Full wwPDB EM Validation Report

Oct 28, 2026 – 01:24 AM JST

PDB ID	:	23AR / pdb_000023ar
EMDB ID	:	EMD-68804
Title	:	Rotated 80S with A/P-P/E tRNA
Authors	:	Wu, M.; Yuan, S.
Deposited on	:	2026-01-30
Resolution	:	2.75 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:

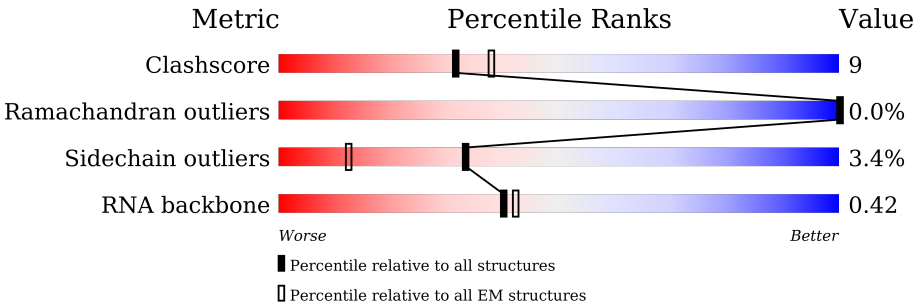
EMDB validation analysis	:	0.0.1.dev133
MolProbity	:	4-5-2 with Phenix2.2
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.51

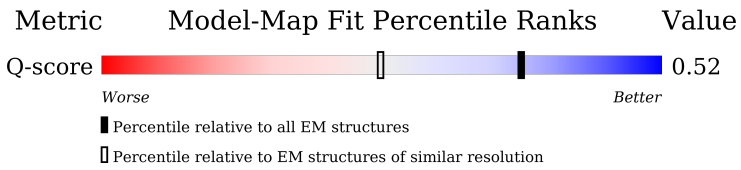
1 Overall quality at a glance

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

The reported resolution of this entry is 2.75 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	10570 (2.25 - 3.25)

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 <=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	LA	3396	49% 38% 6% 7%
2	LB	121	54% 41% 5%
3	LC	158	46% 46% 8%

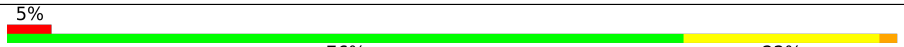
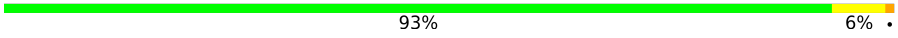
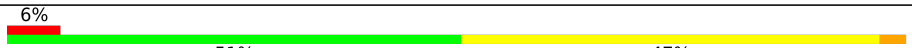
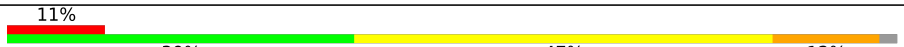
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Mol	Chain	Length	Quality of chain
4	LD	251	79% 20%
5	LE	386	77% 23%
6	LF	361	79% 20%
7	LG	294	78% 21%
8	LH	175	6% 77% 18% 5%
9	LI	222	81% 18%
10	LJ	233	76% 23%
11	LK	191	76% 23%
12	LL	218	78% 22%
13	LM	169	64% 34%
14	LN	193	79% 21%
15	LO	136	78% 21%
16	LP	203	76% 23%
17	LQ	197	75% 25%
18	LR	183	79% 21%
19	LS	185	77% 23%
20	LT	188	8% 82% 18%
21	LU	171	75% 23%
22	LV	159	77% 22%
23	LW	100	64% 30% 6%
24	LX	136	82% 18%
25	LY	65	72% 28%
26	LZ	121	80% 19%
27	La	125	78% 22%
28	Lb	135	73% 27%

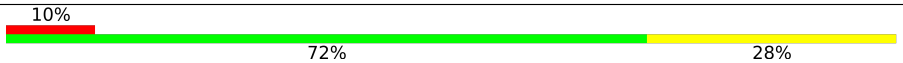
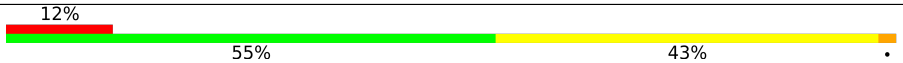
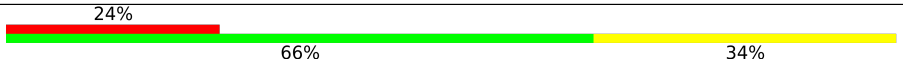
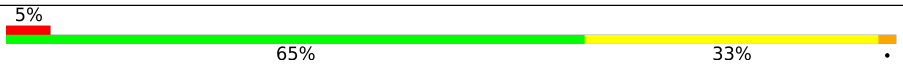
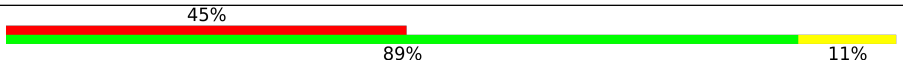
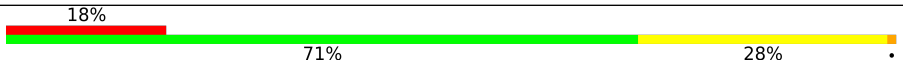
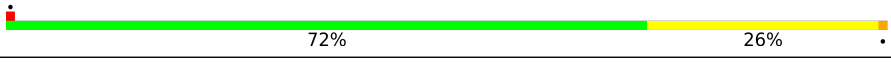
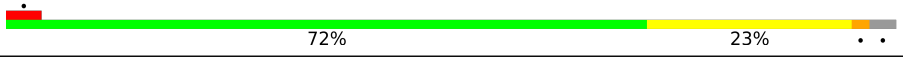
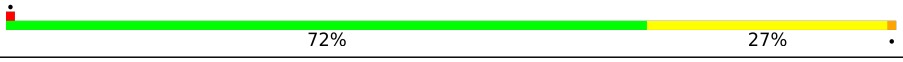
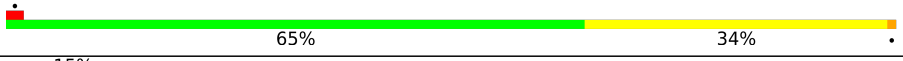
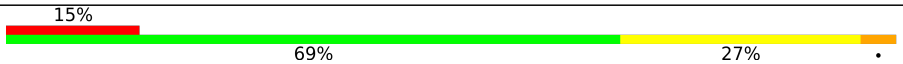
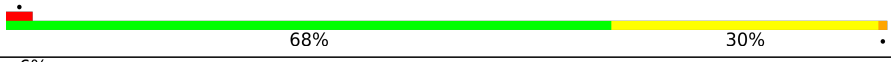
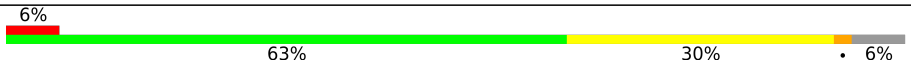
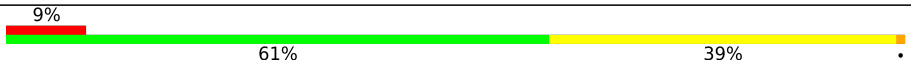
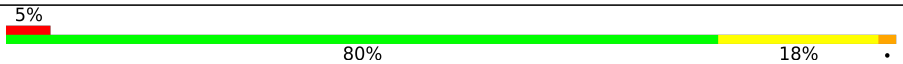
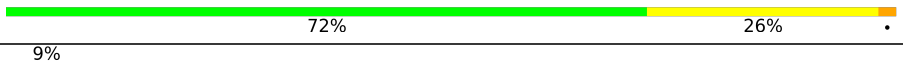
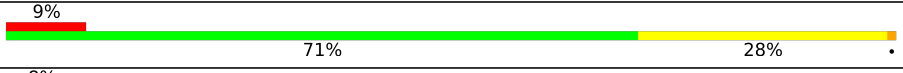
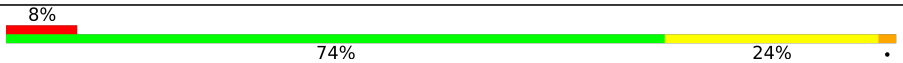
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Mol	Chain	Length	Quality of chain
29	Lc	148	
30	Ld	58	
31	Le	96	
32	Lf	109	
33	Lg	127	
34	Lh	106	
35	Li	112	
36	Lj	119	
37	Lk	99	
38	Ll	81	
39	Lm	77	
40	Ln	50	
41	Lo	52	
42	Lp	25	
43	Lq	103	
44	Lr	91	
45	mR	11	
46	Cc	77	
47	S2	1800	
48	SA	222	
49	SB	206	
50	SC	92	
51	SD	121	
52	SE	117	
53	SF	141	

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Mol	Chain	Length	Quality of chain
54	SG	125	
55	SH	145	
56	SI	143	
57	SJ	100	
58	SK	82	
59	SL	63	
60	SM	53	
61	SN	73	
62	SO	312	
63	SP	206	
64	SQ	232	
65	SR	216	
66	SS	258	
67	ST	228	
68	SU	184	
69	SV	198	
70	SW	184	
71	SX	142	
72	SY	150	
73	SZ	127	
74	Sa	87	
75	Sb	129	
76	Sc	144	
77	Sd	134	
78	Se	97	

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Mol	Chain	Length	Quality of chain
79	Sf	81	
80	Sg	57	
81	Bb	76	

2 Entry composition (i)

There are 81 unique types of molecules in this entry. The entry contains 202093 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called RNA (3184-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	LA	3163	67653	30219	12193	22078	3163	0	0

- Molecule 2 is a RNA chain called RNA (121-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	LB	121	2579	1152	461	845	121	0	0

- Molecule 3 is a RNA chain called RNA (158-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	LC	158	3353	1500	586	1109	158	0	0

- Molecule 4 is a protein called Large ribosomal subunit protein uL2A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	LD	251	1899	1182	385	331	1	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	LE	386	3075	1950	584	533	8	0	0

- Molecule 6 is a protein called Large ribosomal subunit protein uL4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	LF	361	2748	1729	522	494	3	0	0

- Molecule 7 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	LG	294	Total	C	N	O	S	0	0
			2351	1484	410	455	2		

- Molecule 8 is a protein called Large ribosomal subunit protein eL6B.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	LH	167	Total	C	N	O	0	0
			1307	843	234	230		

- Molecule 9 is a protein called Large ribosomal subunit protein uL30A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	LI	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 10 is a protein called Large ribosomal subunit protein eL8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	LJ	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 11 is a protein called Large ribosomal subunit protein uL6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	LK	191	Total	C	N	O	S	0	0
			1508	957	274	273	4		

- Molecule 12 is a protein called Large ribosomal subunit protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	LL	218	Total	C	N	O	S	0	0
			1764	1117	334	306	7		

- Molecule 13 is a protein called Large ribosomal subunit protein uL5B.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	LM	169	Total	C	N	O	S	0	0
			1346	843	252	247	4		

- Molecule 14 is a protein called Large ribosomal subunit protein eL13A.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	LN	193	Total 1543	C 962	N 315	O 266	0	0

- Molecule 15 is a protein called Large ribosomal subunit protein eL14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	LO	136	Total 1053	C 675	N 199	O 177	S 2	0	0

- Molecule 16 is a protein called Large ribosomal subunit protein eL15A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	LP	203	Total 1720	C 1077	N 361	O 281	S 1	0	0

- Molecule 17 is a protein called Large ribosomal subunit protein uL13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	LQ	197	Total 1555	C 1003	N 289	O 262	S 1	197	0

- Molecule 18 is a protein called Large ribosomal subunit protein uL22A.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	LR	183	Total 1416	C 879	N 284	O 253	0	0

- Molecule 19 is a protein called Large ribosomal subunit protein eL18A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	LS	185	Total 1441	C 908	N 290	O 241	S 2	0	0

- Molecule 20 is a protein called Large ribosomal subunit protein eL19A.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	LT	188	Total 1515	C 932	N 323	O 260	0	0

- Molecule 21 is a protein called Large ribosomal subunit protein eL20A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	LU	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

- Molecule 22 is a protein called Large ribosomal subunit protein eL21A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	LV	159	Total	C	N	O	S	0	0
			1272	802	245	221	4		

- Molecule 23 is a protein called Large ribosomal subunit protein eL22A.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	LW	100	Total	C	N	O	0	0
			796	516	131	149		

- Molecule 24 is a protein called Large ribosomal subunit protein uL14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	LX	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 25 is a protein called Large ribosomal subunit protein eL24A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LY	65	Total	C	N	O	S	0	0
			528	339	104	84	1		

- Molecule 26 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	LZ	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 27 is a protein called Large ribosomal subunit protein uL24A.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	La	125	Total	C	N	O	0	0
			984	620	191	173		

- Molecule 28 is a protein called Large ribosomal subunit protein eL27A.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	Lb	135	Total 1080	C 701	N 199	O 180	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Lc	148	Total 1169	C 747	N 231	O 188	S 3	0	0

- Molecule 30 is a protein called Large ribosomal subunit protein eL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	Ld	58	Total 462	C 289	N 100	O 73	0	0

- Molecule 31 is a protein called Large ribosomal subunit protein eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Le	96	Total 737	C 476	N 123	O 137	S 1	0	0

- Molecule 32 is a protein called Large ribosomal subunit protein eL31A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Lf	109	Total 876	C 556	N 167	O 152	S 1	0	0

- Molecule 33 is a protein called Large ribosomal subunit protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Lg	127	Total 1017	C 644	N 205	O 167	S 1	0	0

- Molecule 34 is a protein called Large ribosomal subunit protein eL33A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Lh	106	Total 850	C 540	N 165	O 144	S 1	0	0

- Molecule 35 is a protein called Large ribosomal subunit protein eL34A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Li	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 36 is a protein called Large ribosomal subunit protein uL29A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Lj	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 37 is a protein called Large ribosomal subunit protein eL36A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Lk	99	Total	C	N	O	S	0	0
			766	478	154	132	2		

- Molecule 38 is a protein called Large ribosomal subunit protein eL37A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Ll	81	Total	C	N	O	S	0	0
			645	393	141	106	5		

- Molecule 39 is a protein called Large ribosomal subunit protein eL38.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	Lm	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 40 is a protein called Large ribosomal subunit protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Ln	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 41 is a protein called Large ribosomal subunit protein eL40A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Lo	52	Total	C	N	O	S	0	0
			410	254	86	65	5		

- Molecule 42 is a protein called Large ribosomal subunit protein eL41A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Lp	25	Total	C	N	O	S	0	0
			229	139	62	27	1		

- Molecule 43 is a protein called Large ribosomal subunit protein eL42A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Lq	103	Total	C	N	O	S	0	0
			824	517	167	135	5		

- Molecule 44 is a protein called Large ribosomal subunit protein eL43A.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Lr	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 45 is a RNA chain called RNA (5'-R(P*UP*GP*AP*CP*GP*CP*UP*UP*UP*UP*C)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
45	mR	11	Total	C	N	O	P	0	0
			228	102	34	81	11		

- Molecule 46 is a RNA chain called RNA (77-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Cc	77	Total	C	N	O	P	0	0
			1644	732	298	537	77		

- Molecule 47 is a RNA chain called RNA (1800-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
47	S2	1771	Total	C	N	O	P	0	0
			37739	16872	6683	12413	1771		

- Molecule 48 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	SA	222	Total	C	N	O	S	0	0
			1729	1098	312	313	6		

- Molecule 49 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	SB	206	Total	C	N	O	S	0	0
			1605	1005	299	298	3		

- Molecule 50 is a protein called Small ribosomal subunit protein eS10A.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	SC	92	Total	C	N	O	S	0	0
			752	487	122	141	2		

- Molecule 51 is a protein called Small ribosomal subunit protein eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	SD	121	Total	C	N	O	S	0	0
			875	551	153	169	2		

- Molecule 52 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	SE	117	Total	C	N	O	S	0	0
			916	583	171	155	7		

- Molecule 53 is a protein called Small ribosomal subunit protein uS9A.

Mol	Chain	Residues	Atoms				AltConf	Trace
53	SF	141	Total	C	N	O	0	0
			1105	708	203	194		

- Molecule 54 is a protein called Small ribosomal subunit protein eS17B.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SG	121	Total	C	N	O	S	0	0
			948	596	179	171	2		

- Molecule 55 is a protein called Small ribosomal subunit protein uS13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	SH	145	Total	C	N	O	S	0	0
			1188	741	237	208	2		

- Molecule 56 is a protein called Small ribosomal subunit protein eS19A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	SI	143	Total	C	N	O	S	0	0
			1112	694	208	208	2		

- Molecule 57 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SJ	100	Total	C	N	O	S	0	0
			797	506	144	146	1		

- Molecule 58 is a protein called Small ribosomal subunit protein eS25A.

Mol	Chain	Residues	Atoms				AltConf	Trace
58	SK	82	Total	C	N	O	0	0
			651	416	123	112		

- Molecule 59 is a protein called Small ribosomal subunit protein eS28A.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SL	63	Total	C	N	O	S	0	0
			491	303	96	91	1		

- Molecule 60 is a protein called Small ribosomal subunit protein uS14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	SM	53	Total	C	N	O	S	0	0
			442	274	92	72	4		

- Molecule 61 is a protein called Small ribosomal subunit protein eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	SN	73	Total	C	N	O	S	0	0
			556	352	105	95	4		

- Molecule 62 is a protein called Small ribosomal subunit protein RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	SO	312	Total	C	N	O	S	0	0
			2383	1514	409	452	8		

- Molecule 63 is a protein called Small ribosomal subunit protein uS2A.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	SP	206	Total	C	N	O	S	0	0
			1603	1030	284	287	2		

- Molecule 64 is a protein called Small ribosomal subunit protein eS1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	SQ	226	Total	C	N	O	S	0	0
			1798	1139	330	325	4		

- Molecule 65 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	SR	216	Total	C	N	O	S	0	0
			1626	1042	287	295	2		

- Molecule 66 is a protein called Small ribosomal subunit protein eS4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	SS	258	Total	C	N	O	S	0	0
			2056	1308	387	358	3		

- Molecule 67 is a protein called Small ribosomal subunit protein eS6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	ST	228	Total	C	N	O	S	0	0
			1815	1138	351	323	3		

- Molecule 68 is a protein called Small ribosomal subunit protein eS7A.

Mol	Chain	Residues	Atoms				AltConf	Trace
68	SU	184	Total	C	N	O	0	0
			1473	946	263	264		

- Molecule 69 is a protein called Small ribosomal subunit protein eS8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	SV	187	Total	C	N	O	S	0	0
			1476	916	295	263	2		

- Molecule 70 is a protein called Small ribosomal subunit protein uS4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	SW	184	Total	C	N	O	S	0	0
			1479	935	285	258	1		

- Molecule 71 is a protein called Small ribosomal subunit protein uS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	SX	142	Total	C	N	O	S	0	0
			1142	733	217	189	3		

- Molecule 72 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	SY	150	Total	C	N	O	S	0	0
			1192	759	224	207	2		

- Molecule 73 is a protein called Small ribosomal subunit protein uS11B.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	SZ	127	Total	C	N	O	S	0	0
			923	568	185	167	3		

- Molecule 74 is a protein called Small ribosomal subunit protein eS21A.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Sa	87	Total	C	N	O	S	0	0
			673	415	125	131	2		

- Molecule 75 is a protein called Small ribosomal subunit protein uS8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Sb	129	Total	C	N	O	S	0	0
			1021	650	188	180	3		

- Molecule 76 is a protein called Small ribosomal subunit protein uS12A.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Sc	144	Total	C	N	O	S	0	0
			1121	708	220	191	2		

- Molecule 77 is a protein called Small ribosomal subunit protein eS24A.

Mol	Chain	Residues	Atoms				AltConf	Trace
77	Sd	134	Total	C	N	O	0	0
			1032	651	195	186		

- Molecule 78 is a protein called Small ribosomal subunit protein eS26B.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Se	97	Total	C	N	O	S	0	0
			765	473	160	127	5		

- Molecule 79 is a protein called Small ribosomal subunit protein eS27A.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Sf	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 80 is a protein called Small ribosomal subunit protein eS30A.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Sg	57	Total	C	N	O	S	0	0
			451	284	93	73	1		

- Molecule 81 is a RNA chain called RNA (76-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Bb	76	Total	C	N	O	P	0	0
			1622	725	293	529	75		

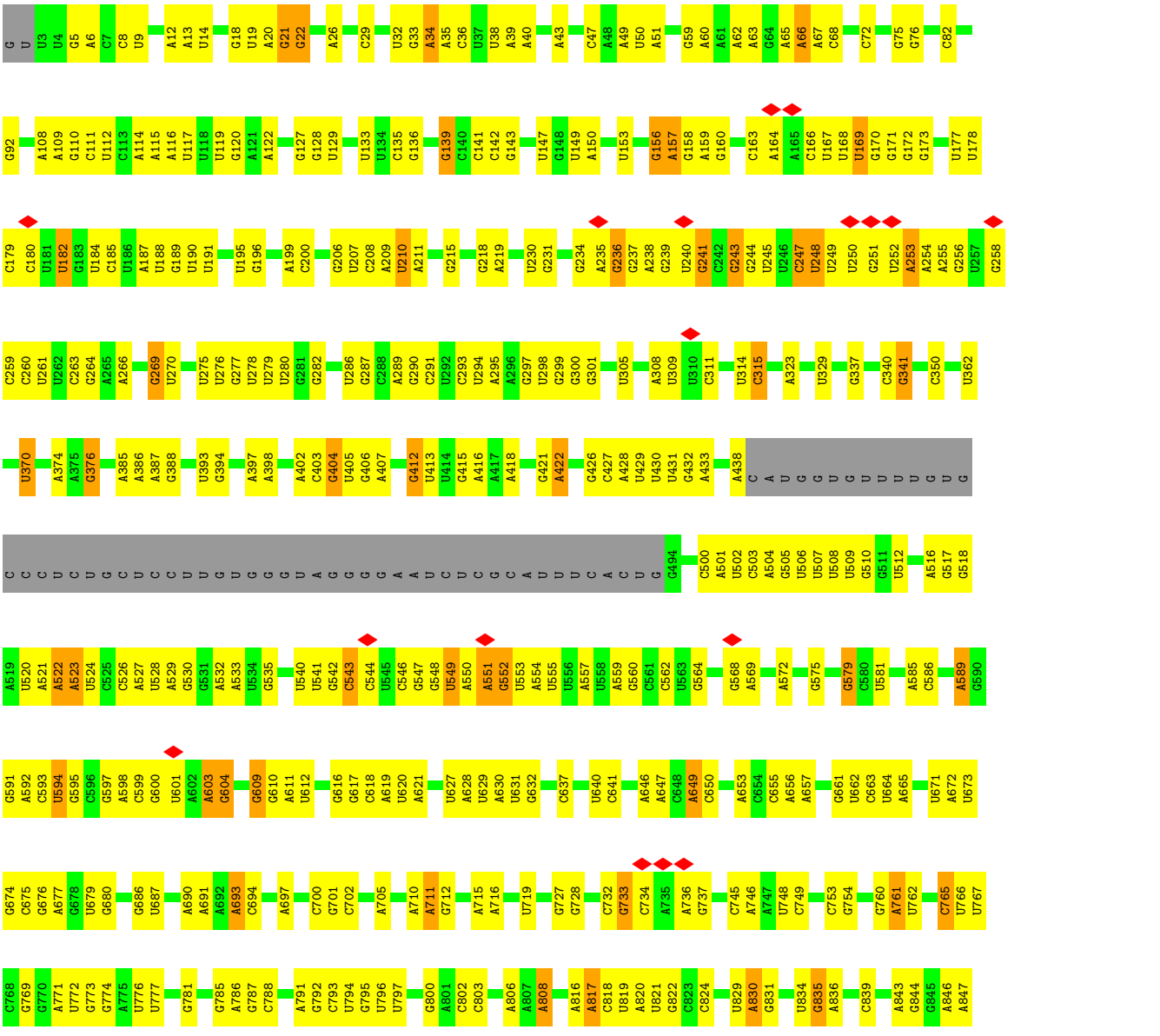
3 Residue-property plots (i)

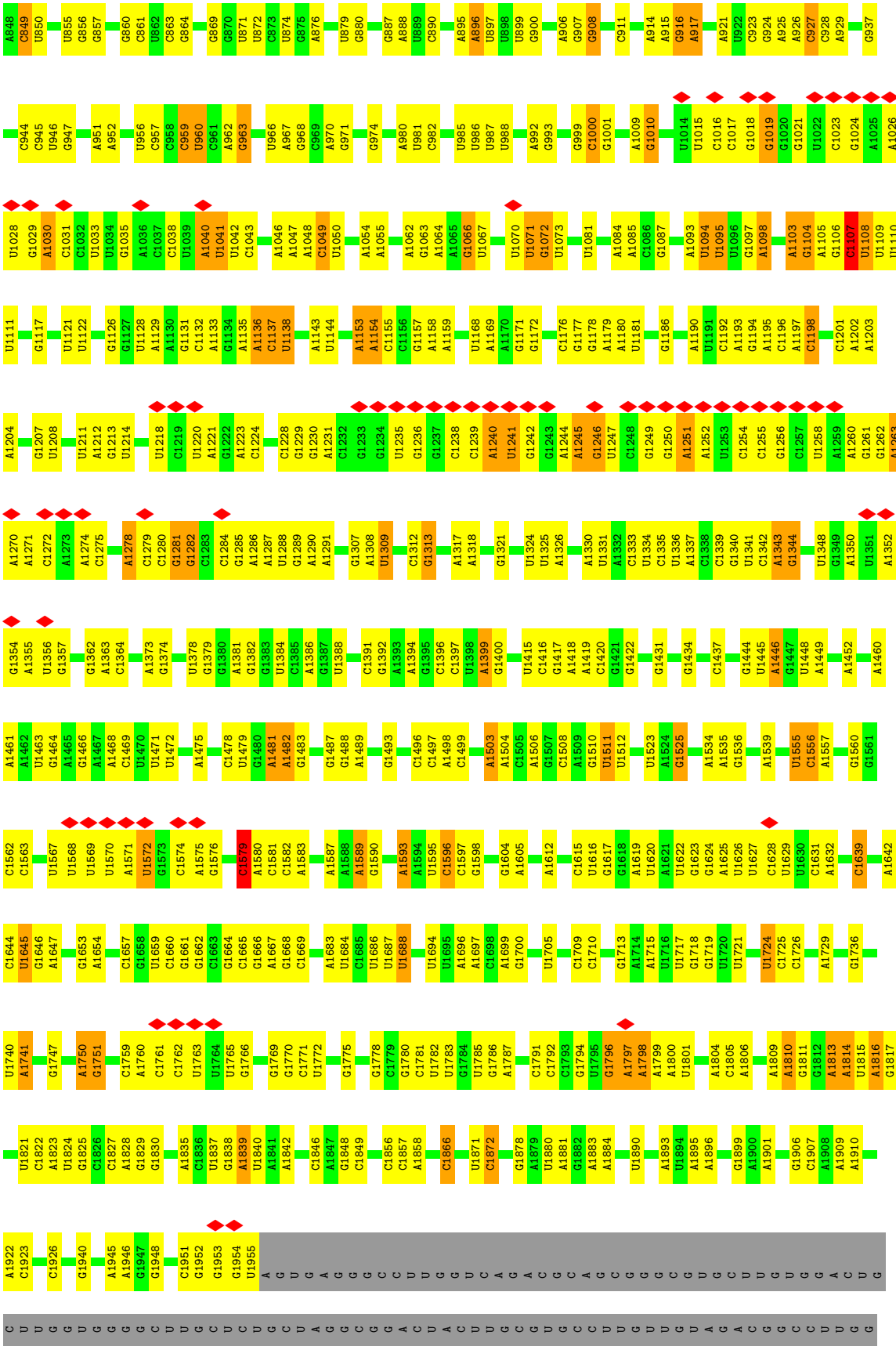
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

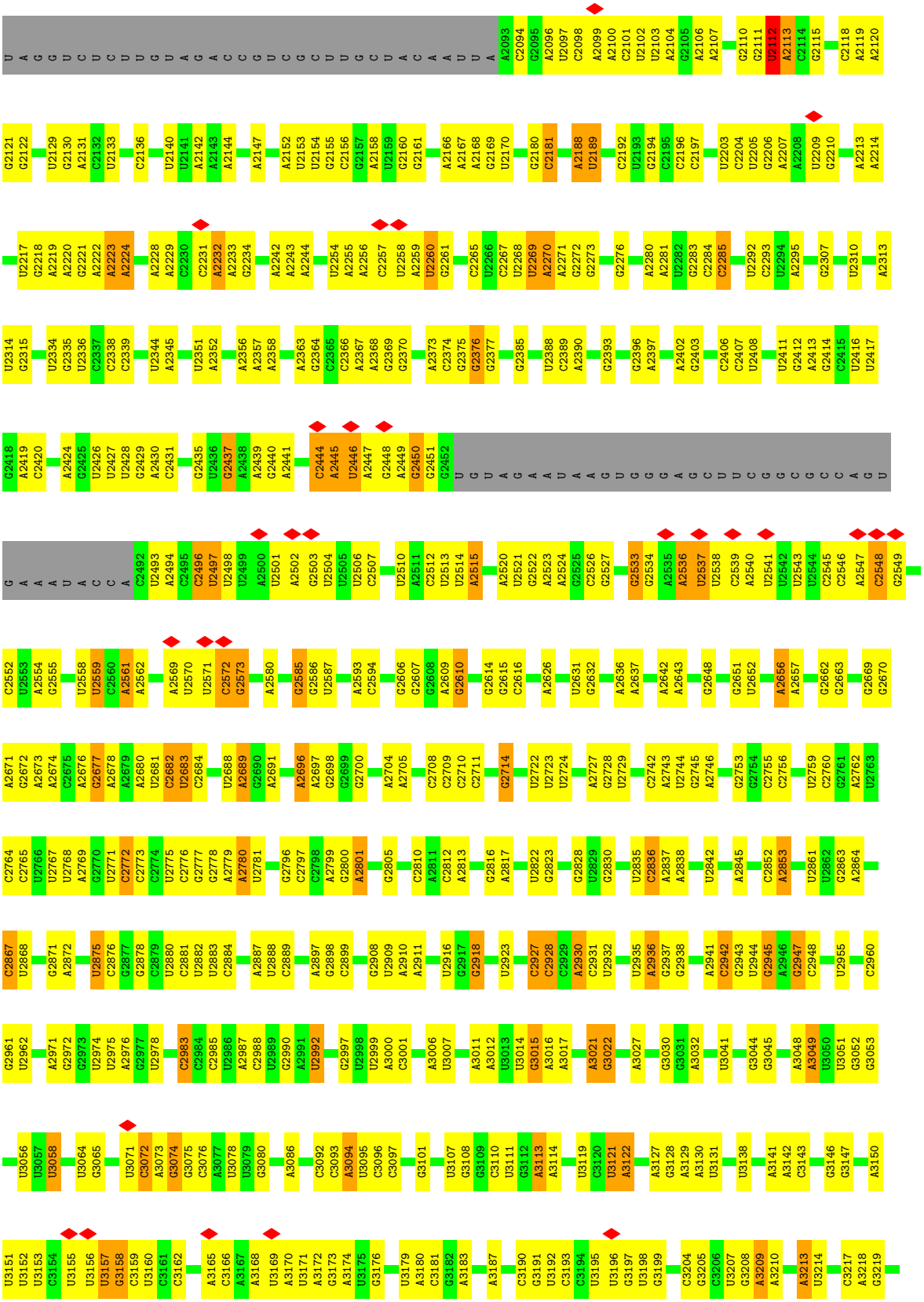
- Molecule 1: RNA (3184-MER)

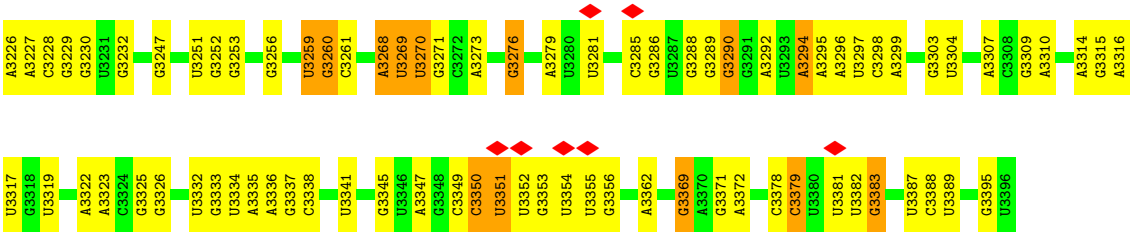
Chain LA:



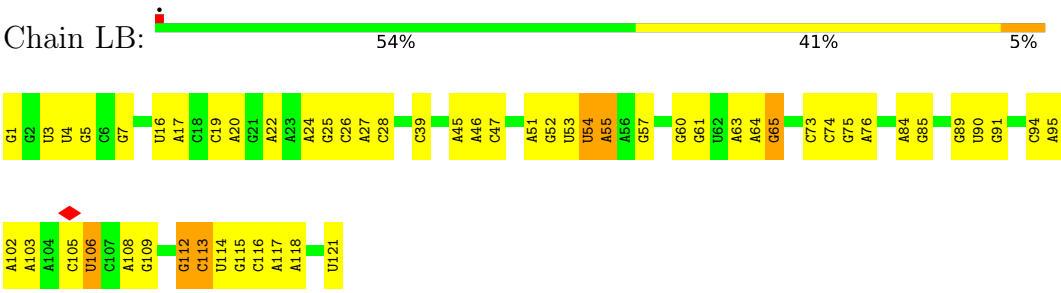



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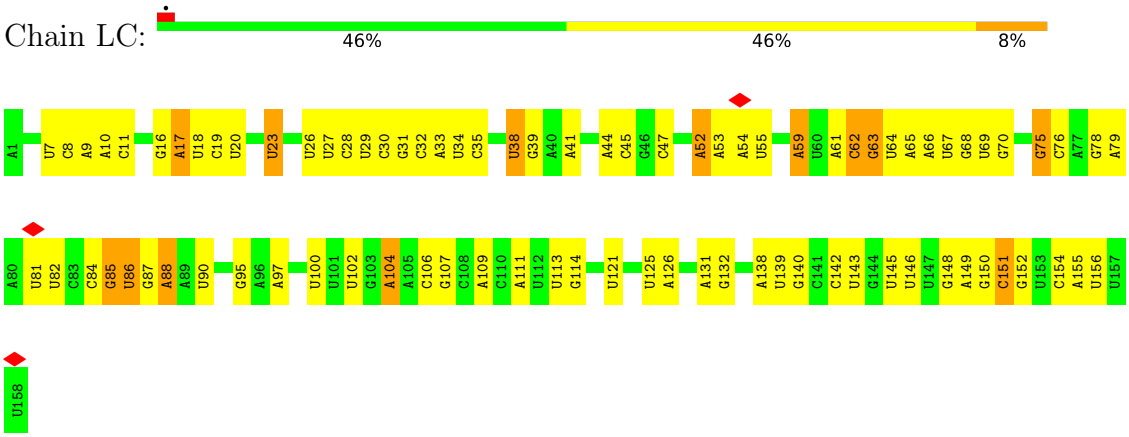




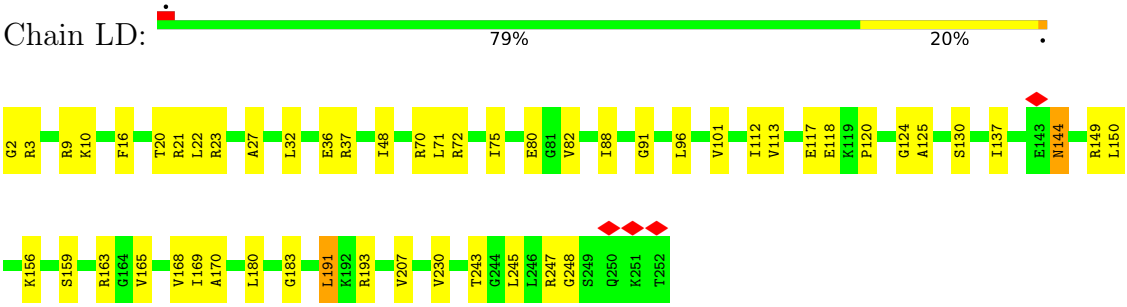
• Molecule 2: RNA (121-MER)



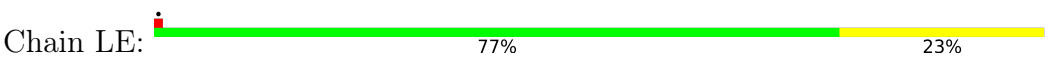
• Molecule 3: RNA (158-MER)

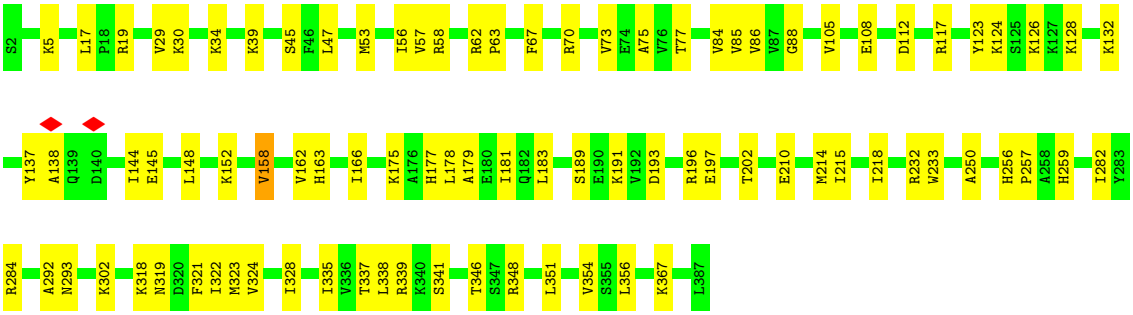


• Molecule 4: Large ribosomal subunit protein uL2A

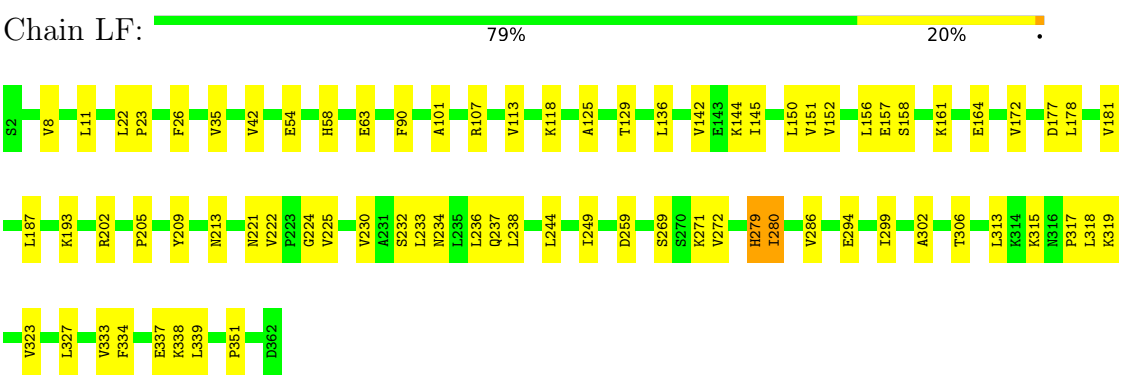


• Molecule 5: Large ribosomal subunit protein uL3

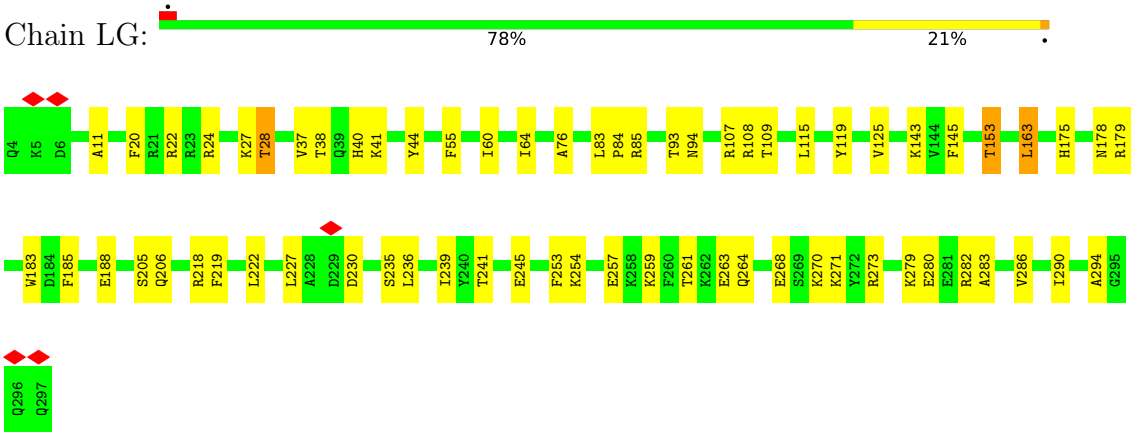




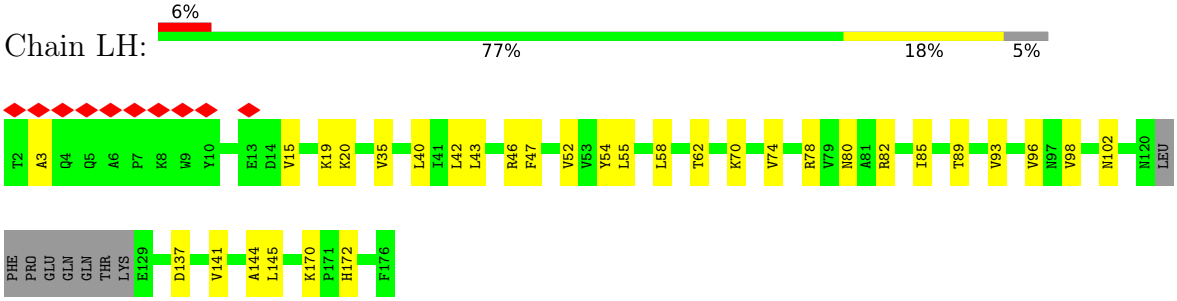
• Molecule 6: Large ribosomal subunit protein uL4A



• Molecule 7: Large ribosomal subunit protein uL18

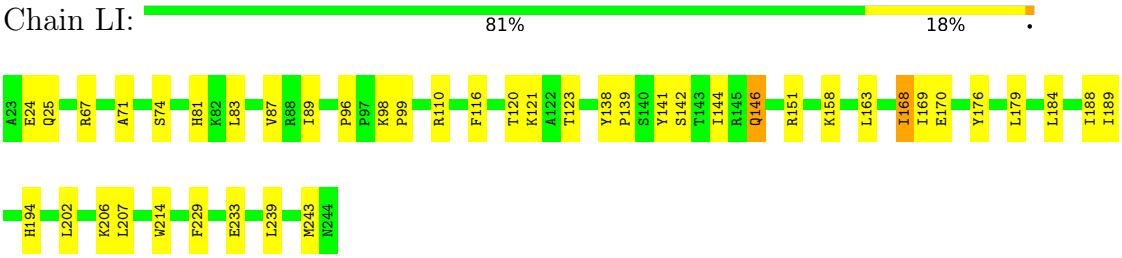


• Molecule 8: Large ribosomal subunit protein eL6B



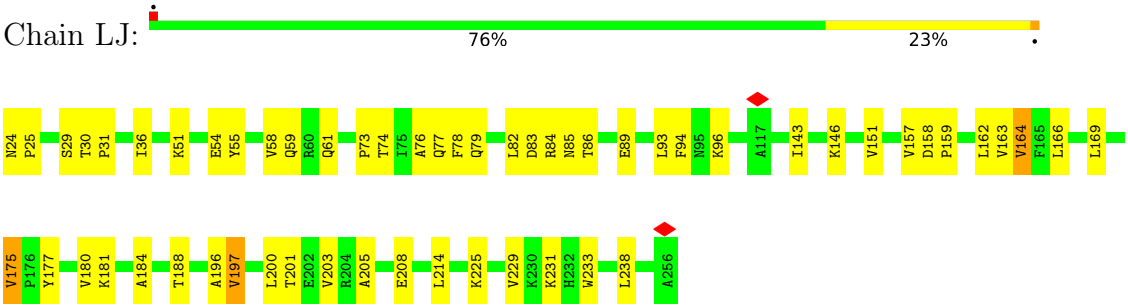
• Molecule 9: Large ribosomal subunit protein uL30A

Chain LI:



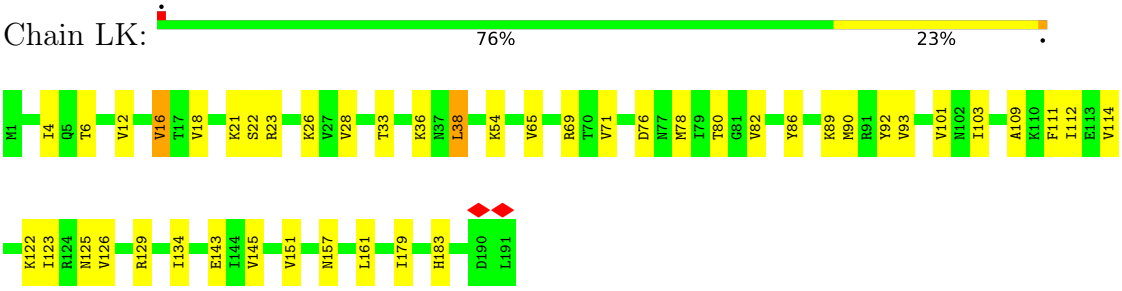
• Molecule 10: Large ribosomal subunit protein eL8A

Chain LJ:



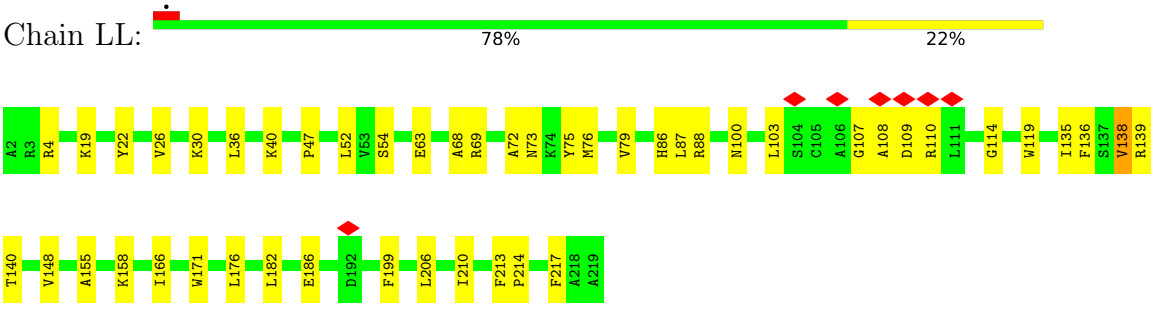
• Molecule 11: Large ribosomal subunit protein uL6A

Chain LK:



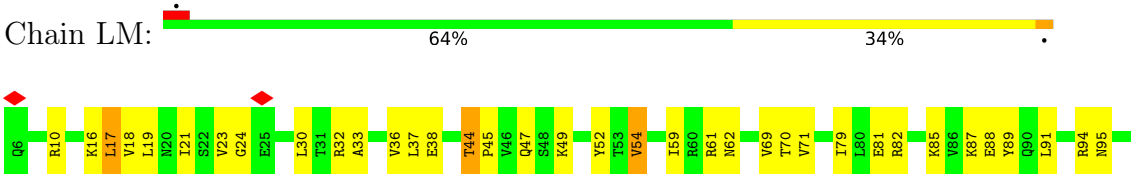
• Molecule 12: Large ribosomal subunit protein uL16

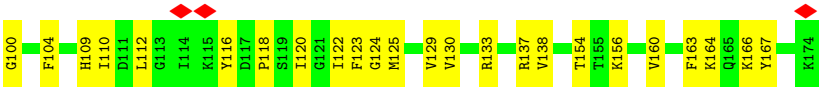
Chain LL:



• Molecule 13: Large ribosomal subunit protein uL5B

Chain LM:

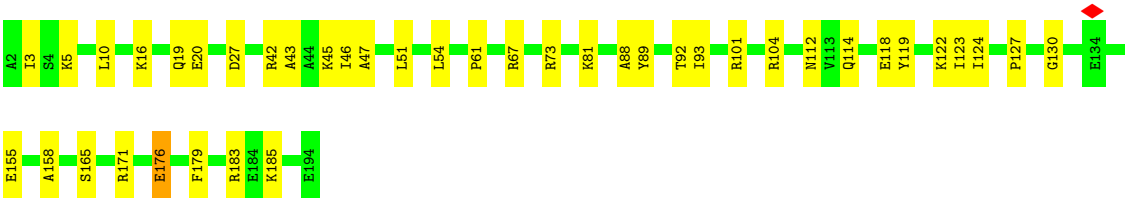




• Molecule 14: Large ribosomal subunit protein eL13A

Chain LN:





• Molecule 15: Large ribosomal subunit protein eL14A

Chain LO:

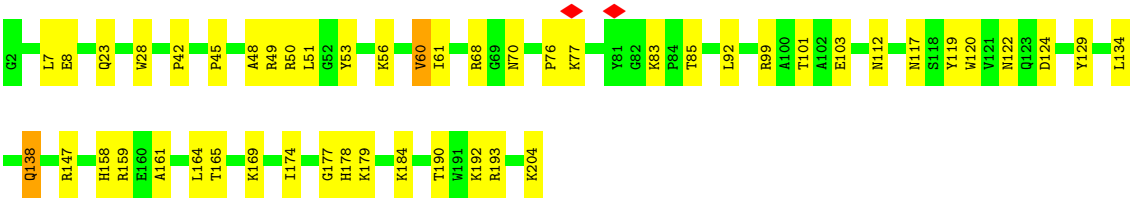




• Molecule 16: Large ribosomal subunit protein eL15A

Chain LP:

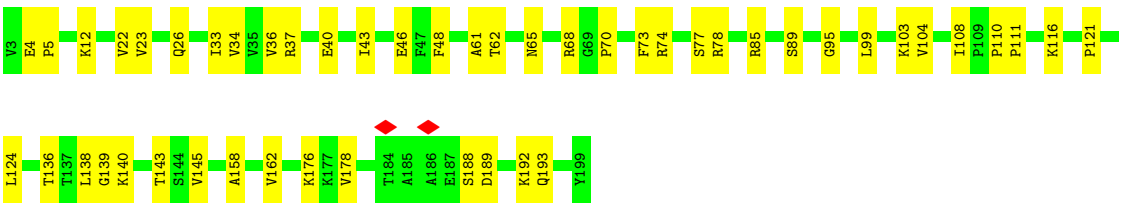




• Molecule 17: Large ribosomal subunit protein uL13A

Chain LQ:

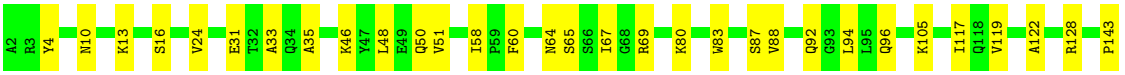


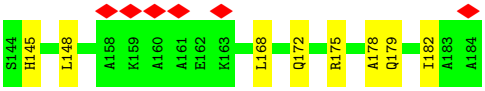


• Molecule 18: Large ribosomal subunit protein uL22A

Chain LR:







• Molecule 19: Large ribosomal subunit protein eL18A

Chain LS:



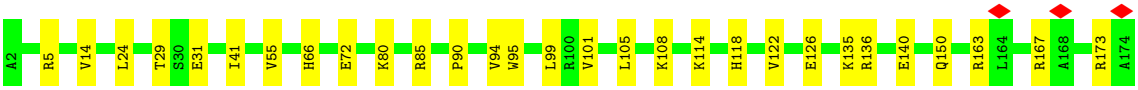


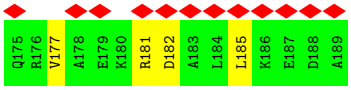


• Molecule 20: Large ribosomal subunit protein eL19A

Chain LT:



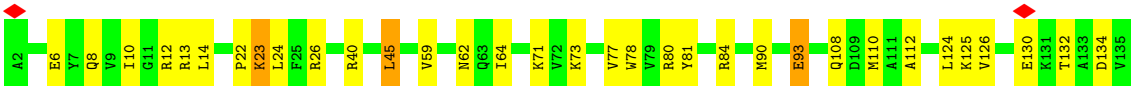


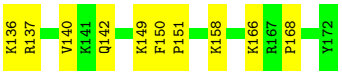


• Molecule 21: Large ribosomal subunit protein eL20A

Chain LU:





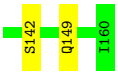


• Molecule 22: Large ribosomal subunit protein eL21A

Chain LV:



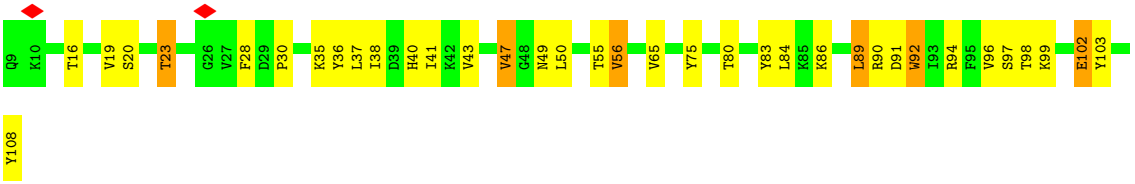




• Molecule 23: Large ribosomal subunit protein eL22A

Chain LW:

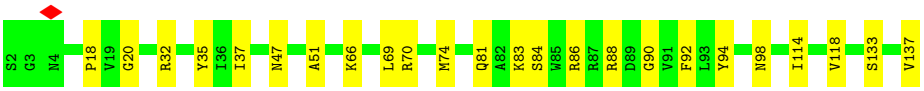




• Molecule 24: Large ribosomal subunit protein uL14A

Chain LX:

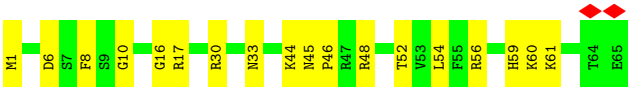




• Molecule 25: Large ribosomal subunit protein eL24A

Chain LY:

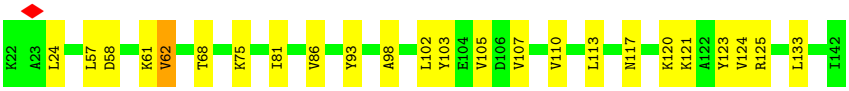




• Molecule 26: Large ribosomal subunit protein uL23

Chain LZ:

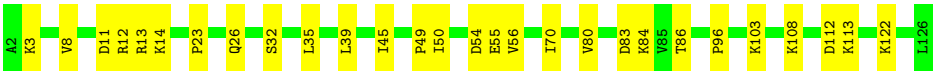




• Molecule 27: Large ribosomal subunit protein uL24A

Chain La:





• Molecule 28: Large ribosomal subunit protein eL27A

Chain Lb:

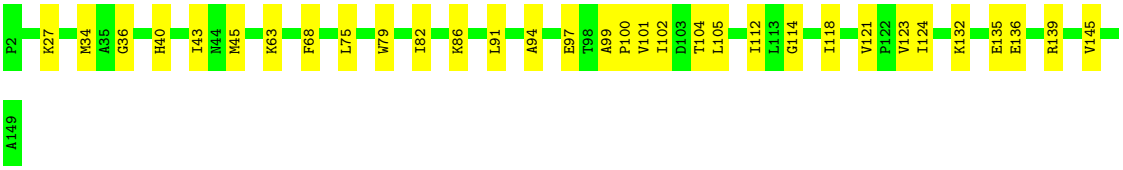




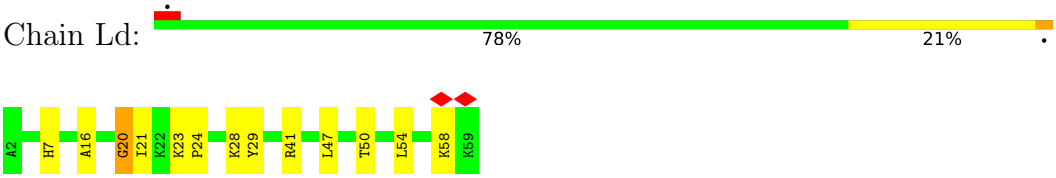
• Molecule 29: Large ribosomal subunit protein uL15

Chain Lc:

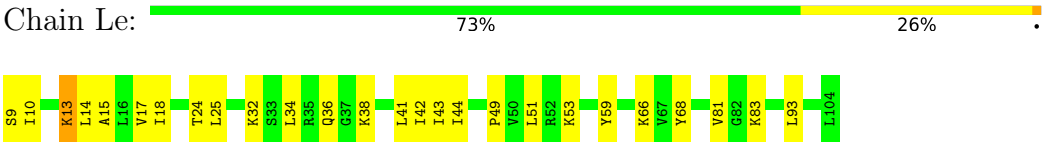




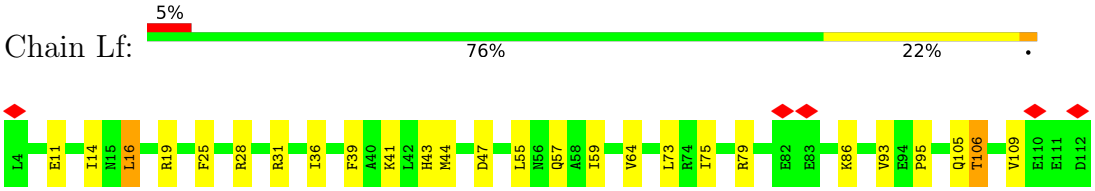
• Molecule 30: Large ribosomal subunit protein eL29



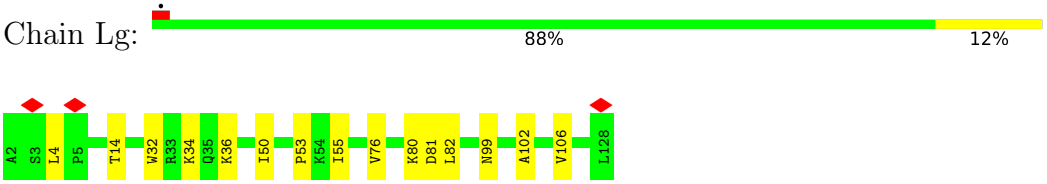
• Molecule 31: Large ribosomal subunit protein eL30



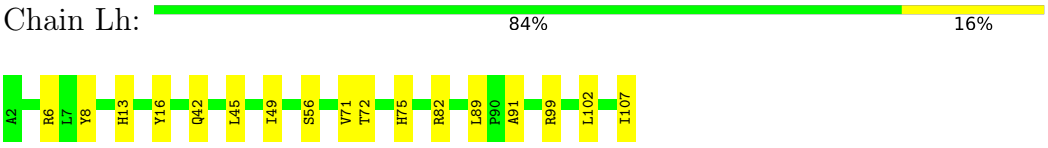
• Molecule 32: Large ribosomal subunit protein eL31A



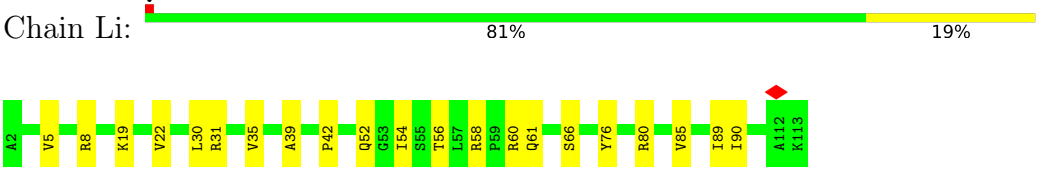
• Molecule 33: Large ribosomal subunit protein eL32



• Molecule 34: Large ribosomal subunit protein eL33A



• Molecule 35: Large ribosomal subunit protein eL34A



• Molecule 36: Large ribosomal subunit protein uL29A

Chain Lj:

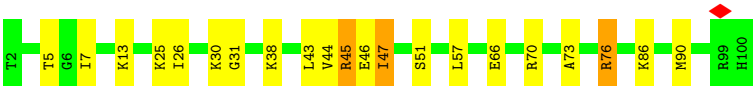




• Molecule 37: Large ribosomal subunit protein eL36A

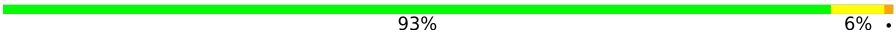
Chain Lk:

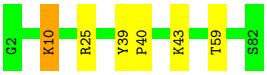




• Molecule 38: Large ribosomal subunit protein eL37A

Chain Ll:

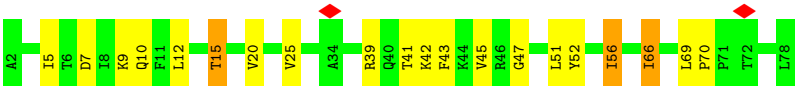




• Molecule 39: Large ribosomal subunit protein eL38

Chain Lm:





• Molecule 40: Large ribosomal subunit protein eL39

Chain Ln:





• Molecule 41: Large ribosomal subunit protein eL40A

Chain Lo:





• Molecule 42: Large ribosomal subunit protein eL41A

Chain Lp:

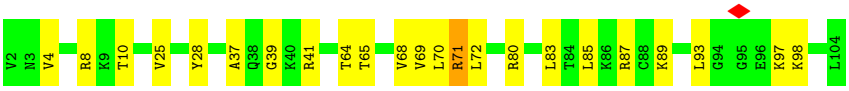




• Molecule 43: Large ribosomal subunit protein eL42A

Chain Lq:





• Molecule 44: Large ribosomal subunit protein eL43A

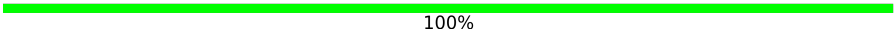
Chain Lr:





• Molecule 45: RNA (5'-R(P*UP*GP*AP*CP*GP*CP*UP*UP*UP*UP*C)-3')

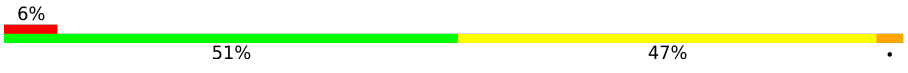
Chain mR:

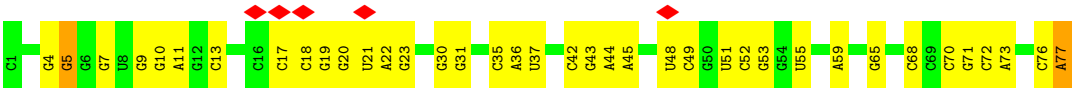


There are no outlier residues recorded for this chain.

