



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 10:24 AM UTC

PDB ID : 8ZHB / pdb_00008zhb
EMDB ID : EMD-60097
Title : 80S ribosome with A/A P/E tRNA and mRNA of WNV
Authors : Wu, M.; Yuan, S.
Deposited on : 2024-05-10
Resolution : 2.60 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

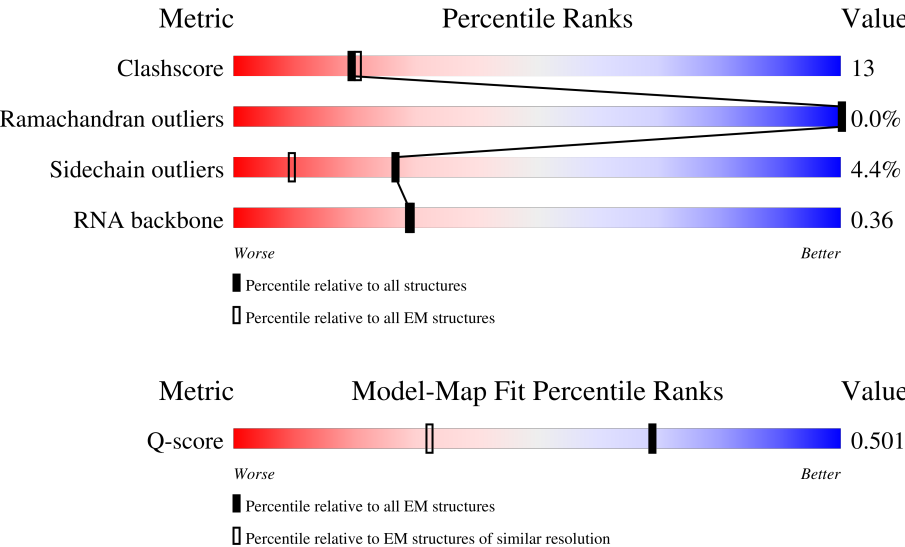
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance

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

The reported resolution of this entry is 2.60 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.



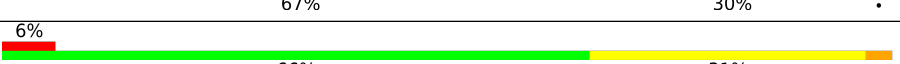
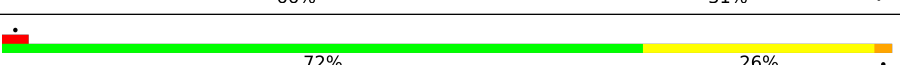
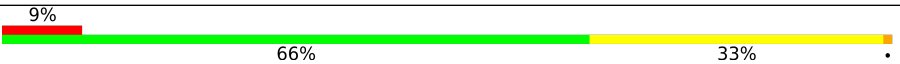
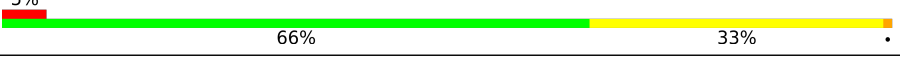
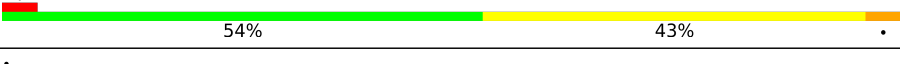
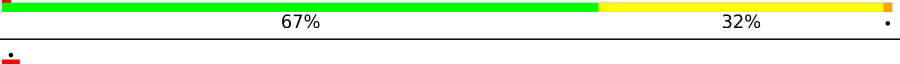
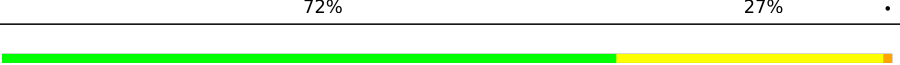
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	8728 (2.10 - 3.10)

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

Mol	Chain	Length	Quality of chain
1	LA	3393	9% 43% 41% 10% 6%
2	LB	121	50% 45% 5%
3	LC	158	5% 42% 45% 13%

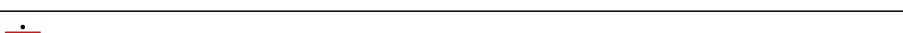
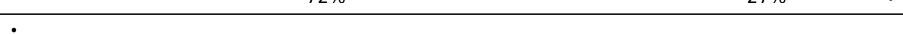
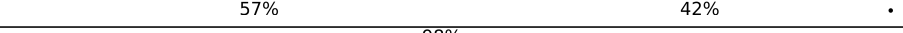
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Mol	Chain	Length	Quality of chain
4	LD	251	
5	LE	386	
6	LF	361	
7	LG	294	
8	LH	175	
9	LI	222	
10	LJ	233	
11	LK	191	
12	LL	218	
13	LM	169	
14	LN	193	
15	LO	136	
16	LP	203	
17	LQ	197	
18	LR	183	
19	LS	185	
20	LT	188	
21	LU	171	
22	LV	159	
23	LW	100	
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	S2	1799	
46	SA	223	
47	SB	206	
48	SC	92	
49	SD	124	
50	SE	117	
51	SF	141	
52	SG	125	
53	SH	145	

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Mol	Chain	Length	Quality of chain
54	SI	143	
55	SJ	101	
56	SK	82	
57	SL	63	
58	SM	53	
59	SN	73	
60	SO	312	
61	SP	206	
62	SQ	232	
63	SR	217	
64	SS	260	
65	ST	228	
66	SU	185	
67	SV	199	
68	SW	185	
69	SX	146	
70	SY	150	
71	SZ	128	
72	Sa	87	
73	Sb	129	
74	Sc	144	
75	Sd	134	
76	Se	97	
77	Sf	81	
78	Sg	57	

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Mol	Chain	Length	Quality of chain
79	Ta	77	79% 23% 58% 18%
80	Tb	77	61% 42% 42% 17%
81	mR	25	12% 44% 56%

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 202562 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 25S rRNA (3393-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
1	LA	3184	Total	C	N	O	P	0	0
			68091	30415	12259	22233	3184		

- Molecule 2 is a RNA chain called 5S rRNA (121-MER).

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

- Molecule 3 is a RNA chain called 5.8S rRNA (158-MER).

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

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

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

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

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

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

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

- 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	S	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	C	N	O	0	0
			1543	962	315	266		

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

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

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

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

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

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

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

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

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

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

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

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

- 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	S	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	S	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	C	N	O	0	0
			1080	701	199	180		

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

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

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

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

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

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

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

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

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

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

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

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

- 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 chain 2 18S rRNA (1799-MER).

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

- Molecule 46 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 47 is a protein called Small ribosomal subunit protein uS7.

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

- Molecule 48 is a protein called Small ribosomal subunit protein eS10A.

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

- Molecule 49 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 50 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 51 is a protein called Small ribosomal subunit protein uS9A.

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

- Molecule 52 is a protein called Small ribosomal subunit protein eS17A.

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

- Molecule 53 is a protein called Small ribosomal subunit protein uS13A.

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

- Molecule 54 is a protein called Small ribosomal subunit protein eS19A.

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

- Molecule 55 is a protein called Small ribosomal subunit protein uS10.

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

- Molecule 56 is a protein called Small ribosomal subunit protein eS25A.

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

- Molecule 57 is a protein called Small ribosomal subunit protein eS28A.

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

- Molecule 58 is a protein called Small ribosomal subunit protein uS14A.

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

- Molecule 59 is a protein called Small ribosomal subunit protein eS31.

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

- Molecule 60 is a protein called Small ribosomal subunit protein RACK1.

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

- Molecule 61 is a protein called Small ribosomal subunit protein uS2A.

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

- Molecule 62 is a protein called Small ribosomal subunit protein eS1A.

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

- Molecule 63 is a protein called Small ribosomal subunit protein uS5.

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

- Molecule 64 is a protein called Small ribosomal subunit protein eS4A.

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

- Molecule 65 is a protein called Small ribosomal subunit protein eS6A.

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

- Molecule 66 is a protein called Small ribosomal subunit protein eS7A.

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

- Molecule 67 is a protein called Small ribosomal subunit protein eS8A.

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

- Molecule 68 is a protein called Small ribosomal subunit protein uS4A.

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

- Molecule 69 is a protein called Small ribosomal subunit protein uS17A.

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

- Molecule 70 is a protein called Small ribosomal subunit protein uS15.

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

- Molecule 71 is a protein called Small ribosomal subunit protein uS11B.

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

- Molecule 72 is a protein called Small ribosomal subunit protein eS21A.

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

- Molecule 73 is a protein called Small ribosomal subunit protein uS8A.

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

- Molecule 74 is a protein called Small ribosomal subunit protein uS12A.

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

- Molecule 75 is a protein called Small ribosomal subunit protein eS24A.

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

- Molecule 76 is a protein called Small ribosomal subunit protein eS26B.

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

- Molecule 77 is a protein called Small ribosomal subunit protein eS27A.

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

- Molecule 78 is a protein called Small ribosomal subunit protein eS30A.

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

- Molecule 79 is a RNA chain called tRNA (77-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Ta	77	Total	C	N	O	P	0	0
			1650	734	303	536	77		

- Molecule 80 is a RNA chain called tRNA (77-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Tb	77	Total	C	N	O	P	0	0
			1645	732	298	538	77		

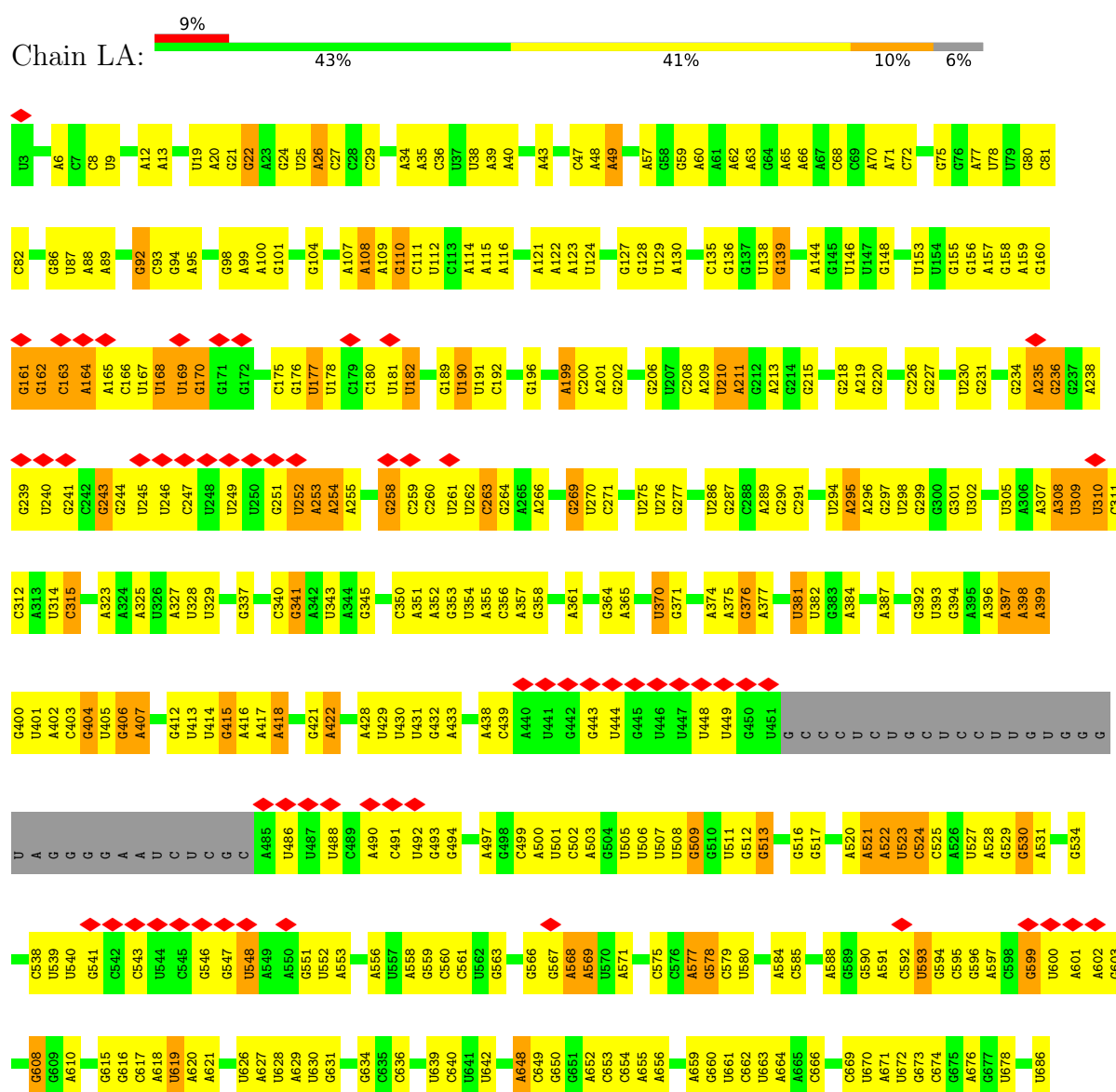
- Molecule 81 is a RNA chain called RNA (5'-R(P*GP*AP*UP*UP*GP*AP*CP*CP*CP*UP*U)-3').

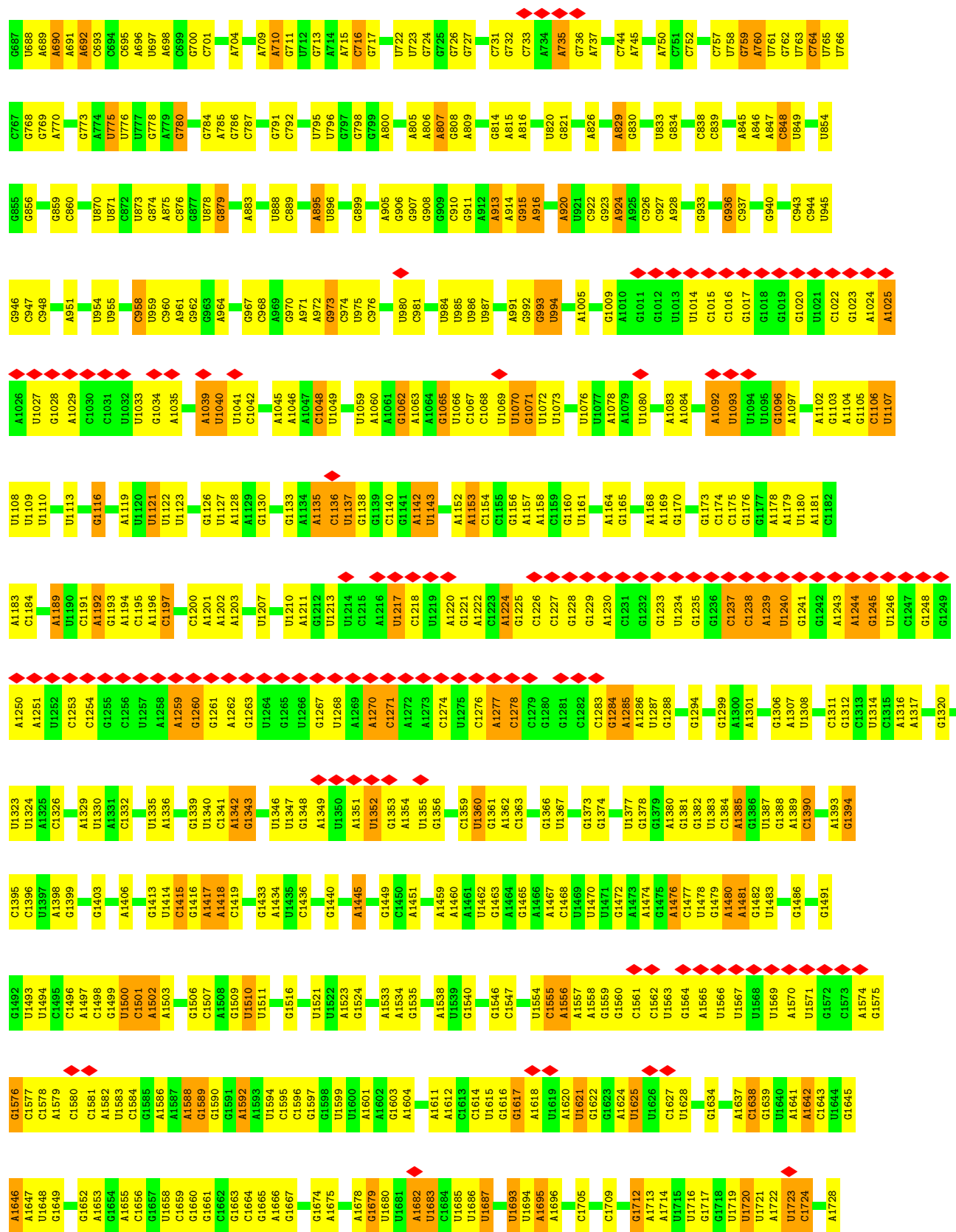
Mol	Chain	Residues	Atoms					AltConf	Trace
81	mR	11	Total	C	N	O	P	0	0
			230	103	37	79	11		

3 Residue-property plots

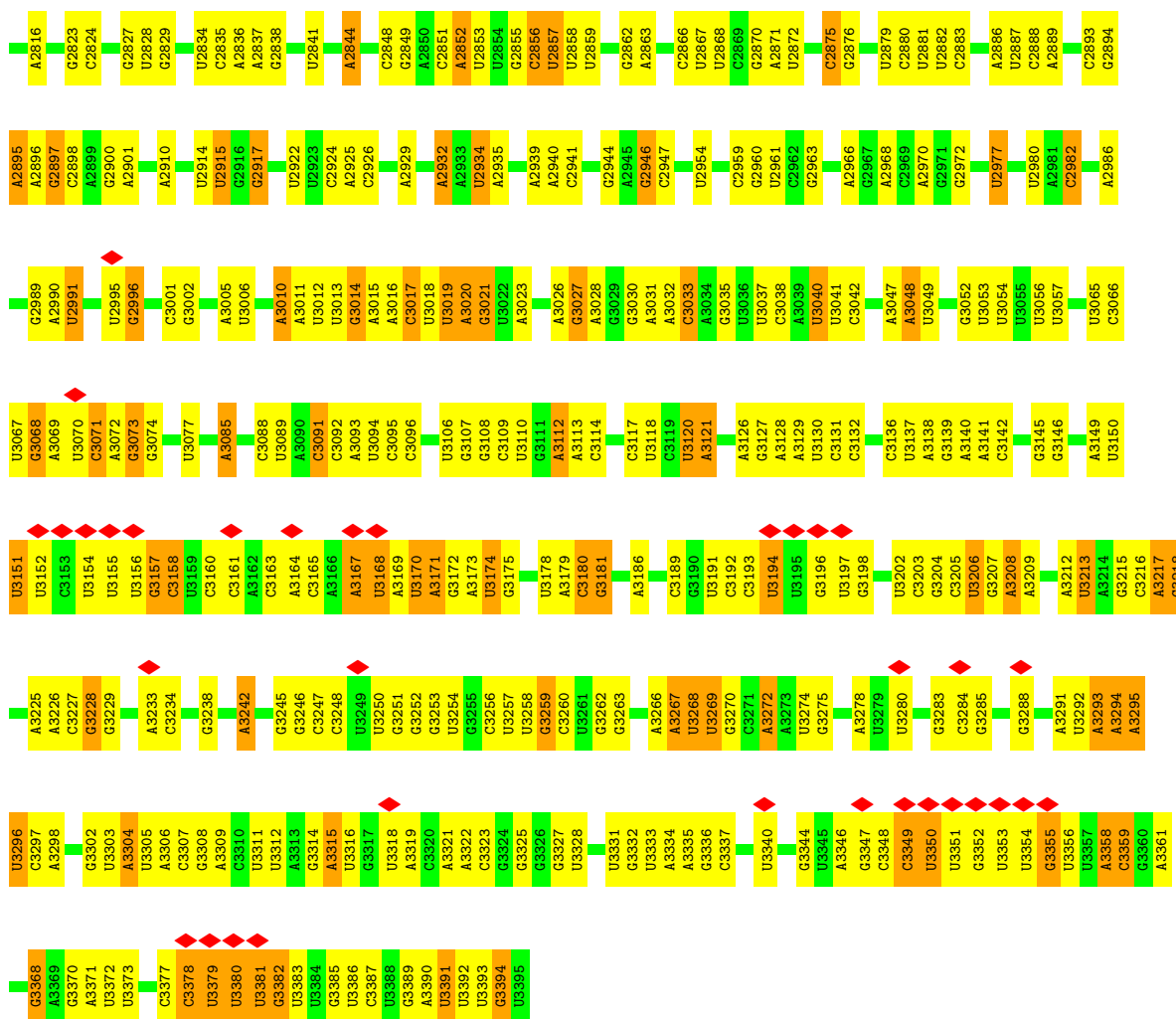
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

• Molecule 1: 25S rRNA (3393-MER)

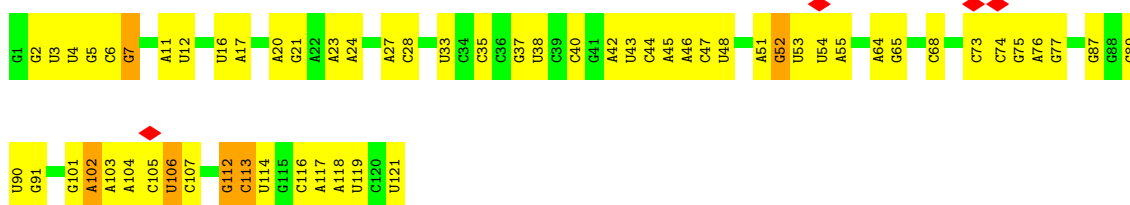






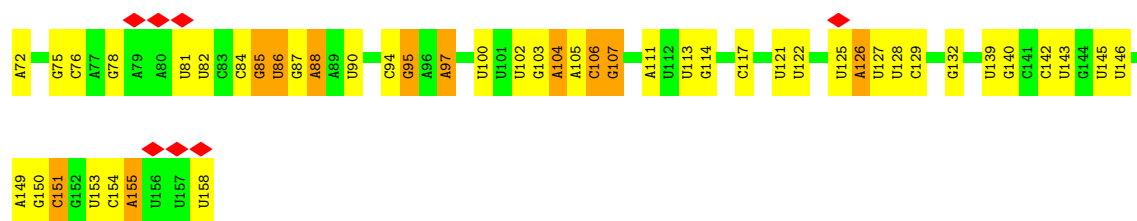


• Molecule 2: 5S rRNA (121-MER)

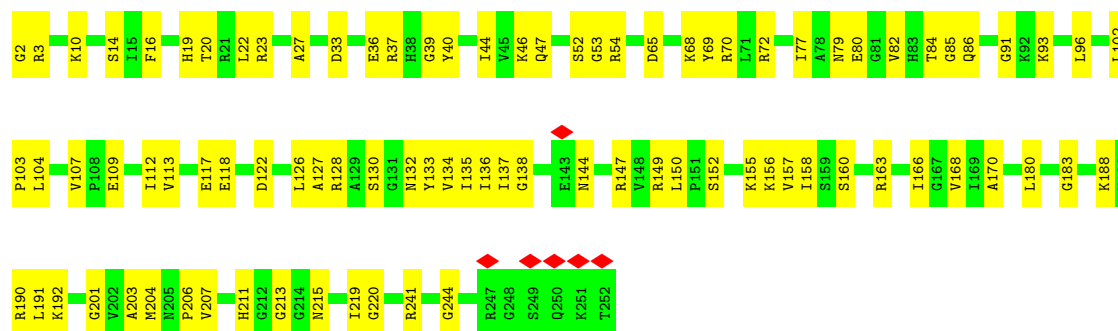


• Molecule 3: 5.8S rRNA (158-MER)

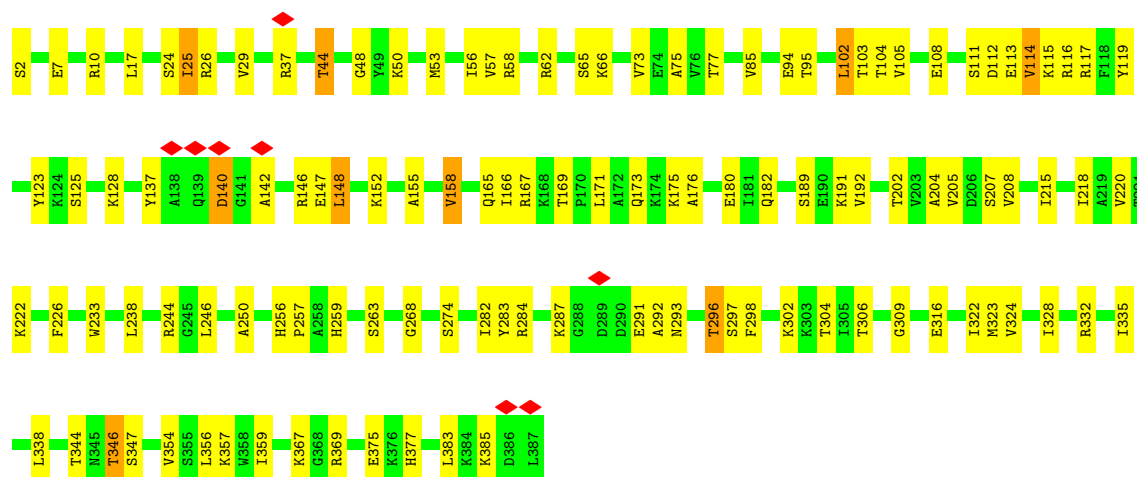




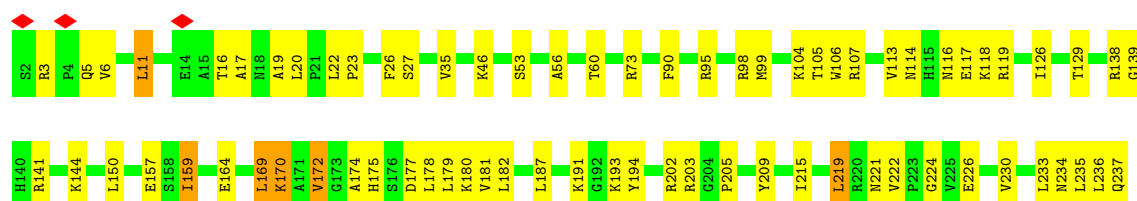
• Molecule 4: Large ribosomal subunit protein uL2A

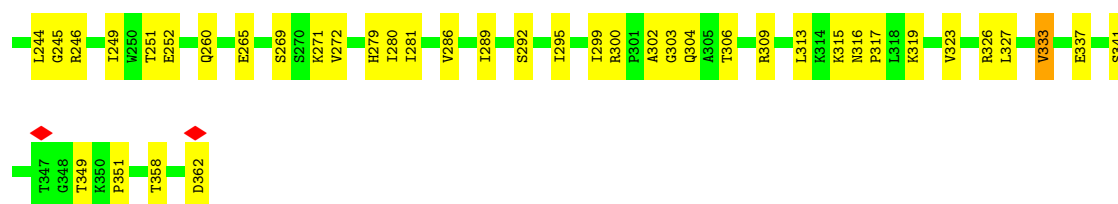


• Molecule 5: Large ribosomal subunit protein uL3

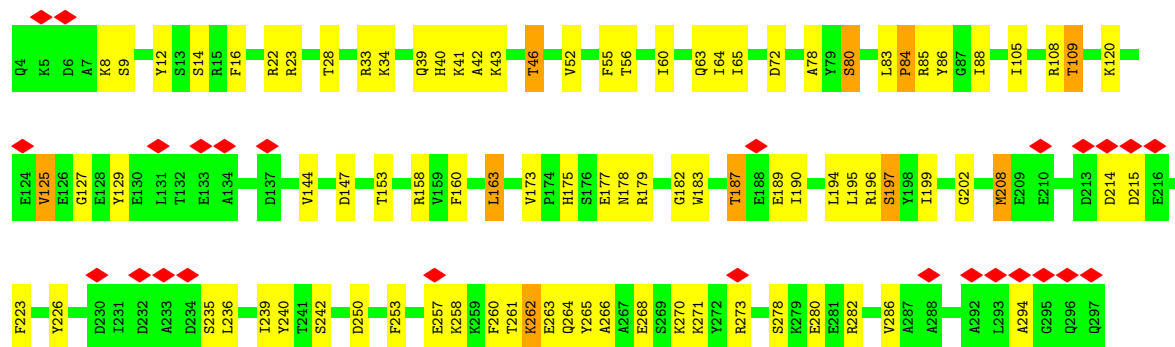


• Molecule 6: Large ribosomal subunit protein uL4A

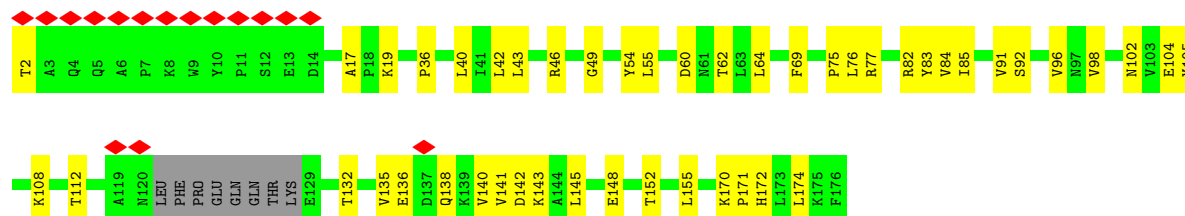




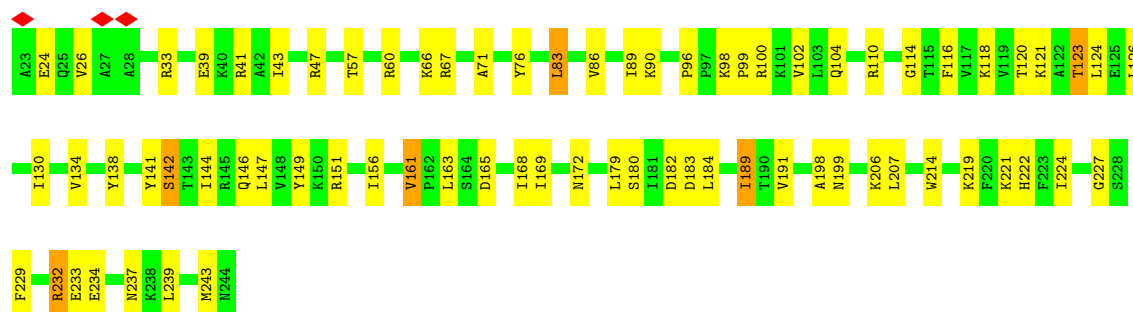
- Molecule 7: Large ribosomal subunit protein uL18



- Molecule 8: Large ribosomal subunit protein eL6B

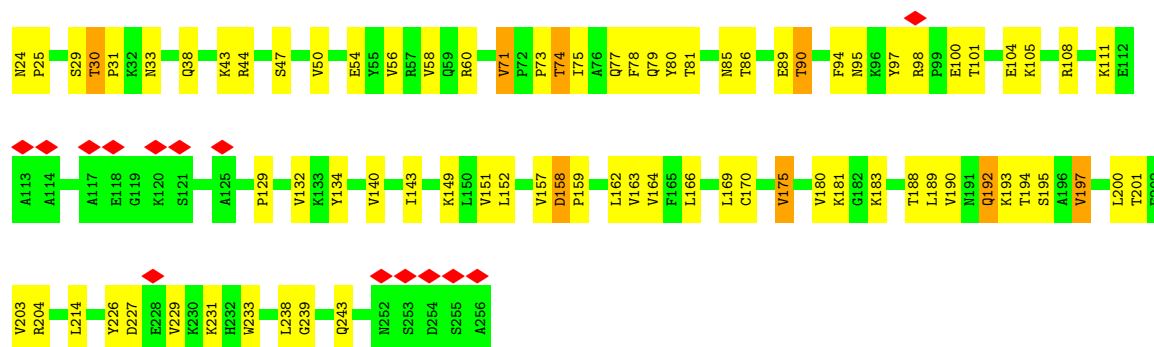


- Molecule 9: Large ribosomal subunit protein uL30A



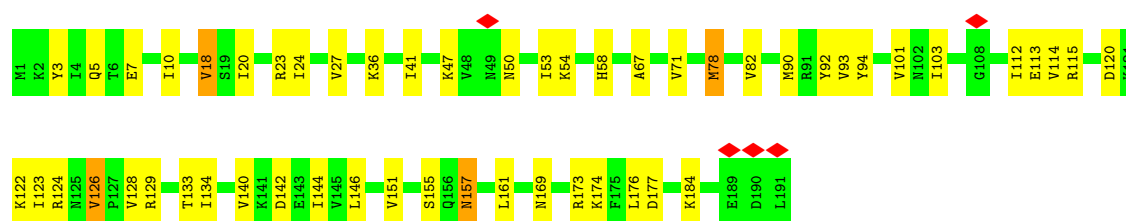
- Molecule 10: Large ribosomal subunit protein eL8A





- Molecule 11: Large ribosomal subunit protein uL6A

Chain LK: 72% 26%



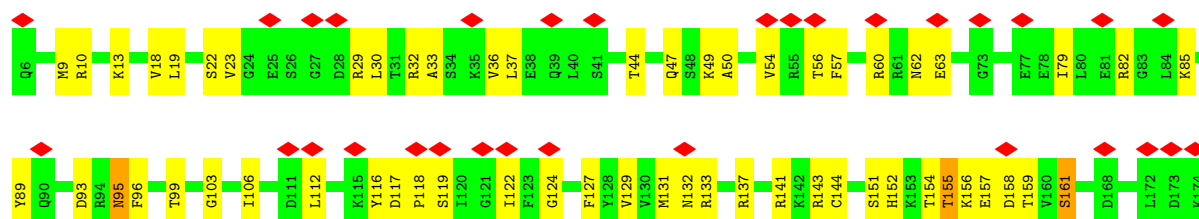
- Molecule 12: Large ribosomal subunit protein uL16

Chain LL: 9% 66% 33%



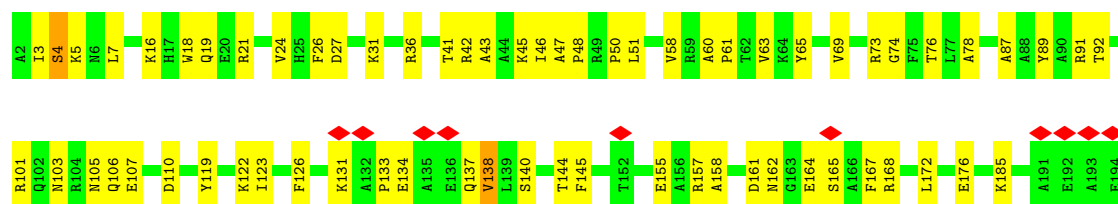
- Molecule 13: Large ribosomal subunit protein uL5B

Chain LM: 18% 66% 33%



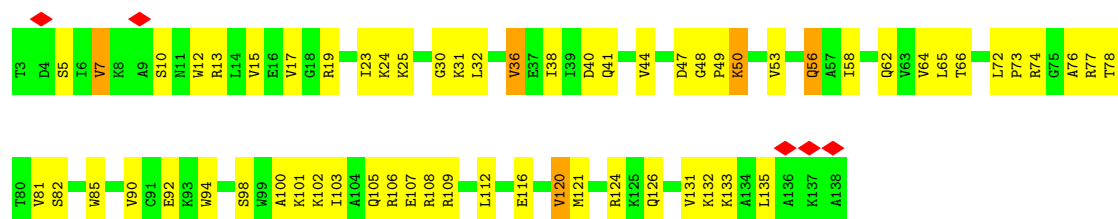
- Molecule 14: Large ribosomal subunit protein eL13A

Chain LN:  5% 66% 33%



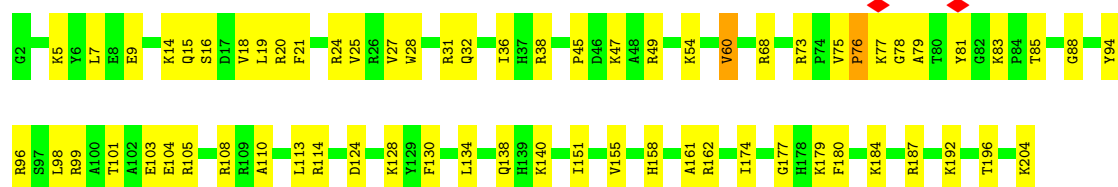
- Molecule 15: Large ribosomal subunit protein eL14A

Chain LO:  54% 43%



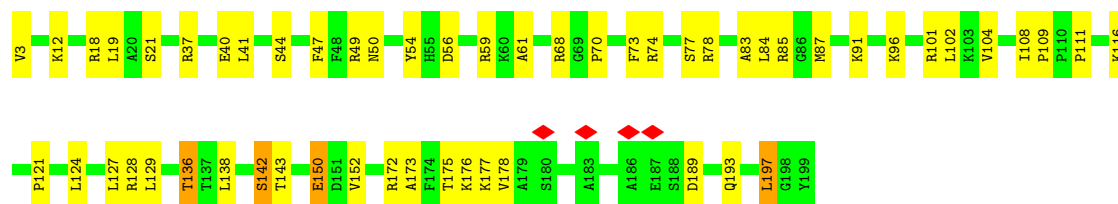
- Molecule 16: Large ribosomal subunit protein eL15A

Chain LP:  67% 32%



- Molecule 17: Large ribosomal subunit protein uL13A

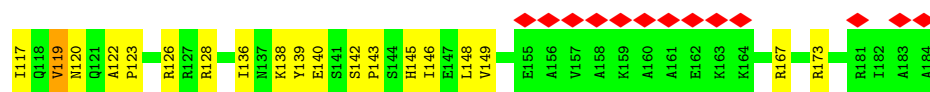
Chain LQ:  72% 26%



- Molecule 18: Large ribosomal subunit protein uL22A

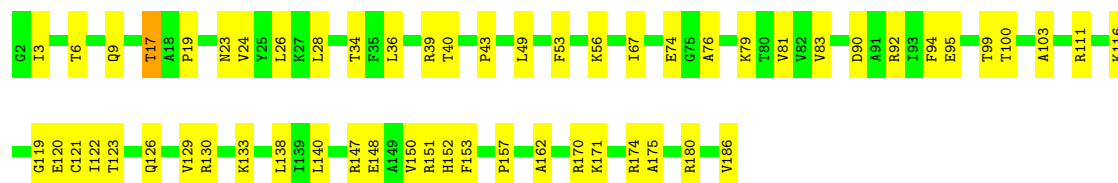
Chain LR:  7% 72% 27%





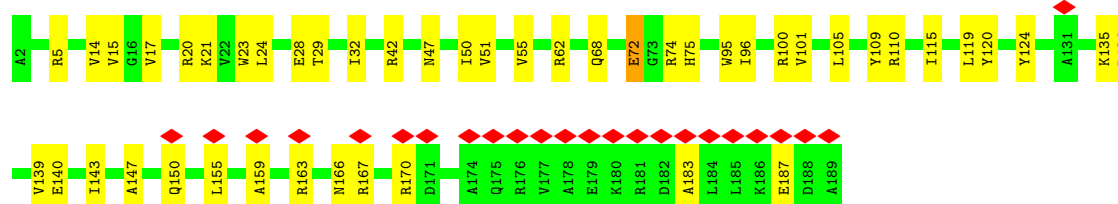
- Molecule 19: Large ribosomal subunit protein eL18A

Chain LS: 69% 30%



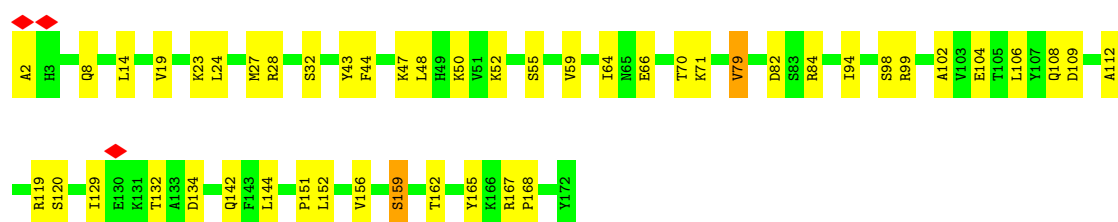
- Molecule 20: Large ribosomal subunit protein eL19A

Chain LT: 13% 75% 24%



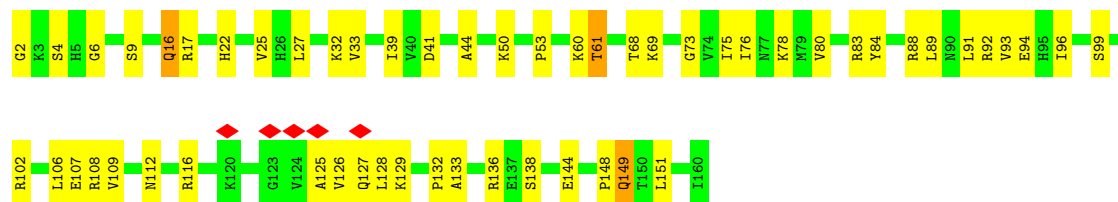
- Molecule 21: Large ribosomal subunit protein eL20A

Chain LU: 71% 27%



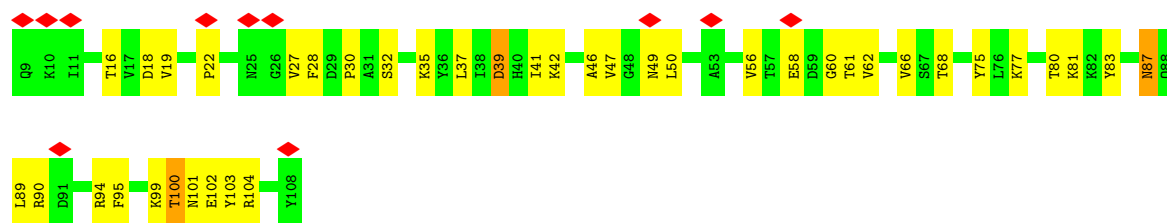
- Molecule 22: Large ribosomal subunit protein eL21A

Chain LV: 65% 33%

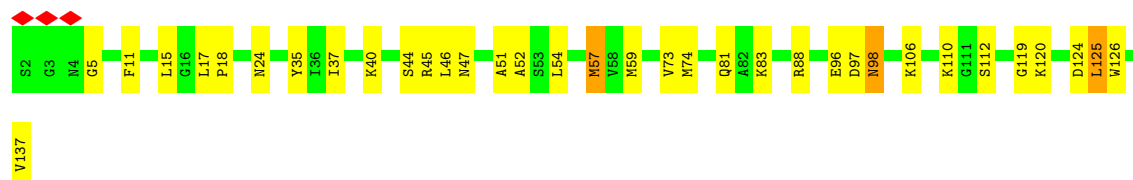
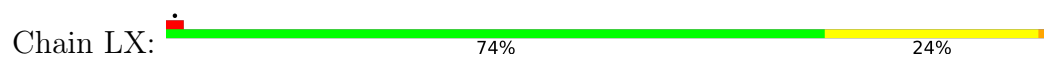


- Molecule 23: Large ribosomal subunit protein eL22A

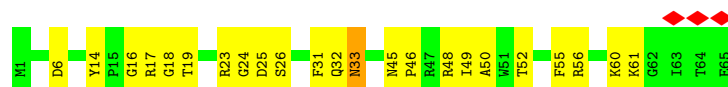
Chain LW: 11% 60% 37%



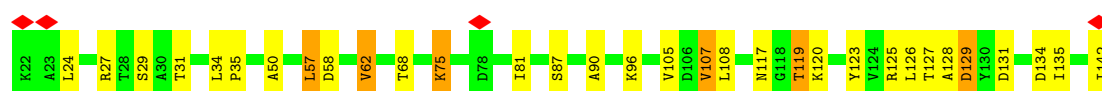
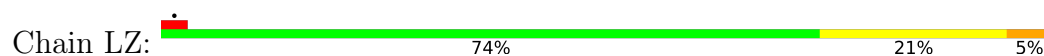
- Molecule 24: Large ribosomal subunit protein uL14A



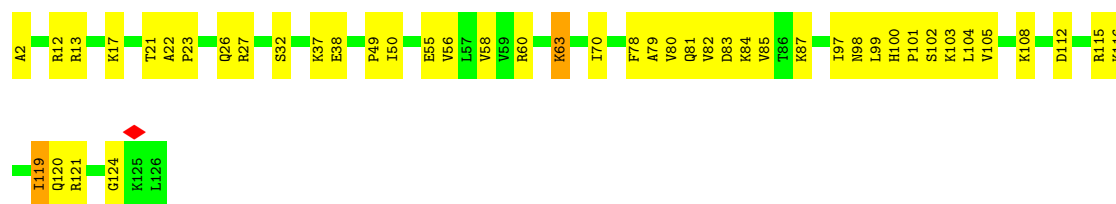
- Molecule 25: Large ribosomal subunit protein eL24A



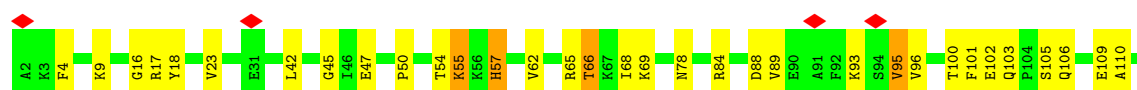
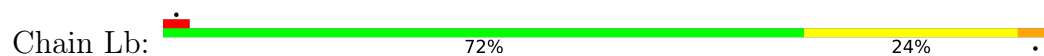
- Molecule 26: Large ribosomal subunit protein uL23



- Molecule 27: Large ribosomal subunit protein uL24A



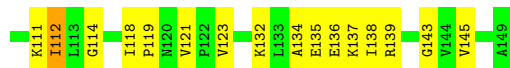
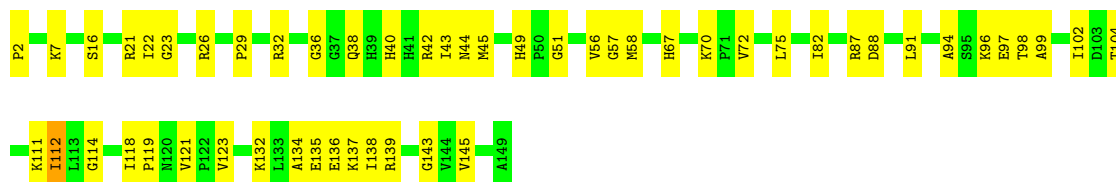
- Molecule 28: Large ribosomal subunit protein eL27A





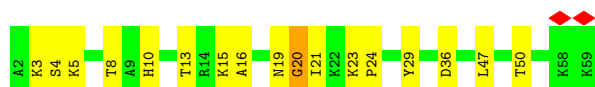
- Molecule 29: Large ribosomal subunit protein uL15

Chain Lc: 65% 34%



- Molecule 30: Large ribosomal subunit protein eL29

Chain Ld: 71% 28%



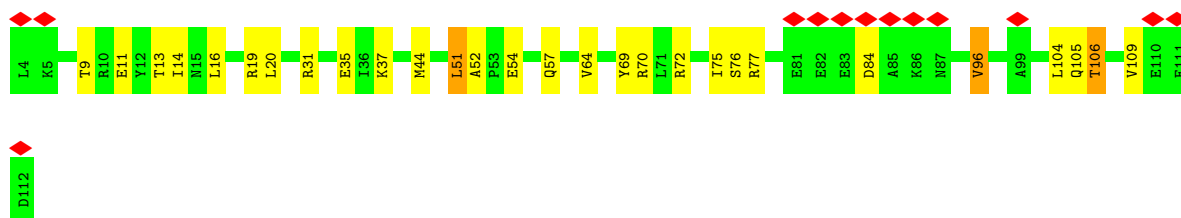
- Molecule 31: Large ribosomal subunit protein eL30

Chain Le: 72% 25%



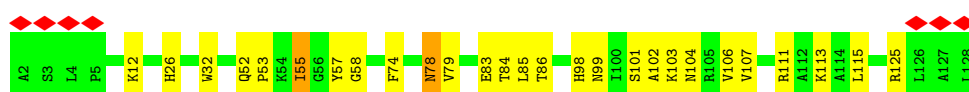
- Molecule 32: Large ribosomal subunit protein eL31A

Chain Lf: 12% 74% 23%



- Molecule 33: Large ribosomal subunit protein eL32

Chain Lg: 6% 79% 20%



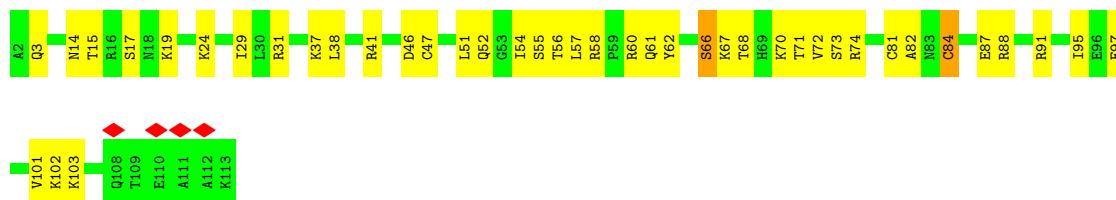
- Molecule 34: Large ribosomal subunit protein eL33A

Chain Lh:  82% 18%



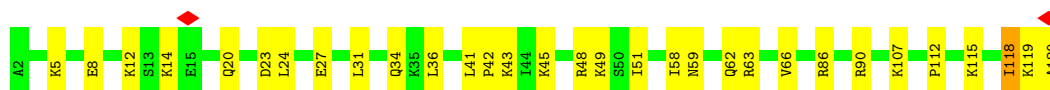
- Molecule 35: Large ribosomal subunit protein eL34A

Chain Li:  62% 36%



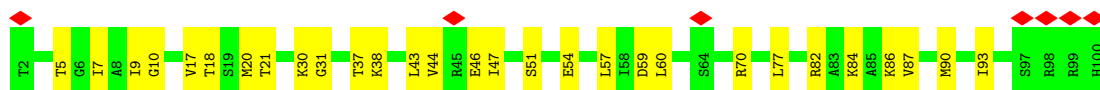
- Molecule 36: Large ribosomal subunit protein uL29A

Chain Lj:  74% 25%



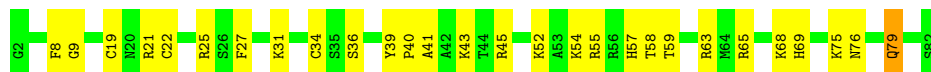
- Molecule 37: Large ribosomal subunit protein eL36A

Chain Lk:  7% 71% 29%



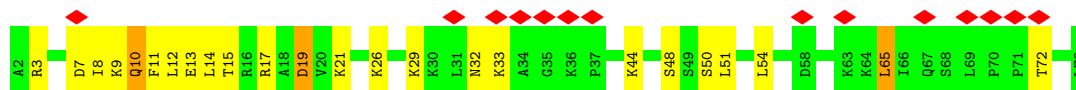
- Molecule 38: Large ribosomal subunit protein eL37A

Chain Ll:  65% 33%



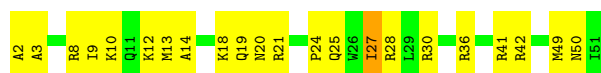
- Molecule 39: Large ribosomal subunit protein eL38

Chain Lm:  18% 69% 27%



- Molecule 40: Large ribosomal subunit protein eL39

Chain Ln:  56% 42%



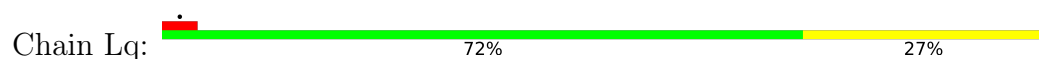
- Molecule 41: Large ribosomal subunit protein eL40A



- Molecule 42: Large ribosomal subunit protein eL41A



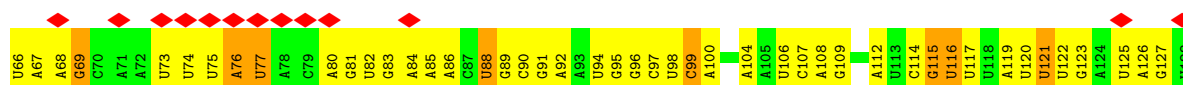
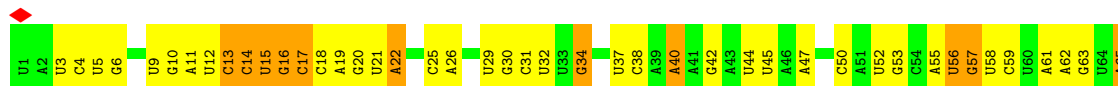
- Molecule 43: Large ribosomal subunit protein eL42A

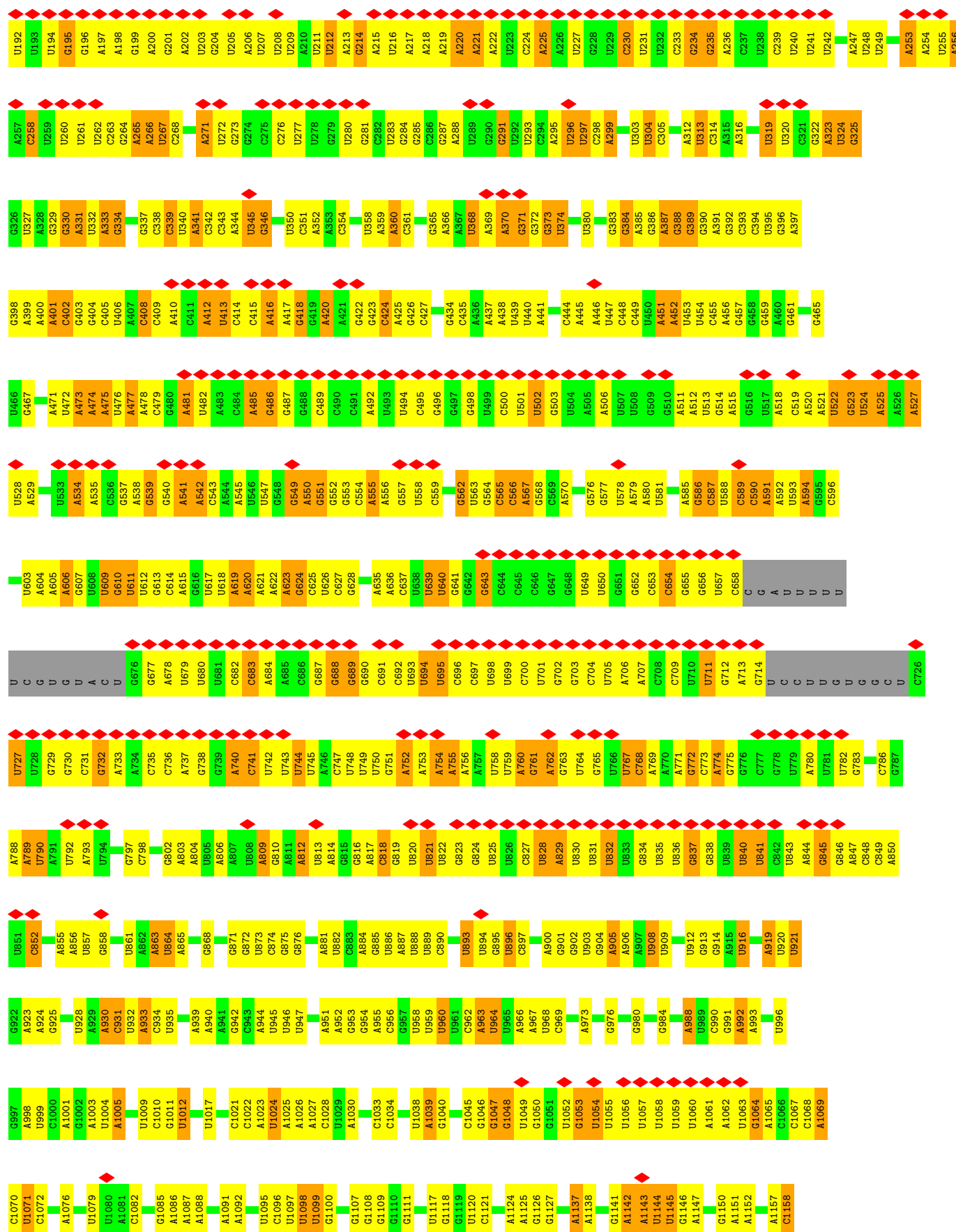


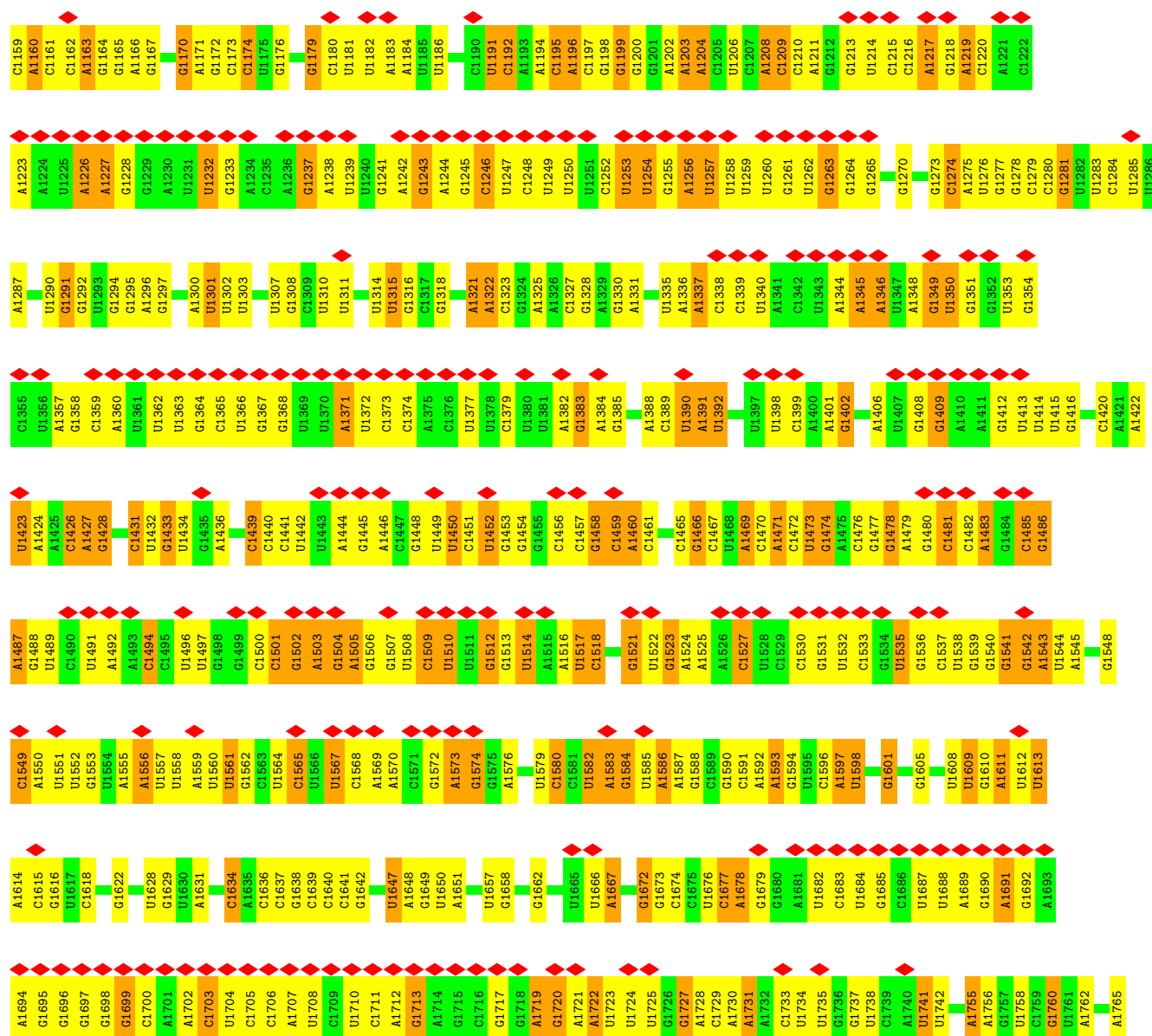
- Molecule 44: Large ribosomal subunit protein eL43A



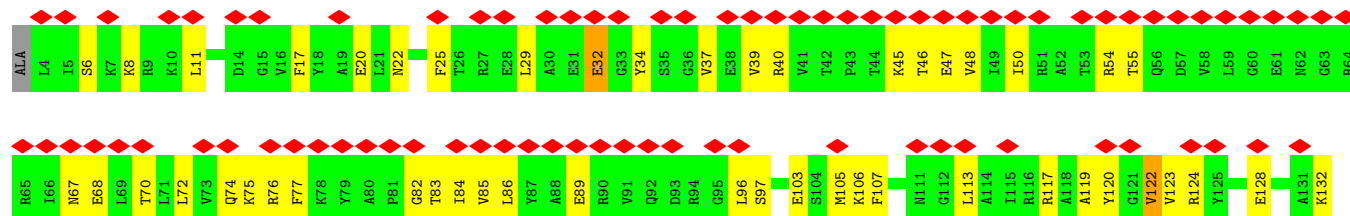
- Molecule 45: chain 2 18S rRNA (1799-MER)

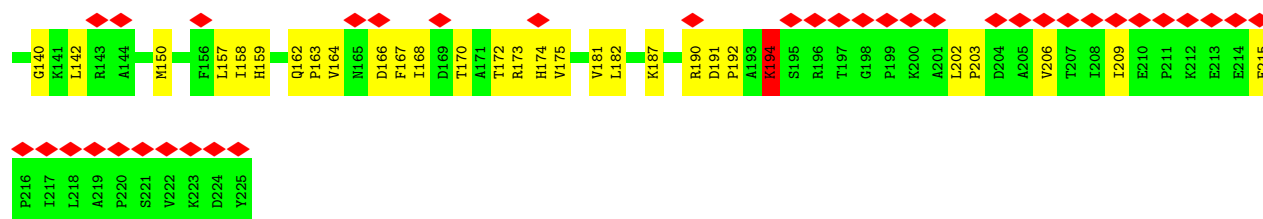




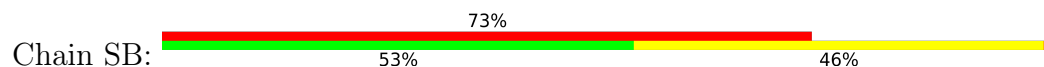


● Molecule 46: Small ribosomal subunit protein uS3

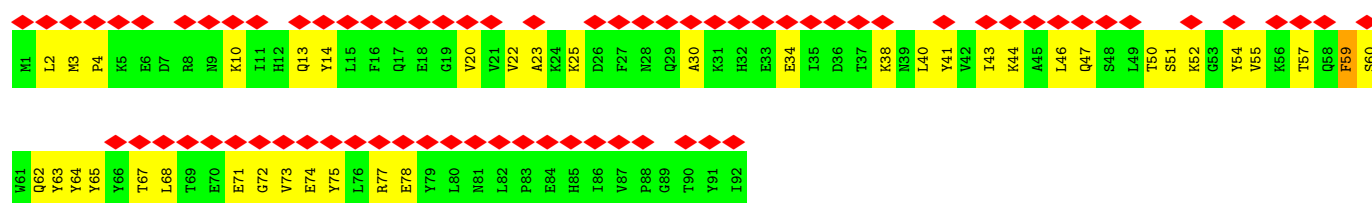
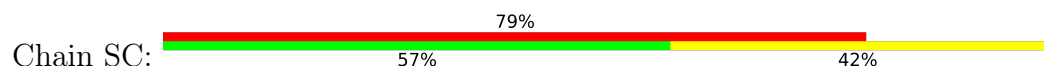




• Molecule 47: Small ribosomal subunit protein uS7



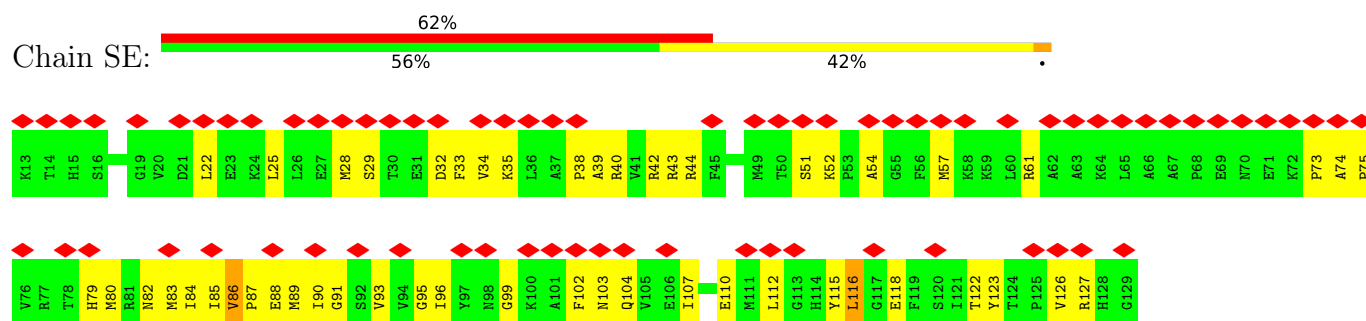
• Molecule 48: Small ribosomal subunit protein eS10A



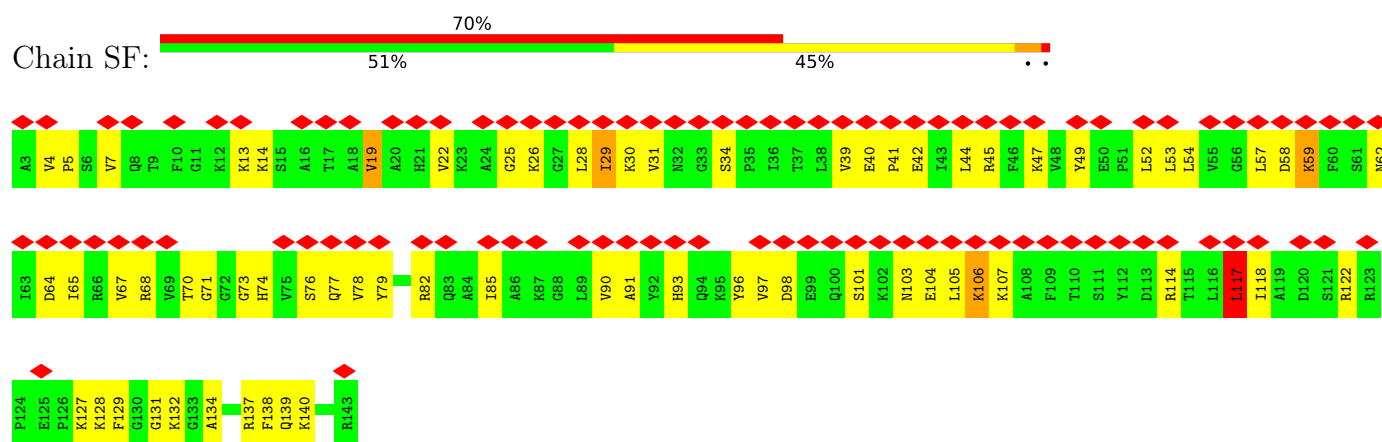
• Molecule 49: Small ribosomal subunit protein eS12



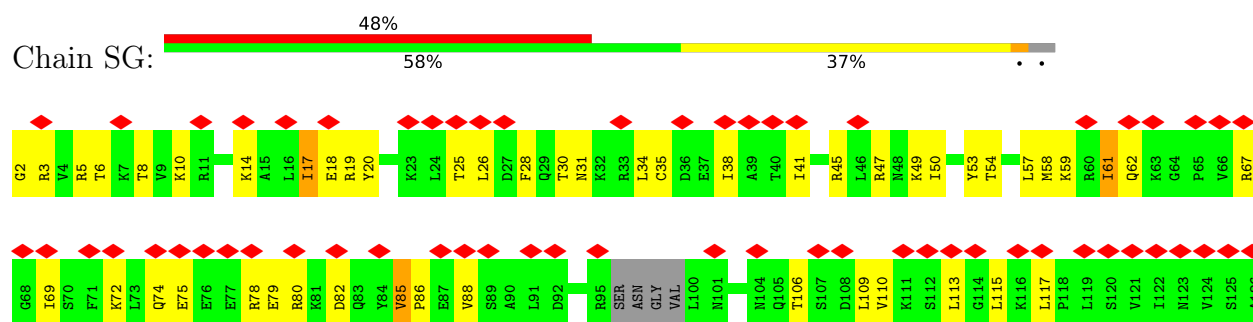
- Molecule 50: Small ribosomal subunit protein uS19



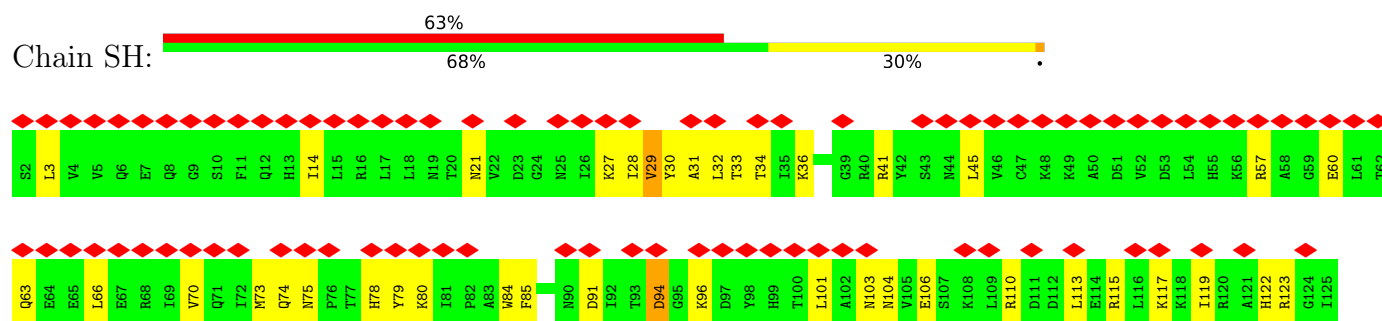
- Molecule 51: Small ribosomal subunit protein uS9A

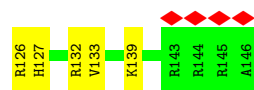


- Molecule 52: Small ribosomal subunit protein eS17A

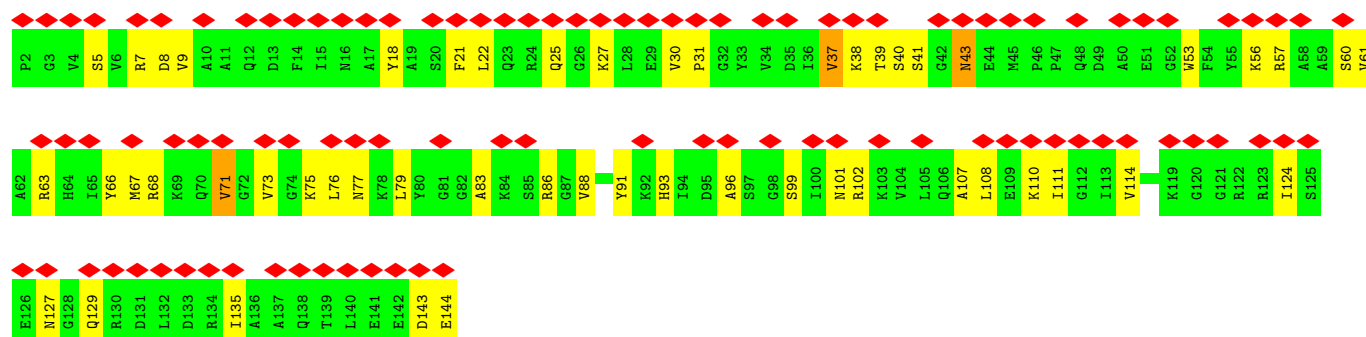


- Molecule 53: Small ribosomal subunit protein uS13A

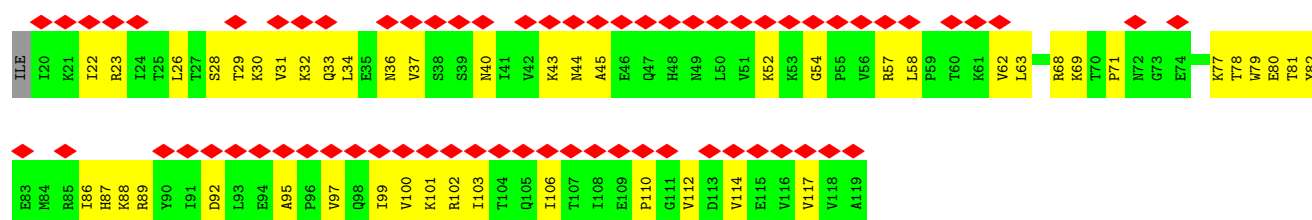




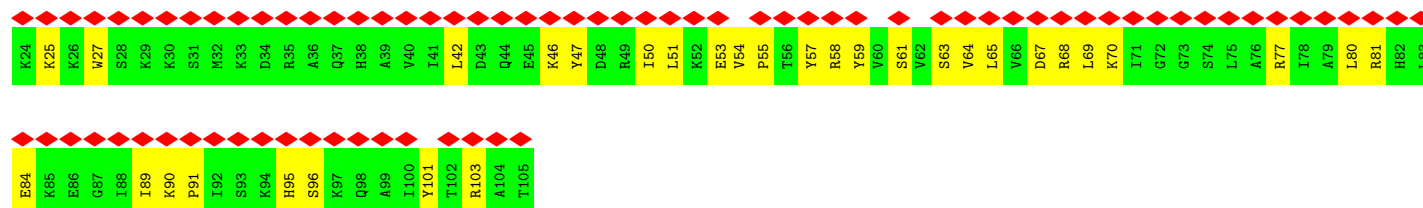
- Molecule 54: Small ribosomal subunit protein eS19A



- Molecule 55: Small ribosomal subunit protein uS10



- Molecule 56: Small ribosomal subunit protein eS25A

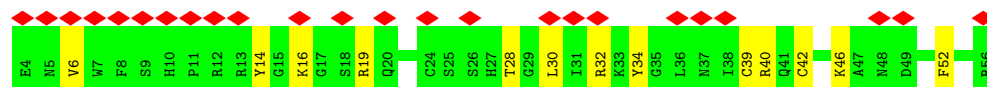
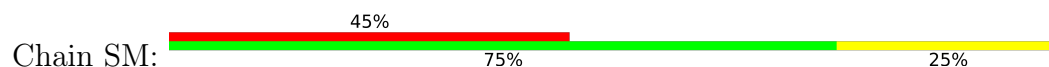


