



Full wwPDB EM Validation Report ⓘ

Dec 17, 2025 – 07:51 PM EST

PDB ID : 9PBE / pdb_00009pbe
EMDB ID : EMD-71477
Title : In situ human 80S ribosome (composite map)
Authors : Wei, Z.; Yong, X.
Deposited on : 2025-06-26
Resolution : 2.19 Å (reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

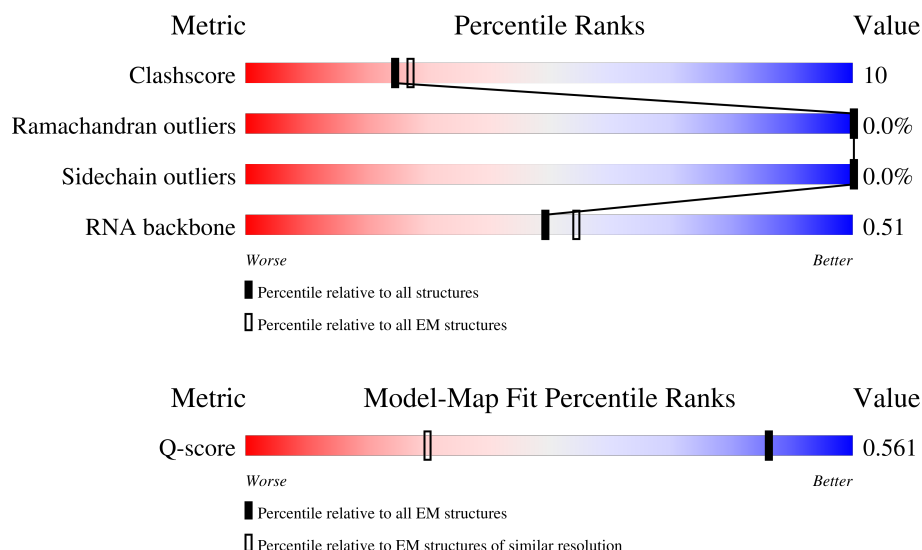
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive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

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.19 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	2745 (1.70 - 2.69)

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

Mol	Chain	Length	Quality of chain
1	CD	50	14% 60% 34% 6%
2	CI	31	65% 35%
3	L5	5070	36% 29% 7% 28%

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Mol	Chain	Length	Quality of chain
4	L7	120	
5	L8	156	
6	LA	248	
7	LB	402	
8	LC	368	
9	LD	293	
10	LE	250	
11	LF	225	
12	LG	241	
13	LH	190	
14	LI	213	
15	LJ	176	
16	LL	210	
17	LM	139	
18	LN	203	
19	LO	201	
20	LP	153	
21	LQ	187	
22	LR	187	
23	LS	175	
24	LT	159	
25	LU	101	
26	LV	131	
27	LW	118	
28	LX	120	

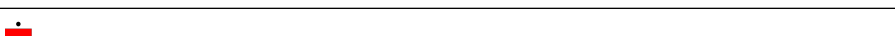
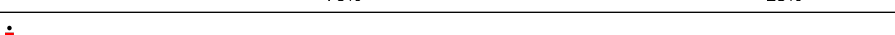
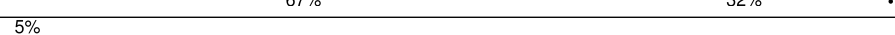
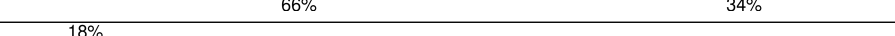
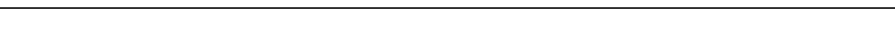
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Mol	Chain	Length	Quality of chain
29	LY	134	
30	LZ	135	
31	La	147	
32	Lb	109	
33	Lc	98	
34	Ld	107	
35	Le	128	
36	Lf	109	
37	Lg	114	
38	Lh	122	
39	Li	102	
40	Lj	86	
41	Lk	69	
42	Ll	50	
43	Lm	52	
44	Ln	24	
45	Lo	105	
46	Lp	91	
47	Lr	125	
48	Ls	196	
49	Lt	141	
50	Pt	74	
51	S2	1740	
52	SA	221	
53	SB	214	

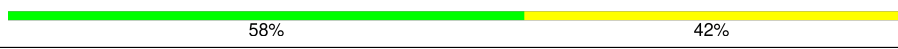
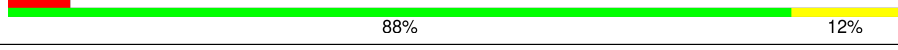
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Mol	Chain	Length	Quality of chain
54	SC	222	
55	SD	227	
56	SE	262	
57	SF	189	
58	SG	237	
59	SH	186	
60	SI	206	
61	SJ	185	
62	SK	98	
63	SL	153	
64	SM	122	
65	SN	150	
66	SO	140	
67	SP	121	
68	SQ	144	
69	SR	135	
70	SS	145	
71	ST	143	
72	SU	104	
73	SV	83	
74	SW	129	
75	SX	141	
76	SY	131	
77	SZ	75	
78	Sa	102	

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Mol	Chain	Length	Quality of chain
79	Sb	83	
80	Sc	64	
81	Sd	55	
82	Se	58	
83	Sf	67	
84	Sg	313	

2 Entry composition

There are 91 unique types of molecules in this entry. The entry contains 223497 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Isoform 2 of SERPINE1 mRNA-binding protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	CD	50	Total	C	N	O	S	0	0
			385	243	61	80	1		

- Molecule 2 is a protein called Transcription factor BTF3.

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

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

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

- Molecule 4 is a RNA chain called 5S rRNA [Homo sapiens].

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

- Molecule 5 is a RNA chain called 5.8S rRNA [Homo sapiens].

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 27 is a protein called Ribosomal protein L24.

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

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LW	?	-	SER	deletion	UNP A0A994J4A5
LW	?	-	GLU	deletion	UNP A0A994J4A5
LW	?	-	GLU	deletion	UNP A0A994J4A5
LW	?	-	ILE	deletion	UNP A0A994J4A5
LW	?	-	GLN	deletion	UNP A0A994J4A5
LW	?	-	LYS	deletion	UNP A0A994J4A5

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

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

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

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

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

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

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

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

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

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

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	PRO	deletion	UNP P47914

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Chain	Residue	Modelled	Actual	Comment	Reference
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	GLU	deletion	UNP P47914
Lb	?	-	VAL	deletion	UNP P47914
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	PRO	deletion	UNP P47914
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	ILE	deletion	UNP P47914
Lb	?	-	PRO	deletion	UNP P47914
Lb	?	-	LYS	deletion	UNP P47914
Lb	?	-	GLY	deletion	UNP P47914

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lt	?	-	PRO	deletion	UNP P30050
Lt	?	-	PRO	deletion	UNP P30050
Lt	?	-	ARG	deletion	UNP P30050
Lt	?	-	ASP	deletion	UNP P30050
Lt	?	-	ARG	deletion	UNP P30050
Lt	?	-	LYS	deletion	UNP P30050
Lt	?	-	LYS	deletion	UNP P30050
Lt	?	-	GLN	deletion	UNP P30050
Lt	?	-	LYS	deletion	UNP P30050
Lt	?	-	ASN	deletion	UNP P30050
Lt	?	-	ILE	deletion	UNP P30050
Lt	?	-	LYS	deletion	UNP P30050

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Chain	Residue	Modelled	Actual	Comment	Reference
Lt	?	-	HIS	deletion	UNP P30050
Lt	?	-	SER	deletion	UNP P30050
Lt	?	-	GLY	deletion	UNP P30050
Lt	?	-	ASN	deletion	UNP P30050

- Molecule 50 is a RNA chain called P site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Pt	74	Total	C	N	O	P	0	0
			1576	705	285	513	73		

- Molecule 51 is a RNA chain called 18S rRNA.

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

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

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

- Molecule 53 is a protein called 40S ribosomal protein S3a.

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

- Molecule 54 is a protein called 40S ribosomal protein S2.

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

- Molecule 55 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 56 is a protein called Small ribosomal subunit protein eS4, X isoform.

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

- Molecule 57 is a protein called 40S ribosomal protein S5.

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

- Molecule 58 is a protein called 40S ribosomal protein S6.

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

- Molecule 59 is a protein called Small ribosomal subunit protein eS7.

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

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SH	?	-	SER	deletion	UNP P62081
SH	?	-	ARG	deletion	UNP P62081
SH	?	-	THR	deletion	UNP P62081

- Molecule 60 is a protein called 40S ribosomal protein S8.

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

- Molecule 61 is a protein called 40S ribosomal protein S9.

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

- Molecule 62 is a protein called 40S ribosomal protein S10.

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

- Molecule 63 is a protein called 40S ribosomal protein S11.

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

- Molecule 64 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 65 is a protein called 40S ribosomal protein S13.

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

- Molecule 66 is a protein called Small ribosomal subunit protein uS11.

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

- Molecule 67 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 68 is a protein called Small ribosomal subunit protein uS9.

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

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

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

- Molecule 70 is a protein called 40S ribosomal protein S18.

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

- Molecule 71 is a protein called 40S ribosomal protein S19.

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

- Molecule 72 is a protein called 40S ribosomal protein S20.

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

- Molecule 73 is a protein called Small ribosomal subunit protein eS21.

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

- Molecule 74 is a protein called 40S ribosomal protein S15a.

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

- Molecule 75 is a protein called 40S ribosomal protein S23.

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

- Molecule 76 is a protein called 40S ribosomal protein S24.

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

- Molecule 77 is a protein called Small ribosomal subunit protein eS25.

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

- Molecule 78 is a protein called 40S ribosomal protein S26.

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

- Molecule 79 is a protein called Small ribosomal subunit protein eS27.

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

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

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

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

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

- Molecule 82 is a protein called Small ribosomal subunit protein eS30.

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

- Molecule 83 is a protein called Ubiquitin-40S ribosomal protein S27a.

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

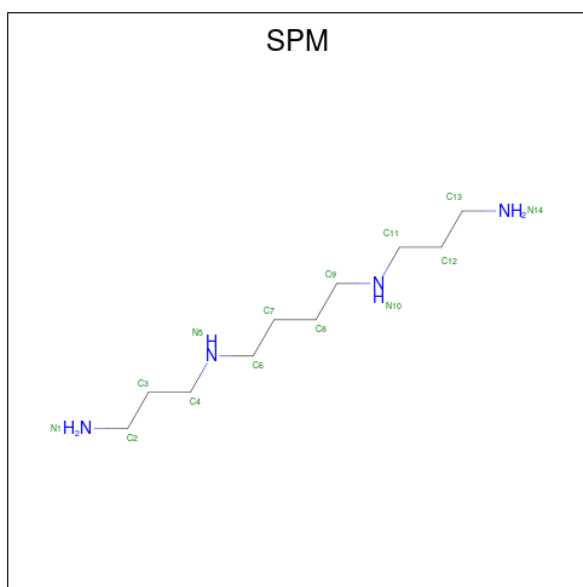
- Molecule 84 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 85 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

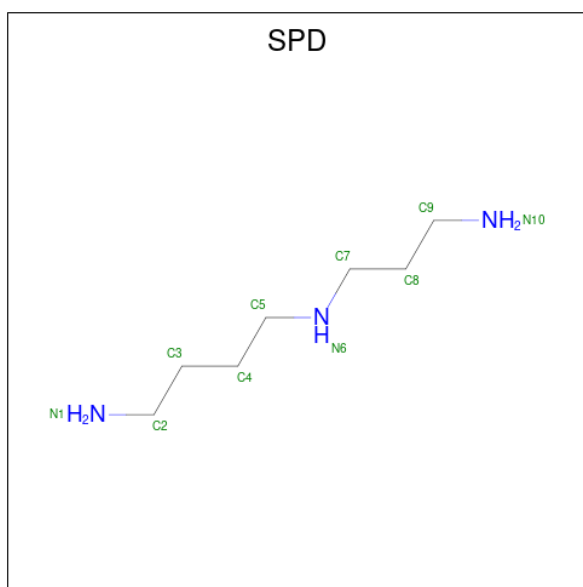
Mol	Chain	Residues	Atoms		AltConf
85	L5	185	Total	Mg	0
			185	185	
85	L7	3	Total	Mg	0
			3	3	
85	L8	5	Total	Mg	0
			5	5	
85	LA	1	Total	Mg	0
			1	1	
85	LP	1	Total	Mg	0
			1	1	
85	LV	1	Total	Mg	0
			1	1	
85	Le	1	Total	Mg	0
			1	1	
85	S2	28	Total	Mg	0
			28	28	

- Molecule 86 is SPERMINE (CCD ID: SPM) (formula: C₁₀H₂₆N₄) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	L5	1	Total	C	N	0
			14	10	4	
86	S2	1	Total	C	N	0
			14	10	4	

- Molecule 87 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L5	1	Total	C	N	0
			10	7	3	
87	L8	1	Total	C	N	0
			10	7	3	
87	LN	1	Total	C	N	0
			10	7	3	
87	S2	1	Total	C	N	0
			10	7	3	
87	S2	1	Total	C	N	0
			10	7	3	

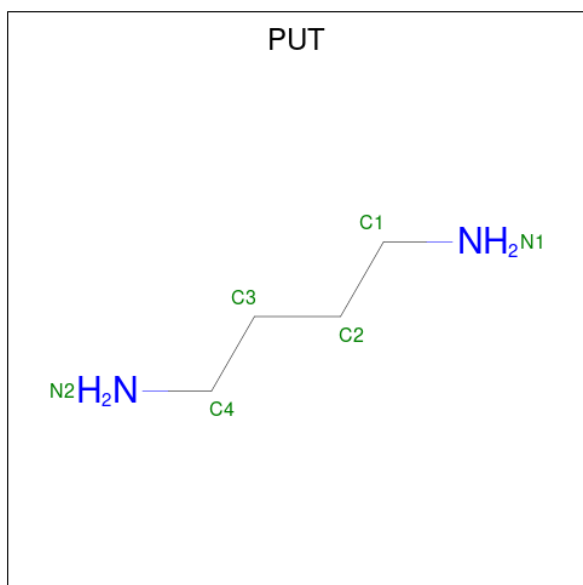
- Molecule 88 is POTASSIUM ION (CCD ID: K) (formula: K) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
88	L5	74	Total	K	0
			74	74	
88	Lg	1	Total	K	0
			1	1	

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

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

- Molecule 90 is 1,4-DIAMINOBUTANE (CCD ID: PUT) (formula: $C_4H_{12}N_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
90	S2	1	Total	C	N	0
			6	4	2	

- Molecule 91 is water.

Mol	Chain	Residues	Atoms		AltConf
91	L5	3311	Total	O	0
			3311	3311	
91	L7	16	Total	O	0
			16	16	
91	L8	118	Total	O	0
			118	118	
91	LA	43	Total	O	0
			43	43	
91	LB	66	Total	O	0
			66	66	
91	LC	45	Total	O	0
			45	45	
91	LD	1	Total	O	0
			1	1	
91	LG	13	Total	O	0
			13	13	
91	LH	1	Total	O	0
			1	1	
91	LI	7	Total	O	0
			7	7	
91	LL	33	Total	O	0
			33	33	
91	LN	99	Total	O	0
			99	99	
91	LO	58	Total	O	0
			58	58	
91	LP	38	Total	O	0
			38	38	
91	LQ	21	Total	O	0
			21	21	
91	LR	12	Total	O	0
			12	12	
91	LS	2	Total	O	0
			2	2	
91	LT	8	Total	O	0
			8	8	
91	LU	1	Total	O	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
91	LV	41	Total 41	O 41	0
91	LW	15	Total 15	O 15	0
91	LX	10	Total 10	O 10	0
91	La	38	Total 38	O 38	0
91	Lb	14	Total 14	O 14	0
91	Ld	1	Total 1	O 1	0
91	Le	50	Total 50	O 50	0
91	Lf	13	Total 13	O 13	0
91	Lg	2	Total 2	O 2	0
91	Lh	8	Total 8	O 8	0
91	Li	10	Total 10	O 10	0
91	Lj	29	Total 29	O 29	0
91	Ll	5	Total 5	O 5	0
91	Ln	2	Total 2	O 2	0
91	Lo	37	Total 37	O 37	0
91	Lp	4	Total 4	O 4	0
91	Lr	3	Total 3	O 3	0
91	Pt	6	Total 6	O 6	0
91	S2	341	Total 341	O 341	0
91	SE	12	Total 12	O 12	0
91	SF	5	Total 5	O 5	0

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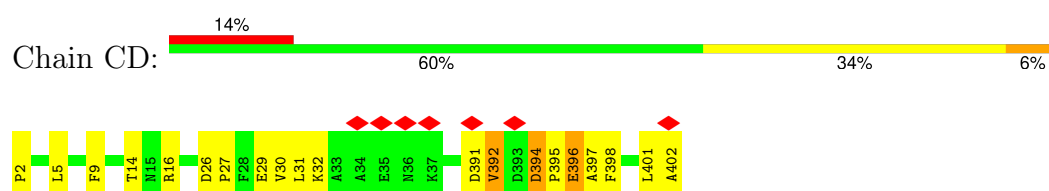
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Mol	Chain	Residues	Atoms		AltConf
91	SH	1	Total 1	O 1	0
91	SI	14	Total 14	O 14	0
91	SJ	1	Total 1	O 1	0
91	SL	22	Total 22	O 22	0
91	SP	1	Total 1	O 1	0
91	SQ	7	Total 7	O 7	0
91	SS	8	Total 8	O 8	0
91	ST	2	Total 2	O 2	0
91	SU	3	Total 3	O 3	0
91	SX	8	Total 8	O 8	0
91	SZ	1	Total 1	O 1	0
91	Sc	1	Total 1	O 1	0
91	Sd	3	Total 3	O 3	0

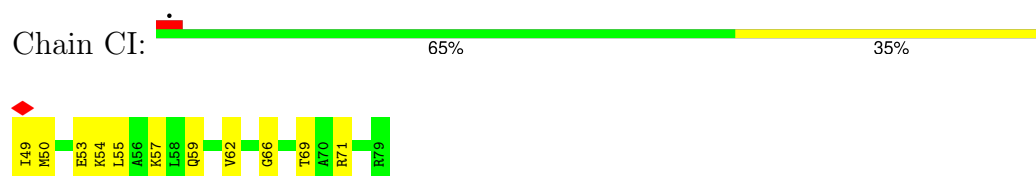
3 Residue-property plots

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.

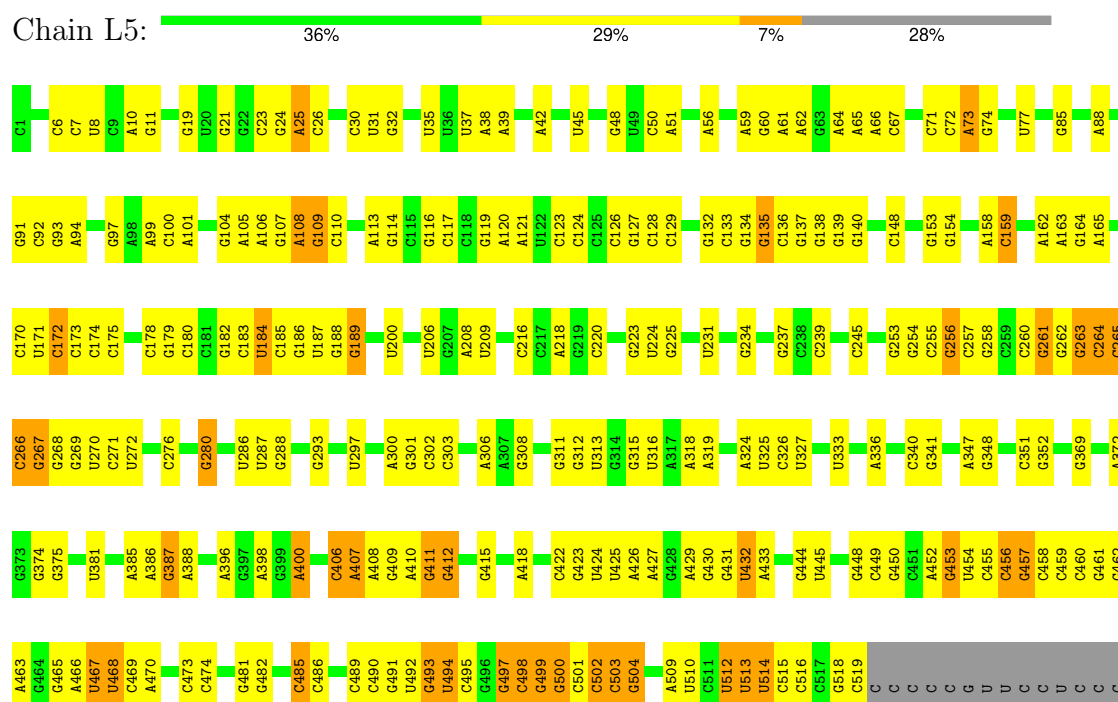
- Molecule 1: Isoform 2 of SERPINE1 mRNA-binding protein 1



- Molecule 2: Transcription factor BTF3



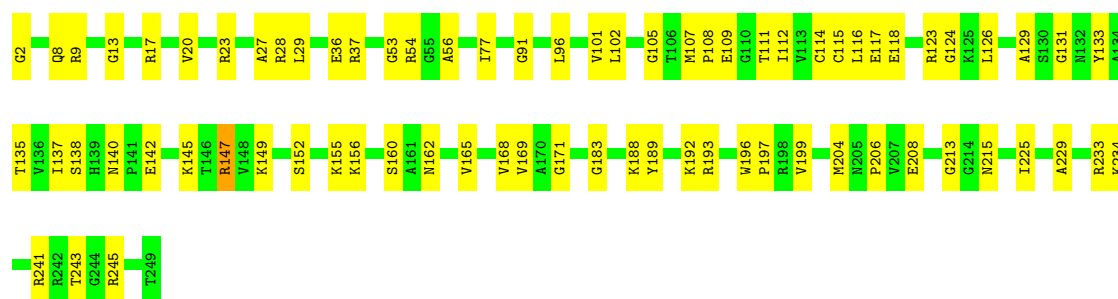
- Molecule 3: 28S rRNA



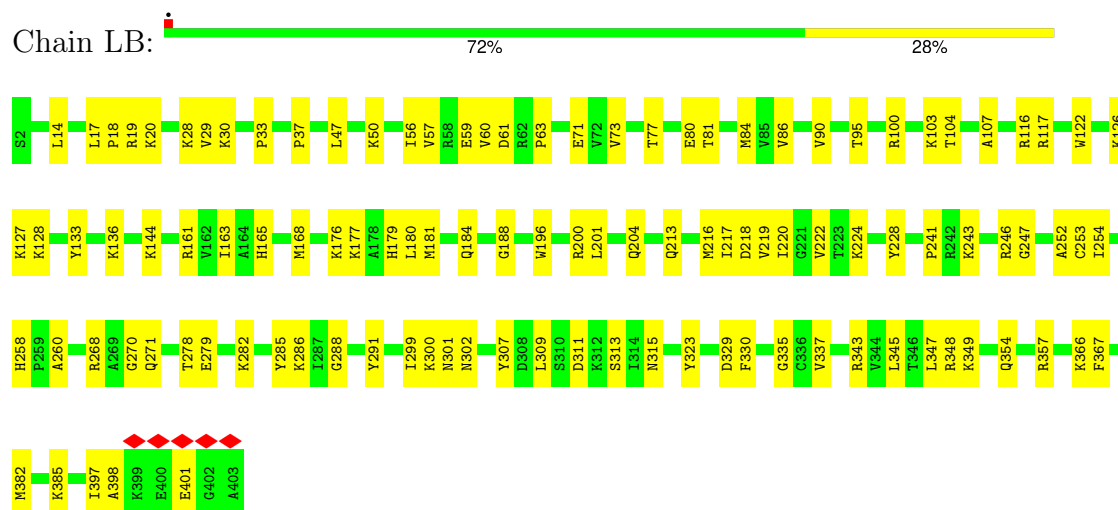
G1628	A1524	G1435	G1347	G1199	A	G1075	A	G933	C	C	C738	C858	G	G
A1525	A1525	C1436	U1348	G1200	C	C1076	A	C934	G	C	G739	G859	G	A
A1534	A1534	C1437	C1350	U1201	G	A1077	U	A935	U	C	G742	A860	C	C
C1535	C1535	U1438	G1351	C1202	G	C1078	C	C936	C	C	G745	C861	U	C
U1536	U1536	C1439	G1352	G1203	C	C1079	C	U937	G	C	A746	C862	C	C
A1537	A1537	C1440	G1353	C1210	G	C1081	C	A943	G	C	A747	G663	C	C
U1538	U1538	C1441	A1354	G1211	G	C1082	C	A944	C	C	G748	G664	U	U
G1539	G1539	C1442	G1355	C1214	G	C1083	C	U945	G	C	A749	G665	G	C
U1540	U1540	A1443	U1356	C1215	G	C1084	C	C946	G	C	G750	A667	C	C
G1544	G1544	C1444	C1357	C1216	U	C1085	C	A956	C	C	U754	C668	G	A
U1547	U1547	U1445	G1358	G1217	C	C1086	C	A958	G	C	C755	C669	C	C
G1548	G1548	G1359	G1359	G1218	C	A1087	A	G959	C	C	G759	C673	U	C
C1551	C1551	C1448	C1365	G1219	C	C1088	G	A960	G	C	G760	G674	G	G
G1552	G1552	G1449	G1366	G1220	G	C1091	G	G961	C	C	G	C675	C	C
A1553	A1553	U1297	G1367	G1221	C	G1092	U	C962	C	U	G	C676	G	G
G1554	G1554	C1298	A1368	A1222	C	C1093	C	G965	G	C	C	G677	G	C
U1555	U1555	G1299	G1369	G	C	G1094	C	A966	C	C	C	C678	C	C
C1556	C1556	C1300	U1370	U	C	A1095	U	C967	G	C	C	C679	G	C
C1557	C1557	A1301	C1378	G	G	C1096	U	C968	G	C	C	G880	U	C
A1558	A1558	A1302	U1379	C	G	C1097	C	C969	C	U	C	C	C	C
G1559	G1559	A1303	C1379	U	C	G1098	C	G970	G	C	C	C	C	C
G1562	G1562	C1304	A1387	C	U	C1099	C	U971	C	C	C	C	C	C
A1563	A1563	C1305	U	U	C	U1100	C	C972	G	C	C	A886	G	C
A1564	A1564	C1306	C	C	G	C	C	C977	G	C	C	U887	G	C
A1565	A1565	A1307	G1390	C	G	U	C	C978	G	C	C	G	C	C
U1566	U1566	C1308	A1391	G	G	C	C	G979	A	C	C	U888	C	C
U1567	U1567	C1309	A1392	G	G	C	C	C980	C	C	C	U889	C	C
C1568	C1568	C1310	G1393	G1234	G	C	C	U980	C	C	C	C690	C	C
G1574	G1574	G1314	U1394	G1235	C	A	C	C981	C	C	C	C691	C	C
U1577	U1577	C1315	G1395	C1239	C	C	C	U982	C	C	C	A692	G	C
U1578	U1578	C1316	A1397	G1240	C	C	C	C983	A	C	C	C699	C	C
C1579	C1579	U1317	C1398	C1241	C	U	C	C984	A	C	C	G700	C	C
U1582	U1582	G1318	G1399	G1242	C	C	C	C985	C	C	C	U701	C	C
A1583	A1583	U1319	G1400	C1243	C	C	C	U989	C	C	C	U702	C	C
U1588	U1588	U1320	C1401	G1244	C	U	C	C990	C	C	C	G703	C	C
C1589	C1589	G1321	C1402	C1245	C	C	C	C	C	C	C	C704	C	C
U1590	U1590	A1322	G1403	G1246	C	C	C	C	C	C	C	C705	U	C
U1591	U1591	A1323	C1404	C1251	C	U	C	C	C	C	C	C706	C	C
U1596	U1596	C1332	C1405	C1252	C	C	C	C	C	C	C	A711	C	C
A1601	A1601	A1333	G1406	C1253	C	C	C	C	C	C	C	C712	C	C
G1604	G1604	A1334	C1407	A1254	C	G	C	C	C	C	C	G715	U	C
G1605	G1605	C1337	U1410	C1257	C	C	C	C	C	C	C	C716	C	C
C1702	C1702	G1338	G1415	G1258	C	C	C	C	C	C	C	U717	C	C
C1703	C1703	U1339	C1416	G1259	C	C	C	C	C	C	C	C718	C	C
C1704	C1704	C1340	C1417	G1266	C	C	C	C	C	C	C	C724	C	C
A1613	A1613	U1341	A1420	C1267	C	C	C	C	C	C	C	G729	C	C
G1705	G1705	A1342	G1426	G1268	C	C	C	C	C	C	C	U730	C	C
A1706	A1706	G1343	C1431	G1269	C	C	C	C	C	C	C	G731	U	C
C	C	A1344	G1432	G1271	C	C	C	C	C	C	C	G652	G	C
G	G	C1345	C1432	C1272	C	C	C	C	C	C	C	G643	C	C
C	C	A1346	C1432	G1273	C	C	C	C	C	C	C	G644	C	C
A	A	C1346	C1432	A1274	C	C	C	C	C	C	C	G645	C	C
				G1275	C	C	C	C	C	C	C	G646	C	C



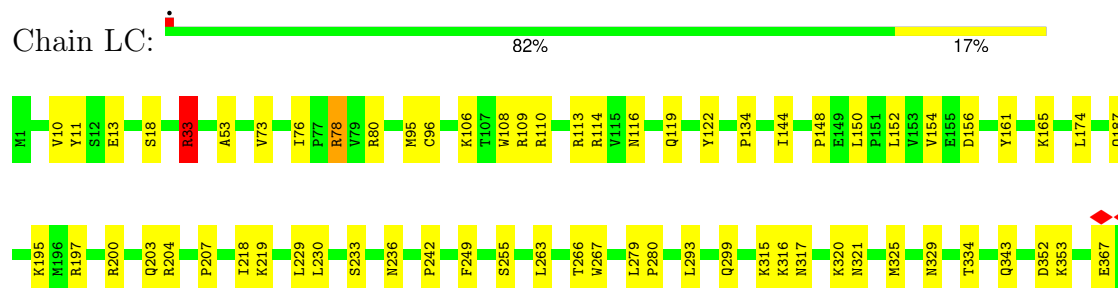




• Molecule 7: Large ribosomal subunit protein uL3



• Molecule 8: 60S ribosomal protein L4

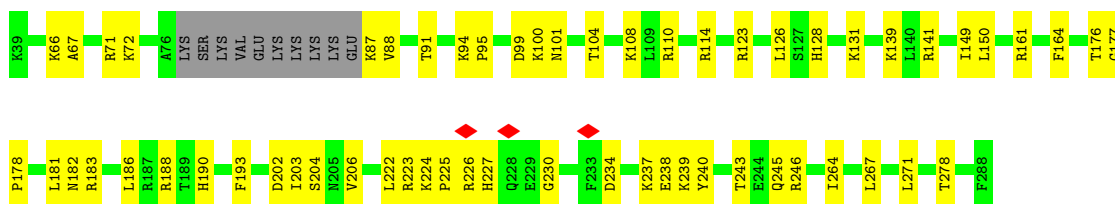


• Molecule 9: Large ribosomal subunit protein uL18



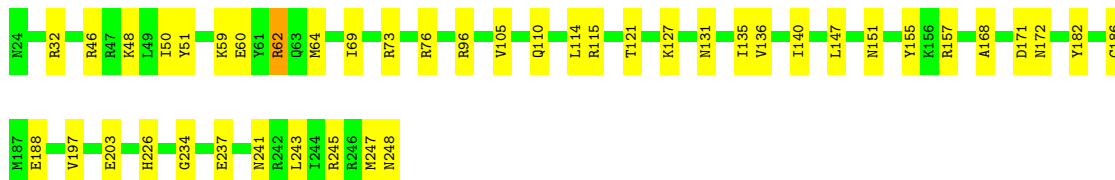
• Molecule 10: Large ribosomal subunit protein eL6





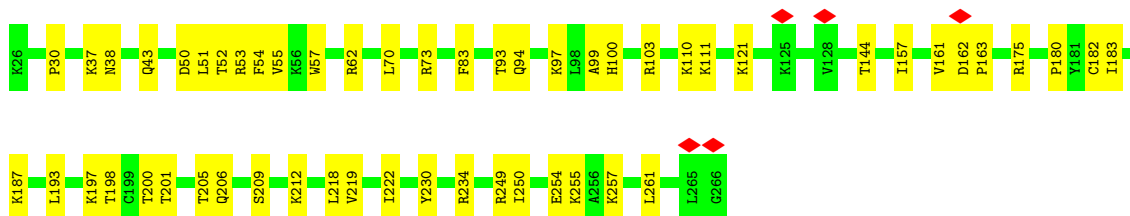
- Molecule 11: 60S ribosomal protein L7

Chain LF: 81% 19%



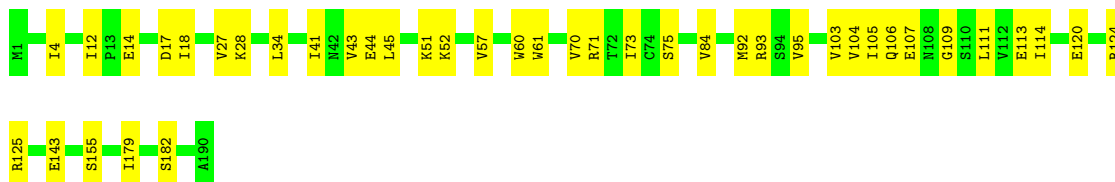
- Molecule 12: 60S ribosomal protein L7a

Chain LG: 78% 22%



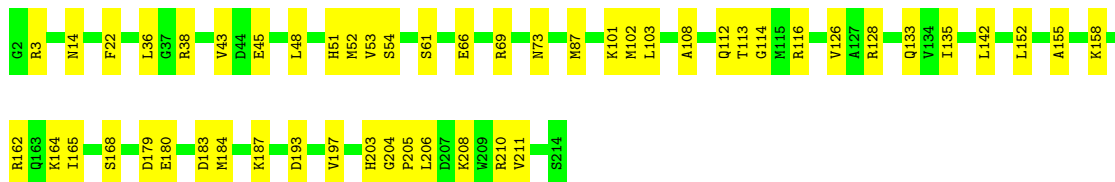
- Molecule 13: 60S ribosomal protein L9

Chain LH: 78% 22%



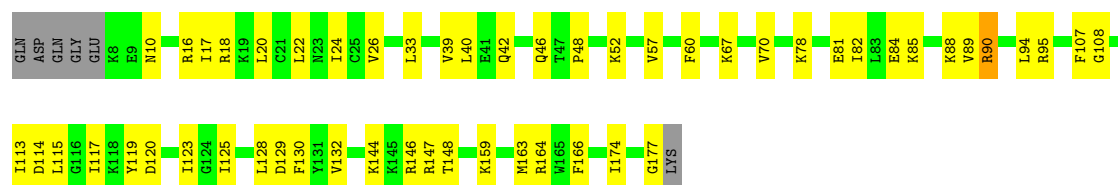
- Molecule 14: Ribosomal protein uL16-like

Chain LI: 76% 24%



- Molecule 15: 60S ribosomal protein L11

Chain LJ:  66% 30% . .



- Molecule 16: Large ribosomal subunit protein eL13

Chain LL:  80% 20%



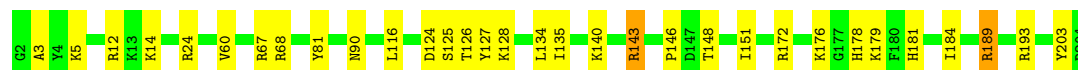
- Molecule 17: 60S ribosomal protein L14

Chain LM:  79% 21%



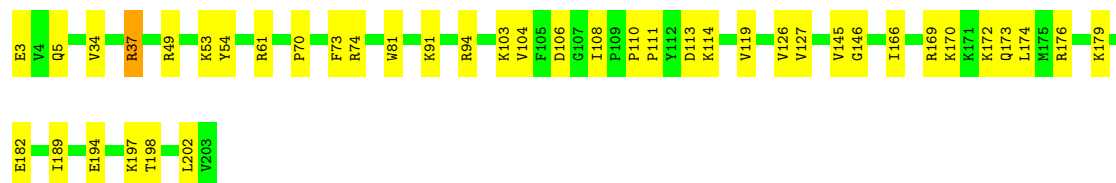
- Molecule 18: 60S ribosomal protein L15

Chain LN:  84% 15% .



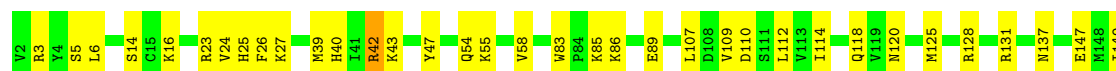
- Molecule 19: 60S ribosomal protein L13a

Chain LO:  80% 20%



- Molecule 20: 60S ribosomal protein L17

Chain LP:  75% 24% .





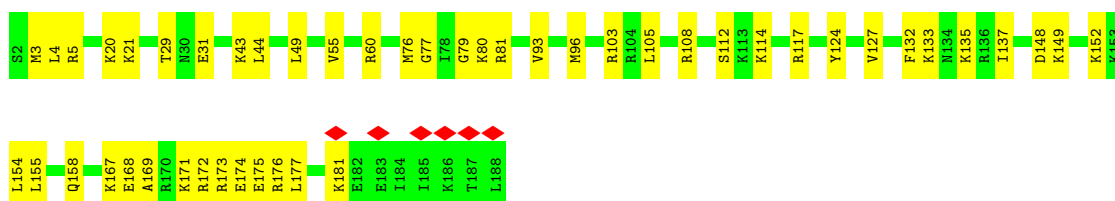
- Molecule 21: 60S ribosomal protein L18

Chain LQ: 88% 12%



- Molecule 22: 60S ribosomal protein L19

Chain LR: 74% 26%



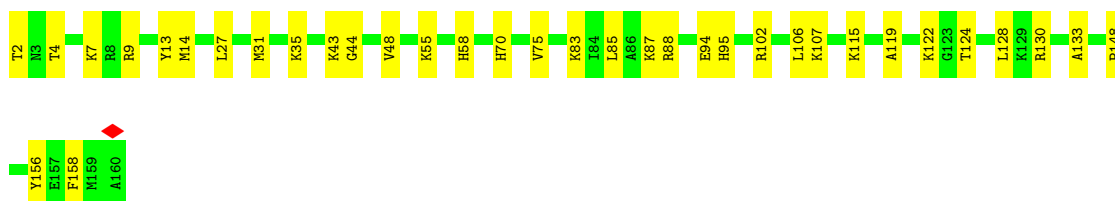
- Molecule 23: 60S ribosomal protein L18a

Chain LS: 83% 17%



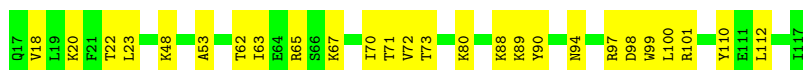
- Molecule 24: 60S ribosomal protein L21

Chain LT: 78% 22%



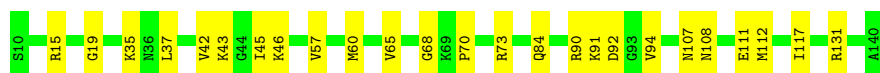
- Molecule 25: Heparin-binding protein HBp15

Chain LU: 74% 26%

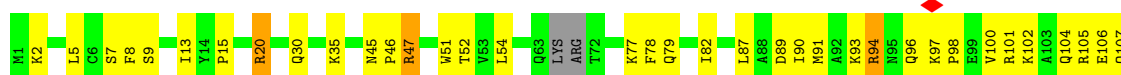


- Molecule 26: 60S ribosomal protein L23

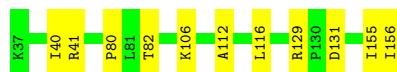
Chain LV: 81% 19%



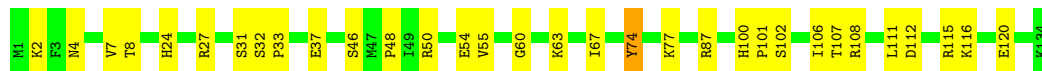
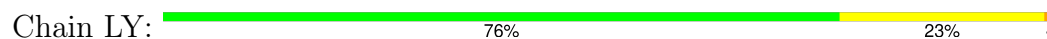
• Molecule 27: Ribosomal protein L24



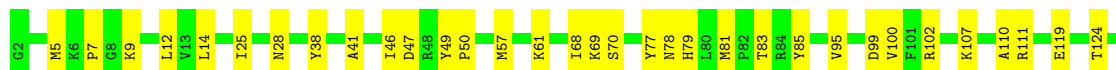
• Molecule 28: 60S ribosomal protein L23a



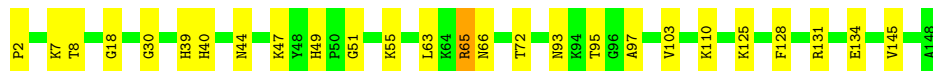
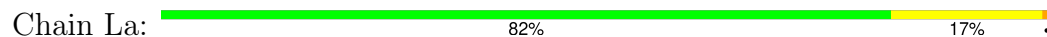
• Molecule 29: 60S ribosomal protein L26



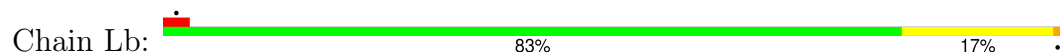
• Molecule 30: 60S ribosomal protein L27

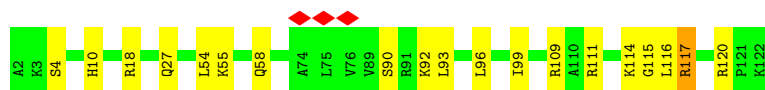


• Molecule 31: 60S ribosomal protein L27a

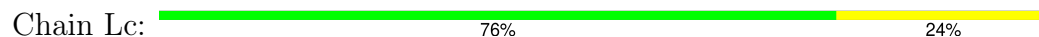


• Molecule 32: Large ribosomal subunit protein eL29

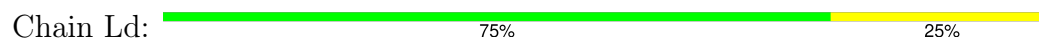




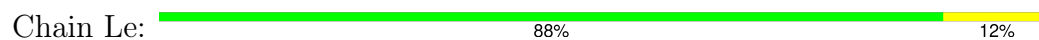
- Molecule 33: 60S ribosomal protein L30



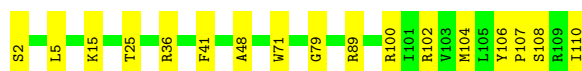
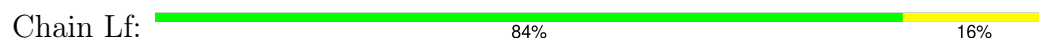
- Molecule 34: 60S ribosomal protein L31



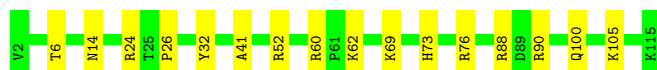
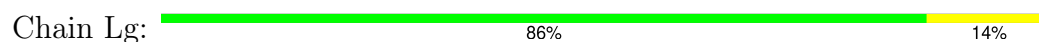
- Molecule 35: 60S ribosomal protein L32



- Molecule 36: 60S ribosomal protein L35a



- Molecule 37: 60S ribosomal protein L34



- Molecule 38: 60S ribosomal protein L35



- Molecule 39: 60S ribosomal protein L36





- Molecule 40: 60S ribosomal protein L37

Chain Lj: 77% 23%



- Molecule 41: 60S ribosomal protein L38

Chain Lk: 78% 22%



- Molecule 42: 60S ribosomal protein L39

Chain Ll: 70% 28% .



- Molecule 43: Large ribosomal subunit protein eL40

Chain Lm: 79% 21%



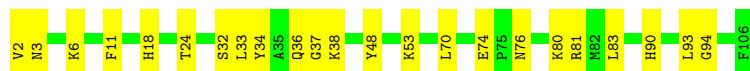
- Molecule 44: 60S ribosomal protein L41

Chain Ln: 75% 21% .



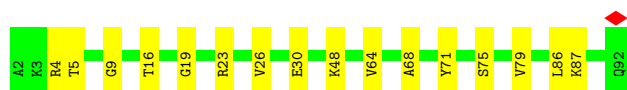
- Molecule 45: 60S ribosomal protein L36a

Chain Lo: 78% 22%



- Molecule 46: 60S ribosomal protein L37a

Chain Lp: 82% 18%



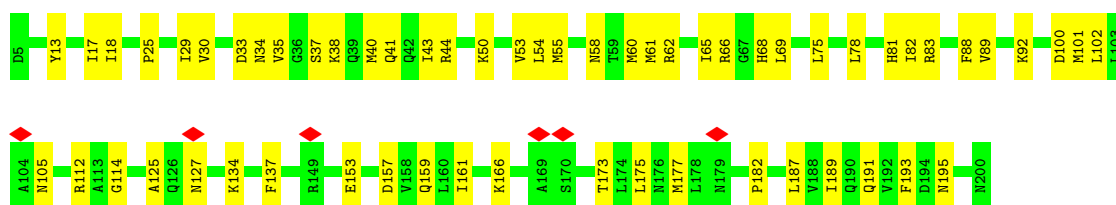
- Molecule 47: 60S ribosomal protein L28

Chain Lr: 88% 12%



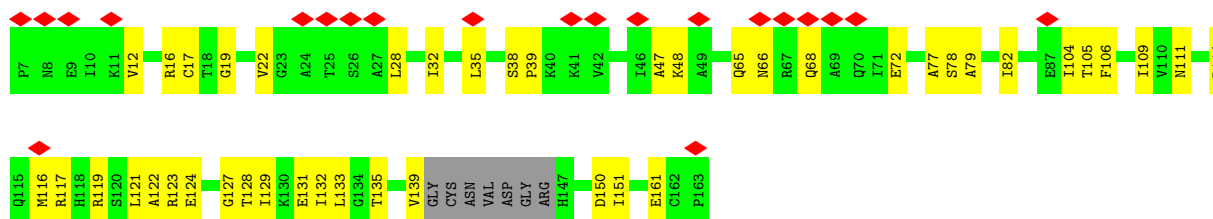
- Molecule 48: 60S acidic ribosomal protein P0

Chain Ls: 70% 30%



- Molecule 49: Large ribosomal subunit protein uL11

Chain Lt: 15% 64% 31% 5%



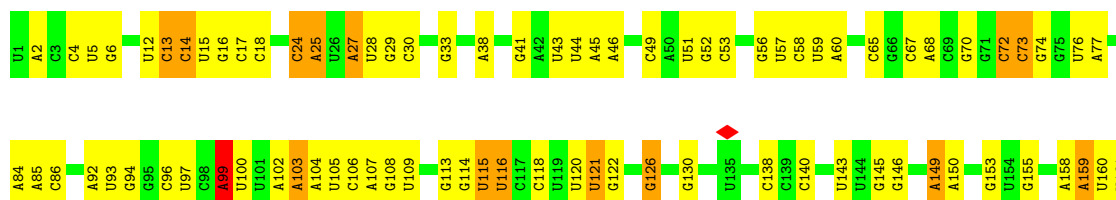
- Molecule 50: P site tRNA

Chain Pt: 50% 42% 8%

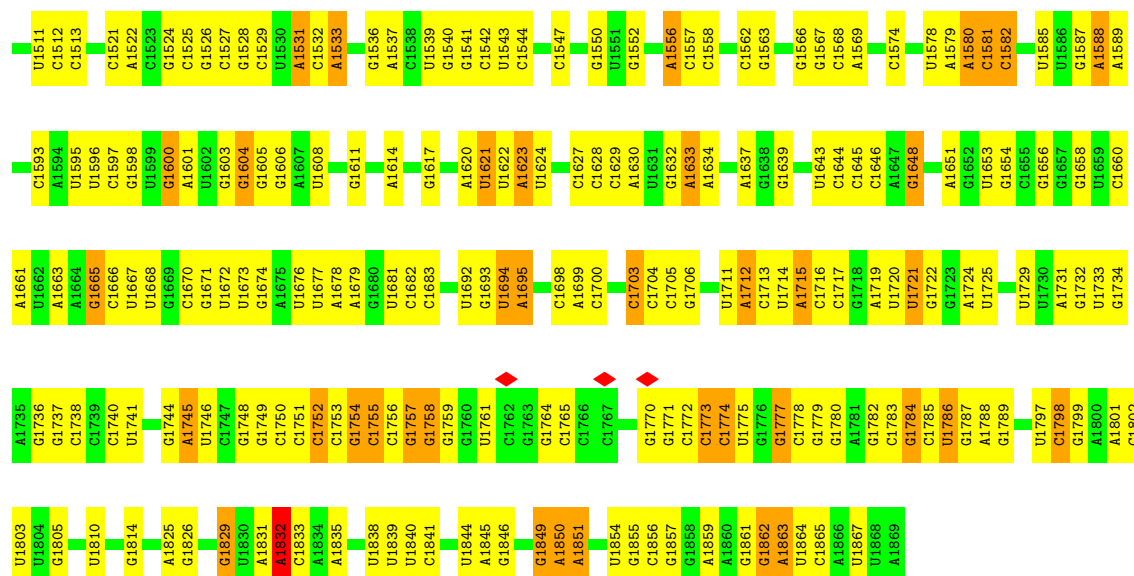


- Molecule 51: 18S rRNA

Chain S2: 45% 44% 11%

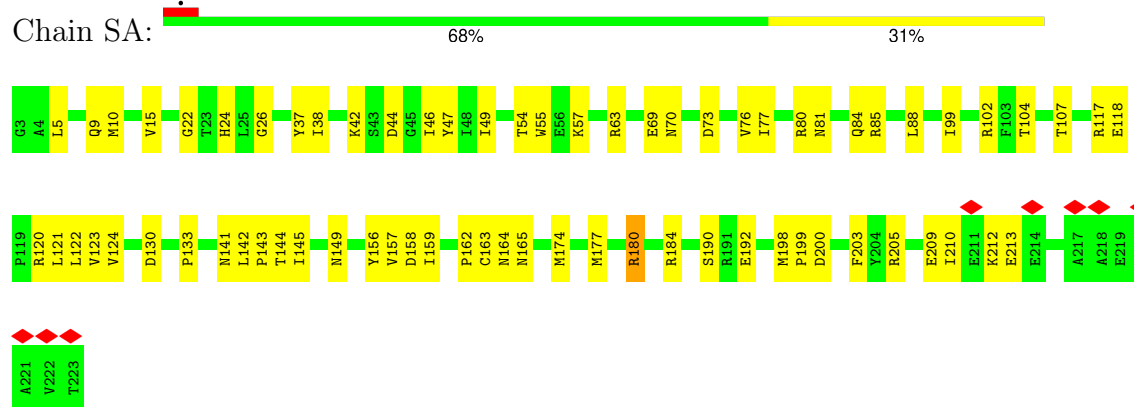


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G1420	A1421	N1337	G1267	U1177	G1089	A1001	U917	C843	C733	U630	C550	C472	G308	U163
G1422	A1268	U1338	A1269	U1178	C1090	U1002	U918	U844	C735	U631	U551	A473	G309	A164
G1423	U1339	U1092	A1260	A1183	G1093	U1003	A919	G845	C736	A634	G552	G474	G312	G165
C1424	U1340	G1093	C1261	A1183	G1094	U1004	A920	G846	C737	G635	U553	C475	G313	A166
C1425	C1341	C1006	C1261	G1187	C1094	C1006	G921	A847	C738	C639	A554	A476	A313	U169
U1426	U1342	C1007	C1264	A1188	C1098	C1007	A922	C851	C739	A640	A555	G482	U388	U169
G1431	C1355	A1008	A1265	A1189	G1099	A1008	G925	G852	C746	A641	U556	C483	A389	A170
U1432	A1357	A1009	A1190	G1010	C1100	A1009	G926	C853	U747	U642	U557	C484	C390	A171
C1433	U1358	U1011	A1194	A1012	U1101	A1011	G928	A854	C748	A643	U558	A318	C391	U172
C1434	A1195	U1013	A1195	U1013	C1103	U1013	C930	G856	C750	G644	A560	A486	A392	G179
C1435	G1365	U1016	A1199	U1016	G1104	U1016	G929	U857	C751	A648	U561	U487	A398	A180
C1436	G1366	U1017	U1200	U1017	G1107	U1017	G931	U858	C752	U649	G563	C492	C399	A181
U1367	U1367	U1018	U1201	U1018	G1108	U1018	G932	A859	C753	A650	A564	A493	U406	C186
A1370	A1370	C1019	U1202	C1019	C1109	C1019	G933	G860	G754	U651	U566	U408	A407	G187
U1371	U1371	A1020	G1203	A1020	G1109	A1020	G934	A861	G758	A655	C567	U409	C409	G190
U1372	U1372	A1113	A1204	A1113	C1110	A1113	C937	A862	C791	A656	C568	G420	G420	G191
C1373	C1373	U1114	C1205	U1114	G1110	A1024	U940	A863	C792	G659	C570	C502	U427	C194
G1374	A1448	U1115	G1206	U1115	G1111	A1025	U941	A864	G793	U660	C571	C503	U428	C195
A1376	A1376	C1116	G1207	U1116	C1117	U1026	U942	A865	A794	U661	A574	G504	U429	C196
U1377	U1377	C1117	A1208	C1117	C1118	A1027	U943	G867	A795	U662	A575	G505	G431	U197
A1452	A1452	C1118	A1209	C1118	G1119	A1028	U944	A870	C797	A663	A576	G506	G432	U198
C1453	C1453	A1119	G1286	U1119	C1120	U1029	U945	A871	G798	U664	A577	G507	G433	G200
A1454	A1454	U1287	U1288	U1287	G1121	G1030	U946	A872	U799	A669	A578	G508	G434	G201
U1457	U1457	A1031	A1215	A1031	C1122	A1032	G952	A873	U800	A670	A579	G509	G435	G202
G1458	G1458	C1032	C1216	C1032	A1122	G1033	G953	C876	U801	A671	A580	G510	G436	G203
U1463	U1463	G1034	A1217	G1034	G1123	G1034	G954	C877	U804	A672	A581	G511	G437	G204
A1464	A1464	C1035	C1218	C1035	A1133	G1035	G955	C878	U805	A673	A582	G512	G438	
G1465	G1465	A1036	A1220	A1036	C1138	A1036	G956	C879	U806	U674	A583	G513	C441	G207
A1466	A1466	C1037	G1222	C1037	C1139	G1037	G957	G880	A808	U675	A584	G514	C442	G208
C1467	C1467	G1140	A1224	G1140	G1140	G1037	A962	G881	U814	C676	A585	A516	C443	A209
U1477	U1477	U1300	G1227	U1300	A1144	G1044	A963	U885	U815	G677	A586	A520	A445	U214
U1478	U1478	A1301	A1228	A1301	U1045	U1045	A964	U886	A816	U678	A587	A521	A446	
G1479	G1479	G1302	G1229	G1302	U1046	U1046	U965	U887	G817	U679	A588	A522	A447	U218
A1480	A1480	C1305	C1230	C1305	C1047	C1047	U966	U888	A818	G680	A589	A523	A448	U219
U1489	U1489	U1306	G1231	U1306	A1148	G1048	G970	U889	A819	U681	A590	A524	A449	U219
G1490	G1490	U1307	U1232	U1307	A1149	G1049	G971	U890	U820	U682	A591	A525	A450	C223
U1491	U1491	U1233	U1233	U1233	U1152	U1055	A972	G891	G821	G683	A592	A526	A451	A224
C1492	C1492	U1308	G1235	U1308	C1153	C1057	G973	G892	U822	U684	A593	A527	A452	
U1493	U1493	C1309	C1236	C1309	C1154	C1058	A981	G893	U823	U685	A594	A528	A453	U290
A1494	A1494	U1310	U1237	U1310	U1154	G1059	G982	U894	C824	U686	A595	A529	A454	G291
G1495	G1495	C1311	C1238	C1311	U1155	G1059	G983	U895	A825	U687	A596	A530	A455	A299
U1496	U1496	U1312	U1239	U1312	U1156	G1061	G984	U896	A826	U688	A597	A531	A456	U300
A1497	A1497	A1313	U1239	A1313	G1157	U1061	G985	U897	A827	U689	A598	A532	A457	A301
U1498	U1498	U1062	U1242	U1062	G1158	A1062	G986	U898	A827	G690	A599	A533	A458	A302
A1499	A1499	C1317	U1243	C1317	C1162	C1067	G989	U899	A830	G691	A604	A534	A459	C306
G1500	G1500	G1318	U1244	G1318	C1163	C1067	A990	G901	G833	G692	A605	U540	U461	U296
U1501	U1501	C1322	B831248	C1322	G1164	U1081	G991	A903	C834	A693	A616	U541	C462	U297
		U1526	A1251	U1526	G1165	A1082	A992	A904	C835	A694	A617	U542	C463	G298
		G1327	C1252	G1327	G1166	U1083	A993	A905	C836	G695	A618	U543	A464	A299
		U1329	U1253	U1329	G1167	A1084	A994	A906	C837	G696	A619	U544	A465	U300
					U1171	A1085	A995	A907	C838	G697	A620	U545	A466	A301
					U1172	C1085	A996	A908	C839	G698	A621	U546	A467	A302
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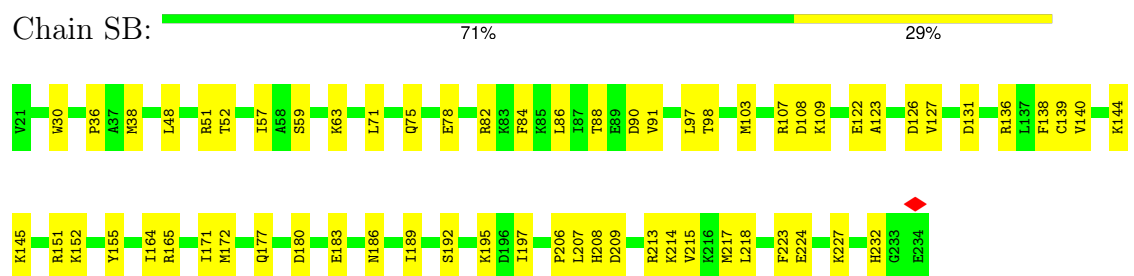
• Molecule 52: 40S ribosomal protein SA

Chain SA:



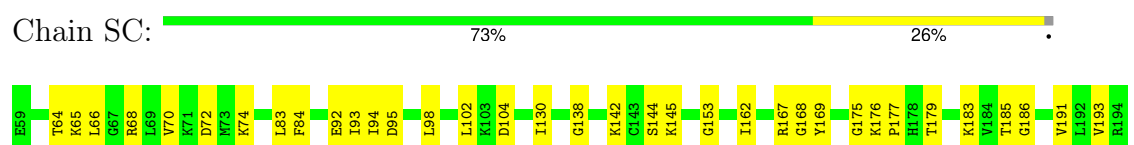
• Molecule 53: 40S ribosomal protein S3a

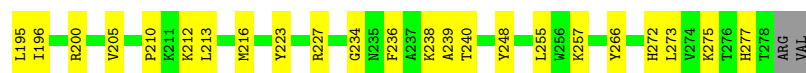
Chain SB:



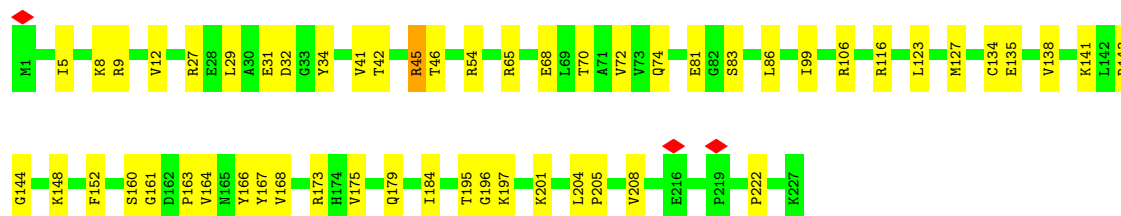
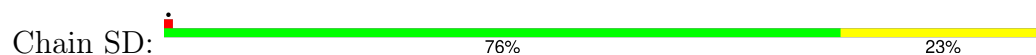
• Molecule 54: 40S ribosomal protein S2

Chain SC:

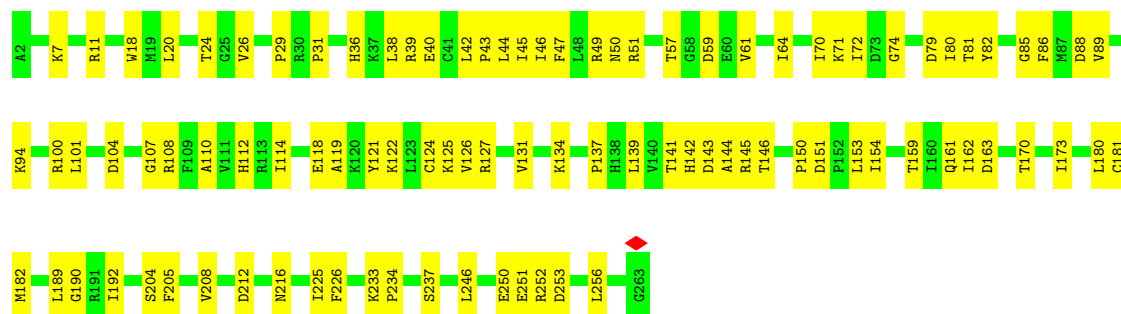




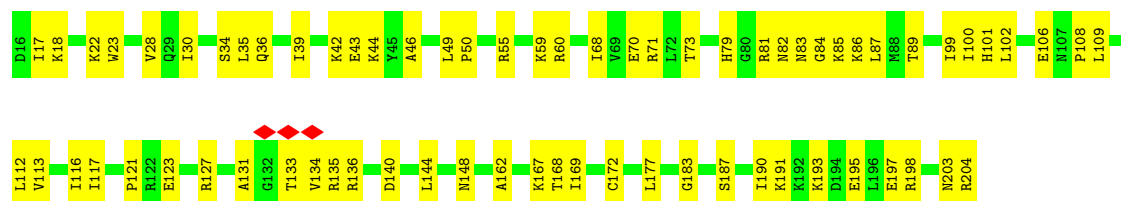
- Molecule 55: Small ribosomal subunit protein uS3



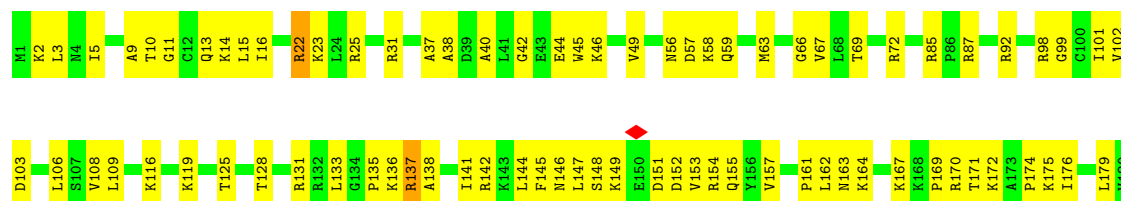
- Molecule 56: Small ribosomal subunit protein eS4, X isoform

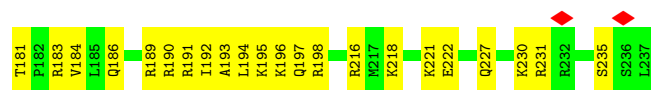


- Molecule 57: 40S ribosomal protein S5



- Molecule 58: 40S ribosomal protein S6

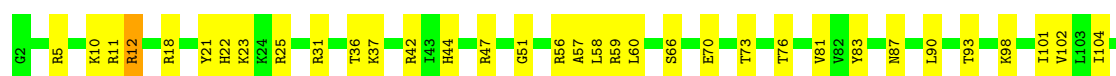




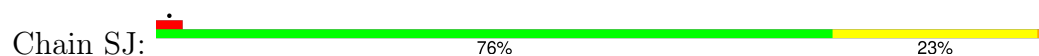
- Molecule 59: Small ribosomal subunit protein eS7



- Molecule 60: 40S ribosomal protein S8



- Molecule 61: 40S ribosomal protein S9



- Molecule 62: 40S ribosomal protein S10

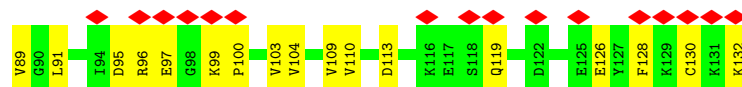
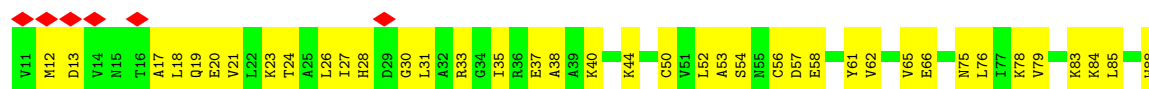


- Molecule 63: 40S ribosomal protein S11

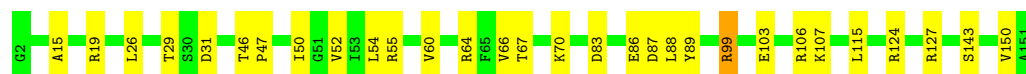
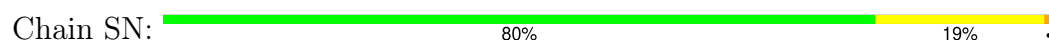




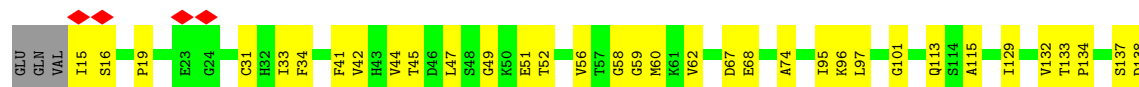
- Molecule 64: Small ribosomal subunit protein eS12



- Molecule 65: 40S ribosomal protein S13



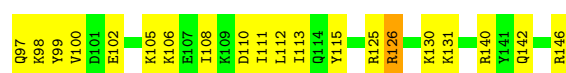
- Molecule 66: Small ribosomal subunit protein uS11



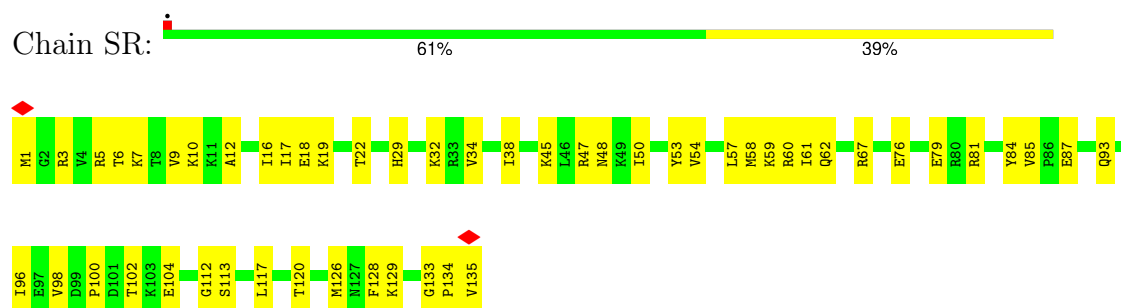
- Molecule 67: Small ribosomal subunit protein uS19



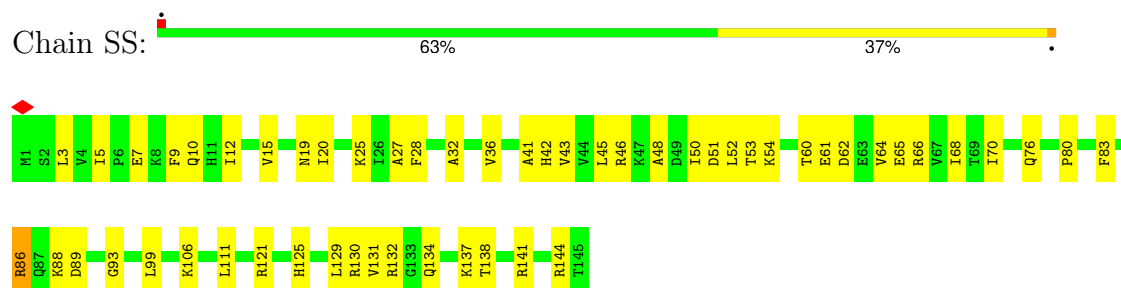
- Molecule 68: Small ribosomal subunit protein uS9



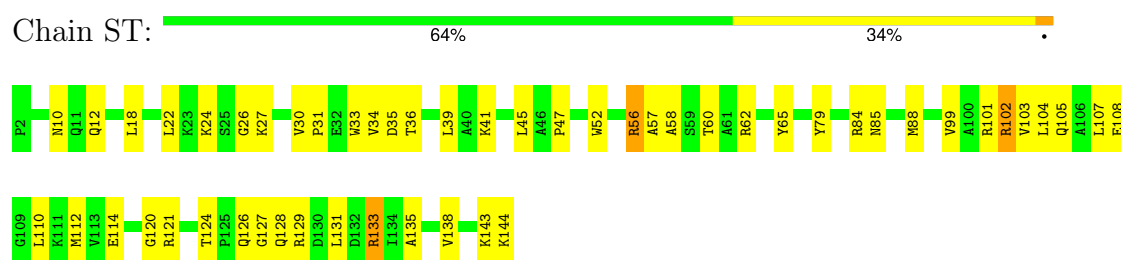
- Molecule 69: Small ribosomal subunit protein eS17



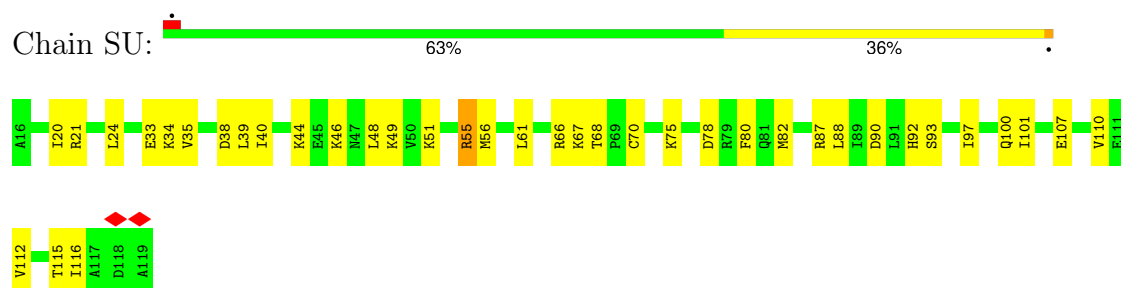
- Molecule 70: 40S ribosomal protein S18



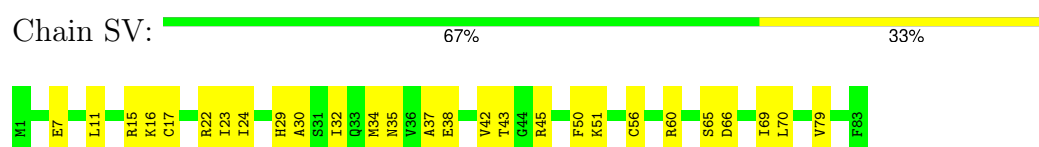
- Molecule 71: 40S ribosomal protein S19



- Molecule 72: 40S ribosomal protein S20

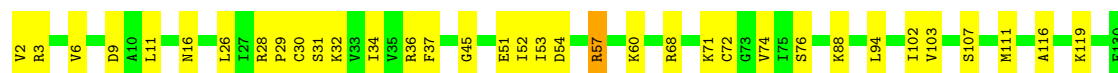


- Molecule 73: Small ribosomal subunit protein eS21



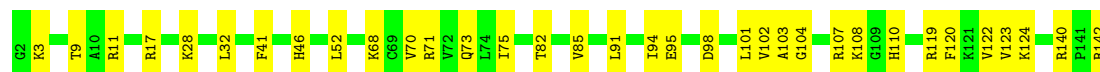
- Molecule 74: 40S ribosomal protein S15a

Chain SW:  73% 26%



- Molecule 75: 40S ribosomal protein S23

Chain SX:  76% 24%



- Molecule 76: 40S ribosomal protein S24

Chain SY:  5% 65% 35%



- Molecule 77: Small ribosomal subunit protein eS25

Chain SZ:  67% 33%



- Molecule 78: 40S ribosomal protein S26

Chain Sa:  81% 19%



- Molecule 79: Small ribosomal subunit protein eS27

Chain Sb:  76% 24%



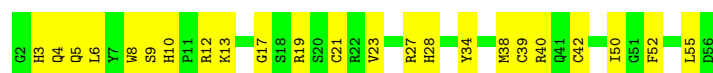
- Molecule 80: 40S ribosomal protein S28

Chain Sc:  73% 27%



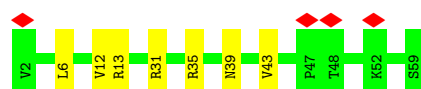
- Molecule 81: 40S ribosomal protein S29

Chain Sd:  58% 42%



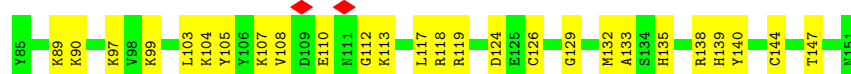
- Molecule 82: Small ribosomal subunit protein eS30

Chain Se:  7% 88% 12%



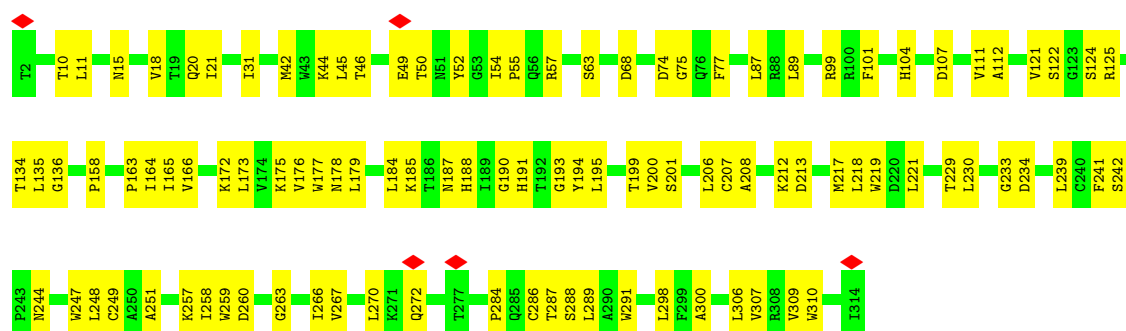
- Molecule 83: Ubiquitin-40S ribosomal protein S27a

Chain Sf:  61% 39%



- Molecule 84: Receptor of activated protein C kinase 1

Chain Sg:  67% 33%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	1272627	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.451	Depositor
Minimum map value	-0.011	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.011	Depositor
Recommended contour level	0.0169	Depositor
Map size (Å)	512.64, 512.64, 512.64	wwPDB
Map dimensions	576, 576, 576	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.89000005, 0.89000005, 0.89000005	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 6MZ, MG, UR3, 5MC, UY1, PSU, PUT, ZN, 4AC, SPD, A2M, OMU, K, 1MA, G7M, B8N, MA6, OMC, OMG, SPM

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	CD	0.42	0/394	0.61	0/534
2	CI	0.16	0/247	0.44	0/323
3	L5	0.16	0/85098	0.30	0/132762
4	L7	0.12	0/2861	0.23	0/4459
5	L8	0.13	0/3631	0.26	0/5657
6	LA	0.19	0/1936	0.39	0/2596
7	LB	0.18	0/3306	0.42	0/4424
8	LC	0.21	0/2981	0.45	1/4002 (0.0%)
9	LD	0.18	0/2428	0.36	0/3252
10	LE	0.18	0/1973	0.43	0/2645
11	LF	0.16	0/1905	0.31	0/2539
12	LG	0.21	0/1960	0.42	0/2637
13	LH	0.18	0/1537	0.39	0/2066
14	LI	0.15	0/1751	0.37	0/2340
15	LJ	0.19	0/1385	0.44	0/1852
16	LL	0.16	0/1732	0.36	0/2315
17	LM	0.18	0/1161	0.35	0/1554
18	LN	0.16	0/1746	0.37	1/2338 (0.0%)
19	LO	0.18	0/1682	0.36	0/2250
20	LP	0.19	0/1268	0.38	0/1701
21	LQ	0.16	0/1537	0.33	0/2052
22	LR	0.16	0/1582	0.38	0/2091
23	LS	0.14	0/1493	0.31	0/2003
24	LT	0.19	0/1326	0.43	0/1770
25	LU	0.21	0/839	0.53	0/1126
26	LV	0.21	0/993	0.40	0/1332
27	LW	0.18	0/959	0.48	1/1270 (0.1%)
28	LX	0.16	0/1002	0.33	0/1345
29	LY	0.19	0/1132	0.46	0/1504
30	LZ	0.18	0/1130	0.38	0/1507
31	La	0.16	0/1191	0.38	0/1591

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Lb	0.17	0/889	0.38	0/1175
33	Lc	0.16	0/774	0.39	0/1038
34	Ld	0.18	0/903	0.35	0/1216
35	Le	0.15	0/1071	0.35	0/1429
36	Lf	0.17	0/895	0.37	0/1198
37	Lg	0.14	0/916	0.36	0/1220
38	Lh	0.18	0/1023	0.34	0/1351
39	Li	0.17	0/843	0.40	0/1115
40	Lj	0.17	0/720	0.41	0/952
41	Lk	0.17	0/575	0.46	0/761
42	Ll	0.18	0/454	0.39	0/599
43	Lm	0.14	0/435	0.36	0/575
44	Ln	0.18	0/231	0.32	0/294
45	Lo	0.21	0/876	0.43	0/1156
46	Lp	0.16	0/718	0.39	0/953
47	Lr	0.19	0/1017	0.35	0/1364
48	Ls	0.20	0/1519	0.44	0/2052
49	Lt	0.20	0/1009	0.54	0/1363
50	Pt	0.10	0/1761	0.24	0/2741
51	S2	0.17	0/39755	0.28	0/61935
52	SA	0.18	0/1778	0.41	0/2416
53	SB	0.20	0/1765	0.44	0/2362
54	SC	0.18	0/1744	0.42	0/2357
55	SD	0.17	0/1793	0.39	0/2414
56	SE	0.19	0/2118	0.42	0/2849
57	SF	0.21	0/1516	0.43	0/2037
58	SG	0.19	0/1946	0.42	0/2590
59	SH	0.21	0/1519	0.46	0/2033
60	SI	0.18	0/1715	0.44	0/2287
61	SJ	0.16	0/1550	0.38	0/2069
62	SK	0.19	0/851	0.41	0/1147
63	SL	0.17	0/1268	0.40	0/1696
64	SM	0.20	0/950	0.52	0/1275
65	SN	0.16	0/1232	0.33	0/1656
66	SO	0.19	0/1037	0.41	0/1391
67	SP	0.22	0/1003	0.48	0/1342
68	SQ	0.21	0/1160	0.46	0/1553
69	SR	0.18	0/1105	0.48	0/1484
70	SS	0.19	0/1216	0.44	0/1628
71	ST	0.19	0/1131	0.53	0/1515
72	SU	0.21	0/831	0.48	0/1115
73	SV	0.21	0/643	0.46	0/860
74	SW	0.22	0/1051	0.40	0/1406

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	SX	0.15	0/1116	0.39	0/1490
76	SY	0.18	0/1083	0.43	0/1438
77	SZ	0.22	0/604	0.47	0/810
78	Sa	0.21	0/836	0.47	0/1121
79	Sb	0.18	0/665	0.40	0/891
80	Sc	0.21	0/508	0.46	0/680
81	Sd	0.18	0/470	0.43	0/623
82	Se	0.18	0/465	0.41	0/612
83	Sf	0.34	0/560	0.60	0/745
84	Sg	0.17	0/2493	0.40	0/3394
All	All	0.17	0/230272	0.34	3/337610 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
6	LA	0	2
8	LC	0	2
11	LF	0	1
15	LJ	0	1
18	LN	0	1
19	LO	0	1
20	LP	0	1
27	LW	0	2
29	LY	0	1
30	LZ	0	1
31	La	0	1
32	Lb	0	1
35	Le	0	1
42	Ll	0	1
44	Ln	0	1
52	SA	0	1
53	SB	0	1
55	SD	0	1
58	SG	0	3
60	SI	0	2
61	SJ	0	1
62	SK	0	1
65	SN	0	1
68	SQ	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
70	SS	0	1
71	ST	0	3
72	SU	0	1
73	SV	0	1
74	SW	0	1
82	Se	0	1
All	All	0	38

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	LN	143	ARG	CG-CD-NE	5.87	124.91	112.00
8	LC	33	ARG	CB-CA-C	5.46	118.46	110.87
27	LW	47	ARG	CB-CG-CD	5.17	123.20	111.30

There are no chirality outliers.