• Molecule 46: RNA (77-MER)

Chain Cc:

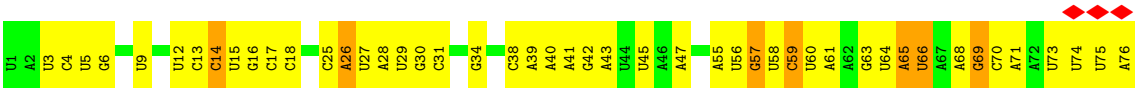


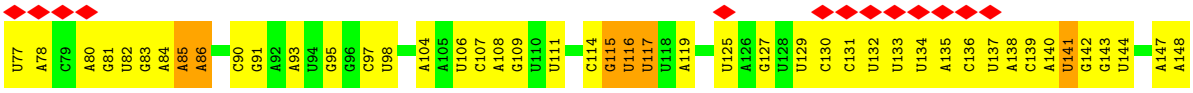


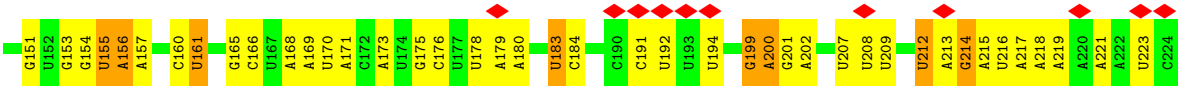
• Molecule 47: RNA (1800-MER)

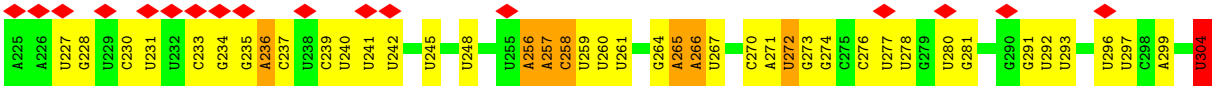
Chain S2:

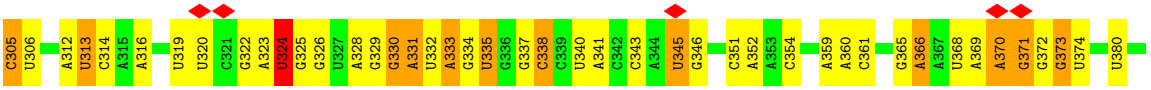


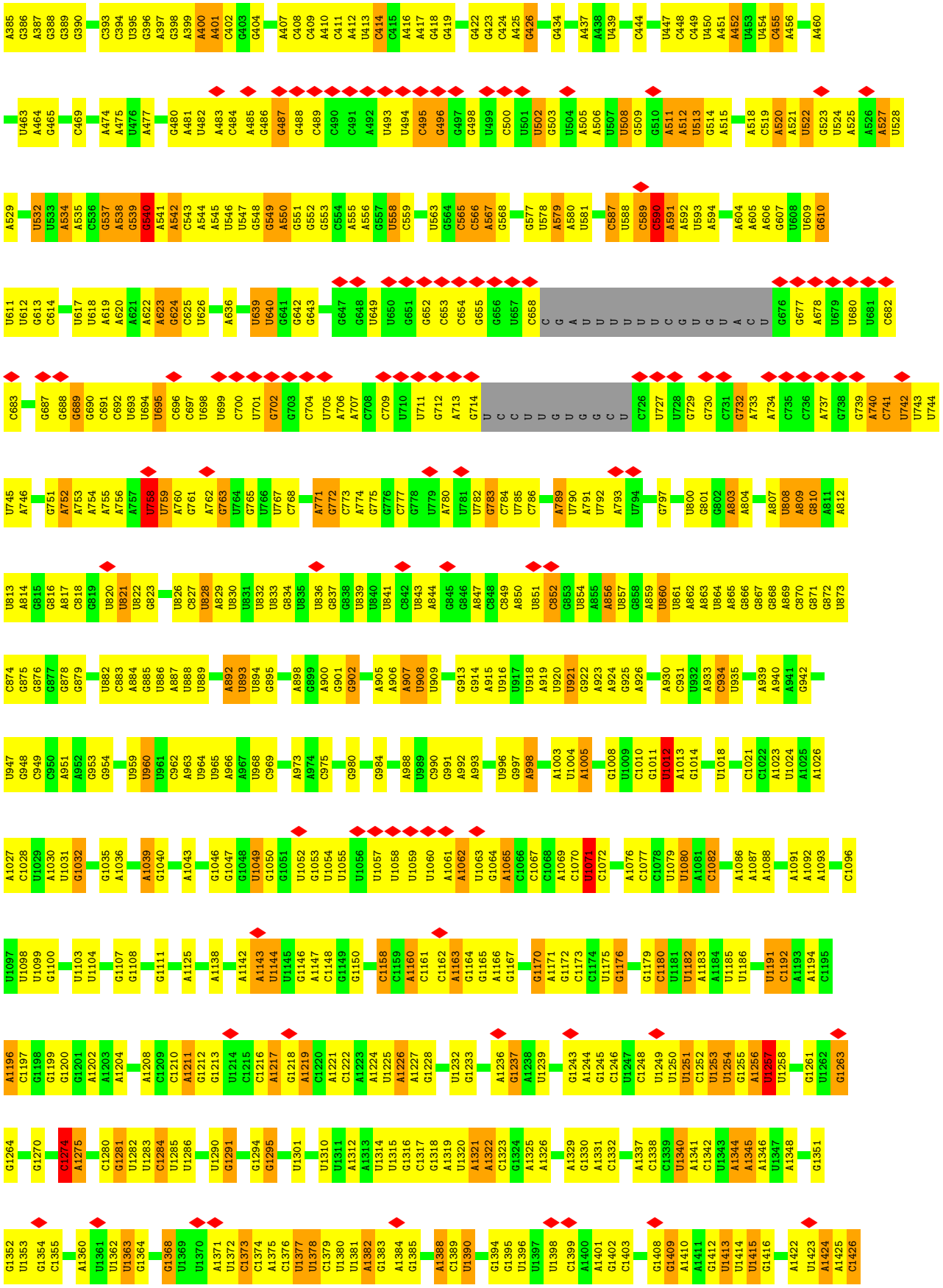


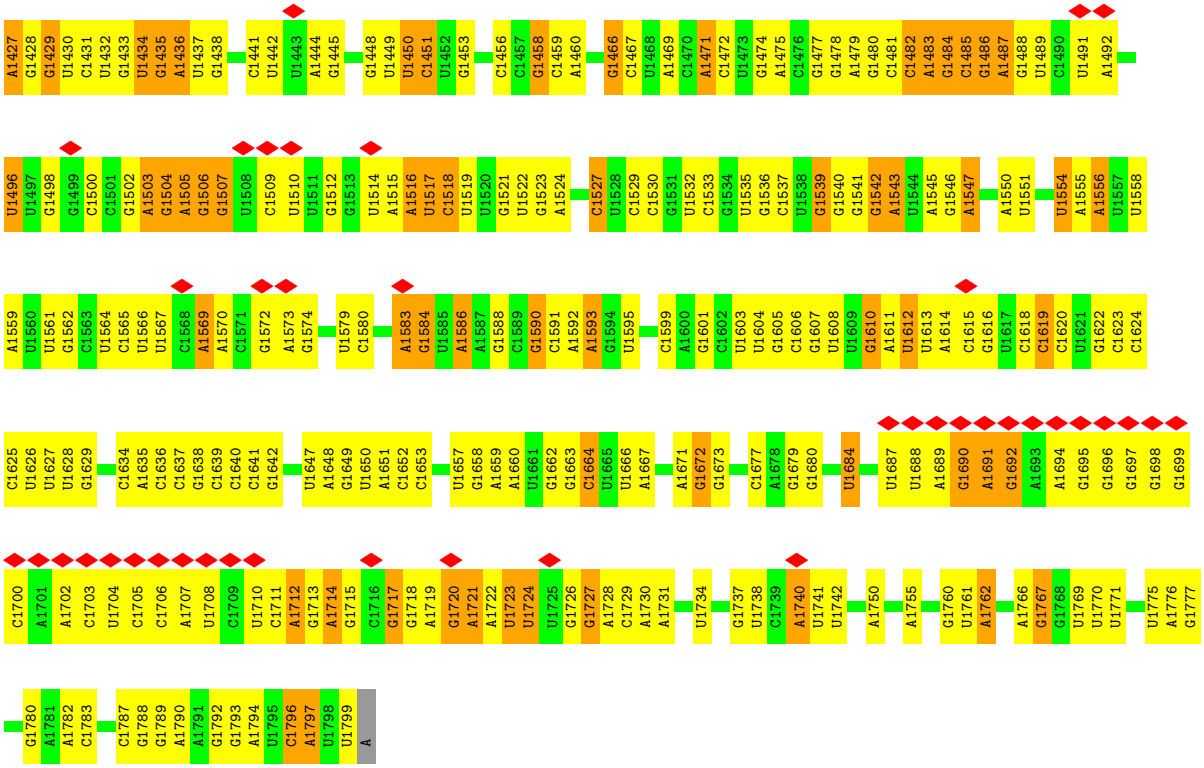








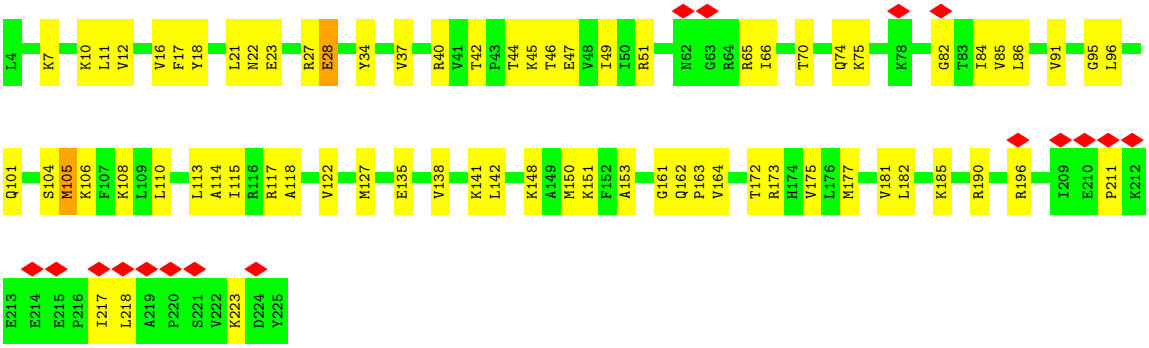




• Molecule 48: Small ribosomal subunit protein uS3

Chain SA:

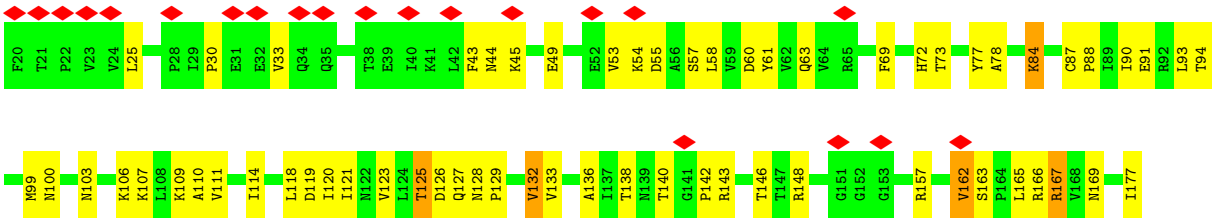


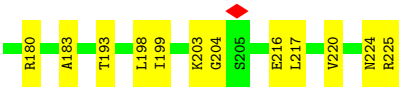


• Molecule 49: Small ribosomal subunit protein uS7

Chain SB:



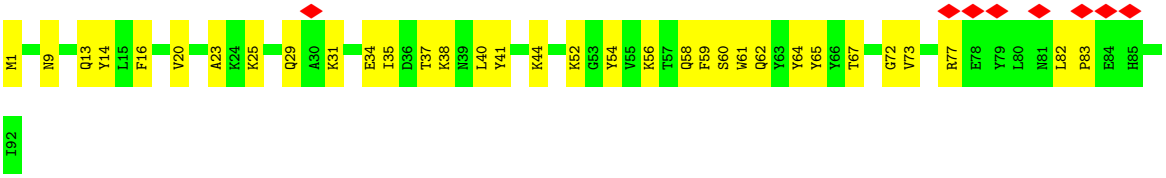




• Molecule 50: Small ribosomal subunit protein eS10A

Chain SC:

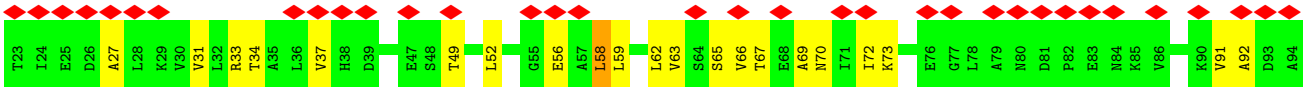


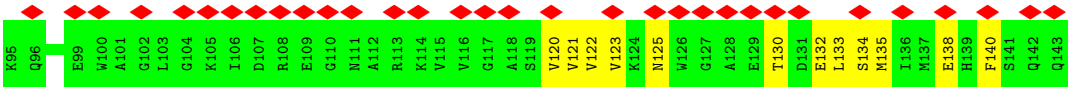


• Molecule 51: Small ribosomal subunit protein eS12

Chain SD:



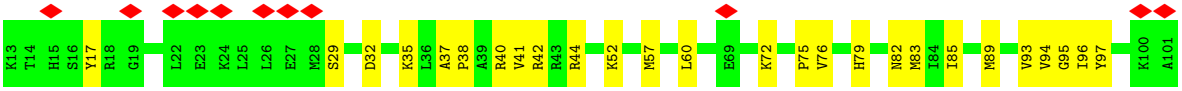


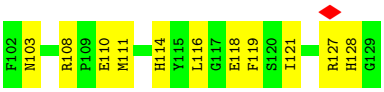


• Molecule 52: Small ribosomal subunit protein uS19

Chain SE:



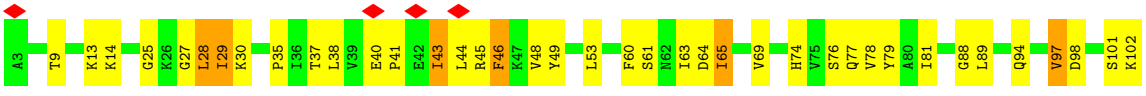


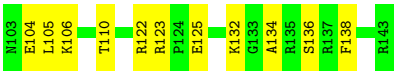


• Molecule 53: Small ribosomal subunit protein uS9A

Chain SF:







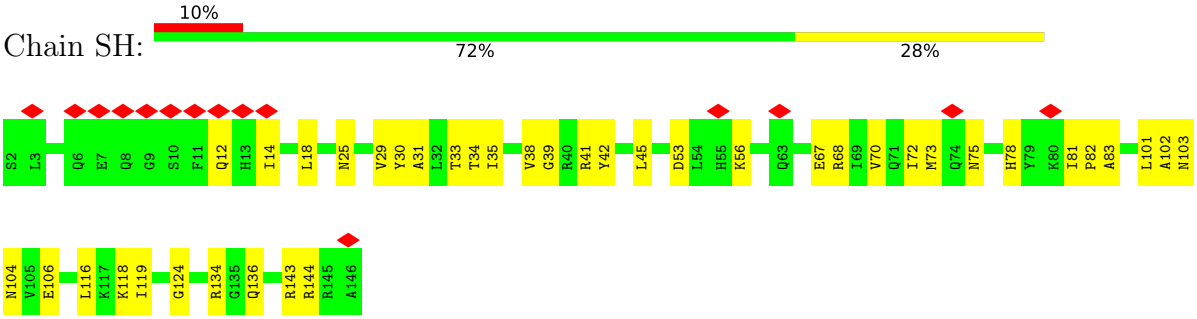
• Molecule 54: Small ribosomal subunit protein eS17B

Chain SG:

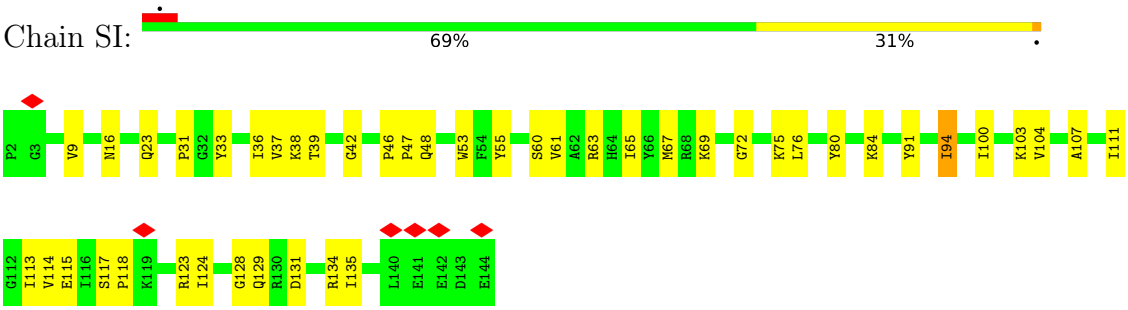




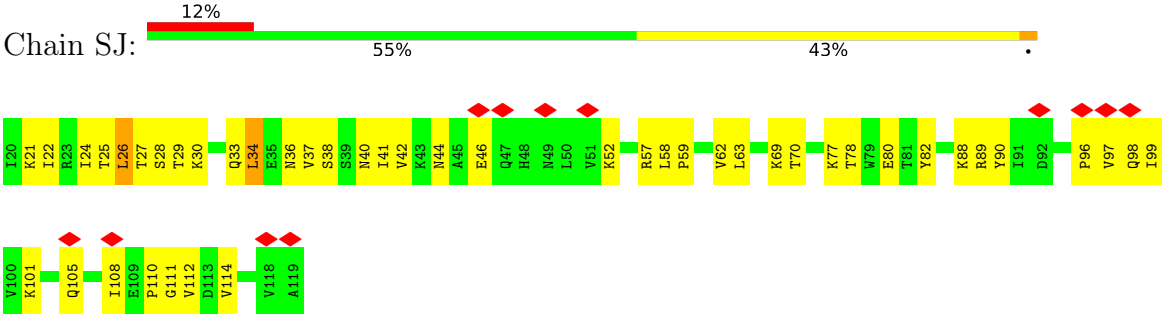
• Molecule 55: Small ribosomal subunit protein uS13A



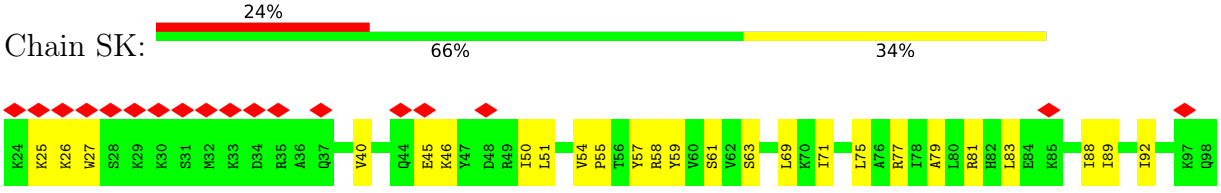
• Molecule 56: Small ribosomal subunit protein eS19A

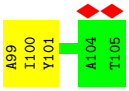


• Molecule 57: Small ribosomal subunit protein uS10



• Molecule 58: Small ribosomal subunit protein eS25A

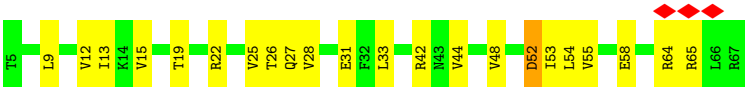




• Molecule 59: Small ribosomal subunit protein eS28A

Chain SL:

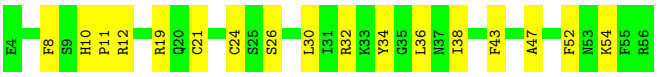




• Molecule 60: Small ribosomal subunit protein uS14A

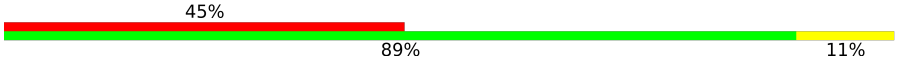
Chain SM:

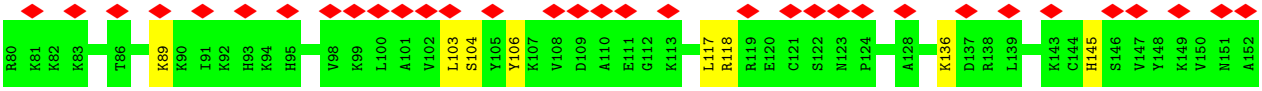




• Molecule 61: Small ribosomal subunit protein eS31

Chain SN:

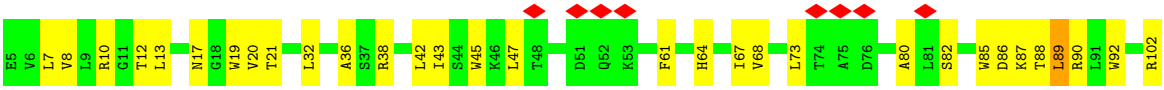


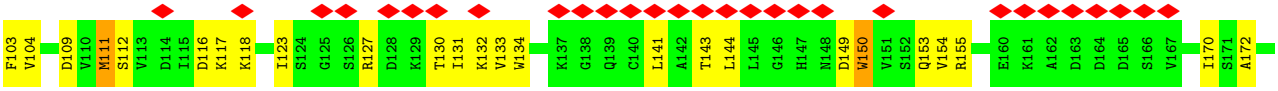


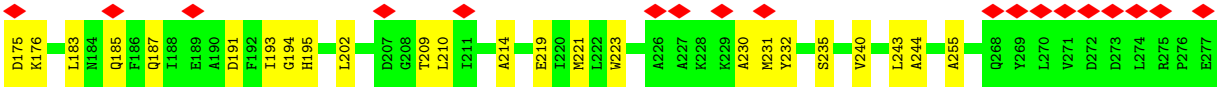
• Molecule 62: Small ribosomal subunit protein RACK1

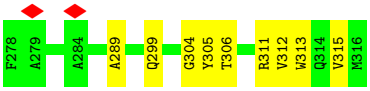
Chain SO:







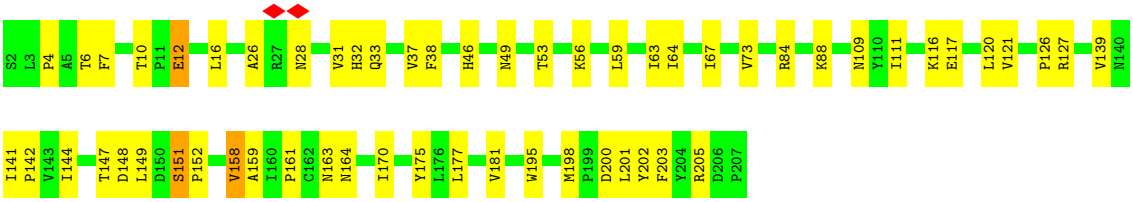




• Molecule 63: Small ribosomal subunit protein uS2A

Chain SP:

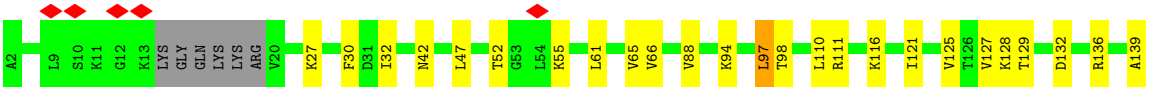




• Molecule 64: Small ribosomal subunit protein eS1A

Chain SQ:



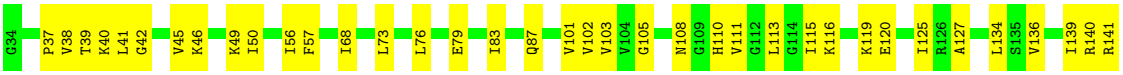


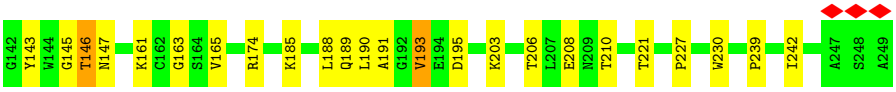


• Molecule 65: Small ribosomal subunit protein uS5

Chain SR:



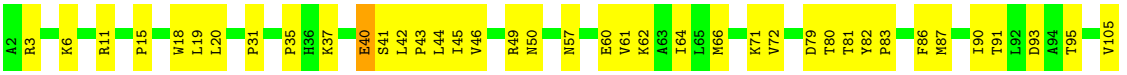




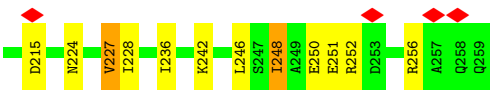
• Molecule 66: Small ribosomal subunit protein eS4A

Chain SS:





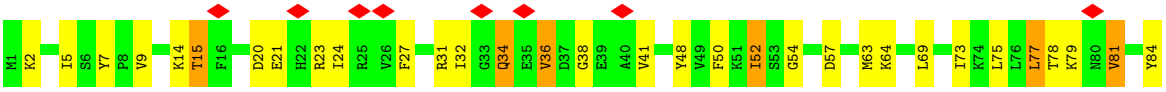


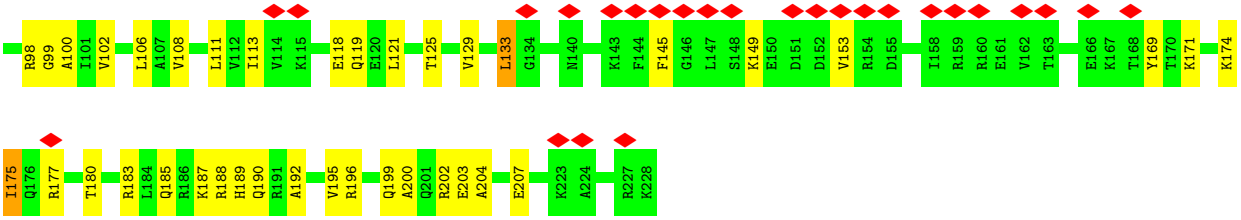


• Molecule 67: Small ribosomal subunit protein eS6A

Chain ST:

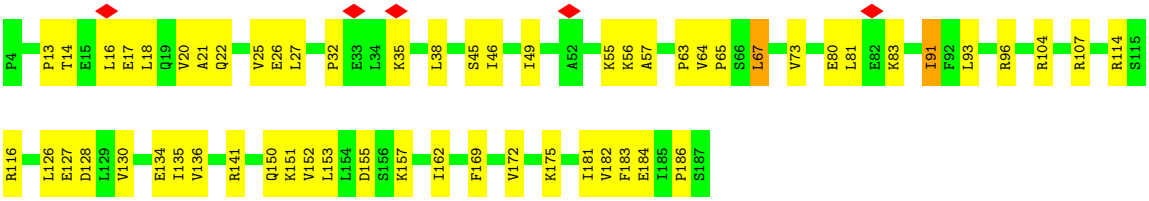






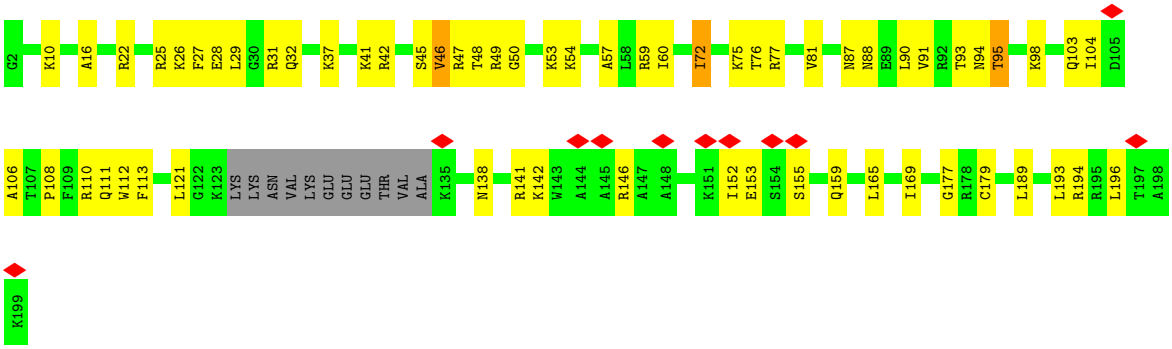
• Molecule 68: Small ribosomal subunit protein eS7A





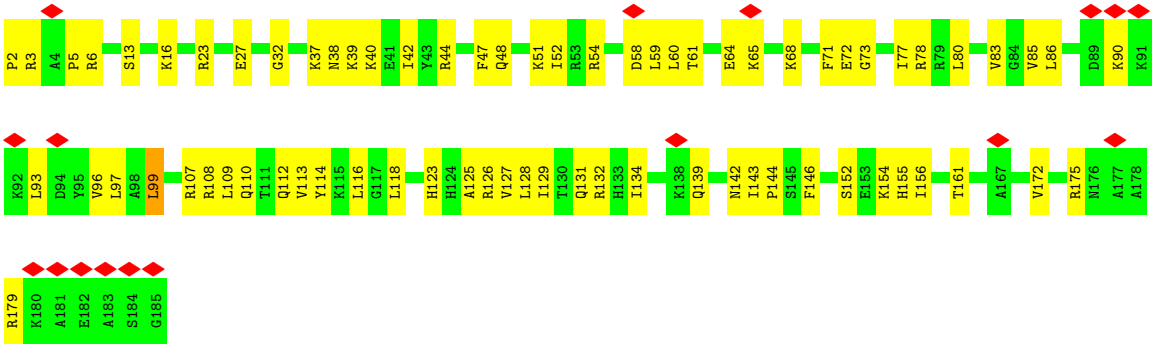
• Molecule 69: Small ribosomal subunit protein eS8A





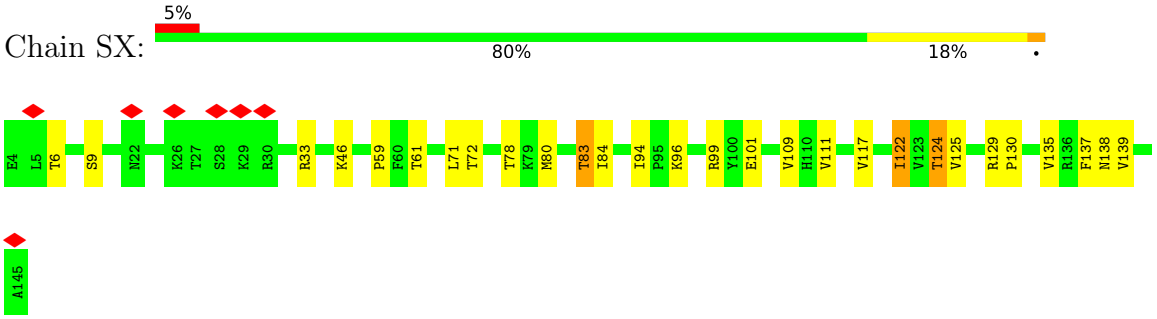
• Molecule 70: Small ribosomal subunit protein uS4A





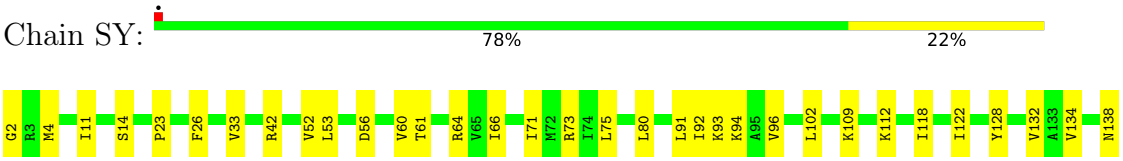
• Molecule 71: Small ribosomal subunit protein uS17A

Chain SX:



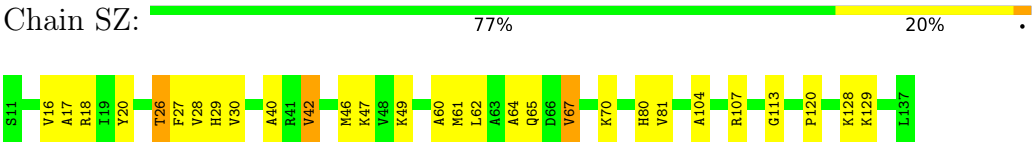
• Molecule 72: Small ribosomal subunit protein uS15

Chain SY:



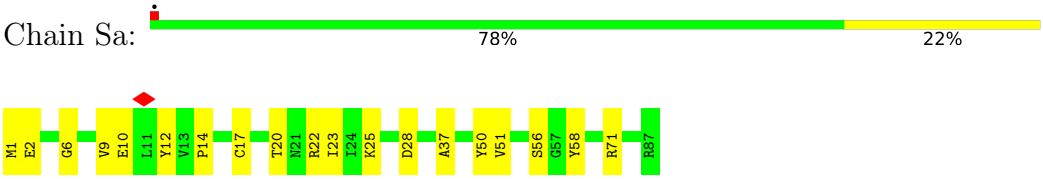
• Molecule 73: Small ribosomal subunit protein uS11B

Chain SZ:



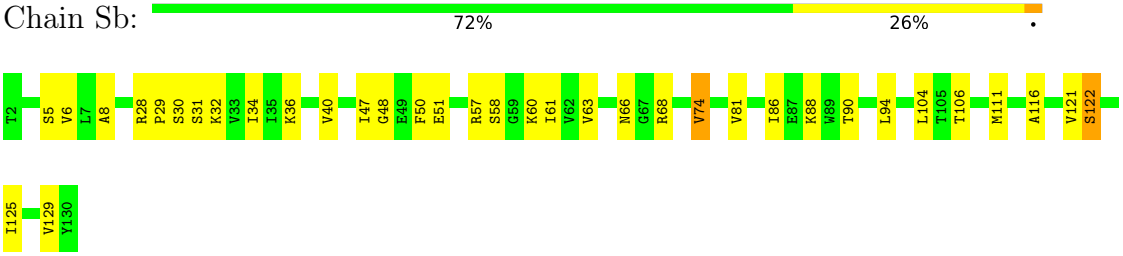
• Molecule 74: Small ribosomal subunit protein eS21A

Chain Sa:



• Molecule 75: Small ribosomal subunit protein uS8A

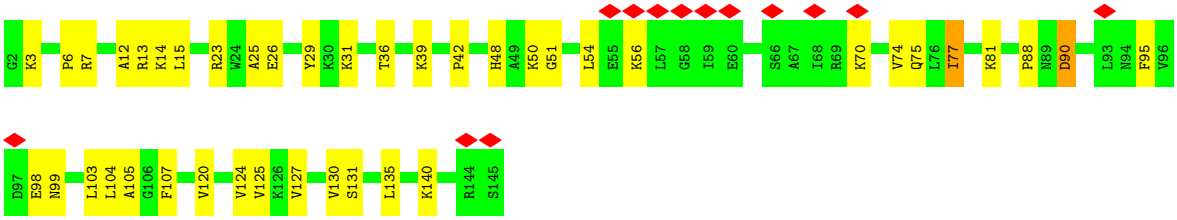
Chain Sb:



• Molecule 76: Small ribosomal subunit protein uS12A

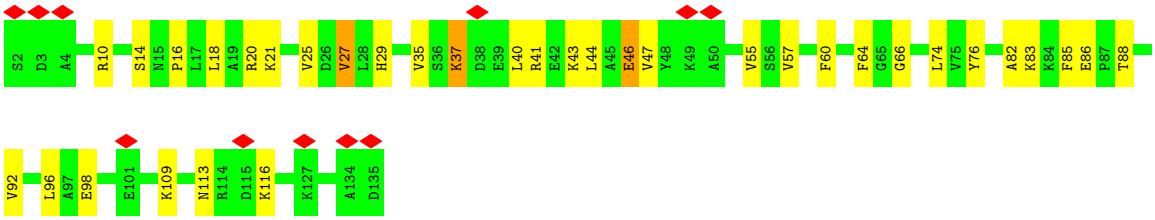
Chain Sc:



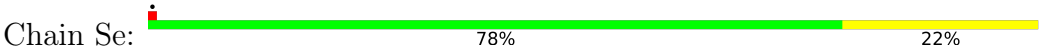


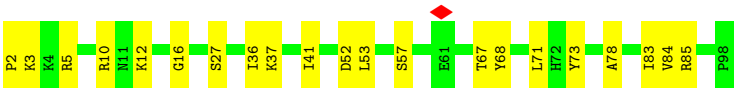
• Molecule 77: Small ribosomal subunit protein eS24A



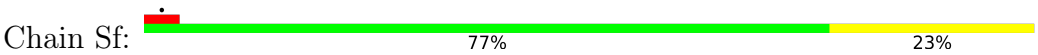


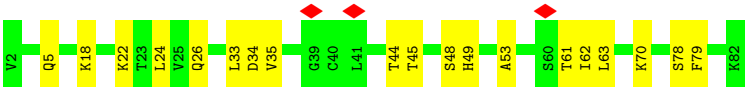
• Molecule 78: Small ribosomal subunit protein eS26B



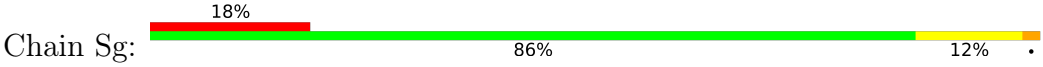


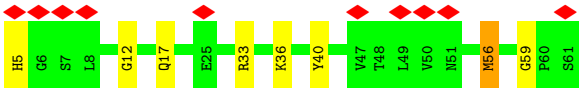
• Molecule 79: Small ribosomal subunit protein eS27A





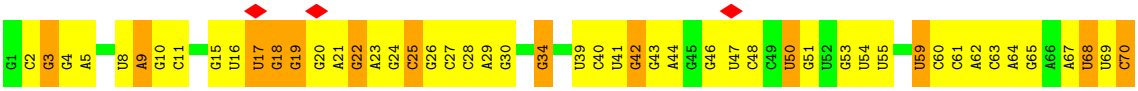
• Molecule 80: Small ribosomal subunit protein eS30A

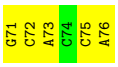




• Molecule 81: RNA (76-MER)






G71
C72
A73
C74
C75
A76

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	33691	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	JEOL CRYO ARM 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.586	Depositor
Minimum map value	-1.363	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.082	Depositor
Recommended contour level	0.16	Depositor
Map size (Å)	570.0, 570.0, 570.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.95, 0.95, 0.95	Depositor

5 Model quality

5.1 Standard geometry

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	LA	0.26	0/75727	0.71	12/118064 (0.0%)
2	LB	0.24	0/2883	0.69	1/4491 (0.0%)
3	LC	0.25	0/3746	0.68	0/5832
4	LD	0.14	0/1933	0.34	0/2598
5	LE	0.15	0/3146	0.33	0/4228
6	LF	0.14	0/2800	0.34	0/3790
7	LG	0.13	0/2400	0.35	0/3239
8	LH	0.15	0/1329	0.38	0/1794
9	LI	0.15	0/1821	0.35	0/2451
10	LJ	0.14	0/1836	0.38	0/2481
11	LK	0.17	0/1529	0.39	0/2060
12	LL	0.12	0/1801	0.30	0/2416
13	LM	0.13	0/1367	0.39	0/1834
14	LN	0.15	0/1568	0.38	0/2106
15	LO	0.15	0/1068	0.33	0/1438
16	LP	0.14	0/1757	0.32	0/2354
17	LQ	0.16	0/1585	0.37	0/2128
18	LR	0.13	0/1439	0.34	0/1938
19	LS	0.13	0/1465	0.34	0/1965
20	LT	0.12	0/1532	0.29	0/2043
21	LU	0.15	0/1473	0.34	0/1980
22	LV	0.14	0/1296	0.32	0/1739
23	LW	0.14	0/812	0.43	0/1099
24	LX	0.12	0/1018	0.29	0/1369
25	LY	0.13	0/540	0.34	0/717
26	LZ	0.12	0/979	0.30	0/1321
27	La	0.12	0/995	0.30	0/1329
28	Lb	0.11	0/1106	0.31	0/1485
29	Lc	0.14	0/1200	0.33	0/1607
30	Ld	0.12	0/473	0.32	0/629
31	Le	0.12	0/745	0.30	0/1001
32	Lf	0.13	0/890	0.31	0/1196
33	Lg	0.14	0/1038	0.30	0/1390
34	Lh	0.12	0/868	0.30	0/1168

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	Li	0.13	0/890	0.31	0/1189
36	Lj	0.13	0/978	0.35	0/1301
37	Lk	0.12	0/772	0.29	0/1026
38	Ll	0.12	0/660	0.30	0/875
39	Lm	0.11	0/618	0.32	0/826
40	Ln	0.13	0/443	0.31	0/588
41	Lo	0.10	0/416	0.28	0/553
42	Lp	0.11	0/230	0.25	0/296
43	Lq	0.13	0/836	0.35	0/1104
44	Lr	0.14	0/701	0.37	0/934
46	Cc	0.20	0/1836	0.69	0/2859
47	S2	0.25	0/42211	0.75	33/65773 (0.1%)
48	SA	0.17	0/1754	0.43	0/2361
49	SB	0.15	0/1625	0.38	0/2197
50	SC	0.14	0/769	0.40	0/1039
51	SD	0.17	0/883	0.52	0/1199
52	SE	0.14	0/936	0.37	0/1259
53	SF	0.13	0/1125	0.39	0/1510
54	SG	0.12	0/957	0.35	0/1283
55	SH	0.13	0/1207	0.36	0/1623
56	SI	0.15	0/1130	0.38	0/1517
57	SJ	0.15	0/807	0.40	0/1091
58	SK	0.11	0/661	0.30	0/888
59	SL	0.10	0/493	0.34	0/663
60	SM	0.11	0/452	0.33	0/600
61	SN	0.11	0/567	0.34	0/764
62	SO	0.15	0/2436	0.42	0/3318
63	SP	0.15	0/1644	0.38	0/2249
64	SQ	0.14	0/1823	0.39	0/2447
65	SR	0.15	0/1656	0.38	0/2251
66	SS	0.18	0/2097	0.42	0/2823
67	ST	0.14	0/1839	0.39	0/2460
68	SU	0.15	0/1498	0.38	0/2019
69	SV	0.13	0/1501	0.34	0/2006
70	SW	0.16	0/1504	0.45	0/2016
71	SX	0.12	0/1168	0.31	0/1575
72	SY	0.15	0/1215	0.35	0/1638
73	SZ	0.14	0/934	0.33	0/1257
74	Sa	0.12	0/682	0.31	0/921
75	Sb	0.15	0/1038	0.35	0/1395
76	Sc	0.12	0/1139	0.36	0/1518
77	Sd	0.14	0/1046	0.35	0/1401
78	Se	0.12	0/778	0.33	0/1042

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
79	Sf	0.18	0/620	0.40	0/838
80	Sg	0.13	0/459	0.44	0/611
81	Bb	0.23	0/1814	0.74	1/2827 (0.0%)
All	All	0.21	0/217013	0.61	47/319210 (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
10	LJ	0	2
30	Ld	0	1
All	All	0	3

There are no bond length outliers.

All (47) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
47	S2	590	C	C2-N1-C1'	8.26	127.88	118.80
47	S2	1182	U	C2-N1-C1'	7.96	127.25	117.70
47	S2	692	C	N3-C2-O2	-7.23	116.84	121.90
47	S2	1482	C	N1-C2-O2	7.19	123.22	118.90
47	S2	758	U	C2-N1-C1'	6.86	125.94	117.70
1	LA	1280	C	N3-C2-O2	-6.84	117.11	121.90
47	S2	590	C	C6-N1-C1'	-6.79	112.66	120.80
1	LA	1579	C	N3-C2-O2	-6.77	117.16	121.90
1	LA	3058	U	C2-N1-C1'	6.66	125.69	117.70
47	S2	1182	U	N1-C2-O2	6.62	127.43	122.80
47	S2	1049	U	C2-N1-C1'	6.40	125.38	117.70
47	S2	323	A	N9-C1'-C2'	6.36	118.99	112.00
47	S2	1182	U	N3-C2-O2	-6.33	117.77	122.20
47	S2	1482	C	N3-C2-O2	-6.29	117.50	121.90
47	S2	1482	C	C2-N1-C1'	6.25	125.67	118.80
47	S2	1389	C	C2-N1-C1'	6.12	125.53	118.80
47	S2	758	U	N1-C2-O2	6.08	127.05	122.80
2	LB	106	U	C2-N1-C1'	6.07	124.98	117.70
1	LA	3058	U	N1-C2-O2	6.01	127.00	122.80
47	S2	366	A	N9-C4-C5	-6.00	103.40	105.80
47	S2	540	G	O5'-C5'-C4'	5.95	114.16	109.40
81	Bb	19	G	O4'-C1'-N9	-5.86	103.51	108.20
47	S2	1257	U	C2-N1-C1'	5.86	124.73	117.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
47	S2	324	U	C5-C4-O4	5.79	129.38	125.90
47	S2	758	U	N3-C2-O2	-5.72	118.19	122.20
1	LA	1224	C	C2-N1-C1'	5.67	125.04	118.80
47	S2	304	U	C2-N1-C1'	5.58	124.40	117.70
1	LA	1496	C	C2-N1-C1'	5.57	124.93	118.80
47	S2	758	U	O4'-C1'-N1	5.57	112.40	108.50
47	S2	965	U	C2-N1-C1'	5.50	124.30	117.70
1	LA	1872	C	C2-N1-C1'	5.47	124.82	118.80
47	S2	540	G	O4'-C1'-N9	5.39	112.27	108.50
47	S2	324	U	N3-C4-O4	-5.39	115.63	119.40
47	S2	304	U	N1-C2-O2	5.36	126.55	122.80
1	LA	3058	U	N3-C2-O2	-5.32	118.47	122.20
47	S2	323	A	O4'-C1'-N9	5.30	112.21	108.50
47	S2	1274	C	P-O3'-C3'	5.24	125.99	119.70
47	S2	1012	U	N1-C2-O2	5.19	126.43	122.80
47	S2	1071	U	N1-C2-O2	5.16	126.41	122.80
1	LA	2836	C	C2-N1-C1'	5.10	124.41	118.80
1	LA	1107	C	P-O3'-C3'	5.06	125.77	119.70
47	S2	366	A	N3-C4-N9	5.06	131.45	127.40
1	LA	1107	C	O5'-C5'-C4'	5.05	113.44	109.40
47	S2	758	U	C5-C6-N1	5.04	125.22	122.70
47	S2	828	U	C2-N1-C1'	5.03	123.74	117.70
1	LA	2112	U	P-O3'-C3'	5.01	125.71	119.70
47	S2	1182	U	C6-N1-C1'	-5.01	114.19	121.20

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
10	LJ	30	THR	Peptide
10	LJ	76	ALA	Peptide
30	Ld	20	GLY	Peptide

5.2 Too-close contacts (i)

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	LA	67653	0	33997	767	0
2	LB	2579	0	1304	38	0
3	LC	3353	0	1695	53	0
4	LD	1899	0	1957	43	0
5	LE	3075	0	3142	60	0
6	LF	2748	0	2859	54	0
7	LG	2351	0	2294	50	0
8	LH	1307	0	1377	19	0
9	LI	1784	0	1862	33	0
10	LJ	1804	0	1877	34	0
11	LK	1508	0	1572	35	0
12	LL	1764	0	1804	33	0
13	LM	1346	0	1370	43	0
14	LN	1543	0	1608	30	0
15	LO	1053	0	1149	21	0
16	LP	1720	0	1779	35	0
17	LQ	1555	0	1659	29	0
18	LR	1416	0	1433	25	0
19	LS	1441	0	1543	31	0
20	LT	1515	0	1606	20	0
21	LU	1437	0	1475	31	0
22	LV	1272	0	1312	25	0
23	LW	796	0	812	24	0
24	LX	1003	0	1048	15	0
25	LY	528	0	546	13	0
26	LZ	964	0	1025	14	0
27	La	984	0	1075	16	0
28	Lb	1080	0	1122	23	0
29	Lc	1169	0	1211	24	0
30	Ld	462	0	491	8	0
31	Le	737	0	792	16	0
32	Lf	876	0	912	14	0
33	Lg	1017	0	1081	9	0
34	Lh	850	0	880	11	0
35	Li	880	0	945	17	0
36	Lj	969	0	1078	22	0
37	Lk	766	0	844	16	0
38	Ll	645	0	649	7	0
39	Lm	612	0	682	15	0
40	Ln	436	0	475	13	0
41	Lo	410	0	446	5	0
42	Lp	229	0	273	3	0
43	Lq	824	0	892	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	Lr	694	0	738	10	0
45	mR	228	0	0	0	0
46	Cc	1644	0	837	16	0
47	S2	37739	0	18988	532	0
48	SA	1729	0	1812	55	0
49	SB	1605	0	1669	63	0
50	SC	752	0	719	28	0
51	SD	875	0	878	21	0
52	SE	916	0	941	28	0
53	SF	1105	0	1166	37	0
54	SG	948	0	990	26	0
55	SH	1188	0	1218	29	0
56	SI	1112	0	1124	34	0
57	SJ	797	0	863	36	0
58	SK	651	0	682	21	0
59	SL	491	0	524	20	0
60	SM	442	0	432	13	0
61	SN	556	0	549	7	0
62	SO	2383	0	2332	66	0
63	SP	1603	0	1610	39	0
64	SQ	1798	0	1890	43	0
65	SR	1626	0	1715	40	0
66	SS	2056	0	2140	73	0
67	ST	1815	0	1894	48	0
68	SU	1473	0	1555	35	0
69	SV	1476	0	1501	49	0
70	SW	1479	0	1556	58	0
71	SX	1142	0	1209	23	0
72	SY	1192	0	1255	22	0
73	SZ	923	0	948	19	0
74	Sa	673	0	662	12	0
75	Sb	1021	0	1060	24	0
76	Sc	1121	0	1196	26	0
77	Sd	1032	0	1044	27	0
78	Se	765	0	814	14	0
79	Sf	610	0	633	12	0
80	Sg	451	0	494	8	0
81	Bb	1622	0	821	31	0
All	All	202093	0	148412	3049	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 9.

