



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 09:21 AM UTC

PDB ID : 8ZGY / pdb_00008zgy
EMDB ID : EMD-60091
Title : 80S ribosome with P/E tRNA and mRNA of WNV
Authors : Wu, M.; Yuan, S.
Deposited on : 2024-05-10
Resolution : 2.80 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:

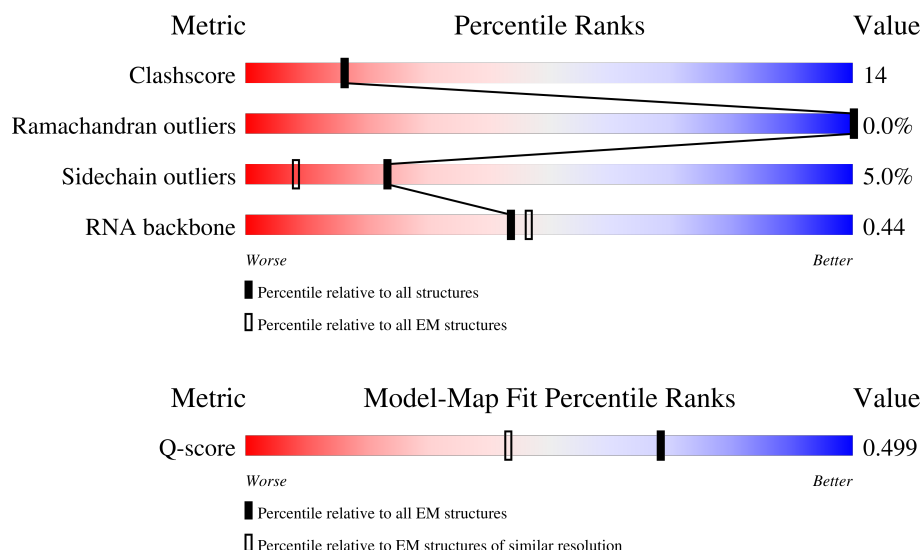
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.80 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.



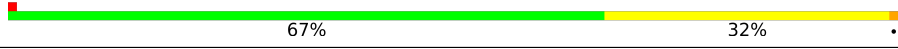
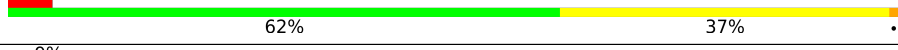
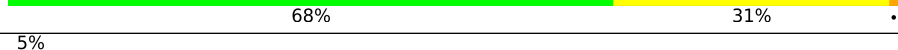
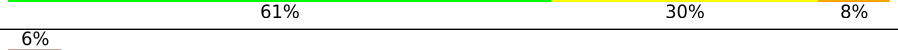
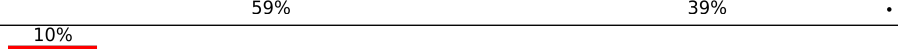
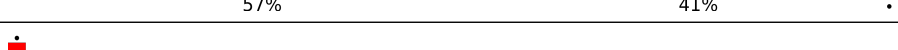
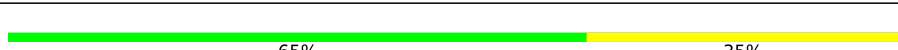
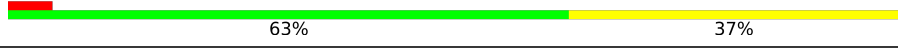
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	11806 (2.30 - 3.30)

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	
2	LB	121	
3	LC	158	

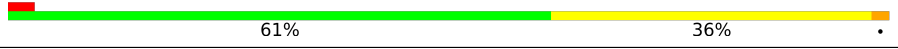
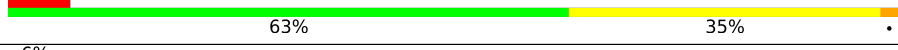
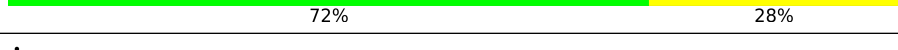
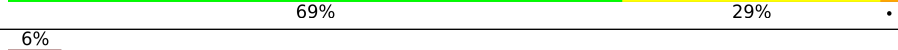
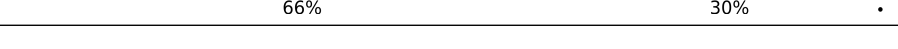
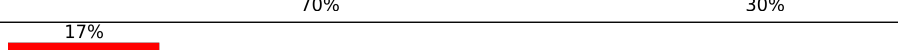
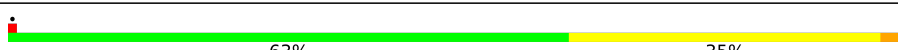
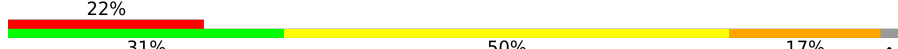
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Mol	Chain	Length	Quality of chain
4	LD	251	
5	LE	386	
6	LF	361	
7	LG	294	
8	LH	175	
9	LI	222	
10	LJ	233	
11	LK	191	
12	LL	218	
13	LM	169	
14	LN	193	
15	LO	136	
16	LP	203	
17	LQ	197	
18	LR	183	
19	LS	185	
20	LT	188	
21	LU	171	
22	LV	159	
23	LW	100	
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	Tb	77	71% 38% 49% 13%
80	mR	25	28% 40% 60%

2 Entry composition

There are 80 unique types of molecules in this entry. The entry contains 200896 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		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LA	?	-	G	deletion	GB 1262303

- 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	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	0	0
			796	516	131	149		

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms				AltConf	Trace
28	Lb	135	Total	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	S	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		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	S	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	Tb	77	Total	C	N	O	P	0	0
			1650	734	303	536	77		

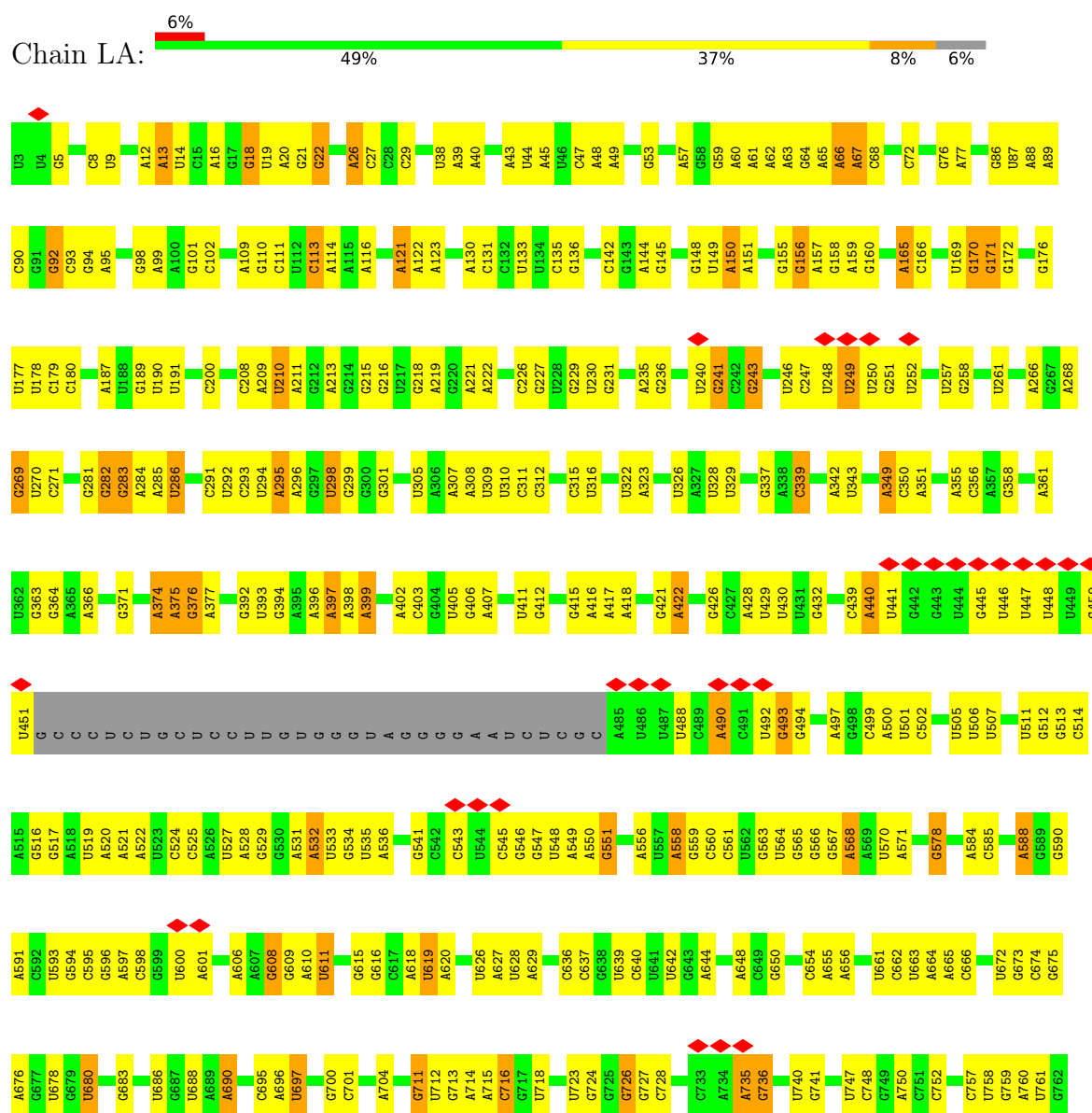
- Molecule 80 is a RNA chain called RNA (5'-R(P*GP*AP*UP*CP*CP*UP*UP*AP*AP*C)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
80	mR	10	Total	C	N	O	P	0	0
			209	94	35	70	10		

3 Residue-property plots

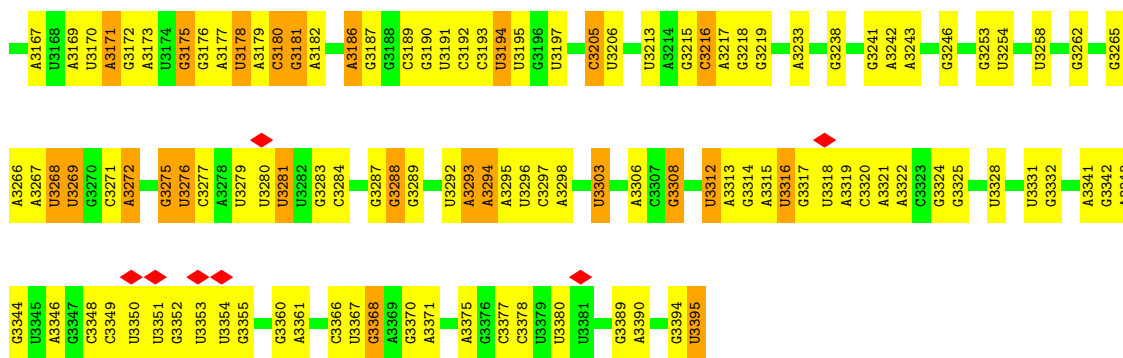
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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



U1830	C1831	G1750	A1642	A1574	G1482	U1387	A1286	C1226	G1144	A1046	G977	C876	U763
G1832	C1755	C1756	C1644	G1575	U1483	G1388	U1287	C1227	C1145	A1047	U978	G877	C764
U1833	G1758	G1577	U1644	G1576	G1484	A1389	G1288	G1228	U1150	C1048	A979	U878	U765
A1834	C1759	C1578	G1654	C1577	G1487	C1390	G1294	G1229	G1151	U1049	C981	G879	U766
G1837	A1758	A1579	A1655	C1578	G1488	G1391	G1294	G1231	A1053	A1053	A982	A881	A770
A1838	C1760	C1580	C1656	C1580	G1489	A1393	G1305	G1232	G1152	G1062	G983	G886	A775
U1839	C1761	C1581	G1657	C1581	G1491	A1398	A1306	G1233	A1153	A1063	U984	A887	U776
G1840	U1762	A1582	C1659	C1582	G1492	G1399	A1307	G1234	G1154	A1064	U985	A895	A779
A1841	U1763	U1583	G1660	U1583	U1494	G1399	U1308	U1234	G1155	A1065	U986	A905	G784
C1842	U1764	G1584	G1661	G1584	G1495	G1407	C1311	G1235	G1156	A1065	U987	A895	G785
U1953	U1954	G1585	C1662	G1585	C1496	G1407	C1312	G1236	A1158	G1071	A991	G899	G780
A1954	A1954	G1586	G1663	C1586	G1497	C1415	C1312	G1236	U1167	C1075	G992	G900	U781
A	G	A1587	G1664	A1587	G1498	G1416	C1314	C1237	A1168	C1075	U994	A905	A782
G	U	A1588	G1665	A1588	G1499	A1417	U1314	C1238	U1172	U1081	G993	A905	G783
U	G	G1589	G1666	G1589	U1500	A1418	A1317	A1239	G1173	G1082	U994	G907	G786
G	U	G1590	G1667	G1590	C1501	C1419	A1317	A1244	C1174	A1083	G998	C910	A790
A	G	A1591	G1670	A1591	A1502	C1419	G1320	G1245	U1180	A1091	G1009	A916	C792
G	G	A1592	G1670	A1592	U1522	U1426	G1320	U1246	A1090	A1092	G1011	A914	G798
C	G	A1593	G1676	A1593	C1507	A1427	U1323	C1247	A1183	U1094	G1012	A913	G799
C	G	U1594	G1676	U1594	A1508	G1428	U1324	G1248	C1184	U1094	U1013	A920	A800
C	C	C1595	G1676	C1595	G1509	U1429	A1325	G1249	A1189	U1095	U1014	G922	A805
C	C	G1596	G1677	G1596	U1510	U1430	C1326	A1250	U1190	G1096	C1015	G923	A806
U	U	G1597	U1681	G1597	U1527	G1431	C1326	A1251	C1191	A1097	C1016	A924	A807
G	G	U1600	U1682	U1600	G1527	A1432	A1329	U1251	A1192	G1100	G1017	G933	A815
U	U	A1601	U1683	A1601	G1524	G1433	U1330	U1252	A1193	A1101	G1018	G936	A816
G	G	G1602	C1684	G1602	U1524	A1434	A1336	C1253	C1195	A1102	G1019	C937	C817
U	U	A1603	U1685	A1603	G1527	U1435	C1338	G1254	A1196	G1103	G1020	U842	U818
C	C	U1604	U1686	U1604	G1527	U1436	U1347	G1255	C1197	U1109	U1021	C943	G821
A	G	U1605	U1687	U1605	A1533	G1442	U1340	G1256	A1198	U1110	C1022	C944	A826
C	C	U1606	U1688	U1606	U1534	G1443	U1340	U1257	C1199	U1110	G1023	U945	A829
A	C	C1607	U1693	C1607	G1535	A1444	U1349	A1258	C1200	G1116	A1024	G946	G830
C	C	A1611	U1694	A1611	U1554	G1446	A1350	U1259	A1201	G1117	A1025	U959	U833
C	C	A1612	A1695	A1612	C1555	U1447	U1351	G1261	A1202	C1118	A1026	C958	G834
A	A	C1613	A1696	C1613	A1556	A1448	A1351	G1261	A1203	A1119	U1027	C960	U833
C	C	C1614	A1703	C1614	A1556	G1449	U1352	A1262	A1204	U1127	G1028	A961	A845
G	G	U1615	A1706	U1615	G1559	U1454	A1354	A1263	G1206	A1128	A1029	G962	A846
G	G	G1616	C1709	G1616	C1560	U1454	A1354	U1263	U1207	A1129	G1030	G963	C848
C	C	U1619	U1709	U1619	C1562	G1468	U1355	U1264	U1210	A1130	U1031	A966	U849
C	C	A1620	U1716	A1620	U1563	U1468	G1356	G1265	A1211	G1133	U1032	A971	C860
U	U	U1621	G1717	U1621	G1564	A1472	G1361	U1266	A1216	A1135	A1035	A972	C872
G	G	G1622	G1717	G1622	U1566	G1474	A1362	G1267	U1217	C1136	C1036	G973	U874
C	C	G1623	G1718	G1623	U1567	G1475	A1365	U1268	A1216	U1137	C1037	C974	A875
U	U	G1624	U1719	G1624	U1568	A1476	A1366	A1269	A1220	C1138	U1038	U975	
C	C	A1625	U1723	A1625	U1569	U1478	U1367	C1271	A1222	G1141	U1040	C976	
U	U	U1626	C1724	U1626	A1570	G1479	G1379	A1272	A1222	A1142	U1041		
G	G	C1627	U1725	C1627	U1571	A1480	A1385	A1273	G1225	U1143	U1042		
C	C	U1628	G1726	U1628	G1572	C1573	G1386	A1274			U1043		
C	C	U1628	G1727	U1628	G1572			C1274			C1044		
A	A	G1634	A1728	G1634	U1566			C1275			U1045		
C	C	U1635	U1739	U1635	U1567			C1276					
U	U	A1636	A1740	A1636	U1568			A1277					
C	C	A1637	U1741	A1637	U1569			A1278					
C	C	C1638	U1741	C1638	A1570			A1279					
U	U	G1639	A1749	G1639	U1571			A1280					
G	G	U1640		U1640	U1571			A1281					
G	G	A1641		A1641	G1572			A1282					
G	G				C1573			A1283					
G	G							A1284					
G	G							A1285					





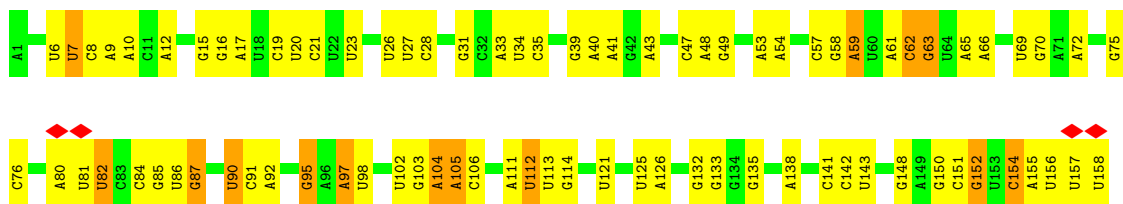
• Molecule 2: 5S rRNA (121-MER)

Chain LB: 64% 30% 6%



• Molecule 3: 5.8S rRNA (158-MER)

Chain LC: 47% 44% 9%



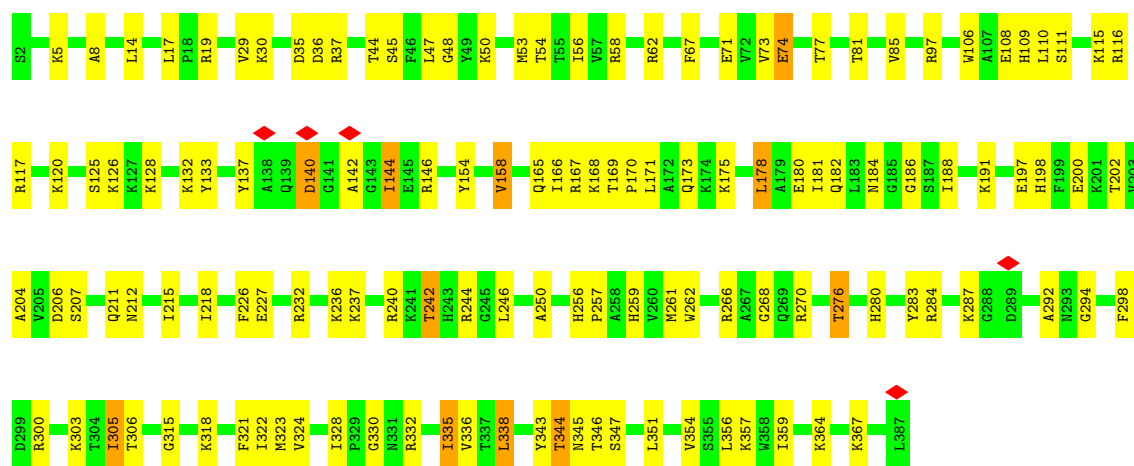
• Molecule 4: Large ribosomal subunit protein uL2A

Chain LD: 67% 31% 2%



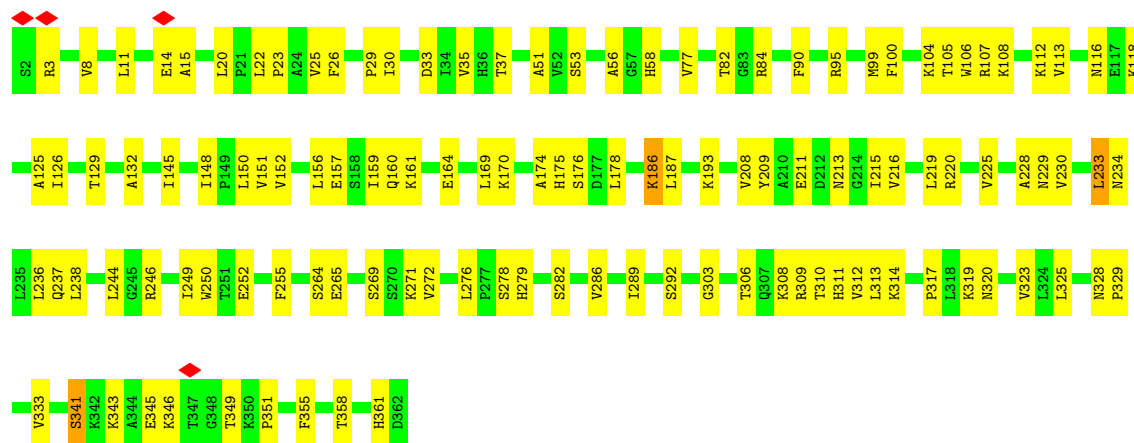
• Molecule 5: Large ribosomal subunit protein uL3

Chain LE: 66% 31% 3%



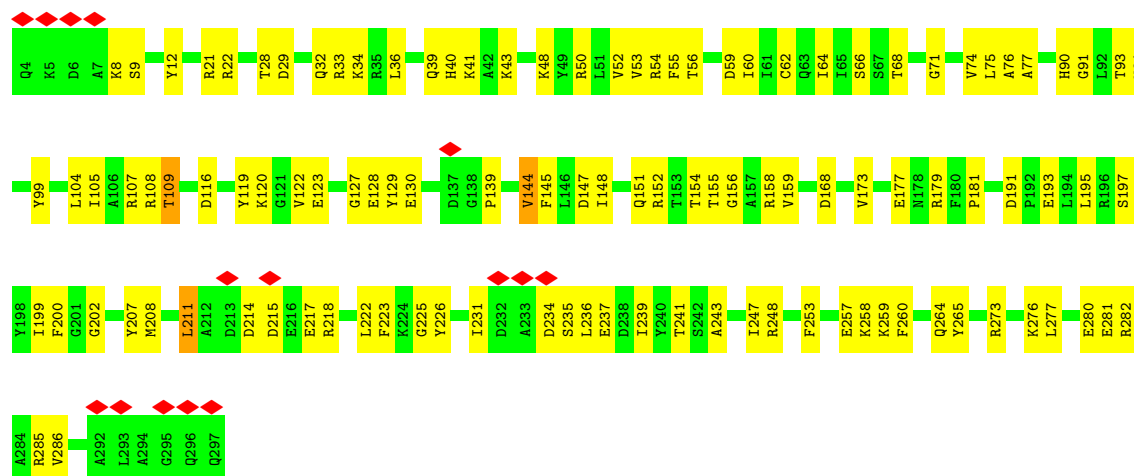
• Molecule 6: Large ribosomal subunit protein uL4A

Chain LF: 67% 32%

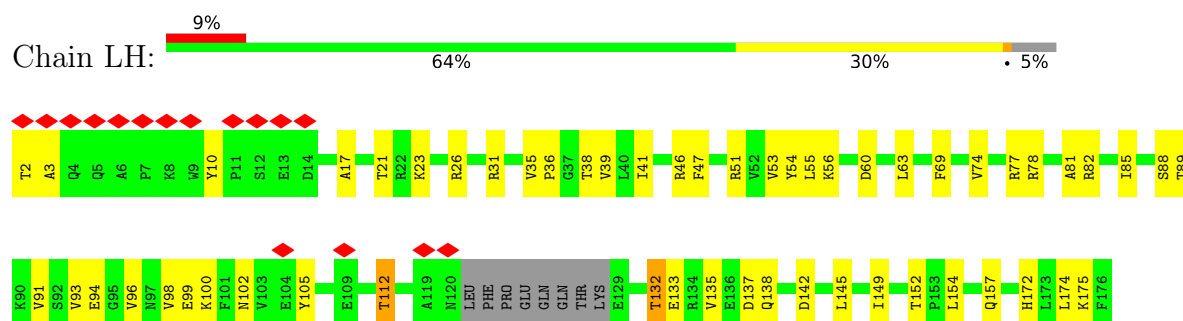


• Molecule 7: Large ribosomal subunit protein uL18

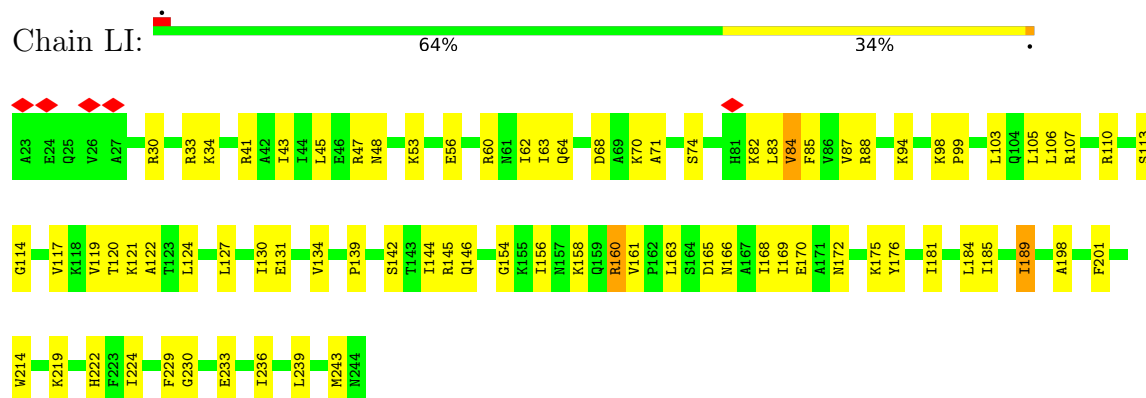
Chain LG: 5% 62% 37%



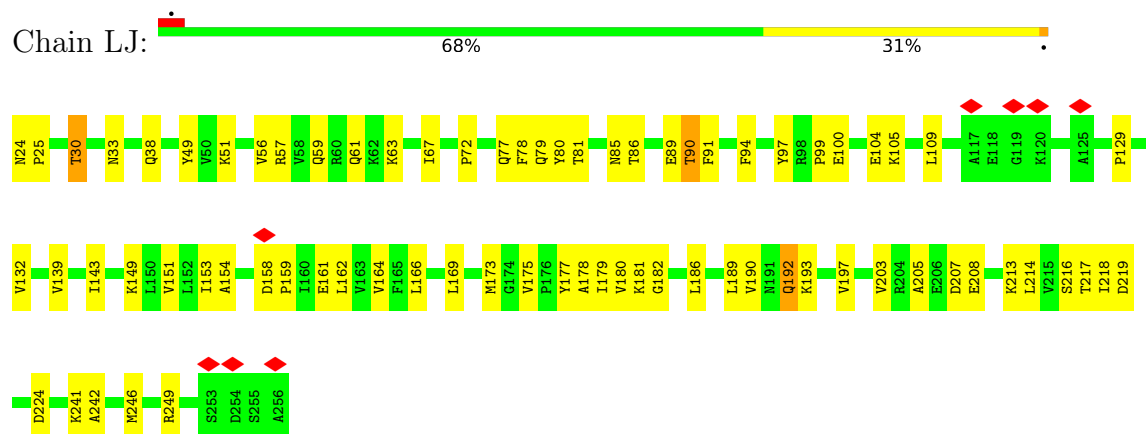
- Molecule 8: Large ribosomal subunit protein eL6B



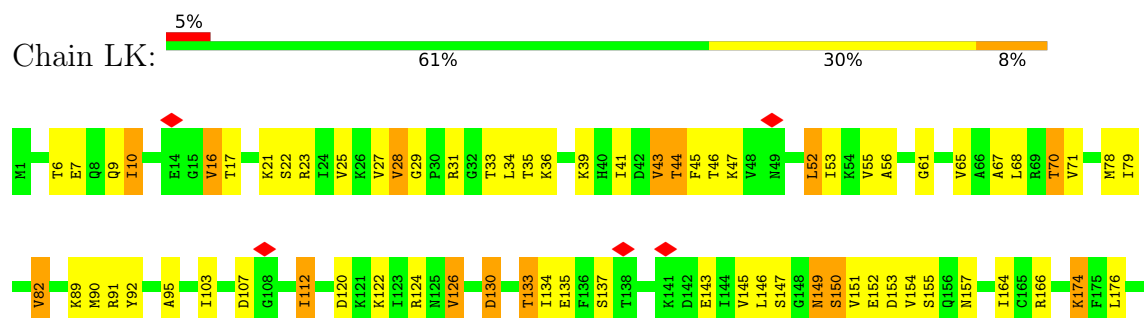
- Molecule 9: Large ribosomal subunit protein uL30A

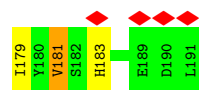


- Molecule 10: Large ribosomal subunit protein eL8A

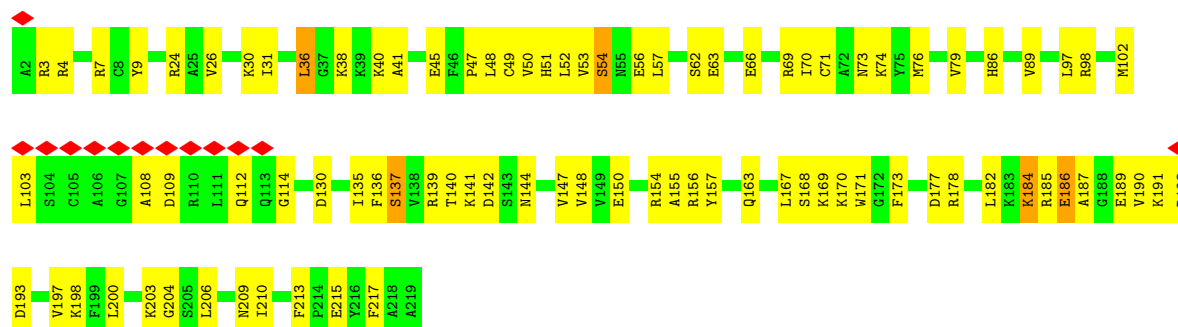


- Molecule 11: Large ribosomal subunit protein uL6A

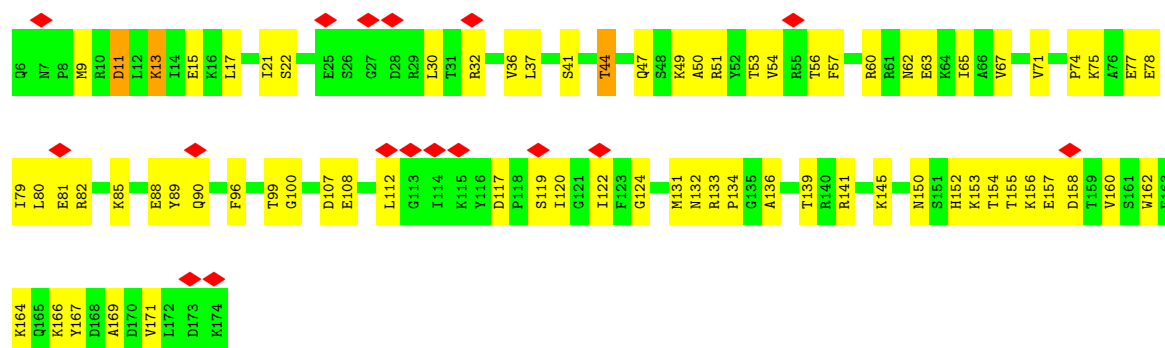




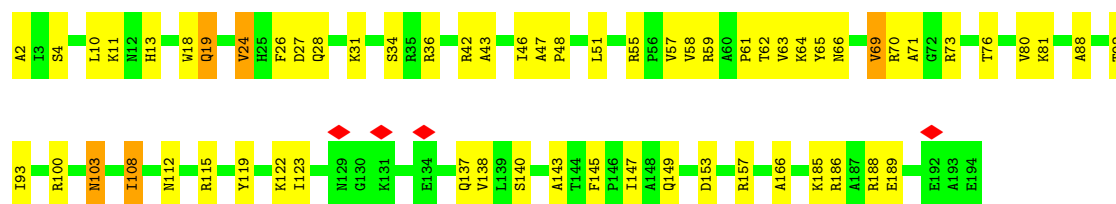
- Molecule 12: Large ribosomal subunit protein uL16



- Molecule 13: Large ribosomal subunit protein uL5B



- Molecule 14: Large ribosomal subunit protein eL13A



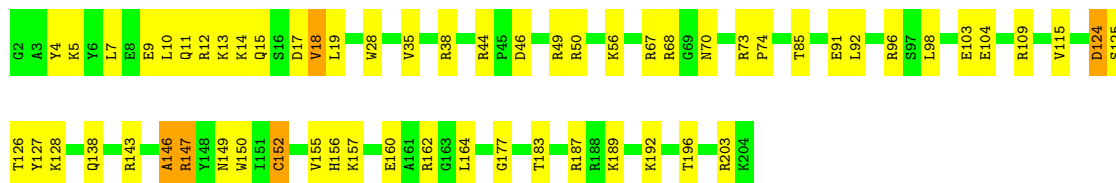
- Molecule 15: Large ribosomal subunit protein eL14A





- Molecule 16: Large ribosomal subunit protein eL15A

Chain LP: 70% 27%



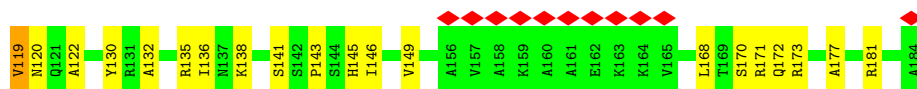
- Molecule 17: Large ribosomal subunit protein uL13A

Chain LQ: 68% 32%



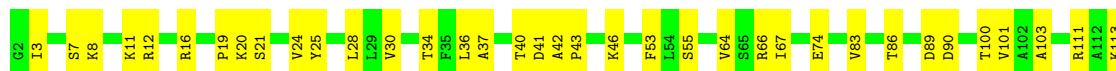
- Molecule 18: Large ribosomal subunit protein uL22A

Chain LR: 6% 70% 28%



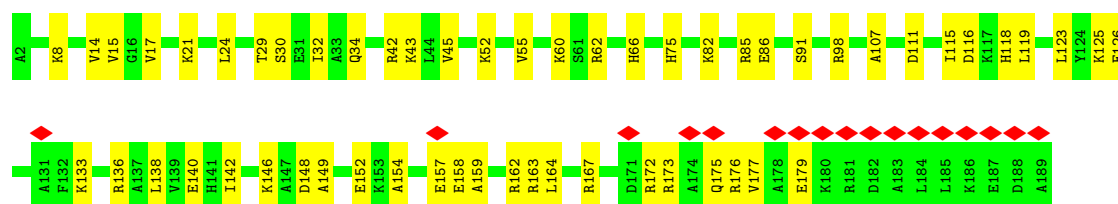
- Molecule 19: Large ribosomal subunit protein eL18A

Chain LS: 65% 35%

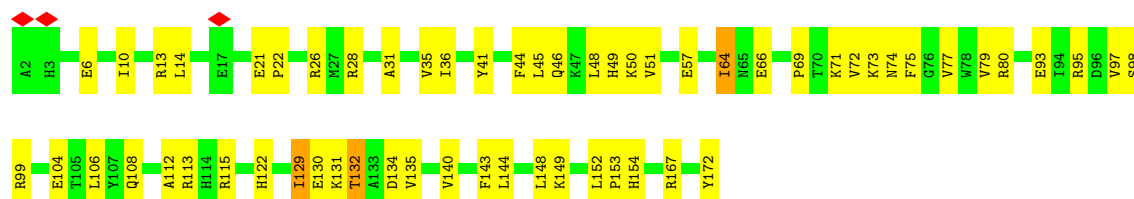


- Molecule 20: Large ribosomal subunit protein eL19A

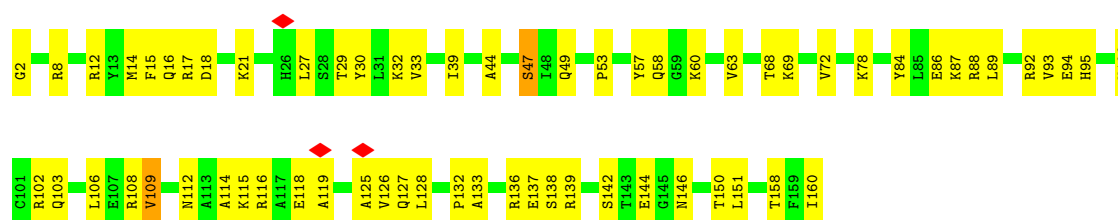
Chain LT: 9% 70% 30%



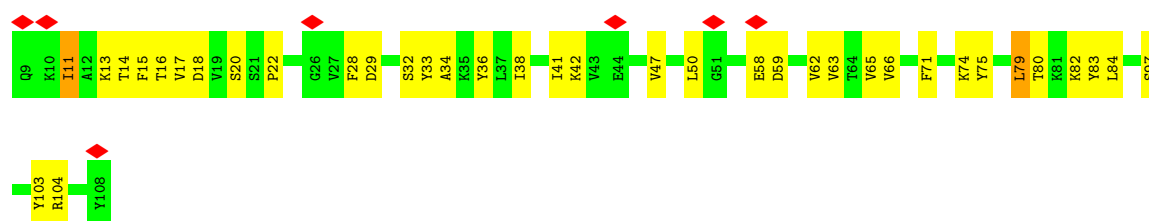
- Molecule 21: Large ribosomal subunit protein eL20A



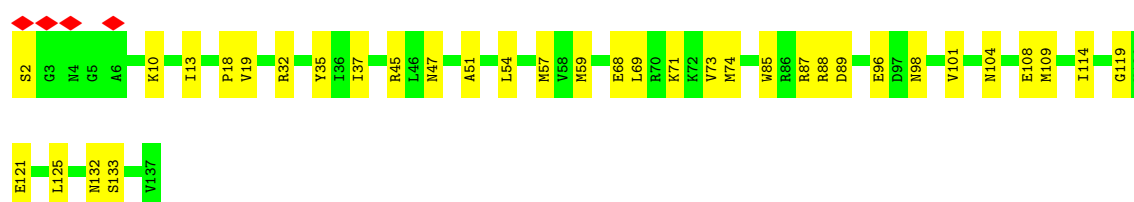
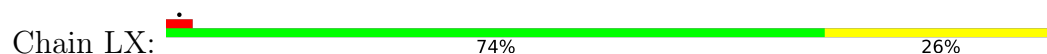
- Molecule 22: Large ribosomal subunit protein eL21A



- Molecule 23: Large ribosomal subunit protein eL22A



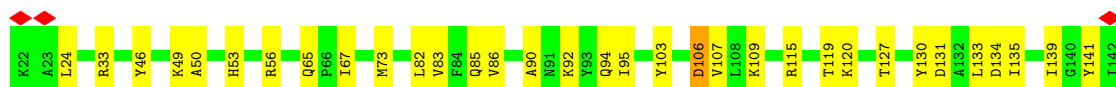
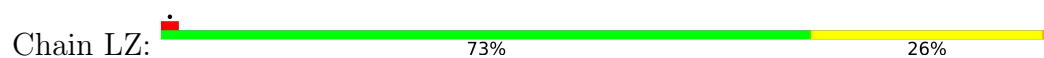
- Molecule 24: Large ribosomal subunit protein uL14A



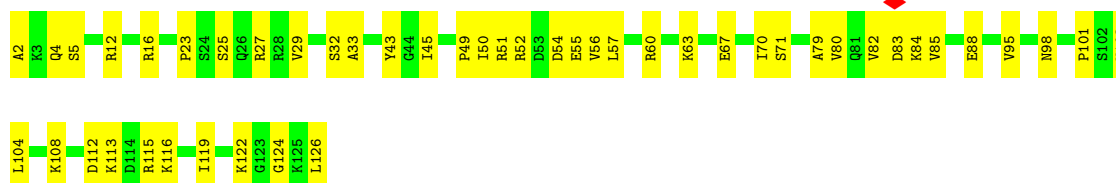
- Molecule 25: Large ribosomal subunit protein eL24A



- Molecule 26: Large ribosomal subunit protein uL23



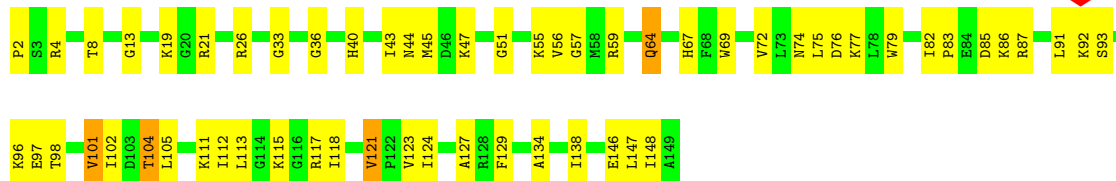
- Molecule 27: Large ribosomal subunit protein uL24A



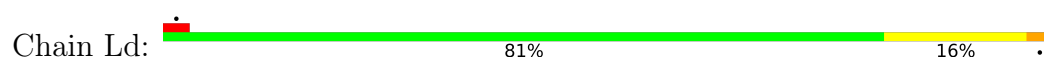
- Molecule 28: Large ribosomal subunit protein eL27A

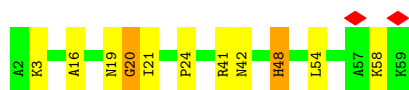


- Molecule 29: Large ribosomal subunit protein uL15



- Molecule 30: Large ribosomal subunit protein eL29





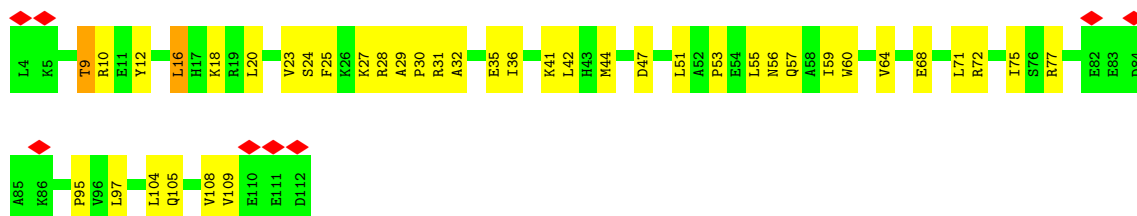
- Molecule 31: Large ribosomal subunit protein eL30

Chain Le: 61% 36%



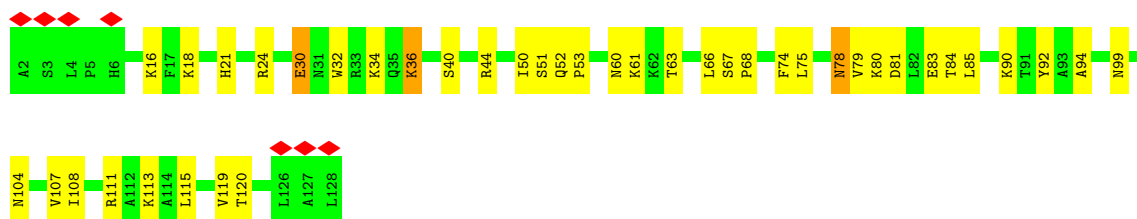
- Molecule 32: Large ribosomal subunit protein eL31A

Chain Lf: 7% 63% 35%



- Molecule 33: Large ribosomal subunit protein eL32

Chain Lg: 6% 68% 30%



- Molecule 34: Large ribosomal subunit protein eL33A

Chain Lh: 77% 21%



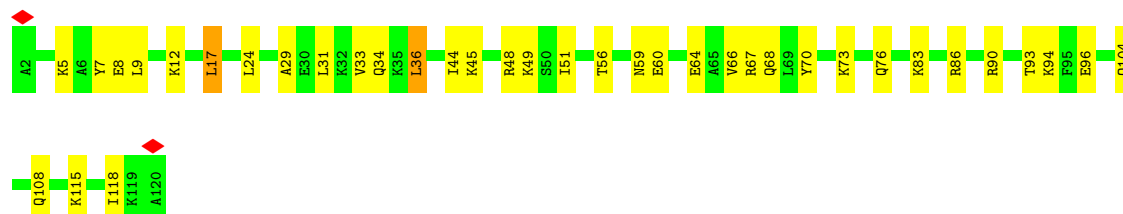
- Molecule 35: Large ribosomal subunit protein eL34A

Chain Li: 72% 28%

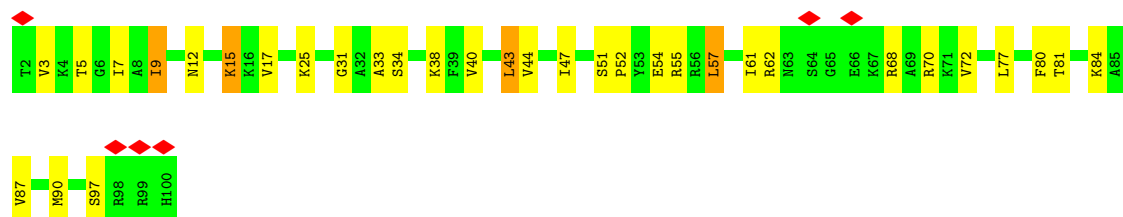




- Molecule 36: Large ribosomal subunit protein uL29A



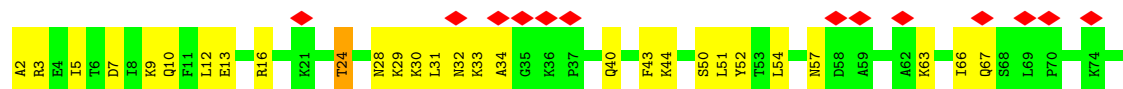
- Molecule 37: Large ribosomal subunit protein eL36A



- Molecule 38: Large ribosomal subunit protein eL37A



- Molecule 39: Large ribosomal subunit protein eL38



- Molecule 40: Large ribosomal subunit protein eL39



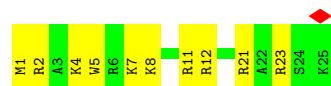
- Molecule 41: Large ribosomal subunit protein eL40A

Chain Lo: 



- Molecule 42: Large ribosomal subunit protein eL41A

Chain Lp: 



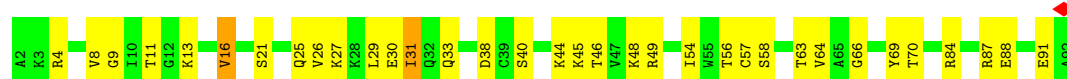
- Molecule 43: Large ribosomal subunit protein eL42A

Chain Lq: 



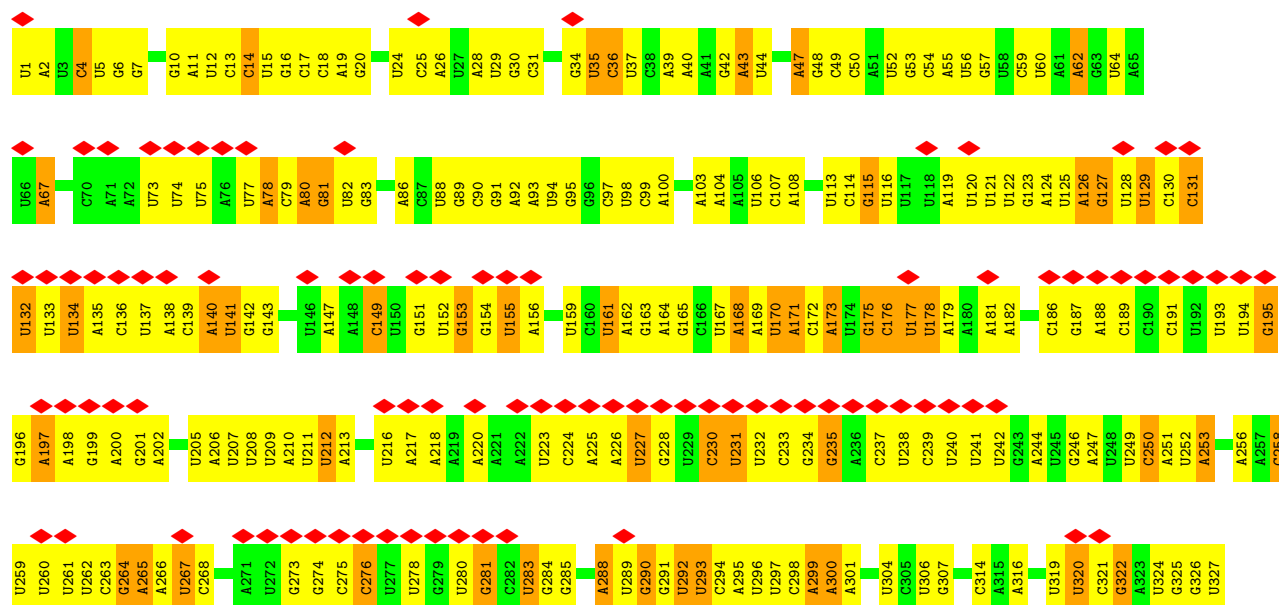
- Molecule 44: Large ribosomal subunit protein eL43A

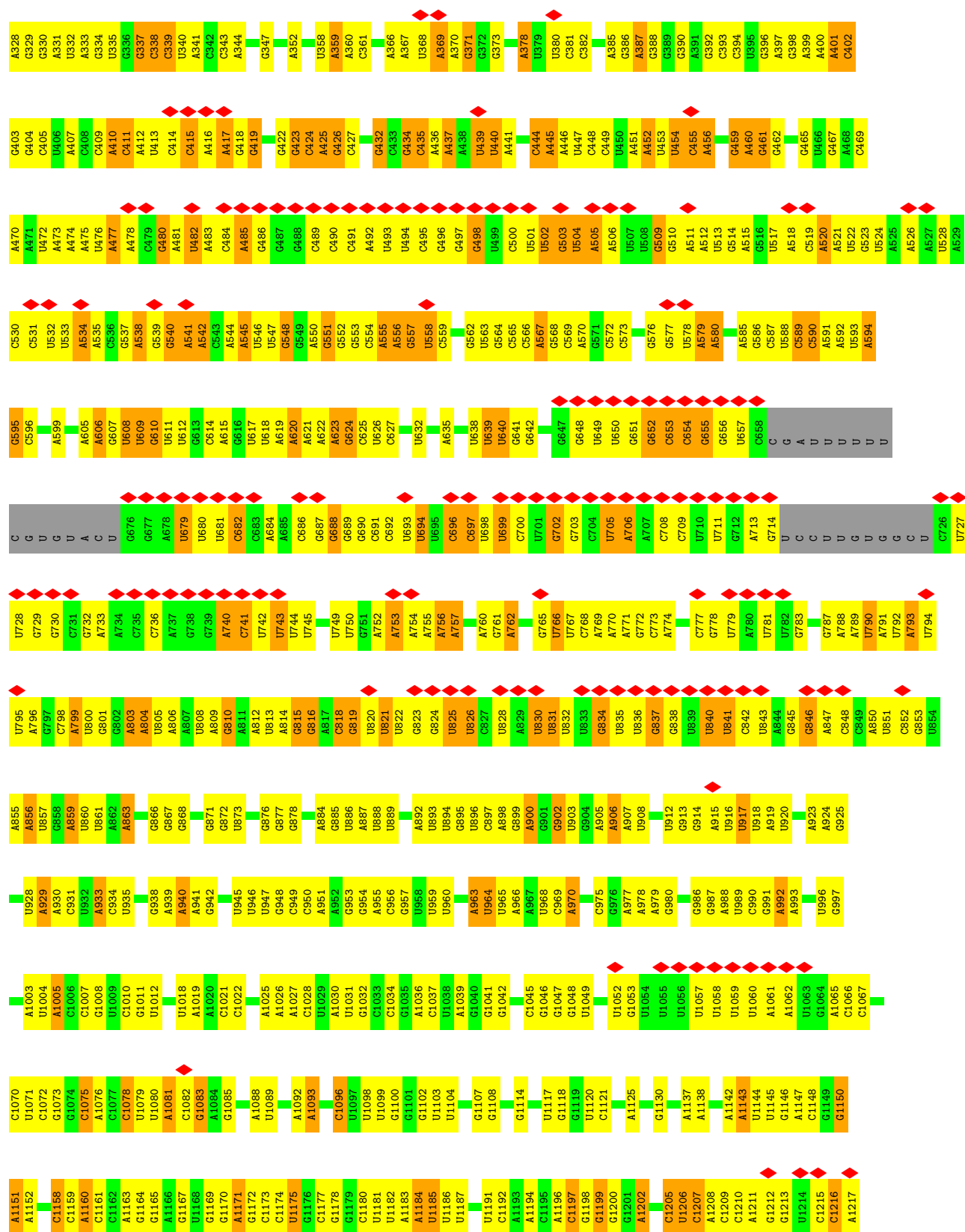
Chain Lr: 

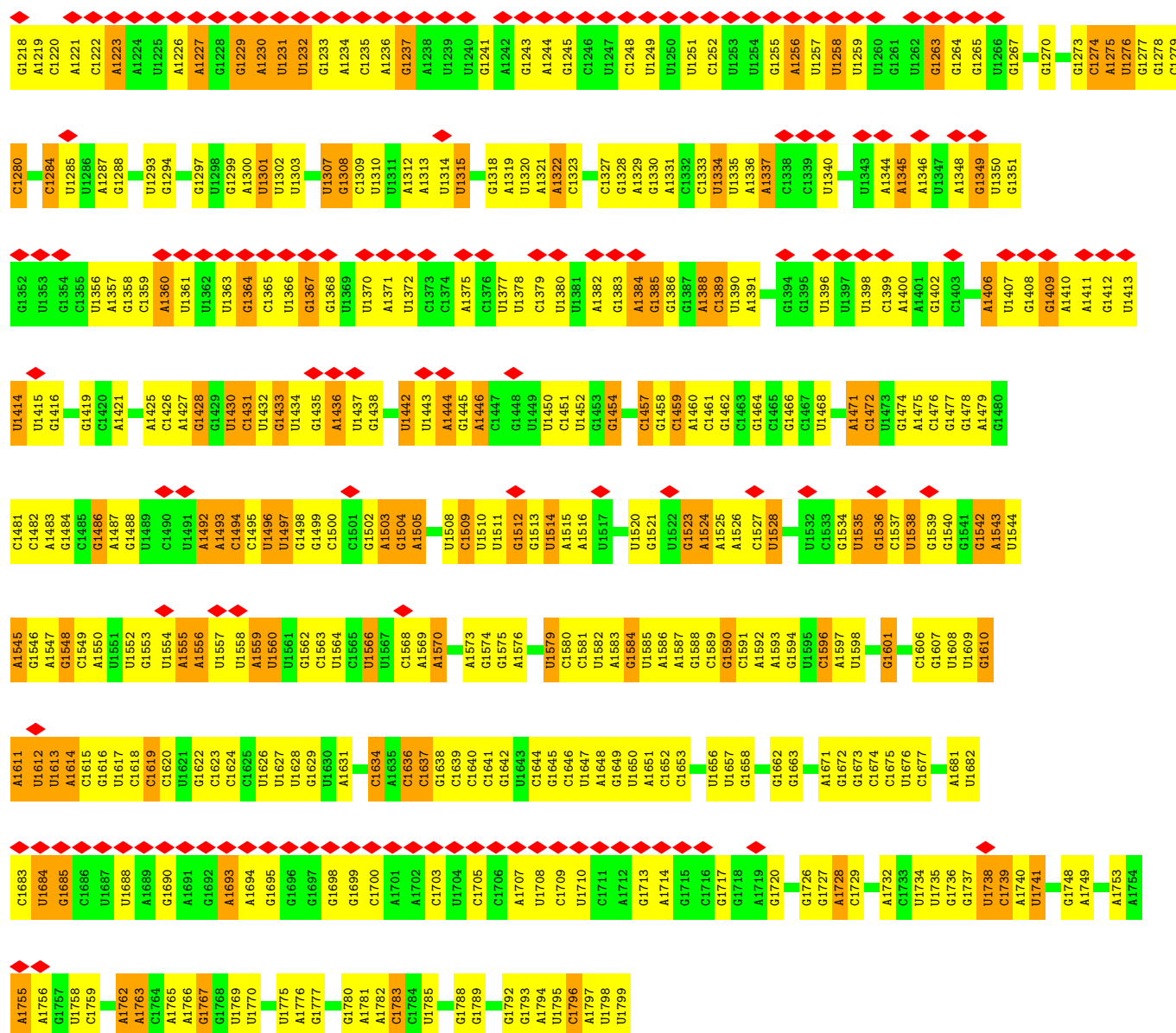


- Molecule 45: chain 2 18S rRNA (1799-MER)

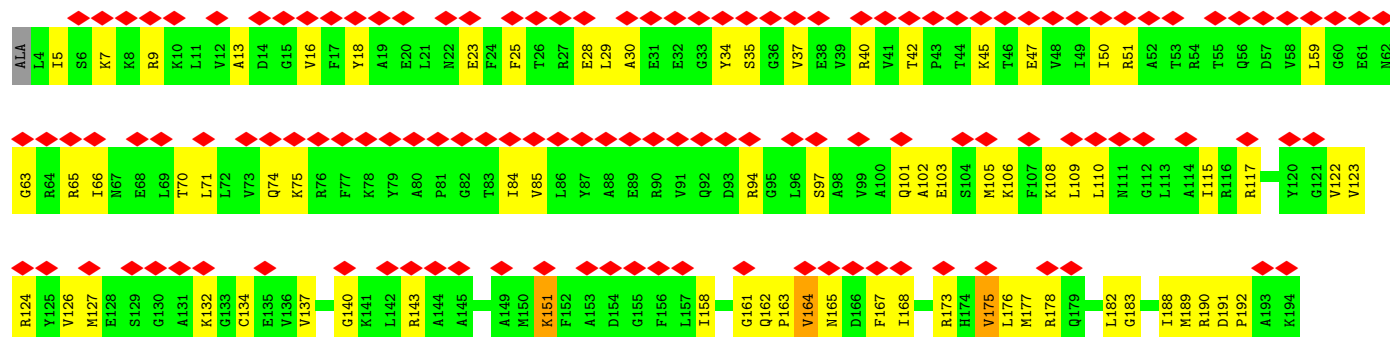
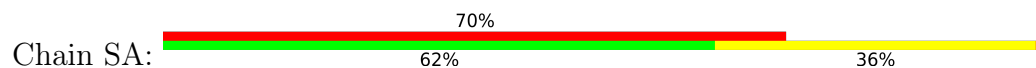
Chain S2: 





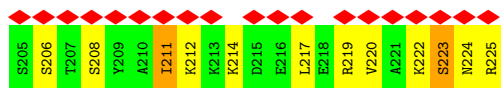
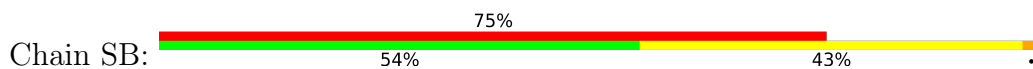


● Molecule 46: Small ribosomal subunit protein uS3

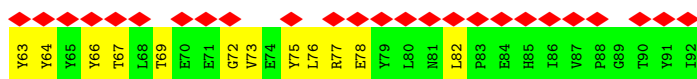
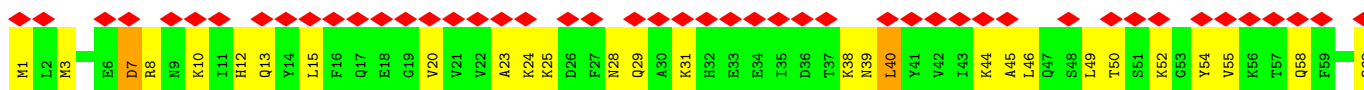
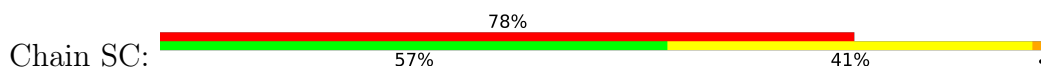




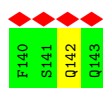
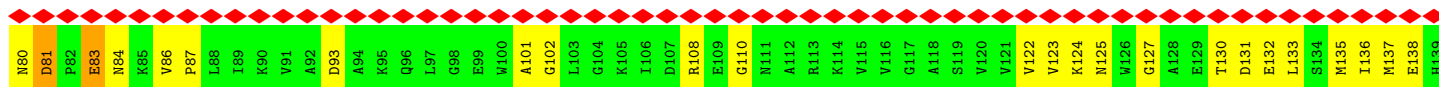
• Molecule 47: Small ribosomal subunit protein uS7



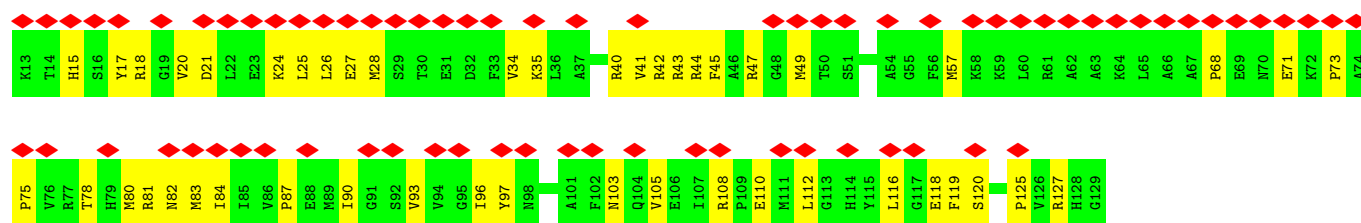
• Molecule 48: Small ribosomal subunit protein eS10A



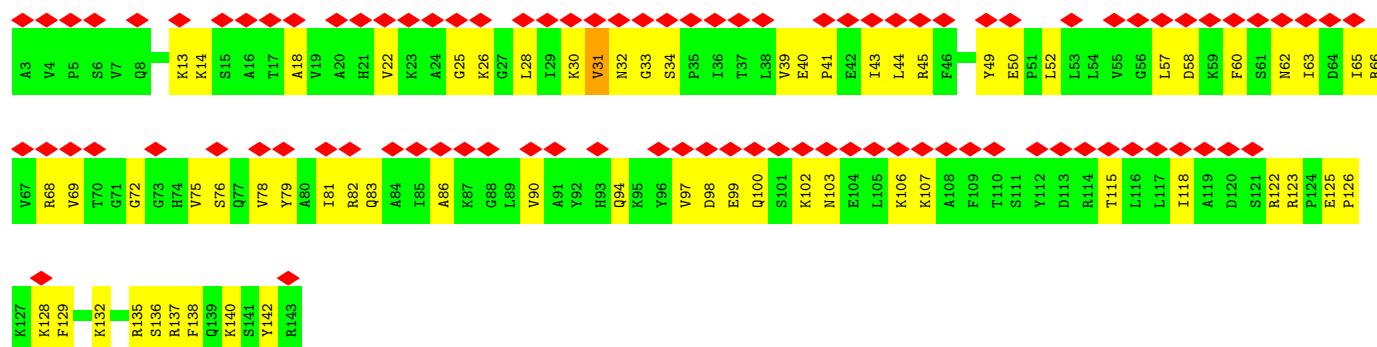
• Molecule 49: Small ribosomal subunit protein eS12



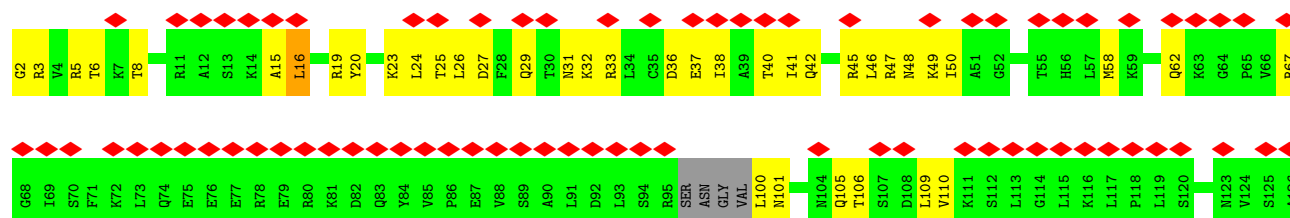
• Molecule 50: Small ribosomal subunit protein uS19



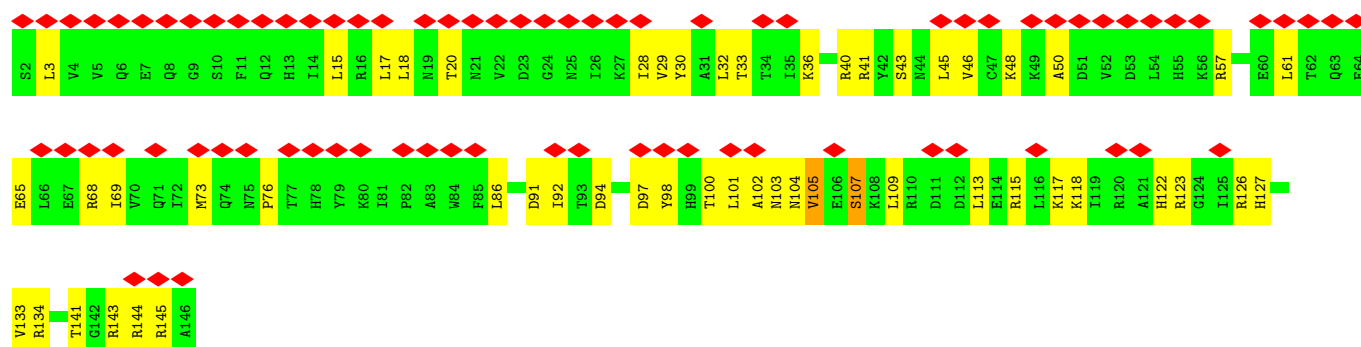
• Molecule 51: Small ribosomal subunit protein uS9A



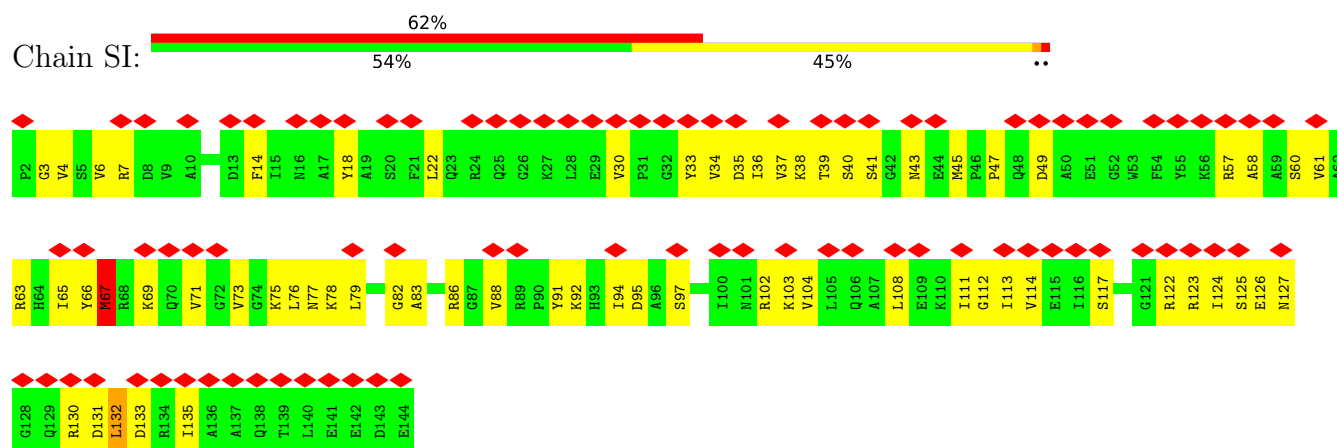
• Molecule 52: Small ribosomal subunit protein eS17A



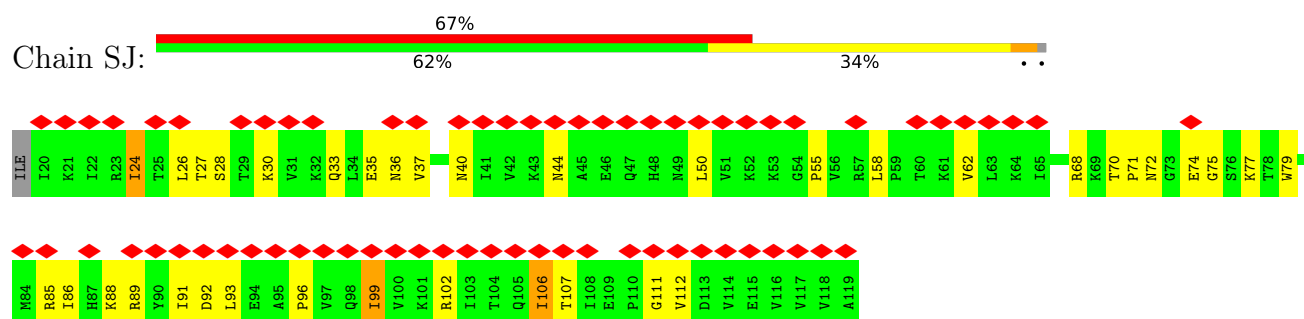
• Molecule 53: Small ribosomal subunit protein uS13A



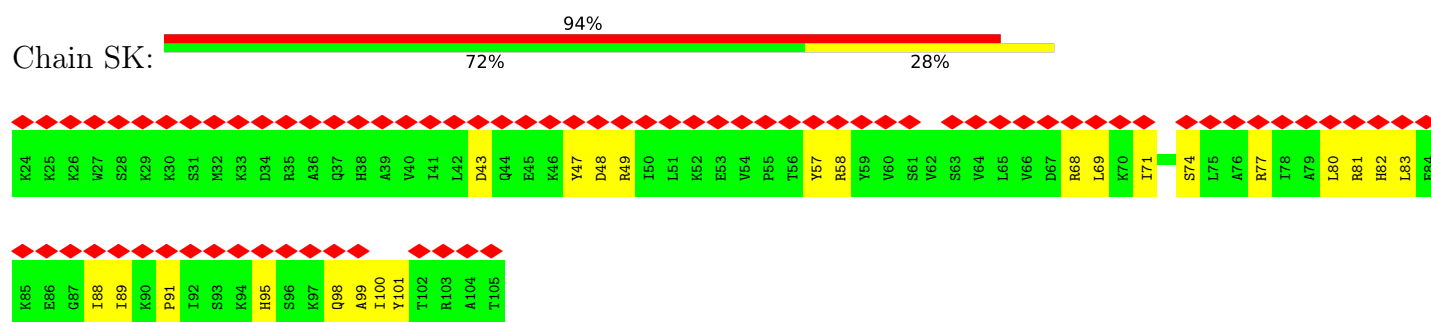
- Molecule 54: Small ribosomal subunit protein eS19A



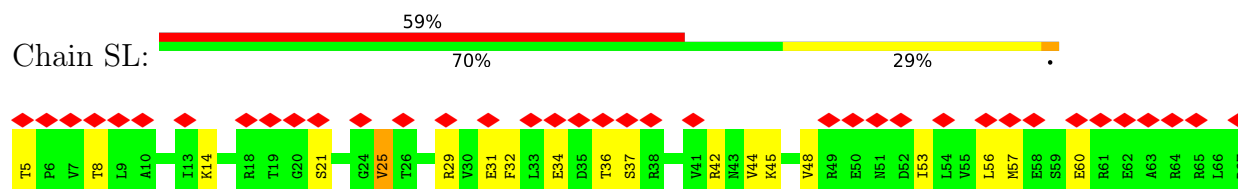
- Molecule 55: Small ribosomal subunit protein uS10



- Molecule 56: Small ribosomal subunit protein eS25A

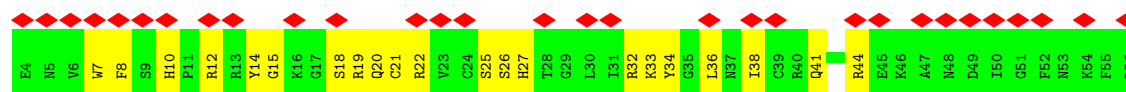


- Molecule 57: Small ribosomal subunit protein eS28A

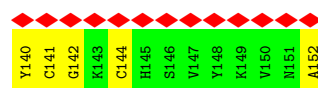
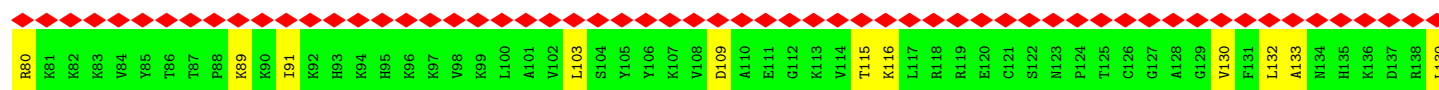
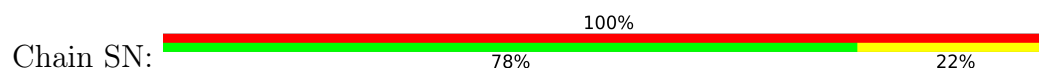


- Molecule 58: Small ribosomal subunit protein uS14A

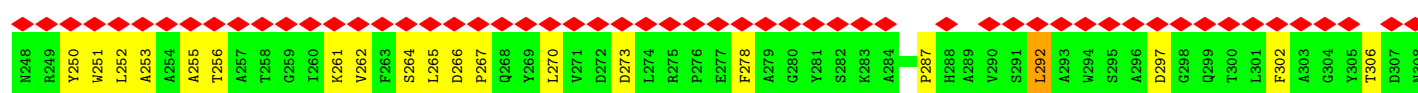
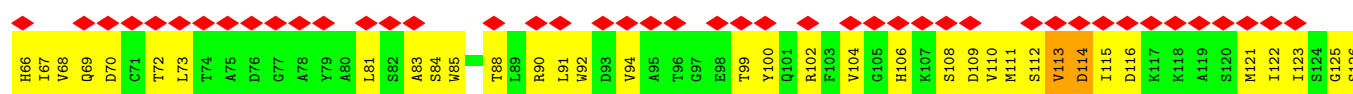
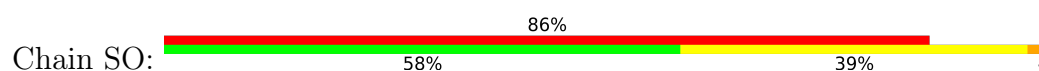




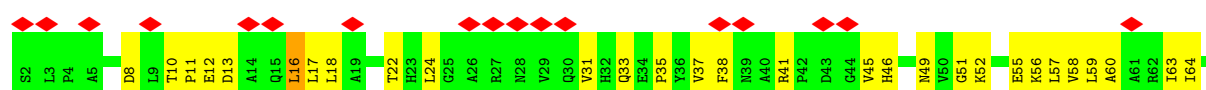
- Molecule 59: Small ribosomal subunit protein eS31