- Molecule 57: Small ribosomal subunit protein eS28A

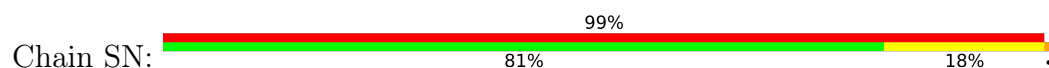




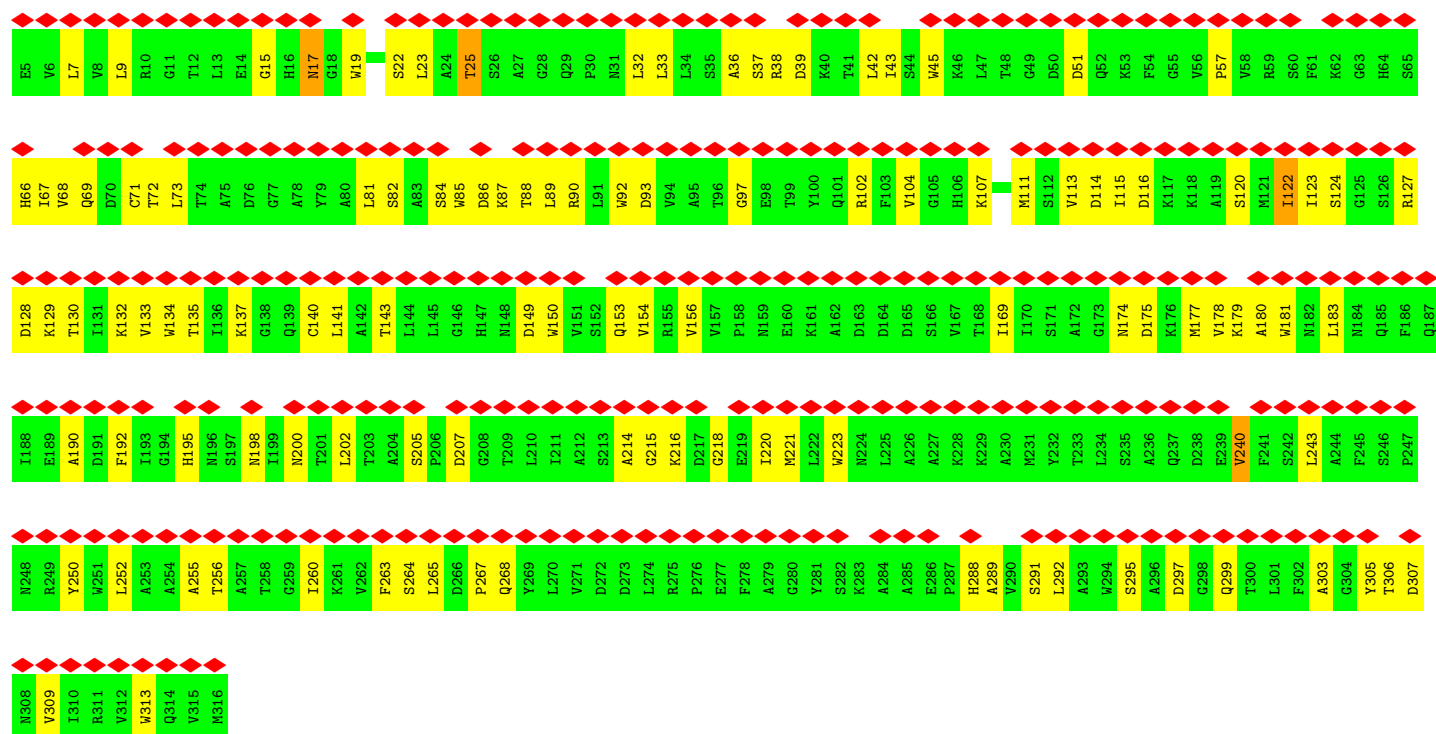
- Molecule 58: Small ribosomal subunit protein uS14A



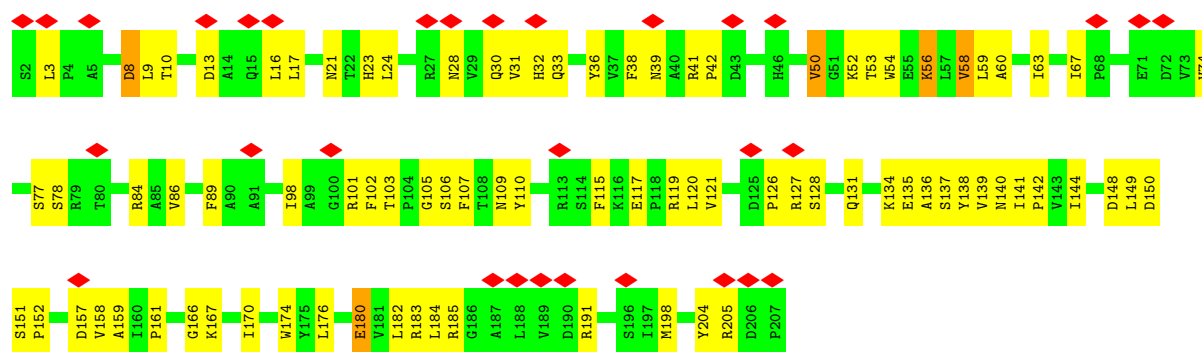
- Molecule 59: Small ribosomal subunit protein eS31



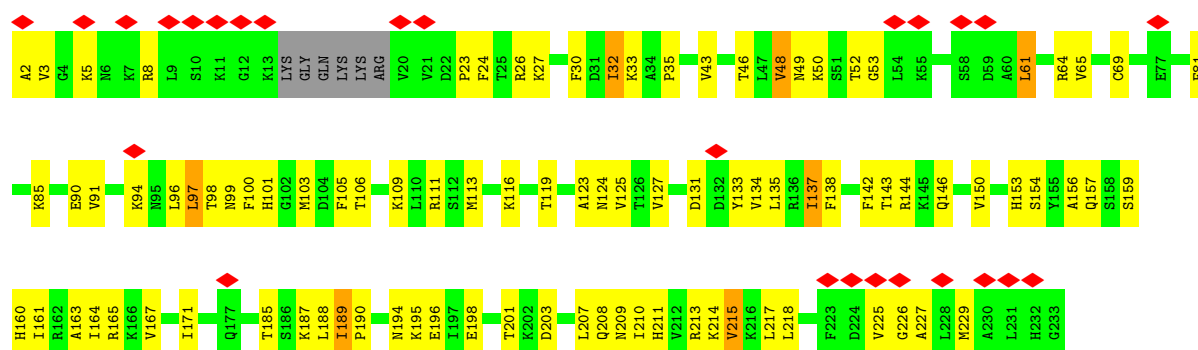
- Molecule 60: Small ribosomal subunit protein RACK1



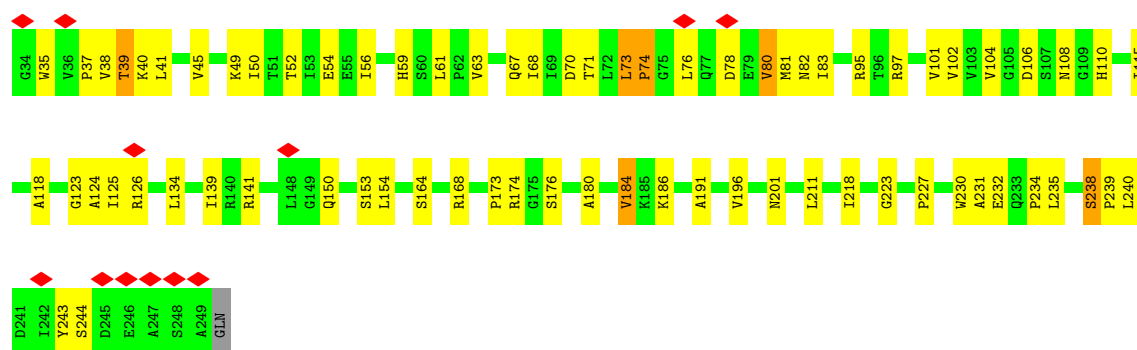
- Molecule 61: Small ribosomal subunit protein uS2A



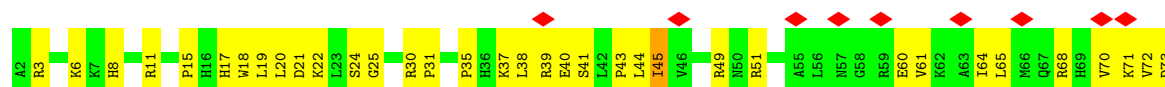
• Molecule 62: Small ribosomal subunit protein eS1A

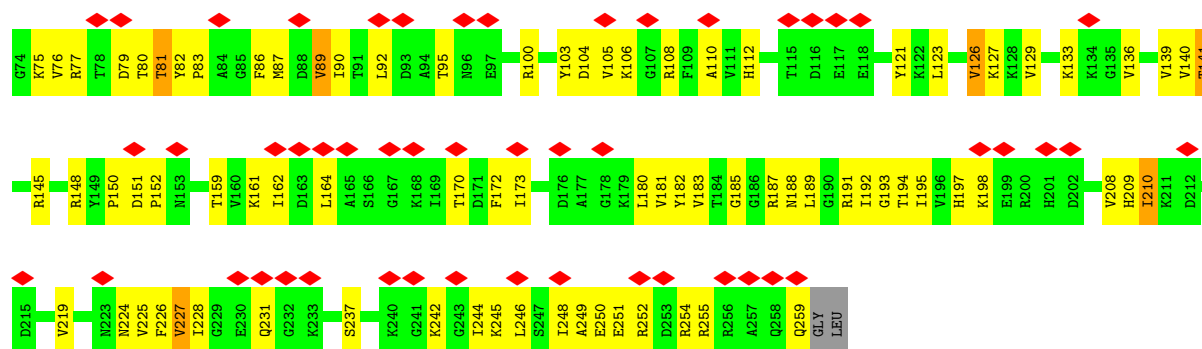


• Molecule 63: Small ribosomal subunit protein uS5

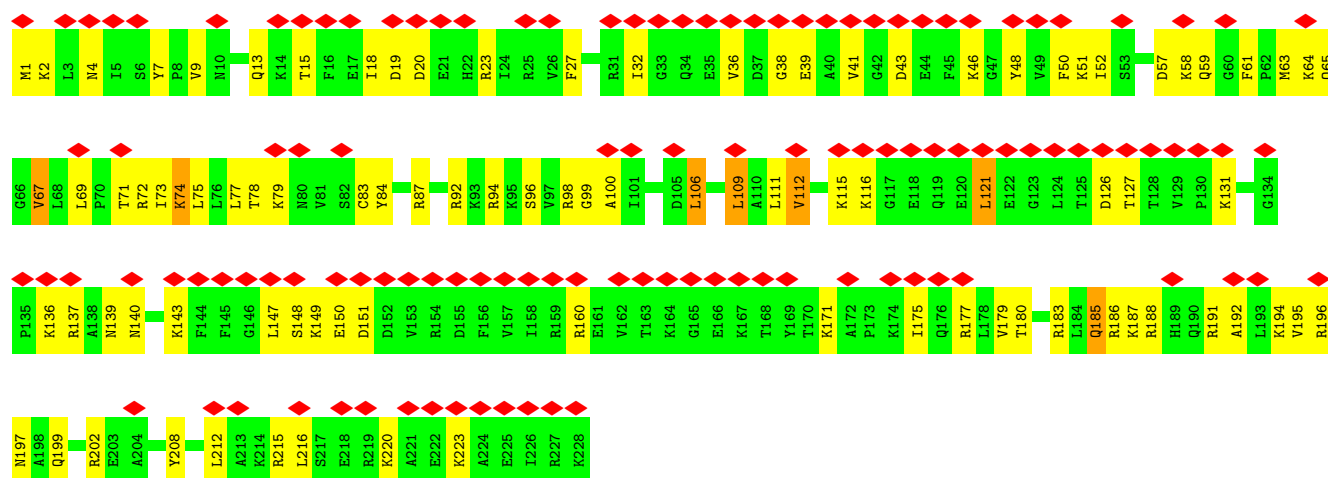


• Molecule 64: Small ribosomal subunit protein eS4A

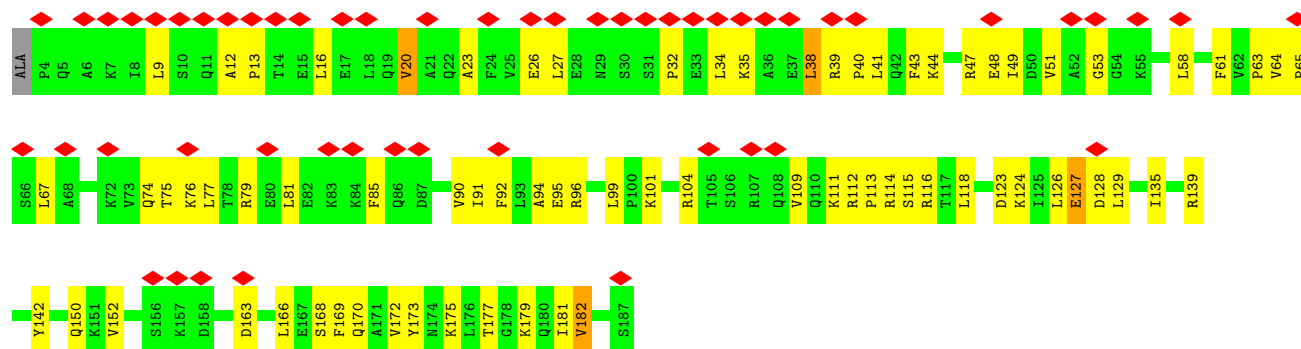




• Molecule 65: Small ribosomal subunit protein eS6A

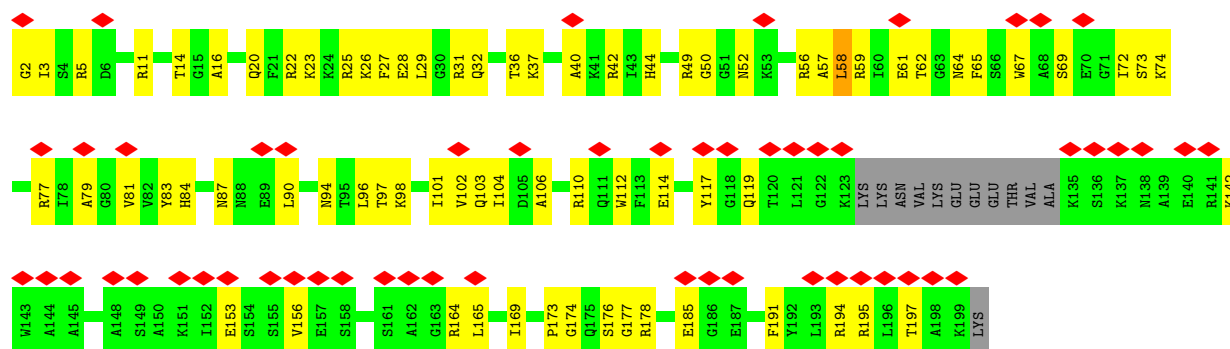


• Molecule 66: Small ribosomal subunit protein eS7A

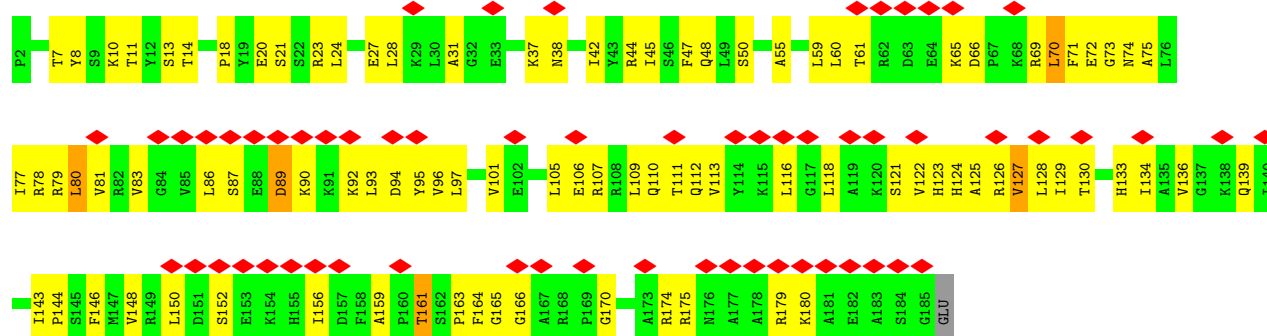


• Molecule 67: Small ribosomal subunit protein eS8A

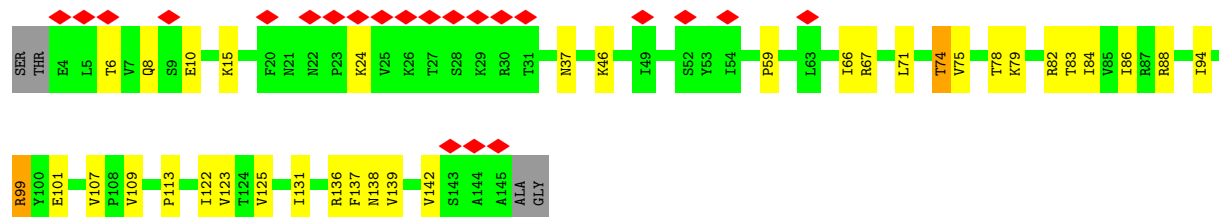
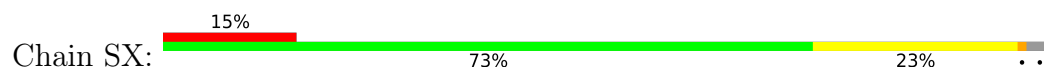




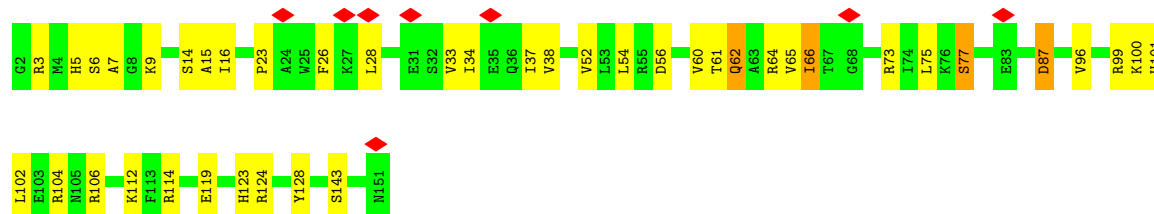
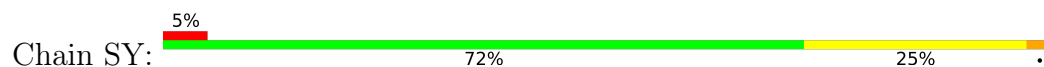
• Molecule 68: Small ribosomal subunit protein uS4A



• Molecule 69: Small ribosomal subunit protein uS17A

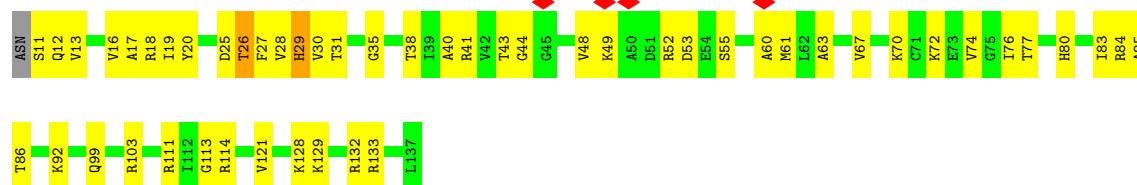


• Molecule 70: Small ribosomal subunit protein uS15



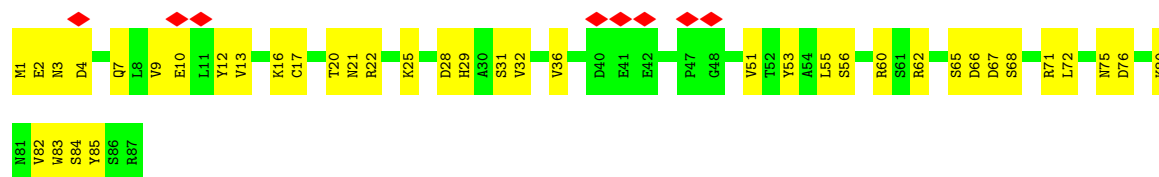
• Molecule 71: Small ribosomal subunit protein uS11B

Chain SZ:  59% 38%



- Molecule 72: Small ribosomal subunit protein eS21A

Chain Sa:  9% 55% 45%



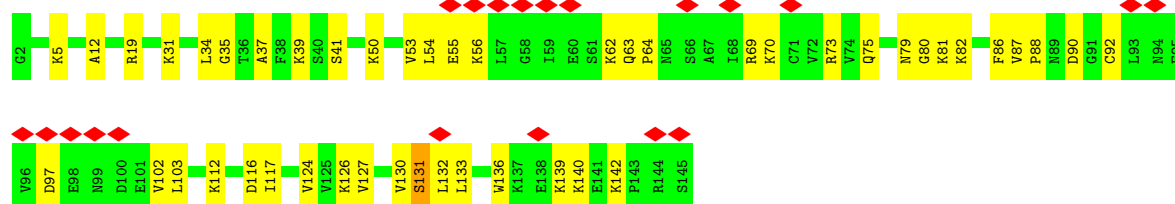
- Molecule 73: Small ribosomal subunit protein uS8A

Chain Sb:  74% 26%



- Molecule 74: Small ribosomal subunit protein uS12A

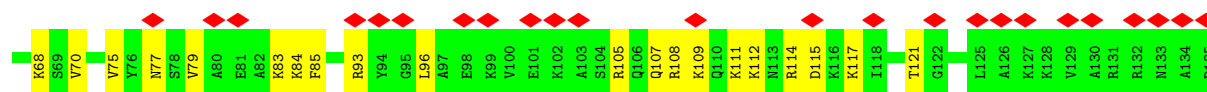
Chain Sc:  14% 67% 32%



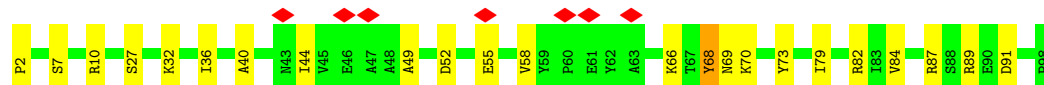
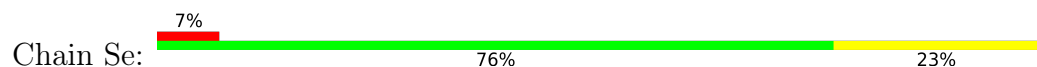
- Molecule 75: Small ribosomal subunit protein eS24A

Chain Sd:  39% 60% 38%

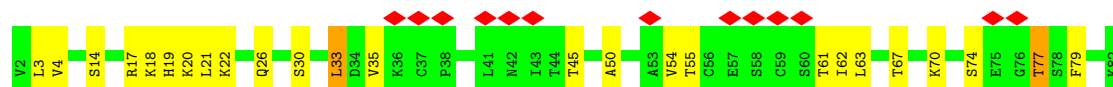




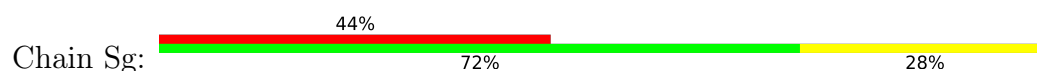
- Molecule 76: Small ribosomal subunit protein eS26B



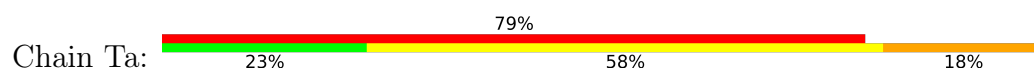
- Molecule 77: Small ribosomal subunit protein eS27A



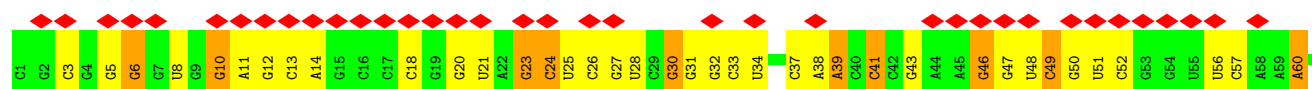
- Molecule 78: Small ribosomal subunit protein eS30A



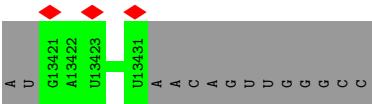
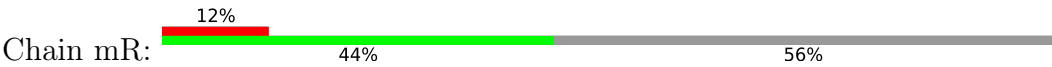
- Molecule 79: tRNA (77-MER)



- Molecule 80: tRNA (77-MER)



- Molecule 81: RNA (5'-R(P*GP*AP*UP*UP*GP*AP*CP*CP*CP*UP*U)-3')



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	84473	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 ($e^-/\text{\AA}^2$)	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	3.367	Depositor
Minimum map value	-1.707	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.085	Depositor
Recommended contour level	0.26	Depositor
Map size ($\text{\AA}$)	570.0, 570.0, 570.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	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	0.14	0/76214	0.32	0/118821
2	LB	0.13	0/2883	0.29	0/4491
3	LC	0.13	0/3746	0.30	0/5832
4	LD	0.17	0/1933	0.39	0/2598
5	LE	0.16	0/3146	0.38	0/4228
6	LF	0.17	0/2800	0.39	0/3790
7	LG	0.16	0/2400	0.40	1/3239 (0.0%)
8	LH	0.16	0/1329	0.36	0/1794
9	LI	0.16	0/1821	0.37	0/2451
10	LJ	0.16	0/1836	0.39	0/2481
11	LK	0.20	0/1529	0.40	0/2060
12	LL	0.27	2/1801 (0.1%)	0.43	2/2416 (0.1%)
13	LM	0.17	0/1367	0.39	0/1834
14	LN	0.19	0/1568	0.40	0/2106
15	LO	0.30	1/1068 (0.1%)	0.43	1/1438 (0.1%)
16	LP	0.16	0/1757	0.38	0/2354
17	LQ	0.18	0/1585	0.37	0/2128
18	LR	0.15	0/1439	0.36	0/1938
19	LS	0.16	0/1465	0.38	0/1965
20	LT	0.17	0/1532	0.32	0/2043
21	LU	0.19	0/1473	0.37	0/1980
22	LV	0.17	0/1296	0.34	0/1739
23	LW	0.14	0/812	0.39	0/1099
24	LX	0.15	0/1018	0.36	0/1369
25	LY	0.14	0/540	0.31	0/717
26	LZ	0.14	0/979	0.34	0/1321
27	La	0.14	0/995	0.33	0/1329
28	Lb	0.17	0/1106	0.38	0/1485
29	Lc	0.17	0/1200	0.38	0/1607
30	Ld	0.19	0/473	0.38	0/629
31	Le	0.14	0/745	0.33	0/1001
32	Lf	0.25	1/890 (0.1%)	0.34	0/1196
33	Lg	0.16	0/1038	0.34	0/1390
34	Lh	0.15	0/868	0.36	0/1168

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	Li	0.15	0/890	0.33	0/1189
36	Lj	0.17	0/978	0.41	1/1301 (0.1%)
37	Lk	0.17	0/772	0.39	0/1026
38	Ll	0.18	0/660	0.37	0/875
39	Lm	0.15	0/618	0.42	1/826 (0.1%)
40	Ln	0.18	0/443	0.33	0/588
41	Lo	0.13	0/416	0.34	0/553
42	Lp	0.14	0/230	0.35	0/296
43	Lq	0.52	2/836 (0.2%)	0.52	1/1104 (0.1%)
44	Lr	0.15	0/701	0.36	0/934
45	S2	0.12	0/42211	0.31	0/65773
46	SA	0.28	0/1754	0.47	1/2361 (0.0%)
47	SB	0.18	0/1625	0.44	0/2197
48	SC	0.12	0/769	0.36	0/1039
49	SD	0.26	0/883	0.61	0/1199
50	SE	0.15	0/936	0.39	0/1259
51	SF	0.24	0/1125	0.49	2/1510 (0.1%)
52	SG	0.18	0/957	0.38	0/1283
53	SH	0.17	0/1207	0.38	0/1623
54	SI	0.17	0/1130	0.42	0/1517
55	SJ	0.15	0/807	0.40	0/1091
56	SK	0.20	0/661	0.41	0/888
57	SL	0.19	0/493	0.40	0/663
58	SM	0.10	0/452	0.28	0/600
59	SN	0.13	0/567	0.47	1/764 (0.1%)
60	SO	0.18	0/2436	0.43	0/3318
61	SP	0.18	0/1644	0.42	0/2249
62	SQ	0.32	1/1823 (0.1%)	0.48	1/2447 (0.0%)
63	SR	0.28	0/1656	0.56	4/2251 (0.2%)
64	SS	0.17	0/2097	0.43	0/2823
65	ST	0.15	0/1839	0.39	0/2460
66	SU	0.19	0/1498	0.45	0/2019
67	SV	0.17	0/1501	0.36	0/2006
68	SW	0.33	1/1504 (0.1%)	0.59	4/2016 (0.2%)
69	SX	0.15	0/1168	0.35	0/1575
70	SY	0.16	0/1215	0.39	0/1638
71	SZ	0.21	0/934	0.46	0/1257
72	Sa	0.15	0/682	0.37	0/921
73	Sb	0.18	0/1038	0.44	0/1395
74	Sc	0.16	0/1139	0.44	0/1518
75	Sd	0.15	0/1046	0.32	0/1401
76	Se	0.14	0/778	0.42	0/1042
77	Sf	0.15	0/620	0.37	0/838

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	Sg	0.15	0/459	0.38	0/611
79	Ta	0.13	0/1844	0.36	0/2873
80	Tb	0.11	0/1837	0.28	0/2861
All	All	0.16	8/217531 (0.0%)	0.35	20/320015 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
10	LJ	0	1
16	LP	0	1
30	Ld	0	1
73	Sb	0	1
All	All	0	4

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
43	Lq	55	LYS	C-O	-9.04	1.16	1.24
62	SQ	189	ILE	CA-CB	-7.25	1.50	1.54
12	LL	213	PHE	C-O	6.68	1.27	1.23
68	SW	159	ALA	C-N	6.08	1.39	1.33
32	Lf	51	LEU	C-N	-5.79	1.24	1.33
43	Lq	57	VAL	C-O	-5.65	1.18	1.24
15	LO	50	LYS	CG-CD	-5.29	1.36	1.52
12	LL	214	PRO	CG-CD	-5.16	1.33	1.50

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	LL	214	PRO	N-CD-CG	-10.43	87.55	103.20
68	SW	166	GLY	N-CA-C	9.91	123.74	111.85
68	SW	165	GLY	N-CA-C	-9.02	91.80	113.18
51	SF	117	LEU	CB-CG-CD1	-8.99	83.72	110.70
46	SA	194	LYS	N-CA-C	-8.32	101.56	113.21
63	SR	74	PRO	CA-N-CD	-7.12	102.04	112.00
36	Lj	118	ILE	CG1-CB-CG2	-6.52	91.14	110.70
43	Lq	56	PRO	N-CA-C	6.39	122.25	111.32
63	SR	234	PRO	N-CA-C	6.06	124.95	112.47
7	LG	84	PRO	CA-N-CD	-5.76	103.93	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	LO	50	LYS	CB-CG-CD	-5.67	98.27	111.30
12	LL	214	PRO	CA-CB-CG	-5.64	93.77	104.50
68	SW	164	PHE	N-CA-CB	5.37	120.19	112.08
51	SF	106	LYS	CD-CE-NZ	5.26	128.72	111.90
63	SR	238	SER	CA-C-N	-5.25	113.50	119.28
63	SR	238	SER	C-N-CA	-5.25	113.50	119.28
68	SW	161	THR	N-CA-C	-5.19	105.67	112.41
39	Lm	19	ASP	N-CA-C	-5.11	108.07	114.56
62	SQ	226	GLY	N-CA-C	5.05	125.16	113.18
59	SN	118	ARG	CA-CB-CG	5.05	124.20	114.10

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
10	LJ	30	THR	Peptide
16	LP	75	VAL	Peptide
30	Ld	20	GLY	Peptide
73	Sb	54	ASP	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	LA	68091	0	34217	1099	0
2	LB	2579	0	1304	37	0
3	LC	3353	0	1695	73	0
4	LD	1899	0	1957	68	0
5	LE	3075	0	3142	86	0
6	LF	2748	0	2859	85	0
7	LG	2351	0	2294	74	0
8	LH	1307	0	1377	35	0
9	LI	1784	0	1862	52	0
10	LJ	1804	0	1877	51	0
11	LK	1508	0	1572	41	0
12	LL	1764	0	1804	57	0
13	LM	1346	0	1370	50	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	LN	1543	0	1608	58	0
15	LO	1053	0	1149	53	0
16	LP	1720	0	1779	55	0
17	LQ	1555	0	1659	44	0
18	LR	1416	0	1433	36	0
19	LS	1441	0	1543	44	0
20	LT	1515	0	1606	34	0
21	LU	1437	0	1475	36	0
22	LV	1272	0	1312	42	0
23	LW	796	0	812	27	0
24	LX	1003	0	1048	23	0
25	LY	528	0	546	19	0
26	LZ	964	0	1025	28	0
27	La	984	0	1075	35	0
28	Lb	1080	0	1122	28	0
29	Lc	1169	0	1211	49	0
30	Ld	462	0	491	16	0
31	Le	737	0	792	19	0
32	Lf	876	0	912	22	0
33	Lg	1017	0	1081	25	0
34	Lh	850	0	880	18	0
35	Li	880	0	945	35	0
36	Lj	969	0	1078	31	0
37	Lk	766	0	844	23	0
38	Ll	645	0	649	29	0
39	Lm	612	0	682	18	0
40	Ln	436	0	475	19	0
41	Lo	410	0	446	15	0
42	Lp	229	0	273	9	0
43	Lq	824	0	892	22	0
44	Lr	694	0	738	21	0
45	S2	37739	0	18988	798	0
46	SA	1729	0	1812	63	0
47	SB	1605	0	1669	101	0
48	SC	752	0	719	33	0
49	SD	875	0	878	33	0
50	SE	916	0	941	46	0
51	SF	1105	0	1166	61	0
52	SG	948	0	990	44	0
53	SH	1188	0	1218	44	0
54	SI	1112	0	1124	55	0
55	SJ	797	0	863	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	SK	651	0	682	30	0
57	SL	491	0	524	35	0
58	SM	442	0	432	12	0
59	SN	556	0	549	11	0
60	SO	2383	0	2332	96	0
61	SP	1603	0	1610	64	0
62	SQ	1798	0	1890	99	0
63	SR	1626	0	1715	47	0
64	SS	2056	0	2140	103	0
65	ST	1815	0	1894	72	0
66	SU	1473	0	1555	72	0
67	SV	1476	0	1501	61	0
68	SW	1479	0	1556	81	0
69	SX	1142	0	1209	28	0
70	SY	1192	0	1255	33	0
71	SZ	923	0	948	54	0
72	Sa	673	0	662	30	0
73	Sb	1021	0	1060	30	0
74	Sc	1121	0	1196	37	0
75	Sd	1032	0	1044	46	0
76	Se	765	0	814	20	0
77	Sf	610	0	633	22	0
78	Sg	451	0	494	20	0
79	Ta	1650	0	838	21	0
80	Tb	1645	0	837	16	0
81	mR	230	0	0	0	0
All	All	202562	0	148649	4350	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 13.