All (3049) 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)
47:S2:1673:G:N1	47:S2:1728:A:H2	1.60	1.00
3:LC:121:U:H3	3:LC:132:G:H1	1.11	0.97
46:Cc:51:U:H3	46:Cc:65:G:H1	1.00	0.96
47:S2:1673:G:N1	47:S2:1728:A:C2	2.33	0.96
47:S2:752:A:N6	47:S2:797:G:H1	1.65	0.93
47:S2:480:G:H1	47:S2:508:U:H3	1.14	0.92
47:S2:69:G:H1	47:S2:82:U:H3	1.12	0.92
1:LA:3299:A:H61	1:LA:3315:G:H1	1.19	0.91
1:LA:2437:G:H1	1:LA:2510:U:H3	1.19	0.90
1:LA:528:U:H3	1:LA:564:G:H1	1.20	0.89
1:LA:2450:G:N2	1:LA:2496:C:O2	2.07	0.87
1:LA:182:U:H3	1:LA:234:G:H1	1.21	0.86
1:LA:3160:U:H3	1:LA:3290:G:H1	1.23	0.84
1:LA:1019:G:H1	1:LA:1033:U:H3	1.24	0.84
13:LM:30:LEU:HD21	13:LM:47:GLN:HG2	1.61	0.83
47:S2:752:A:H61	47:S2:797:G:H1	1.18	0.83
47:S2:38:C:H4'	70:SW:6:ARG:HH21	1.44	0.82
1:LA:839:C:H4'	1:LA:1724:U:H2'	1.60	0.82
64:SQ:52:THR:HG22	64:SQ:55:LYS:HB2	1.59	0.82
47:S2:1588:G:H1	47:S2:1608:U:H3	0.84	0.82
47:S2:1054:U:C4	47:S2:1065:A:N1	2.48	0.81
48:SA:217:ILE:HD12	48:SA:218:LEU:H	1.43	0.81
1:LA:2764:C:H42	46:Cc:77:A:H8	1.29	0.81
47:S2:385:A:H5"	69:SV:22:ARG:HG2	1.64	0.80
1:LA:1664:G:H1	1:LA:1785:U:H3	1.26	0.80
72:SY:23:PRO:HD2	72:SY:26:PHE:HB2	1.63	0.80
71:SX:78:THR:HA	71:SX:84:ILE:HG22	1.65	0.79
47:S2:1179:G:H21	47:S2:1460:A:H62	1.31	0.79
49:SB:63:GLN:HG3	49:SB:88:PRO:HA	1.63	0.79
63:SP:164:ASN:HA	63:SP:170:ILE:HD11	1.64	0.79
9:LI:81:HIS:HD2	9:LI:138:TYR:HB3	1.47	0.78
47:S2:1673:G:O6	47:S2:1728:A:N1	2.16	0.78
1:LA:129:U:H3	1:LA:139:G:H1	1.32	0.78
10:LJ:205:ALA:HA	10:LJ:208:GLU:HG3	1.66	0.78
48:SA:40:ARG:HG3	57:SJ:110:PRO:HB3	1.65	0.78
1:LA:655:C:H2'	1:LA:656:A:H8	1.48	0.78
11:LK:4:ILE:HB	21:LU:142:GLN:HE21	1.48	0.78
57:SJ:26:LEU:HD12	57:SJ:34:LEU:HD12	1.67	0.77
35:Li:22:VAL:HG12	35:Li:30:LEU:HD22	1.66	0.77
47:S2:513:U:H1'	70:SW:131:GLN:HG2	1.67	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1161:C:H2'	59:SL:22:ARG:HE	1.49	0.77
1:LA:2537:U:H5"	64:SQ:229:MET:HB2	1.66	0.77
57:SJ:27:THR:HG22	57:SJ:88:LYS:HG3	1.67	0.77
71:SX:109:VAL:HG12	71:SX:137:PHE:HB2	1.65	0.77
7:LG:64:ILE:HG13	7:LG:109:THR:HG21	1.65	0.77
12:LL:87:LEU:HD12	12:LL:138:VAL:HG22	1.67	0.76
63:SP:53:THR:HG22	63:SP:161:PRO:HG2	1.67	0.75
68:SU:150:GLN:HB3	68:SU:181:ILE:HG22	1.68	0.75
43:Lq:25:VAL:HG22	43:Lq:72:LEU:HD22	1.66	0.75
47:S2:66:U:H3	67:ST:133:LEU:HD21	1.52	0.75
55:SH:101:LEU:HD23	55:SH:103:ASN:H	1.52	0.75
1:LA:1661:G:H2'	1:LA:1662:G:C8	2.21	0.74
58:SK:54:VAL:HG11	58:SK:83:LEU:HD21	1.69	0.74
1:LA:512:U:H3	1:LA:579:G:H1	1.36	0.74
67:ST:34:GLN:HE22	67:ST:52:ILE:HB	1.51	0.73
1:LA:169:U:O4	1:LA:253:A:C6	2.42	0.73
56:SI:75:LYS:H	56:SI:75:LYS:HD2	1.54	0.73
1:LA:254:A:H4'	36:Lj:106:LYS:HE2	1.71	0.73
1:LA:1666:G:H1	1:LA:1783:U:H3	1.37	0.73
55:SH:41:ARG:HD3	56:SI:46:PRO:HD3	1.69	0.72
1:LA:238:A:H62	1:LA:239:G:H21	1.38	0.72
9:LI:120:THR:H	9:LI:123:THR:HB	1.55	0.72
49:SB:43:PHE:HD1	49:SB:44:ASN:H	1.36	0.72
47:S2:480:G:N2	47:S2:508:U:O2	2.21	0.72
51:SD:58:LEU:HD11	51:SD:125:ASN:H	1.55	0.72
66:SS:181:VAL:HG22	66:SS:193:GLY:HA3	1.70	0.71
1:LA:3230:G:H4'	15:LO:132:LYS:HD3	1.70	0.71
19:LS:122:ILE:HG23	19:LS:126:GLN:HB2	1.72	0.71
47:S2:513:U:H2'	47:S2:514:G:C8	2.25	0.71
70:SW:129:ILE:HG13	70:SW:134:ILE:HD13	1.72	0.71
52:SE:111:MET:HB3	55:SH:119:ILE:HD12	1.72	0.71
13:LM:100:GLY:HA3	13:LM:154:THR:HG22	1.73	0.71
47:S2:1542:G:H4'	47:S2:1543:A:H5'	1.71	0.71
66:SS:80:THR:HG23	66:SS:81:THR:HG23	1.72	0.71
35:Li:85:VAL:O	35:Li:89:ILE:HD12	1.91	0.70
69:SV:76:THR:HG21	69:SV:104:ILE:HG23	1.73	0.70
47:S2:1219:A:H62	47:S2:1264:G:H21	1.39	0.70
4:LD:248:GLY:HA2	47:S2:1012:U:H4'	1.73	0.70
15:LO:135:LEU:HD11	17:LQ:178[A]:VAL:HA	1.73	0.70
47:S2:1673:G:H1	47:S2:1728:A:H2	0.77	0.70
23:LW:19:VAL:HG11	23:LW:30:PRO:HB3	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1233:G:H21	61:SN:145:HIS:HE1	1.40	0.70
65:SR:83:ILE:HD11	65:SR:125:ILE:HD11	1.72	0.70
1:LA:1122:U:H3	1:LA:1136:A:H62	1.39	0.69
1:LA:1805:C:H2'	1:LA:1806:A:H8	1.57	0.69
47:S2:329:G:H5"	69:SV:98:LYS:HB3	1.74	0.69
70:SW:125:ALA:O	70:SW:129:ILE:HD12	1.92	0.69
7:LG:294:ALA:HB1	12:LL:217:PHE:HB3	1.74	0.69
28:Lb:72:ILE:HD11	28:Lb:107:ARG:HG2	1.74	0.69
65:SR:239:PRO:HA	65:SR:242:ILE:HG22	1.72	0.69
67:ST:180:THR:HG23	67:ST:183:ARG:H	1.58	0.69
68:SU:151:LYS:HE3	68:SU:184:GLU:HG3	1.73	0.69
20:LT:105:LEU:HD13	20:LT:135:LYS:HD2	1.73	0.69
15:LO:48:GLY:HA3	15:LO:53:VAL:HB	1.75	0.69
29:Lc:100:PRO:HG2	29:Lc:123:VAL:HG23	1.75	0.69
47:S2:871:G:H2'	47:S2:872:G:C8	2.28	0.69
66:SS:19:LEU:HD11	66:SS:108:ARG:HD3	1.75	0.69
1:LA:1378:U:H2'	1:LA:1379:G:H8	1.57	0.68
59:SL:13:ILE:HD11	59:SL:31:GLU:HB3	1.73	0.68
69:SV:159:GLN:HB3	69:SV:165:LEU:HB3	1.75	0.68
8:LH:55:LEU:HD21	8:LH:145:LEU:HD11	1.75	0.68
1:LA:1497:C:H2'	1:LA:1498:A:H8	1.58	0.68
50:SC:82:LEU:HD12	50:SC:83:PRO:HD2	1.72	0.68
47:S2:1146:G:H2'	47:S2:1147:A:C8	2.28	0.68
1:LA:173:G:H1	1:LA:245:U:H3	1.39	0.68
29:Lc:104:THR:HG21	29:Lc:112:ILE:HD11	1.74	0.68
7:LG:85:ARG:HH22	7:LG:254:LYS:H	1.42	0.68
48:SA:51:ARG:HB3	48:SA:91:VAL:HB	1.75	0.68
57:SJ:82:TYR:HB3	60:SM:52:PHE:HB3	1.76	0.68
59:SL:12:VAL:HG22	59:SL:52:ASP:H	1.58	0.68
66:SS:182:TYR:HB2	66:SS:228:ILE:HG12	1.74	0.68
47:S2:821:U:H3	47:S2:852:C:N4	1.92	0.68
23:LW:37:LEU:O	23:LW:41:ILE:HG12	1.93	0.67
62:SO:112:SER:HB3	62:SO:153:GLN:HA	1.76	0.67
1:LA:394:G:H22	1:LA:397:A:H5'	1.59	0.67
3:LC:55:U:O4	3:LC:62:C:N3	2.27	0.67
31:Le:24:THR:HG23	31:Le:93:LEU:HD11	1.76	0.67
1:LA:3208:G:H4'	1:LA:3209:A:H5"	1.76	0.67
47:S2:1591:C:H2'	47:S2:1592:A:H8	1.58	0.67
4:LD:144:ASN:ND2	4:LD:144:ASN:O	2.27	0.67
47:S2:752:A:N1	47:S2:797:G:N2	2.40	0.67
47:S2:867:G:H5'	72:SY:4:MET:HE3	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LK:36:LYS:HD2	11:LK:78:MET:HE1	1.75	0.67
55:SH:81:ILE:HG22	55:SH:83:ALA:H	1.60	0.67
47:S2:142:G:H1	47:S2:173:A:N6	1.92	0.67
1:LA:1896:A:H61	1:LA:2339:C:H42	1.42	0.67
1:LA:656:A:H2'	1:LA:657:A:C8	2.30	0.67
6:LF:178:LEU:HD11	6:LF:222:VAL:HG12	1.76	0.67
67:ST:2:LYS:HB2	67:ST:108:VAL:HG22	1.75	0.67
19:LS:30:VAL:O	19:LS:34:THR:HG23	1.94	0.67
1:LA:1343:A:H2'	1:LA:1344:G:H8	1.60	0.66
34:Lh:49:ILE:HD11	34:Lh:71:VAL:HG23	1.76	0.66
49:SB:53:VAL:HG22	49:SB:55:ASP:H	1.59	0.66
66:SS:181:VAL:HA	66:SS:227:VAL:HA	1.75	0.66
47:S2:29:U:H2'	47:S2:30:G:H8	1.60	0.66
1:LA:1240:A:H8	1:LA:1241:U:H4'	1.60	0.66
47:S2:762:A:H4'	66:SS:252:ARG:HD3	1.76	0.66
1:LA:908:G:H5"	16:LP:77:LYS:HD3	1.77	0.66
53:SF:27:GLY:HA2	53:SF:63:ILE:O	1.96	0.66
1:LA:289:A:H2'	1:LA:290:G:H8	1.60	0.66
5:LE:148:LEU:HD12	5:LE:196:ARG:HD3	1.77	0.66
11:LK:28:VAL:HG13	11:LK:33:THR:HG22	1.78	0.66
1:LA:655:C:H2'	1:LA:656:A:C8	2.30	0.66
4:LD:149:ARG:HH11	4:LD:149:ARG:HG3	1.61	0.65
12:LL:36:LEU:HD11	12:LL:69:ARG:HE	1.60	0.65
28:Lb:102:GLU:H	28:Lb:107:ARG:HH21	1.42	0.65
47:S2:1274:C:H4'	47:S2:1275:A:H5'	1.77	0.65
18:LR:33:ALA:HB1	18:LR:117:ILE:HG12	1.76	0.65
25:LY:45:ASN:HB3	25:LY:48:ARG:HG3	1.78	0.65
58:SK:25:LYS:HG3	58:SK:27:TRP:H	1.60	0.65
47:S2:1054:U:O4	47:S2:1065:A:N1	2.29	0.65
77:Sd:88:THR:O	77:Sd:92:VAL:HG23	1.97	0.65
1:LA:171:G:H2'	1:LA:172:G:C8	2.31	0.65
21:LU:8:GLN:HB3	21:LU:64:ILE:HD11	1.77	0.65
68:SU:49:ILE:HG13	68:SU:172:VAL:HG23	1.79	0.65
21:LU:81:TYR:HE1	21:LU:90:MET:HE3	1.62	0.65
47:S2:924:A:H2'	47:S2:925:G:C8	2.32	0.65
27:La:55:GLU:HB2	27:La:108:LYS:HB3	1.79	0.65
79:Sf:53:ALA:HB1	79:Sf:62:ILE:HD12	1.79	0.65
47:S2:502:U:H2'	47:S2:503:G:C8	2.32	0.65
69:SV:42:ARG:HD2	69:SV:59:ARG:HD3	1.79	0.65
28:Lb:50:PRO:HD3	28:Lb:68:ILE:HG12	1.77	0.65
76:Sc:54:LEU:HD11	76:Sc:75:GLN:HB2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LQ:34[A]:VAL:HG22	17:LQ:103[A]:LYS:HB2	1.79	0.65
3:LC:151:C:H5	26:LZ:24:LEU:HD11	1.62	0.64
47:S2:1143:A:H1'	47:S2:1144:U:H5	1.62	0.64
50:SC:23:ALA:O	50:SC:64:TYR:HB2	1.97	0.64
62:SO:123:ILE:HG23	62:SO:133:VAL:HG12	1.79	0.64
1:LA:2572:C:H3'	1:LA:2573:G:H4'	1.78	0.64
1:LA:3334:U:H4'	1:LA:3335:A:H5'	1.79	0.64
6:LF:35:VAL:HG21	6:LF:244:LEU:HD21	1.78	0.64
47:S2:1720:G:H4'	47:S2:1721:A:H2	1.61	0.64
66:SS:180:LEU:HA	66:SS:194:THR:H	1.62	0.64
1:LA:1571:A:H2'	1:LA:1572:U:H4'	1.80	0.64
18:LR:60:PHE:HB3	18:LR:64:ASN:HB3	1.79	0.64
18:LR:122:ALA:HB3	18:LR:143:PRO:HB2	1.80	0.64
1:LA:700:C:H2'	1:LA:701:G:H8	1.62	0.64
47:S2:1164:G:H2'	47:S2:1165:G:H8	1.63	0.64
64:SQ:141:ALA:HB2	64:SQ:210:ILE:HD13	1.78	0.64
77:Sd:37:LYS:O	77:Sd:41:ARG:HG3	1.97	0.64
47:S2:1612:U:H4'	49:SB:84:LYS:HD2	1.79	0.64
1:LA:1747:G:H5"	39:Lm:42:LYS:HE2	1.78	0.64
1:LA:3270:U:C4	8:LH:46:ARG:HD3	2.33	0.64
29:Lc:132:LYS:O	29:Lc:136:GLU:HG3	1.98	0.64
47:S2:1506:G:H5'	47:S2:1551:U:H5"	1.79	0.64
47:S2:1517:U:H5"	47:S2:1518:C:H5	1.63	0.64
62:SO:82:SER:HB2	62:SO:92:TRP:HE1	1.61	0.64
32:Lf:14:ILE:HG13	32:Lf:19:ARG:HH21	1.63	0.64
47:S2:803:A:HO2'	47:S2:804:A:H8	1.45	0.64
14:LN:123:ILE:HG22	36:Lj:118:ILE:HB	1.79	0.64
21:LU:77:VAL:HG22	21:LU:126:VAL:HG13	1.79	0.64
42:Lp:15:ARG:HH21	47:S2:1125:A:H5"	1.63	0.64
53:SF:101:SER:O	53:SF:105:LEU:HG	1.98	0.64
66:SS:79:ASP:HB3	66:SS:82:TYR:HB2	1.79	0.64
1:LA:627:U:H2'	1:LA:628:A:C8	2.32	0.63
3:LC:52:A:H61	40:Ln:23:LEU:HD12	1.63	0.63
49:SB:183:ALA:HB2	49:SB:193:THR:HG21	1.79	0.63
62:SO:89:LEU:HB2	62:SO:103:PHE:HB2	1.78	0.63
63:SP:64:ILE:HA	63:SP:67:ILE:HD12	1.79	0.63
1:LA:1604:G:H4'	1:LA:1835:A:H4'	1.80	0.63
5:LE:45:SER:HB3	5:LE:181:ILE:HG12	1.81	0.63
6:LF:150:LEU:HD23	6:LF:249:ILE:HG12	1.80	0.63
47:S2:513:U:H2'	47:S2:514:G:H8	1.63	0.63
47:S2:884:A:H2'	47:S2:885:G:C8	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:ST:57:ASP:HA	67:ST:106:LEU:HA	1.80	0.63
1:LA:957:C:H1'	29:Lc:43:ILE:HD11	1.78	0.63
6:LF:351:PRO:HA	9:LI:71:ALA:HA	1.79	0.63
47:S2:1179:G:H21	47:S2:1460:A:N6	1.95	0.63
63:SP:198:MET:HG3	63:SP:200:ASP:H	1.62	0.63
1:LA:896:A:H5"	4:LD:183:GLY:HA2	1.79	0.63
47:S2:142:G:H1	47:S2:173:A:H61	1.47	0.63
49:SB:121:ILE:HD13	49:SB:199:ILE:HG13	1.81	0.63
63:SP:177:LEU:O	63:SP:181:VAL:HG23	1.99	0.63
1:LA:153:U:H4'	1:LA:158:G:H4'	1.81	0.63
1:LA:627:U:H2'	1:LA:628:A:H8	1.63	0.63
47:S2:931:C:H5"	64:SQ:116:LYS:HB3	1.80	0.63
5:LE:47:LEU:HD22	5:LE:335:ILE:HD11	1.80	0.63
70:SW:139:GLN:HE22	77:Sd:64:PHE:HB3	1.64	0.63
1:LA:2270:A:H2'	1:LA:2271:A:C8	2.34	0.63
10:LJ:162:LEU:HA	16:LP:7:LEU:HD11	1.80	0.63
1:LA:1054:A:H5"	1:LA:2637:A:H61	1.64	0.63
47:S2:1164:G:H2'	47:S2:1165:G:C8	2.34	0.62
74:Sa:71:ARG:HG2	74:Sa:71:ARG:HH11	1.64	0.62
1:LA:3299:A:N6	1:LA:3315:G:H1	1.92	0.62
10:LJ:54:GLU:O	10:LJ:58:VAL:HG23	1.99	0.62
65:SR:116:LYS:HG2	65:SR:127:ALA:HB3	1.82	0.62
1:LA:928:C:H2'	1:LA:929:A:C8	2.33	0.62
1:LA:1717:U:H2'	1:LA:1718:G:C8	2.33	0.62
1:LA:1940:G:H21	1:LA:3362:A:H8	1.47	0.62
1:LA:2228:A:H2'	1:LA:2229:A:C8	2.35	0.62
47:S2:990:C:H5"	73:SZ:129:LYS:HB2	1.82	0.62
12:LL:72:ALA:HB2	12:LL:155:ALA:HB2	1.80	0.62
47:S2:397:A:H4'	69:SV:50:GLY:HA2	1.80	0.62
47:S2:413:U:H2'	47:S2:414:C:H5"	1.82	0.62
65:SR:105:GLY:HA3	65:SR:190:LEU:HB3	1.82	0.62
9:LI:170:GLU:HG3	9:LI:179:LEU:HD22	1.80	0.62
47:S2:1717:G:H2'	47:S2:1718:G:C8	2.34	0.62
1:LA:1203:A:H2'	1:LA:1204:A:C8	2.35	0.62
1:LA:1786:G:H2'	1:LA:1787:A:C8	2.35	0.62
3:LC:8:C:H2'	3:LC:9:A:H8	1.63	0.62
48:SA:175:VAL:O	48:SA:181:VAL:HA	2.00	0.62
1:LA:1213:G:H4'	21:LU:90:MET:HB2	1.80	0.62
1:LA:2853:A:H5'	12:LL:63:GLU:HB3	1.82	0.62
19:LS:147:ARG:HB2	19:LS:150:VAL:HG13	1.82	0.62
30:Ld:28:LYS:HG2	30:Ld:29:TYR:CD1	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:LB:94:C:H2'	2:LB:95:A:H8	1.63	0.62
3:LC:8:C:H2'	3:LC:9:A:C8	2.35	0.62
22:LV:18:ASP:HB3	22:LV:21:LYS:HB2	1.82	0.62
49:SB:61:TYR:CZ	49:SB:165:LEU:HB2	2.35	0.62
79:Sf:61:THR:O	79:Sf:63:LEU:HD12	1.99	0.62
1:LA:664:U:H2'	1:LA:665:A:C8	2.34	0.61
5:LE:29:VAL:HG22	5:LE:218:ILE:HD13	1.81	0.61
32:Lf:36:ILE:HD12	32:Lf:59:ILE:HD11	1.82	0.61
49:SB:103:ASN:HA	49:SB:106:LYS:HD2	1.82	0.61
1:LA:736:A:C5	1:LA:737:G:H1'	2.34	0.61
47:S2:1057:U:H2'	47:S2:1062:A:H61	1.64	0.61
4:LD:137:ILE:HD11	4:LD:149:ARG:HB2	1.81	0.61
54:SG:100:LEU:HD23	54:SG:119:LEU:HB3	1.81	0.61
58:SK:99:ALA:HB1	58:SK:101:TYR:HE1	1.64	0.61
62:SO:116:ASP:HB3	62:SO:183:LEU:HD11	1.81	0.61
4:LD:118:GLU:HG3	4:LD:125:ALA:HB3	1.80	0.61
10:LJ:74:THR:HG22	10:LJ:164:VAL:HG22	1.82	0.61
20:LT:136:ARG:O	20:LT:140:GLU:HG3	2.00	0.61
64:SQ:229:MET:HA	64:SQ:232:HIS:HB2	1.83	0.61
75:Sb:104:LEU:HD11	75:Sb:116:ALA:HB2	1.82	0.61
1:LA:407:A:C2	3:LC:17:A:H1'	2.36	0.61
1:LA:1653:G:H2'	1:LA:1654:A:C8	2.35	0.61
6:LF:178:LEU:HD21	6:LF:225:VAL:HG22	1.83	0.61
47:S2:1480:G:H5"	56:SI:63:ARG:HH21	1.66	0.61
70:SW:96:VAL:HA	70:SW:99:LEU:HD23	1.83	0.61
1:LA:1596:C:H2'	1:LA:1597:C:C6	2.36	0.61
23:LW:28:PHE:HE1	23:LW:83:TYR:HE2	1.48	0.61
49:SB:58:LEU:HD12	49:SB:138:THR:HG22	1.81	0.61
63:SP:4:PRO:HG2	63:SP:6:THR:HG22	1.81	0.61
1:LA:1666:G:H2'	1:LA:1667:A:H8	1.66	0.61
5:LE:137:TYR:HA	5:LE:144:ILE:HD11	1.81	0.61
14:LN:10:LEU:HD23	19:LS:166:LEU:HD11	1.82	0.61
66:SS:86:PHE:CE2	66:SS:87:MET:HG2	2.36	0.61
67:ST:57:ASP:HB3	67:ST:98:ARG:HD3	1.83	0.61
11:LK:18:VAL:H	15:LO:5:SER:HB3	1.66	0.61
47:S2:199:G:H2'	47:S2:200:A:C8	2.35	0.61
47:S2:1650:U:H2'	47:S2:1651:A:C8	2.35	0.61
1:LA:2960:C:H2'	1:LA:2961:G:H8	1.66	0.61
6:LF:280:ILE:HD12	19:LS:104:LEU:HD22	1.83	0.61
10:LJ:169:LEU:HA	37:Lk:43:LEU:HD11	1.82	0.61
47:S2:887:A:H5"	73:SZ:120:PRO:HB2	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1591:C:H2'	47:S2:1592:A:C8	2.36	0.61
1:LA:429:U:H2'	1:LA:430:U:H6	1.65	0.61
1:LA:1333:C:H5"	9:LI:110:ARG:NH1	2.16	0.61
10:LJ:203:VAL:HG13	10:LJ:208:GLU:HG2	1.82	0.61
23:LW:36:TYR:HD2	23:LW:83:TYR:CD1	2.18	0.61
44:Lr:78:THR:O	44:Lr:82:THR:HG23	2.01	0.61
47:S2:1727:G:H21	69:SV:32:GLN:HE22	1.48	0.61
1:LA:1343:A:H2'	1:LA:1344:G:C8	2.36	0.60
1:LA:3295:A:H2'	1:LA:3296:A:C8	2.36	0.60
2:LB:60:G:H2'	2:LB:61:G:H8	1.66	0.60
47:S2:329:G:H2'	47:S2:330:G:H8	1.66	0.60
67:ST:32:ILE:HG12	67:ST:100:ALA:HB1	1.83	0.60
23:LW:28:PHE:CE1	23:LW:83:TYR:HE2	2.18	0.60
47:S2:502:U:H2'	47:S2:503:G:H8	1.66	0.60
47:S2:1546:G:H2'	47:S2:1547:A:C8	2.36	0.60
48:SA:113:LEU:HD21	48:SA:118:ALA:HB2	1.82	0.60
76:Sc:6:PRO:HG3	76:Sc:14:LYS:HG2	1.83	0.60
1:LA:1838:G:H5"	1:LA:1839:A:H5'	1.82	0.60
13:LM:82:ARG:HE	13:LM:112:LEU:HB3	1.65	0.60
16:LP:60:VAL:HG22	16:LP:134:LEU:HB2	1.83	0.60
19:LS:155:MET:HE3	19:LS:163:PRO:HB3	1.83	0.60
57:SJ:28:SER:HB2	57:SJ:112:VAL:HA	1.82	0.60
1:LA:1333:C:H5"	9:LI:110:ARG:HH12	1.66	0.60
47:S2:1171:A:H2'	47:S2:1172:G:C8	2.36	0.60
70:SW:110:GLN:HE21	70:SW:126:ARG:HB2	1.66	0.60
73:SZ:42:VAL:HG13	73:SZ:67:VAL:HG23	1.82	0.60
1:LA:1229:G:H2'	1:LA:1230:G:O4'	2.01	0.60
15:LO:49:PRO:HB3	15:LO:78:THR:HG23	1.82	0.60
47:S2:389:G:H3'	47:S2:390:G:H21	1.65	0.60
1:LA:2129:U:H2'	1:LA:2130:G:C8	2.36	0.60
14:LN:158:ALA:HA	29:Lc:97:GLU:HA	1.83	0.60
47:S2:821:U:H3	47:S2:852:C:H42	1.49	0.60
47:S2:923:A:H2'	47:S2:924:A:C8	2.37	0.60
47:S2:1672:G:H2'	47:S2:1673:G:C8	2.37	0.60
67:ST:77:LEU:HD13	67:ST:84:TYR:HB2	1.82	0.60
1:LA:169:U:C4	1:LA:253:A:C6	2.89	0.60
14:LN:3:ILE:HG21	29:Lc:45:MET:HE3	1.83	0.60
50:SC:35:ILE:HG22	50:SC:37:THR:H	1.67	0.60
57:SJ:96:PRO:HD2	57:SJ:99:ILE:HD11	1.83	0.60
1:LA:2836:C:H5	1:LA:2852:C:H42	1.48	0.60
1:LA:3158:G:O6	1:LA:3292:A:N1	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:LB:112:G:H2'	2:LB:113:C:C6	2.36	0.60
47:S2:199:G:H2'	47:S2:200:A:H8	1.65	0.60
47:S2:1583:A:H62	49:SB:78:ALA:H	1.50	0.60
62:SO:231:MET:HG2	62:SO:232:TYR:HD1	1.65	0.60
67:ST:14:LYS:HD2	67:ST:15:THR:H	1.66	0.60
1:LA:168:U:H2'	1:LA:169:U:H4'	1.83	0.60
1:LA:1084:A:H2'	1:LA:1085:A:C8	2.37	0.60
47:S2:1451:C:H5'	60:SM:10:HIS:HB2	1.84	0.60
47:S2:1569:A:H2'	47:S2:1570:A:C8	2.37	0.60
60:SM:36:LEU:HD12	60:SM:38:ILE:HG12	1.83	0.60
66:SS:35:PRO:HD2	66:SS:83:PRO:HG2	1.82	0.60
2:LB:118:A:H5"	7:LG:253:PHE:HZ	1.66	0.60
72:SY:132:VAL:HG13	72:SY:134:VAL:HG13	1.84	0.60
9:LI:239:LEU:O	9:LI:243:MET:HG3	2.02	0.59
32:Lf:75:ILE:HG12	32:Lf:93:VAL:HG13	1.83	0.59
57:SJ:97:VAL:O	57:SJ:101:LYS:HG3	2.01	0.59
63:SP:117:GLU:HB2	65:SR:40:LYS:HE3	1.84	0.59
52:SE:95:GLY:HA2	52:SE:103:ASN:O	2.01	0.59
1:LA:1364:C:H5"	19:LS:3:ILE:HD12	1.84	0.59
1:LA:3294:A:H5'	5:LE:128:LYS:HG3	1.84	0.59
53:SF:41:PRO:HD2	53:SF:45:ARG:HB2	1.83	0.59
58:SK:50:ILE:HG22	58:SK:69:LEU:HD22	1.83	0.59
1:LA:3107:U:H2'	1:LA:3108:G:C8	2.38	0.59
23:LW:36:TYR:HD2	23:LW:83:TYR:HD1	1.49	0.59
75:Sb:6:VAL:HG13	75:Sb:29:PRO:HD2	1.85	0.59
47:S2:701:U:O4	47:S2:732:G:N1	2.34	0.59
70:SW:110:GLN:NE2	70:SW:126:ARG:HB2	2.16	0.59
12:LL:52:LEU:HB3	12:LL:136:PHE:HB2	1.84	0.59
47:S2:1408:G:H3'	47:S2:1409:G:H8	1.67	0.59
63:SP:144:ILE:HG13	63:SP:158:VAL:HG13	1.84	0.59
70:SW:23:ARG:O	70:SW:27:GLU:HG3	2.02	0.59
1:LA:2960:C:H2'	1:LA:2961:G:C8	2.38	0.59
13:LM:109:HIS:HD2	13:LM:123:PHE:H	1.48	0.59
21:LU:71:LYS:HE3	21:LU:73:LYS:HD3	1.84	0.59
47:S2:591:A:H2'	47:S2:592:A:C8	2.37	0.59
47:S2:959:U:H6	72:SY:61:THR:HB	1.66	0.59
51:SD:69:ALA:HB1	51:SD:72:ILE:HB	1.84	0.59
58:SK:50:ILE:O	58:SK:54:VAL:HG23	2.03	0.59
58:SK:92:ILE:HD13	58:SK:100:ILE:HG22	1.84	0.59
67:ST:50:PHE:HB3	67:ST:111:LEU:HD12	1.85	0.59
1:LA:952:A:H4'	1:LA:968:G:N2	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:959:C:H41	1:LA:2801:A:H2'	1.68	0.59
9:LI:151:ARG:HD2	9:LI:207:LEU:HD23	1.83	0.59
12:LL:140:THR:HG21	12:LL:148:VAL:HG21	1.85	0.59
47:S2:345:U:H1'	47:S2:346:G:C8	2.38	0.59
3:LC:9:A:H2'	3:LC:10:A:C8	2.38	0.59
53:SF:44:LEU:HD12	53:SF:44:LEU:H	1.67	0.59
66:SS:129:VAL:HG12	66:SS:139:VAL:HG12	1.85	0.59
1:LA:2218:G:H2'	1:LA:2219:A:H8	1.67	0.58
29:Lc:75:LEU:HG	29:Lc:114:GLY:HA2	1.85	0.58
52:SE:96:ILE:HD11	52:SE:116:LEU:HD22	1.84	0.58
62:SO:10:ARG:HB3	62:SO:312:VAL:HG23	1.84	0.58
70:SW:42:ILE:H	70:SW:42:ILE:HD12	1.68	0.58
22:LV:49:GLN:HA	22:LV:52:MET:HE3	1.85	0.58
36:Lj:38:ARG:HG3	36:Lj:39:PRO:HD2	1.85	0.58
47:S2:1381:U:H4'	57:SJ:59:PRO:HB3	1.85	0.58
47:S2:1546:G:H2'	47:S2:1547:A:H8	1.68	0.58
66:SS:185:GLY:HA3	66:SS:224:ASN:HD22	1.68	0.58
1:LA:429:U:H2'	1:LA:430:U:C6	2.38	0.58
1:LA:510:G:H1	1:LA:581:U:H3	1.51	0.58
1:LA:1094:U:H4'	1:LA:1095:U:H3'	1.84	0.58
1:LA:1667:A:H2'	1:LA:1668:G:C8	2.38	0.58
11:LK:101:VAL:HG22	11:LK:114:VAL:HG13	1.86	0.58
52:SE:108:ARG:HH21	55:SH:118:LYS:HE2	1.68	0.58
72:SY:53:LEU:HA	72:SY:56:ASP:HB2	1.84	0.58
1:LA:1497:C:H2'	1:LA:1498:A:C8	2.37	0.58
1:LA:1799:A:H2'	1:LA:1800:A:H8	1.69	0.58
1:LA:2812:C:H2'	1:LA:2813:A:C8	2.39	0.58
47:S2:1426:C:H3'	47:S2:1427:A:H4'	1.85	0.58
63:SP:148:ASP:H	63:SP:151:SER:HB3	1.67	0.58
64:SQ:144:ARG:HB3	64:SQ:208:GLN:HB3	1.84	0.58
1:LA:1106:G:H2'	1:LA:1107:C:H5"	1.84	0.58
6:LF:317:PRO:C	6:LF:319:LYS:H	2.12	0.58
47:S2:856:A:N6	68:SU:116:ARG:HD2	2.17	0.58
6:LF:113:VAL:HB	6:LF:118:LYS:HE3	1.85	0.58
47:S2:1588:G:O6	47:S2:1608:U:O4	2.21	0.58
1:LA:800:G:H22	6:LF:101:ALA:HA	1.68	0.58
31:Le:32:LYS:O	31:Le:36:GLN:HG3	2.04	0.58
47:S2:1179:G:N2	47:S2:1460:A:H62	1.99	0.58
47:S2:1673:G:C6	47:S2:1728:A:N1	2.71	0.58
50:SC:38:LYS:HG3	50:SC:41:TYR:HB2	1.86	0.58
1:LA:1245:A:H3'	1:LA:1246:G:H5"	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1724:U:H1'	1:LA:1725:C:C5	2.39	0.58
1:LA:3204:C:H2'	1:LA:3205:G:C8	2.39	0.58
47:S2:1477:G:H2'	47:S2:1478:G:H8	1.68	0.58
49:SB:133:VAL:HG22	49:SB:198:LEU:HD13	1.86	0.58
55:SH:45:LEU:HD13	56:SI:36:ILE:HD13	1.85	0.58
63:SP:28:ASN:HA	63:SP:46:HIS:HE1	1.69	0.58
74:Sa:25:LYS:HB2	74:Sa:28:ASP:HB2	1.85	0.58
79:Sf:34:ASP:HA	79:Sf:45:THR:HA	1.84	0.58
1:LA:2880:U:H1'	5:LE:250:ALA:HB3	1.86	0.58
67:ST:171:LYS:HG3	67:ST:171:LYS:O	2.03	0.58
68:SU:153:LEU:HD23	68:SU:186:PRO:HG3	1.85	0.58
5:LE:77:THR:HG21	5:LE:328:ILE:HG12	1.86	0.58
12:LL:54:SER:HB2	12:LL:135:ILE:HD11	1.84	0.58
63:SP:88:LYS:HG3	63:SP:201:LEU:HG	1.86	0.58
64:SQ:210:ILE:O	64:SQ:210:ILE:HG13	2.04	0.58
1:LA:2756:C:O4'	22:LV:49:GLN:HG2	2.04	0.57
47:S2:693:U:C2	47:S2:695:U:O4	2.58	0.57
49:SB:91:GLU:HA	49:SB:94:THR:HG22	1.86	0.57
66:SS:161:LYS:HD3	66:SS:171:ASP:HB2	1.85	0.57
69:SV:25:ARG:HB2	69:SV:28:GLU:HG2	1.85	0.57
76:Sc:56:LYS:HA	76:Sc:70:LYS:HE3	1.86	0.57
1:LA:1669:C:H5'	35:Li:30:LEU:HD11	1.86	0.57
10:LJ:184:ALA:O	10:LJ:188:THR:HG23	2.04	0.57
14:LN:46:ILE:HD11	14:LN:51:LEU:HA	1.86	0.57
19:LS:19:PRO:HB3	19:LS:53:PHE:HA	1.87	0.57
49:SB:100:ASN:HB2	49:SB:180:ARG:HD2	1.85	0.57
53:SF:13:LYS:HG2	53:SF:76:SER:HA	1.86	0.57
56:SI:65:ILE:HD12	56:SI:114:VAL:HG11	1.86	0.57
64:SQ:164:ILE:HD12	64:SQ:201:THR:HB	1.84	0.57
1:LA:745:C:H2'	1:LA:746:A:H8	1.68	0.57
1:LA:2768:U:H2'	1:LA:2769:A:H8	1.68	0.57
5:LE:193:ASP:O	5:LE:197:GLU:HG2	2.04	0.57
49:SB:162:VAL:HG13	59:SL:54:LEU:HD13	1.85	0.57
24:LX:70:ARG:HG2	24:LX:70:ARG:HH11	1.68	0.57
47:S2:741:C:H2'	47:S2:742:U:H4'	1.85	0.57
52:SE:110:GLU:HB2	55:SH:119:ILE:HD11	1.86	0.57
1:LA:1653:G:H2'	1:LA:1654:A:H8	1.69	0.57
8:LH:137:ASP:O	8:LH:141:VAL:HG22	2.04	0.57
47:S2:90:C:H2'	47:S2:91:G:C8	2.40	0.57
47:S2:1072:C:H5"	79:Sf:22:LYS:HE3	1.85	0.57
49:SB:73:THR:HB	49:SB:91:GLU:OE1	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SU:162:ILE:HD11	68:SU:169:PHE:CZ	2.40	0.57
1:LA:2213:A:H2'	1:LA:2214:A:C8	2.39	0.57
15:LO:73:PRO:HG2	15:LO:76:ALA:HB2	1.85	0.57
36:Lj:119:LYS:HD3	36:Lj:120:ALA:H	1.68	0.57
47:S2:894:U:H2'	47:S2:895:G:C8	2.39	0.57
47:S2:1374:C:C4	47:S2:1375:A:N6	2.73	0.57
55:SH:29:VAL:O	55:SH:33:THR:HG23	2.04	0.57
65:SR:185:LYS:O	65:SR:189:GLN:HG3	2.04	0.57
1:LA:501:A:H2'	1:LA:502:U:C6	2.40	0.57
11:LK:103:ILE:HD11	11:LK:134:ILE:HG21	1.86	0.57
47:S2:1171:A:H2'	47:S2:1172:G:H8	1.70	0.57
53:SF:46:PHE:HA	53:SF:49:TYR:HD2	1.70	0.57
1:LA:2357:A:H2'	1:LA:2358:A:H8	1.70	0.57
1:LA:2812:C:H2'	1:LA:2813:A:H8	1.70	0.57
1:LA:3121:U:H1'	1:LA:3122:A:H5"	1.86	0.57
9:LI:120:THR:HB	22:LV:132:PRO:HB2	1.87	0.57
23:LW:40:HIS:HD2	23:LW:47:VAL:HG11	1.69	0.57
23:LW:56:VAL:HB	23:LW:65:VAL:HG22	1.86	0.57
40:Ln:14:ALA:O	40:Ln:18:LYS:HG2	2.05	0.57
62:SO:305:TYR:HE2	62:SO:311:ARG:HD2	1.69	0.57
63:SP:126:PRO:HB2	63:SP:152:PRO:HG2	1.87	0.57
1:LA:3064:U:H2'	1:LA:3065:G:H8	1.70	0.57
8:LH:58:LEU:HD22	8:LH:102:ASN:HA	1.87	0.57
9:LI:163:LEU:HA	9:LI:168:ILE:HD11	1.86	0.57
11:LK:126:VAL:HG21	11:LK:161:LEU:HD12	1.86	0.57
77:Sd:40:LEU:O	77:Sd:44:LEU:HD12	2.05	0.57
1:LA:1644:C:H5"	1:LA:1645:U:H5"	1.87	0.57
1:LA:3015:G:H2'	1:LA:3016:A:H8	1.70	0.57
22:LV:17:ARG:HG2	22:LV:22:HIS:HA	1.87	0.57
70:SW:44:ARG:O	70:SW:48:GLN:HG3	2.05	0.57
76:Sc:48:HIS:HB3	76:Sc:103:LEU:HD11	1.86	0.57
1:LA:171:G:H2'	1:LA:172:G:H8	1.71	0.56
7:LG:241:THR:O	7:LG:245:GLU:HG2	2.05	0.56
23:LW:97:SER:HA	23:LW:103:TYR:HA	1.87	0.56
56:SI:72:GLY:H	56:SI:75:LYS:HD3	1.70	0.56
1:LA:18:G:O2'	16:LP:138:GLN:HG3	2.04	0.56
1:LA:656:A:H2'	1:LA:657:A:H8	1.69	0.56
1:LA:728:G:H5"	19:LS:43:PRO:HB2	1.88	0.56
1:LA:753:C:H2'	1:LA:754:G:H8	1.71	0.56
1:LA:821:U:H2'	1:LA:822:G:H8	1.69	0.56
1:LA:2364:G:H22	1:LA:2396:G:H1'	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2864:A:H5”	12:LL:114:GLY:HA2	1.86	0.56
1:LA:3297:U:H2’	1:LA:3298:C:H6	1.70	0.56
6:LF:161:LYS:HB2	6:LF:164:GLU:HG2	1.86	0.56
7:LG:205:SER:HB3	7:LG:236:LEU:HD11	1.87	0.56
20:LT:173:ARG:HH22	47:S2:854:U:H5	1.53	0.56
47:S2:12:U:H2’	47:S2:13:C:C6	2.40	0.56
47:S2:893:U:H3	47:S2:919:A:H61	1.53	0.56
47:S2:1325:A:H2’	47:S2:1326:A:H8	1.70	0.56
48:SA:75:LYS:NZ	50:SC:20:VAL:HG23	2.20	0.56
62:SO:21:THR:HG21	62:SO:68:VAL:O	2.05	0.56
65:SR:139:ILE:HD13	65:SR:191:ALA:HB1	1.87	0.56
70:SW:108:ARG:HE	70:SW:110:GLN:HB2	1.70	0.56
1:LA:241:G:H1’	14:LN:45:LYS:HG3	1.88	0.56
68:SU:49:ILE:HG23	68:SU:175:LYS:HE3	1.87	0.56
1:LA:1460:A:H2’	1:LA:1461:A:H8	1.71	0.56
1:LA:2656:A:H4’	43:Lq:98:LYS:HE3	1.88	0.56
22:LV:97:LYS:HZ2	22:LV:98:HIS:H	1.53	0.56
56:SI:117:SER:HB3	56:SI:123:ARG:HB3	1.88	0.56
1:LA:2697:A:H2’	1:LA:2698:G:C8	2.39	0.56
17:LQ:121[A]:PRO:HA	17:LQ:124[A]:LEU:HD12	1.87	0.56
47:S2:636:A:H5”	75:Sb:31:SER:HB2	1.87	0.56
47:S2:947:U:H2’	47:S2:948:G:H8	1.69	0.56
57:SJ:38:SER:O	57:SJ:42:VAL:HG23	2.04	0.56
66:SS:197:HIS:HD2	66:SS:198:LYS:O	1.88	0.56
1:LA:1240:A:C8	1:LA:1241:U:H4’	2.41	0.56
1:LA:2413:A:H2’	1:LA:2414:G:H8	1.71	0.56
1:LA:3110:C:H2’	1:LA:3111:U:C6	2.41	0.56
16:LP:23:GLN:HG2	16:LP:122:ASN:OD1	2.06	0.56
21:LU:6:GLU:HG2	21:LU:64:ILE:HD12	1.87	0.56
39:Lm:69:LEU:HD12	39:Lm:70:PRO:HD2	1.88	0.56
47:S2:30:G:H2’	47:S2:31:C:C6	2.40	0.56
48:SA:75:LYS:HZ1	50:SC:20:VAL:HG23	1.71	0.56
50:SC:59:PHE:CE2	50:SC:62:GLN:HA	2.40	0.56
81:Bb:4:G:H1	81:Bb:69:U:H3	1.52	0.56
2:LB:19:C:H2’	2:LB:20:A:H8	1.70	0.56
3:LC:62:C:H5’	36:Lj:45:LYS:HZ1	1.70	0.56
7:LG:41:LYS:HB2	22:LV:68:THR:O	2.06	0.56
44:Lr:74:ALA:O	44:Lr:78:THR:HG23	2.04	0.56
47:S2:758:U:H3’	47:S2:759:U:C5	2.41	0.56
75:Sb:106:THR:HG21	75:Sb:121:VAL:HG13	1.87	0.56
7:LG:38:THR:HG23	22:LV:30:TYR:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LK:109:ALA:HB3	11:LK:111:PHE:HE1	1.70	0.56
29:Lc:82:ILE:HD11	29:Lc:102:ILE:HD11	1.86	0.56
47:S2:1374:C:N4	47:S2:1375:A:N6	2.53	0.56
47:S2:1729:C:H2'	47:S2:1730:A:O4'	2.06	0.56
68:SU:32:PRO:HA	68:SU:35:LYS:HE3	1.88	0.56
1:LA:1871:U:H2'	1:LA:1872:C:O2	2.06	0.56
7:LG:257:GLU:HG2	7:LG:259:LYS:H	1.71	0.56
47:S2:884:A:H2'	47:S2:885:G:H8	1.69	0.56
49:SB:72:HIS:HD2	49:SB:107:LYS:HG2	1.71	0.56
68:SU:126:LEU:HD21	68:SU:152:VAL:HG21	1.88	0.56
1:LA:150:A:H5'	16:LP:147:ARG:HH22	1.70	0.55
4:LD:32:LEU:HD13	4:LD:163:ARG:HD2	1.88	0.55
13:LM:32:ARG:HG2	13:LM:120:ILE:HA	1.88	0.55
47:S2:1146:G:H2'	47:S2:1147:A:H8	1.72	0.55
48:SA:217:ILE:HD12	48:SA:218:LEU:N	2.16	0.55
71:SX:33:ARG:HH21	71:SX:61:THR:HG21	1.71	0.55
5:LE:284:ARG:HB3	5:LE:323:MET:HE2	1.87	0.55
47:S2:455:C:H3'	47:S2:456:A:H8	1.71	0.55
64:SQ:111:ARG:HB3	78:Se:68:TYR:HB2	1.88	0.55
71:SX:59:PRO:HG3	71:SX:138:ASN:HB3	1.88	0.55
77:Sd:57:VAL:HB	77:Sd:60:PHE:CZ	2.40	0.55
1:LA:1799:A:H2'	1:LA:1800:A:C8	2.41	0.55
1:LA:2213:A:H2'	1:LA:2214:A:H8	1.70	0.55
11:LK:129:ARG:HG3	11:LK:157:ASN:HD21	1.72	0.55
22:LV:65:TYR:HB3	22:LV:75:ILE:HD11	1.88	0.55
47:S2:97:C:H1'	47:S2:426:G:H5'	1.88	0.55
47:S2:959:U:C6	72:SY:61:THR:HB	2.41	0.55
47:S2:1160:A:H2'	47:S2:1161:C:C6	2.41	0.55
49:SB:177:ILE:HG22	49:SB:180:ARG:HH21	1.70	0.55
62:SO:38:ARG:HE	62:SO:67:ILE:HD13	1.71	0.55
62:SO:61:PHE:HB3	62:SO:92:TRP:CE3	2.41	0.55
64:SQ:32:ILE:HD13	64:SQ:66:VAL:HG11	1.87	0.55
6:LF:315:LYS:HB2	6:LF:323:VAL:HG21	1.88	0.55
6:LF:333:VAL:O	6:LF:337:GLU:HG2	2.06	0.55
47:S2:1776:A:H2'	47:S2:1777:G:C8	2.42	0.55
51:SD:130:THR:O	51:SD:134:SER:HB3	2.06	0.55
67:ST:23:ARG:HD2	67:ST:24:ILE:HG23	1.88	0.55
69:SV:57:ALA:HB2	69:SV:177:GLY:HA2	1.87	0.55
1:LA:215:G:H5"	27:La:12:ARG:HG3	1.88	0.55
1:LA:786:A:H4'	1:LA:787:G:H5'	1.87	0.55
1:LA:1796:G:H5'	4:LD:22:LEU:HD22	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:30:G:H4'	76:Sc:131:SER:HB2	1.89	0.55
47:S2:807:A:H2'	47:S2:808:U:C6	2.42	0.55
57:SJ:26:LEU:HB3	57:SJ:114:VAL:HG22	1.88	0.55
62:SO:7:LEU:HD12	62:SO:313:TRP:HB3	1.88	0.55
73:SZ:26:THR:HG21	73:SZ:60:ALA:HB2	1.88	0.55
1:LA:1822:C:H2'	1:LA:1823:A:H8	1.71	0.55
1:LA:2744:U:H2'	1:LA:2745:G:C8	2.41	0.55
3:LC:9:A:H2'	3:LC:10:A:H8	1.71	0.55
7:LG:76:ALA:HB3	7:LG:109:THR:HG22	1.88	0.55
22:LV:14:MET:HE2	22:LV:58:GLN:HB3	1.88	0.55
36:Lj:29:ALA:O	36:Lj:33:VAL:HG23	2.06	0.55
47:S2:354:C:H5"	69:SV:16:ALA:HB2	1.89	0.55
47:S2:975:C:H5"	72:SY:109:LYS:HG2	1.87	0.55
47:S2:1579:U:H2'	47:S2:1580:C:C6	2.41	0.55
50:SC:77:ARG:HG2	50:SC:82:LEU:HB3	1.88	0.55
65:SR:103:VAL:HG22	65:SR:113:LEU:HD23	1.88	0.55
68:SU:141:ARG:HA	75:Sb:51:GLU:HG2	1.89	0.55
81:Bb:70:C:H2'	81:Bb:71:G:C8	2.42	0.55
1:LA:1019:G:N2	1:LA:1033:U:O2	2.40	0.55
1:LA:1394:A:H4'	1:LA:1420:C:H4'	1.89	0.55
51:SD:62:LEU:HD12	51:SD:63:VAL:N	2.22	0.55
65:SR:206:THR:O	65:SR:210:THR:HG23	2.06	0.55
1:LA:1666:G:H2'	1:LA:1667:A:C8	2.41	0.55
1:LA:2406:C:H2'	1:LA:2407:C:C6	2.42	0.55
1:LA:3325:G:H2'	1:LA:3326:G:H8	1.71	0.55
5:LE:85:VAL:HG22	5:LE:202:THR:HG22	1.89	0.55
17:LQ:46[A]:GLU:HG3	17:LQ:48[A]:PHE:H	1.72	0.55
47:S2:1179:G:H2'	47:S2:1180:C:C6	2.42	0.55
57:SJ:105:GLN:O	57:SJ:108:ILE:HD11	2.07	0.55
62:SO:90:ARG:HD2	62:SO:92:TRP:CZ2	2.42	0.55
1:LA:82:C:H4'	16:LP:204:LYS:HE2	1.89	0.55
1:LA:1645:U:H2'	1:LA:1646:G:O4'	2.07	0.55
1:LA:2244:A:H5"	4:LD:243:THR:HB	1.89	0.55
1:LA:824:C:H5"	4:LD:21:ARG:HG3	1.89	0.54
1:LA:900:G:H1'	1:LA:1589:A:N6	2.22	0.54
21:LU:93:GLU:HB3	21:LU:140:VAL:HG21	1.89	0.54
32:Lf:41:LYS:HG3	32:Lf:47:ASP:HA	1.89	0.54
47:S2:385:A:H2'	47:S2:386:G:C8	2.42	0.54
47:S2:563:U:H4'	80:Sg:17:GLN:NE2	2.22	0.54
47:S2:1340:U:H1'	47:S2:1378:U:H1'	1.89	0.54
49:SB:143:ARG:HG2	49:SB:167:ARG:HH21	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SC:9:ASN:O	50:SC:13:GLN:HG3	2.07	0.54
64:SQ:121:ILE:HG23	64:SQ:161:ILE:HG23	1.90	0.54
5:LE:17:LEU:HD21	5:LE:233:TRP:HH2	1.71	0.54
14:LN:42:ARG:O	14:LN:46:ILE:HG12	2.07	0.54
35:Li:8:ARG:HH12	35:Li:31:ARG:HD3	1.71	0.54
47:S2:1413:U:H5'	54:SG:3:ARG:HH12	1.72	0.54
48:SA:7:LYS:HA	48:SA:10:LYS:HG2	1.88	0.54
74:Sa:9:VAL:O	74:Sa:10:GLU:HG3	2.08	0.54
1:LA:1231:A:N6	1:LA:1278:A:H62	2.06	0.54
3:LC:139:U:H2'	3:LC:140:G:H8	1.71	0.54
13:LM:18:VAL:HG22	13:LM:70:THR:HB	1.89	0.54
17:LQ:140[A]:LYS:NZ	17:LQ:140[A]:LYS:HB3	2.22	0.54
24:LX:66:LYS:HB2	24:LX:69:LEU:HD12	1.89	0.54
47:S2:325:G:H4'	71:SX:83:THR:HG21	1.89	0.54
47:S2:953:G:H2'	47:S2:954:G:C8	2.42	0.54
47:S2:1503:A:N6	47:S2:1564:U:H4'	2.21	0.54
47:S2:1712:A:H2'	47:S2:1713:G:O4'	2.07	0.54
77:Sd:44:LEU:HA	77:Sd:47:VAL:HG22	1.88	0.54
77:Sd:113:ASN:O	77:Sd:116:LYS:HG2	2.07	0.54
1:LA:1896:A:H61	1:LA:2339:C:N4	2.05	0.54
7:LG:219:PHE:CE2	7:LG:227:LEU:HD21	2.43	0.54
29:Lc:36:GLY:HA3	29:Lc:40:HIS:CE1	2.41	0.54
47:S2:752:A:N6	47:S2:797:G:N1	2.34	0.54
49:SB:163:SER:HB2	49:SB:166:ARG:HB3	1.90	0.54
66:SS:211:LYS:HE2	66:SS:215:ASP:HA	1.88	0.54
1:LA:127:G:H2'	1:LA:128:G:H8	1.72	0.54
1:LA:207:U:H2'	1:LA:208:C:C6	2.42	0.54
1:LA:1108:U:H2'	1:LA:1109:U:C6	2.42	0.54
1:LA:1525:G:H5'	1:LA:1830:G:OP2	2.08	0.54
1:LA:2546:C:H2'	1:LA:2547:A:C8	2.43	0.54
35:Li:58:ARG:HB2	35:Li:61:GLN:HG3	1.90	0.54
47:S2:1218:G:H5"	47:S2:1219:A:H5'	1.90	0.54
53:SF:9:THR:HG21	53:SF:88:GLY:HA2	1.90	0.54
70:SW:93:LEU:O	70:SW:93:LEU:HD13	2.07	0.54
6:LF:125:ALA:O	6:LF:129:THR:HG23	2.08	0.54
17:LQ:12[A]:LYS:HD3	17:LQ:37[A]:ARG:HH21	1.71	0.54
17:LQ:85[A]:ARG:HG3	17:LQ:99[A]:LEU:HD11	1.90	0.54
18:LR:35:ALA:HB2	18:LR:58:ILE:HG23	1.90	0.54
47:S2:108:A:H2'	47:S2:109:G:C8	2.42	0.54
47:S2:1191:U:H2'	47:S2:1192:C:C6	2.42	0.54
48:SA:177:MET:HE1	48:SA:182:LEU:HD23	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SA:211:PRO:HB3	54:SG:19:ARG:NH1	2.23	0.54
67:ST:48:TYR:HE2	67:ST:121:LEU:HD11	1.71	0.54
73:SZ:18:ARG:HB2	73:SZ:29:HIS:O	2.07	0.54
1:LA:12:A:H2'	1:LA:13:A:C8	2.43	0.54
15:LO:38:ILE:HA	15:LO:44:VAL:HG23	1.89	0.54
47:S2:1275:A:H2'	48:SA:141:LYS:HD3	1.89	0.54
47:S2:1477:G:H2'	47:S2:1478:G:C8	2.43	0.54
60:SM:12:ARG:HG3	60:SM:12:ARG:HH11	1.73	0.54
70:SW:85:VAL:HG11	70:SW:99:LEU:HD11	1.90	0.54
1:LA:1362:G:H2'	1:LA:1363:A:C8	2.43	0.54
1:LA:1534:A:H2'	1:LA:1535:A:C8	2.43	0.54
1:LA:3299:A:N1	1:LA:3315:G:N2	2.43	0.54
7:LG:163:LEU:HD11	7:LG:175:HIS:CG	2.43	0.54
47:S2:142:G:N2	47:S2:173:A:N1	2.54	0.54
47:S2:1368:G:H5'	56:SI:69:LYS:HD3	1.88	0.54
47:S2:1543:A:N6	47:S2:1567:U:H3	2.06	0.54
53:SF:44:LEU:HB3	53:SF:78:VAL:HG21	1.90	0.54
60:SM:19:ARG:HB3	60:SM:30:LEU:HD23	1.89	0.54
69:SV:153:GLU:HG3	69:SV:155:SER:H	1.72	0.54
1:LA:2369:G:H2'	1:LA:2370:G:C8	2.43	0.54
1:LA:2674:A:C2	13:LM:124:GLY:HA3	2.42	0.54
14:LN:165:SER:HA	29:Lc:139:ARG:NH1	2.23	0.54
47:S2:26:A:H2'	47:S2:27:U:C6	2.43	0.54
47:S2:29:U:H2'	47:S2:30:G:C8	2.41	0.54
47:S2:843:U:H2'	47:S2:844:A:C8	2.43	0.54
47:S2:922:G:H2'	47:S2:923:A:C8	2.43	0.54
56:SI:76:LEU:HD12	56:SI:80:TYR:HE1	1.73	0.54
62:SO:103:PHE:HB3	62:SO:134:TRP:CZ3	2.43	0.54
1:LA:603:A:H5"	1:LA:604:G:C8	2.43	0.54
1:LA:616:G:H2'	1:LA:617:G:C8	2.43	0.54
1:LA:1810:A:H2'	1:LA:1811:G:C8	2.43	0.54
1:LA:1883:A:H2'	1:LA:1884:A:H8	1.72	0.54
1:LA:3159:C:H4'	1:LA:3395:G:C4	2.43	0.54
6:LF:234:ASN:HD21	6:LF:236:LEU:HB2	1.73	0.54
18:LR:46:LYS:O	18:LR:50:GLN:HG3	2.08	0.54
47:S2:1160:A:H2'	47:S2:1161:C:H6	1.72	0.54
54:SG:72:LYS:O	54:SG:76:GLU:HG2	2.08	0.54
55:SH:53:ASP:HB3	55:SH:56:LYS:HB2	1.90	0.54
57:SJ:33:GLN:HA	57:SJ:36:ASN:ND2	2.23	0.54
62:SO:64:HIS:CE1	62:SO:90:ARG:HB2	2.43	0.54
65:SR:165:VAL:HG11	65:SR:210:THR:HG22	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2697:A:H2'	1:LA:2698:G:H8	1.71	0.53
58:SK:71:ILE:HD12	58:SK:75:LEU:HB3	1.90	0.53
72:SY:33:VAL:HG21	72:SY:66:ILE:HG21	1.89	0.53
1:LA:1794:G:H4'	4:LD:191:LEU:HD21	1.89	0.53
5:LE:137:TYR:HD1	5:LE:138:ALA:H	1.55	0.53
47:S2:1775:U:H2'	47:S2:1776:A:C8	2.44	0.53
56:SI:31:PRO:HB3	56:SI:103:LYS:HD2	1.90	0.53
67:ST:7:TYR:CG	67:ST:113:ILE:HD11	2.43	0.53
73:SZ:47:LYS:HE3	73:SZ:62:LEU:HB3	1.91	0.53
75:Sb:57:ARG:HH21	79:Sf:26:GLN:HG3	1.73	0.53
81:Bb:28:C:H2'	81:Bb:29:A:H8	1.73	0.53
1:LA:671:U:H2'	1:LA:672:A:H8	1.73	0.53
1:LA:3064:U:H2'	1:LA:3065:G:C8	2.43	0.53
5:LE:367:LYS:HD2	25:LY:33:ASN:HB2	1.90	0.53
28:Lb:87:LEU:HG	28:Lb:127:ASN:HD21	1.73	0.53
58:SK:88:ILE:HG22	58:SK:89:ILE:HG23	1.91	0.53
67:ST:69:LEU:O	67:ST:99:GLY:HA3	2.08	0.53
1:LA:761:A:H2'	1:LA:762:U:C6	2.44	0.53
1:LA:792:G:H2'	1:LA:793:C:H6	1.74	0.53
1:LA:993:G:N3	1:LA:2637:A:H2'	2.24	0.53
4:LD:3:ARG:HB2	4:LD:207:VAL:HG22	1.90	0.53
11:LK:36:LYS:HG2	11:LK:38:LEU:HD13	1.89	0.53
12:LL:206:LEU:O	12:LL:210:ILE:HG12	2.07	0.53
47:S2:1486:G:H2'	47:S2:1487:A:C8	2.43	0.53
47:S2:1592:A:H2'	47:S2:1593:A:C8	2.42	0.53
54:SG:24:LEU:HB3	54:SG:34:LEU:HD21	1.90	0.53
56:SI:61:VAL:HG23	56:SI:76:LEU:HD11	1.89	0.53
70:SW:59:LEU:HD21	70:SW:72:GLU:HB2	1.90	0.53
73:SZ:80:HIS:HA	73:SZ:113:GLY:O	2.08	0.53
1:LA:507:U:H2'	1:LA:508:U:C6	2.43	0.53
1:LA:1481:A:H62	1:LA:1872:C:H5	1.55	0.53
1:LA:1660:C:H2'	1:LA:1661:G:H8	1.72	0.53
47:S2:258:C:H4'	69:SV:75:LYS:HD2	1.91	0.53
50:SC:59:PHE:CD2	50:SC:62:GLN:HA	2.44	0.53
59:SL:15:VAL:HA	59:SL:28:VAL:HG23	1.90	0.53
71:SX:99:ARG:HG3	76:Sc:12:ALA:HB2	1.90	0.53
74:Sa:17:CYS:HB2	74:Sa:56:SER:HB3	1.89	0.53
78:Se:41:ILE:HG12	78:Se:68:TYR:CD2	2.44	0.53
1:LA:1750:A:H4'	1:LA:1751:G:H5'	1.89	0.53
5:LE:215:ILE:HD12	5:LE:338:LEU:HB3	1.89	0.53
7:LG:22:ARG:HB3	7:LG:28:THR:HG23	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LI:81:HIS:CD2	9:LI:138:TYR:HB3	2.37	0.53
26:LZ:110:VAL:HG22	26:LZ:124:VAL:HG13	1.89	0.53
43:Lq:4:VAL:HG11	43:Lq:70:LEU:HD11	1.90	0.53
47:S2:1554:U:H5	60:SM:11:PRO:HG3	1.74	0.53
64:SQ:173:THR:O	64:SQ:177:GLN:HG2	2.09	0.53
81:Bb:28:C:H2'	81:Bb:29:A:C8	2.43	0.53
1:LA:945:C:H2'	1:LA:946:U:C6	2.44	0.53
1:LA:1460:A:H2'	1:LA:1461:A:C8	2.44	0.53
1:LA:2217:U:H2'	1:LA:2218:G:H8	1.73	0.53
29:Lc:75:LEU:HB3	29:Lc:118:ILE:HG23	1.90	0.53
35:Li:76:TYR:HB3	35:Li:80:ARG:HG3	1.91	0.53
47:S2:1449:U:H2'	47:S2:1450:U:H5"	1.90	0.53
49:SB:58:LEU:HD21	49:SB:167:ARG:HH11	1.73	0.53
53:SF:94:GLN:HB2	53:SF:102:LYS:HD3	1.91	0.53
55:SH:72:ILE:HD12	55:SH:73:MET:N	2.24	0.53
62:SO:243:LEU:HD12	62:SO:244:ALA:H	1.74	0.53
63:SP:49:ASN:O	63:SP:53:THR:HG23	2.08	0.53
1:LA:1288:U:H2'	1:LA:1289:G:C8	2.44	0.53
1:LA:1615:C:H2'	1:LA:1616:U:C6	2.44	0.53
1:LA:3150:A:H2'	1:LA:3151:U:O4'	2.08	0.53
2:LB:75:G:H21	2:LB:103:A:H2	1.57	0.53
28:Lb:23:VAL:HG12	28:Lb:45:GLY:HA3	1.90	0.53
47:S2:959:U:H5"	72:SY:14:SER:HB2	1.91	0.53
62:SO:112:SER:HB2	62:SO:154:VAL:HB	1.90	0.53
1:LA:1622:U:H2'	1:LA:1623:G:H8	1.74	0.53
1:LA:2767:U:H2'	1:LA:2768:U:C6	2.44	0.53
1:LA:3190:C:H2'	1:LA:3191:G:H8	1.74	0.53
2:LB:118:A:H5"	7:LG:253:PHE:CZ	2.43	0.53
23:LW:19:VAL:HG13	23:LW:28:PHE:HE2	1.74	0.53
23:LW:94:ARG:HE	23:LW:108:TYR:HE1	1.57	0.53
29:Lc:139:ARG:HH11	29:Lc:139:ARG:HG3	1.74	0.53
36:Lj:45:LYS:HD2	36:Lj:49:LYS:HE3	1.89	0.53
39:Lm:43:PHE:HE1	39:Lm:56:ILE:HD11	1.73	0.53
47:S2:329:G:H2'	47:S2:330:G:C8	2.44	0.53
47:S2:789:A:H2	66:SS:248:ILE:HG12	1.74	0.53
47:S2:1363:U:H3'	47:S2:1364:G:H8	1.73	0.53
51:SD:132:GLU:HG2	51:SD:133:LEU:HD12	1.91	0.53
62:SO:255:ALA:HB1	62:SO:289:ALA:HB3	1.89	0.53
70:SW:128:LEU:HB3	70:SW:134:ILE:HD11	1.90	0.53
1:LA:1340:G:H2'	1:LA:1341:U:C6	2.44	0.53
1:LA:2367:A:H2'	1:LA:2368:A:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2506:U:H2'	1:LA:2507:C:C6	2.43	0.53
1:LA:3119:U:H4'	41:Lo:104:PRO:HG2	1.91	0.53
11:LK:36:LYS:HB2	11:LK:78:MET:HE1	1.91	0.53
47:S2:90:C:H2'	47:S2:91:G:H8	1.73	0.53
47:S2:702:G:C6	47:S2:737:A:N6	2.77	0.53
67:ST:195:VAL:HG23	67:ST:196:ARG:HD2	1.89	0.53
68:SU:49:ILE:HB	68:SU:57:ALA:HB3	1.90	0.53
1:LA:3337:G:H2'	1:LA:3338:C:C6	2.44	0.52
47:S2:1256:A:H4'	47:S2:1257:U:O5'	2.08	0.52
47:S2:1477:G:H1'	56:SI:48:GLN:HG3	1.92	0.52
47:S2:1659:A:H2'	47:S2:1660:A:H8	1.74	0.52
1:LA:1597:C:H5'	1:LA:1696:A:H1'	1.91	0.52
1:LA:2352:A:H5"	18:LR:83:TRP:O	2.09	0.52
10:LJ:85:ASN:O	10:LJ:89:GLU:HG2	2.09	0.52
19:LS:121:CYS:O	19:LS:122:ILE:HD13	2.09	0.52
33:Lg:34:LYS:HG2	33:Lg:36:LYS:HE3	1.90	0.52
47:S2:1197:C:H4'	57:SJ:77:LYS:HE2	1.90	0.52
65:SR:41:LEU:HD11	65:SR:56:ILE:HD12	1.91	0.52
69:SV:138:ASN:HA	69:SV:141:ARG:HG2	1.92	0.52
76:Sc:98:GLU:HG2	76:Sc:99:ASN:OD1	2.08	0.52
81:Bb:2:C:H2'	81:Bb:3:G:C8	2.44	0.52
1:LA:640:U:H2'	1:LA:641:C:C6	2.44	0.52
1:LA:1211:U:H2'	1:LA:1212:A:C8	2.44	0.52
1:LA:3006:A:H2'	1:LA:3007:U:O4'	2.09	0.52
47:S2:312:A:H4'	47:S2:313:U:H5'	1.91	0.52
47:S2:332:U:H5"	69:SV:31:ARG:HH21	1.74	0.52
47:S2:1210:C:H2'	47:S2:1211:A:C8	2.45	0.52
69:SV:37:LYS:H	69:SV:59:ARG:H	1.58	0.52
1:LA:47:C:H5"	14:LN:16:LYS:HG2	1.92	0.52
1:LA:1472:U:H5"	20:LT:24:LEU:HD12	1.91	0.52
6:LF:58:HIS:HA	6:LF:90:PHE:HE1	1.73	0.52
13:LM:118:PRO:HB3	55:SH:106:GLU:OE2	2.09	0.52
27:La:45:ILE:HD11	27:La:122:LYS:HB2	1.91	0.52
44:Lr:27:LYS:O	44:Lr:31:ILE:HG12	2.09	0.52
47:S2:16:G:H2'	47:S2:17:C:C6	2.44	0.52
47:S2:886:U:H2'	47:S2:887:A:H8	1.73	0.52
47:S2:1471:A:H2	47:S2:1474:G:H21	1.57	0.52
50:SC:25:LYS:HE3	50:SC:59:PHE:HZ	1.73	0.52
50:SC:56:LYS:HE3	50:SC:67:THR:HG21	1.91	0.52
51:SD:27:ALA:HB2	51:SD:135:MET:HE3	1.90	0.52
1:LA:1071:U:HO2'	1:LA:1072:G:H8	1.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2662:G:H2'	1:LA:2663:G:H8	1.74	0.52
11:LK:89:LYS:HG2	11:LK:145:VAL:HG22	1.90	0.52
47:S2:93:A:H1'	66:SS:3:ARG:HB3	1.92	0.52
49:SB:136:ALA:O	49:SB:140:THR:HG23	2.09	0.52
53:SF:43:ILE:HG13	53:SF:44:LEU:HD12	1.91	0.52
66:SS:71:LYS:HG2	66:SS:91:THR:HG22	1.92	0.52
67:ST:121:LEU:HB2	67:ST:125:THR:HG22	1.91	0.52
81:Bb:63:C:H2'	81:Bb:64:A:C8	2.44	0.52
13:LM:85:LYS:HD3	13:LM:89:TYR:HE1	1.75	0.52
22:LV:13:TYR:HA	22:LV:16:GLN:HG3	1.92	0.52
23:LW:28:PHE:HE1	23:LW:83:TYR:CE2	2.27	0.52
44:Lr:87:ARG:O	44:Lr:91:GLU:HG3	2.09	0.52
47:S2:12:U:H2'	47:S2:13:C:H6	1.74	0.52
47:S2:1584:G:H5"	53:SF:122:ARG:HB3	1.92	0.52
47:S2:1592:A:H2'	47:S2:1593:A:H8	1.73	0.52
49:SB:146:THR:HG21	49:SB:224:ASN:HD21	1.74	0.52
73:SZ:20:TYR:HB3	73:SZ:27:PHE:HB2	1.92	0.52
75:Sb:28:ARG:HD3	75:Sb:60:LYS:HE2	1.92	0.52
1:LA:2259:A:H2'	1:LA:2260:U:H5'	1.92	0.52
1:LA:2742:C:H2'	1:LA:2743:A:H8	1.73	0.52
5:LE:183:LEU:HB2	5:LE:191:LYS:HG2	1.91	0.52
6:LF:286:VAL:HG21	19:LS:28:LEU:HB3	1.92	0.52
47:S2:212:U:H2'	47:S2:213:A:C8	2.45	0.52
47:S2:590:C:H5'	80:Sg:56:MET:SD	2.50	0.52
66:SS:44:LEU:HD23	66:SS:82:TYR:HB3	1.91	0.52
67:ST:78:THR:HG22	67:ST:79:LYS:N	2.25	0.52
81:Bb:27:C:H2'	81:Bb:28:C:C6	2.45	0.52
1:LA:169:U:O4	1:LA:253:A:C5	2.62	0.52
1:LA:1381:A:H2'	1:LA:1382:G:H8	1.74	0.52
2:LB:94:C:H2'	2:LB:95:A:C8	2.43	0.52
4:LD:101:VAL:HG22	4:LD:165:VAL:HG22	1.91	0.52
11:LK:76:ASP:O	11:LK:80:THR:HG22	2.09	0.52
16:LP:99:ARG:O	16:LP:103:GLU:HG3	2.09	0.52
47:S2:143:G:H2'	47:S2:144:U:C6	2.45	0.52
47:S2:1641:C:H2'	47:S2:1642:G:C8	2.44	0.52
51:SD:49:THR:HA	51:SD:52:LEU:HG	1.92	0.52
52:SE:79:HIS:HA	52:SE:97:TYR:HB2	1.90	0.52
56:SI:118:PRO:HD2	56:SI:123:ARG:HH21	1.74	0.52
70:SW:3:ARG:HH22	70:SW:6:ARG:HG2	1.74	0.52
78:Se:37:LYS:HA	78:Se:71:LEU:O	2.10	0.52
1:LA:2883:U:H2'	1:LA:2884:C:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:346:THR:HB	5:LE:351:LEU:HD11	1.90	0.52
6:LF:234:ASN:ND2	6:LF:236:LEU:HB2	2.24	0.52
16:LP:76:PRO:HG2	16:LP:77:LYS:HE3	1.91	0.52
52:SE:85:ILE:HA	52:SE:89:MET:HE3	1.91	0.52
53:SF:35:PRO:HG2	53:SF:38:LEU:HB2	1.90	0.52
63:SP:148:ASP:OD1	63:SP:163:ASN:HA	2.10	0.52
1:LA:1661:G:H2'	1:LA:1662:G:H8	1.71	0.52
1:LA:3296:A:H2'	1:LA:3297:U:C6	2.45	0.52
5:LE:86:VAL:HG22	5:LE:162:VAL:HG12	1.91	0.52
13:LM:49:LYS:HB2	13:LM:62:ASN:HA	1.92	0.52
27:La:86:THR:HG22	27:La:96:PRO:HA	1.91	0.52
47:S2:980:G:H4'	47:S2:1776:A:H4'	1.92	0.52
57:SJ:97:VAL:HG12	57:SJ:101:LYS:HE2	1.91	0.52
75:Sb:6:VAL:HG12	75:Sb:34:ILE:HD11	1.92	0.52
77:Sd:20:ARG:HD2	77:Sd:74:LEU:HD13	1.91	0.52
1:LA:20:A:H2'	1:LA:21:G:C8	2.45	0.51
1:LA:817:A:H61	38:Ll:25:ARG:HH21	1.57	0.51
3:LC:140:G:H22	16:LP:112:ASN:HB3	1.75	0.51
7:LG:206:GLN:HA	7:LG:206:GLN:OE1	2.09	0.51
7:LG:236:LEU:O	7:LG:239:ILE:HG12	2.10	0.51
11:LK:90:MET:HE2	11:LK:179:ILE:HG22	1.92	0.51
47:S2:803:A:O2'	47:S2:804:A:H8	1.92	0.51
47:S2:1283:U:H5"	47:S2:1284:C:H2'	1.91	0.51
47:S2:1474:G:H2'	47:S2:1475:A:H8	1.74	0.51
58:SK:46:LYS:O	58:SK:50:ILE:HG23	2.11	0.51
72:SY:92:ILE:O	72:SY:96:VAL:HG23	2.10	0.51
1:LA:664:U:H5'	6:LF:107:ARG:HA	1.92	0.51
1:LA:985:U:H2'	1:LA:986:U:H6	1.75	0.51
1:LA:1203:A:H2'	1:LA:1204:A:H8	1.75	0.51
1:LA:2267:C:H2'	1:LA:2268:U:C6	2.45	0.51
1:LA:2759:U:H5"	1:LA:2760:C:H5'	1.93	0.51
1:LA:2909:U:H2'	1:LA:2910:A:O4'	2.09	0.51
10:LJ:78:PHE:O	10:LJ:79:GLN:HG3	2.10	0.51
15:LO:99:TRP:O	15:LO:103:ILE:HG13	2.10	0.51
18:LR:175:ARG:O	18:LR:179:GLN:HG2	2.09	0.51
20:LT:118:HIS:O	20:LT:122:VAL:HG13	2.09	0.51
23:LW:20:SER:HA	23:LW:23:THR:HG22	1.91	0.51
47:S2:1373:C:H2'	47:S2:1374:C:C6	2.46	0.51
50:SC:56:LYS:HG3	50:SC:67:THR:HB	1.91	0.51
52:SE:57:MET:HA	52:SE:60:LEU:HD23	1.92	0.51
53:SF:60:PHE:CE2	53:SF:89:LEU:HD23	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:218:ARG:O	7:LG:222:LEU:HD23	2.09	0.51
7:LG:283:ALA:HA	7:LG:286:VAL:HG12	1.92	0.51
47:S2:97:C:H2'	47:S2:98:U:C6	2.45	0.51
47:S2:508:U:H2'	47:S2:509:G:H8	1.75	0.51
47:S2:894:U:H2'	47:S2:895:G:H8	1.75	0.51
62:SO:127:ARG:HG2	62:SO:150:TRP:CE3	2.46	0.51
64:SQ:191:GLU:HB3	64:SQ:194:ASN:ND2	2.25	0.51
69:SV:72:ILE:HD13	69:SV:112:TRP:CE2	2.45	0.51
1:LA:1342:C:H2'	1:LA:1343:A:H8	1.75	0.51
1:LA:1378:U:H2'	1:LA:1379:G:C8	2.43	0.51
1:LA:2883:U:H2'	1:LA:2884:C:C6	2.46	0.51
23:LW:80:THR:O	23:LW:84:LEU:HD13	2.11	0.51
26:LZ:86:VAL:HG23	26:LZ:120:LYS:HB3	1.92	0.51
26:LZ:117:ASN:HB2	40:Ln:18:LYS:HD3	1.92	0.51
43:Lq:65:THR:HG22	43:Lq:89:LYS:HG3	1.92	0.51
43:Lq:71:ARG:HH12	43:Lq:80:ARG:HE	1.56	0.51
47:S2:1281:G:H5'	57:SJ:78:THR:HG21	1.92	0.51
47:S2:1680:G:H1	47:S2:1720:G:H1'	1.76	0.51
62:SO:19:TRP:HB2	62:SO:38:ARG:HD2	1.93	0.51
1:LA:1132:C:H2'	1:LA:1133:A:H8	1.75	0.51
12:LL:182:LEU:O	12:LL:186:GLU:HG2	2.10	0.51
22:LV:102:ARG:O	22:LV:106:LEU:HG	2.11	0.51
47:S2:270:C:H2'	47:S2:271:A:C8	2.46	0.51
47:S2:539:G:H4'	47:S2:542:A:H8	1.75	0.51
47:S2:939:A:H2'	47:S2:940:A:C8	2.45	0.51
53:SF:29:ILE:HD12	53:SF:65:ILE:HD11	1.93	0.51
53:SF:45:ARG:O	53:SF:48:VAL:HG12	2.11	0.51
75:Sb:104:LEU:HD13	75:Sb:106:THR:HG23	1.92	0.51
81:Bb:69:U:H2'	81:Bb:70:C:C6	2.45	0.51
1:LA:2152:A:H2'	1:LA:2153:U:H6	1.76	0.51
1:LA:2160:G:H2'	1:LA:2161:G:H8	1.75	0.51
1:LA:2357:A:H2'	1:LA:2358:A:C8	2.46	0.51
2:LB:90:U:H2'	2:LB:91:G:O4'	2.11	0.51
3:LC:26:U:H2'	3:LC:27:U:C6	2.46	0.51
3:LC:55:U:N3	3:LC:62:C:O2	2.29	0.51
27:La:54:ASP:O	27:La:70:ILE:HG12	2.11	0.51
30:Ld:23:LYS:HE3	30:Ld:24:PRO:HD2	1.93	0.51
32:Lf:55:LEU:HB2	32:Lf:95:PRO:HD3	1.93	0.51
48:SA:104:SER:O	48:SA:108:LYS:HG3	2.11	0.51
71:SX:72:THR:HG23	71:SX:124:THR:HG22	1.92	0.51
72:SY:102:LEU:HD11	72:SY:112:LYS:HA	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2429:G:H2'	1:LA:2430:A:C8	2.46	0.51
1:LA:3072:C:H2'	1:LA:3073:A:O4'	2.10	0.51
13:LM:109:HIS:CD2	13:LM:123:PHE:H	2.28	0.51
14:LN:179:PHE:O	14:LN:183:ARG:HG3	2.11	0.51
28:Lb:24:VAL:HG21	28:Lb:87:LEU:HB3	1.93	0.51
28:Lb:25:ILE:HG23	28:Lb:41:ALA:HB1	1.92	0.51
62:SO:12:THR:HG22	62:SO:311:ARG:HG2	1.93	0.51
68:SU:27:LEU:HD12	68:SU:38:LEU:HD21	1.92	0.51
1:LA:791:A:H2'	1:LA:792:G:H8	1.75	0.51
1:LA:1639:C:H5'	35:Li:52:GLN:HG2	1.91	0.51
1:LA:2947:G:N3	5:LE:250:ALA:HB1	2.26	0.51
4:LD:27:ALA:HA	4:LD:75:ILE:HG22	1.92	0.51
7:LG:235:SER:O	7:LG:239:ILE:HG23	2.10	0.51
17:LQ:43[A]:ILE:HD11	17:LQ:138[A]:LEU:HD13	1.93	0.51
26:LZ:58:ASP:O	26:LZ:62:VAL:HG12	2.11	0.51
37:Lk:57:LEU:HD21	37:Lk:73:ALA:HB2	1.91	0.51
48:SA:223:LYS:HB3	62:SO:191:ASP:HB3	1.93	0.51
1:LA:631:U:H2'	1:LA:632:G:H8	1.76	0.51
1:LA:2974:U:H2'	1:LA:2975:U:C6	2.46	0.51
2:LB:7:G:H8	7:LG:22:ARG:NH1	2.08	0.51
6:LF:125:ALA:HB1	6:LF:238:LEU:HB3	1.93	0.51
13:LM:52:TYR:HA	13:LM:61:ARG:HG3	1.93	0.51
16:LP:45:PRO:O	16:LP:49:ARG:HG3	2.11	0.51
51:SD:135:MET:O	51:SD:138:GLU:HG3	2.11	0.51
53:SF:101:SER:O	53:SF:104:GLU:HG3	2.10	0.51
57:SJ:63:LEU:HB3	60:SM:34:TYR:CE1	2.45	0.51
66:SS:181:VAL:HG12	66:SS:227:VAL:HB	1.93	0.51
68:SU:21:ALA:O	68:SU:25:VAL:HG23	2.11	0.51
81:Bb:50:U:H2'	81:Bb:51:G:C8	2.46	0.51
1:LA:589:A:H1'	1:LA:1337:A:H5"	1.92	0.51
1:LA:1110:U:H2'	1:LA:1111:U:C6	2.46	0.51
2:LB:54:U:H4'	2:LB:55:A:H5'	1.92	0.51
31:Le:43:ILE:HG13	31:Le:68:TYR:HB3	1.93	0.51
47:S2:1486:G:H2'	47:S2:1487:A:H8	1.76	0.51
62:SO:133:VAL:HG23	62:SO:141:LEU:HB3	1.92	0.51
66:SS:185:GLY:HA3	66:SS:224:ASN:ND2	2.26	0.51
67:ST:192:ALA:O	67:ST:196:ARG:HG2	2.11	0.51
1:LA:2536:A:H2'	64:SQ:227:ALA:N	2.27	0.50
3:LC:19:C:H2'	3:LC:20:U:C6	2.46	0.50
14:LN:127:PRO:HG2	14:LN:130:GLY:HA3	1.92	0.50
37:Lk:44:VAL:HA	37:Lk:47:ILE:HG22	1.91	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Lk:66:GLU:CD	37:Lk:70:ARG:HH12	2.19	0.50
47:S2:340:U:H2'	47:S2:341:A:C8	2.46	0.50
47:S2:482:U:H2'	47:S2:483:A:C8	2.47	0.50
47:S2:783:G:H2'	47:S2:784:C:C6	2.46	0.50
47:S2:906:A:H2'	47:S2:907:A:C8	2.46	0.50
66:SS:45:ILE:HA	66:SS:61:VAL:HG11	1.92	0.50
75:Sb:30:SER:HB2	75:Sb:61:ILE:HG13	1.93	0.50
1:LA:1342:C:H2'	1:LA:1343:A:C8	2.47	0.50
7:LG:261:THR:HG22	7:LG:263:GLU:H	1.76	0.50
7:LG:286:VAL:O	7:LG:290:ILE:HG22	2.12	0.50
10:LJ:225:LYS:O	10:LJ:229:VAL:HG22	2.11	0.50
13:LM:16:LYS:HG2	13:LM:130:VAL:HB	1.92	0.50
17:LQ:189[A]:ASP:O	17:LQ:193[A]:GLN:HG2	2.11	0.50
47:S2:15:U:H2'	47:S2:16:G:O4'	2.10	0.50
47:S2:1210:C:H2'	47:S2:1211:A:H8	1.77	0.50
51:SD:58:LEU:HG	51:SD:59:LEU:HD12	1.93	0.50
69:SV:87:ASN:HB3	69:SV:90:LEU:HB3	1.93	0.50
1:LA:532:A:H2'	1:LA:533:A:C8	2.46	0.50
1:LA:792:G:H2'	1:LA:793:C:C6	2.46	0.50
1:LA:2389:C:H2'	1:LA:2390:A:H8	1.75	0.50
1:LA:2878:G:H5"	5:LE:5:LYS:HE2	1.93	0.50
1:LA:3191:G:H5"	17:LQ:176[A]:LYS:HD2	1.92	0.50
4:LD:168:VAL:HG13	44:Lr:79:VAL:HG21	1.94	0.50
40:Ln:9:ILE:HD12	40:Ln:51:ILE:HD12	1.93	0.50
56:SI:37:VAL:HG12	56:SI:39:THR:H	1.76	0.50
76:Sc:50:LYS:HE3	76:Sc:103:LEU:HD13	1.94	0.50
81:Bb:43:G:H2'	81:Bb:44:A:C8	2.46	0.50
1:LA:68:C:O3'	16:LP:177:GLY:HA2	2.12	0.50
1:LA:2344:U:H2'	1:LA:2345:A:C8	2.45	0.50
1:LA:2636:A:H5'	1:LA:2637:A:C5'	2.41	0.50
1:LA:3021:A:H4'	1:LA:3022:G:OP1	2.12	0.50
1:LA:3252:G:H2'	1:LA:3253:G:H8	1.76	0.50
2:LB:19:C:H2'	2:LB:20:A:C8	2.46	0.50
16:LP:159:ARG:HB3	16:LP:164:LEU:HB2	1.93	0.50
47:S2:487:G:H2'	47:S2:488:G:O4'	2.12	0.50
47:S2:861:U:H3'	47:S2:862:A:C8	2.46	0.50
47:S2:1451:C:OP1	60:SM:8:PHE:HA	2.12	0.50
62:SO:185:GLN:O	62:SO:187:GLN:HG2	2.11	0.50
66:SS:57:ASN:O	66:SS:61:VAL:HG23	2.12	0.50
69:SV:113:PHE:HD2	69:SV:121:LEU:HD11	1.75	0.50
81:Bb:22:G:H2'	81:Bb:23:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1010:G:H4'	12:LL:40:LYS:HG2	1.94	0.50
1:LA:1071:U:O2'	1:LA:1072:G:H8	1.94	0.50
1:LA:2407:C:H2'	1:LA:2408:U:H6	1.76	0.50
2:LB:27:A:H2'	2:LB:28:C:C6	2.47	0.50
14:LN:43:ALA:O	14:LN:47:ALA:HA	2.11	0.50
46:Cc:44:A:H2'	46:Cc:45:A:C8	2.46	0.50
47:S2:866:G:H5"	72:SY:2:GLY:HA3	1.94	0.50
53:SF:89:LEU:HD11	53:SF:105:LEU:HD22	1.94	0.50
66:SS:126:VAL:HG11	66:SS:154:ILE:HD11	1.93	0.50
69:SV:46:VAL:HG13	69:SV:54:LYS:HB2	1.93	0.50
69:SV:90:LEU:HD12	69:SV:95:THR:HG23	1.93	0.50
70:SW:152:SER:O	70:SW:156:ILE:HD12	2.12	0.50
1:LA:1687:U:H1'	23:LW:75:TYR:CD1	2.46	0.50
1:LA:2927:C:H2'	1:LA:2928:C:C6	2.46	0.50
19:LS:80:THR:HB	19:LS:137:THR:HG22	1.94	0.50
39:Lm:45:VAL:HG23	39:Lm:52:TYR:HB2	1.92	0.50
54:SG:7:LYS:HG2	54:SG:11:ARG:HH22	1.77	0.50
63:SP:59:LEU:O	63:SP:63:ILE:HG13	2.11	0.50
66:SS:15:PRO:HG2	66:SS:18:TRP:CE2	2.47	0.50
68:SU:22:GLN:O	68:SU:26:GLU:HG3	2.11	0.50
69:SV:41:LYS:HB2	69:SV:60:ILE:HG13	1.94	0.50
1:LA:254:A:H2'	1:LA:255:A:H8	1.75	0.50
1:LA:314:U:H2'	1:LA:315:C:C6	2.46	0.50
1:LA:673:U:H2'	1:LA:674:G:C8	2.46	0.50
3:LC:107:G:H4'	3:LC:138:A:H5'	1.93	0.50
8:LH:62:THR:HB	8:LH:78:ARG:HB2	1.93	0.50
9:LI:141:TYR:HD1	9:LI:189:ILE:HG13	1.77	0.50
39:Lm:5:ILE:HD11	39:Lm:10:GLN:HB3	1.93	0.50
1:LA:2429:G:H2'	1:LA:2430:A:H8	1.77	0.50
1:LA:2615:G:H2'	1:LA:2616:C:H6	1.77	0.50
3:LC:69:U:H2'	3:LC:70:G:O4'	2.12	0.50
6:LF:279:HIS:ND1	6:LF:279:HIS:N	2.50	0.50
7:LG:83:LEU:N	7:LG:84:PRO:HD2	2.27	0.50
47:S2:213:A:C6	47:S2:214:G:H1'	2.47	0.50
47:S2:885:G:H2'	47:S2:886:U:C6	2.46	0.50
49:SB:72:HIS:HB2	49:SB:111:VAL:HG21	1.93	0.50
52:SE:83:MET:HB2	52:SE:116:LEU:HD12	1.94	0.50
65:SR:145:GLY:O	65:SR:146:THR:HG22	2.12	0.50
67:ST:185:GLN:HG3	67:ST:189:HIS:CE1	2.47	0.50
70:SW:32:GLY:HA3	80:Sg:40:TYR:CG	2.47	0.50
2:LB:45:A:H2'	2:LB:46:A:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LD:80:GLU:HG2	4:LD:170:ALA:HA	1.93	0.50
20:LT:182:ASP:HA	20:LT:185:LEU:HD12	1.94	0.50
25:LY:30:ARG:HG3	25:LY:30:ARG:HH11	1.76	0.50
31:Le:51:LEU:HD11	35:Li:90:ILE:HG22	1.94	0.50
47:S2:1082:C:H4'	74:Sa:58:TYR:HE1	1.77	0.50
47:S2:1483:A:H2'	47:S2:1484:G:C8	2.47	0.50
47:S2:1566:U:H5'	55:SH:39:GLY:HA3	1.94	0.50
47:S2:1616:G:N2	59:SL:22:ARG:HD3	2.27	0.50
56:SI:33:TYR:O	56:SI:36:ILE:HG22	2.12	0.50
1:LA:63:A:H5"	16:LP:174:ILE:HG21	1.94	0.49
1:LA:266:A:N6	37:Lk:30:LYS:HA	2.27	0.49
1:LA:671:U:H2'	1:LA:672:A:C8	2.47	0.49
1:LA:2406:C:H2'	1:LA:2407:C:H6	1.76	0.49
9:LI:116:PHE:CE1	9:LI:144:ILE:HG12	2.47	0.49
14:LN:89:TYR:O	14:LN:93:ILE:HG23	2.12	0.49
19:LS:81:VAL:HG13	19:LS:140:LEU:CD1	2.42	0.49
39:Lm:20:VAL:HG12	39:Lm:47:GLY:HA2	1.94	0.49
44:Lr:84:ARG:O	44:Lr:88:GLU:HG2	2.12	0.49
47:S2:922:G:H2'	47:S2:923:A:H8	1.77	0.49
47:S2:1776:A:H2'	47:S2:1777:G:H8	1.76	0.49
55:SH:25:ASN:HA	58:SK:40:VAL:HG21	1.94	0.49
56:SI:113:ILE:HD12	56:SI:128:GLY:HA2	1.94	0.49
68:SU:13:PRO:HB3	68:SU:18:LEU:HD21	1.94	0.49
81:Bb:9:A:H2	81:Bb:23:A:H62	1.59	0.49
1:LA:1498:A:H2'	1:LA:1499:C:C6	2.47	0.49
48:SA:148:LYS:HE3	48:SA:150:MET:HE2	1.94	0.49
64:SQ:208:GLN:HG2	64:SQ:209:ASN:N	2.27	0.49
77:Sd:10:ARG:HA	77:Sd:10:ARG:HE	1.77	0.49
1:LA:1396:C:H2'	1:LA:1397:C:C6	2.47	0.49
6:LF:313:LEU:HD23	6:LF:315:LYS:HE2	1.95	0.49
7:LG:183:TRP:HZ2	7:LG:188:GLU:HG3	1.77	0.49
36:Lj:86:ARG:O	36:Lj:90:ARG:HG2	2.13	0.49
47:S2:264:G:H5"	47:S2:265:A:H5"	1.95	0.49
47:S2:389:G:H3'	47:S2:390:G:N2	2.27	0.49
47:S2:886:U:C2	47:S2:887:A:C8	3.00	0.49
1:LA:22:G:H5'	38:Ll:43:LYS:HG2	1.94	0.49
1:LA:29:C:H4'	1:LA:62:A:H4'	1.94	0.49
1:LA:1643:A:H2'	1:LA:1644:C:C2	2.47	0.49
1:LA:1895:A:O2'	1:LA:3053:G:H4'	2.11	0.49
1:LA:2522:G:H1	4:LD:72:ARG:HH22	1.60	0.49
1:LA:2533:G:H2'	1:LA:2534:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2546:C:H2'	1:LA:2547:A:H8	1.77	0.49
1:LA:2961:G:H2'	1:LA:2962:U:C6	2.47	0.49
1:LA:3150:A:H4'	5:LE:128:LYS:O	2.13	0.49
4:LD:117:GLU:HG2	4:LD:124:GLY:H	1.76	0.49
10:LJ:158:ASP:HB3	10:LJ:159:PRO:HD3	1.93	0.49
12:LL:109:ASP:H	12:LL:110:ARG:CZ	2.26	0.49
15:LO:16:GLU:HB3	21:LU:149:LYS:HB3	1.94	0.49
25:LY:6:ASP:HB3	25:LY:10:GLY:H	1.78	0.49
43:Lq:71:ARG:NH1	43:Lq:80:ARG:HE	2.10	0.49
47:S2:508:U:H2'	47:S2:509:G:C8	2.47	0.49
47:S2:604:A:H2'	47:S2:605:A:O4'	2.11	0.49
47:S2:800:U:H2'	47:S2:801:G:C8	2.47	0.49
47:S2:1158:C:H42	47:S2:1163:A:H61	1.60	0.49
1:LA:141:C:H2'	1:LA:142:C:C6	2.48	0.49
1:LA:876:A:H5"	1:LA:1890:U:H5"	1.94	0.49
1:LA:1909:A:H2'	1:LA:1910:A:C8	2.47	0.49
1:LA:2936:A:H2'	1:LA:2937:G:C8	2.47	0.49
1:LA:3296:A:H2'	1:LA:3297:U:H6	1.77	0.49
3:LC:75:G:H2'	3:LC:76:C:C6	2.48	0.49
4:LD:36:GLU:HA	4:LD:91:GLY:HA2	1.94	0.49
4:LD:120:PRO:HD3	4:LD:159:SER:HB3	1.95	0.49
11:LK:36:LYS:HG2	11:LK:38:LEU:CD1	2.43	0.49
47:S2:5:U:H2'	47:S2:6:G:H8	1.78	0.49
49:SB:57:SER:HA	59:SL:53:ILE:HB	1.94	0.49
58:SK:54:VAL:O	58:SK:57:TYR:HB2	2.12	0.49
76:Sc:90:ASP:OD1	80:Sg:12:GLY:HA2	2.13	0.49
78:Se:12:LYS:HZ2	78:Se:16:GLY:H	1.59	0.49
1:LA:1555:U:H5'	1:LA:1556:C:OP2	2.12	0.49
1:LA:2908:G:H4'	41:Lo:114:LYS:HE3	1.94	0.49
1:LA:3138:U:OP2	5:LE:30:LYS:HG3	2.13	0.49
6:LF:150:LEU:HD21	6:LF:172:VAL:HG11	1.95	0.49
12:LL:36:LEU:HD13	12:LL:73:ASN:HB2	1.94	0.49
13:LM:166:LYS:HG3	13:LM:167:TYR:CD2	2.47	0.49
30:Ld:16:ALA:O	30:Ld:20:GLY:HA3	2.12	0.49
40:Ln:23:LEU:HD11	40:Ln:27:ILE:HG21	1.94	0.49
47:S2:908:U:H1'	47:S2:996:U:O2'	2.13	0.49
47:S2:953:G:H2'	47:S2:954:G:H8	1.77	0.49
49:SB:162:VAL:HG12	59:SL:44:VAL:HG13	1.95	0.49
64:SQ:127:VAL:HG13	64:SQ:176:VAL:HG11	1.93	0.49
66:SS:192:ILE:HD12	66:SS:192:ILE:O	2.13	0.49
1:LA:19:U:H2'	1:LA:20:A:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:871:U:H2'	1:LA:872:U:C6	2.47	0.49
1:LA:1157:G:H2'	1:LA:1158:A:O4'	2.13	0.49
1:LA:1422:G:H1'	8:LH:3:ALA:HA	1.93	0.49
1:LA:2376:G:H2'	1:LA:2377:G:C8	2.48	0.49
1:LA:2779:A:H2'	1:LA:2780:A:H5"	1.95	0.49
2:LB:39:C:H4'	13:LM:44:THR:HG23	1.94	0.49
8:LH:85:ILE:HD13	34:Lh:107:ILE:HD11	1.93	0.49
16:LP:83:LYS:HB2	16:LP:85:THR:HG22	1.95	0.49
19:LS:76:ALA:HA	19:LS:79:LYS:HD2	1.95	0.49
46:Cc:42:C:H2'	46:Cc:43:G:C8	2.48	0.49
47:S2:335:U:H4'	71:SX:129:ARG:HD2	1.95	0.49
47:S2:947:U:H2'	47:S2:948:G:C8	2.47	0.49
47:S2:1070:C:H5'	47:S2:1071:U:OP2	2.12	0.49
47:S2:1485:C:H42	47:S2:1605:G:H21	1.58	0.49
47:S2:1638:G:H2'	47:S2:1639:C:O4'	2.13	0.49
48:SA:12:VAL:O	48:SA:16:VAL:HG23	2.13	0.49
48:SA:46:THR:O	48:SA:84:ILE:HA	2.12	0.49
48:SA:172:THR:HG22	48:SA:185:LYS:HD3	1.94	0.49
1:LA:1054:A:H5"	1:LA:2637:A:N6	2.26	0.49
1:LA:1446:A:H5"	18:LR:65:SER:OG	2.12	0.49
1:LA:2118:C:H3'	1:LA:2119:A:C8	2.48	0.49
1:LA:2882:U:H2'	1:LA:2883:U:C6	2.47	0.49
3:LC:131:A:H5"	26:LZ:93:TYR:CE2	2.48	0.49
10:LJ:89:GLU:HB2	10:LJ:214:LEU:HD21	1.95	0.49
30:Ld:54:LEU:HD22	30:Ld:58:LYS:HZ2	1.78	0.49
36:Lj:56:THR:O	36:Lj:60:GLU:HG3	2.13	0.49
47:S2:1727:G:H21	69:SV:32:GLN:NE2	2.09	0.49
48:SA:161:GLY:O	48:SA:164:VAL:HG12	2.12	0.49
49:SB:72:HIS:CD2	49:SB:107:LYS:HG2	2.48	0.49
50:SC:40:LEU:HB2	50:SC:44:LYS:HE3	1.94	0.49
63:SP:139:VAL:HG23	63:SP:141:ILE:HG12	1.93	0.49
67:ST:78:THR:O	67:ST:81:VAL:HG22	2.13	0.49
75:Sb:29:PRO:HB2	75:Sb:58:SER:OG	2.13	0.49
1:LA:500:C:H2'	1:LA:501:A:H8	1.78	0.49
1:LA:987:U:H2'	1:LA:988:U:C6	2.48	0.49
1:LA:1816:A:H2'	1:LA:1817:G:H8	1.78	0.49
36:Lj:102:GLU:O	36:Lj:106:LYS:HG3	2.12	0.49
47:S2:14:C:H5"	65:SR:203:LYS:HE2	1.94	0.49
47:S2:872:G:H2'	47:S2:873:U:O4'	2.13	0.49
47:S2:1659:A:H2'	47:S2:1660:A:C8	2.48	0.49
62:SO:90:ARG:HG3	62:SO:102:ARG:HG2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SW:13:SER:HB3	70:SW:47:PHE:HD2	1.78	0.49
73:SZ:61:MET:O	73:SZ:65:GLN:HG3	2.12	0.49
1:LA:616:G:H2'	1:LA:617:G:H8	1.77	0.49
1:LA:693:A:H3'	1:LA:694:C:H6	1.78	0.49
1:LA:693:A:H8	6:LF:232:SER:HB3	1.78	0.49
1:LA:2768:U:H2'	1:LA:2769:A:C8	2.47	0.49
1:LA:2881:C:H2'	1:LA:2882:U:C6	2.48	0.49
9:LI:110:ARG:HD2	9:LI:206:LYS:HZ2	1.78	0.49
15:LO:102:LYS:HD2	15:LO:106:ARG:HH21	1.77	0.49
16:LP:42:PRO:HD3	16:LP:61:ILE:HG13	1.95	0.49
17:LQ:188[A]:SER:O	17:LQ:192[A]:LYS:HG3	2.12	0.49
21:LU:12:ARG:HG3	21:LU:13:ARG:O	2.12	0.49
47:S2:1435:G:C4	50:SC:59:PHE:HE1	2.31	0.49
48:SA:44:THR:O	48:SA:44:THR:HG22	2.12	0.49
69:SV:37:LYS:C	69:SV:59:ARG:HA	2.38	0.49
1:LA:522:A:H3'	1:LA:523:A:H5"	1.95	0.48
1:LA:697:A:OP1	6:LF:272:VAL:HG11	2.13	0.48
1:LA:1194:G:H2'	1:LA:1195:A:C8	2.47	0.48
1:LA:1883:A:H2'	1:LA:1884:A:C8	2.48	0.48
2:LB:64:A:H5'	2:LB:65:G:H5"	1.95	0.48
9:LI:83:LEU:HD11	9:LI:116:PHE:HB3	1.95	0.48
13:LM:38:GLU:HB2	13:LM:45:PRO:HD3	1.94	0.48
40:Ln:42:ARG:HG3	40:Ln:47:THR:HG23	1.94	0.48
47:S2:1217:A:H4'	47:S2:1219:A:H5"	1.95	0.48
47:S2:1628:U:H2'	47:S2:1629:G:C8	2.48	0.48
58:SK:25:LYS:HD2	58:SK:26:LYS:HG2	1.95	0.48
62:SO:36:ALA:HB2	62:SO:42:LEU:HD23	1.94	0.48
62:SO:85:TRP:HA	62:SO:109:ASP:OD1	2.13	0.48
64:SQ:158:SER:HA	64:SQ:161:ILE:HD12	1.94	0.48
70:SW:64:GLU:HG3	70:SW:65:LYS:HE2	1.94	0.48
1:LA:291:C:OP1	16:LP:68:ARG:HD2	2.13	0.48
1:LA:520:U:C4	9:LI:67:ARG:HD3	2.48	0.48
1:LA:849:C:H2'	1:LA:850:U:C6	2.48	0.48
1:LA:1623:G:C4	1:LA:1624:G:C8	3.01	0.48
27:La:23:PRO:HG2	27:La:26:GLN:HG3	1.94	0.48
47:S2:1714:A:H2'	47:S2:1715:G:C8	2.49	0.48
48:SA:177:MET:HE3	48:SA:177:MET:HB2	1.72	0.48
59:SL:64:ARG:HG3	59:SL:65:ARG:H	1.78	0.48
62:SO:150:TRP:C	62:SO:150:TRP:CD1	2.90	0.48
63:SP:147:THR:OG1	63:SP:159:ALA:HB1	2.12	0.48
66:SS:193:GLY:HA2	66:SS:210:ILE:HG23	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:796:U:H2'	1:LA:797:U:C6	2.48	0.48
1:LA:966:U:H2'	1:LA:967:A:C8	2.48	0.48
1:LA:1103:A:H4'	9:LI:158:LYS:HD3	1.95	0.48
1:LA:1597:C:H2'	1:LA:1598:G:C8	2.48	0.48
1:LA:3157:U:H4'	1:LA:3158:G:O5'	2.11	0.48
6:LF:125:ALA:HA	6:LF:244:LEU:HD22	1.95	0.48
6:LF:299:ILE:HG23	19:LS:39:ARG:HB3	1.94	0.48
8:LH:20:LYS:H	8:LH:20:LYS:HD2	1.77	0.48
18:LR:67:ILE:HD11	18:LR:80:LYS:HB3	1.96	0.48
31:Le:10:ILE:HG12	31:Le:68:TYR:CE2	2.48	0.48
47:S2:17:C:H2'	47:S2:18:C:H6	1.78	0.48
48:SA:106:LYS:O	48:SA:110:LEU:HD22	2.12	0.48
52:SE:44:ARG:NH2	52:SE:82:ASN:HB3	2.27	0.48
1:LA:393:U:H2'	1:LA:394:G:O4'	2.14	0.48
1:LA:542:G:H1	1:LA:549:U:H3	1.61	0.48
1:LA:662:U:H2'	1:LA:663:C:C6	2.48	0.48
1:LA:1498:A:H2'	1:LA:1499:C:H6	1.79	0.48
1:LA:1646:G:H1'	1:LA:1809:A:N6	2.28	0.48
1:LA:2351:U:H2'	1:LA:2352:A:H8	1.77	0.48
1:LA:3160:U:O4	1:LA:3290:G:O6	2.32	0.48
7:LG:55:PHE:CE2	7:LG:60:ILE:HG12	2.49	0.48
9:LI:168:ILE:HG13	9:LI:169:ILE:N	2.28	0.48
12:LL:47:PRO:HB3	12:LL:171:TRP:CZ2	2.48	0.48
24:LX:81:GLN:HG2	24:LX:83:LYS:H	1.77	0.48
47:S2:1087:A:H2'	47:S2:1088:A:C8	2.48	0.48
49:SB:120:ILE:HA	49:SB:123:VAL:HG22	1.94	0.48
71:SX:80:MET:HG2	71:SX:83:THR:HG23	1.95	0.48
79:Sf:35:VAL:HG21	79:Sf:63:LEU:HD23	1.96	0.48
1:LA:207:U:H2'	1:LA:208:C:H6	1.78	0.48
1:LA:2231:C:H2'	1:LA:2232:A:H5"	1.95	0.48
5:LE:58:ARG:HD2	5:LE:354:VAL:HG13	1.94	0.48
47:S2:330:G:H2'	47:S2:331:A:C8	2.48	0.48
47:S2:331:A:H2'	47:S2:332:U:C6	2.49	0.48
47:S2:464:A:C2	47:S2:465:G:C8	3.00	0.48
47:S2:514:G:C2	47:S2:515:A:C8	3.01	0.48
57:SJ:58:LEU:HD21	57:SJ:90:TYR:CE1	2.48	0.48
65:SR:108:ASN:HB2	65:SR:141:ARG:HH22	1.78	0.48
81:Bb:17:U:O2'	81:Bb:18:G:H3'	2.13	0.48
1:LA:3107:U:H2'	1:LA:3108:G:H8	1.76	0.48
4:LD:32:LEU:HD11	4:LD:37:ARG:HB3	1.95	0.48
6:LF:11:LEU:HD11	6:LF:156:LEU:HD13	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:37:VAL:HG21	22:LV:27:LEU:HD23	1.96	0.48
28:Lb:7:ALA:HB2	28:Lb:28:PRO:HD3	1.94	0.48
31:Le:14:LEU:HA	31:Le:17:VAL:HG12	1.95	0.48
43:Lq:28:TYR:HB3	43:Lq:69:VAL:HB	1.95	0.48
47:S2:623:A:H3'	47:S2:624:G:H5"	1.95	0.48
47:S2:1517:U:H5"	47:S2:1518:C:C5	2.45	0.48
47:S2:1677:C:N4	47:S2:1724:U:H3	2.11	0.48
49:SB:72:HIS:HE1	53:SF:79:TYR:HE1	1.62	0.48
50:SC:60:SER:HB2	50:SC:65:TYR:CE1	2.48	0.48
79:Sf:49:HIS:HA	79:Sf:70:LYS:HA	1.95	0.48
1:LA:8:C:H2'	1:LA:9:U:C6	2.48	0.48
1:LA:236:G:H2'	1:LA:237:G:C8	2.49	0.48
1:LA:860:G:O2'	1:LA:895:A:H4'	2.13	0.48
1:LA:1534:A:H4'	1:LA:1797:A:H62	1.78	0.48
1:LA:2515:A:H5"	16:LP:28:TRP:CD1	2.49	0.48
1:LA:3298:C:C2	1:LA:3299:A:C8	3.01	0.48
5:LE:292:ALA:HB2	5:LE:302:LYS:HA	1.95	0.48
14:LN:67:ARG:HD2	29:Lc:105:LEU:O	2.14	0.48
14:LN:155:GLU:OE2	29:Lc:86:LYS:HE2	2.14	0.48
18:LR:4:TYR:CE2	18:LR:16:SER:HB3	2.48	0.48
19:LS:19:PRO:HD3	19:LS:53:PHE:CD1	2.49	0.48
46:Cc:52:C:H2'	46:Cc:53:G:H8	1.78	0.48
47:S2:1556:A:H8	52:SE:40:ARG:HH12	1.60	0.48
57:SJ:37:VAL:HA	57:SJ:40:ASN:ND2	2.28	0.48
69:SV:26:LYS:HD3	69:SV:29:LEU:HD23	1.96	0.48
1:LA:1488:G:C2	1:LA:1489:A:C8	3.02	0.48
1:LA:1596:C:H2'	1:LA:1597:C:H6	1.77	0.48
1:LA:1660:C:H2'	1:LA:1661:G:C8	2.48	0.48
1:LA:2696:A:H2'	1:LA:2697:A:C8	2.49	0.48
3:LC:45:C:H4'	40:Ln:11:GLN:HG2	1.95	0.48
3:LC:121:U:O2	3:LC:132:G:N2	2.37	0.48
6:LF:23:PRO:HD2	6:LF:26:PHE:CD2	2.48	0.48
19:LS:102:ALA:HA	19:LS:122:ILE:O	2.13	0.48
47:S2:566:C:H2'	47:S2:567:A:C8	2.49	0.48
47:S2:592:A:H2'	47:S2:593:U:O4'	2.14	0.48
47:S2:1251:U:H2'	47:S2:1252:C:C6	2.49	0.48
47:S2:1294:G:O2'	63:SP:109:ASN:HB2	2.13	0.48
47:S2:1330:G:H3'	47:S2:1331:A:H8	1.77	0.48
47:S2:1790:A:P	78:Se:10:ARG:HH12	2.37	0.48
48:SA:135:GLU:HG3	48:SA:153:ALA:HB2	1.96	0.48
70:SW:2:PRO:HB2	70:SW:3:ARG:H	1.56	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SW:112:GLN:O	70:SW:116:LEU:HG	2.14	0.48
1:LA:585:A:H4'	34:Lh:72:THR:HG22	1.95	0.48
1:LA:629:U:H2'	1:LA:630:A:C8	2.49	0.48
1:LA:2203:U:H2'	1:LA:2204:C:C6	2.49	0.48
2:LB:1:G:H4'	7:LG:273:ARG:NH2	2.28	0.48
20:LT:122:VAL:O	20:LT:126:GLU:HG2	2.14	0.48
31:Le:41:LEU:HD13	31:Le:66:LYS:HE3	1.95	0.48
35:Li:58:ARG:HD2	35:Li:58:ARG:HA	1.67	0.48
47:S2:622:A:O2'	47:S2:1032:G:H5'	2.13	0.48
62:SO:20:VAL:O	62:SO:20:VAL:HG23	2.14	0.48
67:ST:57:ASP:HB3	67:ST:106:LEU:HD23	1.96	0.48
67:ST:98:ARG:HG3	67:ST:99:GLY:N	2.29	0.48
68:SU:14:THR:HG22	68:SU:17:GLU:CD	2.39	0.48
81:Bb:43:G:H2'	81:Bb:44:A:H8	1.79	0.48
1:LA:243:G:H2'	1:LA:244:G:C8	2.48	0.48
1:LA:505:G:H5"	6:LF:315:LYS:HA	1.96	0.48
1:LA:595:G:H1	1:LA:609:G:H5"	1.79	0.48
1:LA:627:U:H4'	1:LA:1399:A:H1'	1.96	0.48
1:LA:1791:C:H2'	1:LA:1792:C:C6	2.48	0.48
1:LA:2181:C:H5'	4:LD:193:ARG:CZ	2.44	0.48
2:LB:114:U:H2'	2:LB:115:G:H8	1.78	0.48
3:LC:145:U:H2'	3:LC:146:U:C6	2.49	0.48
6:LF:142:VAL:HA	6:LF:145:ILE:HD12	1.96	0.48
12:LL:36:LEU:HD11	12:LL:69:ARG:NE	2.27	0.48
15:LO:8:LYS:HD2	15:LO:8:LYS:HA	1.63	0.48
18:LR:105:LYS:NZ	18:LR:105:LYS:HB3	2.29	0.48
31:Le:34:LEU:HD13	31:Le:59:TYR:HB3	1.96	0.48
47:S2:1723:U:H2'	47:S2:1724:U:O4'	2.14	0.48
66:SS:43:PRO:HG2	66:SS:46:VAL:HG12	1.95	0.48
1:LA:209:A:H4'	1:LA:211:A:N7	2.29	0.47
1:LA:1339:C:H2'	1:LA:1340:G:C8	2.49	0.47
1:LA:1622:U:H2'	1:LA:1623:G:C8	2.49	0.47
1:LA:2389:C:H2'	1:LA:2390:A:C8	2.49	0.47
1:LA:2642:A:H2'	1:LA:2643:A:C8	2.50	0.47
47:S2:1290:U:H2'	47:S2:1291:G:N3	2.29	0.47
53:SF:28:LEU:HD12	53:SF:30:LYS:HE2	1.95	0.47
63:SP:121:VAL:HG23	63:SP:141:ILE:HG21	1.96	0.47
63:SP:144:ILE:HA	63:SP:158:VAL:O	2.14	0.47
64:SQ:27:LYS:HD3	64:SQ:47:LEU:HD23	1.96	0.47
76:Sc:31:LYS:HD2	76:Sc:36:THR:HB	1.95	0.47
1:LA:179:C:H2'	1:LA:180:C:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1109:U:H2'	1:LA:1110:U:C6	2.49	0.47
1:LA:1211:U:H2'	1:LA:1212:A:H8	1.79	0.47
1:LA:1523:U:H5'	26:LZ:113:LEU:HB3	1.96	0.47
1:LA:2344:U:H2'	1:LA:2345:A:H8	1.78	0.47
1:LA:2662:G:H2'	1:LA:2663:G:C8	2.49	0.47
1:LA:2722:U:H2'	1:LA:2723:U:C6	2.49	0.47
12:LL:19:LYS:HB2	12:LL:26:VAL:HG21	1.96	0.47
14:LN:5:LYS:H	14:LN:5:LYS:HD2	1.79	0.47
32:Lf:11:GLU:O	32:Lf:106:THR:HA	2.14	0.47
43:Lq:70:LEU:HB2	43:Lq:83:LEU:HD12	1.95	0.47
47:S2:996:U:H2'	47:S2:997:G:H8	1.78	0.47
54:SG:27:ASP:HB3	54:SG:30:THR:OG1	2.14	0.47
57:SJ:33:GLN:HA	57:SJ:36:ASN:HD21	1.79	0.47
57:SJ:80:GLU:HB2	60:SM:54:LYS:HD2	1.96	0.47
66:SS:45:ILE:HD12	66:SS:61:VAL:HG21	1.94	0.47
67:ST:98:ARG:HG3	67:ST:98:ARG:HH11	1.78	0.47
1:LA:507:U:H2'	1:LA:508:U:H6	1.78	0.47
1:LA:594:U:H2'	1:LA:609:G:O6	2.15	0.47
2:LB:55:A:H1'	13:LM:10:ARG:HB3	1.95	0.47
4:LD:2:GLY:HA2	4:LD:207:VAL:HG23	1.96	0.47
7:LG:60:ILE:HD11	7:LG:93:THR:HA	1.96	0.47
9:LI:139:PRO:HG2	9:LI:144:ILE:HD11	1.95	0.47
10:LJ:36:ILE:H	10:LJ:36:ILE:HD12	1.79	0.47
10:LJ:55:TYR:O	10:LJ:59:GLN:HG3	2.14	0.47
27:La:11:ASP:HB3	27:La:14:LYS:HB2	1.96	0.47
47:S2:930:A:H1'	64:SQ:111:ARG:NH2	2.30	0.47
47:S2:1173:C:H5'	47:S2:1543:A:O2'	2.14	0.47
47:S2:1216:C:H2'	47:S2:1217:A:H2'	1.95	0.47
47:S2:1616:G:H21	59:SL:22:ARG:HD3	1.79	0.47
59:SL:19:THR:HG23	59:SL:25:VAL:HG12	1.96	0.47
69:SV:108:PRO:O	69:SV:111:GLN:HG3	2.14	0.47
1:LA:887:G:H2'	1:LA:888:A:C8	2.49	0.47
1:LA:1281:G:H2'	1:LA:1282:G:C8	2.50	0.47
1:LA:2115:G:H22	1:LA:2120:A:H1'	1.78	0.47
1:LA:2537:U:H5'	64:SQ:225:VAL:C	2.38	0.47
3:LC:142:C:H2'	3:LC:143:U:C6	2.50	0.47
19:LS:67:ILE:HG23	19:LS:81:VAL:HG21	1.96	0.47
47:S2:758:U:O2	47:S2:758:U:H2'	2.14	0.47
47:S2:888:U:H2'	47:S2:889:U:C6	2.49	0.47
47:S2:900:A:H2'	47:S2:901:G:H8	1.79	0.47
47:S2:1474:G:H2'	47:S2:1475:A:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1504:G:H2'	47:S2:1505:A:C4	2.49	0.47
47:S2:1639:C:H2'	47:S2:1640:C:O4'	2.14	0.47
48:SA:114:ALA:HB3	48:SA:117:ARG:HB2	1.97	0.47
52:SE:44:ARG:HH22	52:SE:82:ASN:HB3	1.80	0.47
53:SF:13:LYS:HG3	53:SF:14:LYS:H	1.79	0.47
76:Sc:51:GLY:HA2	76:Sc:77:ILE:HD12	1.95	0.47
81:Bb:27:C:H2'	81:Bb:28:C:H6	1.78	0.47
1:LA:945:C:H2'	1:LA:946:U:H6	1.79	0.47
1:LA:1072:G:H2'	1:LA:1073:U:C6	2.50	0.47
1:LA:1388:U:O2'	33:Lg:99:ASN:HB3	2.13	0.47
1:LA:1475:A:H4'	32:Lf:57:GLN:HG2	1.96	0.47
1:LA:2112:U:H4'	1:LA:2113:A:H5'	1.96	0.47
13:LM:54:VAL:HG13	13:LM:59:ILE:HD11	1.97	0.47
34:Lh:13:HIS:CG	34:Lh:89:LEU:HD12	2.50	0.47
38:Ll:25:ARG:HH12	40:Ln:50:ASN:HB3	1.79	0.47
47:S2:305:C:H5"	71:SX:71:LEU:HD11	1.97	0.47
47:S2:380:U:N3	70:SW:5:PRO:HB3	2.30	0.47
47:S2:1429:G:H2'	47:S2:1430:U:C6	2.50	0.47
49:SB:99:MET:O	49:SB:103:ASN:HB2	2.14	0.47
66:SS:252:ARG:HG2	66:SS:252:ARG:HH11	1.79	0.47
1:LA:426:G:H5'	33:Lg:50:ILE:HG22	1.96	0.47
1:LA:1066:G:H2'	1:LA:1067:U:C6	2.50	0.47
1:LA:1128:U:H2'	1:LA:1129:A:O4'	2.15	0.47
1:LA:3094:A:H2'	1:LA:3095:U:C6	2.49	0.47
10:LJ:82:LEU:HD21	10:LJ:180:VAL:HG12	1.95	0.47
10:LJ:143:ILE:HG23	10:LJ:175:VAL:HG11	1.96	0.47
11:LK:111:PHE:HD2	11:LK:125:ASN:OD1	1.98	0.47
13:LM:156:LYS:O	13:LM:160:VAL:HG13	2.13	0.47
38:Ll:39:TYR:CD2	38:Ll:40:PRO:HA	2.50	0.47
47:S2:1079:U:H2'	47:S2:1080:U:C6	2.49	0.47
47:S2:1319:A:H2'	47:S2:1320:U:O4'	2.14	0.47
47:S2:1496:U:H4'	47:S2:1519:U:O2'	2.14	0.47
49:SB:119:ASP:O	49:SB:123:VAL:HG13	2.15	0.47
55:SH:30:TYR:HA	55:SH:33:THR:HG23	1.97	0.47
59:SL:26:THR:HB	59:SL:44:VAL:HB	1.96	0.47
66:SS:115:THR:HG23	66:SS:118:GLU:H	1.80	0.47
69:SV:142:LYS:O	69:SV:146:ARG:HG3	2.13	0.47
70:SW:80:LEU:HB3	70:SW:86:LEU:HD13	1.96	0.47
71:SX:72:THR:HG22	71:SX:122:ILE:HD11	1.97	0.47
1:LA:66:A:N6	1:LA:76:G:H1'	2.30	0.47
1:LA:277:G:H2'	1:LA:278:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:542:G:H2'	1:LA:543:C:C6	2.50	0.47
1:LA:553:U:H3'	1:LA:554:A:C8	2.50	0.47
1:LA:631:U:H2'	1:LA:632:G:C8	2.50	0.47
1:LA:899:U:H2'	1:LA:900:G:H8	1.80	0.47
1:LA:1190:A:H4'	41:Lo:113:ARG:NH2	2.30	0.47
1:LA:1290:A:H2'	1:LA:1291:A:C8	2.49	0.47
1:LA:2437:G:O6	1:LA:2510:U:O4	2.33	0.47
1:LA:3051:U:C2	1:LA:3052:G:C8	3.03	0.47
10:LJ:83:ASP:OD1	10:LJ:86:THR:HG22	2.15	0.47
11:LK:89:LYS:HB2	11:LK:183:HIS:HB3	1.96	0.47
13:LM:81:GLU:HG3	13:LM:85:LYS:HZ2	1.80	0.47
13:LM:160:VAL:O	13:LM:164:LYS:HG3	2.15	0.47
25:LY:8:PHE:CD1	25:LY:46:PRO:HG3	2.50	0.47
47:S2:115:G:H5'	71:SX:129:ARG:HD3	1.97	0.47
47:S2:809:A:H2'	47:S2:810:G:C8	2.50	0.47
47:S2:1170:G:C2	47:S2:1171:A:C8	3.03	0.47
47:S2:1236:A:C8	47:S2:1237:G:H8	2.32	0.47
47:S2:1532:U:P	58:SK:81:ARG:HH22	2.37	0.47
49:SB:162:VAL:HB	59:SL:44:VAL:HA	1.96	0.47
49:SB:203:LYS:HG2	49:SB:204:GLY:N	2.29	0.47
56:SI:131:ASP:O	56:SI:135:ILE:HG22	2.15	0.47
64:SQ:160:HIS:O	64:SQ:164:ILE:HG12	2.15	0.47
66:SS:161:LYS:HB3	66:SS:171:ASP:HB2	1.96	0.47
69:SV:103:GLN:OE1	69:SV:103:GLN:HA	2.14	0.47
71:SX:94:ILE:N	71:SX:94:ILE:HD12	2.30	0.47
72:SY:91:LEU:HB3	72:SY:122:ILE:HG12	1.95	0.47
81:Bb:59:U:H2'	81:Bb:60:C:C6	2.50	0.47
1:LA:664:U:H2'	1:LA:665:A:H8	1.78	0.47
1:LA:1471:U:H5"	20:LT:5:ARG:HG3	1.96	0.47
1:LA:2709:C:H2'	1:LA:2710:C:C6	2.50	0.47
1:LA:3294:A:H5"	5:LE:126:LYS:HG3	1.96	0.47
13:LM:91:LEU:HD21	13:LM:104:PHE:HB3	1.97	0.47
16:LP:70:ASN:HB3	16:LP:92:LEU:O	2.15	0.47
47:S2:70:C:H2'	47:S2:71:A:C8	2.50	0.47
47:S2:333:A:N7	69:SV:49:ARG:HD3	2.30	0.47
47:S2:745:U:H2'	47:S2:746:A:H8	1.79	0.47
47:S2:756:A:H2'	47:S2:756:A:N3	2.30	0.47
47:S2:960:U:H1'	72:SY:52:VAL:HG23	1.97	0.47
47:S2:1561:U:H4'	47:S2:1599:C:H4'	1.97	0.47
49:SB:165:LEU:HG	49:SB:169:ASN:HD21	1.80	0.47
54:SG:74:GLN:HA	54:SG:77:GLU:HG2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Sb:32:LYS:HB2	75:Sb:32:LYS:HE3	1.71	0.47
75:Sb:50:PHE:HB3	75:Sb:63:VAL:HG13	1.97	0.47
76:Sc:95:PHE:CD1	76:Sc:135:LEU:HD23	2.49	0.47
1:LA:3146:G:H2'	1:LA:3147:G:C8	2.50	0.47
5:LE:70:ARG:HE	5:LE:70:ARG:HB3	1.50	0.47
47:S2:59:C:H1'	47:S2:452:A:C8	2.50	0.47
47:S2:119:A:H1'	47:S2:397:A:C5	2.50	0.47
47:S2:1345:A:H61	47:S2:1516:A:N6	2.13	0.47
47:S2:1441:C:H2'	47:S2:1442:U:C6	2.50	0.47
48:SA:28:GLU:HG2	50:SC:58:GLN:HG3	1.95	0.47
62:SO:43:ILE:HG23	62:SO:45:TRP:NE1	2.29	0.47
64:SQ:129:THR:HG22	64:SQ:176:VAL:HG13	1.97	0.47
64:SQ:144:ARG:CZ	64:SQ:206:PRO:HB3	2.44	0.47
67:ST:21:GLU:HA	67:ST:24:ILE:HG12	1.97	0.47
71:SX:84:ILE:HG12	71:SX:117:VAL:HG21	1.96	0.47
71:SX:111:VAL:HA	71:SX:139:VAL:HG22	1.97	0.47
74:Sa:20:THR:OG1	74:Sa:22:ARG:HD2	2.15	0.47
78:Se:36:ILE:HB	78:Se:73:TYR:HB2	1.96	0.47
81:Bb:18:G:O6	81:Bb:55:U:H1'	2.15	0.47
1:LA:1667:A:H2'	1:LA:1668:G:H8	1.79	0.47
1:LA:2999:U:H2'	1:LA:3000:A:H8	1.80	0.47
3:LC:149:A:H2'	3:LC:150:G:C8	2.50	0.47
6:LF:152:VAL:HG21	6:LF:156:LEU:HD22	1.97	0.47
8:LH:96:VAL:HG23	8:LH:144:ALA:HB3	1.97	0.47
23:LW:36:TYR:CD2	23:LW:83:TYR:HD1	2.31	0.47
23:LW:94:ARG:HG2	23:LW:96:VAL:HG23	1.97	0.47
27:La:32:SER:HA	27:La:49:PRO:HA	1.97	0.47
46:Cc:51:U:O4	46:Cc:65:G:O6	2.31	0.47
47:S2:107:C:H2'	47:S2:108:A:H8	1.79	0.47
47:S2:892:A:H2'	47:S2:893:U:C6	2.50	0.47
47:S2:923:A:H2'	47:S2:924:A:H8	1.79	0.47
47:S2:1533:C:H4'	47:S2:1539:G:O6	2.15	0.47
51:SD:91:VAL:HG22	51:SD:92:ALA:H	1.80	0.47
62:SO:38:ARG:HA	62:SO:67:ILE:HG23	1.97	0.47
63:SP:127:ARG:HH21	63:SP:152:PRO:HD3	1.80	0.47
69:SV:76:THR:HG22	69:SV:77:ARG:O	2.15	0.47
1:LA:173:G:O6	1:LA:245:U:O4	2.33	0.46
1:LA:1659:U:H2'	1:LA:1660:C:C6	2.50	0.46
1:LA:2152:A:H2'	1:LA:2153:U:C6	2.50	0.46
9:LI:98:LYS:HB3	9:LI:99:PRO:HD3	1.97	0.46
29:Lc:94:ALA:HA	29:Lc:121:VAL:HG13	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Ll:25:ARG:NH1	40:Ln:50:ASN:HB3	2.31	0.46
47:S2:463:U:H2'	47:S2:464:A:H8	1.80	0.46
47:S2:1787:C:H2'	47:S2:1788:G:C8	2.51	0.46
49:SB:128:ASN:O	49:SB:132:VAL:HG12	2.15	0.46
1:LA:75:G:H1'	14:LN:61:PRO:HG3	1.97	0.46
1:LA:276:U:H2'	1:LA:277:G:C8	2.51	0.46
1:LA:551:A:H1'	1:LA:552:G:N7	2.31	0.46
1:LA:2547:A:H3'	1:LA:2548:C:H5"	1.96	0.46
1:LA:2615:G:H2'	1:LA:2616:C:C6	2.50	0.46
13:LM:87:LYS:O	13:LM:88:GLU:HG2	2.14	0.46
15:LO:94:TRP:CE2	15:LO:100:ALA:HB2	2.51	0.46
17:LQ:22[A]:VAL:O	17:LQ:26[A]:GLN:HG2	2.15	0.46
31:Le:38:LYS:HA	31:Le:38:LYS:HD2	1.81	0.46
47:S2:64:U:H2'	47:S2:65:A:H5"	1.96	0.46
47:S2:1108:G:H2'	76:Sc:25:ALA:HB1	1.96	0.46
59:SL:42:ARG:HA	59:SL:42:ARG:HD2	1.78	0.46
63:SP:31:VAL:HG12	63:SP:33:GLN:H	1.79	0.46
1:LA:1466:G:N2	1:LA:1510:G:H5"	2.31	0.46
1:LA:1829:G:H5"	1:LA:1830:G:H5'	1.97	0.46
1:LA:3051:U:H2'	1:LA:3052:G:H8	1.80	0.46
19:LS:170:ARG:O	19:LS:171:LYS:HG2	2.15	0.46
39:Lm:43:PHE:CE1	39:Lm:56:ILE:HD11	2.51	0.46
44:Lr:48:LYS:HA	44:Lr:48:LYS:HD3	1.71	0.46
47:S2:968:U:H2'	47:S2:969:C:O4'	2.14	0.46
47:S2:1280:C:H4'	57:SJ:69:LYS:HB3	1.97	0.46
47:S2:1606:C:H2'	47:S2:1607:G:C8	2.50	0.46
58:SK:50:ILE:HG13	58:SK:51:LEU:N	2.29	0.46
62:SO:73:LEU:HA	62:SO:80:ALA:HA	1.96	0.46
65:SR:45:VAL:HG21	65:SR:68:ILE:HG23	1.96	0.46
66:SS:72:VAL:HG22	66:SS:90:ILE:HG12	1.97	0.46
81:Bb:42:G:H2'	81:Bb:43:G:H8	1.80	0.46
1:LA:18:G:H2'	1:LA:19:U:C6	2.50	0.46
1:LA:127:G:H2'	1:LA:128:G:C8	2.50	0.46
1:LA:370:U:H4'	1:LA:404:G:H5'	1.98	0.46
1:LA:673:U:H2'	1:LA:674:G:H8	1.81	0.46
6:LF:334:PHE:HA	6:LF:339:LEU:HD12	1.96	0.46
19:LS:20:LYS:HB2	19:LS:20:LYS:HE3	1.62	0.46
21:LU:45:LEU:HD23	21:LU:45:LEU:HA	1.72	0.46
23:LW:43:VAL:HB	23:LW:49:ASN:HB3	1.98	0.46
36:Lj:119:LYS:HD3	36:Lj:120:ALA:N	2.30	0.46
48:SA:95:GLY:HA2	48:SA:101:GLN:OE1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SB:57:SER:HB2	59:SL:55:VAL:HG23	1.97	0.46
50:SC:16:PHE:CE1	50:SC:73:VAL:HG23	2.50	0.46
53:SF:40:GLU:HA	53:SF:45:ARG:HH21	1.80	0.46
54:SG:33:ARG:HG2	62:SO:127:ARG:NH1	2.31	0.46
54:SG:89:SER:HA	63:SP:198:MET:HE1	1.97	0.46
56:SI:65:ILE:HG22	56:SI:124:ILE:HB	1.97	0.46
56:SI:76:LEU:HD12	56:SI:80:TYR:CE1	2.50	0.46
62:SO:13:LEU:HB3	62:SO:45:TRP:CZ3	2.50	0.46
62:SO:193:ILE:HG13	62:SO:194:GLY:H	1.80	0.46
66:SS:197:HIS:CD2	66:SS:198:LYS:O	2.68	0.46
1:LA:428:A:H2'	1:LA:429:U:C6	2.51	0.46
1:LA:1155:C:H1'	1:LA:1198:C:O2	2.16	0.46
1:LA:1696:A:H2'	1:LA:1697:A:C8	2.50	0.46
1:LA:2767:U:H2'	1:LA:2768:U:H6	1.80	0.46