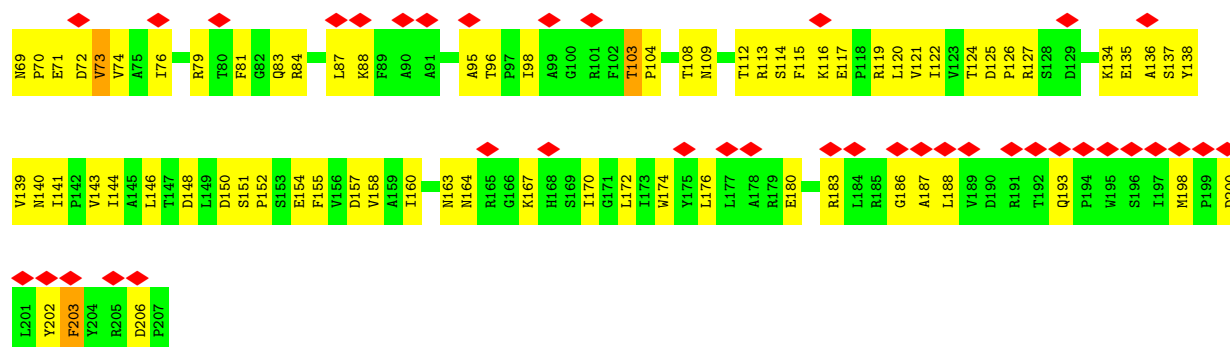


- Molecule 60: Small ribosomal subunit protein RACK1

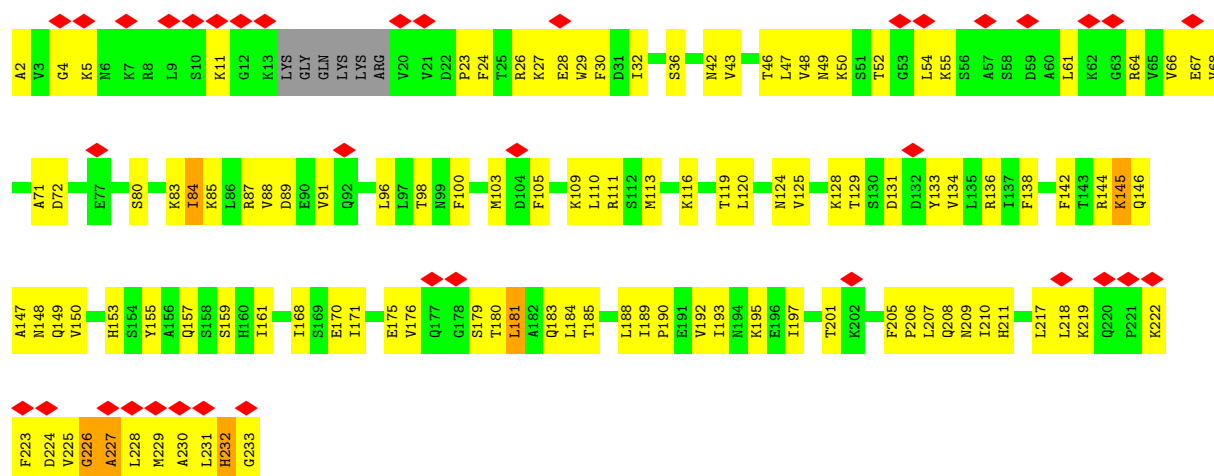


- Molecule 61: Small ribosomal subunit protein uS2A

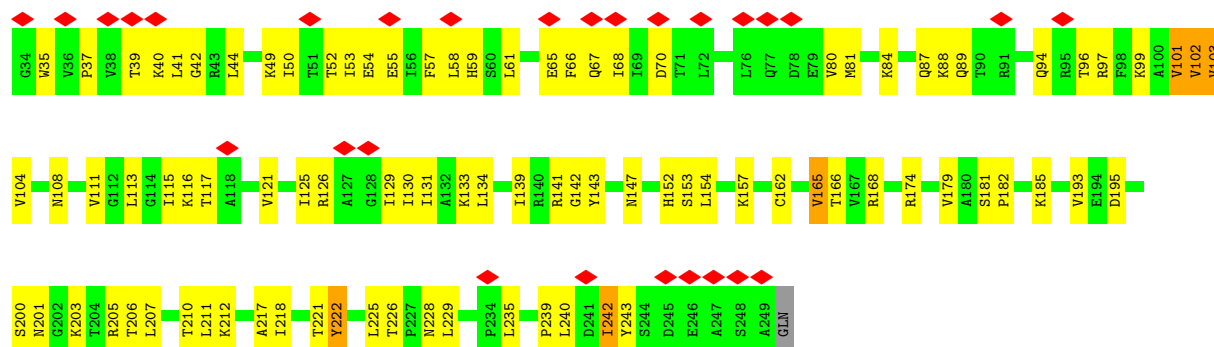




• Molecule 62: Small ribosomal subunit protein eS1A

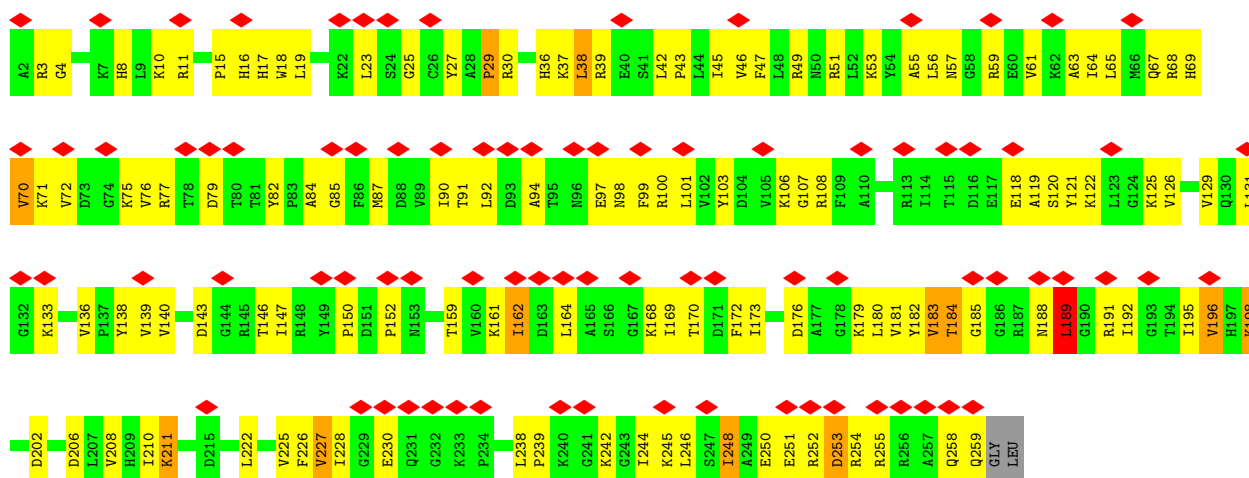


• Molecule 63: Small ribosomal subunit protein uS5

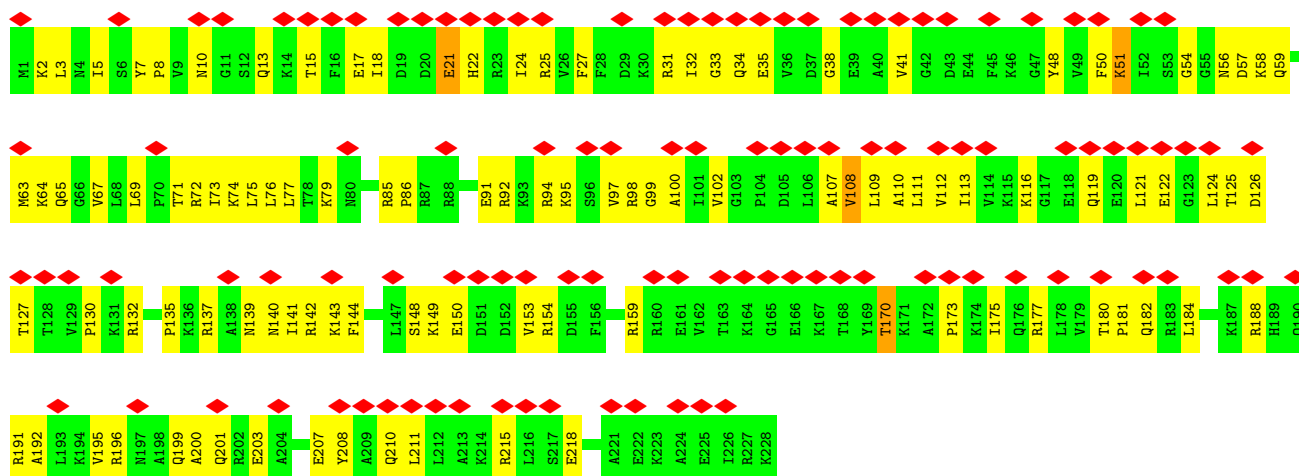


• Molecule 64: Small ribosomal subunit protein eS4A

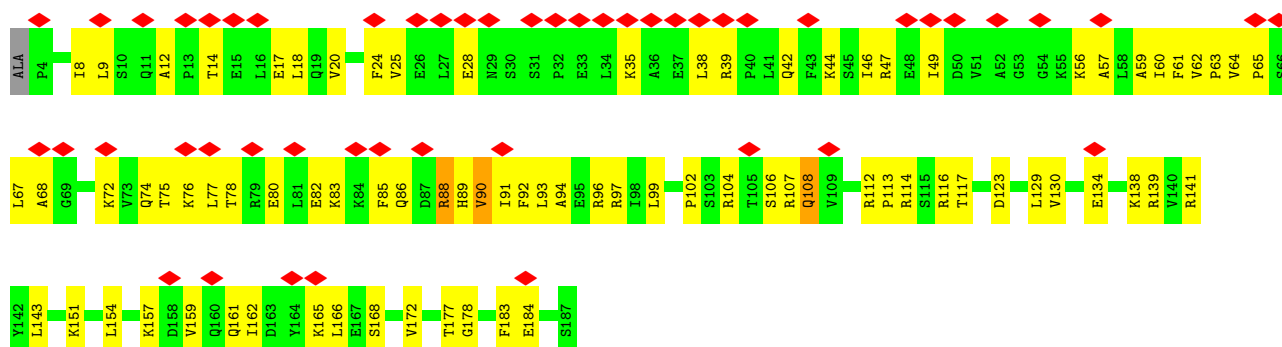




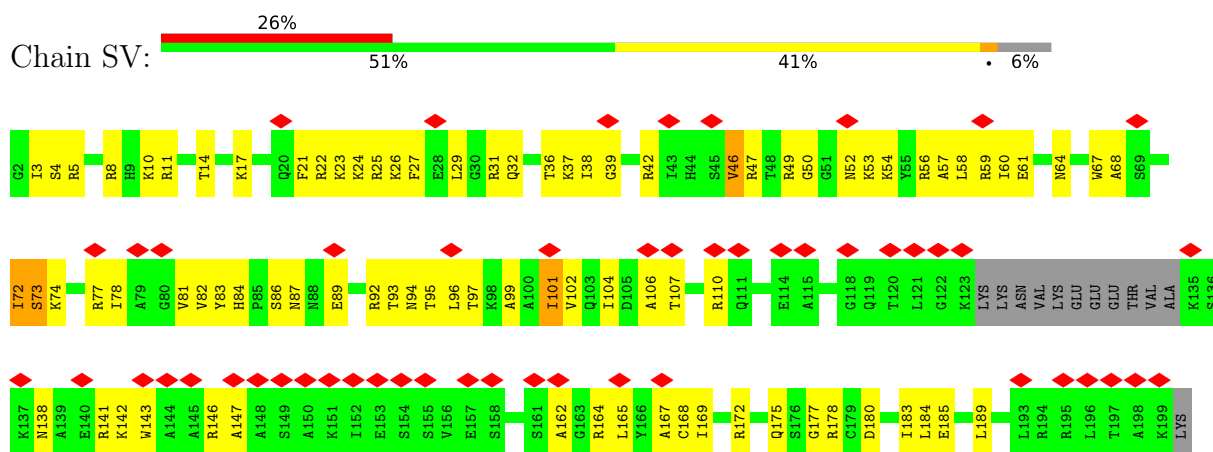
• Molecule 65: Small ribosomal subunit protein eS6A



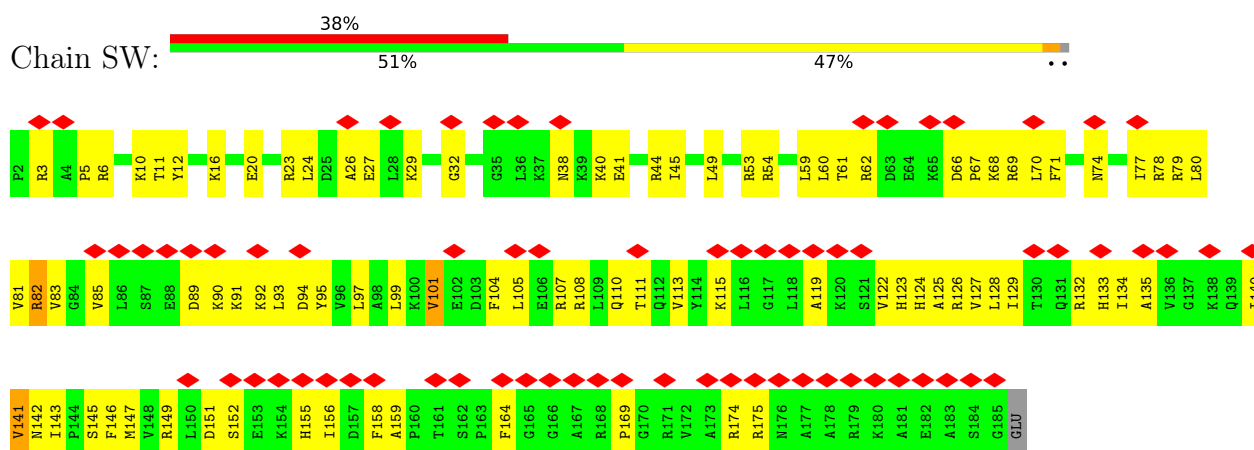
• Molecule 66: Small ribosomal subunit protein eS7A



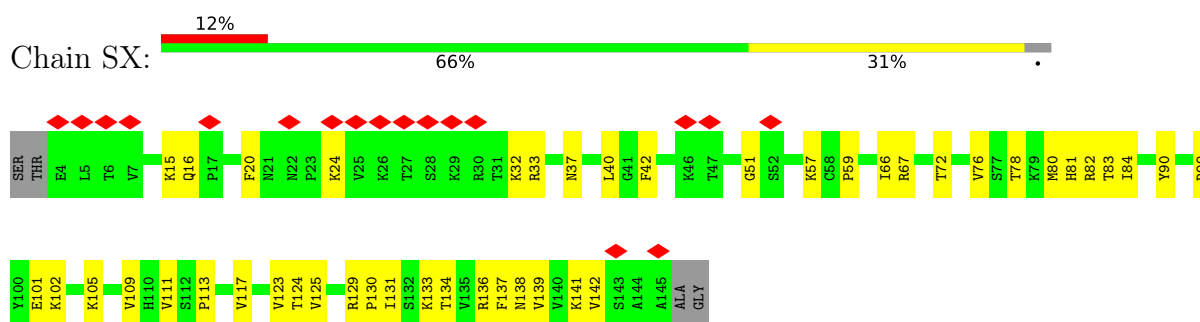
• Molecule 67: Small ribosomal subunit protein eS8A



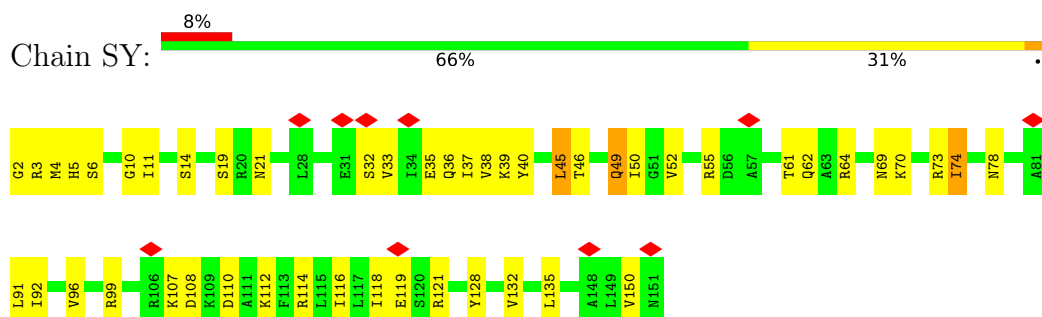
• Molecule 68: Small ribosomal subunit protein uS4A



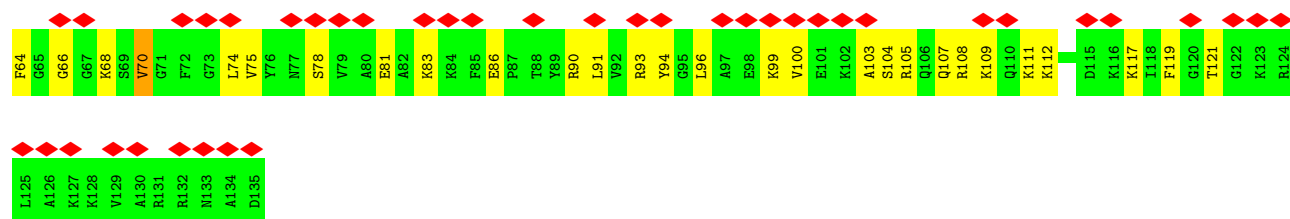
• Molecule 69: Small ribosomal subunit protein uS17A



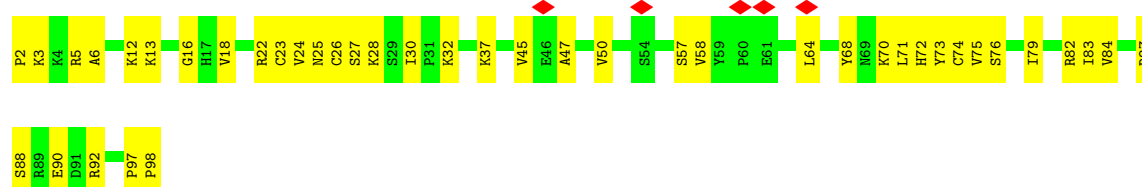
• Molecule 70: Small ribosomal subunit protein uS15



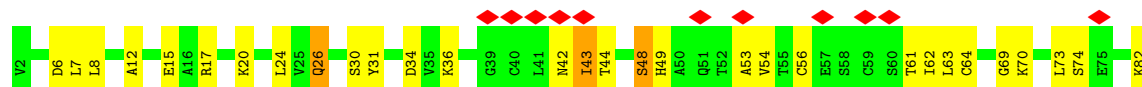
- | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|
| S2 | D3 | A4 | V5 | T6 | R7 | H8 | T9 | R10 | K11 | V12 | I13 | S14 | M15 | P16 | L17 | | R20 | K21 | Q22 | F23 | V24 | V25 | D26 | V27 | L28 | H29 | P30 | N31 | R32 | A33 | N34 | V35 | S36 | K37 | D38 | E39 | L40 | R41 | E42 | K43 | L44 | A45 | E46 | V47 | Y48 | K49 | A50 | E51 | K52 | D53 | | S56 | V57 | F58 | G59 | F60 | R61 | T62 | G63 |
|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|



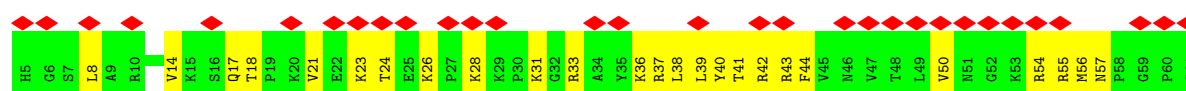
• Molecule 76: Small ribosomal subunit protein eS26B



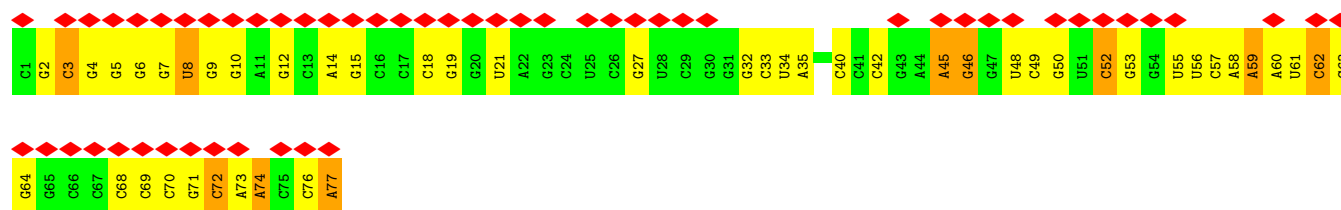
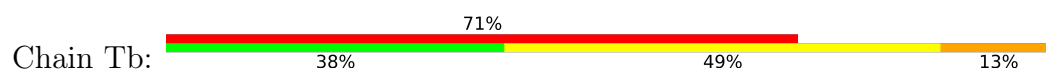
• Molecule 77: Small ribosomal subunit protein eS27A



• Molecule 78: Small ribosomal subunit protein eS30A

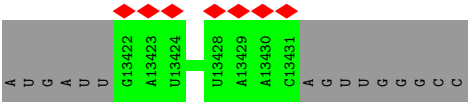


• Molecule 79: tRNA (77-MER)



• Molecule 80: RNA (5'-R(P*GP*AP*UP*CP*CP*UP*UP*AP*AP*C)-3')





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	44663	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	2.581	Depositor
Minimum map value	-1.214	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.074	Depositor
Recommended contour level	0.22	Depositor
Map size (Å)	570.0, 570.0, 570.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.95, 0.95, 0.95	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	LA	0.22	0/76214	0.34	0/118821
2	LB	0.20	0/2883	0.28	0/4491
3	LC	0.22	0/3746	0.33	0/5832
4	LD	0.32	1/1933 (0.1%)	0.45	0/2598
5	LE	0.23	0/3146	0.41	0/4228
6	LF	0.24	0/2800	0.44	0/3790
7	LG	0.21	0/2400	0.40	0/3239
8	LH	0.21	0/1329	0.39	0/1794
9	LI	0.26	0/1821	0.41	0/2451
10	LJ	0.21	0/1836	0.41	0/2481
11	LK	0.22	0/1529	0.42	0/2060
12	LL	0.43	0/1801	0.53	2/2416 (0.1%)
13	LM	0.17	0/1367	0.41	0/1834
14	LN	0.23	0/1568	0.44	0/2106
15	LO	0.27	0/1068	0.41	0/1438
16	LP	0.25	0/1757	0.40	0/2354
17	LQ	0.26	0/1585	0.40	0/2128
18	LR	0.24	0/1439	0.41	0/1938
19	LS	0.26	0/1465	0.44	0/1965
20	LT	0.21	0/1532	0.35	0/2043
21	LU	0.26	0/1473	0.42	0/1980
22	LV	0.24	0/1296	0.41	0/1739
23	LW	0.20	0/812	0.41	0/1099
24	LX	0.25	0/1018	0.42	0/1369
25	LY	0.23	0/540	0.42	0/717
26	LZ	0.29	1/979 (0.1%)	0.42	0/1321
27	La	0.22	0/995	0.41	0/1329
28	Lb	0.19	0/1106	0.40	0/1485
29	Lc	0.23	0/1200	0.44	0/1607
30	Ld	0.22	0/473	0.41	0/629
31	Le	0.20	0/745	0.37	0/1001
32	Lf	0.23	0/890	0.46	2/1196 (0.2%)
33	Lg	0.33	0/1038	0.41	0/1390
34	Lh	0.28	0/868	0.41	0/1168

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	Li	0.24	0/890	0.41	0/1189
36	Lj	0.21	0/978	0.36	0/1301
37	Lk	0.22	0/772	0.40	0/1026
38	Ll	0.25	0/660	0.39	0/875
39	Lm	0.29	0/618	0.46	0/826
40	Ln	0.25	0/443	0.40	0/588
41	Lo	0.23	0/416	0.44	0/553
42	Lp	0.19	0/230	0.30	0/296
43	Lq	0.21	0/836	0.41	0/1104
44	Lr	0.32	1/701 (0.1%)	0.44	0/934
45	S2	0.16	0/42211	0.33	0/65773
46	SA	0.17	0/1754	0.39	0/2361
47	SB	0.16	0/1625	0.42	0/2197
48	SC	0.22	0/769	0.45	0/1039
49	SD	0.17	0/883	0.51	0/1199
50	SE	0.15	0/936	0.39	0/1259
51	SF	0.17	0/1125	0.41	0/1510
52	SG	0.16	0/957	0.37	0/1283
53	SH	0.20	0/1207	0.39	0/1623
54	SI	0.23	0/1130	0.48	1/1517 (0.1%)
55	SJ	0.14	0/807	0.36	0/1091
56	SK	0.17	0/661	0.36	0/888
57	SL	0.22	0/493	0.39	0/663
58	SM	0.13	0/452	0.34	0/600
59	SN	0.11	0/567	0.33	0/764
60	SO	0.19	0/2436	0.42	0/3318
61	SP	0.29	0/1644	0.57	0/2249
62	SQ	0.26	0/1823	0.56	2/2447 (0.1%)
63	SR	0.20	0/1656	0.44	0/2251
64	SS	0.26	1/2097 (0.0%)	0.49	1/2823 (0.0%)
65	ST	0.17	0/1839	0.40	0/2460
66	SU	0.17	0/1498	0.41	0/2019
67	SV	0.19	0/1501	0.42	0/2006
68	SW	0.18	0/1504	0.44	0/2016
69	SX	0.18	0/1168	0.38	0/1575
70	SY	0.20	0/1215	0.37	0/1638
71	SZ	0.20	0/934	0.46	0/1257
72	Sa	0.17	0/682	0.40	0/921
73	Sb	0.23	0/1038	0.48	0/1395
74	Sc	0.27	0/1139	0.49	1/1518 (0.1%)
75	Sd	0.15	0/1046	0.38	0/1401
76	Se	0.35	1/778 (0.1%)	0.65	3/1042 (0.3%)
77	Sf	0.42	1/620 (0.2%)	0.37	0/838

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	Sg	0.22	0/459	0.44	0/611
79	Tb	0.11	0/1844	0.25	0/2873
All	All	0.22	6/215694 (0.0%)	0.37	12/317154 (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
30	Ld	0	2
36	Lj	0	1
61	SP	0	2
All	All	0	6

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
77	Sf	43	ILE	CG1-CD1	-8.72	1.17	1.51
4	LD	236	GLY	C-O	7.59	1.28	1.24
44	Lr	31	ILE	CG1-CD1	-5.87	1.28	1.51
76	Se	98	PRO	CG-CD	-5.75	1.31	1.50
26	LZ	106	ASP	CG-OD1	-5.59	1.14	1.25
64	SS	189	LEU	CG-CD1	-5.22	1.35	1.52

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
76	Se	98	PRO	CA-N-CD	-10.38	97.46	112.00
64	SS	29	PRO	CA-N-CD	-9.85	98.22	112.00
54	SI	67	MET	CG-SD-CE	-8.28	82.68	100.90
12	LL	186	GLU	N-CA-C	-6.76	103.37	111.69
12	LL	187	ALA	N-CA-C	-6.41	99.93	109.86
76	Se	98	PRO	N-CD-CG	-6.37	93.65	103.20
74	Sc	114	LYS	CA-CB-CG	6.30	126.71	114.10
62	SQ	226	GLY	N-CA-C	5.99	127.39	113.18
76	Se	98	PRO	N-CA-C	5.46	125.74	112.10
32	Lf	51	LEU	CA-C-N	-5.21	112.76	120.68
32	Lf	51	LEU	C-N-CA	-5.21	112.76	120.68
62	SQ	227	ALA	N-CA-C	5.09	121.16	114.75

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
10	LJ	30	THR	Peptide
30	Ld	19	ASN	Peptide
30	Ld	20	GLY	Peptide
36	Lj	83	LYS	Peptide
61	SP	202	TYR	Peptide
61	SP	203	PHE	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	1045	0
2	LB	2579	0	1304	33	0
3	LC	3353	0	1695	59	0
4	LD	1899	0	1957	64	0
5	LE	3075	0	3142	101	0
6	LF	2748	0	2859	94	0
7	LG	2351	0	2294	86	0
8	LH	1307	0	1377	44	0
9	LI	1784	0	1862	64	0
10	LJ	1804	0	1877	56	0
11	LK	1508	0	1572	52	0
12	LL	1764	0	1804	63	0
13	LM	1346	0	1370	57	0
14	LN	1543	0	1608	53	0
15	LO	1053	0	1149	47	0
16	LP	1720	0	1779	56	0
17	LQ	1555	0	1659	56	0
18	LR	1416	0	1433	37	0
19	LS	1441	0	1543	56	0
20	LT	1515	0	1606	49	0
21	LU	1437	0	1475	56	0
22	LV	1272	0	1312	54	0
23	LW	796	0	812	25	0
24	LX	1003	0	1048	34	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	LY	528	0	546	21	0
26	LZ	964	0	1025	27	0
27	La	984	0	1075	33	0
28	Lb	1080	0	1122	25	0
29	Lc	1169	0	1211	50	0
30	Ld	462	0	491	11	0
31	Le	737	0	792	24	0
32	Lf	876	0	912	27	0
33	Lg	1017	0	1081	33	0
34	Lh	850	0	880	19	0
35	Li	880	0	945	27	0
36	Lj	969	0	1078	28	0
37	Lk	766	0	844	28	0
38	Ll	645	0	649	24	0
39	Lm	612	0	682	36	0
40	Ln	436	0	475	24	0
41	Lo	410	0	446	17	0
42	Lp	229	0	273	9	0
43	Lq	824	0	892	25	0
44	Lr	694	0	738	26	0
45	S2	37739	0	18988	989	0
46	SA	1729	0	1812	69	0
47	SB	1605	0	1669	82	0
48	SC	752	0	719	43	0
49	SD	875	0	878	42	0
50	SE	916	0	941	46	0
51	SF	1105	0	1166	65	0
52	SG	948	0	990	36	0
53	SH	1188	0	1218	61	0
54	SI	1112	0	1124	56	0
55	SJ	797	0	863	24	0
56	SK	651	0	682	16	0
57	SL	491	0	524	20	0
58	SM	442	0	432	24	0
59	SN	556	0	549	13	0
60	SO	2383	0	2332	118	0
61	SP	1603	0	1610	74	0
62	SQ	1798	0	1890	120	0
63	SR	1626	0	1715	87	0
64	SS	2056	0	2140	131	0
65	ST	1815	0	1894	105	0
66	SU	1473	0	1555	72	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
67	SV	1476	0	1501	78	0
68	SW	1479	0	1556	98	0
69	SX	1142	0	1209	39	0
70	SY	1192	0	1255	42	0
71	SZ	923	0	948	47	0
72	Sa	673	0	662	35	0
73	Sb	1021	0	1060	36	0
74	Sc	1121	0	1196	65	0
75	Sd	1032	0	1044	61	0
76	Se	765	0	814	33	0
77	Sf	610	0	633	28	0
78	Sg	451	0	494	40	0
79	Tb	1650	0	838	32	0
80	mR	209	0	0	0	0
All	All	200896	0	147812	4891	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 14.

