Full wwPDB EM Validation Report ⓘ

Oct 27, 2026 – 09:47 PM JST

PDB ID	:	22YP / pdb_000022yp
EMDB ID	:	EMD-68778
Title	:	Rotated 80S with A/A-P/E tRNA
Authors	:	Wu, M.; Yuan, S.
Deposited on	:	2026-01-28
Resolution	:	2.93 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:

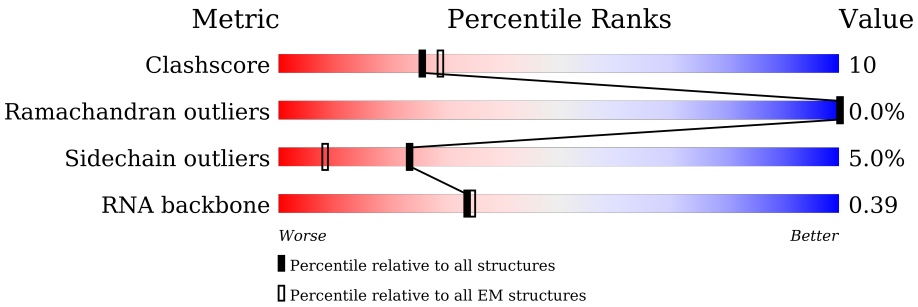
EMDB validation analysis	:	0.0.1.dev133
MolProbity	:	4-5-2 with Phenix2.2
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh &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

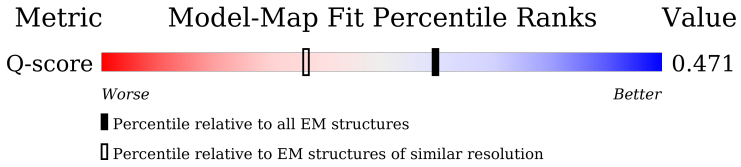
1 Overall quality at a glance

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

The reported resolution of this entry is 2.93 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.





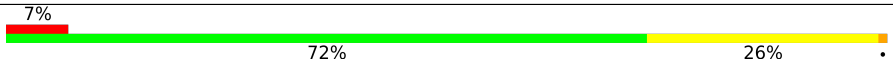
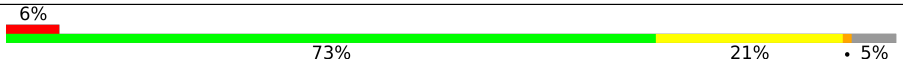
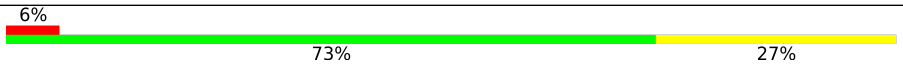
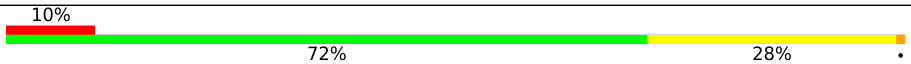
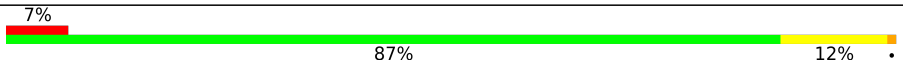
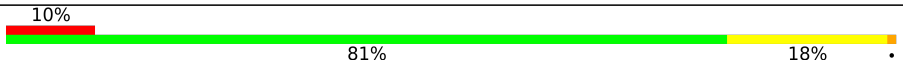
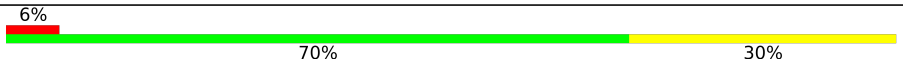
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	13037 (2.43 - 3.43)

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	5% 48% 38% 6% 7%
2	LB	121	55% 37% 8%
3	LC	158	49% 42% 8%

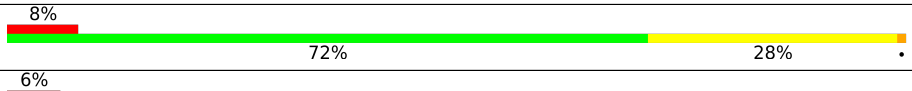
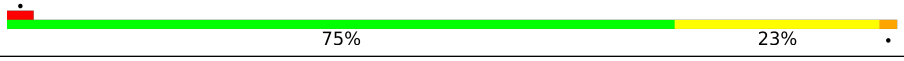
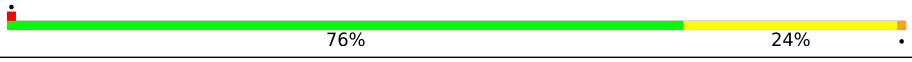
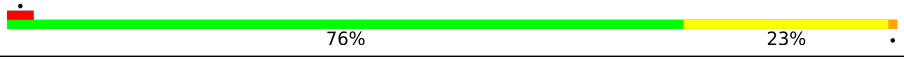
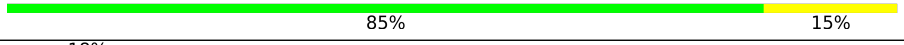
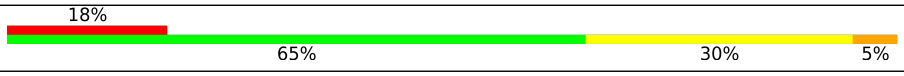
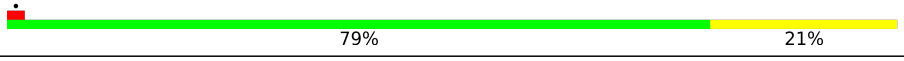
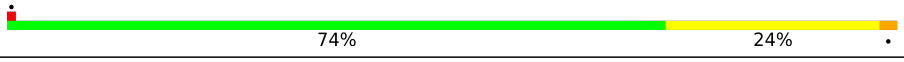
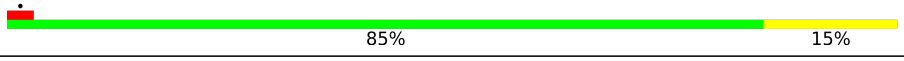
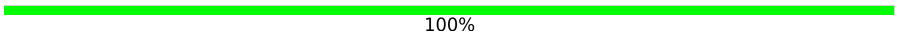
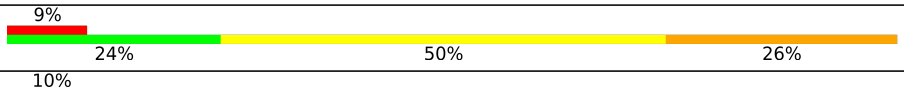
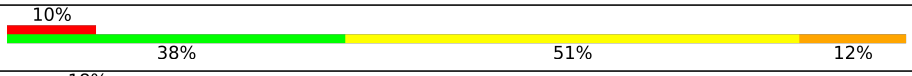
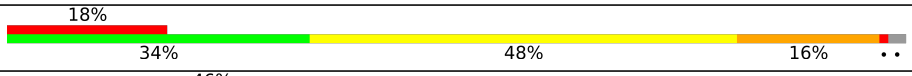
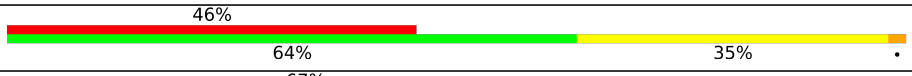
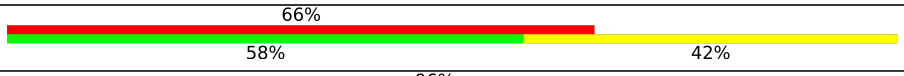
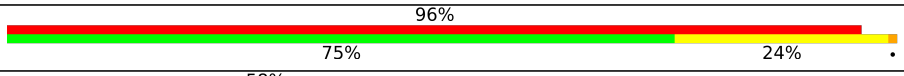
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Mol	Chain	Length	Quality of chain
4	LD	251	
5	LE	386	
6	LF	361	
7	LG	294	
8	LH	175	
9	LI	222	
10	LJ	233	
11	LK	191	
12	LL	218	
13	LM	169	
14	LN	193	
15	LO	136	
16	LP	203	
17	LQ	197	
18	LR	183	
19	LS	185	
20	LT	188	
21	LU	171	
22	LV	159	
23	LW	100	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

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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	Bb	76	
47	Cc	77	
48	S2	1800	
49	SA	222	
50	SB	206	
51	SC	92	
52	SD	121	
53	SE	117	

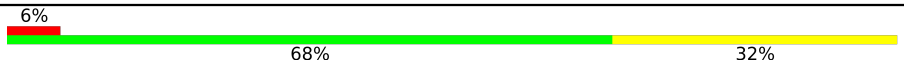
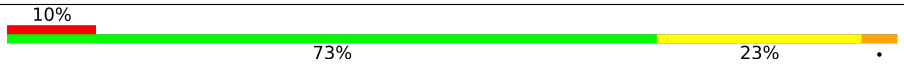
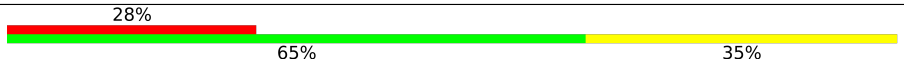
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Mol	Chain	Length	Quality of chain
54	SF	141	64% 56% 43%
55	SG	125	34% 74% 21%
56	SH	145	57% 60% 38%
57	SI	143	55% 67% 33%
58	SJ	100	54% 57% 39%
59	SK	82	79% 68% 29%
60	SL	63	65% 63% 35%
61	SM	53	30% 51% 45%
62	SN	73	90% 81% 19%
63	SO	312	76% 66% 32%
64	SP	206	14% 63% 36%
65	SQ	232	13% 63% 31%
66	SR	216	63% 35%
67	SS	258	16% 59% 39%
68	ST	228	40% 59% 38%
69	SU	184	17% 54% 44%
70	SV	198	22% 56% 37% 6%
71	SW	184	25% 61% 38%
72	SX	142	17% 68% 30%
73	SY	150	5% 66% 31%
74	SZ	127	6% 62% 36%
75	Sa	87	63% 34%
76	Sb	129	65% 33%
77	Sc	144	10% 73% 25%
78	Sd	134	34% 63% 37%

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Mol	Chain	Length	Quality of chain
79	Se	97	
80	Sf	81	
81	Sg	57	

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 (3393-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 (76-MER).

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

- Molecule 47 is a RNA chain called RNA (77-MER).

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

- Molecule 48 is a RNA chain called RNA (1800-MER).

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

- Molecule 49 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 50 is a protein called Small ribosomal subunit protein uS7.

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

- Molecule 51 is a protein called Small ribosomal subunit protein eS10A.

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

- Molecule 52 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 53 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 54 is a protein called Small ribosomal subunit protein uS9A.

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

- Molecule 55 is a protein called Small ribosomal subunit protein eS17B.

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

- Molecule 56 is a protein called Small ribosomal subunit protein uS13A.

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

- Molecule 57 is a protein called Small ribosomal subunit protein eS19A.

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

- Molecule 58 is a protein called Small ribosomal subunit protein uS10.

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

- Molecule 59 is a protein called Small ribosomal subunit protein eS25A.

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

- Molecule 60 is a protein called Small ribosomal subunit protein eS28A.

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

- Molecule 61 is a protein called Small ribosomal subunit protein uS14A.

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

- Molecule 62 is a protein called Small ribosomal subunit protein eS31.

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

- Molecule 63 is a protein called Small ribosomal subunit protein RACK1.

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

- Molecule 64 is a protein called Small ribosomal subunit protein uS2A.

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

- Molecule 65 is a protein called Small ribosomal subunit protein eS1A.

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

- Molecule 66 is a protein called Small ribosomal subunit protein uS5.

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

- Molecule 67 is a protein called Small ribosomal subunit protein eS4A.

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

- Molecule 68 is a protein called Small ribosomal subunit protein eS6A.

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

- Molecule 69 is a protein called Small ribosomal subunit protein eS7A.

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

- Molecule 70 is a protein called Small ribosomal subunit protein eS8A.

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

- Molecule 71 is a protein called Small ribosomal subunit protein uS4A.

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

- Molecule 72 is a protein called Small ribosomal subunit protein uS17A.

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

- Molecule 73 is a protein called Small ribosomal subunit protein uS15.

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

- Molecule 74 is a protein called Small ribosomal subunit protein uS11B.

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

- Molecule 75 is a protein called Small ribosomal subunit protein eS21A.

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

- Molecule 76 is a protein called Small ribosomal subunit protein uS8A.

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

- Molecule 77 is a protein called Small ribosomal subunit protein uS12A.

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

- Molecule 78 is a protein called Small ribosomal subunit protein eS24A.

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

- Molecule 79 is a protein called Small ribosomal subunit protein eS26B.

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

- Molecule 80 is a protein called Small ribosomal subunit protein eS27A.

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

- Molecule 81 is a protein called Small ribosomal subunit protein eS30A.

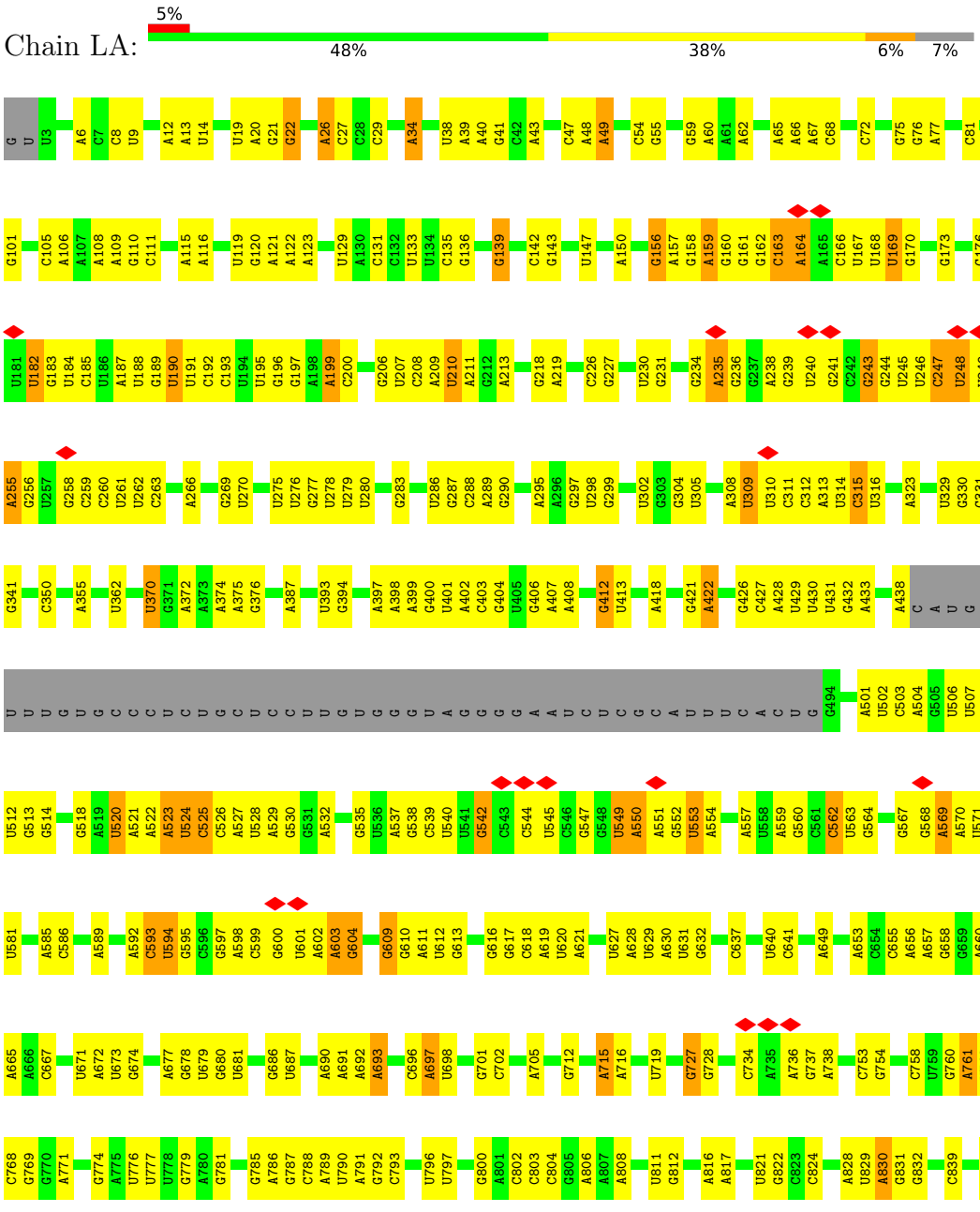
Mol	Chain	Residues	Atoms					AltConf	Trace
81	Sg	57	Total	C	N	O	S	0	0
			451	284	93	73	1		

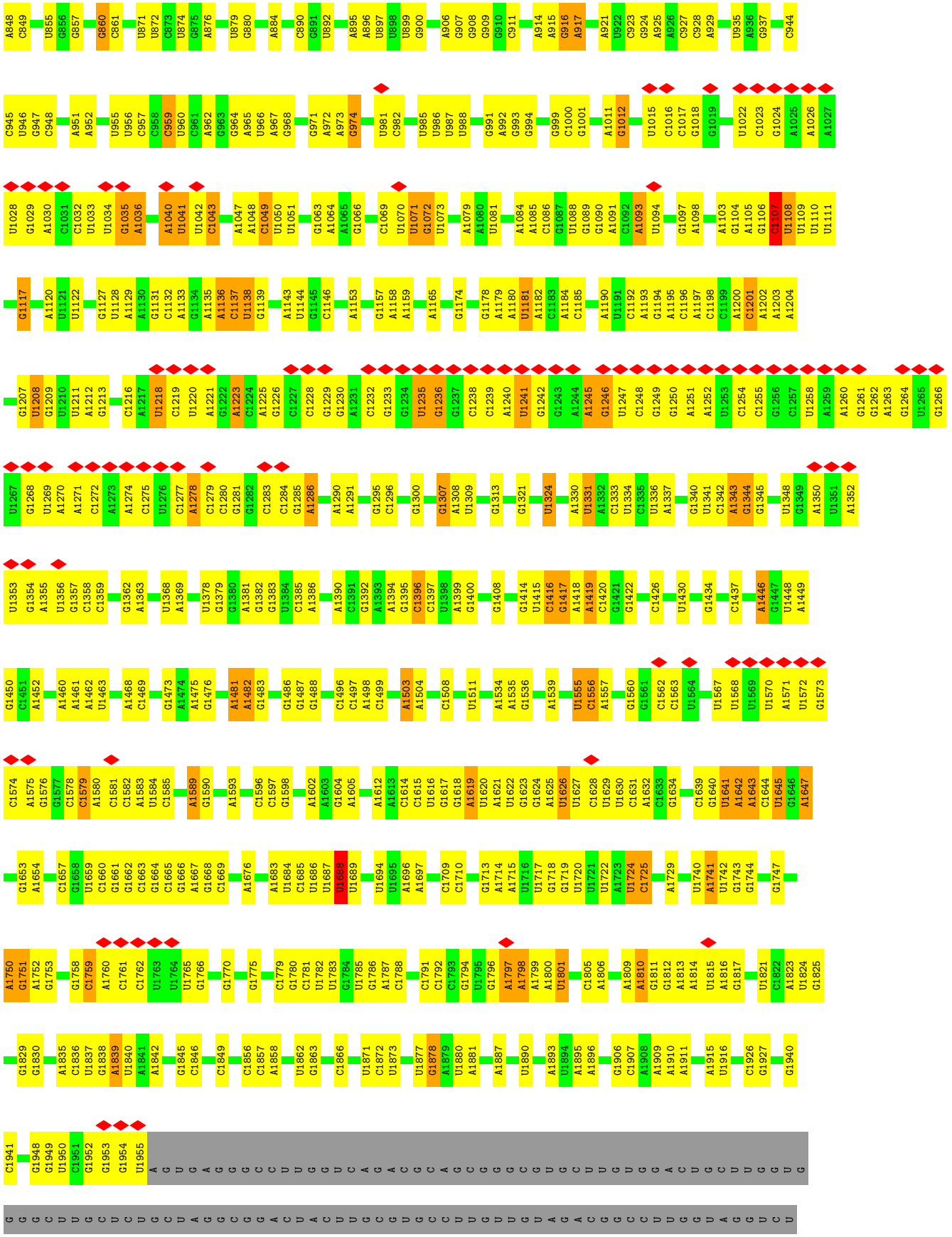
3 Residue-property plots (i)

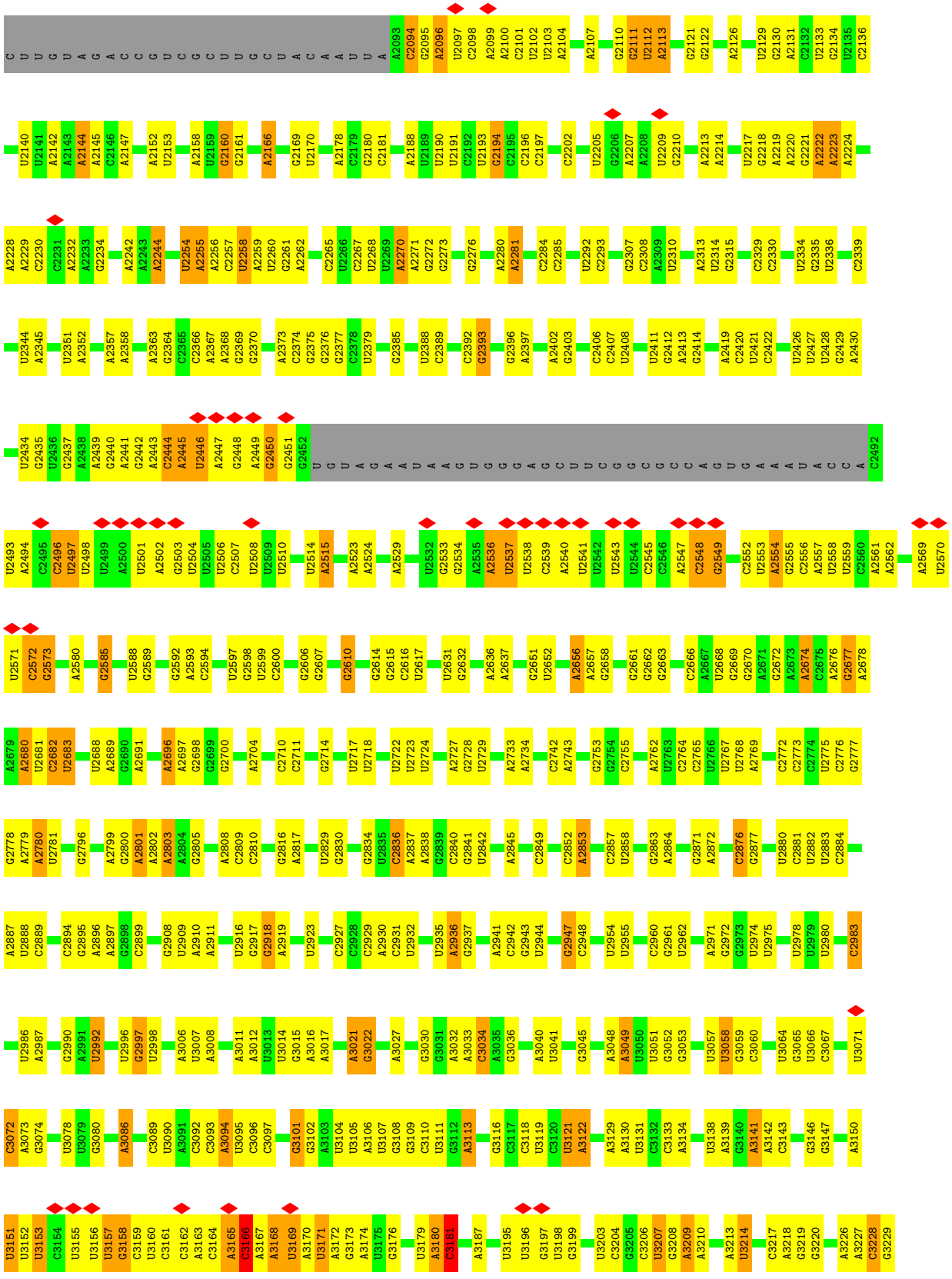
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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.

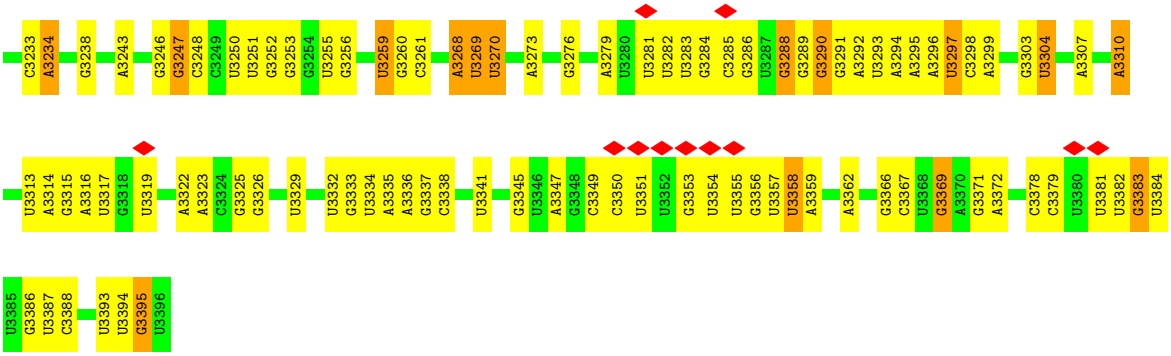
- Molecule 1: RNA (3393-MER)

Chain LA:





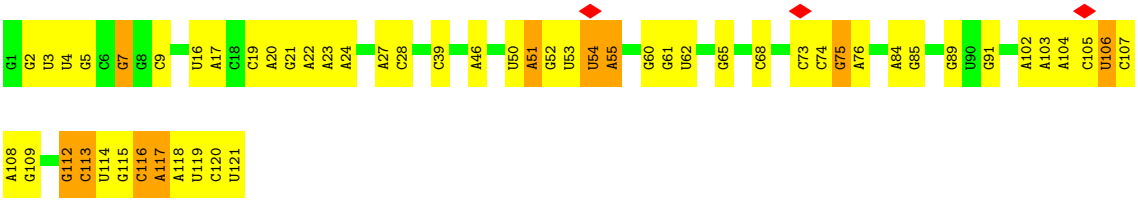




• Molecule 2: RNA (121-MER)

Chain LB:

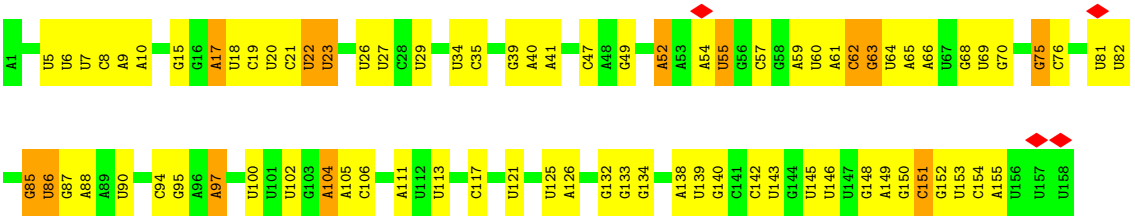




• Molecule 3: RNA (158-MER)

Chain LC:

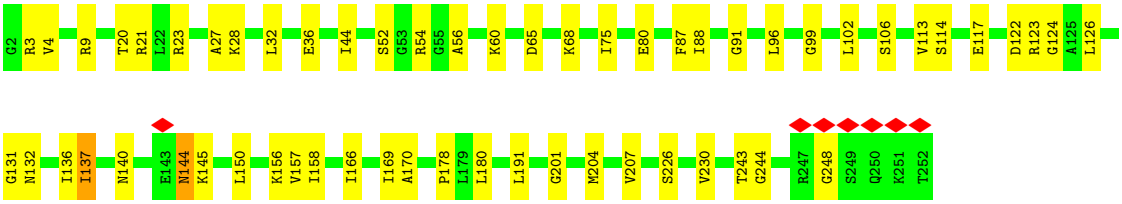




• Molecule 4: Large ribosomal subunit protein uL2A

Chain LD:

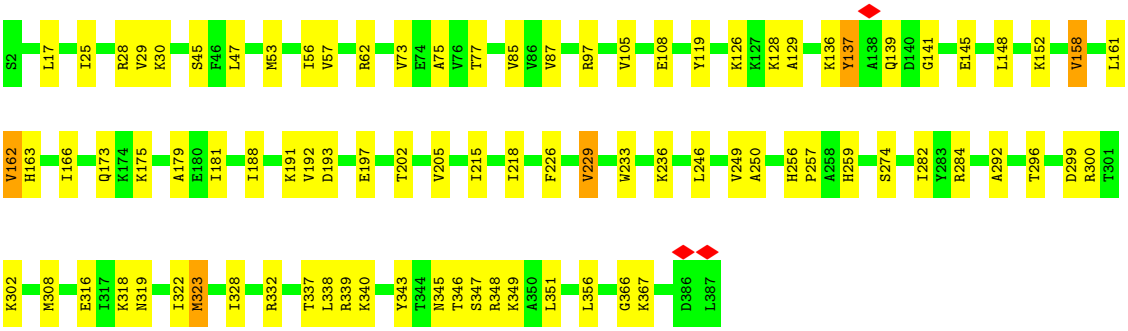




• Molecule 5: Large ribosomal subunit protein uL3

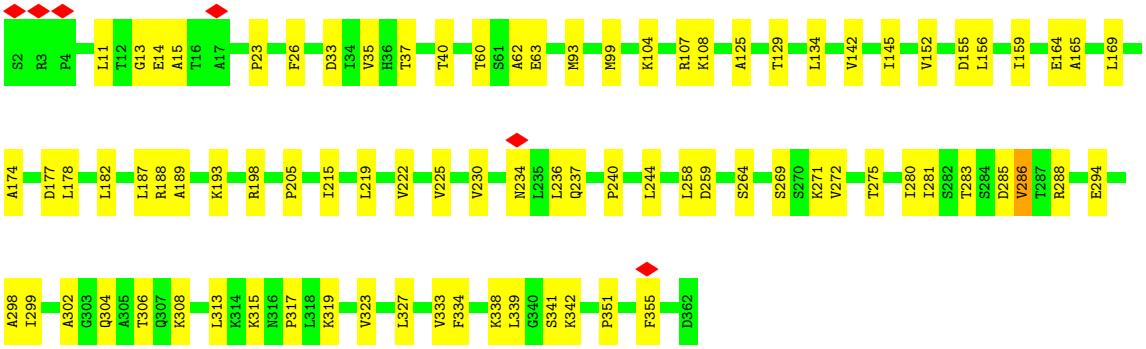
Chain LE:





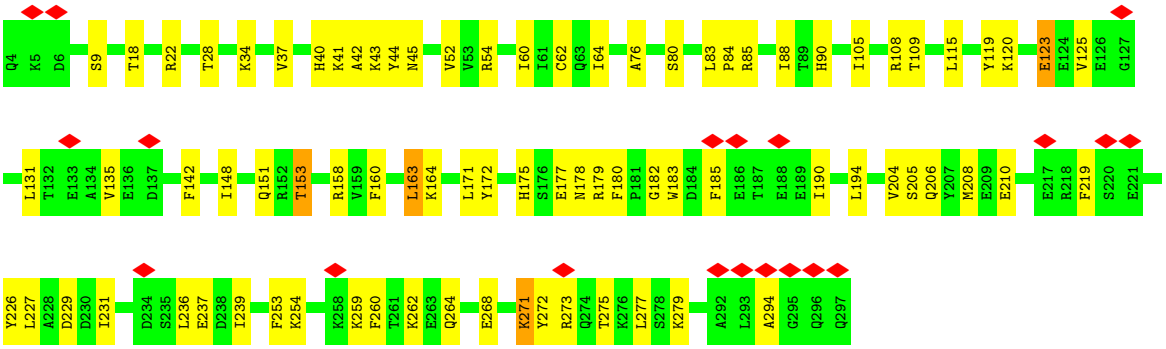
• Molecule 6: Large ribosomal subunit protein uL4A





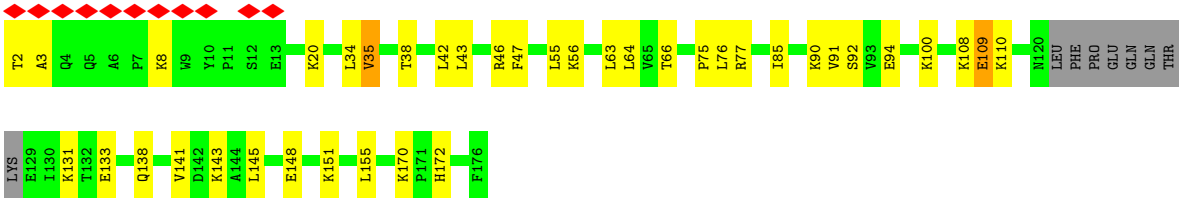
• Molecule 7: Large ribosomal subunit protein uL18





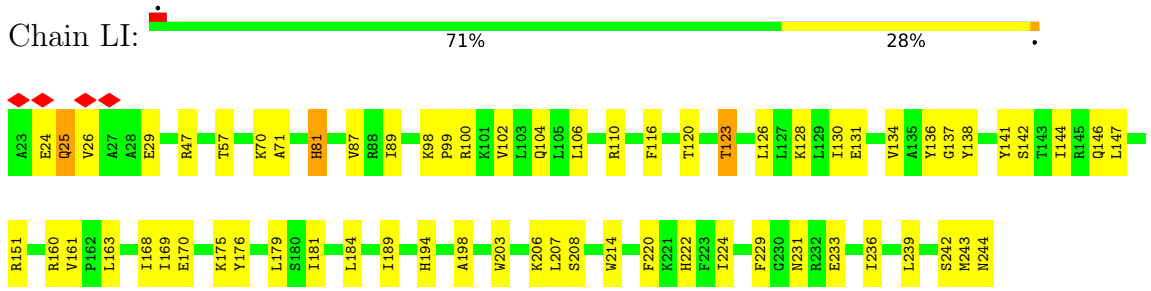
• Molecule 8: Large ribosomal subunit protein eL6B





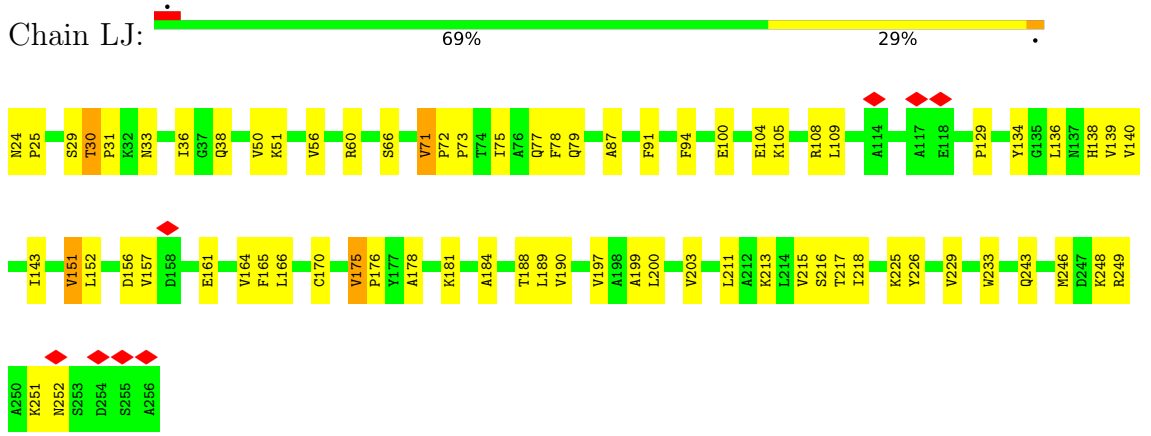
• Molecule 9: Large ribosomal subunit protein uL30A

Chain LI:



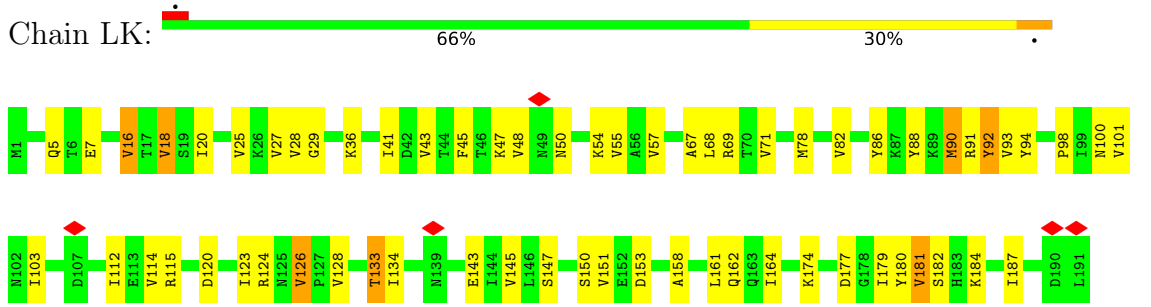
• Molecule 10: Large ribosomal subunit protein eL8A

Chain LJ:



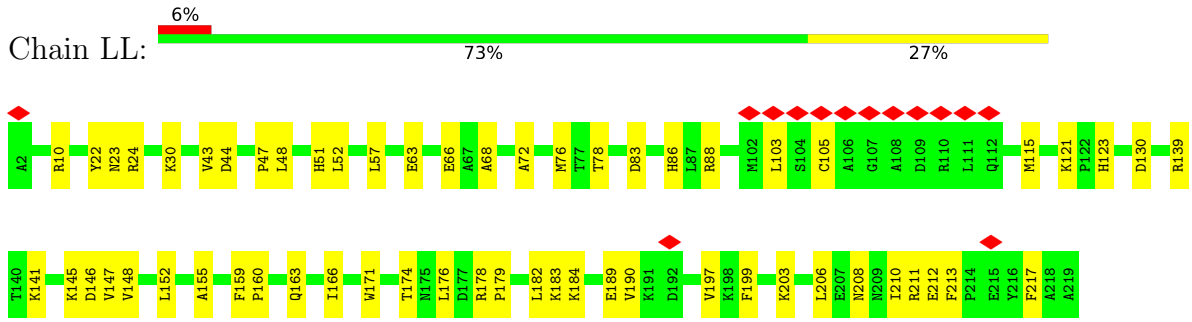
• Molecule 11: Large ribosomal subunit protein uL6A

Chain LK:



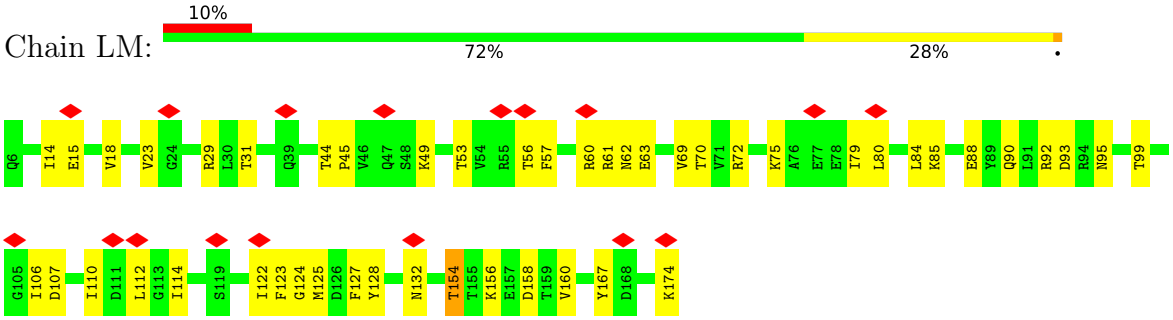
• Molecule 12: Large ribosomal subunit protein uL16

Chain LL:



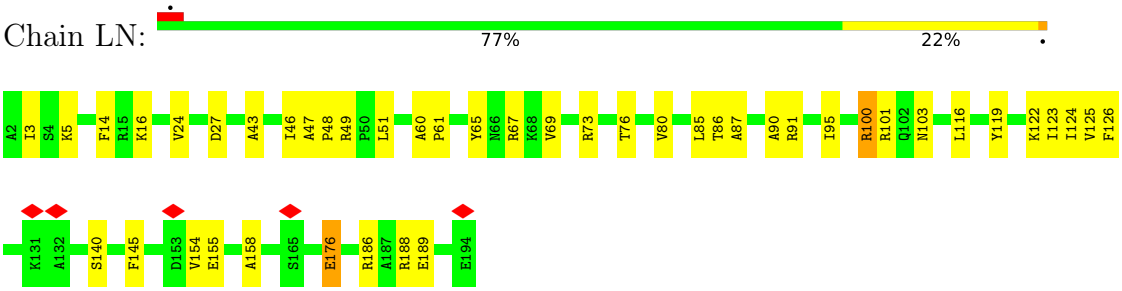
• Molecule 13: Large ribosomal subunit protein uL5B

Chain LM:



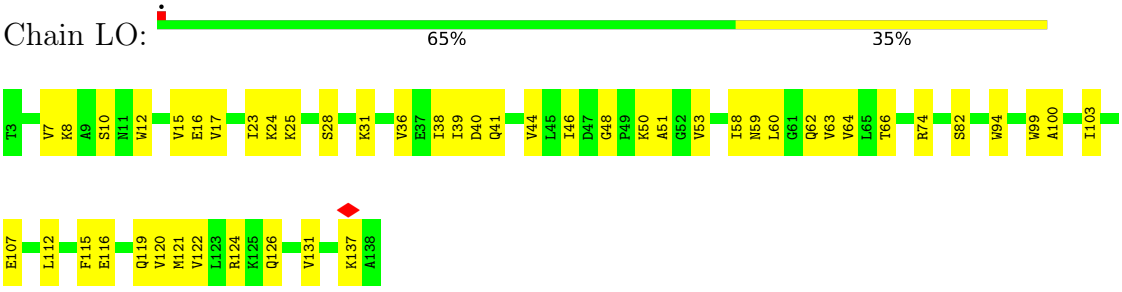
• Molecule 14: Large ribosomal subunit protein eL13A

Chain LN:



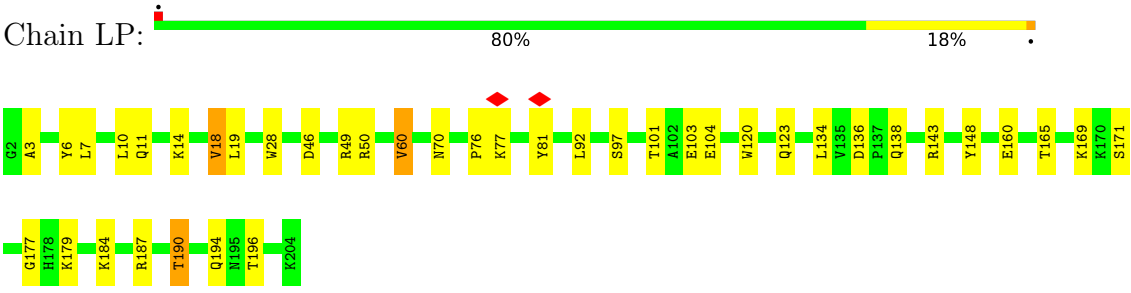
• Molecule 15: Large ribosomal subunit protein eL14A

Chain LO:



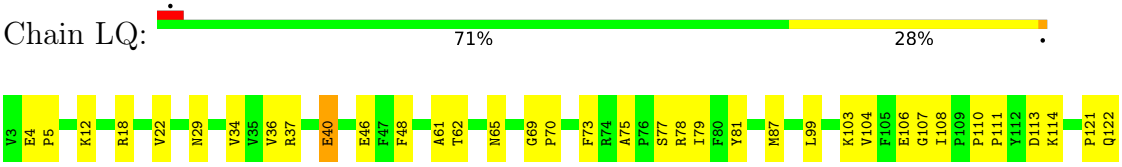
• Molecule 16: Large ribosomal subunit protein eL15A

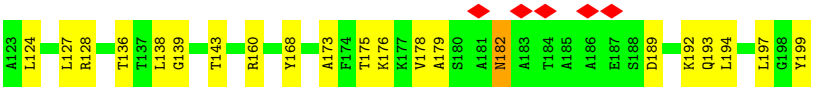
Chain LP:



• Molecule 17: Large ribosomal subunit protein uL13A

Chain LQ:





• Molecule 18: Large ribosomal subunit protein uL22A

Chain LR:

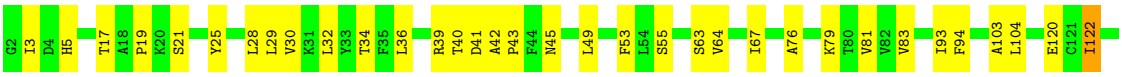




• Molecule 19: Large ribosomal subunit protein eL18A

Chain LS:



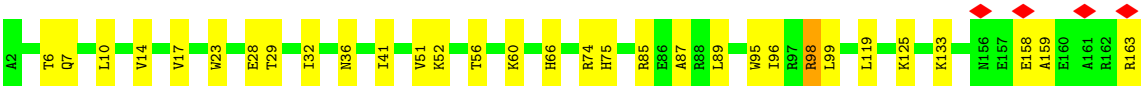


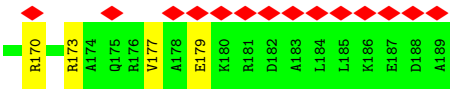


• Molecule 20: Large ribosomal subunit protein eL19A

Chain LT:



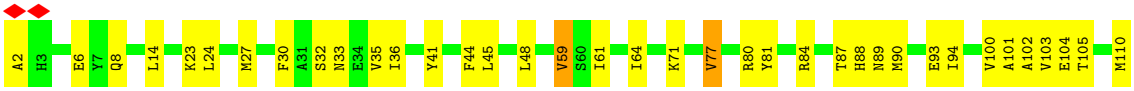




• Molecule 21: Large ribosomal subunit protein eL20A

Chain LU:



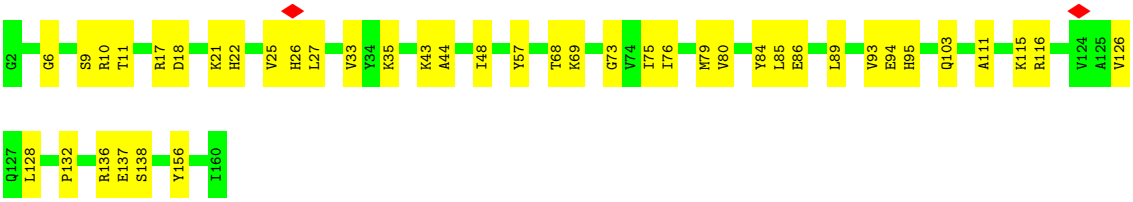




• Molecule 22: Large ribosomal subunit protein eL21A

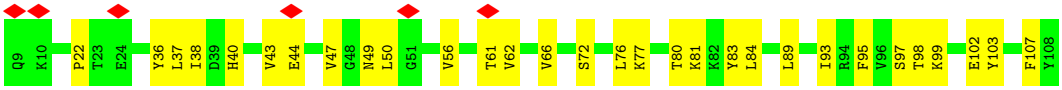
Chain LV:



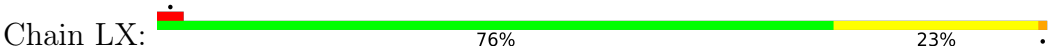


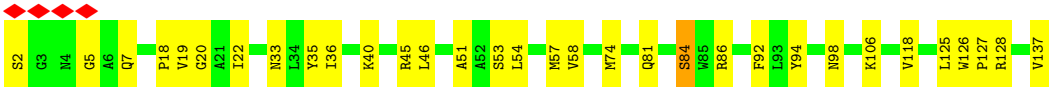
• Molecule 23: Large ribosomal subunit protein eL22A



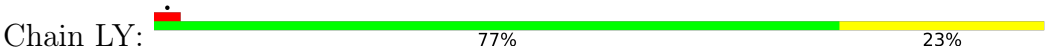


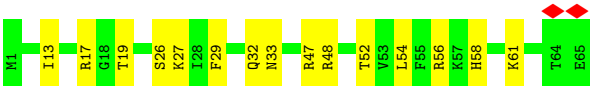
• Molecule 24: Large ribosomal subunit protein uL14A





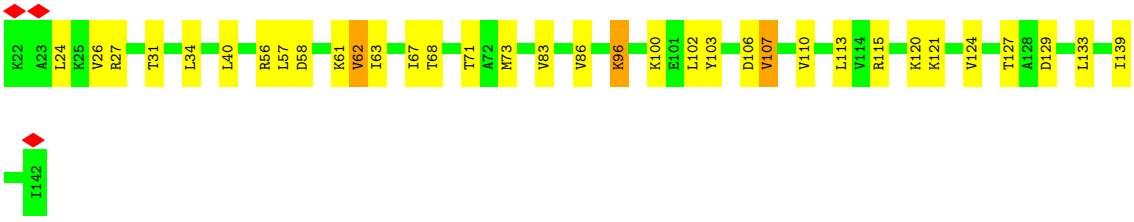
• Molecule 25: Large ribosomal subunit protein eL24A





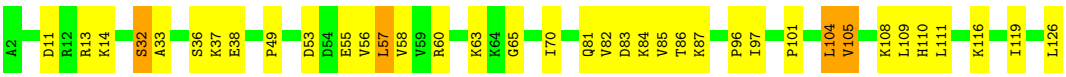
• Molecule 26: Large ribosomal subunit protein uL23





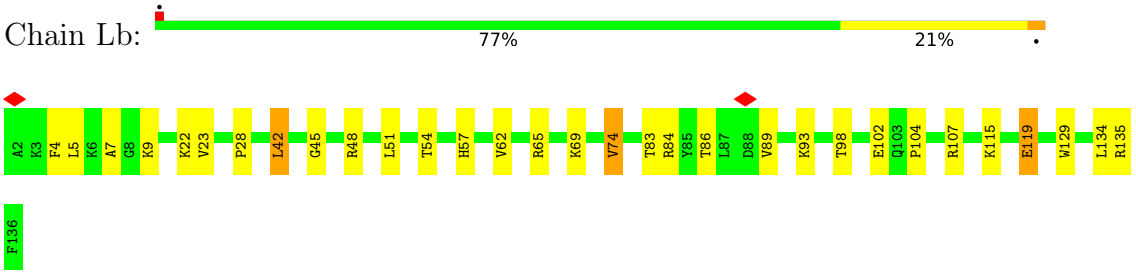
• Molecule 27: Large ribosomal subunit protein uL24A





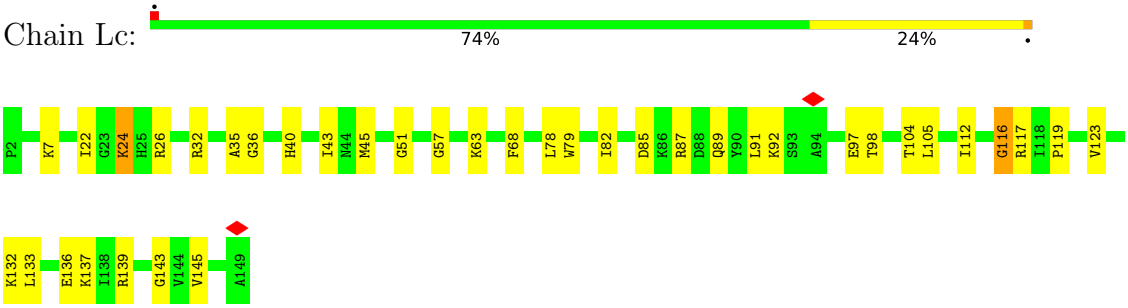
• Molecule 28: Large ribosomal subunit protein eL27A

Chain Lb:



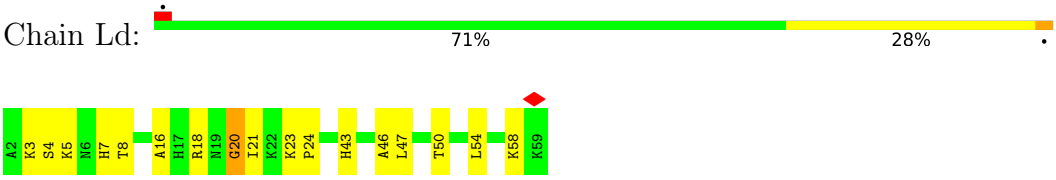
• Molecule 29: Large ribosomal subunit protein uL15

Chain Lc:



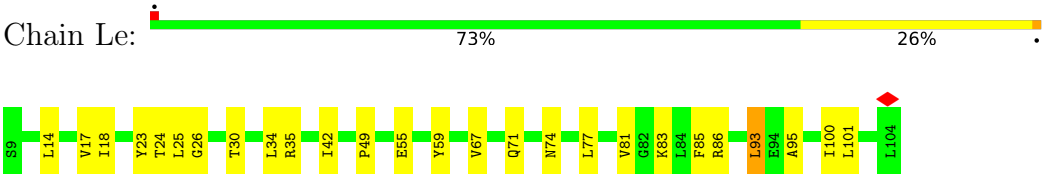
• Molecule 30: Large ribosomal subunit protein eL29

Chain Ld:



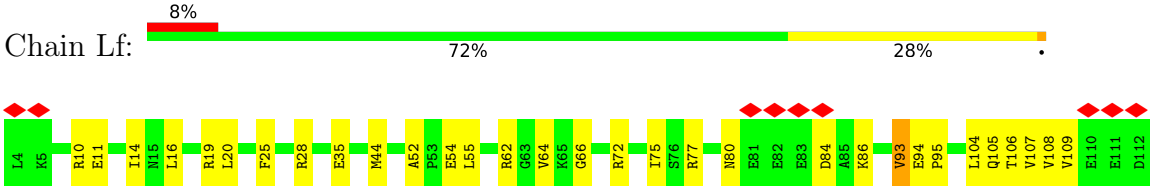
• Molecule 31: Large ribosomal subunit protein eL30

Chain Le:



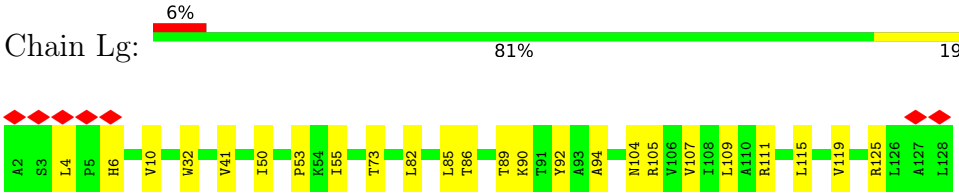
• Molecule 32: Large ribosomal subunit protein eL31A

Chain Lf:



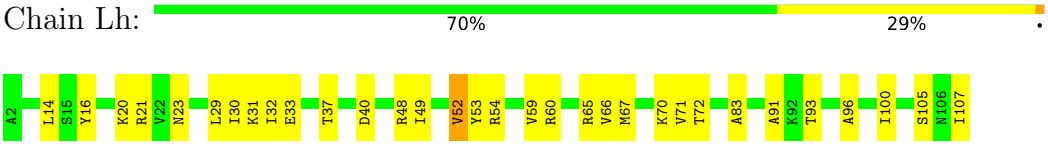
• Molecule 33: Large ribosomal subunit protein eL32

Chain Lg:



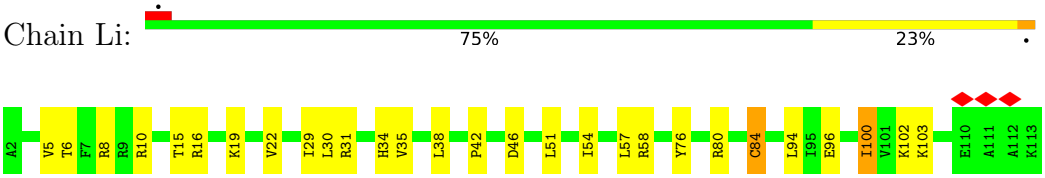
• Molecule 34: Large ribosomal subunit protein eL33A

Chain Lh:



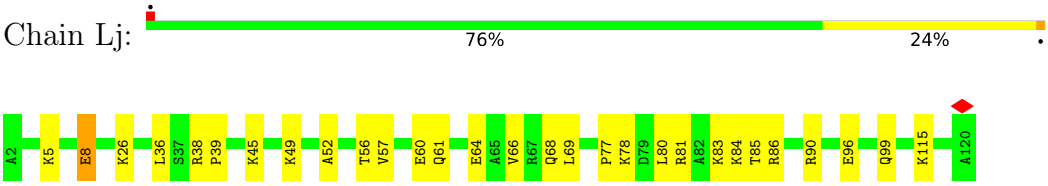
• Molecule 35: Large ribosomal subunit protein eL34A

Chain Li:



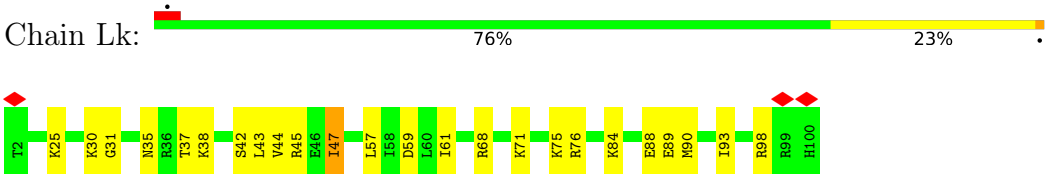
• Molecule 36: Large ribosomal subunit protein uL29A

Chain Lj:



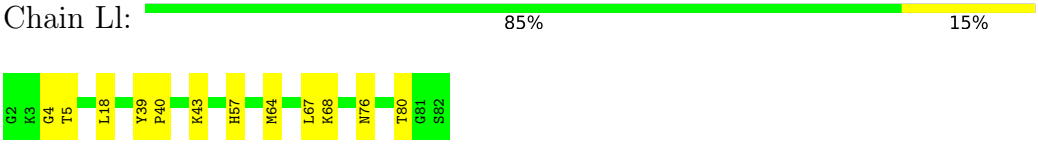
• Molecule 37: Large ribosomal subunit protein eL36A

Chain Lk:



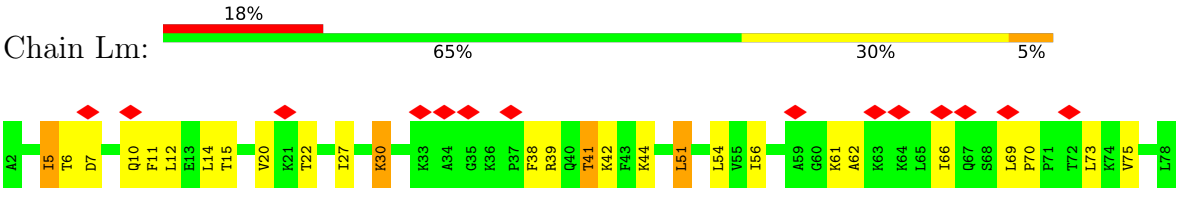
• Molecule 38: Large ribosomal subunit protein eL37A

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:

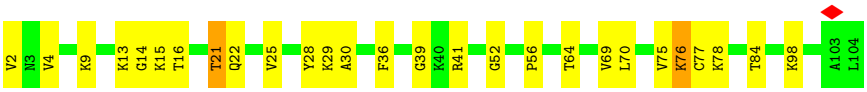




• Molecule 43: Large ribosomal subunit protein eL42A

Chain Lq:

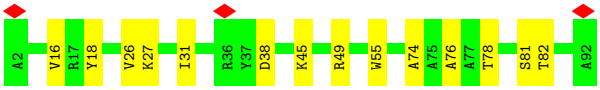




• Molecule 44: Large ribosomal subunit protein eL43A

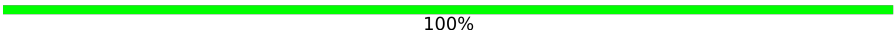
Chain Lr:





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

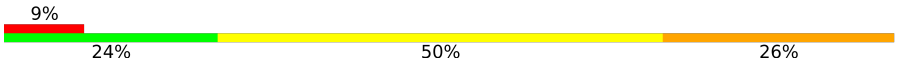
Chain mR:

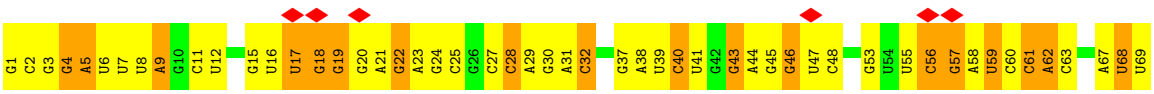


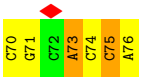
There are no outlier residues recorded for this chain.