1:LA:2992:U:H5'	1:LA:3310:A:O2'	2.15	0.46
3:LC:23:U:H5"	27:La:13:ARG:HG3	1.98	0.46
5:LE:293:ASN:HB3	5:LE:321:PHE:CZ	2.51	0.46
23:LW:90:ARG:C	23:LW:92:TRP:H	2.24	0.46
29:Lc:139:ARG:NH1	29:Lc:139:ARG:HG3	2.27	0.46
47:S2:395:U:H2'	47:S2:396:G:O4'	2.15	0.46
48:SA:141:LYS:O	48:SA:142:LEU:HD23	2.15	0.46
65:SR:73:LEU:O	65:SR:76:LEU:HD22	2.16	0.46
73:SZ:40:ALA:HB2	73:SZ:70:LYS:HG2	1.97	0.46
1:LA:149:U:P	16:LP:49:ARG:HH12	2.38	0.46
1:LA:254:A:H2'	1:LA:255:A:C8	2.51	0.46
1:LA:597:G:H2'	1:LA:598:A:H8	1.81	0.46
1:LA:679:U:H2'	1:LA:680:G:C8	2.51	0.46
1:LA:952:A:H4'	1:LA:968:G:H22	1.80	0.46
1:LA:999:G:H2'	1:LA:1000:C:C6	2.50	0.46
1:LA:3180:A:H5'	17:LQ:116[A]:LYS:HB2	1.97	0.46
1:LA:3322:A:H2'	1:LA:3323:A:C8	2.50	0.46
5:LE:256:HIS:HA	5:LE:257:PRO:C	2.39	0.46
27:La:3:LYS:HD2	27:La:8:VAL:HG13	1.97	0.46
39:Lm:39:ARG:HG2	39:Lm:39:ARG:HH11	1.80	0.46
48:SA:17:PHE:CE1	48:SA:21:LEU:HD23	2.51	0.46
48:SA:40:ARG:HH21	48:SA:49:ILE:HG13	1.80	0.46
48:SA:106:LYS:HE3	48:SA:106:LYS:HB3	1.74	0.46
49:SB:84:LYS:H	49:SB:84:LYS:HG3	1.59	0.46
49:SB:107:LYS:O	49:SB:111:VAL:HG23	2.15	0.46
55:SH:38:VAL:HG23	55:SH:42:TYR:HB3	1.96	0.46
55:SH:134:ARG:HB2	55:SH:136:GLN:NE2	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SQ:194:ASN:ND2	64:SQ:211:HIS:HA	2.30	0.46
65:SR:115:ILE:HD13	65:SR:208:GLU:HG2	1.98	0.46
66:SS:155:LYS:HD3	66:SS:155:LYS:HA	1.80	0.46
69:SV:141:ARG:HG3	69:SV:142:LYS:N	2.30	0.46
81:Bb:25:C:C2	81:Bb:26:G:C8	3.04	0.46
81:Bb:42:G:H2'	81:Bb:43:G:C8	2.51	0.46
1:LA:3268:A:H3'	1:LA:3269:U:H2'	1.98	0.46
1:LA:3292:A:H4'	5:LE:132:LYS:NZ	2.31	0.46
1:LA:3332:U:H2'	1:LA:3333:G:O4'	2.15	0.46
2:LB:57:G:H4'	13:LM:138:VAL:HG11	1.98	0.46
10:LJ:74:THR:O	10:LJ:77:GLN:HG2	2.15	0.46
10:LJ:157:VAL:HG21	10:LJ:163:VAL:HG22	1.96	0.46
13:LM:71:VAL:HG21	13:LM:79:ILE:HD12	1.97	0.46
15:LO:6:ILE:HD12	15:LO:6:ILE:O	2.15	0.46
47:S2:495:C:H4'	47:S2:496:G:N7	2.31	0.46
47:S2:551:G:H2'	47:S2:552:G:H8	1.80	0.46
47:S2:771:A:H3'	47:S2:772:G:H8	1.80	0.46
47:S2:1107:G:O2'	47:S2:1108:G:H5'	2.16	0.46
47:S2:1211:A:H2'	47:S2:1212:G:O4'	2.15	0.46
47:S2:1280:C:H2'	47:S2:1281:G:H8	1.80	0.46
47:S2:1619:C:H2'	47:S2:1620:C:H6	1.80	0.46
52:SE:76:VAL:O	52:SE:94:VAL:HA	2.16	0.46
58:SK:59:TYR:CZ	58:SK:61:SER:HB2	2.51	0.46
59:SL:19:THR:HG21	59:SL:27:GLN:HG2	1.97	0.46
1:LA:422:A:C2	1:LA:2363:A:H4'	2.51	0.46
1:LA:1340:G:H2'	1:LA:1341:U:H6	1.80	0.46
1:LA:1856:C:H2'	1:LA:1857:C:H6	1.81	0.46
2:LB:16:U:H2'	2:LB:17:A:C8	2.50	0.46
9:LI:138:TYR:CE2	9:LI:233:GLU:HG3	2.51	0.46
20:LT:163:ARG:HG2	20:LT:167:ARG:NH1	2.31	0.46
29:Lc:34:MET:HE3	29:Lc:34:MET:HB3	1.88	0.46
47:S2:882:U:H2'	47:S2:883:C:C6	2.51	0.46
47:S2:886:U:H2'	47:S2:887:A:C8	2.50	0.46
47:S2:1545:A:H2'	47:S2:1546:G:H8	1.80	0.46
47:S2:1649:G:H2'	47:S2:1650:U:C6	2.50	0.46
51:SD:59:LEU:HB2	51:SD:123:VAL:HB	1.98	0.46
64:SQ:205:PHE:CD2	64:SQ:206:PRO:HD2	2.51	0.46
69:SV:113:PHE:HE2	69:SV:121:LEU:HD21	1.80	0.46
70:SW:175:ARG:O	70:SW:179:ARG:HG2	2.16	0.46
1:LA:1046:A:H2'	1:LA:1049:C:C5	2.51	0.46
1:LA:1740:U:H1'	1:LA:1741:A:H2	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2103:U:H2'	1:LA:2104:A:C8	2.50	0.46
1:LA:2444:C:H4'	1:LA:2445:A:O5'	2.15	0.46
1:LA:2683:U:H2'	1:LA:2684:C:C6	2.51	0.46
1:LA:3044:G:H2'	1:LA:3045:G:C8	2.51	0.46
1:LA:3270:U:C4	18:LR:175:ARG:HA	2.51	0.46
1:LA:3295:A:H2'	1:LA:3296:A:H8	1.77	0.46
8:LH:70:LYS:HB2	8:LH:70:LYS:HE3	1.66	0.46
8:LH:82:ARG:HD2	8:LH:82:ARG:HA	1.69	0.46
13:LM:17:LEU:HD23	13:LM:129:VAL:HG22	1.97	0.46
17:LQ:46[A]:GLU:HG3	17:LQ:48[A]:PHE:N	2.30	0.46
32:Lf:39:PHE:CZ	32:Lf:43:HIS:CE1	3.04	0.46
46:Cc:72:C:H2'	46:Cc:73:A:C8	2.51	0.46
47:S2:371:G:H1'	75:Sb:88:LYS:HG3	1.97	0.46
47:S2:511:A:H4'	47:S2:512:A:OP1	2.15	0.46
47:S2:539:G:C2'	47:S2:540:G:H21	2.29	0.46
47:S2:762:A:OP2	47:S2:763:G:H8	1.99	0.46
51:SD:70:ASN:O	51:SD:73:LYS:HG2	2.15	0.46
66:SS:127:LYS:HA	66:SS:127:LYS:HD2	1.76	0.46
1:LA:1176:C:H2'	1:LA:1177:G:N2	2.30	0.46
1:LA:2585:G:N3	1:LA:2585:G:H2'	2.30	0.46
28:Lb:70:PRO:HG3	28:Lb:115:LYS:HB2	1.98	0.46
47:S2:372:G:H5"	47:S2:373:G:OP2	2.16	0.46
47:S2:1225:U:H3'	47:S2:1226:A:H8	1.80	0.46
48:SA:196:ARG:HE	48:SA:196:ARG:N	2.13	0.46
49:SB:157:ARG:HB3	49:SB:224:ASN:ND2	2.30	0.46
53:SF:97:VAL:HG12	53:SF:98:ASP:H	1.80	0.46
53:SF:106:LYS:O	53:SF:110:THR:HG23	2.16	0.46
57:SJ:21:LYS:HE3	57:SJ:21:LYS:HB3	1.75	0.46
65:SR:39:THR:HG22	65:SR:41:LEU:H	1.81	0.46
66:SS:86:PHE:CE2	66:SS:184:THR:HG21	2.51	0.46
67:ST:199:GLN:HG3	67:ST:202:ARG:HH11	1.80	0.46
69:SV:48:THR:HG21	69:SV:54:LYS:HG3	1.98	0.46
74:Sa:37:ALA:HA	74:Sa:50:TYR:HB3	1.98	0.46
1:LA:541:U:H2'	1:LA:542:G:C8	2.51	0.45
5:LE:53:MET:HE2	5:LE:53:MET:HB3	1.84	0.45
5:LE:62:ARG:HA	5:LE:63:PRO:HD3	1.85	0.45
9:LI:121:LYS:HB2	22:LV:133:ALA:HB3	1.97	0.45
19:LS:11:LYS:HE2	19:LS:11:LYS:HB3	1.67	0.45
47:S2:38:C:H4'	70:SW:6:ARG:NH2	2.23	0.45
47:S2:97:C:H2'	47:S2:98:U:H6	1.81	0.45
47:S2:1770:U:H2'	47:S2:1771:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SA:42:THR:HG22	57:SJ:108:ILE:HG21	1.97	0.45
54:SG:60:ARG:HB3	54:SG:66:VAL:HG11	1.98	0.45
55:SH:68:ARG:NH1	55:SH:68:ARG:HB2	2.31	0.45
66:SS:95:THR:HG22	77:Sd:16:PRO:HD2	1.98	0.45
66:SS:162:ILE:HD12	66:SS:164:LEU:H	1.81	0.45
76:Sc:3:LYS:HE2	76:Sc:7:ARG:HH21	1.81	0.45
1:LA:117:U:H1'	1:LA:119:U:OP2	2.17	0.45
1:LA:916:G:H5'	1:LA:917:A:OP1	2.17	0.45
1:LA:928:C:H2'	1:LA:929:A:H8	1.79	0.45
1:LA:947:G:H5"	33:Lg:55:ILE:HB	1.98	0.45
1:LA:1168:U:H2'	1:LA:1169:A:H8	1.80	0.45
1:LA:1646:G:H1'	1:LA:1809:A:H61	1.81	0.45
1:LA:1896:A:N6	1:LA:2339:C:H42	2.12	0.45
1:LA:2426:U:H2'	1:LA:2427:U:C6	2.52	0.45
1:LA:2523:A:H5"	10:LJ:51:LYS:HB2	1.97	0.45
1:LA:3113:A:O2'	11:LK:69:ARG:HB3	2.16	0.45
5:LE:126:LYS:HE2	5:LE:126:LYS:HB3	1.74	0.45
17:LQ:73[A]:PHE:HB3	17:LQ:78[A]:ARG:HB3	1.98	0.45
47:S2:14:C:H2'	47:S2:15:U:C6	2.51	0.45
47:S2:201:G:H2'	47:S2:202:A:C8	2.51	0.45
47:S2:495:C:H4'	47:S2:496:G:C8	2.51	0.45
47:S2:859:A:C5	72:SY:73:ARG:HD2	2.51	0.45
73:SZ:46:MET:HE2	73:SZ:46:MET:HB3	1.82	0.45
75:Sb:36:LYS:O	75:Sb:40:VAL:HG23	2.15	0.45
1:LA:72:C:H1'	14:LN:61:PRO:O	2.16	0.45
1:LA:266:A:C6	37:Lk:30:LYS:HA	2.51	0.45
1:LA:1341:U:H2'	1:LA:1342:C:C6	2.52	0.45
1:LA:2999:U:H2'	1:LA:3000:A:C8	2.51	0.45
2:LB:45:A:H2'	2:LB:46:A:H8	1.80	0.45
4:LD:48:ILE:HD11	4:LD:82:VAL:HG12	1.99	0.45
8:LH:42:LEU:HD12	8:LH:47:PHE:HB2	1.99	0.45
10:LJ:94:PHE:CE1	10:LJ:200:LEU:HD12	2.51	0.45
12:LL:36:LEU:HD12	12:LL:87:LEU:HD23	1.97	0.45
13:LM:19:LEU:HD11	13:LM:79:ILE:HG21	1.98	0.45
24:LX:114:ILE:HB	24:LX:133:SER:HA	1.98	0.45
25:LY:6:ASP:HB3	25:LY:10:GLY:N	2.31	0.45
47:S2:639:U:H4'	47:S2:640:U:O5'	2.16	0.45
47:S2:1390:U:C6	54:SG:3:ARG:HG2	2.51	0.45
56:SI:107:ALA:O	56:SI:111:ILE:HG12	2.16	0.45
63:SP:73:VAL:HG13	63:SP:120:LEU:HD23	1.97	0.45
65:SR:39:THR:HG22	65:SR:41:LEU:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SW:71:PHE:C	70:SW:71:PHE:CD2	2.94	0.45
1:LA:1945:A:H2'	1:LA:1946:A:C8	2.51	0.45
1:LA:3113:A:H4'	11:LK:69:ARG:HG2	1.99	0.45
3:LC:62:C:H5'	36:Lj:45:LYS:NZ	2.32	0.45
3:LC:67:U:H2'	3:LC:68:G:H8	1.82	0.45
4:LD:118:GLU:OE1	4:LD:156:LYS:HE3	2.15	0.45
5:LE:29:VAL:HG13	5:LE:339:ARG:HE	1.81	0.45
11:LK:21:LYS:HG3	11:LK:22:SER:H	1.82	0.45
13:LM:49:LYS:HB3	13:LM:49:LYS:HE3	1.64	0.45
17:LQ:4[A]:GLU:HG3	17:LQ:5[A]:PRO:HD2	1.99	0.45
47:S2:537:G:H5'	47:S2:538:A:OP2	2.15	0.45
49:SB:44:ASN:HB2	49:SB:45:LYS:HD2	1.99	0.45
49:SB:126:ASP:HB2	58:SK:58:ARG:NH2	2.31	0.45
61:SN:117:LEU:HG	61:SN:118:ARG:HD3	1.97	0.45
64:SQ:88:VAL:HG22	64:SQ:98:THR:HG22	1.98	0.45
67:ST:36:VAL:HG13	67:ST:50:PHE:HB2	1.98	0.45
71:SX:6:THR:HG23	71:SX:9:SER:HB3	1.99	0.45
1:LA:745:C:H2'	1:LA:746:A:C8	2.50	0.45
1:LA:1009:A:N1	1:LA:1041:U:H5	2.14	0.45
1:LA:2863:G:OP1	12:LL:107:GLY:HA2	2.16	0.45
1:LA:2930:A:H2'	1:LA:2931:C:C6	2.52	0.45
9:LI:176:TYR:HB3	9:LI:194:HIS:CG	2.52	0.45
9:LI:184:LEU:O	9:LI:188:ILE:HG12	2.16	0.45
14:LN:43:ALA:HB2	14:LN:51:LEU:HD12	1.98	0.45
15:LO:17:VAL:HG12	15:LO:72:LEU:HB3	1.97	0.45
20:LT:108:LYS:HB2	20:LT:108:LYS:HE2	1.83	0.45
22:LV:94:GLU:H	22:LV:94:GLU:CD	2.24	0.45
47:S2:330:G:H2'	47:S2:331:A:H8	1.81	0.45
47:S2:607:G:H5'	47:S2:613:G:N2	2.32	0.45
47:S2:817:A:H2'	47:S2:818:C:C6	2.51	0.45
47:S2:1196:A:H4'	47:S2:1197:C:H5"	1.98	0.45
50:SC:14:TYR:HD2	50:SC:35:ILE:HG12	1.80	0.45
53:SF:69:VAL:HG21	53:SF:81:ILE:HD11	1.97	0.45
62:SO:172:ALA:HB2	62:SO:202:LEU:HD21	1.99	0.45
62:SO:223:TRP:HD1	62:SO:230:ALA:HB2	1.80	0.45
67:ST:7:TYR:HE1	67:ST:9:VAL:HB	1.82	0.45
69:SV:93:THR:HG23	69:SV:95:THR:HG22	1.98	0.45
70:SW:126:ARG:HG2	80:Sg:33:ARG:HD3	1.98	0.45
1:LA:208:C:H2'	1:LA:209:A:O4'	2.17	0.45
1:LA:263:C:H2'	1:LA:264:G:O4'	2.16	0.45
1:LA:2428:U:H2'	1:LA:2429:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2676:A:H5'	1:LA:2677:G:C8	2.50	0.45
1:LA:3006:A:C2	1:LA:3141:A:C4	3.05	0.45
1:LA:3073:A:H2'	1:LA:3074:G:O4'	2.17	0.45
1:LA:3322:A:H2'	1:LA:3323:A:H8	1.80	0.45
9:LI:163:LEU:HD13	9:LI:169:ILE:HD11	1.99	0.45
11:LK:23:ARG:HG2	11:LK:38:LEU:O	2.17	0.45
12:LL:86:HIS:HB3	12:LL:139:ARG:HG2	1.98	0.45
20:LT:163:ARG:HG2	20:LT:167:ARG:CZ	2.46	0.45
26:LZ:57:LEU:HD12	26:LZ:57:LEU:HA	1.77	0.45
31:Le:42:ILE:O	31:Le:42:ILE:HG13	2.16	0.45
32:Lf:14:ILE:HG13	32:Lf:19:ARG:NH2	2.30	0.45
39:Lm:12:LEU:O	39:Lm:15:THR:HG22	2.17	0.45
47:S2:107:C:H2'	47:S2:108:A:C8	2.52	0.45
47:S2:590:C:H2'	47:S2:591:A:C8	2.51	0.45
47:S2:1545:A:H2'	47:S2:1546:G:C8	2.52	0.45
51:SD:66:VAL:HG13	51:SD:67:THR:N	2.31	0.45
55:SH:31:ALA:O	55:SH:34:THR:HG22	2.15	0.45
61:SN:136:LYS:HG3	61:SN:136:LYS:O	2.15	0.45
65:SR:134:LEU:HD23	65:SR:134:LEU:HA	1.85	0.45
66:SS:246:LEU:HD12	66:SS:251:GLU:HG2	1.97	0.45
70:SW:172:VAL:O	70:SW:175:ARG:HG3	2.16	0.45
81:Bb:72:C:H2'	81:Bb:73:A:C4	2.52	0.45
1:LA:112:U:OP1	36:Lj:107:LYS:HE3	2.16	0.45
1:LA:266:A:H8	1:LA:266:A:O5'	2.00	0.45
1:LA:816:A:H5'	1:LA:906:A:N6	2.32	0.45
1:LA:1135:A:H5'	30:Ld:7:HIS:O	2.17	0.45
1:LA:1503:A:C4	1:LA:1504:A:C8	3.04	0.45
1:LA:2155:G:H2'	1:LA:2156:C:C6	2.51	0.45
24:LX:84:SER:HA	24:LX:94:TYR:HB3	1.98	0.45
47:S2:93:A:H61	47:S2:396:G:H1'	1.81	0.45
47:S2:1067:C:H5"	64:SQ:150:VAL:H	1.81	0.45
48:SA:74:GLN:NE2	48:SA:82:GLY:H	2.15	0.45
49:SB:142:PRO:HB2	49:SB:217:LEU:HD11	1.99	0.45
52:SE:38:PRO:O	52:SE:42:ARG:HG3	2.17	0.45
56:SI:100:ILE:O	56:SI:104:VAL:HG23	2.16	0.45
70:SW:58:ASP:O	70:SW:61:THR:HG22	2.17	0.45
74:Sa:12:TYR:CG	74:Sa:12:TYR:O	2.69	0.45
75:Sb:111:MET:HE2	75:Sb:111:MET:HB3	1.76	0.45
1:LA:142:C:H2'	1:LA:143:G:O4'	2.16	0.45
1:LA:230:U:H2'	1:LA:231:G:O4'	2.16	0.45
1:LA:300:G:H2'	1:LA:301:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1813:A:H5'	1:LA:1814:A:OP2	2.17	0.45
1:LA:2536:A:N7	64:SQ:228:LEU:HD13	2.31	0.45
1:LA:3259:U:H5"	1:LA:3261:C:H5	1.81	0.45
1:LA:3383:G:H21	32:Lf:105:GLN:HG2	1.82	0.45
3:LC:154:C:H5"	10:LJ:181:LYS:HG2	1.99	0.45
16:LP:158:HIS:HB3	16:LP:161:ALA:HB3	1.98	0.45
31:Le:9:SER:O	31:Le:13:LYS:HD3	2.16	0.45
33:Lg:76:VAL:HG13	33:Lg:81:ASP:HB2	1.99	0.45
37:Lk:5:THR:HG23	37:Lk:7:ILE:H	1.81	0.45
47:S2:256:A:H3'	47:S2:257:A:H8	1.80	0.45
47:S2:625:C:H2'	47:S2:626:U:C6	2.52	0.45
47:S2:1147:A:H2'	47:S2:1148:C:C6	2.52	0.45
47:S2:1363:U:H3'	47:S2:1364:G:C8	2.51	0.45
47:S2:1775:U:H2'	47:S2:1776:A:H8	1.81	0.45
49:SB:216:GLU:O	49:SB:220:VAL:HG13	2.16	0.45
51:SD:66:VAL:HG13	51:SD:67:THR:H	1.81	0.45
55:SH:116:LEU:HB3	55:SH:124:GLY:HA3	1.99	0.45
57:SJ:98:GLN:HG2	57:SJ:99:ILE:H	1.82	0.45
59:SL:9:LEU:HD22	59:SL:33:LEU:HD11	1.99	0.45
66:SS:125:LYS:HE3	66:SS:127:LYS:HE3	1.98	0.45
67:ST:185:GLN:HA	67:ST:188:ARG:HG2	1.99	0.45
70:SW:48:GLN:HA	70:SW:51:LYS:HG2	1.99	0.45
70:SW:51:LYS:HA	70:SW:54:ARG:HD2	1.98	0.45
1:LA:585:A:H2'	1:LA:586:C:C6	2.51	0.45
1:LA:1251:A:H61	1:LA:1263:A:H61	1.65	0.45
1:LA:1828:A:H2'	1:LA:1829:G:C8	2.52	0.45
1:LA:2636:A:H5'	1:LA:2637:A:H5"	1.99	0.45
1:LA:3127:A:H2'	1:LA:3128:G:O4'	2.16	0.45
2:LB:84:A:H2'	2:LB:85:G:C8	2.52	0.45
6:LF:177:ASP:HB3	6:LF:205:PRO:HD3	1.98	0.45
11:LK:112:ILE:HB	11:LK:126:VAL:HG23	1.99	0.45
21:LU:40:ARG:HA	21:LU:40:ARG:HD2	1.66	0.45
47:S2:333:A:N6	69:SV:27:PHE:HB2	2.32	0.45
47:S2:398:G:P	69:SV:47:ARG:HH12	2.39	0.45
47:S2:423:G:OP2	47:S2:423:G:H8	2.00	0.45
47:S2:1183:A:O2'	47:S2:1210:C:H4'	2.16	0.45
48:SA:96:LEU:HD22	48:SA:190:ARG:HB3	1.98	0.45
56:SI:42:GLY:HA3	56:SI:94:ILE:HG12	1.98	0.45
58:SK:99:ALA:HB1	58:SK:101:TYR:CE1	2.50	0.45
67:ST:187:LYS:HG3	67:ST:188:ARG:N	2.31	0.45
70:SW:113:VAL:HG22	70:SW:118:LEU:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Sb:5:SER:HB3	75:Sb:8:ALA:HB3	1.99	0.45
1:LA:157:A:N7	37:Lk:26:ILE:HG12	2.32	0.45
1:LA:1030:A:H2'	1:LA:1030:A:N3	2.32	0.45
1:LA:1062:A:H5"	1:LA:1063:G:H5'	1.98	0.45
1:LA:2283:G:H1'	1:LA:2285:C:N4	2.32	0.45
8:LH:40:LEU:HD11	8:LH:54:TYR:HB2	1.99	0.45
11:LK:86:TYR:CE2	11:LK:151:VAL:HB	2.52	0.45
26:LZ:98:ALA:O	26:LZ:102:LEU:HB2	2.17	0.45
27:La:113:LYS:HB2	27:La:113:LYS:HE2	1.82	0.45
47:S2:1321:A:H4'	47:S2:1322:A:H5'	1.99	0.45
63:SP:10:THR:HG23	63:SP:12:GLU:HG2	1.99	0.45
66:SS:87:MET:HE1	66:SS:236:ILE:HD13	1.97	0.45
68:SU:127:GLU:HG2	68:SU:135:ILE:HG13	1.97	0.45
69:SV:113:PHE:CE2	69:SV:121:LEU:HD21	2.52	0.45
1:LA:430:U:H2'	1:LA:431:U:C6	2.51	0.44
1:LA:787:G:H2'	1:LA:788:C:C6	2.52	0.44
1:LA:1107:C:O2'	1:LA:1108:U:H5"	2.17	0.44
1:LA:2427:U:H2'	1:LA:2428:U:C6	2.52	0.44
1:LA:2897:A:H2'	1:LA:2899:C:O5'	2.16	0.44
3:LC:30:C:H2'	3:LC:31:G:H8	1.82	0.44
6:LF:54:GLU:OE1	6:LF:54:GLU:N	2.44	0.44
13:LM:37:LEU:HD23	13:LM:69:VAL:HG12	1.97	0.44
18:LR:88:VAL:O	18:LR:92:GLN:HG2	2.16	0.44
47:S2:1003:A:H1'	47:S2:1005:A:N7	2.32	0.44
47:S2:1317:C:H2'	47:S2:1318:G:O4'	2.17	0.44
47:S2:1787:C:H2'	47:S2:1788:G:H8	1.82	0.44
48:SA:40:ARG:HB3	48:SA:47:GLU:HG2	2.00	0.44
52:SE:72:LYS:HA	52:SE:72:LYS:HD2	1.76	0.44
64:SQ:144:ARG:HD3	64:SQ:208:GLN:HB3	1.98	0.44
1:LA:834:U:H2'	1:LA:835:G:O4'	2.18	0.44
1:LA:2292:U:H2'	1:LA:2293:C:C6	2.52	0.44
1:LA:3113:A:H2'	1:LA:3114:A:O4'	2.18	0.44
4:LD:149:ARG:HG3	4:LD:149:ARG:NH1	2.27	0.44
7:LG:108:ARG:CZ	7:LG:253:PHE:HB2	2.47	0.44
29:Lc:99:ALA:HB1	29:Lc:123:VAL:HA	1.98	0.44
30:Ld:47:LEU:HA	30:Ld:50:THR:HG22	1.98	0.44
37:Lk:86:LYS:HD2	37:Lk:90:MET:HE3	1.99	0.44
46:Cc:43:G:H2'	46:Cc:44:A:H8	1.81	0.44
47:S2:918:U:H4'	73:SZ:18:ARG:HD2	1.99	0.44
47:S2:1046:G:H2'	47:S2:1047:G:C8	2.53	0.44
60:SM:21:CYS:HB3	60:SM:26:SER:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SO:130:THR:O	62:SO:131:ILE:HD13	2.18	0.44
70:SW:60:LEU:HD11	70:SW:93:LEU:HD11	1.99	0.44
77:Sd:76:TYR:HE2	77:Sd:85:PHE:HB2	1.83	0.44
79:Sf:24:LEU:HD23	79:Sf:24:LEU:HA	1.83	0.44
1:LA:829:U:H3	1:LA:895:A:H62	1.63	0.44
1:LA:843:A:H2'	1:LA:844:G:H8	1.83	0.44
1:LA:2746:A:C6	7:LG:153:THR:HG21	2.53	0.44
1:LA:3337:G:H2'	1:LA:3338:C:H6	1.82	0.44
5:LE:105:VAL:HG21	5:LE:148:LEU:HD23	2.00	0.44
7:LG:143:LYS:HD3	7:LG:145:PHE:CZ	2.52	0.44
28:Lb:121:ARG:HE	28:Lb:121:ARG:HB2	1.54	0.44
33:Lg:32:TRP:CZ2	33:Lg:53:PRO:HD2	2.52	0.44
47:S2:17:C:H2'	47:S2:18:C:C6	2.52	0.44
47:S2:399:A:H4'	66:SS:3:ARG:HG2	1.98	0.44
47:S2:534:A:H2'	47:S2:535:A:O4'	2.18	0.44
47:S2:990:C:H2'	47:S2:991:G:O4'	2.17	0.44
47:S2:1143:A:H1'	47:S2:1144:U:C5	2.48	0.44
47:S2:1647:U:H2'	47:S2:1648:A:C8	2.52	0.44
48:SA:162:GLN:N	48:SA:163:PRO:HD2	2.33	0.44
49:SB:25:LEU:HD21	53:SF:61:SER:HA	1.99	0.44
49:SB:148:ARG:HH21	59:SL:22:ARG:HB2	1.81	0.44
62:SO:193:ILE:HG13	62:SO:194:GLY:N	2.32	0.44
62:SO:209:THR:HG22	62:SO:210:LEU:HD23	1.98	0.44
66:SS:71:LYS:HG2	66:SS:91:THR:CG2	2.47	0.44
70:SW:90:LYS:HB2	70:SW:90:LYS:HE2	1.79	0.44
1:LA:247:C:H2'	1:LA:248:U:O4'	2.17	0.44
1:LA:1567:U:H1'	1:LA:1571:A:N6	2.33	0.44
5:LE:152:LYS:HD3	5:LE:189:SER:HA	1.98	0.44
5:LE:215:ILE:HD13	5:LE:282:ILE:HD11	1.99	0.44
17:LQ:74[A]:ARG:HG3	17:LQ:145[A]:VAL:HG23	1.98	0.44
20:LT:177:VAL:O	20:LT:181:ARG:HG2	2.18	0.44
47:S2:527:A:H2'	47:S2:528:U:C6	2.52	0.44
47:S2:1039:A:H2'	47:S2:1040:G:C8	2.52	0.44
47:S2:1506:G:H2'	47:S2:1507:G:C8	2.53	0.44
48:SA:105:MET:HG3	48:SA:122:VAL:HG21	1.99	0.44
49:SB:54:LYS:HE2	49:SB:54:LYS:HB3	1.84	0.44
50:SC:52:LYS:HE3	50:SC:54:TYR:HE2	1.83	0.44
65:SR:140:ARG:HB3	65:SR:221:THR:HB	1.99	0.44
1:LA:686:G:H2'	1:LA:687:U:O4'	2.17	0.44
1:LA:1615:C:H2'	1:LA:1616:U:H6	1.82	0.44
1:LA:1822:C:H5"	35:Li:66:SER:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2407:C:H2'	1:LA:2408:U:C6	2.52	0.44
1:LA:2722:U:H2'	1:LA:2723:U:H6	1.81	0.44
1:LA:2988:C:OP1	17:LQ:68[A]:ARG:HD2	2.18	0.44
3:LC:27:U:H2'	3:LC:28:C:H6	1.83	0.44
16:LP:48:ALA:HB1	16:LP:53:TYR:HB3	1.99	0.44
17:LQ:110[A]:PRO:N	17:LQ:111[A]:PRO:HD2	2.32	0.44
18:LR:178:ALA:O	18:LR:182:ILE:HG12	2.18	0.44
19:LS:148:GLU:O	19:LS:151:ARG:HG2	2.16	0.44
21:LU:110:MET:HE3	21:LU:110:MET:HB3	1.81	0.44
25:LY:59:HIS:HB2	25:LY:61:LYS:HD2	2.00	0.44
26:LZ:81:ILE:HG12	26:LZ:125:ARG:HB2	1.99	0.44
31:Le:15:ALA:O	31:Le:18:ILE:HG22	2.17	0.44
43:Lq:65:THR:OG1	43:Lq:87:ARG:HB3	2.17	0.44
47:S2:165:G:H2'	47:S2:166:C:C6	2.52	0.44
47:S2:617:U:H2'	47:S2:618:U:C6	2.53	0.44
47:S2:925:G:H2'	47:S2:926:A:H8	1.82	0.44
47:S2:962:C:H2'	47:S2:963:A:O4'	2.18	0.44
54:SG:7:LYS:HG2	54:SG:11:ARG:NH2	2.32	0.44
57:SJ:98:GLN:HG2	57:SJ:99:ILE:N	2.33	0.44
66:SS:40:GLU:H	66:SS:40:GLU:HG2	1.64	0.44
67:ST:38:GLY:HA2	67:ST:41:VAL:HG12	2.00	0.44
69:SV:88:ASN:O	69:SV:91:VAL:HG12	2.18	0.44
72:SY:93:LYS:NZ	72:SY:93:LYS:HB3	2.32	0.44
74:Sa:71:ARG:HG2	74:Sa:71:ARG:NH1	2.31	0.44
79:Sf:48:SER:HB2	79:Sf:49:HIS:HD2	1.82	0.44
1:LA:34:A:H2'	1:LA:35:A:C8	2.52	0.44
1:LA:169:U:C4	1:LA:253:A:N1	2.85	0.44
1:LA:385:A:H2'	1:LA:386:A:C8	2.52	0.44
1:LA:526:C:H2'	1:LA:527:A:H8	1.83	0.44
1:LA:526:C:H2'	1:LA:527:A:C8	2.53	0.44
1:LA:846:A:H2'	1:LA:847:A:C8	2.53	0.44
1:LA:1363:A:H2'	1:LA:1364:C:O4'	2.17	0.44
1:LA:1482:A:C2	1:LA:1866:C:H2'	2.53	0.44
1:LA:2942:C:H5"	1:LA:2943:G:H5"	1.99	0.44
2:LB:26:C:H2'	2:LB:27:A:O4'	2.18	0.44
6:LF:234:ASN:HD22	6:LF:237:GLN:HG3	1.82	0.44
8:LH:43:LEU:HD22	34:Lh:102:LEU:HB2	1.98	0.44
10:LJ:73:PRO:O	10:LJ:77:GLN:HB3	2.17	0.44
10:LJ:146:LYS:HD2	10:LJ:146:LYS:HA	1.83	0.44
11:LK:89:LYS:HB3	11:LK:143:GLU:OE2	2.17	0.44
19:LS:170:ARG:HG2	19:LS:171:LYS:N	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LX:18:PRO:HA	24:LX:51:ALA:HA	1.98	0.44
24:LX:20:GLY:HA2	24:LX:35:TYR:CE1	2.53	0.44
28:Lb:9:LYS:HE3	28:Lb:9:LYS:HB3	1.69	0.44
28:Lb:89:VAL:HG12	28:Lb:93:LYS:HB3	1.98	0.44
33:Lg:102:ALA:O	33:Lg:106:VAL:HG13	2.17	0.44
47:S2:340:U:H2'	47:S2:341:A:H8	1.81	0.44
47:S2:803:A:N7	68:SU:104:ARG:HD2	2.33	0.44
47:S2:856:A:C6	68:SU:96:ARG:HB3	2.53	0.44
47:S2:1740:A:H61	76:Sc:39:LYS:NZ	2.15	0.44
52:SE:52:LYS:HE2	52:SE:52:LYS:HB2	1.66	0.44
68:SU:126:LEU:O	68:SU:130:VAL:HG22	2.18	0.44
70:SW:143:ILE:HD12	70:SW:143:ILE:O	2.17	0.44
73:SZ:16:VAL:O	73:SZ:30:VAL:HA	2.18	0.44
81:Bb:2:C:H2'	81:Bb:3:G:H8	1.82	0.44
1:LA:2444:C:H5"	1:LA:2445:A:OP1	2.18	0.44
3:LC:44:A:H2'	3:LC:45:C:C6	2.53	0.44
3:LC:47:C:H1'	3:LC:61:A:H2'	1.99	0.44
5:LE:73:VAL:HB	24:LX:90:GLY:HA3	1.99	0.44
7:LG:270:LYS:HE2	7:LG:270:LYS:HB2	1.67	0.44
9:LI:24:GLU:C	9:LI:25:GLN:HG3	2.43	0.44
11:LK:4:ILE:HD11	21:LU:150:PHE:CG	2.53	0.44
12:LL:176:LEU:HD11	12:LL:199:PHE:CE1	2.52	0.44
16:LP:124:ASP:OD2	16:LP:129:TYR:HE1	2.00	0.44
20:LT:90:PRO:O	20:LT:94:VAL:HG23	2.17	0.44
21:LU:24:LEU:HD11	21:LU:59:VAL:HG21	2.00	0.44
21:LU:90:MET:HE2	21:LU:90:MET:HB3	1.71	0.44
31:Le:44:ILE:HG21	31:Le:53:LYS:HG3	1.98	0.44
34:Lh:8:TYR:CG	34:Lh:99:ARG:HB3	2.53	0.44
46:Cc:52:C:H2'	46:Cc:53:G:C8	2.53	0.44
47:S2:1516:A:C8	57:SJ:58:LEU:HD22	2.53	0.44
47:S2:1590:G:OP1	56:SI:91:TYR:HB2	2.18	0.44
47:S2:1789:G:H2'	47:S2:1790:A:H8	1.83	0.44
48:SA:151:LYS:HE2	48:SA:151:LYS:HB2	1.74	0.44
49:SB:125:THR:HG22	49:SB:127:GLN:OE1	2.18	0.44
65:SR:57:PHE:HE2	65:SR:110:HIS:HD2	1.64	0.44
70:SW:40:LYS:HB2	70:SW:40:LYS:HE3	1.83	0.44
76:Sc:88:PRO:HD3	76:Sc:124:VAL:HG22	2.00	0.44
79:Sf:35:VAL:HG12	79:Sf:79:PHE:HB3	2.00	0.44
1:LA:733:G:H22	1:LA:736:A:H62	1.66	0.44
1:LA:765:C:H41	14:LN:176:GLU:HG2	1.83	0.44
1:LA:1153:A:O2'	1:LA:1154:A:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1448:U:H2'	1:LA:1449:A:H8	1.82	0.44
1:LA:2672:G:N3	1:LA:2672:G:H2'	2.32	0.44
1:LA:2947:G:C2	5:LE:250:ALA:HB1	2.53	0.44
6:LF:157:GLU:HG2	6:LF:209:TYR:HB2	1.98	0.44
10:LJ:29:SER:C	10:LJ:31:PRO:HD3	2.43	0.44
18:LR:31:GLU:HA	18:LR:31:GLU:OE2	2.18	0.44
19:LS:176:ARG:HA	19:LS:182:LYS:O	2.18	0.44
22:LV:137:GLU:HG3	22:LV:138:SER:H	1.83	0.44
28:Lb:95:VAL:O	28:Lb:100:THR:HG21	2.18	0.44
47:S2:305:C:H2'	47:S2:306:U:C6	2.53	0.44
47:S2:373:G:OP1	71:SX:96:LYS:HG3	2.18	0.44
48:SA:21:LEU:HD12	48:SA:22:ASN:N	2.33	0.44
48:SA:27:ARG:HB3	50:SC:58:GLN:OE1	2.17	0.44
49:SB:84:LYS:HA	49:SB:87:CYS:HB3	2.00	0.44
52:SE:83:MET:HE2	52:SE:83:MET:HB3	1.83	0.44
62:SO:20:VAL:HG21	62:SO:304:GLY:HA3	2.00	0.44
62:SO:111:MET:HE1	62:SO:127:ARG:N	2.32	0.44
71:SX:101:GLU:HG3	76:Sc:13:ARG:NH2	2.32	0.44
79:Sf:35:VAL:CG2	79:Sf:63:LEU:HD23	2.48	0.44
1:LA:238:A:H62	1:LA:239:G:N2	2.10	0.44
1:LA:1771:C:H2'	1:LA:1772:U:O4'	2.17	0.44
1:LA:2419:A:H2'	1:LA:2420:C:C6	2.53	0.44
1:LA:2496:C:H2'	1:LA:2497:U:C5	2.53	0.44
3:LC:38:U:H5'	36:Lj:78:LYS:HD3	1.99	0.44
6:LF:302:ALA:HB2	19:LS:39:ARG:CZ	2.48	0.44
10:LJ:196:ALA:O	10:LJ:197:VAL:HG23	2.17	0.44
13:LM:91:LEU:HD12	13:LM:163:PHE:CZ	2.53	0.44
21:LU:80:ARG:HB3	21:LU:124:LEU:HD21	1.99	0.44
43:Lq:25:VAL:HG12	43:Lq:93:LEU:HD11	1.99	0.44
47:S2:1219:A:H62	47:S2:1264:G:N2	2.12	0.44
62:SO:155:ARG:O	62:SO:170:ILE:HG13	2.17	0.44
75:Sb:90:THR:O	75:Sb:94:LEU:HB2	2.18	0.44
77:Sd:98:GLU:HA	77:Sd:98:GLU:OE2	2.18	0.44
1:LA:114:A:H2'	1:LA:115:A:O4'	2.18	0.43
1:LA:500:C:H2'	1:LA:501:A:C8	2.52	0.43
1:LA:1195:A:H2'	1:LA:1309:U:O2	2.18	0.43
1:LA:1616:U:H2'	1:LA:1617:G:C8	2.53	0.43
1:LA:1717:U:H2'	1:LA:1718:G:H8	1.80	0.43
1:LA:1809:A:P	28:Lb:65:ARG:HH12	2.41	0.43
1:LA:2106:A:H2'	1:LA:2107:A:H8	1.82	0.43
1:LA:2680:A:C2	13:LM:24:GLY:HA2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LF:233:LEU:HA	6:LF:233:LEU:HD23	1.71	0.43
7:LG:22:ARG:HE	7:LG:27:LYS:HB2	1.83	0.43
18:LR:24:VAL:HG21	18:LR:87:SER:HA	1.99	0.43
19:LS:83:VAL:O	19:LS:103:ALA:HA	2.18	0.43
23:LW:90:ARG:O	23:LW:91:ASP:HB3	2.17	0.43
29:Lc:79:TRP:CE3	29:Lc:82:ILE:HD13	2.53	0.43
34:Lh:8:TYR:CD1	34:Lh:99:ARG:HB3	2.53	0.43
47:S2:272:U:O2'	47:S2:273:G:H8	2.01	0.43
47:S2:325:G:H2'	47:S2:326:G:H8	1.82	0.43
47:S2:1415:U:H2'	47:S2:1416:G:H8	1.83	0.43
47:S2:1767:G:OP1	47:S2:1770:U:H4'	2.18	0.43
64:SQ:153:HIS:ND1	64:SQ:154:SER:N	2.66	0.43
76:Sc:26:GLU:HB2	76:Sc:29:TYR:HB3	1.99	0.43
78:Se:53:LEU:O	78:Se:57:SER:HB2	2.18	0.43
1:LA:279:U:H2'	1:LA:280:U:C6	2.53	0.43
1:LA:1066:G:H2'	1:LA:1067:U:H6	1.82	0.43
1:LA:1381:A:H2'	1:LA:1382:G:C8	2.53	0.43
1:LA:1597:C:H2'	1:LA:1598:G:H8	1.82	0.43
1:LA:2218:G:H2'	1:LA:2219:A:C8	2.51	0.43
1:LA:3276:G:O2'	18:LR:175:ARG:HD2	2.18	0.43
4:LD:180:LEU:HD22	44:Lr:26:VAL:HG21	2.00	0.43
7:LG:268:GLU:O	7:LG:271:LYS:HG3	2.18	0.43
14:LN:51:LEU:O	14:LN:51:LEU:HD23	2.17	0.43
20:LT:95:TRP:CZ2	20:LT:99:LEU:HD22	2.53	0.43
47:S2:532:U:H4'	77:Sd:66:GLY:HA3	2.00	0.43
47:S2:565:C:H2'	47:S2:577:G:N3	2.33	0.43
47:S2:868:G:H1	47:S2:960:U:H3	1.65	0.43
47:S2:1054:U:C5	47:S2:1065:A:C2	3.07	0.43
47:S2:1395:G:H2'	47:S2:1396:U:C6	2.53	0.43
57:SJ:24:ILE:HD12	57:SJ:24:ILE:O	2.18	0.43
65:SR:230:TRP:CE2	75:Sb:68:ARG:HB3	2.52	0.43
66:SS:60:GLU:O	66:SS:64:ILE:HG13	2.18	0.43
69:SV:45:SER:HB3	69:SV:53:LYS:HZ1	1.83	0.43
70:SW:131:GLN:O	70:SW:132:ARG:HG2	2.18	0.43
1:LA:1800:A:H3'	1:LA:1801:U:O2	2.18	0.43
1:LA:1824:U:C2	1:LA:1825:G:C8	3.06	0.43
1:LA:2526:C:H2'	1:LA:2527:G:H8	1.82	0.43
1:LA:2609:A:H2'	1:LA:2610:G:C8	2.53	0.43
2:LB:108:A:H2'	2:LB:109:G:C8	2.53	0.43
5:LE:67:PHE:CE1	24:LX:88:ARG:HB2	2.53	0.43
6:LF:327:LEU:HD23	6:LF:327:LEU:HA	1.85	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LI:96:PRO:HB2	9:LI:99:PRO:HD2	2.00	0.43
10:LJ:93:LEU:O	10:LJ:96:LYS:HG2	2.19	0.43
18:LR:94:LEU:HD23	18:LR:94:LEU:HA	1.85	0.43
24:LX:32:ARG:HH22	47:S2:1734:U:H4'	1.82	0.43
28:Lb:87:LEU:HG	28:Lb:127:ASN:ND2	2.33	0.43
33:Lg:82:LEU:HD23	33:Lg:82:LEU:HA	1.83	0.43
41:Lo:111:ARG:HG3	41:Lo:112:LYS:HD2	1.99	0.43
47:S2:690:G:H2'	47:S2:691:C:C6	2.53	0.43
47:S2:859:A:C6	72:SY:73:ARG:HD2	2.52	0.43
47:S2:925:G:H2'	47:S2:926:A:C8	2.53	0.43
49:SB:77:TYR:CG	49:SB:87:CYS:HB2	2.53	0.43
54:SG:76:GLU:O	54:SG:79:GLU:HG3	2.18	0.43
55:SH:82:PRO:HG2	56:SI:36:ILE:HG12	2.00	0.43
57:SJ:108:ILE:N	57:SJ:108:ILE:HD12	2.34	0.43
62:SO:109:ASP:HB3	62:SO:127:ARG:HD2	2.01	0.43
63:SP:120:LEU:HD12	63:SP:142:PRO:HB2	2.00	0.43
66:SS:256:ARG:HD2	66:SS:256:ARG:HA	1.85	0.43
67:ST:199:GLN:HA	67:ST:202:ARG:HG2	1.99	0.43
74:Sa:1:MET:SD	74:Sa:10:GLU:HG2	2.58	0.43
1:LA:22:G:H1'	3:LC:104:A:N3	2.33	0.43
1:LA:1804:A:H2'	1:LA:1805:C:C6	2.54	0.43
1:LA:2830:G:H1'	1:LA:2861:U:C2	2.53	0.43
2:LB:7:G:H8	7:LG:22:ARG:HH11	1.65	0.43
3:LC:41:A:H4'	38:Ll:59:THR:HG23	2.00	0.43
11:LK:109:ALA:HB3	11:LK:111:PHE:CE1	2.53	0.43
18:LR:10:ASN:HB3	18:LR:13:LYS:HB2	1.99	0.43
39:Lm:5:ILE:HD12	39:Lm:5:ILE:HA	1.90	0.43
47:S2:783:G:H2'	47:S2:784:C:H6	1.83	0.43
47:S2:878:G:H2'	47:S2:879:G:H8	1.83	0.43
55:SH:101:LEU:H	55:SH:104:ASN:HB2	1.83	0.43
65:SR:188:LEU:HD12	65:SR:193:VAL:HG21	1.98	0.43
68:SU:162:ILE:HD11	68:SU:169:PHE:HZ	1.83	0.43
1:LA:915:A:H8	1:LA:2136:C:O2'	2.01	0.43
1:LA:992:A:O2'	1:LA:993:G:H5'	2.19	0.43
1:LA:1104:G:H2'	1:LA:1105:A:H8	1.84	0.43
1:LA:1781:C:H2'	1:LA:1782:U:C6	2.54	0.43
1:LA:2217:U:H2'	1:LA:2218:G:C8	2.52	0.43
1:LA:2428:U:H2'	1:LA:2429:G:C8	2.53	0.43
1:LA:2975:U:H2'	1:LA:2976:A:C8	2.53	0.43
1:LA:3159:C:H2'	1:LA:3160:U:C6	2.54	0.43
1:LA:3294:A:H2'	1:LA:3295:A:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:78:G:H1'	36:Lj:42:PRO:HG2	2.00	0.43
6:LF:42:VAL:HG12	6:LF:236:LEU:HD21	2.00	0.43
7:LG:279:LYS:HE2	7:LG:279:LYS:HB3	1.84	0.43
24:LX:32:ARG:NH2	47:S2:1734:U:H4'	2.33	0.43
39:Lm:25:VAL:HG21	39:Lm:66:ILE:HD11	2.00	0.43
40:Ln:12:LYS:HD3	40:Ln:12:LYS:HA	1.78	0.43
47:S2:548:G:C2	47:S2:549:G:H1'	2.53	0.43
47:S2:1388:A:H5"	54:SG:48:ASN:ND2	2.34	0.43
65:SR:161:LYS:HE3	65:SR:163:GLY:O	2.19	0.43
1:LA:697:A:H3'	1:LA:697:A:N3	2.33	0.43
1:LA:1001:G:O2'	1:LA:1040:A:H2'	2.18	0.43
1:LA:2243:A:C8	4:LD:245:LEU:HB2	2.54	0.43
1:LA:3176:G:N2	1:LA:3213:A:H1'	2.33	0.43
1:LA:3192:U:H2'	1:LA:3193:C:C6	2.53	0.43
5:LE:322:ILE:HG22	5:LE:324:VAL:HG13	2.00	0.43
9:LI:202:LEU:HD23	9:LI:202:LEU:HA	1.87	0.43
10:LJ:61:GLN:HB3	16:LP:28:TRP:CH2	2.54	0.43
19:LS:111:ARG:HA	19:LS:111:ARG:HD3	1.85	0.43
21:LU:13:ARG:O	21:LU:22:PRO:HG2	2.19	0.43
47:S2:236:A:H2'	47:S2:237:C:C6	2.54	0.43
49:SB:110:ALA:O	49:SB:114:ILE:HG22	2.18	0.43
62:SO:149:ASP:OD1	62:SO:175:ASP:HB2	2.19	0.43
66:SS:43:PRO:HB2	66:SS:45:ILE:HG22	1.99	0.43
71:SX:129:ARG:HG2	71:SX:130:PRO:HD2	2.00	0.43
77:Sd:76:TYR:CE2	77:Sd:85:PHE:HB2	2.53	0.43
1:LA:36:C:H4'	1:LA:808:A:C2	2.54	0.43
1:LA:1384:U:OP2	6:LF:202:ARG:HA	2.19	0.43
1:LA:1612:A:H5"	39:Lm:51:LEU:HD22	2.01	0.43
1:LA:1718:G:H2'	1:LA:1719:G:C8	2.54	0.43
1:LA:2412:G:H2'	1:LA:2413:A:C8	2.52	0.43
1:LA:2536:A:C4	64:SQ:227:ALA:HB3	2.53	0.43
1:LA:2708:C:H2'	1:LA:2709:C:H6	1.83	0.43
1:LA:3333:G:H22	1:LA:3369:G:H1'	1.83	0.43
2:LB:3:U:H2'	2:LB:4:U:C6	2.54	0.43
18:LR:48:LEU:HD22	18:LR:88:VAL:HG13	2.01	0.43
21:LU:8:GLN:HE21	21:LU:62:ASN:HB2	1.83	0.43
25:LY:60:LYS:HE3	25:LY:60:LYS:HA	2.01	0.43
30:Ld:41:ARG:HE	30:Ld:41:ARG:HB3	1.50	0.43
34:Lh:16:TYR:OH	34:Lh:91:ALA:HB2	2.19	0.43
35:Li:42:PRO:HG2	35:Li:54:ILE:HG21	2.01	0.43
47:S2:1564:U:H2'	47:S2:1565:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1613:U:H5'	49:SB:169:ASN:ND2	2.34	0.43
48:SA:141:LYS:C	48:SA:142:LEU:HD23	2.43	0.43
52:SE:29:SER:HB3	52:SE:32:ASP:OD2	2.19	0.43
55:SH:116:LEU:HB3	55:SH:124:GLY:CA	2.48	0.43
64:SQ:30:PHE:CD2	64:SQ:94:LYS:HA	2.54	0.43
1:LA:761:A:C2	1:LA:771:A:H1'	2.53	0.43
1:LA:843:A:H2'	1:LA:844:G:C8	2.54	0.43
1:LA:1108:U:H2'	1:LA:1109:U:H6	1.82	0.43
1:LA:1729:A:C6	31:Le:49:PRO:HD3	2.53	0.43
1:LA:1822:C:H2'	1:LA:1823:A:C8	2.52	0.43
1:LA:2430:A:H2'	1:LA:2431:C:C6	2.53	0.43
1:LA:2636:A:H5'	1:LA:2637:A:H5'	2.01	0.43
1:LA:2714:G:OP2	43:Lq:10:THR:HG22	2.19	0.43
1:LA:3260:G:H4'	15:LO:126:GLN:HA	2.00	0.43
10:LJ:166:LEU:HD23	10:LJ:166:LEU:HA	1.83	0.43
13:LM:21:ILE:HG22	13:LM:23:VAL:HG13	2.00	0.43
16:LP:165:THR:O	16:LP:169:LYS:HG3	2.18	0.43
17:LQ:23[A]:VAL:HG13	17:LQ:33[A]:ILE:HD12	2.01	0.43
19:LS:81:VAL:HG13	19:LS:140:LEU:HD13	2.00	0.43
21:LU:158:LYS:HE3	21:LU:158:LYS:HB3	1.67	0.43
28:Lb:57:HIS:HB2	28:Lb:62:VAL:HG23	2.00	0.43
31:Le:25:LEU:HD21	31:Le:81:VAL:HG11	1.99	0.43
42:Lp:1:MET:HE1	42:Lp:9:ARG:HD3	2.00	0.43
42:Lp:17:ARG:HH12	47:S2:1750:A:H4'	1.83	0.43
47:S2:448:C:H2'	47:S2:449:C:H6	1.84	0.43
47:S2:522:U:OP1	77:Sd:37:LYS:HG3	2.18	0.43
47:S2:996:U:H2'	47:S2:997:G:C8	2.54	0.43
47:S2:1010:C:H2'	47:S2:1011:G:O4'	2.19	0.43
47:S2:1652:C:H2'	47:S2:1653:C:H6	1.83	0.43
48:SA:142:LEU:HD12	48:SA:150:MET:HE1	2.01	0.43
63:SP:56:LYS:HB3	63:SP:56:LYS:HE2	1.80	0.43
65:SR:108:ASN:HB2	65:SR:141:ARG:NH2	2.34	0.43
66:SS:248:ILE:HG22	70:SW:71:PHE:CE1	2.53	0.43
76:Sc:95:PHE:O	76:Sc:127:VAL:HG21	2.19	0.43
77:Sd:41:ARG:HB3	77:Sd:55:VAL:HG13	2.00	0.43
1:LA:762:U:H3	1:LA:769:G:N2	2.17	0.43
1:LA:2875:U:H2'	1:LA:2945:G:O6	2.19	0.43
1:LA:2974:U:H2'	1:LA:2975:U:H6	1.83	0.43
3:LC:59:A:H5"	3:LC:61:A:C8	2.54	0.43
4:LD:112:ILE:HG13	44:Lr:79:VAL:HG22	2.01	0.43
6:LF:158:SER:HA	6:LF:213:ASN:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LN:88:ALA:O	14:LN:92:THR:HG23	2.19	0.43
15:LO:14:LEU:HD23	21:LU:151:PRO:HB3	2.00	0.43
16:LP:51:LEU:HD12	16:LP:119:TYR:HD2	1.83	0.43
17:LQ:62[A]:THR:HG22	17:LQ:65[A]:ASN:H	1.84	0.43
19:LS:35:PHE:CE1	19:LS:39:ARG:HD3	2.54	0.43
26:LZ:103:TYR:O	26:LZ:105:VAL:HG13	2.19	0.43
28:Lb:115:LYS:O	28:Lb:119:GLU:HG2	2.19	0.43
47:S2:920:U:H2'	47:S2:921:U:O4'	2.18	0.43
47:S2:1046:G:H2'	47:S2:1047:G:H8	1.83	0.43
52:SE:32:ASP:HA	52:SE:35:LYS:HG2	2.01	0.43
54:SG:5:ARG:HB2	54:SG:10:LYS:HE2	2.00	0.43
62:SO:305:TYR:HD2	62:SO:311:ARG:HH11	1.67	0.43
66:SS:242:LYS:HA	66:SS:242:LYS:HD3	1.89	0.43
69:SV:81:VAL:HG12	69:SV:91:VAL:HG23	1.99	0.43
70:SW:80:LEU:O	70:SW:83:VAL:HG12	2.18	0.43
71:SX:99:ARG:HD2	76:Sc:15:LEU:HD12	2.01	0.43
1:LA:243:G:H2'	1:LA:244:G:H8	1.84	0.43
1:LA:404:G:C5	1:LA:405:U:C5	3.07	0.43
1:LA:819:U:H2'	1:LA:820:A:H8	1.84	0.43
1:LA:1665:C:H2'	1:LA:1666:G:H8	1.84	0.43
1:LA:1709:C:H2'	1:LA:1710:C:H6	1.83	0.43
1:LA:2180:G:H2'	1:LA:2181:C:C6	2.54	0.43
1:LA:2416:U:H2'	1:LA:2417:U:C6	2.54	0.43
1:LA:3176:G:OP1	34:Lh:6:ARG:HD3	2.19	0.43
5:LE:117:ARG:HA	5:LE:175:LYS:HE3	2.01	0.43
24:LX:90:GLY:O	25:LY:16:GLY:HA2	2.19	0.43
36:Lj:43:LYS:O	36:Lj:46:THR:HG23	2.19	0.43
47:S2:40:A:H2'	47:S2:41:A:O4'	2.19	0.43
47:S2:141:U:C5	67:ST:183:ARG:HD3	2.54	0.43
47:S2:183:U:H2'	47:S2:184:C:C6	2.54	0.43
47:S2:328:A:H2'	47:S2:329:G:C8	2.54	0.43
47:S2:393:C:H2'	47:S2:394:C:C6	2.54	0.43
47:S2:1030:A:OP1	78:Se:3:LYS:HE3	2.19	0.43
47:S2:1449:U:C2'	47:S2:1450:U:H5"	2.49	0.43
47:S2:1556:A:H3'	52:SE:40:ARG:NH1	2.34	0.43
47:S2:1797:A:N6	78:Se:84:VAL:HB	2.34	0.43
49:SB:127:GLN:HE21	49:SB:132:VAL:HB	1.84	0.43
50:SC:1:MET:HE3	50:SC:44:LYS:HD3	2.01	0.43
52:SE:37:ALA:HB1	52:SE:41:VAL:HG11	2.01	0.43
65:SR:49:LYS:C	65:SR:50:ILE:HD13	2.44	0.43
65:SR:227:PRO:HA	65:SR:230:TRP:CD2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:ST:64:LYS:HB3	67:ST:64:LYS:HE3	1.65	0.43
68:SU:93:LEU:HD23	68:SU:128:ASP:OD1	2.19	0.43
74:Sa:2:GLU:HB2	74:Sa:6:GLY:O	2.19	0.43
81:Bb:9:A:H2'	81:Bb:11:C:H41	1.84	0.43
1:LA:210:U:C2	1:LA:230:U:H4'	2.54	0.42
1:LA:269:G:H5'	16:LP:120:TRP:CE3	2.53	0.42
1:LA:1040:A:H61	7:LG:11:ALA:HB2	1.84	0.42
1:LA:1623:G:H2'	1:LA:1624:G:H8	1.84	0.42
1:LA:1901:A:O3'	1:LA:2918:G:H5'	2.19	0.42
1:LA:2232:A:H2'	1:LA:2233:A:C8	2.54	0.42
1:LA:2445:A:O2'	1:LA:2446:U:H3'	2.18	0.42
1:LA:2562:A:H4'	28:Lb:52:LYS:HE2	2.00	0.42
1:LA:3075:G:H2'	1:LA:3076:C:C6	2.54	0.42
1:LA:3095:U:H2'	1:LA:3096:C:C6	2.54	0.42
2:LB:1:G:H4'	7:LG:273:ARG:HH22	1.84	0.42
5:LE:348:ARG:NH1	5:LE:348:ARG:HG3	2.34	0.42
6:LF:8:VAL:HG13	6:LF:151:VAL:HG12	2.01	0.42
12:LL:75:TYR:CZ	12:LL:79:VAL:HG21	2.54	0.42
17:LQ:61[A]:ALA:HA	17:LQ:70[A]:PRO:HD2	2.00	0.42
21:LU:14:LEU:HD23	21:LU:14:LEU:HA	1.88	0.42
21:LU:23:LYS:HA	21:LU:23:LYS:HE2	2.01	0.42
23:LW:99:LYS:H	23:LW:102:GLU:HB3	1.84	0.42
32:Lf:25:PHE:HA	32:Lf:28:ARG:HG3	2.00	0.42
47:S2:175:G:N2	47:S2:266:A:C4	2.87	0.42
47:S2:333:A:P	69:SV:48:THR:HB	2.59	0.42
47:S2:550:A:H62	47:S2:587:C:N4	2.17	0.42
47:S2:1315:U:O2	54:SG:4:VAL:HG11	2.18	0.42
47:S2:1316:G:OP1	54:SG:7:LYS:HB2	2.19	0.42
47:S2:1448:G:H2'	47:S2:1449:U:O4'	2.18	0.42
48:SA:135:GLU:CD	48:SA:151:LYS:HD3	2.44	0.42
51:SD:33:ARG:O	51:SD:37:VAL:HG13	2.19	0.42
54:SG:7:LYS:HB2	54:SG:7:LYS:HE2	1.69	0.42
63:SP:67:ILE:HD13	63:SP:73:VAL:HG22	2.01	0.42
66:SS:160:VAL:HB	66:SS:169:ILE:HD12	2.01	0.42
67:ST:52:ILE:HA	67:ST:111:LEU:HD13	2.01	0.42
77:Sd:96:LEU:HA	77:Sd:96:LEU:HD13	1.79	0.42
1:LA:523:A:N1	1:LA:524:U:H1'	2.34	0.42
1:LA:2106:A:H2'	1:LA:2107:A:C8	2.54	0.42
1:LA:2129:U:H2'	1:LA:2130:G:H8	1.81	0.42
1:LA:2822:U:H2'	1:LA:2823:G:O4'	2.19	0.42
1:LA:2943:G:H2'	1:LA:2944:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:27:U:H2'	3:LC:28:C:C6	2.54	0.42
4:LD:130:SER:HA	4:LD:169:ILE:HG22	2.01	0.42
5:LE:57:VAL:HG22	5:LE:73:VAL:HG22	2.01	0.42
6:LF:144:LYS:HA	6:LF:144:LYS:HD2	1.64	0.42
10:LJ:73:PRO:HD3	10:LJ:233:TRP:CE2	2.54	0.42
19:LS:113:LYS:HE3	19:LS:113:LYS:HB2	1.86	0.42
36:Lj:70:TYR:HB3	36:Lj:76:GLN:OE1	2.19	0.42
44:Lr:21:SER:O	44:Lr:25:GLN:HG3	2.18	0.42
47:S2:520:A:H5'	47:S2:521:A:OP2	2.19	0.42
47:S2:579:A:H62	47:S2:1438:G:H21	1.66	0.42
47:S2:1253:U:H4'	47:S2:1254:U:OP1	2.17	0.42
47:S2:1583:A:H2	53:SF:122:ARG:HH21	1.65	0.42
49:SB:72:HIS:HE1	53:SF:79:TYR:CE1	2.37	0.42
51:SD:62:LEU:HD13	51:SD:120:VAL:HG22	2.01	0.42
61:SN:89:LYS:HD3	61:SN:89:LYS:HA	1.90	0.42
68:SU:64:VAL:HG23	68:SU:67:LEU:HG	2.01	0.42
69:SV:103:GLN:O	69:SV:104:ILE:HD13	2.18	0.42
70:SW:38:ASN:HA	80:Sg:36:LYS:HD2	2.00	0.42
81:Bb:60:C:P	81:Bb:61:C:H41	2.42	0.42
1:LA:506:U:H2'	1:LA:507:U:O4'	2.19	0.42
1:LA:591:G:H1'	8:LH:19:LYS:HG3	2.01	0.42
1:LA:649:A:H2'	1:LA:650:C:C6	2.53	0.42
1:LA:1339:C:H2'	1:LA:1340:G:H8	1.85	0.42
1:LA:2366:C:H2'	1:LA:2367:A:C8	2.55	0.42
1:LA:2512:C:H2'	1:LA:2513:U:C6	2.54	0.42
1:LA:2765:C:O3'	43:Lq:39:GLY:HA3	2.19	0.42
7:LG:270:LYS:HG3	7:LG:273:ARG:HH21	1.84	0.42
11:LK:54:LYS:HB3	11:LK:54:LYS:HE2	1.59	0.42
23:LW:89:LEU:HD13	23:LW:89:LEU:HA	1.85	0.42
37:Lk:38:LYS:HB2	37:Lk:38:LYS:HE3	1.61	0.42
39:Lm:39:ARG:HG2	39:Lm:39:ARG:NH1	2.34	0.42
47:S2:591:A:H2'	47:S2:592:A:H8	1.80	0.42
47:S2:860:U:O4'	68:SU:114:ARG:HG3	2.20	0.42
47:S2:883:C:H2'	47:S2:884:A:C8	2.54	0.42
47:S2:997:G:H2'	47:S2:998:A:O4'	2.19	0.42
47:S2:1039:A:H2'	47:S2:1040:G:H8	1.84	0.42
47:S2:1182:U:O2	47:S2:1182:U:H2'	2.19	0.42
47:S2:1233:G:N2	61:SN:145:HIS:HE1	2.12	0.42
47:S2:1584:G:H5'	53:SF:123:ARG:O	2.20	0.42
47:S2:1610:G:H5'	49:SB:107:LYS:CB	2.49	0.42
57:SJ:42:VAL:HG13	57:SJ:52:LYS:HE2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SQ:139:ALA:HB2	64:SQ:172:LEU:HD11	2.01	0.42
70:SW:37:LYS:HA	80:Sg:33:ARG:HB2	2.01	0.42
70:SW:73:GLY:O	70:SW:77:ILE:HD12	2.19	0.42
70:SW:109:LEU:HB3	70:SW:146:PHE:HB3	2.01	0.42
76:Sc:74:VAL:HG11	76:Sc:104:LEU:HD11	2.00	0.42
1:LA:911:C:H42	4:LD:3:ARG:HD3	1.85	0.42
1:LA:1312:C:H2'	1:LA:1313:G:O4'	2.19	0.42
1:LA:1325:U:H2'	1:LA:1326:A:H8	1.84	0.42
1:LA:2196:C:H2'	1:LA:2242:A:H61	1.85	0.42
1:LA:2742:C:H2'	1:LA:2743:A:C8	2.53	0.42
6:LF:269:SER:C	6:LF:271:LYS:H	2.27	0.42
19:LS:62:VAL:HG13	19:LS:66:ARG:HD2	2.00	0.42
22:LV:96:ILE:HD13	22:LV:96:ILE:HA	1.89	0.42
35:Li:8:ARG:NH1	35:Li:31:ARG:HD3	2.34	0.42
47:S2:55:A:H5'	77:Sd:109:LYS:HZ2	1.84	0.42
47:S2:155:U:HO2'	47:S2:156:A:H8	1.65	0.42
47:S2:155:U:H2'	47:S2:156:A:H5"	1.99	0.42
47:S2:610:G:H5'	47:S2:612:U:O4	2.18	0.42
47:S2:1466:G:H2'	47:S2:1467:C:C6	2.55	0.42
49:SB:84:LYS:HB2	49:SB:84:LYS:HE2	1.42	0.42
54:SG:26:LEU:HD21	54:SG:62:GLN:HG3	2.01	0.42
57:SJ:30:LYS:HE2	57:SJ:111:GLY:HA3	2.01	0.42
62:SO:289:ALA:HB2	62:SO:305:TYR:CE1	2.55	0.42
66:SS:134:LYS:HA	66:SS:134:LYS:HD2	1.81	0.42
68:SU:157:LYS:HD3	68:SU:157:LYS:HA	1.70	0.42
69:SV:104:ILE:HB	69:SV:165:LEU:HD12	2.02	0.42
70:SW:86:LEU:HD11	70:SW:99:LEU:HD21	2.00	0.42
76:Sc:130:VAL:HG23	76:Sc:140:LYS:HD2	2.01	0.42
1:LA:1137:C:H2'	1:LA:1138:U:H5'	2.02	0.42
1:LA:3049:A:C5	5:LE:75:ALA:HB2	2.55	0.42
1:LA:3190:C:H2'	1:LA:3191:G:C8	2.52	0.42
2:LB:89:G:H4'	21:LU:84:ARG:HD3	2.01	0.42
3:LC:139:U:H2'	3:LC:140:G:C8	2.54	0.42
6:LF:11:LEU:HD12	6:LF:11:LEU:HA	1.80	0.42
6:LF:187:LEU:HG	6:LF:193:LYS:HD3	2.00	0.42
9:LI:89:ILE:HD12	9:LI:214:TRP:CH2	2.55	0.42
11:LK:12:VAL:HG13	11:LK:16:VAL:HG22	2.01	0.42
13:LM:10:ARG:O	13:LM:133:ARG:HD3	2.19	0.42
35:Li:5:VAL:HG11	35:Li:22:VAL:HG13	2.01	0.42
36:Lj:31:LEU:HD13	36:Lj:47:VAL:HG21	2.01	0.42
47:S2:169:A:O2'	47:S2:170:U:H3'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:483:A:H2'	47:S2:484:C:O4'	2.19	0.42
47:S2:902:G:O2'	47:S2:1008:G:H4'	2.19	0.42
47:S2:1013:A:H2'	47:S2:1014:G:O4'	2.19	0.42
47:S2:1142:A:H5"	78:Se:2:PRO:HB3	2.01	0.42
47:S2:1322:A:H2'	47:S2:1323:C:C6	2.55	0.42
47:S2:1626:U:H2'	47:S2:1627:U:C6	2.55	0.42
55:SH:101:LEU:HB3	55:SH:104:ASN:HB2	2.01	0.42
62:SO:223:TRP:CD1	62:SO:230:ALA:HB2	2.54	0.42
63:SP:4:PRO:HD2	63:SP:7:PHE:HD2	1.83	0.42
65:SR:38:VAL:HG13	65:SR:38:VAL:O	2.20	0.42
77:Sd:14:SER:HA	77:Sd:21:LYS:HA	2.02	0.42
1:LA:287:G:H5'	16:LP:179:LYS:O	2.19	0.42
1:LA:926:A:H2'	1:LA:927:C:H6	1.83	0.42
1:LA:1105:A:H2'	1:LA:1106:G:C8	2.55	0.42
1:LA:1334:U:H2'	1:LA:1335:C:C6	2.55	0.42
1:LA:2133:U:O4	1:LA:2147:A:H2	2.02	0.42
1:LA:2670:G:H2'	1:LA:2671:A:C8	2.55	0.42
1:LA:2672:G:H5'	13:LM:94:ARG:NH1	2.35	0.42
1:LA:3326:G:H1	1:LA:3379:C:H42	1.68	0.42
1:LA:3371:G:H2'	1:LA:3372:A:C8	2.55	0.42
15:LO:68:LEU:HD22	15:LO:90:VAL:HG13	2.01	0.42
17:LQ:89[A]:SER:O	17:LQ:95[A]:GLY:HA3	2.20	0.42
17:LQ:139[A]:GLY:O	17:LQ:143[A]:THR:HG23	2.19	0.42
22:LV:49:GLN:HG3	22:LV:52:MET:HE3	2.00	0.42
26:LZ:61:LYS:HE3	26:LZ:61:LYS:HB2	1.91	0.42
28:Lb:105:SER:O	28:Lb:109:GLU:HG2	2.19	0.42
33:Lg:80:LYS:HA	33:Lg:80:LYS:HE3	2.00	0.42
34:Lh:75:HIS:HB2	34:Lh:82:ARG:HG3	2.01	0.42
47:S2:28:A:H2'	47:S2:29:U:C6	2.55	0.42
47:S2:95:G:OP1	66:SS:6:LYS:HD3	2.18	0.42
47:S2:589:C:C2'	47:S2:590:C:H5	2.32	0.42
47:S2:1663:G:H2'	47:S2:1664:C:C6	2.54	0.42
49:SB:69:PHE:HE2	53:SF:53:LEU:HD12	1.85	0.42
50:SC:29:GLN:HG2	50:SC:31:LYS:H	1.84	0.42
54:SG:75:GLU:O	54:SG:78:ARG:HG2	2.19	0.42
63:SP:38:PHE:CD1	63:SP:38:PHE:C	2.97	0.42
65:SR:50:ILE:HG21	65:SR:56:ILE:HD11	2.00	0.42
65:SR:111:VAL:HB	65:SR:191:ALA:HA	2.02	0.42
65:SR:119:LYS:HE2	65:SR:119:LYS:HB2	1.89	0.42
70:SW:129:ILE:HD12	70:SW:129:ILE:H	1.84	0.42
77:Sd:27:VAL:HG21	77:Sd:35:VAL:HG21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:Sd:82:ALA:O	77:Sd:86:GLU:HB2	2.19	0.42
1:LA:184:U:H2'	1:LA:185:C:C6	2.55	0.42
1:LA:1686:U:H2'	1:LA:1688:U:H1'	2.01	0.42
1:LA:3269:U:H4'	1:LA:3270:U:O5'	2.19	0.42
2:LB:4:U:H2'	2:LB:5:G:H8	1.85	0.42
3:LC:85:G:H4'	3:LC:86:U:OP1	2.20	0.42
4:LD:101:VAL:O	4:LD:101:VAL:HG12	2.20	0.42
5:LE:39:LYS:N	5:LE:39:LYS:HD2	2.35	0.42
11:LK:21:LYS:HD2	11:LK:21:LYS:HA	1.83	0.42
12:LL:36:LEU:O	12:LL:86:HIS:HD2	2.03	0.42
14:LN:54:LEU:HD22	14:LN:119:TYR:CG	2.54	0.42
22:LV:50:LYS:O	22:LV:92:ARG:HD2	2.19	0.42
47:S2:1054:U:O4	47:S2:1065:A:C6	2.73	0.42
56:SI:47:PRO:HB2	56:SI:53:TRP:CD1	2.54	0.42
61:SN:103:LEU:HD12	61:SN:103:LEU:HA	1.87	0.42
62:SO:36:ALA:HB1	62:SO:68:VAL:HG11	2.02	0.42
62:SO:132:LYS:HE3	62:SO:132:LYS:HB3	1.83	0.42
62:SO:299:GLN:O	62:SO:315:VAL:HG22	2.19	0.42
66:SS:37:LYS:O	66:SS:41:SER:HB3	2.19	0.42
67:ST:153:VAL:HG11	67:ST:177:ARG:HH12	1.85	0.42
72:SY:42:ARG:HG3	72:SY:80:LEU:HD11	2.00	0.42
72:SY:94:LYS:HG2	72:SY:118:ILE:HD13	2.01	0.42
81:Bb:50:U:H2'	81:Bb:51:G:H8	1.84	0.42
1:LA:185:C:H4'	27:La:122:LYS:HA	2.01	0.42
1:LA:987:U:H2'	1:LA:988:U:H6	1.85	0.42
1:LA:1321:G:N2	21:LU:112:ALA:HB2	2.35	0.42
1:LA:1699:A:H2'	1:LA:1700:G:C8	2.55	0.42
1:LA:3252:G:H2'	1:LA:3253:G:C8	2.53	0.42
5:LE:108:GLU:HG3	5:LE:137:TYR:HB3	2.01	0.42
8:LH:55:LEU:HB3	8:LH:98:VAL:HG11	2.02	0.42
9:LI:142:SER:O	9:LI:146:GLN:HG3	2.19	0.42
20:LT:41:ILE:HD13	20:LT:41:ILE:HA	1.86	0.42
21:LU:132:THR:C	21:LU:134:ASP:H	2.27	0.42
46:Cc:4:G:H2'	46:Cc:5:G:C8	2.55	0.42
47:S2:85:A:H3'	47:S2:86:A:H8	1.84	0.42
47:S2:449:C:H2'	47:S2:450:U:C6	2.54	0.42
48:SA:18:TYR:C	48:SA:18:TYR:CD1	2.97	0.42
48:SA:34:TYR:OH	48:SA:37:VAL:HB	2.20	0.42
49:SB:118:LEU:HD22	49:SB:129:PRO:HB2	2.01	0.42
51:SD:56:GLU:O	51:SD:58:LEU:HD23	2.19	0.42
52:SE:17:TYR:CE2	52:SE:110:GLU:HA	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SO:82:SER:O	62:SO:89:LEU:HD23	2.19	0.42
62:SO:87:LYS:HG3	62:SO:109:ASP:HA	2.02	0.42
63:SP:84:ARG:HD3	63:SP:203:PHE:O	2.20	0.42
65:SR:57:PHE:HZ	65:SR:136:VAL:HG12	1.84	0.42
66:SS:62:LYS:O	66:SS:66:MET:HG3	2.19	0.42
66:SS:133:LYS:HA	66:SS:133:LYS:HD2	1.89	0.42
66:SS:139:VAL:HG23	66:SS:147:ILE:HB	2.02	0.42
73:SZ:28:VAL:HG12	73:SZ:67:VAL:HG21	2.02	0.42
81:Bb:68:U:H2'	81:Bb:69:U:H6	1.85	0.42
1:LA:374:A:O2'	1:LA:376:G:H5'	2.20	0.42
1:LA:387:A:H2'	1:LA:388:G:H8	1.85	0.42
1:LA:1373:A:H2'	1:LA:1374:G:C8	2.55	0.42
1:LA:1482:A:H2'	1:LA:1482:A:N3	2.35	0.42
1:LA:1622:U:C2	1:LA:1623:G:C8	3.08	0.42
1:LA:2154:U:H2'	1:LA:2155:G:C8	2.55	0.42
1:LA:2689:A:H2'	1:LA:2689:A:N3	2.35	0.42
1:LA:3350:C:O2'	1:LA:3351:U:H2'	2.20	0.42
5:LE:19:ARG:HB2	5:LE:232:ARG:NH2	2.34	0.42
5:LE:318:LYS:HE2	5:LE:318:LYS:HB2	1.68	0.42
16:LP:8:GLU:HB2	16:LP:50:ARG:HH12	1.84	0.42
25:LY:52:THR:O	25:LY:56:ARG:HG3	2.20	0.42
36:Lj:114:ARG:HE	36:Lj:114:ARG:HB3	1.63	0.42
47:S2:333:A:H2'	47:S2:334:G:C8	2.55	0.42
47:S2:739:G:H21	47:S2:740:A:H5'	1.85	0.42
47:S2:1103:U:H2'	47:S2:1104:U:H6	1.85	0.42
47:S2:1280:C:H2'	47:S2:1281:G:C8	2.55	0.42
47:S2:1330:G:C2	47:S2:1331:A:H1'	2.55	0.42
47:S2:1504:G:H2'	47:S2:1505:A:N3	2.35	0.42
47:S2:1796:C:O4'	78:Se:5:ARG:HD3	2.20	0.42
52:SE:85:ILE:HG12	52:SE:114:HIS:O	2.19	0.42
54:SG:24:LEU:HD23	54:SG:34:LEU:HD11	2.01	0.42
56:SI:38:LYS:H	56:SI:38:LYS:HG2	1.66	0.42
56:SI:115:GLU:N	56:SI:115:GLU:OE2	2.53	0.42
62:SO:176:LYS:HB3	62:SO:195:HIS:O	2.20	0.42
64:SQ:125:VAL:O	64:SQ:136:ARG:HA	2.19	0.42
65:SR:119:LYS:H	65:SR:119:LYS:HZ3	1.68	0.42
66:SS:179:LYS:O	66:SS:195:ILE:HG23	2.19	0.42
68:SU:55:LYS:HE2	68:SU:55:LYS:HB3	1.63	0.42
70:SW:51:LYS:HE2	70:SW:51:LYS:HB2	1.63	0.42
71:SX:125:VAL:HG12	71:SX:139:VAL:HA	2.02	0.42
73:SZ:64:ALA:HB3	73:SZ:104:ALA:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:19:U:H2'	1:LA:20:A:H8	1.85	0.42
1:LA:156:G:OP2	37:Lk:25:LYS:HB3	2.20	0.42
1:LA:412:G:H2'	1:LA:413:U:C6	2.55	0.42
1:LA:518:G:H2'	1:LA:520:U:H5'	2.02	0.42
1:LA:849:C:H2'	1:LA:850:U:H6	1.84	0.42
1:LA:1948:G:H5'	20:LT:101:VAL:HG11	2.01	0.42
1:LA:2295:A:C6	24:LX:37:ILE:HB	2.55	0.42
1:LA:2941:A:H8	1:LA:2941:A:OP2	2.03	0.42
1:LA:3096:C:H2'	1:LA:3097:C:C6	2.55	0.42
3:LC:70:G:H1'	3:LC:88:A:N6	2.35	0.42
5:LE:56:ILE:HD13	5:LE:356:LEU:HD22	2.02	0.42
11:LK:134:ILE:HD12	11:LK:134:ILE:N	2.34	0.42
15:LO:68:LEU:HD21	15:LO:93:LYS:HB3	2.02	0.42
16:LP:192:LYS:HB2	16:LP:192:LYS:HE2	1.68	0.42
17:LQ:77[A]:SER:HB2	17:LQ:104[A]:VAL:HG22	2.01	0.42
32:Lf:44:MET:HE3	32:Lf:75:ILE:HG22	2.01	0.42
36:Lj:69:LEU:HD12	36:Lj:69:LEU:HA	1.88	0.42
47:S2:82:U:H2'	47:S2:83:G:O4'	2.20	0.42
47:S2:256:A:H3'	47:S2:257:A:C8	2.54	0.42
47:S2:607:G:H21	47:S2:614:C:H5"	1.85	0.42
47:S2:1332:C:O2'	48:SA:162:GLN:HB3	2.20	0.42
47:S2:1344:A:N7	47:S2:1377:U:H5"	2.35	0.42
47:S2:1471:A:H2'	47:S2:1471:A:N3	2.35	0.42
53:SF:132:LYS:HG2	53:SF:138:PHE:CE1	2.55	0.42
54:SG:19:ARG:HG2	54:SG:19:ARG:HH11	1.84	0.42
60:SM:43:PHE:O	60:SM:47:ALA:HB2	2.20	0.42
63:SP:170:ILE:HD13	63:SP:170:ILE:N	2.34	0.42
66:SS:122:LYS:HD3	66:SS:164:LEU:HD12	2.02	0.42
68:SU:56:LYS:HD3	68:SU:56:LYS:HA	1.97	0.42
77:Sd:83:LYS:HE2	77:Sd:96:LEU:HB3	2.02	0.42
81:Bb:3:G:H2'	81:Bb:4:G:O4'	2.20	0.42
81:Bb:70:C:H2'	81:Bb:71:G:H8	1.85	0.42
1:LA:195:U:H2'	1:LA:196:G:O4'	2.19	0.41
1:LA:597:G:H2'	1:LA:598:A:C8	2.55	0.41
1:LA:675:C:H2'	1:LA:676:G:O4'	2.20	0.41
1:LA:701:G:H2'	1:LA:702:C:C6	2.55	0.41
1:LA:1317:A:O2'	1:LA:1318:A:H3'	2.20	0.41
1:LA:1478:C:H2'	1:LA:1479:U:C6	2.56	0.41
1:LA:1631:C:H5"	1:LA:1632:A:H5"	2.01	0.41
1:LA:1724:U:H1'	1:LA:1725:C:C6	2.55	0.41
1:LA:2520:A:H2'	1:LA:2521:U:C6	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2672:G:H1	1:LA:2682:C:H41	1.65	0.41
1:LA:2682:C:O2'	1:LA:2683:U:H5'	2.19	0.41
1:LA:2867:C:H2'	1:LA:2868:U:H6	1.84	0.41
2:LB:28:C:H5"	13:LM:137:ARG:HG2	2.02	0.41
3:LC:65:A:C4	3:LC:66:A:C8	3.08	0.41
3:LC:68:G:H2'	3:LC:69:U:H6	1.85	0.41
5:LE:47:LEU:HD11	5:LE:179:ALA:HB3	2.01	0.41
5:LE:158:VAL:HG13	5:LE:191:LYS:HE2	2.01	0.41
5:LE:293:ASN:HB3	5:LE:321:PHE:HZ	1.84	0.41
10:LJ:151:VAL:O	10:LJ:177:TYR:HA	2.20	0.41
12:LL:182:LEU:HD23	12:LL:182:LEU:HA	1.88	0.41
17:LQ:36[A]:VAL:HB	17:LQ:108[A]:ILE:HG13	2.01	0.41
47:S2:60:U:H5"	47:S2:455:C:N4	2.35	0.41
47:S2:401:A:H4'	66:SS:3:ARG:HD3	2.02	0.41
47:S2:688:G:H2'	47:S2:689:G:C8	2.54	0.41
47:S2:1275:A:H61	47:S2:1437:U:H3	1.68	0.41
50:SC:54:TYR:CD1	50:SC:72:GLY:HA2	2.55	0.41
56:SI:67:MET:HE2	56:SI:67:MET:HA	2.02	0.41
62:SO:117:LYS:O	62:SO:118:LYS:HG2	2.19	0.41
67:ST:175:ILE:HD13	67:ST:175:ILE:HA	1.92	0.41
76:Sc:48:HIS:CD2	76:Sc:105:ALA:HB2	2.55	0.41
1:LA:1798:A:H2'	1:LA:1799:A:C8	2.55	0.41
1:LA:1827:C:H2'	1:LA:1828:A:C8	2.55	0.41
1:LA:2366:C:H2'	1:LA:2367:A:H8	1.85	0.41
1:LA:2413:A:H2'	1:LA:2414:G:C8	2.52	0.41
1:LA:2746:A:C5	7:LG:153:THR:HG21	2.55	0.41
1:LA:2828:G:H4'	12:LL:4:ARG:NE	2.35	0.41
1:LA:3158:G:H2'	1:LA:3158:G:N3	2.35	0.41
3:LC:63:G:H22	3:LC:97:A:H2	1.68	0.41
4:LD:10:LYS:HA	4:LD:16:PHE:CD2	2.55	0.41
7:LG:40:HIS:CE1	22:LV:69:LYS:HA	2.54	0.41
11:LK:129:ARG:HG3	11:LK:157:ASN:ND2	2.34	0.41
12:LL:68:ALA:HB2	12:LL:158:LYS:HB2	2.01	0.41
13:LM:45:PRO:HB3	13:LM:69:VAL:HB	2.02	0.41
13:LM:166:LYS:HG3	13:LM:167:TYR:CE2	2.55	0.41
16:LP:159:ARG:H	16:LP:159:ARG:HG3	1.70	0.41
17:LQ:158[A]:ALA:O	17:LQ:162[A]:VAL:HG13	2.20	0.41
35:Li:39:ALA:HB3	35:Li:56:THR:HG22	2.01	0.41
43:Lq:68:VAL:HG23	43:Lq:85:LEU:HD12	2.00	0.41
47:S2:5:U:O2'	47:S2:553:G:H4'	2.20	0.41
47:S2:338:C:OP2	69:SV:10:LYS:HD3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:448:C:H2'	47:S2:449:C:C6	2.54	0.41
47:S2:898:A:C2	47:S2:915:A:C5	3.08	0.41
47:S2:1684:U:C4	47:S2:1717:G:N1	2.89	0.41
49:SB:109:LYS:HB2	49:SB:109:LYS:HE2	1.83	0.41
50:SC:14:TYR:HE2	50:SC:34:GLU:HB3	1.84	0.41
51:SD:65:SER:HB2	51:SD:72:ILE:HD11	2.02	0.41
62:SO:132:LYS:HA	62:SO:143:THR:HA	2.02	0.41
63:SP:175:TYR:HE1	63:SP:195:TRP:HE3	1.68	0.41
66:SS:147:ILE:HG21	66:SS:169:ILE:HG12	2.01	0.41
66:SS:174:LYS:HD2	66:SS:175:PHE:H	1.84	0.41
69:SV:194:ARG:HG2	69:SV:194:ARG:HH11	1.85	0.41
70:SW:131:GLN:C	70:SW:132:ARG:HG2	2.46	0.41
70:SW:154:LYS:HB2	70:SW:155:HIS:CE1	2.55	0.41
73:SZ:107:ARG:HD3	78:Se:52:ASP:OD2	2.21	0.41
75:Sb:47:ILE:HG13	75:Sb:48:GLY:H	1.84	0.41
1:LA:299:G:N7	37:Lk:31:GLY:HA3	2.35	0.41
1:LA:503:C:H2'	1:LA:504:A:H8	1.84	0.41
1:LA:508:U:H2'	1:LA:509:U:C6	2.55	0.41
1:LA:646:A:H2'	1:LA:647:A:O4'	2.19	0.41
1:LA:855:U:H2'	1:LA:856:G:C8	2.55	0.41
1:LA:896:A:H5"	4:LD:183:GLY:CA	2.46	0.41
1:LA:1493:G:O2'	40:Ln:13:MET:HG3	2.21	0.41
1:LA:2356:A:H61	1:LA:2983:C:H5	1.66	0.41
1:LA:2424:A:N1	4:LD:230:VAL:HG11	2.35	0.41
1:LA:3000:A:H2'	1:LA:3001:C:C6	2.55	0.41
1:LA:3387:U:H2'	1:LA:3388:C:C6	2.54	0.41
5:LE:152:LYS:HD3	5:LE:189:SER:HB2	2.02	0.41
7:LG:280:GLU:HA	7:LG:280:GLU:OE1	2.20	0.41
14:LN:171:ARG:HA	14:LN:171:ARG:HD2	1.86	0.41
16:LP:184:LYS:HE2	16:LP:184:LYS:HB3	1.58	0.41
28:Lb:54:THR:H	28:Lb:57:HIS:CE1	2.38	0.41
37:Lk:76:ARG:HD2	37:Lk:76:ARG:HA	1.61	0.41
40:Ln:44:TRP:CZ3	40:Ln:45:ARG:HG2	2.55	0.41
43:Lq:8:ARG:HE	43:Lq:10:THR:HG21	1.84	0.41
47:S2:304:U:O2	47:S2:304:U:H2'	2.20	0.41
47:S2:900:A:H2'	47:S2:901:G:C8	2.55	0.41
47:S2:963:A:H4'	72:SY:128:TYR:OH	2.20	0.41
47:S2:1086:A:H2'	47:S2:1087:A:C8	2.55	0.41
47:S2:1434:U:H2'	47:S2:1436:A:OP1	2.20	0.41
47:S2:1529:C:H2'	47:S2:1530:C:C6	2.55	0.41
47:S2:1625:C:H2'	47:S2:1626:U:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S2:1690:G:H2'	47:S2:1690:G:N3	2.35	0.41
49:SB:126:ASP:OD1	49:SB:126:ASP:O	2.38	0.41
53:SF:60:PHE:HA	53:SF:63:ILE:HD13	2.00	0.41
55:SH:75:ASN:HB3	55:SH:78:HIS:HB3	2.02	0.41
56:SI:123:ARG:HG2	56:SI:124:ILE:N	2.33	0.41
58:SK:79:ALA:O	58:SK:83:LEU:HB2	2.21	0.41
62:SO:19:TRP:CE2	62:SO:306:THR:HG23	2.55	0.41
62:SO:214:ALA:HB1	62:SO:240:VAL:HG11	2.02	0.41
63:SP:64:ILE:HG23	63:SP:73:VAL:HG21	2.02	0.41
67:ST:54:GLY:CA	67:ST:63:MET:HG3	2.50	0.41
67:ST:69:LEU:HD12	67:ST:73:ILE:HD11	2.01	0.41
67:ST:149:LYS:HE3	67:ST:149:LYS:HB3	1.77	0.41
68:SU:91:ILE:HD11	68:SU:172:VAL:HG21	2.03	0.41
68:SU:130:VAL:HG11	68:SU:183:PHE:CE1	2.55	0.41
76:Sc:23:ARG:HA	76:Sc:23:ARG:HD2	1.94	0.41
1:LA:275:U:H2'	1:LA:276:U:C6	2.56	0.41
1:LA:710:A:H2'	1:LA:711:A:C8	2.55	0.41
1:LA:956:U:H2'	1:LA:957:C:C6	2.54	0.41
1:LA:1471:U:H2'	1:LA:1472:U:C6	2.55	0.41
1:LA:1506:A:H1'	1:LA:1848:G:C6	2.56	0.41
1:LA:2537:U:C4	64:SQ:97:LEU:HD22	2.55	0.41
1:LA:2743:A:H2'	1:LA:2744:U:C6	2.55	0.41
3:LC:154:C:H2'	3:LC:155:A:C8	2.56	0.41
4:LD:144:ASN:C	4:LD:144:ASN:HD22	2.19	0.41
4:LD:150:LEU:HD11	4:LD:156:LYS:HD2	2.03	0.41
6:LF:22:LEU:HA	6:LF:23:PRO:HD3	1.85	0.41
6:LF:181:VAL:HG11	6:LF:224:GLY:HA3	2.00	0.41
6:LF:205:PRO:HG2	6:LF:225:VAL:HG13	2.02	0.41
13:LM:110:ILE:HG21	13:LM:116:TYR:CD2	2.55	0.41
15:LO:72:LEU:HD12	15:LO:72:LEU:HA	1.89	0.41
17:LQ:12[A]:LYS:HA	17:LQ:40[A]:GLU:HB3	2.01	0.41
18:LR:51:VAL:HG11	18:LR:88:VAL:HG21	2.02	0.41
18:LR:119:VAL:HA	18:LR:145:HIS:O	2.21	0.41
47:S2:116:U:H2'	47:S2:117:U:C6	2.55	0.41
47:S2:948:G:H2'	47:S2:949:C:H6	1.86	0.41
47:S2:1163:A:H2'	47:S2:1164:G:O4'	2.20	0.41
47:S2:1390:U:C5	54:SG:3:ARG:HG2	2.56	0.41
47:S2:1458:G:OP1	47:S2:1458:G:H3'	2.21	0.41
47:S2:1561:U:H2'	47:S2:1562:G:H8	1.85	0.41
55:SH:12:GLN:HG3	55:SH:14:ILE:H	1.86	0.41
56:SI:53:TRP:CZ3	56:SI:100:ILE:HD11	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SL:44:VAL:HG21	59:SL:48:VAL:HG11	2.01	0.41
62:SO:88:THR:HG22	62:SO:104:VAL:HG23	2.01	0.41
64:SQ:128:LYS:HD2	64:SQ:132:ASP:HA	2.03	0.41
68:SU:136:VAL:HG21	68:SU:155:ASP:HB3	2.02	0.41
75:Sb:81:VAL:HG21	75:Sb:125:ILE:HB	2.01	0.41
1:LA:187:A:H2'	1:LA:188:U:C6	2.56	0.41
1:LA:772:U:H2'	1:LA:773:G:O4'	2.20	0.41
1:LA:1055:A:H5"	2:LB:100:C:O2'	2.20	0.41
1:LA:2228:A:H2'	1:LA:2229:A:H8	1.84	0.41
1:LA:2669:G:H2'	1:LA:2670:G:H8	1.85	0.41
1:LA:2775:U:H2'	1:LA:2776:C:C6	2.56	0.41
1:LA:2835:U:H2'	1:LA:2836:C:O2	2.21	0.41
2:LB:60:G:H2'	2:LB:61:G:C8	2.50	0.41
5:LE:162:VAL:O	5:LE:178:LEU:HD12	2.21	0.41
9:LI:229:PHE:CD1	9:LI:229:PHE:C	2.99	0.41
12:LL:103:LEU:HD23	12:LL:103:LEU:HA	1.85	0.41
14:LN:114:GLN:HG3	14:LN:118:GLU:OE1	2.20	0.41
18:LR:46:LYS:HB2	18:LR:46:LYS:HE2	1.75	0.41
25:LY:1:MET:HE3	25:LY:1:MET:HB3	1.96	0.41
47:S2:369:A:N3	47:S2:370:A:H5"	2.35	0.41
47:S2:934:C:C4	47:S2:1077:C:H4'	2.55	0.41
47:S2:1166:A:H2'	47:S2:1167:G:O4'	2.21	0.41
47:S2:1294:G:C6	47:S2:1295:G:N7	2.88	0.41
47:S2:1720:G:H4'	47:S2:1721:A:C2	2.49	0.41
49:SB:30:PRO:HB2	49:SB:33:VAL:HG12	2.01	0.41
53:SF:25:GLY:HA3	53:SF:64:ASP:OD2	2.21	0.41
53:SF:132:LYS:HG2	53:SF:138:PHE:HE1	1.86	0.41
58:SK:54:VAL:N	58:SK:55:PRO:HD2	2.35	0.41
69:SV:45:SER:HB3	69:SV:53:LYS:NZ	2.34	0.41
75:Sb:106:THR:HG22	75:Sb:122:SER:C	2.45	0.41
76:Sc:131:SER:O	76:Sc:135:LEU:HD13	2.20	0.41
81:Bb:68:U:H2'	81:Bb:69:U:C6	2.56	0.41
1:LA:293:C:H2'	1:LA:294:U:O4'	2.21	0.41
1:LA:753:C:C2	1:LA:754:G:C8	3.09	0.41
1:LA:818:C:H5"	38:Ll:10:LYS:HB2	2.02	0.41
1:LA:970:A:H2'	1:LA:971:G:C8	2.55	0.41
1:LA:1048:A:H2'	12:LL:22:TYR:CZ	2.55	0.41
1:LA:1171:G:H2'	1:LA:1172:G:O4'	2.21	0.41
1:LA:1463:U:H2'	1:LA:1464:G:O4'	2.20	0.41
1:LA:1593:A:O5'	35:Li:60:ARG:HD3	2.20	0.41
1:LA:2154:U:H2'	1:LA:2155:G:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2167:A:H2'	1:LA:2168:A:C8	2.55	0.41
1:LA:2536:A:H2'	64:SQ:227:ALA:H	1.85	0.41
1:LA:2537:U:H3'	64:SQ:225:VAL:O	2.20	0.41
1:LA:3270:U:C5	8:LH:46:ARG:HD3	2.56	0.41
3:LC:18:U:H2'	3:LC:19:C:C6	2.55	0.41
5:LE:88:GLY:HA2	5:LE:105:VAL:O	2.21	0.41
17:LQ:124[A]:LEU:HD13	21:LU:168:PRO:HG3	2.02	0.41
28:Lb:20:GLY:HA2	35:Li:89:ILE:HG12	2.03	0.41
30:Ld:47:LEU:HA	30:Ld:47:LEU:HD23	1.80	0.41
31:Le:83:LYS:HA	31:Le:83:LYS:HD3	1.90	0.41
43:Lq:37:ALA:O	43:Lq:41:ARG:HG3	2.21	0.41
46:Cc:35:C:H2'	46:Cc:36:A:C8	2.55	0.41
46:Cc:42:C:H2'	46:Cc:43:G:H8	1.83	0.41
47:S2:409:C:H2'	47:S2:410:A:C8	2.55	0.41
47:S2:463:U:H2'	47:S2:464:A:C8	2.56	0.41
47:S2:1067:C:H5"	64:SQ:150:VAL:HG13	2.01	0.41
47:S2:1527:C:OP1	49:SB:106:LYS:HE3	2.20	0.41
48:SA:45:LYS:HA	48:SA:45:LYS:HD3	1.87	0.41
52:SE:111:MET:HB2	52:SE:119:PHE:CZ	2.56	0.41
57:SJ:41:ILE:HD13	57:SJ:44:ASN:HD21	1.85	0.41
62:SO:86:ASP:O	62:SO:88:THR:HG23	2.20	0.41
62:SO:127:ARG:HA	62:SO:150:TRP:HB2	2.03	0.41
63:SP:111:ILE:H	63:SP:111:ILE:HG13	1.75	0.41
64:SQ:144:ARG:HG2	64:SQ:206:PRO:CB	2.50	0.41
65:SR:37:PRO:HD3	65:SR:46:LYS:HD3	2.02	0.41
66:SS:18:TRP:HH2	66:SS:31:PRO:HD3	1.85	0.41
66:SS:49:ARG:HE	66:SS:49:ARG:HB3	1.74	0.41
73:SZ:61:MET:HE2	73:SZ:61:MET:HB3	1.81	0.41
75:Sb:8:ALA:HB2	75:Sb:74:VAL:HG11	2.03	0.41
1:LA:426:G:H2'	1:LA:427:C:C6	2.55	0.41
1:LA:1132:C:H2'	1:LA:1133:A:C8	2.54	0.41
1:LA:1595:U:C2	1:LA:1596:C:C5	3.09	0.41
1:LA:1699:A:H2'	1:LA:1700:G:H8	1.85	0.41
1:LA:1837:U:H2'	1:LA:1838:G:O4'	2.21	0.41
1:LA:3041:U:H6	1:LA:3041:U:H2'	1.67	0.41
2:LB:47:C:OP1	7:LG:94:ASN:HB2	2.20	0.41
2:LB:63:A:OP1	7:LG:282:ARG:HG3	2.20	0.41
7:LG:179:ARG:HD2	7:LG:179:ARG:HA	1.85	0.41
10:LJ:84:ARG:HG3	10:LJ:84:ARG:HH11	1.85	0.41
13:LM:125:MET:HE2	13:LM:125:MET:HB2	1.91	0.41
14:LN:101:ARG:HH22	14:LN:112:ASN:ND2	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Lb:110:ALA:O	28:Lb:114:VAL:HG23	2.21	0.41
46:Cc:30:G:H2'	46:Cc:31:G:H8	1.86	0.41
47:S2:160:C:H2'	47:S2:161:U:O4'	2.19	0.41
47:S2:873:U:O2'	47:S2:1047:G:H5"	2.20	0.41
47:S2:1031:U:H4'	47:S2:1032:G:OP2	2.21	0.41
47:S2:1623:C:H2'	47:S2:1624:C:H6	1.85	0.41
50:SC:61:TRP:O	50:SC:62:GLN:HG2	2.21	0.41
53:SF:125:GLU:HG2	53:SF:134:ALA:HB1	2.02	0.41
55:SH:67:GLU:HA	55:SH:70:VAL:HG22	2.03	0.41
63:SP:202:TYR:C	63:SP:203:PHE:HD1	2.29	0.41
64:SQ:144:ARG:HG2	64:SQ:206:PRO:HB2	2.03	0.41
67:ST:75:LEU:HD23	67:ST:75:LEU:HA	1.91	0.41
67:ST:200:ALA:O	67:ST:203:GLU:HG2	2.21	0.41
68:SU:17:GLU:HA	68:SU:20:VAL:HG22	2.03	0.41
77:Sd:37:LYS:HG3	77:Sd:37:LYS:HZ3	1.60	0.41
1:LA:748:U:H2'	1:LA:749:C:C6	2.55	0.41
1:LA:951:A:H5"	1:LA:1143:A:N1	2.35	0.41
1:LA:1126:G:H5"	12:LL:119:TRP:HZ3	1.86	0.41
1:LA:1396:C:H2'	1:LA:1397:C:H6	1.84	0.41
1:LA:1444:G:H2'	1:LA:1445:U:O4'	2.21	0.41
1:LA:1579:C:H2'	1:LA:1580:A:C8	2.56	0.41
1:LA:2268:U:H2'	1:LA:2269:U:H2'	2.03	0.41
1:LA:2710:C:H2'	1:LA:2711:C:C6	2.55	0.41
1:LA:2931:C:H2'	1:LA:2932:U:O4'	2.20	0.41
3:LC:10:A:H2'	3:LC:11:C:C6	2.55	0.41
3:LC:29:U:H5"	14:LN:27:ASP:HB3	2.02	0.41
4:LD:20:THR:HA	4:LD:23:ARG:HG3	2.02	0.41
21:LU:166:LYS:HE3	21:LU:166:LYS:HB2	1.60	0.41
22:LV:102:ARG:HD2	22:LV:102:ARG:HA	1.90	0.41
23:LW:86:LYS:HA	23:LW:86:LYS:HD2	1.79	0.41
27:La:35:LEU:HB3	27:La:39:LEU:HB3	2.03	0.41
28:Lb:133:LYS:NZ	28:Lb:135:ARG:HD3	2.36	0.41
34:Lh:42:GLN:HA	34:Lh:45:LEU:HD13	2.03	0.41
47:S2:447:U:H2'	47:S2:448:C:O4'	2.21	0.41
47:S2:784:C:H2'	47:S2:785:U:C6	2.56	0.41
47:S2:893:U:H3	47:S2:919:A:N6	2.18	0.41
47:S2:1035:G:H2'	47:S2:1036:A:H8	1.86	0.41
47:S2:1761:U:H6	47:S2:1762:A:H62	1.68	0.41
51:SD:63:VAL:HA	51:SD:91:VAL:HG12	2.03	0.41
57:SJ:22:ILE:C	57:SJ:22:ILE:HD12	2.45	0.41
57:SJ:25:THR:O	57:SJ:114:VAL:HA	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SJ:58:LEU:HD21	57:SJ:90:TYR:HE1	1.86	0.41
66:SS:11:ARG:HH12	66:SS:20:LEU:HD22	1.84	0.41
66:SS:45:ILE:HG23	66:SS:46:VAL:H	1.85	0.41
69:SV:189:LEU:O	69:SV:193:LEU:HB2	2.19	0.41
70:SW:39:LYS:HA	70:SW:42:ILE:CD1	2.50	0.41
70:SW:114:TYR:O	70:SW:114:TYR:HD1	2.04	0.41
70:SW:143:ILE:HA	70:SW:144:PRO:HD3	1.96	0.41
1:LA:32:U:H2'	1:LA:33:G:O4'	2.21	0.41
1:LA:282:G:N2	16:LP:178:HIS:HD2	2.19	0.41
1:LA:529:A:H2'	1:LA:530:G:H8	1.86	0.41
1:LA:802:C:H2'	1:LA:803:C:H6	1.85	0.41
1:LA:830:A:H2'	1:LA:831:G:O4'	2.20	0.41
1:LA:1336:U:H2'	1:LA:1337:A:C8	2.56	0.41
1:LA:1448:U:H2'	1:LA:1449:A:C8	2.56	0.41
1:LA:1805:C:H2'	1:LA:1806:A:C8	2.47	0.41
1:LA:1922:A:H2'	1:LA:1923:C:O4'	2.21	0.41
1:LA:2223:A:H2'	1:LA:2224:A:C8	2.56	0.41
1:LA:2537:U:C2	64:SQ:230:ALA:HA	2.56	0.41
1:LA:2631:U:H2'	1:LA:2632:G:H8	1.86	0.41
1:LA:2708:C:H2'	1:LA:2709:C:C6	2.56	0.41
1:LA:2987:A:O2'	5:LE:259:HIS:HB3	2.20	0.41
2:LB:24:A:H2'	2:LB:25:G:C8	2.55	0.41
3:LC:109:A:C2	3:LC:114:G:C6	3.09	0.41
5:LE:123:TYR:CE1	5:LE:124:LYS:HG2	2.56	0.41
5:LE:214:MET:O	5:LE:341:SER:HB3	2.20	0.41
7:LG:20:PHE:O	7:LG:24:ARG:HG3	2.21	0.41
7:LG:178:ASN:HA	7:LG:183:TRP:CD2	2.56	0.41
9:LI:243:MET:HE2	9:LI:243:MET:HB3	1.95	0.41
11:LK:6:THR:HG21	11:LK:65:VAL:HG12	2.02	0.41
11:LK:93:VAL:HG12	41:Lo:82:LEU:HD22	2.02	0.41
12:LL:213:PHE:N	12:LL:214:PRO:HD3	2.36	0.41
14:LN:122:LYS:HD2	36:Lj:120:ALA:C	2.45	0.41
16:LP:190:THR:HG23	16:LP:193:ARG:NH2	2.36	0.41
22:LV:128:LEU:H	22:LV:128:LEU:HD22	1.86	0.41
25:LY:54:LEU:HD12	25:LY:54:LEU:HA	1.88	0.41
26:LZ:121:LYS:HD3	26:LZ:123:TYR:CZ	2.56	0.41
29:Lc:45:MET:HE2	29:Lc:45:MET:HA	2.01	0.41
29:Lc:135:GLU:O	29:Lc:139:ARG:HG2	2.21	0.41
32:Lf:16:LEU:HD13	32:Lf:16:LEU:HA	1.90	0.41
32:Lf:86:LYS:HA	32:Lf:86:LYS:HD3	1.91	0.41
35:Li:19:LYS:HA	35:Li:19:LYS:HD2	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Lj:102:GLU:OE1	36:Lj:106:LYS:HE3	2.20	0.41
43:Lq:97:LYS:HD2	43:Lq:97:LYS:HA	1.81	0.41
47:S2:55:A:H5'	77:Sd:109:LYS:NZ	2.36	0.41
47:S2:78:A:OP2	67:ST:174:LYS:HD2	2.20	0.41
47:S2:153:G:H4'	67:ST:108:VAL:HG21	2.02	0.41
47:S2:212:U:H2'	47:S2:213:A:N7	2.36	0.41
47:S2:551:G:H5'	47:S2:581:U:C2	2.55	0.41
47:S2:558:U:OP1	80:Sg:59:GLY:HA3	2.21	0.41
47:S2:752:A:OP2	47:S2:752:A:H8	2.04	0.41
47:S2:1024:U:H5"	47:S2:1027:A:N6	2.36	0.41
47:S2:1329:A:H2'	47:S2:1330:G:O4'	2.20	0.41
47:S2:1434:U:H1'	60:SM:24:CYS:HB2	2.03	0.41
47:S2:1458:G:H8	47:S2:1458:G:O5'	2.04	0.41
47:S2:1515:A:H3'	48:SA:7:LYS:NZ	2.36	0.41
47:S2:1583:A:H62	49:SB:78:ALA:N	2.15	0.41
47:S2:1603:U:H2'	47:S2:1604:U:C6	2.55	0.41
48:SA:47:GLU:HA	48:SA:85:VAL:O	2.20	0.41
48:SA:66:ILE:O	48:SA:70:THR:HG22	2.21	0.41
48:SA:106:LYS:HD3	48:SA:173:ARG:HD2	2.02	0.41
50:SC:40:LEU:HD23	50:SC:40:LEU:H	1.85	0.41
54:SG:84:TYR:HE2	63:SP:205:ARG:HH22	1.67	0.41
56:SI:84:LYS:HB2	56:SI:94:ILE:HG12	2.03	0.41
57:SJ:88:LYS:HG2	57:SJ:89:ARG:N	2.35	0.41
63:SP:26:ALA:HB3	63:SP:149:LEU:HB2	2.02	0.41
63:SP:37:VAL:HG22	63:SP:149:LEU:HD13	2.03	0.41
65:SR:119:LYS:H	65:SR:119:LYS:NZ	2.18	0.41
65:SR:143:TYR:CG	65:SR:147:ASN:HA	2.55	0.41
66:SS:42:LEU:HB2	66:SS:109:PHE:CD2	2.56	0.41
66:SS:93:ASP:OD2	66:SS:93:ASP:N	2.52	0.41
67:ST:20:ASP:HB3	67:ST:23:ARG:HH21	1.86	0.41
69:SV:106:ALA:HB2	69:SV:165:LEU:HD11	2.02	0.41
70:SW:123:HIS:O	70:SW:127:VAL:HG22	2.21	0.41
70:SW:129:ILE:HG22	70:SW:142:ASN:C	2.46	0.41
73:SZ:17:ALA:HB3	73:SZ:81:VAL:HA	2.01	0.41
75:Sb:90:THR:OG1	75:Sb:94:LEU:HD12	2.21	0.41
77:Sd:43:LYS:O	77:Sd:46:GLU:HG3	2.21	0.41
1:LA:211:A:OP2	6:LF:221:ASN:HB2	2.21	0.41
1:LA:618:C:H2'	1:LA:619:A:O4'	2.21	0.41
1:LA:821:U:H2'	1:LA:822:G:C8	2.53	0.41
1:LA:992:A:H5"	22:LV:43:LYS:HG3	2.03	0.41
1:LA:1511:U:H5"	1:LA:1512:U:H5	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1725:C:H2'	1:LA:1726:C:C6	2.56	0.41
1:LA:2103:U:H2'	1:LA:2104:A:H8	1.85	0.41
1:LA:2338:C:H5"	24:LX:47:ASN:O	2.21	0.41
1:LA:2559:U:H5'	1:LA:2561:A:H4'	2.03	0.41
1:LA:3213:A:H5"	15:LO:128:ARG:NH1	2.36	0.41
1:LA:3371:G:H2'	1:LA:3372:A:H8	1.85	0.41
3:LC:44:A:O3'	40:Ln:12:LYS:HE2	2.21	0.41
4:LD:144:ASN:ND2	4:LD:144:ASN:C	2.79	0.41
6:LF:178:LEU:HD21	6:LF:225:VAL:CG2	2.50	0.41
7:LG:115:LEU:HD21	7:LG:119:TYR:HD2	1.85	0.41
10:LJ:24:ASN:HB3	10:LJ:25:PRO:HD3	2.03	0.41
12:LL:100:ASN:OD1	12:LL:100:ASN:O	2.39	0.41
13:LM:33:ALA:O	13:LM:36:VAL:HG12	2.21	0.41
18:LR:168:LEU:HB3	18:LR:172:GLN:HB2	2.01	0.41
20:LT:72:GLU:OE1	20:LT:72:GLU:HA	2.19	0.41
20:LT:114:LYS:HB3	20:LT:114:LYS:HE3	1.84	0.41
21:LU:10:ILE:HG12	21:LU:26:ARG:HB2	2.01	0.41
47:S2:874:C:H2'	47:S2:875:G:C8	2.56	0.41
47:S2:1586:A:H5"	53:SF:136:SER:OG	2.21	0.41
51:SD:31:VAL:HA	51:SD:34:THR:HG22	2.03	0.41
62:SO:219:GLU:HA	62:SO:235:SER:HA	2.03	0.41
67:ST:102:VAL:HA	67:ST:106:LEU:HD11	2.03	0.41
68:SU:67:LEU:HD23	68:SU:67:LEU:HA	1.80	0.41
71:SX:109:VAL:CG1	71:SX:137:PHE:HB2	2.44	0.41
72:SY:71:ILE:O	72:SY:75:LEU:HG	2.20	0.41
73:SZ:128:LYS:HD3	78:Se:27:SER:HB3	2.02	0.41
77:Sd:29:HIS:O	77:Sd:29:HIS:CG	2.74	0.41
78:Se:78:ALA:HA	78:Se:83:ILE:HD12	2.02	0.41
79:Sf:35:VAL:HG12	79:Sf:79:PHE:CB	2.50	0.41
1:LA:374:A:N3	1:LA:376:G:H5"	2.36	0.40
1:LA:415:G:H2'	1:LA:416:A:H8	1.87	0.40
1:LA:516:A:H2'	1:LA:517:G:C8	2.56	0.40
1:LA:863:C:H2'	1:LA:864:G:O4'	2.21	0.40
1:LA:911:C:N4	4:LD:3:ARG:HD3	2.36	0.40
1:LA:2188:A:H3'	1:LA:2189:U:H5"	2.03	0.40
1:LA:3309:G:H1'	18:LR:69:ARG:HD2	2.02	0.40
2:LB:3:U:H2'	2:LB:4:U:H6	1.85	0.40
4:LD:70:ARG:HG3	4:LD:71:LEU:N	2.35	0.40
5:LE:163:HIS:HA	5:LE:177:HIS:O	2.21	0.40
20:LT:85:ARG:HE	20:LT:85:ARG:HB2	1.75	0.40
21:LU:78:TRP:CZ3	21:LU:125:LYS:HD2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LU:93:GLU:OE1	21:LU:137:ARG:HG2	2.22	0.40
26:LZ:75:LYS:HB2	26:LZ:75:LYS:HE2	1.80	0.40
29:Lc:27:LYS:HA	29:Lc:27:LYS:HD2	1.86	0.40
29:Lc:63:LYS:HE3	29:Lc:68:PHE:CE2	2.55	0.40
29:Lc:101:VAL:HG22	29:Lc:124:ILE:HB	2.02	0.40
37:Lk:45:ARG:HG3	37:Lk:46:GLU:N	2.35	0.40
47:S2:324:U:H2'	47:S2:325:G:C8	2.56	0.40
47:S2:411:C:H2'	47:S2:412:A:O4'	2.21	0.40
47:S2:869:A:H2'	47:S2:870:C:C6	2.55	0.40
47:S2:1175:U:H2'	47:S2:1176:G:H8	1.85	0.40
48:SA:10:LYS:HG3	48:SA:11:LEU:N	2.35	0.40
52:SE:75:PRO:HA	52:SE:93:VAL:HG12	2.04	0.40
55:SH:35:ILE:HG23	55:SH:102:ALA:HB2	2.02	0.40
55:SH:143:ARG:HB3	55:SH:144:ARG:NH2	2.35	0.40
62:SO:221:MET:HB2	62:SO:221:MET:HE2	1.84	0.40
66:SS:197:HIS:CG	66:SS:198:LYS:N	2.87	0.40
1:LA:38:U:H2'	1:LA:39:A:O4'	2.21	0.40
1:LA:76:G:H3'	14:LN:73:ARG:HD2	2.02	0.40
1:LA:736:A:C4	1:LA:737:G:H1'	2.56	0.40
1:LA:794:U:C2	1:LA:795:G:C8	3.10	0.40
1:LA:3159:C:H2'	1:LA:3160:U:H6	1.86	0.40
1:LA:3232:G:C6	1:LA:3256:G:C6	3.09	0.40
3:LC:142:C:H2'	3:LC:143:U:H6	1.84	0.40
5:LE:367:LYS:HA	25:LY:17:ARG:HH22	1.85	0.40
7:LG:44:TYR:HE2	22:LV:35:LYS:HA	1.85	0.40
11:LK:86:TYR:CD2	11:LK:151:VAL:HB	2.56	0.40
12:LL:30:LYS:HG3	12:LL:63:GLU:HG3	2.01	0.40
12:LL:103:LEU:HD21	12:LL:108:ALA:HB3	2.03	0.40
13:LM:118:PRO:HD3	55:SH:103:ASN:OD1	2.22	0.40
15:LO:11:ASN:HD22	15:LO:11:ASN:C	2.21	0.40
24:LX:86:ARG:HB2	24:LX:92:PHE:CE2	2.56	0.40
39:Lm:7:ASP:OD1	39:Lm:9:LYS:HE3	2.21	0.40
39:Lm:41:THR:HB	39:Lm:56:ILE:HD12	2.04	0.40
47:S2:57:G:H2'	47:S2:58:U:O4'	2.21	0.40
47:S2:200:A:H2'	47:S2:201:G:C8	2.57	0.40
47:S2:328:A:H2'	47:S2:329:G:H8	1.86	0.40
47:S2:883:C:H2'	47:S2:884:A:H8	1.86	0.40
47:S2:1175:U:H2'	47:S2:1176:G:C8	2.55	0.40
47:S2:1507:G:H8	47:S2:1507:G:OP2	2.04	0.40
47:S2:1625:C:H2'	47:S2:1626:U:C6	2.56	0.40
53:SF:77:GLN:O	53:SF:81:ILE:HG13	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SG:57:LEU:O	54:SG:61:ILE:HG13	2.21	0.40
56:SI:23:GLN:HG3	56:SI:55:TYR:CE1	2.56	0.40
64:SQ:197:ILE:HG21	64:SQ:210:ILE:HD11	2.02	0.40
66:SS:46:VAL:O	66:SS:50:ASN:HB2	2.21	0.40
67:ST:204:ALA:HA	67:ST:207:GLU:OE2	2.22	0.40
68:SU:38:LEU:HD23	68:SU:73:VAL:HG21	2.03	0.40
68:SU:80:GLU:HG3	68:SU:83:LYS:HE3	2.03	0.40
70:SW:54:ARG:HG3	70:SW:54:ARG:HH11	1.86	0.40
71:SX:46:LYS:HA	71:SX:46:LYS:HD3	1.83	0.40
72:SY:138:ASN:OD1	72:SY:138:ASN:C	2.64	0.40
76:Sc:42:PRO:HA	76:Sc:81:LYS:HD2	2.03	0.40
81:Bb:39:U:H2'	81:Bb:40:C:C6	2.56	0.40
1:LA:50:U:H2'	1:LA:51:A:H8	1.85	0.40
1:LA:299:G:C8	37:Lk:31:GLY:HA3	2.56	0.40
1:LA:431:U:H2'	1:LA:432:G:H8	1.85	0.40
1:LA:663:C:H2'	1:LA:664:U:C6	2.56	0.40
1:LA:693:A:C8	6:LF:232:SER:HB3	2.55	0.40
1:LA:926:A:H2'	1:LA:927:C:C6	2.56	0.40
1:LA:2881:C:H2'	1:LA:2882:U:H6	1.86	0.40
1:LA:3015:G:H2'	1:LA:3016:A:C8	2.54	0.40
3:LC:32:C:H2'	3:LC:33:A:C8	2.56	0.40
7:LG:264:GLN:O	7:LG:268:GLU:HG2	2.21	0.40
8:LH:52:VAL:HG11	8:LH:74:VAL:HG11	2.03	0.40
23:LW:35:LYS:HA	23:LW:38:ILE:HG22	2.03	0.40
27:La:50:ILE:HG21	27:La:80:VAL:HG11	2.02	0.40
47:S2:551:G:H2'	47:S2:552:G:C8	2.56	0.40
47:S2:878:G:H2'	47:S2:879:G:C8	2.56	0.40
47:S2:1208:A:H4'	47:S2:1270:G:P	2.61	0.40
47:S2:1263:G:H2'	47:S2:1264:G:O4'	2.22	0.40
47:S2:1382:A:O2'	57:SJ:57:ARG:HD3	2.22	0.40
47:S2:1424:A:H2'	47:S2:1425:A:O4'	2.20	0.40
47:S2:1610:G:H5'	49:SB:107:LYS:HB2	2.02	0.40
48:SA:96:LEU:HD23	48:SA:96:LEU:HA	1.92	0.40
48:SA:138:VAL:HG13	48:SA:182:LEU:HD13	2.02	0.40
53:SF:74:HIS:O	53:SF:78:VAL:HG13	2.22	0.40
56:SI:61:VAL:O	56:SI:65:ILE:HG13	2.21	0.40
58:SK:75:LEU:HD12	58:SK:75:LEU:HA	1.78	0.40
62:SO:131:ILE:O	62:SO:144:LEU:HG	2.22	0.40
66:SS:180:LEU:HA	66:SS:194:THR:N	2.32	0.40
66:SS:182:TYR:HA	66:SS:191:ARG:O	2.22	0.40
66:SS:246:LEU:CD1	66:SS:251:GLU:HG2	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:791:A:H2'	1:LA:792:G:C8	2.56	0.40
1:LA:960:U:H4'	1:LA:963:G:C2	2.57	0.40
1:LA:1098:A:H5'	22:LV:129:LYS:HD3	2.04	0.40
1:LA:2771:U:H5"	1:LA:2772:C:OP2	2.21	0.40
4:LD:247:ARG:HB3	47:S2:1012:U:H1'	2.02	0.40
6:LF:318:LEU:HD22	9:LI:146:GLN:HE21	1.86	0.40
8:LH:170:LYS:HB3	8:LH:172:HIS:CE1	2.57	0.40
14:LN:122:LYS:HB3	14:LN:122:LYS:HE3	1.75	0.40
20:LT:80:LYS:HA	20:LT:80:LYS:HD2	1.96	0.40
27:La:83:ASP:O	27:La:84:LYS:HG2	2.21	0.40
37:Lk:5:THR:HG22	37:Lk:13:LYS:HA	2.02	0.40
43:Lq:8:ARG:HE	43:Lq:10:THR:CG2	2.34	0.40
47:S2:270:C:H2'	47:S2:271:A:H8	1.86	0.40
47:S2:1165:G:H2'	47:S2:1166:A:C8	2.57	0.40
47:S2:1479:A:H5"	56:SI:60:SER:HB2	2.04	0.40
47:S2:1556:A:H3'	52:SE:40:ARG:HH11	1.87	0.40
47:S2:1595:U:OP1	60:SM:32:ARG:HB3	2.21	0.40
47:S2:1691:A:H2'	47:S2:1692:G:C8	2.56	0.40
48:SA:23:GLU:CD	50:SC:61:TRP:HE1	2.30	0.40
52:SE:60:LEU:HD22	52:SE:89:MET:HB3	2.03	0.40
58:SK:77:ARG:HG3	58:SK:77:ARG:HH11	1.86	0.40
59:SL:54:LEU:HD12	59:SL:55:VAL:N	2.37	0.40
62:SO:231:MET:HG2	62:SO:232:TYR:CD1	2.50	0.40
65:SR:41:LEU:HD11	65:SR:56:ILE:CD1	2.52	0.40
67:ST:118:GLU:HG2	67:ST:119:GLN:N	2.37	0.40
68:SU:63:PRO:C	68:SU:65:PRO:HD3	2.46	0.40
1:LA:340:C:H2'	1:LA:341:G:O4'	2.22	0.40
1:LA:598:A:H2'	1:LA:599:C:C6	2.56	0.40
1:LA:911:C:OP2	4:LD:9:ARG:HD2	2.20	0.40
1:LA:1121:U:C4	1:LA:1122:U:C4	3.10	0.40
1:LA:1616:U:H2'	1:LA:1617:G:H8	1.86	0.40
1:LA:2723:U:H2'	1:LA:2724:U:C6	2.56	0.40
2:LB:4:U:H2'	2:LB:5:G:C8	2.56	0.40
3:LC:64:U:C2	3:LC:65:A:C8	3.09	0.40
10:LJ:231:LYS:HB2	10:LJ:231:LYS:HE2	1.61	0.40
11:LK:38:LEU:HD21	11:LK:71:VAL:HG23	2.03	0.40
13:LM:91:LEU:HD22	13:LM:95:ASN:HD22	1.86	0.40
13:LM:109:HIS:HD2	13:LM:123:PHE:N	2.16	0.40
16:LP:56:LYS:HB2	16:LP:56:LYS:HE3	1.82	0.40
27:La:103:LYS:HA	27:La:103:LYS:HD3	1.90	0.40
47:S2:400:A:H4'	47:S2:401:A:C5'	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SB:90:ILE:O	49:SB:93:LEU:HD23	2.22	0.40
51:SD:62:LEU:HD12	51:SD:63:VAL:H	1.86	0.40
52:SE:127:ARG:HG2	52:SE:128:HIS:N	2.36	0.40
61:SN:104:SER:HB2	61:SN:106:TYR:HE1	1.86	0.40
62:SO:10:ARG:HA	62:SO:10:ARG:HD3	1.96	0.40
65:SR:42:GLY:HA2	65:SR:68:ILE:HD11	2.03	0.40
65:SR:174:ARG:O	70:SW:97:LEU:HD13	2.21	0.40
69:SV:90:LEU:O	69:SV:95:THR:HG23	2.22	0.40
69:SV:169:ILE:HD12	69:SV:179:CYS:SG	2.62	0.40
70:SW:51:LYS:HG3	70:SW:52:ILE:N	2.37	0.40
74:Sa:14:PRO:HG2	74:Sa:23:ILE:HD13	2.02	0.40
77:Sd:40:LEU:HD23	77:Sd:40:LEU:HA	1.91	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	LD	249/251 (99%)	234 (94%)	15 (6%)	0	100	100
5	LE	384/386 (100%)	360 (94%)	24 (6%)	0	100	100
6	LF	359/361 (99%)	336 (94%)	23 (6%)	0	100	100
7	LG	292/294 (99%)	278 (95%)	14 (5%)	0	100	100
8	LH	163/175 (93%)	155 (95%)	8 (5%)	0	100	100
9	LI	220/222 (99%)	209 (95%)	11 (5%)	0	100	100
10	LJ	231/233 (99%)	222 (96%)	9 (4%)	0	100	100
11	LK	189/191 (99%)	175 (93%)	14 (7%)	0	100	100
12	LL	216/218 (99%)	209 (97%)	7 (3%)	0	100	100
13	LM	167/169 (99%)	160 (96%)	7 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	LN	191/193 (99%)	173 (91%)	18 (9%)	0	100	100
15	LO	134/136 (98%)	129 (96%)	5 (4%)	0	100	100
16	LP	201/203 (99%)	192 (96%)	9 (4%)	0	100	100
17	LQ	195/197 (99%)	191 (98%)	4 (2%)	0	100	100
18	LR	181/183 (99%)	170 (94%)	11 (6%)	0	100	100
19	LS	183/185 (99%)	177 (97%)	6 (3%)	0	100	100
20	LT	186/188 (99%)	183 (98%)	3 (2%)	0	100	100
21	LU	169/171 (99%)	160 (95%)	9 (5%)	0	100	100
22	LV	157/159 (99%)	145 (92%)	12 (8%)	0	100	100
23	LW	98/100 (98%)	93 (95%)	5 (5%)	0	100	100
24	LX	134/136 (98%)	133 (99%)	1 (1%)	0	100	100
25	LY	63/65 (97%)	61 (97%)	2 (3%)	0	100	100
26	LZ	119/121 (98%)	115 (97%)	4 (3%)	0	100	100
27	La	123/125 (98%)	118 (96%)	5 (4%)	0	100	100
28	Lb	133/135 (98%)	126 (95%)	7 (5%)	0	100	100
29	Lc	146/148 (99%)	134 (92%)	12 (8%)	0	100	100
30	Ld	56/58 (97%)	52 (93%)	4 (7%)	0	100	100
31	Le	94/96 (98%)	94 (100%)	0	0	100	100
32	Lf	107/109 (98%)	103 (96%)	4 (4%)	0	100	100
33	Lg	125/127 (98%)	123 (98%)	2 (2%)	0	100	100
34	Lh	104/106 (98%)	101 (97%)	3 (3%)	0	100	100
35	Li	110/112 (98%)	109 (99%)	1 (1%)	0	100	100
36	Lj	117/119 (98%)	113 (97%)	4 (3%)	0	100	100
37	Lk	97/99 (98%)	92 (95%)	5 (5%)	0	100	100
38	Ll	79/81 (98%)	79 (100%)	0	0	100	100
39	Lm	75/77 (97%)	75 (100%)	0	0	100	100
40	Ln	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
41	Lo	50/52 (96%)	48 (96%)	2 (4%)	0	100	100
42	Lp	23/25 (92%)	23 (100%)	0	0	100	100
43	Lq	101/103 (98%)	94 (93%)	7 (7%)	0	100	100
44	Lr	89/91 (98%)	84 (94%)	5 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	SA	220/222 (99%)	213 (97%)	7 (3%)	0	100	100
49	SB	204/206 (99%)	191 (94%)	12 (6%)	1 (0%)	24	43
50	SC	90/92 (98%)	79 (88%)	11 (12%)	0	100	100
51	SD	119/121 (98%)	95 (80%)	24 (20%)	0	100	100
52	SE	115/117 (98%)	108 (94%)	7 (6%)	0	100	100
53	SF	139/141 (99%)	131 (94%)	8 (6%)	0	100	100
54	SG	117/125 (94%)	113 (97%)	4 (3%)	0	100	100
55	SH	143/145 (99%)	139 (97%)	4 (3%)	0	100	100
56	SI	141/143 (99%)	130 (92%)	11 (8%)	0	100	100
57	SJ	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
58	SK	80/82 (98%)	77 (96%)	3 (4%)	0	100	100
59	SL	61/63 (97%)	57 (93%)	4 (7%)	0	100	100
60	SM	51/53 (96%)	51 (100%)	0	0	100	100
61	SN	71/73 (97%)	59 (83%)	12 (17%)	0	100	100
62	SO	310/312 (99%)	277 (89%)	33 (11%)	0	100	100
63	SP	204/206 (99%)	185 (91%)	19 (9%)	0	100	100
64	SQ	222/232 (96%)	204 (92%)	18 (8%)	0	100	100
65	SR	214/216 (99%)	201 (94%)	13 (6%)	0	100	100
66	SS	256/258 (99%)	236 (92%)	20 (8%)	0	100	100
67	ST	226/228 (99%)	206 (91%)	19 (8%)	1 (0%)	30	50
68	SU	182/184 (99%)	171 (94%)	11 (6%)	0	100	100
69	SV	183/198 (92%)	175 (96%)	8 (4%)	0	100	100
70	SW	182/184 (99%)	168 (92%)	14 (8%)	0	100	100
71	SX	140/142 (99%)	131 (94%)	9 (6%)	0	100	100
72	SY	148/150 (99%)	142 (96%)	6 (4%)	0	100	100
73	SZ	125/127 (98%)	113 (90%)	12 (10%)	0	100	100
74	Sa	85/87 (98%)	79 (93%)	6 (7%)	0	100	100
75	Sb	127/129 (98%)	119 (94%)	8 (6%)	0	100	100
76	Sc	142/144 (99%)	128 (90%)	14 (10%)	0	100	100
77	Sd	132/134 (98%)	125 (95%)	7 (5%)	0	100	100
78	Se	95/97 (98%)	92 (97%)	3 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
79	Sf	79/81 (98%)	71 (90%)	8 (10%)	0	100	100
80	Sg	55/57 (96%)	49 (89%)	6 (11%)	0	100	100
All	All	10914/11099 (98%)	10282 (94%)	630 (6%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
67	ST	175	ILE
49	SB	162	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	LD	190/193 (98%)	185 (97%)	5 (3%)	40	63
5	LE	318/322 (99%)	309 (97%)	9 (3%)	38	61
6	LF	288/288 (100%)	279 (97%)	9 (3%)	35	59
7	LG	241/243 (99%)	234 (97%)	7 (3%)	37	61
8	LH	139/154 (90%)	134 (96%)	5 (4%)	31	55
9	LI	186/186 (100%)	182 (98%)	4 (2%)	45	67
10	LJ	187/191 (98%)	182 (97%)	5 (3%)	39	62
11	LK	168/171 (98%)	161 (96%)	7 (4%)	26	49
12	LL	185/185 (100%)	181 (98%)	4 (2%)	45	67
13	LM	145/147 (99%)	141 (97%)	4 (3%)	38	61
14	LN	154/154 (100%)	147 (96%)	7 (4%)	24	46
15	LO	107/107 (100%)	105 (98%)	2 (2%)	50	70
16	LP	175/175 (100%)	171 (98%)	4 (2%)	44	66
17	LQ	160/160 (100%)	159 (99%)	1 (1%)	78	88
18	LR	138/145 (95%)	135 (98%)	3 (2%)	45	67
19	LS	150/150 (100%)	147 (98%)	3 (2%)	48	69