All (38) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	LA	147	ARG	Sidechain
6	LA	245	ARG	Sidechain
8	LC	33	ARG	Sidechain
8	LC	78	ARG	Sidechain
11	LF	62	ARG	Sidechain
15	LJ	90	ARG	Sidechain
18	LN	189	ARG	Sidechain
19	LO	37	ARG	Sidechain
20	LP	42	ARG	Sidechain
27	LW	20	ARG	Sidechain
27	LW	94	ARG	Sidechain
29	LY	74	TYR	Sidechain
30	LZ	111	ARG	Sidechain
31	La	65	ARG	Sidechain
32	Lb	117	ARG	Sidechain
35	Le	128	ARG	Sidechain
42	Ll	46	ARG	Sidechain
44	Ln	18	ARG	Sidechain
52	SA	180	ARG	Sidechain
53	SB	51	ARG	Sidechain
55	SD	45	ARG	Sidechain

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Mol	Chain	Res	Type	Group
58	SG	137	ARG	Sidechain
58	SG	191	ARG	Sidechain
58	SG	22	ARG	Sidechain
60	SI	12	ARG	Sidechain
60	SI	178	ARG	Sidechain
61	SJ	18	ARG	Sidechain
62	SK	96	ARG	Sidechain
65	SN	99	ARG	Sidechain
68	SQ	126	ARG	Sidechain
70	SS	86	ARG	Sidechain
71	ST	102	ARG	Sidechain
71	ST	133	ARG	Sidechain
71	ST	56	ARG	Sidechain
72	SU	55	ARG	Sidechain
73	SV	22	ARG	Sidechain
74	SW	57	ARG	Sidechain
82	Se	13	ARG	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	CD	385	0	347	18	0
2	CI	247	0	283	8	0
3	L5	78445	0	39700	1235	0
4	L7	2561	0	1295	24	0
5	L8	3315	0	1685	49	0
6	LA	1898	0	1993	59	0
7	LB	3238	0	3375	102	0
8	LC	2927	0	3104	55	0
9	LD	2382	0	2410	37	0
10	LE	1935	0	2096	50	0
11	LF	1870	0	1996	33	0
12	LG	1927	0	2074	43	0
13	LH	1518	0	1601	30	0
14	LI	1711	0	1749	37	0
15	LJ	1362	0	1399	41	0
16	LL	1701	0	1818	35	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
17	LM	1138	0	1204	25	0
18	LN	1701	0	1749	28	0
19	LO	1650	0	1794	33	0
20	LP	1242	0	1269	30	0
21	LQ	1513	0	1628	20	0
22	LR	1566	0	1729	36	0
23	LS	1453	0	1490	21	0
24	LT	1298	0	1366	32	0
25	LU	825	0	850	24	0
26	LV	979	0	1039	23	0
27	LW	945	0	1003	34	0
28	LX	985	0	1066	9	0
29	LY	1115	0	1205	26	0
30	LZ	1107	0	1182	24	0
31	La	1162	0	1213	24	0
32	Lb	876	0	948	22	0
33	Lc	764	0	804	16	0
34	Ld	888	0	930	19	0
35	Le	1053	0	1147	12	0
36	Lf	876	0	912	13	0
37	Lg	906	0	998	16	0
38	Lh	1015	0	1148	20	0
39	Li	832	0	917	9	0
40	Lj	705	0	737	17	0
41	Lk	569	0	637	17	0
42	Ll	444	0	483	13	0
43	Lm	429	0	465	9	0
44	Ln	230	0	276	7	0
45	Lo	862	0	929	16	0
46	Lp	708	0	756	14	0
47	Lr	1002	0	1068	11	0
48	Ls	1496	0	1540	46	0
49	Lt	998	0	1032	46	0
50	Pt	1576	0	802	20	0
51	S2	36953	0	18679	720	0
52	SA	1741	0	1746	66	0
53	SB	1738	0	1809	49	0
54	SC	1707	0	1791	44	0
55	SD	1765	0	1865	35	0
56	SE	2076	0	2177	76	0
57	SF	1495	0	1549	57	0
58	SG	1923	0	2089	93	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
59	SH	1497	0	1590	51	0
60	SI	1686	0	1772	54	0
61	SJ	1525	0	1640	37	0
62	SK	827	0	854	29	0
63	SL	1247	0	1323	44	0
64	SM	940	0	965	49	0
65	SN	1208	0	1294	24	0
66	SO	1024	0	1050	27	0
67	SP	985	0	1031	28	0
68	SQ	1142	0	1213	49	0
69	SR	1090	0	1149	48	0
70	SS	1198	0	1261	46	0
71	ST	1112	0	1146	42	0
72	SU	821	0	883	43	0
73	SV	636	0	637	28	0
74	SW	1034	0	1080	38	0
75	SX	1098	0	1167	25	0
76	SY	1065	0	1142	45	0
77	SZ	598	0	656	22	0
78	Sa	821	0	870	16	0
79	Sb	651	0	672	16	0
80	Sc	506	0	536	22	0
81	Sd	459	0	448	23	0
82	Se	459	0	503	7	0
83	Sf	548	0	551	28	0
84	Sg	2436	0	2393	78	0
85	L5	185	0	0	0	0
85	L7	3	0	0	0	0
85	L8	5	0	0	0	0
85	LA	1	0	0	0	0
85	LP	1	0	0	0	0
85	LV	1	0	0	0	0
85	Le	1	0	0	0	0
85	S2	28	0	0	0	0
86	L5	98	0	182	10	0
86	S2	14	0	26	2	0
87	L5	80	0	151	3	0
87	L8	10	0	19	0	0
87	LN	10	0	19	0	0
87	S2	20	0	38	0	0
88	L5	74	0	0	0	0
88	Lg	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
89	Lg	1	0	0	0	0
89	Lj	1	0	0	0	0
89	Lm	1	0	0	0	0
89	Lo	1	0	0	0	0
89	Lp	1	0	0	0	0
89	Sa	1	0	0	0	0
89	Sd	1	0	0	0	0
90	S2	6	0	12	0	0
91	L5	3311	0	0	17	0
91	L7	16	0	0	0	0
91	L8	118	0	0	0	0
91	LA	43	0	0	0	0
91	LB	66	0	0	1	0
91	LC	45	0	0	0	0
91	LD	1	0	0	0	0
91	LG	13	0	0	0	0
91	LH	1	0	0	0	0
91	LI	7	0	0	0	0
91	LL	33	0	0	0	0
91	LN	99	0	0	2	0
91	LO	58	0	0	1	0
91	LP	38	0	0	2	0
91	LQ	21	0	0	0	0
91	LR	12	0	0	0	0
91	LS	2	0	0	0	0
91	LT	8	0	0	0	0
91	LU	1	0	0	0	0
91	LV	41	0	0	3	0
91	LW	15	0	0	0	0
91	LX	10	0	0	0	0
91	La	38	0	0	0	0
91	Lb	14	0	0	0	0
91	Ld	1	0	0	0	0
91	Le	50	0	0	0	0
91	Lf	13	0	0	0	0
91	Lg	2	0	0	0	0
91	Lh	8	0	0	1	0
91	Li	10	0	0	1	0
91	Lj	29	0	0	0	0
91	Ll	5	0	0	0	0
91	Ln	2	0	0	0	0
91	Lo	37	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
91	Lp	4	0	0	0	0
91	Lr	3	0	0	0	0
91	Pt	6	0	0	1	0
91	S2	341	0	0	5	0
91	SE	12	0	0	2	0
91	SF	5	0	0	1	0
91	SH	1	0	0	0	0
91	SI	14	0	0	4	0
91	SJ	1	0	0	0	0
91	SL	22	0	0	0	0
91	SP	1	0	0	0	0
91	SQ	7	0	0	0	0
91	SS	8	0	0	0	0
91	ST	2	0	0	0	0
91	SU	3	0	0	0	0
91	SX	8	0	0	0	0
91	SZ	1	0	0	1	0
91	Sc	1	0	0	0	0
91	Sd	3	0	0	0	0
All	All	223497	0	163219	3936	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 (3936) 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)
49:Lt:16:ARG:HE	49:Lt:17:CYS:H	1.12	0.94
49:Lt:16:ARG:HH12	49:Lt:28:LEU:HB3	1.31	0.94
3:L5:1974:U:OP1	49:Lt:77:ALA:HB1	1.68	0.94
68:SQ:43:GLU:HG3	68:SQ:44:PRO:HD3	1.49	0.92
3:L5:2017:A:HO2'	3:L5:2018:C:H6	0.96	0.91
59:SH:144:ILE:HD13	59:SH:154:ILE:HG13	1.54	0.90
72:SU:48:LEU:HG	72:SU:93:SER:HB3	1.52	0.89
54:SC:68:ARG:HG2	54:SC:277:HIS:HB2	1.54	0.89
3:L5:1175:A:H2	3:L5:1185:G:H1	1.20	0.89
1:CD:394:ASP:HB2	1:CD:396:GLU:HG3	1.53	0.88
57:Sf:34:SER:HA	80:Sc:55:VAL:HG13	1.55	0.87
3:L5:1273:G:N7	32:Lb:117:ARG:NH1	2.22	0.87
51:S2:925:G:H1	51:S2:1017:U:H3	1.23	0.85
17:LM:15:VAL:HG22	17:LM:50:MET:HE1	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:1543:U:O2'	68:SQ:43:GLU:OE1	1.92	0.85
51:S2:1289:U:H4'	62:SK:2:LEU:HD21	1.56	0.84
71:ST:85:ASN:HB3	71:ST:88:MET:HB2	1.59	0.84
27:LW:82:ILE:HG22	58:SG:131:ARG:HB2	1.60	0.84
50:Pt:50:U:H3	50:Pt:64:G:H1	1.26	0.84
64:SM:26:LEU:HA	64:SM:31:LEU:HD21	1.58	0.83
69:SR:32:LYS:HE2	69:SR:47:ARG:HH12	1.42	0.83
44:Ln:15:ARG:HG3	44:Ln:18:ARG:HH21	1.40	0.83
14:LI:14:ASN:O	14:LI:128:ARG:NH2	2.12	0.82
53:SB:144:LYS:HD3	53:SB:208:HIS:HB3	1.60	0.82
3:L5:2557:G:H1	3:L5:2570:U:H3	1.25	0.81
3:L5:3717:A:H2'	3:L5:3718:A2M:H8	1.62	0.81
52:SA:118:GLU:HG2	54:SC:65:LYS:HE2	1.59	0.81
60:SI:87:ASN:HB3	60:SI:90:LEU:HD23	1.63	0.80
3:L5:2702:C:OP1	25:LU:101:ARG:NH2	2.15	0.79
51:S2:952:G:H21	66:SO:52:THR:HG21	1.47	0.79
3:L5:2611:A:H5'	3:L5:2688:G:H4'	1.65	0.79
3:L5:1972:G:N2	3:L5:1994:C:O2	2.14	0.79
65:SN:99:ARG:HH12	65:SN:143:SER:HB3	1.47	0.79
3:L5:1994:C:H1'	49:Lt:132:ILE:HA	1.64	0.79
77:SZ:62:VAL:HA	77:SZ:65:TYR:HE1	1.46	0.79
22:LR:133:LYS:H	22:LR:137:ILE:HD11	1.47	0.79
12:LG:205:THR:HG22	12:LG:206:GLN:H	1.47	0.79
26:LV:94:VAL:HG11	27:LW:20:ARG:HH21	1.46	0.79
3:L5:4546:A:N7	6:LA:215:ASN:ND2	2.31	0.78
84:Sg:31:ILE:HG12	84:Sg:45:LEU:HD21	1.63	0.78
59:SH:7:LYS:HE2	59:SH:10:LYS:HB3	1.65	0.78
52:SA:10:MET:HE2	52:SA:15:VAL:HG22	1.66	0.78
59:SH:154:ILE:HB	59:SH:185:VAL:HG22	1.65	0.78
60:SI:57:ALA:HB1	60:SI:60:LEU:HD21	1.66	0.78
80:Sc:44:ARG:NH1	80:Sc:61:SER:O	2.17	0.78
81:Sd:3:HIS:ND1	81:Sd:5:GLN:OE1	2.17	0.78
68:SQ:102:GLU:HA	68:SQ:105:LYS:HB3	1.65	0.77
62:SK:14:LEU:HD22	62:SK:35:LEU:HD13	1.66	0.77
66:SO:95:ILE:HB	66:SO:129:ILE:HG22	1.65	0.77
68:SQ:43:GLU:CG	68:SQ:44:PRO:HD3	2.13	0.77
3:L5:1996:C:O3'	48:Ls:44:ARG:NH1	2.16	0.77
57:SF:70:GLU:OE2	57:SF:86:LYS:NZ	2.18	0.77
51:S2:921:G:H2'	74:SW:28:ARG:NH1	2.00	0.77
58:SG:164:LYS:HB2	58:SG:167:LYS:HG2	1.67	0.77
3:L5:1402:C:O2	3:L5:1415:G:N2	2.13	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SE:161:GLN:HG3	56:SE:170:THR:HB	1.68	0.76
51:S2:570:C:O2'	76:SY:34:THR:O	2.03	0.76
51:S2:346:C:H5''	56:SE:38:LEU:HD22	1.66	0.76
52:SA:77:ILE:HG22	52:SA:99:ILE:HB	1.68	0.76
77:SZ:68:ILE:HG23	77:SZ:109:TYR:HB2	1.68	0.76
49:Lt:16:ARG:HE	49:Lt:17:CYS:N	1.84	0.76
59:SH:144:ILE:HD11	59:SH:152:ARG:HB3	1.67	0.76
64:SM:79:VAL:HG11	64:SM:85:LEU:HB2	1.68	0.76
3:L5:1995:G:H4'	49:Lt:128:THR:HB	1.65	0.76
20:LP:23:ARG:HD3	20:LP:125:MET:HE1	1.67	0.76
3:L5:1973:G:O2'	49:Lt:78:SER:OG	1.95	0.75
52:SA:99:ILE:HD11	52:SA:117:ARG:HH12	1.49	0.75
56:SE:42:LEU:HD22	56:SE:46:ILE:HD11	1.67	0.75
76:SY:56:PHE:HB2	76:SY:74:MET:HB2	1.68	0.75
3:L5:3947:A:N1	3:L5:4068:U:O2'	2.20	0.75
57:SF:28:VAL:O	57:SF:42:LYS:NZ	2.19	0.75
3:L5:2351:OMC:HM22	8:LC:95:MET:HG3	1.68	0.75
34:Ld:19:GLU:OE2	34:Ld:92:ARG:NH1	2.20	0.75
3:L5:1402:C:N3	3:L5:1415:G:N1	2.28	0.74
3:L5:4242:U:H3	3:L5:4281:A:H2	1.35	0.74
28:LX:80:PRO:HG2	28:LX:155:ILE:HG21	1.69	0.74
84:Sg:107:ASP:HB2	84:Sg:125:ARG:HD2	1.68	0.74
65:SN:99:ARG:NH1	65:SN:143:SER:HB3	2.02	0.74
20:LP:109:VAL:HA	20:LP:112:LEU:HD13	1.70	0.74
36:Lf:71:TRP:HB2	36:Lf:89:ARG:NH1	2.03	0.74
51:S2:1433:C:H42	72:SU:92:HIS:HD2	1.36	0.74
52:SA:198:MET:HE3	69:SR:85:VAL:HG13	1.67	0.74
3:L5:1326:A2M:H2'	3:L5:1327:C:C6	2.24	0.73
3:L5:1996:C:H42	3:L5:2000:G:H22	1.34	0.73
3:L5:2601:A:N6	3:L5:2744:A:OP2	2.22	0.73
3:L5:3945:A:H2'	3:L5:3946:G:C8	2.24	0.73
47:Lr:26:SER:OG	47:Lr:28:GLU:OE1	2.06	0.72
3:L5:1095:A:H2	3:L5:1200:G:H1	1.32	0.72
51:S2:588:G:H4'	51:S2:589:G:H5'	1.70	0.72
41:Lk:35:LYS:HB3	41:Lk:42:LEU:HD21	1.71	0.72
51:S2:1228:A:H2'	51:S2:1229:G:C8	2.24	0.72
56:SE:44:LEU:HD11	56:SE:72:ILE:HD11	1.71	0.72
7:LB:222:VAL:O	7:LB:343:ARG:NH1	2.23	0.72
62:SK:14:LEU:HD23	62:SK:21:MET:HE1	1.72	0.72
51:S2:628:A:N6	51:S2:1500:G:O2'	2.22	0.72
53:SB:224:GLU:HB3	53:SB:227:LYS:HE3	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:513:U:N3	3:L5:516:C:OP2	2.23	0.72
51:S2:1756:C:N4	51:S2:1775:U:O4	2.23	0.72
3:L5:1996:C:H42	3:L5:2000:G:N2	1.88	0.72
29:LY:74:TYR:CE2	29:LY:77:LYS:HD3	2.25	0.72
3:L5:2324:C:O2'	35:Le:98:GLU:OE2	2.08	0.71
24:LT:119:ALA:HA	24:LT:122:LYS:HE3	1.71	0.71
51:S2:1230:C:OP1	70:SS:130:ARG:NH2	2.23	0.71
71:ST:65:TYR:HE1	71:ST:128:GLN:HG3	1.54	0.71
7:LB:300:LYS:HD2	7:LB:311:ASP:HA	1.72	0.71
18:LN:124:ASP:OD1	18:LN:125:SER:N	2.23	0.71
49:Lt:111:ASN:ND2	49:Lt:161:GLU:OE2	2.23	0.71
3:L5:1268:G:N7	32:Lb:111:ARG:NH2	2.39	0.71
51:S2:223:C:OP1	63:SL:20:LYS:NZ	2.24	0.71
51:S2:928:G:H1	51:S2:1013:U:H3	1.39	0.71
66:SO:113:GLN:OE1	78:Sa:46:GLU:N	2.24	0.71
81:Sd:3:HIS:CD2	81:Sd:6:LEU:HD22	2.25	0.71
51:S2:1598:G:O2'	77:SZ:80:ARG:O	2.08	0.71
61:SJ:88:ASP:HB3	61:SJ:91:LYS:HB2	1.70	0.71
66:SO:74:ALA:HB1	66:SO:115:ALA:HB2	1.71	0.71
84:Sg:247:TRP:HB3	84:Sg:258:ILE:HD11	1.71	0.71
3:L5:1480:C:O2'	3:L5:1482:G:OP2	2.08	0.71
3:L5:3937:C:H1'	18:LN:125:SER:HB3	1.72	0.71
14:LI:36:LEU:HD21	14:LI:69:ARG:HH11	1.56	0.70
58:SG:116:LYS:HE3	58:SG:125:THR:HG21	1.71	0.70
84:Sg:87:LEU:HB2	84:Sg:101:PHE:HB2	1.72	0.70
3:L5:500:G:OP1	3:L5:504:G:N2	2.24	0.70
3:L5:2520:C:O2	3:L5:2640:G:N2	2.23	0.70
17:LM:104:MET:HG3	17:LM:108:ASP:HB2	1.73	0.70
51:S2:860:G:H21	74:SW:107:SER:HB2	1.55	0.70
65:SN:26:LEU:HD21	65:SN:60:VAL:HG12	1.72	0.70
3:L5:2739:C:O2	6:LA:188:LYS:NZ	2.24	0.70
3:L5:1503:A:H62	21:LQ:87:THR:HG21	1.57	0.70
29:LY:2:LYS:HD2	29:LY:7:VAL:HG13	1.73	0.70
3:L5:2758:G:O2'	3:L5:2765:A:N3	2.24	0.70
44:Ln:1:MET:HG3	51:S2:1706:G:H5'	1.74	0.70
60:SI:57:ALA:HB2	60:SI:183:GLY:HA2	1.74	0.70
51:S2:1424:G:H2'	51:S2:1425:G:H8	1.57	0.70
74:SW:111:MET:HE3	74:SW:116:ALA:HA	1.74	0.70
6:LA:29:LEU:O	6:LA:123:ARG:NH1	2.24	0.69
51:S2:94:G:HO2'	51:S2:508:A:HO2'	1.39	0.69
54:SC:193:VAL:HG11	54:SC:240:THR:HG22	1.72	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:1648:G:H5''	68:SQ:125:ARG:HB2	1.73	0.69
3:L5:1997:U:H4'	48:Ls:44:ARG:HH12	1.57	0.69
51:S2:1512:C:H5''	81:Sd:8:TRP:HZ3	1.57	0.69
51:S2:1729:U:H3	51:S2:1805:G:H1	1.40	0.69
77:SZ:62:VAL:HA	77:SZ:65:TYR:CE1	2.27	0.69
3:L5:4992:G:H2'	3:L5:4993:G:C8	2.27	0.69
57:SF:135:ARG:O	57:SF:203:ASN:ND2	2.26	0.69
57:SF:102:LEU:HD21	77:SZ:110:THR:HB	1.74	0.69
16:LL:64:VAL:HA	16:LL:67:HIS:CD2	2.27	0.69
51:S2:377:G:H5'	60:SI:98:LYS:HB3	1.73	0.69
3:L5:1408:G:O2'	3:L5:1411:C:N3	2.26	0.69
3:L5:2486:G:O6	3:L5:2493:G:O6	2.11	0.69
3:L5:2554:U:O2	3:L5:2764:A:N7	2.26	0.69
54:SC:210:PRO:HB3	54:SC:240:THR:HG21	1.74	0.69
70:SS:25:LYS:HD3	70:SS:27:ALA:H	1.58	0.69
78:Sa:7:ASN:ND2	78:Sa:10:ARG:O	2.26	0.69
3:L5:3701:OMC:H5	3:L5:3748:A:H62	1.40	0.69
51:S2:1562:C:H2'	51:S2:1563:G:H8	1.55	0.69
57:SF:68:ILE:HD11	57:SF:116:ILE:HG13	1.73	0.69
60:SI:70:GLU:OE2	63:SL:21:LYS:NZ	2.25	0.69
68:SQ:31:LEU:HD11	68:SQ:33:LYS:HE3	1.75	0.69
74:SW:37:PHE:HE1	74:SW:103:VAL:HB	1.58	0.69
3:L5:3641:U:OP2	3:L5:3646:A:N6	2.24	0.69
55:SD:138:VAL:HG22	55:SD:184:ILE:HG12	1.74	0.68
57:SF:30:ILE:HG23	57:SF:117:ILE:HD11	1.73	0.68
3:L5:1435:G:N2	3:L5:1449:C:O2	2.17	0.68
51:S2:928:G:H2'	51:S2:929:G:C8	2.29	0.68
26:LV:111:GLU:HG3	26:LV:131:ARG:HD3	1.74	0.68
54:SC:102:LEU:HD23	54:SC:130:ILE:HD12	1.74	0.68
53:SB:144:LYS:HB2	53:SB:206:PRO:HB2	1.75	0.68
64:SM:56:CYS:SG	64:SM:61:TYR:HD2	2.16	0.68
84:Sg:163:PRO:HB2	84:Sg:179:LEU:HB2	1.75	0.68
8:LC:218:ILE:HA	8:LC:229:LEU:HD22	1.74	0.68
10:LE:243:THR:HG22	10:LE:245:GLN:H	1.59	0.68
33:Lc:28:VAL:HG11	33:Lc:37:MET:HG3	1.76	0.68
51:S2:1491:G:O2'	72:SU:70:CYS:SG	2.51	0.68
52:SA:80:ARG:NH2	52:SA:165:ASN:O	2.25	0.68
64:SM:31:LEU:HD12	64:SM:89:VAL:HG23	1.75	0.68
69:SR:76:GLU:HA	69:SR:79:GLU:HG2	1.73	0.68
3:L5:1994:C:H2'	3:L5:1995:G:C8	2.29	0.68
55:SD:208:VAL:HG21	69:SR:12:ALA:HB2	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1270:A:H8	3:L5:2106:G:H21	1.40	0.68
72:SU:67:LYS:HG3	72:SU:78:ASP:HB2	1.76	0.68
3:L5:3717:A:H2'	3:L5:3718:A2M:C8	2.24	0.67
3:L5:4103:C:H1'	3:L5:4106:G:H1	1.59	0.67
6:LA:107:MET:HB3	6:LA:111:THR:HG21	1.75	0.67
7:LB:107:ALA:HB2	7:LB:201:LEU:HD22	1.75	0.67
51:S2:373:G:H4'	63:SL:85:THR:HG21	1.76	0.67
52:SA:163:CYS:SG	52:SA:164:ASN:N	2.67	0.67
70:SS:45:LEU:HD13	70:SS:50:ILE:HD11	1.75	0.67
51:S2:694:G:H2'	51:S2:695:C:O4'	1.95	0.67
51:S2:1285:G:N1	64:SM:57:ASP:OD1	2.25	0.67
3:L5:3680:U:OP1	6:LA:54:ARG:NH2	2.28	0.67
55:SD:196:GLY:HA3	55:SD:201:LYS:HG2	1.75	0.67
3:L5:387:G:HO2'	3:L5:412:G:H1	1.42	0.67
3:L5:1994:C:H2'	3:L5:1995:G:H8	1.57	0.67
27:LW:79:GLN:HB3	27:LW:87:LEU:HD11	1.75	0.67
51:S2:1423:C:H5	68:SQ:4:LYS:HE3	1.59	0.67
80:Sc:62:GLU:OE1	80:Sc:62:GLU:N	2.27	0.67
56:SE:80:ILE:HG23	56:SE:81:THR:HG23	1.77	0.67
51:S2:690:G:H3'	51:S2:691:G:H21	1.58	0.67
51:S2:996:A:H2'	51:S2:997:A:C8	2.30	0.67
6:LA:114:CYS:HB3	6:LA:165:VAL:HB	1.76	0.67
71:ST:129:ARG:HH11	71:ST:133:ARG:HH21	1.41	0.67
72:SU:49:LYS:HE3	72:SU:92:HIS:HB2	1.75	0.67
75:SX:28:LYS:HD2	75:SX:32:LEU:HD22	1.77	0.67
3:L5:4594:U:H2'	3:L5:4595:G:H8	1.59	0.67
53:SB:126:ASP:OD1	53:SB:136:ARG:HG2	1.94	0.67
3:L5:1972:G:H21	49:Lt:121:LEU:CD1	2.07	0.66
51:S2:508:A:H3'	51:S2:509:OMG:H8	1.58	0.66
69:SR:16:ILE:HD11	69:SR:54:VAL:HG21	1.76	0.66
73:SV:35:ASN:HB3	73:SV:50:PHE:HD2	1.60	0.66
84:Sg:175:LYS:HB3	84:Sg:184:LEU:HD11	1.78	0.66
3:L5:1971:C:O2	48:Ls:41:GLN:NE2	2.27	0.66
3:L5:1414:C:H2'	3:L5:1415:G:H8	1.61	0.66
3:L5:1993:C:O2'	49:Lt:135:THR:CB	2.43	0.66
3:L5:4537:C:H2'	3:L5:4538:G:H8	1.59	0.66
51:S2:70:G:O6	58:SG:170:ARG:NH2	2.28	0.66
53:SB:108:ASP:OD1	53:SB:109:LYS:N	2.29	0.66
3:L5:1188:C:H2'	3:L5:1189:G:H8	1.61	0.66
3:L5:2458:C:H5''	18:LN:67:ARG:HD2	1.77	0.66
3:L5:4910:G:N2	19:LO:106:ASP:O	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LM:30:VAL:HG11	23:LS:150:ILE:HD13	1.78	0.66
51:S2:165:G:OP2	51:S2:165:G:N2	2.28	0.66
51:S2:380:G:N3	60:SI:5:ARG:NH1	2.43	0.66
58:SG:37:ALA:HA	58:SG:49:VAL:HA	1.77	0.66
59:SH:69:LEU:HD12	59:SH:96:ALA:HB2	1.77	0.66
60:SI:141:ARG:HD3	60:SI:145:ILE:HG21	1.78	0.66
61:SJ:119:LEU:HD13	61:SJ:135:ILE:HD11	1.76	0.66
3:L5:3910:C:H2'	3:L5:3911:C:C6	2.31	0.66
3:L5:4251:A:H5''	15:LJ:108:GLY:HA3	1.78	0.66
51:S2:1424:G:H2'	51:S2:1425:G:C8	2.31	0.66
57:SF:123:GLU:HG2	57:SF:140:ASP:HA	1.78	0.66
63:SL:78:THR:HG22	63:SL:79:LYS:HG3	1.78	0.66
3:L5:1996:C:N4	3:L5:2000:G:H22	1.93	0.66
9:LD:120:GLU:O	9:LD:248:ARG:NH1	2.24	0.66
48:Ls:159:GLN:NE2	48:Ls:161:ILE:O	2.27	0.66
51:S2:1764:G:H5'	51:S2:1765:C:H5''	1.78	0.66
55:SD:164:VAL:O	55:SD:168:VAL:HG22	1.95	0.66
77:SZ:58:LEU:HD12	77:SZ:62:VAL:HG21	1.78	0.66
5:L8:96:C:H5''	38:Lh:66:LYS:HG2	1.78	0.66
50:Pt:9:A:O2'	50:Pt:10:G:N7	2.28	0.66
51:S2:1756:C:OP2	51:S2:1757:G:N2	2.27	0.66
57:SF:49:LEU:HD12	57:SF:50:PRO:HD2	1.78	0.66
6:LA:147:ARG:HH21	6:LA:155:LYS:HG3	1.61	0.66
51:S2:1120:U:H5'	79:Sb:72:ARG:HH12	1.61	0.66
3:L5:663:G:H2'	3:L5:664:G:C8	2.31	0.65
3:L5:1396:G:N7	31:La:110:LYS:NZ	2.41	0.65
3:L5:3944:G:H1	3:L5:4069:U:H3	1.44	0.65
7:LB:90:VAL:HG23	7:LB:163:ILE:HD11	1.77	0.65
9:LD:208:MET:HB2	9:LD:233:PRO:HG3	1.77	0.65
3:L5:261:G:H2'	3:L5:262:G:C8	2.32	0.65
3:L5:665:C:H4'	3:L5:666:G:H5'	1.77	0.65
3:L5:2745:A:H2'	3:L5:2746:A:H8	1.61	0.65
3:L5:4725:C:OP1	7:LB:103:LYS:NZ	2.29	0.65
25:LU:18:VAL:HG13	25:LU:73:THR:HG23	1.78	0.65
25:LU:97:ARG:HH11	25:LU:97:ARG:HB3	1.61	0.65
51:S2:496:C:OP1	56:SE:49:ARG:NH2	2.29	0.65
52:SA:118:GLU:OE1	52:SA:118:GLU:N	2.29	0.65
3:L5:4525:C:OP1	7:LB:246:ARG:NH2	2.29	0.65
22:LR:174:GLU:HA	22:LR:177:LEU:HB2	1.78	0.65
15:LJ:146:ARG:HG2	15:LJ:147:ARG:HG3	1.78	0.65
61:SJ:38:ARG:N	61:SJ:42:GLU:OE2	2.28	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4897:G:N2	3:L5:4924:C:O2	2.30	0.65
48:Ls:18:ILE:HG12	48:Ls:68:HIS:ND1	2.11	0.65
51:S2:528:A:H2'	51:S2:529:A:C8	2.32	0.65
51:S2:851:C:H5''	51:S2:852:G:H5'	1.77	0.65
2:CI:49:ILE:HG13	2:CI:50:MET:H	1.61	0.65
3:L5:1435:G:N1	3:L5:1449:C:N3	2.30	0.65
3:L5:1972:G:H21	49:Lt:121:LEU:HD11	1.62	0.65
3:L5:4076:G:OP1	12:LG:73:ARG:NE	2.29	0.65
27:LW:105:ARG:NH2	58:SG:148:SER:OG	2.29	0.65
57:SF:123:GLU:OE2	80:Sc:63:ARG:NH1	2.29	0.65
81:Sd:38:MET:HE1	81:Sd:50:ILE:HD11	1.79	0.65
7:LB:17:LEU:O	7:LB:19:ARG:N	2.30	0.65
15:LJ:94:LEU:HD11	15:LJ:107:PHE:HB3	1.79	0.65
51:S2:506:G:OP1	76:SY:108:LYS:NZ	2.29	0.65
51:S2:837:A:H61	76:SY:9:THR:HG22	1.61	0.65
51:S2:1757:G:O6	51:S2:1758:G:N2	2.29	0.65
79:Sb:10:PRO:HG2	79:Sb:15:GLU:OE2	1.97	0.65
3:L5:3736:A:H2'	3:L5:3737:A:C8	2.32	0.65
22:LR:168:GLU:HA	22:LR:171:LYS:HE3	1.78	0.65
6:LA:54:ARG:HG2	6:LA:56:ALA:H	1.62	0.65
20:LP:39:MET:HG2	20:LP:43:LYS:HD3	1.78	0.65
53:SB:107:ARG:NH1	66:SO:133:THR:O	2.30	0.65
16:LL:178:ALA:N	31:La:134:GLU:OE2	2.29	0.64
51:S2:1396:A:N7	51:S2:1449:G:O6	2.30	0.64
58:SG:141:ILE:HD11	58:SG:153:VAL:HG13	1.79	0.64
3:L5:1187:G:OP2	3:L5:1187:G:N2	2.25	0.64
3:L5:2815:A2M:H2'	3:L5:2816:G:C8	2.32	0.64
3:L5:3664:G:H2'	3:L5:3665:G:H8	1.63	0.64
51:S2:981:A:H2'	51:S2:982:G:C8	2.31	0.64
56:SE:42:LEU:HD12	56:SE:101:LEU:HD21	1.78	0.64
57:SF:71:ARG:NH2	57:SF:148:ASN:OD1	2.28	0.64
3:L5:2438:A:OP1	28:LX:106:LYS:NZ	2.27	0.64
51:S2:126:G:O6	58:SG:196:LYS:NZ	2.30	0.64
3:L5:2695:A:OP1	41:Lk:35:LYS:NZ	2.29	0.64
3:L5:4741:C:H3'	3:L5:4900:C:H42	1.62	0.64
3:L5:4894:A:H5''	3:L5:4896:G:H5'	1.80	0.64
8:LC:134:PRO:HG3	8:LC:150:LEU:HD12	1.80	0.64
32:Lb:116:LEU:HG	32:Lb:117:ARG:HH21	1.61	0.64
51:S2:379:C:H5''	60:SI:56:ARG:HH12	1.61	0.64
51:S2:1228:A:H2'	51:S2:1229:G:H8	1.61	0.64
51:S2:1801:A:H2'	51:S2:1802:C:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:109:G:OP2	16:LL:74:ARG:NH2	2.30	0.64
56:SE:125:LYS:HB2	56:SE:226:PHE:CD1	2.31	0.64
61:SJ:88:ASP:OD1	61:SJ:89:GLU:N	2.31	0.64
3:L5:2491:C:H2'	3:L5:2492:C:C6	2.33	0.64
9:LD:111:ASN:ND2	9:LD:116:ASP:OD2	2.30	0.64
19:LO:61:ARG:HA	19:LO:70:PRO:HD2	1.79	0.64
51:S2:1301:A:H4'	81:Sd:3:HIS:NE2	2.12	0.64
54:SC:65:LYS:HD2	54:SC:273:LEU:HD13	1.78	0.64
54:SC:200:ARG:O	61:SJ:54:ARG:NH2	2.30	0.64
3:L5:1942:A:H2'	3:L5:1943:A:C8	2.32	0.64
3:L5:4220:6MZ:O1P	24:LT:2:THR:OG1	2.10	0.64
25:LU:88:LYS:HD2	25:LU:97:ARG:HH21	1.62	0.64
49:Lt:106:PHE:HD2	49:Lt:109:ILE:HD11	1.62	0.64
33:Lc:22:MET:O	33:Lc:23:LYS:HG3	1.98	0.64
51:S2:681:PSU:H4'	75:SX:9:THR:HG22	1.78	0.64
3:L5:685:C:H5'	10:LE:101:ASN:ND2	2.12	0.64
3:L5:1996:C:H5''	49:Lt:124:GLU:HG2	1.78	0.64
67:SP:20:VAL:HG11	67:SP:36:LEU:HD21	1.79	0.64
68:SQ:10:VAL:HG22	68:SQ:25:CYS:HB3	1.78	0.64
3:L5:137:G:H2'	3:L5:138:G:H8	1.62	0.64
20:LP:128:ARG:NH2	91:LP:301:HOH:O	2.30	0.64
51:S2:888:U:H4'	51:S2:889:U:H5'	1.79	0.64
51:S2:1467:C:H5''	69:SR:1:MET:HA	1.79	0.64
84:Sg:191:HIS:ND1	84:Sg:213:ASP:OD2	2.20	0.64
3:L5:1961:G:N2	3:L5:2024:G:O2'	2.31	0.63
81:Sd:6:LEU:HA	81:Sd:9:SER:HB3	1.80	0.63
3:L5:968:C:H5'	10:LE:110:ARG:HE	1.63	0.63
51:S2:201:C:H3'	51:S2:202:G:H21	1.63	0.63
68:SQ:58:LEU:HD22	68:SQ:108:ILE:HG13	1.80	0.63
3:L5:4075:U:OP1	12:LG:249:ARG:NH1	2.31	0.63
3:L5:4274:A:H2'	3:L5:4275:G:C8	2.33	0.63
6:LA:112:ILE:HD11	46:Lp:79:VAL:HG22	1.79	0.63
51:S2:323:C:H2'	51:S2:327:G:H1	1.61	0.63
52:SA:49:ILE:HD13	52:SA:163:CYS:HA	1.79	0.63
54:SC:196:ILE:HB	54:SC:223:TYR:HB2	1.78	0.63
10:LE:225:PRO:HG2	10:LE:226:ARG:HH11	1.63	0.63
49:Lt:114:ARG:HH21	49:Lt:117:ARG:HH11	1.46	0.63
3:L5:1591:U:OP2	3:L5:2856:C:O2'	2.16	0.63
3:L5:2017:A:O2'	3:L5:2018:C:O5'	2.16	0.63
49:Lt:82:ILE:HD11	49:Lt:106:PHE:HE2	1.63	0.63
51:S2:563:G:N7	61:SJ:172:ARG:NH2	2.46	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SN:103:GLU:HA	65:SN:106:ARG:HH11	1.64	0.63
67:SP:18:ARG:NH1	70:SS:88:LYS:O	2.32	0.63
3:L5:1100:U:O3'	3:L5:1167:C:N4	2.32	0.63
10:LE:225:PRO:O	10:LE:226:ARG:HD3	1.99	0.63
13:LH:106:GLN:HB2	13:LH:111:LEU:HB3	1.81	0.63
66:SO:101:GLY:HA3	66:SO:134:PRO:HD2	1.81	0.63
51:S2:1373:C:O2'	69:SR:10:LYS:NZ	2.31	0.63
51:S2:1550:G:O2'	51:S2:1558:C:O2	2.15	0.63
63:SL:7:GLU:OE1	63:SL:7:GLU:N	2.32	0.63
3:L5:3954:A:H1'	3:L5:4058:U:H5'	1.80	0.63
3:L5:308:G:OP2	3:L5:308:G:N2	2.29	0.63
3:L5:1824:G:H5''	24:LT:35:LYS:HE2	1.81	0.63
3:L5:2773:G:H5'	41:Lk:17:ARG:HH21	1.64	0.63
3:L5:3680:U:H5''	6:LA:54:ARG:HH21	1.64	0.63
51:S2:1550:G:H3'	51:S2:1579:A:H61	1.63	0.63
59:SH:87:PHE:HB3	59:SH:90:LYS:HG3	1.80	0.63
72:SU:66:ARG:HH22	72:SU:75:LYS:HD3	1.64	0.63
3:L5:1339:U:H2'	3:L5:1340:OMC:C6	2.34	0.62
7:LB:219:VAL:HG11	7:LB:337:VAL:HG13	1.80	0.62
10:LE:264:ILE:HD11	10:LE:267:LEU:HD22	1.81	0.62
13:LH:17:ASP:OD1	13:LH:28:LYS:HB3	1.99	0.62
36:Lf:71:TRP:HB2	36:Lf:89:ARG:HH11	1.64	0.62
67:SP:81:ARG:NH2	67:SP:117:GLY:O	2.32	0.62
3:L5:4279:A:H5'	3:L5:4281:A:H1'	1.81	0.62
16:LL:63:THR:HG22	16:LL:64:VAL:H	1.63	0.62
51:S2:121:OMU:HM23	56:SE:144:ALA:HB3	1.81	0.62
51:S2:1261:C:O2	81:Sd:10:HIS:NE2	2.29	0.62
51:S2:1850:MA6:H8	51:S2:1850:MA6:O5'	1.99	0.62
3:L5:1095:A:C2	3:L5:1200:G:N1	2.62	0.62
3:L5:3823:G:OP2	3:L5:3823:G:N2	2.26	0.62
30:LZ:46:ILE:HD11	30:LZ:49:TYR:CD1	2.34	0.62
3:L5:4088:C:OP1	6:LA:37:ARG:NH1	2.32	0.62
24:LT:102:ARG:HD3	24:LT:106:LEU:HD13	1.80	0.62
3:L5:2092:G:O2'	3:L5:2262:G:N2	2.32	0.62
3:L5:4106:G:H3'	3:L5:4107:G:H8	1.62	0.62
3:L5:4274:A:H2'	3:L5:4275:G:H8	1.65	0.62
6:LA:116:LEU:HB3	6:LA:126:LEU:HB2	1.81	0.62
54:SC:94:ILE:O	54:SC:98:LEU:N	2.26	0.62
3:L5:3732:A:H2'	3:L5:3733:A:H8	1.65	0.62
3:L5:4113:U:H3'	3:L5:4114:C:H4'	1.81	0.62
58:SG:135:PRO:HG2	58:SG:141:ILE:HG22	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SQ:43:GLU:HG3	68:SQ:44:PRO:CD	2.26	0.62
51:S2:818:A:OP1	61:SJ:80:ARG:NH2	2.32	0.62
51:S2:1109:C:C4	69:SR:126:MET:HE2	2.35	0.62
63:SL:22:ARG:HH21	63:SL:31:GLU:HG2	1.64	0.62
3:L5:1662:C:H2'	3:L5:1663:C:C6	2.35	0.62
51:S2:1752:C:N3	51:S2:1779:G:N1	2.34	0.62
61:SJ:108:ARG:HA	61:SJ:113:GLN:HE21	1.64	0.62
7:LB:220:ILE:HG23	7:LB:278:THR:HG22	1.82	0.62
16:LL:140:SER:HA	16:LL:143:GLU:HG2	1.82	0.62
25:LU:63:ILE:HD13	25:LU:72:VAL:HG22	1.82	0.62
48:Ls:61:MET:HG2	48:Ls:88:PHE:HE2	1.65	0.62
27:LW:105:ARG:NH1	58:SG:149:LYS:O	2.33	0.62
51:S2:639:C:H2'	51:S2:640:A:H8	1.64	0.62
53:SB:136:ARG:HH21	53:SB:218:LEU:HD11	1.65	0.62
65:SN:29:THR:OG1	65:SN:31:ASP:OD1	2.17	0.62
3:L5:184:U:O2'	3:L5:189:G:O4'	2.18	0.61
3:L5:2362:U:H2'	3:L5:2363:A2M:H8	1.82	0.61
7:LB:63:PRO:HD2	7:LB:357:ARG:HH21	1.64	0.61
51:S2:1673:U:H5''	68:SQ:78:VAL:HG12	1.82	0.61
51:S2:1829:G:H1'	51:S2:1850:MA6:H2	1.82	0.61
59:SH:43:LEU:HD12	59:SH:72:PHE:CE2	2.35	0.61
70:SS:3:LEU:H	70:SS:3:LEU:HD23	1.64	0.61
80:Sc:20:ARG:HD3	80:Sc:28:THR:HG22	1.81	0.61
84:Sg:11:LEU:HB2	84:Sg:307:VAL:HG13	1.82	0.61
3:L5:2744:A:H2'	3:L5:2745:A:C8	2.35	0.61
3:L5:4281:A:H2'	3:L5:4282:A:H2'	1.80	0.61
13:LH:44:GLU:HG3	17:LM:2:VAL:HG23	1.80	0.61
34:Ld:33:ILE:HD11	34:Ld:45:ALA:HA	1.82	0.61
51:S2:837:A:N6	76:SY:9:THR:HG22	2.16	0.61
61:SJ:131:ARG:NH1	61:SJ:143:ASN:O	2.32	0.61
68:SQ:58:LEU:HD11	68:SQ:112:LEU:HD11	1.81	0.61
76:SY:55:ILE:HD12	76:SY:75:ILE:HG22	1.81	0.61
51:S2:495:U:OP1	56:SE:49:ARG:NH1	2.34	0.61
51:S2:885:U:O2	51:S2:901:G:O6	2.18	0.61
51:S2:889:U:OP2	51:S2:896:U:N3	2.33	0.61
58:SG:85:ARG:NH2	76:SY:118:ARG:HG3	2.15	0.61
77:SZ:41:ARG:NH2	91:SZ:201:HOH:O	2.32	0.61
51:S2:103:A:H5'	60:SI:12:ARG:NH1	2.15	0.61
56:SE:64:ILE:HG13	56:SE:70:ILE:HD11	1.82	0.61
64:SM:61:TYR:HD1	83:Sf:104:LYS:HZ1	1.48	0.61
64:SM:83:LYS:HE2	64:SM:103:VAL:HG13	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:Sg:188:HIS:HD1	84:Sg:219:TRP:CG	2.19	0.61
3:L5:730:G:C5	11:LF:73:ARG:HD3	2.36	0.61
3:L5:4260:U:H2'	3:L5:4261:C:C6	2.36	0.61
3:L5:4431:PSU:OP2	14:LI:3:ARG:NH2	2.27	0.61
51:S2:1373:C:OP1	69:SR:7:LYS:HG3	1.99	0.61
56:SE:57:THR:OG1	56:SE:59:ASP:OD1	2.18	0.61
64:SM:96:ARG:NH2	64:SM:100:PRO:O	2.32	0.61
66:SO:59:GLY:HA2	66:SO:68:GLU:HG2	1.81	0.61
3:L5:267:G:H2'	3:L5:268:G:H8	1.65	0.61
3:L5:300:A:H2'	3:L5:301:G:H8	1.66	0.61
23:LS:27:LEU:HB3	24:LT:148:PRO:HB3	1.83	0.61
34:Ld:90:ARG:HD3	34:Ld:102:LEU:HD13	1.82	0.61
51:S2:640:A:H2'	51:S2:641:A:C8	2.36	0.61
56:SE:125:LYS:HB2	56:SE:226:PHE:CE1	2.35	0.61
76:SY:41:ARG:HG3	76:SY:55:ILE:HB	1.82	0.61
3:L5:4537:C:H2'	3:L5:4538:G:C8	2.35	0.61
51:S2:525:A:O3'	82:Se:31:ARG:NH2	2.33	0.61
60:SI:151:GLU:HA	60:SI:154:LYS:NZ	2.16	0.61
61:SJ:103:GLU:OE1	61:SJ:103:GLU:N	2.30	0.61
3:L5:1972:G:H5'	48:Ls:38:LYS:NZ	2.15	0.61
3:L5:2484:A:H62	3:L5:2494:U:H3	1.48	0.61
3:L5:4069:U:H2'	3:L5:4070:U:C6	2.36	0.61
12:LG:94:GLN:HG3	12:LG:218:LEU:HD21	1.80	0.61
58:SG:218:LYS:HA	58:SG:221:LYS:HE3	1.82	0.61
5:L8:19:C:H2'	5:L8:20:A:C8	2.36	0.61
51:S2:1438:A:H2'	51:S2:1439:A:C8	2.36	0.61
51:S2:1541:G:OP1	71:ST:56:ARG:HD2	2.01	0.61
58:SG:57:ASP:OD1	58:SG:58:LYS:N	2.34	0.61
3:L5:3811:G:O2'	3:L5:3814:U:OP2	2.16	0.61
3:L5:3945:A:H2'	3:L5:3946:G:H8	1.66	0.61
3:L5:4165:C:OP1	12:LG:53:ARG:NH2	2.34	0.61
3:L5:4472:G:O2'	43:Lm:100:TYR:O	2.19	0.61
51:S2:919:A:H4'	74:SW:57:ARG:HD2	1.83	0.61
3:L5:74:G:H5'	16:LL:59:VAL:HG13	1.82	0.60
3:L5:1857:C:H2'	3:L5:1858:A:H8	1.65	0.60
51:S2:433:A:H5''	60:SI:22:HIS:HB3	1.81	0.60
53:SB:136:ARG:HG3	53:SB:218:LEU:HD21	1.83	0.60
3:L5:4163:U:H5'	3:L5:4164:C:H5''	1.83	0.60
6:LA:101:VAL:HG22	6:LA:165:VAL:HG22	1.82	0.60
71:ST:18:LEU:HD22	71:ST:58:ALA:HA	1.83	0.60
3:L5:2745:A:H2'	3:L5:2746:A:C8	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LB:47:LEU:HG	7:LB:181:MET:HE2	1.83	0.60
51:S2:1285:G:N2	64:SM:58:GLU:HB2	2.16	0.60
56:SE:233:LYS:HD2	56:SE:234:PRO:HD2	1.84	0.60
70:SS:48:ALA:O	70:SS:66:ARG:NH1	2.34	0.60
76:SY:12:PHE:HZ	76:SY:21:LYS:HD3	1.67	0.60
3:L5:1976:G:H21	49:Lt:139:VAL:HG12	1.67	0.60
13:LH:93:ARG:HG2	13:LH:182:SER:HB3	1.83	0.60
57:SF:106:GLU:N	57:SF:106:GLU:OE1	2.34	0.60
57:SF:133:THR:HG22	57:SF:134:VAL:HG23	1.84	0.60
3:L5:1333:A:H2'	3:L5:1334:A:C8	2.36	0.60
3:L5:4139:G:H21	3:L5:4140:C:H41	1.47	0.60
51:S2:84:A:N3	51:S2:150:A:O2'	2.31	0.60
51:S2:1644:C:H4'	68:SQ:140:ARG:HB2	1.82	0.60
57:SF:131:ALA:HA	57:SF:136:ARG:HG2	1.83	0.60
60:SI:31:ARG:NH1	91:SI:303:HOH:O	2.34	0.60
63:SL:57:ASP:OD1	63:SL:84:ARG:NH1	2.35	0.60
3:L5:1328:G:O2'	3:L5:2349:A:OP1	2.19	0.60
5:L8:90:C:H1'	29:LY:24:HIS:HB3	1.84	0.60
49:Lt:19:GLY:HA2	49:Lt:48:LYS:HZ3	1.66	0.60
51:S2:921:G:OP2	79:Sb:26:GLN:NE2	2.32	0.60
53:SB:52:THR:HG23	53:SB:57:ILE:HA	1.84	0.60
53:SB:127:VAL:HG23	53:SB:177:GLN:HG3	1.84	0.60
3:L5:71:C:H1'	16:LL:62:PRO:O	2.02	0.60
3:L5:2020:U:H2'	3:L5:2021:G:H8	1.67	0.60
3:L5:4618:OMG:H5'	26:LV:15:ARG:HB2	1.83	0.60
53:SB:122:GLU:HG2	53:SB:140:VAL:HG12	1.83	0.60
53:SB:186:ASN:HA	53:SB:189:ILE:HD12	1.84	0.60
73:SV:15:ARG:HH21	73:SV:24:ILE:HG21	1.67	0.60
3:L5:1281:G:N1	10:LE:128:HIS:HB2	2.17	0.60
51:S2:940:U:H3	51:S2:1002:U:H3	1.46	0.60
3:L5:1703:C:H2'	3:L5:1704:C:O4'	2.01	0.60
3:L5:2613:C:OP1	37:Lg:24:ARG:NH2	2.34	0.60
51:S2:448:A:H5''	60:SI:25:ARG:HA	1.84	0.60
51:S2:888:U:HO2'	51:S2:898:U:H3	1.50	0.60
52:SA:198:MET:HE1	52:SA:200:ASP:HB2	1.84	0.60
18:LN:193:ARG:NH2	91:LN:401:HOH:O	2.35	0.60
51:S2:120:U:H2'	51:S2:121:OMU:H6	1.83	0.60
3:L5:1258:G:H2'	3:L5:1259:G:C8	2.37	0.59
3:L5:3910:C:H2'	3:L5:3911:C:H6	1.66	0.59
11:LF:59:LYS:HA	11:LF:62:ARG:HE	1.67	0.59
12:LG:209:SER:HA	12:LG:212:LYS:HG3	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LR:31:GLU:OE1	22:LR:31:GLU:N	2.33	0.59
26:LV:60:MET:HE1	26:LV:108:ASN:HA	1.82	0.59
51:S2:1091:C:HO2'	74:SW:2:VAL:N	2.00	0.59
51:S2:1476:A:H4'	51:S2:1477:U:H5''	1.84	0.59
55:SD:99:ILE:HG23	55:SD:173:ARG:HH21	1.66	0.59
3:L5:88:A:N7	21:LQ:173:LYS:NZ	2.49	0.59
3:L5:1942:A:H2'	3:L5:1943:A:H8	1.67	0.59
37:Lg:69:LYS:HG3	37:Lg:73:HIS:CD2	2.36	0.59
51:S2:145:G:H2'	51:S2:146:G:C8	2.37	0.59
51:S2:1536:G:H2'	51:S2:1537:A:C8	2.37	0.59
58:SG:5:ILE:HD13	58:SG:16:ILE:HG12	1.83	0.59
3:L5:1307:A:H2'	3:L5:1308:C:C6	2.36	0.59
3:L5:1982:G:N2	3:L5:2009:A:O2'	2.32	0.59
3:L5:4987:C:OP2	7:LB:116:ARG:NH2	2.35	0.59
30:LZ:9:LYS:NZ	30:LZ:83:THR:O	2.32	0.59
50:Pt:23:C:H2'	50:Pt:24:A:C8	2.37	0.59
51:S2:874:G:H2'	51:S2:875:A:H8	1.67	0.59
52:SA:22:GLY:O	52:SA:24:HIS:ND1	2.35	0.59
58:SG:157:VAL:HG11	58:SG:176:ILE:HG21	1.84	0.59
81:Sd:17:GLY:O	81:Sd:27:ARG:NH1	2.35	0.59
3:L5:4967:A:H2'	3:L5:4968:A:H8	1.67	0.59
22:LR:44:LEU:HD22	22:LR:49:LEU:HD12	1.84	0.59
34:Ld:22:THR:HG23	34:Ld:122:VAL:HG13	1.84	0.59
51:S2:332:G:O6	58:SG:186:GLN:NE2	2.35	0.59
53:SB:103:MET:HB3	53:SB:215:VAL:HG12	1.83	0.59
63:SL:103:GLU:HG3	75:SX:11:ARG:HB2	1.84	0.59
7:LB:57:VAL:HG22	7:LB:73:VAL:HG12	1.83	0.59
19:LO:34:VAL:HG22	19:LO:103:LYS:HB2	1.84	0.59
51:S2:1407:U:H2'	51:S2:1408:U:C6	2.38	0.59
54:SC:191:VAL:HG11	54:SC:236:PHE:HA	1.84	0.59
3:L5:4591:U:H2'	3:L5:4592:C:C6	2.38	0.59
6:LA:229:ALA:HB3	6:LA:234:LYS:HB3	1.84	0.59
51:S2:106:C:H2'	51:S2:107:A:H8	1.68	0.59
53:SB:84:PHE:HB3	53:SB:86:LEU:HD23	1.84	0.59
59:SH:31:GLU:HA	59:SH:37:LYS:HD2	1.83	0.59
3:L5:178:C:N4	3:L5:179:G:O6	2.35	0.59
3:L5:325:U:H2'	3:L5:326:C:C6	2.37	0.59
3:L5:4068:U:H2'	3:L5:4069:U:C6	2.37	0.59
3:L5:4162:C:H5	12:LG:73:ARG:HH12	1.50	0.59
52:SA:164:ASN:OD1	52:SA:165:ASN:N	2.36	0.59
76:SY:11:LYS:HB2	76:SY:24:VAL:HG12	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:Sc:13:ARG:NH1	80:Sc:53:GLY:O	2.36	0.59
3:L5:4934:A:H2'	3:L5:4935:C:H6	1.67	0.59
12:LG:38:ASN:ND2	12:LG:43:GLN:OE1	2.36	0.59
31:La:30:GLY:O	31:La:40:HIS:NE2	2.34	0.59
49:Lt:22:VAL:HA	49:Lt:48:LYS:HE3	1.83	0.59
51:S2:1115:U:O2'	51:S2:1117:C:OP2	2.19	0.59
51:S2:1277:C:H2'	51:S2:1278:A:H8	1.67	0.59
68:SQ:72:VAL:HG21	68:SQ:84:ILE:HG12	1.85	0.59
3:L5:4098:A:H62	3:L5:4099:G:H21	1.49	0.59
56:SE:250:GLU:OE1	56:SE:250:GLU:N	2.36	0.59
3:L5:1503:A:H4'	3:L5:1504:G:H5'	1.85	0.59
3:L5:4239:A:H2'	3:L5:4240:G:C8	2.37	0.59
51:S2:316:G:OP2	58:SG:183:ARG:NH2	2.34	0.59
51:S2:383:G:H21	63:SL:133:PRO:HG2	1.68	0.59
56:SE:7:LYS:NZ	91:SE:303:HOH:O	2.36	0.59
3:L5:711:A:H2'	3:L5:712:C:C6	2.38	0.58
51:S2:639:C:H2'	51:S2:640:A:C8	2.38	0.58
51:S2:1629:C:H5''	70:SS:83:PHE:CE1	2.38	0.58
75:SX:123:VAL:HG12	75:SX:124:LYS:HG3	1.85	0.58
3:L5:1444:G:H22	3:L5:2104:G:H21	1.50	0.58
3:L5:1695:U:O2'	3:L5:1719:A:N3	2.35	0.58
3:L5:2516:G:O2'	37:Lg:62:LYS:NZ	2.36	0.58
3:L5:4967:A:H2'	3:L5:4968:A:C8	2.38	0.58
30:LZ:46:ILE:HA	30:LZ:70:SER:HA	1.85	0.58
51:S2:616:A:OP1	75:SX:68:LYS:NZ	2.35	0.58
52:SA:190:SER:OG	52:SA:192:GLU:OE1	2.19	0.58
53:SB:90:ASP:HB2	53:SB:223:PHE:HZ	1.68	0.58
63:SL:111:VAL:HG12	63:SL:140:PHE:HB2	1.85	0.58
3:L5:4340:U:O2	87:L5:5261:SPD:N10	2.37	0.58
24:LT:14:MET:HE1	24:LT:55:LYS:HB2	1.84	0.58
27:LW:106:GLU:HA	27:LW:109:ILE:HD12	1.86	0.58
36:Lf:15:LYS:HB3	36:Lf:25:THR:HG23	1.85	0.58
45:Lo:53:LYS:NZ	91:Lo:303:HOH:O	2.36	0.58
51:S2:84:A:H5''	76:SY:124:ASN:HD22	1.66	0.58
51:S2:1536:G:H2'	51:S2:1537:A:H8	1.69	0.58
53:SB:90:ASP:OD1	53:SB:91:VAL:N	2.36	0.58
55:SD:143:ARG:HG3	55:SD:144:GLY:H	1.68	0.58
59:SH:191:GLU:O	59:SH:193:GLN:NE2	2.32	0.58
64:SM:52:LEU:HD13	64:SM:65:VAL:HG21	1.85	0.58
3:L5:2000:G:O2'	3:L5:2001:G:N7	2.37	0.58
3:L5:3908:A:N7	3:L5:4449:A:N6	2.52	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4934:A:H2'	3:L5:4935:C:C6	2.38	0.58
8:LC:156:ASP:OD2	8:LC:255:SER:OG	2.22	0.58
51:S2:17:C:O2'	51:S2:1194:A:N1	2.31	0.58
51:S2:1010:G:H2'	51:S2:1011:A:H8	1.69	0.58
64:SM:54:SER:HA	64:SM:78:LYS:HE3	1.84	0.58
3:L5:1686:C:O2'	32:Lb:18:ARG:NH2	2.35	0.58
3:L5:2352:U:OP1	8:LC:78:ARG:NH2	2.36	0.58
3:L5:4620:OMU:OP2	3:L5:4670:C:N4	2.30	0.58
3:L5:4946:U:HO2'	36:Lf:2:SER:N	2.02	0.58
51:S2:51:U:H2'	51:S2:52:G:H8	1.67	0.58
58:SG:22:ARG:N	58:SG:22:ARG:HD2	2.18	0.58
64:SM:23:LYS:HZ3	64:SM:26:LEU:HB3	1.68	0.58
3:L5:4098:A:N7	3:L5:4099:G:H1'	2.19	0.58
6:LA:133:TYR:HB3	6:LA:168:VAL:HG12	1.83	0.58
30:LZ:47:ASP:N	30:LZ:69:LYS:O	2.35	0.58
51:S2:420:G:OP1	74:SW:88:LYS:NZ	2.35	0.58
51:S2:543:C:H3'	51:S2:544:G:H8	1.68	0.58
51:S2:798:G:H4'	59:SH:113:LYS:HE3	1.85	0.58
51:S2:1845:A:H2'	51:S2:1846:G:C8	2.39	0.58
56:SE:18:TRP:HH2	56:SE:31:PRO:HD3	1.69	0.58
3:L5:982:U:H2'	3:L5:983:C:C6	2.38	0.58
3:L5:4088:C:H2'	3:L5:4089:G:C8	2.39	0.58
23:LS:83:ARG:HG3	23:LS:125:GLN:HB3	1.86	0.58
58:SG:85:ARG:HH21	76:SY:118:ARG:HG3	1.67	0.58
3:L5:455:C:O2'	3:L5:456:C:H5'	2.03	0.58
3:L5:1995:G:H4'	49:Lt:128:THR:CB	2.33	0.58
3:L5:3868:G:H22	3:L5:3900:G:H1'	1.68	0.58
12:LG:157:ILE:HA	12:LG:201:THR:HG22	1.86	0.58
14:LI:152:LEU:HB3	14:LI:165:ILE:HD12	1.86	0.58
51:S2:159:A2M:O5'	51:S2:159:A2M:H8	2.04	0.58
51:S2:455:A:H2'	51:S2:456:C:H6	1.68	0.58
51:S2:1556:A:N3	51:S2:1556:A:H2'	2.18	0.58
51:S2:1588:A:H2'	51:S2:1589:A:C8	2.39	0.58
51:S2:1801:A:H2'	51:S2:1802:C:H6	1.68	0.58
72:SU:61:LEU:HB2	72:SU:82:MET:HB3	1.85	0.58
3:L5:268:G:H2'	3:L5:269:G:H8	1.67	0.58
3:L5:1899:G:O2'	35:Le:57:ASN:OD1	2.22	0.58
51:S2:1203:G:H2'	51:S2:1204:A:C8	2.39	0.58
51:S2:1217:A:H2'	51:S2:1218:C:C6	2.38	0.58
51:S2:1605:G:OP1	71:ST:84:ARG:NH2	2.37	0.58
52:SA:85:ARG:NH1	52:SA:203:PHE:O	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SE:127:ARG:HD2	56:SE:142:HIS:HA	1.86	0.58
72:SU:107:GLU:OE1	72:SU:107:GLU:N	2.37	0.58
3:L5:3917:A:H2'	3:L5:3918:G:H8	1.69	0.57
10:LE:203:ILE:O	10:LE:206:VAL:HG22	2.04	0.57
51:S2:115:U:H2'	51:S2:116:OMU:C6	2.33	0.57
51:S2:557:U:H2'	51:S2:558:G:C8	2.39	0.57
52:SA:5:LEU:O	52:SA:9:GLN:HG2	2.04	0.57
55:SD:106:ARG:HG3	55:SD:175:VAL:HG22	1.85	0.57
61:SJ:124:HIS:CD2	82:SE:35:ARG:HD2	2.39	0.57
3:L5:1095:A:N1	3:L5:1200:G:O6	2.37	0.57
3:L5:4457:PSU:H1'	7:LB:252:ALA:HB3	1.86	0.57
7:LB:122:TRP:O	7:LB:127:LYS:NZ	2.35	0.57
52:SA:198:MET:HG2	52:SA:199:PRO:HD2	1.87	0.57
3:L5:1933:G:H2'	3:L5:1934:A:C8	2.40	0.57
3:L5:4088:C:H2'	3:L5:4089:G:H8	1.69	0.57
5:L8:141:C:H2'	5:L8:142:U:C6	2.39	0.57
7:LB:59:GLU:HB2	7:LB:366:LYS:HE3	1.85	0.57
51:S2:496:C:H5'	56:SE:29:PRO:HA	1.86	0.57
59:SH:76:GLN:HG3	59:SH:94:PHE:HD2	1.69	0.57
68:SQ:58:LEU:HD21	68:SQ:112:LEU:HG	1.86	0.57
76:SY:27:VAL:HG22	76:SY:69:THR:HB	1.84	0.57
3:L5:1241:C:H5'	10:LE:72:LYS:HZ1	1.69	0.57
5:L8:75:OMG:OP2	29:LY:74:TYR:OH	2.21	0.57
11:LF:105:VAL:HG13	11:LF:136:VAL:HG12	1.86	0.57
25:LU:97:ARG:HB3	25:LU:97:ARG:NH1	2.19	0.57
30:LZ:12:LEU:HB2	30:LZ:81:MET:HB3	1.87	0.57
51:S2:695:C:N4	51:S2:736:C:O2'	2.36	0.57
51:S2:1372:U:OP1	51:S2:1385:G:N2	2.34	0.57
55:SD:68:GLU:O	55:SD:72:VAL:HG23	2.04	0.57
58:SG:44:GLU:HB2	58:SG:119:LYS:HZ1	1.69	0.57
59:SH:31:GLU:HG3	59:SH:32:MET:SD	2.44	0.57
1:CD:2:PRO:HG2	1:CD:14:THR:HG22	1.85	0.57
3:L5:454:U:H2'	3:L5:455:C:C6	2.38	0.57
3:L5:1645:C:H2'	3:L5:1646:A:C8	2.38	0.57
3:L5:1867:A:H2'	3:L5:1868:A:C8	2.40	0.57
3:L5:4978:G:OP1	7:LB:271:GLN:NE2	2.28	0.57
45:Lo:33:LEU:HA	45:Lo:38:LYS:HG2	1.86	0.57
51:S2:1527:C:OP1	68:SQ:142:GLN:NE2	2.38	0.57
51:S2:1736:G:H2'	51:S2:1737:G:H8	1.70	0.57
69:SR:93:GLN:HB2	69:SR:96:ILE:HD13	1.85	0.57
76:SY:106:GLN:OE1	76:SY:106:GLN:N	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:Sc:44:ARG:HH21	80:Sc:63:ARG:HH11	1.50	0.57
3:L5:62:A:N3	3:L5:77:U:O2'	2.31	0.57
3:L5:2539:C:H2'	3:L5:2540:C:C6	2.40	0.57
7:LB:161:ARG:HG2	7:LB:184:GLN:HA	1.87	0.57
24:LT:115:LYS:HE2	24:LT:128:LEU:HD13	1.87	0.57
51:S2:191:A:OP1	60:SI:141:ARG:NH2	2.38	0.57
51:S2:316:G:H5''	58:SG:183:ARG:HH12	1.69	0.57
51:S2:795:A:H2'	51:S2:796:G:C8	2.40	0.57
63:SL:7:GLU:HG2	63:SL:9:ALA:H	1.68	0.57
84:Sg:68:ASP:HB3	84:Sg:111:VAL:HG12	1.85	0.57
84:Sg:207:CYS:HB3	84:Sg:221:LEU:HD21	1.85	0.57
3:L5:158:A:H5''	3:L5:159:C:H2'	1.86	0.57
3:L5:4069:U:H2'	3:L5:4070:U:H6	1.68	0.57
8:LC:266:THR:HG22	8:LC:267:TRP:H	1.68	0.57
10:LE:87:LYS:HG3	10:LE:88:VAL:HG23	1.86	0.57
18:LN:5:LYS:HG3	39:Li:40:VAL:HG11	1.87	0.57
51:S2:1658:G:OP2	51:S2:1660:C:N4	2.37	0.57
53:SB:88:THR:HA	53:SB:98:THR:HA	1.87	0.57
70:SS:61:GLU:OE1	70:SS:61:GLU:N	2.32	0.57
83:Sf:103:LEU:HB2	83:Sf:105:TYR:CD1	2.39	0.57
84:Sg:178:ASN:HB2	84:Sg:185:LYS:HD3	1.85	0.57
3:L5:444:G:H22	3:L5:1303:A:H2	1.53	0.57
3:L5:4220:6MZ:O5'	3:L5:4220:6MZ:H8	2.05	0.57
22:LR:176:ARG:HH22	51:S2:910:G:P	2.28	0.57
27:LW:96:GLN:HB2	27:LW:101:ARG:HE	1.69	0.57
48:Ls:127:ASN:HA	48:Ls:153:GLU:HG2	1.87	0.57
51:S2:928:G:N2	79:Sb:68:GLY:O	2.34	0.57
54:SC:94:ILE:HG13	54:SC:95:ASP:N	2.19	0.57
69:SR:45:LYS:HA	69:SR:48:ASN:HD21	1.69	0.57
3:L5:1188:C:H2'	3:L5:1189:G:C8	2.40	0.57
3:L5:1509:C:H5''	31:La:2:PRO:HD3	1.87	0.57
3:L5:4426:C:C2'	3:L5:4427:G:H5'	2.35	0.57
11:LF:171:ASP:OD1	11:LF:172:ASN:N	2.38	0.57
13:LH:93:ARG:HD2	13:LH:143:GLU:HG2	1.86	0.57
20:LP:54:GLN:HA	20:LP:83:TRP:CD1	2.39	0.57
21:LQ:70:MET:HE1	21:LQ:137:VAL:HB	1.86	0.57
54:SC:176:LYS:O	54:SC:200:ARG:NH2	2.37	0.57
3:L5:1646:A:O2'	40:Lj:49:TRP:O	2.19	0.57
7:LB:90:VAL:HG22	7:LB:104:THR:HG23	1.86	0.57
10:LE:91:THR:HG22	10:LE:108:LYS:HB3	1.86	0.57
10:LE:223:ARG:NH2	10:LE:238:GLU:HG3	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:LJ:166:PHE:HD2	15:LJ:174:ILE:HD11	1.69	0.57
17:LM:136:LEU:O	17:LM:137:LYS:HE2	2.04	0.57
44:Ln:15:ARG:HG3	44:Ln:18:ARG:NH2	2.16	0.57
70:SS:25:LYS:HE2	70:SS:52:LEU:O	2.05	0.57
3:L5:1270:A:O2'	3:L5:1439:C:O2'	2.21	0.56
3:L5:3732:A:H2'	3:L5:3733:A:C8	2.40	0.56
3:L5:4188:U:H2'	3:L5:4189:U:C6	2.40	0.56
3:L5:4426:C:H2'	3:L5:4427:G:H5'	1.86	0.56
7:LB:196:TRP:O	7:LB:200:ARG:HG2	2.05	0.56
19:LO:54:TYR:CD1	19:LO:145:VAL:HG21	2.39	0.56
51:S2:367:U:H4'	51:S2:371:A:C8	2.39	0.56
51:S2:453:C:O2'	58:SG:92:ARG:O	2.17	0.56
54:SC:70:VAL:HG11	54:SC:93:ILE:HG12	1.86	0.56
56:SE:159:THR:HB	56:SE:173:ILE:HB	1.86	0.56
59:SH:144:ILE:CD1	59:SH:154:ILE:HG13	2.32	0.56
66:SO:97:LEU:HD12	78:Sa:44:ILE:HD11	1.87	0.56
68:SQ:98:LYS:HA	84:Sg:57:ARG:HH22	1.70	0.56
3:L5:1179:U:H3'	3:L5:1180:C:H5''	1.86	0.56
3:L5:1976:G:H21	49:Lt:139:VAL:CG1	2.18	0.56
3:L5:4103:C:H2'	3:L5:4105:A:C4	2.40	0.56
31:La:63:LEU:HD21	31:La:65:ARG:HE	1.70	0.56
51:S2:390:C:H4'	63:SL:8:ARG:HH21	1.70	0.56
1:CD:32:LYS:HE2	30:LZ:128:LYS:HE3	1.86	0.56
3:L5:512:U:OP2	16:LL:165:LYS:NZ	2.29	0.56
3:L5:654:C:H2'	3:L5:655:C:C6	2.40	0.56
3:L5:730:G:C4	11:LF:73:ARG:HD3	2.40	0.56
3:L5:1332:C:H2'	3:L5:1333:A:H8	1.70	0.56
3:L5:3611:A:H2	3:L5:5016:A:H8	1.52	0.56
14:LI:73:ASN:HB2	14:LI:87:MET:HE1	1.86	0.56
26:LV:92:ASP:OD1	26:LV:94:VAL:HG22	2.05	0.56
26:LV:94:VAL:HG11	27:LW:20:ARG:NH2	2.19	0.56
41:Lk:51:GLU:N	41:Lk:51:GLU:OE1	2.35	0.56
47:Lr:28:GLU:OE2	47:Lr:31:ASN:ND2	2.35	0.56
51:S2:455:A:H2'	51:S2:456:C:C6	2.39	0.56
51:S2:944:A:H5''	66:SO:134:PRO:HB3	1.87	0.56
51:S2:1010:G:H2'	51:S2:1011:A:C8	2.40	0.56
51:S2:1235:G:H21	67:SP:135:ALA:HB2	1.70	0.56
58:SG:162:LEU:HD12	58:SG:170:ARG:HH21	1.70	0.56
65:SN:99:ARG:HE	65:SN:115:LEU:HD21	1.70	0.56
65:SN:99:ARG:NE	65:SN:115:LEU:HD21	2.20	0.56
3:L5:10:A:H2'	3:L5:11:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1802:A:N3	24:LT:130:ARG:NH2	2.44	0.56
3:L5:2318:G:N2	3:L5:2321:G:OP2	2.36	0.56
15:LJ:95:ARG:N	15:LJ:95:ARG:HD2	2.20	0.56
27:LW:90:ILE:HG13	27:LW:91:MET:N	2.21	0.56
50:Pt:23:C:H2'	50:Pt:24:A:H8	1.70	0.56
52:SA:77:ILE:HD13	52:SA:122:LEU:HD11	1.87	0.56
56:SE:246:LEU:HD11	56:SE:251:GLU:HB3	1.88	0.56
84:Sg:173:LEU:HD11	84:Sg:187:ASN:HB3	1.86	0.56
3:L5:4260:U:H2'	3:L5:4261:C:H6	1.70	0.56
15:LJ:48:PRO:HB2	15:LJ:70:VAL:HG22	1.88	0.56
51:S2:656:G:N2	51:S2:663:C:H5''	2.20	0.56
52:SA:42:LYS:HD3	52:SA:44:ASP:HB3	1.86	0.56
67:SP:57:LEU:HD11	67:SP:83:MET:HE2	1.87	0.56
3:L5:1700:G:H2'	3:L5:1703:C:H42	1.70	0.56
3:L5:2407:G:O6	42:L1:2:SER:N	2.38	0.56
3:L5:4717:A:OP2	7:LB:30:LYS:NZ	2.26	0.56
51:S2:1305:C:H2'	51:S2:1306:U:C6	2.40	0.56
52:SA:37:TYR:OH	52:SA:57:LYS:NZ	2.34	0.56
60:SI:81:VAL:HG22	60:SI:102:VAL:HG12	1.87	0.56
61:SJ:18:ARG:HB2	61:SJ:21:GLU:OE2	2.05	0.56
68:SQ:110:ASP:OD1	68:SQ:111:ILE:N	2.38	0.56
76:SY:6:THR:HG23	76:SY:28:LEU:HD13	1.87	0.56
84:Sg:184:LEU:HD21	84:Sg:187:ASN:OD1	2.05	0.56
3:L5:351:C:OP2	8:LC:197:ARG:NH1	2.31	0.56
3:L5:2709:C:H5'	22:LR:43:LYS:HD2	1.88	0.56
3:L5:4913:G:H4'	3:L5:4914:C:O5'	2.05	0.56
26:LV:111:GLU:OE1	26:LV:111:GLU:N	2.38	0.56
38:Lh:19:LYS:NZ	38:Lh:23:ASP:OD1	2.39	0.56
43:Lm:109:ASN:ND2	43:Lm:117:HIS:O	2.37	0.56
60:SI:11:ARG:O	63:SL:136:LYS:NZ	2.30	0.56
6:LA:36:GLU:HG3	6:LA:91:GLY:HA2	1.88	0.56
10:LE:222:LEU:HB2	10:LE:237:LYS:HE2	1.88	0.56
31:La:72:THR:HG22	31:La:110:LYS:HB3	1.87	0.56
55:SD:134:CYS:SG	55:SD:135:GLU:N	2.79	0.56
71:ST:143:LYS:O	71:ST:144:LYS:HE2	2.05	0.56
84:Sg:20:GLN:NE2	84:Sg:68:ASP:OD1	2.35	0.56
3:L5:138:G:H2'	3:L5:139:G:H8	1.70	0.56
3:L5:3641:U:H5	3:L5:3646:A:N7	2.03	0.56
7:LB:47:LEU:HB2	7:LB:84:MET:CE	2.36	0.56
11:LF:50:ILE:HD12	11:LF:186:CYS:HB3	1.86	0.56
32:Lb:55:LYS:HA	32:Lb:58:GLN:HE21	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Ls:61:MET:HG2	48:Ls:88:PHE:CE2	2.40	0.56
51:S2:327:G:H5''	51:S2:328:U:C2	2.40	0.56
56:SE:36:HIS:NE2	56:SE:143:ASP:OD1	2.39	0.56
58:SG:44:GLU:HB2	58:SG:119:LYS:NZ	2.21	0.56
3:L5:2580:U:O2'	30:LZ:79:HIS:ND1	2.36	0.56
3:L5:4927:G:H5''	3:L5:4928:C:C5	2.41	0.56
6:LA:115:CYS:SG	6:LA:124:GLY:HA3	2.46	0.56
7:LB:288:GLY:HA3	7:LB:330:PHE:CE2	2.41	0.56
19:LO:126:VAL:HG13	19:LO:127:VAL:HG13	1.88	0.56
51:S2:1740:C:OP1	60:SI:44:HIS:ND1	2.38	0.56
53:SB:30:TRP:CZ2	53:SB:48:LEU:HD23	2.41	0.56
56:SE:104:ASP:HB3	56:SE:110:ALA:HB2	1.88	0.56
61:SJ:169:ARG:HH12	61:SJ:175:ARG:NE	2.04	0.56
79:Sb:80:ARG:HH11	79:Sb:80:ARG:HG3	1.70	0.56
84:Sg:241:PHE:CE2	84:Sg:248:LEU:HD12	2.40	0.56
3:L5:1705:G:H2'	3:L5:1706:A:O4'	2.06	0.55
3:L5:1857:C:H2'	3:L5:1858:A:C8	2.40	0.55
14:LI:48:LEU:HD12	14:LI:142:LEU:HD12	1.87	0.55
22:LR:133:LYS:N	22:LR:137:ILE:HD11	2.19	0.55
42:LI:12:PHE:CE2	42:LI:51:LEU:HD22	2.41	0.55
51:S2:116:OMU:O5'	51:S2:116:OMU:H6	2.06	0.55
51:S2:207:G:H3'	51:S2:208:G:H8	1.71	0.55
51:S2:1189:A:H2'	51:S2:1190:A:H8	1.71	0.55
51:S2:1419:C:H2'	51:S2:1420:G:H2'	1.88	0.55
51:S2:1542:C:OP1	71:ST:62:ARG:NE	2.36	0.55
76:SY:7:ILE:HD12	76:SY:27:VAL:HG12	1.88	0.55
3:L5:1683:PSU:H2'	3:L5:1684:A:C8	2.41	0.55
3:L5:3932:U:H2'	3:L5:3933:G:H8	1.71	0.55
3:L5:4459:U:H2'	3:L5:4460:U:C6	2.40	0.55
22:LR:105:LEU:HD22	22:LR:135:LYS:HG3	1.87	0.55
36:Lf:106:TYR:HB2	36:Lf:107:PRO:HD3	1.88	0.55
38:Lh:106:LYS:NZ	91:Lh:201:HOH:O	2.29	0.55
51:S2:334:C:OP2	58:SG:190:ARG:NH2	2.39	0.55
51:S2:674:C:H2'	51:S2:675:U:C6	2.41	0.55
51:S2:1705:C:H2'	51:S2:1706:G:C8	2.41	0.55
76:SY:21:LYS:HB2	76:SY:75:ILE:HD11	1.88	0.55
84:Sg:77:PHE:HB3	84:Sg:89:LEU:HD21	1.89	0.55
3:L5:99:A:H2'	3:L5:100:C:O2	2.07	0.55
3:L5:691:C:H2'	3:L5:692:A:C8	2.42	0.55
3:L5:1617:G:H1'	3:L5:2513:A:N6	2.21	0.55
3:L5:3654:G:O2'	3:L5:3693:U:OP1	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4093:G:H3'	3:L5:4094:G:H8	1.70	0.55
3:L5:4100:C:OP2	3:L5:4101:C:N4	2.39	0.55
8:LC:317:ASN:HD22	8:LC:320:LYS:HD3	1.71	0.55
51:S2:1101:U:OP1	53:SB:151:ARG:HG3	2.06	0.55
51:S2:1580:A:H5'	72:SU:56:MET:HE3	1.89	0.55
51:S2:1679:A:H2'	57:SF:60:ARG:HD2	1.87	0.55
55:SD:72:VAL:HG21	62:SK:70:TYR:HE1	1.72	0.55
3:L5:2640:G:H2'	3:L5:2641:A:C8	2.42	0.55
3:L5:3911:C:H2'	3:L5:3912:U:H6	1.70	0.55
30:LZ:57:MET:HG2	30:LZ:61:LYS:HD3	1.87	0.55
51:S2:1581:C:H5'	51:S2:1582:C:H5	1.70	0.55
53:SB:171:ILE:HD11	53:SB:197:ILE:HA	1.88	0.55
55:SD:141:LYS:HE2	55:SD:179:GLN:HB3	1.87	0.55
3:L5:1461:C:H2'	3:L5:1462:A:C8	2.41	0.55
51:S2:629:A:O2'	51:S2:631:U:OP1	2.24	0.55
51:S2:1307:U:O2'	83:Sf:135:HIS:ND1	2.34	0.55
56:SE:88:ASP:OD1	56:SE:122:LYS:NZ	2.38	0.55
3:L5:2611:A:H2'	3:L5:2612:G:C8	2.42	0.55
29:LY:60:GLY:O	29:LY:63:LYS:HG3	2.06	0.55
51:S2:17:C:H2'	51:S2:18:C:C6	2.42	0.55
59:SH:143:ARG:HB3	74:SW:51:GLU:OE2	2.05	0.55
60:SI:133:GLU:HA	60:SI:136:ILE:HG12	1.89	0.55
3:L5:153:G:H2'	3:L5:154:G:H8	1.72	0.55
3:L5:387:G:O2'	3:L5:412:G:N1	2.32	0.55
3:L5:2899:C:OP1	22:LR:108:ARG:NH2	2.33	0.55
3:L5:3594:C:O2	3:L5:3597:G:N2	2.39	0.55
3:L5:3861:A:H2'	3:L5:3862:A:H8	1.71	0.55
86:L5:5292:SPM:N14	19:LO:91:LYS:O	2.40	0.55
8:LC:154:VAL:HG11	8:LC:174:LEU:HD11	1.88	0.55
17:LM:38:VAL:HG21	17:LM:50:MET:HB3	1.89	0.55
56:SE:89:VAL:HG11	56:SE:119:ALA:HB1	1.88	0.55
73:SV:7:GLU:OE1	73:SV:7:GLU:N	2.36	0.55
73:SV:43:THR:HG23	73:SV:45:ARG:HB2	1.89	0.55
3:L5:1378:C:H4'	3:L5:1379:C:H5'	1.89	0.55
3:L5:2590:G:H2'	3:L5:2754:G:N2	2.22	0.55
13:LH:107:GLU:N	13:LH:107:GLU:OE1	2.38	0.55
40:Lj:2:THR:HG22	40:Lj:4:GLY:H	1.71	0.55
52:SA:77:ILE:HD11	52:SA:124:VAL:HG22	1.88	0.55
70:SS:5:ILE:N	77:SZ:50:PHE:O	2.40	0.55
71:ST:129:ARG:HD2	71:ST:133:ARG:NH2	2.22	0.55
73:SV:17:CYS:HB2	73:SV:56:CYS:HB3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75: SX:71: ARG: NH1	75: SX:82: THR: OG1	2.40	0.55
3: L5:519: C: H1'	3: L5:643: C: C2	2.41	0.55
3: L5:1283: G: N1	3: L5:2076: G: OP1	2.29	0.55
3: L5:4600: G: H4'	3: L5:4601: U: O5'	2.06	0.55
8: LC:315: LYS: HD2	11: LF:168: ALA: HB1	1.89	0.55
18: LN:143: ARG: HD2	38: Lh:95: LEU: HD23	1.88	0.55
45: Lo:24: THR: HA	45: Lo:93: LEU: HD21	1.88	0.55
51: S2:16: G: H2'	51: S2:17: C: C6	2.41	0.55
51: S2:323: C: H4'	51: S2:324: C: H5	1.72	0.55
51: S2:672: A: C8	86: S2:1929: SPM: H82	2.42	0.55
51: S2:1238: U: O2	51: S2:1242: U: H5	1.90	0.55
3: L5:1327: C: H2'	3: L5:1328: G: C8	2.42	0.55
3: L5:1351: G: P	8: LC:33: ARG: HH21	2.30	0.55
3: L5:3633: C: OP1	86: L5:5291: SPM: N10	2.40	0.55
8: LC:73: VAL: HB	8: LC:78: ARG: HH12	1.72	0.55
51: S2:853: C: N3	91: S2:2021: HOH: O	2.34	0.55
51: S2:1405: A: H2'	51: S2:1406: G: O4'	2.07	0.55
59: SH:140: VAL: HG12	65: SN:19: ARG: HD3	1.87	0.55
67: SP:28: MET: HG2	67: SP:32: GLN: HG2	1.89	0.55
72: SU:33: GLU: OE2	72: SU:87: ARG: NE	2.39	0.55
3: L5:1279: A: OP1	10: LE:131: LYS: NZ	2.39	0.54
3: L5:1461: C: H2'	3: L5:1462: A: H8	1.71	0.54
19: LO:194: GLU: O	19: LO:198: THR: HG23	2.07	0.54
24: LT:43: LYS: O	24: LT:58: HIS: ND1	2.40	0.54
30: LZ:41: ALA: HB2	30: LZ:77: TYR: HE1	1.71	0.54
51: S2:115: U: H2'	51: S2:116: OMU: H6	1.88	0.54
81: Sd:3: HIS: CE1	81: Sd:5: GLN: HB2	2.42	0.54
1: CD:16: ARG: HB2	3: L5:4119: C: H41	1.71	0.54
3: L5:1875: C: H2'	3: L5:1876: U: C6	2.43	0.54
3: L5:2815: A2M: H2'	3: L5:2816: G: H8	1.72	0.54
3: L5:3736: A: H2'	3: L5:3737: A: H8	1.72	0.54
3: L5:3923: A: H2'	3: L5:3924: C: C6	2.43	0.54
3: L5:4095: G: H2'	3: L5:4096: C: C6	2.43	0.54
3: L5:4584: A: H2'	3: L5:4585: U: O4'	2.08	0.54
8: LC:10: VAL: O	8: LC:18: SER: OG	2.21	0.54
48: Ls:43: ILE: HD13	48: Ls:105: ASN: HD21	1.72	0.54
51: S2:1144: A: H2'	51: S2:1145: A: C8	2.42	0.54
60: SI:12: ARG: HH21	60: SI:18: ARG: HG3	1.73	0.54
63: SL:13: GLN: HE22	63: SL:35: ARG: HE	1.54	0.54
69: SR:32: LYS: HE2	69: SR:47: ARG: NH1	2.19	0.54
69: SR:87: GLU: OE1	69: SR:87: GLU: N	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:Sa:36:ILE:HD11	78:Sa:75:VAL:HG12	1.90	0.54
3:L5:10:A:H2'	3:L5:11:G:H8	1.72	0.54
51:S2:604:A:N3	51:S2:639:C:O2'	2.37	0.54
51:S2:1656:G:H1	51:S2:1668:U:H3	1.54	0.54
51:S2:1736:G:H2'	51:S2:1737:G:C8	2.41	0.54
57:SF:195:GLU:OE1	57:SF:198:ARG:NH2	2.41	0.54
79:Sb:34:ASP:O	79:Sb:79:PHE:HA	2.08	0.54
5:L8:67:U:H2'	5:L8:68:G:H8	1.72	0.54
7:LB:122:TRP:CE2	7:LB:127:LYS:HE3	2.42	0.54
41:Lk:12:LEU:HB3	41:Lk:16:ARG:NH2	2.23	0.54
51:S2:107:A:H2'	51:S2:108:G:C8	2.43	0.54
51:S2:573:U:O2	51:S2:576:A2M:H8	2.07	0.54
51:S2:1692:U:H2'	51:S2:1693:G:C8	2.42	0.54
51:S2:1777:G:H2'	51:S2:1778:C:H6	1.72	0.54
59:SH:37:LYS:HE2	59:SH:40:LEU:HD13	1.90	0.54
70:SS:66:ARG:O	70:SS:70:ILE:HG12	2.08	0.54
3:L5:1521:C:N4	91:L5:5596:HOH:O	2.41	0.54
3:L5:1662:C:H2'	3:L5:1663:C:H6	1.73	0.54
3:L5:2579:G:N2	3:L5:2582:A:OP2	2.34	0.54
5:L8:52:A:H4'	42:Ll:19:GLN:HA	1.89	0.54
16:LL:100:PRO:O	39:Li:25:ARG:NH2	2.24	0.54
23:LS:90:THR:HB	24:LT:156:TYR:CD2	2.43	0.54
51:S2:656:G:H21	51:S2:663:C:H5''	1.72	0.54
51:S2:1533:A:N7	51:S2:1604:G:H1'	2.23	0.54
51:S2:1593:C:O2	71:ST:12:GLN:NE2	2.26	0.54
53:SB:183:GLU:OE1	53:SB:183:GLU:N	2.35	0.54
70:SS:43:VAL:HG11	70:SS:83:PHE:CE2	2.43	0.54
78:Sa:59:PHE:HB2	78:Sa:62:TYR:HB2	1.89	0.54
3:L5:1239:C:OP1	32:Lb:92:LYS:NZ	2.40	0.54
3:L5:4563:U:H2'	3:L5:4564:A:H8	1.73	0.54
8:LC:352:ASP:OD1	8:LC:353:LYS:N	2.41	0.54
51:S2:327:G:H4'	51:S2:328:U:O5'	2.08	0.54
51:S2:1171:G:O2'	51:S2:1187:G:O6	2.22	0.54
62:SK:80:ARG:HG3	62:SK:85:LEU:HB2	1.89	0.54
74:SW:11:LEU:HD11	74:SW:37:PHE:CE2	2.43	0.54
3:L5:1084:C:H2'	3:L5:1085:C:H6	1.73	0.54
3:L5:2411:C:H2'	3:L5:2412:A:H8	1.73	0.54
9:LD:182:GLY:HA2	9:LD:194:VAL:HG23	1.90	0.54
11:LF:155:TYR:OH	11:LF:188:GLU:OE2	2.25	0.54
14:LI:53:VAL:HG11	24:LT:158:PHE:HZ	1.73	0.54
25:LU:23:LEU:HD13	25:LU:110:TYR:HB2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:600:G:H2'	51:S2:601:OMG:H8	1.72	0.54
51:S2:1139:C:H2'	51:S2:1140:G:O4'	2.07	0.54
51:S2:1144:A:H5'	51:S2:1355:C:H41	1.73	0.54
63:SL:16:ILE:HD11	63:SL:36:TYR:N	2.23	0.54
79:Sb:67:THR:OG1	79:Sb:70:LYS:O	2.25	0.54
3:L5:2568:C:H2'	3:L5:2569:G:H8	1.72	0.54
3:L5:2630:U:O4	25:LU:89:LYS:NZ	2.41	0.54
3:L5:3893:C:H2'	3:L5:3894:A:C8	2.43	0.54
3:L5:4473:A:H5''	43:Lm:95:ILE:HD12	1.90	0.54
51:S2:380:G:OP2	60:SI:56:ARG:NH2	2.41	0.54
51:S2:1651:A:O2'	57:SF:83:ASN:OD1	2.21	0.54
52:SA:80:ARG:O	52:SA:84:GLN:HG3	2.08	0.54
63:SL:61:PRO:HB3	63:SL:68:ILE:HD11	1.89	0.54
69:SR:100:PRO:O	69:SR:104:GLU:HG2	2.08	0.54
72:SU:49:LYS:HZ3	72:SU:51:LYS:HG3	1.73	0.54
76:SY:37:LYS:HA	76:SY:40:ILE:HD12	1.89	0.54
3:L5:468:U:C6	3:L5:469:C:H5	2.26	0.54
3:L5:1396:G:HO2'	3:L5:1468:C:HO2'	1.51	0.54
3:L5:4401:G:H2'	3:L5:4402:C:H6	1.73	0.54
8:LC:144:ILE:HD12	8:LC:150:LEU:HD11	1.89	0.54
20:LP:27:LYS:NZ	91:LP:302:HOH:O	2.36	0.54
49:Lt:12:VAL:HG11	49:Lt:65:GLN:HB2	1.90	0.54
51:S2:153:G:N3	58:SG:13:GLN:NE2	2.56	0.54
51:S2:589:G:C8	51:S2:591:U:H2'	2.42	0.54
51:S2:1421:A:H3'	51:S2:1422:G:C8	2.43	0.54
51:S2:1595:U:H2'	51:S2:1596:U:C6	2.43	0.54
51:S2:1628:C:H2'	51:S2:1629:C:H6	1.72	0.54
51:S2:1745:A:H1'	58:SG:66:GLY:HA2	1.89	0.54
51:S2:1854:U:H2'	51:S2:1855:G:H8	1.72	0.54
55:SD:222:PRO:HB3	84:Sg:190:GLY:HA3	1.90	0.54
63:SL:151:THR:C	63:SL:152:LYS:HD2	2.33	0.54
75:SX:52:LEU:HD11	75:SX:73:GLN:HB2	1.90	0.54
3:L5:1974:U:OP1	49:Lt:77:ALA:CB	2.49	0.54
3:L5:3893:C:O2'	3:L5:4979:A:N1	2.40	0.54
7:LB:258:HIS:HA	7:LB:260:ALA:N	2.23	0.54
9:LD:119:TYR:OH	9:LD:139:PRO:O	2.24	0.54
10:LE:149:ILE:HD12	10:LE:271:LEU:HD21	1.89	0.54
11:LF:237:GLU:OE1	11:LF:237:GLU:N	2.41	0.54
20:LP:24:VAL:HG12	20:LP:86:LYS:HG2	1.89	0.54
22:LR:21:LYS:HE3	22:LR:55:VAL:HA	1.90	0.54
48:Ls:61:MET:CG	48:Ls:88:PHE:HE2	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:118:C:H1'	51:S2:445:A:C5	2.43	0.54
64:SM:75:ASN:OD1	64:SM:76:LEU:N	2.42	0.54
84:Sg:42:MET:SD	84:Sg:57:ARG:HB2	2.47	0.54
3:L5:406:C:O2'	3:L5:407:A:OP1	2.26	0.53
3:L5:1855:G:OP1	32:Lb:4:SER:HB2	2.08	0.53
3:L5:2107:C:N4	3:L5:2108:G:O6	2.41	0.53
3:L5:2448:G:H2'	3:L5:2449:A:C8	2.43	0.53
8:LC:106:LYS:HD3	8:LC:108:TRP:CZ2	2.43	0.53
10:LE:190:HIS:HB3	10:LE:193:PHE:HD2	1.73	0.53
15:LJ:52:LYS:HG2	15:LJ:67:LYS:HD3	1.90	0.53
51:S2:919:A:OP2	65:SN:64:ARG:NH2	2.39	0.53
56:SE:50:ASN:OD1	91:SE:301:HOH:O	2.18	0.53
81:Sd:39:CYS:HB3	81:Sd:42:CYS:HB2	1.91	0.53
3:L5:264:C:H2'	3:L5:265:C:C4	2.44	0.53
3:L5:965:G:N2	3:L5:2092:G:H1'	2.24	0.53
3:L5:966:A:OP2	3:L5:2092:G:N2	2.39	0.53
3:L5:2809:G:O2'	3:L5:4644:G:OP1	2.25	0.53
6:LA:225:ILE:HG12	6:LA:234:LYS:HA	1.90	0.53
7:LB:307:TYR:HD2	7:LB:366:LYS:HA	1.71	0.53
51:S2:126:G:N1	58:SG:192:ILE:HD11	2.23	0.53
51:S2:733:C:C5	51:S2:734:C:H1'	2.43	0.53
51:S2:830:A:OP2	51:S2:846:G:N2	2.39	0.53
54:SC:248:TYR:O	73:SV:23:ILE:HG21	2.08	0.53
60:SI:57:ALA:HB1	60:SI:60:LEU:CD2	2.38	0.53
80:Sc:35:MET:HE1	80:Sc:55:VAL:HG21	1.89	0.53
3:L5:717:U:H2'	3:L5:718:C:C6	2.43	0.53
3:L5:935:A:O2'	17:LM:44:GLN:O	2.21	0.53
7:LB:71:GLU:HG3	27:LW:2:LYS:HG2	1.89	0.53
17:LM:122:ILE:HB	19:LO:189:ILE:HD11	1.90	0.53
51:S2:102:A:H4'	51:S2:104:A:C8	2.44	0.53
51:S2:103:A:H5'	60:SI:12:ARG:HH12	1.70	0.53
51:S2:659:G:O2'	51:S2:662:G:O2'	2.27	0.53
51:S2:1093:A:H5''	74:SW:28:ARG:HH22	1.74	0.53
51:S2:1533:A:H2	51:S2:1536:G:N3	2.07	0.53
56:SE:151:ASP:HB3	56:SE:154:ILE:CD1	2.39	0.53
70:SS:25:LYS:HZ1	70:SS:52:LEU:HD22	1.73	0.53
3:L5:453:G:H2'	3:L5:453:G:N3	2.23	0.53
3:L5:1741:G:O2'	3:L5:1781:PSU:OP2	2.26	0.53
3:L5:4389:C:H2'	3:L5:4390:A:C8	2.44	0.53
3:L5:4571:A2M:H2'	3:L5:4572:U:H6	1.72	0.53
3:L5:5057:C:H2'	3:L5:5058:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LC:11:TYR:CZ	8:LC:148:PRO:HB2	2.43	0.53
45:Lo:2:VAL:N	45:Lo:90:HIS:O	2.41	0.53
51:S2:1217:A:H2'	51:S2:1218:C:H6	1.73	0.53
51:S2:1239:U:H5''	67:SP:124:LYS:HD3	1.90	0.53
3:L5:173:C:H2'	3:L5:174:C:C6	2.43	0.53
3:L5:1548:G:O2'	3:L5:2812:A:N3	2.38	0.53
3:L5:4619:U:H2'	3:L5:4620:OMU:H6	1.90	0.53
19:LO:113:ASP:OD1	19:LO:114:LYS:HG2	2.08	0.53
49:Lt:47:ALA:HA	49:Lt:72:GLU:OE2	2.07	0.53
56:SE:112:HIS:NE2	56:SE:237:SER:O	2.41	0.53
71:ST:56:ARG:NH2	71:ST:79:TYR:HB3	2.24	0.53
83:Sf:103:LEU:HB2	83:Sf:105:TYR:CE1	2.44	0.53
84:Sg:10:THR:HB	84:Sg:306:LEU:HD21	1.91	0.53
3:L5:327:U:O2'	39:Li:30:ARG:NH1	2.38	0.53
3:L5:425:U:H4'	20:LP:6:LEU:HD21	1.90	0.53
3:L5:2057:A:N6	91:L5:5401:HOH:O	2.21	0.53
3:L5:5024:C:H41	3:L5:5028:G:H21	1.56	0.53
7:LB:86:VAL:HG12	7:LB:201:LEU:HD23	1.90	0.53
10:LE:239:LYS:NZ	10:LE:240:TYR:O	2.41	0.53
24:LT:44:GLY:HA2	24:LT:95:HIS:HB3	1.90	0.53
29:LY:54:GLU:HG2	29:LY:108:ARG:HB3	1.91	0.53
34:Ld:36:VAL:HG21	34:Ld:44:ARG:HG2	1.91	0.53
43:Lm:79:GLU:OE2	43:Lm:81:SER:OG	2.18	0.53
51:S2:1438:A:H2'	51:S2:1439:A:H8	1.73	0.53
82:Se:39:ASN:HA	82:Se:43:VAL:HG22	1.90	0.53
3:L5:2478:C:N3	3:L5:2591:A:O2'	2.42	0.53
3:L5:4364:G:H2'	3:L5:4365:C:H6	1.73	0.53
3:L5:4893:A:H4'	17:LM:125:ASN:ND2	2.23	0.53
7:LB:47:LEU:HB2	7:LB:84:MET:HE1	1.89	0.53
26:LV:42:VAL:HB	26:LV:45:ILE:HG13	1.90	0.53
33:Lc:51:ASN:HB2	33:Lc:77:ASN:HB2	1.91	0.53
49:Lt:119:ARG:HG2	49:Lt:119:ARG:HH11	1.74	0.53
51:S2:907:G:H2'	51:S2:908:A:C8	2.44	0.53
51:S2:1232:PSU:H2'	51:S2:1233:G:C8	2.43	0.53
51:S2:1679:A:OP1	80:Sc:20:ARG:NH2	2.41	0.53
51:S2:1845:A:H2'	51:S2:1846:G:H8	1.73	0.53
52:SA:205:ARG:NH2	52:SA:210:ILE:HG13	2.24	0.53
57:SF:167:LYS:HD2	57:SF:172:CYS:SG	2.49	0.53
84:Sg:164:ILE:HD11	84:Sg:176:VAL:HB	1.91	0.53
3:L5:1846:G:H2'	3:L5:1847:C:C6	2.43	0.53
3:L5:3659:G:OP1	6:LA:241:ARG:NH1	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:3898:G:H5'	7:LB:254:ILE:HG13	1.91	0.53
3:L5:4239:A:H2'	3:L5:4240:G:H8	1.74	0.53
5:L8:19:C:H2'	5:L8:20:A:H8	1.73	0.53
5:L8:89:U:H2'	5:L8:90:C:C6	2.43	0.53
6:LA:137:ILE:HD11	6:LA:149:LYS:HB2	1.90	0.53
9:LD:62:CYS:HB3	9:LD:105:LEU:HD22	1.91	0.53
27:LW:46:PRO:HB2	27:LW:52:THR:HG21	1.90	0.53
48:Ls:30:VAL:HG23	48:Ls:189:ILE:HA	1.91	0.53
51:S2:495:U:H2'	51:S2:496:C:O4'	2.09	0.53
51:S2:1101:U:H2'	51:S2:1102:G:C8	2.44	0.53
58:SG:138:ALA:HB2	58:SG:179:LEU:HD12	1.91	0.53
61:SJ:21:GLU:OE1	61:SJ:21:GLU:N	2.41	0.53
63:SL:121:GLN:N	63:SL:121:GLN:OE1	2.41	0.53
3:L5:1070:G:O2'	3:L5:1071:C:O5'	2.27	0.53
3:L5:1684:A:OP1	31:La:47:LYS:NZ	2.40	0.53
3:L5:1739:G:N3	3:L5:1742:A:N6	2.56	0.53
3:L5:1968:G:H4'	48:Ls:34:ASN:CG	2.34	0.53
3:L5:4389:C:H2'	3:L5:4390:A:H8	1.74	0.53
3:L5:4612:C:C2	13:LH:120:GLU:HB2	2.43	0.53
3:L5:4966:A:H5''	7:LB:128:LYS:HG3	1.91	0.53
5:L8:67:U:H2'	5:L8:68:G:C8	2.44	0.53
26:LV:35:LYS:HD3	26:LV:68:GLY:HA2	1.89	0.53
27:LW:5:LEU:HD12	27:LW:30:GLN:NE2	2.23	0.53
51:S2:574:A:H4'	76:SY:89:HIS:HB3	1.91	0.53
51:S2:952:G:H4'	66:SO:51:GLU:OE2	2.08	0.53
53:SB:48:LEU:HD12	66:SO:51:GLU:HG2	1.91	0.53
58:SG:161:PRO:HA	58:SG:171:THR:HA	1.91	0.53
69:SR:58:MET:HA	69:SR:61:ILE:HG22	1.91	0.53
72:SU:24:LEU:HD22	72:SU:112:VAL:HG12	1.91	0.53
3:L5:1307:A:H2'	3:L5:1308:C:H6	1.74	0.53
3:L5:2296:G:O2'	8:LC:242:PRO:O	2.25	0.53
3:L5:4174:U:H2'	3:L5:4175:G:H8	1.73	0.53
3:L5:4699:U:H1'	3:L5:4700:A:H5''	1.90	0.53
5:L8:21:C:OP1	8:LC:195:LYS:NZ	2.40	0.53
51:S2:921:G:H2'	74:SW:28:ARG:HH12	1.74	0.53
51:S2:1562:C:H2'	51:S2:1563:G:C8	2.41	0.53
70:SS:86:ARG:HH21	70:SS:106:LYS:HB3	1.74	0.53
3:L5:979:C:OP2	10:LE:66:LYS:HD3	2.09	0.52
3:L5:1751:A:H2'	3:L5:1752:G:C8	2.44	0.52
3:L5:2108:G:H2'	3:L5:2109:G:H8	1.74	0.52
3:L5:4504:C:H2'	3:L5:4505:C:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LD:258:LYS:C	9:LD:259:LYS:HD2	2.34	0.52
51:S2:641:A:OP1	61:SJ:40:LYS:NZ	2.41	0.52
59:SH:157:HIS:HB3	59:SH:190:PRO:HG3	1.91	0.52
64:SM:30:GLY:HA3	64:SM:113:ASP:HB3	1.90	0.52
1:CD:27:PRO:HD3	30:LZ:85:TYR:CE1	2.45	0.52
3:L5:724:C:H1'	8:LC:343:GLN:HG2	1.91	0.52
3:L5:1683:PSU:OP1	31:La:44:ASN:ND2	2.40	0.52
3:L5:2094:G:H2'	3:L5:2094:G:N3	2.24	0.52
3:L5:2696:A:OP1	41:Lk:26:LYS:NZ	2.38	0.52
10:LE:225:PRO:C	10:LE:226:ARG:HD3	2.33	0.52
26:LV:46:LYS:NZ	91:LV:304:HOH:O	2.40	0.52
51:S2:28:U:H2'	51:S2:29:G:H8	1.73	0.52
51:S2:1390:U:H2'	51:S2:1391:OMC:H6	1.74	0.52
65:SN:124:ARG:HG2	65:SN:127:ARG:HH21	1.74	0.52
68:SQ:19:ALA:HB2	68:SQ:75:GLY:HA3	1.91	0.52
77:SZ:99:LEU:HD11	77:SZ:102:LYS:HB2	1.91	0.52
84:Sg:188:HIS:HD1	84:Sg:219:TRP:CD1	2.28	0.52
3:L5:2298:U:H5''	8:LC:204:ARG:HH12	1.75	0.52
3:L5:4251:A:H61	15:LJ:24:ILE:HG23	1.74	0.52
3:L5:4935:C:H2'	3:L5:4936:G:C8	2.44	0.52
44:Ln:11:ARG:NH2	51:S2:1844:U:OP1	2.42	0.52
45:Lo:11:PHE:O	45:Lo:81:ARG:NH2	2.43	0.52
47:Lr:65:LYS:O	47:Lr:102:TYR:OH	2.24	0.52
52:SA:159:ILE:HD11	73:SV:34:MET:HE1	1.91	0.52
68:SQ:15:ARG:HD3	68:SQ:126:ARG:HH12	1.74	0.52
68:SQ:40:GLU:OE1	68:SQ:40:GLU:N	2.40	0.52
3:L5:1243:C:H2'	3:L5:1244:G:H8	1.74	0.52
3:L5:1359:G:H4'	18:LN:203:TYR:HB2	1.91	0.52
3:L5:1785:C:OP1	14:LI:133:GLN:NE2	2.43	0.52
48:Ls:69:LEU:HD11	48:Ls:75:LEU:HB3	1.91	0.52
51:S2:649:PSU:H2'	51:S2:650:A:H8	1.74	0.52
51:S2:1093:A:H5''	74:SW:28:ARG:NH2	2.23	0.52
52:SA:122:LEU:HB3	52:SA:144:THR:HG22	1.90	0.52
54:SC:95:ASP:HA	54:SC:98:LEU:O	2.09	0.52
56:SE:121:TYR:HA	56:SE:163:ASP:HA	1.90	0.52
56:SE:180:LEU:HD21	56:SE:192:ILE:HG23	1.91	0.52
67:SP:31:GLU:OE1	67:SP:31:GLU:N	2.42	0.52
73:SV:30:ALA:O	73:SV:60:ARG:HD3	2.10	0.52
3:L5:1538:U:H2'	3:L5:1539:G:H8	1.74	0.52
3:L5:1563:A:N6	51:S2:1028:A:N1	2.57	0.52
7:LB:397:ILE:O	7:LB:401:GLU:HG2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LG:83:PHE:HA	12:LG:183:ILE:HD13	1.91	0.52
51:S2:15:U:H2'	51:S2:16:G:O4'	2.09	0.52
51:S2:952:G:H2'	51:S2:953:C:C6	2.45	0.52
51:S2:1108:G:H21	69:SR:126:MET:HE1	1.75	0.52
51:S2:1797:U:H2'	51:S2:1798:C:C6	2.44	0.52
53:SB:30:TRP:CE2	66:SO:19:PRO:HD3	2.45	0.52
59:SH:91:HIS:ND1	59:SH:172:THR:HG21	2.25	0.52
69:SR:22:THR:O	84:Sg:212:LYS:NZ	2.42	0.52
71:ST:129:ARG:HD2	71:ST:133:ARG:HH21	1.74	0.52
3:L5:1095:A:H2	3:L5:1200:G:N1	2.03	0.52
3:L5:1345:A:H2'	3:L5:1346:C:C6	2.44	0.52
3:L5:1346:C:H2'	3:L5:1347:G:H8	1.74	0.52
3:L5:2638:G:H22	3:L5:2719:C:P	2.32	0.52
3:L5:2835:A:O2'	7:LB:228:TYR:O	2.20	0.52
3:L5:3861:A:H2'	3:L5:3862:A:C8	2.44	0.52
3:L5:3948:C:O2'	3:L5:3949:A:N7	2.38	0.52
3:L5:4478:G:O2'	3:L5:4602:A:N1	2.41	0.52
3:L5:4927:G:H5''	3:L5:4928:C:H5	1.73	0.52
26:LV:43:LYS:HG3	26:LV:60:MET:HG2	1.91	0.52
51:S2:51:U:H2'	51:S2:52:G:C8	2.43	0.52
51:S2:72:C:N4	58:SG:169:PRO:O	2.42	0.52
51:S2:1433:C:H42	72:SU:92:HIS:CD2	2.22	0.52
52:SA:42:LYS:HD2	52:SA:46:ILE:HB	1.92	0.52
56:SE:100:ARG:HB2	56:SE:114:ILE:HD13	1.92	0.52
60:SI:125:LYS:HB2	60:SI:128:LYS:NZ	2.24	0.52
63:SL:126:VAL:HG12	63:SL:145:VAL:HG22	1.90	0.52
71:ST:110:LEU:HD23	71:ST:112:MET:HE3	1.90	0.52
3:L5:171:U:OP2	3:L5:172:C:N4	2.42	0.52
3:L5:223:G:N7	8:LC:165:LYS:HE3	2.25	0.52
3:L5:457:G:H2'	3:L5:458:C:C6	2.45	0.52
3:L5:1577:G:O2'	3:L5:1612:G:H4'	2.10	0.52
3:L5:1975:G:N2	3:L5:1983:A:OP1	2.42	0.52
15:LJ:57:VAL:HG12	15:LJ:60:PHE:H	1.74	0.52
51:S2:1711:U:H2'	51:S2:1712:A:H8	1.74	0.52
58:SG:197:GLN:OE1	58:SG:197:GLN:N	2.41	0.52
66:SO:96:LYS:HD3	66:SO:132:VAL:HG11	1.92	0.52
3:L5:3599:A:H2'	3:L5:3600:G:C8	2.45	0.52
3:L5:3726:A:H2'	3:L5:3727:A:C8	2.44	0.52
11:LF:127:LYS:HB2	24:LT:133:ALA:HB3	1.91	0.52
26:LV:90:ARG:O	26:LV:90:ARG:HG2	2.09	0.52
27:LW:97:LYS:HG3	27:LW:98:PRO:HD3	1.89	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:1259:A:H1'	51:S2:1264:C:N4	2.25	0.52
51:S2:1391:OMC:H4'	81:Sd:55:LEU:HD13	1.92	0.52
53:SB:59:SER:OG	53:SB:63:LYS:NZ	2.42	0.52
56:SE:47:PHE:O	56:SE:51:ARG:HB2	2.09	0.52
70:SS:25:LYS:HD3	70:SS:27:ALA:N	2.24	0.52
70:SS:41:ALA:O	70:SS:45:LEU:HG	2.10	0.52
3:L5:3664:G:H2'	3:L5:3665:G:C8	2.43	0.52
3:L5:3932:U:H2'	3:L5:3933:G:C8	2.44	0.52
8:LC:116:ASN:HB2	8:LC:119:GLN:HG2	1.92	0.52
16:LL:103:ARG:H	16:LL:103:ARG:HD3	1.74	0.52
58:SG:69:THR:O	58:SG:99:GLY:HA3	2.10	0.52
63:SL:73:LEU:HD11	63:SL:109:MET:HE1	1.91	0.52
3:L5:1974:U:H4'	3:L5:1975:G:H3'	1.92	0.52
3:L5:3619:G:H22	3:L5:3624:A:H1'	1.74	0.52
3:L5:4068:U:H2'	3:L5:4069:U:C5	2.45	0.52
3:L5:4594:U:H2'	3:L5:4595:G:C8	2.41	0.52
6:LA:189:TYR:CD2	6:LA:196:TRP:HB2	2.44	0.52
7:LB:218:ASP:OD2	7:LB:348:ARG:NH2	2.34	0.52
10:LE:99:ASP:O	10:LE:100:LYS:HG2	2.10	0.52
15:LJ:113:ILE:HD11	15:LJ:125:ILE:HA	1.92	0.52
33:Lc:33:GLN:O	33:Lc:37:MET:HG2	2.10	0.52
51:S2:663:C:O2'	54:SC:227:ARG:NH2	2.43	0.52
51:S2:1292:C:N3	83:Sf:138:ARG:NH2	2.51	0.52
52:SA:76:VAL:HG12	52:SA:123:VAL:HB	1.90	0.52
53:SB:138:PHE:O	53:SB:213:ARG:N	2.43	0.52
54:SC:167:ARG:HB3	54:SC:177:PRO:HB2	1.92	0.52
65:SN:99:ARG:HH12	65:SN:143:SER:CB	2.19	0.52
76:SY:79:LEU:HG	76:SY:83:LYS:HE2	1.91	0.52
3:L5:1981:G:H2'	3:L5:1982:G:C8	2.45	0.51
4:L7:23:A:N3	4:L7:118:C:O2'	2.37	0.51
4:L7:119:U:C2	9:LD:261:VAL:HG21	2.45	0.51
8:LC:207:PRO:HB3	8:LC:249:PHE:CD2	2.45	0.51
14:LI:66:GLU:CD	14:LI:69:ARG:HH21	2.18	0.51
19:LO:197:LYS:HG2	19:LO:202:LEU:O	2.11	0.51
51:S2:1231:C:O2'	51:S2:1253:A:N6	2.43	0.51
51:S2:1373:C:OP1	69:SR:7:LYS:N	2.41	0.51
52:SA:22:GLY:C	52:SA:24:HIS:H	2.18	0.51
53:SB:208:HIS:CD2	53:SB:209:ASP:HB2	2.44	0.51
54:SC:104:ASP:HA	54:SC:130:ILE:HG22	1.92	0.51
63:SL:11:GLN:HB3	63:SL:56:ILE:HG21	1.91	0.51
67:SP:37:TYR:HB3	67:SP:41:GLN:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:318:A:H2'	3:L5:319:A:C8	2.45	0.51
3:L5:1080:C:H2'	3:L5:1081:C:C6	2.45	0.51
3:L5:4238:G:H2'	3:L5:4239:A:C8	2.45	0.51
3:L5:4238:G:H2'	3:L5:4239:A:H8	1.74	0.51
10:LE:177:GLY:O	10:LE:178:PRO:C	2.53	0.51
51:S2:1528:G:O2'	51:S2:1666:C:OP1	2.24	0.51
58:SG:103:ASP:H	58:SG:106:LEU:HD13	1.74	0.51
59:SH:144:ILE:CG2	74:SW:52:ILE:HB	2.41	0.51
62:SK:96:ARG:O	62:SK:98:ARG:N	2.43	0.51
63:SL:13:GLN:HE22	63:SL:35:ARG:NE	2.08	0.51
69:SR:29:HIS:O	69:SR:32:LYS:HG2	2.10	0.51
2:CI:55:LEU:HB3	25:LU:99:TRP:NE1	2.26	0.51
2:CI:66:GLY:O	2:CI:69:THR:OG1	2.26	0.51
3:L5:468:U:H6	3:L5:469:C:H5	1.58	0.51
3:L5:1504:G:H2'	3:L5:1505:C:C6	2.45	0.51
3:L5:2029:A:H2'	3:L5:2030:A:C8	2.44	0.51
3:L5:3709:U:H2'	3:L5:3710:G:O4'	2.11	0.51
6:LA:129:ALA:O	6:LA:169:VAL:HG11	2.10	0.51
12:LG:230:TYR:CZ	12:LG:234:ARG:HD2	2.45	0.51
13:LH:114:ILE:HB	13:LH:124:ARG:HB2	1.92	0.51
24:LT:27:LEU:HB3	24:LT:31:MET:HE3	1.92	0.51
25:LU:90:TYR:O	25:LU:94:ASN:ND2	2.40	0.51
51:S2:186:C:H2'	51:S2:187:G:H8	1.76	0.51
58:SG:46:LYS:HD2	58:SG:46:LYS:N	2.24	0.51
63:SL:16:ILE:HD11	63:SL:36:TYR:H	1.75	0.51
69:SR:98:VAL:HG13	69:SR:102:THR:OG1	2.10	0.51
76:SY:3:ASP:N	76:SY:3:ASP:OD1	2.43	0.51
80:Sc:44:ARG:NH2	80:Sc:63:ARG:HH11	2.08	0.51
3:L5:262:G:H2'	3:L5:263:G:C8	2.46	0.51
3:L5:1195:G:H2'	3:L5:1196:G:C8	2.45	0.51
3:L5:1390:G:N2	3:L5:1393:G:OP2	2.37	0.51
3:L5:1495:G:N7	91:L5:5498:HOH:O	2.35	0.51
3:L5:1675:C:H4'	91:L5:8120:HOH:O	2.11	0.51
3:L5:3707:U:H2'	3:L5:3708:C:C6	2.46	0.51
6:LA:13:GLY:O	6:LA:17:ARG:HG3	2.11	0.51
22:LR:127:VAL:HG12	22:LR:132:PHE:HD2	1.76	0.51
42:L1:43:HIS:HB3	42:L1:46:ARG:HD3	1.93	0.51
51:S2:544:G:H2'	51:S2:545:A:C8	2.46	0.51
51:S2:746:C:H2'	51:S2:747:U:C6	2.45	0.51
51:S2:941:C:H5''	53:SB:136:ARG:NH1	2.24	0.51
51:S2:1614:A:OP1	67:SP:42:ARG:NH2	2.35	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:SG:193:ALA:HA	58:SG:196:LYS:HG2	1.93	0.51
59:SH:86:LYS:C	59:SH:87:PHE:HD1	2.18	0.51
3:L5:1084:C:H2'	3:L5:1085:C:C6	2.45	0.51
3:L5:1732:C:H5''	24:LT:43:LYS:HE2	1.92	0.51
3:L5:1985:G:N2	3:L5:2003:G:HO2'	2.08	0.51
3:L5:4524:G:C2	7:LB:252:ALA:HB1	2.45	0.51
3:L5:4536:OMC:HM22	3:L5:4537:C:O4'	2.11	0.51
14:LI:108:ALA:HA	14:LI:112:GLN:HG3	1.92	0.51
17:LM:119:ARG:HG3	19:LO:189:ILE:HG23	1.92	0.51
32:Lb:99:ILE:O	32:Lb:109:ARG:NH1	2.44	0.51
51:S2:349:A:H2'	51:S2:350:C:C6	2.44	0.51
51:S2:931:C:H2'	51:S2:932:G:C8	2.45	0.51
56:SE:64:ILE:HD11	76:SY:17:LEU:HD12	1.91	0.51
64:SM:52:LEU:HD22	64:SM:65:VAL:HB	1.91	0.51
64:SM:52:LEU:HB2	64:SM:65:VAL:HG11	1.92	0.51
68:SQ:110:ASP:HA	68:SQ:113:ILE:HG22	1.92	0.51
84:Sg:191:HIS:CG	84:Sg:195:LEU:HD21	2.46	0.51
3:L5:126:C:H2'	3:L5:127:G:H8	1.75	0.51
3:L5:187:U:H2'	3:L5:245:C:H1'	1.93	0.51
3:L5:1751:A:H2'	3:L5:1752:G:H8	1.75	0.51
3:L5:2083:C:OP2	21:LQ:14:ARG:NH2	2.44	0.51
11:LF:136:VAL:HG23	11:LF:140:ILE:HD13	1.92	0.51
14:LI:38:ARG:NH1	14:LI:45:GLU:OE1	2.37	0.51
26:LV:112:MET:HE1	26:LV:117:ILE:HD11	1.92	0.51
51:S2:99:A2M:H8	51:S2:99:A2M:O5'	2.11	0.51
51:S2:191:A:N6	51:S2:208:G:O2'	2.43	0.51
51:S2:1749:G:H2'	51:S2:1750:C:C6	2.46	0.51
51:S2:1754:G:N7	51:S2:1779:G:N2	2.58	0.51
51:S2:1854:U:P	66:SO:147:ARG:HH22	2.33	0.51
3:L5:1241:C:H1'	32:Lb:120:ARG:H	1.75	0.51
3:L5:2632:PSU:H2'	3:L5:2633:U:C6	2.46	0.51
3:L5:2808:G:O3'	22:LR:60:ARG:NH1	2.44	0.51
3:L5:4103:C:H1'	3:L5:4106:G:N1	2.22	0.51
3:L5:4492:U:O2'	3:L5:4512:U:O2	2.27	0.51
9:LD:37:VAL:HG12	9:LD:50:ARG:HH11	1.75	0.51
15:LJ:88:LYS:HE3	15:LJ:115:LEU:HD11	1.92	0.51
43:Lm:79:GLU:OE2	43:Lm:82:LEU:HG	2.10	0.51
50:Pt:38:C:O2'	51:S2:1058:A:OP1	2.28	0.51
51:S2:65:C:H4'	58:SG:172:LYS:HE2	1.93	0.51
51:S2:120:U:H2'	51:S2:121:OMU:C6	2.41	0.51
51:S2:466:G:O2'	58:SG:59:GLN:NE2	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:561:A:O2'	61:SJ:134:HIS:NE2	2.33	0.51
51:S2:650:A:OP2	75:SX:108:LYS:HE3	2.11	0.51
51:S2:902:G:O2'	51:S2:903:A:O4'	2.29	0.51
51:S2:1677:U:H2'	51:S2:1678:A:H8	1.75	0.51
3:L5:418:A:C2	5:L8:17:A:H1'	2.46	0.51
3:L5:3597:G:H2'	3:L5:3598:C:H6	1.76	0.51
3:L5:4685:U:H2'	3:L5:4686:G:C8	2.46	0.51
3:L5:5004:C:H2'	3:L5:5005:G:O4'	2.10	0.51
18:LN:116:LEU:HD22	18:LN:135:ILE:HD11	1.93	0.51
46:Lp:26:VAL:HG22	46:Lp:30:GLU:HG3	1.93	0.51
48:Ls:75:LEU:HD12	48:Ls:193:PHE:HE2	1.75	0.51
51:S2:72:C:N3	58:SG:170:ARG:HG3	2.26	0.51
51:S2:616:A:H1'	82:Se:12:VAL:HG23	1.93	0.51
51:S2:964:A:H2'	51:S2:965:U:H6	1.76	0.51
51:S2:1524:G:OP2	70:SS:141:ARG:NH1	2.44	0.51
55:SD:29:LEU:HB3	55:SD:34:TYR:HB2	1.92	0.51
55:SD:42:THR:OG1	55:SD:45:ARG:O	2.27	0.51
64:SM:19:GLN:HB2	64:SM:88:TRP:CZ3	2.46	0.51
76:SY:39:GLU:OE1	76:SY:39:GLU:N	2.43	0.51
1:CD:26:ASP:O	1:CD:29:GLU:HG3	2.10	0.51
3:L5:1995:G:H4'	49:Lt:128:THR:CG2	2.40	0.51
3:L5:2520:C:H2'	3:L5:2521:G:H8	1.75	0.51
3:L5:3595:U:H5''	3:L5:3597:G:OP2	2.11	0.51
3:L5:3796:U:HO2'	51:S2:1720:U:HO2'	1.56	0.51
3:L5:3873:G:H2'	3:L5:3874:G:C8	2.46	0.51
3:L5:3917:A:H2'	3:L5:3918:G:C8	2.46	0.51
8:LC:122:TYR:CD1	8:LC:280:PRO:HG3	2.46	0.51
11:LF:243:LEU:O	11:LF:247:MET:HB2	2.11	0.51
20:LP:118:GLN:NE2	20:LP:147:GLU:OE2	2.44	0.51
25:LU:65:ARG:HG2	25:LU:67:LYS:H	1.75	0.51
47:Lr:47:LYS:O	47:Lr:103:ARG:HD2	2.11	0.51
51:S2:122:G:H21	56:SE:146:THR:HG21	1.75	0.51
51:S2:198:U:H2'	51:S2:199:C:H2'	1.92	0.51
51:S2:563:G:O2'	51:S2:564:A:OP1	2.25	0.51
51:S2:1597:C:H4'	51:S2:1603:G:O6	2.11	0.51
57:SF:79:HIS:O	57:SF:81:ARG:N	2.41	0.51
74:SW:94:LEU:HD21	74:SW:102:ILE:HG13	1.93	0.51
84:Sg:230:LEU:HD21	84:Sg:259:TRP:CE2	2.46	0.51
3:L5:106:A:H2'	3:L5:107:G:O4'	2.10	0.51
3:L5:1190:C:H2'	3:L5:1191:C:C6	2.46	0.51
3:L5:1613:A:H5''	6:LA:183:GLY:CA	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2079:G:H2'	3:L5:2080:U:C6	2.46	0.51
51:S2:819:G:H5''	61:SJ:79:ARG:HH21	1.76	0.51
3:L5:1352:C:O2'	3:L5:1356:U:OP1	2.27	0.50
3:L5:1437:C:H1'	3:L5:2098:G:H3'	1.94	0.50
3:L5:1669:A:H4'	3:L5:1685:G:N2	2.25	0.50
3:L5:3953:G:N2	3:L5:4059:C:O2'	2.43	0.50
5:L8:40:A:H2'	5:L8:41:A:C8	2.46	0.50
7:LB:337:VAL:HG11	7:LB:345:LEU:HD13	1.93	0.50
9:LD:263:LYS:HA	9:LD:263:LYS:HE2	1.93	0.50
10:LE:91:THR:HA	10:LE:108:LYS:HA	1.94	0.50
13:LH:92:MET:HE2	13:LH:179:ILE:HG22	1.93	0.50
25:LU:22:THR:HA	25:LU:71:THR:HA	1.92	0.50
46:Lp:75:SER:O	46:Lp:79:VAL:HG23	2.11	0.50
51:S2:1203:G:H2'	51:S2:1204:A:H8	1.76	0.50
51:S2:1472:C:O3'	84:Sg:15:ASN:ND2	2.44	0.50
58:SG:227:GLN:HA	58:SG:230:LYS:HE2	1.93	0.50
61:SJ:179:LYS:O	61:SJ:182:GLN:NE2	2.41	0.50
84:Sg:217:MET:HG3	84:Sg:229:THR:HG23	1.92	0.50
3:L5:652:G:H2'	3:L5:653:U:C6	2.46	0.50
3:L5:1672:U:H2'	3:L5:1673:U:C6	2.46	0.50
3:L5:1743:A:N1	3:L5:1789:C:O2'	2.40	0.50
3:L5:4893:A:H4'	17:LM:125:ASN:HD21	1.76	0.50
7:LB:50:LYS:NZ	7:LB:337:VAL:O	2.41	0.50
7:LB:228:TYR:CE1	7:LB:270:GLY:HA2	2.46	0.50
18:LN:143:ARG:CD	38:Lh:95:LEU:HD23	2.40	0.50
21:LQ:115:ARG:HB3	21:LQ:115:ARG:HH11	1.76	0.50
51:S2:166:A2M:HM'1	58:SG:11:GLY:HA2	1.93	0.50
51:S2:1227:G:C2	51:S2:1228:A:C8	2.99	0.50
56:SE:125:LYS:O	56:SE:142:HIS:N	2.44	0.50
57:SF:59:LYS:HG3	57:SF:60:ARG:H	1.76	0.50
57:SF:127:ARG:HB3	57:SF:136:ARG:HB2	1.92	0.50
58:SG:22:ARG:HA	58:SG:25:ARG:HG2	1.92	0.50
62:SK:80:ARG:NH1	62:SK:87:PRO:HA	2.27	0.50
77:SZ:58:LEU:HD21	77:SZ:87:ALA:HB1	1.92	0.50
84:Sg:233:GLY:H	84:Sg:257:LYS:HZ1	1.60	0.50
1:CD:27:PRO:HA	1:CD:30:VAL:HG22	1.93	0.50
3:L5:982:U:C4	10:LE:71:ARG:HD2	2.47	0.50
6:LA:28:ARG:HD2	6:LA:123:ARG:HG3	1.93	0.50
8:LC:293:LEU:O	8:LC:299:GLN:NE2	2.41	0.50
16:LL:101:ARG:HA	39:Li:25:ARG:NH2	2.26	0.50
26:LV:73:ARG:NH1	91:LV:307:HOH:O	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Li:85:ARG:NH1	91:Li:201:HOH:O	2.33	0.50
50:Pt:47:U:O2'	50:Pt:50:U:OP1	2.20	0.50
51:S2:1407:U:O2'	68:SQ:11:GLN:OE1	2.29	0.50
51:S2:1770:G:O3'	51:S2:1771:G:N2	2.39	0.50
56:SE:124:CYS:HB3	56:SE:141:THR:OG1	2.11	0.50
62:SK:81:ASP:OD1	62:SK:82:TYR:N	2.44	0.50
84:Sg:289:LEU:HD11	84:Sg:298:LEU:HD21	1.93	0.50
3:L5:137:G:H2'	3:L5:138:G:C8	2.46	0.50
3:L5:432:U:H1'	86:L5:5292:SPM:H82	1.94	0.50
3:L5:1308:C:H2'	3:L5:1309:C:C6	2.46	0.50
3:L5:1996:C:H5'	49:Lt:122:ALA:O	2.12	0.50
3:L5:2876:OMG:HM22	3:L5:2877:G:H5'	1.92	0.50
3:L5:4071:U:H2'	3:L5:4072:C:C6	2.46	0.50
3:L5:4694:G:H4'	13:LH:71:ARG:HH12	1.76	0.50
7:LB:77:THR:OG1	7:LB:335:GLY:O	2.29	0.50
48:Ls:78:LEU:O	48:Ls:82:ILE:HG12	2.12	0.50
51:S2:1370:A:O2'	51:S2:1372:U:OP1	2.28	0.50
51:S2:1556:A:C8	81:Sd:13:LYS:HG3	2.46	0.50
51:S2:1611:G:H4'	70:SS:86:ARG:HH11	1.76	0.50
65:SN:89:TYR:CE1	65:SN:150:VAL:HG23	2.47	0.50
73:SV:35:ASN:HB3	73:SV:50:PHE:CD2	2.44	0.50
77:SZ:91:LEU:HD22	77:SZ:96:LEU:HD21	1.93	0.50
80:Sc:10:LYS:HE3	80:Sc:61:SER:OG	2.12	0.50
3:L5:67:C:OP2	3:L5:312:G:N2	2.44	0.50
3:L5:162:A:H2'	3:L5:163:A:H8	1.76	0.50
3:L5:372:A:OP1	40:Lj:36:LYS:HE2	2.11	0.50
3:L5:1725:U:H2'	3:L5:1726:U:H6	1.76	0.50
3:L5:2108:G:H2'	3:L5:2109:G:C8	2.46	0.50
3:L5:4077:A:N1	3:L5:4171:C:N4	2.58	0.50
7:LB:291:TYR:OH	7:LB:315:ASN:ND2	2.44	0.50
15:LJ:94:LEU:O	15:LJ:174:ILE:HA	2.11	0.50
25:LU:100:LEU:HD13	25:LU:112:LEU:HD12	1.93	0.50
51:S2:698:G:H2'	51:S2:733:C:C4	2.46	0.50
51:S2:1115:U:H3	51:S2:1118:C:H41	1.60	0.50
51:S2:1417:C:H42	51:S2:1422:G:H22	1.58	0.50
51:S2:1755:C:H2'	51:S2:1756:C:C6	2.47	0.50
54:SC:84:PHE:HA	73:SV:15:ARG:NH1	2.27	0.50
56:SE:180:LEU:HD23	56:SE:181:CYS:N	2.26	0.50
62:SK:26:ASP:O	62:SK:42:ASN:ND2	2.42	0.50
65:SN:54:LEU:HB3	65:SN:60:VAL:CG2	2.41	0.50
67:SP:48:GLY:HA3	67:SP:50:ARG:HH12	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SU:40:ILE:O	72:SU:44:LYS:HG2	2.11	0.50
72:SU:66:ARG:HH12	72:SU:75:LYS:HD3	1.76	0.50
75:SX:91:LEU:HD21	82:Se:6:LEU:HD23	1.92	0.50
3:L5:7:C:H2'	3:L5:8:U:C6	2.46	0.50
3:L5:1243:C:H2'	3:L5:1244:G:C8	2.46	0.50
3:L5:2708:U:H2'	3:L5:2709:C:C5	2.46	0.50
3:L5:4220:6MZ:H2'	3:L5:4222:G:H5''	1.94	0.50
3:L5:4611:A:H2'	3:L5:4612:C:H6	1.77	0.50
10:LE:223:ARG:HH22	10:LE:238:GLU:HG3	1.77	0.50
13:LH:113:GLU:OE1	13:LH:125:ARG:HG2	2.12	0.50
18:LN:126:THR:HG23	18:LN:127:TYR:CD2	2.47	0.50
23:LS:5:GLY:O	23:LS:111:ARG:NH2	2.45	0.50
23:LS:68:PHE:O	23:LS:70:LYS:NZ	2.44	0.50
51:S2:543:C:H3'	51:S2:544:G:C8	2.47	0.50
51:S2:568:C:H42	51:S2:582:U:H3	1.60	0.50
51:S2:932:G:O2'	51:S2:934:G:OP2	2.22	0.50
51:S2:1464:C:H4'	69:SR:60:ARG:HH11	1.77	0.50
51:S2:1498:A:P	55:SD:27:ARG:HH22	2.35	0.50
52:SA:38:ILE:HD12	52:SA:49:ILE:HA	1.93	0.50
57:SF:162:ALA:HB2	57:SF:172:CYS:SG	2.52	0.50
58:SG:227:GLN:HB3	58:SG:231:ARG:HH21	1.75	0.50
72:SU:20:ILE:HD13	72:SU:97:ILE:HB	1.94	0.50
3:L5:93:G:H2'	3:L5:94:A:C8	2.47	0.50
3:L5:1426:G:N1	3:L5:1458:C:OP2	2.34	0.50
3:L5:1972:G:H5'	48:Ls:38:LYS:HZ3	1.76	0.50
3:L5:1979:A:H2	3:L5:1987:C:H42	1.57	0.50
11:LF:69:ILE:O	11:LF:73:ARG:HB2	2.12	0.50
15:LJ:20:LEU:HD21	15:LJ:130:PHE:CD1	2.47	0.50
51:S2:1017:U:H5'	65:SN:55:ARG:HD3	1.93	0.50
51:S2:1692:U:H2'	51:S2:1693:G:H8	1.77	0.50
54:SC:98:LEU:HB3	54:SC:102:LEU:HD11	1.94	0.50
62:SK:96:ARG:C	62:SK:98:ARG:H	2.20	0.50
3:L5:433:A:C2	3:L5:3867:A2M:H4'	2.47	0.50
3:L5:667:A:H5''	3:L5:668:C:H5''	1.93	0.50
3:L5:2583:C:OP2	37:Lg:76:ARG:NH1	2.43	0.50
3:L5:3825:A2M:H2'	3:L5:3826:C:O4'	2.12	0.50
3:L5:4071:U:H2'	3:L5:4072:C:H6	1.76	0.50
14:LI:36:LEU:HD21	14:LI:69:ARG:NH1	2.25	0.50
14:LI:162:ARG:HH21	14:LI:164:LYS:HE3	1.77	0.50
15:LJ:114:ASP:OD1	15:LJ:115:LEU:N	2.44	0.50
16:LL:63:THR:HG22	16:LL:64:VAL:N	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:LY:4:ASN:HB3	29:LY:7:VAL:HG12	1.94	0.50
33:Lc:77:ASN:OD1	33:Lc:80:GLU:HG2	2.12	0.50
45:Lo:70:LEU:HD11	45:Lo:83:LEU:HD12	1.94	0.50
51:S2:186:C:H2'	51:S2:187:G:C8	2.47	0.50
51:S2:1284:A:C2	64:SM:104:VAL:HG21	2.47	0.50
53:SB:192:SER:HA	53:SB:195:LYS:HD2	1.94	0.50
59:SH:159:ASP:C	59:SH:161:ALA:H	2.19	0.50
69:SR:5:ARG:HD3	69:SR:53:TYR:HB2	1.93	0.50
72:SU:100:GLN:N	72:SU:100:GLN:OE1	2.44	0.50
3:L5:267:G:H2'	3:L5:268:G:C8	2.46	0.50
3:L5:2096:G:H2'	3:L5:2096:G:N3	2.27	0.50
3:L5:2497:C:H2'	3:L5:2498:C:H6	1.77	0.50
3:L5:2568:C:H2'	3:L5:2569:G:C8	2.47	0.50
3:L5:3748:A:H5''	6:LA:243:THR:HB	1.93	0.50
3:L5:4346:U:O2'	45:Lo:80:LYS:O	2.29	0.50
51:S2:616:A:N3	82:Se:12:VAL:HG21	2.27	0.50
51:S2:1337:4AC:H2'	51:S2:1338:G:H8	1.77	0.50
51:S2:1406:G:H2'	51:S2:1407:U:C6	2.46	0.50
51:S2:1628:C:H2'	51:S2:1629:C:C6	2.47	0.50
57:SF:101:HIS:HB2	57:SF:108:PRO:HG3	1.94	0.50
57:SF:183:GLY:HA2	57:SF:190:ILE:HD13	1.93	0.50
60:SI:151:GLU:HA	60:SI:154:LYS:HZ3	1.76	0.50
63:SL:125:ILE:HB	63:SL:146:THR:OG1	2.12	0.50
67:SP:76:VAL:O	67:SP:95:GLY:N	2.32	0.50
70:SS:80:PRO:HG2	71:ST:36:THR:HG21	1.93	0.50
1:CD:401:LEU:O	1:CD:402:ALA:C	2.53	0.49
3:L5:162:A:H2'	3:L5:163:A:C8	2.47	0.49
3:L5:239:C:OP1	29:LY:46:SER:OG	2.30	0.49
3:L5:1186:U:H2'	3:L5:1187:G:N3	2.27	0.49
3:L5:2870:A:H2'	3:L5:2871:A:C8	2.47	0.49
3:L5:3607:U:H2'	3:L5:3608:A:C8	2.47	0.49
3:L5:4080:C:H2'	3:L5:4081:G:H8	1.77	0.49
3:L5:4174:U:H2'	3:L5:4175:G:C8	2.46	0.49
5:L8:8:U:H2'	5:L8:9:A:C8	2.47	0.49
8:LC:325:MET:HE1	11:LF:155:TYR:CZ	2.47	0.49
16:LL:91:ALA:HB1	16:LL:96:ILE:HB	1.94	0.49
51:S2:553:U:O4	51:S2:554:A:N6	2.38	0.49
51:S2:1101:U:H2'	51:S2:1102:G:H8	1.77	0.49
51:S2:1310:U:H2'	51:S2:1311:C:C6	2.47	0.49
51:S2:1643:U:H2'	51:S2:1644:C:C6	2.46	0.49
59:SH:17:ASP:OD1	59:SH:17:ASP:N	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SI:153:LYS:O	60:SI:153:LYS:NZ	2.34	0.49
3:L5:1338:G:H4'	3:L5:1339:U:H6	1.76	0.49
3:L5:1514:U:H2'	3:L5:1515:A:C8	2.47	0.49
3:L5:4347:G:H2'	3:L5:4348:A:C8	2.46	0.49
3:L5:4543:G:H2'	3:L5:4544:A:C8	2.47	0.49
3:L5:4859:C:H2'	3:L5:4860:G:C8	2.47	0.49
5:L8:26:C:O2'	8:LC:53:ALA:O	2.27	0.49
6:LA:206:PRO:HG3	6:LA:213:GLY:HA3	1.93	0.49
7:LB:122:TRP:CH2	7:LB:127:LYS:HG3	2.47	0.49
12:LG:250:ILE:O	12:LG:254:GLU:HG2	2.12	0.49
16:LL:142:GLU:O	16:LL:146:LEU:HB2	2.12	0.49
20:LP:5:SER:OG	20:LP:118:GLN:NE2	2.45	0.49
23:LS:154:LEU:HB3	23:LS:157:ARG:HD3	1.94	0.49
27:LW:87:LEU:HD12	27:LW:90:ILE:HD11	1.94	0.49
51:S2:344:U:H2'	51:S2:345:U:C6	2.47	0.49
51:S2:562:U:H2'	51:S2:563:G:C8	2.47	0.49
51:S2:837:A:H62	76:SY:8:ARG:HD3	1.76	0.49
51:S2:1317:C:H2'	51:S2:1318:G:H8	1.77	0.49
51:S2:1454:A:C8	69:SR:3:ARG:HD2	2.47	0.49
51:S2:1600:G:O2'	51:S2:1601:A:H4'	2.11	0.49
52:SA:104:THR:O	52:SA:107:THR:OG1	2.27	0.49
57:SF:134:VAL:HG12	57:SF:135:ARG:HG2	1.94	0.49
58:SG:10:THR:HA	58:SG:128:THR:HG23	1.93	0.49
60:SI:47:ARG:HE	60:SI:51:GLY:HA2	1.74	0.49
64:SM:35:ILE:CG1	64:SM:61:TYR:HE1	2.25	0.49
72:SU:21:ARG:N	72:SU:115:THR:O	2.37	0.49
75:SX:107:ARG:HG3	75:SX:110:HIS:HB3	1.93	0.49
83:Sf:139:HIS:O	83:Sf:147:THR:HA	2.12	0.49
3:L5:2730:U:H2'	3:L5:2731:C:C6	2.48	0.49
3:L5:2846:G:O2'	26:LV:19:GLY:O	2.22	0.49
3:L5:3880:G:H2'	3:L5:3881:G:C8	2.47	0.49
3:L5:4066:U:H2'	3:L5:4067:U:C6	2.47	0.49
3:L5:4966:A:OP2	7:LB:126:LYS:HE3	2.12	0.49
9:LD:223:PHE:HB3	9:LD:226:TYR:HB2	1.93	0.49
25:LU:23:LEU:N	25:LU:70:ILE:O	2.34	0.49
31:La:63:LEU:CD2	31:La:65:ARG:HE	2.26	0.49
48:Ls:125:ALA:N	48:Ls:157:ASP:OD1	2.45	0.49
50:Pt:58:A:O2'	50:Pt:60:A:OP2	2.26	0.49
51:S2:155:G:H4'	58:SG:15:LEU:HD22	1.94	0.49
51:S2:1568:C:H2'	51:S2:1569:A:C8	2.47	0.49
51:S2:1665:G:C5	71:ST:88:MET:HE1	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SB:123:ALA:HB2	53:SB:165:ARG:HG2	1.95	0.49
55:SD:74:GLN:NE2	55:SD:81:GLU:HA	2.27	0.49
60:SI:162:LEU:HD11	60:SI:191:GLU:HG3	1.92	0.49
68:SQ:130:LYS:NZ	68:SQ:131:LYS:O	2.45	0.49
77:SZ:58:LEU:O	77:SZ:62:VAL:HB	2.13	0.49
80:Sc:7:GLN:NE2	80:Sc:61:SER:OG	2.45	0.49
80:Sc:61:SER:HB2	80:Sc:62:GLU:OE1	2.12	0.49
84:Sg:259:TRP:CD1	84:Sg:266:ILE:HG12	2.48	0.49
3:L5:92:C:C2	31:La:55:LYS:HE2	2.47	0.49
3:L5:500:G:N2	3:L5:504:G:O2'	2.41	0.49
3:L5:737:C:C5	3:L5:739:G:H5''	2.47	0.49
3:L5:2823:G:N7	22:LR:20:LYS:HD3	2.27	0.49
5:L8:36:G:C5	38:Lh:89:ARG:HD3	2.48	0.49
36:Lf:106:TYR:O	36:Lf:108:SER:N	2.45	0.49
48:Ls:17:ILE:HD13	48:Ls:54:LEU:HD23	1.94	0.49
51:S2:290:U:H5'	51:S2:291:G:OP2	2.11	0.49
51:S2:1277:C:H2'	51:S2:1278:A:C8	2.45	0.49
69:SR:57:LEU:O	69:SR:61:ILE:N	2.41	0.49
71:ST:33:TRP:CZ2	71:ST:102:ARG:HD2	2.47	0.49
83:Sf:112:GLY:O	83:Sf:113:LYS:HD3	2.12	0.49
84:Sg:18:VAL:O	84:Sg:287:THR:OG1	2.31	0.49
3:L5:37:U:H2'	3:L5:38:A:O4'	2.12	0.49
3:L5:293:G:OP1	86:L5:5264:SPM:N1	2.31	0.49
3:L5:494:U:H2'	3:L5:495:C:C6	2.48	0.49
3:L5:716:C:OP1	8:LC:317:ASN:HB2	2.12	0.49
3:L5:1444:G:N2	3:L5:2104:G:H21	2.10	0.49
3:L5:1907:A:H2'	3:L5:1908:A:C8	2.48	0.49
3:L5:3785:A2M:H2	3:L5:4551:U:O2	2.11	0.49
3:L5:3911:C:H2'	3:L5:3912:U:C6	2.47	0.49
7:LB:307:TYR:CD2	7:LB:366:LYS:HA	2.47	0.49
9:LD:211:LEU:HB3	9:LD:219:TYR:HB2	1.95	0.49
9:LD:265:ARG:NH1	9:LD:267:ASN:O	2.37	0.49
13:LH:41:ILE:HG22	13:LH:43:VAL:HG13	1.93	0.49
14:LI:61:SER:HA	14:LI:126:VAL:HG12	1.93	0.49
22:LR:93:VAL:HA	22:LR:96:MET:HE3	1.95	0.49
26:LV:37:LEU:HD23	26:LV:65:VAL:HG12	1.94	0.49
51:S2:388:U:H2'	51:S2:389:A:C8	2.48	0.49
52:SA:142:LEU:HD12	52:SA:143:PRO:HD2	1.93	0.49
59:SH:133:LEU:HD11	59:SH:176:VAL:HG13	1.94	0.49
64:SM:18:LEU:HA	64:SM:21:VAL:HB	1.93	0.49
77:SZ:101:SER:OG	77:SZ:108:ILE:N	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CI:59:GLN:HG2	25:LU:98:ASP:OD2	2.12	0.49
3:L5:92:C:OP2	3:L5:4341:C:O2'	2.26	0.49
3:L5:444:G:H2'	3:L5:445:U:C6	2.48	0.49
3:L5:2415:U:H2'	3:L5:2416:G:C8	2.48	0.49
3:L5:4625:C:O2'	3:L5:4626:A:H5'	2.13	0.49
3:L5:4873:G:C8	19:LO:179:LYS:HE3	2.48	0.49
3:L5:4910:G:H4'	7:LB:95:THR:HG22	1.93	0.49
7:LB:133:TYR:O	7:LB:136:LYS:HG2	2.12	0.49
12:LG:218:LEU:O	12:LG:222:ILE:HG12	2.12	0.49
19:LO:119:VAL:N	23:LS:168:THR:O	2.45	0.49
24:LT:75:VAL:HG22	24:LT:88:ARG:HG2	1.95	0.49
29:LY:112:ASP:OD1	29:LY:115:ARG:HG2	2.12	0.49
43:Lm:126:LYS:HB3	43:Lm:128:LYS:HG2	1.94	0.49
48:Ls:81:HIS:CG	48:Ls:191:GLN:HE22	2.29	0.49
51:S2:223:C:H2'	51:S2:224:A:C8	2.46	0.49
51:S2:656:G:H5'	51:S2:662:G:N2	2.26	0.49
51:S2:942:G:H2'	51:S2:943:U:C6	2.47	0.49
51:S2:1199:A:H2'	51:S2:1200:A:C8	2.47	0.49
59:SH:23:ILE:HD13	59:SH:87:PHE:HE2	1.77	0.49
65:SN:52:VAL:HG23	65:SN:55:ARG:NH2	2.27	0.49
70:SS:51:ASP:HB3	70:SS:54:LYS:HE3	1.95	0.49
76:SY:27:VAL:CG2	76:SY:69:THR:HB	2.43	0.49
3:L5:462:G:H2'	3:L5:463:A:C8	2.48	0.49
3:L5:729:G:H5''	11:LF:76:ARG:HD2	1.94	0.49
3:L5:1080:C:H2'	3:L5:1081:C:H6	1.78	0.49
3:L5:1537:A:H2'	3:L5:1538:U:C6	2.48	0.49
3:L5:1733:G:N3	3:L5:4214:A:H2'	2.27	0.49
3:L5:2284:G:OP1	31:La:7:LYS:NZ	2.42	0.49
3:L5:2844:A:O2'	3:L5:4631:G:H4'	2.13	0.49
3:L5:4327:C:OP1	24:LT:70:HIS:NE2	2.45	0.49
12:LG:51:LEU:O	12:LG:55:VAL:HG23	2.13	0.49
20:LP:16:LYS:HG2	20:LP:149:ILE:HG12	1.95	0.49
46:Lp:64:VAL:HG11	46:Lp:71:TYR:HE1	1.77	0.49
50:Pt:18:G:H21	50:Pt:58:A:H5'	1.77	0.49
51:S2:114:G:H5'	63:SL:132:ARG:HD3	1.94	0.49
51:S2:1215:C:N4	91:S2:2055:HOH:O	2.43	0.49
51:S2:1409:A:H2'	51:S2:1410:C:C6	2.48	0.49
74:SW:111:MET:HE1	74:SW:119:LYS:HD2	1.95	0.49
3:L5:286:U:H2'	3:L5:287:U:C6	2.47	0.49
3:L5:497:G:N2	3:L5:498:C:H41	2.10	0.49
3:L5:1320:U:O2'	3:L5:1891:A:N1	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1920:C:H3'	3:L5:1921:C:H5''	1.95	0.49
3:L5:2400:G:H21	37:Lg:6:THR:HG22	1.78	0.49
3:L5:2671:C:H2'	3:L5:2672:C:C6	2.48	0.49
5:L8:5:U:H2'	5:L8:6:C:H6	1.78	0.49
9:LD:84:PRO:HG3	9:LD:89:LYS:HA	1.95	0.49
27:LW:7:SER:OG	27:LW:8:PHE:N	2.45	0.49
42:Ll:23:ILE:HG23	42:Ll:38:ASN:HB2	1.95	0.49
51:S2:834:C:N4	51:S2:839:C:H42	2.11	0.49
51:S2:1093:A:H2'	51:S2:1094:C:H6	1.76	0.49
51:S2:1386:A:OP2	55:SD:160:SER:OG	2.22	0.49
51:S2:1533:A:C8	51:S2:1604:G:H1'	2.47	0.49
51:S2:1589:A:N3	51:S2:1653:U:O2'	2.44	0.49
56:SE:94:LYS:NZ	76:SY:19:GLN:HE21	2.10	0.49
67:SP:24:GLN:OE1	67:SP:24:GLN:N	2.45	0.49
68:SQ:21:ALA:O	68:SQ:87:SER:OG	2.25	0.49
70:SS:121:ARG:HG3	70:SS:131:VAL:HB	1.95	0.49
84:Sg:52:TYR:CE2	84:Sg:309:VAL:HG21	2.47	0.49
3:L5:206:U:O2'	3:L5:208:A:N7	2.42	0.49
3:L5:424:U:H2'	3:L5:425:U:C6	2.47	0.49
3:L5:457:G:H2'	3:L5:458:C:H6	1.77	0.49
3:L5:1992:U:H4'	3:L5:1993:C:H5''	1.94	0.49
3:L5:4322:G:N2	3:L5:4325:A:OP2	2.39	0.49
3:L5:4541:G:N2	3:L5:4544:A:OP2	2.37	0.49
14:LI:52:MET:HE1	14:LI:155:ALA:HB3	1.95	0.49
14:LI:54:SER:HB3	14:LI:135:ILE:HD11	1.94	0.49
34:Ld:63:ARG:HD3	34:Ld:103:TYR:CD2	2.48	0.49
54:SC:168:GLY:N	54:SC:179:THR:O	2.36	0.49
55:SD:163:PRO:HG3	55:SD:205:PRO:HG2	1.94	0.49
73:SV:38:GLU:OE1	73:SV:38:GLU:N	2.40	0.49
84:Sg:206:LEU:HD12	84:Sg:218:LEU:HD12	1.94	0.49
84:Sg:259:TRP:HE1	84:Sg:266:ILE:HG12	1.78	0.49
3:L5:498:C:C2	3:L5:499:G:H1'	2.48	0.49
3:L5:1333:A:H2'	3:L5:1334:A:H8	1.77	0.49
3:L5:2109:G:H2'	3:L5:2110:C:C6	2.48	0.49
3:L5:2517:A:H5'	37:Lg:62:LYS:HD3	1.95	0.49
3:L5:5006:U:H4'	3:L5:5007:A:H5'	1.94	0.49
7:LB:397:ILE:HG13	7:LB:398:ALA:N	2.26	0.49
13:LH:57:VAL:HG23	13:LH:70:VAL:HG13	1.94	0.49
30:LZ:46:ILE:HD11	30:LZ:49:TYR:CE1	2.48	0.49
51:S2:219:U:H1'	60:SI:184:ARG:HD2	1.93	0.49
51:S2:295:C:H2'	51:S2:296:U:H6	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:1402:A:H5'	72:SU:51:LYS:NZ	2.28	0.49
63:SL:13:GLN:NE2	63:SL:35:ARG:HE	2.11	0.49
63:SL:75:GLY:HA3	63:SL:88:ILE:HD12	1.95	0.49
68:SQ:102:GLU:O	68:SQ:106:LYS:N	2.42	0.49
81:Sd:4:GLN:OE1	81:Sd:4:GLN:N	2.38	0.49
84:Sg:176:VAL:HG23	84:Sg:185:LYS:HB2	1.94	0.49
3:L5:381:U:H4'	3:L5:415:G:H5'	1.94	0.48
3:L5:3690:U:H2'	3:L5:3691:G:O4'	2.13	0.48
3:L5:3856:A:H5''	20:LP:83:TRP:O	2.13	0.48
9:LD:238:GLU:HG3	9:LD:242:LYS:HZ2	1.78	0.48
49:Lt:117:ARG:HE	49:Lt:119:ARG:H	1.61	0.48
51:S2:1189:A:H2'	51:S2:1190:A:C8	2.47	0.48
51:S2:1201:U:H2'	51:S2:1202:U:C6	2.48	0.48
58:SG:138:ALA:O	58:SG:142:ARG:HG3	2.13	0.48
58:SG:194:LEU:HD13	58:SG:197:GLN:HE22	1.78	0.48
60:SI:44:HIS:N	91:SI:301:HOH:O	2.36	0.48
64:SM:58:GLU:OE1	64:SM:61:TYR:N	2.45	0.48
74:SW:11:LEU:HD21	74:SW:37:PHE:CE2	2.47	0.48
1:CD:392:VAL:HA	1:CD:398:PHE:CD2	2.48	0.48
3:L5:2059:C:O2	23:LS:118:ARG:NH2	2.46	0.48
3:L5:2306:G:H1'	3:L5:2332:A:N6	2.28	0.48
6:LA:105:GLY:HA3	6:LA:160:SER:HB3	1.96	0.48
14:LI:51:HIS:CD2	14:LI:168:SER:HB3	2.48	0.48
18:LN:178:HIS:HA	18:LN:181:HIS:NE2	2.28	0.48
20:LP:42:ARG:HH11	20:LP:42:ARG:HG2	1.78	0.48
51:S2:511:U:H2'	51:S2:512:A:C8	2.49	0.48
51:S2:751:G:H1'	51:S2:793:G:H21	1.78	0.48
51:S2:1340:U:OP2	51:S2:1341:C:O2'	2.29	0.48
69:SR:29:HIS:HA	69:SR:32:LYS:HD2	1.95	0.48
70:SS:5:ILE:HD11	70:SS:9:PHE:CD1	2.48	0.48
70:SS:25:LYS:HD2	70:SS:28:PHE:HD2	1.77	0.48
84:Sg:259:TRP:NE1	84:Sg:266:ILE:HG12	2.28	0.48
3:L5:1081:C:O2'	3:L5:1082:C:H5'	2.13	0.48
3:L5:1269:G:O2'	3:L5:1440:U:O2'	2.18	0.48
3:L5:1977:C:O2'	3:L5:1978:C:OP1	2.27	0.48
3:L5:2008:U:H1'	3:L5:2011:C:H5	1.78	0.48
3:L5:2481:G:H2'	3:L5:2482:C:C6	2.48	0.48
3:L5:4919:G:H2'	3:L5:4920:C:C6	2.48	0.48
7:LB:57:VAL:HB	7:LB:367:PHE:HB3	1.95	0.48
7:LB:291:TYR:CE1	7:LB:299:ILE:HG23	2.48	0.48
31:La:125:LYS:HG2	31:La:145:VAL:CG2	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ld:37:GLY:O	34:Ld:41:ARG:HG3	2.12	0.48
42:Ll:25:GLN:OE1	42:Ll:28:ARG:NH2	2.46	0.48
47:Lr:38:PHE:O	47:Lr:45:HIS:NE2	2.38	0.48
51:S2:65:C:C4	58:SG:133:LEU:HD12	2.48	0.48
51:S2:300:U:H2'	51:S2:301:A:C8	2.49	0.48
51:S2:496:C:H2'	51:S2:497:C:H6	1.78	0.48
51:S2:1289:U:OP2	83:Sf:97:LYS:NZ	2.41	0.48
51:S2:1337:4AC:O5'	51:S2:1337:4AC:H6	2.14	0.48
51:S2:1500:G:H2'	51:S2:1501:C:C6	2.47	0.48
51:S2:1511:U:H2'	51:S2:1512:C:C6	2.48	0.48
51:S2:1738:C:OP1	58:SG:92:ARG:NH1	2.37	0.48
51:S2:1748:G:H1	51:S2:1786:U:H3	1.60	0.48
52:SA:22:GLY:O	52:SA:24:HIS:N	2.43	0.48
55:SD:116:ARG:HD3	55:SD:152:PHE:CZ	2.49	0.48
56:SE:79:ASP:HB3	56:SE:82:TYR:HB2	1.95	0.48
66:SO:56:VAL:HG23	66:SO:60:MET:SD	2.54	0.48
71:ST:57:ALA:HA	71:ST:60:THR:HG22	1.95	0.48
3:L5:1366:G:OP2	16:LL:36:ARG:NH2	2.45	0.48
3:L5:1588:U:H2'	3:L5:1589:C:C6	2.48	0.48
3:L5:2543:A:H2	3:L5:2773:G:H22	1.62	0.48
3:L5:3867:A2M:H2'	3:L5:3868:G:O4'	2.12	0.48
3:L5:4458:C:H2'	3:L5:4459:U:C6	2.47	0.48
3:L5:4481:U:H2'	3:L5:4482:U:C6	2.48	0.48
3:L5:4991:U:H2'	3:L5:4992:G:H8	1.79	0.48
5:L8:144:U:H2'	5:L8:145:C:C6	2.48	0.48
19:LO:53:LYS:NZ	91:LO:302:HOH:O	2.45	0.48
51:S2:441:C:H2'	51:S2:442:C:C6	2.48	0.48
51:S2:1020:A:OP2	65:SN:70:LYS:NZ	2.40	0.48
51:S2:1252:C:H42	68:SQ:146:ARG:C	2.21	0.48
51:S2:1671:G:H2'	51:S2:1672:U:H6	1.77	0.48
54:SC:64:THR:HG22	54:SC:66:LEU:H	1.78	0.48
58:SG:194:LEU:HA	58:SG:197:GLN:HE22	1.79	0.48
69:SR:59:LYS:O	69:SR:62:GLN:HG2	2.14	0.48
3:L5:148:C:OP2	12:LG:197:LYS:NZ	2.44	0.48
3:L5:1273:G:C8	32:Lb:117:ARG:NH1	2.82	0.48
3:L5:1378:C:N4	16:LL:159:ASN:O	2.42	0.48
3:L5:1601:A:OP1	40:Lj:5:THR:OG1	2.21	0.48
3:L5:1961:G:O2'	3:L5:2025:A:N6	2.46	0.48
3:L5:4363:A:H5''	45:Lo:36:GLN:HG2	1.93	0.48
3:L5:4921:C:O2'	3:L5:4922:C:H5'	2.13	0.48
5:L8:47:C:H1'	5:L8:61:A:H2'	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:508:A:H3'	51:S2:509:OMG:C8	2.44	0.48
51:S2:731:G:H5'	51:S2:732:U:OP1	2.14	0.48
51:S2:1017:U:H2'	51:S2:1018:U:H6	1.78	0.48
51:S2:1206:G:O2'	51:S2:1208:A:OP1	2.27	0.48
51:S2:1390:U:H2'	51:S2:1391:OMC:C6	2.48	0.48
56:SE:252:ARG:O	56:SE:256:LEU:HG	2.13	0.48
67:SP:74:GLU:OE1	67:SP:74:GLU:N	2.42	0.48
70:SS:20:ILE:HG22	70:SS:32:ALA:HB3	1.95	0.48
71:ST:104:LEU:HD13	71:ST:121:ARG:HD2	1.96	0.48
71:ST:135:ALA:HA	71:ST:138:VAL:HG12	1.94	0.48
84:Sg:44:LYS:HG2	84:Sg:46:THR:HG23	1.96	0.48
84:Sg:166:VAL:HG12	84:Sg:176:VAL:HG12	1.95	0.48
84:Sg:249:CYS:HB3	84:Sg:258:ILE:HD13	1.95	0.48
3:L5:1241:C:O2'	32:Lb:120:ARG:O	2.31	0.48
3:L5:3718:A2M:H2	3:L5:3934:G:O4'	2.14	0.48
3:L5:4098:A:N6	3:L5:4099:G:H21	2.11	0.48
3:L5:5015:G:H2'	3:L5:5016:A:C2	2.48	0.48
6:LA:53:GLY:O	6:LA:192:LYS:NZ	2.45	0.48
10:LE:223:ARG:NE	10:LE:234:ASP:O	2.47	0.48
10:LE:227:HIS:HE1	10:LE:230:GLY:HA2	1.78	0.48
13:LH:104:VAL:HB	13:LH:113:GLU:HB2	1.94	0.48
51:S2:595:U:H2'	51:S2:596:U:C6	2.49	0.48
51:S2:929:G:H2'	51:S2:930:C:O4'	2.14	0.48
3:L5:308:G:O6	18:LN:12:ARG:NH1	2.47	0.48
3:L5:702:U:H2'	3:L5:703:G:O4'	2.14	0.48
3:L5:1214:C:N3	32:Lb:90:SER:OG	2.47	0.48
3:L5:1298:C:H2'	3:L5:1299:G:C8	2.47	0.48
3:L5:1847:C:H2'	3:L5:1848:C:C6	2.48	0.48
3:L5:2749:C:H2'	3:L5:2750:G:C8	2.49	0.48
3:L5:4425:G:OP1	43:Lm:100:TYR:OH	2.21	0.48
3:L5:4954:G:H2'	3:L5:4955:A:C8	2.49	0.48
51:S2:325:C:H3'	51:S2:326:C:H4'	1.96	0.48
51:S2:1422:G:C4	51:S2:1424:G:C8	3.01	0.48
51:S2:1447:G:H1'	72:SU:55:ARG:HH12	1.79	0.48
55:SD:163:PRO:HA	55:SD:166:TYR:CE1	2.48	0.48
58:SG:38:ALA:O	58:SG:45:TRP:HB3	2.13	0.48
59:SH:10:LYS:HE2	59:SH:20:GLU:OE1	2.13	0.48
3:L5:1806:G:H2'	3:L5:1807:C:H6	1.78	0.48
19:LO:54:TYR:OH	19:LO:73:PHE:O	2.30	0.48
30:LZ:57:MET:CG	30:LZ:61:LYS:HD3	2.43	0.48
48:Ls:29:ILE:HG13	48:Ls:29:ILE:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:Lt:150:ASP:OD1	49:Lt:151:ILE:N	2.47	0.48
55:SD:116:ARG:HD3	55:SD:152:PHE:HZ	1.79	0.48
56:SE:122:LYS:N	56:SE:162:ILE:O	2.39	0.48
56:SE:131:VAL:HA	56:SE:137:PRO:HA	1.94	0.48
56:SE:204:SER:OG	56:SE:205:PHE:N	2.47	0.48
57:SF:30:ILE:HG13	57:SF:113:VAL:HG11	1.95	0.48
60:SI:141:ARG:HA	60:SI:141:ARG:CZ	2.44	0.48
64:SM:56:CYS:HB3	64:SM:62:VAL:HG13	1.95	0.48
66:SO:33:ILE:HG22	66:SO:42:VAL:HA	1.95	0.48
68:SQ:93:VAL:O	68:SQ:97:GLN:HB2	2.13	0.48
70:SS:43:VAL:HG11	70:SS:83:PHE:HE2	1.79	0.48
71:ST:34:VAL:HA	71:ST:52:TRP:HZ2	1.78	0.48
76:SY:45:ALA:HB1	76:SY:50:THR:O	2.14	0.48
3:L5:3661:G:N7	6:LA:152:SER:OG	2.43	0.48
3:L5:3697:U:H5''	3:L5:3698:G:H5'	1.96	0.48
3:L5:4122:G:H4'	37:Lg:90:ARG:HG2	1.96	0.48
86:L5:5259:SPM:H32	24:LT:13:TYR:CD1	2.49	0.48
5:L8:66:A:H2'	5:L8:67:U:C6	2.48	0.48
13:LH:51:LYS:HG3	13:LH:52:LYS:N	2.28	0.48
36:Lf:41:PHE:HE1	36:Lf:110:ILE:HD13	1.78	0.48
51:S2:815:U:C2	51:S2:816:A:C8	3.02	0.48
64:SM:20:GLU:OE2	64:SM:119:GLN:HB2	2.14	0.48
65:SN:66:VAL:HG13	65:SN:67:THR:HG23	1.96	0.48
3:L5:423:G:H2'	3:L5:424:U:C6	2.49	0.48
3:L5:465:G:H2'	3:L5:466:A:C8	2.49	0.48
3:L5:705:G:H2'	3:L5:706:C:C6	2.49	0.48
3:L5:712:C:OP1	10:LE:139:LYS:HE3	2.14	0.48
3:L5:1348:U:H2'	3:L5:1349:G:H8	1.79	0.48
3:L5:1558:A:H2'	3:L5:1559:G:H8	1.79	0.48
3:L5:2520:C:H2'	3:L5:2521:G:C8	2.49	0.48
3:L5:2749:C:H2'	3:L5:2750:G:H8	1.77	0.48
3:L5:3799:A:N3	3:L5:4506:C:O2'	2.39	0.48
3:L5:3954:A:O2'	3:L5:4058:U:OP1	2.27	0.48
3:L5:4636:PSU:N1	34:Ld:79:ASN:OD1	2.45	0.48
3:L5:4742:G:H2'	3:L5:4743:G:H8	1.78	0.48
4:L7:4:U:H2'	4:L7:5:A:H8	1.79	0.48
4:L7:110:G:H2'	4:L7:111:C:C6	2.48	0.48
18:LN:176:LYS:NZ	91:LN:411:HOH:O	2.47	0.48
30:LZ:68:ILE:HD12	30:LZ:119:GLU:HG2	1.96	0.48
41:Lk:12:LEU:HB3	41:Lk:16:ARG:HH21	1.79	0.48
51:S2:5:U:H2'	51:S2:6:G:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:138:C:OP2	51:S2:1774:C:O2'	2.29	0.48
51:S2:690:G:OP2	51:S2:690:G:N2	2.45	0.48
51:S2:989:C:OP2	53:SB:155:TYR:OH	2.27	0.48
51:S2:1617:G:N1	51:S2:1620:A:OP2	2.46	0.48
52:SA:42:LYS:HG2	52:SA:46:ILE:O	2.14	0.48
55:SD:5:ILE:HD11	55:SD:9:ARG:HD3	1.95	0.48
55:SD:195:THR:HG22	55:SD:197:LYS:HG2	1.94	0.48
69:SR:98:VAL:O	69:SR:120:THR:N	2.47	0.48
3:L5:85:G:O2'	3:L5:97:G:O6	2.25	0.47
3:L5:1340:OMC:HM23	3:L5:1340:OMC:H1'	1.69	0.47
3:L5:1974:U:P	49:Lt:77:ALA:HA	2.54	0.47
3:L5:3610:A:H2'	3:L5:3611:A:H8	1.79	0.47
3:L5:4318:C:O2'	45:Lo:18:HIS:ND1	2.40	0.47
5:L8:70:G:H5''	29:LY:27:ARG:CZ	2.44	0.47
5:L8:148:A:H2'	5:L8:149:G:C8	2.49	0.47
14:LI:102:MET:HB3	14:LI:112:GLN:HE22	1.79	0.47
32:Lb:116:LEU:HG	32:Lb:117:ARG:NH2	2.29	0.47
51:S2:291:G:H2'	51:S2:292:A:C8	2.48	0.47
51:S2:1673:U:O2'	57:SF:84:GLY:O	2.18	0.47
51:S2:1733:U:H2'	51:S2:1734:G:O4'	2.14	0.47
56:SE:61:VAL:HA	56:SE:64:ILE:HG22	1.95	0.47
57:SF:30:ILE:HB	57:SF:36:GLN:HG2	1.95	0.47
66:SO:33:ILE:HG13	66:SO:97:LEU:HD23	1.96	0.47
70:SS:60:THR:O	70:SS:64:VAL:HG23	2.14	0.47
3:L5:159:C:H5''	39:Li:25:ARG:NH2	2.29	0.47
3:L5:318:A:H2'	3:L5:319:A:H8	1.78	0.47
3:L5:1357:C:H2'	3:L5:1358:G:H5''	1.96	0.47
3:L5:2279:A:O2'	35:Le:48:ARG:NH2	2.47	0.47
3:L5:3848:U:H2'	3:L5:3849:A:H8	1.79	0.47
3:L5:5062:G:H2'	3:L5:5063:G:H8	1.79	0.47
12:LG:162:ASP:HB3	12:LG:163:PRO:HD3	1.96	0.47
48:Ls:114:GLY:HA2	48:Ls:166:LYS:HD2	1.95	0.47
49:Lt:114:ARG:HD3	49:Lt:133:LEU:HD22	1.95	0.47
51:S2:484:A2M:H8	51:S2:484:A2M:O5'	2.13	0.47
51:S2:985:G:H1'	66:SO:138:ASP:OD1	2.14	0.47
51:S2:1433:C:N4	72:SU:49:LYS:HZ1	2.12	0.47
51:S2:1711:U:H2'	51:S2:1712:A:C8	2.49	0.47
59:SH:18:GLU:C	59:SH:20:GLU:H	2.22	0.47
59:SH:37:LYS:HB3	59:SH:41:ARG:HH21	1.79	0.47
59:SH:145:ARG:HD2	59:SH:155:LYS:NZ	2.28	0.47
67:SP:81:ARG:HH12	67:SP:122:THR:HG22	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:179:G:H2'	3:L5:180:C:C6	2.49	0.47
3:L5:257:C:H2'	3:L5:258:G:C8	2.48	0.47
3:L5:1332:C:H2'	3:L5:1333:A:C8	2.50	0.47
3:L5:1669:A:OP1	32:Lb:18:ARG:NH2	2.36	0.47
3:L5:1734:G:N2	3:L5:1735:U:O4	2.33	0.47
3:L5:1995:G:C4'	49:Lt:128:THR:HB	2.39	0.47
3:L5:3684:G:H2'	3:L5:3685:C:C6	2.50	0.47
3:L5:4339:A:H2'	3:L5:4340:U:H6	1.79	0.47
6:LA:117:GLU:O	6:LA:162:ASN:ND2	2.39	0.47
7:LB:117:ARG:HG2	7:LB:180:LEU:HD12	1.96	0.47
8:LC:150:LEU:O	8:LC:152:LEU:N	2.47	0.47
21:LQ:43:PHE:CD2	21:LQ:133:GLY:HA3	2.49	0.47
27:LW:35:LYS:HE3	27:LW:51:TRP:CZ2	2.49	0.47
27:LW:89:ASP:O	27:LW:93:LYS:HG2	2.15	0.47
51:S2:84:A:H5''	76:SY:124:ASN:ND2	2.29	0.47
51:S2:1264:C:P	81:Sd:28:HIS:HE2	2.38	0.47
52:SA:120:ARG:HD2	54:SC:266:TYR:HB3	1.97	0.47
58:SG:67:VAL:HG12	58:SG:69:THR:HG22	1.96	0.47
61:SJ:104:ASP:HA	61:SJ:107:GLU:HG3	1.96	0.47
64:SM:44:LYS:HE3	83:Sf:129:GLY:HA3	1.96	0.47
68:SQ:9:SER:OG	68:SQ:25:CYS:O	2.22	0.47
69:SR:53:TYR:CZ	69:SR:57:LEU:HD21	2.50	0.47
74:SW:45:GLY:O	74:SW:68:ARG:HD2	2.15	0.47
3:L5:485:C:O2	3:L5:485:C:H2'	2.13	0.47
3:L5:2481:G:H2'	3:L5:2482:C:H6	1.78	0.47
3:L5:2743:A:H2'	3:L5:2744:A:C8	2.49	0.47
3:L5:3666:C:OP1	6:LA:234:LYS:NZ	2.47	0.47
3:L5:4578:G:H2'	3:L5:4579:PSU:H6	1.80	0.47
24:LT:122:LYS:HZ3	24:LT:124:THR:HG22	1.79	0.47
30:LZ:50:PRO:HD3	30:LZ:68:ILE:HG12	1.96	0.47
33:Lc:49:ALA:HB1	33:Lc:77:ASN:HA	1.97	0.47
45:Lo:74:GLU:OE1	45:Lo:76:ASN:HB2	2.14	0.47
51:S2:352:U:H2'	51:S2:353:C:C6	2.49	0.47
51:S2:550:C:H2'	51:S2:551:U:C6	2.48	0.47
51:S2:909:G:H2'	51:S2:910:G:C8	2.48	0.47
51:S2:1215:C:O2'	51:S2:1645:C:OP2	2.30	0.47
51:S2:1235:G:N2	67:SP:135:ALA:HB2	2.29	0.47
54:SC:92:GLU:OE1	54:SC:92:GLU:N	2.39	0.47
70:SS:42:HIS:CE1	71:ST:45:LEU:HD21	2.48	0.47
84:Sg:191:HIS:ND1	84:Sg:195:LEU:HD21	2.30	0.47
2:CI:55:LEU:HB3	25:LU:99:TRP:CE2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:268:G:H2'	3:L5:269:G:C8	2.46	0.47
