LYS:O	36:Lh:9:LEU:HG	2.18	0.44
46:S2:223:C:H2'	46:S2:224:A:C8	2.53	0.44
46:S2:874:G:H21	55:SH:114:GLN:HE22	1.66	0.44
46:S2:1232:PSU:H2'	46:S2:1233:G:H8	1.83	0.44
53:SF:107:ASN:OD1	53:SF:109:LEU:HB2	2.17	0.44
62:SP:75:VAL:HA	62:SP:93:MET:O	2.17	0.44
71:SY:76:TYR:CE2	71:SY:86:GLU:HG2	2.52	0.44
1:L5:212:A:O2'	1:L5:213:G:H5'	2.17	0.44
1:L5:1329:A:H2'	1:L5:1330:A:H8	1.82	0.44
1:L5:1484:G:H2'	1:L5:1485:G:O4'	2.18	0.44
1:L5:1565:U:O2'	1:L5:1566:G:H5'	2.17	0.44
1:L5:2623:U:H2'	1:L5:2624:C:H6	1.82	0.44
1:L5:2711:G:H2'	1:L5:2712:G:H5'	1.96	0.44
1:L5:2837:G:O2'	1:L5:2838:G:H5'	2.17	0.44
1:L5:3621:A:C8	1:L5:3678:A:C8	3.06	0.44
1:L5:4118:C:H2'	1:L5:4119:C:O4'	2.18	0.44
1:L5:4465:A:P	11:LH:170:LYS:HE2	2.58	0.44
1:L5:4516:UR3:O5'	1:L5:4516:UR3:H6	2.18	0.44
1:L5:4877:A:H2'	1:L5:4878:A:O4'	2.17	0.44
1:L5:4950:U:H4'	1:L5:4951:A:H5'	1.99	0.44
3:L8:77:A:H2'	3:L8:78:G:C8	2.52	0.44
5:LB:213:GLN:HG3	5:LB:214:ASP:OD1	2.18	0.44
6:LC:80:ARG:HG3	6:LC:80:ARG:NH1	2.32	0.44
7:LD:51:MET:HE2	7:LD:53:VAL:HG22	1.99	0.44
16:LN:60:VAL:HG21	16:LN:113:LEU:HD13	2.00	0.44
21:LS:69:GLU:OE1	21:LS:101:THR:HA	2.17	0.44
32:Ld:24:GLU:HB2	32:Ld:120:VAL:CG2	2.47	0.44
35:Lg:21:ARG:HG2	35:Lg:35:THR:CG2	2.48	0.44
46:S2:1650:A:H2'	46:S2:1651:A:O4'	2.18	0.44
49:SB:159:GLN:OE1	49:SB:159:GLN:HA	2.18	0.44
71:SY:103:SER:O	71:SY:107:ARG:HG3	2.18	0.44
1:L5:477:C:O2'	1:L5:478:G:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:1917:C:C2	15:LM:53:LYS:HE2	2.51	0.44
1:L5:2529:C:O2'	1:L5:2530:C:H5'	2.18	0.44
1:L5:2883:U:H4'	56:SI:89:GLU:HA	1.99	0.44
1:L5:4234:A:H2'	1:L5:4235:G:O4'	2.18	0.44
1:L5:4537:U:H2'	1:L5:4538:PSU:C6	2.53	0.44
5:LB:213:GLN:HG3	5:LB:214:ASP:CG	2.43	0.44
17:LO:76:PRO:HB3	17:LO:138:LEU:HG	2.00	0.44
29:La:87:ARG:HA	29:La:120:GLN:HE22	1.83	0.44
39:Lk:14:THR:HA	39:Lk:17:ARG:HD3	2.00	0.44
43:Lo:63:THR:CG2	43:Lo:89:LYS:HG2	2.48	0.44
46:S2:103:A:H2	46:S2:105:PSU:O2	2.00	0.44
46:S2:511:U:H2'	46:S2:512:A2M:O4'	2.17	0.44
46:S2:925:G:O2'	46:S2:926:A:H5'	2.18	0.44
47:S6:4:G:N2	47:S6:71:G:H1	2.15	0.44
69:SW:97:ARG:HG2	69:SW:97:ARG:NH1	2.31	0.44
73:Sa:10:ARG:HB2	73:Sa:33:ASP:OD2	2.17	0.44
78:Sg:17:TRP:HB2	78:Sg:36:ARG:HD2	1.98	0.44
1:L5:89:C:H2'	1:L5:90:G:H5'	2.00	0.44
1:L5:1929:G:H2'	1:L5:1930:A:C8	2.53	0.44
1:L5:2030:G:H2'	1:L5:2031:C:C6	2.53	0.44
1:L5:2448:C:H5''	16:LN:67:ARG:HD2	2.00	0.44
1:L5:2676:G:H5''	1:L5:2677:U:OP1	2.18	0.44
1:L5:3756:U:H2'	1:L5:3757:C:C6	2.53	0.44
1:L5:3830:PSU:O2'	1:L5:3831:A:H5'	2.18	0.44
1:L5:4292:OMU:CM2	1:L5:4293:A:H5'	2.47	0.44
1:L5:4557:A2M:HM'3	1:L5:4557:A2M:H1'	1.65	0.44
2:L7:27:G:H2'	2:L7:28:C:C6	2.53	0.44
6:LC:284:MET:HG3	19:LQ:28:LEU:HD21	1.99	0.44
21:LS:30:MET:HE2	21:LS:30:MET:HB3	1.93	0.44
46:S2:27:A2M:HM'3	46:S2:27:A2M:H1'	1.69	0.44
46:S2:155:G:H2'	46:S2:156:G:C8	2.52	0.44
46:S2:804:U:H2'	46:S2:805:U:H6	1.83	0.44
46:S2:1086:G:HO2'	46:S2:1087:A:H5'	1.83	0.44
46:S2:1163:C:O2'	46:S2:1164:G:H5'	2.18	0.44
50:SC:206:SER:HB3	50:SC:224:THR:CG2	2.48	0.44
1:L5:1725:A:C2'	1:L5:1726:U:H5'	2.48	0.43
1:L5:2541:A:O2'	1:L5:2542:G:H5'	2.18	0.43
1:L5:2622:PSU:C4	1:L5:2623:U:C5	3.06	0.43
1:L5:2723:C:O2'	1:L5:2724:PSU:H5''	2.18	0.43
1:L5:4313:C:HO2'	1:L5:4314:G:H5'	1.82	0.43
1:L5:4756:U:H2'	1:L5:4846:C:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L8:77:A:H2'	3:L8:78:G:O4'	2.18	0.43
7:LD:207:TYR:CE1	7:LD:211:LEU:HG	2.53	0.43
14:LL:81:LEU:HD11	14:LL:98:VAL:HG22	2.00	0.43
19:LQ:43:PHE:CD2	19:LQ:133:GLY:HA3	2.53	0.43
21:LS:74:ARG:HG2	21:LS:74:ARG:HH11	1.83	0.43
46:S2:464:A:H5'	46:S2:465:A:C8	2.53	0.43
46:S2:1199:A:H2'	46:S2:1200:A:C8	2.53	0.43
55:SH:135:PHE:CD1	55:SH:136:PRO:HA	2.53	0.43
58:SK:1:MET:HG2	58:SK:2:LEU:N	2.33	0.43
67:SU:78:ASP:HB3	67:SU:80:PHE:CE2	2.53	0.43
78:Sg:304:ASP:OD2	78:Sg:306:LEU:HD12	2.18	0.43
1:L5:476:G:H2'	1:L5:477:C:C6	2.53	0.43
1:L5:946:G:H2'	1:L5:947:C:C6	2.52	0.43
1:L5:1202:G:C2'	1:L5:1203:U:H5'	2.48	0.43
1:L5:1784:A:H2'	12:LI:22:PHE:CZ	2.54	0.43
1:L5:1880:C:H4'	1:L5:2066:U:C4	2.53	0.43
1:L5:2364:A:H5'	32:Ld:64:ILE:O	2.18	0.43
1:L5:2405:OMU:CM2	1:L5:2406:G:H5'	2.48	0.43
1:L5:3622:C:H4'	1:L5:3811:A2M:H2	2.00	0.43
1:L5:4474:A:H4'	1:L5:4475:G:C8	2.53	0.43
1:L5:4582:C:O2'	1:L5:4583:U:H5'	2.18	0.43
1:L5:4872:C:H2'	1:L5:4873:U:H6	1.81	0.43
1:L5:5012:A:H2'	1:L5:5013:G:C8	2.53	0.43
2:L7:23:A:H2'	2:L7:24:C:C6	2.53	0.43
10:LG:30:PRO:HB2	28:LZ:125:GLY:HA3	2.00	0.43
13:LJ:18:ARG:HH11	13:LJ:139:PHE:HD2	1.65	0.43
15:LM:85:LYS:O	15:LM:89:THR:HG23	2.17	0.43
16:LN:20:ARG:HE	16:LN:20:ARG:HB3	1.57	0.43
17:LO:62:MET:HG2	17:LO:65:ASN:H	1.82	0.43
21:LS:2:LYS:HG2	21:LS:4:SER:OG	2.18	0.43
24:LV:118:THR:HG23	24:LV:118:THR:O	2.18	0.43
34:Lf:45:LYS:HD3	34:Lf:45:LYS:HA	1.86	0.43
46:S2:164:A:H2'	46:S2:165:G:N3	2.33	0.43
46:S2:1643:PSU:O2'	46:S2:1644:C:H5'	2.18	0.43
46:S2:1646:C:C2'	46:S2:1647:A:OP2	2.67	0.43
48:SA:77:ILE:HD12	48:SA:122:LEU:HD11	2.00	0.43
51:SD:59:LEU:HD23	51:SD:66:ILE:CD1	2.48	0.43
62:SP:22:LEU:HD12	62:SP:22:LEU:O	2.17	0.43
72:SZ:94:LYS:HE2	72:SZ:96:LEU:HD11	2.00	0.43
78:Sg:302:TYR:HB2	78:Sg:304:ASP:OD1	2.18	0.43
1:L5:67:C:H41	1:L5:326:C:H5'	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:936:G:H4'	1:L5:938:A:C6	2.53	0.43
1:L5:1665:A:H4'	1:L5:1681:G:N2	2.33	0.43
1:L5:2544:U:H5'	1:L5:2545:G:P	2.58	0.43
1:L5:3622:C:O4'	1:L5:3811:A2M:H2	2.17	0.43
1:L5:4115:G:O2'	1:L5:4116:C:H5'	2.17	0.43
1:L5:4155:G:H4'	1:L5:4157:C:C2	2.53	0.43
83:L5:6407:HOH:O	27:LY:61:HIS:HB2	2.17	0.43
5:LB:378:ARG:HD3	25:LW:11:TYR:CD2	2.53	0.43
13:LJ:40:LEU:HB2	13:LJ:48:PRO:HG3	2.00	0.43
33:Le:16:ARG:HD3	33:Le:20:PHE:CE2	2.53	0.43
46:S2:85:A:H2'	46:S2:86:C:C6	2.53	0.43
46:S2:162:C:H2'	46:S2:163:U:O4'	2.18	0.43
46:S2:1381:G:H2'	46:S2:1382:A:C4'	2.49	0.43
78:Sg:189:ILE:HD12	78:Sg:189:ILE:N	2.33	0.43
1:L5:1483:G:O2'	1:L5:1484:G:H5'	2.18	0.43
1:L5:2293:C:H5'	33:Le:102:ASN:O	2.18	0.43
1:L5:2316:G:H5''	33:Le:127:ALA:HB2	2.00	0.43
1:L5:2413:A:H2'	1:L5:2414:OMG:C8	2.53	0.43
1:L5:2547:G:H2'	1:L5:2548:C:H6	1.84	0.43
1:L5:2771:G:C2'	1:L5:2772:U:H5'	2.48	0.43
1:L5:3715:U:O2'	1:L5:3716:U:H5'	2.19	0.43
1:L5:4496:A:C8	24:LV:46:LYS:HE2	2.53	0.43
9:LF:182:TYR:CZ	9:LF:203:GLU:HG2	2.53	0.43
10:LG:170:LEU:HB3	10:LG:171:PRO:HD3	1.99	0.43
11:LH:90:TYR:CE2	11:LH:184:LYS:HG2	2.54	0.43
25:LW:49:ILE:HB	25:LW:52:THR:HG23	2.00	0.43
46:S2:496:C:P	52:SE:29:PRO:HD3	2.58	0.43
46:S2:576:A2M:CM'	46:S2:577:U:H5'	2.47	0.43
46:S2:929:G:H2'	46:S2:930:C:O4'	2.18	0.43
46:S2:1037:G:H4'	46:S2:1845:A:H4'	2.00	0.43
46:S2:1342:U:H4'	46:S2:1343:U:OP1	2.19	0.43
46:S2:1366:G:C4	46:S2:1367:PSU:C6	3.07	0.43
51:SD:72:VAL:HG13	58:SK:68:TYR:HD2	1.81	0.43
56:SI:65:PHE:HB2	56:SI:109:TYR:OH	2.18	0.43
72:SZ:84:ALA:O	72:SZ:88:LEU:HG	2.18	0.43
78:Sg:154:VAL:HG22	78:Sg:167:SER:HB2	2.01	0.43
78:Sg:157:SER:HB2	78:Sg:164:ILE:HD11	2.01	0.43
1:L5:426:A:H2'	1:L5:427:A:C8	2.54	0.43
1:L5:2416:U:HO2'	1:L5:2417:G:H8	1.65	0.43
1:L5:4995:PSU:O2'	1:L5:4996:A:H5'	2.18	0.43
3:L8:6:C:H2'	3:L8:7:U:H6	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:LY:31:SER:HA	27:LY:48:PRO:HA	1.99	0.43
28:LZ:41:ALA:HB2	28:LZ:77:TYR:HE1	1.84	0.43
46:S2:803:C:H2'	46:S2:804:U:C6	2.54	0.43
46:S2:1270:G:H2'	46:S2:1271:C:C5'	2.39	0.43
46:S2:1797:U:H2'	46:S2:1798:C:H6	1.79	0.43
53:SF:122:ARG:HG2	75:Sc:57:THR:CG2	2.48	0.43
59:SL:78:THR:HG21	59:SL:89:ARG:HB2	2.00	0.43
63:SQ:72:VAL:HG11	63:SQ:84:ILE:HD11	2.01	0.43
1:L5:2:G:H8	1:L5:2:G:OP2	2.02	0.43
1:L5:91:G:O2'	43:Lo:53:LYS:HE3	2.18	0.43
1:L5:113:A:H2'	1:L5:114:G:O4'	2.19	0.43
1:L5:119:G:H3'	1:L5:120:A:C5'	2.46	0.43
1:L5:150:U:H4'	1:L5:151:G:OP2	2.18	0.43
1:L5:1671:C:OP1	1:L5:4362:A:H3'	2.18	0.43
1:L5:1775:PSU:H2'	1:L5:1776:A:H8	1.81	0.43
2:L7:39:C:C6	13:LJ:49:VAL:HG23	2.53	0.43
16:LN:59:TYR:CE2	16:LN:135:ILE:HD11	2.54	0.43
18:LP:122:ALA:HB1	18:LP:123:PRO:HD2	2.00	0.43
36:Lh:6:ALA:O	36:Lh:10:ARG:HG2	2.18	0.43
46:S2:511:U:H2'	46:S2:512:A2M:C8	2.48	0.43
46:S2:819:G:O2'	46:S2:820:U:H5'	2.19	0.43
46:S2:1347:U:H2'	46:S2:1348:G:N3	2.34	0.43
46:S2:1348:G:C8	46:S2:1349:G:C8	3.06	0.43
46:S2:1469:A:O2'	46:S2:1470:C:H5'	2.19	0.43
46:S2:1487:A:O2'	50:SC:118:ALA:HB1	2.18	0.43
46:S2:1513:C:H2'	46:S2:1514:G:H8	1.83	0.43
46:S2:1588:A:H2'	46:S2:1589:A:H8	1.79	0.43
49:SB:124:HIS:HA	49:SB:137:LEU:O	2.19	0.43
53:SF:40:ALA:HB1	53:SF:45:TYR:CG	2.54	0.43
61:SO:136:PRO:HB2	61:SO:139:SER:HB3	2.01	0.43
68:SV:14:PRO:HG2	68:SV:23:ILE:HD13	2.00	0.43
78:Sg:173:LEU:HD23	78:Sg:173:LEU:HA	1.81	0.43
1:L5:67:C:N4	1:L5:326:C:H5'	2.33	0.43
1:L5:972:G:OP1	8:LE:62:MET:HG3	2.17	0.43
1:L5:1359:C:H3'	14:LL:36:ARG:HH12	1.83	0.43
1:L5:2547:G:H2'	1:L5:2548:C:O4'	2.18	0.43
1:L5:2617:C:C2	1:L5:2618:U:C5	3.07	0.43
1:L5:2806:G:H2'	1:L5:2807:C:C6	2.53	0.43
1:L5:3704:A2M:H2	1:L5:3920:G:C4'	2.48	0.43
1:L5:3823:C:H2'	1:L5:3824:U:O4'	2.19	0.43
1:L5:4213:OMU:HM22	1:L5:4214:OMG:C5'	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4331:C:H2'	1:L5:4332:U:C6	2.54	0.43
1:L5:4370:U:O3'	1:L5:4371:A:H3'	2.19	0.43
5:LB:14:LEU:HD22	5:LB:17:LEU:HD11	2.00	0.43
6:LC:76:ILE:CG1	6:LC:77:PRO:HD2	2.45	0.43
11:LH:105:ILE:HG21	11:LH:109:GLY:HA2	1.99	0.43
18:LP:16:LYS:HG2	18:LP:149:ILE:HG12	2.00	0.43
28:LZ:36:ARG:HG2	28:LZ:38:TYR:CZ	2.53	0.43
29:La:78:LEU:HD21	29:La:124:VAL:CG2	2.49	0.43
46:S2:339:A:H2'	46:S2:340:C:H6	1.84	0.43
46:S2:380:G:OP1	56:SI:31:ARG:HD2	2.18	0.43
46:S2:936:G:O2'	46:S2:937:C:H5'	2.19	0.43
46:S2:1534:C:H5	83:S2:2149:HOH:O	2.00	0.43
47:S6:4:G:H1	47:S6:71:G:H1	1.66	0.43
49:SB:136:ARG:HG2	49:SB:138:PHE:CE1	2.54	0.43
66:ST:130:ASP:O	66:ST:134:ILE:HG12	2.19	0.43
1:L5:161:G:O2'	1:L5:162:A:H5'	2.18	0.43
1:L5:693:C:O5'	1:L5:693:C:H6	2.02	0.43
1:L5:1429:A:H2'	1:L5:1430:G:O4'	2.19	0.43
1:L5:1909:C:O2'	1:L5:1910:C:H5'	2.19	0.43
1:L5:1949:U:H2'	1:L5:1950:U:C6	2.54	0.43
1:L5:2431:C:H5'	83:L5:5691:HOH:O	2.18	0.43
1:L5:2597:C:H5''	20:LR:96:MET:HE1	2.01	0.43
1:L5:2628:G:C2'	1:L5:2629:U:H5'	2.49	0.43
1:L5:3693:U:H2'	1:L5:3694:C:H6	1.83	0.43
1:L5:3722:A:H2'	1:L5:3723:A:H8	1.80	0.43
1:L5:4348:A:C2'	1:L5:4349:A:H5'	2.49	0.43
12:LI:181:PHE:CZ	12:LI:197:VAL:CG2	2.93	0.43
15:LM:2:VAL:HG23	15:LM:3:PHE:H	1.82	0.43
16:LN:41:ARG:HB2	16:LN:42:PRO:HD2	2.00	0.43
46:S2:25:A:HO2'	46:S2:26:U:H6	1.63	0.43
46:S2:337:C:H2'	46:S2:338:G:O4'	2.19	0.43
46:S2:461:U:H2'	46:S2:462:OMC:C6	2.53	0.43
46:S2:493:A:C2	46:S2:494:C:C6	3.07	0.43
46:S2:497:C:O2'	46:S2:498:C:H5'	2.18	0.43
46:S2:828:G:O2'	46:S2:829:C:H5'	2.17	0.43
46:S2:862:A:C8	69:SW:107:SER:HA	2.54	0.43
46:S2:1134:G:H2'	46:S2:1135:C:C6	2.54	0.43
46:S2:1296:U:H2'	46:S2:1297:U:C6	2.54	0.43
46:S2:1395:C:C2'	46:S2:1396:A:H5'	2.49	0.43
46:S2:1495:G:O2'	46:S2:1496:U:H5'	2.18	0.43
46:S2:1819:A:C2'	46:S2:1820:G:H5'	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SI:59:ARG:O	56:SI:60:LEU:HD23	2.17	0.43
68:SV:27:LYS:HA	68:SV:27:LYS:HD3	1.87	0.43
69:SW:42:MET:HE2	69:SW:48:GLY:O	2.19	0.43
70:SX:57:VAL:HG12	70:SX:116:PRO:HD2	2.01	0.43
71:SY:82:ALA:O	71:SY:86:GLU:HB2	2.18	0.43
1:L5:143:C:H5''	1:L5:144:G:O5'	2.19	0.43
1:L5:165:A:H2'	1:L5:166:C:H6	1.84	0.43
1:L5:272:U:H2'	1:L5:273:U:H6	1.80	0.43
1:L5:682:G:H2'	1:L5:683:C:C6	2.53	0.43
1:L5:952:G:C2	8:LE:124:LYS:HE3	2.54	0.43
1:L5:1547:C:H2'	1:L5:1548:G:O4'	2.19	0.43
1:L5:1559:A:N6	46:S2:1028:A:N1	2.66	0.43
1:L5:2716:G:H2'	1:L5:2717:C:C6	2.54	0.43
1:L5:2883:U:H4'	56:SI:89:GLU:HB2	2.00	0.43
1:L5:4179:C:C2'	1:L5:4180:U:H5'	2.49	0.43
1:L5:4393:G:H1'	1:L5:4424:U:C2	2.53	0.43
2:L7:19:C:O2'	2:L7:20:U:H5'	2.19	0.43
10:LG:32:PHE:CE2	28:LZ:55:ALA:HA	2.53	0.43
21:LS:93:MET:SD	21:LS:113:MET:HE1	2.58	0.43
26:LX:77:ILE:HG13	26:LX:116:LEU:HD12	2.01	0.43
28:LZ:74:VAL:HG23	28:LZ:101:PHE:CZ	2.54	0.43
46:S2:176:U:H2'	46:S2:177:G:C8	2.53	0.43
46:S2:1414:A:H2'	46:S2:1415:C:C6	2.53	0.43
51:SD:127:MET:HE2	51:SD:131:ALA:HB3	2.01	0.43
61:SO:136:PRO:CB	61:SO:139:SER:HB3	2.49	0.43
1:L5:271:C:H2'	1:L5:272:U:C6	2.54	0.43
1:L5:434:A:H2'	1:L5:435:A:O4'	2.18	0.43
1:L5:1679:PSU:H2'	1:L5:1680:A:C8	2.53	0.43
1:L5:2263:G:H2'	1:L5:2264:C:H6	1.84	0.43
1:L5:2579:C:C2'	1:L5:2580:G:H5'	2.48	0.43
1:L5:3845:G:H5'	18:LP:139:TYR:CE2	2.53	0.43
1:L5:4106:U:C4	35:Lg:97:ILE:HG12	2.53	0.43
1:L5:4219:A:C8	1:L5:4221:G:C8	3.07	0.43
1:L5:4230:A:H2'	1:L5:4231:G:O4'	2.19	0.43
3:L8:56:G:H2'	3:L8:57:C:O4'	2.19	0.43
6:LC:76:ILE:HG13	6:LC:77:PRO:N	2.33	0.43
17:LO:49:ARG:O	17:LO:53:LYS:HG3	2.19	0.43
32:Ld:28:ASN:O	32:Ld:32:ARG:HG3	2.19	0.43
46:S2:569:A:H2'	46:S2:570:C:O5'	2.19	0.43
46:S2:1083:A:H4'	46:S2:1085:C:C4	2.54	0.43
46:S2:1109:C:C2	64:SR:126:MET:HG3	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1453:C:O2'	64:SR:52:GLY:HA3	2.19	0.43
48:SA:138:SER:HB2	48:SA:156:TYR:CE2	2.54	0.43
66:ST:60:THR:HG23	66:ST:75:MET:SD	2.59	0.43
71:SY:40:ILE:HD13	71:SY:60:PHE:CE1	2.54	0.43
78:Sg:124:SER:HB3	78:Sg:126:ASP:OD1	2.19	0.43
1:L5:360:A:H4'	1:L5:361:C:OP2	2.19	0.42
1:L5:2275:A:O2'	1:L5:2276:G:H5'	2.19	0.42
1:L5:2507:A:C5'	35:Lg:62:LYS:HE3	2.40	0.42
1:L5:2518:G:H21	1:L5:2519:A:H5''	1.84	0.42
1:L5:2609:G:OP1	23:LU:79:SER:HB2	2.19	0.42
1:L5:2693:G:H2'	1:L5:2694:C:C6	2.54	0.42
1:L5:3650:G:H2'	1:L5:3651:G:H8	1.83	0.42
1:L5:3715:U:H5''	43:Lo:34:TYR:OH	2.19	0.42
1:L5:4286:U:H2'	1:L5:4287:U:C6	2.54	0.42
1:L5:4448:C:C2'	1:L5:4449:U:H5'	2.49	0.42
1:L5:4748:A:H2'	1:L5:4749:U:O4'	2.19	0.42
4:LA:101:VAL:HG22	4:LA:165:VAL:HG22	2.01	0.42
13:LJ:109:ILE:O	13:LJ:127:GLY:HA2	2.19	0.42
23:LU:62:THR:O	23:LU:72:VAL:HA	2.19	0.42
46:S2:1346:U:O2'	46:S2:1485:U:C1'	2.67	0.42
57:SJ:33:GLY:HA3	77:Se:38:TYR:CG	2.54	0.42
64:SR:95:ILE:HA	64:SR:116:ASN:HB2	2.01	0.42
66:ST:42:HIS:CB	66:ST:83:GLN:HB2	2.49	0.42
69:SW:15:ASN:ND2	69:SW:19:LYS:HE2	2.34	0.42
70:SX:96:GLU:O	70:SX:97:ASN:HB2	2.18	0.42
78:Sg:17:TRP:O	78:Sg:35:SER:HA	2.19	0.42
78:Sg:258:ILE:HD12	78:Sg:270:LEU:CD1	2.49	0.42
1:L5:5:A:H2'	1:L5:6:C:O4'	2.18	0.42
1:L5:223:G:H4'	1:L5:225:G:C8	2.54	0.42
1:L5:384:A:N1	1:L5:405:U:H4'	2.34	0.42
1:L5:924:G:H2'	1:L5:925:C:C6	2.54	0.42
1:L5:1594:C:O2	1:L5:2788:A:H2'	2.18	0.42
1:L5:3768:5MC:H2'	1:L5:3769:A:H5''	2.00	0.42
1:L5:4459:A:H5''	41:Lm:95:ILE:HD12	2.00	0.42
1:L5:4467:U:H2'	1:L5:4468:U:C6	2.54	0.42
1:L5:4723:G:H2'	1:L5:4724:C:C6	2.54	0.42
1:L5:4870:U:O2'	1:L5:4871:C:H5'	2.19	0.42
1:L5:4890:C:H2'	1:L5:4891:C:H6	1.83	0.42
19:LQ:26:ARG:O	19:LQ:30:LYS:HG3	2.18	0.42
23:LU:71:THR:O	23:LU:71:THR:CG2	2.67	0.42
46:S2:811:A:H2'	46:S2:812:A:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1549:U:H2'	46:S2:1550:G:O4'	2.19	0.42
46:S2:1683:C:H2'	46:S2:1684:C:H6	1.85	0.42
49:SB:67:PHE:CE2	61:SO:48:SER:HB3	2.54	0.42
50:SC:116:THR:C	50:SC:118:ALA:H	2.26	0.42
50:SC:192:LEU:O	50:SC:226:ALA:HA	2.19	0.42
52:SE:92:ILE:CG2	71:SY:17:LEU:HD21	2.49	0.42
52:SE:139:LEU:C	52:SE:139:LEU:HD23	2.45	0.42
52:SE:156:VAL:O	52:SE:157:ASN:HB2	2.19	0.42
57:SJ:111:GLN:NE2	57:SJ:127:ARG:HB2	2.33	0.42
64:SR:117:LEU:HD23	64:SR:117:LEU:HA	1.88	0.42
78:Sg:195:LEU:HA	78:Sg:211:GLY:HA3	2.01	0.42
1:L5:215:C:OP2	1:L5:219:G:H1'	2.19	0.42
1:L5:709:C:O2'	1:L5:710:G:H5'	2.20	0.42
1:L5:974:U:H2'	1:L5:975:C:H6	1.83	0.42
1:L5:1385:U:H1'	1:L5:1465:C:H1'	2.01	0.42
1:L5:3797:G:H4'	1:L5:3798:C:OP2	2.18	0.42
1:L5:3829:C:H4'	1:L5:3830:PSU:OP1	2.19	0.42
1:L5:4723:G:N2	1:L5:4948:G:H1'	2.33	0.42
7:LD:64:ILE:HG12	7:LD:105:LEU:HD11	2.01	0.42
21:LS:128:LYS:HB2	21:LS:128:LYS:HE2	1.79	0.42
46:S2:434:G:O2'	46:S2:435:A:H5'	2.19	0.42
46:S2:1287:A:C5	46:S2:1288:U:H1'	2.55	0.42
46:S2:1333:U:H4'	51:SD:147:ALA:HB2	2.01	0.42
59:SL:96:ILE:HG13	70:SX:10:ALA:HB1	2.01	0.42
70:SX:47:ALA:O	70:SX:102:VAL:HG22	2.19	0.42
73:Sa:81:SER:O	73:Sa:82:LYS:HB2	2.19	0.42
1:L5:1418:G:O2'	1:L5:1419:U:H5'	2.20	0.42
1:L5:3654:C:H5'	4:LA:8:GLN:O	2.19	0.42
14:LL:174:LYS:O	29:La:138:LYS:HE2	2.20	0.42
15:LM:6:PHE:H	15:LM:11:ARG:NH2	2.17	0.42
22:LT:33:ILE:O	22:LT:98:HIS:HE1	2.02	0.42
29:La:72:THR:HG22	29:La:110:LYS:HB3	2.01	0.42
43:Lo:53:LYS:HE2	43:Lo:53:LYS:HB3	1.84	0.42
46:S2:114:G:O6	46:S2:351:G:H1'	2.20	0.42
46:S2:332:G:H2'	46:S2:332:G:N3	2.33	0.42
46:S2:656:G:N2	46:S2:663:C:H5''	2.33	0.42
46:S2:658:U:H4'	46:S2:659:G:O5'	2.20	0.42
46:S2:811:A:H2'	46:S2:812:A:O4'	2.19	0.42
46:S2:946:U:H2'	46:S2:947:G:C8	2.55	0.42
46:S2:1239:PSU:O4	46:S2:1241:A:H8	2.02	0.42
51:SD:8:LYS:O	51:SD:12:VAL:HG23	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70: SX:76: LYS:HG3	70: SX:77: ASN:N	2.35	0.42
74: Sb:82: LYS:O	74: Sb:83: GLN:C	2.62	0.42
78: Sg:112: ALA:HB3	78: Sg:121: VAL:CG1	2.48	0.42
78: Sg:270: LEU:HD23	78: Sg:310: TRP:CD2	2.54	0.42
1: L5:165: A:H2'	1: L5:166: C:C6	2.54	0.42
1: L5:3914: A:H2'	1: L5:3915: G:O4'	2.19	0.42
1: L5:4246: U:H2'	1: L5:4247: C:H6	1.82	0.42
1: L5:4871: C:O2'	1: L5:4872: C:H5'	2.18	0.42
7: LD:153: THR:HB	7: LD:160: PHE:HZ	1.85	0.42
13: LJ:94: LEU:HD12	13: LJ:166: PHE:CZ	2.54	0.42
26: LX:145: ASP:O	26: LX:149: VAL:HG23	2.20	0.42
46: S2:439: A:C2'	46: S2:440: G:H5'	2.49	0.42
46: S2:465: A:H4'	46: S2:466: G:O5'	2.20	0.42
46: S2:481: C:H2'	46: S2:482: G:O4'	2.18	0.42
46: S2:984: C:C2'	46: S2:985: G:H5'	2.48	0.42
46: S2:1050: A:H4'	46: S2:1846: G:O2'	2.20	0.42
46: S2:1528: G:H2'	46: S2:1529: C:C6	2.55	0.42
51: SD:51: LEU:HB3	51: SD:91: VAL:CG2	2.50	0.42
54: SG:160: LYS:O	54: SG:171: THR:HA	2.19	0.42
55: SH:44: ASN:N	55: SH:68: GLN:HE22	2.04	0.42
60: SN:114: ARG:HD3	60: SN:114: ARG:HA	1.85	0.42
66: ST:34: VAL:HG23	66: ST:52: TRP:CZ2	2.55	0.42
1: L5:119: G:H4'	1: L5:120: A:OP2	2.20	0.42
1: L5:754: U:H2'	1: L5:755: C:C6	2.54	0.42
1: L5:754: U:H2'	1: L5:755: C:H6	1.84	0.42
1: L5:951: G:O2'	1: L5:952: G:H5'	2.19	0.42
1: L5:1377: U:C2'	1: L5:1378: G:H5'	2.49	0.42
1: L5:1530: A2M:HM'3	1: L5:1633: A:C2	2.54	0.42
1: L5:1817: G:H21	1: L5:1818: U:H5''	1.84	0.42
1: L5:4059: A:O2'	1: L5:4060: C:H5'	2.19	0.42
1: L5:4871: C:C2'	1: L5:4872: C:H5'	2.50	0.42
3: L8:78: G:O2'	36: Lh:42: SER:HA	2.19	0.42
13: LJ:25: CYS:HA	13: LJ:69: ALA:CB	2.50	0.42
17: LO:141: LEU:O	17: LO:145: VAL:HG22	2.19	0.42
20: LR:19: LYS:HB2	20: LR:19: LYS:HE2	1.77	0.42
22: LT:92: ARG:HB3	22: LT:94: GLU:OE1	2.19	0.42
46: S2:946: U:H2'	46: S2:947: G:H8	1.84	0.42
46: S2:1030: A:H2'	46: S2:1031: A2M:H8	2.02	0.42
46: S2:1425: G:H2'	46: S2:1426: U:C6	2.55	0.42
46: S2:1541: G:H2'	46: S2:1542: C:C6	2.55	0.42
46: S2:1621: U:OP2	62: SP:115: TYR:CE1	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1786:U:H2'	46:S2:1787:G:H8	1.83	0.42
55:SH:118:ARG:HA	55:SH:118:ARG:HD3	1.78	0.42
58:SK:1:MET:CE	58:SK:47:LYS:HB2	2.50	0.42
78:Sg:171:ASP:OD1	78:Sg:173:LEU:HB2	2.19	0.42
1:L5:927:G:H2'	1:L5:927:G:N3	2.35	0.42
1:L5:2509:U:C2	1:L5:2510:C:C5	3.07	0.42
1:L5:2705:G:H2'	1:L5:2706:C:H6	1.85	0.42
1:L5:2854:A:H2'	1:L5:2855:U:C6	2.54	0.42
1:L5:3614:G:O2'	1:L5:3615:A:H5'	2.19	0.42
1:L5:4174:U:H2'	1:L5:4175:U:H6	1.85	0.42
1:L5:4213:OMU:HM22	1:L5:4214:OMG:H5'	2.02	0.42
1:L5:4576:A2M:CM'	1:L5:4577:U:H5'	2.44	0.42
1:L5:4738:U:O2'	1:L5:4739:U:H5'	2.20	0.42
3:L8:21:C:C2'	3:L8:22:U:H5'	2.49	0.42
3:L8:47:C:H1'	3:L8:61:A:H2'	2.00	0.42
14:LL:92:ARG:HH21	14:LL:98:VAL:HB	1.85	0.42
46:S2:165:G:C1'	54:SG:110:ASN:HD22	2.33	0.42
46:S2:455:A:C4	46:S2:456:C:C5	3.08	0.42
46:S2:968:U:H1'	46:S2:972:A:H1'	2.02	0.42
46:S2:1035:A:H2'	46:S2:1036:A:O4'	2.18	0.42
46:S2:1380:C:H2'	46:S2:1381:G:O4'	2.19	0.42
46:S2:1603:G:H4'	65:SS:38:ARG:CZ	2.49	0.42
51:SD:161:GLY:C	51:SD:163:PRO:HD2	2.45	0.42
61:SO:45:THR:OG1	61:SO:49:GLY:HA2	2.20	0.42
63:SQ:113:ILE:HD13	63:SQ:113:ILE:HA	1.95	0.42
1:L5:163:A:H2'	1:L5:164:G:C8	2.55	0.42
1:L5:4137:G:O2'	1:L5:4138:G:H5'	2.20	0.42
1:L5:4463:A:C4	1:L5:4464:G:C8	3.07	0.42
1:L5:4524:G:H2'	1:L5:4525:U:C6	2.54	0.42
1:L5:4631:C:O2'	1:L5:4632:U:H5'	2.19	0.42
1:L5:4635:G:H2'	1:L5:4636:G:O4'	2.19	0.42
21:LS:82:LEU:C	21:LS:127:MET:HE2	2.44	0.42
27:LY:2:LYS:HE3	27:LY:2:LYS:HB3	1.91	0.42
33:Le:104:SER:O	33:Le:108:ARG:HG3	2.19	0.42
46:S2:78:C:P	54:SG:159:ARG:HH22	2.43	0.42
46:S2:636:C:H2'	46:S2:637:U:C6	2.55	0.42
46:S2:1140:G:O2'	46:S2:1141:G:H5'	2.20	0.42
46:S2:1490:OMG:HM23	46:S2:1490:OMG:H1'	1.69	0.42
46:S2:1850:MA6:H8	46:S2:1850:MA6:O5'	2.19	0.42
52:SE:36:HIS:CG	52:SE:85:GLY:HA3	2.54	0.42
1:L5:1925:A:H2'	1:L5:1925:A:N3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:2875:A:C1'	46:S2:1731:A:O2'	2.67	0.42
1:L5:3613:OMG:HM22	1:L5:3614:G:O4'	2.20	0.42
1:L5:3903:A:H2'	1:L5:3904:G:C8	2.52	0.42
1:L5:4170:G:H5'	4:LA:233:ARG:HB2	2.02	0.42
1:L5:4671:U:H2'	1:L5:4672:G:H8	1.85	0.42
1:L5:4861:U:OP2	21:LS:165:PRO:HG3	2.19	0.42
2:L7:88:A:H2'	2:L7:89:G:O4'	2.20	0.42
3:L8:78:G:H2'	3:L8:79:G:O4'	2.19	0.42
8:LE:49:VAL:O	8:LE:49:VAL:HG23	2.20	0.42
28:LZ:109:LYS:HE3	28:LZ:109:LYS:HB3	1.76	0.42
28:LZ:121:ARG:HD2	28:LZ:127:ASN:OD1	2.20	0.42
44:Lp:56:HIS:NE2	44:Lp:61:MET:HE3	2.34	0.42
46:S2:805:U:H5''	69:SW:83:LEU:HD12	2.01	0.42
46:S2:1487:A:O2'	46:S2:1488:C:H5'	2.20	0.42
50:SC:102:LEU:HD23	50:SC:102:LEU:HA	1.85	0.42
51:SD:162:ASP:N	51:SD:163:PRO:CD	2.82	0.42
60:SN:46:THR:O	60:SN:50:ILE:HG13	2.20	0.42
69:SW:105:THR:HG23	69:SW:105:THR:O	2.19	0.42
1:L5:699:C:H2'	1:L5:700:G:C8	2.55	0.42
1:L5:2503:A:OP1	35:Lg:11:LEU:HD13	2.20	0.42
1:L5:2876:U:O2'	1:L5:2877:U:H5'	2.20	0.42
1:L5:3710:A2M:HM'3	1:L5:3710:A2M:H1'	1.79	0.42
1:L5:4159:G:H2'	1:L5:4160:U:C6	2.55	0.42
2:L7:110:G:H2'	2:L7:111:C:C6	2.55	0.42
5:LB:87:VAL:HB	5:LB:110:ILE:CD1	2.50	0.42
6:LC:341:LEU:HD21	8:LE:50:LEU:HD21	2.02	0.42
7:LD:11:ALA:O	7:LD:15:ARG:HG2	2.20	0.42
8:LE:182:ASN:O	8:LE:183:ARG:HB2	2.19	0.42
8:LE:250:GLN:HE21	8:LE:254:ASP:CG	2.28	0.42
9:LF:85:ALA:H	22:LT:138:ALA:HB2	1.85	0.42
9:LF:142:TRP:CZ2	9:LF:235:ASN:HB2	2.54	0.42
9:LF:151:ASN:OD1	9:LF:191:ILE:HD13	2.20	0.42
14:LL:182:LEU:HD11	29:La:146:LEU:HD21	2.02	0.42
18:LP:22:LEU:HD12	18:LP:146:ILE:HG13	2.00	0.42
28:LZ:53:VAL:HA	28:LZ:57:MET:SD	2.60	0.42
37:Li:16:LYS:HD3	37:Li:16:LYS:HA	1.73	0.42
46:S2:352:U:H2'	46:S2:353:C:H6	1.84	0.42
48:SA:24:HIS:CD2	64:SR:102:THR:HG21	2.55	0.42
53:SF:35:LEU:O	53:SF:39:ILE:HG13	2.20	0.42
1:L5:152:U:H5'	16:LN:56:LYS:HG2	2.02	0.41
1:L5:273:U:H2'	1:L5:274:C:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:967:G:H2'	1:L5:968:C:C6	2.55	0.41
1:L5:2600:G:H2'	1:L5:2601:A:C8	2.54	0.41
1:L5:2661:C:H2'	1:L5:2662:C:C6	2.55	0.41
1:L5:3642:A:H2'	1:L5:3643:U:C6	2.55	0.41
1:L5:4154:G:C2'	1:L5:4155:G:H5'	2.49	0.41
2:L7:39:C:H6	13:LJ:49:VAL:HG21	1.84	0.41
3:L8:71:A:C2	3:L8:88:A:C1'	3.03	0.41
3:L8:120:G:H2'	3:L8:121:G:C8	2.55	0.41
5:LB:101:THR:HG23	5:LB:101:THR:O	2.20	0.41
8:LE:112:MET:HE2	45:Lr:94:ARG:CZ	2.50	0.41
10:LG:151:LYS:O	10:LG:205:THR:HG22	2.20	0.41
49:SB:38:MET:CE	49:SB:185:VAL:HG11	2.49	0.41
61:SO:129:ILE:HG22	73:Sa:44:ILE:HD13	2.02	0.41
78:Sg:117:ASN:HD22	78:Sg:117:ASN:N	2.18	0.41
1:L5:132:G:H1'	1:L5:137:G:N2	2.35	0.41
1:L5:1799:G:C6	22:LT:109:VAL:HG22	2.55	0.41
1:L5:2680:C:H2'	1:L5:2681:U:O4'	2.21	0.41
1:L5:4569:C:H1'	83:L5:6281:HOH:O	2.19	0.41
1:L5:4913:C:H2'	1:L5:4914:C:C6	2.55	0.41
2:L7:57:C:H2'	2:L7:58:A:C8	2.55	0.41
4:LA:178:PRO:HG3	44:Lp:25:MET:CE	2.50	0.41
7:LD:138:GLN:HB3	7:LD:139:PRO:HD2	2.02	0.41
11:LH:45:LEU:HD22	11:LH:57:VAL:HG22	2.01	0.41
13:LJ:24:ILE:HG12	13:LJ:128:LEU:CB	2.50	0.41
21:LS:74:ARG:HG2	21:LS:74:ARG:NH1	2.34	0.41
46:S2:1441:U:O4'	46:S2:1442:OMU:H5	2.20	0.41
46:S2:1447:OMG:HM23	46:S2:1447:OMG:H1'	1.75	0.41
58:SK:41:PRO:HG2	58:SK:44:HIS:CG	2.55	0.41
73:Sa:41:ILE:HD13	73:Sa:68:TYR:CE2	2.55	0.41
1:L5:28:C:H4'	1:L5:61:A:H4'	2.02	0.41
1:L5:69:A:H4'	83:L5:6886:HOH:O	2.21	0.41
1:L5:285:G:H2'	1:L5:286:U:C6	2.54	0.41
1:L5:308:G:H1'	37:Li:31:GLY:O	2.20	0.41
1:L5:423:G:H2'	1:L5:424:U:C6	2.55	0.41
1:L5:476:G:H2'	1:L5:477:C:H6	1.85	0.41
1:L5:700:G:H8	1:L5:700:G:O5'	2.04	0.41
1:L5:913:C:H2'	1:L5:914:C:C6	2.55	0.41
1:L5:1414:C:H2'	1:L5:1415:G:O4'	2.20	0.41
1:L5:2405:OMU:H1'	1:L5:2405:OMU:HM23	1.84	0.41
1:L5:3895:C:O2	1:L5:3895:C:H2'	2.20	0.41
1:L5:3926:U:H5''	10:LG:75:LYS:CE	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4164:A:H2'	1:L5:4165:G:C8	2.56	0.41
1:L5:4194:U:H4'	1:L5:4260:A:H2	1.85	0.41
1:L5:4597:A:H2'	1:L5:4598:C:H6	1.86	0.41
1:L5:4621:A:H3'	1:L5:4622:PSU:H4'	2.01	0.41
3:L8:33:G:H4'	3:L8:34:U:C5	2.55	0.41
8:LE:190:HIS:HB3	8:LE:193:PHE:HD2	1.86	0.41
17:LO:54:TYR:O	17:LO:57:PHE:HB3	2.19	0.41
17:LO:78:ARG:HA	17:LO:78:ARG:HD2	1.66	0.41
21:LS:47:PHE:CE1	22:LT:153:PRO:HG3	2.55	0.41
28:LZ:14:LEU:HD11	28:LZ:81:MET:HB2	2.02	0.41
46:S2:353:C:H2'	46:S2:354:OMU:C6	2.50	0.41
46:S2:969:U:P	46:S2:971:G:H5'	2.60	0.41
46:S2:1189:A:H2'	46:S2:1190:A:C8	2.55	0.41
47:S6:4:G:C2'	47:S6:5:G:H5'	2.51	0.41
51:SD:55:THR:O	51:SD:59:LEU:HG	2.20	0.41
51:SD:136:VAL:HG22	51:SD:186:VAL:HG22	2.02	0.41
52:SE:104:ASP:HB3	52:SE:110:ALA:HB2	2.02	0.41
55:SH:11:PRO:HD3	55:SH:44:ASN:HB2	2.02	0.41
72:SZ:73:VAL:HG21	72:SZ:88:LEU:HD21	2.03	0.41
75:Sc:34:PHE:HB2	75:Sc:40:ARG:HG3	2.01	0.41
78:Sg:219:TRP:CZ3	78:Sg:226:HIS:HB2	2.55	0.41
78:Sg:308:ARG:HH11	78:Sg:308:ARG:HG3	1.85	0.41
1:L5:10:A:H2'	1:L5:11:G:H8	1.83	0.41
1:L5:15:A:O2'	1:L5:16:G:H5'	2.20	0.41
1:L5:324:A:H2'	1:L5:325:U:C6	2.55	0.41
1:L5:2265:G:OP1	6:LC:312:ARG:HD3	2.19	0.41
1:L5:2365:A:O2'	1:L5:2366:A:H5'	2.20	0.41
1:L5:2628:G:N7	1:L5:2687:A:N1	2.69	0.41
1:L5:4206:6MZ:O5'	1:L5:4206:6MZ:H8	2.20	0.41
1:L5:4522:OMC:HM22	1:L5:4523:C:O4'	2.20	0.41
1:L5:4866:U:H5''	1:L5:4867:U:OP1	2.20	0.41
17:LO:121:PRO:HA	17:LO:124:LEU:HD12	2.03	0.41
19:LQ:15:ARG:HD2	19:LQ:52:PHE:O	2.21	0.41
23:LU:42:PHE:CG	23:LU:90:TYR:HD2	2.39	0.41
33:Le:32:LYS:HB2	33:Le:32:LYS:HE2	1.85	0.41
43:Lo:69:ARG:HH12	43:Lo:80:LYS:HD3	1.84	0.41
46:S2:161:U:H4'	46:S2:162:C:OP2	2.20	0.41
46:S2:1134:G:H2'	46:S2:1135:C:H6	1.85	0.41
46:S2:1406:G:H2'	46:S2:1407:U:H6	1.86	0.41
46:S2:1571:G:O2'	46:S2:1572:C:H5'	2.20	0.41
62:SP:77:LYS:HG2	62:SP:102:PHE:CD2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SR:105:MET:HE2	64:SR:105:MET:HB3	1.82	0.41
1:L5:37:U:H2'	1:L5:38:A:O4'	2.20	0.41
1:L5:64:A:C4	1:L5:109:G:N7	2.88	0.41
1:L5:426:A:H2'	1:L5:427:A:H8	1.84	0.41
1:L5:1310:C:C2	1:L5:1311:C:C5	3.09	0.41
1:L5:1471:G:N2	1:L5:1486:G:C5	2.88	0.41
1:L5:1728:C:C2'	1:L5:1729:G:H5'	2.50	0.41
1:L5:2794:OMC:HM23	1:L5:2794:OMC:H1'	1.92	0.41
1:L5:3715:U:H2'	1:L5:3716:U:C6	2.55	0.41
1:L5:4275:U:H2'	1:L5:4276:U:C6	2.55	0.41
4:LA:186:TYR:CD1	4:LA:186:TYR:C	2.99	0.41
21:LS:66:GLN:HG2	21:LS:68:PHE:CE1	2.55	0.41
22:LT:105:PHE:CZ	22:LT:109:VAL:HG21	2.55	0.41
27:LY:33:PRO:HD2	27:LY:104:VAL:O	2.20	0.41
28:LZ:87:VAL:HB	28:LZ:89:ILE:HD12	2.03	0.41
46:S2:941:C:H2'	46:S2:942:G:H8	1.86	0.41
46:S2:980:A:O2'	46:S2:981:A:H5'	2.21	0.41
46:S2:1007:C:H2'	46:S2:1008:A:C8	2.55	0.41
46:S2:1233:G:O6	65:SS:138:THR:HG21	2.20	0.41
46:S2:1295:A:H2'	46:S2:1295:A:N3	2.36	0.41
46:S2:1442:OMU:HM23	46:S2:1442:OMU:H1'	1.50	0.41
46:S2:1520:G:H5''	65:SS:136:THR:OG1	2.21	0.41
46:S2:1658:G:H2'	46:S2:1659:U:O4'	2.20	0.41
46:S2:1861:G:H5''	73:Sa:2:THR:O	2.20	0.41
48:SA:56:GLU:HG3	68:SV:83:PHE:HD1	1.86	0.41
50:SC:125:LYS:HG2	50:SC:143:CYS:SG	2.60	0.41
56:SI:76:THR:CG2	56:SI:104:ILE:HB	2.48	0.41
65:SS:25:LYS:HE2	65:SS:25:LYS:HB3	1.63	0.41
69:SW:112:ASP:OD2	69:SW:114:GLU:HB2	2.19	0.41
78:Sg:217:MET:HG2	78:Sg:229:THR:OG1	2.21	0.41
1:L5:2:G:O2'	1:L5:3:C:H5'	2.20	0.41
1:L5:318:A:H2'	1:L5:319:A:C8	2.55	0.41
1:L5:905:U:C2'	1:L5:906:G:H5'	2.51	0.41
1:L5:3856:C:H2'	1:L5:3857:A:H8	1.84	0.41
1:L5:4687:A:C2'	1:L5:4688:G:H5'	2.51	0.41
3:L8:39:G:H1'	3:L8:103:A:N6	2.35	0.41
4:LA:206:PRO:HG3	4:LA:213:GLY:HA3	2.02	0.41
5:LB:92:TYR:HB2	5:LB:159:VAL:HB	2.02	0.41
11:LH:92:MET:O	11:LH:143:GLU:HA	2.21	0.41
12:LI:51:HIS:CD2	12:LI:168:SER:HB2	2.55	0.41
15:LM:28:VAL:HG12	15:LM:67:SER:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:LU:80:LYS:HE3	23:LU:109:SER:N	2.36	0.41
46:S2:11:A:N1	46:S2:1200:A:H2	2.19	0.41
46:S2:1144:A:H5'	46:S2:1355:C:H41	1.85	0.41
46:S2:1466:G:H2'	46:S2:1467:C:H6	1.86	0.41
1:L5:116:G:H2'	1:L5:117:C:H6	1.84	0.41
1:L5:2783:G:H4'	38:Lj:8:PHE:CD2	2.56	0.41
1:L5:4421:U:H2'	1:L5:4422:U:C6	2.55	0.41
5:LB:113:GLU:CD	5:LB:167:GLN:HA	2.45	0.41
6:LC:350:ARG:HG2	6:LC:350:ARG:NH1	2.35	0.41
9:LF:127:LYS:HB2	22:LT:133:ALA:HB3	2.03	0.41
12:LI:141:LYS:HB2	12:LI:144:ASN:OD1	2.20	0.41
14:LL:92:ARG:NH2	14:LL:98:VAL:HB	2.35	0.41
23:LU:21:PHE:HD1	23:LU:108:GLU:HA	1.85	0.41
30:Lb:95:ARG:O	30:Lb:99:ILE:HG13	2.21	0.41
43:Lo:70:LEU:O	43:Lo:80:LYS:HA	2.20	0.41
46:S2:397:G:O4'	46:S2:401:A:H1'	2.21	0.41
46:S2:664:A:O2'	46:S2:670:A:N1	2.52	0.41
46:S2:1388:A:N6	51:SD:161:GLY:HA3	2.32	0.41
48:SA:123:VAL:HA	48:SA:145:ILE:O	2.21	0.41
73:Sa:46:GLU:O	73:Sa:50:VAL:HG23	2.21	0.41
1:L5:1081:A:H2'	1:L5:1082:C:C6	2.56	0.41
1:L5:1891:G:H2'	1:L5:1892:A:O4'	2.21	0.41
1:L5:2257:U:H1'	45:Lr:36:ASN:O	2.21	0.41
1:L5:2723:C:H2'	1:L5:2724:PSU:O4'	2.20	0.41
1:L5:2821:G:O2'	1:L5:2822:A:H5'	2.19	0.41
1:L5:3590:A:O2'	1:L5:3591:C:H5'	2.20	0.41
1:L5:4333:G:HO2'	1:L5:4334:A:H5'	1.85	0.41
1:L5:4525:U:O2'	1:L5:4526:C:H5'	2.21	0.41
1:L5:4991:U:H4'	1:L5:4992:A:O5'	2.20	0.41
4:LA:117:GLU:HG2	4:LA:124:GLY:N	2.36	0.41
18:LP:116:HIS:O	18:LP:148:MET:HA	2.21	0.41
46:S2:116:OMU:HM23	46:S2:116:OMU:H1'	1.65	0.41
46:S2:1498:A:P	51:SD:27:ARG:HH22	2.43	0.41
46:S2:1629:C:H2'	46:S2:1630:A:O4'	2.20	0.41
46:S2:1703:OMC:O2'	46:S2:1704:C:H5'	2.20	0.41
51:SD:17:PHE:HE2	51:SD:39:VAL:HG11	1.86	0.41
53:SF:56:TYR:O	53:SF:62:ARG:HB3	2.21	0.41
58:SK:24:LYS:HG3	58:SK:25:LYS:N	2.36	0.41
66:ST:56:ARG:HG3	66:ST:103:VAL:HG21	2.02	0.41
78:Sg:38:LYS:HB2	78:Sg:38:LYS:HE2	1.83	0.41
1:L5:289:C:OP2	43:Lo:47:GLY:HA3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:320:C:C2'	1:L5:321:U:H5'	2.50	0.41
1:L5:452:A:O2'	1:L5:453:G:P	2.79	0.41
1:L5:672:C:H2'	1:L5:673:C:H6	1.85	0.41
1:L5:672:C:H2'	1:L5:673:C:C6	2.56	0.41
1:L5:1323:C:H2'	1:L5:1324:G:C8	2.56	0.41
1:L5:1491:G:H2'	1:L5:1492:G:H5'	2.03	0.41
1:L5:1520:A2M:H2	1:L5:1647:G:O6	2.21	0.41
1:L5:1547:C:O2'	1:L5:1548:G:H5'	2.20	0.41
1:L5:1635:U:O2	1:L5:1635:U:H2'	2.21	0.41
1:L5:2608:G:C2'	1:L5:2609:G:H5'	2.51	0.41
1:L5:2652:G:H2'	1:L5:2653:G:O4'	2.20	0.41
1:L5:2737:U:H2'	1:L5:2738:C:C6	2.56	0.41
1:L5:2848:A:H2'	1:L5:2849:G:H8	1.85	0.41
1:L5:3607:A:H3'	1:L5:3608:C:H6	1.85	0.41
1:L5:3722:A:H2'	1:L5:3723:A:O4'	2.21	0.41
1:L5:3851:A:H2'	1:L5:3852:C:C6	2.56	0.41
1:L5:4173:G:H2'	1:L5:4174:U:O4'	2.21	0.41
1:L5:4187:G:C2'	1:L5:4188:U:H5'	2.50	0.41
1:L5:4213:OMU:CM2	1:L5:4214:OMG:H5'	2.51	0.41
1:L5:4282:PSU:H2'	1:L5:4283:G:O4'	2.20	0.41
1:L5:4466:A:O2'	1:L5:4467:U:H5'	2.20	0.41
1:L5:4508:G:O2'	1:L5:4511:C:OP2	2.39	0.41
1:L5:4560:U:H3'	1:L5:4561:G:H5'	2.03	0.41
1:L5:4614:PSU:H4'	25:LW:16:GLY:O	2.21	0.41
1:L5:4736:G:N7	34:Lf:52:LYS:HE3	2.36	0.41
1:L5:4895:A:H4'	5:LB:95:THR:CG2	2.48	0.41
3:L8:69:PSU:O2'	3:L8:70:G:H5'	2.21	0.41
5:LB:217:ILE:HD11	5:LB:333:LEU:HD21	2.03	0.41
6:LC:347:HIS:O	6:LC:351:VAL:HG23	2.21	0.41
7:LD:222:GLN:O	7:LD:222:GLN:HG3	2.19	0.41
8:LE:248:ILE:HD13	8:LE:248:ILE:HA	1.88	0.41
10:LG:176:LYS:CB	37:Li:43:MET:HE1	2.51	0.41
13:LJ:15:LEU:HD22	13:LJ:157:ILE:HD13	2.02	0.41
14:LL:57:PRO:HG3	14:LL:75:GLY:C	2.45	0.41
16:LN:138:PHE:CZ	36:Lh:93:ARG:HD2	2.56	0.41
17:LO:25:LYS:HD2	17:LO:25:LYS:HA	1.90	0.41
27:LY:69:LYS:H	27:LY:83:GLU:CD	2.28	0.41
29:La:100:ILE:HD12	29:La:100:ILE:N	2.36	0.41
46:S2:11:A:H2'	46:S2:12:U:H5'	2.03	0.41
46:S2:11:A:O2'	46:S2:12:U:H5'	2.21	0.41
46:S2:289:G:O2'	46:S2:290:U:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S2:1273:C:O3'	46:S2:1274:G:H3'	2.21	0.41
46:S2:1395:C:H1'	46:S2:1474:A:C5	2.56	0.41
46:S2:1496:U:H4'	76:Sd:24:CYS:HB2	2.02	0.41
49:SB:38:MET:HE3	49:SB:185:VAL:HG11	2.03	0.41
50:SC:66:LEU:HD11	50:SC:81:ILE:HG12	2.03	0.41
54:SG:110:ASN:O	54:SG:111:LEU:HD23	2.20	0.41
58:SK:3:MET:HB3	58:SK:8:ARG:NH1	2.36	0.41
65:SS:5:ILE:HD12	65:SS:5:ILE:HA	1.87	0.41
75:Sc:14:VAL:HG12	75:Sc:52:GLU:HA	2.02	0.41
1:L5:1337:U:O2'	1:L5:1338:A:H5'	2.21	0.41
1:L5:1563:U:H2'	1:L5:1564:C:C6	2.54	0.41
1:L5:4111:C:H2'	1:L5:4112:C:C6	2.55	0.41
1:L5:4375:C:O2'	1:L5:4376:A:H5'	2.21	0.41
25:LW:4:GLU:O	25:LW:5:LEU:HD23	2.21	0.41
38:Lj:67:LEU:HD23	38:Lj:67:LEU:HA	1.87	0.41
46:S2:17:C:H2'	46:S2:18:C:C6	2.56	0.41
46:S2:217:A:C5	46:S2:218:U:C5	3.08	0.41
46:S2:424:C:O2'	46:S2:425:G:H5'	2.22	0.41
46:S2:636:C:P	77:Se:21:LYS:HG2	2.61	0.41
53:SF:25:THR:HG22	53:SF:109:LEU:HD13	2.03	0.41
55:SH:100:ILE:HD11	55:SH:125:VAL:HG11	2.02	0.41
63:SQ:76:GLY:O	63:SQ:80:GLN:HG3	2.21	0.41
67:SU:48:LEU:HD23	67:SU:48:LEU:HA	1.86	0.41
74:Sb:5:LYS:HB2	74:Sb:5:LYS:HE3	1.93	0.41
1:L5:82:U:O2'	1:L5:83:C:H5'	2.21	0.40
1:L5:434:A:H2'	1:L5:435:A:C8	2.56	0.40
1:L5:1584:U:H2'	1:L5:1585:C:C6	2.57	0.40
1:L5:1723:U:O3'	9:LF:127:LYS:HD3	2.21	0.40
1:L5:3771:A2M:H8	1:L5:3771:A2M:H2'	1.68	0.40
1:L5:3778:OMG:HM23	1:L5:3778:OMG:H1'	1.86	0.40
1:L5:3854:G:H22	1:L5:3886:G:H1'	1.86	0.40
1:L5:4115:G:H2'	1:L5:4116:C:C6	2.56	0.40
1:L5:4194:U:H4'	1:L5:4260:A:C2	2.56	0.40
1:L5:4746:G:H2'	1:L5:4747:G:O4'	2.21	0.40
1:L5:4932:U:O2'	1:L5:4933:C:H5'	2.21	0.40
1:L5:4986:PSU:H2'	1:L5:4987:U:O4'	2.21	0.40
83:L5:6366:HOH:O	29:La:43:ILE:HG13	2.21	0.40
2:L7:24:C:H2'	2:L7:25:G:O4'	2.22	0.40
5:LB:196:TRP:CH2	5:LB:200:ARG:HD3	2.57	0.40
5:LB:223:THR:O	5:LB:274:TYR:HA	2.20	0.40
9:LF:92:VAL:O	9:LF:120:GLY:HA2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LL:160:VAL:O	14:LL:160:VAL:HG13	2.22	0.40
26:LX:86:ALA:O	26:LX:90:ILE:HG13	2.20	0.40
46:S2:55:U:H4'	46:S2:56:G:H5'	2.03	0.40
46:S2:220:U:H2'	46:S2:221:A:H8	1.86	0.40
46:S2:349:A:H2'	46:S2:350:C:C6	2.56	0.40
46:S2:615:C:H2'	46:S2:616:A:O4'	2.21	0.40
46:S2:1294:G:N3	46:S2:1294:G:H2'	2.37	0.40
46:S2:1487:A:H4'	50:SC:118:ALA:CB	2.48	0.40
53:SF:201:LYS:O	53:SF:204:ARG:HB2	2.21	0.40
56:SI:67:TRP:O	56:SI:191:GLU:OE1	2.40	0.40
1:L5:125:C:H2'	1:L5:126:C:H6	1.86	0.40
1:L5:399:G:H4'	18:LP:18:ARG:O	2.22	0.40
1:L5:471:A:H2'	1:L5:472:C:H6	1.85	0.40
1:L5:1360:U:O2	6:LC:234:LYS:HE2	2.21	0.40
1:L5:1379:G:H2'	1:L5:1380:C:H6	1.87	0.40
1:L5:2254:C:O2'	1:L5:2255:G:H5'	2.21	0.40
1:L5:4068:G:O2'	1:L5:4069:U:H5'	2.20	0.40
3:L8:121:G:H2'	3:L8:122:G:C8	2.56	0.40
5:LB:238:LYS:HB2	5:LB:238:LYS:HE2	1.95	0.40
7:LD:223:PHE:HB3	7:LD:226:TYR:HB2	2.02	0.40
21:LS:1:MET:HG2	21:LS:2:LYS:N	2.35	0.40
39:Lk:17:ARG:HH21	39:Lk:19:ASP:CG	2.29	0.40
46:S2:591:U:H5''	46:S2:593:C:O4'	2.20	0.40
46:S2:649:PSU:H1'	70:SX:45:SER:HB3	2.02	0.40
46:S2:988:C:H1'	49:SB:120:MET:HE2	2.03	0.40
46:S2:1529:C:O2'	46:S2:1530:U:H5'	2.20	0.40
46:S2:1568:C:H6	46:S2:1568:C:O5'	2.05	0.40
46:S2:1724:A:H2'	46:S2:1725:U:C6	2.57	0.40
46:S2:1733:U:O2'	46:S2:1734:G:H5'	2.21	0.40
46:S2:1802:C:H2'	46:S2:1803:U:C6	2.56	0.40
71:SY:20:ARG:HB3	71:SY:76:TYR:CD1	2.56	0.40
71:SY:72:PHE:HE1	71:SY:74:MET:HE2	1.82	0.40
78:Sg:172:LYS:HD3	78:Sg:192:THR:O	2.21	0.40
78:Sg:221:LEU:HD23	78:Sg:221:LEU:HA	1.88	0.40
1:L5:651:C:H2'	1:L5:652:G:C8	2.55	0.40
1:L5:1269:G:O2'	1:L5:1270:A:H5'	2.21	0.40
1:L5:1321:C:C4	1:L5:3865:G:H5''	2.56	0.40
1:L5:1565:U:H2'	1:L5:1566:G:C8	2.56	0.40
1:L5:1627:A:C2	4:LA:204:MET:HG2	2.56	0.40
1:L5:1664:A:H2'	1:L5:1665:A:H5'	2.03	0.40
1:L5:1735:G:H2'	1:L5:1736:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L5:4219:A:C4	1:L5:4221:G:N7	2.89	0.40
1:L5:4670:A:H2'	1:L5:4671:U:O4'	2.21	0.40
3:L8:64:U:C2	3:L8:65:A:C8	3.09	0.40
3:L8:121:G:H2'	3:L8:122:G:H8	1.87	0.40
7:LD:158:LYS:HE2	7:LD:158:LYS:HB2	1.95	0.40
16:LN:28:TRP:O	16:LN:32:GLN:HG2	2.21	0.40
21:LS:11:LYS:NZ	21:LS:29:ARG:HD3	2.37	0.40
33:Le:19:LYS:HE3	33:Le:19:LYS:HB3	1.68	0.40
37:Li:76:ARG:HA	37:Li:76:ARG:HD3	1.91	0.40
45:Lr:51:VAL:HG12	45:Lr:117:ILE:HD12	2.04	0.40
46:S2:462:OMC:H1'	46:S2:462:OMC:HM23	1.57	0.40
46:S2:614:C:H5''	46:S2:615:C:C5	2.56	0.40
46:S2:943:U:O2'	46:S2:944:A:H5'	2.21	0.40
46:S2:1332:A:C6	46:S2:1500:G:C5	3.09	0.40
46:S2:1562:C:H5''	66:ST:71:GLY:HA3	2.04	0.40
46:S2:1692:PSU:H2'	46:S2:1693:G:C8	2.56	0.40
46:S2:1808:U:O2'	46:S2:1809:A:H5'	2.21	0.40
46:S2:1850:MA6:H92	46:S2:1851:MA6:H93	2.01	0.40
51:SD:26:THR:O	51:SD:30:ALA:HB2	2.22	0.40
51:SD:212:GLU:HA	51:SD:213:PRO:HD2	1.95	0.40
61:SO:59:GLY:HA2	61:SO:68:GLU:HG2	2.04	0.40
63:SQ:13:PHE:HB3	63:SQ:22:VAL:HG22	2.03	0.40
68:SV:56:CYS:SG	68:SV:59:ILE:HG12	2.62	0.40
1:L5:106:A:H1'	1:L5:336:A:N3	2.37	0.40
1:L5:117:C:H2'	1:L5:118:C:C6	2.57	0.40
1:L5:705:G:H2'	1:L5:706:C:C6	2.57	0.40
1:L5:726:G:H2'	1:L5:727:C:C6	2.57	0.40
1:L5:1725:A:O2'	1:L5:1726:U:H5'	2.21	0.40
1:L5:2837:G:C2'	1:L5:2838:G:H5'	2.52	0.40
1:L5:3670:G:H2'	1:L5:3671:C:H6	1.82	0.40
1:L5:3715:U:H2'	1:L5:3716:U:H6	1.86	0.40
1:L5:4195:G:C2'	1:L5:4196:U:H5'	2.51	0.40
1:L5:4664:G:N2	1:L5:4699:G:H1'	2.37	0.40
1:L5:5012:A:H2'	1:L5:5013:G:H8	1.87	0.40
3:L8:155:C:C3'	3:L8:156:U:H5''	2.51	0.40
20:LR:90:PRO:HG2	20:LR:93:VAL:CG2	2.52	0.40
22:LT:154:ILE:H	22:LT:154:ILE:HG13	1.72	0.40
46:S2:176:U:H2'	46:S2:177:G:O4'	2.22	0.40
46:S2:933:G:H1'	46:S2:1001:A:O4'	2.22	0.40
57:SJ:107:GLU:HA	57:SJ:112:THR:HG21	2.03	0.40
66:ST:123:LEU:HA	66:ST:123:LEU:HD12	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SX:107:ARG:C	70:SX:108:LYS:HG2	2.46	0.40
1:L5:52:G:H4'	1:L5:1525:G:H4'	2.02	0.40
1:L5:79:C:H2'	1:L5:80:C:C6	2.56	0.40
1:L5:386:A:OP2	27:LY:89:LYS:HD2	2.21	0.40
1:L5:1305:C:H2'	1:L5:1306:C:H6	1.86	0.40
1:L5:2579:C:O2'	1:L5:2580:G:H5'	2.22	0.40
1:L5:2740:G:H2'	1:L5:2741:G:O4'	2.21	0.40
1:L5:2777:A2M:HM'3	1:L5:2777:A2M:H1'	1.87	0.40
6:LC:349:LEU:HD23	6:LC:349:LEU:HA	1.83	0.40
8:LE:175:VAL:O	8:LE:186:LEU:HA	2.22	0.40
17:LO:149:TYR:HB3	17:LO:152:VAL:CG1	2.52	0.40
20:LR:139:MET:HB3	20:LR:139:MET:HE3	1.76	0.40
46:S2:99:A2M:H8	46:S2:99:A2M:O5'	2.22	0.40
46:S2:1060:A:O4'	46:S2:1061:U:H5	2.04	0.40
46:S2:1724:A:H2'	46:S2:1725:U:H6	1.86	0.40
49:SB:89:GLU:OE2	49:SB:99:ASN:HB2	2.21	0.40
50:SC:125:LYS:HE3	50:SC:125:LYS:HB3	1.73	0.40
50:SC:196:ILE:HB	50:SC:223:TYR:HB2	2.02	0.40
78:Sg:176:VAL:HB	78:Sg:186:THR:HB	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	LA	243/257 (95%)	236 (97%)	7 (3%)	0	100	100
5	LB	386/403 (96%)	378 (98%)	8 (2%)	0	100	100
6	LC	348/427 (82%)	342 (98%)	6 (2%)	0	100	100
7	LD	273/297 (92%)	271 (99%)	2 (1%)	0	100	100
8	LE	182/288 (63%)	180 (99%)	2 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	LF	216/248 (87%)	211 (98%)	5 (2%)	0	100	100
10	LG	196/266 (74%)	192 (98%)	4 (2%)	0	100	100
11	LH	174/192 (91%)	170 (98%)	4 (2%)	0	100	100
12	LI	191/214 (89%)	185 (97%)	6 (3%)	0	100	100
13	LJ	128/178 (72%)	125 (98%)	3 (2%)	0	100	100
14	LL	182/211 (86%)	179 (98%)	3 (2%)	0	100	100
15	LM	130/215 (60%)	126 (97%)	4 (3%)	0	100	100
16	LN	201/204 (98%)	196 (98%)	5 (2%)	0	100	100
17	LO	196/203 (97%)	193 (98%)	3 (2%)	0	100	100
18	LP	146/184 (79%)	144 (99%)	2 (1%)	0	100	100
19	LQ	185/188 (98%)	183 (99%)	2 (1%)	0	100	100
20	LR	150/196 (76%)	149 (99%)	1 (1%)	0	100	100
21	LS	166/176 (94%)	165 (99%)	1 (1%)	0	100	100
22	LT	144/160 (90%)	143 (99%)	1 (1%)	0	100	100
23	LU	80/128 (62%)	72 (90%)	8 (10%)	0	100	100
24	LV	128/140 (91%)	127 (99%)	1 (1%)	0	100	100
25	LW	59/157 (38%)	59 (100%)	0	0	100	100
26	LX	115/156 (74%)	114 (99%)	1 (1%)	0	100	100
27	LY	126/145 (87%)	123 (98%)	3 (2%)	0	100	100
28	LZ	133/136 (98%)	130 (98%)	3 (2%)	0	100	100
29	La	140/148 (95%)	135 (96%)	4 (3%)	1 (1%)	18	15
30	Lb	80/159 (50%)	79 (99%)	1 (1%)	0	100	100
31	Lc	83/115 (72%)	83 (100%)	0	0	100	100
32	Ld	93/125 (74%)	93 (100%)	0	0	100	100
33	Le	124/135 (92%)	123 (99%)	1 (1%)	0	100	100
34	Lf	105/110 (96%)	104 (99%)	1 (1%)	0	100	100
35	Lg	99/117 (85%)	99 (100%)	0	0	100	100
36	Lh	119/123 (97%)	117 (98%)	2 (2%)	0	100	100
37	Li	88/105 (84%)	88 (100%)	0	0	100	100
38	Lj	84/97 (87%)	83 (99%)	1 (1%)	0	100	100
39	Lk	60/70 (86%)	59 (98%)	1 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
40	Ll	47/51 (92%)	46 (98%)	1 (2%)	0	100	100
41	Lm	46/128 (36%)	46 (100%)	0	0	100	100
42	Ln	23/25 (92%)	23 (100%)	0	0	100	100
43	Lo	91/106 (86%)	89 (98%)	2 (2%)	0	100	100
44	Lp	85/92 (92%)	80 (94%)	5 (6%)	0	100	100
45	Lr	116/137 (85%)	116 (100%)	0	0	100	100
48	SA	203/295 (69%)	197 (97%)	6 (3%)	0	100	100
49	SB	207/264 (78%)	203 (98%)	4 (2%)	0	100	100
50	SC	210/293 (72%)	206 (98%)	4 (2%)	0	100	100
51	SD	202/243 (83%)	199 (98%)	3 (2%)	0	100	100
52	SE	255/263 (97%)	253 (99%)	2 (1%)	0	100	100
53	SF	174/204 (85%)	167 (96%)	7 (4%)	0	100	100
54	SG	167/249 (67%)	164 (98%)	2 (1%)	1 (1%)	21	18
55	SH	132/194 (68%)	131 (99%)	1 (1%)	0	100	100
56	SI	165/208 (79%)	161 (98%)	4 (2%)	0	100	100
57	SJ	176/194 (91%)	173 (98%)	3 (2%)	0	100	100
58	SK	77/165 (47%)	75 (97%)	2 (3%)	0	100	100
59	SL	128/158 (81%)	128 (100%)	0	0	100	100
60	SN	140/151 (93%)	140 (100%)	0	0	100	100
61	SO	120/151 (80%)	119 (99%)	1 (1%)	0	100	100
62	SP	110/145 (76%)	109 (99%)	1 (1%)	0	100	100
63	SQ	138/146 (94%)	135 (98%)	3 (2%)	0	100	100
64	SR	113/135 (84%)	110 (97%)	3 (3%)	0	100	100
65	SS	137/152 (90%)	135 (98%)	2 (2%)	0	100	100
66	ST	139/145 (96%)	137 (99%)	2 (1%)	0	100	100
67	SU	79/119 (66%)	77 (98%)	2 (2%)	0	100	100
68	SV	81/83 (98%)	80 (99%)	1 (1%)	0	100	100
69	SW	127/130 (98%)	126 (99%)	1 (1%)	0	100	100
70	SX	137/143 (96%)	135 (98%)	2 (2%)	0	100	100
71	SY	113/133 (85%)	113 (100%)	0	0	100	100
72	SZ	68/125 (54%)	68 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
73	Sa	96/115 (84%)	96 (100%)	0	0	100	100
74	Sb	53/84 (63%)	51 (96%)	2 (4%)	0	100	100
75	Sc	49/69 (71%)	48 (98%)	1 (2%)	0	100	100
76	Sd	43/56 (77%)	43 (100%)	0	0	100	100
77	Se	41/98 (42%)	41 (100%)	0	0	100	100
78	Sg	259/308 (84%)	252 (97%)	7 (3%)	0	100	100
All	All	10100/12430 (81%)	9928 (98%)	170 (2%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
54	SG	132	ARG
29	La	15	VAL