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
20	LT	152/153 (99%)	146 (96%)	6 (4%)	28 51
21	LU	155/155 (100%)	149 (96%)	6 (4%)	28 51
22	LV	135/136 (99%)	130 (96%)	5 (4%)	30 54
23	LW	87/87 (100%)	77 (88%)	10 (12%)	5 10
24	LX	104/104 (100%)	100 (96%)	4 (4%)	29 52
25	LY	54/57 (95%)	53 (98%)	1 (2%)	50 70
26	LZ	104/105 (99%)	100 (96%)	4 (4%)	29 52
27	La	108/108 (100%)	106 (98%)	2 (2%)	50 70
28	Lb	112/115 (97%)	111 (99%)	1 (1%)	70 82
29	Lc	117/118 (99%)	115 (98%)	2 (2%)	53 71
30	Ld	46/46 (100%)	45 (98%)	1 (2%)	45 67
31	Le	81/81 (100%)	80 (99%)	1 (1%)	63 78
32	Lf	92/96 (96%)	85 (92%)	7 (8%)	12 23
33	Lg	108/109 (99%)	106 (98%)	2 (2%)	50 70
34	Lh	90/90 (100%)	89 (99%)	1 (1%)	65 79
35	Li	95/95 (100%)	94 (99%)	1 (1%)	65 79
36	Lj	104/104 (100%)	100 (96%)	4 (4%)	29 52
37	Lk	80/81 (99%)	76 (95%)	4 (5%)	22 42
38	Ll	67/67 (100%)	66 (98%)	1 (2%)	57 74
39	Lm	68/68 (100%)	65 (96%)	3 (4%)	25 47
40	Ln	45/45 (100%)	42 (93%)	3 (7%)	15 28
41	Lo	45/47 (96%)	45 (100%)	0	100 100
42	Lp	22/23 (96%)	21 (96%)	1 (4%)	24 46
43	Lq	87/88 (99%)	85 (98%)	2 (2%)	44 66
44	Lr	71/71 (100%)	71 (100%)	0	100 100
48	SA	182/182 (100%)	176 (97%)	6 (3%)	33 57
49	SB	172/173 (99%)	165 (96%)	7 (4%)	27 49
50	SC	77/85 (91%)	77 (100%)	0	100 100
51	SD	88/98 (90%)	84 (96%)	4 (4%)	24 46
52	SE	95/98 (97%)	93 (98%)	2 (2%)	47 67
53	SF	117/117 (100%)	110 (94%)	7 (6%)	17 32