• Molecule 46: RNA (76-MER)

Chain Bb:

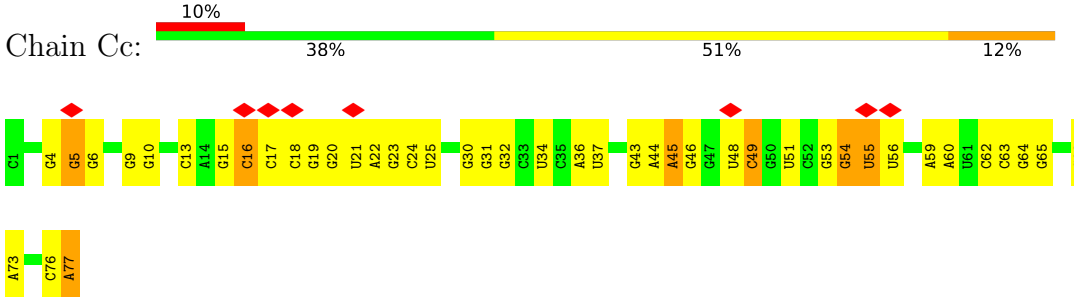






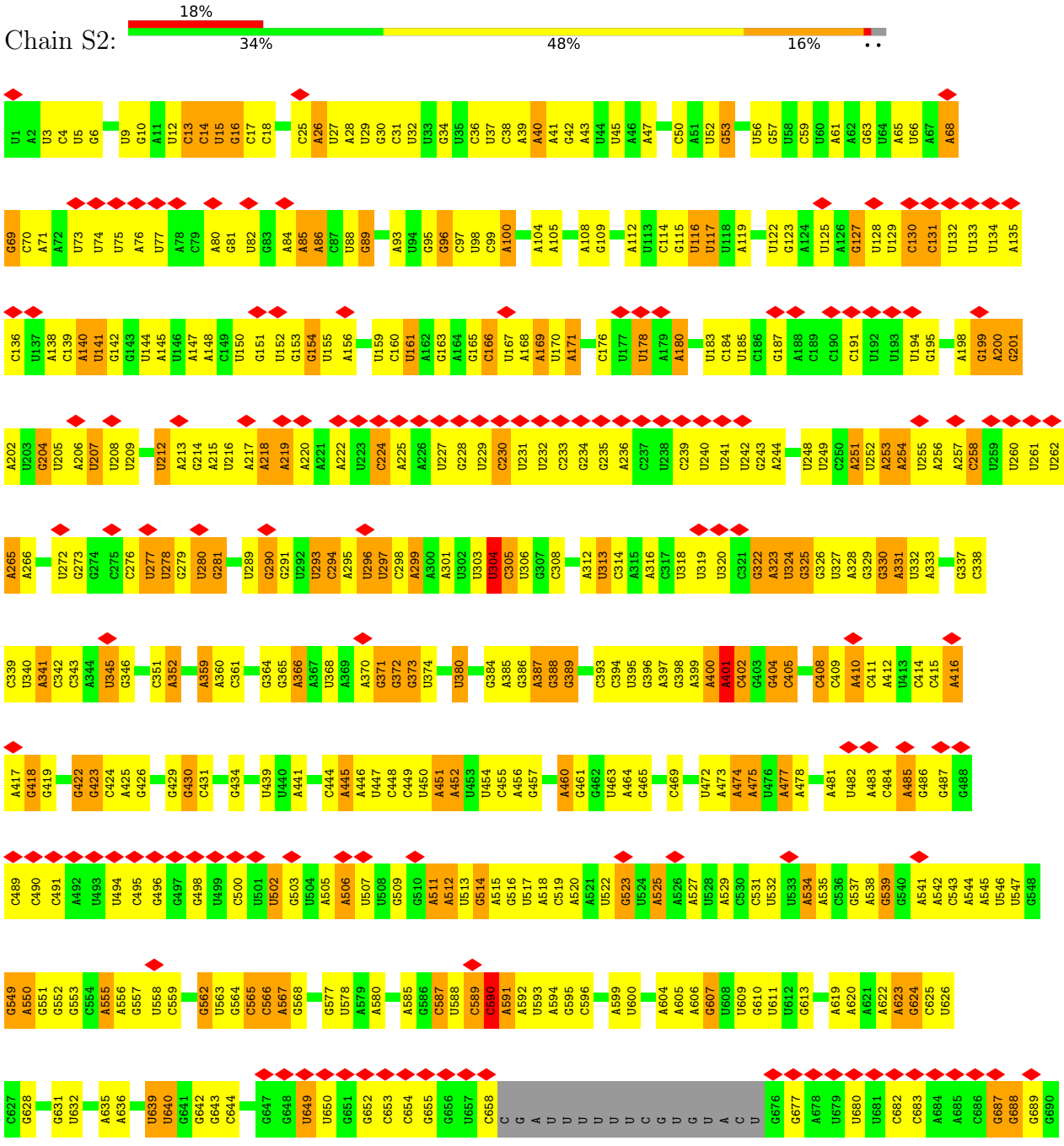
• Molecule 47: RNA (77-MER)

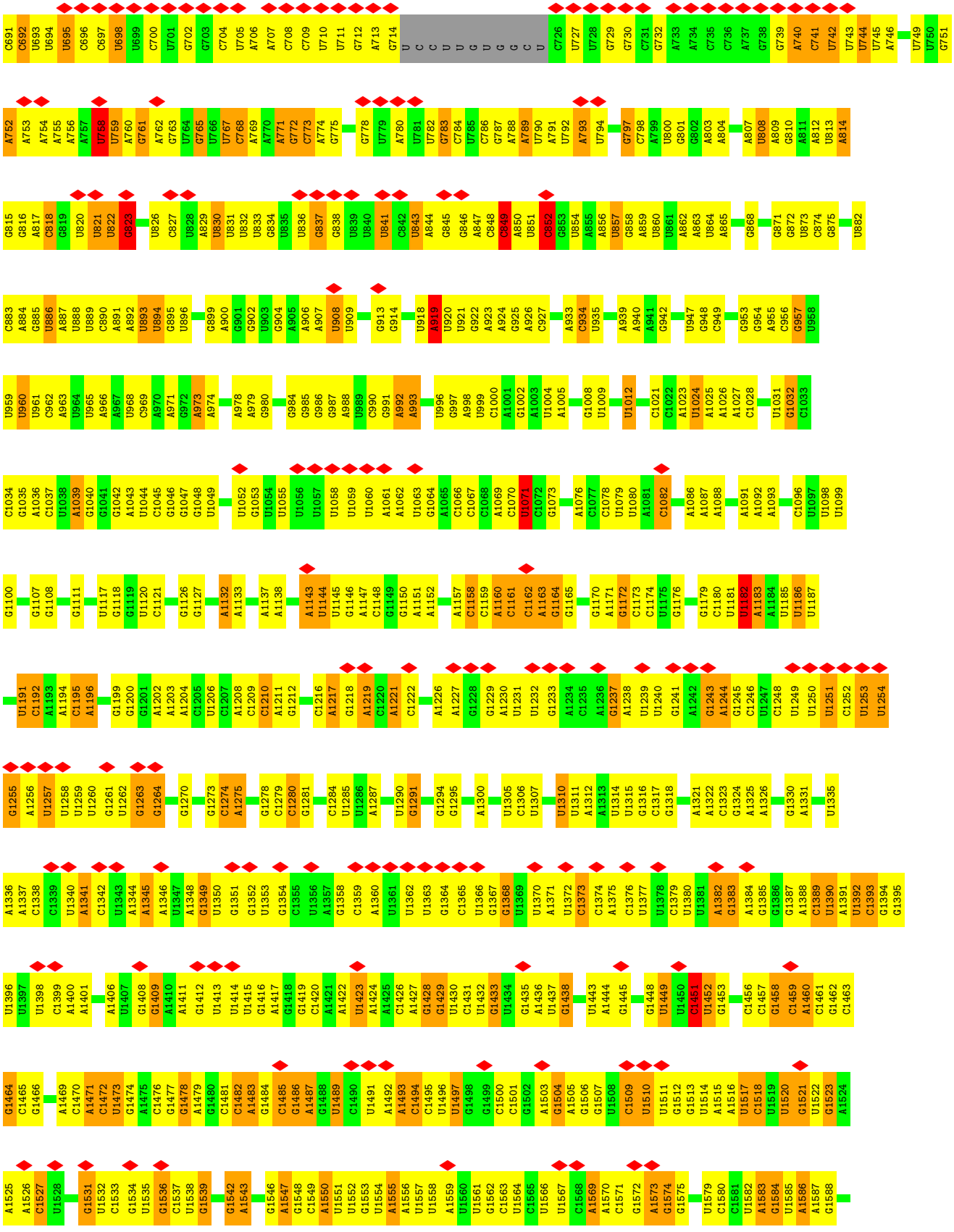
Chain Cc:

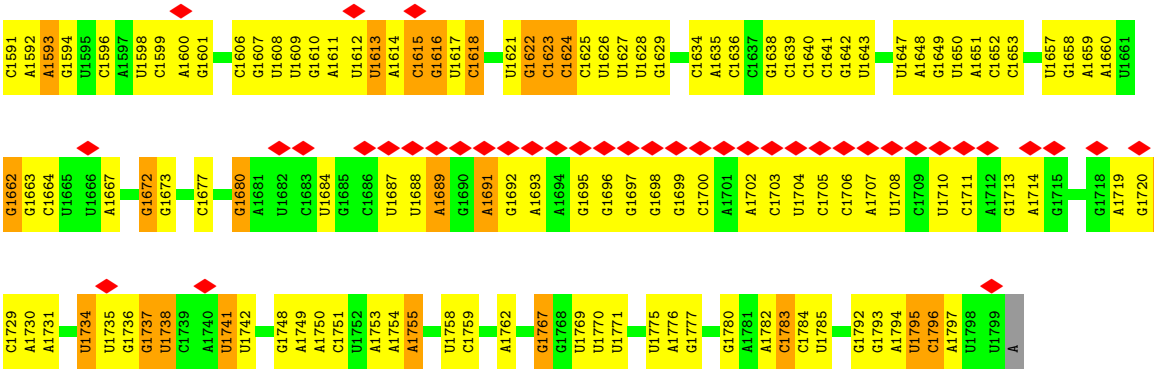


• Molecule 48: RNA (1800-MER)

Chain S2:



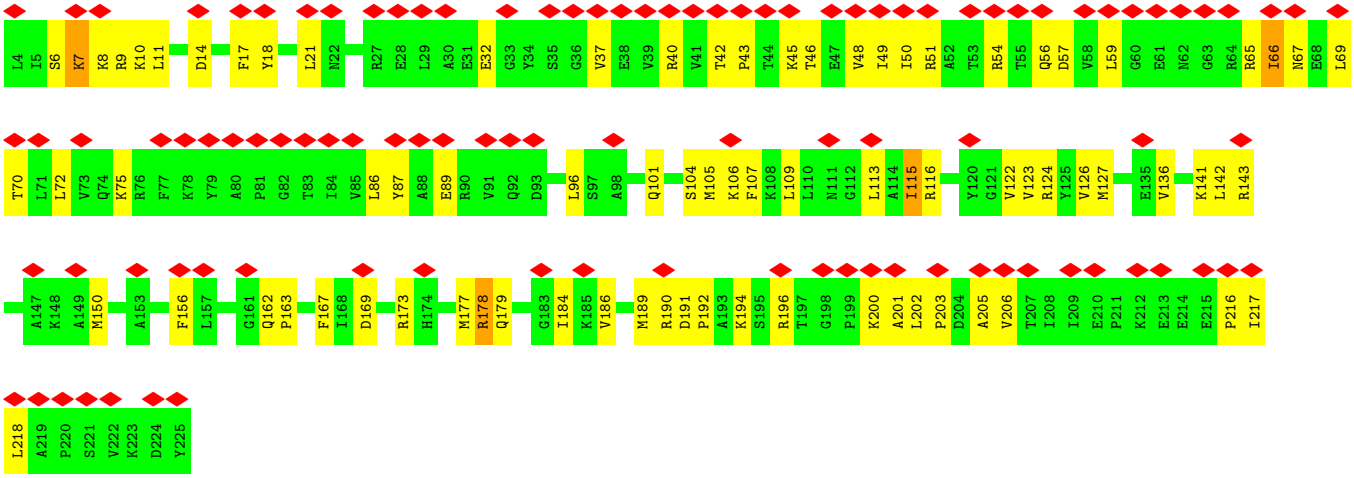




• Molecule 49: Small ribosomal subunit protein uS3

Chain SA:

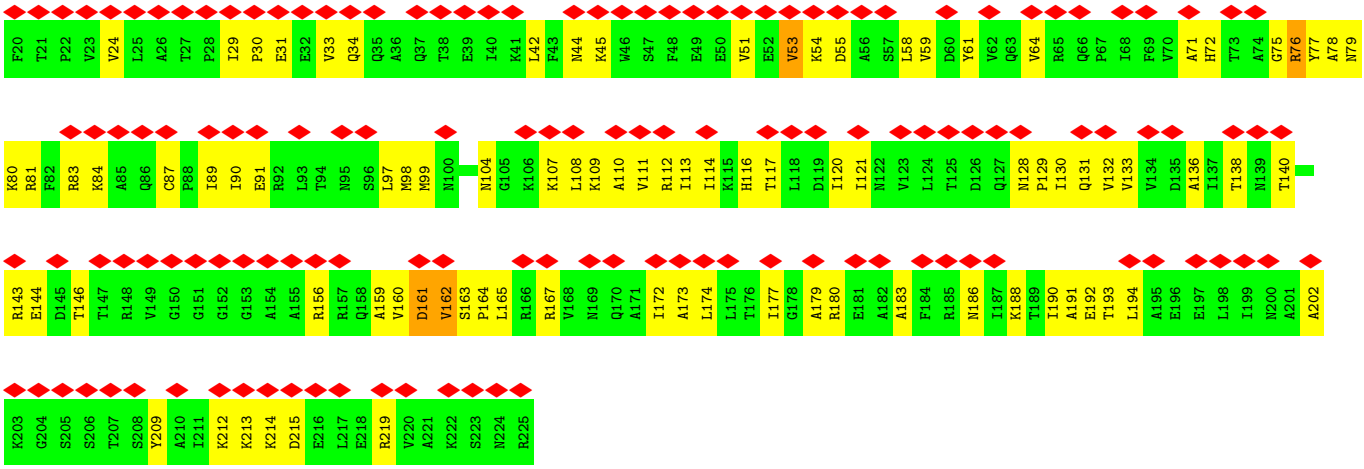




• Molecule 50: Small ribosomal subunit protein uS7

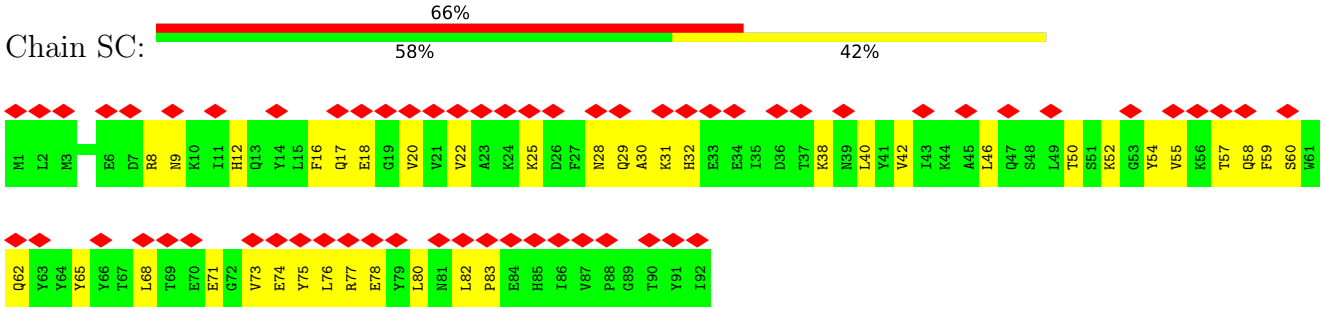
Chain SB:





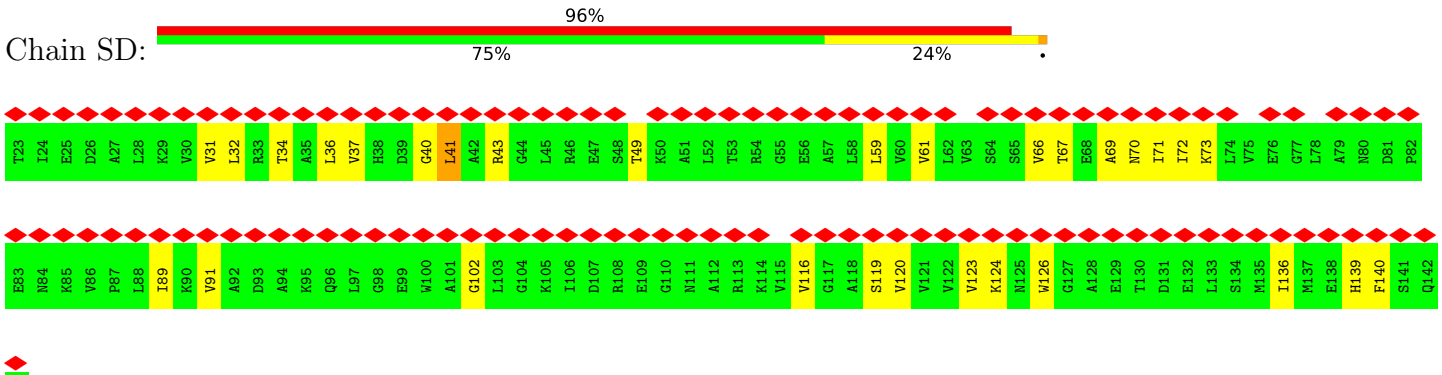
• Molecule 51: Small ribosomal subunit protein eS10A

Chain SC:



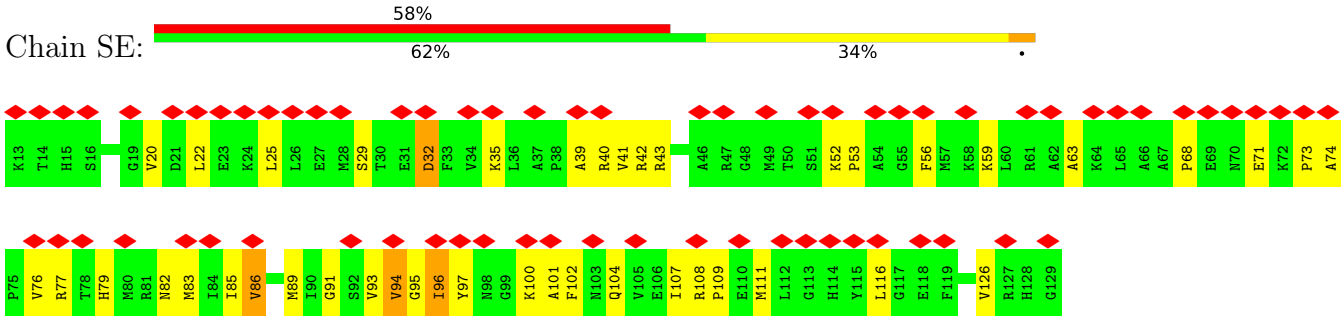
• Molecule 52: Small ribosomal subunit protein eS12

Chain SD:



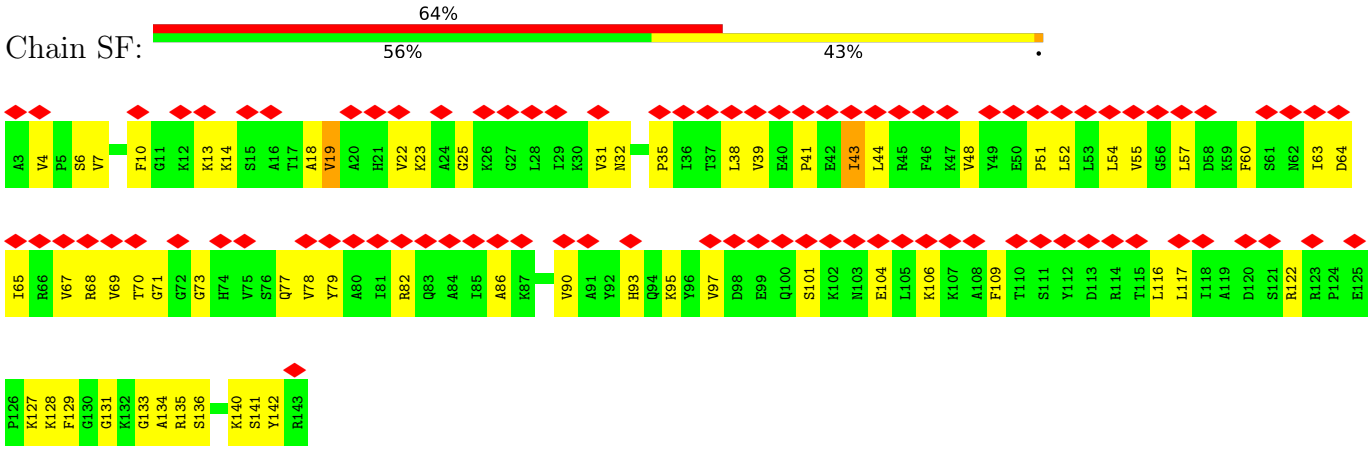
• Molecule 53: Small ribosomal subunit protein uS19

Chain SE:



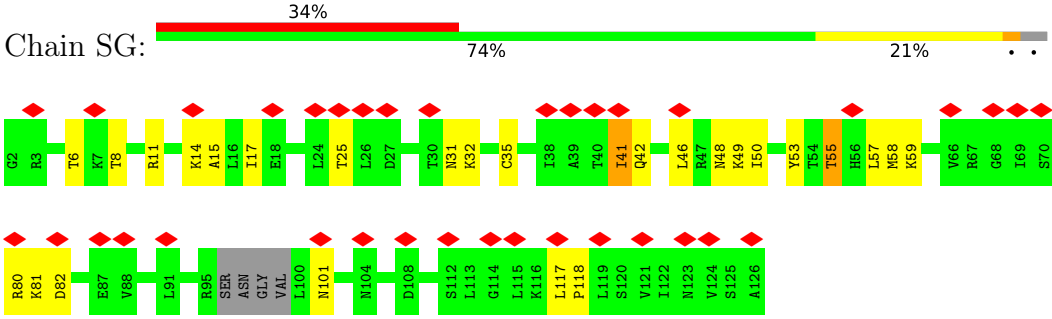
• Molecule 54: Small ribosomal subunit protein uS9A

Chain SF:



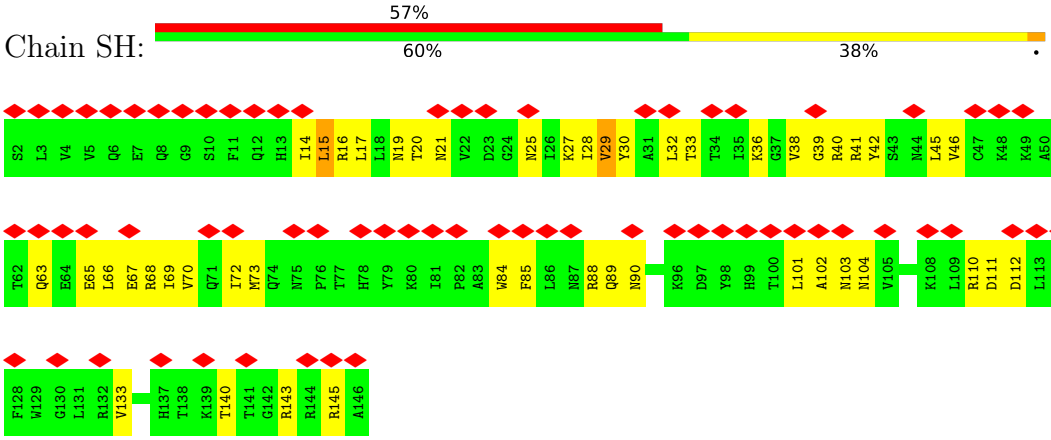
• Molecule 55: Small ribosomal subunit protein eS17B

Chain SG:



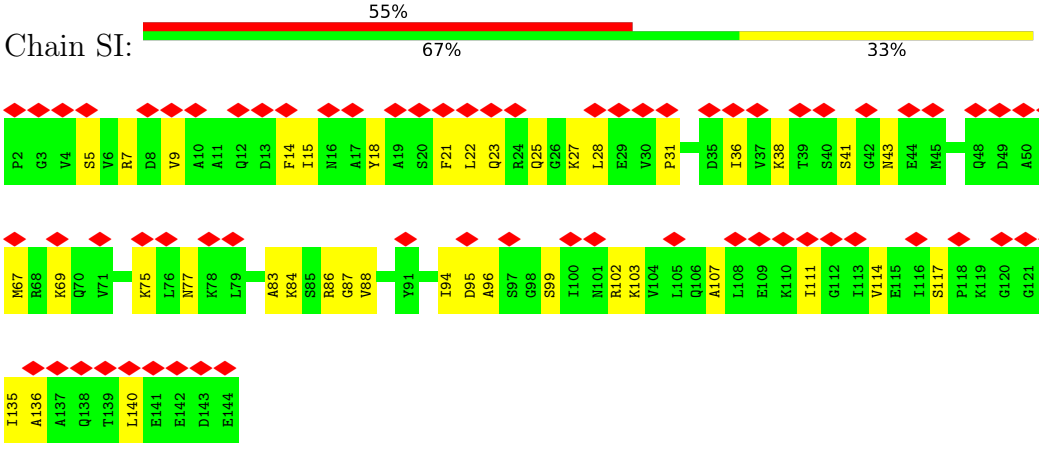
• Molecule 56: Small ribosomal subunit protein uS13A

Chain SH:



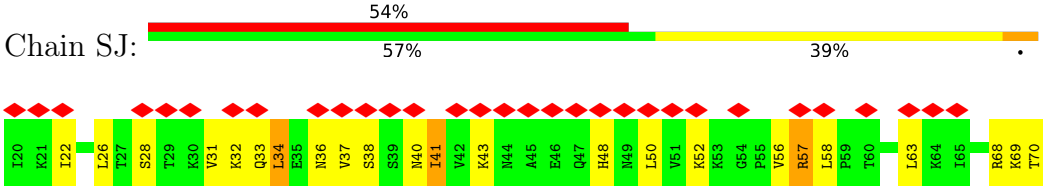
• Molecule 57: Small ribosomal subunit protein eS19A

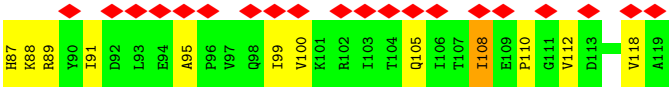
Chain SI:



• Molecule 58: Small ribosomal subunit protein uS10

Chain SJ:

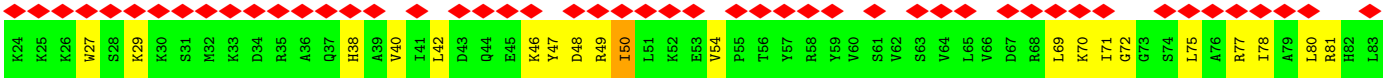


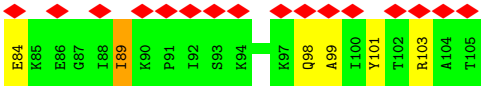


• Molecule 59: Small ribosomal subunit protein eS25A

Chain SK:



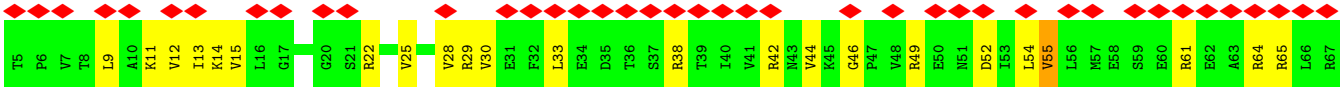




• Molecule 60: Small ribosomal subunit protein eS28A

Chain SL:

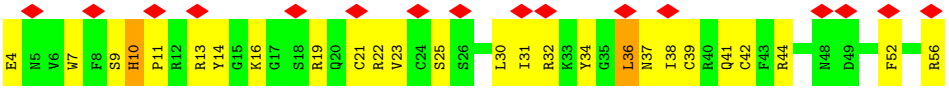




• Molecule 61: Small ribosomal subunit protein uS14A

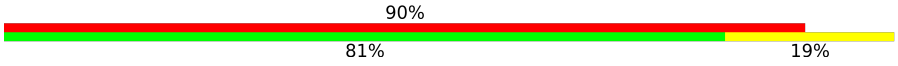
Chain SM:

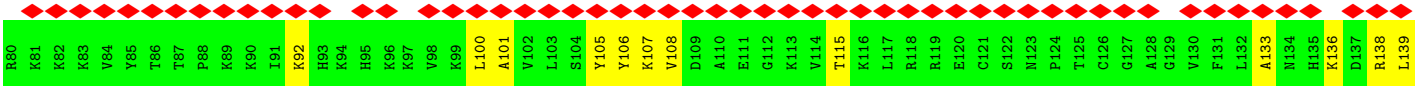


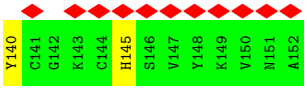


• Molecule 62: Small ribosomal subunit protein eS31

Chain SN:



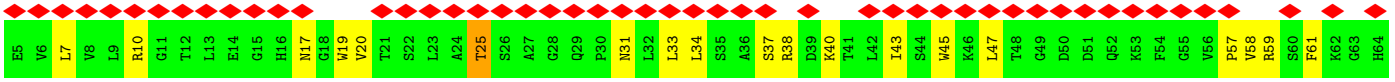


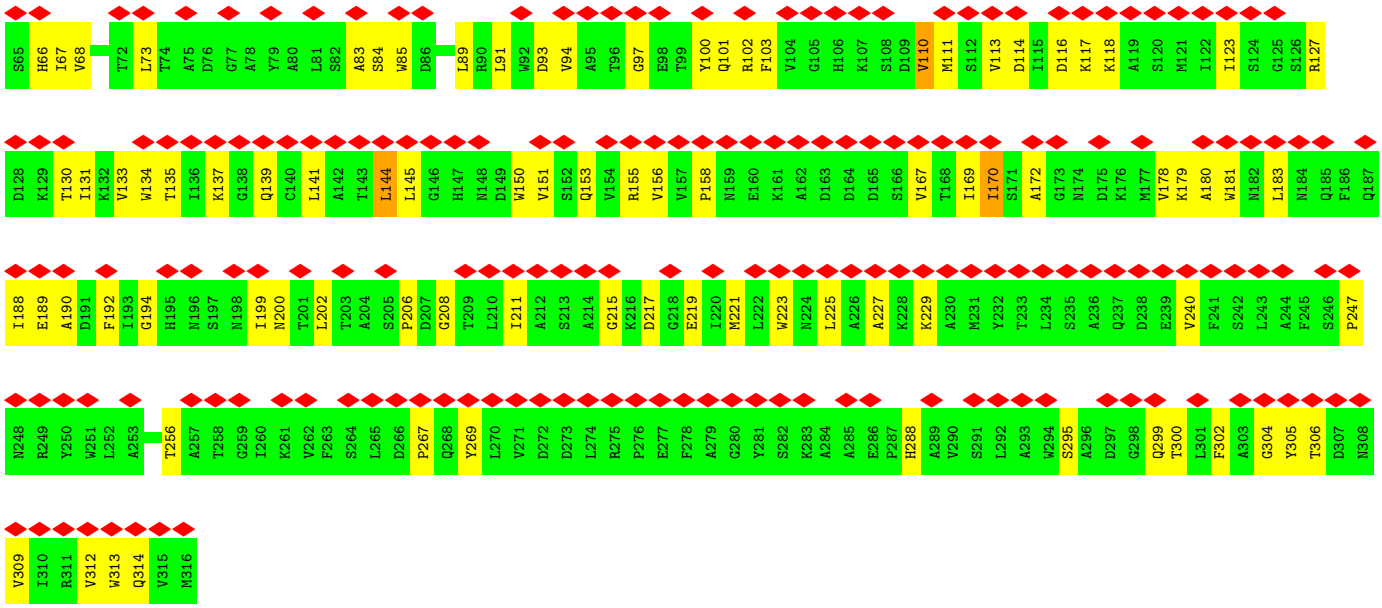


• Molecule 63: Small ribosomal subunit protein RACK1

Chain SO:



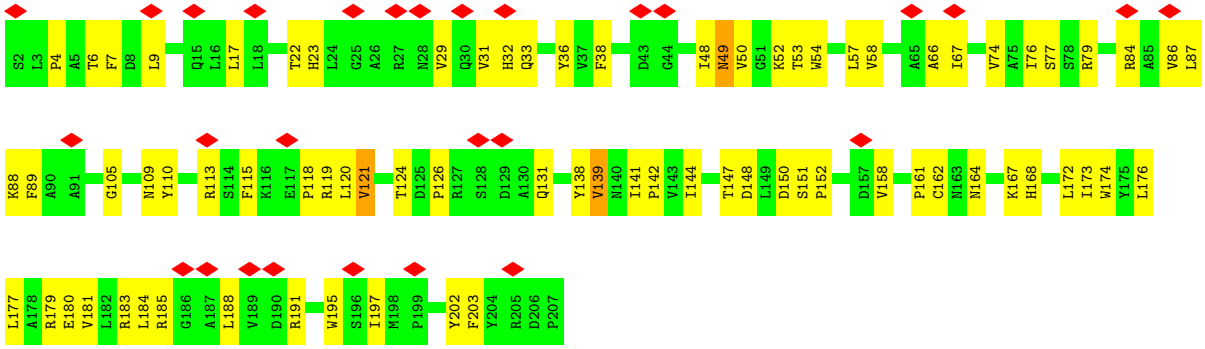




• Molecule 64: Small ribosomal subunit protein uS2A

Chain SP:

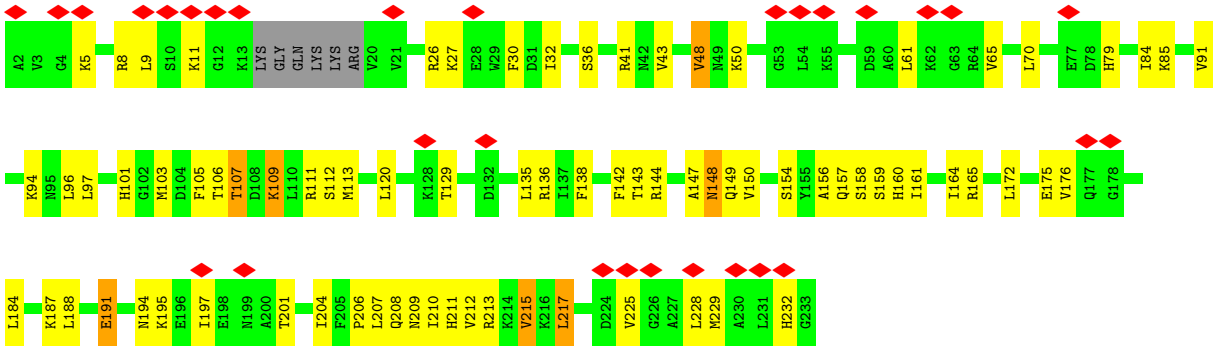




• Molecule 65: Small ribosomal subunit protein eS1A

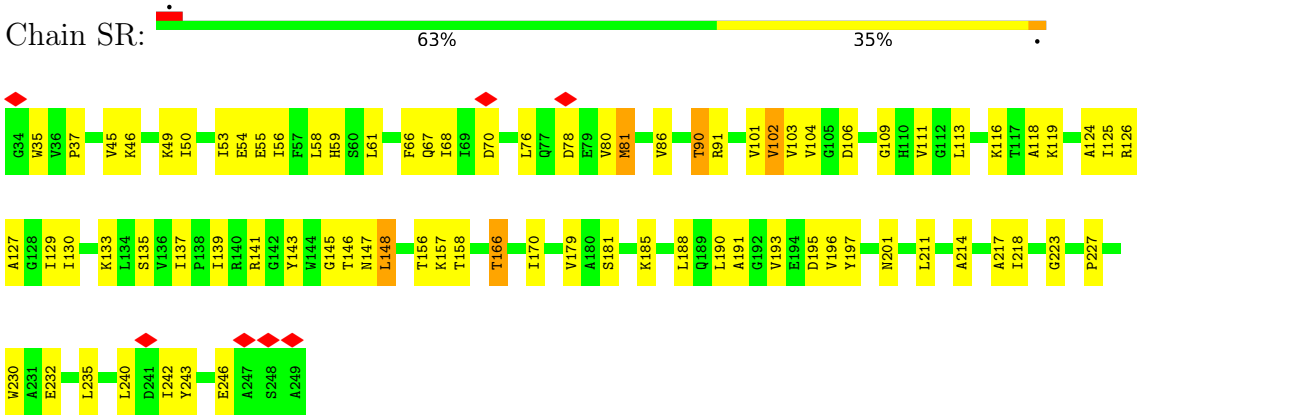
Chain SQ:





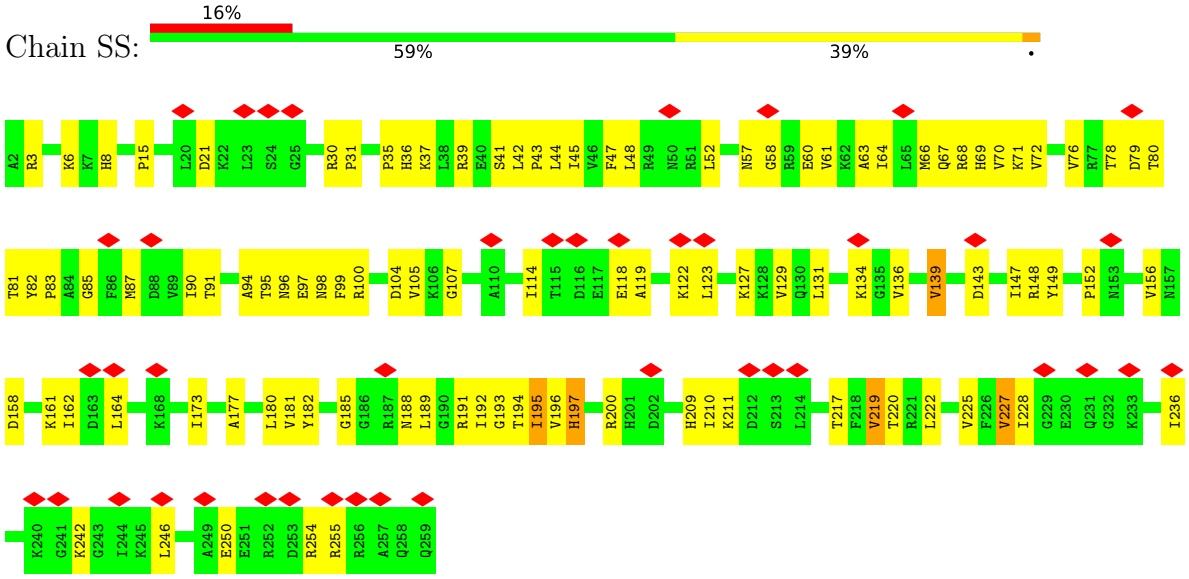
• Molecule 66: Small ribosomal subunit protein uS5

Chain SR:



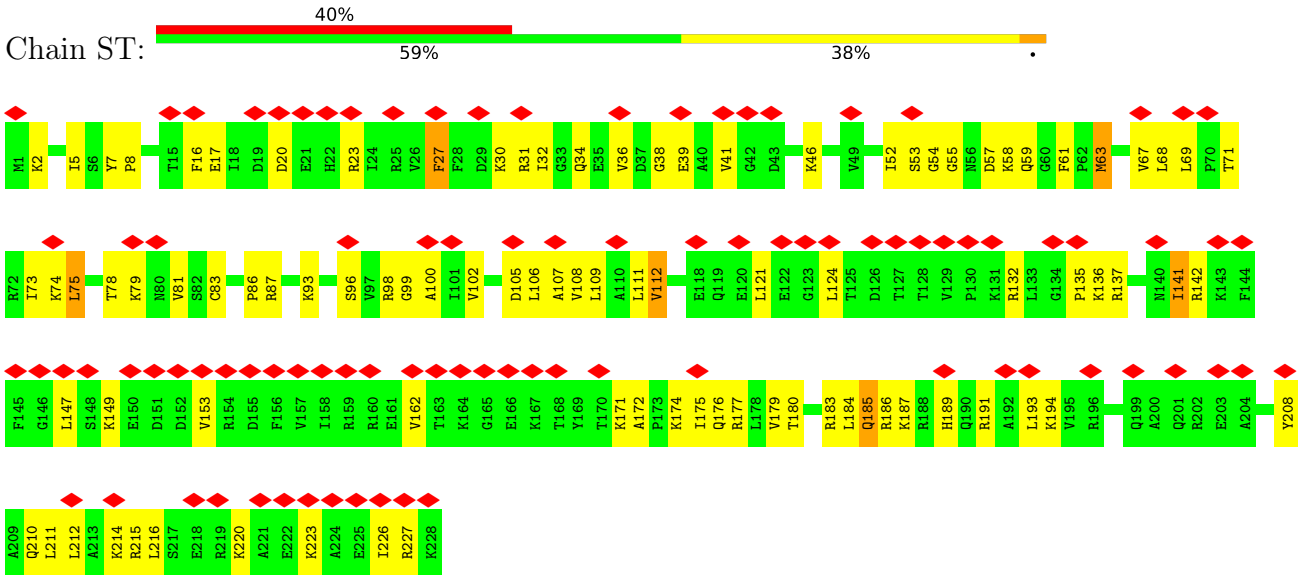
• Molecule 67: Small ribosomal subunit protein eS4A

Chain SS:



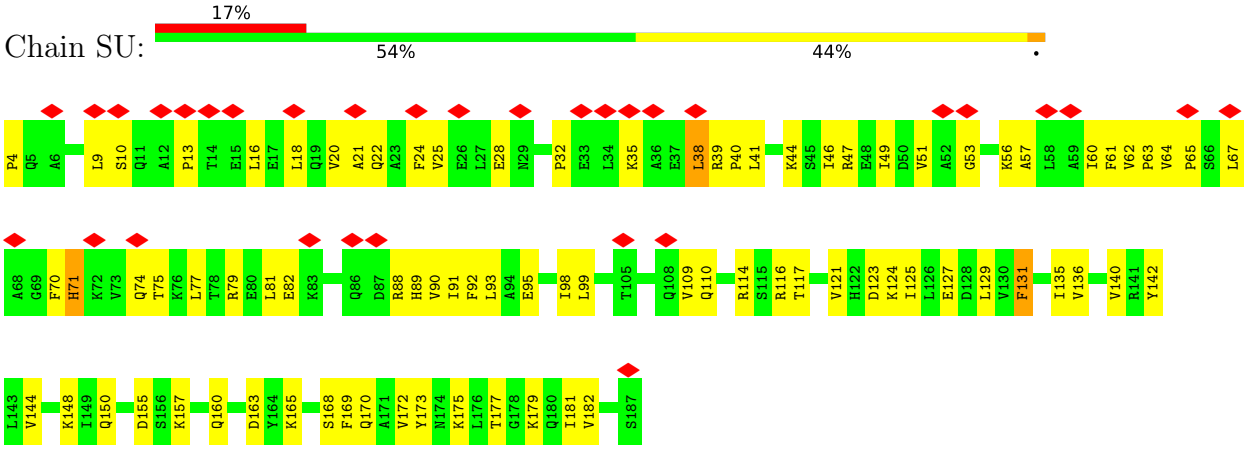
• Molecule 68: Small ribosomal subunit protein eS6A

Chain ST:



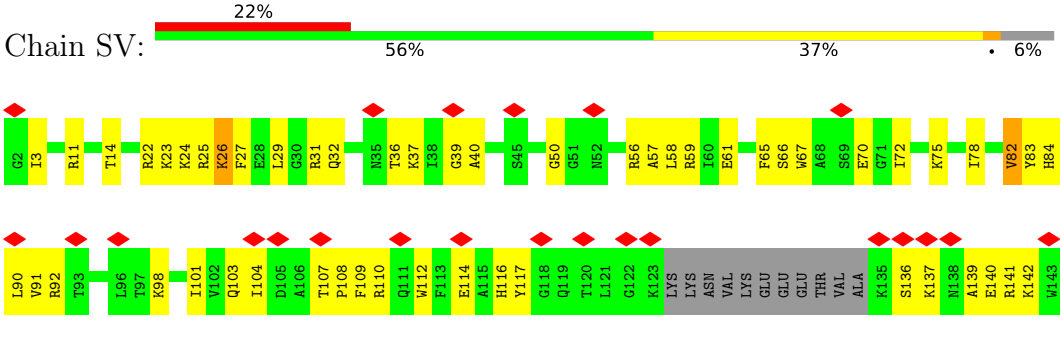
• Molecule 69: Small ribosomal subunit protein eS7A

Chain SU:



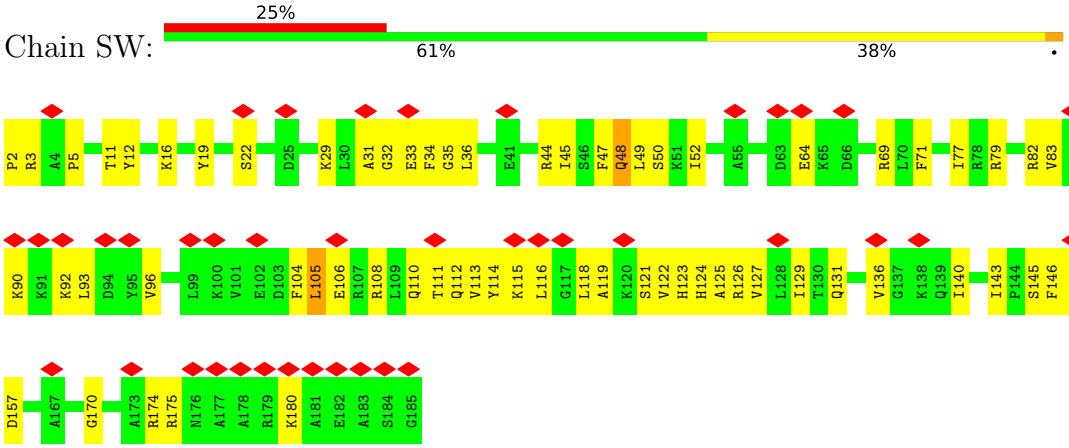
• Molecule 70: Small ribosomal subunit protein eS8A

Chain SV:



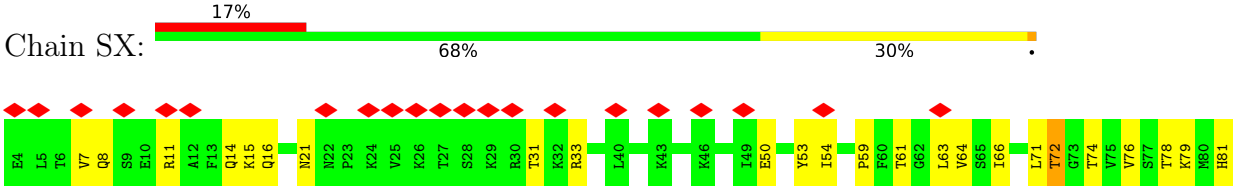
• Molecule 71: Small ribosomal subunit protein uS4A

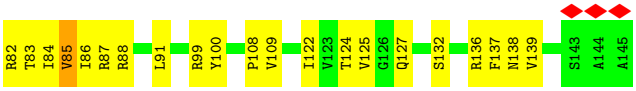
Chain SW:



• Molecule 72: Small ribosomal subunit protein uS17A

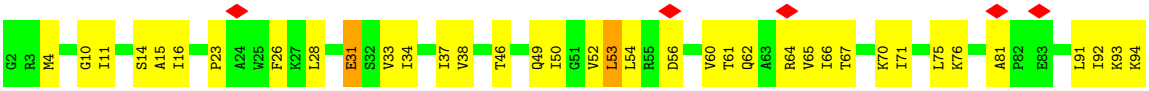
Chain SX:





• Molecule 73: Small ribosomal subunit protein uS15

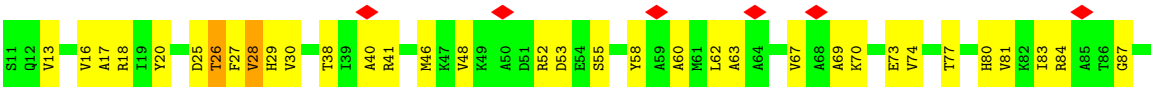


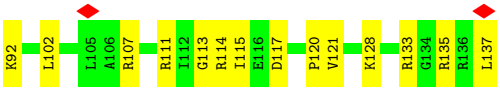




• Molecule 74: Small ribosomal subunit protein uS11B

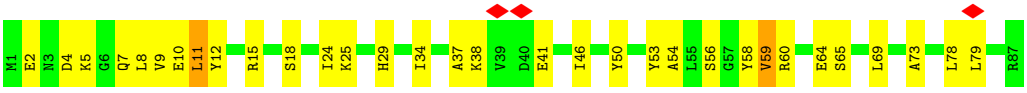






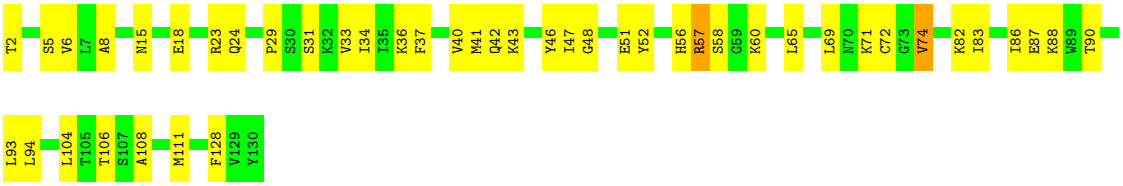
• Molecule 75: Small ribosomal subunit protein eS21A





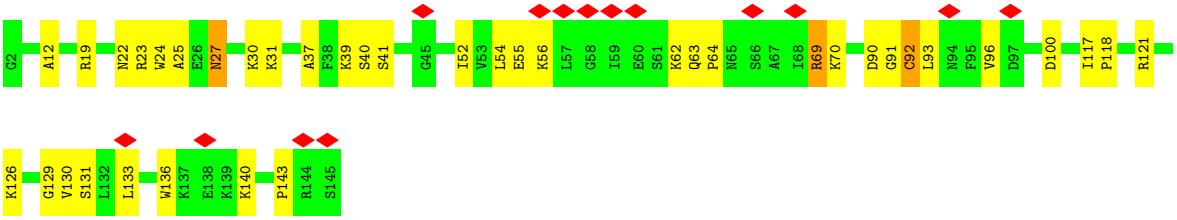
• Molecule 76: Small ribosomal subunit protein uS8A





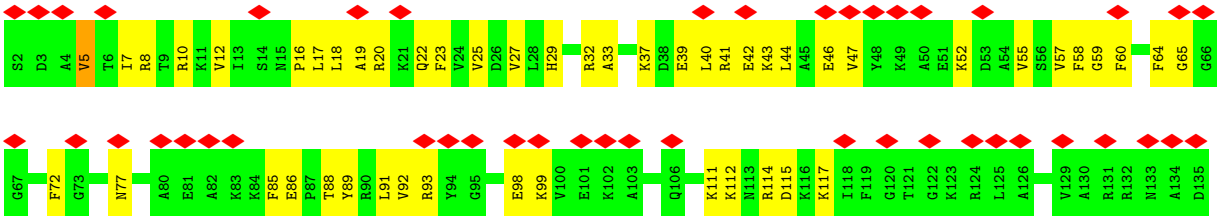
• Molecule 77: Small ribosomal subunit protein uS12A





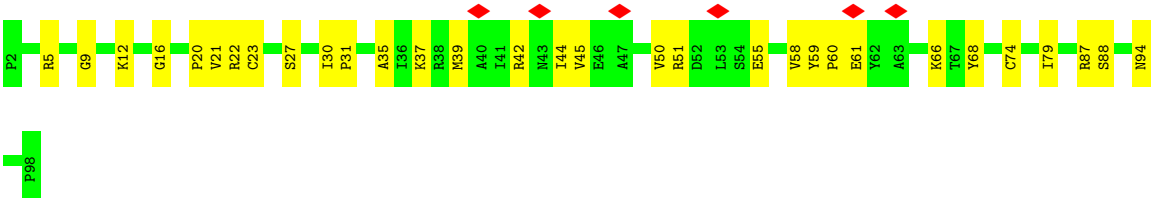
• Molecule 78: Small ribosomal subunit protein eS24A





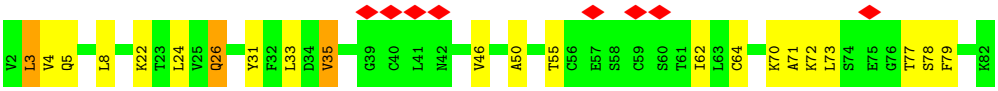
• Molecule 79: Small ribosomal subunit protein eS26B





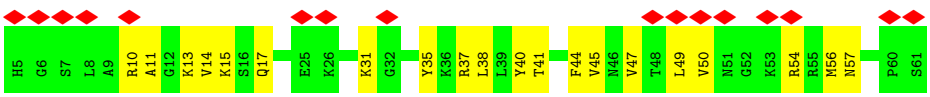
• Molecule 80: Small ribosomal subunit protein eS27A





• Molecule 81: Small ribosomal subunit protein eS30A





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	12559	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	1.692	Depositor
Minimum map value	-0.827	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.065	Depositor
Recommended contour level	0.2	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	0.43	0/75727	0.75	25/118064 (0.0%)
2	LB	0.38	0/2883	0.74	2/4491 (0.0%)
3	LC	0.42	0/3746	0.71	0/5832
4	LD	0.22	0/1933	0.39	0/2598
5	LE	0.20	0/3146	0.37	0/4228
6	LF	0.21	0/2800	0.36	0/3790
7	LG	0.17	0/2400	0.38	0/3239
8	LH	0.19	0/1329	0.43	0/1794
9	LI	0.23	0/1821	0.39	0/2451
10	LJ	0.18	0/1836	0.38	0/2481
11	LK	0.18	0/1529	0.38	0/2060
12	LL	0.22	0/1801	0.46	0/2416
13	LM	0.18	0/1367	0.43	0/1834
14	LN	0.20	0/1568	0.39	0/2106
15	LO	0.19	0/1068	0.42	0/1438
16	LP	0.21	0/1757	0.36	0/2354
17	LQ	0.21	0/1585	0.37	0/2128
18	LR	0.20	0/1439	0.34	0/1938
19	LS	0.21	0/1465	0.36	0/1965
20	LT	0.19	0/1532	0.35	0/2043
21	LU	0.21	0/1473	0.39	0/1980
22	LV	0.20	0/1296	0.37	0/1739
23	LW	0.21	0/812	0.55	0/1099
24	LX	0.21	0/1018	0.36	0/1369
25	LY	0.19	0/540	0.35	0/717
26	LZ	0.19	0/979	0.38	0/1321
27	La	0.18	0/995	0.35	0/1329
28	Lb	0.18	0/1106	0.35	0/1485
29	Lc	0.22	0/1200	0.43	1/1607 (0.1%)
30	Ld	0.19	0/473	0.40	0/629
31	Le	0.18	0/745	0.39	0/1001
32	Lf	0.17	0/890	0.35	0/1196
33	Lg	0.19	0/1038	0.32	0/1390
34	Lh	0.22	0/868	0.38	0/1168

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
35	Li	0.19	0/890	0.33	0/1189
36	Lj	0.19	0/978	0.44	0/1301
37	Lk	0.20	0/772	0.41	0/1026
38	Ll	0.22	0/660	0.35	0/875
39	Lm	0.17	0/618	0.42	0/826
40	Ln	0.21	0/443	0.32	0/588
41	Lo	0.20	0/416	0.41	0/553
42	Lp	0.17	0/230	0.35	0/296
43	Lq	0.19	0/836	0.38	0/1104
44	Lr	0.20	0/701	0.40	0/934
46	Bb	0.30	0/1814	0.81	0/2827
47	Cc	0.26	0/1836	0.72	0/2859
48	S2	0.33	1/42211 (0.0%)	0.82	56/65773 (0.1%)
49	SA	0.16	0/1754	0.45	0/2361
50	SB	0.16	0/1625	0.47	0/2197
51	SC	0.15	0/769	0.38	0/1039
52	SD	0.17	0/883	0.50	0/1199
53	SE	0.14	0/936	0.41	0/1259
54	SF	0.15	0/1125	0.45	0/1510
55	SG	0.17	0/957	0.46	0/1283
56	SH	0.16	0/1207	0.42	0/1623
57	SI	0.16	0/1130	0.42	0/1517
58	SJ	0.15	0/807	0.39	0/1091
59	SK	0.16	0/661	0.46	0/888
60	SL	0.15	0/493	0.44	0/663
61	SM	0.12	0/452	0.33	0/600
62	SN	0.15	0/567	0.46	0/764
63	SO	0.15	0/2436	0.44	0/3318
64	SP	0.18	0/1644	0.45	0/2249
65	SQ	0.16	0/1823	0.42	0/2447
66	SR	0.19	0/1656	0.46	0/2251
67	SS	0.16	0/2097	0.42	0/2823
68	ST	0.14	0/1839	0.40	0/2460
69	SU	0.18	0/1498	0.44	0/2019
70	SV	0.16	0/1501	0.40	0/2006
71	SW	0.17	0/1504	0.46	0/2016
72	SX	0.17	0/1168	0.35	0/1575
73	SY	0.25	0/1215	0.44	0/1638
74	SZ	0.17	0/934	0.38	0/1257
75	Sa	0.21	0/682	0.50	0/921
76	Sb	0.21	0/1038	0.41	0/1395
77	Sc	0.17	0/1139	0.43	0/1518
78	Sd	0.14	0/1046	0.36	0/1401

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
79	Se	0.19	0/778	0.40	0/1042
80	Sf	0.21	0/620	0.43	0/838
81	Sg	0.16	0/459	0.48	0/611
All	All	0.33	1/217013 (0.0%)	0.66	84/319210 (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
6	LF	0	1
10	LJ	0	1
30	Ld	0	1
All	All	0	3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	S2	823	G	C6-N1	-5.05	1.36	1.39

All (84) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	S2	849	C	N3-C4-N4	-19.82	104.13	118.00
48	S2	823	G	N1-C6-O6	-18.52	108.79	119.90
48	S2	823	G	C5-C6-O6	15.94	138.16	128.60
48	S2	849	C	C5-C4-N4	14.02	130.01	120.20
48	S2	893	U	N3-C4-O4	-11.45	111.39	119.40
48	S2	893	U	C5-C4-O4	9.76	131.76	125.90
48	S2	919	A	N1-C6-N6	-9.46	112.92	118.60
48	S2	849	C	C4-C5-C6	-8.72	113.04	117.40
48	S2	1257	U	C2-N1-C1'	8.48	127.88	117.70
48	S2	849	C	N3-C4-C5	8.28	125.21	121.90
48	S2	649	U	C2-N1-C1'	7.68	126.92	117.70
2	LB	106	U	C2-N1-C1'	7.64	126.86	117.70
48	S2	1182	U	C2-N1-C1'	7.51	126.71	117.70
48	S2	1482	C	C2-N1-C1'	7.50	127.05	118.80
48	S2	590	C	C5-C6-N1	7.40	124.70	121.00
1	LA	2094	C	N3-C2-O2	-7.39	116.73	121.90
48	S2	649	U	N1-C2-O2	7.37	127.96	122.80
48	S2	1482	C	N1-C2-O2	7.33	123.30	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	LA	1208	U	C2-N1-C1'	7.30	126.46	117.70
48	S2	934	C	C2-N1-C1'	7.18	126.70	118.80
1	LA	1280	C	N3-C2-O2	-7.04	116.97	121.90
48	S2	649	U	N3-C2-O2	-7.03	117.28	122.20
1	LA	3058	U	C2-N1-C1'	6.95	126.04	117.70
1	LA	1107	C	O5'-C5'-C4'	6.62	114.70	109.40
48	S2	590	C	C2-N1-C1'	6.54	125.99	118.80
1	LA	1496	C	C2-N1-C1'	6.50	125.95	118.80
1	LA	1208	U	N1-C2-O2	6.49	127.34	122.80
1	LA	1579	C	N3-C2-O2	-6.46	117.38	121.90
1	LA	1120	A	N9-C4-C5	-6.43	103.23	105.80
48	S2	1071	U	C2-N1-C1'	6.42	125.40	117.70
48	S2	1741	U	C2-N1-C1'	6.38	125.36	117.70
48	S2	934	C	N1-C2-O2	6.34	122.70	118.90
48	S2	692	C	N3-C2-O2	-6.29	117.49	121.90
1	LA	3058	U	N1-C2-O2	6.27	127.19	122.80
48	S2	1182	U	N1-C2-O2	6.25	127.17	122.80
1	LA	2552	C	C2-N1-C1'	6.22	125.64	118.80
48	S2	304	U	C2-N1-C1'	6.19	125.13	117.70
48	S2	1596	C	C2-N1-C1'	6.17	125.58	118.80
2	LB	106	U	C6-N1-C1'	-6.13	112.61	121.20
48	S2	758	U	N1-C2-O2	6.11	127.08	122.80
48	S2	849	C	N1-C2-N3	-6.04	114.97	119.20
48	S2	758	U	N3-C2-O2	-6.00	118.00	122.20
1	LA	2094	C	N1-C2-O2	5.99	122.49	118.90
48	S2	1257	U	C6-N1-C1'	-5.98	112.83	121.20
48	S2	1623	C	C2-N1-C1'	5.90	125.28	118.80
48	S2	758	U	C2-N1-C1'	5.88	124.76	117.70
48	S2	1257	U	N1-C2-O2	5.85	126.89	122.80
48	S2	323	A	N9-C1'-C2'	5.83	118.41	112.00
48	S2	1071	U	C6-N1-C1'	-5.82	113.05	121.20
48	S2	1182	U	N3-C2-O2	-5.80	118.14	122.20
48	S2	304	U	N1-C2-O2	5.78	126.85	122.80
1	LA	1208	U	N3-C2-O2	-5.74	118.18	122.20
1	LA	2983	C	C2-N1-C1'	5.68	125.04	118.80
1	LA	3166	C	N3-C2-O2	-5.65	117.94	121.90
48	S2	1596	C	N1-C2-O2	5.62	122.27	118.90
48	S2	1389	C	C2-N1-C1'	5.61	124.97	118.80
29	Lc	116	GLY	N-CA-C	5.59	119.25	112.48
1	LA	3058	U	N3-C2-O2	-5.53	118.33	122.20
48	S2	224	C	N3-C2-O2	-5.52	118.04	121.90
48	S2	934	C	C6-N1-C1'	-5.50	114.20	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	S2	1482	C	N3-C2-O2	-5.45	118.09	121.90
48	S2	252	U	C2-N1-C1'	5.40	124.18	117.70
48	S2	304	U	N3-C2-O2	-5.39	118.43	122.20
1	LA	1688	U	C2-N1-C1'	5.38	124.16	117.70
48	S2	1482	C	C6-N1-C1'	-5.37	114.35	120.80
48	S2	919	A	C5-C6-N6	5.34	127.98	123.70
1	LA	3181	C	C2-N1-C1'	5.34	124.68	118.80
48	S2	965	U	C2-N1-C1'	5.33	124.09	117.70
1	LA	2552	C	N1-C2-O2	5.31	122.09	118.90
1	LA	1324	U	C2-N1-C1'	5.29	124.05	117.70
1	LA	3166	C	N1-C2-O2	5.29	122.07	118.90
48	S2	1161	C	C2-N1-C1'	5.28	124.60	118.80
1	LA	1801	U	N3-C2-O2	-5.20	118.56	122.20
48	S2	401	A	O5'-C5'-C4'	5.19	113.56	109.40
48	S2	1451	C	C2-N1-C1'	5.13	124.44	118.80
48	S2	1257	U	N3-C2-O2	-5.12	118.61	122.20
1	LA	1307	G	P-O3'-C3'	5.12	125.84	119.70
48	S2	366	A	N9-C4-C5	-5.11	103.76	105.80
1	LA	1496	C	C6-N1-C1'	-5.08	114.70	120.80
48	S2	590	C	N1-C2-O2	5.07	121.94	118.90
48	S2	1071	U	C5-C4-O4	-5.05	122.87	125.90
48	S2	1182	U	C6-N1-C1'	-5.04	114.15	121.20
1	LA	3041	U	C2-N1-C1'	5.04	123.74	117.70
48	S2	852	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	LF	13	GLY	Peptide
10	LJ	30	THR	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	775	0
2	LB	2579	0	1304	38	0
3	LC	3353	0	1695	46	0
4	LD	1899	0	1957	42	0
5	LE	3075	0	3142	60	0
6	LF	2748	0	2859	64	0
7	LG	2351	0	2294	59	0
8	LH	1307	0	1377	31	0
9	LI	1784	0	1862	44	0
10	LJ	1804	0	1877	47	0
11	LK	1508	0	1572	42	0
12	LL	1764	0	1804	42	0
13	LM	1346	0	1370	28	0
14	LN	1543	0	1608	31	0
15	LO	1053	0	1149	32	0
16	LP	1720	0	1779	28	0
17	LQ	1555	0	1659	36	0
18	LR	1416	0	1433	13	0
19	LS	1441	0	1543	33	0
20	LT	1515	0	1606	25	0
21	LU	1437	0	1475	33	0
22	LV	1272	0	1312	31	0
23	LW	796	0	812	20	0
24	LX	1003	0	1048	14	0
25	LY	528	0	546	10	0
26	LZ	964	0	1025	21	0
27	La	984	0	1075	24	0
28	Lb	1080	0	1122	17	0
29	Lc	1169	0	1211	29	0
30	Ld	462	0	491	15	0
31	Le	737	0	792	18	0
32	Lf	876	0	912	16	0
33	Lg	1017	0	1081	14	0
34	Lh	850	0	880	19	0
35	Li	880	0	945	19	0
36	Lj	969	0	1078	20	0
37	Lk	766	0	844	20	0
38	Ll	645	0	649	9	0
39	Lm	612	0	682	20	0
40	Ln	436	0	475	12	0
41	Lo	410	0	446	13	0
42	Lp	229	0	273	9	0
43	Lq	824	0	892	16	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	Bb	1622	0	821	39	0
47	Cc	1644	0	837	27	0
48	S2	37739	0	18988	685	0
49	SA	1729	0	1812	70	0
50	SB	1605	0	1669	74	0
51	SC	752	0	719	29	0
52	SD	875	0	878	15	0
53	SE	916	0	941	35	0
54	SF	1105	0	1166	50	0
55	SG	948	0	990	21	0
56	SH	1188	0	1218	46	0
57	SI	1112	0	1124	37	0
58	SJ	797	0	863	35	0
59	SK	651	0	682	22	0
60	SL	491	0	524	22	0
61	SM	442	0	432	24	0
62	SN	556	0	549	8	0
63	SO	2383	0	2332	65	0
64	SP	1603	0	1610	62	0
65	SQ	1798	0	1890	67	0
66	SR	1626	0	1715	60	0
67	SS	2056	0	2140	79	0
68	ST	1815	0	1894	68	0
69	SU	1473	0	1555	59	0
70	SV	1476	0	1501	59	0
71	SW	1479	0	1556	58	0
72	SX	1142	0	1209	33	0
73	SY	1192	0	1255	37	0
74	SZ	923	0	948	44	0
75	Sa	673	0	662	21	0
76	Sb	1021	0	1060	32	0
77	Sc	1121	0	1196	27	0
78	Sd	1032	0	1044	39	0
79	Se	765	0	814	22	0
80	Sf	610	0	633	21	0
81	Sg	451	0	494	17	0
All	All	202093	0	148412	3590	0