All (4350) 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)
45:S2:752:A:N6	45:S2:797:G:H1	1.31	1.26
1:LA:3233:A:N6	1:LA:3252:G:H1	1.43	1.15
1:LA:1645:G:N2	1:LA:1808:A:H62	1.51	1.07
45:S2:220:A:N6	45:S2:841:U:H3	1.53	1.05
45:S2:761:G:N2	45:S2:789:A:H62	1.54	1.04
45:S2:1673:G:H1	45:S2:1728:A:H2	1.05	1.01
45:S2:1179:G:H21	45:S2:1460:A:N6	1.58	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1645:G:H21	1:LA:1808:A:N6	1.59	0.99
56:SK:57:TYR:HE1	56:SK:68:ARG:HE	1.07	0.99
45:S2:821:U:H3	45:S2:852:C:N4	1.59	0.98
1:LA:406:G:HO2'	3:LC:16:G:N2	1.61	0.97
45:S2:1179:G:N2	45:S2:1460:A:H62	1.62	0.97
45:S2:761:G:H21	45:S2:789:A:H62	0.97	0.96
45:S2:761:G:H21	45:S2:789:A:N6	1.62	0.96
3:LC:121:U:H3	3:LC:132:G:H1	1.04	0.96
45:S2:1219:A:H62	45:S2:1264:G:N2	1.64	0.96
1:LA:1119:A:N6	1:LA:1137:U:C2	2.35	0.95
45:S2:1047:G:N2	45:S2:1071:U:O4	1.99	0.95
1:LA:541:G:H1	1:LA:548:U:H3	1.12	0.95
45:S2:1219:A:N6	45:S2:1264:G:H21	1.66	0.94
60:SO:240:VAL:HA	60:SO:256:THR:HG22	1.49	0.94
1:LA:1121:U:N3	1:LA:1135:A:N6	2.14	0.94
1:LA:1625:U:H3	1:LA:1816:G:H1	1.07	0.94
1:LA:1384:C:HO2'	8:LH:2:THR:N	1.65	0.93
13:LM:85:LYS:NZ	13:LM:89:TYR:OH	2.01	0.93
47:SB:144:GLU:HB2	57:SL:57:MET:HE1	1.49	0.93
45:S2:1541:G:H21	45:S2:1570:A:H62	1.06	0.92
71:SZ:48:VAL:HG21	71:SZ:53:ASP:HB2	1.50	0.92
45:S2:220:A:N6	45:S2:841:U:N3	2.17	0.91
54:SI:63:ARG:HG2	54:SI:67:MET:HE3	1.51	0.91
1:LA:406:G:O2'	3:LC:16:G:N2	2.03	0.90
45:S2:1402:G:P	52:SG:5:ARG:HH12	1.95	0.90
12:LL:87:LEU:HD23	12:LL:138:VAL:HG22	1.54	0.90
1:LA:527:U:H3	1:LA:563:G:H1	1.19	0.89
30:Ld:16:ALA:O	30:Ld:20:GLY:HA3	1.73	0.89
71:SZ:29:HIS:HB2	71:SZ:41:ARG:HA	1.55	0.88
2:LB:75:G:N2	2:LB:103:A:N1	2.21	0.88
45:S2:1552:U:C2	45:S2:1556:A:N6	2.41	0.88
54:SI:66:TYR:HB2	54:SI:124:ILE:HD12	1.53	0.88
1:LA:1119:A:N6	1:LA:1137:U:O2	2.06	0.88
45:S2:1541:G:N2	45:S2:1570:A:H62	1.71	0.88
1:LA:2449:G:N2	1:LA:2495:C:O2	2.07	0.88
5:LE:205:VAL:HG21	5:LE:322:ILE:HD11	1.55	0.87
45:S2:1179:G:H21	45:S2:1460:A:H62	0.89	0.87
45:S2:1479:A:H5''	54:SI:60:SER:HB2	1.55	0.87
45:S2:387:A:H2'	45:S2:402:C:H5'	1.56	0.87
28:Lb:133:LYS:O	28:Lb:135:ARG:NH1	2.07	0.86
10:LJ:190:VAL:HG23	10:LJ:192:GLN:HG3	1.56	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1471:A:N6	45:S2:1538:U:N3	2.23	0.85
45:S2:1483:A:N6	45:S2:1524:A:N7	2.25	0.85
45:S2:1616:G:O5'	57:SL:18:ARG:NH2	2.10	0.85
57:SL:60:GLU:HG3	71:SZ:61:MET:HE2	1.57	0.85
60:SO:122:ILE:HG22	60:SO:134:TRP:HB2	1.59	0.85
1:LA:1723:U:H1'	1:LA:1724:C:H5	1.39	0.85
1:LA:1121:U:H3	1:LA:1135:A:N6	1.72	0.85
46:SA:106:LYS:HE3	46:SA:173:ARG:HB3	1.59	0.85
1:LA:1645:G:H21	1:LA:1808:A:H62	0.85	0.84
1:LA:759:G:O2'	1:LA:769:G:N2	2.09	0.84
45:S2:868:G:H1	45:S2:960:U:H3	1.26	0.84
1:LA:3382:G:H21	32:Lf:105:GLN:HG2	1.42	0.84
1:LA:1332:C:H5''	9:LI:110:ARG:HD3	1.58	0.83
73:Sb:81:VAL:O	73:Sb:122:SER:OG	1.96	0.83
45:S2:821:U:H3	45:S2:852:C:H42	0.86	0.83
66:SU:81:LEU:O	66:SU:85:PHE:HB2	1.78	0.83
14:LN:119:TYR:O	14:LN:123:ILE:HG23	1.78	0.83
45:S2:1471:A:N6	45:S2:1538:U:C2	2.47	0.82
45:S2:1219:A:N6	45:S2:1264:G:N2	2.24	0.82
45:S2:1728:A:H1'	67:SV:32:GLN:HE22	1.44	0.82
45:S2:643:G:N2	45:S2:691:C:O2	2.13	0.81
4:LD:27:ALA:O	4:LD:128:ARG:NH2	2.11	0.81
1:LA:406:G:HO2'	3:LC:16:G:H22	1.17	0.81
47:SB:209:TYR:HA	47:SB:212:LYS:HE2	1.63	0.81
45:S2:931:C:H5'	62:SQ:116:LYS:HB3	1.63	0.81
23:LW:99:LYS:HG3	23:LW:102:GLU:HG3	1.60	0.81
53:SH:101:LEU:H	53:SH:104:ASN:HB2	1.43	0.81
1:LA:1815:A:H2'	1:LA:1816:G:H8	1.45	0.81
47:SB:144:GLU:HB2	57:SL:57:MET:CE	2.10	0.81
60:SO:263:PHE:CE1	60:SO:268:GLN:HA	2.16	0.81
3:LC:97:A:O2'	36:Lj:59:ASN:OD1	1.99	0.81
71:SZ:72:LYS:HA	71:SZ:72:LYS:HE3	1.62	0.80
1:LA:1393:A:N6	1:LA:1415:C:O2	2.14	0.80
1:LA:394:G:H22	1:LA:397:A:H5'	1.47	0.80
13:LM:118:PRO:HD3	53:SH:103:ASN:HD21	1.44	0.80
53:SH:101:LEU:HD23	53:SH:103:ASN:H	1.46	0.80
52:SG:35:CYS:HA	52:SG:38:ILE:HG22	1.61	0.80
1:LA:791:G:H5''	29:Lc:2:PRO:HG3	1.62	0.80
46:SA:32:GLU:OE1	46:SA:32:GLU:N	2.14	0.79
3:LC:14:C:H4'	18:LR:123:PRO:HG3	1.64	0.79
45:S2:1047:G:H1	45:S2:1071:U:H3	1.29	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LN:3:ILE:HG21	29:Lc:45:MET:HE3	1.64	0.79
63:SR:95:ARG:NH1	63:SR:97:ARG:HH11	1.80	0.79
45:S2:1542:G:H22	45:S2:1568:C:H42	1.31	0.79
45:S2:893:U:H3	45:S2:919:A:N6	1.80	0.79
19:LS:170:ARG:HD2	29:Lc:57:GLY:HA3	1.63	0.79
51:SF:41:PRO:HD2	51:SF:45:ARG:HB2	1.65	0.79
1:LA:2355:A:H61	1:LA:2982:C:H5	1.29	0.78
22:LV:108:ARG:O	22:LV:112:ASN:ND2	2.16	0.78
64:SS:191:ARG:HH21	64:SS:245:LYS:HB3	1.47	0.78
56:SK:65:LEU:O	56:SK:69:LEU:HB2	1.83	0.78
67:SV:49:ARG:O	67:SV:52:ASN:ND2	2.15	0.78
45:S2:1543:A:H62	45:S2:1567:U:H3	1.28	0.78
65:ST:50:PHE:HB3	65:ST:111:LEU:HD22	1.65	0.78
28:Lb:89:VAL:HG12	28:Lb:93:LYS:HE3	1.64	0.78
45:S2:1296:A:OP1	61:SP:138:TYR:OH	2.00	0.78
45:S2:1673:G:O6	45:S2:1728:A:N1	2.17	0.78
45:S2:557:G:N2	45:S2:586:G:O6	2.16	0.78
45:S2:1585:U:H5''	45:S2:1610:G:H22	1.49	0.78
6:LF:126:ILE:O	6:LF:129:THR:OG1	2.01	0.77
54:SI:38:LYS:O	54:SI:43:ASN:ND2	2.17	0.77
60:SO:198:ASN:HD21	60:SO:216:LYS:NZ	1.82	0.77
21:LU:48:LEU:HD12	22:LV:151:LEU:HD23	1.66	0.77
80:Tb:14:A:H61	80:Tb:23:G:H1	1.29	0.77
1:LA:234:G:N2	1:LA:235:A:N7	2.33	0.77
4:LD:39:GLY:HA2	4:LD:93:LYS:HG3	1.66	0.77
45:S2:1503:A:N6	45:S2:1564:U:O2'	2.18	0.77
46:SA:39:VAL:HG22	46:SA:48:VAL:HG22	1.64	0.77
63:SR:81:MET:HG2	63:SR:211:LEU:HD11	1.66	0.77
46:SA:29:LEU:HA	46:SA:32:GLU:OE2	1.85	0.77
5:LE:10:ARG:NH2	5:LE:263:SER:O	2.18	0.76
45:S2:930:A:N3	62:SQ:111:ARG:NH2	2.34	0.76
52:SG:82:ASP:O	61:SP:84:ARG:NH2	2.18	0.76
1:LA:3048:A:H5''	5:LE:53:MET:HB2	1.67	0.76
47:SB:208:SER:O	47:SB:212:LYS:HG3	1.86	0.76
64:SS:60:GLU:OE2	64:SS:60:GLU:N	2.14	0.76
5:LE:152:LYS:HG2	5:LE:192:VAL:HG11	1.68	0.76
61:SP:17:LEU:HD21	61:SP:176:LEU:HD11	1.66	0.76
66:SU:127:GLU:HG3	66:SU:135:ILE:HG13	1.67	0.76
10:LJ:98:ARG:NH1	10:LJ:188:THR:O	2.16	0.75
46:SA:103:GLU:HG3	46:SA:107:PHE:CZ	2.21	0.75
55:SJ:58:LEU:HD12	55:SJ:88:LYS:HB2	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LK:93:VAL:HG22	41:Lo:82:LEU:HG	1.67	0.75
15:LO:135:LEU:HD21	17:LQ:178[A]:VAL:HG22	1.69	0.75
45:S2:1531:G:H5'	56:SK:81:ARG:HH21	1.51	0.75
1:LA:3348:C:H42	1:LA:3355:G:H22	1.32	0.75
4:LD:80:GLU:HG3	4:LD:168:VAL:HG23	1.68	0.75
45:S2:992:A:O2'	45:S2:1785:U:O2	2.02	0.75
45:S2:1047:G:OP2	62:SQ:157:GLN:NE2	2.19	0.75
1:LA:511:U:H3	1:LA:578:G:H1	1.33	0.75
9:LI:141:TYR:HD1	9:LI:189:ILE:HD13	1.52	0.75
64:SS:35:PRO:HD2	64:SS:83:PRO:HG2	1.67	0.75
45:S2:900:A:O2'	45:S2:916:U:O2'	2.04	0.75
1:LA:521:A:H62	1:LA:569:A:H61	1.34	0.74
1:LA:764:C:N4	14:LN:176:GLU:OE2	2.20	0.74
64:SS:104:ASP:OD1	64:SS:108:ARG:N	2.18	0.74
71:SZ:99:GLN:NE2	76:Se:44:ILE:O	2.19	0.74
1:LA:1173:G:HO2'	17:LQ:21[A]:SER:HG	1.34	0.74
6:LF:286:VAL:HG21	19:LS:28:LEU:HB3	1.68	0.74
45:S2:152:U:O2	65:ST:4:ASN:ND2	2.19	0.74
45:S2:1673:G:N1	45:S2:1728:A:C2	2.52	0.74
15:LO:38:ILE:HA	15:LO:44:VAL:HG12	1.69	0.74
66:SU:61:PHE:HB3	66:SU:95:GLU:HG2	1.70	0.74
1:LA:2766:U:O2'	43:Lq:30:ALA:O	2.05	0.74
67:SV:58:LEU:O	67:SV:59:ARG:HG2	1.87	0.74
1:LA:3233:A:N1	1:LA:3252:G:N2	2.32	0.74
45:S2:557:G:OP1	78:Sg:55:ARG:NH2	2.21	0.74
23:LW:22:PRO:HB2	23:LW:28:PHE:HB2	1.70	0.74
45:S2:1476:C:H2'	45:S2:1477:G:H8	1.52	0.74
64:SS:250:GLU:O	64:SS:254:ARG:NE	2.21	0.74
1:LA:2149:G:O2'	1:LA:2188:U:OP1	2.04	0.74
1:LA:2525:C:OP1	4:LD:37:ARG:NH1	2.22	0.73
45:S2:148:A:N6	45:S2:166:C:O2	2.20	0.73
45:S2:142:G:H1	45:S2:173:A:N6	1.85	0.73
13:LM:30:LEU:HD11	13:LM:47:GLN:HG2	1.69	0.73
33:Lg:98:HIS:O	33:Lg:125:ARG:NH2	2.19	0.73
1:LA:654:C:H2'	1:LA:655:A:H8	1.53	0.73
1:LA:735:A:C5	1:LA:736:G:H1'	2.24	0.73
1:LA:2968:A:N7	4:LD:215:ASN:ND2	2.35	0.73
27:La:22:ALA:O	27:La:27:ARG:NH1	2.21	0.73
43:Lq:36:PHE:O	43:Lq:41:ARG:NH1	2.22	0.73
45:S2:1228:G:O2'	59:SN:102:VAL:HG22	1.89	0.73
56:SK:57:TYR:HE1	56:SK:68:ARG:NE	1.86	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SJ:23:ARG:HB3	55:SJ:117:VAL:HG23	1.70	0.73
45:S2:1588:G:H1	45:S2:1608:U:H3	0.81	0.73
1:LA:617:C:OP1	18:LR:173:ARG:NH2	2.22	0.73
1:LA:814:G:OP2	38:Ll:31:LYS:NZ	2.20	0.73
1:LA:1678:A:OP1	23:LW:94:ARG:NH1	2.22	0.73
43:Lq:65:THR:O	43:Lq:87:ARG:NH1	2.22	0.73
62:SQ:201:THR:HG21	62:SQ:207:LEU:HD22	1.68	0.72
45:S2:1789:G:OP2	71:SZ:132:ARG:NH2	2.22	0.72
49:SD:32:LEU:HD21	49:SD:102:GLY:HA3	1.71	0.72
45:S2:1542:G:H4'	45:S2:1543:A:H5'	1.70	0.72
17:LQ:12[A]:LYS:HD3	17:LQ:37[A]:ARG:HH21	1.54	0.72
45:S2:167:U:OP1	65:ST:140:ASN:ND2	2.22	0.72
46:SA:132:LYS:HZ2	46:SA:192:PRO:HD2	1.53	0.72
15:LO:50:LYS:HD3	15:LO:50:LYS:N	2.03	0.72
53:SH:70:VAL:HG13	53:SH:73:MET:HE3	1.70	0.72
1:LA:1808:A:OP1	28:Lb:65:ARG:NH1	2.22	0.72
61:SP:120:LEU:HD12	61:SP:142:PRO:HB2	1.71	0.72
63:SR:78:ASP:HB3	63:SR:104:VAL:HG22	1.72	0.72
1:LA:875:A:H5''	1:LA:1889:U:H5''	1.72	0.72
1:LA:3032:A:O2'	11:LK:169:ASN:OD1	2.08	0.72
45:S2:643:G:N1	45:S2:691:C:N3	2.37	0.72
45:S2:1647:U:H2'	45:S2:1648:A:C8	2.24	0.72
45:S2:563:U:O2'	78:Sg:13:LYS:NZ	2.22	0.72
77:Sf:67:THR:OG1	77:Sf:70:LYS:O	2.07	0.72
1:LA:19:U:H4'	16:LP:138:GLN:HG3	1.72	0.72
1:LA:1039:A:O2'	1:LA:1040:U:O2	2.08	0.72
9:LI:168:ILE:O	9:LI:172:ASN:ND2	2.22	0.72
62:SQ:207:LEU:O	62:SQ:210:ILE:HD11	1.88	0.72
1:LA:2176:G:OP2	4:LD:128:ARG:NH1	2.23	0.71
1:LA:2837:A:OP1	12:LL:154:ARG:NH2	2.22	0.71
2:LB:7:G:OP1	7:LG:33:ARG:NH1	2.23	0.71
14:LN:48:PRO:HG2	36:Lj:115:LYS:HE3	1.71	0.71
24:LX:54:LEU:HD21	24:LX:119:GLY:HA3	1.70	0.71
45:S2:614:C:OP2	74:Sc:5:LYS:NZ	2.23	0.71
45:S2:1158:C:H42	45:S2:1163:A:H61	1.36	0.71
64:SS:181:VAL:HA	64:SS:227:VAL:HA	1.72	0.71
67:SV:40:ALA:O	67:SV:59:ARG:HG3	1.89	0.71
14:LN:172:LEU:O	14:LN:176:GLU:HG2	1.90	0.71
31:Le:53:LYS:NZ	31:Le:57:GLU:OE2	2.23	0.71
1:LA:1793:G:H4'	4:LD:191:LEU:HD21	1.70	0.71
1:LA:3021:G:O2'	1:LA:3030:G:O6	2.08	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:58:U:O2'	45:S2:451:A:N1	2.22	0.71
45:S2:893:U:N3	45:S2:919:A:N6	2.37	0.71
45:S2:1467:C:O2'	54:SI:88:VAL:O	2.08	0.71
71:SZ:40:ALA:HB2	71:SZ:70:LYS:HG2	1.72	0.71
45:S2:550:A:N1	78:Sg:57:ASN:ND2	2.38	0.71
45:S2:900:A:H2'	45:S2:901:G:H8	1.55	0.71
60:SO:135:THR:HG22	60:SO:137:LYS:H	1.54	0.71
1:LA:405:U:O2'	1:LA:1394:G:N2	2.23	0.71
1:LA:522:A:H62	1:LA:568:A:H2	1.37	0.71
1:LA:2513:U:OP2	1:LA:2585:G:N2	2.22	0.71
45:S2:752:A:N1	45:S2:797:G:N2	2.32	0.71
47:SB:143:ARG:HG2	57:SL:57:MET:HE2	1.73	0.71
54:SI:66:TYR:HD1	54:SI:124:ILE:HG21	1.55	0.71
54:SI:68:ARG:HE	54:SI:68:ARG:HA	1.56	0.71
1:LA:2269:A:H2'	1:LA:2270:A:C8	2.25	0.71
8:LH:75:PRO:HA	8:LH:138:GLN:HE22	1.55	0.71
60:SO:263:PHE:CZ	60:SO:268:GLN:HA	2.25	0.71
50:SE:44:ARG:HH22	50:SE:83:MET:HA	1.55	0.71
4:LD:104:LEU:HD11	4:LD:158:ILE:HD11	1.71	0.71
45:S2:894:U:H2'	45:S2:895:G:H8	1.56	0.71
69:SX:109:VAL:HG12	69:SX:137:PHE:HB2	1.71	0.71
1:LA:713:G:HO2'	1:LA:752:C:HO2'	1.37	0.70
7:LG:41:LYS:HE3	22:LV:93:VAL:HG11	1.73	0.70
1:LA:1625:U:O4	1:LA:1816:G:O6	2.09	0.70
66:SU:16:LEU:O	66:SU:20:VAL:HG23	1.91	0.70
1:LA:2702:A:N6	7:LG:28:THR:O	2.25	0.70
45:S2:959:U:H6	70:SY:61:THR:HG1	1.38	0.70
45:S2:1588:G:N2	45:S2:1608:U:O2	2.23	0.70
55:SJ:82:TYR:HB3	58:SM:52:PHE:HB3	1.73	0.70
6:LF:178:LEU:HD11	6:LF:222:VAL:HG12	1.73	0.70
67:SV:81:VAL:HG12	67:SV:102:VAL:HG12	1.73	0.70
1:LA:2879:U:OP1	24:LX:47:ASN:ND2	2.24	0.70
47:SB:182:ALA:O	47:SB:186:ASN:ND2	2.25	0.70
74:Sc:75:GLN:NE2	74:Sc:80:GLY:O	2.25	0.70
45:S2:271:A:N6	45:S2:285:G:C2	2.59	0.70
45:S2:475:A:OP2	68:SW:126:ARG:NH1	2.23	0.70
62:SQ:24:PHE:CE2	71:SZ:70:LYS:HE3	2.26	0.70
1:LA:1663:G:H1	1:LA:1784:U:H3	1.39	0.70
1:LA:3151:U:H5'	1:LA:3292:U:H1'	1.74	0.70
13:LM:116:TYR:HD1	53:SH:103:ASN:OD1	1.75	0.70
19:LS:99:THR:O	19:LS:119:GLY:HA3	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:139:C:H42	45:S2:175:G:H21	1.37	0.70
1:LA:1900:A:O2'	1:LA:2917:G:OP1	2.08	0.70
16:LP:96:ARG:NH2	16:LP:104:GLU:OE1	2.24	0.70
45:S2:142:G:N1	45:S2:173:A:N6	2.40	0.70
1:LA:1617:G:O2'	3:LC:126:A:N1	2.24	0.69
1:LA:2184:G:O2'	1:LA:2313:U:OP2	2.08	0.69
4:LD:147:ARG:HG2	4:LD:157:VAL:HG22	1.74	0.69
11:LK:92:TYR:HB2	11:LK:142:ASP:HB3	1.72	0.69
1:LA:2205:G:O2'	1:LA:2207:A:N7	2.25	0.69
50:SE:39:ALA:HA	50:SE:42:ARG:HD3	1.74	0.69
31:Le:18:ILE:HD11	31:Le:81:VAL:HG13	1.74	0.69
45:S2:1601:G:OP1	54:SI:86:ARG:NH1	2.24	0.69
47:SB:109:LYS:O	47:SB:113:ILE:HD12	1.92	0.69
5:LE:304:THR:HG22	5:LE:306:THR:H	1.54	0.69
45:S2:1471:A:H2	45:S2:1474:G:H21	1.41	0.69
64:SS:61:VAL:O	64:SS:65:LEU:HD12	1.93	0.69
2:LB:64:A:N7	12:LL:209:ASN:ND2	2.40	0.69
63:SR:101:VAL:HG22	63:SR:115:ILE:HG12	1.73	0.69
75:Sd:15:ASN:HD21	75:Sd:20:ARG:NH1	1.89	0.69
1:LA:2652:C:O2'	1:LA:2656:A:N1	2.22	0.69
45:S2:145:A:N6	45:S2:168:A:OP2	2.26	0.69
45:S2:399:A:H4'	64:SS:3:ARG:HG2	1.75	0.69
56:SK:89:ILE:O	56:SK:90:LYS:HE2	1.92	0.69
1:LA:696:A:HO2'	1:LA:697:U:H6	1.38	0.69
7:LG:182:GLY:HA2	7:LG:194:LEU:HD23	1.75	0.69
45:S2:1483:A:H5''	51:SF:71:GLY:HA2	1.74	0.69
45:S2:1647:U:H2'	45:S2:1648:A:H8	1.57	0.69
79:Ta:14:A:H62	79:Ta:23:G:H21	1.37	0.69
1:LA:895:A:H5''	4:LD:183:GLY:HA2	1.74	0.69
3:LC:43:A:H62	38:Ll:65:ARG:HH12	1.39	0.69
45:S2:1673:G:N1	45:S2:1728:A:H2	1.88	0.69
47:SB:162:VAL:HG13	57:SL:54:LEU:HD11	1.73	0.69
50:SE:61:ARG:NH1	50:SE:88:GLU:OE1	2.25	0.69
53:SH:75:ASN:HB3	53:SH:78:HIS:HB3	1.75	0.69
61:SP:21:ASN:HB3	61:SP:24:LEU:HD12	1.74	0.69
2:LB:77:G:N2	2:LB:102:A:OP2	2.22	0.69
13:LM:131:MET:HA	13:LM:131:MET:HE2	1.74	0.69
47:SB:92:ARG:NH2	47:SB:169:ASN:OD1	2.22	0.69
1:LA:654:C:H2'	1:LA:655:A:C8	2.28	0.68
45:S2:752:A:N6	45:S2:797:G:N1	2.12	0.68
64:SS:250:GLU:HB3	64:SS:254:ARG:NH2	2.08	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3311:U:H4'	5:LE:25:ILE:HG12	1.75	0.68
7:LG:41:LYS:NZ	22:LV:32:LYS:O	2.26	0.68
19:LS:122:ILE:HG23	19:LS:126:GLN:HB2	1.74	0.68
28:Lb:50:PRO:HD3	28:Lb:68:ILE:HG12	1.75	0.68
40:Ln:27:ILE:HA	40:Ln:30:ARG:HG3	1.75	0.68
45:S2:325:G:H4'	69:SX:83:THR:HG21	1.73	0.68
45:S2:1142:A:H5''	76:Se:2:PRO:HB3	1.74	0.68
45:S2:1143:A:N6	45:S2:1631:A:OP2	2.25	0.68
45:S2:1541:G:H21	45:S2:1570:A:N6	1.87	0.68
62:SQ:105:PHE:HE1	62:SQ:109:LYS:CG	2.06	0.68
31:Le:73:GLY:N	31:Le:76:GLU:OE1	2.21	0.68
1:LA:439:C:H1'	1:LA:493:G:H21	1.58	0.68
45:S2:956:C:O3'	45:S2:1047:G:N2	2.26	0.68
66:SU:170:GLN:NE2	66:SU:181:ILE:O	2.26	0.68
75:Sd:53:ASP:HB3	75:Sd:96:LEU:HD21	1.75	0.68
5:LE:17:LEU:HD11	5:LE:233:TRP:HH2	1.59	0.68
10:LJ:226:TYR:OH	37:Lk:46:GLU:OE2	2.12	0.68
45:S2:1677:C:OP1	67:SV:42:ARG:NH1	2.25	0.68
47:SB:98:MET:HE1	47:SB:107:LYS:HG2	1.75	0.68
50:SE:86:VAL:HG23	50:SE:89:MET:HE1	1.76	0.68
60:SO:134:TRP:HD1	60:SO:140:CYS:HA	1.58	0.68
71:SZ:72:LYS:NZ	71:SZ:77:THR:HA	2.08	0.68
1:LA:104:G:H4'	1:LA:697:U:H3	1.57	0.68
1:LA:181:U:O2'	38:Li:75:LYS:NZ	2.26	0.68
1:LA:1217:U:O2'	1:LA:1222:A:OP1	2.10	0.68
1:LA:3270:G:C4	8:LH:108:LYS:HD2	2.29	0.68
45:S2:332:U:OP1	67:SV:31:ARG:NE	2.25	0.68
66:SU:64:VAL:HG23	66:SU:67:LEU:HB2	1.75	0.68
1:LA:1342:A:H2'	1:LA:1343:G:H8	1.59	0.68
2:LB:52:G:N2	13:LM:9:MET:SD	2.66	0.68
45:S2:473:A:OP1	68:SW:44:ARG:NH1	2.27	0.68
45:S2:1755:A:O2'	45:S2:1756:A:O4'	2.11	0.68
47:SB:143:ARG:CG	57:SL:57:MET:HE2	2.24	0.68
72:Sa:21:ASN:HB3	73:Sb:67:GLY:HA3	1.76	0.68
1:LA:2959:C:H2'	1:LA:2960:G:C8	2.29	0.68
53:SH:113:LEU:HD12	53:SH:117:LYS:HZ1	1.58	0.68
1:LA:1655:A:OP2	35:Li:37:LYS:NZ	2.26	0.67
26:LZ:29:SER:OG	26:LZ:31:THR:OG1	2.10	0.67
28:Lb:57:HIS:HB2	28:Lb:62:VAL:HG23	1.76	0.67
68:SW:127:VAL:HA	68:SW:130:THR:HG22	1.75	0.67
69:SX:94:ILE:HD11	69:SX:101:GLU:OE1	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:153:U:H4'	1:LA:158:G:H4'	1.76	0.67
1:LA:2571:C:H3'	1:LA:2572:G:H4'	1.76	0.67
29:Lc:104:THR:HG21	29:Lc:112:ILE:HD11	1.75	0.67
66:SU:90:VAL:O	66:SU:91:ILE:HD13	1.94	0.67
1:LA:3041:U:OP2	1:LA:3091:C:N4	2.26	0.67
1:LA:3091:C:O2'	1:LA:3093:A:OP2	2.11	0.67
45:S2:438:A:H1'	45:S2:465:G:H22	1.59	0.67
45:S2:637:C:O2	66:SU:114:ARG:NH2	2.21	0.67
45:S2:990:C:H5''	71:SZ:129:LYS:HB2	1.75	0.67
45:S2:1315:U:OP1	45:S2:1328:G:N2	2.24	0.67
49:SD:60:VAL:HG22	49:SD:122:VAL:HG12	1.76	0.67
60:SO:263:PHE:CE2	60:SO:265:LEU:HA	2.29	0.67
63:SR:223:GLY:HA3	72:Sa:25:LYS:HE3	1.77	0.67
66:SU:91:ILE:HG21	66:SU:129:LEU:HD12	1.76	0.67
1:LA:1660:G:H2'	1:LA:1661:G:C8	2.29	0.67
1:LA:2895:A:OP1	41:Lo:102:ARG:NH1	2.28	0.67
3:LC:103:G:OP2	3:LC:105:A:O2'	2.12	0.67
6:LF:114:ASN:HB2	6:LF:117:GLU:HG3	1.77	0.67
6:LF:300:ARG:O	19:LS:39:ARG:NH1	2.27	0.67
13:LM:96:PHE:HB2	13:LM:156:LYS:HE2	1.76	0.67
19:LS:95:GLU:N	19:LS:95:GLU:OE2	2.28	0.67
53:SH:123:ARG:HG3	53:SH:133:VAL:HG21	1.75	0.67
72:Sa:25:LYS:HB2	72:Sa:28:ASP:HB2	1.76	0.67
1:LA:271:C:O2	37:Lk:82:ARG:NH2	2.27	0.67
1:LA:768:G:O2'	14:LN:168:ARG:NH1	2.27	0.67
13:LM:106:ILE:HG12	13:LM:127:PHE:HE1	1.57	0.67
45:S2:1452:U:H1'	50:SE:79:HIS:HD2	1.60	0.67
64:SS:139:VAL:HG13	64:SS:150:PRO:HG3	1.74	0.67
10:LJ:162:LEU:HA	16:LP:7:LEU:HD11	1.77	0.67
45:S2:1146:G:H2'	45:S2:1147:A:C8	2.30	0.67
50:SE:54:ALA:HA	50:SE:57:MET:HE2	1.75	0.67
65:ST:131:LYS:O	65:ST:160:ARG:NH2	2.28	0.67
1:LA:663:U:H2'	1:LA:664:A:C8	2.30	0.67
1:LA:1720:U:O2'	1:LA:1722:A:N7	2.25	0.67
1:LA:2584:G:O6	10:LJ:47:SER:OG	2.12	0.67
45:S2:435:C:H5''	74:Sc:50:LYS:HE3	1.76	0.67
9:LI:39:GLU:O	9:LI:43:ILE:HG13	1.95	0.67
22:LV:84:TYR:HB2	30:Ld:24:PRO:HD3	1.75	0.67
67:SV:119:GLN:N	67:SV:119:GLN:OE1	2.28	0.67
13:LM:54:VAL:HG13	13:LM:57:PHE:HB2	1.77	0.67
45:S2:610:G:OP2	74:Sc:19:ARG:NE	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:818:C:N4	45:S2:819:G:O6	2.28	0.67
45:S2:1610:G:H5'	47:SB:107:LYS:HG3	1.77	0.67
68:SW:20:GLU:O	68:SW:24:LEU:HG	1.95	0.67
68:SW:80:LEU:HD12	68:SW:86:LEU:HB2	1.77	0.67
1:LA:1665:G:H1	1:LA:1782:U:H3	1.43	0.67
25:LY:45:ASN:HB3	25:LY:48:ARG:HG3	1.77	0.67
45:S2:397:A:H4'	67:SV:50:GLY:HA2	1.77	0.67
45:S2:871:G:H2'	45:S2:872:G:C8	2.30	0.67
45:S2:1552:U:C2	45:S2:1556:A:C6	2.83	0.67
64:SS:195:ILE:HG22	64:SS:210:ILE:HD13	1.77	0.67
68:SW:75:ALA:O	68:SW:79:ARG:HG3	1.94	0.67
6:LF:35:VAL:HG21	6:LF:244:LEU:HD21	1.77	0.66
45:S2:570:A:N6	74:Sc:116:ASP:OD1	2.28	0.66
65:ST:51:LYS:HB3	65:ST:112:VAL:HG13	1.77	0.66
68:SW:123:HIS:NE2	78:Sg:37:ARG:HG3	2.10	0.66
1:LA:1202:A:H2'	1:LA:1203:A:C8	2.29	0.66
49:SD:73:LYS:HZ3	59:SN:109:ASP:H	1.41	0.66
50:SE:96:ILE:HD11	50:SE:116:LEU:HG	1.77	0.66
63:SR:45:VAL:HG21	63:SR:68:ILE:HG23	1.78	0.66
73:Sb:15:ASN:ND2	73:Sb:72:CYS:O	2.28	0.66
1:LA:394:G:N1	1:LA:397:A:OP2	2.23	0.66
1:LA:2699:G:O2'	1:LA:2704:A:N1	2.25	0.66
1:LA:2863:A:H5''	12:LL:114:GLY:HA2	1.78	0.66
21:LU:132:THR:HG22	21:LU:144:LEU:HD13	1.76	0.66
29:Lc:38:GLN:O	29:Lc:42:ARG:NH1	2.29	0.66
47:SB:42:LEU:HD12	47:SB:43:PHE:H	1.61	0.66
80:Tb:26:C:H2'	80:Tb:27:G:H8	1.60	0.66
25:LY:6:ASP:OD2	25:LY:32:GLN:N	2.21	0.66
26:LZ:50:ALA:HB1	36:Lj:66:VAL:HG11	1.76	0.66
61:SP:8:ASP:OD1	61:SP:8:ASP:N	2.22	0.66
15:LO:48:GLY:HA3	15:LO:53:VAL:HB	1.76	0.66
45:S2:932:U:O2	76:Se:32:LYS:NZ	2.28	0.66
51:SF:31:VAL:HG12	51:SF:67:VAL:HB	1.76	0.66
62:SQ:27:LYS:NZ	62:SQ:49:ASN:OD1	2.27	0.66
64:SS:79:ASP:HB3	64:SS:82:TYR:HB2	1.77	0.66
1:LA:993:G:N2	1:LA:994:U:O4	2.22	0.66
1:LA:1119:A:N6	1:LA:1137:U:N3	2.38	0.66
54:SI:77:ASN:OD1	54:SI:101:ASN:ND2	2.25	0.66
65:ST:74:LYS:HE3	65:ST:96:SER:HB2	1.77	0.66
1:LA:1342:A:H2'	1:LA:1343:G:C8	2.30	0.66
11:LK:41:ILE:HG21	11:LK:71:VAL:HG11	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1065:A:O2'	62:SQ:146:GLN:NE2	2.28	0.66
66:SU:115:SER:OG	66:SU:116:ARG:NH1	2.29	0.66
39:Lm:7:ASP:HB3	39:Lm:10:GLN:HB2	1.78	0.66
45:S2:299:A:OP1	64:SS:30:ARG:NH2	2.27	0.66
45:S2:1164:G:H2'	45:S2:1165:G:H8	1.61	0.66
45:S2:1458:G:H21	50:SE:126:VAL:HG11	1.61	0.66
47:SB:173:ALA:O	47:SB:177:ILE:HG13	1.95	0.66
64:SS:185:GLY:HA3	64:SS:224:ASN:ND2	2.10	0.66
1:LA:181:U:H4'	38:Ll:75:LYS:HD3	1.77	0.66
32:Lf:44:MET:HE3	32:Lf:75:ILE:HB	1.77	0.66
60:SO:179:LYS:HB3	60:SO:181:TRP:HE1	1.61	0.66
67:SV:69:SER:OG	69:SX:24:LYS:NZ	2.28	0.66
1:LA:2836:A:O2'	1:LA:2849:G:N2	2.29	0.65
45:S2:1047:G:C5	45:S2:1048:G:H1'	2.31	0.65
45:S2:1674:C:OP1	65:ST:92:ARG:NH1	2.26	0.65
46:SA:168:ILE:HD12	46:SA:187:LYS:HE2	1.76	0.65
10:LJ:169:LEU:HA	37:Lk:43:LEU:HD11	1.78	0.65
56:SK:77:ARG:HB3	56:SK:81:ARG:HH12	1.61	0.65
1:LA:3296:U:H2'	1:LA:3297:C:H6	1.61	0.65
45:S2:900:A:H2'	45:S2:901:G:C8	2.30	0.65
45:S2:1346:A:O4'	45:S2:1371:A:N6	2.29	0.65
65:ST:78:THR:HG23	65:ST:92:ARG:HD2	1.78	0.65
3:LC:154:C:H5''	10:LJ:181:LYS:HG2	1.79	0.65
12:LL:72:ALA:HB2	12:LL:155:ALA:HB2	1.79	0.65
45:S2:263:C:O2'	45:S2:291:G:O2'	2.13	0.65
45:S2:1303:U:O2'	45:S2:1322:A:OP2	2.15	0.65
62:SQ:2:ALA:N	71:SZ:49:LYS:O	2.29	0.65
64:SS:129:VAL:HG13	64:SS:139:VAL:HG12	1.78	0.65
69:SX:78:THR:HA	69:SX:84:ILE:HG22	1.79	0.65
71:SZ:20:TYR:HB3	71:SZ:27:PHE:HB2	1.79	0.65
1:LA:1723:U:H1'	1:LA:1724:C:C5	2.28	0.65
38:Ll:25:ARG:HH12	40:Ln:50:ASN:HB3	1.60	0.65
45:S2:142:G:N2	45:S2:173:A:N1	2.45	0.65
45:S2:448:C:OP1	64:SS:49:ARG:NH2	2.25	0.65
68:SW:107:ARG:NH2	68:SW:150:LEU:HD23	2.12	0.65
1:LA:68:C:OP2	1:LA:301:G:N2	2.30	0.65
10:LJ:74:THR:O	10:LJ:77:GLN:NE2	2.29	0.65
36:Lj:27:GLU:OE2	36:Lj:43:LYS:NZ	2.30	0.65
45:S2:1085:G:N2	45:S2:1088:A:OP2	2.27	0.65
1:LA:1287:U:H2'	1:LA:1288:G:C8	2.31	0.65
7:LG:85:ARG:NH2	7:LG:250:ASP:OD2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LT:136:ARG:O	20:LT:140:GLU:HG3	1.97	0.65
34:Lh:14:LEU:HD11	34:Lh:31:LYS:HB3	1.78	0.65
45:S2:15:U:O2'	45:S2:620:A:N6	2.30	0.65
68:SW:107:ARG:HH21	68:SW:150:LEU:HD23	1.61	0.65
45:S2:1215:C:N4	45:S2:1446:A:OP2	2.28	0.65
45:S2:1679:G:N2	45:S2:1722:A:C6	2.65	0.65
64:SS:80:THR:HG23	64:SS:81:THR:HG23	1.80	0.65
1:LA:876:C:O2'	1:LA:879:G:O2'	2.15	0.64
1:LA:2286:C:OP1	79:Ta:74:A:N6	2.29	0.64
13:LM:118:PRO:HD3	53:SH:103:ASN:ND2	2.12	0.64
55:SJ:69:LYS:HE2	55:SJ:80:GLU:HB3	1.78	0.64
60:SO:169:ILE:HD12	60:SO:181:TRP:CE3	2.32	0.64
71:SZ:92:LYS:HD2	71:SZ:121:VAL:HG22	1.79	0.64
1:LA:506:U:H2'	1:LA:507:U:C6	2.32	0.64
1:LA:2795:G:N7	43:Lq:63:LYS:NZ	2.41	0.64
10:LJ:74:THR:HG22	10:LJ:164:VAL:HG22	1.79	0.64
23:LW:18:ASP:HB3	23:LW:104:ARG:HB2	1.78	0.64
66:SU:63:PRO:HB2	66:SU:65:PRO:HD3	1.79	0.64
66:SU:64:VAL:HB	66:SU:94:ALA:HB1	1.79	0.64
23:LW:99:LYS:HE3	23:LW:102:GLU:HG3	1.79	0.64
45:S2:424:C:O2'	45:S2:426:G:OP1	2.12	0.64
45:S2:1383:G:OP1	55:SJ:89:ARG:NH2	2.31	0.64
47:SB:46:TRP:CD1	47:SB:129:PRO:HG2	2.32	0.64
18:LR:10:ASN:HD22	18:LR:13:LYS:HE2	1.61	0.64
22:LV:41:ASP:OD1	22:LV:61:THR:OG1	2.16	0.64
41:Lo:109:ASN:ND2	41:Lo:117:HIS:O	2.30	0.64
61:SP:117:GLU:OE1	63:SR:40:LYS:HG3	1.97	0.64
63:SR:80:VAL:HG11	63:SR:125:ILE:HD12	1.79	0.64
67:SV:77:ARG:HG2	67:SV:77:ARG:HH11	1.62	0.64
68:SW:94:ASP:OD1	68:SW:95:TYR:N	2.30	0.64
1:LA:2763:C:H42	80:Tb:77:A:H61	1.46	0.64
3:LC:62:C:OP1	36:Lj:48:ARG:NH2	2.29	0.64
60:SO:169:ILE:HG23	60:SO:183:LEU:HD22	1.80	0.64
1:LA:936:G:N2	1:LA:960:C:OP1	2.31	0.64
1:LA:1237:C:O2'	1:LA:1238:C:OP1	2.16	0.64
1:LA:1824:G:H5''	39:Lm:48:SER:HB3	1.79	0.64
12:LL:102:MET:N	12:LL:102:MET:SD	2.70	0.64
36:Lj:58:ILE:HG22	36:Lj:62:GLN:NE2	2.11	0.64
44:Lr:46:THR:OG1	44:Lr:57:CYS:SG	2.56	0.64
6:LF:187:LEU:HD22	6:LF:193:LYS:HD3	1.78	0.64
7:LG:83:LEU:HB3	7:LG:88:ILE:HB	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1241:G:OP1	50:SE:79:HIS:ND1	2.31	0.64
47:SB:134:VAL:O	47:SB:138:THR:HG23	1.98	0.64
1:LA:594:G:H1	1:LA:608:G:H5''	1.63	0.64
1:LA:2405:C:H2'	1:LA:2406:C:C6	2.33	0.64
20:LT:109:TYR:HB3	20:LT:115:ILE:HG12	1.80	0.64
26:LZ:96:LYS:HE2	26:LZ:107:VAL:HG22	1.80	0.64
31:Le:24:THR:HG23	31:Le:93:LEU:HD11	1.79	0.64
45:S2:1274:C:N4	79:Ta:35:A:N3	2.46	0.64
62:SQ:201:THR:HG21	62:SQ:207:LEU:HD13	1.79	0.64
63:SR:83:ILE:HD11	63:SR:125:ILE:HD11	1.80	0.64
67:SV:57:ALA:HB2	67:SV:177:GLY:HA2	1.79	0.64
1:LA:2536:U:O5'	62:SQ:227:ALA:N	2.31	0.64
4:LD:118:GLU:OE2	4:LD:156:LYS:NZ	2.30	0.64
5:LE:29:VAL:HG22	5:LE:218:ILE:HD13	1.80	0.64
9:LI:239:LEU:O	9:LI:243:MET:HG3	1.97	0.64
45:S2:761:G:H5''	68:SW:79:ARG:NH1	2.13	0.64
6:LF:129:THR:HG22	6:LF:246:ARG:O	1.98	0.64
64:SS:87:MET:HE3	64:SS:123:LEU:HB2	1.79	0.64
64:SS:194:THR:OG1	64:SS:231:GLN:NE2	2.26	0.64
1:LA:3071:C:H2'	1:LA:3072:A:O4'	1.97	0.63
29:Lc:139:ARG:HH21	29:Lc:145:VAL:HG12	1.63	0.63
46:SA:45:LYS:NZ	46:SA:82:GLY:O	2.28	0.63
57:SL:13:ILE:HD13	57:SL:31:GLU:HB2	1.80	0.63
11:LK:113:GLU:OE1	11:LK:115:ARG:NH1	2.32	0.63
45:S2:405:C:O2'	65:ST:92:ARG:O	2.16	0.63
1:LA:2835:C:H5	1:LA:2851:C:H42	1.44	0.63
9:LI:118:LYS:HG3	9:LI:191:VAL:HG11	1.81	0.63
14:LN:105:ASN:ND2	14:LN:107:GLU:OE2	2.31	0.63
28:Lb:17:ARG:NH2	28:Lb:18:TYR:OH	2.31	0.63
45:S2:422:G:H2'	45:S2:423:G:H8	1.64	0.63
45:S2:1523:G:OP1	45:S2:1523:G:N2	2.30	0.63
46:SA:142:LEU:HD13	46:SA:150:MET:HE3	1.79	0.63
68:SW:70:LEU:O	68:SW:74:ASN:ND2	2.29	0.63
1:LA:590:G:O2'	8:LH:17:ALA:O	2.16	0.63
1:LA:1221:G:N2	1:LA:1284:G:O2'	2.32	0.63
1:LA:1777:G:O2'	1:LA:1779:G:OP2	2.17	0.63
1:LA:1866:A:C2	1:LA:2118:A:H4'	2.33	0.63
2:LB:112:G:H2'	2:LB:113:C:C6	2.34	0.63
5:LE:85:VAL:HG22	5:LE:202:THR:HG22	1.79	0.63
23:LW:58:GLU:HG2	23:LW:60:GLY:H	1.64	0.63
27:La:87:LYS:HB2	27:La:97:ILE:HD11	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1144:U:HO2'	45:S2:1301:U:HO2'	1.45	0.63
60:SO:252:LEU:HG	60:SO:263:PHE:HB3	1.80	0.63
74:Sc:56:LYS:HG2	74:Sc:70:LYS:HE2	1.80	0.63
45:S2:1532:U:O2'	53:SH:27:LYS:NZ	2.32	0.63
46:SA:191:ASP:HB2	46:SA:194:LYS:HB2	1.81	0.63
47:SB:44:ASN:HB2	47:SB:45:LYS:HD3	1.81	0.63
54:SI:57:ARG:O	54:SI:61:VAL:HG23	1.99	0.63
60:SO:214:ALA:HB1	60:SO:240:VAL:HG11	1.81	0.63
1:LA:238:A:H62	1:LA:239:G:H21	1.45	0.63
1:LA:2852:A:H5'	12:LL:63:GLU:HB3	1.79	0.63
45:S2:304:U:OP1	69:SX:136:ARG:NE	2.27	0.63
1:LA:2893:C:H2'	1:LA:2894:G:H8	1.62	0.63
45:S2:16:G:H2'	45:S2:17:C:C6	2.34	0.63
45:S2:701:U:O4	45:S2:732:G:N1	2.32	0.63
45:S2:1204:A:N6	58:SM:14:TYR:O	2.32	0.63
45:S2:1218:G:H5''	45:S2:1219:A:H5'	1.81	0.63
1:LA:899:G:H1'	1:LA:1588:A:N6	2.13	0.63
17:LQ:12[A]:LYS:HD2	17:LQ:40[A]:GLU:HG2	1.80	0.63
27:La:116:LYS:O	27:La:120:GLN:HG2	1.99	0.63
36:Lj:58:ILE:HG22	36:Lj:62:GLN:HE22	1.63	0.63
45:S2:924:A:H2'	45:S2:925:G:C8	2.34	0.63
60:SO:111:MET:HE1	60:SO:127:ARG:HB2	1.81	0.63
1:LA:110:G:OP2	14:LN:73:ARG:NH1	2.23	0.62
1:LA:1387:U:O2'	33:Lg:99:ASN:HB3	1.98	0.62
14:LN:92:THR:OG1	36:Lj:112:PRO:O	2.15	0.62
45:S2:1034:C:HO2'	73:Sb:2:THR:N	1.97	0.62
46:SA:105:MET:HE1	46:SA:119:ALA:HA	1.80	0.62
51:SF:127:LYS:NZ	51:SF:131:GLY:O	2.27	0.62
60:SO:218:GLY:HA2	60:SO:240:VAL:HG12	1.81	0.62
64:SS:197:HIS:CE1	64:SS:209:HIS:HD2	2.17	0.62
65:ST:67:VAL:HG13	65:ST:99:GLY:HA2	1.81	0.62
1:LA:1695:A:H2'	1:LA:1696:A:C8	2.34	0.62
5:LE:102:LEU:HD21	5:LE:155:ALA:HB2	1.81	0.62
32:Lf:54:GLU:CD	32:Lf:54:GLU:H	2.07	0.62
45:S2:1450:U:O2'	58:SM:6:VAL:O	2.17	0.62
60:SO:180:ALA:HB3	60:SO:190:ALA:HB3	1.81	0.62
1:LA:618:A:OP1	18:LR:167:ARG:NH1	2.32	0.62
1:LA:964:A:H2	29:Lc:43:ILE:HD12	1.64	0.62
28:Lb:42:LEU:HD22	28:Lb:101:PHE:CE1	2.33	0.62
45:S2:615:A:O2'	45:S2:621:A:N1	2.31	0.62
64:SS:45:ILE:HD12	64:SS:61:VAL:HG21	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:Sa:71:ARG:O	72:Sa:75:ASN:ND2	2.33	0.62
3:LC:58:G:O6	38:Ll:63:ARG:NH1	2.33	0.62
4:LD:112:ILE:HG13	44:Lr:79:VAL:HG22	1.82	0.62
36:Lj:12:LYS:NZ	36:Lj:20:GLN:OE1	2.31	0.62
45:S2:284:G:O6	65:ST:188:ARG:NH2	2.32	0.62
45:S2:873:U:O2'	45:S2:1047:G:OP1	2.13	0.62
45:S2:967:A:OP2	70:SY:124:ARG:NH2	2.32	0.62
45:S2:1389:C:H6	52:SG:28:PHE:CE2	2.18	0.62
64:SS:250:GLU:C	64:SS:254:ARG:HE	2.07	0.62
1:LA:958:C:H41	1:LA:2800:A:H2'	1.64	0.62
21:LU:44:PHE:O	21:LU:48:LEU:HG	1.99	0.62
45:S2:141:U:H5''	65:ST:179:VAL:HG21	1.80	0.62
45:S2:1488:G:O2'	45:S2:1494:C:O2	2.13	0.62
45:S2:1609:U:OP2	51:SF:14:LYS:NZ	2.25	0.62
47:SB:90:ILE:HG23	47:SB:114:ILE:HD11	1.80	0.62
66:SU:150:GLN:HB3	66:SU:181:ILE:HG22	1.79	0.62
1:LA:1476:A:OP1	1:LA:3074:G:O2'	2.15	0.62
1:LA:2556:A:OP1	4:LD:69:TYR:OH	2.15	0.62
1:LA:3207:G:H4'	1:LA:3208:A:H5''	1.82	0.62
27:La:81:GLN:NE2	27:La:98:ASN:OD1	2.28	0.62
45:S2:30:G:H2'	45:S2:31:C:C6	2.35	0.62
45:S2:874:C:H2'	45:S2:875:G:C8	2.35	0.62
52:SG:50:ILE:O	52:SG:54:THR:OG1	2.16	0.62
62:SQ:143:THR:HG21	62:SQ:156:ALA:HB2	1.80	0.62
50:SE:44:ARG:HH12	50:SE:84:ILE:H	1.48	0.62
65:ST:64:LYS:NZ	65:ST:83:CYS:SG	2.67	0.62
65:ST:115:LYS:NZ	65:ST:116:LYS:O	2.33	0.62
68:SW:66:ASP:HB3	68:SW:69:ARG:HB3	1.80	0.62
1:LA:798:G:O2'	14:LN:18:TRP:NE1	2.30	0.62
8:LH:69:PHE:N	8:LH:142:ASP:OD2	2.33	0.62
16:LP:5:LYS:NZ	16:LP:9:GLU:OE1	2.33	0.62
28:Lb:102:GLU:HG2	28:Lb:103:GLN:NE2	2.14	0.62
45:S2:840:U:H2'	45:S2:841:U:H5	1.64	0.62
54:SI:114:VAL:HG22	54:SI:124:ILE:HA	1.82	0.62
60:SO:111:MET:CE	60:SO:127:ARG:HB2	2.30	0.62
1:LA:655:A:H2'	1:LA:656:A:C8	2.35	0.62
4:LD:3:ARG:HB2	4:LD:207:VAL:HG22	1.80	0.62
45:S2:567:A:OP2	74:Sc:69:ARG:NH2	2.33	0.62
62:SQ:23:PRO:HB3	62:SQ:26:ARG:HH22	1.64	0.62
64:SS:68:ARG:HG3	64:SS:76:VAL:HG11	1.80	0.62
65:ST:32:ILE:HD13	65:ST:52:ILE:HG22	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:ST:199:GLN:OE1	65:ST:202:ARG:NH1	2.33	0.62
30:Ld:16:ALA:O	30:Ld:20:GLY:CA	2.47	0.62
49:SD:32:LEU:HD11	49:SD:102:GLY:H	1.63	0.62
61:SP:139:VAL:HG23	61:SP:141:ILE:HG12	1.82	0.62
1:LA:1833:U:OP2	40:Ln:10:LYS:NZ	2.32	0.61
4:LD:135:ILE:HB	4:LD:149:ARG:HB3	1.82	0.61
45:S2:611:U:O2'	69:SX:99:ARG:NH2	2.33	0.61
47:SB:95:ASN:O	47:SB:98:MET:HG2	2.00	0.61
64:SS:71:LYS:HA	64:SS:76:VAL:HA	1.80	0.61
1:LA:1393:A:H4'	1:LA:1419:C:H4'	1.80	0.61
8:LH:42:LEU:O	8:LH:49:GLY:N	2.26	0.61
17:LQ:121[A]:PRO:HA	17:LQ:124[A]:LEU:HD12	1.82	0.61
34:Lh:12:LYS:HB2	34:Lh:31:LYS:HG2	1.81	0.61
45:S2:127:G:H5'	65:ST:194:LYS:HE2	1.81	0.61
45:S2:1027:A:OP1	45:S2:1789:G:O2'	2.15	0.61
56:SK:89:ILE:HA	56:SK:103:ARG:HA	1.81	0.61
1:LA:1716:U:H2'	1:LA:1717:G:C8	2.35	0.61
13:LM:60:ARG:HH21	43:Lq:104:LEU:H	1.47	0.61
45:S2:837:G:H2'	45:S2:838:G:C8	2.35	0.61
55:SJ:26:LEU:HB3	55:SJ:114:VAL:HG22	1.82	0.61
1:LA:648:A:OP2	1:LA:2867:U:O2'	2.18	0.61
1:LA:3213:U:H3	15:LO:124:ARG:NH2	1.97	0.61
5:LE:166:ILE:HG12	5:LE:173:GLN:HB3	1.81	0.61
15:LO:40:ASP:OD1	15:LO:41:GLN:N	2.31	0.61
45:S2:1551:U:OP2	50:SE:43:ARG:NH1	2.34	0.61
60:SO:169:ILE:HG12	60:SO:183:LEU:HD22	1.82	0.61
74:Sc:34:LEU:O	74:Sc:39:LYS:NZ	2.33	0.61
1:LA:361:A:O3'	38:Ll:45:ARG:NH2	2.32	0.61
1:LA:1595:C:H2'	1:LA:1596:C:C6	2.35	0.61
12:LL:171:TRP:O	12:LL:174:THR:OG1	2.19	0.61
45:S2:298:C:H3'	45:S2:299:A:H5''	1.82	0.61
56:SK:54:VAL:HG23	56:SK:55:PRO:HD3	1.81	0.61
60:SO:89:LEU:HD13	60:SO:113:VAL:HG21	1.83	0.61
67:SV:83:TYR:HB3	67:SV:101:ILE:HD12	1.83	0.61
71:SZ:28:VAL:HG22	71:SZ:67:VAL:HG11	1.82	0.61
31:Le:25:LEU:HD21	31:Le:81:VAL:HG11	1.80	0.61
35:Li:15:THR:HG22	35:Li:17:SER:H	1.64	0.61
47:SB:209:TYR:HA	47:SB:212:LYS:CE	2.30	0.61
56:SK:77:ARG:HB3	56:SK:81:ARG:NH1	2.14	0.61
63:SR:180:ALA:HB1	63:SR:184:VAL:HG13	1.83	0.61
80:Tb:10:G:OP1	80:Tb:46:G:O2'	2.17	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:215:ILE:HD12	5:LE:338:LEU:HB3	1.81	0.61
17:LQ:74[A]:ARG:O	17:LQ:142[A]:SER:OG	2.18	0.61
27:La:55:GLU:HB2	27:La:108:LYS:HB3	1.83	0.61
45:S2:752:A:H61	45:S2:797:G:H1	0.66	0.61
1:LA:2114:G:H22	1:LA:2119:A:H1'	1.65	0.61
5:LE:291:GLU:HB3	5:LE:302:LYS:HE3	1.82	0.61
6:LF:234:ASN:HB3	6:LF:237:GLN:OE1	2.00	0.61
46:SA:40:ARG:HB3	46:SA:47:GLU:HB3	1.81	0.61
1:LA:1470:U:OP1	20:LT:5:ARG:NH1	2.34	0.61
1:LA:1810:G:O2'	1:LA:1811:G:O4'	2.13	0.61
1:LA:3382:G:N2	32:Lf:105:GLN:HG2	2.15	0.61
2:LB:119:U:OP2	7:LG:258:LYS:NZ	2.34	0.61
13:LM:118:PRO:CD	53:SH:103:ASN:HD21	2.12	0.61
45:S2:1420:C:OP1	55:SJ:69:LYS:NZ	2.33	0.61
61:SP:134:LYS:O	61:SP:137:SER:OG	2.19	0.61
1:LA:2495:C:H2'	1:LA:2496:U:H5	1.65	0.61
45:S2:14:C:O5'	63:SR:164:SER:OG	2.16	0.61
60:SO:200:ASN:H	60:SO:215:GLY:HA2	1.65	0.61
61:SP:63:ILE:HG12	72:Sa:36:VAL:HG22	1.82	0.61
14:LN:74:GLY:O	14:LN:101:ARG:NH1	2.34	0.60
45:S2:333:A:OP1	67:SV:31:ARG:NH2	2.34	0.60
47:SB:130:ILE:O	47:SB:134:VAL:HG13	2.01	0.60
50:SE:123:TYR:OH	53:SH:122:HIS:NE2	2.28	0.60
54:SI:63:ARG:O	54:SI:67:MET:HG2	2.00	0.60
62:SQ:61:LEU:HD21	62:SQ:96:LEU:HD23	1.83	0.60
68:SW:81:VAL:HG12	68:SW:86:LEU:HB3	1.82	0.60
68:SW:125:ALA:O	68:SW:129:ILE:HD12	1.99	0.60
1:LA:2110:G:H5''	25:LY:48:ARG:CZ	2.30	0.60
1:LA:3312:U:H4'	5:LE:173:GLN:HG3	1.82	0.60
1:LA:3348:C:H42	1:LA:3355:G:N2	2.00	0.60
71:SZ:29:HIS:CE1	71:SZ:31:THR:HG22	2.37	0.60
79:Ta:8:U:H3	79:Ta:16:C:H42	1.47	0.60
1:LA:407:A:C2	3:LC:17:A:H1'	2.36	0.60
1:LA:1239:A:H8	1:LA:1240:U:H4'	1.66	0.60
1:LA:1638:C:H5'	35:Li:52:GLN:HG3	1.83	0.60
1:LA:3229:G:H4'	15:LO:132:LYS:HE3	1.82	0.60
6:LF:234:ASN:HD21	6:LF:236:LEU:HB2	1.66	0.60
52:SG:14:LYS:HG3	52:SG:69:ILE:CG1	2.31	0.60
55:SJ:71:PRO:O	58:SM:40:ARG:NH2	2.34	0.60
1:LA:12:A:H2'	1:LA:13:A:C8	2.36	0.60
1:LA:196:G:N1	1:LA:199:A:OP2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2356:A:H2'	1:LA:2357:A:C8	2.36	0.60
1:LA:2609:G:H5''	16:LP:81:TYR:HA	1.82	0.60
45:S2:905:A:O2'	71:SZ:52:ARG:NH1	2.34	0.60
45:S2:1048:G:H2'	45:S2:1048:G:N3	2.17	0.60
1:LA:3032:A:H3'	1:LA:3033:C:H5''	1.82	0.60
2:LB:2:G:H4'	7:LG:273:ARG:HH21	1.67	0.60
7:LG:39:GLN:NE2	7:LG:46:THR:O	2.33	0.60
13:LM:82:ARG:NH1	13:LM:112:LEU:O	2.32	0.60
23:LW:77:LYS:O	23:LW:81:LYS:HG3	2.02	0.60
45:S2:1679:G:N2	45:S2:1722:A:C5	2.69	0.60
61:SP:157:ASP:OD1	72:Sa:60:ARG:NH1	2.34	0.60
61:SP:198:MET:SD	61:SP:198:MET:N	2.65	0.60
62:SQ:61:LEU:HD21	62:SQ:96:LEU:CD2	2.31	0.60
64:SS:37:LYS:HB2	64:SS:40:GLU:HG2	1.83	0.60
23:LW:37:LEU:O	23:LW:41:ILE:HG12	2.01	0.60
39:Lm:19:ASP:O	39:Lm:21:LYS:HE2	2.01	0.60
45:S2:1488:G:H21	45:S2:1512:G:H21	1.48	0.60
54:SI:40:SER:HB3	54:SI:43:ASN:HD21	1.66	0.60
60:SO:263:PHE:HE1	60:SO:268:GLN:HA	1.63	0.60
79:Ta:23:G:N7	79:Ta:47:G:N2	2.49	0.60
1:LA:2736:C:O2'	30:Ld:36:ASP:OD1	2.17	0.60
1:LA:3018:U:O2'	1:LA:3019:U:O5'	2.14	0.60
7:LG:129:TYR:OH	7:LG:175:HIS:O	2.16	0.60
45:S2:1328:G:OP1	46:SA:159:HIS:N	2.34	0.60
46:SA:166:ASP:OD1	46:SA:167:PHE:N	2.33	0.60
52:SG:19:ARG:HG3	52:SG:20:TYR:CE1	2.37	0.60
61:SP:67:ILE:HD11	61:SP:119:ARG:HB2	1.84	0.60
62:SQ:109:LYS:O	62:SQ:113:MET:HG2	2.01	0.60
62:SQ:133:TYR:HD2	62:SQ:217:LEU:HD11	1.65	0.60
66:SU:168:SER:O	66:SU:172:VAL:HG13	2.01	0.60
67:SV:20:GLN:NE2	67:SV:22:ARG:O	2.35	0.60
71:SZ:16:VAL:HG12	71:SZ:18:ARG:HG2	1.84	0.60
1:LA:815:A:H5'	1:LA:905:A:H61	1.67	0.60
1:LA:2382:C:OP2	17:LQ:85[A]:ARG:NH2	2.34	0.60
7:LG:64:ILE:HG13	7:LG:109:THR:HG21	1.83	0.60
23:LW:16:THR:HG22	23:LW:102:GLU:HA	1.84	0.60
68:SW:44:ARG:HG2	68:SW:45:ILE:HD12	1.84	0.60
71:SZ:72:LYS:HA	71:SZ:72:LYS:CE	2.28	0.60
1:LA:2212:A:H2'	1:LA:2213:A:C8	2.37	0.60
1:LA:2630:U:OP2	22:LV:4:SER:OG	2.18	0.60
1:LA:3150:U:H4'	1:LA:3293:A:H1'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3378:C:O2'	1:LA:3379:U:O5'	2.20	0.60
4:LD:33:ASP:O	4:LD:37:ARG:NH2	2.34	0.60
12:LL:170:LYS:HA	12:LL:177:ASP:HA	1.83	0.60
15:LO:50:LYS:HE3	15:LO:82:SER:HA	1.83	0.60
17:LQ:54[A]:TYR:OH	17:LQ:73[A]:PHE:O	2.19	0.60
41:Lo:103:LEU:HD12	41:Lo:121:LEU:HD11	1.83	0.60
45:S2:1650:U:H2'	45:S2:1651:A:C8	2.37	0.60
47:SB:58:LEU:HD12	47:SB:138:THR:HG22	1.83	0.60
50:SE:54:ALA:HA	50:SE:57:MET:CE	2.31	0.60
54:SI:71:VAL:HG23	54:SI:75:LYS:HB2	1.82	0.60
61:SP:167:LYS:NZ	61:SP:204:TYR:O	2.35	0.60
74:Sc:54:LEU:HD11	74:Sc:75:GLN:HB2	1.84	0.60
1:LA:2947:C:OP1	5:LE:244:ARG:NH2	2.33	0.59
45:S2:69:G:H1	45:S2:82:U:H3	1.50	0.59
47:SB:71:ALA:O	47:SB:91:GLU:HG3	2.01	0.59
64:SS:136:VAL:HG21	64:SS:148:ARG:HH21	1.65	0.59
1:LA:1603:G:H4'	1:LA:1834:A:H4'	1.84	0.59
6:LF:326:ARG:O	9:LI:41:ARG:NH1	2.35	0.59
45:S2:1364:G:H2'	45:S2:1365:C:C6	2.37	0.59
45:S2:1459:C:H41	53:SH:139:LYS:HE3	1.68	0.59
45:S2:1641:C:H2'	45:S2:1642:G:C8	2.37	0.59
47:SB:123:VAL:HG23	47:SB:124:LEU:HD12	1.83	0.59
52:SG:41:ILE:O	52:SG:47:ARG:NH2	2.34	0.59
1:LA:358:G:N2	1:LA:361:A:OP2	2.31	0.59
1:LA:1646:A:H62	1:LA:1807:G:H21	1.48	0.59
1:LA:3033:C:C2	11:LK:120:ASP:HB2	2.37	0.59
8:LH:170:LYS:HB3	8:LH:172:HIS:CE1	2.37	0.59
18:LR:126:ARG:HD3	18:LR:140:GLU:OE2	2.02	0.59
32:Lf:72:ARG:HD3	32:Lf:104:LEU:HD13	1.84	0.59
45:S2:264:G:H5''	45:S2:265:A:H5''	1.83	0.59
53:SH:28:ILE:O	53:SH:32:LEU:HG	2.02	0.59
55:SJ:23:ARG:HB2	55:SJ:92:ASP:OD1	2.01	0.59
64:SS:162:ILE:HG22	64:SS:164:LEU:H	1.66	0.59
65:ST:20:ASP:O	65:ST:23:ARG:HG3	2.01	0.59
66:SU:91:ILE:HD11	66:SU:169:PHE:HE1	1.68	0.59
19:LS:111:ARG:HD3	19:LS:121:CYS:SG	2.42	0.59
45:S2:1628:U:H2'	45:S2:1629:G:C8	2.37	0.59
62:SQ:210:ILE:HG22	62:SQ:210:ILE:O	2.03	0.59
63:SR:150:GLN:O	63:SR:174:ARG:NH2	2.34	0.59
1:LA:1939:G:H21	1:LA:3361:A:H8	1.48	0.59
1:LA:3358:A:H2'	1:LA:3359:C:O4'	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LI:24:GLU:HG2	9:LI:26:VAL:H	1.68	0.59
10:LJ:85:ASN:O	10:LJ:89:GLU:HG3	2.03	0.59
45:S2:790:U:H5'	64:SS:187:ARG:NH2	2.18	0.59
45:S2:1724:U:H2'	45:S2:1725:U:H5	1.67	0.59
47:SB:174:LEU:HD22	47:SB:210:ALA:HA	1.85	0.59
53:SH:14:ILE:HD11	53:SH:21:ASN:HB3	1.84	0.59
8:LH:83:TYR:OH	34:Lh:48:ARG:NH2	2.34	0.59
28:Lb:47:GLU:HB3	28:Lb:69:LYS:HD2	1.85	0.59
45:S2:740:A:O2'	45:S2:741:C:OP1	2.20	0.59
45:S2:754:A:H5''	45:S2:755:A:H5'	1.83	0.59
45:S2:1164:G:H2'	45:S2:1165:G:C8	2.37	0.59
52:SG:20:TYR:CD2	52:SG:38:ILE:HD11	2.38	0.59
72:Sa:9:VAL:O	72:Sa:10:GLU:HG3	2.03	0.59
5:LE:140:ASP:OD1	5:LE:140:ASP:N	2.34	0.59
45:S2:354:C:H5''	67:SV:16:ALA:HB2	1.85	0.59
45:S2:374:U:O2'	45:S2:603:U:OP1	2.21	0.59
47:SB:45:LYS:HE2	47:SB:46:TRP:CH2	2.37	0.59
75:Sd:8:ARG:HH12	75:Sd:10:ARG:CZ	2.16	0.59
1:LA:1228:G:C2	1:LA:1229:G:N2	2.71	0.59
1:LA:1614:C:H2'	1:LA:1615:U:C6	2.38	0.59
1:LA:1694:U:O2'	1:LA:1748:A:N1	2.29	0.59
4:LD:44:ILE:HD11	4:LD:85:GLY:HA2	1.85	0.59
6:LF:113:VAL:HB	6:LF:118:LYS:HE3	1.85	0.59
6:LF:169:LEU:HG	6:LF:174:ALA:HB3	1.85	0.59
17:LQ:61[A]:ALA:HA	17:LQ:70[A]:PRO:HD2	1.85	0.59
44:Lr:78:THR:O	44:Lr:82:THR:HG22	2.03	0.59
46:SA:32:GLU:CD	46:SA:32:GLU:H	2.11	0.59
55:SJ:28:SER:OG	55:SJ:29:THR:N	2.36	0.59
64:SS:250:GLU:HB3	64:SS:254:ARG:HH21	1.66	0.59
73:Sb:6:VAL:HG13	73:Sb:29:PRO:HD2	1.83	0.59
1:LA:1175:C:H2'	1:LA:1176:G:N2	2.18	0.59
1:LA:1898:G:O2'	1:LA:2333:U:O4	2.16	0.59
1:LA:2565:C:H2'	1:LA:2566:C:C6	2.38	0.59
3:LC:143:U:OP1	16:LP:38:ARG:NH2	2.33	0.59
33:Lg:111:ARG:HE	33:Lg:115:LEU:CD2	2.16	0.59
45:S2:947:U:OP1	62:SQ:165:ARG:NH1	2.36	0.59
68:SW:107:ARG:HH22	68:SW:148:VAL:HG23	1.68	0.59
1:LA:1388:G:OP1	33:Lg:104:ASN:ND2	2.35	0.59
1:LA:2521:G:O6	4:LD:72:ARG:NH2	2.36	0.59
1:LA:2959:C:H2'	1:LA:2960:G:H8	1.68	0.59
1:LA:3323:C:OP1	32:Lf:19:ARG:NH1	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LL:91:VAL:HG12	12:LL:133:GLN:HE21	1.66	0.59
21:LU:70:THR:C	21:LU:71:LYS:HD3	2.27	0.59
48:SC:23:ALA:O	48:SC:64:TYR:HB2	2.03	0.59
67:SV:56:ARG:NH1	67:SV:174:GLY:O	2.36	0.59
13:LM:133:ARG:NH2	13:LM:158:ASP:OD2	2.36	0.58
23:LW:83:TYR:O	23:LW:87:ASN:ND2	2.35	0.58
47:SB:189:THR:O	47:SB:193:THR:HG23	2.03	0.58
52:SG:14:LYS:HG3	52:SG:69:ILE:HG13	1.84	0.58
1:LA:2900:G:O2'	1:LA:3023:A:N1	2.36	0.58
5:LE:166:ILE:HD11	5:LE:171:LEU:HB2	1.84	0.58
15:LO:92:GLU:CD	15:LO:92:GLU:H	2.10	0.58
45:S2:1392:U:OP1	52:SG:59:LYS:NZ	2.29	0.58
71:SZ:111:ARG:HB3	76:Se:58:VAL:HG23	1.85	0.58
1:LA:2217:G:H2'	1:LA:2218:A:H8	1.67	0.58
1:LA:2427:U:H2'	1:LA:2428:G:H8	1.68	0.58
24:LX:40:LYS:HG3	24:LX:57:MET:SD	2.42	0.58
32:Lf:52:ALA:HB1	32:Lf:54:GLU:OE1	2.03	0.58
41:Lo:93:LYS:HD3	41:Lo:102:ARG:HD2	1.84	0.58
68:SW:90:LYS:HB3	68:SW:92:LYS:HD2	1.86	0.58
1:LA:296:A:N3	1:LA:299:G:O2'	2.34	0.58
1:LA:924:A:N6	4:LD:2:GLY:O	2.28	0.58
1:LA:2534:A:H3'	1:LA:2535:A:H4'	1.85	0.58
1:LA:2669:G:H2'	1:LA:2670:A:C8	2.39	0.58
5:LE:375:GLU:OE2	25:LY:14:TYR:OH	2.16	0.58
14:LN:4:SER:O	29:Lc:44:ASN:ND2	2.37	0.58
45:S2:1408:G:H1'	60:SO:17:ASN:ND2	2.18	0.58
63:SR:70:ASP:O	63:SR:74:PRO:HD3	2.04	0.58
71:SZ:103:ARG:HE	76:Se:49:ALA:HB2	1.68	0.58
1:LA:516:G:OP1	9:LI:60:ARG:NH2	2.36	0.58
1:LA:1033:U:H2'	1:LA:1034:G:O4'	2.04	0.58
1:LA:1083:A:H2'	1:LA:1084:A:C8	2.39	0.58
1:LA:1596:C:H5'	1:LA:1695:A:H1'	1.85	0.58
12:LL:75:TYR:O	12:LL:79:VAL:HG22	2.03	0.58
31:Le:34:LEU:HD13	31:Le:59:TYR:HB3	1.85	0.58
45:S2:175:G:H1	45:S2:266:A:H5'	1.69	0.58
46:SA:132:LYS:NZ	46:SA:192:PRO:HD2	2.17	0.58
1:LA:269:G:N2	1:LA:295:A:OP2	2.22	0.58
1:LA:1480:A:H62	1:LA:1871:C:H5	1.50	0.58
3:LC:142:C:OP1	16:LP:38:ARG:NH1	2.34	0.58
45:S2:1473:U:O2'	47:SB:103:ASN:OD1	2.17	0.58
45:S2:1481:C:C4	54:SI:79:LEU:HD11	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SC:52:LYS:HE3	48:SC:54:TYR:HE2	1.68	0.58
61:SP:121:VAL:HG23	61:SP:141:ILE:HG21	1.86	0.58
61:SP:136:ALA:HB1	61:SP:141:ILE:HB	1.86	0.58
63:SR:231:ALA:O	72:Sa:16:LYS:NZ	2.32	0.58
65:ST:148:SER:HB2	65:ST:151:ASP:HB2	1.85	0.58
70:SY:99:ARG:NH2	70:SY:119:GLU:OE1	2.36	0.58
1:LA:1445:A:H5''	18:LR:65:SER:OG	2.04	0.58
5:LE:383:LEU:HD13	5:LE:385:LYS:HE2	1.85	0.58
6:LF:234:ASN:ND2	6:LF:236:LEU:HB2	2.18	0.58
45:S2:341:A:H2'	45:S2:342:C:C6	2.39	0.58
45:S2:586:G:C6	45:S2:587:C:H1'	2.39	0.58
45:S2:1171:A:H2'	45:S2:1172:G:C8	2.39	0.58
50:SE:102:PHE:O	50:SE:104:GLN:NE2	2.37	0.58
60:SO:132:LYS:HE3	60:SO:134:TRP:CZ2	2.38	0.58
63:SR:50:ILE:HD11	63:SR:239:PRO:HB3	1.84	0.58
67:SV:3:ILE:H	67:SV:3:ILE:HD12	1.67	0.58
1:LA:144:A:OP1	10:LJ:193:LYS:NZ	2.34	0.58
1:LA:937:C:OP2	29:Lc:26:ARG:NH1	2.36	0.58
1:LA:3017:C:OP1	1:LA:3020:A:N6	2.37	0.58
6:LF:289:ILE:O	6:LF:292:SER:OG	2.21	0.58
45:S2:760:A:O2'	68:SW:72:GLU:OE2	2.17	0.58
70:SY:96:VAL:HG12	70:SY:100:LYS:HE3	1.86	0.58
1:LA:3257:U:O2'	1:LA:3259:G:OP1	2.22	0.58
6:LF:6:VAL:N	6:LF:20:LEU:O	2.35	0.58
6:LF:281:ILE:HA	19:LS:123:THR:HG21	1.84	0.58
7:LG:34:LYS:HA	22:LV:27:LEU:HD11	1.86	0.58
45:S2:256:A:O2'	67:SV:72:ILE:HD12	2.03	0.58
45:S2:885:G:H2'	45:S2:886:U:C6	2.39	0.58
47:SB:72:HIS:O	51:SF:47:LYS:NZ	2.37	0.58
50:SE:85:ILE:HG22	50:SE:112:LEU:HD23	1.86	0.58
52:SG:18:GLU:OE2	52:SG:19:ARG:NH1	2.36	0.58
71:SZ:72:LYS:HZ2	71:SZ:77:THR:HA	1.68	0.58
74:Sc:130:VAL:HG23	74:Sc:140:LYS:HD2	1.84	0.58
74:Sc:133:LEU:HA	74:Sc:136:TRP:HB3	1.85	0.58
1:LA:2681:C:H1'	1:LA:2682:U:C5	2.38	0.58
1:LA:2996:G:H1'	1:LA:3394:G:H4'	1.85	0.58
5:LE:169:THR:HG22	5:LE:171:LEU:HG	1.86	0.58
7:LG:294:ALA:HB1	12:LL:217:PHE:HB3	1.85	0.58
31:Le:24:THR:OG1	31:Le:91:SER:OG	2.19	0.58
45:S2:1206:U:H1'	58:SM:16:LYS:HG3	1.85	0.58
45:S2:1727:G:H2'	45:S2:1728:A:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:55:THR:HG21	46:SA:89:GLU:C	2.29	0.58
52:SG:25:THR:O	52:SG:31:ASN:ND2	2.36	0.58
70:SY:62:GLN:HG3	70:SY:65:VAL:HG13	1.86	0.58
1:LA:1798:A:H2'	1:LA:1799:A:C8	2.39	0.57
45:S2:1724:U:H2'	45:S2:1725:U:C5	2.38	0.57
49:SD:130:THR:O	49:SD:133:LEU:HD23	2.03	0.57
63:SR:81:MET:HE1	63:SR:186:LYS:HG2	1.85	0.57
75:Sd:3:ASP:H	75:Sd:32:ARG:HH22	1.52	0.57
1:LA:3110:U:OP1	11:LK:184:LYS:NZ	2.36	0.57
5:LE:356:LEU:HD23	5:LE:359:ILE:HD11	1.85	0.57
12:LL:53:VAL:HG21	12:LL:166:ILE:HD12	1.86	0.57
17:LQ:84[A]:LEU:HD22	17:LQ:102[A]:LEU:HD22	1.86	0.57
27:La:99:LEU:HD11	27:La:104:LEU:HD21	1.86	0.57
50:SE:95:GLY:HA2	50:SE:103:ASN:O	2.03	0.57
60:SO:90:ARG:HH21	60:SO:102:ARG:HH21	1.51	0.57
1:LA:1127:U:OP1	12:LL:4:ARG:NH1	2.31	0.57
9:LI:151:ARG:HD2	9:LI:207:LEU:HD23	1.86	0.57
11:LK:120:ASP:OD2	11:LK:124:ARG:NH2	2.37	0.57
12:LL:54:SER:HB3	12:LL:135:ILE:HD11	1.86	0.57
45:S2:1415:U:H2'	45:S2:1416:G:H8	1.69	0.57
45:S2:1512:G:O2'	45:S2:1513:G:O4'	2.13	0.57
61:SP:182:LEU:HD23	61:SP:185:ARG:HH12	1.68	0.57
64:SS:72:VAL:N	64:SS:75:LYS:O	2.37	0.57
64:SS:112:HIS:NE2	64:SS:237:SER:O	2.31	0.57
1:LA:196:G:H22	1:LA:199:A:H5'	1.69	0.57
1:LA:992:G:N3	1:LA:2636:A:H2'	2.19	0.57
1:LA:1823:U:C2	1:LA:1824:G:C8	2.93	0.57
1:LA:2635:A:H5'	1:LA:2636:A:C5'	2.34	0.57
1:LA:2696:A:H2'	1:LA:2697:G:C8	2.39	0.57
45:S2:319:U:H1'	45:S2:323:A:H62	1.70	0.57
45:S2:388:G:H2'	45:S2:389:G:C8	2.39	0.57
46:SA:162:GLN:NE2	46:SA:166:ASP:OD2	2.38	0.57
60:SO:81:LEU:HD13	60:SO:122:ILE:HD11	1.85	0.57
66:SU:139:ARG:HH12	73:Sb:53:ILE:HG23	1.69	0.57
67:SV:79:ALA:HB3	67:SV:103:GLN:HB2	1.84	0.57
69:SX:82:ARG:HE	69:SX:113:PRO:HG3	1.68	0.57
75:Sd:21:LYS:HB3	75:Sd:75:VAL:HG12	1.86	0.57
1:LA:405:U:H4'	1:LA:1415:C:H4'	1.87	0.57
1:LA:497:A:O2'	1:LA:3272:A:N1	2.33	0.57
1:LA:1440:G:H4'	3:LC:15:G:H4'	1.85	0.57
1:LA:2405:C:H2'	1:LA:2406:C:H6	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:112:A:O2'	69:SX:67:ARG:NH1	2.37	0.57
45:S2:370:A:N7	68:SW:61:THR:OG1	2.33	0.57
45:S2:1389:C:N4	45:S2:1391:A:O4'	2.38	0.57
45:S2:1591:C:H2'	45:S2:1592:A:H8	1.69	0.57
77:Sf:33:LEU:HD13	77:Sf:35:VAL:HG13	1.86	0.57
1:LA:3118:U:H4'	41:Lo:104:PRO:HG2	1.85	0.57
7:LG:153:THR:HG23	7:LG:160:PHE:HZ	1.69	0.57
31:Le:40:LYS:HB3	31:Le:101:LEU:HD13	1.86	0.57
45:S2:230:C:O2	45:S2:230:C:H2'	2.04	0.57
45:S2:1442:U:O2'	45:S2:1446:A:H1'	2.05	0.57
60:SO:260:ILE:HD12	60:SO:260:ILE:O	2.04	0.57
63:SR:49:LYS:HB3	63:SR:243:TYR:CD2	2.39	0.57
65:ST:7:TYR:HE2	65:ST:116:LYS:HB2	1.69	0.57
75:Sd:111:LYS:HA	75:Sd:114:ARG:HD2	1.85	0.57
1:LA:1260:G:H4'	1:LA:1277:A:N1	2.19	0.57
1:LA:1686:U:H5''	1:LA:1687:U:H5''	1.85	0.57
10:LJ:75:ILE:HD11	16:LP:18:VAL:HG23	1.85	0.57
21:LU:109:ASP:OD1	21:LU:113:ARG:HD2	2.04	0.57
45:S2:5:U:H2'	45:S2:6:G:H8	1.70	0.57
45:S2:472:U:H2'	45:S2:473:A:C8	2.39	0.57
45:S2:809:A:H2'	45:S2:810:G:C8	2.40	0.57
45:S2:894:U:H2'	45:S2:895:G:C8	2.39	0.57
45:S2:1552:U:N3	45:S2:1556:A:N6	2.51	0.57
45:S2:1573:A:H4'	45:S2:1574:G:OP2	2.05	0.57
45:S2:1613:U:OP1	47:SB:84:LYS:NZ	2.32	0.57
45:S2:1712:A:N6	45:S2:1713:G:O6	2.37	0.57
65:ST:149:LYS:HD2	65:ST:150:GLU:HB3	1.87	0.57
17:LQ:143[A]:THR:HG21	17:LQ:150[A]:GLU:OE1	2.05	0.57
40:Ln:14:ALA:O	40:Ln:18:LYS:HG3	2.05	0.57
45:S2:884:A:H2'	45:S2:885:G:H8	1.70	0.57
45:S2:1552:U:N3	45:S2:1556:A:C6	2.72	0.57
53:SH:57:ARG:NE	53:SH:60:GLU:OE1	2.37	0.57
55:SJ:31:VAL:HG22	55:SJ:87:HIS:CE1	2.40	0.57
65:ST:69:LEU:HG	65:ST:73:ILE:HD11	1.86	0.57
1:LA:3305:U:O2'	1:LA:3307:C:OP2	2.20	0.57
35:Li:47:CYS:HA	44:Lr:61:LYS:HE3	1.86	0.57
45:S2:1171:A:H1'	45:S2:1570:A:N3	2.20	0.57
45:S2:1345:A:OP1	55:SJ:54:GLY:N	2.30	0.57
45:S2:1525:A:H4'	54:SI:83:ALA:HB2	1.86	0.57
45:S2:1673:G:C6	45:S2:1728:A:N1	2.73	0.57
52:SG:10:LYS:HG2	52:SG:53:TYR:CE2	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:94:G:H2'	1:LA:95:A:C8	2.40	0.57
1:LA:429:U:H2'	1:LA:430:U:C6	2.39	0.57
1:LA:839:C:H5''	1:LA:1723:U:H5	1.70	0.57
1:LA:2893:C:H2'	1:LA:2894:G:C8	2.40	0.57
1:LA:3033:C:O2	11:LK:122:LYS:N	2.37	0.57
1:LA:3213:U:H3	15:LO:124:ARG:HH22	1.53	0.57
1:LA:3308:G:H1'	18:LR:69:ARG:HD2	1.87	0.57
6:LF:317:PRO:C	6:LF:319:LYS:H	2.11	0.57
13:LM:10:ARG:NH2	13:LM:151:SER:O	2.34	0.57
45:S2:344:A:H2'	45:S2:345:U:H4'	1.87	0.57
63:SR:139:ILE:HD12	63:SR:218:ILE:HB	1.86	0.57
70:SY:60:VAL:HG13	70:SY:66:ILE:HD13	1.86	0.57
80:Tb:26:C:H2'	80:Tb:27:G:C8	2.40	0.57
1:LA:838:C:H4'	1:LA:1723:U:H2'	1.86	0.56
1:LA:2552:U:O2'	35:Li:91:ARG:NH1	2.31	0.56
20:LT:47:ASN:ND2	20:LT:47:ASN:O	2.38	0.56
45:S2:44:U:OP2	45:S2:437:A:N6	2.30	0.56
45:S2:1158:C:N4	45:S2:1163:A:H61	2.01	0.56
47:SB:103:ASN:HA	47:SB:106:LYS:HD2	1.87	0.56
54:SI:143:ASP:OD1	54:SI:144:GLU:N	2.37	0.56
65:ST:180:THR:HG23	65:ST:183:ARG:H	1.68	0.56
1:LA:309:U:P	37:Lk:84:LYS:NZ	2.78	0.56
39:Lm:7:ASP:OD1	39:Lm:9:LYS:NZ	2.38	0.56
45:S2:812:A:H62	45:S2:858:G:H2'	1.70	0.56
45:S2:980:G:H4'	45:S2:1776:A:H4'	1.86	0.56
45:S2:1003:A:O2'	45:S2:1005:A:N7	2.33	0.56
45:S2:1466:G:OP1	51:SF:132:LYS:NZ	2.38	0.56
56:SK:84:GLU:OE2	56:SK:84:GLU:HA	2.05	0.56
57:SL:25:VAL:HA	57:SL:44:VAL:O	2.04	0.56
76:Se:66:LYS:HG3	76:Se:68:TYR:CE1	2.40	0.56
1:LA:1647:A:H2'	1:LA:1648:U:O4'	2.06	0.56
1:LA:2205:G:N1	1:LA:2235:G:O6	2.39	0.56
1:LA:2343:U:H2'	1:LA:2344:A:C8	2.41	0.56
1:LA:2561:A:H1'	10:LJ:30:THR:HB	1.87	0.56
1:LA:3348:C:N4	1:LA:3355:G:H22	2.01	0.56
4:LD:65:ASP:OD2	4:LD:72:ARG:NE	2.38	0.56
6:LF:157:GLU:HG3	6:LF:251:THR:HG21	1.87	0.56
9:LI:121:LYS:HB2	22:LV:133:ALA:HB3	1.86	0.56
10:LJ:195:SER:OG	10:LJ:197:VAL:O	2.23	0.56
15:LO:19:ARG:NH1	15:LO:66:THR:O	2.33	0.56
45:S2:1218:G:H4'	45:S2:1220:C:H41	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1402:G:P	52:SG:5:ARG:NH1	2.73	0.56
45:S2:1583:A:H62	47:SB:76:ARG:HA	1.71	0.56
57:SL:49:ARG:NH1	57:SL:52:ASP:OD2	2.39	0.56
60:SO:15:GLY:HA3	60:SO:45:TRP:HH2	1.70	0.56
61:SP:101:ARG:HG2	61:SP:101:ARG:HH11	1.69	0.56
64:SS:191:ARG:NH2	64:SS:245:LYS:HB3	2.16	0.56
65:ST:192:ALA:O	65:ST:196:ARG:HG2	2.04	0.56
70:SY:23:PRO:HD2	70:SY:26:PHE:HB3	1.86	0.56
72:Sa:53:TYR:OH	72:Sa:76:ASP:OD2	2.19	0.56
11:LK:129:ARG:H	11:LK:157:ASN:HD21	1.52	0.56
14:LN:122:LYS:HE3	36:Lj:120:ALA:HA	1.88	0.56
28:Lb:106:GLN:O	28:Lb:109:GLU:HG3	2.05	0.56
45:S2:513:U:H2'	45:S2:514:G:H8	1.70	0.56
45:S2:744:U:H2'	45:S2:745:U:O4'	2.04	0.56
45:S2:1125:A:O2'	45:S2:1776:A:OP1	2.15	0.56
45:S2:1503:A:H5'	54:SI:99:SER:HB3	1.88	0.56
67:SV:194:ARG:HA	67:SV:197:THR:HG22	1.86	0.56
1:LA:626:U:H2'	1:LA:627:A:C8	2.39	0.56
1:LA:1866:A:H2	1:LA:2118:A:H4'	1.71	0.56
34:Lh:16:TYR:OH	34:Lh:89:LEU:O	2.17	0.56
46:SA:75:LYS:NZ	48:SC:20:VAL:O	2.38	0.56
76:Se:87:ARG:HB3	76:Se:91:ASP:OD1	2.05	0.56
1:LA:927:C:H2'	1:LA:928:A:C8	2.39	0.56
1:LA:1157:A:OP2	9:LI:90:LYS:NZ	2.34	0.56
12:LL:109:ASP:N	12:LL:109:ASP:OD1	2.39	0.56
22:LV:136:ARG:HG2	22:LV:136:ARG:HH11	1.70	0.56
26:LZ:81:ILE:HG12	26:LZ:125:ARG:HB2	1.88	0.56
40:Ln:25:GLN:HE22	40:Ln:28:ARG:NH1	2.04	0.56
45:S2:1034:C:OP1	70:SY:9:LYS:NZ	2.35	0.56
45:S2:1527:C:OP1	47:SB:109:LYS:NZ	2.37	0.56
47:SB:45:LYS:HE2	47:SB:46:TRP:CZ2	2.40	0.56
62:SQ:207:LEU:HD23	62:SQ:210:ILE:HD11	1.87	0.56
1:LA:785:A:H4'	1:LA:786:G:H5'	1.87	0.56
1:LA:2536:U:H5''	62:SQ:229:MET:HG2	1.87	0.56
1:LA:2695:A:H2'	1:LA:2696:A:C8	2.41	0.56
1:LA:2915:U:H1'	24:LX:44:SER:HB3	1.88	0.56
4:LD:201:GLY:HA2	4:LD:204:MET:HG3	1.87	0.56
19:LS:67:ILE:HG23	19:LS:81:VAL:HG11	1.88	0.56
24:LX:59:MET:HE3	24:LX:73:VAL:HG12	1.87	0.56
28:Lb:78:ASN:OD1	31:Le:35:ARG:NH2	2.39	0.56
45:S2:639:U:OP1	66:SU:112:ARG:NH2	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:959:U:H6	70:SY:61:THR:OG1	1.89	0.56
47:SB:110:ALA:O	47:SB:114:ILE:HG22	2.06	0.56
48:SC:46:LEU:O	48:SC:50:THR:HG23	2.06	0.56
58:SM:19:ARG:HH12	58:SM:32:ARG:HB2	1.71	0.56
62:SQ:135:LEU:HD23	62:SQ:217:LEU:HA	1.88	0.56
75:Sd:3:ASP:N	75:Sd:32:ARG:HH22	2.02	0.56
1:LA:417:A:H2'	1:LA:418:A:C8	2.40	0.56
1:LA:2591:G:H4'	1:LA:2593:C:C2	2.41	0.56
3:LC:41:A:H4'	38:Ll:59:THR:HG23	1.88	0.56
45:S2:412:A:C8	45:S2:413:U:H5	2.24	0.56
45:S2:477:A:O2'	78:Sg:33:ARG:NH2	2.37	0.56
45:S2:790:U:H5'	64:SS:187:ARG:HH22	1.68	0.56
45:S2:884:A:H2'	45:S2:885:G:C8	2.40	0.56
45:S2:1045:C:OP1	62:SQ:153:HIS:CE1	2.59	0.56
46:SA:76:ARG:NH1	46:SA:76:ARG:O	2.37	0.56
64:SS:38:LEU:HG	64:SS:39:ARG:HD2	1.87	0.56
71:SZ:80:HIS:HA	71:SZ:113:GLY:O	2.06	0.56
1:LA:371:G:N1	1:LA:374:A:OP2	2.35	0.56
1:LA:3005:A:H2'	1:LA:3006:U:O4'	2.06	0.56
3:LC:55:U:O4	3:LC:62:C:N3	2.39	0.56
10:LJ:239:GLY:O	10:LJ:243:GLN:HG2	2.06	0.56
16:LP:60:VAL:HG22	16:LP:134:LEU:HB2	1.88	0.56
40:Ln:21:ARG:HH21	40:Ln:24:PRO:HG3	1.70	0.56
45:S2:342:C:H2'	45:S2:343:C:C6	2.41	0.56
45:S2:772:G:OP1	68:SW:7:THR:OG1	2.21	0.56
45:S2:1171:A:H2'	45:S2:1172:G:H8	1.71	0.56
45:S2:1191:U:H2'	45:S2:1192:C:C6	2.41	0.56