3:L5:4691:A:OP1	13:LH:75:SER:OG	2.30	0.47
3:L5:4940:C:H5'	3:L5:4941:G:H5''	1.95	0.47
6:LA:131:GLY:H	6:LA:169:VAL:HG13	1.78	0.47
6:LA:140:ASN:ND2	6:LA:142:GLU:OE2	2.48	0.47
16:LL:80:GLU:HG3	16:LL:110:LEU:HD12	1.97	0.47
26:LV:73:ARG:NH2	91:LV:308:HOH:O	2.48	0.47
27:LW:52:THR:HG22	27:LW:54:LEU:H	1.79	0.47
51:S2:300:U:H2'	51:S2:301:A:H8	1.78	0.47
51:S2:454:U:H2'	51:S2:455:A:H8	1.79	0.47
51:S2:659:G:H21	75:SX:17:ARG:HH22	1.62	0.47
51:S2:661:U:OP2	75:SX:3:LYS:NZ	2.46	0.47
51:S2:1305:C:H2'	51:S2:1306:U:C5	2.49	0.47
51:S2:1713:C:H2'	51:S2:1714:U:C6	2.49	0.47
68:SQ:44:PRO:HG2	68:SQ:81:ILE:HD11	1.96	0.47
72:SU:35:VAL:O	72:SU:39:LEU:HD23	2.14	0.47
72:SU:68:THR:O	81:Sd:40:ARG:NH1	2.46	0.47
83:Sf:90:LYS:HD2	83:Sf:90:LYS:HA	1.69	0.47
1:CD:31:LEU:HD21	37:Lg:105:LYS:HD3	1.95	0.47
3:L5:1199:G:H2'	3:L5:1200:G:C8	2.50	0.47
3:L5:2417:A:H2'	3:L5:2418:A:H8	1.78	0.47
3:L5:2676:A:OP2	3:L5:2676:A:H8	1.98	0.47
3:L5:3928:A:H2'	3:L5:3929:G:O4'	2.13	0.47
3:L5:4653:C:H2'	3:L5:4654:C:C6	2.49	0.47
3:L5:4742:G:H2'	3:L5:4743:G:C8	2.49	0.47
12:LG:52:THR:HG22	28:LX:41:ARG:HG3	1.97	0.47
17:LM:24:LEU:HD11	17:LM:86:TRP:CG	2.49	0.47
20:LP:114:ILE:HG12	20:LP:150:LEU:HD22	1.95	0.47
27:LW:78:PHE:CE2	58:SG:9:ALA:HA	2.49	0.47
48:Ls:134:LYS:HD2	48:Ls:137:PHE:HE2	1.79	0.47
51:S2:65:C:N4	58:SG:136:LYS:HB2	2.29	0.47
51:S2:77:A:O2'	58:SG:174:PRO:O	2.32	0.47
51:S2:1037:G:H4'	51:S2:1845:A:H4'	1.95	0.47
51:S2:1270:G:O2'	51:S2:1301:A:N7	2.46	0.47
51:S2:1864:U:H5'	78:Sa:79:ILE:HD11	1.97	0.47
52:SA:24:HIS:HA	52:SA:49:ILE:HG12	1.97	0.47
57:SF:22:LYS:HG3	57:SF:23:TRP:CD2	2.49	0.47
59:SH:143:ARG:HB2	59:SH:155:LYS:HB2	1.95	0.47
63:SL:6:THR:N	63:SL:7:GLU:OE1	2.47	0.47
67:SP:60:LEU:HD23	67:SP:89:MET:HG2	1.97	0.47
70:SS:43:VAL:CG1	70:SS:83:PHE:HE2	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:369:G:N2	3:L5:372:A:OP2	2.41	0.47
3:L5:685:C:H5'	10:LE:101:ASN:HD22	1.79	0.47
3:L5:1503:A:N6	21:LQ:87:THR:HG21	2.26	0.47
3:L5:4291:G:H4'	3:L5:4292:A:H5''	1.96	0.47
3:L5:4345:C:H2'	3:L5:4346:U:C6	2.50	0.47
3:L5:4508:C:N3	3:L5:4512:U:H5	2.12	0.47
3:L5:4769:G:OP1	19:LO:176:ARG:NH1	2.44	0.47
3:L5:4769:G:H5''	19:LO:176:ARG:HD3	1.97	0.47
8:LC:110:ARG:O	8:LC:113:ARG:NH1	2.44	0.47
9:LD:33:ARG:NH1	9:LD:50:ARG:HH12	2.12	0.47
13:LH:45:LEU:CD2	13:LH:57:VAL:HG12	2.45	0.47
16:LL:81:LEU:HD11	16:LL:98:VAL:CG1	2.44	0.47
25:LU:18:VAL:HG12	25:LU:20:LYS:HB2	1.95	0.47
45:Lo:32:SER:C	45:Lo:34:TYR:H	2.23	0.47
50:Pt:74:C:O2'	50:Pt:75:C:H5'	2.15	0.47
51:S2:1058:A:H2'	51:S2:1059:G:C8	2.50	0.47
51:S2:1088:U:H4'	51:S2:1089:G:OP2	2.12	0.47
51:S2:1220:A:N3	51:S2:1677:U:O2'	2.41	0.47
51:S2:1452:A:OP2	69:SR:32:LYS:NZ	2.48	0.47
51:S2:1597:C:OP2	77:SZ:85:ARG:NH2	2.36	0.47
51:S2:1648:G:O2'	51:S2:1674:G:O6	2.28	0.47
51:S2:1648:G:C8	68:SQ:125:ARG:HG3	2.50	0.47
51:S2:1788:A:H2'	51:S2:1789:G:O4'	2.15	0.47
52:SA:38:ILE:HD11	52:SA:47:TYR:HB3	1.95	0.47
54:SC:138:GLY:HA3	54:SC:162:ILE:HD13	1.95	0.47
55:SD:45:ARG:HB2	55:SD:83:SER:O	2.14	0.47
57:SF:22:LYS:HD2	57:SF:23:TRP:CE2	2.50	0.47
57:SF:39:ILE:HD12	57:SF:68:ILE:HD12	1.95	0.47
58:SG:152:ASP:OD2	58:SG:155:GLN:HB2	2.14	0.47
58:SG:218:LYS:O	58:SG:222:GLU:HG2	2.15	0.47
59:SH:51:ILE:HG21	59:SH:179:LYS:HG2	1.95	0.47
61:SJ:93:LYS:HB2	61:SJ:96:TYR:CD2	2.49	0.47
62:SK:15:LEU:HD22	62:SK:49:MET:HE1	1.97	0.47
65:SN:87:ASP:OD1	65:SN:88:LEU:N	2.48	0.47
69:SR:128:PHE:O	69:SR:129:LYS:HB2	2.14	0.47
70:SS:129:LEU:HD23	70:SS:144:ARG:HH21	1.78	0.47
72:SU:20:ILE:HG13	72:SU:116:ILE:HG22	1.95	0.47
78:Sa:38:LYS:HB2	78:Sa:71:LEU:HB2	1.97	0.47
3:L5:1998:A:H2'	3:L5:1999:A:C8	2.49	0.47
3:L5:4638:U:H2'	3:L5:4639:G:N3	2.30	0.47
8:LC:109:ARG:O	8:LC:109:ARG:HG2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LG:161:VAL:HG21	12:LG:200:THR:HG23	1.97	0.47
14:LI:179:ASP:OD1	14:LI:180:GLU:HG3	2.15	0.47
19:LO:166:ILE:HG22	19:LO:170:LYS:HE2	1.96	0.47
25:LU:62:THR:OG1	25:LU:73:THR:HB	2.15	0.47
51:S2:1093:A:H2'	51:S2:1094:C:C6	2.49	0.47
51:S2:1337:4AC:H2'	51:S2:1338:G:C8	2.50	0.47
51:S2:1754:G:OP1	51:S2:1780:G:N2	2.48	0.47
54:SC:183:LYS:HA	54:SC:195:LEU:O	2.15	0.47
55:SD:32:ASP:OD2	55:SD:65:ARG:NH1	2.48	0.47
60:SI:66:SER:HA	60:SI:73:THR:HA	1.97	0.47
63:SL:13:GLN:HB2	63:SL:16:ILE:HD12	1.96	0.47
84:Sg:199:THR:HG21	84:Sg:239:LEU:O	2.15	0.47
84:Sg:270:LEU:HD13	84:Sg:310:TRP:CD2	2.50	0.47
3:L5:423:G:H5'	20:LP:26:PHE:HZ	1.79	0.47
3:L5:683:C:H2'	3:L5:684:G:O4'	2.15	0.47
3:L5:1097:C:H2'	3:L5:1098:G:C8	2.50	0.47
3:L5:3690:U:H5''	3:L5:3819:G:OP2	2.14	0.47
3:L5:3720:G:H22	3:L5:3733:A:H2	1.62	0.47
3:L5:4401:G:H2'	3:L5:4402:C:C6	2.50	0.47
3:L5:4749:C:H2'	3:L5:4750:G:O4'	2.14	0.47
7:LB:163:ILE:HG22	7:LB:180:LEU:HD22	1.96	0.47
8:LC:195:LYS:HB3	8:LC:200:ARG:HE	1.80	0.47
9:LD:64:ILE:HD13	9:LD:109:LEU:HD22	1.97	0.47
19:LO:3:GLU:OE2	19:LO:5:GLN:NE2	2.40	0.47
40:Lj:27:TYR:HA	40:Lj:34:CYS:HA	1.97	0.47
51:S2:38:A:OP1	61:SJ:5:ARG:HG3	2.14	0.47
51:S2:808:A:H2	51:S2:855:G:H22	1.63	0.47
56:SE:246:LEU:HB2	56:SE:250:GLU:CG	2.45	0.47
61:SJ:110:LEU:O	61:SJ:114:VAL:HG22	2.14	0.47
62:SK:3:MET:HE1	62:SK:48:ALA:HB2	1.96	0.47
67:SP:29:SER:OG	67:SP:30:TYR:N	2.48	0.47
67:SP:130:ARG:HD3	67:SP:131:PRO:HD2	1.96	0.47
71:ST:114:GLU:HB3	71:ST:124:THR:HG22	1.97	0.47
76:SY:36:PRO:HB2	76:SY:39:GLU:OE1	2.15	0.47
83:Sf:105:TYR:CD2	83:Sf:118:ARG:HG2	2.49	0.47
84:Sg:201:SER:HB3	84:Sg:206:LEU:HB2	1.97	0.47
1:CD:401:LEU:HA	84:Sg:134:THR:HG21	1.96	0.47
3:L5:490:C:H2'	3:L5:491:G:C8	2.50	0.47
3:L5:1589:C:H2'	3:L5:1590:C:C6	2.50	0.47
3:L5:2411:C:H2'	3:L5:2412:A:C8	2.50	0.47
3:L5:2521:G:H5'	3:L5:2640:G:HI'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2570:U:H2'	3:L5:2571:C:C6	2.50	0.47
3:L5:4101:C:H4'	3:L5:4109:G:H1	1.80	0.47
3:L5:4587:G:O2'	7:LB:17:LEU:HD12	2.15	0.47
6:LA:171:GLY:O	46:Lp:68:ALA:HB2	2.14	0.47
8:LC:266:THR:HG22	8:LC:267:TRP:N	2.30	0.47
12:LG:205:THR:HG22	12:LG:206:GLN:N	2.24	0.47
15:LJ:90:ARG:NH2	15:LJ:108:GLY:O	2.48	0.47
24:LT:48:VAL:HG21	24:LT:94:GLU:HG2	1.96	0.47
51:S2:1120:U:H5'	79:Sb:72:ARG:NH1	2.28	0.47
51:S2:1832:6MZ:H9C2	51:S2:1833:C:H41	1.79	0.47
52:SA:157:VAL:O	73:SV:65:SER:OG	2.32	0.47
59:SH:134:VAL:HG23	59:SH:173:PHE:CE2	2.49	0.47
59:SH:159:ASP:O	59:SH:160:LYS:HB3	2.15	0.47
64:SM:35:ILE:HG13	64:SM:61:TYR:HE1	1.80	0.47
64:SM:89:VAL:HG13	64:SM:91:LEU:HG	1.96	0.47
74:SW:11:LEU:HD12	74:SW:74:VAL:HB	1.96	0.47
1:CD:394:ASP:OD1	1:CD:397:ALA:HB3	2.14	0.46
3:L5:734:G:C2	3:L5:735:G:C8	3.03	0.46
3:L5:919:C:OP1	17:LM:69:HIS:ND1	2.46	0.46
3:L5:3610:A:H2'	3:L5:3611:A:C8	2.50	0.46
3:L5:4364:G:H2'	3:L5:4365:C:C6	2.50	0.46
3:L5:4896:G:H2'	3:L5:4897:G:H8	1.80	0.46
3:L5:4928:C:H2'	3:L5:4929:C:C6	2.50	0.46
8:LC:334:THR:HG21	11:LF:51:TYR:OH	2.13	0.46
41:Lk:26:LYS:HD3	41:Lk:69:LEU:HD22	1.97	0.46
51:S2:149:A:H3'	51:S2:150:A:H8	1.79	0.46
51:S2:730:C:OP2	51:S2:734:C:N4	2.47	0.46
51:S2:1019:C:H2'	51:S2:1020:A:O4'	2.15	0.46
51:S2:1232:PSU:H2'	51:S2:1233:G:H8	1.80	0.46
56:SE:39:ARG:HB2	56:SE:40:GLU:OE1	2.15	0.46
57:SF:73:THR:O	57:SF:89:THR:HG21	2.15	0.46
63:SL:152:LYS:HD2	63:SL:152:LYS:N	2.29	0.46
3:L5:116:G:H2'	3:L5:117:C:C6	2.50	0.46
3:L5:458:C:OP2	10:LE:114:ARG:NH1	2.48	0.46
3:L5:1076:C:H2'	3:L5:1077:C:C6	2.50	0.46
3:L5:1462:A:H4'	32:Lb:27:GLN:NE2	2.31	0.46
3:L5:1870:C:H2'	3:L5:1871:A2M:H8	1.97	0.46
3:L5:3607:U:H2'	3:L5:3608:A:H8	1.79	0.46
3:L5:3922[A]:G:H4'	3:L5:3923:A:OP2	2.14	0.46
3:L5:4723:A:H2'	3:L5:4724:A:C8	2.50	0.46
3:L5:4954:G:H2'	3:L5:4955:A:H8	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4991:U:H2'	3:L5:4992:G:C8	2.50	0.46
7:LB:50:LYS:HB2	7:LB:345:LEU:HD11	1.96	0.46
20:LP:112:LEU:HD23	20:LP:150:LEU:HD12	1.97	0.46
21:LQ:35:LEU:O	21:LQ:39:THR:OG1	2.21	0.46
25:LU:112:LEU:HD23	25:LU:112:LEU:H	1.80	0.46
31:La:93:ASN:ND2	31:La:97:ALA:HB3	2.30	0.46
37:Lg:69:LYS:HG3	37:Lg:73:HIS:HD2	1.80	0.46
42:Ll:9:ILE:HD12	42:Ll:51:LEU:HD12	1.97	0.46
48:Ls:29:ILE:HD11	48:Ls:191:GLN:HG2	1.97	0.46
49:Lt:19:GLY:CA	49:Lt:48:LYS:HZ3	2.28	0.46
51:S2:126:G:OP2	58:SG:198:ARG:NH2	2.48	0.46
51:S2:512:A:C2	51:S2:513:G:C8	3.03	0.46
51:S2:804:U:H2'	51:S2:805:U:C6	2.51	0.46
51:S2:862:A:C8	74:SW:107:SER:HA	2.50	0.46
51:S2:880:G:H2'	51:S2:881:G:O4'	2.14	0.46
54:SC:212:LYS:O	54:SC:216:MET:HG2	2.14	0.46
3:L5:138:G:H2'	3:L5:139:G:C8	2.50	0.46
3:L5:1095:A:N1	3:L5:1200:G:C6	2.84	0.46
3:L5:1100:U:H1'	3:L5:1167:C:H42	1.80	0.46
3:L5:1613:A:H5''	6:LA:183:GLY:HA3	1.97	0.46
3:L5:1866:U:H2'	3:L5:1867:A:O4'	2.15	0.46
3:L5:3727:A:H2'	3:L5:3728:A:C8	2.50	0.46
3:L5:3871:A:H2'	3:L5:3872:A:C8	2.49	0.46
3:L5:4070:U:H2'	3:L5:4071:U:H6	1.79	0.46
3:L5:4688:C:H2'	3:L5:4689:PSU:C6	2.50	0.46
7:LB:71:GLU:OE2	7:LB:366:LYS:NZ	2.40	0.46
9:LD:181:PRO:HD2	9:LD:195:HIS:CD2	2.51	0.46
10:LE:150:LEU:HD11	10:LE:164:PHE:HB2	1.97	0.46
51:S2:162:C:H2'	51:S2:163:U:O4'	2.16	0.46
51:S2:323:C:O2	51:S2:327:G:N2	2.49	0.46
51:S2:672:A:OP2	86:S2:1929:SPM:N1	2.48	0.46
51:S2:943:U:OP1	53:SB:214:LYS:NZ	2.40	0.46
51:S2:945:U:H2'	51:S2:946:U:C6	2.51	0.46
53:SB:71:LEU:HD21	53:SB:189:ILE:HG23	1.98	0.46
58:SG:181:THR:HB	58:SG:184:VAL:HG23	1.97	0.46
58:SG:231:ARG:O	58:SG:235:SER:OG	2.34	0.46
64:SM:20:GLU:HA	64:SM:23:LYS:HB3	1.97	0.46
71:ST:127:GLY:O	71:ST:131:LEU:HD23	2.16	0.46
72:SU:80:PHE:HB3	81:Sd:52:PHE:HB3	1.98	0.46
83:Sf:110:GLU:O	83:Sf:113:LYS:NZ	2.36	0.46
84:Sg:251:ALA:HB1	84:Sg:286:CYS:HB3	1.95	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2376:A:H2'	3:L5:2377:C:C6	2.51	0.46
3:L5:2864:A:H2'	3:L5:2865:U:C6	2.50	0.46
3:L5:4258:C:H2'	3:L5:4259:C:H6	1.81	0.46
3:L5:4873:G:N2	19:LO:172:LYS:HG2	2.31	0.46
9:LD:152:ARG:HG3	9:LD:154:THR:HG23	1.97	0.46
11:LF:182:TYR:CZ	11:LF:203:GLU:HG2	2.51	0.46
15:LJ:16:ARG:NH1	15:LJ:18:ARG:HG2	2.30	0.46
18:LN:140:LYS:HD3	18:LN:140:LYS:HA	1.66	0.46
21:LQ:12:LYS:HB2	21:LQ:14:ARG:NH1	2.31	0.46
28:LX:82:THR:HG21	38:Lh:37:THR:HG22	1.96	0.46
37:Lg:41:ALA:O	37:Lg:52:ARG:HD3	2.15	0.46
42:Li:12:PHE:HE2	42:Li:51:LEU:HD22	1.79	0.46
51:S2:388:U:H2'	51:S2:389:A:H8	1.79	0.46
51:S2:1374:C:O2'	51:S2:1464:C:O2	2.30	0.46
51:S2:1408:U:C2	51:S2:1409:A:C8	3.04	0.46
51:S2:1745:A:H2'	51:S2:1746:U:O4'	2.16	0.46
71:ST:129:ARG:O	71:ST:133:ARG:HG3	2.15	0.46
3:L5:2421:G:OP2	3:L5:2828:U:H1'	2.15	0.46
3:L5:2610:G:H2'	3:L5:2611:A:C8	2.51	0.46
3:L5:4507:A:H2'	3:L5:4508:C:C6	2.50	0.46
3:L5:4642:U:H2'	3:L5:4643:G:H8	1.80	0.46
3:L5:5004:C:OP1	27:LW:35:LYS:HD3	2.15	0.46
5:L8:6:C:H2'	5:L8:7:U:H6	1.81	0.46
7:LB:80:GLU:OE1	7:LB:323:TYR:OH	2.19	0.46
13:LH:43:VAL:HG21	13:LH:73:ILE:HD13	1.98	0.46
14:LI:103:LEU:N	14:LI:112:GLN:OE1	2.48	0.46
47:Lr:54:ALA:HA	47:Lr:61:VAL:HG23	1.98	0.46
51:S2:511:U:H2'	51:S2:512:A:H8	1.80	0.46
51:S2:929:G:N2	51:S2:1104:G:H4'	2.31	0.46
51:S2:1292:C:H1'	83:Sf:147:THR:HG21	1.96	0.46
51:S2:1404:U:C5	72:SU:88:LEU:HD21	2.51	0.46
51:S2:1464:C:O3'	69:SR:60:ARG:NH1	2.48	0.46
51:S2:1605:G:N2	51:S2:1633:A:OP2	2.43	0.46
63:SL:28:THR:OG1	63:SL:31:GLU:OE2	2.21	0.46
74:SW:3:ARG:NH2	74:SW:28:ARG:HH21	2.12	0.46
79:Sb:11:SER:OG	79:Sb:14:GLU:OE1	2.24	0.46
80:Sc:10:LYS:HD2	80:Sc:34:PHE:HE1	1.81	0.46
3:L5:123:C:H2'	3:L5:124:C:H6	1.80	0.46
3:L5:448:G:H2'	3:L5:450:G:H5'	1.98	0.46
3:L5:2292:C:H2'	3:L5:2293:U:C6	2.50	0.46
3:L5:2517:A:N3	3:L5:2539:C:O2'	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4062:A:H2'	3:L5:4063:U:C6	2.51	0.46
3:L5:4633:G:N2	3:L5:4664:A:N7	2.64	0.46
5:L8:8:U:H2'	5:L8:9:A:H8	1.80	0.46
5:L8:12:G:OP1	20:LP:3:ARG:NH1	2.49	0.46
16:LL:110:LEU:O	16:LL:114:VAL:HG13	2.15	0.46
18:LN:24:ARG:CB	18:LN:24:ARG:HH11	2.29	0.46
27:LW:113:LYS:HD2	27:LW:117:LYS:HE3	1.97	0.46
51:S2:116:OMU:HM23	51:S2:116:OMU:H1'	1.75	0.46
51:S2:291:G:HO2'	51:S2:292:A:P	2.38	0.46
51:S2:1478:U:H2'	51:S2:1479:G:C8	2.50	0.46
62:SK:63:ALA:HB2	62:SK:68:TYR:HE2	1.81	0.46
64:SM:31:LEU:O	64:SM:109:VAL:HG13	2.15	0.46
69:SR:9:VAL:HG23	69:SR:50:ILE:HA	1.98	0.46
72:SU:93:SER:OG	72:SU:97:ILE:HG12	2.14	0.46
80:Sc:7:GLN:HE22	80:Sc:10:LYS:NZ	2.13	0.46
3:L5:458:C:H2'	3:L5:459:C:H6	1.81	0.46
3:L5:674:G:H2'	3:L5:675:C:C6	2.50	0.46
3:L5:1846:G:H2'	3:L5:1847:C:H6	1.79	0.46
3:L5:3663:A:N6	3:L5:4168:G:O2'	2.48	0.46
3:L5:4345:C:H2'	3:L5:4346:U:H6	1.79	0.46
3:L5:4524:G:N3	7:LB:252:ALA:HB1	2.31	0.46
3:L5:4859:C:H2'	3:L5:4860:G:H8	1.80	0.46
3:L5:4896:G:H2'	3:L5:4897:G:C8	2.51	0.46
3:L5:4957:C:H2'	3:L5:4958:C:C6	2.51	0.46
7:LB:286:LYS:NZ	7:LB:301:ASN:O	2.45	0.46
12:LG:254:GLU:HA	12:LG:257:LYS:NZ	2.31	0.46
15:LJ:81:GLU:O	15:LJ:84:GLU:HG3	2.16	0.46
22:LR:112:SER:OG	22:LR:114:LYS:HG3	2.16	0.46
51:S2:12:U:H2'	51:S2:13:C:C6	2.50	0.46
51:S2:85:A:H2'	51:S2:86:C:H6	1.81	0.46
51:S2:648:A:H4'	75:SX:104:GLY:O	2.16	0.46
51:S2:1681:U:H2'	51:S2:1682:C:C6	2.50	0.46
58:SG:189:ARG:HA	58:SG:192:ILE:HG22	1.98	0.46
64:SM:12:MET:SD	64:SM:13:ASP:N	2.89	0.46
68:SQ:10:VAL:HG12	68:SQ:98:LYS:HD3	1.98	0.46
3:L5:139:G:H2'	3:L5:140:G:C8	2.51	0.46
3:L5:937:U:C6	17:LM:46:ARG:HD2	2.51	0.46
3:L5:1534:A2M:H8	40:Lj:15:THR:OG1	2.16	0.46
3:L5:1633:G:H5'	3:L5:1634:A:OP1	2.16	0.46
3:L5:3916:G:H2'	3:L5:3917:A:C8	2.50	0.46
3:L5:4371:G:O2'	3:L5:4372:U:OP2	2.32	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4383:U:H2'	3:L5:4384:U:C6	2.51	0.46
9:LD:37:VAL:CG1	9:LD:50:ARG:HH11	2.29	0.46
22:LR:172:ARG:HH12	51:S2:909:G:P	2.39	0.46
31:La:110:LYS:HG3	31:La:128:PHE:HB2	1.97	0.46
51:S2:370:G:O2'	60:SI:10:LYS:NZ	2.48	0.46
51:S2:1328:OMG:HM23	51:S2:1328:OMG:H1'	1.75	0.46
51:S2:1457:U:H2'	51:S2:1458:G:H8	1.81	0.46
57:SF:42:LYS:HB3	57:SF:43:GLU:OE1	2.16	0.46
59:SH:19:PHE:CZ	59:SH:50:GLU:HB2	2.50	0.46
62:SK:77:GLN:OE1	62:SK:77:GLN:N	2.43	0.46
68:SQ:42:ILE:HG13	68:SQ:43:GLU:H	1.80	0.46
71:ST:39:LEU:HD23	71:ST:56:ARG:NH1	2.30	0.46
1:CD:395:PRO:HA	1:CD:398:PHE:O	2.15	0.46
3:L5:1338:G:H4'	3:L5:1339:U:C6	2.51	0.46
3:L5:1664:U:H2'	3:L5:1665:C:C6	2.51	0.46
3:L5:1872:G:O2'	3:L5:4219:A:N3	2.39	0.46
3:L5:2521:G:H4'	37:Lg:26:PRO:HD2	1.98	0.46
3:L5:2864:A:H2'	3:L5:2865:U:H6	1.81	0.46
3:L5:3722:G:H2'	3:L5:3723:A:H8	1.80	0.46
3:L5:4342:C:O3'	45:Lo:37:GLY:HA3	2.16	0.46
3:L5:4413:C:O2	14:LI:158:LYS:NZ	2.49	0.46
3:L5:4708:A:N3	3:L5:4709:U:H5'	2.31	0.46
3:L5:5003:U:H2'	3:L5:5004:C:C6	2.51	0.46
3:L5:5023:C:H5''	60:SI:124:LYS:NZ	2.31	0.46
5:L8:123:U:H2'	5:L8:126:C:H41	1.81	0.46
6:LA:109:GLU:OE1	6:LA:138:SER:HA	2.16	0.46
7:LB:37:PRO:HA	7:LB:188:GLY:N	2.31	0.46
7:LB:307:TYR:CE2	7:LB:366:LYS:HG2	2.51	0.46
11:LF:60:GLU:O	11:LF:64:MET:HG3	2.16	0.46
14:LI:206:LEU:O	14:LI:210:ARG:HG2	2.15	0.46
15:LJ:26:VAL:HG22	15:LJ:33:LEU:HD13	1.98	0.46
15:LJ:39:VAL:HA	15:LJ:42:GLN:NE2	2.31	0.46
27:LW:79:GLN:HE21	27:LW:94:ARG:NH1	2.14	0.46
51:S2:140:C:H42	51:S2:313:A:H61	1.64	0.46
51:S2:1839:U:H2'	51:S2:1840:U:C6	2.50	0.46
56:SE:45:ILE:HG13	56:SE:61:VAL:HG11	1.97	0.46
57:SF:167:LYS:HA	77:SZ:71:ALA:HB1	1.98	0.46
60:SI:144:LYS:O	60:SI:148:LYS:N	2.48	0.46
64:SM:50:CYS:SG	64:SM:110:VAL:HG22	2.56	0.46
65:SN:31:ASP:OD1	65:SN:31:ASP:N	2.48	0.46
3:L5:1806:G:H2'	3:L5:1807:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:3848:U:H2'	3:L5:3849:A:C8	2.51	0.46
11:LF:157:ARG:HE	11:LF:248:ASN:HB2	1.81	0.46
15:LJ:40:LEU:HD12	15:LJ:70:VAL:HG13	1.98	0.46
16:LL:59:VAL:HG21	16:LL:73:GLY:HA3	1.97	0.46
20:LP:85:LYS:O	20:LP:89:GLU:HG2	2.16	0.46
29:LY:31:SER:HA	29:LY:48:PRO:HA	1.97	0.46
29:LY:55:VAL:HG12	29:LY:106:ILE:HA	1.98	0.46
51:S2:420:G:O2'	51:S2:660:C:N3	2.46	0.46
51:S2:568:C:H2'	51:S2:569:A:O4'	2.16	0.46
51:S2:907:G:H2'	51:S2:908:A:H8	1.81	0.46
51:S2:1164:G:O2'	51:S2:1165:G:H5'	2.16	0.46
51:S2:1623:A:C6	70:SS:132:ARG:HD3	2.51	0.46
52:SA:69:GLU:OE1	52:SA:69:GLU:N	2.40	0.46
52:SA:213:GLU:HB3	69:SR:84:TYR:OH	2.16	0.46
53:SB:136:ARG:O	53:SB:215:VAL:HA	2.16	0.46
58:SG:163:ASN:O	58:SG:164:LYS:HE2	2.15	0.46
64:SM:128:PHE:O	64:SM:132:LYS:HG2	2.16	0.46
65:SN:46:THR:HB	65:SN:86:GLU:HG3	1.97	0.46
72:SU:34:LYS:C	72:SU:34:LYS:HD3	2.41	0.46
72:SU:48:LEU:HD22	72:SU:101:ILE:HD11	1.98	0.46
76:SY:12:PHE:CZ	76:SY:21:LYS:HD3	2.50	0.46
3:L5:1673:U:H2'	3:L5:1674:C:C6	2.51	0.45
3:L5:2335:C:H2'	3:L5:2336:G:H8	1.80	0.45
3:L5:5066:U:OP1	20:LP:43:LYS:NZ	2.42	0.45
4:L7:54:A:C8	15:LJ:10:ASN:ND2	2.84	0.45
9:LD:83:LEU:HB3	9:LD:88:VAL:HG13	1.99	0.45
14:LI:205:PRO:HD2	14:LI:208:LYS:HE2	1.98	0.45
15:LJ:113:ILE:H	15:LJ:113:ILE:HD12	1.81	0.45
15:LJ:113:ILE:HG21	15:LJ:119:TYR:HB2	1.98	0.45
17:LM:71:LYS:O	17:LM:75:GLN:HG3	2.16	0.45
33:Lc:20:LEU:O	33:Lc:24:SER:HB3	2.15	0.45
39:Li:29:ARG:HD3	39:Li:29:ARG:C	2.41	0.45
42:Ll:41:ARG:HA	42:Ll:41:ARG:HD2	1.75	0.45
51:S2:1614:A:N6	91:S2:2037:HOH:O	2.38	0.45
56:SE:11:ARG:HH11	56:SE:20:LEU:HB3	1.81	0.45
56:SE:40:GLU:OE1	56:SE:40:GLU:N	2.50	0.45
57:SF:168:THR:OG1	77:SZ:106:GLN:OE1	2.30	0.45
67:SP:50:ARG:HB2	67:SP:53:GLN:OE1	2.16	0.45
69:SR:7:LYS:HE2	69:SR:7:LYS:HB2	1.71	0.45
72:SU:49:LYS:NZ	72:SU:51:LYS:HG3	2.31	0.45
75:SX:68:LYS:HB3	75:SX:91:LEU:HD13	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:99:A:H5''	18:LN:184:ILE:HD12	1.97	0.45
3:L5:502:C:H3'	3:L5:503:C:H3'	1.98	0.45
3:L5:1504:G:H2'	3:L5:1505:C:H6	1.80	0.45
3:L5:1745:G:N7	91:L5:5519:HOH:O	2.36	0.45
3:L5:1962:A:H2	3:L5:2024:G:H21	1.64	0.45
3:L5:1972:G:N1	3:L5:1994:C:N3	2.36	0.45
3:L5:2539:C:H2'	3:L5:2540:C:H6	1.79	0.45
3:L5:2654:C:H2'	3:L5:2655:C:H6	1.81	0.45
3:L5:3721:U:H2'	3:L5:3722:G:H8	1.81	0.45
3:L5:4563:U:H2'	3:L5:4564:A:C8	2.50	0.45
3:L5:5002:U:H2'	3:L5:5003:U:C6	2.51	0.45
5:L8:92:U:H2'	5:L8:93:C:O4'	2.16	0.45
15:LJ:17:ILE:HG23	15:LJ:132:VAL:HG23	1.98	0.45
38:Lh:5:LYS:HE2	38:Lh:7:ARG:HH12	1.80	0.45
51:S2:368:U:OP1	51:S2:369:C:O2'	2.29	0.45
51:S2:736:C:H2'	51:S2:737:G:C4	2.52	0.45
51:S2:1667:U:H2'	51:S2:1668:U:C6	2.51	0.45
56:SE:182:MET:HE3	56:SE:190:GLY:HA2	1.98	0.45
79:Sb:54:VAL:HG22	79:Sb:64:CYS:SG	2.56	0.45
84:Sg:104:HIS:NE2	84:Sg:122:SER:OG	2.46	0.45
3:L5:500:G:H1'	3:L5:504:G:H3'	1.98	0.45
3:L5:1431:C:H2'	3:L5:1432:G:O4'	2.16	0.45
3:L5:1895:G:OP1	11:LF:96:ARG:NH2	2.50	0.45
3:L5:1970:A:OP2	48:Ls:112:ARG:NH2	2.49	0.45
3:L5:2418:A:C5	3:L5:2419:C:C5	3.04	0.45
3:L5:3770:U:O2'	50:Pt:12:G:H1'	2.17	0.45
3:L5:4184:G:H5'	6:LA:233:ARG:HB2	1.98	0.45
7:LB:29:VAL:HA	7:LB:220:ILE:HD13	1.98	0.45
9:LD:271:MET:HE2	9:LD:276:LYS:HG2	1.98	0.45
13:LH:51:LYS:HG3	13:LH:52:LYS:HG2	1.98	0.45
18:LN:189:ARG:HB3	18:LN:193:ARG:NH1	2.30	0.45
19:LO:37:ARG:HD3	19:LO:108:ILE:HD11	1.98	0.45
30:LZ:99:ASP:HA	30:LZ:102:ARG:HH21	1.80	0.45
34:Ld:64:ILE:HG23	34:Ld:68:LEU:HD23	1.98	0.45
35:Le:92:ASN:ND2	35:Le:118:LEU:O	2.48	0.45
50:Pt:51:C:H2'	50:Pt:52:G:H8	1.82	0.45
51:S2:528:A:H5'	61:SJ:121:LYS:NZ	2.31	0.45
51:S2:695:C:H5''	51:S2:696:G:C4	2.51	0.45
51:S2:1030:A:H2'	51:S2:1031:A2M:H8	1.99	0.45
51:S2:1566:G:N7	71:ST:101:ARG:NH2	2.60	0.45
55:SD:8:LYS:HG2	72:SU:61:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SJ:124:HIS:HD2	82:Se:31:ARG:HD2	1.82	0.45
62:SK:41:PRO:HG2	62:SK:44:HIS:CD2	2.52	0.45
70:SS:7:GLU:OE1	70:SS:7:GLU:N	2.50	0.45
76:SY:88:LYS:N	76:SY:88:LYS:HD2	2.30	0.45
1:CD:392:VAL:HA	1:CD:398:PHE:CE2	2.52	0.45
3:L5:121:A:OP1	12:LG:110:LYS:NZ	2.32	0.45
3:L5:754:U:H2'	3:L5:755:C:C6	2.51	0.45
3:L5:919:C:H2'	3:L5:920:C:C6	2.51	0.45
3:L5:1392:A:H2'	3:L5:1393:G:C8	2.51	0.45
3:L5:1697:G:H22	3:L5:2084:C:P	2.39	0.45
3:L5:1802:A:H5''	3:L5:1803:G:H5'	1.97	0.45
3:L5:2467:U:H4'	3:L5:2468:U:H5'	1.99	0.45
3:L5:2726:G:H2'	3:L5:2727:C:C6	2.52	0.45
3:L5:2861:OMC:HM23	3:L5:2861:OMC:H1'	1.66	0.45
3:L5:3870:C:H2'	3:L5:3871:A:H8	1.81	0.45
3:L5:4523:A2M:HM'3	3:L5:4523:A2M:H1'	1.76	0.45
3:L5:4578:G:H2'	3:L5:4579:PSU:C6	2.51	0.45
3:L5:4901:G:OP1	3:L5:4901:G:H3'	2.16	0.45
3:L5:4941:G:OP2	10:LE:188:ARG:NH2	2.34	0.45
5:L8:81:C:H5'	38:Lh:3:LYS:NZ	2.31	0.45
12:LG:182:CYS:HB3	12:LG:222:ILE:HD12	1.97	0.45
21:LQ:115:ARG:HH11	21:LQ:115:ARG:CB	2.30	0.45
22:LR:76:MET:O	22:LR:80:LYS:HB2	2.16	0.45
33:Lc:82:GLY:HA2	33:Lc:91:VAL:HG12	1.98	0.45
41:Lk:13:LEU:HD23	41:Lk:13:LEU:H	1.81	0.45
51:S2:106:C:OP1	51:S2:431:G:O2'	2.33	0.45
51:S2:171:A:OP2	58:SG:137:ARG:NH2	2.46	0.45
51:S2:324:C:H2'	51:S2:325:C:C2	2.51	0.45
51:S2:937:C:OP1	65:SN:107:LYS:HE2	2.17	0.45
51:S2:1310:U:H2'	51:S2:1311:C:H6	1.81	0.45
51:S2:1388:A:H61	55:SD:161:GLY:HA3	1.82	0.45
51:S2:1714:U:H2'	51:S2:1715:A:C8	2.51	0.45
52:SA:70:ASN:HB3	52:SA:73:ASP:HB2	1.98	0.45
56:SE:104:ASP:N	56:SE:108:ARG:O	2.33	0.45
64:SM:35:ILE:HA	64:SM:38:ALA:HB3	1.99	0.45
64:SM:61:TYR:O	64:SM:65:VAL:HG23	2.17	0.45
84:Sg:248:LEU:HD23	84:Sg:249:CYS:N	2.31	0.45
3:L5:1346:C:H2'	3:L5:1347:G:C8	2.51	0.45
3:L5:1628:C:OP2	6:LA:9:ARG:HD2	2.17	0.45
3:L5:4459:U:H2'	3:L5:4460:U:H6	1.82	0.45
3:L5:4601:U:OP2	3:L5:4609:G:N1	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4920:C:H2'	3:L5:4921:C:C6	2.52	0.45
3:L5:5002:U:OP2	7:LB:385:LYS:NZ	2.49	0.45
5:L8:74:U:C4	29:LY:74:TYR:CD1	3.04	0.45
5:L8:93:C:HO2'	5:L8:94:G:H8	1.64	0.45
9:LD:152:ARG:O	9:LD:157:ASN:ND2	2.49	0.45
21:LQ:3:VAL:HG23	21:LQ:5:ILE:HG12	1.99	0.45
21:LQ:175:GLU:HA	31:La:51:GLY:C	2.42	0.45
27:LW:104:GLN:O	27:LW:107:GLN:NE2	2.49	0.45
51:S2:159:A2M:H1'	51:S2:159:A2M:HM'3	1.61	0.45
51:S2:1671:G:H2'	51:S2:1672:U:C6	2.51	0.45
70:SS:25:LYS:NZ	70:SS:52:LEU:HD22	2.32	0.45
3:L5:302:C:H2'	3:L5:303:C:C6	2.51	0.45
3:L5:679:C:H2'	3:L5:680:G:H8	1.81	0.45
3:L5:1631:A:C8	6:LA:199:VAL:HG21	2.52	0.45
3:L5:1696:C:H5'	3:L5:1719:A:H1'	1.99	0.45
3:L5:2634:C:H2'	3:L5:2635:U:H6	1.82	0.45
3:L5:2878:G:OP2	3:L5:2879:A:O2'	2.32	0.45
13:LH:4:ILE:HG12	13:LH:61:TRP:CH2	2.51	0.45
15:LJ:120:ASP:HB3	15:LJ:123:ILE:HG12	1.98	0.45
23:LS:19:THR:C	23:LS:21:LYS:H	2.25	0.45
24:LT:4:THR:OG1	24:LT:9:ARG:HD3	2.16	0.45
27:LW:9:SER:HA	27:LW:52:THR:HG23	1.99	0.45
51:S2:391:C:H2'	51:S2:392:A:H8	1.81	0.45
51:S2:1093:A:H1'	74:SW:9:ASP:OD1	2.16	0.45
51:S2:1156:U:OP1	74:SW:71:LYS:NZ	2.50	0.45
51:S2:1562:C:H4'	71:ST:120:GLY:N	2.32	0.45
51:S2:1784:G:H2'	51:S2:1785:C:C6	2.51	0.45
52:SA:10:MET:HG3	52:SA:55:TRP:CG	2.52	0.45
55:SD:123:LEU:O	55:SD:127:MET:HG2	2.16	0.45
56:SE:246:LEU:CD1	56:SE:251:GLU:HB3	2.47	0.45
58:SG:142:ARG:HA	58:SG:147:LEU:HB2	1.98	0.45
60:SI:191:GLU:HB2	63:SL:19:ASN:ND2	2.32	0.45
63:SL:150:GLY:O	63:SL:151:THR:OG1	2.30	0.45
78:Sa:89:ARG:HG3	78:Sa:92:ARG:HH21	1.82	0.45
3:L5:73:A:OP1	16:LL:106:SER:HB3	2.17	0.45
3:L5:481:G:H2'	3:L5:482:G:C8	2.52	0.45
3:L5:748:G:O6	23:LS:98:ARG:NH2	2.40	0.45
3:L5:1244:G:H2'	3:L5:1245:C:H6	1.81	0.45
3:L5:1403:G:N7	3:L5:1408:G:N2	2.65	0.45
3:L5:2610:G:H2'	3:L5:2611:A:H8	1.82	0.45
3:L5:2885:A:N3	91:L5:5522:HOH:O	2.36	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:3909:C:O2	3:L5:4396:A:N1	2.50	0.45
3:L5:4273:A:H2'	3:L5:4274:A:C8	2.52	0.45
3:L5:4291:G:H5'	3:L5:4293:PSU:C6	2.52	0.45
3:L5:4344:U:H2'	3:L5:4345:C:C6	2.52	0.45
3:L5:4481:U:H2'	3:L5:4482:U:H6	1.82	0.45
3:L5:4590:A2M:HM'3	3:L5:4590:A2M:H1'	1.71	0.45
3:L5:4754:G:N7	10:LE:278:THR:HG23	2.31	0.45
5:L8:90:C:H2'	5:L8:91:A:C8	2.52	0.45
11:LF:114:LEU:HD21	11:LF:121:THR:HG22	1.99	0.45
12:LG:255:LYS:C	12:LG:255:LYS:HD3	2.42	0.45
15:LJ:113:ILE:HD13	15:LJ:125:ILE:HD12	1.98	0.45
27:LW:7:SER:HB2	27:LW:13:ILE:HD11	1.99	0.45
35:Le:35:TRP:CH2	35:Le:55:MET:HG2	2.51	0.45
51:S2:380:G:H1'	60:SI:5:ARG:HH11	1.82	0.45
51:S2:445:A:H2'	51:S2:446:G:C8	2.52	0.45
51:S2:554:A:O2'	51:S2:555:A:H8	2.00	0.45
51:S2:1600:G:N3	51:S2:1600:G:H2'	2.30	0.45
51:S2:1713:C:H2'	51:S2:1714:U:H6	1.81	0.45
51:S2:1731:A:H2'	51:S2:1732:G:C8	2.52	0.45
56:SE:26:VAL:HG21	61:SJ:2:PRO:O	2.17	0.45
57:SF:35:LEU:O	57:SF:39:ILE:HG12	2.17	0.45
57:SF:109:LEU:O	57:SF:113:VAL:HG23	2.17	0.45
57:SF:204:ARG:HG2	80:Sc:63:ARG:HE	1.81	0.45
62:SK:76:ILE:CG2	62:SK:80:ARG:HH21	2.30	0.45
67:SP:24:GLN:O	67:SP:28:MET:HB2	2.17	0.45
3:L5:170:C:H42	3:L5:266:C:N4	2.15	0.45
3:L5:256:G:H2'	3:L5:257:C:C6	2.52	0.45
3:L5:347:A:H2'	3:L5:348:G:C8	2.51	0.45
3:L5:491:G:H2'	3:L5:492:U:C6	2.52	0.45
3:L5:2018:C:H2'	3:L5:2019:C:H6	1.82	0.45
3:L5:2079:G:H2'	3:L5:2080:U:H6	1.82	0.45
3:L5:2496:G:H2'	3:L5:2497:C:C6	2.51	0.45
3:L5:2602:G:H2'	3:L5:2603:C:C6	2.52	0.45
3:L5:2611:A:H2'	3:L5:2612:G:H8	1.81	0.45
3:L5:4667:C:OP1	7:LB:224:LYS:NZ	2.45	0.45
6:LA:20:VAL:HA	6:LA:23:ARG:HG3	1.97	0.45
7:LB:217:ILE:HD12	7:LB:347:LEU:HB3	1.98	0.45
8:LC:13:GLU:OE1	8:LC:161:TYR:OH	2.29	0.45
8:LC:33:ARG:HH12	21:LQ:22:ASP:CG	2.24	0.45
9:LD:264:LYS:HG2	9:LD:266:TRP:CZ2	2.51	0.45
10:LE:141:ARG:NH1	36:Lf:108:SER:O	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LG:187:LYS:HB2	12:LG:198:THR:HG23	1.99	0.45
14:LI:183:ASP:O	14:LI:187:LYS:HG2	2.17	0.45
22:LR:4:LEU:HD11	22:LR:29:THR:HG23	1.98	0.45
22:LR:167:LYS:HB3	22:LR:167:LYS:HE2	1.68	0.45
24:LT:102:ARG:HD3	24:LT:106:LEU:CD1	2.46	0.45
35:Le:35:TRP:CZ2	35:Le:56:PRO:HD2	2.52	0.45
45:Lo:33:LEU:O	45:Lo:33:LEU:HD23	2.16	0.45
51:S2:295:C:H2'	51:S2:296:U:C6	2.51	0.45
51:S2:298:G:OP1	56:SE:134:LYS:N	2.40	0.45
51:S2:496:C:P	56:SE:49:ARG:HH22	2.39	0.45
51:S2:913:A:N6	59:SH:98:ARG:O	2.38	0.45
51:S2:917:U:H2'	51:S2:918:U:C6	2.52	0.45
51:S2:1409:A:H2'	51:S2:1410:C:H6	1.81	0.45
51:S2:1620:A:H1'	51:S2:1624:U:OP2	2.17	0.45
59:SH:64:VAL:O	59:SH:96:ALA:HA	2.17	0.45
59:SH:73:GLN:HA	59:SH:76:GLN:HB2	1.97	0.45
76:SY:35:VAL:HG13	76:SY:40:ILE:HD11	1.98	0.45
3:L5:113:A:H2'	3:L5:114:G:O4'	2.17	0.45
3:L5:1558:A:H2'	3:L5:1559:G:C8	2.52	0.45
3:L5:2382:A:N1	3:L5:2829:U:O2'	2.46	0.45
3:L5:3951:G:H8	3:L5:3951:G:OP2	2.00	0.45
3:L5:4761:G:H2'	3:L5:4762:A:C8	2.52	0.45
27:LW:2:LYS:HE2	27:LW:15:PRO:HB3	1.99	0.45
48:Ls:100:ASP:OD1	48:Ls:101:MET:N	2.50	0.45
51:S2:878:G:H22	51:S2:908:A:H2	1.65	0.45
51:S2:1158:G:O3'	74:SW:76:SER:OG	2.28	0.45
51:S2:1777:G:H2'	51:S2:1778:C:C6	2.52	0.45
54:SC:144:SER:OG	54:SC:145:LYS:N	2.50	0.45
55:SD:70:THR:HA	55:SD:86:LEU:HD13	1.98	0.45
57:SF:43:GLU:HG2	57:SF:44:LYS:N	2.31	0.45
68:SQ:8:GLN:HG3	68:SQ:99:TYR:CZ	2.52	0.45
71:ST:126:GLN:HG2	71:ST:129:ARG:NH2	2.32	0.45
83:Sf:103:LEU:HG	83:Sf:104:LYS:H	1.82	0.45
3:L5:260:C:H2'	3:L5:261:G:C8	2.52	0.45
3:L5:715:G:H5''	8:LC:316:LYS:HG2	1.99	0.45
3:L5:1096:C:H2'	3:L5:1097:C:C6	2.52	0.45
3:L5:1195:G:H2'	3:L5:1196:G:H8	1.80	0.45
3:L5:1739:G:H2'	3:L5:1740:C:C6	2.52	0.45
3:L5:2495:U:H2'	3:L5:2496:G:C8	2.52	0.45
3:L5:2709:C:H4'	3:L5:2710:C:OP1	2.17	0.45
3:L5:4616:A:H2'	3:L5:4617:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LD:238:GLU:HG3	9:LD:242:LYS:NZ	2.32	0.45
14:LI:43:VAL:HG11	14:LI:197:VAL:HG13	1.99	0.45
15:LJ:144:LYS:O	15:LJ:148:THR:HB	2.16	0.45
17:LM:96:GLU:O	17:LM:100:ARG:HG2	2.17	0.45
22:LR:149:LYS:O	22:LR:152:LYS:HG3	2.17	0.45
24:LT:122:LYS:NZ	24:LT:124:THR:HG22	2.31	0.45
40:Lj:67:LEU:HD23	40:Lj:67:LEU:HA	1.85	0.45
48:Ls:61:MET:O	48:Ls:65:ILE:HG12	2.16	0.45
50:Pt:43:A:H2'	50:Pt:44:A:C8	2.53	0.45
51:S2:72:C:H5'	51:S2:73:C:C5	2.52	0.45
51:S2:323:C:O2'	51:S2:325:C:N4	2.45	0.45
51:S2:484:A2M:HM'3	51:S2:484:A2M:H1'	1.82	0.45
51:S2:1158:G:H5''	74:SW:76:SER:HB2	1.97	0.45
51:S2:1221:G:H2'	51:S2:1222:G:C8	2.53	0.45
51:S2:1588:A:H2'	51:S2:1589:A:H8	1.83	0.45
3:L5:108:A:N1	3:L5:333:U:O2'	2.47	0.44
3:L5:1369:C:OP2	3:L5:1370:G:O2'	2.32	0.44
3:L5:1625:OMG:HM23	18:LN:81:TYR:HE2	1.82	0.44
3:L5:1998:A:O2'	3:L5:1999:A:H5'	2.17	0.44
3:L5:2663:G:H4'	22:LR:117:ARG:HH11	1.82	0.44
3:L5:2720:C:H2'	3:L5:2721:G:O4'	2.18	0.44
3:L5:4236:G:H4'	3:L5:4328:G:O2'	2.17	0.44
6:LA:96:LEU:O	46:Lp:87:LYS:HD2	2.17	0.44
51:S2:191:A:H5''	60:SI:141:ARG:NH2	2.33	0.44
51:S2:508:A:H5'	51:S2:509:OMG:OP2	2.17	0.44
51:S2:857:U:H2'	51:S2:858:A:C8	2.51	0.44
51:S2:1378:A:OP2	52:SA:102:ARG:NH1	2.49	0.44
51:S2:1786:U:H2'	51:S2:1787:G:H8	1.82	0.44
52:SA:85:ARG:NH1	52:SA:205:ARG:HG3	2.32	0.44
52:SA:122:LEU:HD21	52:SA:133:PRO:HB2	1.99	0.44
52:SA:209:GLU:HA	52:SA:212:LYS:HZ3	1.81	0.44
66:SO:62:VAL:HG21	66:SO:67:ASP:HB2	1.99	0.44
77:SZ:88:LEU:HD23	77:SZ:88:LEU:HA	1.82	0.44
84:Sg:300:ALA:O	84:Sg:307:VAL:HG23	2.18	0.44
3:L5:467:U:H2'	3:L5:468:U:C4'	2.48	0.44
3:L5:1086:C:H2'	3:L5:1087:A:H8	1.82	0.44
3:L5:1178:G:H2'	3:L5:1178:G:N3	2.33	0.44
3:L5:1190:C:H2'	3:L5:1191:C:H6	1.82	0.44
3:L5:1326:A2M:OP2	3:L5:4445:U:O2'	2.33	0.44
3:L5:1444:G:O2'	3:L5:1445:U:O4'	2.33	0.44
3:L5:2683:C:H2'	3:L5:2684:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2732:G:H2'	3:L5:2733:C:C6	2.51	0.44
3:L5:4139:G:N2	3:L5:4140:C:H41	2.14	0.44
3:L5:4605:A:H2'	3:L5:4606:G:O4'	2.16	0.44
3:L5:4987:C:P	7:LB:116:ARG:HH22	2.40	0.44
4:L7:112:U:H2'	4:L7:113:G:H8	1.82	0.44
7:LB:81:THR:O	7:LB:329:ASP:HB2	2.17	0.44
14:LI:183:ASP:OD1	14:LI:184:MET:N	2.50	0.44
19:LO:110:PRO:N	19:LO:111:PRO:HD2	2.33	0.44
20:LP:23:ARG:HD3	20:LP:125:MET:CE	2.44	0.44
21:LQ:178:ARG:HA	21:LQ:184:ARG:O	2.17	0.44
23:LS:86:SER:N	23:LS:89:GLY:O	2.43	0.44
40:Lj:14:LYS:NZ	42:Ll:51:LEU:OXT	2.44	0.44
50:Pt:27:U:H2'	50:Pt:28:U:H6	1.82	0.44
51:S2:27:A2M:H2'	51:S2:28:U:O4'	2.17	0.44
51:S2:169:U:H5''	58:SG:135:PRO:HA	1.99	0.44
51:S2:179:C:H3'	51:S2:180:G:H8	1.82	0.44
51:S2:520:A:O2'	51:S2:825:A:N3	2.49	0.44
51:S2:752:G:OP2	51:S2:752:G:N2	2.50	0.44
51:S2:867:OMG:H8	51:S2:867:OMG:H5''	1.83	0.44
51:S2:1060:A:H1'	51:S2:1062:A:N7	2.32	0.44
51:S2:1223:A:H2'	51:S2:1224:G:O4'	2.18	0.44
51:S2:1398:G:H1'	84:Sg:63:SER:HB2	2.00	0.44
51:S2:1490:OMG:HM23	51:S2:1490:OMG:H1'	1.71	0.44
51:S2:1533:A:N3	51:S2:1533:A:H2'	2.32	0.44
51:S2:1678:A:O2'	51:S2:1679:A:H5'	2.17	0.44
61:SJ:22:LYS:HA	61:SJ:22:LYS:HD2	1.63	0.44
61:SJ:91:LYS:HG2	61:SJ:96:TYR:CD2	2.53	0.44
69:SR:6:THR:HG22	69:SR:7:LYS:N	2.32	0.44
80:Sc:37:ASP:OD1	80:Sc:39:SER:OG	2.36	0.44
3:L5:1414:C:H2'	3:L5:1415:G:C8	2.48	0.44
3:L5:1664:U:H2'	3:L5:1665:C:H6	1.83	0.44
3:L5:1877:G:O6	32:Lb:10:HIS:NE2	2.48	0.44
3:L5:1972:G:H5'	48:Ls:38:LYS:HZ1	1.82	0.44
3:L5:2264:C:H2'	3:L5:2265:G:O4'	2.17	0.44
3:L5:2431:A:OP1	42:Ll:22:PRO:HG3	2.17	0.44
3:L5:4348:A:H5''	3:L5:4349:C:OP2	2.17	0.44
3:L5:4970:C:C2	3:L5:4971:A:C8	3.05	0.44
4:L7:63:C:H3'	14:LI:204:GLY:O	2.17	0.44
6:LA:27:ALA:HB1	6:LA:77:ILE:HG13	1.98	0.44
18:LN:68:ARG:HG2	18:LN:128:LYS:HG3	1.98	0.44
25:LU:48:LYS:HG2	25:LU:53:ALA:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LU:63:ILE:HD11	25:LU:70:ILE:HG22	1.99	0.44
34:Ld:59:THR:OG1	34:Ld:104:THR:OG1	2.23	0.44
51:S2:99:A2M:H2'	51:S2:100:U:O4'	2.17	0.44
51:S2:329:G:H2'	51:S2:330:G:C8	2.52	0.44
58:SG:192:ILE:HD12	58:SG:195:LYS:HD2	1.98	0.44
60:SI:36:THR:OG1	60:SI:57:ALA:O	2.20	0.44
70:SS:12:ILE:HD12	70:SS:19:ASN:HB2	2.00	0.44
70:SS:137:LYS:HG3	70:SS:138:THR:HG23	1.98	0.44
72:SU:21:ARG:HE	72:SU:90:ASP:CG	2.26	0.44
75:SX:68:LYS:HG2	75:SX:91:LEU:HD22	1.98	0.44
76:SY:28:LEU:O	76:SY:30:PRO:HD3	2.16	0.44
83:Sf:105:TYR:HD2	83:Sf:118:ARG:HG2	1.82	0.44
3:L5:6:C:H2'	3:L5:7:C:H6	1.83	0.44
3:L5:135:G:H5''	3:L5:136:C:O4'	2.18	0.44
3:L5:432:U:O2	86:L5:5292:SPM:H61	2.18	0.44
3:L5:1760:G:N2	3:L5:1761:G:O6	2.50	0.44
3:L5:2293:U:H2'	3:L5:2294:G:C8	2.53	0.44
3:L5:2323:C:H2'	3:L5:2324:C:C6	2.52	0.44
3:L5:2368:A:N6	3:L5:2827:G:O2'	2.50	0.44
3:L5:4097:G:O6	3:L5:4098:A:N6	2.50	0.44
3:L5:4244:A:H2'	3:L5:4245:G:O4'	2.17	0.44
5:L8:5:U:H2'	5:L8:6:C:C6	2.52	0.44
6:LA:102:LEU:HD11	6:LA:107:MET:HG2	1.99	0.44
11:LF:226:HIS:NE2	11:LF:234:GLY:HA3	2.32	0.44
35:Le:92:ASN:OD1	35:Le:120:ILE:HG12	2.17	0.44
48:Ls:50:LYS:O	48:Ls:92:LYS:NZ	2.49	0.44
48:Ls:62:ARG:HB3	48:Ls:66:ARG:HH22	1.81	0.44
49:Lt:127:GLY:O	49:Lt:131:GLU:HG2	2.18	0.44
51:S2:85:A:H5''	76:SY:118:ARG:NH1	2.33	0.44
51:S2:837:A:H61	76:SY:9:THR:H	1.65	0.44
51:S2:958:G:H2'	51:S2:959:G:C8	2.53	0.44
51:S2:1330:G:N7	51:S2:1492:U:H3'	2.33	0.44
51:S2:1391:OMC:HM23	51:S2:1391:OMC:H1'	1.75	0.44
56:SE:46:ILE:HG13	56:SE:47:PHE:N	2.31	0.44
59:SH:76:GLN:NE2	59:SH:94:PHE:HB2	2.33	0.44
60:SI:138:ASN:C	60:SI:140:LYS:H	2.26	0.44
63:SL:7:GLU:OE2	63:SL:11:GLN:NE2	2.50	0.44
69:SR:18:GLU:OE2	69:SR:19:LYS:HE3	2.17	0.44
83:Sf:119:ARG:HB3	83:Sf:132:MET:HB2	1.99	0.44
3:L5:263:G:H2'	3:L5:263:G:N3	2.32	0.44
3:L5:1241:C:H5'	10:LE:72:LYS:NZ	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1270:A:HO2'	3:L5:1439:C:HO2'	1.62	0.44
3:L5:1910:G:O2'	3:L5:1917:A:N1	2.48	0.44
3:L5:1996:C:OP1	49:Lt:124:GLU:HG3	2.18	0.44
3:L5:3859:G:OP2	20:LP:25:HIS:NE2	2.46	0.44
3:L5:4113:U:C3'	3:L5:4114:C:H4'	2.46	0.44
3:L5:4563:U:C2	3:L5:4564:A:C8	3.05	0.44
3:L5:4685:U:H2'	3:L5:4686:G:H8	1.82	0.44
3:L5:5053:U:H3'	3:L5:5054:C:C6	2.52	0.44
6:LA:118:GLU:OE2	6:LA:156:LYS:NZ	2.51	0.44
11:LF:48:LYS:HE3	32:Lb:96:LEU:HD21	1.98	0.44
11:LF:241:ASN:O	11:LF:245:ARG:HG2	2.17	0.44
12:LG:70:LEU:HD23	12:LG:70:LEU:HA	1.86	0.44
13:LH:95:VAL:HG12	43:Lm:82:LEU:HB3	1.99	0.44
27:LW:45:ASN:ND2	27:LW:47:ARG:HB2	2.33	0.44
30:LZ:14:LEU:O	37:Lg:88:ARG:HG2	2.17	0.44
30:LZ:100:VAL:HG22	30:LZ:107:LYS:HA	1.99	0.44
48:Ls:37:SER:HA	48:Ls:40:MET:HE2	2.00	0.44
51:S2:659:G:H21	75:SX:17:ARG:NH2	2.16	0.44
51:S2:1162:C:H2'	51:S2:1163:C:O4'	2.18	0.44
64:SM:52:LEU:O	64:SM:78:LYS:HA	2.18	0.44
70:SS:51:ASP:OD1	70:SS:53:THR:N	2.40	0.44
3:L5:31:U:H2'	3:L5:32:G:O4'	2.18	0.44
3:L5:280:G:H5''	18:LN:14:LYS:HE2	2.00	0.44
3:L5:302:C:H2'	3:L5:303:C:H6	1.83	0.44
3:L5:1091:C:H2'	3:L5:1092:G:H8	1.81	0.44
3:L5:1460:C:H2'	3:L5:1461:C:H6	1.83	0.44
3:L5:1591:U:OP1	7:LB:243:LYS:HG2	2.18	0.44
3:L5:1732:C:H5''	24:LT:43:LYS:CE	2.48	0.44
3:L5:2358:G:H2'	3:L5:2359:U:O4'	2.16	0.44
3:L5:2815:A2M:HM'3	3:L5:2815:A2M:H1'	1.73	0.44
3:L5:4300:U:H2'	3:L5:4301:U:C6	2.52	0.44
3:L5:4775:C:H41	3:L5:4859:C:H42	1.66	0.44
4:L7:39:C:O2'	15:LJ:46:GLN:HG2	2.17	0.44
4:L7:111:C:H2'	4:L7:112:U:O4'	2.17	0.44
7:LB:196:TRP:HE1	7:LB:200:ARG:HH21	1.66	0.44
11:LF:46:ARG:O	11:LF:50:ILE:HG12	2.18	0.44
15:LJ:95:ARG:HB3	15:LJ:177:GLY:C	2.42	0.44
22:LR:171:LYS:O	22:LR:175:GLU:HG2	2.18	0.44
51:S2:181:A:OP2	51:S2:182:C:O2'	2.31	0.44
51:S2:496:C:H2'	51:S2:497:C:C6	2.53	0.44
51:S2:1284:A:N6	51:S2:1313:A:O2'	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:1540:G:H2'	51:S2:1541:G:H8	1.83	0.44
51:S2:1856:C:H2'	51:S2:1857:G:C8	2.53	0.44
56:SE:101:LEU:HD12	56:SE:101:LEU:HA	1.81	0.44
56:SE:246:LEU:HB2	56:SE:250:GLU:HG2	1.99	0.44
58:SG:147:LEU:CD1	58:SG:151:ASP:HB2	2.48	0.44
61:SJ:2:PRO:HB2	61:SJ:3:VAL:H	1.69	0.44
65:SN:83:ASP:OD1	65:SN:83:ASP:N	2.50	0.44
67:SP:45:LEU:HD23	67:SP:45:LEU:HA	1.86	0.44
70:SS:89:ASP:HB3	70:SS:93:GLY:H	1.83	0.44
80:Sc:12:ALA:O	80:Sc:55:VAL:HG23	2.17	0.44
83:Sf:89:LYS:HE2	83:Sf:89:LYS:HB3	1.81	0.44
83:Sf:133:ALA:N	83:Sf:140:TYR:O	2.36	0.44
3:L5:224:U:O2	8:LC:219:LYS:NZ	2.35	0.44
3:L5:473:C:H2'	3:L5:474:C:C6	2.53	0.44
3:L5:1475:G:H2'	3:L5:1476:C:C6	2.53	0.44
3:L5:1552:G:O2'	3:L5:1574:G:N2	2.36	0.44
3:L5:2475:G:H5''	3:L5:2476:G:C8	2.53	0.44
3:L5:2732:G:H2'	3:L5:2733:C:H6	1.83	0.44
3:L5:4111:U:H2'	3:L5:4112:C:C5	2.52	0.44
3:L5:4390:A:H2'	3:L5:4391:G:O4'	2.18	0.44
3:L5:4538:G:H2'	3:L5:4539:U:C6	2.52	0.44
16:LL:61:CYS:HB2	16:LL:66:TYR:O	2.18	0.44
17:LM:62:LEU:HD21	17:LM:82:ILE:HD11	1.99	0.44
18:LN:90:ASN:O	45:Lo:48:TYR:OH	2.34	0.44
35:Le:11:LYS:H	35:Le:11:LYS:HD2	1.81	0.44
51:S2:380:G:N1	51:S2:383:G:OP2	2.40	0.44
51:S2:1500:G:H2'	51:S2:1501:C:H6	1.80	0.44
58:SG:141:ILE:HG13	58:SG:142:ARG:N	2.31	0.44
60:SI:21:TYR:N	91:SI:304:HOH:O	2.50	0.44
60:SI:125:LYS:HB2	60:SI:128:LYS:HZ1	1.83	0.44
69:SR:98:VAL:HG21	69:SR:117:LEU:HB3	1.99	0.44
77:SZ:56:ASP:OD1	77:SZ:56:ASP:N	2.51	0.44
81:Sd:21:CYS:SG	81:Sd:39:CYS:N	2.91	0.44
84:Sg:257:LYS:HE3	84:Sg:259:TRP:HZ2	1.83	0.44
3:L5:135:G:H22	38:Lh:94:ARG:HG2	1.83	0.44
3:L5:253:G:H2'	3:L5:254:G:C8	2.53	0.44
3:L5:1354:A:OP2	21:LQ:87:THR:HG23	2.18	0.44
3:L5:1534:A2M:N3	40:Lj:11:ARG:HB2	2.32	0.44
3:L5:1647:U:OP1	87:L5:5290:SPD:H51	2.18	0.44
3:L5:1742:A:OP2	9:LD:10:LYS:HD2	2.18	0.44
3:L5:2111:G:N2	3:L5:2251:G:O2'	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2303:C:H5''	35:Le:104:SER:HB3	1.98	0.44
3:L5:2461:G:H2'	3:L5:2462:C:C6	2.53	0.44
3:L5:3718:A2M:H2'	3:L5:3719:A:O4'	2.18	0.44
3:L5:3919:C:OP1	6:LA:2:GLY:HA3	2.18	0.44
3:L5:4070:U:H2'	3:L5:4071:U:C6	2.52	0.44
4:L7:23:A:H2'	4:L7:24:C:C6	2.53	0.44
6:LA:145:LYS:HD3	6:LA:145:LYS:HA	1.80	0.44
14:LI:87:MET:HB2	14:LI:87:MET:HE3	1.81	0.44
18:LN:60:VAL:HG23	18:LN:134:LEU:HB2	2.00	0.44
19:LO:173:GLN:HG2	19:LO:176:ARG:HH21	1.81	0.44
41:Lk:10:ASP:HA	41:Lk:13:LEU:CD2	2.48	0.44
47:Lr:47:LYS:HB2	47:Lr:102:TYR:CZ	2.52	0.44
49:Lt:66:ASN:O	49:Lt:68:GLN:N	2.51	0.44
49:Lt:104:ILE:HG13	49:Lt:106:PHE:HB3	1.99	0.44
51:S2:1272:OMC:HM23	51:S2:1272:OMC:HI'	1.71	0.44
51:S2:1417:C:H3'	51:S2:1418:C:O4'	2.17	0.44
51:S2:1433:C:H41	72:SU:51:LYS:HD2	1.82	0.44
51:S2:1606:G:N1	51:S2:1632:G:O2'	2.44	0.44
52:SA:174:MET:HA	52:SA:177:MET:HB2	2.00	0.44
58:SG:3:LEU:HD22	58:SG:109:LEU:HB3	2.00	0.44
59:SH:30:LEU:HG	59:SH:33:ASN:HD22	1.82	0.44
59:SH:130:LEU:HD23	59:SH:130:LEU:O	2.18	0.44
63:SL:150:GLY:C	63:SL:152:LYS:H	2.25	0.44
66:SO:45:THR:OG1	66:SO:49:GLY:HA2	2.18	0.44
68:SQ:90:LYS:HB3	68:SQ:90:LYS:HE2	1.81	0.44
70:SS:10:GLN:N	70:SS:10:GLN:OE1	2.51	0.44
70:SS:76:GLN:OE1	70:SS:76:GLN:N	2.40	0.44
74:SW:53:ILE:N	74:SW:60:LYS:O	2.50	0.44
3:L5:62:A:OP1	18:LN:172:ARG:NH1	2.43	0.44
3:L5:677:G:H2'	3:L5:678:C:C6	2.53	0.44
3:L5:1278:C:H2'	3:L5:1279:A:O4'	2.18	0.44
3:L5:1314:C:C2	3:L5:1315:C:C5	3.06	0.44
3:L5:1318:C:N4	91:L5:5690:HOH:O	2.45	0.44
3:L5:1704:C:O3'	11:LF:46:ARG:NH1	2.51	0.44
3:L5:1741:G:O6	4:L7:103:A:O2'	2.27	0.44
3:L5:1786:A:H2'	3:L5:1789:C:C5	2.52	0.44
3:L5:2569:G:H2'	3:L5:2570:U:C6	2.52	0.44
3:L5:2811:G:N1	3:L5:2814:C:OP2	2.46	0.44
3:L5:3597:G:H2'	3:L5:3598:C:C6	2.53	0.44
3:L5:3758:U:H2'	3:L5:3765:G:N2	2.33	0.44
3:L5:5024:C:N4	3:L5:5028:G:H21	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LE:223:ARG:HA	10:LE:224:LYS:HA	1.74	0.44
12:LG:144:THR:HG21	18:LN:3:ALA:N	2.33	0.44
28:LX:112:ALA:O	28:LX:116:LEU:HG	2.18	0.44
51:S2:29:G:H2'	51:S2:30:C:C6	2.53	0.44
51:S2:1016:U:H5'	65:SN:15:ALA:O	2.18	0.44
51:S2:1278:A:H2'	51:S2:1279:C:C6	2.53	0.44
51:S2:1674:G:P	68:SQ:78:VAL:HG11	2.58	0.44
51:S2:1724:A:H2'	51:S2:1725:U:C6	2.53	0.44
51:S2:1757:G:C8	51:S2:1758:G:H1'	2.53	0.44
52:SA:63:ARG:HG2	73:SV:37:ALA:O	2.17	0.44
58:SG:56:ASN:HB2	58:SG:108:VAL:HG22	2.00	0.44
68:SQ:15:ARG:HA	68:SQ:19:ALA:O	2.18	0.44
1:CD:396:GLU:CD	1:CD:397:ALA:H	2.26	0.43
3:L5:25:A:H2'	3:L5:26:C:H6	1.82	0.43
3:L5:467:U:H2'	3:L5:468:U:H4'	2.00	0.43
3:L5:750:U:H1'	3:L5:917:A:C8	2.53	0.43
3:L5:919:C:H2'	3:L5:920:C:H6	1.83	0.43
3:L5:1087:A:H2'	3:L5:1088:C:C6	2.53	0.43
3:L5:1194:G:H2'	3:L5:1195:G:H8	1.82	0.43
3:L5:1341:U:H2'	3:L5:1342:A:H8	1.83	0.43
3:L5:2276:A:H2'	3:L5:2277:C:O4'	2.18	0.43
3:L5:4254:G:H2'	3:L5:4254:G:N3	2.32	0.43
3:L5:4743:G:H2'	3:L5:4744:A:C8	2.53	0.43
3:L5:4750:G:H2'	3:L5:4751:G:H8	1.83	0.43
5:L8:12:G:N2	20:LP:120:ASN:OD1	2.41	0.43
14:LI:208:LYS:HB2	14:LI:208:LYS:HE3	1.85	0.43
15:LJ:115:LEU:HA	15:LJ:115:LEU:HD13	1.77	0.43
18:LN:148:THR:O	18:LN:151:ILE:HG22	2.18	0.43
38:Lh:95:LEU:HB2	38:Lh:100:GLU:OE1	2.17	0.43
51:S2:49:C:H2'	51:S2:472:C:H41	1.82	0.43
51:S2:468:A2M:HM'3	51:S2:468:A2M:H1'	1.59	0.43
51:S2:833:C:H2'	51:S2:834:C:C6	2.53	0.43
51:S2:864:A:H2'	51:S2:865:A:H8	1.83	0.43
51:S2:1152:U:O2'	74:SW:16:ASN:OD1	2.26	0.43
51:S2:1155:U:OP1	54:SC:185:THR:OG1	2.19	0.43
53:SB:145:LYS:HB2	53:SB:145:LYS:HE3	1.68	0.43
56:SE:153:LEU:HD12	58:SG:216:ARG:HH11	1.82	0.43
60:SI:23:LYS:HE2	60:SI:23:LYS:HB3	1.69	0.43
64:SM:61:TYR:HA	83:Sf:104:LYS:HZ1	1.82	0.43
66:SO:34:PHE:HB3	66:SO:41:PHE:HB2	2.00	0.43
69:SR:134:PRO:O	69:SR:135:VAL:HB	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:SW:32:LYS:O	74:SW:36:ARG:HG2	2.18	0.43
75:SX:46:HIS:CD2	75:SX:103:ALA:HB2	2.53	0.43
3:L5:1365:C:H2'	3:L5:1366:G:H3'	2.00	0.43
3:L5:1770:A:N7	3:L5:1771:U:N3	2.67	0.43
3:L5:3652:A:H2'	3:L5:3653:A:C5	2.53	0.43
3:L5:3939:G:O2'	3:L5:4076:G:N1	2.39	0.43
5:L8:74:U:C4	29:LY:74:TYR:HD1	2.36	0.43
14:LI:112:GLN:C	14:LI:114:GLY:H	2.26	0.43
20:LP:14:SER:OG	20:LP:151:THR:HG22	2.18	0.43
46:Lp:19:GLY:O	46:Lp:23:ARG:HG3	2.18	0.43
51:S2:551:U:H2'	51:S2:552:G:C8	2.53	0.43
51:S2:1060:A:H4'	51:S2:1061:U:O5'	2.18	0.43
51:S2:1204:A:O2'	51:S2:1700:C:OP2	2.30	0.43
51:S2:1425:G:H2'	51:S2:1426:U:C6	2.53	0.43
51:S2:1614:A:OP2	67:SP:42:ARG:NH1	2.51	0.43
51:S2:1629:C:C2	51:S2:1630:A:C8	3.06	0.43
54:SC:72:ASP:OD2	54:SC:272:HIS:NE2	2.51	0.43
59:SH:142:LYS:HB3	74:SW:54:ASP:HB3	1.99	0.43
68:SQ:41:MET:HE2	71:ST:10:ASN:HA	2.00	0.43
3:L5:35:U:H4'	3:L5:1525:A:C2	2.52	0.43
3:L5:239:C:H5'	29:LY:33:PRO:HD3	2.00	0.43
3:L5:3719:A:C4	3:L5:3720:G:C8	3.06	0.43
3:L5:4460:U:H2'	3:L5:4461:C:C6	2.53	0.43
3:L5:4935:C:H2'	3:L5:4936:G:H8	1.81	0.43
5:L8:66:A:H2'	5:L8:67:U:H6	1.83	0.43
14:LI:113:THR:HG22	14:LI:116:ARG:HB3	2.00	0.43
22:LR:148:ASP:OD1	22:LR:148:ASP:N	2.51	0.43
26:LV:57:VAL:HG13	26:LV:84:GLN:HB3	2.00	0.43
41:Lk:13:LEU:O	41:Lk:17:ARG:HG3	2.17	0.43
51:S2:96:C:H2'	51:S2:97:U:C6	2.53	0.43
51:S2:374:G:H2'	51:S2:375:U:H6	1.83	0.43
51:S2:380:G:P	60:SI:56:ARG:NH2	2.92	0.43
51:S2:1317:C:H2'	51:S2:1318:G:C8	2.54	0.43
51:S2:1421:A:H5''	51:S2:1422:G:C4	2.53	0.43
51:S2:1464:C:H4'	69:SR:60:ARG:NH1	2.33	0.43
52:SA:124:VAL:HG13	52:SA:130:ASP:HB2	2.00	0.43
52:SA:158:ASP:OD2	73:SV:32:ILE:HD13	2.18	0.43
53:SB:30:TRP:CH2	53:SB:48:LEU:HD23	2.53	0.43
53:SB:144:LYS:CD	53:SB:208:HIS:HB3	2.40	0.43
53:SB:217:MET:HE3	53:SB:217:MET:HB2	1.89	0.43
57:SF:100:ILE:HD11	57:SF:108:PRO:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SL:153:LYS:HA	63:SL:153:LYS:HD3	1.88	0.43
68:SQ:39:LEU:HD11	68:SQ:51:LEU:HB3	1.99	0.43
73:SV:15:ARG:HE	73:SV:15:ARG:HB2	1.59	0.43
84:Sg:194:TYR:CZ	84:Sg:212:LYS:HD3	2.53	0.43
3:L5:287:U:H2'	3:L5:288:G:C8	2.53	0.43
3:L5:468:U:H3'	3:L5:684:G:H1	1.82	0.43
3:L5:1507:C:H5''	8:LC:114:ARG:HG3	1.99	0.43
3:L5:1631:A:C2	6:LA:204:MET:HG2	2.53	0.43
3:L5:1998:A:N6	48:Ls:55:MET:HG2	2.33	0.43
3:L5:2072:C:OP1	21:LQ:2:GLY:N	2.52	0.43
3:L5:2323:C:H2'	3:L5:2324:C:H6	1.84	0.43
3:L5:2351:OMC:HM23	3:L5:2351:OMC:H1'	1.64	0.43
3:L5:2372:U:H2'	3:L5:2373:C:C6	2.53	0.43
3:L5:2389:A:H5'	34:Ld:70:LYS:HE2	1.99	0.43
3:L5:2496:G:H2'	3:L5:2497:C:H6	1.84	0.43
3:L5:3707:U:H2'	3:L5:3708:C:H6	1.84	0.43
3:L5:4127:A:C2	12:LG:37:LYS:HG2	2.53	0.43
3:L5:5000:G:O2'	7:LB:382:MET:HE1	2.19	0.43
4:L7:64:G:OP1	14:LI:203:HIS:HB2	2.18	0.43
5:L8:150:C:N4	12:LG:52:THR:O	2.50	0.43
7:LB:165:HIS:HB3	7:LB:180:LEU:HD23	2.00	0.43
13:LH:14:GLU:H	13:LH:14:GLU:CD	2.25	0.43
17:LM:37:LEU:HD12	17:LM:37:LEU:HA	1.85	0.43
22:LR:176:ARG:NH2	51:S2:910:G:OP1	2.49	0.43
31:La:103:VAL:HG22	31:La:125:LYS:O	2.19	0.43
35:Le:89:LEU:HD13	35:Le:118:LEU:HD22	2.01	0.43
48:Ls:30:VAL:HG21	48:Ls:187:LEU:HG	2.01	0.43
48:Ls:53:VAL:HA	48:Ls:89:VAL:HA	2.00	0.43
51:S2:592:C:H5'	51:S2:592:C:H6	1.83	0.43
51:S2:601:OMG:HM23	51:S2:601:OMG:H1'	1.69	0.43
51:S2:921:G:C4	74:SW:28:ARG:NH1	2.87	0.43
51:S2:1286:G:N1	64:SM:37:GLU:OE2	2.52	0.43
51:S2:1629:C:H5''	70:SS:83:PHE:HE1	1.83	0.43
51:S2:1661:A:OP1	81:Sd:19:ARG:NH2	2.50	0.43
53:SB:131:ASP:HB2	53:SB:180:ASP:OD1	2.18	0.43
56:SE:126:VAL:HG23	56:SE:139:LEU:HG	2.00	0.43
58:SG:14:LYS:HE2	58:SG:16:ILE:HD11	2.01	0.43
60:SI:58:LEU:HG	91:SI:301:HOH:O	2.17	0.43
63:SL:68:ILE:HG12	63:SL:143:LEU:HD11	2.01	0.43
71:ST:30:VAL:HG13	71:ST:34:VAL:HG11	1.99	0.43
74:SW:11:LEU:HD23	74:SW:11:LEU:HA	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:1282:G:OP2	10:LE:128:HIS:NE2	2.52	0.43
3:L5:1563:A:H2'	3:L5:1564:A:C8	2.53	0.43
3:L5:1878:G:H2'	3:L5:1879:C:C6	2.53	0.43
3:L5:1998:A:N7	48:Ls:55:MET:HB3	2.33	0.43
3:L5:2464:C:HO2'	3:L5:2465:C:H6	1.62	0.43
3:L5:3689:G:O2'	3:L5:3818:UY1:OP2	2.35	0.43
3:L5:3718:A2M:HM'3	3:L5:3718:A2M:H1'	1.80	0.43
3:L5:3855:C:H2'	3:L5:3856:A:H8	1.83	0.43
3:L5:4637:OMG:H2'	3:L5:4638:U:C6	2.54	0.43
18:LN:146:PRO:HB2	38:Lh:104:THR:HG23	2.00	0.43
21:LQ:86:ILE:HD12	21:LQ:102:ALA:HB2	2.00	0.43
32:Lb:111:ARG:O	32:Lb:114:LYS:HG2	2.17	0.43
51:S2:99:A2M:HM'3	51:S2:99:A2M:H1'	1.72	0.43
51:S2:609:U:H2'	51:S2:610:G:H8	1.82	0.43
51:S2:677:G:N1	51:S2:1027:A:OP2	2.33	0.43
51:S2:1120:U:H5'	79:Sb:72:ARG:HH22	1.83	0.43
51:S2:1547:C:H1'	51:S2:1670:C:H4'	2.01	0.43
63:SL:97:ARG:N	63:SL:97:ARG:HD3	2.34	0.43
65:SN:47:PRO:HA	65:SN:50:ILE:HD12	2.00	0.43
3:L5:163:A:H2'	3:L5:164:G:H8	1.83	0.43
3:L5:1415:G:H2'	3:L5:1416:G:C8	2.54	0.43
3:L5:1995:G:O2'	49:Lt:123:ARG:HA	2.19	0.43
3:L5:2630:U:OP1	25:LU:48:LYS:NZ	2.47	0.43
3:L5:2640:G:H2'	3:L5:2641:A:H8	1.82	0.43
3:L5:3685:C:H5'	6:LA:193:ARG:CZ	2.49	0.43
3:L5:3841:OMC:H1'	3:L5:3841:OMC:HM23	1.71	0.43
3:L5:4066:U:H2'	3:L5:4067:U:H6	1.81	0.43
3:L5:4571:A2M:H2'	3:L5:4572:U:C6	2.51	0.43
3:L5:4710:C:H2'	3:L5:4711:C:C6	2.54	0.43
3:L5:4741:C:H4'	3:L5:4742:G:H5'	1.99	0.43
5:L8:83:C:H42	29:LY:50:ARG:NH2	2.17	0.43
6:LA:27:ALA:HB3	6:LA:54:ARG:HH12	1.84	0.43
7:LB:18:PRO:O	7:LB:20:LYS:N	2.51	0.43
8:LC:76:ILE:HG12	8:LC:96:CYS:SG	2.59	0.43
13:LH:12:ILE:HG12	13:LH:18:ILE:HD12	1.99	0.43
15:LJ:22:LEU:HD11	15:LJ:82:ILE:HG21	2.00	0.43
15:LJ:159:LYS:HE2	15:LJ:163:MET:HE1	2.00	0.43
27:LW:77:LYS:C	27:LW:77:LYS:HD3	2.43	0.43
34:Ld:123:ASP:OD1	34:Ld:123:ASP:N	2.51	0.43
51:S2:43:U:OP2	51:S2:485:A:N6	2.48	0.43
51:S2:57:U:OP1	51:S2:504:G:O2'	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:963:A:H2'	51:S2:964:A:C8	2.54	0.43
53:SB:164:ILE:HD13	53:SB:207:LEU:HD11	1.99	0.43
56:SE:107:GLY:HA2	56:SE:189:LEU:HG	2.01	0.43
58:SG:67:VAL:HB	58:SG:99:GLY:HA2	2.01	0.43
58:SG:147:LEU:HD13	58:SG:151:ASP:HB2	2.00	0.43
59:SH:63:PHE:HA	59:SH:95:ILE:O	2.18	0.43
60:SI:110:ARG:HH21	60:SI:123:ARG:NH1	2.17	0.43
61:SJ:131:ARG:HD2	61:SJ:131:ARG:HA	1.75	0.43
64:SM:23:LYS:O	64:SM:27:ILE:HG12	2.19	0.43
64:SM:52:LEU:HB3	64:SM:76:LEU:HD11	1.99	0.43
3:L5:50:C:C2	3:L5:51:A:C8	3.06	0.43
3:L5:60:G:H2'	3:L5:61:A:C8	2.54	0.43
3:L5:123:C:H2'	3:L5:124:C:C6	2.53	0.43
3:L5:347:A:OP2	29:LY:8:THR:OG1	2.28	0.43
3:L5:426:A:H2'	3:L5:427:A:C8	2.53	0.43
3:L5:746:A:H61	3:L5:918:G:H1	1.67	0.43
3:L5:1194:G:H2'	3:L5:1195:G:C8	2.53	0.43
3:L5:1344:C:H1'	16:LL:10:LEU:HD11	2.01	0.43
3:L5:1578:U:H2'	3:L5:1579:C:H6	1.83	0.43
3:L5:1779:U:H2'	3:L5:1780:A:C8	2.53	0.43
3:L5:1893:C:H1'	3:L5:1937:C:O2	2.19	0.43
3:L5:2424:OMG:H1'	3:L5:2424:OMG:HM23	1.79	0.43
3:L5:2465:C:H2'	3:L5:2466:G:O4'	2.18	0.43
3:L5:4119:C:H42	37:Lg:100:GLN:CD	2.27	0.43
3:L5:4173:G:H2'	3:L5:4174:U:C6	2.54	0.43
3:L5:4860:G:H5'	19:LO:169:ARG:HD2	1.99	0.43
91:L5:6618:HOH:O	20:LP:6:LEU:HD13	2.17	0.43
7:LB:144:LYS:HB3	7:LB:144:LYS:HE2	1.88	0.43
8:LC:279:LEU:HD23	8:LC:279:LEU:HA	1.85	0.43
12:LG:50:ASP:OD1	12:LG:52:THR:HG23	2.18	0.43
17:LM:100:ARG:HD3	19:LO:198:THR:O	2.18	0.43
23:LS:28:TYR:CZ	23:LS:52:LYS:HE2	2.53	0.43
28:LX:129:ARG:NH2	28:LX:131:ASP:OD2	2.52	0.43
47:Lr:82:ILE:HD11	47:Lr:96:MET:HE1	1.99	0.43
48:Ls:173:THR:O	48:Ls:177:MET:HG2	2.19	0.43
51:S2:509:OMG:HM23	51:S2:509:OMG:H1'	1.78	0.43
51:S2:1025:U:H2'	51:S2:1026:C:O4'	2.18	0.43
51:S2:1221:G:O2'	51:S2:1676:U:O2	2.31	0.43
56:SE:118:GLU:HG2	56:SE:121:TYR:HE1	1.84	0.43
57:SF:55:ARG:HE	57:SF:55:ARG:HB3	1.71	0.43
57:SF:87:LEU:HD11	68:SQ:47:LEU:HD11	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SK:14:LEU:HD22	62:SK:35:LEU:CD1	2.45	0.43
78:Sa:12:LYS:HE3	78:Sa:12:LYS:HB3	1.85	0.43
83:Sf:105:TYR:HB2	83:Sf:117:LEU:HD11	2.01	0.43
3:L5:128:C:H2'	3:L5:129:C:C6	2.54	0.43
3:L5:400:A2M:HM'3	3:L5:400:A2M:H1'	1.60	0.43
3:L5:1507:C:H4'	8:LC:114:ARG:O	2.17	0.43
3:L5:2638:G:N1	3:L5:2718:U:H2'	2.34	0.43
3:L5:3807:A:OP1	44:Ln:23:ARG:HD3	2.19	0.43
3:L5:3896:C:H1'	7:LB:268:ARG:NH2	2.32	0.43
3:L5:4759:C:H2'	3:L5:4760:G:C8	2.53	0.43
5:L8:6:C:H2'	5:L8:7:U:C6	2.53	0.43
10:LE:176:THR:HB	10:LE:186:LEU:HD23	2.00	0.43
16:LL:111:GLN:HE21	16:LL:115:GLN:NE2	2.17	0.43
23:LS:76:LYS:NZ	23:LS:100:LEU:O	2.52	0.43
23:LS:90:THR:HB	24:LT:156:TYR:CE2	2.54	0.43
26:LV:91:LYS:HA	26:LV:91:LYS:HD3	1.77	0.43
43:Lm:93:LYS:HD3	43:Lm:102:ARG:HG2	1.99	0.43
49:Lt:116:MET:HG3	49:Lt:117:ARG:N	2.34	0.43
51:S2:17:C:H2'	51:S2:18:C:H6	1.82	0.43
51:S2:194:C:H2'	51:S2:195:C:H6	1.84	0.43
51:S2:461:U:H2'	51:S2:462:OMC:C6	2.54	0.43
51:S2:1276:A:C5	51:S2:1322:G:H1'	2.54	0.43
51:S2:1365:G:H2'	51:S2:1366:G:H8	1.84	0.43
51:S2:1779:G:H2'	51:S2:1780:G:C8	2.54	0.43
56:SE:86:PHE:HE2	56:SE:226:PHE:CD2	2.36	0.43
64:SM:24:THR:O	64:SM:28:HIS:ND1	2.43	0.43
68:SQ:31:LEU:O	68:SQ:68:ILE:N	2.48	0.43
76:SY:122:LYS:HD2	76:SY:123:ALA:N	2.34	0.43
84:Sg:258:ILE:HG23	84:Sg:267:VAL:HB	2.01	0.43
2:CI:53:GLU:CD	2:CI:53:GLU:H	2.26	0.43
3:L5:978:G:H2'	3:L5:979:C:C6	2.53	0.43
3:L5:1788:A:H2'	14:LI:22:PHE:CZ	2.53	0.43
3:L5:2487:G:C4	3:L5:2489:C:H5''	2.53	0.43
3:L5:2902:G:N2	3:L5:3597:G:O6	2.51	0.43
3:L5:4208:U:OP1	3:L5:4334:U:O2'	2.33	0.43
3:L5:4920:C:H2'	3:L5:4921:C:H6	1.84	0.43
86:L5:5292:SPM:H31	86:L5:5292:SPM:H62	1.82	0.43
4:L7:26:C:OP1	9:LD:56:THR:HG21	2.19	0.43
5:L8:152:U:H2'	5:L8:153:C:O4'	2.19	0.43
7:LB:17:LEU:HA	7:LB:17:LEU:HD23	1.80	0.43
7:LB:56:ILE:O	7:LB:73:VAL:HA	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LB:61:ASP:O	7:LB:63:PRO:HD3	2.19	0.43
12:LG:111:LYS:HB3	12:LG:111:LYS:HE3	1.85	0.43
15:LJ:22:LEU:HD22	15:LJ:128:LEU:HD12	2.01	0.43
16:LL:46:ILE:HB	16:LL:49:ARG:HB2	2.01	0.43
51:S2:5:U:H2'	51:S2:6:G:C8	2.54	0.43
51:S2:608:C:H2'	51:S2:609:U:C6	2.53	0.43
51:S2:696:G:O6	51:S2:730:C:H3'	2.19	0.43
51:S2:1849:G:H2'	51:S2:1850:MA6:C8	2.48	0.43
53:SB:75:GLN:HB2	53:SB:78:GLU:HB2	2.00	0.43
54:SC:248:TYR:OH	73:SV:11:LEU:HD23	2.18	0.43
59:SH:81:ARG:O	59:SH:85:LYS:HG3	2.18	0.43
61:SJ:137:VAL:HG12	61:SJ:138:ARG:HG2	2.00	0.43
70:SS:36:VAL:HG23	70:SS:99:LEU:HD22	2.01	0.43
83:Sf:103:LEU:HG	83:Sf:104:LYS:N	2.34	0.43
3:L5:935:A:O2'	3:L5:936:C:OP1	2.37	0.43
3:L5:1081:C:C2'	3:L5:1082:C:H5'	2.49	0.43
3:L5:1553:A:O2'	46:Lp:9:GLY:O	2.34	0.43
3:L5:1819:G:O2'	9:LD:140:GLY:O	2.35	0.43
3:L5:2045:G:O6	3:L5:3870:C:O2'	2.37	0.43
3:L5:2870:A:H2'	3:L5:2871:A:H8	1.82	0.43
3:L5:4303:C:O2'	3:L5:4304:A:H2'	2.19	0.43
87:L5:5284:SPD:H51	87:L5:5284:SPD:H82	1.76	0.43
13:LH:103:VAL:HA	13:LH:113:GLU:O	2.19	0.43
17:LM:29:ASP:O	17:LM:37:LEU:N	2.47	0.43
18:LN:24:ARG:HH11	18:LN:24:ARG:HB3	1.84	0.43
29:LY:100:HIS:ND1	29:LY:102:SER:OG	2.38	0.43
49:Lt:32:ILE:HG13	49:Lt:35:LEU:HD13	2.01	0.43
51:S2:1005:G:H2'	51:S2:1006:C:C6	2.53	0.43
52:SA:26:GLY:O	52:SA:46:ILE:HG23	2.19	0.43
53:SB:30:TRP:CZ2	66:SO:19:PRO:HD3	2.54	0.43
56:SE:153:LEU:HD12	58:SG:216:ARG:NH1	2.34	0.43
59:SH:20:GLU:CD	59:SH:48:ALA:H	2.27	0.43
60:SI:136:ILE:HG13	60:SI:137:LEU:N	2.33	0.43
62:SK:97:SER:O	62:SK:98:ARG:HD2	2.19	0.43
74:SW:30:CYS:SG	74:SW:31:SER:N	2.91	0.43
84:Sg:124:SER:HG	84:Sg:125:ARG:H	1.65	0.43
3:L5:6:C:H2'	3:L5:7:C:C6	2.54	0.42
3:L5:21:G:H1'	5:L8:103:A:N3	2.34	0.42
3:L5:470:A:H61	3:L5:684:G:H1'	1.83	0.42
3:L5:1367:C:O2'	3:L5:1369:C:OP2	2.35	0.42
3:L5:2399:G:HO2'	3:L5:2822:G:HO2'	1.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2895:A:H2'	3:L5:2896:G:C8	2.53	0.42
3:L5:3893:C:H2'	3:L5:3894:A:H8	1.81	0.42
3:L5:4250:G:O2'	15:LJ:129:ASP:OD1	2.31	0.42
3:L5:4460:U:H2'	3:L5:4461:C:H6	1.83	0.42
3:L5:4737:G:H2'	3:L5:4738:C:C6	2.54	0.42
3:L5:4757:C:H4'	19:LO:114:LYS:O	2.19	0.42
3:L5:4770:U:H2'	3:L5:4771:C:C6	2.53	0.42
3:L5:4872:G:OP2	17:LM:94:LYS:NZ	2.46	0.42
4:L7:4:U:H2'	4:L7:5:A:C8	2.53	0.42
4:L7:58:A:H2'	4:L7:59:G:C8	2.54	0.42
5:L8:97:A:OP2	38:Lh:66:LYS:NZ	2.44	0.42
8:LC:33:ARG:HH12	21:LQ:22:ASP:CB	2.32	0.42
16:LL:179:PHE:CD2	31:La:131:ARG:HG3	2.54	0.42
17:LM:38:VAL:O	17:LM:47:ARG:HA	2.18	0.42
28:LX:156:ILE:HD12	28:LX:156:ILE:HA	1.91	0.42
30:LZ:135:ARG:HA	30:LZ:135:ARG:HD2	1.73	0.42
33:Lc:50:ASN:OD1	33:Lc:50:ASN:N	2.49	0.42
34:Ld:75:LYS:HB2	34:Ld:79:ASN:O	2.19	0.42
38:Lh:15:GLU:OE1	38:Lh:15:GLU:N	2.47	0.42
44:Ln:17:ARG:NH1	51:S2:1173:A:OP1	2.52	0.42
51:S2:65:C:C2	58:SG:133:LEU:HD12	2.54	0.42
51:S2:986:G:C8	66:SO:137:SER:O	2.72	0.42
51:S2:1740:C:H2'	51:S2:1741:U:C6	2.54	0.42
56:SE:43:PRO:HB2	56:SE:45:ILE:HG22	2.01	0.42
57:SF:81:ARG:O	57:SF:85:LYS:NZ	2.49	0.42
64:SM:97:GLU:H	64:SM:97:GLU:CD	2.27	0.42
66:SO:15:ILE:HG12	66:SO:16:SER:H	1.83	0.42
74:SW:57:ARG:HH21	79:Sb:26:GLN:CD	2.27	0.42
80:Sc:10:LYS:HD2	80:Sc:34:PHE:CE1	2.54	0.42
3:L5:100:C:H2'	3:L5:101:A:O4'	2.18	0.42
3:L5:270:U:H2'	3:L5:271:C:C6	2.54	0.42
3:L5:408:A:O2'	3:L5:411:G:OP2	2.22	0.42
3:L5:1725:U:H2'	3:L5:1726:U:C6	2.53	0.42
3:L5:2457:G:O2'	3:L5:3672:G:H1'	2.19	0.42
3:L5:2634:C:H2'	3:L5:2635:U:C6	2.54	0.42
3:L5:2683:C:H2'	3:L5:2684:C:H6	1.84	0.42
3:L5:4196:OMG:HM23	3:L5:4196:OMG:H1'	1.68	0.42
3:L5:4334:U:H5''	24:LT:7:LYS:HD2	2.01	0.42
3:L5:4604:G:N2	3:L5:4607:A:OP2	2.43	0.42
8:LC:150:LEU:HD23	8:LC:150:LEU:HA	1.72	0.42
25:LU:63:ILE:HD11	25:LU:70:ILE:CG2	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:LU:80:LYS:HG2	25:LU:110:TYR:CE2	2.54	0.42
31:La:125:LYS:HG2	31:La:145:VAL:HG23	2.00	0.42
32:Lb:93:LEU:HD12	32:Lb:93:LEU:HA	1.92	0.42
33:Lc:34:THR:HG23	33:Lc:95:ALA:HB2	2.01	0.42
33:Lc:48:LEU:HD23	33:Lc:57:LYS:HG2	2.01	0.42
48:Ls:175:LEU:HD21	48:Ls:182:PRO:HG3	1.99	0.42
51:S2:14:C:H2'	51:S2:15:U:C6	2.54	0.42
51:S2:575:A:H2'	51:S2:576:A2M:O4'	2.19	0.42
51:S2:1102:G:H2'	51:S2:1103:C:C6	2.54	0.42
51:S2:1665:G:N7	71:ST:88:MET:HE1	2.34	0.42
51:S2:1679:A:P	57:SF:60:ARG:HE	2.41	0.42
52:SA:55:TRP:HZ3	52:SA:177:MET:HE2	1.84	0.42
56:SE:36:HIS:ND1	56:SE:85:GLY:HA3	2.34	0.42
60:SI:83:TYR:HB3	60:SI:101:ILE:HG12	2.01	0.42
71:ST:18:LEU:HD23	71:ST:22:LEU:HG	2.02	0.42
71:ST:39:LEU:HD13	71:ST:47:PRO:HG3	2.02	0.42
80:Sc:35:MET:HE3	80:Sc:35:MET:HB2	1.92	0.42
3:L5:170:C:H42	3:L5:266:C:H42	1.66	0.42
3:L5:223:G:H4'	3:L5:225:G:C8	2.53	0.42
3:L5:1366:G:H1'	3:L5:1367:C:C6	2.55	0.42
3:L5:1557:C:H2'	3:L5:1558:A:C8	2.54	0.42
3:L5:1693:U:H2'	3:L5:1694:C:O4'	2.19	0.42
3:L5:2283:G:H5''	31:La:18:GLY:O	2.19	0.42
3:L5:4098:A:C8	3:L5:4099:G:H1'	2.55	0.42
3:L5:4126:C:OP1	12:LG:37:LYS:NZ	2.52	0.42
3:L5:4258:C:H2'	3:L5:4259:C:C6	2.54	0.42
3:L5:4393:G:O4'	3:L5:4447:5MC:HM53	2.18	0.42
3:L5:4565:C:O2'	7:LB:268:ARG:HD3	2.18	0.42
3:L5:4899:G:H3'	3:L5:4901:G:OP2	2.19	0.42
3:L5:4911:A:OP2	7:LB:100:ARG:HD3	2.19	0.42
12:LG:30:PRO:HG2	30:LZ:124:THR:HA	2.00	0.42
12:LG:175:ARG:HG3	12:LG:230:TYR:CG	2.54	0.42
23:LS:30:MET:HE2	23:LS:30:MET:HB3	1.96	0.42
30:LZ:95:VAL:HG12	30:LZ:110:ALA:HA	2.01	0.42
38:Lh:89:ARG:O	38:Lh:93:ARG:HG2	2.19	0.42
51:S2:380:G:P	60:SI:56:ARG:HH22	2.42	0.42
52:SA:121:LEU:HD11	52:SA:145:ILE:CD1	2.49	0.42
53:SB:36:PRO:HB2	53:SB:38:MET:HG2	2.00	0.42
53:SB:139:CYS:HB2	53:SB:172:MET:SD	2.59	0.42
53:SB:152:LYS:HD3	69:SR:133:GLY:HA3	2.00	0.42
56:SE:11:ARG:NH2	56:SE:24:THR:OG1	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SF:99:ILE:HG23	77:SZ:67:LEU:HD13	2.00	0.42
60:SI:76:THR:HG21	60:SI:104:ILE:HD12	2.01	0.42
62:SK:96:ARG:O	62:SK:96:ARG:HD2	2.19	0.42
68:SQ:96:TYR:HD1	68:SQ:100:VAL:HG21	1.84	0.42
70:SS:111:LEU:HD11	70:SS:125:HIS:CG	2.54	0.42
77:SZ:86:ALA:O	77:SZ:89:GLN:HG2	2.19	0.42
3:L5:962:C:O3'	11:LF:32:ARG:NH1	2.53	0.42
3:L5:1079:C:O2	3:L5:1221:G:N2	2.53	0.42
3:L5:1298:C:H2'	3:L5:1299:G:H8	1.84	0.42
3:L5:1837:A:OP2	24:LT:130:ARG:NE	2.52	0.42
3:L5:2506:G:H4'	3:L5:2507:A:OP1	2.20	0.42
3:L5:2890:C:H2'	3:L5:2891:U:C6	2.54	0.42
3:L5:3760:A:H4'	3:L5:3761:C:H5''	2.01	0.42
4:L7:38:U:N3	4:L7:41:G:OP2	2.29	0.42
7:LB:28:LYS:HG3	7:LB:30:LYS:HG3	2.00	0.42
10:LE:99:ASP:OD1	10:LE:99:ASP:N	2.49	0.42
12:LG:182:CYS:HB3	12:LG:222:ILE:HG23	2.01	0.42
19:LO:189:ILE:HD13	19:LO:189:ILE:HA	1.89	0.42
22:LR:177:LEU:O	22:LR:181:LYS:HG2	2.19	0.42
34:Ld:29:ILE:O	34:Ld:33:ILE:HG12	2.19	0.42
47:Lr:28:GLU:CD	47:Lr:31:ASN:HD22	2.26	0.42
49:Lt:123:ARG:HD2	49:Lt:129:ILE:HD11	2.00	0.42
51:S2:2:A:C2	54:SC:196:ILE:HD13	2.54	0.42
51:S2:472:C:O2	51:S2:475:C:N4	2.49	0.42
51:S2:1035:A:H2'	51:S2:1036:A:O4'	2.18	0.42
51:S2:1466:G:H2'	51:S2:1467:C:C6	2.55	0.42
51:S2:1540:G:H2'	51:S2:1541:G:C8	2.55	0.42
51:S2:1719:A:N6	51:S2:1814:G:O2'	2.53	0.42
58:SG:2:LYS:O	58:SG:3:LEU:HD23	2.20	0.42
58:SG:194:LEU:HD13	58:SG:197:GLN:NE2	2.34	0.42
59:SH:79:LEU:HD23	59:SH:79:LEU:H	1.84	0.42
59:SH:160:LYS:HE3	59:SH:189:PHE:HB3	2.02	0.42
61:SJ:101:LYS:HA	61:SJ:101:LYS:HD2	1.93	0.42
62:SK:64:TRP:CD1	81:Sd:23:VAL:HG13	2.54	0.42
63:SL:30:LYS:HE3	63:SL:32:LYS:HA	2.01	0.42
71:ST:24:LYS:HD2	71:ST:24:LYS:C	2.44	0.42
75:SX:41:PHE:CZ	75:SX:102:VAL:HG23	2.54	0.42
83:Sf:107:LYS:NZ	83:Sf:108:VAL:HG22	2.35	0.42
84:Sg:248:LEU:O	84:Sg:258:ILE:HD12	2.20	0.42
3:L5:23:C:H2'	3:L5:24:G:O4'	2.19	0.42
3:L5:705:G:H2'	3:L5:706:C:H6	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2497:C:H2'	3:L5:2498:C:C6	2.54	0.42
3:L5:2519:U:H1'	3:L5:2520:C:C6	2.54	0.42
3:L5:2858:A:H2'	3:L5:2859:G:H8	1.84	0.42
3:L5:2858:A:H2'	3:L5:2859:G:C8	2.54	0.42
3:L5:2891:U:H2'	3:L5:2892:C:O4'	2.20	0.42
3:L5:3668:C:H5'	6:LA:8:GLN:O	2.19	0.42
3:L5:3869:OMC:OP2	91:L5:5403:HOH:O	2.22	0.42
3:L5:4458:C:H2'	3:L5:4459:U:H6	1.84	0.42
3:L5:4589:A:N1	3:L5:4621:C:O2'	2.42	0.42
6:LA:196:TRP:HB3	6:LA:197:PRO:HD3	2.02	0.42
7:LB:84:MET:O	7:LB:204:GLN:HA	2.20	0.42
10:LE:72:LYS:NZ	32:Lb:115:GLY:O	2.52	0.42
11:LF:110:GLN:HG2	11:LF:115:ARG:NH1	2.35	0.42
13:LH:34:LEU:HD23	13:LH:34:LEU:HA	1.87	0.42
13:LH:60:TRP:CE3	23:LS:153:PRO:HD2	2.53	0.42
14:LI:101:LYS:NZ	14:LI:102:MET:O	2.52	0.42
34:Ld:117:LEU:HD23	34:Ld:117:LEU:HA	1.90	0.42
48:Ls:83:ARG:HD3	48:Ls:83:ARG:HA	1.70	0.42
49:Lt:79:ALA:HA	49:Lt:82:ILE:HG22	2.01	0.42
51:S2:461:U:H2'	51:S2:462:OMC:H6	1.83	0.42
51:S2:1005:G:H2'	51:S2:1006:C:H6	1.83	0.42
51:S2:1089:G:H2'	51:S2:1090:C:C6	2.54	0.42
51:S2:1436:C:H4'	51:S2:1437:C:H2'	2.01	0.42
51:S2:1670:C:H2'	51:S2:1671:G:C8	2.53	0.42
51:S2:1798:C:H2'	51:S2:1799:G:O4'	2.19	0.42
52:SA:144:THR:OG1	52:SA:156:TYR:O	2.37	0.42
53:SB:98:THR:O	53:SB:232:HIS:NE2	2.50	0.42
55:SD:167:TYR:CE2	55:SD:204:LEU:HG	2.55	0.42
57:SF:112:LEU:HD13	57:SF:177:LEU:HD21	2.01	0.42
58:SG:42:GLY:O	58:SG:46:LYS:NZ	2.38	0.42
59:SH:133:LEU:HD23	59:SH:133:LEU:O	2.20	0.42
60:SI:42:ARG:HH21	60:SI:59:ARG:CZ	2.33	0.42
62:SK:45:VAL:O	62:SK:49:MET:HG2	2.19	0.42
62:SK:80:ARG:O	62:SK:85:LEU:N	2.48	0.42
64:SM:95:ASP:O	64:SM:99:LYS:N	2.50	0.42
67:SP:81:ARG:HH12	67:SP:122:THR:CG2	2.32	0.42
70:SS:62:ASP:O	70:SS:65:GLU:HG3	2.19	0.42
3:L5:72:C:C5	16:LL:67:HIS:ND1	2.81	0.42
3:L5:1631:A:H2	6:LA:208:GLU:HG3	1.85	0.42
3:L5:1701:A:C2'	3:L5:1702:C:H5'	2.50	0.42
3:L5:1995:G:H2'	3:L5:1996:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:2417:A:C4	3:L5:2418:A:C8	3.08	0.42
3:L5:3920:PSU:H2'	3:L5:3921:U:C6	2.54	0.42
3:L5:4088:C:C5	12:LG:54:PHE:HZ	2.36	0.42
3:L5:4344:U:H2'	3:L5:4345:C:H6	1.83	0.42
3:L5:4593:C:H2'	3:L5:4594:U:H6	1.84	0.42
3:L5:4771:C:H2'	3:L5:4772:C:C6	2.53	0.42
5:L8:78:G:H2'	5:L8:79:G:C8	2.55	0.42
5:L8:79:G:H2'	5:L8:80:A:O4'	2.20	0.42
6:LA:131:GLY:N	6:LA:169:VAL:HG13	2.35	0.42
16:LL:7:GLY:O	31:La:49:HIS:NE2	2.42	0.42
20:LP:55:LYS:HD2	20:LP:55:LYS:HA	1.86	0.42
27:LW:115:ALA:O	27:LW:119:LYS:N	2.48	0.42
29:LY:112:ASP:OD1	29:LY:112:ASP:N	2.50	0.42
29:LY:116:LYS:O	29:LY:120:GLU:HG3	2.19	0.42
32:Lb:55:LYS:O	32:Lb:58:GLN:NE2	2.53	0.42
41:Lk:10:ASP:HA	41:Lk:13:LEU:HD21	2.02	0.42
51:S2:24:C:O2'	51:S2:25:A:H8	2.02	0.42
51:S2:433:A:H2'	51:S2:434:G:C8	2.55	0.42
51:S2:483:C:OP2	75:SX:75:ILE:HD11	2.20	0.42
52:SA:158:ASP:O	73:SV:66:ASP:HA	2.20	0.42
54:SC:234:GLY:O	54:SC:238:LYS:HB2	2.20	0.42
54:SC:255:LEU:O	73:SV:16:LYS:NZ	2.42	0.42
55:SD:72:VAL:HG21	62:SK:70:TYR:CE1	2.54	0.42
61:SJ:136:ARG:NH1	61:SJ:159:PHE:O	2.50	0.42
62:SK:97:SER:C	62:SK:98:ARG:HD2	2.44	0.42
74:SW:26:LEU:HB2	79:Sb:7:LEU:HD23	2.02	0.42
83:Sf:107:LYS:HG3	83:Sf:108:VAL:N	2.34	0.42
84:Sg:112:ALA:HB3	84:Sg:121:VAL:HG12	2.01	0.42
3:L5:262:G:H2'	3:L5:263:G:H8	1.84	0.42
3:L5:1184:A:H2'	3:L5:1185:G:C8	2.54	0.42
3:L5:1555:G:O6	46:Lp:4:ARG:NH1	2.52	0.42
3:L5:1881:C:H5'	3:L5:2281:U:H1'	2.02	0.42
3:L5:2041:A:N7	3:L5:4434:C:O2'	2.53	0.42
3:L5:2656:U:OP1	30:LZ:78:ASN:ND2	2.52	0.42
3:L5:2804:OMC:HM21	37:Lg:32:TYR:HE2	1.85	0.42
3:L5:3614:G:N7	91:L5:5533:HOH:O	2.37	0.42
3:L5:4456:OMC:HM21	7:LB:241:PRO:HD3	2.02	0.42
7:LB:14:LEU:HD22	7:LB:17:LEU:HD21	2.02	0.42
8:LC:233:SER:HA	8:LC:263:LEU:HD21	2.02	0.42
8:LC:367:GLU:OE1	8:LC:367:GLU:N	2.38	0.42
14:LI:36:LEU:HD13	14:LI:87:MET:HE3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:LS:11:LYS:HE3	23:LS:29:ARG:HD3	2.01	0.42
31:La:93:ASN:OD1	31:La:95:THR:N	2.49	0.42
48:Ls:25:PRO:HB2	48:Ls:195:ASN:OD1	2.20	0.42
51:S2:375:U:H2'	51:S2:376:A:C8	2.55	0.42
51:S2:1190:A:N3	51:S2:1714:U:O2'	2.51	0.42
57:SF:18:LYS:HE2	57:SF:22:LYS:HA	2.02	0.42
61:SJ:81:LEU:HD23	61:SJ:81:LEU:HA	1.88	0.42
73:SV:70:LEU:HD12	73:SV:79:VAL:HG21	2.02	0.42
75:SX:140:ARG:HH22	75:SX:142:ARG:HH21	1.67	0.42
84:Sg:239:LEU:HD11	84:Sg:248:LEU:HD21	2.02	0.42
84:Sg:260:ASP:OD2	84:Sg:263:GLY:N	2.45	0.42
1:CD:9:PHE:CD2	33:Lc:104:ILE:HG22	2.54	0.42
3:L5:1096:C:H2'	3:L5:1097:C:H6	1.85	0.42
3:L5:1683:PSU:H2'	3:L5:1684:A:H8	1.84	0.42
3:L5:2409:U:H5	3:L5:2783:A:N1	2.18	0.42
3:L5:2693:G:H2'	3:L5:2694:G:N2	2.34	0.42
3:L5:4112:C:H2'	3:L5:4113:U:O4'	2.19	0.42
3:L5:4376:A:H5''	3:L5:4377:G:O5'	2.20	0.42
7:LB:348:ARG:HG2	7:LB:349:LYS:O	2.20	0.42
12:LG:99:ALA:HB1	12:LG:193:LEU:HD21	2.01	0.42
12:LG:180:PRO:HG3	12:LG:219:VAL:HG13	2.02	0.42
22:LR:154:LEU:HD12	22:LR:155:LEU:N	2.35	0.42
27:LW:94:ARG:HH21	58:SG:146:ASN:HD21	1.68	0.42
51:S2:12:U:H2'	51:S2:13:C:H6	1.84	0.42
51:S2:52:G:H2'	51:S2:53:C:H6	1.85	0.42
51:S2:1149:A:N3	51:S2:1149:A:H2'	2.34	0.42
51:S2:1270:G:OP1	83:Sf:89:LYS:HD3	2.20	0.42
51:S2:1300:U:O2'	67:SP:51:ARG:HD3	2.19	0.42
54:SC:83:LEU:HD11	73:SV:15:ARG:HG3	2.02	0.42
56:SE:233:LYS:HD2	56:SE:233:LYS:HA	1.70	0.42
58:SG:63:MET:HE1	58:SG:102:VAL:HG12	2.01	0.42
59:SH:74:LYS:HG3	59:SH:75:ILE:HG23	2.02	0.42
61:SJ:176:LYS:HA	61:SJ:179:LYS:HG2	2.00	0.42
63:SL:28:THR:HA	63:SL:29:GLY:HA2	1.63	0.42
64:SM:99:LYS:HG2	64:SM:100:PRO:HD2	2.00	0.42
84:Sg:99:ARG:NH1	84:Sg:135:LEU:HA	2.35	0.42
84:Sg:201:SER:N	84:Sg:206:LEU:O	2.53	0.42
3:L5:66:A:N1	3:L5:311:G:O2'	2.49	0.42
3:L5:106:A:H1'	3:L5:336:A:N3	2.34	0.42
3:L5:153:G:H2'	3:L5:154:G:C8	2.52	0.42
3:L5:458:C:H2'	3:L5:459:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:499:G:O6	3:L5:657:C:N4	2.53	0.42
3:L5:956:A:H1'	3:L5:2076:G:H5''	2.01	0.42
3:L5:1093:C:H2'	3:L5:1094:G:O4'	2.20	0.42
3:L5:1326:A2M:H2'	3:L5:1327:C:H6	1.81	0.42
3:L5:1468:C:H2'	3:L5:1469:C:C6	2.55	0.42
3:L5:2326:G:H5''	35:Le:127:ALA:HB1	2.01	0.42
3:L5:2521:G:H2'	3:L5:2522:G:C8	2.55	0.42
3:L5:3867:A2M:HM'3	3:L5:3867:A2M:H1'	1.61	0.42
3:L5:4642:U:H2'	3:L5:4643:G:C8	2.55	0.42
3:L5:5027:C:O2'	3:L5:5028:G:H5''	2.19	0.42
6:LA:114:CYS:N	6:LA:165:VAL:O	2.47	0.42
7:LB:168:MET:HG3	7:LB:176:LYS:C	2.44	0.42
7:LB:196:TRP:NE1	7:LB:200:ARG:HH21	2.18	0.42
15:LJ:89:VAL:HG22	15:LJ:115:LEU:CD2	2.50	0.42
20:LP:42:ARG:HD3	20:LP:42:ARG:HA	1.74	0.42
27:LW:100:VAL:O	27:LW:104:GLN:HG2	2.18	0.42
47:Lr:45:HIS:HB2	47:Lr:48:THR:HG22	2.02	0.42
48:Ls:60:MET:HE2	48:Ls:60:MET:HA	2.02	0.42
51:S2:59:U:H5''	51:S2:503:C:N4	2.34	0.42
51:S2:462:OMC:HM23	51:S2:462:OMC:H1'	1.81	0.42
51:S2:528:A:H5'	61:SJ:121:LYS:HZ1	1.85	0.42
51:S2:834:C:N3	51:S2:839:C:N3	2.68	0.42
51:S2:1447:G:P	72:SU:87:ARG:HH22	2.43	0.42
52:SA:42:LYS:CD	52:SA:44:ASP:HB3	2.50	0.42
56:SE:212:ASP:OD1	56:SE:216:ASN:N	2.52	0.42
57:SF:162:ALA:HB3	57:SF:169:ILE:HD13	2.02	0.42
58:SG:2:LYS:O	58:SG:108:VAL:HA	2.19	0.42
72:SU:38:ASP:OD1	72:SU:38:ASP:N	2.53	0.42
74:SW:3:ARG:NH2	74:SW:28:ARG:NH2	2.67	0.42
74:SW:6:VAL:HG12	74:SW:34:ILE:HD11	2.00	0.42
76:SY:89:HIS:CE1	76:SY:90:ARG:HG3	2.55	0.42
3:L5:45:U:OP2	86:L5:5264:SPM:H112	2.19	0.42
3:L5:513:U:H3'	3:L5:514:U:H4'	2.02	0.42
3:L5:907:C:H2'	3:L5:908:G:H8	1.85	0.42
3:L5:1317:U:H2'	3:L5:1318:C:C6	2.55	0.42
3:L5:1468:C:H2'	3:L5:1469:C:H6	1.85	0.42
3:L5:2463:G:O2'	3:L5:2464:C:H5'	2.20	0.42
3:L5:2474:G:H2'	3:L5:2502:G:N2	2.34	0.42
3:L5:3668:C:OP1	6:LA:8:GLN:NE2	2.42	0.42
3:L5:3765:G:O2'	3:L5:3767:C:N4	2.52	0.42
3:L5:4195:G:O2'	3:L5:4442:PSU:OP1	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L5:4305:G:O5'	24:LT:83:LYS:NZ	2.53	0.42
3:L5:4620:OMU:H1'	3:L5:4620:OMU:HM23	1.76	0.42
5:L8:43:A:H4'	40:Lj:22:CYS:O	2.20	0.42
6:LA:112:ILE:HG22	6:LA:135:THR:HG23	2.02	0.42
7:LB:300:LYS:HZ1	7:LB:309:LEU:C	2.28	0.42
10:LE:178:PRO:O	10:LE:181:LEU:N	2.43	0.42
22:LR:172:ARG:HA	22:LR:175:GLU:HG2	2.01	0.42
26:LV:65:VAL:HG23	26:LV:73:ARG:HA	2.02	0.42
36:Lf:36:ARG:HD2	36:Lf:79:GLY:O	2.20	0.42
46:Lp:48:LYS:HE3	46:Lp:48:LYS:HB2	1.87	0.42
49:Lt:38:SER:N	49:Lt:39:PRO:HD2	2.34	0.42
49:Lt:106:PHE:CD2	49:Lt:109:ILE:HD11	2.48	0.42
51:S2:323:C:H4'	51:S2:324:C:C5	2.53	0.42
51:S2:1208:A:H2'	51:S2:1209:A:H8	1.85	0.42
51:S2:1221:G:H2'	51:S2:1222:G:H8	1.85	0.42
51:S2:1311:C:OP1	64:SM:40:LYS:NZ	2.42	0.42
51:S2:1417:C:N4	51:S2:1422:G:H22	2.16	0.42
54:SC:142:LYS:HG2	54:SC:153:GLY:HA3	2.02	0.42
54:SC:169:TYR:OH	54:SC:175:GLY:O	2.28	0.42
55:SD:41:VAL:HG23	55:SD:46:THR:HB	2.01	0.42
57:SF:121:PRO:HA	57:SF:193:LYS:HG3	2.02	0.42
74:SW:11:LEU:HD21	74:SW:37:PHE:HE2	1.84	0.42
78:Sa:51:ARG:NH1	80:Sc:39:SER:HB2	2.35	0.42
78:Sa:64:LEU:HA	78:Sa:65:PRO:HD3	1.95	0.42
84:Sg:165:ILE:HB	84:Sg:179:LEU:HD21	2.01	0.42
84:Sg:208:ALA:HB2	84:Sg:218:LEU:HD13	2.01	0.42
3:L5:261:G:C6	3:L5:262:G:C6	3.08	0.41
3:L5:264:C:H2'	3:L5:265:C:C5	2.55	0.41
3:L5:324:A:H2'	3:L5:325:U:C6	2.55	0.41
3:L5:980:U:H2'	3:L5:981:C:C6	2.55	0.41
3:L5:1304:C:H2'	3:L5:1305:C:C6	2.55	0.41
3:L5:1554:A:OP1	46:Lp:5:THR:OG1	2.32	0.41
3:L5:1773:U:H2'	3:L5:1774:C:C6	2.55	0.41
3:L5:2608:G:H2'	3:L5:2609:G:H8	1.85	0.41
3:L5:2838:G:H5'	7:LB:247:GLY:HA2	2.02	0.41
3:L5:3877:A:N3	3:L5:4401:G:O2'	2.40	0.41
3:L5:4500:PSU:H2'	3:L5:4501:U:C6	2.55	0.41
4:L7:16:A:H2'	4:L7:17:C:C6	2.54	0.41
5:L8:41:A:H4'	40:Lj:59:THR:HG23	2.02	0.41
7:LB:59:GLU:OE2	7:LB:60:VAL:N	2.53	0.41
7:LB:117:ARG:NH2	7:LB:177:LYS:HG2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LG:57:TRP:O	12:LG:62:ARG:NH1	2.53	0.41
20:LP:40:HIS:NE2	20:LP:110:ASP:O	2.50	0.41
21:LQ:82:VAL:HG11	21:LQ:86:ILE:HG13	2.02	0.41
36:Lf:102:ARG:HB2	36:Lf:104:MET:HE2	2.01	0.41
48:Ls:29:ILE:HG22	48:Ls:88:PHE:CD1	2.54	0.41
50:Pt:4:U:H2'	50:Pt:5:C:H6	1.84	0.41
51:S2:374:G:H2'	51:S2:375:U:C6	2.54	0.41
51:S2:432:G:H2'	51:S2:433:A:C8	2.55	0.41
51:S2:509:OMG:OP1	61:SJ:2:PRO:HA	2.19	0.41
51:S2:1703:OMC:H2'	51:S2:1704:C:O4'	2.20	0.41
51:S2:1758:G:N2	51:S2:1773:C:O4'	2.53	0.41
51:S2:1862:G:N2	78:Sa:76:SER:OG	2.47	0.41
52:SA:54:THR:HA	52:SA:162:PRO:HD2	2.02	0.41
56:SE:208:VAL:HG21	56:SE:225:ILE:HG13	2.01	0.41
57:SF:59:LYS:HA	57:SF:59:LYS:HD2	1.81	0.41
58:SG:23:LYS:HA	58:SG:40:ALA:HB1	2.01	0.41
59:SH:58:LYS:HB3	59:SH:90:LYS:HD3	2.02	0.41
60:SI:140:LYS:HD2	60:SI:140:LYS:O	2.19	0.41
74:SW:11:LEU:HB3	74:SW:72:CYS:O	2.20	0.41
76:SY:26:ASP:OD1	76:SY:26:ASP:N	2.54	0.41
84:Sg:158:PRO:HD3	84:Sg:200:VAL:HG21	2.02	0.41
84:Sg:172:LYS:HG2	84:Sg:193:GLY:O	2.20	0.41
3:L5:25:A:C8	3:L5:341:G:C8	3.08	0.41
3:L5:231:U:H4'	29:LY:100:HIS:CD2	2.55	0.41
3:L5:460:C:H2'	3:L5:461:G:H8	1.85	0.41
3:L5:481:G:H2'	3:L5:482:G:H8	1.84	0.41
3:L5:1178:G:H2'	9:LD:286:SER:HB3	2.02	0.41
3:L5:1604:G:H2'	3:L5:1605:G:C8	2.55	0.41
3:L5:2696:A:H62	41:Lk:35:LYS:HZ2	1.68	0.41
3:L5:4521:PSU:H1'	7:LB:253:CYS:SG	2.60	0.41
3:L5:4678:G:N2	3:L5:4713:G:H1'	2.35	0.41
6:LA:108:PRO:HG2	46:Lp:86:LEU:HB3	2.03	0.41
7:LB:213:GLN:HE22	7:LB:285:TYR:C	2.28	0.41
8:LC:187:GLN:NE2	8:LC:203:GLN:OE1	2.48	0.41
8:LC:195:LYS:HB3	8:LC:200:ARG:NE	2.35	0.41
10:LE:222:LEU:HB2	10:LE:237:LYS:CE	2.50	0.41
12:LG:100:HIS:O	12:LG:103:ARG:HG3	2.19	0.41
12:LG:257:LYS:O	12:LG:261:LEU:HG	2.19	0.41
14:LI:208:LYS:O	14:LI:211:VAL:HG22	2.21	0.41
21:LQ:172:ARG:HA	21:LQ:176:ARG:HD2	2.01	0.41
22:LR:103:ARG:HG2	22:LR:124:TYR:CE2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Lc:103:ASP:OD1	33:Lc:103:ASP:N	2.53	0.41
38:Lh:57:VAL:O	38:Lh:61:ILE:HG13	2.21	0.41
51:S2:77:A:H2	58:SG:175:LYS:HD2	1.85	0.41
51:S2:434:G:H5''	60:SI:23:LYS:HE3	2.01	0.41
51:S2:834:C:H42	51:S2:839:C:H42	1.68	0.41
51:S2:985:G:H2'	51:S2:1002:U:OP2	2.20	0.41
51:S2:1265:A:O2'	51:S2:1327:G:OP2	2.24	0.41
51:S2:1677:U:H2'	51:S2:1678:A:C8	2.54	0.41
52:SA:180:ARG:HD2	52:SA:184:ARG:CZ	2.50	0.41
73:SV:15:ARG:NH2	73:SV:24:ILE:HG21	2.34	0.41
77:SZ:101:SER:OG	77:SZ:102:LYS:N	2.52	0.41
79:Sb:38:PRO:HD3	79:Sb:76:GLY:O	2.20	0.41
79:Sb:45:THR:HG23	79:Sb:82:LYS:HZ1	1.85	0.41
84:Sg:49:GLU:HG2	84:Sg:50:THR:N	2.36	0.41
84:Sg:101:PHE:CD2	84:Sg:136:GLY:HA2	2.54	0.41
3:L5:426:A:H2'	3:L5:427:A:H8	1.84	0.41
3:L5:959:G:C8	10:LE:123:ARG:HG2	2.56	0.41
3:L5:1197:C:H2'	3:L5:1198:G:C8	2.56	0.41
3:L5:1512:G:H2'	3:L5:1513:U:H6	1.86	0.41
3:L5:1562:G:H5'	3:L5:1563:A:OP2	2.20	0.41
3:L5:1687:U:H2'	3:L5:1688:G:C8	2.56	0.41
3:L5:2095:A:H1'	3:L5:2096:G:C2	2.54	0.41
3:L5:3793:U:H2'	3:L5:3794:C:C6	2.55	0.41
3:L5:4232:U:H5''	45:Lo:3:ASN:O	2.20	0.41
3:L5:4928:C:H2'	3:L5:4929:C:H6	1.85	0.41
3:L5:5048:A:OP1	34:Ld:31:LYS:HD2	2.20	0.41
16:LL:31:ARG:O	16:LL:35:ARG:HG3	2.20	0.41
19:LO:174:LEU:HD23	19:LO:174:LEU:HA	1.93	0.41
38:Lh:8:ASP:OD1	38:Lh:8:ASP:N	2.53	0.41
51:S2:29:G:H2'	51:S2:30:C:H6	1.84	0.41
51:S2:60:A:N3	51:S2:316:G:O2'	2.42	0.41
51:S2:456:C:H2'	51:S2:457:C:H6	1.85	0.41
51:S2:1098:C:H2'	51:S2:1099:G:C8	2.56	0.41
51:S2:1433:C:N4	72:SU:51:LYS:HD2	2.35	0.41
51:S2:1457:U:H2'	51:S2:1458:G:C8	2.54	0.41
51:S2:1539:U:H2'	51:S2:1540:G:C8	2.56	0.41
53:SB:224:GLU:O	53:SB:227:LYS:HG2	2.19	0.41
56:SE:141:THR:HG23	56:SE:143:ASP:N	2.36	0.41
58:SG:31:ARG:HG2	58:SG:101:ILE:HG13	2.03	0.41
58:SG:59:GLN:OE1	58:SG:59:GLN:N	2.53	0.41
63:SL:80:MET:HE2	63:SL:122:ILE:HG13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SR:112:GLY:O	69:SR:113:SER:OG	2.31	0.41
71:ST:105:GLN:HA	71:ST:108:GLU:OE1	2.20	0.41
78:Sa:19:GLN:OE1	78:Sa:19:GLN:N	2.33	0.41
3:L5:105:A:O2'	16:LL:35:ARG:NH1	2.51	0.41
3:L5:386:A:O2'	29:LY:87:ARG:NH1	2.53	0.41
3:L5:699:C:O2'	3:L5:968:C:O2	2.38	0.41
3:L5:972:C:C6	10:LE:126:LEU:HD13	2.55	0.41
3:L5:1172:C:O2'	3:L5:1173:G:O5'	2.37	0.41
3:L5:1567:U:H2'	3:L5:1568:C:C6	2.55	0.41
3:L5:1631:A:N1	91:L5:5527:HOH:O	2.37	0.41
3:L5:1701:A:H2'	3:L5:1702:C:H5'	2.02	0.41
3:L5:1824:G:H2'	3:L5:1825:A:C8	2.55	0.41
3:L5:2658:G:N2	3:L5:2676:A:OP2	2.53	0.41
3:L5:2835:A:N3	7:LB:228:TYR:HD2	2.18	0.41
3:L5:3651:A:N6	91:L5:5898:HOH:O	2.53	0.41
3:L5:4173:G:H2'	3:L5:4174:U:H6	1.85	0.41
3:L5:4306:OMU:H1'	3:L5:4306:OMU:HM23	1.81	0.41
3:L5:4615:C:H5''	7:LB:357:ARG:HD3	2.02	0.41
91:L5:8120:HOH:O	31:La:39:HIS:HA	2.19	0.41
5:L8:130:C:H2'	5:L8:131:G:H8	1.85	0.41
7:LB:37:PRO:HA	7:LB:188:GLY:H	1.85	0.41
11:LF:147:LEU:O	11:LF:151:ASN:ND2	2.44	0.41
41:Lk:7:GLU:OE1	41:Lk:8:ILE:N	2.53	0.41
51:S2:1017:U:H2'	51:S2:1018:U:C6	2.55	0.41
51:S2:1418:C:H4'	51:S2:1419:C:C5	2.55	0.41
54:SC:257:LYS:O	73:SV:16:LYS:NZ	2.42	0.41
57:SF:187:SER:HB3	57:SF:190:ILE:HG12	2.03	0.41
64:SM:84:LYS:HE2	64:SM:88:TRP:CE2	2.56	0.41
64:SM:126:GLU:O	64:SM:130:CYS:N	2.47	0.41
72:SU:66:ARG:HH12	72:SU:75:LYS:CD	2.31	0.41
83:Sf:126:CYS:SG	83:Sf:144:CYS:N	2.89	0.41
3:L5:351:C:H2'	3:L5:352:G:O4'	2.20	0.41
3:L5:1339:U:OP1	31:La:8:THR:OG1	2.33	0.41
3:L5:1565:A:C5	3:L5:1566:C:H1'	2.55	0.41
3:L5:1883:G:O6	3:L5:1896:A:H2	2.03	0.41
3:L5:1921:C:C4	23:LS:161:ARG:HD2	2.55	0.41
3:L5:1960:A:H1'	48:Ls:60:MET:HE1	2.02	0.41
3:L5:2573:A:H2'	3:L5:2574:G:O4'	2.19	0.41
3:L5:3925:OMU:HM23	3:L5:3925:OMU:H1'	1.86	0.41
3:L5:4080:C:H2'	3:L5:4081:G:C8	2.55	0.41
3:L5:4192:A:H2'	3:L5:4193:C:H6	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L7:7:G:OP1	9:LD:33:ARG:HD2	2.20	0.41
15:LJ:164:ARG:HA	15:LJ:164:ARG:HD3	1.95	0.41
17:LM:123:ILE:HD13	19:LO:182:GLU:HG2	2.01	0.41
33:Lc:48:LEU:HD11	33:Lc:60:ILE:HG21	2.02	0.41
38:Lh:3:LYS:HB3	38:Lh:3:LYS:HE2	1.88	0.41
39:Li:76:ARG:HA	39:Li:76:ARG:HD3	1.79	0.41
44:Ln:11:ARG:HD3	51:S2:1183:A:H5'	2.03	0.41
48:Ls:58:ASN:HA	48:Ls:61:MET:HE2	2.02	0.41
48:Ls:102:LEU:HD23	48:Ls:189:ILE:HD11	2.03	0.41
51:S2:218:U:H2'	51:S2:219:U:C6	2.56	0.41
51:S2:697:G:H8	51:S2:733:C:O2	2.02	0.41
51:S2:835:C:H4'	51:S2:836:G:C8	2.55	0.41
51:S2:1433:C:N4	72:SU:92:HIS:HD2	2.10	0.41
57:SF:17:ILE:HG21	57:SF:46:ALA:HB1	2.02	0.41
59:SH:76:GLN:HG3	59:SH:94:PHE:CD2	2.53	0.41
68:SQ:13:PHE:HB3	68:SQ:22:VAL:HG22	2.02	0.41
68:SQ:89:SER:HB2	68:SQ:112:LEU:HD13	2.03	0.41
73:SV:51:LYS:HB3	73:SV:51:LYS:HE2	1.68	0.41
3:L5:319:A:H1'	3:L5:3726:A:N3	2.35	0.41
3:L5:1341:U:H2'	3:L5:1342:A:C8	2.55	0.41
3:L5:1727:U:H2'	3:L5:1728:U:C6	2.55	0.41
3:L5:1942:A:N3	3:L5:4432:C:O2'	2.47	0.41
3:L5:2273:G:H2'	3:L5:2274:C:C6	2.55	0.41
3:L5:3934:G:H2'	3:L5:3935:C:C6	2.55	0.41
3:L5:4152:G:H2'	3:L5:4153:C:C6	2.56	0.41
3:L5:4152:G:H2'	3:L5:4153:C:H6	1.86	0.41
3:L5:4619:U:H2'	3:L5:4620:OMU:C6	2.49	0.41
3:L5:4739:C:H2'	3:L5:4740:G:H5'	2.03	0.41
3:L5:4897:G:N2	3:L5:4924:C:C2	2.88	0.41
3:L5:4968:A:H2'	3:L5:4969:C:H6	1.85	0.41
9:LD:59:ASP:OD1	9:LD:60:ILE:N	2.54	0.41
10:LE:161:ARG:O	10:LE:182:ASN:ND2	2.54	0.41
11:LF:157:ARG:HH21	11:LF:248:ASN:HA	1.85	0.41
13:LH:27:VAL:HG12	13:LH:84:VAL:HG21	2.02	0.41
14:LI:193:ASP:O	14:LI:193:ASP:OD1	2.39	0.41
27:LW:96:GLN:O	27:LW:101:ARG:N	2.49	0.41
29:LY:37:GLU:H	29:LY:37:GLU:CD	2.28	0.41
32:Lb:54:LEU:O	32:Lb:58:GLN:HG3	2.21	0.41
33:Lc:52:CYS:HB3	33:Lc:57:LYS:HE2	2.01	0.41
50:Pt:50:U:H2'	50:Pt:51:C:H6	1.86	0.41
51:S2:1367:PSU:N1	91:S2:2031:HOH:O	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:S2:1531:A:H2'	51:S2:1532:C:C6	2.56	0.41
51:S2:1621:U:O2'	51:S2:1622:U:H2'	2.21	0.41
51:S2:1720:U:H5''	51:S2:1721:U:H5''	2.02	0.41
60:SI:130:THR:N	60:SI:131:PRO:HD2	2.35	0.41
74:SW:28:ARG:HB3	74:SW:29:PRO:HD3	2.03	0.41
76:SY:5:VAL:HG23	76:SY:32:LYS:NZ	2.36	0.41
84:Sg:244:ASN:OD1	84:Sg:244:ASN:N	2.53	0.41
1:CD:27:PRO:O	1:CD:30:VAL:HG22	2.20	0.41
3:L5:270:U:H2'	3:L5:271:C:H6	1.86	0.41
3:L5:271:C:H2'	3:L5:272:U:C6	2.55	0.41
3:L5:1251:C:H2'	3:L5:1252:C:C6	2.55	0.41
3:L5:1351:G:H2'	3:L5:1352:C:C6	2.55	0.41
3:L5:2267:U:OP1	47:Lr:37:SER:HB2	2.20	0.41
3:L5:2375:A:H2'	3:L5:2376:A:H8	1.86	0.41
3:L5:2521:G:H2'	3:L5:2522:G:H8	1.85	0.41
3:L5:4219:A:H2'	3:L5:4220:6MZ:C8	2.51	0.41
3:L5:4261:C:H2'	3:L5:4262:C:H6	1.85	0.41
3:L5:4688:C:O2'	13:LH:155:SER:OG	2.38	0.41
5:L8:18:U:H2'	5:L8:19:C:C6	2.56	0.41
5:L8:67:U:P	40:Lj:87:LYS:HE3	2.60	0.41
7:LB:216:MET:HG3	7:LB:354:GLN:HE21	1.85	0.41
8:LC:325:MET:HE2	8:LC:329:ASN:HB3	2.02	0.41
13:LH:61:TRP:CZ3	17:LM:33:GLN:HG3	2.56	0.41
15:LJ:48:PRO:HB2	15:LJ:70:VAL:CG2	2.49	0.41
16:LL:47:ALA:HB3	16:LL:48:PRO:HD3	2.03	0.41
20:LP:107:LEU:HB2	20:LP:152:GLU:OE2	2.20	0.41
26:LV:70:PRO:HA	26:LV:73:ARG:HG3	2.01	0.41
26:LV:90:ARG:C	26:LV:92:ASP:H	2.29	0.41
29:LY:67:ILE:HD12	29:LY:107:THR:HG21	2.03	0.41
33:Lc:48:LEU:HD13	33:Lc:71:VAL:HG13	2.03	0.41
42:Ll:28:ARG:HA	42:Ll:33:ASN:ND2	2.35	0.41
45:Lo:6:LYS:HG3	45:Lo:94:GLY:HA3	2.03	0.41
50:Pt:3:C:H42	50:Pt:70:A:H61	1.69	0.41
51:S2:326:C:C3'	51:S2:327:G:H5'	2.50	0.41
51:S2:525:A:H2'	51:S2:526:A:C8	2.56	0.41
51:S2:737:G:H8	51:S2:738:C:H4'	1.86	0.41
51:S2:1047:C:H2'	51:S2:1048:G:O4'	2.21	0.41
51:S2:1731:A:H2'	51:S2:1732:G:H8	1.85	0.41
51:S2:1750:C:H2'	51:S2:1751:C:C6	2.56	0.41
52:SA:85:ARG:HB2	69:SR:81:ARG:NH1	2.35	0.41
52:SA:158:ASP:HB2	52:SA:159:ILE:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SA:180:ARG:HH11	52:SA:184:ARG:NH1	2.18	0.41
57:SF:82:ASN:ND2	91:SF:303:HOH:O	2.53	0.41
58:SG:144:LEU:HG	58:SG:145:PHE:CD1	2.56	0.41
58:SG:154:ARG:O	58:SG:157:VAL:HG22	2.20	0.41
59:SH:131:GLU:HG2	59:SH:139:ILE:HD13	2.01	0.41
62:SK:73:ASN:HA	62:SK:76:ILE:HG12	2.03	0.41
68:SQ:93:VAL:HG12	68:SQ:108:ILE:HG12	2.01	0.41
68:SQ:98:LYS:HE2	68:SQ:98:LYS:HB2	1.91	0.41
69:SR:5:ARG:HB3	69:SR:9:VAL:CG1	2.51	0.41
71:ST:99:VAL:O	71:ST:103:VAL:HG23	2.20	0.41
81:Sd:38:MET:HG2	81:Sd:39:CYS:H	1.85	0.41
83:Sf:108:VAL:HB	83:Sf:112:GLY:HA2	2.02	0.41
3:L5:1076:C:H2'	3:L5:1077:C:H6	1.85	0.41
3:L5:1352:C:H2'	3:L5:1353:G:O4'	2.21	0.41
3:L5:1940:G:N2	91:L5:5929:HOH:O	2.54	0.41
3:L5:2297:G:H4'	8:LC:242:PRO:HB2	2.02	0.41
3:L5:2439:G:H5'	3:L5:2778:G:OP2	2.21	0.41
3:L5:2480:G:H2'	3:L5:2481:G:H8	1.86	0.41
3:L5:2621:A:H2'	3:L5:2622:G:C8	2.56	0.41
3:L5:2693:G:OP2	41:Lk:33:LYS:NZ	2.49	0.41
3:L5:2849:A:O2'	3:L5:2855:G:N7	2.54	0.41
3:L5:3723:A:H2'	3:L5:3724:A:C8	2.56	0.41
7:LB:122:TRP:CZ2	7:LB:127:LYS:HE3	2.56	0.41
7:LB:279:GLU:HB3	7:LB:282:LYS:HZ3	1.84	0.41
16:LL:154:VAL:HG12	16:LL:155:MET:HG3	2.02	0.41
20:LP:131:ARG:HG3	20:LP:137:ASN:OD1	2.21	0.41
22:LR:80:LYS:HA	22:LR:80:LYS:HD2	1.83	0.41
35:Le:97:ALA:O	35:Le:122:VAL:HA	2.21	0.41
49:Lt:105:THR:C	49:Lt:106:PHE:CD1	2.99	0.41
49:Lt:119:ARG:HG3	49:Lt:129:ILE:HG12	2.02	0.41
51:S2:77:A:C8	58:SG:154:ARG:HG2	2.55	0.41
51:S2:106:C:H2'	51:S2:107:A:C8	2.52	0.41
51:S2:121:OMU:HM23	51:S2:121:OMU:H1'	1.91	0.41
51:S2:399:C:H5	51:S2:680:G:H5''	1.85	0.41
51:S2:507:G:OP2	76:SY:104:ARG:NH1	2.47	0.41
51:S2:921:G:C2	79:Sb:22:LYS:HG2	2.55	0.41
51:S2:1018:U:H2'	51:S2:1019:C:H6	1.85	0.41
51:S2:1373:C:P	69:SR:7:LYS:HG3	2.60	0.41
51:S2:1712:A:H2'	51:S2:1713:C:C6	2.55	0.41
51:S2:1840:U:H2'	51:S2:1841:C:C6	2.56	0.41
52:SA:77:ILE:HD12	52:SA:133:PRO:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SF:42:LYS:HD3	57:SF:42:LYS:HA	1.84	0.41
58:SG:59:GLN:NE2	58:SG:72:ARG:HH22	2.18	0.41
62:SK:42:ASN:O	62:SK:46:MET:HG3	2.21	0.41
62:SK:96:ARG:C	62:SK:96:ARG:HD2	2.45	0.41
64:SM:33:ARG:H	64:SM:33:ARG:HG2	1.70	0.41
71:ST:26:GLY:C	71:ST:27:LYS:HD3	2.44	0.41
75:SX:85:VAL:HA	75:SX:122:VAL:HG12	2.03	0.41
75:SX:95:GLU:HG2	75:SX:98:ASP:OD2	2.21	0.41
84:Sg:74:ASP:OD1	84:Sg:75:GLY:N	2.54	0.41
2:CI:62:VAL:HG22	2:CI:71:ARG:HB3	2.03	0.41
3:L5:223:G:H4'	3:L5:225:G:N7	2.36	0.41
3:L5:429:A:H2'	3:L5:430:G:C8	2.56	0.41
3:L5:679:C:H2'	3:L5:680:G:C8	2.56	0.41
3:L5:690:C:H2'	3:L5:691:C:C6	2.56	0.41
3:L5:730:G:C6	11:LF:73:ARG:HD3	2.56	0.41
3:L5:754:U:H2'	3:L5:755:C:H6	1.85	0.41
3:L5:1071:C:C5	10:LE:67:ALA:HB2	2.56	0.41
3:L5:1273:G:O2'	3:L5:1274:A:H5'	2.21	0.41
3:L5:1400:G:H2'	3:L5:1401:C:C6	2.56	0.41
3:L5:1544:G:H5''	37:Lg:14:ASN:O	2.21	0.41
3:L5:1578:U:H2'	3:L5:1579:C:C6	2.55	0.41
3:L5:1590:C:H5''	3:L5:1591:U:O5'	2.20	0.41
3:L5:1858:A:H2'	3:L5:1859:C:H6	1.86	0.41
3:L5:2046:G:O2'	3:L5:2047:A:N7	2.52	0.41
3:L5:2374:A:H5'	34:Ld:64:ILE:O	2.20	0.41
3:L5:2385:U:H2'	3:L5:2386:U:C6	2.55	0.41
3:L5:3619:G:H4'	22:LR:79:GLY:O	2.20	0.41
3:L5:3637:PSU:O2	3:L5:3651:A:H2	2.03	0.41
3:L5:3753:G:OP1	91:L5:5405:HOH:O	2.22	0.41
3:L5:3923:A:H2'	3:L5:3924:C:H6	1.82	0.41
3:L5:4253:A:H5'	3:L5:4254:G:C8	2.55	0.41
3:L5:4287:G:H2'	3:L5:4288:C:C6	2.56	0.41
3:L5:4776:G:N2	3:L5:4859:C:O2	2.53	0.41
3:L5:5001:PSU:H2'	3:L5:5002:U:O4'	2.20	0.41
86:L5:5288:SPM:HN5	86:L5:5288:SPM:H22	1.78	0.41
91:L5:5700:HOH:O	8:LC:80:ARG:NH1	2.53	0.41
4:L7:3:C:H2'	4:L7:4:U:H6	1.86	0.41
4:L7:7:G:OP1	9:LD:33:ARG:NH1	2.52	0.41
4:L7:37:G:H2'	4:L7:38:U:O4'	2.21	0.41
7:LB:14:LEU:HA	7:LB:17:LEU:HG	2.01	0.41
7:LB:28:LYS:HE2	7:LB:28:LYS:HB2	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LB:33:PRO:HG2	7:LB:349:LYS:HB2	2.03	0.41
7:LB:299:ILE:HG22	7:LB:313:SER:HB3	2.02	0.41
9:LD:53:VAL:HG11	9:LD:159:VAL:HA	2.03	0.41
9:LD:204:VAL:O	9:LD:208:MET:HG3	2.21	0.41
10:LE:95:PRO:HA	10:LE:104:THR:HG22	2.02	0.41
10:LE:202:ASP:OD1	10:LE:204:SER:OG	2.31	0.41
12:LG:93:THR:O	12:LG:97:LYS:HB2	2.20	0.41
16:LL:63:THR:HG21	31:La:66:ASN:HB3	2.02	0.41
17:LM:96:GLU:OE2	17:LM:100:ARG:NH2	2.50	0.41
19:LO:81:TRP:HB2	19:LO:104:VAL:HG21	2.03	0.41
22:LR:3:MET:CE	22:LR:5:ARG:HH21	2.34	0.41
22:LR:169:ALA:O	22:LR:173:ARG:HB2	2.21	0.41
24:LT:85:LEU:CD1	24:LT:87:LYS:HD3	2.51	0.41
27:LW:102:LYS:HD2	27:LW:102:LYS:C	2.46	0.41
38:Lh:52:LYS:HA	38:Lh:52:LYS:HD3	1.88	0.41
41:Lk:66:VAL:O	41:Lk:66:VAL:HG12	2.21	0.41
46:Lp:64:VAL:HG11	46:Lp:71:TYR:CE1	2.55	0.41
50:Pt:37:A:N1	91:Pt:101:HOH:O	2.37	0.41
51:S2:52:G:H2'	51:S2:53:C:C6	2.56	0.41
51:S2:85:A:H2'	51:S2:86:C:C6	2.56	0.41
51:S2:96:C:O2	51:S2:473:A:O2'	2.36	0.41
51:S2:161:U:O3'	58:SG:87:ARG:NH2	2.54	0.41
51:S2:301:A:H2'	51:S2:302:A:O4'	2.20	0.41
51:S2:536:A:H3'	51:S2:537:C:H5''	2.03	0.41
51:S2:549:C:H2'	51:S2:550:C:C6	2.56	0.41
51:S2:816:A:H2'	51:S2:817:G:O4'	2.21	0.41
51:S2:962:A:N1	51:S2:1055:A:O2'	2.53	0.41
51:S2:1025:U:OP1	51:S2:1090:C:O2'	2.38	0.41
51:S2:1231:C:OP1	70:SS:134:GLN:HB2	2.21	0.41
51:S2:1383:A2M:HM'3	51:S2:1383:A2M:H1'	1.53	0.41
51:S2:1513:C:OP1	81:Sd:10:HIS:HB3	2.21	0.41
51:S2:1676:U:H2'	51:S2:1677:U:O4'	2.21	0.41
51:S2:1802:C:H2'	51:S2:1803:U:C6	2.56	0.41
51:S2:1840:U:H2'	51:S2:1841:C:H6	1.85	0.41
51:S2:1863:A:H1'	78:Sa:79:ILE:HD13	2.03	0.41
51:S2:1867:U:O2'	78:Sa:38:LYS:HD2	2.21	0.41
52:SA:84:GLN:O	52:SA:88:LEU:HD23	2.21	0.41
52:SA:118:GLU:HG2	52:SA:118:GLU:O	2.21	0.41
52:SA:149:ASN:HB2	52:SA:165:ASN:OD1	2.21	0.41
52:SA:213:GLU:HB3	69:SR:84:TYR:CZ	2.56	0.41
53:SB:97:LEU:HD23	53:SB:232:HIS:CG	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SC:275:LYS:HB2	54:SC:275:LYS:HE2	1.93	0.41
55:SD:143:ARG:HD2	55:SD:148:LYS:HE3	2.03	0.41
56:SE:71:LYS:HE2	56:SE:74:GLY:O	2.21	0.41
56:SE:137:PRO:HG2	56:SE:150:PRO:HD2	2.03	0.41
56:SE:250:GLU:HA	56:SE:253:ASP:OD2	2.21	0.41
61:SJ:17:ARG:NH1	61:SJ:18:ARG:NH1	2.69	0.41
63:SL:48:LYS:O	63:SL:52:GLU:HG3	2.21	0.41
64:SM:53:ALA:HA	64:SM:79:VAL:HG12	2.01	0.41
66:SO:47:LEU:HD23	66:SO:47:LEU:HA	1.88	0.41
68:SQ:44:PRO:HG2	68:SQ:81:ILE:CD1	2.51	0.41
68:SQ:63:PHE:CE2	68:SQ:92:LEU:HD22	2.55	0.41
71:ST:31:PRO:HG2	71:ST:34:VAL:HG13	2.02	0.41
73:SV:35:ASN:ND2	73:SV:50:PHE:HE2	2.19	0.41
76:SY:20:ARG:NH1	76:SY:74:MET:SD	2.94	0.41
84:Sg:21:ILE:N	84:Sg:288:SER:OG	2.54	0.41
84:Sg:164:ILE:HD12	84:Sg:177:TRP:O	2.21	0.41
84:Sg:195:LEU:HD23	84:Sg:195:LEU:HA	1.81	0.41
84:Sg:300:ALA:C	84:Sg:307:VAL:HG23	2.46	0.41
1:CD:5:LEU:O	1:CD:9:PHE:HD1	2.04	0.41
3:L5:313:U:H5''	18:LN:179:LYS:HE3	2.03	0.41
3:L5:385:A:N3	3:L5:387:G:H5''	2.36	0.41
3:L5:444:G:H2'	3:L5:445:U:H6	1.84	0.41
3:L5:917:A:H2'	3:L5:918:G:O4'	2.20	0.41
3:L5:1199:G:H2'	3:L5:1200:G:H8	1.86	0.41
3:L5:1834:U:C2	24:LT:128:LEU:HD23	2.56	0.41
3:L5:1915:C:OP2	19:LO:94:ARG:NH2	2.53	0.41
3:L5:2614:C:O2'	3:L5:2808:G:OP1	2.35	0.41
3:L5:4862:G:H2'	3:L5:4863:G:C8	2.56	0.41
4:L7:58:A:H2'	4:L7:59:G:H8	1.86	0.41
8:LC:230:LEU:HD21	8:LC:236:ASN:H	1.86	0.41
10:LE:183:ARG:HA	10:LE:183:ARG:HD2	1.89	0.41
15:LJ:42:GLN:CD	15:LJ:117:ILE:HG12	2.46	0.41
22:LR:155:LEU:HD23	22:LR:158:GLN:HE21	1.85	0.41
36:Lf:48:ALA:HB2	36:Lf:71:TRP:CZ3	2.55	0.41
41:Lk:30:ASP:OD1	41:Lk:30:ASP:N	2.54	0.41
51:S2:483:C:H4'	75:SX:101:LEU:HD11	2.02	0.41
51:S2:888:U:O2'	51:S2:898:U:N3	2.41	0.41
51:S2:1177:PSU:H2'	51:S2:1178:U:C6	2.56	0.41
51:S2:1627:C:H5''	71:ST:41:LYS:HD2	2.02	0.41
51:S2:1737:G:H2'	51:S2:1738:C:H6	1.86	0.41
54:SC:205:VAL:O	54:SC:205:VAL:HG13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SL:57:ASP:HB3	63:SL:60:CYS:HB2	2.03	0.41
67:SP:28:MET:HE1	67:SP:36:LEU:HD22	2.03	0.41
72:SU:107:GLU:O	72:SU:110:VAL:HG12	2.21	0.41
76:SY:77:ASP:N	76:SY:77:ASP:OD1	2.53	0.41
77:SZ:86:ALA:O	77:SZ:90:GLU:HG2	2.21	0.41
84:Sg:101:PHE:CE2	84:Sg:136:GLY:HA2	2.56	0.41
84:Sg:176:VAL:O	84:Sg:184:LEU:HD12	2.21	0.41
3:L5:422:C:H2'	3:L5:423:G:H8	1.87	0.40
3:L5:688:U:OP1	10:LE:94:LYS:NZ	2.39	0.40
3:L5:1280:C:O2'	8:LC:321:ASN:OD1	2.26	0.40
3:L5:1309:C:H2'	3:L5:1310:C:C6	2.56	0.40
3:L5:1577:G:H5'	3:L5:1578:U:H5''	2.02	0.40
3:L5:1717:C:H2'	3:L5:1718:C:C4	2.56	0.40
3:L5:1989:G:H2'	3:L5:1990:A:C8	2.56	0.40
3:L5:1999:A:H8	3:L5:1999:A:OP2	2.04	0.40
3:L5:2078:C:H2'	3:L5:2079:G:C8	2.56	0.40
3:L5:2656:U:H5''	30:LZ:38:TYR:HB3	2.02	0.40
3:L5:3762:U:C2	3:L5:3763:A:C8	3.09	0.40
3:L5:3870:C:H2'	3:L5:3871:A:C8	2.55	0.40
3:L5:3951:G:N2	3:L5:4062:A:N6	2.69	0.40
3:L5:4227:OMU:H1'	3:L5:4227:OMU:HM23	1.89	0.40
3:L5:4680:G:H2'	3:L5:4681:A:C8	2.55	0.40
4:L7:35:U:O2	4:L7:45:U:O2'	2.37	0.40
7:LB:302:ASN:HB2	7:LB:313:SER:HA	2.02	0.40
9:LD:179:ARG:HD3	9:LD:179:ARG:HA	1.78	0.40
15:LJ:85:LYS:O	15:LJ:89:VAL:HG23	2.21	0.40
16:LL:194:ILE:HD12	16:LL:194:ILE:HA	1.93	0.40
24:LT:85:LEU:HD11	24:LT:87:LYS:HD3	2.03	0.40
24:LT:107:LYS:HD2	24:LT:107:LYS:C	2.46	0.40
29:LY:32:SER:OG	29:LY:101:PRO:O	2.29	0.40
30:LZ:7:PRO:HA	30:LZ:25:ILE:HG22	2.03	0.40
48:Ls:13:TYR:O	48:Ls:17:ILE:HG22	2.21	0.40
50:Pt:51:C:H2'	50:Pt:52:G:C8	2.56	0.40
51:S2:107:A:H2'	51:S2:108:G:H8	1.83	0.40
51:S2:793:G:H2'	51:S2:794:A:H8	1.86	0.40
51:S2:1288:OMU:OP2	83:Sf:99:LYS:HE3	2.21	0.40
51:S2:1375:G:H5''	69:SR:67:ARG:HH12	1.85	0.40
51:S2:1376:A:H8	51:S2:1376:A:OP2	2.04	0.40
51:S2:1528:G:H2'	51:S2:1529:C:C6	2.56	0.40
51:S2:1695:A:N1	51:S2:1832:6MZ:O2'	2.52	0.40
54:SC:272:HIS:HA	54:SC:275:LYS:NZ	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SD:31:GLU:O	55:SD:54:ARG:NH2	2.51	0.40
56:SE:141:THR:HG22	56:SE:145:ARG:O	2.21	0.40
56:SE:153:LEU:HD23	56:SE:153:LEU:HA	1.89	0.40
57:SF:193:LYS:O	57:SF:197:GLU:HG2	2.21	0.40
60:SI:37:LYS:NZ	60:SI:93:THR:HB	2.35	0.40
67:SP:33:LEU:HD21	67:SP:87:PRO:HG3	2.03	0.40
70:SS:46:ARG:HG2	71:ST:35:ASP:HB2	2.03	0.40
72:SU:46:LYS:HB2	72:SU:46:LYS:HE3	1.77	0.40
73:SV:42:VAL:HG23	73:SV:43:THR:N	2.36	0.40
73:SV:50:PHE:N	73:SV:50:PHE:CD1	2.89	0.40
3:L5:374:G:OP2	40:Lj:56:ARG:NH1	2.36	0.40
3:L5:660:A:H2'	3:L5:661:C:C6	2.56	0.40
3:L5:1097:C:H2'	3:L5:1098:G:H8	1.85	0.40
3:L5:1743:A:O4'	9:LD:15:ARG:HD2	2.20	0.40
3:L5:2095:A:H1'	3:L5:2096:G:N2	2.36	0.40
3:L5:3661:G:H4'	3:L5:3662:A:H5'	2.02	0.40
3:L5:3823:G:H2'	3:L5:3824:A:H8	1.85	0.40
3:L5:3842:C:H3'	3:L5:3843:C:H2'	2.02	0.40
3:L5:4140:C:N3	3:L5:4145:C:O2'	2.48	0.40
3:L5:4940:C:O2'	10:LE:246:ARG:NH2	2.53	0.40
5:L8:154:G:H2'	5:L8:155:C:C6	2.55	0.40
8:LC:116:ASN:O	8:LC:119:GLN:HB2	2.20	0.40
12:LG:50:ASP:HB2	28:LX:40:ILE:HD11	2.03	0.40
19:LO:74:ARG:HG2	19:LO:146:GLY:HA3	2.03	0.40
20:LP:47:TYR:OH	20:LP:58:VAL:HG12	2.20	0.40
23:LS:16:CYS:SG	23:LS:54:MET:HG2	2.62	0.40
27:LW:2:LYS:HZ3	27:LW:2:LYS:HG3	1.75	0.40
28:LX:80:PRO:CG	28:LX:155:ILE:HG21	2.45	0.40
51:S2:353:C:H2'	51:S2:354:OMU:H6	2.03	0.40
51:S2:446:G:OP1	91:S2:2001:HOH:O	2.21	0.40
51:S2:644:OMG:HM23	51:S2:644:OMG:H1'	1.78	0.40
51:S2:919:A:OP2	51:S2:919:A:H8	2.04	0.40
51:S2:1608:U:H4'	70:SS:130:ARG:NH1	2.36	0.40
51:S2:1614:A:P	67:SP:42:ARG:HH22	2.41	0.40
53:SB:82:ARG:NH1	53:SB:189:ILE:O	2.54	0.40
54:SC:213:LEU:HD12	54:SC:213:LEU:HA	1.91	0.40
55:SD:12:VAL:HG21	81:Sd:34:TYR:HB3	2.04	0.40
58:SG:98:ARG:NH2	58:SG:101:ILE:O	2.38	0.40
66:SO:58:GLY:O	66:SO:62:VAL:HG12	2.21	0.40
68:SQ:57:LEU:HD11	68:SQ:115:TYR:CD2	2.56	0.40
72:SU:46:LYS:NZ	72:SU:101:ILE:HG12	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:SY:18:LEU:HD12	76:SY:20:ARG:CZ	2.51	0.40
3:L5:19:G:P	38:Lh:93:ARG:HE	2.44	0.40
3:L5:97:G:OP1	16:LL:16:LYS:NZ	2.37	0.40
3:L5:424:U:H2'	3:L5:425:U:H6	1.86	0.40
3:L5:429:A:N7	91:L5:5543:HOH:O	2.37	0.40
3:L5:1510:G:H2'	3:L5:1511:U:C6	2.56	0.40
3:L5:1613:A:H5''	6:LA:183:GLY:HA2	2.03	0.40
3:L5:1700:G:H2'	3:L5:1703:C:N4	2.36	0.40
3:L5:1726:U:H5'	11:LF:135:ILE:HD11	2.02	0.40
3:L5:1727:U:OP1	11:LF:131:ASN:ND2	2.51	0.40
3:L5:1930:U:OP2	19:LO:49:ARG:HD2	2.22	0.40
3:L5:1976:G:N2	49:Lt:139:VAL:HG12	2.35	0.40
3:L5:3723:A:H2'	3:L5:3724:A:H8	1.86	0.40
3:L5:3866:C:H2'	3:L5:3867:A2M:O4'	2.22	0.40
3:L5:4585:U:H2'	3:L5:4586:G:C8	2.57	0.40
7:LB:165:HIS:HA	7:LB:179:HIS:O	2.21	0.40
13:LH:105:ILE:CG2	13:LH:109:GLY:HA2	2.52	0.40
15:LJ:78:LYS:O	15:LJ:81:GLU:HG2	2.21	0.40
22:LR:172:ARG:NH1	51:S2:909:G:OP1	2.46	0.40
26:LV:107:ASN:OD1	26:LV:111:GLU:N	2.49	0.40
30:LZ:5:MET:O	30:LZ:28:ASN:ND2	2.54	0.40
34:Ld:114:PHE:HA	34:Ld:117:LEU:HD12	2.02	0.40
48:Ls:33:ASP:O	48:Ls:35:VAL:HG22	2.22	0.40
51:S2:454:U:H2'	51:S2:455:A:C8	2.56	0.40
51:S2:634:A:H2'	51:S2:635:G:C8	2.56	0.40
51:S2:689:U:H3'	51:S2:690:G:H21	1.86	0.40
51:S2:1417:C:H42	51:S2:1422:G:N2	2.19	0.40
51:S2:1525:C:H2'	51:S2:1526:G:H8	1.86	0.40
51:S2:1693:G:O2'	51:S2:1694:U:H5'	2.21	0.40
51:S2:1859:A:P	78:Sa:10:ARG:HH12	2.45	0.40
54:SC:186:GLY:HA3	54:SC:239:ALA:O	2.22	0.40
64:SM:17:ALA:O	64:SM:20:GLU:HG3	2.20	0.40
76:SY:7:ILE:CD1	76:SY:27:VAL:HG12	2.50	0.40
3:L5:1405:C:N4	3:L5:1408:G:N3	2.46	0.40
3:L5:1551:C:H2'	3:L5:1552:G:O4'	2.21	0.40
3:L5:2372:U:O2'	34:Ld:46:LEU:HD13	2.21	0.40
3:L5:2639:U:O2'	3:L5:2694:G:O6	2.40	0.40
3:L5:2871:A:H2'	3:L5:2872:C:O4'	2.22	0.40
3:L5:3933:G:H2'	3:L5:3934:G:H8	1.86	0.40
3:L5:4762:A:H2'	3:L5:4763:U:O4'	2.22	0.40
3:L5:5002:U:H2'	3:L5:5003:U:H6	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LG:121:LYS:HE3	12:LG:121:LYS:HB3	1.82	0.40
29:LY:111:LEU:HD23	29:LY:111:LEU:HA	1.91	0.40
36:Lf:5:LEU:HA	36:Lf:5:LEU:HD23	1.88	0.40
39:Li:84:LYS:O	39:Li:88:GLU:HG2	2.21	0.40
40:Lj:20:ARG:HD2	40:Lj:39:TYR:CZ	2.55	0.40
51:S2:28:U:H2'	51:S2:29:G:C8	2.55	0.40
51:S2:509:OMG:H2'	51:S2:510:G:H8	1.86	0.40
51:S2:1378:A:H4'	51:S2:1379:A:O5'	2.20	0.40
51:S2:1513:C:OP1	81:Sd:12:ARG:NH2	2.44	0.40
52:SA:141:ASN:ND2	73:SV:29:HIS:O	2.55	0.40
57:SF:190:ILE:HG13	57:SF:191:LYS:N	2.36	0.40
63:SL:13:GLN:OE1	63:SL:36:TYR:HB3	2.21	0.40
69:SR:17:ILE:HD11	69:SR:54:VAL:HA	2.03	0.40
70:SS:15:VAL:HB	70:SS:68:ILE:HD11	2.04	0.40
71:ST:103:VAL:O	71:ST:107:LEU:HD13	2.21	0.40
72:SU:49:LYS:CE	72:SU:92:HIS:HB2	2.48	0.40
72:SU:66:ARG:NH1	72:SU:75:LYS:HA	2.37	0.40
75:SX:70:VAL:HG11	75:SX:94:ILE:HG21	2.03	0.40
75:SX:119:ARG:HG3	75:SX:120:PHE:CE2	2.56	0.40
84:Sg:54:ILE:HG13	84:Sg:55:PRO:HD2	2.03	0.40
84:Sg:242:SER:HA	84:Sg:291:TRP:CD1	2.56	0.40
2:CI:54:LYS:HA	2:CI:57:LYS:HG2	2.02	0.40
3:L5:21:G:H5''	40:Lj:43:ARG:HG2	2.04	0.40
3:L5:24:G:N7	40:Lj:46:LYS:NZ	2.70	0.40
3:L5:375:G:OP2	40:Lj:52:LYS:NZ	2.39	0.40
3:L5:493:G:O2'	3:L5:494:U:OP1	2.37	0.40
3:L5:1180:C:H5''	3:L5:1180:C:H6	1.87	0.40
3:L5:1494:U:H2'	3:L5:1495:G:H8	1.86	0.40
3:L5:1735:U:OP2	86:L5:5259:SPM:N10	2.55	0.40
3:L5:1952:G:H4'	23:LS:93:MET:HG2	2.04	0.40
3:L5:2876:OMG:C8	46:Lp:16:THR:HG22	2.57	0.40
3:L5:3599:A:H2'	3:L5:3600:G:H8	1.86	0.40
3:L5:3606:U:H2'	3:L5:3607:U:C6	2.57	0.40
3:L5:4107:G:H2'	3:L5:4107:G:N3	2.37	0.40
3:L5:4412:C:C2	3:L5:4413:C:C5	3.09	0.40
3:L5:4572:U:H2'	3:L5:4573:G:C8	2.57	0.40
3:L5:4926:C:H3'	3:L5:4927:G:N3	2.36	0.40
4:L7:117:G:OP1	9:LD:253:TYR:OH	2.32	0.40
7:LB:19:ARG:HD2	91:LB:521:HOH:O	2.21	0.40
15:LJ:113:ILE:HG12	15:LJ:119:TYR:HD1	1.86	0.40
22:LR:77:GLY:O	22:LR:81:ARG:NE	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Lf:100:ARG:HA	36:Lf:100:ARG:HD3	1.89	0.40
37:Lg:60:ARG:HA	37:Lg:60:ARG:HD2	1.90	0.40
42:Ll:36:ARG:HH11	42:Ll:36:ARG:HG3	1.87	0.40
50:Pt:29:C:H2'	50:Pt:30:G:H8	1.87	0.40
50:Pt:50:U:H2'	50:Pt:51:C:C6	2.56	0.40
51:S2:27:A2M:H1'	51:S2:27:A2M:HM'3	1.56	0.40
51:S2:344:U:H2'	51:S2:345:U:H6	1.85	0.40
51:S2:837:A:N6	76:SY:9:THR:H	2.19	0.40
51:S2:941:C:H5''	53:SB:136:ARG:HH11	1.86	0.40
51:S2:1114:U:O2'	51:S2:1115:U:H2'	2.22	0.40
51:S2:1567:G:H2'	51:S2:1568:C:C6	2.57	0.40
51:S2:1716:C:H2'	51:S2:1717:C:H6	1.86	0.40
52:SA:81:ASN:OD1	52:SA:81:ASN:N	2.54	0.40
54:SC:74:LYS:HD3	54:SC:74:LYS:HA	1.90	0.40
57:SF:144:LEU:HD23	80:Sc:49:PRO:HB2	2.04	0.40
58:SG:218:LYS:HA	58:SG:218:LYS:HD2	1.87	0.40
59:SH:86:LYS:C	59:SH:87:PHE:CD1	2.99	0.40
62:SK:9:ILE:HG13	62:SK:10:ALA:N	2.36	0.40
62:SK:22:VAL:HG22	62:SK:68:TYR:HD1	1.86	0.40
64:SM:62:VAL:O	64:SM:66:GLU:HG3	2.22	0.40
66:SO:31:CYS:HA	66:SO:44:VAL:HA	2.03	0.40
69:SR:34:VAL:O	69:SR:38:ILE:HG12	2.22	0.40
71:ST:39:LEU:HB3	71:ST:56:ARG:HH12	1.86	0.40
73:SV:69:ILE:HD13	73:SV:69:ILE:HA	1.98	0.40
83:Sf:124:ASP:OD1	83:Sf:124:ASP:N	2.54	0.40
84:Sg:234:ASP:OD1	84:Sg:234:ASP:N	2.55	0.40
84:Sg:272:GLN:OE1	84:Sg:284:PRO:HB2	2.21	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	
1	CD	46/50 (92%)	43 (94%)	3 (6%)	0	100	100
2	CI	29/31 (94%)	28 (97%)	1 (3%)	0	100	100
6	LA	246/248 (99%)	223 (91%)	23 (9%)	0	100	100
7	LB	400/402 (100%)	383 (96%)	17 (4%)	0	100	100
8	LC	366/368 (100%)	347 (95%)	19 (5%)	0	100	100
9	LD	291/293 (99%)	279 (96%)	12 (4%)	0	100	100
10	LE	236/250 (94%)	216 (92%)	20 (8%)	0	100	100
11	LF	223/225 (99%)	216 (97%)	6 (3%)	1 (0%)	30	34
12	LG	239/241 (99%)	227 (95%)	12 (5%)	0	100	100
13	LH	188/190 (99%)	178 (95%)	10 (5%)	0	100	100
14	LI	211/213 (99%)	204 (97%)	7 (3%)	0	100	100
15	LJ	168/176 (96%)	164 (98%)	4 (2%)	0	100	100
16	LL	208/210 (99%)	196 (94%)	12 (6%)	0	100	100
17	LM	137/139 (99%)	133 (97%)	4 (3%)	0	100	100
18	LN	201/203 (99%)	196 (98%)	5 (2%)	0	100	100
19	LO	199/201 (99%)	196 (98%)	3 (2%)	0	100	100
20	LP	151/153 (99%)	144 (95%)	7 (5%)	0	100	100
21	LQ	185/187 (99%)	179 (97%)	6 (3%)	0	100	100
22	LR	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
23	LS	173/175 (99%)	167 (96%)	6 (4%)	0	100	100
24	LT	157/159 (99%)	151 (96%)	6 (4%)	0	100	100
25	LU	99/101 (98%)	92 (93%)	7 (7%)	0	100	100
26	LV	129/131 (98%)	122 (95%)	7 (5%)	0	100	100
27	LW	112/118 (95%)	108 (96%)	4 (4%)	0	100	100
28	LX	118/120 (98%)	114 (97%)	4 (3%)	0	100	100
29	LY	132/134 (98%)	129 (98%)	3 (2%)	0	100	100
30	LZ	133/135 (98%)	124 (93%)	9 (7%)	0	100	100
31	La	145/147 (99%)	140 (97%)	5 (3%)	0	100	100
32	Lb	105/109 (96%)	99 (94%)	6 (6%)	0	100	100
33	Lc	96/98 (98%)	89 (93%)	6 (6%)	1 (1%)	13	12
34	Ld	105/107 (98%)	100 (95%)	5 (5%)	0	100	100
35	Le	126/128 (98%)	123 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	Lf	107/109 (98%)	103 (96%)	4 (4%)	0	100	100
37	Lg	112/114 (98%)	111 (99%)	1 (1%)	0	100	100
38	Lh	120/122 (98%)	116 (97%)	4 (3%)	0	100	100
39	Li	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
40	Lj	84/86 (98%)	82 (98%)	2 (2%)	0	100	100
41	Lk	67/69 (97%)	64 (96%)	3 (4%)	0	100	100
42	Ll	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
43	Lm	50/52 (96%)	50 (100%)	0	0	100	100
44	Ln	22/24 (92%)	22 (100%)	0	0	100	100
45	Lo	103/105 (98%)	96 (93%)	7 (7%)	0	100	100
46	Lp	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
47	Lr	123/125 (98%)	116 (94%)	7 (6%)	0	100	100
48	Ls	194/196 (99%)	184 (95%)	10 (5%)	0	100	100
49	Lt	128/141 (91%)	107 (84%)	21 (16%)	0	100	100
52	SA	219/221 (99%)	207 (94%)	12 (6%)	0	100	100
53	SB	212/214 (99%)	204 (96%)	8 (4%)	0	100	100
54	SC	218/222 (98%)	204 (94%)	14 (6%)	0	100	100
55	SD	225/227 (99%)	213 (95%)	12 (5%)	0	100	100
56	SE	260/262 (99%)	244 (94%)	16 (6%)	0	100	100
57	SF	187/189 (99%)	173 (92%)	14 (8%)	0	100	100
58	SG	235/237 (99%)	220 (94%)	15 (6%)	0	100	100
59	SH	182/186 (98%)	166 (91%)	15 (8%)	1 (0%)	25	28
60	SI	204/206 (99%)	192 (94%)	12 (6%)	0	100	100
61	SJ	183/185 (99%)	169 (92%)	14 (8%)	0	100	100
62	SK	96/98 (98%)	87 (91%)	9 (9%)	0	100	100
63	SL	151/153 (99%)	140 (93%)	11 (7%)	0	100	100
64	SM	120/122 (98%)	108 (90%)	12 (10%)	0	100	100
65	SN	148/150 (99%)	146 (99%)	2 (1%)	0	100	100
66	SO	135/140 (96%)	129 (96%)	6 (4%)	0	100	100
67	SP	119/121 (98%)	115 (97%)	4 (3%)	0	100	100
68	SQ	142/144 (99%)	130 (92%)	11 (8%)	1 (1%)	19	19