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

All (3590) 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)
48:S2:1673:G:N1	48:S2:1728:A:H2	1.49	1.09
48:S2:1673:G:N1	48:S2:1728:A:C2	2.21	1.09
48:S2:550:A:N6	48:S2:587:C:C4	2.25	1.05
48:S2:698:U:H3	48:S2:741:C:N4	1.54	1.05
48:S2:1374:C:N4	48:S2:1375:A:N6	2.06	1.02
48:S2:550:A:C6	48:S2:587:C:N4	2.30	1.00
48:S2:752:A:N6	48:S2:797:G:H1	1.59	0.99
48:S2:752:A:H61	48:S2:797:G:H1	0.99	0.98
48:S2:550:A:N6	48:S2:587:C:N4	2.12	0.97
48:S2:821:U:H3	48:S2:852:C:H42	0.98	0.96
48:S2:1219:A:H62	48:S2:1264:G:H21	1.11	0.96
1:LA:129:U:H3	1:LA:139:G:H1	1.01	0.94
1:LA:3160:U:H3	1:LA:3290:G:H1	0.96	0.94
78:Sd:20:ARG:HH12	78:Sd:22:GLN:HE21	1.14	0.94
1:LA:3299:A:H61	1:LA:3315:G:H1	1.07	0.93
3:LC:121:U:H3	3:LC:132:G:H1	1.12	0.93
1:LA:2450:G:N2	1:LA:2496:C:O2	2.06	0.89
48:S2:1158:C:H42	48:S2:1163:A:H61	1.18	0.89
48:S2:394:C:H42	48:S2:401:A:H62	1.19	0.89
48:S2:513:U:H2'	48:S2:514:G:H8	1.35	0.88
48:S2:821:U:H3	48:S2:852:C:N4	1.70	0.88
55:SG:117:LEU:HD12	55:SG:118:PRO:HD2	1.57	0.86
48:S2:1219:A:H62	48:S2:1264:G:N2	1.74	0.86
13:LM:18:VAL:HG12	13:LM:70:THR:HG22	1.59	0.85
48:S2:1047:G:N2	48:S2:1071:U:O4	2.09	0.84
1:LA:528:U:H3	1:LA:564:G:H1	1.26	0.84
12:LL:76:MET:HE1	12:LL:148:VAL:HA	1.59	0.84
48:S2:698:U:H3	48:S2:741:C:H42	0.84	0.84
27:La:55:GLU:HB2	27:La:108:LYS:HB3	1.59	0.83
48:S2:1280:C:H5"	58:SJ:69:LYS:HG2	1.59	0.82
1:LA:839:C:H4'	1:LA:1724:U:H2'	1.60	0.82
1:LA:2764:C:H42	47:Cc:77:A:H8	1.27	0.82
1:LA:2683:U:H5"	13:LM:18:VAL:HG11	1.62	0.82
1:LA:238:A:H62	1:LA:239:G:H21	1.28	0.81
8:LH:108:LYS:HE3	8:LH:110:LYS:HE3	1.62	0.81
48:S2:1673:G:O6	48:S2:1728:A:N1	2.14	0.80
72:SX:7:VAL:HG11	72:SX:53:TYR:HA	1.64	0.80
66:SR:139:ILE:HD12	66:SR:218:ILE:HG23	1.63	0.80
11:LK:128:VAL:HG11	11:LK:134:ILE:HD11	1.62	0.80
27:La:81:GLN:HG2	27:La:96:PRO:HB2	1.63	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2572:C:H3'	1:LA:2573:G:H4'	1.62	0.79
60:SL:9:LEU:HD22	60:SL:33:LEU:HD11	1.64	0.79
68:ST:79:LYS:HG2	68:ST:86:PRO:HG2	1.64	0.79
70:SV:83:TYR:HB3	70:SV:101:ILE:HD12	1.64	0.79
69:SU:46:ILE:HD13	69:SU:60:ILE:HG23	1.64	0.79
74:SZ:20:TYR:HB3	74:SZ:27:PHE:HB2	1.65	0.78
1:LA:1190:A:H4'	41:Lo:113:ARG:HH22	1.49	0.78
9:LI:25:GLN:O	9:LI:25:GLN:NE2	2.16	0.78
74:SZ:48:VAL:HG21	74:SZ:53:ASP:HB2	1.64	0.78
65:SQ:85:LYS:HB2	65:SQ:101:HIS:HB3	1.66	0.78
48:S2:1219:A:N6	48:S2:1264:G:H21	1.82	0.78
69:SU:64:VAL:HG23	69:SU:67:LEU:HB2	1.65	0.78
74:SZ:135:ARG:HH12	74:SZ:137:LEU:HD13	1.49	0.77
48:S2:69:G:H1	48:S2:82:U:H3	1.31	0.77
66:SR:148:LEU:HD21	71:SW:92:LYS:HB2	1.64	0.77
1:LA:254:A:H2'	1:LA:255:A:H8	1.50	0.77
73:SY:54:LEU:HB3	73:SY:60:VAL:HG11	1.65	0.77
4:LD:144:ASN:ND2	4:LD:144:ASN:O	2.16	0.77
4:LD:248:GLY:HA2	48:S2:1012:U:H4'	1.65	0.77
46:Bb:2:C:H2'	46:Bb:3:G:H8	1.49	0.77
48:S2:513:U:H2'	48:S2:514:G:C8	2.18	0.77
2:LB:75:G:H21	2:LB:103:A:H2	1.32	0.77
58:SJ:28:SER:HB2	58:SJ:112:VAL:HG13	1.67	0.77
74:SZ:128:LYS:HD3	79:Se:27:SER:HB3	1.67	0.77
1:LA:394:G:H22	1:LA:397:A:H5'	1.49	0.76
43:Lq:21:THR:HG21	43:Lq:76:LYS:HE2	1.68	0.76
53:SE:85:ILE:HD11	53:SE:107:ILE:HG23	1.68	0.76
9:LI:110:ARG:HH22	9:LI:206:LYS:HD2	1.49	0.76
35:Li:22:VAL:HG12	35:Li:30:LEU:HD22	1.67	0.76
1:LA:1622:U:H2'	1:LA:1623:G:H8	1.51	0.75
31:Le:95:ALA:HB2	31:Le:101:LEU:HD23	1.67	0.75
1:LA:1661:G:H2'	1:LA:1662:G:C8	2.22	0.75
71:SW:147:MET:HA	71:SW:147:MET:HE3	1.67	0.75
74:SZ:29:HIS:HB2	74:SZ:41:ARG:HA	1.68	0.75
1:LA:1106:G:H2'	1:LA:1107:C:H5"	1.68	0.75
1:LA:655:C:H2'	1:LA:656:A:H8	1.51	0.75
48:S2:1483:A:H5"	54:SF:71:GLY:HA2	1.69	0.75
28:Lb:7:ALA:HB2	28:Lb:28:PRO:HD3	1.68	0.75
65:SQ:8:ARG:HH22	65:SQ:11:LYS:HD3	1.49	0.75
68:ST:7:TYR:HB2	68:ST:124:LEU:HD21	1.68	0.75
22:LV:48:ILE:HG12	22:LV:94:GLU:HG2	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3299:A:N6	1:LA:3315:G:H1	1.85	0.74
55:SG:80:ARG:HH21	55:SG:81:LYS:HG2	1.51	0.74
39:Lm:5:ILE:HD12	39:Lm:14:LEU:HD12	1.69	0.74
48:S2:550:A:C6	48:S2:587:C:C4	2.75	0.74
49:SA:142:LEU:HG	49:SA:150:MET:HE1	1.67	0.74
80:Sf:50:ALA:H	80:Sf:71:ALA:HB2	1.51	0.74
26:LZ:73:MET:HA	26:LZ:73:MET:HE3	1.67	0.74
48:S2:752:A:N1	48:S2:797:G:N2	2.36	0.74
57:SI:25:GLN:HB3	57:SI:27:LYS:HE3	1.70	0.74
69:SU:144:VAL:HA	76:Sb:42:GLN:HE21	1.53	0.74
1:LA:1122:U:H3	1:LA:1136:A:H62	1.34	0.74
63:SO:19:TRP:HB2	63:SO:38:ARG:HD2	1.69	0.73
9:LI:163:LEU:HA	9:LI:168:ILE:HD11	1.69	0.73
48:S2:385:A:H5”	70:SV:22:ARG:HG2	1.69	0.73
48:S2:394:C:N4	48:S2:401:A:H62	1.86	0.73
50:SB:99:MET:HE3	50:SB:180:ARG:HE	1.53	0.73
63:SO:179:LYS:HB3	63:SO:181:TRP:HE1	1.54	0.73
1:LA:3299:A:N1	1:LA:3315:G:N2	2.33	0.73
48:S2:1547:A:H1’	56:SH:88:ARG:HH12	1.53	0.73
1:LA:1794:G:H4’	4:LD:191:LEU:HD21	1.71	0.73
1:LA:3158:G:O6	1:LA:3292:A:N1	2.21	0.73
48:S2:924:A:H2’	48:S2:925:G:C8	2.24	0.72
1:LA:1626:U:H3	1:LA:1817:G:H1	1.36	0.72
1:LA:1805:C:H2’	1:LA:1806:A:H8	1.53	0.72
72:SX:74:THR:HG22	72:SX:122:ILE:HG13	1.71	0.72
22:LV:115:LYS:HB3	22:LV:126:VAL:HG11	1.72	0.72
11:LK:91:ARG:HD2	11:LK:143:GLU:HG3	1.70	0.72
48:S2:394:C:H42	48:S2:401:A:N6	1.87	0.72
69:SU:49:ILE:HG21	69:SU:172:VAL:HG12	1.71	0.72
48:S2:1374:C:C4	48:S2:1375:A:N6	2.57	0.72
73:SY:137:PRO:O	73:SY:138:ASN:ND2	2.17	0.72
48:S2:893:U:N3	48:S2:919:A:N6	2.36	0.72
67:SS:181:VAL:HG22	67:SS:193:GLY:HA3	1.69	0.72
71:SW:32:GLY:HA3	81:Sg:40:TYR:HD2	1.55	0.72
72:SX:78:THR:HA	72:SX:84:ILE:HG22	1.71	0.72
15:LO:50:LYS:HE2	15:LO:50:LYS:N	2.05	0.72
80:Sf:55:THR:HB	80:Sf:62:ILE:HD13	1.70	0.72
38:Ll:64:MET:HE3	38:Ll:67:LEU:HD23	1.71	0.71
48:S2:212:U:H2’	48:S2:213:A:H8	1.54	0.71
48:S2:397:A:H4’	70:SV:50:GLY:HA2	1.71	0.71
1:LA:1666:G:H1	1:LA:1783:U:H3	1.37	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:76:ALA:HB3	7:LG:109:THR:HG22	1.70	0.71
30:Ld:16:ALA:O	30:Ld:20:GLY:HA3	1.89	0.71
48:S2:1374:C:N4	48:S2:1375:A:H62	1.87	0.71
1:LA:2960:C:H2'	1:LA:2961:G:H8	1.55	0.71
46:Bb:18:G:H1'	46:Bb:58:A:H61	1.55	0.71
1:LA:182:U:H3	1:LA:234:G:H1	1.39	0.71
48:S2:1588:G:N2	48:S2:1608:U:O2	2.20	0.71
6:LF:283:THR:HG22	6:LF:285:ASP:H	1.54	0.70
11:LK:41:ILE:HG21	11:LK:71:VAL:HG11	1.73	0.70
48:S2:329:G:H2'	48:S2:330:G:H8	1.56	0.70
69:SU:150:GLN:HB3	69:SU:181:ILE:HG22	1.72	0.70
48:S2:322:G:H4'	48:S2:323:A:H5'	1.72	0.70
48:S2:1470:C:H5"	48:S2:1471:A:C8	2.25	0.70
52:SD:41:LEU:HG	52:SD:43:ARG:HH21	1.57	0.70
1:LA:2549:G:H21	10:LJ:33:ASN:HB2	1.56	0.70
12:LL:212:GLU:CD	12:LL:213:PHE:H	1.99	0.70
33:Lg:85:LEU:HD23	33:Lg:92:TYR:HB3	1.73	0.70
1:LA:585:A:H4'	34:Lh:72:THR:HG22	1.74	0.70
11:LK:7:GLU:HG2	11:LK:54:LYS:HE3	1.73	0.70
23:LW:36:TYR:HE1	23:LW:40:HIS:HD1	1.39	0.70
40:Ln:9:ILE:HD12	40:Ln:51:ILE:HD12	1.73	0.70
49:SA:191:ASP:HB2	49:SA:194:LYS:HB2	1.74	0.70
19:LS:30:VAL:O	19:LS:34:THR:HG23	1.91	0.70
61:SM:22:ARG:HH21	61:SM:37:ASN:HB2	1.56	0.70
10:LJ:72:PRO:HG3	16:LP:18:VAL:HA	1.74	0.70
68:ST:30:LYS:HE3	68:ST:36:VAL:HG22	1.74	0.70
76:Sb:6:VAL:HG13	76:Sb:29:PRO:HD2	1.73	0.70
48:S2:1728:A:H1'	70:SV:32:GLN:HE22	1.57	0.69
6:LF:35:VAL:HG21	6:LF:244:LEU:HD21	1.74	0.69
7:LG:205:SER:HB3	7:LG:236:LEU:HD11	1.74	0.69
58:SJ:58:LEU:HB2	58:SJ:88:LYS:HG3	1.74	0.69
67:SS:129:VAL:HG22	67:SS:139:VAL:HG23	1.73	0.69
1:LA:1717:U:H2'	1:LA:1718:G:C8	2.26	0.69
70:SV:67:TRP:HA	70:SV:183:ILE:HD11	1.74	0.69
10:LJ:143:ILE:HG23	10:LJ:175:VAL:HG11	1.75	0.69
15:LO:16:GLU:HB3	21:LU:149:LYS:HB3	1.75	0.69
48:S2:415:C:O2	48:S2:418:G:O6	2.09	0.69
1:LA:2960:C:H2'	1:LA:2961:G:C8	2.28	0.69
3:LC:154:C:H5"	10:LJ:181:LYS:HG2	1.75	0.69
48:S2:1158:C:N4	48:S2:1163:A:H61	1.91	0.69
21:LU:94:ILE:HD11	21:LU:102:ALA:HB1	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SV:3:ILE:H	70:SV:3:ILE:HD12	1.57	0.69
48:S2:1458:G:H21	53:SE:126:VAL:HG21	1.56	0.69
78:Sd:5:VAL:HG22	78:Sd:32:ARG:HH22	1.57	0.69
3:LC:94:C:H5"	38:Ll:76:ASN:HD21	1.58	0.69
5:LE:45:SER:HB3	5:LE:181:ILE:HG12	1.75	0.69
23:LW:97:SER:HA	23:LW:103:TYR:HA	1.75	0.69
1:LA:2270:A:H2'	1:LA:2271:A:C8	2.28	0.68
64:SP:4:PRO:HB3	75:Sa:41:GLU:HA	1.73	0.68
48:S2:1218:G:H5"	48:S2:1219:A:H5'	1.75	0.68
46:Bb:22:G:H2'	46:Bb:23:A:H8	1.59	0.68
31:Le:18:ILE:HD12	31:Le:18:ILE:H	1.58	0.68
1:LA:3334:U:H4'	1:LA:3335:A:H5'	1.75	0.68
14:LN:119:TYR:O	14:LN:123:ILE:HG23	1.93	0.68
6:LF:156:LEU:HD12	6:LF:159:ILE:HD12	1.75	0.68
9:LI:25:GLN:HE21	9:LI:25:GLN:C	2.01	0.68
58:SJ:68:ARG:HH21	58:SJ:77:LYS:HA	1.58	0.68
57:SI:84:LYS:HE3	57:SI:86:ARG:HD3	1.76	0.68
1:LA:908:G:H5"	16:LP:77:LYS:HD3	1.76	0.68
5:LE:215:ILE:HD12	5:LE:338:LEU:HB3	1.74	0.68
48:S2:1470:C:H5"	48:S2:1471:A:H8	1.59	0.68
56:SH:15:LEU:HD12	56:SH:17:LEU:HD11	1.76	0.68
65:SQ:161:ILE:HG22	65:SQ:165:ARG:HH12	1.59	0.68
1:LA:627:U:H2'	1:LA:628:A:C8	2.29	0.67
46:Bb:18:G:H21	46:Bb:61:C:H42	1.41	0.67
48:S2:446:A:H5"	67:SS:57:ASN:HD22	1.58	0.67
48:S2:871:G:H2'	48:S2:872:G:C8	2.28	0.67
1:LA:1571:A:H2'	1:LA:1572:U:H4'	1.74	0.67
63:SO:135:THR:HG22	63:SO:137:LYS:H	1.59	0.67
1:LA:1385:C:HO2'	8:LH:2:THR:N	1.92	0.67
7:LG:219:PHE:HE1	7:LG:227:LEU:HD23	1.60	0.67
59:SK:50:ILE:HB	59:SK:69:LEU:HD11	1.76	0.67
48:S2:332:U:H5"	70:SV:31:ARG:HH21	1.59	0.67
48:S2:1437:U:H2'	48:S2:1438:G:H8	1.59	0.67
6:LF:178:LEU:HD11	6:LF:222:VAL:HG12	1.75	0.67
68:ST:176:GLN:HB2	68:ST:177:ARG:HH21	1.59	0.67
1:LA:289:A:H2'	1:LA:290:G:H8	1.60	0.67
22:LV:18:ASP:HB3	22:LV:21:LYS:HB2	1.76	0.67
47:Cc:51:U:H3	47:Cc:65:G:H1	0.74	0.67
48:S2:95:G:H3'	48:S2:96:G:H8	1.59	0.67
67:SS:31:PRO:HG3	67:SS:43:PRO:HG3	1.77	0.67
1:LA:1604:G:H4'	1:LA:1835:A:H4'	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LX:40:LYS:HG3	24:LX:57:MET:HG2	1.77	0.67
48:S2:359:A:H61	77:Sc:39:LYS:HZ3	1.41	0.67
54:SF:44:LEU:HB3	54:SF:78:VAL:HG11	1.76	0.67
56:SH:28:ILE:HB	56:SH:58:ALA:HB2	1.75	0.67
48:S2:1549:C:H5"	53:SE:39:ALA:HB2	1.76	0.67
70:SV:22:ARG:HB3	70:SV:25:ARG:HH21	1.60	0.67
1:LA:129:U:O4	1:LA:139:G:O6	2.13	0.66
65:SQ:61:LEU:HD21	65:SQ:96:LEU:HD22	1.77	0.66
48:S2:514:G:H2'	48:S2:515:A:H8	1.60	0.66
28:Lb:23:VAL:HG12	28:Lb:45:GLY:HA3	1.76	0.66
49:SA:72:LEU:HD22	51:SC:20:VAL:HG21	1.78	0.66
1:LA:655:C:H2'	1:LA:656:A:C8	2.30	0.66
1:LA:1497:C:H2'	1:LA:1498:A:H8	1.59	0.66
34:Lh:32:ILE:HG23	34:Lh:100:ILE:HD13	1.76	0.66
48:S2:167:U:H4'	68:ST:137:ARG:HD2	1.77	0.66
48:S2:556:A:H1'	81:Sg:56:MET:HB2	1.78	0.66
49:SA:40:ARG:HA	58:SJ:110:PRO:HB3	1.78	0.66
50:SB:61:TYR:CE1	50:SB:165:LEU:HD23	2.31	0.66
48:S2:12:U:H2'	48:S2:13:C:C6	2.31	0.66
48:S2:297:U:H4'	67:SS:37:LYS:HD2	1.76	0.66
48:S2:698:U:O2	48:S2:741:C:N3	2.28	0.66
48:S2:959:U:H6	73:SY:61:THR:HG23	1.59	0.66
69:SU:56:LYS:HB2	69:SU:88:ARG:HH11	1.60	0.66
6:LF:299:ILE:HG23	19:LS:39:ARG:HB3	1.78	0.66
48:S2:1561:U:H2'	48:S2:1562:G:H8	1.60	0.66
50:SB:183:ALA:HB2	50:SB:193:THR:HG21	1.76	0.66
51:SC:30:ALA:HA	51:SC:38:LYS:HG2	1.77	0.66
1:LA:736:A:C5	1:LA:737:G:H1'	2.30	0.66
48:S2:1650:U:H2'	48:S2:1651:A:C8	2.30	0.66
66:SR:78:ASP:HB2	66:SR:129:ILE:HD12	1.78	0.66
69:SU:109:VAL:HG12	69:SU:110:GLN:H	1.60	0.66
1:LA:1203:A:H2'	1:LA:1204:A:C8	2.31	0.66
6:LF:327:LEU:HG	9:LI:181:ILE:HD12	1.78	0.66
8:LH:91:VAL:HG22	8:LH:148:GLU:HG3	1.78	0.66
48:S2:918:U:H4'	74:SZ:18:ARG:HD2	1.76	0.66
65:SQ:229:MET:HA	65:SQ:232:HIS:HB2	1.77	0.66
67:SS:95:THR:HG22	78:Sd:16:PRO:HD2	1.79	0.65
15:LO:48:GLY:HA3	15:LO:53:VAL:HB	1.79	0.65
48:S2:803:A:HO2'	48:S2:804:A:H8	1.43	0.65
48:S2:1484:G:H21	48:S2:1606:C:H1'	1.62	0.65
68:ST:142:ARG:HH22	68:ST:177:ARG:HD3	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LH:38:THR:HG22	8:LH:90:LYS:HG3	1.77	0.65
16:LP:3:ALA:O	16:LP:7:LEU:HD12	1.97	0.65
48:S2:1673:G:C6	48:S2:1728:A:N1	2.64	0.65
48:S2:1179:G:H21	48:S2:1460:A:H62	1.45	0.65
49:SA:7:LYS:HA	49:SA:10:LYS:HG2	1.78	0.65
56:SH:57:ARG:HE	56:SH:59:GLY:HA3	1.61	0.65
59:SK:89:ILE:HA	59:SK:103:ARG:HA	1.77	0.65
60:SL:12:VAL:HG12	60:SL:30:VAL:HG12	1.78	0.65
9:LI:47:ARG:HH22	9:LI:179:LEU:HD12	1.61	0.65
48:S2:895:G:N1	48:S2:918:U:N3	2.45	0.65
71:SW:112:GLN:HG2	71:SW:115:LYS:HE3	1.79	0.65
73:SY:118:ILE:O	73:SY:122:ILE:HD12	1.96	0.65
1:LA:1343:A:H2'	1:LA:1344:G:C8	2.32	0.65
1:LA:1799:A:H2'	1:LA:1800:A:H8	1.61	0.65
67:SS:68:ARG:HD3	67:SS:76:VAL:HG11	1.79	0.65
72:SX:59:PRO:HG3	72:SX:138:ASN:HB3	1.78	0.65
74:SZ:92:LYS:HZ1	74:SZ:121:VAL:HG13	1.62	0.65
18:LR:168:LEU:HB3	18:LR:172:GLN:HB2	1.79	0.65
63:SO:89:LEU:HD11	63:SO:110:VAL:HG21	1.78	0.65
1:LA:1422:G:H1'	8:LH:3:ALA:HA	1.79	0.65
1:LA:1630:U:H3	1:LA:1812:G:H2'	1.61	0.65
48:S2:30:G:H2'	48:S2:31:C:C6	2.32	0.65
67:SS:35:PRO:HD2	67:SS:83:PRO:HG2	1.78	0.65
48:S2:1476:C:H2'	48:S2:1477:G:H8	1.62	0.65
48:S2:1556:A:H61	48:S2:1598:U:H1'	1.62	0.65
4:LD:54:ARG:HG2	4:LD:56:ALA:H	1.63	0.64
14:LN:43:ALA:O	14:LN:47:ALA:HA	1.97	0.64
64:SP:17:LEU:HD23	64:SP:50:VAL:HG13	1.79	0.64
11:LK:115:ARG:HG2	11:LK:123:ILE:HG22	1.78	0.64
14:LN:95:ILE:HD13	14:LN:116:LEU:HD22	1.78	0.64
26:LZ:67:ILE:HD13	26:LZ:83:VAL:HG12	1.80	0.64
27:La:111:LEU:HD12	27:La:116:LYS:HG3	1.78	0.64
53:SE:96:ILE:HD11	53:SE:116:LEU:HG	1.79	0.64
43:Lq:4:VAL:HG11	43:Lq:70:LEU:HD11	1.79	0.64
48:S2:1476:C:H2'	48:S2:1477:G:C8	2.33	0.64
48:S2:1727:G:H2'	48:S2:1728:A:C8	2.32	0.64
69:SU:173:TYR:HE2	69:SU:179:LYS:HB2	1.62	0.64
1:LA:2213:A:H2'	1:LA:2214:A:C8	2.33	0.64
6:LF:187:LEU:HG	6:LF:193:LYS:HD3	1.80	0.64
13:LM:112:LEU:HD11	13:LM:127:PHE:HZ	1.62	0.64
48:S2:456:A:H2'	48:S2:457:G:C8	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SA:66:ILE:HG23	49:SA:86:LEU:HD23	1.77	0.64
72:SX:33:ARG:HH21	72:SX:61:THR:HG21	1.61	0.64
49:SA:37:VAL:HA	49:SA:49:ILE:O	1.98	0.64
63:SO:20:VAL:HG21	63:SO:304:GLY:HA3	1.78	0.64
73:SY:61:THR:HG22	73:SY:62:GLN:NE2	2.13	0.64
1:LA:2697:A:H2'	1:LA:2698:G:C8	2.32	0.64
1:LA:2697:A:H2'	1:LA:2698:G:H8	1.62	0.64
5:LE:152:LYS:HG2	5:LE:192:VAL:HG21	1.78	0.64
52:SD:70:ASN:HA	52:SD:73:LYS:HD3	1.78	0.64
9:LI:239:LEU:O	9:LI:243:MET:HG3	1.98	0.64
18:LR:169:THR:H	18:LR:172:GLN:HG3	1.60	0.64
22:LV:17:ARG:HG2	22:LV:22:HIS:HA	1.80	0.64
27:La:11:ASP:HB3	27:La:14:LYS:HB2	1.80	0.64
48:S2:456:A:H2'	48:S2:457:G:H8	1.61	0.64
6:LF:234:ASN:HD21	6:LF:236:LEU:HB2	1.62	0.64
48:S2:1591:C:H2'	48:S2:1592:A:H8	1.62	0.64
1:LA:173:G:O6	1:LA:245:U:O4	2.15	0.64
12:LL:174:THR:HG22	12:LL:176:LEU:H	1.61	0.64
15:LO:120:VAL:O	15:LO:124:ARG:HG3	1.98	0.64
48:S2:1585:U:H5"	48:S2:1610:G:H22	1.63	0.64
48:S2:1662:G:H1	48:S2:1738:U:H3	1.44	0.64
54:SF:31:VAL:HG12	54:SF:67:VAL:HB	1.79	0.64
71:SW:174:ARG:HD2	71:SW:175:ARG:HH21	1.63	0.64
48:S2:5:U:H2'	48:S2:6:G:H8	1.62	0.63
48:S2:1526:A:H5"	48:S2:1527:C:H5	1.63	0.63
76:Sb:24:GLN:HE21	80:Sf:5:GLN:HG2	1.61	0.63
11:LK:90:MET:HE2	11:LK:161:LEU:HD12	1.81	0.63
71:SW:34:PHE:CD2	71:SW:105:LEU:HB3	2.33	0.63
76:Sb:90:THR:O	76:Sb:94:LEU:HB2	1.99	0.63
77:Sc:69:ARG:HD2	77:Sc:70:LYS:H	1.63	0.63
1:LA:168:U:H2'	1:LA:169:U:H4'	1.80	0.63
1:LA:1261:G:H4'	1:LA:1278:A:H61	1.63	0.63
1:LA:1724:U:H1'	1:LA:1725:C:C5	2.33	0.63
48:S2:1673:G:H1	48:S2:1728:A:H2	0.70	0.63
63:SO:300:THR:HG23	63:SO:314:GLN:HG2	1.81	0.63
72:SX:109:VAL:HG12	72:SX:137:PHE:HB2	1.80	0.63
1:LA:542:G:O6	1:LA:549:U:O4	2.17	0.63
1:LA:3049:A:H5"	5:LE:53:MET:HB2	1.80	0.63
17:LQ:12[A]:LYS:HD2	17:LQ:40[A]:GLU:HG2	1.81	0.63
48:S2:1680:G:H1'	48:S2:1721:A:H61	1.62	0.63
70:SV:57:ALA:HB2	70:SV:177:GLY:HA2	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:151:C:H5	26:LZ:24:LEU:HD11	1.64	0.63
7:LG:259:LYS:HD2	7:LG:259:LYS:O	1.98	0.63
48:S2:1158:C:H42	48:S2:1163:A:N6	1.94	0.63
50:SB:116:HIS:O	50:SB:120:ILE:HG12	1.98	0.63
61:SM:36:LEU:HD13	61:SM:38:ILE:HG22	1.80	0.63
64:SP:126:PRO:HB2	64:SP:152:PRO:HG2	1.81	0.63
79:Se:87:ARG:HH12	79:Se:94:ASN:HB2	1.64	0.63
1:LA:728:G:H5"	19:LS:43:PRO:HB2	1.80	0.63
11:LK:18:VAL:HG13	11:LK:27:VAL:HG22	1.79	0.63
12:LL:159:PHE:HB2	12:LL:163:GLN:NE2	2.12	0.63
15:LO:25:LYS:HE3	15:LO:62:GLN:HG2	1.80	0.63
48:S2:408:C:H2'	48:S2:409:C:C6	2.34	0.63
57:SI:18:TYR:HD1	57:SI:135:ILE:HG21	1.64	0.63
1:LA:1071:U:HO2'	1:LA:1072:G:H8	1.46	0.63
6:LF:313:LEU:HD23	6:LF:315:LYS:HE2	1.80	0.63
8:LH:131:LYS:HE2	8:LH:131:LYS:N	2.14	0.63
5:LE:77:THR:HG21	5:LE:328:ILE:HG12	1.81	0.63
7:LG:85:ARG:HH12	7:LG:254:LYS:H	1.46	0.63
48:S2:1254:U:H3'	48:S2:1255:G:H8	1.62	0.63
19:LS:36:LEU:O	19:LS:40:THR:HB	1.98	0.63
37:Lk:89:GLU:O	37:Lk:93:ILE:HG12	1.98	0.63
48:S2:562:G:H21	81:Sg:14:VAL:HG21	1.62	0.63
7:LG:83:LEU:HD13	7:LG:88:ILE:HD12	1.81	0.62
63:SO:127:ARG:HA	63:SO:150:TRP:HB2	1.81	0.62
68:ST:63:MET:HE2	68:ST:100:ALA:HA	1.80	0.62
1:LA:1040:A:O2'	1:LA:1041:U:H5"	1.98	0.62
48:S2:1539:G:H4'	56:SH:40:ARG:HH11	1.64	0.62
51:SC:55:VAL:HG12	51:SC:68:LEU:HA	1.81	0.62
54:SF:106:LYS:HZ3	54:SF:117:LEU:HD11	1.64	0.62
56:SH:127:HIS:CD2	56:SH:133:VAL:HG11	2.34	0.62
50:SB:80:LYS:HG3	50:SB:83:ARG:HH11	1.64	0.62
63:SO:89:LEU:HB2	63:SO:103:PHE:HB2	1.81	0.62
64:SP:147:THR:HG23	64:SP:151:SER:HB2	1.82	0.62
69:SU:168:SER:O	69:SU:172:VAL:HG13	1.98	0.62
71:SW:113:VAL:HA	71:SW:116:LEU:HD12	1.80	0.62
2:LB:112:G:H2'	2:LB:113:C:C6	2.34	0.62
28:Lb:57:HIS:HB2	28:Lb:62:VAL:HG23	1.81	0.62
47:Cc:63:C:H2'	47:Cc:64:G:H8	1.63	0.62
67:SS:45:ILE:HA	67:SS:61:VAL:HG11	1.82	0.62
1:LA:664:U:H2'	1:LA:665:A:C8	2.33	0.62
12:LL:44:ASP:HA	12:LL:171:TRP:HE1	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1330:G:H3'	48:S2:1331:A:H8	1.63	0.62
54:SF:32:ASN:HB3	57:SI:7:ARG:HH12	1.64	0.62
60:SL:49:ARG:HD3	60:SL:49:ARG:N	2.15	0.62
67:SS:177:ALA:HA	67:SS:195:ILE:HD11	1.81	0.62
73:SY:23:PRO:HD2	73:SY:26:PHE:HB2	1.81	0.62
2:LB:2:G:H4'	7:LG:273:ARG:HE	1.63	0.62
37:Lk:35:ASN:HA	37:Lk:38:LYS:HD3	1.82	0.62
66:SR:78:ASP:HB3	66:SR:104:VAL:HG22	1.82	0.62
36:Lj:56:THR:O	36:Lj:60:GLU:HG3	1.99	0.62
48:S2:884:A:H2'	48:S2:885:G:C8	2.35	0.62
63:SO:133:VAL:HG23	63:SO:141:LEU:HB3	1.79	0.62
29:Lc:132:LYS:O	29:Lc:136:GLU:HG3	2.00	0.62
48:S2:1478:G:H5'	57:SI:57:ARG:HH21	1.65	0.62
48:S2:445:A:H2'	48:S2:446:A:H8	1.65	0.62
48:S2:1483:A:H2'	48:S2:1484:G:C8	2.34	0.62
17:LQ:12[A]:LYS:HD3	17:LQ:37[A]:ARG:HH21	1.64	0.61
51:SC:52:LYS:HE3	51:SC:54:TYR:HE2	1.65	0.61
60:SL:22:ARG:O	60:SL:22:ARG:HG2	2.00	0.61
63:SO:43:ILE:HD11	63:SO:57:PRO:HB3	1.82	0.61
80:Sf:70:LYS:H	80:Sf:70:LYS:HD3	1.65	0.61
1:LA:603:A:H5"	1:LA:604:G:C8	2.36	0.61
3:LC:29:U:H5"	14:LN:27:ASP:HB3	1.81	0.61
21:LU:93:GLU:HG2	21:LU:137:ARG:HG2	1.82	0.61
48:S2:1210:C:H2'	48:S2:1211:A:H8	1.65	0.61
48:S2:1279:C:H4'	61:SM:44:ARG:HH22	1.65	0.61
69:SU:62:VAL:HG23	69:SU:64:VAL:H	1.65	0.61
1:LA:1033:U:H4'	46:Bb:56:C:H42	1.65	0.61
29:Lc:139:ARG:HB3	29:Lc:139:ARG:NH1	2.15	0.61
48:S2:130:C:H5'	48:S2:131:C:H5"	1.81	0.61
48:S2:1108:G:H1	77:Sc:22:ASN:HD22	1.48	0.61
48:S2:1364:G:H2'	48:S2:1365:C:C6	2.36	0.61
54:SF:51:PRO:HG2	54:SF:52:LEU:HD22	1.83	0.61
70:SV:101:ILE:HD11	70:SV:192:TYR:CD1	2.35	0.61
11:LK:147:SER:HB3	11:LK:187:ILE:HD11	1.82	0.61
48:S2:1143:A:H1'	48:S2:1144:U:H5	1.64	0.61
56:SH:41:ARG:HH21	57:SI:38:LYS:HE3	1.64	0.61
7:LG:105:ILE:O	7:LG:109:THR:HG23	2.00	0.61
63:SO:67:ILE:HB	63:SO:85:TRP:CE3	2.35	0.61
64:SP:84:ARG:HA	64:SP:87:LEU:HD12	1.82	0.61
71:SW:33:GLU:HG3	71:SW:34:PHE:HD1	1.65	0.61
1:LA:1838:G:H5"	1:LA:1839:A:H5'	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:205:VAL:HG21	5:LE:322:ILE:HD11	1.82	0.61
5:LE:367:LYS:HD3	25:LY:33:ASN:HB2	1.83	0.61
9:LI:163:LEU:HD13	9:LI:169:ILE:HD11	1.80	0.61
17:LQ:121[A]:PRO:HA	17:LQ:124[A]:LEU:HD12	1.83	0.61
1:LA:959:C:H41	1:LA:2801:A:H2'	1.65	0.61
1:LA:1596:C:H2'	1:LA:1597:C:C6	2.36	0.61
1:LA:1799:A:H2'	1:LA:1800:A:C8	2.36	0.61
48:S2:159:U:H5'	78:Sd:117:LYS:HG3	1.82	0.61
48:S2:1515:A:H62	49:SA:6:SER:HB2	1.66	0.61
69:SU:67:LEU:O	69:SU:71:HIS:HB2	2.00	0.61
1:LA:407:A:C2	3:LC:17:A:H1'	2.36	0.61
1:LA:429:U:H2'	1:LA:430:U:H6	1.65	0.61
1:LA:900:G:H1'	1:LA:1589:A:N6	2.16	0.61
1:LA:1336:U:H2'	1:LA:1337:A:H8	1.65	0.61
1:LA:1343:A:H2'	1:LA:1344:G:H8	1.64	0.61
1:LA:1622:U:H2'	1:LA:1623:G:C8	2.34	0.61
1:LA:2111:G:H5"	25:LY:48:ARG:NH2	2.15	0.61
4:LD:144:ASN:C	4:LD:144:ASN:HD22	2.03	0.61
14:LN:158:ALA:HA	29:Lc:97:GLU:HA	1.82	0.61
31:Le:23:TYR:HE2	31:Le:25:LEU:HD21	1.66	0.61
48:S2:1556:A:H5"	53:SE:40:ARG:HD2	1.83	0.61
10:LJ:78:PHE:O	10:LJ:79:GLN:HG3	2.00	0.61
20:LT:85:ARG:HB3	20:LT:85:ARG:HH11	1.66	0.61
32:Lf:16:LEU:HD12	32:Lf:20:LEU:HD11	1.83	0.61
48:S2:1672:G:H2'	48:S2:1673:G:C8	2.36	0.61
50:SB:51:VAL:HG21	50:SB:130:ILE:HG13	1.83	0.61
56:SH:16:ARG:HH21	56:SH:19:ASN:HA	1.66	0.61
57:SI:117:SER:HB2	57:SI:123:ARG:HE	1.64	0.61
67:SS:209:HIS:HD2	67:SS:219:VAL:HG22	1.66	0.61
55:SG:46:LEU:O	55:SG:50:ILE:HG13	2.01	0.60
1:LA:429:U:H2'	1:LA:430:U:C6	2.36	0.60
10:LJ:178:ALA:HB2	10:LJ:218:ILE:HD13	1.83	0.60
16:LP:60:VAL:HG22	16:LP:134:LEU:HB2	1.83	0.60
49:SA:163:PRO:O	49:SA:167:PHE:HB2	2.01	0.60
1:LA:1824:U:H2'	1:LA:1825:G:H8	1.66	0.60
1:LA:3160:U:O4	1:LA:3290:G:O6	2.19	0.60
3:LC:94:C:H5"	38:Ll:76:ASN:ND2	2.16	0.60
29:Lc:36:GLY:HA3	29:Lc:40:HIS:CE1	2.36	0.60
50:SB:179:ALA:HB1	50:SB:194:LEU:HD12	1.81	0.60
78:Sd:40:LEU:HD23	78:Sd:60:PHE:HZ	1.66	0.60
48:S2:506:A:H5"	48:S2:507:U:H5"	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1373:C:H2'	48:S2:1374:C:C6	2.37	0.60
50:SB:97:LEU:HD22	50:SB:180:ARG:HH12	1.67	0.60
57:SI:15:ILE:HG13	57:SI:56:LYS:HD2	1.83	0.60
1:LA:656:A:H2'	1:LA:657:A:C8	2.37	0.60
48:S2:823:G:H1	48:S2:849:C:H42	1.49	0.60
48:S2:1582:U:H5"	54:SF:135:ARG:NH1	2.16	0.60
48:S2:1588:G:H1	48:S2:1608:U:H3	0.74	0.60
3:LC:23:U:H5"	27:La:13:ARG:HG3	1.84	0.60
48:S2:550:A:C5	48:S2:587:C:N4	2.70	0.60
48:S2:922:G:H2'	48:S2:923:A:C8	2.36	0.60
49:SA:18:TYR:HA	49:SA:21:LEU:HD12	1.83	0.60
26:LZ:57:LEU:HG	26:LZ:62:VAL:HG12	1.83	0.60
48:S2:12:U:H2'	48:S2:13:C:H6	1.64	0.60
48:S2:1497:U:H3	48:S2:1511:U:H3	1.50	0.60
60:SL:42:ARG:HH12	60:SL:61:ARG:HG2	1.67	0.60
64:SP:84:ARG:HG3	64:SP:88:LYS:HZ2	1.67	0.60
72:SX:21:ASN:HD21	72:SX:31:THR:HA	1.67	0.60
1:LA:2095:G:H2'	1:LA:2096:A:H8	1.66	0.60
24:LX:84:SER:HA	24:LX:94:TYR:HB3	1.83	0.60
48:S2:325:G:H4'	72:SX:83:THR:HG21	1.84	0.60
48:S2:1162:C:H5"	48:S2:1163:A:C8	2.36	0.60
54:SF:41:PRO:HG2	54:SF:44:LEU:HB2	1.83	0.60
1:LA:1497:C:H2'	1:LA:1498:A:C8	2.37	0.60
23:LW:36:TYR:HD2	23:LW:83:TYR:CD2	2.20	0.60
48:S2:323:A:H2'	48:S2:324:U:C5	2.37	0.60
48:S2:1146:G:H2'	48:S2:1147:A:C8	2.37	0.60
49:SA:217:ILE:HD13	63:SO:194:GLY:HA2	1.83	0.60
61:SM:31:ILE:HB	61:SM:36:LEU:HD11	1.84	0.60
19:LS:170:ARG:HD2	29:Lc:57:GLY:HA3	1.82	0.60
48:S2:884:A:H2'	48:S2:885:G:H8	1.66	0.60
56:SH:85:PHE:HD2	57:SI:36:ILE:HD11	1.66	0.60
63:SO:25:THR:HG23	63:SO:33:LEU:HD23	1.83	0.60
67:SS:139:VAL:HG12	67:SS:147:ILE:HB	1.82	0.60
68:ST:189:HIS:CE1	68:ST:193:LEU:HD21	2.37	0.60
71:SW:33:GLU:HB3	81:Sg:40:TYR:HE2	1.67	0.60
80:Sf:31:TYR:HE2	80:Sf:33:LEU:HD23	1.66	0.60
15:LO:46:ILE:HD13	15:LO:58:ILE:HG21	1.82	0.59
48:S2:68:A:H5'	68:ST:132:ARG:HH22	1.67	0.59
48:S2:387:A:H2'	48:S2:402:C:H5'	1.84	0.59
48:S2:1729:C:H2'	48:S2:1730:A:O4'	2.02	0.59
50:SB:209:TYR:HA	50:SB:212:LYS:HD3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SS:80:THR:HG23	67:SS:81:THR:HG23	1.84	0.59
70:SV:107:THR:HG23	70:SV:110:ARG:HH12	1.66	0.59
70:SV:141:ARG:HE	70:SV:142:LYS:HG3	1.67	0.59
76:Sb:82:LYS:O	76:Sb:86:ILE:HD12	2.02	0.59
1:LA:2406:C:H2'	1:LA:2407:C:C6	2.38	0.59
18:LR:35:ALA:HB2	18:LR:58:ILE:HG23	1.84	0.59
39:Lm:7:ASP:HB2	39:Lm:10:GLN:HG2	1.84	0.59
48:S2:1034:C:HO2'	76:Sb:2:THR:N	1.99	0.59
49:SA:192:PRO:HB2	49:SA:201:ALA:HA	1.84	0.59
68:ST:2:LYS:HB2	68:ST:108:VAL:HG22	1.83	0.59
19:LS:147:ARG:HB2	19:LS:150:VAL:HG13	1.84	0.59
48:S2:36:C:H2'	48:S2:37:U:C6	2.37	0.59
48:S2:264:G:H5"	48:S2:265:A:H5"	1.84	0.59
54:SF:93:HIS:HA	54:SF:97:VAL:HB	1.83	0.59
55:SG:6:THR:HG22	55:SG:8:THR:H	1.66	0.59
65:SQ:208:GLN:HG3	65:SQ:209:ASN:HB2	1.83	0.59
71:SW:45:ILE:HG23	71:SW:104:PHE:HD2	1.67	0.59
1:LA:2357:A:H2'	1:LA:2358:A:H8	1.66	0.59
1:LA:2676:A:H5'	1:LA:2677:G:C8	2.37	0.59
3:LC:8:C:H2'	3:LC:9:A:H8	1.67	0.59
17:LQ:37[A]:ARG:HG2	17:LQ:108[A]:ILE:HD11	1.83	0.59
35:Li:29:ILE:HD11	35:Li:31:ARG:HH12	1.67	0.59
40:Ln:9:ILE:O	40:Ln:13:MET:HG2	2.01	0.59
53:SE:79:HIS:HA	53:SE:97:TYR:HB2	1.84	0.59
1:LA:12:A:H2'	1:LA:13:A:C8	2.38	0.59
1:LA:1602:A:H5"	20:LT:10:LEU:HD11	1.84	0.59
9:LI:81:HIS:ND1	9:LI:138:TYR:HB3	2.18	0.59
46:Bb:29:A:H2'	46:Bb:30:G:H8	1.67	0.59
50:SB:98:MET:HB2	50:SB:104:ASN:HA	1.85	0.59
64:SP:23:HIS:HA	64:SP:48:ILE:HB	1.84	0.59
1:LA:1333:C:H5"	9:LI:110:ARG:HD2	1.85	0.59
1:LA:1669:C:H5'	35:Li:30:LEU:HD11	1.85	0.59
26:LZ:68:THR:HG23	36:Lj:36:LEU:HD21	1.85	0.59
48:S2:1483:A:C2	48:S2:1607:G:H1'	2.36	0.59
1:LA:1481:A:H62	1:LA:1872:C:H5	1.51	0.59
1:LA:2507:C:H2'	1:LA:2508:U:C6	2.37	0.59
1:LA:2779:A:H2'	1:LA:2780:A:H5"	1.85	0.59
2:LB:19:C:H2'	2:LB:20:A:H8	1.68	0.59
48:S2:1039:A:H2'	48:S2:1040:G:C8	2.38	0.59
1:LA:2129:U:H2'	1:LA:2130:G:C8	2.38	0.59
1:LA:2357:A:H2'	1:LA:2358:A:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:140:VAL:HG22	10:LJ:166:LEU:HD21	1.85	0.59
24:LX:18:PRO:HA	24:LX:51:ALA:HA	1.85	0.59
64:SP:120:LEU:HD21	64:SP:144:ILE:HD13	1.84	0.59
78:Sd:20:ARG:NH1	78:Sd:22:GLN:HE21	1.93	0.59
4:LD:80:GLU:HG3	4:LD:170:ALA:HA	1.84	0.59
47:Cc:51:U:O2	47:Cc:65:G:N2	2.22	0.59
48:S2:1179:G:H2'	48:S2:1180:C:C6	2.38	0.59
48:S2:1408:G:H3'	48:S2:1409:G:H8	1.68	0.59
48:S2:1648:A:H2'	48:S2:1649:G:C8	2.38	0.59
54:SF:129:PHE:HB2	58:SJ:79:TRP:HD1	1.68	0.59
1:LA:965:A:H2	29:Lc:43:ILE:HD12	1.68	0.58
1:LA:1084:A:H2'	1:LA:1085:A:C8	2.37	0.58
1:LA:3255:U:H2'	1:LA:3256:G:H8	1.67	0.58
4:LD:117:GLU:HG2	4:LD:124:GLY:H	1.68	0.58
48:S2:329:G:H2'	48:S2:330:G:C8	2.36	0.58
70:SV:84:HIS:HB2	70:SV:91:VAL:HG23	1.84	0.58
1:LA:1750:A:H4'	1:LA:1751:G:H5'	1.85	0.58
29:Lc:104:THR:HG21	29:Lc:112:ILE:HD11	1.85	0.58
44:Lr:27:LYS:O	44:Lr:31:ILE:HG12	2.03	0.58
46:Bb:2:C:H2'	46:Bb:3:G:C8	2.33	0.58
47:Cc:51:U:O4	47:Cc:65:G:O6	2.21	0.58
81:Sg:54:ARG:HH12	81:Sg:56:MET:HE2	1.68	0.58
1:LA:3358:U:H2'	1:LA:3359:A:H8	1.69	0.58
11:LK:93:VAL:HG12	41:Lo:82:LEU:HB3	1.84	0.58
32:Lf:62:ARG:HB2	32:Lf:66:GLY:HA3	1.84	0.58
63:SO:240:VAL:HA	63:SO:256:THR:HG22	1.85	0.58
65:SQ:147:ALA:O	65:SQ:148:ASN:ND2	2.26	0.58
71:SW:125:ALA:O	71:SW:129:ILE:HD12	2.03	0.58
76:Sb:51:GLU:OE2	80:Sf:8:LEU:HD11	2.03	0.58
1:LA:3119:U:H4'	41:Lo:104:PRO:HG2	1.84	0.58
4:LD:27:ALA:HA	4:LD:75:ILE:HG22	1.83	0.58
5:LE:17:LEU:HD11	5:LE:233:TRP:HH2	1.69	0.58
7:LG:229:ASP:OD2	7:LG:231:ILE:HG12	2.02	0.58
9:LI:25:GLN:NE2	9:LI:25:GLN:C	2.60	0.58
27:La:86:THR:HG22	27:La:96:PRO:HA	1.84	0.58
42:Lp:13:LEU:HD13	48:S2:1750:A:H5"	1.86	0.58
48:S2:29:U:H2'	48:S2:30:G:H8	1.68	0.58
48:S2:165:G:H2'	48:S2:166:C:C6	2.38	0.58
48:S2:199:G:H2'	48:S2:200:A:C8	2.39	0.58
48:S2:1047:G:C2	48:S2:1071:U:O4	2.56	0.58
1:LA:2364:G:H22	1:LA:2396:G:H1'	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Lm:69:LEU:HD12	39:Lm:70:PRO:HD2	1.85	0.58
48:S2:1290:U:H2'	48:S2:1291:G:N3	2.18	0.58
48:S2:1592:A:H2'	48:S2:1593:A:H8	1.68	0.58
69:SU:61:PHE:HB3	69:SU:95:GLU:HG2	1.84	0.58
73:SY:34:ILE:O	73:SY:38:VAL:HG23	2.03	0.58
1:LA:3325:G:H2'	1:LA:3326:G:H8	1.68	0.58
5:LE:346:THR:HA	5:LE:351:LEU:HD23	1.84	0.58
12:LL:47:PRO:HD2	12:LL:141:LYS:HA	1.85	0.58
22:LV:116:ARG:HD3	22:LV:128:LEU:HD11	1.84	0.58
32:Lf:52:ALA:HB1	32:Lf:54:GLU:OE2	2.03	0.58
66:SR:81:MET:HE2	66:SR:81:MET:N	2.19	0.58
1:LA:207:U:H2'	1:LA:208:C:C6	2.38	0.58
48:S2:141:U:H5"	68:ST:179:VAL:HG21	1.84	0.58
48:S2:980:G:H4'	48:S2:1776:A:H4'	1.85	0.58
7:LG:259:LYS:HE3	7:LG:260:PHE:CE2	2.39	0.58
9:LI:151:ARG:HD2	9:LI:207:LEU:HD23	1.85	0.58
48:S2:1067:C:H5'	65:SQ:149:GLN:HA	1.85	0.58
57:SI:77:ASN:HA	57:SI:96:ALA:HB3	1.85	0.58
67:SS:188:ASN:HB3	67:SS:191:ARG:HG3	1.86	0.58
75:Sa:9:VAL:O	75:Sa:10:GLU:HG3	2.04	0.58
1:LA:501:A:H2'	1:LA:502:U:C6	2.38	0.58
9:LI:100:ARG:O	9:LI:104:GLN:HG3	2.04	0.58
48:S2:298:C:H3'	48:S2:299:A:H5"	1.86	0.58
48:S2:329:G:H5"	70:SV:98:LYS:HB3	1.85	0.58
48:S2:758:U:H3'	48:S2:759:U:C5	2.39	0.58
17:LQ:107[A]:GLY:C	17:LQ:108[A]:ILE:HD13	2.29	0.58
48:S2:1210:C:H2'	48:S2:1211:A:C8	2.38	0.58
48:S2:1489:U:H1'	48:S2:1493:A:H1'	1.86	0.58
49:SA:169:ASP:HB2	49:SA:190:ARG:NH2	2.19	0.58
56:SH:14:ILE:HD11	56:SH:21:ASN:HB3	1.86	0.58
66:SR:125:ILE:O	66:SR:129:ILE:HG12	2.04	0.58
1:LA:370:U:H4'	1:LA:404:G:H5'	1.85	0.57
1:LA:562:C:H5"	21:LU:71:LYS:HE3	1.86	0.57
1:LA:952:A:H4'	1:LA:968:G:N2	2.18	0.57
28:Lb:51:LEU:HB2	28:Lb:65:ARG:HB3	1.86	0.57
42:Lp:9:ARG:HH12	48:S2:1643:U:H5'	1.69	0.57
48:S2:199:G:H2'	48:S2:200:A:H8	1.69	0.57
64:SP:120:LEU:HD12	64:SP:142:PRO:HB2	1.86	0.57
74:SZ:70:LYS:O	74:SZ:74:VAL:HG23	2.04	0.57
74:SZ:80:HIS:HA	74:SZ:113:GLY:O	2.03	0.57
1:LA:1213:G:H4'	21:LU:90:MET:HB2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LF:317:PRO:C	6:LF:319:LYS:H	2.10	0.57
48:S2:837:G:H2'	48:S2:838:G:C8	2.39	0.57
48:S2:1393:C:H2'	48:S2:1394:G:H8	1.69	0.57
54:SF:129:PHE:CD1	58:SJ:79:TRP:HB2	2.39	0.57
74:SZ:40:ALA:HB2	74:SZ:70:LYS:HG2	1.86	0.57
1:LA:2344:U:H2'	1:LA:2345:A:C8	2.40	0.57
1:LA:3150:A:H2'	1:LA:3151:U:O4'	2.04	0.57
9:LI:25:GLN:HB2	9:LI:29:GLU:HG2	1.84	0.57
32:Lf:14:ILE:HG13	32:Lf:19:ARG:HH21	1.67	0.57
48:S2:1485:C:H3'	48:S2:1486:G:H5'	1.84	0.57
73:SY:91:LEU:HB3	73:SY:122:ILE:HG13	1.87	0.57
1:LA:1667:A:H2'	1:LA:1668:G:C8	2.39	0.57
1:LA:2344:U:H2'	1:LA:2345:A:H8	1.70	0.57
6:LF:281:ILE:HG13	19:LS:125:ASP:OD2	2.05	0.57
7:LG:34:LYS:HA	22:LV:27:LEU:HD11	1.86	0.57
49:SA:106:LYS:HE3	49:SA:173:ARG:HB3	1.86	0.57
60:SL:49:ARG:HD3	60:SL:49:ARG:H	1.68	0.57
61:SM:19:ARG:HH22	61:SM:32:ARG:HB2	1.69	0.57
1:LA:1240:A:H8	1:LA:1241:U:H4'	1.69	0.57
42:Lp:16:LYS:O	42:Lp:20:VAL:HG23	2.04	0.57
48:S2:105:A:N6	48:S2:308:C:O2	2.36	0.57
63:SO:295:SER:HB3	63:SO:302:PHE:HE1	1.69	0.57
68:ST:8:PRO:HD3	68:ST:112:VAL:HG22	1.85	0.57
79:Se:20:PRO:HA	79:Se:31:PRO:HA	1.86	0.57
1:LA:3006:A:H2'	1:LA:3007:U:O4'	2.05	0.57
17:LQ:194[A]:LEU:HD12	17:LQ:199[A]:TYR:HB2	1.85	0.57
1:LA:179:C:H2'	1:LA:180:C:O4'	2.04	0.57
1:LA:1040:A:H61	7:LG:9:SER:HB3	1.69	0.57
1:LA:2537:U:H5'	65:SQ:225:VAL:C	2.30	0.57
8:LH:43:LEU:HD11	8:LH:85:ILE:HG13	1.86	0.57
23:LW:36:TYR:HE1	23:LW:40:HIS:ND1	2.03	0.57
38:Ll:39:TYR:CD1	38:Ll:40:PRO:HA	2.40	0.57
46:Bb:27:C:H2'	46:Bb:28:C:C6	2.39	0.57
48:S2:93:A:H61	48:S2:396:G:H1'	1.68	0.57
48:S2:1358:G:H5"	57:SI:134:ARG:HH22	1.70	0.57
48:S2:1663:G:H2'	48:S2:1664:C:C6	2.39	0.57
63:SO:172:ALA:HB1	63:SO:199:ILE:HG21	1.87	0.57
2:LB:27:A:H2'	2:LB:28:C:C6	2.40	0.57
47:Cc:43:G:H2'	47:Cc:44:A:H8	1.69	0.57
48:S2:70:C:H2'	48:S2:71:A:C8	2.40	0.57
48:S2:800:U:H2'	48:S2:801:G:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1151:A:H2'	48:S2:1152:A:H8	1.70	0.57
49:SA:217:ILE:HG21	63:SO:194:GLY:HA2	1.87	0.57
19:LS:76:ALA:HA	19:LS:79:LYS:HD2	1.85	0.57
42:Lp:7:LYS:HE3	42:Lp:11:ARG:HH21	1.69	0.57
48:S2:1592:A:H2'	48:S2:1593:A:C8	2.40	0.57
1:LA:1108:U:H2'	1:LA:1109:U:C6	2.40	0.57
1:LA:1871:U:H2'	1:LA:1872:C:O2	2.05	0.57
1:LA:3110:C:H2'	1:LA:3111:U:C6	2.40	0.57
48:S2:1583:A:N7	50:SB:78:ALA:HB3	2.20	0.57
48:S2:1586:A:H2'	48:S2:1587:A:O4'	2.05	0.57
66:SR:103:VAL:HG12	66:SR:113:LEU:HD12	1.87	0.57
74:SZ:107:ARG:HH11	74:SZ:107:ARG:HB2	1.70	0.57
1:LA:207:U:H2'	1:LA:208:C:H6	1.70	0.56
48:S2:97:C:H2'	48:S2:98:U:C6	2.39	0.56
48:S2:923:A:H2'	48:S2:924:A:C8	2.40	0.56
48:S2:1191:U:H2'	48:S2:1192:C:C6	2.39	0.56
55:SG:41:ILE:HG22	55:SG:42:GLN:H	1.70	0.56
65:SQ:147:ALA:C	65:SQ:148:ASN:HD22	2.12	0.56
76:Sb:69:LEU:HD11	76:Sb:72:CYS:HB3	1.87	0.56
1:LA:2674:A:C2	13:LM:124:GLY:HA3	2.40	0.56
15:LO:38:ILE:HA	15:LO:44:VAL:HG12	1.87	0.56
19:LS:122:ILE:HG23	19:LS:126:GLN:HB2	1.87	0.56
40:Ln:42:ARG:HG3	40:Ln:47:THR:HG23	1.87	0.56
48:S2:1120:U:H2'	48:S2:1121:C:C6	2.40	0.56
49:SA:75:LYS:HD2	51:SC:22:VAL:HG22	1.87	0.56
1:LA:821:U:H2'	1:LA:822:G:H8	1.69	0.56
1:LA:2112:U:H4'	1:LA:2113:A:H5'	1.87	0.56
1:LA:2228:A:H2'	1:LA:2229:A:C8	2.40	0.56
1:LA:3107:U:H2'	1:LA:3108:G:H8	1.70	0.56
1:LA:3298:C:C2	1:LA:3299:A:C8	2.93	0.56
3:LC:52:A:H61	40:Ln:23:LEU:HD12	1.69	0.56
7:LG:41:LYS:HE3	22:LV:93:VAL:HG11	1.86	0.56
7:LG:272:TYR:HD1	7:LG:272:TYR:O	1.88	0.56
32:Lf:25:PHE:HA	32:Lf:28:ARG:HG3	1.86	0.56
36:Lj:45:LYS:HZ3	36:Lj:49:LYS:HD3	1.70	0.56
48:S2:947:U:H2'	48:S2:948:G:H8	1.70	0.56
49:SA:113:LEU:H	49:SA:113:LEU:HD23	1.70	0.56
53:SE:29:SER:HB3	53:SE:32:ASP:OD1	2.05	0.56
57:SI:136:ALA:O	57:SI:140:LEU:HD12	2.05	0.56
70:SV:37:LYS:H	70:SV:59:ARG:H	1.54	0.56
70:SV:87:ASN:HB3	70:SV:90:LEU:HG	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:Se:5:ARG:HD2	79:Se:9:GLY:HA2	1.87	0.56
5:LE:292:ALA:HB2	5:LE:302:LYS:HD2	1.87	0.56
9:LI:130:ILE:HD12	9:LI:134:VAL:HG11	1.87	0.56
22:LV:79:MET:HG3	22:LV:84:TYR:CE1	2.41	0.56
31:Le:26:GLY:O	31:Le:30:THR:HG22	2.05	0.56
32:Lf:44:MET:HE3	32:Lf:77:ARG:HB2	1.85	0.56
48:S2:1240:U:H2'	48:S2:1244:A:H61	1.71	0.56
48:S2:1725:U:H2'	48:S2:1726:G:O4'	2.05	0.56
1:LA:1615:C:H2'	1:LA:1616:U:C6	2.40	0.56
1:LA:2213:A:H2'	1:LA:2214:A:H8	1.71	0.56
1:LA:3297:U:H2'	1:LA:3298:C:H6	1.70	0.56
10:LJ:151:VAL:HG23	10:LJ:199:ALA:HB2	1.87	0.56
48:S2:127:G:H5'	68:ST:194:LYS:HE2	1.86	0.56
48:S2:590:C:O5'	48:S2:590:C:H6	1.89	0.56
64:SP:79:ARG:HH12	64:SP:164:ASN:HB2	1.71	0.56
68:ST:98:ARG:HH21	68:ST:105:ASP:HB3	1.69	0.56
79:Se:51:ARG:O	79:Se:55:GLU:HG2	2.05	0.56
1:LA:76:G:H3'	14:LN:73:ARG:HD2	1.86	0.56
1:LA:786:A:H4'	1:LA:787:G:H5'	1.88	0.56
1:LA:1779:C:C4	20:LT:89:LEU:HD23	2.40	0.56
36:Lj:66:VAL:HG13	36:Lj:80:LEU:HD11	1.88	0.56
48:S2:922:G:H2'	48:S2:923:A:H8	1.69	0.56
1:LA:507:U:H2'	1:LA:508:U:C6	2.41	0.56
1:LA:1696:A:H2'	1:LA:1697:A:C8	2.41	0.56
1:LA:2853:A:H5'	12:LL:63:GLU:HB3	1.88	0.56
11:LK:112:ILE:HB	11:LK:126:VAL:HG13	1.87	0.56
24:LX:127:PRO:HB2	24:LX:128:ARG:HH21	1.71	0.56
31:Le:77:LEU:O	31:Le:81:VAL:HG23	2.05	0.56
32:Lf:54:GLU:CD	32:Lf:54:GLU:H	2.14	0.56
48:S2:1628:U:H2'	48:S2:1629:G:C8	2.41	0.56
65:SQ:207:LEU:O	65:SQ:210:ILE:HD11	2.06	0.56
73:SY:60:VAL:HG23	73:SY:66:ILE:HD13	1.88	0.56
1:LA:627:U:H2'	1:LA:628:A:H8	1.70	0.56
1:LA:640:U:H2'	1:LA:641:C:C6	2.40	0.56
48:S2:404:G:H2'	48:S2:405:C:C6	2.41	0.56
50:SB:128:ASN:HB3	50:SB:131:GLN:HB3	1.88	0.56
63:SO:200:ASN:HB2	63:SO:215:GLY:HA2	1.87	0.56
68:ST:67:VAL:HG23	68:ST:99:GLY:HA2	1.86	0.56
71:SW:33:GLU:HG3	71:SW:34:PHE:CD1	2.40	0.56
75:Sa:11:LEU:H	75:Sa:11:LEU:HD23	1.70	0.56
1:LA:428:A:H2'	1:LA:429:U:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:589:A:H1'	1:LA:1337:A:H5"	1.87	0.56
1:LA:595:G:H1	1:LA:609:G:H5"	1.70	0.56
1:LA:2768:U:H2'	1:LA:2769:A:H8	1.71	0.56
11:LK:92:TYR:HD1	11:LK:179:ILE:HG12	1.71	0.56
48:S2:359:A:H61	77:Sc:39:LYS:NZ	2.03	0.56
48:S2:1609:U:H2'	48:S2:1610:G:O4'	2.05	0.56
54:SF:54:LEU:HD12	54:SF:55:VAL:HG13	1.86	0.56
59:SK:78:ILE:HD13	59:SK:81:ARG:HH21	1.70	0.56
64:SP:17:LEU:HD11	64:SP:176:LEU:HD11	1.88	0.56
69:SU:51:VAL:HG12	69:SU:53:GLY:H	1.70	0.56
71:SW:108:ARG:HH21	71:SW:145:SER:HB3	1.71	0.56
75:Sa:34:ILE:HD11	75:Sa:53:TYR:HB2	1.86	0.56
49:SA:59:LEU:HA	49:SA:66:ILE:HG13	1.88	0.56
54:SF:19:VAL:HG23	54:SF:68:ARG:HB3	1.87	0.56
65:SQ:143:THR:HG21	65:SQ:156:ALA:HB2	1.88	0.56
1:LA:1137:C:H2'	1:LA:1138:U:H5'	1.87	0.55
1:LA:1940:G:H21	1:LA:3362:A:H8	1.52	0.55
1:LA:2547:A:H3'	1:LA:2548:C:H5"	1.88	0.55
10:LJ:203:VAL:HG21	10:LJ:211:LEU:HD22	1.88	0.55
12:LL:179:PRO:HA	12:LL:182:LEU:HG	1.87	0.55
35:Li:96:GLU:O	35:Li:100:ILE:HD12	2.06	0.55
48:S2:484:C:HO2'	48:S2:485:A:H8	1.52	0.55
48:S2:1164:G:H2'	48:S2:1165:G:H8	1.69	0.55
50:SB:215:ASP:O	50:SB:219:ARG:HG2	2.06	0.55
64:SP:31:VAL:HG12	64:SP:33:GLN:H	1.71	0.55
1:LA:965:A:C2	29:Lc:43:ILE:HD12	2.40	0.55
1:LA:1909:A:H2'	1:LA:1910:A:C8	2.41	0.55
48:S2:1734:U:H2'	48:S2:1735:U:C6	2.41	0.55
51:SC:8:ARG:HD3	51:SC:12:HIS:CE1	2.41	0.55
59:SK:42:LEU:HD11	59:SK:47:TYR:HD2	1.72	0.55
1:LA:400:G:H4'	1:LA:401:U:H5'	1.88	0.55
1:LA:787:G:H2'	1:LA:788:C:H6	1.71	0.55
1:LA:1340:G:H2'	1:LA:1341:U:C6	2.42	0.55
1:LA:3208:G:H4'	1:LA:3209:A:H5"	1.88	0.55
22:LV:111:ALA:O	22:LV:115:LYS:HG2	2.05	0.55
47:Cc:5:G:H2'	47:Cc:6:G:C8	2.42	0.55
48:S2:803:A:O2'	48:S2:804:A:H8	1.88	0.55
48:S2:1555:A:O2'	53:SE:82:ASN:HB2	2.07	0.55
49:SA:42:THR:HB	49:SA:45:LYS:HG2	1.88	0.55
53:SE:63:ALA:HB1	53:SE:74:ALA:HB3	1.88	0.55
66:SR:45:VAL:HG11	66:SR:68:ILE:HG12	1.86	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SR:126:ARG:O	66:SR:130:ILE:HG12	2.06	0.55
66:SR:143:TYR:CG	66:SR:147:ASN:HA	2.41	0.55
70:SV:137:LYS:HA	70:SV:140:GLU:OE2	2.07	0.55
71:SW:93:LEU:HD22	71:SW:96:VAL:HB	1.88	0.55
80:Sf:70:LYS:H	80:Sf:70:LYS:CD	2.20	0.55
1:LA:1174:G:N2	17:LQ:87[A]:MET:HE2	2.21	0.55
2:LB:46:A:OP1	7:LG:158:ARG:HG3	2.06	0.55
48:S2:1588:G:O6	48:S2:1608:U:O4	2.23	0.55
49:SA:101:GLN:HE21	49:SA:122:VAL:HG13	1.70	0.55
53:SE:32:ASP:HA	53:SE:35:LYS:HG2	1.88	0.55
1:LA:1666:G:H2'	1:LA:1667:A:H8	1.71	0.55
1:LA:3072:C:H2'	1:LA:3073:A:O4'	2.07	0.55
1:LA:3383:G:H21	32:Lf:105:GLN:HG2	1.72	0.55
7:LG:177:GLU:HB2	7:LG:190:ILE:HD12	1.88	0.55
28:Lb:4:PHE:O	28:Lb:9:LYS:HD2	2.07	0.55
48:S2:1755:A:H5"	77:Sc:63:GLN:OE1	2.06	0.55
48:S2:1776:A:H2'	48:S2:1777:G:C8	2.41	0.55
60:SL:11:LYS:HZ3	60:SL:52:ASP:H	1.55	0.55
65:SQ:164:ILE:HD12	65:SQ:201:THR:HB	1.88	0.55
9:LI:147:LEU:HD21	9:LI:207:LEU:HD21	1.88	0.55
21:LU:129:ILE:HG12	21:LU:134:ASP:HB2	1.88	0.55
48:S2:1606:C:H2'	48:S2:1607:G:H8	1.72	0.55
54:SF:25:GLY:HA3	54:SF:64:ASP:CG	2.32	0.55
1:LA:1245:A:H3'	1:LA:1246:G:H5"	1.88	0.55
1:LA:2406:C:H2'	1:LA:2407:C:H6	1.72	0.55
1:LA:2727:A:C2	29:Lc:43:ILE:HG23	2.42	0.55
3:LC:132:G:H2'	3:LC:133:G:H8	1.71	0.55
48:S2:330:G:H2'	48:S2:331:A:H8	1.71	0.55
48:S2:340:U:H2'	48:S2:341:A:C8	2.41	0.55
48:S2:1548:G:H5"	56:SH:90:ASN:HB2	1.88	0.55
53:SE:83:MET:HE3	53:SE:116:LEU:HB2	1.87	0.55
56:SH:25:ASN:HB3	59:SK:40:VAL:HG11	1.89	0.55
65:SQ:109:LYS:HG3	65:SQ:113:MET:HE2	1.88	0.55
1:LA:993:G:N3	1:LA:2637:A:H2'	2.22	0.55
1:LA:2656:A:H4'	43:Lq:98:LYS:HE3	1.89	0.55
49:SA:105:MET:O	49:SA:109:LEU:HD13	2.07	0.55
1:LA:426:G:H5'	33:Lg:50:ILE:HG22	1.89	0.55
1:LA:2152:A:H2'	1:LA:2153:U:H6	1.72	0.55
1:LA:2882:U:H2'	1:LA:2883:U:C6	2.42	0.55
2:LB:19:C:H2'	2:LB:20:A:C8	2.42	0.55
5:LE:367:LYS:HA	25:LY:17:ARG:HH22	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LU:8:GLN:HB3	21:LU:64:ILE:HD11	1.88	0.55
36:Lj:64:GLU:HG3	36:Lj:68:GLN:HE21	1.70	0.55
48:S2:16:G:H2'	48:S2:17:C:C6	2.42	0.55
64:SP:181:VAL:HG22	64:SP:185:ARG:HD2	1.88	0.55
67:SS:60:GLU:O	67:SS:64:ILE:HG13	2.07	0.55
1:LA:72:C:H1'	14:LN:61:PRO:O	2.07	0.55
1:LA:662:U:H2'	1:LA:663:C:C6	2.42	0.55
4:LD:126:LEU:HD13	4:LD:150:LEU:HD21	1.88	0.55
5:LE:108:GLU:HG3	5:LE:137:TYR:HB3	1.89	0.55
6:LF:234:ASN:HD22	6:LF:237:GLN:HG3	1.72	0.55
27:La:70:ILE:HD13	27:La:82:VAL:HG22	1.88	0.55
30:Ld:16:ALA:O	30:Ld:20:GLY:CA	2.55	0.55
49:SA:202:LEU:HG	49:SA:205:ALA:H	1.72	0.55
50:SB:30:PRO:HB2	50:SB:33:VAL:HG12	1.89	0.55
57:SI:31:PRO:HB3	57:SI:103:LYS:HD2	1.89	0.55
63:SO:180:ALA:HB3	63:SO:190:ALA:HB3	1.89	0.55
66:SR:235:LEU:HD21	75:Sa:54:ALA:HB2	1.89	0.55
3:LC:55:U:O4	3:LC:62:C:N3	2.41	0.54
3:LC:121:U:O2	3:LC:132:G:N2	2.33	0.54
58:SJ:40:ASN:HA	58:SJ:43:LYS:HG2	1.89	0.54
1:LA:184:U:H2'	1:LA:185:C:H6	1.72	0.54
1:LA:992:A:H5"	22:LV:43:LYS:HG3	1.89	0.54
22:LV:57:TYR:CG	22:LV:89:LEU:HD21	2.43	0.54
48:S2:1503:A:H62	56:SH:41:ARG:NH2	2.05	0.54
76:Sb:24:GLN:NE2	80:Sf:5:GLN:HG2	2.21	0.54
1:LA:238:A:N6	1:LA:239:G:H21	2.01	0.54
1:LA:616:G:H2'	1:LA:617:G:C8	2.43	0.54
1:LA:1106:G:C2'	1:LA:1107:C:H5"	2.36	0.54
1:LA:2427:U:H2'	1:LA:2428:U:C6	2.43	0.54
9:LI:169:ILE:HD12	9:LI:181:ILE:HG12	1.89	0.54
12:LL:86:HIS:HB3	12:LL:139:ARG:HG2	1.89	0.54
48:S2:30:G:H4'	77:Sc:131:SER:HB3	1.89	0.54
48:S2:30:G:O2'	77:Sc:133:LEU:HD21	2.07	0.54
48:S2:204:G:H2'	48:S2:205:U:C6	2.42	0.54
57:SI:67:MET:O	57:SI:67:MET:HE3	2.07	0.54
58:SJ:82:TYR:HB3	61:SM:52:PHE:HB3	1.89	0.54
1:LA:1446:A:H5"	18:LR:65:SER:OG	2.08	0.54
1:LA:1534:A:H2'	1:LA:1535:A:C8	2.42	0.54
39:Lm:62:ALA:O	39:Lm:66:ILE:HG13	2.07	0.54
48:S2:472:U:H2'	48:S2:473:A:H8	1.72	0.54
48:S2:998:A:H2'	48:S2:999:U:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1473:U:O4	50:SB:180:ARG:HD3	2.07	0.54
49:SA:67:ASN:HA	49:SA:70:THR:HG22	1.90	0.54
51:SC:58:GLN:HB2	51:SC:65:TYR:HB2	1.90	0.54
59:SK:77:ARG:HB3	59:SK:81:ARG:NH1	2.22	0.54
68:ST:210:GLN:O	68:ST:214:LYS:HD2	2.08	0.54
69:SU:38:LEU:HA	69:SU:41:LEU:HG	1.88	0.54
75:Sa:2:GLU:HB3	75:Sa:8:LEU:HA	1.89	0.54
1:LA:247:C:H2'	1:LA:248:U:O4'	2.07	0.54
1:LA:314:U:H2'	1:LA:315:C:C6	2.41	0.54
1:LA:1498:A:H2'	1:LA:1499:C:C6	2.43	0.54
2:LB:60:G:H2'	2:LB:61:G:H8	1.72	0.54
47:Cc:63:C:H2'	47:Cc:64:G:C8	2.43	0.54
1:LA:254:A:H2'	1:LA:255:A:C8	2.38	0.54
1:LA:2662:G:H2'	1:LA:2663:G:H8	1.73	0.54
12:LL:52:LEU:HB2	12:LL:152:LEU:HD13	1.90	0.54
39:Lm:44:LYS:HB3	39:Lm:51:LEU:HD11	1.89	0.54
48:S2:739:G:H21	48:S2:740:A:H5'	1.73	0.54
48:S2:872:G:H2'	48:S2:873:U:O4'	2.08	0.54
48:S2:947:U:H2'	48:S2:948:G:C8	2.42	0.54
50:SB:44:ASN:HB2	50:SB:45:LYS:HD3	1.89	0.54
50:SB:72:HIS:HB2	50:SB:111:VAL:HG21	1.87	0.54
63:SO:116:ASP:HB3	63:SO:183:LEU:HD11	1.89	0.54
65:SQ:194:ASN:ND2	65:SQ:211:HIS:HA	2.22	0.54
69:SU:16:LEU:O	69:SU:20:VAL:HG22	2.07	0.54
77:Sc:27:ASN:O	77:Sc:31:LYS:HG3	2.08	0.54
1:LA:1190:A:H4'	41:Lo:113:ARG:NH2	2.20	0.54
1:LA:2413:A:H2'	1:LA:2414:G:H8	1.72	0.54
48:S2:1550:A:H5"	53:SE:43:ARG:HD2	1.88	0.54
56:SH:28:ILE:O	56:SH:32:LEU:HG	2.07	0.54
60:SL:15:VAL:HA	60:SL:28:VAL:HG12	1.90	0.54
61:SM:4:GLU:HB3	61:SM:7:TRP:HB2	1.90	0.54
64:SP:183:ARG:NH1	64:SP:191:ARG:HH21	2.06	0.54
76:Sb:108:ALA:O	76:Sb:111:MET:HE1	2.08	0.54
77:Sc:62:LYS:HB2	77:Sc:118:PRO:HD3	1.90	0.54
1:LA:173:G:H1	1:LA:245:U:H3	1.56	0.54
5:LE:56:ILE:HD13	5:LE:356:LEU:HD22	1.89	0.54
6:LF:351:PRO:HA	9:LI:71:ALA:HA	1.90	0.54
7:LG:41:LYS:HB2	22:LV:68:THR:O	2.08	0.54
7:LG:90:HIS:HB2	7:LG:226:TYR:CE1	2.42	0.54
10:LJ:87:ALA:O	10:LJ:91:PHE:HD2	1.91	0.54
17:LQ:139[A]:GLY:O	17:LQ:143[A]:THR:HG23	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Lj:86:ARG:O	36:Lj:90:ARG:HG2	2.08	0.54
65:SQ:106:THR:HG23	65:SQ:109:LYS:H	1.73	0.54
1:LA:3107:U:H2'	1:LA:3108:G:C8	2.43	0.54
2:LB:114:U:H2'	2:LB:115:G:H8	1.72	0.54
4:LD:3:ARG:HB2	4:LD:207:VAL:HG22	1.89	0.54
27:La:36:SER:HB3	27:La:105:VAL:HG13	1.90	0.54
34:Lh:49:ILE:HD11	34:Lh:71:VAL:HG23	1.90	0.54
65:SQ:210:ILE:HD12	65:SQ:210:ILE:N	2.23	0.54
77:Sc:131:SER:HB2	77:Sc:133:LEU:HD23	1.89	0.54
1:LA:664:U:H5'	6:LF:107:ARG:HA	1.88	0.54
3:LC:9:A:H2'	3:LC:10:A:C8	2.43	0.54
9:LI:128:LYS:HA	9:LI:131:GLU:HG3	1.90	0.54
13:LM:53:THR:HB	13:LM:61:ARG:HB2	1.90	0.54
64:SP:139:VAL:HG23	64:SP:141:ILE:HD13	1.88	0.54
1:LA:787:G:H2'	1:LA:788:C:C6	2.43	0.53
36:Lj:78:LYS:HA	36:Lj:81:ARG:HE	1.73	0.53
50:SB:114:ILE:HA	50:SB:117:THR:OG1	2.08	0.53
56:SH:29:VAL:O	56:SH:33:THR:HG23	2.08	0.53
1:LA:656:A:H2'	1:LA:657:A:H8	1.73	0.53
1:LA:3165:A:C5	1:LA:3166:C:H1'	2.43	0.53
2:LB:54:U:H4'	2:LB:55:A:H5'	1.90	0.53
19:LS:19:PRO:HB3	19:LS:53:PHE:HA	1.90	0.53
47:Cc:72:C:H2'	47:Cc:73:A:C8	2.43	0.53
48:S2:885:G:H2'	48:S2:886:U:C6	2.43	0.53
48:S2:925:G:H2'	48:S2:926:A:C8	2.43	0.53
64:SP:54:TRP:O	64:SP:58:VAL:HG23	2.09	0.53
66:SR:102:VAL:HG21	66:SR:129:ILE:HD13	1.88	0.53
74:SZ:63:ALA:O	74:SZ:67:VAL:HG23	2.08	0.53
1:LA:816:A:H5'	1:LA:906:A:H61	1.72	0.53
1:LA:1093:A:H4'	1:LA:1094:U:H5'	1.90	0.53
1:LA:1829:G:H5"	1:LA:1830:G:H5'	1.90	0.53
1:LA:3295:A:H2'	1:LA:3296:A:C8	2.43	0.53
41:Lo:99:CYS:HB2	41:Lo:114:LYS:HZ3	1.74	0.53
48:S2:140:A:H8	48:S2:281:G:H5'	1.73	0.53
48:S2:545:A:H2'	81:Sg:31:LYS:HE3	1.90	0.53
50:SB:76:ARG:HG2	54:SF:122:ARG:HD3	1.90	0.53
56:SH:145:ARG:HD3	56:SH:145:ARG:H	1.73	0.53
59:SK:50:ILE:O	59:SK:54:VAL:HG23	2.08	0.53
63:SO:117:LYS:O	63:SO:118:LYS:HG2	2.08	0.53
1:LA:526:C:H2'	1:LA:527:A:C8	2.43	0.53
1:LA:2369:G:H2'	1:LA:2370:G:C8	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3234:A:H61	1:LA:3253:G:H1	1.57	0.53
2:LB:89:G:H4'	21:LU:84:ARG:HD3	1.90	0.53
3:LC:8:C:H2'	3:LC:9:A:C8	2.43	0.53
7:LG:60:ILE:HB	7:LG:80:SER:HB3	1.91	0.53
10:LJ:139:VAL:O	10:LJ:143:ILE:HG13	2.08	0.53
12:LL:43:VAL:HG11	12:LL:197:VAL:HB	1.89	0.53
48:S2:5:U:H2'	48:S2:6:G:C8	2.42	0.53
48:S2:116:U:H2'	48:S2:117:U:C6	2.44	0.53
48:S2:325:G:H2'	48:S2:326:G:H8	1.72	0.53
48:S2:502:U:H2'	48:S2:503:G:C8	2.44	0.53
51:SC:8:ARG:HD2	51:SC:9:ASN:N	2.23	0.53
67:SS:182:TYR:HB2	67:SS:228:ILE:HD13	1.90	0.53
70:SV:172:ARG:HD3	70:SV:175:GLN:HG3	1.89	0.53
1:LA:542:G:N1	1:LA:549:U:N3	2.56	0.53
1:LA:1203:A:H2'	1:LA:1204:A:H8	1.72	0.53
26:LZ:110:VAL:HG22	26:LZ:124:VAL:HG13	1.91	0.53
46:Bb:11:C:H2'	46:Bb:12:U:C6	2.44	0.53
62:SN:92:LYS:HG3	62:SN:92:LYS:O	2.08	0.53
62:SN:133:ALA:O	62:SN:139:LEU:HD22	2.09	0.53
64:SP:49:ASN:HB3	64:SP:52:LYS:CG	2.39	0.53
69:SU:63:PRO:HB2	69:SU:65:PRO:HD3	1.89	0.53
1:LA:1667:A:H2'	1:LA:1668:G:H8	1.74	0.53
15:LO:103:ILE:O	15:LO:107:GLU:HG2	2.09	0.53
32:Lf:75:ILE:HG12	32:Lf:93:VAL:HG13	1.91	0.53
39:Lm:5:ILE:HG13	39:Lm:10:GLN:CD	2.33	0.53
48:S2:17:C:H2'	48:S2:18:C:C6	2.44	0.53
48:S2:97:C:H2'	48:S2:98:U:H6	1.73	0.53
48:S2:327:U:H2'	48:S2:328:A:C8	2.43	0.53
48:S2:817:A:H2'	48:S2:818:C:C6	2.43	0.53
48:S2:1164:G:H2'	48:S2:1165:G:C8	2.43	0.53
48:S2:1647:U:H2'	48:S2:1648:A:C8	2.44	0.53
49:SA:136:VAL:HG22	49:SA:186:VAL:HG22	1.89	0.53
50:SB:163:SER:O	50:SB:167:ARG:HB2	2.09	0.53
61:SM:11:PRO:HB2	61:SM:13:ARG:HG3	1.89	0.53
64:SP:179:ARG:HG2	64:SP:183:ARG:HD2	1.91	0.53
1:LA:664:U:H2'	1:LA:665:A:H8	1.73	0.53
1:LA:1631:C:H5"	1:LA:1632:A:H5"	1.90	0.53
1:LA:3329:U:H5"	5:LE:308:MET:HE2	1.91	0.53
3:LC:63:G:H22	3:LC:97:A:H2	1.57	0.53
6:LF:234:ASN:ND2	6:LF:237:GLN:HG3	2.23	0.53
13:LM:132:ASN:HA	13:LM:154:THR:HG21	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:279:G:H2'	48:S2:280:U:H4'	1.89	0.53
48:S2:305:C:H2'	48:S2:306:U:C6	2.44	0.53
48:S2:312:A:H4'	48:S2:313:U:H5'	1.91	0.53
48:S2:331:A:H2'	48:S2:332:U:C6	2.44	0.53
48:S2:1408:G:H5"	48:S2:1409:G:N7	2.24	0.53
50:SB:186:ASN:HD22	50:SB:188:LYS:HG2	1.74	0.53
51:SC:29:GLN:HG3	51:SC:31:LYS:H	1.73	0.53
54:SF:95:LYS:HG2	63:SO:59:ARG:HH22	1.73	0.53
56:SH:110:ARG:HD2	56:SH:111:ASP:N	2.23	0.53
63:SO:130:THR:C	63:SO:131:ILE:HD13	2.33	0.53
31:Le:100:ILE:HG23	31:Le:101:LEU:HD22	1.90	0.53
48:S2:305:C:H5"	72:SX:71:LEU:HD11	1.91	0.53
48:S2:862:A:H3'	73:SY:16:ILE:HG13	1.90	0.53
58:SJ:63:LEU:HB3	61:SM:34:TYR:CE1	2.43	0.53
63:SO:179:LYS:HB3	63:SO:181:TRP:NE1	2.22	0.53
65:SQ:111:ARG:HB3	79:Se:68:TYR:HD2	1.74	0.53
66:SR:67:GLN:HA	66:SR:70:ASP:OD2	2.09	0.53
71:SW:77:ILE:HG23	71:SW:86:LEU:HD12	1.90	0.53
1:LA:1724:U:H1'	1:LA:1725:C:C6	2.44	0.53
6:LF:334:PHE:HA	6:LF:339:LEU:HD12	1.91	0.53
8:LH:108:LYS:O	8:LH:109:GLU:HG2	2.09	0.53
31:Le:42:ILE:HD11	31:Le:67:VAL:HG22	1.90	0.53
46:Bb:22:G:H2'	46:Bb:23:A:C8	2.43	0.53
48:S2:201:G:H2'	48:S2:202:A:C8	2.44	0.53
65:SQ:41:ARG:HH11	65:SQ:41:ARG:HA	1.74	0.53
76:Sb:29:PRO:HB2	76:Sb:58:SER:OG	2.08	0.53
1:LA:514:G:H21	6:LF:341:SER:HB2	1.72	0.53
1:LA:631:U:H2'	1:LA:632:G:H8	1.72	0.53
1:LA:2523:A:H5"	10:LJ:51:LYS:HB2	1.91	0.53
1:LA:3322:A:H2'	1:LA:3323:A:C8	2.44	0.53
8:LH:20:LYS:H	8:LH:20:LYS:HD2	1.73	0.53
14:LN:155:GLU:H	14:LN:155:GLU:CD	2.17	0.53
15:LO:23:ILE:HG21	15:LO:28:SER:HB2	1.89	0.53
48:S2:330:G:H2'	48:S2:331:A:C8	2.44	0.53
49:SA:17:PHE:HE2	49:SA:21:LEU:HD21	1.73	0.53
56:SH:116:LEU:HD12	56:SH:124:GLY:N	2.23	0.53
77:Sc:56:LYS:HA	77:Sc:70:LYS:HE3	1.90	0.53
1:LA:510:G:H1	1:LA:581:U:H3	1.57	0.52
1:LA:1235:U:H1'	1:LA:1236:G:H5"	1.91	0.52
16:LP:11:GLN:HA	16:LP:19:LEU:HD21	1.90	0.52
17:LQ:46[A]:GLU:HG3	17:LQ:48[A]:PHE:H	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1161:C:H2'	60:SL:22:ARG:HE	1.74	0.52
48:S2:1534:G:H4'	48:S2:1536:G:N7	2.24	0.52
48:S2:1542:G:H4'	48:S2:1543:A:H5"	1.90	0.52
49:SA:203:PRO:HA	55:SG:42:GLN:HG3	1.90	0.52
73:SY:52:VAL:HG13	73:SY:53:LEU:HD22	1.91	0.52
81:Sg:41:THR:HA	81:Sg:45:VAL:HG12	1.90	0.52
1:LA:526:C:H2'	1:LA:527:A:H8	1.74	0.52
1:LA:796:U:H2'	1:LA:797:U:C6	2.45	0.52
5:LE:162:VAL:HG21	5:LE:181:ILE:HD12	1.91	0.52
14:LN:46:ILE:O	14:LN:46:ILE:HD12	2.10	0.52
15:LO:50:LYS:HE3	15:LO:82:SER:HB3	1.91	0.52
20:LT:170:ARG:HH21	48:S2:857:U:H3	1.56	0.52
34:Lh:48:ARG:HH22	34:Lh:70:LYS:HE2	1.74	0.52
68:ST:67:VAL:CG2	68:ST:99:GLY:HA2	2.39	0.52
1:LA:1110:U:H2'	1:LA:1111:U:C6	2.44	0.52
1:LA:2267:C:H2'	1:LA:2268:U:C6	2.44	0.52
15:LO:124:ARG:HG2	17:LQ:194[A]:LEU:HD11	1.89	0.52
34:Lh:14:LEU:HD21	34:Lh:31:LYS:HB3	1.90	0.52
48:S2:29:U:H2'	48:S2:30:G:C8	2.45	0.52
48:S2:744:U:H2'	48:S2:745:U:O4'	2.09	0.52
48:S2:1562:G:H2'	48:S2:1563:C:C6	2.44	0.52
48:S2:1648:A:H2'	48:S2:1649:G:H8	1.72	0.52
67:SS:47:PHE:CE1	67:SS:90:ILE:HD12	2.44	0.52
1:LA:2258:U:H2'	1:LA:2259:A:O4'	2.10	0.52
1:LA:3181:C:H1'	17:LQ:168[A]:TYR:HB2	1.92	0.52
9:LI:102:VAL:HG13	9:LI:126:LEU:HG	1.91	0.52
13:LM:60:ARG:O	13:LM:63:GLU:HB2	2.09	0.52
21:LU:77:VAL:HG13	21:LU:126:VAL:HG22	1.91	0.52
48:S2:345:U:H1'	48:S2:346:G:C8	2.45	0.52
48:S2:1659:A:H2'	48:S2:1660:A:C8	2.44	0.52
48:S2:1728:A:H2'	48:S2:1729:C:C6	2.44	0.52
65:SQ:144:ARG:HB3	65:SQ:208:GLN:HB3	1.91	0.52
73:SY:102:LEU:HD11	73:SY:112:LYS:HA	1.91	0.52
76:Sb:60:LYS:HE3	80:Sf:24:LEU:O	2.09	0.52
1:LA:1394:A:H4'	1:LA:1420:C:H4'	1.91	0.52
4:LD:102:LEU:HD23	4:LD:106:SER:HB2	1.92	0.52
5:LE:343:TYR:CE2	5:LE:345:ASN:HB2	2.45	0.52
27:La:37:LYS:HG3	27:La:38:GLU:N	2.24	0.52
31:Le:74:ASN:HD22	31:Le:86:ARG:HB3	1.75	0.52
37:Lk:45:ARG:HH12	37:Lk:93:ILE:CD1	2.22	0.52
48:S2:404:G:H2'	48:S2:405:C:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SB:77:TYR:HA	50:SB:83:ARG:HE	1.74	0.52
58:SJ:22:ILE:HD12	58:SJ:100:VAL:HG21	1.92	0.52
72:SX:136:ARG:C	72:SX:137:PHE:HD1	2.17	0.52
75:Sa:60:ARG:HG2	75:Sa:65:SER:HG	1.74	0.52
1:LA:928:C:H2'	1:LA:929:A:C8	2.45	0.52
1:LA:946:U:H2'	1:LA:947:G:H8	1.74	0.52
13:LM:122:ILE:HD11	56:SH:110:ARG:NH1	2.25	0.52
27:La:63:LYS:HD2	27:La:85:VAL:HG13	1.90	0.52
48:S2:1345:A:N6	48:S2:1380:U:H3	2.08	0.52
48:S2:1553:G:N2	48:S2:1555:A:H8	2.07	0.52
48:S2:1673:G:C2	48:S2:1728:A:H2	2.23	0.52
50:SB:143:ARG:HG2	50:SB:167:ARG:HD2	1.91	0.52
50:SB:162:VAL:HG12	60:SL:44:VAL:HG13	1.92	0.52
69:SU:4:PRO:HB2	69:SU:25:VAL:HG11	1.91	0.52
1:LA:121:A:C2	10:LJ:129:PRO:HB3	2.45	0.52
1:LA:679:U:H2'	1:LA:680:G:C8	2.45	0.52
1:LA:1666:G:H2'	1:LA:1667:A:C8	2.44	0.52
11:LK:88:TYR:CZ	11:LK:184:LYS:HB3	2.45	0.52
26:LZ:100:LYS:HG2	26:LZ:106:ASP:HA	1.92	0.52
54:SF:140:LYS:HE2	54:SF:142:TYR:HE1	1.75	0.52
63:SO:40:LYS:HE2	63:SO:66:HIS:C	2.35	0.52
66:SR:35:TRP:CE3	66:SR:37:PRO:HG3	2.45	0.52
69:SU:32:PRO:HA	69:SU:35:LYS:HE3	1.92	0.52
71:SW:35:GLY:HA2	71:SW:123:HIS:NE2	2.25	0.52
74:SZ:20:TYR:HD1	74:SZ:84:ARG:HG2	1.74	0.52
1:LA:829:U:H3	1:LA:895:A:H62	1.56	0.52
1:LA:1664:G:H1	1:LA:1785:U:H3	1.57	0.52
20:LT:85:ARG:HB3	20:LT:85:ARG:NH1	2.25	0.52
21:LU:44:PHE:O	21:LU:48:LEU:HG	2.09	0.52
49:SA:115:ILE:HD12	49:SA:116:ARG:N	2.24	0.52
54:SF:7:VAL:HG12	54:SF:22:VAL:HB	1.91	0.52
66:SR:45:VAL:HG11	66:SR:68:ILE:HG23	1.90	0.52
67:SS:67:GLN:HB3	67:SS:69:HIS:HD2	1.74	0.52
67:SS:162:ILE:HG22	67:SS:164:LEU:H	1.75	0.52
1:LA:196:G:H22	1:LA:199:A:H5'	1.74	0.52
1:LA:309:U:P	37:Lk:84:LYS:HZ2	2.32	0.52
1:LA:2961:G:H2'	1:LA:2962:U:C6	2.45	0.52
27:La:57:LEU:HD11	27:La:65:GLY:HA2	1.92	0.52
48:S2:325:G:H2'	48:S2:326:G:C8	2.45	0.52
48:S2:415:C:O2'	48:S2:416:A:H2'	2.09	0.52
48:S2:1520:U:H4'	48:S2:1523:G:H22	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1647:U:H2'	48:S2:1648:A:H8	1.75	0.52
50:SB:160:VAL:HG21	60:SL:25:VAL:HG11	1.92	0.52
64:SP:4:PRO:HD2	64:SP:7:PHE:HD2	1.75	0.52
74:SZ:25:ASP:N	74:SZ:55:SER:HB2	2.24	0.52
5:LE:119:TYR:HE2	5:LE:129:ALA:HB2	1.75	0.52
8:LH:56:LYS:HG2	8:LH:64:LEU:HB3	1.92	0.52
9:LI:120:THR:H	9:LI:123:THR:HB	1.75	0.52
31:Le:55:GLU:HA	35:Li:94:LEU:HD11	1.91	0.52
48:S2:550:A:H1'	48:S2:556:A:H62	1.75	0.52
48:S2:894:U:H2'	48:S2:895:G:C8	2.45	0.52
48:S2:1262:U:H2'	48:S2:1263:G:C8	2.45	0.52
1:LA:1597:C:H2'	1:LA:1598:G:C8	2.45	0.51
1:LA:2537:U:P	65:SQ:229:MET:HG3	2.50	0.51
1:LA:2742:C:H2'	1:LA:2743:A:H8	1.76	0.51
1:LA:2894:C:H2'	1:LA:2895:G:H8	1.74	0.51
17:LQ:29[A]:ASN:OD1	34:Lh:14:LEU:HD22	2.10	0.51
46:Bb:31:A:H3'	46:Bb:32:C:H6	1.75	0.51
52:SD:36:LEU:HD11	52:SD:102:GLY:HA3	1.92	0.51
57:SI:38:LYS:HD3	57:SI:43:ASN:HB2	1.92	0.51
67:SS:44:LEU:HD21	67:SS:72:VAL:HG21	1.91	0.51
68:ST:106:LEU:HD22	68:ST:109:LEU:HD13	1.92	0.51
68:ST:121:LEU:HD22	68:ST:124:LEU:HD22	1.92	0.51
69:SU:46:ILE:HD13	69:SU:60:ILE:CG2	2.37	0.51
80:Sf:70:LYS:HD3	80:Sf:70:LYS:N	2.25	0.51
1:LA:1378:U:H2'	1:LA:1379:G:H8	1.74	0.51
11:LK:90:MET:SD	11:LK:181:VAL:HB	2.50	0.51
17:LQ:62[A]:THR:HG22	17:LQ:65[A]:ASN:H	1.76	0.51
38:Ll:18:LEU:H	38:Ll:18:LEU:HD22	1.74	0.51
48:S2:5:U:O2'	48:S2:553:G:H4'	2.10	0.51
48:S2:415:C:O2	48:S2:418:G:C6	2.63	0.51
48:S2:868:G:H1	48:S2:960:U:H3	1.59	0.51
48:S2:1042:G:H5"	64:SP:29:VAL:HG12	1.92	0.51
65:SQ:103:MET:HG2	65:SQ:215:VAL:HG22	1.91	0.51
66:SR:179:VAL:HG21	66:SR:197:TYR:HD2	1.76	0.51
74:SZ:17:ALA:HA	74:SZ:30:VAL:HG22	1.92	0.51
75:Sa:73:ALA:HB3	75:Sa:79:LEU:HD22	1.92	0.51
1:LA:1105:A:H2'	1:LA:1106:G:H8	1.74	0.51
1:LA:2636:A:H5'	1:LA:2637:A:H5'	1.92	0.51
2:LB:16:U:H2'	2:LB:17:A:H8	1.76	0.51
2:LB:84:A:H2'	2:LB:85:G:C8	2.45	0.51
13:LM:80:LEU:O	13:LM:84:LEU:HD12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:590:C:N4	48:S2:591:A:H62	2.09	0.51
48:S2:925:G:H2'	48:S2:926:A:H8	1.75	0.51
48:S2:1274:C:H4'	48:S2:1275:A:H5'	1.93	0.51
57:SI:18:TYR:CD1	57:SI:135:ILE:HG21	2.45	0.51
64:SP:119:ARG:NH1	66:SR:240:LEU:HB3	2.25	0.51
66:SR:81:MET:HE3	66:SR:103:VAL:HG13	1.92	0.51
67:SS:136:VAL:HG11	67:SS:148:ARG:HE	1.75	0.51
68:ST:27:PHE:CE2	68:ST:109:LEU:HD23	2.44	0.51
72:SX:71:LEU:HD13	72:SX:88:ARG:NH1	2.24	0.51
1:LA:507:U:H2'	1:LA:508:U:H6	1.74	0.51
1:LA:2883:U:H2'	1:LA:2884:C:H6	1.76	0.51
1:LA:3064:U:H2'	1:LA:3065:G:H8	1.75	0.51
1:LA:3159:C:H2'	1:LA:3160:U:H6	1.75	0.51
36:Lj:57:VAL:O	36:Lj:61:GLN:HG2	2.09	0.51
46:Bb:39:U:H2'	46:Bb:40:C:C6	2.44	0.51
48:S2:1349:G:H2'	48:S2:1350:U:C6	2.46	0.51
64:SP:89:PHE:CE2	64:SP:177:LEU:HD23	2.45	0.51
65:SQ:175:GLU:HG3	65:SQ:187:LYS:NZ	2.25	0.51
70:SV:36:THR:HA	70:SV:58:LEU:HA	1.91	0.51
1:LA:41:G:N2	1:LA:2803:A:H62	2.09	0.51
1:LA:1597:C:H2'	1:LA:1598:G:H8	1.74	0.51
1:LA:1786:G:H2'	1:LA:1787:A:C8	2.45	0.51
1:LA:2160:G:H2'	1:LA:2161:G:H8	1.75	0.51
1:LA:2515:A:H5"	16:LP:28:TRP:CD1	2.46	0.51
1:LA:2681:U:H2'	1:LA:2682:C:H5'	1.92	0.51
4:LD:36:GLU:HA	4:LD:91:GLY:HA2	1.92	0.51
18:LR:60:PHE:HB3	18:LR:64:ASN:HB3	1.92	0.51
48:S2:745:U:C2	48:S2:746:A:C8	2.99	0.51
48:S2:959:U:H5'	73:SY:15:ALA:O	2.11	0.51
48:S2:968:U:H2'	48:S2:969:C:O4'	2.11	0.51
48:S2:1521:G:H21	54:SF:70:THR:HG23	1.76	0.51
48:S2:1582:U:H5"	54:SF:135:ARG:HH12	1.75	0.51
49:SA:105:MET:HG2	49:SA:122:VAL:HG21	1.90	0.51
49:SA:115:ILE:HD12	49:SA:116:ARG:H	1.75	0.51
74:SZ:13:VAL:HG23	74:SZ:77:THR:H	1.75	0.51
1:LA:20:A:H2'	1:LA:21:G:C8	2.45	0.51
6:LF:234:ASN:ND2	6:LF:236:LEU:HB2	2.26	0.51
9:LI:142:SER:O	9:LI:146:GLN:HG2	2.10	0.51
12:LL:72:ALA:HB2	12:LL:155:ALA:HB2	1.93	0.51
16:LP:7:LEU:HB2	16:LP:46:ASP:OD1	2.11	0.51
46:Bb:19:G:C2	46:Bb:20:G:H1'	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:939:A:H2'	48:S2:940:A:C8	2.46	0.51
48:S2:953:G:H2'	48:S2:954:G:C8	2.46	0.51
56:SH:61:LEU:HD21	56:SH:66:LEU:HB3	1.93	0.51
61:SM:21:CYS:HB3	61:SM:25:SER:H	1.75	0.51
1:LA:430:U:H2'	1:LA:431:U:C6	2.46	0.51
1:LA:432:G:H2'	1:LA:433:A:H8	1.75	0.51
1:LA:569:A:H2'	1:LA:570:A:C8	2.45	0.51
1:LA:1181:U:H2'	17:LQ:122[A]:GLN:NE2	2.26	0.51
1:LA:1661:G:H2'	1:LA:1662:G:H8	1.75	0.51
1:LA:3121:U:H1'	1:LA:3122:A:H5"	1.93	0.51
48:S2:1593:A:H2'	48:S2:1594:G:H8	1.76	0.51
53:SE:39:ALA:HA	53:SE:42:ARG:HD3	1.93	0.51
65:SQ:106:THR:HG22	65:SQ:109:LYS:HB2	1.93	0.51
70:SV:72:ILE:HD11	70:SV:109:PHE:CE1	2.45	0.51
73:SY:71:ILE:O	73:SY:75:LEU:HG	2.11	0.51
1:LA:673:U:H2'	1:LA:674:G:C8	2.45	0.51
1:LA:1135:A:H2'	1:LA:1136:A:H5"	1.92	0.51
1:LA:1381:A:H2'	1:LA:1382:G:H8	1.75	0.51
1:LA:3325:G:H2'	1:LA:3326:G:C8	2.46	0.51
5:LE:85:VAL:HG22	5:LE:202:THR:HG22	1.93	0.51
48:S2:787:G:H2'	48:S2:788:A:C8	2.46	0.51
48:S2:906:A:P	74:SZ:52:ARG:HB3	2.51	0.51
73:SY:49:GLN:HA	73:SY:52:VAL:HG12	1.92	0.51
1:LA:1729:A:C6	31:Le:49:PRO:HD3	2.46	0.51
1:LA:1800:A:H3'	1:LA:1801:U:O2	2.11	0.51
1:LA:2407:C:H2'	1:LA:2408:U:H6	1.75	0.51
2:LB:23:A:H2'	2:LB:24:A:C8	2.46	0.51
3:LC:19:C:H2'	3:LC:20:U:C6	2.46	0.51
5:LE:229:VAL:HG21	5:LE:249:VAL:HG23	1.92	0.51
21:LU:6:GLU:HB3	21:LU:64:ILE:HB	1.93	0.51
30:Ld:46:ALA:O	30:Ld:50:THR:HG22	2.11	0.51
48:S2:961:U:H2'	48:S2:962:C:C6	2.46	0.51
50:SB:136:ALA:HB2	50:SB:202:ALA:HB2	1.93	0.51
64:SP:126:PRO:HG2	64:SP:152:PRO:HD2	1.93	0.51
67:SS:66:MET:HA	67:SS:78:THR:HG22	1.92	0.51