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
54	SG	101/113 (89%)	93 (92%)	8 (8%)	11	21
55	SH	127/128 (99%)	126 (99%)	1 (1%)	73	84
56	SI	115/115 (100%)	110 (96%)	5 (4%)	26	47
57	SJ	93/93 (100%)	87 (94%)	6 (6%)	15	29
58	SK	67/73 (92%)	65 (97%)	2 (3%)	36	60
59	SL	55/56 (98%)	53 (96%)	2 (4%)	31	55
60	SM	47/47 (100%)	47 (100%)	0	100	100
61	SN	56/64 (88%)	56 (100%)	0	100	100
62	SO	250/257 (97%)	243 (97%)	7 (3%)	38	61
63	SP	170/173 (98%)	164 (96%)	6 (4%)	32	56
64	SQ	200/205 (98%)	188 (94%)	12 (6%)	17	32
65	SR	175/175 (100%)	167 (95%)	8 (5%)	24	45
66	SS	220/220 (100%)	214 (97%)	6 (3%)	39	62
67	ST	189/195 (97%)	175 (93%)	14 (7%)	13	24
68	SU	163/165 (99%)	154 (94%)	9 (6%)	19	37
69	SV	148/159 (93%)	141 (95%)	7 (5%)	23	45
70	SW	156/157 (99%)	150 (96%)	6 (4%)	29	52
71	SX	126/127 (99%)	122 (97%)	4 (3%)	34	58
72	SY	127/127 (100%)	124 (98%)	3 (2%)	43	65
73	SZ	90/96 (94%)	86 (96%)	4 (4%)	25	47
74	Sa	71/74 (96%)	70 (99%)	1 (1%)	59	75
75	Sb	110/110 (100%)	105 (96%)	5 (4%)	24	46
76	Sc	119/119 (100%)	114 (96%)	5 (4%)	26	49
77	Sd	102/112 (91%)	97 (95%)	5 (5%)	22	43
78	Se	82/83 (99%)	80 (98%)	2 (2%)	43	65
79	Sf	70/70 (100%)	65 (93%)	5 (7%)	13	25
80	Sg	48/49 (98%)	46 (96%)	2 (4%)	26	49
All	All	9168/9335 (98%)	8856 (97%)	312 (3%)	33	57