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
69	SR	133/135 (98%)	121 (91%)	12 (9%)	0	100	100
70	SS	143/145 (99%)	135 (94%)	8 (6%)	0	100	100
71	ST	141/143 (99%)	137 (97%)	4 (3%)	0	100	100
72	SU	102/104 (98%)	95 (93%)	7 (7%)	0	100	100
73	SV	81/83 (98%)	76 (94%)	5 (6%)	0	100	100
74	SW	127/129 (98%)	121 (95%)	6 (5%)	0	100	100
75	SX	139/141 (99%)	131 (94%)	8 (6%)	0	100	100
76	SY	129/131 (98%)	118 (92%)	11 (8%)	0	100	100
77	SZ	73/75 (97%)	66 (90%)	7 (10%)	0	100	100
78	Sa	100/102 (98%)	94 (94%)	6 (6%)	0	100	100
79	Sb	81/83 (98%)	77 (95%)	4 (5%)	0	100	100
80	Sc	62/64 (97%)	59 (95%)	3 (5%)	0	100	100
81	Sd	53/55 (96%)	49 (92%)	4 (8%)	0	100	100
82	Se	56/58 (97%)	50 (89%)	6 (11%)	0	100	100
83	Sf	65/67 (97%)	54 (83%)	11 (17%)	0	100	100
84	Sg	311/313 (99%)	286 (92%)	25 (8%)	0	100	100
All	All	11718/11920 (98%)	11085 (95%)	629 (5%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	LF	197	VAL
33	Lc	99	PRO
68	SQ	44	PRO
59	SH	15	LYS