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	
4	LA	170/199 (85%)	170 (100%)	0	100	100
5	LB	287/348 (82%)	285 (99%)	2 (1%)	76	83
6	LC	277/348 (80%)	277 (100%)	0	100	100
7	LD	204/250 (82%)	203 (100%)	1 (0%)	81	88
8	LE	161/252 (64%)	161 (100%)	0	100	100
9	LF	179/215 (83%)	179 (100%)	0	100	100
10	LG	141/223 (63%)	141 (100%)	0	100	100
11	LH	129/171 (75%)	128 (99%)	1 (1%)	73	81
12	LI	140/182 (77%)	140 (100%)	0	100	100
13	LJ	84/149 (56%)	83 (99%)	1 (1%)	63	72
14	LL	129/177 (73%)	129 (100%)	0	100	100
15	LM	106/161 (66%)	106 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	LN	170/172 (99%)	170 (100%)	0	100	100
17	LO	159/174 (91%)	158 (99%)	1 (1%)	78	86
18	LP	122/163 (75%)	122 (100%)	0	100	100
19	LQ	155/165 (94%)	154 (99%)	1 (1%)	78	86
20	LR	116/175 (66%)	116 (100%)	0	100	100
21	LS	143/157 (91%)	143 (100%)	0	100	100
22	LT	119/140 (85%)	118 (99%)	1 (1%)	73	81
23	LU	45/115 (39%)	44 (98%)	1 (2%)	45	53
24	LV	90/107 (84%)	90 (100%)	0	100	100
25	LW	45/126 (36%)	45 (100%)	0	100	100
26	LX	90/133 (68%)	90 (100%)	0	100	100
27	LY	102/135 (76%)	102 (100%)	0	100	100
28	LZ	100/118 (85%)	99 (99%)	1 (1%)	68	76
29	La	109/120 (91%)	109 (100%)	0	100	100
30	Lb	51/126 (40%)	51 (100%)	0	100	100
31	Lc	62/97 (64%)	61 (98%)	1 (2%)	55	64
32	Ld	78/110 (71%)	78 (100%)	0	100	100
33	Le	101/121 (84%)	101 (100%)	0	100	100
34	Lf	78/89 (88%)	78 (100%)	0	100	100
35	Lg	79/100 (79%)	79 (100%)	0	100	100
36	Lh	90/110 (82%)	90 (100%)	0	100	100
37	Li	62/89 (70%)	62 (100%)	0	100	100
38	Lj	68/80 (85%)	66 (97%)	2 (3%)	37	42
39	Lk	37/65 (57%)	36 (97%)	1 (3%)	39	45
40	Ll	39/48 (81%)	39 (100%)	0	100	100
41	Lm	36/116 (31%)	35 (97%)	1 (3%)	38	43
42	Ln	14/24 (58%)	14 (100%)	0	100	100
43	Lo	73/94 (78%)	73 (100%)	0	100	100
44	Lp	64/75 (85%)	64 (100%)	0	100	100
45	Lr	97/121 (80%)	96 (99%)	1 (1%)	68	76
48	SA	159/243 (65%)	158 (99%)	1 (1%)	78	86