74:SZ:114:ARG:HG2	79:Se:59:TYR:HE2	1.75	0.51
80:Sf:35:VAL:HA	80:Sf:78:SER:O	2.11	0.51
1:LA:2180:G:H2'	1:LA:2181:C:C6	2.45	0.51
48:S2:1429:G:H1'	58:SJ:74:GLU:HG3	1.93	0.51
53:SE:77:ARG:HD2	53:SE:102:PHE:CD1	2.45	0.51
56:SH:30:TYR:HA	56:SH:33:THR:HG23	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:Sb:8:ALA:HB2	76:Sb:74:VAL:HG11	1.93	0.51
78:Sd:7:ILE:HG21	78:Sd:40:LEU:HD11	1.92	0.51
1:LA:529:A:H2'	1:LA:530:G:C8	2.46	0.50
1:LA:658:G:N2	6:LF:93:MET:HB2	2.26	0.50
1:LA:1261:G:H4'	1:LA:1278:A:N6	2.26	0.50
1:LA:2352:A:H5"	18:LR:83:TRP:O	2.10	0.50
2:LB:16:U:H2'	2:LB:17:A:C8	2.47	0.50
7:LG:236:LEU:O	7:LG:239:ILE:HG12	2.11	0.50
48:S2:783:G:H2'	48:S2:784:C:C6	2.46	0.50
71:SW:170:GLY:O	71:SW:174:ARG:HG2	2.12	0.50
73:SY:46:THR:HG22	73:SY:49:GLN:OE1	2.11	0.50
78:Sd:86:GLU:HG2	78:Sd:91:LEU:HD23	1.92	0.50
1:LA:1324:U:H4'	21:LU:2:ALA:HB2	1.93	0.50
6:LF:14:GLU:HG2	6:LF:15:ALA:H	1.75	0.50
17:LQ:77[A]:SER:HB2	17:LQ:104[A]:VAL:HG22	1.93	0.50
65:SQ:184:LEU:HD12	65:SQ:187:LYS:HD3	1.93	0.50
1:LA:800:G:H1	6:LF:104:LYS:HZ1	1.59	0.50
1:LA:1127:G:H1'	12:LL:115:MET:HE1	1.92	0.50
1:LA:1295:G:H2'	1:LA:1296:C:C6	2.47	0.50
1:LA:1743:G:H2'	1:LA:1744:G:H8	1.76	0.50
1:LA:2636:A:H5'	1:LA:2637:A:C5'	2.42	0.50
28:Lb:104:PRO:HA	28:Lb:107:ARG:HB2	1.93	0.50
48:S2:27:U:H2'	48:S2:28:A:H8	1.77	0.50
48:S2:399:A:H4'	67:SS:3:ARG:HG2	1.93	0.50
48:S2:1335:U:O2	48:S2:1416:G:N2	2.43	0.50
58:SJ:95:ALA:HB1	58:SJ:99:ILE:HD11	1.92	0.50
68:ST:57:ASP:HA	68:ST:107:ALA:H	1.76	0.50
70:SV:65:PHE:HA	70:SV:181:GLY:O	2.11	0.50
1:LA:49:A:N7	16:LP:187:ARG:HD3	2.26	0.50
1:LA:1503:A:H2'	1:LA:1504:A:H8	1.77	0.50
1:LA:2947:G:C2	5:LE:250:ALA:HB1	2.46	0.50
1:LA:3034:C:C2	11:LK:120:ASP:HB2	2.47	0.50
19:LS:94:PHE:CE2	29:Lc:119:PRO:HD3	2.46	0.50
40:Ln:36:ARG:HB2	40:Ln:36:ARG:HH11	1.76	0.50
47:Cc:24:C:H2'	47:Cc:25:U:H6	1.77	0.50
48:S2:289:U:H2'	48:S2:290:G:C8	2.47	0.50
48:S2:1433:G:C2	61:SM:41:GLN:HG3	2.46	0.50
51:SC:25:LYS:HD2	51:SC:62:GLN:HB2	1.93	0.50
52:SD:34:THR:HA	52:SD:37:VAL:HG22	1.94	0.50
55:SG:53:TYR:O	55:SG:57:LEU:HG	2.11	0.50
58:SJ:26:LEU:HD11	58:SJ:34:LEU:HD12	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SV:184:LEU:H	70:SV:184:LEU:HD12	1.77	0.50
73:SY:64:ARG:HB2	73:SY:70:LYS:HG3	1.91	0.50
1:LA:539:C:N4	1:LA:540:U:C4	2.80	0.50
7:LG:142:PHE:HD2	7:LG:171:LEU:HD22	1.75	0.50
19:LS:40:THR:HG22	19:LS:42:ALA:H	1.76	0.50
21:LU:6:GLU:HG2	21:LU:64:ILE:HD12	1.94	0.50
41:Lo:99:CYS:HB2	41:Lo:114:LYS:NZ	2.26	0.50
47:Cc:49:C:C4	47:Cc:60:A:C8	3.00	0.50
48:S2:1045:C:H2'	48:S2:1046:G:H8	1.76	0.50
52:SD:69:ALA:HB1	52:SD:72:ILE:HB	1.93	0.50
54:SF:90:VAL:HG11	54:SF:106:LYS:NZ	2.27	0.50
66:SR:145:GLY:O	66:SR:146:THR:HG22	2.12	0.50
68:ST:39:GLU:HB3	68:ST:46:LYS:HG3	1.93	0.50
1:LA:1416:C:H4'	1:LA:1417:G:OP1	2.11	0.50
2:LB:50:U:H2'	2:LB:51:A:C8	2.46	0.50
6:LF:60:THR:HG22	6:LF:62:ALA:H	1.76	0.50
21:LU:81:TYR:CE1	21:LU:90:MET:HE3	2.47	0.50
42:Lp:17:ARG:HH12	48:S2:1750:A:H4'	1.77	0.50
46:Bb:43:G:H2'	46:Bb:44:A:C8	2.47	0.50
46:Bb:67:A:H2'	46:Bb:68:U:C6	2.46	0.50
48:S2:85:A:H3'	48:S2:86:A:H8	1.76	0.50
48:S2:1195:C:H5'	48:S2:1196:A:OP1	2.11	0.50
51:SC:46:LEU:O	51:SC:50:THR:HG23	2.12	0.50
64:SP:9:LEU:HD11	64:SP:50:VAL:HG12	1.94	0.50
64:SP:74:VAL:HG23	64:SP:118:PRO:HB3	1.93	0.50
72:SX:14:GLN:HB3	72:SX:54:ILE:HG13	1.93	0.50
72:SX:76:VAL:HG11	72:SX:87:ARG:HD2	1.92	0.50
79:Se:30:ILE:HD13	79:Se:74:CYS:HA	1.94	0.50
1:LA:2723:U:H2'	1:LA:2724:U:C6	2.47	0.50
3:LC:69:U:H2'	3:LC:70:G:O4'	2.12	0.50
24:LX:22:ILE:HG23	24:LX:33:ASN:HB2	1.92	0.50
37:Lk:98:ARG:NE	37:Lk:98:ARG:HA	2.27	0.50
42:Lp:2:ARG:HB3	42:Lp:5:TRP:CD1	2.47	0.50
43:Lq:25:VAL:HG12	43:Lq:70:LEU:HD22	1.93	0.50
48:S2:1463:C:H2'	48:S2:1464:G:H8	1.76	0.50
50:SB:161:ASP:HB2	50:SB:162:VAL:HG23	1.92	0.50
55:SG:55:THR:O	55:SG:59:LYS:HG2	2.11	0.50
64:SP:144:ILE:HG13	64:SP:158:VAL:HG22	1.92	0.50
69:SU:9:LEU:HD12	69:SU:10:SER:H	1.77	0.50
81:Sg:35:TYR:O	81:Sg:38:LEU:HD12	2.12	0.50
1:LA:266:A:N6	37:Lk:30:LYS:HA	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2562:A:O3'	28:Lb:54:THR:HG22	2.12	0.50
1:LA:2947:G:N3	5:LE:250:ALA:HB1	2.27	0.50
9:LI:89:ILE:HD12	9:LI:214:TRP:CH2	2.47	0.50
17:LQ:36[A]:VAL:HB	17:LQ:108[A]:ILE:HD12	1.94	0.50
23:LW:49:ASN:O	23:LW:49:ASN:OD1	2.29	0.50
43:Lq:36:PHE:HA	43:Lq:41:ARG:HD3	1.94	0.50
46:Bb:9:A:C8	46:Bb:45:G:H2'	2.47	0.50
47:Cc:53:G:H2'	47:Cc:54:G:O4'	2.11	0.50
48:S2:460:A:H3'	48:S2:461:G:H8	1.77	0.50
48:S2:562:G:H2'	48:S2:563:U:C6	2.47	0.50
48:S2:625:C:H2'	48:S2:626:U:C6	2.47	0.50
64:SP:110:TYR:HA	64:SP:115:PHE:CD1	2.47	0.50
70:SV:67:TRP:HB2	70:SV:109:PHE:HE1	1.77	0.50
71:SW:146:PHE:HD2	71:SW:148:VAL:HG12	1.77	0.50
74:SZ:83:ILE:HD11	74:SZ:102:LEU:HD22	1.93	0.50
1:LA:1615:C:H2'	1:LA:1616:U:H6	1.77	0.50
1:LA:1653:G:H2'	1:LA:1654:A:H8	1.77	0.50
1:LA:1948:G:H2'	1:LA:1949:G:H8	1.76	0.50
1:LA:2429:G:H2'	1:LA:2430:A:H8	1.77	0.50
3:LC:142:C:H2'	3:LC:143:U:C6	2.47	0.50
7:LG:64:ILE:HG13	7:LG:109:THR:HG21	1.94	0.50
29:Lc:87:ARG:O	29:Lc:91:LEU:HD23	2.12	0.50
48:S2:590:C:H2'	48:S2:591:A:H8	1.77	0.50
48:S2:1335:U:H2'	48:S2:1336:A:C8	2.47	0.50
48:S2:1641:C:H2'	48:S2:1642:G:C8	2.47	0.50
50:SB:84:LYS:HA	50:SB:87:CYS:HB3	1.93	0.50
50:SB:112:ARG:HG3	50:SB:116:HIS:CE1	2.45	0.50
58:SJ:31:VAL:HG22	58:SJ:87:HIS:CD2	2.47	0.50
63:SO:158:PRO:HD2	63:SO:208:GLY:HA2	1.94	0.50
65:SQ:136:ARG:HG2	65:SQ:138:PHE:CE1	2.47	0.50
1:LA:524:U:H5'	1:LA:525:C:H5	1.77	0.49
1:LA:1194:G:H2'	1:LA:1195:A:C8	2.47	0.49
1:LA:2367:A:H2'	1:LA:2368:A:C8	2.46	0.49
1:LA:2876:C:H2'	1:LA:2877:G:O4'	2.12	0.49
21:LU:100:VAL:O	21:LU:104:GLU:HG3	2.12	0.49
48:S2:473:A:P	71:SW:11:THR:HG21	2.52	0.49
48:S2:1649:G:H2'	48:S2:1650:U:C6	2.46	0.49
60:SL:13:ILE:HD13	60:SL:29:ARG:HH12	1.77	0.49
64:SP:167:LYS:HG3	64:SP:168:HIS:N	2.26	0.49
68:ST:220:LYS:HA	68:ST:223:LYS:HE2	1.94	0.49
73:SY:26:PHE:CZ	73:SY:28:LEU:HB2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:Sc:90:ASP:HB3	77:Sc:136:TRP:HE1	1.76	0.49
1:LA:2218:G:H2'	1:LA:2219:A:H8	1.77	0.49
6:LF:177:ASP:HB3	6:LF:205:PRO:HD3	1.94	0.49
6:LF:215:ILE:HD12	6:LF:219:LEU:HD23	1.92	0.49
9:LI:24:GLU:HG2	9:LI:26:VAL:H	1.77	0.49
48:S2:395:U:H2'	48:S2:396:G:O4'	2.11	0.49
48:S2:687:G:H5"	48:S2:688:G:C8	2.47	0.49
48:S2:771:A:H3'	48:S2:772:G:H8	1.78	0.49
55:SG:46:LEU:HA	55:SG:49:LYS:HD2	1.94	0.49
63:SO:117:LYS:HD2	63:SO:167:VAL:HG12	1.95	0.49
67:SS:107:GLY:HA2	67:SS:189:LEU:HB3	1.94	0.49
71:SW:44:ARG:O	71:SW:48:GLN:HG2	2.13	0.49
1:LA:1460:A:H2'	1:LA:1461:A:H8	1.77	0.49
1:LA:2631:U:H2'	1:LA:2632:G:H8	1.76	0.49
7:LG:236:LEU:HD12	7:LG:237:GLU:N	2.28	0.49
20:LT:10:LEU:HB3	20:LT:41:ILE:HG13	1.94	0.49
28:Lb:48:ARG:HB3	28:Lb:69:LYS:HB3	1.94	0.49
37:Lk:88:GLU:HA	37:Lk:88:GLU:OE2	2.12	0.49
47:Cc:55:U:H2'	47:Cc:56:U:O4'	2.13	0.49
48:S2:623:A:H3'	48:S2:624:G:H5"	1.93	0.49
48:S2:891:A:H2'	48:S2:892:A:C8	2.47	0.49
50:SB:76:ARG:NH1	50:SB:79:ASN:HB3	2.27	0.49
50:SB:112:ARG:HG3	50:SB:116:HIS:NE2	2.26	0.49
1:LA:3057:U:H5'	1:LA:3086:A:H61	1.77	0.49
1:LA:3233:C:H2'	1:LA:3234:A:C8	2.47	0.49
14:LN:76:THR:HG22	14:LN:101:ARG:HB3	1.93	0.49
15:LO:58:ILE:HG13	15:LO:59:ASN:N	2.28	0.49
37:Lk:57:LEU:O	37:Lk:61:ILE:HG13	2.12	0.49
48:S2:386:G:H2'	48:S2:387:A:C8	2.48	0.49
51:SC:60:SER:HB2	51:SC:65:TYR:CE1	2.46	0.49
56:SH:70:VAL:HA	56:SH:73:MET:HE3	1.94	0.49
63:SO:181:TRP:CD1	63:SO:188:ILE:HG22	2.47	0.49
66:SR:53:ILE:HD12	66:SR:56:ILE:HD12	1.94	0.49
68:ST:61:PHE:CE1	68:ST:96:SER:HB2	2.48	0.49
70:SV:183:ILE:HD12	70:SV:183:ILE:O	2.12	0.49
1:LA:985:U:H2'	1:LA:986:U:H6	1.77	0.49
1:LA:2129:U:H2'	1:LA:2130:G:H8	1.77	0.49
8:LH:172:HIS:CD2	34:Lh:40:ASP:HB3	2.47	0.49
36:Lj:38:ARG:HG3	36:Lj:39:PRO:HD2	1.95	0.49
44:Lr:74:ALA:O	44:Lr:78:THR:HG23	2.12	0.49
48:S2:1426:C:O2'	48:S2:1428:G:H8	1.96	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1659:A:H2'	48:S2:1660:A:H8	1.77	0.49
50:SB:108:LEU:H	50:SB:108:LEU:HD12	1.77	0.49
63:SO:38:ARG:HB3	63:SO:67:ILE:HG23	1.95	0.49
63:SO:61:PHE:CZ	63:SO:94:VAL:HA	2.47	0.49
64:SP:50:VAL:HA	64:SP:53:THR:HG22	1.94	0.49
66:SR:158:THR:HG21	66:SR:217:ALA:O	2.12	0.49
69:SU:49:ILE:HB	69:SU:57:ALA:HB3	1.93	0.49
73:SY:23:PRO:HG3	73:SY:61:THR:OG1	2.12	0.49
1:LA:68:C:O3'	16:LP:177:GLY:HA2	2.13	0.49
1:LA:208:C:H2'	1:LA:209:A:O4'	2.13	0.49
1:LA:1810:A:H2'	1:LA:1811:G:C8	2.48	0.49
1:LA:2429:G:H2'	1:LA:2430:A:C8	2.47	0.49
1:LA:3052:G:H2'	1:LA:3053:G:H8	1.77	0.49
1:LA:3150:A:H4'	5:LE:128:LYS:O	2.12	0.49
7:LG:294:ALA:HB1	12:LL:217:PHE:HB3	1.94	0.49
12:LL:208:ASN:HA	12:LL:211:ARG:HH12	1.78	0.49
17:LQ:4[A]:GLU:HG3	17:LQ:5[A]:PRO:HD2	1.94	0.49
17:LQ:108[A]:ILE:HG21	17:LQ:113[A]:ASP:HA	1.94	0.49
48:S2:14:C:H2'	48:S2:15:U:C6	2.48	0.49
48:S2:327:U:H2'	48:S2:328:A:H8	1.77	0.49
48:S2:551:G:H2'	48:S2:552:G:H8	1.76	0.49
48:S2:1591:C:H2'	48:S2:1592:A:C8	2.46	0.49
52:SD:71:ILE:HG21	52:SD:119:SER:HB2	1.95	0.49
64:SP:131:GLN:OE1	64:SP:131:GLN:HA	2.12	0.49
69:SU:24:PHE:HE1	69:SU:77:LEU:HD21	1.77	0.49
71:SW:11:THR:OG1	71:SW:44:ARG:HG3	2.13	0.49
74:SZ:87:GLY:HA3	74:SZ:120:PRO:HG2	1.95	0.49
1:LA:1132:C:H2'	1:LA:1133:A:H8	1.77	0.49
1:LA:2229:A:H2'	1:LA:2230:C:C6	2.47	0.49
1:LA:2908:G:H4'	41:Lo:114:LYS:HE2	1.94	0.49
8:LH:143:LYS:HE2	8:LH:143:LYS:HB2	1.61	0.49
23:LW:22:PRO:HA	23:LW:107:PHE:HE1	1.78	0.49
27:La:83:ASP:O	27:La:84:LYS:HG2	2.13	0.49
27:La:116:LYS:HG2	27:La:126:LEU:HD21	1.95	0.49
28:Lb:5:LEU:HD11	31:Le:35:ARG:HD2	1.95	0.49
39:Lm:5:ILE:HG23	39:Lm:54:LEU:HB2	1.93	0.49
48:S2:119:A:H1'	48:S2:397:A:C8	2.48	0.49
48:S2:783:G:H2'	48:S2:784:C:H6	1.78	0.49
48:S2:886:U:C2	48:S2:887:A:C8	3.00	0.49
48:S2:895:G:H4'	65:SQ:27:LYS:HZ1	1.77	0.49
48:S2:1151:A:H2'	48:S2:1152:A:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1448:G:H2'	48:S2:1449:U:H5'	1.93	0.49
48:S2:1458:G:H2'	48:S2:1459:C:C4'	2.42	0.49
59:SK:38:HIS:HB3	59:SK:72:GLY:HA2	1.95	0.49
65:SQ:149:GLN:OE1	65:SQ:154:SER:HB3	2.12	0.49
78:Sd:37:LYS:HE2	78:Sd:57:VAL:HG23	1.93	0.49
1:LA:183:G:H2'	1:LA:184:U:C6	2.48	0.49
1:LA:513:G:H2'	1:LA:514:G:H8	1.77	0.49
1:LA:1105:A:H2'	1:LA:1106:G:C8	2.48	0.49
1:LA:2986:U:C2	1:LA:2987:A:C8	3.00	0.49
1:LA:3157:U:H4'	1:LA:3158:G:O5'	2.11	0.49
2:LB:118:A:H5"	7:LG:253:PHE:HZ	1.78	0.49
3:LC:26:U:H2'	3:LC:27:U:C6	2.48	0.49
4:LD:114:SER:OG	4:LD:169:ILE:HD11	2.12	0.49
6:LF:11:LEU:HD22	6:LF:155:ASP:HB2	1.95	0.49
10:LJ:225:LYS:O	10:LJ:229:VAL:HG13	2.13	0.49
11:LK:16:VAL:HG12	11:LK:29:GLY:HA3	1.95	0.49
11:LK:20:ILE:HB	15:LO:7:VAL:HG22	1.94	0.49
16:LP:120:TRP:HE1	16:LP:123:GLN:HB3	1.77	0.49
24:LX:5:GLY:HA3	24:LX:106:LYS:O	2.13	0.49
38:Ll:64:MET:O	38:Ll:68:LYS:HG2	2.13	0.49
46:Bb:29:A:H2'	46:Bb:30:G:C8	2.46	0.49
48:S2:900:A:H62	65:SQ:5:LYS:NZ	2.11	0.49
48:S2:918:U:C4	48:S2:919:A:H2	2.30	0.49
48:S2:999:U:H2'	48:S2:1000:C:O4'	2.13	0.49
48:S2:1159:C:H4'	48:S2:1580:C:OP1	2.12	0.49
48:S2:1300:A:H5"	66:SR:86:VAL:HG11	1.95	0.49
48:S2:1382:A:H1'	58:SJ:57:ARG:HD3	1.95	0.49
48:S2:1553:G:H4'	61:SM:14:TYR:CE2	2.47	0.49
49:SA:177:MET:HE3	49:SA:177:MET:C	2.37	0.49
64:SP:202:TYR:C	64:SP:203:PHE:HD1	2.21	0.49
72:SX:122:ILE:H	72:SX:122:ILE:HD12	1.77	0.49
1:LA:75:G:H1'	14:LN:61:PRO:HG3	1.95	0.49
1:LA:2585:G:N3	1:LA:2585:G:H2'	2.28	0.49
1:LA:3238:G:N2	1:LA:3250:U:H1'	2.28	0.49
1:LA:3322:A:H2'	1:LA:3323:A:H8	1.77	0.49
4:LD:144:ASN:ND2	4:LD:144:ASN:C	2.67	0.49
7:LG:108:ARG:NE	7:LG:253:PHE:HB2	2.28	0.49
22:LV:73:GLY:HA2	22:LV:89:LEU:O	2.13	0.49
32:Lf:11:GLU:HB2	32:Lf:107:VAL:HG22	1.94	0.49
48:S2:289:U:H2'	48:S2:290:G:H8	1.77	0.49
48:S2:388:G:H2'	48:S2:389:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:525:A:H5”	78:Sd:93:ARG:HH21	1.77	0.49
54:SF:82:ARG:HD3	54:SF:116:LEU:HD23	1.94	0.49
60:SL:64:ARG:HG3	60:SL:65:ARG:H	1.78	0.49
70:SV:91:VAL:HG12	70:SV:92:ARG:NH1	2.28	0.49
75:Sa:12:TYR:CG	75:Sa:12:TYR:O	2.66	0.49
1:LA:503:C:H2’	1:LA:504:A:H8	1.77	0.49
1:LA:816:A:H5’	1:LA:906:A:N6	2.28	0.49
1:LA:1340:G:H2’	1:LA:1341:U:H6	1.78	0.49
1:LA:1643:A:H2’	1:LA:1644:C:C2	2.48	0.49
1:LA:3096:C:H2’	1:LA:3097:C:C6	2.47	0.49
7:LG:206:GLN:O	7:LG:210:GLU:HG2	2.12	0.49
11:LK:150:SER:OG	11:LK:153:ASP:HB2	2.13	0.49
14:LN:188:ARG:HG2	14:LN:188:ARG:HH11	1.78	0.49
23:LW:43:VAL:HG12	23:LW:44:GLU:OE2	2.13	0.49
35:Li:29:ILE:HD11	35:Li:31:ARG:NH1	2.28	0.49
48:S2:27:U:H2’	48:S2:28:A:C8	2.48	0.49
48:S2:484:C:O2’	48:S2:485:A:H8	1.96	0.49
48:S2:549:G:H4’	48:S2:550:A:OP1	2.12	0.49
48:S2:1546:G:H2’	48:S2:1547:A:C8	2.48	0.49
48:S2:1608:U:H2’	48:S2:1609:U:C6	2.48	0.49
48:S2:1642:G:H2’	48:S2:1643:U:H6	1.78	0.49
49:SA:72:LEU:HD12	51:SC:65:TYR:HD2	1.78	0.49
51:SC:32:HIS:ND1	51:SC:42:VAL:HG21	2.28	0.49
52:SD:59:LEU:HD11	52:SD:126:TRP:HB3	1.95	0.49
54:SF:6:SER:OG	54:SF:23:LYS:HE2	2.12	0.49
59:SK:69:LEU:HB3	59:SK:71:ILE:HG23	1.95	0.49
60:SL:38:ARG:HA	79:Se:51:ARG:NH1	2.27	0.49
1:LA:355:A:H5’	40:Ln:40:LYS:HD3	1.94	0.48
1:LA:692:A:C2	1:LA:693:A:H1’	2.48	0.48
1:LA:1856:C:H2’	1:LA:1857:C:H6	1.78	0.48
10:LJ:100:GLU:HB2	10:LJ:104:GLU:HG3	1.95	0.48
12:LL:68:ALA:HB1	12:LL:155:ALA:HB1	1.95	0.48
43:Lq:77:CYS:O	43:Lq:78:LYS:HG2	2.13	0.48
48:S2:1387:G:H21	48:S2:1411:A:H61	1.61	0.48
48:S2:1753:A:H2’	48:S2:1754:A:C8	2.48	0.48
1:LA:100:A:H2’	1:LA:101:G:N3	2.27	0.48
1:LA:1616:U:H2’	1:LA:1617:G:C8	2.48	0.48
1:LA:1949:G:H2’	1:LA:1950:U:C6	2.48	0.48
19:LS:19:PRO:HD3	19:LS:53:PHE:CD1	2.48	0.48
20:LT:6:THR:HG23	20:LT:7:GLN:OE1	2.13	0.48
34:Lh:52:VAL:HG13	34:Lh:66:VAL:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:258:C:H4'	70:SV:75:LYS:HD2	1.96	0.48
48:S2:415:C:H2'	48:S2:416:A:H5"	1.94	0.48
48:S2:472:U:H2'	48:S2:473:A:C8	2.47	0.48
48:S2:919:A:H5'	48:S2:920:U:OP2	2.12	0.48
59:SK:46:LYS:HD3	59:SK:49:ARG:HB3	1.94	0.48
59:SK:77:ARG:HB3	59:SK:81:ARG:CZ	2.43	0.48
60:SL:38:ARG:NH2	74:SZ:107:ARG:HH21	2.11	0.48
61:SM:21:CYS:HB3	61:SM:25:SER:N	2.28	0.48
63:SO:206:PRO:HG2	63:SO:247:PRO:HA	1.94	0.48
67:SS:114:ILE:HD12	67:SS:118:GLU:HB3	1.95	0.48
78:Sd:19:ALA:HB1	78:Sd:77:ASN:CG	2.37	0.48
1:LA:302:U:H5"	16:LP:179:LYS:HE3	1.96	0.48
1:LA:1555:U:H5'	1:LA:1556:C:OP2	2.12	0.48
1:LA:2180:G:H2'	1:LA:2181:C:H6	1.78	0.48
4:LD:180:LEU:HD22	44:Lr:18:TYR:HB3	1.95	0.48
5:LE:215:ILE:HD13	5:LE:282:ILE:HD11	1.95	0.48
6:LF:298:ALA:HB1	19:LS:133:LYS:HD2	1.95	0.48
28:Lb:9:LYS:HZ1	28:Lb:83:THR:N	2.11	0.48
48:S2:17:C:H2'	48:S2:18:C:H6	1.79	0.48
48:S2:187:G:H1'	48:S2:198:A:N6	2.29	0.48
48:S2:523:G:H5"	78:Sd:59:GLY:O	2.13	0.48
48:S2:893:U:N3	48:S2:919:A:C6	2.81	0.48
48:S2:1451:C:H5'	61:SM:10:HIS:HB2	1.95	0.48
48:S2:1639:C:H2'	48:S2:1640:C:O4'	2.14	0.48
54:SF:79:TYR:O	54:SF:82:ARG:HG3	2.13	0.48
67:SS:36:HIS:ND1	67:SS:85:GLY:HA3	2.28	0.48
69:SU:9:LEU:HD21	69:SU:13:PRO:HA	1.94	0.48
74:SZ:107:ARG:HB2	74:SZ:107:ARG:NH1	2.29	0.48
76:Sb:37:PHE:O	76:Sb:41:MET:HG3	2.12	0.48
1:LA:513:G:H2'	1:LA:514:G:C8	2.49	0.48
1:LA:673:U:H2'	1:LA:674:G:H8	1.78	0.48
1:LA:1040:A:N6	7:LG:9:SER:HB3	2.28	0.48
1:LA:1362:G:H2'	1:LA:1363:A:C8	2.48	0.48
1:LA:2553:U:H3'	1:LA:2554:A:H5"	1.95	0.48
7:LG:178:ASN:HA	7:LG:183:TRP:CD2	2.49	0.48
17:LQ:173[A]:ALA:O	17:LQ:176[A]:LYS:HG3	2.12	0.48
48:S2:100:A:H61	48:S2:385:A:H1'	1.77	0.48
48:S2:793:A:O5'	48:S2:794:U:H5'	2.13	0.48
49:SA:156:PHE:CZ	49:SA:189:MET:HE1	2.48	0.48
52:SD:31:VAL:HG22	52:SD:123:VAL:HG21	1.94	0.48
53:SE:83:MET:HE2	53:SE:116:LEU:HD22	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SF:22:VAL:HG22	54:SF:65:ILE:HG12	1.95	0.48
55:SG:11:ARG:HA	55:SG:14:LYS:HG2	1.94	0.48
64:SP:180:GLU:O	64:SP:184:LEU:HD22	2.13	0.48
65:SQ:91:VAL:HG23	65:SQ:96:LEU:HB3	1.96	0.48
67:SS:98:ASN:HD22	67:SS:119:ALA:HB3	1.78	0.48
76:Sb:51:GLU:CD	80:Sf:8:LEU:HD11	2.38	0.48
1:LA:230:U:H2'	1:LA:231:G:O4'	2.12	0.48
1:LA:266:A:H8	1:LA:266:A:O5'	1.97	0.48
1:LA:629:U:H2'	1:LA:630:A:C8	2.49	0.48
1:LA:1290:A:H2'	1:LA:1291:A:C8	2.48	0.48
1:LA:2615:G:H2'	1:LA:2616:C:H6	1.78	0.48
1:LA:3295:A:H2'	1:LA:3296:A:H8	1.79	0.48
5:LE:296:THR:O	5:LE:300:ARG:HD2	2.14	0.48
16:LP:103:GLU:HG3	16:LP:160:GLU:HB2	1.94	0.48
21:LU:8:GLN:O	21:LU:8:GLN:HG3	2.13	0.48
21:LU:24:LEU:HD11	21:LU:59:VAL:HG21	1.95	0.48
48:S2:534:A:H2'	48:S2:535:A:C8	2.48	0.48
48:S2:948:G:H2'	48:S2:949:C:H6	1.78	0.48
49:SA:43:PRO:HD2	58:SJ:108:ILE:HG21	1.95	0.48
63:SO:227:ALA:HB1	63:SO:229:LYS:HE2	1.95	0.48
66:SR:54:GLU:HB3	75:Sa:12:TYR:HB2	1.96	0.48
66:SR:181:SER:O	66:SR:185:LYS:HB2	2.12	0.48
72:SX:7:VAL:HG23	72:SX:8:GLN:HE21	1.79	0.48
1:LA:761:A:H2'	1:LA:762:U:C6	2.48	0.48
1:LA:1460:A:H2'	1:LA:1461:A:C8	2.49	0.48
3:LC:57:C:H4'	3:LC:63:G:N7	2.27	0.48
4:LD:201:GLY:HA2	4:LD:204:MET:SD	2.53	0.48
9:LI:233:GLU:HG2	21:LU:35:VAL:HG22	1.96	0.48
23:LW:99:LYS:HG3	23:LW:102:GLU:HG3	1.94	0.48
29:Lc:24:LYS:HD2	29:Lc:26:ARG:NH2	2.28	0.48
43:Lq:22:GLN:O	43:Lq:75:VAL:HG22	2.14	0.48
48:S2:409:C:H2'	48:S2:410:A:C8	2.49	0.48
48:S2:767:U:H1'	78:Sd:64:PHE:CD1	2.49	0.48
48:S2:895:G:H21	74:SZ:38:THR:HB	1.79	0.48
50:SB:90:ILE:H	50:SB:90:ILE:HD12	1.79	0.48
66:SR:81:MET:CE	66:SR:103:VAL:HG13	2.43	0.48
66:SR:214:ALA:O	66:SR:218:ILE:HG12	2.13	0.48
71:SW:49:LEU:HD12	71:SW:52:ILE:HD11	1.94	0.48
73:SY:93:LYS:HG3	73:SY:150:VAL:HG11	1.96	0.48
1:LA:2669:G:H2'	1:LA:2670:G:H8	1.77	0.48
1:LA:2936:A:H2'	1:LA:2937:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LK:5:GLN:HG3	11:LK:7:GLU:OE1	2.13	0.48
24:LX:53:SER:HA	24:LX:81:GLN:HE21	1.78	0.48
43:Lq:28:TYR:HB3	43:Lq:69:VAL:HB	1.96	0.48
48:S2:511:A:H4'	48:S2:512:A:OP1	2.13	0.48
48:S2:1417:A:H2	61:SM:56:ARG:HD3	1.79	0.48
48:S2:1543:A:H62	48:S2:1567:U:H3	1.61	0.48
48:S2:1553:G:H4'	61:SM:14:TYR:HE2	1.79	0.48
63:SO:31:ASN:HB2	63:SO:47:LEU:O	2.13	0.48
68:ST:135:PRO:HB2	68:ST:141:ILE:HD11	1.96	0.48
70:SV:116:HIS:HE1	70:SV:146:ARG:HG2	1.79	0.48
71:SW:90:LYS:HE2	71:SW:90:LYS:HB2	1.65	0.48
72:SX:72:THR:HB	72:SX:124:THR:HG22	1.94	0.48
73:SY:56:ASP:O	80:Sf:46:VAL:HA	2.13	0.48
1:LA:54:C:H2'	1:LA:55:G:H8	1.77	0.48
1:LA:1085:A:H2'	1:LA:1086:C:C6	2.48	0.48
1:LA:2662:G:H2'	1:LA:2663:G:C8	2.49	0.48
7:LG:40:HIS:HB3	7:LG:43:LYS:HG3	1.95	0.48
39:Lm:20:VAL:HG23	39:Lm:73:LEU:HD11	1.94	0.48
48:S2:218:A:H5"	48:S2:831:U:OP1	2.14	0.48
48:S2:740:A:H2'	48:S2:741:C:C5	2.49	0.48
48:S2:1252:C:H2'	48:S2:1253:U:O4'	2.13	0.48
48:S2:1273:G:O6	48:S2:1430:U:H2'	2.14	0.48
53:SE:93:VAL:HG13	53:SE:104:GLN:HB3	1.96	0.48
53:SE:108:ARG:HB3	53:SE:109:PRO:HD2	1.96	0.48
57:SI:7:ARG:HH21	57:SI:67:MET:HE1	1.78	0.48
65:SQ:161:ILE:HG22	65:SQ:165:ARG:NH1	2.28	0.48
66:SR:104:VAL:HG21	66:SR:133:LYS:HG3	1.94	0.48
67:SS:91:THR:HG23	67:SS:98:ASN:OD1	2.14	0.48
72:SX:125:VAL:HG12	72:SX:139:VAL:HA	1.96	0.48
73:SY:31:GLU:HA	73:SY:34:ILE:HG12	1.96	0.48
1:LA:156:G:OP2	37:Lk:25:LYS:HB3	2.14	0.48
1:LA:432:G:H2'	1:LA:433:A:C8	2.49	0.48
1:LA:602:A:H2'	1:LA:603:A:C4	2.49	0.48
1:LA:876:A:H5"	1:LA:1890:U:H5"	1.96	0.48
1:LA:945:C:H2'	1:LA:946:U:C6	2.48	0.48
1:LA:1419:A:H5"	6:LF:193:LYS:HE3	1.96	0.48
1:LA:1662:G:H22	1:LA:1787:A:H2	1.62	0.48
1:LA:2997:G:H2'	1:LA:2998:U:H6	1.78	0.48
4:LD:44:ILE:HD13	4:LD:87:PHE:CD1	2.49	0.48
19:LS:36:LEU:HB3	19:LS:45:ASN:ND2	2.29	0.48
48:S2:516:G:H2'	48:S2:517:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:636:A:H5”	76:Sb:31:SER:HB2	1.94	0.48
48:S2:837:G:P	48:S2:837:G:H8	2.37	0.48
48:S2:1494:C:H2’	48:S2:1495:C:C6	2.49	0.48
48:S2:1569:A:H2’	48:S2:1570:A:C8	2.49	0.48
57:SI:5:SER:O	57:SI:9:VAL:HG23	2.14	0.48
59:SK:42:LEU:HD11	59:SK:47:TYR:CD2	2.49	0.48
66:SR:103:VAL:HG23	66:SR:190:LEU:HD22	1.95	0.48
1:LA:1534:A:H5”	1:LA:1797:A:N6	2.28	0.48
1:LA:2419:A:H2’	1:LA:2420:C:C6	2.49	0.48
1:LA:2523:A:OP1	26:LZ:31:THR:HG22	2.14	0.48
1:LA:2894:C:H2’	1:LA:2895:G:C8	2.49	0.48
1:LA:2992:U:H5’	1:LA:3310:A:O2’	2.13	0.48
7:LG:83:LEU:N	7:LG:84:PRO:HD2	2.29	0.48
7:LG:182:GLY:HA2	7:LG:194:LEU:HD23	1.94	0.48
19:LS:67:ILE:HG23	19:LS:81:VAL:HG11	1.95	0.48
48:S2:219:A:C8	48:S2:220:A:H2	2.30	0.48
48:S2:531:C:H1’	78:Sd:64:PHE:CD2	2.48	0.48
48:S2:691:C:H2’	48:S2:692:C:C6	2.48	0.48
48:S2:1031:U:H4’	48:S2:1032:G:OP2	2.14	0.48
48:S2:1251:U:H2’	48:S2:1252:C:C6	2.49	0.48
56:SH:38:VAL:HG23	56:SH:42:TYR:HB3	1.96	0.48
58:SJ:84:MET:HG3	61:SM:52:PHE:CD2	2.49	0.48
66:SR:35:TRP:CD1	66:SR:67:GLN:HG2	2.49	0.48
68:ST:208:TYR:O	68:ST:212:LEU:HG	2.14	0.48
1:LA:2696:A:H2’	1:LA:2697:A:C8	2.49	0.47
2:LB:60:G:H2’	2:LB:61:G:C8	2.49	0.47
22:LV:84:TYR:HB2	30:Ld:24:PRO:HD3	1.96	0.47
39:Lm:5:ILE:HD11	39:Lm:11:PHE:HA	1.94	0.47
53:SE:86:VAL:HG23	53:SE:89:MET:SD	2.53	0.47
63:SO:10:ARG:HB3	63:SO:312:VAL:HG23	1.96	0.47
64:SP:4:PRO:HD2	64:SP:7:PHE:CD2	2.49	0.47
1:LA:209:A:H4’	1:LA:211:A:C8	2.49	0.47
1:LA:2426:U:H2’	1:LA:2427:U:C6	2.49	0.47
1:LA:2507:C:H2’	1:LA:2508:U:H6	1.78	0.47
1:LA:3015:G:H2’	1:LA:3016:A:H8	1.78	0.47
9:LI:120:THR:HB	22:LV:132:PRO:HB2	1.97	0.47
11:LK:92:TYR:CE1	11:LK:101:VAL:HG21	2.49	0.47
17:LQ:108[A]:ILE:HG12	17:LQ:160[A]:ARG:HH11	1.78	0.47
22:LV:80:VAL:HG21	22:LV:85:LEU:HD12	1.96	0.47
36:Lj:84:LYS:O	36:Lj:85:THR:HG23	2.14	0.47
48:S2:31:C:H2’	48:S2:32:U:O4’	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:201:G:H2'	48:S2:202:A:H8	1.79	0.47
48:S2:400:A:H4'	48:S2:401:A:H5'	1.96	0.47
48:S2:860:U:O4'	69:SU:114:ARG:HG3	2.14	0.47
48:S2:1464:G:H4'	54:SF:141:SER:HB2	1.96	0.47
54:SF:101:SER:O	54:SF:104:GLU:HG3	2.15	0.47
58:SJ:57:ARG:HG2	58:SJ:89:ARG:NH1	2.29	0.47
74:SZ:69:ALA:O	74:SZ:73:GLU:HG2	2.13	0.47
75:Sa:5:LYS:HG3	75:Sa:7:GLN:HG3	1.94	0.47
1:LA:1824:U:H2'	1:LA:1825:G:C8	2.47	0.47
1:LA:3269:U:H4'	1:LA:3270:U:O5'	2.13	0.47
2:LB:108:A:H2'	2:LB:109:G:H8	1.79	0.47
4:LD:65:ASP:HB3	4:LD:68:LYS:O	2.13	0.47
48:S2:956:C:H2'	48:S2:957:G:H8	1.80	0.47
48:S2:1108:G:H2'	77:Sc:25:ALA:HB1	1.96	0.47
48:S2:1252:C:H1'	62:SN:140:TYR:HE2	1.79	0.47
48:S2:1776:A:H2'	48:S2:1777:G:H8	1.79	0.47
49:SA:56:GLN:HG2	49:SA:57:ASP:N	2.29	0.47
56:SH:67:GLU:HA	56:SH:70:VAL:HG22	1.96	0.47
74:SZ:17:ALA:HB3	74:SZ:81:VAL:HA	1.96	0.47
77:Sc:92:CYS:O	77:Sc:96:VAL:HG22	2.14	0.47
1:LA:77:A:H5'	14:LN:100:ARG:NH1	2.30	0.47
1:LA:1623:G:C4	1:LA:1624:G:C8	3.02	0.47
1:LA:1798:A:H2'	1:LA:1799:A:C8	2.50	0.47
9:LI:208:SER:O	9:LI:243:MET:HB3	2.14	0.47
10:LJ:213:LYS:O	10:LJ:217:THR:HG23	2.14	0.47
12:LL:212:GLU:OE1	12:LL:213:PHE:HD1	1.97	0.47
30:Ld:54:LEU:HD22	30:Ld:58:LYS:HZ2	1.79	0.47
48:S2:429:G:H2'	48:S2:430:G:H8	1.79	0.47
48:S2:604:A:H2'	48:S2:605:A:O4'	2.14	0.47
48:S2:767:U:H2'	71:SW:143:ILE:HD13	1.95	0.47
48:S2:1172:G:H2'	48:S2:1173:C:C6	2.49	0.47
48:S2:1186:U:H2'	48:S2:1187:U:O4'	2.14	0.47
48:S2:1525:A:H4'	57:SI:83:ALA:HB2	1.97	0.47
51:SC:75:TYR:O	51:SC:78:GLU:HG3	2.14	0.47
57:SI:14:PHE:CE1	57:SI:132:LEU:HD11	2.49	0.47
59:SK:46:LYS:O	59:SK:50:ILE:HG22	2.15	0.47
66:SR:227:PRO:HA	66:SR:230:TRP:CD2	2.50	0.47
67:SS:185:GLY:H	67:SS:189:LEU:HD12	1.80	0.47
69:SU:70:PHE:O	69:SU:74:GLN:HB2	2.15	0.47
78:Sd:41:ARG:HG2	78:Sd:55:VAL:HG12	1.96	0.47
1:LA:956:U:H2'	1:LA:957:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1896:A:H61	1:LA:2339:C:H42	1.63	0.47
1:LA:2883:U:H2'	1:LA:2884:C:C6	2.48	0.47
1:LA:2987:A:O2'	5:LE:259:HIS:HB3	2.15	0.47
1:LA:3214:U:H2'	15:LO:121:MET:HE1	1.96	0.47
1:LA:3270:U:C4	8:LH:46:ARG:HD2	2.49	0.47
4:LD:80:GLU:CG	4:LD:170:ALA:HA	2.43	0.47
10:LJ:24:ASN:HB3	10:LJ:25:PRO:HD3	1.96	0.47
10:LJ:248:LYS:O	10:LJ:251:LYS:HG3	2.14	0.47
11:LK:100:ASN:HB2	11:LK:115:ARG:HB2	1.97	0.47
48:S2:761:G:H2'	48:S2:762:A:H8	1.80	0.47
48:S2:778:G:H1	78:Sd:8:ARG:HH21	1.61	0.47
48:S2:895:G:N1	48:S2:918:U:C2	2.82	0.47
48:S2:962:C:OP2	73:SY:70:LYS:HE3	2.14	0.47
49:SA:177:MET:HE1	49:SA:179:GLN:HB3	1.96	0.47
58:SJ:63:LEU:HD11	58:SJ:86:ILE:HD11	1.96	0.47
62:SN:107:LYS:HG3	62:SN:115:THR:OG1	2.15	0.47
64:SP:144:ILE:HG13	64:SP:158:VAL:CG2	2.44	0.47
1:LA:550:A:H2'	1:LA:551:A:O4'	2.15	0.47
1:LA:1088:U:H4'	30:Ld:54:LEU:HD21	1.96	0.47
1:LA:1791:C:H2'	1:LA:1792:C:C6	2.50	0.47
7:LG:64:ILE:HG12	7:LG:105:ILE:HD11	1.95	0.47
11:LK:124:ARG:HB3	11:LK:164:ILE:HG12	1.96	0.47
31:Le:24:THR:HG23	31:Le:93:LEU:HD11	1.95	0.47
48:S2:1082:C:H4'	75:Sa:58:TYR:HE1	1.78	0.47
48:S2:1161:C:H2'	60:SL:22:ARG:NE	2.30	0.47
50:SB:99:MET:HG3	50:SB:180:ARG:NH2	2.30	0.47
52:SD:66:VAL:HG12	52:SD:67:THR:HG23	1.96	0.47
56:SH:68:ARG:HE	56:SH:68:ARG:HB2	1.52	0.47
59:SK:84:GLU:OE2	59:SK:84:GLU:HA	2.14	0.47
71:SW:121:SER:HB3	71:SW:124:HIS:HB3	1.97	0.47
80:Sf:26:GLN:HG2	80:Sf:26:GLN:O	2.12	0.47
1:LA:8:C:H2'	1:LA:9:U:C6	2.49	0.47
1:LA:299:G:C8	37:Lk:31:GLY:HA3	2.49	0.47
1:LA:1641:U:O2'	1:LA:1642:A:H3'	2.14	0.47
1:LA:2974:U:H2'	1:LA:2975:U:C6	2.50	0.47
4:LD:20:THR:HA	4:LD:23:ARG:HG3	1.97	0.47
6:LF:315:LYS:HB2	6:LF:323:VAL:HG21	1.97	0.47
13:LM:18:VAL:CG2	13:LM:128:TYR:HB3	2.45	0.47
13:LM:156:LYS:O	13:LM:160:VAL:HG13	2.15	0.47
15:LO:10:SER:HB2	15:LO:12:TRP:CZ3	2.50	0.47
15:LO:23:ILE:HD13	15:LO:63:VAL:HG12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LQ:189[A]:ASP:HA	17:LQ:192[A]:LYS:HG3	1.96	0.47
27:La:60:ARG:HD3	27:La:60:ARG:HA	1.75	0.47
31:Le:18:ILE:HA	31:Le:23:TYR:CE1	2.50	0.47
31:Le:34:LEU:HD13	31:Le:59:TYR:HB3	1.96	0.47
35:Li:51:LEU:HD23	35:Li:51:LEU:HA	1.80	0.47
46:Bb:73:A:H2'	46:Bb:74:C:C2	2.50	0.47
47:Cc:30:G:H2'	47:Cc:31:G:C8	2.49	0.47
48:S2:550:A:N6	48:S2:587:C:C5	2.80	0.47
48:S2:1146:G:H2'	48:S2:1147:A:H8	1.77	0.47
48:S2:1240:U:H5'	53:SE:77:ARG:HH22	1.79	0.47
48:S2:1504:G:N2	48:S2:1564:U:H1'	2.29	0.47
49:SA:11:LEU:HD21	58:SJ:86:ILE:HG12	1.95	0.47
51:SC:74:GLU:HG3	51:SC:75:TYR:N	2.30	0.47
53:SE:22:LEU:HA	53:SE:25:LEU:HG	1.97	0.47
53:SE:85:ILE:HG21	53:SE:111:MET:O	2.15	0.47
55:SG:32:LYS:HA	55:SG:35:CYS:SG	2.55	0.47
56:SH:41:ARG:HB3	56:SH:85:PHE:CZ	2.49	0.47
65:SQ:129:THR:HG22	65:SQ:176:VAL:HG13	1.96	0.47
66:SR:166:THR:HG23	66:SR:201:ASN:HB2	1.96	0.47
69:SU:170:GLN:HE21	69:SU:182:VAL:HA	1.80	0.47
74:SZ:58:TYR:O	74:SZ:62:LEU:HG	2.14	0.47
1:LA:999:G:H2'	1:LA:1000:C:C6	2.50	0.47
1:LA:2428:U:H2'	1:LA:2429:G:H8	1.79	0.47
1:LA:3138:U:H5"	5:LE:274:SER:O	2.15	0.47
1:LA:3168:A:H4'	1:LA:3169:U:OP1	2.14	0.47
3:LC:104:A:C8	3:LC:105:A:C8	3.03	0.47
13:LM:29:ARG:HG2	13:LM:29:ARG:HH11	1.79	0.47
23:LW:22:PRO:HA	23:LW:107:PHE:CE1	2.50	0.47
42:Lp:2:ARG:HD3	42:Lp:5:TRP:NE1	2.29	0.47
48:S2:205:U:H2'	48:S2:206:A:O4'	2.15	0.47
50:SB:90:ILE:HG23	50:SB:114:ILE:HD11	1.96	0.47
53:SE:22:LEU:HD23	53:SE:25:LEU:HD21	1.96	0.47
69:SU:82:GLU:HG2	69:SU:90:VAL:HG23	1.96	0.47
71:SW:35:GLY:HA3	71:SW:122:VAL:HG12	1.97	0.47
76:Sb:36:LYS:O	76:Sb:40:VAL:HG23	2.14	0.47
1:LA:1108:U:H2'	1:LA:1109:U:H6	1.80	0.47
1:LA:1653:G:H2'	1:LA:1654:A:C8	2.50	0.47
6:LF:281:ILE:HG22	19:LS:25:TYR:HB3	1.97	0.47
10:LJ:105:LYS:HD2	10:LJ:108:ARG:NH2	2.30	0.47
13:LM:92:ARG:HH21	13:LM:174:LYS:HB3	1.80	0.47
13:LM:122:ILE:HD11	56:SH:110:ARG:HH12	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LN:126:PHE:HD2	36:Lj:115:LYS:HG2	1.80	0.47
22:LV:136:ARG:NH1	22:LV:136:ARG:HA	2.29	0.47
34:Lh:30:ILE:HD13	34:Lh:83:ALA:HB3	1.97	0.47
42:Lp:1:MET:HE1	42:Lp:9:ARG:CZ	2.44	0.47
48:S2:89:G:N2	48:S2:451:A:H1'	2.30	0.47
48:S2:557:G:H1'	48:S2:559:C:H5	1.79	0.47
48:S2:887:A:H2'	48:S2:888:U:H6	1.80	0.47
48:S2:1429:G:H2'	48:S2:1430:U:C6	2.50	0.47
49:SA:75:LYS:HZ1	51:SC:20:VAL:HG23	1.80	0.47
50:SB:112:ARG:NH2	54:SF:43:ILE:HG23	2.29	0.47
51:SC:17:GLN:HG2	51:SC:18:GLU:HG2	1.96	0.47
51:SC:40:LEU:HD23	51:SC:40:LEU:H	1.80	0.47
62:SN:100:LEU:HG	62:SN:101:ALA:H	1.80	0.47
68:ST:20:ASP:HB3	68:ST:23:ARG:HG2	1.95	0.47
78:Sd:88:THR:O	78:Sd:92:VAL:HG13	2.15	0.47
1:LA:1084:A:H5"	22:LV:35:LYS:HZ2	1.81	0.47
1:LA:1927:G:C8	44:Lr:16:VAL:HG12	2.50	0.47
1:LA:2254:U:H4'	1:LA:2255:A:OP1	2.15	0.47
1:LA:2549:G:H3'	10:LJ:38:GLN:NE2	2.30	0.47
4:LD:137:ILE:HD13	4:LD:137:ILE:HA	1.82	0.47
4:LD:145:LYS:HD2	4:LD:157:VAL:HG12	1.97	0.47
5:LE:85:VAL:HB	5:LE:163:HIS:NE2	2.30	0.47
6:LF:288:ARG:NE	6:LF:288:ARG:HA	2.30	0.47
16:LP:104:GLU:HA	16:LP:160:GLU:HG3	1.97	0.47
30:Ld:18:ARG:HA	30:Ld:18:ARG:HD2	1.72	0.47
35:Li:19:LYS:HD3	35:Li:19:LYS:HA	1.63	0.47
39:Lm:30:LYS:HB3	39:Lm:38:PHE:CE2	2.50	0.47
52:SD:136:ILE:HA	52:SD:139:HIS:HB3	1.97	0.47
63:SO:192:PHE:HZ	63:SO:225:LEU:HD21	1.80	0.47
64:SP:29:VAL:HG23	64:SP:150:ASP:OD2	2.15	0.47
64:SP:86:VAL:HG12	64:SP:174:TRP:CH2	2.51	0.47
66:SR:59:HIS:HB2	66:SR:61:LEU:HD23	1.97	0.47
70:SV:110:ARG:O	70:SV:114:GLU:HG2	2.15	0.47
73:SY:65:VAL:HG23	73:SY:66:ILE:HG13	1.97	0.47
74:SZ:16:VAL:O	74:SZ:30:VAL:HA	2.15	0.47
78:Sd:17:LEU:O	78:Sd:18:LEU:HD23	2.14	0.47
1:LA:184:U:H2'	1:LA:185:C:C6	2.48	0.46
1:LA:631:U:H2'	1:LA:632:G:C8	2.50	0.46
1:LA:1414:G:C6	1:LA:1415:U:C4	3.03	0.46
1:LA:2292:U:H2'	1:LA:2293:C:C6	2.50	0.46
1:LA:3296:A:H2'	1:LA:3297:U:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LL:182:LEU:HD12	12:LL:183:LYS:N	2.30	0.46
25:LY:54:LEU:HD12	25:LY:54:LEU:HA	1.81	0.46
48:S2:323:A:H2'	48:S2:324:U:C6	2.50	0.46
48:S2:591:A:H2'	48:S2:592:A:C8	2.50	0.46
48:S2:948:G:H2'	48:S2:949:C:C6	2.50	0.46
48:S2:1566:U:H5'	56:SH:39:GLY:HA3	1.97	0.46
50:SB:116:HIS:HB2	50:SB:191:ALA:HB1	1.96	0.46
63:SO:93:ASP:HB2	63:SO:97:GLY:O	2.15	0.46
67:SS:87:MET:SD	67:SS:123:LEU:HB2	2.55	0.46
70:SV:36:THR:HB	70:SV:57:ALA:O	2.14	0.46
1:LA:585:A:H2'	1:LA:586:C:C6	2.49	0.46
1:LA:792:G:H2'	1:LA:793:C:C6	2.50	0.46
1:LA:1687:U:H5"	1:LA:1688:U:H5"	1.97	0.46
1:LA:1895:A:O2'	1:LA:3053:G:H4'	2.15	0.46
1:LA:2407:C:H2'	1:LA:2408:U:C6	2.50	0.46
1:LA:3166:C:H3'	1:LA:3167:A:H8	1.79	0.46
11:LK:90:MET:HE1	11:LK:158:ALA:O	2.15	0.46
13:LM:15:GLU:HG3	13:LM:132:ASN:ND2	2.30	0.46
26:LZ:58:ASP:O	26:LZ:62:VAL:HG13	2.16	0.46
27:La:109:LEU:HD13	27:La:119:ILE:HD11	1.97	0.46
48:S2:36:C:H2'	48:S2:37:U:H6	1.79	0.46
48:S2:40:A:H2'	48:S2:41:A:O4'	2.15	0.46
48:S2:108:A:H2'	48:S2:109:G:C8	2.51	0.46
48:S2:112:A:C2	48:S2:303:U:H1'	2.50	0.46
48:S2:565:C:H2'	48:S2:577:G:N3	2.30	0.46
48:S2:1024:U:H5"	48:S2:1027:A:N6	2.30	0.46
48:S2:1509:C:H2'	48:S2:1510:U:O4'	2.16	0.46
67:SS:79:ASP:HB3	67:SS:82:TYR:HB2	1.97	0.46
67:SS:94:ALA:C	67:SS:96:ASN:H	2.23	0.46
68:ST:69:LEU:O	68:ST:99:GLY:HA3	2.14	0.46
70:SV:194:ARG:HA	70:SV:197:THR:HG22	1.97	0.46
70:SV:195:ARG:HB3	70:SV:195:ARG:HH11	1.79	0.46
74:SZ:92:LYS:NZ	74:SZ:121:VAL:HG13	2.29	0.46
77:Sc:24:TRP:O	77:Sc:30:LYS:HE3	2.15	0.46
1:LA:761:A:C2	1:LA:771:A:H1'	2.50	0.46
1:LA:992:A:O2'	1:LA:993:G:H5'	2.14	0.46
1:LA:1048:A:H2'	12:LL:22:TYR:CZ	2.50	0.46
1:LA:2222:A:H2'	1:LA:2223:A:C8	2.51	0.46
3:LC:132:G:H2'	3:LC:133:G:C8	2.50	0.46
6:LF:142:VAL:HB	6:LF:145:ILE:HD12	1.98	0.46
8:LH:100:LYS:HB3	8:LH:100:LYS:HE2	1.67	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LK:67:ALA:O	11:LK:71:VAL:HG13	2.16	0.46
15:LO:39:ILE:HG22	15:LO:40:ASP:OD2	2.16	0.46
16:LP:143:ARG:HB3	36:Lj:96:GLU:OE2	2.15	0.46
20:LT:95:TRP:CZ2	20:LT:99:LEU:HD22	2.50	0.46
48:S2:422:G:H2'	48:S2:423:G:C8	2.50	0.46
48:S2:956:C:H2'	48:S2:957:G:C8	2.50	0.46
48:S2:1183:A:O2'	48:S2:1210:C:H4'	2.16	0.46
48:S2:1652:C:H2'	48:S2:1653:C:H6	1.79	0.46
54:SF:13:LYS:HG3	54:SF:14:LYS:H	1.80	0.46
54:SF:73:GLY:O	54:SF:77:GLN:HG3	2.15	0.46
58:SJ:95:ALA:HB3	58:SJ:100:VAL:HG23	1.97	0.46
61:SM:44:ARG:HB3	61:SM:44:ARG:CZ	2.46	0.46
65:SQ:107:THR:HG21	74:SZ:117:ASP:O	2.16	0.46
67:SS:149:TYR:HB3	68:ST:208:TYR:CD1	2.50	0.46
72:SX:109:VAL:HG11	72:SX:125:VAL:HG11	1.96	0.46
1:LA:1088:U:C2	1:LA:1089:G:C8	3.04	0.46
1:LA:3171:U:O4	34:Lh:54:ARG:HD3	2.15	0.46
6:LF:159:ILE:HG23	6:LF:164:GLU:HG3	1.96	0.46
8:LH:35:VAL:O	8:LH:38:THR:HG23	2.16	0.46
10:LJ:29:SER:C	10:LJ:31:PRO:HD3	2.41	0.46
28:Lb:22:LYS:HD3	28:Lb:129:TRP:CZ3	2.50	0.46
41:Lo:103:LEU:HD13	41:Lo:110:CYS:HA	1.97	0.46
48:S2:1584:G:H5"	54:SF:122:ARG:HB3	1.97	0.46
49:SA:59:LEU:HD13	49:SA:66:ILE:HD12	1.98	0.46
50:SB:110:ALA:O	50:SB:114:ILE:HG22	2.15	0.46
57:SI:94:ILE:HD12	57:SI:95:ASP:H	1.80	0.46
64:SP:66:ALA:HB2	75:Sa:37:ALA:HB2	1.97	0.46
67:SS:123:LEU:HD23	67:SS:161:LYS:HB2	1.96	0.46
1:LA:393:U:H2'	1:LA:394:G:O4'	2.15	0.46
1:LA:1498:A:H2'	1:LA:1499:C:H6	1.80	0.46
1:LA:2599:U:H2'	1:LA:2600:C:C6	2.51	0.46
15:LO:38:ILE:HG21	21:LU:150:PHE:HE1	1.81	0.46
23:LW:89:LEU:HD12	23:LW:93:ILE:HG13	1.97	0.46
28:Lb:115:LYS:HG2	28:Lb:119:GLU:OE1	2.16	0.46
37:Lk:76:ARG:HD3	37:Lk:76:ARG:HA	1.56	0.46
48:S2:30:G:H2'	48:S2:31:C:H6	1.79	0.46
48:S2:463:U:H2'	48:S2:464:A:C8	2.49	0.46
48:S2:1593:A:H2'	48:S2:1594:G:C8	2.50	0.46
48:S2:1767:G:OP1	48:S2:1770:U:H4'	2.14	0.46
49:SA:32:GLU:HG3	49:SA:54:ARG:NH1	2.31	0.46
54:SF:86:ALA:O	54:SF:90:VAL:HG22	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SP:67:ILE:CD1	64:SP:120:LEU:HB2	2.46	0.46
65:SQ:105:PHE:HE1	65:SQ:212:VAL:O	1.99	0.46
73:SY:50:ILE:HG22	73:SY:71:ILE:HD13	1.97	0.46
78:Sd:98:GLU:HG2	78:Sd:99:LYS:O	2.16	0.46
1:LA:105:C:H2'	1:LA:106:A:H8	1.80	0.46
1:LA:1616:U:H2'	1:LA:1617:G:H8	1.79	0.46
1:LA:1940:G:H2'	1:LA:1941:C:C6	2.51	0.46
1:LA:2366:C:H2'	1:LA:2367:A:H8	1.81	0.46
4:LD:80:GLU:OE2	44:Lr:76:ALA:HB2	2.15	0.46
10:LJ:211:LEU:O	10:LJ:215:VAL:HG23	2.14	0.46
19:LS:3:ILE:HB	19:LS:5:HIS:CE1	2.50	0.46
46:Bb:73:A:H2'	46:Bb:74:C:N1	2.31	0.46
46:Bb:75:C:H2'	46:Bb:76:A:C8	2.50	0.46
48:S2:140:A:C8	48:S2:281:G:H5'	2.50	0.46
48:S2:589:C:H2'	48:S2:590:C:C5	2.50	0.46
48:S2:955:A:H2'	48:S2:956:C:O4'	2.16	0.46
48:S2:1216:C:H2'	48:S2:1217:A:H2'	1.97	0.46
48:S2:1330:G:H3'	48:S2:1331:A:C8	2.49	0.46
51:SC:16:PHE:CZ	51:SC:76:LEU:HB3	2.51	0.46
53:SE:108:ARG:H	53:SE:111:MET:HE3	1.80	0.46
57:SI:21:PHE:O	57:SI:25:GLN:HG2	2.16	0.46
65:SQ:158:SER:HA	65:SQ:161:ILE:HD12	1.96	0.46
67:SS:63:ALA:O	67:SS:67:GLN:HB2	2.15	0.46
67:SS:100:ARG:HH21	67:SS:118:GLU:HG3	1.81	0.46
67:SS:255:ARG:HA	67:SS:255:ARG:HD2	1.80	0.46
68:ST:211:LEU:HA	68:ST:214:LYS:HD2	1.97	0.46
69:SU:28:GLU:CD	69:SU:39:ARG:HB3	2.40	0.46
69:SU:39:ARG:N	69:SU:40:PRO:HD2	2.31	0.46
72:SX:59:PRO:HB3	72:SX:66:ILE:HD11	1.98	0.46
78:Sd:112:LYS:HE3	78:Sd:112:LYS:HB3	1.56	0.46
1:LA:22:G:H5'	38:Ll:43:LYS:HG2	1.98	0.46
1:LA:892:U:H4'	1:LA:2134:G:OP1	2.16	0.46
1:LA:2178:A:H5"	4:LD:132:ASN:OD1	2.15	0.46
1:LA:2536:A:N7	65:SQ:228:LEU:HD22	2.31	0.46
1:LA:3095:U:H2'	1:LA:3096:C:C6	2.50	0.46
1:LA:3234:A:N1	1:LA:3253:G:N2	2.62	0.46
1:LA:3332:U:H2'	1:LA:3333:G:O4'	2.15	0.46
4:LD:96:LEU:HD22	4:LD:166:ILE:HD13	1.98	0.46
7:LG:185:PHE:N	7:LG:185:PHE:CD1	2.83	0.46
19:LS:120:GLU:HG3	19:LS:122:ILE:HD13	1.96	0.46
26:LZ:115:ARG:HD3	26:LZ:121:LYS:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Ld:21:ILE:O	30:Ld:21:ILE:HG22	2.16	0.46
43:Lq:29:LYS:HD2	43:Lq:30:ALA:H	1.80	0.46
46:Bb:59:U:H2'	46:Bb:60:C:O4'	2.15	0.46
48:S2:373:G:H2'	48:S2:374:U:C6	2.51	0.46
48:S2:525:A:H5'	78:Sd:89:TYR:HD1	1.81	0.46
48:S2:756:A:H2'	48:S2:756:A:N3	2.31	0.46
48:S2:1066:C:H4'	65:SQ:149:GLN:HE21	1.81	0.46
48:S2:1160:A:H2'	48:S2:1161:C:H6	1.79	0.46
50:SB:51:VAL:HG23	50:SB:131:GLN:HB2	1.98	0.46
64:SP:113:ARG:NH1	64:SP:113:ARG:HA	2.31	0.46
65:SQ:109:LYS:HA	65:SQ:109:LYS:HD2	1.65	0.46
65:SQ:109:LYS:HE2	65:SQ:113:MET:HE2	1.98	0.46
66:SR:35:TRP:CZ2	66:SR:67:GLN:HB2	2.51	0.46
66:SR:90:THR:HG22	66:SR:91:ARG:H	1.81	0.46
70:SV:67:TRP:HB3	70:SV:72:ILE:HG13	1.98	0.46
70:SV:82:VAL:HB	70:SV:196:LEU:HD21	1.98	0.46
74:SZ:111:ARG:HB3	79:Se:58:VAL:HG13	1.98	0.46
76:Sb:24:GLN:N	76:Sb:24:GLN:OE1	2.49	0.46
1:LA:19:U:H2'	1:LA:20:A:C8	2.50	0.46
1:LA:597:G:H2'	1:LA:598:A:H8	1.81	0.46
1:LA:671:U:H2'	1:LA:672:A:H8	1.81	0.46
1:LA:821:U:H2'	1:LA:822:G:C8	2.50	0.46
1:LA:971:G:H2'	1:LA:972:A:C8	2.51	0.46
1:LA:1719:G:H2'	1:LA:1720:U:O4'	2.15	0.46
1:LA:2617:U:H3'	30:Ld:3:LYS:HD2	1.96	0.46
1:LA:2768:U:H2'	1:LA:2769:A:C8	2.51	0.46
1:LA:2941:A:H8	1:LA:2941:A:OP2	1.99	0.46
1:LA:3113:A:H4'	11:LK:69:ARG:HG2	1.98	0.46
3:LC:68:G:H2'	3:LC:69:U:H6	1.81	0.46
5:LE:29:VAL:HA	5:LE:218:ILE:HD12	1.98	0.46
5:LE:158:VAL:HG13	5:LE:191:LYS:HD2	1.98	0.46
7:LG:22:ARG:HB3	7:LG:28:THR:HG23	1.98	0.46
19:LS:178:ARG:HD2	19:LS:178:ARG:HA	1.77	0.46
46:Bb:58:A:H62	46:Bb:61:C:N4	2.14	0.46
48:S2:127:G:H1'	48:S2:178:U:H3	1.81	0.46
48:S2:1494:C:H2'	48:S2:1495:C:C5	2.51	0.46
56:SH:115:ARG:O	56:SH:119:ILE:HG12	2.15	0.46
67:SS:68:ARG:HD3	67:SS:76:VAL:HG21	1.98	0.46
67:SS:222:LEU:HA	67:SS:225:VAL:HG12	1.98	0.46
68:ST:38:GLY:HA2	68:ST:41:VAL:HG12	1.97	0.46
71:SW:154:LYS:HB3	71:SW:155:HIS:CE1	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:SY:94:LYS:O	73:SY:98:VAL:HG23	2.15	0.46
1:LA:1659:U:H2'	1:LA:1660:C:C6	2.51	0.46
5:LE:141:GLY:O	5:LE:145:GLU:HG2	2.16	0.46
9:LI:116:PHE:CZ	9:LI:144:ILE:HG12	2.51	0.46
37:Lk:44:VAL:HA	37:Lk:47:ILE:HG22	1.98	0.46
39:Lm:61:LYS:HA	39:Lm:61:LYS:HD2	1.77	0.46
40:Ln:23:LEU:HD11	40:Ln:27:ILE:HG21	1.98	0.46
48:S2:277:U:H5"	48:S2:278:U:H5"	1.98	0.46
48:S2:450:U:H2'	48:S2:451:A:N7	2.30	0.46
48:S2:639:U:H4'	48:S2:640:U:O5'	2.16	0.46
48:S2:996:U:H2'	48:S2:997:G:H8	1.81	0.46
48:S2:1067:C:H5"	65:SQ:150:VAL:HG13	1.98	0.46
56:SH:65:GLU:O	56:SH:69:ILE:HG13	2.16	0.46
58:SJ:37:VAL:HA	58:SJ:40:ASN:ND2	2.30	0.46
65:SQ:144:ARG:HG2	65:SQ:206:PRO:HB2	1.98	0.46
69:SU:44:LYS:NZ	69:SU:63:PRO:HB3	2.30	0.46
71:SW:146:PHE:CD2	71:SW:148:VAL:HG12	2.51	0.46
78:Sd:18:LEU:HD22	78:Sd:85:PHE:CZ	2.51	0.46
1:LA:1750:A:H1'	1:LA:1752:A:N7	2.31	0.46
3:LC:40:A:H2'	3:LC:41:A:C8	2.51	0.46
6:LF:178:LEU:HD21	6:LF:225:VAL:CG2	2.46	0.46
9:LI:160:ARG:HD2	9:LI:203:TRP:CD1	2.51	0.46
10:LJ:170:CYS:HA	10:LJ:175:VAL:HG13	1.96	0.46
15:LO:8:LYS:HD2	15:LO:8:LYS:HA	1.67	0.46
15:LO:24:LYS:HE2	15:LO:64:VAL:HG22	1.98	0.46
27:La:108:LYS:HE2	27:La:108:LYS:HB2	1.67	0.46
28:Lb:89:VAL:HG12	28:Lb:93:LYS:HB2	1.98	0.46
48:S2:253:A:H2'	48:S2:254:A:H8	1.81	0.46
49:SA:162:GLN:N	49:SA:163:PRO:HD2	2.31	0.46
65:SQ:26:ARG:O	65:SQ:50:LYS:HG2	2.16	0.46
1:LA:1117:G:OP1	30:Ld:4:SER:HB3	2.15	0.45
6:LF:23:PRO:HD2	6:LF:26:PHE:CE2	2.52	0.45
6:LF:286:VAL:HG21	19:LS:28:LEU:HD22	1.98	0.45
12:LL:145:LYS:O	12:LL:148:VAL:HG12	2.15	0.45
12:LL:184:LYS:HG3	12:LL:189:GLU:HB2	1.98	0.45
17:LQ:110[A]:PRO:N	17:LQ:111[A]:PRO:HD2	2.31	0.45
33:Lg:86:THR:HG22	33:Lg:115:LEU:HG	1.97	0.45
37:Lk:71:LYS:HB2	37:Lk:71:LYS:HE3	1.78	0.45
48:S2:380:U:N3	71:SW:5:PRO:HB3	2.31	0.45
48:S2:986:G:H2'	48:S2:987:G:O4'	2.15	0.45
48:S2:1471:A:H4'	48:S2:1472:C:OP1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1583:A:N6	50:SB:76:ARG:HA	2.30	0.45
48:S2:1617:U:H2'	48:S2:1618:C:C6	2.51	0.45
48:S2:1649:G:H2'	48:S2:1650:U:H6	1.79	0.45
49:SA:48:VAL:HB	49:SA:86:LEU:HD12	1.98	0.45
50:SB:212:LYS:HA	50:SB:215:ASP:OD2	2.16	0.45
54:SF:109:PHE:CZ	54:SF:116:LEU:HB2	2.51	0.45
63:SO:114:ASP:OD2	63:SO:156:VAL:HG23	2.16	0.45
63:SO:219:GLU:HG2	63:SO:221:MET:SD	2.56	0.45
68:ST:191:ARG:NH1	68:ST:191:ARG:HB2	2.31	0.45
68:ST:212:LEU:O	68:ST:216:LEU:HG	2.16	0.45
69:SU:90:VAL:O	69:SU:91:ILE:HD13	2.16	0.45
70:SV:85:PRO:C	72:SX:11:ARG:HH21	2.24	0.45
71:SW:31:ALA:HA	71:SW:36:LEU:HB2	1.97	0.45
73:SY:92:ILE:O	73:SY:96:VAL:HG23	2.16	0.45
1:LA:226:C:H2'	1:LA:227:G:O4'	2.16	0.45
1:LA:612:U:H2'	1:LA:613:G:H8	1.80	0.45
1:LA:1034:U:H2'	1:LA:1035:G:H4'	1.97	0.45
1:LA:2767:U:H2'	1:LA:2768:U:C6	2.50	0.45
1:LA:3138:U:OP2	5:LE:30:LYS:HG3	2.15	0.45
21:LU:80:ARG:HE	21:LU:87:THR:HG21	1.81	0.45
21:LU:101:ALA:O	21:LU:105:THR:HG23	2.16	0.45
23:LW:103:TYR:CD1	23:LW:103:TYR:N	2.84	0.45
25:LY:27:LYS:HG2	25:LY:29:PHE:CE1	2.51	0.45
48:S2:340:U:H2'	48:S2:341:A:H8	1.80	0.45
48:S2:566:C:H2'	48:S2:567:A:C8	2.51	0.45
48:S2:1598:U:H2'	48:S2:1599:C:C6	2.51	0.45
48:S2:1621:U:H2'	48:S2:1622:G:O4'	2.16	0.45
48:S2:1638:G:H2'	48:S2:1639:C:O4'	2.16	0.45
50:SB:76:ARG:HG2	54:SF:122:ARG:HH11	1.81	0.45
67:SS:196:VAL:HG13	67:SS:211:LYS:HG2	1.99	0.45
69:SU:142:TYR:CE2	69:SU:148:LYS:HD3	2.51	0.45
1:LA:1184:A:H2'	1:LA:1185:C:C6	2.52	0.45
1:LA:1836:C:H2'	1:LA:1837:U:C6	2.50	0.45
1:LA:2631:U:H2'	1:LA:2632:G:C8	2.50	0.45
1:LA:3101:G:H2'	1:LA:3102:G:C8	2.50	0.45
1:LA:3165:A:N7	1:LA:3166:C:H1'	2.32	0.45
5:LE:126:LYS:HB3	5:LE:126:LYS:HE2	1.75	0.45
7:LG:163:LEU:HD11	7:LG:175:HIS:CG	2.51	0.45
21:LU:23:LYS:HA	21:LU:23:LYS:HD2	1.53	0.45
21:LU:41:TYR:CD1	21:LU:41:TYR:C	2.94	0.45
24:LX:36:ILE:HG12	24:LX:58:VAL:HG21	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LX:54:LEU:HA	24:LX:54:LEU:HD23	1.75	0.45
26:LZ:86:VAL:HG23	26:LZ:120:LYS:HB3	1.97	0.45
27:La:53:ASP:HB2	27:La:110:HIS:CD2	2.52	0.45
28:Lb:9:LYS:HZ1	28:Lb:83:THR:H	1.65	0.45
39:Lm:38:PHE:HD2	39:Lm:38:PHE:H	1.63	0.45
46:Bb:43:G:H2'	46:Bb:44:A:H8	1.80	0.45
48:S2:822:U:C2	48:S2:823:G:N2	2.84	0.45
48:S2:1160:A:H2'	48:S2:1161:C:C6	2.52	0.45
48:S2:1206:U:H1'	61:SM:16:LYS:HB2	1.97	0.45
48:S2:1325:A:H2'	48:S2:1326:A:H8	1.81	0.45
48:S2:1392:U:OP1	55:SG:59:LYS:HE2	2.17	0.45
55:SG:8:THR:O	55:SG:11:ARG:HG3	2.16	0.45
61:SM:39:CYS:SG	61:SM:42:CYS:HB2	2.57	0.45
64:SP:76:ILE:HD12	64:SP:121:VAL:HG13	1.98	0.45
66:SR:223:GLY:CA	75:Sa:25:LYS:HE2	2.47	0.45
68:ST:32:ILE:HD12	68:ST:53:SER:C	2.41	0.45
71:SW:175:ARG:HA	71:SW:175:ARG:HD3	1.73	0.45
79:Se:12:LYS:HZ2	79:Se:16:GLY:H	1.65	0.45
1:LA:616:G:H2'	1:LA:617:G:H8	1.81	0.45
1:LA:952:A:H4'	1:LA:968:G:H22	1.82	0.45
1:LA:1619:A:H2'	1:LA:1620:U:O4'	2.16	0.45
1:LA:1664:G:H2'	1:LA:1665:C:C6	2.51	0.45
1:LA:2573:G:H5'	28:Lb:57:HIS:HA	1.98	0.45
1:LA:3296:A:H2'	1:LA:3297:U:C6	2.52	0.45
1:LA:3371:G:H2'	1:LA:3372:A:C8	2.51	0.45
2:LB:103:A:H2'	2:LB:104:A:O4'	2.16	0.45
3:LC:21:C:OP1	6:LF:193:LYS:HE2	2.16	0.45
4:LD:28:LYS:HB3	4:LD:123:ARG:HB3	1.97	0.45
8:LH:42:LEU:HD12	8:LH:47:PHE:HB2	1.98	0.45
9:LI:98:LYS:HB3	9:LI:99:PRO:HD3	1.98	0.45
19:LS:161:LYS:HD2	19:LS:161:LYS:HA	1.76	0.45
22:LV:75:ILE:C	22:LV:76:ILE:HD13	2.41	0.45
46:Bb:9:A:H8	46:Bb:45:G:H2'	1.81	0.45
48:S2:207:U:H5	48:S2:258:C:N3	2.15	0.45
48:S2:387:A:H4'	48:S2:388:G:O5'	2.16	0.45
48:S2:1107:G:O2'	48:S2:1108:G:H5'	2.15	0.45
48:S2:1294:G:O2'	64:SP:109:ASN:HB2	2.15	0.45
48:S2:1563:C:H4'	57:SI:41:SER:OG	2.16	0.45
48:S2:1625:C:H2'	48:S2:1626:U:C6	2.52	0.45
49:SA:96:LEU:CD2	49:SA:190:ARG:HD2	2.46	0.45
50:SB:29:ILE:HD12	54:SF:57:LEU:HD21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SE:100:LYS:HG3	53:SE:101:ALA:N	2.31	0.45
64:SP:38:PHE:C	64:SP:38:PHE:CD1	2.94	0.45
67:SS:210:ILE:O	67:SS:217:THR:HA	2.16	0.45
69:SU:89:HIS:CD2	69:SU:165:LYS:HG2	2.52	0.45
70:SV:66:SER:H	70:SV:182:TYR:HA	1.82	0.45
71:SW:112:GLN:O	71:SW:116:LEU:HG	2.17	0.45
74:SZ:92:LYS:NZ	74:SZ:121:VAL:HA	2.31	0.45
1:LA:736:A:C4	1:LA:737:G:H1'	2.51	0.45
1:LA:2961:G:H2'	1:LA:2962:U:H6	1.80	0.45
1:LA:3015:G:C2	1:LA:3040:A:C8	3.04	0.45
1:LA:3021:A:H4'	1:LA:3022:G:OP1	2.15	0.45
1:LA:3095:U:H2'	1:LA:3096:C:H6	1.81	0.45
3:LC:47:C:H1'	3:LC:61:A:H2'	1.97	0.45
6:LF:33:ASP:O	6:LF:37:THR:HG23	2.17	0.45
6:LF:152:VAL:HG21	6:LF:156:LEU:HD22	1.99	0.45
9:LI:116:PHE:CE1	9:LI:144:ILE:HG12	2.52	0.45
18:LR:52:LEU:HD11	18:LR:89:LYS:HG2	1.99	0.45
46:Bb:17:U:H5'	46:Bb:61:C:H5"	1.98	0.45
48:S2:183:U:H2'	48:S2:184:C:C6	2.52	0.45
48:S2:518:A:N3	48:S2:518:A:H2'	2.31	0.45
48:S2:761:G:H2'	48:S2:762:A:C8	2.51	0.45
48:S2:1117:U:H2'	48:S2:1118:G:H8	1.82	0.45
48:S2:1573:A:H4'	48:S2:1574:G:OP2	2.16	0.45
48:S2:1626:U:H2'	48:S2:1627:U:C6	2.52	0.45
65:SQ:120:LEU:HD12	65:SQ:142:PHE:CE1	2.52	0.45
68:ST:189:HIS:O	68:ST:193:LEU:HG	2.17	0.45
70:SV:31:ARG:HD2	70:SV:56:ARG:NH2	2.31	0.45
1:LA:209:A:H4'	1:LA:211:A:N7	2.32	0.45
1:LA:804:C:H5'	6:LF:93:MET:HE1	1.97	0.45
1:LA:2152:A:H2'	1:LA:2153:U:C6	2.50	0.45
1:LA:2880:U:H1'	5:LE:250:ALA:HB3	1.98	0.45
1:LA:2930:A:H2'	1:LA:2931:C:C6	2.52	0.45
8:LH:55:LEU:HD11	8:LH:66:THR:HG22	1.99	0.45
8:LH:55:LEU:HD21	8:LH:145:LEU:HD11	1.99	0.45
9:LI:229:PHE:CD1	9:LI:229:PHE:C	2.95	0.45
21:LU:30:PHE:CE2	21:LU:103:VAL:HG21	2.52	0.45
24:LX:19:VAL:HA	24:LX:36:ILE:HG22	1.97	0.45
34:Lh:48:ARG:NH2	34:Lh:70:LYS:HE2	2.32	0.45
48:S2:1039:A:H2'	48:S2:1040:G:H8	1.80	0.45
48:S2:1044:U:H2'	48:S2:1045:C:C6	2.51	0.45
48:S2:1374:C:N4	48:S2:1375:A:H61	2.07	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1470:C:O2'	48:S2:1571:C:H2'	2.16	0.45
48:S2:1479:A:H5"	57:SI:60:SER:HB2	1.99	0.45
54:SF:35:PRO:HG2	54:SF:38:LEU:HB2	1.98	0.45
55:SG:58:MET:HA	55:SG:58:MET:HE3	1.99	0.45
63:SO:43:ILE:HG23	63:SO:45:TRP:HE1	1.81	0.45
63:SO:134:TRP:HA	63:SO:141:LEU:H	1.81	0.45
1:LA:262:U:H2'	1:LA:263:C:O4'	2.17	0.45
1:LA:412:G:H2'	1:LA:413:U:C6	2.51	0.45
1:LA:553:U:H3'	1:LA:554:A:C8	2.52	0.45
1:LA:597:G:H2'	1:LA:598:A:C8	2.52	0.45
1:LA:987:U:H2'	1:LA:988:U:C6	2.52	0.45
1:LA:1043:C:H5"	12:LL:88:ARG:NH1	2.32	0.45
1:LA:2661:G:H2'	1:LA:2662:G:H8	1.81	0.45
1:LA:3259:U:H5"	1:LA:3261:C:H5	1.81	0.45
2:LB:7:G:H8	7:LG:22:ARG:NH1	2.14	0.45
5:LE:188:ILE:O	5:LE:192:VAL:HG13	2.17	0.45
21:LU:158:LYS:HB3	21:LU:158:LYS:HE3	1.74	0.45
40:Ln:13:MET:HA	40:Ln:13:MET:HE2	1.98	0.45
48:S2:1086:A:H2'	48:S2:1087:A:C8	2.52	0.45
48:S2:1452:U:H2'	48:S2:1453:G:H8	1.82	0.45
50:SB:77:TYR:CD1	50:SB:87:CYS:HB2	2.52	0.45
51:SC:16:PHE:HE2	51:SC:80:LEU:HD12	1.81	0.45
53:SE:20:VAL:HG12	53:SE:25:LEU:HB3	1.98	0.45
68:ST:176:GLN:HB2	68:ST:177:ARG:NH2	2.29	0.45
72:SX:85:VAL:HA	72:SX:108:PRO:HA	1.97	0.45
73:SY:4:MET:HE2	73:SY:124:ARG:NH1	2.30	0.45
77:Sc:93:LEU:HD11	81:Sg:11:ALA:HB3	1.98	0.45
80:Sf:72:LYS:HE3	80:Sf:72:LYS:HB3	1.65	0.45
1:LA:550:A:O5'	1:LA:550:A:H8	2.00	0.45
1:LA:1758:G:H2'	1:LA:1759:C:C6	2.52	0.45
1:LA:2682:C:H6	1:LA:2683:U:C5	2.35	0.45
10:LJ:73:PRO:HD3	10:LJ:233:TRP:CE2	2.52	0.45
20:LT:159:ALA:HB1	20:LT:163:ARG:NH2	2.32	0.45
27:La:32:SER:HA	27:La:49:PRO:HA	1.98	0.45
33:Lg:82:LEU:O	33:Lg:86:THR:HG23	2.16	0.45
46:Bb:44:A:H2'	46:Bb:45:G:O4'	2.17	0.45
48:S2:490:C:H2'	48:S2:491:C:C6	2.52	0.45
48:S2:1722:A:P	68:ST:75:LEU:HD21	2.56	0.45
50:SB:42:LEU:HD12	50:SB:42:LEU:HA	1.80	0.45
56:SH:36:LYS:HB3	56:SH:102:ALA:HB1	1.99	0.45
59:SK:80:LEU:HD22	59:SK:101:TYR:HE2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SO:217:ASP:HB3	63:SO:219:GLU:OE1	2.17	0.45
68:ST:149:LYS:HB2	68:ST:149:LYS:HE2	1.69	0.45
1:LA:1093:A:H1'	1:LA:1094:U:C2	2.52	0.45
1:LA:1747:G:H5"	39:Lm:42:LYS:HE2	1.99	0.45
1:LA:2392:C:H2'	1:LA:2393:G:C4	2.52	0.45
1:LA:2421:U:H2'	1:LA:2422:C:O4'	2.17	0.45
1:LA:2445:A:H4'	1:LA:2446:U:OP1	2.17	0.45
1:LA:2615:G:H2'	1:LA:2616:C:C6	2.52	0.45
3:LC:85:G:H4'	3:LC:86:U:OP1	2.17	0.45
3:LC:149:A:H2'	3:LC:150:G:C8	2.52	0.45
5:LE:316:GLU:HB2	5:LE:318:LYS:HD2	1.99	0.45
32:Lf:55:LEU:HB2	32:Lf:95:PRO:HD3	1.99	0.45
39:Lm:41:THR:HG23	39:Lm:56:ILE:HB	1.99	0.45
47:Cc:5:G:H2'	47:Cc:6:G:H8	1.80	0.45
48:S2:50:C:P	48:S2:423:G:H21	2.40	0.45
48:S2:1066:C:O3'	65:SQ:149:GLN:HG3	2.17	0.45
50:SB:80:LYS:H	50:SB:83:ARG:HD2	1.80	0.45
53:SE:53:PRO:O	53:SE:56:PHE:HB3	2.17	0.45
54:SF:109:PHE:CE1	54:SF:116:LEU:HB2	2.51	0.45
56:SH:84:TRP:HA	56:SH:89:GLN:HE21	1.81	0.45
57:SI:57:ARG:O	57:SI:61:VAL:HG23	2.17	0.45
63:SO:19:TRP:CE2	63:SO:306:THR:HB	2.52	0.45
67:SS:94:ALA:HB3	78:Sd:17:LEU:HD12	1.99	0.45
71:SW:82:ARG:HD3	71:SW:149:ARG:HB2	1.99	0.45
74:SZ:81:VAL:HB	74:SZ:115:ILE:HG12	1.99	0.45
79:Se:35:ALA:HB3	79:Se:37:LYS:HE3	1.99	0.45
1:LA:276:U:H2'	1:LA:277:G:C8	2.52	0.45
1:LA:542:G:O6	1:LA:549:U:C4	2.69	0.45
1:LA:1845:G:O2'	38:Ll:5:THR:HG22	2.16	0.45
1:LA:2742:C:H2'	1:LA:2743:A:C8	2.52	0.45
1:LA:3203:U:H2'	1:LA:3204:C:C6	2.52	0.45
5:LE:347:SER:C	5:LE:349:LYS:H	2.25	0.45
7:LG:40:HIS:CE1	22:LV:69:LYS:HA	2.52	0.45
48:S2:401:A:OP2	48:S2:401:A:H8	2.00	0.45
49:SA:69:LEU:O	49:SA:72:LEU:HB2	2.17	0.45
53:SE:73:PRO:HG3	53:SE:91:GLY:O	2.17	0.45
55:SG:17:ILE:HG13	55:SG:57:LEU:HD12	1.98	0.45
56:SH:88:ARG:HA	56:SH:88:ARG:NH1	2.31	0.45
61:SM:30:LEU:HD12	61:SM:30:LEU:HA	1.86	0.45
63:SO:211:ILE:HG13	63:SO:223:TRP:HB2	1.99	0.45
66:SR:118:ALA:HB3	66:SR:124:ALA:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SR:227:PRO:HA	66:SR:230:TRP:CG	2.52	0.45
68:ST:5:ILE:HD12	68:ST:16:PHE:HD2	1.81	0.45
69:SU:81:LEU:HB3	69:SU:90:VAL:HG21	1.98	0.45
71:SW:119:ALA:HB1	71:SW:124:HIS:ND1	2.32	0.45
72:SX:21:ASN:ND2	72:SX:31:THR:HA	2.31	0.45
74:SZ:26:THR:HG21	74:SZ:60:ALA:HB2	1.98	0.45
1:LA:243:G:H2'	1:LA:244:G:C8	2.52	0.44
1:LA:915:A:H8	1:LA:2136:C:O2'	1.99	0.44
1:LA:2829:U:C2	1:LA:2830:G:C8	3.05	0.44
1:LA:3006:A:C2	1:LA:3141:A:C4	3.06	0.44
1:LA:3051:U:H2'	1:LA:3052:G:H8	1.82	0.44
1:LA:3357:U:H2'	1:LA:3358:U:C6	2.52	0.44
2:LB:4:U:H2'	2:LB:5:G:C8	2.52	0.44
9:LI:136:TYR:CZ	9:LI:231:ASN:HB2	2.52	0.44
12:LL:63:GLU:O	12:LL:66:GLU:HG3	2.17	0.44
20:LT:36:ASN:OD1	20:LT:36:ASN:C	2.60	0.44
20:LT:99:LEU:HD12	20:LT:99:LEU:HA	1.79	0.44
23:LW:36:TYR:HD2	23:LW:83:TYR:HD2	1.64	0.44
24:LX:2:SER:HB2	24:LX:126:TRP:HH2	1.82	0.44
28:Lb:42:LEU:HD13	28:Lb:74:VAL:HB	1.98	0.44
30:Ld:54:LEU:HD22	30:Ld:58:LYS:NZ	2.31	0.44
37:Lk:42:SER:HA	37:Lk:45:ARG:HG2	1.99	0.44
43:Lq:9:LYS:HE3	43:Lq:9:LYS:HB3	1.80	0.44
46:Bb:31:A:H3'	46:Bb:32:C:C6	2.52	0.44
47:Cc:44:A:H2'	47:Cc:45:A:C8	2.52	0.44
48:S2:595:G:H2'	48:S2:596:C:C6	2.52	0.44
48:S2:1625:C:H2'	48:S2:1626:U:H6	1.81	0.44
50:SB:31:GLU:HA	50:SB:34:GLN:NE2	2.32	0.44
57:SI:22:LEU:HD12	57:SI:28:LEU:HD21	1.99	0.44
58:SJ:63:LEU:O	58:SJ:83:GLU:HA	2.17	0.44
64:SP:38:PHE:C	64:SP:38:PHE:HD1	2.26	0.44
67:SS:48:LEU:HD13	67:SS:52:LEU:HD12	1.99	0.44
67:SS:181:VAL:HA	67:SS:227:VAL:HA	1.99	0.44
71:SW:112:GLN:NE2	71:SW:148:VAL:HG21	2.32	0.44
77:Sc:130:VAL:HG21	77:Sc:143:PRO:HD3	1.99	0.44
81:Sg:37:ARG:O	81:Sg:41:THR:HG23	2.17	0.44
1:LA:21:G:H22	3:LC:138:A:H2	1.66	0.44
1:LA:234:G:N2	1:LA:235:A:H62	2.16	0.44
1:LA:512:U:H3	1:LA:579:G:H1	1.66	0.44
1:LA:1503:A:C4	1:LA:1504:A:C8	3.05	0.44
9:LI:137:GLY:HA3	9:LI:236:ILE:HB	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:165:PHE:HA	37:Lk:47:ILE:HD12	1.99	0.44
10:LJ:200:LEU:HD13	10:LJ:203:VAL:HG22	1.98	0.44
18:LR:24:VAL:HG21	18:LR:87:SER:HA	1.98	0.44
21:LU:27:MET:HE2	21:LU:27:MET:HB3	1.73	0.44
47:Cc:45:A:H2'	47:Cc:46:G:C8	2.52	0.44
48:S2:323:A:H5"	70:SV:11:ARG:HD2	1.98	0.44
48:S2:1254:U:H3'	48:S2:1255:G:C8	2.49	0.44
48:S2:1452:U:H2'	48:S2:1453:G:C8	2.51	0.44
48:S2:1584:G:N7	54:SF:14:LYS:HE2	2.32	0.44
51:SC:60:SER:HB2	51:SC:65:TYR:HE1	1.81	0.44
67:SS:152:PRO:HD2	68:ST:215:ARG:HE	1.82	0.44
75:Sa:38:LYS:O	75:Sa:46:ILE:HD12	2.17	0.44
78:Sd:43:LYS:HA	78:Sd:46:GLU:HG2	1.98	0.44
1:LA:671:U:H2'	1:LA:672:A:C8	2.53	0.44
1:LA:1035:G:H2'	1:LA:1036:A:C8	2.52	0.44
1:LA:1482:A:H2'	1:LA:1482:A:N3	2.33	0.44
1:LA:1742:U:H2'	1:LA:1743:G:C8	2.52	0.44
1:LA:3066:U:H2'	1:LA:3067:C:C6	2.52	0.44
1:LA:3333:G:H22	1:LA:3369:G:H1'	1.82	0.44
10:LJ:94:PHE:HB3	10:LJ:189:LEU:HD21	1.98	0.44
11:LK:93:VAL:HG12	41:Lo:82:LEU:HD13	1.99	0.44
11:LK:112:ILE:HD11	11:LK:134:ILE:HG12	2.00	0.44
15:LO:112:LEU:HB3	15:LO:116:GLU:HB2	2.00	0.44
27:La:104:LEU:HA	27:La:104:LEU:HD12	1.78	0.44
48:S2:1073:G:H4'	73:SY:10:GLY:HA2	2.00	0.44
48:S2:1162:C:H5"	48:S2:1163:A:H8	1.81	0.44
48:S2:1341:A:H4'	63:SO:102:ARG:NH1	2.32	0.44
48:S2:1553:G:H21	48:S2:1555:A:H8	1.63	0.44
49:SA:101:GLN:HG3	49:SA:126:VAL:HG22	1.99	0.44
49:SA:124:ARG:HA	49:SA:127:MET:HG3	1.99	0.44
66:SR:157:LYS:HD3	66:SR:170:ILE:HG23	1.99	0.44
67:SS:104:ASP:OD1	67:SS:105:VAL:N	2.47	0.44
70:SV:72:ILE:C	70:SV:72:ILE:HD12	2.41	0.44
71:SW:93:LEU:O	71:SW:93:LEU:HD13	2.17	0.44
77:Sc:19:ARG:O	77:Sc:23:ARG:HG2	2.17	0.44
1:LA:277:G:H2'	1:LA:278:U:C6	2.52	0.44
1:LA:1948:G:H2'	1:LA:1949:G:C8	2.51	0.44
1:LA:2881:C:H2'	1:LA:2882:U:C6	2.51	0.44
1:LA:3282:U:P	1:LA:3282:U:H6	2.40	0.44
3:LC:6:U:C2	3:LC:7:U:C5	3.06	0.44
6:LF:99:MET:HE3	6:LF:99:MET:HB2	1.84	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LF:125:ALA:O	6:LF:129:THR:HG23	2.17	0.44
11:LK:47:LYS:HZ1	11:LK:50:ASN:HB3	1.82	0.44
12:LL:211:ARG:NH1	12:LL:211:ARG:HB3	2.33	0.44
13:LM:15:GLU:O	13:LM:72:ARG:HG2	2.18	0.44
18:LR:109:ALA:HA	18:LR:112:LEU:HD12	2.00	0.44
35:Li:5:VAL:HG11	35:Li:22:VAL:HG13	1.99	0.44
36:Lj:26:LYS:HE3	36:Lj:26:LYS:HB2	1.73	0.44
48:S2:122:U:H2'	48:S2:123:G:C8	2.53	0.44
48:S2:169:A:O2'	48:S2:170:U:H3'	2.17	0.44
48:S2:448:C:H2'	48:S2:449:C:C6	2.52	0.44
48:S2:590:C:H2'	48:S2:591:A:C8	2.52	0.44
48:S2:1179:G:N2	48:S2:1460:A:H62	2.13	0.44
48:S2:1419:G:H2'	48:S2:1420:C:C6	2.52	0.44
48:S2:1615:C:H2'	50:SB:81:ARG:HD3	1.99	0.44
49:SA:37:VAL:HG12	49:SA:50:ILE:HG12	1.99	0.44
52:SD:49:THR:HG21	62:SN:106:TYR:OH	2.16	0.44
53:SE:68:PRO:HG2	53:SE:71:GLU:HB3	1.99	0.44
54:SF:127:LYS:HA	54:SF:134:ALA:HA	2.00	0.44
56:SH:101:LEU:H	56:SH:104:ASN:HB2	1.81	0.44
58:SJ:58:LEU:HD12	58:SJ:88:LYS:HB2	2.00	0.44
63:SO:91:LEU:HB3	63:SO:100:TYR:HB2	1.99	0.44
63:SO:111:MET:SD	63:SO:127:ARG:HB2	2.57	0.44
74:SZ:117:ASP:HB3	79:Se:44:ILE:HD11	1.99	0.44
1:LA:1071:U:O2'	1:LA:1072:G:H8	2.00	0.44
1:LA:1383:G:H4'	6:LF:240:PRO:HB2	2.00	0.44
1:LA:2217:U:H2'	1:LA:2218:G:H8	1.83	0.44
1:LA:2677:G:H22	1:LA:2680:A:H8	1.65	0.44
1:LA:2857:C:H2'	1:LA:2858:U:C6	2.52	0.44
3:LC:18:U:H2'	3:LC:19:C:C6	2.52	0.44
5:LE:299:ASP:C	5:LE:299:ASP:OD1	2.61	0.44
10:LJ:94:PHE:HE1	10:LJ:152:LEU:HD22	1.82	0.44
10:LJ:134:TYR:HB3	10:LJ:190:VAL:HG11	1.99	0.44
12:LL:51:HIS:HB2	12:LL:166:ILE:HG12	1.99	0.44
13:LM:62:ASN:C	13:LM:62:ASN:HD22	2.24	0.44
13:LM:125:MET:HG2	13:LM:127:PHE:HE1	1.82	0.44
26:LZ:58:ASP:OD2	26:LZ:58:ASP:C	2.60	0.44
46:Bb:37:G:C4	46:Bb:38:A:C8	3.05	0.44
48:S2:93:A:N6	48:S2:396:G:H1'	2.33	0.44
48:S2:481:A:H2'	48:S2:482:U:C6	2.53	0.44
48:S2:631:G:H2'	48:S2:632:U:C6	2.53	0.44
48:S2:789:A:H2'	48:S2:790:U:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:882:U:H2'	48:S2:883:C:C6	2.52	0.44
48:S2:1280:C:H5"	58:SJ:69:LYS:CG	2.40	0.44
48:S2:1382:A:H2'	48:S2:1383:G:C8	2.52	0.44
49:SA:7:LYS:H	49:SA:7:LYS:HG2	1.54	0.44
49:SA:40:ARG:HG2	58:SJ:110:PRO:HB3	1.98	0.44
49:SA:184:ILE:HG22	49:SA:186:VAL:HG23	2.00	0.44
50:SB:109:LYS:O	50:SB:113:ILE:HG13	2.18	0.44
64:SP:110:TYR:HA	64:SP:115:PHE:CG	2.52	0.44
66:SR:66:PHE:CD1	66:SR:130:ILE:HG23	2.52	0.44
67:SS:100:ARG:HH12	67:SS:122:LYS:HA	1.82	0.44
70:SV:92:ARG:HA	70:SV:92:ARG:HH11	1.82	0.44
77:Sc:62:LYS:HG2	77:Sc:63:GLN:H	1.82	0.44
1:LA:737:G:H2'	1:LA:738:A:H8	1.82	0.44
1:LA:1660:C:H2'	1:LA:1661:G:H8	1.81	0.44
1:LA:2656:A:C5	1:LA:2658:G:C8	3.06	0.44
1:LA:2997:G:H2'	1:LA:2998:U:C6	2.53	0.44
8:LH:94:GLU:OE1	8:LH:94:GLU:HA	2.16	0.44
11:LK:45:PHE:CD2	11:LK:55:VAL:HG12	2.53	0.44
12:LL:30:LYS:HB3	12:LL:66:GLU:HG2	1.99	0.44
15:LO:31:LYS:HD3	15:LO:51:ALA:O	2.18	0.44
16:LP:165:THR:O	16:LP:169:LYS:HG3	2.18	0.44
17:LQ:189[A]:ASP:O	17:LQ:193[A]:GLN:HG3	2.18	0.44
18:LR:49:GLU:HA	18:LR:49:GLU:OE2	2.18	0.44
26:LZ:61:LYS:HB2	26:LZ:61:LYS:HE3	1.70	0.44
37:Lk:68:ARG:HA	37:Lk:71:LYS:HE3	1.99	0.44
46:Bb:55:U:O2	46:Bb:57:G:H8	2.00	0.44
48:S2:26:A:H2'	48:S2:27:U:C6	2.52	0.44
48:S2:95:G:OP1	67:SS:6:LYS:HD2	2.17	0.44
48:S2:555:A:N1	71:SW:19:TYR:HD1	2.15	0.44
48:S2:740:A:H2'	48:S2:741:C:C6	2.53	0.44
48:S2:773:C:P	67:SS:21:ASP:HB2	2.58	0.44
48:S2:887:A:H5"	74:SZ:120:PRO:HB2	1.99	0.44
48:S2:1461:C:P	56:SH:143:ARG:HG3	2.58	0.44
51:SC:73:VAL:O	51:SC:77:ARG:HB2	2.17	0.44
55:SG:82:ASP:HA	64:SP:84:ARG:NH2	2.33	0.44
62:SN:136:LYS:O	62:SN:138:ARG:HG2	2.18	0.44
63:SO:299:GLN:OE1	63:SO:314:GLN:HB3	2.18	0.44
67:SS:127:LYS:HE2	67:SS:127:LYS:HA	1.98	0.44
67:SS:222:LEU:HA	67:SS:222:LEU:HD23	1.87	0.44
68:ST:185:GLN:HG3	68:ST:186:ARG:N	2.33	0.44
1:LA:593:C:H3'	1:LA:594:U:H5'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2351:U:H2'	1:LA:2352:A:H8	1.82	0.44
1:LA:2366:C:H2'	1:LA:2367:A:C8	2.53	0.44
1:LA:2722:U:H2'	1:LA:2723:U:C6	2.52	0.44
2:LB:4:U:H2'	2:LB:5:G:H8	1.82	0.44
5:LE:348:ARG:HG3	5:LE:348:ARG:O	2.18	0.44
10:LJ:71:VAL:HG23	10:LJ:75:ILE:HB	1.99	0.44
12:LL:190:VAL:HG13	12:LL:197:VAL:HG21	1.98	0.44
15:LO:116:GLU:O	15:LO:120:VAL:HG23	2.17	0.44
17:LQ:61[A]:ALA:HA	17:LQ:70[A]:PRO:HD2	1.98	0.44
17:LQ:62[A]:THR:H	17:LQ:69[A]:GLY:HA3	1.83	0.44
19:LS:34:THR:HA	19:LS:49:LEU:HD22	2.00	0.44
24:LX:20:GLY:HA2	24:LX:35:TYR:CE1	2.52	0.44
31:Le:18:ILE:HG23	31:Le:23:TYR:OH	2.18	0.44
34:Lh:59:VAL:HG23	34:Lh:60:ARG:H	1.82	0.44
48:S2:304:U:O2	48:S2:304:U:H2'	2.18	0.44
48:S2:1783:C:H2'	48:S2:1784:C:H6	1.83	0.44
54:SF:60:PHE:HA	54:SF:63:ILE:HD13	2.00	0.44
55:SG:25:THR:H	55:SG:31:ASN:HD21	1.64	0.44
56:SH:119:ILE:O	56:SH:120:ARG:HB3	2.18	0.44
63:SO:178:VAL:HB	63:SO:192:PHE:HB2	2.00	0.44
65:SQ:144:ARG:HB3	65:SQ:208:GLN:H	1.83	0.44
66:SR:109:GLY:N	66:SR:141:ARG:HH12	2.16	0.44
67:SS:194:THR:HG23	67:SS:211:LYS:O	2.17	0.44
1:LA:518:G:H2'	1:LA:520:U:H5'	1.99	0.44
1:LA:947:G:H2'	1:LA:948:C:C6	2.52	0.44
1:LA:1240:A:C8	1:LA:1241:U:H4'	2.51	0.44
1:LA:1321:G:N2	21:LU:112:ALA:HB2	2.33	0.44
1:LA:1486:G:H21	35:Li:6:THR:HG22	1.82	0.44
1:LA:1612:A:H5"	39:Lm:51:LEU:HD22	1.99	0.44
1:LA:2095:G:H2'	1:LA:2096:A:C8	2.49	0.44
1:LA:2426:U:H2'	1:LA:2427:U:H6	1.82	0.44
1:LA:2668:U:H2'	1:LA:2669:G:C8	2.53	0.44
1:LA:2775:U:H2'	1:LA:2776:C:C6	2.53	0.44