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	CD	41/41 (100%)	37 (90%)	4 (10%)	6	6
2	CI	25/25 (100%)	25 (100%)	0	100	100
6	LA	190/190 (100%)	190 (100%)	0	100	100
7	LB	348/348 (100%)	348 (100%)	0	100	100
8	LC	306/306 (100%)	306 (100%)	0	100	100
9	LD	246/247 (100%)	246 (100%)	0	100	100
10	LE	212/222 (96%)	212 (100%)	0	100	100
11	LF	194/194 (100%)	194 (100%)	0	100	100
12	LG	203/205 (99%)	203 (100%)	0	100	100
13	LH	169/169 (100%)	169 (100%)	0	100	100
14	LI	180/180 (100%)	180 (100%)	0	100	100
15	LJ	143/148 (97%)	143 (100%)	0	100	100
16	LL	176/176 (100%)	176 (100%)	0	100	100
17	LM	118/118 (100%)	118 (100%)	0	100	100
18	LN	171/171 (100%)	171 (100%)	0	100	100
19	LO	173/173 (100%)	173 (100%)	0	100	100
20	LP	134/134 (100%)	134 (100%)	0	100	100
21	LQ	164/164 (100%)	164 (100%)	0	100	100
22	LR	166/166 (100%)	166 (100%)	0	100	100
23	LS	156/156 (100%)	156 (100%)	0	100	100
24	LT	139/139 (100%)	139 (100%)	0	100	100
25	LU	91/91 (100%)	91 (100%)	0	100	100
26	LV	101/101 (100%)	101 (100%)	0	100	100
27	LW	95/97 (98%)	95 (100%)	0	100	100
28	LX	108/108 (100%)	108 (100%)	0	100	100
29	LY	124/124 (100%)	124 (100%)	0	100	100
30	LZ	117/117 (100%)	117 (100%)	0	100	100
31	La	120/120 (100%)	120 (100%)	0	100	100
32	Lb	88/90 (98%)	88 (100%)	0	100	100
33	Lc	83/83 (100%)	83 (100%)	0	100	100
34	Ld	98/98 (100%)	98 (100%)	0	100	100
35	Le	114/114 (100%)	114 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	Lf	88/88 (100%)	88 (100%)	0	100	100
37	Lg	98/98 (100%)	98 (100%)	0	100	100
38	Lh	109/109 (100%)	109 (100%)	0	100	100
39	Li	86/86 (100%)	86 (100%)	0	100	100
40	Lj	73/73 (100%)	73 (100%)	0	100	100
41	Lk	64/64 (100%)	64 (100%)	0	100	100
42	Ll	47/47 (100%)	47 (100%)	0	100	100
43	Lm	48/48 (100%)	48 (100%)	0	100	100
44	Ln	23/23 (100%)	23 (100%)	0	100	100
45	Lo	93/93 (100%)	93 (100%)	0	100	100
46	Lp	74/74 (100%)	74 (100%)	0	100	100
47	Lr	109/109 (100%)	109 (100%)	0	100	100
48	Ls	162/164 (99%)	162 (100%)	0	100	100
49	Lt	107/115 (93%)	107 (100%)	0	100	100
52	SA	183/183 (100%)	183 (100%)	0	100	100
53	SB	195/195 (100%)	195 (100%)	0	100	100
54	SC	186/188 (99%)	186 (100%)	0	100	100
55	SD	190/190 (100%)	190 (100%)	0	100	100
56	SE	224/224 (100%)	224 (100%)	0	100	100
57	SF	159/159 (100%)	159 (100%)	0	100	100
58	SG	207/207 (100%)	207 (100%)	0	100	100
59	SH	166/166 (100%)	166 (100%)	0	100	100
60	SI	178/178 (100%)	178 (100%)	0	100	100
61	SJ	161/161 (100%)	161 (100%)	0	100	100
62	SK	89/89 (100%)	89 (100%)	0	100	100
63	SL	137/137 (100%)	137 (100%)	0	100	100
64	SM	102/104 (98%)	102 (100%)	0	100	100
65	SN	130/130 (100%)	130 (100%)	0	100	100
66	SO	107/110 (97%)	107 (100%)	0	100	100
67	SP	107/107 (100%)	107 (100%)	0	100	100
68	SQ	119/119 (100%)	119 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
69	SR	122/122 (100%)	122 (100%)	0	100	100
70	SS	126/126 (100%)	126 (100%)	0	100	100
71	ST	113/113 (100%)	113 (100%)	0	100	100
72	SU	94/94 (100%)	94 (100%)	0	100	100
73	SV	67/67 (100%)	67 (100%)	0	100	100
74	SW	112/112 (100%)	112 (100%)	0	100	100
75	SX	113/113 (100%)	113 (100%)	0	100	100
76	SY	113/113 (100%)	113 (100%)	0	100	100
77	SZ	66/66 (100%)	66 (100%)	0	100	100
78	Sa	89/89 (100%)	89 (100%)	0	100	100
79	Sb	75/75 (100%)	75 (100%)	0	100	100
80	Sc	57/57 (100%)	57 (100%)	0	100	100
81	Sd	48/48 (100%)	48 (100%)	0	100	100
82	Se	47/47 (100%)	47 (100%)	0	100	100
83	Sf	60/60 (100%)	60 (100%)	0	100	100
84	Sg	272/272 (100%)	272 (100%)	0	100	100
All	All	10188/10227 (100%)	10184 (100%)	4 (0%)	100	100