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
49	SB	162/231 (70%)	161 (99%)	1 (1%)	78	86
50	SC	153/225 (68%)	153 (100%)	0	100	100
51	SD	112/202 (55%)	109 (97%)	3 (3%)	39	45
52	SE	195/225 (87%)	194 (100%)	1 (0%)	81	88
53	SF	127/170 (75%)	126 (99%)	1 (1%)	73	81
54	SG	113/218 (52%)	113 (100%)	0	100	100
55	SH	89/174 (51%)	87 (98%)	2 (2%)	45	53
56	SI	122/180 (68%)	120 (98%)	2 (2%)	55	64
57	SJ	117/168 (70%)	117 (100%)	0	100	100
58	SK	50/136 (37%)	49 (98%)	1 (2%)	48	56
59	SL	102/142 (72%)	101 (99%)	1 (1%)	68	76
60	SN	104/131 (79%)	104 (100%)	0	100	100
61	SO	87/119 (73%)	86 (99%)	1 (1%)	65	74
62	SP	78/130 (60%)	78 (100%)	0	100	100
63	SQ	103/121 (85%)	102 (99%)	1 (1%)	68	76
64	SR	77/122 (63%)	77 (100%)	0	100	100
65	SS	98/132 (74%)	97 (99%)	1 (1%)	68	76
66	ST	97/114 (85%)	96 (99%)	1 (1%)	68	76
67	SU	59/107 (55%)	58 (98%)	1 (2%)	53	62
68	SV	63/67 (94%)	63 (100%)	0	100	100
69	SW	109/113 (96%)	109 (100%)	0	100	100
70	SX	106/115 (92%)	106 (100%)	0	100	100
71	SY	95/115 (83%)	93 (98%)	2 (2%)	47	54
72	SZ	52/103 (50%)	51 (98%)	1 (2%)	50	58
73	Sa	76/98 (78%)	76 (100%)	0	100	100
74	Sb	49/76 (64%)	49 (100%)	0	100	100
75	Sc	35/62 (56%)	35 (100%)	0	100	100
76	Sd	36/49 (74%)	36 (100%)	0	100	100
77	Se	31/79 (39%)	31 (100%)	0	100	100
78	Sg	206/235 (88%)	206 (100%)	0	100	100
All	All	7663/10542 (73%)	7626 (100%)	37 (0%)	78	88

All (37) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	LB	301	ASN
5	LB	360	LEU
7	LD	158	LYS
11	LH	33	THR
13	LJ	68	ILE
17	LO	31	ARG
19	LQ	41	SER
22	LT	76	VAL
23	LU	100	LEU
28	LZ	123	LYS
31	Lc	18	LEU
38	Lj	55	ARG
38	Lj	65	ARG
39	Lk	69	LEU
41	Lm	122	ARG
45	Lr	26	SER
48	SA	112	ILE
49	SB	88	THR
51	SD	59	LEU
51	SD	72	VAL
51	SD	94	ARG
52	SE	108	ARG
53	SF	62	ARG
55	SH	45	ILE
55	SH	183	LYS
56	SI	89	GLU
56	SI	201	LYS
58	SK	47	LYS
59	SL	144	LYS
61	SO	117	ARG
63	SQ	109	LYS
65	SS	3	LEU
66	ST	123	LEU
67	SU	39	LEU
71	SY	16	ARG
71	SY	68	LYS
72	SZ	58	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (72) such sidechains are listed below:

Mol	Chain	Res	Type
4	LA	140	ASN
5	LB	204	GLN
5	LB	301	ASN
5	LB	302	ASN
5	LB	328	ASN
6	LC	41	HIS
6	LC	43	ASN
7	LD	45	ASN
7	LD	138	GLN
7	LD	191	ASN
8	LE	128	HIS
9	LF	63	GLN
9	LF	239	GLN
12	LI	59	GLN
12	LI	147	HIS
13	LJ	46	GLN
13	LJ	98	ASN
15	LM	34	ASN
16	LN	8	GLN
18	LP	133	HIS
19	LQ	7	HIS
21	LS	125	GLN
22	LT	54	HIS
22	LT	131	GLN
23	LU	27	HIS
23	LU	95	ASN
24	LV	27	ASN
26	LX	69	ASN
26	LX	107	HIS
27	LY	14	ASN
30	Lb	17	HIS
32	Ld	116	ASN
33	Le	107	ASN
36	Lh	68	ASN
36	Lh	108	GLN
37	Li	15	HIS
38	Lj	48	ASN
38	Lj	57	ASN
39	Lk	28	ASN
39	Lk	31	ASN
40	Ll	17	GLN
40	Ll	19	GLN
41	Lm	117	HIS

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Mol	Chain	Res	Type
41	Lm	119	ASN
43	Lo	3	ASN
48	SA	70	ASN
48	SA	84	GLN
48	SA	141	ASN
49	SB	40	ASN
49	SB	158	HIS
50	SC	115	GLN
51	SD	159	HIS
52	SE	201	HIS
52	SE	209	HIS
53	SF	82	ASN
54	SG	56	ASN
54	SG	81	HIS
54	SG	110	ASN
54	SG	187	HIS
55	SH	68	GLN
56	SI	99	ASN
57	SJ	132	GLN
59	SL	18	GLN
59	SL	19	ASN
59	SL	65	ASN
60	SN	90	HIS
60	SN	105	ASN
61	SO	113	GLN
70	SX	92	ASN
75	Sc	45	ASN
77	Se	15	GLN
77	Se	37	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	L5	3015/5054 (59%)	390 (12%)	7 (0%)
2	L7	118/121 (97%)	8 (6%)	0
3	L8	141/156 (90%)	14 (9%)	0
46	S2	1454/1869 (77%)	222 (15%)	11 (0%)
47	S6	11/14 (78%)	2 (18%)	0
All	All	4739/7214 (65%)	636 (13%)	18 (0%)

All (636) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	L5	2	G
1	L5	3	C
1	L5	13	U
1	L5	39	A
1	L5	42	A
1	L5	48	G
1	L5	56	A
1	L5	59	A
1	L5	64	A
1	L5	65	A
1	L5	67	C
1	L5	73	A
1	L5	91	G
1	L5	109	G
1	L5	119	G
1	L5	120	A
1	L5	142	G
1	L5	143	C
1	L5	144	G
1	L5	152	U
1	L5	159	C
1	L5	165	A
1	L5	191	G
1	L5	197	A
1	L5	200	U
1	L5	210	C
1	L5	216	C
1	L5	217	C
1	L5	218	A
1	L5	219	G
1	L5	233	U
1	L5	280	G
1	L5	296	A
1	L5	306	A
1	L5	315	G
1	L5	316	U
1	L5	340	C
1	L5	373	G
1	L5	387	G
1	L5	396	A
1	L5	408	A
1	L5	409	G
1	L5	410	A

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Mol	Chain	Res	Type
1	L5	412	G
1	L5	448	G
1	L5	452	A
1	L5	454	U
1	L5	455	C
1	L5	456	C
1	L5	457	G
1	L5	469	C
1	L5	472	C
1	L5	486	C
1	L5	487	G
1	L5	489	C
1	L5	507	G
1	L5	509	A
1	L5	510	U
1	L5	649	A
1	L5	653	U
1	L5	654	C
1	L5	686	A
1	L5	730	G
1	L5	731	G
1	L5	738	C
1	L5	739	G
1	L5	740	G
1	L5	741	C
1	L5	744	G
1	L5	758	G
1	L5	909	A
1	L5	911	A
1	L5	912	G
1	L5	919	C
1	L5	926	A
1	L5	927	G
1	L5	928	C
1	L5	929	A
1	L5	930	C
1	L5	931	U
1	L5	938	A
1	L5	939	U
1	L5	953	G
1	L5	954	A
1	L5	963	G

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Mol	Chain	Res	Type
1	L5	976	U
1	L5	1065	C
1	L5	1072	A
1	L5	1076	C
1	L5	1199	G
1	L5	1200	C
1	L5	1204	C
1	L5	1205	G
1	L5	1211	G
1	L5	1237	C
1	L5	1245	G
1	L5	1270	A
1	L5	1271	G
1	L5	1273	G
1	L5	1276	C
1	L5	1280	G
1	L5	1281	U
1	L5	1283	G
1	L5	1298	U
1	L5	1299	A
1	L5	1309	C
1	L5	1322	A2M
1	L5	1333	A
1	L5	1350	A
1	L5	1355	G
1	L5	1373	G
1	L5	1375	C
1	L5	1383	A
1	L5	1390	G
1	L5	1393	A
1	L5	1413	G
1	L5	1415	G
1	L5	1416	A
1	L5	1430	G
1	L5	1476	C
1	L5	1478	G
1	L5	1479	C
1	L5	1480	G
1	L5	1481	C
1	L5	1494	G
1	L5	1497	C
1	L5	1498	G

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Mol	Chain	Res	Type
1	L5	1510	U
1	L5	1530	A2M
1	L5	1543	A
1	L5	1550	A
1	L5	1557	G
1	L5	1562	C
1	L5	1574	U
1	L5	1582	G
1	L5	1587	U
1	L5	1592	U
1	L5	1609	A
1	L5	1620	G
1	L5	1621	OMG
1	L5	1627	A
1	L5	1629	G
1	L5	1630	A
1	L5	1637	G
1	L5	1650	G
1	L5	1657	C
1	L5	1672	C
1	L5	1673	PSU
1	L5	1687	G
1	L5	1693	G
1	L5	1702	A
1	L5	1725	A
1	L5	1730	G
1	L5	1738	A
1	L5	1783	A
1	L5	1800	A
1	L5	1801	A
1	L5	1806	G
1	L5	1817	G
1	L5	1818	U
1	L5	1826	G
1	L5	1832	G
1	L5	1833	A
1	L5	1838	G
1	L5	1851	G
1	L5	1865	G
1	L5	1893	A
1	L5	1914	U
1	L5	1917	C

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Mol	Chain	Res	Type
1	L5	1918	G
1	L5	1921	G
1	L5	1927	C
1	L5	1928	A
1	L5	1935	A
1	L5	1944	G
1	L5	2038	A
1	L5	2042	G
1	L5	2044	U
1	L5	2051	G
1	L5	2052	G
1	L5	2065	A
1	L5	2080	C
1	L5	2081	G
1	L5	2085	G
1	L5	2087	C
1	L5	2279	C
1	L5	2290	A
1	L5	2291	G
1	L5	2303	A
1	L5	2304	G
1	L5	2322	A
1	L5	2323	G
1	L5	2338	G
1	L5	2341	OMC
1	L5	2350	A
1	L5	2385	A
1	L5	2387	G
1	L5	2407	A
1	L5	2411	G
1	L5	2412	OMC
1	L5	2417	G
1	L5	2459	C
1	L5	2497	A
1	L5	2503	A
1	L5	2509	U
1	L5	2510	C
1	L5	2519	A
1	L5	2545	G
1	L5	2560	U
1	L5	2561	C
1	L5	2573	C

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Mol	Chain	Res	Type
1	L5	2577	A
1	L5	2591	A
1	L5	2592	G
1	L5	2608	G
1	L5	2618	U
1	L5	2642	G
1	L5	2643	C
1	L5	2648	G
1	L5	2652	G
1	L5	2659	C
1	L5	2666	A
1	L5	2676	G
1	L5	2677	U
1	L5	2684	G
1	L5	2685	A
1	L5	2686	A
1	L5	2699	G
1	L5	2701	G
1	L5	2705	G
1	L5	2715	A
1	L5	2716	G
1	L5	2729	C
1	L5	2733	A
1	L5	2749	G
1	L5	2750	G
1	L5	2753	G
1	L5	2760	C
1	L5	2778	U
1	L5	2780	U
1	L5	2786	G
1	L5	2804	C
1	L5	2805	A2M
1	L5	2816	U
1	L5	2817	G
1	L5	2819	U
1	L5	2845	G
1	L5	3590	A
1	L5	3600	G
1	L5	3601	G
1	L5	3604	C
1	L5	3612	G
1	L5	3621	A

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Mol	Chain	Res	Type
1	L5	3630	U
1	L5	3648	A
1	L5	3659	C
1	L5	3708	G
1	L5	3734	A
1	L5	3739	G
1	L5	3741	G
1	L5	3762	G
1	L5	3763	G
1	L5	3771	A2M
1	L5	3772	U
1	L5	3788	U
1	L5	3797	G
1	L5	3800	U
1	L5	3803	A
1	L5	3805	G
1	L5	3809	G
1	L5	3824	U
1	L5	3825	G
1	L5	3826	U
1	L5	3830	PSU
1	L5	3863	A
1	L5	3864	C
1	L5	3865	G
1	L5	3883	G
1	L5	3887	A
1	L5	3892	A
1	L5	3893	G
1	L5	3894	A
1	L5	3901	U
1	L5	3925	G
1	L5	3930	G
1	L5	4062	G
1	L5	4102	C
1	L5	4105	C
1	L5	4108	G
1	L5	4113	A
1	L5	4119	C
1	L5	4134	C
1	L5	4136	G
1	L5	4148	C
1	L5	4149	U

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Mol	Chain	Res	Type
1	L5	4156	A
1	L5	4169	G
1	L5	4170	G
1	L5	4177	G
1	L5	4189	A
1	L5	4208	G
1	L5	4215	U
1	L5	4219	A
1	L5	4235	G
1	L5	4237	A
1	L5	4245	C
1	L5	4246	U
1	L5	4252	G
1	L5	4253	G
1	L5	4254	A
1	L5	4259	A
1	L5	4267	A
1	L5	4272	C
1	L5	4277	G
1	L5	4281	U
1	L5	4291	G
1	L5	4316	G
1	L5	4325	A
1	L5	4359	G
1	L5	4362	A
1	L5	4363	G
1	L5	4364	A
1	L5	4373	C
1	L5	4379	G
1	L5	4380	A
1	L5	4401	A
1	L5	4423	U
1	L5	4434	G
1	L5	4435	A
1	L5	4439	C
1	L5	4450	A
1	L5	4452	C
1	L5	4463	A
1	L5	4486	U
1	L5	4498	U
1	L5	4499	A
1	L5	4505	C

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Mol	Chain	Res	Type
1	L5	4510	G
1	L5	4531	G
1	L5	4534	A
1	L5	4535	G
1	L5	4546	C
1	L5	4553	G
1	L5	4556	G
1	L5	4558	U
1	L5	4559	G
1	L5	4561	G
1	L5	4570	A
1	L5	4576	A2M
1	L5	4622	PSU
1	L5	4623	OMG
1	L5	4642	A
1	L5	4656	C
1	L5	4658	A
1	L5	4686	A
1	L5	4694	A
1	L5	4695	U
1	L5	4705	G
1	L5	4706	C
1	L5	4733	C
1	L5	4740	G
1	L5	4743	C
1	L5	4745	C
1	L5	4747	G
1	L5	4751	G
1	L5	4855	G
1	L5	4856	C
1	L5	4867	U
1	L5	4868	C
1	L5	4874	G
1	L5	4895	A
1	L5	4897	G
1	L5	4898	G
1	L5	4899	C
1	L5	4922	C
1	L5	4925	C
1	L5	4928	A
1	L5	4961	U
1	L5	4991	U

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Mol	Chain	Res	Type
1	L5	4998	C
1	L5	4999	A
1	L5	5002	G
1	L5	5015	U
1	L5	5016	G
1	L5	5019	A
1	L5	5026	G
1	L5	5035	C
1	L5	5039	C
1	L5	5046	A
1	L5	5054	U
2	L7	22	A
2	L7	33	U
2	L7	42	A
2	L7	53	U
2	L7	54	A
2	L7	64	G
2	L7	100	A
2	L7	110	G
3	L8	23	C
3	L8	34	U
3	L8	35	C
3	L8	48	A
3	L8	51	U
3	L8	52	A
3	L8	59	A
3	L8	62	A
3	L8	63	U
3	L8	103	A
3	L8	105	C
3	L8	110	U
3	L8	114	G
3	L8	156	U
46	S2	4	C
46	S2	17	C
46	S2	33	G
46	S2	44	U
46	S2	46	A
46	S2	56	G
46	S2	65	C
46	S2	67	C
46	S2	68	A

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Mol	Chain	Res	Type
46	S2	71	G
46	S2	103	A
46	S2	113	G
46	S2	115	U
46	S2	162	C
46	S2	168	C
46	S2	175	A
46	S2	225	G
46	S2	288	G
46	S2	312	G
46	S2	319	C
46	S2	332	G
46	S2	333	G
46	S2	335	G
46	S2	360	A
46	S2	362	C
46	S2	364	A
46	S2	385	G
46	S2	386	C
46	S2	407	G
46	S2	409	C
46	S2	438	G
46	S2	448	A
46	S2	450	C
46	S2	452	G
46	S2	464	A
46	S2	466	G
46	S2	470	G
46	S2	472	C
46	S2	473	A
46	S2	474	G
46	S2	482	G
46	S2	487	U
46	S2	488	U
46	S2	492	C
46	S2	496	C
46	S2	516	A
46	S2	525	A
46	S2	558	G
46	S2	560	A
46	S2	562	U
46	S2	563	G

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Mol	Chain	Res	Type
46	S2	576	A2M
46	S2	585	C
46	S2	587	A
46	S2	589	G
46	S2	591	U
46	S2	592	C
46	S2	607	U
46	S2	614	C
46	S2	627	U
46	S2	628	A
46	S2	629	A
46	S2	631	U
46	S2	632	C
46	S2	643	A
46	S2	655	A
46	S2	660	C
46	S2	668	A2M
46	S2	669	A
46	S2	671	A
46	S2	672	A
46	S2	673	G
46	S2	687	C
46	S2	688	U
46	S2	689	U
46	S2	811	A
46	S2	821	G
46	S2	822	PSU
46	S2	830	A
46	S2	842	C
46	S2	847	A
46	S2	866	PSU
46	S2	867	OMG
46	S2	868	G
46	S2	869	A
46	S2	870	A
46	S2	871	U
46	S2	872	A
46	S2	878	G
46	S2	913	A
46	S2	917	U
46	S2	918	PSU
46	S2	920	A

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Mol	Chain	Res	Type
46	S2	922	A
46	S2	933	G
46	S2	970	G
46	S2	971	G
46	S2	990	A
46	S2	992	A
46	S2	1017	U
46	S2	1023	A
46	S2	1061	U
46	S2	1062	A
46	S2	1083	A
46	S2	1085	C
46	S2	1089	G
46	S2	1109	C
46	S2	1131	G
46	S2	1138	C
46	S2	1153	C
46	S2	1154	U
46	S2	1195	A
46	S2	1200	A
46	S2	1203	G
46	S2	1207	G
46	S2	1208	A
46	S2	1212	G
46	S2	1213	C
46	S2	1215	C
46	S2	1216	C
46	S2	1217	A
46	S2	1221	G
46	S2	1224	G
46	S2	1242	U
46	S2	1243	U
46	S2	1251	A
46	S2	1253	A
46	S2	1256	G
46	S2	1257	G
46	S2	1258	A
46	S2	1259	A
46	S2	1260	A
46	S2	1271	C
46	S2	1274	G
46	S2	1275	G

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Mol	Chain	Res	Type
46	S2	1281	G
46	S2	1288	U
46	S2	1290	G
46	S2	1292	C
46	S2	1294	G
46	S2	1295	A
46	S2	1301	A
46	S2	1312	G
46	S2	1313	A
46	S2	1314	U
46	S2	1315	U
46	S2	1319	U
46	S2	1322	G
46	S2	1327	G
46	S2	1330	G
46	S2	1343	U
46	S2	1345	G
46	S2	1366	G
46	S2	1367	PSU
46	S2	1371	U
46	S2	1372	U
46	S2	1375	G
46	S2	1378	A
46	S2	1382	A
46	S2	1383	A2M
46	S2	1384	C
46	S2	1397	U
46	S2	1402	A
46	S2	1405	A
46	S2	1406	G
46	S2	1447	OMG
46	S2	1454	A
46	S2	1477	U
46	S2	1478	U
46	S2	1487	A
46	S2	1489	A
46	S2	1490	OMG
46	S2	1497	G
46	S2	1498	A
46	S2	1508	A
46	S2	1509	U
46	S2	1510	G

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Mol	Chain	Res	Type
46	S2	1521	C
46	S2	1522	A
46	S2	1531	A
46	S2	1532	C
46	S2	1533	A
46	S2	1551	U
46	S2	1570	G
46	S2	1575	G
46	S2	1578	U
46	S2	1579	A
46	S2	1580	A
46	S2	1588	A
46	S2	1599	U
46	S2	1601	A
46	S2	1621	U
46	S2	1623	A
46	S2	1639	G7M
46	S2	1647	A
46	S2	1648	G
46	S2	1654	G
46	S2	1665	G
46	S2	1686	G
46	S2	1698	C
46	S2	1731	A
46	S2	1744	G
46	S2	1745	A
46	S2	1746	U
46	S2	1749	G
46	S2	1786	U
46	S2	1805	G
46	S2	1806	A
46	S2	1814	G
46	S2	1822	A
46	S2	1823	A
46	S2	1829	G
46	S2	1831	A
46	S2	1835	A
46	S2	1838	U
46	S2	1849	G
46	S2	1851	MA6
46	S2	1861	G
46	S2	1862	G

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Mol	Chain	Res	Type
46	S2	1863	A
46	S2	1864	U
46	S2	1865	C
47	S6	73	A
47	S6	77	A

All (18) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	L5	408	A
1	L5	1586	C
1	L5	1621	OMG
1	L5	1629	G
1	L5	2051	G
1	L5	3600	G
1	L5	4685	U
46	S2	628	A
46	S2	671	A
46	S2	688	U
46	S2	868	G
46	S2	1313	A
46	S2	1342	U
46	S2	1344	A
46	S2	1365	G
46	S2	1520	G
46	S2	1646	C
46	S2	1805	G