All (4891) 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)
33:Lg:83:GLU:OE1	33:Lg:111:ARG:NH1	1.73	1.22
1:LA:2251:A:N6	1:LA:2262:C:H42	1.37	1.19
1:LA:2251:A:H61	1:LA:2262:C:N4	1.43	1.17
48:SC:23:ALA:O	48:SC:64:TYR:HB2	1.47	1.14
15:LO:65:LEU:HG	21:LU:172:TYR:OH	1.52	1.09
45:S2:36:C:N4	45:S2:472:U:H3	1.50	1.08
79:Tb:27:G:H1	79:Tb:45:A:N6	1.50	1.07
19:LS:16:ARG:HH12	19:LS:55:SER:HB3	1.20	1.06
45:S2:821:U:H3	45:S2:852:C:N4	1.53	1.06
64:SS:255:ARG:O	64:SS:259:GLN:HB2	1.56	1.05
45:S2:40:A:H62	45:S2:467:G:N2	1.52	1.05
64:SS:185:GLY:N	64:SS:189:LEU:HD12	1.73	1.04
69:SX:80:MET:HE3	69:SX:83:THR:HG23	1.39	1.02
20:LT:159:ALA:HB1	20:LT:163:ARG:NH2	1.74	1.02
67:SV:39:GLY:N	67:SV:61:GLU:OE2	1.93	1.02
24:LX:32:ARG:NH2	45:S2:1734:U:H4'	1.75	1.01
45:S2:40:A:N6	45:S2:467:G:H21	1.56	1.00
45:S2:821:U:H3	45:S2:852:C:H42	1.07	1.00
67:SV:92:ARG:NH1	67:SV:92:ARG:HA	1.78	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:Li:91:ARG:O	35:Li:95:ILE:HD12	1.63	0.99
45:S2:1175:U:H3	45:S2:1464:G:H1	1.02	0.98
48:SC:3:MET:HE1	48:SC:8:ARG:HB2	1.42	0.98
33:Lg:74:PHE:CD2	33:Lg:85:LEU:HD13	1.98	0.98
39:Lm:30:LYS:HE3	39:Lm:40:GLN:CB	1.94	0.98
1:LA:2137:A:HO2'	38:Ll:2:GLY:N	1.62	0.95
45:S2:1588:G:H1	45:S2:1608:U:H3	0.99	0.95
39:Lm:30:LYS:HE3	39:Lm:40:GLN:HB3	1.48	0.95
19:LS:30:VAL:O	19:LS:34:THR:HG23	1.66	0.94
1:LA:3213:U:H2'	15:LO:121:MET:HE1	1.46	0.94
70:SY:64:ARG:HD3	70:SY:70:LYS:HG2	1.49	0.94
60:SO:210:LEU:HD13	60:SO:231:MET:CE	1.98	0.94
3:LC:121:U:H3	3:LC:132:G:H1	1.11	0.93
52:SG:24:LEU:HD11	52:SG:58:MET:HE3	1.46	0.93
64:SS:125:LYS:HZ2	64:SS:227:VAL:H	1.02	0.93
45:S2:1187:U:H3	45:S2:1198:G:H1	0.95	0.93
19:LS:16:ARG:NH1	19:LS:55:SER:HB3	1.85	0.92
45:S2:273:G:O6	45:S2:283:U:O2	1.88	0.92
1:LA:3348:C:C2	1:LA:3355:G:N2	2.37	0.92
68:SW:60:LEU:HD23	68:SW:69:ARG:HH12	1.34	0.92
45:S2:1663:G:H1	45:S2:1738:U:H3	0.94	0.92
61:SP:143:VAL:HG12	72:Sa:60:ARG:HH22	1.36	0.91
1:LA:3348:C:O2	1:LA:3355:G:N2	2.02	0.91
4:LD:27:ALA:HA	4:LD:75:ILE:HG22	1.53	0.91
45:S2:867:G:H5'	70:SY:4:MET:HE3	1.53	0.91
1:LA:160:G:H1	1:LA:261:U:H3	0.97	0.90
12:LL:108:ALA:O	12:LL:112:GLN:HB2	1.71	0.90
50:SE:108:ARG:HE	50:SE:110:GLU:HB2	1.37	0.90
60:SO:111:MET:HE2	60:SO:111:MET:N	1.85	0.90
33:Lg:74:PHE:HD2	33:Lg:85:LEU:HD13	1.36	0.89
63:SR:66:PHE:CD2	63:SR:130:ILE:HD12	2.08	0.88
15:LO:35:ILE:HD13	15:LO:44:VAL:HG21	1.54	0.88
45:S2:1158:C:H42	45:S2:1163:A:H61	1.17	0.88
1:LA:541:G:H1	1:LA:548:U:H3	0.93	0.88
1:LA:3167:A:N1	1:LA:3281:U:C4	2.41	0.88
25:LY:2:LYS:HE3	25:LY:4:GLU:OE1	1.74	0.88
17:LQ:36[A]:VAL:HB	17:LQ:108[A]:ILE:HD13	1.55	0.87
13:LM:75:LYS:O	13:LM:79:ILE:HD12	1.75	0.87
44:Lr:45:LYS:HE2	44:Lr:45:LYS:H	1.40	0.87
52:SG:16:LEU:O	52:SG:20:TYR:HB2	1.74	0.86
1:LA:511:U:H3	1:LA:578:G:H1	1.22	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1034:C:HO2'	73:Sb:2:THR:N	1.72	0.86
51:SF:22:VAL:HG13	51:SF:65:ILE:HG12	1.54	0.86
1:LA:2449:G:N2	1:LA:2495:C:O2	2.08	0.86
45:S2:649:U:H2'	45:S2:650:U:H5	1.37	0.86
4:LD:27:ALA:O	4:LD:128:ARG:NH2	2.07	0.86
45:S2:1267:G:H1	45:S2:1442:U:H3	1.24	0.86
46:SA:124:ARG:HG3	46:SA:127:MET:HE2	1.57	0.86
1:LA:366:A:OP1	6:LF:95:ARG:NH2	2.09	0.85
5:LE:294:GLY:HA2	5:LE:359:ILE:HD11	1.58	0.85
45:S2:1213:G:H1	45:S2:1450:U:H3	1.24	0.85
1:LA:1663:G:H1	1:LA:1784:U:H3	1.24	0.85
45:S2:205:U:O2'	45:S2:292:U:O2'	1.94	0.85
45:S2:887:A:H5''	71:SZ:120:PRO:HB2	1.58	0.84
64:SS:125:LYS:NZ	64:SS:227:VAL:HG12	1.92	0.84
48:SC:77:ARG:HG3	48:SC:82:LEU:HD11	1.58	0.84
1:LA:1387:U:O4	6:LF:186:LYS:NZ	2.10	0.84
77:Sf:36:LYS:HE2	77:Sf:43:ILE:CD1	2.08	0.84
1:LA:177:U:H3	1:LA:241:G:H1	1.22	0.84
64:SS:125:LYS:NZ	64:SS:227:VAL:H	1.76	0.84
45:S2:39:A:OP1	68:SW:6:ARG:NH1	2.11	0.83
53:SH:73:MET:HA	53:SH:73:MET:HE3	1.61	0.83
45:S2:1673:G:O6	45:S2:1728:A:N1	2.11	0.83
57:SL:42:ARG:HH12	57:SL:56:LEU:HD13	1.43	0.83
1:LA:1665:G:H1	1:LA:1782:U:H3	1.26	0.83
39:Lm:28:ASN:HB3	39:Lm:30:LYS:NZ	1.94	0.83
60:SO:110:VAL:HG12	60:SO:126:SER:HB2	1.59	0.83
68:SW:126:ARG:HB3	78:Sg:33:ARG:HH12	1.43	0.83
75:Sd:26:ASP:HB2	75:Sd:68:LYS:HE3	1.61	0.83
20:LT:159:ALA:HB1	20:LT:163:ARG:HH22	1.42	0.83
45:S2:766:U:H3	45:S2:770:A:H62	1.24	0.83
60:SO:210:LEU:HD13	60:SO:231:MET:HE1	1.61	0.83
65:ST:207:GLU:O	65:ST:211:LEU:HG	1.79	0.83
66:SU:14:THR:O	66:SU:18:LEU:HB2	1.79	0.82
1:LA:1229:G:O6	1:LA:1278:C:N4	2.11	0.82
20:LT:163:ARG:HB3	20:LT:167:ARG:HH21	1.42	0.82
1:LA:3159:U:H3	1:LA:3289:G:H1	1.26	0.82
39:Lm:3:ARG:NH1	39:Lm:50:SER:OG	2.12	0.82
45:S2:142:G:N7	65:ST:177:ARG:NH2	2.27	0.82
1:LA:1189:A:H4'	41:Lo:113:ARG:HH22	1.43	0.82
45:S2:485:A:N7	45:S2:505:A:N6	2.28	0.82
45:S2:478:A:H2	45:S2:510:G:H1	1.28	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1081:A:O2'	45:S2:1083:G:N7	2.13	0.81
51:SF:34:SER:HB2	54:SI:7:ARG:HG2	1.61	0.81
1:LA:2535:A:H3'	62:SQ:228:LEU:H	1.46	0.81
8:LH:100:LYS:HE2	8:LH:137:ASP:OD2	1.80	0.81
31:Le:34:LEU:HD11	31:Le:42:ILE:HD11	1.62	0.81
45:S2:1251:U:H1'	59:SN:133:ALA:HA	1.60	0.81
77:Sf:36:LYS:HE2	77:Sf:43:ILE:HD11	1.62	0.81
12:LL:30:LYS:HD2	12:LL:63:GLU:HG3	1.61	0.81
1:LA:113:C:OP1	16:LP:147:ARG:NH2	2.14	0.81
15:LO:50:LYS:HE2	15:LO:50:LYS:N	1.95	0.81
57:SL:42:ARG:HH11	57:SL:56:LEU:HD22	1.46	0.81
17:LQ:37[A]:ARG:HG3	17:LQ:108[A]:ILE:HD11	1.62	0.81
1:LA:1018:G:H1	1:LA:1032:U:H3	1.29	0.81
45:S2:394:C:H42	45:S2:401:A:H62	1.25	0.81
1:LA:1282:C:O2'	1:LA:1284:G:N7	2.13	0.81
9:LI:172:ASN:O	9:LI:175:LYS:NZ	2.13	0.81
60:SO:177:MET:HE1	60:SO:179:LYS:HD2	1.61	0.81
1:LA:686:U:OP2	14:LN:36:ARG:NH2	2.14	0.81
1:LA:1000:G:OP1	1:LA:1041:U:N3	2.12	0.81
12:LL:38:LYS:HG2	12:LL:41:ALA:HB2	1.63	0.81
21:LU:13:ARG:NH1	21:LU:50:LYS:O	2.14	0.81
25:LY:6:ASP:OD2	25:LY:32:GLN:N	2.14	0.81
71:SZ:48:VAL:HG21	71:SZ:53:ASP:HB2	1.61	0.80
14:LN:186:ARG:HA	14:LN:189:GLU:OE1	1.80	0.80
37:Lk:33:ALA:HB1	37:Lk:38:LYS:HE2	1.63	0.80
74:Sc:56:LYS:HG3	74:Sc:93:LEU:HD11	1.62	0.80
29:Lc:104:THR:HG21	29:Lc:112:ILE:HD11	1.63	0.80
45:S2:368:U:H2'	45:S2:369:A:H4'	1.63	0.80
60:SO:111:MET:HE2	60:SO:111:MET:H	1.43	0.80
62:SQ:113:MET:SD	62:SQ:211:HIS:CE1	2.74	0.80
75:Sd:83:LYS:HD3	75:Sd:96:LEU:HB3	1.64	0.80
45:S2:434:G:N2	45:S2:437:A:OP1	2.14	0.80
45:S2:1488:G:H3'	45:S2:1515:A:H61	1.47	0.80
9:LI:60:ARG:O	9:LI:64:GLN:HG3	1.82	0.80
55:SJ:106:ILE:HG23	55:SJ:107:THR:HG23	1.64	0.80
45:S2:1789:G:OP2	71:SZ:132:ARG:NH2	2.14	0.80
1:LA:3167:A:N1	1:LA:3281:U:O4	2.14	0.80
64:SS:107:GLY:HA2	64:SS:189:LEU:HD23	1.62	0.79
60:SO:147:HIS:NE2	60:SO:177:MET:HE3	1.97	0.79
74:Sc:107:PHE:CE2	74:Sc:114:LYS:CB	2.65	0.79
1:LA:2534:A:H1'	62:SQ:222:LYS:HB2	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:60:LEU:HD12	68:SW:97:LEU:HD11	1.64	0.79
45:S2:1663:G:N2	45:S2:1738:U:O4	2.14	0.78
1:LA:172:G:H1	1:LA:246:U:H3	0.82	0.78
10:LJ:57:ARG:O	10:LJ:61:GLN:NE2	2.16	0.78
39:Lm:24:THR:HG23	39:Lm:44:LYS:HB2	1.66	0.78
62:SQ:226:GLY:O	62:SQ:232:HIS:NE2	2.16	0.78
1:LA:177:U:O2	1:LA:241:G:N2	2.15	0.78
13:LM:82:ARG:HB2	13:LM:85:LYS:HE3	1.65	0.78
45:S2:825:U:C4	45:S2:826:U:O4	2.37	0.78
1:LA:2702:A:N6	7:LG:28:THR:O	2.17	0.78
1:LA:68:C:OP2	1:LA:301:G:N2	2.16	0.78
6:LF:132:ALA:HA	6:LF:148:ILE:HD11	1.65	0.78
7:LG:29:ASP:OD2	7:LG:32:GLN:HG3	1.84	0.78
45:S2:1235:C:N4	45:S2:1251:U:O4	2.17	0.78
11:LK:36:LYS:HE2	11:LK:78:MET:HE1	1.66	0.78
45:S2:448:C:O5'	64:SS:29:PRO:HD3	1.84	0.78
52:SG:106:THR:HG21	61:SP:18:LEU:HD11	1.66	0.78
45:S2:163:G:N2	45:S2:164:A:N7	2.31	0.78
61:SP:120:LEU:HD11	61:SP:144:ILE:HG13	1.65	0.78
32:Lf:36:ILE:HD12	32:Lf:59:ILE:HD11	1.66	0.78
63:SR:89:GLN:NE2	63:SR:94:GLN:NE2	2.32	0.78
1:LA:561:C:H5''	21:LU:71:LYS:HD2	1.65	0.77
64:SS:254:ARG:NH2	64:SS:258:GLN:HB2	1.99	0.77
5:LE:85:VAL:HG22	5:LE:202:THR:HG22	1.67	0.77
20:LT:30:SER:O	20:LT:34:GLN:NE2	2.17	0.77
1:LA:2947:C:OP1	5:LE:244:ARG:NH2	2.17	0.77
23:LW:34:ALA:O	23:LW:38:ILE:HD12	1.84	0.77
64:SS:191:ARG:HD3	64:SS:245:LYS:HB2	1.64	0.77
74:Sc:107:PHE:CE2	74:Sc:114:LYS:HB3	2.19	0.77
45:S2:1673:G:H1	45:S2:1728:A:H2	1.32	0.77
1:LA:1428:G:OP2	6:LF:107:ARG:NH2	2.17	0.77
9:LI:175:LYS:HE2	9:LI:176:TYR:CE2	2.20	0.77
45:S2:147:A:N7	45:S2:168:A:N6	2.31	0.77
67:SV:58:LEU:H	67:SV:60:ILE:HD13	1.48	0.77
1:LA:1676:G:N7	23:LW:74:LYS:NZ	2.31	0.77
1:LA:3324:G:H1	1:LA:3380:U:H3	1.29	0.76
45:S2:856:A:OP2	66:SU:97:ARG:NH1	2.17	0.76
53:SH:65:GLU:HA	53:SH:68:ARG:HD3	1.67	0.76
11:LK:7:GLU:OE2	11:LK:9:GLN:NE2	2.18	0.76
19:LS:16:ARG:HH12	19:LS:55:SER:CB	1.98	0.76
1:LA:1041:U:H6	1:LA:1042:C:H5	1.32	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:8:ALA:HB1	24:LX:45:ARG:HH12	1.51	0.76
45:S2:1545:A:N6	45:S2:1566:U:O2	2.18	0.76
63:SR:58:LEU:HD22	72:Sa:12:TYR:HD1	1.49	0.76
1:LA:1625:U:O2	1:LA:1816:G:N2	2.19	0.76
45:S2:1335:U:H3	45:S2:1416:G:H1	1.33	0.76
53:SH:46:VAL:HG11	53:SH:73:MET:HE1	1.66	0.76
1:LA:2355:A:H5'	18:LR:138:LYS:HZ2	1.50	0.76
14:LN:62:THR:HG23	14:LN:64:LYS:H	1.50	0.76
45:S2:558:U:OP2	78:Sg:55:ARG:NH2	2.19	0.76
51:SF:41:PRO:HG2	51:SF:44:LEU:HB2	1.67	0.76
6:LF:11:LEU:HD21	6:LF:156:LEU:HB2	1.66	0.76
45:S2:1502:G:N7	54:SI:102:ARG:NH2	2.34	0.76
67:SV:162:ALA:O	67:SV:164:ARG:NH1	2.19	0.76
28:Lb:72:ILE:HD11	28:Lb:107:ARG:HG2	1.68	0.75
45:S2:1307:U:H3	45:S2:1318:G:H21	1.34	0.75
45:S2:40:A:H62	45:S2:467:G:H21	0.78	0.75
61:SP:83:GLN:O	61:SP:87:LEU:HD12	1.85	0.75
1:LA:1625:U:H3	1:LA:1816:G:H1	1.33	0.75
39:Lm:30:LYS:HE3	39:Lm:40:GLN:HB2	1.67	0.75
45:S2:1165:G:N2	45:S2:1586:A:O2'	2.20	0.75
64:SS:159:THR:HB	64:SS:173:ILE:HB	1.68	0.75
45:S2:1218:G:O2'	45:S2:1220:C:N4	2.19	0.75
65:ST:3:LEU:HD21	65:ST:111:LEU:HD12	1.67	0.75
24:LX:59:MET:HE3	24:LX:73:VAL:HG12	1.67	0.75
62:SQ:229:MET:HE2	62:SQ:229:MET:O	1.86	0.75
49:SD:133:LEU:HA	49:SD:136:ILE:HG12	1.69	0.75
62:SQ:67:GLU:OE2	62:SQ:83:LYS:HG3	1.87	0.75
63:SR:59:HIS:HA	72:Sa:15:ARG:HH22	1.51	0.75
26:LZ:90:ALA:O	26:LZ:120:LYS:NZ	2.19	0.75
68:SW:126:ARG:HB3	78:Sg:33:ARG:NH1	2.01	0.75
19:LS:122:ILE:HD12	19:LS:126:GLN:OE1	1.87	0.74
45:S2:871:G:H2'	45:S2:872:G:C8	2.22	0.74
47:SB:183:ALA:HB2	47:SB:193:THR:HG21	1.69	0.74
1:LA:1806:G:OP1	28:Lb:133:LYS:NZ	2.19	0.74
1:LA:2291:U:HO2'	45:S2:1656:U:HO2'	1.34	0.74
45:S2:1580:C:H4'	51:SF:137:ARG:H	1.52	0.74
69:SX:78:THR:HA	69:SX:84:ILE:HG22	1.69	0.74
1:LA:1009:G:H1	1:LA:1039:A:H62	1.35	0.74
45:S2:205:U:H2'	45:S2:206:A:H8	1.51	0.74
45:S2:868:G:H1	45:S2:960:U:H3	1.33	0.74
45:S2:1538:U:O2'	45:S2:1539:G:N2	2.21	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1276:U:H2'	45:S2:1277:G:H8	1.53	0.74
47:SB:175:LEU:HD11	47:SB:198:LEU:HD22	1.70	0.74
53:SH:101:LEU:H	53:SH:104:ASN:HB2	1.52	0.74
60:SO:62:LYS:O	60:SO:90:ARG:NH2	2.20	0.74
73:Sb:12:ASN:O	73:Sb:16:ASN:ND2	2.20	0.74
15:LO:48:GLY:HA3	15:LO:53:VAL:HB	1.68	0.74
45:S2:654:C:N4	45:S2:679:U:O4	2.19	0.74
65:ST:208:TYR:HA	65:ST:211:LEU:HD12	1.68	0.74
3:LC:62:C:OP1	36:Lj:48:ARG:NH2	2.21	0.74
45:S2:512:A:O2'	68:SW:133:HIS:NE2	2.20	0.74
60:SO:210:LEU:HD13	60:SO:231:MET:HE2	1.69	0.74
27:La:32:SER:HA	27:La:49:PRO:HA	1.69	0.74
53:SH:45:LEU:HA	53:SH:48:LYS:HD2	1.69	0.73
73:Sb:42:GLN:NE2	73:Sb:48:GLY:O	2.21	0.73
16:LP:157:LYS:O	16:LP:162:ARG:NH1	2.21	0.73
34:Lh:67:MET:HE3	34:Lh:87:ASN:HB2	1.70	0.73
4:LD:36:GLU:HA	4:LD:91:GLY:HA2	1.68	0.73
15:LO:65:LEU:HG	21:LU:172:TYR:CZ	2.23	0.73
45:S2:1613:U:OP1	47:SB:169:ASN:ND2	2.22	0.73
79:Tb:56:U:H2'	79:Tb:57:C:H2'	1.70	0.73
4:LD:60:LYS:NZ	4:LD:75:ILE:HD11	2.04	0.73
12:LL:36:LEU:HD22	12:LL:73:ASN:HD21	1.51	0.73
45:S2:127:G:O6	65:ST:199:GLN:NE2	2.18	0.73
1:LA:1792:C:OP1	4:LD:177:LYS:NZ	2.22	0.73
9:LI:224:ILE:HA	21:LU:36:ILE:HD11	1.70	0.73
11:LK:89:LYS:HB2	11:LK:183:HIS:HB3	1.70	0.73
45:S2:36:C:H42	45:S2:472:U:H3	0.77	0.73
45:S2:1534:G:OP1	53:SH:57:ARG:NH2	2.21	0.73
45:S2:333:A:OP2	67:SV:54:LYS:NZ	2.22	0.73
45:S2:792:U:H3'	45:S2:793:A:H4'	1.71	0.73
45:S2:900:A:HO2'	45:S2:916:U:HO2'	1.31	0.73
75:Sd:105:ARG:HA	75:Sd:108:ARG:HE	1.54	0.73
1:LA:1638:C:OP2	35:Li:74:ARG:NH2	2.22	0.72
25:LY:3:VAL:HG11	25:LY:12:LYS:HG3	1.70	0.72
44:Lr:56:THR:HG23	44:Lr:63:THR:HG22	1.71	0.72
6:LF:325:LEU:O	9:LI:41:ARG:NH2	2.21	0.72
45:S2:649:U:H2'	45:S2:650:U:C5	2.24	0.72
68:SW:80:LEU:HD11	68:SW:99:LEU:HD11	1.70	0.72
70:SY:69:ASN:HB3	70:SY:73:ARG:HG2	1.70	0.72
45:S2:7:G:O6	63:SR:205:ARG:NH2	2.21	0.72
46:SA:40:ARG:HB2	46:SA:47:GLU:HB2	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2894:G:O2'	41:Lo:100:TYR:O	2.06	0.72
3:LC:97:A:OP1	36:Lj:67:ARG:NH2	2.22	0.72
5:LE:142:ALA:O	5:LE:146:ARG:NH1	2.21	0.72
60:SO:144:LEU:HD22	60:SO:145:LEU:H	1.54	0.72
65:ST:5:ILE:HG23	65:ST:50:PHE:HE1	1.53	0.72
68:SW:66:ASP:HB3	68:SW:69:ARG:HB2	1.71	0.72
1:LA:2879:U:OP1	24:LX:47:ASN:ND2	2.23	0.72
42:Lp:7:LYS:O	42:Lp:11:ARG:HG2	1.90	0.72
45:S2:446:A:H61	45:S2:461:G:H21	1.37	0.72
45:S2:777:C:H41	75:Sd:10:ARG:HH21	1.37	0.72
10:LJ:139:VAL:HG21	10:LJ:197:VAL:HG11	1.72	0.72
14:LN:153:ASP:OD2	14:LN:157:ARG:NH2	2.22	0.72
47:SB:70:VAL:HG13	47:SB:72:HIS:H	1.55	0.72
1:LA:2184:G:O2'	1:LA:2313:U:OP2	2.08	0.72
21:LU:73:LYS:NZ	21:LU:97:VAL:O	2.22	0.72
45:S2:992:A:O2'	45:S2:1785:U:O2	2.08	0.72
50:SE:49:MET:HE3	50:SE:49:MET:H	1.55	0.72
50:SE:81:ARG:NH1	50:SE:120:SER:O	2.23	0.72
60:SO:221:MET:SD	60:SO:223:TRP:NE1	2.61	0.72
16:LP:115:VAL:HG21	16:LP:160:GLU:HB3	1.72	0.72
49:SD:41:LEU:HD11	49:SD:43:ARG:HE	1.54	0.72
53:SH:109:LEU:O	53:SH:113:LEU:HD23	1.89	0.72
1:LA:799:G:O6	6:LF:104:LYS:NZ	2.21	0.71
45:S2:821:U:N3	45:S2:852:C:N4	2.34	0.71
49:SD:42:ALA:HB3	49:SD:122:VAL:HB	1.71	0.71
1:LA:1550:C:HO2'	1:LA:2169:U:HO2'	1.35	0.71
33:Lg:18:LYS:HG2	33:Lg:30:GLU:HG2	1.72	0.71
33:Lg:79:VAL:O	33:Lg:83:GLU:OE2	2.08	0.71
45:S2:337:G:O2'	67:SV:10:LYS:NZ	2.18	0.71
45:S2:1158:C:H42	45:S2:1163:A:N6	1.87	0.71
75:Sd:36:SER:OG	75:Sd:38:ASP:OD1	2.07	0.71
20:LT:21:LYS:HE3	20:LT:55:VAL:HA	1.72	0.71
45:S2:273:G:O6	45:S2:283:U:C2	2.43	0.71
73:Sb:102:VAL:HG22	73:Sb:113:HIS:HB3	1.72	0.71
1:LA:1189:A:H4'	41:Lo:113:ARG:NH2	2.04	0.71
1:LA:1660:G:H2'	1:LA:1661:G:C8	2.24	0.71
45:S2:1483:A:H2'	45:S2:1484:G:C8	2.26	0.71
53:SH:29:VAL:HG23	53:SH:30:TYR:HD1	1.54	0.71
62:SQ:61:LEU:HD12	62:SQ:96:LEU:HD13	1.70	0.71
45:S2:1280:C:OP1	58:SM:44:ARG:NH2	2.23	0.71
13:LM:132:ASN:HD21	13:LM:136:ALA:HB2	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SE:103:ASN:ND2	50:SE:119:PHE:O	2.23	0.71
74:Sc:107:PHE:CE2	74:Sc:114:LYS:HB2	2.26	0.71
1:LA:541:G:O6	1:LA:548:U:O4	2.09	0.71
17:LQ:37[A]:ARG:CG	17:LQ:108[A]:ILE:HD11	2.20	0.71
10:LJ:190:VAL:HG23	10:LJ:192:GLN:HG3	1.71	0.71
45:S2:207:U:O2	67:SV:178:ARG:NH1	2.24	0.71
45:S2:175:G:H21	45:S2:176:C:H41	1.39	0.71
1:LA:3167:A:C6	1:LA:3281:U:O4	2.44	0.70
26:LZ:50:ALA:HB1	36:Lj:66:VAL:HG11	1.72	0.70
45:S2:1158:C:N4	45:S2:1163:A:H61	1.87	0.70
1:LA:394:G:N1	1:LA:397:A:OP2	2.24	0.70
1:LA:1845:C:OP1	1:LA:1848:C:N4	2.21	0.70
7:LG:36:LEU:HB3	7:LG:50:ARG:HD2	1.73	0.70
8:LH:99:GLU:OE2	8:LH:99:GLU:N	2.17	0.70
44:Lr:9:GLY:HA3	44:Lr:27:LYS:HE3	1.73	0.70
52:SG:25:THR:O	52:SG:31:ASN:ND2	2.25	0.70
65:ST:64:LYS:HD2	65:ST:65:GLN:N	2.06	0.70
75:Sd:99:LYS:NZ	75:Sd:100:VAL:O	2.25	0.70
1:LA:2432:U:H1'	16:LP:125:SER:HB2	1.74	0.70
2:LB:7:G:OP1	7:LG:33:ARG:NH1	2.24	0.70
19:LS:122:ILE:HG23	19:LS:126:GLN:HB2	1.72	0.70
45:S2:933:A:OP1	76:Se:70:LYS:NZ	2.24	0.70
63:SR:142:GLY:N	63:SR:153:SER:O	2.24	0.70
45:S2:385:A:H5''	67:SV:22:ARG:HG2	1.74	0.70
45:S2:1169:G:N1	45:S2:1575:G:OP2	2.22	0.70
51:SF:32:ASN:O	54:SI:7:ARG:NH1	2.24	0.70
1:LA:1039:A:H1'	12:LL:198:LYS:HE3	1.73	0.70
1:LA:1561:C:O2'	1:LA:1562:C:O4'	2.09	0.70
45:S2:959:U:OP2	77:Sf:20:LYS:NZ	2.23	0.70
45:S2:1171:A:O2'	45:S2:1570:A:N3	2.23	0.70
45:S2:1534:G:O2'	45:S2:1535:U:O2	2.09	0.70
53:SH:41:ARG:HD2	54:SI:38:LYS:HD3	1.74	0.70
65:ST:76:LEU:HD13	65:ST:94:ARG:HG2	1.74	0.70
71:SZ:43:THR:HG22	71:SZ:46:MET:HE3	1.74	0.70
3:LC:103:G:OP2	3:LC:105:A:O2'	2.10	0.70
11:LK:91:ARG:HG3	11:LK:143:GLU:HG3	1.74	0.70
45:S2:1584:G:N2	45:S2:1611:A:OP2	2.25	0.70
52:SG:26:LEU:HD12	52:SG:62:GLN:HG3	1.74	0.70
1:LA:3267:A:OP1	8:LH:46:ARG:NH2	2.24	0.70
19:LS:123:THR:OG1	19:LS:125:ASP:OD1	2.08	0.70
46:SA:137:VAL:HG22	46:SA:151:LYS:HB3	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:76:G:O2'	14:LN:100:ARG:NH1	2.25	0.70
1:LA:1777:G:O2'	1:LA:1779:G:OP2	2.10	0.70
62:SQ:168:ILE:HA	62:SQ:197:ILE:HD11	1.74	0.70
4:LD:147:ARG:HG2	4:LD:157:VAL:HG12	1.74	0.70
14:LN:103:ASN:H	14:LN:103:ASN:ND2	1.88	0.70
37:Lk:54:GLU:OE1	37:Lk:90:MET:HE3	1.90	0.70
45:S2:263:C:N4	45:S2:264:G:O6	2.25	0.70
47:SB:208:SER:O	47:SB:212:LYS:HB2	1.91	0.70
68:SW:119:ALA:HB1	68:SW:124:HIS:HB3	1.74	0.70
5:LE:37:ARG:NH1	5:LE:186:GLY:O	2.24	0.69
8:LH:157:GLN:N	8:LH:157:GLN:OE1	2.24	0.69
31:Le:13:LYS:HE2	31:Le:103:THR:HG21	1.73	0.69
66:SU:35:LYS:HZ3	66:SU:39:ARG:HH22	1.40	0.69
26:LZ:115:ARG:NH2	26:LZ:119:THR:OG1	2.25	0.69
45:S2:95:G:O2'	45:S2:460:A:O2'	2.10	0.69
57:SL:42:ARG:HH12	57:SL:56:LEU:CD1	2.05	0.69
45:S2:656:G:N1	45:S2:679:U:O2	2.25	0.69
48:SC:77:ARG:HA	48:SC:82:LEU:HD21	1.74	0.69
52:SG:24:LEU:CD1	52:SG:58:MET:HE3	2.19	0.69
1:LA:2450:G:H1	1:LA:2492:U:H3	1.40	0.69
1:LA:2549:U:O4'	10:LJ:38:GLN:NE2	2.26	0.69
3:LC:142:C:OP1	16:LP:38:ARG:NH1	2.24	0.69
9:LI:43:ILE:HG22	9:LI:47:ARG:NH1	2.07	0.69
13:LM:53:THR:HG23	13:LM:60:ARG:HA	1.75	0.69
45:S2:863:A:OP1	73:Sb:57:ARG:NH1	2.26	0.69
1:LA:1387:U:C5	6:LF:186:LYS:NZ	2.60	0.69
1:LA:2251:A:H61	1:LA:2262:C:H42	0.75	0.69
9:LI:119:VAL:HG13	9:LI:124:LEU:HD21	1.72	0.69
37:Lk:3:VAL:O	37:Lk:12:ASN:ND2	2.25	0.69
45:S2:187:G:O6	67:SV:138:ASN:ND2	2.25	0.69
45:S2:1313:A:H2'	45:S2:1315:U:H5''	1.73	0.69
45:S2:1556:A:H3'	50:SE:40:ARG:NH2	2.08	0.69
63:SR:218:ILE:O	63:SR:221:THR:OG1	2.09	0.69
75:Sd:10:ARG:HB2	75:Sd:24:VAL:HG12	1.74	0.69
1:LA:527:U:H3	1:LA:563:G:H1	1.38	0.69
26:LZ:106:ASP:O	26:LZ:106:ASP:OD1	2.11	0.69
45:S2:773:C:O2'	45:S2:787:G:N2	2.25	0.69
45:S2:1211:A:N3	50:SE:97:TYR:OH	2.22	0.69
63:SR:113:LEU:HD21	63:SR:211:LEU:HB3	1.75	0.69
77:Sf:56:CYS:HG	77:Sf:61:THR:HG1	1.34	0.69
1:LA:394:G:H22	1:LA:397:A:H5'	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:LH:56:LYS:HD3	8:LH:98:VAL:HG13	1.75	0.69
21:LU:31:ALA:HB1	21:LU:36:ILE:HG22	1.73	0.69
21:LU:77:VAL:HG11	21:LU:106:LEU:HD22	1.74	0.69
45:S2:1171:A:H2'	45:S2:1172:G:H8	1.56	0.69
63:SR:52:THR:OG1	63:SR:54:GLU:OE1	2.11	0.69
15:LO:35:ILE:CD1	15:LO:44:VAL:HG21	2.23	0.69
45:S2:623:A:N6	45:S2:970:A:OP1	2.26	0.69
47:SB:93:LEU:O	47:SB:97:LEU:HD12	1.92	0.69
48:SC:77:ARG:HG3	48:SC:82:LEU:CD1	2.22	0.69
55:SJ:58:LEU:HD23	55:SJ:88:LYS:HG2	1.75	0.69
51:SF:13:LYS:HD2	51:SF:76:SER:HA	1.75	0.69
18:LR:130:TYR:CE1	18:LR:136:ILE:HD11	2.27	0.68
69:SX:57:LYS:HD2	69:SX:131:ILE:HG23	1.75	0.68
79:Tb:63:C:H2'	79:Tb:64:G:C8	2.28	0.68
38:Ll:25:ARG:O	38:Ll:25:ARG:HD3	1.93	0.68
45:S2:172:C:H2'	45:S2:173:A:H8	1.57	0.68
45:S2:448:C:C5'	64:SS:29:PRO:HD3	2.24	0.68
74:Sc:42:PRO:O	74:Sc:79:ASN:ND2	2.25	0.68
45:S2:405:C:O2'	65:ST:92:ARG:O	2.09	0.68
64:SS:185:GLY:H	64:SS:189:LEU:HD12	1.58	0.68
7:LG:120:LYS:HG2	7:LG:123:GLU:OE2	1.94	0.68
66:SU:62:VAL:HG12	66:SU:64:VAL:H	1.59	0.68
73:Sb:6:VAL:HG12	73:Sb:34:ILE:HD11	1.76	0.68
10:LJ:158:ASP:HB3	10:LJ:159:PRO:HD3	1.76	0.68
46:SA:209:ILE:HD11	52:SG:40:THR:HG23	1.75	0.68
62:SQ:210:ILE:HG22	62:SQ:210:ILE:O	1.94	0.68
1:LA:3312:U:O5'	5:LE:173:GLN:NE2	2.23	0.68
6:LF:33:ASP:O	6:LF:37:THR:HG23	1.94	0.68
22:LV:142:SER:OG	22:LV:144:GLU:OE1	2.12	0.68
39:Lm:28:ASN:HB3	39:Lm:30:LYS:HZ1	1.57	0.68
45:S2:979:A:N3	45:S2:1775:U:O2'	2.26	0.68
67:SV:92:ARG:HA	67:SV:92:ARG:HH11	1.59	0.68
64:SS:206:ASP:HB2	64:SS:222:LEU:HD23	1.76	0.68
1:LA:3041:U:OP2	1:LA:3091:C:N4	2.24	0.68
7:LG:34:LYS:HA	22:LV:27:LEU:HD11	1.75	0.68
14:LN:185:LYS:HE3	14:LN:189:GLU:OE2	1.94	0.68
31:Le:58:TYR:HE2	35:Li:97:GLU:HG2	1.57	0.68
32:Lf:68:GLU:OE1	32:Lf:68:GLU:N	2.22	0.68
64:SS:125:LYS:HZ1	64:SS:227:VAL:HG12	1.58	0.68
78:Sg:54:ARG:HE	78:Sg:56:MET:HE1	1.59	0.68
1:LA:243:G:OP1	36:Lj:115:LYS:NZ	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1387:U:C4	6:LF:186:LYS:NZ	2.60	0.68
6:LF:308:LYS:HD2	6:LF:310:THR:HG22	1.76	0.68
14:LN:4:SER:O	29:Lc:44:ASN:ND2	2.27	0.68
45:S2:917:U:H5'	71:SZ:20:TYR:CD2	2.29	0.68
45:S2:1681:A:N6	45:S2:1720:G:O2'	2.27	0.68
60:SO:90:ARG:HG2	60:SO:102:ARG:HG2	1.76	0.68
60:SO:210:LEU:HD21	60:SO:222:LEU:HD13	1.74	0.68
64:SS:181:VAL:HG21	64:SS:195:ILE:HG23	1.76	0.68
1:LA:282:G:O2'	1:LA:283:G:OP2	2.11	0.68
1:LA:936:G:N2	1:LA:960:C:OP1	2.27	0.68
1:LA:1759:A:N6	1:LA:1760:C:N3	2.42	0.68
16:LP:104:GLU:HA	16:LP:160:GLU:HG3	1.74	0.68
29:Lc:45:MET:HE3	29:Lc:45:MET:HA	1.76	0.68
45:S2:1175:U:O2	45:S2:1464:G:N2	2.27	0.68
45:S2:1257:U:O2'	48:SC:1:MET:N	2.26	0.68
54:SI:111:ILE:HG23	54:SI:113:ILE:HG12	1.76	0.68
69:SX:80:MET:HE3	69:SX:83:THR:CG2	2.19	0.68
1:LA:1350:U:H2'	1:LA:1351:A:H2'	1.76	0.67
6:LF:286:VAL:HG21	19:LS:28:LEU:HB3	1.74	0.67
7:LG:211:LEU:HD13	7:LG:215:ASP:HB3	1.76	0.67
21:LU:130:GLU:OE1	21:LU:130:GLU:N	2.25	0.67
45:S2:1477:G:H4'	54:SI:47:PRO:HA	1.76	0.67
50:SE:41:VAL:HG22	50:SE:84:ILE:HD13	1.76	0.67
62:SQ:192:VAL:HA	62:SQ:195:LYS:CE	2.24	0.67
1:LA:2205:G:O2'	1:LA:2207:A:N7	2.27	0.67
45:S2:78:A:OP1	65:ST:154:ARG:NH2	2.27	0.67
65:ST:69:LEU:HD12	65:ST:71:THR:H	1.59	0.67
1:LA:216:G:OP1	27:La:16:ARG:NH1	2.27	0.67
33:Lg:85:LEU:HD11	33:Lg:92:TYR:HB3	1.75	0.67
45:S2:623:A:H3'	45:S2:624:G:H5''	1.76	0.67
47:SB:69:PHE:HD2	51:SF:50:GLU:HG2	1.59	0.67
59:SN:132:LEU:HB3	59:SN:139:LEU:HD12	1.77	0.67
3:LC:53:A:O2'	40:Ln:40:LYS:NZ	2.27	0.67
45:S2:1171:A:H2'	45:S2:1172:G:C8	2.29	0.67
45:S2:1202:A:N6	45:S2:1457:C:OP1	2.26	0.67
64:SS:122:LYS:HD3	64:SS:162:ILE:HD11	1.76	0.67
64:SS:125:LYS:HZ2	64:SS:227:VAL:N	1.86	0.67
66:SU:114:ARG:O	66:SU:117:THR:OG1	2.13	0.67
1:LA:3343:A:H2	1:LA:3360:G:H21	1.40	0.67
45:S2:50:C:OP1	45:S2:423:G:N2	2.28	0.67
10:LJ:99:PRO:HD3	10:LJ:132:VAL:HG12	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SO:174:ASN:HB2	60:SO:198:ASN:HB2	1.76	0.67
14:LN:10:LEU:HD23	19:LS:166:LEU:HD11	1.77	0.67
54:SI:7:ARG:CD	54:SI:67:MET:HE1	2.24	0.67
1:LA:2417:G:H21	79:Tb:73:A:H62	1.41	0.67
23:LW:14:THR:HG23	23:LW:66:VAL:HG12	1.76	0.67
37:Lk:33:ALA:HB1	37:Lk:38:LYS:CE	2.24	0.67
46:SA:188:ILE:HG21	46:SA:190:ARG:HH21	1.59	0.67
64:SS:71:LYS:HE2	64:SS:91:THR:HB	1.77	0.67
68:SW:45:ILE:HG21	68:SW:105:LEU:HD21	1.76	0.67
74:Sc:107:PHE:CD2	74:Sc:114:LYS:HB2	2.29	0.67
7:LG:144:VAL:HG12	7:LG:173:VAL:HG12	1.77	0.67
45:S2:1359:C:O2'	54:SI:4:VAL:O	2.12	0.67
45:S2:1727:G:N2	67:SV:32:GLN:OE1	2.28	0.67
61:SP:134:LYS:O	61:SP:138:TYR:HD1	1.78	0.67
71:SZ:80:HIS:HA	71:SZ:113:GLY:O	1.95	0.67
1:LA:1418:A:OP1	3:LC:20:U:O2'	2.12	0.66
1:LA:2628:U:O4	22:LV:2:GLY:N	2.27	0.66
19:LS:120:GLU:OE2	19:LS:130:ARG:NH1	2.27	0.66
60:SO:144:LEU:HD21	60:SO:181:TRP:CH2	2.30	0.66
60:SO:224:ASN:HB2	60:SO:231:MET:SD	2.36	0.66
1:LA:654:C:H2'	1:LA:655:A:H8	1.60	0.66
1:LA:2498:U:H2'	1:LA:2499:A:C8	2.31	0.66
22:LV:84:TYR:HB2	30:Ld:24:PRO:HD3	1.77	0.66
60:SO:144:LEU:HG	60:SO:181:TRP:CE2	2.31	0.66
63:SR:108:ASN:OD1	63:SR:141:ARG:NH2	2.29	0.66
64:SS:56:LEU:HD23	64:SS:56:LEU:H	1.59	0.66
71:SZ:82:LYS:NZ	71:SZ:116:GLU:OE1	2.28	0.66
1:LA:1947:G:H21	1:LA:2098:A:N6	1.92	0.66
35:Li:87:GLU:OE2	35:Li:91:ARG:NH2	2.28	0.66
45:S2:329:G:H2'	45:S2:330:G:H8	1.60	0.66
45:S2:1673:G:OP1	65:ST:94:ARG:NH2	2.28	0.66
45:S2:1677:C:OP1	67:SV:42:ARG:NH1	2.28	0.66
60:SO:211:ILE:HG22	60:SO:223:TRP:HB2	1.75	0.66
3:LC:43:A:H62	38:Ll:65:ARG:HH12	1.44	0.66
3:LC:143:U:OP1	16:LP:38:ARG:NH2	2.28	0.66
45:S2:167:U:H5''	65:ST:137:ARG:NH2	2.10	0.66
49:SD:40:GLY:HA2	49:SD:124:LYS:HG2	1.77	0.66
69:SX:101:GLU:OE2	74:Sc:16:ARG:NH2	2.29	0.66
45:S2:1681:A:H2	45:S2:1720:G:H21	1.43	0.66
60:SO:144:LEU:HD22	60:SO:145:LEU:N	2.11	0.66
64:SS:125:LYS:HZ2	64:SS:227:VAL:HG12	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:ST:57:ASP:HA	65:ST:107:ALA:H	1.60	0.66
74:Sc:65:ASN:ND2	74:Sc:116:ASP:OD2	2.28	0.66
1:LA:595:C:OP2	9:LI:34:LYS:NZ	2.28	0.66
1:LA:672:U:OP1	19:LS:21:SER:OG	2.12	0.66
45:S2:1085:G:N2	45:S2:1088:A:OP2	2.25	0.66
68:SW:60:LEU:HD23	68:SW:69:ARG:NH1	2.09	0.66
75:Sd:112:LYS:NZ	75:Sd:112:LYS:O	2.29	0.66
1:LA:606:A:OP1	8:LH:26:ARG:NH2	2.28	0.66
7:LG:214:ASP:OD1	7:LG:215:ASP:N	2.28	0.66
10:LJ:72:PRO:HG3	16:LP:18:VAL:HA	1.75	0.66
40:Ln:13:MET:N	40:Ln:13:MET:HE2	2.10	0.66
45:S2:156:A:N6	45:S2:418:G:O6	2.26	0.66
58:SM:21:CYS:HB3	58:SM:26:SER:H	1.59	0.66
62:SQ:67:GLU:OE1	62:SQ:85:LYS:HG3	1.94	0.66
1:LA:307:A:H2'	1:LA:308:A:C8	2.30	0.66
1:LA:654:C:H2'	1:LA:655:A:C8	2.31	0.66
61:SP:117:GLU:O	61:SP:119:ARG:NH2	2.29	0.66
61:SP:198:MET:HE3	61:SP:200:ASP:H	1.61	0.66
20:LT:115:ILE:HB	20:LT:119:LEU:HD23	1.78	0.66
35:Li:41:ARG:NH2	35:Li:51:LEU:O	2.29	0.66
45:S2:959:U:H6	70:SY:61:THR:HG23	1.61	0.66
47:SB:58:LEU:HD12	47:SB:138:THR:HG22	1.77	0.66
53:SH:28:ILE:O	53:SH:32:LEU:HD12	1.96	0.66
60:SO:110:VAL:HA	60:SO:126:SER:HA	1.77	0.66
1:LA:3216:C:H6	1:LA:3265:G:H21	1.44	0.66
6:LF:156:LEU:O	6:LF:215:ILE:HD11	1.95	0.66
36:Lj:5:LYS:HD2	36:Lj:7:TYR:CZ	2.31	0.66
62:SQ:113:MET:SD	62:SQ:211:HIS:HE1	2.18	0.66
64:SS:182:TYR:O	64:SS:226:PHE:N	2.29	0.66
1:LA:1473:A:O2'	32:Lf:57:GLN:OE1	2.13	0.65
1:LA:2137:A:O2'	38:Ll:2:GLY:N	2.29	0.65
61:SP:170:ILE:O	61:SP:174:TRP:HD1	1.79	0.65
62:SQ:144:ARG:CZ	62:SQ:206:PRO:HB3	2.26	0.65
75:Sd:57:VAL:N	75:Sd:94:TYR:OH	2.25	0.65
1:LA:3189:C:OP1	17:LQ:172[A]:ARG:NH1	2.29	0.65
50:SE:49:MET:H	50:SE:49:MET:CE	2.08	0.65
28:Lb:27:LYS:HB2	28:Lb:42:LEU:HB2	1.78	0.65
35:Li:21:LYS:HD3	35:Li:33:GLN:HE21	1.61	0.65
45:S2:340:U:H2'	45:S2:341:A:C8	2.30	0.65
48:SC:77:ARG:HG3	48:SC:82:LEU:CG	2.27	0.65
1:LA:1083:A:H2'	1:LA:1084:A:C8	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1491:G:N7	40:Ln:2:ALA:N	2.44	0.65
19:LS:25:TYR:HA	19:LS:28:LEU:HD12	1.77	0.65
45:S2:340:U:H2'	45:S2:341:A:H8	1.58	0.65
45:S2:1483:A:H2'	45:S2:1484:G:H8	1.60	0.65
45:S2:1552:U:O2'	45:S2:1597:A:N3	2.28	0.65
12:LL:70:ILE:O	12:LL:74:LYS:HG2	1.97	0.65
16:LP:46:ASP:OD2	16:LP:50:ARG:NH2	2.29	0.65
19:LS:16:ARG:HH21	19:LS:20:LYS:CB	2.10	0.65
22:LV:86:GLU:OE1	22:LV:88:ARG:NH1	2.30	0.65
1:LA:439:C:O2'	1:LA:440:A:O4'	2.13	0.65
16:LP:143:ARG:NH1	36:Lj:96:GLU:OE2	2.29	0.65
45:S2:207:U:O4	45:S2:258:C:N3	2.29	0.65
45:S2:1198:G:OP1	45:S2:1199:G:O2'	2.13	0.65
45:S2:1556:A:H3'	50:SE:40:ARG:HH21	1.61	0.65
51:SF:52:LEU:HB3	51:SF:57:LEU:HD21	1.79	0.65
60:SO:122:ILE:HB	60:SO:134:TRP:HD1	1.61	0.65
1:LA:250:U:H2'	1:LA:251:G:H2'	1.79	0.65
2:LB:64:A:N7	12:LL:209:ASN:ND2	2.44	0.65
5:LE:182:GLN:HE21	5:LE:184:ASN:HD21	1.45	0.65
32:Lf:24:SER:HB2	32:Lf:27:LYS:HD2	1.78	0.65
45:S2:1218:G:OP1	45:S2:1265:G:N2	2.29	0.65
45:S2:1486:G:H2'	45:S2:1487:A:C8	2.31	0.65
62:SQ:68:VAL:HG23	62:SQ:84:ILE:HG23	1.78	0.65
79:Tb:27:G:H1	79:Tb:45:A:H61	0.70	0.65
1:LA:1575:G:H2'	1:LA:1576:G:C8	2.31	0.65
1:LA:2959:C:H2'	1:LA:2960:G:C8	2.31	0.65
11:LK:151:VAL:O	11:LK:155:SER:OG	2.12	0.65
16:LP:143:ARG:NH2	36:Lj:90:ARG:O	2.29	0.65
19:LS:16:ARG:HH21	19:LS:20:LYS:HB2	1.59	0.65
19:LS:170:ARG:HD2	29:Lc:57:GLY:HA3	1.77	0.65
45:S2:884:A:OP1	62:SQ:136:ARG:NH2	2.29	0.65
48:SC:77:ARG:CG	48:SC:82:LEU:HD11	2.27	0.65
68:SW:123:HIS:HA	78:Sg:33:ARG:NH2	2.11	0.65
1:LA:609:G:N7	6:LF:309:ARG:NH2	2.45	0.65
1:LA:1143:U:OP1	1:LA:1366:G:O2'	2.15	0.65
7:LG:122:VAL:O	7:LG:248:ARG:NH2	2.30	0.65
45:S2:29:U:H2'	45:S2:30:G:H8	1.62	0.65
45:S2:126:A:H61	45:S2:291:G:H2'	1.60	0.65
45:S2:478:A:C2	45:S2:510:G:N1	2.59	0.65
45:S2:1197:C:OP1	55:SJ:77:LYS:NZ	2.29	0.65
48:SC:50:THR:HG22	48:SC:55:VAL:HG13	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SO:13:LEU:HD23	60:SO:310:ILE:HD11	1.78	0.65
70:SY:99:ARG:NH1	70:SY:119:GLU:OE2	2.30	0.65
1:LA:910:C:OP1	4:LD:14:SER:OG	2.13	0.65
6:LF:35:VAL:HG21	6:LF:244:LEU:HD21	1.79	0.65
57:SL:42:ARG:NH1	57:SL:56:LEU:HD22	2.12	0.65
1:LA:284:A:OP2	43:Lq:41:ARG:NH1	2.29	0.64
1:LA:1338:C:OP1	33:Lg:61:LYS:HG2	1.96	0.64
45:S2:513:U:H3	45:S2:538:A:H62	1.45	0.64
45:S2:1524:A:H2'	45:S2:1525:A:C8	2.32	0.64
50:SE:26:LEU:HD23	50:SE:27:GLU:H	1.60	0.64
62:SQ:208:GLN:OE1	62:SQ:209:ASN:ND2	2.23	0.64
68:SW:126:ARG:NH1	78:Sg:33:ARG:HH11	1.94	0.64
1:LA:713:G:HO2'	1:LA:752:C:HO2'	1.45	0.64
1:LA:1389:A:N6	1:LA:1417:A:O2'	2.31	0.64
1:LA:1685:U:O4	23:LW:82:LYS:NZ	2.30	0.64
1:LA:1939:G:H21	1:LA:3361:A:H8	1.43	0.64
16:LP:103:GLU:HG3	16:LP:160:GLU:HB2	1.79	0.64
22:LV:94:GLU:OE2	22:LV:94:GLU:N	2.24	0.64
45:S2:1287:A:N1	45:S2:1328:G:O2'	2.29	0.64
45:S2:1358:G:O2'	54:SI:133:ASP:OD2	2.14	0.64
56:SK:88:ILE:HG12	56:SK:89:ILE:HG23	1.78	0.64
79:Tb:72:C:O2'	79:Tb:74:A:N7	2.29	0.64
1:LA:1387:U:O2'	33:Lg:99:ASN:HB3	1.97	0.64
1:LA:2524:G:O2'	1:LA:2525:C:OP2	2.13	0.64
1:LA:3163:C:O2'	1:LA:3164:A:O5'	2.14	0.64
45:S2:371:G:N2	45:S2:612:U:O2	2.30	0.64
45:S2:1357:A:H4'	54:SI:126:GLU:HG2	1.77	0.64
74:Sc:107:PHE:CZ	74:Sc:114:LYS:HD3	2.32	0.64
1:LA:1685:U:OP1	23:LW:42:LYS:NZ	2.30	0.64
1:LA:2535:A:H2'	62:SQ:227:ALA:N	2.13	0.64
45:S2:1512:G:H2'	45:S2:1513:G:C8	2.32	0.64
5:LE:56:ILE:HD13	5:LE:356:LEU:HD22	1.80	0.64
6:LF:23:PRO:HD2	6:LF:26:PHE:CD2	2.33	0.64
45:S2:1359:C:C5	45:S2:1360:A:H1'	2.32	0.64
51:SF:28:LEU:HD21	51:SF:66:ARG:HH21	1.62	0.64
53:SH:29:VAL:HG23	53:SH:30:TYR:CD1	2.33	0.64
53:SH:113:LEU:O	53:SH:117:LYS:HG2	1.97	0.64
1:LA:296:A:N3	1:LA:299:G:O2'	2.28	0.64
1:LA:998:G:N3	1:LA:1001:A:N6	2.45	0.64
60:SO:10:ARG:HB3	60:SO:314:GLN:HE22	1.63	0.64
60:SO:13:LEU:HB2	60:SO:310:ILE:HG13	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1634:G:N2	1:LA:1637:A:OP2	2.24	0.64
1:LA:1947:G:N2	1:LA:2098:A:N6	2.46	0.64
8:LH:133:GLU:O	8:LH:137:ASP:OD1	2.15	0.64
31:Le:40:LYS:NZ	31:Le:94:GLU:HB2	2.12	0.64
45:S2:97:C:H2'	45:S2:98:U:C6	2.33	0.64
45:S2:585:A:H2'	45:S2:586:G:H8	1.62	0.64
45:S2:1795:U:OP2	76:Se:5:ARG:NH2	2.31	0.64
65:ST:7:TYR:HB2	65:ST:124:LEU:HD21	1.79	0.64
77:Sf:31:TYR:O	77:Sf:48:SER:OG	2.15	0.64
1:LA:172:G:N2	1:LA:246:U:O2	2.22	0.64
1:LA:3067:U:OP2	20:LT:62:ARG:NH2	2.20	0.64
45:S2:181:A:H3'	45:S2:182:A:H8	1.63	0.64
45:S2:387:A:H2'	45:S2:402:C:H5'	1.78	0.64
45:S2:415:C:N4	45:S2:417:A:N3	2.44	0.64
45:S2:446:A:OP2	64:SS:59:ARG:NH1	2.31	0.64
67:SV:83:TYR:HB3	67:SV:101:ILE:HG12	1.78	0.64
78:Sg:14:VAL:O	78:Sg:18:THR:HG23	1.98	0.64
1:LA:1231:C:N4	1:LA:1232:G:O6	2.31	0.64
1:LA:3181:G:H4'	17:LQ:161[A]:LYS:HD2	1.80	0.64
18:LR:122:ALA:HB3	18:LR:143:PRO:HB2	1.78	0.64
62:SQ:180:THR:OG1	62:SQ:183:GLN:OE1	2.11	0.64
75:Sd:78:SER:OG	75:Sd:81:GLU:OE2	2.15	0.64
9:LI:74:SER:HB3	22:LV:142:SER:HA	1.78	0.64
37:Lk:51:SER:HB2	37:Lk:54:GLU:HG3	1.79	0.64
45:S2:475:A:OP1	68:SW:126:ARG:NH2	2.30	0.64
1:LA:2596:U:O2	16:LP:125:SER:OG	2.15	0.63
2:LB:112:G:H2'	2:LB:113:C:C6	2.33	0.63
9:LI:121:LYS:HB2	22:LV:133:ALA:HB3	1.80	0.63
63:SR:81:MET:HA	63:SR:81:MET:HE3	1.80	0.63
9:LI:175:LYS:H	9:LI:175:LYS:HD3	1.62	0.63
45:S2:586:G:H2'	45:S2:587:C:C6	2.33	0.63
45:S2:886:U:O2'	71:SZ:121:VAL:O	2.16	0.63
66:SU:123:ASP:OD2	66:SU:138:LYS:NZ	2.32	0.63
67:SV:184:LEU:HB3	67:SV:189:LEU:HB2	1.79	0.63
1:LA:1948:G:H1	1:LA:2096:U:H3	1.45	0.63
17:LQ:61[A]:ALA:HA	17:LQ:70[A]:PRO:HD2	1.79	0.63
65:ST:130:PRO:HG2	65:ST:132:ARG:HH12	1.62	0.63
1:LA:170:G:O2'	1:LA:171:G:O5'	2.16	0.63
1:LA:1906:C:O2	5:LE:240:ARG:NH2	2.32	0.63
14:LN:88:ALA:O	14:LN:92:THR:HG23	1.99	0.63
45:S2:187:G:N1	45:S2:197:A:N7	2.46	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1738:U:H5'	45:S2:1739:C:H6	1.64	0.63
60:SO:92:TRP:CD1	60:SO:99:THR:HG1	2.17	0.63
61:SP:11:PRO:HD2	61:SP:12:GLU:OE1	1.98	0.63
61:SP:136:ALA:HA	61:SP:141:ILE:HD13	1.81	0.63
62:SQ:207:LEU:HD23	62:SQ:210:ILE:HD11	1.81	0.63
67:SV:73:SER:O	67:SV:74:LYS:NZ	2.28	0.63
1:LA:663:U:H2'	1:LA:664:A:C8	2.34	0.63
1:LA:673:G:O2'	6:LF:116:ASN:OD1	2.14	0.63
6:LF:355:PHE:CE2	9:LI:70:LYS:HD3	2.34	0.63
31:Le:24:THR:OG1	31:Le:91:SER:OG	2.17	0.63
35:Li:91:ARG:HG3	35:Li:95:ILE:HD11	1.80	0.63
45:S2:1534:G:OP2	56:SK:74:SER:OG	2.15	0.63
53:SH:18:LEU:HD21	53:SH:101:LEU:HB3	1.80	0.63
64:SS:238:LEU:HD13	64:SS:239:PRO:HD2	1.80	0.63
1:LA:1002:A:N1	1:LA:1048:C:O2'	2.30	0.63
1:LA:3176:G:O2'	1:LA:3178:U:OP1	2.11	0.63
45:S2:523:G:N2	45:S2:528:U:OP2	2.25	0.63
45:S2:1331:A:H61	46:SA:161:GLY:HA3	1.62	0.63
46:SA:71:LEU:HA	46:SA:74:GLN:HB3	1.81	0.63
62:SQ:192:VAL:HA	62:SQ:195:LYS:HE2	1.80	0.63
64:SS:248:ILE:O	68:SW:71:PHE:CE2	2.51	0.63
1:LA:2900:G:O2'	1:LA:3023:A:N1	2.32	0.63
45:S2:402:C:OP1	64:SS:3:ARG:NH1	2.32	0.63
45:S2:522:U:O2'	75:Sd:60:PHE:O	2.16	0.63
49:SD:39:ASP:O	49:SD:124:LYS:NZ	2.32	0.63
67:SV:25:ARG:HD3	67:SV:27:PHE:CZ	2.33	0.63
74:Sc:48:HIS:CD2	74:Sc:105:ALA:HB2	2.34	0.63
6:LF:234:ASN:HB3	6:LF:237:GLN:HG2	1.79	0.63
10:LJ:153:ILE:HD13	10:LJ:166:LEU:HB3	1.81	0.63
14:LN:48:PRO:HG2	36:Lj:115:LYS:HE2	1.79	0.63
43:Lq:99:GLN:NE2	43:Lq:101:GLY:O	2.32	0.63
45:S2:591:A:H2'	45:S2:592:A:C8	2.34	0.63
1:LA:727:G:H5''	19:LS:43:PRO:HB2	1.80	0.63
45:S2:510:G:O6	45:S2:512:A:N6	2.32	0.63
45:S2:963:A:O2'	45:S2:964:U:O5'	2.15	0.63
58:SM:12:ARG:O	58:SM:18:SER:OG	2.16	0.63
60:SO:109:ASP:OD1	60:SO:110:VAL:N	2.32	0.63
73:Sb:105:THR:HG22	73:Sb:110:ILE:HD13	1.80	0.63
1:LA:1314:U:OP2	17:LQ:44[A]:SER:OG	2.17	0.62
1:LA:2863:A:H5''	12:LL:114:GLY:HA2	1.80	0.62
17:LQ:182[A]:ASN:O	17:LQ:186[A]:ALA:HB2	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LV:18:ASP:HB2	22:LV:21:LYS:HB2	1.80	0.62
45:S2:17:C:O2'	45:S2:1137:A:N1	2.32	0.62
45:S2:1073:G:H4'	70:SY:10:GLY:HA2	1.81	0.62
68:SW:169:PRO:HG2	68:SW:174:ARG:HH12	1.64	0.62
4:LD:27:ALA:HA	4:LD:75:ILE:CG2	2.27	0.62
37:Lk:62:ARG:HH11	37:Lk:62:ARG:HG3	1.61	0.62
45:S2:1538:U:HO2'	45:S2:1539:G:H21	1.44	0.62
64:SS:103:TYR:O	64:SS:182:TYR:OH	2.16	0.62
11:LK:28:VAL:HG23	11:LK:33:THR:HB	1.81	0.62
11:LK:112:ILE:HG23	11:LK:126:VAL:HG22	1.82	0.62
21:LU:152:LEU:HD12	21:LU:172:TYR:HE2	1.64	0.62
45:S2:284:G:OP2	65:ST:188:ARG:NE	2.32	0.62
3:LC:57:C:OP2	38:Ll:68:LYS:NZ	2.33	0.62
29:Lc:101:VAL:HA	29:Lc:124:ILE:HB	1.82	0.62
45:S2:1175:U:O4	45:S2:1464:G:O6	2.17	0.62
62:SQ:87:ARG:NH1	62:SQ:89:ASP:OD2	2.32	0.62
1:LA:2541:U:N3	62:SQ:232:HIS:HE1	1.97	0.62
1:LA:3298:A:H61	1:LA:3314:G:H1	1.46	0.62
5:LE:71:GLU:OE2	25:LY:1:MET:N	2.33	0.62
11:LK:9:GLN:HB3	11:LK:52:LEU:HD21	1.81	0.62
45:S2:851:U:O2	45:S2:852:C:N4	2.27	0.62
47:SB:161:ASP:OD2	57:SL:42:ARG:NH1	2.33	0.62
61:SP:157:ASP:OD2	72:Sa:60:ARG:NH2	2.31	0.62
63:SR:59:HIS:HA	72:Sa:15:ARG:NH2	2.14	0.62
26:LZ:131:ASP:HB3	26:LZ:134:ASP:HB2	1.80	0.62
47:SB:160:VAL:HG11	57:SL:25:VAL:HG11	1.82	0.62
63:SR:104:VAL:HG11	63:SR:133:LYS:HD2	1.81	0.62
65:ST:121:LEU:HB2	65:ST:125:THR:HG23	1.81	0.62
70:SY:19:SER:OG	70:SY:21:ASN:O	2.17	0.62
75:Sd:20:ARG:NH2	75:Sd:74:LEU:HB2	2.15	0.62
53:SH:143:ARG:HA	53:SH:145:ARG:HH11	1.64	0.62
13:LM:56:THR:HG23	13:LM:57:PHE:CD1	2.33	0.62
24:LX:37:ILE:HG12	24:LX:59:MET:O	2.00	0.62
31:Le:95:ALA:HB1	31:Le:98:SER:HB2	1.82	0.62
37:Lk:7:ILE:HG22	37:Lk:9:ILE:H	1.64	0.62
44:Lr:27:LYS:O	44:Lr:31:ILE:CD1	2.46	0.62
45:S2:514:G:H2'	45:S2:515:A:H8	1.65	0.62
45:S2:1650:U:H2'	45:S2:1651:A:C8	2.35	0.62
60:SO:35:SER:HG	60:SO:45:TRP:CD1	2.17	0.62
60:SO:43:ILE:HD11	60:SO:57:PRO:HB3	1.81	0.62
1:LA:2441:G:H1	1:LA:2504:U:H3	1.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LF:150:LEU:HD23	6:LF:249:ILE:HG12	1.81	0.62
7:LG:281:GLU:O	7:LG:285:ARG:HG2	2.00	0.62
28:Lb:57:HIS:HB2	28:Lb:62:VAL:HG23	1.81	0.62
35:Li:91:ARG:HG3	35:Li:95:ILE:CD1	2.30	0.62
41:Lo:93:LYS:HD3	41:Lo:102:ARG:HG2	1.82	0.62
45:S2:123:G:H21	64:SS:146:THR:HG21	1.64	0.62
63:SR:152:HIS:ND1	63:SR:195:ASP:OD2	2.33	0.62
64:SS:42:LEU:HD11	64:SS:47:PHE:HB2	1.82	0.62
65:ST:2:LYS:O	65:ST:108:VAL:HA	1.99	0.62
1:LA:171:G:H2'	1:LA:172:G:C8	2.35	0.62
1:LA:1260:G:N2	1:LA:1260:G:OP2	2.33	0.62
6:LF:23:PRO:HD2	6:LF:26:PHE:HD2	1.65	0.62
45:S2:1160:A:H2'	45:S2:1161:C:C6	2.35	0.62
45:S2:1591:C:H2'	45:S2:1592:A:H8	1.64	0.62
66:SU:113:PRO:HG2	66:SU:116:ARG:HG2	1.82	0.62
78:Sg:36:LYS:HD2	78:Sg:37:ARG:N	2.15	0.62
1:LA:229:G:H5''	27:La:4:GLN:HG2	1.81	0.61
1:LA:2556:A:OP1	4:LD:69:TYR:OH	2.17	0.61
1:LA:3213:U:C6	15:LO:121:MET:HE1	2.35	0.61
10:LJ:169:LEU:HA	37:Lk:43:LEU:HD11	1.81	0.61
45:S2:1503:A:H4'	54:SI:37:VAL:HG12	1.81	0.61
46:SA:102:ALA:HA	46:SA:105:MET:SD	2.40	0.61
62:SQ:91:VAL:HG22	62:SQ:96:LEU:HB3	1.81	0.61
1:LA:3343:A:C2	1:LA:3360:G:N2	2.59	0.61
22:LV:115:LYS:HB3	22:LV:126:VAL:HG21	1.82	0.61
40:Ln:14:ALA:O	40:Ln:18:LYS:HG2	2.01	0.61
45:S2:36:C:H2'	45:S2:37:U:H6	1.65	0.61
45:S2:1534:G:N7	56:SK:77:ARG:NH2	2.48	0.61
56:SK:77:ARG:O	56:SK:81:ARG:HG2	2.00	0.61
64:SS:147:ILE:HD11	64:SS:150:PRO:HB3	1.81	0.61
65:ST:79:LYS:HG2	65:ST:86:PRO:HG3	1.82	0.61
66:SU:60:ILE:HD13	66:SU:90:VAL:HG13	1.81	0.61
73:Sb:30:SER:HB2	73:Sb:61:ILE:HG12	1.82	0.61
5:LE:298:PHE:CZ	25:LY:1:MET:HB3	2.36	0.61
9:LI:144:ILE:HG13	9:LI:189:ILE:HD11	1.81	0.61
11:LK:120:ASP:OD2	11:LK:124:ARG:NH2	2.34	0.61
12:LL:191:LYS:HD2	12:LL:198:LYS:HB2	1.81	0.61
16:LP:15:GLN:HE21	37:Lk:52:PRO:HD2	1.64	0.61
40:Ln:9:ILE:O	40:Ln:13:MET:HG2	1.99	0.61
45:S2:513:U:O4	45:S2:538:A:N7	2.33	0.61
45:S2:1479:A:OP1	54:SI:57:ARG:NE	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1514:U:O2'	46:SA:5:ILE:O	2.17	0.61
45:S2:1579:U:H4'	51:SF:140:LYS:HB3	1.80	0.61
50:SE:78:THR:OG1	50:SE:80:MET:SD	2.58	0.61
61:SP:137:SER:HB2	61:SP:155:PHE:CE1	2.34	0.61
63:SR:226:THR:HG22	63:SR:228:ASN:H	1.63	0.61
75:Sd:108:ARG:HA	75:Sd:111:LYS:HE3	1.81	0.61
1:LA:44:U:H5''	16:LP:85:THR:HG23	1.82	0.61
1:LA:149:U:P	16:LP:49:ARG:HH22	2.23	0.61
5:LE:211:GLN:NE2	5:LE:283:TYR:O	2.32	0.61
13:LM:37:LEU:HD12	13:LM:67:VAL:HG22	1.83	0.61
44:Lr:87:ARG:O	44:Lr:91:GLU:HG2	2.00	0.61
45:S2:296:U:H2'	45:S2:297:U:H6	1.64	0.61
45:S2:900:A:O2'	45:S2:916:U:O2'	2.10	0.61
45:S2:1504:G:OP1	54:SI:97:SER:OG	2.18	0.61
45:S2:1649:G:H2'	45:S2:1650:U:C6	2.35	0.61
47:SB:46:TRP:CD1	47:SB:129:PRO:HG3	2.35	0.61
48:SC:77:ARG:HG3	48:SC:82:LEU:HD21	1.82	0.61
1:LA:661:U:H2'	1:LA:662:C:C6	2.35	0.61
1:LA:790:A:OP1	6:LF:108:LYS:NZ	2.33	0.61
1:LA:3213:U:C5	15:LO:121:MET:SD	2.93	0.61
7:LG:231:ILE:HG23	7:LG:235:SER:HB2	1.82	0.61
16:LP:192:LYS:O	16:LP:196:THR:OG1	2.17	0.61
45:S2:1478:G:OP1	54:SI:39:THR:OG1	2.16	0.61
45:S2:1641:C:H2'	45:S2:1642:G:C8	2.36	0.61
1:LA:1102:A:H5''	9:LI:158:LYS:HG2	1.83	0.61
1:LA:1543:G:OP1	16:LP:67:ARG:NH1	2.33	0.61
1:LA:3348:C:O2	1:LA:3355:G:C2	2.53	0.61
6:LF:282:SER:HB2	19:LS:126:GLN:HE21	1.66	0.61
7:LG:243:ALA:O	7:LG:247:ILE:HG12	1.99	0.61
21:LU:71:LYS:HE3	21:LU:73:LYS:HG2	1.83	0.61
31:Le:73:GLY:N	31:Le:76:GLU:OE1	2.32	0.61
45:S2:545:A:O4'	45:S2:594:A:N6	2.32	0.61
45:S2:1297:G:N2	45:S2:1300:A:OP2	2.22	0.61
45:S2:1460:A:OP2	53:SH:145:ARG:NH2	2.34	0.61
62:SQ:205:PHE:CD1	62:SQ:206:PRO:HD2	2.35	0.61
45:S2:424:C:O2'	45:S2:426:G:OP1	2.14	0.61
45:S2:655:G:H4'	45:S2:656:G:C8	2.36	0.61
69:SX:111:VAL:HA	69:SX:139:VAL:HG22	1.82	0.61
1:LA:1911:U:N3	1:LA:2121:G:OP2	2.33	0.61
6:LF:20:LEU:HD11	6:LF:252:GLU:HG3	1.82	0.61
7:LG:68:THR:OG1	7:LG:71:GLY:O	2.17	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LQ:41[A]:LEU:HD23	17:LQ:138[A]:LEU:HD22	1.82	0.61
32:Lf:25:PHE:HA	32:Lf:28:ARG:HG3	1.83	0.61
45:S2:392:G:OP1	45:S2:1729:C:O2'	2.19	0.61
60:SO:90:ARG:HE	60:SO:92:TRP:HZ2	1.49	0.61
61:SP:72:ASP:OD1	61:SP:73:VAL:N	2.34	0.61
71:SZ:137:LEU:HD23	71:SZ:137:LEU:H	1.66	0.61
1:LA:966:A:OP1	29:Lc:47:LYS:NZ	2.29	0.61
1:LA:2355:A:H5'	18:LR:138:LYS:NZ	2.15	0.61
1:LA:3032:A:H2'	1:LA:3033:C:H6	1.66	0.61
6:LF:170:LYS:HE2	6:LF:175:HIS:CD2	2.35	0.61
35:Li:29:ILE:HD11	35:Li:31:ARG:HH21	1.66	0.61
39:Lm:2:ALA:N	39:Lm:51:LEU:O	2.33	0.61
45:S2:122:U:H2'	45:S2:123:G:C8	2.36	0.61
45:S2:273:G:C6	45:S2:283:U:O2	2.53	0.61
45:S2:397:A:H4'	67:SV:50:GLY:HA2	1.83	0.61
45:S2:1184:A:O2'	45:S2:1209:C:O2'	2.17	0.61
5:LE:166:ILE:HA	5:LE:169:THR:HB	1.83	0.61
16:LP:96:ARG:NH1	16:LP:104:GLU:OE1	2.34	0.61
45:S2:1315:U:OP1	45:S2:1328:G:N2	2.26	0.61
45:S2:1335:U:O2	45:S2:1416:G:N2	2.30	0.61
45:S2:1592:A:H2'	45:S2:1593:A:H8	1.65	0.61
65:ST:56:ASN:H	65:ST:108:VAL:HG22	1.64	0.61
1:LA:2766:U:O2'	43:Lq:30:ALA:O	2.10	0.60
19:LS:37:ALA:O	19:LS:46:LYS:NZ	2.33	0.60
45:S2:1230:A:H2	45:S2:1258:U:H1'	1.65	0.60
50:SE:118:GLU:HB3	53:SH:122:HIS:H	1.66	0.60
1:LA:3001:C:O2'	5:LE:180:GLU:OE2	2.16	0.60
2:LB:33:U:C4	7:LG:207:TYR:CE2	2.90	0.60
2:LB:121:U:OP2	7:LG:265:TYR:OH	2.18	0.60
19:LS:74:GLU:OE1	19:LS:74:GLU:N	2.27	0.60
45:S2:472:U:OP1	68:SW:11:THR:N	2.34	0.60
65:ST:148:SER:OG	65:ST:150:GLU:OE1	2.17	0.60
66:SU:68:ALA:O	66:SU:72:LYS:HG2	2.02	0.60
68:SW:29:LYS:HB3	78:Sg:44:PHE:CZ	2.37	0.60
1:LA:375:A:H5'	27:La:95:VAL:HG11	1.83	0.60
7:LG:208:MET:HE3	7:LG:226:TYR:CD2	2.36	0.60
12:LL:50:VAL:HG22	12:LL:167:LEU:HD13	1.83	0.60
45:S2:445:A:N6	45:S2:462:G:N3	2.49	0.60
45:S2:1067:C:H5''	62:SQ:150:VAL:HG13	1.83	0.60
64:SS:79:ASP:HB2	64:SS:82:TYR:HB2	1.81	0.60
65:ST:137:ARG:NH1	65:ST:140:ASN:HB2	2.15	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:213:A:O4'	27:La:2:ALA:N	2.34	0.60
1:LA:594:G:OP2	9:LI:30:ARG:NH1	2.34	0.60
1:LA:1096:G:N7	22:LV:116:ARG:NH1	2.50	0.60
1:LA:1202:A:H2'	1:LA:1203:A:C8	2.36	0.60
6:LF:361:HIS:O	21:LU:28:ARG:NH1	2.34	0.60
23:LW:59:ASP:OD1	23:LW:62:VAL:N	2.31	0.60
26:LZ:106:ASP:OD1	26:LZ:127:THR:CG2	2.49	0.60
33:Lg:94:ALA:HB3	33:Lg:119:VAL:HG12	1.84	0.60
39:Lm:40:GLN:NE2	39:Lm:57:ASN:OD1	2.32	0.60
45:S2:585:A:H2'	45:S2:586:G:C8	2.36	0.60
48:SC:29:GLN:HB3	48:SC:39:ASN:HD21	1.67	0.60
61:SP:16:LEU:HD22	61:SP:172:LEU:HD13	1.83	0.60
68:SW:107:ARG:CZ	68:SW:147:MET:HA	2.31	0.60
1:LA:121:A:C2	10:LJ:129:PRO:HB3	2.36	0.60
1:LA:2835:C:H5	1:LA:2851:C:H42	1.48	0.60
1:LA:2946:G:C2	5:LE:250:ALA:HB1	2.37	0.60
1:LA:3107:G:O2'	11:LK:166:ARG:NH1	2.34	0.60
6:LF:317:PRO:C	6:LF:319:LYS:H	2.07	0.60
7:LG:119:TYR:OH	7:LG:139:PRO:O	2.16	0.60
45:S2:1580:C:H2'	45:S2:1581:C:C6	2.36	0.60
47:SB:73:THR:N	47:SB:91:GLU:OE2	2.34	0.60
53:SH:36:LYS:HZ1	53:SH:105:VAL:HG21	1.66	0.60
60:SO:123:ILE:HG21	60:SO:169:ILE:HG12	1.81	0.60
7:LG:77:ALA:O	7:LG:108:ARG:NH1	2.33	0.60
15:LO:20:VAL:HG21	15:LO:90:VAL:HG11	1.84	0.60
24:LX:101:VAL:HG11	24:LX:114:ILE:HD12	1.83	0.60
45:S2:304:U:OP1	69:SX:136:ARG:NE	2.26	0.60
45:S2:1459:C:OP2	53:SH:126:ARG:NH2	2.27	0.60
51:SF:44:LEU:HD13	51:SF:78:VAL:HG21	1.82	0.60
62:SQ:109:LYS:HE3	62:SQ:113:MET:SD	2.42	0.60
63:SR:165:VAL:HG21	63:SR:210:THR:HG22	1.83	0.60
1:LA:1523:A:OP1	26:LZ:92:LYS:NZ	2.28	0.60
54:SI:7:ARG:NE	54:SI:67:MET:CE	2.64	0.60
55:SJ:71:PRO:HB3	58:SM:41:GLN:HG2	1.84	0.60
63:SR:40:LYS:HD2	63:SR:240:LEU:HD13	1.83	0.60
64:SS:139:VAL:HG22	64:SS:147:ILE:HG13	1.84	0.60
1:LA:358:G:N2	1:LA:361:A:OP2	2.34	0.60
1:LA:2726:A:OP2	1:LA:2727:G:N2	2.33	0.60
7:LG:53:VAL:O	7:LG:54:ARG:NH1	2.32	0.60
39:Lm:5:ILE:HG22	39:Lm:54:LEU:HD23	1.82	0.60
45:S2:688:G:H2'	45:S2:689:G:H8	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:837:G:H2'	45:S2:838:G:C8	2.36	0.60
45:S2:1389:C:H4'	52:SG:49:LYS:HD3	1.82	0.60
47:SB:90:ILE:O	47:SB:94:THR:HG23	2.02	0.60
59:SN:89:LYS:HD2	59:SN:91:ILE:HG23	1.83	0.60
67:SV:39:GLY:CA	67:SV:61:GLU:OE2	2.50	0.60
5:LE:211:GLN:OE1	5:LE:212:ASN:ND2	2.33	0.60
9:LI:163:LEU:HA	9:LI:168:ILE:HD11	1.83	0.60
41:Lo:88:LYS:C	41:Lo:88:LYS:HD3	2.27	0.60
45:S2:1146:G:H2'	45:S2:1147:A:C8	2.37	0.60
45:S2:1230:A:N6	45:S2:1255:G:O2'	2.34	0.60
68:SW:108:ARG:HE	68:SW:145:SER:HA	1.67	0.60
71:SZ:20:TYR:HB3	71:SZ:27:PHE:HB2	1.84	0.60
20:LT:138:LEU:O	20:LT:142:ILE:HG12	2.02	0.60
45:S2:10:G:H1'	63:SR:94:GLN:HE22	1.67	0.60
45:S2:19:A:H4'	45:S2:572:C:H5'	1.83	0.60
45:S2:200:A:H2'	45:S2:201:G:C8	2.37	0.60
45:S2:1584:G:C8	51:SF:14:LYS:HE3	2.37	0.60
62:SQ:189:ILE:HG23	62:SQ:190:PRO:HD3	1.84	0.60
64:SS:98:ASN:HB3	64:SS:119:ALA:HB2	1.84	0.60
70:SY:64:ARG:HH11	70:SY:64:ARG:HG3	1.67	0.60
76:Se:12:LYS:HZ3	76:Se:16:GLY:H	1.49	0.60
78:Sg:23:LYS:NZ	78:Sg:24:THR:O	2.31	0.60
1:LA:2827:G:OP2	12:LL:7:ARG:NH1	2.35	0.59
5:LE:45:SER:HB3	5:LE:181:ILE:HG12	1.84	0.59
45:S2:195:G:H2'	45:S2:196:G:C8	2.37	0.59
45:S2:235:G:N7	45:S2:834:G:H5'	2.16	0.59
46:SA:28:GLU:CD	48:SC:58:GLN:HG2	2.27	0.59
60:SO:72:THR:HG21	60:SO:114:ASP:HA	1.83	0.59
64:SS:94:ALA:HB3	75:Sd:17:LEU:HG	1.84	0.59
66:SU:91:ILE:HD11	66:SU:172:VAL:HG11	1.84	0.59
1:LA:1620:A:H2'	1:LA:1621:U:C6	2.38	0.59
1:LA:2405:C:H2'	1:LA:2406:C:C6	2.38	0.59
27:La:56:VAL:HB	27:La:104:LEU:HD13	1.83	0.59
45:S2:153:G:H2'	45:S2:154:G:C8	2.37	0.59
54:SI:82:GLY:O	54:SI:94:ILE:N	2.26	0.59
72:Sa:74:GLN:HG3	72:Sa:83:TRP:HB3	1.84	0.59
1:LA:172:G:O6	1:LA:246:U:O4	2.20	0.59
36:Lj:5:LYS:HD2	36:Lj:7:TYR:OH	2.02	0.59
45:S2:1187:U:O4	45:S2:1198:G:O6	2.19	0.59
45:S2:1192:C:O2'	51:SF:140:LYS:NZ	2.35	0.59
79:Tb:9:G:O2'	79:Tb:10:G:N7	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:655:A:H2'	1:LA:656:A:C8	2.37	0.59
1:LA:2212:A:H2'	1:LA:2213:A:C8	2.37	0.59
45:S2:15:U:O2'	45:S2:620:A:N6	2.35	0.59
45:S2:502:U:O4	45:S2:504:U:H6	1.85	0.59
45:S2:1628:U:H2'	45:S2:1629:G:C8	2.36	0.59
1:LA:2680:U:OP2	13:LM:51:ARG:NH1	2.31	0.59
24:LX:10:LYS:HB2	24:LX:125:LEU:HD11	1.83	0.59
25:LY:4:GLU:HB2	25:LY:13:ILE:HB	1.82	0.59
45:S2:1183:A:N3	45:S2:1210:C:O2'	2.36	0.59
62:SQ:111:ARG:HB3	76:SE:68:TYR:HB2	1.84	0.59
68:SW:107:ARG:NH2	68:SW:108:ARG:HA	2.17	0.59
1:LA:1278:C:H2'	1:LA:1279:C:C6	2.37	0.59
1:LA:1306:G:P	17:LQ:59[A]:ARG:HH12	2.24	0.59
1:LA:2536:U:P	62:SQ:231:LEU:H	2.25	0.59
1:LA:2963:G:N2	1:LA:2966:A:OP2	2.32	0.59
4:LD:47:GLN:HG2	4:LD:60:LYS:HB2	1.82	0.59
5:LE:215:ILE:HD12	5:LE:338:LEU:HB3	1.85	0.59
45:S2:17:C:H2'	45:S2:18:C:C6	2.38	0.59
45:S2:788:A:H2'	64:SS:19:LEU:HD22	1.84	0.59
47:SB:162:VAL:HG23	47:SB:167:ARG:HG2	1.83	0.59
61:SP:127:ARG:NH1	61:SP:150:ASP:O	2.35	0.59
63:SR:108:ASN:HA	63:SR:141:ARG:HH22	1.67	0.59
6:LF:113:VAL:HB	6:LF:118:LYS:HE3	1.84	0.59
45:S2:325:G:OP1	69:SX:134:THR:OG1	2.15	0.59
48:SC:7:ASP:HA	48:SC:10:LYS:HB2	1.84	0.59
1:LA:1192:A:OP2	17:LQ:49[A]:ARG:NH2	2.35	0.59
1:LA:1267:G:N2	1:LA:1270:A:OP2	2.36	0.59
8:LH:60:ASP:OD2	8:LH:78:ARG:NH1	2.35	0.59
45:S2:170:U:OP2	45:S2:172:C:N4	2.36	0.59
45:S2:196:G:N7	67:SV:141:ARG:NH1	2.50	0.59
45:S2:329:G:H2'	45:S2:330:G:C8	2.36	0.59
45:S2:766:U:O4	45:S2:770:A:N7	2.34	0.59
45:S2:895:G:H4'	62:SQ:27:LYS:HZ1	1.66	0.59
63:SR:89:GLN:HE22	63:SR:94:GLN:NE2	2.01	0.59
64:SS:185:GLY:CA	64:SS:189:LEU:HD12	2.33	0.59
67:SV:46:VAL:HG13	67:SV:54:LYS:HB3	1.84	0.59
1:LA:1716:U:H2'	1:LA:1717:G:C8	2.38	0.59
4:LD:48:ILE:HD11	4:LD:82:VAL:HG12	1.85	0.59
45:S2:208:U:H2'	45:S2:209:U:H6	1.66	0.59
49:SD:52:LEU:HD22	49:SD:78:LEU:HB3	1.84	0.59
51:SF:100:GLN:HG2	60:SO:57:PRO:HD2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SS:107:GLY:CA	64:SS:189:LEU:HD23	2.31	0.59
1:LA:2449:G:N2	1:LA:2495:C:C2	2.71	0.59
1:LA:2536:U:H2'	62:SQ:233:GLY:H	1.67	0.59
11:LK:149:ASN:OD1	11:LK:149:ASN:N	2.34	0.59
45:S2:622:A:H4'	45:S2:623:A:H5''	1.83	0.59
45:S2:696:C:H4'	45:S2:697:C:H5''	1.85	0.59
73:Sb:53:ILE:HD11	77:Sf:8:LEU:HD23	1.85	0.59
1:LA:696:A:H2'	1:LA:697:U:C6	2.38	0.58
1:LA:2548:G:OP2	1:LA:2548:G:N2	2.26	0.58
1:LA:2959:C:H2'	1:LA:2960:G:H8	1.68	0.58
12:LL:189:GLU:OE1	12:LL:189:GLU:N	2.24	0.58
13:LM:131:MET:HE1	13:LM:162:TRP:CZ3	2.39	0.58
22:LV:112:ASN:HB2	22:LV:128:LEU:HD13	1.85	0.58
45:S2:47:A:N7	45:S2:98:U:O2'	2.36	0.58
45:S2:555:A:N7	45:S2:590:C:O2'	2.36	0.58
45:S2:960:U:H5'	70:SY:55:ARG:HD3	1.85	0.58
45:S2:1505:A:H1'	45:S2:1562:G:H21	1.68	0.58
45:S2:1672:G:H2'	45:S2:1673:G:C8	2.39	0.58
45:S2:1795:U:O2'	45:S2:1797:A:N7	2.35	0.58
54:SI:6:VAL:HB	54:SI:63:ARG:CZ	2.32	0.58
54:SI:86:ARG:HD3	54:SI:92:LYS:HE3	1.84	0.58
64:SS:183:VAL:HA	64:SS:225:VAL:HA	1.84	0.58
45:S2:1452:U:OP1	58:SM:10:HIS:ND1	2.36	0.58
49:SD:138:GLU:OE1	49:SD:142:GLN:NE2	2.35	0.58
62:SQ:129:THR:OG1	62:SQ:131:ASP:OD1	2.21	0.58
64:SS:90:ILE:HD11	64:SS:101:LEU:HD11	1.84	0.58
67:SV:11:ARG:HE	67:SV:17:LYS:HB2	1.68	0.58
1:LA:417:A:H2'	1:LA:418:A:C8	2.38	0.58
1:LA:1009:G:H1	1:LA:1039:A:N6	1.99	0.58
9:LI:163:LEU:HB3	9:LI:181:ILE:HD11	1.84	0.58
45:S2:43:A:O2'	45:S2:44:U:O4'	2.18	0.58
50:SE:15:HIS:NE2	50:SE:110:GLU:OE2	2.36	0.58
58:SM:22:ARG:NH2	58:SM:36:LEU:O	2.36	0.58
63:SR:157:LYS:HG2	73:Sb:95:PRO:HA	1.85	0.58
67:SV:82:VAL:HG13	67:SV:101:ILE:HG13	1.83	0.58
1:LA:695:C:H2'	1:LA:696:A:C8	2.38	0.58
1:LA:1168:A:H4'	9:LI:219:LYS:HE2	1.86	0.58
1:LA:1804:C:H2'	1:LA:1805:A:H8	1.67	0.58
1:LA:2156:G:N7	4:LD:152:SER:OG	2.34	0.58
1:LA:2696:A:H2'	1:LA:2697:G:C8	2.38	0.58
18:LR:116:HIS:HB3	18:LR:149:VAL:HB	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Lf:72:ARG:NH2	32:Lf:105:GLN:O	2.35	0.58
45:S2:1406:A:H2'	45:S2:1407:U:C6	2.38	0.58
27:La:79:ALA:HB1	27:La:98:ASN:HB2	1.84	0.58
45:S2:123:G:H2'	45:S2:124:A:C8	2.39	0.58
45:S2:903:U:O2'	45:S2:905:A:N7	2.26	0.58
45:S2:1515:A:OP1	46:SA:7:LYS:NZ	2.30	0.58
60:SO:123:ILE:HG22	60:SO:133:VAL:HG12	1.86	0.58
65:ST:18:ILE:HG22	65:ST:24:ILE:HD11	1.84	0.58
1:LA:2699:G:O2'	1:LA:2704:A:N1	2.33	0.58
4:LD:30:ARG:O	4:LD:163:ARG:NH2	2.31	0.58
23:LW:22:PRO:HB2	23:LW:28:PHE:HB2	1.85	0.58
35:Li:97:GLU:O	35:Li:101:VAL:HG23	2.03	0.58
45:S2:1333:C:H1'	46:SA:162:GLN:NE2	2.18	0.58
45:S2:1486:G:H2'	45:S2:1487:A:H8	1.68	0.58
46:SA:109:LEU:HD12	46:SA:175:VAL:HG21	1.86	0.58
62:SQ:113:MET:SD	62:SQ:209:ASN:OD1	2.61	0.58
65:ST:50:PHE:CD1	65:ST:111:LEU:HB3	2.39	0.58
1:LA:1607:C:OP1	26:LZ:109:LYS:NZ	2.34	0.58
45:S2:861:U:O2'	73:Sb:56:HIS:O	2.21	0.58
51:SF:100:GLN:HA	51:SF:103:ASN:HD21	1.67	0.58
57:SL:42:ARG:NH1	57:SL:56:LEU:HD13	2.16	0.58
74:Sc:62:LYS:HD3	74:Sc:118:PRO:HD3	1.85	0.58
1:LA:90:C:OP1	29:Lc:59:ARG:NH1	2.36	0.58
1:LA:1284:G:N2	1:LA:3115:G:O6	2.35	0.58
22:LV:158:THR:HG22	22:LV:160:ILE:H	1.69	0.58
27:La:119:ILE:HG22	27:La:124:GLY:HA3	1.85	0.58
40:Ln:13:MET:HE1	40:Ln:49:MET:HE1	1.86	0.58
45:S2:1310:U:HO2'	45:S2:1402:G:HO2'	1.51	0.58
66:SU:46:ILE:HD12	66:SU:60:ILE:HG13	1.85	0.58
69:SX:81:HIS:ND1	69:SX:82:ARG:HG3	2.18	0.58
78:Sg:54:ARG:O	78:Sg:56:MET:HE1	2.04	0.58
1:LA:688:U:O4	6:LF:209:TYR:OH	2.22	0.58
1:LA:964:A:H2	29:Lc:43:ILE:HD12	1.68	0.58
1:LA:2254:A:H2'	1:LA:2255:A:H3'	1.84	0.58
1:LA:2355:A:H61	1:LA:2982:C:H5	1.50	0.58
1:LA:2535:A:H5'	62:SQ:229:MET:SD	2.44	0.58
6:LF:160:GLN:NE2	6:LF:213:ASN:O	2.37	0.58
18:LR:109:ALA:HA	18:LR:112:LEU:HG	1.86	0.58
23:LW:80:THR:O	23:LW:84:LEU:HG	2.04	0.58
54:SI:61:VAL:HG22	54:SI:76:LEU:HD22	1.84	0.58
63:SR:39:THR:HG22	63:SR:41:LEU:H	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Sd:29:HIS:CD2	75:Sd:32:ARG:HG2	2.39	0.58
1:LA:407:A:C2	3:LC:17:A:H1'	2.39	0.58
10:LJ:162:LEU:HA	16:LP:7:LEU:HD11	1.85	0.58
45:S2:1041:G:H2'	45:S2:1042:G:C8	2.39	0.58
46:SA:16:VAL:HG21	58:SM:22:ARG:HH21	1.69	0.58
50:SE:18:ARG:HH21	50:SE:112:LEU:HB2	1.68	0.58
54:SI:66:TYR:HA	54:SI:124:ILE:HG13	1.86	0.58
61:SP:59:LEU:HD22	72:Sa:79:LEU:HD21	1.86	0.58
61:SP:122:ILE:HG13	61:SP:144:ILE:HB	1.86	0.58
65:ST:32:ILE:HD13	65:ST:63:MET:HE2	1.86	0.58
69:SX:99:ARG:NH1	74:Sc:7:ARG:O	2.37	0.58
73:Sb:26:LEU:HD11	73:Sb:60:LYS:HE2	1.84	0.58
1:LA:1898:G:O2'	1:LA:2333:U:O4	2.16	0.57
8:LH:69:PHE:N	8:LH:142:ASP:OD2	2.37	0.57
16:LP:143:ARG:O	16:LP:149:ASN:ND2	2.37	0.57
23:LW:41:ILE:HD12	23:LW:71:PHE:HE1	1.69	0.57
39:Lm:63:LYS:HZ3	39:Lm:67:GLN:HG2	1.68	0.57
45:S2:907:A:H2'	45:S2:908:U:H6	1.68	0.57
71:SZ:13:VAL:HG13	71:SZ:76:ILE:HA	1.86	0.57
77:Sf:56:CYS:SG	77:Sf:61:THR:OG1	2.53	0.57
1:LA:1570:A:H8	1:LA:1571:U:H4'	1.68	0.57
7:LG:108:ARG:CZ	7:LG:253:PHE:HB2	2.34	0.57
15:LO:49:PRO:C	15:LO:50:LYS:HE2	2.28	0.57
45:S2:830:U:H3'	45:S2:831:U:H5''	1.85	0.57
45:S2:980:G:H4'	45:S2:1776:A:H4'	1.86	0.57
45:S2:1615:C:N4	47:SB:80:LYS:O	2.37	0.57
47:SB:99:MET:O	47:SB:100:ASN:ND2	2.37	0.57
49:SD:32:LEU:HD13	49:SD:101:ALA:HA	1.85	0.57
54:SI:114:VAL:HG11	54:SI:122:ARG:NH2	2.19	0.57
61:SP:84:ARG:NH1	61:SP:206:ASP:OD2	2.37	0.57
66:SU:151:LYS:HD3	66:SU:184:GLU:HG3	1.85	0.57
1:LA:848:C:H2'	1:LA:849:U:C6	2.39	0.57
2:LB:77:G:N2	2:LB:102:A:OP2	2.32	0.57
3:LC:142:C:H2'	3:LC:143:U:C6	2.38	0.57
43:Lq:77:CYS:SG	43:Lq:79:THR:HG23	2.43	0.57
44:Lr:13:LYS:NZ	44:Lr:30:GLU:OE1	2.37	0.57
45:S2:12:U:H2'	45:S2:13:C:C6	2.38	0.57
45:S2:1267:G:N2	45:S2:1442:U:O2	2.26	0.57
60:SO:111:MET:N	60:SO:111:MET:CE	2.64	0.57
61:SP:127:ARG:HD3	61:SP:152:PRO:HD3	1.86	0.57
64:SS:255:ARG:O	64:SS:259:GLN:CB	2.42	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SV:64:ASN:OD1	67:SV:73:SER:OG	2.23	0.57
1:LA:2522:A:H5''	10:LJ:51:LYS:HB2	1.85	0.57
9:LI:84:VAL:HG13	9:LI:117:VAL:HB	1.86	0.57
21:LU:66:GLU:OE1	21:LU:98:SER:HA	2.04	0.57
44:Lr:84:ARG:O	44:Lr:88:GLU:HG2	2.05	0.57
45:S2:1007:C:O3'	71:SZ:135:ARG:NH2	2.36	0.57
45:S2:1318:G:H5''	52:SG:67:ARG:HH21	1.69	0.57
51:SF:18:ALA:HB2	51:SF:69:VAL:HG13	1.85	0.57
65:ST:7:TYR:HD1	65:ST:8:PRO:HD2	1.70	0.57
1:LA:67:A:O2'	1:LA:315:C:O2	2.21	0.57
1:LA:964:A:C2	29:Lc:43:ILE:HD12	2.39	0.57
1:LA:971:A:OP1	19:LS:12:ARG:NH2	2.37	0.57
1:LA:2269:A:H2'	1:LA:2270:A:C8	2.40	0.57
1:LA:2616:U:H3'	30:Ld:3:LYS:HD3	1.85	0.57
13:LM:63:GLU:HB3	13:LM:65:ILE:HD11	1.86	0.57
15:LO:21:VAL:HB	15:LO:63:VAL:HG13	1.86	0.57
19:LS:89:ASP:OD1	19:LS:113:LYS:NZ	2.37	0.57
23:LW:11:ILE:HB	23:LW:13:LYS:NZ	2.19	0.57
38:Ll:14:LYS:NZ	40:Ln:51:ILE:O	2.37	0.57
43:Lq:71:ARG:HH21	43:Lq:80:ARG:HG2	1.69	0.57
45:S2:477:A:H62	45:S2:540:G:H22	1.53	0.57
45:S2:1587:A:O2'	47:SB:104:ASN:OD1	2.20	0.57
57:SL:42:ARG:NH1	57:SL:56:LEU:CD2	2.68	0.57
64:SS:11:ARG:NH1	64:SS:25:GLY:O	2.37	0.57
65:ST:2:LYS:NZ	65:ST:17:GLU:OE2	2.34	0.57
68:SW:141:VAL:HG13	68:SW:143:ILE:HG12	1.86	0.57
1:LA:3173:A:H61	34:Lh:54:ARG:NH2	2.03	0.57
1:LA:3342:G:H21	1:LA:3361:A:H2	1.50	0.57
3:LC:151:C:C5	26:LZ:24:LEU:HD11	2.39	0.57
41:Lo:91:CYS:O	41:Lo:126:LYS:NZ	2.37	0.57
45:S2:886:U:H2'	45:S2:887:A:H8	1.68	0.57
45:S2:1693:A:O2'	45:S2:1694:A:O4'	2.22	0.57
46:SA:75:LYS:HE2	48:SC:20:VAL:HG23	1.87	0.57
56:SK:99:ALA:HB1	56:SK:101:TYR:HE1	1.70	0.57
60:SO:132:LYS:HD3	60:SO:134:TRP:CH2	2.39	0.57
65:ST:137:ARG:HH11	65:ST:140:ASN:HB2	1.68	0.57
72:Sa:17:CYS:HB2	72:Sa:24:ILE:HD11	1.87	0.57
1:LA:993:G:N2	1:LA:994:U:O4	2.29	0.57
1:LA:2175:U:OP1	4:LD:54:ARG:NH2	2.25	0.57
36:Lj:73:LYS:O	36:Lj:76:GLN:NE2	2.37	0.57
45:S2:756:A:OP2	64:SS:16:HIS:ND1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:SB:128:ASN:HB3	47:SB:131:GLN:HB3	1.86	0.57
48:SC:25:LYS:HB3	48:SC:62:GLN:HB3	1.86	0.57
56:SK:69:LEU:HB2	56:SK:71:ILE:HG12	1.86	0.57
64:SS:87:MET:HE1	64:SS:228:ILE:HG22	1.87	0.57
75:Sd:13:ILE:O	75:Sd:22:GLN:NE2	2.30	0.57
1:LA:3069:A:OP1	20:LT:62:ARG:NH1	2.38	0.57
25:LY:38:SER:O	25:LY:42:GLN:HG2	2.05	0.57
45:S2:1173:C:H3'	53:SH:141:THR:HG21	1.86	0.57
54:SI:7:ARG:NE	54:SI:67:MET:HE1	2.20	0.57
67:SV:25:ARG:HD3	67:SV:27:PHE:HZ	1.68	0.57
72:Sa:22:ARG:HB2	72:Sa:22:ARG:NH1	2.20	0.57
1:LA:1570:A:N7	1:LA:1571:U:O2'	2.37	0.57
1:LA:2952:U:H2'	1:LA:2953:U:H2'	1.87	0.57
4:LD:132:ASN:ND2	4:LD:151:PRO:HB3	2.20	0.57
6:LF:282:SER:N	19:LS:125:ASP:OD2	2.36	0.57
28:Lb:22:LYS:NZ	28:Lb:132:SER:O	2.32	0.57
45:S2:62:A:O2'	45:S2:268:C:O2	2.21	0.57
45:S2:1330:G:C2	45:S2:1331:A:H1'	2.40	0.57
45:S2:1367:G:H2'	45:S2:1368:G:C8	2.40	0.57
47:SB:156:ARG:NH2	47:SB:157:ARG:O	2.38	0.57
60:SO:35:SER:OG	60:SO:45:TRP:NE1	2.38	0.57
66:SU:129:LEU:HD11	66:SU:172:VAL:HG23	1.86	0.57
1:LA:1014:U:N3	1:LA:1017:G:N7	2.53	0.57
1:LA:2521:G:H1	4:LD:68:LYS:NZ	2.02	0.57
3:LC:31:G:OP1	14:LN:34:SER:OG	2.21	0.57
20:LT:30:SER:C	20:LT:34:GLN:HE21	2.11	0.57
27:La:29:VAL:O	27:La:32:SER:OG	2.21	0.57
45:S2:1102:G:OP1	73:Sb:76:SER:OG	2.21	0.57
47:SB:97:LEU:HD11	47:SB:114:ILE:HD13	1.86	0.57
47:SB:217:LEU:HA	47:SB:220:VAL:HG22	1.87	0.57
53:SH:100:THR:HG23	53:SH:104:ASN:HB3	1.86	0.57
60:SO:90:ARG:HH11	60:SO:102:ARG:HE	1.52	0.57
61:SP:84:ARG:HA	61:SP:87:LEU:HD13	1.87	0.57
62:SQ:170:GLU:OE2	62:SQ:170:GLU:C	2.48	0.57
67:SV:37:LYS:H	67:SV:59:ARG:H	1.53	0.57
74:Sc:72:VAL:HG23	74:Sc:74:VAL:HG23	1.87	0.57
1:LA:1658:U:H2'	1:LA:1659:C:C6	2.40	0.56
1:LA:2495:C:O2'	1:LA:2496:U:OP1	2.20	0.56
1:LA:2915:U:H5	1:LA:2934:U:HO2'	1.53	0.56
3:LC:48:A:H61	3:LC:54:A:H62	1.52	0.56
7:LG:104:LEU:HD23	7:LG:247:ILE:HG23	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LN:55:ARG:NH1	14:LN:73:ARG:O	2.38	0.56
15:LO:12:TRP:HZ2	21:LU:153:PRO:HB3	1.68	0.56
45:S2:896:U:H2'	45:S2:897:C:C2	2.40	0.56
48:SC:28:ASN:H	48:SC:40:LEU:HD23	1.70	0.56
68:SW:3:ARG:HH12	68:SW:6:ARG:HH11	1.53	0.56
75:Sd:63:GLN:NE2	75:Sd:66:GLY:O	2.37	0.56
15:LO:120:VAL:HG12	17:LQ:197[A]:LEU:HD13	1.87	0.56
21:LU:14:LEU:HD23	21:LU:57:GLU:HG2	1.87	0.56
39:Lm:28:ASN:C	39:Lm:30:LYS:NZ	2.63	0.56
45:S2:587:C:H2'	45:S2:588:U:C6	2.40	0.56
46:SA:201:ALA:O	52:SG:42:GLN:NE2	2.38	0.56
60:SO:42:LEU:HD13	60:SO:92:TRP:HZ3	1.70	0.56
1:LA:680:U:O4	6:LF:118:LYS:NZ	2.35	0.56
1:LA:875:A:H5''	1:LA:1889:U:H5''	1.86	0.56
1:LA:1533:A:H2'	1:LA:1534:A:C8	2.40	0.56
1:LA:2356:A:H2'	1:LA:2357:A:C8	2.41	0.56
1:LA:3205:C:O2	15:LO:13:ARG:NH2	2.39	0.56
4:LD:132:ASN:HD22	4:LD:151:PRO:HB3	1.71	0.56
4:LD:180:LEU:HD11	44:Lr:26:VAL:HG21	1.87	0.56
4:LD:204:MET:CE	4:LD:209:HIS:HB2	2.35	0.56
17:LQ:84[A]:LEU:HD13	17:LQ:102[A]:LEU:HD22	1.87	0.56
26:LZ:106:ASP:OD1	26:LZ:106:ASP:C	2.49	0.56
37:Lk:68:ARG:HB3	37:Lk:68:ARG:CZ	2.35	0.56
39:Lm:28:ASN:HB3	39:Lm:30:LYS:HZ2	1.67	0.56
39:Lm:63:LYS:NZ	39:Lm:67:GLN:CG	2.68	0.56
44:Lr:27:LYS:O	44:Lr:31:ILE:HD13	2.06	0.56
45:S2:138:A:H8	45:S2:141:U:H4'	1.70	0.56
45:S2:359:A:H62	74:Sc:35:GLY:HA3	1.70	0.56
45:S2:386:G:O2'	45:S2:425:A:N1	2.38	0.56
45:S2:699:U:H5'	45:S2:733:A:H62	1.70	0.56
45:S2:766:U:H3	45:S2:770:A:N6	1.98	0.56
45:S2:1543:A:OP1	54:SI:88:VAL:HG13	2.05	0.56
45:S2:1610:G:OP1	47:SB:72:HIS:NE2	2.38	0.56
46:SA:37:VAL:HG12	46:SA:50:ILE:HG12	1.88	0.56
54:SI:83:ALA:HB1	54:SI:91:TYR:HB3	1.87	0.56
60:SO:19:TRP:HB2	60:SO:38:ARG:HG3	1.86	0.56
64:SS:17:HIS:HD1	64:SS:18:TRP:CD1	2.24	0.56
73:Sb:11:LEU:HG	73:Sb:72:CYS:SG	2.45	0.56
1:LA:1127:U:OP1	12:LL:4:ARG:NH1	2.38	0.56
1:LA:2355:A:OP1	18:LR:138:LYS:NZ	2.38	0.56
1:LA:2747:A:O2'	7:LG:48:LYS:NZ	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:LO:25:LYS:HZ3	15:LO:62:GLN:HA	1.71	0.56
16:LP:9:GLU:HB2	37:Lk:44:VAL:HG21	1.88	0.56
37:Lk:68:ARG:O	37:Lk:72:VAL:HG23	2.05	0.56
45:S2:156:A:N1	45:S2:419:G:N2	2.54	0.56
45:S2:435:C:OP2	74:Sc:50:LYS:HD2	2.06	0.56
45:S2:1525:A:H2'	45:S2:1526:A:C8	2.40	0.56
47:SB:136:ALA:O	47:SB:140:THR:OG1	2.20	0.56
48:SC:20:VAL:HG12	48:SC:67:THR:HA	1.88	0.56
61:SP:79:ARG:O	61:SP:83:GLN:HG3	2.04	0.56
65:ST:50:PHE:HD1	65:ST:111:LEU:HB3	1.70	0.56
67:SV:84:HIS:CD2	67:SV:86:SER:H	2.23	0.56
1:LA:1228:G:H2'	1:LA:1229:G:C8	2.41	0.56
1:LA:1306:G:OP1	17:LQ:59[A]:ARG:NH1	2.34	0.56
1:LA:1614:C:H2'	1:LA:1615:U:C6	2.41	0.56
1:LA:1656:C:O2'	1:LA:1796:A:OP2	2.19	0.56
1:LA:1792:C:OP2	44:Lr:49:ARG:NH2	2.36	0.56
1:LA:2879:U:H1'	5:LE:250:ALA:HB3	1.87	0.56
1:LA:3169:A:OP2	34:Lh:56:SER:OG	2.12	0.56
3:LC:40:A:OP2	3:LC:103:G:N1	2.34	0.56
12:LL:140:THR:OG1	12:LL:141:LYS:N	2.38	0.56
14:LN:69:VAL:O	14:LN:149:GLN:NE2	2.36	0.56
23:LW:17:VAL:HB	23:LW:63:VAL:HG23	1.88	0.56
45:S2:589:C:O5'	78:Sg:42:ARG:NH1	2.38	0.56
45:S2:1273:G:H5'	45:S2:1431:C:H41	1.70	0.56
45:S2:1553:G:N1	45:S2:1556:A:OP2	2.39	0.56
48:SC:49:LEU:HD22	48:SC:55:VAL:HG12	1.88	0.56
51:SF:40:GLU:HG2	51:SF:40:GLU:O	2.05	0.56
60:SO:179:LYS:HG3	60:SO:181:TRP:HE1	1.70	0.56
64:SS:92:LEU:HB2	64:SS:97:GLU:HB2	1.86	0.56
65:ST:137:ARG:NH1	65:ST:140:ASN:ND2	2.52	0.56
1:LA:3167:A:C2	1:LA:3281:U:C5	2.94	0.56
32:Lf:31:ARG:HD3	32:Lf:35:GLU:HG2	1.86	0.56
45:S2:125:U:OP1	65:ST:201:GLN:NE2	2.38	0.56
45:S2:143:G:OP2	65:ST:139:ASN:ND2	2.39	0.56
45:S2:592:A:H2'	45:S2:593:U:O4'	2.05	0.56
47:SB:142:PRO:HB3	47:SB:217:LEU:HD11	1.87	0.56
49:SD:133:LEU:O	49:SD:137:MET:HG2	2.06	0.56
51:SF:83:GLN:NE2	51:SF:115:THR:O	2.38	0.56
52:SG:36:ASP:OD1	52:SG:37:GLU:N	2.38	0.56
61:SP:186:GLY:HA2	72:Sa:44:ARG:HH11	1.71	0.56
64:SS:55:ALA:HB3	64:SS:61:VAL:HG22	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:Sc:87:VAL:HG13	74:Sc:124:VAL:HG21	1.88	0.56
79:Tb:19:G:N2	79:Tb:59:A:O5'	2.38	0.56
1:LA:269:G:N2	1:LA:295:A:OP2	2.25	0.56
4:LD:204:MET:HE2	4:LD:209:HIS:HB2	1.88	0.56
5:LE:48:GLY:HA3	5:LE:81:THR:HG22	1.86	0.56
16:LP:146:ALA:HA	16:LP:149:ASN:OD1	2.06	0.56
45:S2:67:A:OP2	45:S2:83:G:N2	2.39	0.56
45:S2:381:C:H2'	45:S2:382:C:H6	1.70	0.56
45:S2:1450:U:O2'	58:SM:7:TRP:O	2.22	0.56
45:S2:1594:G:OP2	45:S2:1596:C:N4	2.38	0.56
61:SP:60:ALA:O	61:SP:64:ILE:HG13	2.05	0.56
65:ST:142:ARG:HE	65:ST:153:VAL:HB	1.71	0.56
1:LA:594:G:H1	1:LA:608:G:H5''	1.71	0.56
1:LA:674:C:O2'	1:LA:678:U:OP1	2.22	0.56
1:LA:2251:A:N6	1:LA:2262:C:N4	2.19	0.56
6:LF:237:GLN:O	6:LF:246:ARG:NH1	2.38	0.56
12:LL:30:LYS:HD2	12:LL:63:GLU:HA	1.86	0.56
29:Lc:36:GLY:HA3	29:Lc:40:HIS:CE1	2.41	0.56
45:S2:16:G:H2'	45:S2:17:C:C6	2.41	0.56
45:S2:959:U:H5''	70:SY:14:SER:HB3	1.88	0.56
51:SF:126:PRO:O	51:SF:128:LYS:NZ	2.34	0.56
60:SO:83:ALA:HB2	60:SO:113:VAL:HB	1.88	0.56
65:ST:137:ARG:HH12	65:ST:140:ASN:ND2	2.03	0.56
1:LA:94:G:H2'	1:LA:95:A:C8	2.41	0.56
12:LL:192:ASP:HA	12:LL:197:VAL:HG23	1.88	0.56
13:LM:88:GLU:O	13:LM:90:GLN:NE2	2.32	0.56
40:Ln:36:ARG:HB2	40:Ln:36:ARG:NH1	2.21	0.56
43:Lq:40:LYS:NZ	43:Lq:44:ASP:OD1	2.38	0.56
45:S2:177:U:H2'	65:ST:191:ARG:HH22	1.71	0.56
61:SP:70:PRO:O	61:SP:95:ALA:N	2.39	0.56
68:SW:59:LEU:HD22	68:SW:69:ARG:HG2	1.87	0.56
1:LA:785:A:H4'	1:LA:786:G:H5'	1.87	0.56
1:LA:900:G:OP1	38:Ll:13:ASN:ND2	2.36	0.56
1:LA:1798:A:H2'	1:LA:1799:A:C8	2.41	0.56
5:LE:74:GLU:OE2	5:LE:283:TYR:OH	2.24	0.56
32:Lf:42:LEU:HD12	32:Lf:42:LEU:O	2.04	0.56
44:Lr:31:ILE:H	44:Lr:31:ILE:HD12	1.71	0.56
45:S2:129:U:H4'	45:S2:131:C:H5	1.70	0.56
45:S2:553:G:OP2	45:S2:554:C:O2'	2.22	0.56
46:SA:105:MET:CE	46:SA:122:VAL:HG11	2.36	0.56
61:SP:17:LEU:HD22	61:SP:172:LEU:HD21	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3180:C:HO2'	17:LQ:164[A]:SER:HG	1.53	0.55
4:LD:249:SER:OG	4:LD:250:GLN:N	2.38	0.55
6:LF:216:VAL:O	6:LF:220:ARG:HB2	2.06	0.55
12:LL:102:MET:HE3	12:LL:112:GLN:CD	2.32	0.55
18:LR:69:ARG:HB3	18:LR:79:THR:HG22	1.88	0.55
24:LX:18:PRO:HA	24:LX:51:ALA:HA	1.88	0.55
28:Lb:101:PHE:O	28:Lb:102:GLU:HG2	2.05	0.55
33:Lg:74:PHE:HZ	33:Lg:81:ASP:OD1	1.88	0.55
45:S2:623:A:O2'	45:S2:624:G:OP1	2.19	0.55
45:S2:1475:A:O2'	45:S2:1540:G:OP1	2.24	0.55
45:S2:1482:C:O2'	51:SF:72:GLY:O	2.18	0.55
50:SE:75:PRO:HA	50:SE:93:VAL:HG13	1.87	0.55
52:SG:20:TYR:HB3	52:SG:23:LYS:HE2	1.87	0.55
52:SG:25:THR:HG23	52:SG:27:ASP:H	1.71	0.55
63:SR:121:VAL:O	63:SR:125:ILE:HG12	2.05	0.55
71:SZ:117:ASP:OD1	71:SZ:117:ASP:N	2.38	0.55
1:LA:2591:G:H4'	1:LA:2593:C:C2	2.41	0.55
1:LA:2940:A:H8	1:LA:2940:A:OP2	1.90	0.55
1:LA:3293:A:H2'	1:LA:3294:A:O4'	2.06	0.55
8:LH:41:ILE:HG12	8:LH:85:ILE:HB	1.87	0.55
11:LK:95:ALA:HA	41:Lo:78:ILE:HG22	1.89	0.55
12:LL:47:PRO:HB3	12:LL:171:TRP:CZ2	2.41	0.55
23:LW:18:ASP:OD2	23:LW:104:ARG:NH1	2.39	0.55
45:S2:1454:G:P	50:SE:81:ARG:HE	2.29	0.55
45:S2:1492:A:H2'	45:S2:1493:A:H4'	1.89	0.55
50:SE:125:PRO:O	50:SE:127:ARG:NH1	2.37	0.55
51:SF:132:LYS:HE3	51:SF:138:PHE:HD1	1.70	0.55
63:SR:52:THR:HG23	63:SR:55:GLU:H	1.71	0.55
72:Sa:9:VAL:O	72:Sa:10:GLU:HG3	2.05	0.55
73:Sb:29:PRO:HB2	73:Sb:58:SER:OG	2.06	0.55
77:Sf:30:SER:HB2	77:Sf:49:HIS:CE1	2.41	0.55
77:Sf:54:VAL:HG23	77:Sf:63:LEU:HB2	1.88	0.55
1:LA:2695:A:H2'	1:LA:2696:A:C8	2.42	0.55
1:LA:3181:G:OP1	17:LQ:117[A]:ARG:NH1	2.40	0.55
10:LJ:203:VAL:HG13	10:LJ:208:GLU:HG2	1.88	0.55
15:LO:116:GLU:O	15:LO:120:VAL:HG13	2.07	0.55
17:LQ:62[A]:THR:OG1	17:LQ:65[A]:ASN:O	2.18	0.55
45:S2:521:A:O3'	75:Sd:36:SER:HA	2.06	0.55
45:S2:1389:C:N4	45:S2:1391:A:O4'	2.39	0.55
45:S2:1488:G:O2'	45:S2:1494:C:O2	2.20	0.55
46:SA:35:SER:OG	46:SA:51:ARG:O	2.18	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:ST:10:ASN:ND2	65:ST:127:THR:O	2.39	0.55
1:LA:2261:A:N6	45:S2:1758:U:O2'	2.39	0.55
1:LA:2676:G:N2	1:LA:2679:A:OP2	2.38	0.55
1:LA:2987:C:OP1	17:LQ:65[A]:ASN:ND2	2.26	0.55
4:LD:118:GLU:HG3	4:LD:125:ALA:HB3	1.88	0.55
45:S2:434:G:OP1	74:Sc:78:LYS:HB3	2.07	0.55
45:S2:894:U:H2'	45:S2:895:G:C8	2.41	0.55
45:S2:1649:G:H2'	45:S2:1650:U:H6	1.71	0.55
51:SF:94:GLN:HB2	51:SF:102:LYS:HG3	1.88	0.55
55:SJ:35:GLU:OE2	55:SJ:89:ARG:NH2	2.39	0.55
59:SN:139:LEU:HD23	59:SN:152:ALA:H	1.72	0.55
60:SO:144:LEU:HD21	60:SO:181:TRP:CZ2	2.41	0.55
64:SS:68:ARG:HG3	64:SS:76:VAL:HG21	1.88	0.55
64:SS:202:ASP:OD1	64:SS:202:ASP:N	2.39	0.55
65:ST:67:VAL:HG21	65:ST:99:GLY:HA2	1.88	0.55
67:SV:185:GLU:OE2	69:SX:24:LYS:NZ	2.39	0.55
1:LA:1202:A:H2'	1:LA:1203:A:H8	1.71	0.55
1:LA:1723:U:H1'	1:LA:1724:C:C6	2.41	0.55
1:LA:2687:U:OP1	7:LG:12:TYR:OH	2.24	0.55
7:LG:237:GLU:O	7:LG:241:THR:HG23	2.06	0.55
15:LO:38:ILE:O	21:LU:95:ARG:NH2	2.36	0.55
21:LU:135:VAL:HG11	21:LU:144:LEU:HD12	1.87	0.55
24:LX:32:ARG:HH22	45:S2:1734:U:H4'	1.70	0.55
45:S2:95:G:H4'	64:SS:8:HIS:ND1	2.21	0.55
45:S2:798:C:H2'	45:S2:799:A:C8	2.42	0.55
45:S2:1785:U:OP1	71:SZ:136:ARG:NH1	2.40	0.55
51:SF:99:GLU:O	51:SF:103:ASN:ND2	2.40	0.55
51:SF:125:GLU:OE2	51:SF:135:ARG:NH2	2.39	0.55
69:SX:109:VAL:HG12	69:SX:137:PHE:HB2	1.88	0.55
1:LA:1177:G:O6	34:Lh:20:LYS:HE2	2.07	0.55
1:LA:1862:G:N1	1:LA:1865:C:OP2	2.31	0.55
1:LA:2536:U:P	62:SQ:230:ALA:H	2.30	0.55
1:LA:2572:G:H2'	1:LA:2573:G:O4'	2.07	0.55
24:LX:54:LEU:HD21	24:LX:119:GLY:HA3	1.89	0.55
45:S2:1160:A:H2'	45:S2:1161:C:H6	1.70	0.55
60:SO:111:MET:HE1	60:SO:127:ARG:N	2.21	0.55
1:LA:639:U:OP1	29:Lc:21:ARG:NH1	2.39	0.55
1:LA:3213:U:C2'	15:LO:121:MET:HE1	2.29	0.55
45:S2:4:C:H4'	63:SR:181:SER:HB3	1.89	0.55
62:SQ:72:ASP:OD1	71:SZ:114:ARG:NH2	2.39	0.55
1:LA:144:A:OP1	10:LJ:193:LYS:NZ	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1210:U:H2'	1:LA:1211:A:C8	2.41	0.55
1:LA:1591:G:OP2	35:Li:37:LYS:NZ	2.39	0.55
1:LA:2535:A:H3'	62:SQ:228:LEU:N	2.19	0.55
12:LL:57:LEU:HD12	12:LL:130:ASP:HA	1.88	0.55
13:LM:41:SER:O	13:LM:75:LYS:NZ	2.39	0.55
20:LT:116:ASP:OD1	20:LT:118:HIS:N	2.39	0.55
27:La:23:PRO:O	27:La:27:ARG:HG2	2.06	0.55
45:S2:563:U:H4'	78:Sg:17:GLN:NE2	2.21	0.55
48:SC:54:TYR:HB3	48:SC:72:GLY:HA2	1.88	0.55
61:SP:71:GLU:O	61:SP:96:THR:OG1	2.22	0.55
66:SU:49:ILE:HG21	66:SU:172:VAL:HG12	1.89	0.55
67:SV:92:ARG:HA	67:SV:92:ARG:CZ	2.36	0.55
1:LA:874:G:O2'	1:LA:1890:A:OP1	2.25	0.55
9:LI:120:THR:HB	22:LV:132:PRO:HB2	1.89	0.55
51:SF:40:GLU:HA	51:SF:45:ARG:HH21	1.72	0.55
54:SI:114:VAL:HG11	54:SI:122:ARG:HH21	1.71	0.55
74:Sc:57:LEU:HD21	74:Sc:73:ARG:HB2	1.89	0.55
1:LA:1034:G:C6	1:LA:1035:A:H1'	2.42	0.55
1:LA:2673:A:H61	13:LM:21:ILE:HG23	1.72	0.55
15:LO:31:LYS:HB3	15:LO:51:ALA:HB1	1.89	0.55
23:LW:58:GLU:HG3	23:LW:63:VAL:HG12	1.89	0.55
28:Lb:71:PHE:HA	28:Lb:111:LYS:HE2	1.88	0.55
45:S2:252:U:H2'	45:S2:253:A:C8	2.42	0.55
45:S2:590:C:H2'	45:S2:591:A:C8	2.42	0.55
45:S2:1592:A:H2'	45:S2:1593:A:C8	2.41	0.55
48:SC:77:ARG:CD	48:SC:82:LEU:HD11	2.36	0.55
50:SE:21:ASP:O	50:SE:25:LEU:HD12	2.07	0.55
66:SU:89:HIS:CE1	66:SU:165:LYS:HG2	2.42	0.55
68:SW:151:ASP:O	68:SW:155:HIS:ND1	2.40	0.55
74:Sc:92:CYS:O	74:Sc:96:VAL:HG22	2.07	0.55
1:LA:13:A:H5''	1:LA:13:A:H8	1.72	0.54
1:LA:650:G:O2'	1:LA:1434:A:OP1	2.25	0.54
1:LA:1175:C:H2'	1:LA:1176:G:N2	2.21	0.54
1:LA:1348:G:H1'	1:LA:1349:A:C5	2.42	0.54
1:LA:1604:A:O2'	1:LA:1606:U:OP2	2.20	0.54
1:LA:3294:A:H2'	1:LA:3295:A:C8	2.42	0.54
4:LD:102:LEU:HD22	4:LD:102:LEU:H	1.70	0.54
33:Lg:67:SER:HB3	33:Lg:68:PRO:HD2	1.89	0.54
36:Lj:68:GLN:OE1	36:Lj:68:GLN:HA	2.06	0.54
45:S2:439:U:O2'	45:S2:440:U:O5'	2.25	0.54
45:S2:1498:G:N2	45:S2:1510:U:H3	2.04	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1588:G:O6	45:S2:1608:U:O4	2.25	0.54
45:S2:1619:C:H2'	45:S2:1620:C:H6	1.70	0.54
51:SF:60:PHE:HD1	51:SF:63:ILE:HD13	1.72	0.54
68:SW:23:ARG:O	68:SW:27:GLU:HG2	2.07	0.54
68:SW:61:THR:OG1	68:SW:62:ARG:NH2	2.41	0.54
71:SZ:26:THR:HG21	71:SZ:60:ALA:HB2	1.89	0.54
1:LA:86:G:O2'	1:LA:98:G:O6	2.18	0.54
1:LA:490:A:H4'	8:LH:112:THR:HB	1.88	0.54
1:LA:1723:U:O4	20:LT:125:LYS:NZ	2.30	0.54
8:LH:2:THR:OG1	8:LH:3:ALA:N	2.37	0.54
14:LN:103:ASN:H	14:LN:103:ASN:HD22	1.53	0.54
22:LV:106:LEU:O	22:LV:109:VAL:HG12	2.06	0.54
23:LW:97:SER:HA	23:LW:103:TYR:HA	1.89	0.54
24:LX:59:MET:CE	24:LX:73:VAL:HG12	2.36	0.54
26:LZ:33:ARG:HG2	26:LZ:33:ARG:HH11	1.70	0.54
41:Lo:88:LYS:HA	41:Lo:92:ASP:HB2	1.89	0.54
45:S2:337:G:H3'	69:SX:133:LYS:HB2	1.88	0.54
45:S2:1410:A:O2'	45:S2:1411:A:O4'	2.21	0.54
63:SR:44:LEU:HG	63:SR:49:LYS:HB2	1.89	0.54
75:Sd:7:ILE:HG12	75:Sd:27:VAL:HG12	1.89	0.54
1:LA:760:A:H2'	1:LA:761:U:C6	2.42	0.54
1:LA:848:C:H2'	1:LA:849:U:H6	1.72	0.54
1:LA:3197:U:H1'	11:LK:21:LYS:HB2	1.88	0.54
19:LS:74:GLU:H	19:LS:74:GLU:CD	2.13	0.54
21:LU:73:LYS:HD2	21:LU:75:PHE:CZ	2.42	0.54
45:S2:878:G:O2'	70:SY:108:ASP:OD1	2.22	0.54
1:LA:683:G:OP2	14:LN:28:GLN:NE2	2.30	0.54
1:LA:1465:G:N2	1:LA:1509:G:H5''	2.21	0.54
1:LA:2447:G:O6	1:LA:2497:U:O4	2.25	0.54
1:LA:2686:G:OP1	7:LG:8:LYS:NZ	2.38	0.54
1:LA:3091:C:O2'	1:LA:3093:A:OP2	2.24	0.54
25:LY:47:ARG:HG3	25:LY:54:LEU:HD23	1.89	0.54
35:Li:80:ARG:HB3	35:Li:84:CYS:SG	2.47	0.54
39:Lm:5:ILE:HG23	39:Lm:10:GLN:HG3	1.90	0.54
46:SA:168:ILE:HG22	46:SA:189:MET:SD	2.48	0.54
51:SF:26:LYS:HG3	51:SF:28:LEU:HD22	1.89	0.54
66:SU:25:VAL:O	66:SU:28:GLU:HG3	2.08	0.54
69:SX:125:VAL:HG12	69:SX:139:VAL:HG12	1.89	0.54
74:Sc:70:LYS:HB2	74:Sc:93:LEU:HD13	1.88	0.54
76:Se:47:ALA:HA	76:Se:50:VAL:HG23	1.90	0.54
1:LA:68:C:O3'	16:LP:177:GLY:HA2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:361:A:O3'	38:LI:45:ARG:NH2	2.39	0.54
1:LA:899:G:H1'	1:LA:1588:A:N6	2.22	0.54
1:LA:1026:A:H2'	1:LA:1027:U:H2'	1.89	0.54
17:LQ:143[A]:THR:OG1	17:LQ:150[A]:GLU:HB2	2.07	0.54
45:S2:1366:U:H2'	45:S2:1367:G:C8	2.42	0.54
45:S2:1476:C:O2'	54:SI:45:MET:HG2	2.08	0.54
60:SO:81:LEU:HD21	60:SO:91:LEU:HD12	1.90	0.54
63:SR:80:VAL:HG22	63:SR:102:VAL:HG12	1.90	0.54
63:SR:222:TYR:OH	72:Sa:11:LEU:O	2.24	0.54
64:SS:251:GLU:OE1	64:SS:251:GLU:N	2.25	0.54
67:SV:106:ALA:HB3	67:SV:165:LEU:HD13	1.88	0.54
68:SW:26:ALA:O	68:SW:29:LYS:HG3	2.08	0.54
68:SW:41:GLU:HA	68:SW:44:ARG:HE	1.72	0.54
79:Tb:55:U:H2'	79:Tb:56:U:H6	1.73	0.54
1:LA:19:U:H2'	1:LA:20:A:C8	2.41	0.54
1:LA:588:A:H1'	1:LA:1336:A:H5''	1.90	0.54
1:LA:1810:G:N7	28:Lb:64:LYS:NZ	2.56	0.54
1:LA:3015:A:H2'	1:LA:3016:A:H8	1.73	0.54
1:LA:3131:C:H2'	1:LA:3132:C:C6	2.43	0.54
18:LR:119:VAL:HA	18:LR:145:HIS:O	2.07	0.54
20:LT:107:ALA:O	20:LT:111:ASP:OD1	2.24	0.54
45:S2:566:C:O2'	45:S2:567:A:O5'	2.25	0.54
45:S2:1144:U:H2'	45:S2:1145:U:C2	2.43	0.54
45:S2:1591:C:H2'	45:S2:1592:A:C8	2.43	0.54
50:SE:43:ARG:NH2	50:SE:47:ARG:HH21	2.06	0.54
55:SJ:36:ASN:O	55:SJ:40:ASN:ND2	2.40	0.54
58:SM:36:LEU:HG	58:SM:38:ILE:HG12	1.90	0.54
60:SO:68:VAL:HG23	60:SO:84:SER:HB2	1.89	0.54
61:SP:81:PHE:HB3	61:SP:167:LYS:HG3	1.90	0.54
62:SQ:119:THR:HG21	62:SQ:161:ILE:HD11	1.90	0.54
79:Tb:27:G:N1	79:Tb:45:A:N6	2.25	0.54
1:LA:584:A:H2'	1:LA:585:C:C6	2.43	0.54
1:LA:1133:G:O2'	1:LA:2641:A:N3	2.35	0.54
9:LI:144:ILE:HG13	9:LI:189:ILE:CD1	2.38	0.54
9:LI:224:ILE:HA	21:LU:36:ILE:CD1	2.38	0.54
20:LT:172:ARG:O	20:LT:175:GLN:HG3	2.07	0.54
28:Lb:47:GLU:N	28:Lb:69:LYS:O	2.35	0.54
37:Lk:57:LEU:O	37:Lk:61:ILE:HG13	2.07	0.54
45:S2:35:U:O2'	45:S2:36:C:OP1	2.23	0.54
45:S2:385:A:H2'	45:S2:386:G:C8	2.43	0.54
47:SB:206:SER:H	47:SB:211:ILE:HD11	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SF:14:LYS:HA	51:SF:123:ARG:HH12	1.73	0.54
53:SH:101:LEU:O	53:SH:105:VAL:HG22	2.08	0.54
63:SR:50:ILE:HD11	63:SR:239:PRO:HG3	1.90	0.54
71:SZ:14:PHE:HA	71:SZ:78:ALA:O	2.07	0.54
72:Sa:83:TRP:HH2	72:Sa:85:TYR:HD1	1.54	0.54
1:LA:364:G:OP2	38:Ll:52:LYS:NZ	2.31	0.54
1:LA:728:C:H4'	19:LS:137:THR:HG22	1.89	0.54
1:LA:2770:U:H3'	1:LA:2771:C:H5''	1.89	0.54
15:LO:20:VAL:O	15:LO:66:THR:OG1	2.16	0.54
16:LP:13:LYS:O	16:LP:19:LEU:HD12	2.06	0.54
45:S2:760:A:H2'	45:S2:761:G:O4'	2.06	0.54
53:SH:100:THR:HG21	53:SH:105:VAL:HA	1.89	0.54
64:SS:67:GLN:HG3	64:SS:69:HIS:CE1	2.43	0.54
1:LA:1785:G:H2'	1:LA:1786:A:C8	2.43	0.54
1:LA:2543:U:C4	62:SQ:225:VAL:HG11	2.43	0.54
1:LA:3275:G:O6	18:LR:171:ARG:NH1	2.41	0.54
3:LC:57:C:H4'	3:LC:63:G:N7	2.23	0.54
8:LH:99:GLU:H	8:LH:99:GLU:CD	2.11	0.54
45:S2:1543:A:H2'	45:S2:1544:U:C6	2.43	0.54
52:SG:33:ARG:NH1	52:SG:47:ARG:HH12	2.05	0.54
60:SO:243:LEU:HD12	60:SO:252:LEU:HD11	1.88	0.54
1:LA:2249:G:H1	1:LA:2265:U:H3	1.55	0.54
9:LI:130:ILE:HD12	9:LI:134:VAL:HG11	1.89	0.54
45:S2:1762:A:H1'	45:S2:1783:C:H5'	1.90	0.54
72:Sa:4:ASP:OD1	72:Sa:5:LYS:HG3	2.07	0.54
1:LA:2251:A:C6	1:LA:2262:C:N4	2.72	0.53
1:LA:2405:C:H2'	1:LA:2406:C:H6	1.73	0.53
4:LD:36:GLU:HG2	4:LD:163:ARG:HH11	1.72	0.53
4:LD:61:VAL:HG21	4:LD:88:ILE:HD11	1.90	0.53
32:Lf:44:MET:HE3	32:Lf:77:ARG:HB2	1.89	0.53
45:S2:483:A:N1	45:S2:504:U:C4	2.75	0.53
45:S2:599:A:H5'	74:Sc:123:LYS:HE3	1.90	0.53
45:S2:1279:C:H2'	45:S2:1280:C:O4'	2.08	0.53
45:S2:1672:G:H2'	45:S2:1673:G:H8	1.71	0.53
52:SG:32:LYS:HZ2	52:SG:48:ASN:HA	1.73	0.53
1:LA:18:G:OP2	26:LZ:46:TYR:OH	2.18	0.53
1:LA:521:A:H2	21:LU:69:PRO:HG2	1.72	0.53
1:LA:775:U:H5	1:LA:2718:U:O2	1.91	0.53
1:LA:1109:U:H2'	1:LA:1110:U:C6	2.44	0.53
1:LA:2541:U:H3	62:SQ:232:HIS:HE1	1.55	0.53
13:LM:32:ARG:HG2	13:LM:120:ILE:HA	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LN:57:VAL:HG22	14:LN:147:ILE:HD12	1.91	0.53
25:LY:35:LYS:HE3	25:LY:51:TRP:CZ2	2.44	0.53
45:S2:172:C:H2'	45:S2:173:A:C8	2.41	0.53
45:S2:1075:C:O2'	76:Se:13:LYS:O	2.23	0.53
52:SG:20:TYR:HD1	52:SG:23:LYS:HG2	1.73	0.53
62:SQ:30:PHE:HB3	62:SQ:96:LEU:HD21	1.90	0.53
63:SR:87:GLN:HG3	63:SR:96:THR:HG23	1.89	0.53
65:ST:54:GLY:O	65:ST:110:ALA:N	2.36	0.53
65:ST:137:ARG:HG2	65:ST:140:ASN:HB2	1.91	0.53
65:ST:173:PRO:HG2	65:ST:175:ILE:HD11	1.91	0.53
73:Sb:42:GLN:HE22	73:Sb:49:GLU:HA	1.73	0.53
1:LA:715:A:C5	29:Lc:117:ARG:HD3	2.43	0.53
1:LA:1155:C:OP2	9:LI:94:LYS:NZ	2.29	0.53
5:LE:29:VAL:HG22	5:LE:218:ILE:HD13	1.90	0.53
6:LF:82:THR:HG22	6:LF:84:ARG:H	1.73	0.53
45:S2:1539:G:H4'	53:SH:40:ARG:HH21	1.73	0.53
45:S2:1601:G:OP1	54:SI:92:LYS:NZ	2.33	0.53
46:SA:162:GLN:HA	46:SA:165:ASN:HB2	1.90	0.53
49:SD:33:ARG:O	49:SD:36:LEU:HG	2.09	0.53
49:SD:59:LEU:HB2	49:SD:123:VAL:HG22	1.90	0.53
54:SI:65:ILE:HD13	54:SI:71:VAL:HG22	1.90	0.53
64:SS:45:ILE:HG13	64:SS:49:ARG:NH2	2.23	0.53
79:Tb:63:C:H2'	79:Tb:64:G:H8	1.70	0.53
1:LA:1017:G:H2'	1:LA:1018:G:C8	2.43	0.53
1:LA:3022:U:H2'	1:LA:3023:A:H8	1.74	0.53
3:LC:47:C:H1'	3:LC:61:A:H2'	1.89	0.53
5:LE:140:ASP:OD1	5:LE:140:ASP:N	2.35	0.53
6:LF:320:ASN:HB3	6:LF:323:VAL:HG12	1.90	0.53
26:LZ:86:VAL:HG11	26:LZ:95:ILE:HD11	1.90	0.53
30:Ld:54:LEU:O	30:Ld:58:LYS:HG2	2.08	0.53
31:Le:32:LYS:O	31:Le:36:GLN:HG3	2.08	0.53
33:Lg:111:ARG:NH2	33:Lg:115:LEU:HD21	2.23	0.53
45:S2:156:A:H5'	45:S2:416:A:C6	2.44	0.53
45:S2:327:U:H2'	45:S2:328:A:C8	2.42	0.53
45:S2:478:A:N1	45:S2:510:G:O6	2.42	0.53
45:S2:809:A:H2'	45:S2:810:G:C8	2.43	0.53
45:S2:1510:U:H2'	45:S2:1511:U:C6	2.44	0.53
49:SD:25:GLU:O	49:SD:29:LYS:NZ	2.41	0.53
51:SF:60:PHE:HA	51:SF:63:ILE:HD13	1.91	0.53
60:SO:171:SER:O	60:SO:179:LYS:HD3	2.08	0.53
71:SZ:14:PHE:HB3	71:SZ:78:ALA:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:165:A:H61	1:LA:257:U:H3	1.55	0.53
1:LA:1266:U:O4	1:LA:1273:A:N6	2.41	0.53
1:LA:1543:G:H5''	16:LP:67:ARG:HD2	1.89	0.53
1:LA:1615:U:H2'	1:LA:1616:G:C8	2.44	0.53
1:LA:2766:U:H2'	1:LA:2767:U:C6	2.44	0.53
11:LK:134:ILE:HD13	11:LK:146:LEU:HG	1.89	0.53
12:LL:184:LYS:HB3	12:LL:190:VAL:HG23	1.89	0.53
23:LW:29:ASP:OD1	23:LW:32:SER:N	2.23	0.53
26:LZ:73:MET:HE1	26:LZ:141:TYR:CE2	2.44	0.53
31:Le:34:LEU:HD11	31:Le:42:ILE:CD1	2.35	0.53
32:Lf:23:VAL:HG12	32:Lf:28:ARG:HG2	1.90	0.53
45:S2:562:G:H2'	45:S2:563:U:H6	1.74	0.53
45:S2:1414:U:OP2	52:SG:2:GLY:N	2.41	0.53
45:S2:1471:A:C8	45:S2:1540:G:H1'	2.43	0.53
51:SF:106:LYS:HG3	51:SF:107:LYS:HE2	1.89	0.53
54:SI:7:ARG:HD2	54:SI:67:MET:HE1	1.90	0.53
60:SO:123:ILE:HD12	60:SO:154:VAL:HB	1.91	0.53
62:SQ:103:MET:HE2	62:SQ:188:LEU:HD21	1.91	0.53
65:ST:38:GLY:HA2	65:ST:41:VAL:HG12	1.91	0.53
68:SW:125:ALA:O	68:SW:129:ILE:HG12	2.09	0.53
1:LA:19:U:H4'	16:LP:138:GLN:HG2	1.89	0.53
1:LA:3038:C:OP1	5:LE:62:ARG:NH1	2.36	0.53
16:LP:150:TRP:O	16:LP:156:HIS:ND1	2.42	0.53
28:Lb:25:ILE:HA	28:Lb:43:VAL:HG12	1.91	0.53
28:Lb:81:LEU:HD22	35:Li:90:ILE:HG12	1.89	0.53
31:Le:76:GLU:H	31:Le:76:GLU:CD	2.17	0.53
45:S2:149:C:OP1	75:Sd:121:THR:OG1	2.26	0.53
45:S2:235:G:C8	45:S2:834:G:H5'	2.44	0.53
45:S2:588:U:O2	78:Sg:57:ASN:ND2	2.29	0.53
49:SD:84:ASN:O	49:SD:86:VAL:HG23	2.09	0.53
61:SP:63:ILE:HD11	72:Sa:36:VAL:HG22	1.91	0.53
61:SP:113:ARG:HA	61:SP:113:ARG:CZ	2.39	0.53
78:Sg:36:LYS:HD2	78:Sg:36:LYS:C	2.33	0.53
1:LA:798:G:O2'	14:LN:18:TRP:NE1	2.38	0.53
3:LC:135:G:H5''	26:LZ:49:LYS:HD3	1.89	0.53
5:LE:343:TYR:CE2	5:LE:345:ASN:HB3	2.44	0.53
8:LH:53:VAL:HG21	8:LH:145:LEU:HD21	1.90	0.53
11:LK:92:TYR:HD1	11:LK:179:ILE:HG12	1.74	0.53
16:LP:5:LYS:O	16:LP:9:GLU:HG2	2.09	0.53
45:S2:268:C:N4	45:S2:288:A:H61	2.07	0.53
61:SP:74:VAL:HG12	61:SP:96:THR:HB	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SS:10:LYS:HA	64:SS:27:TYR:HA	1.91	0.53
71:SZ:122:PRO:HG2	71:SZ:125:SER:HB2	1.89	0.53
1:LA:429:U:H2'	1:LA:430:U:C6	2.44	0.53
1:LA:2339:U:OP1	5:LE:236:LYS:HE2	2.09	0.53
1:LA:2535:A:N3	62:SQ:226:GLY:N	2.54	0.53
17:LQ:59[A]:ARG:NH1	17:LQ:59[A]:ARG:HB3	2.24	0.53
45:S2:1674:C:H2'	45:S2:1675:C:C6	2.44	0.53
46:SA:106:LYS:HG2	46:SA:175:VAL:HG22	1.91	0.53
47:SB:219:ARG:O	47:SB:223:SER:OG	2.22	0.53
57:SL:42:ARG:NH1	57:SL:56:LEU:CD1	2.72	0.53
61:SP:136:ALA:HB1	61:SP:141:ILE:HB	1.91	0.53
66:SU:83:LYS:O	66:SU:86:GLN:NE2	2.41	0.53
66:SU:93:LEU:HD21	66:SU:129:LEU:HD12	1.91	0.53
1:LA:1041:U:H6	1:LA:1042:C:C5	2.19	0.53
1:LA:1739:U:H1'	1:LA:1740:A:H2	1.74	0.53
1:LA:3297:C:C2	1:LA:3298:A:C8	2.97	0.53
7:LG:108:ARG:NE	7:LG:253:PHE:HB2	2.23	0.53
9:LI:214:TRP:CE2	9:LI:219:LYS:HD3	2.43	0.53
32:Lf:31:ARG:HD3	32:Lf:31:ARG:O	2.09	0.53
39:Lm:9:LYS:O	39:Lm:13:GLU:HG2	2.08	0.53
60:SO:112:SER:HB2	60:SO:154:VAL:HG22	1.90	0.53
62:SQ:48:VAL:CG2	62:SQ:61:LEU:HD21	2.39	0.53
63:SR:154:LEU:HD22	63:SR:221:THR:HG21	1.91	0.53
67:SV:93:THR:HG23	67:SV:95:THR:HG23	1.90	0.53
69:SX:67:ARG:HD2	69:SX:67:ARG:O	2.08	0.53
1:LA:44:U:O2	43:Lq:46:LYS:NZ	2.42	0.53
1:LA:1894:A:O2'	1:LA:3052:G:H4'	2.09	0.53
1:LA:2319:A:H2	44:Lr:16:VAL:HG13	1.74	0.53
1:LA:2535:A:C3'	62:SQ:228:LEU:H	2.21	0.53
6:LF:3:ARG:HB3	6:LF:22:LEU:HD12	1.91	0.53
8:LH:172:HIS:HD2	34:Lh:40:ASP:OD1	1.91	0.53
12:LL:140:THR:HG21	12:LL:148:VAL:HG11	1.91	0.53
15:LO:108:ARG:NH2	17:LQ:196[A]:ALA:O	2.42	0.53
29:Lc:111:LYS:HD3	29:Lc:113:LEU:HD21	1.90	0.53
33:Lg:80:LYS:HA	33:Lg:83:GLU:OE2	2.09	0.53
43:Lq:57:VAL:HG22	79:Tb:77:A:N6	2.23	0.53
44:Lr:29:LEU:HD13	44:Lr:69:TYR:CD2	2.44	0.53
45:S2:36:C:H2'	45:S2:37:U:C6	2.43	0.53
45:S2:803:A:O2'	45:S2:804:A:OP2	2.20	0.53
47:SB:109:LYS:HG2	47:SB:112:ARG:HH21	1.73	0.53
47:SB:157:ARG:O	47:SB:224:ASN:ND2	2.30	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SI:65:ILE:HG12	54:SI:122:ARG:HG3	1.91	0.53
1:LA:215:G:H5''	27:La:12:ARG:HG3	1.91	0.52
1:LA:675:G:O6	19:LS:86:THR:HG21	2.08	0.52
1:LA:3005:A:H2'	1:LA:3006:U:O4'	2.09	0.52
1:LA:3012:U:H2'	1:LA:3013:U:C6	2.44	0.52
8:LH:35:VAL:O	8:LH:38:THR:OG1	2.20	0.52
45:S2:996:U:H2'	45:S2:997:G:H8	1.74	0.52
60:SO:210:LEU:HD11	60:SO:222:LEU:HD13	1.90	0.52
66:SU:56:LYS:HD3	66:SU:88:ARG:HH11	1.73	0.52
1:LA:590:G:O2'	8:LH:17:ALA:O	2.26	0.52
1:LA:816:A:N6	38:L1:25:ARG:HH22	2.06	0.52
1:LA:1830:U:O2'	3:LC:114:G:OP1	2.17	0.52
1:LA:2661:G:H2'	1:LA:2662:G:H8	1.75	0.52
1:LA:2946:G:N3	5:LE:250:ALA:HB1	2.23	0.52
5:LE:117:ARG:HG2	5:LE:178:LEU:HD23	1.89	0.52
5:LE:292:ALA:HA	5:LE:303:LYS:H	1.74	0.52
13:LM:50:ALA:HB2	13:LM:65:ILE:HG12	1.90	0.52
21:LU:6:GLU:HG2	21:LU:64:ILE:HD11	1.91	0.52
36:Lj:56:THR:O	36:Lj:60:GLU:HG3	2.10	0.52
45:S2:789:A:H4'	64:SS:106:LYS:HD2	1.90	0.52
45:S2:1426:C:HO2'	45:S2:1428:G:H8	1.57	0.52
45:S2:1509:C:H2'	45:S2:1510:U:C6	2.44	0.52
65:ST:21:GLU:O	65:ST:25:ARG:HG3	2.09	0.52
70:SY:32:SER:O	70:SY:35:GLU:HG3	2.08	0.52
70:SY:35:GLU:HA	70:SY:38:VAL:HG22	1.91	0.52
77:Sf:36:LYS:CE	77:Sf:43:ILE:CD1	2.83	0.52
1:LA:1306:G:C4	17:LQ:60[A]:LYS:HD3	2.44	0.52
1:LA:1570:A:C8	1:LA:1571:U:H4'	2.43	0.52
4:LD:70:ARG:HD3	4:LD:71:LEU:N	2.25	0.52
12:LL:51:HIS:CD2	12:LL:168:SER:HB2	2.45	0.52
13:LM:166:LYS:HD3	13:LM:167:TYR:CZ	2.44	0.52
23:LW:11:ILE:HB	23:LW:13:LYS:HZ1	1.73	0.52
32:Lf:27:LYS:O	32:Lf:31:ARG:HB3	2.09	0.52
45:S2:617:U:H2'	45:S2:618:U:C6	2.44	0.52
45:S2:1419:G:N2	46:SA:162:GLN:OE1	2.42	0.52
45:S2:1584:G:O2'	45:S2:1610:G:O6	2.23	0.52
60:SO:88:THR:HG22	60:SO:104:VAL:HG12	1.90	0.52
63:SR:35:TRP:HZ2	63:SR:68:ILE:HD12	1.73	0.52
64:SS:159:THR:OG1	64:SS:227:VAL:O	2.18	0.52
65:ST:192:ALA:O	65:ST:196:ARG:HG2	2.08	0.52
1:LA:1496:C:H2'	1:LA:1497:A:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2111:U:H4'	1:LA:2112:A:H5'	1.90	0.52
5:LE:44:THR:HG21	5:LE:184:ASN:OD1	2.09	0.52
5:LE:182:GLN:NE2	5:LE:184:ASN:HD21	2.08	0.52
9:LI:184:LEU:HD12	9:LI:198:ALA:HB1	1.91	0.52
23:LW:33:TYR:HE2	23:LW:63:VAL:HG21	1.74	0.52
47:SB:114:ILE:O	47:SB:118:LEU:HG	2.09	0.52
60:SO:106:HIS:CE1	60:SO:132:LYS:HD2	2.44	0.52
1:LA:92:G:H5'	1:LA:93:C:H5''	1.91	0.52
1:LA:266:A:OP1	16:LP:5:LYS:NZ	2.33	0.52
1:LA:270:U:H2'	1:LA:271:C:H6	1.75	0.52
1:LA:499:C:H5''	8:LH:82:ARG:HG3	1.91	0.52
1:LA:3152:U:OP2	1:LA:3292:U:O2'	2.28	0.52
5:LE:47:LEU:HD23	5:LE:335:ILE:HD11	1.91	0.52
6:LF:234:ASN:ND2	6:LF:236:LEU:HB2	2.24	0.52
6:LF:264:SER:OG	6:LF:265:GLU:N	2.38	0.52
17:LQ:51[A]:LYS:HD3	17:LQ:144[A]:SER:OG	2.08	0.52
19:LS:165:ILE:HD11	19:LS:172:PHE:HB3	1.90	0.52
45:S2:335:U:O2'	69:SX:130:PRO:O	2.27	0.52
45:S2:510:G:O2'	45:S2:511:A:O4'	2.25	0.52
45:S2:547:U:OP1	74:Sc:137:LYS:NZ	2.42	0.52
45:S2:614:C:OP2	74:Sc:5:LYS:NZ	2.25	0.52
45:S2:1187:U:O2	45:S2:1198:G:N2	2.37	0.52
53:SH:65:GLU:O	53:SH:68:ARG:HG2	2.09	0.52
53:SH:144:ARG:NE	53:SH:144:ARG:HA	2.24	0.52
65:ST:180:THR:HG22	65:ST:182:GLN:H	1.75	0.52
66:SU:47:ARG:HG2	66:SU:59:ALA:HB3	1.90	0.52
1:LA:93:C:OP2	1:LA:2763:C:O2'	2.20	0.52
5:LE:50:LYS:NZ	5:LE:330:GLY:O	2.29	0.52
11:LK:44:THR:HG22	11:LK:56:ALA:HB3	1.92	0.52
19:LS:64:VAL:HA	19:LS:67:ILE:HD12	1.92	0.52
24:LX:68:GLU:H	24:LX:68:GLU:CD	2.17	0.52
26:LZ:103:TYR:CZ	26:LZ:139:ILE:HD11	2.43	0.52
45:S2:55:A:H3'	45:S2:403:G:H22	1.74	0.52
45:S2:169:A:O2'	45:S2:172:C:N4	2.42	0.52
45:S2:331:A:H2'	45:S2:332:U:C6	2.45	0.52
45:S2:866:G:H5''	70:SY:2:GLY:HA3	1.91	0.52
45:S2:1349:G:H2'	45:S2:1350:U:H6	1.75	0.52
45:S2:1524:A:N3	45:S2:1590:G:O2'	2.42	0.52
45:S2:1579:U:H2'	45:S2:1580:C:C6	2.44	0.52
60:SO:34:LEU:HD11	60:SO:94:VAL:HG23	1.92	0.52
61:SP:148:ASP:OD1	61:SP:163:ASN:HA	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SR:116:LYS:HG2	63:SR:131:ILE:HD13	1.91	0.52
64:SS:133:LYS:O	64:SS:136:VAL:HG12	2.09	0.52
72:Sa:4:ASP:OD1	72:Sa:5:LYS:N	2.39	0.52
74:Sc:79:ASN:HB3	74:Sc:81:LYS:HD2	1.92	0.52
1:LA:1063:A:H4'	1:LA:1064:A:O5'	2.10	0.52
1:LA:1118:C:H2'	1:LA:1119:A:H8	1.75	0.52
1:LA:1621:U:H2'	1:LA:1622:G:H8	1.74	0.52
1:LA:2381:G:N7	17:LQ:91[A]:LYS:NZ	2.51	0.52
1:LA:2427:U:H2'	1:LA:2428:G:H8	1.75	0.52
5:LE:54:THR:HG22	5:LE:364:LYS:NZ	2.25	0.52
33:Lg:16:LYS:HG2	33:Lg:18:LYS:HG3	1.92	0.52
40:Ln:13:MET:HE2	40:Ln:13:MET:CA	2.40	0.52
45:S2:514:G:H2'	45:S2:515:A:C8	2.45	0.52
45:S2:902:G:N1	71:SZ:51:ASP:OD2	2.28	0.52
45:S2:1349:G:H2'	45:S2:1350:U:C6	2.44	0.52
45:S2:1540:G:OP2	53:SH:40:ARG:NH2	2.42	0.52
60:SO:85:TRP:HA	60:SO:109:ASP:OD1	2.10	0.52
67:SV:67:TRP:HD1	67:SV:68:ALA:H	1.58	0.52
68:SW:20:GLU:H	68:SW:24:LEU:HD23	1.75	0.52
68:SW:38:ASN:OD1	68:SW:38:ASN:N	2.42	0.52
79:Tb:27:G:C6	79:Tb:45:A:N6	2.75	0.52
1:LA:426:G:H5'	33:Lg:50:ILE:HG22	1.92	0.52
1:LA:2418:A:H2'	1:LA:2419:C:C6	2.44	0.52
34:Lh:14:LEU:HD11	34:Lh:31:LYS:HB2	1.91	0.52
39:Lm:3:ARG:O	39:Lm:52:TYR:HA	2.10	0.52
45:S2:476:U:H5''	45:S2:477:A:O4'	2.10	0.52
45:S2:1003:A:O2'	45:S2:1005:A:N7	2.33	0.52
45:S2:1022:C:O2'	45:S2:1125:A:N1	2.43	0.52
45:S2:1433:G:C2	58:SM:41:GLN:HB2	2.45	0.52
47:SB:69:PHE:CD2	51:SF:50:GLU:HG2	2.43	0.52
53:SH:41:ARG:NH2	54:SI:36:ILE:O	2.42	0.52
62:SQ:96:LEU:HD23	62:SQ:96:LEU:H	1.74	0.52
1:LA:886:G:H2'	1:LA:887:A:C8	2.45	0.52
1:LA:1119:A:H2'	1:LA:1120:U:C6	2.45	0.52
1:LA:1615:U:H2'	1:LA:1616:G:H8	1.75	0.52
1:LA:2441:G:N2	1:LA:2504:U:O2	2.42	0.52
1:LA:2659:G:OP1	1:LA:2749:U:O2'	2.28	0.52
1:LA:3048:A:H4'	5:LE:364:LYS:HD2	1.92	0.52
11:LK:133:THR:OG1	11:LK:147:SER:OG	2.25	0.52
13:LM:99:THR:O	13:LM:154:THR:OG1	2.27	0.52
17:LQ:85[A]:ARG:HG3	17:LQ:99[A]:LEU:HD11	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LT:163:ARG:HB3	20:LT:167:ARG:NH2	2.17	0.52
22:LV:84:TYR:CE1	30:Ld:21:ILE:HG22	2.44	0.52
23:LW:15:PHE:HB3	23:LW:103:TYR:HE2	1.75	0.52
45:S2:381:C:H2'	45:S2:382:C:C6	2.45	0.52
45:S2:595:G:H5'	68:SW:40:LYS:HZ1	1.74	0.52
45:S2:836:U:H2'	45:S2:837:G:C8	2.44	0.52
63:SR:242:ILE:HD11	63:SR:243:TYR:CZ	2.45	0.52
64:SS:254:ARG:HH22	64:SS:258:GLN:HB2	1.74	0.52
75:Sd:35:VAL:HG13	75:Sd:39:GLU:HB3	1.91	0.52
1:LA:98:G:N7	14:LN:13:HIS:NE2	2.56	0.52
1:LA:873:U:OP2	1:LA:1906:C:O2'	2.26	0.52
1:LA:3118:U:H4'	41:Lo:104:PRO:HG2	1.92	0.52
5:LE:346:THR:HA	5:LE:351:LEU:CD2	2.40	0.52
6:LF:108:LYS:HG3	16:LP:203:ARG:HG3	1.92	0.52
10:LJ:78:PHE:O	10:LJ:79:GLN:HG2	2.10	0.52
20:LT:85:ARG:HB3	20:LT:85:ARG:NH1	2.25	0.52
27:La:60:ARG:HG2	27:La:103:LYS:HD2	1.92	0.52
45:S2:230:C:H2'	45:S2:231:U:O2	2.10	0.52
45:S2:818:C:N4	45:S2:819:G:O6	2.43	0.52
45:S2:1273:G:H5''	45:S2:1274:C:H5'	1.92	0.52
45:S2:1495:C:N4	45:S2:1496:U:O2	2.43	0.52
47:SB:146:THR:OG1	47:SB:157:ARG:HG3	2.10	0.52
54:SI:37:VAL:HG23	54:SI:39:THR:H	1.74	0.52
61:SP:125:ASP:C	61:SP:125:ASP:OD1	2.53	0.52
62:SQ:144:ARG:HB3	62:SQ:208:GLN:CG	2.39	0.52
63:SR:66:PHE:CD1	63:SR:67:GLN:HG2	2.45	0.52
66:SU:130:VAL:O	66:SU:130:VAL:HG12	2.09	0.52
68:SW:66:ASP:OD2	68:SW:68:LYS:HE3	2.10	0.52
79:Tb:55:U:H2'	79:Tb:56:U:C6	2.44	0.52
1:LA:3324:G:H2'	1:LA:3325:G:H8	1.75	0.51
3:LC:58:G:O6	38:Ll:63:ARG:NH1	2.43	0.51
14:LN:59:ARG:HD2	14:LN:66:ASN:O	2.11	0.51
15:LO:39:ILE:N	15:LO:39:ILE:HD12	2.25	0.51
48:SC:77:ARG:HG3	48:SC:82:LEU:CD2	2.40	0.51
51:SF:140:LYS:HE3	51:SF:142:TYR:CE1	2.44	0.51
66:SU:63:PRO:HB2	66:SU:65:PRO:HD3	1.91	0.51
68:SW:41:GLU:O	68:SW:45:ILE:HG22	2.10	0.51
71:SZ:126:THR:OG1	71:SZ:127:ARG:N	2.43	0.51
75:Sd:83:LYS:HE3	75:Sd:91:LEU:HD13	1.92	0.51
1:LA:412:G:OP1	18:LR:62:ARG:NH1	2.43	0.51
1:LA:1476:A:OP1	1:LA:3074:G:O2'	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2447:G:O6	1:LA:2497:U:C4	2.63	0.51
1:LA:2999:A:H5'	5:LE:120:LYS:HD2	1.92	0.51
3:LC:26:U:O2'	6:LF:51:ALA:O	2.28	0.51
4:LD:46:LYS:HG3	4:LD:62:VAL:HG12	1.91	0.51
4:LD:177:LYS:HB2	44:Lr:29:LEU:HD12	1.92	0.51
8:LH:172:HIS:CE1	34:Lh:35:VAL:HG12	2.44	0.51
11:LK:23:ARG:HE	11:LK:39:LYS:HA	1.74	0.51
12:LL:102:MET:HE3	12:LL:112:GLN:NE2	2.26	0.51
17:LQ:19[A]:LEU:O	17:LQ:23[A]:VAL:HG22	2.10	0.51
20:LT:176:ARG:O	20:LT:179:GLU:HG3	2.10	0.51
39:Lm:7:ASP:O	39:Lm:10:GLN:HG2	2.09	0.51
45:S2:186:C:H3'	45:S2:187:G:H8	1.74	0.51
45:S2:919:A:H2'	45:S2:920:U:C6	2.45	0.51
46:SA:30:ALA:O	46:SA:103:GLU:CD	2.54	0.51
46:SA:94:ARG:O	46:SA:97:SER:OG	2.28	0.51
53:SH:29:VAL:O	53:SH:33:THR:HG23	2.10	0.51
74:Sc:46:SER:OG	74:Sc:78:LYS:NZ	2.43	0.51
77:Sf:34:ASP:OD1	77:Sf:82:LYS:HE2	2.10	0.51
1:LA:3378:C:H4'	5:LE:315:GLY:HA2	1.91	0.51
11:LK:89:LYS:HG3	11:LK:145:VAL:HG13	1.93	0.51
17:LQ:157[A]:GLU:O	17:LQ:161[A]:LYS:HG2	2.10	0.51
45:S2:12:U:H2'	45:S2:13:C:H6	1.74	0.51
45:S2:93:A:H5'	45:S2:94:U:C5	2.45	0.51
45:S2:156:A:H5'	45:S2:416:A:C5	2.46	0.51
45:S2:197:A:H2'	45:S2:198:A:H8	1.75	0.51
45:S2:209:U:H2'	45:S2:210:A:C8	2.46	0.51
45:S2:533:U:HO2'	45:S2:534:A:H8	1.56	0.51
45:S2:572:C:OP1	74:Sc:109:ARG:NH1	2.42	0.51
45:S2:590:C:H2'	45:S2:591:A:H8	1.72	0.51
49:SD:132:GLU:HA	49:SD:135:MET:HE2	1.92	0.51
52:SG:29:GLN:HB3	60:SO:85:TRP:CZ3	2.46	0.51
56:SK:91:PRO:HB3	56:SK:101:TYR:CE2	2.46	0.51
61:SP:141:ILE:HD12	61:SP:141:ILE:N	2.25	0.51
62:SQ:153:HIS:CD2	62:SQ:155:TYR:CD2	2.98	0.51
74:Sc:56:LYS:HB3	78:Sg:8:LEU:HD23	1.92	0.51
1:LA:594:G:OP1	9:LI:33:ARG:NH2	2.42	0.51
1:LA:1527:G:O2'	1:LA:1587:A:N3	2.39	0.51
1:LA:1764:U:H5	20:LT:43:LYS:NZ	2.09	0.51
1:LA:2814:G:N2	1:LA:2817:U:O2	2.38	0.51
5:LE:35:ASP:HB3	5:LE:184:ASN:HD22	1.75	0.51
8:LH:132:THR:O	8:LH:135:VAL:HG12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LM:80:LEU:HD13	13:LM:80:LEU:C	2.35	0.51
14:LN:42:ARG:HG2	14:LN:51:LEU:HD12	1.92	0.51
17:LQ:177[A]:LYS:HA	17:LQ:177[A]:LYS:HE3	1.93	0.51
27:La:33:ALA:HB2	27:La:101:PRO:HB2	1.92	0.51
44:Lr:31:ILE:HD12	44:Lr:31:ILE:N	2.25	0.51
45:S2:230:C:O2'	45:S2:231:U:O5'	2.19	0.51
45:S2:691:C:H2'	45:S2:692:C:H6	1.75	0.51
45:S2:1263:G:H2'	45:S2:1264:G:O4'	2.10	0.51
50:SE:68:PRO:HG2	50:SE:71:GLU:HB3	1.92	0.51
56:SK:83:LEU:HD12	56:SK:88:ILE:HG21	1.91	0.51
62:SQ:128:LYS:HB2	62:SQ:134:VAL:HG22	1.91	0.51
64:SS:120:SER:O	64:SS:164:LEU:HG	2.10	0.51
66:SU:85:PHE:HD2	66:SU:88:ARG:HG3	1.75	0.51
76:Se:3:LYS:HE2	76:Se:6:ALA:HA	1.93	0.51
1:LA:411:U:H2'	1:LA:412:G:H8	1.76	0.51
1:LA:1695:A:H2'	1:LA:1696:A:C8	2.44	0.51
1:LA:1837:G:H5''	1:LA:1838:A:H5'	1.92	0.51
1:LA:2368:G:H2'	1:LA:2369:G:C8	2.45	0.51
1:LA:2860:U:H2'	1:LA:2861:U:O4'	2.11	0.51
11:LK:55:VAL:HG23	11:LK:68:LEU:HD11	1.92	0.51
15:LO:11:ASN:OD1	15:LO:11:ASN:N	2.43	0.51
18:LR:45:GLN:O	18:LR:49:GLU:HG2	2.11	0.51
45:S2:473:A:H2'	45:S2:474:A:O4'	2.11	0.51
48:SC:46:LEU:O	48:SC:50:THR:HG23	2.10	0.51
57:SL:14:LYS:HB2	57:SL:29:ARG:HB3	1.92	0.51
60:SO:144:LEU:CD2	60:SO:181:TRP:CH2	2.93	0.51
65:ST:64:LYS:HD2	65:ST:64:LYS:C	2.35	0.51
68:SW:66:ASP:O	68:SW:70:LEU:HD22	2.10	0.51
1:LA:876:C:O2'	1:LA:879:G:O2'	2.25	0.51
3:LC:12:A:OP1	18:LR:3:ARG:NE	2.34	0.51
3:LC:72:A:C8	27:La:52:ARG:NH2	2.79	0.51
6:LF:328:ASN:OD1	9:LI:48:ASN:ND2	2.42	0.51
12:LL:66:GLU:CD	12:LL:69:ARG:HH21	2.19	0.51
12:LL:170:LYS:HA	12:LL:177:ASP:HA	1.92	0.51
16:LP:70:ASN:HB3	16:LP:92:LEU:O	2.11	0.51
45:S2:176:C:H2'	45:S2:177:U:O4'	2.10	0.51
45:S2:393:C:H4'	45:S2:1674:C:H5'	1.92	0.51
45:S2:394:C:N4	45:S2:401:A:H62	2.02	0.51
45:S2:398:G:OP2	67:SV:47:ARG:NH2	2.41	0.51
45:S2:762:A:O2'	64:SS:255:ARG:NH2	2.44	0.51
45:S2:1535:U:H1'	45:S2:1536:G:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:18:TYR:HE1	46:SA:37:VAL:HG23	1.75	0.51
50:SE:44:ARG:HD2	50:SE:84:ILE:HD12	1.91	0.51
54:SI:65:ILE:HG21	54:SI:122:ARG:HH21	1.75	0.51
65:ST:35:GLU:HA	65:ST:50:PHE:O	2.10	0.51
70:SY:74:ILE:HD12	70:SY:78:ASN:HD21	1.75	0.51
74:Sc:73:ARG:HH11	74:Sc:82:LYS:HD3	1.75	0.51
75:Sd:90:ARG:O	75:Sd:93:ARG:HG2	2.11	0.51
1:LA:158:G:H2'	1:LA:159:A:H8	1.76	0.51
1:LA:1346:U:OP1	6:LF:303:GLY:N	2.44	0.51
1:LA:2587:U:OP1	10:LJ:241:LYS:NZ	2.44	0.51
1:LA:3213:U:C4	15:LO:121:MET:SD	3.04	0.51
6:LF:29:PRO:HD3	6:LF:279:HIS:CE1	2.46	0.51
10:LJ:85:ASN:O	10:LJ:89:GLU:HG2	2.10	0.51
11:LK:34:LEU:HD12	11:LK:82:VAL:HG23	1.91	0.51
12:LL:86:HIS:CE1	12:LL:173:PHE:CE2	2.98	0.51
16:LP:124:ASP:OD1	16:LP:125:SER:N	2.43	0.51
18:LR:88:VAL:O	18:LR:92:GLN:HG2	2.11	0.51
44:Lr:27:LYS:O	44:Lr:31:ILE:HD12	2.10	0.51
45:S2:1580:C:O2'	51:SF:136:SER:HA	2.11	0.51
53:SH:127:HIS:CD2	53:SH:133:VAL:HG11	2.46	0.51
67:SV:142:LYS:O	67:SV:146:ARG:HG3	2.10	0.51
1:LA:72:C:H1'	14:LN:61:PRO:O	2.11	0.51
1:LA:258:G:OP1	14:LN:81:LYS:NZ	2.43	0.51
1:LA:422:A:C2	1:LA:2362:A:H4'	2.45	0.51
1:LA:1387:U:H5	6:LF:186:LYS:NZ	2.07	0.51
1:LA:1770:C:H2'	1:LA:1771:U:O4'	2.11	0.51
4:LD:173:GLY:O	4:LD:176:ASP:HB2	2.10	0.51
14:LN:108:ILE:O	14:LN:112:ASN:ND2	2.40	0.51
15:LO:14:LEU:H	15:LO:14:LEU:HD22	1.75	0.51
45:S2:252:U:H4'	64:SS:131:LEU:HD13	1.93	0.51
45:S2:688:G:H2'	45:S2:689:G:C8	2.45	0.51
45:S2:986:G:H2'	45:S2:987:G:O4'	2.11	0.51
51:SF:137:ARG:N	51:SF:137:ARG:HD2	2.25	0.51
55:SJ:24:ILE:HD11	55:SJ:93:LEU:HD13	1.92	0.51
60:SO:206:PRO:HD3	60:SO:245:PHE:HB3	1.92	0.51
62:SQ:217:LEU:HD12	62:SQ:218:LEU:H	1.76	0.51
64:SS:36:HIS:CG	64:SS:85:GLY:HA3	2.45	0.51
75:Sd:104:SER:O	75:Sd:108:ARG:HG3	2.10	0.51
1:LA:549:A:H2'	1:LA:550:A:C8	2.46	0.51
1:LA:915:G:H5'	1:LA:916:A:OP1	2.10	0.51
10:LJ:246:MET:HA	10:LJ:249:ARG:HG2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:165:G:H21	65:ST:132:ARG:HB2	1.76	0.51
45:S2:641:G:H2'	45:S2:642:G:H8	1.76	0.51
45:S2:1681:A:H5''	45:S2:1682:U:C5	2.45	0.51
45:S2:1698:G:N7	45:S2:1699:G:N2	2.59	0.51
73:Sb:78:ARG:HD2	73:Sb:126:LEU:HD12	1.93	0.51
1:LA:371:G:N1	1:LA:374:A:OP2	2.39	0.51
1:LA:2339:U:H5''	5:LE:237:LYS:HD3	1.92	0.51
1:LA:2507:U:H2'	1:LA:2508:U:C6	2.46	0.51
1:LA:2534:A:H2'	62:SQ:224:ASP:H	1.75	0.51
4:LD:60:LYS:HZ1	4:LD:75:ILE:HD11	1.75	0.51
4:LD:150:LEU:HD11	4:LD:156:LYS:HE2	1.92	0.51
10:LJ:90:THR:HA	10:LJ:214:LEU:HD21	1.92	0.51
24:LX:114:ILE:HB	24:LX:133:SER:HA	1.93	0.51
45:S2:247:A:H1'	69:SX:37:ASN:O	2.11	0.51
45:S2:485:A:N6	45:S2:504:U:O4'	2.41	0.51
45:S2:868:G:H5''	70:SY:91:LEU:HD13	1.93	0.51
45:S2:1205:C:O2	45:S2:1205:C:H2'	2.11	0.51
47:SB:83:ARG:NH2	47:SB:86:GLN:HB2	2.26	0.51
50:SE:17:TYR:OH	50:SE:18:ARG:NH2	2.44	0.51
61:SP:79:ARG:HH12	61:SP:164:ASN:HB3	1.76	0.51
62:SQ:168:ILE:HG12	62:SQ:197:ILE:HD11	1.92	0.51
66:SU:67:LEU:HD13	66:SU:94:ALA:HB2	1.92	0.51
1:LA:26:A:N3	1:LA:328:U:O2'	2.42	0.50
1:LA:550:A:O2'	1:LA:551:G:O5'	2.27	0.50
1:LA:1282:C:O2'	1:LA:1283:C:OP2	2.29	0.50
7:LG:258:LYS:O	7:LG:259:LYS:HG2	2.11	0.50
19:LS:174:ARG:O	29:Lc:56:VAL:HG11	2.11	0.50
31:Le:40:LYS:HZ2	31:Le:94:GLU:CB	2.23	0.50
45:S2:35:U:N3	45:S2:36:C:H5	2.09	0.50
45:S2:768:C:H5'	68:SW:149:ARG:HH12	1.75	0.50
45:S2:885:G:H2'	45:S2:886:U:C6	2.46	0.50
45:S2:1049:U:H5''	77:Sf:70:LYS:HE2	1.92	0.50
45:S2:1559:A:C8	53:SH:134:ARG:HB3	2.46	0.50
45:S2:1616:G:H2'	45:S2:1617:U:C6	2.45	0.50
50:SE:108:ARG:HH22	53:SH:118:LYS:HG3	1.75	0.50
53:SH:86:LEU:HD12	53:SH:97:ASP:HB2	1.91	0.50
54:SI:40:SER:HB3	54:SI:43:ASN:ND2	2.26	0.50
55:SJ:70:THR:OG1	55:SJ:72:ASN:OD1	2.29	0.50
64:SS:47:PHE:HA	64:SS:51:ARG:HB2	1.93	0.50
68:SW:90:LYS:C	68:SW:91:LYS:HE2	2.36	0.50
71:SZ:131:GLY:O	76:Se:22:ARG:NH2	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1221:G:O2'	1:LA:1222:A:OP2	2.28	0.50
1:LA:2106:A:H2	1:LA:3343:A:H8	1.58	0.50
1:LA:2868:U:O2'	1:LA:2872:U:OP1	2.29	0.50
1:LA:2926:C:H2'	1:LA:2927:C:C6	2.46	0.50
4:LD:33:ASP:O	4:LD:37:ARG:NH2	2.45	0.50
6:LF:152:VAL:HG21	6:LF:156:LEU:HD22	1.93	0.50
8:LH:3:ALA:HB1	33:Lg:75:LEU:HD13	1.92	0.50
12:LL:215:GLU:OE1	12:LL:215:GLU:N	2.44	0.50
22:LV:102:ARG:O	22:LV:106:LEU:HG	2.11	0.50
45:S2:1275:A:H61	45:S2:1437:U:H3	1.58	0.50
45:S2:1585:U:H5'	51:SF:125:GLU:HB3	1.93	0.50
45:S2:1796:C:OP1	76:Se:87:ARG:HD3	2.11	0.50
48:SC:3:MET:HE3	48:SC:3:MET:O	2.10	0.50
48:SC:38:LYS:HD3	48:SC:40:LEU:HD11	1.94	0.50
65:ST:75:LEU:HD23	65:ST:77:LEU:HG	1.93	0.50
66:SU:129:LEU:HD23	66:SU:130:VAL:HG23	1.93	0.50
67:SV:178:ARG:HG2	67:SV:180:ASP:HB2	1.93	0.50
70:SY:52:VAL:HG13	70:SY:55:ARG:NH2	2.25	0.50
78:Sg:33:ARG:O	78:Sg:36:LYS:HE3	2.11	0.50
1:LA:432:G:OP1	34:Lh:65:ARG:NH2	2.44	0.50
1:LA:1670:C:H5''	20:LT:60:LYS:HE3	1.94	0.50
1:LA:2391:C:O2'	5:LE:266:ARG:NH1	2.34	0.50
1:LA:2543:U:O4	62:SQ:225:VAL:HG11	2.11	0.50
5:LE:158:VAL:HG13	5:LE:191:LYS:HD2	1.93	0.50
5:LE:298:PHE:HD1	5:LE:357:LYS:O	1.94	0.50
11:LK:122:LYS:HE3	11:LK:124:ARG:HE	1.76	0.50
17:LQ:186[A]:ALA:O	17:LQ:187[A]:GLU:HG2	2.11	0.50
19:LS:170:ARG:O	19:LS:171:LYS:HG2	2.10	0.50
33:Lg:74:PHE:HZ	33:Lg:81:ASP:CG	2.19	0.50
42:Lp:7:LYS:HE3	42:Lp:11:ARG:NH1	2.26	0.50
45:S2:300:A:H2'	45:S2:301:A:C8	2.46	0.50
45:S2:307:G:OP1	69:SX:90:TYR:OH	2.25	0.50
45:S2:924:A:H2'	45:S2:925:G:C8	2.47	0.50
45:S2:1070:C:H4'	77:Sf:17:ARG:HG3	1.93	0.50
45:S2:1114:G:O2'	45:S2:1130:G:O6	2.27	0.50
45:S2:1205:C:H42	58:SM:15:GLY:HA3	1.75	0.50
45:S2:1236:A:H2'	45:S2:1237:G:C8	2.45	0.50
46:SA:105:MET:HE3	46:SA:122:VAL:HG11	1.94	0.50
53:SH:103:ASN:O	53:SH:107:SER:OG	2.30	0.50
63:SR:35:TRP:NE1	63:SR:37:PRO:HB3	2.26	0.50
69:SX:59:PRO:HB3	69:SX:66:ILE:HD11	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1790:C:H2'	1:LA:1791:C:C6	2.46	0.50
1:LA:2151:A:H2'	1:LA:2152:U:H6	1.76	0.50
4:LD:32:LEU:HD12	4:LD:32:LEU:O	2.11	0.50
19:LS:37:ALA:HB1	19:LS:46:LYS:HG3	1.92	0.50
22:LV:14:MET:HG2	22:LV:58:GLN:HE21	1.77	0.50
23:LW:83:TYR:CD1	23:LW:83:TYR:C	2.90	0.50
26:LZ:82:LEU:HD11	26:LZ:135:ILE:HD13	1.93	0.50
33:Lg:32:TRP:CZ2	33:Lg:53:PRO:HD2	2.46	0.50
39:Lm:63:LYS:NZ	39:Lm:67:GLN:HG2	2.26	0.50
45:S2:5:U:H2'	45:S2:6:G:H8	1.76	0.50
45:S2:246:G:N2	69:SX:66:ILE:O	2.45	0.50
45:S2:434:G:H2'	45:S2:436:A:OP2	2.12	0.50
45:S2:931:C:H5''	62:SQ:116:LYS:HB3	1.94	0.50
45:S2:1151:A:H2'	45:S2:1152:A:H8	1.76	0.50
45:S2:1462:G:OP2	53:SH:143:ARG:NH1	2.39	0.50
45:S2:1478:G:H2'	45:S2:1479:A:H8	1.76	0.50
45:S2:1553:G:H4'	58:SM:14:TYR:HE2	1.76	0.50
45:S2:1673:G:C6	45:S2:1728:A:N1	2.80	0.50
48:SC:12:HIS:HA	48:SC:15:LEU:HD12	1.93	0.50
50:SE:20:VAL:HG23	50:SE:25:LEU:HG	1.94	0.50
56:SK:43:ASP:OD1	56:SK:43:ASP:N	2.43	0.50
60:SO:69:GLN:HB2	60:SO:85:TRP:CD1	2.47	0.50
64:SS:103:TYR:CE1	64:SS:189:LEU:HD21	2.47	0.50
66:SU:49:ILE:HB	66:SU:57:ALA:HB3	1.92	0.50
68:SW:41:GLU:HA	68:SW:44:ARG:NE	2.25	0.50
70:SY:40:TYR:HB3	70:SY:45:LEU:HD12	1.93	0.50
75:Sd:83:LYS:HD2	75:Sd:91:LEU:HD22	1.93	0.50
76:Se:30:ILE:HD13	76:Se:74:CYS:HA	1.92	0.50
79:Tb:14:A:O2'	79:Tb:15:G:O4'	2.17	0.50
1:LA:20:A:H2'	1:LA:21:G:C8	2.47	0.50
1:LA:1635:U:H3	1:LA:1709:C:H4'	1.76	0.50
1:LA:3025:G:OP1	11:LK:174:LYS:NZ	2.38	0.50
5:LE:167:ARG:HG2	5:LE:168:LYS:N	2.26	0.50
8:LH:31:ARG:NH2	8:LH:81:ALA:O	2.25	0.50
15:LO:37:GLU:HG3	15:LO:38:ILE:N	2.25	0.50
45:S2:268:C:N3	45:S2:288:A:N6	2.60	0.50
45:S2:537:G:OP2	68:SW:175:ARG:NH1	2.45	0.50
45:S2:692:C:H2'	45:S2:693:U:C6	2.46	0.50
45:S2:756:A:H2'	45:S2:757:A:H8	1.76	0.50
45:S2:1301:U:H5'	63:SR:88:LYS:HG3	1.93	0.50
45:S2:1639:C:H2'	45:S2:1640:C:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:25:PHE:HD1	46:SA:29:LEU:HD13	1.76	0.50
46:SA:42:THR:HB	46:SA:45:LYS:HB2	1.93	0.50
62:SQ:88:VAL:HG22	62:SQ:98:THR:HG22	1.94	0.50
66:SU:24:PHE:HE1	66:SU:77:LEU:HD21	1.76	0.50
67:SV:67:TRP:CD1	67:SV:183:ILE:HD11	2.47	0.50
1:LA:1912:A:N3	1:LA:2119:A:H2'	2.26	0.50
1:LA:2128:U:H2'	1:LA:2129:G:C8	2.46	0.50
1:LA:2276:C:OP1	42:Lp:23:ARG:HD2	2.12	0.50
1:LA:2450:G:N2	1:LA:2492:U:O2	2.44	0.50
21:LU:22:PRO:O	22:LV:146:ASN:ND2	2.35	0.50
45:S2:4:C:OP1	63:SR:200:SER:OG	2.29	0.50
45:S2:28:A:H2'	45:S2:29:U:C6	2.47	0.50
45:S2:48:G:H2'	45:S2:49:C:C6	2.47	0.50
45:S2:410:A:O2'	45:S2:411:C:OP1	2.27	0.50
45:S2:1222:C:H2'	45:S2:1223:A:C8	2.47	0.50
45:S2:1273:G:O6	45:S2:1430:U:H2'	2.11	0.50
45:S2:1753:A:O2'	74:Sc:62:LYS:NZ	2.42	0.50
48:SC:10:LYS:O	48:SC:13:GLN:HG2	2.12	0.50
60:SO:109:ASP:O	60:SO:127:ARG:N	2.38	0.50
60:SO:316:MET:N	60:SO:316:MET:SD	2.84	0.50
64:SS:198:LYS:HB2	64:SS:208:VAL:HG12	1.93	0.50
64:SS:239:PRO:O	64:SS:242:LYS:HE2	2.11	0.50
68:SW:133:HIS:C	68:SW:134:ILE:HD12	2.36	0.50
70:SY:3:ARG:HB3	70:SY:6:SER:HB2	1.92	0.50
1:LA:1096:G:H4'	1:LA:1097:A:O5'	2.12	0.50
1:LA:1639:G:O6	35:Li:73:SER:OG	2.29	0.50
1:LA:2520:U:O2'	1:LA:2523:A:OP1	2.17	0.50
1:LA:2535:A:H2'	62:SQ:227:ALA:H	1.74	0.50
1:LA:2614:G:H2'	1:LA:2615:C:H6	1.77	0.50
6:LF:106:TRP:CZ2	14:LN:19:GLN:HG2	2.46	0.50
17:LQ:27[A]:LEU:HD11	17:LQ:102[A]:LEU:HB2	1.94	0.50
18:LR:168:LEU:HB3	18:LR:172:GLN:HB2	1.94	0.50
28:Lb:97:SER:H	28:Lb:100:THR:HB	1.76	0.50
38:Ll:39:TYR:CD1	38:Ll:40:PRO:HA	2.46	0.50
45:S2:82:U:H2'	45:S2:83:G:O4'	2.11	0.50
45:S2:1433:G:O2'	45:S2:1434:U:O4'	2.29	0.50
45:S2:1553:G:H4'	58:SM:14:TYR:CE2	2.46	0.50
45:S2:1608:U:OP1	51:SF:14:LYS:HB3	2.12	0.50
45:S2:1646:C:H2'	45:S2:1647:U:C6	2.47	0.50
45:S2:1740:A:H2'	45:S2:1741:U:O4'	2.11	0.50
51:SF:79:TYR:O	51:SF:82:ARG:HG2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SI:6:VAL:HG23	54:SI:63:ARG:NH1	2.27	0.50
62:SQ:229:MET:HE2	62:SQ:229:MET:C	2.37	0.50
63:SR:42:GLY:HA2	63:SR:68:ILE:HD11	1.94	0.50
63:SR:44:LEU:CD2	63:SR:50:ILE:HD12	2.42	0.50
63:SR:225:LEU:HD13	72:Sa:23:ILE:HD13	1.93	0.50
68:SW:60:LEU:HD12	68:SW:97:LEU:CD1	2.37	0.50
1:LA:513:G:N3	6:LF:341:SER:HB3	2.27	0.50
1:LA:816:A:H62	38:Ll:25:ARG:HH22	1.59	0.50
1:LA:1183:A:H2'	1:LA:1184:C:C6	2.47	0.50
1:LA:1665:G:H2'	1:LA:1666:A:H8	1.77	0.50
1:LA:2536:U:O5'	62:SQ:230:ALA:N	2.45	0.50
17:LQ:27[A]:LEU:HD12	17:LQ:84[A]:LEU:HD21	1.93	0.50
29:Lc:92:LYS:HG3	29:Lc:93:SER:N	2.26	0.50
45:S2:140:A:N6	45:S2:281:G:OP2	2.44	0.50
45:S2:358:U:H2'	45:S2:360:A:C8	2.47	0.50
45:S2:1151:A:H2'	45:S2:1152:A:C8	2.47	0.50
45:S2:1509:C:O2'	45:S2:1510:U:O4'	2.21	0.50
49:SD:77:GLY:HA2	49:SD:80:ASN:HD21	1.77	0.50
60:SO:222:LEU:HD12	60:SO:232:TYR:HE1	1.77	0.50
61:SP:183:ARG:HG3	61:SP:188:LEU:O	2.11	0.50
1:LA:714:A:N1	1:LA:780:G:O2'	2.37	0.50
1:LA:1656:C:N4	1:LA:1797:A:OP2	2.33	0.50
1:LA:2661:G:H2'	1:LA:2662:G:C8	2.47	0.50
1:LA:2985:U:H2'	1:LA:2986:A:C8	2.47	0.50
4:LD:113:VAL:HG21	4:LD:136:ILE:HD11	1.94	0.50
10:LJ:91:PHE:HD2	10:LJ:189:LEU:HD13	1.77	0.50
14:LN:2:ALA:HB1	29:Lc:33:GLY:O	2.12	0.50
19:LS:36:LEU:O	19:LS:40:THR:HB	2.12	0.50
27:La:70:ILE:HD13	27:La:82:VAL:HG22	1.93	0.50
32:Lf:55:LEU:HB2	32:Lf:95:PRO:HD3	1.94	0.50
45:S2:133:U:H5''	45:S2:134:U:H5'	1.94	0.50
45:S2:1096:C:OP2	73:Sb:71:LYS:NZ	2.30	0.50
45:S2:1177:C:H2'	45:S2:1178:G:H8	1.77	0.50
50:SE:34:VAL:HG13	50:SE:42:ARG:HA	1.94	0.50
51:SF:32:ASN:HA	51:SF:68:ARG:HD3	1.93	0.50
60:SO:253:ALA:HB1	60:SO:292:LEU:HD11	1.94	0.50
64:SS:179:LYS:HD2	64:SS:230:GLU:HA	1.92	0.50
68:SW:59:LEU:HD12	68:SW:93:LEU:HD21	1.94	0.50
75:Sd:20:ARG:HH21	75:Sd:74:LEU:HB2	1.77	0.50
1:LA:2880:C:H2'	1:LA:2881:U:C6	2.47	0.49
1:LA:3120:U:H1'	1:LA:3121:A:H5''	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LK:103:ILE:HD11	11:LK:134:ILE:HG21	1.94	0.49
17:LQ:14[A]:HIS:CE1	17:LQ:119[A]:VAL:HG23	2.47	0.49
32:Lf:72:ARG:HD3	32:Lf:104:LEU:HD13	1.92	0.49
45:S2:200:A:H2'	45:S2:201:G:H8	1.76	0.49
45:S2:293:U:H2'	45:S2:294:C:C6	2.47	0.49
45:S2:483:A:H2'	45:S2:483:A:N3	2.27	0.49
45:S2:607:G:H21	45:S2:614:C:H5''	1.77	0.49
45:S2:754:A:N7	45:S2:793:A:H8	2.10	0.49
45:S2:1303:U:O2'	45:S2:1322:A:OP2	2.28	0.49
45:S2:1410:A:H2'	45:S2:1411:A:C8	2.47	0.49
58:SM:19:ARG:HD2	58:SM:32:ARG:HH11	1.76	0.49
61:SP:51:GLY:O	61:SP:55:GLU:HG3	2.11	0.49
65:ST:31:ARG:NH1	65:ST:34:GLN:HE21	2.10	0.49
66:SU:89:HIS:ND1	66:SU:165:LYS:HG2	2.27	0.49
72:Sa:85:TYR:CD2	77:Sf:6:ASP:HB2	2.47	0.49
1:LA:628:U:H2'	1:LA:629:A:C8	2.47	0.49
1:LA:1559:G:H2'	1:LA:1560:G:C8	2.47	0.49
1:LA:1575:G:H2'	1:LA:1576:G:H8	1.77	0.49
1:LA:2249:G:H2'	1:LA:2250:G:H5''	1.94	0.49
1:LA:2768:A:H4'	43:Lq:80:ARG:HB3	1.93	0.49
1:LA:3046:U:O2'	1:LA:3047:A:H5'	2.12	0.49
2:LB:17:A:P	13:LM:150:ASN:HD21	2.34	0.49
3:LC:8:C:H2'	3:LC:9:A:C8	2.47	0.49
5:LE:108:GLU:HG2	5:LE:137:TYR:CD1	2.46	0.49
9:LI:85:PHE:H	9:LI:139:PRO:HD3	1.77	0.49
28:Lb:72:ILE:HD12	28:Lb:101:PHE:CE1	2.47	0.49
45:S2:258:C:H4'	67:SV:64:ASN:HD22	1.77	0.49
45:S2:1636:C:O2	45:S2:1765:A:N6	2.45	0.49
47:SB:162:VAL:HB	47:SB:166:ARG:HD3	1.93	0.49
62:SQ:144:ARG:HB3	62:SQ:208:GLN:HG2	1.93	0.49
64:SS:173:ILE:HG23	64:SS:179:LYS:HE3	1.95	0.49
65:ST:3:LEU:O	65:ST:15:THR:HA	2.12	0.49
65:ST:31:ARG:HH11	65:ST:34:GLN:HE21	1.60	0.49
69:SX:123:VAL:HG12	69:SX:142:VAL:HG22	1.94	0.49
75:Sd:29:HIS:HD2	75:Sd:32:ARG:HG2	1.77	0.49
75:Sd:45:ALA:HB2	75:Sd:52:LYS:HA	1.94	0.49
1:LA:570:U:H2'	1:LA:571:A:H8	1.78	0.49
1:LA:838:C:N4	44:Lr:4:ARG:HH12	2.09	0.49
1:LA:1603:G:H4'	1:LA:1834:A:H4'	1.94	0.49
1:LA:1803:A:H2'	1:LA:1804:C:C6	2.48	0.49
1:LA:2647:G:OP1	12:LL:24:ARG:NH2	2.36	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3049:U:O2'	25:LY:16:GLY:O	2.30	0.49
12:LL:150:GLU:O	12:LL:154:ARG:HG2	2.12	0.49
15:LO:13:ARG:HA	15:LO:19:ARG:HH12	1.76	0.49
18:LR:60:PHE:HB3	18:LR:64:ASN:HB3	1.94	0.49
28:Lb:23:VAL:HG12	28:Lb:45:GLY:HA3	1.93	0.49
31:Le:43:ILE:HB	31:Le:90:VAL:HG13	1.94	0.49
34:Lh:67:MET:CE	34:Lh:87:ASN:O	2.59	0.49
35:Li:67:LYS:O	35:Li:71:THR:HG23	2.11	0.49
45:S2:59:C:H1'	45:S2:452:A:C8	2.47	0.49
45:S2:504:U:O2'	45:S2:505:A:O5'	2.19	0.49
45:S2:1694:A:H2'	45:S2:1694:A:N3	2.27	0.49
45:S2:1755:A:H5''	74:Sc:63:GLN:HG2	1.94	0.49
67:SV:184:LEU:HD23	67:SV:189:LEU:HA	1.94	0.49
1:LA:1801:C:O2'	35:Li:59:PRO:O	2.18	0.49
1:LA:2682:U:H2'	1:LA:2683:C:C6	2.47	0.49
1:LA:2761:A:H2'	1:LA:2762:U:H6	1.77	0.49
1:LA:3065:U:H2'	1:LA:3066:C:C6	2.46	0.49
1:LA:3266:A:H2'	8:LH:69:PHE:CZ	2.47	0.49
5:LE:227:GLU:HG2	5:LE:270:ARG:HE	1.76	0.49
7:LG:208:MET:HE3	7:LG:226:TYR:CG	2.48	0.49
11:LK:130:ASP:OD1	11:LK:130:ASP:N	2.45	0.49
16:LP:11:GLN:HG2	16:LP:44:ARG:HH21	1.77	0.49
19:LS:41:ASP:OD1	19:LS:41:ASP:C	2.54	0.49
20:LT:148:ASP:O	20:LT:152:GLU:HG2	2.12	0.49
43:Lq:72:LEU:HD21	43:Lq:83:LEU:HG	1.95	0.49
45:S2:412:A:H1'	45:S2:422:G:N2	2.27	0.49
45:S2:497:G:H2'	45:S2:498:G:O4'	2.12	0.49
45:S2:917:U:H2'	45:S2:918:U:H6	1.78	0.49
63:SR:143:TYR:CD2	63:SR:147:ASN:HA	2.48	0.49
65:ST:215:ARG:HA	65:ST:218:GLU:HG2	1.95	0.49
70:SY:5:HIS:CE1	70:SY:121:ARG:HG3	2.48	0.49
75:Sd:90:ARG:HG2	75:Sd:90:ARG:HH11	1.77	0.49
1:LA:1419:C:OP2	6:LF:193:LYS:NZ	2.46	0.49
1:LA:3283:G:H2'	1:LA:3284:C:C6	2.47	0.49
11:LK:176:LEU:HB3	41:Lo:86:ALA:HB1	1.93	0.49
15:LO:16:GLU:HB3	21:LU:149:LYS:HB3	1.95	0.49
45:S2:80:A:H4'	45:S2:81:G:OP2	2.11	0.49
45:S2:324:U:H2'	45:S2:325:G:C8	2.48	0.49
46:SA:124:ARG:O	46:SA:127:MET:HG2	2.12	0.49
47:SB:149:VAL:HG13	47:SB:156:ARG:HG3	1.95	0.49
50:SE:44:ARG:NH2	50:SE:82:ASN:O	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SP:57:LEU:HD21	61:SP:180:GLU:HG3	1.95	0.49
68:SW:10:LYS:HD2	68:SW:12:TYR:CD1	2.47	0.49
68:SW:77:ILE:O	68:SW:81:VAL:HG12	2.13	0.49
78:Sg:38:LEU:HD23	78:Sg:42:ARG:HD2	1.93	0.49
1:LA:1119:A:H2'	1:LA:1120:U:H6	1.78	0.49
1:LA:1496:C:H2'	1:LA:1497:A:H8	1.77	0.49
1:LA:1654:G:OP1	35:Li:40:THR:OG1	2.28	0.49
1:LA:2723:U:OP2	1:LA:2725:C:N4	2.46	0.49
5:LE:109:HIS:HD1	5:LE:200:GLU:CD	2.19	0.49
13:LM:85:LYS:HA	13:LM:89:TYR:HE1	1.78	0.49
28:Lb:53:VAL:HG13	28:Lb:62:VAL:HG22	1.94	0.49
37:Lk:34:SER:O	37:Lk:38:LYS:HG2	2.12	0.49
45:S2:343:C:H2'	45:S2:344:A:C8	2.48	0.49
45:S2:445:A:H2'	45:S2:446:A:H8	1.77	0.49
45:S2:885:G:N2	71:SZ:123:SER:O	2.45	0.49
45:S2:1036:A:H2'	45:S2:1037:C:C6	2.48	0.49
45:S2:1520:U:OP2	54:SI:75:LYS:NZ	2.46	0.49
52:SG:105:GLN:HG3	61:SP:41:ARG:HA	1.93	0.49
53:SH:36:LYS:HB3	53:SH:102:ALA:HA	1.95	0.49
55:SJ:96:PRO:HG2	55:SJ:99:ILE:HB	1.94	0.49
56:SK:95:HIS:HD2	56:SK:98:GLN:HB3	1.77	0.49
62:SQ:176:VAL:HG13	62:SQ:184:LEU:HD11	1.94	0.49
72:Sa:62:ARG:HH12	73:Sb:20:THR:HG22	1.78	0.49
1:LA:38:U:H2'	1:LA:39:A:O4'	2.12	0.49
1:LA:546:G:H1'	1:LA:547:G:C8	2.48	0.49
1:LA:2535:A:H1'	62:SQ:226:GLY:H	1.78	0.49
1:LA:2564:U:H3	1:LA:2575:G:H1	1.60	0.49
1:LA:3213:U:H2'	15:LO:121:MET:CE	2.32	0.49
4:LD:30:ARG:NH2	4:LD:33:ASP:OD1	2.45	0.49
4:LD:94:ALA:O	4:LD:102:LEU:HD11	2.11	0.49
20:LT:15:VAL:HG13	20:LT:17:VAL:HG22	1.94	0.49
22:LV:44:ALA:HB2	22:LV:53:PRO:HG2	1.95	0.49
22:LV:57:TYR:CD2	22:LV:89:LEU:HD21	2.47	0.49
24:LX:59:MET:HE3	24:LX:73:VAL:CG1	2.38	0.49
29:Lc:129:PHE:HE1	37:Lk:9:ILE:HG13	1.77	0.49
45:S2:485:A:C2	45:S2:503:G:H2'	2.48	0.49
45:S2:615:A:O2'	45:S2:621:A:N1	2.44	0.49
45:S2:800:U:H2'	45:S2:801:G:C8	2.48	0.49
45:S2:859:A:C5	70:SY:73:ARG:HD2	2.48	0.49
45:S2:1293:U:O2	61:SP:109:ASN:ND2	2.46	0.49
45:S2:1443:U:H4'	45:S2:1444:A:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1543:A:O2'	45:S2:1544:U:O4'	2.20	0.49
45:S2:1638:G:H2'	45:S2:1639:C:C6	2.47	0.49
46:SA:13:ALA:HA	46:SA:16:VAL:HG12	1.93	0.49
47:SB:222:LYS:HG3	47:SB:225:ARG:HH21	1.77	0.49
54:SI:112:GLY:O	54:SI:125:SER:OG	2.29	0.49
60:SO:232:TYR:HE2	60:SO:234:LEU:HB2	1.78	0.49
68:SW:89:ASP:OD1	68:SW:89:ASP:N	2.44	0.49
1:LA:283:G:OP2	1:LA:285:A:H4'	2.13	0.49
1:LA:1665:G:H2'	1:LA:1666:A:C8	2.47	0.49
1:LA:2151:A:H2'	1:LA:2152:U:C6	2.48	0.49
12:LL:76:MET:SD	12:LL:148:VAL:HA	2.53	0.49
15:LO:12:TRP:HE1	21:LU:153:PRO:HA	1.78	0.49
23:LW:42:LYS:HB3	23:LW:47:VAL:HG22	1.95	0.49
45:S2:88:U:H4'	45:S2:171:A:H5'	1.95	0.49
45:S2:211:U:OP1	69:SX:20:PHE:HB3	2.13	0.49
45:S2:502:U:H3'	45:S2:503:G:H5''	1.94	0.49
45:S2:556:A:N3	45:S2:590:C:H1'	2.28	0.49
49:SD:36:LEU:HD12	49:SD:37:VAL:N	2.28	0.49
49:SD:77:GLY:HA2	49:SD:80:ASN:ND2	2.28	0.49
62:SQ:71:ALA:HB2	62:SQ:80:SER:HA	1.95	0.49
66:SU:130:VAL:HG21	66:SU:183:PHE:CE1	2.47	0.49
68:SW:82:ARG:NH1	68:SW:82:ARG:O	2.46	0.49
78:Sg:56:MET:SD	78:Sg:56:MET:N	2.86	0.49
1:LA:549:A:H2'	1:LA:550:A:H8	1.78	0.49
1:LA:2584:G:N3	1:LA:2584:G:H2'	2.28	0.49
3:LC:48:A:H61	3:LC:54:A:N6	2.11	0.49
10:LJ:182:GLY:O	10:LJ:186:LEU:HD12	2.13	0.49
14:LN:46:ILE:HD11	14:LN:51:LEU:HA	1.95	0.49
19:LS:19:PRO:HD3	19:LS:53:PHE:CD1	2.48	0.49
29:Lc:87:ARG:O	29:Lc:91:LEU:HD23	2.13	0.49
45:S2:167:U:P	65:ST:137:ARG:HH22	2.36	0.49
52:SG:46:LEU:O	52:SG:50:ILE:HG12	2.13	0.49
54:SI:131:ASP:OD1	54:SI:132:LEU:N	2.46	0.49
57:SL:56:LEU:HD12	57:SL:57:MET:N	2.28	0.49
62:SQ:147:ALA:O	62:SQ:148:ASN:OD1	2.30	0.49
64:SS:172:PHE:C	64:SS:173:ILE:HD12	2.38	0.49
67:SV:172:ARG:NE	67:SV:175:GLN:OE1	2.46	0.49
76:Se:75:VAL:O	76:Se:79:ILE:HD12	2.13	0.49
1:LA:393:U:H2'	1:LA:394:G:O4'	2.13	0.49
1:LA:991:A:O2'	1:LA:992:G:H5'	2.13	0.49
1:LA:1595:C:H2'	1:LA:1596:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1635:U:H4'	28:Lb:74:VAL:O	2.13	0.49
1:LA:1686:U:H1'	23:LW:75:TYR:CD2	2.48	0.49
1:LA:2536:U:O2'	1:LA:2537:U:O5'	2.29	0.49
1:LA:3276:U:O4	18:LR:172:GLN:NE2	2.36	0.49
3:LC:150:G:N2	10:LJ:59:GLN:OE1	2.30	0.49
5:LE:108:GLU:HG2	5:LE:137:TYR:CG	2.47	0.49
6:LF:170:LYS:HD3	6:LF:175:HIS:CD2	2.48	0.49
6:LF:329:PRO:HB2	9:LI:45:LEU:HD23	1.94	0.49
8:LH:175:LYS:HB3	8:LH:175:LYS:HE2	1.68	0.49
15:LO:37:GLU:HG2	21:LU:72:VAL:HG21	1.95	0.49
22:LV:119:ALA:HB2	22:LV:126:VAL:HB	1.94	0.49
26:LZ:106:ASP:OD1	26:LZ:127:THR:HG23	2.12	0.49
45:S2:412:A:H1'	45:S2:422:G:H22	1.78	0.49
45:S2:741:C:O2	66:SU:107:ARG:NE	2.45	0.49
45:S2:1027:A:OP1	45:S2:1789:G:O2'	2.30	0.49
45:S2:1312:A:H2'	45:S2:1313:A:C8	2.48	0.49
45:S2:1471:A:N7	45:S2:1540:G:H1'	2.28	0.49
45:S2:1767:G:OP1	45:S2:1770:U:H4'	2.13	0.49
48:SC:75:TYR:O	48:SC:78:GLU:HG3	2.12	0.49
50:SE:96:ILE:HD13	50:SE:116:LEU:HB3	1.95	0.49
60:SO:64:HIS:CE1	60:SO:90:ARG:HD3	2.47	0.49
63:SR:203:LYS:NZ	63:SR:205:ARG:HB2	2.28	0.49
64:SS:183:VAL:HG21	64:SS:188:ASN:HB2	1.94	0.49
68:SW:12:TYR:CE2	68:SW:40:LYS:HG2	2.48	0.49
76:Se:73:TYR:CD2	76:Se:83:ILE:HD13	2.48	0.49
76:Se:88:SER:O	76:Se:92:ARG:HG3	2.12	0.49
1:LA:593:U:H2'	1:LA:608:G:O6	2.13	0.48
1:LA:726:G:O6	1:LA:741:G:O2'	2.24	0.48
1:LA:977:G:N2	1:LA:978:U:O4	2.27	0.48
1:LA:1193:G:H2'	1:LA:1194:A:C8	2.48	0.48
1:LA:1207:U:O2'	1:LA:3114:C:N4	2.46	0.48
1:LA:1621:U:H2'	1:LA:1622:G:C8	2.48	0.48
3:LC:40:A:H2'	3:LC:41:A:C8	2.48	0.48
3:LC:95:G:O2'	38:LI:81:GLY:O	2.25	0.48
19:LS:176:ARG:HA	19:LS:182:LYS:O	2.13	0.48
45:S2:10:G:H1'	63:SR:94:GLN:NE2	2.28	0.48
45:S2:514:G:OP1	68:SW:132:ARG:NH2	2.46	0.48
45:S2:756:A:H2'	45:S2:757:A:C8	2.48	0.48
45:S2:923:A:H2'	45:S2:924:A:C8	2.48	0.48
50:SE:49:MET:SD	50:SE:49:MET:N	2.86	0.48
51:SF:30:LYS:HE2	51:SF:33:GLY:HA2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SO:22:SER:HB2	60:SO:70:ASP:HA	1.95	0.48
60:SO:174:ASN:HA	60:SO:199:ILE:H	1.78	0.48
61:SP:124:THR:O	61:SP:146:LEU:HB3	2.12	0.48
71:SZ:19:ILE:HD12	71:SZ:28:VAL:HG12	1.94	0.48
1:LA:406:G:H1'	3:LC:16:G:N2	2.27	0.48
1:LA:2755:C:O4'	22:LV:49:GLN:HG2	2.12	0.48
1:LA:2774:U:H2'	1:LA:2775:C:C6	2.48	0.48
1:LA:3312:U:P	5:LE:173:GLN:HE22	2.36	0.48
6:LF:159:ILE:HD12	6:LF:164:GLU:HB3	1.95	0.48
7:LG:156:GLY:HA2	7:LG:181:PRO:HD3	1.95	0.48
9:LI:233:GLU:OE2	21:LU:35:VAL:HG22	2.13	0.48
16:LP:67:ARG:NH1	16:LP:127:TYR:OH	2.45	0.48
31:Le:44:ILE:HG23	31:Le:48:THR:HG21	1.95	0.48
45:S2:903:U:H5''	71:SZ:135:ARG:NH2	2.28	0.48
45:S2:1335:U:H2'	45:S2:1336:A:C8	2.47	0.48
50:SE:35:LYS:O	50:SE:35:LYS:NZ	2.41	0.48
53:SH:15:LEU:HD13	53:SH:17:LEU:HD23	1.95	0.48
54:SI:117:SER:HB2	54:SI:123:ARG:HG3	1.96	0.48
55:SJ:55:PRO:HA	55:SJ:91:ILE:HG13	1.95	0.48
62:SQ:113:MET:SD	62:SQ:211:HIS:ND1	2.86	0.48
63:SR:87:GLN:HG2	63:SR:96:THR:OG1	2.13	0.48
64:SS:143:ASP:OD1	64:SS:143:ASP:N	2.36	0.48
64:SS:180:LEU:HD11	64:SS:192:ILE:HB	1.95	0.48
66:SU:60:ILE:HB	66:SU:92:PHE:HD1	1.79	0.48
67:SV:99:ALA:HA	67:SV:168:CYS:SG	2.53	0.48
70:SY:91:LEU:HD21	70:SY:121:ARG:HB3	1.95	0.48
75:Sd:27:VAL:O	75:Sd:68:LYS:HD2	2.13	0.48
1:LA:1764:U:C5	20:LT:43:LYS:NZ	2.81	0.48
1:LA:2115:G:OP1	1:LA:2117:C:N4	2.46	0.48
1:LA:2217:G:H2'	1:LA:2218:A:C8	2.49	0.48
1:LA:2254:A:H61	1:LA:2260:G:H1	1.61	0.48
7:LG:75:LEU:HD23	7:LG:75:LEU:H	1.78	0.48
14:LN:43:ALA:O	14:LN:47:ALA:HA	2.13	0.48
26:LZ:106:ASP:CG	26:LZ:130:TYR:HE1	2.22	0.48
36:Lj:70:TYR:O	36:Lj:76:GLN:NE2	2.46	0.48
37:Lk:51:SER:O	37:Lk:55:ARG:HG3	2.14	0.48
45:S2:122:U:O3'	64:SS:77:ARG:NH2	2.45	0.48
45:S2:187:G:N2	45:S2:197:A:N7	2.61	0.48
45:S2:296:U:H2'	45:S2:297:U:C6	2.46	0.48
45:S2:884:A:H5''	62:SQ:136:ARG:NE	2.29	0.48
45:S2:1318:G:H2'	45:S2:1319:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:101:GLN:O	46:SA:105:MET:SD	2.71	0.48
47:SB:57:SER:HA	57:SL:53:ILE:HB	1.94	0.48
56:SK:80:LEU:HD11	56:SK:101:TYR:CE2	2.48	0.48
63:SR:228:ASN:HD22	72:Sa:1:MET:HB3	1.77	0.48
73:Sb:15:ASN:ND2	73:Sb:72:CYS:O	2.46	0.48
76:Se:82:ARG:HB2	76:Se:82:ARG:CZ	2.43	0.48
1:LA:268:A:C4	16:LP:12:ARG:HG2	2.48	0.48
1:LA:735:A:H2'	1:LA:736:G:O4'	2.13	0.48
1:LA:1045:A:H2'	1:LA:1048:C:C5	2.48	0.48
1:LA:1638:C:N4	35:Li:73:SER:HB2	2.28	0.48
1:LA:2427:U:H2'	1:LA:2428:G:C8	2.47	0.48
1:LA:2449:G:N1	1:LA:2495:C:N3	2.61	0.48
1:LA:2535:A:H1'	62:SQ:225:VAL:N	2.29	0.48
1:LA:3367:U:H4'	1:LA:3368:G:H5'	1.94	0.48
3:LC:69:U:H2'	3:LC:70:G:O4'	2.13	0.48
10:LJ:105:LYS:HG3	10:LJ:109:LEU:CD2	2.44	0.48
10:LJ:178:ALA:HB2	10:LJ:218:ILE:HG23	1.95	0.48
10:LJ:205:ALA:HA	10:LJ:208:GLU:HG3	1.96	0.48
22:LV:17:ARG:NH1	22:LV:47:SER:OG	2.46	0.48
24:LX:109:MET:HE1	24:LX:132:ASN:HB2	1.96	0.48
29:Lc:74:ASN:HB3	29:Lc:115:LYS:HB2	1.95	0.48
33:Lg:32:TRP:CH2	33:Lg:52:GLN:HG3	2.48	0.48
36:Lj:104:GLN:O	36:Lj:108:GLN:HG3	2.13	0.48
45:S2:208:U:H2'	45:S2:209:U:C6	2.48	0.48
45:S2:548:G:O6	45:S2:591:A:N6	2.47	0.48
45:S2:823:G:H2'	45:S2:824:G:H8	1.78	0.48
45:S2:975:C:OP1	70:SY:112:LYS:NZ	2.46	0.48
45:S2:1276:U:H2'	45:S2:1277:G:C8	2.41	0.48
57:SL:60:GLU:OE1	57:SL:60:GLU:N	2.46	0.48
60:SO:122:ILE:HB	60:SO:134:TRP:CD1	2.46	0.48
62:SQ:61:LEU:HD12	62:SQ:96:LEU:CD1	2.39	0.48
66:SU:8:ILE:HD11	66:SU:42:GLN:HA	1.95	0.48
68:SW:94:ASP:OD1	68:SW:95:TYR:N	2.47	0.48