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	CD	391	ASP
1	CD	392	VAL
1	CD	394	ASP
1	CD	396	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (77) such sidechains are listed below:

Mol	Chain	Res	Type
6	LA	50	HIS
7	LB	68	ASN
7	LB	354	GLN
8	LC	38	ASN
9	LD	202	GLN
12	LG	90	GLN

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Mol	Chain	Res	Type
12	LG	94	GLN
12	LG	100	HIS
12	LG	141	ASN
13	LH	39	ASN
14	LI	59	GLN
14	LI	73	ASN
15	LJ	65	ASN
16	LL	111	GLN
16	LL	149	GLN
18	LN	201	HIS
19	LO	72	HIS
20	LP	10	ASN
20	LP	133	HIS
20	LP	137	ASN
21	LQ	21	GLN
21	LQ	45	GLN
22	LR	134	ASN
22	LR	143	HIS
23	LS	108	GLN
27	LW	79	GLN
27	LW	104	GLN
27	LW	107	GLN
29	LY	40	GLN
29	LY	61	HIS
29	LY	65	GLN
29	LY	72	GLN
31	La	34	ASN
31	La	89	ASN
32	Lb	11	ASN
32	Lb	27	GLN
32	Lb	58	GLN
34	Ld	100	ASN
35	Le	52	GLN
36	Lf	24	HIS
38	Lh	65	GLN
40	Lj	57	ASN
45	Lo	105	GLN
48	Ls	105	ASN
48	Ls	190	GLN
48	Ls	191	GLN
52	SA	132	GLN
53	SB	76	ASN

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Mol	Chain	Res	Type
53	SB	158	HIS
54	SC	113	GLN
55	SD	101	GLN
55	SD	145	GLN
58	SG	4	ASN
58	SG	105	ASN
58	SG	163	ASN
59	SH	68	GLN
60	SI	9	HIS
61	SJ	156	HIS
63	SL	106	HIS
64	SM	119	GLN
67	SP	79	HIS
68	SQ	77	HIS
71	ST	51	ASN
71	ST	63	HIS
71	ST	85	ASN
72	SU	92	HIS
73	SV	33	GLN
73	SV	35	ASN
75	SX	16	HIS
76	SY	19	GLN
78	Sa	7	ASN
79	Sb	65	GLN
80	Sc	7	GLN
81	Sd	37	ASN
84	Sg	76	GLN
84	Sg	226	HIS
84	Sg	285	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
3	L5	3643/5070 (71%)	706 (19%)	24 (0%)
4	L7	119/120 (99%)	10 (8%)	0
5	L8	155/156 (99%)	24 (15%)	0
50	Pt	72/74 (97%)	16 (22%)	0
51	S2	1715/1740 (98%)	379 (22%)	9 (0%)
All	All	5704/7160 (79%)	1135 (19%)	33 (0%)

All (1135) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	L5	25	A
3	L5	30	C
3	L5	39	A
3	L5	42	A
3	L5	48	G
3	L5	56	A
3	L5	59	A
3	L5	64	A
3	L5	65	A
3	L5	73	A
3	L5	91	G
3	L5	104	G
3	L5	108	A
3	L5	109	G
3	L5	110	C
3	L5	119	G
3	L5	120	A
3	L5	132	G
3	L5	133	C
3	L5	134	G
3	L5	135	G
3	L5	159	C
3	L5	165	A
3	L5	172	C
3	L5	175	C
3	L5	182	G
3	L5	183	C
3	L5	184	U
3	L5	185	C
3	L5	186	G
3	L5	188	G
3	L5	189	G
3	L5	200	U
3	L5	209	U
3	L5	216	C
3	L5	218	A
3	L5	220	C
3	L5	234	G
3	L5	237	G
3	L5	255	C
3	L5	256	G
3	L5	261	G
3	L5	263	G

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Mol	Chain	Res	Type
3	L5	264	C
3	L5	265	C
3	L5	266	C
3	L5	267	G
3	L5	276	C
3	L5	280	G
3	L5	297	U
3	L5	306	A
3	L5	315	G
3	L5	316	U
3	L5	340	C
3	L5	387	G
3	L5	388	A
3	L5	396	A
3	L5	407	A
3	L5	409	G
3	L5	410	A
3	L5	411	G
3	L5	412	G
3	L5	431	G
3	L5	432	U
3	L5	449	C
3	L5	452	A
3	L5	453	G
3	L5	456	C
3	L5	457	G
3	L5	467	U
3	L5	468	U
3	L5	485	C
3	L5	486	C
3	L5	489	C
3	L5	493	G
3	L5	494	U
3	L5	497	G
3	L5	498	C
3	L5	499	G
3	L5	500	G
3	L5	501	C
3	L5	502	C
3	L5	503	C
3	L5	504	G
3	L5	509	A

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Mol	Chain	Res	Type
3	L5	510	U
3	L5	512	U
3	L5	513	U
3	L5	514	U
3	L5	515	C
3	L5	518	G
3	L5	643	C
3	L5	644	G
3	L5	646	G
3	L5	654	C
3	L5	655	C
3	L5	656	C
3	L5	657	C
3	L5	659	G
3	L5	666	G
3	L5	667	A
3	L5	668	C
3	L5	669	C
3	L5	673	C
3	L5	686	A
3	L5	700	G
3	L5	704	C
3	L5	730	G
3	L5	731	G
3	L5	738	C
3	L5	739	G
3	L5	742	G
3	L5	746	A
3	L5	759	G
3	L5	904	C
3	L5	905	C
3	L5	906	C
3	L5	913	U
3	L5	914	U
3	L5	915	A
3	L5	917	A
3	L5	923	C
3	L5	924	C
3	L5	926	G
3	L5	932	A
3	L5	933	G
3	L5	936	C

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Mol	Chain	Res	Type
3	L5	943	A
3	L5	944	A
3	L5	945	U
3	L5	946	C
3	L5	956	A
3	L5	959	G
3	L5	960	A
3	L5	961	G
3	L5	962	C
3	L5	965	G
3	L5	966	A
3	L5	967	C
3	L5	969	C
3	L5	970	G
3	L5	977	C
3	L5	982	U
3	L5	985	C
3	L5	989	U
3	L5	1066	G
3	L5	1070	G
3	L5	1071	C
3	L5	1072	C
3	L5	1075	G
3	L5	1082	C
3	L5	1083	U
3	L5	1095	A
3	L5	1168	G
3	L5	1171	G
3	L5	1172	C
3	L5	1173	G
3	L5	1179	U
3	L5	1180	C
3	L5	1181	C
3	L5	1182	C
3	L5	1183	C
3	L5	1184	A
3	L5	1202	C
3	L5	1203	G
3	L5	1210	C
3	L5	1211	G
3	L5	1214	C
3	L5	1215	C

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Mol	Chain	Res	Type
3	L5	1216	C
3	L5	1218	G
3	L5	1219	G
3	L5	1222	A
3	L5	1235	G
3	L5	1245	C
3	L5	1246	G
3	L5	1253	G
3	L5	1254	A
3	L5	1257	A
3	L5	1258	G
3	L5	1266	G
3	L5	1267	C
3	L5	1269	G
3	L5	1270	A
3	L5	1271	G
3	L5	1272	C
3	L5	1273	G
3	L5	1275	G
3	L5	1280	C
3	L5	1284	G
3	L5	1285	U
3	L5	1287	G
3	L5	1293	G
3	L5	1294	A
3	L5	1295	C
3	L5	1296	G
3	L5	1301	C
3	L5	1326	A2M
3	L5	1337	A
3	L5	1354	A
3	L5	1359	G
3	L5	1365	C
3	L5	1366	G
3	L5	1367	C
3	L5	1387	A
3	L5	1394	G
3	L5	1397	A
3	L5	1398	A
3	L5	1404	G
3	L5	1407	C
3	L5	1409	C

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Mol	Chain	Res	Type
3	L5	1410	U
3	L5	1415	G
3	L5	1417	C
3	L5	1420	A
3	L5	1437	C
3	L5	1439	C
3	L5	1442	C
3	L5	1443	A
3	L5	1444	G
3	L5	1446	C
3	L5	1447	C
3	L5	1482	G
3	L5	1483	C
3	L5	1497	A
3	L5	1498	G
3	L5	1502	G
3	L5	1517	G
3	L5	1534	A2M
3	L5	1535	C
3	L5	1537	A
3	L5	1547	A
3	L5	1564	A
3	L5	1566	C
3	L5	1578	U
3	L5	1591	U
3	L5	1596	U
3	L5	1624	G
3	L5	1625	OMG
3	L5	1631	A
3	L5	1633	G
3	L5	1634	A
3	L5	1638	A
3	L5	1640	C
3	L5	1641	G
3	L5	1642	A
3	L5	1654	G
3	L5	1661	C
3	L5	1676	C
3	L5	1677	PSU
3	L5	1694	C
3	L5	1697	G
3	L5	1699	A

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Mol	Chain	Res	Type
3	L5	1700	G
3	L5	1702	C
3	L5	1704	C
3	L5	1705	G
3	L5	1717	C
3	L5	1718	C
3	L5	1719	A
3	L5	1721	G
3	L5	1731	C
3	L5	1734	G
3	L5	1741	G
3	L5	1742	A
3	L5	1750	G
3	L5	1757	U
3	L5	1758	G
3	L5	1760	G
3	L5	1761	G
3	L5	1762	C
3	L5	1763	C
3	L5	1764	G
3	L5	1765	A
3	L5	1766	A
3	L5	1767	A
3	L5	1768	C
3	L5	1770	A
3	L5	1787	A
3	L5	1804	A
3	L5	1806	G
3	L5	1810	G
3	L5	1820	C
3	L5	1821	G
3	L5	1822	U
3	L5	1834	U
3	L5	1836	G
3	L5	1837	A
3	L5	1842	G
3	L5	1855	G
3	L5	1869	G
3	L5	1882	U
3	L5	1892	A
3	L5	1897	A
3	L5	1918	U

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Mol	Chain	Res	Type
3	L5	1919	G
3	L5	1920	C
3	L5	1921	C
3	L5	1922	G
3	L5	1925	G
3	L5	1931	C
3	L5	1932	A
3	L5	1936	C
3	L5	1940	G
3	L5	1948	G
3	L5	1961	G
3	L5	1962	A
3	L5	1974	U
3	L5	1975	G
3	L5	1978	C
3	L5	1980	U
3	L5	1981	G
3	L5	1982	G
3	L5	1983	A
3	L5	1984	A
3	L5	1985	G
3	L5	1991	A
3	L5	1992	U
3	L5	1993	C
3	L5	1997	U
3	L5	1998	A
3	L5	1999	A
3	L5	2001	G
3	L5	2002	A
3	L5	2011	C
3	L5	2017	A
3	L5	2018	C
3	L5	2024	G
3	L5	2026	A
3	L5	2046	G
3	L5	2048	U
3	L5	2055	G
3	L5	2056	G
3	L5	2069	A
3	L5	2084	C
3	L5	2085	G
3	L5	2092	G

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Mol	Chain	Res	Type
3	L5	2093	A
3	L5	2094	G
3	L5	2095	A
3	L5	2096	G
3	L5	2097	U
3	L5	2098	G
3	L5	2100	A
3	L5	2101	C
3	L5	2102	G
3	L5	2103	G
3	L5	2107	C
3	L5	2108	G
3	L5	2110	C
3	L5	2111	G
3	L5	2112	G
3	L5	2250	C
3	L5	2252	G
3	L5	2253	A
3	L5	2256	C
3	L5	2258	C
3	L5	2269	C
3	L5	2289	C
3	L5	2300	A
3	L5	2301	G
3	L5	2313	A
3	L5	2332	A
3	L5	2333	G
3	L5	2348	G
3	L5	2351	OMC
3	L5	2360	A
3	L5	2364	OMG
3	L5	2395	A
3	L5	2397	G
3	L5	2411	C
3	L5	2412	A
3	L5	2416	G
3	L5	2417	A
3	L5	2425	U
3	L5	2450	G
3	L5	2453	A
3	L5	2464	C
3	L5	2465	C

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Mol	Chain	Res	Type
3	L5	2471	G
3	L5	2474	G
3	L5	2475	G
3	L5	2478	C
3	L5	2479	G
3	L5	2483	G
3	L5	2484	A
3	L5	2485	U
3	L5	2486	G
3	L5	2487	G
3	L5	2488	C
3	L5	2489	C
3	L5	2490	U
3	L5	2494	U
3	L5	2504	C
3	L5	2506	G
3	L5	2513	A
3	L5	2519	U
3	L5	2520	C
3	L5	2529	A
3	L5	2537	A
3	L5	2544	G
3	L5	2546	G
3	L5	2547	G
3	L5	2554	U
3	L5	2555	G
3	L5	2560	C
3	L5	2565	A
3	L5	2573	A
3	L5	2583	C
3	L5	2587	A
3	L5	2589	C
3	L5	2601	A
3	L5	2602	G
3	L5	2618	G
3	L5	2627	C
3	L5	2653	C
3	L5	2662	G
3	L5	2664	G
3	L5	2669	C
3	L5	2676	A
3	L5	2687	U

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Mol	Chain	Res	Type
3	L5	2694	G
3	L5	2695	A
3	L5	2696	A
3	L5	2706	G
3	L5	2707	U
3	L5	2708	U
3	L5	2709	C
3	L5	2710	C
3	L5	2711	G
3	L5	2721	G
3	L5	2724	G
3	L5	2726	G
3	L5	2739	C
3	L5	2742	G
3	L5	2743	A
3	L5	2746	A
3	L5	2761	U
3	L5	2763	U
3	L5	2769	U
3	L5	2770	C
3	L5	2788	U
3	L5	2790	U
3	L5	2826	U
3	L5	2827	G
3	L5	2829	U
3	L5	2838	G
3	L5	2855	G
3	L5	2877	G
3	L5	2894	A
3	L5	2900	U
3	L5	2902	G
3	L5	2903	G
3	L5	2904	U
3	L5	2905	C
3	L5	2906	G
3	L5	2908	U
3	L5	3588	C
3	L5	3590	G
3	L5	3591	C
3	L5	3594	C
3	L5	3595	U
3	L5	3596	A

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Mol	Chain	Res	Type
3	L5	3597	G
3	L5	3599	A
3	L5	3605	C
3	L5	3626	G
3	L5	3630	A
3	L5	3635	A
3	L5	3644	U
3	L5	3646	A
3	L5	3648	A
3	L5	3662	A
3	L5	3664	G
3	L5	3670	C
3	L5	3673	C
3	L5	3674	G
3	L5	3685	C
3	L5	3701	OMC
3	L5	3710	G
3	L5	3711	A
3	L5	3713	U
3	L5	3714	G
3	L5	3727	A
3	L5	3748	A
3	L5	3753	G
3	L5	3760	A
3	L5	3770	U
3	L5	3774	A
3	L5	3775	A
3	L5	3776	G
3	L5	3777	G
3	L5	3785	A2M
3	L5	3786	U
3	L5	3792	OMG
3	L5	3811	G
3	L5	3814	U
3	L5	3817	A
3	L5	3819	G
3	L5	3824	A
3	L5	3838	U
3	L5	3839	G
3	L5	3840	U
3	L5	3867	A2M
3	L5	3877	A

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Mol	Chain	Res	Type
3	L5	3878	C
3	L5	3879	G
3	L5	3885	G
3	L5	3890	A
3	L5	3892	U
3	L5	3897	G
3	L5	3901	A
3	L5	3906	A
3	L5	3907	G
3	L5	3908	A
3	L5	3915	U
3	L5	3923	A
3	L5	3938	G
3	L5	3942	A
3	L5	3943	A
3	L5	3944	G
3	L5	3947	A
3	L5	3949	A
3	L5	3950	U
3	L5	3953	G
3	L5	4057	C
3	L5	4058	U
3	L5	4059	C
3	L5	4060	U
3	L5	4061	G
3	L5	4062	A
3	L5	4064	C
3	L5	4068	U
3	L5	4069	U
3	L5	4076	G
3	L5	4084	G
3	L5	4095	G
3	L5	4097	G
3	L5	4099	G
3	L5	4101	C
3	L5	4104	G
3	L5	4105	A
3	L5	4108	G
3	L5	4111	U
3	L5	4112	C
3	L5	4114	C
3	L5	4115	G

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Mol	Chain	Res	Type
3	L5	4116	C
3	L5	4122	G
3	L5	4127	A
3	L5	4133	C
3	L5	4140	C
3	L5	4141	G
3	L5	4142	C
3	L5	4143	G
3	L5	4144	C
3	L5	4146	G
3	L5	4150	G
3	L5	4163	U
3	L5	4170	A
3	L5	4183	G
3	L5	4184	G
3	L5	4191	G
3	L5	4201	G
3	L5	4203	A
3	L5	4222	G
3	L5	4225	G
3	L5	4229	U
3	L5	4233	A
3	L5	4234	A
3	L5	4251	A
3	L5	4254	G
3	L5	4256	A
3	L5	4257	A
3	L5	4258	C
3	L5	4265	U
3	L5	4268	A
3	L5	4273	A
3	L5	4281	A
3	L5	4291	G
3	L5	4305	G
3	L5	4306	OMU
3	L5	4314	C
3	L5	4319	C
3	L5	4329	G
3	L5	4330	G
3	L5	4332	C
3	L5	4349	C
3	L5	4350	C

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Mol	Chain	Res	Type
3	L5	4354	U
3	L5	4373	G
3	L5	4376	A
3	L5	4377	G
3	L5	4378	A
3	L5	4380	A
3	L5	4387	C
3	L5	4391	G
3	L5	4394	A
3	L5	4421	C
3	L5	4422	A
3	L5	4427	G
3	L5	4438	U
3	L5	4444	C
3	L5	4448	G
3	L5	4449	A
3	L5	4464	A
3	L5	4466	C
3	L5	4488	A
3	L5	4500	PSU
3	L5	4512	U
3	L5	4513	A
3	L5	4519	C
3	L5	4524	G
3	L5	4525	C
3	L5	4545	G
3	L5	4548	A
3	L5	4549	G
3	L5	4557	U
3	L5	4560	C
3	L5	4567	G
3	L5	4573	G
3	L5	4575	G
3	L5	4584	A
3	L5	4589	A
3	L5	4590	A2M
3	L5	4600	G
3	L5	4601	U
3	L5	4617	G
3	L5	4636	PSU
3	L5	4637	OMG
3	L5	4648	A

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Mol	Chain	Res	Type
3	L5	4656	A
3	L5	4670	C
3	L5	4672	A
3	L5	4694	G
3	L5	4695	C
3	L5	4700	A
3	L5	4708	A
3	L5	4709	U
3	L5	4719	G
3	L5	4734	A
3	L5	4740	G
3	L5	4741	C
3	L5	4742	G
3	L5	4745	G
3	L5	4754	G
3	L5	4757	C
3	L5	4759	C
3	L5	4761	G
3	L5	4765	G
3	L5	4771	C
3	L5	4772	C
3	L5	4775	C
3	L5	4859	C
3	L5	4870	G
3	L5	4871	C
3	L5	4875	G
3	L5	4881	U
3	L5	4882	U
3	L5	4883	C
3	L5	4889	G
3	L5	4895	C
3	L5	4896	G
3	L5	4898	G
3	L5	4899	G
3	L5	4900	C
3	L5	4901	G
3	L5	4910	G
3	L5	4912	G
3	L5	4914	C
3	L5	4922	C
3	L5	4925	U
3	L5	4926	C

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Mol	Chain	Res	Type
3	L5	4927	G
3	L5	4928	C
3	L5	4934	A
3	L5	4940	C
3	L5	4941	G
3	L5	4943	A
3	L5	4951	G
3	L5	4960	G
3	L5	4963	G
3	L5	4976	U
3	L5	4985	U
3	L5	4988	U
3	L5	4989	U
3	L5	4991	U
3	L5	4995	U
3	L5	5007	A
3	L5	5013	C
3	L5	5014	A
3	L5	5017	G
3	L5	5020	G
3	L5	5022	U
3	L5	5023	C
3	L5	5024	C
3	L5	5027	C
3	L5	5028	G
3	L5	5030	U
3	L5	5034	A
3	L5	5041	G
3	L5	5050	C
3	L5	5054	C
3	L5	5055	G
3	L5	5061	A
3	L5	5069	U
4	L7	7	G
4	L7	24	C
4	L7	33	U
4	L7	38	U
4	L7	53	U
4	L7	54	A
4	L7	64	G
4	L7	100	A
4	L7	110	G

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Mol	Chain	Res	Type
4	L7	111	C
5	L8	25	G
5	L8	34	U
5	L8	35	C
5	L8	59	A
5	L8	62	A
5	L8	63	U
5	L8	80	A
5	L8	82	A
5	L8	84	A
5	L8	85	U
5	L8	86	U
5	L8	87	G
5	L8	94	G
5	L8	103	A
5	L8	105	C
5	L8	111	U
5	L8	114	G
5	L8	123	U
5	L8	124	U
5	L8	125	C
5	L8	126	C
5	L8	127	U
5	L8	147	G
5	L8	153	C
50	Pt	2	U
50	Pt	9	A
50	Pt	13	U
50	Pt	19	G
50	Pt	20(A)	U
50	Pt	21	A
50	Pt	46	G
50	Pt	47	U
50	Pt	48	C
50	Pt	49	C
50	Pt	58	A
50	Pt	64	G
50	Pt	67	G
50	Pt	70	A
50	Pt	75	C
50	Pt	76	A
51	S2	4	C

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Mol	Chain	Res	Type
51	S2	13	C
51	S2	14	C
51	S2	24	C
51	S2	25	A
51	S2	33	G
51	S2	41	G
51	S2	44	U
51	S2	45	A
51	S2	46	A
51	S2	56	G
51	S2	58	C
51	S2	67	C
51	S2	68	A
51	S2	72	C
51	S2	73	C
51	S2	74	G
51	S2	76	U
51	S2	92	A
51	S2	99	A2M
51	S2	103	A
51	S2	113	G
51	S2	115	U
51	S2	126	G
51	S2	130	G
51	S2	143	U
51	S2	149	A
51	S2	158	A
51	S2	160	U
51	S2	170	A
51	S2	179	C
51	S2	190	G
51	S2	196	C
51	S2	197	U
51	S2	198	U
51	S2	200	G
51	S2	203	G
51	S2	204	G
51	S2	207	G
51	S2	208	G
51	S2	209	A
51	S2	214	U
51	S2	291	G

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Mol	Chain	Res	Type
51	S2	292	A
51	S2	295	C
51	S2	302	A
51	S2	306	C
51	S2	307	G
51	S2	308	G
51	S2	309	G
51	S2	312	G
51	S2	318	A
51	S2	319	C
51	S2	323	C
51	S2	324	C
51	S2	325	C
51	S2	326	C
51	S2	327	G
51	S2	328	U
51	S2	329	G
51	S2	332	G
51	S2	339	A
51	S2	340	C
51	S2	347	G
51	S2	360	A
51	S2	361	U
51	S2	362	C
51	S2	364	A
51	S2	368	U
51	S2	369	C
51	S2	370	G
51	S2	385	G
51	S2	386	C
51	S2	398	A
51	S2	407	G
51	S2	408	A
51	S2	409	C
51	S2	427	U
51	S2	438	G
51	S2	448	A
51	S2	449	A
51	S2	450	C
51	S2	452	G
51	S2	464	A
51	S2	465	A

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Mol	Chain	Res	Type
51	S2	471	G
51	S2	472	C
51	S2	473	A
51	S2	474	G
51	S2	476	A
51	S2	482	G
51	S2	487	U
51	S2	488	U
51	S2	492	C
51	S2	493	A
51	S2	502	C
51	S2	516	A
51	S2	531	A
51	S2	532	C
51	S2	536	A
51	S2	537	C
51	S2	540	U
51	S2	542	U
51	S2	544	G
51	S2	546	G
51	S2	547	G
51	S2	555	A
51	S2	557	U
51	S2	558	G
51	S2	559	G
51	S2	563	G
51	S2	564	A
51	S2	566	U
51	S2	576	A2M
51	S2	581	U
51	S2	587	A
51	S2	589	G
51	S2	590	A
51	S2	591	U
51	S2	592	C
51	S2	593	C
51	S2	594	A
51	S2	604	A
51	S2	614	C
51	S2	617	G
51	S2	623	G
51	S2	627	OMU

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Mol	Chain	Res	Type
51	S2	628	A
51	S2	631	U
51	S2	643	A
51	S2	644	OMG
51	S2	655	A
51	S2	660	C
51	S2	664	A
51	S2	668	A2M
51	S2	669	A
51	S2	671	A
51	S2	672	A
51	S2	673	G
51	S2	688	U
51	S2	689	U
51	S2	692	G
51	S2	693	A
51	S2	695	C
51	S2	696	G
51	S2	697	G
51	S2	698	G
51	S2	732	U
51	S2	733	C
51	S2	736	C
51	S2	737	G
51	S2	738	C
51	S2	749	U
51	S2	751	G
51	S2	752	G
51	S2	753	C
51	S2	788	G
51	S2	791	C
51	S2	792	C
51	S2	798	G
51	S2	799	OMU
51	S2	821	G
51	S2	822	U
51	S2	823	U
51	S2	824	C
51	S2	827	A
51	S2	830	A
51	S2	834	C
51	S2	835	C

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Mol	Chain	Res	Type
51	S2	836	G
51	S2	837	A
51	S2	838	G
51	S2	839	C
51	S2	842	C
51	S2	844	U
51	S2	847	A
51	S2	863	PSU
51	S2	867	OMG
51	S2	870	A
51	S2	874	G
51	S2	877	C
51	S2	878	G
51	S2	880	G
51	S2	888	U
51	S2	889	U
51	S2	891	G
51	S2	894	G
51	S2	896	U
51	S2	897	U
51	S2	898	U
51	S2	899	U
51	S2	900	C
51	S2	901	G
51	S2	903	A
51	S2	913	A
51	S2	920	A
51	S2	922	A
51	S2	933	G
51	S2	934	G
51	S2	963	A
51	S2	970	G
51	S2	971	G
51	S2	972	A
51	S2	990	A
51	S2	992	A
51	S2	997	A
51	S2	999	G
51	S2	1001	A
51	S2	1008	A
51	S2	1017	U
51	S2	1023	A

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Mol	Chain	Res	Type
51	S2	1027	A
51	S2	1033	G
51	S2	1044	G
51	S2	1045	PSU
51	S2	1061	U
51	S2	1062	A
51	S2	1067	C
51	S2	1083	A
51	S2	1085	C
51	S2	1107	G
51	S2	1108	G
51	S2	1109	C
51	S2	1113	A
51	S2	1114	U
51	S2	1116	C
51	S2	1118	C
51	S2	1119	A
51	S2	1121	G
51	S2	1123	C
51	S2	1133	A
51	S2	1138	C
51	S2	1148	A
51	S2	1149	A
51	S2	1153	C
51	S2	1154	U
51	S2	1195	A
51	S2	1207	G
51	S2	1208	A
51	S2	1215	C
51	S2	1216	C
51	S2	1217	A
51	S2	1220	A
51	S2	1224	G
51	S2	1227	G
51	S2	1242	U
51	S2	1243	U
51	S2	1248	B8N
51	S2	1251	A
51	S2	1253	A
51	S2	1256	G
51	S2	1257	G
51	S2	1259	A

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Mol	Chain	Res	Type
51	S2	1269	G
51	S2	1271	C
51	S2	1272	OMC
51	S2	1274	G
51	S2	1275	G
51	S2	1283	C
51	S2	1288	OMU
51	S2	1290	G
51	S2	1293	A
51	S2	1294	G
51	S2	1295	A
51	S2	1301	A
51	S2	1302	G
51	S2	1308	U
51	S2	1342	U
51	S2	1357	A
51	S2	1358	U
51	S2	1371	U
51	S2	1372	U
51	S2	1373	C
51	S2	1376	A
51	S2	1378	A
51	S2	1382	A
51	S2	1401	A
51	S2	1402	A
51	S2	1408	U
51	S2	1413	G
51	S2	1414	A
51	S2	1415	C
51	S2	1417	C
51	S2	1418	C
51	S2	1419	C
51	S2	1420	G
51	S2	1421	A
51	S2	1422	G
51	S2	1423	C
51	S2	1424	G
51	S2	1431	G
51	S2	1433	C
51	S2	1435	C
51	S2	1438	A
51	S2	1439	A

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Mol	Chain	Res	Type
51	S2	1442	OMU
51	S2	1449	G
51	S2	1454	A
51	S2	1463	U
51	S2	1478	U
51	S2	1480	A
51	S2	1489	A
51	S2	1490	OMG
51	S2	1492	U
51	S2	1494	U
51	S2	1495	G
51	S2	1497	G
51	S2	1498	A
51	S2	1521	C
51	S2	1522	A
51	S2	1531	A
51	S2	1533	A
51	S2	1544	C
51	S2	1552	G
51	S2	1556	A
51	S2	1557	C
51	S2	1574	C
51	S2	1578	U
51	S2	1580	A
51	S2	1581	C
51	S2	1582	C
51	S2	1585	U
51	S2	1587	G
51	S2	1588	A
51	S2	1600	G
51	S2	1604	G
51	S2	1621	U
51	S2	1623	A
51	S2	1633	A
51	S2	1634	A
51	S2	1637	A
51	S2	1646	C
51	S2	1648	G
51	S2	1654	G
51	S2	1663	A
51	S2	1665	G
51	S2	1683	C

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Mol	Chain	Res	Type
51	S2	1694	U
51	S2	1695	A
51	S2	1698	C
51	S2	1699	A
51	S2	1703	OMC
51	S2	1712	A
51	S2	1715	A
51	S2	1721	U
51	S2	1722	G
51	S2	1744	G
51	S2	1745	A
51	S2	1752	C
51	S2	1753	C
51	S2	1754	G
51	S2	1755	C
51	S2	1757	G
51	S2	1758	G
51	S2	1759	G
51	S2	1761	U
51	S2	1772	C
51	S2	1773	C
51	S2	1774	C
51	S2	1777	G
51	S2	1782	G
51	S2	1783	C
51	S2	1784	G
51	S2	1786	U
51	S2	1798	C
51	S2	1810	U
51	S2	1825	A
51	S2	1826	G
51	S2	1829	G
51	S2	1831	A
51	S2	1832	6MZ
51	S2	1835	A
51	S2	1838	U
51	S2	1849	G
51	S2	1851	MA6
51	S2	1861	G
51	S2	1862	G
51	S2	1863	A
51	S2	1865	C

All (33) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	L5	406	C
3	L5	493	G
3	L5	914	U
3	L5	1082	C
3	L5	1366	G
3	L5	1590	C
3	L5	1633	G
3	L5	1703	C
3	L5	1977	C
3	L5	2094	G
3	L5	2416	G
3	L5	2485	U
3	L5	2587	A
3	L5	2675	G
3	L5	2709	C
3	L5	2760	G
3	L5	3673	C
3	L5	4061	G
3	L5	4104	G
3	L5	4447	5MC
3	L5	4600	G
3	L5	4699	U
3	L5	4899	G
3	L5	4913	G
51	S2	291	G
51	S2	531	A
51	S2	563	G
51	S2	593	C
51	S2	688	U
51	S2	1418	C
51	S2	1434	C
51	S2	1477	U
51	S2	1556	A

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

178 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	PSU	L5	4293	3	18,21,22	1.15	1 (5%)	21,30,33	1.94	5 (23%)
51	PSU	S2	1045	51	18,21,22	1.11	1 (5%)	21,30,33	1.81	4 (19%)
3	A2M	L5	3825	3	18,25,26	1.28	2 (11%)	20,36,39	2.05	6 (30%)
3	PSU	L5	3844	3	18,21,22	1.18	1 (5%)	21,30,33	1.87	4 (19%)
3	OMC	L5	3841	3	19,22,23	0.49	0	25,31,34	0.60	0
3	PSU	L5	3695	3,88	18,21,22	1.13	1 (5%)	21,30,33	1.87	4 (19%)
3	PSU	L5	1862	3	18,21,22	1.11	1 (5%)	21,30,33	1.87	4 (19%)
3	PSU	L5	1744	3,85	18,21,22	1.13	1 (5%)	21,30,33	1.91	5 (23%)
51	OMU	S2	1442	51	19,22,23	3.40	7 (36%)	25,31,34	1.77	4 (16%)
51	OMC	S2	462	51	19,22,23	0.50	0	25,31,34	0.69	0
51	PSU	S2	109	51	18,21,22	1.15	1 (5%)	21,30,33	1.90	5 (23%)
51	PSU	S2	1177	51	18,21,22	1.12	1 (5%)	21,30,33	1.91	5 (23%)
51	OMC	S2	1272	51	19,22,23	0.56	0	25,31,34	0.91	2 (8%)
51	OMG	S2	644	51	19,26,27	1.12	2 (10%)	21,38,41	0.86	1 (4%)
51	4AC	S2	1337	51	21,24,25	0.38	0	28,34,37	0.56	0
5	PSU	L8	69	5	18,21,22	1.14	1 (5%)	21,30,33	1.89	5 (23%)
3	OMG	L5	4196	3,50	19,26,27	1.13	2 (10%)	21,38,41	0.82	1 (4%)
51	B8N	S2	1248	51	25,29,30	3.27	6 (24%)	28,42,45	1.99	8 (28%)
51	PSU	S2	1046	51	18,21,22	1.13	1 (5%)	21,30,33	1.80	5 (23%)
51	A2M	S2	159	51	18,25,26	1.27	2 (11%)	20,36,39	1.94	5 (25%)
51	OMG	S2	1328	51	19,26,27	1.12	2 (10%)	21,38,41	0.84	1 (4%)
3	A2M	L5	1871	3,85	18,25,26	1.30	2 (11%)	20,36,39	2.09	5 (25%)
51	PSU	S2	681	51	18,21,22	1.10	1 (5%)	21,30,33	1.86	4 (19%)
3	PSU	L5	4457	3	18,21,22	1.12	1 (5%)	21,30,33	1.84	5 (23%)
3	OMG	L5	1625	3,88	19,26,27	1.19	2 (10%)	21,38,41	0.86	1 (4%)
3	OMG	L5	4618	3	19,26,27	1.15	2 (10%)	21,38,41	0.84	1 (4%)
3	PSU	L5	4552	3	18,21,22	1.13	1 (5%)	21,30,33	1.92	5 (23%)
51	PSU	S2	863	51	18,21,22	1.11	1 (5%)	21,30,33	1.80	4 (19%)
51	PSU	S2	1081	51	18,21,22	1.13	1 (5%)	21,30,33	1.75	5 (23%)
3	OMU	L5	3925	3	19,22,23	3.39	7 (36%)	25,31,34	1.81	4 (16%)
3	OMG	L5	4370	3	19,26,27	1.14	2 (10%)	21,38,41	0.84	1 (4%)
3	A2M	L5	2815	3	18,25,26	1.23	1 (5%)	20,36,39	1.76	7 (35%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
51	G7M	S2	1639	50,51	20,26,27	2.48	6 (30%)	16,39,42	1.06	1 (6%)
51	PSU	S2	814	51	18,21,22	1.09	1 (5%)	21,30,33	1.76	4 (19%)
3	OMC	L5	3701	3,88	19,22,23	0.58	0	25,31,34	1.52	4 (16%)
3	PSU	L5	4576	3	18,21,22	1.13	1 (5%)	21,30,33	1.90	5 (23%)
3	OMG	L5	4392	3	19,26,27	1.12	2 (10%)	21,38,41	0.84	1 (4%)
3	PSU	L5	4521	3,88,85	18,21,22	1.15	1 (5%)	21,30,33	1.92	5 (23%)
3	OMC	L5	3808	3	19,22,23	0.52	0	25,31,34	0.79	1 (4%)
3	OMC	L5	3869	3	19,22,23	0.50	0	25,31,34	0.69	0
3	PSU	L5	3637	3,88	18,21,22	1.13	1 (5%)	21,30,33	1.90	5 (23%)
3	PSU	L5	4361	3	18,21,22	1.10	1 (5%)	21,30,33	1.87	4 (19%)
3	OMG	L5	4494	3	19,26,27	1.15	2 (10%)	21,38,41	0.84	1 (4%)
3	OMG	L5	3792	3	19,26,27	1.13	2 (10%)	21,38,41	0.82	1 (4%)
3	OMG	L5	3744	3	19,26,27	1.13	2 (10%)	21,38,41	0.86	1 (4%)
3	OMG	L5	3899	3	19,26,27	1.17	2 (10%)	21,38,41	0.88	1 (4%)
3	A2M	L5	3718	3	18,25,26	1.23	1 (5%)	20,36,39	1.95	5 (25%)
51	OMC	S2	174	51	19,22,23	0.48	0	25,31,34	0.65	0
3	PSU	L5	3853	3,88,85	18,21,22	1.09	1 (5%)	21,30,33	1.78	4 (19%)
3	A2M	L5	3867	3	18,25,26	1.26	1 (5%)	20,36,39	1.86	7 (35%)
3	PSU	L5	3639	3	18,21,22	1.13	1 (5%)	21,30,33	1.93	5 (23%)
3	PSU	L5	4628	3	18,21,22	1.08	1 (5%)	21,30,33	1.86	4 (19%)
51	OMC	S2	517	51	19,22,23	0.49	0	25,31,34	0.70	0
51	PSU	S2	686	51	18,21,22	1.12	1 (5%)	21,30,33	1.84	4 (19%)
51	6MZ	S2	1832	51,85	21,26,26	1.29	1 (4%)	22,39,39	2.61	5 (22%)
51	OMC	S2	1391	51	19,22,23	0.50	0	25,31,34	0.71	0
51	PSU	S2	1244	51	18,21,22	1.11	1 (5%)	21,30,33	1.88	5 (23%)
51	OMU	S2	627	51	19,22,23	3.39	7 (36%)	25,31,34	1.80	5 (20%)
3	OMC	L5	2824	3	19,22,23	0.50	0	25,31,34	0.68	0
51	OMG	S2	683	51	19,26,27	1.15	2 (10%)	21,38,41	0.84	1 (4%)
51	A2M	S2	668	51,85	18,25,26	1.33	3 (16%)	20,36,39	2.04	6 (30%)
51	A2M	S2	166	51	18,25,26	1.29	2 (11%)	20,36,39	1.98	5 (25%)
3	PSU	L5	3851	3	18,21,22	1.11	1 (5%)	21,30,33	1.87	4 (19%)
3	A2M	L5	398	3	18,25,26	1.28	1 (5%)	20,36,39	2.09	5 (25%)
51	PSU	S2	1004	51	18,21,22	1.13	1 (5%)	21,30,33	1.90	5 (23%)
3	OMG	L5	4499	3	19,26,27	1.12	2 (10%)	21,38,41	0.82	1 (4%)
3	OMC	L5	2804	3	19,22,23	0.49	0	25,31,34	0.72	0
3	PSU	L5	2839	3	18,21,22	1.13	1 (5%)	21,30,33	1.93	5 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
51	MA6	S2	1850	51	19,26,27	1.52	3 (15%)	18,38,41	3.15	3 (16%)
51	PSU	S2	105	51	18,21,22	1.14	1 (5%)	21,30,33	1.80	4 (19%)
3	A2M	L5	4590	3	18,25,26	1.25	2 (11%)	20,36,39	2.05	6 (30%)
3	PSU	L5	4500	3	18,21,22	1.16	1 (5%)	21,30,33	1.87	4 (19%)
51	OMG	S2	436	51	19,26,27	1.13	2 (10%)	21,38,41	0.85	1 (4%)
51	OMU	S2	1288	51	19,22,23	3.34	7 (36%)	25,31,34	1.75	5 (20%)
3	PSU	L5	1683	3,88	18,21,22	1.15	1 (5%)	21,30,33	1.84	4 (19%)
51	OMU	S2	799	51	19,22,23	3.44	7 (36%)	25,31,34	1.79	5 (20%)
3	PSU	L5	1782	3	18,21,22	1.12	1 (5%)	21,30,33	1.86	4 (19%)
3	OMU	L5	4498	3,88	19,22,23	3.32	7 (36%)	25,31,34	1.77	5 (20%)
3	PSU	L5	1582	3	18,21,22	1.11	1 (5%)	21,30,33	1.79	4 (19%)
51	OMU	S2	354	51	19,22,23	3.33	7 (36%)	25,31,34	1.78	5 (20%)
3	OMG	L5	4228	3	19,26,27	1.18	2 (10%)	21,38,41	0.95	1 (4%)
3	UR3	L5	4530	3	19,22,23	2.78	7 (36%)	26,32,35	1.57	3 (11%)
3	OMG	L5	1316	3	19,26,27	1.17	2 (10%)	21,38,41	0.88	1 (4%)
3	OMG	L5	2424	3	19,26,27	1.12	2 (10%)	21,38,41	0.81	1 (4%)
3	OMC	L5	2365	3,85	19,22,23	0.49	0	25,31,34	0.59	0
51	A2M	S2	484	51	18,25,26	1.21	1 (5%)	20,36,39	1.81	7 (35%)
3	A2M	L5	2787	3	18,25,26	1.31	2 (11%)	20,36,39	1.85	7 (35%)
51	OMG	S2	1490	51	19,26,27	1.22	2 (10%)	21,38,41	0.72	0
3	PSU	L5	4673	3,85	18,21,22	1.13	1 (5%)	21,30,33	1.88	5 (23%)
3	OMU	L5	4620	3	19,22,23	3.34	7 (36%)	25,31,34	1.66	4 (16%)
3	PSU	L5	3822	3	18,21,22	1.14	1 (5%)	21,30,33	1.89	6 (28%)
3	PSU	L5	3884	3	18,21,22	1.15	1 (5%)	21,30,33	1.92	5 (23%)
3	PSU	L5	4299	3	18,21,22	1.11	1 (5%)	21,30,33	1.87	5 (23%)
3	OMG	L5	1522	3	19,26,27	1.16	2 (10%)	21,38,41	0.89	1 (4%)
3	6MZ	L5	4220	3	21,26,26	1.32	2 (9%)	22,39,39	3.16	9 (40%)
3	OMG	L5	2876	3	19,26,27	1.14	2 (10%)	21,38,41	0.83	1 (4%)
51	PSU	S2	866	51	18,21,22	1.13	1 (5%)	21,30,33	1.92	5 (23%)
51	A2M	S2	27	51	18,25,26	1.29	2 (11%)	20,36,39	1.89	5 (25%)
3	5MC	L5	3782	3,85	19,22,23	0.51	0	26,32,35	0.67	0
3	A2M	L5	400	3	18,25,26	1.30	2 (11%)	20,36,39	1.98	7 (35%)
3	PSU	L5	4973	3	18,21,22	1.12	1 (5%)	21,30,33	1.92	5 (23%)
3	PSU	L5	4579	3	18,21,22	1.11	1 (5%)	21,30,33	1.90	5 (23%)
3	5MC	L5	4447	3,88	19,22,23	0.67	0	26,32,35	0.62	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
51	OMU	S2	172	51	19,22,23	3.40	7 (36%)	25,31,34	1.84	5 (20%)
3	PSU	L5	4636	3	18,21,22	1.14	1 (5%)	21,30,33	2.02	6 (28%)
51	OMC	S2	1703	51	19,22,23	0.50	0	25,31,34	0.51	0
3	PSU	L5	4532	3	18,21,22	1.13	1 (5%)	21,30,33	1.87	4 (19%)
51	4AC	S2	1842	51	21,24,25	0.36	0	28,34,37	0.40	0
3	PSU	L5	4689	3	18,21,22	1.12	1 (5%)	21,30,33	1.99	4 (19%)
51	PSU	S2	649	51	18,21,22	1.13	1 (5%)	21,30,33	1.91	5 (23%)
3	OMC	L5	2351	3	19,22,23	0.53	0	25,31,34	0.88	1 (4%)
51	OMU	S2	116	51	19,22,23	3.33	7 (36%)	25,31,34	1.67	5 (20%)
3	OMG	L5	2364	3,85	19,26,27	1.15	2 (10%)	21,38,41	0.83	1 (4%)
51	OMG	S2	509	51	19,26,27	1.13	2 (10%)	21,38,41	0.85	1 (4%)
3	PSU	L5	5001	3	18,21,22	1.17	1 (5%)	21,30,33	1.79	4 (19%)
3	PSU	L5	4353	3	18,21,22	1.13	1 (5%)	21,30,33	1.93	6 (28%)
51	A2M	S2	1031	51	18,25,26	1.26	2 (11%)	20,36,39	1.97	5 (25%)
3	A2M	L5	1524	3	18,25,26	1.34	3 (16%)	20,36,39	2.24	5 (25%)
3	PSU	L5	4972	3	18,21,22	1.13	1 (5%)	21,30,33	1.89	5 (23%)
51	OMU	S2	428	51	19,22,23	3.33	7 (36%)	25,31,34	1.77	5 (20%)
3	OMU	L5	4227	3	19,22,23	3.39	7 (36%)	25,31,34	1.79	4 (16%)
3	PSU	L5	4442	3	18,21,22	1.14	1 (5%)	21,30,33	1.94	6 (28%)
51	A2M	S2	99	51,85	18,25,26	1.32	2 (11%)	20,36,39	1.90	5 (25%)
3	A2M	L5	4523	3,85	18,25,26	1.33	2 (11%)	20,36,39	2.10	5 (25%)
51	PSU	S2	406	51	18,21,22	1.14	1 (5%)	21,30,33	1.94	5 (23%)
3	OMU	L5	2837	3	19,22,23	3.39	7 (36%)	25,31,34	1.83	5 (20%)
3	OMC	L5	3887	3	19,22,23	0.51	0	25,31,34	0.67	0
51	PSU	S2	93	51	18,21,22	1.13	1 (5%)	21,30,33	1.84	4 (19%)
51	OMU	S2	1326	51	19,22,23	3.36	7 (36%)	25,31,34	1.82	5 (20%)
3	OMG	L5	4637	3,88	19,26,27	1.13	2 (10%)	21,38,41	0.86	1 (4%)
3	PSU	L5	4471	3	18,21,22	1.11	1 (5%)	21,30,33	1.84	4 (19%)
3	A2M	L5	1326	3	18,25,26	1.24	1 (5%)	20,36,39	1.79	7 (35%)
3	UY1	L5	3818	3,88	19,22,23	4.92	10 (52%)	21,31,34	2.01	5 (23%)
51	OMG	S2	867	51	19,26,27	1.14	2 (10%)	21,38,41	0.86	1 (4%)
51	A2M	S2	576	51	18,25,26	1.26	2 (11%)	20,36,39	1.95	5 (25%)
3	A2M	L5	1534	3,85	18,25,26	1.33	2 (11%)	20,36,39	1.89	6 (30%)
3	PSU	L5	1677	3	18,21,22	1.21	2 (11%)	21,30,33	1.99	6 (28%)
3	PSU	L5	1860	3	18,21,22	1.12	1 (5%)	21,30,33	1.83	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
51	PSU	S2	1367	51	18,21,22	1.13	1 (5%)	21,30,33	1.88	5 (23%)
3	OMU	L5	4306	3	19,22,23	3.32	7 (36%)	25,31,34	1.79	4 (16%)
3	A2M	L5	4571	3	18,25,26	1.30	2 (11%)	20,36,39	2.02	7 (35%)
51	PSU	S2	1232	51	18,21,22	1.15	1 (5%)	21,30,33	1.91	5 (23%)
3	PSU	L5	5010	3	18,21,22	1.14	1 (5%)	21,30,33	1.88	5 (23%)
51	PSU	S2	966	51,85	18,21,22	1.12	1 (5%)	21,30,33	1.84	4 (19%)
3	OMG	L5	3627	3	19,26,27	1.14	2 (10%)	21,38,41	0.87	1 (4%)
51	PSU	S2	801	51	18,21,22	1.11	1 (5%)	21,30,33	1.85	4 (19%)
51	A2M	S2	468	51	18,25,26	1.29	2 (11%)	20,36,39	2.07	6 (30%)
51	PSU	S2	1056	51	18,21,22	1.14	1 (5%)	21,30,33	1.93	6 (28%)
51	PSU	S2	1174	51	18,21,22	1.13	1 (5%)	21,30,33	1.88	4 (19%)
3	PSU	L5	2632	3	18,21,22	1.11	1 (5%)	21,30,33	1.87	4 (19%)
3	PSU	L5	4296	3	18,21,22	1.12	1 (5%)	21,30,33	1.90	5 (23%)
5	OMG	L8	75	5	19,26,27	1.11	2 (10%)	21,38,41	0.84	1 (4%)
51	OMU	S2	121	51	19,22,23	3.33	7 (36%)	25,31,34	1.67	5 (20%)
3	PSU	L5	4493	3,88	18,21,22	1.12	1 (5%)	21,30,33	1.90	5 (23%)
3	PSU	L5	4403	3,88	18,21,22	1.13	1 (5%)	21,30,33	1.96	6 (28%)
5	PSU	L8	55	5	18,21,22	1.14	1 (5%)	21,30,33	1.84	4 (19%)
3	OMC	L5	4456	3	19,22,23	0.55	0	25,31,34	0.63	0
3	OMC	L5	4536	3	19,22,23	0.53	0	25,31,34	0.70	0
51	OMG	S2	601	51	19,26,27	1.11	2 (10%)	21,38,41	0.84	1 (4%)
51	MA6	S2	1851	51	19,26,27	1.48	3 (15%)	18,38,41	3.26	3 (16%)
3	A2M	L5	3830	3	18,25,26	1.29	2 (11%)	20,36,39	2.18	5 (25%)
3	PSU	L5	1781	3	18,21,22	1.09	1 (5%)	21,30,33	1.84	4 (19%)
3	A2M	L5	1323	3	18,25,26	1.29	1 (5%)	20,36,39	1.84	7 (35%)
3	PSU	L5	1536	3	18,21,22	1.12	1 (5%)	21,30,33	1.91	4 (19%)
3	A2M	L5	2401	3	18,25,26	1.29	2 (11%)	20,36,39	2.09	6 (30%)
3	1MA	L5	1322	3,85	17,25,26	0.93	2 (11%)	17,37,40	1.12	2 (11%)
51	PSU	S2	651	51	18,21,22	1.12	1 (5%)	21,30,33	1.89	5 (23%)
3	PSU	L5	4312	3	18,21,22	1.14	1 (5%)	21,30,33	1.90	5 (23%)
3	OMC	L5	2422	3,85	19,22,23	0.50	0	25,31,34	0.64	0
3	OMC	L5	1340	3	19,22,23	0.52	0	25,31,34	0.76	0
3	A2M	L5	3785	3,85	18,25,26	1.25	2 (11%)	20,36,39	2.49	7 (35%)
3	A2M	L5	2363	3,85	18,25,26	1.23	2 (11%)	20,36,39	1.88	7 (35%)
3	OMC	L5	2861	3	19,22,23	0.51	0	25,31,34	0.82	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	PSU	L5	1792	3	18,21,22	1.10	1 (5%)	21,30,33	1.88	4 (19%)
3	OMG	L5	4623	3	19,26,27	1.16	2 (10%)	21,38,41	0.92	1 (4%)
51	A2M	S2	1383	51	18,25,26	1.28	2 (11%)	20,36,39	2.14	6 (30%)
3	PSU	L5	3920	3,85	18,21,22	1.12	1 (5%)	21,30,33	1.91	5 (23%)
3	PSU	L5	4431	3	18,21,22	1.13	1 (5%)	21,30,33	1.90	5 (23%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PSU	L5	4293	3	-	0/7/25/26	0/2/2/2
51	PSU	S2	1045	51	-	0/7/25/26	0/2/2/2
3	A2M	L5	3825	3	-	0/5/27/28	0/3/3/3
3	PSU	L5	3844	3	-	1/7/25/26	0/2/2/2
3	OMC	L5	3841	3	-	1/9/27/28	0/2/2/2
3	PSU	L5	3695	3,88	-	0/7/25/26	0/2/2/2
3	PSU	L5	1862	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	1744	3,85	-	0/7/25/26	0/2/2/2
51	OMU	S2	1442	51	-	2/9/27/28	0/2/2/2
51	OMC	S2	462	51	-	0/9/27/28	0/2/2/2
51	PSU	S2	109	51	-	0/7/25/26	0/2/2/2
51	PSU	S2	1177	51	-	0/7/25/26	0/2/2/2
51	OMC	S2	1272	51	-	4/9/27/28	0/2/2/2
51	OMG	S2	644	51	-	4/5/27/28	0/3/3/3
51	4AC	S2	1337	51	-	1/11/29/30	0/2/2/2
5	PSU	L8	69	5	-	0/7/25/26	0/2/2/2
3	OMG	L5	4196	3,50	-	1/5/27/28	0/3/3/3
51	B8N	S2	1248	51	-	4/16/34/35	0/2/2/2
51	PSU	S2	1046	51	-	0/7/25/26	0/2/2/2
51	A2M	S2	159	51	-	1/5/27/28	0/3/3/3
51	OMG	S2	1328	51	-	1/5/27/28	0/3/3/3
3	A2M	L5	1871	3,85	-	0/5/27/28	0/3/3/3
51	PSU	S2	681	51	-	0/7/25/26	0/2/2/2
3	PSU	L5	4457	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	1625	3,88	-	2/5/27/28	0/3/3/3
3	OMG	L5	4618	3	-	2/5/27/28	0/3/3/3
3	PSU	L5	4552	3	-	0/7/25/26	0/2/2/2
51	PSU	S2	863	51	-	2/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
51	PSU	S2	1081	51	-	1/7/25/26	0/2/2/2
3	OMU	L5	3925	3	-	0/9/27/28	0/2/2/2
3	OMG	L5	4370	3	-	0/5/27/28	0/3/3/3
3	A2M	L5	2815	3	-	1/5/27/28	0/3/3/3
51	G7M	S2	1639	50,51	-	2/3/25/26	0/3/3/3
51	PSU	S2	814	51	-	0/7/25/26	0/2/2/2
3	OMC	L5	3701	3,88	-	6/9/27/28	0/2/2/2
3	PSU	L5	4576	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4392	3	-	0/5/27/28	0/3/3/3
3	PSU	L5	4521	3,88,85	-	0/7/25/26	0/2/2/2
3	OMC	L5	3808	3	-	0/9/27/28	0/2/2/2
3	OMC	L5	3869	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	3637	3,88	-	0/7/25/26	0/2/2/2
3	PSU	L5	4361	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4494	3	-	0/5/27/28	0/3/3/3
3	OMG	L5	3792	3	-	2/5/27/28	0/3/3/3
3	OMG	L5	3744	3	-	0/5/27/28	0/3/3/3
3	OMG	L5	3899	3	-	2/5/27/28	0/3/3/3
3	A2M	L5	3718	3	-	0/5/27/28	0/3/3/3
51	OMC	S2	174	51	-	0/9/27/28	0/2/2/2
3	PSU	L5	3853	3,88,85	-	0/7/25/26	0/2/2/2
3	A2M	L5	3867	3	-	3/5/27/28	0/3/3/3
3	PSU	L5	3639	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4628	3	-	0/7/25/26	0/2/2/2
51	OMC	S2	517	51	-	0/9/27/28	0/2/2/2
51	PSU	S2	686	51	-	0/7/25/26	0/2/2/2
51	6MZ	S2	1832	51,85	-	5/8/28/28	0/3/3/3
51	OMC	S2	1391	51	-	1/9/27/28	0/2/2/2
51	PSU	S2	1244	51	-	0/7/25/26	0/2/2/2
51	OMU	S2	627	51	-	6/9/27/28	0/2/2/2
3	OMC	L5	2824	3	-	1/9/27/28	0/2/2/2
51	OMG	S2	683	51	-	0/5/27/28	0/3/3/3
51	A2M	S2	668	51,85	-	2/5/27/28	0/3/3/3
51	A2M	S2	166	51	-	0/5/27/28	0/3/3/3
3	PSU	L5	3851	3	-	1/7/25/26	0/2/2/2
3	A2M	L5	398	3	-	0/5/27/28	0/3/3/3
51	PSU	S2	1004	51	-	0/7/25/26	0/2/2/2
3	OMG	L5	4499	3	-	0/5/27/28	0/3/3/3
3	OMC	L5	2804	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	2839	3	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
51	MA6	S2	1850	51	-	1/7/29/30	0/3/3/3
51	PSU	S2	105	51	-	0/7/25/26	0/2/2/2
3	A2M	L5	4590	3	-	3/5/27/28	0/3/3/3
3	PSU	L5	4500	3	-	4/7/25/26	0/2/2/2
51	OMG	S2	436	51	-	0/5/27/28	0/3/3/3
51	OMU	S2	1288	51	-	2/9/27/28	0/2/2/2
3	PSU	L5	1683	3,88	-	0/7/25/26	0/2/2/2
51	OMU	S2	799	51	-	0/9/27/28	0/2/2/2
3	PSU	L5	1782	3	-	0/7/25/26	0/2/2/2
3	OMU	L5	4498	3,88	-	0/9/27/28	0/2/2/2
3	PSU	L5	1582	3	-	0/7/25/26	0/2/2/2
51	OMU	S2	354	51	-	1/9/27/28	0/2/2/2
3	OMG	L5	4228	3	-	0/5/27/28	0/3/3/3
3	UR3	L5	4530	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	1316	3	-	0/5/27/28	0/3/3/3
3	OMG	L5	2424	3	-	1/5/27/28	0/3/3/3
3	OMC	L5	2365	3,85	-	0/9/27/28	0/2/2/2
51	A2M	S2	484	51	-	0/5/27/28	0/3/3/3
3	A2M	L5	2787	3	-	2/5/27/28	0/3/3/3
51	OMG	S2	1490	51	-	2/5/27/28	0/3/3/3
3	PSU	L5	4673	3,85	-	0/7/25/26	0/2/2/2
3	OMU	L5	4620	3	-	1/9/27/28	0/2/2/2
3	PSU	L5	3822	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	3884	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4299	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	1522	3	-	0/5/27/28	0/3/3/3
3	6MZ	L5	4220	3	-	1/8/28/28	0/3/3/3
3	OMG	L5	2876	3	-	0/5/27/28	0/3/3/3
51	PSU	S2	866	51	-	0/7/25/26	0/2/2/2
51	A2M	S2	27	51	-	1/5/27/28	0/3/3/3
3	5MC	L5	3782	3,85	-	0/7/25/26	0/2/2/2
3	A2M	L5	400	3	-	1/5/27/28	0/3/3/3
3	PSU	L5	4973	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4579	3	-	0/7/25/26	0/2/2/2
3	5MC	L5	4447	3,88	-	4/7/25/26	0/2/2/2
51	OMU	S2	172	51	-	0/9/27/28	0/2/2/2
3	PSU	L5	4636	3	-	2/7/25/26	0/2/2/2
51	OMC	S2	1703	51	-	2/9/27/28	0/2/2/2
3	PSU	L5	4532	3	-	0/7/25/26	0/2/2/2
51	4AC	S2	1842	51	-	0/11/29/30	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PSU	L5	4689	3	-	0/7/25/26	0/2/2/2
51	PSU	S2	649	51	-	0/7/25/26	0/2/2/2
3	OMC	L5	2351	3	-	3/9/27/28	0/2/2/2
51	OMU	S2	116	51	-	1/9/27/28	0/2/2/2
3	OMG	L5	2364	3,85	-	3/5/27/28	0/3/3/3
51	OMG	S2	509	51	-	0/5/27/28	0/3/3/3
3	PSU	L5	5001	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4353	3	-	0/7/25/26	0/2/2/2
51	A2M	S2	1031	51	-	0/5/27/28	0/3/3/3
3	A2M	L5	1524	3	-	2/5/27/28	0/3/3/3
3	PSU	L5	4972	3	-	0/7/25/26	0/2/2/2
51	OMU	S2	428	51	-	4/9/27/28	0/2/2/2
3	OMU	L5	4227	3	-	0/9/27/28	0/2/2/2
3	PSU	L5	4442	3	-	0/7/25/26	0/2/2/2
51	A2M	S2	99	51,85	-	1/5/27/28	0/3/3/3
3	A2M	L5	4523	3,85	-	0/5/27/28	0/3/3/3
51	PSU	S2	406	51	-	0/7/25/26	0/2/2/2
3	OMU	L5	2837	3	-	0/9/27/28	0/2/2/2
3	OMC	L5	3887	3	-	1/9/27/28	0/2/2/2
51	PSU	S2	93	51	-	0/7/25/26	0/2/2/2
51	OMU	S2	1326	51	-	0/9/27/28	0/2/2/2
3	OMG	L5	4637	3,88	-	2/5/27/28	0/3/3/3
3	PSU	L5	4471	3	-	0/7/25/26	0/2/2/2
3	A2M	L5	1326	3	-	3/5/27/28	0/3/3/3
3	UY1	L5	3818	3,88	-	3/9/27/28	0/2/2/2
51	OMG	S2	867	51	-	3/5/27/28	0/3/3/3
51	A2M	S2	576	51	-	3/5/27/28	0/3/3/3
3	A2M	L5	1534	3,85	-	1/5/27/28	0/3/3/3
3	PSU	L5	1677	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	1860	3	-	0/7/25/26	0/2/2/2
51	PSU	S2	1367	51	-	0/7/25/26	0/2/2/2
3	OMU	L5	4306	3	-	0/9/27/28	0/2/2/2
3	A2M	L5	4571	3	-	0/5/27/28	0/3/3/3
51	PSU	S2	1232	51	-	0/7/25/26	0/2/2/2
3	PSU	L5	5010	3	-	0/7/25/26	0/2/2/2
51	PSU	S2	966	51,85	-	0/7/25/26	0/2/2/2
3	OMG	L5	3627	3	-	1/5/27/28	0/3/3/3
51	PSU	S2	801	51	-	1/7/25/26	0/2/2/2
51	A2M	S2	468	51	-	1/5/27/28	0/3/3/3
51	PSU	S2	1056	51	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
51	PSU	S2	1174	51	-	0/7/25/26	0/2/2/2
3	PSU	L5	2632	3	-	0/7/25/26	0/2/2/2
3	PSU	L5	4296	3	-	1/7/25/26	0/2/2/2
5	OMG	L8	75	5	-	1/5/27/28	0/3/3/3
51	OMU	S2	121	51	-	0/9/27/28	0/2/2/2
3	PSU	L5	4493	3,88	-	0/7/25/26	0/2/2/2
3	PSU	L5	4403	3,88	-	0/7/25/26	0/2/2/2
5	PSU	L8	55	5	-	0/7/25/26	0/2/2/2
3	OMC	L5	4456	3	-	0/9/27/28	0/2/2/2
3	OMC	L5	4536	3	-	0/9/27/28	0/2/2/2
51	OMG	S2	601	51	-	1/5/27/28	0/3/3/3
51	MA6	S2	1851	51	-	2/7/29/30	0/3/3/3
3	A2M	L5	3830	3	-	0/5/27/28	0/3/3/3
3	PSU	L5	1781	3	-	1/7/25/26	0/2/2/2
3	A2M	L5	1323	3	-	1/5/27/28	0/3/3/3
3	PSU	L5	1536	3	-	2/7/25/26	0/2/2/2
3	A2M	L5	2401	3	-	0/5/27/28	0/3/3/3
3	1MA	L5	1322	3,85	-	0/3/25/26	0/3/3/3
51	PSU	S2	651	51	-	0/7/25/26	0/2/2/2
3	PSU	L5	4312	3	-	0/7/25/26	0/2/2/2
3	OMC	L5	2422	3,85	-	2/9/27/28	0/2/2/2
3	OMC	L5	1340	3	-	1/9/27/28	0/2/2/2
3	A2M	L5	3785	3,85	-	0/5/27/28	0/3/3/3
3	A2M	L5	2363	3,85	-	0/5/27/28	0/3/3/3
3	OMC	L5	2861	3	-	1/9/27/28	0/2/2/2
3	PSU	L5	1792	3	-	0/7/25/26	0/2/2/2
3	OMG	L5	4623	3	-	0/5/27/28	0/3/3/3
51	A2M	S2	1383	51	-	3/5/27/28	0/3/3/3
3	PSU	L5	3920	3,85	-	0/7/25/26	0/2/2/2
3	PSU	L5	4431	3	-	0/7/25/26	0/2/2/2