All (312) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	LD	88	ILE

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Mol	Chain	Res	Type
4	LD	96	LEU
4	LD	113	VAL
4	LD	144	ASN
4	LD	191	LEU
5	LE	34	LYS
5	LE	84	VAL
5	LE	112	ASP
5	LE	145	GLU
5	LE	158	VAL
5	LE	166	ILE
5	LE	210	GLU
5	LE	319	ASN
5	LE	337	THR
6	LF	63	GLU
6	LF	136	LEU
6	LF	230	VAL
6	LF	259	ASP
6	LF	279	HIS
6	LF	280	ILE
6	LF	294	GLU
6	LF	306	THR
6	LF	338	LYS
7	LG	28	THR
7	LG	107	ARG
7	LG	125	VAL
7	LG	153	THR
7	LG	163	LEU
7	LG	185	PHE
7	LG	230	ASP
8	LH	15	VAL
8	LH	35	VAL
8	LH	80	ASN
8	LH	89	THR
8	LH	93	VAL
9	LI	74	SER
9	LI	87	VAL
9	LI	146	GLN
9	LI	168	ILE
10	LJ	164	VAL
10	LJ	175	VAL
10	LJ	197	VAL
10	LJ	201	THR

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Mol	Chain	Res	Type
10	LJ	238	LEU
11	LK	16	VAL
11	LK	26	LYS
11	LK	38	LEU
11	LK	82	VAL
11	LK	92	TYR
11	LK	122	LYS
11	LK	123	ILE
12	LL	76	MET
12	LL	88	ARG
12	LL	138	VAL
12	LL	166	ILE
13	LM	17	LEU
13	LM	44	THR
13	LM	54	VAL
13	LM	122	ILE
14	LN	19	GLN
14	LN	20	GLU
14	LN	81	LYS
14	LN	104	ARG
14	LN	124	ILE
14	LN	176	GLU
14	LN	185	LYS
15	LO	11	ASN
15	LO	101	LYS
16	LP	60	VAL
16	LP	101	THR
16	LP	117	ASN
16	LP	138	GLN
17	LQ	136[A]	THR
18	LR	96	GLN
18	LR	128	ARG
18	LR	148	LEU
19	LS	41	ASP
19	LS	95	GLU
19	LS	173	GLU
20	LT	14	VAL
20	LT	29	THR
20	LT	31	GLU
20	LT	55	VAL
20	LT	66	HIS
20	LT	150	GLN

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Mol	Chain	Res	Type
21	LU	23	LYS
21	LU	45	LEU
21	LU	93	GLU
21	LU	108	GLN
21	LU	130	GLU
21	LU	136	LYS
22	LV	25	VAL
22	LV	52	MET
22	LV	126	VAL
22	LV	142	SER
22	LV	149	GLN
23	LW	16	THR
23	LW	23	THR
23	LW	47	VAL
23	LW	50	LEU
23	LW	55	THR
23	LW	56	VAL
23	LW	89	LEU
23	LW	92	TRP
23	LW	98	THR
23	LW	102	GLU
24	LX	74	MET
24	LX	98	ASN
24	LX	118	VAL
24	LX	137	VAL
25	LY	44	LYS
26	LZ	62	VAL
26	LZ	68	THR
26	LZ	107	VAL
26	LZ	133	LEU
27	La	56	VAL
27	La	112	ASP
28	Lb	74	VAL
29	Lc	91	LEU
29	Lc	145	VAL
30	Ld	21	ILE
31	Le	13	LYS
32	Lf	16	LEU
32	Lf	31	ARG
32	Lf	64	VAL
32	Lf	73	LEU
32	Lf	79	ARG

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Mol	Chain	Res	Type
32	Lf	106	THR
32	Lf	109	VAL
33	Lg	4	LEU
33	Lg	14	THR
34	Lh	56	SER
35	Li	35	VAL
36	Lj	46	THR
36	Lj	84	LYS
36	Lj	100	VAL
36	Lj	118	ILE
37	Lk	45	ARG
37	Lk	47	ILE
37	Lk	51	SER
37	Lk	76	ARG
38	Ll	10	LYS
39	Lm	15	THR
39	Lm	56	ILE
39	Lm	66	ILE
40	Ln	4	GLN
40	Ln	8	ARG
40	Ln	27	ILE
42	Lp	23	ARG
43	Lq	64	THR
43	Lq	71	ARG
48	SA	28	GLU
48	SA	65	ARG
48	SA	86	LEU
48	SA	105	MET
48	SA	115	ILE
48	SA	127	MET
49	SB	49	GLU
49	SB	60	ASP
49	SB	84	LYS
49	SB	125	THR
49	SB	132	VAL
49	SB	167	ARG
49	SB	225	ARG
51	SD	58	LEU
51	SD	121	VAL
51	SD	122	VAL
51	SD	140	PHE
52	SE	118	GLU

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Mol	Chain	Res	Type
52	SE	121	ILE
53	SF	28	LEU
53	SF	29	ILE
53	SF	37	THR
53	SF	43	ILE
53	SF	46	PHE
53	SF	65	ILE
53	SF	97	VAL
54	SG	23	LYS
54	SG	37	GLU
54	SG	38	ILE
54	SG	43	SER
54	SG	45	ARG
54	SG	59	LYS
54	SG	85	VAL
54	SG	119	LEU
55	SH	18	LEU
56	SI	9	VAL
56	SI	16	ASN
56	SI	94	ILE
56	SI	129	GLN
56	SI	134	ARG
57	SJ	26	LEU
57	SJ	29	THR
57	SJ	34	LEU
57	SJ	46	GLU
57	SJ	62	VAL
57	SJ	70	THR
58	SK	45	GLU
58	SK	63	SER
59	SL	52	ASP
59	SL	58	GLU
62	SO	8	VAL
62	SO	17	ASN
62	SO	32	LEU
62	SO	47	LEU
62	SO	89	LEU
62	SO	111	MET
62	SO	150	TRP
63	SP	12	GLU
63	SP	16	LEU
63	SP	32	HIS

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Mol	Chain	Res	Type
63	SP	116	LYS
63	SP	151	SER
63	SP	158	VAL
64	SQ	42	ASN
64	SQ	61	LEU
64	SQ	65	VAL
64	SQ	97	LEU
64	SQ	110	LEU
64	SQ	144	ARG
64	SQ	148	ASN
64	SQ	207	LEU
64	SQ	208	GLN
64	SQ	211	HIS
64	SQ	215	VAL
64	SQ	220	GLN
65	SR	79	GLU
65	SR	87	GLN
65	SR	101	VAL
65	SR	102	VAL
65	SR	120	GLU
65	SR	146	THR
65	SR	193	VAL
65	SR	195	ASP
66	SS	40	GLU
66	SS	105	VAL
66	SS	140	VAL
66	SS	227	VAL
66	SS	248	ILE
66	SS	250	GLU
67	ST	5	ILE
67	ST	15	THR
67	ST	27	PHE
67	ST	31	ARG
67	ST	34	GLN
67	ST	36	VAL
67	ST	52	ILE
67	ST	77	LEU
67	ST	81	VAL
67	ST	129	VAL
67	ST	133	LEU
67	ST	145	PHE
67	ST	169	TYR

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Mol	Chain	Res	Type
67	ST	190	GLN
68	SU	16	LEU
68	SU	45	SER
68	SU	46	ILE
68	SU	67	LEU
68	SU	81	LEU
68	SU	91	ILE
68	SU	107	ARG
68	SU	134	GLU
68	SU	182	VAL
69	SV	46	VAL
69	SV	72	ILE
69	SV	94	ASN
69	SV	95	THR
69	SV	110	ARG
69	SV	152	ILE
69	SV	196	LEU
70	SW	16	LYS
70	SW	68	LYS
70	SW	78	ARG
70	SW	99	LEU
70	SW	107	ARG
70	SW	161	THR
71	SX	83	THR
71	SX	122	ILE
71	SX	124	THR
71	SX	135	VAL
72	SY	11	ILE
72	SY	60	VAL
72	SY	64	ARG
73	SZ	26	THR
73	SZ	42	VAL
73	SZ	49	LYS
73	SZ	67	VAL
74	Sa	51	VAL
75	Sb	66	ASN
75	Sb	74	VAL
75	Sb	86	ILE
75	Sb	122	SER
75	Sb	129	VAL
76	Sc	77	ILE
76	Sc	90	ASP

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Mol	Chain	Res	Type
76	Sc	107	PHE
76	Sc	120	VAL
76	Sc	125	VAL
77	Sd	18	LEU
77	Sd	25	VAL
77	Sd	27	VAL
77	Sd	37	LYS
77	Sd	46	GLU
78	Se	67	THR
78	Se	85	ARG
79	Sf	5	GLN
79	Sf	18	LYS
79	Sf	33	LEU
79	Sf	44	THR
79	Sf	78	SER
80	Sg	5	HIS
80	Sg	56	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (95) such sidechains are listed below:

Mol	Chain	Res	Type
4	LD	144	ASN
4	LD	205	ASN
4	LD	211	HIS
5	LE	121	ASN
5	LE	182	GLN
5	LE	184	ASN
5	LE	198	HIS
5	LE	224	HIS
6	LF	48	GLN
6	LF	116	ASN
6	LF	201	GLN
7	LG	90	HIS
9	LI	81	HIS
9	LI	146	GLN
10	LJ	33	ASN
11	LK	183	HIS
13	LM	109	HIS
14	LN	37	ASN
14	LN	120	GLN
15	LO	27	GLN
15	LO	119	GLN

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Mol	Chain	Res	Type
19	LS	45	ASN
19	LS	126	GLN
19	LS	135	GLN
21	LU	3	HIS
21	LU	62	ASN
21	LU	65	ASN
22	LV	131	GLN
22	LV	146	ASN
24	LX	7	GLN
26	LZ	85	GLN
28	Lb	122	HIS
28	Lb	127	ASN
29	Lc	62	HIS
30	Ld	6	ASN
33	Lg	21	HIS
33	Lg	26	HIS
33	Lg	49	ASN
34	Lh	42	GLN
35	Li	61	GLN
36	Lj	59	ASN
36	Lj	104	GLN
37	Lk	91	ASN
38	Ll	30	GLN
40	Ln	4	GLN
41	Lo	120	GLN
43	Lq	27	GLN
48	SA	111	ASN
49	SB	44	ASN
49	SB	72	HIS
49	SB	200	ASN
49	SB	224	ASN
50	SC	29	GLN
50	SC	47	GLN
50	SC	81	ASN
52	SE	70	ASN
53	SF	32	ASN
53	SF	83	GLN
53	SF	103	ASN
54	SG	42	GLN
55	SH	8	GLN
55	SH	78	HIS
57	SJ	49	ASN

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Mol	Chain	Res	Type
58	SK	82	HIS
60	SM	53	ASN
62	SO	17	ASN
62	SO	153	GLN
62	SO	268	GLN
63	SP	15	GLN
63	SP	30	GLN
64	SQ	6	ASN
64	SQ	160	HIS
64	SQ	208	GLN
65	SR	87	GLN
65	SR	233	GLN
66	SS	57	ASN
66	SS	153	ASN
66	SS	197	HIS
67	ST	176	GLN
67	ST	182	GLN
67	ST	185	GLN
67	ST	189	HIS
67	ST	197	ASN
68	SU	11	GLN
68	SU	174	ASN
69	SV	116	HIS
72	SY	36	GLN
74	Sa	7	GLN
74	Sa	33	GLN
74	Sa	81	ASN
75	Sb	66	ASN
75	Sb	120	HIS
76	Sc	65	ASN
79	Sf	51	GLN
80	Sg	17	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	LA	3159/3396 (93%)	749 (23%)	27 (0%)
2	LB	120/121 (99%)	17 (14%)	1 (0%)
3	LC	157/158 (99%)	36 (22%)	1 (0%)
45	mR	0/11	-	-
46	Cc	76/77 (98%)	22 (28%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
47	S2	1768/1800 (98%)	671 (37%)	21 (1%)
81	Bb	75/76 (98%)	33 (44%)	0
All	All	5355/5639 (94%)	1528 (28%)	50 (0%)

All (1528) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	LA	5	G
1	LA	6	A
1	LA	14	U
1	LA	21	G
1	LA	22	G
1	LA	26	A
1	LA	34	A
1	LA	40	A
1	LA	43	A
1	LA	49	A
1	LA	59	G
1	LA	60	A
1	LA	65	A
1	LA	66	A
1	LA	67	A
1	LA	92	G
1	LA	108	A
1	LA	109	A
1	LA	110	G
1	LA	111	C
1	LA	116	A
1	LA	120	G
1	LA	122	A
1	LA	133	U
1	LA	135	C
1	LA	136	G
1	LA	139	G
1	LA	147	U
1	LA	156	G
1	LA	157	A
1	LA	159	A
1	LA	160	G
1	LA	163	C
1	LA	164	A
1	LA	166	C

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Mol	Chain	Res	Type
1	LA	167	U
1	LA	169	U
1	LA	170	G
1	LA	177	U
1	LA	178	U
1	LA	182	U
1	LA	189	G
1	LA	190	U
1	LA	191	U
1	LA	199	A
1	LA	200	C
1	LA	206	G
1	LA	210	U
1	LA	218	G
1	LA	219	A
1	LA	235	A
1	LA	236	G
1	LA	240	U
1	LA	241	G
1	LA	243	G
1	LA	247	C
1	LA	248	U
1	LA	249	U
1	LA	250	U
1	LA	251	G
1	LA	252	U
1	LA	253	A
1	LA	256	G
1	LA	258	G
1	LA	259	C
1	LA	260	C
1	LA	261	U
1	LA	269	G
1	LA	270	U
1	LA	286	U
1	LA	295	A
1	LA	297	G
1	LA	298	U
1	LA	305	U
1	LA	308	A
1	LA	309	U
1	LA	311	C

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Mol	Chain	Res	Type
1	LA	315	C
1	LA	323	A
1	LA	329	U
1	LA	337	G
1	LA	341	G
1	LA	350	C
1	LA	362	U
1	LA	370	U
1	LA	376	G
1	LA	398	A
1	LA	402	A
1	LA	403	C
1	LA	404	G
1	LA	406	G
1	LA	412	G
1	LA	418	A
1	LA	421	G
1	LA	422	A
1	LA	433	A
1	LA	438	A
1	LA	521	A
1	LA	522	A
1	LA	523	A
1	LA	535	G
1	LA	540	U
1	LA	543	C
1	LA	544	C
1	LA	546	C
1	LA	547	G
1	LA	548	G
1	LA	549	U
1	LA	550	A
1	LA	551	A
1	LA	552	G
1	LA	555	U
1	LA	557	A
1	LA	559	A
1	LA	560	G
1	LA	562	C
1	LA	568	G
1	LA	569	A
1	LA	572	A

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Mol	Chain	Res	Type
1	LA	575	G
1	LA	579	G
1	LA	589	A
1	LA	592	A
1	LA	593	C
1	LA	594	U
1	LA	600	G
1	LA	601	U
1	LA	603	A
1	LA	604	G
1	LA	609	G
1	LA	610	G
1	LA	611	A
1	LA	612	U
1	LA	620	U
1	LA	621	A
1	LA	637	C
1	LA	649	A
1	LA	653	A
1	LA	661	G
1	LA	677	A
1	LA	690	A
1	LA	691	A
1	LA	693	A
1	LA	705	A
1	LA	711	A
1	LA	712	G
1	LA	715	A
1	LA	716	A
1	LA	719	U
1	LA	727	G
1	LA	732	C
1	LA	733	G
1	LA	734	C
1	LA	760	G
1	LA	761	A
1	LA	765	C
1	LA	766	U
1	LA	767	U
1	LA	774	G
1	LA	776	U
1	LA	777	U

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Mol	Chain	Res	Type
1	LA	781	G
1	LA	785	G
1	LA	806	A
1	LA	808	A
1	LA	817	A
1	LA	830	A
1	LA	835	G
1	LA	836	A
1	LA	849	C
1	LA	857	G
1	LA	861	C
1	LA	869	G
1	LA	874	U
1	LA	879	U
1	LA	880	G
1	LA	890	C
1	LA	896	A
1	LA	897	U
1	LA	907	G
1	LA	908	G
1	LA	914	A
1	LA	916	G
1	LA	917	A
1	LA	921	A
1	LA	923	C
1	LA	924	G
1	LA	925	A
1	LA	927	C
1	LA	937	G
1	LA	944	C
1	LA	959	C
1	LA	960	U
1	LA	962	A
1	LA	963	G
1	LA	974	G
1	LA	980	A
1	LA	981	U
1	LA	982	C
1	LA	1000	C
1	LA	1010	G
1	LA	1015	U
1	LA	1016	C

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Mol	Chain	Res	Type
1	LA	1017	C
1	LA	1018	G
1	LA	1019	G
1	LA	1021	G
1	LA	1023	C
1	LA	1024	G
1	LA	1026	A
1	LA	1028	U
1	LA	1029	G
1	LA	1030	A
1	LA	1031	C
1	LA	1035	G
1	LA	1038	C
1	LA	1040	A
1	LA	1041	U
1	LA	1042	U
1	LA	1043	C
1	LA	1047	A
1	LA	1049	C
1	LA	1050	U
1	LA	1064	A
1	LA	1066	G
1	LA	1070	U
1	LA	1071	U
1	LA	1072	G
1	LA	1081	U
1	LA	1087	G
1	LA	1093	A
1	LA	1094	U
1	LA	1095	U
1	LA	1097	G
1	LA	1098	A
1	LA	1103	A
1	LA	1104	G
1	LA	1108	U
1	LA	1117	G
1	LA	1131	G
1	LA	1136	A
1	LA	1137	C
1	LA	1138	U
1	LA	1144	U
1	LA	1153	A

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Mol	Chain	Res	Type
1	LA	1154	A
1	LA	1159	A
1	LA	1178	G
1	LA	1179	A
1	LA	1180	A
1	LA	1181	U
1	LA	1186	G
1	LA	1192	C
1	LA	1193	A
1	LA	1196	C
1	LA	1198	C
1	LA	1201	C
1	LA	1202	A
1	LA	1207	G
1	LA	1208	U
1	LA	1214	U
1	LA	1218	U
1	LA	1220	U
1	LA	1221	A
1	LA	1223	A
1	LA	1228	C
1	LA	1236	G
1	LA	1239	C
1	LA	1240	A
1	LA	1241	U
1	LA	1242	G
1	LA	1244	A
1	LA	1245	A
1	LA	1246	G
1	LA	1247	U
1	LA	1249	G
1	LA	1250	G
1	LA	1251	A
1	LA	1252	A
1	LA	1254	C
1	LA	1255	C
1	LA	1256	G
1	LA	1258	U
1	LA	1260	A
1	LA	1261	G
1	LA	1262	G
1	LA	1263	A

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Mol	Chain	Res	Type
1	LA	1264	G
1	LA	1265	U
1	LA	1268	G
1	LA	1269	U
1	LA	1270	A
1	LA	1272	C
1	LA	1274	A
1	LA	1275	C
1	LA	1278	A
1	LA	1279	C
1	LA	1281	G
1	LA	1282	G
1	LA	1284	C
1	LA	1285	G
1	LA	1286	A
1	LA	1287	A
1	LA	1307	G
1	LA	1308	A
1	LA	1309	U
1	LA	1313	G
1	LA	1324	U
1	LA	1330	A
1	LA	1331	U
1	LA	1344	G
1	LA	1348	U
1	LA	1350	A
1	LA	1352	A
1	LA	1353	U
1	LA	1354	G
1	LA	1355	A
1	LA	1356	U
1	LA	1357	G
1	LA	1386	A
1	LA	1391	C
1	LA	1392	G
1	LA	1399	A
1	LA	1400	G
1	LA	1415	U
1	LA	1416	C
1	LA	1417	G
1	LA	1418	A
1	LA	1419	A

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Mol	Chain	Res	Type
1	LA	1431	G
1	LA	1434	G
1	LA	1437	C
1	LA	1446	A
1	LA	1452	A
1	LA	1468	A
1	LA	1469	C
1	LA	1481	A
1	LA	1482	A
1	LA	1483	G
1	LA	1487	G
1	LA	1503	A
1	LA	1508	C
1	LA	1511	U
1	LA	1525	G
1	LA	1536	G
1	LA	1539	A
1	LA	1555	U
1	LA	1556	C
1	LA	1557	A
1	LA	1560	G
1	LA	1562	C
1	LA	1563	C
1	LA	1568	U
1	LA	1569	U
1	LA	1570	U
1	LA	1572	U
1	LA	1574	C
1	LA	1575	A
1	LA	1576	G
1	LA	1579	C
1	LA	1581	C
1	LA	1582	C
1	LA	1583	A
1	LA	1587	A
1	LA	1589	A
1	LA	1590	G
1	LA	1593	A
1	LA	1596	C
1	LA	1605	A
1	LA	1619	A
1	LA	1620	U

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Mol	Chain	Res	Type
1	LA	1625	A
1	LA	1626	U
1	LA	1627	U
1	LA	1628	C
1	LA	1629	U
1	LA	1639	C
1	LA	1642	A
1	LA	1643	A
1	LA	1645	U
1	LA	1647	A
1	LA	1657	C
1	LA	1683	A
1	LA	1684	U
1	LA	1688	U
1	LA	1694	U
1	LA	1705	U
1	LA	1713	G
1	LA	1715	A
1	LA	1721	U
1	LA	1724	U
1	LA	1736	G
1	LA	1741	A
1	LA	1750	A
1	LA	1751	G
1	LA	1759	C
1	LA	1760	A
1	LA	1761	C
1	LA	1762	C
1	LA	1763	U
1	LA	1765	U
1	LA	1766	G
1	LA	1769	G
1	LA	1770	G
1	LA	1775	G
1	LA	1778	G
1	LA	1780	G
1	LA	1796	G
1	LA	1797	A
1	LA	1798	A
1	LA	1810	A
1	LA	1813	A
1	LA	1814	A

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Mol	Chain	Res	Type
1	LA	1815	U
1	LA	1816	A
1	LA	1821	U
1	LA	1839	A
1	LA	1840	U
1	LA	1842	A
1	LA	1846	C
1	LA	1849	C
1	LA	1858	A
1	LA	1866	C
1	LA	1878	G
1	LA	1880	U
1	LA	1881	A
1	LA	1893	A
1	LA	1899	G
1	LA	1906	G
1	LA	1907	C
1	LA	1926	C
1	LA	1951	C
1	LA	1952	G
1	LA	1953	G
1	LA	1954	G
1	LA	1955	U
1	LA	2094	C
1	LA	2096	A
1	LA	2097	U
1	LA	2098	C
1	LA	2099	A
1	LA	2100	A
1	LA	2101	C
1	LA	2102	U
1	LA	2110	G
1	LA	2111	G
1	LA	2112	U
1	LA	2113	A
1	LA	2121	G
1	LA	2122	G
1	LA	2131	A
1	LA	2140	U
1	LA	2142	A
1	LA	2144	A
1	LA	2158	A

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Mol	Chain	Res	Type
1	LA	2166	A
1	LA	2169	G
1	LA	2170	U
1	LA	2181	C
1	LA	2188	A
1	LA	2189	U
1	LA	2192	C
1	LA	2194	G
1	LA	2197	C
1	LA	2205	U
1	LA	2206	G
1	LA	2207	A
1	LA	2209	U
1	LA	2210	G
1	LA	2220	A
1	LA	2221	G
1	LA	2222	A
1	LA	2223	A
1	LA	2224	A
1	LA	2232	A
1	LA	2234	G
1	LA	2255	A
1	LA	2256	A
1	LA	2257	C
1	LA	2258	U
1	LA	2260	U
1	LA	2261	G
1	LA	2265	C
1	LA	2269	U
1	LA	2270	A
1	LA	2272	G
1	LA	2273	G
1	LA	2276	G
1	LA	2281	A
1	LA	2285	C
1	LA	2307	G
1	LA	2310	U
1	LA	2313	A
1	LA	2314	U
1	LA	2315	G
1	LA	2334	U
1	LA	2335	G

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Mol	Chain	Res	Type
1	LA	2336	U
1	LA	2373	A
1	LA	2374	C
1	LA	2375	G
1	LA	2376	G
1	LA	2385	G
1	LA	2388	U
1	LA	2393	G
1	LA	2397	A
1	LA	2402	A
1	LA	2403	G
1	LA	2411	U
1	LA	2435	G
1	LA	2437	G
1	LA	2439	A
1	LA	2440	G
1	LA	2441	A
1	LA	2445	A
1	LA	2446	U
1	LA	2447	A
1	LA	2448	G
1	LA	2449	A
1	LA	2450	G
1	LA	2451	G
1	LA	2493	U
1	LA	2494	A
1	LA	2496	C
1	LA	2497	U
1	LA	2498	U
1	LA	2501	U
1	LA	2502	A
1	LA	2503	G
1	LA	2504	U
1	LA	2514	U
1	LA	2515	A
1	LA	2524	A
1	LA	2533	G
1	LA	2536	A
1	LA	2537	U
1	LA	2538	U
1	LA	2539	C
1	LA	2540	A

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Mol	Chain	Res	Type
1	LA	2541	U
1	LA	2543	U
1	LA	2545	C
1	LA	2548	C
1	LA	2549	G
1	LA	2552	C
1	LA	2554	A
1	LA	2555	G
1	LA	2558	U
1	LA	2559	U
1	LA	2561	A
1	LA	2569	A
1	LA	2570	U
1	LA	2571	U
1	LA	2572	C
1	LA	2573	G
1	LA	2580	A
1	LA	2585	G
1	LA	2587	U
1	LA	2593	A
1	LA	2594	C
1	LA	2606	G
1	LA	2607	G
1	LA	2610	G
1	LA	2614	G
1	LA	2626	A
1	LA	2648	G
1	LA	2651	G
1	LA	2652	U
1	LA	2656	A
1	LA	2657	A
1	LA	2673	A
1	LA	2677	G
1	LA	2678	A
1	LA	2681	U
1	LA	2682	C
1	LA	2683	U
1	LA	2688	U
1	LA	2689	A
1	LA	2691	A
1	LA	2696	A
1	LA	2700	G

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Mol	Chain	Res	Type
1	LA	2704	A
1	LA	2705	A
1	LA	2714	G
1	LA	2727	A
1	LA	2728	G
1	LA	2729	U
1	LA	2753	G
1	LA	2755	C
1	LA	2762	A
1	LA	2772	C
1	LA	2773	C
1	LA	2777	G
1	LA	2778	G
1	LA	2781	U
1	LA	2796	G
1	LA	2797	C
1	LA	2799	A
1	LA	2800	G
1	LA	2801	A
1	LA	2805	G
1	LA	2810	C
1	LA	2816	G
1	LA	2817	A
1	LA	2837	A
1	LA	2838	A
1	LA	2842	U
1	LA	2845	A
1	LA	2853	A
1	LA	2867	C
1	LA	2871	G
1	LA	2872	A
1	LA	2875	U
1	LA	2876	C
1	LA	2887	A
1	LA	2888	U
1	LA	2889	C
1	LA	2898	G
1	LA	2911	A
1	LA	2916	U
1	LA	2918	G
1	LA	2923	U
1	LA	2927	C

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Mol	Chain	Res	Type
1	LA	2928	C
1	LA	2930	A
1	LA	2935	U
1	LA	2936	A
1	LA	2938	G
1	LA	2942	C
1	LA	2945	G
1	LA	2947	G
1	LA	2948	C
1	LA	2955	U
1	LA	2971	A
1	LA	2972	G
1	LA	2978	U
1	LA	2983	C
1	LA	2985	C
1	LA	2990	G
1	LA	2992	U
1	LA	2997	G
1	LA	3011	A
1	LA	3012	A
1	LA	3014	U
1	LA	3015	G
1	LA	3017	A
1	LA	3021	A
1	LA	3022	G
1	LA	3027	A
1	LA	3030	G
1	LA	3032	A
1	LA	3048	A
1	LA	3049	A
1	LA	3056	U
1	LA	3058	U
1	LA	3071	U
1	LA	3072	C
1	LA	3074	G
1	LA	3078	U
1	LA	3080	G
1	LA	3086	A
1	LA	3092	C
1	LA	3093	C
1	LA	3094	A
1	LA	3101	G

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Mol	Chain	Res	Type
1	LA	3113	A
1	LA	3122	A
1	LA	3129	A
1	LA	3130	A
1	LA	3131	U
1	LA	3142	A
1	LA	3143	C
1	LA	3152	U
1	LA	3153	U
1	LA	3155	U
1	LA	3156	U
1	LA	3157	U
1	LA	3158	G
1	LA	3162	C
1	LA	3165	A
1	LA	3166	C
1	LA	3169	U
1	LA	3170	A
1	LA	3171	U
1	LA	3172	A
1	LA	3173	G
1	LA	3174	A
1	LA	3179	U
1	LA	3181	C
1	LA	3183	A
1	LA	3187	A
1	LA	3195	U
1	LA	3196	U
1	LA	3197	G
1	LA	3198	U
1	LA	3199	G
1	LA	3207	U
1	LA	3209	A
1	LA	3210	A
1	LA	3213	A
1	LA	3214	U
1	LA	3217	C
1	LA	3218	A
1	LA	3219	G
1	LA	3226	A
1	LA	3227	A
1	LA	3229	G

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Mol	Chain	Res	Type
1	LA	3247	G
1	LA	3251	U
1	LA	3259	U
1	LA	3260	G
1	LA	3268	A
1	LA	3270	U
1	LA	3271	G
1	LA	3273	A
1	LA	3276	G
1	LA	3279	A
1	LA	3281	U
1	LA	3285	C
1	LA	3286	G
1	LA	3288	G
1	LA	3289	G
1	LA	3290	G
1	LA	3294	A
1	LA	3303	G
1	LA	3304	U
1	LA	3307	A
1	LA	3314	A
1	LA	3316	A
1	LA	3317	U
1	LA	3319	U
1	LA	3336	A
1	LA	3341	U
1	LA	3345	G
1	LA	3347	A
1	LA	3349	C
1	LA	3351	U
1	LA	3352	U
1	LA	3353	G
1	LA	3354	U
1	LA	3355	U
1	LA	3356	G
1	LA	3369	G
1	LA	3378	C
1	LA	3379	C
1	LA	3381	U
1	LA	3382	U
1	LA	3383	G
1	LA	3389	U

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Mol	Chain	Res	Type
2	LB	22	A
2	LB	51	A
2	LB	52	G
2	LB	53	U
2	LB	54	U
2	LB	55	A
2	LB	65	G
2	LB	73	C
2	LB	74	C
2	LB	76	A
2	LB	102	A
2	LB	105	C
2	LB	106	U
2	LB	112	G
2	LB	113	C
2	LB	117	A
2	LB	121	U
3	LC	7	U
3	LC	16	G
3	LC	17	A
3	LC	23	U
3	LC	34	U
3	LC	35	C
3	LC	38	U
3	LC	39	G
3	LC	52	A
3	LC	53	A
3	LC	54	A
3	LC	59	A
3	LC	62	C
3	LC	63	G
3	LC	75	G
3	LC	79	A
3	LC	81	U
3	LC	82	U
3	LC	84	C
3	LC	86	U
3	LC	87	G
3	LC	88	A
3	LC	90	U
3	LC	95	G
3	LC	100	U

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Mol	Chain	Res	Type
3	LC	102	U
3	LC	104	A
3	LC	106	C
3	LC	111	A
3	LC	113	U
3	LC	125	U
3	LC	126	A
3	LC	148	G
3	LC	151	C
3	LC	152	G
3	LC	156	U
46	Cc	5	G
46	Cc	7	G
46	Cc	9	G
46	Cc	10	G
46	Cc	11	A
46	Cc	13	C
46	Cc	17	C
46	Cc	18	C
46	Cc	19	G
46	Cc	20	G
46	Cc	21	U
46	Cc	22	A
46	Cc	23	G
46	Cc	48	U
46	Cc	49	C
46	Cc	55	U
46	Cc	59	A
46	Cc	68	C
46	Cc	70	C
46	Cc	71	G
46	Cc	76	C
46	Cc	77	A
47	S2	3	U
47	S2	4	C
47	S2	9	U
47	S2	14	C
47	S2	25	C
47	S2	26	A
47	S2	34	G
47	S2	39	A
47	S2	42	G