68:SW:135:ALA:HB2	68:SW:159:ALA:HB2	1.93	0.48
77:Sf:64:CYS:HB3	77:Sf:73:LEU:HD23	1.95	0.48
79:Tb:52:C:H2'	79:Tb:53:G:H8	1.78	0.48
1:LA:531:A:O2'	1:LA:532:A:O5'	2.27	0.48
1:LA:626:U:H2'	1:LA:627:A:C8	2.47	0.48
1:LA:1211:A:H4'	21:LU:113:ARG:HD3	1.94	0.48
1:LA:2270:A:H2'	1:LA:2271:G:O4'	2.14	0.48
1:LA:2372:A:N3	1:LA:2823:G:O2'	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3287:G:HO2'	1:LA:3288:G:H8	1.59	0.48
7:LG:64:ILE:HG13	7:LG:109:THR:HG21	1.95	0.48
36:Lj:90:ARG:HH11	36:Lj:90:ARG:HG2	1.78	0.48
44:Lr:21:SER:O	44:Lr:25:GLN:HG3	2.13	0.48
45:S2:609:U:H4'	45:S2:610:G:O5'	2.13	0.48
45:S2:898:A:N3	45:S2:899:G:H1'	2.28	0.48
45:S2:947:U:H2'	45:S2:948:G:H8	1.77	0.48
63:SR:226:THR:HB	63:SR:229:LEU:HD23	1.96	0.48
64:SS:67:GLN:HG3	64:SS:69:HIS:ND1	2.29	0.48
66:SU:89:HIS:HD1	66:SU:165:LYS:HG2	1.78	0.48
1:LA:937:C:OP2	29:Lc:26:ARG:NH1	2.46	0.48
1:LA:2136:U:OP2	1:LA:2141:A:N6	2.36	0.48
1:LA:2262:C:HO2'	45:S2:1759:C:HO2'	1.57	0.48
1:LA:3394:G:H1'	1:LA:3395:U:H5	1.78	0.48
13:LM:77:GLU:O	13:LM:81:GLU:HG2	2.14	0.48
14:LN:119:TYR:O	14:LN:123:ILE:HG23	2.13	0.48
45:S2:1:U:O4	68:SW:53:ARG:NE	2.34	0.48
45:S2:127:G:N7	65:ST:195:VAL:HG23	2.29	0.48
45:S2:177:U:H2'	65:ST:191:ARG:HH12	1.79	0.48
45:S2:296:U:H5'	64:SS:140:VAL:HG21	1.95	0.48
45:S2:761:G:N2	45:S2:790:U:O4	2.47	0.48
45:S2:1606:C:H2'	45:S2:1607:G:H8	1.79	0.48
45:S2:1738:U:H5'	45:S2:1739:C:C6	2.45	0.48
61:SP:81:PHE:HB2	61:SP:170:ILE:HD11	1.96	0.48
63:SR:61:LEU:HD22	63:SR:240:LEU:HD11	1.96	0.48
64:SS:17:HIS:HE1	64:SS:18:TRP:NE1	2.11	0.48
70:SY:110:ASP:O	70:SY:114:ARG:HG2	2.13	0.48
71:SZ:111:ARG:HB3	76:Se:58:VAL:HG13	1.95	0.48
72:Sa:73:ALA:HB1	72:Sa:79:LEU:HD23	1.96	0.48
74:Sc:69:ARG:HG3	74:Sc:117:ILE:HG12	1.96	0.48
1:LA:291:C:H2'	1:LA:292:U:C6	2.49	0.48
1:LA:411:U:H2'	1:LA:412:G:C8	2.49	0.48
1:LA:2406:C:H2'	1:LA:2407:U:H6	1.78	0.48
1:LA:2610:U:H2'	1:LA:2611:U:C6	2.48	0.48
1:LA:3324:G:H2'	1:LA:3325:G:C8	2.48	0.48
4:LD:156:LYS:HG2	4:LD:158:ILE:HG23	1.95	0.48
7:LG:179:ARG:HD3	7:LG:179:ARG:HA	1.60	0.48
7:LG:197:SER:O	7:LG:202:GLY:N	2.27	0.48
16:LP:149:ASN:HA	16:LP:152:CYS:SG	2.54	0.48
20:LT:136:ARG:O	20:LT:140:GLU:HG3	2.13	0.48
27:La:82:VAL:HB	27:La:85:VAL:CG1	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Lg:74:PHE:CD1	33:Lg:74:PHE:C	2.90	0.48
45:S2:139:C:H4'	45:S2:140:A:H5'	1.96	0.48
45:S2:557:G:H4'	78:Sg:55:ARG:HH22	1.79	0.48
45:S2:1198:G:H5'	45:S2:1199:G:H4'	1.95	0.48
45:S2:1249:U:O2	45:S2:1249:U:H2'	2.14	0.48
45:S2:1512:G:H2'	45:S2:1513:G:H8	1.77	0.48
45:S2:1762:A:H2'	45:S2:1763:A:H8	1.79	0.48
46:SA:158:ILE:HG23	46:SA:164:VAL:HG23	1.95	0.48
64:SS:139:VAL:HG13	64:SS:150:PRO:HG3	1.94	0.48
64:SS:176:ASP:N	64:SS:176:ASP:OD1	2.47	0.48
74:Sc:90:ASP:HB2	74:Sc:136:TRP:HE1	1.77	0.48
75:Sd:107:GLN:O	75:Sd:111:LYS:HG2	2.14	0.48
1:LA:514:C:H5''	6:LF:343:LYS:HD2	1.96	0.48
1:LA:1009:G:H4'	12:LL:40:LYS:HD3	1.96	0.48
1:LA:1259:A:H2'	1:LA:1260:G:C2	2.49	0.48
1:LA:1620:A:H2'	1:LA:1621:U:H6	1.79	0.48
1:LA:1758:C:H2'	1:LA:1759:A:C8	2.48	0.48
5:LE:211:GLN:HE21	5:LE:283:TYR:C	2.20	0.48
11:LK:10:ILE:HG22	11:LK:53:ILE:HB	1.95	0.48
13:LM:133:ARG:NH2	13:LM:158:ASP:OD2	2.46	0.48
45:S2:502:U:O4	45:S2:504:U:C6	2.67	0.48
45:S2:837:G:N1	45:S2:838:G:C6	2.82	0.48
45:S2:1288:G:OP1	45:S2:1624:C:O2'	2.31	0.48
45:S2:1523:G:H1'	54:SI:79:LEU:HD13	1.95	0.48
47:SB:211:ILE:HA	47:SB:214:LYS:HB3	1.94	0.48
50:SE:20:VAL:HB	50:SE:24:LYS:HE2	1.95	0.48
59:SN:109:ASP:OD2	59:SN:115:THR:N	2.36	0.48
60:SO:66:HIS:CG	60:SO:67:ILE:H	2.31	0.48
60:SO:214:ALA:HB2	60:SO:220:ILE:HA	1.96	0.48
61:SP:31:VAL:HG12	61:SP:33:GLN:H	1.78	0.48
61:SP:112:THR:HG22	61:SP:114:SER:H	1.78	0.48
62:SQ:184:LEU:O	62:SQ:188:LEU:HB2	2.14	0.48
63:SR:111:VAL:HG22	63:SR:139:ILE:HD11	1.95	0.48
72:Sa:36:VAL:HB	72:Sa:51:VAL:HG12	1.94	0.48
1:LA:209:A:H4'	1:LA:211:A:N7	2.29	0.48
1:LA:655:A:H2'	1:LA:656:A:H8	1.78	0.48
1:LA:2559:C:H5''	1:LA:2560:A:H5''	1.96	0.48
1:LA:2561:A:H1'	10:LJ:30:THR:HB	1.96	0.48
1:LA:2766:U:H2'	1:LA:2767:U:H6	1.78	0.48
2:LB:39:C:H4'	13:LM:44:THR:HG23	1.95	0.48
5:LE:165:GLN:HB3	5:LE:168:LYS:HG3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LF:58:HIS:HA	6:LF:90:PHE:HE1	1.79	0.48
9:LI:156:ILE:HD12	9:LI:161:VAL:CG2	2.43	0.48
9:LI:222:HIS:ND1	9:LI:224:ILE:HG12	2.29	0.48
15:LO:17:VAL:HG11	15:LO:74:ARG:HA	1.95	0.48
18:LR:84:PRO:HB2	18:LR:87:SER:OG	2.14	0.48
39:Lm:63:LYS:O	39:Lm:66:ILE:HG22	2.13	0.48
45:S2:52:U:H2'	45:S2:53:G:C8	2.49	0.48
45:S2:845:G:O2'	45:S2:846:G:H5''	2.14	0.48
45:S2:1180:C:N4	45:S2:1181:U:O4	2.46	0.48
45:S2:1471:A:O2'	45:S2:1472:C:OP1	2.21	0.48
47:SB:58:LEU:HD21	47:SB:167:ARG:CZ	2.44	0.48
47:SB:187:ILE:HB	47:SB:188:LYS:NZ	2.29	0.48
63:SR:207:LEU:HD13	63:SR:211:LEU:HD23	1.95	0.48
79:Tb:62:C:H2'	79:Tb:63:C:C6	2.48	0.48
1:LA:156:G:OP2	37:Lk:25:LYS:HB3	2.14	0.48
1:LA:914:A:H8	1:LA:2135:C:O2'	1.97	0.48
1:LA:1576:G:H2'	1:LA:1577:C:H6	1.78	0.48
1:LA:2262:C:H2'	1:LA:2263:U:H5'	1.96	0.48
1:LA:2343:U:H2'	1:LA:2344:A:C8	2.49	0.48
1:LA:2630:U:H4'	1:LA:2696:A:H2	1.78	0.48
1:LA:2634:A:H4'	1:LA:2635:A:O5'	2.14	0.48
1:LA:2666:A:O2'	1:LA:2690:A:OP1	2.26	0.48
1:LA:3032:A:H2'	1:LA:3033:C:C6	2.47	0.48
1:LA:3272:A:P	8:LH:77:ARG:HH22	2.37	0.48
2:LB:119:U:H2'	2:LB:120:C:C6	2.49	0.48
7:LG:29:ASP:CG	7:LG:32:GLN:HG3	2.39	0.48
7:LG:260:PHE:HD1	7:LG:264:GLN:HE21	1.62	0.48
31:Le:17:VAL:O	31:Le:21:GLY:N	2.46	0.48
31:Le:25:LEU:HD11	31:Le:83:LYS:HE3	1.95	0.48
31:Le:34:LEU:HD13	31:Le:59:TYR:HB3	1.94	0.48
50:SE:43:ARG:HH21	50:SE:47:ARG:HH21	1.61	0.48
52:SG:106:THR:O	52:SG:110:VAL:HG23	2.14	0.48
62:SQ:157:GLN:C	62:SQ:159:SER:H	2.21	0.48
63:SR:165:VAL:HA	63:SR:201:ASN:O	2.13	0.48
64:SS:152:PRO:HB2	65:ST:215:ARG:HH12	1.78	0.48
1:LA:429:U:H2'	1:LA:430:U:H6	1.78	0.47
1:LA:564:U:H2'	1:LA:565:G:C8	2.49	0.47
1:LA:775:U:OP1	30:Ld:41:ARG:NE	2.47	0.47
1:LA:1666:A:H2'	1:LA:1667:G:C8	2.49	0.47
1:LA:2351:A:H5''	18:LR:83:TRP:O	2.13	0.47
1:LA:2536:U:H5''	62:SQ:232:HIS:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2986:A:O2'	5:LE:259:HIS:HB3	2.14	0.47
7:LG:105:ILE:O	7:LG:109:THR:OG1	2.29	0.47
15:LO:32:LEU:HD11	15:LO:94:TRP:CG	2.48	0.47
19:LS:125:ASP:OD1	19:LS:126:GLN:N	2.47	0.47
21:LU:46:GLN:HG2	21:LU:51:VAL:O	2.13	0.47
22:LV:92:ARG:HB3	22:LV:94:GLU:OE2	2.14	0.47
39:Lm:9:LYS:O	39:Lm:12:LEU:HD12	2.12	0.47
51:SF:107:LYS:HE2	51:SF:107:LYS:N	2.29	0.47
54:SI:33:TYR:CE1	54:SI:103:LYS:HD2	2.49	0.47
64:SS:147:ILE:HG21	64:SS:169:ILE:HD11	1.96	0.47
65:ST:22:HIS:HA	65:ST:25:ARG:HE	1.78	0.47
67:SV:143:TRP:O	67:SV:147:ALA:HB2	2.15	0.47
70:SY:11:ILE:HG13	70:SY:11:ILE:O	2.14	0.47
1:LA:29:C:H4'	1:LA:62:A:H4'	1.96	0.47
1:LA:2536:U:H5''	62:SQ:232:HIS:HB2	1.96	0.47
4:LD:206:PRO:HD3	4:LD:213:GLY:CA	2.43	0.47
5:LE:300:ARG:HE	5:LE:300:ARG:HB3	1.41	0.47
6:LF:269:SER:C	6:LF:271:LYS:H	2.22	0.47
10:LJ:151:VAL:O	10:LJ:177:TYR:HA	2.14	0.47
11:LK:45:PHE:CD1	11:LK:55:VAL:HG12	2.49	0.47
13:LM:82:ARG:CB	13:LM:85:LYS:HE3	2.41	0.47
15:LO:49:PRO:HB3	15:LO:78:THR:HG23	1.96	0.47
17:LQ:36[A]:VAL:HB	17:LQ:108[A]:ILE:CD1	2.37	0.47
24:LX:13:ILE:HG23	24:LX:85:TRP:CG	2.49	0.47
31:Le:74:ASN:OD1	31:Le:74:ASN:N	2.44	0.47
32:Lf:12:TYR:CD2	32:Lf:75:ILE:HD12	2.49	0.47
39:Lm:28:ASN:CB	39:Lm:30:LYS:HZ1	2.25	0.47
41:Lo:86:ALA:O	41:Lo:90:ASN:HB2	2.14	0.47
45:S2:86:A:H5''	75:Sd:119:PHE:CE1	2.50	0.47
45:S2:478:A:N1	45:S2:510:G:C6	2.82	0.47
45:S2:503:G:H2'	45:S2:503:G:N3	2.27	0.47
45:S2:563:U:H4'	78:Sg:17:GLN:HE21	1.79	0.47
45:S2:1610:G:N7	51:SF:14:LYS:NZ	2.60	0.47
46:SA:34:TYR:HE1	46:SA:37:VAL:HG13	1.78	0.47
51:SF:94:GLN:HG3	51:SF:102:LYS:HE2	1.96	0.47
60:SO:126:SER:OG	60:SO:127:ARG:N	2.46	0.47
61:SP:139:VAL:C	61:SP:141:ILE:HD12	2.39	0.47
70:SY:64:ARG:HD3	70:SY:70:LYS:CG	2.34	0.47
1:LA:500:A:H2'	1:LA:501:U:C6	2.48	0.47
1:LA:1623:G:O2'	1:LA:1642:A:N1	2.42	0.47
1:LA:2451:G:N7	79:Tb:57:C:N4	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2960:G:H2'	1:LA:2961:U:C6	2.50	0.47
1:LA:3175:G:OP2	34:Lh:6:ARG:N	2.48	0.47
3:LC:7:U:H2'	3:LC:8:C:C6	2.49	0.47
5:LE:305:ILE:HD13	5:LE:321:PHE:CE2	2.49	0.47
7:LG:234:ASP:OD1	7:LG:234:ASP:N	2.47	0.47
13:LM:49:LYS:HB3	13:LM:62:ASN:HA	1.96	0.47
15:LO:46:ILE:HD13	15:LO:58:ILE:HG21	1.94	0.47
21:LU:26:ARG:HD3	22:LV:150:THR:HG23	1.96	0.47
21:LU:66:GLU:OE1	21:LU:99:ARG:N	2.47	0.47
30:Ld:48:HIS:C	30:Ld:48:HIS:ND1	2.72	0.47
37:Lk:80:PHE:O	37:Lk:84:LYS:HG3	2.15	0.47
45:S2:17:C:H2'	45:S2:18:C:H6	1.76	0.47
45:S2:30:G:H2'	45:S2:31:C:H6	1.79	0.47
45:S2:181:A:H3'	45:S2:182:A:C8	2.47	0.47
45:S2:298:C:O3'	64:SS:30:ARG:NH2	2.47	0.47
45:S2:1213:G:N2	45:S2:1450:U:O2	2.30	0.47
51:SF:22:VAL:HG22	51:SF:65:ILE:HG23	1.96	0.47
61:SP:33:GLN:O	61:SP:35:PRO:HD3	2.14	0.47
67:SV:39:GLY:O	67:SV:59:ARG:HD2	2.13	0.47
75:Sd:86:GLU:HB2	75:Sd:91:LEU:HD21	1.96	0.47
1:LA:307:A:H2'	1:LA:308:A:H8	1.76	0.47
1:LA:1361:G:H2'	1:LA:1362:A:C8	2.49	0.47
1:LA:1576:G:H2'	1:LA:1577:C:C6	2.49	0.47
1:LA:1913:G:O2'	20:LT:82:LYS:O	2.27	0.47
1:LA:2418:A:H2'	1:LA:2419:C:H6	1.80	0.47
1:LA:2835:C:H5	1:LA:2851:C:N4	2.11	0.47
6:LF:53:SER:HB3	6:LF:56:ALA:HB2	1.95	0.47
6:LF:346:LYS:HE2	6:LF:346:LYS:HB3	1.66	0.47
9:LI:98:LYS:HB3	9:LI:99:PRO:HD3	1.97	0.47
17:LQ:119[A]:VAL:HG21	17:LQ:124[A]:LEU:HD11	1.95	0.47
45:S2:399:A:H4'	64:SS:3:ARG:HG2	1.97	0.47
45:S2:564:G:H1	45:S2:579:A:H3'	1.78	0.47
45:S2:653:C:H5''	45:S2:682:C:H42	1.79	0.47
45:S2:959:U:C6	70:SY:61:THR:HG23	2.45	0.47
45:S2:1451:C:H2'	45:S2:1452:U:C6	2.50	0.47
45:S2:1568:C:H4'	45:S2:1569:A:H8	1.79	0.47
49:SD:135:MET:O	49:SD:138:GLU:HG3	2.14	0.47
52:SG:29:GLN:HB3	60:SO:85:TRP:HZ3	1.80	0.47
52:SG:45:ARG:O	52:SG:49:LYS:HG2	2.15	0.47
60:SO:176:LYS:NZ	60:SO:196:ASN:O	2.39	0.47
63:SR:66:PHE:HD2	63:SR:130:ILE:HG23	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69: SX:133: LYS: HG2	69: SX:134: THR: HG23	1.96	0.47
74: Sc:92: CYS: SG	74: Sc:132: LEU: HD12	2.54	0.47
74: Sc:101: GLU: O	74: Sc:128: SER: N	2.47	0.47
75: Sd:44: LEU: HA	75: Sd:47: VAL: HG22	1.96	0.47
1: LA:148: G: OP2	16: LP:4: TYR: OH	2.19	0.47
1: LA:155: G: H5''	1: LA:156: G: H2'	1.96	0.47
1: LA:639: U: H2'	1: LA:640: C: C6	2.49	0.47
1: LA:791: G: H2'	1: LA:792: C: C6	2.49	0.47
1: LA:1201: A: C2	1: LA:2856: C: H5'	2.50	0.47
1: LA:1205: G: OP1	12: LL:157: TYR: OH	2.31	0.47
1: LA:1343: G: H2'	1: LA:1344: G: O4'	2.14	0.47
1: LA:1681: U: H4'	1: LA:1683: U: O4	2.14	0.47
1: LA:3331: U: H2'	1: LA:3332: G: O4'	2.14	0.47
4: LD:70: ARG: HD3	4: LD:71: LEU: H	1.79	0.47
43: Lq:8: ARG: O	43: Lq:23: HIS: N	2.48	0.47
45: S2:197: A: H2'	45: S2:198: A: C8	2.49	0.47
45: S2:327: U: H2'	45: S2:328: A: H8	1.78	0.47
45: S2:837: G: C6	45: S2:838: G: C6	3.03	0.47
45: S2:907: A: N1	45: S2:1008: G: O2'	2.33	0.47
45: S2:1437: U: H2'	45: S2:1438: G: H8	1.78	0.47
46: SA:140: GLY: HA3	46: SA:182: LEU: HD12	1.96	0.47
47: SB:63: GLN: NE2	47: SB:86: GLN: O	2.46	0.47
60: SO:36: ALA: HB2	60: SO:42: LEU: HD12	1.96	0.47
60: SO:121: MET: HE3	60: SO:183: LEU: HD11	1.96	0.47
61: SP:115: PHE: O	61: SP:116: LYS: HD3	2.14	0.47
61: SP:148: ASP: H	61: SP:151: SER: HB2	1.80	0.47
63: SR:157: LYS: HD3	63: SR:168: ARG: NH2	2.29	0.47
68: SW:152: SER: O	68: SW:156: ILE: HG12	2.14	0.47
72: Sa:79: LEU: HD12	72: Sa:82: VAL: HB	1.96	0.47
1: LA:339: C: OP1	1: LA:1379: G: O2'	2.30	0.47
1: LA:775: U: H5'	1: LA:776: U: OP2	2.15	0.47
1: LA:2179: G: H2'	1: LA:2180: C: C6	2.49	0.47
1: LA:2281: U: O2	1: LA:2309: U: H4'	2.14	0.47
1: LA:2767: U: H2'	1: LA:2768: A: H8	1.80	0.47
4: LD:60: LYS: HZ3	4: LD:75: ILE: HD11	1.79	0.47
7: LG:104: LEU: HD11	7: LG:108: ARG: NH2	2.28	0.47
12: LL:191: LYS: HG3	12: LL:213: PHE: CZ	2.48	0.47
13: LM:141: ARG: O	13: LM:145: LYS: HG3	2.15	0.47
14: LN:64: LYS: HE2	29: Lc:69: TRP: CD1	2.49	0.47
19: LS:19: PRO: HD3	19: LS:53: PHE: HD1	1.79	0.47
22: LV:84: TYR: HE1	30: Ld:21: ILE: HG22	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Le:66:LYS:HE2	31:Le:66:LYS:HB2	1.55	0.47
40:Ln:36:ARG:HB2	40:Ln:36:ARG:CZ	2.45	0.47
45:S2:702:G:O2'	45:S2:703:G:O4'	2.22	0.47
45:S2:872:G:N2	45:S2:1047:G:H4'	2.30	0.47
45:S2:953:G:H2'	45:S2:954:G:C8	2.50	0.47
45:S2:1267:G:N1	45:S2:1442:U:N3	2.40	0.47
45:S2:1727:G:H21	67:SV:32:GLN:CD	2.22	0.47
45:S2:1762:A:H2'	45:S2:1763:A:C8	2.49	0.47
56:SK:47:TYR:OH	56:SK:82:HIS:NE2	2.44	0.47
63:SR:65:GLU:HB2	63:SR:68:ILE:HD13	1.95	0.47
63:SR:153:SER:OG	63:SR:154:LEU:N	2.47	0.47
65:ST:200:ALA:HA	65:ST:203:GLU:HG2	1.96	0.47
68:SW:78:ARG:HH11	68:SW:78:ARG:HB3	1.79	0.47
68:SW:158:PHE:CE1	68:SW:164:PHE:HB2	2.50	0.47
70:SY:64:ARG:CD	70:SY:70:LYS:HG2	2.32	0.47
73:Sb:15:ASN:HD21	73:Sb:72:CYS:H	1.63	0.47
1:LA:77:A:OP2	14:LN:73:ARG:NH1	2.47	0.47
1:LA:609:G:H21	6:LF:313:LEU:HD12	1.79	0.47
1:LA:1062:G:C6	22:LV:109:VAL:HG23	2.49	0.47
1:LA:1082:G:H2'	1:LA:1083:A:C8	2.50	0.47
1:LA:1118:C:H2'	1:LA:1119:A:C8	2.50	0.47
1:LA:1192:A:P	17:LQ:49[A]:ARG:HH22	2.37	0.47
1:LA:2800:A:O2'	1:LA:2801:A:H2'	2.14	0.47
5:LE:77:THR:HG21	5:LE:328:ILE:HG12	1.95	0.47
6:LF:351:PRO:HA	9:LI:71:ALA:HA	1.97	0.47
7:LG:148:ILE:O	7:LG:151:GLN:HG3	2.15	0.47
10:LJ:63:LYS:HE2	10:LJ:63:LYS:HB2	1.50	0.47
10:LJ:78:PHE:C	10:LJ:80:TYR:H	2.23	0.47
11:LK:27:VAL:HG12	11:LK:82:VAL:HG21	1.96	0.47
11:LK:31:ARG:HB2	11:LK:82:VAL:O	2.15	0.47
13:LM:74:PRO:O	13:LM:77:GLU:HG2	2.15	0.47
14:LN:122:LYS:HD3	14:LN:145:PHE:HE1	1.80	0.47
22:LV:44:ALA:HA	22:LV:95:HIS:HB3	1.96	0.47
27:La:43:TYR:O	27:La:124:GLY:HA2	2.15	0.47
31:Le:9:SER:O	31:Le:13:LYS:HG3	2.14	0.47
41:Lo:127:LEU:HG	41:Lo:128:LYS:H	1.79	0.47
45:S2:380:U:O2'	68:SW:5:PRO:HD3	2.15	0.47
45:S2:1117:U:H2'	45:S2:1118:G:C8	2.50	0.47
45:S2:1207:C:H5'	45:S2:1208:A:C8	2.50	0.47
45:S2:1442:U:O2'	45:S2:1446:A:H1'	2.15	0.47
46:SA:109:LEU:HD22	46:SA:115:ILE:HD12	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:SB:175:LEU:HD21	47:SB:198:LEU:HD11	1.95	0.47
49:SD:36:LEU:HD23	49:SD:102:GLY:HA3	1.97	0.47
52:SG:16:LEU:HD12	52:SG:38:ILE:HD11	1.97	0.47
60:SO:81:LEU:HD13	60:SO:115:ILE:HB	1.96	0.47
61:SP:139:VAL:O	61:SP:139:VAL:HG12	2.14	0.47
62:SQ:24:PHE:HA	62:SQ:27:LYS:HB2	1.96	0.47
62:SQ:28:GLU:HB3	62:SQ:50:LYS:NZ	2.30	0.47
63:SR:174:ARG:HD3	68:SW:94:ASP:HB2	1.97	0.47
69:SX:102:LYS:O	74:Sc:13:ARG:NH2	2.48	0.47
71:SZ:44:GLY:O	71:SZ:48:VAL:HG12	2.14	0.47
75:Sd:5:VAL:HG23	75:Sd:35:VAL:HG21	1.96	0.47
1:LA:87:U:H2'	1:LA:88:A:C8	2.50	0.47
1:LA:343:U:H1'	6:LF:95:ARG:HG3	1.96	0.47
1:LA:594:G:N1	1:LA:608:G:H5''	2.30	0.47
1:LA:672:U:H2'	1:LA:673:G:C8	2.50	0.47
1:LA:1491:G:O3'	40:Ln:48:LYS:HE3	2.15	0.47
1:LA:1596:C:H5'	1:LA:1695:A:H1'	1.95	0.47
1:LA:1947:G:H2'	1:LA:1948:G:H8	1.80	0.47
1:LA:3313:A:OP1	5:LE:175:LYS:HB2	2.14	0.47
3:LC:8:C:H2'	3:LC:9:A:H8	1.79	0.47
8:LH:41:ILE:HG22	8:LH:51:ARG:HG2	1.96	0.47
11:LK:6:THR:HG21	11:LK:65:VAL:HG13	1.96	0.47
20:LT:148:ASP:OD1	20:LT:149:ALA:N	2.48	0.47
27:La:50:ILE:HD13	27:La:80:VAL:HG11	1.96	0.47
27:La:116:LYS:HG2	27:La:126:LEU:HD11	1.97	0.47
45:S2:251:A:N3	64:SS:131:LEU:HD11	2.29	0.47
45:S2:803:A:H2'	66:SU:104:ARG:NE	2.30	0.47
45:S2:1674:C:H2'	45:S2:1675:C:H6	1.80	0.47
49:SD:28:LEU:HD12	49:SD:28:LEU:HA	1.81	0.47
60:SO:21:THR:OG1	60:SO:36:ALA:O	2.27	0.47
65:ST:2:LYS:HB3	65:ST:108:VAL:HG12	1.97	0.47
65:ST:32:ILE:HD12	65:ST:33:GLY:H	1.79	0.47
66:SU:112:ARG:HG3	66:SU:112:ARG:O	2.15	0.47
66:SU:157:LYS:HB2	66:SU:157:LYS:HE3	1.73	0.47
77:Sf:30:SER:HB2	77:Sf:49:HIS:HE1	1.79	0.47
1:LA:210:U:OP2	6:LF:161:LYS:HD2	2.15	0.47
1:LA:2406:C:H2'	1:LA:2407:U:C6	2.50	0.47
1:LA:2674:C:OP2	1:LA:2675:A:O2'	2.29	0.47
1:LA:2675:A:H5'	1:LA:2676:G:C8	2.49	0.47
3:LC:26:U:H2'	3:LC:27:U:C6	2.50	0.47
6:LF:25:VAL:HA	6:LF:276:LEU:HD11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LF:208:VAL:HA	6:LF:228:ALA:O	2.15	0.47
7:LG:41:LYS:HB2	22:LV:68:THR:O	2.15	0.47
17:LQ:110[A]:PRO:N	17:LQ:111[A]:PRO:HD2	2.30	0.47
18:LR:35:ALA:HB2	18:LR:58:ILE:HG23	1.95	0.47
18:LR:177:ALA:O	18:LR:181:ARG:HD3	2.14	0.47
33:Lg:104:ASN:O	33:Lg:107:VAL:HG12	2.15	0.47
39:Lm:43:PHE:HE1	39:Lm:66:ILE:HD13	1.79	0.47
45:S2:29:U:H2'	45:S2:30:G:C8	2.46	0.47
45:S2:35:U:HO2'	45:S2:36:C:P	2.38	0.47
45:S2:36:C:N4	45:S2:472:U:N3	2.24	0.47
45:S2:297:U:H4'	64:SS:37:LYS:HA	1.97	0.47
45:S2:625:C:H2'	45:S2:626:U:C6	2.50	0.47
45:S2:1099:U:O4	63:SR:168:ARG:NH1	2.48	0.47
45:S2:1556:A:H8	50:SE:40:ARG:NH2	2.13	0.47
52:SG:3:ARG:HG3	52:SG:3:ARG:HH11	1.79	0.47
62:SQ:176:VAL:HG22	62:SQ:184:LEU:HD21	1.96	0.47
63:SR:54:GLU:O	63:SR:58:LEU:HD23	2.15	0.47
65:ST:77:LEU:CD1	65:ST:95:LYS:HB2	2.45	0.47
65:ST:159:ARG:HD2	65:ST:170:THR:HB	1.97	0.47
71:SZ:26:THR:O	71:SZ:26:THR:OG1	2.30	0.47
74:Sc:85:ALA:HB1	74:Sc:104:LEU:HD21	1.97	0.47
1:LA:165:A:N6	1:LA:257:U:H3	2.12	0.47
1:LA:2250:G:N3	1:LA:2250:G:H2'	2.29	0.47
1:LA:2358:C:H4'	1:LA:2398:A:H4'	1.96	0.47
1:LA:2650:G:H5''	1:LA:2651:U:O4'	2.15	0.47
5:LE:280:HIS:HB3	5:LE:324:VAL:CG1	2.45	0.47
7:LG:107:ARG:NH2	7:LG:116:ASP:OD1	2.48	0.47
11:LK:45:PHE:HD1	11:LK:55:VAL:HG12	1.80	0.47
16:LP:68:ARG:HD3	16:LP:128:LYS:HG3	1.96	0.47
20:LT:159:ALA:HB1	20:LT:163:ARG:CZ	2.42	0.47
20:LT:164:LEU:HD23	20:LT:164:LEU:HA	1.75	0.47
29:Lc:102:ILE:HD11	29:Lc:123:VAL:HG21	1.97	0.47
40:Ln:13:MET:CE	40:Ln:49:MET:HE1	2.45	0.47
45:S2:93:A:H61	45:S2:396:G:H1'	1.80	0.47
45:S2:570:A:H61	74:Sc:117:ILE:HD11	1.80	0.47
45:S2:1504:G:H2'	45:S2:1505:A:C8	2.50	0.47
45:S2:1542:G:O2'	45:S2:1543:A:OP2	2.32	0.47
45:S2:1545:A:H5'	53:SH:134:ARG:NH1	2.30	0.47
45:S2:1628:U:H2'	45:S2:1629:G:H8	1.79	0.47
46:SA:109:LEU:HD22	46:SA:115:ILE:CD1	2.45	0.47
47:SB:31:GLU:O	47:SB:35:GLN:HG2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SH:30:TYR:CD1	53:SH:30:TYR:N	2.83	0.47
63:SR:115:ILE:N	63:SR:131:ILE:HD11	2.30	0.47
64:SS:68:ARG:HD2	64:SS:76:VAL:HG11	1.97	0.47
67:SV:77:ARG:O	67:SV:104:ILE:HG23	2.15	0.47
74:Sc:107:PHE:HE2	74:Sc:114:LYS:HB3	1.73	0.47
76:Se:88:SER:OG	76:Se:90:GLU:OE2	2.33	0.47
1:LA:1210:U:H2'	1:LA:1211:A:H8	1.80	0.46
1:LA:1294:G:O2'	21:LU:115:ARG:NH1	2.47	0.46
1:LA:1472:G:OP2	20:LT:8:LYS:NZ	2.47	0.46
1:LA:2272:G:N2	1:LA:2310:G:H2'	2.30	0.46
1:LA:2525:C:H2'	1:LA:2526:G:C8	2.50	0.46
1:LA:2675:A:N1	13:LM:22:SER:OG	2.43	0.46
1:LA:3014:G:H2'	1:LA:3015:A:H8	1.79	0.46
1:LA:3375:A:OP1	32:Lf:18:LYS:HD2	2.14	0.46
2:LB:71:G:H2'	2:LB:72:A:H8	1.80	0.46
4:LD:47:GLN:HA	4:LD:84:THR:HG22	1.98	0.46
13:LM:82:ARG:NH2	13:LM:112:LEU:O	2.42	0.46
18:LR:105:LYS:HE3	18:LR:105:LYS:HB3	1.66	0.46
19:LS:7:SER:OG	19:LS:8:LYS:N	2.47	0.46
20:LT:24:LEU:HG	20:LT:32:ILE:HD13	1.96	0.46
20:LT:42:ARG:HA	20:LT:45:VAL:HG22	1.96	0.46
45:S2:289:U:H2'	45:S2:290:G:C5	2.50	0.46
45:S2:1170:G:C2	45:S2:1171:A:C8	3.03	0.46
45:S2:1662:G:H2'	45:S2:1663:G:O4'	2.15	0.46
46:SA:124:ARG:HG3	46:SA:127:MET:CE	2.37	0.46
54:SI:127:ASN:O	54:SI:130:ARG:HG2	2.15	0.46
63:SR:50:ILE:HG12	63:SR:55:GLU:HG3	1.96	0.46
65:ST:51:LYS:HB3	65:ST:51:LYS:HE2	1.50	0.46
68:SW:41:GLU:O	68:SW:44:ARG:HG2	2.15	0.46
71:SZ:28:VAL:HG23	71:SZ:67:VAL:HG21	1.97	0.46
73:Sb:12:ASN:OD1	73:Sb:16:ASN:ND2	2.45	0.46
79:Tb:52:C:H2'	79:Tb:53:G:C8	2.50	0.46
1:LA:12:A:H2'	1:LA:13:A:C8	2.50	0.46
1:LA:226:C:H2'	1:LA:227:G:O4'	2.15	0.46
1:LA:374:A:N3	1:LA:376:G:H5''	2.30	0.46
1:LA:1497:A:H2'	1:LA:1498:C:C6	2.50	0.46
1:LA:1524:G:H5'	1:LA:1829:G:OP2	2.16	0.46
7:LG:41:LYS:NZ	22:LV:32:LYS:O	2.48	0.46
12:LL:169:LYS:N	22:LV:160:ILE:O	2.30	0.46
15:LO:25:LYS:NZ	15:LO:61:GLY:O	2.48	0.46
21:LU:41:TYR:CE2	21:LU:45:LEU:HD22	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:La:55:GLU:HB2	27:La:108:LYS:HB3	1.98	0.46
29:Lc:76:ASP:OD1	29:Lc:77:LYS:N	2.49	0.46
29:Lc:85:ASP:OD1	29:Lc:86:LYS:HG2	2.15	0.46
45:S2:97:C:H2'	45:S2:98:U:H6	1.80	0.46
45:S2:1045:C:H2'	45:S2:1046:G:C8	2.50	0.46
45:S2:1120:U:H2'	45:S2:1121:C:C6	2.50	0.46
45:S2:1170:G:H2'	45:S2:1170:G:N3	2.31	0.46
45:S2:1528:U:P	47:SB:109:LYS:HE2	2.56	0.46
45:S2:1585:U:O2	45:S2:1585:U:H2'	2.14	0.46
49:SD:79:ALA:HB1	49:SD:87:PRO:HD2	1.96	0.46
76:Se:24:VAL:HG21	76:Se:71:LEU:HD21	1.97	0.46
76:Se:37:LYS:HG2	76:Se:72:HIS:ND1	2.29	0.46
1:LA:680:U:O2'	1:LA:696:A:N6	2.49	0.46
1:LA:1445:A:H5''	18:LR:65:SER:HB2	1.97	0.46
1:LA:1764:U:H4'	1:LA:1764:U:OP1	2.15	0.46
1:LA:3186:A:OP1	11:LK:23:ARG:NH1	2.49	0.46
15:LO:76:ALA:HB1	15:LO:80:THR:HG23	1.96	0.46
19:LS:83:VAL:O	19:LS:103:ALA:HA	2.16	0.46
20:LT:163:ARG:HD2	45:S2:815:G:OP1	2.15	0.46
22:LV:100:LYS:O	22:LV:103:GLN:HG3	2.15	0.46
26:LZ:82:LEU:HD21	26:LZ:135:ILE:HG23	1.97	0.46
29:Lc:75:LEU:HB3	29:Lc:118:ILE:HG23	1.98	0.46
32:Lf:10:ARG:HG2	32:Lf:108:VAL:HG13	1.97	0.46
36:Lj:64:GLU:OE1	36:Lj:68:GLN:NE2	2.49	0.46
45:S2:273:G:H2'	45:S2:274:G:O4'	2.15	0.46
45:S2:445:A:OP2	64:SS:59:ARG:NH2	2.49	0.46
45:S2:520:A:H2'	45:S2:521:A:H8	1.81	0.46
47:SB:193:THR:O	47:SB:196:GLU:HG3	2.15	0.46
48:SC:28:ASN:HB3	58:SM:8:PHE:CE1	2.51	0.46
62:SQ:52:THR:HG23	62:SQ:55:LYS:HB2	1.97	0.46
62:SQ:175:GLU:OE1	62:SQ:193:ILE:HG12	2.15	0.46
65:ST:7:TYR:CG	65:ST:113:ILE:HD11	2.50	0.46
66:SU:139:ARG:HG2	73:Sb:53:ILE:HD12	1.96	0.46
75:Sd:81:GLU:OE2	75:Sd:81:GLU:N	2.49	0.46
79:Tb:69:C:H2'	79:Tb:70:C:C6	2.50	0.46
1:LA:2147:U:H2'	1:LA:2148:A:C8	2.50	0.46
1:LA:2250:G:H3'	1:LA:2251:A:H5''	1.97	0.46
1:LA:2514:A:H5''	16:LP:28:TRP:CD1	2.51	0.46
7:LG:59:ASP:OD1	7:LG:60:ILE:N	2.49	0.46
9:LI:110:ARG:HD2	19:LS:3:ILE:CD1	2.46	0.46
21:LU:143:PHE:HA	21:LU:148:LEU:HD13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LX:89:ASP:C	24:LX:89:ASP:OD1	2.59	0.46
25:LY:2:LYS:HE3	25:LY:4:GLU:CD	2.38	0.46
45:S2:1545:A:H5'	53:SH:134:ARG:HH11	1.80	0.46
47:SB:51:VAL:O	47:SB:51:VAL:HG22	2.15	0.46
47:SB:134:VAL:O	47:SB:138:THR:HG23	2.16	0.46
58:SM:7:TRP:HD1	58:SM:8:PHE:HD1	1.64	0.46
60:SO:70:ASP:OD1	60:SO:70:ASP:N	2.48	0.46
62:SQ:195:LYS:H	62:SQ:195:LYS:CD	2.29	0.46
66:SU:129:LEU:HD11	66:SU:172:VAL:CG2	2.46	0.46
68:SW:107:ARG:NH1	68:SW:147:MET:HA	2.30	0.46
75:Sd:56:SER:OG	75:Sd:90:ARG:NH1	2.49	0.46
1:LA:502:C:O2	8:LH:23:LYS:NZ	2.41	0.46
1:LA:1152:A:O2'	1:LA:1153:A:H5'	2.15	0.46
1:LA:1592:A:O5'	35:Li:60:ARG:HG3	2.15	0.46
1:LA:1596:C:H2'	1:LA:1597:G:C8	2.50	0.46
1:LA:1661:G:H22	1:LA:1786:A:H2	1.64	0.46
1:LA:2614:G:H2'	1:LA:2615:C:C6	2.50	0.46
1:LA:3159:U:O4	1:LA:3289:G:O6	2.33	0.46
1:LA:3271:C:OP2	8:LH:78:ARG:NE	2.49	0.46
11:LK:67:ALA:O	11:LK:71:VAL:HG13	2.15	0.46
13:LM:30:LEU:HD11	13:LM:47:GLN:HG2	1.96	0.46
13:LM:57:PHE:CD1	13:LM:57:PHE:N	2.83	0.46
13:LM:108:GLU:OE1	13:LM:122:ILE:HD11	2.14	0.46
21:LU:10:ILE:HG12	21:LU:26:ARG:HG3	1.98	0.46
25:LY:6:ASP:HB3	25:LY:10:GLY:N	2.30	0.46
45:S2:206:A:H1'	45:S2:262:U:O2	2.16	0.46
45:S2:267:U:O4	45:S2:268:C:N4	2.49	0.46
45:S2:566:C:H2'	45:S2:567:A:C8	2.50	0.46
45:S2:834:G:H2'	45:S2:835:U:C4	2.51	0.46
45:S2:1045:C:H2'	45:S2:1046:G:H8	1.80	0.46
45:S2:1309:C:H2'	45:S2:1310:U:C6	2.51	0.46
45:S2:1556:A:H3'	50:SE:40:ARG:CZ	2.45	0.46
50:SE:17:TYR:CE2	50:SE:110:GLU:HA	2.50	0.46
59:SN:89:LYS:HG3	59:SN:91:ILE:HG12	1.96	0.46
61:SP:154:GLU:CD	61:SP:155:PHE:HB2	2.41	0.46
64:SS:17:HIS:CE1	64:SS:18:TRP:NE1	2.83	0.46
64:SS:36:HIS:ND1	64:SS:85:GLY:HA3	2.31	0.46
68:SW:123:HIS:NE2	78:Sg:37:ARG:HG2	2.31	0.46
68:SW:129:ILE:O	68:SW:142:ASN:HA	2.15	0.46
70:SY:107:LYS:HB3	70:SY:107:LYS:HE3	1.64	0.46
72:Sa:37:ALA:HB1	72:Sa:45:ALA:HB1	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:Sf:36:LYS:CE	77:Sf:43:ILE:HD11	2.37	0.46
1:LA:428:A:H2'	1:LA:429:U:C6	2.51	0.46
1:LA:1793:G:H4'	4:LD:191:LEU:HD23	1.97	0.46
1:LA:2835:C:H2'	1:LA:2836:A:O4'	2.15	0.46
2:LB:61:G:H5''	7:LG:276:LYS:HG2	1.98	0.46
6:LF:126:ILE:O	6:LF:129:THR:HB	2.15	0.46
15:LO:107:GLU:OE1	15:LO:107:GLU:HA	2.15	0.46
21:LU:104:GLU:O	21:LU:108:GLN:HG2	2.15	0.46
24:LX:32:ARG:HH21	45:S2:1734:U:H4'	1.75	0.46
27:La:57:LEU:HD13	27:La:67:GLU:HG2	1.98	0.46
38:Ll:22:CYS:O	38:Ll:24:ARG:N	2.49	0.46
45:S2:246:G:H22	69:SX:67:ARG:HA	1.81	0.46
45:S2:399:A:O2'	45:S2:401:A:OP2	2.33	0.46
45:S2:455:C:H5''	45:S2:456:A:N7	2.31	0.46
45:S2:641:G:H2'	45:S2:642:G:C8	2.51	0.46
45:S2:754:A:H2	45:S2:795:U:H5	1.64	0.46
46:SA:158:ILE:HD13	46:SA:163:PRO:HB2	1.98	0.46
47:SB:98:MET:C	47:SB:99:MET:HE2	2.40	0.46
63:SR:58:LEU:O	72:Sa:15:ARG:NH2	2.48	0.46
67:SV:47:ARG:HB2	67:SV:53:LYS:NZ	2.31	0.46
68:SW:128:LEU:HB3	68:SW:134:ILE:HD11	1.98	0.46
75:Sd:15:ASN:OD1	75:Sd:20:ARG:HG3	2.16	0.46
79:Tb:3:C:H2'	79:Tb:4:G:C8	2.50	0.46
1:LA:791:G:H5''	29:Lc:2:PRO:HD2	1.96	0.46
1:LA:1619:U:H2'	1:LA:1620:A:C8	2.51	0.46
1:LA:1798:A:H2'	1:LA:1799:A:H8	1.80	0.46
4:LD:26:ALA:HB1	4:LD:28:LYS:HE3	1.98	0.46
8:LH:47:PHE:CD1	8:LH:74:VAL:HG22	2.51	0.46
9:LI:82:LYS:HE3	9:LI:82:LYS:HB2	1.85	0.46
35:Li:47:CYS:SG	35:Li:84:CYS:HB3	2.55	0.46
45:S2:30:G:H2'	45:S2:31:C:C6	2.51	0.46
45:S2:307:G:OP2	69:SX:105:LYS:NZ	2.47	0.46
45:S2:1499:G:H2'	45:S2:1500:C:O4'	2.15	0.46
46:SA:66:ILE:O	46:SA:70:THR:OG1	2.31	0.46
51:SF:97:VAL:HG12	51:SF:98:ASP:N	2.30	0.46
60:SO:245:PHE:CE1	60:SO:252:LEU:HD13	2.51	0.46
61:SP:56:LYS:NZ	72:Sa:70:ASN:OD1	2.34	0.46
79:Tb:8:U:O2'	79:Tb:9:G:H5''	2.15	0.46
1:LA:2129:G:O4'	1:LA:2143:A:H4'	2.16	0.46
1:LA:3015:A:H2'	1:LA:3016:A:C8	2.51	0.46
3:LC:142:C:H2'	3:LC:143:U:H6	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:173:GLN:HG3	5:LE:175:LYS:H	1.80	0.46
8:LH:102:ASN:H	8:LH:105:TYR:HB3	1.80	0.46
12:LL:200:LEU:HB2	12:LL:213:PHE:CD2	2.51	0.46
23:LW:15:PHE:CE1	23:LW:71:PHE:HD2	2.34	0.46
45:S2:154:G:O2'	65:ST:59:GLN:OE1	2.32	0.46
45:S2:284:G:P	65:ST:188:ARG:HH21	2.39	0.46
45:S2:845:G:O2'	45:S2:846:G:N2	2.49	0.46
45:S2:1117:U:H2'	45:S2:1118:G:H8	1.81	0.46
45:S2:1344:A:N6	45:S2:1377:U:H2'	2.31	0.46
49:SD:130:THR:O	49:SD:133:LEU:HG	2.16	0.46
52:SG:101:ASN:OD1	52:SG:101:ASN:N	2.49	0.46
62:SQ:100:PHE:CD2	62:SQ:181:LEU:HD11	2.51	0.46
62:SQ:179:SER:HB2	62:SQ:183:GLN:HB2	1.97	0.46
73:Sb:6:VAL:HG13	73:Sb:29:PRO:HD2	1.98	0.46
1:LA:282:G:O2'	1:LA:286:U:OP1	2.34	0.46
1:LA:642:U:O2'	1:LA:1152:A:N1	2.36	0.46
1:LA:2102:U:H2'	1:LA:2103:A:C8	2.51	0.46
1:LA:2244:C:O2'	4:LD:220:GLY:O	2.34	0.46
1:LA:2742:A:H2'	1:LA:2743:U:C6	2.51	0.46
13:LM:156:LYS:O	13:LM:160:VAL:HG13	2.16	0.46
39:Lm:32:ASN:OD1	39:Lm:33:LYS:HG2	2.15	0.46
45:S2:298:C:H5''	64:SS:38:LEU:HB2	1.98	0.46
45:S2:330:G:H5'	67:SV:97:THR:HG22	1.98	0.46
45:S2:743:U:H5''	66:SU:108:GLN:OE1	2.15	0.46
45:S2:1388:A:H62	45:S2:1409:G:H2'	1.81	0.46
45:S2:1437:U:H2'	45:S2:1438:G:C8	2.50	0.46
45:S2:1495:C:C4	45:S2:1496:U:H1'	2.51	0.46
50:SE:34:VAL:HG22	50:SE:45:PHE:CD2	2.51	0.46
60:SO:66:HIS:CE1	60:SO:67:ILE:HG22	2.51	0.46
63:SR:101:VAL:HB	63:SR:115:ILE:HG12	1.98	0.46
64:SS:53:LYS:HB2	64:SS:53:LYS:HE3	1.64	0.46
65:ST:77:LEU:HD13	65:ST:95:LYS:HB2	1.98	0.46
68:SW:66:ASP:OD1	68:SW:67:PRO:HD2	2.16	0.46
74:Sc:29:TYR:CZ	74:Sc:33:LEU:HD22	2.51	0.46
1:LA:123:A:OP1	10:LJ:105:LYS:NZ	2.35	0.46
1:LA:506:U:H2'	1:LA:507:U:C6	2.50	0.46
1:LA:700:G:H2'	1:LA:701:C:C6	2.50	0.46
1:LA:960:C:O2'	1:LA:2615:C:OP1	2.31	0.46
1:LA:1258:A:H5'	1:LA:1259:A:OP2	2.15	0.46
1:LA:1763:U:H3'	1:LA:1764:U:H4'	1.98	0.46
7:LG:90:HIS:CE1	7:LG:225:GLY:HA3	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:139:VAL:HG21	10:LJ:197:VAL:CG1	2.44	0.46
15:LO:32:LEU:HD11	15:LO:94:TRP:CD1	2.51	0.46
20:LT:85:ARG:HB3	20:LT:85:ARG:HH11	1.80	0.46
27:La:113:LYS:HE3	27:La:113:LYS:HB3	1.66	0.46
29:Lc:96:LYS:C	29:Lc:98:THR:H	2.24	0.46
32:Lf:41:LYS:NZ	32:Lf:47:ASP:HB3	2.31	0.46
35:Li:9:ARG:HD3	35:Li:34:HIS:CE1	2.51	0.46
35:Li:51:LEU:HD23	35:Li:51:LEU:HA	1.83	0.46
39:Lm:63:LYS:HZ3	39:Lm:67:GLN:CG	2.27	0.46
45:S2:54:C:O3'	75:Sd:109:LYS:HG2	2.16	0.46
45:S2:209:U:H2'	45:S2:210:A:H8	1.81	0.46
45:S2:1277:G:O3'	46:SA:183:GLY:HA3	2.16	0.46
45:S2:1322:A:H2'	45:S2:1323:C:C6	2.50	0.46
45:S2:1468:U:O2'	45:S2:1542:G:H5'	2.16	0.46
45:S2:1483:A:N6	45:S2:1524:A:N7	2.64	0.46
45:S2:1527:C:H5''	47:SB:109:LYS:HE3	1.98	0.46
53:SH:28:ILE:HD13	53:SH:61:LEU:HD11	1.98	0.46
65:ST:57:ASP:OD2	65:ST:98:ARG:HG2	2.16	0.46
65:ST:148:SER:OG	65:ST:149:LYS:N	2.49	0.46
68:SW:90:LYS:HD3	68:SW:95:TYR:CD2	2.51	0.46
73:Sb:64:GLN:OE1	73:Sb:64:GLN:HA	2.16	0.46
74:Sc:57:LEU:HD11	74:Sc:73:ARG:HH21	1.82	0.46
75:Sd:2:SER:OG	75:Sd:3:ASP:N	2.46	0.46
76:Se:45:VAL:HG11	76:Se:64:LEU:HD11	1.98	0.46
77:Sf:43:ILE:HG23	77:Sf:43:ILE:O	2.15	0.46
1:LA:2149:G:O2'	1:LA:2188:U:OP1	2.28	0.45
1:LA:2354:G:OP1	18:LR:141:SER:OG	2.30	0.45
1:LA:2568:A:H4'	1:LA:2569:U:H5''	1.97	0.45
1:LA:2679:A:C8	13:LM:57:PHE:CE2	3.04	0.45
12:LL:48:LEU:HD12	12:LL:140:THR:HG23	1.97	0.45
12:LL:66:GLU:O	12:LL:70:ILE:HG13	2.16	0.45
13:LM:96:PHE:CD2	13:LM:160:VAL:HG12	2.51	0.45
17:LQ:59[A]:ARG:HB3	17:LQ:59[A]:ARG:CZ	2.47	0.45
22:LV:17:ARG:O	22:LV:18:ASP:OD1	2.34	0.45
23:LW:36:TYR:HE1	23:LW:79:LEU:HD12	1.81	0.45
33:Lg:21:HIS:CE1	33:Lg:24:ARG:HD3	2.51	0.45
33:Lg:40:SER:O	33:Lg:44:ARG:HG3	2.17	0.45
45:S2:691:C:H2'	45:S2:692:C:C6	2.51	0.45
45:S2:1065:A:N3	62:SQ:146:GLN:NE2	2.61	0.45
45:S2:1146:G:H2'	45:S2:1147:A:H8	1.78	0.45
45:S2:1623:C:H2'	45:S2:1624:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SC:49:LEU:CD2	48:SC:54:TYR:HB2	2.46	0.45
55:SJ:33:GLN:HA	55:SJ:36:ASN:HD21	1.80	0.45
58:SM:25:SER:O	58:SM:25:SER:OG	2.27	0.45
60:SO:220:ILE:HG23	60:SO:234:LEU:HB3	1.98	0.45
64:SS:17:HIS:ND1	64:SS:18:TRP:CD1	2.84	0.45
64:SS:184:THR:O	64:SS:184:THR:OG1	2.33	0.45
74:Sc:56:LYS:N	74:Sc:56:LYS:HE2	2.31	0.45
1:LA:397:A:H5''	1:LA:399:A:OP1	2.16	0.45
1:LA:946:G:H2'	1:LA:947:C:C6	2.51	0.45
5:LE:36:ASP:O	5:LE:37:ARG:HD2	2.16	0.45
7:LG:107:ARG:HA	7:LG:107:ARG:HE	1.80	0.45
20:LT:158:GLU:O	20:LT:162:ARG:HG3	2.17	0.45
20:LT:176:ARG:CZ	20:LT:176:ARG:HB2	2.45	0.45
21:LU:80:ARG:HG2	21:LU:122:HIS:HB2	1.98	0.45
32:Lf:20:LEU:HD11	32:Lf:32:ALA:HB2	1.97	0.45
35:Li:14:ASN:OD1	35:Li:19:LYS:NZ	2.28	0.45
36:Lj:17:LEU:HD12	36:Lj:17:LEU:HA	1.76	0.45
45:S2:43:A:H4'	45:S2:99:C:OP1	2.16	0.45
45:S2:205:U:H2'	45:S2:206:A:C8	2.41	0.45
45:S2:648:G:H2'	45:S2:649:U:C6	2.51	0.45
45:S2:872:G:H2'	45:S2:873:U:O4'	2.16	0.45
45:S2:1514:U:H4'	45:S2:1515:A:O4'	2.16	0.45
45:S2:1596:C:O2'	45:S2:1598:U:OP2	2.25	0.45
48:SC:77:ARG:HD3	48:SC:82:LEU:HD11	1.97	0.45
49:SD:69:ALA:HB1	49:SD:72:ILE:HB	1.97	0.45
51:SF:58:ASP:OD1	51:SF:58:ASP:N	2.50	0.45
54:SI:14:PHE:HE2	54:SI:63:ARG:HE	1.64	0.45
64:SS:97:GLU:HB3	64:SS:99:PHE:CE2	2.51	0.45
66:SU:134:GLU:OE2	70:SY:21:ASN:OD1	2.34	0.45
71:SZ:42:VAL:HG11	71:SZ:47:LYS:HE2	1.99	0.45
71:SZ:91:THR:HG22	71:SZ:93:THR:HG23	1.98	0.45
73:Sb:40:VAL:HG11	73:Sb:103:ILE:HD12	1.98	0.45
1:LA:342:A:N1	1:LA:349:A:O2'	2.43	0.45
1:LA:833:U:H2'	1:LA:834:G:O4'	2.15	0.45
1:LA:880:C:H2'	1:LA:881:A:H8	1.80	0.45
1:LA:2145:C:H5''	4:LD:203:ALA:HB1	1.97	0.45
3:LC:90:U:O4	40:Ln:30:ARG:NH1	2.50	0.45
6:LF:14:GLU:HG2	6:LF:15:ALA:H	1.81	0.45
7:LG:76:ALA:HB3	7:LG:109:THR:HG23	1.99	0.45
12:LL:48:LEU:HD22	12:LL:49:CYS:N	2.32	0.45
14:LN:185:LYS:O	14:LN:189:GLU:OE1	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:LX:2:SER:N	24:LX:57:MET:HE2	2.31	0.45
24:LX:54:LEU:HD23	24:LX:121:GLU:HB2	1.99	0.45
32:Lf:68:GLU:N	32:Lf:68:GLU:CD	2.74	0.45
45:S2:31:C:O3'	74:Sc:139:LYS:NZ	2.34	0.45
45:S2:169:A:H2'	45:S2:171:A:H62	1.80	0.45
45:S2:593:U:H5''	68:SW:40:LYS:HE3	1.98	0.45
45:S2:1229:G:O6	49:SD:47:GLU:HG3	2.16	0.45
45:S2:1672:G:C2	45:S2:1673:G:C5	3.05	0.45
48:SC:8:ARG:NH2	48:SC:45:ALA:HB1	2.32	0.45
51:SF:39:VAL:C	51:SF:41:PRO:HD3	2.41	0.45
60:SO:26:SER:HB2	60:SO:29:GLN:O	2.16	0.45
60:SO:202:LEU:HA	60:SO:212:ALA:O	2.16	0.45
63:SR:162:CYS:SG	63:SR:212:LYS:HE2	2.57	0.45
65:ST:196:ARG:HH11	65:ST:196:ARG:HG3	1.81	0.45
70:SY:70:LYS:O	70:SY:74:ILE:HG23	2.16	0.45
75:Sd:90:ARG:HG2	75:Sd:90:ARG:NH1	2.30	0.45
1:LA:160:G:O6	1:LA:261:U:O4	2.35	0.45
1:LA:560:C:H2'	1:LA:561:C:H6	1.80	0.45
1:LA:615:G:H2'	1:LA:616:G:C8	2.51	0.45
1:LA:1594:U:C2	1:LA:1595:C:C5	3.05	0.45
1:LA:1947:G:N2	1:LA:2098:A:H62	2.14	0.45
1:LA:2356:A:H2'	1:LA:2357:A:H8	1.81	0.45
1:LA:2780:U:H4'	14:LN:185:LYS:HD3	1.98	0.45
1:LA:3316:U:O2	1:LA:3317:G:N1	2.49	0.45
3:LC:59:A:H5''	3:LC:61:A:C8	2.52	0.45
4:LD:248:GLY:HA2	45:S2:1012:U:H5'	1.97	0.45
6:LF:157:GLU:HG2	6:LF:211:GLU:O	2.15	0.45
24:LX:35:TYR:CE2	24:LX:37:ILE:HG22	2.51	0.45
29:Lc:13:GLY:O	33:Lg:36:LYS:HD2	2.17	0.45
29:Lc:56:VAL:HG23	29:Lc:57:GLY:N	2.31	0.45
37:Lk:68:ARG:HB3	37:Lk:68:ARG:NH1	2.31	0.45
45:S2:386:G:OP1	67:SV:23:LYS:HG3	2.16	0.45
45:S2:562:G:H2'	45:S2:563:U:C6	2.52	0.45
47:SB:98:MET:HE3	47:SB:105:GLY:O	2.16	0.45
48:SC:77:ARG:HA	48:SC:82:LEU:CD2	2.44	0.45
51:SF:25:GLY:N	51:SF:62:ASN:O	2.49	0.45
52:SG:5:ARG:N	52:SG:5:ARG:HD2	2.32	0.45
62:SQ:66:VAL:HG22	71:SZ:34:SER:HA	1.99	0.45
64:SS:57:ASN:O	64:SS:61:VAL:HG23	2.16	0.45
65:ST:140:ASN:O	65:ST:144:PHE:HB3	2.17	0.45
66:SU:80:GLU:O	66:SU:83:LYS:HG2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SV:49:ARG:O	67:SV:52:ASN:ND2	2.37	0.45
69:SX:83:THR:OG1	69:SX:109:VAL:O	2.20	0.45
74:Sc:62:LYS:HG2	74:Sc:116:ASP:O	2.15	0.45
75:Sd:47:VAL:HG23	75:Sd:48:TYR:HD1	1.82	0.45
1:LA:22:G:H1'	3:LC:104:A:N3	2.32	0.45
1:LA:377:A:H1'	1:LA:392:G:N2	2.32	0.45
1:LA:984:U:H2'	1:LA:985:U:H6	1.81	0.45
1:LA:1096:G:O6	22:LV:116:ARG:NH2	2.49	0.45
1:LA:2817:U:H6	1:LA:2817:U:H5'	1.81	0.45
1:LA:3161:C:H2'	1:LA:3162:A:H8	1.82	0.45
1:LA:3294:A:OP2	5:LE:126:LYS:N	2.43	0.45
8:LH:69:PHE:HB2	8:LH:138:GLN:NE2	2.31	0.45
19:LS:40:THR:HG22	19:LS:42:ALA:H	1.82	0.45
26:LZ:65:GLN:NE2	26:LZ:85:GLN:OE1	2.49	0.45
28:Lb:126:LYS:HB3	28:Lb:126:LYS:HE2	1.64	0.45
36:Lj:31:LEU:HB3	36:Lj:44:ILE:HG22	1.97	0.45
37:Lk:62:ARG:HG3	37:Lk:62:ARG:NH1	2.30	0.45
43:Lq:78:LYS:HB2	43:Lq:78:LYS:HE3	1.72	0.45
45:S2:299:A:O2'	45:S2:300:A:OP1	2.33	0.45
45:S2:427:C:O4'	45:S2:459:G:O2'	2.34	0.45
45:S2:460:A:H3'	45:S2:461:G:H8	1.81	0.45
45:S2:550:A:H5''	45:S2:551:G:OP1	2.16	0.45
45:S2:1308:G:H2'	45:S2:1309:C:C6	2.51	0.45
45:S2:1488:G:H3'	45:S2:1515:A:N6	2.24	0.45
45:S2:1525:A:O2'	45:S2:1589:C:O3'	2.25	0.45
45:S2:1748:G:H2'	45:S2:1749:A:C8	2.52	0.45
53:SH:18:LEU:O	53:SH:20:THR:HG22	2.17	0.45
54:SI:108:LEU:HA	54:SI:111:ILE:HG22	1.98	0.45
61:SP:41:ARG:HG2	61:SP:45:VAL:O	2.17	0.45
64:SS:246:LEU:HD11	64:SS:250:GLU:HB3	1.99	0.45
65:ST:51:LYS:HG2	65:ST:112:VAL:O	2.17	0.45
65:ST:72:ARG:HG3	65:ST:97:VAL:O	2.16	0.45
66:SU:28:GLU:HB2	66:SU:38:LEU:HD21	1.97	0.45
68:SW:110:GLN:HE21	68:SW:122:VAL:HG22	1.81	0.45
70:SY:114:ARG:O	70:SY:118:ILE:HG13	2.17	0.45
72:Sa:38:LYS:HD3	72:Sa:38:LYS:HA	1.62	0.45
77:Sf:53:ALA:HB1	77:Sf:62:ILE:HD13	1.97	0.45
1:LA:439:C:O2'	1:LA:440:A:O5'	2.34	0.45
1:LA:1305:G:O6	1:LA:2365:C:O2'	2.35	0.45
1:LA:1338:C:H2'	1:LA:1339:G:C8	2.52	0.45
1:LA:2710:C:O2'	1:LA:2743:U:OP1	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2881:U:H2'	1:LA:2882:U:C6	2.51	0.45
1:LA:3331:U:OP1	25:LY:35:LYS:HD3	2.16	0.45
10:LJ:91:PHE:CD2	10:LJ:189:LEU:HD13	2.51	0.45
10:LJ:97:TYR:OH	10:LJ:207:ASP:OD2	2.35	0.45
13:LM:13:LYS:HD3	13:LM:134:PRO:HG3	1.99	0.45
13:LM:75:LYS:HA	13:LM:78:GLU:HG2	1.97	0.45
17:LQ:41[A]:LEU:O	17:LQ:138[A]:LEU:HB2	2.17	0.45
21:LU:49:HIS:NE2	22:LV:151:LEU:HD21	2.31	0.45
22:LV:137:GLU:OE2	22:LV:138:SER:N	2.49	0.45
27:La:83:ASP:O	27:La:84:LYS:HG2	2.17	0.45
31:Le:75:ASN:HB2	31:Le:76:GLU:OE2	2.17	0.45
45:S2:754:A:N7	45:S2:793:A:H3'	2.31	0.45
45:S2:948:G:H2'	45:S2:949:C:C6	2.52	0.45
45:S2:1496:U:H2'	45:S2:1497:U:H5	1.82	0.45
53:SH:76:PRO:HG3	53:SH:86:LEU:HD21	1.99	0.45
53:SH:126:ARG:HB3	53:SH:133:VAL:HG12	1.98	0.45
57:SL:25:VAL:HG12	57:SL:45:LYS:HA	1.98	0.45
60:SO:35:SER:OG	60:SO:45:TRP:CD1	2.68	0.45
64:SS:71:LYS:HA	64:SS:76:VAL:HA	1.98	0.45
66:SU:112:ARG:NH2	66:SU:117:THR:HG22	2.32	0.45
67:SV:8:ARG:HH21	67:SV:21:PHE:HB3	1.82	0.45
67:SV:36:THR:CG2	67:SV:96:LEU:HB2	2.46	0.45
73:Sb:62:VAL:HG11	77:Sf:8:LEU:HG	1.99	0.45
74:Sc:56:LYS:HE3	74:Sc:97:ASP:O	2.16	0.45
74:Sc:89:ASN:HB2	74:Sc:92:CYS:SG	2.57	0.45
77:Sf:63:LEU:O	77:Sf:74:SER:N	2.49	0.45
1:LA:291:C:OP1	16:LP:68:ARG:HD2	2.16	0.45
1:LA:1216:A:H2'	1:LA:1217:U:H6	1.82	0.45
1:LA:1242:G:H8	1:LA:1242:G:OP2	1.99	0.45
1:LA:2159:G:H2'	1:LA:2160:G:H8	1.82	0.45
1:LA:2875:C:H2'	1:LA:2876:G:O4'	2.17	0.45
1:LA:3137:U:OP2	5:LE:30:LYS:HG3	2.17	0.45
7:LG:122:VAL:N	7:LG:168:ASP:O	2.50	0.45
8:LH:54:TYR:CE1	8:LH:63:LEU:HB3	2.52	0.45
9:LI:236:ILE:HD12	9:LI:236:ILE:HA	1.83	0.45
11:LK:150:SER:OG	11:LK:153:ASP:HB2	2.17	0.45
13:LM:85:LYS:HA	13:LM:89:TYR:CE1	2.52	0.45
13:LM:117:ASP:OD2	13:LM:119:SER:HB3	2.17	0.45
15:LO:83:LYS:HE2	15:LO:83:LYS:HB3	1.70	0.45
16:LP:98:LEU:HD12	16:LP:128:LYS:HD2	1.98	0.45
17:LQ:84[A]:LEU:HD13	17:LQ:102[A]:LEU:CD2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LS:177:GLY:O	19:LS:186:VAL:N	2.42	0.45
45:S2:206:A:H61	45:S2:258:C:H42	1.64	0.45
45:S2:320:U:H5	45:S2:322:G:H5'	1.82	0.45
45:S2:396:G:H22	45:S2:399:A:H5'	1.81	0.45
45:S2:447:U:H2'	45:S2:448:C:C6	2.52	0.45
45:S2:588:U:OP1	78:Sg:26:LYS:NZ	2.35	0.45
45:S2:1330:G:H22	46:SA:204:ASP:HB3	1.82	0.45
45:S2:1487:A:H2'	45:S2:1488:G:H8	1.81	0.45
46:SA:105:MET:O	46:SA:109:LEU:HG	2.17	0.45
46:SA:162:GLN:OE1	46:SA:162:GLN:N	2.49	0.45
55:SJ:68:ARG:HG2	55:SJ:79:TRP:CH2	2.52	0.45
60:SO:23:LEU:HD23	60:SO:35:SER:HB3	1.98	0.45
61:SP:69:ASN:HB3	61:SP:71:GLU:HG2	1.97	0.45
62:SQ:61:LEU:HD13	62:SQ:64:ARG:HD3	1.99	0.45
63:SR:207:LEU:HD13	63:SR:207:LEU:O	2.17	0.45
64:SS:70:VAL:HA	64:SS:92:LEU:HD22	1.98	0.45
64:SS:161:LYS:O	64:SS:170:THR:N	2.40	0.45
67:SV:57:ALA:HB2	67:SV:177:GLY:HA2	1.99	0.45
76:Se:32:LYS:O	76:Se:37:LYS:NZ	2.40	0.45
1:LA:89:A:OP2	19:LS:171:LYS:HE2	2.17	0.45
1:LA:2255:A:H5''	1:LA:2256:C:H5'	1.98	0.45
1:LA:2723:U:OP1	22:LV:78:LYS:NZ	2.44	0.45
1:LA:3037:U:H2'	1:LA:3038:C:O4'	2.17	0.45
1:LA:3173:A:H61	34:Lh:54:ARG:HH21	1.64	0.45
2:LB:71:G:H2'	2:LB:72:A:C8	2.51	0.45
5:LE:261:MET:HE3	5:LE:261:MET:HB3	1.90	0.45
17:LQ:27[A]:LEU:O	17:LQ:101[A]:ARG:NH1	2.50	0.45
30:Ld:16:ALA:O	30:Ld:20:GLY:HA3	2.16	0.45
42:Lp:1:MET:N	45:S2:1641:C:H4'	2.31	0.45
44:Lr:8:VAL:O	44:Lr:11:THR:OG1	2.34	0.45
45:S2:5:U:H2'	45:S2:6:G:C8	2.52	0.45
45:S2:187:G:H2'	45:S2:187:G:N3	2.31	0.45
45:S2:201:G:H2'	45:S2:202:A:C8	2.51	0.45
45:S2:892:A:H2'	45:S2:893:U:C6	2.51	0.45
45:S2:1609:U:H5''	51:SF:75:VAL:HG23	1.99	0.45
48:SC:10:LYS:HA	48:SC:13:GLN:CD	2.42	0.45
61:SP:84:ARG:HH21	61:SP:88:LYS:NZ	2.15	0.45
61:SP:126:PRO:HG2	61:SP:152:PRO:HD2	1.99	0.45
68:SW:110:GLN:OE1	68:SW:126:ARG:HG3	2.17	0.45
1:LA:548:U:H2'	1:LA:549:A:C8	2.51	0.45
1:LA:1172:U:H1'	1:LA:1178:A:H2'	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1284:G:O2'	1:LA:1285:A:N7	2.45	0.45
1:LA:1494:U:H5	1:LA:1834:A:N1	2.15	0.45
1:LA:2153:U:H2'	1:LA:2154:G:C8	2.52	0.45
1:LA:2929:A:H2'	1:LA:2930:C:C6	2.52	0.45
1:LA:3110:U:O2'	11:LK:152:GLU:OE2	2.20	0.45
1:LA:3149:A:H2'	1:LA:3150:U:O4'	2.17	0.45
1:LA:3348:C:C2	1:LA:3355:G:C2	3.04	0.45
6:LF:8:VAL:HG13	6:LF:151:VAL:HG12	1.99	0.45
6:LF:233:LEU:HA	6:LF:233:LEU:HD23	1.61	0.45
8:LH:36:PRO:HB3	8:LH:55:LEU:O	2.17	0.45
11:LK:47:LYS:HB2	15:LO:7:VAL:HB	1.99	0.45
14:LN:27:ASP:O	14:LN:31:LYS:HB2	2.16	0.45
27:La:56:VAL:CB	27:La:104:LEU:HD13	2.47	0.45
40:Ln:18:LYS:HE2	40:Ln:18:LYS:HA	1.99	0.45
41:Lo:99:CYS:HB2	41:Lo:114:LYS:HE2	1.99	0.45
45:S2:52:U:H2'	45:S2:53:G:H8	1.82	0.45
45:S2:89:G:N2	45:S2:451:A:O2'	2.48	0.45
45:S2:532:U:O2	75:Sd:33:ALA:HB1	2.17	0.45
45:S2:1205:C:C4	45:S2:1206:U:C4	3.05	0.45
45:S2:1230:A:H3'	45:S2:1231:U:C5	2.52	0.45
45:S2:1294:G:H1'	61:SP:109:ASN:HD22	1.81	0.45
49:SD:31:VAL:HA	49:SD:34:THR:HG22	1.98	0.45
53:SH:50:ALA:O	53:SH:68:ARG:NH2	2.50	0.45
59:SN:132:LEU:HD13	59:SN:139:LEU:HG	1.99	0.45
60:SO:13:LEU:HB2	60:SO:310:ILE:CG1	2.46	0.45
68:SW:49:LEU:HD11	68:SW:99:LEU:HB2	1.99	0.45
69:SX:59:PRO:HB3	69:SX:66:ILE:CD1	2.47	0.45
70:SY:33:VAL:O	70:SY:37:ILE:HG13	2.17	0.45
73:Sb:57:ARG:NH1	77:Sf:26:GLN:NE2	2.64	0.45
77:Sf:54:VAL:HG22	77:Sf:64:CYS:SG	2.56	0.45
1:LA:66:A:N1	1:LA:77:A:H5''	2.32	0.45
1:LA:611:U:OP1	8:LH:21:THR:OG1	2.35	0.45
1:LA:872:C:H3'	1:LA:873:U:H4'	1.99	0.45
1:LA:3193:C:H2'	1:LA:3194:U:H5'	1.97	0.45
6:LF:317:PRO:C	6:LF:319:LYS:N	2.74	0.45
7:LG:127:GLY:HA2	7:LG:195:LEU:HD12	1.98	0.45
12:LL:71:CYS:SG	12:LL:155:ALA:HA	2.57	0.45
12:LL:103:LEU:HB2	12:LL:108:ALA:HB1	1.99	0.45
14:LN:64:LYS:HD3	14:LN:65:TYR:CE2	2.52	0.45
15:LO:13:ARG:HH11	15:LO:67:PRO:HG3	1.81	0.45
28:Lb:89:VAL:HG12	28:Lb:93:LYS:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Lc:134:ALA:O	29:Lc:138:ILE:HD12	2.17	0.45
45:S2:64:U:OP1	45:S2:268:C:H4'	2.17	0.45
45:S2:227:U:O2'	45:S2:834:G:H1'	2.17	0.45
45:S2:477:A:H2'	45:S2:478:A:C8	2.52	0.45
45:S2:545:A:C8	78:Sg:31:LYS:HE2	2.52	0.45
45:S2:896:U:H5''	62:SQ:23:PRO:HG3	1.99	0.45
45:S2:903:U:H1'	45:S2:906:A:N7	2.31	0.45
45:S2:907:A:H2'	45:S2:908:U:C6	2.49	0.45
46:SA:97:SER:O	46:SA:101:GLN:HG2	2.16	0.45
46:SA:192:PRO:HB2	46:SA:200:LYS:O	2.17	0.45
48:SC:52:LYS:HB3	48:SC:52:LYS:HE2	1.79	0.45
49:SD:62:LEU:HD12	49:SD:63:VAL:H	1.82	0.45
62:SQ:217:LEU:HG	62:SQ:219:LYS:H	1.82	0.45
64:SS:64:ILE:HA	64:SS:67:GLN:HG2	1.99	0.45
68:SW:10:LYS:HG3	68:SW:11:THR:N	2.31	0.45
72:Sa:22:ARG:HB2	72:Sa:22:ARG:HH11	1.81	0.45
79:Tb:7:G:H3'	79:Tb:8:U:H5'	1.99	0.45
1:LA:920:A:C5	38:Ll:8:PHE:HE2	2.36	0.44
1:LA:972:A:H2'	1:LA:973:G:O4'	2.17	0.44
1:LA:1583:U:H2'	1:LA:1584:C:H6	1.82	0.44
1:LA:1910:A:H2	1:LA:2121:G:C8	2.35	0.44
1:LA:2242:A:H3'	4:LD:244:GLY:HA2	1.99	0.44
1:LA:2877:G:H5''	5:LE:5:LYS:HE2	1.98	0.44
5:LE:126:LYS:HB2	5:LE:128:LYS:HG3	1.99	0.44
7:LG:236:LEU:O	7:LG:239:ILE:HG12	2.17	0.44
7:LG:273:ARG:HA	7:LG:273:ARG:CZ	2.48	0.44
15:LO:65:LEU:CG	21:LU:172:TYR:OH	2.43	0.44
16:LP:9:GLU:HG3	37:Lk:40:VAL:HG12	1.99	0.44
21:LU:44:PHE:O	21:LU:48:LEU:HD13	2.17	0.44
24:LX:87:ARG:NE	24:LX:121:GLU:OE2	2.49	0.44
45:S2:256:A:H1'	67:SV:72:ILE:HA	1.98	0.44
45:S2:555:A:H2'	45:S2:555:A:N3	2.33	0.44
45:S2:593:U:H4'	45:S2:595:G:H4'	1.98	0.44
45:S2:1142:A:H5''	76:Se:2:PRO:HB3	1.99	0.44
45:S2:1396:U:H3	45:S2:1402:G:H1	1.63	0.44
45:S2:1638:G:O6	45:S2:1767:G:N2	2.50	0.44
45:S2:1797:A:N6	76:Se:84:VAL:HB	2.32	0.44
47:SB:32:GLU:HG2	47:SB:33:VAL:N	2.31	0.44
47:SB:48:PHE:CZ	47:SB:67:PRO:HA	2.52	0.44
47:SB:141:GLY:HA2	47:SB:171:ALA:HB2	1.99	0.44
47:SB:225:ARG:NH2	71:SZ:58:TYR:OH	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SF:49:TYR:HD1	51:SF:52:LEU:HD12	1.81	0.44
60:SO:252:LEU:O	60:SO:262:VAL:HA	2.17	0.44
62:SQ:125:VAL:O	62:SQ:136:ARG:HA	2.17	0.44
68:SW:45:ILE:HD11	68:SW:104:PHE:CD2	2.53	0.44
1:LA:45:A:P	16:LP:85:THR:HG21	2.57	0.44
1:LA:269:G:H5''	16:LP:14:LYS:HZ1	1.82	0.44
1:LA:564:U:H2'	1:LA:565:G:H8	1.81	0.44
1:LA:665:A:C2	14:LN:10:LEU:HD13	2.52	0.44
1:LA:747:U:H2'	1:LA:748:C:C6	2.53	0.44
1:LA:975:U:H2'	1:LA:976:C:O4'	2.16	0.44
1:LA:1046:A:N3	1:LA:2632:U:O2'	2.47	0.44
1:LA:1484:G:O2'	1:LA:1873:A:O2'	2.34	0.44
1:LA:2162:C:H4'	4:LD:7:ASN:O	2.17	0.44
2:LB:53:U:O2'	2:LB:55:A:N7	2.45	0.44
7:LG:195:LEU:O	7:LG:199:ILE:HG13	2.16	0.44
12:LL:52:LEU:HB3	12:LL:136:PHE:HB2	1.98	0.44
28:Lb:93:LYS:HE3	28:Lb:93:LYS:HB3	1.84	0.44
45:S2:168:A:H2'	45:S2:169:A:C8	2.52	0.44
45:S2:856:A:N6	66:SU:116:ARG:HD3	2.32	0.44
45:S2:886:U:H2'	45:S2:887:A:C8	2.51	0.44
45:S2:956:C:H2'	45:S2:957:G:H8	1.82	0.44
45:S2:1382:A:H2'	45:S2:1383:G:H8	1.81	0.44
45:S2:1584:G:C8	51:SF:122:ARG:HB3	2.52	0.44
59:SN:141:CYS:SG	59:SN:142:GLY:N	2.91	0.44
60:SO:108:SER:OG	60:SO:128:ASP:N	2.50	0.44
64:SS:168:LYS:HA	64:SS:168:LYS:HD2	1.71	0.44
71:SZ:128:LYS:NZ	76:Se:23:CYS:O	2.50	0.44
1:LA:505:U:H2'	1:LA:506:U:O4'	2.17	0.44
1:LA:711:G:H2'	1:LA:712:U:C6	2.52	0.44
1:LA:760:A:C2	1:LA:770:A:H1'	2.52	0.44
1:LA:1011:G:H2'	1:LA:1012:G:C8	2.53	0.44
1:LA:1041:U:H5	1:LA:1042:C:H41	1.65	0.44
1:LA:1145:C:H4'	1:LA:1330:U:C4	2.51	0.44
1:LA:2143:A:H1'	1:LA:2280:A:N6	2.31	0.44
1:LA:3106:U:H2'	1:LA:3107:G:C8	2.53	0.44
2:LB:63:A:O2'	2:LB:65:G:O4'	2.35	0.44
5:LE:204:ALA:O	5:LE:207:SER:OG	2.34	0.44
5:LE:284:ARG:HB3	5:LE:323:MET:HE2	2.00	0.44
18:LR:47:TYR:OH	18:LR:57:ALA:O	2.36	0.44
20:LT:154:ALA:O	20:LT:157:GLU:HG3	2.17	0.44
32:Lf:60:TRP:CZ3	32:Lf:64:VAL:HG22	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:168:A:OP1	65:ST:137:ARG:NE	2.50	0.44
45:S2:1036:A:H2'	45:S2:1037:C:H6	1.80	0.44
45:S2:1142:A:H2'	45:S2:1143:A:C8	2.53	0.44
45:S2:1547:A:H2'	45:S2:1548:G:O4'	2.17	0.44
45:S2:1552:U:OP2	50:SE:47:ARG:NH2	2.51	0.44
45:S2:1555:A:N6	58:SM:14:TYR:OH	2.46	0.44
45:S2:1646:C:H2'	45:S2:1647:U:H6	1.82	0.44
45:S2:1681:A:H5''	45:S2:1682:U:H5	1.81	0.44
49:SD:34:THR:HA	49:SD:37:VAL:HG22	1.99	0.44
50:SE:73:PRO:HG2	50:SE:93:VAL:HG12	1.99	0.44
50:SE:118:GLU:HG3	53:SH:122:HIS:HB3	1.99	0.44
64:SS:106:LYS:HD3	64:SS:106:LYS:HA	1.80	0.44
66:SU:76:LYS:HA	66:SU:76:LYS:HD3	1.83	0.44
1:LA:270:U:H2'	1:LA:271:C:C6	2.51	0.44
1:LA:363:G:N2	6:LF:82:THR:OG1	2.50	0.44
1:LA:942:U:H3'	29:Lc:13:GLY:HA2	2.00	0.44
1:LA:1018:G:H2'	1:LA:1019:G:C8	2.52	0.44
1:LA:1142:A:H5'	1:LA:1367:U:H1'	1.99	0.44
1:LA:1285:A:O2'	1:LA:1286:A:O4'	2.30	0.44
1:LA:1600:U:OP1	20:LT:42:ARG:NH2	2.50	0.44
5:LE:226:PHE:CE1	5:LE:268:GLY:HA2	2.52	0.44
7:LG:122:VAL:HG21	7:LG:130:GLU:OE2	2.17	0.44
12:LL:209:ASN:O	12:LL:217:PHE:HE2	1.99	0.44
14:LN:157:ARG:NH1	29:Lc:146:GLU:OE2	2.40	0.44
19:LS:178:ARG:HG3	29:Lc:51:GLY:HA3	2.00	0.44
25:LY:8:PHE:CD1	25:LY:46:PRO:HG3	2.51	0.44
27:La:115:ARG:O	27:La:119:ILE:HG12	2.18	0.44
29:Lc:82:ILE:HD12	29:Lc:83:PRO:O	2.17	0.44
35:Li:41:ARG:HG2	35:Li:56:THR:HG21	1.99	0.44
43:Lq:61:LYS:NZ	43:Lq:63:LYS:O	2.35	0.44
45:S2:151:G:N2	45:S2:164:A:N1	2.65	0.44
45:S2:198:A:H3'	45:S2:199:G:H8	1.81	0.44
45:S2:756:A:P	64:SS:16:HIS:HD1	2.40	0.44
45:S2:947:U:H2'	45:S2:948:G:C8	2.52	0.44
46:SA:167:PHE:HZ	46:SA:199:PRO:HB2	1.82	0.44
50:SE:57:MET:HE1	50:SE:83:MET:HE1	1.99	0.44
53:SH:32:LEU:HB2	53:SH:43:SER:HB3	1.99	0.44
62:SQ:103:MET:HE3	62:SQ:103:MET:HB3	1.79	0.44
62:SQ:133:TYR:CD2	62:SQ:217:LEU:HD11	2.51	0.44
64:SS:181:VAL:HA	64:SS:227:VAL:HA	1.98	0.44
64:SS:195:ILE:HG22	64:SS:210:ILE:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:ST:27:PHE:CZ	65:ST:111:LEU:HD11	2.52	0.44
74:Sc:43:PHE:O	74:Sc:78:LYS:NZ	2.31	0.44
78:Sg:33:ARG:HG2	78:Sg:36:LYS:HE3	1.98	0.44
78:Sg:39:LEU:O	78:Sg:43:ARG:HB3	2.17	0.44
1:LA:971:A:H2'	1:LA:972:A:C8	2.53	0.44
1:LA:986:U:H2'	1:LA:987:U:C6	2.53	0.44
1:LA:1728:A:C6	31:Le:49:PRO:HD3	2.52	0.44
1:LA:2423:A:H2'	1:LA:2424:G:O4'	2.17	0.44
1:LA:2676:G:H2'	1:LA:2676:G:N3	2.32	0.44
1:LA:3241:G:OP2	5:LE:154:TYR:OH	2.30	0.44
22:LV:114:ALA:O	22:LV:118:GLU:OE1	2.36	0.44
29:Lc:72:VAL:HG12	29:Lc:111:LYS:HB3	1.98	0.44
33:Lg:63:THR:HA	33:Lg:66:LEU:HD22	1.98	0.44
33:Lg:74:PHE:CE1	33:Lg:75:LEU:O	2.70	0.44
36:Lj:24:LEU:HB3	36:Lj:51:ILE:HG12	1.99	0.44
45:S2:250:C:H2'	45:S2:251:A:C8	2.52	0.44
45:S2:306:U:H2'	45:S2:307:G:C8	2.53	0.44
45:S2:607:G:N2	45:S2:614:C:H5''	2.32	0.44
45:S2:956:C:H2'	45:S2:957:G:C8	2.53	0.44
45:S2:996:U:H2'	45:S2:997:G:C8	2.50	0.44
45:S2:1209:C:H5''	59:SN:80:ARG:NH2	2.32	0.44
46:SA:9:ARG:C	46:SA:9:ARG:HH11	2.25	0.44
54:SI:34:VAL:CG1	54:SI:35:ASP:N	2.81	0.44
59:SN:132:LEU:HD23	59:SN:132:LEU:HA	1.86	0.44
60:SO:255:ALA:HB2	60:SO:292:LEU:HD22	1.99	0.44
62:SQ:54:LEU:N	62:SQ:54:LEU:HD23	2.32	0.44
64:SS:118:GLU:OE1	64:SS:118:GLU:N	2.50	0.44
66:SU:9:LEU:HD21	66:SU:12:ALA:O	2.18	0.44
67:SV:54:LYS:HB2	67:SV:54:LYS:HE3	1.80	0.44
68:SW:20:GLU:CD	68:SW:23:ARG:HH11	2.25	0.44
75:Sd:63:GLN:OE1	75:Sd:64:PHE:N	2.50	0.44
78:Sg:33:ARG:HA	78:Sg:36:LYS:HG3	2.00	0.44
1:LA:396:A:O2'	1:LA:399:A:OP1	2.16	0.44
1:LA:535:U:H1'	1:LA:558:A:C8	2.52	0.44
1:LA:590:G:N2	1:LA:611:U:OP1	2.41	0.44
1:LA:1445:A:H5''	18:LR:65:SER:CB	2.47	0.44
1:LA:1457:U:O2	32:Lf:56:ASN:ND2	2.50	0.44
1:LA:1459:A:H2'	1:LA:1460:A:C8	2.52	0.44
1:LA:2839:C:H2'	1:LA:2840:G:O4'	2.17	0.44
1:LA:3014:G:H2'	1:LA:3015:A:C8	2.53	0.44
1:LA:3112:A:H2'	1:LA:3113:A:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3295:A:H2'	1:LA:3296:U:H6	1.81	0.44
5:LE:53:MET:HE2	5:LE:53:MET:HB3	1.86	0.44
6:LF:309:ARG:HG2	6:LF:312:VAL:HG12	2.00	0.44
7:LG:177:GLU:H	7:LG:177:GLU:HG3	1.58	0.44
16:LP:192:LYS:HE3	16:LP:192:LYS:HB3	1.67	0.44
21:LU:74:ASN:HB2	21:LU:129:ILE:HG13	1.98	0.44
23:LW:42:LYS:HA	23:LW:47:VAL:HA	2.00	0.44
45:S2:59:C:H2'	45:S2:60:U:C5	2.53	0.44
45:S2:206:A:H61	45:S2:258:C:N4	2.15	0.44
45:S2:409:C:N4	45:S2:410:A:H62	2.16	0.44
45:S2:699:U:O4	45:S2:740:A:H1'	2.17	0.44
45:S2:929:A:H5''	45:S2:931:C:H41	1.83	0.44
45:S2:938:G:N2	45:S2:941:A:OP2	2.37	0.44
45:S2:1407:U:O2'	45:S2:1408:G:H8	1.99	0.44
45:S2:1584:G:OP2	51:SF:122:ARG:HG2	2.17	0.44
47:SB:58:LEU:HD21	47:SB:167:ARG:NH1	2.32	0.44
47:SB:162:VAL:HB	47:SB:166:ARG:CD	2.48	0.44
49:SD:52:LEU:HD12	49:SD:53:THR:HG23	2.00	0.44
56:SK:48:ASP:OD1	56:SK:49:ARG:N	2.50	0.44
62:SQ:26:ARG:HH21	62:SQ:49:ASN:HD21	1.66	0.44
63:SR:139:ILE:HG12	63:SR:218:ILE:CG2	2.48	0.44
65:ST:111:LEU:HD23	65:ST:111:LEU:HA	1.81	0.44
65:ST:135:PRO:HG2	65:ST:141:ILE:HG12	2.00	0.44
67:SV:21:PHE:CE2	67:SV:22:ARG:HG3	2.52	0.44
68:SW:20:GLU:CG	68:SW:23:ARG:HB3	2.48	0.44
68:SW:132:ARG:HB3	68:SW:140:ILE:HG21	2.00	0.44
72:Sa:55:LEU:HA	72:Sa:55:LEU:HD23	1.70	0.44
74:Sc:26:GLU:HB2	74:Sc:29:TYR:HB3	1.98	0.44
74:Sc:56:LYS:HG3	74:Sc:93:LEU:CD1	2.41	0.44
75:Sd:17:LEU:HD12	75:Sd:17:LEU:H	1.82	0.44
75:Sd:27:VAL:HG23	75:Sd:29:HIS:CE1	2.53	0.44
1:LA:405:U:H2'	1:LA:406:G:H5'	2.00	0.44
1:LA:1940:C:H2'	1:LA:1941:U:C6	2.52	0.44
1:LA:2212:A:H2'	1:LA:2213:A:H8	1.82	0.44
2:LB:47:C:OP2	7:LG:158:ARG:HD3	2.17	0.44
3:LC:65:A:C4	3:LC:66:A:C8	3.06	0.44
5:LE:182:GLN:HE21	5:LE:184:ASN:ND2	2.15	0.44
6:LF:219:LEU:HD22	6:LF:225:VAL:HG11	1.98	0.44
8:LH:46:ARG:HD3	8:LH:47:PHE:CZ	2.52	0.44
20:LT:85:ARG:HH11	20:LT:85:ARG:CB	2.30	0.44
31:Le:78:GLY:O	31:Le:81:VAL:HG12	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:380:U:OP2	45:S2:381:C:N4	2.39	0.44
45:S2:478:A:H2	45:S2:510:G:N1	2.04	0.44
45:S2:1071:U:H2'	45:S2:1072:C:C6	2.52	0.44
60:SO:47:LEU:HD11	60:SO:302:PHE:HZ	1.83	0.44
63:SR:81:MET:SD	63:SR:103:VAL:HG12	2.58	0.44
66:SU:80:GLU:HA	66:SU:83:LYS:HG2	1.99	0.44
75:Sd:7:ILE:HD11	75:Sd:40:LEU:HD23	1.99	0.44
75:Sd:20:ARG:CZ	75:Sd:74:LEU:HD13	2.48	0.44
78:Sg:50:VAL:HG12	78:Sg:54:ARG:HG2	2.00	0.44
1:LA:66:A:N6	1:LA:76:G:H1'	2.33	0.44
1:LA:208:C:H2'	1:LA:209:A:O4'	2.18	0.44
1:LA:524:C:H2'	1:LA:525:C:H6	1.83	0.44
1:LA:663:U:H5'	6:LF:107:ARG:HA	2.00	0.44
1:LA:1048:C:H2'	1:LA:1049:U:C6	2.52	0.44
1:LA:1947:G:H2'	1:LA:1948:G:C8	2.53	0.44
1:LA:2159:G:H2'	1:LA:2160:G:C8	2.52	0.44
1:LA:2549:U:H5'	10:LJ:38:GLN:HE22	1.82	0.44
1:LA:2922:U:H2'	1:LA:2923:U:C6	2.53	0.44
1:LA:3005:A:C2	1:LA:3140:A:C4	3.06	0.44
2:LB:31:U:O2'	7:LG:218:ARG:NH2	2.39	0.44
6:LF:99:MET:HE2	6:LF:100:PHE:O	2.16	0.44
6:LF:145:ILE:HD12	6:LF:150:LEU:HD22	2.00	0.44
15:LO:97:SER:O	15:LO:101:LYS:HG3	2.18	0.44
17:LQ:22[A]:VAL:HG11	17:LQ:120[A]:VAL:HG11	2.00	0.44
19:LS:150:VAL:HA	19:LS:153:PHE:CD2	2.53	0.44
38:Ll:18:LEU:HD21	40:Ln:51:ILE:HB	1.99	0.44
45:S2:178:U:O2	65:ST:195:VAL:HB	2.18	0.44
45:S2:196:G:H4'	45:S2:197:A:OP1	2.17	0.44
45:S2:917:U:H5'	71:SZ:20:TYR:CE2	2.52	0.44
45:S2:1018:U:H2'	45:S2:1019:A:C8	2.51	0.44
46:SA:63:GLY:O	46:SA:66:ILE:HG22	2.17	0.44
46:SA:105:MET:HE3	46:SA:122:VAL:HG21	2.00	0.44
47:SB:99:MET:O	47:SB:103:ASN:HB2	2.17	0.44
48:SC:69:THR:O	48:SC:73:VAL:HG12	2.18	0.44
49:SD:81:ASP:O	49:SD:83:GLU:N	2.43	0.44
64:SS:87:MET:HA	64:SS:100:ARG:HD2	1.98	0.44
68:SW:32:GLY:HA3	78:Sg:40:TYR:HD2	1.83	0.44
69:SX:15:LYS:HD2	69:SX:16:GLN:H	1.81	0.44
79:Tb:45:A:H3'	79:Tb:46:G:C8	2.53	0.44
1:LA:312:C:H1'	1:LA:2777:G:N2	2.33	0.44
1:LA:1339:G:H2'	1:LA:1340:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1386:G:O2'	8:LH:2:THR:HA	2.18	0.44
1:LA:2346:U:H2'	1:LA:2347:A:O4'	2.18	0.44
1:LA:2535:A:C3'	62:SQ:229:MET:H	2.31	0.44
1:LA:2536:U:H5''	62:SQ:232:HIS:N	2.32	0.44
1:LA:2560:A:O2'	1:LA:2561:A:H8	2.01	0.44
2:LB:64:A:H8	12:LL:204:GLY:O	2.01	0.44
5:LE:318:LYS:H	5:LE:318:LYS:HG3	1.54	0.44
10:LJ:91:PHE:HE1	10:LJ:180:VAL:HG21	1.83	0.44
10:LJ:94:PHE:HB3	10:LJ:189:LEU:HD21	1.99	0.44
12:LL:54:SER:HB3	12:LL:135:ILE:HD11	2.00	0.44
29:Lc:96:LYS:C	29:Lc:97:GLU:HG3	2.43	0.44
39:Lm:30:LYS:HB2	39:Lm:30:LYS:HE2	1.65	0.44
47:SB:125:THR:O	47:SB:127:GLN:N	2.51	0.44
53:SH:123:ARG:O	53:SH:127:HIS:HD2	2.01	0.44
54:SI:49:ASP:OD1	54:SI:49:ASP:N	2.43	0.44
56:SK:91:PRO:HB3	56:SK:101:TYR:CD2	2.53	0.44
60:SO:122:ILE:O	60:SO:133:VAL:HA	2.18	0.44
63:SR:131:ILE:HA	63:SR:134:LEU:HB2	2.00	0.44
68:SW:92:LYS:HA	68:SW:92:LYS:HD2	1.81	0.44
74:Sc:19:ARG:O	74:Sc:23:ARG:HB2	2.17	0.44
1:LA:53:G:OP2	38:Ll:48:ASN:ND2	2.32	0.43
1:LA:516:G:H4'	9:LI:63:ILE:HD12	2.00	0.43
1:LA:1492:G:OP1	40:Ln:49:MET:HG3	2.18	0.43
1:LA:1611:A:H5''	39:Lm:51:LEU:HD22	1.99	0.43
1:LA:3121:A:N1	11:LK:70:THR:OG1	2.49	0.43
1:LA:3167:A:N1	1:LA:3281:U:C5	2.86	0.43
1:LA:3205:C:H2'	15:LO:99:TRP:CZ2	2.52	0.43
2:LB:4:U:H2'	2:LB:5:G:H8	1.82	0.43
13:LM:60:ARG:O	13:LM:63:GLU:HB2	2.18	0.43
13:LM:150:ASN:HA	13:LM:153:LYS:HG3	2.00	0.43
27:La:54:ASP:OD2	27:La:115:ARG:NH2	2.51	0.43
42:Lp:21:ARG:NH1	45:S2:1117:U:OP1	2.36	0.43
44:Lr:27:LYS:HG3	44:Lr:31:ILE:CD1	2.48	0.43
45:S2:132:U:H4'	45:S2:133:U:C5	2.53	0.43
45:S2:155:U:H1'	65:ST:59:GLN:HG3	2.00	0.43
45:S2:167:U:OP1	65:ST:140:ASN:ND2	2.51	0.43
45:S2:569:C:H5	74:Sc:69:ARG:HH21	1.65	0.43
45:S2:651:G:H5''	45:S2:652:G:C8	2.53	0.43
45:S2:893:U:H2'	45:S2:894:U:C6	2.53	0.43
47:SB:89:ILE:HD12	47:SB:92:ARG:HB2	2.00	0.43
47:SB:120:ILE:HA	47:SB:123:VAL:HG12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SO:116:ASP:HB3	60:SO:121:MET:H	1.83	0.43
62:SQ:124:ASN:HB2	62:SQ:138:PHE:HD1	1.83	0.43
64:SS:254:ARG:NH2	64:SS:258:GLN:CB	2.77	0.43
65:ST:137:ARG:HG2	65:ST:140:ASN:CB	2.48	0.43
66:SU:14:THR:N	66:SU:17:GLU:OE2	2.37	0.43
66:SU:130:VAL:HG11	66:SU:154:LEU:HD21	2.00	0.43
71:SZ:29:HIS:CB	71:SZ:41:ARG:HA	2.48	0.43
75:Sd:63:GLN:HG2	75:Sd:68:LYS:HB2	2.00	0.43
1:LA:63:A:H2'	1:LA:64:G:O4'	2.18	0.43
1:LA:497:A:O2'	1:LA:3272:A:N1	2.46	0.43
1:LA:740:U:H2'	1:LA:741:G:O4'	2.18	0.43
1:LA:1944:A:H2'	1:LA:1945:A:C8	2.53	0.43
7:LG:93:THR:OG1	7:LG:158:ARG:NH1	2.50	0.43
7:LG:283:ALA:HA	7:LG:286:VAL:HG22	2.00	0.43
10:LJ:86:THR:O	10:LJ:90:THR:OG1	2.31	0.43
13:LM:82:ARG:O	13:LM:85:LYS:HG2	2.17	0.43
21:LU:21:GLU:OE1	21:LU:21:GLU:N	2.50	0.43
27:La:43:TYR:HB3	27:La:45:ILE:HG22	2.01	0.43
34:Lh:7:LEU:HD12	34:Lh:7:LEU:HA	1.79	0.43
39:Lm:30:LYS:CE	39:Lm:40:GLN:HB2	2.44	0.43
41:Lo:88:LYS:C	41:Lo:88:LYS:CD	2.91	0.43
45:S2:36:C:N4	45:S2:472:U:C4	2.80	0.43
45:S2:262:U:H2'	45:S2:263:C:O4'	2.18	0.43
45:S2:409:C:H2'	45:S2:410:A:C8	2.53	0.43
45:S2:894:U:H2'	45:S2:895:G:H8	1.81	0.43
47:SB:145:ASP:OD1	47:SB:146:THR:N	2.51	0.43
47:SB:214:LYS:O	47:SB:217:LEU:HG	2.17	0.43
53:SH:30:TYR:HD1	53:SH:30:TYR:N	2.16	0.43
62:SQ:88:VAL:HG21	62:SQ:96:LEU:HD12	2.00	0.43
64:SS:39:ARG:HD3	64:SS:39:ARG:HA	1.63	0.43
74:Sc:68:ILE:HD12	74:Sc:68:ILE:O	2.18	0.43
75:Sd:83:LYS:NZ	75:Sd:96:LEU:O	2.30	0.43
79:Tb:32:G:H2'	79:Tb:33:C:H6	1.83	0.43
1:LA:130:A:H2'	1:LA:131:C:C6	2.53	0.43
1:LA:535:U:H2'	1:LA:536:A:H8	1.83	0.43
1:LA:1156:G:H2'	1:LA:1157:A:O4'	2.18	0.43
1:LA:1925:C:H5'	44:Lr:8:VAL:HG13	2.00	0.43
1:LA:2152:U:OP1	4:LD:246:LEU:HD12	2.17	0.43
1:LA:2420:U:O2'	43:Lq:52:GLY:HA3	2.19	0.43
1:LA:3106:U:OP1	41:Lo:114:LYS:NZ	2.49	0.43
1:LA:3192:C:H2'	1:LA:3193:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:LB:4:U:H2'	2:LB:5:G:C8	2.53	0.43
5:LE:242:THR:CG2	5:LE:246:LEU:HB3	2.48	0.43
9:LI:163:LEU:O	9:LI:165:ASP:N	2.51	0.43
12:LL:51:HIS:ND1	12:LL:137:SER:OG	2.50	0.43
21:LU:6:GLU:HG2	21:LU:64:ILE:CG1	2.48	0.43
21:LU:149:LYS:HB3	21:LU:149:LYS:HE2	1.86	0.43
35:Li:65:VAL:HG12	35:Li:66:SER:H	1.84	0.43
39:Lm:28:ASN:C	39:Lm:30:LYS:HZ1	2.26	0.43
40:Ln:13:MET:HE1	40:Ln:51:ILE:HD11	1.99	0.43
44:Lr:38:ASP:OD1	44:Lr:45:LYS:HD3	2.17	0.43
45:S2:19:A:H2'	45:S2:20:G:O4'	2.18	0.43
45:S2:513:U:H5'	68:SW:133:HIS:CE1	2.53	0.43
45:S2:537:G:H5'	45:S2:538:A:OP2	2.18	0.43
45:S2:567:A:H62	45:S2:576:G:N2	2.16	0.43
45:S2:1284:C:OP2	45:S2:1623:C:H5''	2.18	0.43
45:S2:1647:U:H2'	45:S2:1648:A:H8	1.82	0.43
45:S2:1776:A:H2'	45:S2:1777:G:C8	2.53	0.43
51:SF:40:GLU:N	51:SF:41:PRO:HD3	2.33	0.43
62:SQ:23:PRO:HB2	62:SQ:27:LYS:HE2	1.99	0.43
63:SR:44:LEU:HD22	63:SR:50:ILE:HD12	1.99	0.43
63:SR:66:PHE:HD1	63:SR:67:GLN:HG2	1.83	0.43
64:SS:10:LYS:HE2	64:SS:10:LYS:HB3	1.80	0.43
64:SS:17:HIS:CE1	64:SS:18:TRP:CD1	3.06	0.43
65:ST:159:ARG:HA	65:ST:159:ARG:HD3	1.73	0.43
65:ST:191:ARG:HD3	65:ST:191:ARG:HA	1.83	0.43
66:SU:86:GLN:O	66:SU:88:ARG:NE	2.51	0.43
71:SZ:128:LYS:HG2	76:Se:27:SER:HB2	2.01	0.43
76:Se:64:LEU:HD12	76:Se:64:LEU:HA	1.78	0.43
1:LA:405:U:H4'	1:LA:1415:C:H4'	1.99	0.43
1:LA:1311:C:H2'	1:LA:1312:G:O4'	2.17	0.43
1:LA:2196:C:N4	1:LA:2240:U:H2'	2.34	0.43
1:LA:2535:A:H3'	62:SQ:229:MET:H	1.83	0.43
4:LD:40:TYR:HA	4:LD:91:GLY:HA3	2.00	0.43
5:LE:137:TYR:CE1	5:LE:144:ILE:HD13	2.53	0.43
5:LE:169:THR:CG2	5:LE:171:LEU:HG	2.47	0.43
6:LF:209:TYR:CE1	6:LF:229:ASN:HB3	2.54	0.43
8:LH:102:ASN:N	8:LH:102:ASN:OD1	2.51	0.43
9:LI:166:ASN:O	9:LI:169:ILE:HG22	2.19	0.43
10:LJ:161:GLU:HA	10:LJ:164:VAL:HG22	2.00	0.43
14:LN:188:ARG:HE	14:LN:188:ARG:HB2	1.61	0.43
17:LQ:92[A]:THR:O	17:LQ:96[A]:LYS:HG3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LZ:53:HIS:CE1	26:LZ:56:ARG:HG2	2.52	0.43
37:Lk:54:GLU:OE1	37:Lk:86:LYS:HD2	2.18	0.43
45:S2:161:U:OP1	65:ST:85:ARG:N	2.30	0.43
45:S2:955:A:H2'	45:S2:956:C:O4'	2.19	0.43
45:S2:963:A:O2'	45:S2:964:U:H6	2.02	0.43
45:S2:1078:C:H2'	45:S2:1079:U:C6	2.53	0.43
45:S2:1365:C:H2'	45:S2:1366:U:C6	2.54	0.43
45:S2:1450:U:H4'	58:SM:8:PHE:CE1	2.54	0.43
45:S2:1575:G:N3	79:Tb:42:C:O2'	2.50	0.43
45:S2:1606:C:H2'	45:S2:1607:G:C8	2.54	0.43
45:S2:1626:U:H2'	45:S2:1627:U:C6	2.54	0.43
45:S2:1636:C:H4'	45:S2:1637:C:O5'	2.17	0.43
60:SO:147:HIS:HB3	60:SO:149:ASP:O	2.18	0.43
62:SQ:145:LYS:HE2	62:SQ:145:LYS:HB3	1.79	0.43
62:SQ:195:LYS:H	62:SQ:195:LYS:HD3	1.84	0.43
66:SU:68:ALA:C	66:SU:72:LYS:HZ3	2.24	0.43
66:SU:112:ARG:NH2	66:SU:117:THR:HA	2.33	0.43
68:SW:113:VAL:HG23	68:SW:125:ALA:HB1	2.00	0.43
71:SZ:61:MET:HG3	71:SZ:104:ALA:HB2	2.00	0.43
71:SZ:89:THR:CG2	71:SZ:128:LYS:HA	2.49	0.43
76:Se:26:CYS:SG	76:Se:28:LYS:HB2	2.58	0.43
1:LA:235:A:H2'	1:LA:236:G:H8	1.84	0.43
1:LA:532:A:O2'	1:LA:533:U:H3'	2.17	0.43
1:LA:716:C:OP1	1:LA:750:A:O2'	2.36	0.43
1:LA:806:A:H61	1:LA:933:G:H22	1.65	0.43
1:LA:1393:A:H4'	1:LA:1419:C:H4'	2.01	0.43
1:LA:1612:A:H2'	1:LA:1613:C:O4'	2.18	0.43
1:LA:2353:C:H2'	1:LA:2354:G:O4'	2.17	0.43
1:LA:2366:A:H2'	1:LA:2367:A:C8	2.53	0.43
1:LA:2990:A:O2'	1:LA:3308:G:N7	2.49	0.43
1:LA:3191:U:H2'	1:LA:3192:C:C6	2.53	0.43
3:LC:39:G:H1'	3:LC:104:A:N6	2.34	0.43
6:LF:289:ILE:O	6:LF:292:SER:OG	2.35	0.43
7:LG:55:PHE:CD1	7:LG:60:ILE:HG12	2.54	0.43
7:LG:222:LEU:HD12	7:LG:223:PHE:CD2	2.54	0.43
9:LI:169:ILE:HD12	9:LI:201:PHE:CE2	2.54	0.43
12:LL:137:SER:HB3	12:LL:173:PHE:CE1	2.53	0.43
12:LL:210:ILE:HD12	12:LL:210:ILE:C	2.44	0.43
14:LN:137:GLN:O	14:LN:137:GLN:HG3	2.19	0.43
29:Lc:64:GLN:HG3	29:Lc:67:HIS:CE1	2.53	0.43
33:Lg:18:LYS:HG2	33:Lg:30:GLU:CG	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:48:G:H2'	45:S2:49:C:H6	1.83	0.43
45:S2:93:A:H5'	45:S2:94:U:H5	1.84	0.43
45:S2:93:A:O2'	64:SS:4:GLY:HA3	2.18	0.43
45:S2:123:G:H2'	45:S2:124:A:H8	1.82	0.43
45:S2:156:A:C8	45:S2:416:A:C8	3.07	0.43
45:S2:393:C:H2'	45:S2:394:C:C6	2.53	0.43
45:S2:825:U:O4	45:S2:826:U:O4	2.35	0.43
45:S2:836:U:H2'	45:S2:837:G:H8	1.82	0.43
53:SH:69:ILE:O	53:SH:73:MET:HG2	2.19	0.43
60:SO:90:ARG:HB3	60:SO:92:TRP:NE1	2.33	0.43
61:SP:76:ILE:HG13	61:SP:98:ILE:HB	2.01	0.43
62:SQ:66:VAL:HG12	62:SQ:68:VAL:HG13	2.00	0.43
62:SQ:142:PHE:O	62:SQ:207:LEU:HA	2.18	0.43
62:SQ:197:ILE:CG2	62:SQ:210:ILE:HG21	2.48	0.43
64:SS:15:PRO:HG2	64:SS:18:TRP:CE2	2.53	0.43
67:SV:5:ARG:HD3	67:SV:29:LEU:O	2.18	0.43
67:SV:84:HIS:HD2	67:SV:87:ASN:H	1.66	0.43
67:SV:89:GLU:O	67:SV:93:THR:HG22	2.17	0.43
1:LA:230:U:H2'	1:LA:231:G:O4'	2.17	0.43
1:LA:696:A:P	6:LF:272:VAL:HG21	2.59	0.43
1:LA:1034:G:H2'	1:LA:1035:A:H4'	2.01	0.43
1:LA:1216:A:H2'	1:LA:1217:U:C6	2.54	0.43
1:LA:1447:U:H2'	1:LA:1448:A:C8	2.54	0.43
1:LA:1487:G:C2	1:LA:1488:A:C8	3.07	0.43
1:LA:1564:G:C2	1:LA:1565:A:C8	3.06	0.43
1:LA:1716:U:H3	1:LA:1726:G:H1	1.65	0.43
1:LA:2099:A:H8	1:LA:2099:A:OP2	2.02	0.43
1:LA:2506:C:H2'	1:LA:2507:U:C6	2.53	0.43
1:LA:3177:A:C2	17:LQ:115[A]:LYS:HD3	2.54	0.43
3:LC:75:G:H2'	3:LC:76:C:C6	2.53	0.43
5:LE:262:TRP:CD1	5:LE:262:TRP:H	2.36	0.43
7:LG:22:ARG:HB3	7:LG:28:THR:HG23	2.00	0.43
11:LK:135:GLU:OE1	11:LK:135:GLU:HA	2.18	0.43
13:LM:117:ASP:C	13:LM:117:ASP:OD1	2.60	0.43
31:Le:18:ILE:HG13	31:Le:81:VAL:O	2.19	0.43
38:Ll:43:LYS:HB2	38:Ll:43:LYS:HE3	1.76	0.43
40:Ln:13:MET:HE2	40:Ln:13:MET:HA	2.01	0.43
44:Lr:45:LYS:H	44:Lr:45:LYS:CE	2.20	0.43
44:Lr:46:THR:OG1	44:Lr:57:CYS:SG	2.74	0.43
45:S2:78:A:H5'	65:ST:159:ARG:HH21	1.84	0.43
45:S2:206:A:N6	45:S2:258:C:H42	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:265:A:H2	45:S2:290:G:H1	1.60	0.43
45:S2:358:U:H5''	45:S2:359:A:C2	2.54	0.43
45:S2:946:U:H2'	45:S2:947:U:C6	2.53	0.43
45:S2:1579:U:O5'	45:S2:1579:U:H6	2.02	0.43
45:S2:1615:C:C2	47:SB:81:ARG:HG3	2.54	0.43
47:SB:190:ILE:O	47:SB:193:THR:HG22	2.18	0.43
51:SF:103:ASN:O	51:SF:107:LYS:HG2	2.19	0.43
63:SR:126:ARG:O	63:SR:130:ILE:HG12	2.19	0.43
64:SS:84:ALA:HB1	64:SS:101:LEU:HD13	2.01	0.43
1:LA:89:A:H2'	1:LA:90:C:H6	1.84	0.43
1:LA:159:A:H2'	1:LA:160:G:H8	1.84	0.43
1:LA:567:G:H2'	1:LA:568:A:O4'	2.19	0.43
1:LA:1236:G:C6	1:LA:1250:A:N6	2.87	0.43
1:LA:1804:C:H2'	1:LA:1805:A:C8	2.51	0.43
1:LA:2206:A:H5'	62:SQ:11:LYS:O	2.19	0.43
1:LA:2443:C:H2'	1:LA:2444:A:N7	2.34	0.43
1:LA:2630:U:H4'	1:LA:2696:A:C2	2.53	0.43
1:LA:3095:C:H2'	1:LA:3096:C:C6	2.53	0.43
1:LA:3321:A:H2'	1:LA:3322:A:C8	2.53	0.43
2:LB:26:C:H2'	2:LB:27:A:O4'	2.18	0.43
4:LD:66:PRO:HG2	4:LD:67:TYR:CE2	2.54	0.43
5:LE:67:PHE:CZ	24:LX:88:ARG:HB2	2.53	0.43
7:LG:91:GLY:O	7:LG:94:ASN:ND2	2.48	0.43
9:LI:154:GLY:O	9:LI:160:ARG:HA	2.19	0.43
12:LL:54:SER:OG	12:LL:130:ASP:O	2.37	0.43
20:LT:98:ARG:HD2	20:LT:133:LYS:O	2.19	0.43
22:LV:57:TYR:HA	22:LV:60:LYS:HG3	2.01	0.43
22:LV:108:ARG:O	22:LV:112:ASN:ND2	2.51	0.43
28:Lb:117:ALA:O	28:Lb:121:ARG:HG2	2.17	0.43
30:Ld:21:ILE:HG22	30:Ld:21:ILE:O	2.19	0.43
34:Lh:16:TYR:OH	34:Lh:89:LEU:O	2.22	0.43
36:Lj:93:THR:OG1	36:Lj:96:GLU:HG2	2.18	0.43
38:Ll:39:TYR:CG	38:Ll:40:PRO:HA	2.53	0.43
45:S2:10:G:C6	45:S2:1145:U:H5	2.36	0.43
45:S2:439:U:OP1	45:S2:465:G:N2	2.52	0.43
45:S2:639:U:H4'	45:S2:640:U:O5'	2.19	0.43
45:S2:1357:A:H2'	45:S2:1358:G:C8	2.53	0.43
46:SA:105:MET:HA	46:SA:108:LYS:HB2	2.00	0.43
60:SO:59:ARG:HA	60:SO:59:ARG:HD3	1.79	0.43
60:SO:217:ASP:OD1	60:SO:217:ASP:N	2.52	0.43
62:SQ:61:LEU:HD22	62:SQ:61:LEU:HA	1.69	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SS:159:THR:OG1	64:SS:227:VAL:HG13	2.19	0.43
68:SW:24:LEU:HD13	68:SW:27:GLU:OE2	2.19	0.43
68:SW:60:LEU:HA	68:SW:69:ARG:NH1	2.34	0.43
68:SW:123:HIS:HA	78:Sg:33:ARG:HH21	1.83	0.43
74:Sc:109:ARG:HD3	74:Sc:114:LYS:HA	2.01	0.43
1:LA:177:U:C5	1:LA:178:U:C5	3.07	0.43
1:LA:829:A:H2'	1:LA:830:G:O4'	2.19	0.43
1:LA:1128:A:H2'	1:LA:1129:A:C8	2.54	0.43
1:LA:1583:U:H2'	1:LA:1584:C:C6	2.54	0.43
1:LA:2153:U:H2'	1:LA:2154:G:H8	1.84	0.43
1:LA:2519:A:H2'	1:LA:2520:U:C6	2.54	0.43
1:LA:2829:G:H1'	1:LA:2860:U:C2	2.54	0.43
2:LB:48:U:O2'	7:LG:222:LEU:HB2	2.18	0.43
12:LL:31:ILE:HG22	12:LL:62:SER:HB2	2.00	0.43
19:LS:158:HIS:H	19:LS:186:VAL:HG12	1.84	0.43
20:LT:123:LEU:HD23	20:LT:123:LEU:HA	1.87	0.43
21:LU:152:LEU:HB2	21:LU:172:TYR:CD2	2.53	0.43
22:LV:136:ARG:H	22:LV:136:ARG:HG2	1.59	0.43
24:LX:96:GLU:OE2	25:LY:24:GLY:N	2.50	0.43
41:Lo:95:VAL:HG11	41:Lo:122:ARG:CZ	2.49	0.43
45:S2:331:A:H2'	45:S2:332:U:H6	1.82	0.43
45:S2:544:A:H1'	78:Sg:28:LYS:HD3	2.01	0.43
45:S2:705:U:H4'	45:S2:706:A:OP1	2.19	0.43
45:S2:1334:U:O2'	55:SJ:85:ARG:NH2	2.48	0.43
45:S2:1382:A:H2'	45:S2:1383:G:C8	2.54	0.43
47:SB:130:ILE:HA	47:SB:133:VAL:HG22	2.01	0.43
47:SB:161:ASP:O	57:SL:44:VAL:HA	2.19	0.43
61:SP:56:LYS:HB3	61:SP:160:ILE:HD12	2.00	0.43
64:SS:72:VAL:N	64:SS:75:LYS:O	2.43	0.43
67:SV:31:ARG:HD2	67:SV:56:ARG:HH22	1.83	0.43
77:Sf:42:ASN:O	77:Sf:42:ASN:ND2	2.51	0.43
1:LA:149:U:H4'	16:LP:56:LYS:HB3	2.00	0.43
1:LA:179:C:H2'	1:LA:180:C:C6	2.53	0.43
1:LA:566:G:H2'	1:LA:567:G:C8	2.53	0.43
1:LA:1282:C:H4'	1:LA:1283:C:O5'	2.19	0.43
1:LA:1577:C:H2'	1:LA:1578:C:O4'	2.19	0.43
1:LA:2190:U:H2'	1:LA:2191:C:O4'	2.19	0.43
1:LA:2191:C:O2'	1:LA:2311:A:N1	2.47	0.43
1:LA:2673:A:N1	13:LM:124:GLY:HA3	2.34	0.43
1:LA:2727:G:N7	22:LV:87:LYS:NZ	2.62	0.43
2:LB:16:U:H2'	2:LB:17:A:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LI:144:ILE:HG22	9:LI:185:ILE:HG23	2.00	0.43
9:LI:175:LYS:H	9:LI:175:LYS:CD	2.31	0.43
10:LJ:24:ASN:HB2	10:LJ:25:PRO:HD3	2.00	0.43
11:LK:16:VAL:HG21	11:LK:79:ILE:HG23	1.99	0.43
13:LM:11:ASP:OD1	13:LM:11:ASP:N	2.52	0.43
13:LM:89:TYR:HD2	13:LM:169:ALA:HB2	1.83	0.43
14:LN:42:ARG:O	14:LN:46:ILE:HG12	2.17	0.43
18:LR:33:ALA:HB1	18:LR:117:ILE:HG12	2.00	0.43
20:LT:146:LYS:HE3	20:LT:146:LYS:HB2	1.85	0.43
29:Lc:82:ILE:HD12	29:Lc:82:ILE:C	2.43	0.43
45:S2:30:G:O2'	74:Sc:133:LEU:HD21	2.18	0.43
45:S2:258:C:H4'	67:SV:64:ASN:ND2	2.34	0.43
45:S2:509:G:H3'	45:S2:509:G:N3	2.33	0.43
45:S2:830:U:H3'	45:S2:831:U:C5'	2.48	0.43
45:S2:896:U:OP1	62:SQ:23:PRO:HB3	2.18	0.43
45:S2:968:U:H2'	45:S2:969:C:O4'	2.19	0.43
45:S2:1487:A:H2'	45:S2:1488:G:C8	2.53	0.43
45:S2:1612:U:P	47:SB:95:ASN:HD22	2.42	0.43
45:S2:1613:U:P	47:SB:84:LYS:HE3	2.59	0.43
47:SB:162:VAL:CG2	47:SB:167:ARG:HG2	2.49	0.43
60:SO:24:ALA:HB1	60:SO:73:LEU:HD22	2.00	0.43
60:SO:116:ASP:HA	60:SO:156:VAL:HG11	2.01	0.43
65:ST:64:LYS:HE2	65:ST:65:GLN:O	2.18	0.43
1:LA:501:U:O2'	8:LH:26:ARG:NH1	2.50	0.43
1:LA:1138:G:O2'	9:LI:94:LYS:HG2	2.19	0.43
1:LA:1323:U:H2'	1:LA:1324:U:O4'	2.19	0.43
1:LA:1418:A:H5'	3:LC:20:U:O3'	2.19	0.43
1:LA:2942:G:H2'	1:LA:2943:U:O4'	2.18	0.43
1:LA:3276:U:H5'	1:LA:3277:C:C5	2.54	0.43
5:LE:367:LYS:HA	25:LY:17:ARG:NH2	2.34	0.43
6:LF:152:VAL:HG22	6:LF:250:TRP:O	2.18	0.43
10:LJ:100:GLU:HB2	10:LJ:104:GLU:HG3	2.01	0.43
10:LJ:149:LYS:HA	10:LJ:149:LYS:HD2	1.76	0.43
19:LS:180:ARG:HG2	19:LS:180:ARG:HH11	1.83	0.43
21:LU:73:LYS:HD2	21:LU:75:PHE:HZ	1.82	0.43
22:LV:18:ASP:CB	22:LV:21:LYS:HB2	2.48	0.43
24:LX:68:GLU:CD	24:LX:68:GLU:N	2.76	0.43
36:Lj:29:ALA:O	36:Lj:33:VAL:HG23	2.19	0.43
36:Lj:86:ARG:HG3	36:Lj:90:ARG:NH2	2.34	0.43
45:S2:448:C:H2'	45:S2:449:C:C6	2.54	0.43
45:S2:513:U:H5'	68:SW:133:HIS:HE1	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:939:A:H2'	45:S2:940:A:C8	2.54	0.43
45:S2:978:A:H2'	45:S2:979:A:O4'	2.19	0.43
45:S2:1364:G:H2'	45:S2:1365:C:C6	2.54	0.43
49:SD:59:LEU:O	49:SD:122:VAL:HA	2.18	0.43
60:SO:100:TYR:CD1	60:SO:100:TYR:C	2.97	0.43
60:SO:125:GLY:HA3	60:SO:151:VAL:HG21	2.00	0.43
63:SR:84:LYS:HE2	63:SR:84:LYS:HB2	1.67	0.43
64:SS:244:ILE:HD12	64:SS:245:LYS:N	2.34	0.43
65:ST:63:MET:HE3	65:ST:100:ALA:HA	2.00	0.43
66:SU:99:LEU:HD13	66:SU:116:ARG:HB3	2.01	0.43
79:Tb:4:G:H2'	79:Tb:5:G:C8	2.54	0.43
1:LA:150:A:C5	1:LA:151:A:C8	3.06	0.42
1:LA:695:C:OP1	6:LF:272:VAL:HG22	2.19	0.42
1:LA:696:A:OP2	6:LF:272:VAL:HG21	2.19	0.42
1:LA:1312:G:O2'	1:LA:1317:A:N1	2.48	0.42
2:LB:103:A:H2'	2:LB:104:A:O4'	2.19	0.42
4:LD:57:PRO:HB3	44:Lr:54:ILE:HD11	2.00	0.42
5:LE:56:ILE:HG22	5:LE:359:ILE:HG22	2.01	0.42
12:LL:86:HIS:CE1	12:LL:173:PHE:HE2	2.37	0.42
12:LL:109:ASP:N	12:LL:109:ASP:OD1	2.52	0.42
13:LM:164:LYS:HE3	13:LM:171:VAL:HG22	2.00	0.42
14:LN:103:ASN:HD22	14:LN:103:ASN:N	2.13	0.42
19:LS:111:ARG:HA	19:LS:111:ARG:HD2	1.70	0.42
22:LV:102:ARG:HD3	22:LV:106:LEU:HG	2.01	0.42
29:Lc:127:ALA:O	29:Lc:148:ILE:HG12	2.19	0.42
45:S2:399:A:H1'	45:S2:401:A:O4'	2.19	0.42
45:S2:570:A:N6	74:Sc:117:ILE:HD11	2.34	0.42
45:S2:606:A:C6	45:S2:608:U:H5	2.36	0.42
45:S2:887:A:H2'	45:S2:888:U:H6	1.85	0.42
45:S2:1182:U:H5	45:S2:1185:U:C2	2.37	0.42
45:S2:1359:C:H2'	54:SI:3:GLY:HA2	2.01	0.42
45:S2:1738:U:H6	45:S2:1738:U:H2'	1.62	0.42
51:SF:43:ILE:HG13	51:SF:44:LEU:H	1.84	0.42
52:SG:41:ILE:HG23	52:SG:46:LEU:HD12	2.00	0.42
58:SM:33:LYS:HE2	58:SM:34:TYR:CZ	2.54	0.42
60:SO:222:LEU:HD12	60:SO:232:TYR:CE1	2.53	0.42
61:SP:24:LEU:HD13	61:SP:45:VAL:HG11	1.99	0.42
61:SP:76:ILE:HD13	61:SP:121:VAL:HG23	2.00	0.42
64:SS:45:ILE:HG13	64:SS:49:ARG:HH22	1.83	0.42
65:ST:77:LEU:HD12	65:ST:77:LEU:H	1.84	0.42
66:SU:63:PRO:C	66:SU:65:PRO:HD3	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SV:78:ILE:HG22	67:SV:104:ILE:HG12	2.01	0.42
68:SW:123:HIS:O	68:SW:127:VAL:HG23	2.19	0.42
69:SX:32:LYS:HB3	69:SX:32:LYS:HE3	1.83	0.42
70:SY:36:GLN:HA	70:SY:39:LYS:HE2	1.99	0.42
74:Sc:62:LYS:O	74:Sc:65:ASN:HB2	2.18	0.42
76:Se:37:LYS:H	76:Se:37:LYS:HG3	1.61	0.42
79:Tb:6:G:H2'	79:Tb:7:G:C8	2.54	0.42
1:LA:47:C:OP2	1:LA:48:A:O2'	2.23	0.42
1:LA:169:U:O2'	1:LA:170:G:H5'	2.19	0.42
1:LA:690:A:N1	3:LC:28:C:O2'	2.51	0.42
1:LA:992:G:N3	1:LA:2636:A:H2'	2.33	0.42
1:LA:1075:C:H5'	30:Ld:42:ASN:HD21	1.84	0.42
1:LA:2332:C:H2'	1:LA:2333:U:O4'	2.19	0.42
1:LA:2821:U:H4'	1:LA:2941:C:OP2	2.19	0.42
1:LA:2853:U:P	12:LL:3:ARG:HH22	2.41	0.42
3:LC:152:G:O3'	10:LJ:63:LYS:HE3	2.19	0.42
9:LI:175:LYS:HD3	9:LI:175:LYS:N	2.32	0.42
19:LS:66:ARG:HG2	19:LS:140:LEU:HD11	2.00	0.42
29:Lc:79:TRP:HZ2	29:Lc:121:VAL:HG21	1.84	0.42
29:Lc:117:ARG:HG2	29:Lc:117:ARG:HH11	1.85	0.42
33:Lg:111:ARG:CZ	33:Lg:115:LEU:HD11	2.49	0.42
37:Lk:70:ARG:HG3	37:Lk:87:VAL:HG21	2.00	0.42
43:Lq:40:LYS:HZ1	43:Lq:44:ASP:CG	2.27	0.42
45:S2:175:G:H21	45:S2:176:C:N4	2.12	0.42
45:S2:446:A:N6	45:S2:461:G:H21	2.11	0.42
45:S2:467:G:O2'	45:S2:469:C:OP2	2.36	0.42
45:S2:760:A:O3'	68:SW:54:ARG:NH2	2.42	0.42
45:S2:1107:G:O2'	45:S2:1108:G:H5'	2.19	0.42
45:S2:1280:C:P	58:SM:44:ARG:HH22	2.40	0.42
49:SD:93:ASP:OD1	49:SD:93:ASP:N	2.52	0.42
49:SD:125:ASN:C	49:SD:127:GLY:H	2.26	0.42
66:SU:38:LEU:HD23	66:SU:38:LEU:H	1.84	0.42
68:SW:101:VAL:O	68:SW:105:LEU:HD23	2.19	0.42
71:SZ:20:TYR:CE1	71:SZ:84:ARG:NE	2.86	0.42
73:Sb:69:LEU:HD11	73:Sb:72:CYS:HB2	2.01	0.42
1:LA:417:A:H2'	1:LA:418:A:H8	1.79	0.42
1:LA:531:A:H2'	1:LA:532:A:C8	2.54	0.42
1:LA:1082:G:C6	1:LA:1083:A:C6	3.07	0.42
1:LA:1543:G:OP1	16:LP:127:TYR:OH	2.34	0.42
1:LA:2176:G:OP2	4:LD:128:ARG:NH1	2.49	0.42
1:LA:2259:U:N3	1:LA:2260:G:N7	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2375:G:H2'	1:LA:2376:G:C8	2.55	0.42
1:LA:2535:A:N7	62:SQ:227:ALA:HB3	2.33	0.42
1:LA:2696:A:H2'	1:LA:2697:G:H8	1.81	0.42
1:LA:3109:C:H2'	1:LA:3110:U:C6	2.53	0.42
3:LC:98:U:H5'	36:Lj:59:ASN:ND2	2.34	0.42
3:LC:143:U:P	16:LP:38:ARG:HH22	2.42	0.42
5:LE:19:ARG:HB2	5:LE:232:ARG:NH2	2.34	0.42
7:LG:48:LYS:HE2	7:LG:145:PHE:CE2	2.54	0.42
7:LG:104:LEU:HD23	7:LG:247:ILE:HD12	2.02	0.42
8:LH:98:VAL:N	8:LH:99:GLU:OE2	2.49	0.42
9:LI:239:LEU:O	9:LI:243:MET:HG3	2.20	0.42
13:LM:15:GLU:HB2	13:LM:131:MET:HA	2.01	0.42
17:LQ:179[A]:ALA:HA	17:LQ:182[A]:ASN:ND2	2.34	0.42
33:Lg:78:ASN:OD1	33:Lg:78:ASN:N	2.52	0.42
36:Lj:36:LEU:HD12	36:Lj:36:LEU:HA	1.85	0.42
45:S2:43:A:C2	45:S2:378:A:N6	2.87	0.42
45:S2:115:G:H5'	69:SX:129:ARG:HE	1.84	0.42
45:S2:207:U:H2'	45:S2:208:U:C6	2.53	0.42
45:S2:366:A:H2'	45:S2:367:A:C8	2.54	0.42
45:S2:394:C:H42	45:S2:401:A:N6	2.04	0.42
45:S2:1011:G:H2'	45:S2:1012:U:C5	2.54	0.42
45:S2:1185:U:H4'	45:S2:1186:U:H5''	2.01	0.42
45:S2:1227:A:N7	49:SD:43:ARG:HB3	2.34	0.42
45:S2:1442:U:O2'	45:S2:1446:A:N3	2.47	0.42
52:SG:109:LEU:HD12	61:SP:38:PHE:CD2	2.55	0.42
54:SI:73:VAL:HG11	54:SI:102:ARG:HG3	2.01	0.42
57:SL:31:GLU:OE2	57:SL:36:THR:HG23	2.18	0.42
60:SO:137:LYS:HE2	60:SO:139:GLN:HB3	2.01	0.42
61:SP:187:ALA:HB3	61:SP:188:LEU:HD12	2.02	0.42
63:SR:40:LYS:HG3	63:SR:240:LEU:HD22	2.01	0.42
63:SR:97:ARG:HE	63:SR:117:THR:HG22	1.84	0.42
64:SS:17:HIS:HB2	64:SS:108:ARG:HA	2.02	0.42
64:SS:46:VAL:HG12	64:SS:49:ARG:HH21	1.83	0.42
66:SU:108:GLN:H	66:SU:108:GLN:CD	2.26	0.42
68:SW:126:ARG:HB3	78:Sg:33:ARG:CZ	2.48	0.42
71:SZ:57:PRO:HG3	71:SZ:96:PRO:HB3	2.00	0.42
73:Sb:47:ILE:HG13	73:Sb:48:GLY:H	1.84	0.42
1:LA:726:G:N2	19:LS:139:ILE:HG23	2.34	0.42
1:LA:1392:A:N3	1:LA:1418:A:O2'	2.45	0.42
1:LA:1600:U:P	20:LT:42:ARG:HH22	2.43	0.42
1:LA:2767:U:H2'	1:LA:2768:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3243:A:OP1	5:LE:97:ARG:NH1	2.52	0.42
2:LB:52:G:C6	2:LB:53:U:C4	3.07	0.42
3:LC:154:C:H5'	10:LJ:181:LYS:HG2	2.01	0.42
5:LE:197:GLU:OE1	5:LE:198:HIS:ND1	2.53	0.42
7:LG:129:TYR:CD2	7:LG:177:GLU:HG2	2.53	0.42
9:LI:43:ILE:CG2	9:LI:47:ARG:NH1	2.81	0.42
9:LI:127:LEU:HD23	9:LI:130:ILE:HD11	2.01	0.42
12:LL:79:VAL:HG21	12:LL:147:VAL:HG13	2.01	0.42
14:LN:140:SER:OG	14:LN:143:ALA:HB3	2.20	0.42
22:LV:136:ARG:HD2	22:LV:139:ARG:HH22	1.84	0.42
28:Lb:34:LYS:HD3	28:Lb:34:LYS:HA	1.86	0.42
45:S2:627:C:H5''	70:SY:5:HIS:HD2	1.85	0.42
45:S2:856:A:C6	66:SU:96:ARG:HB3	2.54	0.42
45:S2:1302:U:H2'	45:S2:1303:U:H6	1.85	0.42
45:S2:1527:C:OP1	47:SB:109:LYS:HE3	2.19	0.42
45:S2:1737:G:H2'	45:S2:1738:U:H5''	2.01	0.42
45:S2:1797:A:C6	76:Se:87:ARG:HD2	2.54	0.42
46:SA:65:ARG:HD3	46:SA:65:ARG:HA	1.69	0.42
46:SA:106:LYS:HB2	46:SA:173:ARG:HG2	2.01	0.42
52:SG:24:LEU:C	52:SG:24:LEU:HD12	2.44	0.42
53:SH:36:LYS:NZ	53:SH:105:VAL:HG21	2.32	0.42
60:SO:177:MET:SD	60:SO:178:VAL:N	2.92	0.42
65:ST:139:ASN:O	65:ST:143:LYS:HG2	2.19	0.42
68:SW:3:ARG:HH12	68:SW:6:ARG:HD3	1.85	0.42
68:SW:53:ARG:HD3	68:SW:97:LEU:O	2.18	0.42
68:SW:80:LEU:HD22	68:SW:85:VAL:HB	2.02	0.42
71:SZ:101:ALA:O	71:SZ:105:LEU:HG	2.19	0.42
75:Sd:25:VAL:O	75:Sd:70:VAL:HA	2.19	0.42
78:Sg:31:LYS:HD2	78:Sg:31:LYS:C	2.44	0.42
78:Sg:37:ARG:HD2	78:Sg:37:ARG:HA	1.85	0.42
1:LA:845:A:H2'	1:LA:846:A:O4'	2.19	0.42
1:LA:1135:A:H2'	1:LA:1136:C:H5''	2.01	0.42
1:LA:1197:C:OP2	1:LA:1198:C:O2'	2.32	0.42
1:LA:2217:G:H2'	1:LA:2218:A:H8	1.84	0.42
1:LA:3076:A:N6	1:LA:3079:G:C5	2.87	0.42
4:LD:127:ALA:HB2	4:LD:134:VAL:HG23	2.00	0.42
7:LG:53:VAL:HG12	7:LG:62:CYS:SG	2.59	0.42
7:LG:280:GLU:HG2	7:LG:281:GLU:N	2.34	0.42
9:LI:229:PHE:CD1	9:LI:229:PHE:C	2.97	0.42
13:LM:157:GLU:O	13:LM:160:VAL:HG22	2.18	0.42
18:LR:22:LEU:HG	18:LR:90:PHE:CE1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:LR:130:TYR:CE1	18:LR:136:ILE:CD1	2.99	0.42
19:LS:147:ARG:O	19:LS:150:VAL:HG22	2.20	0.42
24:LX:69:LEU:O	24:LX:74:MET:HE1	2.19	0.42
25:LY:3:VAL:CG1	25:LY:12:LYS:HG3	2.46	0.42
45:S2:103:A:N7	45:S2:358:U:O2	2.52	0.42
45:S2:331:A:H4'	67:SV:31:ARG:O	2.20	0.42
45:S2:551:G:H2'	45:S2:552:G:C8	2.54	0.42
45:S2:556:A:H5''	78:Sg:56:MET:HB2	2.01	0.42
46:SA:106:LYS:O	46:SA:110:LEU:HD12	2.20	0.42
46:SA:211:PRO:HB3	52:SG:20:TYR:CE1	2.54	0.42
47:SB:125:THR:H	56:SK:58:ARG:NH1	2.18	0.42
55:SJ:55:PRO:HB3	55:SJ:91:ILE:HD11	2.01	0.42
60:SO:67:ILE:O	60:SO:84:SER:OG	2.23	0.42
63:SR:206:THR:O	63:SR:210:THR:HG23	2.19	0.42
66:SU:141:ARG:NH1	66:SU:143:LEU:HD21	2.35	0.42
67:SV:26:LYS:HE3	67:SV:26:LYS:HB3	1.59	0.42
68:SW:79:ARG:O	68:SW:83:VAL:HG12	2.19	0.42
71:SZ:50:ALA:HB3	71:SZ:53:ASP:OD2	2.18	0.42
72:Sa:12:TYR:O	72:Sa:12:TYR:CG	2.72	0.42
75:Sd:21:LYS:HG2	75:Sd:75:VAL:HG12	2.02	0.42
1:LA:355:A:H2'	1:LA:356:C:O4'	2.19	0.42
1:LA:594:G:H2'	1:LA:595:C:C6	2.54	0.42
1:LA:2447:G:N1	1:LA:2497:U:N3	2.68	0.42
1:LA:2522:A:H2'	10:LJ:49:TYR:O	2.19	0.42
1:LA:2615:C:H3'	1:LA:2616:U:O2	2.20	0.42
1:LA:3343:A:H2	1:LA:3360:G:N2	2.07	0.42
1:LA:3366:C:OP2	1:LA:3367:U:O2'	2.22	0.42
2:LB:16:U:H2'	2:LB:17:A:H8	1.85	0.42
5:LE:106:TRP:HB2	5:LE:133:TYR:CE2	2.54	0.42
5:LE:276:THR:O	5:LE:276:THR:OG1	2.36	0.42
6:LF:215:ILE:HD13	6:LF:215:ILE:HA	1.65	0.42
7:LG:277:LEU:O	7:LG:282:ARG:NH2	2.53	0.42
10:LJ:33:ASN:O	10:LJ:38:GLN:HB2	2.20	0.42
10:LJ:63:LYS:O	10:LJ:67:ILE:HG23	2.19	0.42
11:LK:150:SER:O	11:LK:154:VAL:HG12	2.20	0.42
14:LN:70:ARG:NH1	14:LN:71:ALA:O	2.49	0.42
16:LP:183:THR:HG22	16:LP:187:ARG:HG3	2.01	0.42
17:LQ:37[A]:ARG:HD3	17:LQ:157[A]:GLU:OE2	2.19	0.42
22:LV:125:ALA:O	22:LV:127:GLN:HG2	2.18	0.42
42:Lp:2:ARG:HB3	42:Lp:5:TRP:CD1	2.55	0.42
45:S2:159:U:P	75:Sd:117:LYS:HE2	2.59	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:187:G:C2	45:S2:197:A:N7	2.87	0.42
45:S2:258:C:N4	45:S2:259:U:O4	2.52	0.42
45:S2:340:U:C2	45:S2:341:A:N7	2.88	0.42
45:S2:359:A:H5'	45:S2:359:A:N3	2.34	0.42
45:S2:521:A:O2'	75:Sd:34:ASN:HB3	2.19	0.42
45:S2:930:A:H5''	76:Se:70:LYS:HD2	2.02	0.42
45:S2:1410:A:H5''	51:SF:118:ILE:HG23	2.01	0.42
45:S2:1524:A:H5'	54:SI:78:LYS:NZ	2.35	0.42
45:S2:1648:A:H2'	45:S2:1649:G:C8	2.54	0.42
46:SA:34:TYR:CE1	46:SA:37:VAL:HG13	2.54	0.42
48:SC:8:ARG:CZ	48:SC:45:ALA:HB1	2.49	0.42
50:SE:87:PRO:HG3	50:SE:112:LEU:HD22	2.00	0.42
54:SI:77:ASN:HB3	54:SI:95:ASP:HB3	2.02	0.42
59:SN:116:LYS:HE3	59:SN:116:LYS:HB3	1.88	0.42
60:SO:130:THR:HG22	60:SO:145:LEU:HD21	2.02	0.42
62:SQ:2:ALA:HB1	62:SQ:5:LYS:HB3	2.01	0.42
70:SY:46:THR:OG1	70:SY:49:GLN:HG2	2.20	0.42
1:LA:406:G:N3	3:LC:16:G:C2	2.88	0.42
1:LA:517:G:H2'	1:LA:519:U:H5'	2.01	0.42
1:LA:781:U:H2'	1:LA:782:A:O4'	2.20	0.42
1:LA:1221:G:N2	1:LA:1284:G:O2'	2.52	0.42
1:LA:1418:A:C8	6:LF:187:LEU:HD23	2.55	0.42
1:LA:1594:U:O2'	1:LA:1605:U:O2	2.37	0.42
1:LA:3033:C:O2'	11:LK:122:LYS:HE2	2.20	0.42
1:LA:3084:G:H5'	1:LA:3331:U:OP1	2.20	0.42
4:LD:70:ARG:HG2	4:LD:70:ARG:HH11	1.85	0.42
5:LE:344:THR:O	5:LE:344:THR:OG1	2.36	0.42
8:LH:39:VAL:HB	8:LH:89:THR:HG23	2.01	0.42
9:LI:85:PHE:CZ	9:LI:114:GLY:HA3	2.55	0.42
10:LJ:154:ALA:HB2	10:LJ:186:LEU:HD13	2.00	0.42
14:LN:19:GLN:HE21	14:LN:19:GLN:HB2	1.62	0.42
16:LP:73:ARG:HA	16:LP:74:PRO:HD3	1.87	0.42
17:LQ:62[A]:THR:H	17:LQ:69[A]:GLY:HA3	1.85	0.42
18:LR:46:LYS:O	18:LR:49:GLU:HG3	2.19	0.42
20:LT:30:SER:O	20:LT:34:GLN:HG2	2.19	0.42
34:Lh:59:VAL:HG23	34:Lh:60:ARG:H	1.84	0.42
40:Ln:48:LYS:HA	40:Ln:48:LYS:HD2	1.82	0.42
43:Lq:93:LEU:HD12	43:Lq:93:LEU:HA	1.77	0.42
45:S2:953:G:H2'	45:S2:954:G:H8	1.83	0.42
45:S2:1623:C:H2'	45:S2:1624:C:C6	2.55	0.42
48:SC:64:TYR:HB3	48:SC:66:TYR:HE1	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SD:84:ASN:OD1	49:SD:84:ASN:N	2.53	0.42
49:SD:108:ARG:O	49:SD:110:GLY:N	2.53	0.42
49:SD:130:THR:OG1	49:SD:131:ASP:N	2.52	0.42
55:SJ:37:VAL:HA	55:SJ:40:ASN:HD21	1.84	0.42
61:SP:103:THR:HA	61:SP:104:PRO:HD3	1.88	0.42
61:SP:119:ARG:NH2	63:SR:40:LYS:HD3	2.35	0.42
63:SR:182:PRO:HA	63:SR:185:LYS:HB3	2.01	0.42
67:SV:38:ILE:HD12	67:SV:61:GLU:HA	2.01	0.42
79:Tb:61:U:O2'	79:Tb:62:C:OP1	2.30	0.42
1:LA:506:U:H2'	1:LA:507:U:H6	1.84	0.42
1:LA:661:U:OP1	29:Lc:8:THR:HG21	2.20	0.42
1:LA:1075:C:O4'	30:Ld:42:ASN:ND2	2.52	0.42
1:LA:1814:U:O2'	1:LA:1815:A:OP2	2.27	0.42
1:LA:1947:G:N2	1:LA:2098:A:C6	2.87	0.42
1:LA:2216:U:H2'	1:LA:2217:G:H8	1.83	0.42
1:LA:2293:U:OP2	24:LX:71:LYS:HE3	2.20	0.42
1:LA:2426:U:H2'	1:LA:2427:U:C6	2.55	0.42
1:LA:2716:U:H2'	1:LA:2717:U:C6	2.55	0.42
1:LA:2764:C:O3'	43:Lq:39:GLY:HA3	2.19	0.42
1:LA:3319:A:H2'	1:LA:3320:C:C6	2.54	0.42
3:LC:19:C:H2'	3:LC:20:U:C6	2.54	0.42
3:LC:43:A:H62	38:Ll:65:ARG:NH1	2.14	0.42
3:LC:132:G:H2'	3:LC:133:G:H8	1.85	0.42
4:LD:80:GLU:HG3	44:Lr:66:GLY:HA2	2.02	0.42
5:LE:169:THR:HG23	5:LE:170:PRO:HD2	2.01	0.42
6:LF:125:ALA:HA	6:LF:244:LEU:HD22	2.01	0.42
11:LK:61:GLY:O	11:LK:65:VAL:HG23	2.19	0.42
13:LM:131:MET:HE1	13:LM:162:TRP:CH2	2.55	0.42
14:LN:64:LYS:HG3	29:Lc:69:TRP:CG	2.54	0.42
15:LO:117:ARG:O	15:LO:120:VAL:HG22	2.20	0.42
18:LR:132:ALA:O	18:LR:135:ARG:HG3	2.20	0.42
20:LT:43:LYS:HE2	20:LT:43:LYS:HB2	1.86	0.42
21:LU:41:TYR:CZ	21:LU:45:LEU:HD22	2.55	0.42
21:LU:135:VAL:HG11	21:LU:144:LEU:CD1	2.49	0.42
22:LV:39:ILE:HD13	22:LV:63:VAL:HG22	2.01	0.42
24:LX:10:LYS:HD3	24:LX:125:LEU:HD11	2.01	0.42
24:LX:109:MET:SD	24:LX:114:ILE:HD11	2.59	0.42
29:Lc:19:LYS:HA	29:Lc:19:LYS:HD3	1.91	0.42
42:Lp:4:LYS:HG2	42:Lp:5:TRP:CE3	2.54	0.42
45:S2:275:C:H2'	45:S2:276:C:O4'	2.19	0.42
45:S2:524:U:P	75:Sd:93:ARG:HH12	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:887:A:H2'	45:S2:888:U:C6	2.54	0.42
45:S2:997:G:C6	45:S2:1008:G:C6	3.08	0.42
45:S2:1515:A:OP2	46:SA:7:LYS:HD3	2.20	0.42
47:SB:114:ILE:HD12	47:SB:114:ILE:HA	1.93	0.42
53:SH:100:THR:C	53:SH:101:LEU:HD22	2.45	0.42
53:SH:115:ARG:O	53:SH:118:LYS:HG2	2.19	0.42
62:SQ:185:THR:O	62:SQ:189:ILE:HG22	2.20	0.42
62:SQ:210:ILE:O	62:SQ:210:ILE:CG2	2.65	0.42
64:SS:42:LEU:HD22	64:SS:43:PRO:HD2	2.00	0.42
67:SV:39:GLY:HA2	67:SV:61:GLU:OE2	2.17	0.42
71:SZ:89:THR:HG22	71:SZ:128:LYS:HD2	2.02	0.42
74:Sc:84:THR:HG22	74:Sc:120:VAL:HG12	2.01	0.42
1:LA:235:A:H2'	1:LA:236:G:C8	2.55	0.42
1:LA:512:G:H2'	1:LA:513:G:H8	1.84	0.42
1:LA:1127:U:H2'	1:LA:1128:A:O4'	2.20	0.42
1:LA:1150:U:OP1	34:Lh:21:ARG:NH2	2.52	0.42
1:LA:1569:U:O2'	1:LA:1570:A:O4'	2.37	0.42
1:LA:1658:U:H2'	1:LA:1659:C:H6	1.82	0.42
1:LA:1687:U:H2'	1:LA:1688:U:C6	2.55	0.42
1:LA:2666:A:H2'	1:LA:2667:U:O4'	2.18	0.42
2:LB:112:G:O6	7:LG:21:ARG:NH1	2.53	0.42
9:LI:106:LEU:HD23	9:LI:106:LEU:HA	1.87	0.42
9:LI:145:ARG:HA	9:LI:185:ILE:HD13	2.02	0.42
10:LJ:81:THR:HA	10:LJ:179:ILE:O	2.19	0.42
11:LK:29:GLY:HA3	11:LK:82:VAL:HG13	2.02	0.42
14:LN:166:ALA:O	29:Lc:147:LEU:HD11	2.19	0.42
20:LT:163:ARG:O	20:LT:167:ARG:HG3	2.20	0.42
23:LW:75:TYR:CE1	23:LW:79:LEU:HD23	2.54	0.42
39:Lm:16:ARG:NH1	39:Lm:16:ARG:HB2	2.35	0.42
45:S2:290:G:O2'	45:S2:291:G:H5'	2.19	0.42
45:S2:837:G:C6	45:S2:838:G:O6	2.73	0.42
45:S2:939:A:P	70:SY:114:ARG:HH22	2.43	0.42
45:S2:1231:U:H2'	45:S2:1232:U:C6	2.55	0.42
45:S2:1479:A:H5'	54:SI:60:SER:OG	2.20	0.42
45:S2:1727:G:H21	67:SV:32:GLN:NE2	2.17	0.42
51:SF:78:VAL:HA	51:SF:81:ILE:HD12	2.02	0.42
55:SJ:74:GLU:HG3	55:SJ:75:GLY:H	1.84	0.42
55:SJ:106:ILE:HD12	55:SJ:106:ILE:HA	1.82	0.42
62:SQ:27:LYS:HA	62:SQ:48:VAL:O	2.20	0.42
65:ST:3:LEU:HD23	65:ST:5:ILE:HD11	2.02	0.42
66:SU:44:LYS:N	66:SU:61:PHE:O	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:80:LEU:HD23	68:SW:80:LEU:HA	1.87	0.42
69:SX:33:ARG:NH2	69:SX:51:GLY:O	2.53	0.42
75:Sd:103:ALA:O	75:Sd:108:ARG:HD3	2.20	0.42
1:LA:351:A:N6	40:Ln:37:TYR:O	2.46	0.42
1:LA:758:U:H2'	1:LA:759:G:O4'	2.20	0.42
1:LA:1226:C:C5	1:LA:1227:C:H1'	2.55	0.42
1:LA:1305:G:O6	17:LQ:62[A]:THR:HG22	2.19	0.42
1:LA:1326:C:O2'	34:Lh:76:GLY:HA2	2.20	0.42
1:LA:2524:G:HO2'	1:LA:2525:C:P	2.35	0.42
1:LA:2536:U:OP1	62:SQ:228:LEU:N	2.53	0.42
1:LA:2680:U:H2'	1:LA:2681:C:C6	2.55	0.42
1:LA:3303:U:P	5:LE:332:ARG:HH22	2.43	0.42
2:LB:56:A:H4'	13:LM:152:HIS:HB2	2.02	0.42
3:LC:9:A:H2'	3:LC:10:A:C8	2.54	0.42
4:LD:77:ILE:HD13	4:LD:128:ARG:HB3	2.01	0.42
7:LG:52:VAL:HA	7:LG:147:ASP:HB3	2.01	0.42
8:LH:10:TYR:HE1	33:Lg:92:TYR:CE2	2.38	0.42
9:LI:88:ARG:HD2	9:LI:103:LEU:HD22	2.02	0.42
11:LK:21:LYS:HG3	11:LK:22:SER:H	1.83	0.42
17:LQ:75[A]:ALA:HB1	17:LQ:106[A]:GLU:OE2	2.19	0.42
19:LS:158:HIS:H	19:LS:186:VAL:CG1	2.33	0.42
32:Lf:20:LEU:HD21	32:Lf:31:ARG:HG3	2.00	0.42
33:Lg:90:LYS:H	33:Lg:90:LYS:HG3	1.58	0.42
34:Lh:89:LEU:HA	34:Lh:90:PRO:HD3	1.84	0.42
45:S2:393:C:H2'	45:S2:394:C:H6	1.85	0.42
45:S2:1066:C:H4'	62:SQ:149:GLN:OE1	2.20	0.42
49:SD:37:VAL:HG23	49:SD:38:HIS:ND1	2.35	0.42
52:SG:23:LYS:HE3	52:SG:24:LEU:HD23	2.01	0.42
53:SH:61:LEU:HD22	53:SH:65:GLU:OE2	2.20	0.42
57:SL:32:PHE:HB2	57:SL:34:GLU:O	2.19	0.42
59:SN:133:ALA:HB3	59:SN:140:TYR:HB3	2.02	0.42
60:SO:48:THR:OG1	60:SO:50:ASP:OD1	2.30	0.42
65:ST:22:HIS:HA	65:ST:25:ARG:NE	2.35	0.42
65:ST:207:GLU:O	65:ST:210:GLN:HG2	2.19	0.42
67:SV:81:VAL:HA	67:SV:102:VAL:HG12	2.02	0.42
1:LA:1018:G:H2'	1:LA:1019:G:H8	1.85	0.41
1:LA:1100:G:H1'	9:LI:105:LEU:HD22	2.01	0.41
1:LA:1427:A:OP2	29:Lc:2:PRO:HA	2.20	0.41
1:LA:1684:C:H2'	1:LA:1685:U:C6	2.55	0.41
1:LA:2097:C:H2'	1:LA:2098:A:C8	2.55	0.41
1:LA:3268:U:OP2	8:LH:46:ARG:NH1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:34:LYS:HE2	22:LV:30:TYR:CZ	2.55	0.41
8:LH:94:GLU:C	8:LH:94:GLU:CD	2.88	0.41
12:LL:139:ARG:HG3	12:LL:173:PHE:CD1	2.55	0.41
13:LM:100:GLY:HA3	13:LM:154:THR:OG1	2.20	0.41
14:LN:76:THR:O	14:LN:80:VAL:HG13	2.20	0.41
17:LQ:10[A]:ASP:OD2	21:LU:167:ARG:NH2	2.46	0.41
19:LS:89:ASP:OD1	19:LS:90:ASP:N	2.53	0.41
24:LX:104:ASN:HD21	24:LX:108:GLU:HB3	1.85	0.41
29:Lc:87:ARG:HE	29:Lc:87:ARG:HB2	1.66	0.41
38:Ll:19:CYS:HB3	38:Ll:22:CYS:O	2.20	0.41
42:Lp:1:MET:H3	45:S2:1641:C:H4'	1.85	0.41
43:Lq:65:THR:OG1	43:Lq:87:ARG:HB3	2.20	0.41
45:S2:14:C:H2'	45:S2:15:U:C6	2.55	0.41
45:S2:107:C:H2'	45:S2:108:A:C8	2.55	0.41
45:S2:325:G:H4'	69:SX:83:THR:HG21	2.01	0.41
45:S2:1327:C:H2'	45:S2:1328:G:H8	1.84	0.41
45:S2:1384:A:H3'	45:S2:1385:G:C5'	2.48	0.41
45:S2:1425:A:H2'	45:S2:1426:C:C6	2.54	0.41
45:S2:1647:U:H2'	45:S2:1648:A:C8	2.55	0.41
45:S2:1796:C:C6	76:Se:5:ARG:HG2	2.55	0.41
47:SB:166:ARG:CZ	57:SL:45:LYS:HD3	2.49	0.41
48:SC:29:GLN:NE2	48:SC:31:LYS:O	2.52	0.41
49:SD:49:THR:HA	49:SD:52:LEU:HD21	2.02	0.41
51:SF:102:LYS:HB3	51:SF:102:LYS:HE3	1.90	0.41
60:SO:129:LYS:HE2	60:SO:129:LYS:HB2	1.86	0.41
62:SQ:29:TRP:CZ2	62:SQ:47:LEU:HD21	2.55	0.41
62:SQ:55:LYS:HB3	62:SQ:55:LYS:HE3	1.74	0.41
63:SR:242:ILE:HG13	63:SR:243:TYR:N	2.35	0.41
65:ST:58:LYS:HD2	65:ST:58:LYS:HA	1.80	0.41
71:SZ:116:GLU:HG2	71:SZ:117:ASP:N	2.35	0.41
1:LA:114:A:N1	1:LA:266:A:O2'	2.48	0.41
1:LA:1063:A:H5''	1:LA:1065:G:O4'	2.20	0.41
1:LA:1277:A:HO2'	1:LA:1278:C:H6	1.61	0.41
1:LA:1320:G:N2	21:LU:112:ALA:HB2	2.35	0.41
1:LA:1594:U:H1'	1:LA:1595:C:C6	2.55	0.41
1:LA:2652:C:O2'	1:LA:2656:A:N1	2.51	0.41
6:LF:14:GLU:CD	6:LF:14:GLU:H	2.27	0.41
6:LF:29:PRO:CD	6:LF:279:HIS:CE1	3.02	0.41
6:LF:311:HIS:CE1	6:LF:314:LYS:HA	2.54	0.41
11:LK:137:SER:OG	11:LK:143:GLU:HB3	2.20	0.41
12:LL:9:TYR:OH	12:LL:98:ARG:O	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LN:24:VAL:HB	14:LN:26:PHE:CE2	2.55	0.41
18:LR:95:LEU:HD23	18:LR:95:LEU:HA	1.90	0.41
20:LT:173:ARG:O	20:LT:177:VAL:HG23	2.20	0.41
25:LY:20:LEU:HD23	25:LY:21:PHE:N	2.36	0.41
26:LZ:73:MET:HE1	26:LZ:141:TYR:HE2	1.84	0.41
26:LZ:103:TYR:CG	26:LZ:135:ILE:HD11	2.54	0.41
27:La:51:ARG:O	27:La:70:ILE:HG21	2.20	0.41
45:S2:347:G:N2	67:SV:14:THR:O	2.48	0.41
45:S2:866:G:H2'	45:S2:867:G:H8	1.85	0.41
45:S2:1010:C:H2'	45:S2:1011:G:O4'	2.20	0.41
45:S2:1034:C:O2'	73:Sb:2:THR:N	2.45	0.41
45:S2:1335:U:H2'	45:S2:1336:A:H8	1.85	0.41
45:S2:1475:A:H2'	45:S2:1476:C:O4'	2.19	0.41
46:SA:132:LYS:HD2	46:SA:191:ASP:HA	2.01	0.41
46:SA:213:GLU:H	46:SA:213:GLU:CD	2.28	0.41
47:SB:190:ILE:HA	47:SB:193:THR:HG22	2.02	0.41
50:SE:24:LYS:O	50:SE:28:MET:HB3	2.21	0.41
50:SE:49:MET:HE3	50:SE:49:MET:N	2.30	0.41
55:SJ:30:LYS:HD3	55:SJ:111:GLY:O	2.20	0.41
64:SS:252:ARG:NH1	64:SS:253:ASP:OD1	2.53	0.41
65:ST:7:TYR:CE2	65:ST:116:LYS:HE3	2.56	0.41
75:Sd:20:ARG:HB2	75:Sd:75:VAL:O	2.20	0.41
1:LA:1418:A:OP1	3:LC:21:C:H5'	2.21	0.41
1:LA:1595:C:H2'	1:LA:1596:C:H6	1.85	0.41
1:LA:1914:A:H2'	1:LA:1915:U:C6	2.55	0.41
1:LA:2253:U:C4	1:LA:2260:G:N7	2.87	0.41
1:LA:3342:G:O2'	1:LA:3361:A:N6	2.53	0.41
4:LD:29:LEU:O	4:LD:123:ARG:NE	2.47	0.41
5:LE:298:PHE:CD1	5:LE:357:LYS:O	2.73	0.41
10:LJ:173:MET:HE2	10:LJ:173:MET:HA	2.01	0.41
12:LL:193:ASP:OD1	12:LL:198:LYS:NZ	2.53	0.41
18:LR:52:LEU:HD23	18:LR:52:LEU:HA	1.80	0.41
18:LR:170:SER:OG	18:LR:173:ARG:NH2	2.53	0.41
26:LZ:67:ILE:HB	26:LZ:83:VAL:HG12	2.02	0.41
32:Lf:29:ALA:HB3	32:Lf:30:PRO:HD3	2.02	0.41
37:Lk:5:THR:HG22	37:Lk:12:ASN:O	2.20	0.41
45:S2:399:A:OP1	67:SV:49:ARG:NH1	2.43	0.41
45:S2:803:A:H2'	66:SU:104:ARG:HE	1.85	0.41
45:S2:963:A:H1'	45:S2:965:U:O4	2.20	0.41
45:S2:1164:G:H21	45:S2:1613:U:H3	1.69	0.41
45:S2:1235:C:C4	45:S2:1236:A:N7	2.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1461:C:H3'	53:SH:143:ARG:NH1	2.36	0.41
45:S2:1762:A:C1'	45:S2:1783:C:H5'	2.49	0.41
46:SA:221:SER:OG	46:SA:222:VAL:N	2.53	0.41
47:SB:145:ASP:OD1	57:SL:45:LYS:HD2	2.19	0.41
48:SC:28:ASN:ND2	58:SM:7:TRP:HE1	2.17	0.41
48:SC:76:LEU:HD12	48:SC:76:LEU:HA	1.86	0.41
60:SO:108:SER:HB2	60:SO:127:ARG:HB3	2.01	0.41
60:SO:261:LYS:NZ	60:SO:273:ASP:OD2	2.54	0.41
61:SP:22:THR:HA	61:SP:163:ASN:OD1	2.20	0.41
66:SU:60:ILE:HB	66:SU:92:PHE:CD1	2.55	0.41
75:Sd:37:LYS:HA	75:Sd:40:LEU:HD12	2.02	0.41
77:Sf:43:ILE:O	77:Sf:43:ILE:CG2	2.68	0.41
1:LA:61:A:H2'	1:LA:62:A:O4'	2.20	0.41
1:LA:98:G:H4'	1:LA:281:G:OP1	2.21	0.41
1:LA:528:A:H2'	1:LA:529:G:C8	2.55	0.41
1:LA:1305:G:C6	17:LQ:62[A]:THR:HA	2.56	0.41
1:LA:2735:A:OP1	22:LV:92:ARG:NH2	2.52	0.41
1:LA:2841:U:O2	1:LA:2841:U:H2'	2.20	0.41
1:LA:3294:A:H2'	1:LA:3295:A:H8	1.85	0.41
2:LB:113:C:H2'	2:LB:114:U:O4'	2.20	0.41
5:LE:14:LEU:HD13	5:LE:262:TRP:CH2	2.55	0.41
5:LE:346:THR:OG1	5:LE:347:SER:N	2.54	0.41
9:LI:34:LYS:HD2	9:LI:34:LYS:HA	1.82	0.41
10:LJ:85:ASN:OD1	10:LJ:85:ASN:N	2.51	0.41
19:LS:16:ARG:HH12	19:LS:55:SER:CA	2.32	0.41
26:LZ:133:LEU:HA	26:LZ:133:LEU:HD12	1.83	0.41
28:Lb:95:VAL:HG21	28:Lb:113:VAL:HG11	2.02	0.41
32:Lf:9:THR:HG23	32:Lf:109:VAL:HG22	2.01	0.41
39:Lm:63:LYS:NZ	39:Lm:67:GLN:HG3	2.35	0.41
42:Lp:8:LYS:O	42:Lp:12:ARG:HG2	2.20	0.41
45:S2:90:C:H2'	45:S2:91:G:O4'	2.21	0.41
45:S2:480:G:N1	45:S2:481:A:C5	2.88	0.41
45:S2:595:G:H2'	45:S2:596:C:O4'	2.20	0.41
45:S2:888:U:H2'	45:S2:889:U:C6	2.56	0.41
45:S2:977:A:H2	45:S2:1788:G:N3	2.19	0.41
45:S2:1147:A:H2'	45:S2:1148:C:C6	2.54	0.41
45:S2:1230:A:C8	45:S2:1256:A:C6	3.09	0.41
46:SA:126:VAL:HG11	46:SA:134:CYS:SG	2.60	0.41
47:SB:77:TYR:HE2	47:SB:83:ARG:HH21	1.67	0.41
51:SF:132:LYS:HE3	51:SF:138:PHE:CD1	2.53	0.41
55:SJ:33:GLN:HA	55:SJ:36:ASN:ND2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SJ:44:ASN:HD21	55:SJ:102:ARG:NH1	2.18	0.41
62:SQ:83:LYS:HD3	62:SQ:105:PHE:O	2.20	0.41
62:SQ:157:GLN:O	62:SQ:159:SER:N	2.53	0.41
65:ST:181:PRO:HA	65:ST:184:LEU:HG	2.02	0.41
66:SU:28:GLU:CB	66:SU:38:LEU:HD21	2.50	0.41
66:SU:102:PRO:HD3	66:SU:112:ARG:HD2	2.02	0.41
67:SV:39:GLY:O	67:SV:59:ARG:HB3	2.20	0.41
67:SV:67:TRP:HD1	67:SV:68:ALA:N	2.19	0.41
69:SX:109:VAL:HG21	69:SX:125:VAL:HG11	2.02	0.41
74:Sc:104:LEU:HD23	74:Sc:104:LEU:HA	1.91	0.41
1:LA:8:C:H2'	1:LA:9:U:C6	2.55	0.41
1:LA:109:A:N1	1:LA:322:U:O2'	2.52	0.41
1:LA:439:C:H1'	1:LA:493:G:N2	2.36	0.41
1:LA:696:A:OP1	6:LF:272:VAL:HG11	2.20	0.41
1:LA:1173:G:H1'	1:LA:1180:U:N3	2.35	0.41
1:LA:1540:G:H1'	1:LA:1556:A:C5	2.55	0.41
1:LA:1593:A:H1'	1:LA:1614:C:H1'	2.01	0.41
1:LA:1911:U:H2'	1:LA:1912:A:O4'	2.20	0.41
1:LA:2537:U:H4'	62:SQ:233:GLY:HA3	2.02	0.41
1:LA:2985:U:H2'	1:LA:2986:A:H8	1.86	0.41
1:LA:3170:U:O4	34:Lh:54:ARG:HD2	2.21	0.41
5:LE:367:LYS:HA	25:LY:17:ARG:HH22	1.84	0.41
7:LG:128:GLU:N	7:LG:128:GLU:OE2	2.53	0.41
7:LG:155:THR:N	7:LG:179:ARG:HH11	2.19	0.41
9:LI:163:LEU:HA	9:LI:163:LEU:HD23	1.81	0.41
10:LJ:105:LYS:O	10:LJ:109:LEU:CD2	2.68	0.41
13:LM:120:ILE:H	13:LM:120:ILE:HG12	1.71	0.41
27:La:63:LYS:HE2	27:La:85:VAL:HG23	2.02	0.41
27:La:79:ALA:CB	27:La:98:ASN:HB2	2.48	0.41
32:Lf:53:PRO:O	32:Lf:57:GLN:HG3	2.20	0.41
34:Lh:70:LYS:HE3	34:Lh:70:LYS:HB3	1.83	0.41
45:S2:10:G:H2'	45:S2:11:A:C8	2.56	0.41
45:S2:326:G:H2'	45:S2:327:U:C6	2.55	0.41
45:S2:444:C:N4	45:S2:459:G:OP2	2.39	0.41
45:S2:482:U:O2'	45:S2:483:A:O5'	2.24	0.41
45:S2:749:U:OP1	73:Sb:82:LYS:HB3	2.20	0.41
45:S2:1575:G:H2'	45:S2:1576:A:C8	2.55	0.41
54:SI:58:ALA:HA	54:SI:104:VAL:HG21	2.00	0.41
63:SR:53:ILE:HD11	63:SR:57:PHE:CZ	2.55	0.41
63:SR:207:LEU:HD13	63:SR:207:LEU:C	2.46	0.41
63:SR:217:ALA:O	63:SR:221:THR:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SS:181:VAL:HG13	64:SS:227:VAL:HA	2.03	0.41
64:SS:183:VAL:HB	64:SS:225:VAL:HG12	2.03	0.41
64:SS:196:VAL:HG11	64:SS:211:LYS:HD3	2.01	0.41
67:SV:4:SER:HB2	67:SV:24:LYS:HD3	2.02	0.41
68:SW:74:ASN:O	68:SW:78:ARG:HG3	2.21	0.41
68:SW:146:PHE:C	68:SW:147:MET:SD	3.04	0.41
69:SX:109:VAL:CG1	69:SX:137:PHE:HB2	2.51	0.41
73:Sb:95:PRO:HG3	73:Sb:130:TYR:CD1	2.56	0.41
76:Se:83:ILE:HG13	76:Se:84:VAL:N	2.34	0.41
79:Tb:34:U:H5'	79:Tb:35:A:OP2	2.21	0.41
1:LA:170:G:N2	1:LA:248:U:H2'	2.36	0.41
1:LA:1100:G:H5''	9:LI:107:ARG:HD3	2.03	0.41
1:LA:1189:A:H2'	1:LA:1189:A:N3	2.36	0.41
1:LA:1477:C:H2'	1:LA:1478:U:C6	2.56	0.41
1:LA:1939:G:OP1	20:LT:75:HIS:ND1	2.53	0.41
1:LA:2879:U:O2	5:LE:250:ALA:HB3	2.21	0.41
1:LA:3370:G:H2'	1:LA:3371:A:C8	2.55	0.41
2:LB:27:A:H2'	2:LB:28:C:C6	2.56	0.41
3:LC:82:U:O2'	3:LC:87:G:H4'	2.21	0.41
4:LD:3:ARG:NH1	4:LD:208:ASP:OD1	2.51	0.41
4:LD:23:ARG:HA	4:LD:51:ASP:OD1	2.20	0.41
6:LF:358:THR:O	21:LU:26:ARG:NH2	2.54	0.41
7:LG:152:ARG:HG3	7:LG:154:THR:HG23	2.03	0.41
13:LM:9:MET:O	13:LM:134:PRO:HD2	2.20	0.41
14:LN:42:ARG:HG2	14:LN:51:LEU:CD1	2.51	0.41
17:LQ:126[A]:VAL:O	21:LU:154:HIS:NE2	2.52	0.41
21:LU:131:LYS:O	21:LU:134:ASP:HB3	2.20	0.41
27:La:101:PRO:O	27:La:104:LEU:HB2	2.21	0.41
37:Lk:51:SER:HB2	37:Lk:54:GLU:CG	2.47	0.41
45:S2:28:A:H2'	45:S2:29:U:H6	1.85	0.41
45:S2:435:C:C4	45:S2:436:A:N6	2.89	0.41
45:S2:475:A:N3	45:S2:475:A:H2'	2.36	0.41
45:S2:694:U:O2	66:SU:97:ARG:HA	2.21	0.41
45:S2:753:A:H8	45:S2:793:A:H62	1.66	0.41
45:S2:840:U:O2'	45:S2:841:U:OP1	2.29	0.41
45:S2:1329:A:H2'	45:S2:1330:G:O4'	2.21	0.41
45:S2:1684:U:H4'	45:S2:1685:G:OP1	2.21	0.41
47:SB:121:ILE:HD11	47:SB:198:LEU:HB2	2.03	0.41
47:SB:188:LYS:HB3	47:SB:192:GLU:OE2	2.20	0.41
49:SD:132:GLU:O	49:SD:135:MET:HG2	2.21	0.41
50:SE:87:PRO:O	50:SE:90:ILE:HG12	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SI:4:VAL:O	54:SI:4:VAL:HG23	2.21	0.41
54:SI:18:TYR:CE1	54:SI:135:ILE:HG21	2.56	0.41
60:SO:266:ASP:HB3	60:SO:267:PRO:HD3	2.02	0.41
60:SO:297:ASP:OD1	60:SO:297:ASP:N	2.53	0.41
61:SP:57:LEU:HD11	61:SP:176:LEU:HB2	2.03	0.41
61:SP:104:PRO:HA	61:SP:135:GLU:OE2	2.21	0.41
66:SU:162:ILE:HG22	66:SU:165:LYS:HE3	2.02	0.41
67:SV:36:THR:HG23	67:SV:96:LEU:HB2	2.02	0.41
68:SW:32:GLY:HA3	78:Sg:40:TYR:CD2	2.55	0.41
1:LA:87:U:H2'	1:LA:88:A:H8	1.85	0.41
1:LA:144:A:H2'	1:LA:145:G:O4'	2.21	0.41
1:LA:298:U:H5'	37:Lk:31:GLY:O	2.21	0.41
1:LA:415:G:H2'	1:LA:416:A:C8	2.55	0.41
1:LA:1907:A:H8	1:LA:1907:A:O5'	2.04	0.41
1:LA:2216:U:H2'	1:LA:2217:G:C8	2.55	0.41
1:LA:3190:G:H5''	17:LQ:176[A]:LYS:HE3	2.03	0.41
4:LD:33:ASP:CG	4:LD:34:TYR:H	2.29	0.41
4:LD:104:LEU:HA	4:LD:107:VAL:HG22	2.03	0.41
5:LE:14:LEU:HD22	5:LE:17:LEU:HD11	2.03	0.41
5:LE:54:THR:HG22	5:LE:364:LYS:HZ3	1.85	0.41
5:LE:58:ARG:NH1	5:LE:354:VAL:HG22	2.36	0.41
10:LJ:219:ASP:O	10:LJ:224:ASP:OD1	2.38	0.41
12:LL:36:LEU:CD2	12:LL:69:ARG:HH11	2.33	0.41
25:LY:17:ARG:HE	25:LY:17:ARG:HB3	1.64	0.41
27:La:43:TYR:CB	27:La:45:ILE:HG22	2.50	0.41
33:Lg:104:ASN:O	33:Lg:108:ILE:HG13	2.20	0.41
39:Lm:29:LYS:HG3	39:Lm:29:LYS:O	2.19	0.41
40:Ln:41:ARG:HA	40:Ln:41:ARG:HD2	1.85	0.41
45:S2:48:G:C6	45:S2:432:G:C2	3.09	0.41
45:S2:164:A:N6	45:S2:165:G:O6	2.54	0.41
45:S2:448:C:OP1	64:SS:49:ARG:NH1	2.48	0.41
45:S2:485:A:C2	45:S2:503:G:N3	2.88	0.41
45:S2:990:C:H2'	45:S2:991:G:O4'	2.21	0.41
45:S2:1385:G:H2'	45:S2:1386:G:C8	2.56	0.41
45:S2:1436:A:O2'	46:SA:176:LEU:HD11	2.21	0.41
45:S2:1556:A:O5'	50:SE:40:ARG:NH2	2.49	0.41
48:SC:24:LYS:HA	48:SC:63:TYR:HA	2.01	0.41
50:SE:81:ARG:HD2	50:SE:120:SER:OG	2.21	0.41
53:SH:94:ASP:HB3	53:SH:98:TYR:HE2	1.86	0.41
57:SL:36:THR:O	57:SL:37:SER:HB2	2.20	0.41
59:SN:130:VAL:HG11	59:SN:142:GLY:H	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SR:52:THR:HG22	63:SR:55:GLU:CD	2.46	0.41
66:SU:112:ARG:HH21	66:SU:117:THR:HA	1.85	0.41
66:SU:177:THR:OG1	66:SU:178:GLY:N	2.53	0.41
69:SX:124:THR:CG2	69:SX:141:LYS:HB3	2.51	0.41
72:Sa:16:LYS:HG2	72:Sa:23:ILE:HD12	2.02	0.41
74:Sc:31:LYS:HB3	74:Sc:31:LYS:HE2	1.86	0.41
1:LA:45:A:OP2	16:LP:85:THR:HG21	2.20	0.41
1:LA:284:A:N6	1:LA:2784:A:O4'	2.54	0.41
1:LA:512:G:H2'	1:LA:513:G:C8	2.55	0.41
1:LA:1426:U:H5	29:Lc:4:ARG:NH2	2.18	0.41
1:LA:1659:C:H2'	1:LA:1660:G:C8	2.56	0.41
1:LA:2337:C:H5''	24:LX:47:ASN:O	2.21	0.41
1:LA:2546:A:H3'	1:LA:2547:C:H5''	2.02	0.41
1:LA:2725:C:O2'	1:LA:2726:A:H2'	2.21	0.41
2:LB:79:A:H2'	2:LB:80:G:O4'	2.21	0.41
3:LC:27:U:H2'	3:LC:28:C:H6	1.86	0.41
5:LE:256:HIS:HA	5:LE:257:PRO:C	2.45	0.41
7:LG:99:TYR:CD1	7:LG:99:TYR:C	2.99	0.41
12:LL:38:LYS:NZ	12:LL:45:GLU:OE2	2.51	0.41
14:LN:62:THR:HG23	14:LN:64:LYS:N	2.26	0.41
17:LQ:47[A]:PHE:CE1	17:LQ:140[A]:LYS:HD3	2.56	0.41
45:S2:168:A:OP1	65:ST:137:ARG:CZ	2.69	0.41
45:S2:481:A:C6	45:S2:483:A:N7	2.89	0.41
45:S2:523:G:H5'	75:Sd:59:GLY:O	2.21	0.41
45:S2:1337:A:C2	45:S2:1411:A:H2	2.38	0.41
45:S2:1504:G:H4'	54:SI:41:SER:HB3	2.01	0.41
45:S2:1671:A:H2'	45:S2:1672:G:O4'	2.21	0.41
48:SC:44:LYS:HA	48:SC:44:LYS:HD3	1.87	0.41
61:SP:198:MET:CE	61:SP:200:ASP:H	2.28	0.41
64:SS:65:LEU:HD21	64:SS:79:ASP:N	2.35	0.41
64:SS:118:GLU:HG3	64:SS:121:TYR:CE2	2.56	0.41
64:SS:196:VAL:HG21	64:SS:211:LYS:HE2	2.03	0.41
69:SX:40:LEU:HB2	69:SX:42:PHE:HE1	1.86	0.41
71:SZ:92:LYS:NZ	71:SZ:122:PRO:HD3	2.36	0.41
74:Sc:59:ILE:HD11	74:Sc:71:CYS:SG	2.60	0.41
78:Sg:54:ARG:O	78:Sg:56:MET:CE	2.68	0.41
1:LA:618:A:H5''	1:LA:619:U:OP1	2.21	0.41
1:LA:1062:G:N7	1:LA:1096:G:H2'	2.35	0.41
1:LA:1447:U:H2'	1:LA:1448:A:H8	1.86	0.41
1:LA:1496:C:O2'	1:LA:1601:A:N3	2.43	0.41
1:LA:1500:U:O2'	1:LA:1501:C:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1718:G:H2'	1:LA:1719:U:O4'	2.20	0.41
1:LA:2255:A:O2'	1:LA:2256:C:OP2	2.33	0.41
1:LA:2543:U:O2	62:SQ:223:PHE:HD2	2.03	0.41
1:LA:3022:U:H2'	1:LA:3023:A:C8	2.54	0.41
1:LA:3268:U:H4'	1:LA:3269:U:O5'	2.19	0.41
2:LB:3:U:H2'	2:LB:4:U:C6	2.56	0.41
6:LF:125:ALA:HB1	6:LF:238:LEU:HB3	2.02	0.41
7:LG:40:HIS:CE1	22:LV:69:LYS:HA	2.56	0.41
7:LG:217:GLU:OE1	7:LG:217:GLU:HA	2.21	0.41
9:LI:30:ARG:HG3	9:LI:33:ARG:NH2	2.36	0.41
11:LK:34:LEU:CD1	11:LK:82:VAL:HG23	2.50	0.41
11:LK:90:MET:HA	11:LK:181:VAL:HA	2.03	0.41
12:LL:36:LEU:HD22	12:LL:73:ASN:ND2	2.25	0.41
14:LN:138:VAL:HG22	36:Lj:118:ILE:HB	2.02	0.41
17:LQ:54[A]:TYR:OH	17:LQ:73[A]:PHE:O	2.36	0.41
18:LR:43:LYS:HB3	18:LR:43:LYS:HE3	1.88	0.41
20:LT:15:VAL:HG22	20:LT:52:LYS:HD2	2.02	0.41
21:LU:132:THR:HA	21:LU:135:VAL:HG12	2.02	0.41
22:LV:8:ARG:HD2	22:LV:15:PHE:HE2	1.86	0.41
24:LX:10:LYS:HD3	24:LX:125:LEU:CD1	2.50	0.41
25:LY:39:LEU:HD23	25:LY:42:GLN:HE21	1.86	0.41
27:La:45:ILE:HD11	27:La:122:LYS:HD2	2.03	0.41
38:Ll:28:HIS:ND1	38:Ll:31:LYS:HG3	2.36	0.41
39:Lm:7:ASP:OD2	39:Lm:9:LYS:HG2	2.21	0.41
39:Lm:30:LYS:CE	39:Lm:40:GLN:HB3	2.34	0.41
41:Lo:98:LYS:HZ2	41:Lo:98:LYS:HG2	1.68	0.41
43:Lq:24:LYS:HA	43:Lq:24:LYS:HD3	1.67	0.41
43:Lq:57:VAL:HG22	79:Tb:77:A:H61	1.85	0.41
45:S2:283:U:H2'	45:S2:284:G:O4'	2.20	0.41
45:S2:283:U:H5'	65:ST:188:ARG:CZ	2.51	0.41
45:S2:339:C:C2	45:S2:340:U:C5	3.08	0.41
45:S2:566:C:O2'	45:S2:567:A:O4'	2.39	0.41
45:S2:929:A:OP1	45:S2:931:C:N4	2.52	0.41
45:S2:1319:A:H2'	45:S2:1320:U:O4'	2.21	0.41
45:S2:1388:A:H1'	45:S2:1412:G:C2	2.56	0.41
45:S2:1614:A:N6	47:SB:78:ALA:O	2.28	0.41
45:S2:1652:C:H2'	45:S2:1653:C:H6	1.86	0.41
46:SA:132:LYS:HG3	46:SA:191:ASP:HB3	2.02	0.41
49:SD:31:VAL:O	49:SD:34:THR:HG22	2.21	0.41
51:SF:136:SER:O	51:SF:137:ARG:NH1	2.54	0.41
52:SG:15:ALA:O	52:SG:19:ARG:HD2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:SO:31:ASN:OD1	60:SO:47:LEU:HB2	2.21	0.41
61:SP:49:ASN:HB2	61:SP:52:LYS:HG2	2.01	0.41
63:SR:89:GLN:NE2	63:SR:94:GLN:HE22	2.15	0.41
63:SR:147:ASN:HD21	72:Sa:3:ASN:HA	1.85	0.41
64:SS:246:LEU:HD11	64:SS:250:GLU:CB	2.51	0.41
65:ST:48:TYR:OH	65:ST:119:GLN:NE2	2.52	0.41
65:ST:102:VAL:HG11	65:ST:109:LEU:HD21	2.02	0.41
65:ST:122:GLU:HA	65:ST:126:ASP:OD2	2.21	0.41
65:ST:192:ALA:HA	65:ST:195:VAL:HG12	2.02	0.41
66:SU:161:GLN:NE2	66:SU:161:GLN:H	2.19	0.41
66:SU:168:SER:O	66:SU:172:VAL:HG22	2.20	0.41
67:SV:81:VAL:HG22	67:SV:94:ASN:HA	2.03	0.41
67:SV:167:ALA:HA	67:SV:183:ILE:HA	2.03	0.41
68:SW:12:TYR:HD1	68:SW:12:TYR:O	2.04	0.41
72:Sa:46:ILE:HD12	72:Sa:46:ILE:O	2.20	0.41
72:Sa:83:TRP:CH2	72:Sa:85:TYR:HD1	2.36	0.41
73:Sb:23:ARG:O	73:Sb:23:ARG:HG3	2.21	0.41
75:Sd:21:LYS:HE3	75:Sd:48:TYR:HE2	1.85	0.41
78:Sg:54:ARG:O	78:Sg:56:MET:SD	2.79	0.41
1:LA:249:U:H1'	1:LA:250:U:C6	2.56	0.41
1:LA:597:A:H2'	1:LA:598:C:C6	2.56	0.41
1:LA:723:U:H2'	1:LA:724:G:O4'	2.21	0.41
1:LA:1554:U:H5'	1:LA:1555:C:OP2	2.21	0.41
1:LA:2447:G:C6	1:LA:2497:U:N3	2.89	0.41
1:LA:2834:U:H2'	1:LA:2835:C:O2	2.21	0.41
1:LA:2898:C:O2'	1:LA:2900:G:OP2	2.24	0.41
1:LA:3182:A:H2	1:LA:3187:G:H4'	1.86	0.41
2:LB:92:A:C5	2:LB:93:C:H1'	2.55	0.41
3:LC:141:C:H5'	16:LP:109:ARG:HD2	2.03	0.41
4:LD:60:LYS:HE2	4:LD:75:ILE:HD13	2.03	0.41
7:LG:40:HIS:HB3	7:LG:43:LYS:CG	2.51	0.41
8:LH:174:LEU:HD23	8:LH:174:LEU:HA	1.81	0.41
10:LJ:186:LEU:O	10:LJ:190:VAL:HG22	2.20	0.41
12:LL:206:LEU:O	12:LL:210:ILE:HG23	2.20	0.41
16:LP:124:ASP:OD1	16:LP:124:ASP:C	2.64	0.41
18:LR:29:THR:HG21	18:LR:146:ILE:HD11	2.03	0.41
18:LR:84:PRO:HB2	18:LR:87:SER:HG	1.86	0.41
19:LS:144:ARG:HE	19:LS:144:ARG:HB2	1.61	0.41
19:LS:182:LYS:HE2	29:Lc:55:LYS:O	2.20	0.41
20:LT:123:LEU:HA	20:LT:126:GLU:HG2	2.03	0.41
22:LV:12:ARG:O	22:LV:16:GLN:HG3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Lb:51:LEU:HB2	28:Lb:65:ARG:HB3	2.03	0.41
32:Lf:16:LEU:HD22	32:Lf:71:LEU:HD12	2.02	0.41
33:Lg:94:ALA:O	33:Lg:120:THR:HG23	2.21	0.41
39:Lm:31:LEU:HD12	39:Lm:34:ALA:HA	2.03	0.41
45:S2:113:U:H1'	45:S2:115:G:N7	2.36	0.41
45:S2:275:C:H2'	45:S2:276:C:C1'	2.51	0.41
45:S2:1192:C:H4'	51:SF:140:LYS:HZ2	1.85	0.41
45:S2:1215:C:H2'	45:S2:1216:C:O4'	2.21	0.41
45:S2:1462:G:N7	53:SH:143:ARG:NH2	2.66	0.41
45:S2:1524:A:H2'	45:S2:1525:A:H8	1.82	0.41
45:S2:1556:A:H3'	50:SE:40:ARG:NE	2.36	0.41
46:SA:117:ARG:HA	46:SA:117:ARG:HD2	1.65	0.41
49:SD:60:VAL:HG22	49:SD:122:VAL:HG22	2.03	0.41
49:SD:67:THR:C	49:SD:69:ALA:H	2.29	0.41
51:SF:106:LYS:HG3	51:SF:107:LYS:CE	2.51	0.41
53:SH:92:ILE:HG13	53:SH:115:ARG:NE	2.37	0.41
55:SJ:68:ARG:HG2	55:SJ:79:TRP:CZ3	2.56	0.41
61:SP:13:ASP:O	61:SP:17:LEU:HD23	2.21	0.41
61:SP:55:GLU:HA	61:SP:58:VAL:HG12	2.03	0.41
63:SR:67:GLN:HA	63:SR:70:ASP:HB2	2.02	0.41
63:SR:129:ILE:HG23	63:SR:133:LYS:NZ	2.36	0.41
68:SW:126:ARG:CZ	78:Sg:33:ARG:HH11	2.33	0.41
69:SX:82:ARG:NH2	69:SX:113:PRO:HG2	2.35	0.41
70:SY:86:GLU:H	70:SY:86:GLU:CD	2.22	0.41
1:LA:528:A:H2'	1:LA:529:G:H8	1.86	0.40
1:LA:826:A:H5''	35:Li:14:ASN:O	2.21	0.40
1:LA:1348:G:H1'	1:LA:1349:A:C6	2.56	0.40
1:LA:1426:U:H5	29:Lc:4:ARG:HH21	1.70	0.40
1:LA:1497:A:H2'	1:LA:1498:C:H6	1.86	0.40
1:LA:2372:A:O2'	1:LA:2822:G:N2	2.52	0.40
1:LA:2717:U:H2'	1:LA:2718:U:C6	2.57	0.40
1:LA:2785:G:H5''	43:Lq:38:GLN:HB2	2.03	0.40
1:LA:3016:A:H2'	1:LA:3017:C:H6	1.84	0.40
1:LA:3171:A:O2'	17:LQ:97[A]:ALA:HB1	2.21	0.40
1:LA:3314:G:P	5:LE:116:ARG:HH12	2.44	0.40
6:LF:22:LEU:HD23	6:LF:22:LEU:HA	1.84	0.40
6:LF:104:LYS:HD2	6:LF:104:LYS:HA	1.90	0.40
7:LG:200:PHE:HB3	7:LG:237:GLU:HG2	2.03	0.40
13:LM:79:ILE:HA	13:LM:82:ARG:HD2	2.03	0.40
17:LQ:170[A]:LYS:HE3	17:LQ:170[A]:LYS:HB3	1.55	0.40
20:LT:116:ASP:OD1	20:LT:116:ASP:C	2.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:LU:93:GLU:HG3	21:LU:140:VAL:HG21	2.03	0.40
22:LV:136:ARG:HB2	22:LV:139:ARG:HH22	1.86	0.40
28:Lb:90:GLU:OE2	28:Lb:90:GLU:HA	2.20	0.40
35:Li:56:THR:O	35:Li:56:THR:OG1	2.39	0.40
37:Lk:15:LYS:HE3	37:Lk:17:VAL:HG22	2.03	0.40
39:Lm:16:ARG:HB2	39:Lm:16:ARG:HH11	1.85	0.40
45:S2:256:A:O2'	67:SV:72:ILE:HG13	2.20	0.40
45:S2:454:U:O2	64:SS:63:ALA:HA	2.22	0.40
45:S2:553:G:H3'	45:S2:554:C:H2'	2.02	0.40
45:S2:1299:G:O3'	63:SR:99:LYS:NZ	2.50	0.40
45:S2:1367:G:O2'	54:SI:69:LYS:HD2	2.21	0.40
45:S2:1552:U:N3	45:S2:1560:U:O4	2.54	0.40
45:S2:1726:G:H2'	45:S2:1727:G:O4'	2.21	0.40
47:SB:89:ILE:HD13	47:SB:92:ARG:HE	1.86	0.40
47:SB:222:LYS:HG3	47:SB:225:ARG:NH2	2.35	0.40
52:SG:100:LEU:HB3	52:SG:101:ASN:H	1.48	0.40
53:SH:91:ASP:N	53:SH:91:ASP:OD1	2.54	0.40
56:SK:57:TYR:CE2	56:SK:68:ARG:HD3	2.56	0.40
60:SO:36:ALA:HB1	60:SO:68:VAL:HG11	2.03	0.40
61:SP:60:ALA:HB1	61:SP:144:ILE:HD13	2.03	0.40
67:SV:58:LEU:HD23	67:SV:58:LEU:HA	1.89	0.40
67:SV:72:ILE:O	67:SV:72:ILE:CG2	2.70	0.40
70:SY:128:TYR:CE1	70:SY:132:VAL:HG11	2.56	0.40
73:Sb:28:ARG:HD3	73:Sb:60:LYS:HE3	2.04	0.40
74:Sc:48:HIS:NE2	74:Sc:105:ALA:HB2	2.36	0.40
74:Sc:56:LYS:HA	74:Sc:56:LYS:HD3	1.72	0.40
74:Sc:87:VAL:CG1	74:Sc:92:CYS:HB3	2.51	0.40
75:Sd:12:VAL:HA	75:Sd:23:PHE:HB3	2.01	0.40
78:Sg:54:ARG:HE	78:Sg:56:MET:CE	2.31	0.40
79:Tb:32:G:H2'	79:Tb:33:C:C6	2.56	0.40
1:LA:299:G:C8	37:Lk:31:GLY:HA3	2.56	0.40
1:LA:521:A:C2	21:LU:69:PRO:HG2	2.54	0.40
1:LA:548:U:H2'	1:LA:549:A:H8	1.85	0.40
1:LA:817:C:H2'	1:LA:818:U:O4'	2.22	0.40
1:LA:944:C:H2'	1:LA:945:U:C6	2.56	0.40
1:LA:1244:A:H3'	1:LA:1245:G:H5''	2.03	0.40
1:LA:1832:G:O2'	40:Ln:3:ALA:O	2.39	0.40
1:LA:2231:A:H2'	1:LA:2232:A:C8	2.56	0.40
1:LA:2533:G:H8	1:LA:2533:G:O5'	2.03	0.40
1:LA:2767:U:O2	43:Lq:82:GLN:NE2	2.53	0.40
1:LA:2837:A:H2'	1:LA:2838:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:112:U:P	40:Ln:8:ARG:HE	2.44	0.40
3:LC:133:G:OP1	26:LZ:94:GLN:NE2	2.54	0.40
5:LE:188:ILE:H	5:LE:188:ILE:HG12	1.61	0.40
6:LF:345:GLU:CD	6:LF:345:GLU:H	2.29	0.40
7:LG:39:GLN:HA	7:LG:48:LYS:HD2	2.03	0.40
7:LG:99:TYR:OH	7:LG:168:ASP:OD2	2.30	0.40
9:LI:53:LYS:HB2	9:LI:53:LYS:HE2	1.75	0.40
9:LI:131:GLU:HG3	9:LI:230:GLY:HA2	2.04	0.40
11:LK:90:MET:HG2	11:LK:181:VAL:HG12	2.03	0.40
11:LK:137:SER:HB3	11:LK:145:VAL:HG23	2.02	0.40
12:LL:156:ARG:HG3	12:LL:163:GLN:HB2	2.04	0.40
13:LM:22:SER:OG	13:LM:22:SER:O	2.39	0.40
13:LM:37:LEU:HD23	13:LM:37:LEU:HA	1.80	0.40
24:LX:88:ARG:HA	24:LX:88:ARG:HD2	1.79	0.40
43:Lq:3:ASN:HB2	43:Lq:92:GLU:OE2	2.20	0.40
45:S2:30:G:H4'	74:Sc:131:SER:HB3	2.03	0.40
45:S2:106:U:H2'	45:S2:107:C:O4'	2.20	0.40
45:S2:541:A:O2'	45:S2:542:A:OP1	2.34	0.40
45:S2:860:U:O4'	66:SU:114:ARG:HG3	2.21	0.40
45:S2:950:C:H2'	45:S2:951:A:C8	2.57	0.40
45:S2:1776:A:H2'	45:S2:1777:G:H8	1.87	0.40
45:S2:1798:U:C6	76:Se:97:PRO:HB3	2.57	0.40
46:SA:7:LYS:HE2	55:SJ:27:THR:HG21	2.03	0.40
46:SA:214:GLU:N	46:SA:214:GLU:OE1	2.55	0.40
53:SH:17:LEU:HD12	53:SH:18:LEU:HB2	2.04	0.40
55:SJ:28:SER:HB2	55:SJ:112:VAL:HA	2.01	0.40
58:SM:20:GLN:HG2	58:SM:27:HIS:CD2	2.56	0.40
58:SM:21:CYS:HB3	58:SM:26:SER:N	2.31	0.40
63:SR:174:ARG:NH1	63:SR:174:ARG:HB3	2.36	0.40
69:SX:40:LEU:HB2	69:SX:42:PHE:CE1	2.56	0.40
70:SY:39:LYS:HE2	70:SY:39:LYS:HB2	1.74	0.40
70:SY:87:ASP:OD1	70:SY:87:ASP:N	2.55	0.40
77:Sf:7:LEU:O	77:Sf:24:LEU:HD11	2.21	0.40
1:LA:27:C:H42	1:LA:57:A:N6	2.19	0.40
1:LA:61:A:N1	16:LP:189:LYS:HE3	2.37	0.40
1:LA:101:G:H2'	1:LA:102:C:O4'	2.21	0.40
1:LA:985:U:O2'	9:LI:122:ALA:O	2.33	0.40
1:LA:1614:C:H2'	1:LA:1615:U:H6	1.85	0.40
1:LA:1842:C:OP1	40:Ln:48:LYS:NZ	2.54	0.40
1:LA:1947:G:C2	1:LA:2098:A:N6	2.89	0.40
1:LA:1951:G:H2'	1:LA:1952:G:C8	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2128:U:H2'	1:LA:2129:G:H8	1.86	0.40
1:LA:2139:U:O2'	1:LA:2977:U:H5'	2.22	0.40
1:LA:2202:U:H2'	1:LA:2203:C:C6	2.56	0.40
1:LA:2448:A:H2'	1:LA:2449:G:O4'	2.21	0.40
1:LA:2536:U:O5'	62:SQ:231:LEU:N	2.53	0.40
1:LA:3253:G:H2'	1:LA:3254:U:O4'	2.22	0.40
1:LA:3287:G:C2	1:LA:3288:G:C5	3.09	0.40
2:LB:64:A:H3'	12:LL:204:GLY:O	2.21	0.40
5:LE:115:LYS:HB3	5:LE:115:LYS:HE3	1.78	0.40
6:LF:169:LEU:CD2	6:LF:174:ALA:HB3	2.51	0.40
7:LG:191:ASP:HB3	7:LG:193:GLU:OE1	2.21	0.40
14:LN:57:VAL:HG23	14:LN:115:ARG:HD2	2.04	0.40
19:LS:8:LYS:HB2	19:LS:8:LYS:HE3	1.88	0.40
24:LX:54:LEU:HD22	24:LX:121:GLU:OE1	2.22	0.40
43:Lq:14:GLY:C	43:Lq:16:THR:H	2.28	0.40
43:Lq:71:ARG:NH2	43:Lq:80:ARG:HH11	2.19	0.40
45:S2:265:A:H2	45:S2:290:G:N1	2.18	0.40
45:S2:401:A:OP2	45:S2:401:A:H8	2.04	0.40
45:S2:632:U:O2'	45:S2:1103:U:OP1	2.32	0.40
45:S2:816:G:H22	45:S2:855:A:H2	1.67	0.40
45:S2:1103:U:H2'	45:S2:1104:U:C6	2.57	0.40
45:S2:1345:A:N6	45:S2:1380:U:O4	2.53	0.40
45:S2:1367:G:H2'	45:S2:1368:G:H8	1.82	0.40
45:S2:1586:A:H2'	45:S2:1587:A:O4'	2.21	0.40
45:S2:1727:G:H21	67:SV:32:GLN:HE22	1.69	0.40
46:SA:124:ARG:HA	46:SA:127:MET:HG2	2.03	0.40
47:SB:25:LEU:HD12	47:SB:29:ILE:HG21	2.03	0.40
47:SB:211:ILE:HG13	47:SB:212:LYS:N	2.34	0.40
60:SO:278:PHE:CZ	60:SO:287:PRO:HG2	2.55	0.40
61:SP:37:VAL:HG13	61:SP:46:HIS:HB3	2.03	0.40
62:SQ:120:LEU:HD12	62:SQ:142:PHE:CE2	2.56	0.40
65:ST:74:LYS:HE2	65:ST:74:LYS:HB2	1.80	0.40
67:SV:107:THR:HA	67:SV:110:ARG:HB2	2.02	0.40
68:SW:158:PHE:CZ	68:SW:164:PHE:HB2	2.56	0.40
70:SY:40:TYR:HB3	70:SY:50:ILE:HG12	2.03	0.40
74:Sc:9:LEU:HD12	74:Sc:9:LEU:HA	1.89	0.40
1:LA:66:A:H5''	1:LA:316:U:OP1	2.21	0.40
1:LA:291:C:OP1	16:LP:68:ARG:NH1	2.53	0.40
1:LA:558:A:H2'	1:LA:559:G:O4'	2.22	0.40
1:LA:1025:A:N3	1:LA:1025:A:H2'	2.35	0.40
1:LA:1090:A:H2'	1:LA:1091:C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1431:C:O2'	1:LA:1433:G:OP2	2.39	0.40
1:LA:1459:A:H2'	1:LA:1460:A:H8	1.86	0.40
1:LA:2151:A:O2'	1:LA:2242:A:O2'	2.27	0.40
1:LA:2506:C:H2'	1:LA:2507:U:H6	1.86	0.40
1:LA:2521:G:O2'	1:LA:2522:A:O5'	2.28	0.40
1:LA:2577:U:H2'	1:LA:2578:G:O4'	2.21	0.40
1:LA:3149:A:OP1	5:LE:132:LYS:HB2	2.22	0.40
7:LG:8:LYS:HD3	7:LG:12:TYR:CE2	2.57	0.40
7:LG:257:GLU:C	7:LG:259:LYS:H	2.30	0.40
9:LI:142:SER:O	9:LI:146:GLN:HG2	2.21	0.40
10:LJ:242:ALA:O	10:LJ:246:MET:HG3	2.21	0.40
11:LK:41:ILE:HG22	11:LK:43:VAL:HG13	2.04	0.40
21:LU:64:ILE:HD13	21:LU:64:ILE:HG21	1.83	0.40
36:Lj:7:TYR:CD1	36:Lj:8:GLU:N	2.89	0.40
38:Ll:24:ARG:O	38:Ll:24:ARG:HG3	2.21	0.40
45:S2:201:G:H2'	45:S2:202:A:H8	1.85	0.40
45:S2:212:U:H2'	45:S2:213:A:C8	2.56	0.40
45:S2:533:U:H5''	45:S2:534:A:OP1	2.21	0.40
45:S2:564:G:N1	45:S2:580:A:OP2	2.54	0.40
45:S2:1048:G:O3'	77:Sf:69:GLY:HA3	2.20	0.40
45:S2:1230:A:H3'	45:S2:1231:U:C6	2.56	0.40
45:S2:1539:G:O4'	53:SH:30:TYR:HE2	2.04	0.40
48:SC:3:MET:SD	48:SC:3:MET:C	3.04	0.40
51:SF:31:VAL:N	51:SF:34:SER:O	2.35	0.40
51:SF:79:TYR:CD1	51:SF:82:ARG:HD3	2.55	0.40
51:SF:129:PHE:CG	55:SJ:79:TRP:HB2	2.55	0.40
52:SG:41:ILE:HD13	52:SG:47:ARG:HA	2.04	0.40
53:SH:100:THR:CG2	53:SH:105:VAL:HG13	2.51	0.40
60:SO:50:ASP:OD1	60:SO:50:ASP:N	2.52	0.40
60:SO:153:GLN:NE2	60:SO:154:VAL:H	2.20	0.40
61:SP:10:THR:HG22	61:SP:11:PRO:HD3	2.03	0.40
62:SQ:4:GLY:HA3	71:SZ:49:LYS:NZ	2.36	0.40
64:SS:131:LEU:O	64:SS:131:LEU:HD12	2.22	0.40
65:ST:149:LYS:H	65:ST:149:LYS:HG3	1.70	0.40
68:SW:115:LYS:HA	68:SW:115:LYS:HD3	1.83	0.40
68:SW:129:ILE:HA	68:SW:134:ILE:HD13	2.03	0.40
72:Sa:53:TYR:OH	72:Sa:76:ASP:OD2	2.29	0.40
74:Sc:107:PHE:CZ	74:Sc:114:LYS:CD	3.03	0.40
76:Se:45:VAL:HG23	76:Se:47:ALA:H	1.86	0.40
1:LA:179:C:H2'	1:LA:180:C:H6	1.85	0.40
1:LA:293:C:H2'	1:LA:294:U:O4'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:626:U:H4'	1:LA:1398:A:H1'	2.04	0.40
1:LA:821:G:H1'	4:LD:15:ILE:HB	2.03	0.40
1:LA:873:U:N3	1:LA:2977:U:OP1	2.41	0.40
1:LA:2255:A:OP2	1:LA:2256:C:H5'	2.22	0.40
1:LA:2673:A:C2	13:LM:124:GLY:HA3	2.56	0.40
3:LC:91:C:H2'	3:LC:92:A:C8	2.56	0.40
5:LE:169:THR:HG22	5:LE:171:LEU:HG	2.04	0.40
10:LJ:105:LYS:HE3	10:LJ:109:LEU:HD21	2.04	0.40
10:LJ:143:ILE:HG22	10:LJ:173:MET:HG3	2.04	0.40
11:LK:29:GLY:HA3	11:LK:82:VAL:CG1	2.52	0.40
12:LL:9:TYR:CG	12:LL:97:LEU:HD13	2.56	0.40
28:Lb:9:LYS:HE3	28:Lb:83:THR:O	2.21	0.40
31:Le:18:ILE:HD12	31:Le:23:TYR:CE2	2.57	0.40
36:Lj:12:LYS:HG3	36:Lj:17:LEU:HD13	2.02	0.40
36:Lj:45:LYS:O	36:Lj:49:LYS:HG2	2.21	0.40
45:S2:122:U:H5''	64:SS:77:ARG:NH1	2.37	0.40
45:S2:338:C:H2'	45:S2:339:C:C6	2.56	0.40
45:S2:1089:U:O2'	45:S2:1093:A:N1	2.51	0.40
45:S2:1322:A:H2'	45:S2:1323:C:H6	1.86	0.40
46:SA:143:ARG:HD3	46:SA:143:ARG:HA	1.87	0.40
46:SA:177:MET:HG3	46:SA:178:ARG:N	2.35	0.40
51:SF:86:ALA:O	51:SF:90:VAL:HG23	2.21	0.40
52:SG:36:ASP:HB3	52:SG:47:ARG:HD2	2.04	0.40
60:SO:10:ARG:HA	60:SO:10:ARG:HD3	1.92	0.40
60:SO:251:TRP:CD1	60:SO:264:SER:HA	2.56	0.40
60:SO:261:LYS:HE3	60:SO:270:LEU:HD21	2.03	0.40
64:SS:185:GLY:HA2	64:SS:189:LEU:CD1	2.51	0.40
65:ST:7:TYR:OH	65:ST:116:LYS:NZ	2.48	0.40
66:SU:74:GLN:O	66:SU:78:THR:HG22	2.22	0.40
66:SU:139:ARG:HA	73:Sb:52:TYR:O	2.21	0.40
77:Sf:12:ALA:HA	77:Sf:15:GLU:HG2	2.04	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%)	231 (93%)	18 (7%)	0	100	100
5	LE	384/386 (100%)	349 (91%)	35 (9%)	0	100	100
6	LF	359/361 (99%)	333 (93%)	26 (7%)	0	100	100
7	LG	292/294 (99%)	277 (95%)	15 (5%)	0	100	100
8	LH	163/175 (93%)	152 (93%)	11 (7%)	0	100	100
9	LI	220/222 (99%)	211 (96%)	9 (4%)	0	100	100
10	LJ	231/233 (99%)	217 (94%)	14 (6%)	0	100	100
11	LK	189/191 (99%)	174 (92%)	15 (8%)	0	100	100
12	LL	216/218 (99%)	201 (93%)	15 (7%)	0	100	100
13	LM	167/169 (99%)	158 (95%)	9 (5%)	0	100	100
14	LN	191/193 (99%)	178 (93%)	13 (7%)	0	100	100
15	LO	134/136 (98%)	126 (94%)	8 (6%)	0	100	100
16	LP	201/203 (99%)	187 (93%)	13 (6%)	1 (0%)	24	55
17	LQ	195/197 (99%)	192 (98%)	3 (2%)	0	100	100
18	LR	181/183 (99%)	169 (93%)	12 (7%)	0	100	100
19	LS	183/185 (99%)	172 (94%)	11 (6%)	0	100	100
20	LT	186/188 (99%)	181 (97%)	5 (3%)	0	100	100
21	LU	169/171 (99%)	161 (95%)	8 (5%)	0	100	100
22	LV	157/159 (99%)	147 (94%)	10 (6%)	0	100	100
23	LW	98/100 (98%)	92 (94%)	6 (6%)	0	100	100
24	LX	134/136 (98%)	133 (99%)	1 (1%)	0	100	100
25	LY	63/65 (97%)	62 (98%)	1 (2%)	0	100	100
26	LZ	119/121 (98%)	116 (98%)	3 (2%)	0	100	100
27	La	123/125 (98%)	118 (96%)	5 (4%)	0	100	100
28	Lb	133/135 (98%)	121 (91%)	12 (9%)	0	100	100
29	Lc	146/148 (99%)	132 (90%)	14 (10%)	0	100	100
30	Ld	56/58 (97%)	53 (95%)	3 (5%)	0	100	100
31	Le	94/96 (98%)	91 (97%)	3 (3%)	0	100	100
32	Lf	107/109 (98%)	100 (94%)	7 (6%)	0	100	100
33	Lg	125/127 (98%)	121 (97%)	4 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	Lh	104/106 (98%)	100 (96%)	4 (4%)	0	100	100
35	Li	110/112 (98%)	108 (98%)	2 (2%)	0	100	100
36	Lj	117/119 (98%)	114 (97%)	3 (3%)	0	100	100
37	Lk	97/99 (98%)	91 (94%)	6 (6%)	0	100	100
38	Ll	79/81 (98%)	73 (92%)	6 (8%)	0	100	100
39	Lm	75/77 (97%)	74 (99%)	1 (1%)	0	100	100
40	Ln	48/50 (96%)	47 (98%)	1 (2%)	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%)	94 (93%)	7 (7%)	0	100	100
44	Lr	89/91 (98%)	84 (94%)	5 (6%)	0	100	100
46	SA	220/223 (99%)	208 (94%)	12 (6%)	0	100	100
47	SB	204/206 (99%)	190 (93%)	14 (7%)	0	100	100
48	SC	90/92 (98%)	83 (92%)	7 (8%)	0	100	100
49	SD	119/124 (96%)	94 (79%)	25 (21%)	0	100	100
50	SE	115/117 (98%)	107 (93%)	8 (7%)	0	100	100
51	SF	139/141 (99%)	126 (91%)	13 (9%)	0	100	100
52	SG	117/125 (94%)	111 (95%)	6 (5%)	0	100	100
53	SH	143/145 (99%)	135 (94%)	8 (6%)	0	100	100
54	SI	141/143 (99%)	130 (92%)	11 (8%)	0	100	100
55	SJ	98/101 (97%)	95 (97%)	3 (3%)	0	100	100
56	SK	80/82 (98%)	73 (91%)	7 (9%)	0	100	100
57	SL	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
58	SM	51/53 (96%)	50 (98%)	1 (2%)	0	100	100
59	SN	71/73 (97%)	58 (82%)	13 (18%)	0	100	100
60	SO	310/312 (99%)	281 (91%)	29 (9%)	0	100	100
61	SP	204/206 (99%)	169 (83%)	33 (16%)	2 (1%)	12	38
62	SQ	222/232 (96%)	200 (90%)	22 (10%)	0	100	100
63	SR	214/217 (99%)	202 (94%)	12 (6%)	0	100	100
64	SS	256/260 (98%)	230 (90%)	26 (10%)	0	100	100
65	ST	226/228 (99%)	208 (92%)	17 (8%)	1 (0%)	30	60