73:Sb:93:LEU:HD13	73:Sb:128:PHE:CD1	2.41	0.56
1:LA:1202:A:H2'	1:LA:1203:A:H8	1.70	0.56
1:LA:3027:G:H2'	1:LA:3028:A:C8	2.41	0.56
17:LQ:18[A]:ARG:NH1	17:LQ:128[A]:ARG:HH21	2.04	0.56
43:Lq:25:VAL:HG22	43:Lq:72:LEU:HD22	1.88	0.56
45:S2:40:A:H62	45:S2:467:G:H21	1.54	0.56
45:S2:333:A:N6	67:SV:27:PHE:HB2	2.21	0.56
45:S2:434:G:N1	45:S2:437:A:OP2	2.36	0.56
45:S2:844:A:N6	45:S2:845:G:O6	2.38	0.56
62:SQ:119:THR:HG21	62:SQ:161:ILE:HD11	1.87	0.56
63:SR:95:ARG:HH12	63:SR:97:ARG:HH11	1.53	0.56
64:SS:11:ARG:HH11	64:SS:20:LEU:HD13	1.71	0.56
71:SZ:26:THR:HG21	71:SZ:60:ALA:HB2	1.87	0.56
75:Sd:18:LEU:HD12	75:Sd:20:ARG:NH1	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:400:G:H4'	1:LA:401:U:H5'	1.89	0.55
1:LA:1785:G:H2'	1:LA:1786:A:C8	2.41	0.55
36:Lj:31:LEU:HD11	36:Lj:43:LYS:HG3	1.88	0.55
45:S2:594:A:P	68:SW:38:ASN:HD21	2.29	0.55
45:S2:1476:C:H2'	45:S2:1477:G:C8	2.38	0.55
53:SH:3:LEU:HD23	53:SH:3:LEU:H	1.71	0.55
55:SJ:40:ASN:HA	55:SJ:43:LYS:HG2	1.88	0.55
57:SL:15:VAL:HA	57:SL:28:VAL:HG12	1.87	0.55
64:SS:11:ARG:NH2	64:SS:24:SER:O	2.38	0.55
65:ST:67:VAL:CG1	65:ST:99:GLY:HA2	2.36	0.55
68:SW:112:GLN:O	68:SW:116:LEU:HG	2.06	0.55
1:LA:661:U:H2'	1:LA:662:C:C6	2.42	0.55
1:LA:696:A:O2'	1:LA:697:U:H6	1.89	0.55
1:LA:760:A:H2'	1:LA:761:U:C6	2.40	0.55
1:LA:1136:C:H2'	1:LA:1137:U:H5'	1.88	0.55
4:LD:137:ILE:HD11	4:LD:149:ARG:HB2	1.87	0.55
14:LN:106:GLN:NE2	14:LN:110:ASP:OD1	2.39	0.55
32:Lf:11:GLU:O	32:Lf:106:THR:HA	2.07	0.55
33:Lg:86:THR:HG22	33:Lg:115:LEU:HG	1.87	0.55
45:S2:123:G:OP1	64:SS:77:ARG:NH2	2.35	0.55
60:SO:198:ASN:HD21	60:SO:216:LYS:CE	2.18	0.55
61:SP:50:VAL:O	61:SP:53:THR:HG22	2.06	0.55
64:SS:18:TRP:C	64:SS:51:ARG:HH22	2.14	0.55
66:SU:44:LYS:HG3	66:SU:63:PRO:HG3	1.87	0.55
1:LA:2159:G:H2'	1:LA:2160:G:H8	1.71	0.55
5:LE:77:THR:HG21	5:LE:328:ILE:HG12	1.87	0.55
6:LF:181:VAL:HG11	6:LF:224:GLY:HA3	1.89	0.55
7:LG:125:VAL:O	7:LG:196:ARG:NH1	2.40	0.55
13:LM:49:LYS:HB3	13:LM:62:ASN:HA	1.89	0.55
19:LS:74:GLU:OE2	19:LS:74:GLU:N	2.26	0.55
27:La:63:LYS:NZ	27:La:97:ILE:HD12	2.21	0.55
45:S2:1318:G:H5'	52:SG:67:ARG:HH12	1.71	0.55
45:S2:1426:C:H3'	45:S2:1427:A:H4'	1.88	0.55
45:S2:1485:C:H3'	45:S2:1486:G:H5'	1.87	0.55
47:SB:174:LEU:HA	47:SB:177:ILE:HD11	1.87	0.55
55:SJ:68:ARG:HH12	55:SJ:77:LYS:HA	1.71	0.55
1:LA:669:C:OP1	19:LS:147:ARG:NH2	2.40	0.55
1:LA:2418:A:H2'	1:LA:2419:C:C6	2.41	0.55
1:LA:3333:U:H4'	1:LA:3334:A:H5'	1.88	0.55
1:LA:3349:C:O2'	1:LA:3350:U:OP1	2.22	0.55
3:LC:128:U:OP1	3:LC:129:C:N4	2.24	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LN:76:THR:HG22	14:LN:78:ALA:H	1.71	0.55
22:LV:17:ARG:HG2	22:LV:22:HIS:HA	1.86	0.55
52:SG:109:LEU:HA	61:SP:38:PHE:HE2	1.71	0.55
65:ST:32:ILE:HD11	65:ST:63:MET:HE1	1.88	0.55
72:Sa:1:MET:HG3	72:Sa:10:GLU:HG2	1.88	0.55
1:LA:2175:U:OP1	4:LD:54:ARG:NH2	2.36	0.55
11:LK:67:ALA:O	11:LK:71:VAL:HG13	2.07	0.55
13:LM:10:ARG:O	13:LM:133:ARG:NH1	2.39	0.55
27:La:17:LYS:O	27:La:21:THR:OG1	2.23	0.55
66:SU:51:VAL:HG12	66:SU:53:GLY:H	1.71	0.55
1:LA:77:A:N7	14:LN:73:ARG:NH2	2.55	0.55
1:LA:736:G:H2'	1:LA:737:A:H8	1.70	0.55
1:LA:1599:U:OP1	20:LT:42:ARG:NH1	2.40	0.55
1:LA:1837:G:H5''	1:LA:1838:A:H5'	1.88	0.55
1:LA:3106:U:H2'	1:LA:3107:G:H8	1.71	0.55
3:LC:57:C:H4'	3:LC:63:G:N7	2.21	0.55
45:S2:1321:A:H4'	45:S2:1322:A:H5'	1.89	0.55
45:S2:1357:A:H2'	45:S2:1358:G:C8	2.41	0.55
48:SC:59:PHE:HD1	48:SC:62:GLN:HA	1.72	0.55
49:SD:131:ASP:OD1	49:SD:131:ASP:N	2.37	0.55
64:SS:60:GLU:O	64:SS:64:ILE:HD13	2.06	0.55
74:Sc:55:GLU:O	74:Sc:70:LYS:NZ	2.33	0.55
1:LA:1597:G:OP2	35:Li:31:ARG:NH2	2.39	0.55
1:LA:2406:C:H2'	1:LA:2407:U:C6	2.42	0.55
1:LA:2880:C:H2'	1:LA:2881:U:C6	2.41	0.55
45:S2:30:G:O2'	74:Sc:133:LEU:HD21	2.06	0.55
45:S2:372:G:H4'	45:S2:612:U:H3	1.70	0.55
45:S2:1203:A:H2'	45:S2:1204:A:H5''	1.88	0.55
45:S2:1252:C:H1'	59:SN:140:TYR:HE2	1.71	0.55
49:SD:34:THR:HA	49:SD:37:VAL:HG22	1.88	0.55
64:SS:248:ILE:HA	64:SS:251:GLU:HG3	1.88	0.55
1:LA:744:C:H2'	1:LA:745:A:H8	1.71	0.55
1:LA:1815:A:H2'	1:LA:1816:G:C8	2.35	0.55
1:LA:2406:C:H2'	1:LA:2407:U:H6	1.72	0.55
1:LA:2659:G:OP1	1:LA:2749:U:O2'	2.24	0.55
3:LC:69:U:H2'	3:LC:70:G:O4'	2.07	0.55
8:LH:152:THR:OG1	8:LH:155:LEU:HB2	2.07	0.55
11:LK:174:LYS:HB2	41:Lo:127:LEU:HD11	1.88	0.55
45:S2:1776:A:H2'	45:S2:1777:G:C8	2.42	0.55
65:ST:19:ASP:H	65:ST:23:ARG:HH21	1.54	0.55
66:SU:44:LYS:N	66:SU:61:PHE:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SX:74:THR:HG22	69:SX:122:ILE:HG12	1.88	0.55
1:LA:500:A:H2'	1:LA:501:U:C6	2.41	0.55
1:LA:3072:A:H2'	1:LA:3073:G:O4'	2.07	0.55
3:LC:12:A:OP1	18:LR:3:ARG:NE	2.40	0.55
11:LK:90:MET:HE1	11:LK:161:LEU:CD2	2.37	0.55
39:Lm:14:LEU:HD23	39:Lm:17:ARG:HD3	1.88	0.55
45:S2:155:U:H2'	45:S2:156:A:H8	1.72	0.55
45:S2:415:C:O2'	45:S2:416:A:H2'	2.07	0.55
45:S2:525:A:H5'	75:Sd:93:ARG:HH21	1.72	0.55
45:S2:893:U:H2'	45:S2:894:U:C6	2.42	0.55
51:SF:22:VAL:HG13	51:SF:65:ILE:HG12	1.89	0.55
51:SF:29:ILE:HD13	51:SF:65:ILE:HB	1.88	0.55
61:SP:52:LYS:HE2	72:Sa:82:VAL:HA	1.87	0.55
67:SV:194:ARG:NH1	67:SV:194:ARG:HB2	2.22	0.55
70:SY:56:ASP:OD1	77:Sf:50:ALA:HA	2.06	0.55
73:Sb:81:VAL:HG21	73:Sb:125:ILE:HB	1.89	0.55
1:LA:973:G:H2'	1:LA:974:C:C6	2.42	0.55
5:LE:108:GLU:HG3	5:LE:137:TYR:CG	2.42	0.55
45:S2:478:A:OP1	78:Sg:37:ARG:NH2	2.40	0.55
45:S2:1039:A:H2'	45:S2:1040:G:O4'	2.07	0.55
45:S2:1596:C:O2'	45:S2:1598:U:OP2	2.22	0.55
45:S2:1729:C:H2'	45:S2:1730:A:O4'	2.07	0.55
48:SC:25:LYS:HD2	48:SC:62:GLN:HB2	1.89	0.55
1:LA:1540:G:H1'	1:LA:1556:A:C5	2.42	0.54
1:LA:2221:A:H2'	1:LA:2222:A:C8	2.42	0.54
1:LA:3294:A:OP1	5:LE:119:TYR:OH	2.18	0.54
4:LD:188:LYS:O	4:LD:192:LYS:HG3	2.06	0.54
29:Lc:96:LYS:O	29:Lc:97:GLU:HG3	2.07	0.54
45:S2:1181:U:N3	45:S2:1458:G:C6	2.75	0.54
46:SA:72:LEU:HD22	48:SC:20:VAL:HG21	1.87	0.54
63:SR:56:ILE:HG12	63:SR:61:LEU:HD12	1.88	0.54
64:SS:244:ILE:HD11	64:SS:246:LEU:HB3	1.90	0.54
69:SX:109:VAL:HG21	69:SX:125:VAL:HG11	1.90	0.54
1:LA:516:G:P	9:LI:60:ARG:HH22	2.30	0.54
1:LA:1039:A:O2'	1:LA:1040:U:H5''	2.07	0.54
1:LA:2151:A:HO2'	1:LA:2242:A:HO2'	1.51	0.54
1:LA:2258:A:H5'	1:LA:2259:U:C5	2.42	0.54
45:S2:17:C:O2'	45:S2:1137:A:N1	2.39	0.54
45:S2:253:A:H2'	45:S2:254:A:C8	2.42	0.54
45:S2:1297:G:N2	45:S2:1300:A:OP2	2.31	0.54
51:SF:58:ASP:OD2	51:SF:59:LYS:NZ	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SJ:28:SER:HB3	55:SJ:34:LEU:HD12	1.90	0.54
55:SJ:33:GLN:HA	55:SJ:36:ASN:HD21	1.72	0.54
60:SO:169:ILE:CD1	60:SO:181:TRP:HE3	2.20	0.54
1:LA:1533:A:H2'	1:LA:1534:A:C8	2.42	0.54
1:LA:2879:U:H1'	5:LE:250:ALA:HB3	1.90	0.54
19:LS:94:PHE:CZ	29:Lc:119:PRO:HD3	2.43	0.54
22:LV:102:ARG:O	22:LV:106:LEU:HG	2.07	0.54
45:S2:62:A:H1'	45:S2:287:G:H21	1.72	0.54
45:S2:1001:A:OP1	80:Tb:39:A:O2'	2.16	0.54
60:SO:183:LEU:HD23	60:SO:183:LEU:H	1.72	0.54
63:SR:67:GLN:O	63:SR:71:THR:HG22	2.07	0.54
65:ST:69:LEU:O	65:ST:99:GLY:HA3	2.08	0.54
68:SW:45:ILE:HG13	68:SW:48:GLN:HE21	1.71	0.54
1:LA:180:C:O2	1:LA:236:G:N2	2.41	0.54
1:LA:505:U:H2'	1:LA:506:U:O4'	2.07	0.54
1:LA:908:G:OP1	16:LP:77:LYS:HA	2.08	0.54
1:LA:1360:U:OP1	6:LF:309:ARG:HG2	2.07	0.54
1:LA:1693:U:H4'	35:Li:24:LYS:HD3	1.90	0.54
1:LA:2552:U:H3'	1:LA:2553:A:H5''	1.89	0.54
8:LH:102:ASN:ND2	8:LH:104:GLU:HG2	2.23	0.54
11:LK:120:ASP:OD1	11:LK:120:ASP:N	2.36	0.54
45:S2:1025:A:H5'	45:S2:1774:G:H4'	1.90	0.54
46:SA:40:ARG:HA	55:SJ:110:PRO:HB3	1.89	0.54
47:SB:144:GLU:HB3	47:SB:218:GLU:OE2	2.08	0.54
55:SJ:97:VAL:HG22	55:SJ:101:LYS:HD2	1.88	0.54
71:SZ:44:GLY:O	71:SZ:48:VAL:HG12	2.07	0.54
72:Sa:9:VAL:HG22	72:Sa:10:GLU:H	1.73	0.54
1:LA:530:G:H2'	1:LA:531:A:C8	2.42	0.54
1:LA:1224:A:H61	1:LA:1284:G:N2	2.05	0.54
1:LA:1612:A:OP1	39:Lm:51:LEU:N	2.40	0.54
1:LA:2412:A:H2'	1:LA:2413:G:H8	1.72	0.54
1:LA:3294:A:H2'	1:LA:3295:A:C8	2.43	0.54
3:LC:70:G:OP1	27:La:121:ARG:NH2	2.41	0.54
4:LD:133:TYR:HB3	4:LD:168:VAL:HG12	1.90	0.54
16:LP:155:VAL:O	16:LP:162:ARG:NH2	2.36	0.54
21:LU:8:GLN:HB3	21:LU:64:ILE:HD11	1.88	0.54
29:Lc:75:LEU:HB3	29:Lc:118:ILE:HG23	1.89	0.54
45:S2:97:C:H2'	45:S2:98:U:C6	2.42	0.54
45:S2:1452:U:H5''	50:SE:80:MET:HE1	1.88	0.54
62:SQ:24:PHE:CG	71:SZ:74:VAL:HG22	2.42	0.54
66:SU:163:ASP:OD1	66:SU:163:ASP:N	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:18:PRO:O	68:SW:23:ARG:NH2	2.39	0.54
1:LA:20:A:H2'	1:LA:21:G:C8	2.41	0.54
1:LA:2427:U:H2'	1:LA:2428:G:C8	2.42	0.54
2:LB:118:A:H5''	7:LG:253:PHE:HZ	1.72	0.54
20:LT:139:VAL:O	20:LT:143:ILE:HD13	2.07	0.54
45:S2:1047:G:C2	45:S2:1071:U:O4	2.60	0.54
45:S2:1214:U:H5'	45:S2:1246:C:H1'	1.88	0.54
1:LA:1192:A:OP1	17:LQ:49[A]:ARG:NH2	2.40	0.54
1:LA:1570:A:H2'	1:LA:1571:U:H4'	1.89	0.54
1:LA:1830:U:O2'	3:LC:114:G:OP1	2.17	0.54
1:LA:3260:C:OP1	15:LO:126:GLN:NE2	2.36	0.54
3:LC:47:C:H1'	3:LC:61:A:H2'	1.88	0.54
6:LF:234:ASN:OD1	6:LF:236:LEU:N	2.31	0.54
16:LP:99:ARG:O	16:LP:103:GLU:HG2	2.08	0.54
20:LT:23:TRP:CE3	20:LT:51:VAL:HG12	2.43	0.54
45:S2:395:U:H2'	45:S2:396:G:O4'	2.07	0.54
45:S2:1556:A:OP1	50:SE:115:TYR:OH	2.24	0.54
45:S2:1576:A:HO2'	80:Tb:41:C:HO2'	1.44	0.54
45:S2:1593:A:H2'	45:S2:1594:G:H8	1.73	0.54
66:SU:126:LEU:HD21	66:SU:152:VAL:HG21	1.88	0.54
67:SV:77:ARG:HG2	67:SV:77:ARG:NH1	2.23	0.54
71:SZ:63:ALA:O	71:SZ:67:VAL:HG12	2.08	0.54
1:LA:1133:G:O2'	1:LA:2641:A:N3	2.33	0.54
1:LA:1244:A:H3'	1:LA:1245:G:H5''	1.90	0.54
9:LI:89:ILE:HD12	9:LI:214:TRP:CH2	2.43	0.54
15:LO:79:ALA:O	15:LO:82:SER:OG	2.20	0.54
45:S2:221:A:N7	45:S2:832:U:N3	2.55	0.54
45:S2:939:A:H2'	45:S2:940:A:C8	2.43	0.54
55:SJ:34:LEU:HD13	55:SJ:87:HIS:HB2	1.89	0.54
64:SS:100:ARG:NH1	64:SS:121:TYR:O	2.37	0.54
75:Sd:27:VAL:HG23	75:Sd:29:HIS:CD2	2.42	0.54
1:LA:2716:U:H4'	43:Lq:13:LYS:HD3	1.90	0.54
3:LC:21:C:OP1	6:LF:193:LYS:NZ	2.36	0.54
14:LN:27:ASP:O	14:LN:31:LYS:HB2	2.08	0.54
14:LN:87:ALA:O	14:LN:91:ARG:HG3	2.07	0.54
22:LV:84:TYR:CE1	30:Ld:21:ILE:HG22	2.43	0.54
23:LW:61:THR:HG23	23:LW:62:VAL:HG13	1.90	0.54
29:Lc:36:GLY:HA3	29:Lc:40:HIS:CE1	2.43	0.54
45:S2:1095:U:O2'	73:Sb:19:LYS:NZ	2.41	0.54
45:S2:1173:C:H5'	45:S2:1543:A:O2'	2.08	0.54
45:S2:1486:G:H2'	45:S2:1487:A:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:75:G:H1'	14:LN:61:PRO:HG3	1.90	0.54
1:LA:1826:C:H2'	1:LA:1827:A:C8	2.44	0.54
1:LA:3293:A:H5'	5:LE:128:LYS:HG3	1.89	0.54
2:LB:89:G:H4'	21:LU:84:ARG:HD3	1.88	0.54
9:LI:163:LEU:O	9:LI:168:ILE:HD11	2.08	0.54
27:La:70:ILE:HD13	27:La:82:VAL:HG22	1.90	0.54
41:Lo:124:LYS:O	41:Lo:126:LYS:NZ	2.39	0.54
45:S2:65:A:O2'	45:S2:67:A:OP2	2.24	0.54
45:S2:1069:A:OP1	61:SP:28:ASN:ND2	2.40	0.54
46:SA:74:GLN:HE22	46:SA:84:ILE:H	1.56	0.54
51:SF:34:SER:HB2	54:SI:7:ARG:HB3	1.90	0.54
54:SI:61:VAL:HG13	54:SI:76:LEU:HD11	1.90	0.54
66:SU:173:TYR:CD2	66:SU:181:ILE:HD13	2.43	0.54
76:Se:89:ARG:HG2	76:Se:89:ARG:HH11	1.72	0.54
78:Sg:50:VAL:HG12	78:Sg:54:ARG:HG2	1.90	0.54
1:LA:47:C:OP2	1:LA:48:A:O2'	2.22	0.53
1:LA:1665:G:H2'	1:LA:1666:A:H8	1.73	0.53
1:LA:3049:U:O2'	25:LY:16:GLY:O	2.27	0.53
1:LA:3180:C:H2'	1:LA:3181:G:H5''	1.90	0.53
3:LC:106:C:H4'	3:LC:107:G:H5''	1.90	0.53
31:Le:17:VAL:HG23	31:Le:95:ALA:HA	1.88	0.53
45:S2:127:G:H1'	45:S2:178:U:H3	1.73	0.53
45:S2:390:G:OP2	45:S2:390:G:N2	2.35	0.53
45:S2:953:G:H2'	45:S2:954:G:H8	1.74	0.53
45:S2:1390:U:OP2	52:SG:49:LYS:NZ	2.41	0.53
45:S2:1402:G:OP1	52:SG:5:ARG:NH1	2.40	0.53
68:SW:106:GLU:HA	68:SW:111:THR:HG21	1.89	0.53
75:Sd:68:LYS:NZ	75:Sd:70:VAL:HG22	2.23	0.53
1:LA:49:A:N7	16:LP:187:ARG:HD3	2.23	0.53
1:LA:727:G:H5''	19:LS:43:PRO:HB2	1.90	0.53
1:LA:2111:U:H4'	1:LA:2112:A:OP2	2.07	0.53
1:LA:2375:G:H2'	1:LA:2376:G:C8	2.44	0.53
1:LA:3163:C:N4	1:LA:3283:G:O6	2.42	0.53
7:LG:278:SER:OG	7:LG:280:GLU:OE1	2.22	0.53
16:LP:45:PRO:O	16:LP:49:ARG:HG3	2.08	0.53
51:SF:13:LYS:HG3	51:SF:14:LYS:H	1.73	0.53
60:SO:107:LYS:N	60:SO:128:ASP:OD2	2.41	0.53
1:LA:68:C:O3'	16:LP:177:GLY:HA2	2.07	0.53
1:LA:1377:U:H2'	1:LA:1378:G:H8	1.73	0.53
4:LD:180:LEU:HD22	44:Lr:18:TYR:HB3	1.91	0.53
31:Le:43:ILE:HB	31:Le:90:VAL:HG13	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:803:A:HO2'	45:S2:804:A:H8	1.56	0.53
47:SB:161:ASP:OD1	57:SL:42:ARG:NH1	2.42	0.53
51:SF:30:LYS:NZ	54:SI:8:ASP:OD1	2.40	0.53
60:SO:205:SER:OG	60:SO:207:ASP:OD1	2.24	0.53
60:SO:264:SER:O	60:SO:267:PRO:HD2	2.09	0.53
64:SS:192:ILE:HD13	64:SS:242:LYS:O	2.09	0.53
74:Sc:86:PHE:CE2	74:Sc:88:PRO:HA	2.42	0.53
78:Sg:14:VAL:HA	78:Sg:17:GLN:HE21	1.73	0.53
1:LA:308:A:C6	1:LA:309:U:H1'	2.43	0.53
1:LA:760:A:C2	1:LA:770:A:H1'	2.44	0.53
1:LA:2915:U:H5	1:LA:2934:U:HO2'	1.57	0.53
1:LA:3267:A:H3'	1:LA:3268:U:H2'	1.90	0.53
15:LO:112:LEU:HD12	15:LO:116:GLU:HB3	1.90	0.53
18:LR:29:THR:HB	18:LR:119:VAL:HG21	1.90	0.53
29:Lc:22:ILE:HD12	29:Lc:22:ILE:H	1.72	0.53
33:Lg:111:ARG:HE	33:Lg:115:LEU:HD21	1.72	0.53
45:S2:88:U:H4'	45:S2:171:A:H5''	1.90	0.53
45:S2:1120:U:H2'	45:S2:1121:C:C6	2.44	0.53
45:S2:1454:G:H4'	50:SE:122:THR:HG21	1.91	0.53
56:SK:61:SER:H	56:SK:64:VAL:HB	1.73	0.53
75:Sd:114:ARG:HA	75:Sd:117:LYS:HE3	1.90	0.53
1:LA:3106:U:H2'	1:LA:3107:G:C8	2.42	0.53
1:LA:3174:U:H5'	34:Lh:10:LYS:HE2	1.90	0.53
3:LC:9:A:H2'	3:LC:10:A:C8	2.43	0.53
7:LG:261:THR:HG22	7:LG:263:GLU:H	1.73	0.53
9:LI:116:PHE:O	9:LI:199:ASN:ND2	2.42	0.53
10:LJ:81:THR:HG21	10:LJ:181:LYS:HD3	1.90	0.53
30:Ld:5:LYS:HE3	30:Ld:8:THR:HB	1.91	0.53
32:Lf:11:GLU:OE1	32:Lf:96:VAL:HG21	2.09	0.53
43:Lq:25:VAL:HG22	43:Lq:72:LEU:CD2	2.38	0.53
45:S2:415:C:H2'	45:S2:416:A:H5''	1.90	0.53
45:S2:639:U:H4'	45:S2:640:U:O5'	2.08	0.53
45:S2:1211:A:O2'	50:SE:99:GLY:O	2.15	0.53
47:SB:53:VAL:HG13	47:SB:55:ASP:H	1.74	0.53
47:SB:205:SER:OG	47:SB:207:THR:OG1	2.23	0.53
60:SO:153:GLN:OE1	60:SO:202:LEU:N	2.42	0.53
61:SP:140:ASN:ND2	72:Sa:31:SER:O	2.42	0.53
65:ST:74:LYS:CE	65:ST:96:SER:HB2	2.38	0.53
65:ST:137:ARG:HB3	65:ST:140:ASN:HB2	1.91	0.53
70:SY:101:HIS:HA	70:SY:104:ARG:NH2	2.24	0.53
1:LA:820:U:H2'	1:LA:821:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:915:G:H5'	1:LA:916:A:OP1	2.09	0.53
1:LA:2882:U:H2'	1:LA:2883:C:C6	2.43	0.53
1:LA:3297:C:C2	1:LA:3298:A:C8	2.97	0.53
5:LE:37:ARG:HH12	5:LE:191:LYS:HZ1	1.56	0.53
12:LL:207:GLU:OE1	12:LL:207:GLU:N	2.33	0.53
15:LO:108:ARG:O	15:LO:112:LEU:HD22	2.07	0.53
23:LW:101:ASN:HA	23:LW:103:TYR:CZ	2.44	0.53
33:Lg:74:PHE:CG	33:Lg:85:LEU:HD11	2.44	0.53
45:S2:126:A:OP2	65:ST:197:ASN:ND2	2.31	0.53
45:S2:1262:U:H2'	45:S2:1263:G:C8	2.43	0.53
47:SB:161:ASP:HB2	47:SB:162:VAL:HG23	1.90	0.53
54:SI:66:TYR:CD1	54:SI:124:ILE:HG21	2.41	0.53
60:SO:90:ARG:HB3	60:SO:92:TRP:CZ3	2.44	0.53
70:SY:87:ASP:OD1	70:SY:87:ASP:N	2.40	0.53
1:LA:1645:G:N2	1:LA:1808:A:N6	2.33	0.53
1:LA:2616:U:H3'	30:Ld:3:LYS:HD2	1.90	0.53
12:LL:52:LEU:HB3	12:LL:136:PHE:HB2	1.89	0.53
12:LL:182:LEU:HD12	12:LL:185:ARG:HH21	1.74	0.53
13:LM:54:VAL:CG2	13:LM:56:THR:HG22	2.39	0.53
45:S2:1087:A:H2'	45:S2:1088:A:C8	2.43	0.53
46:SA:17:PHE:HA	46:SA:20:GLU:HG3	1.91	0.53
66:SU:38:LEU:HA	66:SU:41:LEU:HG	1.90	0.53
1:LA:253:A:O2'	1:LA:254:A:OP1	2.22	0.53
1:LA:398:A:O2'	1:LA:1415:C:OP1	2.23	0.53
1:LA:1860:G:O2'	1:LA:3065:U:OP1	2.26	0.53
1:LA:2780:U:O2'	14:LN:185:LYS:HD3	2.09	0.53
7:LG:187:THR:OG1	7:LG:189:GLU:OE1	2.25	0.53
12:LL:182:LEU:O	12:LL:186:GLU:HG2	2.09	0.53
45:S2:1543:A:N6	45:S2:1567:U:H3	2.02	0.53
51:SF:7:VAL:HG12	51:SF:22:VAL:HB	1.91	0.53
51:SF:132:LYS:HG3	51:SF:138:PHE:HE1	1.73	0.53
55:SJ:37:VAL:HA	55:SJ:40:ASN:HD21	1.74	0.53
61:SP:103:THR:O	61:SP:106:SER:OG	2.27	0.53
64:SS:104:ASP:OD2	64:SS:108:ARG:NH2	2.35	0.53
1:LA:309:U:O4	1:LA:2779:A:N6	2.40	0.53
1:LA:1210:U:H2'	1:LA:1211:A:C8	2.43	0.53
1:LA:1341:C:H2'	1:LA:1342:A:C8	2.44	0.53
1:LA:2963:G:N2	1:LA:2966:A:OP2	2.35	0.53
2:LB:90:U:H2'	2:LB:91:G:O4'	2.09	0.53
5:LE:204:ALA:O	5:LE:207:SER:OG	2.25	0.53
11:LK:90:MET:HE1	11:LK:161:LEU:HD22	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:LR:122:ALA:HB3	18:LR:143:PRO:HB2	1.91	0.53
26:LZ:129:ASP:OD1	26:LZ:129:ASP:N	2.41	0.53
27:La:23:PRO:HG2	27:La:26:GLN:HG3	1.89	0.53
45:S2:17:C:H2'	45:S2:18:C:C6	2.44	0.53
45:S2:592:A:H2'	45:S2:593:U:O4'	2.09	0.53
45:S2:1564:U:OP1	54:SI:38:LYS:NZ	2.30	0.53
48:SC:73:VAL:HG13	48:SC:77:ARG:HH21	1.74	0.53
1:LA:401:U:O2'	40:Ln:36:ARG:NH2	2.42	0.53
1:LA:3293:A:H2'	1:LA:3294:A:O4'	2.09	0.53
3:LC:150:G:OP1	26:LZ:27:ARG:NH2	2.42	0.53
10:LJ:183:LYS:HB2	10:LJ:194:THR:HG23	1.91	0.53
15:LO:73:PRO:HG2	15:LO:76:ALA:HB2	1.90	0.53
27:La:63:LYS:HD2	27:La:85:VAL:HG13	1.90	0.53
44:Lr:36:ARG:HG3	44:Lr:48:LYS:HD3	1.90	0.53
45:S2:108:A:H2'	45:S2:109:G:C8	2.44	0.53
45:S2:1335:U:H3	45:S2:1416:G:H1	1.57	0.53
67:SV:67:TRP:HB3	67:SV:72:ILE:HG22	1.90	0.53
71:SZ:13:VAL:HG23	71:SZ:76:ILE:HA	1.91	0.53
1:LA:2417:G:N3	80:Tb:73:A:N6	2.56	0.52
3:LC:142:C:H2'	3:LC:143:U:C6	2.44	0.52
15:LO:49:PRO:HB3	15:LO:78:THR:HG23	1.91	0.52
27:La:79:ALA:HB1	27:La:98:ASN:HB3	1.90	0.52
28:Lb:106:GLN:NE2	28:Lb:109:GLU:OE1	2.42	0.52
45:S2:683:C:OP1	45:S2:684:A:N6	2.39	0.52
46:SA:120:TYR:HA	46:SA:123:VAL:HG12	1.91	0.52
52:SG:75:GLU:HA	52:SG:78:ARG:HG2	1.92	0.52
54:SI:40:SER:OG	54:SI:41:SER:N	2.42	0.52
56:SK:53:GLU:HG2	56:SK:57:TYR:HE2	1.73	0.52
60:SO:116:ASP:OD1	60:SO:120:SER:N	2.42	0.52
79:Ta:10:G:O6	79:Ta:25:U:O2	2.27	0.52
79:Ta:76:C:H2'	79:Ta:77:A:C8	2.43	0.52
1:LA:1870:U:H2'	1:LA:1871:C:O2	2.09	0.52
6:LF:358:THR:HG21	22:LV:148:PRO:HG2	1.92	0.52
10:LJ:97:TYR:OH	10:LJ:204:ARG:N	2.29	0.52
15:LO:65:LEU:HD11	21:LU:152:LEU:HD12	1.91	0.52
23:LW:81:LYS:HZ3	23:LW:90:ARG:CZ	2.23	0.52
45:S2:187:G:N2	45:S2:197:A:H61	2.06	0.52
45:S2:1452:U:O2'	50:SE:79:HIS:HB3	2.10	0.52
45:S2:1573:A:H62	47:SB:181:GLU:HA	1.74	0.52
48:SC:30:ALA:HA	48:SC:38:LYS:HG2	1.90	0.52
50:SE:32:ASP:HA	50:SE:35:LYS:HG2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SE:38:PRO:O	50:SE:42:ARG:HG3	2.10	0.52
54:SI:5:SER:O	54:SI:9:VAL:HG23	2.09	0.52
62:SQ:113:MET:HE3	62:SQ:142:PHE:HE2	1.74	0.52
62:SQ:144:ARG:HB3	62:SQ:208:GLN:HB3	1.92	0.52
65:ST:64:LYS:HG3	65:ST:83:CYS:SG	2.49	0.52
68:SW:71:PHE:CD1	68:SW:71:PHE:C	2.87	0.52
68:SW:136:VAL:O	68:SW:152:SER:OG	2.27	0.52
1:LA:1316:A:O2'	1:LA:1317:A:H3'	2.09	0.52
1:LA:1481:A:OP2	1:LA:1857:A:O2'	2.28	0.52
1:LA:2159:G:H2'	1:LA:2160:G:C8	2.43	0.52
1:LA:2673:A:C2	13:LM:124:GLY:HA3	2.44	0.52
1:LA:2708:C:H2'	1:LA:2709:C:C6	2.44	0.52
40:Ln:25:GLN:HE22	40:Ln:28:ARG:HH11	1.57	0.52
45:S2:323:A:H5''	67:SV:11:ARG:HD2	1.92	0.52
46:SA:70:THR:HB	46:SA:86:LEU:HB2	1.91	0.52
47:SB:26:ALA:HB3	51:SF:26:LYS:NZ	2.24	0.52
75:Sd:29:HIS:HB2	75:Sd:32:ARG:HG3	1.91	0.52
79:Ta:16:C:H5'	79:Ta:17:C:H5	1.74	0.52
1:LA:2217:G:H2'	1:LA:2218:A:C8	2.44	0.52
1:LA:2412:A:H2'	1:LA:2413:G:C8	2.45	0.52
6:LF:106:TRP:CZ2	14:LN:19:GLN:HG2	2.44	0.52
6:LF:215:ILE:HD12	6:LF:219:LEU:HD23	1.91	0.52
7:LG:266:ALA:O	7:LG:270:LYS:HB2	2.09	0.52
9:LI:116:PHE:CE1	9:LI:144:ILE:HG12	2.45	0.52
45:S2:107:C:H2'	45:S2:108:A:H8	1.73	0.52
45:S2:340:U:H2'	45:S2:341:A:C8	2.45	0.52
45:S2:358:U:O2'	45:S2:360:A:OP1	2.21	0.52
45:S2:764:U:O2	45:S2:772:G:O6	2.26	0.52
51:SF:93:HIS:HD2	51:SF:105:LEU:HD22	1.74	0.52
55:SJ:36:ASN:O	55:SJ:40:ASN:ND2	2.42	0.52
61:SP:30:GLN:HE22	61:SP:149:LEU:HB3	1.73	0.52
62:SQ:24:PHE:HE2	71:SZ:70:LYS:HE3	1.71	0.52
62:SQ:96:LEU:O	62:SQ:96:LEU:HD12	2.10	0.52
70:SY:33:VAL:HG21	70:SY:66:ILE:HG21	1.91	0.52
1:LA:524:C:H2'	1:LA:525:C:H6	1.73	0.52
1:LA:2838:G:O6	1:LA:2844:A:O2'	2.20	0.52
6:LF:260:GLN:OE1	6:LF:260:GLN:N	2.43	0.52
8:LH:60:ASP:OD1	8:LH:62:THR:OG1	2.26	0.52
9:LI:180:SER:OG	9:LI:183:ASP:OD1	2.26	0.52
28:Lb:106:GLN:HA	28:Lb:109:GLU:CG	2.39	0.52
45:S2:107:C:H2'	45:S2:108:A:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1181:U:N3	45:S2:1458:G:N1	2.57	0.52
73:Sb:29:PRO:HB2	73:Sb:58:SER:HB3	1.91	0.52
10:LJ:111:LYS:HD2	10:LJ:111:LYS:C	2.35	0.52
16:LP:16:SER:O	16:LP:20:ARG:HG3	2.10	0.52
45:S2:183:U:H2'	45:S2:184:C:C6	2.45	0.52
45:S2:1592:A:H2'	45:S2:1593:A:C8	2.44	0.52
48:SC:50:THR:HG22	48:SC:55:VAL:HG13	1.90	0.52
52:SG:106:THR:O	52:SG:110:VAL:HG23	2.10	0.52
60:SO:43:ILE:HD11	60:SO:57:PRO:HB3	1.92	0.52
64:SS:191:ARG:NH2	64:SS:244:ILE:O	2.42	0.52
1:LA:619:U:H1'	34:Lh:60:ARG:HH22	1.75	0.52
1:LA:815:A:H5'	1:LA:905:A:N6	2.23	0.52
1:LA:1314:U:OP2	17:LQ:44[A]:SER:OG	2.20	0.52
1:LA:2991:U:OP1	1:LA:3309:A:O2'	2.12	0.52
7:LG:41:LYS:HB2	22:LV:68:THR:O	2.10	0.52
19:LS:152:HIS:ND1	19:LS:162:ALA:O	2.32	0.52
24:LX:15:LEU:HD13	24:LX:51:ALA:HB3	1.92	0.52
45:S2:502:U:H2'	45:S2:503:G:H8	1.74	0.52
45:S2:804:A:OP1	66:SU:101:LYS:NZ	2.41	0.52
46:SA:162:GLN:N	46:SA:163:PRO:HD2	2.25	0.52
47:SB:166:ARG:HH12	57:SL:45:LYS:HE2	1.74	0.52
49:SD:75:VAL:HA	49:SD:78:LEU:HG	1.92	0.52
50:SE:22:LEU:HA	50:SE:25:LEU:HG	1.92	0.52
62:SQ:3:VAL:HG22	71:SZ:49:LYS:HA	1.91	0.52
63:SR:41:LEU:HD11	63:SR:56:ILE:HD11	1.91	0.52
67:SV:74:LYS:NZ	67:SV:112:TRP:HE3	2.07	0.52
1:LA:266:A:N6	37:Lk:30:LYS:HA	2.25	0.52
1:LA:688:U:O4	6:LF:209:TYR:OH	2.20	0.52
10:LJ:143:ILE:HG23	10:LJ:175:VAL:HG11	1.92	0.52
11:LK:90:MET:HE3	11:LK:144:ILE:HG23	1.92	0.52
12:LL:140:THR:HG21	12:LL:148:VAL:HG21	1.92	0.52
28:Lb:121:ARG:HD2	28:Lb:127:ASN:ND2	2.25	0.52
45:S2:834:G:N2	45:S2:835:U:O4	2.43	0.52
50:SE:34:VAL:O	50:SE:42:ARG:HG2	2.09	0.52
51:SF:26:LYS:HG3	51:SF:28:LEU:HD23	1.91	0.52
65:ST:220:LYS:HA	65:ST:223:LYS:HE2	1.91	0.52
68:SW:127:VAL:HA	68:SW:130:THR:CG2	2.40	0.52
75:Sd:83:LYS:HE2	75:Sd:96:LEU:HB3	1.91	0.52
1:LA:1109:U:H2'	1:LA:1110:U:C6	2.44	0.52
1:LA:2914:U:C5	5:LE:7:GLU:HG2	2.45	0.52
6:LF:295:ILE:O	6:LF:299:ILE:HD13	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LM:32:ARG:NH1	13:LM:119:SER:O	2.42	0.52
33:Lg:83:GLU:O	33:Lg:86:THR:OG1	2.21	0.52
45:S2:551:G:H2'	45:S2:552:G:H8	1.75	0.52
45:S2:904:G:H2'	45:S2:905:A:H5''	1.91	0.52
45:S2:1794:A:H1'	76:Se:79:ILE:HD13	1.92	0.52
46:SA:40:ARG:HH12	46:SA:46:THR:HA	1.75	0.52
53:SH:29:VAL:O	53:SH:33:THR:HG23	2.09	0.52
61:SP:107:PHE:HB3	61:SP:139:VAL:HG21	1.92	0.52
64:SS:182:TYR:N	64:SS:226:PHE:O	2.29	0.52
66:SU:150:GLN:O	66:SU:181:ILE:HA	2.10	0.52
72:Sa:60:ARG:HG2	72:Sa:60:ARG:HH11	1.75	0.52
73:Sb:6:VAL:HG12	73:Sb:34:ILE:HD11	1.91	0.52
77:Sf:19:HIS:HB3	77:Sf:22:LYS:HG3	1.92	0.52
1:LA:190:U:H2'	27:La:60:ARG:NH2	2.24	0.52
1:LA:258:G:H2'	1:LA:258:G:N3	2.25	0.52
1:LA:393:U:H2'	1:LA:394:G:O4'	2.10	0.52
1:LA:791:G:H2'	1:LA:792:C:C6	2.45	0.52
1:LA:1720:U:OP2	20:LT:124:TYR:OH	2.27	0.52
1:LA:3010:A:N1	1:LA:3042:C:O2'	2.38	0.52
6:LF:362:ASP:HA	21:LU:28:ARG:HH11	1.75	0.52
45:S2:623:A:H3'	45:S2:624:G:H5''	1.92	0.52
45:S2:754:A:N6	45:S2:793:A:OP2	2.43	0.52
45:S2:821:U:N3	45:S2:852:C:N4	2.35	0.52
47:SB:75:GLY:HA3	47:SB:77:TYR:CZ	2.45	0.52
61:SP:31:VAL:HG12	61:SP:33:GLN:H	1.74	0.52
62:SQ:52:THR:OG1	62:SQ:53:GLY:N	2.42	0.52
65:ST:139:ASN:O	65:ST:143:LYS:HG3	2.09	0.52
71:SZ:17:ALA:HB1	71:SZ:19:ILE:HD11	1.92	0.52
1:LA:353:G:O6	38:Ll:55:ARG:NH2	2.43	0.51
1:LA:422:A:C2	1:LA:2362:A:H4'	2.45	0.51
1:LA:642:U:O2'	1:LA:1152:A:N1	2.29	0.51
1:LA:780:G:OP1	19:LS:151:ARG:NH1	2.43	0.51
1:LA:1638:C:OP2	35:Li:74:ARG:NH1	2.41	0.51
1:LA:1803:A:H2'	1:LA:1804:C:C6	2.45	0.51
1:LA:1947:G:H2'	1:LA:1948:G:H8	1.73	0.51
3:LC:94:C:OP1	38:Ll:75:LYS:NZ	2.38	0.51
45:S2:1480:G:H3'	45:S2:1481:C:C6	2.45	0.51
45:S2:1544:U:H5''	53:SH:132:ARG:HE	1.74	0.51
47:SB:143:ARG:HG2	57:SL:57:MET:CE	2.39	0.51
69:SX:75:VAL:HG12	69:SX:84:ILE:HD13	1.91	0.51
74:Sc:62:LYS:HG2	74:Sc:63:GLN:H	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:262:U:H2'	1:LA:263:C:O4'	2.09	0.51
1:LA:973:G:H2'	1:LA:974:C:H6	1.75	0.51
1:LA:1806:G:H8	1:LA:1806:G:OP2	1.92	0.51
1:LA:1912:A:N3	1:LA:2119:A:H2'	2.25	0.51
1:LA:2283:C:O2'	1:LA:2284:C:OP1	2.27	0.51
1:LA:2351:A:H5''	18:LR:83:TRP:O	2.09	0.51
1:LA:2566:C:H2'	1:LA:2567:C:H6	1.75	0.51
11:LK:94:TYR:HA	11:LK:177:ASP:OD1	2.10	0.51
17:LQ:116[A]:LYS:NZ	21:LU:165:TYR:O	2.30	0.51
24:LX:5:GLY:HA3	24:LX:106:LYS:O	2.10	0.51
45:S2:607:G:H5'	45:S2:613:G:N2	2.25	0.51
45:S2:837:G:P	45:S2:837:G:H8	2.33	0.51
45:S2:1373:C:H2'	45:S2:1374:C:C6	2.46	0.51
46:SA:8:LYS:HE2	55:SJ:63:LEU:HD22	1.92	0.51
52:SG:110:VAL:HG11	52:SG:117:LEU:HD21	1.92	0.51
64:SS:121:TYR:CG	64:SS:161:LYS:HE3	2.45	0.51
67:SV:37:LYS:H	67:SV:59:ARG:H	1.57	0.51
67:SV:61:GLU:HG3	67:SV:62:THR:HG23	1.93	0.51
1:LA:506:U:H2'	1:LA:507:U:H6	1.74	0.51
1:LA:524:C:OP2	15:LO:77:ARG:NH1	2.44	0.51
1:LA:1119:A:N6	1:LA:1137:U:H3	2.06	0.51
1:LA:2356:A:H2'	1:LA:2357:A:H8	1.74	0.51
1:LA:2372:A:N3	1:LA:2823:G:O2'	2.30	0.51
1:LA:2827:G:O2'	12:LL:4:ARG:NH2	2.42	0.51
7:LG:235:SER:O	7:LG:239:ILE:HG23	2.09	0.51
10:LJ:33:ASN:HD22	10:LJ:38:GLN:HG3	1.73	0.51
13:LM:32:ARG:CZ	13:LM:119:SER:O	2.58	0.51
15:LO:120:VAL:HG23	17:LQ:197[A]:LEU:HD23	1.92	0.51
36:Lj:5:LYS:O	36:Lj:8:GLU:HG2	2.10	0.51
36:Lj:31:LEU:HA	36:Lj:34:GLN:HG3	1.93	0.51
45:S2:140:A:OP1	65:ST:187:LYS:NZ	2.40	0.51
45:S2:456:A:H2'	45:S2:457:G:C8	2.46	0.51
45:S2:1262:U:H2'	45:S2:1263:G:H8	1.75	0.51
45:S2:1579:U:O3'	51:SF:140:LYS:HB2	2.09	0.51
54:SI:73:VAL:O	54:SI:77:ASN:ND2	2.43	0.51
66:SU:99:LEU:HD13	66:SU:116:ARG:HG2	1.92	0.51
75:Sd:29:HIS:CE1	75:Sd:34:ASN:HA	2.45	0.51
1:LA:628:U:H2'	1:LA:629:A:C8	2.45	0.51
1:LA:639:U:H2'	1:LA:640:C:C6	2.46	0.51
1:LA:2785:G:N2	29:Lc:58:MET:SD	2.79	0.51
3:LC:25:G:N7	27:La:13:ARG:NH1	2.54	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LD:19:HIS:ND1	4:LD:190:ARG:O	2.36	0.51
6:LF:104:LYS:HD2	6:LF:106:TRP:CZ2	2.46	0.51
6:LF:203:ARG:NE	6:LF:226:GLU:OE2	2.42	0.51
9:LI:116:PHE:CZ	9:LI:144:ILE:HG12	2.44	0.51
9:LI:147:LEU:HD21	9:LI:207:LEU:HD21	1.92	0.51
15:LO:10:SER:HB2	15:LO:12:TRP:HZ3	1.75	0.51
31:Le:74:ASN:OD1	31:Le:74:ASN:N	2.42	0.51
43:Lq:72:LEU:HG	43:Lq:83:LEU:HD21	1.92	0.51
50:SE:89:MET:SD	50:SE:89:MET:N	2.81	0.51
60:SO:303:ALA:HB3	60:SO:313:TRP:HZ3	1.75	0.51
62:SQ:30:PHE:CD2	62:SQ:94:LYS:HA	2.46	0.51
5:LE:94:GLU:HG3	17:LQ:152[A]:VAL:HG13	1.92	0.51
7:LG:257:GLU:N	7:LG:257:GLU:OE2	2.44	0.51
27:La:56:VAL:HG21	27:La:104:LEU:HD13	1.93	0.51
45:S2:513:U:H2'	45:S2:514:G:C8	2.45	0.51
45:S2:654:C:N4	45:S2:678:A:N7	2.58	0.51
48:SC:54:TYR:CD1	48:SC:72:GLY:HA2	2.45	0.51
50:SE:118:GLU:O	53:SH:122:HIS:N	2.44	0.51
54:SI:108:LEU:HB3	54:SI:114:VAL:HB	1.92	0.51
60:SO:175:ASP:HB3	60:SO:177:MET:HG2	1.93	0.51
3:LC:8:C:H2'	3:LC:9:A:C8	2.46	0.51
4:LD:102:LEU:HD13	4:LD:166:ILE:HD11	1.92	0.51
5:LE:44:THR:OG1	5:LE:182:GLN:O	2.29	0.51
10:LJ:157:VAL:HG21	10:LJ:163:VAL:HG22	1.92	0.51
12:LL:55:ASN:OD1	12:LL:164:LYS:HE2	2.10	0.51
15:LO:32:LEU:HD11	15:LO:94:TRP:CG	2.46	0.51
18:LR:20:SER:HB3	18:LR:21:TYR:CD1	2.45	0.51
28:Lb:23:VAL:HG12	28:Lb:45:GLY:HA3	1.92	0.51
45:S2:372:G:H5''	45:S2:373:G:OP2	2.10	0.51
45:S2:385:A:H5''	67:SV:22:ARG:HG2	1.93	0.51
45:S2:1322:A:H2'	45:S2:1323:C:C6	2.45	0.51
45:S2:1471:A:N6	45:S2:1538:U:H3	2.06	0.51
47:SB:92:ARG:HG2	47:SB:92:ARG:HH11	1.76	0.51
69:SX:123:VAL:HG12	69:SX:142:VAL:HA	1.93	0.51
1:LA:509:G:H1	1:LA:580:U:H3	1.57	0.51
1:LA:1925:C:H5''	44:Lr:7:LYS:HD3	1.92	0.51
9:LI:102:VAL:HG13	9:LI:126:LEU:HG	1.92	0.51
15:LO:109:ARG:HA	15:LO:112:LEU:CD2	2.41	0.51
17:LQ:56[A]:ASP:OD1	17:LQ:59[A]:ARG:NH2	2.44	0.51
45:S2:331:A:H2'	45:S2:332:U:C6	2.45	0.51
45:S2:1469:A:O2'	45:S2:1540:G:N2	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:SB:99:MET:O	47:SB:103:ASN:HB2	2.11	0.51
64:SS:248:ILE:HG13	68:SW:71:PHE:HE2	1.75	0.51
71:SZ:40:ALA:HB3	71:SZ:67:VAL:HG23	1.92	0.51
1:LA:430:U:H2'	1:LA:431:U:C6	2.45	0.51
5:LE:50:LYS:HG2	5:LE:332:ARG:HA	1.92	0.51
6:LF:23:PRO:HD2	6:LF:26:PHE:CD2	2.46	0.51
12:LL:30:LYS:HG2	12:LL:63:GLU:HG3	1.93	0.51
14:LN:89:TYR:O	14:LN:92:THR:HG22	2.11	0.51
24:LX:35:TYR:CE1	24:LX:37:ILE:HG22	2.45	0.51
45:S2:5:U:H2'	45:S2:6:G:C8	2.46	0.51
45:S2:112:A:C2	45:S2:303:U:H1'	2.46	0.51
51:SF:49:TYR:HB3	51:SF:53:LEU:HG	1.93	0.51
57:SL:39:THR:O	57:SL:40:ILE:HD13	2.10	0.51
60:SO:33:LEU:HD23	60:SO:45:TRP:CD1	2.46	0.51
60:SO:66:HIS:CG	60:SO:67:ILE:H	2.28	0.51
60:SO:123:ILE:HD12	60:SO:154:VAL:CG1	2.41	0.51
63:SR:35:TRP:C	63:SR:35:TRP:CD1	2.89	0.51
1:LA:177:U:C4	1:LA:241:G:O6	2.64	0.51
1:LA:309:U:H2'	1:LA:310:U:C5	2.45	0.51
1:LA:830:G:O2'	1:LA:1863:A:N3	2.38	0.51
1:LA:1348:G:H22	1:LA:1352:U:P	2.34	0.51
1:LA:2102:U:H2'	1:LA:2103:A:C8	2.46	0.51
1:LA:2337:C:H5''	24:LX:47:ASN:O	2.11	0.51
1:LA:2522:A:OP1	26:LZ:31:THR:HG22	2.09	0.51
16:LP:68:ARG:HD3	16:LP:128:LYS:HG3	1.92	0.51
19:LS:116:LYS:NZ	29:Lc:88:ASP:OD2	2.43	0.51
23:LW:27:VAL:HG22	23:LW:89:LEU:HD11	1.92	0.51
28:Lb:105:SER:O	28:Lb:109:GLU:HG2	2.11	0.51
45:S2:959:U:O2	77:Sf:30:SER:OG	2.28	0.51
45:S2:1608:U:H2'	45:S2:1609:U:C6	2.46	0.51
47:SB:128:ASN:HB3	47:SB:131:GLN:HB3	1.92	0.51
49:SD:135:MET:O	49:SD:138:GLU:HG3	2.11	0.51
51:SF:127:LYS:HA	51:SF:134:ALA:HA	1.92	0.51
74:Sc:90:ASP:HB3	74:Sc:136:TRP:CZ3	2.46	0.51
1:LA:2256:C:N4	45:S2:1647:U:OP1	2.44	0.51
1:LA:2946:G:C2	5:LE:250:ALA:HB1	2.46	0.51
13:LM:96:PHE:CB	13:LM:156:LYS:HE2	2.41	0.51
32:Lf:14:ILE:HG12	32:Lf:16:LEU:HD22	1.92	0.51
44:Lr:21:SER:O	44:Lr:25:GLN:HG3	2.11	0.51
45:S2:900:A:N7	62:SQ:5:LYS:NZ	2.56	0.51
45:S2:1196:A:H4'	45:S2:1197:C:H5''	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SH:30:TYR:O	53:SH:34:THR:HG23	2.11	0.51
63:SR:153:SER:OG	63:SR:154:LEU:N	2.43	0.51
1:LA:618:A:H5''	1:LA:619:U:OP1	2.11	0.50
1:LA:1107:U:H2'	1:LA:1108:U:C6	2.46	0.50
1:LA:1665:G:H2'	1:LA:1666:A:C8	2.46	0.50
6:LF:315:LYS:HB2	6:LF:323:VAL:HG21	1.93	0.50
10:LJ:134:TYR:HB3	10:LJ:190:VAL:HG11	1.93	0.50
13:LM:132:ASN:HA	13:LM:154:THR:HG21	1.93	0.50
17:LQ:73[A]:PHE:HB3	17:LQ:78[A]:ARG:HB3	1.93	0.50
19:LS:174:ARG:O	29:Lc:56:VAL:HG11	2.11	0.50
40:Ln:20:ASN:ND2	40:Ln:42:ARG:O	2.39	0.50
45:S2:643:G:O6	45:S2:692:C:N4	2.44	0.50
46:SA:68:GLU:OE2	48:SC:67:THR:HG23	2.12	0.50
54:SI:25:GLN:HB3	54:SI:27:LYS:HD3	1.92	0.50
54:SI:107:ALA:O	54:SI:111:ILE:HG12	2.10	0.50
62:SQ:85:LYS:HB3	62:SQ:101:HIS:HB3	1.93	0.50
62:SQ:90:GLU:OE1	62:SQ:225:VAL:HG23	2.11	0.50
64:SS:159:THR:HG21	64:SS:227:VAL:O	2.10	0.50
72:Sa:32:VAL:HG22	72:Sa:60:ARG:HD2	1.93	0.50
1:LA:309:U:P	37:Lk:84:LYS:HZ1	2.34	0.50
1:LA:944:C:H2'	1:LA:945:U:C6	2.46	0.50
1:LA:1276:C:O2'	1:LA:1277:A:O5'	2.25	0.50
1:LA:1377:U:H2'	1:LA:1378:G:C8	2.46	0.50
1:LA:1496:C:H2'	1:LA:1497:A:C8	2.46	0.50
1:LA:1835:C:O2'	1:LA:1841:A:N1	2.35	0.50
1:LA:2306:G:O2'	1:LA:2309:U:OP2	2.22	0.50
1:LA:2882:U:H2'	1:LA:2883:C:H6	1.76	0.50
11:LK:36:LYS:HB2	11:LK:78:MET:SD	2.51	0.50
13:LM:93:ASP:HB2	13:LM:156:LYS:HZ1	1.75	0.50
18:LR:120:ASN:N	18:LR:120:ASN:OD1	2.43	0.50
19:LS:83:VAL:O	19:LS:103:ALA:HA	2.12	0.50
28:Lb:133:LYS:O	28:Lb:135:ARG:CZ	2.59	0.50
45:S2:502:U:H2'	45:S2:503:G:C8	2.47	0.50
1:LA:370:U:H4'	1:LA:404:G:H5'	1.93	0.50
1:LA:499:C:H5''	8:LH:82:ARG:HG3	1.92	0.50
1:LA:1311:C:O2'	17:LQ:83[A]:ALA:O	2.30	0.50
1:LA:2496:U:O2'	1:LA:2497:U:OP1	2.25	0.50
1:LA:2766:U:H2'	1:LA:2767:U:C6	2.46	0.50
1:LA:3314:G:P	5:LE:116:ARG:HH22	2.34	0.50
9:LI:47:ARG:HH22	9:LI:179:LEU:HD12	1.77	0.50
12:LL:51:HIS:HB3	12:LL:134:ILE:HD12	1.91	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LU:8:GLN:HG3	21:LU:8:GLN:O	2.10	0.50
32:Lf:31:ARG:O	32:Lf:35:GLU:HG2	2.11	0.50
35:Li:71:THR:OG1	35:Li:72:VAL:N	2.44	0.50
43:Lq:45:ARG:O	43:Lq:48:SER:OG	2.28	0.50
45:S2:1216:C:O2'	45:S2:1217:A:H8	1.95	0.50
62:SQ:135:LEU:HD21	62:SQ:217:LEU:HD12	1.92	0.50
65:ST:188:ARG:HA	65:ST:191:ARG:HG3	1.92	0.50
74:Sc:103:LEU:HB3	74:Sc:126:LYS:HB2	1.93	0.50
1:LA:169:U:H2'	1:LA:170:G:C8	2.46	0.50
1:LA:1639:G:O6	35:Li:73:SER:OG	2.29	0.50
1:LA:2764:C:O3'	43:Lq:39:GLY:HA3	2.11	0.50
1:LA:3379:U:O2'	1:LA:3381:U:OP1	2.27	0.50
18:LR:60:PHE:HB3	18:LR:64:ASN:HB3	1.94	0.50
30:Ld:16:ALA:HB1	30:Ld:21:ILE:HD11	1.93	0.50
30:Ld:47:LEU:HA	30:Ld:50:THR:HG22	1.93	0.50
31:Le:86:ARG:NH1	44:Lr:44:LYS:HE3	2.26	0.50
35:Li:81:CYS:SG	35:Li:82:ALA:N	2.84	0.50
45:S2:478:A:H5''	78:Sg:37:ARG:NH2	2.26	0.50
47:SB:74:ALA:N	51:SF:79:TYR:OH	2.41	0.50
54:SI:18:TYR:HD1	54:SI:135:ILE:HG13	1.76	0.50
56:SK:57:TYR:OH	56:SK:68:ARG:HG2	2.11	0.50
60:SO:220:ILE:HD11	60:SO:243:LEU:HD22	1.93	0.50
60:SO:295:SER:OG	60:SO:297:ASP:OD1	2.29	0.50
63:SR:108:ASN:HB2	63:SR:141:ARG:HH22	1.77	0.50
1:LA:1465:G:N2	1:LA:1509:G:H5''	2.26	0.50
1:LA:1649:G:H5''	4:LD:70:ARG:HD3	1.93	0.50
1:LA:1666:A:H2'	1:LA:1667:G:C8	2.46	0.50
1:LA:2723:U:OP1	22:LV:78:LYS:NZ	2.42	0.50
1:LA:3067:U:OP2	20:LT:62:ARG:NH2	2.33	0.50
1:LA:3206:U:O4	21:LU:159:SER:OG	2.22	0.50
5:LE:111:SER:O	5:LE:114:VAL:HG12	2.11	0.50
12:LL:140:THR:OG1	12:LL:141:LYS:N	2.44	0.50
24:LX:81:GLN:HG2	24:LX:83:LYS:H	1.76	0.50
29:Lc:132:LYS:O	29:Lc:136:GLU:HG3	2.11	0.50
45:S2:369:A:H3'	45:S2:369:A:N3	2.26	0.50
45:S2:628:G:OP1	70:SY:124:ARG:NH1	2.38	0.50
45:S2:1797:A:N6	76:Se:84:VAL:HB	2.27	0.50
47:SB:123:VAL:O	56:SK:58:ARG:NH1	2.42	0.50
64:SS:21:ASP:OD2	64:SS:24:SER:OG	2.27	0.50
65:ST:98:ARG:HE	65:ST:106:LEU:HG	1.75	0.50
68:SW:45:ILE:HG22	68:SW:101:VAL:HG23	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:201:A:OP1	1:LA:220:G:O2'	2.30	0.50
1:LA:1384:C:OP1	6:LF:141:ARG:NH2	2.40	0.50
1:LA:2558:U:H5'	1:LA:2560:A:H5'	1.93	0.50
1:LA:2712:U:H3'	43:Lq:9:LYS:O	2.10	0.50
5:LE:167:ARG:HG2	5:LE:167:ARG:HH11	1.76	0.50
14:LN:122:LYS:HE3	36:Lj:120:ALA:CA	2.42	0.50
16:LP:114:ARG:NH1	16:LP:151:ILE:O	2.45	0.50
28:Lb:96:VAL:HG22	28:Lb:110:ALA:HB1	1.93	0.50
37:Lk:44:VAL:HA	37:Lk:47:ILE:HG22	1.94	0.50
37:Lk:90:MET:HE2	37:Lk:93:ILE:HD12	1.93	0.50
40:Ln:18:LYS:HB2	40:Ln:18:LYS:NZ	2.27	0.50
1:LA:269:G:OP1	16:LP:47:LYS:NZ	2.44	0.50
1:LA:948:C:O2'	1:LA:970:G:OP1	2.23	0.50
1:LA:1092:A:H1'	1:LA:1093:U:C2	2.47	0.50
1:LA:1770:C:H2'	1:LA:1771:U:O4'	2.11	0.50
1:LA:2272:G:N2	1:LA:2310:G:H2'	2.27	0.50
1:LA:2767:U:H2'	1:LA:2768:A:H8	1.77	0.50
1:LA:3203:C:H2'	1:LA:3204:G:C8	2.47	0.50
2:LB:5:G:OP1	13:LM:143:ARG:NH2	2.26	0.50
7:LG:22:ARG:HB3	7:LG:28:THR:HG23	1.93	0.50
11:LK:92:TYR:OH	11:LK:101:VAL:HG21	2.12	0.50
18:LR:16:SER:O	18:LR:101:ASN:ND2	2.42	0.50
37:Lk:51:SER:OG	37:Lk:54:GLU:OE2	2.28	0.50
45:S2:1531:G:H5'	56:SK:81:ARG:NH2	2.21	0.50
54:SI:39:THR:HG22	54:SI:53:TRP:CZ3	2.47	0.50
60:SO:113:VAL:HG12	60:SO:124:SER:HB2	1.94	0.50
1:LA:964:A:C2	29:Lc:43:ILE:HD12	2.44	0.50
1:LA:2381:G:N7	17:LQ:91[A]:LYS:NZ	2.54	0.50
1:LA:2557:U:H1'	4:LD:69:TYR:CG	2.47	0.50
1:LA:2896:A:H2'	1:LA:2898:C:O5'	2.12	0.50
13:LM:116:TYR:CD1	53:SH:103:ASN:OD1	2.59	0.50
14:LN:45:LYS:HG2	14:LN:46:ILE:HG23	1.92	0.50
15:LO:24:LYS:HE2	15:LO:64:VAL:HG22	1.94	0.50
15:LO:98:SER:HA	15:LO:101:LYS:HB2	1.94	0.50
16:LP:9:GLU:HB3	37:Lk:44:VAL:HG21	1.94	0.50
17:LQ:173[A]:ALA:HA	17:LQ:176[A]:LYS:HD3	1.92	0.50
17:LQ:189[A]:ASP:O	17:LQ:193[A]:GLN:HG3	2.12	0.50
29:Lc:70:LYS:HD3	29:Lc:111:LYS:HB2	1.94	0.50
45:S2:187:G:H22	45:S2:197:A:H61	1.58	0.50
45:S2:475:A:H2'	45:S2:476:U:O4'	2.12	0.50
45:S2:485:A:N6	45:S2:486:G:N3	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:895:G:H4'	62:SQ:27:LYS:HZ1	1.77	0.50
46:SA:164:VAL:O	46:SA:168:ILE:HB	2.11	0.50
47:SB:25:LEU:HD13	51:SF:57:LEU:HD13	1.94	0.50
47:SB:218:GLU:OE2	47:SB:218:GLU:HA	2.11	0.50
54:SI:77:ASN:HA	54:SI:96:ALA:HB3	1.93	0.50
56:SK:67:ASP:OD1	56:SK:68:ARG:N	2.45	0.50
62:SQ:207:LEU:O	62:SQ:207:LEU:HD23	2.12	0.50
64:SS:73:ASP:OD2	64:SS:145:ARG:NH2	2.45	0.50
77:Sf:70:LYS:H	77:Sf:70:LYS:CD	2.25	0.50
1:LA:654:C:H5''	33:Lg:26:HIS:HB3	1.94	0.50
1:LA:1634:G:N2	1:LA:1637:A:OP2	2.34	0.50
1:LA:2946:G:N3	5:LE:250:ALA:HB1	2.26	0.50
1:LA:3392:U:H2'	1:LA:3393:U:C6	2.47	0.50
6:LF:316:ASN:HD22	6:LF:319:LYS:HE3	1.76	0.50
11:LK:5:GLN:OE1	11:LK:58:HIS:ND1	2.44	0.50
22:LV:39:ILE:HD12	22:LV:102:ARG:HD3	1.92	0.50
28:Lb:88:ASP:O	28:Lb:121:ARG:NH2	2.45	0.50
45:S2:415:C:O2	45:S2:418:G:O6	2.30	0.50
45:S2:919:A:H5'	45:S2:920:U:OP2	2.12	0.50
45:S2:1592:A:H2'	45:S2:1593:A:H8	1.77	0.50
47:SB:117:THR:HG21	47:SB:194:LEU:HD13	1.94	0.50
51:SF:42:GLU:OE1	51:SF:45:ARG:NH2	2.45	0.50
59:SN:104:SER:HB2	59:SN:106:TYR:CE1	2.46	0.50
60:SO:123:ILE:HD12	60:SO:154:VAL:HG11	1.94	0.50
68:SW:133:HIS:C	68:SW:134:ILE:HD12	2.37	0.50
71:SZ:13:VAL:HG22	71:SZ:77:THR:HG22	1.94	0.50
1:LA:70:A:H2	1:LA:72:C:H42	1.60	0.49
1:LA:100:A:H2'	1:LA:101:G:N3	2.27	0.49
1:LA:672:U:H2'	1:LA:673:G:C8	2.47	0.49
1:LA:1418:A:H5''	6:LF:193:LYS:HE2	1.93	0.49
1:LA:1790:C:H2'	1:LA:1791:C:C6	2.46	0.49
1:LA:1806:G:H2'	1:LA:1807:G:N3	2.28	0.49
1:LA:1806:G:H2'	1:LA:1807:G:C4	2.47	0.49
1:LA:2166:A:H2'	1:LA:2167:A:C8	2.47	0.49
1:LA:3233:A:H61	1:LA:3252:G:H1	0.64	0.49
7:LG:86:TYR:OH	7:LG:250:ASP:O	2.27	0.49
9:LI:66:LYS:HG3	9:LI:76:TYR:HD2	1.75	0.49
18:LR:33:ALA:HB1	18:LR:117:ILE:HG12	1.94	0.49
26:LZ:62:VAL:HA	26:LZ:87:SER:HB3	1.94	0.49
27:La:83:ASP:OD1	27:La:84:LYS:NZ	2.45	0.49
45:S2:1160:A:H2'	45:S2:1161:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1184:A:N3	45:S2:1210:C:O2'	2.45	0.49
47:SB:99:MET:HB2	47:SB:180:ARG:NH2	2.26	0.49
53:SH:63:GLN:O	53:SH:66:LEU:HG	2.12	0.49
62:SQ:32:ILE:HA	62:SQ:96:LEU:HD12	1.94	0.49
64:SS:126:VAL:HA	64:SS:141:THR:HA	1.92	0.49
66:SU:90:VAL:C	66:SU:91:ILE:HD13	2.36	0.49
70:SY:101:HIS:HA	70:SY:104:ARG:HH22	1.77	0.49
1:LA:19:U:H2'	1:LA:20:A:C8	2.47	0.49
1:LA:209:A:O2'	1:LA:211:A:OP2	2.27	0.49
1:LA:1721:U:O4'	20:LT:96:ILE:HD13	2.11	0.49
1:LA:3158:C:H5'	1:LA:3394:G:C5	2.46	0.49
3:LC:43:A:H62	38:LI:65:ARG:NH1	2.09	0.49
12:LL:51:HIS:HD2	12:LL:137:SER:HB3	1.78	0.49
13:LM:19:LEU:HD21	13:LM:79:ILE:HG21	1.94	0.49
14:LN:167:PHE:CD2	29:Lc:132:LYS:HG3	2.47	0.49
15:LO:50:LYS:CE	15:LO:82:SER:HA	2.42	0.49
16:LP:73:ARG:NH1	16:LP:88:GLY:O	2.46	0.49
27:La:50:ILE:HD13	27:La:80:VAL:HG11	1.93	0.49
35:Li:46:ASP:HB2	35:Li:84:CYS:SG	2.52	0.49
45:S2:334:G:O6	67:SV:5:ARG:NH2	2.45	0.49
45:S2:702:G:N7	45:S2:732:G:N2	2.60	0.49
48:SC:54:TYR:HD1	48:SC:72:GLY:HA2	1.77	0.49
1:LA:314:U:H2'	1:LA:315:C:C6	2.47	0.49
1:LA:577:A:N6	9:LI:141:TYR:OH	2.45	0.49
1:LA:615:G:H2'	1:LA:616:G:C8	2.47	0.49
1:LA:1642:A:H2'	1:LA:1643:C:C2	2.46	0.49
1:LA:1683:U:O2	1:LA:1683:U:H2'	2.12	0.49
1:LA:1823:U:H2'	1:LA:1824:G:H8	1.78	0.49
1:LA:2266:C:H2'	1:LA:2267:U:C6	2.47	0.49
1:LA:2368:G:H2'	1:LA:2369:G:C8	2.46	0.49
1:LA:3194:U:H2'	1:LA:3196:G:H21	1.77	0.49
4:LD:144:ASN:HB2	4:LD:160:SER:HB2	1.93	0.49
8:LH:102:ASN:HD21	8:LH:104:GLU:HG2	1.75	0.49
10:LJ:33:ASN:ND2	10:LJ:38:GLN:HG3	2.28	0.49
13:LM:23:VAL:HG11	13:LM:29:ARG:HB3	1.92	0.49
14:LN:162:ASN:ND2	14:LN:164:GLU:OE1	2.45	0.49
26:LZ:131:ASP:HB3	26:LZ:134:ASP:HB3	1.95	0.49
45:S2:523:G:H5''	75:Sd:59:GLY:HA2	1.93	0.49
45:S2:1349:G:H2'	45:S2:1350:U:C6	2.47	0.49
47:SB:163:SER:HB3	47:SB:166:ARG:HB3	1.93	0.49
68:SW:77:ILE:HG23	68:SW:86:LEU:HD23	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:Se:40:ALA:HB3	76:Se:69:ASN:OD1	2.13	0.49
1:LA:327:A:OP2	14:LN:31:LYS:NZ	2.42	0.49
1:LA:2143:A:H1'	1:LA:2280:A:N6	2.27	0.49
1:LA:2277:C:OP1	42:Lp:23:ARG:NH2	2.45	0.49
2:LB:12:U:OP2	2:LB:68:C:O2'	2.31	0.49
8:LH:43:LEU:HD21	8:LH:85:ILE:HD12	1.93	0.49
27:La:100:HIS:ND1	27:La:102:SER:OG	2.37	0.49
36:Lj:59:ASN:HD21	36:Lj:63:ARG:HD2	1.77	0.49
37:Lk:20:MET:HE3	37:Lk:20:MET:HA	1.95	0.49
38:Ll:25:ARG:NH1	40:Ln:50:ASN:HB3	2.27	0.49
45:S2:235:G:H2'	45:S2:235:G:N3	2.26	0.49
45:S2:247:A:O2'	69:SX:37:ASN:O	2.25	0.49
45:S2:478:A:H5''	78:Sg:37:ARG:HH22	1.76	0.49
45:S2:1556:A:H5''	50:SE:40:ARG:HD2	1.95	0.49
45:S2:1567:U:H4'	53:SH:36:LYS:HD2	1.93	0.49
46:SA:124:ARG:O	46:SA:128:GLU:HG2	2.12	0.49
49:SD:84:ASN:O	49:SD:86:VAL:HG23	2.12	0.49
61:SP:148:ASP:OD1	61:SP:149:LEU:N	2.45	0.49
61:SP:180:GLU:O	61:SP:184:LEU:HD22	2.11	0.49
62:SQ:24:PHE:HE2	71:SZ:70:LYS:CE	2.25	0.49
64:SS:18:TRP:HH2	64:SS:31:PRO:HD3	1.77	0.49
68:SW:37:LYS:O	78:Sg:36:LYS:HD2	2.11	0.49
1:LA:946:G:H2'	1:LA:947:C:C6	2.47	0.49
1:LA:951:A:H4'	1:LA:967:G:N2	2.28	0.49
1:LA:1143:U:OP1	1:LA:1366:G:O2'	2.25	0.49
1:LA:1682:A:H3'	1:LA:1682:A:N3	2.28	0.49
1:LA:3120:U:H1'	1:LA:3121:A:H5''	1.95	0.49
1:LA:3272:A:OP2	8:LH:77:ARG:NH2	2.37	0.49
1:LA:3321:A:H2'	1:LA:3322:A:C8	2.47	0.49
2:LB:87:G:O2'	21:LU:119:ARG:NH2	2.43	0.49
5:LE:284:ARG:NH1	5:LE:293:ASN:O	2.45	0.49
9:LI:130:ILE:HD12	9:LI:134:VAL:HG11	1.94	0.49
45:S2:393:C:H2'	45:S2:394:C:C6	2.47	0.49
45:S2:893:U:H2'	45:S2:894:U:C5	2.47	0.49
45:S2:1636:C:O2	45:S2:1765:A:N6	2.45	0.49
53:SH:94:ASP:HB3	53:SH:96:LYS:HG2	1.94	0.49
62:SQ:125:VAL:HG12	62:SQ:127:VAL:HG12	1.94	0.49
64:SS:183:VAL:HG11	64:SS:188:ASN:HB2	1.94	0.49
66:SU:43:PHE:C	66:SU:43:PHE:CD1	2.91	0.49
75:Sd:18:LEU:HD12	75:Sd:20:ARG:HH12	1.77	0.49
75:Sd:29:HIS:HE1	75:Sd:34:ASN:HA	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:354:U:H5	1:LA:365:A:N7	2.10	0.49
1:LA:758:U:H2'	1:LA:759:G:O4'	2.13	0.49
1:LA:2635:A:H5'	1:LA:2636:A:H5''	1.94	0.49
1:LA:3065:U:H2'	1:LA:3066:C:C6	2.48	0.49
4:LD:36:GLU:HA	4:LD:91:GLY:HA2	1.94	0.49
32:Lf:44:MET:HB3	32:Lf:77:ARG:HD3	1.95	0.49
42:Lp:2:ARG:HB3	42:Lp:5:TRP:CD1	2.48	0.49
45:S2:195:G:H2'	45:S2:196:G:C8	2.47	0.49
45:S2:1071:U:OP1	45:S2:1071:U:H4'	2.11	0.49
47:SB:194:LEU:HD23	47:SB:198:LEU:HD23	1.93	0.49
49:SD:81:ASP:O	49:SD:83:GLU:N	2.38	0.49
50:SE:28:MET:HE3	50:SE:32:ASP:CG	2.37	0.49
52:SG:57:LEU:O	52:SG:61:ILE:HG22	2.13	0.49
60:SO:81:LEU:HB3	60:SO:89:LEU:HD11	1.95	0.49
65:ST:43:ASP:OD1	65:ST:46:LYS:NZ	2.43	0.49
73:Sb:101:TYR:HB3	73:Sb:112:ASP:HB2	1.94	0.49
75:Sd:19:ALA:HB1	75:Sd:77:ASN:ND2	2.28	0.49
1:LA:341:G:O2'	3:LC:22:U:O4	2.28	0.49
1:LA:1646:A:H62	1:LA:1807:G:N2	2.10	0.49
1:LA:2222:A:OP2	1:LA:2222:A:H8	1.95	0.49
1:LA:2875:C:H2'	1:LA:2876:G:O4'	2.13	0.49
1:LA:3149:A:H2'	1:LA:3150:U:O4'	2.13	0.49
2:LB:23:A:H2'	2:LB:24:A:C8	2.48	0.49
3:LC:151:C:H5	26:LZ:24:LEU:HD11	1.76	0.49
6:LF:351:PRO:HA	9:LI:71:ALA:HA	1.95	0.49
11:LK:112:ILE:HB	11:LK:126:VAL:HG13	1.94	0.49
26:LZ:131:ASP:O	26:LZ:135:ILE:HD13	2.13	0.49
45:S2:391:A:OP2	67:SV:23:LYS:NZ	2.46	0.49
45:S2:1067:C:H5''	62:SQ:150:VAL:HG23	1.93	0.49
45:S2:1648:A:H2'	45:S2:1649:G:C8	2.46	0.49
46:SA:40:ARG:HH22	46:SA:45:LYS:HG3	1.76	0.49
54:SI:71:VAL:HG22	54:SI:76:LEU:HD22	1.94	0.49
65:ST:7:TYR:HE1	65:ST:9:VAL:HB	1.77	0.49
65:ST:39:GLU:HB2	65:ST:46:LYS:HE3	1.94	0.49
78:Sg:39:LEU:O	78:Sg:43:ARG:HB2	2.12	0.49
1:LA:619:U:H5'	18:LR:167:ARG:NH2	2.27	0.49
1:LA:1276:C:O2'	1:LA:1277:A:H8	1.94	0.49
1:LA:2628:U:O4	22:LV:2:GLY:N	2.45	0.49
1:LA:3001:C:O2'	5:LE:180:GLU:OE2	2.22	0.49
1:LA:3296:U:H2'	1:LA:3297:C:C6	2.45	0.49
3:LC:63:G:H22	3:LC:97:A:H2	1.61	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:67:U:H2'	3:LC:68:G:H8	1.78	0.49
5:LE:105:VAL:HG21	5:LE:148:LEU:HD13	1.95	0.49
5:LE:377:HIS:HD1	5:LE:377:HIS:C	2.19	0.49
8:LH:43:LEU:HD11	8:LH:85:ILE:HG13	1.95	0.49
14:LN:42:ARG:HG2	14:LN:51:LEU:HD11	1.95	0.49
25:LY:33:ASN:HD22	25:LY:33:ASN:N	2.11	0.49
45:S2:953:G:H2'	45:S2:954:G:C8	2.48	0.49
47:SB:35:GLN:O	47:SB:39:GLU:HG2	2.11	0.49
60:SO:69:GLN:HB2	60:SO:85:TRP:CD1	2.48	0.49
64:SS:151:ASP:HB2	65:ST:215:ARG:HH12	1.78	0.49
64:SS:248:ILE:HD12	64:SS:251:GLU:HB2	1.94	0.49
68:SW:133:HIS:O	68:SW:134:ILE:HD12	2.12	0.49
72:Sa:66:ASP:OD1	72:Sa:67:ASP:N	2.46	0.49
1:LA:584:A:H2'	1:LA:585:C:C6	2.47	0.49
1:LA:588:A:H1'	1:LA:1336:A:H5''	1.95	0.49
1:LA:895:A:H5''	4:LD:183:GLY:CA	2.42	0.49
1:LA:1652:G:H2'	1:LA:1653:A:H8	1.77	0.49
1:LA:1658:U:H2'	1:LA:1659:C:C6	2.48	0.49
1:LA:2813:G:OP1	6:LF:73:ARG:NH1	2.34	0.49
1:LA:2960:G:H2'	1:LA:2961:U:C6	2.48	0.49
4:LD:33:ASP:OD1	4:LD:33:ASP:N	2.31	0.49
6:LF:20:LEU:HD11	6:LF:252:GLU:HG3	1.95	0.49
6:LF:302:ALA:HB2	19:LS:39:ARG:CZ	2.43	0.49
12:LL:53:VAL:HG22	12:LL:134:ILE:CD1	2.43	0.49
15:LO:50:LYS:HE2	15:LO:82:SER:HB2	1.94	0.49
19:LS:19:PRO:HD3	19:LS:53:PHE:CD1	2.48	0.49
25:LY:52:THR:O	25:LY:56:ARG:HG3	2.13	0.49
26:LZ:34:LEU:HD12	26:LZ:35:PRO:HD2	1.95	0.49
45:S2:207:U:H5'	67:SV:176:SER:HB3	1.95	0.49
45:S2:371:G:N7	45:S2:372:G:N2	2.61	0.49
45:S2:1336:A:N6	45:S2:1416:G:O6	2.46	0.49
46:SA:40:ARG:NH2	46:SA:47:GLU:HB2	2.28	0.49
46:SA:105:MET:CE	46:SA:119:ALA:HA	2.42	0.49
61:SP:60:ALA:HB1	61:SP:144:ILE:HD13	1.94	0.49
66:SU:79:ARG:O	66:SU:79:ARG:HD3	2.13	0.49
80:Tb:13:C:H2'	80:Tb:14:A:C5	2.48	0.49
1:LA:29:C:H4'	1:LA:62:A:H4'	1.95	0.49
1:LA:2630:U:OP1	1:LA:2756:U:O2'	2.25	0.49
1:LA:2698:G:H5'	22:LV:16:GLN:HG3	1.95	0.49
1:LA:3274:U:O2'	34:Lh:99:ARG:NH1	2.46	0.49
7:LG:108:ARG:CZ	7:LG:253:PHE:HB2	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LI:163:LEU:O	9:LI:165:ASP:N	2.46	0.49
45:S2:95:G:H3'	45:S2:96:G:H8	1.77	0.49
45:S2:1208:A:H2	45:S2:1209:C:C6	2.31	0.49
45:S2:1311:U:O2	52:SG:2:GLY:N	2.46	0.49
45:S2:1502:G:C8	54:SI:99:SER:HB2	2.48	0.49
55:SJ:33:GLN:HA	55:SJ:36:ASN:ND2	2.28	0.49
62:SQ:32:ILE:HD12	62:SQ:43:VAL:HG23	1.95	0.49
62:SQ:35:PRO:HG3	62:SQ:99:ASN:HA	1.94	0.49
1:LA:1474:A:H4'	32:Lf:57:GLN:HG2	1.95	0.48
1:LA:3175:G:N2	1:LA:3212:A:H1'	2.28	0.48
1:LA:3379:U:H2'	1:LA:3380:U:C2	2.48	0.48
5:LE:296:THR:OG1	5:LE:297:SER:N	2.45	0.48
6:LF:269:SER:C	6:LF:271:LYS:H	2.21	0.48
14:LN:158:ALA:HA	29:Lc:97:GLU:HA	1.95	0.48
26:LZ:57:LEU:HG	26:LZ:62:VAL:HG12	1.93	0.48
45:S2:17:C:H2'	45:S2:18:C:H6	1.78	0.48
45:S2:323:A:H2'	45:S2:324:U:C5	2.47	0.48
45:S2:627:C:H5''	70:SY:5:HIS:HD2	1.77	0.48
45:S2:817:A:H2'	45:S2:818:C:C6	2.47	0.48
45:S2:1433:G:N2	58:SM:42:CYS:SG	2.74	0.48
45:S2:1648:A:H2'	45:S2:1649:G:H8	1.77	0.48
47:SB:61:TYR:OH	57:SL:49:ARG:NH1	2.46	0.48
52:SG:57:LEU:HD12	52:SG:69:ILE:HD13	1.95	0.48
67:SV:25:ARG:HB2	67:SV:28:GLU:HG2	1.95	0.48
72:Sa:85:TYR:HE1	77:Sf:4:VAL:HG12	1.77	0.48
1:LA:243:G:H2'	1:LA:244:G:C8	2.49	0.48
1:LA:744:C:H2'	1:LA:745:A:C8	2.48	0.48
1:LA:986:U:H2'	1:LA:987:U:C6	2.49	0.48
1:LA:1792:C:OP2	44:Lr:49:ARG:NH2	2.44	0.48
1:LA:2723:U:OP2	1:LA:2725:C:N4	2.47	0.48
1:LA:2726:A:C2	29:Lc:43:ILE:HG23	2.48	0.48
6:LF:313:LEU:HD23	6:LF:315:LYS:HE2	1.94	0.48
24:LX:18:PRO:HA	24:LX:51:ALA:HA	1.95	0.48
29:Lc:139:ARG:HH21	29:Lc:145:VAL:CG1	2.25	0.48
30:Ld:23:LYS:HE3	30:Ld:24:PRO:HD2	1.94	0.48
32:Lf:84:ASP:OD1	32:Lf:84:ASP:N	2.44	0.48
40:Ln:8:ARG:O	40:Ln:12:LYS:HG2	2.13	0.48
44:Lr:84:ARG:NH2	45:S2:882:U:H5''	2.28	0.48
45:S2:340:U:H2'	45:S2:341:A:H8	1.78	0.48
45:S2:1426:C:HO2'	45:S2:1428:G:H8	1.61	0.48
45:S2:1512:G:H2'	45:S2:1513:G:C8	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1561:U:H2'	45:S2:1562:G:H8	1.78	0.48
47:SB:177:ILE:HD12	47:SB:178:GLY:N	2.28	0.48
48:SC:55:VAL:HB	48:SC:68:LEU:HD12	1.94	0.48
53:SH:115:ARG:O	53:SH:119:ILE:HG12	2.12	0.48
60:SO:86:ASP:C	60:SO:87:LYS:HD3	2.38	0.48
62:SQ:81:PHE:HD1	62:SQ:105:PHE:CZ	2.31	0.48
64:SS:86:PHE:CE2	64:SS:87:MET:HG2	2.48	0.48
66:SU:34:LEU:HD12	66:SU:38:LEU:HD23	1.95	0.48
67:SV:36:THR:HG21	67:SV:173:PRO:HB2	1.95	0.48
75:Sd:5:VAL:HG13	75:Sd:32:ARG:HH21	1.78	0.48
1:LA:968:C:OP1	30:Ld:19:ASN:ND2	2.44	0.48
1:LA:1065:G:H2'	1:LA:1066:U:C6	2.48	0.48
1:LA:1202:A:H61	1:LA:1299:G:H2'	1.77	0.48
1:LA:1346:U:H5''	6:LF:303:GLY:H	1.79	0.48
1:LA:2535:A:C4	62:SQ:227:ALA:HB3	2.49	0.48
1:LA:2696:A:H2'	1:LA:2697:G:H8	1.78	0.48
1:LA:3217:A:H5''	1:LA:3218:G:C5	2.48	0.48
1:LA:3379:U:H2'	1:LA:3380:U:O2	2.13	0.48
2:LB:113:C:H2'	2:LB:114:U:O4'	2.13	0.48
9:LI:184:LEU:HD12	9:LI:198:ALA:HB1	1.95	0.48
10:LJ:140:VAL:HG22	10:LJ:166:LEU:HD21	1.95	0.48
12:LL:86:HIS:HB3	12:LL:139:ARG:HG3	1.95	0.48
22:LV:75:ILE:HD11	22:LV:88:ARG:HH21	1.78	0.48
27:La:27:ARG:HG2	27:La:78:PHE:CE1	2.47	0.48
45:S2:76:A:H8	45:S2:77:U:H4'	1.78	0.48
45:S2:1365:C:H2'	45:S2:1366:U:C6	2.48	0.48
45:S2:1450:U:O2	45:S2:1450:U:H2'	2.12	0.48
47:SB:55:ASP:O	47:SB:59:VAL:HG13	2.13	0.48
60:SO:123:ILE:HD13	60:SO:169:ILE:HD13	1.95	0.48
66:SU:139:ARG:NH1	73:Sb:53:ILE:HG23	2.27	0.48
71:SZ:31:THR:OG1	71:SZ:35:GLY:HA2	2.13	0.48
74:Sc:87:VAL:HB	74:Sc:92:CYS:SG	2.53	0.48
77:Sf:17:ARG:CZ	77:Sf:17:ARG:HB2	2.43	0.48
1:LA:2680:U:O2'	13:LM:22:SER:HB3	2.13	0.48
1:LA:3266:A:H2'	8:LH:69:PHE:CZ	2.49	0.48
12:LL:44:ASP:OD1	12:LL:185:ARG:NH1	2.45	0.48
15:LO:25:LYS:HE2	15:LO:62:GLN:HG3	1.95	0.48
19:LS:34:THR:HG23	19:LS:49:LEU:HD11	1.96	0.48
23:LW:42:LYS:HG2	23:LW:47:VAL:HG13	1.95	0.48
29:Lc:91:LEU:HA	29:Lc:121:VAL:HG21	1.94	0.48
45:S2:56:U:OP1	45:S2:403:G:N1	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1327:C:H5''	46:SA:157:LEU:O	2.12	0.48
45:S2:1415:U:H2'	45:S2:1416:G:C8	2.48	0.48
45:S2:1471:A:H2	45:S2:1474:G:N2	2.09	0.48
52:SG:115:LEU:HD11	61:SP:9:LEU:HD23	1.95	0.48
60:SO:88:THR:HG22	60:SO:104:VAL:HG23	1.95	0.48
62:SQ:81:PHE:CD1	62:SQ:105:PHE:CZ	3.01	0.48
64:SS:64:ILE:HD12	75:Sd:18:LEU:HD21	1.94	0.48
64:SS:81:THR:O	64:SS:81:THR:OG1	2.29	0.48
65:ST:185:GLN:HG3	65:ST:186:ARG:N	2.27	0.48
73:Sb:3:ARG:NH1	73:Sb:29:PRO:HD3	2.29	0.48
74:Sc:37:ALA:O	74:Sc:41:SER:OG	2.23	0.48
1:LA:93:C:OP2	1:LA:2763:C:O2'	2.28	0.48
1:LA:735:A:C4	1:LA:736:G:H1'	2.48	0.48
1:LA:3095:C:H2'	1:LA:3096:C:C6	2.48	0.48
3:LC:40:A:OP2	3:LC:103:G:N1	2.34	0.48
11:LK:126:VAL:HG11	11:LK:161:LEU:HD12	1.96	0.48
45:S2:30:G:H2'	45:S2:31:C:H6	1.75	0.48
45:S2:772:G:H5'	64:SS:22:LYS:HE3	1.96	0.48
45:S2:803:A:O2'	45:S2:804:A:H8	1.95	0.48
45:S2:1591:C:H2'	45:S2:1592:A:C8	2.48	0.48
47:SB:35:GLN:NE2	47:SB:39:GLU:OE2	2.33	0.48
57:SL:35:ASP:O	57:SL:38:ARG:HB3	2.13	0.48
64:SS:185:GLY:N	64:SS:189:LEU:HD12	2.28	0.48
71:SZ:13:VAL:H	71:SZ:77:THR:HG22	1.79	0.48
1:LA:241:G:H1'	14:LN:45:LYS:HG3	1.96	0.48
1:LA:914:A:H8	1:LA:2135:C:O2'	1.97	0.48
1:LA:1480:A:N6	1:LA:1871:C:H5	2.12	0.48
1:LA:2561:A:O3'	28:Lb:54:THR:HG22	2.14	0.48
1:LA:3191:U:H2'	1:LA:3192:C:C6	2.48	0.48
4:LD:117:GLU:HG2	4:LD:122:ASP:OD1	2.13	0.48
6:LF:234:ASN:OD1	6:LF:235:LEU:N	2.47	0.48
12:LL:184:LYS:HE3	12:LL:189:GLU:OE2	2.14	0.48
19:LS:157:PRO:HA	19:LS:186:VAL:HG12	1.95	0.48
19:LS:170:ARG:O	19:LS:171:LYS:HG2	2.14	0.48
33:Lg:12:LYS:NZ	33:Lg:58:GLY:O	2.41	0.48
39:Lm:29:LYS:HG2	39:Lm:29:LYS:O	2.14	0.48
45:S2:119:A:H2'	45:S2:120:U:O4'	2.13	0.48
45:S2:212:U:H2'	45:S2:213:A:H8	1.78	0.48
45:S2:472:U:H1'	45:S2:769:A:H2	1.79	0.48
47:SB:44:ASN:HB2	47:SB:45:LYS:CD	2.44	0.48
60:SO:9:LEU:HG	60:SO:313:TRP:NE1	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SP:41:ARG:HG2	61:SP:42:PRO:O	2.14	0.48
62:SQ:48:VAL:HB	62:SQ:61:LEU:HD13	1.95	0.48
62:SQ:157:GLN:C	62:SQ:159:SER:H	2.21	0.48
64:SS:172:PHE:O	64:SS:173:ILE:HD13	2.14	0.48
71:SZ:72:LYS:HZ1	71:SZ:77:THR:HA	1.78	0.48
71:SZ:128:LYS:HE3	76:Se:27:SER:HB3	1.96	0.48
1:LA:1645:G:C2	1:LA:1808:A:N6	2.79	0.48
1:LA:1712:G:O6	31:Le:28:LYS:HE2	2.14	0.48
1:LA:1862:G:N1	1:LA:1865:C:OP2	2.43	0.48
1:LA:1926:G:C8	44:Lr:16:VAL:HG12	2.49	0.48
1:LA:2584:G:N3	1:LA:2584:G:H2'	2.29	0.48
2:LB:118:A:H5''	7:LG:253:PHE:CZ	2.49	0.48
3:LC:14:C:H2'	3:LC:15:G:H5'	1.93	0.48
4:LD:47:GLN:HA	4:LD:84:THR:HG22	1.94	0.48
5:LE:238:LEU:HD12	5:LE:246:LEU:HA	1.95	0.48
14:LN:144:THR:HG23	14:LN:145:PHE:CD2	2.48	0.48
14:LN:157:ARG:HG2	14:LN:158:ALA:H	1.79	0.48
20:LT:15:VAL:HG23	20:LT:17:VAL:HG22	1.96	0.48
23:LW:81:LYS:NZ	23:LW:90:ARG:CZ	2.77	0.48
24:LX:17:LEU:HB2	24:LX:52:ALA:HB3	1.95	0.48
27:La:101:PRO:HA	27:La:104:LEU:HD12	1.95	0.48
29:Lc:96:LYS:C	29:Lc:98:THR:H	2.21	0.48
36:Lj:24:LEU:HB3	36:Lj:51:ILE:HG12	1.96	0.48
45:S2:271:A:C6	45:S2:285:G:C2	3.02	0.48
45:S2:1699:G:H22	45:S2:1703:C:N4	2.11	0.48
68:SW:101:VAL:O	68:SW:105:LEU:HD13	2.13	0.48
1:LA:38:U:H2'	1:LA:39:A:O4'	2.13	0.48