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

204 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	$\# Z > 2$
1	PSU	L5	4298	1	18,21,22	1.02	1 (5%)	22,30,33	1.76	5 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
46	PSU	S2	814	46	18,21,22	1.04	1 (5%)	22,30,33	1.70	3 (13%)
1	PSU	L5	2498	1	18,21,22	0.88	1 (5%)	22,30,33	0.66	0
46	OMG	S2	436	46	23,26,27	0.52	0	33,38,41	0.52	0
46	4AC	S2	1337	46	21,24,25	3.44	9 (42%)	29,34,37	1.37	4 (13%)
46	PSU	S2	34	46	18,21,22	1.07	1 (5%)	22,30,33	1.80	4 (18%)
46	PSU	S2	918	46	18,21,22	1.13	2 (11%)	22,30,33	1.86	5 (22%)
1	OMU	L5	2405	1	19,22,23	3.22	8 (42%)	26,31,34	1.60	4 (15%)
46	OMC	S2	174	46	19,22,23	0.55	0	26,31,34	0.57	0
1	OMG	L5	1312	1	23,26,27	0.52	0	33,38,41	0.57	0
1	PSU	L5	3808	1	18,21,22	1.07	1 (5%)	22,30,33	1.81	5 (22%)
1	OMC	L5	4522	1	19,22,23	0.58	0	26,31,34	0.64	0
1	A2M	L5	4557	1	22,25,26	4.12	11 (50%)	31,36,39	3.36	10 (32%)
1	1MA	L5	1318	79,1	21,25,26	0.47	0	31,37,40	0.76	1 (3%)
1	OMU	L5	4213	1	19,22,23	3.26	8 (42%)	26,31,34	1.65	4 (15%)
46	OMU	S2	172	46	19,22,23	3.23	8 (42%)	26,31,34	1.72	4 (15%)
46	PSU	S2	686	46	18,21,22	0.88	1 (5%)	22,30,33	0.63	0
1	PSU	L5	4457	1	18,21,22	1.10	1 (5%)	22,30,33	1.75	5 (22%)
46	4AC	S2	1842	46	21,24,25	3.38	10 (47%)	29,34,37	0.94	2 (6%)
1	PSU	L5	2724	1	18,21,22	1.09	1 (5%)	22,30,33	1.83	5 (22%)
46	PSU	S2	1643	46	18,21,22	1.08	1 (5%)	22,30,33	1.74	5 (22%)
1	A2M	L5	3853	1	22,25,26	4.14	12 (54%)	31,36,39	3.25	11 (35%)
46	OMU	S2	354	46	19,22,23	3.21	8 (42%)	26,31,34	1.70	5 (19%)
46	PSU	S2	1004	46	18,21,22	1.09	1 (5%)	22,30,33	1.68	4 (18%)
3	OMG	L8	75	3	23,26,27	0.47	0	33,38,41	0.51	0
1	5MC	L5	3768	81,1	18,22,23	0.59	0	26,32,35	0.50	0
46	PSU	S2	119	46	18,21,22	1.05	1 (5%)	22,30,33	1.73	4 (18%)
46	MA6	S2	1851	46	23,26,27	1.51	3 (13%)	34,38,41	3.72	11 (32%)
1	PSU	L5	3623	80,1	18,21,22	1.05	1 (5%)	22,30,33	1.88	4 (18%)
1	OMC	L5	3687	80,1	19,22,23	0.52	0	26,31,34	0.52	0
1	PSU	L5	1532	1	18,21,22	1.10	1 (5%)	22,30,33	1.65	2 (9%)
1	A2M	L5	2353	79,1	22,25,26	4.14	12 (54%)	31,36,39	3.21	12 (38%)
1	OMG	L5	4182	79,1	23,26,27	0.49	0	33,38,41	0.46	0
46	UY1	S2	1326	46	19,22,23	0.35	0	22,31,34	0.82	1 (4%)
46	PSU	S2	1445	46	18,21,22	1.07	1 (5%)	22,30,33	1.78	3 (13%)
1	OMU	L5	2827	1	19,22,23	3.24	8 (42%)	26,31,34	1.67	5 (19%)
46	A2M	S2	99	79,46	22,25,26	4.10	11 (50%)	31,36,39	3.39	13 (41%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMC	L5	2794	1	19,22,23	0.52	0	26,31,34	0.57	0
46	OMG	S2	1328	80,46	23,26,27	0.48	0	33,38,41	0.47	0
1	PSU	L5	1679	1	18,21,22	1.09	1 (5%)	22,30,33	1.64	4 (18%)
1	A2M	L5	1319	1	22,25,26	4.13	12 (54%)	31,36,39	3.21	11 (35%)
1	PSU	L5	4282	1	18,21,22	1.08	1 (5%)	22,30,33	1.71	3 (13%)
46	PSU	S2	815	46	18,21,22	1.03	1 (5%)	22,30,33	1.78	4 (18%)
1	PSU	L5	1777	1	18,21,22	1.05	1 (5%)	22,30,33	1.73	3 (13%)
1	OMC	L5	4442	1	19,22,23	0.52	0	26,31,34	0.53	0
1	OMC	L5	2412	79,1	19,22,23	0.55	0	26,31,34	0.50	0
46	OMG	S2	1447	46	23,26,27	0.50	0	33,38,41	0.49	0
1	PSU	L5	4409	1	18,21,22	1.08	1 (5%)	22,30,33	1.79	5 (22%)
1	PSU	L5	3830	1	18,21,22	1.04	1 (5%)	22,30,33	1.81	3 (13%)
46	OMU	S2	428	46	19,22,23	3.25	8 (42%)	26,31,34	1.67	4 (15%)
46	PSU	S2	667	46	18,21,22	1.14	1 (5%)	22,30,33	1.77	6 (27%)
46	PSU	S2	649	46	18,21,22	1.06	1 (5%)	22,30,33	1.78	5 (22%)
1	OMC	L5	3855	1	19,22,23	0.57	0	26,31,34	0.54	0
46	PSU	S2	1239	46	18,21,22	1.11	1 (5%)	22,30,33	1.75	4 (18%)
1	A2M	L5	2777	1	22,25,26	4.08	12 (54%)	31,36,39	3.05	12 (38%)
46	PSU	S2	651	46	18,21,22	1.10	1 (5%)	22,30,33	1.78	4 (18%)
1	A2M	L5	1520	1	22,25,26	4.11	11 (50%)	31,36,39	3.33	11 (35%)
1	A2M	L5	3710	1	22,25,26	4.14	12 (54%)	31,36,39	3.35	12 (38%)
1	PSU	L5	1788	80,1	18,21,22	1.10	1 (5%)	22,30,33	1.77	5 (22%)
46	A2M	S2	590	46	22,25,26	4.13	12 (54%)	31,36,39	3.48	12 (38%)
1	PSU	L5	4957	1	18,21,22	1.11	1 (5%)	22,30,33	1.81	4 (18%)
1	UR3	L5	4516	1	19,22,23	2.84	7 (36%)	26,32,35	1.20	1 (3%)
1	PSU	L5	1578	1	18,21,22	1.02	1 (5%)	22,30,33	1.76	3 (13%)
1	PSU	L5	4279	1	18,21,22	1.10	1 (5%)	22,30,33	1.75	3 (13%)
1	OMG	L5	3778	1	23,26,27	0.49	0	33,38,41	0.44	0
1	PSU	L5	4562	1	18,21,22	1.07	1 (5%)	22,30,33	1.70	3 (13%)
1	A2M	L5	4576	1	22,25,26	4.13	11 (50%)	31,36,39	3.22	13 (41%)
1	OMU	L5	3911	1	19,22,23	3.21	8 (42%)	26,31,34	1.62	4 (15%)
1	A2M	L5	1530	79,1	22,25,26	4.10	12 (54%)	31,36,39	3.26	11 (35%)
1	PSU	L5	4347	1	18,21,22	1.06	1 (5%)	22,30,33	1.81	5 (22%)
46	PSU	S2	36	46	18,21,22	1.08	1 (5%)	22,30,33	1.76	5 (22%)
46	OMG	S2	1490	79,46	23,26,27	0.52	0	33,38,41	0.53	0
1	A2M	L5	1322	1	22,25,26	4.13	12 (54%)	31,36,39	3.22	11 (35%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
46	PSU	S2	1174	46	18,21,22	1.10	1 (5%)	22,30,33	1.78	4 (18%)
1	OMC	L5	2814	1	19,22,23	0.53	0	26,31,34	0.61	0
1	OMC	L5	3794	1	19,22,23	0.56	0	26,31,34	0.63	0
46	PSU	S2	93	46	18,21,22	1.09	1 (5%)	22,30,33	1.75	5 (22%)
46	MA6	S2	1850	46	23,26,27	1.50	3 (13%)	34,38,41	3.58	11 (32%)
1	OMG	L5	3885	1	23,26,27	0.50	0	33,38,41	0.62	0
46	A2M	S2	27	46	22,25,26	4.12	11 (50%)	31,36,39	3.25	12 (38%)
46	PSU	S2	1045	46	18,21,22	1.09	1 (5%)	22,30,33	1.76	4 (18%)
1	OMC	L5	1877	79,1	19,22,23	0.56	0	26,31,34	0.64	0
46	OMC	S2	462	46	19,22,23	0.54	0	26,31,34	0.53	0
1	PSU	L5	4507	79,80,1	18,21,22	1.10	1 (5%)	22,30,33	1.75	4 (18%)
46	OMG	S2	644	46	23,26,27	0.48	0	33,38,41	0.49	0
46	PSU	S2	863	46	18,21,22	0.86	1 (5%)	22,30,33	0.55	0
1	PSU	L5	2622	1	18,21,22	1.09	1 (5%)	22,30,33	1.67	5 (22%)
46	PSU	S2	1625	46	18,21,22	1.07	1 (5%)	22,30,33	1.80	5 (22%)
1	A2M	L5	3771	1	22,25,26	4.11	12 (54%)	31,36,39	3.38	14 (45%)
1	PSU	L5	4995	1	18,21,22	1.09	1 (5%)	22,30,33	1.73	4 (18%)
1	PSU	L5	3837	1	18,21,22	1.06	1 (5%)	22,30,33	1.85	4 (18%)
46	OMC	S2	517	46	19,22,23	0.53	0	26,31,34	0.62	0
1	PSU	L5	4538	1	18,21,22	1.06	1 (5%)	22,30,33	1.79	5 (22%)
3	OMU	L8	14	3,1	19,22,23	3.25	8 (42%)	26,31,34	1.68	5 (19%)
46	PSU	S2	1056	46	18,21,22	1.07	1 (5%)	22,30,33	1.80	6 (27%)
1	PSU	L5	3839	79,1	18,21,22	1.08	1 (5%)	22,30,33	1.86	5 (22%)
1	OMG	L5	4485	1	23,26,27	0.49	0	33,38,41	0.63	0
5	HIC	LB	245	5	10,11,12	0.49	0	8,14,16	0.55	0
1	PSU	L5	4565	1	18,21,22	1.10	1 (5%)	22,30,33	1.77	4 (18%)
46	OMG	S2	683	46	23,26,27	0.51	0	33,38,41	0.63	0
46	OMU	S2	121	46	19,22,23	3.21	8 (42%)	26,31,34	1.61	4 (15%)
1	PSU	L5	1856	1	18,21,22	1.06	1 (5%)	22,30,33	1.75	4 (18%)
1	OMC	L5	2851	1	19,22,23	0.50	0	26,31,34	0.76	1 (3%)
1	PSU	L5	4443	1	18,21,22	1.05	1 (5%)	22,30,33	1.70	3 (13%)
1	PSU	L5	3701	1	18,21,22	1.09	1 (5%)	22,30,33	1.77	5 (22%)
1	PSU	L5	4986	1	18,21,22	1.11	1 (5%)	22,30,33	1.77	4 (18%)
46	A2M	S2	1031	46	22,25,26	4.11	12 (54%)	31,36,39	3.31	13 (41%)
3	PSU	L8	69	3	18,21,22	1.11	1 (5%)	22,30,33	1.82	6 (27%)
1	PSU	L5	4614	1	18,21,22	1.11	1 (5%)	22,30,33	1.79	4 (18%)
1	OMG	L5	4480	1	23,26,27	0.49	0	33,38,41	0.50	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	PSU	L8	55	3	18,21,22	1.08	1 (5%)	22,30,33	1.69	2 (9%)
1	PSU	L5	1673	1	18,21,22	1.09	2 (11%)	22,30,33	1.91	5 (22%)
46	OMU	S2	116	46	19,22,23	3.24	8 (42%)	26,31,34	1.72	5 (19%)
46	A2M	S2	668	46	22,25,26	4.10	12 (54%)	31,36,39	3.26	13 (41%)
46	OMG	S2	867	46	23,26,27	0.29	0	33,38,41	0.44	0
1	OMG	L5	1518	1	23,26,27	0.55	0	33,38,41	0.59	0
1	PSU	L5	4339	1	18,21,22	1.05	1 (5%)	22,30,33	1.72	2 (9%)
46	PSU	S2	1367	46	18,21,22	1.06	1 (5%)	22,30,33	1.75	3 (13%)
46	A2M	S2	1383	46	22,25,26	4.10	13 (59%)	31,36,39	3.40	14 (45%)
1	A2M	L5	3816	1	22,25,26	4.10	12 (54%)	31,36,39	3.28	12 (38%)
1	5MC	L5	4433	80,1	18,22,23	0.66	0	26,32,35	0.68	0
46	PSU	S2	822	46	18,21,22	1.10	1 (5%)	22,30,33	1.76	5 (22%)
46	A2M	S2	468	46	22,25,26	4.14	12 (54%)	31,36,39	3.39	13 (41%)
46	PSU	S2	681	46	18,21,22	1.08	1 (5%)	22,30,33	1.72	3 (13%)
1	PSU	L5	1778	1	18,21,22	1.07	1 (5%)	22,30,33	1.73	4 (18%)
1	OMG	L5	2414	1	23,26,27	0.50	0	33,38,41	0.46	0
1	OMG	L5	4623	80,1	23,26,27	0.50	0	33,38,41	0.49	0
46	OMC	S2	1703	46	19,22,23	0.52	0	26,31,34	0.61	0
1	PSU	L5	4517	1	18,21,22	1.05	1 (5%)	22,30,33	1.74	4 (18%)
1	PSU	L5	3681	80,1	18,21,22	1.10	1 (5%)	22,30,33	1.74	4 (18%)
1	OMG	L5	1621	80,1	23,26,27	0.52	0	33,38,41	0.47	0
1	PSU	L5	4417	1	18,21,22	1.07	1 (5%)	22,30,33	1.79	4 (18%)
1	A2M	L5	4509	79,1	22,25,26	4.12	11 (50%)	31,36,39	3.34	12 (38%)
1	OMG	L5	4609	1	23,26,27	0.50	0	33,38,41	0.59	0
1	OMG	L5	3730	1	23,26,27	0.50	0	33,38,41	0.49	0
1	OMG	L5	4356	1	23,26,27	0.50	0	33,38,41	0.55	0
1	OMU	L5	4606	1	19,22,23	3.21	8 (42%)	26,31,34	1.62	4 (15%)
46	A2M	S2	159	46	22,25,26	4.13	12 (54%)	31,36,39	3.40	12 (38%)
1	OMC	L5	3827	1	19,22,23	0.54	0	26,31,34	0.55	0
46	PSU	S2	1177	46	18,21,22	1.09	1 (5%)	22,30,33	1.75	3 (13%)
1	PSU	L5	4389	1	18,21,22	1.11	1 (5%)	22,30,33	1.76	5 (22%)
46	A2M	S2	166	46	22,25,26	4.13	12 (54%)	31,36,39	3.44	14 (45%)
46	A2M	S2	1678	46	22,25,26	4.14	12 (54%)	31,36,39	3.39	11 (35%)
1	PSU	L5	4622	1	18,21,22	1.03	1 (5%)	22,30,33	1.91	5 (22%)
46	PSU	S2	109	46	18,21,22	1.06	1 (5%)	22,30,33	1.84	5 (22%)
1	PSU	L5	1740	1	18,21,22	1.06	1 (5%)	22,30,33	1.76	4 (18%)
1	6MZ	L5	4206	1	22,25,26	2.53	4 (18%)	30,36,39	2.48	11 (36%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
46	OMG	S2	601	46	23,26,27	0.49	0	33,38,41	0.44	0
46	OMU	S2	1442	46	19,22,23	3.26	8 (42%)	26,31,34	1.68	4 (15%)
46	PSU	S2	1692	46	18,21,22	1.11	1 (5%)	22,30,33	1.72	3 (13%)
46	A2M	S2	484	46	22,25,26	4.10	12 (54%)	31,36,39	3.33	11 (35%)
46	PSU	S2	1232	46	18,21,22	1.05	1 (5%)	22,30,33	1.78	3 (13%)
46	G7M	S2	1639	46	23,26,27	2.87	10 (43%)	35,39,42	2.13	10 (28%)
1	PSU	L5	2829	1	18,21,22	1.11	1 (5%)	22,30,33	1.86	5 (22%)
1	A2M	L5	2805	1	22,25,26	4.08	12 (54%)	31,36,39	3.32	12 (38%)
1	A2M	L5	2391	1	22,25,26	4.09	12 (54%)	31,36,39	3.28	12 (38%)
1	OMG	L5	3613	1	23,26,27	0.50	0	33,38,41	0.65	0
1	OMC	L5	3873	1	19,22,23	0.58	0	26,31,34	0.67	0
1	OMC	L5	2355	1	19,22,23	0.54	0	26,31,34	0.55	0
1	PSU	L5	4958	1	18,21,22	1.09	1 (5%)	22,30,33	1.76	4 (18%)
1	PSU	L5	1858	1	18,21,22	1.05	1 (5%)	22,30,33	1.83	5 (22%)
1	UY1	L5	3804	80,1	19,22,23	0.46	0	22,31,34	0.54	0
1	PSU	L5	4428	1	18,21,22	1.07	1 (5%)	22,30,33	1.74	4 (18%)
1	PSU	L5	4555	1	18,21,22	1.13	1 (5%)	22,30,33	1.81	5 (22%)
1	A2M	L5	400	1	22,25,26	4.11	12 (54%)	31,36,39	3.30	12 (38%)
46	A2M	S2	512	46	22,25,26	4.13	12 (54%)	31,36,39	3.30	13 (41%)
1	PSU	L5	4518	1	18,21,22	1.08	1 (5%)	22,30,33	1.82	4 (18%)
46	PSU	S2	1136	46	18,21,22	1.11	1 (5%)	22,30,33	1.87	5 (22%)
1	OMG	L5	4214	1	23,26,27	0.50	0	33,38,41	0.67	0
1	PSU	L5	4659	80,1	18,21,22	1.08	1 (5%)	22,30,33	1.74	5 (22%)
46	PSU	S2	572	46	18,21,22	1.07	1 (5%)	22,30,33	1.71	4 (18%)
46	PSU	S2	1238	46	18,21,22	1.09	1 (5%)	22,30,33	1.82	4 (18%)
1	OMG	L5	2866	1	23,26,27	0.52	0	33,38,41	0.48	0
46	PSU	S2	1046	46	18,21,22	1.07	1 (5%)	22,30,33	1.73	3 (13%)
1	OMU	L5	4484	1	19,22,23	3.25	8 (42%)	26,31,34	1.70	5 (19%)
1	OMG	L5	2354	1	23,26,27	0.49	0	33,38,41	0.52	0
46	PSU	S2	406	46	18,21,22	1.09	1 (5%)	22,30,33	1.77	5 (22%)
1	PSU	L5	3870	1	18,21,22	1.08	1 (5%)	22,30,33	1.68	4 (18%)
1	PSU	L5	4675	1	18,21,22	1.04	1 (5%)	22,30,33	1.80	3 (13%)
46	PSU	S2	866	46	18,21,22	0.88	1 (5%)	22,30,33	0.53	0
29	V5N	La	39	29	9,11,12	0.69	0	9,14,16	1.25	1 (11%)
1	A2M	L5	398	1	22,25,26	4.09	12 (54%)	31,36,39	3.37	12 (38%)
46	6MZ	S2	1832	79,46,80	22,25,26	2.52	4 (18%)	30,36,39	2.45	11 (36%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMC	L5	2341	1	19,22,23	0.57	0	26,31,34	0.62	0
46	OMC	S2	1391	46	19,22,23	0.52	0	26,31,34	0.58	0
46	PSU	S2	1244	46	18,21,22	1.09	1 (5%)	22,30,33	1.77	4 (18%)
1	A2M	L5	3704	1	22,25,26	4.13	12 (54%)	31,36,39	3.36	12 (38%)
1	PSU	L5	1775	1	18,21,22	1.07	1 (5%)	22,30,33	1.77	4 (18%)
46	PSU	S2	105	46	18,21,22	1.09	1 (5%)	22,30,33	1.89	5 (22%)
1	A2M	L5	1867	79,1	22,25,26	4.12	12 (54%)	31,36,39	3.29	13 (41%)
46	PSU	S2	801	46	18,21,22	1.10	1 (5%)	22,30,33	1.73	5 (22%)
1	PSU	L5	3625	1	18,21,22	1.17	1 (5%)	22,30,33	1.77	5 (22%)
1	PSU	L5	4285	1	18,21,22	1.06	1 (5%)	22,30,33	1.77	4 (18%)
1	A2M	L5	3811	1	22,25,26	4.13	12 (54%)	31,36,39	3.24	12 (38%)
1	OMC	L5	1336	1	19,22,23	0.54	0	26,31,34	0.62	0
1	OMG	L5	4378	1	23,26,27	0.47	0	33,38,41	0.49	0
1	OMG	L5	4604	1	23,26,27	0.51	0	33,38,41	0.60	0
46	PSU	S2	100	79,46	18,21,22	1.05	1 (5%)	22,30,33	1.87	4 (18%)
46	A2M	S2	576	46	22,25,26	4.16	12 (54%)	31,36,39	3.37	13 (41%)
1	OMU	L5	4292	1	19,22,23	3.19	8 (42%)	26,31,34	1.66	5 (19%)
46	PSU	S2	609	46	18,21,22	1.08	1 (5%)	22,30,33	1.73	5 (22%)
1	PSU	L5	3906	79,1	18,21,22	1.07	1 (5%)	22,30,33	1.81	4 (18%)
66	NMM	ST	67	66	9,11,12	0.61	0	6,12,14	2.64	2 (33%)
46	OMG	S2	509	46	23,26,27	0.50	0	33,38,41	0.56	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
1	PSU	L5	4298	1	-	0/7/25/26	0/2/2/2
46	PSU	S2	814	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	2498	1	-	1/7/25/26	0/2/2/2
46	OMG	S2	436	46	-	0/9/27/28	0/3/3/3
46	4AC	S2	1337	46	-	2/11/29/30	0/2/2/2
46	PSU	S2	34	46	-	0/7/25/26	0/2/2/2
46	PSU	S2	918	46	-	2/7/25/26	0/2/2/2
1	OMU	L5	2405	1	-	0/9/27/28	0/2/2/2
46	OMC	S2	174	46	-	0/9/27/28	0/2/2/2
1	OMG	L5	1312	1	-	0/9/27/28	0/3/3/3
1	PSU	L5	3808	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMC	L5	4522	1	-	0/9/27/28	0/2/2/2
1	A2M	L5	4557	1	-	1/9/27/28	0/3/3/3
1	1MA	L5	1318	79,1	-	2/7/25/26	0/3/3/3
1	OMU	L5	4213	1	-	0/9/27/28	0/2/2/2
46	OMU	S2	172	46	-	0/9/27/28	0/2/2/2
46	PSU	S2	686	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	4457	1	-	0/7/25/26	0/2/2/2
46	4AC	S2	1842	46	-	0/11/29/30	0/2/2/2
1	PSU	L5	2724	1	-	0/7/25/26	0/2/2/2
46	PSU	S2	1643	46	-	0/7/25/26	0/2/2/2
1	A2M	L5	3853	1	-	2/9/27/28	0/3/3/3
46	OMU	S2	354	46	-	0/9/27/28	0/2/2/2
46	PSU	S2	1004	46	-	0/7/25/26	0/2/2/2
3	OMG	L8	75	3	-	0/9/27/28	0/3/3/3
1	5MC	L5	3768	81,1	-	0/7/25/26	0/2/2/2
46	PSU	S2	119	46	-	0/7/25/26	0/2/2/2
46	MA6	S2	1851	46	-	2/11/29/30	0/3/3/3
1	PSU	L5	3623	80,1	-	0/7/25/26	0/2/2/2
1	OMC	L5	3687	80,1	-	4/9/27/28	0/2/2/2
1	PSU	L5	1532	1	-	0/7/25/26	0/2/2/2
1	A2M	L5	2353	79,1	-	0/9/27/28	0/3/3/3
1	OMG	L5	4182	79,1	-	1/9/27/28	0/3/3/3
46	UY1	S2	1326	46	-	3/9/27/28	0/2/2/2
46	PSU	S2	1445	46	-	0/7/25/26	0/2/2/2
1	OMU	L5	2827	1	-	0/9/27/28	0/2/2/2
46	A2M	S2	99	79,46	-	3/9/27/28	0/3/3/3
1	OMC	L5	2794	1	-	0/9/27/28	0/2/2/2
46	OMG	S2	1328	80,46	-	1/9/27/28	0/3/3/3
1	PSU	L5	1679	1	-	0/7/25/26	0/2/2/2
1	A2M	L5	1319	1	-	0/9/27/28	0/3/3/3
1	PSU	L5	4282	1	-	0/7/25/26	0/2/2/2
46	PSU	S2	815	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	1777	1	-	0/7/25/26	0/2/2/2
1	OMC	L5	4442	1	-	0/9/27/28	0/2/2/2
1	OMC	L5	2412	79,1	-	1/9/27/28	0/2/2/2
46	OMG	S2	1447	46	-	3/9/27/28	0/3/3/3
1	PSU	L5	4409	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	3830	1	-	3/7/25/26	0/2/2/2
46	OMU	S2	428	46	-	4/9/27/28	0/2/2/2
46	PSU	S2	667	46	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
46	PSU	S2	649	46	-	0/7/25/26	0/2/2/2
1	OMC	L5	3855	1	-	0/9/27/28	0/2/2/2
46	PSU	S2	1239	46	-	0/7/25/26	0/2/2/2
1	A2M	L5	2777	1	-	4/9/27/28	0/3/3/3
46	PSU	S2	651	46	-	0/7/25/26	0/2/2/2
1	A2M	L5	1520	1	-	0/9/27/28	0/3/3/3
1	A2M	L5	3710	1	-	2/9/27/28	0/3/3/3
1	PSU	L5	1788	80,1	-	0/7/25/26	0/2/2/2
46	A2M	S2	590	46	-	1/9/27/28	0/3/3/3
1	PSU	L5	4957	1	-	0/7/25/26	0/2/2/2
1	UR3	L5	4516	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	1578	1	-	2/7/25/26	0/2/2/2
1	PSU	L5	4279	1	-	0/7/25/26	0/2/2/2
1	OMG	L5	3778	1	-	0/9/27/28	0/3/3/3
1	PSU	L5	4562	1	-	0/7/25/26	0/2/2/2
1	A2M	L5	4576	1	-	1/9/27/28	0/3/3/3
1	OMU	L5	3911	1	-	0/9/27/28	0/2/2/2
1	A2M	L5	1530	79,1	-	2/9/27/28	0/3/3/3
1	PSU	L5	4347	1	-	0/7/25/26	0/2/2/2
46	PSU	S2	36	46	-	0/7/25/26	0/2/2/2
46	OMG	S2	1490	79,46	-	3/9/27/28	0/3/3/3
1	A2M	L5	1322	1	-	2/9/27/28	0/3/3/3
46	PSU	S2	1174	46	-	0/7/25/26	0/2/2/2
1	OMC	L5	2814	1	-	1/9/27/28	0/2/2/2
1	OMC	L5	3794	1	-	0/9/27/28	0/2/2/2
46	PSU	S2	93	46	-	0/7/25/26	0/2/2/2
46	MA6	S2	1850	46	-	0/11/29/30	0/3/3/3
1	OMG	L5	3885	1	-	0/9/27/28	0/3/3/3
46	A2M	S2	27	46	-	1/9/27/28	0/3/3/3
46	PSU	S2	1045	46	-	0/7/25/26	0/2/2/2
1	OMC	L5	1877	79,1	-	0/9/27/28	0/2/2/2
46	OMC	S2	462	46	-	1/9/27/28	0/2/2/2
1	PSU	L5	4507	79,80,1	-	1/7/25/26	0/2/2/2
46	OMG	S2	644	46	-	1/9/27/28	0/3/3/3
46	PSU	S2	863	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	2622	1	-	0/7/25/26	0/2/2/2
46	PSU	S2	1625	46	-	0/7/25/26	0/2/2/2
1	A2M	L5	3771	1	-	1/9/27/28	0/3/3/3
1	PSU	L5	4995	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	3837	1	-	0/7/25/26	0/2/2/2
46	OMC	S2	517	46	-	0/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	L5	4538	1	-	0/7/25/26	0/2/2/2
3	OMU	L8	14	3,1	-	0/9/27/28	0/2/2/2
46	PSU	S2	1056	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	3839	79,1	-	0/7/25/26	0/2/2/2
1	OMG	L5	4485	1	-	0/9/27/28	0/3/3/3
5	HIC	LB	245	5	-	0/5/6/8	0/1/1/1
1	PSU	L5	4565	1	-	0/7/25/26	0/2/2/2
46	OMG	S2	683	46	-	2/9/27/28	0/3/3/3
46	OMU	S2	121	46	-	0/9/27/28	0/2/2/2
1	PSU	L5	1856	1	-	0/7/25/26	0/2/2/2
1	OMC	L5	2851	1	-	1/9/27/28	0/2/2/2
1	PSU	L5	4443	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	3701	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	4986	1	-	0/7/25/26	0/2/2/2
46	A2M	S2	1031	46	-	0/9/27/28	0/3/3/3
3	PSU	L8	69	3	-	0/7/25/26	0/2/2/2
1	PSU	L5	4614	1	-	0/7/25/26	0/2/2/2
1	OMG	L5	4480	1	-	2/9/27/28	0/3/3/3
3	PSU	L8	55	3	-	0/7/25/26	0/2/2/2
1	PSU	L5	1673	1	-	0/7/25/26	0/2/2/2
46	OMU	S2	116	46	-	1/9/27/28	0/2/2/2
46	A2M	S2	668	46	-	7/9/27/28	0/3/3/3
46	OMG	S2	867	46	-	4/9/27/28	0/3/3/3
1	OMG	L5	1518	1	-	0/9/27/28	0/3/3/3
1	PSU	L5	4339	1	-	0/7/25/26	0/2/2/2
46	PSU	S2	1367	46	-	2/7/25/26	0/2/2/2
46	A2M	S2	1383	46	-	3/9/27/28	0/3/3/3
1	A2M	L5	3816	1	-	1/9/27/28	0/3/3/3
1	5MC	L5	4433	80,1	-	4/7/25/26	0/2/2/2
46	PSU	S2	822	46	-	1/7/25/26	0/2/2/2
46	A2M	S2	468	46	-	0/9/27/28	0/3/3/3
46	PSU	S2	681	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	1778	1	-	0/7/25/26	0/2/2/2
1	OMG	L5	2414	1	-	0/9/27/28	0/3/3/3
1	OMG	L5	4623	80,1	-	1/9/27/28	0/3/3/3
46	OMC	S2	1703	46	-	1/9/27/28	0/2/2/2
1	PSU	L5	4517	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	3681	80,1	-	2/7/25/26	0/2/2/2
1	OMG	L5	1621	80,1	-	1/9/27/28	0/3/3/3
1	PSU	L5	4417	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	A2M	L5	4509	79,1	-	1/9/27/28	0/3/3/3
1	OMG	L5	4609	1	-	0/9/27/28	0/3/3/3
1	OMG	L5	3730	1	-	0/9/27/28	0/3/3/3
1	OMG	L5	4356	1	-	1/9/27/28	0/3/3/3
1	OMU	L5	4606	1	-	0/9/27/28	0/2/2/2
46	A2M	S2	159	46	-	1/9/27/28	0/3/3/3
1	OMC	L5	3827	1	-	0/9/27/28	0/2/2/2
46	PSU	S2	1177	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	4389	1	-	0/7/25/26	0/2/2/2
46	A2M	S2	166	46	-	0/9/27/28	0/3/3/3
46	A2M	S2	1678	46	-	2/9/27/28	0/3/3/3
1	PSU	L5	4622	1	-	4/7/25/26	0/2/2/2
46	PSU	S2	109	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	1740	1	-	0/7/25/26	0/2/2/2
1	6MZ	L5	4206	1	-	0/9/27/28	0/3/3/3
46	OMG	S2	601	46	-	1/9/27/28	0/3/3/3
46	OMU	S2	1442	46	-	1/9/27/28	0/2/2/2
46	PSU	S2	1692	46	-	0/7/25/26	0/2/2/2
46	A2M	S2	484	46	-	0/9/27/28	0/3/3/3
46	PSU	S2	1232	46	-	0/7/25/26	0/2/2/2
46	G7M	S2	1639	46	-	2/7/25/26	0/3/3/3
1	PSU	L5	2829	1	-	0/7/25/26	0/2/2/2
1	A2M	L5	2805	1	-	3/9/27/28	0/3/3/3
1	A2M	L5	2391	1	-	0/9/27/28	0/3/3/3
1	OMG	L5	3613	1	-	0/9/27/28	0/3/3/3
1	OMC	L5	3873	1	-	0/9/27/28	0/2/2/2
1	OMC	L5	2355	1	-	0/9/27/28	0/2/2/2
1	PSU	L5	4958	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	1858	1	-	0/7/25/26	0/2/2/2
1	UY1	L5	3804	80,1	-	2/9/27/28	0/2/2/2
1	PSU	L5	4428	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	4555	1	-	0/7/25/26	0/2/2/2
1	A2M	L5	400	1	-	0/9/27/28	0/3/3/3
46	A2M	S2	512	46	-	2/9/27/28	0/3/3/3
1	PSU	L5	4518	1	-	0/7/25/26	0/2/2/2
46	PSU	S2	1136	46	-	0/7/25/26	0/2/2/2
1	OMG	L5	4214	1	-	1/9/27/28	0/3/3/3
1	PSU	L5	4659	80,1	-	0/7/25/26	0/2/2/2
46	PSU	S2	572	46	-	0/7/25/26	0/2/2/2
46	PSU	S2	1238	46	-	0/7/25/26	0/2/2/2
1	OMG	L5	2866	1	-	0/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
46	PSU	S2	1046	46	-	0/7/25/26	0/2/2/2
1	OMU	L5	4484	1	-	0/9/27/28	0/2/2/2
1	OMG	L5	2354	1	-	2/9/27/28	0/3/3/3
46	PSU	S2	406	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	3870	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	4675	1	-	0/7/25/26	0/2/2/2
46	PSU	S2	866	46	-	3/7/25/26	0/2/2/2
29	V5N	La	39	29	-	0/9/10/12	0/1/1/1
1	A2M	L5	398	1	-	1/9/27/28	0/3/3/3
46	6MZ	S2	1832	79,46,80	-	0/9/27/28	0/3/3/3
1	OMC	L5	2341	1	-	3/9/27/28	0/2/2/2
46	OMC	S2	1391	46	-	1/9/27/28	0/2/2/2
46	PSU	S2	1244	46	-	0/7/25/26	0/2/2/2
1	A2M	L5	3704	1	-	1/9/27/28	0/3/3/3
1	PSU	L5	1775	1	-	2/7/25/26	0/2/2/2
46	PSU	S2	105	46	-	0/7/25/26	0/2/2/2
1	A2M	L5	1867	79,1	-	0/9/27/28	0/3/3/3
46	PSU	S2	801	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	3625	1	-	0/7/25/26	0/2/2/2
1	PSU	L5	4285	1	-	0/7/25/26	0/2/2/2
1	A2M	L5	3811	1	-	1/9/27/28	0/3/3/3
1	OMC	L5	1336	1	-	0/9/27/28	0/2/2/2
1	OMG	L5	4378	1	-	0/9/27/28	0/3/3/3
1	OMG	L5	4604	1	-	0/9/27/28	0/3/3/3
46	PSU	S2	100	79,46	-	2/7/25/26	0/2/2/2
46	A2M	S2	576	46	-	2/9/27/28	0/3/3/3
1	OMU	L5	4292	1	-	0/9/27/28	0/2/2/2
46	PSU	S2	609	46	-	0/7/25/26	0/2/2/2
1	PSU	L5	3906	79,1	-	0/7/25/26	0/2/2/2
66	NMM	ST	67	66	-	2/9/11/13	-
46	OMG	S2	509	46	-	0/9/27/28	0/3/3/3