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
66	SU	182/185 (98%)	171 (94%)	11 (6%)	0	100	100
67	SV	183/199 (92%)	175 (96%)	8 (4%)	0	100	100
68	SW	182/185 (98%)	167 (92%)	15 (8%)	0	100	100
69	SX	140/146 (96%)	134 (96%)	6 (4%)	0	100	100
70	SY	148/150 (99%)	138 (93%)	10 (7%)	0	100	100
71	SZ	125/128 (98%)	114 (91%)	11 (9%)	0	100	100
72	Sa	85/87 (98%)	74 (87%)	11 (13%)	0	100	100
73	Sb	127/129 (98%)	119 (94%)	8 (6%)	0	100	100
74	Sc	142/144 (99%)	129 (91%)	13 (9%)	0	100	100
75	Sd	132/134 (98%)	123 (93%)	9 (7%)	0	100	100
76	Se	95/97 (98%)	88 (93%)	7 (7%)	0	100	100
77	Sf	79/81 (98%)	70 (89%)	9 (11%)	0	100	100
78	Sg	55/57 (96%)	48 (87%)	7 (13%)	0	100	100
All	All	10914/11115 (98%)	10169 (93%)	741 (7%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
61	SP	193	GLN
61	SP	203	PHE
65	ST	21	GLU
16	LP	146	ALA