1:LA:541:G:N2	1:LA:548:U:O2	2.35	0.48
1:LA:594:G:N1	1:LA:608:G:H5''	2.28	0.48
1:LA:1659:C:H2'	1:LA:1660:G:C8	2.49	0.48
1:LA:3315:A:OP2	5:LE:123:TYR:HB2	2.14	0.48
5:LE:57:VAL:HG22	5:LE:73:VAL:HG22	1.96	0.48
7:LG:153:THR:HG23	7:LG:160:PHE:CZ	2.48	0.48
8:LH:152:THR:OG1	8:LH:155:LEU:HD12	2.14	0.48
13:LM:95:ASN:ND2	13:LM:103:GLY:O	2.42	0.48
31:Le:14:LEU:O	31:Le:17:VAL:HG12	2.13	0.48
33:Lg:32:TRP:CH2	33:Lg:52:GLN:HG2	2.49	0.48
35:Li:103:LYS:HE3	35:Li:103:LYS:HB3	1.53	0.48
45:S2:21:U:H2'	45:S2:22:A:C8	2.49	0.48
45:S2:459:G:H5'	45:S2:461:G:O6	2.14	0.48
45:S2:939:A:OP1	70:SY:114:ARG:NH2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1331:A:OP1	52:SG:45:ARG:NH2	2.46	0.48
51:SF:103:ASN:O	51:SF:107:LYS:HG2	2.14	0.48
59:SN:113:LYS:NZ	59:SN:114:VAL:O	2.43	0.48
72:Sa:20:THR:OG1	72:Sa:22:ARG:HG2	2.14	0.48
74:Sc:35:GLY:O	74:Sc:39:LYS:HD3	2.14	0.48
1:LA:429:U:H2'	1:LA:430:U:H6	1.79	0.48
1:LA:1326:C:O2'	34:Lh:76:GLY:HA2	2.14	0.48
1:LA:3056:U:H5'	1:LA:3085:A:H61	1.79	0.48
1:LA:3192:C:H2'	1:LA:3193:C:C6	2.49	0.48
7:LG:236:LEU:O	7:LG:239:ILE:HG12	2.14	0.48
21:LU:129:ILE:HG12	21:LU:134:ASP:HB3	1.96	0.48
27:La:112:ASP:N	27:La:112:ASP:OD1	2.46	0.48
33:Lg:32:TRP:CZ2	33:Lg:53:PRO:HD2	2.49	0.48
33:Lg:32:TRP:HH2	33:Lg:52:GLN:HG2	1.77	0.48
45:S2:702:G:O2'	45:S2:703:G:O4'	2.27	0.48
45:S2:923:A:H2'	45:S2:924:A:C8	2.49	0.48
45:S2:1727:G:H21	67:SV:32:GLN:CD	2.21	0.48
47:SB:126:ASP:CG	56:SK:58:ARG:HH12	2.22	0.48
48:SC:3:MET:HE3	48:SC:4:PRO:HD2	1.95	0.48
51:SF:39:VAL:HG23	51:SF:41:PRO:HD3	1.95	0.48
60:SO:128:ASP:OD1	60:SO:130:THR:HG22	2.14	0.48
62:SQ:210:ILE:HD12	62:SQ:210:ILE:N	2.29	0.48
64:SS:19:LEU:HD21	64:SS:108:ARG:HD2	1.96	0.48
67:SV:106:ALA:HB2	67:SV:165:LEU:HG	1.94	0.48
69:SX:94:ILE:HD12	74:Sc:12:ALA:HB1	1.96	0.48
80:Tb:5:G:C6	80:Tb:6:G:H1'	2.49	0.48
1:LA:309:U:H2'	1:LA:310:U:H5	1.79	0.48
1:LA:596:G:H2'	1:LA:597:A:H8	1.79	0.48
1:LA:1462:U:H2'	1:LA:1463:G:O4'	2.14	0.48
1:LA:1521:U:OP1	26:LZ:123:TYR:OH	2.30	0.48
1:LA:1799:A:H3'	1:LA:1800:U:O2	2.14	0.48
1:LA:2713:G:OP2	43:Lq:10:THR:OG1	2.31	0.48
4:LD:10:LYS:HA	4:LD:16:PHE:CD2	2.49	0.48
5:LE:58:ARG:HD2	5:LE:354:VAL:HG13	1.96	0.48
6:LF:138:ARG:HD3	6:LF:245:GLY:C	2.38	0.48
8:LH:102:ASN:H	8:LH:105:TYR:HB3	1.79	0.48
14:LN:5:LYS:H	14:LN:5:LYS:HD2	1.79	0.48
27:La:37:LYS:HG3	27:La:38:GLU:N	2.28	0.48
45:S2:329:G:H5''	67:SV:98:LYS:HB3	1.95	0.48
45:S2:1039:A:H5''	72:Sa:62:ARG:NH2	2.29	0.48
45:S2:1509:C:H2'	45:S2:1510:U:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1521:G:H21	51:SF:70:THR:HG23	1.78	0.48
51:SF:19:VAL:HG23	51:SF:68:ARG:HB3	1.96	0.48
52:SG:54:THR:O	52:SG:58:MET:HG2	2.14	0.48
62:SQ:69:CYS:SG	71:SZ:114:ARG:NH1	2.86	0.48
65:ST:61:PHE:HD2	65:ST:72:ARG:HG2	1.78	0.48
68:SW:28:LEU:HD22	78:Sg:43:ARG:HD2	1.95	0.48
75:Sd:60:PHE:HA	75:Sd:70:VAL:O	2.14	0.48
76:Se:36:ILE:HB	76:Se:73:TYR:HB2	1.95	0.48
1:LA:92:G:H5'	1:LA:93:C:H5''	1.96	0.47
1:LA:655:A:H2'	1:LA:656:A:H8	1.78	0.47
1:LA:2151:A:H2'	1:LA:2152:U:H6	1.78	0.47
1:LA:2506:C:H2'	1:LA:2507:U:C6	2.49	0.47
1:LA:2633:U:O3'	12:LL:15:LYS:NZ	2.48	0.47
1:LA:3312:U:H5'	5:LE:175:LYS:HD3	1.95	0.47
2:LB:106:U:H5'	2:LB:107:C:OP2	2.14	0.47
3:LC:40:A:H2'	3:LC:41:A:C8	2.49	0.47
6:LF:16:THR:OG1	6:LF:17:ALA:N	2.47	0.47
7:LG:129:TYR:CG	7:LG:177:GLU:HB3	2.49	0.47
24:LX:120:LYS:HD3	24:LX:124:ASP:OD1	2.14	0.47
28:Lb:84:ARG:NH1	35:Li:97:GLU:OE1	2.47	0.47
36:Lj:45:LYS:HE3	36:Lj:49:LYS:CE	2.44	0.47
45:S2:31:C:H2'	45:S2:32:U:O4'	2.14	0.47
45:S2:297:U:H4'	64:SS:37:LYS:HD3	1.95	0.47
45:S2:553:G:OP2	45:S2:554:C:O2'	2.26	0.47
45:S2:861:U:O2'	73:Sb:56:HIS:O	2.32	0.47
45:S2:968:U:H2'	45:S2:969:C:O4'	2.14	0.47
45:S2:1776:A:H2'	45:S2:1777:G:H8	1.79	0.47
54:SI:127:ASN:OD1	54:SI:127:ASN:N	2.47	0.47
60:SO:23:LEU:HB2	60:SO:33:LEU:HD11	1.95	0.47
63:SR:173:PRO:O	63:SR:176:SER:OG	2.21	0.47
66:SU:142:TYR:O	73:Sb:42:GLN:NE2	2.46	0.47
67:SV:117:TYR:HB3	67:SV:119:GLN:OE1	2.14	0.47
68:SW:110:GLN:OE1	68:SW:126:ARG:HD3	2.14	0.47
1:LA:340:C:H2'	1:LA:341:G:O4'	2.14	0.47
1:LA:1721:U:OP1	20:LT:100:ARG:NE	2.36	0.47
1:LA:2136:U:OP2	1:LA:2141:A:N6	2.34	0.47
1:LA:2343:U:H2'	1:LA:2344:A:H8	1.79	0.47
1:LA:3067:U:H3'	1:LA:3068:G:C5'	2.44	0.47
1:LA:3213:U:N3	15:LO:124:ARG:NH2	2.62	0.47
1:LA:3304:A:H2'	1:LA:3305:U:O4'	2.14	0.47
7:LG:264:GLN:O	7:LG:268:GLU:HG2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LH:64:LEU:HD11	8:LH:76:LEU:HD22	1.97	0.47
13:LM:137:ARG:O	13:LM:141:ARG:HG2	2.14	0.47
20:LT:105:LEU:HD13	20:LT:135:LYS:HG2	1.96	0.47
23:LW:81:LYS:HZ3	23:LW:90:ARG:NH2	2.12	0.47
25:LY:18:GLY:HA3	25:LY:31:PHE:O	2.14	0.47
38:LI:25:ARG:O	38:LI:25:ARG:HD3	2.13	0.47
45:S2:121:U:H2'	45:S2:122:U:C6	2.49	0.47
45:S2:304:U:H5'	45:S2:305:C:OP2	2.13	0.47
45:S2:401:A:O2'	45:S2:402:C:H4'	2.13	0.47
45:S2:549:G:N2	45:S2:589:C:O2	2.47	0.47
45:S2:711:U:OP2	45:S2:727:U:N3	2.47	0.47
47:SB:112:ARG:HD2	47:SB:116:HIS:NE2	2.28	0.47
52:SG:26:LEU:HD21	52:SG:62:GLN:HG3	1.95	0.47
62:SQ:23:PRO:HA	62:SQ:26:ARG:NH1	2.29	0.47
73:Sb:69:LEU:HD11	73:Sb:72:CYS:HB3	1.95	0.47
79:Ta:11:A:H3'	79:Ta:12:G:H8	1.79	0.47
1:LA:38:U:H4'	29:Lc:32:ARG:HD3	1.96	0.47
1:LA:962:G:O2'	29:Lc:29:PRO:O	2.28	0.47
2:LB:6:C:O2'	7:LG:72:ASP:OD2	2.29	0.47
6:LF:177:ASP:HB3	6:LF:205:PRO:HD3	1.96	0.47
7:LG:65:ILE:HG21	7:LG:72:ASP:HB3	1.97	0.47
9:LI:83:LEU:HD21	9:LI:144:ILE:HD11	1.96	0.47
11:LK:47:LYS:H	15:LO:7:VAL:HG11	1.78	0.47
14:LN:106:GLN:O	14:LN:110:ASP:OD1	2.32	0.47
14:LN:161:ASP:OD1	29:Lc:139:ARG:NH1	2.47	0.47
18:LR:128:ARG:HD2	18:LR:136:ILE:HG21	1.96	0.47
38:LI:19:CYS:HB3	38:LI:22:CYS:O	2.15	0.47
39:Lm:32:ASN:OD1	39:Lm:33:LYS:N	2.48	0.47
45:S2:888:U:O2	45:S2:988:A:O2'	2.30	0.47
45:S2:1219:A:C6	45:S2:1264:G:N2	2.78	0.47
45:S2:1514:U:O2'	46:SA:6:SER:HA	2.14	0.47
45:S2:1582:U:O2'	45:S2:1583:A:OP2	2.29	0.47
45:S2:1649:G:H2'	45:S2:1650:U:C6	2.49	0.47
1:LA:1459:A:H2'	1:LA:1460:A:C8	2.49	0.47
1:LA:1590:G:H5''	35:Li:37:LYS:HZ1	1.80	0.47
1:LA:2154:G:OP1	4:LD:241:ARG:HG3	2.15	0.47
5:LE:346:THR:OG1	5:LE:347:SER:N	2.46	0.47
7:LG:223:PHE:HD1	7:LG:226:TYR:HD2	1.61	0.47
8:LH:171:PRO:HA	8:LH:174:LEU:HB2	1.96	0.47
10:LJ:24:ASN:HB3	10:LJ:25:PRO:HD3	1.96	0.47
19:LS:76:ALA:HA	19:LS:79:LYS:HD2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LS:180:ARG:HG2	19:LS:180:ARG:HH11	1.79	0.47
23:LW:32:SER:OG	23:LW:83:TYR:OH	2.29	0.47
45:S2:963:A:H4'	70:SY:128:TYR:OH	2.14	0.47
45:S2:1440:C:H2'	45:S2:1441:C:C6	2.49	0.47
63:SR:38:VAL:O	63:SR:39:THR:HG23	2.15	0.47
68:SW:79:ARG:O	68:SW:83:VAL:HG23	2.13	0.47
68:SW:124:HIS:CE1	68:SW:128:LEU:HD11	2.49	0.47
73:Sb:31:SER:H	73:Sb:34:ILE:HD12	1.80	0.47
74:Sc:97:ASP:OD2	74:Sc:142:LYS:NZ	2.47	0.47
1:LA:1649:G:N1	1:LA:1805:A:N6	2.63	0.47
1:LA:3213:U:O4	15:LO:124:ARG:NH2	2.32	0.47
3:LC:72:A:N3	3:LC:88:A:O2'	2.47	0.47
4:LD:52:SER:HB3	4:LD:191:LEU:HD22	1.97	0.47
9:LI:110:ARG:HH12	9:LI:206:LYS:NZ	2.11	0.47
10:LJ:54:GLU:O	10:LJ:58:VAL:HG23	2.15	0.47
11:LK:23:ARG:C	11:LK:24:ILE:HD13	2.39	0.47
11:LK:146:LEU:CD1	11:LK:157:ASN:HB3	2.45	0.47
15:LO:32:LEU:HB3	15:LO:85:TRP:HH2	1.78	0.47
32:Lf:20:LEU:HD23	32:Lf:31:ARG:HG2	1.96	0.47
45:S2:177:U:O4	65:ST:191:ARG:NH2	2.47	0.47
45:S2:609:U:H4'	45:S2:610:G:O5'	2.15	0.47
45:S2:886:U:C2	45:S2:887:A:C8	3.03	0.47
45:S2:920:U:H2'	45:S2:921:U:O4'	2.14	0.47
52:SG:19:ARG:HG3	52:SG:20:TYR:CD1	2.50	0.47
56:SK:95:HIS:ND1	56:SK:96:SER:O	2.45	0.47
62:SQ:137:ILE:HG23	62:SQ:215:VAL:HB	1.95	0.47
66:SU:95:GLU:OE1	66:SU:95:GLU:HA	2.14	0.47
69:SX:125:VAL:HG12	69:SX:139:VAL:HA	1.96	0.47
1:LA:954:U:H2'	1:LA:955:U:C6	2.49	0.47
1:LA:1855:C:H2'	1:LA:1856:C:H6	1.79	0.47
1:LA:2128:U:H2'	1:LA:2129:G:C8	2.50	0.47
1:LA:2191:C:O2'	1:LA:2311:A:N1	2.43	0.47
1:LA:2596:U:H2'	1:LA:2597:G:H8	1.79	0.47
1:LA:3349:C:O2'	1:LA:3350:U:H2'	2.14	0.47
3:LC:26:U:H2'	3:LC:27:U:C6	2.49	0.47
14:LN:140:SER:O	14:LN:144:THR:HG22	2.14	0.47
17:LQ:109[A]:PRO:HB2	17:LQ:111[A]:PRO:HD2	1.96	0.47
45:S2:30:G:H4'	74:Sc:131:SER:HB2	1.95	0.47
45:S2:810:G:N2	66:SU:109:VAL:O	2.47	0.47
45:S2:1294:G:O2'	61:SP:109:ASN:HB2	2.14	0.47
46:SA:105:MET:HE3	46:SA:122:VAL:HB	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SE:44:ARG:HH12	50:SE:84:ILE:N	2.13	0.47
51:SF:129:PHE:HB2	55:SJ:79:TRP:HD1	1.80	0.47
52:SG:72:LYS:O	52:SG:75:GLU:HG3	2.15	0.47
53:SH:84:TRP:CZ3	53:SH:85:PHE:CE1	3.03	0.47
61:SP:38:PHE:C	61:SP:38:PHE:CD1	2.93	0.47
64:SS:31:PRO:HG3	64:SS:43:PRO:HG3	1.96	0.47
64:SS:37:LYS:O	64:SS:41:SER:OG	2.24	0.47
65:ST:77:LEU:HD13	65:ST:84:TYR:HB2	1.96	0.47
66:SU:34:LEU:HD12	66:SU:38:LEU:CD2	2.44	0.47
77:Sf:70:LYS:H	77:Sf:70:LYS:HE2	1.79	0.47
79:Ta:65:G:H4'	79:Ta:66:C:OP2	2.14	0.47
1:LA:407:A:H5'	1:LA:1395:C:HO2'	1.80	0.47
1:LA:829:A:H2'	1:LA:830:G:O4'	2.14	0.47
1:LA:838:C:H4'	1:LA:1723:U:H5'	1.97	0.47
1:LA:984:U:H2'	1:LA:985:U:H6	1.78	0.47
1:LA:1225:G:H2'	1:LA:1226:C:C6	2.50	0.47
1:LA:1524:G:H5'	1:LA:1829:G:OP2	2.15	0.47
1:LA:1621:U:H2'	1:LA:1622:G:H8	1.79	0.47
1:LA:1795:G:H5'	4:LD:22:LEU:HD12	1.97	0.47
1:LA:1883:A:OP1	32:Lf:31:ARG:NH2	2.47	0.47
1:LA:2418:A:H2'	1:LA:2419:C:H6	1.78	0.47
2:LB:7:G:H8	7:LG:22:ARG:NH1	2.12	0.47
2:LB:20:A:H2'	2:LB:21:G:C8	2.49	0.47
7:LG:197:SER:O	7:LG:202:GLY:N	2.37	0.47
8:LH:69:PHE:HB2	8:LH:138:GLN:NE2	2.30	0.47
14:LN:42:ARG:O	14:LN:46:ILE:HG12	2.15	0.47
15:LO:23:ILE:O	15:LO:30:GLY:N	2.48	0.47
15:LO:79:ALA:HA	15:LO:82:SER:OG	2.15	0.47
16:LP:15:GLN:HB3	37:Lk:51:SER:HB3	1.97	0.47
16:LP:31:ARG:NH1	16:LP:124:ASP:OD2	2.46	0.47
17:LQ:176[A]:LYS:HG2	17:LQ:177[A]:LYS:N	2.29	0.47
19:LS:120:GLU:OE1	19:LS:130:ARG:NH1	2.48	0.47
23:LW:19:VAL:HG21	23:LW:30:PRO:HB3	1.97	0.47
32:Lf:16:LEU:HA	32:Lf:19:ARG:HB2	1.97	0.47
44:Lr:27:LYS:O	44:Lr:31:ILE:HG12	2.14	0.47
45:S2:29:U:H2'	45:S2:30:G:H8	1.80	0.47
45:S2:82:U:H2'	45:S2:83:G:O4'	2.15	0.47
45:S2:112:A:H1'	69:SX:67:ARG:NH1	2.30	0.47
45:S2:388:G:O6	45:S2:408:C:N4	2.47	0.47
45:S2:609:U:O2	74:Sc:19:ARG:NH1	2.48	0.47
45:S2:1226:A:O2'	45:S2:1227:A:OP1	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1241:G:H21	45:S2:1241:G:P	2.37	0.47
45:S2:1402:G:OP2	52:SG:5:ARG:NH1	2.33	0.47
53:SH:79:TYR:O	53:SH:80:LYS:HG2	2.15	0.47
57:SL:10:ALA:O	57:SL:54:LEU:CB	2.62	0.47
60:SO:9:LEU:HG	60:SO:313:TRP:HE1	1.79	0.47
60:SO:178:VAL:HB	60:SO:192:PHE:HB2	1.95	0.47
61:SP:56:LYS:HD3	61:SP:159:ALA:O	2.15	0.47
64:SS:255:ARG:CZ	64:SS:259:GLN:HA	2.44	0.47
66:SU:91:ILE:CD1	66:SU:169:PHE:HE1	2.26	0.47
67:SV:36:THR:HG23	67:SV:96:LEU:HB2	1.96	0.47
67:SV:58:LEU:C	67:SV:59:ARG:HG2	2.39	0.47
70:SY:102:LEU:HD11	70:SY:112:LYS:HA	1.95	0.47
71:SZ:19:ILE:HB	71:SZ:83:ILE:HD13	1.96	0.47
73:Sb:51:GLU:O	73:Sb:61:ILE:HA	2.14	0.47
77:Sf:70:LYS:H	77:Sf:70:LYS:CE	2.28	0.47
78:Sg:43:ARG:NE	78:Sg:56:MET:HE1	2.29	0.47
1:LA:2549:U:H5	4:LD:40:TYR:O	1.98	0.47
5:LE:316:GLU:OE1	5:LE:316:GLU:N	2.48	0.47
10:LJ:78:PHE:O	10:LJ:79:GLN:HG2	2.15	0.47
10:LJ:86:THR:O	10:LJ:90:THR:OG1	2.33	0.47
15:LO:100:ALA:HA	15:LO:103:ILE:HD12	1.97	0.47
45:S2:622:A:H4'	45:S2:623:A:O5'	2.15	0.47
45:S2:931:C:H5'	62:SQ:116:LYS:CB	2.41	0.47
45:S2:1439:C:H2'	45:S2:1440:C:C6	2.50	0.47
49:SD:33:ARG:O	49:SD:37:VAL:HG13	2.15	0.47
60:SO:37:SER:OG	60:SO:39:ASP:OD1	2.23	0.47
1:LA:1388:G:H5''	33:Lg:101:SER:HB3	1.97	0.47
1:LA:1652:G:H2'	1:LA:1653:A:C8	2.49	0.47
1:LA:2366:A:H2'	1:LA:2367:A:C8	2.50	0.47
1:LA:2614:G:H2'	1:LA:2615:C:H6	1.79	0.47
1:LA:3251:G:H2'	1:LA:3252:G:H8	1.80	0.47
5:LE:108:GLU:HG3	5:LE:137:TYR:CD1	2.50	0.47
5:LE:284:ARG:HB3	5:LE:323:MET:HE2	1.97	0.47
17:LQ:108[A]:ILE:N	17:LQ:108[A]:ILE:HD12	2.30	0.47
20:LT:159:ALA:HB1	20:LT:163:ARG:NH2	2.30	0.47
33:Lg:103:LYS:O	33:Lg:107:VAL:HG23	2.14	0.47
45:S2:1176:G:O2'	45:S2:1195:C:O2'	2.25	0.47
51:SF:22:VAL:HG22	51:SF:65:ILE:HG23	1.96	0.47
54:SI:63:ARG:CG	54:SI:67:MET:HE3	2.35	0.47
59:SN:104:SER:HB2	59:SN:106:TYR:HE1	1.80	0.47
63:SR:67:GLN:HA	63:SR:70:ASP:OD2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SS:255:ARG:O	64:SS:255:ARG:HD2	2.15	0.47
66:SU:39:ARG:HG3	66:SU:40:PRO:HD3	1.97	0.47
1:LA:663:U:H5'	6:LF:107:ARG:HA	1.97	0.47
1:LA:1039:A:N6	7:LG:9:SER:HB2	2.29	0.47
1:LA:1459:A:H2'	1:LA:1460:A:H8	1.80	0.47
1:LA:1885:A:O2'	5:LE:226:PHE:O	2.31	0.47
1:LA:1894:A:O2'	1:LA:3052:G:H4'	2.15	0.47
1:LA:3350:U:O2'	1:LA:3351:U:H5'	2.15	0.47
10:LJ:56:VAL:O	10:LJ:60:ARG:HD2	2.15	0.47
29:Lc:94:ALA:HB2	29:Lc:121:VAL:HG22	1.95	0.47
29:Lc:134:ALA:O	29:Lc:138:ILE:HG13	2.15	0.47
38:Ll:39:TYR:CD1	38:Ll:40:PRO:HA	2.50	0.47
45:S2:90:C:H1'	45:S2:451:A:H1'	1.97	0.47
45:S2:928:U:O2'	45:S2:945:U:H5'	2.15	0.47
45:S2:1588:G:O6	45:S2:1608:U:O4	2.32	0.47
64:SS:112:HIS:HE2	64:SS:237:SER:C	2.20	0.47
67:SV:64:ASN:C	67:SV:65:PHE:HD1	2.23	0.47
67:SV:87:ASN:HB3	67:SV:90:LEU:HG	1.97	0.47
68:SW:113:VAL:HA	68:SW:118:LEU:HD13	1.96	0.47
69:SX:71:LEU:HG	69:SX:88:ARG:CZ	2.45	0.47
70:SY:26:PHE:CZ	70:SY:28:LEU:HB3	2.50	0.47
1:LA:839:C:H5''	1:LA:1723:U:C5	2.50	0.46
1:LA:1301:A:N7	1:LA:2856:C:O2'	2.43	0.46
1:LA:1359:C:H2'	1:LA:1360:U:O4'	2.16	0.46
1:LA:1621:U:C2	1:LA:1622:G:C8	3.03	0.46
1:LA:1663:G:H2'	1:LA:1664:C:C6	2.50	0.46
1:LA:2139:U:H1'	1:LA:2977:U:H5'	1.97	0.46
1:LA:2281:U:OP1	1:LA:2972:G:O2'	2.20	0.46
4:LD:127:ALA:HB2	4:LD:134:VAL:HG23	1.97	0.46
5:LE:62:ARG:HG3	5:LE:65:SER:HB3	1.97	0.46
5:LE:292:ALA:HB2	5:LE:302:LYS:HA	1.97	0.46
7:LG:40:HIS:CE1	7:LG:42:ALA:HB3	2.50	0.46
7:LG:108:ARG:NE	7:LG:253:PHE:HB2	2.30	0.46
7:LG:286:VAL:HG13	12:LL:206:LEU:HD11	1.95	0.46
8:LH:140:VAL:O	8:LH:143:LYS:HG3	2.15	0.46
12:LL:48:LEU:O	12:LL:139:ARG:HA	2.16	0.46
14:LN:60:ALA:HB3	14:LN:65:TYR:O	2.15	0.46
19:LS:148:GLU:O	19:LS:151:ARG:HG2	2.15	0.46
32:Lf:9:THR:HG23	32:Lf:76:SER:HB3	1.97	0.46
33:Lg:78:ASN:N	33:Lg:78:ASN:OD1	2.46	0.46
45:S2:50:C:OP2	45:S2:423:G:N2	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:566:C:HO2'	45:S2:567:A:P	2.38	0.46
45:S2:625:C:H2'	45:S2:626:U:C6	2.50	0.46
45:S2:863:A:O5'	73:Sb:57:ARG:HD2	2.15	0.46
45:S2:908:U:H1'	45:S2:996:U:O2'	2.14	0.46
48:SC:75:TYR:O	48:SC:78:GLU:HG3	2.15	0.46
51:SF:101:SER:O	51:SF:104:GLU:HG3	2.14	0.46
53:SH:31:ALA:O	53:SH:34:THR:OG1	2.29	0.46
55:SJ:44:ASN:OD1	55:SJ:45:ALA:N	2.48	0.46
57:SL:42:ARG:NH2	57:SL:58:GLU:O	2.48	0.46
60:SO:169:ILE:HD12	60:SO:181:TRP:HE3	1.75	0.46
62:SQ:105:PHE:HE1	62:SQ:109:LYS:HG3	1.78	0.46
63:SR:101:VAL:HG11	63:SR:211:LEU:HD12	1.97	0.46
65:ST:57:ASP:HA	65:ST:106:LEU:HA	1.96	0.46
1:LA:210:U:C2	1:LA:230:U:H4'	2.51	0.46
1:LA:275:U:H2'	1:LA:276:U:C6	2.50	0.46
1:LA:396:A:O2'	1:LA:399:A:OP1	2.30	0.46
1:LA:502:C:H2'	1:LA:503:A:H8	1.80	0.46
1:LA:1497:A:H2'	1:LA:1498:C:C6	2.50	0.46
1:LA:1659:C:H2'	1:LA:1660:G:H8	1.79	0.46
1:LA:2283:C:HO2'	1:LA:2284:C:P	2.39	0.46
1:LA:2680:U:OP1	13:LM:50:ALA:HA	2.14	0.46
1:LA:2710:C:O2'	1:LA:2743:U:OP1	2.32	0.46
2:LB:45:A:H2'	2:LB:46:A:C8	2.51	0.46
4:LD:77:ILE:HD13	4:LD:128:ARG:HB3	1.98	0.46
6:LF:304:GLN:C	6:LF:306:THR:H	2.23	0.46
6:LF:333:VAL:O	6:LF:337:GLU:HG3	2.16	0.46
28:Lb:4:PHE:O	28:Lb:9:LYS:HD2	2.15	0.46
34:Lh:67:MET:HE2	34:Lh:89:LEU:HD23	1.97	0.46
45:S2:234:G:H3'	45:S2:234:G:N3	2.30	0.46
45:S2:296:U:H1'	64:SS:127:LYS:NZ	2.31	0.46
45:S2:539:G:O2'	45:S2:540:G:O4'	2.34	0.46
45:S2:694:U:N3	66:SU:96:ARG:O	2.46	0.46
45:S2:1584:G:C8	51:SF:122:ARG:HB2	2.50	0.46
45:S2:1672:G:H2'	45:S2:1673:G:C8	2.51	0.46
45:S2:1728:A:H1'	67:SV:32:GLN:NE2	2.22	0.46
50:SE:22:LEU:HD23	50:SE:25:LEU:HD21	1.97	0.46
51:SF:26:LYS:HE3	51:SF:28:LEU:HB3	1.97	0.46
53:SH:36:LYS:NZ	53:SH:106:GLU:OE2	2.42	0.46
53:SH:70:VAL:O	53:SH:74:GLN:HG3	2.14	0.46
60:SO:69:GLN:HE22	60:SO:111:MET:HA	1.81	0.46
64:SS:249:ALA:O	64:SS:252:ARG:HG3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:786:G:H2'	1:LA:787:C:C6	2.49	0.46
1:LA:975:U:H2'	1:LA:976:C:O4'	2.16	0.46
1:LA:1614:C:H2'	1:LA:1615:U:H6	1.78	0.46
1:LA:2422:U:H2'	1:LA:2423:A:C8	2.50	0.46
1:LA:3213:U:C4	15:LO:124:ARG:NH2	2.83	0.46
2:LB:20:A:H2'	2:LB:21:G:H8	1.80	0.46
2:LB:75:G:N2	2:LB:104:A:N6	2.64	0.46
7:LG:8:LYS:HD2	7:LG:12:TYR:CE2	2.50	0.46
7:LG:160:PHE:HA	7:LG:163:LEU:HB3	1.97	0.46
7:LG:273:ARG:HD3	7:LG:273:ARG:HA	1.63	0.46
10:LJ:149:LYS:N	10:LJ:200:LEU:O	2.47	0.46
14:LN:126:PHE:HZ	14:LN:134:GLU:HA	1.80	0.46
16:LP:14:LYS:HE2	16:LP:14:LYS:HB2	1.73	0.46
17:LQ:37[A]:ARG:HG2	17:LQ:108[A]:ILE:HD11	1.97	0.46
26:LZ:58:ASP:O	26:LZ:62:VAL:HG13	2.15	0.46
38:LI:54:LYS:O	38:LI:58:THR:HB	2.15	0.46
45:S2:968:U:OP1	45:S2:1033:C:O2'	2.33	0.46
45:S2:1159:C:H4'	45:S2:1580:C:OP1	2.16	0.46
49:SD:79:ALA:HB1	49:SD:86:VAL:HG22	1.97	0.46
53:SH:73:MET:SD	53:SH:74:GLN:N	2.87	0.46
56:SK:25:LYS:HG3	56:SK:27:TRP:H	1.79	0.46
57:SL:38:ARG:HG3	57:SL:38:ARG:O	2.15	0.46
62:SQ:157:GLN:O	62:SQ:159:SER:N	2.48	0.46
63:SR:106:ASP:OD2	63:SR:110:HIS:HB2	2.15	0.46
65:ST:126:ASP:OD1	65:ST:127:THR:N	2.49	0.46
72:Sa:12:TYR:CG	72:Sa:12:TYR:O	2.68	0.46
72:Sa:17:CYS:HB2	72:Sa:56:SER:HB2	1.95	0.46
74:Sc:73:ARG:HG2	74:Sc:82:LYS:HE2	1.96	0.46
75:Sd:37:LYS:HB3	75:Sd:57:VAL:HG23	1.98	0.46
76:Se:89:ARG:HG2	76:Se:89:ARG:NH1	2.30	0.46
1:LA:593:U:H2'	1:LA:608:G:O6	2.15	0.46
1:LA:2165:A:H5'	16:LP:76:PRO:HG3	1.98	0.46
9:LI:142:SER:O	9:LI:146:GLN:HG3	2.14	0.46
9:LI:234:GLU:O	9:LI:237:ASN:ND2	2.39	0.46
35:Li:87:GLU:OE2	35:Li:91:ARG:NH2	2.49	0.46
39:Lm:11:PHE:C	39:Lm:11:PHE:CD1	2.94	0.46
45:S2:116:U:H2'	45:S2:117:U:C6	2.50	0.46
45:S2:1011:G:H2'	45:S2:1012:U:C5	2.50	0.46
45:S2:1242:A:H2'	45:S2:1243:G:H21	1.80	0.46
45:S2:1767:G:OP1	45:S2:1770:U:H4'	2.15	0.46
49:SD:66:VAL:HG23	49:SD:67:THR:H	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:208:C:H2'	1:LA:209:A:O4'	2.16	0.46
1:LA:364:G:OP2	38:Ll:52:LYS:NZ	2.42	0.46
1:LA:670:U:H2'	1:LA:671:A:H8	1.80	0.46
1:LA:1320:G:N2	21:LU:112:ALA:HB2	2.31	0.46
1:LA:1596:C:H2'	1:LA:1597:G:C8	2.50	0.46
1:LA:2546:A:H3'	1:LA:2547:C:H5''	1.98	0.46
1:LA:2940:A:H8	1:LA:2940:A:OP2	1.98	0.46
1:LA:3331:U:H2'	1:LA:3332:G:O4'	2.16	0.46
1:LA:3336:G:H2'	1:LA:3337:C:C6	2.51	0.46
3:LC:94:C:H5''	38:Ll:76:ASN:ND2	2.30	0.46
6:LF:191:LYS:HG2	6:LF:194:TYR:OH	2.15	0.46
38:Ll:21:ARG:NH1	38:Ll:41:ALA:O	2.38	0.46
45:S2:15:U:H1'	45:S2:619:A:C5	2.51	0.46
45:S2:34:G:C2	45:S2:475:A:C8	3.04	0.46
45:S2:522:U:H5''	75:Sd:37:LYS:HE2	1.97	0.46
45:S2:1097:U:O4	63:SR:201:ASN:ND2	2.48	0.46
45:S2:1590:G:OP1	54:Sl:91:TYR:HB2	2.16	0.46
55:SJ:28:SER:HB2	55:SJ:112:VAL:HA	1.97	0.46
60:SO:68:VAL:HA	60:SO:84:SER:HA	1.95	0.46
62:SQ:185:THR:O	62:SQ:189:ILE:HG13	2.16	0.46
65:ST:7:TYR:CE2	65:ST:116:LYS:HB2	2.50	0.46
66:SU:124:LYS:HD3	66:SU:124:LYS:HA	1.73	0.46
68:SW:86:LEU:HD12	68:SW:87:SER:H	1.80	0.46
1:LA:910:C:OP1	4:LD:14:SER:OG	2.31	0.46
1:LA:1294:G:OP1	21:LU:84:ARG:HG3	2.16	0.46
1:LA:2277:C:P	42:Lp:23:ARG:NH2	2.89	0.46
1:LA:2528:A:H2'	1:LA:2528:A:N3	2.29	0.46
3:LC:8:C:H2'	3:LC:9:A:H8	1.81	0.46
9:LI:120:THR:H	9:LI:123:THR:HB	1.81	0.46
10:LJ:43:LYS:HE2	10:LJ:43:LYS:HB2	1.69	0.46
15:LO:36:VAL:HG21	15:LO:47:ASP:HB2	1.97	0.46
17:LQ:77[A]:SER:HB2	17:LQ:104[A]:VAL:HG22	1.97	0.46
22:LV:91:LEU:HD12	22:LV:96:ILE:HD11	1.98	0.46
26:LZ:90:ALA:O	26:LZ:120:LYS:NZ	2.47	0.46
38:Ll:27:PHE:HA	38:Ll:34:CYS:HA	1.96	0.46
45:S2:473:A:H2'	45:S2:474:A:O4'	2.16	0.46
45:S2:908:U:O4	45:S2:1009:U:O2'	2.18	0.46
45:S2:1579:U:H2'	45:S2:1580:C:C6	2.51	0.46
60:SO:198:ASN:HD21	60:SO:216:LYS:HZ3	1.61	0.46
60:SO:263:PHE:CZ	60:SO:265:LEU:HA	2.50	0.46
61:SP:54:TRP:HZ3	61:SP:176:LEU:HD22	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Sd:37:LYS:NZ	75:Sd:93:ARG:HD3	2.31	0.46
80:Tb:49:C:O2'	80:Tb:60:A:O2'	2.33	0.46
1:LA:168:U:H2'	1:LA:169:U:H4'	1.98	0.46
1:LA:599:G:H22	1:LA:601:A:N6	2.13	0.46
1:LA:846:A:H5'	70:SY:123:HIS:CE1	2.51	0.46
1:LA:1142:A:H5'	1:LA:1367:U:H1'	1.98	0.46
1:LA:1380:A:H2'	1:LA:1381:G:H8	1.81	0.46
1:LA:2525:C:H2'	1:LA:2526:G:C8	2.51	0.46
1:LA:2635:A:H5'	1:LA:2636:A:H5'	1.97	0.46
9:LI:149:TYR:OH	9:LI:182:ASP:OD1	2.29	0.46
12:LL:53:VAL:CG2	12:LL:166:ILE:HD12	2.45	0.46
20:LT:68:GLN:NE2	20:LT:72:GLU:OE2	2.48	0.46
37:Lk:70:ARG:HE	37:Lk:87:VAL:HB	1.79	0.46
39:Lm:12:LEU:O	39:Lm:15:THR:HG22	2.15	0.46
45:S2:392:G:OP1	45:S2:1729:C:O2'	2.32	0.46
45:S2:427:C:H1'	45:S2:459:G:H1'	1.97	0.46
45:S2:1388:A:H5'	45:S2:1389:C:C6	2.50	0.46
45:S2:1486:G:H2'	45:S2:1487:A:H8	1.80	0.46
45:S2:1585:U:O2'	51:SF:134:ALA:HB3	2.15	0.46
47:SB:174:LEU:O	47:SB:177:ILE:HD12	2.16	0.46
50:SE:33:PHE:CE2	50:SE:86:VAL:HG12	2.51	0.46
58:SM:42:CYS:O	58:SM:46:LYS:HG2	2.15	0.46
66:SU:177:THR:OG1	66:SU:179:LYS:HG2	2.16	0.46
68:SW:175:ARG:CZ	68:SW:175:ARG:HB2	2.46	0.46
74:Sc:88:PRO:HG2	74:Sc:132:LEU:HD22	1.98	0.46
77:Sf:55:THR:HB	77:Sf:62:ILE:HA	1.97	0.46
1:LA:806:A:H61	1:LA:933:G:H22	1.62	0.46
1:LA:1024:A:H2'	1:LA:1025:A:H5''	1.98	0.46
1:LA:2179:G:H2'	1:LA:2180:C:C6	2.51	0.46
1:LA:2862:G:OP1	12:LL:107:GLY:HA2	2.16	0.46
2:LB:11:A:N6	7:LG:16:PHE:O	2.49	0.46
3:LC:21:C:C2'	3:LC:22:U:H5'	2.46	0.46
3:LC:78:G:H1'	36:Lj:42:PRO:HG2	1.98	0.46
4:LD:206:PRO:HD3	4:LD:213:GLY:CA	2.46	0.46
11:LK:18:VAL:HG13	11:LK:27:VAL:HG22	1.98	0.46
12:LL:207:GLU:O	12:LL:211:ARG:HG3	2.14	0.46
18:LR:35:ALA:HB2	18:LR:58:ILE:HG23	1.98	0.46
33:Lg:103:LYS:O	33:Lg:106:VAL:HG22	2.15	0.46
45:S2:323:A:O2'	45:S2:324:U:O5'	2.34	0.46
45:S2:409:C:N4	45:S2:423:G:O6	2.49	0.46
45:S2:1273:G:H5''	45:S2:1274:C:H3'	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:29:LEU:HB3	46:SA:34:TYR:HB2	1.98	0.46
47:SB:124:LEU:HD11	56:SK:59:TYR:HB2	1.97	0.46
52:SG:79:GLU:HG3	52:SG:80:ARG:N	2.31	0.46
63:SR:35:TRP:NE1	63:SR:37:PRO:HB3	2.30	0.46
66:SU:23:ALA:O	66:SU:26:GLU:HG2	2.16	0.46
69:SX:59:PRO:HG3	69:SX:138:ASN:HB3	1.97	0.46
70:SY:73:ARG:O	70:SY:77:SER:OG	2.31	0.46
1:LA:820:U:H2'	1:LA:821:G:C8	2.51	0.46
1:LA:1496:C:O2'	1:LA:1601:A:N3	2.46	0.46
1:LA:1679:G:H2'	1:LA:1680:U:H6	1.81	0.46
1:LA:1719:U:OP2	20:LT:120:TYR:OH	2.26	0.46
1:LA:1798:A:H2'	1:LA:1799:A:H8	1.81	0.46
1:LA:2281:U:O2	1:LA:2309:U:H4'	2.15	0.46
1:LA:2672:A:OP1	13:LM:95:ASN:HA	2.15	0.46
1:LA:3391:U:H2'	1:LA:3392:U:C6	2.50	0.46
2:LB:35:C:N3	2:LB:45:A:O2'	2.40	0.46
7:LG:178:ASN:HA	7:LG:183:TRP:CD2	2.51	0.46
13:LM:96:PHE:O	13:LM:156:LYS:HE3	2.16	0.46
23:LW:19:VAL:O	23:LW:22:PRO:HD2	2.16	0.46
35:Li:29:ILE:HD11	35:Li:31:ARG:HE	1.81	0.46
45:S2:220:A:OP2	45:S2:831:U:O2'	2.29	0.46
46:SA:37:VAL:HG12	46:SA:50:ILE:HG12	1.97	0.46
51:SF:73:GLY:O	51:SF:77:GLN:HG3	2.15	0.46
57:SL:42:ARG:HH21	57:SL:59:SER:HA	1.80	0.46
57:SL:54:LEU:HD12	57:SL:54:LEU:HA	1.74	0.46
62:SQ:208:GLN:HG3	62:SQ:209:ASN:HB2	1.97	0.46
65:ST:1:MET:CE	65:ST:109:LEU:HD12	2.46	0.46
66:SU:104:ARG:H	66:SU:104:ARG:HD2	1.80	0.46
70:SY:37:ILE:HG12	70:SY:54:LEU:HD11	1.97	0.46
1:LA:1808:A:H2'	1:LA:1808:A:N3	2.30	0.46
1:LA:2555:C:H2'	1:LA:2556:A:O4'	2.15	0.46
1:LA:2609:G:C5'	16:LP:81:TYR:HA	2.46	0.46
8:LH:132:THR:HA	8:LH:135:VAL:HG12	1.98	0.46
15:LO:94:TRP:CE2	15:LO:100:ALA:HB2	2.51	0.46
18:LR:31:GLU:OE1	18:LR:31:GLU:HA	2.16	0.46
22:LV:73:GLY:HA2	22:LV:89:LEU:O	2.16	0.46
45:S2:256:A:O2'	67:SV:73:SER:N	2.49	0.46
45:S2:258:C:O2	67:SV:178:ARG:NH1	2.49	0.46
45:S2:564:G:N2	45:S2:577:G:OP1	2.49	0.46
45:S2:1053:G:H5'	45:S2:1054:U:OP2	2.15	0.46
45:S2:1233:G:H21	59:SN:145:HIS:HE1	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1503:A:O2'	54:SI:41:SER:HB2	2.16	0.46
48:SC:14:TYR:OH	48:SC:34:GLU:OE1	2.34	0.46
61:SP:166:GLY:O	61:SP:170:ILE:HG13	2.16	0.46
62:SQ:46:THR:OG1	62:SQ:64:ARG:NH1	2.49	0.46
66:SU:32:PRO:HA	66:SU:35:LYS:HE3	1.97	0.46
68:SW:10:LYS:HE3	68:SW:10:LYS:HB3	1.76	0.46
71:SZ:11:SER:OG	71:SZ:12:GLN:N	2.48	0.46
75:Sd:38:ASP:OD1	75:Sd:39:GLU:N	2.49	0.46
75:Sd:43:LYS:O	75:Sd:47:VAL:HG13	2.16	0.46
75:Sd:105:ARG:O	75:Sd:109:LYS:HG3	2.15	0.46
1:LA:26:A:H2'	1:LA:27:C:H6	1.81	0.45
1:LA:161:G:H2'	1:LA:162:G:O4'	2.15	0.45
1:LA:407:A:H5'	1:LA:1395:C:O2'	2.15	0.45
1:LA:775:U:H5	1:LA:2718:U:O2	1.99	0.45
1:LA:1477:C:H2'	1:LA:1478:U:C6	2.52	0.45
1:LA:1874:G:O6	20:LT:20:ARG:NH1	2.49	0.45
1:LA:2147:U:H2'	1:LA:2148:A:C5	2.50	0.45
1:LA:2228:A:H2'	1:LA:2229:C:C6	2.51	0.45
1:LA:2561:A:N6	1:LA:2578:G:O2'	2.47	0.45
15:LO:17:VAL:HG11	15:LO:74:ARG:HA	1.98	0.45
18:LR:138:LYS:NZ	18:LR:140:GLU:HG3	2.30	0.45
21:LU:14:LEU:HD11	22:LV:136:ARG:NH2	2.31	0.45
21:LU:66:GLU:OE2	21:LU:98:SER:HA	2.15	0.45
22:LV:80:VAL:O	22:LV:83:ARG:NH1	2.49	0.45
26:LZ:107:VAL:HA	26:LZ:126:LEU:HA	1.97	0.45
28:Lb:95:VAL:HG11	28:Lb:113:VAL:HG11	1.98	0.45
45:S2:514:G:H2'	45:S2:515:A:H8	1.80	0.45
45:S2:821:U:C4	45:S2:852:C:N4	2.79	0.45
45:S2:1219:A:C5	45:S2:1264:G:N2	2.84	0.45
45:S2:1273:G:N7	45:S2:1431:C:H5'	2.31	0.45
45:S2:1544:U:H5'	53:SH:132:ARG:HH21	1.80	0.45
46:SA:105:MET:HE1	46:SA:119:ALA:CA	2.46	0.45
50:SE:28:MET:HG3	50:SE:29:SER:H	1.81	0.45
52:SG:17:ILE:HD13	52:SG:17:ILE:HA	1.73	0.45
56:SK:42:LEU:HD11	56:SK:47:TYR:HD2	1.81	0.45
60:SO:221:MET:HB3	60:SO:223:TRP:HE1	1.80	0.45
61:SP:59:LEU:O	61:SP:63:ILE:HG13	2.17	0.45
68:SW:116:LEU:HB2	68:SW:118:LEU:HD11	1.98	0.45
79:Ta:35:A:H2'	79:Ta:36:G:N2	2.31	0.45
1:LA:215:G:H5''	27:La:12:ARG:HG3	1.98	0.45
1:LA:1221:G:H21	1:LA:1222:A:N6	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1494:U:H5	1:LA:1834:A:N1	2.15	0.45
1:LA:2655:A:H4'	43:Lq:98:LYS:HE3	1.97	0.45
2:LB:64:A:H8	12:LL:204:GLY:O	2.00	0.45
3:LC:95:G:N3	38:Ll:79:GLN:HG3	2.31	0.45
7:LG:85:ARG:NH1	7:LG:86:TYR:OH	2.49	0.45
22:LV:125:ALA:O	22:LV:127:GLN:HG2	2.16	0.45
25:LY:25:ASP:OD1	25:LY:25:ASP:N	2.46	0.45
26:LZ:105:VAL:HG11	26:LZ:135:ILE:HG12	1.98	0.45
29:Lc:139:ARG:HD3	29:Lc:139:ARG:HA	1.78	0.45
45:S2:298:C:O2'	64:SS:30:ARG:NH1	2.48	0.45
45:S2:895:G:H2'	45:S2:896:U:C6	2.51	0.45
45:S2:1280:C:H4'	55:SJ:69:LYS:HB3	1.98	0.45
55:SJ:28:SER:HB2	55:SJ:112:VAL:HG13	1.97	0.45
61:SP:126:PRO:HG2	61:SP:151:SER:HB3	1.97	0.45
61:SP:140:ASN:ND2	72:Sa:29:HIS:O	2.48	0.45
64:SS:44:LEU:HD23	64:SS:82:TYR:HB3	1.98	0.45
66:SU:129:LEU:HD11	66:SU:172:VAL:HG21	1.97	0.45
67:SV:153:GLU:HG3	67:SV:156:VAL:HG22	1.97	0.45
68:SW:170:GLY:O	68:SW:174:ARG:HG2	2.16	0.45
1:LA:397:A:H5''	1:LA:399:A:OP1	2.16	0.45
1:LA:1221:G:H21	1:LA:1222:A:H62	1.65	0.45
1:LA:1389:A:N6	1:LA:1417:A:O2'	2.44	0.45
1:LA:2759:C:N3	43:Lq:63:LYS:HE3	2.31	0.45
1:LA:3094:U:H2'	1:LA:3095:C:C6	2.51	0.45
3:LC:142:C:H2'	3:LC:143:U:H6	1.81	0.45
4:LD:80:GLU:HG2	4:LD:170:ALA:HA	1.98	0.45
16:LP:110:ALA:HB1	16:LP:113:LEU:HD12	1.99	0.45
17:LQ:19[A]:LEU:HD23	17:LQ:41[A]:LEU:HD21	1.97	0.45
19:LS:180:ARG:HG2	19:LS:180:ARG:NH1	2.31	0.45
24:LX:96:GLU:OE2	25:LY:24:GLY:N	2.49	0.45
25:LY:56:ARG:HB3	25:LY:61:LYS:HB2	1.99	0.45
33:Lg:102:ALA:O	33:Lg:106:VAL:HG13	2.16	0.45
45:S2:141:U:O4	65:ST:187:LYS:HD2	2.16	0.45
45:S2:888:U:H2'	45:S2:889:U:C6	2.51	0.45
45:S2:998:A:H2'	45:S2:999:U:C6	2.52	0.45
45:S2:1124:A:H2'	45:S2:1125:A:C8	2.52	0.45
45:S2:1241:G:C8	50:SE:52:LYS:HD2	2.51	0.45
45:S2:1423:U:H4'	45:S2:1423:U:OP1	2.16	0.45
47:SB:98:MET:HE1	47:SB:107:LYS:CG	2.44	0.45
49:SD:32:LEU:HD23	49:SD:32:LEU:C	2.41	0.45
49:SD:135:MET:HB3	49:SD:135:MET:HE3	1.68	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SO:255:ALA:HB1	60:SO:289:ALA:HB3	1.99	0.45
62:SQ:171:ILE:HD13	62:SQ:196:GLU:HG3	1.97	0.45
1:LA:263:C:H2'	1:LA:264:G:O4'	2.17	0.45
1:LA:630:U:H2'	1:LA:631:G:C8	2.51	0.45
1:LA:2129:G:O4'	1:LA:2143:A:H4'	2.16	0.45
13:LM:99:THR:O	13:LM:154:THR:OG1	2.35	0.45
16:LP:36:ILE:HD11	16:LP:105:ARG:HB3	1.98	0.45
18:LR:88:VAL:O	18:LR:92:GLN:HG2	2.16	0.45
26:LZ:117:ASN:OD1	26:LZ:119:THR:OG1	2.33	0.45
42:Lp:11:ARG:NH2	45:S2:1127:G:OP1	2.49	0.45
45:S2:59:C:H1'	45:S2:452:A:C8	2.51	0.45
45:S2:161:U:OP2	65:ST:87:ARG:NH1	2.38	0.45
45:S2:368:U:N3	45:S2:369:A:N7	2.65	0.45
45:S2:828:U:O2'	45:S2:829:A:OP1	2.32	0.45
45:S2:933:A:OP1	76:Se:70:LYS:NZ	2.46	0.45
45:S2:1086:A:H2'	45:S2:1087:A:C8	2.51	0.45
45:S2:1117:U:H2'	45:S2:1118:G:C8	2.51	0.45
49:SD:130:THR:O	49:SD:134:SER:HB3	2.16	0.45
50:SE:127:ARG:H	50:SE:127:ARG:HD2	1.81	0.45
60:SO:122:ILE:CG2	60:SO:134:TRP:HB2	2.38	0.45
61:SP:38:PHE:CE1	61:SP:39:ASN:HB2	2.51	0.45
63:SR:139:ILE:HG13	63:SR:191:ALA:HB1	1.96	0.45
69:SX:6:THR:HG22	69:SX:8:GLN:H	1.81	0.45
70:SY:64:ARG:O	70:SY:64:ARG:HD3	2.16	0.45
1:LA:26:A:N3	1:LA:328:U:O2'	2.47	0.45
1:LA:121:A:C2	10:LJ:129:PRO:HB3	2.50	0.45
1:LA:289:A:H2'	1:LA:290:G:H8	1.81	0.45
1:LA:364:G:OP1	6:LF:60:THR:HG23	2.16	0.45
1:LA:439:C:O2	1:LA:493:G:N2	2.50	0.45
1:LA:795:U:H2'	1:LA:796:U:C6	2.51	0.45
1:LA:1140:C:O2'	1:LA:1152:A:N3	2.45	0.45
1:LA:1821:C:H5''	35:Li:66:SER:HB2	1.99	0.45
1:LA:2111:U:H5'	1:LA:2112:A:H5'	1.98	0.45
1:LA:3138:A:H2'	1:LA:3139:G:O4'	2.16	0.45
3:LC:94:C:H5''	38:Li:76:ASN:HD21	1.82	0.45
3:LC:121:U:O2	3:LC:132:G:N2	2.32	0.45
7:LG:236:LEU:HD23	7:LG:236:LEU:H	1.81	0.45
10:LJ:71:VAL:CG2	10:LJ:75:ILE:HB	2.47	0.45
11:LK:7:GLU:HB2	11:LK:54:LYS:HG3	1.99	0.45
14:LN:50:PRO:HA	14:LN:138:VAL:O	2.17	0.45
22:LV:126:VAL:HG23	22:LV:128:LEU:HD22	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:330:G:H2'	45:S2:331:A:C8	2.52	0.45
45:S2:333:A:H2'	45:S2:334:G:C8	2.52	0.45
45:S2:1143:A:H4'	45:S2:1144:U:OP1	2.15	0.45
45:S2:1220:C:H5'	48:SC:51:SER:HB2	1.98	0.45
45:S2:1290:U:H2'	45:S2:1291:G:N3	2.32	0.45
45:S2:1330:G:H3'	45:S2:1331:A:H8	1.82	0.45
45:S2:1488:G:N2	45:S2:1512:G:H21	2.14	0.45
55:SJ:30:LYS:HD2	55:SJ:33:GLN:OE1	2.16	0.45
60:SO:132:LYS:HA	60:SO:143:THR:HA	1.99	0.45
61:SP:126:PRO:HG2	61:SP:152:PRO:HD2	1.99	0.45
71:SZ:92:LYS:HZ3	71:SZ:121:VAL:HG13	1.80	0.45
80:Tb:30:G:H2'	80:Tb:31:G:H8	1.82	0.45
1:LA:169:U:O2'	1:LA:170:G:O4'	2.33	0.45
1:LA:177:U:N3	1:LA:241:G:C6	2.84	0.45
1:LA:1925:C:OP1	44:Lr:23:ARG:NH1	2.40	0.45
1:LA:2881:U:H2'	1:LA:2882:U:C6	2.52	0.45
10:LJ:50:VAL:HG21	26:LZ:27:ARG:HD2	1.99	0.45
12:LL:177:ASP:OD1	12:LL:177:ASP:N	2.49	0.45
14:LN:43:ALA:O	14:LN:47:ALA:HA	2.16	0.45
22:LV:116:ARG:HG2	22:LV:128:LEU:HD21	1.98	0.45
34:Lh:67:MET:HE1	34:Lh:90:PRO:HD3	1.99	0.45
42:Lp:1:MET:HB2	45:S2:1642:G:H5'	1.99	0.45
45:S2:387:A:H4'	45:S2:388:G:O5'	2.17	0.45
45:S2:565:C:OP2	45:S2:577:G:O2'	2.34	0.45
45:S2:707:A:OP2	45:S2:731:C:N4	2.45	0.45
45:S2:1531:G:H2'	45:S2:1532:U:C6	2.52	0.45
46:SA:72:LEU:HD12	48:SC:65:TYR:HD1	1.82	0.45
48:SC:52:LYS:HE3	48:SC:54:TYR:CE2	2.51	0.45
51:SF:117:LEU:HA	51:SF:117:LEU:HD23	1.61	0.45
51:SF:118:ILE:N	51:SF:118:ILE:HD13	2.32	0.45
62:SQ:153:HIS:ND1	62:SQ:154:SER:N	2.65	0.45
66:SU:166:LEU:O	66:SU:170:GLN:HG3	2.16	0.45
68:SW:126:ARG:HG2	78:Sg:33:ARG:HD3	1.99	0.45
79:Ta:59:A:OP2	79:Ta:60:A:N6	2.47	0.45
1:LA:1152:A:O2'	1:LA:1153:A:H5'	2.17	0.45
1:LA:1747:G:OP1	39:Lm:44:LYS:NZ	2.41	0.45
1:LA:2261:A:N1	45:S2:1758:U:O2'	2.46	0.45
1:LA:2584:G:C6	26:LZ:24:LEU:HD13	2.52	0.45
1:LA:2837:A:N6	1:LA:2849:G:O2'	2.43	0.45
1:LA:2932:A:O4'	1:LA:3014:G:H5''	2.16	0.45
1:LA:3327:G:H2'	1:LA:3328:U:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:142:ALA:O	5:LE:146:ARG:NE	2.36	0.45
5:LE:158:VAL:HG13	5:LE:191:LYS:HD2	1.99	0.45
11:LK:47:LYS:HE2	11:LK:47:LYS:HB2	1.66	0.45
15:LO:112:LEU:HD21	17:LQ:197[A]:LEU:O	2.17	0.45
19:LS:130:ARG:HE	19:LS:130:ARG:HB2	1.49	0.45
26:LZ:108:LEU:N	26:LZ:125:ARG:O	2.44	0.45
45:S2:97:C:H1'	45:S2:426:G:H5'	1.99	0.45
45:S2:350:U:OP1	45:S2:351:C:O2'	2.27	0.45
45:S2:689:G:H2'	45:S2:690:G:C8	2.51	0.45
45:S2:905:A:O3'	71:SZ:52:ARG:HB3	2.17	0.45
47:SB:98:MET:HE2	47:SB:105:GLY:O	2.17	0.45
61:SP:144:ILE:HG23	61:SP:158:VAL:HG13	1.99	0.45
64:SS:180:LEU:HD21	64:SS:192:ILE:CG2	2.47	0.45
64:SS:180:LEU:HD21	64:SS:192:ILE:HG22	1.99	0.45
64:SS:192:ILE:N	64:SS:192:ILE:HD12	2.31	0.45
1:LA:377:A:H1'	1:LA:392:G:N2	2.31	0.45
1:LA:670:U:H2'	1:LA:671:A:C8	2.51	0.45
1:LA:1228:G:H2'	1:LA:1229:G:O4'	2.17	0.45
1:LA:2523:A:H2	10:LJ:44:ARG:HH11	1.63	0.45
1:LA:2630:U:H4'	1:LA:2696:A:H2	1.82	0.45
1:LA:2722:U:H2'	1:LA:2723:U:C6	2.52	0.45
1:LA:3052:G:H2'	1:LA:3053:U:H6	1.82	0.45
1:LA:3174:U:H5'	34:Lh:10:LYS:CE	2.47	0.45
1:LA:3314:G:OP2	5:LE:116:ARG:NH2	2.48	0.45
1:LA:3373:U:OP2	32:Lf:70:ARG:NH2	2.50	0.45
8:LH:145:LEU:HD23	8:LH:145:LEU:HA	1.79	0.45
9:LI:98:LYS:HB3	9:LI:99:PRO:HD3	1.99	0.45
11:LK:151:VAL:O	11:LK:155:SER:OG	2.27	0.45
13:LM:54:VAL:CG1	13:LM:57:PHE:HB2	2.45	0.45
21:LU:71:LYS:HD3	21:LU:71:LYS:N	2.31	0.45
35:Li:3:GLN:HE22	35:Li:29:ILE:HA	1.81	0.45
35:Li:57:LEU:HB3	35:Li:61:GLN:HB2	1.99	0.45
37:Lk:59:ASP:OD1	37:Lk:60:LEU:N	2.50	0.45
45:S2:1165:G:H2'	45:S2:1166:A:C8	2.51	0.45
45:S2:1586:A:H2'	45:S2:1587:A:O4'	2.17	0.45
47:SB:128:ASN:HB3	47:SB:131:GLN:CB	2.47	0.45
48:SC:71:GLU:HA	48:SC:74:GLU:HG2	1.98	0.45
49:SD:68:GLU:OE2	49:SD:70:ASN:HB3	2.17	0.45
60:SO:150:TRP:NE1	60:SO:174:ASN:HD22	2.15	0.45
62:SQ:123:ALA:HB2	62:SQ:165:ARG:HG2	1.99	0.45
64:SS:246:LEU:HD12	64:SS:251:GLU:HG2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:Sc:79:ASN:HB3	74:Sc:81:LYS:HG3	1.99	0.45
75:Sd:84:LYS:HE3	75:Sd:85:PHE:CE1	2.52	0.45
79:Ta:37:G:C6	79:Ta:38:A:H8	2.35	0.45
1:LA:343:U:H1'	6:LF:95:ARG:HG3	1.98	0.45
1:LA:575:C:H5''	9:LI:142:SER:OG	2.17	0.45
1:LA:936:G:OP2	1:LA:937:C:N4	2.42	0.45
1:LA:1510:U:H5''	1:LA:1511:U:H5	1.82	0.45
1:LA:1565:A:H2'	1:LA:1570:A:N1	2.32	0.45
1:LA:1611:A:H5''	39:Lm:51:LEU:HD22	1.97	0.45
1:LA:2862:G:H5'	12:LL:109:ASP:HB3	1.98	0.45
1:LA:2897:G:O6	41:Lo:125:LYS:NZ	2.50	0.45
11:LK:146:LEU:HD23	11:LK:146:LEU:HA	1.77	0.45
16:LP:21:PHE:O	16:LP:25:VAL:HG22	2.15	0.45
16:LP:192:LYS:O	16:LP:196:THR:OG1	2.26	0.45
22:LV:149:GLN:NE2	22:LV:151:LEU:HD12	2.32	0.45
36:Lj:45:LYS:HE3	36:Lj:49:LYS:HD3	1.99	0.45
45:S2:372:G:H1'	45:S2:613:G:O6	2.16	0.45
45:S2:555:A:H2'	45:S2:555:A:N3	2.32	0.45
45:S2:1349:G:O2'	45:S2:1350:U:O4'	2.30	0.45
47:SB:136:ALA:HB2	47:SB:202:ALA:HB2	1.99	0.45
54:SI:38:LYS:HB2	54:SI:43:ASN:HD22	1.82	0.45
60:SO:93:ASP:HB2	60:SO:97:GLY:O	2.16	0.45
68:SW:37:LYS:O	68:SW:37:LYS:HG2	2.17	0.45
70:SY:104:ARG:NH1	70:SY:104:ARG:HB2	2.31	0.45
80:Tb:25:U:H2'	80:Tb:26:C:C6	2.52	0.45
1:LA:1340:U:H2'	1:LA:1341:C:C6	2.51	0.45
1:LA:1947:G:H5'	20:LT:101:VAL:HG11	1.98	0.45
1:LA:2525:C:H2'	1:LA:2526:G:H8	1.82	0.45
1:LA:2667:U:H2'	1:LA:2668:G:H8	1.82	0.45
1:LA:3014:G:H2'	1:LA:3015:A:H8	1.82	0.45
1:LA:3167:A:O2'	1:LA:3168:U:OP1	2.27	0.45
1:LA:3382:G:H2'	1:LA:3383:U:C6	2.52	0.45
2:LB:38:U:H2'	2:LB:40:C:H5	1.82	0.45
3:LC:85:G:H4'	3:LC:86:U:OP1	2.16	0.45
4:LD:82:VAL:HG13	4:LD:86:GLN:OE1	2.17	0.45
7:LG:214:ASP:OD1	7:LG:215:ASP:N	2.49	0.45
13:LM:37:LEU:HD23	13:LM:37:LEU:HA	1.80	0.45
13:LM:117:ASP:OD1	13:LM:118:PRO:HD2	2.17	0.45
16:LP:94:TYR:CE2	16:LP:96:ARG:HB2	2.52	0.45
18:LR:142:SER:O	18:LR:142:SER:OG	2.24	0.45
36:Lj:119:LYS:HD2	36:Lj:120:ALA:HB3	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:Lk:47:ILE:O	37:Lk:47:ILE:HG13	2.16	0.45
41:Lo:98:LYS:HG3	41:Lo:118:THR:HG21	1.98	0.45
45:S2:448:C:H2'	45:S2:449:C:C6	2.52	0.45
45:S2:562:G:H2'	45:S2:563:U:C6	2.51	0.45
45:S2:1098:U:H3'	45:S2:1099:U:H5'	1.99	0.45
45:S2:1691:A:H2'	45:S2:1692:G:H8	1.81	0.45
45:S2:1775:U:H2'	45:S2:1776:A:C8	2.51	0.45
58:SM:30:LEU:HA	58:SM:39:CYS:HA	1.99	0.45
61:SP:131:GLN:NE2	61:SP:135:GLU:OE2	2.45	0.45
62:SQ:103:MET:HE3	62:SQ:188:LEU:HD21	1.99	0.45
63:SR:81:MET:N	63:SR:101:VAL:O	2.44	0.45
63:SR:227:PRO:HA	63:SR:230:TRP:CG	2.52	0.45
64:SS:11:ARG:HH21	64:SS:25:GLY:HA3	1.80	0.45
65:ST:2:LYS:HE3	65:ST:2:LYS:HB3	1.71	0.45
1:LA:696:A:OP1	6:LF:272:VAL:HG21	2.18	0.44
1:LA:1127:U:H2'	1:LA:1128:A:O4'	2.16	0.44
1:LA:1193:G:H2'	1:LA:1194:A:C8	2.52	0.44
1:LA:1554:U:H5'	1:LA:1555:C:OP2	2.17	0.44
1:LA:2388:C:H2'	1:LA:2389:A:C8	2.52	0.44
1:LA:2428:G:H2'	1:LA:2429:A:C8	2.52	0.44
1:LA:2496:U:HO2'	1:LA:2497:U:P	2.39	0.44
1:LA:2552:U:C4	35:Li:95:ILE:HG12	2.52	0.44
1:LA:3386:U:H2'	1:LA:3387:C:C6	2.52	0.44
10:LJ:149:LYS:H	10:LJ:201:THR:HA	1.82	0.44
15:LO:12:TRP:NE1	21:LU:151:PRO:HB2	2.32	0.44
17:LQ:50[A]:ASN:OD1	17:LQ:136[A]:THR:HG21	2.16	0.44
25:LY:50:ALA:HA	25:LY:55:PHE:CG	2.52	0.44
29:Lc:123:VAL:H	29:Lc:143:GLY:HA3	1.81	0.44
35:Li:55:SER:O	35:Li:62:TYR:OH	2.32	0.44
45:S2:186:C:OP2	67:SV:142:LYS:NZ	2.51	0.44
45:S2:386:G:OP2	67:SV:25:ARG:NH2	2.50	0.44
45:S2:481:A:H2'	45:S2:482:U:C6	2.52	0.44
45:S2:872:G:H2'	45:S2:873:U:O4'	2.17	0.44
45:S2:990:C:H2'	45:S2:991:G:O4'	2.17	0.44
45:S2:1283:U:H5''	45:S2:1284:C:H2'	1.99	0.44
47:SB:121:ILE:HG23	47:SB:129:PRO:HB3	1.99	0.44
48:SC:43:ILE:HG22	48:SC:47:GLN:OE1	2.18	0.44
50:SE:25:LEU:O	50:SE:87:PRO:HB3	2.17	0.44
51:SF:129:PHE:HB2	55:SJ:79:TRP:CD1	2.52	0.44
62:SQ:33:LYS:HB3	62:SQ:33:LYS:HE3	1.76	0.44
65:ST:74:LYS:NZ	65:ST:96:SER:HB2	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:110:GLN:NE2	68:SW:126:ARG:HB2	2.32	0.44
68:SW:113:VAL:HG13	68:SW:118:LEU:HB2	1.98	0.44
70:SY:6:SER:OG	70:SY:7:ALA:N	2.50	0.44
1:LA:114:A:H2'	1:LA:115:A:O4'	2.16	0.44
1:LA:1546:G:H2'	1:LA:1547:C:C6	2.52	0.44
1:LA:1595:C:O2'	1:LA:1695:A:N3	2.48	0.44
1:LA:2667:U:H2'	1:LA:2668:G:C8	2.53	0.44
1:LA:2868:U:O2'	1:LA:2872:U:OP1	2.35	0.44
1:LA:3040:U:H5'	1:LA:3091:C:N4	2.31	0.44
5:LE:111:SER:O	5:LE:115:LYS:HG2	2.18	0.44
10:LJ:78:PHE:C	10:LJ:80:TYR:H	2.24	0.44
21:LU:94:ILE:HD11	21:LU:102:ALA:HA	2.00	0.44
21:LU:94:ILE:HD11	21:LU:102:ALA:HB1	1.98	0.44
29:Lc:22:ILE:HD12	29:Lc:22:ILE:N	2.32	0.44
38:Ll:25:ARG:NH1	40:Ln:50:ASN:O	2.50	0.44
45:S2:566:C:H2'	45:S2:567:A:C8	2.53	0.44
45:S2:1046:G:H2'	45:S2:1047:G:O4'	2.17	0.44
45:S2:1145:U:H2'	45:S2:1146:G:O4'	2.17	0.44
45:S2:1501:C:H5	54:SI:102:ARG:NH1	2.15	0.44
50:SE:85:ILE:HD11	50:SE:116:LEU:HD13	1.99	0.44
51:SF:7:VAL:HG21	51:SF:91:ALA:HB1	1.99	0.44
51:SF:106:LYS:HE3	51:SF:117:LEU:HD21	1.99	0.44
52:SG:17:ILE:HD11	52:SG:54:THR:HG22	1.98	0.44
53:SH:66:LEU:O	53:SH:70:VAL:HG23	2.17	0.44
62:SQ:26:ARG:O	62:SQ:50:LYS:HG3	2.17	0.44
63:SR:41:LEU:HG	63:SR:68:ILE:HD13	2.00	0.44
71:SZ:17:ALA:HA	71:SZ:30:VAL:HG22	1.99	0.44
71:SZ:84:ARG:HG3	71:SZ:85:ALA:O	2.16	0.44
1:LA:63:A:N3	1:LA:78:U:O2'	2.43	0.44
1:LA:381:U:H2'	1:LA:382:U:C6	2.52	0.44
1:LA:524:C:H2'	1:LA:525:C:C6	2.50	0.44
1:LA:936:G:H5''	29:Lc:29:PRO:HA	1.99	0.44
1:LA:1070:U:O2'	1:LA:1071:G:H8	2.01	0.44
1:LA:1072:U:H2'	1:LA:1073:U:C6	2.53	0.44
1:LA:1638:C:N4	35:Li:73:SER:HB2	2.32	0.44
1:LA:1900:A:O3'	1:LA:2917:G:H5'	2.17	0.44
1:LA:2231:A:H2'	1:LA:2232:A:C8	2.51	0.44
1:LA:2565:C:H2'	1:LA:2566:C:H6	1.79	0.44
1:LA:2666:A:N6	1:LA:2686:G:O2'	2.50	0.44
4:LD:79:ASN:O	4:LD:82:VAL:HG23	2.17	0.44
4:LD:168:VAL:HG13	44:Lr:79:VAL:HG21	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:258:LYS:C	7:LG:260:PHE:H	2.25	0.44
11:LK:176:LEU:HD12	41:Lo:83:LYS:HG2	1.99	0.44
27:La:32:SER:HA	27:La:49:PRO:HA	1.99	0.44
45:S2:198:A:N3	45:S2:198:A:H2'	2.32	0.44
45:S2:693:U:C2	45:S2:695:U:O4	2.70	0.44
45:S2:963:A:HO2'	45:S2:964:U:P	2.40	0.44
45:S2:1278:G:H2'	45:S2:1279:C:O4'	2.17	0.44
45:S2:1469:A:OP1	54:SI:91:TYR:OH	2.36	0.44
49:SD:62:LEU:HD22	49:SD:63:VAL:O	2.17	0.44
51:SF:73:GLY:N	51:SF:76:SER:OG	2.51	0.44
51:SF:140:LYS:HA	51:SF:140:LYS:HD2	1.67	0.44
52:SG:86:PRO:HD3	61:SP:205:ARG:NH2	2.32	0.44
54:SI:73:VAL:HG21	54:SI:102:ARG:HG3	1.98	0.44
56:SK:91:PRO:HB3	56:SK:101:TYR:CE1	2.51	0.44
60:SO:149:ASP:HB2	60:SO:174:ASN:HB3	1.99	0.44
62:SQ:103:MET:CE	62:SQ:188:LEU:HD21	2.47	0.44
65:ST:208:TYR:O	65:ST:212:LEU:HG	2.18	0.44
66:SU:47:ARG:HE	66:SU:175:LYS:NZ	2.16	0.44
66:SU:81:LEU:HD13	66:SU:81:LEU:HA	1.82	0.44
69:SX:15:LYS:HE3	69:SX:15:LYS:HB3	1.72	0.44
1:LA:107:A:H1'	1:LA:325:A:N3	2.31	0.44
1:LA:663:U:H2'	1:LA:664:A:H8	1.77	0.44
1:LA:1121:U:C2	1:LA:1135:A:N6	2.84	0.44
1:LA:1169:A:H2'	1:LA:1170:G:O4'	2.18	0.44
1:LA:1645:G:H22	1:LA:1807:G:H1'	1.83	0.44
4:LD:20:THR:HA	4:LD:23:ARG:HG3	1.99	0.44
5:LE:113:GLU:HB2	5:LE:176:ALA:HB2	1.99	0.44
6:LF:181:VAL:HG11	6:LF:224:GLY:CA	2.46	0.44
12:LL:139:ARG:HG2	12:LL:173:PHE:CZ	2.52	0.44
14:LN:131:LYS:HG3	14:LN:133:PRO:HG3	2.00	0.44
24:LX:45:ARG:HD3	24:LX:46:LEU:N	2.33	0.44
45:S2:94:U:O2'	64:SS:8:HIS:ND1	2.45	0.44
45:S2:752:A:N6	45:S2:797:G:C6	2.80	0.44
45:S2:900:A:OP1	71:SZ:43:THR:OG1	2.24	0.44
45:S2:1047:G:C4	45:S2:1048:G:H1'	2.52	0.44
45:S2:1064:G:O2'	62:SQ:203:ASP:O	2.35	0.44
45:S2:1488:G:H21	45:S2:1512:G:N2	2.15	0.44
45:S2:1770:U:H2'	45:S2:1771:U:C6	2.52	0.44
46:SA:215:GLU:OE1	46:SA:215:GLU:N	2.50	0.44
55:SJ:69:LYS:HD2	55:SJ:78:THR:HG23	2.00	0.44
57:SL:42:ARG:NH2	57:SL:59:SER:HA	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SP:54:TRP:O	61:SP:58:VAL:HG12	2.17	0.44
68:SW:55:ALA:O	68:SW:59:LEU:HG	2.17	0.44
72:Sa:1:MET:HE2	72:Sa:1:MET:HB2	1.82	0.44
78:Sg:14:VAL:HA	78:Sg:17:GLN:NE2	2.31	0.44
1:LA:1156:G:O2'	1:LA:1168:A:N3	2.45	0.44
1:LA:1363:C:H5''	19:LS:3:ILE:HD13	1.99	0.44
1:LA:1645:G:O2'	1:LA:1646:A:O5'	2.32	0.44
1:LA:1826:C:H2'	1:LA:1827:A:H8	1.83	0.44
1:LA:1940:C:H2'	1:LA:1941:U:C6	2.52	0.44
1:LA:2536:U:C5	62:SQ:97:LEU:HD13	2.52	0.44
1:LA:2834:U:H2'	1:LA:2835:C:O2	2.17	0.44
1:LA:3065:U:H2'	1:LA:3066:C:H6	1.82	0.44
1:LA:3149:A:H4'	5:LE:128:LYS:O	2.18	0.44
6:LF:23:PRO:HD2	6:LF:26:PHE:CE2	2.53	0.44
6:LF:90:PHE:O	6:LF:98:ARG:NH2	2.50	0.44
7:LG:178:ASN:ND2	7:LG:179:ARG:HH11	2.15	0.44
12:LL:50:VAL:HG22	12:LL:167:LEU:HD23	1.99	0.44
14:LN:107:GLU:OE2	14:LN:107:GLU:N	2.36	0.44
21:LU:43:TYR:OH	21:LU:47:LYS:HE2	2.18	0.44
21:LU:104:GLU:O	21:LU:108:GLN:HG2	2.18	0.44
27:La:56:VAL:HG22	27:La:104:LEU:HB3	2.00	0.44
29:Lc:99:ALA:HB1	29:Lc:123:VAL:HA	2.00	0.44
42:Lp:1:MET:HG3	45:S2:1783:C:OP2	2.18	0.44
43:Lq:14:GLY:C	43:Lq:16:THR:H	2.23	0.44
45:S2:224:C:O2'	45:S2:225:A:H5''	2.17	0.44
45:S2:1181:U:C2	45:S2:1458:G:C2	3.05	0.44
45:S2:1218:G:C4'	45:S2:1220:C:H41	2.31	0.44
45:S2:1785:U:P	71:SZ:133:ARG:HH22	2.40	0.44
46:SA:45:LYS:HD3	46:SA:83:THR:O	2.18	0.44
46:SA:72:LEU:CD2	48:SC:20:VAL:HG21	2.48	0.44
64:SS:70:VAL:HG13	64:SS:92:LEU:CD1	2.47	0.44
66:SU:49:ILE:HG21	66:SU:172:VAL:HA	1.99	0.44
70:SY:106:ARG:HB3	70:SY:106:ARG:CZ	2.47	0.44
75:Sd:105:ARG:HG2	75:Sd:108:ARG:NH2	2.33	0.44
77:Sf:14:SER:O	77:Sf:18:LYS:HG3	2.16	0.44
79:Ta:10:G:H5'	79:Ta:46:G:C8	2.52	0.44
1:LA:291:C:OP1	16:LP:68:ARG:HB3	2.18	0.44
1:LA:374:A:N3	1:LA:376:G:H5''	2.33	0.44
1:LA:874:G:O2'	1:LA:1890:A:OP1	2.36	0.44
1:LA:1045:A:H2'	1:LA:1048:C:C5	2.53	0.44
1:LA:1113:U:OP1	29:Lc:23:GLY:N	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1390:C:C2	33:Lg:103:LYS:HD3	2.53	0.44
1:LA:1472:G:H5'	20:LT:23:TRP:CD1	2.53	0.44
1:LA:1491:G:N7	40:Ln:2:ALA:N	2.66	0.44
1:LA:1502:A:H2'	1:LA:1503:A:H8	1.82	0.44
1:LA:2661:G:H2'	1:LA:2662:G:H8	1.83	0.44
1:LA:2767:U:H2'	1:LA:2768:A:C8	2.52	0.44
1:LA:2897:G:OP2	1:LA:2898:C:H5''	2.17	0.44
3:LC:19:C:H2'	3:LC:20:U:C6	2.53	0.44
6:LF:139:GLY:O	6:LF:180:LYS:HE2	2.17	0.44
17:LQ:44[A]:SER:HB3	17:LQ:129[A]:LEU:HD21	2.00	0.44
45:S2:162:A:OP1	65:ST:83:CYS:HA	2.17	0.44
45:S2:213:A:C6	45:S2:214:G:H1'	2.53	0.44
45:S2:299:A:P	64:SS:30:ARG:HH22	2.36	0.44
45:S2:1535:U:H3	47:SB:187:ILE:HD13	1.82	0.44
47:SB:25:LEU:HD22	51:SF:57:LEU:HD22	2.00	0.44
47:SB:162:VAL:CG1	57:SL:44:VAL:HG22	2.47	0.44
60:SO:72:THR:OG1	60:SO:73:LEU:N	2.51	0.44
62:SQ:101:HIS:O	62:SQ:217:LEU:HB2	2.17	0.44
62:SQ:225:VAL:O	62:SQ:225:VAL:HG22	2.17	0.44
63:SR:63:VAL:HG12	63:SR:134:LEU:HD22	1.99	0.44
64:SS:89:VAL:HG13	64:SS:100:ARG:HD3	1.99	0.44
68:SW:125:ALA:O	68:SW:128:LEU:N	2.50	0.44
77:Sf:62:ILE:HG13	77:Sf:62:ILE:O	2.17	0.44
1:LA:596:G:H2'	1:LA:597:A:C8	2.52	0.44
1:LA:653:C:H2'	1:LA:654:C:C6	2.53	0.44
1:LA:709:A:H2'	1:LA:710:A:C8	2.52	0.44
1:LA:1361:G:H2'	1:LA:1362:A:C8	2.53	0.44
1:LA:2444:A:O2'	1:LA:2445:U:H3'	2.18	0.44
1:LA:3012:U:H2'	1:LA:3013:U:C6	2.52	0.44
1:LA:3109:C:H2'	1:LA:3110:U:C6	2.52	0.44
3:LC:145:U:H2'	3:LC:146:U:C6	2.53	0.44
7:LG:52:VAL:HA	7:LG:147:ASP:HB3	1.99	0.44
9:LI:222:HIS:ND1	9:LI:224:ILE:HG12	2.32	0.44
15:LO:50:LYS:HG3	15:LO:85:TRP:CD1	2.52	0.44
16:LP:77:LYS:C	16:LP:79:ALA:N	2.75	0.44
19:LS:147:ARG:HB2	19:LS:150:VAL:HG13	2.00	0.44
20:LT:147:ALA:O	20:LT:150:GLN:HG3	2.17	0.44
42:Lp:6:ARG:HH11	42:Lp:6:ARG:HG2	1.83	0.44
45:S2:267:U:O4	45:S2:268:C:N4	2.50	0.44
45:S2:1734:U:H2'	45:S2:1735:U:C6	2.52	0.44
48:SC:38:LYS:HB2	48:SC:41:TYR:CD1	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SJ:26:LEU:HD12	55:SJ:26:LEU:O	2.18	0.44
60:SO:133:VAL:HG12	60:SO:141:LEU:HB3	1.99	0.44
60:SO:179:LYS:CB	60:SO:181:TRP:HE1	2.29	0.44
74:Sc:31:LYS:HB3	74:Sc:31:LYS:HE3	1.74	0.44
1:LA:1270:A:O2'	1:LA:1271:C:OP1	2.28	0.44
6:LF:144:LYS:HD3	6:LF:144:LYS:HA	1.62	0.44
7:LG:40:HIS:CE1	22:LV:69:LYS:HA	2.52	0.44
7:LG:271:LYS:HE3	7:LG:271:LYS:HB3	1.85	0.44
15:LO:50:LYS:HE2	15:LO:82:SER:CB	2.48	0.44
21:LU:79:VAL:HG11	21:LU:106:LEU:HD11	2.00	0.44
45:S2:1151:A:H2'	45:S2:1152:A:H8	1.83	0.44
45:S2:1237:G:H2'	45:S2:1237:G:N3	2.33	0.44
45:S2:1408:G:H3'	45:S2:1409:G:H8	1.83	0.44
46:SA:209:ILE:HD12	46:SA:209:ILE:HA	1.91	0.44
47:SB:45:LYS:HG2	47:SB:46:TRP:CE2	2.53	0.44
48:SC:59:PHE:CD1	48:SC:62:GLN:HA	2.52	0.44
52:SG:6:THR:HG22	52:SG:8:THR:H	1.82	0.44
62:SQ:143:THR:HA	62:SQ:207:LEU:HA	2.00	0.44
65:ST:27:PHE:CZ	65:ST:111:LEU:HD11	2.52	0.44
1:LA:36:C:H4'	1:LA:807:A:C2	2.53	0.44
1:LA:127:G:H2'	1:LA:128:G:H8	1.82	0.44
1:LA:507:U:H2'	1:LA:508:U:C6	2.52	0.44
1:LA:528:A:H2'	1:LA:529:G:C8	2.53	0.44
1:LA:1479:G:O2'	1:LA:1870:U:O4	2.33	0.44
1:LA:1832:G:O2'	40:Ln:3:ALA:O	2.35	0.44
1:LA:2812:A:H2'	1:LA:2813:G:O4'	2.17	0.44
2:LB:27:A:H2'	2:LB:28:C:C6	2.53	0.44
5:LE:282:ILE:HG23	5:LE:322:ILE:HG23	2.00	0.44
6:LF:175:HIS:O	6:LF:179:LEU:HG	2.17	0.44
9:LI:120:THR:HB	22:LV:132:PRO:HB2	1.99	0.44
17:LQ:127[A]:LEU:HD22	21:LU:156:VAL:HG13	1.99	0.44
19:LS:36:LEU:O	19:LS:40:THR:HB	2.18	0.44
22:LV:60:LYS:HB3	22:LV:76:ILE:HD12	2.00	0.44
45:S2:19:A:H2'	45:S2:20:G:O4'	2.17	0.44
45:S2:774:A:H61	45:S2:786:C:H42	1.66	0.44
45:S2:903:U:H2'	45:S2:905:A:OP2	2.17	0.44
45:S2:1504:G:H2'	45:S2:1505:A:C4	2.53	0.44
45:S2:1605:G:OP2	51:SF:127:LYS:HD3	2.18	0.44
49:SD:77:GLY:HA2	49:SD:80:ASN:ND2	2.32	0.44
57:SL:44:VAL:HG21	57:SL:48:VAL:HG11	2.00	0.44
60:SO:127:ARG:C	60:SO:129:LYS:H	2.26	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:83:VAL:O	68:SW:107:ARG:NE	2.45	0.44
72:Sa:55:LEU:HD23	72:Sa:55:LEU:HA	1.85	0.44
74:Sc:117:ILE:HD12	74:Sc:117:ILE:N	2.32	0.44
1:LA:243:G:H2'	1:LA:244:G:H8	1.82	0.43
1:LA:1516:G:OP1	40:Ln:41:ARG:NH1	2.33	0.43
1:LA:1750:G:H5'	39:Lm:26:LYS:HE2	1.99	0.43
1:LA:2151:A:H2'	1:LA:2152:U:C6	2.53	0.43
1:LA:2192:U:O2'	1:LA:2312:A:OP2	2.21	0.43
1:LA:2242:A:H3'	4:LD:244:GLY:HA2	1.99	0.43
1:LA:2422:U:H2'	1:LA:2423:A:H8	1.83	0.43
1:LA:3145:G:H2'	1:LA:3146:G:C8	2.53	0.43
6:LF:233:LEU:HD23	6:LF:233:LEU:HA	1.66	0.43
12:LL:83:ASP:OD1	12:LL:83:ASP:N	2.45	0.43
17:LQ:138[A]:LEU:HA	17:LQ:138[A]:LEU:HD12	1.77	0.43
19:LS:133:LYS:HB2	19:LS:133:LYS:HE2	1.74	0.43
22:LV:50:LYS:O	22:LV:92:ARG:HD2	2.17	0.43
43:Lq:6:LYS:HE2	43:Lq:94:GLY:HA2	2.00	0.43
45:S2:98:U:H2'	45:S2:99:C:C6	2.53	0.43
45:S2:153:G:N2	45:S2:161:U:O2'	2.35	0.43
45:S2:541:A:O2'	45:S2:542:A:OP1	2.33	0.43
45:S2:604:A:H2'	45:S2:605:A:O4'	2.18	0.43
45:S2:732:G:H1	45:S2:737:A:H61	1.65	0.43
45:S2:1402:G:H5''	52:SG:3:ARG:CZ	2.48	0.43
45:S2:1470:C:H5'	45:S2:1540:G:N2	2.33	0.43
45:S2:1583:A:N6	47:SB:76:ARG:HA	2.31	0.43
46:SA:202:LEU:HG	46:SA:203:PRO:HD2	2.00	0.43
47:SB:117:THR:HG22	47:SB:191:ALA:O	2.18	0.43
49:SD:32:LEU:CD1	49:SD:101:ALA:HA	2.48	0.43
55:SJ:22:ILE:HD13	55:SJ:100:VAL:HG13	1.99	0.43
55:SJ:57:ARG:HG2	55:SJ:89:ARG:HD2	2.00	0.43
61:SP:3:LEU:HD12	72:Sa:80:LYS:HG3	1.99	0.43
63:SR:123:GLY:HA2	63:SR:126:ARG:HG2	1.98	0.43
64:SS:255:ARG:HD2	64:SS:255:ARG:C	2.42	0.43
67:SV:104:ILE:O	67:SV:164:ARG:HA	2.17	0.43
71:SZ:25:ASP:N	71:SZ:55:SER:HB3	2.33	0.43
73:Sb:18:GLU:HG3	73:Sb:69:LEU:HD22	2.00	0.43
75:Sd:5:VAL:HG13	75:Sd:32:ARG:NH2	2.33	0.43
75:Sd:18:LEU:HB2	75:Sd:20:ARG:NH1	2.32	0.43
80:Tb:71:G:H1'	80:Tb:73:A:OP2	2.18	0.43
1:LA:355:A:H2'	1:LA:356:C:O4'	2.18	0.43
1:LA:428:A:H2'	1:LA:429:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:791:G:H2'	1:LA:792:C:H6	1.81	0.43
1:LA:870:U:H2'	1:LA:871:U:C6	2.53	0.43
1:LA:2536:U:C6	62:SQ:229:MET:HB2	2.52	0.43
1:LA:2675:A:H4'	1:LA:2676:G:O4'	2.18	0.43
3:LC:121:U:H2'	3:LC:122:U:C6	2.53	0.43
8:LH:36:PRO:HB3	8:LH:55:LEU:O	2.18	0.43
13:LM:33:ALA:O	13:LM:36:VAL:HG12	2.18	0.43
16:LP:77:LYS:C	16:LP:79:ALA:H	2.25	0.43
24:LX:59:MET:HE3	24:LX:73:VAL:CG1	2.48	0.43
27:La:63:LYS:HZ2	27:La:97:ILE:HD12	1.83	0.43
27:La:112:ASP:OD1	27:La:115:ARG:HB2	2.18	0.43
45:S2:95:G:OP1	64:SS:6:LYS:HD3	2.18	0.43
45:S2:912:U:OP2	62:SQ:8:ARG:NH2	2.50	0.43
45:S2:1117:U:H2'	45:S2:1118:G:H8	1.83	0.43
45:S2:1545:A:H4'	53:SH:127:HIS:HE1	1.82	0.43
50:SE:85:ILE:HG12	50:SE:107:ILE:HD12	2.00	0.43
51:SF:44:LEU:HD12	51:SF:78:VAL:HG21	1.99	0.43
55:SJ:68:ARG:HH12	55:SJ:77:LYS:HG3	1.83	0.43
60:SO:252:LEU:HD21	60:SO:263:PHE:HD2	1.83	0.43
64:SS:103:TYR:O	64:SS:182:TYR:OH	2.36	0.43
64:SS:248:ILE:HG13	68:SW:71:PHE:CE2	2.53	0.43
66:SU:113:PRO:HG2	66:SU:116:ARG:HD3	2.00	0.43
68:SW:44:ARG:O	68:SW:48:GLN:HG2	2.17	0.43
68:SW:123:HIS:CD2	78:Sg:37:ARG:HE	2.36	0.43
1:LA:299:G:C8	37:Lk:31:GLY:HA3	2.52	0.43
1:LA:428:A:H1'	34:Lh:25:PRO:HG2	2.00	0.43
1:LA:808:G:H5''	16:LP:81:TYR:CE2	2.54	0.43
1:LA:1202:A:N6	1:LA:1299:G:H2'	2.33	0.43
1:LA:2222:A:H2'	1:LA:2223:A:C8	2.53	0.43
1:LA:2425:U:H2'	1:LA:2426:U:C6	2.53	0.43
3:LC:10:A:H2'	3:LC:11:C:C6	2.53	0.43
9:LI:229:PHE:CD1	9:LI:229:PHE:C	2.96	0.43
15:LO:23:ILE:HG22	15:LO:31:LYS:O	2.19	0.43
16:LP:140:LYS:HA	16:LP:140:LYS:HD2	1.92	0.43
19:LS:150:VAL:HA	19:LS:153:PHE:CD2	2.52	0.43
27:La:103:LYS:HA	27:La:103:LYS:HD3	1.90	0.43
45:S2:603:U:H2'	45:S2:604:A:C8	2.53	0.43
45:S2:1181:U:C2	45:S2:1458:G:N1	2.86	0.43
54:SI:38:LYS:O	54:SI:39:THR:OG1	2.36	0.43
60:SO:22:SER:HB2	60:SO:71:CYS:SG	2.59	0.43
65:ST:27:PHE:CD1	65:ST:36:VAL:HG21	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SU:75:THR:HG23	66:SU:76:LYS:HE2	2.00	0.43
67:SV:26:LYS:HD2	67:SV:29:LEU:HD23	2.01	0.43
70:SY:34:ILE:O	70:SY:38:VAL:HG22	2.17	0.43
1:LA:639:U:OP1	29:Lc:21:ARG:NH2	2.51	0.43
1:LA:1403:G:N2	1:LA:1406:A:OP2	2.40	0.43
1:LA:1494:U:C5	1:LA:1834:A:N1	2.86	0.43
1:LA:2990:A:N3	18:LR:69:ARG:NH2	2.67	0.43
10:LJ:158:ASP:HB3	10:LJ:159:PRO:HD3	2.01	0.43
12:LL:47:PRO:HB3	12:LL:171:TRP:CZ2	2.53	0.43
12:LL:100:ASN:OD1	12:LL:100:ASN:N	2.51	0.43
13:LM:122:ILE:HD11	53:SH:110:ARG:HH12	1.83	0.43
27:La:79:ALA:CB	27:La:98:ASN:HB3	2.48	0.43
40:Ln:25:GLN:OE1	40:Ln:28:ARG:NH1	2.49	0.43
45:S2:12:U:H2'	45:S2:13:C:C6	2.53	0.43
45:S2:330:G:O2'	45:S2:331:A:OP1	2.35	0.43
45:S2:406:U:H5''	65:ST:94:ARG:HB2	2.00	0.43
45:S2:1097:U:O3'	63:SR:168:ARG:NH1	2.52	0.43
45:S2:1232:U:H2'	45:S2:1233:G:O4'	2.18	0.43
45:S2:1666:U:H5''	45:S2:1667:A:H8	1.83	0.43
49:SD:32:LEU:HD21	49:SD:102:GLY:CA	2.46	0.43
51:SF:25:GLY:HA3	51:SF:64:ASP:CG	2.42	0.43
51:SF:25:GLY:N	51:SF:62:ASN:O	2.48	0.43
51:SF:40:GLU:N	51:SF:41:PRO:HD3	2.34	0.43
55:SJ:32:LYS:O	55:SJ:36:ASN:ND2	2.51	0.43
55:SJ:102:ARG:O	55:SJ:106:ILE:HG23	2.17	0.43
61:SP:67:ILE:CD1	61:SP:119:ARG:HB2	2.46	0.43
64:SS:194:THR:HG23	64:SS:194:THR:O	2.18	0.43
65:ST:32:ILE:HD11	65:ST:63:MET:CE	2.47	0.43
69:SX:75:VAL:HA	69:SX:86:ILE:HA	2.00	0.43
1:LA:412:G:H2'	1:LA:413:U:C6	2.54	0.43
1:LA:517:G:OP1	9:LI:67:ARG:HD3	2.19	0.43