All (334) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	3818	UY1	C6-C5	12.88	1.49	1.35
3	L5	3818	UY1	C2-N1	11.74	1.52	1.36
51	S2	799	OMU	C2-N1	8.65	1.52	1.38
3	L5	3925	OMU	C2-N1	8.42	1.51	1.38
51	S2	1442	OMU	C2-N1	8.40	1.51	1.38
3	L5	2837	OMU	C2-N1	8.34	1.51	1.38
3	L5	4227	OMU	C2-N1	8.33	1.51	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	S2	172	OMU	C2-N1	8.33	1.51	1.38
51	S2	627	OMU	C2-N1	8.28	1.51	1.38
51	S2	1326	OMU	C2-N1	8.20	1.51	1.38
3	L5	4620	OMU	C2-N1	8.11	1.51	1.38
3	L5	4306	OMU	C2-N1	8.11	1.51	1.38
51	S2	1288	OMU	C2-N1	8.11	1.51	1.38
51	S2	116	OMU	C2-N1	8.10	1.51	1.38
51	S2	121	OMU	C2-N1	8.06	1.51	1.38
51	S2	354	OMU	C2-N1	8.05	1.51	1.38
3	L5	4498	OMU	C2-N1	8.04	1.51	1.38
51	S2	428	OMU	C2-N1	7.98	1.51	1.38
51	S2	1248	B8N	C6-N1	7.92	1.55	1.36
3	L5	3818	UY1	C2-N3	7.84	1.50	1.37
51	S2	1248	B8N	C4-N3	-7.70	1.26	1.40
51	S2	1248	B8N	C4-C5	7.12	1.63	1.47
51	S2	799	OMU	C2-N3	7.03	1.50	1.38
51	S2	172	OMU	C2-N3	6.99	1.50	1.38
51	S2	1442	OMU	C2-N3	6.98	1.50	1.38
51	S2	627	OMU	C2-N3	6.97	1.50	1.38
3	L5	4227	OMU	C2-N3	6.94	1.50	1.38
3	L5	2837	OMU	C2-N3	6.92	1.50	1.38
51	S2	116	OMU	C2-N3	6.91	1.50	1.38
51	S2	1288	OMU	C2-N3	6.90	1.50	1.38
51	S2	1326	OMU	C2-N3	6.90	1.50	1.38
3	L5	3925	OMU	C2-N3	6.86	1.49	1.38
3	L5	4620	OMU	C2-N3	6.83	1.49	1.38
51	S2	428	OMU	C2-N3	6.83	1.49	1.38
51	S2	121	OMU	C2-N3	6.83	1.49	1.38
51	S2	354	OMU	C2-N3	6.80	1.49	1.38
3	L5	4498	OMU	C2-N3	6.75	1.49	1.38
3	L5	4306	OMU	C2-N3	6.70	1.49	1.38
3	L5	4530	UR3	C2-N1	6.60	1.47	1.38
3	L5	4530	UR3	C6-C5	6.28	1.49	1.35
3	L5	4530	UR3	C2-N3	5.93	1.50	1.39
51	S2	1248	B8N	C2-N1	5.93	1.56	1.39
51	S2	799	OMU	C6-C5	5.92	1.48	1.35
51	S2	172	OMU	C6-C5	5.92	1.48	1.35
51	S2	627	OMU	C6-C5	5.90	1.48	1.35
3	L5	2837	OMU	C6-C5	5.90	1.48	1.35
3	L5	4227	OMU	C6-C5	5.89	1.48	1.35
51	S2	1326	OMU	C6-C5	5.87	1.48	1.35
3	L5	3925	OMU	C6-C5	5.86	1.48	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	S2	428	OMU	C6-C5	5.85	1.48	1.35
51	S2	121	OMU	C6-C5	5.85	1.48	1.35
3	L5	4498	OMU	C6-C5	5.83	1.48	1.35
51	S2	1288	OMU	C6-C5	5.83	1.48	1.35
51	S2	1442	OMU	C6-C5	5.82	1.48	1.35
3	L5	4620	OMU	C6-C5	5.82	1.48	1.35
51	S2	354	OMU	C6-C5	5.80	1.48	1.35
3	L5	4306	OMU	C6-C5	5.76	1.48	1.35
51	S2	116	OMU	C6-C5	5.70	1.48	1.35
3	L5	4620	OMU	O4-C4	-5.51	1.13	1.24
51	S2	121	OMU	O4-C4	-5.46	1.13	1.24
51	S2	1639	G7M	C2-N3	5.46	1.46	1.33
51	S2	428	OMU	O4-C4	-5.46	1.13	1.24
3	L5	2837	OMU	O4-C4	-5.45	1.13	1.24
51	S2	1248	B8N	C6-C5	5.45	1.42	1.35
3	L5	4306	OMU	O4-C4	-5.45	1.13	1.24
51	S2	354	OMU	O4-C4	-5.44	1.13	1.24
51	S2	172	OMU	O4-C4	-5.43	1.13	1.24
51	S2	799	OMU	O4-C4	-5.43	1.13	1.24
51	S2	1442	OMU	O4-C4	-5.42	1.13	1.24
3	L5	4227	OMU	O4-C4	-5.42	1.13	1.24
3	L5	3925	OMU	O4-C4	-5.42	1.13	1.24
51	S2	627	OMU	O4-C4	-5.41	1.14	1.24
51	S2	1326	OMU	O4-C4	-5.40	1.14	1.24
51	S2	116	OMU	O4-C4	-5.40	1.14	1.24
3	L5	4498	OMU	O4-C4	-5.40	1.14	1.24
3	L5	3818	UY1	C6-N1	5.39	1.45	1.36
51	S2	1288	OMU	O4-C4	-5.37	1.14	1.24
51	S2	1639	G7M	C4-N3	5.11	1.49	1.37
51	S2	1639	G7M	C2-N2	4.96	1.45	1.34
51	S2	627	OMU	C4-N3	4.57	1.46	1.38
51	S2	172	OMU	C4-N3	4.51	1.46	1.38
51	S2	1442	OMU	C4-N3	4.51	1.46	1.38
3	L5	3818	UY1	C4-N3	4.48	1.47	1.38
51	S2	116	OMU	C4-N3	4.44	1.46	1.38
51	S2	428	OMU	C4-N3	4.44	1.46	1.38
51	S2	1326	OMU	C4-N3	4.43	1.46	1.38
51	S2	354	OMU	C4-N3	4.40	1.46	1.38
3	L5	4227	OMU	C4-N3	4.40	1.46	1.38
51	S2	799	OMU	C4-N3	4.39	1.46	1.38
3	L5	4498	OMU	C4-N3	4.39	1.46	1.38
51	S2	1288	OMU	C4-N3	4.37	1.46	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	2837	OMU	C4-N3	4.36	1.46	1.38
3	L5	4306	OMU	C4-N3	4.36	1.46	1.38
3	L5	3925	OMU	C4-N3	4.34	1.46	1.38
3	L5	4620	OMU	C4-N3	4.29	1.46	1.38
51	S2	121	OMU	C4-N3	4.25	1.45	1.38
3	L5	4220	6MZ	C6-C5	-4.09	1.38	1.44
3	L5	3844	PSU	C6-C5	3.98	1.39	1.35
3	L5	5001	PSU	C6-C5	3.95	1.39	1.35
51	S2	1832	6MZ	C6-C5	-3.92	1.38	1.44
3	L5	1683	PSU	C6-C5	3.87	1.39	1.35
51	S2	1850	MA6	C6-C5	-3.86	1.38	1.44
5	L8	55	PSU	C6-C5	3.84	1.39	1.35
51	S2	966	PSU	C6-C5	3.83	1.39	1.35
51	S2	105	PSU	C6-C5	3.82	1.39	1.35
51	S2	1081	PSU	C6-C5	3.82	1.39	1.35
51	S2	863	PSU	C6-C5	3.82	1.39	1.35
3	L5	4293	PSU	C6-C5	3.81	1.39	1.35
3	L5	4972	PSU	C6-C5	3.80	1.39	1.35
3	L5	3695	PSU	C6-C5	3.80	1.39	1.35
3	L5	3637	PSU	C6-C5	3.80	1.39	1.35
3	L5	4521	PSU	C6-C5	3.79	1.39	1.35
3	L5	4312	PSU	C6-C5	3.78	1.39	1.35
51	S2	93	PSU	C6-C5	3.78	1.39	1.35
51	S2	1232	PSU	C6-C5	3.77	1.39	1.35
3	L5	1744	PSU	C6-C5	3.77	1.39	1.35
51	S2	109	PSU	C6-C5	3.77	1.39	1.35
51	S2	1056	PSU	C6-C5	3.77	1.39	1.35
51	S2	1004	PSU	C6-C5	3.77	1.39	1.35
51	S2	1851	MA6	C6-C5	-3.77	1.39	1.44
3	L5	4576	PSU	C6-C5	3.76	1.39	1.35
3	L5	4296	PSU	C6-C5	3.76	1.39	1.35
3	L5	4500	PSU	C6-C5	3.76	1.39	1.35
51	S2	1639	G7M	C6-N1	3.76	1.43	1.37
3	L5	4532	PSU	C6-C5	3.75	1.39	1.35
3	L5	4431	PSU	C6-C5	3.75	1.39	1.35
3	L5	1782	PSU	C6-C5	3.75	1.39	1.35
51	S2	686	PSU	C6-C5	3.75	1.39	1.35
51	S2	1045	PSU	C6-C5	3.74	1.39	1.35
51	S2	814	PSU	C6-C5	3.74	1.39	1.35
3	L5	4552	PSU	C6-C5	3.74	1.39	1.35
3	L5	5010	PSU	C6-C5	3.74	1.39	1.35
3	L5	3884	PSU	C6-C5	3.73	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	S2	406	PSU	C6-C5	3.73	1.39	1.35
51	S2	1046	PSU	C6-C5	3.73	1.39	1.35
51	S2	1367	PSU	C6-C5	3.73	1.39	1.35
51	S2	1177	PSU	C6-C5	3.72	1.39	1.35
3	L5	1862	PSU	C6-C5	3.72	1.39	1.35
3	L5	3920	PSU	C6-C5	3.72	1.39	1.35
3	L5	1536	PSU	C6-C5	3.72	1.39	1.35
3	L5	2632	PSU	C6-C5	3.72	1.39	1.35
51	S2	1174	PSU	C6-C5	3.72	1.39	1.35
3	L5	1860	PSU	C6-C5	3.71	1.39	1.35
3	L5	2839	PSU	C6-C5	3.71	1.39	1.35
51	S2	866	PSU	C6-C5	3.71	1.39	1.35
51	S2	651	PSU	C6-C5	3.71	1.39	1.35
3	L5	4493	PSU	C6-C5	3.71	1.39	1.35
3	L5	4471	PSU	C6-C5	3.70	1.39	1.35
51	S2	801	PSU	C6-C5	3.70	1.39	1.35
3	L5	3851	PSU	C6-C5	3.70	1.39	1.35
3	L5	3853	PSU	C6-C5	3.70	1.39	1.35
3	L5	1792	PSU	C6-C5	3.70	1.39	1.35
3	L5	4457	PSU	C6-C5	3.70	1.39	1.35
51	S2	649	PSU	C6-C5	3.70	1.39	1.35
3	L5	1582	PSU	C6-C5	3.69	1.39	1.35
3	L5	3822	PSU	C6-C5	3.69	1.39	1.35
3	L5	4353	PSU	C6-C5	3.69	1.39	1.35
3	L5	1781	PSU	C6-C5	3.69	1.39	1.35
3	L5	4579	PSU	C6-C5	3.69	1.39	1.35
51	S2	1244	PSU	C6-C5	3.68	1.39	1.35
3	L5	4299	PSU	C6-C5	3.67	1.39	1.35
5	L8	69	PSU	C6-C5	3.67	1.39	1.35
3	L5	4689	PSU	C6-C5	3.67	1.39	1.35
3	L5	4673	PSU	C6-C5	3.66	1.39	1.35
3	L5	4442	PSU	C6-C5	3.66	1.39	1.35
3	L5	4403	PSU	C6-C5	3.66	1.39	1.35
3	L5	4636	PSU	C6-C5	3.66	1.39	1.35
3	L5	3639	PSU	C6-C5	3.65	1.39	1.35
51	S2	1248	B8N	C1'-C5	3.64	1.58	1.50
51	S2	681	PSU	C6-C5	3.63	1.39	1.35
3	L5	4973	PSU	C6-C5	3.62	1.39	1.35
3	L5	4361	PSU	C6-C5	3.58	1.39	1.35
3	L5	3818	UY1	O4-C4	-3.53	1.16	1.23
3	L5	4628	PSU	C6-C5	3.53	1.39	1.35
3	L5	2401	A2M	O5'-C5'	-3.47	1.34	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	1677	PSU	C6-C5	3.47	1.39	1.35
51	S2	99	A2M	O5'-C5'	-3.44	1.34	1.44
51	S2	1851	MA6	C6-N6	3.42	1.45	1.37
51	S2	668	A2M	O5'-C5'	-3.40	1.34	1.44
51	S2	1850	MA6	C6-N6	3.40	1.45	1.37
51	S2	576	A2M	O5'-C5'	-3.40	1.34	1.44
51	S2	1639	G7M	C5-C6	3.35	1.54	1.45
3	L5	3825	A2M	O5'-C5'	-3.33	1.34	1.44
3	L5	1524	A2M	O5'-C5'	-3.33	1.34	1.44
3	L5	3785	A2M	O5'-C5'	-3.32	1.34	1.44
3	L5	400	A2M	O5'-C5'	-3.32	1.34	1.44
3	L5	2787	A2M	O5'-C5'	-3.31	1.34	1.44
3	L5	2815	A2M	O5'-C5'	-3.31	1.34	1.44
3	L5	1323	A2M	O5'-C5'	-3.30	1.34	1.44
3	L5	3830	A2M	O5'-C5'	-3.30	1.34	1.44
3	L5	3867	A2M	O5'-C5'	-3.30	1.34	1.44
51	S2	166	A2M	O5'-C5'	-3.27	1.34	1.44
3	L5	3718	A2M	O5'-C5'	-3.27	1.34	1.44
51	S2	1383	A2M	O5'-C5'	-3.27	1.34	1.44
3	L5	3818	UY1	C1'-C5	3.26	1.57	1.50
3	L5	4571	A2M	O5'-C5'	-3.26	1.34	1.44
3	L5	1871	A2M	O5'-C5'	-3.26	1.34	1.44
51	S2	1031	A2M	O5'-C5'	-3.25	1.34	1.44
3	L5	398	A2M	O5'-C5'	-3.25	1.34	1.44
3	L5	3818	UY1	O2-C2	-3.25	1.16	1.23
51	S2	27	A2M	O5'-C5'	-3.24	1.34	1.44
51	S2	468	A2M	O5'-C5'	-3.24	1.34	1.44
51	S2	484	A2M	O5'-C5'	-3.23	1.34	1.44
51	S2	1490	OMG	C8-N7	-3.19	1.29	1.34
3	L5	4523	A2M	O5'-C5'	-3.19	1.34	1.44
3	L5	2363	A2M	O5'-C5'	-3.16	1.35	1.44
51	S2	159	A2M	O5'-C5'	-3.13	1.35	1.44
3	L5	4590	A2M	O5'-C5'	-3.13	1.35	1.44
3	L5	1326	A2M	O5'-C5'	-3.12	1.35	1.44
3	L5	2876	OMG	C8-N7	-3.06	1.30	1.34
3	L5	1625	OMG	C8-N7	-3.05	1.30	1.34
3	L5	1534	A2M	O5'-C5'	-3.04	1.35	1.44
3	L5	4392	OMG	C8-N7	-3.01	1.30	1.34
51	S2	683	OMG	C8-N7	-3.00	1.30	1.34
3	L5	1316	OMG	C8-N7	-2.99	1.30	1.34
3	L5	1522	OMG	C8-N7	-2.99	1.30	1.34
3	L5	2364	OMG	C8-N7	-2.99	1.30	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	4618	OMG	C8-N7	-2.98	1.30	1.34
3	L5	3792	OMG	C8-N7	-2.98	1.30	1.34
3	L5	4196	OMG	C8-N7	-2.95	1.30	1.34
3	L5	3899	OMG	C8-N7	-2.95	1.30	1.34
3	L5	4494	OMG	C8-N7	-2.94	1.30	1.34
51	S2	867	OMG	C8-N7	-2.93	1.30	1.34
3	L5	4623	OMG	C8-N7	-2.91	1.30	1.34
3	L5	4498	OMU	C5-C4	2.91	1.50	1.43
51	S2	428	OMU	C5-C4	2.89	1.50	1.43
3	L5	3627	OMG	C8-N7	-2.88	1.30	1.34
3	L5	4499	OMG	C8-N7	-2.88	1.30	1.34
51	S2	1328	OMG	C8-N7	-2.88	1.30	1.34
3	L5	3925	OMU	C5-C4	2.88	1.50	1.43
3	L5	2837	OMU	C5-C4	2.88	1.49	1.43
3	L5	4637	OMG	C8-N7	-2.88	1.30	1.34
3	L5	4227	OMU	C5-C4	2.88	1.49	1.43
51	S2	1639	G7M	C2-N1	2.88	1.44	1.37
51	S2	1490	OMG	C5-C6	-2.87	1.41	1.47
51	S2	644	OMG	C8-N7	-2.87	1.30	1.34
51	S2	799	OMU	C5-C4	2.87	1.49	1.43
51	S2	436	OMG	C8-N7	-2.87	1.30	1.34
51	S2	627	OMU	C5-C4	2.86	1.49	1.43
51	S2	601	OMG	C8-N7	-2.86	1.30	1.34
3	L5	2424	OMG	C8-N7	-2.86	1.30	1.34
51	S2	1442	OMU	C5-C4	2.85	1.49	1.43
3	L5	3744	OMG	C8-N7	-2.84	1.30	1.34
3	L5	4370	OMG	C8-N7	-2.83	1.30	1.34
51	S2	509	OMG	C8-N7	-2.82	1.30	1.34
51	S2	1326	OMU	C5-C4	2.82	1.49	1.43
51	S2	1288	OMU	C5-C4	2.82	1.49	1.43
51	S2	354	OMU	C5-C4	2.81	1.49	1.43
51	S2	172	OMU	C5-C4	2.81	1.49	1.43
5	L8	75	OMG	C8-N7	-2.81	1.30	1.34
3	L5	4306	OMU	C5-C4	2.80	1.49	1.43
3	L5	4620	OMU	C5-C4	2.79	1.49	1.43
3	L5	4228	OMG	C8-N7	-2.78	1.30	1.34
3	L5	2837	OMU	C6-N1	2.78	1.44	1.38
51	S2	121	OMU	C5-C4	2.76	1.49	1.43
3	L5	4620	OMU	C6-N1	2.75	1.44	1.38
3	L5	4306	OMU	C6-N1	2.74	1.44	1.38
3	L5	3925	OMU	C6-N1	2.73	1.44	1.38
3	L5	4498	OMU	C6-N1	2.73	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	S2	799	OMU	C6-N1	2.73	1.44	1.38
51	S2	354	OMU	C6-N1	2.72	1.44	1.38
51	S2	121	OMU	C6-N1	2.72	1.44	1.38
3	L5	4227	OMU	C6-N1	2.72	1.44	1.38
51	S2	116	OMU	C5-C4	2.71	1.49	1.43
51	S2	627	OMU	C6-N1	2.69	1.44	1.38
51	S2	1442	OMU	C6-N1	2.69	1.44	1.38
51	S2	428	OMU	C6-N1	2.68	1.44	1.38
51	S2	1326	OMU	C6-N1	2.67	1.44	1.38
3	L5	4530	UR3	C6-N1	2.66	1.44	1.38
51	S2	1288	OMU	C6-N1	2.66	1.44	1.38
3	L5	1677	PSU	O4'-C1'	-2.63	1.40	1.43
51	S2	1850	MA6	C2-N3	2.61	1.36	1.32
51	S2	172	OMU	C6-N1	2.61	1.44	1.38
51	S2	116	OMU	C6-N1	2.59	1.44	1.38
3	L5	4530	UR3	O2-C2	-2.55	1.17	1.22
3	L5	1625	OMG	C5-C6	-2.53	1.42	1.47
3	L5	4494	OMG	C5-C6	-2.49	1.42	1.47
3	L5	1316	OMG	C5-C6	-2.49	1.42	1.47
3	L5	4370	OMG	C5-C6	-2.48	1.42	1.47
3	L5	3899	OMG	C5-C6	-2.47	1.42	1.47
51	S2	867	OMG	C5-C6	-2.47	1.42	1.47
3	L5	2364	OMG	C5-C6	-2.46	1.42	1.47
3	L5	4228	OMG	C5-C6	-2.46	1.42	1.47
51	S2	601	OMG	C5-C6	-2.45	1.42	1.47
3	L5	4618	OMG	C5-C6	-2.45	1.42	1.47
3	L5	1522	OMG	C5-C6	-2.45	1.42	1.47
3	L5	3792	OMG	C5-C6	-2.44	1.42	1.47
51	S2	683	OMG	C5-C6	-2.44	1.42	1.47
3	L5	4523	A2M	C1'-N9	-2.44	1.43	1.49
3	L5	4623	OMG	C5-C6	-2.44	1.42	1.47
3	L5	4196	OMG	C5-C6	-2.43	1.42	1.47
3	L5	2424	OMG	C5-C6	-2.42	1.42	1.47
3	L5	2876	OMG	C5-C6	-2.42	1.42	1.47
3	L5	1322	1MA	C8-N7	-2.42	1.31	1.34
3	L5	3627	OMG	C5-C6	-2.42	1.42	1.47
51	S2	668	A2M	O4'-C4'	-2.42	1.39	1.45
3	L5	1871	A2M	C1'-N9	-2.41	1.44	1.49
51	S2	644	OMG	C5-C6	-2.41	1.42	1.47
51	S2	436	OMG	C5-C6	-2.41	1.42	1.47
51	S2	1851	MA6	C2-N3	2.41	1.35	1.32
51	S2	509	OMG	C5-C6	-2.40	1.42	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L5	4637	OMG	C5-C6	-2.40	1.42	1.47
3	L5	4499	OMG	C5-C6	-2.40	1.42	1.47
3	L5	2787	A2M	C1'-N9	-2.39	1.44	1.49
3	L5	1534	A2M	C1'-N9	-2.39	1.44	1.49
3	L5	3785	A2M	C1'-N9	-2.37	1.44	1.49
3	L5	4392	OMG	C5-C6	-2.37	1.42	1.47
5	L8	75	OMG	C5-C6	-2.36	1.42	1.47
3	L5	3744	OMG	C5-C6	-2.35	1.42	1.47
51	S2	1328	OMG	C5-C6	-2.34	1.42	1.47
3	L5	4530	UR3	C5-C4	2.33	1.49	1.43
3	L5	4590	A2M	C1'-N9	-2.30	1.44	1.49
3	L5	1322	1MA	C5-C4	-2.29	1.37	1.43
3	L5	1524	A2M	C1'-N9	-2.28	1.44	1.49
51	S2	159	A2M	C1'-N9	-2.26	1.44	1.49
51	S2	576	A2M	C1'-N9	-2.26	1.44	1.49
3	L5	4530	UR3	C3U-N3	2.25	1.51	1.47
3	L5	2401	A2M	C1'-N9	-2.24	1.44	1.49
51	S2	1383	A2M	C1'-N9	-2.24	1.44	1.49
51	S2	668	A2M	C1'-N9	-2.22	1.44	1.49
3	L5	3825	A2M	C1'-N9	-2.21	1.44	1.49
3	L5	3818	UY1	C4-C5	2.20	1.50	1.44
51	S2	468	A2M	C1'-N9	-2.20	1.44	1.49
3	L5	3830	A2M	C1'-N9	-2.18	1.44	1.49
51	S2	1031	A2M	C1'-N9	-2.14	1.44	1.49
3	L5	3818	UY1	O4'-C1'	-2.14	1.40	1.43
51	S2	99	A2M	C1'-N9	-2.09	1.44	1.49
3	L5	4571	A2M	C1'-N9	-2.09	1.44	1.49
3	L5	400	A2M	C1'-N9	-2.08	1.44	1.49
3	L5	2363	A2M	C1'-N9	-2.07	1.44	1.49
51	S2	27	A2M	C1'-N9	-2.07	1.44	1.49
3	L5	1524	A2M	O4'-C4'	-2.07	1.40	1.45
3	L5	4220	6MZ	C2-N3	2.03	1.35	1.32
51	S2	166	A2M	C1'-N9	-2.02	1.44	1.49

All (658) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	S2	1851	MA6	N1-C6-N6	-11.81	103.19	116.83
51	S2	1850	MA6	N1-C6-N6	-11.25	103.84	116.83
51	S2	1832	6MZ	O3P-P-O5'	7.75	126.89	106.67
3	L5	3785	A2M	C4'-O4'-C1'	-7.74	102.83	109.92
3	L5	1524	A2M	C4'-O4'-C1'	-6.59	103.89	109.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	4220	6MZ	N3-C2-N1	-6.44	119.93	128.67
51	S2	1832	6MZ	N3-C2-N1	-6.30	120.13	128.67
51	S2	1851	MA6	N3-C2-N1	-6.11	120.38	128.67
51	S2	1850	MA6	N3-C2-N1	-6.08	120.42	128.67
3	L5	4220	6MZ	O3P-P-O2P	-5.89	87.89	110.83
3	L5	4220	6MZ	O3P-P-O5'	-5.81	91.52	106.67
51	S2	172	OMU	C4-N3-C2	-5.73	119.50	126.61
51	S2	1326	OMU	C4-N3-C2	-5.68	119.56	126.61
3	L5	3925	OMU	C4-N3-C2	-5.66	119.59	126.61
3	L5	1871	A2M	C4'-O4'-C1'	-5.66	104.75	109.92
3	L5	2837	OMU	C4-N3-C2	-5.62	119.64	126.61
3	L5	4227	OMU	C4-N3-C2	-5.61	119.64	126.61
3	L5	4306	OMU	C4-N3-C2	-5.61	119.65	126.61
51	S2	627	OMU	C4-N3-C2	-5.61	119.65	126.61
51	S2	428	OMU	C4-N3-C2	-5.59	119.67	126.61
51	S2	354	OMU	C4-N3-C2	-5.55	119.72	126.61
3	L5	3830	A2M	C4'-O4'-C1'	-5.52	104.87	109.92
3	L5	4498	OMU	C4-N3-C2	-5.51	119.77	126.61
3	L5	4523	A2M	C4'-O4'-C1'	-5.50	104.89	109.92
51	S2	1288	OMU	C4-N3-C2	-5.46	119.83	126.61
51	S2	1442	OMU	C4-N3-C2	-5.45	119.84	126.61
51	S2	799	OMU	C4-N3-C2	-5.42	119.88	126.61
3	L5	4530	UR3	C4-N3-C2	-5.41	120.23	124.58
51	S2	1248	B8N	C5-C4-N3	5.17	125.55	116.15
3	L5	4689	PSU	N1-C2-N3	5.09	120.54	115.17
51	S2	1383	A2M	C4'-O4'-C1'	-5.06	105.29	109.92
3	L5	4220	6MZ	O3P-P-O1P	-4.98	89.11	107.80
3	L5	3637	PSU	N1-C2-N3	4.98	120.42	115.17
51	S2	116	OMU	C4-N3-C2	-4.97	120.44	126.61
3	L5	4220	6MZ	O1P-P-O2P	4.97	130.19	110.83
3	L5	4636	PSU	N1-C2-N3	4.94	120.38	115.17
3	L5	4620	OMU	C4-N3-C2	-4.93	120.49	126.61
3	L5	4636	PSU	C4-N3-C2	-4.92	119.59	126.37
51	S2	121	OMU	C4-N3-C2	-4.91	120.52	126.61
3	L5	1536	PSU	N1-C2-N3	4.88	120.32	115.17
3	L5	4293	PSU	N1-C2-N3	4.87	120.30	115.17
51	S2	1031	A2M	C4'-O4'-C1'	-4.86	105.47	109.92
3	L5	1677	PSU	C4-N3-C2	-4.84	119.70	126.37
3	L5	2839	PSU	N1-C2-N3	4.84	120.28	115.17
3	L5	4403	PSU	N1-C2-N3	4.84	120.28	115.17
3	L5	3920	PSU	N1-C2-N3	4.84	120.28	115.17
51	S2	468	A2M	C4'-O4'-C1'	-4.83	105.50	109.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	3639	PSU	N1-C2-N3	4.83	120.26	115.17
3	L5	1744	PSU	N1-C2-N3	4.82	120.25	115.17
3	L5	4689	PSU	C4-N3-C2	-4.82	119.74	126.37
51	S2	1056	PSU	N1-C2-N3	4.81	120.24	115.17
51	S2	406	PSU	N1-C2-N3	4.81	120.24	115.17
3	L5	4590	A2M	C4'-O4'-C1'	-4.80	105.53	109.92
51	S2	166	A2M	C4'-O4'-C1'	-4.80	105.53	109.92
3	L5	4493	PSU	N1-C2-N3	4.80	120.23	115.17
3	L5	4353	PSU	C4-N3-C2	-4.79	119.77	126.37
3	L5	4296	PSU	C4-N3-C2	-4.79	119.77	126.37
51	S2	866	PSU	C4-N3-C2	-4.79	119.77	126.37
3	L5	4442	PSU	N1-C2-N3	4.79	120.22	115.17
3	L5	4431	PSU	N1-C2-N3	4.79	120.22	115.17
3	L5	4972	PSU	N1-C2-N3	4.79	120.22	115.17
3	L5	4552	PSU	N1-C2-N3	4.78	120.21	115.17
3	L5	3884	PSU	N1-C2-N3	4.78	120.21	115.17
51	S2	27	A2M	C4'-O4'-C1'	-4.78	105.55	109.92
3	L5	4312	PSU	N1-C2-N3	4.78	120.21	115.17
3	L5	4293	PSU	C4-N3-C2	-4.78	119.79	126.37
3	L5	4576	PSU	N1-C2-N3	4.78	120.21	115.17
51	S2	99	A2M	C4'-O4'-C1'	-4.78	105.55	109.92
51	S2	1177	PSU	C4-N3-C2	-4.78	119.79	126.37
3	L5	2839	PSU	C4-N3-C2	-4.77	119.80	126.37
3	L5	3818	UY1	C4-N3-C2	-4.77	119.80	126.37
3	L5	3844	PSU	N1-C2-N3	4.77	120.20	115.17
3	L5	4579	PSU	N1-C2-N3	4.77	120.20	115.17
51	S2	1177	PSU	N1-C2-N3	4.77	120.20	115.17
3	L5	4973	PSU	N1-C2-N3	4.77	120.19	115.17
51	S2	406	PSU	C4-N3-C2	-4.76	119.81	126.37
3	L5	2632	PSU	N1-C2-N3	4.76	120.19	115.17
3	L5	4353	PSU	N1-C2-N3	4.76	120.19	115.17
51	S2	1232	PSU	N1-C2-N3	4.76	120.19	115.17
51	S2	866	PSU	N1-C2-N3	4.75	120.18	115.17
3	L5	3884	PSU	C4-N3-C2	-4.75	119.82	126.37
51	S2	649	PSU	C4-N3-C2	-4.75	119.82	126.37
3	L5	1792	PSU	N1-C2-N3	4.75	120.18	115.17
3	L5	4296	PSU	N1-C2-N3	4.75	120.18	115.17
51	S2	1004	PSU	N1-C2-N3	4.75	120.18	115.17
3	L5	4521	PSU	N1-C2-N3	4.75	120.18	115.17
3	L5	4403	PSU	C4-N3-C2	-4.74	119.84	126.37
3	L5	4973	PSU	C4-N3-C2	-4.74	119.84	126.37
3	L5	4552	PSU	C4-N3-C2	-4.74	119.84	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	3639	PSU	C4-N3-C2	-4.74	119.84	126.37
3	L5	1781	PSU	N1-C2-N3	4.73	120.16	115.17
3	L5	1677	PSU	N1-C2-N3	4.73	120.16	115.17
3	L5	4532	PSU	N1-C2-N3	4.73	120.16	115.17
3	L5	4431	PSU	C4-N3-C2	-4.73	119.85	126.37
51	S2	109	PSU	C4-N3-C2	-4.73	119.86	126.37
51	S2	1056	PSU	C4-N3-C2	-4.73	119.86	126.37
3	L5	4673	PSU	N1-C2-N3	4.73	120.16	115.17
3	L5	1744	PSU	C4-N3-C2	-4.73	119.86	126.37
3	L5	4493	PSU	C4-N3-C2	-4.73	119.86	126.37
51	S2	1004	PSU	C4-N3-C2	-4.73	119.86	126.37
3	L5	4299	PSU	N1-C2-N3	4.72	120.15	115.17
3	L5	3851	PSU	N1-C2-N3	4.72	120.14	115.17
3	L5	4521	PSU	C4-N3-C2	-4.71	119.88	126.37
51	S2	651	PSU	N1-C2-N3	4.71	120.14	115.17
3	L5	4471	PSU	N1-C2-N3	4.71	120.14	115.17
51	S2	651	PSU	C4-N3-C2	-4.71	119.89	126.37
3	L5	1862	PSU	N1-C2-N3	4.71	120.13	115.17
51	S2	109	PSU	N1-C2-N3	4.71	120.13	115.17
51	S2	681	PSU	N1-C2-N3	4.70	120.13	115.17
3	L5	398	A2M	C4'-O4'-C1'	-4.70	105.62	109.92
51	S2	649	PSU	N1-C2-N3	4.70	120.13	115.17
3	L5	4361	PSU	C4-N3-C2	-4.70	119.90	126.37
3	L5	4312	PSU	C4-N3-C2	-4.70	119.90	126.37
51	S2	1232	PSU	C4-N3-C2	-4.70	119.90	126.37
3	L5	3637	PSU	C4-N3-C2	-4.70	119.90	126.37
51	S2	93	PSU	N1-C2-N3	4.70	120.12	115.17
3	L5	4628	PSU	N1-C2-N3	4.70	120.12	115.17
3	L5	5010	PSU	N1-C2-N3	4.69	120.12	115.17
51	S2	801	PSU	N1-C2-N3	4.69	120.11	115.17
3	L5	3920	PSU	C4-N3-C2	-4.69	119.91	126.37
3	L5	4442	PSU	C4-N3-C2	-4.69	119.91	126.37
3	L5	5010	PSU	C4-N3-C2	-4.69	119.91	126.37
3	L5	4500	PSU	N1-C2-N3	4.69	120.11	115.17
3	L5	4576	PSU	C4-N3-C2	-4.69	119.92	126.37
3	L5	4579	PSU	C4-N3-C2	-4.69	119.92	126.37
3	L5	3695	PSU	C4-N3-C2	-4.69	119.92	126.37
3	L5	1782	PSU	C4-N3-C2	-4.68	119.92	126.37
51	S2	1174	PSU	N1-C2-N3	4.68	120.10	115.17
3	L5	4361	PSU	N1-C2-N3	4.68	120.10	115.17
51	S2	1244	PSU	N1-C2-N3	4.68	120.10	115.17
3	L5	1683	PSU	N1-C2-N3	4.67	120.10	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	3822	PSU	N1-C2-N3	4.67	120.10	115.17
3	L5	1792	PSU	C4-N3-C2	-4.67	119.94	126.37
3	L5	4972	PSU	C4-N3-C2	-4.67	119.94	126.37
51	S2	1174	PSU	C4-N3-C2	-4.67	119.94	126.37
3	L5	1782	PSU	N1-C2-N3	4.66	120.08	115.17
51	S2	966	PSU	N1-C2-N3	4.66	120.08	115.17
3	L5	1536	PSU	C4-N3-C2	-4.66	119.95	126.37
3	L5	3825	A2M	C4'-O4'-C1'	-4.66	105.66	109.92
3	L5	2401	A2M	C4'-O4'-C1'	-4.65	105.66	109.92
3	L5	1862	PSU	C4-N3-C2	-4.65	119.96	126.37
3	L5	3695	PSU	N1-C2-N3	4.65	120.07	115.17
51	S2	1244	PSU	C4-N3-C2	-4.65	119.97	126.37
3	L5	3851	PSU	C4-N3-C2	-4.64	119.97	126.37
5	L8	69	PSU	C4-N3-C2	-4.64	119.98	126.37
3	L5	4532	PSU	C4-N3-C2	-4.64	119.98	126.37
51	S2	93	PSU	C4-N3-C2	-4.64	119.98	126.37
5	L8	55	PSU	C4-N3-C2	-4.64	119.98	126.37
51	S2	681	PSU	C4-N3-C2	-4.64	119.98	126.37
51	S2	1367	PSU	C4-N3-C2	-4.64	119.98	126.37
51	S2	1367	PSU	N1-C2-N3	4.64	120.06	115.17
3	L5	4299	PSU	C4-N3-C2	-4.63	119.99	126.37
3	L5	4457	PSU	C4-N3-C2	-4.63	119.99	126.37
3	L5	1582	PSU	N1-C2-N3	4.63	120.05	115.17
3	L5	3844	PSU	C4-N3-C2	-4.62	120.00	126.37
51	S2	686	PSU	C4-N3-C2	-4.62	120.00	126.37
5	L8	69	PSU	N1-C2-N3	4.62	120.04	115.17
3	L5	4673	PSU	C4-N3-C2	-4.62	120.01	126.37
51	S2	801	PSU	C4-N3-C2	-4.62	120.01	126.37
3	L5	1860	PSU	C4-N3-C2	-4.61	120.02	126.37
51	S2	966	PSU	C4-N3-C2	-4.61	120.02	126.37
5	L8	55	PSU	N1-C2-N3	4.61	120.03	115.17
51	S2	863	PSU	N1-C2-N3	4.61	120.03	115.17
51	S2	1045	PSU	C4-N3-C2	-4.60	120.04	126.37
3	L5	1860	PSU	N1-C2-N3	4.59	120.01	115.17
51	S2	686	PSU	N1-C2-N3	4.59	120.01	115.17
3	L5	2632	PSU	C4-N3-C2	-4.59	120.05	126.37
3	L5	3701	OMC	C1'-N1-C2	4.59	128.57	118.44
3	L5	3853	PSU	N1-C2-N3	4.57	119.99	115.17
3	L5	1683	PSU	C4-N3-C2	-4.56	120.08	126.37
3	L5	1781	PSU	C4-N3-C2	-4.55	120.10	126.37
51	S2	105	PSU	N1-C2-N3	4.55	119.97	115.17
3	L5	3822	PSU	C4-N3-C2	-4.54	120.11	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	4628	PSU	C4-N3-C2	-4.54	120.11	126.37
3	L5	4457	PSU	N1-C2-N3	4.54	119.95	115.17
51	S2	1045	PSU	N1-C2-N3	4.54	119.95	115.17
51	S2	1248	B8N	C4-N3-C2	-4.52	120.06	125.62
51	S2	814	PSU	N1-C2-N3	4.51	119.93	115.17
3	L5	4471	PSU	C4-N3-C2	-4.51	120.16	126.37
51	S2	1046	PSU	C4-N3-C2	-4.50	120.17	126.37
3	L5	5001	PSU	C4-N3-C2	-4.50	120.18	126.37
51	S2	105	PSU	C4-N3-C2	-4.49	120.18	126.37
3	L5	4500	PSU	C4-N3-C2	-4.48	120.20	126.37
3	L5	5001	PSU	N1-C2-N3	4.48	119.89	115.17
3	L5	3818	UY1	N1-C2-N3	4.48	119.89	115.17
51	S2	863	PSU	C4-N3-C2	-4.47	120.21	126.37
51	S2	1046	PSU	N1-C2-N3	4.46	119.88	115.17
3	L5	3718	A2M	C4'-O4'-C1'	-4.42	105.88	109.92
51	S2	1081	PSU	C4-N3-C2	-4.40	120.31	126.37
3	L5	3853	PSU	C4-N3-C2	-4.40	120.31	126.37
3	L5	4220	6MZ	C2-N1-C6	4.40	120.01	116.60
3	L5	1582	PSU	C4-N3-C2	-4.39	120.32	126.37
51	S2	1081	PSU	N1-C2-N3	4.38	119.79	115.17
51	S2	1832	6MZ	C2-N1-C6	4.35	119.97	116.60
51	S2	668	A2M	C4'-O4'-C1'	-4.35	105.94	109.92
3	L5	1326	A2M	C4'-O4'-C1'	-4.34	105.95	109.92
51	S2	814	PSU	C4-N3-C2	-4.34	120.39	126.37
3	L5	3830	A2M	C3'-C2'-C1'	-4.32	94.54	102.81
3	L5	1534	A2M	C4'-O4'-C1'	-4.19	106.09	109.92
51	S2	159	A2M	C4'-O4'-C1'	-4.19	106.09	109.92
51	S2	668	A2M	C1'-N9-C4	-4.17	119.32	126.64
3	L5	2401	A2M	C1'-N9-C4	-4.03	119.57	126.64
3	L5	4220	6MZ	C9-N6-C6	-4.00	119.14	122.85
51	S2	1383	A2M	C1'-N9-C4	-3.97	119.67	126.64
3	L5	4220	6MZ	O5'-P-O2P	3.95	117.12	106.44
3	L5	2363	A2M	C4'-O4'-C1'	-3.93	106.32	109.92
3	L5	4590	A2M	C1'-N9-C4	-3.91	119.78	126.64
51	S2	1832	6MZ	O3P-P-O2P	-3.90	95.65	110.83
3	L5	400	A2M	C4'-O4'-C1'	-3.89	106.36	109.92
3	L5	4571	A2M	C4'-O4'-C1'	-3.89	106.37	109.92
51	S2	1383	A2M	C3'-C2'-C1'	-3.88	95.37	102.81
51	S2	576	A2M	C4'-O4'-C1'	-3.88	106.37	109.92
51	S2	468	A2M	C1'-N9-C4	-3.85	119.88	126.64
3	L5	2837	OMU	N3-C2-N1	3.84	119.89	114.89
51	S2	1248	B8N	C1'-C5-C4	3.84	123.43	117.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	3925	OMU	N3-C2-N1	3.81	119.86	114.89
3	L5	4227	OMU	N3-C2-N1	3.81	119.85	114.89
3	L5	4306	OMU	C5-C4-N3	3.79	120.11	114.80
3	L5	398	A2M	C3'-C2'-C1'	-3.79	95.54	102.81
51	S2	172	OMU	N3-C2-N1	3.79	119.82	114.89
3	L5	1323	A2M	C4'-O4'-C1'	-3.79	106.46	109.92
3	L5	3785	A2M	C1'-N9-C4	-3.78	120.00	126.64
3	L5	4523	A2M	C3'-C2'-C1'	-3.78	95.58	102.81
51	S2	1326	OMU	N3-C2-N1	3.76	119.79	114.89
3	L5	3825	A2M	C1'-N9-C4	-3.75	120.05	126.64
3	L5	3701	OMC	C1'-N1-C6	-3.75	112.76	120.78
51	S2	799	OMU	N3-C2-N1	3.75	119.77	114.89
3	L5	398	A2M	C1'-N9-C4	-3.71	120.12	126.64
3	L5	4498	OMU	N3-C2-N1	3.71	119.72	114.89
51	S2	354	OMU	N3-C2-N1	3.71	119.72	114.89
51	S2	121	OMU	N3-C2-N1	3.70	119.71	114.89
51	S2	428	OMU	C5-C4-N3	3.69	119.96	114.80
51	S2	627	OMU	C5-C4-N3	3.69	119.96	114.80
51	S2	354	OMU	C5-C4-N3	3.68	119.96	114.80
3	L5	4306	OMU	N3-C2-N1	3.68	119.68	114.89
51	S2	1326	OMU	C5-C4-N3	3.68	119.95	114.80
3	L5	3925	OMU	C5-C4-N3	3.68	119.95	114.80
3	L5	4498	OMU	C5-C4-N3	3.67	119.95	114.80
51	S2	1288	OMU	N3-C2-N1	3.67	119.67	114.89
3	L5	4523	A2M	C1'-N9-C4	-3.66	120.22	126.64
3	L5	4530	UR3	C5-C4-N3	3.65	119.85	115.04
3	L5	1871	A2M	C3'-C2'-C1'	-3.65	95.82	102.81
51	S2	576	A2M	C1'-N9-C4	-3.65	120.23	126.64
3	L5	3830	A2M	C1'-N9-C4	-3.63	120.25	126.64
51	S2	172	OMU	C5-C4-N3	3.63	119.89	114.80
3	L5	4227	OMU	C5-C4-N3	3.63	119.89	114.80
51	S2	428	OMU	N3-C2-N1	3.62	119.61	114.89
51	S2	627	OMU	N3-C2-N1	3.62	119.60	114.89
51	S2	159	A2M	C1'-N9-C4	-3.62	120.28	126.64
51	S2	1442	OMU	N3-C2-N1	3.61	119.60	114.89
3	L5	2837	OMU	C5-C4-N3	3.61	119.85	114.80
51	S2	1442	OMU	C5-C4-N3	3.60	119.84	114.80
3	L5	398	A2M	O3'-C3'-C2'	3.59	121.24	111.19
3	L5	4571	A2M	C1'-N9-C4	-3.59	120.34	126.64
51	S2	799	OMU	C5-C4-N3	3.59	119.82	114.80
3	L5	2401	A2M	O3'-C3'-C2'	3.58	121.21	111.19
51	S2	468	A2M	C3'-C2'-C1'	-3.57	95.97	102.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	3818	UY1	C6-C5-C4	3.55	120.57	118.17
51	S2	1288	OMU	C5-C4-N3	3.54	119.76	114.80
3	L5	2787	A2M	O3'-C3'-C2'	3.54	121.10	111.19
3	L5	400	A2M	C1'-N9-C4	-3.53	120.44	126.64
3	L5	4590	A2M	C3'-C2'-C1'	-3.52	96.06	102.81
3	L5	3825	A2M	C3'-C2'-C1'	-3.50	96.10	102.81
3	L5	3867	A2M	C4'-O4'-C1'	-3.48	106.74	109.92
3	L5	4620	OMU	N3-C2-N1	3.48	119.42	114.89
51	S2	484	A2M	C1'-N9-C4	-3.48	120.53	126.64
3	L5	1871	A2M	C1'-N9-C4	-3.45	120.58	126.64
51	S2	116	OMU	C5-C4-N3	3.45	119.63	114.80
51	S2	576	A2M	O3'-C3'-C2'	3.44	120.82	111.19
51	S2	116	OMU	N3-C2-N1	3.42	119.34	114.89
51	S2	1248	B8N	N3-C2-N1	3.41	120.89	116.72
51	S2	1031	A2M	C3'-C2'-C1'	-3.41	96.28	102.81
3	L5	2815	A2M	C4'-O4'-C1'	-3.41	106.80	109.92
3	L5	1524	A2M	C1'-N9-C4	-3.40	120.68	126.64
3	L5	3867	A2M	C1'-N9-C4	-3.39	120.69	126.64
3	L5	4620	OMU	C5-C4-N3	3.38	119.53	114.80
3	L5	4571	A2M	O3'-C3'-C2'	3.35	120.56	111.19
3	L5	2401	A2M	C3'-C2'-C1'	-3.35	96.40	102.81
51	S2	1850	MA6	C2-N1-C6	3.35	120.12	116.84
3	L5	3718	A2M	C3'-C2'-C1'	-3.33	96.44	102.81
3	L5	2787	A2M	C1'-N9-C4	-3.32	120.81	126.64
3	L5	1534	A2M	C1'-N9-C4	-3.28	120.87	126.64
51	S2	159	A2M	C3'-C2'-C1'	-3.28	96.53	102.81
51	S2	99	A2M	C3'-C2'-C1'	-3.27	96.54	102.81
51	S2	121	OMU	C5-C4-N3	3.27	119.38	114.80
51	S2	166	A2M	C1'-N9-C4	-3.27	120.90	126.64
51	S2	468	A2M	O3'-C3'-C2'	3.25	120.28	111.19
51	S2	1383	A2M	O3'-C3'-C2'	3.24	120.26	111.19
51	S2	166	A2M	O3'-C3'-C2'	3.24	120.24	111.19
3	L5	3830	A2M	O3'-C3'-C2'	3.22	120.20	111.19
3	L5	2363	A2M	C1'-N9-C4	-3.22	120.99	126.64
3	L5	1524	A2M	O3'-C3'-C2'	3.22	120.19	111.19
51	S2	1031	A2M	C1'-N9-C4	-3.21	121.00	126.64
51	S2	159	A2M	O3'-C3'-C2'	3.21	120.16	111.19
3	L5	3718	A2M	O3'-C3'-C2'	3.19	120.11	111.19
3	L5	400	A2M	O3'-C3'-C2'	3.18	120.10	111.19
51	S2	166	A2M	C3'-C2'-C1'	-3.15	96.77	102.81
3	L5	1534	A2M	C3'-C2'-C1'	-3.15	96.77	102.81
3	L5	3718	A2M	C1'-N9-C4	-3.14	121.12	126.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	S2	576	A2M	C3'-C2'-C1'	-3.13	96.81	102.81
3	L5	3825	A2M	O3'-C3'-C2'	3.10	119.86	111.19
3	L5	3818	UY1	C6-N1-C2	-3.06	119.85	122.69
3	L5	4571	A2M	C3'-C2'-C1'	-3.04	96.99	102.81
51	S2	1442	OMU	O4-C4-C5	-3.03	119.93	125.16
51	S2	1851	MA6	C2-N1-C6	3.03	119.81	116.84
51	S2	484	A2M	O3'-C3'-C2'	3.02	119.63	111.19
51	S2	627	OMU	O4-C4-C5	-3.02	119.96	125.16
51	S2	27	A2M	C1'-N9-C4	-3.01	121.35	126.64
3	L5	3785	A2M	O3'-C3'-C2'	3.00	119.59	111.19
51	S2	27	A2M	C3'-C2'-C1'	-2.98	97.11	102.81
3	L5	1871	A2M	O3'-C3'-C2'	2.98	119.52	111.19
3	L5	4500	PSU	O2-C2-N1	-2.97	119.73	122.79
3	L5	4689	PSU	O2-C2-N1	-2.96	119.74	122.79
3	L5	400	A2M	C3'-C2'-C1'	-2.95	97.15	102.81
51	S2	1031	A2M	O3'-C3'-C2'	2.95	119.44	111.19
3	L5	4689	PSU	C6-N1-C2	-2.94	119.96	122.69
51	S2	1326	OMU	O4-C4-C5	-2.94	120.09	125.16
3	L5	4523	A2M	O3'-C3'-C2'	2.93	119.40	111.19
3	L5	2363	A2M	O3'-C3'-C2'	2.93	119.38	111.19
51	S2	172	OMU	O4-C4-C5	-2.91	120.14	125.16
51	S2	1288	OMU	O4-C4-C5	-2.91	120.15	125.16
3	L5	3925	OMU	O4-C4-C5	-2.91	120.15	125.16
51	S2	1639	G7M	C2-N1-C6	-2.90	119.79	125.11
51	S2	116	OMU	O4-C4-C5	-2.90	120.16	125.16
51	S2	428	OMU	O4-C4-C5	-2.90	120.16	125.16
3	L5	4636	PSU	C6-C5-C4	2.90	120.13	118.17
51	S2	99	A2M	C1'-N9-C4	-2.89	121.56	126.64
51	S2	668	A2M	O3'-C3'-C2'	2.88	119.26	111.19
51	S2	799	OMU	O4-C4-C5	-2.88	120.19	125.16
3	L5	4628	PSU	O2-C2-N1	-2.88	119.82	122.79
3	L5	4579	PSU	O2-C2-N1	-2.88	119.82	122.79
3	L5	1536	PSU	O2-C2-N1	-2.88	119.82	122.79
3	L5	4306	OMU	O4-C4-C5	-2.87	120.21	125.16
51	S2	668	A2M	O4'-C1'-C2'	2.87	111.50	106.61
3	L5	2837	OMU	O4-C4-C5	-2.87	120.21	125.16
51	S2	354	OMU	O4-C4-C5	-2.86	120.23	125.16
3	L5	4498	OMU	O4-C4-C5	-2.85	120.24	125.16
3	L5	4227	OMU	O4-C4-C5	-2.85	120.25	125.16
3	L5	2839	PSU	O2-C2-N1	-2.84	119.86	122.79
3	L5	4500	PSU	C6-N1-C2	-2.83	120.06	122.69
51	S2	99	A2M	O3'-C3'-C2'	2.82	119.08	111.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	2632	PSU	O2-C2-N1	-2.82	119.89	122.79
3	L5	4293	PSU	O2-C2-N1	-2.81	119.89	122.79
3	L5	4403	PSU	O2-C2-N1	-2.80	119.90	122.79
51	S2	1232	PSU	O2-C2-N1	-2.80	119.90	122.79
3	L5	2363	A2M	C3'-C2'-C1'	-2.79	97.46	102.81
3	L5	3844	PSU	O2-C2-N1	-2.79	119.91	122.79
3	L5	4590	A2M	O3'-C3'-C2'	2.79	118.99	111.19
3	L5	1323	A2M	C1'-N9-C4	-2.78	121.76	126.64
51	S2	1056	PSU	O2-C2-N1	-2.78	119.92	122.79
51	S2	1244	PSU	O2-C2-N1	-2.78	119.92	122.79
3	L5	2815	A2M	C1'-N9-C4	-2.77	121.78	126.64
51	S2	406	PSU	O2-C2-N1	-2.76	119.94	122.79
3	L5	3822	PSU	O2-C2-N1	-2.76	119.95	122.79
3	L5	4576	PSU	O2-C2-N1	-2.75	119.95	122.79
3	L5	4442	PSU	O2-C2-N1	-2.74	119.96	122.79
3	L5	4532	PSU	O2-C2-N1	-2.74	119.96	122.79
3	L5	2787	A2M	C4'-O4'-C1'	-2.74	107.41	109.92
3	L5	4620	OMU	O4-C4-C5	-2.74	120.44	125.16
3	L5	1781	PSU	O2-C2-N1	-2.74	119.97	122.79
3	L5	1744	PSU	O2-C2-N1	-2.73	119.97	122.79
51	S2	649	PSU	O2-C2-N1	-2.72	119.98	122.79
3	L5	5010	PSU	O2-C2-N1	-2.72	119.99	122.79
51	S2	109	PSU	O2-C2-N1	-2.72	119.99	122.79
3	L5	3867	A2M	C2'-C1'-N9	2.71	118.58	112.56
3	L5	3851	PSU	O2-C2-N1	-2.71	119.99	122.79
3	L5	4552	PSU	O2-C2-N1	-2.71	120.00	122.79
51	S2	1174	PSU	O2-C2-N1	-2.70	120.00	122.79
51	S2	1367	PSU	O2-C2-N1	-2.70	120.00	122.79
51	S2	1272	OMC	C1'-N1-C2	2.70	124.41	118.44
3	L5	1792	PSU	O2-C2-N1	-2.70	120.00	122.79
51	S2	121	OMU	O4-C4-C5	-2.70	120.51	125.16
51	S2	651	PSU	O2-C2-N1	-2.70	120.01	122.79
51	S2	1004	PSU	O2-C2-N1	-2.69	120.01	122.79
3	L5	1323	A2M	O3'-C3'-C2'	2.68	118.69	111.19
3	L5	1326	A2M	C1'-N9-C4	-2.68	121.94	126.64
51	S2	866	PSU	O2-C2-N1	-2.67	120.03	122.79
3	L5	4673	PSU	O2-C2-N1	-2.67	120.03	122.79
51	S2	863	PSU	O2-C2-N1	-2.67	120.03	122.79
3	L5	1862	PSU	O2-C2-N1	-2.67	120.03	122.79
3	L5	4628	PSU	C6-N1-C2	-2.67	120.21	122.69
3	L5	1524	A2M	O4'-C1'-C2'	2.67	111.16	106.61
3	L5	1677	PSU	O2-C2-N1	-2.67	120.04	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	3920	PSU	O2-C2-N1	-2.67	120.04	122.79
3	L5	2787	A2M	O4'-C1'-C2'	2.67	111.16	106.61
3	L5	4521	PSU	O2-C2-N1	-2.67	120.04	122.79
3	L5	2815	A2M	O3'-C3'-C2'	2.66	118.64	111.19
51	S2	1248	B8N	O4-C4-N3	-2.66	115.68	119.99
51	S2	801	PSU	O2-C2-N1	-2.65	120.05	122.79
3	L5	4972	PSU	O2-C2-N1	-2.65	120.06	122.79
3	L5	4973	PSU	O2-C2-N1	-2.64	120.06	122.79
3	L5	4296	PSU	O2-C2-N1	-2.64	120.07	122.79
51	S2	686	PSU	O2-C2-N1	-2.64	120.07	122.79
3	L5	4493	PSU	O2-C2-N1	-2.63	120.07	122.79
3	L5	4431	PSU	O2-C2-N1	-2.63	120.07	122.79
3	L5	1582	PSU	C6-N1-C2	-2.63	120.25	122.69
5	L8	69	PSU	O2-C2-N1	-2.63	120.08	122.79
51	S2	1177	PSU	O2-C2-N1	-2.63	120.08	122.79
51	S2	966	PSU	O2-C2-N1	-2.62	120.08	122.79
3	L5	1323	A2M	C2'-C1'-N9	2.62	118.38	112.56
51	S2	681	PSU	O2-C2-N1	-2.62	120.09	122.79
3	L5	3695	PSU	O2-C2-N1	-2.61	120.09	122.79
3	L5	3853	PSU	O2-C2-N1	-2.61	120.09	122.79
3	L5	1582	PSU	O2-C2-N1	-2.61	120.10	122.79
3	L5	4636	PSU	O2-C2-N1	-2.61	120.10	122.79
3	L5	1536	PSU	C6-N1-C2	-2.61	120.27	122.69
3	L5	3639	PSU	O2-C2-N1	-2.61	120.10	122.79
3	L5	3844	PSU	C6-N1-C2	-2.60	120.28	122.69
3	L5	4361	PSU	O2-C2-N1	-2.60	120.10	122.79
3	L5	1683	PSU	O2-C2-N1	-2.60	120.11	122.79
3	L5	1782	PSU	O2-C2-N1	-2.59	120.12	122.79
3	L5	2839	PSU	C6-N1-C2	-2.59	120.29	122.69
3	L5	3785	A2M	O4'-C1'-N9	2.58	112.17	108.75
3	L5	4457	PSU	O2-C2-N1	-2.58	120.12	122.79
3	L5	4312	PSU	O2-C2-N1	-2.58	120.12	122.79
51	S2	105	PSU	O2-C2-N1	-2.58	120.13	122.79
3	L5	3785	A2M	C3'-C2'-C1'	-2.57	97.88	102.81
3	L5	3822	PSU	C6-N1-C2	-2.57	120.31	122.69
3	L5	4471	PSU	O2-C2-N1	-2.57	120.14	122.79
3	L5	3818	UY1	O2-C2-N1	-2.57	120.14	122.79
3	L5	2632	PSU	C6-N1-C2	-2.57	120.31	122.69
51	S2	1046	PSU	O2-C2-N1	-2.57	120.14	122.79
51	S2	814	PSU	C6-N1-C2	-2.56	120.31	122.69
3	L5	4673	PSU	C6-N1-C2	-2.56	120.31	122.69
3	L5	3884	PSU	O2-C2-N1	-2.56	120.15	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	4471	PSU	C6-N1-C2	-2.56	120.32	122.69
3	L5	3920	PSU	C6-N1-C2	-2.55	120.33	122.69
51	S2	863	PSU	C6-N1-C2	-2.55	120.33	122.69
3	L5	4293	PSU	C6-N1-C2	-2.54	120.33	122.69
3	L5	5001	PSU	O2-C2-N1	-2.54	120.17	122.79
3	L5	4442	PSU	C6-N1-C2	-2.54	120.33	122.69
5	L8	55	PSU	O2-C2-N1	-2.54	120.17	122.79
51	S2	93	PSU	O2-C2-N1	-2.53	120.17	122.79
3	L5	1781	PSU	C6-N1-C2	-2.53	120.34	122.69
51	S2	1232	PSU	C6-N1-C2	-2.53	120.34	122.69
3	L5	4299	PSU	O2-C2-N1	-2.53	120.18	122.79
51	S2	484	A2M	O4'-C1'-C2'	2.53	110.91	106.61
3	L5	3639	PSU	C6-N1-C2	-2.52	120.35	122.69
3	L5	3884	PSU	C6-N1-C2	-2.52	120.35	122.69
3	L5	4353	PSU	O2-C2-N1	-2.52	120.19	122.79
3	L5	3867	A2M	O3'-C3'-C2'	2.52	118.24	111.19
3	L5	4312	PSU	C6-N1-C2	-2.52	120.35	122.69
3	L5	1860	PSU	O2-C2-N1	-2.50	120.20	122.79
51	S2	105	PSU	C6-N1-C2	-2.50	120.37	122.69
51	S2	681	PSU	C6-N1-C2	-2.50	120.37	122.69
3	L5	3718	A2M	C4-C5-N7	2.49	111.97	109.34
3	L5	4532	PSU	C6-N1-C2	-2.49	120.38	122.69
3	L5	4521	PSU	C6-C5-C4	2.49	119.85	118.17
3	L5	1683	PSU	C6-N1-C2	-2.49	120.39	122.69
51	S2	1004	PSU	C6-N1-C2	-2.48	120.39	122.69
3	L5	1744	PSU	C6-N1-C2	-2.48	120.39	122.69
51	S2	93	PSU	C6-N1-C2	-2.47	120.40	122.69
3	L5	2351	OMC	C1'-N1-C2	2.47	123.90	118.44
3	L5	3744	OMG	O6-C6-C5	2.47	129.21	124.32
3	L5	4576	PSU	C6-N1-C2	-2.46	120.41	122.69
3	L5	3853	PSU	C6-N1-C2	-2.46	120.41	122.69
3	L5	4637	OMG	O6-C6-C5	2.46	129.19	124.32
3	L5	4493	PSU	C6-N1-C2	-2.46	120.41	122.69
51	S2	1174	PSU	C6-N1-C2	-2.45	120.41	122.69
51	S2	801	PSU	C6-N1-C2	-2.45	120.41	122.69
51	S2	814	PSU	O2-C2-N1	-2.45	120.26	122.79
3	L5	4973	PSU	C6-N1-C2	-2.45	120.42	122.69
5	L8	75	OMG	O6-C6-C5	2.45	129.17	124.32
3	L5	4403	PSU	C6-N1-C2	-2.44	120.42	122.69
51	S2	1056	PSU	C6-N1-C2	-2.44	120.42	122.69
3	L5	4623	OMG	O6-C6-C5	2.44	129.16	124.32
3	L5	5010	PSU	C6-N1-C2	-2.44	120.43	122.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	4431	PSU	C6-N1-C2	-2.44	120.43	122.69
3	L5	4579	PSU	C6-N1-C2	-2.44	120.43	122.69
51	S2	1045	PSU	O2-C2-N1	-2.44	120.28	122.79
3	L5	4972	PSU	C6-N1-C2	-2.44	120.43	122.69
3	L5	2861	OMC	C1'-N1-C2	2.44	123.82	118.44
51	S2	27	A2M	O3'-C3'-C2'	2.43	117.99	111.19
51	S2	1328	OMG	O6-C6-C5	2.43	129.14	124.32
51	S2	509	OMG	O6-C6-C5	2.43	129.13	124.32
3	L5	3851	PSU	C6-N1-C2	-2.43	120.44	122.69
3	L5	3785	A2M	C4-C5-N7	2.43	111.90	109.34
3	L5	1323	A2M	C3'-C2'-C1'	-2.43	98.16	102.81
3	L5	1323	A2M	C4-C5-N7	2.43	111.90	109.34
51	S2	406	PSU	C6-N1-C2	-2.42	120.44	122.69
3	L5	3637	PSU	C6-N1-C2	-2.42	120.44	122.69
3	L5	3695	PSU	C6-N1-C2	-2.42	120.44	122.69
3	L5	1677	PSU	C6-C5-C4	2.42	119.81	118.17
3	L5	1326	A2M	C4-C5-N7	2.42	111.89	109.34
3	L5	1792	PSU	C6-N1-C2	-2.42	120.45	122.69
51	S2	644	OMG	O6-C6-C5	2.42	129.12	124.32
3	L5	2787	A2M	C4-C5-N7	2.42	111.89	109.34
3	L5	4403	PSU	C6-C5-C4	2.42	119.80	118.17
3	L5	2363	A2M	C2'-C1'-N9	2.41	117.92	112.56
51	S2	1031	A2M	C4-C5-N7	2.41	111.88	109.34
3	L5	4499	OMG	O6-C6-C5	2.41	129.10	124.32
3	L5	4353	PSU	C6-C5-C4	2.41	119.80	118.17
3	L5	4370	OMG	O6-C6-C5	2.41	129.10	124.32
51	S2	799	OMU	C1'-N1-C2	2.41	121.92	117.59
3	L5	4494	OMG	O6-C6-C5	2.41	129.09	124.32
3	L5	1326	A2M	C2'-C1'-N9	2.41	117.90	112.56
3	L5	4552	PSU	C6-N1-C2	-2.41	120.46	122.69
5	L8	69	PSU	O4'-C1'-C2'	2.40	108.47	105.15
3	L5	1862	PSU	C6-N1-C2	-2.40	120.47	122.69
3	L5	4299	PSU	C6-N1-C2	-2.40	120.47	122.69
51	S2	484	A2M	C4'-O4'-C1'	-2.39	107.73	109.92
5	L8	69	PSU	C6-N1-C2	-2.39	120.47	122.69
3	L5	4523	A2M	C4-C5-N7	2.39	111.86	109.34
51	S2	109	PSU	C6-N1-C2	-2.39	120.47	122.69
51	S2	649	PSU	C6-N1-C2	-2.39	120.47	122.69
51	S2	1046	PSU	C6-N1-C2	-2.39	120.47	122.69
3	L5	1316	OMG	O6-C6-C5	2.39	129.06	124.32
3	L5	1782	PSU	C6-N1-C2	-2.39	120.47	122.69
3	L5	4392	OMG	O6-C6-C5	2.39	129.06	124.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	3639	PSU	C6-C5-C4	2.39	119.78	118.17
5	L8	55	PSU	C6-N1-C2	-2.39	120.48	122.69
3	L5	3899	OMG	O6-C6-C5	2.39	129.05	124.32
3	L5	4636	PSU	C6-N1-C2	-2.38	120.48	122.69
3	L5	2364	OMG	O6-C6-C5	2.38	129.04	124.32
3	L5	4361	PSU	C6-N1-C2	-2.38	120.48	122.69
51	S2	966	PSU	C6-N1-C2	-2.38	120.48	122.69
3	L5	4530	UR3	C6-N1-C2	-2.38	119.85	121.80
51	S2	436	OMG	O6-C6-C5	2.38	129.04	124.32
3	L5	3701	OMC	O2-C2-N1	2.38	123.56	118.90
3	L5	1871	A2M	C4-C5-N7	2.37	111.85	109.34
3	L5	1323	A2M	O4'-C1'-C2'	2.37	110.65	106.61
51	S2	601	OMG	O6-C6-C5	2.37	129.02	124.32
51	S2	1367	PSU	C6-N1-C2	-2.37	120.49	122.69
3	L5	3627	OMG	O6-C6-C5	2.37	129.02	124.32
3	L5	1860	PSU	C6-N1-C2	-2.37	120.49	122.69
51	S2	866	PSU	C6-N1-C2	-2.37	120.50	122.69
3	L5	3808	OMC	C1'-N1-C2	2.36	123.66	118.44
51	S2	1244	PSU	C6-N1-C2	-2.36	120.50	122.69
51	S2	1177	PSU	C6-N1-C2	-2.36	120.50	122.69
3	L5	4196	OMG	O6-C6-C5	2.36	129.00	124.32
3	L5	2815	A2M	C2'-C1'-N9	2.36	117.80	112.56
3	L5	4618	OMG	O6-C6-C5	2.36	128.99	124.32
3	L5	3830	A2M	C4-C5-N7	2.36	111.83	109.34
51	S2	27	A2M	C4-C5-N7	2.35	111.82	109.34
51	S2	406	PSU	C6-C5-C4	2.35	119.76	118.17
51	S2	484	A2M	C4-C5-N7	2.35	111.82	109.34
51	S2	99	A2M	C4-C5-N7	2.35	111.82	109.34
3	L5	2424	OMG	O6-C6-C5	2.35	128.98	124.32
51	S2	686	PSU	C6-N1-C2	-2.35	120.51	122.69
51	S2	683	OMG	O6-C6-C5	2.35	128.97	124.32
51	S2	867	OMG	O6-C6-C5	2.34	128.97	124.32
3	L5	3792	OMG	O6-C6-C5	2.34	128.96	124.32
3	L5	4353	PSU	C6-N1-C2	-2.34	120.52	122.69
3	L5	5001	PSU	C6-N1-C2	-2.34	120.52	122.69
51	S2	866	PSU	C6-C5-C4	2.33	119.75	118.17
51	S2	1832	6MZ	C9-N6-C6	-2.33	120.69	122.85
3	L5	4590	A2M	C4-C5-N7	2.33	111.80	109.34
3	L5	3867	A2M	C4-C5-N7	2.33	111.80	109.34
3	L5	400	A2M	C4-C5-N7	2.33	111.80	109.34
3	L5	2876	OMG	O6-C6-C5	2.32	128.93	124.32
3	L5	1522	OMG	O6-C6-C5	2.32	128.93	124.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	S2	651	PSU	C6-N1-C2	-2.32	120.54	122.69
51	S2	1081	PSU	O2-C2-N1	-2.32	120.39	122.79
3	L5	4403	PSU	O4'-C1'-C2'	2.32	108.36	105.15
3	L5	2815	A2M	C4-C5-N7	2.31	111.78	109.34
3	L5	3822	PSU	O4'-C1'-C2'	2.31	108.35	105.15
3	L5	1322	1MA	C5-C6-N1	-2.31	110.64	113.95
51	S2	576	A2M	C4-C5-N7	2.31	111.78	109.34
3	L5	4571	A2M	C4-C5-N7	2.31	111.78	109.34
51	S2	484	A2M	O4'-C4'-C3'	2.31	109.73	105.15
3	L5	1534	A2M	C4-C5-N7	2.30	111.77	109.34
51	S2	668	A2M	C2'-C1'-N9	2.30	117.67	112.56
3	L5	4296	PSU	C6-N1-C2	-2.30	120.56	122.69
51	S2	1383	A2M	C4-C5-N7	2.30	111.76	109.34
3	L5	4220	6MZ	O1P-P-O5'	2.29	112.65	106.67
3	L5	4521	PSU	C6-N1-C2	-2.29	120.57	122.69
3	L5	4228	OMG	O6-C6-C5	2.29	128.86	124.32
3	L5	1677	PSU	C6-N1-C2	-2.29	120.57	122.69
51	S2	166	A2M	C4-C5-N7	2.28	111.75	109.34
3	L5	400	A2M	O4'-C1'-C2'	2.28	110.50	106.61
3	L5	1625	OMG	O6-C6-C5	2.28	128.84	124.32
3	L5	3825	A2M	C4-C5-N7	2.28	111.74	109.34
3	L5	2401	A2M	C4-C5-N7	2.27	111.74	109.34
3	L5	4442	PSU	O4'-C1'-C2'	2.27	108.29	105.15
51	S2	1248	B8N	C31-N3-C4	2.27	120.39	117.18
51	S2	1288	OMU	O2-C2-N1	-2.26	119.85	122.80
51	S2	1081	PSU	C6-N1-C2	-2.26	120.59	122.69
3	L5	1322	1MA	N1-C6-N6	2.26	125.38	119.71
3	L5	398	A2M	C4-C5-N7	2.25	111.71	109.34
3	L5	3701	OMC	O2-C2-N3	-2.25	118.79	122.33
3	L5	4442	PSU	C6-C5-C4	2.25	119.69	118.17
3	L5	1524	A2M	C4-C5-N7	2.24	111.70	109.34
51	S2	468	A2M	C4-C5-N7	2.24	111.70	109.34
51	S2	1045	PSU	C6-N1-C2	-2.24	120.62	122.69
3	L5	3637	PSU	C6-C5-C4	2.24	119.68	118.17
3	L5	4571	A2M	C2'-C1'-N9	2.23	117.52	112.56
3	L5	4973	PSU	C6-C5-C4	2.23	119.68	118.17
51	S2	1326	OMU	O2-C2-N1	-2.22	119.91	122.80
3	L5	3867	A2M	C3'-C2'-C1'	-2.22	98.56	102.81
3	L5	4457	PSU	C6-N1-C2	-2.22	120.63	122.69
3	L5	2363	A2M	O4'-C1'-C2'	2.21	110.38	106.61
51	S2	651	PSU	C6-C5-C4	2.21	119.67	118.17
51	S2	1248	B8N	O4'-C1'-C2'	2.21	108.21	105.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	2363	A2M	C4-C5-N7	2.20	111.67	109.34
3	L5	3884	PSU	C6-C5-C4	2.20	119.66	118.17
51	S2	1248	B8N	O4-C4-C5	-2.20	118.78	122.58
51	S2	1056	PSU	C6-C5-C4	2.20	119.66	118.17
3	L5	4571	A2M	O4'-C1'-C2'	2.19	110.33	106.61
51	S2	428	OMU	O2-C2-N1	-2.18	119.96	122.80
3	L5	1534	A2M	O4'-C1'-C2'	2.18	110.32	106.61
3	L5	4636	PSU	O4'-C1'-C2'	2.18	108.16	105.15
51	S2	668	A2M	C4-C5-N7	2.17	111.63	109.34
51	S2	468	A2M	O4'-C1'-C2'	2.17	110.31	106.61
3	L5	4552	PSU	C6-C5-C4	2.17	119.64	118.17
51	S2	649	PSU	C6-C5-C4	2.17	119.64	118.17
51	S2	159	A2M	C4-C5-N7	2.17	111.63	109.34
51	S2	1367	PSU	C6-C5-C4	2.16	119.63	118.17
3	L5	4493	PSU	C6-C5-C4	2.15	119.63	118.17
3	L5	2787	A2M	O4'-C4'-C3'	2.14	109.40	105.15
3	L5	4498	OMU	O2-C2-N1	-2.14	120.02	122.80
3	L5	1326	A2M	O3'-C3'-C2'	2.13	117.16	111.19
3	L5	4457	PSU	O4'-C1'-C2'	2.13	108.10	105.15
3	L5	4590	A2M	O4'-C1'-C2'	2.13	110.23	106.61
3	L5	3867	A2M	O4'-C1'-C2'	2.12	110.22	106.61
3	L5	3785	A2M	O4'-C4'-C3'	2.12	109.36	105.15
3	L5	2787	A2M	C3'-C2'-C1'	-2.12	98.75	102.81
3	L5	2839	PSU	C6-C5-C4	2.11	119.60	118.17
51	S2	1081	PSU	O4'-C1'-C2'	2.11	108.07	105.15
3	L5	4293	PSU	C6-C5-C4	2.11	119.60	118.17
3	L5	400	A2M	C2'-C1'-N9	2.11	117.24	112.56
3	L5	2401	A2M	O4'-C1'-C2'	2.11	110.20	106.61
3	L5	3920	PSU	C6-C5-C4	2.10	119.59	118.17
3	L5	2815	A2M	C3'-C2'-C1'	-2.10	98.78	102.81
3	L5	2815	A2M	O4'-C1'-C2'	2.10	110.19	106.61
3	L5	4576	PSU	C6-C5-C4	2.10	119.59	118.17
3	L5	4299	PSU	C6-C5-C4	2.09	119.59	118.17
3	L5	1326	A2M	C3'-C2'-C1'	-2.09	98.81	102.81
3	L5	3637	PSU	O2-C2-N1	-2.09	120.63	122.79
3	L5	3822	PSU	C6-C5-C4	2.09	119.58	118.17
51	S2	109	PSU	C6-C5-C4	2.08	119.58	118.17
51	S2	1004	PSU	C6-C5-C4	2.07	119.57	118.17
3	L5	1534	A2M	O3'-C3'-C2'	2.07	116.97	111.19
3	L5	4972	PSU	C6-C5-C4	2.06	119.57	118.17
51	S2	1232	PSU	C6-C5-C4	2.06	119.57	118.17
51	S2	1056	PSU	O4'-C1'-C2'	2.06	108.00	105.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	S2	172	OMU	O2-C2-N1	-2.06	120.11	122.80
3	L5	5010	PSU	C6-C5-C4	2.06	119.56	118.17
3	L5	4296	PSU	C6-C5-C4	2.06	119.56	118.17
51	S2	484	A2M	C2'-C1'-N9	2.06	117.13	112.56
51	S2	1272	OMC	C1'-N1-C6	-2.06	116.38	120.78
3	L5	4673	PSU	C6-C5-C4	2.06	119.56	118.17
51	S2	354	OMU	O2-C2-N1	-2.05	120.12	122.80
3	L5	4579	PSU	C6-C5-C4	2.05	119.56	118.17
3	L5	4431	PSU	C6-C5-C4	2.05	119.56	118.17
51	S2	627	OMU	O2-C2-N1	-2.05	120.13	122.80
51	S2	1177	PSU	C6-C5-C4	2.05	119.56	118.17
3	L5	1677	PSU	O4'-C1'-C2'	2.04	107.97	105.15
51	S2	1244	PSU	C6-C5-C4	2.04	119.55	118.17
3	L5	2837	OMU	O2-C2-N1	-2.04	120.14	122.80
3	L5	3825	A2M	O4'-C1'-C2'	2.03	110.06	106.61
3	L5	1744	PSU	C6-C5-C4	2.02	119.54	118.17
51	S2	1383	A2M	O4'-C1'-C2'	2.02	110.06	106.61
51	S2	1046	PSU	O4'-C1'-C2'	2.02	107.94	105.15
51	S2	116	OMU	O2-C2-N1	-2.02	120.17	122.80
3	L5	1326	A2M	O4'-C1'-C2'	2.02	110.05	106.61
3	L5	4312	PSU	C6-C5-C4	2.01	119.53	118.17
3	L5	4353	PSU	O4'-C1'-C2'	2.01	107.93	105.15
51	S2	121	OMU	O2-C2-N1	-2.00	120.19	122.80

There are no chirality outliers.

All (136) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	L8	75	OMG	C1'-C2'-O2'-CM2
3	L5	400	A2M	C1'-C2'-O2'-CM'
3	L5	1326	A2M	O4'-C4'-C5'-O5'
3	L5	1340	OMC	C1'-C2'-O2'-CM2
3	L5	1625	OMG	O4'-C4'-C5'-O5'
3	L5	2351	OMC	C1'-C2'-O2'-CM2
3	L5	2787	A2M	C1'-C2'-O2'-CM'
3	L5	2824	OMC	C1'-C2'-O2'-CM2
3	L5	2861	OMC	C1'-C2'-O2'-CM2
3	L5	3627	OMG	C1'-C2'-O2'-CM2
3	L5	3701	OMC	O4'-C4'-C5'-O5'
3	L5	3792	OMG	O4'-C4'-C5'-O5'
3	L5	3841	OMC	C1'-C2'-O2'-CM2
3	L5	3867	A2M	C1'-C2'-O2'-CM'

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Mol	Chain	Res	Type	Atoms
3	L5	4196	OMG	C1'-C2'-O2'-CM2
3	L5	4220	6MZ	C5'-O5'-P-O2P
3	L5	4590	A2M	O4'-C4'-C5'-O5'
3	L5	4620	OMU	C1'-C2'-O2'-CM2
3	L5	4637	OMG	C1'-C2'-O2'-CM2
51	S2	27	A2M	C1'-C2'-O2'-CM'
51	S2	116	OMU	C1'-C2'-O2'-CM2
51	S2	159	A2M	C1'-C2'-O2'-CM'
51	S2	354	OMU	C1'-C2'-O2'-CM2
51	S2	468	A2M	C1'-C2'-O2'-CM'
51	S2	601	OMG	C1'-C2'-O2'-CM2
51	S2	644	OMG	O4'-C4'-C5'-O5'
51	S2	863	PSU	C3'-C4'-C5'-O5'
51	S2	863	PSU	O4'-C4'-C5'-O5'
51	S2	1248	B8N	O4'-C4'-C5'-O5'
51	S2	1272	OMC	C1'-C2'-O2'-CM2
51	S2	1272	OMC	O4'-C4'-C5'-O5'
51	S2	1288	OMU	O4'-C4'-C5'-O5'
51	S2	1328	OMG	C1'-C2'-O2'-CM2
51	S2	1337	4AC	N3-C4-N4-C7
51	S2	1383	A2M	C1'-C2'-O2'-CM'
51	S2	1391	OMC	C1'-C2'-O2'-CM2
51	S2	1490	OMG	C1'-C2'-O2'-CM2
51	S2	1832	6MZ	C5-C6-N6-C9
51	S2	1832	6MZ	N1-C6-N6-C9
51	S2	1832	6MZ	C5'-O5'-P-O1P
51	S2	1832	6MZ	C5'-O5'-P-O2P
51	S2	1832	6MZ	C5'-O5'-P-O3P
3	L5	3701	OMC	C2'-C1'-N1-C2
3	L5	1536	PSU	C3'-C4'-C5'-O5'
3	L5	1536	PSU	O4'-C4'-C5'-O5'
3	L5	2364	OMG	O4'-C4'-C5'-O5'
3	L5	3867	A2M	C3'-C4'-C5'-O5'
3	L5	3899	OMG	C3'-C4'-C5'-O5'
3	L5	4590	A2M	C3'-C4'-C5'-O5'
51	S2	576	A2M	O4'-C4'-C5'-O5'
51	S2	867	OMG	C3'-C4'-C5'-O5'
51	S2	1272	OMC	C3'-C4'-C5'-O5'
51	S2	1288	OMU	C3'-C4'-C5'-O5'
51	S2	1442	OMU	O4'-C4'-C5'-O5'
51	S2	1703	OMC	O4'-C4'-C5'-O5'
51	S2	1248	B8N	N34-C33-C34-O36

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Mol	Chain	Res	Type	Atoms
3	L5	3701	OMC	C3'-C4'-C5'-O5'
3	L5	3899	OMG	O4'-C4'-C5'-O5'
3	L5	4500	PSU	O4'-C4'-C5'-O5'
51	S2	576	A2M	C3'-C4'-C5'-O5'
51	S2	627	OMU	O4'-C4'-C5'-O5'
51	S2	867	OMG	O4'-C4'-C5'-O5'
51	S2	1442	OMU	C3'-C4'-C5'-O5'
3	L5	3701	OMC	C2'-C1'-N1-C6
3	L5	4447	5MC	C2'-C1'-N1-C6
3	L5	1625	OMG	C3'-C4'-C5'-O5'
3	L5	3792	OMG	C3'-C4'-C5'-O5'
3	L5	4500	PSU	C3'-C4'-C5'-O5'
51	S2	644	OMG	C3'-C4'-C5'-O5'
51	S2	1248	B8N	C3'-C4'-C5'-O5'
51	S2	428	OMU	C2'-C1'-N1-C6
3	L5	1326	A2M	C3'-C4'-C5'-O5'
51	S2	627	OMU	C3'-C4'-C5'-O5'
51	S2	1703	OMC	C3'-C4'-C5'-O5'
3	L5	4447	5MC	C2'-C1'-N1-C2
3	L5	2364	OMG	C3'-C4'-C5'-O5'
3	L5	2422	OMC	O4'-C4'-C5'-O5'
3	L5	2787	A2M	C3'-C4'-C5'-O5'
3	L5	3867	A2M	O4'-C4'-C5'-O5'
3	L5	4618	OMG	C3'-C4'-C5'-O5'
3	L5	2422	OMC	C3'-C4'-C5'-O5'
3	L5	1524	A2M	O4'-C4'-C5'-O5'
51	S2	668	A2M	O4'-C4'-C5'-O5'
51	S2	1639	G7M	O4'-C4'-C5'-O5'
3	L5	1524	A2M	C3'-C4'-C5'-O5'
51	S2	1639	G7M	C3'-C4'-C5'-O5'
51	S2	1850	MA6	O4'-C4'-C5'-O5'
3	L5	4590	A2M	C4'-C5'-O5'-P
3	L5	2364	OMG	C1'-C2'-O2'-CM2
51	S2	644	OMG	C1'-C2'-O2'-CM2
3	L5	4618	OMG	O4'-C4'-C5'-O5'
3	L5	1781	PSU	C3'-C4'-C5'-O5'
51	S2	428	OMU	O4'-C1'-N1-C6
51	S2	627	OMU	C2'-C1'-N1-C6
3	L5	4447	5MC	O4'-C1'-N1-C2
51	S2	428	OMU	C2'-C1'-N1-C2
51	S2	1851	MA6	C5-C6-N6-C9
3	L5	3701	OMC	O4'-C1'-N1-C6

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Mol	Chain	Res	Type	Atoms
51	S2	428	OMU	O4'-C1'-N1-C2
3	L5	4447	5MC	O4'-C1'-N1-C6
3	L5	3818	UY1	C4'-C5'-O5'-P
51	S2	576	A2M	C4'-C5'-O5'-P
51	S2	1851	MA6	C4'-C5'-O5'-P
3	L5	3818	UY1	O4'-C1'-C5-C4
3	L5	4500	PSU	O4'-C1'-C5-C4
51	S2	668	A2M	C3'-C4'-C5'-O5'
3	L5	1326	A2M	C4'-C5'-O5'-P
3	L5	1534	A2M	C4'-C5'-O5'-P
3	L5	4500	PSU	C4'-C5'-O5'-P
3	L5	3851	PSU	C3'-C4'-C5'-O5'
51	S2	627	OMU	O4'-C1'-N1-C6
51	S2	99	A2M	O4'-C4'-C5'-O5'
3	L5	3844	PSU	C4'-C5'-O5'-P
3	L5	3887	OMC	C4'-C5'-O5'-P
51	S2	644	OMG	C4'-C5'-O5'-P
51	S2	1490	OMG	C4'-C5'-O5'-P
3	L5	2424	OMG	C1'-C2'-O2'-CM2
51	S2	867	OMG	C1'-C2'-O2'-CM2
3	L5	4296	PSU	C3'-C4'-C5'-O5'
3	L5	3818	UY1	O4'-C1'-C5-C6
3	L5	4636	PSU	O4'-C1'-C5-C6
3	L5	3701	OMC	O4'-C1'-N1-C2
3	L5	2815	A2M	O4'-C4'-C5'-O5'
3	L5	1323	A2M	O4'-C4'-C5'-O5'
3	L5	2351	OMC	O4'-C4'-C5'-O5'
51	S2	801	PSU	C3'-C4'-C5'-O5'
51	S2	1272	OMC	C2'-C1'-N1-C2
3	L5	4637	OMG	O4'-C4'-C5'-O5'
51	S2	1081	PSU	C4'-C5'-O5'-P
51	S2	1383	A2M	O4'-C4'-C5'-O5'
51	S2	1383	A2M	C3'-C4'-C5'-O5'
3	L5	4636	PSU	C4'-C5'-O5'-P
51	S2	627	OMU	O4'-C1'-N1-C2
3	L5	2351	OMC	C2'-C1'-N1-C2
51	S2	627	OMU	C2'-C1'-N1-C2
51	S2	1248	B8N	N34-C33-C34-O35

There are no ring outliers.