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%)	180 (95%)	10 (5%)	20	52
5	LE	318/322 (99%)	298 (94%)	20 (6%)	16	45
6	LF	288/288 (100%)	273 (95%)	15 (5%)	21	53

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	LG	241/243 (99%)	233 (97%)	8 (3%)	33	69
8	LH	139/154 (90%)	130 (94%)	9 (6%)	15	43
9	LI	186/186 (100%)	176 (95%)	10 (5%)	20	51
10	LJ	187/191 (98%)	179 (96%)	8 (4%)	26	60
11	LK	168/171 (98%)	145 (86%)	23 (14%)	3	13
12	LL	185/185 (100%)	170 (92%)	15 (8%)	11	33
13	LM	145/147 (99%)	135 (93%)	10 (7%)	14	41
14	LN	154/154 (100%)	145 (94%)	9 (6%)	18	49
15	LO	107/107 (100%)	100 (94%)	7 (6%)	15	43
16	LP	175/175 (100%)	164 (94%)	11 (6%)	16	45
17	LQ	160/160 (100%)	155 (97%)	5 (3%)	35	70
18	LR	138/145 (95%)	132 (96%)	6 (4%)	26	60
19	LS	150/150 (100%)	142 (95%)	8 (5%)	20	52
20	LT	152/153 (99%)	147 (97%)	5 (3%)	33	69
21	LU	155/155 (100%)	151 (97%)	4 (3%)	40	75
22	LV	135/136 (99%)	129 (96%)	6 (4%)	25	59
23	LW	87/87 (100%)	81 (93%)	6 (7%)	14	41
24	LX	104/104 (100%)	102 (98%)	2 (2%)	50	81
25	LY	54/57 (95%)	53 (98%)	1 (2%)	50	81
26	LZ	104/105 (99%)	103 (99%)	1 (1%)	68	88
27	La	108/108 (100%)	103 (95%)	5 (5%)	24	58
28	Lb	112/115 (97%)	110 (98%)	2 (2%)	51	82
29	Lc	117/118 (99%)	112 (96%)	5 (4%)	26	60
30	Ld	46/46 (100%)	45 (98%)	1 (2%)	45	78
31	Le	81/81 (100%)	75 (93%)	6 (7%)	13	37
32	Lf	92/96 (96%)	89 (97%)	3 (3%)	33	69
33	Lg	108/109 (99%)	100 (93%)	8 (7%)	13	37
34	Lh	90/90 (100%)	84 (93%)	6 (7%)	15	42
35	Li	95/95 (100%)	94 (99%)	1 (1%)	65	87
36	Lj	104/104 (100%)	99 (95%)	5 (5%)	23	56
37	Lk	80/81 (99%)	72 (90%)	8 (10%)	7	24