1:LA:648:A:H2'	1:LA:649:C:C6	2.53	0.43
1:LA:1855:C:H2'	1:LA:1856:C:C6	2.54	0.43
1:LA:2117:C:H2'	1:LA:2118:A:O4'	2.19	0.43
1:LA:2270:A:H2'	1:LA:2271:G:O4'	2.18	0.43
2:LB:75:G:N2	2:LB:104:A:C6	2.86	0.43
3:LC:62:C:H4'	3:LC:63:G:O5'	2.17	0.43
6:LF:98:ARG:HG2	6:LF:99:MET:O	2.19	0.43
6:LF:150:LEU:HD23	6:LF:249:ILE:HG12	2.00	0.43
8:LH:40:LEU:HD11	8:LH:54:TYR:HB2	1.99	0.43
11:LK:103:ILE:HD11	11:LK:134:ILE:HG21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LT:167:ARG:NH1	20:LT:170:ARG:HH22	2.16	0.43
23:LW:35:LYS:NZ	23:LW:39:ASP:HB3	2.33	0.43
27:La:119:ILE:HG23	27:La:124:GLY:HA3	2.00	0.43
33:Lg:74:PHE:CD1	33:Lg:85:LEU:HD11	2.54	0.43
45:S2:524:U:O2'	45:S2:527:A:N6	2.51	0.43
45:S2:1011:G:H2'	45:S2:1012:U:H5	1.84	0.43
45:S2:1586:A:C5	45:S2:1611:A:C8	3.06	0.43
48:SC:60:SER:HB2	48:SC:65:TYR:HE2	1.84	0.43
49:SD:42:ALA:HB3	49:SD:122:VAL:HG22	2.00	0.43
53:SH:126:ARG:HA	53:SH:126:ARG:HD2	1.89	0.43
57:SL:7:VAL:HG13	57:SL:55:VAL:HG13	2.00	0.43
60:SO:307:ASP:OD1	60:SO:307:ASP:N	2.38	0.43
62:SQ:90:GLU:HB3	62:SQ:97:LEU:HD12	2.00	0.43
62:SQ:131:ASP:OD1	62:SQ:131:ASP:N	2.48	0.43
66:SU:77:LEU:HD23	66:SU:92:PHE:HE2	1.83	0.43
69:SX:59:PRO:HB3	69:SX:66:ILE:HD11	2.00	0.43
1:LA:291:C:OP2	16:LP:128:LYS:NZ	2.52	0.43
1:LA:722:U:O2'	30:Ld:29:TYR:OH	2.12	0.43
1:LA:1116:G:OP1	30:Ld:4:SER:HB2	2.18	0.43
1:LA:1621:U:H2'	1:LA:1622:G:C8	2.53	0.43
1:LA:2596:U:H2'	1:LA:2597:G:C8	2.53	0.43
1:LA:3037:U:H2'	1:LA:3038:C:O4'	2.19	0.43
1:LA:3112:A:N1	1:LA:3121:A:C8	2.87	0.43
1:LA:3253:G:H2'	1:LA:3254:U:C6	2.53	0.43
4:LD:211:HIS:CD2	4:LD:219:ILE:HG23	2.53	0.43
7:LG:208:MET:HE3	7:LG:226:TYR:CD2	2.53	0.43
7:LG:258:LYS:O	7:LG:265:TYR:OH	2.29	0.43
11:LK:90:MET:HE3	11:LK:144:ILE:CG2	2.48	0.43
21:LU:23:LYS:HA	21:LU:23:LYS:HD2	1.57	0.43
22:LV:92:ARG:HB3	22:LV:94:GLU:OE1	2.19	0.43
28:Lb:93:LYS:HE3	28:Lb:93:LYS:HB3	1.89	0.43
40:Ln:25:GLN:NE2	40:Ln:28:ARG:NH1	2.67	0.43
45:S2:567:A:H5'	78:Sg:10:ARG:O	2.19	0.43
45:S2:688:G:H2'	45:S2:689:G:C8	2.54	0.43
45:S2:1584:G:N7	51:SF:14:LYS:HE3	2.33	0.43
45:S2:1719:A:H5''	45:S2:1720:G:OP2	2.19	0.43
47:SB:174:LEU:HD23	47:SB:177:ILE:HD11	2.01	0.43
62:SQ:99:ASN:OD1	62:SQ:100:PHE:N	2.47	0.43
63:SR:82:ASN:O	63:SR:83:ILE:HD13	2.18	0.43
64:SS:104:ASP:HB3	64:SS:110:ALA:HB2	2.00	0.43
64:SS:105:VAL:HG23	64:SS:245:LYS:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:ST:27:PHE:HZ	65:ST:111:LEU:HD21	1.84	0.43
65:ST:195:VAL:O	65:ST:199:GLN:HG2	2.19	0.43
79:Ta:38:A:H3'	79:Ta:38:A:N3	2.34	0.43
1:LA:71:A:P	29:Lc:67:HIS:HE2	2.41	0.43
1:LA:199:A:C4	1:LA:201:A:C8	3.07	0.43
1:LA:309:U:H6	1:LA:310:U:H5	1.67	0.43
1:LA:1876:U:H5''	1:LA:1877:G:H5'	2.00	0.43
1:LA:2702:A:OP2	7:LG:23:ARG:NE	2.39	0.43
2:LB:47:C:H2'	2:LB:48:U:C6	2.54	0.43
5:LE:226:PHE:CE1	5:LE:268:GLY:HA2	2.53	0.43
7:LG:177:GLU:HB2	7:LG:190:ILE:HD12	2.01	0.43
17:LQ:50[A]:ASN:OD1	17:LQ:136[A]:THR:CG2	2.67	0.43
21:LU:167:ARG:HG3	21:LU:168:PRO:HD2	2.01	0.43
36:Lj:86:ARG:O	36:Lj:90:ARG:HG2	2.19	0.43
45:S2:736:C:H2'	45:S2:737:A:H8	1.83	0.43
45:S2:1198:G:OP1	45:S2:1199:G:O2'	2.26	0.43
47:SB:54:LYS:HE2	47:SB:54:LYS:HB3	1.91	0.43
47:SB:148:ARG:HH21	57:SL:22:ARG:NH2	2.16	0.43
47:SB:188:LYS:HB3	56:SK:63:SER:OG	2.19	0.43
52:SG:85:VAL:HG21	61:SP:198:MET:HG3	1.99	0.43
57:SL:53:ILE:HG22	57:SL:54:LEU:H	1.83	0.43
62:SQ:163:ALA:O	62:SQ:167:VAL:HG13	2.18	0.43
63:SR:59:HIS:CG	63:SR:239:PRO:HD3	2.53	0.43
65:ST:78:THR:HG22	65:ST:79:LYS:H	1.84	0.43
68:SW:109:LEU:O	68:SW:112:GLN:HB2	2.19	0.43
71:SZ:31:THR:HA	71:SZ:38:THR:HA	2.00	0.43
73:Sb:122:SER:OG	73:Sb:123:GLY:N	2.47	0.43
76:Se:66:LYS:HB3	76:Se:66:LYS:HE3	1.82	0.43
1:LA:209:A:H4'	1:LA:211:A:N7	2.33	0.43
1:LA:523:U:H5'	1:LA:524:C:H5	1.84	0.43
1:LA:1323:U:OP1	21:LU:2:ALA:N	2.51	0.43
1:LA:2655:A:OP2	43:Lq:97:LYS:HG3	2.19	0.43
1:LA:2857:U:O5'	1:LA:2857:U:H6	2.01	0.43
1:LA:3171:A:O2'	17:LQ:101[A]:ARG:NH1	2.52	0.43
2:LB:45:A:H2'	2:LB:46:A:H8	1.84	0.43
3:LC:67:U:H2'	3:LC:68:G:C8	2.53	0.43
3:LC:149:A:H2'	3:LC:150:G:C8	2.54	0.43
15:LO:102:LYS:HA	15:LO:102:LYS:HD2	1.67	0.43
23:LW:77:LYS:HG3	23:LW:95:PHE:CD1	2.54	0.43
34:Lh:67:MET:CE	34:Lh:89:LEU:HD23	2.48	0.43
35:Li:41:ARG:HA	35:Li:56:THR:HG22	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Lj:31:LEU:HA	36:Lj:31:LEU:HD23	1.84	0.43
45:S2:810:G:C5	66:SU:111:LYS:HD3	2.54	0.43
46:SA:25:PHE:O	46:SA:29:LEU:HB2	2.19	0.43
54:SI:21:PHE:HD2	54:SI:22:LEU:HD12	1.83	0.43
57:SL:30:VAL:O	57:SL:39:THR:HA	2.19	0.43
61:SP:78:SER:OG	61:SP:128:SER:OG	2.32	0.43
62:SQ:24:PHE:CE2	71:SZ:70:LYS:CE	2.98	0.43
65:ST:48:TYR:CE2	65:ST:121:LEU:HD11	2.53	0.43
75:Sd:44:LEU:HA	75:Sd:44:LEU:HD23	1.75	0.43
1:LA:673:G:O6	19:LS:56:LYS:NZ	2.52	0.43
1:LA:826:A:H5''	35:Li:14:ASN:O	2.19	0.43
1:LA:991:A:O2'	1:LA:992:G:H5'	2.18	0.43
1:LA:1034:G:N2	1:LA:1035:A:N7	2.67	0.43
1:LA:1615:U:H2'	1:LA:1616:G:C8	2.54	0.43
1:LA:1843:C:O2	38:Ll:9:GLY:HA2	2.19	0.43
1:LA:2745:A:O2'	7:LG:175:HIS:HA	2.19	0.43
1:LA:3002:G:P	5:LE:26:ARG:HH22	2.42	0.43
5:LE:298:PHE:HB3	5:LE:357:LYS:O	2.19	0.43
11:LK:10:ILE:CG2	11:LK:53:ILE:HB	2.48	0.43
11:LK:20:ILE:HB	15:LO:7:VAL:HG23	2.00	0.43
12:LL:145:LYS:O	12:LL:149:VAL:HG13	2.18	0.43
23:LW:50:LEU:HD12	23:LW:50:LEU:O	2.18	0.43
33:Lg:79:VAL:HG13	33:Lg:111:ARG:HG2	2.01	0.43
39:Lm:8:ILE:HD12	39:Lm:65:LEU:HD21	2.00	0.43
45:S2:471:A:O2'	68:SW:8:TYR:HB2	2.19	0.43
45:S2:611:U:H5''	74:Sc:5:LYS:HD3	2.01	0.43
45:S2:896:U:H2'	45:S2:897:C:C2	2.54	0.43
46:SA:75:LYS:HZ1	48:SC:20:VAL:C	2.27	0.43
47:SB:189:THR:O	47:SB:192:GLU:HG2	2.18	0.43
48:SC:2:LEU:HD23	48:SC:2:LEU:H	1.83	0.43
50:SE:28:MET:HG3	50:SE:29:SER:N	2.33	0.43
50:SE:83:MET:O	50:SE:116:LEU:N	2.52	0.43
55:SJ:63:LEU:HB3	58:SM:34:TYR:CZ	2.54	0.43
64:SS:152:PRO:HD2	65:ST:215:ARG:NH1	2.34	0.43
68:SW:74:ASN:HB3	68:SW:78:ARG:HH21	1.84	0.43
69:SX:79:LYS:HD3	69:SX:79:LYS:HA	1.88	0.43
75:Sd:112:LYS:HB3	75:Sd:112:LYS:HE3	1.68	0.43
1:LA:230:U:H2'	1:LA:231:G:O4'	2.18	0.43
1:LA:1071:G:H2'	1:LA:1072:U:C6	2.54	0.43
1:LA:1413:G:C6	1:LA:1414:U:C4	3.07	0.43
1:LA:1594:U:C2	1:LA:1595:C:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1743:G:H2'	1:LA:1744:C:H6	1.84	0.43
1:LA:1908:A:H2'	1:LA:1909:A:C8	2.53	0.43
1:LA:2156:G:N7	4:LD:152:SER:OG	2.47	0.43
1:LA:3068:G:H2'	1:LA:3068:G:N3	2.34	0.43
1:LA:3380:U:H4'	1:LA:3381:U:OP2	2.14	0.43
4:LD:126:LEU:HD13	4:LD:150:LEU:HD21	2.01	0.43
14:LN:3:ILE:HG21	29:Lc:45:MET:CE	2.43	0.43
21:LU:27:MET:HE3	21:LU:27:MET:HB2	1.88	0.43
26:LZ:57:LEU:HD12	26:LZ:57:LEU:HA	1.79	0.43
28:Lb:16:GLY:O	35:Li:74:ARG:HG3	2.19	0.43
32:Lf:13:THR:OG1	32:Lf:72:ARG:NH1	2.43	0.43
37:Lk:38:LYS:HB2	37:Lk:38:LYS:HE2	1.53	0.43
45:S2:747:C:H2'	45:S2:748:U:C6	2.54	0.43
45:S2:886:U:H2'	45:S2:887:A:H8	1.84	0.43
45:S2:952:A:O2'	70:SY:114:ARG:HG3	2.18	0.43
45:S2:1107:G:O2'	45:S2:1108:G:H5'	2.18	0.43
45:S2:1232:U:H3'	45:S2:1233:G:H8	1.84	0.43
45:S2:1502:G:N2	45:S2:1505:A:OP2	2.52	0.43
45:S2:1505:A:O2'	45:S2:1551:U:O4'	2.29	0.43
45:S2:1609:U:H2'	45:S2:1610:G:O4'	2.18	0.43
54:SI:40:SER:HB3	54:SI:43:ASN:ND2	2.31	0.43
60:SO:23:LEU:HD22	60:SO:291:SER:HB2	2.00	0.43
63:SR:73:LEU:O	63:SR:76:LEU:HD22	2.19	0.43
64:SS:15:PRO:HG2	64:SS:18:TRP:CE2	2.53	0.43
66:SU:114:ARG:HA	66:SU:114:ARG:HD2	1.94	0.43
66:SU:170:GLN:NE2	66:SU:182:VAL:HA	2.33	0.43
76:Se:91:ASP:OD1	76:Se:91:ASP:C	2.61	0.43
1:LA:138:U:H2'	1:LA:139:G:H5''	2.01	0.42
1:LA:552:U:H3'	1:LA:553:A:C8	2.54	0.42
1:LA:1009:G:H5''	12:LL:40:LYS:HZ2	1.83	0.42
1:LA:1062:G:C6	22:LV:109:VAL:HG22	2.54	0.42
1:LA:1679:G:H2'	1:LA:1680:U:C6	2.54	0.42
1:LA:2110:G:H5''	25:LY:48:ARG:NH2	2.34	0.42
1:LA:2153:U:H2'	1:LA:2154:G:C8	2.54	0.42
1:LA:2244:C:O2'	4:LD:220:GLY:O	2.36	0.42
1:LA:2529:G:N3	1:LA:2529:G:H2'	2.33	0.42
1:LA:3168:U:O5'	1:LA:3168:U:H6	2.02	0.42
2:LB:46:A:OP1	7:LG:158:ARG:HG3	2.19	0.42
3:LC:75:G:H2'	3:LC:76:C:C6	2.53	0.42
4:LD:65:ASP:HB3	4:LD:68:LYS:O	2.19	0.42
4:LD:103:PRO:O	4:LD:107:VAL:HG13	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LD:109:GLU:HG2	4:LD:138:GLY:HA2	2.01	0.42
9:LI:104:GLN:HG2	19:LS:6:THR:HG22	2.00	0.42
45:S2:916:U:O2	45:S2:916:U:H2'	2.19	0.42
45:S2:959:U:H5'	70:SY:15:ALA:O	2.19	0.42
45:S2:1160:A:H2'	45:S2:1161:C:H6	1.82	0.42
47:SB:26:ALA:HB3	51:SF:26:LYS:HZ3	1.84	0.42
47:SB:117:THR:HG21	47:SB:194:LEU:HD22	2.01	0.42
47:SB:140:THR:HG21	47:SB:175:LEU:HD21	2.01	0.42
51:SF:97:VAL:HG12	51:SF:98:ASP:H	1.83	0.42
54:SI:110:LYS:HA	54:SI:110:LYS:HD2	1.72	0.42
62:SQ:133:TYR:CD2	62:SQ:217:LEU:HD11	2.51	0.42
64:SS:133:LYS:HA	64:SS:133:LYS:HD2	1.86	0.42
66:SU:49:ILE:HD12	66:SU:172:VAL:HB	2.01	0.42
66:SU:94:ALA:HB3	66:SU:96:ARG:NH1	2.34	0.42
77:Sf:70:LYS:H	77:Sf:70:LYS:HD3	1.84	0.42
1:LA:352:A:H61	1:LA:365:A:H5''	1.84	0.42
1:LA:375:A:H1'	27:La:87:LYS:HE3	2.01	0.42
1:LA:1230:A:H2	1:LA:1259:A:N3	2.16	0.42
1:LA:1728:A:C6	31:Le:49:PRO:HD3	2.54	0.42
1:LA:2673:A:H2'	1:LA:2674:C:C6	2.55	0.42
1:LA:2676:G:H2'	1:LA:2676:G:N3	2.33	0.42
1:LA:3213:U:C5	15:LO:121:MET:HE3	2.54	0.42
6:LF:150:LEU:HD21	6:LF:172:VAL:CG1	2.49	0.42
7:LG:55:PHE:CZ	7:LG:158:ARG:HB2	2.54	0.42
8:LH:136:GLU:OE1	8:LH:136:GLU:HA	2.18	0.42
13:LM:133:ARG:HG3	13:LM:152:HIS:NE2	2.33	0.42
13:LM:155:THR:OG1	13:LM:156:LYS:N	2.52	0.42
13:LM:158:ASP:OD1	13:LM:159:THR:N	2.52	0.42
15:LO:72:LEU:HD21	15:LO:81:VAL:HG22	2.01	0.42
16:LP:83:LYS:HB2	16:LP:85:THR:HG22	2.01	0.42
19:LS:90:ASP:OD2	19:LS:92:ARG:NH2	2.45	0.42
25:LY:23:ARG:HB3	25:LY:25:ASP:OD1	2.19	0.42
45:S2:115:G:O2'	45:S2:116:U:H5''	2.20	0.42
45:S2:345:U:H1'	45:S2:346:G:C8	2.53	0.42
45:S2:768:C:C2	68:SW:143:ILE:HG21	2.54	0.42
45:S2:1440:C:H2'	45:S2:1441:C:H6	1.83	0.42
45:S2:1483:A:C5'	51:SF:71:GLY:HA2	2.45	0.42
45:S2:1561:U:H2'	45:S2:1562:G:C8	2.54	0.42
45:S2:1597:A:OP2	58:SM:19:ARG:NE	2.50	0.42
45:S2:1638:G:H2'	45:S2:1639:C:O4'	2.18	0.42
46:SA:11:LEU:HD11	55:SJ:86:ILE:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:140:GLY:HA3	46:SA:182:LEU:HD23	2.01	0.42
47:SB:162:VAL:HG13	57:SL:54:LEU:HD21	2.01	0.42
47:SB:163:SER:O	47:SB:167:ARG:HB2	2.18	0.42
52:SG:35:CYS:HA	52:SG:38:ILE:CG2	2.41	0.42
55:SJ:57:ARG:HE	55:SJ:89:ARG:NH1	2.17	0.42
56:SK:91:PRO:HB3	56:SK:101:TYR:HE1	1.83	0.42
60:SO:288:HIS:O	60:SO:306:THR:HG23	2.19	0.42
62:SQ:134:VAL:HG12	62:SQ:218:LEU:HD12	2.01	0.42
62:SQ:194:ASN:O	62:SQ:198:GLU:HG3	2.19	0.42
63:SR:240:LEU:O	63:SR:244:SER:OG	2.26	0.42
64:SS:70:VAL:HG13	64:SS:92:LEU:HD11	2.00	0.42
68:SW:31:ALA:HB2	68:SW:42:ILE:HD11	2.01	0.42
72:Sa:3:ASN:OD1	72:Sa:7:GLN:HB2	2.19	0.42
1:LA:253:A:H2'	1:LA:253:A:N3	2.34	0.42
1:LA:639:U:OP1	29:Lc:21:ARG:NH1	2.49	0.42
1:LA:692:A:H3'	1:LA:693:C:H6	1.84	0.42
1:LA:846:A:H2'	1:LA:847:A:C8	2.55	0.42
1:LA:1122:U:H2'	1:LA:1123:U:O4'	2.19	0.42
1:LA:1181:A:H2	1:LA:1323:U:O4	2.03	0.42
1:LA:1595:C:H2'	1:LA:1596:C:H6	1.84	0.42
1:LA:2196:C:N4	1:LA:2240:U:H2'	2.34	0.42
2:LB:68:C:OP1	7:LG:14:SER:OG	2.20	0.42
3:LC:37:A:OP2	36:Lj:86:ARG:HD2	2.18	0.42
3:LC:154:C:H2'	3:LC:155:A:H8	1.84	0.42
5:LE:148:LEU:O	5:LE:152:LYS:HG3	2.19	0.42
5:LE:283:TYR:N	5:LE:323:MET:O	2.46	0.42
6:LF:5:GLN:HB3	6:LF:19:ALA:HB1	2.00	0.42
8:LH:75:PRO:HG2	8:LH:77:ARG:HG3	2.01	0.42
10:LJ:238:LEU:HA	10:LJ:238:LEU:HD13	1.81	0.42
14:LN:7:LEU:O	29:Lc:49:HIS:NE2	2.43	0.42
20:LT:24:LEU:HD12	20:LT:50:ILE:HG23	2.01	0.42
25:LY:60:LYS:HE2	25:LY:60:LYS:HB2	1.59	0.42
43:Lq:13:LYS:H	43:Lq:13:LYS:HG2	1.66	0.42
45:S2:521:A:N6	45:S2:528:U:OP1	2.52	0.42
45:S2:534:A:H2'	45:S2:535:A:O4'	2.19	0.42
45:S2:605:A:OP2	45:S2:606:A:O2'	2.34	0.42
45:S2:864:U:O4	73:Sb:60:LYS:NZ	2.52	0.42
45:S2:959:U:OP2	77:Sf:20:LYS:NZ	2.51	0.42
45:S2:1183:A:O2'	45:S2:1210:C:H4'	2.19	0.42
45:S2:1280:C:H2'	45:S2:1281:G:H8	1.83	0.42
45:S2:1478:G:O2'	54:SI:56:LYS:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:106:LYS:HE2	46:SA:174:HIS:C	2.44	0.42
59:SN:117:LEU:C	59:SN:118:ARG:HD3	2.44	0.42
61:SP:23:HIS:CE1	61:SP:24:LEU:HG	2.54	0.42
62:SQ:35:PRO:HD3	62:SQ:98:THR:HG23	2.01	0.42
63:SR:118:ALA:HB3	63:SR:124:ALA:HB2	2.00	0.42
68:SW:73:GLY:O	68:SW:77:ILE:HD12	2.19	0.42
68:SW:179:ARG:HA	68:SW:179:ARG:HD3	1.75	0.42
72:Sa:68:SER:O	72:Sa:72:LEU:HG	2.19	0.42
75:Sd:10:ARG:HB2	75:Sd:24:VAL:HG13	2.01	0.42
75:Sd:53:ASP:HB2	75:Sd:79:VAL:HG22	2.01	0.42
79:Ta:52:C:H2'	79:Ta:53:G:O4'	2.19	0.42
1:LA:86:G:O2'	1:LA:98:G:O6	2.29	0.42
1:LA:590:G:H1'	8:LH:19:LYS:HG3	2.01	0.42
1:LA:691:A:H4'	6:LF:46:LYS:HB2	2.01	0.42
1:LA:845:A:H2'	1:LA:846:A:O4'	2.19	0.42
1:LA:1339:G:H2'	1:LA:1340:U:C6	2.54	0.42
1:LA:1872:U:OP1	20:LT:21:LYS:NZ	2.45	0.42
1:LA:1925:C:H5'	44:Lr:8:VAL:HG13	2.01	0.42
1:LA:1939:G:OP1	20:LT:75:HIS:ND1	2.51	0.42
4:LD:117:GLU:OE1	4:LD:163:ARG:NH2	2.50	0.42
9:LI:156:ILE:HD13	9:LI:161:VAL:HG22	2.01	0.42
13:LM:157:GLU:O	13:LM:161:SER:OG	2.35	0.42
14:LN:126:PHE:HD2	36:Lj:115:LYS:HG2	1.84	0.42
16:LP:158:HIS:HB3	16:LP:161:ALA:HB3	2.01	0.42
18:LR:119:VAL:HA	18:LR:145:HIS:O	2.19	0.42
19:LS:17:THR:HA	19:LS:53:PHE:CD2	2.54	0.42
22:LV:75:ILE:HD11	22:LV:88:ARG:NH2	2.34	0.42
22:LV:107:GLU:HA	22:LV:107:GLU:OE1	2.17	0.42
24:LX:35:TYR:HE1	24:LX:37:ILE:HG22	1.84	0.42
24:LX:54:LEU:HD12	24:LX:54:LEU:HA	1.89	0.42
33:Lg:55:ILE:HD12	33:Lg:55:ILE:HA	1.82	0.42
36:Lj:41:LEU:HD12	36:Lj:41:LEU:HA	1.85	0.42
45:S2:55:A:H2'	45:S2:403:G:H1	1.85	0.42
45:S2:566:C:O2'	45:S2:567:A:P	2.77	0.42
45:S2:1252:C:H2'	45:S2:1253:U:O4'	2.18	0.42
46:SA:107:PHE:N	46:SA:107:PHE:CD1	2.84	0.42
46:SA:113:LEU:HD11	46:SA:117:ARG:HB3	2.00	0.42
47:SB:144:GLU:OE1	47:SB:222:LYS:HG2	2.19	0.42
60:SO:221:MET:HA	60:SO:221:MET:HE3	2.01	0.42
60:SO:252:LEU:CG	60:SO:263:PHE:HB3	2.46	0.42
61:SP:89:PHE:CD2	61:SP:174:TRP:HE3	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SQ:24:PHE:HE2	71:SZ:70:LYS:NZ	2.16	0.42
62:SQ:33:LYS:O	62:SQ:98:THR:HG22	2.19	0.42
65:ST:199:GLN:HA	65:ST:202:ARG:HG2	2.01	0.42
67:SV:191:PHE:O	67:SV:195:ARG:HG2	2.18	0.42
72:Sa:71:ARG:HG3	72:Sa:83:TRP:CZ2	2.54	0.42
77:Sf:26:GLN:O	77:Sf:26:GLN:HG2	2.19	0.42
77:Sf:74:SER:O	77:Sf:77:THR:OG1	2.38	0.42
1:LA:253:A:O3'	1:LA:254:A:H8	2.02	0.42
1:LA:429:U:O2'	34:Lh:88:ASN:O	2.30	0.42
1:LA:1589:G:OP1	35:Li:15:THR:HG21	2.19	0.42
1:LA:1791:C:O2	1:LA:1793:G:O2'	2.35	0.42
1:LA:2136:U:C6	1:LA:2140:U:C4	3.08	0.42
1:LA:2614:G:H2'	1:LA:2615:C:C6	2.55	0.42
1:LA:3126:A:H2'	1:LA:3127:G:O4'	2.18	0.42
1:LA:3268:U:H4'	1:LA:3269:U:O5'	2.18	0.42
8:LH:92:SER:O	8:LH:148:GLU:HG2	2.19	0.42
10:LJ:227:ASP:CG	10:LJ:231:LYS:HZ1	2.27	0.42
21:LU:66:GLU:OE2	21:LU:99:ARG:N	2.47	0.42
29:Lc:82:ILE:O	29:Lc:87:ARG:NH2	2.48	0.42
35:Li:84:CYS:O	35:Li:88:ARG:HG3	2.19	0.42
45:S2:127:G:H1'	45:S2:178:U:N3	2.34	0.42
45:S2:976:G:N1	45:S2:1023:A:O2'	2.45	0.42
45:S2:1583:A:H1'	45:S2:1585:U:H5	1.83	0.42
47:SB:29:ILE:HG22	47:SB:34:GLN:HG3	2.01	0.42
60:SO:297:ASP:OD1	60:SO:299:GLN:HG3	2.20	0.42
62:SQ:32:ILE:HA	62:SQ:96:LEU:CD1	2.48	0.42
65:ST:65:GLN:HA	65:ST:100:ALA:HB2	1.99	0.42
66:SU:48:GLU:OE1	66:SU:58:LEU:HD22	2.19	0.42
1:LA:1173:G:H2'	1:LA:1174:C:C6	2.54	0.42
1:LA:1496:C:H2'	1:LA:1497:A:H8	1.81	0.42
1:LA:1921:A:H2'	1:LA:1922:C:O4'	2.19	0.42
1:LA:2388:C:H2'	1:LA:2389:A:H8	1.84	0.42
1:LA:2514:A:H5''	16:LP:28:TRP:CD1	2.55	0.42
1:LA:2563:G:OP2	28:Lb:55:LYS:HD3	2.20	0.42
1:LA:3088:C:H2'	1:LA:3089:U:O4'	2.20	0.42
6:LF:170:LYS:HA	6:LF:175:HIS:HB2	2.01	0.42
7:LG:40:HIS:HB3	7:LG:43:LYS:HG3	2.02	0.42
10:LJ:100:GLU:OE2	10:LJ:108:ARG:NH2	2.47	0.42
11:LK:123:ILE:O	11:LK:123:ILE:HG13	2.20	0.42
12:LL:47:PRO:HD2	12:LL:141:LYS:HA	2.01	0.42
12:LL:78:THR:HG23	12:LL:79:VAL:HG13	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:Li:19:LYS:HD3	35:Li:19:LYS:HA	1.65	0.42
45:S2:623:A:O2'	45:S2:624:G:OP1	2.25	0.42
45:S2:1233:G:H21	59:SN:145:HIS:CE1	2.37	0.42
45:S2:1280:C:H2'	45:S2:1281:G:C8	2.54	0.42
45:S2:1593:A:H2'	45:S2:1594:G:C8	2.54	0.42
45:S2:1649:G:H2'	45:S2:1650:U:H6	1.84	0.42
46:SA:22:ASN:OD1	46:SA:34:TYR:OH	2.35	0.42
60:SO:36:ALA:HB2	60:SO:42:LEU:HG	2.01	0.42
61:SP:105:GLY:O	61:SP:109:ASN:HB3	2.20	0.42
66:SU:79:ARG:HD3	66:SU:79:ARG:C	2.44	0.42
67:SV:110:ARG:O	67:SV:114:GLU:HG2	2.18	0.42
68:SW:110:GLN:HG3	68:SW:144:PRO:HB3	2.02	0.42
72:Sa:60:ARG:NH1	72:Sa:60:ARG:HG2	2.35	0.42
74:Sc:63:GLN:HA	74:Sc:64:PRO:HA	1.90	0.42
75:Sd:51:GLU:HG2	75:Sd:79:VAL:HG23	2.02	0.42
1:LA:226:C:H2'	1:LA:227:G:O4'	2.19	0.42
1:LA:406:G:N2	3:LC:16:G:N3	2.68	0.42
1:LA:674:C:O2'	1:LA:678:U:OP1	2.30	0.42
1:LA:1138:G:O6	30:Ld:10:HIS:NE2	2.50	0.42
1:LA:1511:U:O3'	20:LT:5:ARG:NH2	2.53	0.42
1:LA:1648:U:C4	1:LA:1806:G:N2	2.87	0.42
1:LA:1947:G:H4'	20:LT:101:VAL:HG21	2.00	0.42
1:LA:3269:U:C5	8:LH:46:ARG:HD2	2.55	0.42
7:LG:60:ILE:HB	7:LG:80:SER:HB2	2.01	0.42
8:LH:92:SER:HB3	8:LH:148:GLU:OE2	2.19	0.42
16:LP:77:LYS:O	16:LP:79:ALA:N	2.53	0.42
22:LV:39:ILE:HG22	22:LV:99:SER:HB3	2.01	0.42
27:La:58:VAL:HA	27:La:104:LEU:HD23	2.02	0.42
31:Le:57:GLU:OE2	31:Le:69:TYR:OH	2.30	0.42
39:Lm:9:LYS:O	39:Lm:13:GLU:HG2	2.20	0.42
40:Ln:13:MET:CE	40:Ln:49:MET:HE1	2.50	0.42
45:S2:116:U:H2'	45:S2:117:U:H6	1.85	0.42
45:S2:1024:U:OP2	45:S2:1027:A:N6	2.46	0.42
45:S2:1071:U:C5	77:Sf:19:HIS:HD2	2.38	0.42
45:S2:1544:U:H2'	45:S2:1545:A:C8	2.55	0.42
46:SA:75:LYS:HD2	48:SC:22:VAL:HG13	2.00	0.42
46:SA:120:TYR:O	46:SA:124:ARG:HD3	2.19	0.42
48:SC:10:LYS:O	48:SC:13:GLN:HG2	2.19	0.42
54:SI:37:VAL:HG23	54:SI:39:THR:H	1.85	0.42
61:SP:10:THR:OG1	61:SP:13:ASP:OD2	2.37	0.42
61:SP:56:LYS:HE3	61:SP:158:VAL:HG23	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SP:191:ARG:HA	61:SP:191:ARG:HD2	1.74	0.42
73:Sb:93:LEU:HD12	73:Sb:93:LEU:O	2.19	0.42
75:Sd:40:LEU:HB3	75:Sd:57:VAL:HG21	2.01	0.42
79:Ta:65:G:O2'	79:Ta:66:C:OP1	2.36	0.42
1:LA:302:U:H5''	16:LP:179:LYS:HE3	2.00	0.42
1:LA:307:A:O2'	1:LA:2222:A:H1'	2.20	0.42
1:LA:1156:G:H2'	1:LA:1157:A:O4'	2.20	0.42
1:LA:1863:A:H2'	1:LA:1864:A:C8	2.54	0.42
1:LA:2420:U:O2'	43:Lq:52:GLY:HA3	2.20	0.42
1:LA:2560:A:O2'	1:LA:2561:A:H5''	2.20	0.42
1:LA:2745:A:H2'	1:LA:2746:A:O4'	2.20	0.42
1:LA:3088:C:OP1	5:LE:222:LYS:HE2	2.19	0.42
1:LA:3378:C:H2'	1:LA:3379:U:C5	2.54	0.42
3:LC:139:U:H2'	3:LC:140:G:H8	1.85	0.42
4:LD:149:ARG:HE	4:LD:155:LYS:NZ	2.18	0.42
10:LJ:29:SER:C	10:LJ:31:PRO:HD3	2.45	0.42
13:LM:141:ARG:NH2	13:LM:144:CYS:O	2.53	0.42
18:LR:108:ASP:OD1	18:LR:110:THR:OG1	2.24	0.42
26:LZ:75:LYS:HG2	26:LZ:81:ILE:HB	2.01	0.42
45:S2:11:A:H2'	45:S2:12:U:H5'	2.00	0.42
45:S2:52:U:C2	45:S2:53:G:N7	2.88	0.42
45:S2:398:G:OP1	67:SV:49:ARG:HA	2.20	0.42
45:S2:448:C:H2'	45:S2:449:C:H6	1.85	0.42
45:S2:591:A:H2'	45:S2:592:A:C8	2.54	0.42
45:S2:876:G:H1'	45:S2:944:A:O4'	2.20	0.42
45:S2:1408:G:OP2	51:SF:114:ARG:NH1	2.46	0.42
54:SI:30:VAL:HG22	54:SI:31:PRO:HD2	2.01	0.42
62:SQ:195:LYS:HE2	62:SQ:195:LYS:N	2.35	0.42
64:SS:44:LEU:HD11	64:SS:90:ILE:HD13	2.00	0.42
67:SV:84:HIS:NE2	67:SV:97:THR:OG1	2.53	0.42
69:SX:75:VAL:HG12	69:SX:86:ILE:HG22	2.02	0.42
74:Sc:102:VAL:HB	74:Sc:124:VAL:HG13	2.01	0.42
75:Sd:15:ASN:OD1	75:Sd:15:ASN:N	2.53	0.42
1:LA:492:U:H5''	1:LA:493:G:C5	2.55	0.42
1:LA:800:A:N6	14:LN:19:GLN:OE1	2.53	0.42
1:LA:883:A:N7	1:LA:2138:A:C4	2.88	0.42
1:LA:1168:A:H4'	9:LI:219:LYS:HE2	2.01	0.42
1:LA:2687:U:H5'	1:LA:2689:G:O6	2.20	0.42
1:LA:2688:A:N3	1:LA:2688:A:H2'	2.35	0.42
1:LA:3038:C:OP1	5:LE:62:ARG:NH1	2.47	0.42
1:LA:3189:C:OP1	17:LQ:172[A]:ARG:NH1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LV:144:GLU:O	22:LV:144:GLU:HG2	2.19	0.42
36:Lj:14:LYS:NZ	36:Lj:14:LYS:HB2	2.34	0.42
39:Lm:3:ARG:HH21	39:Lm:50:SER:HG	1.58	0.42
45:S2:305:C:H5'	69:SX:71:LEU:HD21	2.02	0.42
45:S2:446:A:H2'	45:S2:446:A:N3	2.34	0.42
45:S2:762:A:P	68:SW:79:ARG:HH12	2.43	0.42
45:S2:1179:G:H2'	45:S2:1180:C:C5	2.55	0.42
45:S2:1198:G:H5'	45:S2:1199:G:H4'	2.02	0.42
45:S2:1276:U:H2'	45:S2:1277:G:H8	1.84	0.42
50:SE:73:PRO:HG3	50:SE:91:GLY:O	2.18	0.42
51:SF:5:PRO:HB2	51:SF:96:TYR:CZ	2.54	0.42
52:SG:5:ARG:HD3	52:SG:5:ARG:N	2.35	0.42
55:SJ:88:LYS:O	55:SJ:89:ARG:HD3	2.20	0.42
55:SJ:95:ALA:HB1	55:SJ:99:ILE:HD11	2.02	0.42
60:SO:88:THR:HG21	60:SO:102:ARG:HH22	1.84	0.42
64:SS:104:ASP:OD1	64:SS:104:ASP:N	2.52	0.42
68:SW:11:THR:O	68:SW:44:ARG:HA	2.20	0.42
79:Ta:43:G:H2'	79:Ta:43:G:N3	2.35	0.42
1:LA:35:A:OP1	16:LP:83:LYS:HG2	2.20	0.42
1:LA:209:A:N3	6:LF:221:ASN:ND2	2.63	0.42
1:LA:287:G:OP1	16:LP:179:LYS:HD3	2.20	0.42
1:LA:414:U:C2	1:LA:415:G:C8	3.07	0.42
1:LA:595:C:OP1	9:LI:33:ARG:NE	2.47	0.42
1:LA:1259:A:H4'	1:LA:1278:C:N3	2.35	0.42
1:LA:1674:G:H2'	1:LA:1675:A:H8	1.85	0.42
1:LA:2195:C:O2'	1:LA:2269:A:N3	2.48	0.42
1:LA:2880:C:H2'	1:LA:2881:U:H6	1.81	0.42
4:LD:53:GLY:O	4:LD:192:LYS:HE3	2.19	0.42
6:LF:3:ARG:H	6:LF:3:ARG:HG2	1.63	0.42
12:LL:176:LEU:HD11	12:LL:199:PHE:CZ	2.54	0.42
19:LS:151:ARG:O	19:LS:162:ALA:HB3	2.20	0.42
38:Ll:43:LYS:HB2	38:Ll:43:LYS:HE3	1.67	0.42
38:Ll:68:LYS:HG3	38:Ll:69:HIS:CE1	2.55	0.42
38:Ll:75:LYS:HD2	38:Ll:75:LYS:C	2.45	0.42
45:S2:129:U:H5'	45:S2:203:U:OP2	2.20	0.42
45:S2:954:G:H2'	45:S2:955:A:H8	1.85	0.42
45:S2:1010:C:H2'	45:S2:1011:G:O4'	2.19	0.42
45:S2:1336:A:H2'	45:S2:1337:A:C8	2.55	0.42
45:S2:1580:C:H4'	51:SF:137:ARG:HB2	2.02	0.42
47:SB:195:ALA:O	47:SB:199:ILE:HG23	2.20	0.42
49:SD:70:ASN:O	49:SD:74:LEU:HD23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SE:51:SER:HB2	50:SE:54:ALA:HB2	2.00	0.42
51:SF:58:ASP:OD1	51:SF:58:ASP:N	2.50	0.42
53:SH:41:ARG:HH21	54:SI:38:LYS:HE2	1.85	0.42
60:SO:67:ILE:HB	60:SO:85:TRP:CG	2.55	0.42
62:SQ:23:PRO:HA	62:SQ:26:ARG:CZ	2.50	0.42
65:ST:136:LYS:HG3	65:ST:136:LYS:O	2.19	0.42
67:SV:67:TRP:HD1	67:SV:185:GLU:OE2	2.03	0.42
68:SW:13:SER:HB3	68:SW:47:PHE:HD1	1.85	0.42
68:SW:65:LYS:HE2	68:SW:65:LYS:HB2	1.77	0.42
68:SW:124:HIS:O	68:SW:127:VAL:HG12	2.19	0.42
70:SY:16:ILE:O	73:Sb:57:ARG:NH2	2.53	0.42
80:Tb:49:C:C2	80:Tb:60:A:H1'	2.54	0.42
1:LA:19:U:H2'	1:LA:20:A:H8	1.85	0.41
1:LA:276:U:H2'	1:LA:277:G:C8	2.55	0.41
1:LA:690:A:N1	3:LC:28:C:O2'	2.48	0.41
1:LA:695:C:OP2	6:LF:119:ARG:NH2	2.48	0.41
1:LA:1189:A:H2'	1:LA:1189:A:N3	2.35	0.41
1:LA:1340:U:H2'	1:LA:1341:C:H6	1.85	0.41
1:LA:1576:G:H2'	1:LA:1577:C:C6	2.54	0.41
1:LA:2853:U:OP2	12:LL:3:ARG:NH1	2.52	0.41
1:LA:2946:G:OP2	1:LA:2946:G:H4'	2.20	0.41
1:LA:3138:A:OP1	5:LE:274:SER:HB3	2.20	0.41
3:LC:65:A:H2'	3:LC:66:A:H8	1.85	0.41
6:LF:317:PRO:C	6:LF:319:LYS:N	2.78	0.41
12:LL:89:VAL:HG13	12:LL:136:PHE:HE1	1.85	0.41
17:LQ:47[A]:PHE:HA	17:LQ:136[A]:THR:CG2	2.49	0.41
21:LU:24:LEU:O	21:LU:24:LEU:HD23	2.20	0.41
24:LX:24:ASN:ND2	24:LX:97:ASP:OD2	2.51	0.41
25:LY:45:ASN:O	25:LY:49:ILE:HG12	2.20	0.41
25:LY:46:PRO:O	25:LY:52:THR:OG1	2.35	0.41
31:Le:42:ILE:O	31:Le:42:ILE:HG13	2.20	0.41
41:Lo:82:LEU:HD12	41:Lo:82:LEU:HA	1.84	0.41
45:S2:183:U:H2'	45:S2:184:C:H6	1.85	0.41
45:S2:402:C:N4	45:S2:423:G:OP2	2.53	0.41
45:S2:959:U:O2	45:S2:959:U:H2'	2.20	0.41
45:S2:1022:C:O2'	45:S2:1125:A:N1	2.45	0.41
46:SA:40:ARG:HD2	46:SA:40:ARG:C	2.45	0.41
49:SD:26:ASP:HA	49:SD:29:LYS:HE2	2.02	0.41
64:SS:106:LYS:NZ	64:SS:251:GLU:OE2	2.46	0.41
66:SU:123:ASP:OD1	66:SU:124:LYS:N	2.52	0.41
67:SV:81:VAL:HG22	67:SV:94:ASN:HA	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:128:G:H2'	1:LA:129:U:C6	2.55	0.41
1:LA:181:U:C4'	38:LI:75:LYS:HD3	2.48	0.41
1:LA:491:C:OP1	8:LH:112:THR:OG1	2.36	0.41
1:LA:506:U:O2'	1:LA:1165:G:H4'	2.20	0.41
1:LA:713:G:N1	29:Lc:72:VAL:HG11	2.35	0.41
1:LA:723:U:H2'	1:LA:724:G:O4'	2.20	0.41
1:LA:1096:G:H4'	22:LV:129:LYS:HG2	2.02	0.41
1:LA:1563:U:N3	1:LA:1564:G:N7	2.68	0.41
1:LA:1666:A:H2'	1:LA:1667:G:H8	1.85	0.41
1:LA:1686:U:H1'	23:LW:75:TYR:CD2	2.54	0.41
1:LA:2536:U:H5''	62:SQ:229:MET:CG	2.48	0.41
1:LA:3131:C:H2'	1:LA:3132:C:C6	2.55	0.41
1:LA:3157:G:H2'	1:LA:3157:G:N3	2.34	0.41
1:LA:3202:U:H2'	1:LA:3203:C:C6	2.56	0.41
6:LF:170:LYS:HB2	6:LF:170:LYS:HE2	1.72	0.41
6:LF:327:LEU:HD21	9:LI:165:ASP:N	2.34	0.41
7:LG:78:ALA:HB3	7:LG:105:ILE:HB	2.02	0.41
10:LJ:47:SER:HA	10:LJ:50:VAL:HG23	2.02	0.41
12:LL:150:GLU:OE2	12:LL:153:ARG:NH1	2.53	0.41
15:LO:102:LYS:HG3	15:LO:106:ARG:NH2	2.35	0.41
16:LP:94:TYR:CZ	16:LP:96:ARG:HB2	2.56	0.41
19:LS:23:ASN:HB3	19:LS:26:LEU:HB3	2.02	0.41
20:LT:155:LEU:HD23	20:LT:155:LEU:HA	1.84	0.41
45:S2:62:A:O2'	45:S2:268:C:O2	2.37	0.41
45:S2:92:A:OP2	45:S2:398:G:N1	2.41	0.41
45:S2:371:G:O4'	73:Sb:88:LYS:HE2	2.20	0.41
45:S2:562:G:H2'	45:S2:563:U:H6	1.86	0.41
45:S2:881:A:H2'	45:S2:882:U:O4'	2.20	0.41
45:S2:1551:U:P	50:SE:43:ARG:HH12	2.43	0.41
46:SA:40:ARG:HG2	55:SJ:110:PRO:HB3	2.03	0.41
46:SA:172:THR:O	46:SA:173:ARG:HD3	2.20	0.41
47:SB:61:TYR:CE1	47:SB:165:LEU:HD13	2.55	0.41
52:SG:74:GLN:O	52:SG:78:ARG:HG2	2.20	0.41
60:SO:81:LEU:HD11	60:SO:115:ILE:HG23	2.00	0.41
62:SQ:138:PHE:HD1	62:SQ:214:LYS:O	2.03	0.41
63:SR:52:THR:OG1	63:SR:54:GLU:OE1	2.30	0.41
64:SS:244:ILE:HD12	64:SS:244:ILE:C	2.46	0.41
66:SU:23:ALA:HA	66:SU:26:GLU:CD	2.45	0.41
67:SV:65:PHE:CE2	67:SV:104:ILE:HG21	2.56	0.41
68:SW:60:LEU:HD11	68:SW:97:LEU:HD21	2.01	0.41
68:SW:109:LEU:HB2	68:SW:146:PHE:HB3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:Sb:5:SER:HB3	73:Sb:8:ALA:HB3	2.02	0.41
79:Ta:14:A:H62	79:Ta:23:G:N2	2.09	0.41
1:LA:87:U:H2'	1:LA:88:A:H8	1.85	0.41
1:LA:700:G:H2'	1:LA:701:C:C6	2.55	0.41
1:LA:809:A:OP1	16:LP:81:TYR:HB2	2.21	0.41
1:LA:833:U:H2'	1:LA:834:G:O4'	2.20	0.41
1:LA:2277:C:P	42:Lp:23:ARG:HH21	2.43	0.41
1:LA:2761:A:H2'	1:LA:2762:U:H6	1.84	0.41
1:LA:3048:A:C5	5:LE:75:ALA:HB2	2.56	0.41
1:LA:3242:A:H4'	5:LE:95:THR:HG22	2.01	0.41
1:LA:3321:A:H2'	1:LA:3322:A:H8	1.83	0.41
1:LA:3370:G:H2'	1:LA:3371:A:C8	2.55	0.41
2:LB:3:U:H2'	2:LB:4:U:C6	2.56	0.41
5:LE:24:SER:O	5:LE:220:VAL:HG21	2.20	0.41
5:LE:48:GLY:O	5:LE:335:ILE:HD12	2.19	0.41
5:LE:66:LYS:HE3	24:LX:11:PHE:CD2	2.55	0.41
6:LF:22:LEU:HA	6:LF:23:PRO:HD3	1.83	0.41
6:LF:53:SER:OG	6:LF:56:ALA:HB2	2.20	0.41
6:LF:159:ILE:HG12	6:LF:164:GLU:HG3	2.01	0.41
7:LG:120:LYS:HE2	7:LG:120:LYS:HB2	1.90	0.41
7:LG:282:ARG:O	7:LG:286:VAL:HG23	2.20	0.41
14:LN:21:ARG:HB3	16:LP:196:THR:HA	2.02	0.41
20:LT:110:ARG:HE	20:LT:110:ARG:HB3	1.53	0.41
23:LW:46:ALA:HB3	23:LW:49:ASN:OD1	2.20	0.41
39:Lm:7:ASP:CG	39:Lm:9:LYS:HZ3	2.29	0.41
42:Lp:14:LYS:HB2	42:Lp:14:LYS:HE3	1.76	0.41
45:S2:547:U:O2'	45:S2:596:C:O2	2.32	0.41
45:S2:856:A:H1'	66:SU:64:VAL:HG13	2.03	0.41
45:S2:1208:A:H1'	45:S2:1270:G:P	2.61	0.41
45:S2:1217:A:H4'	45:S2:1219:A:H5''	2.02	0.41
45:S2:1264:G:N2	45:S2:1265:G:H1'	2.35	0.41
45:S2:1533:C:OP2	56:SK:77:ARG:NH2	2.53	0.41
51:SF:82:ARG:HA	51:SF:85:ILE:HG12	2.01	0.41
60:SO:25:THR:HG22	60:SO:32:LEU:O	2.20	0.41
66:SU:39:ARG:N	66:SU:40:PRO:HD2	2.36	0.41
68:SW:139:GLN:NE2	75:Sd:64:PHE:HB3	2.35	0.41
1:LA:75:G:H5'	14:LN:58:VAL:HB	2.01	0.41
1:LA:716:C:OP1	1:LA:750:A:O2'	2.38	0.41
1:LA:1106:C:O2'	1:LA:1107:U:H6	2.03	0.41
1:LA:1395:C:H2'	1:LA:1396:C:C6	2.55	0.41
1:LA:1506:G:H1'	18:LR:139:TYR:CE2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1743:G:H2'	1:LA:1744:C:C6	2.55	0.41
1:LA:1941:U:H2'	1:LA:1942:C:O4'	2.20	0.41
1:LA:2396:A:H8	1:LA:2940:A:N1	2.19	0.41
4:LD:180:LEU:HG	44:Lr:26:VAL:HG21	2.02	0.41
7:LG:63:GLN:HB2	7:LG:65:ILE:HD11	2.02	0.41
9:LI:232:ARG:O	9:LI:233:GLU:C	2.63	0.41
11:LK:18:VAL:H	15:LO:5:SER:HB2	1.85	0.41
13:LM:13:LYS:N	13:LM:132:ASN:O	2.40	0.41
23:LW:80:THR:HG21	23:LW:95:PHE:HD2	1.85	0.41
24:LX:11:PHE:CE1	24:LX:88:ARG:HD2	2.56	0.41
32:Lf:37:LYS:HG3	32:Lf:51:LEU:HD11	2.01	0.41
37:Lk:5:THR:OG1	37:Lk:7:ILE:HG12	2.21	0.41
45:S2:164:A:N3	65:ST:13:GLN:NE2	2.68	0.41
45:S2:371:G:O5'	73:Sb:88:LYS:HE2	2.20	0.41
45:S2:992:A:H2	45:S2:1012:U:O4	2.03	0.41
49:SD:32:LEU:HD13	49:SD:101:ALA:HA	2.02	0.41
49:SD:45:LEU:O	49:SD:49:THR:HG22	2.19	0.41
49:SD:131:ASP:HA	49:SD:134:SER:OG	2.20	0.41
52:SG:18:GLU:OE2	52:SG:19:ARG:HB3	2.20	0.41
52:SG:30:THR:O	52:SG:34:LEU:HD23	2.21	0.41
54:SI:21:PHE:O	54:SI:25:GLN:HG2	2.21	0.41
57:SL:10:ALA:O	57:SL:54:LEU:HB2	2.21	0.41
61:SP:110:TYR:HA	61:SP:115:PHE:CD1	2.56	0.41
62:SQ:229:MET:HG2	62:SQ:229:MET:H	1.59	0.41
66:SU:9:LEU:HD21	66:SU:12:ALA:O	2.20	0.41
67:SV:65:PHE:CD2	67:SV:104:ILE:HG21	2.55	0.41
68:SW:45:ILE:HA	68:SW:48:GLN:HE21	1.85	0.41
75:Sd:111:LYS:HE2	75:Sd:115:ASP:OD2	2.21	0.41
79:Ta:59:A:H4'	79:Ta:60:A:C8	2.55	0.41
1:LA:946:G:H2'	1:LA:947:C:H6	1.86	0.41
1:LA:1034:G:N2	1:LA:1035:A:H62	2.18	0.41
1:LA:1238:C:H5''	1:LA:1239:A:OP1	2.21	0.41
1:LA:2661:G:H2'	1:LA:2662:G:C8	2.56	0.41
1:LA:3208:A:H8	1:LA:3208:A:OP1	2.04	0.41
1:LA:3228:G:O6	1:LA:3257:U:O2	2.39	0.41
3:LC:64:U:C2	3:LC:65:A:C8	3.08	0.41
10:LJ:73:PRO:HD3	10:LJ:233:TRP:CE2	2.55	0.41
12:LL:150:GLU:O	12:LL:154:ARG:HG2	2.20	0.41
12:LL:175:ASN:OD1	12:LL:175:ASN:N	2.51	0.41
19:LS:175:ALA:C	29:Lc:51:GLY:HA2	2.45	0.41
20:LT:28:GLU:O	20:LT:32:ILE:HG13	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LU:94:ILE:HD11	21:LU:102:ALA:CA	2.51	0.41
28:Lb:62:VAL:O	28:Lb:66:THR:OG1	2.34	0.41
44:Lr:8:VAL:O	44:Lr:11:THR:OG1	2.37	0.41
44:Lr:84:ARG:O	44:Lr:88:GLU:HG2	2.20	0.41
45:S2:205:U:N3	45:S2:206:A:N7	2.69	0.41
45:S2:339:C:H2'	45:S2:340:U:C6	2.55	0.41
45:S2:641:G:N2	66:SU:177:THR:O	2.53	0.41
45:S2:958:U:O2'	45:S2:960:U:OP2	2.38	0.41
45:S2:1517:U:H5''	45:S2:1518:C:H5	1.84	0.41
47:SB:148:ARG:HH21	57:SL:22:ARG:HH21	1.68	0.41
49:SD:103:LEU:HD12	49:SD:103:LEU:HA	1.92	0.41
50:SE:90:ILE:HD11	50:SE:112:LEU:HD21	2.02	0.41
56:SK:46:LYS:O	56:SK:50:ILE:HG23	2.21	0.41
60:SO:305:TYR:HB2	60:SO:309:VAL:HG23	2.02	0.41
61:SP:36:TYR:CD2	61:SP:161:PRO:HB3	2.55	0.41
62:SQ:195:LYS:NZ	62:SQ:198:GLU:OE2	2.54	0.41
64:SS:20:LEU:HD23	64:SS:20:LEU:HA	1.89	0.41
66:SU:96:ARG:NH1	66:SU:128:ASP:OD2	2.54	0.41
66:SU:139:ARG:HG2	66:SU:139:ARG:HH11	1.85	0.41
68:SW:27:GLU:HG2	68:SW:42:ILE:HG21	2.02	0.41
68:SW:180:LYS:HB2	68:SW:180:LYS:HE2	1.90	0.41
70:SY:3:ARG:HB3	70:SY:6:SER:HB3	2.01	0.41
75:Sd:26:ASP:OD1	75:Sd:26:ASP:N	2.54	0.41
1:LA:63:A:H5''	16:LP:174:ILE:HG21	2.02	0.41
1:LA:252:U:O2'	1:LA:253:A:OP1	2.31	0.41
1:LA:294:U:H4'	37:Lk:77:LEU:HD23	2.02	0.41
1:LA:412:G:OP1	18:LR:62:ARG:NH1	2.53	0.41
1:LA:911:G:H2'	1:LA:913:A:C5	2.56	0.41
1:LA:1481:A:N3	1:LA:1481:A:H2'	2.36	0.41
1:LA:1906:C:H3'	1:LA:1907:A:C8	2.55	0.41
1:LA:3112:A:H2'	1:LA:3113:A:O4'	2.20	0.41
3:LC:9:A:H2'	3:LC:10:A:H8	1.86	0.41
3:LC:151:C:C5	26:LZ:24:LEU:HD21	2.56	0.41
4:LD:104:LEU:CD1	4:LD:158:ILE:HD11	2.47	0.41
5:LE:367:LYS:HD2	25:LY:33:ASN:HB2	2.02	0.41
9:LI:86:VAL:O	9:LI:114:GLY:HA2	2.21	0.41
9:LI:163:LEU:HD13	9:LI:169:ILE:HD11	2.02	0.41
15:LO:56:GLN:HE21	15:LO:58:ILE:HD12	1.85	0.41
19:LS:147:ARG:O	19:LS:150:VAL:HG22	2.20	0.41
29:Lc:7:LYS:HD3	29:Lc:7:LYS:HA	1.91	0.41
45:S2:477:A:H62	45:S2:539:G:N2	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:566:C:N4	45:S2:576:G:O2'	2.51	0.41
45:S2:962:C:H2'	45:S2:963:A:O4'	2.21	0.41
45:S2:1584:G:C5	51:SF:14:LYS:HE3	2.56	0.41
45:S2:1731:A:H2'	45:S2:1731:A:N3	2.35	0.41
46:SA:67:ASN:HA	46:SA:70:THR:HG22	2.02	0.41
47:SB:93:LEU:HD22	47:SB:172:ILE:HG23	2.02	0.41
49:SD:130:THR:CG2	49:SD:133:LEU:HD22	2.51	0.41
56:SK:53:GLU:O	56:SK:57:TYR:CD2	2.74	0.41
56:SK:70:LYS:HE3	56:SK:70:LYS:HB3	1.94	0.41
59:SN:141:CYS:HB3	59:SN:144:CYS:HB2	2.02	0.41
60:SO:15:GLY:HA3	60:SO:45:TRP:CH2	2.53	0.41
60:SO:19:TRP:HB2	60:SO:38:ARG:HD2	2.03	0.41
60:SO:156:VAL:HG23	60:SO:169:ILE:HG22	2.03	0.41
61:SP:13:ASP:HA	61:SP:16:LEU:HD12	2.02	0.41
63:SR:59:HIS:CD2	63:SR:239:PRO:HD3	2.55	0.41
71:SZ:92:LYS:HE3	71:SZ:92:LYS:HB2	1.86	0.41
74:Sc:37:ALA:HA	74:Sc:41:SER:HB3	2.03	0.41
1:LA:82:C:H4'	16:LP:204:LYS:HE2	2.02	0.41
1:LA:112:U:OP1	36:Lj:107:LYS:HE3	2.21	0.41
1:LA:121:A:O2'	10:LJ:105:LYS:HE2	2.20	0.41
1:LA:163:C:H2'	1:LA:164:A:H5'	2.03	0.41
1:LA:431:U:H2'	1:LA:432:G:H8	1.86	0.41
1:LA:615:G:H2'	1:LA:616:G:H8	1.84	0.41
1:LA:691:A:C2	1:LA:692:A:H1'	2.56	0.41
1:LA:762:G:H2'	1:LA:763:U:O4'	2.20	0.41
1:LA:848:C:H2'	1:LA:849:U:C6	2.55	0.41
1:LA:1059:U:H2'	1:LA:1060:A:C8	2.55	0.41
1:LA:1380:A:H2'	1:LA:1381:G:C8	2.55	0.41
1:LA:1546:G:OP1	16:LP:108:ARG:NH2	2.53	0.41
1:LA:2536:U:P	62:SQ:227:ALA:H	2.44	0.41
2:LB:101:G:N7	21:LU:52:LYS:NZ	2.62	0.41
5:LE:165:GLN:OE1	5:LE:167:ARG:NH1	2.41	0.41
5:LE:287:LYS:HB2	5:LE:287:LYS:HE2	1.93	0.41
6:LF:159:ILE:CG1	6:LF:164:GLU:HG3	2.51	0.41
15:LO:50:LYS:NZ	15:LO:82:SER:O	2.39	0.41
16:LP:24:ARG:O	16:LP:27:VAL:HG12	2.21	0.41
17:LQ:12[A]:LYS:HA	17:LQ:40[A]:GLU:HB3	2.03	0.41
18:LR:53:ASP:HB3	18:LR:55:GLN:HG2	2.03	0.41
19:LS:138:LEU:HD22	19:LS:140:LEU:HD21	2.02	0.41
43:Lq:32:LYS:HE2	43:Lq:32:LYS:HB3	1.83	0.41
45:S2:55:A:H3'	45:S2:403:G:H22	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:617:U:H2'	45:S2:618:U:C6	2.56	0.41
45:S2:788:A:C5	64:SS:19:LEU:HD22	2.55	0.41
45:S2:802:G:H2'	45:S2:803:A:N9	2.35	0.41
45:S2:803:A:H2	45:S2:804:A:H62	1.69	0.41
45:S2:919:A:N7	45:S2:920:U:N3	2.69	0.41
45:S2:1552:U:O2	45:S2:1556:A:C6	2.73	0.41
47:SB:57:SER:HB2	57:SL:55:VAL:HG23	2.02	0.41
60:SO:23:LEU:HD21	60:SO:292:LEU:C	2.45	0.41
60:SO:250:TYR:HE1	60:SO:265:LEU:HD23	1.86	0.41
61:SP:77:SER:HB2	61:SP:86:VAL:HG11	2.02	0.41
71:SZ:13:VAL:HG23	71:SZ:77:THR:H	1.85	0.41
75:Sd:29:HIS:ND1	75:Sd:32:ARG:HB2	2.35	0.41
77:Sf:55:THR:HA	77:Sf:63:LEU:HD12	2.03	0.41
77:Sf:70:LYS:HD3	77:Sf:70:LYS:N	2.36	0.41
1:LA:22:G:H1'	3:LC:104:A:N3	2.34	0.41
1:LA:1154:C:H1'	1:LA:1197:C:O2	2.19	0.41
1:LA:1173:G:N2	17:LQ:87[A]:MET:HE2	2.35	0.41
1:LA:1183:A:H2'	1:LA:1184:C:C6	2.55	0.41
1:LA:1497:A:H2'	1:LA:1498:C:H6	1.86	0.41
1:LA:1583:U:H2'	1:LA:1584:C:C6	2.55	0.41
1:LA:1947:G:H2'	1:LA:1948:G:C8	2.54	0.41
1:LA:2669:G:H2'	1:LA:2670:A:H8	1.85	0.41
1:LA:2896:A:H5'	41:Lo:125:LYS:HB2	2.02	0.41
5:LE:37:ARG:HH12	5:LE:191:LYS:NZ	2.18	0.41
9:LI:221:LYS:HB2	9:LI:227:GLY:HA3	2.02	0.41
13:LM:60:ARG:O	13:LM:63:GLU:HB2	2.19	0.41
18:LR:37:ASN:OD1	18:LR:117:ILE:HG22	2.21	0.41
18:LR:116:HIS:HB3	18:LR:149:VAL:HB	2.02	0.41
24:LX:81:GLN:O	24:LX:98:ASN:HB3	2.21	0.41
26:LZ:68:THR:HG23	36:Lj:36:LEU:HD13	2.02	0.41
33:Lg:113:LYS:HE3	33:Lg:113:LYS:HB3	1.83	0.41
35:Li:51:LEU:HB3	35:Li:54:ILE:HD13	2.02	0.41
36:Lj:20:GLN:HA	36:Lj:23:ASP:OD2	2.21	0.41
45:S2:312:A:H4'	45:S2:313:U:H5'	2.03	0.41
45:S2:1125:A:C5	45:S2:1126:G:H1'	2.56	0.41
45:S2:1253:U:O2'	45:S2:1254:U:OP1	2.31	0.41
45:S2:1364:G:H2'	45:S2:1365:C:H6	1.84	0.41
45:S2:1505:A:N1	45:S2:1549:C:O2'	2.48	0.41
45:S2:1524:A:H4'	54:SI:93:HIS:CG	2.56	0.41
45:S2:1767:G:H4'	45:S2:1768:G:C4	2.56	0.41
46:SA:158:ILE:CD1	46:SA:163:PRO:HB2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SD:108:ARG:O	49:SD:110:GLY:N	2.54	0.41
54:SI:21:PHE:CD2	54:SI:22:LEU:HD12	2.56	0.41
59:SN:118:ARG:HB2	59:SN:134:ASN:HD22	1.85	0.41
64:SS:198:LYS:HB2	64:SS:208:VAL:HG12	2.02	0.41
1:LA:24:G:H2'	1:LA:25:U:O4'	2.20	0.41
1:LA:71:A:OP1	29:Lc:67:HIS:NE2	2.54	0.41
1:LA:492:U:H3'	1:LA:493:G:C8	2.55	0.41
1:LA:760:A:H2'	1:LA:761:U:H6	1.85	0.41
1:LA:834:G:O2'	1:LA:856:G:N2	2.32	0.41
1:LA:854:U:H5''	20:LT:95:TRP:CG	2.55	0.41
1:LA:1039:A:H61	7:LG:9:SER:HB2	1.85	0.41
1:LA:1076:U:O3'	7:LG:43:LYS:HD3	2.20	0.41
1:LA:1161:U:H4'	33:Lg:57:TYR:CE1	2.56	0.41
1:LA:1243:A:O2'	1:LA:1244:A:H5'	2.21	0.41
1:LA:1590:G:H5''	35:Li:37:LYS:NZ	2.35	0.41
1:LA:1810:G:H2'	1:LA:1811:G:C8	2.56	0.41
1:LA:2177:A:H5''	4:LD:132:ASN:OD1	2.21	0.41
1:LA:2421:C:O5'	43:Lq:52:GLY:HA2	2.20	0.41
1:LA:2587:U:H2'	1:LA:2588:G:C8	2.56	0.41
1:LA:2766:U:H2'	1:LA:2767:U:H6	1.85	0.41
1:LA:2823:G:H2'	1:LA:2824:C:H6	1.86	0.41
1:LA:3117:C:H2'	1:LA:3118:U:O4'	2.21	0.41
1:LA:3205:C:N3	15:LO:13:ARG:NH2	2.62	0.41
1:LA:3262:G:C2	1:LA:3263:G:C8	3.09	0.41
1:LA:3307:C:O2'	18:LR:69:ARG:O	2.38	0.41
1:LA:3327:G:N2	5:LE:309:GLY:O	2.51	0.41
5:LE:103:THR:HG21	5:LE:147:GLU:OE1	2.20	0.41
6:LF:105:THR:O	14:LN:26:PHE:HZ	2.03	0.41
7:LG:84:PRO:HD3	7:LG:88:ILE:O	2.21	0.41
7:LG:88:ILE:HD13	7:LG:240:TYR:CE1	2.56	0.41
7:LG:262:LYS:HE2	7:LG:262:LYS:HB3	1.78	0.41
8:LH:40:LEU:HD13	8:LH:84:VAL:HG21	2.03	0.41
9:LI:138:TYR:CE2	9:LI:233:GLU:HB3	2.56	0.41
9:LI:141:TYR:HD1	9:LI:189:ILE:CD1	2.30	0.41
10:LJ:94:PHE:CB	10:LJ:189:LEU:HD21	2.51	0.41
11:LK:3:TYR:HA	21:LU:142:GLN:OE1	2.21	0.41
13:LM:60:ARG:HB2	13:LM:63:GLU:CD	2.45	0.41
16:LP:99:ARG:HG3	16:LP:130:PHE:CD1	2.56	0.41
16:LP:180:PHE:O	16:LP:184:LYS:HG3	2.21	0.41
17:LQ:128[A]:ARG:HD2	17:LQ:128[A]:ARG:HA	1.70	0.41
20:LT:183:ALA:O	20:LT:187:GLU:HB3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LZ:50:ALA:O	36:Lj:66:VAL:HG21	2.21	0.41
27:La:60:ARG:HD3	27:La:60:ARG:HA	1.83	0.41
28:Lb:54:THR:H	28:Lb:57:HIS:CD2	2.39	0.41
34:Lh:16:TYR:OH	34:Lh:91:ALA:HB2	2.21	0.41
35:Li:102:LYS:HB2	35:Li:102:LYS:HE3	1.69	0.41
36:Lj:118:ILE:HG21	36:Lj:118:ILE:HD13	1.51	0.41
37:Lk:86:LYS:O	37:Lk:90:MET:HG2	2.21	0.41
45:S2:31:C:O3'	74:Sc:139:LYS:HE2	2.21	0.41
45:S2:158:U:O2	45:S2:420:A:O2'	2.37	0.41
45:S2:271:A:C6	45:S2:285:G:N2	2.89	0.41
45:S2:383:G:H2'	45:S2:384:G:H5''	2.02	0.41
45:S2:389:G:H2'	45:S2:390:G:N3	2.36	0.41
45:S2:577:G:H2'	79:Ta:36:G:H1'	2.02	0.41
45:S2:610:G:H21	74:Sc:19:ARG:HH22	1.68	0.41
45:S2:889:U:H2'	45:S2:890:C:O4'	2.21	0.41
45:S2:1167:G:N2	51:SF:139:GLN:HE22	2.18	0.41
45:S2:1170:G:C2	45:S2:1171:A:C8	3.09	0.41
45:S2:1256:A:H4'	45:S2:1257:U:O5'	2.20	0.41
45:S2:1408:G:H5''	45:S2:1409:G:N7	2.36	0.41
45:S2:1552:U:N3	45:S2:1556:A:C5	2.88	0.41
45:S2:1573:A:N6	47:SB:181:GLU:HA	2.35	0.41
45:S2:1676:U:OP1	67:SV:44:HIS:ND1	2.54	0.41
45:S2:1682:U:H2'	45:S2:1683:C:C6	2.56	0.41
45:S2:1760:G:H1'	45:S2:1781:A:C2	2.56	0.41
47:SB:76:ARG:HD3	47:SB:76:ARG:N	2.35	0.41
48:SC:3:MET:HE1	48:SC:41:TYR:CD2	2.56	0.41
49:SD:33:ARG:HD3	49:SD:33:ARG:HA	1.90	0.41
49:SD:130:THR:HG22	49:SD:133:LEU:HD22	2.02	0.41
53:SH:60:GLU:OE1	53:SH:60:GLU:N	2.53	0.41
54:SI:135:ILE:HD13	54:SI:135:ILE:HA	1.87	0.41
56:SK:65:LEU:HD22	56:SK:80:LEU:HG	2.03	0.41
58:SM:30:LEU:HA	58:SM:30:LEU:HD12	1.88	0.41
60:SO:51:ASP:OD1	60:SO:51:ASP:N	2.49	0.41
61:SP:98:ILE:HG21	61:SP:102:PHE:HD1	1.86	0.41
63:SR:82:ASN:OD1	63:SR:82:ASN:C	2.63	0.41
65:ST:38:GLY:HA2	65:ST:41:VAL:HG12	2.03	0.41
65:ST:58:LYS:O	65:ST:59:GLN:HB2	2.21	0.41
66:SU:9:LEU:HD21	66:SU:13:PRO:HA	2.02	0.41
66:SU:44:LYS:HG3	66:SU:63:PRO:CG	2.51	0.41
68:SW:93:LEU:HD12	68:SW:96:VAL:HG21	2.02	0.41
70:SY:96:VAL:CG1	70:SY:100:LYS:HE3	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:SZ:49:LYS:HE2	71:SZ:49:LYS:HB2	1.90	0.41
73:Sb:57:ARG:H	73:Sb:57:ARG:HG2	1.63	0.41
1:LA:513:G:N3	6:LF:341:SER:OG	2.50	0.41
1:LA:650:G:O2'	1:LA:1434:A:OP1	2.39	0.41
1:LA:659:A:N1	1:LA:940:G:O2'	2.42	0.41
1:LA:761:U:O4	1:LA:768:G:C2	2.74	0.41
1:LA:971:A:H2'	1:LA:972:A:C8	2.55	0.41
1:LA:1739:U:H4'	1:LA:1740:A:H5'	2.03	0.41
1:LA:1827:A:H2'	1:LA:1828:G:C8	2.56	0.41
1:LA:1882:A:H2'	1:LA:1883:A:C8	2.56	0.41
1:LA:2192:U:H5''	1:LA:2193:G:O5'	2.21	0.41
1:LA:2828:U:C2	1:LA:2829:G:C8	3.09	0.41
1:LA:3349:C:HO2'	1:LA:3350:U:P	2.42	0.41
3:LC:121:U:H2'	3:LC:122:U:H6	1.86	0.41
5:LE:377:HIS:C	5:LE:377:HIS:ND1	2.78	0.41
6:LF:104:LYS:HD2	6:LF:106:TRP:CH2	2.56	0.41
7:LG:127:GLY:O	7:LG:195:LEU:HD23	2.20	0.41
12:LL:46:PHE:HB2	12:LL:139:ARG:HD2	2.03	0.41
14:LN:137:GLN:O	14:LN:137:GLN:HG3	2.21	0.41
31:Le:25:LEU:CD2	31:Le:81:VAL:HG11	2.48	0.41
33:Lg:111:ARG:HH21	33:Lg:115:LEU:HD21	1.86	0.41
34:Lh:20:LYS:HE3	34:Lh:20:LYS:HB2	1.67	0.41
35:Li:67:LYS:HA	35:Li:70:LYS:HE3	2.02	0.41
37:Lk:9:ILE:HD12	37:Lk:10:GLY:H	1.85	0.41
39:Lm:7:ASP:CG	39:Lm:9:LYS:NZ	2.79	0.41
44:Lr:14:TYR:CE2	44:Lr:26:VAL:HG11	2.56	0.41
45:S2:37:U:H2'	45:S2:38:C:C6	2.56	0.41
45:S2:327:U:O2'	69:SX:10:GLU:HG2	2.20	0.41
45:S2:476:U:OP1	78:Sg:33:ARG:NH2	2.53	0.41
45:S2:1085:G:H2'	45:S2:1087:A:OP2	2.21	0.41
45:S2:1389:C:O2	45:S2:1390:U:H4'	2.21	0.41
45:S2:1504:G:H2'	45:S2:1505:A:N3	2.36	0.41
45:S2:1729:C:H1'	67:SV:2:GLY:HA3	2.03	0.41
47:SB:162:VAL:HG12	57:SL:44:VAL:HG22	2.03	0.41
60:SO:7:LEU:HD12	60:SO:313:TRP:HB3	2.02	0.41
62:SQ:194:ASN:ND2	62:SQ:211:HIS:HA	2.36	0.41
64:SS:181:VAL:HG22	64:SS:193:GLY:HA3	2.02	0.41
64:SS:198:LYS:CB	64:SS:208:VAL:HG12	2.51	0.41
68:SW:125:ALA:O	68:SW:126:ARG:C	2.64	0.41
74:Sc:131:SER:OG	74:Sc:133:LEU:HD23	2.20	0.41
77:Sf:21:LEU:HA	77:Sf:26:GLN:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:Sf:79:PHE:CD1	77:Sf:79:PHE:C	2.99	0.41
80:Tb:23:G:H2'	80:Tb:24:C:C5	2.55	0.41
1:LA:8:C:H2'	1:LA:9:U:C6	2.56	0.40
1:LA:27:C:H42	1:LA:57:A:N6	2.20	0.40
1:LA:47:C:H5''	14:LN:16:LYS:HG2	2.03	0.40
1:LA:123:A:H5'	1:LA:124:U:OP2	2.21	0.40
1:LA:345:G:O2'	3:LC:25:G:N3	2.52	0.40
1:LA:1383:U:O5'	6:LF:202:ARG:HD3	2.20	0.40
1:LA:1500:U:O2'	1:LA:1501:C:O5'	2.35	0.40
1:LA:2282:G:H1'	1:LA:2284:C:N4	2.36	0.40
1:LA:2562:G:C4	1:LA:2563:G:C8	3.09	0.40
1:LA:3066:C:H3'	20:LT:62:ARG:HH22	1.87	0.40
1:LA:3312:U:OP1	5:LE:117:ARG:NH2	2.52	0.40
4:LD:46:LYS:HA	4:LD:46:LYS:HD2	1.71	0.40
5:LE:256:HIS:HA	5:LE:257:PRO:C	2.46	0.40
18:LR:94:LEU:HB3	18:LR:148:LEU:HD21	2.02	0.40
22:LV:84:TYR:HE1	30:Ld:21:ILE:HG22	1.85	0.40
23:LW:100:THR:O	23:LW:102:GLU:HG2	2.21	0.40
29:Lc:114:GLY:O	29:Lc:137:LYS:NZ	2.52	0.40
35:Li:58:ARG:HA	35:Li:58:ARG:HD2	1.74	0.40
41:Lo:111:ARG:HG3	41:Lo:112:LYS:HD2	2.03	0.40
45:S2:97:C:H2'	45:S2:98:U:H6	1.85	0.40
45:S2:1273:G:H4'	45:S2:1274:C:H5''	2.03	0.40
45:S2:1565:C:OP2	53:SH:41:ARG:HG3	2.21	0.40
45:S2:1678:A:H8	45:S2:1678:A:OP2	2.04	0.40
53:SH:29:VAL:HG13	53:SH:30:TYR:CD2	2.56	0.40
65:ST:147:LEU:HD23	65:ST:147:LEU:H	1.85	0.40
68:SW:89:ASP:OD1	68:SW:89:ASP:N	2.51	0.40
72:Sa:4:ASP:N	72:Sa:4:ASP:OD1	2.53	0.40
75:Sd:18:LEU:HD23	75:Sd:18:LEU:HA	1.79	0.40
76:Se:52:ASP:O	76:Se:55:GLU:HG3	2.21	0.40
1:LA:764:C:H41	14:LN:176:GLU:CD	2.29	0.40
1:LA:967:G:H21	30:Ld:15:LYS:NZ	2.19	0.40
1:LA:2390:G:H2'	1:LA:2391:C:O4'	2.21	0.40
1:LA:3168:U:OP2	34:Lh:56:SER:OG	2.32	0.40
3:LC:18:U:H2'	3:LC:19:C:C6	2.56	0.40
6:LF:27:SER:O	6:LF:279:HIS:NE2	2.49	0.40
14:LN:165:SER:C	14:LN:167:PHE:H	2.28	0.40
16:LP:98:LEU:HD12	16:LP:128:LYS:HD2	2.03	0.40
21:LU:94:ILE:HD11	21:LU:102:ALA:CB	2.51	0.40
22:LV:6:GLY:H	22:LV:9:SER:HB2	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LX:125:LEU:HB3	24:LX:126:TRP:CD1	2.57	0.40
45:S2:607:G:H21	45:S2:614:C:H5''	1.87	0.40
45:S2:636:A:H5''	73:Sb:31:SER:HB2	2.04	0.40
45:S2:640:U:N3	66:SU:118:LEU:HD21	2.35	0.40
45:S2:767:U:H2'	68:SW:143:ILE:HD13	2.04	0.40
45:S2:1291:G:C8	45:S2:1292:G:C8	3.10	0.40
45:S2:1691:A:C8	45:S2:1692:G:N7	2.89	0.40
60:SO:169:ILE:CD1	60:SO:181:TRP:CE3	2.98	0.40
62:SQ:138:PHE:O	62:SQ:213:ARG:N	2.54	0.40
62:SQ:160:HIS:O	62:SQ:164:ILE:HG12	2.20	0.40
64:SS:136:VAL:HG11	64:SS:148:ARG:HE	1.85	0.40
68:SW:136:VAL:HA	68:SW:156:ILE:HD13	2.03	0.40
76:Se:7:SER:HB2	76:Se:10:ARG:O	2.22	0.40
76:Se:82:ARG:HH11	76:Se:82:ARG:HG2	1.86	0.40
1:LA:181:U:C5	1:LA:182:U:H1'	2.56	0.40
1:LA:354:U:C5	1:LA:365:A:N7	2.89	0.40
1:LA:630:U:H2'	1:LA:631:G:H8	1.87	0.40
1:LA:972:A:H2'	1:LA:973:G:O4'	2.21	0.40
1:LA:2383:A:N1	17:LQ:96[A]:LYS:HE2	2.37	0.40
1:LA:2429:A:H2'	1:LA:2430:C:C6	2.57	0.40
1:LA:2939:A:OP2	5:LE:2:SER:N	2.54	0.40
1:LA:2980:U:OP2	5:LE:244:ARG:NH1	2.49	0.40
1:LA:2986:A:O2'	5:LE:259:HIS:HB3	2.21	0.40
1:LA:3332:G:N2	1:LA:3368:G:O2'	2.53	0.40
2:LB:28:C:OP1	13:LM:137:ARG:NE	2.44	0.40
11:LK:50:ASN:O	11:LK:50:ASN:ND2	2.48	0.40
12:LL:150:GLU:OE2	12:LL:150:GLU:HA	2.22	0.40
13:LM:93:ASP:N	13:LM:93:ASP:OD1	2.54	0.40
14:LN:106:GLN:HB3	37:Lk:18:THR:OG1	2.22	0.40
16:LP:47:LYS:HD2	16:LP:47:LYS:HA	1.81	0.40
22:LV:44:ALA:HB2	22:LV:53:PRO:HG2	2.02	0.40
37:Lk:21:THR:HG23	37:Lk:21:THR:O	2.22	0.40
44:Lr:89:MET:HE2	44:Lr:89:MET:HB3	1.78	0.40
45:S2:393:C:H2'	45:S2:394:C:H6	1.86	0.40
45:S2:590:C:OP2	78:Sg:35:TYR:OH	2.39	0.40
45:S2:1173:C:H2'	45:S2:1174:C:H6	1.87	0.40
45:S2:1631:A:H8	45:S2:1631:A:OP1	2.04	0.40
45:S2:1741:U:O2	45:S2:1741:U:H2'	2.20	0.40
47:SB:162:VAL:HG13	57:SL:54:LEU:CD1	2.46	0.40
48:SC:20:VAL:HG12	48:SC:67:THR:HA	2.03	0.40
51:SF:128:LYS:HE2	51:SF:128:LYS:HB2	1.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SH:110:ARG:CZ	53:SH:110:ARG:HB3	2.51	0.40
56:SK:50:ILE:HG13	56:SK:51:LEU:N	2.35	0.40
61:SP:127:ARG:NH1	61:SP:150:ASP:O	2.51	0.40
62:SQ:210:ILE:N	62:SQ:210:ILE:CD1	2.84	0.40
66:SU:123:ASP:O	66:SU:127:GLU:OE2	2.39	0.40
69:SX:46:LYS:H	69:SX:46:LYS:HG2	1.67	0.40
1:LA:619:U:H4'	18:LR:167:ARG:NE	2.37	0.40
1:LA:686:U:H5	14:LN:36:ARG:CZ	2.35	0.40
1:LA:920:A:C6	38:Ll:8:PHE:HE2	2.39	0.40
1:LA:970:G:H2'	1:LA:971:A:C8	2.56	0.40
1:LA:1126:G:N2	1:LA:1128:A:H3'	2.36	0.40
1:LA:1285:A:H4'	1:LA:1286:A:H5'	2.03	0.40
1:LA:1596:C:H2'	1:LA:1597:G:H8	1.85	0.40
1:LA:1919:U:O2'	1:LA:1931:A:N7	2.45	0.40
1:LA:2200:G:H2'	1:LA:2201:C:H6	1.86	0.40
1:LA:2800:A:O2'	1:LA:2801:A:H3'	2.22	0.40
1:LA:2889:A:O2'	1:LA:2932:A:N3	2.51	0.40
1:LA:2986:A:OP1	17:LQ:68[A]:ARG:NH2	2.48	0.40
1:LA:3372:U:H5''	32:Lf:69:TYR:CD2	2.56	0.40
6:LF:11:LEU:HD23	6:LF:11:LEU:HA	1.69	0.40
9:LI:96:PRO:O	9:LI:100:ARG:HB2	2.21	0.40
10:LJ:78:PHE:C	10:LJ:80:TYR:N	2.79	0.40
10:LJ:151:VAL:HG11	10:LJ:170:CYS:SG	2.62	0.40
11:LK:128:VAL:HA	11:LK:157:ASN:OD1	2.22	0.40
11:LK:173:ARG:HE	11:LK:173:ARG:HB2	1.80	0.40
14:LN:46:ILE:HD11	14:LN:51:LEU:HA	2.04	0.40
14:LN:119:TYR:CZ	14:LN:123:ILE:HG21	2.56	0.40
17:LQ:37[A]:ARG:CG	17:LQ:108[A]:ILE:HD11	2.51	0.40
18:LR:67:ILE:HD11	18:LR:80:LYS:HB3	2.03	0.40
19:LS:19:PRO:HD3	19:LS:53:PHE:HD1	1.85	0.40
20:LT:74:ARG:HB2	20:LT:75:HIS:CD2	2.56	0.40
29:Lc:135:GLU:O	29:Lc:139:ARG:HG2	2.21	0.40
41:Lo:78:ILE:H	41:Lo:83:LYS:HZ2	1.68	0.40
45:S2:57:G:OP1	75:Sd:112:LYS:NZ	2.31	0.40
45:S2:473:A:OP1	68:SW:44:ARG:HD3	2.21	0.40
45:S2:1141:G:O6	45:S2:1142:A:N6	2.54	0.40
45:S2:1639:C:H2'	45:S2:1640:C:O4'	2.21	0.40
45:S2:1705:C:H6	45:S2:1705:C:H2'	1.71	0.40
46:SA:32:GLU:HA	46:SA:54:ARG:HD3	2.04	0.40
48:SC:44:LYS:HA	48:SC:44:LYS:HD2	1.76	0.40
50:SE:74:ALA:HA	50:SE:75:PRO:HD3	1.93	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SE:110:GLU:HB2	53:SH:119:ILE:CD1	2.52	0.40
62:SQ:187:LYS:C	62:SQ:190:PRO:HD2	2.47	0.40
65:ST:208:TYR:CZ	65:ST:212:LEU:HD21	2.57	0.40
71:SZ:72:LYS:NZ	71:SZ:77:THR:CA	2.81	0.40
1:LA:107:A:H2'	1:LA:108:A:O4'	2.22	0.40
1:LA:213:A:O4'	27:La:2:ALA:HA	2.22	0.40
1:LA:1339:G:H2'	1:LA:1340:U:H6	1.85	0.40
1:LA:1385:A:H5''	6:LF:141:ARG:NH2	2.36	0.40
1:LA:1592:A:O5'	35:Li:60:ARG:HD3	2.20	0.40
1:LA:2145:C:H5''	4:LD:203:ALA:HB1	2.02	0.40
1:LA:2147:U:H2'	1:LA:2148:A:C8	2.56	0.40
1:LA:2415:U:H2'	1:LA:2416:U:C6	2.56	0.40
1:LA:2512:U:H4'	10:LJ:238:LEU:CD1	2.51	0.40
1:LA:3049:U:H4'	25:LY:17:ARG:HD3	2.02	0.40
1:LA:3170:U:C4	34:Lh:54:ARG:HD3	2.57	0.40
4:LD:104:LEU:HD22	4:LD:136:ILE:HD11	2.03	0.40
4:LD:155:LYS:HA	4:LD:155:LYS:HD3	1.76	0.40
10:LJ:152:LEU:HG	10:LJ:180:VAL:HG11	2.04	0.40
18:LR:51:VAL:HA	18:LR:56:ARG:O	2.21	0.40
20:LT:21:LYS:HD3	20:LT:21:LYS:HA	1.87	0.40
26:LZ:127:THR:HG22	26:LZ:128:ALA:H	1.87	0.40
45:S2:91:G:H2'	45:S2:92:A:O4'	2.21	0.40
45:S2:1215:C:H2'	45:S2:1216:C:H6	1.87	0.40
45:S2:1478:G:OP1	54:SI:39:THR:OG1	2.28	0.40
45:S2:1527:C:O2	51:SF:74:HIS:NE2	2.47	0.40
45:S2:1553:G:N1	45:S2:1556:A:OP2	2.54	0.40
47:SB:105:GLY:C	47:SB:106:LYS:HG2	2.47	0.40
47:SB:177:ILE:HD12	47:SB:178:GLY:H	1.87	0.40
53:SH:30:TYR:HA	53:SH:33:THR:HG23	2.04	0.40
60:SO:132:LYS:HG3	60:SO:133:VAL:N	2.36	0.40
61:SP:30:GLN:NE2	61:SP:149:LEU:HB3	2.36	0.40
61:SP:74:VAL:O	61:SP:121:VAL:HA	2.21	0.40
62:SQ:105:PHE:CE1	62:SQ:109:LYS:CG	2.96	0.40
66:SU:27:LEU:HD22	66:SU:27:LEU:HA	1.91	0.40
74:Sc:127:VAL:O	74:Sc:130:VAL:HG12	2.22	0.40
75:Sd:31:ASN:C	75:Sd:32:ARG:HG2	2.46	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	LD	249/251 (99%)	236 (95%)	13 (5%)	0	100	100
5	LE	384/386 (100%)	356 (93%)	28 (7%)	0	100	100
6	LF	359/361 (99%)	333 (93%)	26 (7%)	0	100	100
7	LG	292/294 (99%)	275 (94%)	17 (6%)	0	100	100
8	LH	163/175 (93%)	154 (94%)	9 (6%)	0	100	100
9	LI	220/222 (99%)	210 (96%)	10 (4%)	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%)	208 (96%)	8 (4%)	0	100	100
13	LM	167/169 (99%)	158 (95%)	9 (5%)	0	100	100
14	LN	191/193 (99%)	174 (91%)	17 (9%)	0	100	100
15	LO	134/136 (98%)	128 (96%)	6 (4%)	0	100	100
16	LP	201/203 (99%)	188 (94%)	11 (6%)	2 (1%)	12	28
17	LQ	195/197 (99%)	193 (99%)	2 (1%)	0	100	100
18	LR	181/183 (99%)	172 (95%)	9 (5%)	0	100	100
19	LS	183/185 (99%)	174 (95%)	9 (5%)	0	100	100
20	LT	186/188 (99%)	181 (97%)	5 (3%)	0	100	100
21	LU	169/171 (99%)	162 (96%)	7 (4%)	0	100	100
22	LV	157/159 (99%)	149 (95%)	8 (5%)	0	100	100
23	LW	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
24	LX	134/136 (98%)	131 (98%)	3 (2%)	0	100	100
25	LY	63/65 (97%)	61 (97%)	2 (3%)	0	100	100
26	LZ	119/121 (98%)	117 (98%)	2 (2%)	0	100	100
27	La	123/125 (98%)	118 (96%)	5 (4%)	0	100	100
28	Lb	133/135 (98%)	122 (92%)	11 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	Lc	146/148 (99%)	136 (93%)	10 (7%)	0	100	100
30	Ld	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
31	Le	94/96 (98%)	94 (100%)	0	0	100	100
32	Lf	107/109 (98%)	103 (96%)	4 (4%)	0	100	100
33	Lg	125/127 (98%)	119 (95%)	6 (5%)	0	100	100
34	Lh	104/106 (98%)	99 (95%)	5 (5%)	0	100	100
35	Li	110/112 (98%)	108 (98%)	2 (2%)	0	100	100
36	Lj	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
37	Lk	97/99 (98%)	91 (94%)	6 (6%)	0	100	100
38	Ll	79/81 (98%)	77 (98%)	2 (2%)	0	100	100
39	Lm	75/77 (97%)	73 (97%)	2 (3%)	0	100	100
40	Ln	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
41	Lo	50/52 (96%)	47 (94%)	3 (6%)	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
46	SA	220/223 (99%)	211 (96%)	9 (4%)	0	100	100
47	SB	204/206 (99%)	191 (94%)	12 (6%)	1 (0%)	24	46
48	SC	90/92 (98%)	81 (90%)	9 (10%)	0	100	100
49	SD	119/124 (96%)	90 (76%)	29 (24%)	0	100	100
50	SE	115/117 (98%)	112 (97%)	3 (3%)	0	100	100
51	SF	139/141 (99%)	129 (93%)	10 (7%)	0	100	100
52	SG	117/125 (94%)	117 (100%)	0	0	100	100
53	SH	143/145 (99%)	137 (96%)	6 (4%)	0	100	100
54	SI	141/143 (99%)	131 (93%)	10 (7%)	0	100	100
55	SJ	98/101 (97%)	93 (95%)	5 (5%)	0	100	100
56	SK	80/82 (98%)	72 (90%)	8 (10%)	0	100	100
57	SL	61/63 (97%)	56 (92%)	5 (8%)	0	100	100
58	SM	51/53 (96%)	50 (98%)	1 (2%)	0	100	100
59	SN	71/73 (97%)	56 (79%)	15 (21%)	0	100	100
60	SO	310/312 (99%)	283 (91%)	27 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
61	SP	204/206 (99%)	185 (91%)	19 (9%)	0	100	100
62	SQ	222/232 (96%)	201 (90%)	21 (10%)	0	100	100
63	SR	214/217 (99%)	202 (94%)	12 (6%)	0	100	100
64	SS	256/260 (98%)	229 (90%)	27 (10%)	0	100	100
65	ST	226/228 (99%)	213 (94%)	11 (5%)	2 (1%)	14	30
66	SU	182/185 (98%)	169 (93%)	13 (7%)	0	100	100
67	SV	183/199 (92%)	176 (96%)	7 (4%)	0	100	100
68	SW	182/185 (98%)	172 (94%)	10 (6%)	0	100	100
69	SX	140/146 (96%)	134 (96%)	6 (4%)	0	100	100
70	SY	148/150 (99%)	136 (92%)	12 (8%)	0	100	100
71	SZ	125/128 (98%)	114 (91%)	11 (9%)	0	100	100
72	Sa	85/87 (98%)	77 (91%)	8 (9%)	0	100	100
73	Sb	127/129 (98%)	115 (91%)	12 (9%)	0	100	100
74	Sc	142/144 (99%)	126 (89%)	16 (11%)	0	100	100
75	Sd	132/134 (98%)	129 (98%)	3 (2%)	0	100	100
76	Se	95/97 (98%)	91 (96%)	4 (4%)	0	100	100
77	Sf	79/81 (98%)	75 (95%)	4 (5%)	0	100	100
78	Sg	55/57 (96%)	47 (86%)	8 (14%)	0	100	100
All	All	10914/11115 (98%)	10242 (94%)	667 (6%)	5 (0%)	100	100