82 monomers are involved in 136 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	L5	4293	PSU	1	0
3	L5	3825	A2M	1	0
3	L5	3841	OMC	1	0
51	S2	462	OMC	3	0
51	S2	1177	PSU	1	0
51	S2	1272	OMC	1	0
51	S2	644	OMG	1	0
51	S2	1337	4AC	3	0
3	L5	4196	OMG	1	0
51	S2	159	A2M	2	0
51	S2	1328	OMG	1	0
3	L5	1871	A2M	1	0
51	S2	681	PSU	1	0
3	L5	4457	PSU	1	0
3	L5	1625	OMG	1	0
3	L5	4618	OMG	1	0
3	L5	3925	OMU	1	0
3	L5	2815	A2M	3	0
3	L5	3701	OMC	1	0
3	L5	4521	PSU	1	0
3	L5	3869	OMC	1	0
3	L5	3637	PSU	1	0
3	L5	3718	A2M	5	0
3	L5	3867	A2M	4	0
51	S2	1832	6MZ	2	0
51	S2	1391	OMC	4	0
51	S2	166	A2M	1	0
3	L5	2804	OMC	1	0
51	S2	1850	MA6	3	0
3	L5	4590	A2M	1	0
3	L5	4500	PSU	1	0
51	S2	1288	OMU	1	0
3	L5	1683	PSU	3	0
51	S2	354	OMU	1	0
3	L5	2424	OMG	1	0
51	S2	484	A2M	2	0
51	S2	1490	OMG	1	0
3	L5	4620	OMU	4	0
3	L5	4220	6MZ	4	0
3	L5	2876	OMG	2	0
51	S2	27	A2M	2	0
3	L5	400	A2M	1	0
3	L5	4579	PSU	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	L5	4447	5MC	1	0
3	L5	4636	PSU	1	0
51	S2	1703	OMC	1	0
3	L5	4689	PSU	1	0
51	S2	649	PSU	1	0
3	L5	2351	OMC	2	0
51	S2	116	OMU	4	0
51	S2	509	OMG	6	0
3	L5	5001	PSU	1	0
51	S2	1031	A2M	1	0
3	L5	4227	OMU	1	0
3	L5	4442	PSU	1	0
51	S2	99	A2M	3	0
3	L5	4523	A2M	1	0
3	L5	4637	OMG	1	0
3	L5	1326	A2M	3	0
3	L5	3818	UY1	1	0
51	S2	867	OMG	1	0
51	S2	576	A2M	2	0
3	L5	1534	A2M	2	0
51	S2	1367	PSU	1	0
3	L5	4306	OMU	1	0
3	L5	4571	A2M	2	0
51	S2	1232	PSU	2	0
51	S2	468	A2M	1	0
3	L5	2632	PSU	1	0
5	L8	75	OMG	1	0
51	S2	121	OMU	4	0
3	L5	4456	OMC	1	0
3	L5	4536	OMC	1	0
51	S2	601	OMG	2	0
3	L5	1781	PSU	1	0
3	L5	1340	OMC	2	0
3	L5	3785	A2M	1	0
3	L5	2363	A2M	1	0
3	L5	2861	OMC	1	0
51	S2	1383	A2M	1	0
3	L5	3920	PSU	1	0
3	L5	4431	PSU	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 328 ligands modelled in this entry, 307 are monoatomic - leaving 21 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
90	PUT	S2	1932	-	5,5,5	0.24	0	4,4,4	0.52	0
87	SPD	L5	5289	-	9,9,9	0.32	0	8,8,8	0.85	0
86	SPM	L5	5264	-	13,13,13	0.34	0	12,12,12	0.98	0
87	SPD	LN	301	-	9,9,9	0.32	0	8,8,8	0.75	0
87	SPD	L5	5261	-	9,9,9	0.32	0	8,8,8	0.94	0
87	SPD	S2	1931	-	9,9,9	0.32	0	8,8,8	0.77	0
87	SPD	L5	5287	-	9,9,9	0.32	0	8,8,8	0.85	0
87	SPD	L5	5290	-	9,9,9	0.32	0	8,8,8	0.68	0
87	SPD	L5	5286	-	9,9,9	0.32	0	8,8,8	0.84	0
86	SPM	L5	5267	-	13,13,13	0.35	0	12,12,12	0.97	0
87	SPD	S2	1930	-	9,9,9	0.31	0	8,8,8	0.83	0
87	SPD	L5	5284	-	9,9,9	0.32	0	8,8,8	0.77	0
86	SPM	L5	5259	-	13,13,13	0.36	0	12,12,12	0.95	0
86	SPM	L5	5292	-	13,13,13	0.35	0	12,12,12	0.83	0
87	SPD	L5	5285	-	9,9,9	0.32	0	8,8,8	0.91	0
86	SPM	L5	5288	-	13,13,13	0.36	0	12,12,12	1.02	0
87	SPD	L8	202	-	9,9,9	0.33	0	8,8,8	0.86	0
87	SPD	L5	5283	85	9,9,9	0.32	0	8,8,8	0.85	0
86	SPM	S2	1929	-	13,13,13	0.35	0	12,12,12	1.02	0
86	SPM	L5	5263	-	13,13,13	0.35	0	12,12,12	0.95	0
86	SPM	L5	5291	-	13,13,13	0.35	0	12,12,12	0.74	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
90	PUT	S2	1932	-	-	0/3/3/3	-
87	SPD	L5	5289	-	-	1/7/7/7	-
86	SPM	L5	5264	-	-	3/11/11/11	-
87	SPD	LN	301	-	-	1/7/7/7	-
87	SPD	L5	5261	-	-	0/7/7/7	-
87	SPD	S2	1931	-	-	4/7/7/7	-
87	SPD	L5	5287	-	-	1/7/7/7	-
87	SPD	L5	5290	-	-	3/7/7/7	-
87	SPD	L5	5286	-	-	2/7/7/7	-
86	SPM	L5	5267	-	-	4/11/11/11	-
87	SPD	S2	1930	-	-	2/7/7/7	-
87	SPD	L5	5284	-	-	2/7/7/7	-
86	SPM	L5	5259	-	-	1/11/11/11	-
86	SPM	L5	5292	-	-	3/11/11/11	-
87	SPD	L5	5285	-	-	4/7/7/7	-
86	SPM	L5	5288	-	-	6/11/11/11	-
87	SPD	L8	202	-	-	2/7/7/7	-
87	SPD	L5	5283	85	-	1/7/7/7	-
86	SPM	S2	1929	-	-	5/11/11/11	-
86	SPM	L5	5263	-	-	4/11/11/11	-
86	SPM	L5	5291	-	-	2/11/11/11	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (51) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
86	L5	5263	SPM	N10-C11-C12-C13
86	L5	5267	SPM	C7-C8-C9-N10
86	S2	1929	SPM	C7-C8-C9-N10
87	L5	5285	SPD	C3-C4-C5-N6
87	L8	202	SPD	C3-C4-C5-N6
87	S2	1931	SPD	N6-C7-C8-C9
86	L5	5263	SPM	N5-C6-C7-C8
86	L5	5263	SPM	C7-C6-N5-C4
86	L5	5264	SPM	N5-C6-C7-C8
87	L5	5284	SPD	C3-C4-C5-N6
86	L5	5288	SPM	C7-C6-N5-C4

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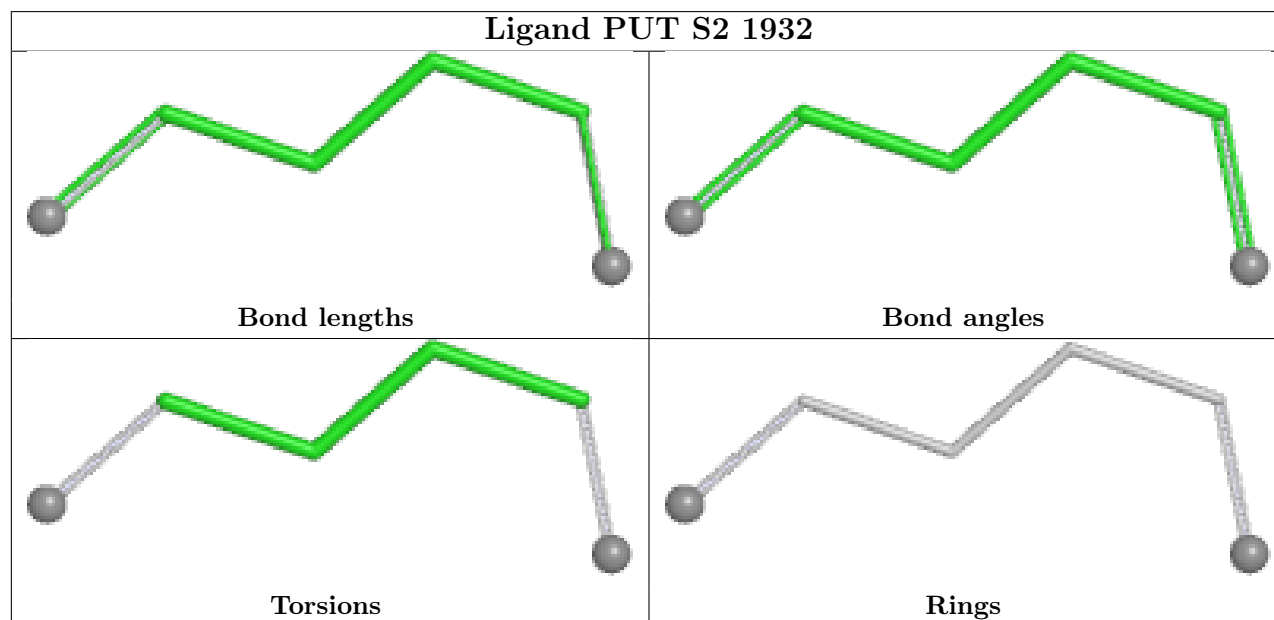
Mol	Chain	Res	Type	Atoms
86	L5	5288	SPM	C12-C11-N10-C9
87	L5	5285	SPD	C2-C3-C4-C5
86	L5	5291	SPM	C8-C9-N10-C11
86	L5	5292	SPM	C8-C9-N10-C11
87	L5	5290	SPD	C8-C7-N6-C5
87	S2	1930	SPD	C8-C7-N6-C5
87	L8	202	SPD	N6-C7-C8-C9
86	S2	1929	SPM	C2-C3-C4-N5
86	L5	5288	SPM	C8-C9-N10-C11
86	L5	5292	SPM	C3-C4-N5-C6
86	L5	5267	SPM	C6-C7-C8-C9
87	L5	5285	SPD	N6-C7-C8-C9
87	L5	5286	SPD	C2-C3-C4-C5
86	L5	5267	SPM	C11-C12-C13-N14
87	L5	5285	SPD	C7-C8-C9-N10
86	L5	5292	SPM	C6-C7-C8-C9
86	L5	5288	SPM	C2-C3-C4-N5
87	L5	5289	SPD	C2-C3-C4-C5
87	L5	5283	SPD	C2-C3-C4-C5
86	L5	5264	SPM	C2-C3-C4-N5
86	S2	1929	SPM	C8-C9-N10-C11
87	S2	1931	SPD	C3-C4-C5-N6
87	S2	1931	SPD	N1-C2-C3-C4
86	S2	1929	SPM	C3-C4-N5-C6
87	S2	1930	SPD	C4-C5-N6-C7
86	L5	5264	SPM	C6-C7-C8-C9
87	L5	5286	SPD	N6-C7-C8-C9
86	L5	5259	SPM	C7-C6-N5-C4
87	L5	5290	SPD	C4-C5-N6-C7
86	L5	5263	SPM	C11-C12-C13-N14
87	L5	5284	SPD	N6-C7-C8-C9
87	S2	1931	SPD	C4-C5-N6-C7
86	S2	1929	SPM	C6-C7-C8-C9
87	L5	5287	SPD	C8-C7-N6-C5
86	L5	5288	SPM	C3-C4-N5-C6
87	LN	301	SPD	C8-C7-N6-C5
86	L5	5288	SPM	N1-C2-C3-C4
87	L5	5290	SPD	C7-C8-C9-N10
86	L5	5291	SPM	C7-C8-C9-N10
86	L5	5267	SPM	C12-C11-N10-C9

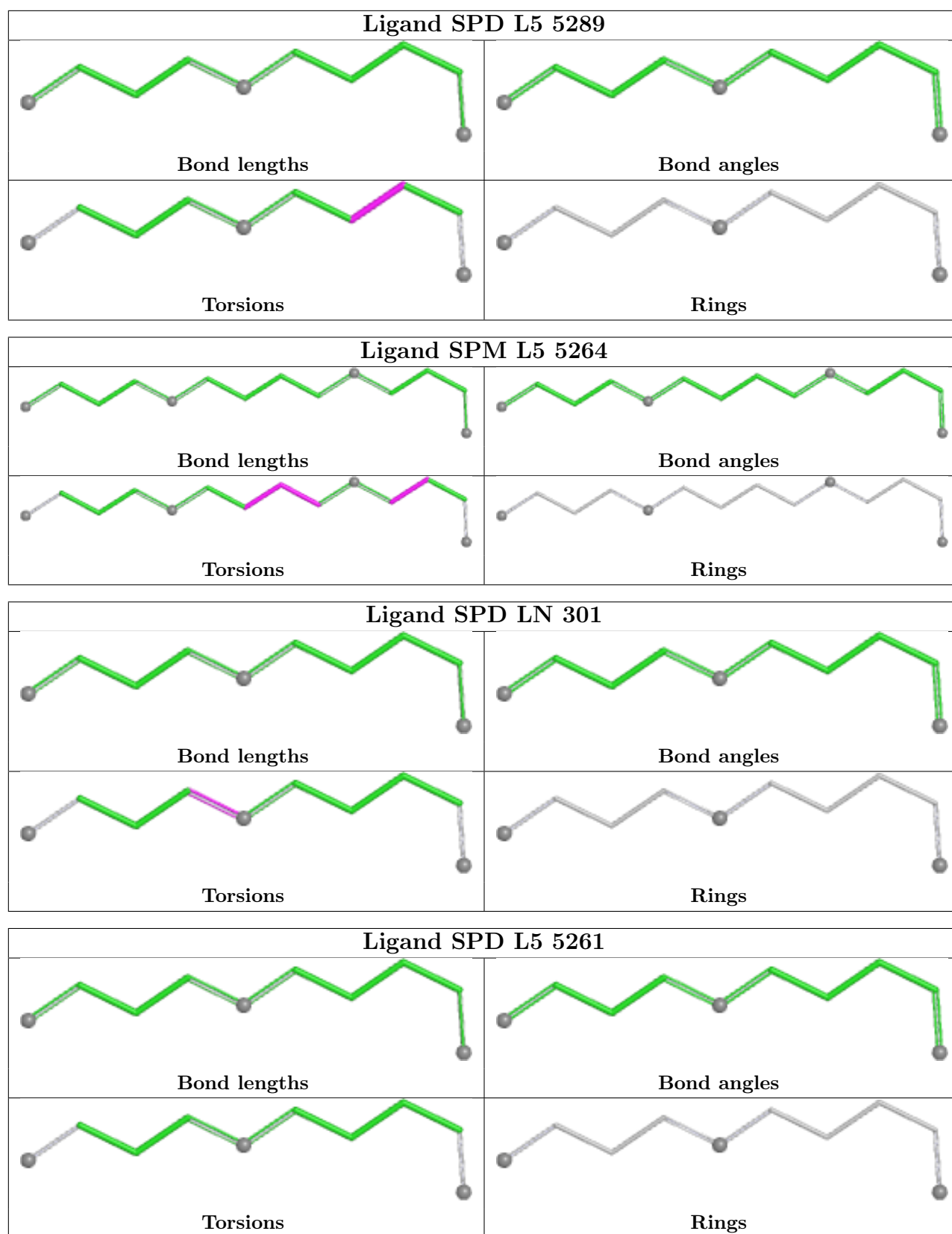
There are no ring outliers.

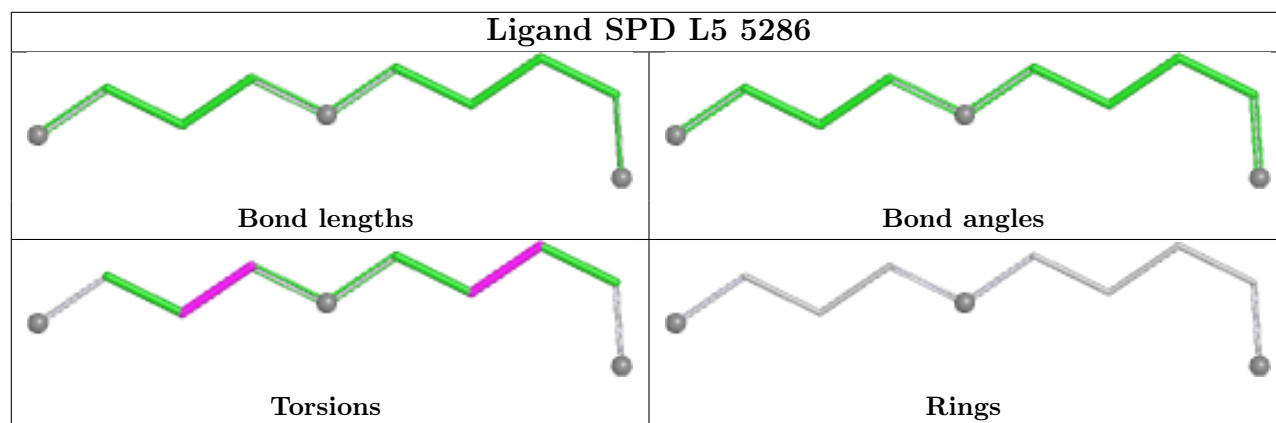
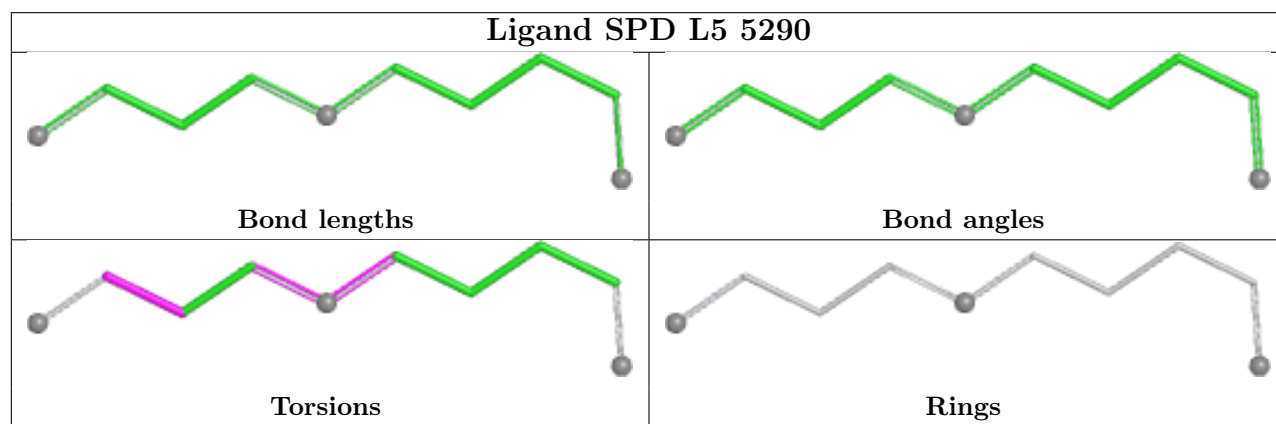
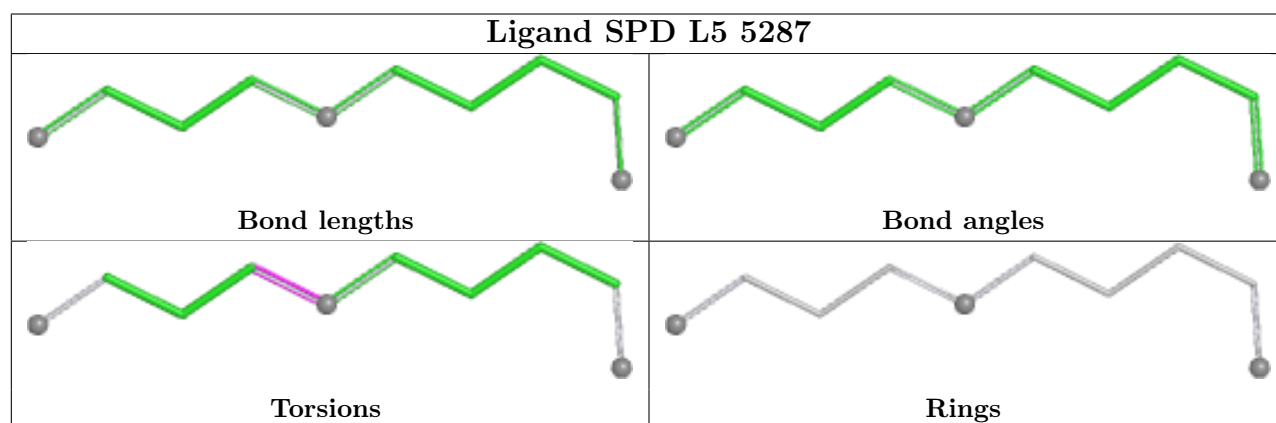
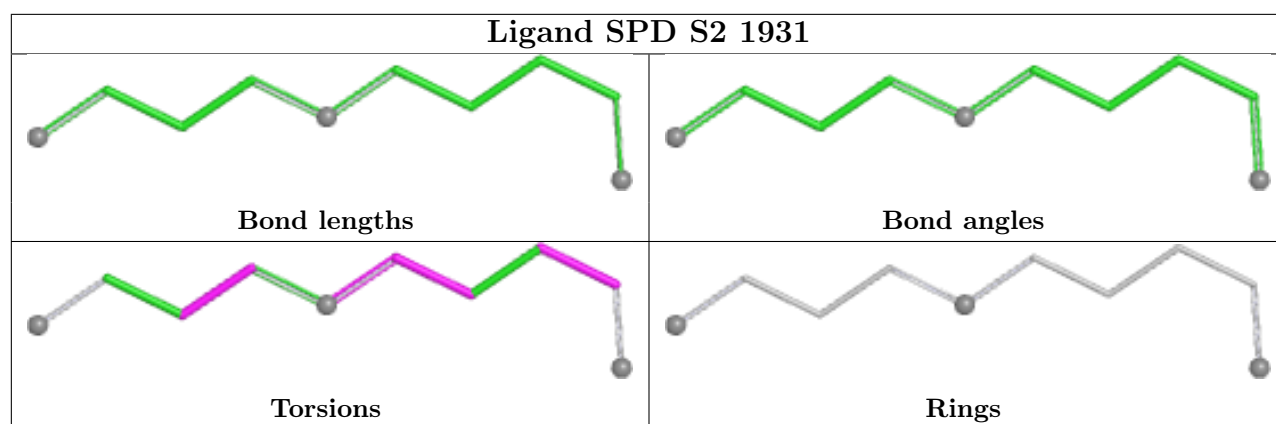
9 monomers are involved in 15 short contacts:

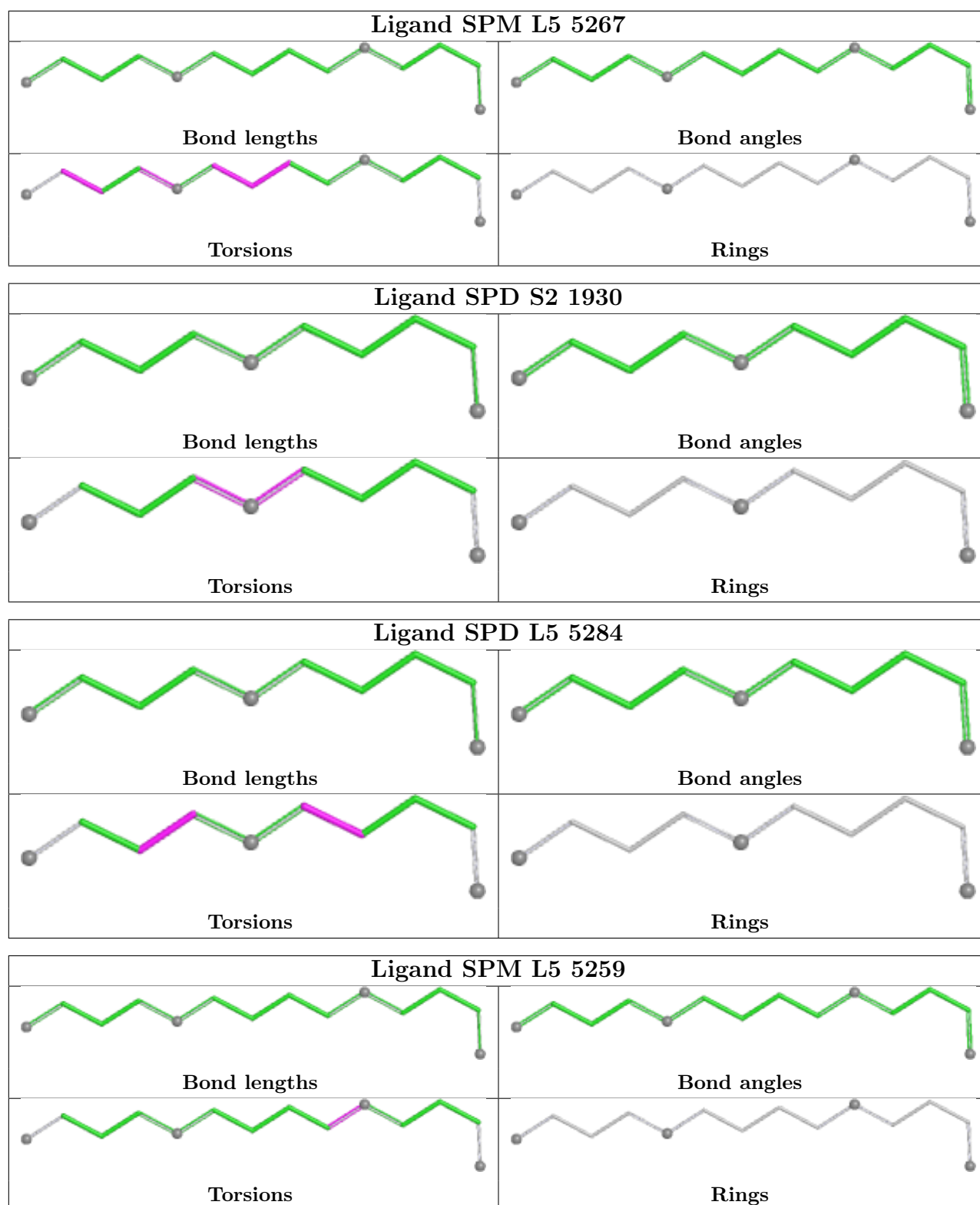
Mol	Chain	Res	Type	Clashes	Symm-Clashes
86	L5	5264	SPM	2	0
87	L5	5261	SPD	1	0
87	L5	5290	SPD	1	0
87	L5	5284	SPD	1	0
86	L5	5259	SPM	2	0
86	L5	5292	SPM	4	0
86	L5	5288	SPM	1	0
86	S2	1929	SPM	2	0
86	L5	5291	SPM	1	0

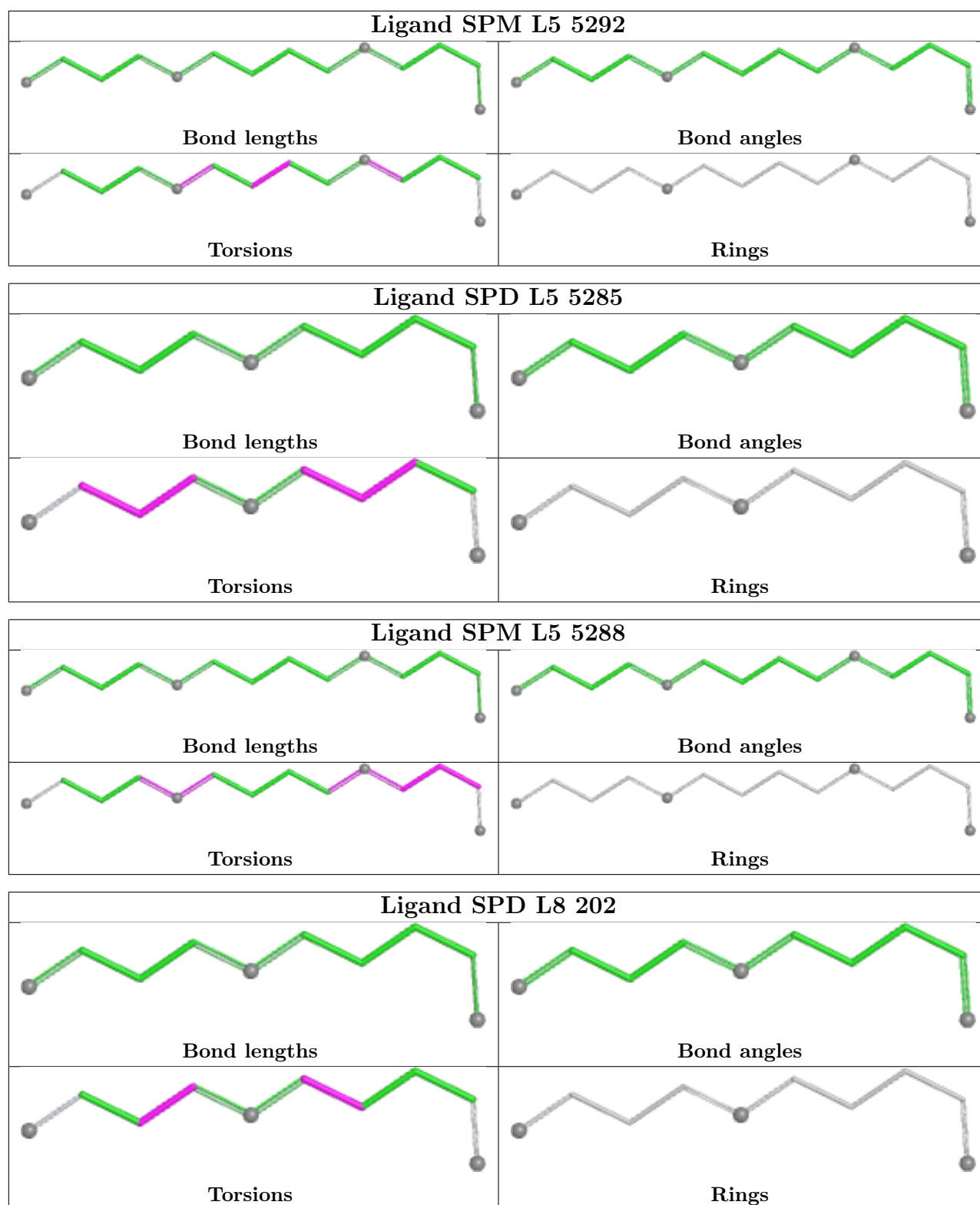
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

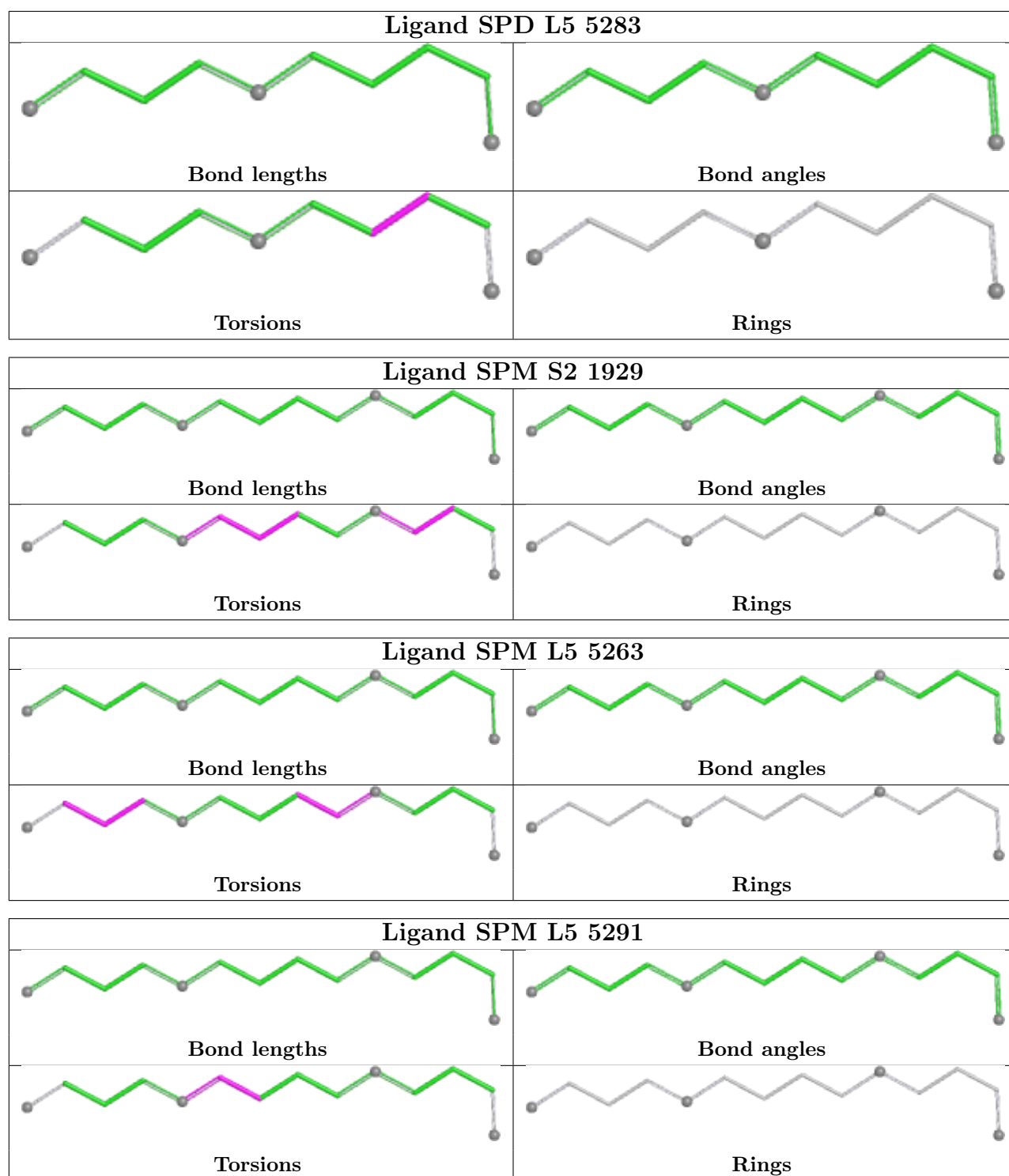












5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
51	S2	5
1	CD	1
32	Lb	1
49	Lt	1
59	SH	1
50	Pt	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	CD	37:LYS	C	389:ALA	N	174.73
1	Lb	76:VAL	C	89:VAL	N	35.22
1	S2	753:C	O3'	785:C	P	28.37
1	S2	739:C	O3'	746:C	P	13.09
1	S2	698:G	O3'	730:C	P	12.71
1	Lt	87:GLU	C	104:ILE	N	12.55
1	SH	107:LYS	C	111:LYS	N	11.54
1	Pt	15:G	O3'	18:G	P	10.59
1	S2	225:G	O3'	287:U	P	6.98
1	S2	1210:G	O3'	1211:G	P	3.16

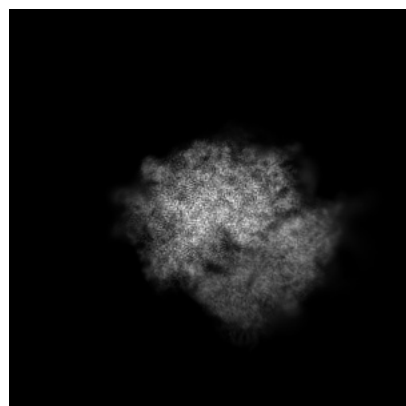
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-71477. These allow visual inspection of the internal detail of the map and identification of artifacts.

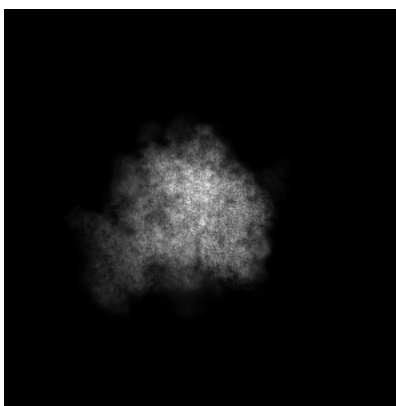
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

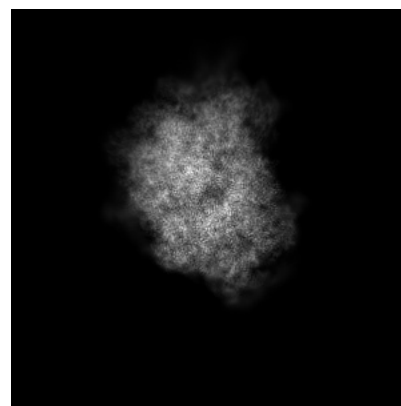
6.1.1 Primary map



X

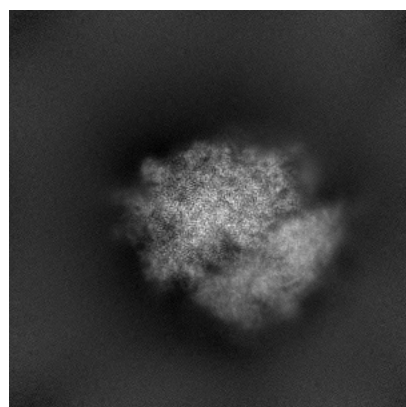


Y

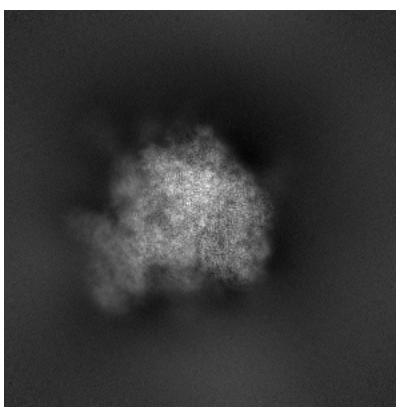


Z

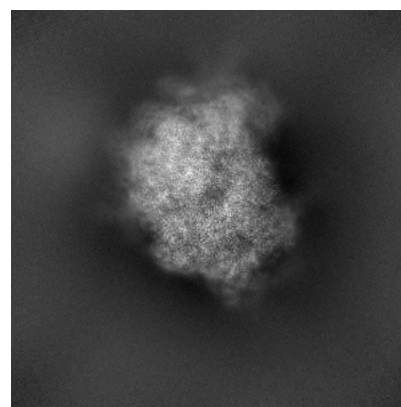
6.1.2 Raw map



X



Y

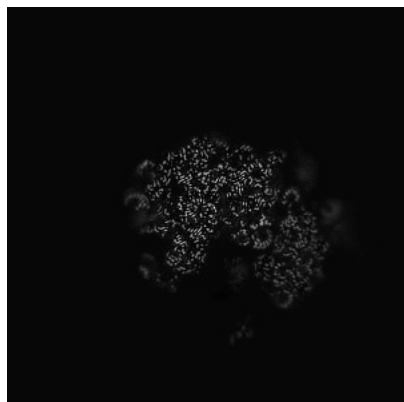


Z

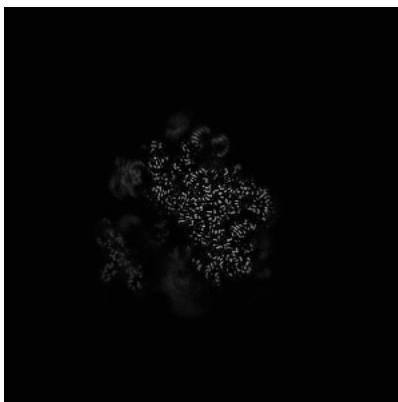
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

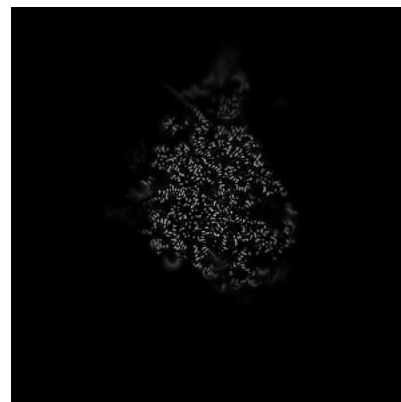
6.2.1 Primary map



X Index: 288

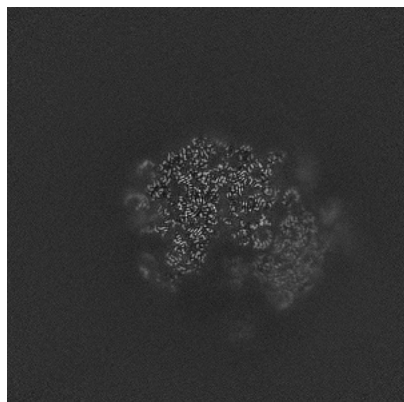


Y Index: 288

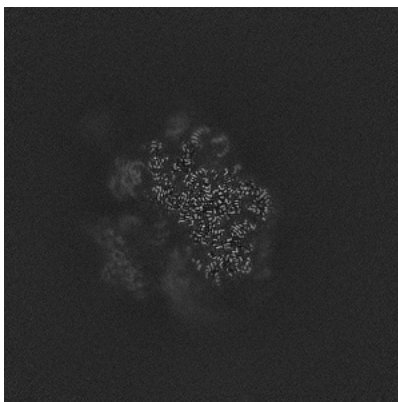


Z Index: 288

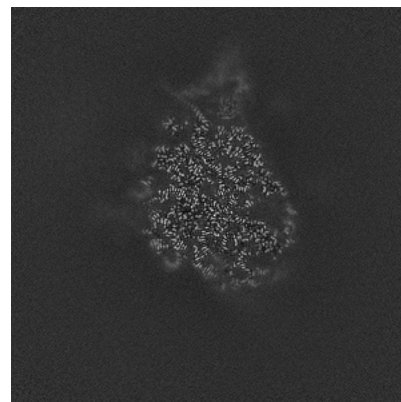
6.2.2 Raw map



X Index: 288



Y Index: 288

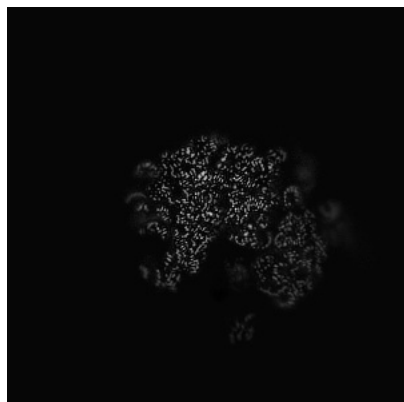


Z Index: 288

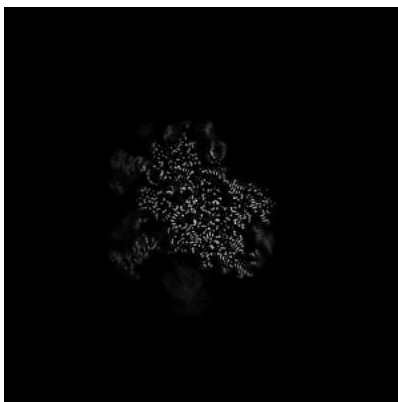
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

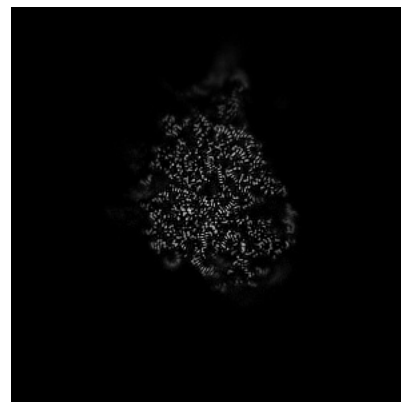
6.3.1 Primary map



X Index: 285

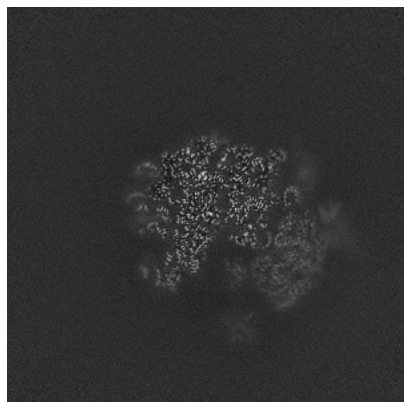


Y Index: 272

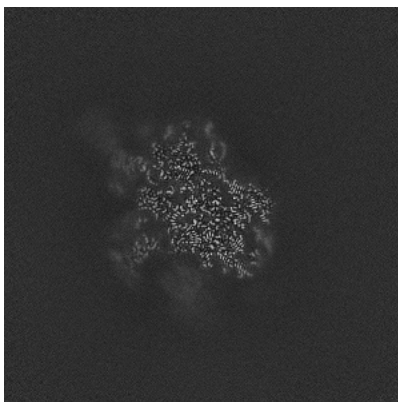


Z Index: 290

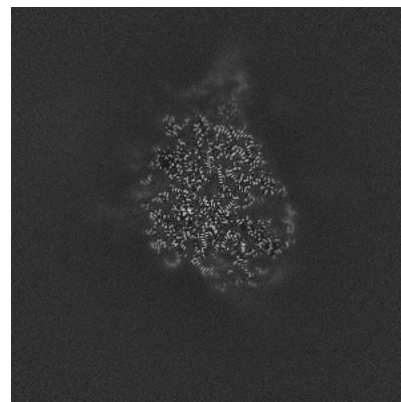
6.3.2 Raw map



X Index: 285



Y Index: 272

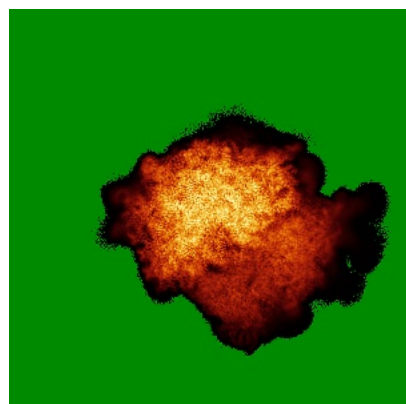


Z Index: 290

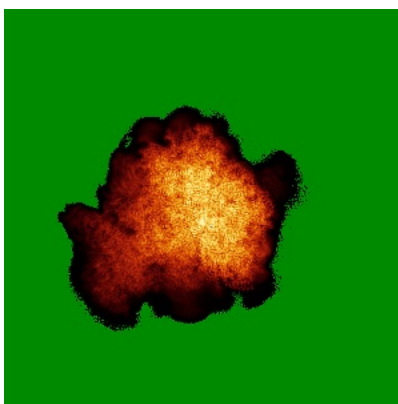
The images above show the largest variance slices of the map in three orthogonal directions.

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

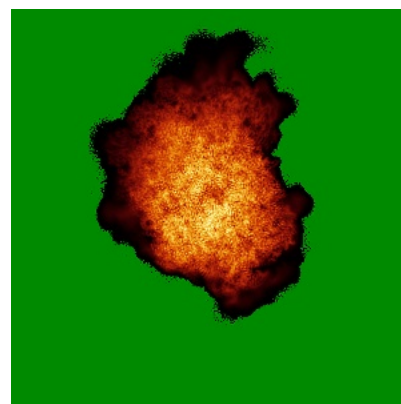
6.4.1 Primary map



X

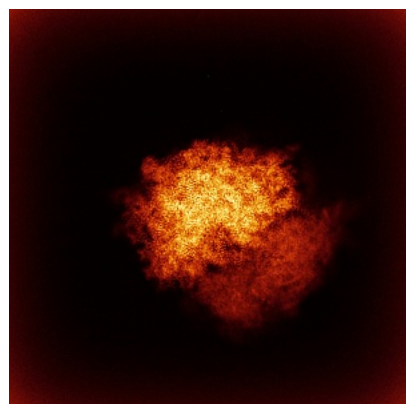


Y

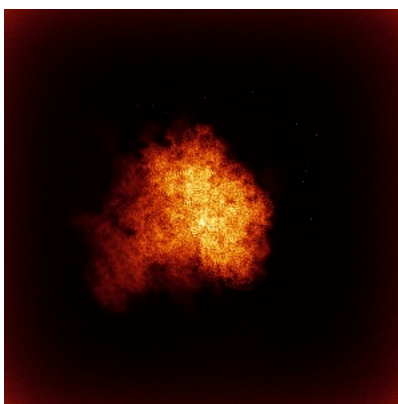


Z

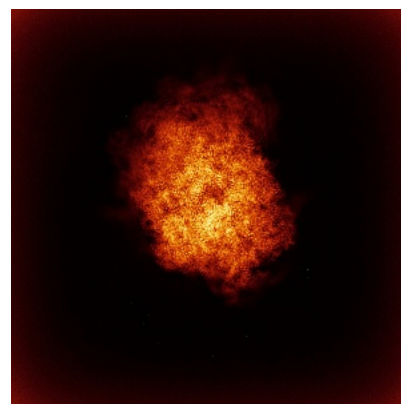
6.4.2 Raw map



X



Y

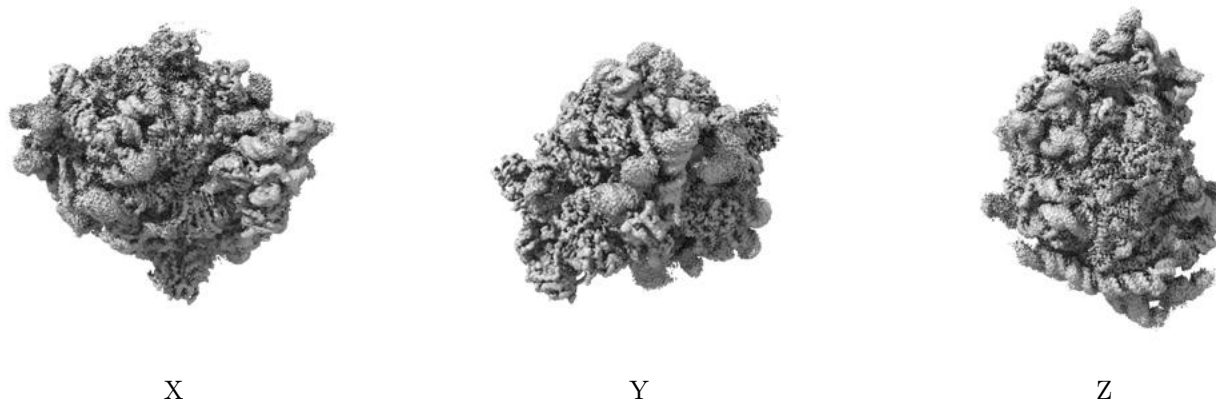


Z

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.

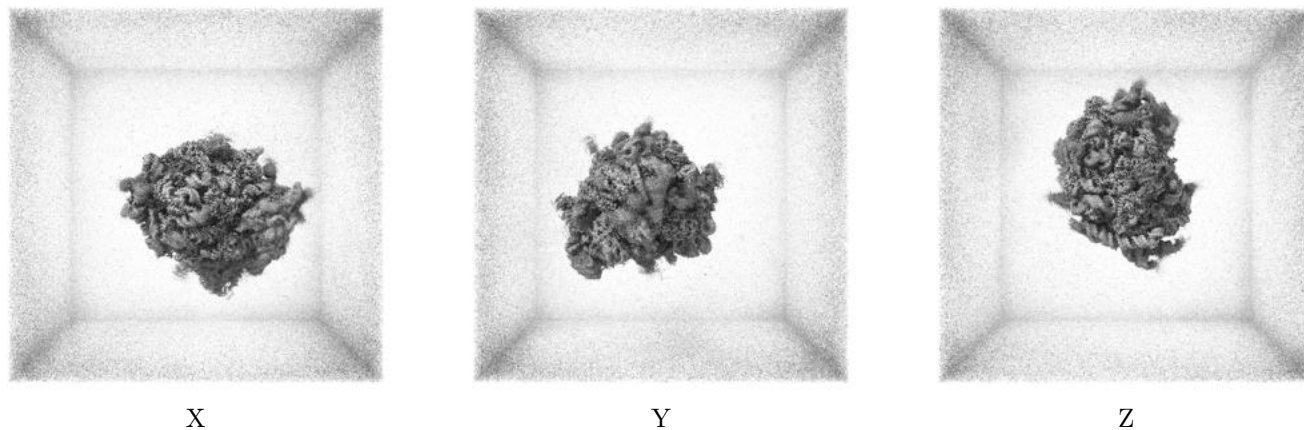
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0169. 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.

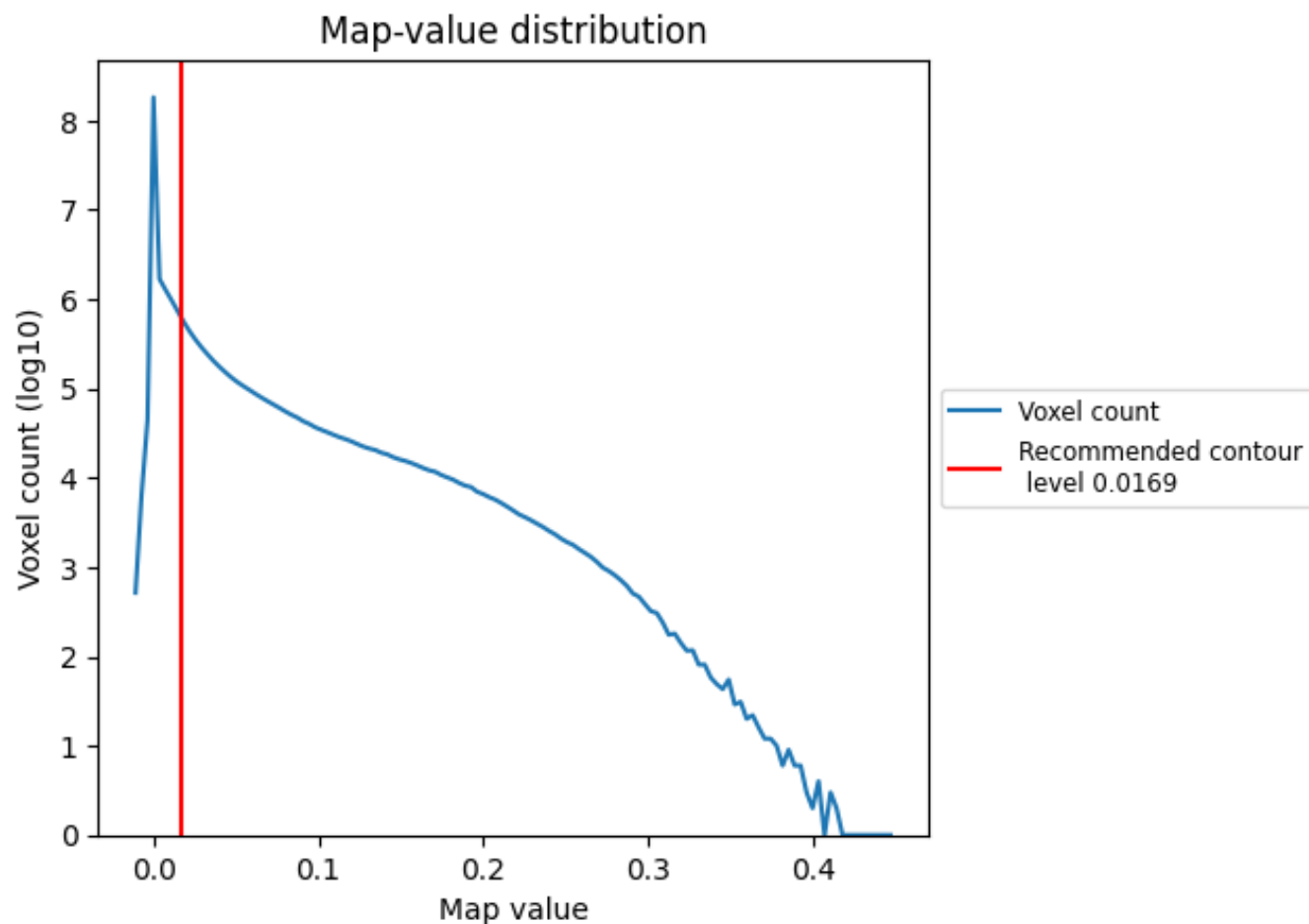
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

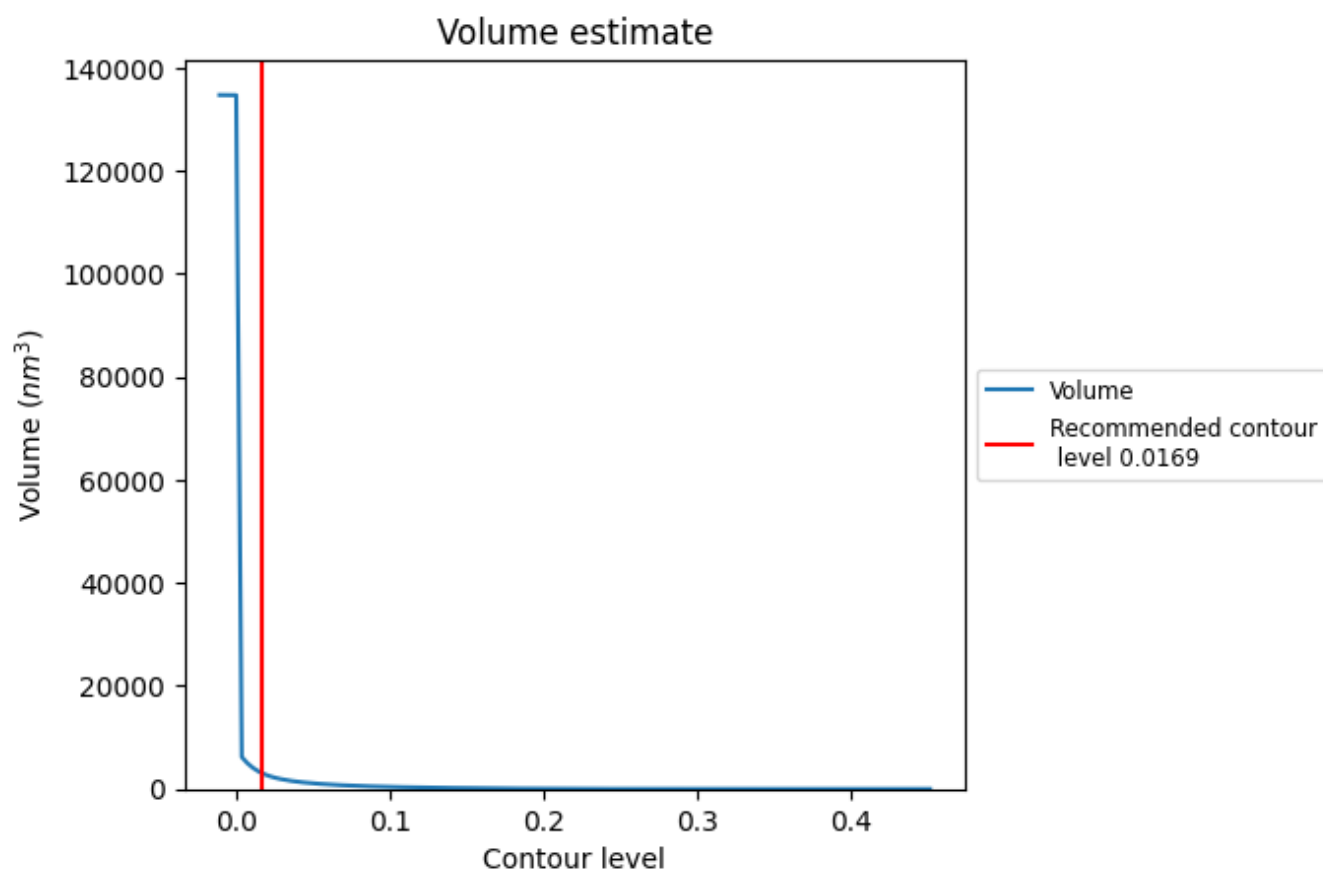
This section contains the results of statistical analysis of the map.

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.

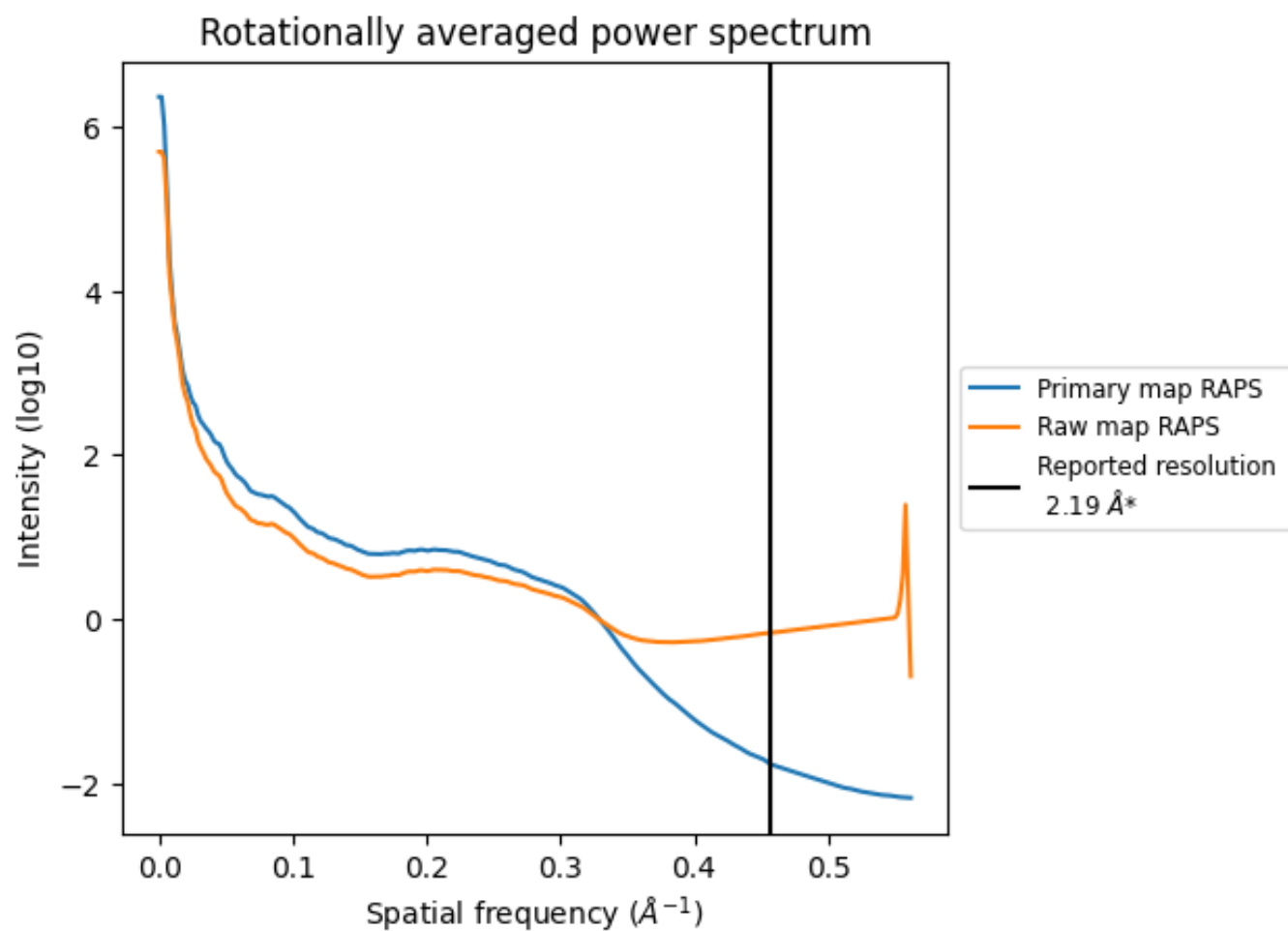
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3024 nm^3 ; this corresponds to an approximate mass of 2732 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 ⓘ

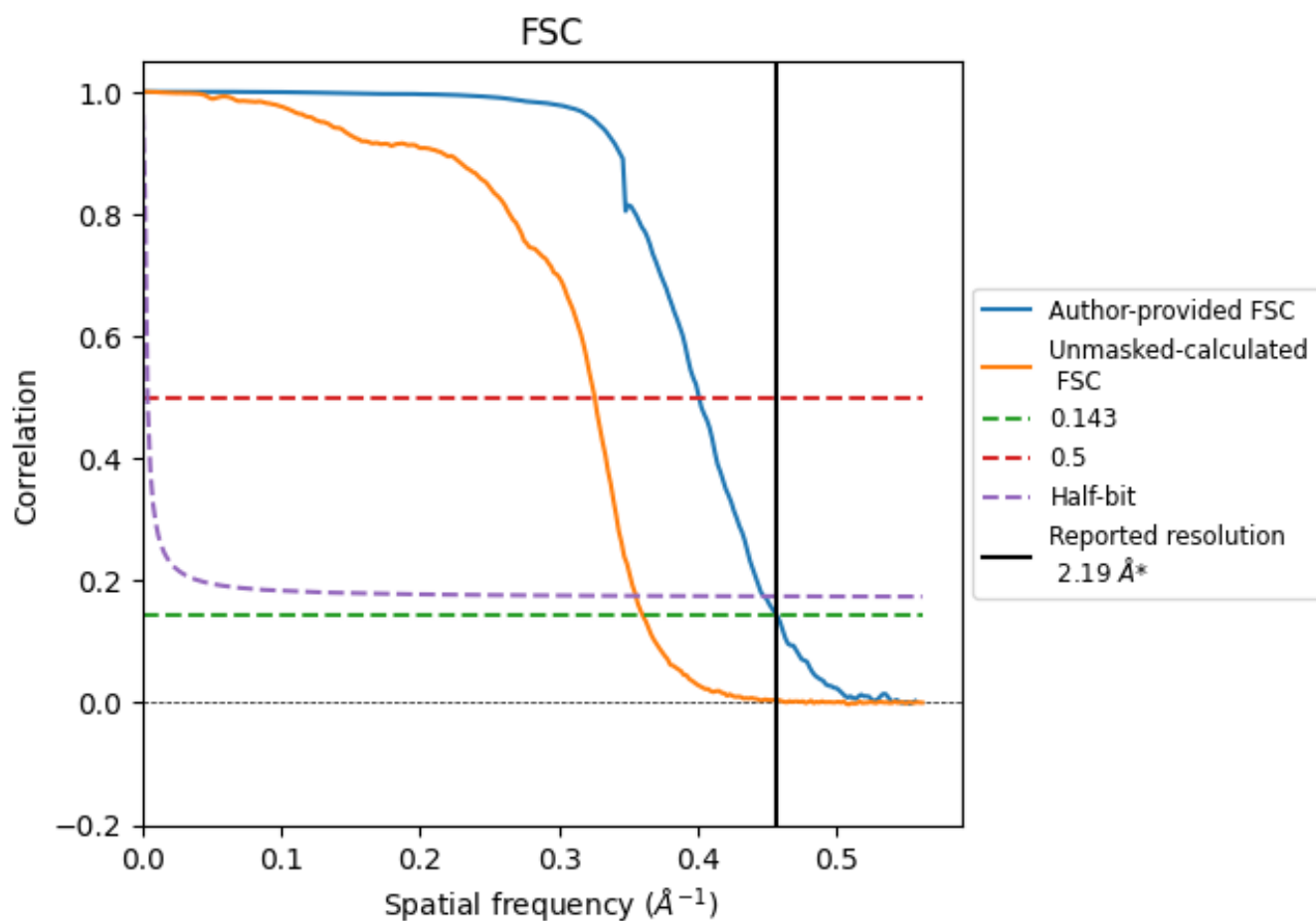


*Reported resolution corresponds to spatial frequency of 0.457 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of $0.457 \text{ \AA}^{-1}$

8.2 Resolution estimates [i](#)

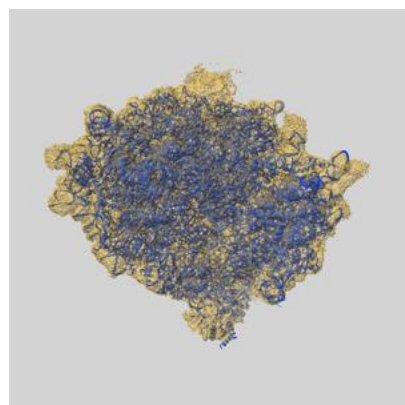
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.19	-	-
Author-provided FSC curve	2.19	2.49	2.23
Unmasked-calculated*	2.77	3.07	2.81

*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 2.77 differs from the reported value 2.19 by more than 10 %

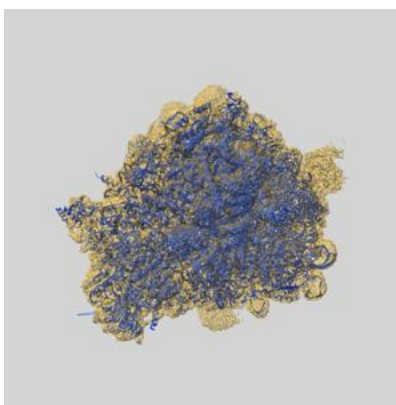
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-71477 and PDB model 9PBE. Per-residue inclusion information can be found in section 3 on page 27.

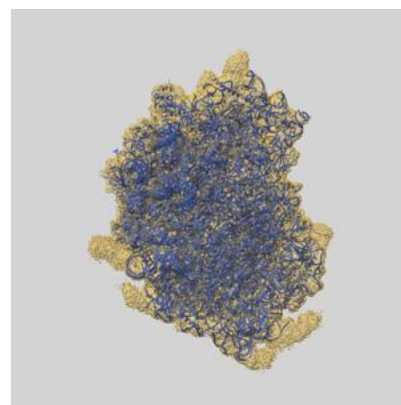
9.1 Map-model overlay [i](#)



X



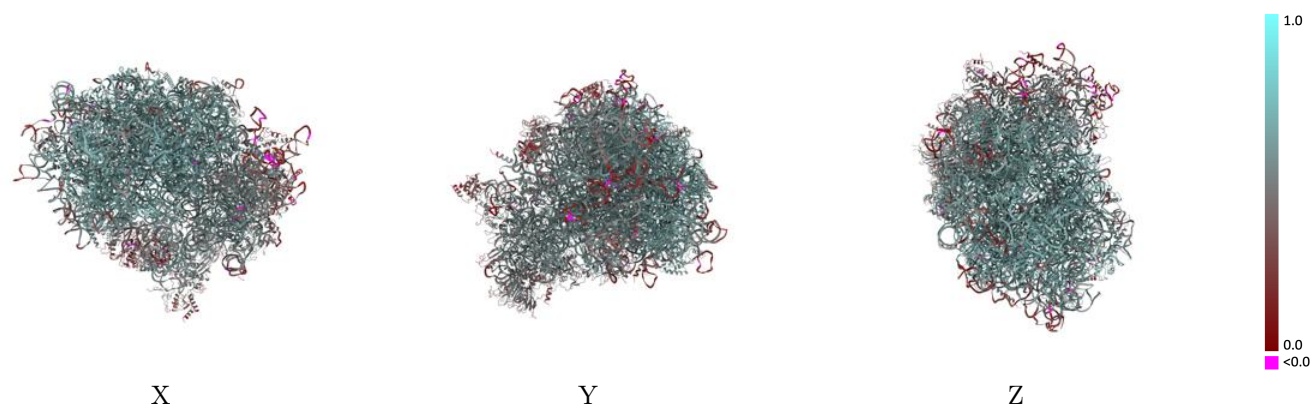
Y



Z

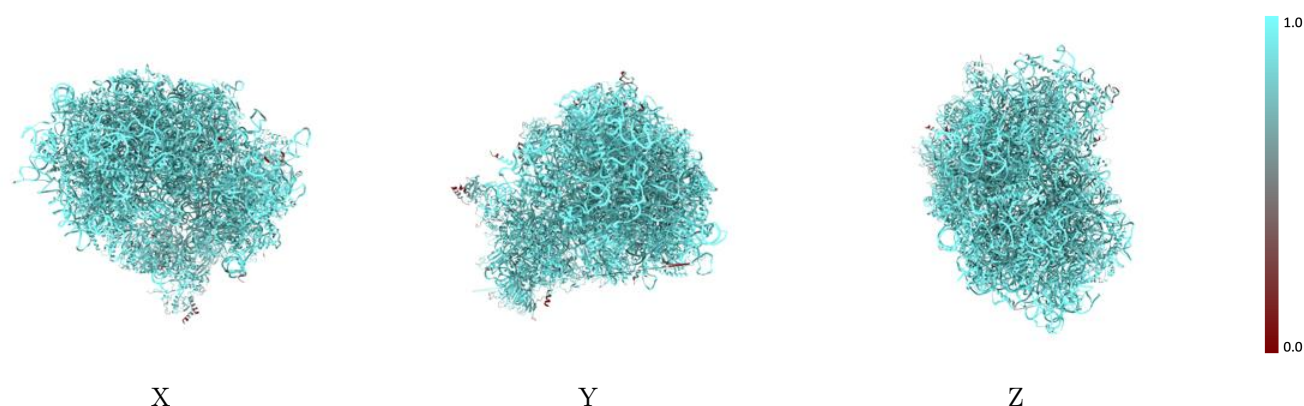
The images above show the 3D surface view of the map at the recommended contour level 0.0169 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



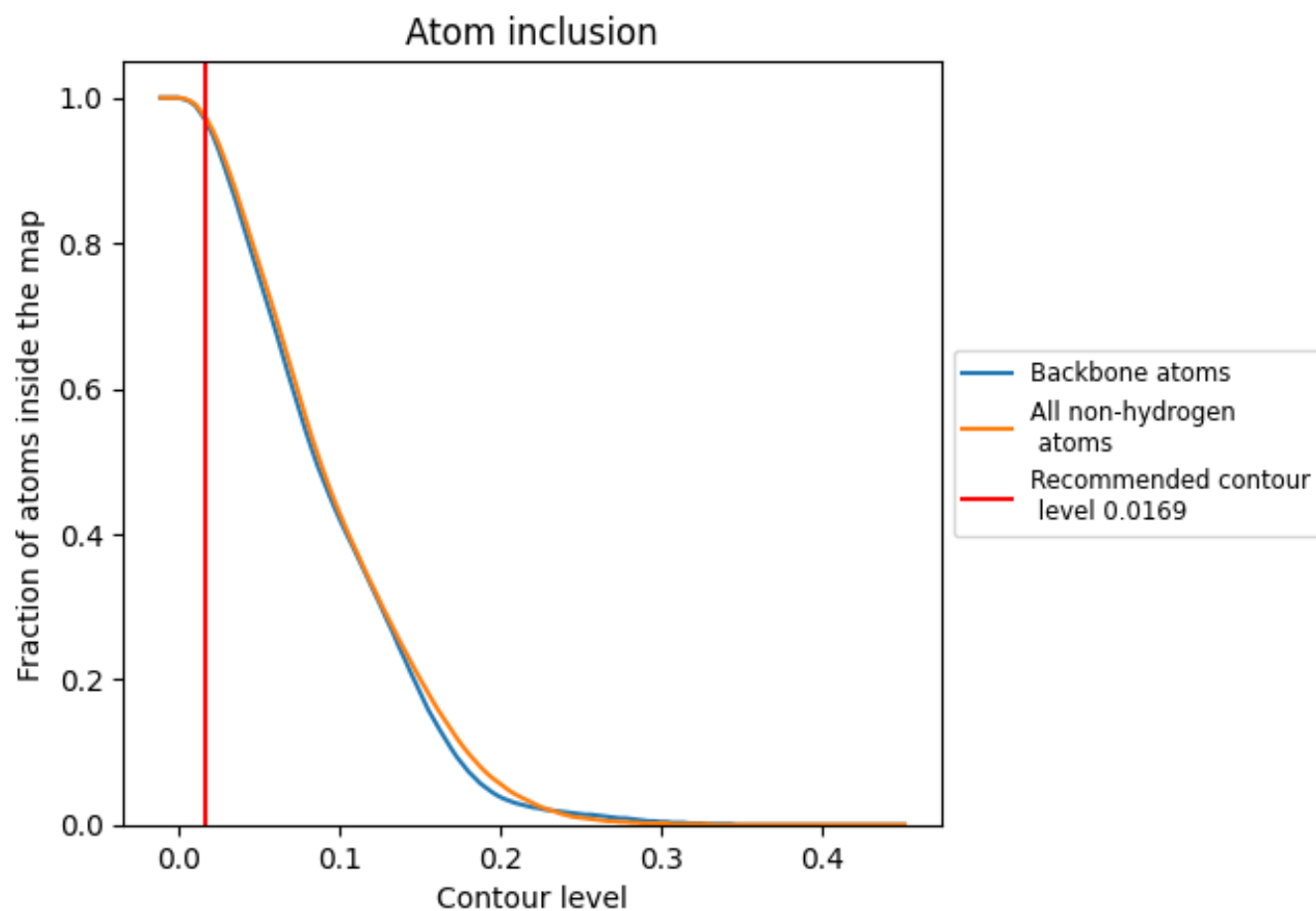
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0169).

9.4 Atom inclusion [i](#)



At the recommended contour level, 97% of all backbone atoms, 97% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0169) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9730	 0.5610
CD	 0.7750	 0.4390
CI	 0.8790	 0.5010
L5	 0.9930	 0.5880
L7	 0.9990	 0.6310
L8	 0.9930	 0.6090
LA	 0.9960	 0.6450
LB	 0.9790	 0.6300
LC	 0.9810	 0.6330
LD	 0.9780	 0.5910
LE	 0.9680	 0.5670
LF	 0.9930	 0.6440
LG	 0.9540	 0.5700
LH	 0.9850	 0.6140
LI	 0.9820	 0.6330
LJ	 0.9540	 0.5250
LL	 0.9550	 0.6060
LM	 0.9890	 0.6140
LN	 0.9990	 0.6680
LO	 0.9880	 0.6430
LP	 0.9910	 0.6490
LQ	 0.9970	 0.6620
LR	 0.9420	 0.5670
LS	 0.9970	 0.6520
LT	 0.9800	 0.6180
LU	 0.9580	 0.5330
LV	 0.9950	 0.6310
LW	 0.9070	 0.4430
LX	 0.9820	 0.6180
LY	 0.9840	 0.6210
LZ	 0.9960	 0.6070
La	 0.9940	 0.6650
Lb	 0.9450	 0.5620
Lc	 0.9730	 0.5780
Ld	 0.9770	 0.6140



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Chain	Atom inclusion	Q-score
Le	 0.9940	 0.6570
Lf	 0.9930	 0.6610
Lg	 0.9840	 0.6280
Lh	 0.9800	 0.6150
Li	 0.9840	 0.6170
Lj	 0.9910	 0.6560
Lk	 0.9460	 0.5430
Ll	 0.9910	 0.6340
Lm	 0.9810	 0.6330
Ln	 0.9900	 0.6100
Lo	 0.9830	 0.6350
Lp	 0.9770	 0.6200
Lr	 0.9890	 0.6390
Ls	 0.8640	 0.3570
Lt	 0.7400	 0.1680
Pt	 0.9240	 0.5090
S2	 0.9920	 0.5210
SA	 0.9210	 0.4930
SB	 0.9570	 0.5170
SC	 0.9700	 0.5430
SD	 0.9200	 0.4860
SE	 0.9580	 0.5070
SF	 0.9230	 0.4920
SG	 0.9230	 0.4200
SH	 0.8900	 0.4190
SI	 0.9530	 0.4950
SJ	 0.9350	 0.5060
SK	 0.9170	 0.4950
SL	 0.9220	 0.5150
SM	 0.6260	 0.3050
SN	 0.9810	 0.5400
SO	 0.9470	 0.5330
SP	 0.9450	 0.4860
SQ	 0.9250	 0.4980
SR	 0.8890	 0.4510
SS	 0.9330	 0.4610
ST	 0.9310	 0.4960
SU	 0.8910	 0.4570
SV	 0.9660	 0.5230
SW	 0.9760	 0.5490
SX	 0.9720	 0.5620
SY	 0.8960	 0.4350

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Chain	Atom inclusion	Q-score
SZ	 0.8870	 0.4590
Sa	 0.9440	 0.5300
Sb	 0.9470	 0.4970
Sc	 0.8850	 0.4290
Sd	 0.9750	 0.5580
Se	 0.8600	 0.4240
Sf	 0.8310	 0.3930
Sg	 0.8860	 0.4470