1:LA:3051:U:C2	1:LA:3052:G:C8	3.06	0.44
1:LA:3387:U:H2'	1:LA:3388:C:C6	2.52	0.44
2:LB:108:A:H2'	2:LB:109:G:C8	2.51	0.44
10:LJ:56:VAL:O	10:LJ:60:ARG:HD2	2.17	0.44
17:LQ:179[A]:ALA:HA	17:LQ:182[A]:ASN:ND2	2.32	0.44
37:Lk:75:LYS:HB2	37:Lk:75:LYS:HE2	1.79	0.44
39:Lm:14:LEU:HD23	39:Lm:14:LEU:HA	1.84	0.44
48:S2:96:G:H21	48:S2:426:G:H5'	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:889:U:H2'	48:S2:890:C:C6	2.53	0.44
48:S2:1179:G:H2'	48:S2:1180:C:C5	2.53	0.44
58:SJ:57:ARG:HG2	58:SJ:89:ARG:HH11	1.83	0.44
65:SQ:135:LEU:HD12	65:SQ:217:LEU:HA	1.98	0.44
65:SQ:160:HIS:O	65:SQ:164:ILE:HG12	2.18	0.44
66:SR:76:LEU:HA	66:SR:106:ASP:HA	1.99	0.44
67:SS:36:HIS:NE2	67:SS:143:ASP:HA	2.32	0.44
67:SS:162:ILE:HD13	67:SS:162:ILE:HA	1.87	0.44
69:SU:160:GLN:HA	69:SU:163:ASP:HB3	1.99	0.44
71:SW:2:PRO:HB2	71:SW:3:ARG:H	1.61	0.44
77:Sc:140:LYS:HB2	77:Sc:140:LYS:HE2	1.71	0.44
78:Sd:39:GLU:O	78:Sd:42:GLU:HG2	2.17	0.44
78:Sd:112:LYS:HA	78:Sd:115:ASP:OD2	2.18	0.44
81:Sg:54:ARG:NH1	81:Sg:56:MET:HE2	2.31	0.44
1:LA:26:A:H2'	1:LA:27:C:H6	1.83	0.44
1:LA:811:U:H2'	1:LA:812:G:C8	2.53	0.44
1:LA:916:G:H4'	1:LA:917:A:O5'	2.18	0.44
1:LA:1676:A:OP2	23:LW:72:SER:HB2	2.18	0.44
1:LA:1718:G:H2'	1:LA:1719:G:C8	2.53	0.44
1:LA:2196:C:H2'	1:LA:2242:A:H61	1.82	0.44
1:LA:2863:G:C4	1:LA:2864:A:C8	3.06	0.44
3:LC:65:A:H2'	3:LC:66:A:H8	1.83	0.44
4:LD:4:VAL:HG12	4:LD:9:ARG:HG2	1.99	0.44
5:LE:139:GLN:OE1	5:LE:139:GLN:N	2.51	0.44
7:LG:115:LEU:HD22	7:LG:119:TYR:HD2	1.82	0.44
10:LJ:176:PRO:HG3	10:LJ:215:VAL:HG13	1.99	0.44
14:LN:43:ALA:HB2	14:LN:51:LEU:HD13	1.99	0.44
15:LO:131:VAL:HG22	17:LQ:182[A]:ASN:HB2	2.00	0.44
19:LS:64:VAL:HG23	19:LS:93:ILE:HD11	1.99	0.44
19:LS:148:GLU:O	19:LS:151:ARG:HG2	2.17	0.44
40:Ln:49:MET:HB3	40:Ln:49:MET:HE2	1.67	0.44
48:S2:98:U:H2'	48:S2:99:C:C6	2.53	0.44
48:S2:296:U:O2	67:SS:37:LYS:HD3	2.17	0.44
48:S2:1045:C:H2'	48:S2:1046:G:C8	2.53	0.44
48:S2:1415:U:H2'	48:S2:1416:G:H8	1.83	0.44
48:S2:1458:G:H2'	48:S2:1459:C:O4'	2.18	0.44
48:S2:1579:U:H2'	48:S2:1580:C:C6	2.53	0.44
50:SB:75:GLY:HA3	50:SB:77:TYR:CE2	2.52	0.44
50:SB:162:VAL:HG13	60:SL:54:LEU:HD13	2.00	0.44
52:SD:40:GLY:HA3	52:SD:124:LYS:HG2	2.00	0.44
58:SJ:105:GLN:O	58:SJ:108:ILE:HD11	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SK:80:LEU:HD22	59:SK:101:TYR:CE2	2.53	0.44
59:SK:99:ALA:HB1	59:SK:101:TYR:CE1	2.52	0.44
65:SQ:70:LEU:HB3	65:SQ:79:HIS:HB3	2.00	0.44
67:SS:200:ARG:HA	67:SS:200:ARG:HD2	1.79	0.44
69:SU:75:THR:O	69:SU:79:ARG:HG3	2.18	0.44
70:SV:195:ARG:HB3	70:SV:195:ARG:NH1	2.33	0.44
72:SX:81:HIS:O	72:SX:83:THR:HG22	2.18	0.44
76:Sb:43:LYS:HE2	76:Sb:43:LYS:HB2	1.66	0.44
80:Sf:24:LEU:HD12	80:Sf:24:LEU:HA	1.77	0.44
80:Sf:64:CYS:HB3	80:Sf:73:LEU:HD23	2.00	0.44
1:LA:340:C:H2'	1:LA:341:G:O4'	2.17	0.43
1:LA:715:A:OP1	29:Lc:133:LEU:HD23	2.18	0.43
1:LA:788:C:C2	1:LA:789:A:C8	3.07	0.43
1:LA:847:A:H2'	1:LA:848:A:C8	2.52	0.43
1:LA:1135:A:H5'	30:Ld:7:HIS:O	2.18	0.43
5:LE:85:VAL:HB	5:LE:163:HIS:CD2	2.53	0.43
5:LE:339:ARG:HG2	5:LE:339:ARG:HH11	1.83	0.43
9:LI:170:GLU:HG3	9:LI:179:LEU:HD22	2.00	0.43
29:Lc:139:ARG:HB3	29:Lc:139:ARG:HH11	1.80	0.43
48:S2:351:C:H3'	48:S2:352:A:H5'	2.00	0.43
48:S2:448:C:H2'	48:S2:449:C:H6	1.83	0.43
48:S2:474:A:H4'	48:S2:475:A:OP1	2.18	0.43
48:S2:1147:A:H2'	48:S2:1148:C:C6	2.53	0.43
48:S2:1547:A:H1'	56:SH:88:ARG:NH1	2.27	0.43
49:SA:96:LEU:HD21	49:SA:190:ARG:HD2	2.00	0.43
54:SF:10:PHE:HA	54:SF:18:ALA:O	2.18	0.43
55:SG:14:LYS:HG3	55:SG:15:ALA:N	2.33	0.43
58:SJ:38:SER:O	58:SJ:41:ILE:HG22	2.18	0.43
64:SP:17:LEU:HD12	64:SP:172:LEU:HD21	1.99	0.43
64:SP:188:LEU:HD22	64:SP:195:TRP:CD1	2.53	0.43
67:SS:192:ILE:N	67:SS:192:ILE:HD12	2.33	0.43
68:ST:30:LYS:O	68:ST:102:VAL:HG23	2.17	0.43
69:SU:44:LYS:HB2	69:SU:44:LYS:HE3	1.81	0.43
72:SX:33:ARG:NH2	72:SX:61:THR:HG21	2.32	0.43
1:LA:210:U:C2	1:LA:230:U:H4'	2.53	0.43
1:LA:275:U:H2'	1:LA:276:U:C6	2.53	0.43
1:LA:860:G:O2'	1:LA:895:A:H4'	2.18	0.43
1:LA:935:U:H5"	29:Lc:32:ARG:NH2	2.33	0.43
1:LA:1426:C:H4'	6:LF:40:THR:HG23	2.00	0.43
1:LA:1663:C:H2'	1:LA:1664:G:H8	1.82	0.43
1:LA:2444:C:H4'	1:LA:2445:A:O5'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2717:U:H2'	1:LA:2718:U:C6	2.53	0.43
1:LA:3007:U:H2'	1:LA:3008:A:C8	2.53	0.43
1:LA:3304:U:P	5:LE:332:ARG:HH22	2.41	0.43
2:LB:116:C:H2'	2:LB:117:A:C8	2.53	0.43
5:LE:236:LYS:HB2	5:LE:236:LYS:HE2	1.84	0.43
11:LK:20:ILE:HG12	11:LK:25:VAL:HG13	1.98	0.43
20:LT:133:LYS:HE2	20:LT:133:LYS:HB2	1.65	0.43
26:LZ:96:LYS:HG2	26:LZ:107:VAL:CG2	2.47	0.43
27:La:58:VAL:HA	27:La:104:LEU:HD12	2.00	0.43
48:S2:154:G:H1'	68:ST:59:GLN:HA	1.99	0.43
48:S2:397:A:H2'	48:S2:398:G:O4'	2.18	0.43
48:S2:1388:A:H5"	55:SG:48:ASN:OD1	2.18	0.43
50:SB:136:ALA:O	50:SB:140:THR:HG22	2.18	0.43
57:SI:99:SER:O	57:SI:102:ARG:HG2	2.18	0.43
64:SP:118:PRO:O	64:SP:119:ARG:HD2	2.19	0.43
66:SR:230:TRP:HZ2	76:Sb:46:TYR:CE1	2.36	0.43
73:SY:33:VAL:O	73:SY:37:ILE:HG12	2.18	0.43
74:SZ:16:VAL:HG12	74:SZ:18:ARG:HG2	2.01	0.43
1:LA:529:A:H2'	1:LA:530:G:H8	1.84	0.43
1:LA:1107:C:H6	1:LA:1107:C:H5'	1.82	0.43
1:LA:1722:U:H1'	20:LT:96:ILE:HD11	2.00	0.43
1:LA:1740:U:H1'	1:LA:1741:A:H2	1.84	0.43
1:LA:2918:G:C2	1:LA:2919:A:N7	2.86	0.43
1:LA:3159:C:H2'	1:LA:3160:U:C6	2.51	0.43
1:LA:3314:A:OP1	5:LE:175:LYS:HB2	2.18	0.43
9:LI:89:ILE:HD12	9:LI:214:TRP:HH2	1.83	0.43
11:LK:90:MET:HA	11:LK:181:VAL:HA	2.01	0.43
24:LX:86:ARG:HB2	24:LX:92:PHE:CE2	2.54	0.43
29:Lc:98:THR:O	29:Lc:98:THR:HG22	2.19	0.43
33:Lg:32:TRP:CZ2	33:Lg:53:PRO:HD2	2.52	0.43
34:Lh:93:THR:HB	34:Lh:96:ALA:HB3	2.00	0.43
39:Lm:12:LEU:HA	39:Lm:15:THR:HG22	2.00	0.43
40:Ln:9:ILE:HG23	40:Ln:51:ILE:HD11	1.99	0.43
44:Lr:78:THR:O	44:Lr:82:THR:HG22	2.17	0.43
48:S2:253:A:H2'	48:S2:254:A:C8	2.53	0.43
48:S2:400:A:H4'	48:S2:401:A:OP2	2.17	0.43
48:S2:562:G:H21	81:Sg:14:VAL:CG2	2.29	0.43
48:S2:888:U:H2'	48:S2:889:U:C6	2.54	0.43
48:S2:1395:G:H2'	48:S2:1396:U:C6	2.53	0.43
49:SA:11:LEU:HA	49:SA:14:ASP:OD2	2.18	0.43
53:SE:94:VAL:HG21	53:SE:116:LEU:HD21	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SH:103:ASN:HD22	56:SH:103:ASN:N	2.17	0.43
60:SL:12:VAL:HG22	60:SL:52:ASP:HB3	1.99	0.43
63:SO:180:ALA:O	63:SO:189:GLU:HG3	2.18	0.43
69:SU:99:LEU:HD13	69:SU:116:ARG:HG2	2.01	0.43
70:SV:67:TRP:CG	70:SV:70:GLU:HB2	2.54	0.43
70:SV:107:THR:HB	70:SV:108:PRO:HD3	2.00	0.43
73:SY:62:GLN:O	73:SY:65:VAL:HG22	2.18	0.43
76:Sb:47:ILE:HG13	76:Sb:48:GLY:H	1.83	0.43
1:LA:503:C:H2'	1:LA:504:A:C8	2.54	0.43
1:LA:1709:C:H2'	1:LA:1710:C:H6	1.83	0.43
1:LA:2599:U:H2'	1:LA:2600:C:H6	1.83	0.43
1:LA:2882:U:H2'	1:LA:2883:U:H6	1.82	0.43
1:LA:2943:G:H2'	1:LA:2944:U:O4'	2.18	0.43
9:LI:222:HIS:ND1	9:LI:224:ILE:HG12	2.32	0.43
10:LJ:78:PHE:HE1	10:LJ:164:VAL:HG23	1.82	0.43
14:LN:80:VAL:HG13	14:LN:85:LEU:HB2	2.00	0.43
29:Lc:22:ILE:HD12	29:Lc:22:ILE:H	1.83	0.43
48:S2:814:A:N6	48:S2:858:G:H1'	2.33	0.43
48:S2:908:U:H1'	48:S2:996:U:O2'	2.18	0.43
48:S2:1233:G:H21	62:SN:145:HIS:CE1	2.37	0.43
49:SA:8:LYS:HG2	49:SA:9:ARG:N	2.34	0.43
50:SB:116:HIS:CG	59:SK:98:GLN:HG2	2.53	0.43
50:SB:173:ALA:O	50:SB:177:ILE:HG22	2.18	0.43
50:SB:190:ILE:O	50:SB:194:LEU:HD13	2.19	0.43
66:SR:116:LYS:HG2	66:SR:127:ALA:HB3	1.99	0.43
71:SW:16:LYS:HD3	71:SW:16:LYS:HA	1.78	0.43
71:SW:71:PHE:CD1	71:SW:71:PHE:C	2.97	0.43
77:Sc:63:GLN:HA	77:Sc:64:PRO:HA	1.88	0.43
1:LA:119:U:H2'	10:LJ:138:HIS:CE1	2.53	0.43
1:LA:1190:A:H2'	1:LA:1190:A:N3	2.34	0.43
1:LA:1225:A:H2'	1:LA:1226:G:C8	2.53	0.43
1:LA:1662:G:H2'	1:LA:1663:C:H6	1.83	0.43
1:LA:2166:A:OP1	16:LP:76:PRO:HB3	2.18	0.43
1:LA:2677:G:H2'	1:LA:2677:G:N3	2.33	0.43
20:LT:173:ARG:O	20:LT:177:VAL:HG22	2.18	0.43
29:Lc:123:VAL:H	29:Lc:143:GLY:HA3	1.83	0.43
33:Lg:90:LYS:HE2	33:Lg:90:LYS:HB2	1.86	0.43
46:Bb:21:A:N6	46:Bb:46:G:H1'	2.33	0.43
48:S2:59:C:H1'	48:S2:452:A:C8	2.54	0.43
48:S2:141:U:C5	68:ST:183:ARG:HD3	2.54	0.43
48:S2:920:U:H2'	48:S2:921:U:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:996:U:H2'	48:S2:997:G:C8	2.53	0.43
48:S2:1172:G:H21	57:SI:88:VAL:HG21	1.84	0.43
49:SA:65:ARG:O	49:SA:69:LEU:HG	2.19	0.43
50:SB:55:ASP:O	50:SB:59:VAL:HG13	2.18	0.43
55:SG:41:ILE:HG22	55:SG:42:GLN:N	2.34	0.43
57:SI:107:ALA:O	57:SI:111:ILE:HG12	2.18	0.43
64:SP:50:VAL:O	64:SP:53:THR:HG22	2.19	0.43
65:SQ:197:ILE:O	65:SQ:201:THR:HG23	2.19	0.43
78:Sd:44:LEU:HA	78:Sd:47:VAL:HG22	2.00	0.43
78:Sd:88:THR:HA	78:Sd:91:LEU:HG	2.01	0.43
1:LA:632:G:H21	34:Lh:23:ASN:HD21	1.66	0.43
1:LA:830:A:H2'	1:LA:831:G:O4'	2.18	0.43
1:LA:911:C:OP2	4:LD:9:ARG:HD2	2.18	0.43
1:LA:1178:G:O6	34:Lh:20:LYS:HB2	2.18	0.43
1:LA:1203:A:H61	1:LA:1300:G:H2'	1.84	0.43
1:LA:2103:U:H2'	1:LA:2104:A:C8	2.54	0.43
1:LA:2808:A:H4'	1:LA:2809:C:H5"	2.01	0.43
2:LB:116:C:H2'	2:LB:117:A:H8	1.84	0.43
4:LD:178:PRO:HD2	44:Lr:26:VAL:HG23	2.00	0.43
8:LH:148:GLU:O	8:LH:151:LYS:HB2	2.18	0.43
12:LL:30:LYS:HG3	12:LL:63:GLU:HG3	1.99	0.43
15:LO:115:PHE:O	15:LO:119:GLN:HG3	2.18	0.43
32:Lf:72:ARG:HD3	32:Lf:104:LEU:HD12	1.99	0.43
48:S2:341:A:H2'	48:S2:342:C:C6	2.53	0.43
48:S2:400:A:H8	70:SV:24:LYS:O	2.02	0.43
48:S2:532:U:O2	78:Sd:33:ALA:HB1	2.19	0.43
48:S2:765:G:H1	71:SW:149:ARG:NE	2.16	0.43
48:S2:1182:U:O2	48:S2:1182:U:H2'	2.19	0.43
48:S2:1274:C:H1'	48:S2:1275:A:OP2	2.19	0.43
48:S2:1677:C:H4'	70:SV:59:ARG:HH22	1.84	0.43
54:SF:129:PHE:HE1	58:SJ:78:THR:HA	1.84	0.43
64:SP:49:ASN:HB3	64:SP:52:LYS:HG3	2.00	0.43
65:SQ:103:MET:HE3	65:SQ:188:LEU:HD11	2.00	0.43
65:SQ:164:ILE:HD11	65:SQ:204:ILE:HB	2.01	0.43
66:SR:35:TRP:CE2	66:SR:37:PRO:HB3	2.53	0.43
69:SU:49:ILE:CD1	69:SU:175:LYS:HG2	2.49	0.43
80:Sf:79:PHE:C	80:Sf:79:PHE:CD2	2.95	0.43
1:LA:696:C:OP1	6:LF:272:VAL:HG22	2.19	0.43
1:LA:951:A:H5"	1:LA:1143:A:N1	2.34	0.43
1:LA:1157:G:H2'	1:LA:1158:A:O4'	2.19	0.43
1:LA:1232:C:H2'	1:LA:1233:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1534:A:H4'	1:LA:1797:A:H62	1.84	0.43
1:LA:1688:U:C2	1:LA:1689:U:C5	3.06	0.43
1:LA:2112:U:H4'	1:LA:2113:A:OP2	2.17	0.43
1:LA:3101:G:H2'	1:LA:3102:G:H8	1.84	0.43
1:LA:3180:A:C6	17:LQ:114[A]:LYS:HG2	2.54	0.43
9:LI:184:LEU:HD12	9:LI:198:ALA:HB1	2.01	0.43
10:LJ:161:GLU:HB3	16:LP:10:LEU:HD23	2.00	0.43
11:LK:43:VAL:HG23	11:LK:57:VAL:HG23	2.00	0.43
14:LN:3:ILE:CD1	29:Lc:45:MET:HE1	2.49	0.43
15:LO:94:TRP:CE2	15:LO:100:ALA:HB2	2.53	0.43
35:Li:8:ARG:HG3	35:Li:34:HIS:HD2	1.82	0.43
46:Bb:1:G:H2'	46:Bb:2:C:C6	2.53	0.43
46:Bb:68:U:H2'	46:Bb:69:U:C6	2.54	0.43
48:S2:144:U:H2'	48:S2:145:A:C8	2.54	0.43
48:S2:180:A:H2'	48:S2:180:A:N3	2.34	0.43
48:S2:371:G:H2'	48:S2:372:G:H5'	2.00	0.43
48:S2:373:G:H21	48:S2:604:A:H5'	1.84	0.43
48:S2:963:A:H4'	73:SY:128:TYR:OH	2.19	0.43
48:S2:1408:G:H1'	63:SO:17:ASN:ND2	2.33	0.43
48:S2:1561:U:H2'	48:S2:1562:G:C8	2.46	0.43
49:SA:51:ARG:HH11	49:SA:89:GLU:HG2	1.84	0.43
49:SA:72:LEU:CD2	51:SC:20:VAL:HG21	2.48	0.43
56:SH:63:GLN:O	56:SH:66:LEU:HG	2.19	0.43
63:SO:111:MET:HG3	63:SO:151:VAL:O	2.19	0.43
64:SP:147:THR:HG22	64:SP:148:ASP:O	2.18	0.43
65:SQ:105:PHE:CD1	65:SQ:213:ARG:HA	2.54	0.43
71:SW:140:ILE:HD13	78:Sd:65:GLY:HA3	2.01	0.43
78:Sd:111:LYS:HA	78:Sd:114:ARG:HG2	2.00	0.43
1:LA:422:A:C2	1:LA:2363:A:H4'	2.54	0.43
1:LA:871:U:H2'	1:LA:872:U:C6	2.54	0.43
1:LA:2202:C:H5"	4:LD:226:SER:HB2	2.00	0.43
3:LC:9:A:H2'	3:LC:10:A:H8	1.83	0.43
3:LC:134:G:OP1	26:LZ:56:ARG:HD2	2.19	0.43
5:LE:62:ARG:HH22	5:LE:349:LYS:HE2	1.84	0.43
5:LE:256:HIS:HA	5:LE:257:PRO:C	2.42	0.43
11:LK:47:LYS:HE2	11:LK:47:LYS:HB2	1.55	0.43
14:LN:3:ILE:HD13	29:Lc:45:MET:HE1	2.01	0.43
47:Cc:53:G:C4	47:Cc:54:G:C8	3.07	0.43
48:S2:386:G:OP1	70:SV:23:LYS:HD3	2.19	0.43
48:S2:599:A:H2'	48:S2:600:U:C6	2.54	0.43
48:S2:1230:A:N6	48:S2:1255:G:H1'	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SB:164:PRO:HB2	60:SL:49:ARG:HH12	1.84	0.43
51:SC:28:ASN:H	51:SC:40:LEU:HD22	1.84	0.43
60:SL:54:LEU:HD12	60:SL:55:VAL:N	2.34	0.43
68:ST:153:VAL:HG11	68:ST:177:ARG:NH2	2.33	0.43
69:SU:124:LYS:HD3	69:SU:124:LYS:HA	1.78	0.43
72:SX:7:VAL:HG23	72:SX:8:GLN:NE2	2.34	0.43
74:SZ:83:ILE:O	74:SZ:117:ASP:HA	2.19	0.43
78:Sd:29:HIS:HB2	78:Sd:32:ARG:HE	1.84	0.43
1:LA:190:U:H2'	27:La:60:ARG:NH2	2.34	0.43
1:LA:1211:U:H2'	1:LA:1212:A:C8	2.54	0.43
1:LA:1277:C:O2'	1:LA:1278:A:H8	2.01	0.43
1:LA:2836:C:H5	1:LA:2852:C:H42	1.67	0.43
1:LA:2840:C:H2'	1:LA:2841:G:O4'	2.19	0.43
1:LA:3064:U:H2'	1:LA:3065:G:C8	2.53	0.43
1:LA:3089:C:H2'	1:LA:3090:U:O4'	2.19	0.43
1:LA:3146:G:H2'	1:LA:3147:G:C8	2.54	0.43
2:LB:3:U:H2'	2:LB:4:U:C6	2.53	0.43
7:LG:148:ILE:HD12	7:LG:151:GLN:O	2.19	0.43
7:LG:279:LYS:HE2	7:LG:279:LYS:HB3	1.80	0.43
9:LI:141:TYR:HD1	9:LI:189:ILE:HD13	1.83	0.43
16:LP:70:ASN:HB3	16:LP:92:LEU:O	2.19	0.43
16:LP:177:GLY:H	16:LP:184:LYS:NZ	2.17	0.43
17:LQ:18[A]:ARG:O	17:LQ:22[A]:VAL:HG23	2.19	0.43
35:Li:46:ASP:HB2	35:Li:84:CYS:SG	2.59	0.43
48:S2:1310:U:H2'	48:S2:1311:U:C6	2.54	0.43
48:S2:1451:C:C5'	61:SM:10:HIS:HB2	2.49	0.43
50:SB:121:ILE:HG23	50:SB:129:PRO:HB3	2.01	0.43
58:SJ:48:HIS:HB3	58:SJ:50:LEU:HD13	2.01	0.43
63:SO:170:ILE:HD13	63:SO:202:LEU:HD11	2.01	0.43
1:LA:192:C:H2'	1:LA:193:C:H6	1.83	0.43
4:LD:113:VAL:HG21	4:LD:136:ILE:HD11	2.00	0.43
5:LE:87:VAL:O	5:LE:87:VAL:HG23	2.19	0.43
6:LF:308:LYS:HB3	6:LF:308:LYS:HE2	1.82	0.43
7:LG:52:VAL:O	7:LG:62:CYS:HA	2.18	0.43
8:LH:46:ARG:NH1	8:LH:46:ARG:HG2	2.34	0.43
11:LK:174:LYS:HB2	41:Lo:127:LEU:HD11	2.01	0.43
13:LM:53:THR:OG1	13:LM:60:ARG:HA	2.19	0.43
15:LO:122:VAL:O	15:LO:126:GLN:HG3	2.18	0.43
26:LZ:40:LEU:HD12	26:LZ:40:LEU:HA	1.82	0.43
30:Ld:5:LYS:HE3	30:Ld:8:THR:HB	2.01	0.43
48:S2:1525:A:H2'	48:S2:1526:A:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SA:104:SER:HA	49:SA:107:PHE:CD1	2.54	0.43
64:SP:67:ILE:HD11	64:SP:120:LEU:HB2	1.99	0.43
65:SQ:30:PHE:CD2	65:SQ:94:LYS:HA	2.54	0.43
68:ST:57:ASP:HA	68:ST:106:LEU:HA	2.00	0.43
70:SV:72:ILE:HG21	70:SV:112:TRP:NE1	2.33	0.43
71:SW:136:VAL:HG12	71:SW:156:ILE:HD11	2.01	0.43
77:Sc:37:ALA:HA	77:Sc:41:SER:OG	2.19	0.43
1:LA:375:A:H1'	27:La:87:LYS:HE3	2.00	0.42
1:LA:562:C:H2'	1:LA:563:U:C6	2.53	0.42
1:LA:697:A:H2'	1:LA:698:U:C5	2.54	0.42
1:LA:1597:C:H5'	1:LA:1696:A:H1'	2.01	0.42
1:LA:2496:C:H2'	1:LA:2497:U:H5	1.84	0.42
1:LA:3176:G:N2	1:LA:3213:A:H1'	2.34	0.42
2:LB:107:C:H2'	2:LB:108:A:H8	1.83	0.42
5:LE:284:ARG:HB3	5:LE:323:MET:CG	2.49	0.42
10:LJ:249:ARG:HA	10:LJ:252:ASN:HD21	1.83	0.42
12:LL:212:GLU:OE1	12:LL:213:PHE:CD1	2.71	0.42
14:LN:46:ILE:HD13	14:LN:49:ARG:HB2	2.01	0.42
14:LN:60:ALA:HB3	14:LN:65:TYR:O	2.19	0.42
21:LU:90:MET:SD	21:LU:110:MET:HE1	2.59	0.42
25:LY:47:ARG:CZ	25:LY:58:HIS:HB2	2.49	0.42
35:Li:58:ARG:HD2	35:Li:58:ARG:HA	1.61	0.42
41:Lo:106:ARG:NE	41:Lo:106:ARG:HA	2.34	0.42
43:Lq:15:LYS:HG3	43:Lq:15:LYS:O	2.19	0.42
47:Cc:31:G:C4	47:Cc:32:G:C8	3.07	0.42
48:S2:301:A:H5"	70:SV:27:PHE:CE2	2.54	0.42
48:S2:522:U:OP1	78:Sd:37:LYS:HG3	2.18	0.42
48:S2:741:C:O2'	48:S2:742:U:H4'	2.18	0.42
48:S2:749:U:C4	48:S2:801:G:C6	3.07	0.42
48:S2:814:A:O2'	48:S2:815:G:H5'	2.19	0.42
48:S2:887:A:H2'	48:S2:888:U:C6	2.54	0.42
48:S2:1750:A:H2'	48:S2:1751:C:C6	2.54	0.42
49:SA:42:THR:HG21	49:SA:45:LYS:HE2	2.00	0.42
50:SB:156:ARG:CZ	50:SB:156:ARG:HB2	2.49	0.42
63:SO:267:PRO:HB2	63:SO:269:TYR:HD1	1.84	0.42
67:SS:192:ILE:HD13	67:SS:242:LYS:O	2.19	0.42
69:SU:140:VAL:HB	76:Sb:52:TYR:HB3	2.01	0.42
70:SV:40:ALA:O	70:SV:59:ARG:HD2	2.19	0.42
79:Se:42:ARG:HA	79:Se:42:ARG:HD3	1.80	0.42
1:LA:47:C:OP1	14:LN:16:LYS:HE2	2.19	0.42
1:LA:791:A:H2'	1:LA:792:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1358:C:H2'	1:LA:1359:C:O4'	2.19	0.42
1:LA:1647:A:C2	1:LA:1809:A:H1'	2.54	0.42
1:LA:1887:A:H1'	5:LE:226:PHE:HD2	1.84	0.42
1:LA:2668:U:H2'	1:LA:2669:G:H8	1.84	0.42
1:LA:3366:G:H2'	1:LA:3367:C:C6	2.55	0.42
3:LC:145:U:H2'	3:LC:146:U:C6	2.54	0.42
6:LF:280:ILE:HG23	19:LS:104:LEU:HD22	2.01	0.42
20:LT:28:GLU:O	20:LT:32:ILE:HG13	2.19	0.42
22:LV:6:GLY:H	22:LV:9:SER:HB2	1.83	0.42
26:LZ:57:LEU:HD12	26:LZ:57:LEU:HA	1.79	0.42
26:LZ:96:LYS:HG2	26:LZ:107:VAL:HG22	2.00	0.42
29:Lc:79:TRP:CE3	29:Lc:82:ILE:HD13	2.55	0.42
31:Le:14:LEU:HD12	31:Le:14:LEU:HA	1.86	0.42
48:S2:160:C:H5"	68:ST:87:ARG:NH2	2.35	0.42
48:S2:502:U:H2'	48:S2:503:G:H8	1.84	0.42
48:S2:556:A:H2'	81:Sg:57:ASN:HB2	2.01	0.42
48:S2:886:U:H2'	48:S2:887:A:H8	1.84	0.42
48:S2:1008:G:H2'	48:S2:1009:U:C6	2.54	0.42
48:S2:1241:G:N7	53:SE:52:LYS:HD2	2.35	0.42
48:S2:1433:G:N3	61:SM:41:GLN:HG3	2.35	0.42
49:SA:17:PHE:CE2	49:SA:21:LEU:HD21	2.52	0.42
50:SB:71:ALA:O	50:SB:91:GLU:HG3	2.19	0.42
65:SQ:48:VAL:HG21	65:SQ:61:LEU:HB2	2.02	0.42
65:SQ:50:LYS:HD2	65:SQ:50:LYS:HA	1.74	0.42
66:SR:106:ASP:C	66:SR:106:ASP:OD2	2.62	0.42
68:ST:187:LYS:HE2	68:ST:187:LYS:HB2	1.74	0.42
69:SU:41:LEU:HD13	69:SU:70:PHE:CD1	2.54	0.42
1:LA:173:G:O6	1:LA:245:U:C4	2.72	0.42
1:LA:288:C:H2'	1:LA:289:A:C8	2.54	0.42
1:LA:593:C:H5'	1:LA:594:U:C6	2.54	0.42
1:LA:1146:C:H4'	1:LA:1331:U:C4	2.54	0.42
1:LA:1200:A:H5'	1:LA:1201:C:O5'	2.18	0.42
3:LC:21:C:O2'	3:LC:22:U:H5'	2.19	0.42
6:LF:23:PRO:HD2	6:LF:26:PHE:CD2	2.55	0.42
6:LF:259:ASP:OD1	6:LF:264:SER:HB3	2.18	0.42
10:LJ:139:VAL:HG11	10:LJ:197:VAL:HG21	2.01	0.42
10:LJ:243:GLN:HA	10:LJ:246:MET:HE2	2.01	0.42
11:LK:187:ILE:HD13	11:LK:187:ILE:HA	1.88	0.42
12:LL:57:LEU:HD12	12:LL:130:ASP:HA	2.02	0.42
14:LN:87:ALA:O	14:LN:91:ARG:HG3	2.19	0.42
15:LO:60:LEU:HA	15:LO:63:VAL:HG22	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LP:46:ASP:HB2	16:LP:50:ARG:HH12	1.84	0.42
17:LQ:127[A]:LEU:HD11	21:LU:168:PRO:HG3	2.02	0.42
26:LZ:63:ILE:HD13	26:LZ:86:VAL:HG12	2.01	0.42
28:Lb:22:LYS:HE2	28:Lb:134:LEU:HB2	2.00	0.42
29:Lc:89:GLN:HA	29:Lc:92:LYS:HG2	2.00	0.42
30:Ld:47:LEU:HA	30:Ld:50:THR:HG22	2.01	0.42
35:Li:103:LYS:HE3	35:Li:103:LYS:HB3	1.57	0.42
36:Lj:83:LYS:HG3	36:Lj:83:LYS:O	2.18	0.42
47:Cc:15:G:H2'	47:Cc:16:C:H5'	2.01	0.42
48:S2:318:U:H2'	48:S2:323:A:H1'	2.01	0.42
48:S2:973:A:H2'	48:S2:974:A:H8	1.84	0.42
48:S2:1146:G:H4'	66:SR:90:THR:HA	2.02	0.42
48:S2:1691:A:H2'	48:S2:1692:G:C8	2.54	0.42
48:S2:1796:C:O4'	79:Se:5:ARG:HD3	2.20	0.42
57:SI:23:GLN:HA	57:SI:55:TYR:CE2	2.54	0.42
57:SI:134:ARG:HD3	57:SI:134:ARG:HA	1.74	0.42
66:SR:170:ILE:HB	66:SR:197:TYR:HB2	2.01	0.42
67:SS:82:TYR:CD1	67:SS:83:PRO:HD2	2.54	0.42
1:LA:183:G:H2'	1:LA:184:U:H6	1.83	0.42
1:LA:187:A:H2'	1:LA:188:U:C6	2.54	0.42
1:LA:788:C:H2'	1:LA:789:A:H8	1.84	0.42
1:LA:842:G:H2'	1:LA:843:A:H8	1.84	0.42
1:LA:1385:C:O2'	8:LH:2:THR:HG22	2.19	0.42
1:LA:1644:C:H5"	1:LA:1645:U:H5"	2.01	0.42
1:LA:2412:G:H2'	1:LA:2413:A:C8	2.54	0.42
1:LA:2556:C:H2'	1:LA:2557:A:O4'	2.20	0.42
1:LA:2765:C:O3'	43:Lq:39:GLY:HA3	2.19	0.42
1:LA:3337:G:H2'	1:LA:3338:C:C6	2.53	0.42
6:LF:269:SER:C	6:LF:271:LYS:H	2.28	0.42
9:LI:175:LYS:HD3	9:LI:175:LYS:HA	1.72	0.42
10:LJ:75:ILE:C	10:LJ:77:GLN:H	2.28	0.42
15:LO:66:THR:HG22	15:LO:99:TRP:CZ3	2.55	0.42
23:LW:80:THR:O	23:LW:84:LEU:HG	2.19	0.42
37:Lk:90:MET:CE	37:Lk:93:ILE:HG13	2.48	0.42
48:S2:590:C:N4	48:S2:591:A:N6	2.68	0.42
48:S2:800:U:H2'	48:S2:801:G:H8	1.82	0.42
48:S2:1071:U:OP1	48:S2:1071:U:H4'	2.18	0.42
48:S2:1323:C:H2'	48:S2:1324:G:C8	2.54	0.42
48:S2:1613:U:OP1	50:SB:165:LEU:HD11	2.20	0.42
56:SH:111:ASP:OD2	56:SH:112:ASP:N	2.53	0.42
64:SP:124:THR:HG22	64:SP:174:TRP:NE1	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SS:15:PRO:HG3	67:SS:39:ARG:HA	2.02	0.42
72:SX:127:GLN:HG3	72:SX:137:PHE:CE1	2.54	0.42
74:SZ:28:VAL:O	74:SZ:67:VAL:HG21	2.18	0.42
79:Se:66:LYS:HE2	79:Se:66:LYS:HB3	1.71	0.42
1:LA:727:G:H2'	1:LA:728:G:O4'	2.18	0.42
1:LA:966:U:H2'	1:LA:967:A:C8	2.54	0.42
1:LA:1659:U:H2'	1:LA:1660:C:H6	1.85	0.42
1:LA:3105:U:C2	1:LA:3106:A:C8	3.08	0.42
1:LA:3158:G:C5	1:LA:3159:C:C5	3.07	0.42
2:LB:3:U:H2'	2:LB:4:U:H6	1.83	0.42
3:LC:62:C:H4'	3:LC:63:G:O5'	2.19	0.42
5:LE:173:GLN:HG2	5:LE:175:LYS:H	1.85	0.42
5:LE:193:ASP:O	5:LE:197:GLU:HG3	2.20	0.42
7:LG:40:HIS:CE1	7:LG:42:ALA:HB3	2.55	0.42
9:LI:141:TYR:HD1	9:LI:189:ILE:CD1	2.32	0.42
11:LK:36:LYS:HB2	11:LK:78:MET:SD	2.59	0.42
12:LL:206:LEU:HD13	12:LL:206:LEU:HA	1.83	0.42
12:LL:206:LEU:O	12:LL:210:ILE:HG12	2.19	0.42
23:LW:77:LYS:O	23:LW:81:LYS:HG3	2.18	0.42
48:S2:1117:U:H2'	48:S2:1118:G:C8	2.55	0.42
50:SB:144:GLU:OE2	50:SB:159:ALA:HB1	2.18	0.42
50:SB:190:ILE:HG13	50:SB:194:LEU:HD13	2.02	0.42
53:SE:76:VAL:O	53:SE:94:VAL:HA	2.20	0.42
53:SE:111:MET:HB3	56:SH:119:ILE:HG23	2.00	0.42
54:SF:128:LYS:HE2	54:SF:128:LYS:HB2	1.71	0.42
56:SH:41:ARG:HB3	56:SH:85:PHE:HZ	1.85	0.42
58:SJ:32:LYS:NZ	58:SJ:36:ASN:HB3	2.33	0.42
65:SQ:172:LEU:HD23	65:SQ:172:LEU:HA	1.91	0.42
67:SS:8:HIS:C	67:SS:30:ARG:HE	2.28	0.42
67:SS:45:ILE:HD11	67:SS:58:GLY:HA2	2.01	0.42
69:SU:92:PHE:O	69:SU:93:LEU:HD13	2.19	0.42
70:SV:116:HIS:CE1	70:SV:146:ARG:HG2	2.53	0.42
71:SW:106:GLU:HA	71:SW:111:THR:HG21	2.01	0.42
1:LA:34:A:H3'	1:LA:48:A:H61	1.84	0.42
1:LA:142:C:H2'	1:LA:143:G:O4'	2.18	0.42
1:LA:158:G:H2'	1:LA:159:A:C8	2.54	0.42
1:LA:855:U:H5"	20:LT:95:TRP:CG	2.55	0.42
1:LA:1218:U:H2'	1:LA:1219:C:O4'	2.20	0.42
1:LA:2379:U:H5"	34:Lh:21:ARG:NH2	2.35	0.42
1:LA:2450:G:N1	1:LA:2496:C:N3	2.65	0.42
1:LA:2592:G:H4'	1:LA:2594:C:C2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LH:76:LEU:HD22	8:LH:141:VAL:HG11	2.01	0.42
10:LJ:226:TYR:HA	10:LJ:229:VAL:HG22	2.02	0.42
29:Lc:7:LYS:HD3	29:Lc:7:LYS:HA	1.88	0.42
35:Li:102:LYS:HB2	35:Li:102:LYS:HE3	1.67	0.42
36:Lj:5:LYS:O	36:Lj:8:GLU:HG2	2.20	0.42
48:S2:535:A:H5"	71:SW:175:ARG:HH22	1.84	0.42
48:S2:1462:G:H2'	48:S2:1463:C:C6	2.55	0.42
48:S2:1517:U:H5'	48:S2:1518:C:OP2	2.18	0.42
48:S2:1748:G:H2'	48:S2:1749:A:C8	2.55	0.42
49:SA:196:ARG:HA	49:SA:200:LYS:NZ	2.35	0.42
50:SB:58:LEU:HD12	50:SB:138:THR:HG22	2.01	0.42
54:SF:127:LYS:HG2	54:SF:133:GLY:C	2.45	0.42
56:SH:46:VAL:HG13	56:SH:72:ILE:HG21	2.01	0.42
60:SL:44:VAL:HG12	60:SL:46:GLY:H	1.84	0.42
63:SO:131:ILE:HB	63:SO:144:LEU:HG	2.01	0.42
67:SS:158:ASP:HB3	67:SS:173:ILE:O	2.20	0.42
70:SV:37:LYS:C	70:SV:59:ARG:HA	2.44	0.42
70:SV:67:TRP:HA	70:SV:183:ILE:CD1	2.46	0.42
1:LA:537:A:C2	1:LA:538:G:H1'	2.54	0.42
1:LA:618:C:H2'	1:LA:619:A:O4'	2.20	0.42
1:LA:765:C:H42	14:LN:176:GLU:CG	2.32	0.42
1:LA:1448:U:H2'	1:LA:1449:A:H8	1.85	0.42
1:LA:2217:U:H2'	1:LA:2218:G:C8	2.54	0.42
1:LA:2597:U:H2'	1:LA:2598:G:H8	1.83	0.42
1:LA:3268:A:H2	8:LH:138:GLN:HG2	1.83	0.42
2:LB:20:A:H2'	2:LB:21:G:H8	1.83	0.42
4:LD:156:LYS:HG2	4:LD:158:ILE:HG23	2.01	0.42
9:LI:176:TYR:HB3	9:LI:194:HIS:CG	2.55	0.42
13:LM:75:LYS:O	13:LM:79:ILE:HG13	2.19	0.42
14:LN:186:ARG:HA	14:LN:189:GLU:HG3	2.02	0.42
16:LP:136:ASP:OD1	16:LP:138:GLN:HG2	2.20	0.42
20:LT:74:ARG:HB2	20:LT:75:HIS:CD2	2.54	0.42
33:Lg:105:ARG:NE	33:Lg:125:ARG:HD2	2.35	0.42
48:S2:257:A:H2'	48:S2:258:C:C5	2.54	0.42
48:S2:473:A:H5'	48:S2:769:A:H1'	2.01	0.42
48:S2:525:A:H5'	78:Sd:89:TYR:CD1	2.54	0.42
48:S2:550:A:H2'	48:S2:550:A:N3	2.35	0.42
48:S2:687:G:H5'	48:S2:688:G:OP2	2.20	0.42
48:S2:758:U:O2	48:S2:758:U:H2'	2.19	0.42
48:S2:985:G:H3'	48:S2:986:G:H8	1.85	0.42
52:SD:32:LEU:HD21	52:SD:102:GLY:HA3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SF:39:VAL:HG12	54:SF:41:PRO:HD3	2.02	0.42
54:SF:44:LEU:O	54:SF:48:VAL:HG22	2.19	0.42
63:SO:240:VAL:HG23	63:SO:256:THR:HG22	2.01	0.42
64:SP:4:PRO:HG2	64:SP:6:THR:HG22	2.02	0.42
64:SP:105:GLY:O	64:SP:109:ASN:HB3	2.19	0.42
65:SQ:229:MET:HE3	65:SQ:229:MET:HB3	1.79	0.42
67:SS:42:LEU:CD1	67:SS:47:PHE:HB2	2.49	0.42
67:SS:196:VAL:HG23	67:SS:197:HIS:H	1.85	0.42
68:ST:180:THR:HG23	68:ST:183:ARG:H	1.84	0.42
72:SX:16:GLN:OE1	72:SX:16:GLN:N	2.52	0.42
74:SZ:128:LYS:HD2	79:Se:22:ARG:HB3	2.02	0.42
76:Sb:104:LEU:HD12	76:Sb:106:THR:HG22	2.01	0.42
77:Sc:91:GLY:HA2	81:Sg:11:ALA:O	2.20	0.42
1:LA:640:U:H2'	1:LA:641:C:H6	1.84	0.42
1:LA:701:G:H2'	1:LA:702:C:C6	2.55	0.42
1:LA:1011:A:C6	1:LA:1012:G:C6	3.07	0.42
1:LA:1049:C:H2'	1:LA:1050:U:C6	2.55	0.42
1:LA:1596:C:H2'	1:LA:1597:C:H6	1.81	0.42
1:LA:3159:C:H4'	1:LA:3395:G:C4	2.55	0.42
1:LA:3288:G:OP2	1:LA:3288:G:H8	2.03	0.42
1:LA:3371:G:H2'	1:LA:3372:A:H8	1.83	0.42
2:LB:5:G:O3'	7:LG:54:ARG:HG3	2.20	0.42
5:LE:47:LEU:HD23	5:LE:337:THR:HG23	2.02	0.42
8:LH:170:LYS:HB3	8:LH:172:HIS:CE1	2.55	0.42
12:LL:10:ARG:HD2	12:LL:160:PRO:HB2	2.02	0.42
16:LP:190:THR:O	16:LP:194:GLN:HG2	2.19	0.42
21:LU:90:MET:HE1	21:LU:114:HIS:CE1	2.54	0.42
23:LW:76:LEU:HD12	23:LW:95:PHE:HZ	1.84	0.42
43:Lq:14:GLY:C	43:Lq:16:THR:H	2.27	0.42
48:S2:128:U:H5"	48:S2:129:U:C5	2.54	0.42
48:S2:251:A:C2	67:SS:131:LEU:HD12	2.54	0.42
48:S2:607:G:H5'	48:S2:613:G:N2	2.35	0.42
48:S2:894:U:H2'	48:S2:895:G:H8	1.84	0.42
48:S2:1555:A:H1'	53:SE:82:ASN:HD22	1.85	0.42
48:S2:1624:C:H2'	48:S2:1625:C:H6	1.83	0.42
48:S2:1652:C:H2'	48:S2:1653:C:C6	2.54	0.42
56:SH:16:ARG:NH2	56:SH:19:ASN:HA	2.34	0.42
64:SP:195:TRP:CH2	64:SP:197:ILE:HG13	2.55	0.42
66:SR:242:ILE:HD12	66:SR:242:ILE:HA	1.85	0.42
69:SU:49:ILE:HD13	69:SU:49:ILE:HA	1.90	0.42
78:Sd:27:VAL:HG23	78:Sd:29:HIS:CE1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1381:A:H2'	1:LA:1382:G:C8	2.55	0.42
1:LA:1396:C:H2'	1:LA:1397:C:C6	2.54	0.42
1:LA:1856:C:H2'	1:LA:1857:C:C6	2.54	0.42
1:LA:2242:A:H5"	4:LD:244:GLY:HA3	2.02	0.42
1:LA:2897:A:H2'	1:LA:2899:C:O5'	2.20	0.42
1:LA:3034:C:O2	11:LK:120:ASP:HB2	2.20	0.42
17:LQ:34[A]:VAL:HA	17:LQ:103[A]:LYS:O	2.20	0.42
27:La:33:ALA:HB2	27:La:101:PRO:HB2	2.01	0.42
32:Lf:35:GLU:HA	32:Lf:35:GLU:OE2	2.20	0.42
40:Ln:14:ALA:O	40:Ln:18:LYS:HG3	2.19	0.42
47:Cc:44:A:H2'	47:Cc:45:A:H8	1.85	0.42
48:S2:959:U:C6	73:SY:61:THR:HG23	2.46	0.42
48:S2:1552:U:H2'	48:S2:1553:G:C8	2.54	0.42
48:S2:1616:G:H2'	48:S2:1617:U:C6	2.54	0.42
48:S2:1775:U:H2'	48:S2:1776:A:C8	2.55	0.42
49:SA:194:LYS:HE2	49:SA:194:LYS:HB3	1.78	0.42
50:SB:61:TYR:HE2	60:SL:49:ARG:NH1	2.17	0.42
50:SB:89:ILE:HG23	50:SB:172:ILE:HD11	2.01	0.42
64:SP:124:THR:HG22	64:SP:174:TRP:HE1	1.85	0.42
67:SS:72:VAL:HG13	67:SS:90:ILE:HG12	2.02	0.42
67:SS:180:LEU:HD21	67:SS:192:ILE:HG23	2.02	0.42
69:SU:21:ALA:HA	69:SU:24:PHE:HD2	1.85	0.42
69:SU:47:ARG:HH21	69:SU:175:LYS:NZ	2.18	0.42
70:SV:103:GLN:O	70:SV:104:ILE:HD13	2.20	0.42
71:SW:29:LYS:HB2	81:Sg:44:PHE:CE2	2.55	0.42
77:Sc:54:LEU:HB3	77:Sc:55:GLU:HG2	2.00	0.42
79:Se:58:VAL:HG23	79:Se:59:TYR:CD1	2.55	0.42
80:Sf:70:LYS:HB2	80:Sf:70:LYS:HE2	1.86	0.42
1:LA:39:A:H5"	29:Lc:35:ALA:HB2	2.02	0.42
1:LA:115:A:P	16:LP:49:ARG:HH21	2.43	0.42
1:LA:736:A:H3'	1:LA:737:G:O4'	2.20	0.42
1:LA:2193:U:H5"	1:LA:2194:G:H5'	2.02	0.42
1:LA:2367:A:H2'	1:LA:2368:A:H8	1.85	0.42
1:LA:2682:C:C6	1:LA:2683:U:C5	3.08	0.42
6:LF:107:ARG:HG2	6:LF:108:LYS:N	2.34	0.42
10:LJ:136:LEU:HA	10:LJ:197:VAL:HG11	2.01	0.42
18:LR:33:ALA:HB1	18:LR:117:ILE:HG12	2.02	0.42
20:LT:95:TRP:CE2	20:LT:99:LEU:HD22	2.55	0.42
21:LU:81:TYR:CE1	21:LU:88:HIS:HB2	2.55	0.42
46:Bb:61:C:H2'	46:Bb:62:A:C5	2.54	0.42
48:S2:52:U:H2'	48:S2:53:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:243:G:H2'	48:S2:244:A:H8	1.85	0.42
48:S2:1262:U:H2'	48:S2:1263:G:H8	1.83	0.42
48:S2:1795:U:H5'	79:Se:79:ILE:HD11	2.02	0.42
49:SA:217:ILE:HG13	49:SA:218:LEU:N	2.35	0.42
57:SI:23:GLN:HG3	57:SI:55:TYR:CE1	2.55	0.42
65:SQ:157:GLN:C	65:SQ:159:SER:H	2.28	0.42
65:SQ:188:LEU:HD23	65:SQ:188:LEU:C	2.45	0.42
65:SQ:191:GLU:HB2	65:SQ:194:ASN:ND2	2.35	0.42
67:SS:97:GLU:HG3	67:SS:99:PHE:CE2	2.55	0.42
79:Se:23:CYS:HB2	79:Se:74:CYS:HB3	2.02	0.42
1:LA:309:U:C2	1:LA:310:U:C5	3.08	0.41
1:LA:908:G:H4'	1:LA:909:G:O5'	2.20	0.41
1:LA:1836:C:H2'	1:LA:1837:U:H6	1.83	0.41
1:LA:1910:A:H2'	1:LA:1911:A:C8	2.55	0.41
1:LA:2376:G:H2'	1:LA:2377:G:C8	2.55	0.41
1:LA:2588:U:H2'	1:LA:2589:G:H8	1.84	0.41
2:LB:62:U:H5"	7:LG:277:LEU:HD21	2.01	0.41
5:LE:105:VAL:HG21	5:LE:148:LEU:HD22	2.02	0.41
6:LF:193:LYS:HA	6:LF:198:ARG:HA	2.02	0.41
17:LQ:81[A]:TYR:CZ	17:LQ:99[A]:LEU:HD12	2.55	0.41
19:LS:29:LEU:HD23	19:LS:29:LEU:HA	1.84	0.41
19:LS:120:GLU:OE2	19:LS:122:ILE:HD11	2.20	0.41
31:Le:83:LYS:HB3	31:Le:85:PHE:CE2	2.55	0.41
34:Lh:16:TYR:OH	34:Lh:91:ALA:HB2	2.20	0.41
35:Li:10:ARG:HD2	40:Ln:4:GLN:NE2	2.34	0.41
48:S2:297:U:O2'	67:SS:37:LYS:HA	2.19	0.41
48:S2:843:U:H2'	48:S2:844:A:C4	2.55	0.41
48:S2:990:C:H2'	48:S2:991:G:O4'	2.19	0.41
48:S2:1374:C:H42	48:S2:1375:A:N6	2.06	0.41
48:S2:1451:C:H4'	61:SM:9:SER:OG	2.20	0.41
48:S2:1689:A:N6	48:S2:1713:G:H22	2.18	0.41
63:SO:68:VAL:HA	63:SO:84:SER:HA	2.02	0.41
63:SO:305:TYR:HB2	63:SO:309:VAL:HG23	2.02	0.41
67:SS:134:LYS:HD3	67:SS:134:LYS:N	2.35	0.41
68:ST:226:ILE:O	68:ST:227:ARG:HG3	2.20	0.41
70:SV:91:VAL:HG12	70:SV:92:ARG:HH12	1.85	0.41
71:SW:110:GLN:OE1	71:SW:126:ARG:HD3	2.19	0.41
75:Sa:15:ARG:HH21	75:Sa:24:ILE:HG21	1.85	0.41
1:LA:426:G:H2'	1:LA:427:C:C6	2.54	0.41
1:LA:1915:A:H2'	1:LA:1916:U:C6	2.55	0.41
1:LA:2610:G:H5"	16:LP:81:TYR:HA	2.00	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3153:U:H5"	1:LA:3293:U:O2'	2.21	0.41
3:LC:5:U:H2'	3:LC:6:U:H6	1.84	0.41
3:LC:68:G:H2'	3:LC:69:U:C6	2.55	0.41
4:LD:140:ASN:O	4:LD:144:ASN:HA	2.20	0.41
12:LL:48:LEU:HA	12:LL:178:ARG:HH22	1.84	0.41
13:LM:56:THR:HG23	13:LM:57:PHE:CD1	2.55	0.41
15:LO:112:LEU:HD23	15:LO:116:GLU:HB3	2.01	0.41
33:Lg:104:ASN:HA	33:Lg:107:VAL:HG12	2.02	0.41
46:Bb:1:G:C6	46:Bb:73:A:C2	3.08	0.41
48:S2:624:G:OP1	48:S2:624:G:C8	2.73	0.41
48:S2:1542:G:OP1	57:SI:87:GLY:HA2	2.20	0.41
50:SB:174:LEU:HA	50:SB:177:ILE:HG22	2.01	0.41
57:SI:69:LYS:O	57:SI:123:ARG:HD3	2.19	0.41
63:SO:31:ASN:C	63:SO:31:ASN:OD1	2.63	0.41
64:SP:57:LEU:HD11	64:SP:173:ILE:HG23	2.02	0.41
64:SP:162:CYS:SG	64:SP:173:ILE:HG13	2.60	0.41
66:SR:109:GLY:O	66:SR:139:ILE:HG22	2.20	0.41
68:ST:54:GLY:HA2	68:ST:63:MET:SD	2.60	0.41
68:ST:55:GLY:O	68:ST:63:MET:HB2	2.20	0.41
68:ST:74:LYS:HD3	68:ST:96:SER:OG	2.20	0.41
69:SU:9:LEU:HD12	69:SU:10:SER:N	2.35	0.41
69:SU:91:ILE:HD11	69:SU:169:PHE:HE1	1.85	0.41
70:SV:117:TYR:CD2	70:SV:150:ALA:HB2	2.55	0.41
70:SV:169:ILE:HD12	70:SV:179:CYS:SG	2.60	0.41
81:Sg:10:ARG:HD3	81:Sg:13:LYS:HD2	2.01	0.41
1:LA:163:C:C5	1:LA:164:A:H3'	2.55	0.41
1:LA:570:A:H2'	1:LA:571:U:O4'	2.21	0.41
1:LA:1138:U:H2'	1:LA:1139:G:C8	2.55	0.41
1:LA:2733:A:H2'	1:LA:2734:A:O4'	2.20	0.41
1:LA:3049:A:C5	5:LE:75:ALA:HB2	2.56	0.41
1:LA:3073:A:H2'	1:LA:3074:G:O4'	2.20	0.41
2:LB:119:U:H2'	2:LB:120:C:C6	2.55	0.41
3:LC:154:C:H2'	3:LC:155:A:C8	2.55	0.41
4:LD:32:LEU:HD12	4:LD:32:LEU:HA	1.90	0.41
4:LD:60:LYS:HD2	4:LD:75:ILE:HG13	2.01	0.41
4:LD:131:GLY:H	4:LD:169:ILE:HB	1.85	0.41
11:LK:94:TYR:CZ	11:LK:98:PRO:HA	2.55	0.41
12:LL:23:ASN:O	12:LL:24:ARG:HG2	2.20	0.41
13:LM:49:LYS:HE2	13:LM:62:ASN:HD21	1.84	0.41
17:LQ:128[A]:ARG:HE	17:LQ:128[A]:ARG:HB3	1.72	0.41
36:Lj:69:LEU:HD12	36:Lj:69:LEU:HA	1.92	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Lq:70:LEU:HD23	43:Lq:70:LEU:HA	1.90	0.41
47:Cc:43:G:H2'	47:Cc:44:A:C8	2.53	0.41
48:S2:293:U:H2'	48:S2:294:C:C6	2.55	0.41
48:S2:465:G:H2'	48:S2:465:G:N3	2.35	0.41
48:S2:1237:G:H2'	48:S2:1237:G:N3	2.35	0.41
48:S2:1241:G:O3'	53:SE:59:LYS:HE2	2.20	0.41
48:S2:1584:G:H2'	48:S2:1610:G:C6	2.55	0.41
49:SA:141:LYS:HE3	49:SA:143:ARG:H	1.85	0.41
49:SA:178:ARG:HD2	49:SA:179:GLN:N	2.34	0.41
52:SD:89:ILE:HG23	52:SD:139:HIS:HE1	1.85	0.41
59:SK:71:ILE:HD12	59:SK:75:LEU:HG	2.02	0.41
63:SO:288:HIS:O	63:SO:306:THR:HG23	2.21	0.41
66:SR:50:ILE:HG23	66:SR:55:GLU:OE1	2.21	0.41
66:SR:179:VAL:CG2	66:SR:197:TYR:HA	2.50	0.41
69:SU:22:GLN:HA	69:SU:25:VAL:HG22	2.02	0.41
69:SU:71:HIS:CD2	69:SU:131:PHE:CD1	3.09	0.41
75:Sa:56:SER:O	75:Sa:59:VAL:HG22	2.21	0.41
1:LA:287:G:OP1	16:LP:179:LYS:HD3	2.21	0.41
1:LA:598:A:H2'	1:LA:599:C:C6	2.56	0.41
1:LA:767:U:HO2'	1:LA:768:C:H6	1.67	0.41
1:LA:855:U:H4'	20:LT:95:TRP:NE1	2.35	0.41
1:LA:1872:C:C5	1:LA:1873:U:C5	3.08	0.41
1:LA:1877:U:H5"	1:LA:1878:G:H5'	2.02	0.41
1:LA:2909:U:H2'	1:LA:2910:A:O4'	2.21	0.41
1:LA:3234:A:N6	1:LA:3253:G:H1	2.17	0.41
1:LA:3393:U:H2'	1:LA:3394:U:C6	2.56	0.41
4:LD:88:ILE:HD13	4:LD:88:ILE:HA	1.98	0.41
6:LF:11:LEU:HD21	6:LF:159:ILE:HD11	2.02	0.41
10:LJ:94:PHE:HD2	10:LJ:94:PHE:HA	1.75	0.41
13:LM:45:PRO:HB3	13:LM:69:VAL:HB	2.02	0.41
13:LM:93:ASP:C	13:LM:93:ASP:OD2	2.63	0.41
14:LN:188:ARG:CZ	14:LN:188:ARG:HA	2.50	0.41
16:LP:14:LYS:HE2	16:LP:14:LYS:HB2	1.85	0.41
16:LP:136:ASP:CG	16:LP:138:GLN:HG2	2.45	0.41
18:LR:51:VAL:HG11	18:LR:88:VAL:HG21	2.01	0.41
19:LS:83:VAL:O	19:LS:103:ALA:HA	2.19	0.41
20:LT:60:LYS:HB3	20:LT:60:LYS:HE3	1.78	0.41
24:LX:45:ARG:HD3	24:LX:46:LEU:N	2.35	0.41
25:LY:13:ILE:HG12	25:LY:32:GLN:HA	2.02	0.41
34:Lh:53:TYR:CZ	34:Lh:65:ARG:HB2	2.55	0.41
35:Li:42:PRO:HG2	35:Li:54:ILE:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:Lo:83:LYS:NZ	41:Lo:83:LYS:HB3	2.35	0.41
48:S2:477:A:H62	48:S2:539:G:N2	2.18	0.41
48:S2:1486:G:H2'	48:S2:1487:A:C8	2.55	0.41
48:S2:1727:G:H2'	48:S2:1728:A:H8	1.84	0.41
63:SO:7:LEU:HD12	63:SO:313:TRP:HB3	2.02	0.41
65:SQ:70:LEU:HD13	65:SQ:84:ILE:HD11	2.02	0.41
67:SS:71:LYS:HA	67:SS:76:VAL:HA	2.01	0.41
67:SS:122:LYS:HG2	67:SS:123:LEU:N	2.34	0.41
74:SZ:40:ALA:HB3	74:SZ:67:VAL:HG13	2.02	0.41
1:LA:123:A:C6	1:LA:150:A:C5	3.09	0.41
1:LA:790:U:H2'	1:LA:791:A:H8	1.86	0.41
1:LA:828:A:H2'	1:LA:829:U:C6	2.55	0.41
1:LA:1011:A:H2'	1:LA:1011:A:N3	2.35	0.41
1:LA:1341:U:H2'	1:LA:1342:C:C6	2.55	0.41
1:LA:1368:U:C2	1:LA:1369:A:C8	3.09	0.41
1:LA:1534:A:H5"	1:LA:1797:A:H62	1.85	0.41
1:LA:2190:U:C4	1:LA:2191:U:C4	3.09	0.41
1:LA:2329:C:H2'	1:LA:2330:C:H6	1.85	0.41
1:LA:2389:C:H1'	18:LR:69:ARG:HH21	1.85	0.41
5:LE:47:LEU:HD11	5:LE:179:ALA:HB3	2.01	0.41
6:LF:11:LEU:HD12	6:LF:11:LEU:HA	1.85	0.41
7:LG:153:THR:HG23	7:LG:160:PHE:CZ	2.56	0.41
11:LK:93:VAL:O	11:LK:177:ASP:HA	2.19	0.41
12:LL:197:VAL:HG13	12:LL:199:PHE:HE1	1.86	0.41
13:LM:88:GLU:O	13:LM:90:GLN:HG2	2.20	0.41
14:LN:90:ALA:HB1	14:LN:95:ILE:HB	2.02	0.41
15:LO:17:VAL:HG11	15:LO:74:ARG:HA	2.03	0.41
17:LQ:79[A]:ILE:HG21	17:LQ:138[A]:LEU:HD11	2.01	0.41
20:LT:17:VAL:HG11	20:LT:52:LYS:HD2	2.02	0.41
23:LW:76:LEU:HD12	23:LW:95:PHE:CZ	2.55	0.41
27:La:63:LYS:HE3	27:La:97:ILE:HD12	2.02	0.41
33:Lg:94:ALA:O	33:Lg:119:VAL:HA	2.21	0.41
33:Lg:111:ARG:HE	33:Lg:115:LEU:HD23	1.86	0.41
36:Lj:64:GLU:HG3	36:Lj:68:GLN:NE2	2.35	0.41
46:Bb:27:C:H2'	46:Bb:28:C:H6	1.82	0.41
47:Cc:45:A:H2'	47:Cc:46:G:H8	1.85	0.41
48:S2:294:C:N4	48:S2:295:A:H62	2.18	0.41
48:S2:978:A:H2'	48:S2:979:A:O4'	2.20	0.41
48:S2:1087:A:H2'	48:S2:1088:A:C8	2.55	0.41
48:S2:1531:G:H2'	48:S2:1532:U:C6	2.55	0.41
48:S2:1593:A:C2	48:S2:1594:G:C5	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:S2:1770:U:H2'	48:S2:1771:U:C6	2.56	0.41
50:SB:54:LYS:HE2	50:SB:54:LYS:HB3	1.87	0.41
59:SK:50:ILE:HD13	59:SK:69:LEU:HD11	2.02	0.41
66:SR:111:VAL:CG2	66:SR:191:ALA:HA	2.50	0.41
70:SV:136:SER:HB3	70:SV:139:ALA:HB2	2.02	0.41
72:SX:15:LYS:HD2	72:SX:15:LYS:HA	1.89	0.41
72:SX:109:VAL:HG21	72:SX:125:VAL:HG11	2.02	0.41
78:Sd:52:LYS:HB3	78:Sd:52:LYS:HE3	1.77	0.41
1:LA:802:C:H2'	1:LA:803:C:C6	2.56	0.41
1:LA:1182:A:H2	1:LA:1324:U:O4	2.03	0.41
1:LA:1223:A:N1	1:LA:1286:A:H5'	2.35	0.41
1:LA:1390:A:H5'	1:LA:1390:A:N3	2.35	0.41
1:LA:1462:A:H2'	1:LA:1463:U:C6	2.55	0.41
1:LA:1473:G:H5'	20:LT:23:TRP:CD1	2.55	0.41
1:LA:2244:A:H5"	4:LD:243:THR:HB	2.03	0.41
1:LA:2368:A:H2'	1:LA:2369:G:H8	1.85	0.41
1:LA:2710:C:H2'	1:LA:2711:C:C6	2.55	0.41
1:LA:3007:U:H2'	1:LA:3008:A:H8	1.85	0.41
1:LA:3369:G:OP2	25:LY:61:LYS:HE3	2.21	0.41
2:LB:20:A:H2'	2:LB:21:G:C8	2.56	0.41
3:LC:21:C:C2'	3:LC:22:U:H5'	2.51	0.41
6:LF:169:LEU:HD22	6:LF:174:ALA:HB3	2.03	0.41
6:LF:302:ALA:HB2	19:LS:39:ARG:CZ	2.51	0.41
7:LG:208:MET:HE1	7:LG:226:TYR:HB3	2.02	0.41
20:LT:98:ARG:HD2	20:LT:133:LYS:O	2.20	0.41
22:LV:44:ALA:HA	22:LV:95:HIS:HB3	2.03	0.41
22:LV:76:ILE:HG12	22:LV:89:LEU:HD13	2.03	0.41
23:LW:80:THR:HG21	23:LW:95:PHE:CD2	2.56	0.41
29:Lc:116:GLY:HA2	29:Lc:137:LYS:HZ3	1.85	0.41
31:Le:23:TYR:CE2	31:Le:25:LEU:HD21	2.50	0.41
33:Lg:55:ILE:HD12	33:Lg:55:ILE:HA	1.86	0.41
33:Lg:109:LEU:HD23	33:Lg:109:LEU:HA	1.85	0.41
48:S2:161:U:O3'	68:ST:83:CYS:HA	2.20	0.41
48:S2:423:G:OP2	48:S2:423:G:H8	2.04	0.41
48:S2:693:U:C2	48:S2:695:U:O4	2.74	0.41
48:S2:918:U:H2'	48:S2:919:A:O4'	2.20	0.41
48:S2:992:A:H2'	48:S2:993:A:H5'	2.01	0.41
48:S2:1046:G:H2'	48:S2:1047:G:O4'	2.20	0.41
54:SF:131:GLY:HA3	54:SF:136:SER:O	2.20	0.41
63:SO:34:LEU:HD21	63:SO:73:LEU:HB3	2.02	0.41
63:SO:123:ILE:HG12	63:SO:133:VAL:HG12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SP:138:TYR:O	75:Sa:29:HIS:HB3	2.20	0.41
65:SQ:211:HIS:CD2	65:SQ:211:HIS:H	2.39	0.41
66:SR:35:TRP:CZ3	66:SR:46:LYS:HB2	2.55	0.41
69:SU:136:VAL:HG21	69:SU:155:ASP:HB3	2.02	0.41
72:SX:99:ARG:HG3	77:Sc:12:ALA:HB2	2.01	0.41
1:LA:197:G:N2	1:LA:372:A:C8	2.89	0.41
1:LA:2533:G:H2'	1:LA:2534:G:O4'	2.21	0.41
1:LA:3206:C:H5"	1:LA:3207:U:O4'	2.20	0.41
1:LA:3228:C:OP1	15:LO:137:LYS:HE2	2.20	0.41
2:LB:113:C:H2'	2:LB:114:U:O4'	2.21	0.41
3:LC:64:U:C2	3:LC:65:A:C8	3.09	0.41
7:LG:204:VAL:O	7:LG:208:MET:HG2	2.20	0.41
10:LJ:143:ILE:HD11	10:LJ:151:VAL:HG21	2.03	0.41
12:LL:208:ASN:HA	12:LL:211:ARG:NH1	2.36	0.41
21:LU:33:ASN:OD1	21:LU:36:ILE:HG13	2.21	0.41
22:LV:9:SER:O	22:LV:11:THR:HG23	2.20	0.41
22:LV:84:TYR:CD2	30:Ld:23:LYS:HD3	2.56	0.41
23:LW:38:ILE:HD13	23:LW:56:VAL:HG12	2.02	0.41
48:S2:38:C:H2'	48:S2:39:A:O4'	2.20	0.41
48:S2:88:U:O3'	48:S2:171:A:H5"	2.21	0.41
48:S2:119:A:H1'	48:S2:397:A:C4	2.56	0.41
48:S2:229:U:H3'	48:S2:230:C:H4'	2.02	0.41
48:S2:364:G:H2'	48:S2:756:A:H62	1.86	0.41
48:S2:642:G:N1	48:S2:693:U:C2	2.89	0.41
48:S2:698:U:C2	48:S2:741:C:N3	2.88	0.41
50:SB:31:GLU:HA	50:SB:34:GLN:HE21	1.86	0.41
54:SF:44:LEU:HD22	54:SF:78:VAL:HG21	2.02	0.41
66:SR:135:SER:O	66:SR:137:ILE:HG23	2.21	0.41
67:SS:180:LEU:HD22	67:SS:228:ILE:HG13	2.02	0.41
68:ST:31:ARG:H	68:ST:34:GLN:HE21	1.68	0.41
68:ST:176:GLN:O	68:ST:177:ARG:HB2	2.20	0.41
70:SV:26:LYS:HB3	70:SV:26:LYS:HE3	1.77	0.41
76:Sb:6:VAL:HG12	76:Sb:34:ILE:HD11	2.01	0.41
76:Sb:57:ARG:H	76:Sb:57:ARG:HG2	1.62	0.41
77:Sc:19:ARG:HA	77:Sc:19:ARG:HD3	1.82	0.41
1:LA:279:U:H2'	1:LA:280:U:C6	2.56	0.41
1:LA:686:G:H2'	1:LA:687:U:O4'	2.20	0.41
1:LA:1584:U:H2'	1:LA:1585:C:H6	1.86	0.41
1:LA:1614:C:H2'	1:LA:1615:C:C6	2.56	0.41
1:LA:1634:G:C6	1:LA:1640:G:C6	3.08	0.41
1:LA:2413:A:H2'	1:LA:2414:G:C8	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3086:A:H4'	5:LE:366:GLY:HA2	2.01	0.41
1:LA:3094:A:H2'	1:LA:3095:U:C6	2.56	0.41
1:LA:3133:C:H2'	1:LA:3134:A:O4'	2.21	0.41
1:LA:3383:G:H2'	1:LA:3384:U:H6	1.86	0.41
2:LB:50:U:H2'	2:LB:51:A:H8	1.85	0.41
3:LC:75:G:H2'	3:LC:76:C:C6	2.55	0.41
6:LF:93:MET:H	6:LF:93:MET:HE2	1.85	0.41
6:LF:125:ALA:HA	6:LF:244:LEU:HD22	2.02	0.41
7:LG:44:TYR:HE2	22:LV:35:LYS:HA	1.86	0.41
7:LG:264:GLN:O	7:LG:268:GLU:HG2	2.20	0.41
10:LJ:50:VAL:HG21	26:LZ:27:ARG:HD2	2.02	0.41
10:LJ:249:ARG:HA	10:LJ:252:ASN:ND2	2.35	0.41
11:LK:86:TYR:CE2	11:LK:151:VAL:HB	2.55	0.41
12:LL:121:LYS:HB3	12:LL:121:LYS:HE3	1.74	0.41
14:LN:122:LYS:HG3	14:LN:145:PHE:HE1	1.86	0.41
22:LV:103:GLN:OE1	22:LV:103:GLN:C	2.64	0.41
46:Bb:4:G:H3'	46:Bb:5:A:H8	1.86	0.41
48:S2:998:A:H2'	48:S2:999:U:H6	1.83	0.41
49:SA:105:MET:HE3	49:SA:122:VAL:HB	2.02	0.41
49:SA:217:ILE:HG13	49:SA:218:LEU:H	1.86	0.41
50:SB:53:VAL:HG23	50:SB:55:ASP:H	1.86	0.41
51:SC:16:PHE:CE2	51:SC:76:LEU:HD23	2.55	0.41
52:SD:61:VAL:HA	52:SD:89:ILE:O	2.21	0.41
54:SF:106:LYS:HD3	54:SF:109:PHE:HB3	2.02	0.41
65:SQ:195:LYS:HE2	65:SQ:195:LYS:N	2.35	0.41
66:SR:35:TRP:CE2	66:SR:67:GLN:HB2	2.56	0.41
66:SR:179:VAL:HG23	66:SR:197:TYR:HA	2.02	0.41
69:SU:135:ILE:HD13	69:SU:135:ILE:HA	1.89	0.41
73:SY:64:ARG:HE	73:SY:70:LYS:HD3	1.85	0.41
73:SY:96:VAL:O	73:SY:100:LYS:HG3	2.20	0.41
75:Sa:15:ARG:NH2	75:Sa:24:ILE:HG21	2.35	0.41
75:Sa:64:GLU:CD	80:Sf:3:LEU:HD23	2.45	0.41
1:LA:54:C:H2'	1:LA:55:G:C8	2.55	0.41
1:LA:177:U:H3'	1:LA:178:U:H6	1.86	0.41
1:LA:195:U:H2'	1:LA:196:G:O4'	2.21	0.41
1:LA:289:A:H2'	1:LA:290:G:C8	2.48	0.41
1:LA:832:G:H4'	20:LT:87:ALA:HB2	2.02	0.41
1:LA:955:U:H2'	1:LA:956:U:C6	2.56	0.41
1:LA:1035:G:H2'	1:LA:1036:A:H8	1.85	0.41
1:LA:1333:C:C2	1:LA:1334:U:C5	3.08	0.41
1:LA:1685:C:H2'	1:LA:1686:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2529:A:N3	1:LA:2529:A:H2'	2.36	0.41
1:LA:2562:A:H1'	10:LJ:30:THR:OG1	2.21	0.41
1:LA:2802:A:C8	43:Lq:56:PRO:HB3	2.55	0.41
1:LA:2881:C:H2'	1:LA:2882:U:H6	1.86	0.41
1:LA:3008:A:N6	1:LA:3139:A:N6	2.69	0.41
3:LC:139:U:H2'	3:LC:140:G:C8	2.56	0.41
5:LE:17:LEU:HD11	5:LE:233:TRP:CH2	2.53	0.41
6:LF:355:PHE:CE2	9:LI:70:LYS:HD3	2.56	0.41
7:LG:45:ASN:OD1	22:LV:33:VAL:HG21	2.20	0.41
7:LG:131:LEU:HD12	7:LG:172:TYR:CD1	2.56	0.41
7:LG:179:ARG:HD2	7:LG:179:ARG:HA	1.78	0.41
7:LG:271:LYS:HE3	7:LG:271:LYS:HB3	1.82	0.41
8:LH:8:LYS:HD2	8:LH:8:LYS:HA	1.85	0.41
12:LL:103:LEU:HG	12:LL:105:CYS:H	1.86	0.41
14:LN:67:ARG:HD2	29:Lc:105:LEU:O	2.21	0.41
17:LQ:75[A]:ALA:HB1	17:LQ:106[A]:GLU:OE2	2.20	0.41
19:LS:125:ASP:OD1	19:LS:126:GLN:N	2.54	0.41
20:LT:125:LYS:HD2	20:LT:125:LYS:HA	1.84	0.41
22:LV:137:GLU:HG3	22:LV:138:SER:H	1.85	0.41
23:LW:61:THR:HG23	23:LW:62:VAL:HG13	2.02	0.41
33:Lg:4:LEU:HD12	33:Lg:6:HIS:HD2	1.85	0.41
44:Lr:49:ARG:HB2	44:Lr:55:TRP:CZ3	2.55	0.41
46:Bb:67:A:O2'	46:Bb:68:U:H5'	2.21	0.41
48:S2:220:A:H62	48:S2:841:U:H3	1.69	0.41
48:S2:393:C:H2'	48:S2:394:C:C6	2.56	0.41
48:S2:478:A:H5"	81:Sg:37:ARG:NH1	2.35	0.41
48:S2:628:G:H21	48:S2:971:A:H62	1.69	0.41
48:S2:768:C:C2	71:SW:143:ILE:HG12	2.56	0.41
48:S2:874:C:H2'	48:S2:875:G:C8	2.56	0.41
48:S2:899:G:O5'	74:SZ:46:MET:HA	2.21	0.41
48:S2:902:G:O2'	48:S2:1008:G:H4'	2.21	0.41
48:S2:1067:C:H5"	65:SQ:150:VAL:H	1.86	0.41
48:S2:1423:U:H4'	48:S2:1423:U:OP1	2.21	0.41
48:S2:1624:C:H2'	48:S2:1625:C:C6	2.55	0.41
48:S2:1785:U:P	74:SZ:133:ARG:HH22	2.44	0.41
49:SA:72:LEU:HA	49:SA:75:LYS:NZ	2.35	0.41
49:SA:150:MET:HE3	49:SA:150:MET:HB3	1.77	0.41
49:SA:216:PRO:HG2	49:SA:218:LEU:HD21	2.03	0.41
50:SB:179:ALA:CB	50:SB:194:LEU:HD12	2.48	0.41
50:SB:214:LYS:HB3	50:SB:214:LYS:HE2	1.78	0.41
51:SC:82:LEU:HD13	51:SC:83:PRO:HD2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SI:15:ILE:HD12	57:SI:15:ILE:HA	1.81	0.41
59:SK:38:HIS:HB3	59:SK:72:GLY:CA	2.51	0.41
64:SP:77:SER:HB2	64:SP:86:VAL:HG11	2.02	0.41
67:SS:21:ASP:C	67:SS:21:ASP:OD1	2.64	0.41
68:ST:58:LYS:HD2	68:ST:107:ALA:HB2	2.03	0.41
68:ST:172:ALA:O	68:ST:174:LYS:HE2	2.20	0.41
70:SV:39:GLY:HA2	70:SV:61:GLU:OE1	2.21	0.41
74:SZ:58:TYR:CE2	74:SZ:62:LEU:HD21	2.55	0.41
76:Sb:87:GLU:OE1	76:Sb:88:LYS:HG2	2.21	0.41
79:Se:60:PRO:O	79:Se:61:GLU:HG2	2.21	0.41
1:LA:330:G:C2	1:LA:331:G:C8	3.09	0.41
1:LA:408:A:N6	3:LC:15:G:H1'	2.36	0.41
1:LA:506:U:H2'	1:LA:507:U:O4'	2.21	0.41
1:LA:523:A:H3'	1:LA:524:U:H5"	2.04	0.41
1:LA:824:C:H5"	4:LD:21:ARG:HG3	2.03	0.41
1:LA:1001:G:H21	1:LA:1041:U:P	2.43	0.41
1:LA:1072:G:H2'	1:LA:1073:U:C6	2.56	0.41
1:LA:1781:C:H2'	1:LA:1782:U:C6	2.56	0.41
1:LA:2836:C:H2'	1:LA:2837:A:C8	2.56	0.41
4:LD:88:ILE:HD12	4:LD:99:GLY:O	2.21	0.41
6:LF:188:ARG:HG2	6:LF:189:ALA:H	1.86	0.41
6:LF:338:LYS:HE3	6:LF:338:LYS:HB3	1.92	0.41
10:LJ:184:ALA:O	10:LJ:188:THR:HG22	2.21	0.41
11:LK:133:THR:HG23	11:LK:147:SER:HB2	2.02	0.41
12:LL:48:LEU:O	12:LL:139:ARG:HA	2.21	0.41
14:LN:47:ALA:HB3	14:LN:48:PRO:HD3	2.03	0.41
25:LY:52:THR:O	25:LY:56:ARG:HG3	2.21	0.41
26:LZ:103:TYR:CZ	26:LZ:139:ILE:HD11	2.56	0.41
32:Lf:10:ARG:HG2	32:Lf:108:VAL:HG22	2.02	0.41
36:Lj:52:ALA:O	36:Lj:56:THR:HG22	2.21	0.41
36:Lj:96:GLU:HA	36:Lj:99:GLN:HG2	2.03	0.41
44:Lr:38:ASP:OD1	44:Lr:45:LYS:HE2	2.21	0.41
46:Bb:58:A:H2'	46:Bb:59:U:H5	1.86	0.41
48:S2:220:A:C2	48:S2:831:U:C2	3.09	0.41
48:S2:505:A:H8	48:S2:505:A:O5'	2.04	0.41
48:S2:622:A:O2'	48:S2:1032:G:H5'	2.21	0.41
48:S2:807:A:H2'	48:S2:808:U:C6	2.56	0.41
48:S2:1317:C:H2'	48:S2:1318:G:O4'	2.21	0.41
48:S2:1728:A:H2'	48:S2:1729:C:H6	1.86	0.41
59:SK:70:LYS:HE3	59:SK:70:LYS:HB3	1.82	0.41
63:SO:83:ALA:HB2	63:SO:89:LEU:HG	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SQ:109:LYS:O	65:SQ:113:MET:HG2	2.21	0.41
68:ST:78:THR:HG22	68:ST:79:LYS:N	2.36	0.41
69:SU:127:GLU:HA	69:SU:127:GLU:OE2	2.21	0.41
71:SW:114:TYR:CD2	71:SW:122:VAL:HG23	2.56	0.41
72:SX:63:LEU:HD12	72:SX:63:LEU:HA	1.94	0.41
75:Sa:73:ALA:HB1	75:Sa:78:LEU:HD12	2.03	0.41
77:Sc:126:LYS:HE3	77:Sc:129:GLY:HA2	2.02	0.41
78:Sd:23:PHE:C	78:Sd:23:PHE:CD2	2.99	0.41
1:LA:38:U:H2'	1:LA:39:A:O4'	2.21	0.40
1:LA:428:A:H2'	1:LA:429:U:H6	1.84	0.40
1:LA:768:C:C2	1:LA:769:G:C8	3.10	0.40
1:LA:899:U:H2'	1:LA:900:G:H8	1.85	0.40
1:LA:946:U:H2'	1:LA:947:G:C8	2.54	0.40
1:LA:1128:U:H2'	1:LA:1129:A:O4'	2.20	0.40
1:LA:1416:C:O2'	1:LA:1417:G:N7	2.54	0.40
1:LA:2133:U:O4	1:LA:2147:A:H2	2.03	0.40
1:LA:2931:C:H2'	1:LA:2932:U:O4'	2.21	0.40
8:LH:34:LEU:HD21	8:LH:63:LEU:HD11	2.02	0.40
8:LH:38:THR:HG22	8:LH:90:LYS:HE2	2.02	0.40
11:LK:114:VAL:HB	11:LK:124:ARG:HB2	2.02	0.40
13:LM:60:ARG:HG2	13:LM:60:ARG:HH11	1.87	0.40
33:Lg:4:LEU:HD12	33:Lg:4:LEU:O	2.21	0.40
35:Li:15:THR:HG22	35:Li:16:ARG:N	2.36	0.40
44:Lr:38:ASP:CG	44:Lr:45:LYS:HE2	2.47	0.40
48:S2:882:U:H2'	48:S2:883:C:H6	1.87	0.40
48:S2:1181:U:H2'	48:S2:1182:U:C5	2.56	0.40
48:S2:1305:U:H5"	48:S2:1306:C:C5	2.57	0.40
48:S2:1368:G:H5'	57:SI:69:LYS:HE2	2.03	0.40
48:S2:1533:C:H5'	56:SH:27:LYS:HZ2	1.86	0.40
48:S2:1579:U:O3'	54:SF:140:LYS:HB2	2.21	0.40
48:S2:1592:A:C2	48:S2:1593:A:C5	3.09	0.40
49:SA:49:ILE:HA	49:SA:87:TYR:O	2.22	0.40
65:SQ:36:SER:HA	65:SQ:41:ARG:NH2	2.36	0.40
67:SS:66:MET:HE2	67:SS:66:MET:HB2	1.91	0.40
67:SS:246:LEU:HB3	67:SS:250:GLU:HG3	2.02	0.40
69:SU:35:LYS:HE3	69:SU:35:LYS:HB2	1.93	0.40
69:SU:114:ARG:O	69:SU:117:THR:HG23	2.21	0.40
69:SU:157:LYS:HA	69:SU:157:LYS:HD3	1.74	0.40
71:SW:47:PHE:C	71:SW:47:PHE:CD2	2.99	0.40
71:SW:48:GLN:HG2	71:SW:48:GLN:H	1.64	0.40
71:SW:180:LYS:HB2	71:SW:180:LYS:HE2	1.92	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:SX:91:LEU:HB3	72:SX:100:TYR:HB3	2.02	0.40
76:Sb:5:SER:HB3	76:Sb:8:ALA:HB3	2.02	0.40
76:Sb:15:ASN:HD21	76:Sb:71:LYS:HD3	1.86	0.40
76:Sb:23:ARG:HB2	80:Sf:4:VAL:HG22	2.02	0.40
1:LA:29:C:H4'	1:LA:62:A:H4'	2.03	0.40
1:LA:665:A:H1'	14:LN:14:PHE:CE2	2.56	0.40
1:LA:753:C:H2'	1:LA:754:G:H8	1.86	0.40
1:LA:1218:U:O2	1:LA:1223:A:H5'	2.21	0.40
1:LA:1396:C:H2'	1:LA:1397:C:H6	1.86	0.40
1:LA:1862:U:H2'	1:LA:1863:G:O4'	2.22	0.40
1:LA:3118:C:H2'	1:LA:3119:U:O4'	2.21	0.40
2:LB:9:C:OP1	22:LV:26:HIS:HB2	2.21	0.40
5:LE:340:LYS:HZ3	5:LE:340:LYS:HG3	1.73	0.40
6:LF:258:LEU:HD23	6:LF:258:LEU:HA	1.87	0.40
8:LH:75:PRO:HD2	8:LH:77:ARG:HD2	2.03	0.40
12:LL:47:PRO:HB3	12:LL:171:TRP:CZ2	2.56	0.40
13:LM:110:ILE:HG23	13:LM:114:ILE:O	2.21	0.40
14:LN:46:ILE:CD1	14:LN:49:ARG:HB2	2.51	0.40
32:Lf:80:ASN:OD1	32:Lf:84:ASP:HA	2.21	0.40
34:Lh:29:LEU:C	34:Lh:30:ILE:HD12	2.46	0.40
39:Lm:11:PHE:CD2	39:Lm:54:LEU:HD13	2.56	0.40
48:S2:592:A:H2'	48:S2:593:U:O4'	2.21	0.40
48:S2:926:A:H2'	48:S2:927:C:C6	2.57	0.40
48:S2:1035:G:H2'	48:S2:1036:A:H8	1.85	0.40
48:S2:1132:A:H2'	48:S2:1133:A:H8	1.87	0.40
48:S2:1208:A:H1'	48:S2:1270:G:P	2.61	0.40
48:S2:1423:U:H3	66:SR:119:LYS:HE2	1.86	0.40
50:SB:209:TYR:CZ	50:SB:213:LYS:HD2	2.56	0.40
51:SC:8:ARG:HD2	51:SC:8:ARG:C	2.46	0.40
53:SE:95:GLY:HA3	53:SE:102:PHE:HB3	2.03	0.40
57:SI:75:LYS:H	57:SI:75:LYS:HG2	1.69	0.40
58:SJ:33:GLN:HA	58:SJ:36:ASN:ND2	2.36	0.40
58:SJ:68:ARG:NH2	58:SJ:77:LYS:HA	2.31	0.40
67:SS:64:ILE:HG12	78:Sd:18:LEU:HD21	2.03	0.40
68:ST:136:LYS:O	68:ST:136:LYS:HG3	2.21	0.40
68:ST:223:LYS:HE2	68:ST:223:LYS:HB2	1.67	0.40
71:SW:64:GLU:HA	71:SW:69:ARG:HH22	1.86	0.40
73:SY:76:LYS:HA	73:SY:81:ALA:HB2	2.04	0.40
78:Sd:58:PHE:CE1	78:Sd:72:PHE:HB3	2.56	0.40
1:LA:658:G:H21	6:LF:93:MET:HB2	1.85	0.40
1:LA:1109:U:H2'	1:LA:1110:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2537:U:P	65:SQ:228:LEU:H	2.44	0.40
1:LA:3158:G:H2'	1:LA:3158:G:N3	2.37	0.40
2:LB:118:A:H5"	7:LG:253:PHE:CZ	2.55	0.40
6:LF:304:GLN:C	6:LF:306:THR:H	2.30	0.40
7:LG:120:LYS:HD3	7:LG:123:GLU:OE2	2.21	0.40
7:LG:164:LYS:HD3	7:LG:180:PHE:CZ	2.56	0.40
16:LP:6:TYR:CE2	37:Lk:43:LEU:HD22	2.56	0.40
32:Lf:86:LYS:H	32:Lf:86:LYS:HG3	1.72	0.40
46:Bb:27:C:O2'	46:Bb:28:C:H5'	2.21	0.40
48:S2:409:C:O5'	48:S2:409:C:H6	2.05	0.40
48:S2:514:G:H2'	48:S2:515:A:C8	2.47	0.40
48:S2:830:U:H5"	48:S2:831:U:H5"	2.02	0.40
48:S2:1078:C:H2'	48:S2:1079:U:C6	2.56	0.40
48:S2:1126:G:H2'	48:S2:1127:G:H8	1.86	0.40
48:S2:1278:G:H2'	48:S2:1279:C:O4'	2.21	0.40
48:S2:1727:G:C6	48:S2:1728:A:C6	3.09	0.40
48:S2:1736:G:H5'	48:S2:1737:G:OP2	2.21	0.40
50:SB:128:ASN:O	50:SB:132:VAL:HG12	2.21	0.40
55:SG:72:LYS:HD2	55:SG:72:LYS:H	1.86	0.40
63:SO:183:LEU:H	63:SO:183:LEU:HD23	1.87	0.40
66:SR:49:LYS:HB3	66:SR:243:TYR:CE2	2.57	0.40
66:SR:188:LEU:HD13	66:SR:196:VAL:HG11	2.03	0.40
68:ST:2:LYS:O	68:ST:108:VAL:HA	2.21	0.40
68:ST:27:PHE:CZ	68:ST:111:LEU:HD11	2.56	0.40
68:ST:32:ILE:HA	68:ST:52:ILE:HG23	2.02	0.40
68:ST:54:GLY:O	68:ST:109:LEU:HD12	2.21	0.40
68:ST:109:LEU:HD12	68:ST:109:LEU:HA	1.85	0.40
69:SU:125:ILE:O	69:SU:129:LEU:HB2	2.21	0.40
73:SY:54:LEU:HB3	73:SY:60:VAL:CG1	2.45	0.40
76:Sb:18:GLU:OE1	76:Sb:69:LEU:HB3	2.21	0.40
1:LA:283:G:O6	1:LA:304:G:H1'	2.21	0.40
1:LA:316:U:O2'	37:Lk:30:LYS:HD3	2.21	0.40
1:LA:973:A:H2'	1:LA:974:G:O4'	2.22	0.40
1:LA:2144:A:H1'	1:LA:2281:A:N6	2.37	0.40
1:LA:3247:G:H2'	1:LA:3248:C:C6	2.56	0.40
1:LA:3283:U:H2'	1:LA:3284:G:C8	2.56	0.40
5:LE:57:VAL:HG22	5:LE:73:VAL:HG22	2.03	0.40
7:LG:119:TYR:CE1	7:LG:135:VAL:HG13	2.57	0.40
8:LH:145:LEU:HD23	8:LH:145:LEU:HA	1.77	0.40
11:LK:162:GLN:OE1	11:LK:180:TYR:HA	2.22	0.40
12:LL:146:ASP:OD2	12:LL:147:VAL:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LM:85:LYS:HE2	13:LM:85:LYS:HB3	1.80	0.40
17:LQ:73[A]:PHE:HB3	17:LQ:78[A]:ARG:HB3	2.03	0.40
19:LS:175:ALA:C	29:Lc:51:GLY:HA2	2.46	0.40
21:LU:89:ASN:HD21	22:LV:156:TYR:HB3	1.85	0.40
35:Li:76:TYR:HB3	35:Li:80:ARG:HB2	2.04	0.40
36:Lj:77:PRO:O	36:Lj:81:ARG:HG2	2.21	0.40
39:Lm:41:THR:HG21	39:Lm:62:ALA:HB2	2.03	0.40
39:Lm:41:THR:HG21	39:Lm:62:ALA:CB	2.52	0.40
42:Lp:9:ARG:O	42:Lp:13:LEU:HG	2.21	0.40
47:Cc:69:C:H2'	47:Cc:70:C:O4'	2.21	0.40
48:S2:483:A:H8	48:S2:483:A:P	2.45	0.40
48:S2:893:U:C2	48:S2:919:A:N6	2.88	0.40
48:S2:1171:A:H2'	48:S2:1172:G:C8	2.56	0.40
48:S2:1218:G:H1'	48:S2:1221:A:N6	2.37	0.40
48:S2:1243:G:H5'	48:S2:1244:A:H5'	2.02	0.40
48:S2:1365:C:H2'	48:S2:1366:U:C6	2.57	0.40
48:S2:1389:C:O2	48:S2:1390:U:H4'	2.22	0.40
48:S2:1758:U:H2'	48:S2:1759:C:C6	2.57	0.40
51:SC:71:GLU:HA	51:SC:74:GLU:HG2	2.02	0.40
66:SR:211:LEU:HD23	66:SR:211:LEU:HA	1.84	0.40
68:ST:147:LEU:H	68:ST:147:LEU:HD23	1.86	0.40
69:SU:24:PHE:CE1	69:SU:77:LEU:HD21	2.56	0.40
71:SW:79:ARG:O	71:SW:83:VAL:HG23	2.21	0.40
71:SW:82:ARG:CD	71:SW:149:ARG:HB2	2.52	0.40
72:SX:125:VAL:HG23	72:SX:137:PHE:HD2	1.85	0.40
79:Se:45:VAL:HG21	79:Se:50:VAL:HA	2.03	0.40
1:LA:678:G:H2'	1:LA:679:U:O4'	2.22	0.40
1:LA:884:A:OP2	38:Ll:4:GLY:HA3	2.21	0.40
1:LA:916:G:H5'	1:LA:917:A:OP1	2.21	0.40
1:LA:1157:G:H5"	9:LI:220:PHE:CE2	2.56	0.40
1:LA:1336:U:H2'	1:LA:1337:A:C8	2.51	0.40
1:LA:1752:A:C6	1:LA:1753:G:C5	3.09	0.40
1:LA:2421:U:O2'	43:Lq:52:GLY:HA3	2.22	0.40
1:LA:3059:G:H2'	1:LA:3060:C:C6	2.56	0.40
4:LD:122:ASP:OD1	4:LD:122:ASP:C	2.64	0.40
5:LE:323:MET:H	5:LE:323:MET:HG2	1.73	0.40
6:LF:165:ALA:HB1	6:LF:219:LEU:HD13	2.02	0.40
7:LG:259:LYS:HG3	7:LG:260:PHE:HD2	1.85	0.40
8:LH:46:ARG:HG2	8:LH:46:ARG:HH11	1.86	0.40
19:LS:170:ARG:O	19:LS:171:LYS:HG2	2.21	0.40
25:LY:17:ARG:HE	25:LY:17:ARG:HB3	1.65	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Lc:63:LYS:HE3	29:Lc:68:PHE:CE2	2.57	0.40
29:Lc:117:ARG:HD3	29:Lc:117:ARG:HA	1.74	0.40
41:Lo:102:ARG:O	41:Lo:103:LEU:HD23	2.22	0.40
48:S2:200:A:H2'	48:S2:201:G:C8	2.57	0.40
48:S2:371:G:H1'	76:Sb:88:LYS:HD3	2.04	0.40
48:S2:430:G:H2'	48:S2:431:C:H6	1.86	0.40
48:S2:472:U:OP1	71:SW:11:THR:HG22	2.22	0.40
48:S2:739:G:H2'	48:S2:846:G:OP1	2.22	0.40
48:S2:1036:A:H2'	48:S2:1037:C:C6	2.56	0.40
48:S2:1567:U:H4'	56:SH:36:LYS:NZ	2.36	0.40
49:SA:190:ARG:HA	49:SA:190:ARG:HD3	1.93	0.40
63:SO:10:ARG:HA	63:SO:10:ARG:HD3	1.98	0.40
64:SP:36:TYR:CD2	64:SP:161:PRO:HB3	2.57	0.40
67:SS:36:HIS:HB2	67:SS:41:SER:OG	2.21	0.40
68:ST:102:VAL:HG13	68:ST:106:LEU:HD13	2.03	0.40
69:SU:98:ILE:HD11	69:SU:121:VAL:HB	2.04	0.40
70:SV:191:PHE:CZ	70:SV:195:ARG:HD2	2.56	0.40
71:SW:12:TYR:C	71:SW:12:TYR:CD2	2.99	0.40
71:SW:174:ARG:HG3	71:SW:175:ARG:HE	1.87	0.40
74:SZ:20:TYR:CD1	74:SZ:84:ARG:HG2	2.54	0.40
76:Sb:93:LEU:HD13	76:Sb:128:PHE:CD1	2.56	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%)	358 (93%)	26 (7%)	0	100	100
6	LF	359/361 (99%)	334 (93%)	25 (7%)	0	100	100
7	LG	292/294 (99%)	279 (96%)	13 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	LH	163/175 (93%)	153 (94%)	10 (6%)	0	100	100
9	LI	220/222 (99%)	207 (94%)	13 (6%)	0	100	100
10	LJ	231/233 (99%)	217 (94%)	14 (6%)	0	100	100
11	LK	189/191 (99%)	176 (93%)	13 (7%)	0	100	100
12	LL	216/218 (99%)	202 (94%)	14 (6%)	0	100	100
13	LM	167/169 (99%)	157 (94%)	10 (6%)	0	100	100
14	LN	191/193 (99%)	176 (92%)	15 (8%)	0	100	100
15	LO	134/136 (98%)	125 (93%)	9 (7%)	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%)	172 (95%)	9 (5%)	0	100	100
19	LS	183/185 (99%)	173 (94%)	10 (6%)	0	100	100
20	LT	186/188 (99%)	182 (98%)	4 (2%)	0	100	100
21	LU	169/171 (99%)	157 (93%)	12 (7%)	0	100	100
22	LV	157/159 (99%)	148 (94%)	9 (6%)	0	100	100
23	LW	98/100 (98%)	91 (93%)	7 (7%)	0	100	100
24	LX	134/136 (98%)	130 (97%)	4 (3%)	0	100	100
25	LY	63/65 (97%)	62 (98%)	1 (2%)	0	100	100
26	LZ	119/121 (98%)	114 (96%)	5 (4%)	0	100	100
27	La	123/125 (98%)	117 (95%)	6 (5%)	0	100	100
28	Lb	133/135 (98%)	121 (91%)	12 (9%)	0	100	100
29	Lc	146/148 (99%)	134 (92%)	12 (8%)	0	100	100
30	Ld	56/58 (97%)	51 (91%)	5 (9%)	0	100	100
31	Le	94/96 (98%)	94 (100%)	0	0	100	100
32	Lf	107/109 (98%)	99 (92%)	8 (8%)	0	100	100
33	Lg	125/127 (98%)	121 (97%)	4 (3%)	0	100	100
34	Lh	104/106 (98%)	101 (97%)	3 (3%)	0	100	100
35	Li	110/112 (98%)	108 (98%)	2 (2%)	0	100	100
36	Lj	117/119 (98%)	113 (97%)	4 (3%)	0	100	100
37	Lk	97/99 (98%)	90 (93%)	7 (7%)	0	100	100
38	Ll	79/81 (98%)	77 (98%)	2 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	Lm	75/77 (97%)	74 (99%)	1 (1%)	0	100	100
40	Ln	48/50 (96%)	46 (96%)	2 (4%)	0	100	100
41	Lo	50/52 (96%)	46 (92%)	4 (8%)	0	100	100
42	Lp	23/25 (92%)	23 (100%)	0	0	100	100
43	Lq	101/103 (98%)	95 (94%)	6 (6%)	0	100	100
44	Lr	89/91 (98%)	84 (94%)	5 (6%)	0	100	100
49	SA	220/222 (99%)	214 (97%)	6 (3%)	0	100	100
50	SB	204/206 (99%)	189 (93%)	14 (7%)	1 (0%)	24	49
51	SC	90/92 (98%)	84 (93%)	6 (7%)	0	100	100
52	SD	119/121 (98%)	90 (76%)	29 (24%)	0	100	100
53	SE	115/117 (98%)	107 (93%)	8 (7%)	0	100	100
54	SF	139/141 (99%)	129 (93%)	10 (7%)	0	100	100
55	SG	117/125 (94%)	115 (98%)	2 (2%)	0	100	100
56	SH	143/145 (99%)	133 (93%)	10 (7%)	0	100	100
57	SI	141/143 (99%)	134 (95%)	7 (5%)	0	100	100
58	SJ	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
59	SK	80/82 (98%)	73 (91%)	7 (9%)	0	100	100
60	SL	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
61	SM	51/53 (96%)	48 (94%)	3 (6%)	0	100	100
62	SN	71/73 (97%)	56 (79%)	15 (21%)	0	100	100
63	SO	310/312 (99%)	281 (91%)	29 (9%)	0	100	100
64	SP	204/206 (99%)	183 (90%)	21 (10%)	0	100	100
65	SQ	222/232 (96%)	201 (90%)	21 (10%)	0	100	100
66	SR	214/216 (99%)	205 (96%)	9 (4%)	0	100	100
67	SS	256/258 (99%)	231 (90%)	25 (10%)	0	100	100
68	ST	226/228 (99%)	210 (93%)	15 (7%)	1 (0%)	30	54
69	SU	182/184 (99%)	171 (94%)	11 (6%)	0	100	100
70	SV	183/198 (92%)	170 (93%)	13 (7%)	0	100	100
71	SW	182/184 (99%)	168 (92%)	14 (8%)	0	100	100
72	SX	140/142 (99%)	134 (96%)	6 (4%)	0	100	100
73	SY	148/150 (99%)	138 (93%)	10 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
74	SZ	125/127 (98%)	115 (92%)	10 (8%)	0	100	100
75	Sa	85/87 (98%)	78 (92%)	7 (8%)	0	100	100
76	Sb	127/129 (98%)	118 (93%)	9 (7%)	0	100	100
77	Sc	142/144 (99%)	126 (89%)	16 (11%)	0	100	100
78	Sd	132/134 (98%)	127 (96%)	5 (4%)	0	100	100
79	Se	95/97 (98%)	89 (94%)	6 (6%)	0	100	100
80	Sf	79/81 (98%)	71 (90%)	8 (10%)	0	100	100
81	Sg	55/57 (96%)	46 (84%)	9 (16%)	0	100	100
All	All	10914/11099 (98%)	10209 (94%)	703 (6%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
68	ST	175	ILE
50	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%)	186 (98%)	4 (2%)	47	70
5	LE	318/322 (99%)	305 (96%)	13 (4%)	27	52
6	LF	288/288 (100%)	279 (97%)	9 (3%)	35	60
7	LG	241/243 (99%)	232 (96%)	9 (4%)	30	55
8	LH	139/154 (90%)	134 (96%)	5 (4%)	31	56
9	LI	186/186 (100%)	177 (95%)	9 (5%)	23	47
10	LJ	187/191 (98%)	178 (95%)	9 (5%)	23	47
11	LK	168/171 (98%)	154 (92%)	14 (8%)	10	26
12	LL	185/185 (100%)	181 (98%)	4 (2%)	45	69
13	LM	145/147 (99%)	133 (92%)	12 (8%)	10	26