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
65	ST	177	ARG
65	ST	175	ILE
47	SB	162	VAL
16	LP	78	GLY
16	LP	76	PRO

5.3.2 Protein sidechains ⓘ

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

The Analysed column shows the number of residues for which the sidechain conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	LD	190/193 (98%)	187 (98%)	3 (2%)	55	79
5	LE	318/322 (99%)	300 (94%)	18 (6%)	18	40
6	LF	288/288 (100%)	275 (96%)	13 (4%)	24	50
7	LG	241/243 (99%)	227 (94%)	14 (6%)	18	39
8	LH	139/154 (90%)	135 (97%)	4 (3%)	37	65
9	LI	186/186 (100%)	178 (96%)	8 (4%)	26	51
10	LJ	187/191 (98%)	173 (92%)	14 (8%)	12	28
11	LK	168/171 (98%)	160 (95%)	8 (5%)	23	47
12	LL	185/185 (100%)	177 (96%)	8 (4%)	26	51
13	LM	145/147 (99%)	139 (96%)	6 (4%)	27	54
14	LN	154/154 (100%)	146 (95%)	8 (5%)	21	44
15	LO	107/107 (100%)	97 (91%)	10 (9%)	8	18
16	LP	175/175 (100%)	170 (97%)	5 (3%)	37	65
17	LQ	160/160 (100%)	154 (96%)	6 (4%)	29	56
18	LR	138/145 (95%)	134 (97%)	4 (3%)	37	65
19	LS	150/150 (100%)	145 (97%)	5 (3%)	33	61
20	LT	152/153 (99%)	146 (96%)	6 (4%)	28	55
21	LU	155/155 (100%)	145 (94%)	10 (6%)	15	35
22	LV	135/136 (99%)	129 (96%)	6 (4%)	25	50
23	LW	87/87 (100%)	81 (93%)	6 (7%)	14	32
24	LX	104/104 (100%)	97 (93%)	7 (7%)	15	33
25	LY	54/57 (95%)	51 (94%)	3 (6%)	19	40
26	LZ	104/105 (99%)	97 (93%)	7 (7%)	15	33
27	La	108/108 (100%)	105 (97%)	3 (3%)	38	66
28	Lb	112/115 (97%)	106 (95%)	6 (5%)	20	42
29	Lc	117/118 (99%)	114 (97%)	3 (3%)	40	68
30	Ld	46/46 (100%)	45 (98%)	1 (2%)	45	72
31	Le	81/81 (100%)	77 (95%)	4 (5%)	22	47
32	Lf	92/96 (96%)	88 (96%)	4 (4%)	26	51
33	Lg	108/109 (99%)	105 (97%)	3 (3%)	38	66
34	Lh	90/90 (100%)	89 (99%)	1 (1%)	65	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	Li	95/95 (100%)	90 (95%)	5 (5%)	20	43
36	Lj	104/104 (100%)	104 (100%)	0	100	100
37	Lk	80/81 (99%)	77 (96%)	3 (4%)	29	56
38	Ll	67/67 (100%)	64 (96%)	3 (4%)	24	50
39	Lm	68/68 (100%)	64 (94%)	4 (6%)	18	38
40	Ln	45/45 (100%)	42 (93%)	3 (7%)	15	33
41	Lo	45/47 (96%)	44 (98%)	1 (2%)	45	72
42	Lp	22/23 (96%)	21 (96%)	1 (4%)	24	50
43	Lq	87/88 (99%)	84 (97%)	3 (3%)	32	60
44	Lr	71/71 (100%)	70 (99%)	1 (1%)	59	81
46	SA	182/182 (100%)	170 (93%)	12 (7%)	15	34
47	SB	172/173 (99%)	169 (98%)	3 (2%)	53	78
48	SC	77/85 (91%)	73 (95%)	4 (5%)	21	44
49	SD	88/100 (88%)	82 (93%)	6 (7%)	14	32
50	SE	95/98 (97%)	91 (96%)	4 (4%)	26	52
51	SF	117/117 (100%)	109 (93%)	8 (7%)	14	32
52	SG	101/113 (89%)	96 (95%)	5 (5%)	22	46
53	SH	127/128 (99%)	123 (97%)	4 (3%)	35	63
54	SI	115/115 (100%)	111 (96%)	4 (4%)	32	59
55	SJ	93/94 (99%)	89 (96%)	4 (4%)	26	51
56	SK	67/73 (92%)	67 (100%)	0	100	100
57	SL	55/56 (98%)	51 (93%)	4 (7%)	13	29
58	SM	47/47 (100%)	46 (98%)	1 (2%)	47	73
59	SN	56/64 (88%)	55 (98%)	1 (2%)	51	76
60	SO	250/257 (97%)	243 (97%)	7 (3%)	38	66
61	SP	170/173 (98%)	163 (96%)	7 (4%)	27	54
62	SQ	200/205 (98%)	190 (95%)	10 (5%)	22	46
63	SR	175/176 (99%)	166 (95%)	9 (5%)	21	45
64	SS	220/221 (100%)	206 (94%)	14 (6%)	16	35
65	ST	189/195 (97%)	176 (93%)	13 (7%)	14	32
66	SU	163/165 (99%)	158 (97%)	5 (3%)	35	63

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
67	SV	148/160 (92%)	145 (98%)	3 (2%)	48	74
68	SW	156/158 (99%)	145 (93%)	11 (7%)	13	31
69	SX	126/129 (98%)	122 (97%)	4 (3%)	34	62
70	SY	127/127 (100%)	119 (94%)	8 (6%)	16	36
71	SZ	90/97 (93%)	87 (97%)	3 (3%)	33	61
72	Sa	71/74 (96%)	66 (93%)	5 (7%)	14	31
73	Sb	110/110 (100%)	109 (99%)	1 (1%)	70	87
74	Sc	119/119 (100%)	116 (98%)	3 (2%)	42	69
75	Sd	102/112 (91%)	94 (92%)	8 (8%)	11	26
76	Se	82/83 (99%)	81 (99%)	1 (1%)	63	83
77	Sf	70/70 (100%)	64 (91%)	6 (9%)	10	22
78	Sg	48/49 (98%)	47 (98%)	1 (2%)	47	73
All	All	9168/9345 (98%)	8761 (96%)	407 (4%)	27	50

All (407) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	LD	96	LEU
4	LD	113	VAL
4	LD	130	SER
5	LE	25	ILE
5	LE	44	THR
5	LE	56	ILE
5	LE	102	LEU
5	LE	104	THR
5	LE	112	ASP
5	LE	114	VAL
5	LE	125	SER
5	LE	140	ASP
5	LE	148	LEU
5	LE	158	VAL
5	LE	189	SER
5	LE	208	VAL
5	LE	296	THR
5	LE	324	VAL
5	LE	344	THR
5	LE	346	THR
5	LE	369	ARG

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Mol	Chain	Res	Type
6	LF	11	LEU
6	LF	116	ASN
6	LF	159	ILE
6	LF	169	LEU
6	LF	170	LYS
6	LF	172	VAL
6	LF	182	LEU
6	LF	219	LEU
6	LF	230	VAL
6	LF	265	GLU
6	LF	280	ILE
6	LF	333	VAL
6	LF	349	THR
7	LG	46	THR
7	LG	56	THR
7	LG	80	SER
7	LG	109	THR
7	LG	125	VAL
7	LG	144	VAL
7	LG	163	LEU
7	LG	173	VAL
7	LG	187	THR
7	LG	197	SER
7	LG	199	ILE
7	LG	208	MET
7	LG	242	SER
7	LG	262	LYS
8	LH	91	VAL
8	LH	96	VAL
8	LH	98	VAL
8	LH	141	VAL
9	LI	57	THR
9	LI	83	LEU
9	LI	123	THR
9	LI	124	LEU
9	LI	142	SER
9	LI	161	VAL
9	LI	189	ILE
9	LI	232	ARG
10	LJ	71	VAL
10	LJ	74	THR
10	LJ	90	THR

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Mol	Chain	Res	Type
10	LJ	95	ASN
10	LJ	101	THR
10	LJ	104	GLU
10	LJ	132	VAL
10	LJ	158	ASP
10	LJ	175	VAL
10	LJ	192	GLN
10	LJ	197	VAL
10	LJ	203	VAL
10	LJ	214	LEU
10	LJ	229	VAL
11	LK	18	VAL
11	LK	78	MET
11	LK	82	VAL
11	LK	114	VAL
11	LK	126	VAL
11	LK	133	THR
11	LK	140	VAL
11	LK	157	ASN
12	LL	21	ARG
12	LL	26	VAL
12	LL	80	SER
12	LL	87	LEU
12	LL	123	HIS
12	LL	129	VAL
12	LL	167	LEU
12	LL	176	LEU
13	LM	18	VAL
13	LM	44	THR
13	LM	95	ASN
13	LM	129	VAL
13	LM	155	THR
13	LM	161	SER
14	LN	4	SER
14	LN	24	VAL
14	LN	41	THR
14	LN	63	VAL
14	LN	69	VAL
14	LN	103	ASN
14	LN	138	VAL
14	LN	155	GLU
15	LO	7	VAL

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Mol	Chain	Res	Type
15	LO	15	VAL
15	LO	36	VAL
15	LO	56	GLN
15	LO	90	VAL
15	LO	105	GLN
15	LO	107	GLU
15	LO	120	VAL
15	LO	131	VAL
15	LO	133	LYS
16	LP	19	LEU
16	LP	32	GLN
16	LP	54	LYS
16	LP	60	VAL
16	LP	101	THR
17	LQ	3[A]	VAL
17	LQ	136[A]	THR
17	LQ	142[A]	SER
17	LQ	150[A]	GLU
17	LQ	175[A]	THR
17	LQ	197[A]	LEU
18	LR	16	SER
18	LR	87	SER
18	LR	119	VAL
18	LR	146	ILE
19	LS	9	GLN
19	LS	17	THR
19	LS	24	VAL
19	LS	100	THR
19	LS	129	VAL
20	LT	14	VAL
20	LT	29	THR
20	LT	55	VAL
20	LT	72	GLU
20	LT	119	LEU
20	LT	166	ASN
21	LU	19	VAL
21	LU	32	SER
21	LU	50	LYS
21	LU	55	SER
21	LU	59	VAL
21	LU	79	VAL
21	LU	82	ASP

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Mol	Chain	Res	Type
21	LU	120	SER
21	LU	159	SER
21	LU	162	THR
22	LV	16	GLN
22	LV	25	VAL
22	LV	33	VAL
22	LV	61	THR
22	LV	138	SER
22	LV	149	GLN
23	LW	39	ASP
23	LW	56	VAL
23	LW	66	VAL
23	LW	68	THR
23	LW	87	ASN
23	LW	100	THR
24	LX	57	MET
24	LX	74	MET
24	LX	98	ASN
24	LX	110	LYS
24	LX	112	SER
24	LX	125	LEU
24	LX	137	VAL
25	LY	19	THR
25	LY	26	SER
25	LY	33	ASN
26	LZ	57	LEU
26	LZ	62	VAL
26	LZ	75	LYS
26	LZ	107	VAL
26	LZ	119	THR
26	LZ	129	ASP
26	LZ	142	ILE
27	La	63	LYS
27	La	105	VAL
27	La	119	ILE
28	Lb	55	LYS
28	Lb	57	HIS
28	Lb	66	THR
28	Lb	95	VAL
28	Lb	100	THR
28	Lb	113	VAL
29	Lc	16	SER

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Mol	Chain	Res	Type
29	Lc	102	ILE
29	Lc	112	ILE
30	Ld	13	THR
31	Le	17	VAL
31	Le	36	GLN
31	Le	40	LYS
31	Le	90	VAL
32	Lf	64	VAL
32	Lf	96	VAL
32	Lf	106	THR
32	Lf	109	VAL
33	Lg	55	ILE
33	Lg	78	ASN
33	Lg	84	THR
34	Lh	37	THR
35	Li	38	LEU
35	Li	66	SER
35	Li	68	THR
35	Li	84	CYS
35	Li	101	VAL
37	Lk	17	VAL
37	Lk	37	THR
37	Lk	57	LEU
38	Ll	36	SER
38	Ll	57	HIS
38	Ll	79	GLN
39	Lm	10	GLN
39	Lm	54	LEU
39	Lm	65	LEU
39	Lm	72	THR
40	Ln	9	ILE
40	Ln	19	GLN
40	Ln	27	ILE
41	Lo	82	LEU
42	Lp	18	ARG
43	Lq	7	THR
43	Lq	10	THR
43	Lq	26	THR
44	Lr	81	SER
46	SA	32	GLU
46	SA	77	PHE
46	SA	85	VAL

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Mol	Chain	Res	Type
46	SA	96	LEU
46	SA	97	SER
46	SA	122	VAL
46	SA	170	THR
46	SA	175	VAL
46	SA	181	VAL
46	SA	190	ARG
46	SA	194	LYS
46	SA	206	VAL
47	SB	64	VAL
47	SB	93	LEU
47	SB	133	VAL
48	SC	40	LEU
48	SC	57	THR
48	SC	59	PHE
48	SC	63	TYR
49	SD	56	GLU
49	SD	84	ASN
49	SD	88	LEU
49	SD	99	GLU
49	SD	116	VAL
49	SD	120	VAL
50	SE	82	ASN
50	SE	86	VAL
50	SE	93	VAL
50	SE	116	LEU
51	SF	4	VAL
51	SF	19	VAL
51	SF	29	ILE
51	SF	52	LEU
51	SF	54	LEU
51	SF	59	LYS
51	SF	90	VAL
51	SF	117	LEU
52	SG	17	ILE
52	SG	61	ILE
52	SG	85	VAL
52	SG	88	VAL
52	SG	113	LEU
53	SH	29	VAL
53	SH	45	LEU
53	SH	91	ASP

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Mol	Chain	Res	Type
53	SH	94	ASP
54	SI	37	VAL
54	SI	43	ASN
54	SI	71	VAL
54	SI	129	GLN
55	SJ	52	LYS
55	SJ	62	VAL
55	SJ	81	THR
55	SJ	103	ILE
57	SL	9	LEU
57	SL	18	ARG
57	SL	40	ILE
57	SL	43	ASN
58	SM	28	THR
59	SN	87	THR
60	SO	17	ASN
60	SO	25	THR
60	SO	82	SER
60	SO	114	ASP
60	SO	122	ILE
60	SO	195	HIS
60	SO	240	VAL
61	SP	8	ASP
61	SP	32	HIS
61	SP	50	VAL
61	SP	56	LYS
61	SP	58	VAL
61	SP	180	GLU
61	SP	183	ARG
62	SQ	32	ILE
62	SQ	48	VAL
62	SQ	61	LEU
62	SQ	65	VAL
62	SQ	91	VAL
62	SQ	97	LEU
62	SQ	106	THR
62	SQ	124	ASN
62	SQ	137	ILE
62	SQ	215	VAL
63	SR	39	THR
63	SR	73	LEU
63	SR	80	VAL

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Mol	Chain	Res	Type
63	SR	102	VAL
63	SR	184	VAL
63	SR	196	VAL
63	SR	232	GLU
63	SR	235	LEU
63	SR	238	SER
64	SS	17	HIS
64	SS	45	ILE
64	SS	81	THR
64	SS	89	VAL
64	SS	95	THR
64	SS	126	VAL
64	SS	140	VAL
64	SS	141	THR
64	SS	170	THR
64	SS	210	ILE
64	SS	219	VAL
64	SS	225	VAL
64	SS	227	VAL
64	SS	228	ILE
65	ST	15	THR
65	ST	18	ILE
65	ST	67	VAL
65	ST	71	THR
65	ST	74	LYS
65	ST	75	LEU
65	ST	106	LEU
65	ST	109	LEU
65	ST	112	VAL
65	ST	121	LEU
65	ST	171	LYS
65	ST	185	GLN
65	ST	216	LEU
66	SU	20	VAL
66	SU	38	LEU
66	SU	74	GLN
66	SU	127	GLU
66	SU	182	VAL
67	SV	14	THR
67	SV	58	LEU
67	SV	169	ILE
68	SW	14	THR

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Mol	Chain	Res	Type
68	SW	21	SER
68	SW	50	SER
68	SW	70	LEU
68	SW	80	LEU
68	SW	89	ASP
68	SW	121	SER
68	SW	122	VAL
68	SW	127	VAL
68	SW	161	THR
68	SW	163	PRO
69	SX	74	THR
69	SX	99	ARG
69	SX	107	VAL
69	SX	131	ILE
70	SY	14	SER
70	SY	52	VAL
70	SY	62	GLN
70	SY	66	ILE
70	SY	75	LEU
70	SY	77	SER
70	SY	87	ASP
70	SY	143	SER
71	SZ	26	THR
71	SZ	29	HIS
71	SZ	86	THR
72	Sa	2	GLU
72	Sa	13	VAL
72	Sa	51	VAL
72	Sa	65	SER
72	Sa	84	SER
73	Sb	11	LEU
74	Sc	53	VAL
74	Sc	112	LYS
74	Sc	131	SER
75	Sd	5	VAL
75	Sd	23	PHE
75	Sd	24	VAL
75	Sd	25	VAL
75	Sd	36	SER
75	Sd	62	THR
75	Sd	107	GLN
75	Sd	121	THR

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Mol	Chain	Res	Type
76	Se	68	TYR
77	Sf	3	LEU
77	Sf	33	LEU
77	Sf	45	THR
77	Sf	54	VAL
77	Sf	61	THR
77	Sf	77	THR
78	Sg	8	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (116) such sidechains are listed below:

Mol	Chain	Res	Type
4	LD	83	HIS
4	LD	97	ASN
4	LD	205	ASN
5	LE	109	HIS
5	LE	139	GLN
5	LE	182	GLN
5	LE	224	HIS
6	LF	5	GLN
6	LF	9	HIS
6	LF	213	ASN
6	LF	296	GLN
6	LF	316	ASN
7	LG	57	ASN
8	LH	138	GLN
9	LI	25	GLN
9	LI	64	GLN
9	LI	80	GLN
9	LI	146	GLN
9	LI	194	HIS
11	LK	125	ASN
11	LK	157	ASN
12	LL	73	ASN
13	LM	43	GLN
14	LN	103	ASN
14	LN	160	GLN
14	LN	162	ASN
15	LO	59	ASN
15	LO	105	GLN
16	LP	15	GLN
17	LQ	31[A]	GLN

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Mol	Chain	Res	Type
18	LR	10	ASN
18	LR	172	GLN
18	LR	179	GLN
19	LS	45	ASN
20	LT	27	ASN
20	LT	92	GLN
20	LT	166	ASN
22	LV	5	HIS
22	LV	16	GLN
22	LV	122	GLN
22	LV	131	GLN
23	LW	88	GLN
26	LZ	117	ASN
28	Lb	36	HIS
28	Lb	122	HIS
29	Lc	62	HIS
30	Ld	6	ASN
31	Le	11	ASN
31	Le	71	GLN
32	Lf	17	HIS
33	Lg	13	HIS
33	Lg	49	ASN
34	Lh	5	HIS
34	Lh	17	GLN
34	Lh	26	ASN
34	Lh	42	GLN
35	Li	3	GLN
36	Lj	62	GLN
38	Ll	69	HIS
38	Ll	76	ASN
39	Lm	57	ASN
40	Ln	19	GLN
43	Lq	3	ASN
46	SA	74	GLN
46	SA	92	GLN
46	SA	111	ASN
46	SA	159	HIS
47	SB	66	GLN
47	SB	158	GLN
48	SC	81	ASN
49	SD	96	GLN
49	SD	143	GLN

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Mol	Chain	Res	Type
50	SE	98	ASN
50	SE	104	GLN
51	SF	8	GLN
52	SG	74	GLN
52	SG	101	ASN
54	SI	43	ASN
55	SJ	40	ASN
57	SL	27	GLN
58	SM	10	HIS
60	SO	174	ASN
60	SO	195	HIS
60	SO	198	ASN
61	SP	21	ASN
61	SP	23	HIS
61	SP	140	ASN
62	SQ	146	GLN
63	SR	87	GLN
63	SR	189	GLN
63	SR	220	ASN
64	SS	197	HIS
64	SS	209	HIS
64	SS	224	ASN
65	ST	4	ASN
65	ST	119	GLN
66	SU	19	GLN
66	SU	174	ASN
67	SV	32	GLN
67	SV	64	ASN
67	SV	159	GLN
68	SW	38	ASN
68	SW	48	GLN
68	SW	74	ASN
68	SW	124	HIS
69	SX	81	HIS
69	SX	127	GLN
70	SY	78	ASN
71	SZ	12	GLN
71	SZ	24	ASN
71	SZ	65	GLN
73	Sb	64	GLN
73	Sb	70	ASN
74	Sc	10	ASN

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Mol	Chain	Res	Type
77	Sf	49	HIS
78	Sg	17	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	LA	3180/3393 (93%)	852 (26%)	36 (1%)
2	LB	120/121 (99%)	24 (20%)	1 (0%)
3	LC	157/158 (99%)	43 (27%)	2 (1%)
45	S2	1768/1799 (98%)	720 (40%)	26 (1%)
79	Ta	76/77 (98%)	48 (63%)	0
80	Tb	76/77 (98%)	38 (50%)	0
81	mR	0/25	-	-
All	All	5377/5650 (95%)	1725 (32%)	65 (1%)

All (1725) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	LA	6	A
1	LA	22	G
1	LA	26	A
1	LA	34	A
1	LA	40	A
1	LA	43	A
1	LA	49	A
1	LA	59	G
1	LA	60	A
1	LA	65	A
1	LA	66	A
1	LA	80	G
1	LA	81	C
1	LA	89	A
1	LA	92	G
1	LA	99	A
1	LA	108	A
1	LA	109	A
1	LA	110	G
1	LA	111	C
1	LA	116	A
1	LA	122	A
1	LA	130	A

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Mol	Chain	Res	Type
1	LA	135	C
1	LA	136	G
1	LA	139	G
1	LA	146	U
1	LA	148	G
1	LA	155	G
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	165	A
1	LA	166	C
1	LA	167	U
1	LA	168	U
1	LA	169	U
1	LA	170	G
1	LA	175	C
1	LA	176	G
1	LA	177	U
1	LA	178	U
1	LA	182	U
1	LA	189	G
1	LA	190	U
1	LA	191	U
1	LA	192	C
1	LA	199	A
1	LA	200	C
1	LA	202	G
1	LA	206	G
1	LA	210	U
1	LA	211	A
1	LA	218	G
1	LA	219	A
1	LA	235	A
1	LA	236	G
1	LA	240	U
1	LA	243	G
1	LA	246	U

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Mol	Chain	Res	Type
1	LA	247	C
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	258	G
1	LA	259	C
1	LA	260	C
1	LA	261	U
1	LA	263	C
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	310	U
1	LA	311	C
1	LA	312	C
1	LA	315	C
1	LA	323	A
1	LA	329	U
1	LA	337	G
1	LA	341	G
1	LA	350	C
1	LA	351	A
1	LA	357	A
1	LA	370	U
1	LA	376	G
1	LA	381	U
1	LA	384	A
1	LA	387	A
1	LA	397	A
1	LA	398	A
1	LA	399	A
1	LA	402	A
1	LA	403	C

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Mol	Chain	Res	Type
1	LA	404	G
1	LA	406	G
1	LA	407	A
1	LA	416	A
1	LA	418	A
1	LA	421	G
1	LA	422	A
1	LA	433	A
1	LA	438	A
1	LA	443	G
1	LA	444	U
1	LA	448	U
1	LA	449	U
1	LA	486	U
1	LA	488	U
1	LA	490	A
1	LA	494	G
1	LA	509	G
1	LA	512	G
1	LA	513	G
1	LA	520	A
1	LA	521	A
1	LA	522	A
1	LA	523	U
1	LA	524	C
1	LA	530	G
1	LA	534	G
1	LA	538	C
1	LA	539	U
1	LA	540	U
1	LA	543	C
1	LA	546	G
1	LA	547	G
1	LA	548	U
1	LA	551	G
1	LA	556	A
1	LA	558	A
1	LA	559	G
1	LA	560	C
1	LA	561	C
1	LA	566	G
1	LA	567	G

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Mol	Chain	Res	Type
1	LA	568	A
1	LA	569	A
1	LA	571	A
1	LA	577	A
1	LA	578	G
1	LA	579	C
1	LA	591	A
1	LA	592	C
1	LA	593	U
1	LA	599	G
1	LA	600	U
1	LA	602	A
1	LA	603	G
1	LA	608	G
1	LA	610	A
1	LA	619	U
1	LA	620	A
1	LA	621	A
1	LA	634	G
1	LA	636	C
1	LA	648	A
1	LA	652	A
1	LA	660	G
1	LA	666	C
1	LA	676	A
1	LA	689	A
1	LA	690	A
1	LA	692	A
1	LA	698	A
1	LA	704	A
1	LA	710	A
1	LA	711	G
1	LA	715	A
1	LA	716	C
1	LA	717	G
1	LA	726	G
1	LA	731	C
1	LA	732	G
1	LA	733	C
1	LA	735	A
1	LA	757	C
1	LA	759	G

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Mol	Chain	Res	Type
1	LA	760	A
1	LA	764	C
1	LA	765	U
1	LA	766	U
1	LA	773	G
1	LA	775	U
1	LA	776	U
1	LA	778	G
1	LA	780	G
1	LA	784	G
1	LA	805	A
1	LA	807	A
1	LA	816	A
1	LA	829	A
1	LA	848	C
1	LA	859	G
1	LA	860	C
1	LA	873	U
1	LA	878	U
1	LA	879	G
1	LA	888	U
1	LA	889	C
1	LA	895	A
1	LA	896	U
1	LA	906	G
1	LA	907	G
1	LA	913	A
1	LA	915	G
1	LA	916	A
1	LA	920	A
1	LA	922	C
1	LA	923	G
1	LA	924	A
1	LA	926	C
1	LA	936	G
1	LA	943	C
1	LA	958	C
1	LA	959	U
1	LA	961	A
1	LA	973	G
1	LA	980	U
1	LA	981	C

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Mol	Chain	Res	Type
1	LA	993	G
1	LA	994	U
1	LA	1005	A
1	LA	1014	U
1	LA	1015	C
1	LA	1016	C
1	LA	1017	G
1	LA	1020	G
1	LA	1022	C
1	LA	1023	G
1	LA	1025	A
1	LA	1027	U
1	LA	1028	G
1	LA	1029	A
1	LA	1039	A
1	LA	1040	U
1	LA	1041	U
1	LA	1042	C
1	LA	1046	A
1	LA	1048	C
1	LA	1049	U
1	LA	1062	G
1	LA	1063	A
1	LA	1065	G
1	LA	1067	C
1	LA	1068	C
1	LA	1069	U
1	LA	1070	U
1	LA	1071	G
1	LA	1078	A
1	LA	1080	U
1	LA	1092	A
1	LA	1093	U
1	LA	1096	G
1	LA	1097	A
1	LA	1102	A
1	LA	1103	G
1	LA	1104	A
1	LA	1105	G
1	LA	1106	C
1	LA	1107	U
1	LA	1116	G

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Mol	Chain	Res	Type
1	LA	1121	U
1	LA	1130	G
1	LA	1135	A
1	LA	1136	C
1	LA	1137	U
1	LA	1142	A
1	LA	1143	U
1	LA	1153	A
1	LA	1158	A
1	LA	1160	G
1	LA	1164	A
1	LA	1178	A
1	LA	1179	A
1	LA	1180	U
1	LA	1189	A
1	LA	1191	C
1	LA	1192	A
1	LA	1195	C
1	LA	1197	C
1	LA	1200	C
1	LA	1201	A
1	LA	1207	U
1	LA	1213	U
1	LA	1217	U
1	LA	1218	C
1	LA	1220	A
1	LA	1224	A
1	LA	1227	C
1	LA	1233	G
1	LA	1235	G
1	LA	1237	C
1	LA	1238	C
1	LA	1239	A
1	LA	1240	U
1	LA	1241	G
1	LA	1244	A
1	LA	1245	G
1	LA	1246	U
1	LA	1248	G
1	LA	1250	A
1	LA	1251	A
1	LA	1253	C

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Mol	Chain	Res	Type
1	LA	1254	C
1	LA	1259	A
1	LA	1260	G
1	LA	1261	G
1	LA	1262	A
1	LA	1263	G
1	LA	1267	G
1	LA	1268	U
1	LA	1271	C
1	LA	1274	C
1	LA	1277	A
1	LA	1278	C
1	LA	1283	C
1	LA	1284	G
1	LA	1285	A
1	LA	1306	G
1	LA	1307	A
1	LA	1308	U
1	LA	1312	G
1	LA	1324	U
1	LA	1329	A
1	LA	1330	U
1	LA	1335	U
1	LA	1343	G
1	LA	1347	U
1	LA	1349	A
1	LA	1351	A
1	LA	1352	U
1	LA	1353	G
1	LA	1354	A
1	LA	1355	U
1	LA	1356	G
1	LA	1360	U
1	LA	1373	G
1	LA	1374	G
1	LA	1382	G
1	LA	1385	A
1	LA	1390	C
1	LA	1394	G
1	LA	1398	A
1	LA	1399	G
1	LA	1415	C

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Mol	Chain	Res	Type
1	LA	1416	G
1	LA	1417	A
1	LA	1418	A
1	LA	1433	G
1	LA	1436	C
1	LA	1445	A
1	LA	1449	G
1	LA	1451	A
1	LA	1467	A
1	LA	1468	C
1	LA	1476	A
1	LA	1480	A
1	LA	1481	A
1	LA	1482	G
1	LA	1483	U
1	LA	1486	G
1	LA	1493	U
1	LA	1499	G
1	LA	1501	C
1	LA	1502	A
1	LA	1507	C
1	LA	1510	U
1	LA	1523	A
1	LA	1535	G
1	LA	1538	A
1	LA	1555	C
1	LA	1556	A
1	LA	1557	A
1	LA	1558	A
1	LA	1559	G
1	LA	1560	G
1	LA	1561	C
1	LA	1562	C
1	LA	1566	U
1	LA	1567	U
1	LA	1569	U
1	LA	1574	A
1	LA	1575	G
1	LA	1576	G
1	LA	1578	C
1	LA	1579	A
1	LA	1580	C

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Mol	Chain	Res	Type
1	LA	1581	C
1	LA	1582	A
1	LA	1586	A
1	LA	1588	A
1	LA	1589	G
1	LA	1592	A
1	LA	1604	A
1	LA	1617	G
1	LA	1618	A
1	LA	1620	A
1	LA	1621	U
1	LA	1624	A
1	LA	1625	U
1	LA	1627	C
1	LA	1628	U
1	LA	1638	C
1	LA	1641	A
1	LA	1642	A
1	LA	1646	A
1	LA	1656	C
1	LA	1679	G
1	LA	1682	A
1	LA	1683	U
1	LA	1685	U
1	LA	1687	U
1	LA	1693	U
1	LA	1695	A
1	LA	1705	C
1	LA	1709	C
1	LA	1712	G
1	LA	1713	A
1	LA	1714	A
1	LA	1720	U
1	LA	1723	U
1	LA	1724	C
1	LA	1729	G
1	LA	1735	G
1	LA	1740	A
1	LA	1741	U
1	LA	1749	A
1	LA	1750	G
1	LA	1758	C