All (647) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L5	3853	A2M	C3'-C2'	-13.33	1.23	1.52
46	S2	468	A2M	C3'-C2'	-13.29	1.23	1.52
1	L5	2353	A2M	C3'-C2'	-13.27	1.23	1.52
46	S2	166	A2M	C3'-C2'	-13.23	1.23	1.52
1	L5	4576	A2M	C3'-C2'	-13.23	1.23	1.52
46	S2	159	A2M	C3'-C2'	-13.20	1.23	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	1383	A2M	C3'-C2'	-13.19	1.23	1.52
1	L5	3710	A2M	C3'-C2'	-13.18	1.23	1.52
46	S2	590	A2M	C3'-C2'	-13.18	1.23	1.52
1	L5	1322	A2M	C3'-C2'	-13.18	1.23	1.52
46	S2	512	A2M	C3'-C2'	-13.17	1.23	1.52
46	S2	1678	A2M	C3'-C2'	-13.17	1.23	1.52
46	S2	27	A2M	C3'-C2'	-13.16	1.23	1.52
1	L5	1319	A2M	C3'-C2'	-13.15	1.23	1.52
46	S2	576	A2M	C3'-C2'	-13.15	1.23	1.52
1	L5	3811	A2M	C3'-C2'	-13.13	1.23	1.52
1	L5	3704	A2M	C3'-C2'	-13.12	1.23	1.52
46	S2	1031	A2M	C3'-C2'	-13.11	1.23	1.52
1	L5	400	A2M	C3'-C2'	-13.09	1.23	1.52
1	L5	398	A2M	C3'-C2'	-13.05	1.23	1.52
1	L5	4509	A2M	C3'-C2'	-13.03	1.23	1.52
1	L5	3816	A2M	C3'-C2'	-13.02	1.23	1.52
1	L5	1867	A2M	C3'-C2'	-13.01	1.23	1.52
1	L5	3771	A2M	C3'-C2'	-13.00	1.24	1.52
1	L5	4557	A2M	C3'-C2'	-12.99	1.24	1.52
1	L5	1530	A2M	C3'-C2'	-12.99	1.24	1.52
46	S2	99	A2M	C3'-C2'	-12.97	1.24	1.52
1	L5	2391	A2M	C3'-C2'	-12.96	1.24	1.52
1	L5	2777	A2M	C3'-C2'	-12.94	1.24	1.52
46	S2	484	A2M	C3'-C2'	-12.93	1.24	1.52
1	L5	2805	A2M	C3'-C2'	-12.86	1.24	1.52
1	L5	1520	A2M	C3'-C2'	-12.80	1.24	1.52
46	S2	668	A2M	C3'-C2'	-12.68	1.24	1.52
1	L5	4206	6MZ	C6-N6	10.52	1.45	1.34
46	S2	1832	6MZ	C6-N6	10.48	1.45	1.34
1	L5	4213	OMU	C2-N1	7.78	1.50	1.38
46	S2	1442	OMU	C2-N1	7.76	1.50	1.38
46	S2	428	OMU	C2-N1	7.70	1.50	1.38
3	L8	14	OMU	C2-N1	7.68	1.50	1.38
1	L5	3911	OMU	C2-N1	7.67	1.50	1.38
1	L5	4484	OMU	C2-N1	7.60	1.50	1.38
46	S2	172	OMU	C2-N1	7.59	1.50	1.38
1	L5	4606	OMU	C2-N1	7.59	1.50	1.38
46	S2	116	OMU	C2-N1	7.56	1.50	1.38
1	L5	2405	OMU	C2-N1	7.54	1.50	1.38
46	S2	354	OMU	C2-N1	7.52	1.50	1.38
1	L5	4516	UR3	C2-N1	7.48	1.49	1.38
46	S2	116	OMU	C2-N3	7.47	1.51	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L5	2827	OMU	C2-N1	7.44	1.50	1.38
46	S2	121	OMU	C2-N1	7.43	1.50	1.38
1	L5	4292	OMU	C2-N1	7.38	1.50	1.38
46	S2	428	OMU	C2-N3	7.38	1.51	1.38
46	S2	1442	OMU	C2-N3	7.37	1.51	1.38
1	L5	4484	OMU	C2-N3	7.37	1.51	1.38
1	L5	2827	OMU	C2-N3	7.34	1.51	1.38
3	L8	14	OMU	C2-N3	7.29	1.51	1.38
46	S2	121	OMU	C2-N3	7.26	1.50	1.38
1	L5	2405	OMU	C2-N3	7.25	1.50	1.38
46	S2	172	OMU	C2-N3	7.24	1.50	1.38
1	L5	4213	OMU	C2-N3	7.23	1.50	1.38
46	S2	354	OMU	C2-N3	7.18	1.50	1.38
1	L5	4606	OMU	C2-N3	7.11	1.50	1.38
1	L5	3911	OMU	C2-N3	7.10	1.50	1.38
46	S2	1337	4AC	C4-N3	7.09	1.45	1.32
1	L5	4292	OMU	C2-N3	7.06	1.50	1.38
46	S2	1842	4AC	C4-N3	7.01	1.45	1.32
46	S2	668	A2M	O4'-C4'	-6.89	1.29	1.45
46	S2	1678	A2M	O4'-C4'	-6.71	1.30	1.45
1	L5	1520	A2M	O4'-C4'	-6.70	1.30	1.45
1	L5	1319	A2M	O4'-C4'	-6.66	1.30	1.45
1	L5	3853	A2M	O4'-C4'	-6.61	1.30	1.45
1	L5	3710	A2M	O4'-C4'	-6.58	1.30	1.45
1	L5	400	A2M	O4'-C4'	-6.58	1.30	1.45
1	L5	2805	A2M	O4'-C4'	-6.58	1.30	1.45
46	S2	484	A2M	O4'-C4'	-6.58	1.30	1.45
1	L5	1530	A2M	O4'-C4'	-6.56	1.30	1.45
46	S2	590	A2M	O4'-C4'	-6.56	1.30	1.45
1	L5	3811	A2M	O4'-C4'	-6.55	1.30	1.45
46	S2	1639	G7M	C4-N3	6.55	1.49	1.34
1	L5	1322	A2M	O4'-C4'	-6.55	1.30	1.45
1	L5	4557	A2M	O4'-C4'	-6.55	1.30	1.45
46	S2	159	A2M	O4'-C4'	-6.54	1.30	1.45
1	L5	4516	UR3	C6-C5	6.53	1.50	1.35
46	S2	1337	4AC	C6-C5	6.53	1.50	1.35
1	L5	3771	A2M	O4'-C4'	-6.52	1.30	1.45
1	L5	2353	A2M	O4'-C4'	-6.52	1.30	1.45
1	L5	4509	A2M	O4'-C4'	-6.52	1.30	1.45
46	S2	1639	G7M	C5-N7	-6.50	1.31	1.39
1	L5	4576	A2M	O4'-C4'	-6.49	1.30	1.45
46	S2	166	A2M	O4'-C4'	-6.48	1.30	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L5	2391	A2M	O4'-C4'	-6.47	1.30	1.45
1	L5	1867	A2M	O4'-C4'	-6.46	1.30	1.45
46	S2	576	A2M	O4'-C4'	-6.46	1.30	1.45
1	L5	2777	A2M	O4'-C4'	-6.46	1.30	1.45
46	S2	1842	4AC	C6-C5	6.44	1.50	1.35
46	S2	512	A2M	O4'-C4'	-6.44	1.30	1.45
1	L5	398	A2M	O4'-C4'	-6.43	1.30	1.45
46	S2	27	A2M	O4'-C4'	-6.43	1.30	1.45
1	L5	3816	A2M	O4'-C4'	-6.43	1.30	1.45
1	L5	4213	OMU	C6-C5	6.42	1.50	1.35
1	L5	3704	A2M	O4'-C4'	-6.39	1.30	1.45
46	S2	1031	A2M	O4'-C4'	-6.39	1.30	1.45
46	S2	99	A2M	O4'-C4'	-6.38	1.30	1.45
46	S2	468	A2M	O4'-C4'	-6.38	1.30	1.45
1	L5	2827	OMU	C6-C5	6.38	1.49	1.35
1	L5	2405	OMU	C6-C5	6.37	1.49	1.35
46	S2	172	OMU	C6-C5	6.34	1.49	1.35
1	L5	4292	OMU	C6-C5	6.33	1.49	1.35
3	L8	14	OMU	C6-C5	6.31	1.49	1.35
46	S2	121	OMU	C6-C5	6.31	1.49	1.35
46	S2	354	OMU	C6-C5	6.30	1.49	1.35
1	L5	4606	OMU	C6-C5	6.30	1.49	1.35
46	S2	1442	OMU	C6-C5	6.29	1.49	1.35
46	S2	428	OMU	C6-C5	6.28	1.49	1.35
1	L5	3911	OMU	C6-C5	6.27	1.49	1.35
46	S2	1383	A2M	O4'-C4'	-6.24	1.31	1.45
46	S2	116	OMU	C6-C5	6.24	1.49	1.35
1	L5	4484	OMU	C6-C5	6.20	1.49	1.35
46	S2	1337	4AC	C2-N3	6.19	1.48	1.36
46	S2	1842	4AC	C2-N3	6.11	1.48	1.36
1	L5	3771	A2M	C3'-C4'	5.82	1.67	1.53
1	L5	4557	A2M	C3'-C4'	5.74	1.67	1.53
1	L5	4576	A2M	C3'-C4'	5.72	1.67	1.53
1	L5	1530	A2M	C3'-C4'	5.71	1.67	1.53
1	L5	2353	A2M	C3'-C4'	5.69	1.67	1.53
46	S2	484	A2M	C3'-C4'	5.69	1.67	1.53
46	S2	1031	A2M	C3'-C4'	5.67	1.67	1.53
46	S2	668	A2M	C3'-C4'	5.66	1.67	1.53
1	L5	3811	A2M	C3'-C4'	5.66	1.67	1.53
46	S2	27	A2M	C3'-C4'	5.63	1.67	1.53
1	L5	1319	A2M	C3'-C4'	5.63	1.67	1.53
1	L5	4509	A2M	C3'-C4'	5.63	1.67	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	1678	A2M	C3'-C4'	5.62	1.67	1.53
46	S2	99	A2M	C3'-C4'	5.61	1.67	1.53
1	L5	1322	A2M	C3'-C4'	5.59	1.67	1.53
1	L5	3853	A2M	C3'-C4'	5.58	1.67	1.53
46	S2	512	A2M	C3'-C4'	5.58	1.67	1.53
1	L5	1867	A2M	C3'-C4'	5.57	1.67	1.53
46	S2	576	A2M	C3'-C4'	5.57	1.67	1.53
1	L5	400	A2M	C3'-C4'	5.54	1.67	1.53
1	L5	3816	A2M	C3'-C4'	5.52	1.67	1.53
1	L5	3704	A2M	C3'-C4'	5.52	1.67	1.53
1	L5	3710	A2M	C3'-C4'	5.51	1.67	1.53
46	S2	468	A2M	C3'-C4'	5.50	1.67	1.53
1	L5	2391	A2M	C3'-C4'	5.46	1.67	1.53
1	L5	2805	A2M	C3'-C4'	5.46	1.66	1.53
1	L5	1520	A2M	C3'-C4'	5.45	1.66	1.53
46	S2	590	A2M	C3'-C4'	5.45	1.66	1.53
1	L5	2777	A2M	C3'-C4'	5.44	1.66	1.53
1	L5	398	A2M	C3'-C4'	5.42	1.66	1.53
46	S2	1639	G7M	C2-N3	5.39	1.46	1.33
46	S2	159	A2M	C3'-C4'	5.37	1.66	1.53
46	S2	1337	4AC	C7-N4	5.34	1.47	1.37
46	S2	166	A2M	C3'-C4'	5.23	1.66	1.53
46	S2	1383	A2M	C3'-C4'	5.17	1.66	1.53
46	S2	1337	4AC	C4-N4	5.16	1.47	1.39
46	S2	1842	4AC	C7-N4	5.12	1.46	1.37
46	S2	576	A2M	C1'-N9	-4.97	1.32	1.46
1	L5	1520	A2M	C1'-N9	-4.88	1.32	1.46
46	S2	1842	4AC	C4-N4	4.82	1.46	1.39
1	L5	1867	A2M	C1'-N9	-4.78	1.32	1.46
46	S2	590	A2M	C1'-N9	-4.77	1.32	1.46
1	L5	3816	A2M	C1'-N9	-4.71	1.33	1.46
46	S2	512	A2M	C1'-N9	-4.70	1.33	1.46
46	S2	1031	A2M	C1'-N9	-4.69	1.33	1.46
46	S2	1851	MA6	C6-N6	4.68	1.50	1.36
46	S2	159	A2M	C1'-N9	-4.68	1.33	1.46
1	L5	3710	A2M	C1'-N9	-4.67	1.33	1.46
46	S2	668	A2M	C1'-N9	-4.67	1.33	1.46
1	L5	3771	A2M	C1'-N9	-4.67	1.33	1.46
46	S2	27	A2M	C1'-N9	-4.67	1.33	1.46
46	S2	1850	MA6	C6-N6	4.66	1.50	1.36
1	L5	4509	A2M	C1'-N9	-4.66	1.33	1.46
46	S2	166	A2M	C1'-N9	-4.66	1.33	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	99	A2M	C1'-N9	-4.65	1.33	1.46
46	S2	468	A2M	C1'-N9	-4.64	1.33	1.46
46	S2	1678	A2M	C1'-N9	-4.63	1.33	1.46
1	L5	3811	A2M	C1'-N9	-4.63	1.33	1.46
1	L5	3704	A2M	C1'-N9	-4.61	1.33	1.46
1	L5	1530	A2M	C1'-N9	-4.60	1.33	1.46
1	L5	4516	UR3	C2-N3	4.59	1.47	1.39
1	L5	4557	A2M	C1'-N9	-4.57	1.33	1.46
46	S2	1383	A2M	C1'-N9	-4.57	1.33	1.46
1	L5	2391	A2M	C1'-N9	-4.55	1.33	1.46
1	L5	4576	A2M	C1'-N9	-4.55	1.33	1.46
1	L5	1319	A2M	C1'-N9	-4.54	1.33	1.46
1	L5	2353	A2M	C1'-N9	-4.52	1.33	1.46
1	L5	1322	A2M	C1'-N9	-4.51	1.33	1.46
1	L5	2805	A2M	C1'-N9	-4.50	1.33	1.46
1	L5	400	A2M	C1'-N9	-4.50	1.33	1.46
1	L5	3853	A2M	C1'-N9	-4.48	1.33	1.46
1	L5	398	A2M	C1'-N9	-4.47	1.33	1.46
46	S2	484	A2M	C1'-N9	-4.46	1.33	1.46
1	L5	2777	A2M	C1'-N9	-4.41	1.33	1.46
46	S2	1639	G7M	C2-N2	4.39	1.44	1.34
1	L5	4484	OMU	C4-N3	4.39	1.46	1.38
46	S2	1337	4AC	C5-C4	4.38	1.50	1.40
46	S2	428	OMU	C4-N3	4.33	1.46	1.38
46	S2	1842	4AC	C5-C4	4.32	1.50	1.40
46	S2	1383	A2M	O4'-C1'	4.31	1.52	1.42
46	S2	1442	OMU	C4-N3	4.29	1.46	1.38
46	S2	116	OMU	C4-N3	4.27	1.46	1.38
1	L5	4213	OMU	C4-N3	4.25	1.46	1.38
3	L8	14	OMU	C4-N3	4.24	1.46	1.38
46	S2	172	OMU	C4-N3	4.24	1.46	1.38
46	S2	121	OMU	C4-N3	4.19	1.46	1.38
1	L5	2405	OMU	C4-N3	4.16	1.46	1.38
46	S2	1337	4AC	C2-N1	4.15	1.49	1.40
46	S2	354	OMU	C4-N3	4.15	1.46	1.38
1	L5	3704	A2M	O4'-C1'	4.14	1.51	1.42
1	L5	4509	A2M	O4'-C1'	4.13	1.51	1.42
1	L5	2827	OMU	C4-N3	4.13	1.46	1.38
1	L5	4557	A2M	C6-N6	4.13	1.44	1.34
1	L5	1867	A2M	C6-N6	4.11	1.44	1.34
1	L5	1322	A2M	C6-N6	4.10	1.44	1.34
46	S2	27	A2M	C6-N6	4.10	1.44	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	166	A2M	O4'-C1'	4.10	1.51	1.42
46	S2	1383	A2M	C6-N6	4.09	1.44	1.34
1	L5	2777	A2M	O4'-C1'	4.09	1.51	1.42
1	L5	4292	OMU	C4-N3	4.09	1.45	1.38
46	S2	1842	4AC	C2-N1	4.09	1.48	1.40
46	S2	468	A2M	O4'-C1'	4.09	1.51	1.42
46	S2	159	A2M	O4'-C1'	4.08	1.51	1.42
1	L5	398	A2M	O4'-C1'	4.08	1.51	1.42
1	L5	3811	A2M	C6-N6	4.08	1.44	1.34
46	S2	1678	A2M	C6-N6	4.07	1.44	1.34
1	L5	400	A2M	O4'-C1'	4.07	1.51	1.42
1	L5	1520	A2M	C6-N6	4.07	1.44	1.34
1	L5	1319	A2M	C6-N6	4.06	1.44	1.34
1	L5	4576	A2M	O4'-C1'	4.06	1.51	1.42
1	L5	4606	OMU	C4-N3	4.06	1.45	1.38
46	S2	576	A2M	C6-N6	4.06	1.44	1.34
46	S2	166	A2M	C6-N6	4.05	1.44	1.34
46	S2	484	A2M	C6-N6	4.05	1.44	1.34
1	L5	3704	A2M	C6-N6	4.05	1.44	1.34
1	L5	398	A2M	C6-N6	4.05	1.44	1.34
1	L5	1867	A2M	O4'-C1'	4.05	1.51	1.42
46	S2	576	A2M	C5-C4	-4.04	1.31	1.39
1	L5	3853	A2M	C6-N6	4.04	1.44	1.34
1	L5	400	A2M	C6-N6	4.03	1.44	1.34
46	S2	99	A2M	O4'-C1'	4.03	1.51	1.42
1	L5	3771	A2M	C5-C4	-4.03	1.31	1.39
1	L5	3710	A2M	C6-N6	4.02	1.44	1.34
1	L5	2391	A2M	O4'-C1'	4.02	1.51	1.42
1	L5	1530	A2M	C6-N6	4.02	1.44	1.34
46	S2	512	A2M	C6-N6	4.02	1.44	1.34
1	L5	1322	A2M	O4'-C1'	4.02	1.51	1.42
46	S2	159	A2M	C6-N6	4.02	1.44	1.34
1	L5	3853	A2M	O4'-C1'	4.02	1.51	1.42
1	L5	4509	A2M	C5-C4	-4.01	1.31	1.39
1	L5	3811	A2M	O4'-C1'	4.01	1.51	1.42
46	S2	468	A2M	C6-N6	4.01	1.44	1.34
1	L5	3771	A2M	C6-N6	4.01	1.44	1.34
1	L5	2353	A2M	C5-C4	-4.01	1.31	1.39
46	S2	1678	A2M	O4'-C1'	4.00	1.51	1.42
1	L5	2805	A2M	C6-N6	4.00	1.44	1.34
46	S2	668	A2M	C5-C4	-4.00	1.31	1.39
1	L5	4576	A2M	C5-C4	-4.00	1.31	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L5	3710	A2M	C5-C4	-4.00	1.31	1.39
46	S2	590	A2M	C5-C4	-4.00	1.31	1.39
1	L5	3816	A2M	O4'-C1'	3.99	1.51	1.42
1	L5	4509	A2M	C6-N6	3.99	1.44	1.34
1	L5	3911	OMU	C4-N3	3.99	1.45	1.38
1	L5	1520	A2M	C5-C4	-3.98	1.31	1.39
1	L5	2353	A2M	C6-N6	3.98	1.44	1.34
46	S2	1678	A2M	C5-C4	-3.98	1.31	1.39
1	L5	2391	A2M	C5-C4	-3.98	1.31	1.39
46	S2	512	A2M	O4'-C1'	3.98	1.51	1.42
46	S2	1031	A2M	C5-C4	-3.97	1.31	1.39
1	L5	2777	A2M	C6-N6	3.97	1.44	1.34
46	S2	668	A2M	C6-N6	3.97	1.44	1.34
46	S2	468	A2M	C5-C4	-3.97	1.31	1.39
46	S2	512	A2M	C5-C4	-3.97	1.31	1.39
1	L5	1867	A2M	C5-C4	-3.96	1.31	1.39
46	S2	159	A2M	C5-C4	-3.96	1.31	1.39
46	S2	166	A2M	C5-C4	-3.96	1.31	1.39
46	S2	27	A2M	O4'-C1'	3.96	1.51	1.42
1	L5	3710	A2M	O4'-C1'	3.96	1.51	1.42
1	L5	3816	A2M	C6-N6	3.95	1.44	1.34
46	S2	1031	A2M	O4'-C1'	3.95	1.51	1.42
1	L5	3816	A2M	C5-C4	-3.94	1.31	1.39
1	L5	4576	A2M	C6-N6	3.94	1.44	1.34
46	S2	99	A2M	C5-C4	-3.94	1.31	1.39
1	L5	2777	A2M	C5-C4	-3.94	1.31	1.39
1	L5	4557	A2M	O4'-C1'	3.94	1.51	1.42
46	S2	99	A2M	C6-N6	3.93	1.44	1.34
46	S2	590	A2M	C6-N6	3.93	1.44	1.34
46	S2	1031	A2M	C6-N6	3.92	1.44	1.34
1	L5	400	A2M	C5-C4	-3.92	1.31	1.39
1	L5	2391	A2M	C6-N6	3.92	1.44	1.34
46	S2	1383	A2M	C5-C4	-3.91	1.31	1.39
1	L5	3811	A2M	C5-C4	-3.91	1.31	1.39
1	L5	1319	A2M	O4'-C1'	3.90	1.51	1.42
1	L5	2805	A2M	O4'-C1'	3.90	1.51	1.42
1	L5	2353	A2M	O4'-C1'	3.90	1.51	1.42
1	L5	4557	A2M	C5-C4	-3.90	1.31	1.39
46	S2	590	A2M	O4'-C1'	3.88	1.51	1.42
1	L5	3704	A2M	C5-C4	-3.88	1.31	1.39
46	S2	27	A2M	C5-C4	-3.88	1.31	1.39
1	L5	2805	A2M	C5-C4	-3.87	1.31	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	484	A2M	C5-C4	-3.86	1.31	1.39
46	S2	99	A2M	O2'-C2'	3.86	1.52	1.42
1	L5	398	A2M	C5-C4	-3.85	1.31	1.39
1	L5	1530	A2M	C5-C4	-3.85	1.31	1.39
46	S2	576	A2M	O4'-C1'	3.85	1.51	1.42
1	L5	1322	A2M	O2'-C2'	3.84	1.52	1.42
1	L5	1319	A2M	O2'-C2'	3.83	1.52	1.42
1	L5	1322	A2M	C5-C4	-3.82	1.31	1.39
1	L5	3625	PSU	C6-C5	3.82	1.39	1.35
1	L5	1530	A2M	O4'-C1'	3.81	1.51	1.42
1	L5	1520	A2M	O2'-C2'	3.81	1.52	1.42
46	S2	484	A2M	O4'-C1'	3.80	1.51	1.42
1	L5	1319	A2M	C5-C4	-3.80	1.31	1.39
1	L5	2353	A2M	O2'-C2'	3.79	1.52	1.42
1	L5	3853	A2M	O2'-C2'	3.78	1.52	1.42
1	L5	2391	A2M	O2'-C2'	3.78	1.52	1.42
1	L5	3816	A2M	O2'-C2'	3.76	1.52	1.42
1	L5	2805	A2M	O2'-C2'	3.76	1.52	1.42
1	L5	3853	A2M	C5-C4	-3.75	1.32	1.39
46	S2	484	A2M	O2'-C2'	3.75	1.52	1.42
46	S2	1383	A2M	O2'-C2'	3.74	1.52	1.42
1	L5	4576	A2M	O2'-C2'	3.74	1.52	1.42
1	L5	2777	A2M	O2'-C2'	3.73	1.52	1.42
1	L5	3710	A2M	O2'-C2'	3.73	1.52	1.42
46	S2	468	A2M	O2'-C2'	3.72	1.52	1.42
1	L5	3811	A2M	O2'-C2'	3.72	1.52	1.42
46	S2	590	A2M	O2'-C2'	3.71	1.52	1.42
46	S2	1031	A2M	O2'-C2'	3.71	1.52	1.42
46	S2	159	A2M	O2'-C2'	3.71	1.52	1.42
1	L5	1520	A2M	O4'-C1'	3.70	1.50	1.42
46	S2	668	A2M	O2'-C2'	3.70	1.52	1.42
46	S2	166	A2M	O2'-C2'	3.70	1.52	1.42
46	S2	27	A2M	O2'-C2'	3.70	1.52	1.42
46	S2	1692	PSU	C6-C5	3.70	1.39	1.35
1	L5	4509	A2M	O2'-C2'	3.69	1.52	1.42
1	L5	3704	A2M	O2'-C2'	3.69	1.52	1.42
1	L5	4557	A2M	O2'-C2'	3.69	1.52	1.42
1	L5	398	A2M	O2'-C2'	3.68	1.52	1.42
46	S2	576	A2M	O2'-C2'	3.68	1.52	1.42
1	L5	400	A2M	O2'-C2'	3.68	1.52	1.42
1	L5	1867	A2M	O2'-C2'	3.67	1.52	1.42
1	L5	1679	PSU	C6-C5	3.66	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	668	A2M	O4'-C1'	3.66	1.50	1.42
46	S2	667	PSU	C6-C5	3.65	1.39	1.35
46	S2	512	A2M	O2'-C2'	3.65	1.52	1.42
46	S2	1239	PSU	C6-C5	3.65	1.39	1.35
1	L5	4986	PSU	C6-C5	3.63	1.39	1.35
1	L5	4279	PSU	C6-C5	3.62	1.39	1.35
46	S2	1639	G7M	C5-C6	3.61	1.53	1.43
1	L5	4507	PSU	C6-C5	3.61	1.39	1.35
1	L5	4457	PSU	C6-C5	3.59	1.39	1.35
1	L5	4389	PSU	C6-C5	3.59	1.39	1.35
46	S2	1678	A2M	O2'-C2'	3.59	1.51	1.42
3	L8	69	PSU	C6-C5	3.59	1.39	1.35
1	L5	3771	A2M	O4'-C1'	3.59	1.50	1.42
1	L5	4614	PSU	C6-C5	3.58	1.39	1.35
1	L5	3681	PSU	C6-C5	3.58	1.39	1.35
46	S2	1174	PSU	C6-C5	3.58	1.39	1.35
46	S2	651	PSU	C6-C5	3.58	1.39	1.35
1	L5	1530	A2M	O2'-C2'	3.57	1.51	1.42
1	L5	4565	PSU	C6-C5	3.57	1.39	1.35
1	L5	1532	PSU	C6-C5	3.56	1.39	1.35
46	S2	1045	PSU	C6-C5	3.56	1.39	1.35
46	S2	1244	PSU	C6-C5	3.56	1.39	1.35
1	L5	4957	PSU	C6-C5	3.56	1.39	1.35
1	L5	4659	PSU	C6-C5	3.55	1.39	1.35
1	L5	4555	PSU	C6-C5	3.54	1.39	1.35
1	L5	3771	A2M	O2'-C2'	3.54	1.51	1.42
1	L5	4995	PSU	C6-C5	3.54	1.39	1.35
1	L5	2829	PSU	C6-C5	3.53	1.39	1.35
46	S2	93	PSU	C6-C5	3.53	1.39	1.35
46	S2	406	PSU	C6-C5	3.52	1.39	1.35
46	S2	918	PSU	C6-C5	3.52	1.39	1.35
46	S2	1004	PSU	C6-C5	3.51	1.39	1.35
3	L8	55	PSU	C6-C5	3.51	1.39	1.35
46	S2	1177	PSU	C6-C5	3.51	1.39	1.35
46	S2	801	PSU	C6-C5	3.51	1.39	1.35
1	L5	1788	PSU	C6-C5	3.49	1.39	1.35
1	L5	4282	PSU	C6-C5	3.49	1.39	1.35
1	L5	3870	PSU	C6-C5	3.48	1.39	1.35
1	L5	2724	PSU	C6-C5	3.48	1.39	1.35
46	S2	822	PSU	C6-C5	3.48	1.39	1.35
46	S2	681	PSU	C6-C5	3.48	1.39	1.35
46	S2	866	PSU	C6-C5	3.47	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	1639	G7M	C2-N1	3.47	1.46	1.37
1	L5	2622	PSU	C6-C5	3.47	1.39	1.35
46	S2	105	PSU	C6-C5	3.47	1.39	1.35
1	L5	3839	PSU	C6-C5	3.47	1.39	1.35
46	S2	1367	PSU	C6-C5	3.46	1.39	1.35
1	L5	4339	PSU	C6-C5	3.46	1.39	1.35
1	L5	4562	PSU	C6-C5	3.45	1.39	1.35
1	L5	3830	PSU	C6-C5	3.45	1.39	1.35
1	L5	1858	PSU	C6-C5	3.45	1.39	1.35
46	S2	686	PSU	C6-C5	3.45	1.39	1.35
46	S2	1136	PSU	C6-C5	3.44	1.39	1.35
46	S2	1643	PSU	C6-C5	3.44	1.39	1.35
1	L5	1520	A2M	C2'-C1'	3.44	1.61	1.53
46	S2	34	PSU	C6-C5	3.44	1.39	1.35
46	S2	36	PSU	C6-C5	3.43	1.39	1.35
46	S2	668	A2M	C2'-C1'	3.42	1.61	1.53
1	L5	1856	PSU	C6-C5	3.42	1.39	1.35
46	S2	1232	PSU	C6-C5	3.42	1.39	1.35
1	L5	4417	PSU	C6-C5	3.42	1.39	1.35
1	L5	1740	PSU	C6-C5	3.42	1.39	1.35
46	S2	1238	PSU	C6-C5	3.42	1.39	1.35
1	L5	2498	PSU	C6-C5	3.42	1.39	1.35
1	L5	4518	PSU	C6-C5	3.41	1.39	1.35
46	S2	572	PSU	C6-C5	3.41	1.39	1.35
1	L5	3701	PSU	C6-C5	3.41	1.39	1.35
46	S2	609	PSU	C6-C5	3.41	1.39	1.35
46	S2	1445	PSU	C6-C5	3.41	1.39	1.35
1	L5	3906	PSU	C6-C5	3.40	1.39	1.35
46	S2	649	PSU	C6-C5	3.40	1.39	1.35
1	L5	4409	PSU	C6-C5	3.40	1.39	1.35
46	S2	1625	PSU	C6-C5	3.40	1.39	1.35
1	L5	4517	PSU	C6-C5	3.39	1.39	1.35
1	L5	4958	PSU	C6-C5	3.39	1.39	1.35
46	S2	863	PSU	C6-C5	3.39	1.39	1.35
1	L5	1778	PSU	C6-C5	3.39	1.39	1.35
1	L5	4347	PSU	C6-C5	3.39	1.39	1.35
46	S2	484	A2M	C2'-C1'	3.39	1.61	1.53
46	S2	1056	PSU	C6-C5	3.38	1.39	1.35
1	L5	3808	PSU	C6-C5	3.37	1.39	1.35
1	L5	4443	PSU	C6-C5	3.37	1.39	1.35
1	L5	3704	A2M	C8-N9	-3.37	1.31	1.37
1	L5	4428	PSU	C6-C5	3.37	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	109	PSU	C6-C5	3.36	1.39	1.35
1	L5	2777	A2M	C2'-C1'	3.36	1.61	1.53
1	L5	1775	PSU	C6-C5	3.36	1.39	1.35
1	L5	1777	PSU	C6-C5	3.34	1.39	1.35
1	L5	3837	PSU	C6-C5	3.33	1.39	1.35
1	L5	4538	PSU	C6-C5	3.33	1.39	1.35
1	L5	2805	A2M	C2'-C1'	3.33	1.61	1.53
46	S2	119	PSU	C6-C5	3.32	1.39	1.35
46	S2	1046	PSU	C6-C5	3.32	1.39	1.35
46	S2	814	PSU	C6-C5	3.32	1.39	1.35
1	L5	4675	PSU	C6-C5	3.31	1.39	1.35
46	S2	100	PSU	C6-C5	3.30	1.39	1.35
1	L5	4285	PSU	C6-C5	3.29	1.39	1.35
1	L5	4298	PSU	C6-C5	3.29	1.39	1.35
1	L5	2391	A2M	C2'-C1'	3.26	1.61	1.53
1	L5	1578	PSU	C6-C5	3.26	1.39	1.35
1	L5	3623	PSU	C6-C5	3.25	1.39	1.35
46	S2	1842	4AC	C6-N1	3.25	1.45	1.38
46	S2	576	A2M	C2'-C1'	3.25	1.61	1.53
46	S2	1337	4AC	C6-N1	3.25	1.45	1.38
46	S2	590	A2M	C2'-C1'	3.24	1.61	1.53
46	S2	815	PSU	C6-C5	3.23	1.39	1.35
1	L5	3704	A2M	C2'-C1'	3.23	1.61	1.53
1	L5	398	A2M	C8-N9	-3.22	1.31	1.37
1	L5	4509	A2M	C2'-C1'	3.20	1.61	1.53
1	L5	1530	A2M	C8-N9	-3.20	1.31	1.37
1	L5	3771	A2M	C2'-C1'	3.20	1.61	1.53
1	L5	3710	A2M	C8-N9	-3.19	1.31	1.37
46	S2	512	A2M	C8-N9	-3.19	1.31	1.37
1	L5	398	A2M	C2'-C1'	3.19	1.61	1.53
1	L5	3816	A2M	C2'-C1'	3.18	1.61	1.53
1	L5	4622	PSU	C6-C5	3.18	1.39	1.35
1	L5	1867	A2M	C8-N9	-3.18	1.31	1.37
46	S2	576	A2M	C8-N9	-3.18	1.31	1.37
1	L5	4557	A2M	C8-N9	-3.17	1.31	1.37
46	S2	512	A2M	C2'-C1'	3.16	1.61	1.53
46	S2	1383	A2M	C2'-C1'	3.16	1.61	1.53
46	S2	159	A2M	C2'-C1'	3.16	1.61	1.53
46	S2	99	A2M	C8-N9	-3.16	1.31	1.37
1	L5	4557	A2M	C2'-C1'	3.16	1.61	1.53
1	L5	1673	PSU	C6-C5	3.15	1.39	1.35
46	S2	166	A2M	C8-N9	-3.15	1.31	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	1639	G7M	O6-C6	-3.15	1.17	1.23
46	S2	668	A2M	C8-N9	-3.14	1.31	1.37
46	S2	1678	A2M	C8-N9	-3.14	1.31	1.37
1	L5	4576	A2M	C8-N9	-3.14	1.31	1.37
46	S2	166	A2M	C2'-C1'	3.13	1.61	1.53
46	S2	468	A2M	C8-N9	-3.13	1.31	1.37
1	L5	2805	A2M	C8-N9	-3.13	1.31	1.37
46	S2	468	A2M	C2'-C1'	3.13	1.61	1.53
1	L5	1319	A2M	C8-N9	-3.13	1.31	1.37
1	L5	3771	A2M	C8-N9	-3.13	1.31	1.37
1	L5	1322	A2M	C2'-C1'	3.13	1.61	1.53
1	L5	400	A2M	C2'-C1'	3.12	1.61	1.53
46	S2	99	A2M	C2'-C1'	3.11	1.61	1.53
1	L5	3811	A2M	C2'-C1'	3.11	1.61	1.53
46	S2	590	A2M	C8-N9	-3.11	1.32	1.37
1	L5	1520	A2M	C8-N9	-3.10	1.32	1.37
46	S2	27	A2M	C8-N9	-3.10	1.32	1.37
46	S2	1031	A2M	C2'-C1'	3.10	1.61	1.53
46	S2	1031	A2M	C8-N9	-3.09	1.32	1.37
46	S2	159	A2M	C8-N9	-3.09	1.32	1.37
1	L5	1867	A2M	C2'-C1'	3.08	1.61	1.53
46	S2	27	A2M	C2'-C1'	3.08	1.61	1.53
1	L5	3710	A2M	C2'-C1'	3.08	1.61	1.53
1	L5	2391	A2M	C8-N9	-3.07	1.32	1.37
1	L5	2353	A2M	C2'-C1'	3.07	1.61	1.53
1	L5	400	A2M	C8-N9	-3.07	1.32	1.37
1	L5	3816	A2M	C8-N9	-3.07	1.32	1.37
1	L5	3853	A2M	C8-N9	-3.07	1.32	1.37
46	S2	484	A2M	C8-N9	-3.07	1.32	1.37
1	L5	3811	A2M	C8-N9	-3.06	1.32	1.37
1	L5	4509	A2M	C8-N9	-3.06	1.32	1.37
1	L5	3853	A2M	C2'-C1'	3.06	1.61	1.53
1	L5	4516	UR3	O2-C2	-3.06	1.16	1.22
1	L5	4292	OMU	C6-N1	3.05	1.45	1.38
46	S2	172	OMU	C6-N1	3.04	1.45	1.38
1	L5	2827	OMU	C6-N1	3.03	1.45	1.38
1	L5	4606	OMU	C6-N1	3.03	1.45	1.38
1	L5	2405	OMU	C6-N1	3.03	1.45	1.38
1	L5	4576	A2M	C2'-C1'	3.03	1.60	1.53
46	S2	121	OMU	C6-N1	3.02	1.45	1.38
46	S2	354	OMU	C6-N1	3.01	1.45	1.38
1	L5	1319	A2M	C2'-C1'	3.01	1.60	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L5	1322	A2M	C8-N9	-3.00	1.32	1.37
1	L5	2353	A2M	C8-N9	-3.00	1.32	1.37
46	S2	428	OMU	C6-N1	2.99	1.45	1.38
1	L5	4213	OMU	C6-N1	2.99	1.45	1.38
1	L5	1530	A2M	C2'-C1'	2.98	1.60	1.53
46	S2	116	OMU	C6-N1	2.98	1.45	1.38
3	L8	14	OMU	C6-N1	2.97	1.45	1.38
1	L5	3911	OMU	C6-N1	2.97	1.45	1.38
1	L5	4484	OMU	C6-N1	2.97	1.45	1.38
46	S2	1442	OMU	C6-N1	2.96	1.45	1.38
1	L5	2777	A2M	C8-N9	-2.96	1.32	1.37
1	L5	1530	A2M	O3'-C3'	2.95	1.49	1.43
46	S2	1383	A2M	C8-N9	-2.93	1.32	1.37
46	S2	484	A2M	O3'-C3'	2.93	1.49	1.43
1	L5	2827	OMU	C5-C4	2.90	1.50	1.43
46	S2	1842	4AC	O2-C2	-2.85	1.18	1.23
46	S2	172	OMU	C5-C4	2.84	1.49	1.43
1	L5	2805	A2M	O3'-C3'	2.83	1.49	1.43
1	L5	1520	A2M	O3'-C3'	2.82	1.49	1.43
1	L5	4557	A2M	O3'-C3'	2.82	1.49	1.43
1	L5	3911	OMU	O4-C4	-2.80	1.19	1.24
1	L5	4292	OMU	C5-C4	2.79	1.49	1.43
46	S2	1678	A2M	C2'-C1'	2.77	1.60	1.53
46	S2	1337	4AC	O2-C2	-2.76	1.18	1.23
1	L5	4213	OMU	C5-C4	2.75	1.49	1.43
1	L5	3771	A2M	O3'-C3'	2.75	1.49	1.43
1	L5	4606	OMU	C5-C4	2.75	1.49	1.43
46	S2	354	OMU	C5-C4	2.73	1.49	1.43
3	L8	14	OMU	C5-C4	2.73	1.49	1.43
1	L5	4206	6MZ	C5-N7	-2.73	1.33	1.39
46	S2	1031	A2M	O3'-C3'	2.73	1.49	1.43
46	S2	576	A2M	O3'-C3'	2.72	1.49	1.43
1	L5	4484	OMU	C5-C4	2.72	1.49	1.43
46	S2	1442	OMU	C5-C4	2.72	1.49	1.43
46	S2	668	A2M	O3'-C3'	2.71	1.49	1.43
1	L5	4206	6MZ	C5-C4	-2.71	1.33	1.39
1	L5	3704	A2M	O3'-C3'	2.71	1.49	1.43
1	L5	3911	OMU	C5-C4	2.71	1.49	1.43
1	L5	3710	A2M	O3'-C3'	2.70	1.49	1.43
46	S2	1832	6MZ	C5-C4	-2.69	1.34	1.39
46	S2	512	A2M	O3'-C3'	2.69	1.49	1.43
46	S2	121	OMU	C5-C4	2.69	1.49	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L5	2405	OMU	C5-C4	2.68	1.49	1.43
1	L5	2391	A2M	O3'-C3'	2.68	1.49	1.43
1	L5	2777	A2M	O3'-C3'	2.67	1.49	1.43
46	S2	116	OMU	C5-C4	2.66	1.49	1.43
1	L5	2353	A2M	O3'-C3'	2.66	1.49	1.43
1	L5	398	A2M	O3'-C3'	2.66	1.49	1.43
1	L5	400	A2M	O3'-C3'	2.65	1.49	1.43
1	L5	2827	OMU	O4-C4	-2.65	1.19	1.24
1	L5	4606	OMU	O4-C4	-2.65	1.19	1.24
46	S2	428	OMU	C5-C4	2.65	1.49	1.43
1	L5	4292	OMU	O4-C4	-2.64	1.19	1.24
46	S2	27	A2M	O3'-C3'	2.64	1.49	1.43
46	S2	1851	MA6	C5-C4	-2.64	1.34	1.39
1	L5	3816	A2M	O3'-C3'	2.64	1.49	1.43
46	S2	1639	G7M	CN7-N7	-2.62	1.42	1.46
1	L5	4516	UR3	O4-C4	-2.62	1.17	1.23
46	S2	590	A2M	O3'-C3'	2.61	1.49	1.43
1	L5	1322	A2M	O3'-C3'	2.61	1.49	1.43
46	S2	354	OMU	O4-C4	-2.61	1.19	1.24
46	S2	121	OMU	O4-C4	-2.61	1.19	1.24
46	S2	99	A2M	O3'-C3'	2.61	1.49	1.43
1	L5	3811	A2M	O3'-C3'	2.60	1.49	1.43
1	L5	4484	OMU	O4-C4	-2.60	1.19	1.24
46	S2	468	A2M	O3'-C3'	2.60	1.49	1.43
46	S2	1678	A2M	O3'-C3'	2.59	1.49	1.43
3	L8	14	OMU	O4-C4	-2.59	1.19	1.24
46	S2	1442	OMU	O4-C4	-2.58	1.19	1.24
46	S2	1383	A2M	O3'-C3'	2.58	1.49	1.43
46	S2	159	A2M	O3'-C3'	2.57	1.49	1.43
46	S2	172	OMU	O4-C4	-2.57	1.19	1.24
1	L5	2405	OMU	O4-C4	-2.57	1.19	1.24
1	L5	1867	A2M	O3'-C3'	2.57	1.49	1.43
46	S2	1832	6MZ	C5-N7	-2.57	1.34	1.39
1	L5	1319	A2M	O3'-C3'	2.56	1.49	1.43
46	S2	116	OMU	O4-C4	-2.55	1.19	1.24
46	S2	1850	MA6	C5-C4	-2.54	1.34	1.39
46	S2	166	A2M	O3'-C3'	2.54	1.49	1.43
1	L5	4509	A2M	O3'-C3'	2.54	1.49	1.43
46	S2	428	OMU	O4-C4	-2.52	1.19	1.24
1	L5	4213	OMU	O4-C4	-2.51	1.19	1.24
1	L5	3853	A2M	O3'-C3'	2.49	1.48	1.43
1	L5	4576	A2M	O3'-C3'	2.47	1.48	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L5	4516	UR3	C6-N1	2.44	1.43	1.38
46	S2	1639	G7M	C6-N1	2.39	1.43	1.38
1	L5	4484	OMU	O2-C2	-2.32	1.18	1.23
1	L5	4516	UR3	C5-C4	2.31	1.49	1.43
1	L5	3911	OMU	O2-C2	-2.28	1.18	1.23
46	S2	1850	MA6	C5-N7	-2.28	1.34	1.39
1	L5	4292	OMU	O2-C2	-2.28	1.18	1.23
3	L8	14	OMU	O2-C2	-2.26	1.18	1.23
46	S2	116	OMU	O2-C2	-2.25	1.18	1.23
1	L5	2405	OMU	O2-C2	-2.25	1.18	1.23
1	L5	2827	OMU	O2-C2	-2.25	1.18	1.23
1	L5	4606	OMU	O2-C2	-2.24	1.19	1.23
46	S2	1442	OMU	O2-C2	-2.24	1.19	1.23
46	S2	121	OMU	O2-C2	-2.23	1.19	1.23
1	L5	1673	PSU	O4'-C1'	-2.22	1.40	1.43
46	S2	159	A2M	O5'-C5'	-2.22	1.39	1.44
46	S2	354	OMU	O2-C2	-2.21	1.19	1.23
46	S2	166	A2M	O5'-C5'	-2.21	1.39	1.44
1	L5	4213	OMU	O2-C2	-2.21	1.19	1.23
1	L5	2391	A2M	O5'-C5'	-2.17	1.39	1.44
46	S2	1851	MA6	C5-N7	-2.17	1.34	1.39
1	L5	1322	A2M	O5'-C5'	-2.16	1.39	1.44
46	S2	428	OMU	O2-C2	-2.16	1.19	1.23
46	S2	1832	6MZ	C8-N9	-2.16	1.33	1.37
1	L5	4206	6MZ	C8-N9	-2.13	1.33	1.37
1	L5	3710	A2M	O5'-C5'	-2.13	1.39	1.44
1	L5	2777	A2M	O5'-C5'	-2.12	1.39	1.44
1	L5	2805	A2M	O5'-C5'	-2.12	1.39	1.44
46	S2	172	OMU	O2-C2	-2.12	1.19	1.23
1	L5	1530	A2M	O5'-C5'	-2.11	1.39	1.44
1	L5	400	A2M	O5'-C5'	-2.11	1.39	1.44
46	S2	1383	A2M	O5'-C5'	-2.11	1.39	1.44
46	S2	468	A2M	O5'-C5'	-2.10	1.39	1.44
46	S2	576	A2M	O5'-C5'	-2.09	1.39	1.44
1	L5	3704	A2M	O5'-C5'	-2.08	1.39	1.44
46	S2	1842	4AC	O7-C7	-2.08	1.18	1.23
1	L5	2353	A2M	O5'-C5'	-2.07	1.39	1.44
1	L5	3811	A2M	O5'-C5'	-2.07	1.39	1.44
46	S2	1639	G7M	C4-N9	-2.07	1.32	1.38
1	L5	1867	A2M	O5'-C5'	-2.05	1.39	1.44
46	S2	1678	A2M	O5'-C5'	-2.05	1.39	1.44
46	S2	1031	A2M	O5'-C5'	-2.05	1.39	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	S2	918	PSU	O4'-C1'	-2.05	1.41	1.43
46	S2	512	A2M	O5'-C5'	-2.04	1.39	1.44
1	L5	3853	A2M	O5'-C5'	-2.04	1.39	1.44
1	L5	1319	A2M	O5'-C5'	-2.04	1.39	1.44
46	S2	668	A2M	O5'-C5'	-2.03	1.39	1.44
1	L5	398	A2M	O5'-C5'	-2.03	1.39	1.44
46	S2	484	A2M	O5'-C5'	-2.02	1.39	1.44
1	L5	3771	A2M	O5'-C5'	-2.02	1.39	1.44
46	S2	1383	A2M	C5-N7	-2.01	1.35	1.39
1	L5	3816	A2M	O5'-C5'	-2.01	1.39	1.44
46	S2	590	A2M	O5'-C5'	-2.00	1.39	1.44