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Mol	Chain	Res	Type
47	S2	43	A
47	S2	45	U
47	S2	47	A
47	S2	56	U
47	S2	57	G
47	S2	59	C
47	S2	61	A
47	S2	63	G
47	S2	65	A
47	S2	66	U
47	S2	68	A
47	S2	69	G
47	S2	73	U
47	S2	74	U
47	S2	75	U
47	S2	76	A
47	S2	77	U
47	S2	80	A
47	S2	81	G
47	S2	84	A
47	S2	85	A
47	S2	86	A
47	S2	104	A
47	S2	106	U
47	S2	111	U
47	S2	114	C
47	S2	115	G
47	S2	116	U
47	S2	117	U
47	S2	125	U
47	S2	127	G
47	S2	129	U
47	S2	130	C
47	S2	131	C
47	S2	132	U
47	S2	133	U
47	S2	134	U
47	S2	135	A
47	S2	136	C
47	S2	137	U
47	S2	138	A
47	S2	140	A

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Mol	Chain	Res	Type
47	S2	141	U
47	S2	147	A
47	S2	148	A
47	S2	151	G
47	S2	154	G
47	S2	155	U
47	S2	156	A
47	S2	157	A
47	S2	161	U
47	S2	168	A
47	S2	171	A
47	S2	176	C
47	S2	178	U
47	S2	179	A
47	S2	180	A
47	S2	183	U
47	S2	191	C
47	S2	192	U
47	S2	194	U
47	S2	199	G
47	S2	200	A
47	S2	207	U
47	S2	208	U
47	S2	209	U
47	S2	212	U
47	S2	214	G
47	S2	215	A
47	S2	216	U
47	S2	217	A
47	S2	218	A
47	S2	219	A
47	S2	221	A
47	S2	223	U
47	S2	227	U
47	S2	228	G
47	S2	230	C
47	S2	231	U
47	S2	233	C
47	S2	234	G
47	S2	235	G
47	S2	236	A
47	S2	239	C

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Mol	Chain	Res	Type
47	S2	240	U
47	S2	241	U
47	S2	242	U
47	S2	245	U
47	S2	248	U
47	S2	256	A
47	S2	257	A
47	S2	258	C
47	S2	259	U
47	S2	260	U
47	S2	261	U
47	S2	265	A
47	S2	266	A
47	S2	267	U
47	S2	272	U
47	S2	274	G
47	S2	276	C
47	S2	277	U
47	S2	278	U
47	S2	280	U
47	S2	281	G
47	S2	291	G
47	S2	292	U
47	S2	293	U
47	S2	296	U
47	S2	297	U
47	S2	299	A
47	S2	304	U
47	S2	305	C
47	S2	313	U
47	S2	314	C
47	S2	316	A
47	S2	319	U
47	S2	320	U
47	S2	322	G
47	S2	324	U
47	S2	331	A
47	S2	333	A
47	S2	335	U
47	S2	337	G
47	S2	338	C
47	S2	343	C

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Mol	Chain	Res	Type
47	S2	345	U
47	S2	351	C
47	S2	352	A
47	S2	359	A
47	S2	360	A
47	S2	361	C
47	S2	365	G
47	S2	366	A
47	S2	368	U
47	S2	370	A
47	S2	371	G
47	S2	373	G
47	S2	374	U
47	S2	388	G
47	S2	400	A
47	S2	401	A
47	S2	402	C
47	S2	404	G
47	S2	407	A
47	S2	408	C
47	S2	414	C
47	S2	416	A
47	S2	417	A
47	S2	418	G
47	S2	419	G
47	S2	422	G
47	S2	424	C
47	S2	425	A
47	S2	426	G
47	S2	434	G
47	S2	437	A
47	S2	439	U
47	S2	444	C
47	S2	451	A
47	S2	452	A
47	S2	454	U
47	S2	455	C
47	S2	460	A
47	S2	469	C
47	S2	475	A
47	S2	477	A
47	S2	481	A

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Mol	Chain	Res	Type
47	S2	485	A
47	S2	486	G
47	S2	487	G
47	S2	489	C
47	S2	493	U
47	S2	494	U
47	S2	495	C
47	S2	496	G
47	S2	498	G
47	S2	500	C
47	S2	502	U
47	S2	505	A
47	S2	506	A
47	S2	508	U
47	S2	511	A
47	S2	512	A
47	S2	513	U
47	S2	518	A
47	S2	519	C
47	S2	520	A
47	S2	522	U
47	S2	523	G
47	S2	524	U
47	S2	525	A
47	S2	527	A
47	S2	529	A
47	S2	532	U
47	S2	534	A
47	S2	537	G
47	S2	538	A
47	S2	539	G
47	S2	540	G
47	S2	542	A
47	S2	543	C
47	S2	544	A
47	S2	545	A
47	S2	546	U
47	S2	547	U
47	S2	550	A
47	S2	555	A
47	S2	556	A
47	S2	558	U

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Mol	Chain	Res	Type
47	S2	559	C
47	S2	565	C
47	S2	567	A
47	S2	568	G
47	S2	578	U
47	S2	579	A
47	S2	580	A
47	S2	587	C
47	S2	588	U
47	S2	589	C
47	S2	590	C
47	S2	591	A
47	S2	594	A
47	S2	606	A
47	S2	610	G
47	S2	611	U
47	S2	619	A
47	S2	620	A
47	S2	623	A
47	S2	624	G
47	S2	639	U
47	S2	640	U
47	S2	642	G
47	S2	643	G
47	S2	649	U
47	S2	652	G
47	S2	653	C
47	S2	654	C
47	S2	655	G
47	S2	658	C
47	S2	677	G
47	S2	678	A
47	S2	680	U
47	S2	682	C
47	S2	683	C
47	S2	687	G
47	S2	689	G
47	S2	694	U
47	S2	695	U
47	S2	696	C
47	S2	697	C
47	S2	698	U

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Mol	Chain	Res	Type
47	S2	699	U
47	S2	700	C
47	S2	702	G
47	S2	704	C
47	S2	705	U
47	S2	706	A
47	S2	707	A
47	S2	709	C
47	S2	711	U
47	S2	712	G
47	S2	713	A
47	S2	714	G
47	S2	727	U
47	S2	729	G
47	S2	730	G
47	S2	732	G
47	S2	733	A
47	S2	734	A
47	S2	740	A
47	S2	741	C
47	S2	742	U
47	S2	743	U
47	S2	744	U
47	S2	751	G
47	S2	752	A
47	S2	753	A
47	S2	754	A
47	S2	755	A
47	S2	758	U
47	S2	759	U
47	S2	760	A
47	S2	761	G
47	S2	763	G
47	S2	765	G
47	S2	767	U
47	S2	768	C
47	S2	771	A
47	S2	772	G
47	S2	773	C
47	S2	774	A
47	S2	775	G
47	S2	777	C

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Mol	Chain	Res	Type
47	S2	780	A
47	S2	782	U
47	S2	783	G
47	S2	786	C
47	S2	789	A
47	S2	790	U
47	S2	791	A
47	S2	792	U
47	S2	793	A
47	S2	803	A
47	S2	808	U
47	S2	809	A
47	S2	810	G
47	S2	812	A
47	S2	813	U
47	S2	814	A
47	S2	816	G
47	S2	820	U
47	S2	821	U
47	S2	822	U
47	S2	823	G
47	S2	826	U
47	S2	827	C
47	S2	828	U
47	S2	829	A
47	S2	830	U
47	S2	832	U
47	S2	833	U
47	S2	834	G
47	S2	836	U
47	S2	837	G
47	S2	839	U
47	S2	841	U
47	S2	847	A
47	S2	849	C
47	S2	850	A
47	S2	851	U
47	S2	852	C
47	S2	856	A
47	S2	857	U
47	S2	860	U
47	S2	863	A

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Mol	Chain	Res	Type
47	S2	864	U
47	S2	865	A
47	S2	876	G
47	S2	892	A
47	S2	893	U
47	S2	902	G
47	S2	905	A
47	S2	907	A
47	S2	908	U
47	S2	909	U
47	S2	913	G
47	S2	914	G
47	S2	916	U
47	S2	921	U
47	S2	933	A
47	S2	934	C
47	S2	935	U
47	S2	942	G
47	S2	951	A
47	S2	960	U
47	S2	964	U
47	S2	966	A
47	S2	973	A
47	S2	984	G
47	S2	988	A
47	S2	992	A
47	S2	993	A
47	S2	998	A
47	S2	1004	U
47	S2	1005	A
47	S2	1012	U
47	S2	1018	U
47	S2	1021	C
47	S2	1023	A
47	S2	1026	A
47	S2	1028	C
47	S2	1032	G
47	S2	1039	A
47	S2	1043	A
47	S2	1049	U
47	S2	1050	G
47	S2	1052	U

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Mol	Chain	Res	Type
47	S2	1053	G
47	S2	1055	U
47	S2	1058	U
47	S2	1059	U
47	S2	1060	U
47	S2	1061	A
47	S2	1062	A
47	S2	1063	U
47	S2	1064	G
47	S2	1065	A
47	S2	1069	A
47	S2	1071	U
47	S2	1076	A
47	S2	1080	U
47	S2	1082	C
47	S2	1091	A
47	S2	1092	A
47	S2	1093	A
47	S2	1096	C
47	S2	1098	U
47	S2	1099	U
47	S2	1100	G
47	S2	1111	G
47	S2	1138	A
47	S2	1143	A
47	S2	1144	U
47	S2	1150	G
47	S2	1158	C
47	S2	1160	A
47	S2	1162	C
47	S2	1163	A
47	S2	1170	G
47	S2	1176	G
47	S2	1180	C
47	S2	1185	U
47	S2	1186	U
47	S2	1192	C
47	S2	1194	A
47	S2	1196	A
47	S2	1199	G
47	S2	1200	G
47	S2	1202	A

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Mol	Chain	Res	Type
47	S2	1204	A
47	S2	1211	A
47	S2	1213	G
47	S2	1217	A
47	S2	1219	A
47	S2	1221	A
47	S2	1222	C
47	S2	1224	A
47	S2	1227	A
47	S2	1228	G
47	S2	1232	U
47	S2	1237	G
47	S2	1239	U
47	S2	1243	G
47	S2	1244	A
47	S2	1245	G
47	S2	1246	C
47	S2	1248	C
47	S2	1249	U
47	S2	1250	U
47	S2	1251	U
47	S2	1254	U
47	S2	1255	G
47	S2	1257	U
47	S2	1258	U
47	S2	1261	G
47	S2	1263	G
47	S2	1275	A
47	S2	1281	G
47	S2	1282	U
47	S2	1284	C
47	S2	1285	U
47	S2	1286	U
47	S2	1291	G
47	S2	1295	G
47	S2	1301	U
47	S2	1310	U
47	S2	1312	A
47	S2	1314	U
47	S2	1321	A
47	S2	1322	A
47	S2	1337	A

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Mol	Chain	Res	Type
47	S2	1338	C
47	S2	1340	U
47	S2	1341	A
47	S2	1342	C
47	S2	1344	A
47	S2	1345	A
47	S2	1346	A
47	S2	1348	A
47	S2	1351	G
47	S2	1352	G
47	S2	1353	U
47	S2	1354	G
47	S2	1355	C
47	S2	1360	A
47	S2	1362	U
47	S2	1363	U
47	S2	1368	G
47	S2	1371	A
47	S2	1372	U
47	S2	1373	C
47	S2	1376	C
47	S2	1377	U
47	S2	1378	U
47	S2	1379	C
47	S2	1380	U
47	S2	1382	A
47	S2	1383	G
47	S2	1384	A
47	S2	1385	G
47	S2	1388	A
47	S2	1390	U
47	S2	1394	G
47	S2	1398	U
47	S2	1399	C
47	S2	1401	A
47	S2	1402	G
47	S2	1403	C
47	S2	1409	G
47	S2	1410	A
47	S2	1412	G
47	S2	1413	U
47	S2	1414	U

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Mol	Chain	Res	Type
47	S2	1415	U
47	S2	1422	A
47	S2	1423	U
47	S2	1424	A
47	S2	1426	C
47	S2	1427	A
47	S2	1428	G
47	S2	1429	G
47	S2	1431	C
47	S2	1432	U
47	S2	1433	G
47	S2	1434	U
47	S2	1435	G
47	S2	1436	A
47	S2	1444	A
47	S2	1445	G
47	S2	1450	U
47	S2	1451	C
47	S2	1453	G
47	S2	1456	C
47	S2	1458	G
47	S2	1459	C
47	S2	1466	G
47	S2	1469	A
47	S2	1472	C
47	S2	1481	C
47	S2	1482	C
47	S2	1483	A
47	S2	1484	G
47	S2	1485	C
47	S2	1486	G
47	S2	1487	A
47	S2	1488	G
47	S2	1489	U
47	S2	1491	U
47	S2	1492	A
47	S2	1496	U
47	S2	1498	G
47	S2	1500	C
47	S2	1502	G
47	S2	1503	A
47	S2	1504	G

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Mol	Chain	Res	Type
47	S2	1505	A
47	S2	1506	G
47	S2	1507	G
47	S2	1509	C
47	S2	1510	U
47	S2	1512	G
47	S2	1514	U
47	S2	1516	A
47	S2	1517	U
47	S2	1518	C
47	S2	1521	G
47	S2	1522	U
47	S2	1523	G
47	S2	1524	A
47	S2	1527	C
47	S2	1535	U
47	S2	1536	G
47	S2	1537	C
47	S2	1539	G
47	S2	1540	G
47	S2	1541	G
47	S2	1542	G
47	S2	1543	A
47	S2	1547	A
47	S2	1550	A
47	S2	1554	U
47	S2	1555	A
47	S2	1556	A
47	S2	1558	U
47	S2	1559	A
47	S2	1569	A
47	S2	1572	G
47	S2	1573	A
47	S2	1574	G
47	S2	1583	A
47	S2	1584	G
47	S2	1586	A
47	S2	1590	G
47	S2	1593	A
47	S2	1601	G
47	S2	1610	G
47	S2	1611	A

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Mol	Chain	Res	Type
47	S2	1612	U
47	S2	1614	A
47	S2	1615	C
47	S2	1618	C
47	S2	1619	C
47	S2	1622	G
47	S2	1634	C
47	S2	1635	A
47	S2	1636	C
47	S2	1637	C
47	S2	1657	U
47	S2	1658	G
47	S2	1662	G
47	S2	1664	C
47	S2	1666	U
47	S2	1667	A
47	S2	1671	A
47	S2	1672	G
47	S2	1679	G
47	S2	1684	U
47	S2	1687	U
47	S2	1688	U
47	S2	1689	A
47	S2	1690	G
47	S2	1691	A
47	S2	1692	G
47	S2	1694	A
47	S2	1695	G
47	S2	1696	G
47	S2	1697	G
47	S2	1698	G
47	S2	1699	G
47	S2	1700	C
47	S2	1702	A
47	S2	1703	C
47	S2	1704	U
47	S2	1705	C
47	S2	1706	C
47	S2	1707	A
47	S2	1708	U
47	S2	1710	U
47	S2	1711	C

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Mol	Chain	Res	Type
47	S2	1712	A
47	S2	1714	A
47	S2	1717	G
47	S2	1719	A
47	S2	1720	G
47	S2	1721	A
47	S2	1722	A
47	S2	1723	U
47	S2	1724	U
47	S2	1726	G
47	S2	1727	G
47	S2	1731	A
47	S2	1737	G
47	S2	1738	U
47	S2	1740	A
47	S2	1741	U
47	S2	1742	U
47	S2	1755	A
47	S2	1760	G
47	S2	1762	A
47	S2	1766	A
47	S2	1767	G
47	S2	1769	U
47	S2	1780	G
47	S2	1782	A
47	S2	1783	C
47	S2	1792	G
47	S2	1793	G
47	S2	1794	A
47	S2	1796	C
47	S2	1797	A
47	S2	1799	U
81	Bb	3	G
81	Bb	5	A
81	Bb	8	U
81	Bb	9	A
81	Bb	10	G
81	Bb	15	G
81	Bb	16	U
81	Bb	17	U
81	Bb	18	G
81	Bb	19	G

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Mol	Chain	Res	Type
81	Bb	20	G
81	Bb	21	A
81	Bb	22	G
81	Bb	24	G
81	Bb	25	C
81	Bb	30	G
81	Bb	34	G
81	Bb	41	U
81	Bb	42	G
81	Bb	46	G
81	Bb	47	U
81	Bb	48	C
81	Bb	50	U
81	Bb	53	G
81	Bb	54	U
81	Bb	59	U
81	Bb	62	A
81	Bb	65	G
81	Bb	67	A
81	Bb	68	U
81	Bb	70	C
81	Bb	75	C
81	Bb	76	A

All (50) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	LA	916	G
1	LA	1107	C
1	LA	1197	A
1	LA	1235	U
1	LA	1238	C
1	LA	1271	A
1	LA	1307	G
1	LA	1343	A
1	LA	1416	C
1	LA	2096	A
1	LA	2112	U
1	LA	2220	A
1	LA	2254	U
1	LA	2280	A
1	LA	2284	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	LA	2444	C
1	LA	2445	A
1	LA	2447	A
1	LA	2497	U
1	LA	2586	G
1	LA	2780	A
1	LA	3021	A
1	LA	3121	U
1	LA	3168	A
1	LA	3228	C
1	LA	3269	U
1	LA	3350	C
2	LB	116	C
3	LC	85	G
47	S2	139	C
47	S2	330	G
47	S2	387	A
47	S2	400	A
47	S2	474	A
47	S2	511	A
47	S2	539	G
47	S2	541	A
47	S2	549	G
47	S2	566	C
47	S2	609	U
47	S2	639	U
47	S2	740	A
47	S2	829	A
47	S2	1191	U
47	S2	1226	A
47	S2	1253	U
47	S2	1256	A
47	S2	1274	C
47	S2	1382	A
47	S2	1471	A

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

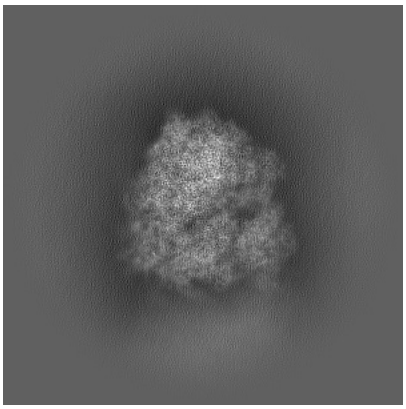
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-68804. These allow visual inspection of the internal detail of the map and identification of artifacts.

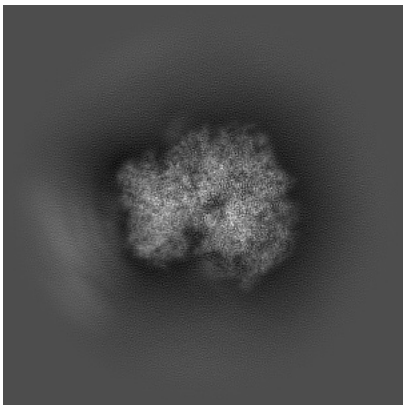
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

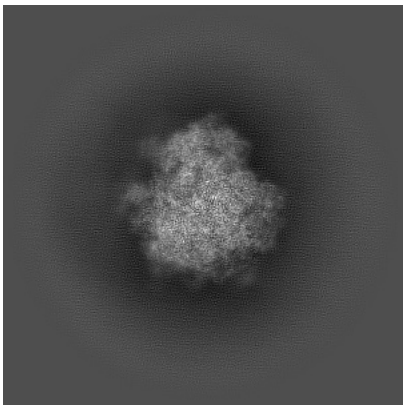
6.1.1 Primary map



X

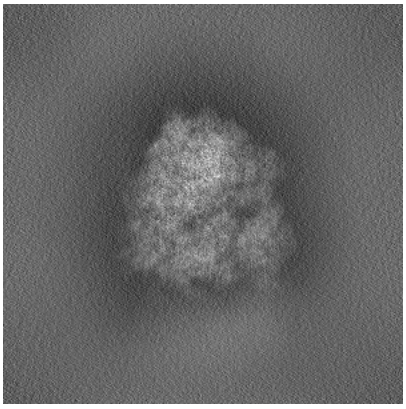


Y

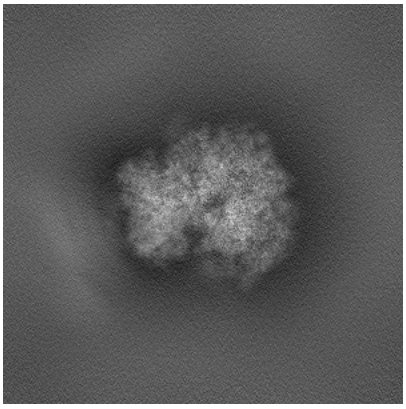


Z

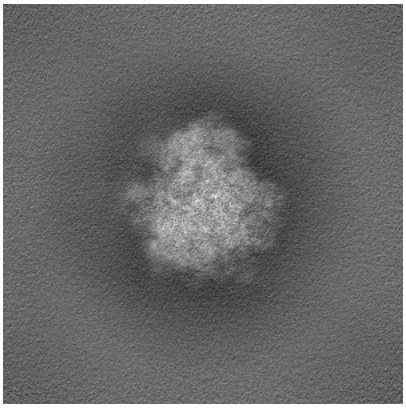
6.1.2 Raw map



X



Y

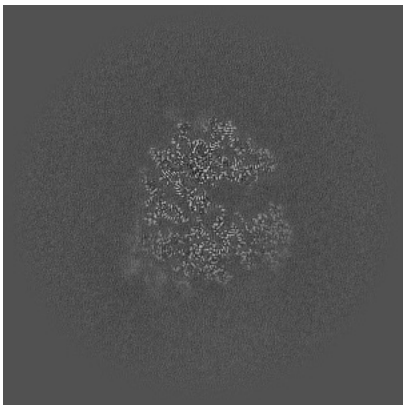


Z

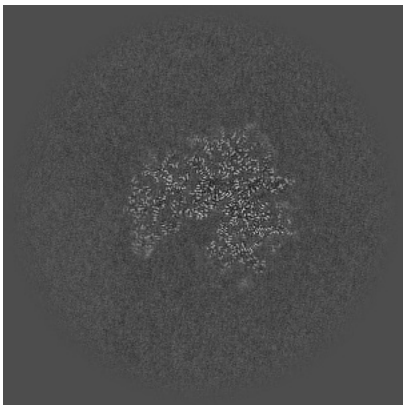
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

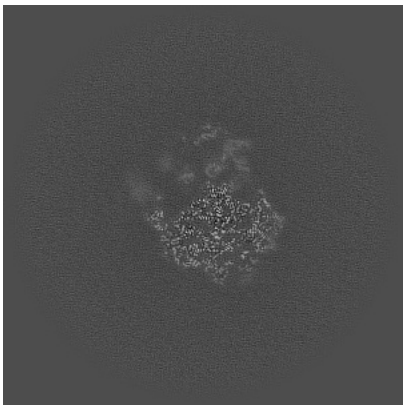
6.2.1 Primary map



X Index: 300

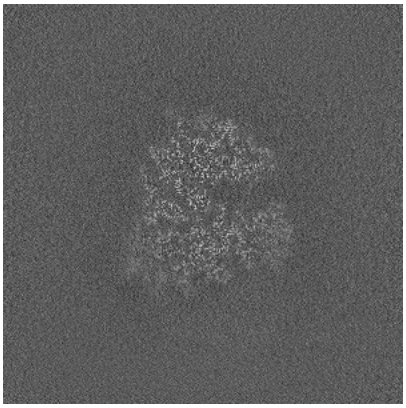


Y Index: 300

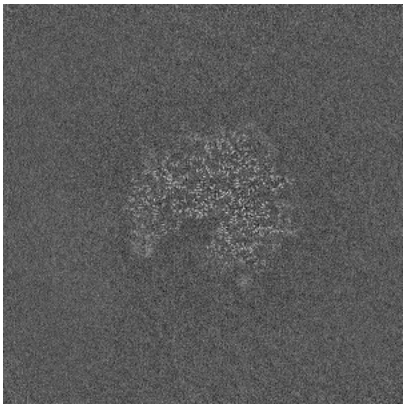


Z Index: 300

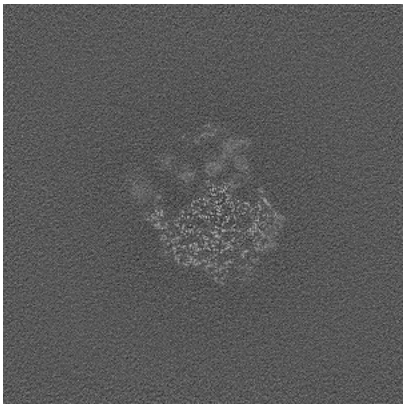
6.2.2 Raw map



X Index: 300



Y Index: 300

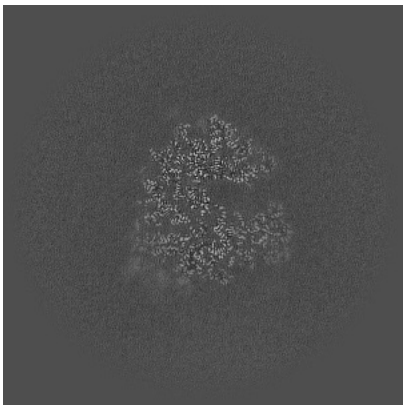


Z Index: 300

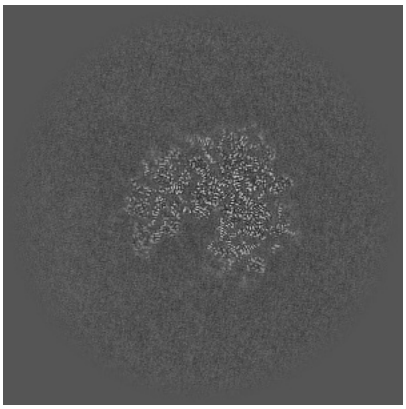
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

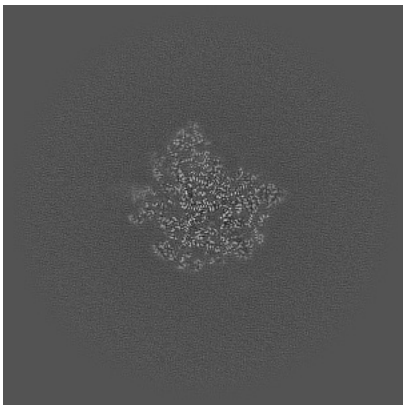
6.3.1 Primary map



X Index: 302

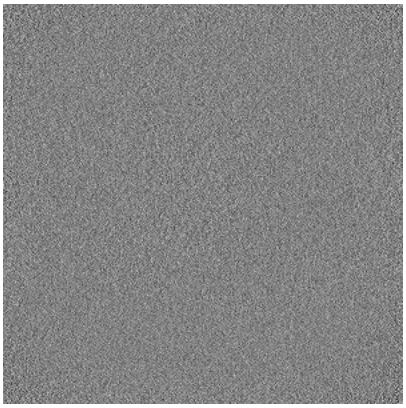


Y Index: 302

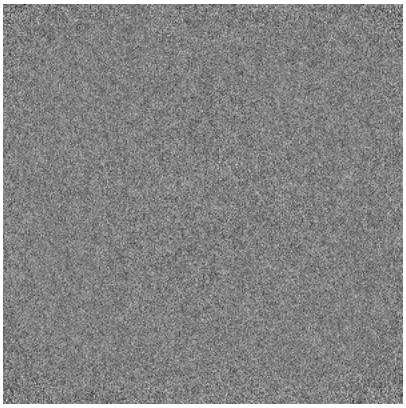


Z Index: 344

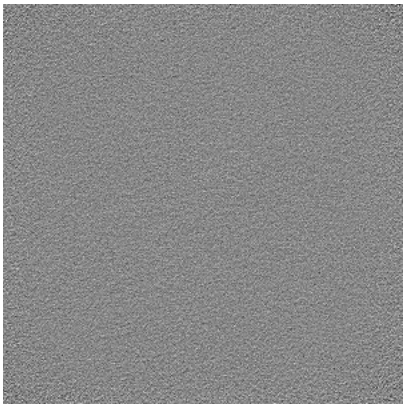
6.3.2 Raw map



X Index: 0



Y Index: 0

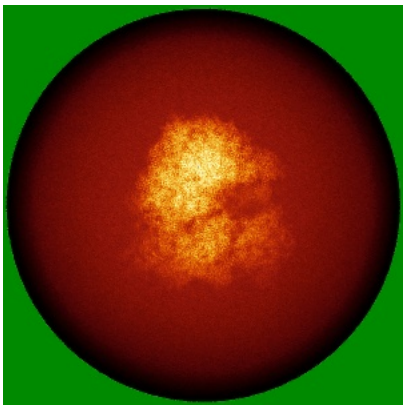


Z Index: 599

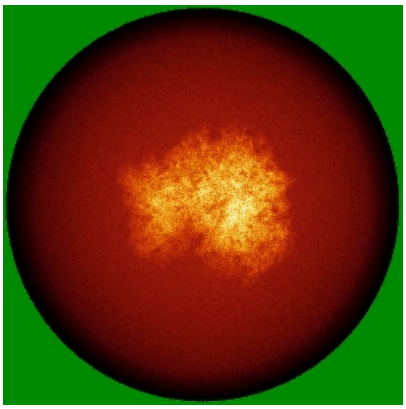
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

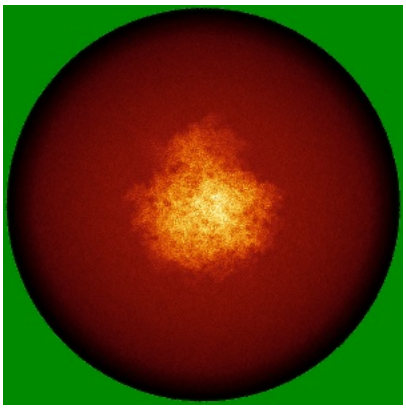
6.4.1 Primary map



X

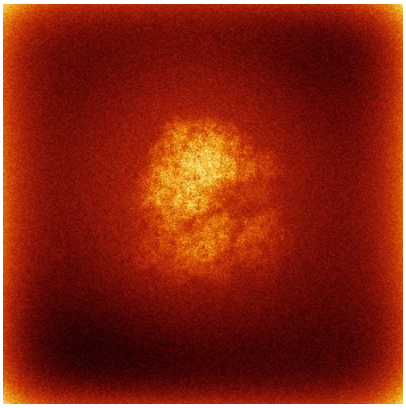


Y

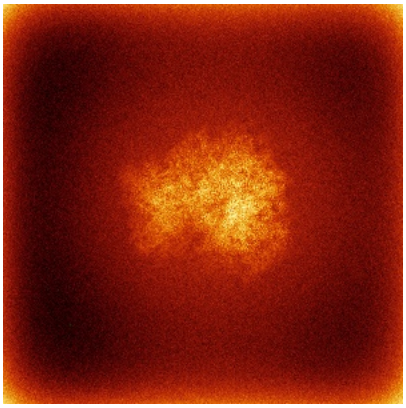


Z

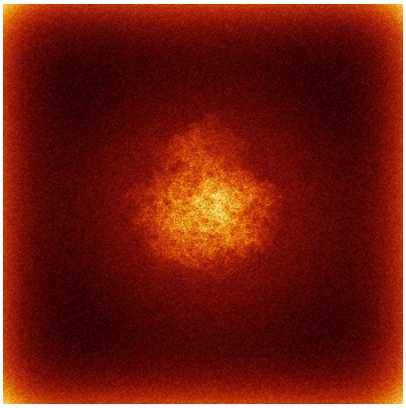
6.4.2 Raw map



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)

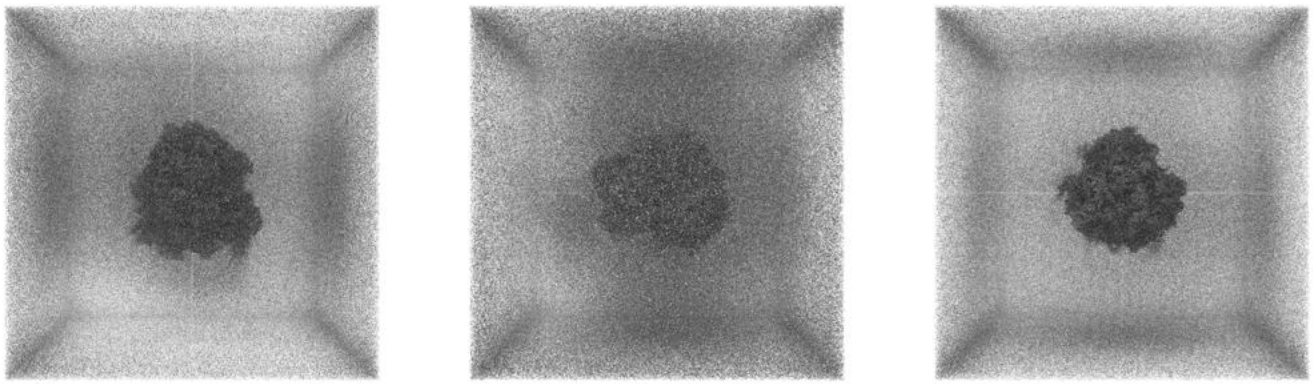
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.16. 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



X Y Z

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.

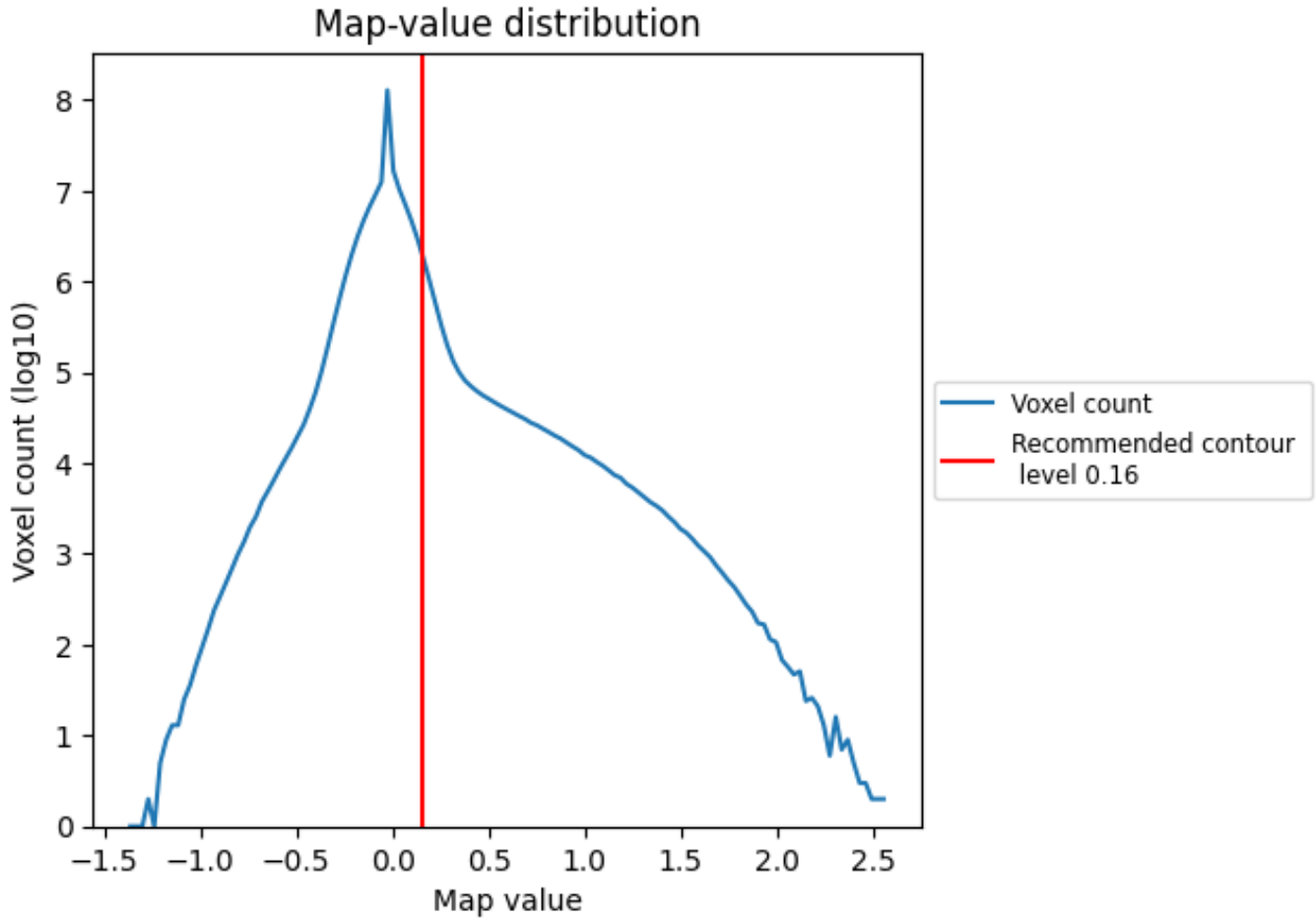
6.6 Mask visualisation (i)

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

7 Map analysis

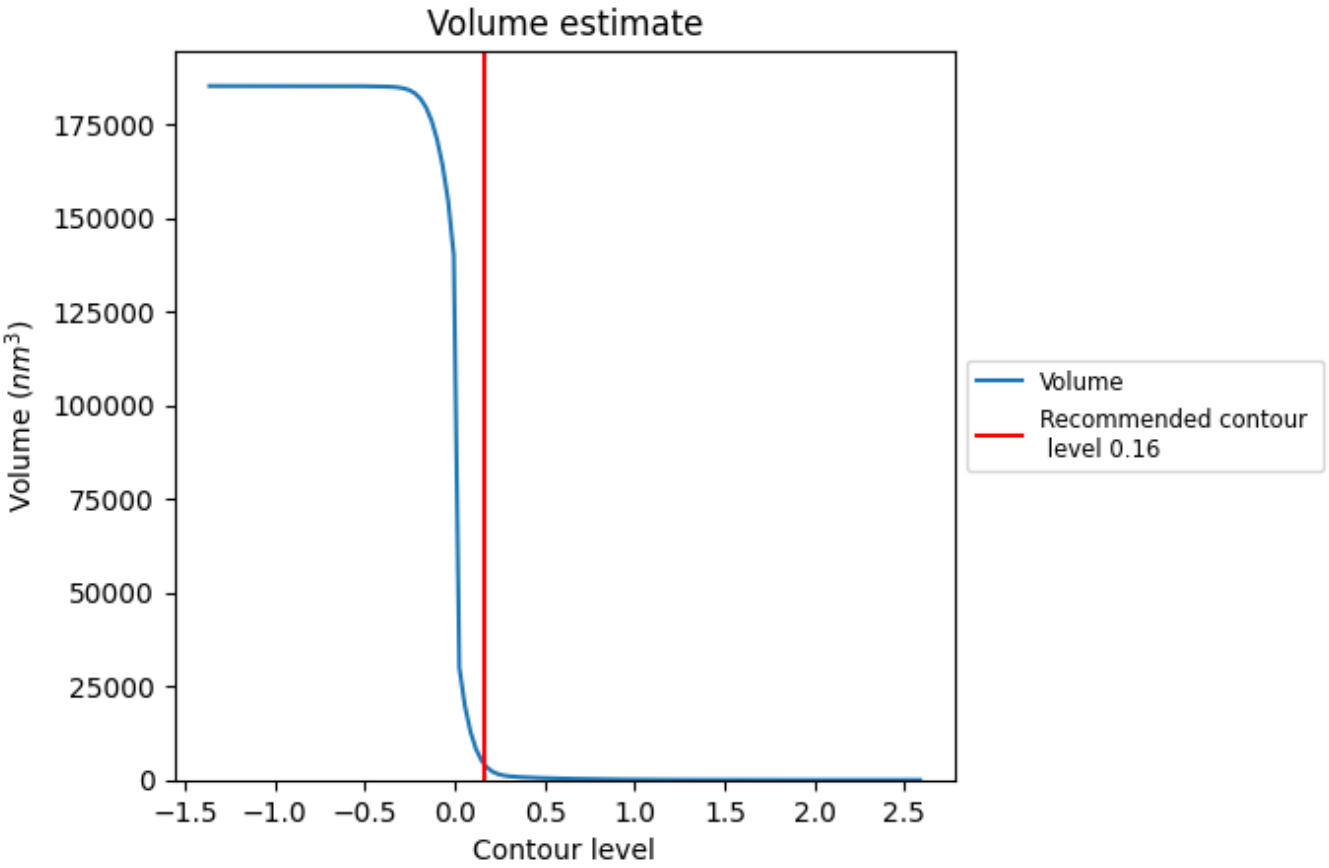
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

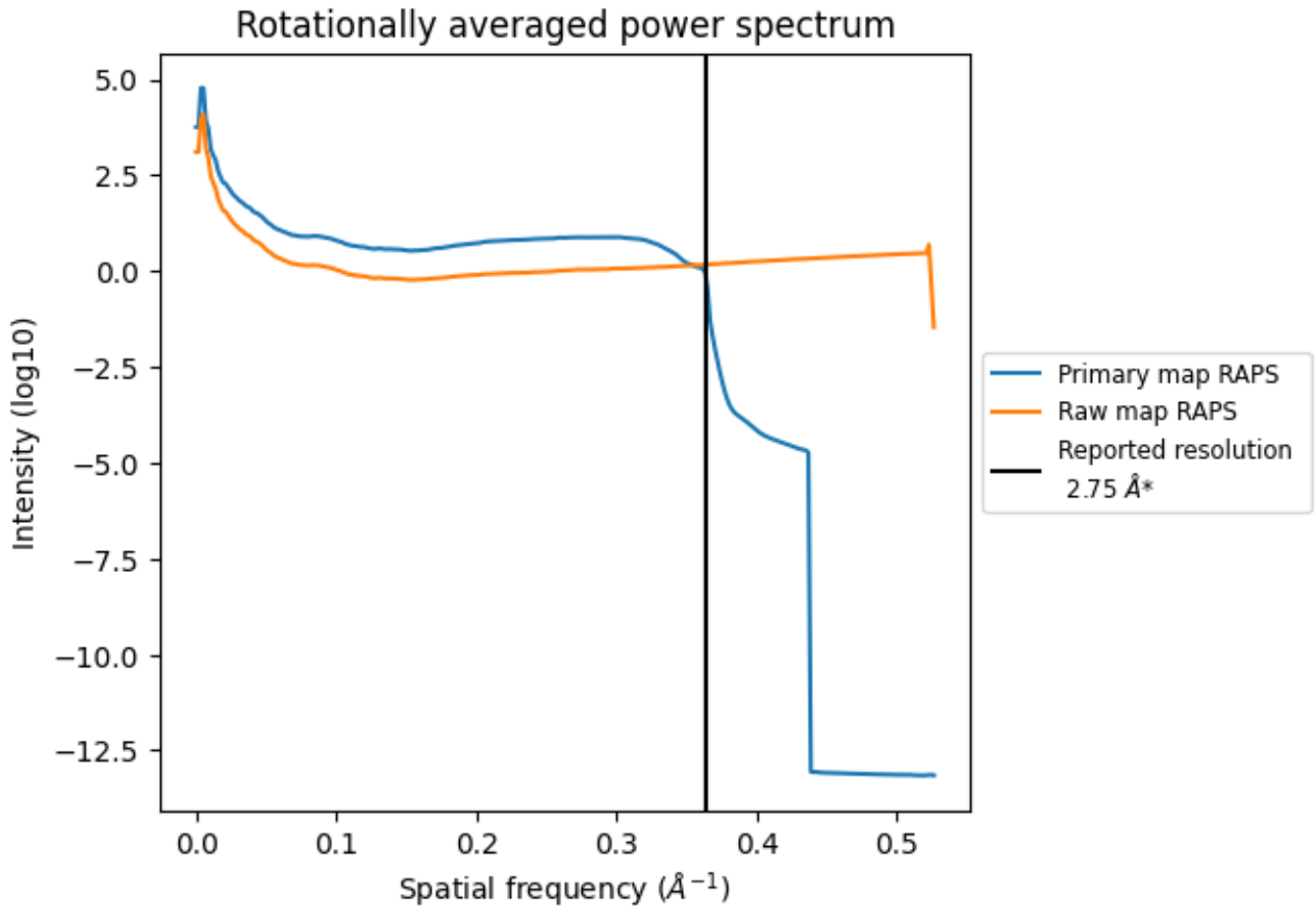
7.2 Volume estimate



The volume at the recommended contour level is 4509 nm^3; this corresponds to an approximate mass of 4073 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 (i)

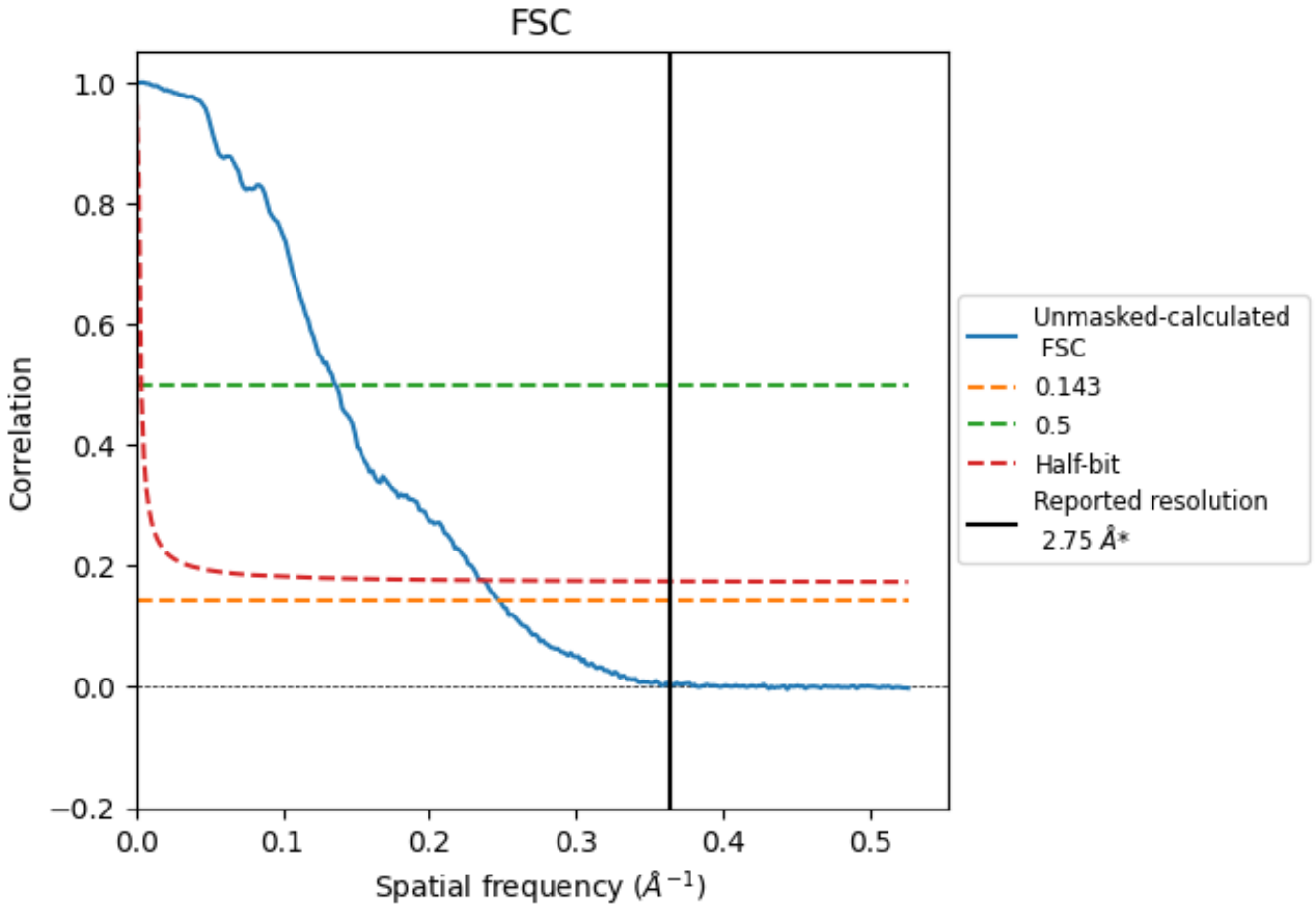


*Reported resolution corresponds to spatial frequency of 0.364 $Å^{-1}$

8 Fourier-Shell correlation

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



*Reported resolution corresponds to spatial frequency of 0.364 Å^{-1}

8.2 Resolution estimates (i)

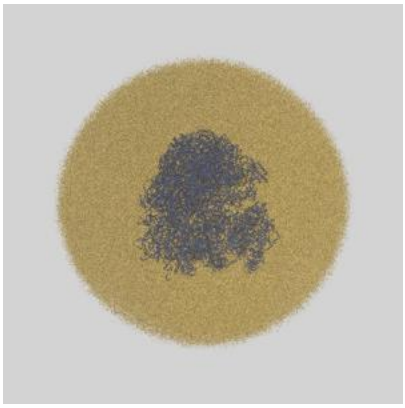
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.75	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.04	7.38	4.23

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.04 differs from the reported value 2.75 by more than 10 %

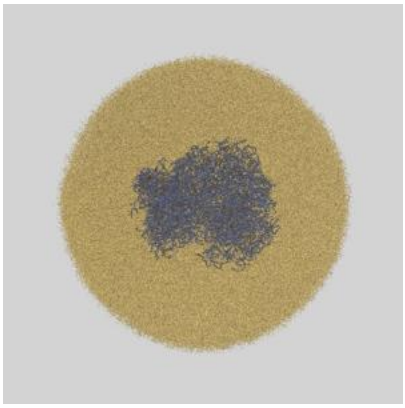
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-68804 and PDB model 23AR. Per-residue inclusion information can be found in section 3 on page 19.

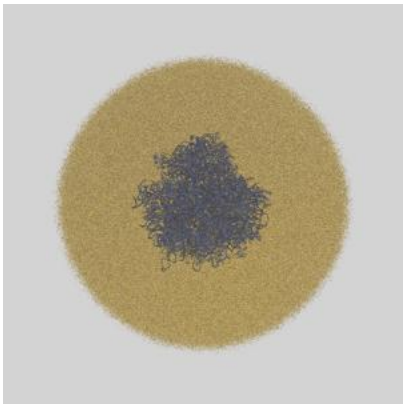
9.1 Map-model overlay



X



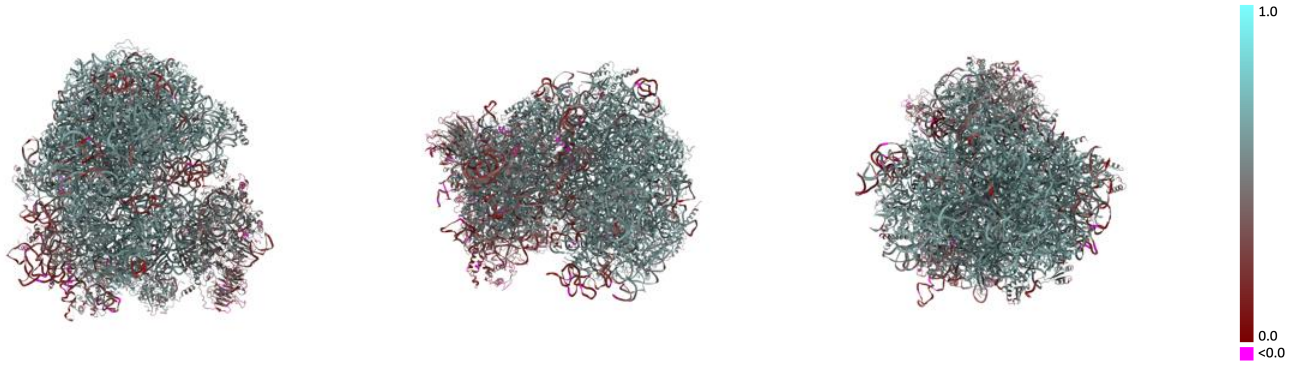
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.16 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.

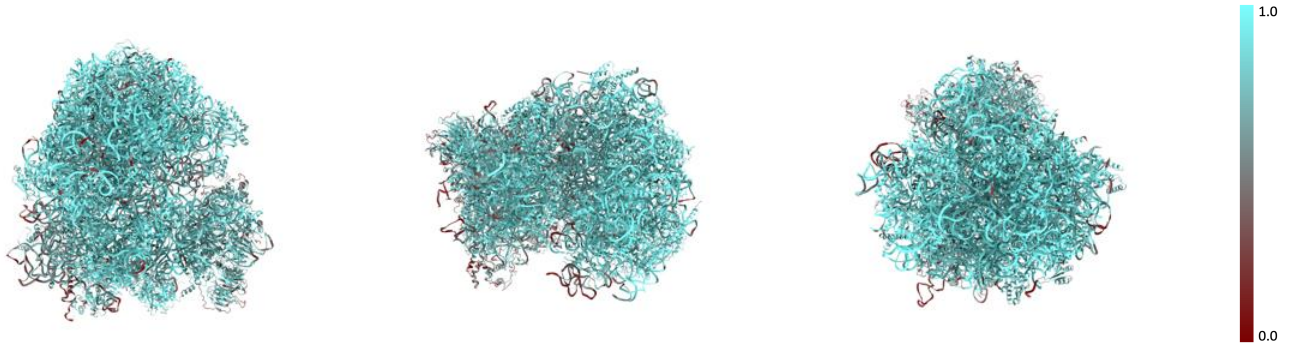
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

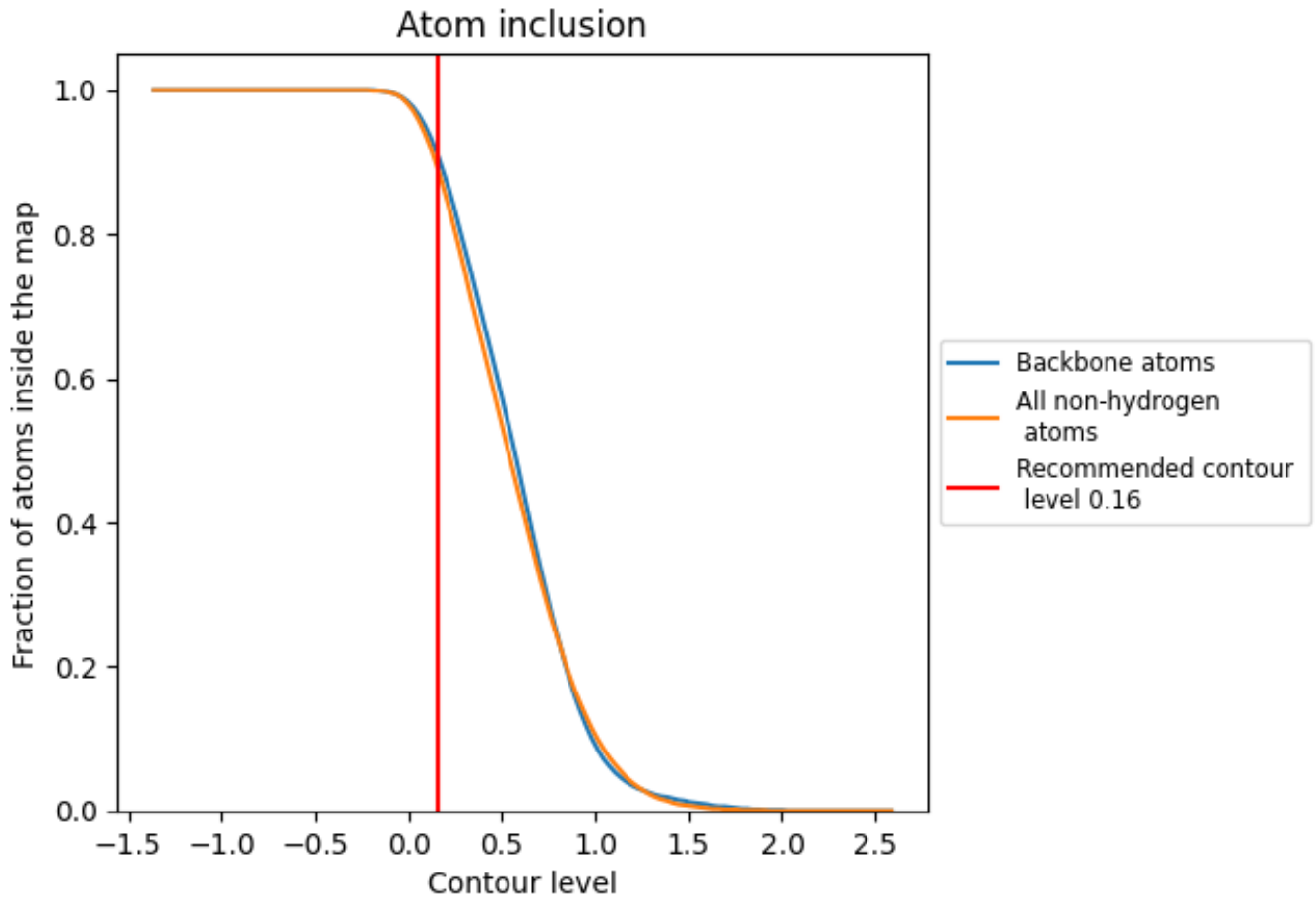
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.16).

9.4 Atom inclusion (i)



At the recommended contour level, 91% of all backbone atoms, 89% 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 (0.16) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8870	0.5200
Bb	0.8470	0.3970
Cc	0.8690	0.4160
LA	0.9300	0.5550
LB	0.9640	0.5610
LC	0.9560	0.5750
LD	0.9640	0.6240
LE	0.9580	0.6020
LF	0.9490	0.5940
LG	0.9100	0.5450
LH	0.8870	0.5340
LI	0.9470	0.5970
LJ	0.9100	0.5530
LK	0.9200	0.5640
LL	0.9220	0.5780
LM	0.8840	0.5170
LN	0.9380	0.5860
LO	0.9270	0.5650
LP	0.9610	0.6180
LQ	0.9450	0.5840
LR	0.9360	0.5970
LS	0.9710	0.6110
LT	0.8560	0.5380
LU	0.9460	0.5960
LV	0.9420	0.5860
LW	0.8730	0.4870
LX	0.9540	0.6080
LY	0.9410	0.5980
LZ	0.9360	0.5900
La	0.9720	0.6030
Lb	0.9200	0.5620
Lc	0.9710	0.6160
Ld	0.9140	0.5590
Le	0.9200	0.5720
Lf	0.9230	0.5760



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Chain	Atom inclusion	Q-score
Lg	0.9250	0.5850
Lh	0.9720	0.6260
Li	0.9360	0.5960
Lj	0.9580	0.5850
Lk	0.9200	0.5500
Ll	0.9740	0.6250
Lm	0.8210	0.4870
Ln	0.9400	0.5940
Lo	0.9500	0.6020
Lp	0.9280	0.5940
Lq	0.9540	0.6050
Lr	0.9430	0.6090
S2	0.8190	0.4380
SA	0.7950	0.4680
SB	0.7840	0.4450
SC	0.7450	0.3870
SD	0.3880	0.1970
SE	0.7970	0.4280
SF	0.8370	0.4810
SG	0.8470	0.4860
SH	0.7830	0.4290
SI	0.8200	0.4510
SJ	0.7120	0.3970
SK	0.6440	0.3630
SL	0.7610	0.4350
SM	0.9050	0.5220
SN	0.4180	0.1970
SO	0.6650	0.3260
SP	0.8870	0.5210
SQ	0.8740	0.5200
SR	0.9130	0.5700
SS	0.8520	0.4900
ST	0.7090	0.3530
SU	0.8090	0.4650
SV	0.8290	0.4690
SW	0.8100	0.4580
SX	0.8860	0.5350
SY	0.9300	0.5660
SZ	0.9250	0.5600
Sa	0.9050	0.5450
Sb	0.9530	0.6000
Sc	0.8650	0.5340

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Chain	Atom inclusion	Q-score
Sd	0.7980	0.4280
Se	0.9480	0.5910
Sf	0.8870	0.5180
Sg	0.7520	0.4350
mR	0.9430	0.5550