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	Ll	67/67 (100%)	64 (96%)	3 (4%)	24	58
39	Lm	68/68 (100%)	67 (98%)	1 (2%)	57	84
40	Ln	45/45 (100%)	44 (98%)	1 (2%)	45	78
41	Lo	45/47 (96%)	44 (98%)	1 (2%)	45	78
42	Lp	22/23 (96%)	22 (100%)	0	100	100
43	Lq	87/88 (99%)	80 (92%)	7 (8%)	11	34
44	Lr	71/71 (100%)	63 (89%)	8 (11%)	5	19
46	SA	182/182 (100%)	174 (96%)	8 (4%)	25	59
47	SB	172/173 (99%)	164 (95%)	8 (5%)	23	57
48	SC	77/85 (91%)	75 (97%)	2 (3%)	40	75
49	SD	88/100 (88%)	85 (97%)	3 (3%)	32	68
50	SE	95/98 (97%)	94 (99%)	1 (1%)	65	87
51	SF	117/117 (100%)	116 (99%)	1 (1%)	70	89
52	SG	101/113 (89%)	98 (97%)	3 (3%)	36	72
53	SH	127/128 (99%)	124 (98%)	3 (2%)	43	77
54	SI	115/115 (100%)	111 (96%)	4 (4%)	32	67
55	SJ	93/94 (99%)	85 (91%)	8 (9%)	10	31
56	SK	67/73 (92%)	66 (98%)	1 (2%)	57	84
57	SL	55/56 (98%)	50 (91%)	5 (9%)	9	28
58	SM	47/47 (100%)	47 (100%)	0	100	100
59	SN	56/64 (88%)	54 (96%)	2 (4%)	31	66
60	SO	250/257 (97%)	235 (94%)	15 (6%)	17	47
61	SP	170/173 (98%)	163 (96%)	7 (4%)	27	62
62	SQ	200/205 (98%)	188 (94%)	12 (6%)	17	47
63	SR	175/176 (99%)	165 (94%)	10 (6%)	18	49
64	SS	220/221 (100%)	204 (93%)	16 (7%)	13	38
65	ST	189/195 (97%)	183 (97%)	6 (3%)	34	70
66	SU	163/165 (99%)	154 (94%)	9 (6%)	19	51
67	SV	148/160 (92%)	142 (96%)	6 (4%)	27	62
68	SW	156/158 (99%)	151 (97%)	5 (3%)	34	70
69	SX	126/129 (98%)	122 (97%)	4 (3%)	34	70