All (898) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	1851	MA6	N1-C6-N6	-15.52	100.12	117.08
46	S2	1850	MA6	N1-C6-N6	-14.86	100.83	117.08
46	S2	590	A2M	C1'-N9-C8	-10.87	102.60	127.14
1	L5	3704	A2M	C1'-N9-C8	-10.47	103.50	127.14
1	L5	4557	A2M	C1'-N9-C8	-10.46	103.53	127.14
46	S2	159	A2M	C1'-N9-C8	-10.42	103.61	127.14
1	L5	1520	A2M	C1'-N9-C8	-10.41	103.64	127.14
46	S2	166	A2M	C1'-N9-C8	-10.41	103.64	127.14
46	S2	1678	A2M	C1'-N9-C8	-10.37	103.73	127.14
46	S2	99	A2M	C1'-N9-C8	-10.36	103.74	127.14
1	L5	3710	A2M	C1'-N9-C8	-10.31	103.86	127.14
1	L5	398	A2M	C1'-N9-C8	-10.28	103.92	127.14
46	S2	468	A2M	C1'-N9-C8	-10.24	104.01	127.14
1	L5	3853	A2M	C1'-N9-C8	-10.20	104.11	127.14
46	S2	484	A2M	C1'-N9-C8	-10.11	104.30	127.14
1	L5	400	A2M	C1'-N9-C8	-10.10	104.33	127.14
46	S2	576	A2M	C1'-N9-C8	-10.05	104.44	127.14
1	L5	2805	A2M	C1'-N9-C8	-10.00	104.56	127.14
46	S2	1383	A2M	C1'-N9-C8	-9.98	104.61	127.14
1	L5	2391	A2M	C1'-N9-C8	-9.90	104.79	127.14
1	L5	4509	A2M	C1'-N9-C8	-9.86	104.87	127.14
46	S2	512	A2M	C1'-N9-C8	-9.79	105.04	127.14
1	L5	3816	A2M	C1'-N9-C8	-9.78	105.06	127.14
46	S2	1031	A2M	C1'-N9-C8	-9.77	105.08	127.14
1	L5	1319	A2M	C1'-N9-C8	-9.75	105.13	127.14
1	L5	1530	A2M	C1'-N9-C8	-9.74	105.14	127.14
1	L5	1322	A2M	C1'-N9-C8	-9.73	105.18	127.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	27	A2M	C1'-N9-C8	-9.72	105.18	127.14
1	L5	3811	A2M	C1'-N9-C8	-9.64	105.38	127.14
46	S2	668	A2M	C1'-N9-C8	-9.60	105.45	127.14
1	L5	1867	A2M	C1'-N9-C8	-9.57	105.53	127.14
1	L5	2353	A2M	C1'-N9-C8	-9.52	105.64	127.14
1	L5	3771	A2M	C1'-N9-C8	-9.11	106.57	127.14
1	L5	4576	A2M	C1'-N9-C8	-9.05	106.70	127.14
1	L5	2777	A2M	C1'-N9-C8	-8.61	107.68	127.14
46	S2	590	A2M	C4-N9-C1'	8.32	146.41	126.59
46	S2	1851	MA6	C5-C6-N6	8.26	139.69	125.30
1	L5	3704	A2M	C4-N9-C1'	8.26	146.28	126.59
1	L5	4557	A2M	C4-N9-C1'	8.08	145.84	126.59
46	S2	159	A2M	C4-N9-C1'	7.98	145.62	126.59
46	S2	1850	MA6	C5-C6-N6	7.96	139.16	125.30
46	S2	166	A2M	C4-N9-C1'	7.95	145.53	126.59
46	S2	99	A2M	C4-N9-C1'	7.93	145.49	126.59
1	L5	398	A2M	C4-N9-C1'	7.92	145.46	126.59
1	L5	1520	A2M	C4-N9-C1'	7.88	145.37	126.59
1	L5	3853	A2M	C4-N9-C1'	7.85	145.30	126.59
46	S2	1383	A2M	C4-N9-C1'	7.85	145.29	126.59
1	L5	3710	A2M	C4-N9-C1'	7.84	145.28	126.59
46	S2	484	A2M	C4-N9-C1'	7.83	145.24	126.59
46	S2	468	A2M	C4-N9-C1'	7.79	145.15	126.59
1	L5	400	A2M	C4-N9-C1'	7.78	145.12	126.59
46	S2	1678	A2M	C4-N9-C1'	7.77	145.12	126.59
1	L5	2805	A2M	C4-N9-C1'	7.68	144.89	126.59
1	L5	2391	A2M	C4-N9-C1'	7.52	144.50	126.59
46	S2	576	A2M	C4-N9-C1'	7.49	144.44	126.59
1	L5	4509	A2M	C4-N9-C1'	7.41	144.24	126.59
1	L5	1322	A2M	C4-N9-C1'	7.40	144.24	126.59
1	L5	1319	A2M	C4-N9-C1'	7.39	144.19	126.59
1	L5	3816	A2M	C4-N9-C1'	7.34	144.09	126.59
46	S2	512	A2M	C4-N9-C1'	7.34	144.09	126.59
46	S2	1031	A2M	C4-N9-C1'	7.33	144.06	126.59
46	S2	27	A2M	C4-N9-C1'	7.30	143.99	126.59
1	L5	3811	A2M	C4-N9-C1'	7.27	143.93	126.59
1	L5	1530	A2M	C4-N9-C1'	7.21	143.76	126.59
1	L5	2353	A2M	C4-N9-C1'	7.17	143.68	126.59
46	S2	668	A2M	C4-N9-C1'	7.12	143.55	126.59
1	L5	1867	A2M	C4-N9-C1'	7.10	143.51	126.59
1	L5	4576	A2M	C4-N9-C1'	6.72	142.61	126.59
1	L5	3771	A2M	C4-N9-C1'	6.57	142.26	126.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	2777	A2M	C4-N9-C1'	6.49	142.06	126.59
1	L5	3771	A2M	N9-C8-N7	-6.34	105.24	113.91
46	S2	1678	A2M	N9-C8-N7	-6.09	105.59	113.91
1	L5	4576	A2M	N9-C8-N7	-6.08	105.60	113.91
46	S2	576	A2M	N9-C8-N7	-6.07	105.61	113.91
46	S2	668	A2M	N9-C8-N7	-6.04	105.65	113.91
46	S2	1031	A2M	N9-C8-N7	-6.04	105.66	113.91
46	S2	590	A2M	N9-C8-N7	-6.03	105.67	113.91
1	L5	1530	A2M	N9-C8-N7	-6.02	105.69	113.91
1	L5	1867	A2M	N9-C8-N7	-5.99	105.73	113.91
1	L5	2353	A2M	N9-C8-N7	-5.98	105.74	113.91
1	L5	4576	A2M	N3-C2-N1	-5.97	119.27	128.60
1	L5	2391	A2M	N9-C8-N7	-5.92	105.81	113.91
1	L5	3811	A2M	N9-C8-N7	-5.91	105.83	113.91
1	L5	1520	A2M	N9-C8-N7	-5.90	105.84	113.91
1	L5	3710	A2M	N9-C8-N7	-5.88	105.88	113.91
46	S2	468	A2M	N9-C8-N7	-5.87	105.88	113.91
46	S2	27	A2M	N9-C8-N7	-5.87	105.89	113.91
46	S2	166	A2M	N9-C8-N7	-5.85	105.91	113.91
1	L5	3816	A2M	N9-C8-N7	-5.85	105.91	113.91
46	S2	512	A2M	N9-C8-N7	-5.84	105.92	113.91
1	L5	4509	A2M	N9-C8-N7	-5.84	105.93	113.91
1	L5	2805	A2M	N9-C8-N7	-5.83	105.93	113.91
1	L5	2353	A2M	N3-C2-N1	-5.81	119.51	128.60
1	L5	1322	A2M	N9-C8-N7	-5.80	105.98	113.91
1	L5	4557	A2M	N9-C8-N7	-5.79	105.99	113.91
46	S2	159	A2M	N9-C8-N7	-5.79	105.99	113.91
46	S2	99	A2M	N9-C8-N7	-5.79	106.00	113.91
1	L5	2777	A2M	N3-C2-N1	-5.78	119.56	128.60
1	L5	400	A2M	N9-C8-N7	-5.78	106.01	113.91
1	L5	1322	A2M	N3-C2-N1	-5.76	119.58	128.60
1	L5	1867	A2M	N3-C2-N1	-5.75	119.60	128.60
46	S2	1031	A2M	N3-C2-N1	-5.74	119.62	128.60
1	L5	398	A2M	N9-C8-N7	-5.74	106.06	113.91
1	L5	3710	A2M	N3-C2-N1	-5.74	119.62	128.60
46	S2	484	A2M	N9-C8-N7	-5.73	106.07	113.91
46	S2	668	A2M	N3-C2-N1	-5.73	119.63	128.60
1	L5	1319	A2M	N9-C8-N7	-5.73	106.08	113.91
1	L5	3853	A2M	N9-C8-N7	-5.73	106.08	113.91
1	L5	2391	A2M	N3-C2-N1	-5.69	119.70	128.60
1	L5	3816	A2M	N3-C2-N1	-5.69	119.70	128.60
1	L5	1319	A2M	N3-C2-N1	-5.67	119.73	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	484	A2M	N3-C2-N1	-5.66	119.75	128.60
1	L5	1530	A2M	N3-C2-N1	-5.65	119.77	128.60
1	L5	2805	A2M	N3-C2-N1	-5.63	119.79	128.60
46	S2	512	A2M	N3-C2-N1	-5.63	119.80	128.60
46	S2	99	A2M	N3-C2-N1	-5.63	119.80	128.60
46	S2	27	A2M	N3-C2-N1	-5.62	119.81	128.60
1	L5	398	A2M	N3-C2-N1	-5.60	119.85	128.60
46	S2	468	A2M	N3-C2-N1	-5.59	119.86	128.60
46	S2	159	A2M	N3-C2-N1	-5.58	119.87	128.60
1	L5	4509	A2M	N3-C2-N1	-5.58	119.87	128.60
46	S2	1678	A2M	N3-C2-N1	-5.58	119.88	128.60
1	L5	2777	A2M	N9-C8-N7	-5.57	106.30	113.91
1	L5	4206	6MZ	C5-C4-N3	-5.56	119.49	126.75
1	L5	400	A2M	N3-C2-N1	-5.56	119.91	128.60
46	S2	166	A2M	N3-C2-N1	-5.55	119.91	128.60
46	S2	590	A2M	N3-C2-N1	-5.55	119.92	128.60
1	L5	4557	A2M	N3-C2-N1	-5.55	119.92	128.60
1	L5	3811	A2M	N3-C2-N1	-5.54	119.94	128.60
46	S2	576	A2M	N3-C2-N1	-5.53	119.95	128.60
66	ST	67	NMM	NE-CZ-NH2	-5.51	114.42	119.48
1	L5	1520	A2M	N3-C2-N1	-5.51	119.99	128.60
1	L5	3771	A2M	N3-C2-N1	-5.50	119.99	128.60
46	S2	1832	6MZ	N1-C2-N3	-5.47	120.04	128.60
46	S2	1851	MA6	N1-C2-N3	-5.47	120.04	128.60
46	S2	1850	MA6	N1-C2-N3	-5.42	120.12	128.60
46	S2	1383	A2M	N9-C8-N7	-5.39	106.55	113.91
1	L5	4206	6MZ	N1-C2-N3	-5.39	120.18	128.60
1	L5	3704	A2M	N9-C8-N7	-5.39	106.55	113.91
46	S2	172	OMU	C4-N3-C2	-5.35	119.52	126.58
46	S2	116	OMU	C4-N3-C2	-5.30	119.59	126.58
46	S2	1442	OMU	C4-N3-C2	-5.29	119.60	126.58
46	S2	428	OMU	C4-N3-C2	-5.28	119.62	126.58
1	L5	3853	A2M	N3-C2-N1	-5.27	120.36	128.60
46	S2	1851	MA6	C5-C4-N3	-5.23	119.92	126.75
46	S2	1832	6MZ	C5-C4-N3	-5.20	119.96	126.75
3	L8	14	OMU	C4-N3-C2	-5.20	119.72	126.58
46	S2	354	OMU	C4-N3-C2	-5.20	119.72	126.58
1	L5	4484	OMU	C4-N3-C2	-5.20	119.73	126.58
46	S2	1383	A2M	N3-C2-N1	-5.18	120.50	128.60
46	S2	1639	G7M	CN7-N7-C5	5.15	133.17	126.77
1	L5	4213	OMU	C4-N3-C2	-5.14	119.80	126.58
1	L5	4292	OMU	C4-N3-C2	-5.12	119.83	126.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	4622	PSU	C4-N3-C2	-5.10	119.00	126.34
1	L5	3704	A2M	N3-C2-N1	-5.05	120.70	128.60
1	L5	3911	OMU	C4-N3-C2	-5.04	119.94	126.58
46	S2	1850	MA6	C5-C4-N3	-5.00	120.22	126.75
1	L5	3771	A2M	C4-N9-C8	4.98	111.13	105.73
1	L5	2827	OMU	C4-N3-C2	-4.97	120.02	126.58
1	L5	3704	A2M	C5-C4-N3	-4.95	120.29	126.75
46	S2	1383	A2M	C5-C4-N3	-4.93	120.31	126.75
1	L5	2405	OMU	C4-N3-C2	-4.93	120.08	126.58
46	S2	1678	A2M	C4-N9-C8	4.93	111.07	105.73
46	S2	121	OMU	C4-N3-C2	-4.91	120.10	126.58
46	S2	105	PSU	N1-C2-N3	4.91	120.69	115.13
1	L5	398	A2M	C5-C4-N3	-4.90	120.35	126.75
1	L5	1530	A2M	C4-N9-C8	4.90	111.04	105.73
46	S2	576	A2M	C4-N9-C8	4.89	111.02	105.73
1	L5	1673	PSU	C4-N3-C2	-4.87	119.33	126.34
1	L5	3623	PSU	C4-N3-C2	-4.86	119.33	126.34
1	L5	1520	A2M	C4-N9-C8	4.86	111.00	105.73
1	L5	3830	PSU	C4-N3-C2	-4.86	119.34	126.34
46	S2	484	A2M	C5-C4-N3	-4.86	120.42	126.75
46	S2	1136	PSU	C4-N3-C2	-4.84	119.36	126.34
46	S2	590	A2M	C4-N9-C8	4.84	110.97	105.73
1	L5	3837	PSU	C4-N3-C2	-4.83	119.37	126.34
46	S2	100	PSU	C4-N3-C2	-4.83	119.38	126.34
1	L5	4606	OMU	C4-N3-C2	-4.82	120.22	126.58
1	L5	2829	PSU	N1-C2-N3	4.82	120.59	115.13
46	S2	99	A2M	C5-C4-N3	-4.80	120.48	126.75
46	S2	468	A2M	C5-C4-N3	-4.79	120.51	126.75
1	L5	1867	A2M	C4-N9-C8	4.77	110.90	105.73
46	S2	668	A2M	C4-N9-C8	4.77	110.90	105.73
46	S2	166	A2M	C5-C4-N3	-4.77	120.53	126.75
1	L5	400	A2M	C5-C4-N3	-4.77	120.53	126.75
1	L5	4517	PSU	C4-N3-C2	-4.76	119.48	126.34
1	L5	3839	PSU	C4-N3-C2	-4.76	119.48	126.34
1	L5	2805	A2M	C5-C4-N3	-4.75	120.55	126.75
46	S2	159	A2M	C5-C4-N3	-4.75	120.55	126.75
1	L5	4957	PSU	C4-N3-C2	-4.74	119.52	126.34
1	L5	3710	A2M	C4-N9-C8	4.73	110.86	105.73
46	S2	590	A2M	C5-C4-N3	-4.73	120.58	126.75
46	S2	1238	PSU	C4-N3-C2	-4.72	119.54	126.34
46	S2	1031	A2M	C4-N9-C8	4.72	110.84	105.73
1	L5	3839	PSU	N1-C2-N3	4.71	120.47	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	576	A2M	C2'-C1'-N9	-4.71	105.60	113.53
1	L5	4557	A2M	C5-C4-N3	-4.71	120.61	126.75
1	L5	1578	PSU	C4-N3-C2	-4.71	119.56	126.34
1	L5	4518	PSU	C4-N3-C2	-4.71	119.56	126.34
46	S2	1851	MA6	N9-C8-N7	-4.70	107.48	113.91
46	S2	468	A2M	C4-N9-C8	4.69	110.81	105.73
46	S2	109	PSU	C4-N3-C2	-4.68	119.59	126.34
46	S2	34	PSU	C4-N3-C2	-4.68	119.59	126.34
1	L5	4279	PSU	C4-N3-C2	-4.68	119.59	126.34
46	S2	166	A2M	C4-N9-C8	4.68	110.80	105.73
46	S2	512	A2M	C4-N9-C8	4.68	110.80	105.73
1	L5	4675	PSU	C4-N3-C2	-4.67	119.61	126.34
46	S2	27	A2M	C4-N9-C8	4.67	110.79	105.73
1	L5	1858	PSU	C4-N3-C2	-4.66	119.62	126.34
1	L5	3816	A2M	C4-N9-C8	4.65	110.77	105.73
1	L5	3808	PSU	C4-N3-C2	-4.65	119.64	126.34
1	L5	4409	PSU	C4-N3-C2	-4.65	119.64	126.34
46	S2	1445	PSU	C4-N3-C2	-4.65	119.64	126.34
1	L5	3623	PSU	N1-C2-N3	4.64	120.39	115.13
46	S2	815	PSU	C4-N3-C2	-4.64	119.65	126.34
1	L5	4509	A2M	C4-N9-C8	4.64	110.76	105.73
46	S2	105	PSU	C4-N3-C2	-4.64	119.66	126.34
1	L5	1858	PSU	N1-C2-N3	4.63	120.38	115.13
1	L5	3808	PSU	N1-C2-N3	4.63	120.38	115.13
46	S2	1174	PSU	C4-N3-C2	-4.63	119.67	126.34
46	S2	109	PSU	N1-C2-N3	4.63	120.37	115.13
1	L5	3906	PSU	C4-N3-C2	-4.63	119.67	126.34
1	L5	4958	PSU	C4-N3-C2	-4.63	119.67	126.34
46	S2	159	A2M	C4-N9-C8	4.62	110.74	105.73
46	S2	1232	PSU	C4-N3-C2	-4.62	119.68	126.34
1	L5	4339	PSU	C4-N3-C2	-4.62	119.68	126.34
1	L5	2724	PSU	C4-N3-C2	-4.62	119.69	126.34
46	S2	1244	PSU	C4-N3-C2	-4.62	119.69	126.34
1	L5	3906	PSU	N1-C2-N3	4.62	120.36	115.13
1	L5	3830	PSU	N1-C2-N3	4.61	120.35	115.13
46	S2	651	PSU	C4-N3-C2	-4.61	119.70	126.34
46	S2	1177	PSU	C4-N3-C2	-4.60	119.70	126.34
1	L5	3625	PSU	N1-C2-N3	4.60	120.35	115.13
1	L5	1532	PSU	C4-N3-C2	-4.60	119.71	126.34
1	L5	4347	PSU	C4-N3-C2	-4.60	119.71	126.34
1	L5	4516	UR3	C4-N3-C2	-4.60	120.23	124.56
46	S2	99	A2M	C4-N9-C8	4.60	110.71	105.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	1625	PSU	C4-N3-C2	-4.59	119.72	126.34
46	S2	1056	PSU	C4-N3-C2	-4.59	119.73	126.34
1	L5	2724	PSU	N1-C2-N3	4.59	120.33	115.13
46	S2	100	PSU	N1-C2-N3	4.59	120.33	115.13
46	S2	918	PSU	C4-N3-C2	-4.59	119.73	126.34
1	L5	4565	PSU	C4-N3-C2	-4.58	119.73	126.34
1	L5	4443	PSU	C4-N3-C2	-4.58	119.73	126.34
1	L5	4986	PSU	N1-C2-N3	4.58	120.32	115.13
1	L5	2391	A2M	C4-N9-C8	4.58	110.69	105.73
1	L5	1673	PSU	N1-C2-N3	4.58	120.32	115.13
46	S2	1045	PSU	C4-N3-C2	-4.58	119.74	126.34
1	L5	4417	PSU	C4-N3-C2	-4.58	119.74	126.34
1	L5	3710	A2M	C5-C4-N3	-4.58	120.78	126.75
1	L5	3811	A2M	C4-N9-C8	4.57	110.69	105.73
1	L5	4576	A2M	C4-N9-C8	4.57	110.69	105.73
46	S2	406	PSU	N1-C2-N3	4.57	120.31	115.13
1	L5	4622	PSU	N1-C2-N3	4.57	120.31	115.13
1	L5	3681	PSU	C4-N3-C2	-4.57	119.75	126.34
1	L5	4347	PSU	N1-C2-N3	4.57	120.31	115.13
46	S2	1239	PSU	C4-N3-C2	-4.57	119.76	126.34
46	S2	651	PSU	N1-C2-N3	4.57	120.31	115.13
1	L5	1775	PSU	C4-N3-C2	-4.57	119.76	126.34
1	L5	4285	PSU	C4-N3-C2	-4.57	119.76	126.34
1	L5	4206	6MZ	C4-C5-C6	4.57	120.35	116.81
1	L5	1319	A2M	C4-N9-C8	4.57	110.68	105.73
1	L5	4614	PSU	N1-C2-N3	4.56	120.30	115.13
1	L5	4428	PSU	C4-N3-C2	-4.56	119.76	126.34
1	L5	2353	A2M	C4-N9-C8	4.56	110.67	105.73
46	S2	1337	4AC	CM7-C7-N4	4.56	123.18	115.29
46	S2	1692	PSU	C4-N3-C2	-4.56	119.77	126.34
1	L5	1856	PSU	C4-N3-C2	-4.55	119.78	126.34
46	S2	1367	PSU	C4-N3-C2	-4.55	119.78	126.34
1	L5	3853	A2M	C5-C4-N3	-4.55	120.81	126.75
46	S2	1625	PSU	N1-C2-N3	4.55	120.28	115.13
46	S2	1174	PSU	N1-C2-N3	4.54	120.28	115.13
3	L8	69	PSU	C4-N3-C2	-4.54	119.80	126.34
1	L5	4282	PSU	C4-N3-C2	-4.54	119.80	126.34
1	L5	3811	A2M	C5-C4-N3	-4.54	120.83	126.75
1	L5	2829	PSU	C4-N3-C2	-4.54	119.80	126.34
46	S2	649	PSU	N1-C2-N3	4.54	120.27	115.13
46	S2	814	PSU	C4-N3-C2	-4.54	119.80	126.34
1	L5	2391	A2M	C5-C4-N3	-4.54	120.83	126.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	3837	PSU	N1-C2-N3	4.53	120.27	115.13
46	S2	1046	PSU	C4-N3-C2	-4.53	119.81	126.34
46	S2	1678	A2M	C5-C4-N3	-4.53	120.84	126.75
1	L5	1788	PSU	N1-C2-N3	4.53	120.26	115.13
1	L5	4557	A2M	C4-N9-C8	4.53	110.64	105.73
1	L5	4457	PSU	C4-N3-C2	-4.53	119.82	126.34
1	L5	4995	PSU	N1-C2-N3	4.52	120.26	115.13
1	L5	4614	PSU	C4-N3-C2	-4.52	119.82	126.34
1	L5	3701	PSU	C4-N3-C2	-4.52	119.83	126.34
46	S2	1031	A2M	C5-C4-N3	-4.52	120.85	126.75
1	L5	4986	PSU	C4-N3-C2	-4.52	119.83	126.34
3	L8	69	PSU	N1-C2-N3	4.52	120.25	115.13
46	S2	1136	PSU	N1-C2-N3	4.51	120.24	115.13
46	S2	649	PSU	C4-N3-C2	-4.51	119.84	126.34
1	L5	4518	PSU	N1-C2-N3	4.50	120.23	115.13
46	S2	918	PSU	N1-C2-N3	4.50	120.23	115.13
46	S2	681	PSU	C4-N3-C2	-4.50	119.86	126.34
1	L5	4555	PSU	N1-C2-N3	4.50	120.23	115.13
1	L5	1777	PSU	C4-N3-C2	-4.50	119.86	126.34
1	L5	1778	PSU	C4-N3-C2	-4.50	119.86	126.34
1	L5	1740	PSU	C4-N3-C2	-4.50	119.86	126.34
46	S2	572	PSU	C4-N3-C2	-4.49	119.87	126.34
1	L5	398	A2M	C4-N9-C8	4.49	110.59	105.73
46	S2	1056	PSU	N1-C2-N3	4.49	120.22	115.13
1	L5	4389	PSU	N1-C2-N3	4.49	120.21	115.13
1	L5	3701	PSU	N1-C2-N3	4.48	120.21	115.13
1	L5	4957	PSU	N1-C2-N3	4.48	120.21	115.13
46	S2	1239	PSU	N1-C2-N3	4.48	120.21	115.13
1	L5	1322	A2M	C4-N9-C8	4.48	110.58	105.73
46	S2	34	PSU	N1-C2-N3	4.48	120.20	115.13
46	S2	93	PSU	C4-N3-C2	-4.48	119.89	126.34
46	S2	1850	MA6	N9-C8-N7	-4.47	107.79	113.91
1	L5	4457	PSU	N1-C2-N3	4.47	120.20	115.13
1	L5	4555	PSU	C4-N3-C2	-4.47	119.89	126.34
1	L5	4389	PSU	C4-N3-C2	-4.47	119.90	126.34
1	L5	4279	PSU	N1-C2-N3	4.47	120.19	115.13
46	S2	667	PSU	N1-C2-N3	4.47	120.19	115.13
46	S2	1232	PSU	N1-C2-N3	4.46	120.19	115.13
1	L5	1775	PSU	N1-C2-N3	4.46	120.19	115.13
46	S2	119	PSU	C4-N3-C2	-4.46	119.91	126.34
46	S2	1244	PSU	N1-C2-N3	4.46	120.19	115.13
1	L5	4507	PSU	N1-C2-N3	4.46	120.18	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	3853	A2M	C4-N9-C8	4.46	110.56	105.73
46	S2	93	PSU	N1-C2-N3	4.46	120.18	115.13
46	S2	1045	PSU	N1-C2-N3	4.46	120.18	115.13
1	L5	4659	PSU	C4-N3-C2	-4.46	119.92	126.34
1	L5	4675	PSU	N1-C2-N3	4.45	120.18	115.13
1	L5	4298	PSU	N1-C2-N3	4.45	120.17	115.13
46	S2	667	PSU	C4-N3-C2	-4.45	119.92	126.34
1	L5	4507	PSU	C4-N3-C2	-4.45	119.92	126.34
46	S2	1238	PSU	N1-C2-N3	4.45	120.17	115.13
1	L5	400	A2M	C4-N9-C8	4.45	110.55	105.73
1	L5	2805	A2M	C4-N9-C8	4.45	110.55	105.73
1	L5	1520	A2M	C5-C4-N3	-4.44	120.95	126.75
46	S2	406	PSU	C4-N3-C2	-4.44	119.94	126.34
1	L5	3625	PSU	C4-N3-C2	-4.44	119.94	126.34
1	L5	4417	PSU	N1-C2-N3	4.44	120.16	115.13
1	L5	3771	A2M	C5-C4-N3	-4.44	120.96	126.75
1	L5	3771	A2M	C4'-O4'-C1'	-4.44	99.68	109.47
1	L5	1740	PSU	N1-C2-N3	4.44	120.16	115.13
46	S2	1445	PSU	N1-C2-N3	4.44	120.16	115.13
1	L5	4339	PSU	N1-C2-N3	4.43	120.15	115.13
1	L5	4538	PSU	C4-N3-C2	-4.43	119.95	126.34
1	L5	4409	PSU	N1-C2-N3	4.43	120.15	115.13
46	S2	668	A2M	C5-C4-N3	-4.43	120.97	126.75
1	L5	4538	PSU	N1-C2-N3	4.42	120.14	115.13
46	S2	36	PSU	C4-N3-C2	-4.42	119.97	126.34
46	S2	1832	6MZ	C4-N9-C1'	-4.42	116.06	126.59
46	S2	1692	PSU	N1-C2-N3	4.42	120.14	115.13
1	L5	1322	A2M	C5-C4-N3	-4.42	120.99	126.75
1	L5	4565	PSU	N1-C2-N3	4.41	120.13	115.13
1	L5	4298	PSU	C4-N3-C2	-4.41	119.98	126.34
1	L5	4509	A2M	C5-C4-N3	-4.41	121.00	126.75
46	S2	822	PSU	C4-N3-C2	-4.40	119.99	126.34
1	L5	2777	A2M	C5-C4-N3	-4.40	121.00	126.75
1	L5	4659	PSU	N1-C2-N3	4.40	120.12	115.13
1	L5	2353	A2M	C5-C4-N3	-4.40	121.01	126.75
1	L5	4285	PSU	N1-C2-N3	4.40	120.11	115.13
1	L5	3771	A2M	O4'-C1'-N9	4.40	116.73	108.06
46	S2	801	PSU	C4-N3-C2	-4.40	120.00	126.34
46	S2	1643	PSU	C4-N3-C2	-4.40	120.00	126.34
3	L8	55	PSU	C4-N3-C2	-4.39	120.01	126.34
1	L5	3681	PSU	N1-C2-N3	4.39	120.11	115.13
46	S2	1639	G7M	C2-N3-C4	4.39	120.12	112.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	36	PSU	N1-C2-N3	4.39	120.10	115.13
1	L5	4562	PSU	C4-N3-C2	-4.38	120.03	126.34
46	S2	512	A2M	C5-C4-N3	-4.38	121.03	126.75
46	S2	1639	G7M	C5-C4-N3	-4.38	119.75	128.15
1	L5	1788	PSU	C4-N3-C2	-4.37	120.04	126.34
46	S2	822	PSU	N1-C2-N3	4.37	120.09	115.13
1	L5	1856	PSU	N1-C2-N3	4.37	120.08	115.13
46	S2	1367	PSU	N1-C2-N3	4.37	120.08	115.13
1	L5	4517	PSU	N1-C2-N3	4.36	120.08	115.13
46	S2	609	PSU	C4-N3-C2	-4.36	120.05	126.34
46	S2	1643	PSU	N1-C2-N3	4.36	120.07	115.13
1	L5	2622	PSU	C4-N3-C2	-4.35	120.07	126.34
46	S2	484	A2M	C4-N9-C8	4.34	110.43	105.73
1	L5	4428	PSU	N1-C2-N3	4.34	120.05	115.13
46	S2	609	PSU	N1-C2-N3	4.34	120.04	115.13
46	S2	119	PSU	N1-C2-N3	4.33	120.04	115.13
46	S2	572	PSU	N1-C2-N3	4.33	120.03	115.13
46	S2	815	PSU	N1-C2-N3	4.32	120.03	115.13
46	S2	801	PSU	N1-C2-N3	4.32	120.03	115.13
46	S2	576	A2M	C5-C4-N3	-4.32	121.12	126.75
1	L5	1777	PSU	N1-C2-N3	4.31	120.01	115.13
1	L5	4995	PSU	C4-N3-C2	-4.30	120.14	126.34
46	S2	681	PSU	N1-C2-N3	4.30	120.00	115.13
46	S2	814	PSU	N1-C2-N3	4.30	120.00	115.13
1	L5	3870	PSU	N1-C2-N3	4.29	119.99	115.13
46	S2	1004	PSU	C4-N3-C2	-4.29	120.16	126.34
1	L5	1530	A2M	C5-C4-N3	-4.29	121.16	126.75
1	L5	3870	PSU	C4-N3-C2	-4.29	120.16	126.34
1	L5	4958	PSU	N1-C2-N3	4.29	119.98	115.13
46	S2	1832	6MZ	N9-C8-N7	-4.28	108.05	113.91
46	S2	1177	PSU	N1-C2-N3	4.28	119.98	115.13
1	L5	1319	A2M	C5-C4-N3	-4.28	121.17	126.75
46	S2	1046	PSU	N1-C2-N3	4.28	119.98	115.13
46	S2	27	A2M	C5-C4-N3	-4.27	121.17	126.75
1	L5	1679	PSU	N1-C2-N3	4.27	119.97	115.13
1	L5	1578	PSU	N1-C2-N3	4.27	119.97	115.13
1	L5	3816	A2M	C5-C4-N3	-4.25	121.20	126.75
1	L5	4282	PSU	N1-C2-N3	4.24	119.94	115.13
1	L5	4443	PSU	N1-C2-N3	4.24	119.94	115.13
46	S2	1004	PSU	N1-C2-N3	4.24	119.93	115.13
1	L5	1778	PSU	N1-C2-N3	4.22	119.91	115.13
46	S2	512	A2M	C2'-C1'-N9	-4.20	106.46	113.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	4562	PSU	N1-C2-N3	4.19	119.88	115.13
1	L5	1532	PSU	N1-C2-N3	4.19	119.88	115.13
3	L8	55	PSU	N1-C2-N3	4.19	119.87	115.13
1	L5	1867	A2M	C5-C4-N3	-4.18	121.30	126.75
1	L5	4206	6MZ	N9-C8-N7	-4.15	108.24	113.91
1	L5	2622	PSU	N1-C2-N3	4.14	119.82	115.13
1	L5	3704	A2M	C4-N9-C8	4.10	110.17	105.73
1	L5	4576	A2M	C5-C4-N3	-4.10	121.40	126.75
1	L5	2777	A2M	C4-N9-C8	4.09	110.16	105.73
1	L5	1679	PSU	C4-N3-C2	-4.05	120.50	126.34
1	L5	3816	A2M	C2'-C1'-N9	-4.04	106.73	113.53
1	L5	3771	A2M	C5-N7-C8	4.02	109.22	103.51
46	S2	1832	6MZ	C4-C5-C6	3.99	119.90	116.81
1	L5	1867	A2M	C2'-C1'-N9	-3.96	106.86	113.53
46	S2	1383	A2M	C4-N9-C8	3.93	109.99	105.73
3	L8	14	OMU	N3-C2-N1	3.93	120.11	114.89
1	L5	4206	6MZ	C4-N9-C1'	-3.92	117.26	126.59
1	L5	4576	A2M	O4'-C1'-N9	3.87	115.69	108.06
1	L5	4576	A2M	C5-N7-C8	3.87	109.01	103.51
46	S2	1639	G7M	C5-C6-N1	3.87	119.86	111.79
1	L5	4213	OMU	N3-C2-N1	3.86	120.02	114.89
46	S2	1832	6MZ	C1'-N9-C8	3.86	135.85	127.14
1	L5	2827	OMU	N3-C2-N1	3.86	120.01	114.89
46	S2	172	OMU	N3-C2-N1	3.86	120.01	114.89
46	S2	1031	A2M	C5-N7-C8	3.84	108.97	103.51
46	S2	1639	G7M	CN7-N7-C8	-3.82	118.95	124.84
1	L5	2805	A2M	C5-N7-C8	3.80	108.91	103.51
1	L5	3811	A2M	C5-N7-C8	3.80	108.91	103.51
46	S2	590	A2M	C5-N7-C8	3.79	108.89	103.51
46	S2	668	A2M	C5-N7-C8	3.79	108.89	103.51
1	L5	1530	A2M	C5-N7-C8	3.78	108.88	103.51
46	S2	1678	A2M	C5-N7-C8	3.78	108.88	103.51
46	S2	484	A2M	C5-N7-C8	3.76	108.86	103.51
1	L5	4484	OMU	N3-C2-N1	3.76	119.88	114.89
1	L5	2391	A2M	C5-N7-C8	3.75	108.84	103.51
1	L5	2353	A2M	C5-N7-C8	3.73	108.81	103.51
46	S2	576	A2M	C5-N7-C8	3.73	108.81	103.51
1	L5	400	A2M	C5-N7-C8	3.73	108.81	103.51
46	S2	1639	G7M	C1'-N9-C4	-3.73	115.44	126.50
1	L5	4557	A2M	C5-N7-C8	3.72	108.79	103.51
1	L5	4509	A2M	O4'-C1'-N9	3.71	115.38	108.06
1	L5	4206	6MZ	N3-C4-N9	3.70	133.19	127.08

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	398	A2M	C5-N7-C8	3.69	108.75	103.51
46	S2	1442	OMU	N3-C2-N1	3.68	119.77	114.89
1	L5	3710	A2M	C5-N7-C8	3.67	108.72	103.51
46	S2	166	A2M	C5-N7-C8	3.66	108.72	103.51
1	L5	1867	A2M	C5-N7-C8	3.66	108.71	103.51
46	S2	99	A2M	C5-N7-C8	3.66	108.71	103.51
46	S2	468	A2M	C5-N7-C8	3.66	108.70	103.51
46	S2	116	OMU	N3-C2-N1	3.65	119.73	114.89
46	S2	159	A2M	N3-C4-N9	3.65	133.10	127.08
1	L5	4292	OMU	N3-C2-N1	3.65	119.73	114.89
46	S2	428	OMU	N3-C2-N1	3.64	119.73	114.89
46	S2	1383	A2M	C2'-C1'-N9	-3.64	107.40	113.53
1	L5	3853	A2M	C5-N7-C8	3.64	108.68	103.51
1	L5	1322	A2M	C5-N7-C8	3.64	108.68	103.51
46	S2	512	A2M	C5-N7-C8	3.64	108.67	103.51
46	S2	99	A2M	N3-C4-N9	3.63	133.07	127.08
46	S2	590	A2M	N3-C4-N9	3.63	133.07	127.08
46	S2	121	OMU	N3-C2-N1	3.63	119.71	114.89
46	S2	27	A2M	C5-N7-C8	3.63	108.66	103.51
1	L5	398	A2M	N3-C4-N9	3.62	133.05	127.08
46	S2	166	A2M	N3-C4-N9	3.62	133.05	127.08
46	S2	166	A2M	C2'-C1'-N9	-3.62	107.44	113.53
46	S2	1850	MA6	C4-C5-C6	3.62	119.93	115.88
1	L5	4206	6MZ	C2-N3-C4	3.61	120.29	111.75
46	S2	354	OMU	N3-C2-N1	3.61	119.68	114.89
46	S2	484	A2M	C2-N3-C4	3.61	120.27	111.75
1	L5	3816	A2M	C5-N7-C8	3.60	108.63	103.51
46	S2	1383	A2M	N3-C4-N9	3.60	133.01	127.08
46	S2	159	A2M	C5-N7-C8	3.60	108.62	103.51
46	S2	1851	MA6	C4-C5-C6	3.59	119.90	115.88
1	L5	4509	A2M	C5-N7-C8	3.58	108.59	103.51
1	L5	3911	OMU	C5-C4-N3	3.57	120.18	114.84
46	S2	468	A2M	N3-C4-N9	3.56	132.96	127.08
1	L5	4509	A2M	C2'-C1'-N9	-3.56	107.53	113.53
1	L5	4606	OMU	N3-C2-N1	3.56	119.62	114.89
1	L5	1319	A2M	C5-N7-C8	3.56	108.56	103.51
1	L5	2805	A2M	C2-N3-C4	3.56	120.16	111.75
1	L5	2353	A2M	C2-N3-C4	3.55	120.14	111.75
46	S2	116	OMU	C5-C4-N3	3.55	120.15	114.84
1	L5	398	A2M	C2-N3-C4	3.54	120.11	111.75
1	L5	2405	OMU	N3-C2-N1	3.54	119.59	114.89
46	S2	99	A2M	C2-N3-C4	3.53	120.10	111.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	2777	A2M	C5-N7-C8	3.53	108.52	103.51
1	L5	2777	A2M	C2-N3-C4	3.52	120.07	111.75
46	S2	1031	A2M	C2-N3-C4	3.52	120.06	111.75
1	L5	3704	A2M	C5-N7-C8	3.52	108.50	103.51
46	S2	1851	MA6	C2-N3-C4	3.52	120.06	111.75
1	L5	3704	A2M	N3-C4-N9	3.51	132.87	127.08
46	S2	468	A2M	C2-N3-C4	3.51	120.05	111.75
1	L5	1520	A2M	C5-N7-C8	3.51	108.50	103.51
46	S2	354	OMU	C5-C4-N3	3.50	120.08	114.84
46	S2	1832	6MZ	C2-N3-C4	3.50	120.03	111.75
46	S2	1850	MA6	C2-N1-C6	3.50	120.03	111.75
1	L5	400	A2M	C2-N3-C4	3.50	120.02	111.75
46	S2	1383	A2M	C5-N7-C8	3.50	108.48	103.51
1	L5	4576	A2M	C2-N3-C4	3.50	120.01	111.75
1	L5	4292	OMU	C5-C4-N3	3.49	120.06	114.84
46	S2	1442	OMU	C5-C4-N3	3.49	120.06	114.84
46	S2	590	A2M	C2-N3-C4	3.49	119.99	111.75
46	S2	159	A2M	C2-N3-C4	3.49	119.98	111.75
1	L5	4557	A2M	N3-C4-N9	3.48	132.82	127.08
1	L5	3710	A2M	N3-C4-N9	3.48	132.81	127.08
46	S2	166	A2M	C2-N3-C4	3.47	119.95	111.75
1	L5	3911	OMU	N3-C2-N1	3.47	119.49	114.89
46	S2	1639	G7M	O6-C6-C5	-3.47	120.24	128.06
46	S2	484	A2M	N3-C4-N9	3.46	132.79	127.08
1	L5	3771	A2M	C2-N3-C4	3.45	119.91	111.75
1	L5	2391	A2M	C2-N3-C4	3.45	119.91	111.75
46	S2	428	OMU	C5-C4-N3	3.45	120.00	114.84
46	S2	172	OMU	C5-C4-N3	3.44	119.99	114.84
46	S2	1851	MA6	C2-N1-C6	3.44	119.89	111.75
1	L5	3710	A2M	C2-N3-C4	3.44	119.88	111.75
1	L5	1322	A2M	C2-N3-C4	3.44	119.88	111.75
1	L5	4557	A2M	C2-N3-C4	3.43	119.85	111.75
1	L5	1867	A2M	O4'-C1'-N9	3.43	114.82	108.06
46	S2	1678	A2M	C2-N3-C4	3.43	119.84	111.75
1	L5	1520	A2M	N3-C4-N9	3.41	132.71	127.08
46	S2	668	A2M	C2-N3-C4	3.41	119.81	111.75
1	L5	3811	A2M	C2-N3-C4	3.41	119.81	111.75
1	L5	400	A2M	N3-C4-N9	3.41	132.70	127.08
46	S2	1678	A2M	N3-C4-N9	3.39	132.67	127.08
1	L5	1319	A2M	C2-N3-C4	3.39	119.76	111.75
1	L5	3704	A2M	C2'-C1'-N9	-3.38	107.83	113.53
1	L5	1530	A2M	C2-N3-C4	3.38	119.75	111.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	2405	OMU	C5-C4-N3	3.37	119.89	114.84
1	L5	4509	A2M	C2-N3-C4	3.37	119.71	111.75
46	S2	1850	MA6	C2-N3-C4	3.36	119.70	111.75
46	S2	1850	MA6	N3-C4-N9	3.36	132.62	127.08
46	S2	27	A2M	C2-N3-C4	3.35	119.66	111.75
1	L5	3816	A2M	C2-N3-C4	3.35	119.66	111.75
46	S2	1851	MA6	N3-C4-N9	3.34	132.59	127.08
46	S2	512	A2M	C2-N3-C4	3.34	119.64	111.75
1	L5	4606	OMU	C5-C4-N3	3.34	119.84	114.84
1	L5	4484	OMU	C5-C4-N3	3.34	119.83	114.84
46	S2	1383	A2M	C2-N3-C4	3.33	119.61	111.75
1	L5	2805	A2M	N3-C4-N9	3.32	132.56	127.08
1	L5	1520	A2M	C2-N3-C4	3.32	119.59	111.75
46	S2	1639	G7M	N9-C4-N3	3.31	132.59	125.94
1	L5	4206	6MZ	C1'-N9-C8	3.31	134.61	127.14
46	S2	576	A2M	C2-N3-C4	3.30	119.54	111.75
1	L5	1867	A2M	C2-N3-C4	3.29	119.53	111.75
1	L5	3704	A2M	C2-N3-C4	3.29	119.51	111.75
46	S2	1851	MA6	C5-N7-C8	3.28	108.17	103.51
1	L5	4509	A2M	N3-C4-N9	3.28	132.49	127.08
1	L5	4213	OMU	C5-C4-N3	3.28	119.75	114.84
1	L5	3853	A2M	C2-N3-C4	3.28	119.50	111.75
46	S2	121	OMU	C5-C4-N3	3.27	119.73	114.84
46	S2	1832	6MZ	C5-N7-C8	3.26	108.14	103.51
1	L5	2827	OMU	C5-C4-N3	3.26	119.72	114.84
46	S2	1383	A2M	O4'-C1'-N9	3.25	114.47	108.06
1	L5	3853	A2M	N3-C4-N9	3.24	132.42	127.08
46	S2	1031	A2M	O4'-C1'-N9	3.23	114.43	108.06
3	L8	14	OMU	C5-C4-N3	3.21	119.64	114.84
1	L5	1530	A2M	N3-C4-N9	3.20	132.36	127.08
1	L5	2391	A2M	N3-C4-N9	3.19	132.34	127.08
46	S2	1031	A2M	N3-C4-N9	3.18	132.33	127.08
46	S2	668	A2M	N3-C4-N9	3.18	132.32	127.08
46	S2	576	A2M	N3-C4-N9	3.17	132.30	127.08
1	L5	3811	A2M	N3-C4-N9	3.17	132.30	127.08
46	S2	512	A2M	N3-C4-N9	3.16	132.30	127.08
1	L5	1322	A2M	N3-C4-N9	3.10	132.19	127.08
1	L5	2353	A2M	O4'-C1'-N9	3.09	114.14	108.06
46	S2	27	A2M	O4'-C1'-N9	3.09	114.14	108.06
46	S2	1832	6MZ	N3-C4-N9	3.08	132.16	127.08
1	L5	2777	A2M	C2'-C1'-N9	3.06	118.69	113.53
1	L5	1319	A2M	N3-C4-N9	3.05	132.10	127.08