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
14	LN	154/154 (100%)	143 (93%)	11 (7%)	13 31
15	LO	107/107 (100%)	104 (97%)	3 (3%)	38 63
16	LP	175/175 (100%)	167 (95%)	8 (5%)	24 49
17	LQ	160/160 (100%)	154 (96%)	6 (4%)	29 54
18	LR	138/145 (95%)	133 (96%)	5 (4%)	31 56
19	LS	150/150 (100%)	140 (93%)	10 (7%)	15 34
20	LT	152/153 (99%)	143 (94%)	9 (6%)	18 39
21	LU	155/155 (100%)	147 (95%)	8 (5%)	21 44
22	LV	135/136 (99%)	132 (98%)	3 (2%)	45 69
23	LW	87/87 (100%)	82 (94%)	5 (6%)	18 41
24	LX	104/104 (100%)	97 (93%)	7 (7%)	15 34
25	LY	54/57 (95%)	52 (96%)	2 (4%)	30 55
26	LZ	104/105 (99%)	93 (89%)	11 (11%)	6 18
27	La	108/108 (100%)	103 (95%)	5 (5%)	24 49
28	Lb	112/115 (97%)	104 (93%)	8 (7%)	13 31
29	Lc	117/118 (99%)	113 (97%)	4 (3%)	32 58
30	Ld	46/46 (100%)	45 (98%)	1 (2%)	45 69
31	Le	81/81 (100%)	78 (96%)	3 (4%)	30 55
32	Lf	92/96 (96%)	87 (95%)	5 (5%)	20 42
33	Lg	108/109 (99%)	104 (96%)	4 (4%)	30 55
34	Lh	90/90 (100%)	84 (93%)	6 (7%)	15 34
35	Li	95/95 (100%)	90 (95%)	5 (5%)	20 43
36	Lj	104/104 (100%)	103 (99%)	1 (1%)	68 81
37	Lk	80/81 (99%)	77 (96%)	3 (4%)	29 54
38	Ll	67/67 (100%)	65 (97%)	2 (3%)	36 61
39	Lm	68/68 (100%)	59 (87%)	9 (13%)	4 11
40	Ln	45/45 (100%)	41 (91%)	4 (9%)	9 23
41	Lo	45/47 (96%)	45 (100%)	0	100 100
42	Lp	22/23 (96%)	22 (100%)	0	100 100
43	Lq	87/88 (99%)	81 (93%)	6 (7%)	14 33
44	Lr	71/71 (100%)	70 (99%)	1 (1%)	59 76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
49	SA	182/182 (100%)	175 (96%)	7 (4%)	29 54
50	SB	172/173 (99%)	163 (95%)	9 (5%)	21 44
51	SC	77/85 (91%)	75 (97%)	2 (3%)	40 65
52	SD	88/98 (90%)	83 (94%)	5 (6%)	18 41
53	SE	95/98 (97%)	90 (95%)	5 (5%)	20 43
54	SF	117/117 (100%)	113 (97%)	4 (3%)	32 58
55	SG	101/113 (89%)	98 (97%)	3 (3%)	36 61
56	SH	127/128 (99%)	120 (94%)	7 (6%)	19 41
57	SI	115/115 (100%)	114 (99%)	1 (1%)	70 82
58	SJ	93/93 (100%)	84 (90%)	9 (10%)	8 20
59	SK	67/73 (92%)	62 (92%)	5 (8%)	12 29
60	SL	55/56 (98%)	53 (96%)	2 (4%)	31 56
61	SM	47/47 (100%)	44 (94%)	3 (6%)	16 36
62	SN	56/64 (88%)	54 (96%)	2 (4%)	31 56
63	SO	250/257 (97%)	237 (95%)	13 (5%)	21 44
64	SP	170/173 (98%)	165 (97%)	5 (3%)	37 62
65	SQ	200/205 (98%)	187 (94%)	13 (6%)	15 35
66	SR	175/175 (100%)	162 (93%)	13 (7%)	13 30
67	SS	220/220 (100%)	210 (96%)	10 (4%)	24 49
68	ST	189/195 (97%)	174 (92%)	15 (8%)	11 27
69	SU	163/165 (99%)	157 (96%)	6 (4%)	30 55
70	SV	148/159 (93%)	138 (93%)	10 (7%)	14 33
71	SW	156/157 (99%)	147 (94%)	9 (6%)	18 40
72	SX	126/127 (99%)	118 (94%)	8 (6%)	16 36
73	SY	127/127 (100%)	118 (93%)	9 (7%)	13 31
74	SZ	90/96 (94%)	88 (98%)	2 (2%)	45 69
75	Sa	71/74 (96%)	65 (92%)	6 (8%)	10 24
76	Sb	110/110 (100%)	104 (94%)	6 (6%)	19 41
77	Sc	119/119 (100%)	111 (93%)	8 (7%)	15 34
78	Sd	102/112 (91%)	98 (96%)	4 (4%)	28 53
79	Se	82/83 (99%)	79 (96%)	3 (4%)	30 55