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Mol	Chain	Res	Type
1	LA	1760	C
1	LA	1764	U
1	LA	1768	G
1	LA	1769	G
1	LA	1772	C
1	LA	1774	G
1	LA	1779	G
1	LA	1787	C
1	LA	1795	G
1	LA	1796	A
1	LA	1797	A
1	LA	1805	A
1	LA	1806	G
1	LA	1807	G
1	LA	1809	A
1	LA	1812	A
1	LA	1813	A
1	LA	1814	U
1	LA	1815	A
1	LA	1820	U
1	LA	1822	A
1	LA	1825	C
1	LA	1838	A
1	LA	1839	U
1	LA	1841	A
1	LA	1845	C
1	LA	1848	C
1	LA	1849	A
1	LA	1857	A
1	LA	1865	C
1	LA	1866	A
1	LA	1867	G
1	LA	1868	C
1	LA	1877	G
1	LA	1879	U
1	LA	1885	A
1	LA	1892	A
1	LA	1905	G
1	LA	1906	C
1	LA	1925	C
1	LA	1947	G
1	LA	1950	C

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Mol	Chain	Res	Type
1	LA	1952	G
1	LA	1953	G
1	LA	1954	U
1	LA	2093	C
1	LA	2096	U
1	LA	2097	C
1	LA	2098	A
1	LA	2100	C
1	LA	2106	A
1	LA	2110	G
1	LA	2111	U
1	LA	2112	A
1	LA	2120	G
1	LA	2121	G
1	LA	2130	A
1	LA	2139	U
1	LA	2141	A
1	LA	2143	A
1	LA	2145	C
1	LA	2157	A
1	LA	2165	A
1	LA	2168	G
1	LA	2169	U
1	LA	2180	C
1	LA	2187	A
1	LA	2188	U
1	LA	2191	C
1	LA	2193	G
1	LA	2196	C
1	LA	2204	U
1	LA	2206	A
1	LA	2208	U
1	LA	2209	G
1	LA	2216	U
1	LA	2217	G
1	LA	2218	A
1	LA	2219	A
1	LA	2220	G
1	LA	2221	A
1	LA	2222	A
1	LA	2223	A
1	LA	2227	A

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Mol	Chain	Res	Type
1	LA	2229	C
1	LA	2231	A
1	LA	2233	G
1	LA	2235	G
1	LA	2243	A
1	LA	2254	A
1	LA	2255	A
1	LA	2256	C
1	LA	2257	U
1	LA	2258	A
1	LA	2259	U
1	LA	2260	G
1	LA	2271	G
1	LA	2272	G
1	LA	2275	G
1	LA	2280	A
1	LA	2283	C
1	LA	2284	C
1	LA	2294	A
1	LA	2304	G
1	LA	2306	G
1	LA	2307	C
1	LA	2309	U
1	LA	2312	A
1	LA	2313	U
1	LA	2314	G
1	LA	2333	U
1	LA	2334	G
1	LA	2335	U
1	LA	2372	A
1	LA	2373	C
1	LA	2374	G
1	LA	2384	G
1	LA	2387	U
1	LA	2392	G
1	LA	2393	G
1	LA	2396	A
1	LA	2401	A
1	LA	2402	G
1	LA	2403	A
1	LA	2410	U
1	LA	2424	G

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Mol	Chain	Res	Type
1	LA	2433	U
1	LA	2434	G
1	LA	2438	A
1	LA	2439	G
1	LA	2441	G
1	LA	2442	A
1	LA	2443	C
1	LA	2444	A
1	LA	2445	U
1	LA	2446	A
1	LA	2447	G
1	LA	2448	A
1	LA	2450	G
1	LA	2492	U
1	LA	2493	A
1	LA	2495	C
1	LA	2497	U
1	LA	2499	A
1	LA	2500	U
1	LA	2501	A
1	LA	2502	G
1	LA	2503	U
1	LA	2509	U
1	LA	2513	U
1	LA	2523	A
1	LA	2530	C
1	LA	2531	U
1	LA	2535	A
1	LA	2536	U
1	LA	2537	U
1	LA	2538	C
1	LA	2539	A
1	LA	2540	U
1	LA	2541	U
1	LA	2544	C
1	LA	2545	C
1	LA	2547	C
1	LA	2548	G
1	LA	2553	A
1	LA	2554	G
1	LA	2557	U
1	LA	2558	U

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Mol	Chain	Res	Type
1	LA	2560	A
1	LA	2564	U
1	LA	2568	A
1	LA	2569	U
1	LA	2570	U
1	LA	2571	C
1	LA	2572	G
1	LA	2573	G
1	LA	2579	A
1	LA	2584	G
1	LA	2585	G
1	LA	2592	A
1	LA	2605	G
1	LA	2606	G
1	LA	2609	G
1	LA	2611	U
1	LA	2613	G
1	LA	2628	U
1	LA	2636	A
1	LA	2650	G
1	LA	2651	U
1	LA	2655	A
1	LA	2656	A
1	LA	2657	G
1	LA	2671	G
1	LA	2673	A
1	LA	2675	A
1	LA	2676	G
1	LA	2677	A
1	LA	2679	A
1	LA	2680	U
1	LA	2681	C
1	LA	2687	U
1	LA	2688	A
1	LA	2690	A
1	LA	2695	A
1	LA	2703	A
1	LA	2711	U
1	LA	2713	G
1	LA	2718	U
1	LA	2719	G
1	LA	2726	A

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Mol	Chain	Res	Type
1	LA	2727	G
1	LA	2728	U
1	LA	2752	G
1	LA	2754	C
1	LA	2761	A
1	LA	2771	C
1	LA	2776	G
1	LA	2777	G
1	LA	2779	A
1	LA	2780	U
1	LA	2782	U
1	LA	2795	G
1	LA	2796	C
1	LA	2798	A
1	LA	2799	G
1	LA	2800	A
1	LA	2801	A
1	LA	2804	G
1	LA	2809	C
1	LA	2813	G
1	LA	2816	A
1	LA	2841	U
1	LA	2844	A
1	LA	2848	C
1	LA	2852	A
1	LA	2855	G
1	LA	2856	C
1	LA	2857	U
1	LA	2858	U
1	LA	2859	U
1	LA	2866	C
1	LA	2870	G
1	LA	2871	A
1	LA	2875	C
1	LA	2886	A
1	LA	2887	U
1	LA	2888	C
1	LA	2895	A
1	LA	2897	G
1	LA	2901	A
1	LA	2910	A
1	LA	2915	U

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Mol	Chain	Res	Type
1	LA	2917	G
1	LA	2922	U
1	LA	2924	C
1	LA	2925	A
1	LA	2926	C
1	LA	2929	A
1	LA	2932	A
1	LA	2934	U
1	LA	2935	A
1	LA	2941	C
1	LA	2944	G
1	LA	2946	G
1	LA	2954	U
1	LA	2970	A
1	LA	2977	U
1	LA	2982	C
1	LA	2989	G
1	LA	2991	U
1	LA	2995	U
1	LA	2996	G
1	LA	3010	A
1	LA	3011	A
1	LA	3014	G
1	LA	3016	A
1	LA	3017	C
1	LA	3019	U
1	LA	3020	A
1	LA	3021	G
1	LA	3026	A
1	LA	3027	G
1	LA	3031	A
1	LA	3033	C
1	LA	3035	G
1	LA	3040	U
1	LA	3047	A
1	LA	3048	A
1	LA	3054	U
1	LA	3057	U
1	LA	3068	G
1	LA	3069	A
1	LA	3070	U
1	LA	3071	C

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Mol	Chain	Res	Type
1	LA	3073	G
1	LA	3077	U
1	LA	3085	A
1	LA	3091	C
1	LA	3092	C
1	LA	3108	G
1	LA	3112	A
1	LA	3114	C
1	LA	3121	A
1	LA	3128	A
1	LA	3129	A
1	LA	3130	U
1	LA	3136	C
1	LA	3137	U
1	LA	3140	A
1	LA	3141	A
1	LA	3142	C
1	LA	3151	U
1	LA	3152	U
1	LA	3154	U
1	LA	3155	U
1	LA	3156	U
1	LA	3157	G
1	LA	3158	C
1	LA	3160	C
1	LA	3161	C
1	LA	3164	A
1	LA	3165	C
1	LA	3167	A
1	LA	3168	U
1	LA	3169	A
1	LA	3170	U
1	LA	3171	A
1	LA	3172	G
1	LA	3173	A
1	LA	3174	U
1	LA	3178	U
1	LA	3179	A
1	LA	3180	C
1	LA	3181	G
1	LA	3186	A
1	LA	3194	U

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Mol	Chain	Res	Type
1	LA	3197	U
1	LA	3198	G
1	LA	3206	U
1	LA	3208	A
1	LA	3209	A
1	LA	3213	U
1	LA	3215	G
1	LA	3216	C
1	LA	3217	A
1	LA	3218	G
1	LA	3225	A
1	LA	3226	A
1	LA	3228	G
1	LA	3234	C
1	LA	3238	G
1	LA	3242	A
1	LA	3245	G
1	LA	3246	G
1	LA	3247	C
1	LA	3248	C
1	LA	3250	U
1	LA	3256	C
1	LA	3258	U
1	LA	3259	G
1	LA	3267	A
1	LA	3268	U
1	LA	3269	U
1	LA	3272	A
1	LA	3275	G
1	LA	3278	A
1	LA	3280	U
1	LA	3284	C
1	LA	3285	G
1	LA	3288	G
1	LA	3291	A
1	LA	3293	A
1	LA	3294	A
1	LA	3295	A
1	LA	3296	U
1	LA	3302	G
1	LA	3303	U
1	LA	3304	A

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Mol	Chain	Res	Type
1	LA	3306	A
1	LA	3315	A
1	LA	3316	U
1	LA	3318	U
1	LA	3319	A
1	LA	3325	G
1	LA	3335	A
1	LA	3340	U
1	LA	3344	G
1	LA	3346	A
1	LA	3347	G
1	LA	3350	U
1	LA	3352	G
1	LA	3353	U
1	LA	3354	U
1	LA	3355	G
1	LA	3356	U
1	LA	3358	A
1	LA	3359	C
1	LA	3368	G
1	LA	3377	C
1	LA	3378	C
1	LA	3379	U
1	LA	3380	U
1	LA	3381	U
1	LA	3382	G
1	LA	3385	G
1	LA	3389	G
1	LA	3390	A
1	LA	3391	U
1	LA	3394	G
2	LB	7	G
2	LB	16	U
2	LB	17	A
2	LB	33	U
2	LB	37	G
2	LB	42	A
2	LB	43	U
2	LB	44	C
2	LB	51	A
2	LB	52	G
2	LB	53	U

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Mol	Chain	Res	Type
2	LB	54	U
2	LB	55	A
2	LB	65	G
2	LB	73	C
2	LB	74	C
2	LB	76	A
2	LB	102	A
2	LB	105	C
2	LB	106	U
2	LB	112	G
2	LB	113	C
2	LB	117	A
2	LB	121	U
3	LC	6	U
3	LC	14	C
3	LC	15	G
3	LC	16	G
3	LC	17	A
3	LC	22	U
3	LC	23	U
3	LC	26	U
3	LC	27	U
3	LC	34	U
3	LC	35	C
3	LC	49	G
3	LC	52	A
3	LC	53	A
3	LC	54	A
3	LC	55	U
3	LC	59	A
3	LC	62	C
3	LC	63	G
3	LC	81	U
3	LC	82	U
3	LC	84	C
3	LC	86	U
3	LC	87	G
3	LC	88	A
3	LC	90	U
3	LC	95	G
3	LC	97	A
3	LC	100	U

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Mol	Chain	Res	Type
3	LC	102	U
3	LC	104	A
3	LC	106	C
3	LC	107	G
3	LC	111	A
3	LC	113	U
3	LC	117	C
3	LC	125	U
3	LC	126	A
3	LC	127	U
3	LC	151	C
3	LC	153	U
3	LC	155	A
3	LC	158	U
45	S2	3	U
45	S2	4	C
45	S2	9	U
45	S2	10	G
45	S2	13	C
45	S2	14	C
45	S2	15	U
45	S2	16	G
45	S2	17	C
45	S2	22	A
45	S2	25	C
45	S2	26	A
45	S2	34	G
45	S2	40	A
45	S2	42	G
45	S2	45	U
45	S2	47	A
45	S2	56	U
45	S2	57	G
45	S2	61	A
45	S2	63	G
45	S2	65	A
45	S2	66	U
45	S2	68	A
45	S2	69	G
45	S2	73	U
45	S2	74	U
45	S2	75	U

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Mol	Chain	Res	Type
45	S2	76	A
45	S2	77	U
45	S2	80	A
45	S2	81	G
45	S2	84	A
45	S2	85	A
45	S2	86	A
45	S2	88	U
45	S2	89	G
45	S2	99	C
45	S2	100	A
45	S2	104	A
45	S2	106	U
45	S2	114	C
45	S2	115	G
45	S2	116	U
45	S2	121	U
45	S2	125	U
45	S2	131	C
45	S2	132	U
45	S2	133	U
45	S2	134	U
45	S2	135	A
45	S2	136	C
45	S2	138	A
45	S2	140	A
45	S2	141	U
45	S2	146	U
45	S2	147	A
45	S2	148	A
45	S2	149	C
45	S2	150	U
45	S2	154	G
45	S2	155	U
45	S2	156	A
45	S2	161	U
45	S2	168	A
45	S2	171	A
45	S2	173	A
45	S2	176	C
45	S2	178	U
45	S2	180	A

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Mol	Chain	Res	Type
45	S2	183	U
45	S2	185	U
45	S2	191	C
45	S2	192	U
45	S2	194	U
45	S2	195	G
45	S2	199	G
45	S2	200	A
45	S2	201	G
45	S2	202	A
45	S2	204	G
45	S2	208	U
45	S2	209	U
45	S2	211	U
45	S2	212	U
45	S2	214	G
45	S2	215	A
45	S2	216	U
45	S2	217	A
45	S2	218	A
45	S2	219	A
45	S2	220	A
45	S2	221	A
45	S2	222	A
45	S2	225	A
45	S2	227	U
45	S2	230	C
45	S2	231	U
45	S2	233	C
45	S2	234	G
45	S2	235	G
45	S2	236	A
45	S2	239	C
45	S2	240	U
45	S2	241	U
45	S2	242	U
45	S2	248	U
45	S2	249	U
45	S2	253	A
45	S2	255	U
45	S2	256	A
45	S2	258	C

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Mol	Chain	Res	Type
45	S2	260	U
45	S2	261	U
45	S2	262	U
45	S2	265	A
45	S2	266	A
45	S2	267	U
45	S2	271	A
45	S2	272	U
45	S2	273	G
45	S2	276	C
45	S2	277	U
45	S2	280	U
45	S2	281	G
45	S2	283	U
45	S2	288	A
45	S2	291	G
45	S2	293	U
45	S2	295	A
45	S2	296	U
45	S2	297	U
45	S2	299	A
45	S2	304	U
45	S2	313	U
45	S2	314	C
45	S2	316	A
45	S2	319	U
45	S2	320	U
45	S2	322	G
45	S2	323	A
45	S2	324	U
45	S2	325	G
45	S2	331	A
45	S2	333	A
45	S2	334	G
45	S2	337	G
45	S2	338	C
45	S2	339	C
45	S2	341	A
45	S2	345	U
45	S2	346	G
45	S2	352	A
45	S2	359	A

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Mol	Chain	Res	Type
45	S2	360	A
45	S2	361	C
45	S2	365	G
45	S2	366	A
45	S2	368	U
45	S2	370	A
45	S2	371	G
45	S2	373	G
45	S2	374	U
45	S2	380	U
45	S2	384	G
45	S2	388	G
45	S2	389	G
45	S2	400	A
45	S2	401	A
45	S2	402	C
45	S2	404	G
45	S2	408	C
45	S2	410	A
45	S2	412	A
45	S2	413	U
45	S2	414	C
45	S2	416	A
45	S2	417	A
45	S2	418	G
45	S2	420	A
45	S2	424	C
45	S2	425	A
45	S2	439	U
45	S2	440	U
45	S2	441	A
45	S2	444	C
45	S2	445	A
45	S2	447	U
45	S2	451	A
45	S2	452	A
45	S2	453	U
45	S2	454	U
45	S2	455	C
45	S2	473	A
45	S2	475	A
45	S2	477	A

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Mol	Chain	Res	Type
45	S2	479	C
45	S2	481	A
45	S2	485	A
45	S2	486	G
45	S2	487	G
45	S2	489	C
45	S2	492	A
45	S2	494	U
45	S2	495	C
45	S2	496	G
45	S2	498	G
45	S2	500	C
45	S2	501	U
45	S2	502	U
45	S2	506	A
45	S2	511	A
45	S2	512	A
45	S2	518	A
45	S2	519	C
45	S2	520	A
45	S2	522	U
45	S2	523	G
45	S2	524	U
45	S2	525	A
45	S2	527	A
45	S2	529	A
45	S2	534	A
45	S2	537	G
45	S2	538	A
45	S2	539	G
45	S2	541	A
45	S2	542	A
45	S2	543	C
45	S2	545	A
45	S2	549	G
45	S2	550	A
45	S2	551	G
45	S2	555	A
45	S2	556	A
45	S2	558	U
45	S2	559	C
45	S2	562	G

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Mol	Chain	Res	Type
45	S2	565	C
45	S2	566	C
45	S2	567	A
45	S2	568	G
45	S2	578	U
45	S2	579	A
45	S2	580	A
45	S2	581	U
45	S2	585	A
45	S2	586	G
45	S2	587	C
45	S2	588	U
45	S2	589	C
45	S2	590	C
45	S2	591	A
45	S2	594	A
45	S2	606	A
45	S2	610	G
45	S2	611	U
45	S2	619	A
45	S2	620	A
45	S2	623	A
45	S2	624	G
45	S2	635	A
45	S2	639	U
45	S2	640	U
45	S2	643	G
45	S2	649	U
45	S2	650	U
45	S2	652	G
45	S2	653	C
45	S2	654	C
45	S2	655	G
45	S2	656	G
45	S2	657	U
45	S2	658	C
45	S2	677	G
45	S2	679	U
45	S2	680	U
45	S2	682	C
45	S2	683	C
45	S2	687	G

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Mol	Chain	Res	Type
45	S2	688	G
45	S2	689	G
45	S2	694	U
45	S2	695	U
45	S2	696	C
45	S2	697	C
45	S2	698	U
45	S2	699	U
45	S2	700	C
45	S2	704	C
45	S2	705	U
45	S2	706	A
45	S2	709	C
45	S2	711	U
45	S2	712	G
45	S2	713	A
45	S2	714	G
45	S2	727	U
45	S2	729	G
45	S2	730	G
45	S2	732	G
45	S2	733	A
45	S2	735	C
45	S2	738	G
45	S2	740	A
45	S2	741	C
45	S2	742	U
45	S2	743	U
45	S2	744	U
45	S2	749	U
45	S2	750	U
45	S2	751	G
45	S2	752	A
45	S2	753	A
45	S2	754	A
45	S2	755	A
45	S2	756	A
45	S2	758	U
45	S2	759	U
45	S2	760	A
45	S2	761	G
45	S2	762	A

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Mol	Chain	Res	Type
45	S2	763	G
45	S2	765	G
45	S2	767	U
45	S2	768	C
45	S2	771	A
45	S2	772	G
45	S2	773	C
45	S2	774	A
45	S2	775	G
45	S2	780	A
45	S2	782	U
45	S2	783	G
45	S2	789	A
45	S2	790	U
45	S2	792	U
45	S2	798	C
45	S2	806	A
45	S2	809	A
45	S2	812	A
45	S2	813	U
45	S2	814	A
45	S2	816	G
45	S2	818	C
45	S2	820	U
45	S2	821	U
45	S2	822	U
45	S2	823	G
45	S2	824	G
45	S2	825	U
45	S2	827	C
45	S2	828	U
45	S2	829	A
45	S2	830	U
45	S2	832	U
45	S2	836	U
45	S2	837	G
45	S2	840	U
45	S2	841	U
45	S2	843	U
45	S2	845	G
45	S2	846	G
45	S2	847	A

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Mol	Chain	Res	Type
45	S2	848	C
45	S2	849	C
45	S2	850	A
45	S2	852	C
45	S2	855	A
45	S2	857	U
45	S2	863	A
45	S2	864	U
45	S2	865	A
45	S2	893	U
45	S2	896	U
45	S2	902	G
45	S2	905	A
45	S2	906	A
45	S2	908	U
45	S2	909	U
45	S2	913	G
45	S2	914	G
45	S2	916	U
45	S2	919	A
45	S2	921	U
45	S2	930	A
45	S2	931	C
45	S2	933	A
45	S2	934	C
45	S2	935	U
45	S2	942	G
45	S2	946	U
45	S2	951	A
45	S2	960	U
45	S2	964	U
45	S2	966	A
45	S2	973	A
45	S2	984	G
45	S2	988	A
45	S2	992	A
45	S2	993	A
45	S2	1004	U
45	S2	1005	A
45	S2	1012	U
45	S2	1017	U
45	S2	1021	C

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Mol	Chain	Res	Type
45	S2	1024	U
45	S2	1026	A
45	S2	1028	C
45	S2	1030	A
45	S2	1038	U
45	S2	1039	A
45	S2	1047	G
45	S2	1048	G
45	S2	1049	U
45	S2	1050	G
45	S2	1052	U
45	S2	1053	G
45	S2	1054	U
45	S2	1055	U
45	S2	1056	U
45	S2	1057	U
45	S2	1058	U
45	S2	1059	U
45	S2	1060	U
45	S2	1061	A
45	S2	1062	A
45	S2	1063	U
45	S2	1064	G
45	S2	1068	C
45	S2	1069	A
45	S2	1070	C
45	S2	1071	U
45	S2	1072	C
45	S2	1076	A
45	S2	1079	U
45	S2	1082	C
45	S2	1091	A
45	S2	1092	A
45	S2	1096	C
45	S2	1098	U
45	S2	1099	U
45	S2	1100	G
45	S2	1109	G
45	S2	1111	G
45	S2	1137	A
45	S2	1138	A
45	S2	1142	A

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Mol	Chain	Res	Type
45	S2	1143	A
45	S2	1144	U
45	S2	1145	U
45	S2	1150	G
45	S2	1157	A
45	S2	1158	C
45	S2	1160	A
45	S2	1162	C
45	S2	1163	A
45	S2	1170	G
45	S2	1174	C
45	S2	1179	G
45	S2	1182	U
45	S2	1186	U
45	S2	1192	C
45	S2	1194	A
45	S2	1195	C
45	S2	1196	A
45	S2	1199	G
45	S2	1200	G
45	S2	1202	A
45	S2	1203	A
45	S2	1204	A
45	S2	1208	A
45	S2	1209	C
45	S2	1213	G
45	S2	1217	A
45	S2	1219	A
45	S2	1223	A
45	S2	1227	A
45	S2	1232	U
45	S2	1237	G
45	S2	1238	A
45	S2	1239	U
45	S2	1243	G
45	S2	1244	A
45	S2	1245	G
45	S2	1246	C
45	S2	1247	U
45	S2	1248	C
45	S2	1249	U
45	S2	1250	U

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Mol	Chain	Res	Type
45	S2	1254	U
45	S2	1255	G
45	S2	1257	U
45	S2	1258	U
45	S2	1259	U
45	S2	1260	U
45	S2	1261	G
45	S2	1263	G
45	S2	1275	A
45	S2	1281	G
45	S2	1285	U
45	S2	1287	A
45	S2	1291	G
45	S2	1295	G
45	S2	1301	U
45	S2	1302	U
45	S2	1307	U
45	S2	1308	G
45	S2	1310	U
45	S2	1314	U
45	S2	1315	U
45	S2	1316	G
45	S2	1321	A
45	S2	1322	A
45	S2	1325	A
45	S2	1337	A
45	S2	1338	C
45	S2	1339	C
45	S2	1340	U
45	S2	1344	A
45	S2	1345	A
45	S2	1346	A
45	S2	1348	A
45	S2	1349	G
45	S2	1350	U
45	S2	1351	G
45	S2	1353	U
45	S2	1354	G
45	S2	1359	C
45	S2	1360	A
45	S2	1362	U
45	S2	1363	U

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Mol	Chain	Res	Type
45	S2	1367	G
45	S2	1368	G
45	S2	1371	A
45	S2	1372	U
45	S2	1377	U
45	S2	1379	C
45	S2	1383	G
45	S2	1384	A
45	S2	1385	G
45	S2	1390	U
45	S2	1391	A
45	S2	1392	U
45	S2	1398	U
45	S2	1399	C
45	S2	1401	A
45	S2	1402	G
45	S2	1406	A
45	S2	1409	G
45	S2	1412	G
45	S2	1413	U
45	S2	1414	U
45	S2	1422	A
45	S2	1423	U
45	S2	1424	A
45	S2	1426	C
45	S2	1427	A
45	S2	1428	G
45	S2	1431	C
45	S2	1432	U
45	S2	1433	G
45	S2	1434	U
45	S2	1436	A
45	S2	1439	C
45	S2	1444	A
45	S2	1445	G
45	S2	1448	G
45	S2	1449	U
45	S2	1451	C
45	S2	1452	U
45	S2	1453	G
45	S2	1456	C
45	S2	1457	C

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Mol	Chain	Res	Type
45	S2	1458	G
45	S2	1459	C
45	S2	1460	A
45	S2	1461	C
45	S2	1465	C
45	S2	1466	G
45	S2	1469	A
45	S2	1471	A
45	S2	1472	C
45	S2	1473	U
45	S2	1474	G
45	S2	1478	G
45	S2	1481	C
45	S2	1482	C
45	S2	1483	A
45	S2	1485	C
45	S2	1486	G
45	S2	1487	A
45	S2	1489	U
45	S2	1491	U
45	S2	1492	A
45	S2	1494	C
45	S2	1496	U
45	S2	1497	U
45	S2	1500	C
45	S2	1501	C
45	S2	1502	G
45	S2	1503	A
45	S2	1504	G
45	S2	1505	A
45	S2	1506	G
45	S2	1507	G
45	S2	1508	U
45	S2	1509	C
45	S2	1510	U
45	S2	1512	G
45	S2	1514	U
45	S2	1516	A
45	S2	1517	U
45	S2	1518	C
45	S2	1521	G
45	S2	1522	U

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Mol	Chain	Res	Type
45	S2	1523	G
45	S2	1527	C
45	S2	1530	C
45	S2	1535	U
45	S2	1536	G
45	S2	1537	C
45	S2	1539	G
45	S2	1541	G
45	S2	1542	G
45	S2	1543	A
45	S2	1548	G
45	S2	1549	C
45	S2	1550	A
45	S2	1555	A
45	S2	1556	A
45	S2	1557	U
45	S2	1558	U
45	S2	1559	A
45	S2	1560	U
45	S2	1561	U
45	S2	1565	C
45	S2	1567	U
45	S2	1569	A
45	S2	1572	G
45	S2	1573	A
45	S2	1574	G
45	S2	1580	C
45	S2	1582	U
45	S2	1583	A
45	S2	1584	G
45	S2	1586	A
45	S2	1593	A
45	S2	1597	A
45	S2	1598	U
45	S2	1601	G
45	S2	1609	U
45	S2	1611	A
45	S2	1612	U
45	S2	1613	U
45	S2	1614	A
45	S2	1615	C
45	S2	1618	C

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Mol	Chain	Res	Type
45	S2	1622	G
45	S2	1634	C
45	S2	1647	U
45	S2	1657	U
45	S2	1658	G
45	S2	1662	G
45	S2	1667	A
45	S2	1672	G
45	S2	1677	C
45	S2	1678	A
45	S2	1684	U
45	S2	1685	G
45	S2	1687	U
45	S2	1688	U
45	S2	1689	A
45	S2	1690	G
45	S2	1691	A
45	S2	1694	A
45	S2	1695	G
45	S2	1696	G
45	S2	1697	G
45	S2	1698	G
45	S2	1699	G
45	S2	1700	C
45	S2	1702	A
45	S2	1703	C
45	S2	1704	U
45	S2	1706	C
45	S2	1707	A
45	S2	1708	U
45	S2	1710	U
45	S2	1711	C
45	S2	1713	G
45	S2	1717	G
45	S2	1719	A
45	S2	1720	G
45	S2	1721	A
45	S2	1722	A
45	S2	1723	U
45	S2	1727	G
45	S2	1731	A
45	S2	1733	C

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Mol	Chain	Res	Type
45	S2	1737	G
45	S2	1738	U
45	S2	1741	U
45	S2	1742	U
45	S2	1755	A
45	S2	1760	G
45	S2	1762	A
45	S2	1766	A
45	S2	1767	G
45	S2	1769	U
45	S2	1780	G
45	S2	1782	A
45	S2	1783	C
45	S2	1792	G
45	S2	1793	G
45	S2	1794	A
45	S2	1795	U
45	S2	1796	C
45	S2	1797	A
45	S2	1799	U
79	Ta	3	C
79	Ta	4	G
79	Ta	5	G
79	Ta	7	G
79	Ta	8	U
79	Ta	9	G
79	Ta	11	A
79	Ta	13	C
79	Ta	14	A
79	Ta	15	G
79	Ta	18	C
79	Ta	19	G
79	Ta	20	G
79	Ta	22	A
79	Ta	24	C
79	Ta	26	C
79	Ta	27	G
79	Ta	29	C
79	Ta	30	G
79	Ta	31	G
79	Ta	32	G
79	Ta	34	U

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Mol	Chain	Res	Type
79	Ta	35	A
79	Ta	36	G
79	Ta	37	G
79	Ta	40	C
79	Ta	43	G
79	Ta	44	A
79	Ta	47	G
79	Ta	48	U
79	Ta	49	C
79	Ta	51	U
79	Ta	52	C
79	Ta	55	U
79	Ta	56	U
79	Ta	57	C
79	Ta	60	A
79	Ta	62	C
79	Ta	63	C
79	Ta	65	G
79	Ta	66	C
79	Ta	67	C
79	Ta	70	C
79	Ta	71	G
79	Ta	72	C
79	Ta	74	A
79	Ta	75	C
79	Ta	76	C
80	Tb	3	C
80	Tb	6	G
80	Tb	8	U
80	Tb	10	G
80	Tb	11	A
80	Tb	12	G
80	Tb	18	C
80	Tb	20	G
80	Tb	21	U
80	Tb	23	G
80	Tb	24	C
80	Tb	28	U
80	Tb	30	G
80	Tb	32	G
80	Tb	33	C
80	Tb	34	U

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Mol	Chain	Res	Type
80	Tb	37	C
80	Tb	38	A
80	Tb	39	A
80	Tb	41	C
80	Tb	43	G
80	Tb	46	G
80	Tb	47	G
80	Tb	48	U
80	Tb	49	C
80	Tb	50	G
80	Tb	51	U
80	Tb	52	C
80	Tb	56	U
80	Tb	57	C
80	Tb	60	A
80	Tb	68	C
80	Tb	70	C
80	Tb	71	G
80	Tb	72	C
80	Tb	73	A
80	Tb	75	C
80	Tb	77	A

All (65) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	LA	245	U
1	LA	252	U
1	LA	253	A
1	LA	258	G
1	LA	260	C
1	LA	415	G
1	LA	915	G
1	LA	1106	C
1	LA	1196	A
1	LA	1234	U
1	LA	1237	C
1	LA	1270	A
1	LA	1306	G
1	LA	1342	A
1	LA	1415	C
1	LA	1500	U

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Mol	Chain	Res	Type
1	LA	1682	A
1	LA	2095	A
1	LA	2219	A
1	LA	2253	U
1	LA	2259	U
1	LA	2279	A
1	LA	2283	C
1	LA	2443	C
1	LA	2444	A
1	LA	2446	A
1	LA	2447	G
1	LA	2496	U
1	LA	2779	A
1	LA	3070	U
1	LA	3120	U
1	LA	3167	A
1	LA	3227	C
1	LA	3268	U
1	LA	3349	C
1	LA	3380	U
2	LB	116	C
3	LC	14	C
3	LC	85	G
45	S2	139	C
45	S2	330	G
45	S2	387	A
45	S2	400	A
45	S2	474	A
45	S2	511	A
45	S2	541	A
45	S2	549	G
45	S2	550	A
45	S2	566	C
45	S2	609	U
45	S2	639	U
45	S2	705	U
45	S2	740	A
45	S2	828	U
45	S2	963	A
45	S2	1143	A
45	S2	1191	U
45	S2	1226	A

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Mol	Chain	Res	Type
45	S2	1253	U
45	S2	1256	A
45	S2	1274	C
45	S2	1337	A
45	S2	1382	A
45	S2	1450	U
45	S2	1471	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

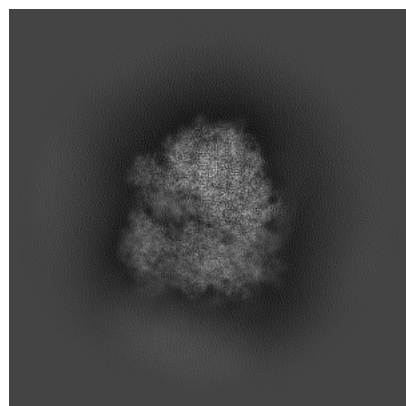
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-60097. These allow visual inspection of the internal detail of the map and identification of artifacts.

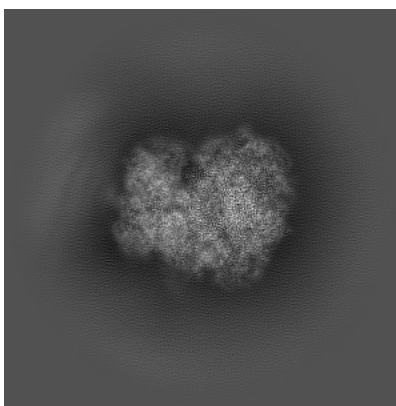
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

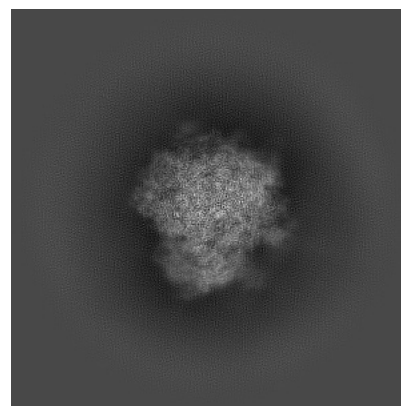
6.1.1 Primary map



X

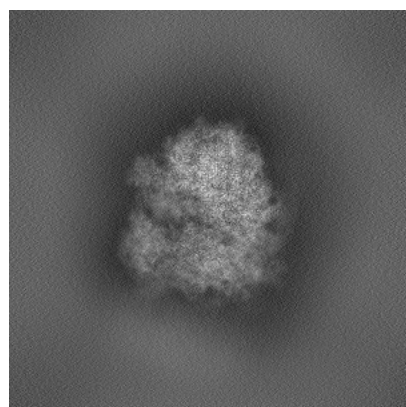


Y

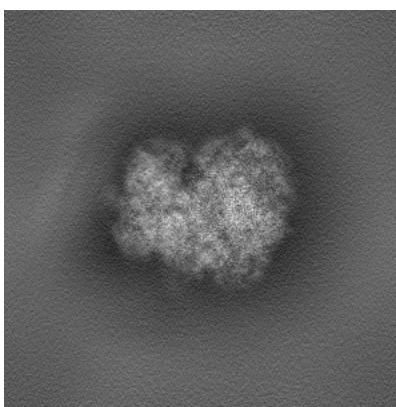


Z

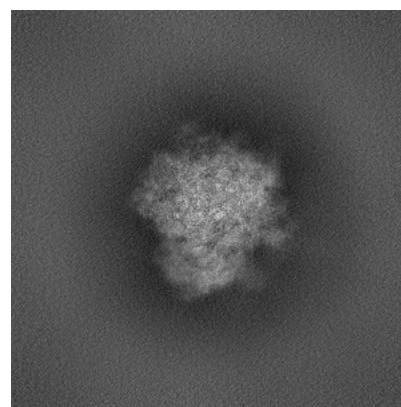
6.1.2 Raw map



X



Y

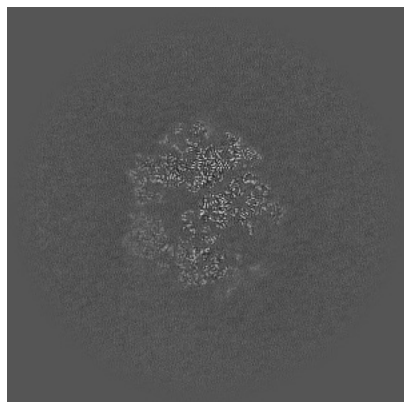


Z

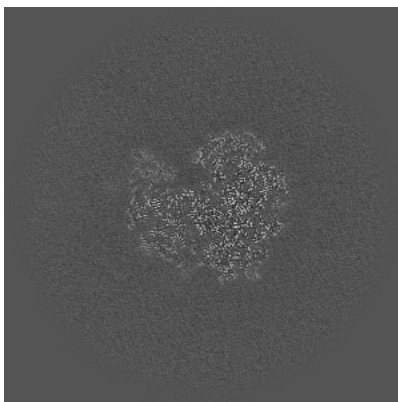
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

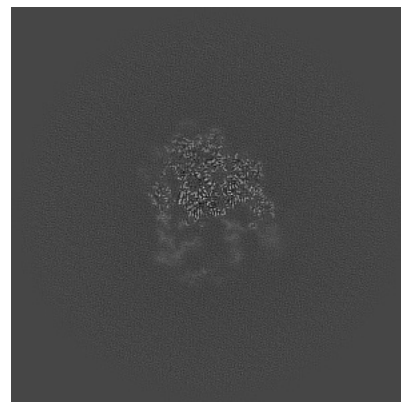
6.2.1 Primary map



X Index: 300

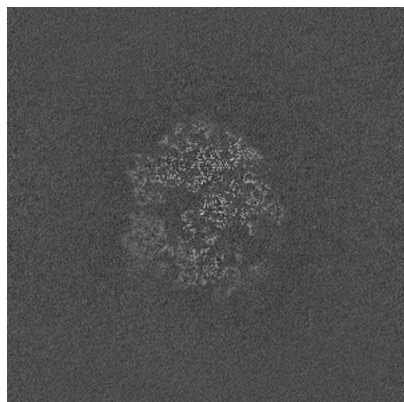


Y Index: 300

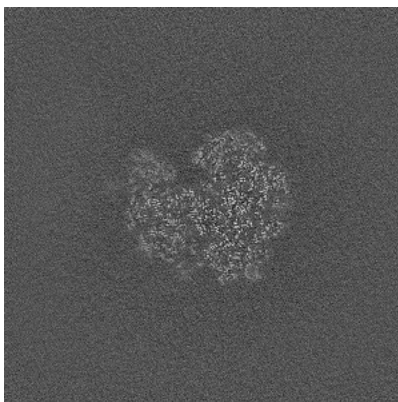


Z Index: 300

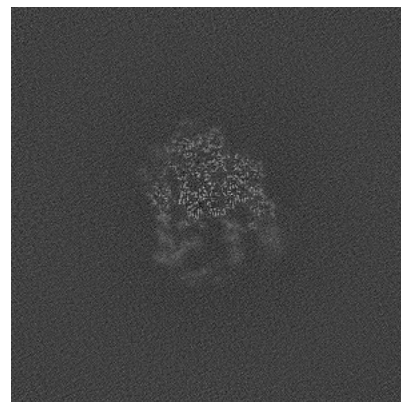
6.2.2 Raw map



X Index: 300



Y Index: 300

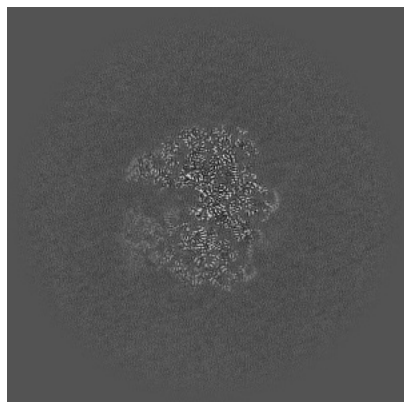


Z Index: 300

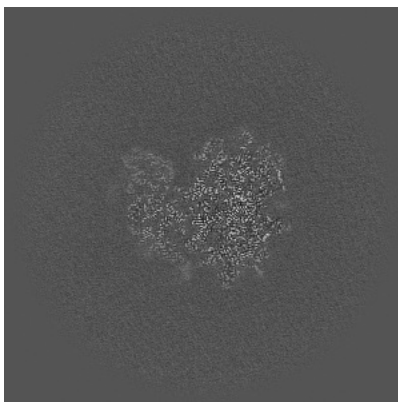
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

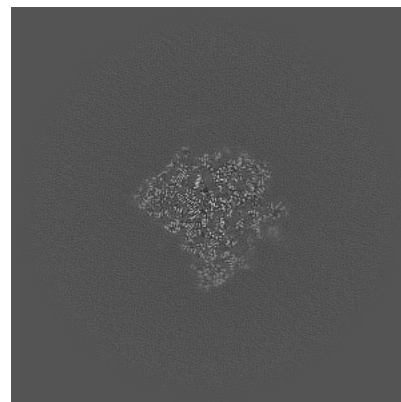
6.3.1 Primary map



X Index: 283

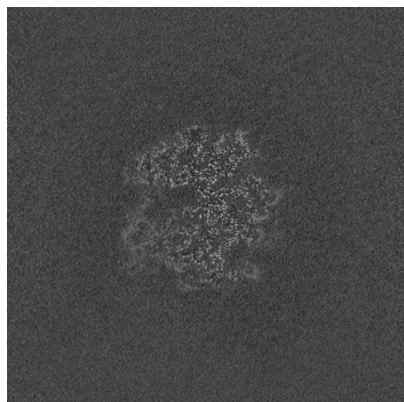


Y Index: 307

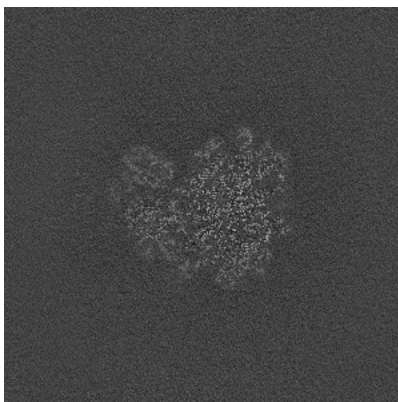


Z Index: 345

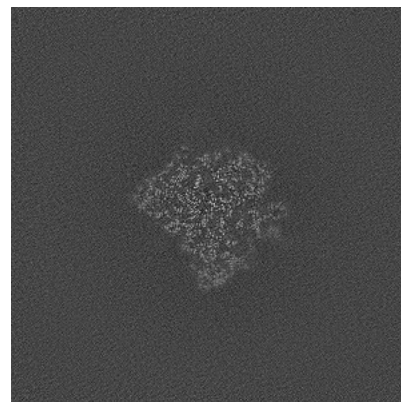
6.3.2 Raw map



X Index: 288



Y Index: 310

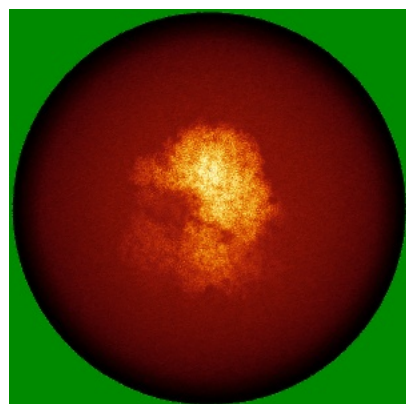


Z Index: 345

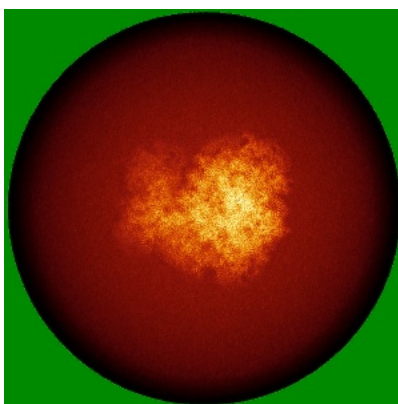
The images above show the largest variance slices of the map in three orthogonal directions.

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

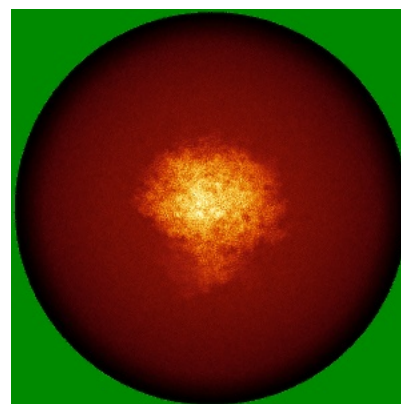
6.4.1 Primary map



X

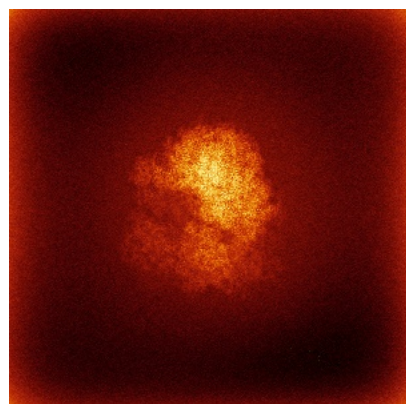


Y

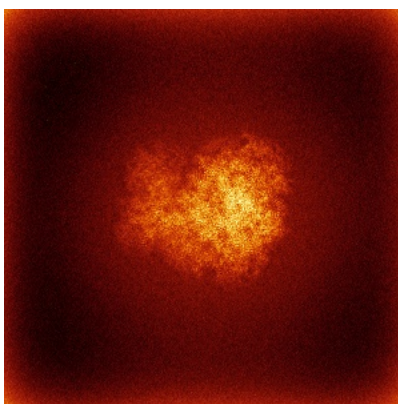


Z

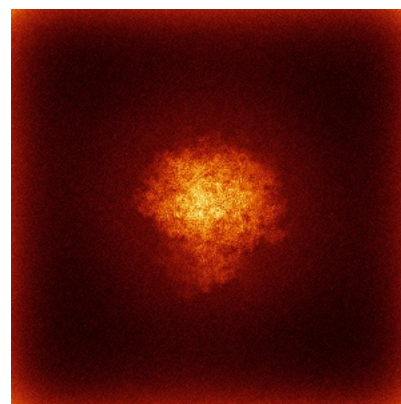
6.4.2 Raw map



X



Y

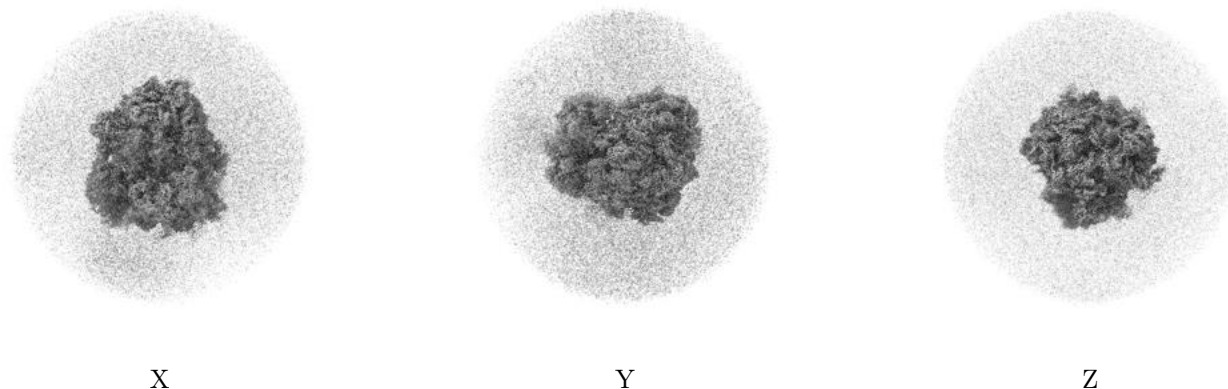


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.26. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

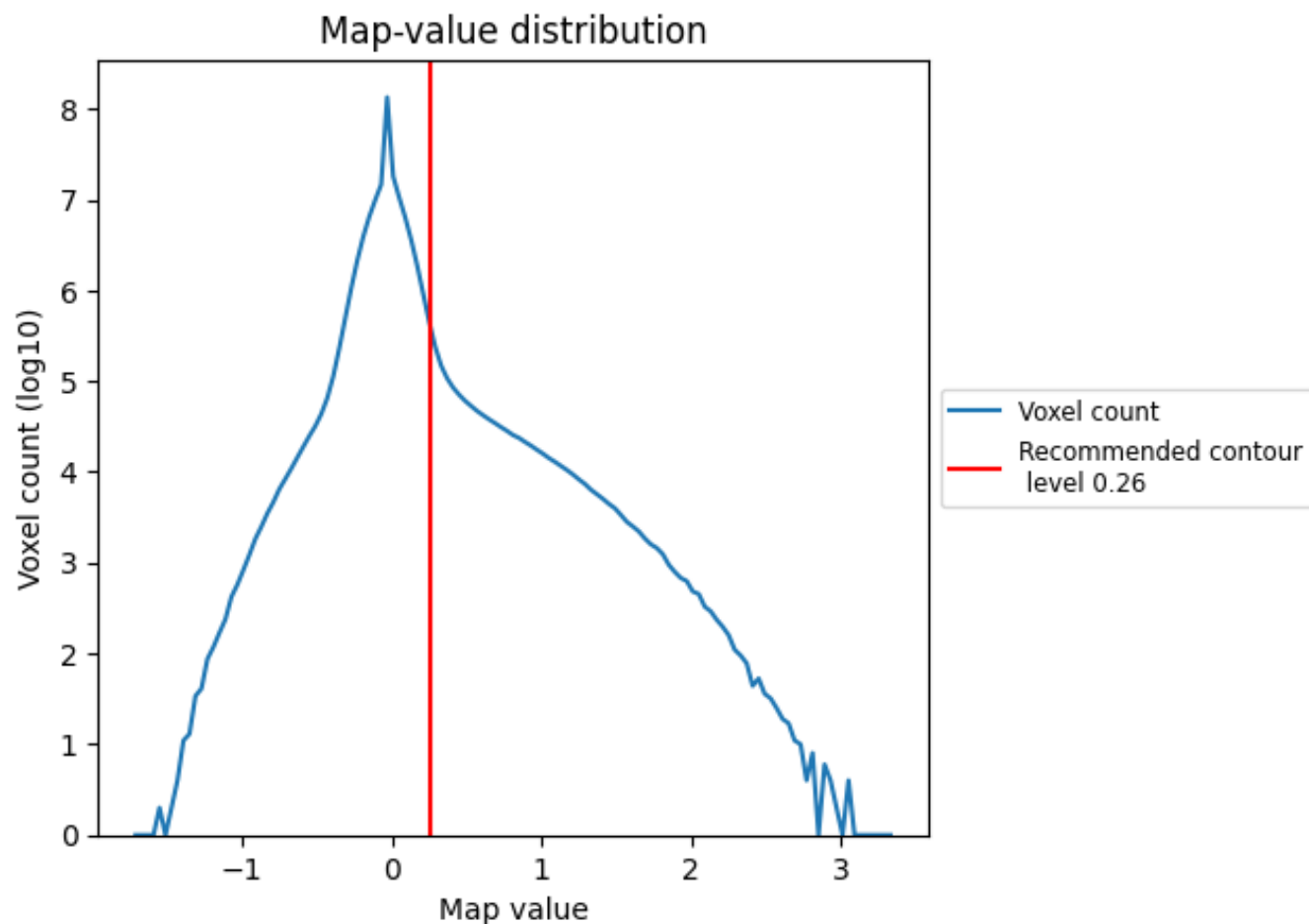
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

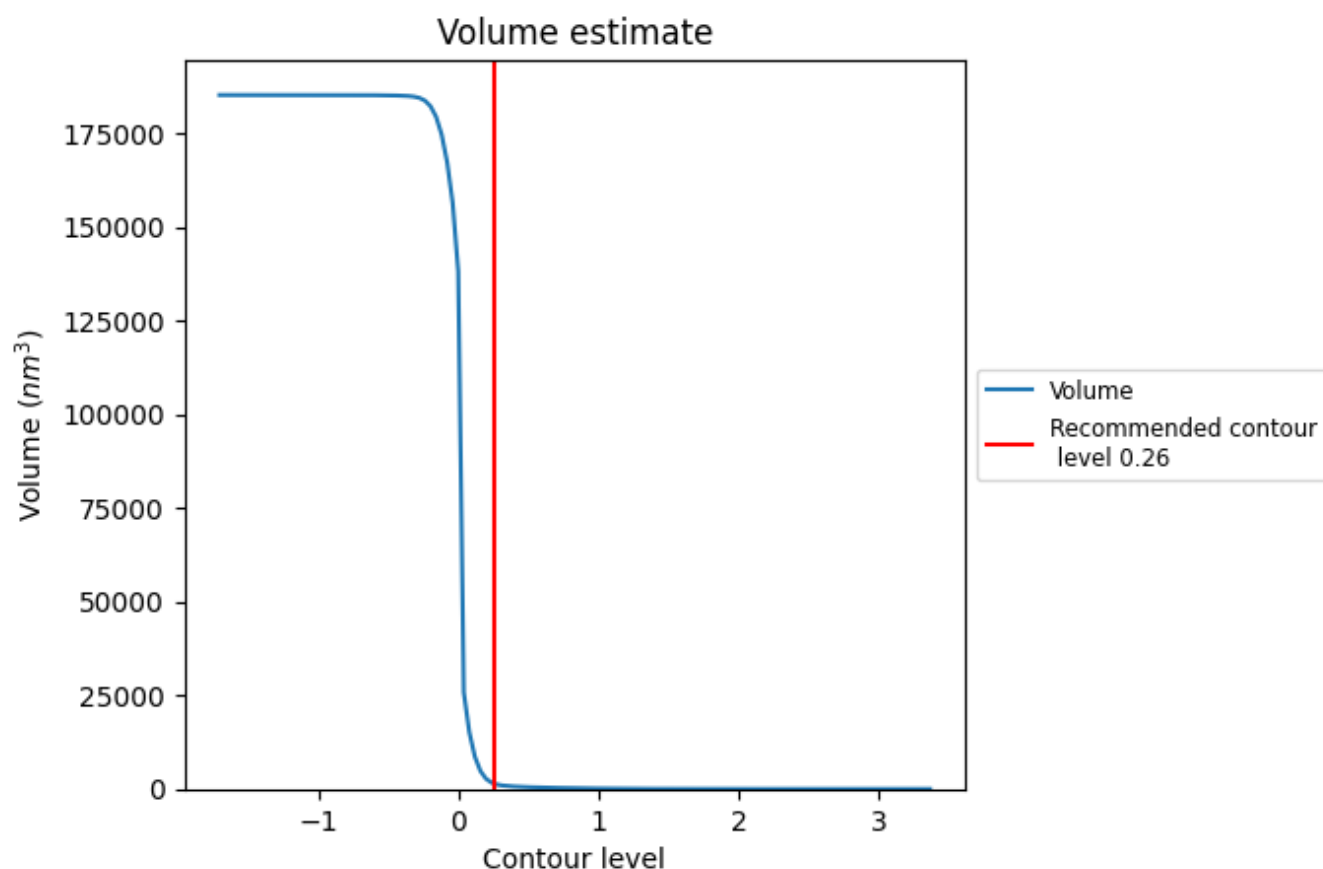
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

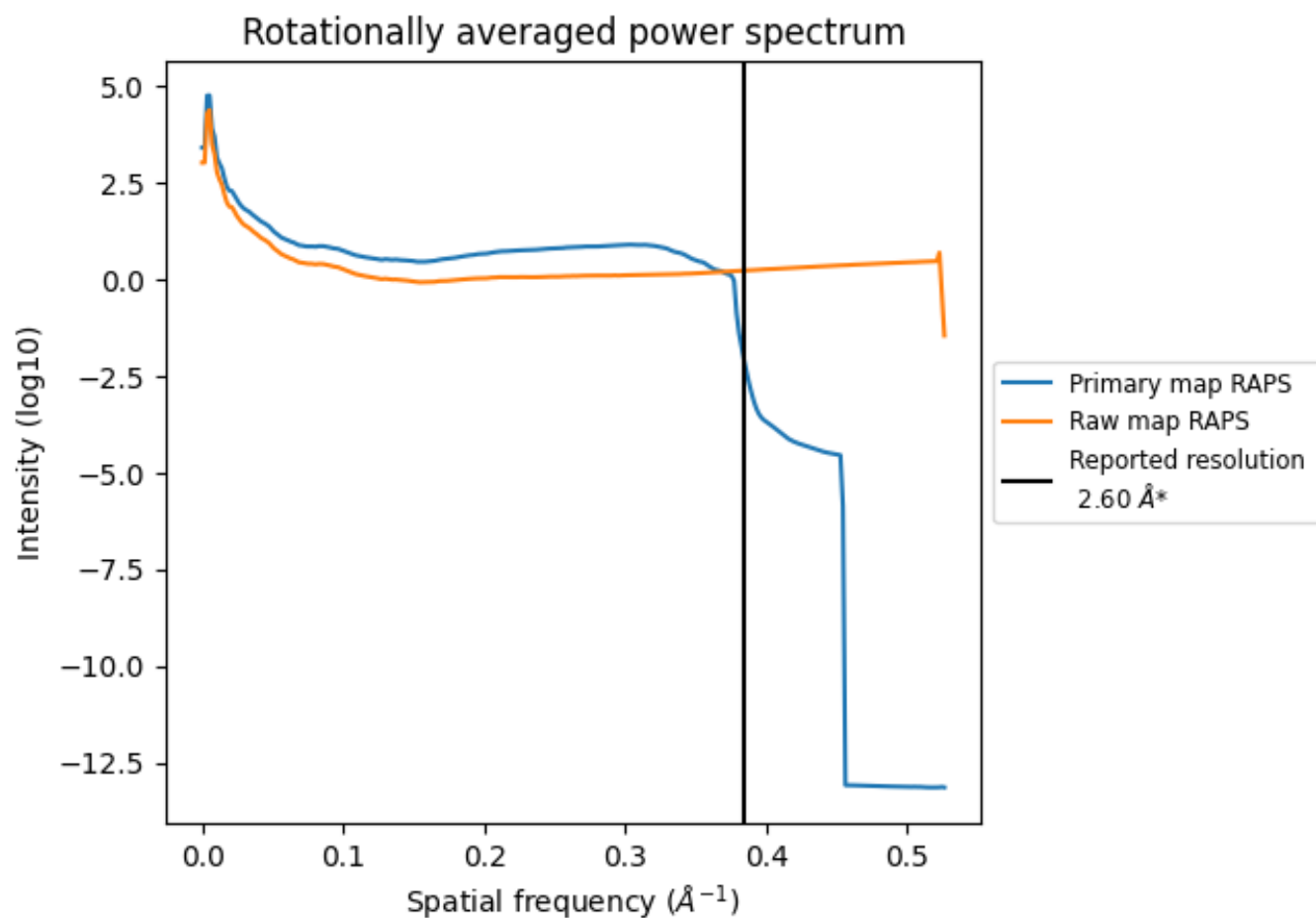
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1368 nm^3 ; this corresponds to an approximate mass of 1236 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

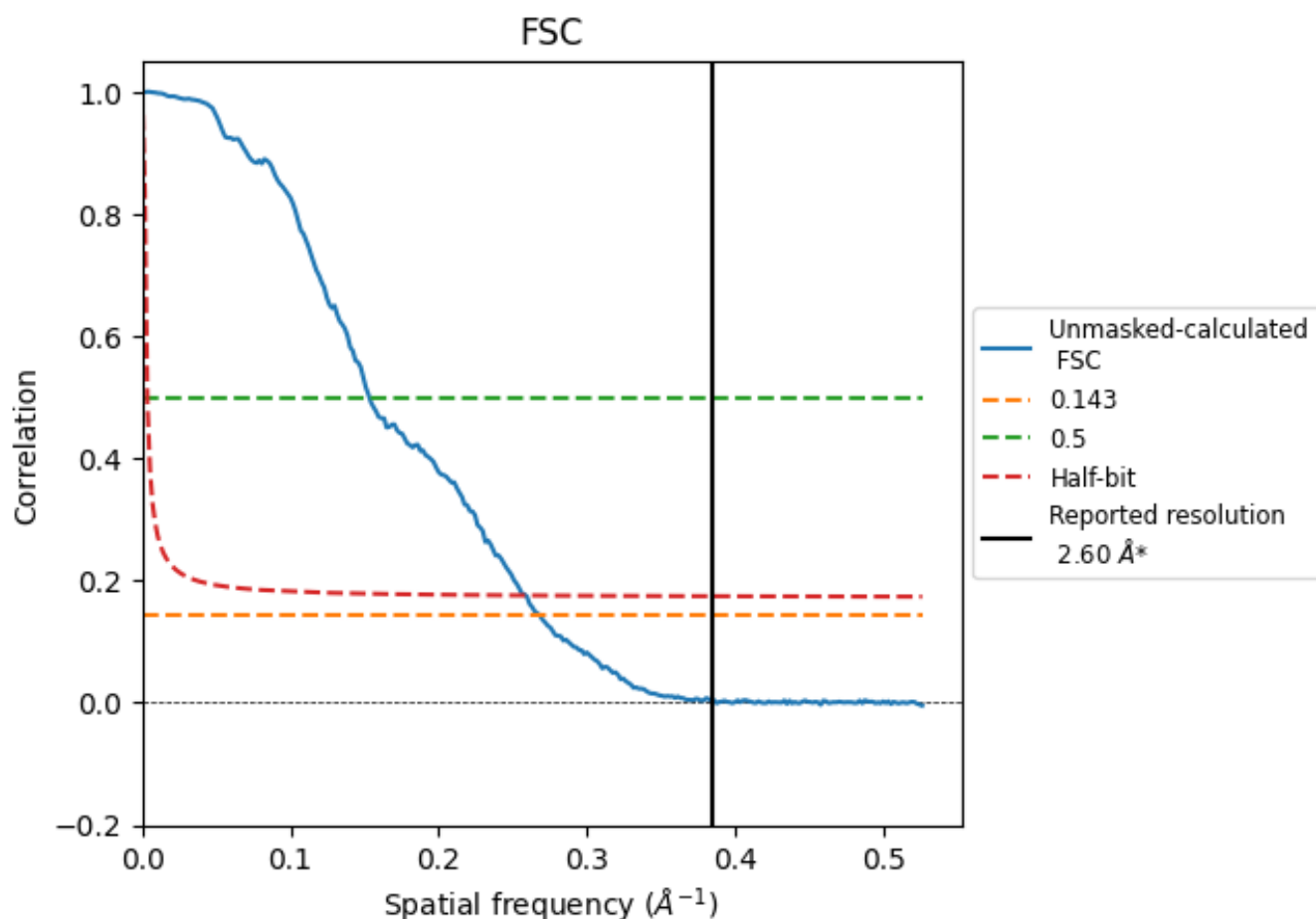


*Reported resolution corresponds to spatial frequency of 0.385 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.385 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

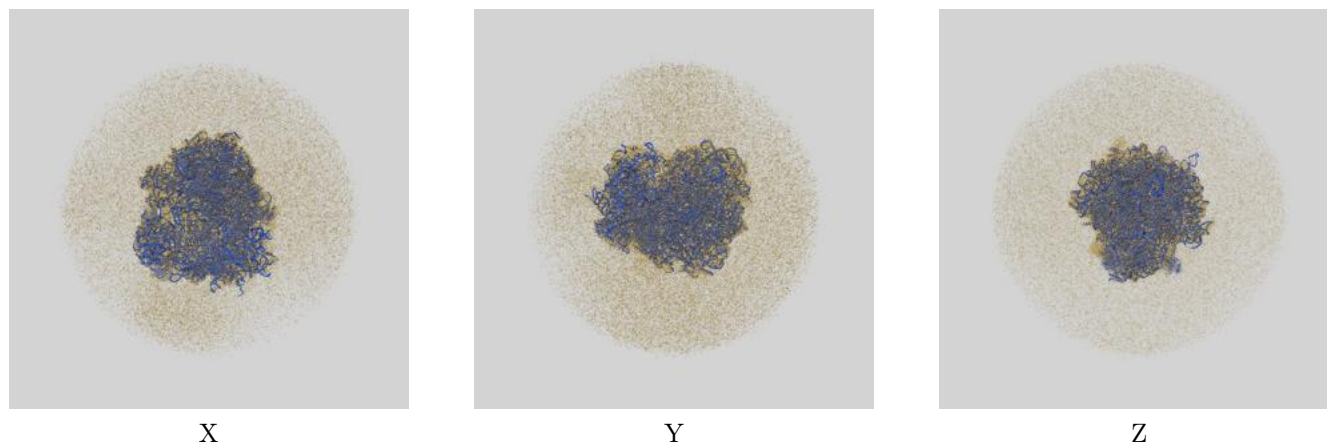
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.60	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.73	6.52	3.87

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.73 differs from the reported value 2.6 by more than 10 %

9 Map-model fit [i](#)

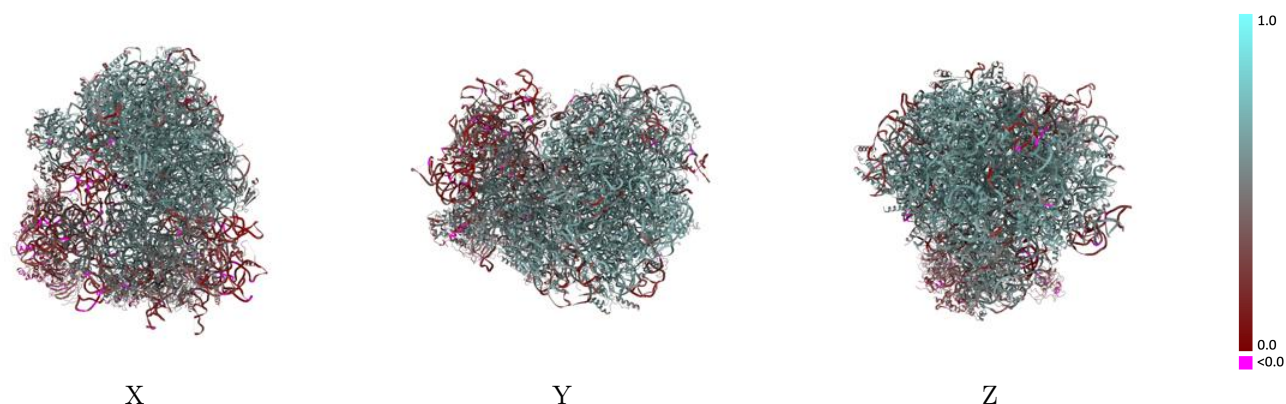
This section contains information regarding the fit between EMDB map EMD-60097 and PDB model 8ZHB. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



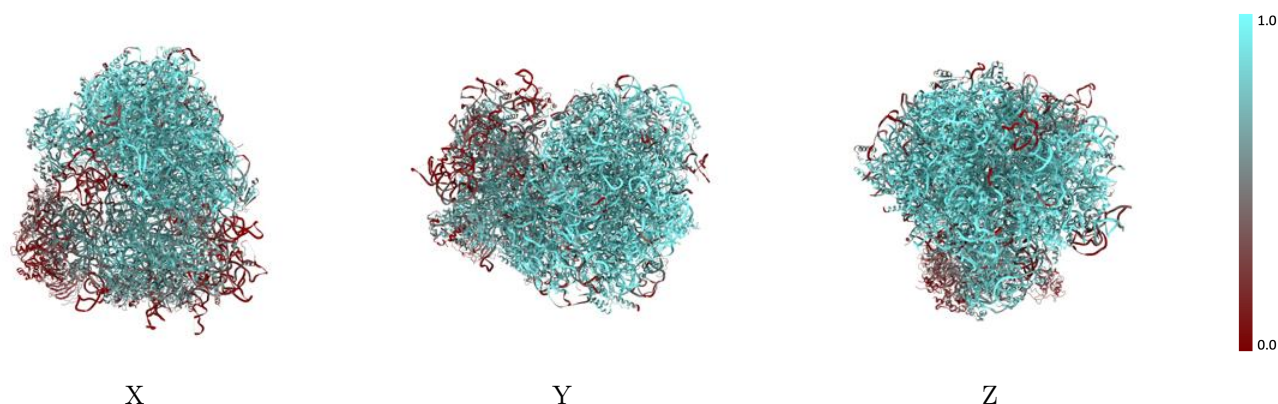
The images above show the 3D surface view of the map at the recommended contour level 0.26 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



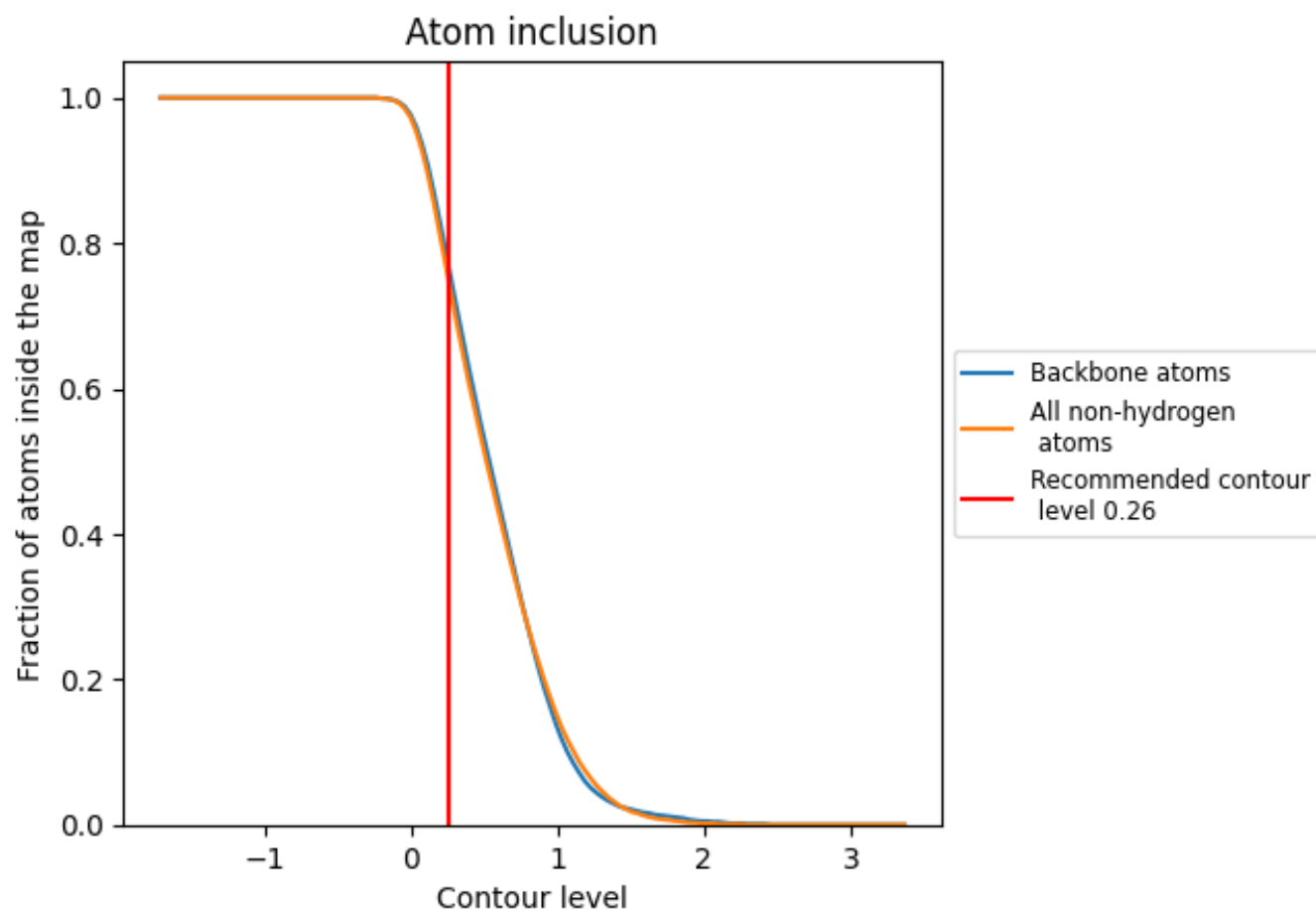
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.26).

9.4 Atom inclusion [i](#)



At the recommended contour level, 76% of all backbone atoms, 74% 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 (0.26) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7450	 0.5010
LA	 0.8730	 0.5600
LB	 0.9030	 0.5570
LC	 0.9190	 0.5920
LD	 0.9350	 0.6380
LE	 0.9030	 0.6050
LF	 0.9080	 0.6130
LG	 0.7830	 0.5400
LH	 0.7970	 0.5500
LI	 0.9200	 0.6200
LJ	 0.8190	 0.5620
LK	 0.8410	 0.5750
LL	 0.8160	 0.5790
LM	 0.6630	 0.4660
LN	 0.8780	 0.5980
LO	 0.8590	 0.5750
LP	 0.9450	 0.6320
LQ	 0.8980	 0.6050
LR	 0.8900	 0.6050
LS	 0.9380	 0.6320
LT	 0.7870	 0.5450
LU	 0.9030	 0.6120
LV	 0.9010	 0.6070
LW	 0.6960	 0.4940
LX	 0.8890	 0.6150
LY	 0.9020	 0.6160
LZ	 0.8570	 0.6010
La	 0.9100	 0.6170
Lb	 0.8590	 0.5870
Lc	 0.9360	 0.6300
Ld	 0.8520	 0.5850
Le	 0.8650	 0.5920
Lf	 0.8320	 0.5780
Lg	 0.8780	 0.6090
Lh	 0.9390	 0.6330



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Chain	Atom inclusion	Q-score
Li	 0.8850	 0.6070
Lj	 0.8820	 0.5940
Lk	 0.8370	 0.5580
Ll	 0.9660	 0.6460
Lm	 0.6490	 0.4910
Ln	 0.9130	 0.6240
Lo	 0.8810	 0.6060
Lp	 0.8460	 0.6160
Lq	 0.8960	 0.6160
Lr	 0.8710	 0.6280
S2	 0.6190	 0.3850
SA	 0.3760	 0.3680
SB	 0.2820	 0.3250
SC	 0.2740	 0.2810
SD	 0.0380	 0.1800
SE	 0.3460	 0.3000
SF	 0.3070	 0.3280
SG	 0.4600	 0.3990
SH	 0.3370	 0.3190
SI	 0.2980	 0.3150
SJ	 0.3020	 0.3170
SK	 0.1230	 0.2190
SL	 0.3340	 0.3290
SM	 0.4440	 0.3690
SN	 0.0660	 0.1860
SO	 0.1650	 0.2310
SP	 0.6650	 0.4900
SQ	 0.7030	 0.5060
SR	 0.7710	 0.5580
SS	 0.5860	 0.4520
ST	 0.3940	 0.3540
SU	 0.5800	 0.4630
SV	 0.5810	 0.4360
SW	 0.5180	 0.3950
SX	 0.7170	 0.5210
SY	 0.8050	 0.5670
SZ	 0.7800	 0.5420
Sa	 0.7370	 0.5330
Sb	 0.8940	 0.6110
Sc	 0.7000	 0.4990
Sd	 0.4770	 0.3820
Se	 0.8350	 0.5660

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Chain	Atom inclusion	Q-score
Sf	 0.7260	 0.4980
Sg	 0.4440	 0.3480
Ta	 0.2480	 0.1590
Tb	 0.3430	 0.2300
mR	 0.5870	 0.3670