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	3837	PSU	O2-C2-N1	-3.04	119.44	122.79
1	L5	3839	PSU	O2-C2-N1	-3.04	119.45	122.79
1	L5	4206	6MZ	C5-N7-C8	3.03	107.82	103.51
1	L5	3816	A2M	N3-C4-N9	3.01	132.04	127.08
46	S2	468	A2M	O4'-C1'-N9	3.01	113.98	108.06
46	S2	1850	MA6	C5-N7-C8	3.00	107.77	103.51
46	S2	1639	G7M	C2-N1-C6	-3.00	119.63	125.10
1	L5	3771	A2M	N3-C4-N9	3.00	132.02	127.08
46	S2	116	OMU	O4-C4-C5	-2.98	119.91	125.16
46	S2	27	A2M	N3-C4-N9	2.97	131.98	127.08
46	S2	590	A2M	C2'-C1'-N9	-2.96	108.54	113.53
1	L5	4484	OMU	O4-C4-C5	-2.94	119.99	125.16
1	L5	1867	A2M	N3-C4-N9	2.94	131.92	127.08
46	S2	512	A2M	O4'-C1'-N9	2.94	113.85	108.06
1	L5	3811	A2M	O4'-C1'-N9	2.93	113.83	108.06
1	L5	2353	A2M	N3-C4-N9	2.91	131.88	127.08
46	S2	27	A2M	C2'-C1'-N9	-2.91	108.64	113.53
46	S2	428	OMU	O4-C4-C5	-2.90	120.06	125.16
1	L5	1319	A2M	O4'-C1'-N9	2.89	113.75	108.06
46	S2	1031	A2M	C2'-C1'-N9	-2.89	108.67	113.53
1	L5	3771	A2M	O4'-C1'-C2'	-2.88	101.52	106.57
1	L5	4576	A2M	C2'-C1'-N9	-2.88	108.69	113.53
46	S2	1639	G7M	C1'-N9-C8	2.87	136.44	126.74
46	S2	159	A2M	C2'-C1'-N9	-2.87	108.69	113.53
1	L5	2777	A2M	N3-C4-N9	2.86	131.80	127.08
46	S2	468	A2M	C2'-C1'-N9	-2.86	108.71	113.53
1	L5	1856	PSU	O2-C2-N1	-2.84	119.67	122.79
1	L5	3623	PSU	C6-C5-C4	2.83	120.17	118.20
46	S2	99	A2M	C2'-C1'-N9	-2.83	108.77	113.53
1	L5	1858	PSU	O2-C2-N1	-2.82	119.69	122.79
1	L5	1322	A2M	O4'-C1'-N9	2.82	113.61	108.06
66	ST	67	NMM	NE-CZ-NH1	2.82	125.54	120.26
1	L5	2805	A2M	O4'-C1'-N9	2.81	113.61	108.06
1	L5	4614	PSU	O2-C2-N1	-2.81	119.70	122.79
46	S2	1442	OMU	O4-C4-C5	-2.79	120.25	125.16
46	S2	109	PSU	O2-C2-N1	-2.79	119.72	122.79
3	L8	14	OMU	O4-C4-C5	-2.78	120.26	125.16
1	L5	4509	A2M	C4'-O4'-C1'	-2.78	103.33	109.47
1	L5	4622	PSU	C6-C5-C4	2.77	120.14	118.20
1	L5	398	A2M	O4'-C1'-N9	2.75	113.49	108.06
46	S2	100	PSU	O2-C2-N1	-2.74	119.77	122.79
46	S2	822	PSU	O2-C2-N1	-2.74	119.78	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	4565	PSU	O2-C2-N1	-2.74	119.78	122.79
46	S2	1337	4AC	C6-C5-C4	2.73	120.30	116.96
1	L5	4517	PSU	O2-C2-N1	-2.73	119.79	122.79
1	L5	2405	OMU	O4-C4-C5	-2.73	120.37	125.16
1	L5	3906	PSU	O2-C2-N1	-2.71	119.81	122.79
46	S2	1850	MA6	C4-N9-C8	2.71	108.66	105.73
46	S2	1851	MA6	C4-N9-C8	2.70	108.66	105.73
1	L5	4622	PSU	O2-C2-N1	-2.70	119.82	122.79
46	S2	468	A2M	C4'-O4'-C1'	-2.70	103.53	109.47
1	L5	4347	PSU	O2-C2-N1	-2.69	119.82	122.79
1	L5	4518	PSU	O2-C2-N1	-2.69	119.83	122.79
1	L5	2805	A2M	C4'-O4'-C1'	-2.67	103.57	109.47
1	L5	3816	A2M	O4'-C1'-N9	2.67	113.33	108.06
1	L5	4576	A2M	C4-C5-N7	-2.67	107.36	110.62
46	S2	1643	PSU	O2-C2-N1	-2.66	119.86	122.79
1	L5	3771	A2M	C4-C5-N7	-2.65	107.39	110.62
1	L5	2724	PSU	O2-C2-N1	-2.64	119.89	122.79
1	L5	4675	PSU	O2-C2-N1	-2.63	119.89	122.79
3	L8	69	PSU	O2-C2-N1	-2.63	119.89	122.79
46	S2	668	A2M	C4'-O4'-C1'	-2.63	103.67	109.47
46	S2	354	OMU	O4-C4-C5	-2.63	120.53	125.16
46	S2	121	OMU	O4-C4-C5	-2.63	120.54	125.16
46	S2	1232	PSU	O2-C2-N1	-2.62	119.91	122.79
1	L5	4285	PSU	O2-C2-N1	-2.61	119.92	122.79
1	L5	4298	PSU	O2-C2-N1	-2.61	119.92	122.79
1	L5	4957	PSU	O2-C2-N1	-2.61	119.92	122.79
46	S2	1046	PSU	O2-C2-N1	-2.61	119.92	122.79
46	S2	918	PSU	O4'-C1'-C2'	2.61	108.82	105.14
1	L5	2391	A2M	O4'-C1'-N9	2.60	113.19	108.06
1	L5	4555	PSU	C6-C5-C4	2.60	120.02	118.20
46	S2	815	PSU	O2-C2-N1	-2.60	119.93	122.79
1	L5	2829	PSU	C6-N1-C2	-2.59	120.03	122.68
46	S2	1056	PSU	O2-C2-N1	-2.59	119.94	122.79
46	S2	484	A2M	O4'-C1'-N9	2.58	113.15	108.06
46	S2	172	OMU	O4-C4-C5	-2.58	120.62	125.16
1	L5	4518	PSU	C6-C5-C4	2.57	120.00	118.20
1	L5	1740	PSU	O2-C2-N1	-2.57	119.97	122.79
46	S2	105	PSU	C6-C5-C4	2.56	119.99	118.20
1	L5	1673	PSU	O2-C2-N1	-2.56	119.97	122.79
1	L5	4659	PSU	O2-C2-N1	-2.56	119.98	122.79
46	S2	34	PSU	O2-C2-N1	-2.56	119.98	122.79
1	L5	4213	OMU	O4-C4-C5	-2.55	120.67	125.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	36	PSU	O2-C2-N1	-2.55	119.98	122.79
1	L5	1673	PSU	C6-C5-C4	2.54	119.98	118.20
46	S2	918	PSU	O2-C2-N1	-2.54	119.99	122.79
1	L5	4576	A2M	N3-C4-N9	2.53	131.26	127.08
1	L5	4995	PSU	C6-N1-C2	-2.53	120.10	122.68
1	L5	1778	PSU	O2-C2-N1	-2.53	120.01	122.79
46	S2	1625	PSU	O2-C2-N1	-2.52	120.01	122.79
1	L5	4562	PSU	O2-C2-N1	-2.52	120.02	122.79
1	L5	4292	OMU	O4-C4-C5	-2.52	120.74	125.16
1	L5	2829	PSU	C6-C5-C4	2.51	119.95	118.20
46	S2	105	PSU	C6-N1-C2	-2.51	120.11	122.68
1	L5	4538	PSU	C6-C5-C4	2.51	119.95	118.20
1	L5	3911	OMU	O4-C4-C5	-2.51	120.75	125.16
46	S2	1136	PSU	O2-C2-N1	-2.50	120.04	122.79
1	L5	4417	PSU	O2-C2-N1	-2.50	120.04	122.79
46	S2	1678	A2M	C4'-O4'-C1'	-2.50	103.96	109.47
1	L5	1777	PSU	O2-C2-N1	-2.49	120.04	122.79
1	L5	3808	PSU	O2-C2-N1	-2.49	120.05	122.79
1	L5	4555	PSU	O2-C2-N1	-2.48	120.06	122.79
46	S2	1326	UY1	O3'-C3'-C4'	2.48	118.22	111.05
46	S2	651	PSU	O2-C2-N1	-2.48	120.06	122.79
1	L5	4538	PSU	O2-C2-N1	-2.48	120.06	122.79
1	L5	4206	6MZ	C9-N6-C6	-2.47	120.75	122.87
46	S2	100	PSU	C6-C5-C4	2.47	119.92	118.20
46	S2	1445	PSU	O2-C2-N1	-2.47	120.08	122.79
46	S2	99	A2M	O4'-C1'-N9	2.47	112.92	108.06
1	L5	4409	PSU	O2-C2-N1	-2.47	120.08	122.79
46	S2	119	PSU	O2-C2-N1	-2.46	120.08	122.79
46	S2	590	A2M	C4'-O4'-C1'	-2.46	104.04	109.47
1	L5	3710	A2M	C4'-O4'-C1'	-2.46	104.04	109.47
46	S2	1174	PSU	O2-C2-N1	-2.46	120.08	122.79
1	L5	1679	PSU	C6-N1-C2	-2.46	120.17	122.68
1	L5	2622	PSU	O2-C2-N1	-2.46	120.08	122.79
46	S2	1238	PSU	O2-C2-N1	-2.46	120.09	122.79
1	L5	1788	PSU	C6-N1-C2	-2.45	120.17	122.68
46	S2	668	A2M	C2'-C3'-C4'	2.45	107.32	101.99
46	S2	159	A2M	O4'-C1'-N9	2.45	112.89	108.06
1	L5	3704	A2M	O4'-C1'-N9	2.45	112.89	108.06
46	S2	1045	PSU	O2-C2-N1	-2.45	120.10	122.79
1	L5	4443	PSU	O2-C2-N1	-2.44	120.10	122.79
1	L5	2353	A2M	C4-C5-N7	-2.43	107.66	110.62
1	L5	400	A2M	O4'-C1'-N9	2.42	112.83	108.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	576	A2M	O4'-C1'-N9	2.42	112.83	108.06
1	L5	4279	PSU	O2-C2-N1	-2.42	120.13	122.79
1	L5	4606	OMU	O4-C4-C5	-2.41	120.92	125.16
46	S2	1136	PSU	C6-C5-C4	2.40	119.88	118.20
1	L5	4958	PSU	O2-C2-N1	-2.40	120.15	122.79
1	L5	3811	A2M	C4-C5-N7	-2.40	107.70	110.62
1	L5	1867	A2M	C4'-O4'-C1'	-2.39	104.19	109.47
1	L5	1775	PSU	O2-C2-N1	-2.39	120.16	122.79
1	L5	2805	A2M	C4-C5-N7	-2.39	107.71	110.62
46	S2	609	PSU	O2-C2-N1	-2.38	120.17	122.79
46	S2	1031	A2M	C4-C5-N7	-2.38	107.72	110.62
46	S2	1842	4AC	N4-C4-N3	2.38	117.85	113.85
3	L8	69	PSU	O4'-C1'-C2'	2.38	108.50	105.14
46	S2	1692	PSU	O2-C2-N1	-2.38	120.17	122.79
46	S2	1244	PSU	O2-C2-N1	-2.37	120.18	122.79
46	S2	406	PSU	C6-N1-C2	-2.37	120.26	122.68
46	S2	166	A2M	O4'-C1'-N9	2.37	112.73	108.06
46	S2	105	PSU	O2-C2-N1	-2.37	120.18	122.79
1	L5	4417	PSU	C6-C5-C4	2.36	119.85	118.20
1	L5	4484	OMU	O2-C2-N1	-2.36	119.65	122.79
1	L5	3701	PSU	O2-C2-N1	-2.36	120.19	122.79
1	L5	2827	OMU	O2-C2-N1	-2.36	119.65	122.79
1	L5	4457	PSU	O2-C2-N1	-2.35	120.20	122.79
46	S2	822	PSU	C6-N1-C2	-2.35	120.28	122.68
1	L5	2827	OMU	O4-C4-C5	-2.35	121.02	125.16
1	L5	4614	PSU	C6-N1-C2	-2.35	120.28	122.68
1	L5	4555	PSU	C6-N1-C2	-2.35	120.28	122.68
46	S2	649	PSU	O2-C2-N1	-2.35	120.20	122.79
46	S2	109	PSU	C6-C5-C4	2.35	119.84	118.20
46	S2	1337	4AC	O7-C7-N4	-2.34	118.03	121.82
46	S2	667	PSU	C6-N1-C2	-2.33	120.30	122.68
46	S2	1177	PSU	O2-C2-N1	-2.33	120.23	122.79
1	L5	3830	PSU	O2-C2-N1	-2.32	120.24	122.79
1	L5	4389	PSU	C6-N1-C2	-2.31	120.33	122.68
1	L5	4986	PSU	C6-N1-C2	-2.31	120.33	122.68
1	L5	3625	PSU	C6-N1-C2	-2.31	120.33	122.68
46	S2	27	A2M	C4-C5-N7	-2.30	107.82	110.62
1	L5	4389	PSU	O2-C2-N1	-2.30	120.26	122.79
1	L5	3701	PSU	C6-N1-C2	-2.30	120.33	122.68
1	L5	1775	PSU	C6-N1-C2	-2.30	120.33	122.68
1	L5	2353	A2M	C4'-O4'-C1'	-2.30	104.41	109.47
1	L5	2724	PSU	C6-N1-C2	-2.29	120.34	122.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	2391	A2M	C4-C5-N7	-2.29	107.82	110.62
1	L5	4576	A2M	C4'-O4'-C1'	-2.29	104.41	109.47
1	L5	1788	PSU	O2-C2-N1	-2.29	120.27	122.79
1	L5	2777	A2M	C4-C5-N7	-2.29	107.83	110.62
1	L5	3808	PSU	C6-N1-C2	-2.29	120.34	122.68
1	L5	3811	A2M	C4'-O4'-C1'	-2.29	104.42	109.47
46	S2	668	A2M	C4-C5-N7	-2.28	107.84	110.62
1	L5	1679	PSU	O2-C2-N1	-2.28	120.28	122.79
1	L5	3623	PSU	O2-C2-N1	-2.28	120.28	122.79
46	S2	484	A2M	C4-C5-N7	-2.28	107.85	110.62
46	S2	1832	6MZ	C4-C5-N7	-2.27	107.85	110.62
1	L5	3710	A2M	O4'-C1'-N9	2.27	112.54	108.06
1	L5	3906	PSU	C6-N1-C2	-2.27	120.37	122.68
46	S2	1625	PSU	C6-C5-C4	2.26	119.78	118.20
1	L5	400	A2M	C4-C5-N7	-2.26	107.87	110.62
1	L5	1673	PSU	O4'-C1'-C2'	2.26	108.33	105.14
1	L5	1867	A2M	C4-C5-N7	-2.26	107.87	110.62
46	S2	649	PSU	C6-C5-C4	2.25	119.77	118.20
1	L5	3870	PSU	C6-N1-C2	-2.24	120.39	122.68
46	S2	918	PSU	C6-N1-C2	-2.24	120.39	122.68
1	L5	1740	PSU	C6-C5-C4	2.23	119.76	118.20
46	S2	1383	A2M	C4'-O4'-C1'	-2.23	104.55	109.47
46	S2	609	PSU	C6-N1-C2	-2.23	120.40	122.68
1	L5	4282	PSU	O2-C2-N1	-2.23	120.34	122.79
46	S2	1238	PSU	C6-C5-C4	2.23	119.76	118.20
1	L5	1530	A2M	C4-C5-N7	-2.23	107.91	110.62
46	S2	572	PSU	C6-N1-C2	-2.22	120.41	122.68
1	L5	4347	PSU	C6-N1-C2	-2.22	120.41	122.68
46	S2	1383	A2M	O4'-C4'-C3'	-2.22	100.72	105.11
1	L5	3853	A2M	C4-C5-N7	-2.22	107.91	110.62
1	L5	4428	PSU	O2-C2-N1	-2.22	120.35	122.79
46	S2	668	A2M	C2'-C1'-N9	2.22	117.27	113.53
46	S2	93	PSU	O2-C2-N1	-2.22	120.35	122.79
46	S2	681	PSU	O2-C2-N1	-2.22	120.35	122.79
1	L5	1788	PSU	C6-C5-C4	2.22	119.75	118.20
46	S2	36	PSU	C6-C5-C4	2.22	119.75	118.20
1	L5	4206	6MZ	C4-N9-C8	2.21	108.13	105.73
46	S2	1842	4AC	C6-C5-C4	2.21	119.67	116.96
46	S2	572	PSU	O2-C2-N1	-2.21	120.36	122.79
46	S2	93	PSU	C6-N1-C2	-2.21	120.42	122.68
1	L5	1322	A2M	C4-C5-N7	-2.21	107.93	110.62
1	L5	3816	A2M	C4-C5-N7	-2.21	107.93	110.62

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	512	A2M	C4-C5-N7	-2.20	107.93	110.62
1	L5	3704	A2M	C4-C5-N7	-2.20	107.94	110.62
1	L5	4428	PSU	O4'-C1'-C2'	2.20	108.25	105.14
3	L8	69	PSU	C6-C5-C4	2.20	119.73	118.20
1	L5	4538	PSU	C6-N1-C2	-2.20	120.44	122.68
46	S2	1625	PSU	C6-N1-C2	-2.20	120.44	122.68
46	S2	119	PSU	C6-N1-C2	-2.19	120.44	122.68
1	L5	3625	PSU	C6-C5-C4	2.19	119.73	118.20
1	L5	1319	A2M	C4-C5-N7	-2.19	107.95	110.62
29	La	39	V5N	O2-CB-CA	2.19	111.90	107.28
46	S2	651	PSU	C6-N1-C2	-2.19	120.45	122.68
1	L5	3837	PSU	C6-C5-C4	2.19	119.73	118.20
46	S2	814	PSU	O2-C2-N1	-2.19	120.39	122.79
46	S2	822	PSU	O4'-C1'-C2'	2.18	108.22	105.14
46	S2	576	A2M	C4-C5-N7	-2.18	107.97	110.62
46	S2	1031	A2M	C4'-O4'-C1'	-2.18	104.67	109.47
1	L5	3681	PSU	O2-C2-N1	-2.18	120.39	122.79
46	S2	1678	A2M	C4-C5-N7	-2.18	107.97	110.62
46	S2	815	PSU	C6-C5-C4	2.18	119.72	118.20
1	L5	4507	PSU	O2-C2-N1	-2.17	120.40	122.79
46	S2	1832	6MZ	C4-N9-C8	2.17	108.08	105.73
46	S2	1383	A2M	C5-C6-N6	-2.17	118.72	123.43
1	L5	4298	PSU	C6-N1-C2	-2.17	120.47	122.68
1	L5	2829	PSU	O2-C2-N1	-2.17	120.41	122.79
1	L5	3839	PSU	C6-N1-C2	-2.16	120.47	122.68
1	L5	2724	PSU	C6-C5-C4	2.16	119.71	118.20
1	L5	398	A2M	C4-C5-N7	-2.16	107.99	110.62
46	S2	1643	PSU	C6-N1-C2	-2.16	120.48	122.68
46	S2	1174	PSU	C6-N1-C2	-2.16	120.48	122.68
1	L5	1858	PSU	C6-C5-C4	2.15	119.70	118.20
1	L5	3701	PSU	C6-C5-C4	2.15	119.70	118.20
46	S2	801	PSU	O2-C2-N1	-2.15	120.42	122.79
1	L5	4557	A2M	C4-C5-N7	-2.15	108.00	110.62
1	L5	4347	PSU	C6-C5-C4	2.15	119.70	118.20
1	L5	4409	PSU	C6-C5-C4	2.15	119.70	118.20
1	L5	4292	OMU	O2-C2-N1	-2.14	119.94	122.79
1	L5	4298	PSU	C6-C5-C4	2.14	119.69	118.20
46	S2	801	PSU	C6-N1-C2	-2.14	120.50	122.68
46	S2	1239	PSU	C6-N1-C2	-2.14	120.50	122.68
46	S2	1056	PSU	C6-N1-C2	-2.14	120.50	122.68
1	L5	1858	PSU	C6-N1-C2	-2.13	120.50	122.68
46	S2	1239	PSU	O2-C2-N1	-2.13	120.45	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L5	3771	A2M	C2'-C3'-C4'	2.13	106.61	101.99
1	L5	4517	PSU	C6-C5-C4	2.13	119.68	118.20
46	S2	34	PSU	C6-C5-C4	2.12	119.68	118.20
1	L5	3839	PSU	C6-C5-C4	2.12	119.68	118.20
1	L5	4457	PSU	C6-N1-C2	-2.12	120.52	122.68
46	S2	36	PSU	C6-N1-C2	-2.12	120.52	122.68
46	S2	609	PSU	C6-C5-C4	2.12	119.68	118.20
46	S2	649	PSU	C6-N1-C2	-2.12	120.52	122.68
46	S2	406	PSU	C6-C5-C4	2.11	119.68	118.20
1	L5	4409	PSU	C6-N1-C2	-2.11	120.52	122.68
46	S2	1045	PSU	C6-N1-C2	-2.11	120.52	122.68
46	S2	116	OMU	O2-C2-N1	-2.11	119.98	122.79
46	S2	801	PSU	C6-C5-C4	2.10	119.67	118.20
1	L5	3870	PSU	O2-C2-N1	-2.10	120.47	122.79
1	L5	2851	OMC	C1'-N1-C2	2.10	123.11	118.42
46	S2	468	A2M	C4-C5-N7	-2.10	108.06	110.62
1	L5	4285	PSU	C6-N1-C2	-2.10	120.54	122.68
1	L5	1578	PSU	O2-C2-N1	-2.10	120.48	122.79
3	L8	14	OMU	O2-C2-N1	-2.10	120.00	122.79
1	L5	1318	1MA	N1-C6-N6	2.09	125.08	119.77
1	L5	1778	PSU	C6-C5-C4	2.09	119.66	118.20
46	S2	166	A2M	C5'-C4'-C3'	-2.08	107.37	115.18
46	S2	406	PSU	O2-C2-N1	-2.08	120.50	122.79
1	L5	1530	A2M	C2'-C1'-N9	2.08	117.03	113.53
1	L5	398	A2M	C2'-C1'-N9	-2.08	110.03	113.53
46	S2	1136	PSU	O4'-C1'-C2'	2.07	108.07	105.14
1	L5	4995	PSU	O2-C2-N1	-2.07	120.51	122.79
46	S2	1056	PSU	O4'-C1'-C2'	2.07	108.06	105.14
1	L5	4958	PSU	C6-C5-C4	2.07	119.64	118.20
1	L5	2622	PSU	C6-N1-C2	-2.07	120.57	122.68
46	S2	1056	PSU	C6-C5-C4	2.07	119.64	118.20
46	S2	354	OMU	C2'-C1'-N1	-2.06	110.22	114.22
46	S2	667	PSU	O2-C2-N1	-2.06	120.52	122.79
46	S2	1367	PSU	C6-N1-C2	-2.06	120.58	122.68
46	S2	576	A2M	C4'-O4'-C1'	-2.06	104.93	109.47
46	S2	590	A2M	C4-C5-N7	-2.06	108.11	110.62
46	S2	1004	PSU	C6-N1-C2	-2.06	120.58	122.68
3	L8	69	PSU	C6-N1-C2	-2.05	120.59	122.68
1	L5	400	A2M	C4'-O4'-C1'	-2.05	104.96	109.47
1	L5	3625	PSU	O4'-C1'-C2'	2.05	108.03	105.14
1	L5	4986	PSU	O2-C2-N1	-2.05	120.54	122.79
1	L5	4507	PSU	C6-N1-C2	-2.05	120.59	122.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	S2	166	A2M	C5-C6-N6	-2.05	118.98	123.43
1	L5	4389	PSU	O4'-C1'-C2'	2.05	108.03	105.14
46	S2	512	A2M	C4'-O4'-C1'	-2.04	104.97	109.47
46	S2	99	A2M	C5-C6-N6	-2.04	118.98	123.43
1	L5	3681	PSU	C6-N1-C2	-2.04	120.59	122.68
46	S2	99	A2M	C4-C5-N7	-2.04	108.13	110.62
46	S2	109	PSU	C6-N1-C2	-2.04	120.60	122.68
1	L5	3710	A2M	C4-C5-N7	-2.04	108.14	110.62
46	S2	1337	4AC	C5-C4-N3	-2.04	119.32	122.59
1	L5	3853	A2M	O4'-C1'-N9	2.04	112.07	108.06
46	S2	159	A2M	C5-C6-N6	-2.04	119.00	123.43
1	L5	2622	PSU	O4'-C1'-C2'	2.03	108.01	105.14
1	L5	2391	A2M	C4'-O4'-C1'	-2.03	104.99	109.47
1	L5	1520	A2M	C4'-O4'-C1'	-2.03	105.00	109.47
1	L5	4659	PSU	C6-N1-C2	-2.03	120.61	122.68
1	L5	3808	PSU	C6-C5-C4	2.03	119.61	118.20
1	L5	4957	PSU	C6-C5-C4	2.03	119.61	118.20
1	L5	2777	A2M	C5'-C4'-C3'	-2.02	107.59	115.18
46	S2	166	A2M	C4-C5-N7	-2.02	108.15	110.62
1	L5	4659	PSU	C6-C5-C4	2.02	119.61	118.20
1	L5	4622	PSU	O4'-C1'-C2'	2.02	108.00	105.14
46	S2	667	PSU	C6-C5-C4	2.02	119.61	118.20
46	S2	1244	PSU	C6-C5-C4	2.02	119.61	118.20
1	L5	1520	A2M	C5-C6-N6	-2.02	119.04	123.43
46	S2	93	PSU	C6-C5-C4	2.02	119.61	118.20
1	L5	4457	PSU	C6-C5-C4	2.01	119.61	118.20
46	S2	667	PSU	O4'-C1'-C2'	2.01	107.98	105.14
46	S2	1643	PSU	O4'-C1'-C2'	2.01	107.98	105.14
1	L5	1856	PSU	C6-N1-C2	-2.01	120.63	122.68
46	S2	1004	PSU	O2-C2-N1	-2.00	120.59	122.79
1	L5	4565	PSU	C6-N1-C2	-2.00	120.64	122.68

There are no chirality outliers.

All (132) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
66	ST	67	NMM	O-C-CA-CB
1	L5	398	A2M	C1'-C2'-O2'-CM'
1	L5	2777	A2M	C1'-C2'-O2'-CM'
1	L5	2805	A2M	O4'-C4'-C5'-O5'
1	L5	2805	A2M	C3'-C4'-C5'-O5'
1	L5	2814	OMC	C1'-C2'-O2'-CM2

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Mol	Chain	Res	Type	Atoms
1	L5	2851	OMC	C1'-C2'-O2'-CM2
1	L5	3687	OMC	C2'-C1'-N1-C6
1	L5	3704	A2M	C1'-C2'-O2'-CM'
1	L5	3710	A2M	C1'-C2'-O2'-CM'
1	L5	3811	A2M	C1'-C2'-O2'-CM'
1	L5	3816	A2M	C1'-C2'-O2'-CM'
1	L5	4182	OMG	C1'-C2'-O2'-CM2
1	L5	4509	A2M	C1'-C2'-O2'-CM'
1	L5	4557	A2M	C1'-C2'-O2'-CM'
1	L5	4576	A2M	C4'-C5'-O5'-P
1	L5	4622	PSU	C2'-C1'-C5-C6
1	L5	4622	PSU	C3'-C4'-C5'-O5'
1	L5	4623	OMG	C1'-C2'-O2'-CM2
46	S2	27	A2M	C1'-C2'-O2'-CM'
46	S2	99	A2M	C1'-C2'-O2'-CM'
46	S2	116	OMU	C1'-C2'-O2'-CM2
46	S2	462	OMC	C1'-C2'-O2'-CM2
46	S2	576	A2M	C3'-C4'-C5'-O5'
46	S2	601	OMG	C1'-C2'-O2'-CM2
46	S2	668	A2M	O4'-C4'-C5'-O5'
46	S2	668	A2M	C1'-C2'-O2'-CM'
46	S2	867	OMG	C1'-C2'-O2'-CM2
46	S2	1326	UY1	C2'-C1'-C5-C4
46	S2	1328	OMG	C1'-C2'-O2'-CM2
46	S2	1367	PSU	C3'-C4'-C5'-O5'
46	S2	1367	PSU	O4'-C4'-C5'-O5'
46	S2	1383	A2M	C1'-C2'-O2'-CM'
46	S2	1391	OMC	C1'-C2'-O2'-CM2
46	S2	1442	OMU	C1'-C2'-O2'-CM2
46	S2	1447	OMG	C3'-C4'-C5'-O5'
46	S2	1447	OMG	C1'-C2'-O2'-CM2
46	S2	1490	OMG	C1'-C2'-O2'-CM2
46	S2	1678	A2M	C1'-C2'-O2'-CM'
46	S2	1703	OMC	C1'-C2'-O2'-CM2
46	S2	1851	MA6	O4'-C4'-C5'-O5'
1	L5	3830	PSU	C3'-C4'-C5'-O5'
1	L5	3830	PSU	O4'-C4'-C5'-O5'
46	S2	668	A2M	C3'-C4'-C5'-O5'
46	S2	867	OMG	C3'-C4'-C5'-O5'
46	S2	1851	MA6	C3'-C4'-C5'-O5'
1	L5	2777	A2M	C2'-C1'-N9-C8
1	L5	3687	OMC	C2'-C1'-N1-C2

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Mol	Chain	Res	Type	Atoms
1	L5	4622	PSU	O4'-C4'-C5'-O5'
46	S2	512	A2M	O4'-C4'-C5'-O5'
46	S2	576	A2M	O4'-C4'-C5'-O5'
46	S2	918	PSU	O4'-C4'-C5'-O5'
1	L5	2777	A2M	C2'-C1'-N9-C4
1	L5	1621	OMG	C3'-C2'-O2'-CM2
1	L5	4214	OMG	C3'-C2'-O2'-CM2
1	L5	3853	A2M	C3'-C4'-C5'-O5'
46	S2	867	OMG	O4'-C4'-C5'-O5'
46	S2	1447	OMG	O4'-C4'-C5'-O5'
1	L5	2354	OMG	O4'-C4'-C5'-O5'
1	L5	3853	A2M	O4'-C4'-C5'-O5'
46	S2	100	PSU	O4'-C4'-C5'-O5'
46	S2	918	PSU	C3'-C4'-C5'-O5'
46	S2	428	OMU	C2'-C1'-N1-C6
46	S2	683	OMG	O4'-C4'-C5'-O5'
1	L5	4433	5MC	C2'-C1'-N1-C6
46	S2	866	PSU	C3'-C4'-C5'-O5'
46	S2	1639	G7M	O4'-C4'-C5'-O5'
46	S2	99	A2M	O4'-C4'-C5'-O5'
46	S2	866	PSU	O4'-C4'-C5'-O5'
46	S2	1337	4AC	O7-C7-N4-C4
46	S2	1337	4AC	CM7-C7-N4-C4
46	S2	512	A2M	C3'-C4'-C5'-O5'
46	S2	1490	OMG	O4'-C4'-C5'-O5'
1	L5	4480	OMG	C1'-C2'-O2'-CM2
1	L5	2805	A2M	C4'-C5'-O5'-P
46	S2	1639	G7M	C3'-C4'-C5'-O5'
46	S2	668	A2M	C2'-C1'-N9-C8
1	L5	3710	A2M	C3'-C2'-O2'-CM'
1	L5	4356	OMG	C3'-C2'-O2'-CM2
46	S2	1383	A2M	C3'-C2'-O2'-CM'
1	L5	3687	OMC	O4'-C1'-N1-C6
1	L5	4433	5MC	O4'-C1'-N1-C6
1	L5	1530	A2M	C4'-C5'-O5'-P
46	S2	866	PSU	C4'-C5'-O5'-P
46	S2	1490	OMG	C4'-C5'-O5'-P
46	S2	1383	A2M	C3'-C4'-C5'-O5'
46	S2	428	OMU	O4'-C1'-N1-C6
1	L5	1322	A2M	C4'-C5'-O5'-P
1	L5	3687	OMC	O4'-C1'-N1-C2
1	L5	4433	5MC	O4'-C1'-N1-C2

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Mol	Chain	Res	Type	Atoms
1	L5	1322	A2M	C3'-C4'-C5'-O5'
1	L5	1578	PSU	O4'-C4'-C5'-O5'
1	L5	3804	UY1	C4'-C5'-O5'-P
1	L5	3830	PSU	C4'-C5'-O5'-P
46	S2	100	PSU	C3'-C4'-C5'-O5'
46	S2	867	OMG	C4'-C5'-O5'-P
46	S2	683	OMG	C3'-C4'-C5'-O5'
46	S2	428	OMU	O4'-C1'-N1-C2
1	L5	3681	PSU	O4'-C1'-C5-C4
1	L5	4507	PSU	O4'-C1'-C5-C4
46	S2	1326	UY1	O4'-C1'-C5-C4
1	L5	2341	OMC	C3'-C2'-O2'-CM2
1	L5	4480	OMG	C3'-C2'-O2'-CM2
1	L5	4433	5MC	C2'-C1'-N1-C2
46	S2	428	OMU	C2'-C1'-N1-C2
1	L5	2341	OMC	O4'-C4'-C5'-O5'
1	L5	1318	1MA	C2'-C1'-N9-C8
46	S2	644	OMG	C4'-C5'-O5'-P
1	L5	1775	PSU	C3'-C4'-C5'-O5'
1	L5	2354	OMG	C3'-C4'-C5'-O5'
1	L5	2498	PSU	O4'-C4'-C5'-O5'
46	S2	668	A2M	O4'-C1'-N9-C8
1	L5	1318	1MA	C2'-C1'-N9-C4
1	L5	1775	PSU	O4'-C4'-C5'-O5'
1	L5	3771	A2M	O4'-C4'-C5'-O5'
46	S2	159	A2M	C3'-C4'-C5'-O5'
1	L5	3681	PSU	O4'-C1'-C5-C6
1	L5	3804	UY1	O4'-C1'-C5-C6
1	L5	4622	PSU	O4'-C1'-C5-C6
46	S2	1326	UY1	O4'-C1'-C5-C6
1	L5	1530	A2M	O4'-C4'-C5'-O5'
46	S2	822	PSU	C3'-C4'-C5'-O5'
46	S2	668	A2M	C2'-C1'-N9-C4
66	ST	67	NMM	CG-CD-NE-CZ
1	L5	2341	OMC	C2'-C1'-N1-C2
46	S2	99	A2M	C3'-C2'-O2'-CM'
46	S2	668	A2M	C3'-C2'-O2'-CM'
46	S2	1678	A2M	C3'-C2'-O2'-CM'
1	L5	1578	PSU	C3'-C4'-C5'-O5'
1	L5	2412	OMC	O4'-C4'-C5'-O5'
1	L5	2777	A2M	O4'-C1'-N9-C8
46	S2	590	A2M	O4'-C1'-N9-C8

There are no ring outliers.

100 monomers are involved in 207 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
46	S2	1337	4AC	4	0
46	S2	918	PSU	3	0
1	L5	2405	OMU	5	0
1	L5	4522	OMC	1	0
1	L5	4557	A2M	3	0
1	L5	4213	OMU	4	0
46	S2	1842	4AC	1	0
1	L5	2724	PSU	2	0
46	S2	1643	PSU	2	0
1	L5	3853	A2M	2	0
46	S2	354	OMU	2	0
46	S2	1004	PSU	2	0
3	L8	75	OMG	1	0
1	L5	3768	5MC	1	0
46	S2	1851	MA6	3	0
46	S2	1445	PSU	1	0
46	S2	99	A2M	1	0
1	L5	2794	OMC	1	0
1	L5	1679	PSU	1	0
1	L5	4282	PSU	1	0
1	L5	1777	PSU	1	0
46	S2	1447	OMG	4	0
1	L5	3830	PSU	2	0
46	S2	428	OMU	3	0
46	S2	649	PSU	2	0
46	S2	1239	PSU	2	0
1	L5	2777	A2M	1	0
1	L5	1520	A2M	1	0
1	L5	3710	A2M	2	0
1	L5	4516	UR3	1	0
1	L5	4279	PSU	1	0
1	L5	3778	OMG	1	0
1	L5	4576	A2M	2	0
1	L5	1530	A2M	3	0
46	S2	1490	OMG	2	0
1	L5	2814	OMC	3	0
46	S2	1850	MA6	5	0
46	S2	27	A2M	2	0
46	S2	462	OMC	3	0
1	L5	2622	PSU	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	L5	3771	A2M	2	0
1	L5	4995	PSU	1	0
1	L5	4538	PSU	1	0
3	L8	14	OMU	2	0
1	L5	4565	PSU	3	0
46	S2	121	OMU	3	0
1	L5	4443	PSU	2	0
1	L5	3701	PSU	2	0
1	L5	4986	PSU	1	0
46	S2	1031	A2M	1	0
3	L8	69	PSU	1	0
1	L5	4614	PSU	1	0
1	L5	1673	PSU	1	0
46	S2	116	OMU	4	0
46	S2	668	A2M	1	0
46	S2	867	OMG	1	0
46	S2	1367	PSU	3	0
46	S2	1383	A2M	11	0
1	L5	4433	5MC	2	0
46	S2	468	A2M	6	0
1	L5	2414	OMG	2	0
1	L5	4623	OMG	2	0
46	S2	1703	OMC	2	0
1	L5	4606	OMU	2	0
46	S2	159	A2M	3	0
46	S2	1177	PSU	1	0
1	L5	4389	PSU	2	0
46	S2	166	A2M	2	0
46	S2	1678	A2M	1	0
1	L5	4622	PSU	1	0
1	L5	4206	6MZ	1	0
46	S2	1442	OMU	2	0
46	S2	1692	PSU	1	0
46	S2	484	A2M	2	0
46	S2	1232	PSU	2	0
46	S2	1639	G7M	2	0
1	L5	2805	A2M	3	0
1	L5	3613	OMG	1	0
1	L5	3804	UY1	1	0
46	S2	512	A2M	7	0
1	L5	4518	PSU	1	0
46	S2	1136	PSU	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	L5	4214	OMG	5	0
46	S2	1238	PSU	1	0
1	L5	2866	OMG	1	0
46	S2	1046	PSU	1	0
46	S2	1832	6MZ	1	0
1	L5	2341	OMC	3	0
46	S2	1391	OMC	2	0
1	L5	3704	A2M	4	0
1	L5	1775	PSU	3	0
46	S2	105	PSU	1	0
1	L5	1867	A2M	3	0
1	L5	3811	A2M	3	0
1	L5	1336	OMC	1	0
1	L5	4378	OMG	1	0
46	S2	576	A2M	5	0
1	L5	4292	OMU	2	0
66	ST	67	NMM	3	0
46	S2	509	OMG	2	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 257 ligands modelled in this entry, 257 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	L5	19
47	S6	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L5	266:C	O3'	267:G	P	46.54
1	L5	189:G	O3'	190:G	P	45.41
1	L5	4731:C	O3'	4732:C	P	27.51
1	L5	1211:G	O3'	1212:G	P	23.77
1	L5	1058:C	O3'	1059:G	P	20.75
1	L5	4846:C	O3'	4847:G	P	17.67
1	L5	5013:G	O3'	5014:C	P	17.25
1	L5	4132:G	O3'	4133:G	P	17.09
1	L5	1076:C	O3'	1077:U	P	16.81
1	L5	1413:G	O3'	1414:C	P	16.28
1	S6	6:G	O3'	70:C	P	15.18
1	L5	1197:C	O3'	1198:C	P	14.03
1	L5	2699:G	O3'	2700:C	P	14.03
1	L5	4100:G	O3'	4101:G	P	12.69
1	L5	963:G	O3'	964:G	P	12.54
1	L5	4408:G	O3'	4409:PSU	P	11.51
1	L5	1292:G	O3'	1293:U	P	11.25
1	L5	1241:G	O3'	1242:C	P	11.07
1	L5	919:C	O3'	920:G	P	9.71
1	L5	2753:G	O3'	2754:A	P	5.34

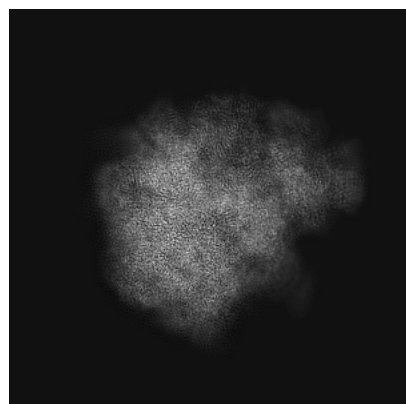
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-56286. These allow visual inspection of the internal detail of the map and identification of artifacts.