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
80	Sf	70/70 (100%)	65 (93%)	5 (7%)	13 31
81	Sg	48/49 (98%)	43 (90%)	5 (10%)	7 18
All	All	9168/9335 (98%)	8711 (95%)	457 (5%)	23 46

All (457) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	LD	52	SER
4	LD	137	ILE
4	LD	144	ASN
4	LD	230	VAL
5	LE	25	ILE
5	LE	28	ARG
5	LE	97	ARG
5	LE	136	LYS
5	LE	137	TYR
5	LE	158	VAL
5	LE	161	LEU
5	LE	162	VAL
5	LE	166	ILE
5	LE	229	VAL
5	LE	246	LEU
5	LE	319	ASN
5	LE	323	MET
6	LF	63	GLU
6	LF	134	LEU
6	LF	182	LEU
6	LF	230	VAL
6	LF	275	THR
6	LF	286	VAL
6	LF	294	GLU
6	LF	333	VAL
6	LF	342	LYS
7	LG	18	THR
7	LG	37	VAL
7	LG	123	GLU
7	LG	125	VAL
7	LG	153	THR
7	LG	163	LEU
7	LG	262	LYS
7	LG	271	LYS

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Mol	Chain	Res	Type
7	LG	275	THR
8	LH	35	VAL
8	LH	92	SER
8	LH	109	GLU
8	LH	133	GLU
8	LH	155	LEU
9	LI	25	GLN
9	LI	57	THR
9	LI	81	HIS
9	LI	87	VAL
9	LI	106	LEU
9	LI	123	THR
9	LI	161	VAL
9	LI	242	SER
9	LI	244	ASN
10	LJ	36	ILE
10	LJ	66	SER
10	LJ	71	VAL
10	LJ	109	LEU
10	LJ	151	VAL
10	LJ	156	ASP
10	LJ	157	VAL
10	LJ	175	VAL
10	LJ	216	SER
11	LK	16	VAL
11	LK	18	VAL
11	LK	28	VAL
11	LK	48	VAL
11	LK	68	LEU
11	LK	82	VAL
11	LK	90	MET
11	LK	92	TYR
11	LK	103	ILE
11	LK	126	VAL
11	LK	133	THR
11	LK	145	VAL
11	LK	181	VAL
11	LK	182	SER
12	LL	78	THR
12	LL	83	ASP
12	LL	123	HIS
12	LL	203	LYS

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Mol	Chain	Res	Type
13	LM	14	ILE
13	LM	23	VAL
13	LM	31	THR
13	LM	44	THR
13	LM	95	ASN
13	LM	99	THR
13	LM	106	ILE
13	LM	107	ASP
13	LM	123	PHE
13	LM	154	THR
13	LM	158	ASP
13	LM	167	TYR
14	LN	5	LYS
14	LN	24	VAL
14	LN	69	VAL
14	LN	86	THR
14	LN	100	ARG
14	LN	103	ASN
14	LN	124	ILE
14	LN	125	VAL
14	LN	140	SER
14	LN	154	VAL
14	LN	176	GLU
15	LO	15	VAL
15	LO	36	VAL
15	LO	41	GLN
16	LP	18	VAL
16	LP	60	VAL
16	LP	97	SER
16	LP	101	THR
16	LP	148	TYR
16	LP	171	SER
16	LP	190	THR
16	LP	196	THR
17	LQ	40[A]	GLU
17	LQ	136[A]	THR
17	LQ	175[A]	THR
17	LQ	178[A]	VAL
17	LQ	182[A]	ASN
17	LQ	197[A]	LEU
18	LR	25	SER
18	LR	65	SER

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Mol	Chain	Res	Type
18	LR	119	VAL
18	LR	148	LEU
18	LR	172	GLN
19	LS	17	THR
19	LS	21	SER
19	LS	32	LEU
19	LS	41	ASP
19	LS	55	SER
19	LS	63	SER
19	LS	122	ILE
19	LS	129	VAL
19	LS	155	MET
19	LS	174	ARG
20	LT	14	VAL
20	LT	29	THR
20	LT	51	VAL
20	LT	56	THR
20	LT	66	HIS
20	LT	98	ARG
20	LT	119	LEU
20	LT	158	GLU
20	LT	179	GLU
21	LU	14	LEU
21	LU	32	SER
21	LU	45	LEU
21	LU	59	VAL
21	LU	61	ILE
21	LU	77	VAL
21	LU	142	GLN
21	LU	172	TYR
22	LV	10	ARG
22	LV	25	VAL
22	LV	86	GLU
23	LW	37	LEU
23	LW	47	VAL
23	LW	50	LEU
23	LW	66	VAL
23	LW	98	THR
24	LX	7	GLN
24	LX	74	MET
24	LX	84	SER
24	LX	98	ASN

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Mol	Chain	Res	Type
24	LX	118	VAL
24	LX	125	LEU
24	LX	137	VAL
25	LY	19	THR
25	LY	26	SER
26	LZ	26	VAL
26	LZ	34	LEU
26	LZ	62	VAL
26	LZ	71	THR
26	LZ	96	LYS
26	LZ	102	LEU
26	LZ	107	VAL
26	LZ	113	LEU
26	LZ	127	THR
26	LZ	129	ASP
26	LZ	133	LEU
27	La	32	SER
27	La	56	VAL
27	La	57	LEU
27	La	104	LEU
27	La	105	VAL
28	Lb	42	LEU
28	Lb	74	VAL
28	Lb	84	ARG
28	Lb	86	THR
28	Lb	98	THR
28	Lb	102	GLU
28	Lb	119	GLU
28	Lb	135	ARG
29	Lc	24	LYS
29	Lc	78	LEU
29	Lc	85	ASP
29	Lc	145	VAL
30	Ld	43	HIS
31	Le	17	VAL
31	Le	71	GLN
31	Le	93	LEU
32	Lf	64	VAL
32	Lf	93	VAL
32	Lf	94	GLU
32	Lf	106	THR
32	Lf	109	VAL

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Mol	Chain	Res	Type
33	Lg	10	VAL
33	Lg	41	VAL
33	Lg	73	THR
33	Lg	89	THR
34	Lh	33	GLU
34	Lh	37	THR
34	Lh	52	VAL
34	Lh	67	MET
34	Lh	105	SER
34	Lh	107	ILE
35	Li	35	VAL
35	Li	38	LEU
35	Li	57	LEU
35	Li	84	CYS
35	Li	100	ILE
36	Lj	8	GLU
37	Lk	37	THR
37	Lk	47	ILE
37	Lk	59	ASP
38	Ll	57	HIS
38	Ll	80	THR
39	Lm	5	ILE
39	Lm	6	THR
39	Lm	22	THR
39	Lm	27	ILE
39	Lm	30	LYS
39	Lm	39	ARG
39	Lm	41	THR
39	Lm	51	LEU
39	Lm	75	VAL
40	Ln	19	GLN
40	Ln	27	ILE
40	Ln	47	THR
40	Ln	49	MET
43	Lq	2	VAL
43	Lq	13	LYS
43	Lq	21	THR
43	Lq	64	THR
43	Lq	76	LYS
43	Lq	84	THR
44	Lr	81	SER
49	SA	7	LYS

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Mol	Chain	Res	Type
49	SA	46	THR
49	SA	66	ILE
49	SA	115	ILE
49	SA	123	VAL
49	SA	178	ARG
49	SA	206	VAL
50	SB	24	VAL
50	SB	53	VAL
50	SB	64	VAL
50	SB	76	ARG
50	SB	107	LYS
50	SB	133	VAL
50	SB	146	THR
50	SB	161	ASP
50	SB	192	GLU
51	SC	57	THR
51	SC	59	PHE
52	SD	41	LEU
52	SD	91	VAL
52	SD	116	VAL
52	SD	120	VAL
52	SD	140	PHE
53	SE	32	ASP
53	SE	41	VAL
53	SE	86	VAL
53	SE	94	VAL
53	SE	96	ILE
54	SF	4	VAL
54	SF	19	VAL
54	SF	43	ILE
54	SF	69	VAL
55	SG	41	ILE
55	SG	55	THR
55	SG	101	ASN
56	SH	15	LEU
56	SH	20	THR
56	SH	29	VAL
56	SH	45	LEU
56	SH	116	LEU
56	SH	118	LYS
56	SH	140	THR
57	SI	114	VAL

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Mol	Chain	Res	Type
58	SJ	34	LEU
58	SJ	41	ILE
58	SJ	52	LYS
58	SJ	56	VAL
58	SJ	57	ARG
58	SJ	70	THR
58	SJ	91	ILE
58	SJ	108	ILE
58	SJ	118	VAL
59	SK	27	TRP
59	SK	29	LYS
59	SK	48	ASP
59	SK	50	ILE
59	SK	89	ILE
60	SL	14	LYS
60	SL	55	VAL
61	SM	10	HIS
61	SM	23	VAL
61	SM	36	LEU
62	SN	105	TYR
62	SN	108	VAL
63	SO	25	THR
63	SO	37	SER
63	SO	58	VAL
63	SO	101	GLN
63	SO	110	VAL
63	SO	113	VAL
63	SO	139	GLN
63	SO	144	LEU
63	SO	145	LEU
63	SO	153	GLN
63	SO	155	ARG
63	SO	169	ILE
63	SO	170	ILE
64	SP	22	THR
64	SP	32	HIS
64	SP	49	ASN
64	SP	121	VAL
64	SP	139	VAL
65	SQ	9	LEU
65	SQ	32	ILE
65	SQ	43	VAL

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Mol	Chain	Res	Type
65	SQ	48	VAL
65	SQ	65	VAL
65	SQ	97	LEU
65	SQ	107	THR
65	SQ	109	LYS
65	SQ	112	SER
65	SQ	148	ASN
65	SQ	191	GLU
65	SQ	215	VAL
65	SQ	217	LEU
66	SR	58	LEU
66	SR	80	VAL
66	SR	81	MET
66	SR	90	THR
66	SR	101	VAL
66	SR	102	VAL
66	SR	148	LEU
66	SR	156	THR
66	SR	166	THR
66	SR	193	VAL
66	SR	195	ASP
66	SR	232	GLU
66	SR	246	GLU
67	SS	70	VAL
67	SS	139	VAL
67	SS	156	VAL
67	SS	195	ILE
67	SS	197	HIS
67	SS	219	VAL
67	SS	220	THR
67	SS	227	VAL
67	SS	236	ILE
67	SS	254	ARG
68	ST	17	GLU
68	ST	27	PHE
68	ST	63	MET
68	ST	68	LEU
68	ST	71	THR
68	ST	73	ILE
68	ST	75	LEU
68	ST	81	VAL
68	ST	93	LYS

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Mol	Chain	Res	Type
68	ST	112	VAL
68	ST	141	ILE
68	ST	162	VAL
68	ST	171	LYS
68	ST	184	LEU
68	ST	185	GLN
69	SU	18	LEU
69	SU	38	LEU
69	SU	71	HIS
69	SU	123	ASP
69	SU	131	PHE
69	SU	177	THR
70	SV	14	THR
70	SV	26	LYS
70	SV	29	LEU
70	SV	78	ILE
70	SV	82	VAL
70	SV	156	VAL
70	SV	157	GLU
70	SV	160	PHE
70	SV	161	SER
70	SV	196	LEU
71	SW	22	SER
71	SW	48	GLN
71	SW	50	SER
71	SW	105	LEU
71	SW	118	LEU
71	SW	127	VAL
71	SW	131	GLN
71	SW	156	ILE
71	SW	157	ASP
72	SX	50	GLU
72	SX	64	VAL
72	SX	72	THR
72	SX	79	LYS
72	SX	82	ARG
72	SX	85	VAL
72	SX	86	ILE
72	SX	132	SER
73	SY	11	ILE
73	SY	14	SER
73	SY	31	GLU

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Mol	Chain	Res	Type
73	SY	53	LEU
73	SY	67	THR
73	SY	104	ARG
73	SY	132	VAL
73	SY	138	ASN
73	SY	150	VAL
74	SZ	26	THR
74	SZ	28	VAL
75	Sa	4	ASP
75	Sa	11	LEU
75	Sa	18	SER
75	Sa	50	TYR
75	Sa	59	VAL
75	Sa	69	LEU
76	Sb	33	VAL
76	Sb	56	HIS
76	Sb	57	ARG
76	Sb	65	LEU
76	Sb	74	VAL
76	Sb	83	ILE
77	Sc	27	ASN
77	Sc	40	SER
77	Sc	52	ILE
77	Sc	69	ARG
77	Sc	92	CYS
77	Sc	100	ASP
77	Sc	117	ILE
77	Sc	121	ARG
78	Sd	5	VAL
78	Sd	10	ARG
78	Sd	12	VAL
78	Sd	25	VAL
79	Se	21	VAL
79	Se	39	MET
79	Se	88	SER
80	Sf	3	LEU
80	Sf	22	LYS
80	Sf	26	GLN
80	Sf	35	VAL
80	Sf	77	THR
81	Sg	15	LYS
81	Sg	17	GLN

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Mol	Chain	Res	Type
81	Sg	47	VAL
81	Sg	49	LEU
81	Sg	50	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (94) such sidechains are listed below:

Mol	Chain	Res	Type
4	LD	144	ASN
5	LE	68	HIS
6	LF	18	ASN
6	LF	243	HIS
6	LF	296	GLN
7	LG	63	GLN
7	LG	296	GLN
8	LH	5	GLN
9	LI	25	GLN
9	LI	80	GLN
9	LI	93	ASN
9	LI	172	ASN
9	LI	225	GLN
10	LJ	28	HIS
10	LJ	38	GLN
11	LK	51	GLN
11	LK	163	GLN
13	LM	6	GLN
13	LM	68	HIS
13	LM	109	HIS
13	LM	150	ASN
14	LN	160	GLN
15	LO	126	GLN
17	LQ	50[A]	ASN
17	LQ	122[A]	GLN
17	LQ	182[A]	ASN
18	LR	50	GLN
18	LR	96	GLN
19	LS	136	ASN
19	LS	145	ASN
20	LT	75	HIS
20	LT	92	GLN
20	LT	166	ASN
21	LU	108	GLN
21	LU	142	GLN

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Mol	Chain	Res	Type
21	LU	157	GLN
22	LV	5	HIS
22	LV	26	HIS
22	LV	127	GLN
24	LX	81	GLN
27	La	81	GLN
28	Lb	40	HIS
28	Lb	122	HIS
28	Lb	127	ASN
30	Ld	6	ASN
31	Le	11	ASN
33	Lg	88	HIS
36	Lj	104	GLN
36	Lj	108	GLN
36	Lj	113	GLN
38	Ll	13	ASN
38	Ll	76	ASN
40	Ln	33	ASN
43	Lq	47	GLN
43	Lq	82	GLN
49	SA	101	GLN
50	SB	34	GLN
50	SB	116	HIS
50	SB	131	GLN
50	SB	169	ASN
50	SB	186	ASN
51	SC	62	GLN
52	SD	143	GLN
53	SE	98	ASN
54	SF	8	GLN
55	SG	31	ASN
55	SG	104	ASN
56	SH	103	ASN
57	SI	12	GLN
57	SI	129	GLN
58	SJ	47	GLN
59	SK	98	GLN
63	SO	64	HIS
63	SO	101	GLN
63	SO	148	ASN
63	SO	288	HIS
65	SQ	124	ASN

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Mol	Chain	Res	Type
65	SQ	194	ASN
65	SQ	211	HIS
66	SR	147	ASN
67	SS	67	GLN
68	ST	80	ASN
68	ST	185	GLN
68	ST	199	GLN
69	SU	122	HIS
70	SV	32	GLN
72	SX	127	GLN
73	SY	62	GLN
75	Sa	81	ASN
76	Sb	42	GLN
77	Sc	18	HIS
78	Sd	22	GLN
78	Sd	34	ASN
80	Sf	26	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	LA	3159/3396 (93%)	777 (24%)	30 (0%)
2	LB	120/121 (99%)	22 (18%)	1 (0%)
3	LC	157/158 (99%)	36 (22%)	1 (0%)
45	mR	0/11	-	-
46	Bb	75/76 (98%)	34 (45%)	0
47	Cc	76/77 (98%)	27 (35%)	0
48	S2	1768/1800 (98%)	709 (40%)	20 (1%)
All	All	5355/5639 (94%)	1605 (29%)	52 (0%)

All (1605) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	LA	6	A
1	LA	14	U
1	LA	22	G
1	LA	26	A
1	LA	34	A
1	LA	40	A
1	LA	43	A
1	LA	49	A

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Mol	Chain	Res	Type
1	LA	59	G
1	LA	60	A
1	LA	65	A
1	LA	66	A
1	LA	67	A
1	LA	81	C
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	131	C
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	161	G
1	LA	162	G
1	LA	163	C
1	LA	164	A
1	LA	166	C
1	LA	167	U
1	LA	169	U
1	LA	170	G
1	LA	176	G
1	LA	177	U
1	LA	178	U
1	LA	179	C
1	LA	182	U
1	LA	189	G
1	LA	190	U
1	LA	191	U
1	LA	199	A
1	LA	200	C

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Mol	Chain	Res	Type
1	LA	206	G
1	LA	210	U
1	LA	213	A
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	246	U
1	LA	247	C
1	LA	248	U
1	LA	249	U
1	LA	251	G
1	LA	252	U
1	LA	253	A
1	LA	254	A
1	LA	255	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
1	LA	312	C
1	LA	313	A
1	LA	315	C
1	LA	323	A
1	LA	329	U
1	LA	337	G
1	LA	350	C
1	LA	362	U

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Mol	Chain	Res	Type
1	LA	370	U
1	LA	374	A
1	LA	376	G
1	LA	387	A
1	LA	398	A
1	LA	399	A
1	LA	402	A
1	LA	403	C
1	LA	406	G
1	LA	412	G
1	LA	418	A
1	LA	421	G
1	LA	422	A
1	LA	438	A
1	LA	510	G
1	LA	520	U
1	LA	521	A
1	LA	522	A
1	LA	523	A
1	LA	524	U
1	LA	525	C
1	LA	532	A
1	LA	535	G
1	LA	542	G
1	LA	544	C
1	LA	545	U
1	LA	547	G
1	LA	549	U
1	LA	550	A
1	LA	552	G
1	LA	553	U
1	LA	557	A
1	LA	559	A
1	LA	560	G
1	LA	562	C
1	LA	567	G
1	LA	568	G
1	LA	569	A
1	LA	572	A
1	LA	573	C
1	LA	579	G
1	LA	592	A

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Mol	Chain	Res	Type
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	620	U
1	LA	621	A
1	LA	637	C
1	LA	649	A
1	LA	653	A
1	LA	660	A
1	LA	661	G
1	LA	667	C
1	LA	677	A
1	LA	681	U
1	LA	690	A
1	LA	691	A
1	LA	693	A
1	LA	697	A
1	LA	705	A
1	LA	712	G
1	LA	715	A
1	LA	716	A
1	LA	719	U
1	LA	727	G
1	LA	734	C
1	LA	758	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
1	LA	779	G
1	LA	781	G
1	LA	785	G

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Mol	Chain	Res	Type
1	LA	806	A
1	LA	808	A
1	LA	817	A
1	LA	830	A
1	LA	849	C
1	LA	857	G
1	LA	860	G
1	LA	861	C
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	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	964	G
1	LA	974	G
1	LA	981	U
1	LA	982	C
1	LA	991	G
1	LA	994	G
1	LA	1012	G
1	LA	1015	U
1	LA	1016	C
1	LA	1017	C
1	LA	1018	G
1	LA	1022	U
1	LA	1023	C
1	LA	1024	G

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Mol	Chain	Res	Type
1	LA	1026	A
1	LA	1028	U
1	LA	1029	G
1	LA	1030	A
1	LA	1032	C
1	LA	1035	G
1	LA	1036	A
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	1051	U
1	LA	1063	G
1	LA	1064	A
1	LA	1066	G
1	LA	1069	C
1	LA	1070	U
1	LA	1071	U
1	LA	1072	G
1	LA	1079	A
1	LA	1081	U
1	LA	1090	G
1	LA	1091	A
1	LA	1093	A
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
1	LA	1159	A
1	LA	1165	A
1	LA	1179	A
1	LA	1180	A

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Mol	Chain	Res	Type
1	LA	1181	U
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	1209	G
1	LA	1216	C
1	LA	1218	U
1	LA	1220	U
1	LA	1221	A
1	LA	1223	A
1	LA	1228	C
1	LA	1229	G
1	LA	1230	G
1	LA	1236	G
1	LA	1239	C
1	LA	1241	U
1	LA	1242	G
1	LA	1245	A
1	LA	1246	G
1	LA	1247	U
1	LA	1248	C
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	1258	U
1	LA	1260	A
1	LA	1262	G
1	LA	1263	A
1	LA	1264	G
1	LA	1266	G
1	LA	1268	G
1	LA	1269	U
1	LA	1270	A
1	LA	1272	C

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Mol	Chain	Res	Type
1	LA	1274	A
1	LA	1275	C
1	LA	1278	A
1	LA	1279	C
1	LA	1281	G
1	LA	1283	C
1	LA	1284	C
1	LA	1285	G
1	LA	1286	A
1	LA	1307	G
1	LA	1308	A
1	LA	1309	U
1	LA	1313	G
1	LA	1330	A
1	LA	1331	U
1	LA	1344	G
1	LA	1345	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	1392	G
1	LA	1395	G
1	LA	1396	C
1	LA	1399	A
1	LA	1400	G
1	LA	1408	G
1	LA	1416	C
1	LA	1417	G
1	LA	1418	A
1	LA	1419	A
1	LA	1430	U
1	LA	1434	G
1	LA	1437	C
1	LA	1446	A
1	LA	1450	G
1	LA	1452	A

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Mol	Chain	Res	Type
1	LA	1468	A
1	LA	1469	C
1	LA	1475	A
1	LA	1476	G
1	LA	1481	A
1	LA	1482	A
1	LA	1483	G
1	LA	1487	G
1	LA	1488	G
1	LA	1503	A
1	LA	1508	C
1	LA	1511	U
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	1567	U
1	LA	1568	U
1	LA	1570	U
1	LA	1573	G
1	LA	1574	C
1	LA	1575	A
1	LA	1576	G
1	LA	1578	C
1	LA	1579	C
1	LA	1580	A
1	LA	1581	C
1	LA	1582	C
1	LA	1583	A
1	LA	1589	A
1	LA	1590	G
1	LA	1593	A
1	LA	1605	A
1	LA	1618	G
1	LA	1619	A
1	LA	1621	A
1	LA	1625	A
1	LA	1626	U

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Mol	Chain	Res	Type
1	LA	1627	U
1	LA	1628	C
1	LA	1629	U
1	LA	1639	C
1	LA	1641	U
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	1713	G
1	LA	1714	A
1	LA	1715	A
1	LA	1724	U
1	LA	1725	C
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	1765	U
1	LA	1766	G
1	LA	1770	G
1	LA	1775	G
1	LA	1780	G
1	LA	1788	C
1	LA	1796	G
1	LA	1797	A
1	LA	1798	A
1	LA	1810	A
1	LA	1813	A
1	LA	1814	A
1	LA	1815	U
1	LA	1816	A
1	LA	1821	U
1	LA	1823	A

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Mol	Chain	Res	Type
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	1906	G
1	LA	1907	C
1	LA	1926	C
1	LA	1952	G
1	LA	1953	G
1	LA	1954	G
1	LA	1955	U
1	LA	2094	C
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	2107	A
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	2126	A
1	LA	2131	A
1	LA	2140	U
1	LA	2142	A
1	LA	2144	A
1	LA	2145	A
1	LA	2158	A
1	LA	2160	G
1	LA	2166	A
1	LA	2169	G

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Mol	Chain	Res	Type
1	LA	2170	U
1	LA	2188	A
1	LA	2194	G
1	LA	2197	C
1	LA	2205	U
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	2244	A
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	2262	A
1	LA	2265	C
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	2308	C
1	LA	2310	U
1	LA	2313	A
1	LA	2314	U
1	LA	2315	G
1	LA	2334	U
1	LA	2335	G
1	LA	2336	U
1	LA	2373	A
1	LA	2374	C
1	LA	2375	G