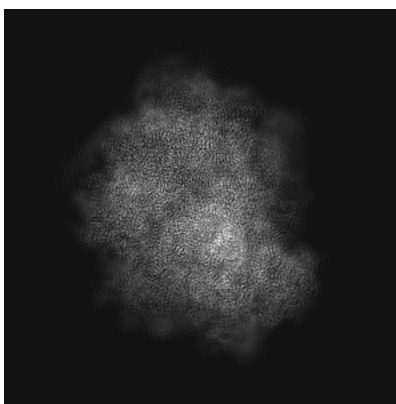
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

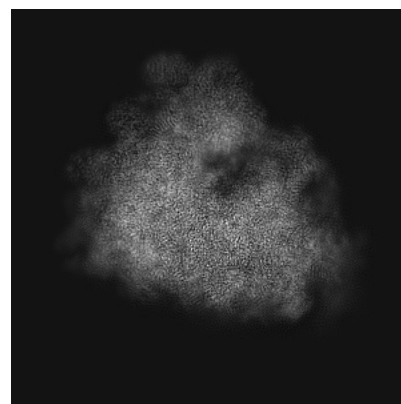
6.1.1 Primary map



X

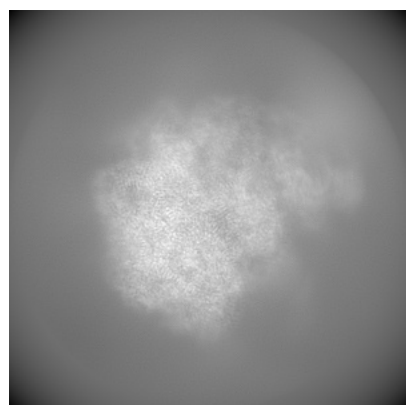


Y

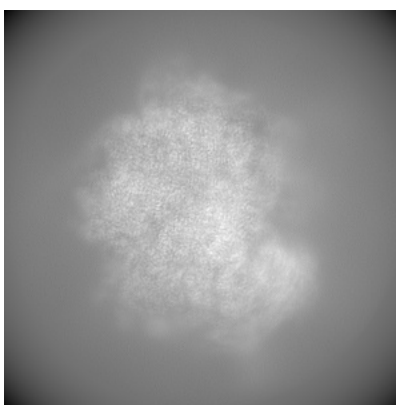


Z

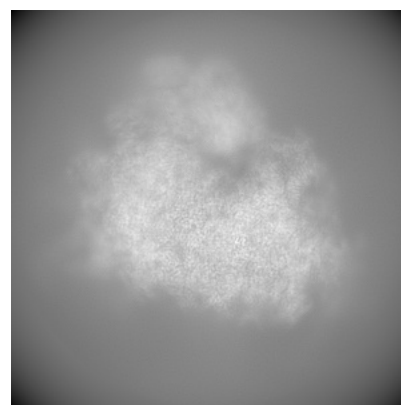
6.1.2 Raw map



X



Y

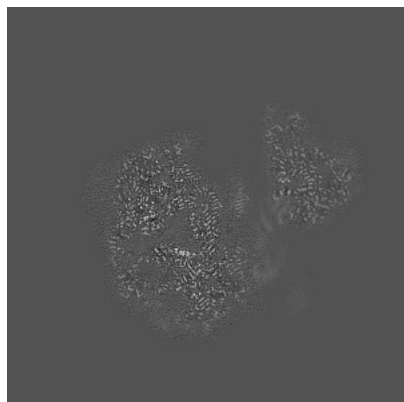


Z

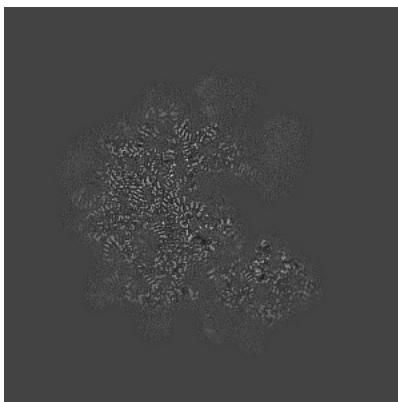
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

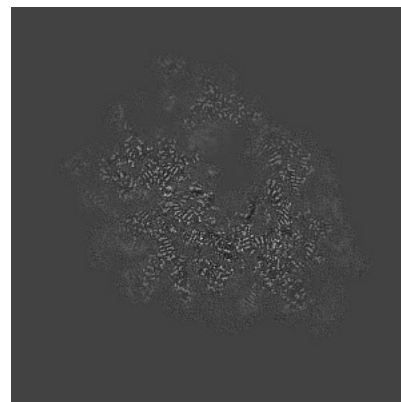
6.2.1 Primary map



X Index: 240

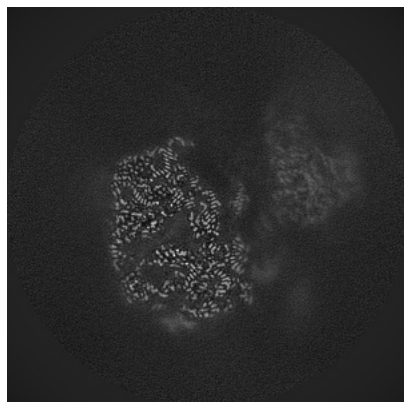


Y Index: 240

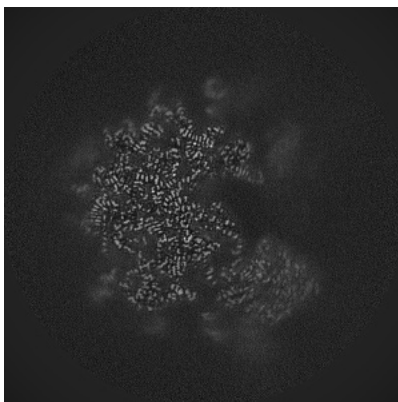


Z Index: 240

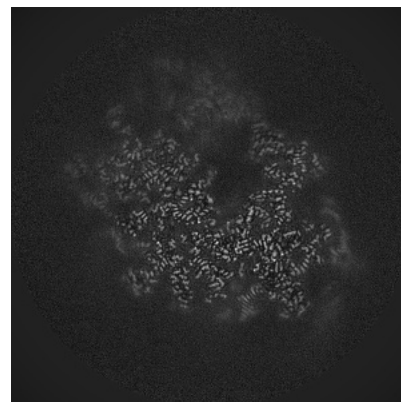
6.2.2 Raw map



X Index: 240



Y Index: 240

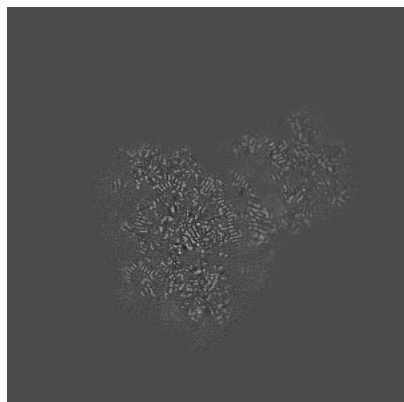


Z Index: 240

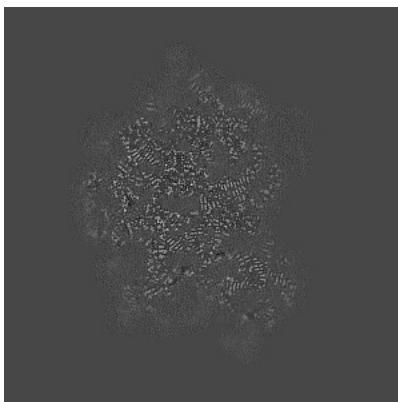
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

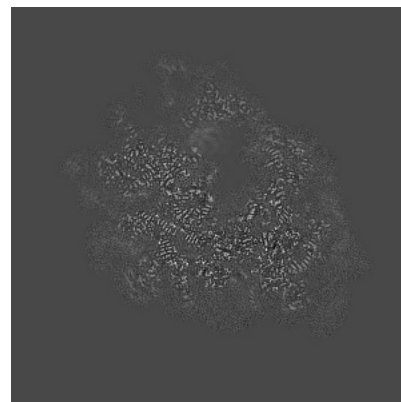
6.3.1 Primary map



X Index: 222

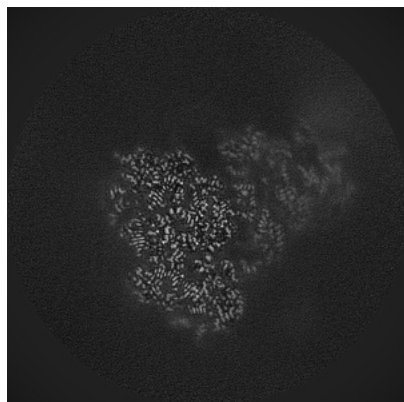


Y Index: 207

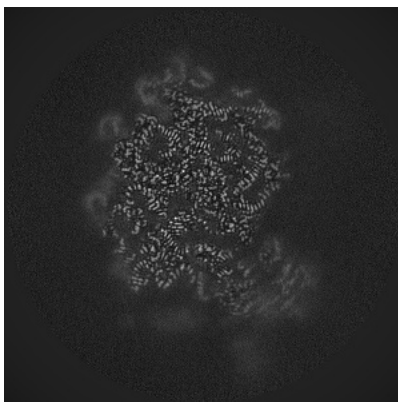


Z Index: 238

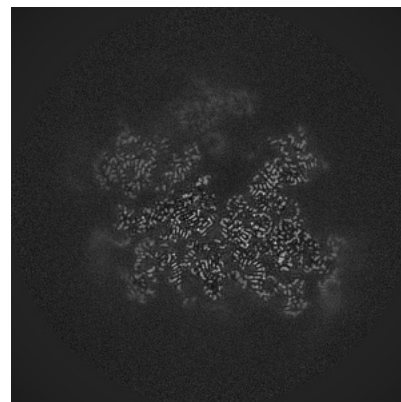
6.3.2 Raw map



X Index: 216



Y Index: 190

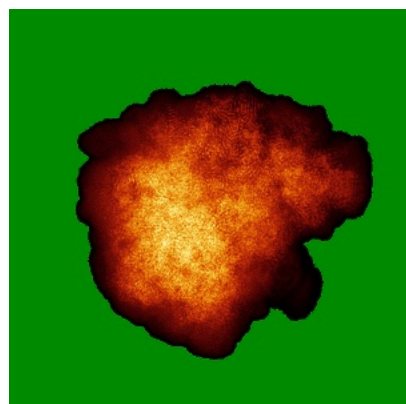


Z Index: 226

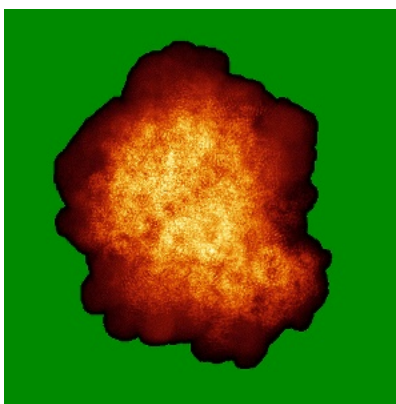
The images above show the largest variance slices of the map in three orthogonal directions.

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

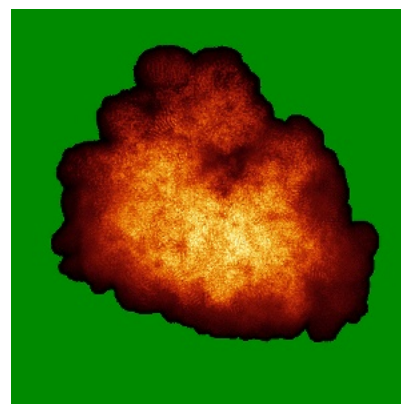
6.4.1 Primary map



X

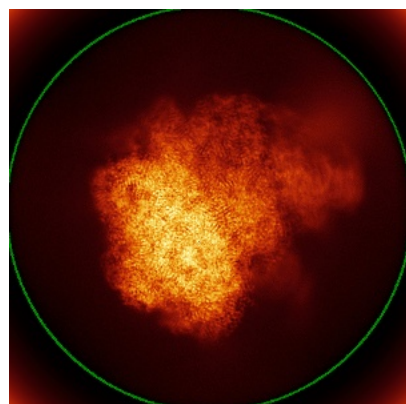


Y

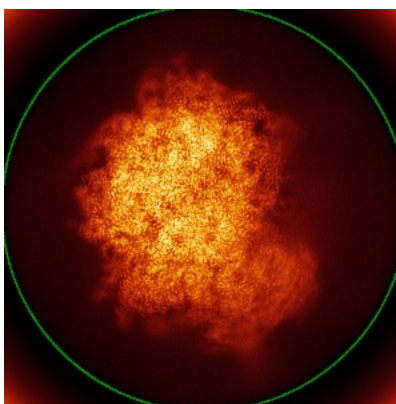


Z

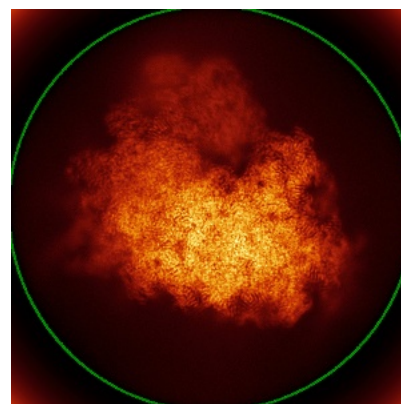
6.4.2 Raw map



X



Y

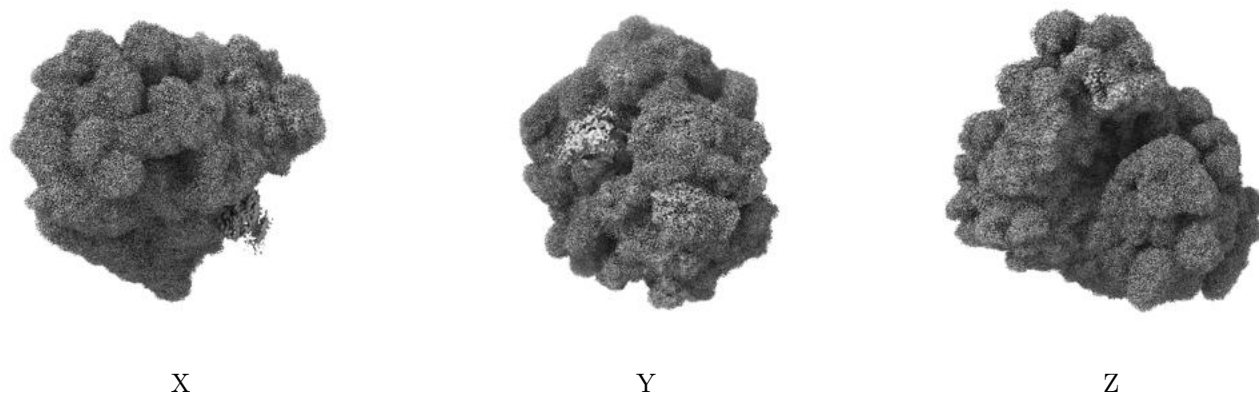


Z

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.

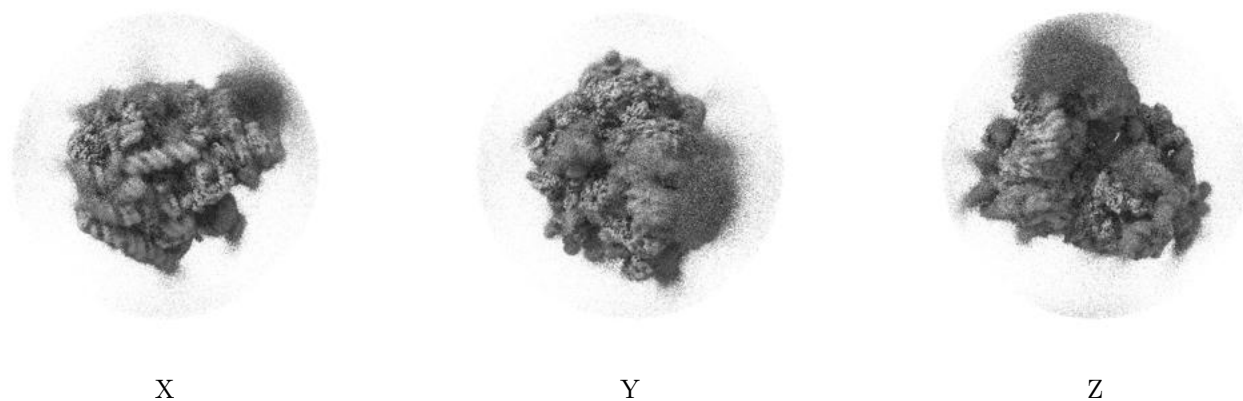
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.005. 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.

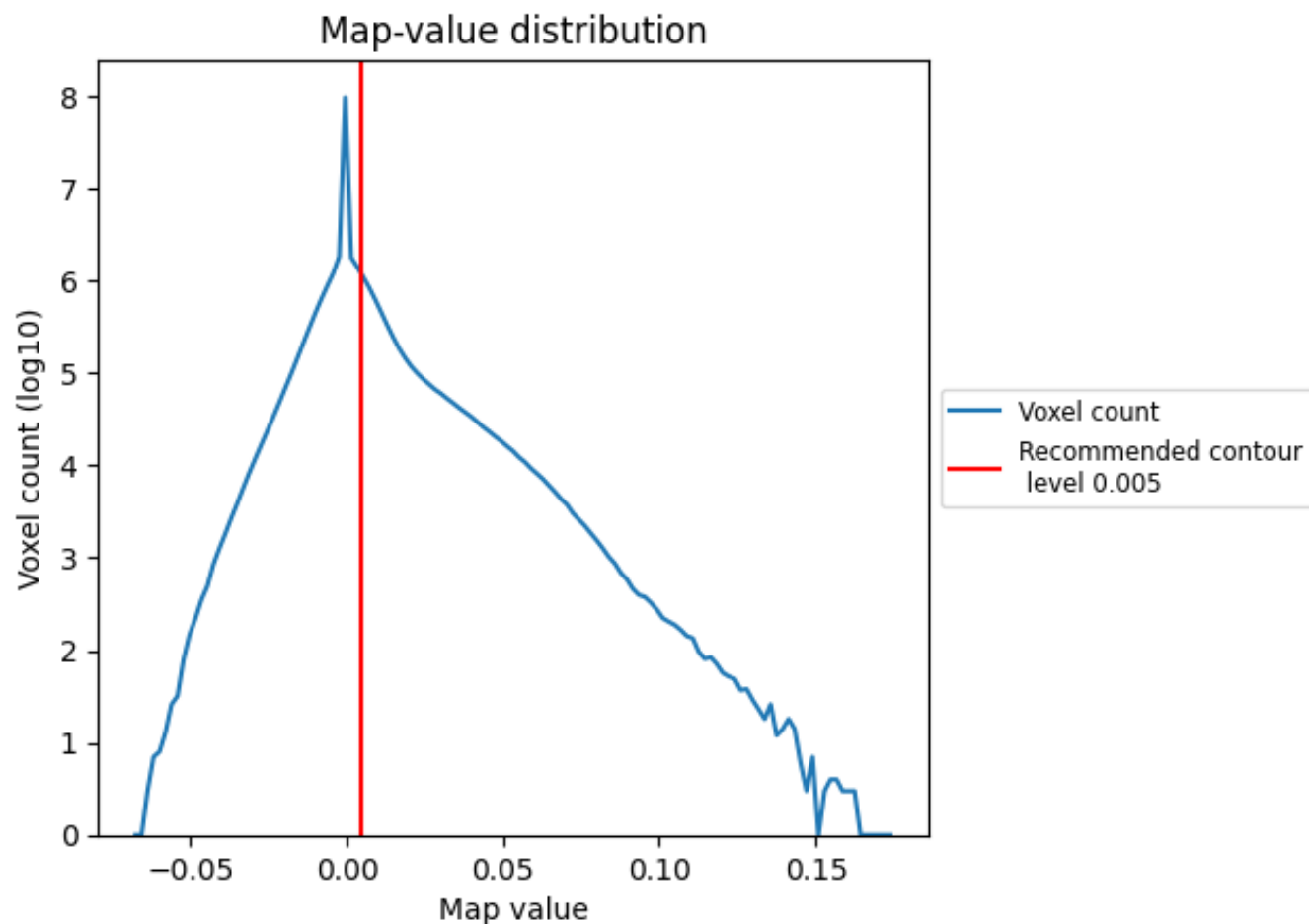
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

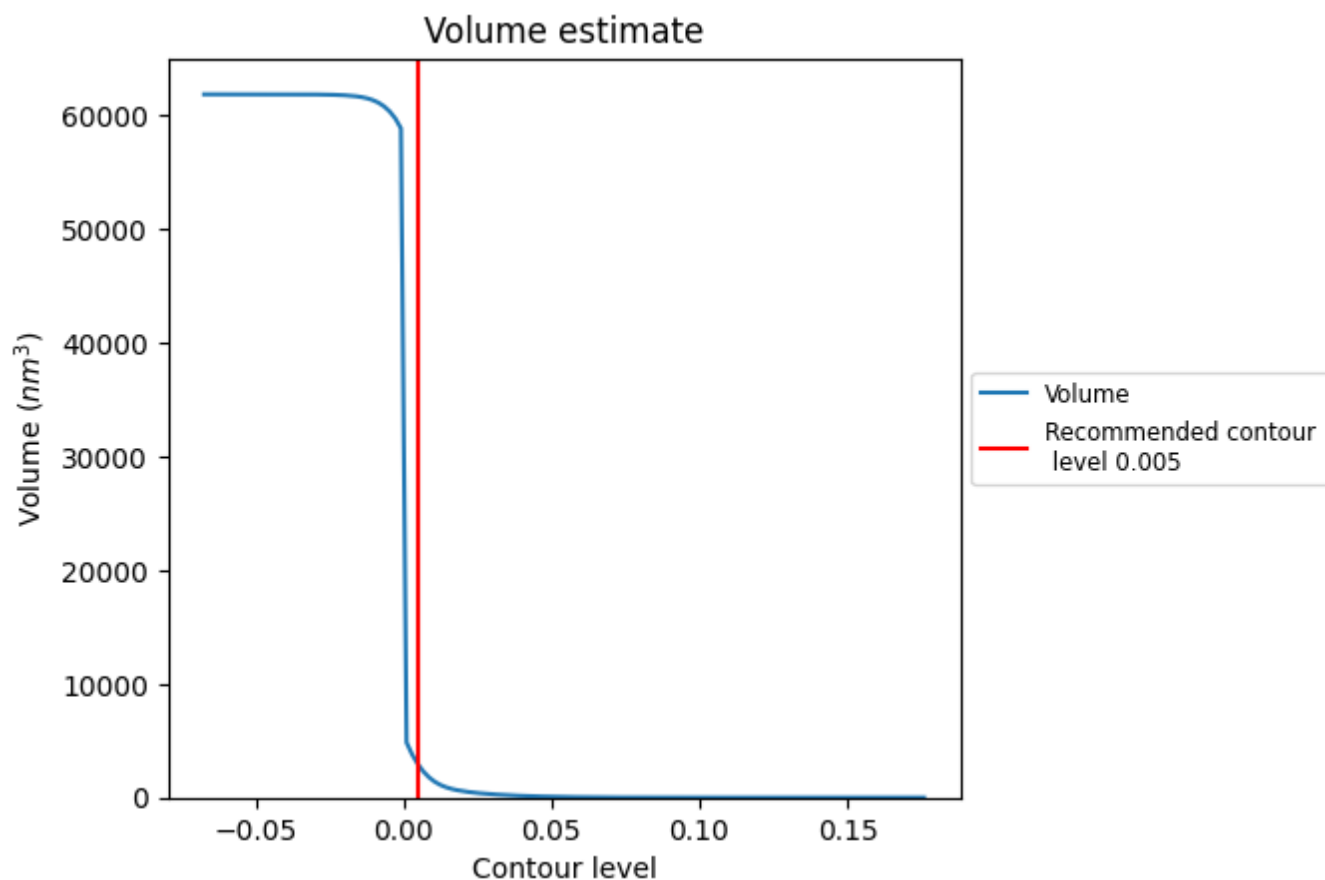
This section contains the results of statistical analysis of the map.

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.

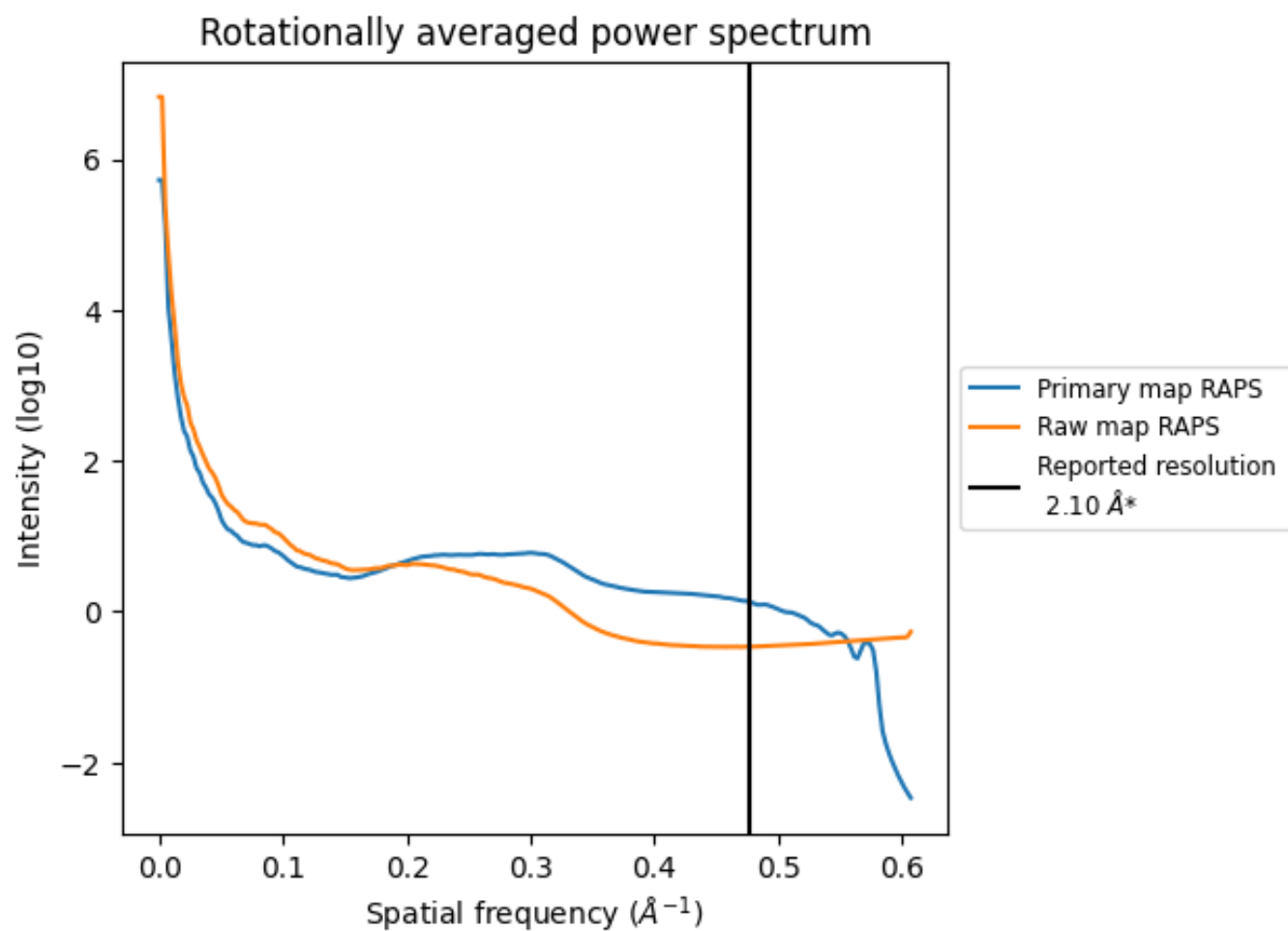
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2878 nm^3 ; this corresponds to an approximate mass of 2600 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 ⓘ

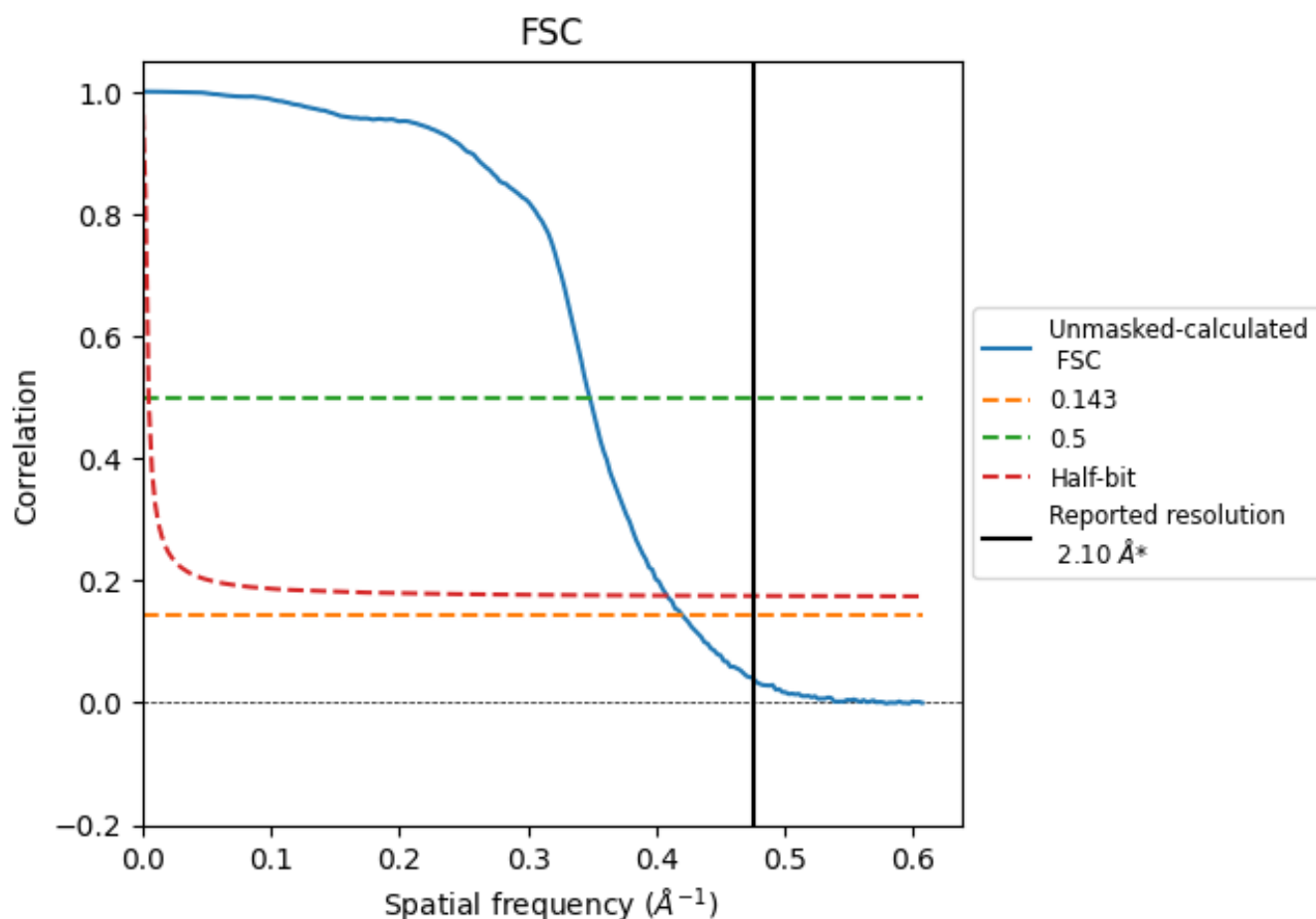


*Reported resolution corresponds to spatial frequency of 0.476 \AA^{-1}

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 0.476 \AA^{-1}

8.2 Resolution estimates [i](#)

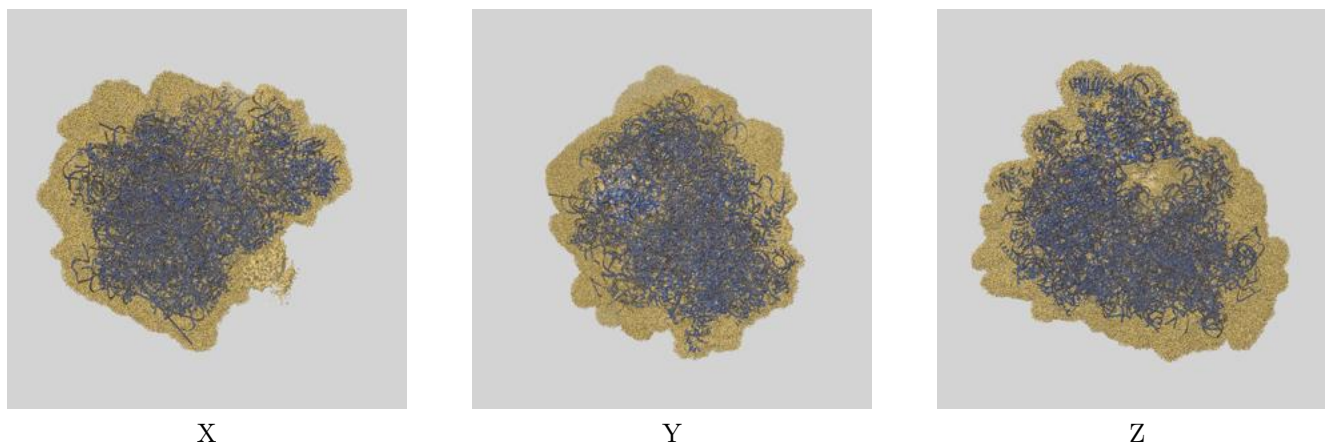
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.10	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	2.38	2.87	2.45

*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 2.38 differs from the reported value 2.1 by more than 10 %

9 Map-model fit [i](#)

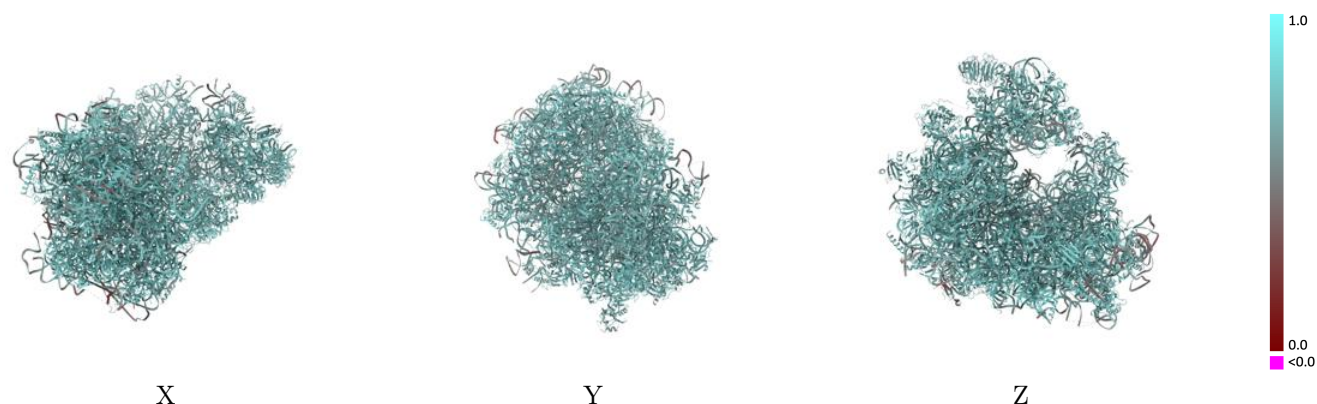
This section contains information regarding the fit between EMDB map EMD-56286 and PDB model 9TV2. Per-residue inclusion information can be found in [section 3](#) on [page 23](#).

9.1 Map-model overlay [i](#)



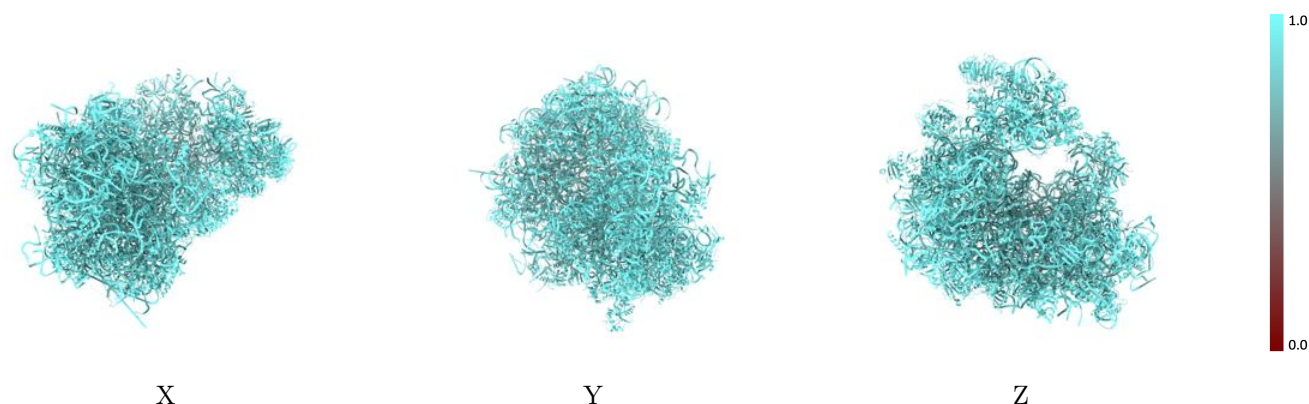
The images above show the 3D surface view of the map at the recommended contour level 0.005 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



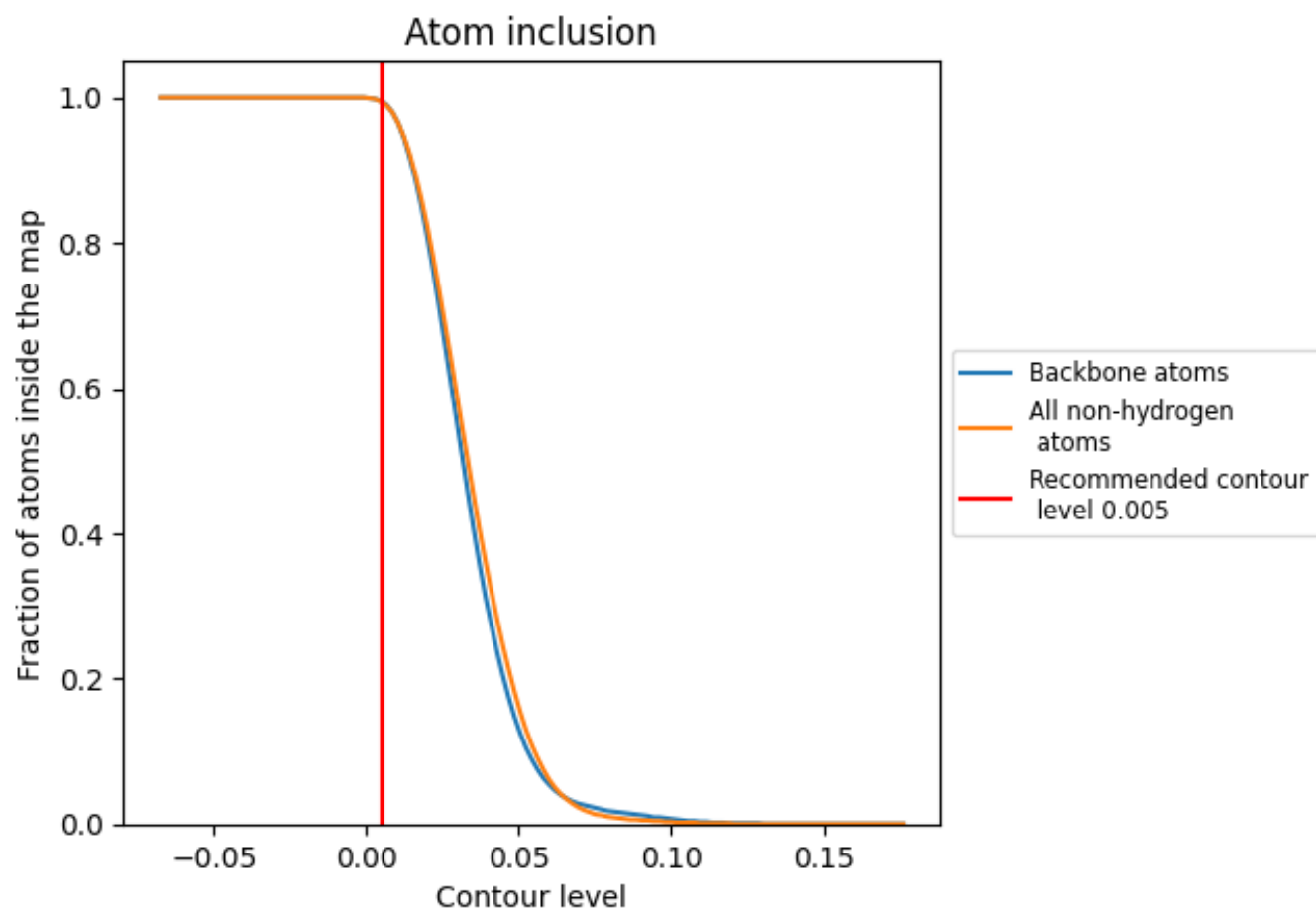
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.005).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 100% of all backbone atoms, 99% 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 (0.005) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9940	 0.7330
L5	 0.9920	 0.7280
L7	 1.0000	 0.7310
L8	 0.9970	 0.7390
LA	 0.9990	 0.7990
LB	 0.9990	 0.7880
LC	 1.0000	 0.7920
LD	 0.9980	 0.7270
LE	 0.9980	 0.7430
LF	 0.9980	 0.7890
LG	 0.9990	 0.7420
LH	 0.9990	 0.7390
LI	 0.9950	 0.7350
LJ	 0.9890	 0.6560
LL	 0.9980	 0.7730
LM	 0.9940	 0.7460
LN	 0.9990	 0.7990
LO	 0.9970	 0.7870
LP	 0.9980	 0.7930
LQ	 1.0000	 0.7960
LR	 0.9990	 0.7680
LS	 1.0000	 0.7820
LT	 0.9980	 0.7720
LU	 0.9880	 0.6210
LV	 1.0000	 0.7920
LW	 1.0000	 0.7690
LX	 0.9980	 0.7600
LY	 1.0000	 0.7780
LZ	 0.9980	 0.7260
La	 0.9990	 0.7930
Lb	 1.0000	 0.7480
Lc	 1.0000	 0.7490
Ld	 1.0000	 0.7750
Le	 1.0000	 0.8010
Lf	 1.0000	 0.8010







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Chain	Atom inclusion	Q-score
Lg	 0.9970	 0.7800
Lh	 0.9990	 0.7570
Li	 0.9940	 0.7460
Lj	 1.0000	 0.8010
Lk	 0.9930	 0.6930
Ll	 1.0000	 0.7840
Lm	 0.9970	 0.7460
Ln	 0.9940	 0.7110
Lo	 1.0000	 0.7710
Lp	 1.0000	 0.7860
Lr	 1.0000	 0.7830
S2	 0.9940	 0.7040
S6	 0.9790	 0.5830
SA	 0.9970	 0.7310
SB	 0.9960	 0.7220
SC	 0.9970	 0.7440
SD	 0.9950	 0.6870
SE	 0.9960	 0.7370
SF	 0.9960	 0.7260
SG	 0.9980	 0.6910
SH	 0.9950	 0.6860
SI	 0.9980	 0.7370
SJ	 1.0000	 0.7400
SK	 0.9930	 0.6880
SL	 1.0000	 0.7540
SN	 0.9990	 0.7360
SO	 1.0000	 0.7340
SP	 0.9930	 0.7230
SQ	 1.0000	 0.7290
SR	 0.9840	 0.6760
SS	 0.9960	 0.7190
ST	 0.9970	 0.7260
SU	 0.9880	 0.6920
SV	 0.9950	 0.7260
SW	 0.9980	 0.7590
SX	 0.9980	 0.7600
SY	 0.9950	 0.7230
SZ	 0.9980	 0.7060
Sa	 0.9970	 0.7340
Sb	 0.9960	 0.7150
Sc	 0.9970	 0.7020
Sd	 1.0000	 0.7410

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Chain	Atom inclusion	Q-score
Se	 0.9970	 0.7290
Sg	 0.9850	 0.6620