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Mol	Chain	Res	Type
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	2434	U
1	LA	2435	G
1	LA	2437	G
1	LA	2439	A
1	LA	2440	G
1	LA	2441	A
1	LA	2442	G
1	LA	2443	A
1	LA	2444	C
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	2498	U
1	LA	2501	U
1	LA	2502	A
1	LA	2503	G
1	LA	2504	U
1	LA	2506	U
1	LA	2510	U
1	LA	2514	U
1	LA	2515	A
1	LA	2524	A
1	LA	2536	A
1	LA	2537	U
1	LA	2538	U
1	LA	2539	C
1	LA	2540	A
1	LA	2541	U

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Mol	Chain	Res	Type
1	LA	2543	U
1	LA	2545	C
1	LA	2548	C
1	LA	2549	G
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	2593	A
1	LA	2606	G
1	LA	2607	G
1	LA	2610	G
1	LA	2614	G
1	LA	2651	G
1	LA	2652	U
1	LA	2656	A
1	LA	2657	A
1	LA	2666	C
1	LA	2672	G
1	LA	2674	A
1	LA	2677	G
1	LA	2678	A
1	LA	2680	A
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
1	LA	2704	A
1	LA	2714	G
1	LA	2728	G
1	LA	2729	U

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Mol	Chain	Res	Type
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	2799	A
1	LA	2800	G
1	LA	2801	A
1	LA	2803	A
1	LA	2805	G
1	LA	2810	C
1	LA	2816	G
1	LA	2817	A
1	LA	2834	G
1	LA	2836	C
1	LA	2838	A
1	LA	2842	U
1	LA	2845	A
1	LA	2849	C
1	LA	2853	A
1	LA	2871	G
1	LA	2872	A
1	LA	2876	C
1	LA	2887	A
1	LA	2888	U
1	LA	2889	C
1	LA	2896	A
1	LA	2911	A
1	LA	2916	U
1	LA	2917	G
1	LA	2918	G
1	LA	2923	U
1	LA	2927	C
1	LA	2929	C
1	LA	2935	U
1	LA	2936	A
1	LA	2942	C
1	LA	2947	G

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Mol	Chain	Res	Type
1	LA	2948	C
1	LA	2954	U
1	LA	2955	U
1	LA	2971	A
1	LA	2972	G
1	LA	2978	U
1	LA	2980	U
1	LA	2983	C
1	LA	2990	G
1	LA	2992	U
1	LA	2996	U
1	LA	2997	G
1	LA	3011	A
1	LA	3012	A
1	LA	3014	U
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	3033	A
1	LA	3034	C
1	LA	3036	G
1	LA	3045	G
1	LA	3048	A
1	LA	3049	A
1	LA	3058	U
1	LA	3071	U
1	LA	3072	C
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
1	LA	3104	U
1	LA	3109	G
1	LA	3113	A
1	LA	3116	G
1	LA	3121	U

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Mol	Chain	Res	Type
1	LA	3122	A
1	LA	3129	A
1	LA	3130	A
1	LA	3131	U
1	LA	3141	A
1	LA	3142	A
1	LA	3143	C
1	LA	3151	U
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	3161	C
1	LA	3162	C
1	LA	3163	A
1	LA	3164	C
1	LA	3165	A
1	LA	3166	C
1	LA	3168	A
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	3180	A
1	LA	3181	C
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	3214	U
1	LA	3217	C
1	LA	3218	A

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Mol	Chain	Res	Type
1	LA	3219	G
1	LA	3220	G
1	LA	3226	A
1	LA	3227	A
1	LA	3229	G
1	LA	3234	A
1	LA	3243	A
1	LA	3246	G
1	LA	3247	G
1	LA	3251	U
1	LA	3252	G
1	LA	3259	U
1	LA	3260	G
1	LA	3268	A
1	LA	3269	U
1	LA	3270	U
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	3291	G
1	LA	3294	A
1	LA	3297	U
1	LA	3303	G
1	LA	3304	U
1	LA	3307	A
1	LA	3310	A
1	LA	3313	U
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

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Mol	Chain	Res	Type
1	LA	3353	G
1	LA	3354	U
1	LA	3355	U
1	LA	3356	G
1	LA	3358	U
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	3386	G
1	LA	3395	G
2	LB	7	G
2	LB	22	A
2	LB	39	C
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	68	C
2	LB	73	C
2	LB	74	C
2	LB	75	G
2	LB	76	A
2	LB	91	G
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	17	A
3	LC	22	U
3	LC	23	U
3	LC	34	U
3	LC	35	C
3	LC	39	G
3	LC	49	G

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Mol	Chain	Res	Type
3	LC	52	A
3	LC	54	A
3	LC	55	U
3	LC	59	A
3	LC	60	U
3	LC	62	C
3	LC	63	G
3	LC	75	G
3	LC	81	U
3	LC	82	U
3	LC	86	U
3	LC	87	G
3	LC	88	A
3	LC	90	U
3	LC	95	G
3	LC	97	A
3	LC	100	U
3	LC	102	U
3	LC	104	A
3	LC	106	C
3	LC	111	A
3	LC	113	U
3	LC	117	C
3	LC	125	U
3	LC	126	A
3	LC	148	G
3	LC	151	C
3	LC	152	G
3	LC	153	U
46	Bb	4	G
46	Bb	5	A
46	Bb	6	U
46	Bb	7	U
46	Bb	8	U
46	Bb	9	A
46	Bb	15	G
46	Bb	16	U
46	Bb	17	U
46	Bb	18	G
46	Bb	19	G
46	Bb	22	G
46	Bb	24	G

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Mol	Chain	Res	Type
46	Bb	25	C
46	Bb	28	C
46	Bb	32	C
46	Bb	40	C
46	Bb	41	U
46	Bb	43	G
46	Bb	46	G
46	Bb	47	U
46	Bb	48	C
46	Bb	53	G
46	Bb	56	C
46	Bb	57	G
46	Bb	59	U
46	Bb	61	C
46	Bb	62	A
46	Bb	63	C
46	Bb	68	U
46	Bb	70	C
46	Bb	71	G
46	Bb	73	A
46	Bb	75	C
47	Cc	4	G
47	Cc	5	G
47	Cc	9	G
47	Cc	10	G
47	Cc	13	C
47	Cc	16	C
47	Cc	17	C
47	Cc	18	C
47	Cc	19	G
47	Cc	20	G
47	Cc	21	U
47	Cc	22	A
47	Cc	23	G
47	Cc	34	U
47	Cc	45	A
47	Cc	48	U
47	Cc	49	C
47	Cc	54	G
47	Cc	55	U
47	Cc	59	A
47	Cc	62	C

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Mol	Chain	Res	Type
47	Cc	68	C
47	Cc	69	C
47	Cc	70	C
47	Cc	71	G
47	Cc	76	C
47	Cc	77	A
48	S2	3	U
48	S2	4	C
48	S2	9	U
48	S2	10	G
48	S2	13	C
48	S2	14	C
48	S2	15	U
48	S2	16	G
48	S2	25	C
48	S2	26	A
48	S2	34	G
48	S2	40	A
48	S2	42	G
48	S2	43	A
48	S2	45	U
48	S2	47	A
48	S2	53	G
48	S2	56	U
48	S2	57	G
48	S2	61	A
48	S2	63	G
48	S2	65	A
48	S2	66	U
48	S2	68	A
48	S2	69	G
48	S2	73	U
48	S2	74	U
48	S2	75	U
48	S2	76	A
48	S2	77	U
48	S2	80	A
48	S2	81	G
48	S2	84	A
48	S2	85	A
48	S2	86	A
48	S2	89	G

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Mol	Chain	Res	Type
48	S2	96	G
48	S2	100	A
48	S2	104	A
48	S2	114	C
48	S2	115	G
48	S2	116	U
48	S2	117	U
48	S2	125	U
48	S2	127	G
48	S2	130	C
48	S2	131	C
48	S2	132	U
48	S2	133	U
48	S2	134	U
48	S2	135	A
48	S2	136	C
48	S2	138	A
48	S2	140	A
48	S2	141	U
48	S2	142	G
48	S2	147	A
48	S2	148	A
48	S2	150	U
48	S2	151	G
48	S2	152	U
48	S2	153	G
48	S2	154	G
48	S2	155	U
48	S2	156	A
48	S2	161	U
48	S2	163	G
48	S2	166	C
48	S2	168	A
48	S2	169	A
48	S2	171	A
48	S2	176	C
48	S2	178	U
48	S2	180	A
48	S2	185	U
48	S2	191	C
48	S2	194	U
48	S2	195	G

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Mol	Chain	Res	Type
48	S2	199	G
48	S2	200	A
48	S2	201	G
48	S2	204	G
48	S2	207	U
48	S2	208	U
48	S2	209	U
48	S2	212	U
48	S2	214	G
48	S2	215	A
48	S2	216	U
48	S2	217	A
48	S2	218	A
48	S2	219	A
48	S2	222	A
48	S2	224	C
48	S2	225	A
48	S2	227	U
48	S2	228	G
48	S2	230	C
48	S2	231	U
48	S2	232	U
48	S2	233	C
48	S2	234	G
48	S2	235	G
48	S2	236	A
48	S2	239	C
48	S2	240	U
48	S2	241	U
48	S2	242	U
48	S2	248	U
48	S2	249	U
48	S2	251	A
48	S2	253	A
48	S2	254	A
48	S2	255	U
48	S2	256	A
48	S2	258	C
48	S2	260	U
48	S2	261	U
48	S2	262	U
48	S2	263	C

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Mol	Chain	Res	Type
48	S2	264	G
48	S2	265	A
48	S2	266	A
48	S2	272	U
48	S2	273	G
48	S2	276	C
48	S2	277	U
48	S2	278	U
48	S2	280	U
48	S2	281	G
48	S2	290	G
48	S2	291	G
48	S2	293	U
48	S2	294	C
48	S2	296	U
48	S2	297	U
48	S2	299	A
48	S2	304	U
48	S2	305	C
48	S2	313	U
48	S2	314	C
48	S2	316	A
48	S2	319	U
48	S2	320	U
48	S2	322	G
48	S2	324	U
48	S2	325	G
48	S2	331	A
48	S2	333	A
48	S2	337	G
48	S2	338	C
48	S2	339	C
48	S2	341	A
48	S2	343	C
48	S2	345	U
48	S2	352	A
48	S2	359	A
48	S2	360	A
48	S2	361	C
48	S2	365	G
48	S2	366	A
48	S2	368	U

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Mol	Chain	Res	Type
48	S2	370	A
48	S2	371	G
48	S2	372	G
48	S2	373	G
48	S2	380	U
48	S2	384	G
48	S2	388	G
48	S2	389	G
48	S2	400	A
48	S2	401	A
48	S2	402	C
48	S2	404	G
48	S2	405	C
48	S2	408	C
48	S2	410	A
48	S2	411	C
48	S2	412	A
48	S2	414	C
48	S2	416	A
48	S2	417	A
48	S2	418	G
48	S2	419	G
48	S2	422	G
48	S2	423	G
48	S2	424	C
48	S2	425	A
48	S2	430	G
48	S2	434	G
48	S2	439	U
48	S2	441	A
48	S2	444	C
48	S2	445	A
48	S2	447	U
48	S2	451	A
48	S2	452	A
48	S2	454	U
48	S2	455	C
48	S2	460	A
48	S2	469	C
48	S2	474	A
48	S2	475	A
48	S2	477	A

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Mol	Chain	Res	Type
48	S2	485	A
48	S2	486	G
48	S2	487	G
48	S2	489	C
48	S2	494	U
48	S2	495	C
48	S2	496	G
48	S2	498	G
48	S2	500	C
48	S2	502	U
48	S2	506	A
48	S2	509	G
48	S2	511	A
48	S2	512	A
48	S2	514	G
48	S2	519	C
48	S2	520	A
48	S2	523	G
48	S2	525	A
48	S2	527	A
48	S2	529	A
48	S2	534	A
48	S2	537	G
48	S2	538	A
48	S2	539	G
48	S2	542	A
48	S2	543	C
48	S2	544	A
48	S2	546	U
48	S2	547	U
48	S2	550	A
48	S2	555	A
48	S2	558	U
48	S2	562	G
48	S2	564	G
48	S2	565	C
48	S2	567	A
48	S2	568	G
48	S2	578	U
48	S2	580	A
48	S2	585	A
48	S2	587	C

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Mol	Chain	Res	Type
48	S2	588	U
48	S2	589	C
48	S2	590	C
48	S2	591	A
48	S2	594	A
48	S2	606	A
48	S2	607	G
48	S2	610	G
48	S2	611	U
48	S2	619	A
48	S2	620	A
48	S2	623	A
48	S2	624	G
48	S2	635	A
48	S2	639	U
48	S2	640	U
48	S2	643	G
48	S2	644	C
48	S2	649	U
48	S2	650	U
48	S2	652	G
48	S2	653	C
48	S2	654	C
48	S2	655	G
48	S2	658	C
48	S2	677	G
48	S2	680	U
48	S2	682	C
48	S2	683	C
48	S2	687	G
48	S2	688	G
48	S2	689	G
48	S2	694	U
48	S2	695	U
48	S2	696	C
48	S2	697	C
48	S2	698	U
48	S2	700	C
48	S2	702	G
48	S2	704	C
48	S2	705	U
48	S2	706	A

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Mol	Chain	Res	Type
48	S2	707	A
48	S2	708	C
48	S2	709	C
48	S2	710	U
48	S2	711	U
48	S2	712	G
48	S2	713	A
48	S2	714	G
48	S2	727	U
48	S2	729	G
48	S2	730	G
48	S2	732	G
48	S2	740	A
48	S2	741	C
48	S2	742	U
48	S2	743	U
48	S2	744	U
48	S2	751	G
48	S2	752	A
48	S2	753	A
48	S2	754	A
48	S2	755	A
48	S2	758	U
48	S2	759	U
48	S2	760	A
48	S2	761	G
48	S2	763	G
48	S2	765	G
48	S2	767	U
48	S2	768	C
48	S2	771	A
48	S2	772	G
48	S2	773	C
48	S2	774	A
48	S2	775	G
48	S2	780	A
48	S2	782	U
48	S2	783	G
48	S2	786	C
48	S2	789	A
48	S2	791	A
48	S2	792	U

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Mol	Chain	Res	Type
48	S2	793	A
48	S2	797	G
48	S2	798	C
48	S2	808	U
48	S2	809	A
48	S2	810	G
48	S2	812	A
48	S2	813	U
48	S2	814	A
48	S2	816	G
48	S2	818	C
48	S2	820	U
48	S2	821	U
48	S2	822	U
48	S2	823	G
48	S2	826	U
48	S2	827	C
48	S2	829	A
48	S2	830	U
48	S2	832	U
48	S2	833	U
48	S2	834	G
48	S2	836	U
48	S2	837	G
48	S2	841	U
48	S2	843	U
48	S2	845	G
48	S2	847	A
48	S2	848	C
48	S2	849	C
48	S2	850	A
48	S2	851	U
48	S2	852	C
48	S2	854	U
48	S2	856	A
48	S2	857	U
48	S2	859	A
48	S2	863	A
48	S2	864	U
48	S2	865	A
48	S2	886	U
48	S2	894	U

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Mol	Chain	Res	Type
48	S2	896	U
48	S2	904	G
48	S2	907	A
48	S2	908	U
48	S2	909	U
48	S2	913	G
48	S2	914	G
48	S2	919	A
48	S2	933	A
48	S2	934	C
48	S2	935	U
48	S2	942	G
48	S2	957	G
48	S2	960	U
48	S2	966	A
48	S2	973	A
48	S2	984	G
48	S2	988	A
48	S2	992	A
48	S2	993	A
48	S2	1002	G
48	S2	1004	U
48	S2	1005	A
48	S2	1012	U
48	S2	1021	C
48	S2	1023	A
48	S2	1024	U
48	S2	1025	A
48	S2	1026	A
48	S2	1028	C
48	S2	1032	G
48	S2	1039	A
48	S2	1043	A
48	S2	1048	G
48	S2	1049	U
48	S2	1052	U
48	S2	1053	G
48	S2	1055	U
48	S2	1058	U
48	S2	1059	U
48	S2	1060	U
48	S2	1061	A

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Mol	Chain	Res	Type
48	S2	1062	A
48	S2	1063	U
48	S2	1064	G
48	S2	1069	A
48	S2	1070	C
48	S2	1071	U
48	S2	1076	A
48	S2	1080	U
48	S2	1082	C
48	S2	1091	A
48	S2	1092	A
48	S2	1093	A
48	S2	1096	C
48	S2	1098	U
48	S2	1099	U
48	S2	1100	G
48	S2	1111	G
48	S2	1132	A
48	S2	1137	A
48	S2	1138	A
48	S2	1143	A
48	S2	1144	U
48	S2	1145	U
48	S2	1150	G
48	S2	1157	A
48	S2	1158	C
48	S2	1160	A
48	S2	1162	C
48	S2	1163	A
48	S2	1164	G
48	S2	1170	G
48	S2	1172	G
48	S2	1174	C
48	S2	1176	G
48	S2	1182	U
48	S2	1183	A
48	S2	1185	U
48	S2	1186	U
48	S2	1192	C
48	S2	1194	A
48	S2	1195	C
48	S2	1196	A

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Mol	Chain	Res	Type
48	S2	1199	G
48	S2	1200	G
48	S2	1202	A
48	S2	1203	A
48	S2	1204	A
48	S2	1209	C
48	S2	1210	C
48	S2	1212	G
48	S2	1217	A
48	S2	1219	A
48	S2	1221	A
48	S2	1222	C
48	S2	1227	A
48	S2	1229	G
48	S2	1231	U
48	S2	1232	U
48	S2	1237	G
48	S2	1238	A
48	S2	1239	U
48	S2	1243	G
48	S2	1244	A
48	S2	1245	G
48	S2	1246	C
48	S2	1248	C
48	S2	1249	U
48	S2	1250	U
48	S2	1251	U
48	S2	1254	U
48	S2	1255	G
48	S2	1257	U
48	S2	1258	U
48	S2	1259	U
48	S2	1260	U
48	S2	1261	G
48	S2	1263	G
48	S2	1264	G
48	S2	1275	A
48	S2	1280	C
48	S2	1281	G
48	S2	1284	C
48	S2	1285	U
48	S2	1287	A

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Mol	Chain	Res	Type
48	S2	1291	G
48	S2	1295	G
48	S2	1307	U
48	S2	1310	U
48	S2	1312	A
48	S2	1314	U
48	S2	1315	U
48	S2	1316	G
48	S2	1321	A
48	S2	1322	A
48	S2	1337	A
48	S2	1338	C
48	S2	1340	U
48	S2	1341	A
48	S2	1342	C
48	S2	1344	A
48	S2	1345	A
48	S2	1346	A
48	S2	1348	A
48	S2	1349	G
48	S2	1351	G
48	S2	1352	G
48	S2	1353	U
48	S2	1354	G
48	S2	1359	C
48	S2	1360	A
48	S2	1362	U
48	S2	1363	U
48	S2	1367	G
48	S2	1368	G
48	S2	1370	U
48	S2	1371	A
48	S2	1372	U
48	S2	1373	C
48	S2	1376	C
48	S2	1377	U
48	S2	1379	C
48	S2	1382	A
48	S2	1383	G
48	S2	1384	A
48	S2	1385	G
48	S2	1390	U

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Mol	Chain	Res	Type
48	S2	1391	A
48	S2	1392	U
48	S2	1393	C
48	S2	1398	U
48	S2	1399	C
48	S2	1400	A
48	S2	1401	A
48	S2	1406	A
48	S2	1409	G
48	S2	1412	G
48	S2	1413	U
48	S2	1414	U
48	S2	1422	A
48	S2	1423	U
48	S2	1424	A
48	S2	1427	A
48	S2	1428	G
48	S2	1429	G
48	S2	1431	C
48	S2	1432	U
48	S2	1433	G
48	S2	1435	G
48	S2	1436	A
48	S2	1438	G
48	S2	1443	U
48	S2	1444	A
48	S2	1445	G
48	S2	1449	U
48	S2	1451	C
48	S2	1452	U
48	S2	1456	C
48	S2	1457	C
48	S2	1458	G
48	S2	1459	C
48	S2	1460	A
48	S2	1464	G
48	S2	1465	C
48	S2	1466	G
48	S2	1469	A
48	S2	1472	C
48	S2	1473	U
48	S2	1474	G

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Mol	Chain	Res	Type
48	S2	1478	G
48	S2	1481	C
48	S2	1482	C
48	S2	1483	A
48	S2	1485	C
48	S2	1486	G
48	S2	1487	A
48	S2	1489	U
48	S2	1491	U
48	S2	1492	A
48	S2	1493	A
48	S2	1494	C
48	S2	1496	U
48	S2	1497	U
48	S2	1500	C
48	S2	1501	C
48	S2	1504	G
48	S2	1505	A
48	S2	1506	G
48	S2	1507	G
48	S2	1509	C
48	S2	1510	U
48	S2	1512	G
48	S2	1513	G
48	S2	1514	U
48	S2	1516	A
48	S2	1517	U
48	S2	1518	C
48	S2	1520	U
48	S2	1521	G
48	S2	1522	U
48	S2	1523	G
48	S2	1527	C
48	S2	1531	G
48	S2	1535	U
48	S2	1536	G
48	S2	1537	C
48	S2	1538	U
48	S2	1539	G
48	S2	1542	G
48	S2	1543	A
48	S2	1547	A

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Mol	Chain	Res	Type
48	S2	1550	A
48	S2	1551	U
48	S2	1554	U
48	S2	1555	A
48	S2	1557	U
48	S2	1558	U
48	S2	1559	A
48	S2	1569	A
48	S2	1572	G
48	S2	1573	A
48	S2	1574	G
48	S2	1575	G
48	S2	1583	A
48	S2	1584	G
48	S2	1586	A
48	S2	1593	A
48	S2	1600	A
48	S2	1601	G
48	S2	1611	A
48	S2	1612	U
48	S2	1613	U
48	S2	1614	A
48	S2	1615	C
48	S2	1616	G
48	S2	1618	C
48	S2	1622	G
48	S2	1623	C
48	S2	1624	C
48	S2	1634	C
48	S2	1635	A
48	S2	1636	C
48	S2	1657	U
48	S2	1658	G
48	S2	1662	G
48	S2	1667	A
48	S2	1672	G
48	S2	1680	G
48	S2	1684	U
48	S2	1687	U
48	S2	1688	U
48	S2	1689	A
48	S2	1691	A

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Mol	Chain	Res	Type
48	S2	1693	A
48	S2	1695	G
48	S2	1696	G
48	S2	1697	G
48	S2	1698	G
48	S2	1699	G
48	S2	1700	C
48	S2	1702	A
48	S2	1703	C
48	S2	1704	U
48	S2	1705	C
48	S2	1706	C
48	S2	1707	A
48	S2	1708	U
48	S2	1710	U
48	S2	1711	C
48	S2	1714	A
48	S2	1719	A
48	S2	1720	G
48	S2	1721	A
48	S2	1722	A
48	S2	1723	U
48	S2	1726	G
48	S2	1727	G
48	S2	1731	A
48	S2	1734	U
48	S2	1737	G
48	S2	1738	U
48	S2	1741	U
48	S2	1742	U
48	S2	1755	A
48	S2	1762	A
48	S2	1767	G
48	S2	1769	U
48	S2	1780	G
48	S2	1782	A
48	S2	1783	C
48	S2	1792	G
48	S2	1793	G
48	S2	1794	A
48	S2	1795	U
48	S2	1796	C

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Mol	Chain	Res	Type
48	S2	1797	A

All (52) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	LA	260	C
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
1	LA	2444	C
1	LA	2445	A
1	LA	2447	A
1	LA	2448	G
1	LA	2497	U
1	LA	2780	A
1	LA	3021	A
1	LA	3071	U
1	LA	3121	U
1	LA	3157	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
48	S2	139	C
48	S2	330	G
48	S2	387	A
48	S2	400	A
48	S2	474	A

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Mol	Chain	Res	Type
48	S2	511	A
48	S2	541	A
48	S2	549	G
48	S2	566	C
48	S2	609	U
48	S2	639	U
48	S2	740	A
48	S2	829	A
48	S2	1191	U
48	S2	1226	A
48	S2	1253	U
48	S2	1256	A
48	S2	1274	C
48	S2	1382	A
48	S2	1471	A

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

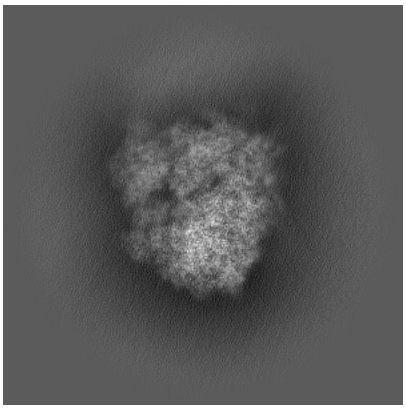
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-68778. These allow visual inspection of the internal detail of the map and identification of artifacts.

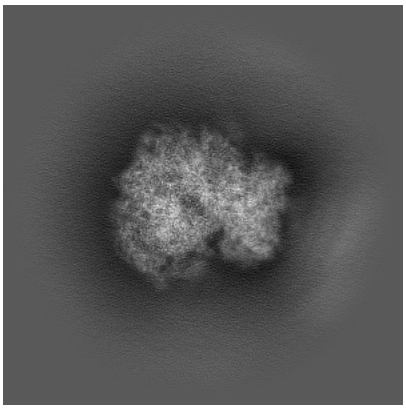
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

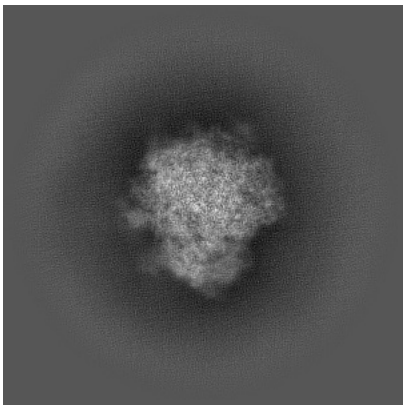
6.1.1 Primary map



X

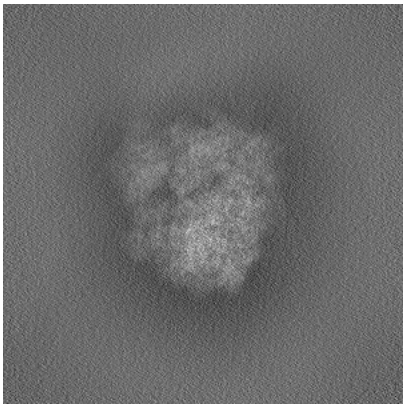


Y

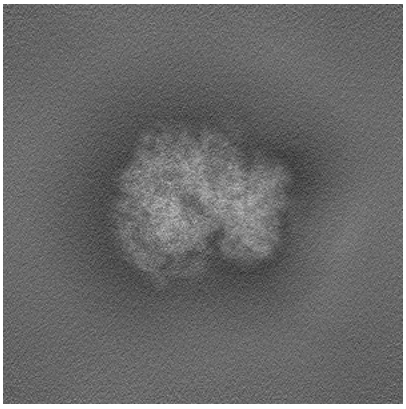


Z

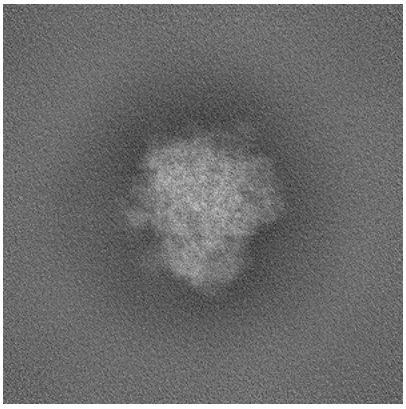
6.1.2 Raw map



X



Y

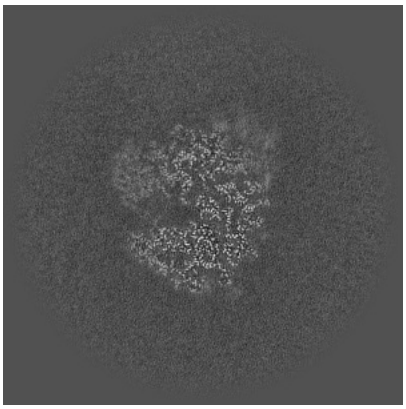


Z

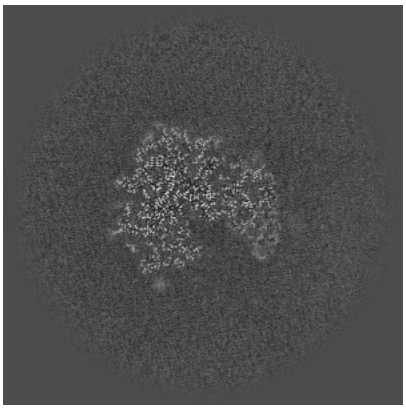
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

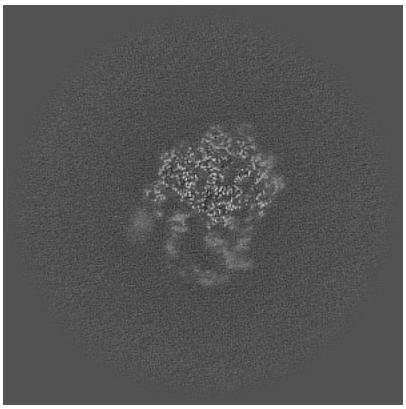
6.2.1 Primary map



X Index: 300

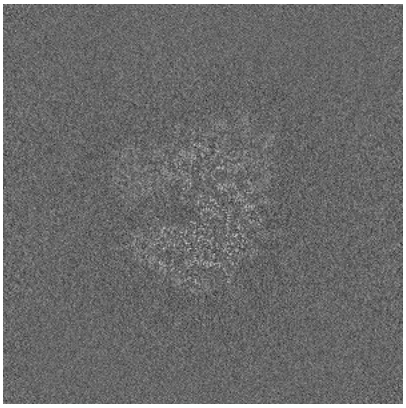


Y Index: 300

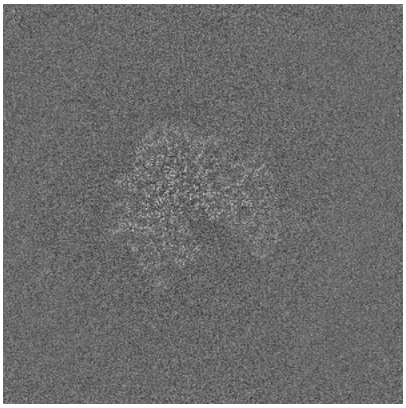


Z Index: 300

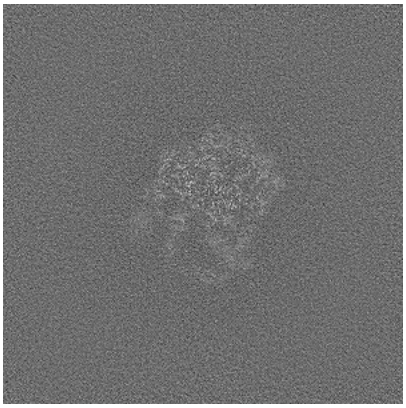
6.2.2 Raw map



X Index: 300



Y Index: 300

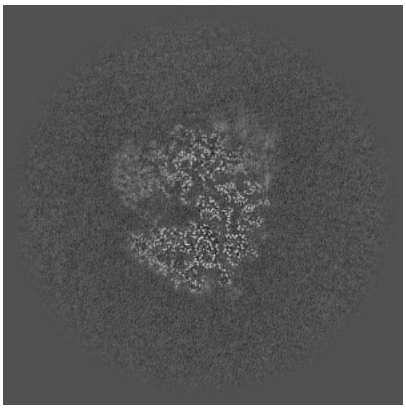


Z Index: 300

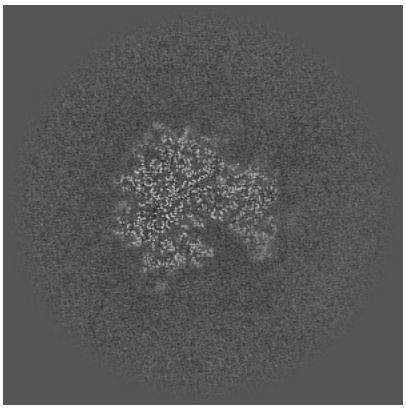
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

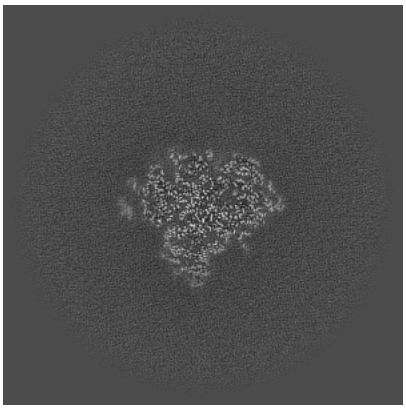
6.3.1 Primary map



X Index: 300

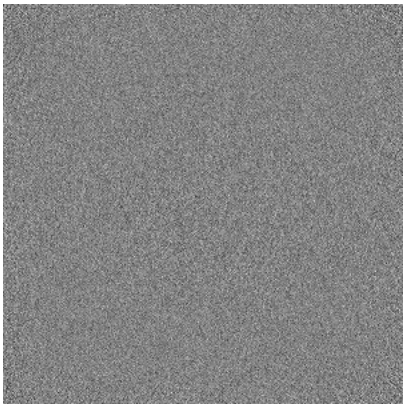


Y Index: 306

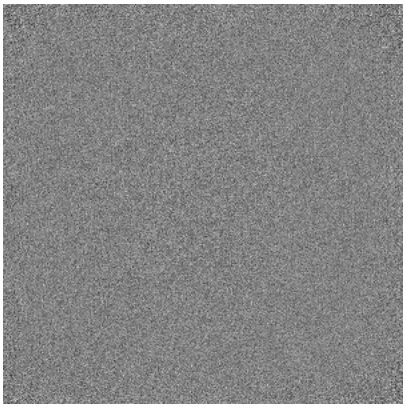


Z Index: 240

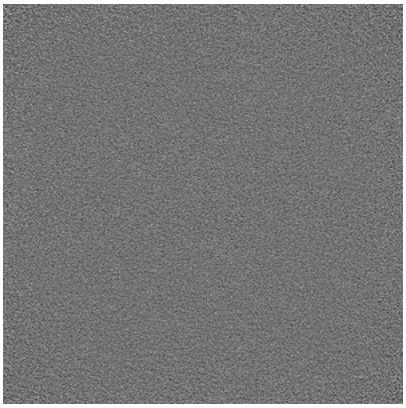
6.3.2 Raw map



X Index: 0



Y Index: 0

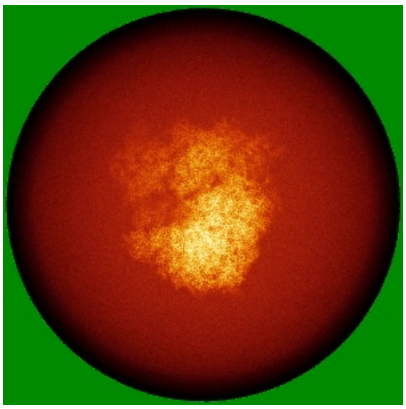


Z Index: 0

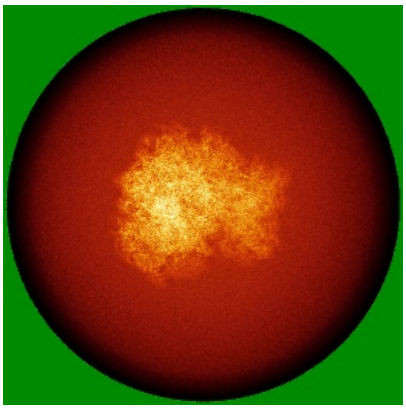
The images above show the largest variance slices of the map in three orthogonal directions.

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

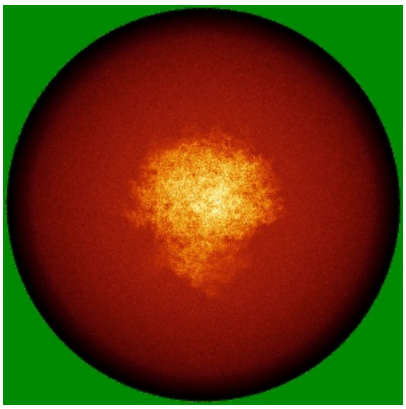
6.4.1 Primary map



X

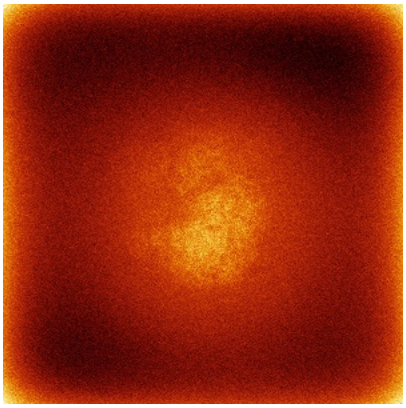


Y

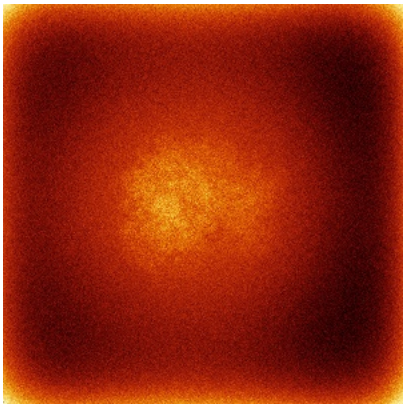


Z

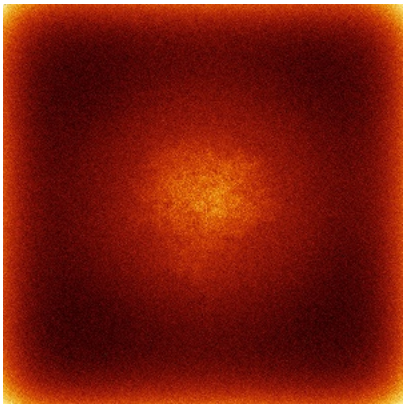
6.4.2 Raw map



X



Y

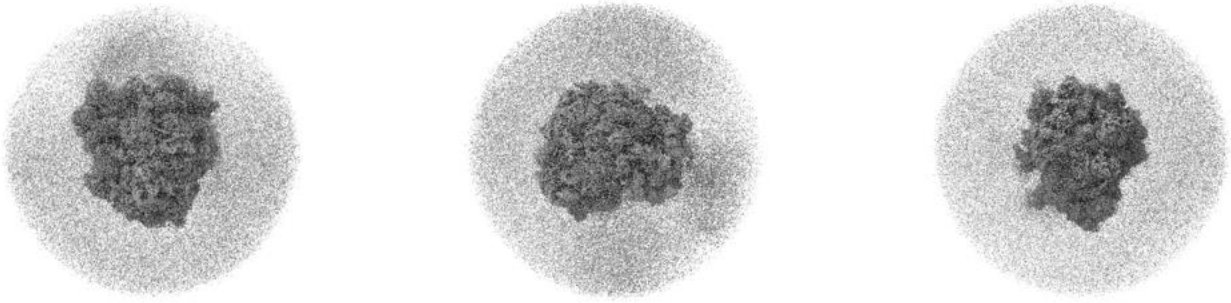


Z

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

6.5 Orthogonal surface views (i)

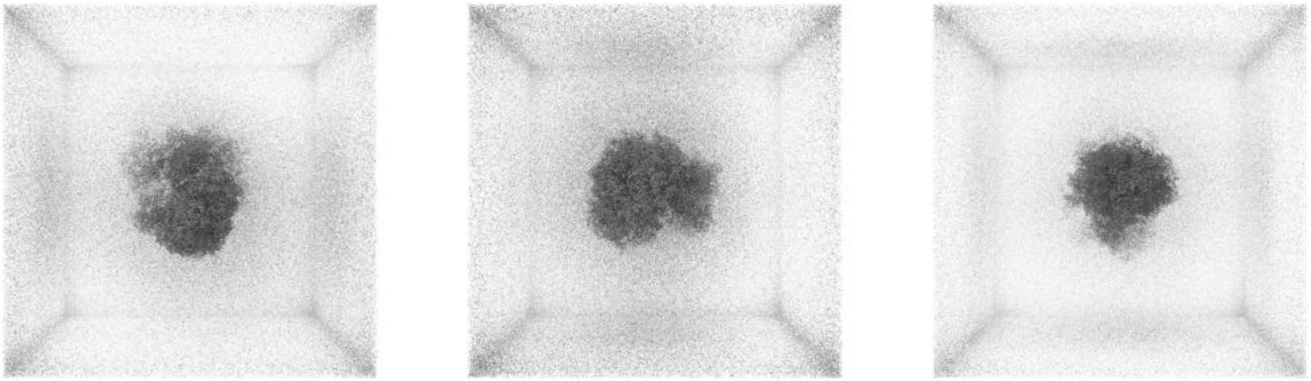
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.2. 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.

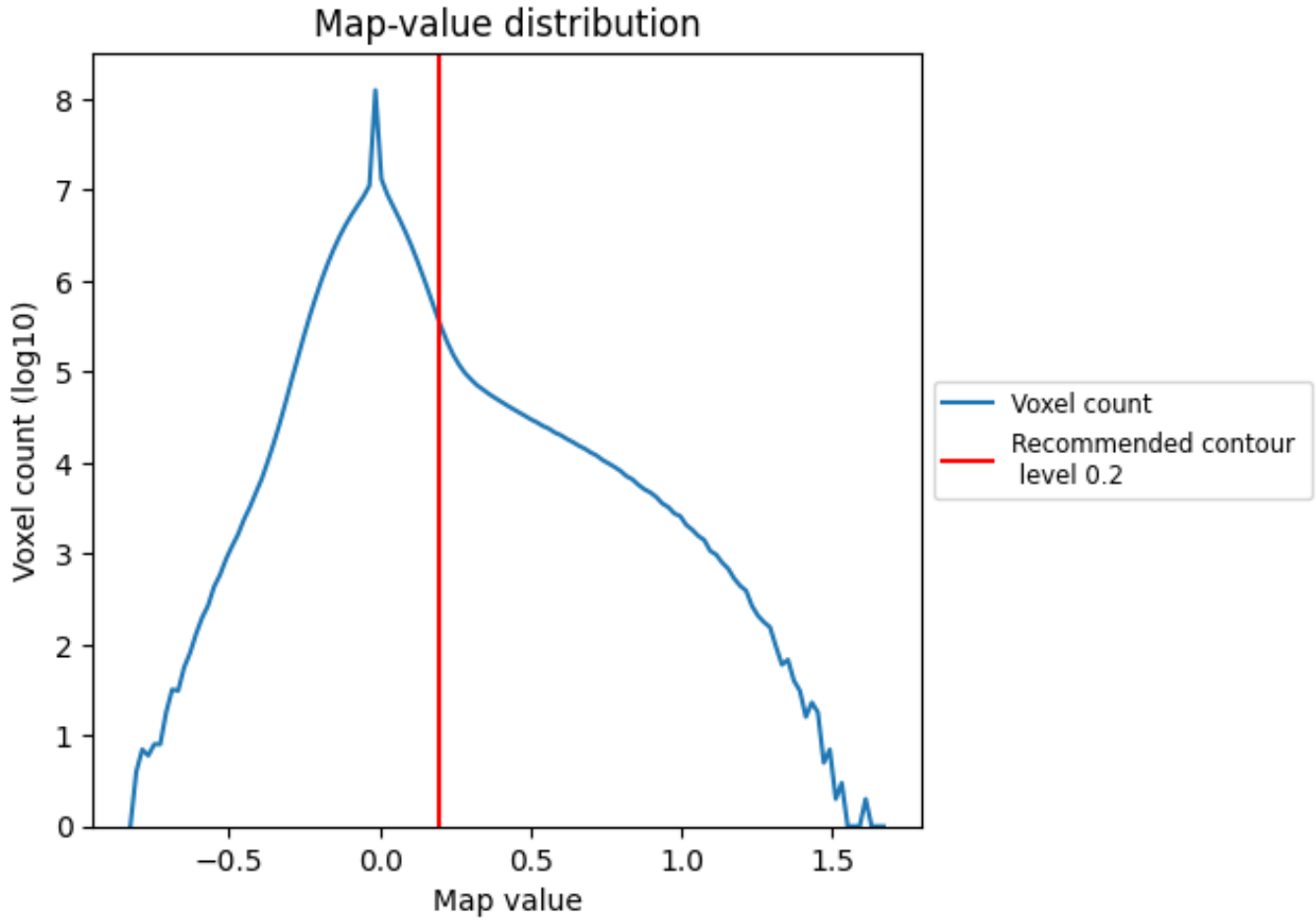
6.6 Mask visualisation (i)

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

7 Map analysis

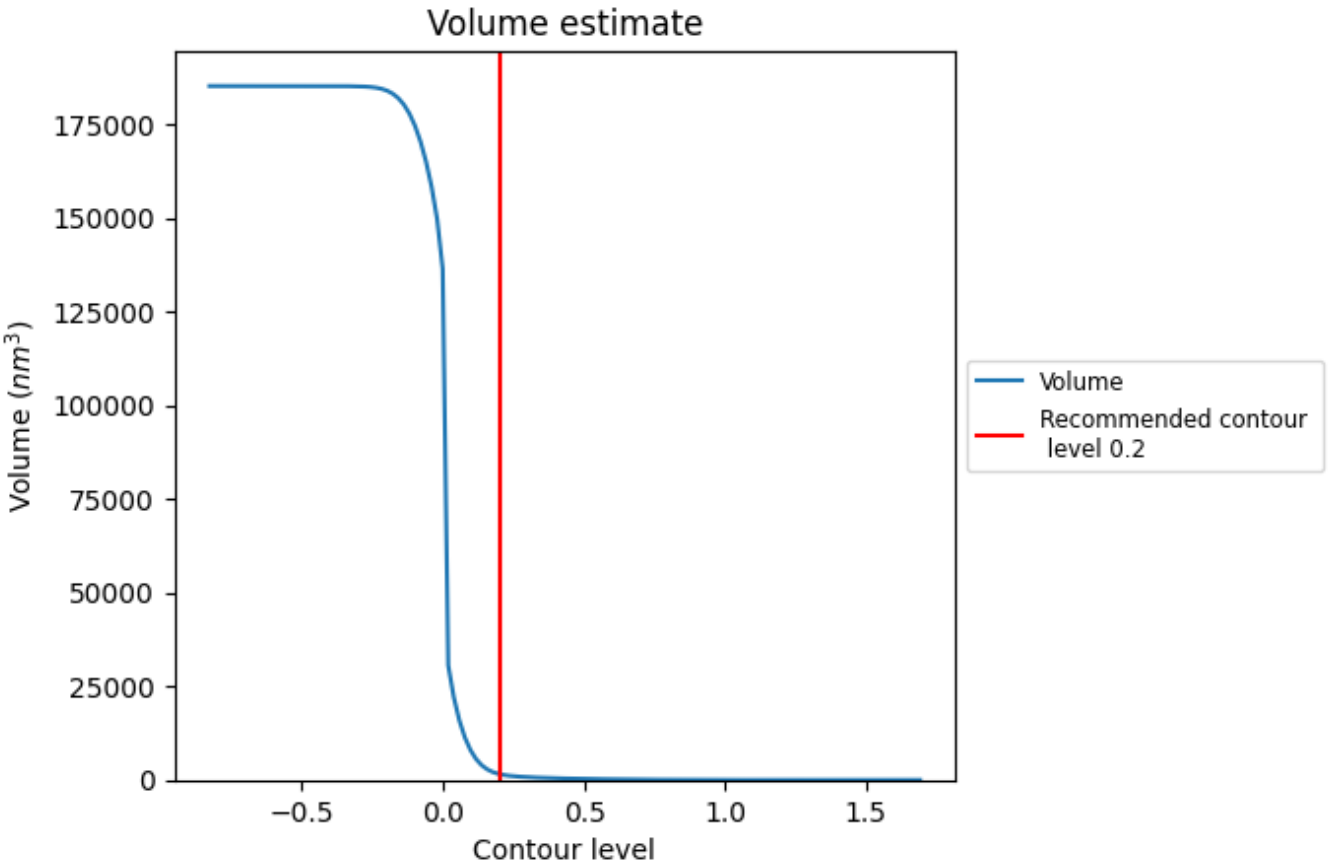
This section contains the results of statistical analysis of the map.

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.

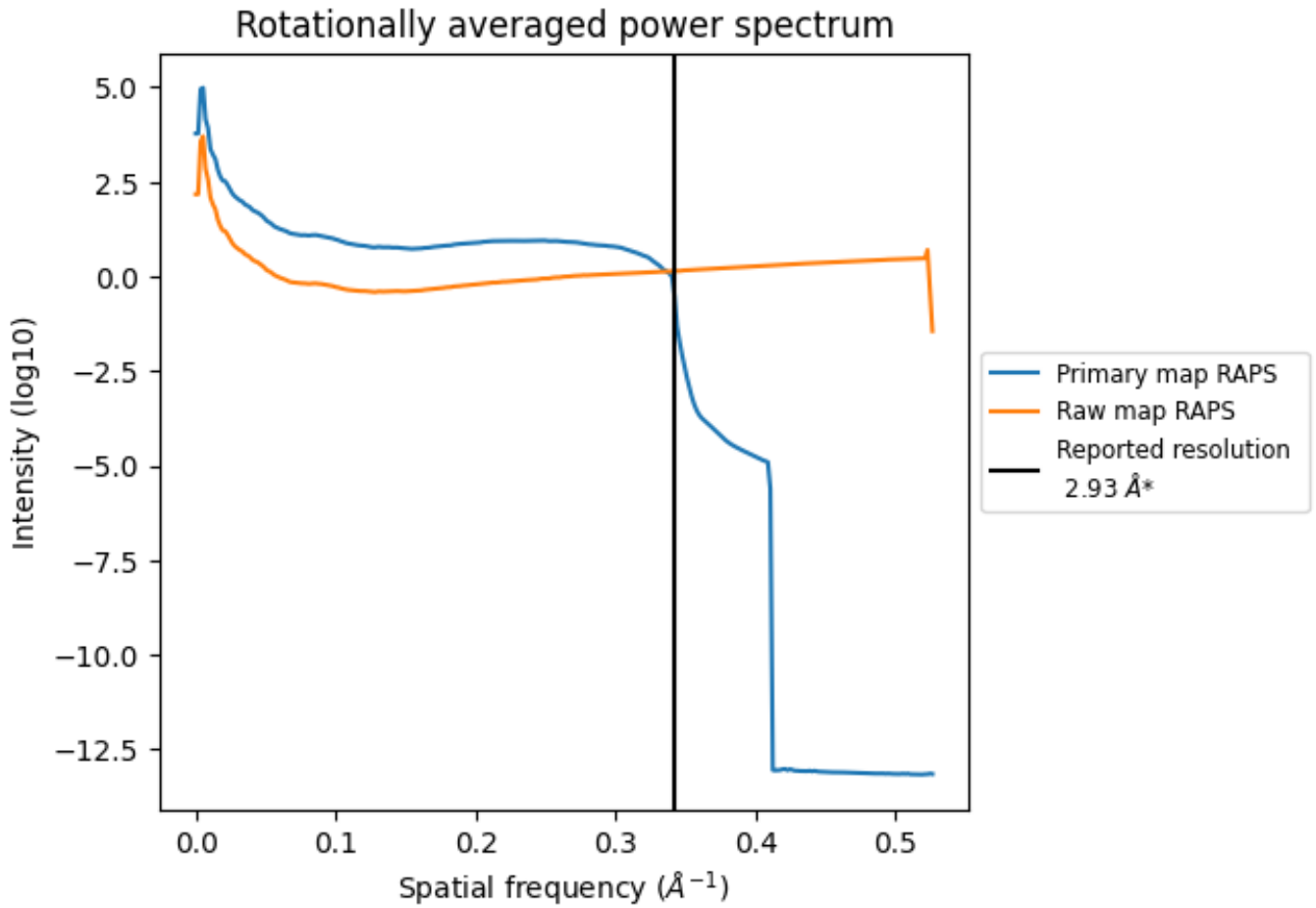
7.2 Volume estimate



The volume at the recommended contour level is 1582 nm^3; this corresponds to an approximate mass of 1429 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)

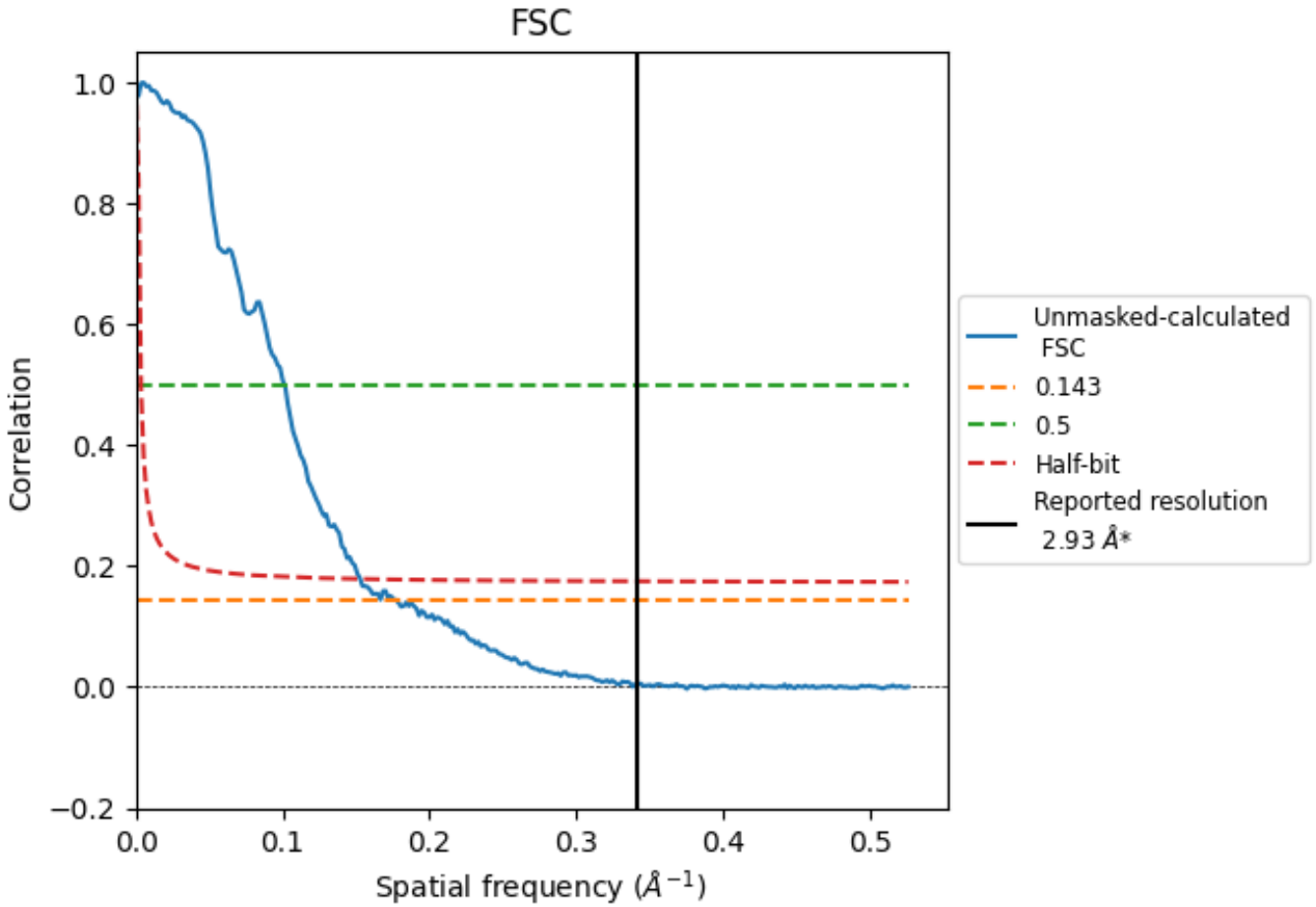


*Reported resolution corresponds to spatial frequency of 0.341 $Å^{-1}$

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 0.341 Å^{-1}

8.2 Resolution estimates (i)

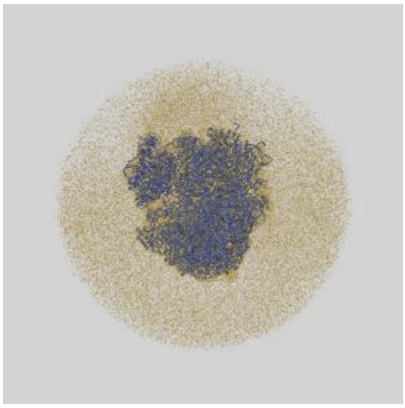
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.93	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	5.63	9.89	6.54

*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 5.63 differs from the reported value 2.93 by more than 10 %

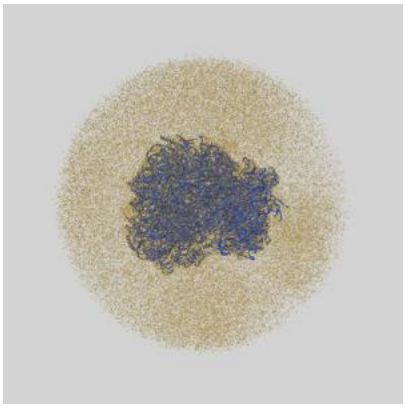
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-68778 and PDB model 22YP. Per-residue inclusion information can be found in section 3 on page 19.

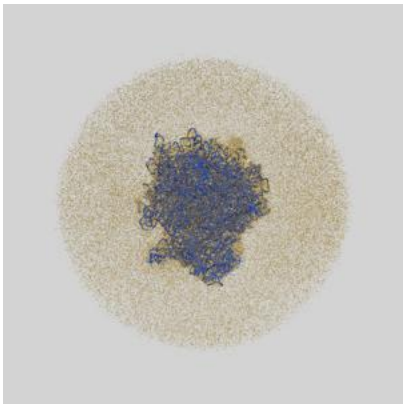
9.1 Map-model overlay



X



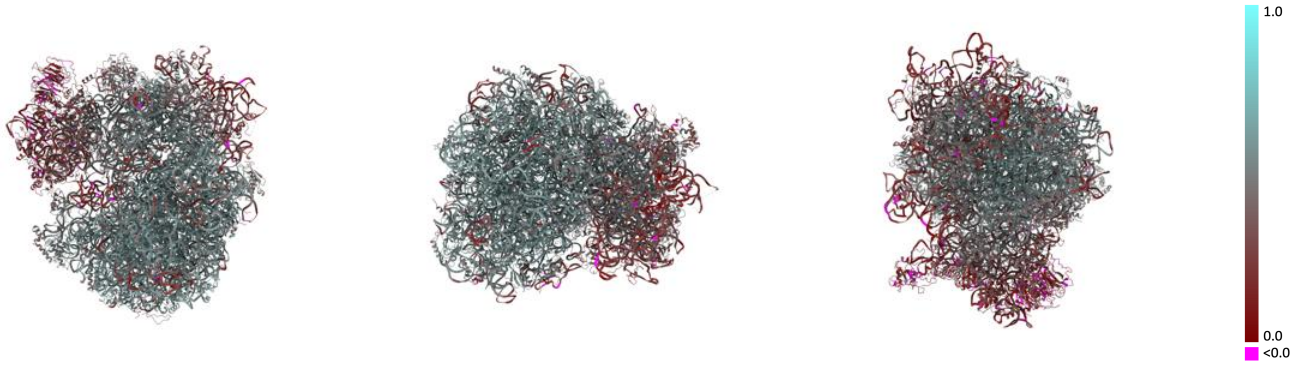
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.2 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.

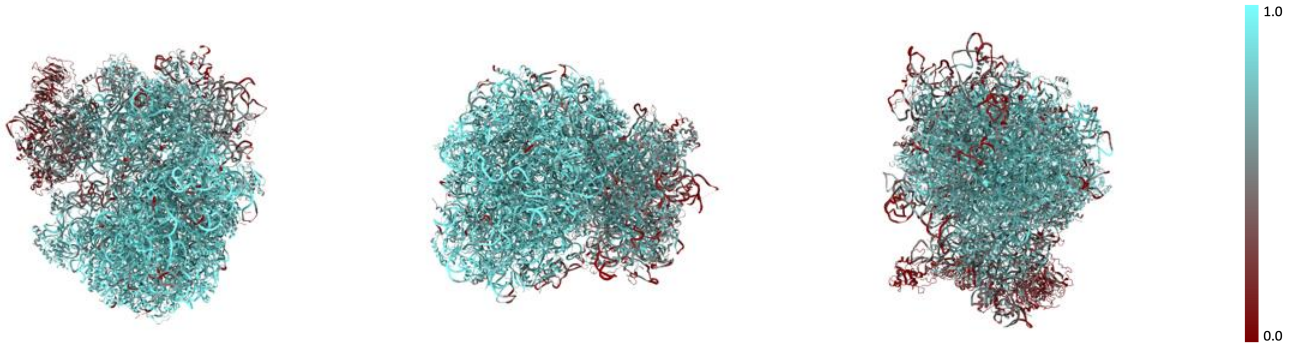
9.2 Q-score mapped to coordinate model



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.

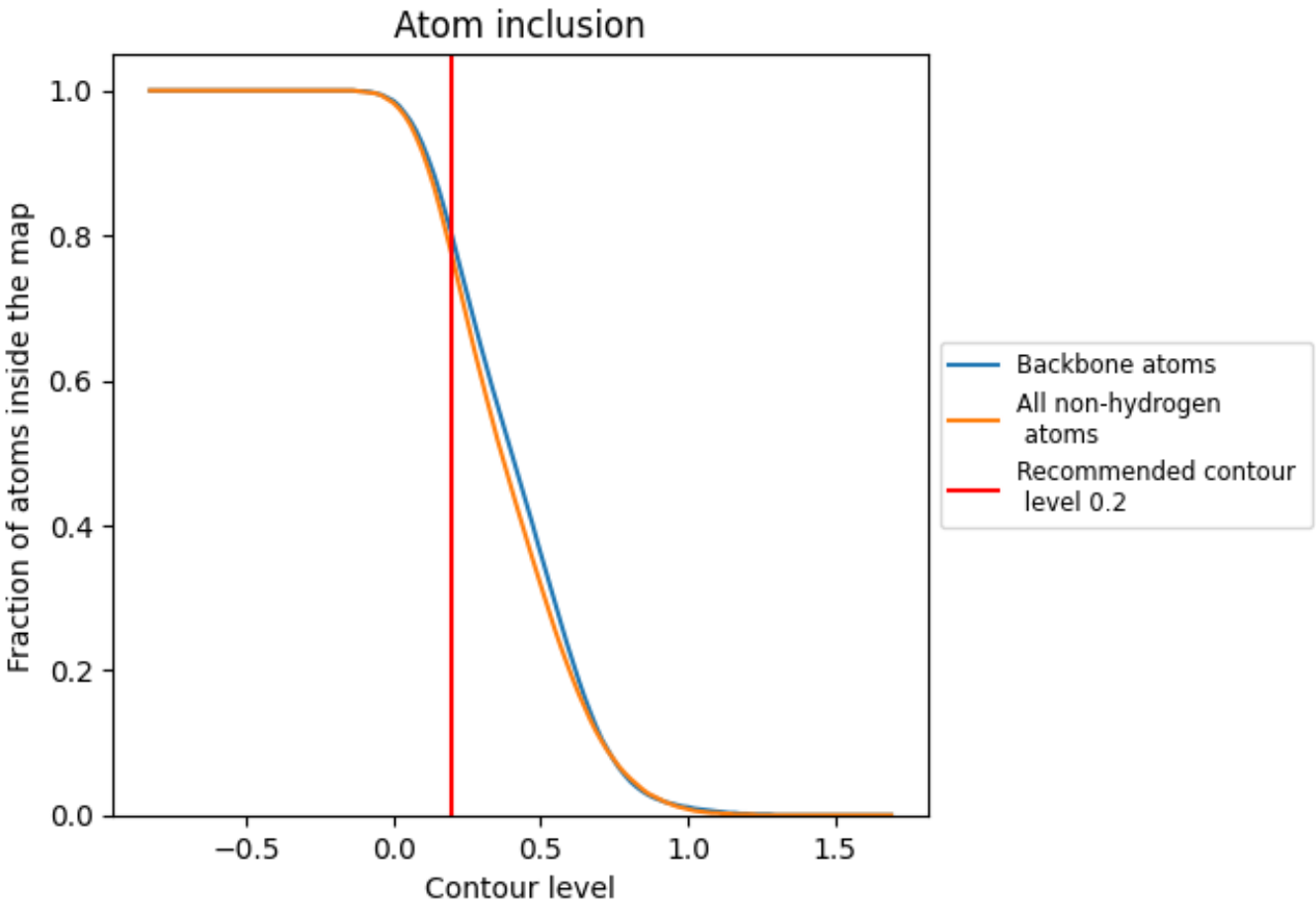
9.3 Atom inclusion mapped to coordinate model



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 (0.2).

9.4 Atom inclusion (i)



At the recommended contour level, 80% of all backbone atoms, 77% 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 (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7700	0.4710
Bb	0.6950	0.3040
Cc	0.6610	0.3260
LA	0.8910	0.5270
LB	0.9130	0.5140
LC	0.9170	0.5460
LD	0.8710	0.5900
LE	0.8800	0.5710
LF	0.8710	0.5620
LG	0.7760	0.4970
LH	0.7990	0.5160
LI	0.8650	0.5650
LJ	0.8200	0.5350
LK	0.8170	0.5420
LL	0.7970	0.5270
LM	0.7130	0.4570
LN	0.8600	0.5490
LO	0.8470	0.5360
LP	0.8990	0.5880
LQ	0.8710	0.5620
LR	0.8560	0.5640
LS	0.9010	0.5850
LT	0.7780	0.5160
LU	0.8560	0.5640
LV	0.8630	0.5610
LW	0.7520	0.4710
LX	0.8560	0.5700
LY	0.8810	0.5710
LZ	0.8130	0.5520
La	0.8730	0.5650
Lb	0.8290	0.5430
Lc	0.8970	0.5830
Ld	0.8430	0.5410
Le	0.8300	0.5480
Lf	0.8260	0.5420



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Chain	Atom inclusion	Q-score
Lg	0.8400	0.5540
Lh	0.8980	0.5950
Li	0.8360	0.5600
Lj	0.8460	0.5430
Lk	0.8120	0.5230
Ll	0.9000	0.5890
Lm	0.6610	0.4730
Ln	0.8550	0.5770
Lo	0.8510	0.5610
Lp	0.7640	0.5450
Lq	0.8530	0.5680
Lr	0.8310	0.5750
S2	0.6860	0.3700
SA	0.4300	0.3360
SB	0.3200	0.2860
SC	0.3400	0.2700
SD	0.0900	0.1840
SE	0.3640	0.2450
SF	0.3450	0.2470
SG	0.5160	0.3650
SH	0.3790	0.2720
SI	0.3640	0.2600
SJ	0.3680	0.2930
SK	0.2040	0.2360
SL	0.3550	0.2960
SM	0.5320	0.3560
SN	0.1360	0.1850
SO	0.2540	0.2140
SP	0.6520	0.4380
SQ	0.6700	0.4650
SR	0.7550	0.5070
SS	0.6280	0.4240
ST	0.4690	0.3470
SU	0.6040	0.4310
SV	0.5920	0.3880
SW	0.5890	0.3840
SX	0.6890	0.4690
SY	0.7670	0.5030
SZ	0.7380	0.4780
Sa	0.7340	0.4940
Sb	0.8440	0.5510
Sc	0.7160	0.4770

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Chain	Atom inclusion	Q-score
Sd	0.5380	0.3570
Se	0.7920	0.5220
Sf	0.6970	0.4510
Sg	0.5910	0.3940
mR	0.8640	0.5110