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
70	SY	127/127 (100%)	117 (92%)	10 (8%)	11	35
71	SZ	90/97 (93%)	88 (98%)	2 (2%)	45	78
72	Sa	71/74 (96%)	66 (93%)	5 (7%)	14	40
73	Sb	110/110 (100%)	101 (92%)	9 (8%)	10	33
74	Sc	119/119 (100%)	114 (96%)	5 (4%)	26	61
75	Sd	102/112 (91%)	96 (94%)	6 (6%)	18	48
76	Se	82/83 (99%)	78 (95%)	4 (5%)	22	55
77	Sf	70/70 (100%)	67 (96%)	3 (4%)	26	60
78	Sg	48/49 (98%)	46 (96%)	2 (4%)	26	61
All	All	9168/9345 (98%)	8713 (95%)	455 (5%)	23	54

All (455) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	LD	44	ILE
4	LD	52	SER
4	LD	61	VAL
4	LD	82	VAL
4	LD	101	VAL
4	LD	106	SER
4	LD	113	VAL
4	LD	130	SER
4	LD	142	ASP
4	LD	246	LEU
5	LE	73	VAL
5	LE	74	GLU
5	LE	110	LEU
5	LE	111	SER
5	LE	125	SER
5	LE	140	ASP
5	LE	144	ILE
5	LE	158	VAL
5	LE	178	LEU
5	LE	206	ASP
5	LE	242	THR
5	LE	276	THR
5	LE	287	LYS
5	LE	305	ILE
5	LE	306	THR

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Mol	Chain	Res	Type
5	LE	322	ILE
5	LE	335	ILE
5	LE	336	VAL
5	LE	338	LEU
5	LE	344	THR
6	LF	30	ILE
6	LF	77	VAL
6	LF	105	THR
6	LF	112	LYS
6	LF	176	SER
6	LF	178	LEU
6	LF	186	LYS
6	LF	230	VAL
6	LF	233	LEU
6	LF	255	PHE
6	LF	278	SER
6	LF	306	THR
6	LF	333	VAL
6	LF	341	SER
6	LF	349	THR
7	LG	9	SER
7	LG	56	THR
7	LG	66	SER
7	LG	74	VAL
7	LG	109	THR
7	LG	144	VAL
7	LG	159	VAL
7	LG	211	LEU
8	LH	88	SER
8	LH	91	VAL
8	LH	93	VAL
8	LH	96	VAL
8	LH	112	THR
8	LH	132	THR
8	LH	149	ILE
8	LH	152	THR
8	LH	154	LEU
9	LI	56	GLU
9	LI	62	ILE
9	LI	68	ASP
9	LI	83	LEU
9	LI	84	VAL

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Mol	Chain	Res	Type
9	LI	87	VAL
9	LI	113	SER
9	LI	160	ARG
9	LI	170	GLU
9	LI	189	ILE
10	LJ	56	VAL
10	LJ	77	GLN
10	LJ	90	THR
10	LJ	175	VAL
10	LJ	192	GLN
10	LJ	213	LYS
10	LJ	216	SER
10	LJ	217	THR
11	LK	10	ILE
11	LK	16	VAL
11	LK	17	THR
11	LK	25	VAL
11	LK	28	VAL
11	LK	35	THR
11	LK	43	VAL
11	LK	44	THR
11	LK	46	THR
11	LK	52	LEU
11	LK	70	THR
11	LK	82	VAL
11	LK	107	ASP
11	LK	112	ILE
11	LK	126	VAL
11	LK	130	ASP
11	LK	133	THR
11	LK	149	ASN
11	LK	150	SER
11	LK	157	ASN
11	LK	164	ILE
11	LK	174	LYS
11	LK	181	VAL
12	LL	26	VAL
12	LL	36	LEU
12	LL	53	VAL
12	LL	54	SER
12	LL	56	GLU
12	LL	89	VAL

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Mol	Chain	Res	Type
12	LL	137	SER
12	LL	142	ASP
12	LL	144	ASN
12	LL	178	ARG
12	LL	182	LEU
12	LL	184	LYS
12	LL	185	ARG
12	LL	186	GLU
12	LL	203	LYS
13	LM	11	ASP
13	LM	13	LYS
13	LM	17	LEU
13	LM	36	VAL
13	LM	44	THR
13	LM	54	VAL
13	LM	71	VAL
13	LM	107	ASP
13	LM	139	THR
13	LM	155	THR
14	LN	11	LYS
14	LN	19	GLN
14	LN	24	VAL
14	LN	58	VAL
14	LN	63	VAL
14	LN	69	VAL
14	LN	93	ILE
14	LN	103	ASN
14	LN	108	ILE
15	LO	6	ILE
15	LO	8	LYS
15	LO	12	TRP
15	LO	15	VAL
15	LO	60	LEU
15	LO	63	VAL
15	LO	120	VAL
16	LP	10	LEU
16	LP	17	ASP
16	LP	18	VAL
16	LP	35	VAL
16	LP	91	GLU
16	LP	124	ASP
16	LP	126	THR

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Mol	Chain	Res	Type
16	LP	147	ARG
16	LP	152	CYS
16	LP	155	VAL
16	LP	164	LEU
17	LQ	104[A]	VAL
17	LQ	108[A]	ILE
17	LQ	129[A]	LEU
17	LQ	130[A]	LYS
17	LQ	152[A]	VAL
18	LR	53	ASP
18	LR	79	THR
18	LR	96	GLN
18	LR	103	GLU
18	LR	119	VAL
18	LR	120	ASN
19	LS	11	LYS
19	LS	24	VAL
19	LS	100	THR
19	LS	101	VAL
19	LS	121	CYS
19	LS	129	VAL
19	LS	139	ILE
19	LS	181	SER
20	LT	14	VAL
20	LT	29	THR
20	LT	66	HIS
20	LT	86	GLU
20	LT	91	SER
21	LU	64	ILE
21	LU	79	VAL
21	LU	129	ILE
21	LU	132	THR
22	LV	29	THR
22	LV	33	VAL
22	LV	47	SER
22	LV	72	VAL
22	LV	93	VAL
22	LV	109	VAL
23	LW	11	ILE
23	LW	16	THR
23	LW	20	SER
23	LW	50	LEU

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Mol	Chain	Res	Type
23	LW	65	VAL
23	LW	79	LEU
24	LX	19	VAL
24	LX	98	ASN
25	LY	36	SER
26	LZ	107	VAL
27	La	5	SER
27	La	25	SER
27	La	71	SER
27	La	88	GLU
27	La	112	ASP
28	Lb	13	VAL
28	Lb	113	VAL
29	Lc	64	GLN
29	Lc	101	VAL
29	Lc	104	THR
29	Lc	105	LEU
29	Lc	121	VAL
30	Ld	48	HIS
31	Le	17	VAL
31	Le	20	SER
31	Le	33	SER
31	Le	50	VAL
31	Le	89	VAL
31	Le	90	VAL
32	Lf	9	THR
32	Lf	16	LEU
32	Lf	97	LEU
33	Lg	30	GLU
33	Lg	34	LYS
33	Lg	36	LYS
33	Lg	51	SER
33	Lg	60	ASN
33	Lg	78	ASN
33	Lg	84	THR
33	Lg	113	LYS
34	Lh	7	LEU
34	Lh	27	VAL
34	Lh	35	VAL
34	Lh	37	THR
34	Lh	97	SER
34	Lh	107	ILE

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Mol	Chain	Res	Type
35	Li	16	ARG
36	Lj	9	LEU
36	Lj	17	LEU
36	Lj	34	GLN
36	Lj	36	LEU
36	Lj	94	LYS
37	Lk	9	ILE
37	Lk	15	LYS
37	Lk	43	LEU
37	Lk	47	ILE
37	Lk	57	LEU
37	Lk	77	LEU
37	Lk	81	THR
37	Lk	97	SER
38	Ll	7	SER
38	Ll	57	HIS
38	Ll	71	SER
39	Lm	24	THR
40	Ln	25	GLN
41	Lo	78	ILE
43	Lq	4	VAL
43	Lq	22	GLN
43	Lq	25	VAL
43	Lq	72	LEU
43	Lq	84	THR
43	Lq	93	LEU
43	Lq	100	LYS
44	Lr	16	VAL
44	Lr	33	GLN
44	Lr	40	SER
44	Lr	44	LYS
44	Lr	48	LYS
44	Lr	58	SER
44	Lr	64	VAL
44	Lr	70	THR
46	SA	23	GLU
46	SA	59	LEU
46	SA	84	ILE
46	SA	85	VAL
46	SA	123	VAL
46	SA	151	LYS
46	SA	164	VAL

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Mol	Chain	Res	Type
46	SA	175	VAL
47	SB	42	LEU
47	SB	73	THR
47	SB	145	ASP
47	SB	149	VAL
47	SB	176	THR
47	SB	177	ILE
47	SB	211	ILE
47	SB	223	SER
48	SC	7	ASP
48	SC	40	LEU
49	SD	78	LEU
49	SD	81	ASP
49	SD	83	GLU
50	SE	105	VAL
51	SF	31	VAL
52	SG	6	THR
52	SG	8	THR
52	SG	16	LEU
53	SH	3	LEU
53	SH	105	VAL
53	SH	107	SER
54	SI	22	LEU
54	SI	30	VAL
54	SI	67	MET
54	SI	132	LEU
55	SJ	24	ILE
55	SJ	26	LEU
55	SJ	50	LEU
55	SJ	62	VAL
55	SJ	86	ILE
55	SJ	92	ASP
55	SJ	99	ILE
55	SJ	106	ILE
56	SK	100	ILE
57	SL	5	THR
57	SL	8	THR
57	SL	21	SER
57	SL	25	VAL
57	SL	48	VAL
59	SN	103	LEU
59	SN	144	CYS

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Mol	Chain	Res	Type
60	SO	113	VAL
60	SO	114	ASP
60	SO	137	LYS
60	SO	144	LEU
60	SO	147	HIS
60	SO	151	VAL
60	SO	168	THR
60	SO	207	ASP
60	SO	211	ILE
60	SO	231	MET
60	SO	250	TYR
60	SO	256	THR
60	SO	265	LEU
60	SO	292	LEU
60	SO	306	THR
61	SP	8	ASP
61	SP	16	LEU
61	SP	73	VAL
61	SP	103	THR
61	SP	108	THR
61	SP	140	ASN
61	SP	158	VAL
62	SQ	32	ILE
62	SQ	36	SER
62	SQ	42	ASN
62	SQ	43	VAL
62	SQ	46	THR
62	SQ	84	ILE
62	SQ	110	LEU
62	SQ	145	LYS
62	SQ	171	ILE
62	SQ	181	LEU
62	SQ	201	THR
62	SQ	232	HIS
63	SR	101	VAL
63	SR	102	VAL
63	SR	103	VAL
63	SR	165	VAL
63	SR	166	THR
63	SR	179	VAL
63	SR	193	VAL
63	SR	222	TYR

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Mol	Chain	Res	Type
63	SR	235	LEU
63	SR	242	ILE
64	SS	23	LEU
64	SS	38	LEU
64	SS	70	VAL
64	SS	126	VAL
64	SS	129	VAL
64	SS	138	TYR
64	SS	162	ILE
64	SS	183	VAL
64	SS	184	THR
64	SS	189	LEU
64	SS	196	VAL
64	SS	198	LYS
64	SS	211	LYS
64	SS	227	VAL
64	SS	248	ILE
64	SS	253	ASP
65	ST	13	GLN
65	ST	51	LYS
65	ST	73	ILE
65	ST	91	GLU
65	ST	108	VAL
65	ST	170	THR
66	SU	20	VAL
66	SU	75	THR
66	SU	82	GLU
66	SU	88	ARG
66	SU	90	VAL
66	SU	106	SER
66	SU	108	GLN
66	SU	159	VAL
66	SU	166	LEU
67	SV	3	ILE
67	SV	46	VAL
67	SV	72	ILE
67	SV	73	SER
67	SV	101	ILE
67	SV	169	ILE
68	SW	16	LYS
68	SW	82	ARG
68	SW	101	VAL

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Mol	Chain	Res	Type
68	SW	111	THR
68	SW	141	VAL
69	SX	72	THR
69	SX	76	VAL
69	SX	117	VAL
69	SX	138	ASN
70	SY	45	LEU
70	SY	49	GLN
70	SY	62	GLN
70	SY	74	ILE
70	SY	87	ASP
70	SY	92	ILE
70	SY	96	VAL
70	SY	116	ILE
70	SY	135	LEU
70	SY	150	VAL
71	SZ	31	THR
71	SZ	121	VAL
72	Sa	10	GLU
72	Sa	20	THR
72	Sa	23	ILE
72	Sa	39	VAL
72	Sa	78	LEU
73	Sb	15	ASN
73	Sb	33	VAL
73	Sb	65	LEU
73	Sb	88	LYS
73	Sb	102	VAL
73	Sb	110	ILE
73	Sb	111	MET
73	Sb	112	ASP
73	Sb	129	VAL
74	Sc	76	LEU
74	Sc	83	VAL
74	Sc	87	VAL
74	Sc	117	ILE
74	Sc	123	LYS
75	Sd	11	LYS
75	Sd	12	VAL
75	Sd	24	VAL
75	Sd	26	ASP
75	Sd	46	GLU

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Mol	Chain	Res	Type
75	Sd	70	VAL
76	Se	18	VAL
76	Se	25	ASN
76	Se	57	SER
76	Se	76	SER
77	Sf	26	GLN
77	Sf	44	THR
77	Sf	48	SER
78	Sg	21	VAL
78	Sg	41	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (89) such sidechains are listed below:

Mol	Chain	Res	Type
5	LE	182	GLN
5	LE	243	HIS
6	LF	201	GLN
7	LG	63	GLN
7	LG	264	GLN
7	LG	296	GLN
9	LI	225	GLN
9	LI	244	ASN
10	LJ	95	ASN
10	LJ	191	ASN
10	LJ	192	GLN
11	LK	64	HIS
11	LK	125	ASN
13	LM	62	ASN
13	LM	132	ASN
13	LM	165	GLN
14	LN	99	HIS
14	LN	106	GLN
15	LO	62	GLN
16	LP	15	GLN
16	LP	117	ASN
16	LP	178	HIS
18	LR	50	GLN
19	LS	9	GLN
20	LT	34	GLN
20	LT	66	HIS
20	LT	141	HIS
21	LU	122	HIS

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Mol	Chain	Res	Type
21	LU	142	GLN
22	LV	5	HIS
22	LV	26	HIS
22	LV	131	GLN
26	LZ	65	GLN
26	LZ	137	ASN
27	La	120	GLN
28	Lb	106	GLN
33	Lg	49	ASN
33	Lg	88	HIS
34	Lh	39	GLN
34	Lh	88	ASN
36	Lj	113	GLN
39	Lm	40	GLN
39	Lm	57	ASN
40	Ln	4	GLN
40	Ln	33	ASN
43	Lq	59	HIS
47	SB	95	ASN
47	SB	169	ASN
49	SD	143	GLN
51	SF	83	GLN
53	SH	8	GLN
53	SH	71	GLN
54	SI	16	ASN
55	SJ	36	ASN
56	SK	37	GLN
56	SK	38	HIS
56	SK	95	HIS
58	SM	20	GLN
58	SM	27	HIS
60	SO	66	HIS
60	SO	153	GLN
60	SO	187	GLN
61	SP	33	GLN
61	SP	69	ASN
61	SP	83	GLN
62	SQ	118	GLN
62	SQ	149	GLN
62	SQ	153	HIS
62	SQ	211	HIS
63	SR	89	GLN

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Mol	Chain	Res	Type
63	SR	94	GLN
64	SS	130	GLN
64	SS	231	GLN
65	ST	4	ASN
65	ST	140	ASN
66	SU	29	ASN
66	SU	42	GLN
66	SU	160	GLN
67	SV	84	HIS
67	SV	103	GLN
68	SW	74	ASN
70	SY	36	GLN
72	Sa	7	GLN
73	Sb	15	ASN
74	Sc	27	ASN
74	Sc	48	HIS
74	Sc	65	ASN
75	Sd	110	GLN
77	Sf	51	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	LA	3180/3393 (93%)	640 (20%)	24 (0%)
2	LB	120/121 (99%)	12 (10%)	0
3	LC	157/158 (99%)	38 (24%)	2 (1%)
45	S2	1768/1799 (98%)	609 (34%)	31 (1%)
79	Tb	76/77 (98%)	23 (30%)	0
80	mR	0/25	-	-
All	All	5301/5573 (95%)	1322 (24%)	57 (1%)

All (1322) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	LA	5	G
1	LA	13	A
1	LA	14	U
1	LA	16	A
1	LA	18	G
1	LA	22	G
1	LA	26	A

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Mol	Chain	Res	Type
1	LA	40	A
1	LA	43	A
1	LA	49	A
1	LA	59	G
1	LA	60	A
1	LA	65	A
1	LA	66	A
1	LA	67	A
1	LA	92	G
1	LA	99	A
1	LA	110	G
1	LA	111	C
1	LA	113	C
1	LA	116	A
1	LA	121	A
1	LA	122	A
1	LA	133	U
1	LA	135	C
1	LA	136	G
1	LA	142	C
1	LA	150	A
1	LA	156	G
1	LA	157	A
1	LA	165	A
1	LA	166	C
1	LA	170	G
1	LA	171	G
1	LA	176	G
1	LA	187	A
1	LA	189	G
1	LA	190	U
1	LA	191	U
1	LA	200	C
1	LA	210	U
1	LA	218	G
1	LA	219	A
1	LA	221	A
1	LA	222	A
1	LA	240	U
1	LA	241	G
1	LA	243	G
1	LA	247	C

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Mol	Chain	Res	Type
1	LA	249	U
1	LA	252	U
1	LA	269	G
1	LA	283	G
1	LA	286	U
1	LA	295	A
1	LA	298	U
1	LA	305	U
1	LA	309	U
1	LA	310	U
1	LA	311	C
1	LA	323	A
1	LA	326	U
1	LA	329	U
1	LA	337	G
1	LA	339	C
1	LA	349	A
1	LA	350	C
1	LA	375	A
1	LA	376	G
1	LA	397	A
1	LA	398	A
1	LA	399	A
1	LA	402	A
1	LA	403	C
1	LA	421	G
1	LA	422	A
1	LA	440	A
1	LA	441	U
1	LA	445	G
1	LA	446	U
1	LA	447	U
1	LA	448	U
1	LA	450	G
1	LA	451	U
1	LA	488	U
1	LA	490	A
1	LA	492	U
1	LA	493	G
1	LA	494	G
1	LA	520	A
1	LA	522	A

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Mol	Chain	Res	Type
1	LA	532	A
1	LA	534	G
1	LA	543	C
1	LA	545	C
1	LA	551	G
1	LA	556	A
1	LA	558	A
1	LA	568	A
1	LA	578	G
1	LA	588	A
1	LA	591	A
1	LA	596	G
1	LA	600	U
1	LA	601	A
1	LA	608	G
1	LA	610	A
1	LA	611	U
1	LA	619	U
1	LA	620	A
1	LA	636	C
1	LA	637	C
1	LA	644	A
1	LA	648	A
1	LA	666	C
1	LA	676	A
1	LA	680	U
1	LA	690	A
1	LA	697	U
1	LA	704	A
1	LA	711	G
1	LA	716	C
1	LA	718	U
1	LA	726	G
1	LA	735	A
1	LA	736	G
1	LA	757	C
1	LA	763	U
1	LA	764	C
1	LA	765	U
1	LA	766	U
1	LA	775	U
1	LA	776	U

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Mol	Chain	Res	Type
1	LA	779	A
1	LA	780	G
1	LA	784	G
1	LA	800	A
1	LA	805	A
1	LA	807	A
1	LA	815	A
1	LA	816	A
1	LA	821	G
1	LA	829	A
1	LA	848	C
1	LA	849	U
1	LA	860	C
1	LA	873	U
1	LA	878	U
1	LA	879	G
1	LA	895	A
1	LA	905	A
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	936	G
1	LA	943	C
1	LA	958	C
1	LA	959	U
1	LA	960	C
1	LA	962	G
1	LA	979	A
1	LA	981	C
1	LA	982	A
1	LA	993	G
1	LA	1009	G
1	LA	1010	A
1	LA	1014	U
1	LA	1016	C
1	LA	1017	G

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Mol	Chain	Res	Type
1	LA	1019	G
1	LA	1023	G
1	LA	1024	A
1	LA	1025	A
1	LA	1026	A
1	LA	1028	G
1	LA	1031	C
1	LA	1035	A
1	LA	1036	C
1	LA	1037	C
1	LA	1038	U
1	LA	1039	A
1	LA	1040	U
1	LA	1041	U
1	LA	1043	U
1	LA	1046	A
1	LA	1048	C
1	LA	1053	A
1	LA	1063	A
1	LA	1064	A
1	LA	1071	G
1	LA	1080	U
1	LA	1081	U
1	LA	1092	A
1	LA	1094	U
1	LA	1095	U
1	LA	1096	G
1	LA	1097	A
1	LA	1102	A
1	LA	1103	G
1	LA	1116	G
1	LA	1130	G
1	LA	1136	C
1	LA	1137	U
1	LA	1141	G
1	LA	1142	A
1	LA	1143	U
1	LA	1152	A
1	LA	1153	A
1	LA	1158	A
1	LA	1167	U
1	LA	1173	G

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Mol	Chain	Res	Type
1	LA	1178	A
1	LA	1179	A
1	LA	1180	U
1	LA	1191	C
1	LA	1192	A
1	LA	1195	C
1	LA	1196	A
1	LA	1200	C
1	LA	1207	U
1	LA	1220	A
1	LA	1221	G
1	LA	1222	A
1	LA	1225	G
1	LA	1226	C
1	LA	1227	C
1	LA	1232	G
1	LA	1234	U
1	LA	1235	G
1	LA	1237	C
1	LA	1240	U
1	LA	1241	G
1	LA	1242	G
1	LA	1244	A
1	LA	1245	G
1	LA	1247	C
1	LA	1251	A
1	LA	1253	C
1	LA	1258	A
1	LA	1259	A
1	LA	1261	G
1	LA	1262	A
1	LA	1263	G
1	LA	1268	U
1	LA	1269	A
1	LA	1277	A
1	LA	1278	C
1	LA	1281	G
1	LA	1282	C
1	LA	1283	C
1	LA	1286	A
1	LA	1288	G
1	LA	1306	G

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Mol	Chain	Res	Type
1	LA	1307	A
1	LA	1308	U
1	LA	1312	G
1	LA	1324	U
1	LA	1329	A
1	LA	1344	G
1	LA	1345	G
1	LA	1347	U
1	LA	1348	G
1	LA	1353	G
1	LA	1354	A
1	LA	1355	U
1	LA	1356	G
1	LA	1365	A
1	LA	1385	A
1	LA	1390	C
1	LA	1398	A
1	LA	1399	G
1	LA	1407	G
1	LA	1418	A
1	LA	1430	G
1	LA	1433	G
1	LA	1436	C
1	LA	1442	G
1	LA	1445	A
1	LA	1449	G
1	LA	1454	U
1	LA	1468	C
1	LA	1474	A
1	LA	1480	A
1	LA	1481	A
1	LA	1482	G
1	LA	1493	U
1	LA	1502	A
1	LA	1507	C
1	LA	1510	U
1	LA	1522	U
1	LA	1524	G
1	LA	1535	G
1	LA	1554	U
1	LA	1555	C
1	LA	1556	A

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Mol	Chain	Res	Type
1	LA	1559	G
1	LA	1561	C
1	LA	1562	C
1	LA	1563	U
1	LA	1567	U
1	LA	1568	U
1	LA	1569	U
1	LA	1570	A
1	LA	1571	U
1	LA	1572	G
1	LA	1573	C
1	LA	1574	A
1	LA	1575	G
1	LA	1578	C
1	LA	1579	A
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	1603	G
1	LA	1606	U
1	LA	1628	U
1	LA	1636	A
1	LA	1638	C
1	LA	1641	A
1	LA	1642	A
1	LA	1644	U
1	LA	1682	A
1	LA	1693	U
1	LA	1695	A
1	LA	1703	A
1	LA	1706	A
1	LA	1723	U
1	LA	1724	C
1	LA	1740	A
1	LA	1741	U
1	LA	1749	A
1	LA	1750	G
1	LA	1755	C
1	LA	1761	C

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Mol	Chain	Res	Type
1	LA	1762	U
1	LA	1764	U
1	LA	1769	G
1	LA	1774	G
1	LA	1779	G
1	LA	1795	G
1	LA	1796	A
1	LA	1800	U
1	LA	1807	G
1	LA	1808	A
1	LA	1812	A
1	LA	1813	A
1	LA	1815	A
1	LA	1819	U
1	LA	1820	U
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	1870	U
1	LA	1877	G
1	LA	1878	A
1	LA	1879	U
1	LA	1885	A
1	LA	1892	A
1	LA	1905	G
1	LA	1925	C
1	LA	1948	G
1	LA	1949	U
1	LA	1950	C
1	LA	2096	U
1	LA	2097	C
1	LA	2098	A
1	LA	2099	A
1	LA	2106	A
1	LA	2109	G
1	LA	2110	G

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Mol	Chain	Res	Type
1	LA	2112	A
1	LA	2120	G
1	LA	2121	G
1	LA	2125	A
1	LA	2130	A
1	LA	2139	U
1	LA	2141	A
1	LA	2143	A
1	LA	2157	A
1	LA	2165	A
1	LA	2166	A
1	LA	2168	G
1	LA	2169	U
1	LA	2175	U
1	LA	2187	A
1	LA	2206	A
1	LA	2208	U
1	LA	2209	G
1	LA	2224	U
1	LA	2243	A
1	LA	2245	G
1	LA	2248	G
1	LA	2250	G
1	LA	2252	G
1	LA	2253	U
1	LA	2254	A
1	LA	2256	C
1	LA	2260	G
1	LA	2261	A
1	LA	2265	U
1	LA	2267	U
1	LA	2268	U
1	LA	2269	A
1	LA	2271	G
1	LA	2272	G
1	LA	2273	U
1	LA	2274	A
1	LA	2275	G
1	LA	2280	A
1	LA	2281	U
1	LA	2306	G
1	LA	2308	A

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Mol	Chain	Res	Type
1	LA	2309	U
1	LA	2312	A
1	LA	2313	U
1	LA	2314	G
1	LA	2333	U
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	2396	A
1	LA	2400	A
1	LA	2401	A
1	LA	2402	G
1	LA	2403	A
1	LA	2410	U
1	LA	2434	G
1	LA	2437	A
1	LA	2444	A
1	LA	2445	U
1	LA	2451	G
1	LA	2493	A
1	LA	2496	U
1	LA	2500	U
1	LA	2501	A
1	LA	2513	U
1	LA	2522	A
1	LA	2523	A
1	LA	2525	C
1	LA	2530	C
1	LA	2531	U
1	LA	2532	G
1	LA	2533	G
1	LA	2534	A
1	LA	2535	A
1	LA	2536	U
1	LA	2537	U
1	LA	2538	C
1	LA	2539	A
1	LA	2540	U

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Mol	Chain	Res	Type
1	LA	2541	U
1	LA	2544	C
1	LA	2547	C
1	LA	2548	G
1	LA	2549	U
1	LA	2550	U
1	LA	2551	C
1	LA	2554	G
1	LA	2558	U
1	LA	2559	C
1	LA	2565	C
1	LA	2569	U
1	LA	2570	U
1	LA	2571	C
1	LA	2572	G
1	LA	2579	A
1	LA	2584	G
1	LA	2592	A
1	LA	2605	G
1	LA	2606	G
1	LA	2613	G
1	LA	2614	G
1	LA	2625	A
1	LA	2628	U
1	LA	2636	A
1	LA	2647	G
1	LA	2650	G
1	LA	2651	U
1	LA	2655	A
1	LA	2671	G
1	LA	2673	A
1	LA	2676	G
1	LA	2688	A
1	LA	2690	A
1	LA	2693	A
1	LA	2695	A
1	LA	2703	A
1	LA	2713	G
1	LA	2715	U
1	LA	2719	G
1	LA	2726	A
1	LA	2727	G

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Mol	Chain	Res	Type
1	LA	2728	U
1	LA	2736	C
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	2795	G
1	LA	2798	A
1	LA	2799	G
1	LA	2800	A
1	LA	2802	A
1	LA	2809	C
1	LA	2813	G
1	LA	2816	A
1	LA	2817	U
1	LA	2820	C
1	LA	2837	A
1	LA	2843	C
1	LA	2844	A
1	LA	2848	C
1	LA	2855	G
1	LA	2860	U
1	LA	2870	G
1	LA	2871	A
1	LA	2874	U
1	LA	2886	A
1	LA	2888	C
1	LA	2899	A
1	LA	2910	A
1	LA	2913	G
1	LA	2922	U
1	LA	2927	C
1	LA	2932	A
1	LA	2934	U
1	LA	2935	A
1	LA	2940	A
1	LA	2941	C
1	LA	2946	G
1	LA	2947	C
1	LA	2953	U

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Mol	Chain	Res	Type
1	LA	2970	A
1	LA	2971	G
1	LA	2978	U
1	LA	2982	C
1	LA	2989	G
1	LA	2996	G
1	LA	3010	A
1	LA	3011	A
1	LA	3029	G
1	LA	3036	U
1	LA	3055	U
1	LA	3058	G
1	LA	3073	G
1	LA	3077	U
1	LA	3085	A
1	LA	3086	A
1	LA	3091	C
1	LA	3093	A
1	LA	3094	U
1	LA	3100	G
1	LA	3103	U
1	LA	3121	A
1	LA	3129	A
1	LA	3130	U
1	LA	3141	A
1	LA	3142	C
1	LA	3150	U
1	LA	3152	U
1	LA	3154	U
1	LA	3155	U
1	LA	3156	U
1	LA	3164	A
1	LA	3171	A
1	LA	3172	G
1	LA	3175	G
1	LA	3178	U
1	LA	3179	A
1	LA	3180	C
1	LA	3181	G
1	LA	3186	A
1	LA	3194	U
1	LA	3195	U

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Mol	Chain	Res	Type
1	LA	3205	C
1	LA	3206	U
1	LA	3215	G
1	LA	3216	C
1	LA	3217	A
1	LA	3218	G
1	LA	3219	G
1	LA	3233	A
1	LA	3238	G
1	LA	3242	A
1	LA	3246	G
1	LA	3258	U
1	LA	3262	G
1	LA	3269	U
1	LA	3272	A
1	LA	3275	G
1	LA	3276	U
1	LA	3279	U
1	LA	3280	U
1	LA	3281	U
1	LA	3288	G
1	LA	3293	A
1	LA	3294	A
1	LA	3303	U
1	LA	3306	A
1	LA	3308	G
1	LA	3312	U
1	LA	3315	A
1	LA	3316	U
1	LA	3318	U
1	LA	3328	U
1	LA	3341	A
1	LA	3344	G
1	LA	3346	A
1	LA	3349	C
1	LA	3350	U
1	LA	3351	U
1	LA	3352	G
1	LA	3353	U
1	LA	3354	U
1	LA	3368	G
1	LA	3377	C

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Mol	Chain	Res	Type
1	LA	3389	G
1	LA	3390	A
1	LA	3395	U
2	LB	7	G
2	LB	33	U
2	LB	37	G
2	LB	42	A
2	LB	54	U
2	LB	55	A
2	LB	64	A
2	LB	65	G
2	LB	68	C
2	LB	76	A
2	LB	102	A
2	LB	112	G
3	LC	6	U
3	LC	7	U
3	LC	15	G
3	LC	23	U
3	LC	33	A
3	LC	34	U
3	LC	35	C
3	LC	49	G
3	LC	59	A
3	LC	62	C
3	LC	63	G
3	LC	80	A
3	LC	81	U
3	LC	82	U
3	LC	84	C
3	LC	85	G
3	LC	86	U
3	LC	87	G
3	LC	90	U
3	LC	95	G
3	LC	97	A
3	LC	102	U
3	LC	104	A
3	LC	105	A
3	LC	106	C
3	LC	111	A
3	LC	112	U

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Mol	Chain	Res	Type
3	LC	113	U
3	LC	125	U
3	LC	126	A
3	LC	138	A
3	LC	148	G
3	LC	152	G
3	LC	154	C
3	LC	155	A
3	LC	156	U
3	LC	157	U
3	LC	158	U
45	S2	2	A
45	S2	4	C
45	S2	14	C
45	S2	24	U
45	S2	25	C
45	S2	26	A
45	S2	34	G
45	S2	36	C
45	S2	42	G
45	S2	43	A
45	S2	47	A
45	S2	56	U
45	S2	57	G
45	S2	62	A
45	S2	67	A
45	S2	73	U
45	S2	74	U
45	S2	75	U
45	S2	78	A
45	S2	79	C
45	S2	80	A
45	S2	81	G
45	S2	92	A
45	S2	100	A
45	S2	104	A
45	S2	114	C
45	S2	115	G
45	S2	116	U
45	S2	119	A
45	S2	120	U
45	S2	121	U

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Mol	Chain	Res	Type
45	S2	126	A
45	S2	127	G
45	S2	128	U
45	S2	129	U
45	S2	130	C
45	S2	131	C
45	S2	132	U
45	S2	134	U
45	S2	135	A
45	S2	136	C
45	S2	137	U
45	S2	140	A
45	S2	141	U
45	S2	149	C
45	S2	152	U
45	S2	153	G
45	S2	155	U
45	S2	161	U
45	S2	162	A
45	S2	168	A
45	S2	170	U
45	S2	171	A
45	S2	173	A
45	S2	175	G
45	S2	176	C
45	S2	178	U
45	S2	179	A
45	S2	189	C
45	S2	191	C
45	S2	193	U
45	S2	194	U
45	S2	195	G
45	S2	197	A
45	S2	212	U
45	S2	216	U
45	S2	217	A
45	S2	218	A
45	S2	220	A
45	S2	223	U
45	S2	224	C
45	S2	225	A
45	S2	226	A

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Mol	Chain	Res	Type
45	S2	227	U
45	S2	228	G
45	S2	230	C
45	S2	231	U
45	S2	232	U
45	S2	233	C
45	S2	234	G
45	S2	235	G
45	S2	238	U
45	S2	239	C
45	S2	240	U
45	S2	241	U
45	S2	242	U
45	S2	244	A
45	S2	249	U
45	S2	250	C
45	S2	253	A
45	S2	258	C
45	S2	260	U
45	S2	261	U
45	S2	264	G
45	S2	265	A
45	S2	266	A
45	S2	267	U
45	S2	276	C
45	S2	278	U
45	S2	280	U
45	S2	281	G
45	S2	283	U
45	S2	285	G
45	S2	288	A
45	S2	290	G
45	S2	292	U
45	S2	293	U
45	S2	295	A
45	S2	299	A
45	S2	300	A
45	S2	314	C
45	S2	316	A
45	S2	319	U
45	S2	320	U
45	S2	321	C

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Mol	Chain	Res	Type
45	S2	322	G
45	S2	334	G
45	S2	337	G
45	S2	338	C
45	S2	339	C
45	S2	352	A
45	S2	359	A
45	S2	361	C
45	S2	369	A
45	S2	370	A
45	S2	371	G
45	S2	373	G
45	S2	378	A
45	S2	388	G
45	S2	390	G
45	S2	400	A
45	S2	401	A
45	S2	402	C
45	S2	404	G
45	S2	407	A
45	S2	410	A
45	S2	411	C
45	S2	413	U
45	S2	414	C
45	S2	415	C
45	S2	417	A
45	S2	419	G
45	S2	423	G
45	S2	424	C
45	S2	425	A
45	S2	426	G
45	S2	432	G
45	S2	434	G
45	S2	435	C
45	S2	437	A
45	S2	439	U
45	S2	440	U
45	S2	441	A
45	S2	444	C
45	S2	445	A
45	S2	452	A
45	S2	453	U

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Mol	Chain	Res	Type
45	S2	454	U
45	S2	455	C
45	S2	456	A
45	S2	459	G
45	S2	460	A
45	S2	461	G
45	S2	470	A
45	S2	477	A
45	S2	480	G
45	S2	482	U
45	S2	484	C
45	S2	485	A
45	S2	486	G
45	S2	489	C
45	S2	490	C
45	S2	491	C
45	S2	492	A
45	S2	493	U
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	503	G
45	S2	504	U
45	S2	505	A
45	S2	506	A
45	S2	509	G
45	S2	517	U
45	S2	518	A
45	S2	519	C
45	S2	520	A
45	S2	526	A
45	S2	530	C
45	S2	531	C
45	S2	534	A
45	S2	535	A
45	S2	538	A
45	S2	539	G
45	S2	540	G

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Mol	Chain	Res	Type
45	S2	541	A
45	S2	542	A
45	S2	545	A
45	S2	546	U
45	S2	548	G
45	S2	551	G
45	S2	555	A
45	S2	556	A
45	S2	557	G
45	S2	558	U
45	S2	559	C
45	S2	565	C
45	S2	567	A
45	S2	568	G
45	S2	573	C
45	S2	577	G
45	S2	578	U
45	S2	579	A
45	S2	580	A
45	S2	589	C
45	S2	590	C
45	S2	594	A
45	S2	595	G
45	S2	605	A
45	S2	606	A
45	S2	608	U
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	638	U
45	S2	639	U
45	S2	640	U
45	S2	652	G
45	S2	653	C
45	S2	654	C
45	S2	655	G
45	S2	657	U
45	S2	679	U

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Mol	Chain	Res	Type
45	S2	680	U
45	S2	681	U
45	S2	682	C
45	S2	684	A
45	S2	686	C
45	S2	687	G
45	S2	688	G
45	S2	690	G
45	S2	694	U
45	S2	696	C
45	S2	697	C
45	S2	698	U
45	S2	699	U
45	S2	700	C
45	S2	702	G
45	S2	705	U
45	S2	706	A
45	S2	708	C
45	S2	709	C
45	S2	711	U
45	S2	713	A
45	S2	714	G
45	S2	727	U
45	S2	728	U
45	S2	729	G
45	S2	730	G
45	S2	732	G
45	S2	736	C
45	S2	740	A
45	S2	741	C
45	S2	742	U
45	S2	743	U
45	S2	744	U
45	S2	745	U
45	S2	750	U
45	S2	753	A
45	S2	755	A
45	S2	756	A
45	S2	757	A
45	S2	762	A
45	S2	765	G
45	S2	766	U

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Mol	Chain	Res	Type
45	S2	767	U
45	S2	769	A
45	S2	771	A
45	S2	772	G
45	S2	774	A
45	S2	778	G
45	S2	779	U
45	S2	781	U
45	S2	783	G
45	S2	790	U
45	S2	791	A
45	S2	793	A
45	S2	794	U
45	S2	796	A
45	S2	799	A
45	S2	804	A
45	S2	805	U
45	S2	806	A
45	S2	808	U
45	S2	810	G
45	S2	812	A
45	S2	813	U
45	S2	814	A
45	S2	815	G
45	S2	816	G
45	S2	818	C
45	S2	820	U
45	S2	821	U
45	S2	822	U
45	S2	825	U
45	S2	826	U
45	S2	828	U
45	S2	830	U
45	S2	831	U
45	S2	832	U
45	S2	834	G
45	S2	837	G
45	S2	840	U
45	S2	841	U
45	S2	842	C
45	S2	843	U
45	S2	846	G

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Mol	Chain	Res	Type
45	S2	847	A
45	S2	848	C
45	S2	850	A
45	S2	853	G
45	S2	856	A
45	S2	857	U
45	S2	859	A
45	S2	863	A
45	S2	876	G
45	S2	877	G
45	S2	900	A
45	S2	902	G
45	S2	906	A
45	S2	912	U
45	S2	913	G
45	S2	914	G
45	S2	915	A
45	S2	917	U
45	S2	929	A
45	S2	933	A
45	S2	934	C
45	S2	935	U
45	S2	940	A
45	S2	942	G
45	S2	945	U
45	S2	964	U
45	S2	966	A
45	S2	970	A
45	S2	988	A
45	S2	989	U
45	S2	992	A
45	S2	993	A
45	S2	1004	U
45	S2	1005	A
45	S2	1021	C
45	S2	1025	A
45	S2	1026	A
45	S2	1028	C
45	S2	1030	A
45	S2	1031	U
45	S2	1032	G
45	S2	1039	A

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Mol	Chain	Res	Type
45	S2	1052	U
45	S2	1053	G
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	1075	C
45	S2	1076	A
45	S2	1078	C
45	S2	1080	U
45	S2	1081	A
45	S2	1082	C
45	S2	1083	G
45	S2	1092	A
45	S2	1093	A
45	S2	1096	C
45	S2	1098	U
45	S2	1100	G
45	S2	1138	A
45	S2	1143	A
45	S2	1150	G
45	S2	1151	A
45	S2	1158	C
45	S2	1159	C
45	S2	1160	A
45	S2	1167	G
45	S2	1171	A
45	S2	1174	C
45	S2	1175	U
45	S2	1184	A
45	S2	1185	U
45	S2	1191	U
45	S2	1194	A
45	S2	1196	A
45	S2	1197	C
45	S2	1199	G
45	S2	1200	G
45	S2	1202	A
45	S2	1205	C
45	S2	1206	U

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Mol	Chain	Res	Type
45	S2	1207	C
45	S2	1212	G
45	S2	1216	C
45	S2	1217	A
45	S2	1219	A
45	S2	1221	A
45	S2	1223	A
45	S2	1226	A
45	S2	1227	A
45	S2	1229	G
45	S2	1230	A
45	S2	1231	U
45	S2	1232	U
45	S2	1233	G
45	S2	1234	A
45	S2	1237	G
45	S2	1241	G
45	S2	1243	G
45	S2	1244	A
45	S2	1245	G
45	S2	1248	C
45	S2	1252	C
45	S2	1256	A
45	S2	1258	U
45	S2	1259	U
45	S2	1263	G
45	S2	1270	G
45	S2	1274	C
45	S2	1275	A
45	S2	1276	U
45	S2	1278	G
45	S2	1280	C
45	S2	1284	C
45	S2	1285	U
45	S2	1301	U
45	S2	1307	U
45	S2	1308	G
45	S2	1314	U
45	S2	1315	U
45	S2	1321	A
45	S2	1322	A
45	S2	1334	U

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Mol	Chain	Res	Type
45	S2	1337	A
45	S2	1340	U
45	S2	1345	A
45	S2	1346	A
45	S2	1348	A
45	S2	1349	G
45	S2	1351	G
45	S2	1356	U
45	S2	1360	A
45	S2	1361	U
45	S2	1363	U
45	S2	1364	G
45	S2	1367	G
45	S2	1370	U
45	S2	1371	A
45	S2	1372	U
45	S2	1375	A
45	S2	1378	U
45	S2	1379	C
45	S2	1384	A
45	S2	1385	G
45	S2	1388	A
45	S2	1389	C
45	S2	1390	U
45	S2	1398	U
45	S2	1399	C
45	S2	1400	A
45	S2	1406	A
45	S2	1409	G
45	S2	1413	U
45	S2	1414	U
45	S2	1415	U
45	S2	1421	A
45	S2	1427	A
45	S2	1428	G
45	S2	1431	C
45	S2	1432	U
45	S2	1433	G
45	S2	1435	G
45	S2	1436	A
45	S2	1442	U
45	S2	1444	A

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Mol	Chain	Res	Type
45	S2	1445	G
45	S2	1446	A
45	S2	1454	G
45	S2	1457	C
45	S2	1458	G
45	S2	1459	C
45	S2	1466	G
45	S2	1471	A
45	S2	1472	C
45	S2	1474	G
45	S2	1481	C
45	S2	1486	G
45	S2	1492	A
45	S2	1493	A
45	S2	1494	C
45	S2	1496	U
45	S2	1497	U
45	S2	1503	A
45	S2	1504	G
45	S2	1505	A
45	S2	1508	U
45	S2	1509	C
45	S2	1512	G
45	S2	1514	U
45	S2	1516	A
45	S2	1521	G
45	S2	1523	G
45	S2	1524	A
45	S2	1528	U
45	S2	1535	U
45	S2	1536	G
45	S2	1537	C
45	S2	1538	U
45	S2	1542	G
45	S2	1543	A
45	S2	1545	A
45	S2	1546	G
45	S2	1548	G
45	S2	1549	C
45	S2	1550	A
45	S2	1554	U
45	S2	1555	A

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Mol	Chain	Res	Type
45	S2	1557	U
45	S2	1558	U
45	S2	1559	A
45	S2	1560	U
45	S2	1563	C
45	S2	1564	U
45	S2	1566	U
45	S2	1570	A
45	S2	1573	A
45	S2	1574	G
45	S2	1579	U
45	S2	1582	U
45	S2	1583	A
45	S2	1584	G
45	S2	1590	G
45	S2	1596	C
45	S2	1601	G
45	S2	1610	G
45	S2	1611	A
45	S2	1612	U
45	S2	1613	U
45	S2	1614	A
45	S2	1618	C
45	S2	1619	C
45	S2	1622	G
45	S2	1631	A
45	S2	1634	C
45	S2	1636	C
45	S2	1637	C
45	S2	1644	C
45	S2	1645	G
45	S2	1657	U
45	S2	1658	G
45	S2	1676	U
45	S2	1683	C
45	S2	1684	U
45	S2	1685	G
45	S2	1688	U
45	S2	1690	G
45	S2	1693	A
45	S2	1695	G
45	S2	1700	C

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Mol	Chain	Res	Type
45	S2	1703	C
45	S2	1705	C
45	S2	1707	A
45	S2	1708	U
45	S2	1709	C
45	S2	1710	U
45	S2	1713	G
45	S2	1714	A
45	S2	1717	G
45	S2	1728	A
45	S2	1732	A
45	S2	1735	U
45	S2	1736	G
45	S2	1738	U
45	S2	1739	C
45	S2	1741	U
45	S2	1755	A
45	S2	1756	A
45	S2	1762	A
45	S2	1763	A
45	S2	1766	A
45	S2	1767	G
45	S2	1769	U
45	S2	1780	G
45	S2	1781	A
45	S2	1782	A
45	S2	1783	C
45	S2	1792	G
45	S2	1793	G
45	S2	1794	A
45	S2	1796	C
45	S2	1799	U
79	Tb	2	G
79	Tb	3	C
79	Tb	8	U
79	Tb	12	G
79	Tb	18	C
79	Tb	21	U
79	Tb	40	C
79	Tb	45	A
79	Tb	46	G
79	Tb	48	U

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Mol	Chain	Res	Type
79	Tb	49	C
79	Tb	50	G
79	Tb	52	C
79	Tb	58	A
79	Tb	59	A
79	Tb	60	A
79	Tb	62	C
79	Tb	68	C
79	Tb	71	G
79	Tb	72	C
79	Tb	74	A
79	Tb	76	C
79	Tb	77	A

All (57) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	LA	13	A
1	LA	170	G
1	LA	282	G
1	LA	374	A
1	LA	619	U
1	LA	848	C
1	LA	915	G
1	LA	1025	A
1	LA	1063	A
1	LA	1096	G
1	LA	1282	C
1	LA	1306	G
1	LA	1814	U
1	LA	2111	U
1	LA	2255	A
1	LA	2259	U
1	LA	2401	A
1	LA	2495	C
1	LA	2500	U
1	LA	2524	G
1	LA	2817	U
1	LA	3120	U
1	LA	3268	U
1	LA	3349	C
3	LC	85	G

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Mol	Chain	Res	Type
3	LC	125	U
45	S2	35	U
45	S2	77	U
45	S2	80	A
45	S2	177	U
45	S2	188	A
45	S2	230	C
45	S2	237	C
45	S2	299	A
45	S2	387	A
45	S2	400	A
45	S2	410	A
45	S2	500	C
45	S2	539	G
45	S2	541	A
45	S2	555	A
45	S2	609	U
45	S2	639	U
45	S2	705	U
45	S2	752	A
45	S2	803	A
45	S2	819	G
45	S2	840	U
45	S2	928	U
45	S2	963	A
45	S2	1229	G
45	S2	1430	U
45	S2	1431	C
45	S2	1471	A
45	S2	1556	A
45	S2	1636	C
45	S2	1684	U

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.

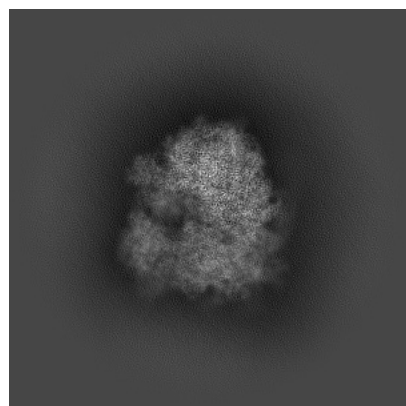
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-60091. These allow visual inspection of the internal detail of the map and identification of artifacts.

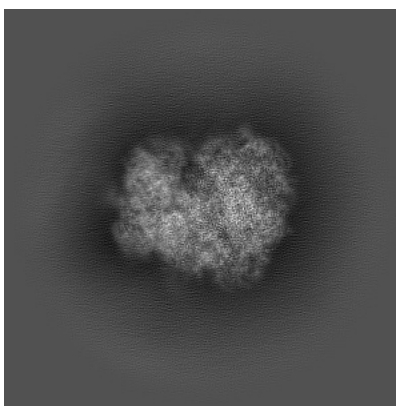
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

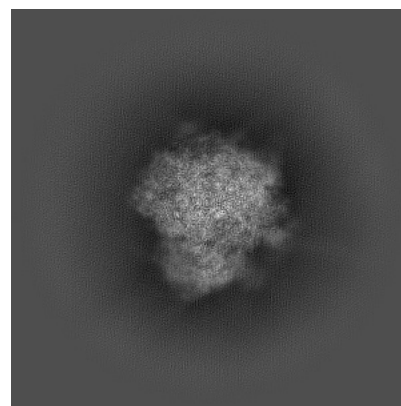
6.1.1 Primary map



X

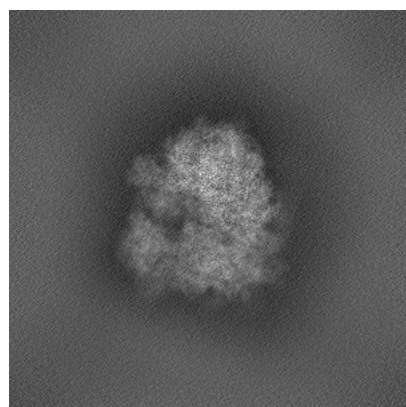


Y

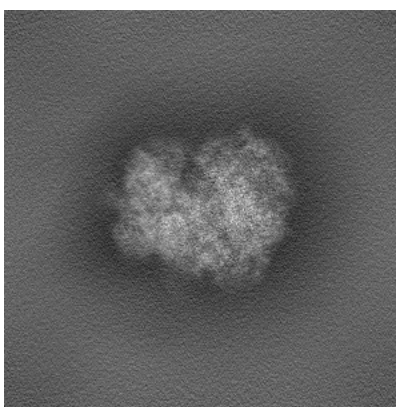


Z

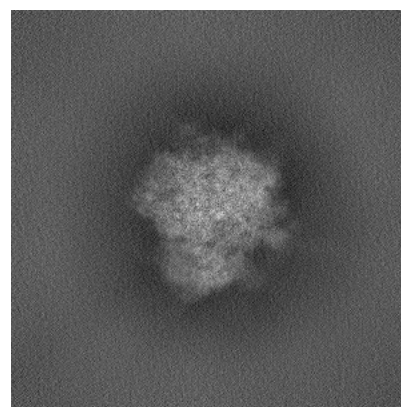
6.1.2 Raw map



X



Y

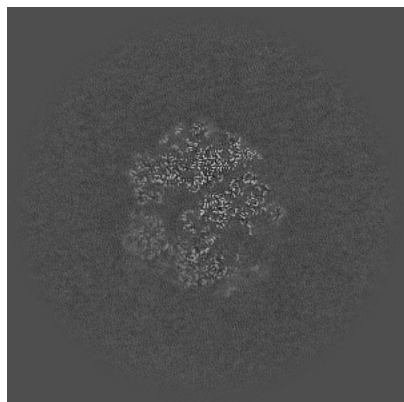


Z

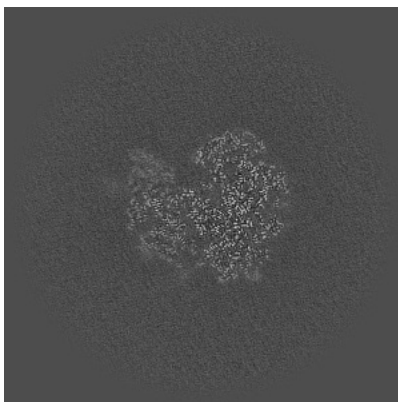
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

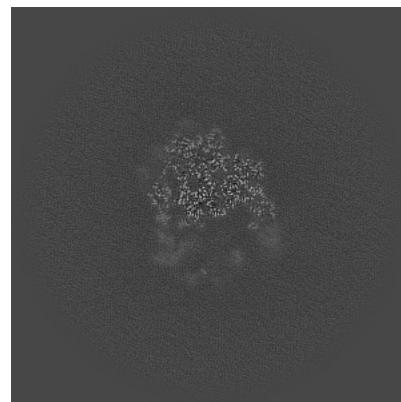
6.2.1 Primary map



X Index: 300

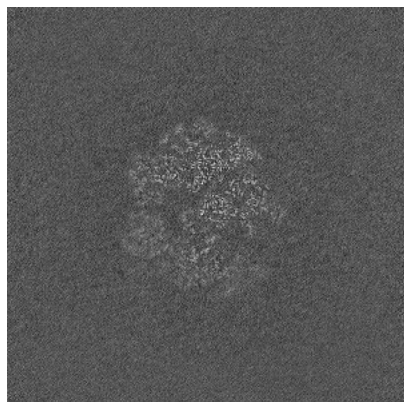


Y Index: 300

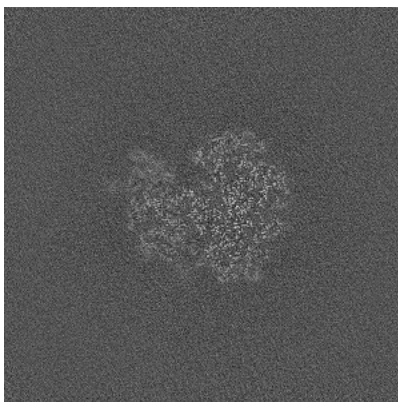


Z Index: 300

6.2.2 Raw map



X Index: 300



Y Index: 300

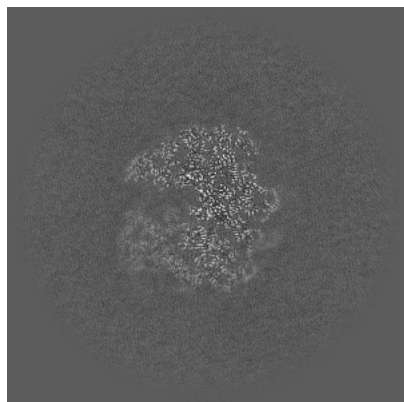


Z Index: 300

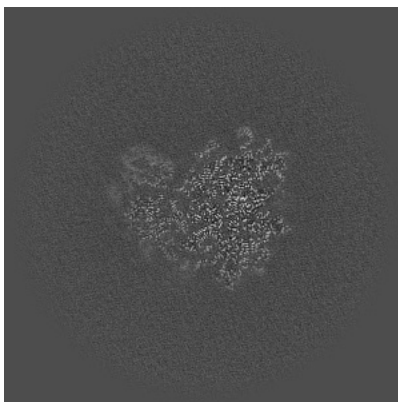
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

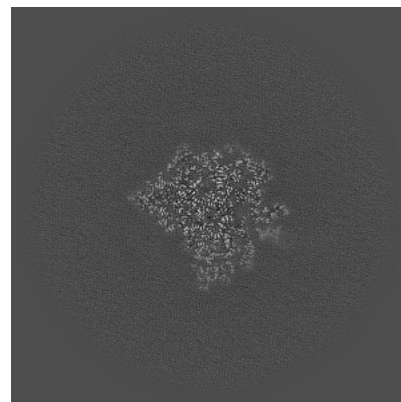
6.3.1 Primary map



X Index: 283

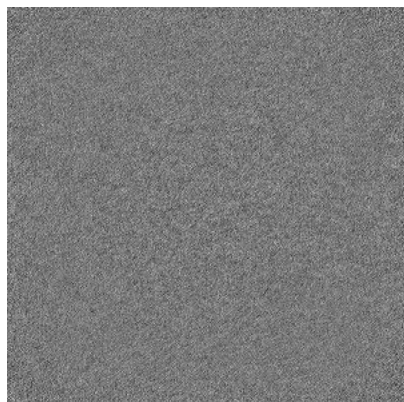


Y Index: 311

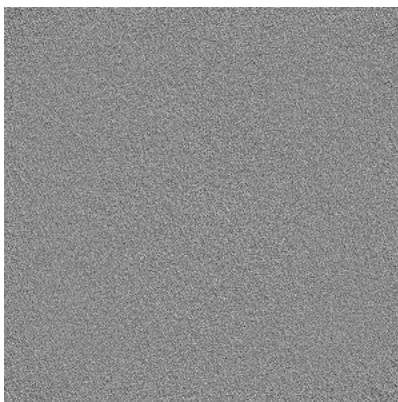


Z Index: 341

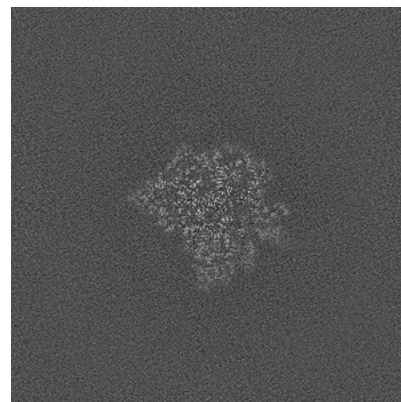
6.3.2 Raw map



X Index: 0



Y Index: 0

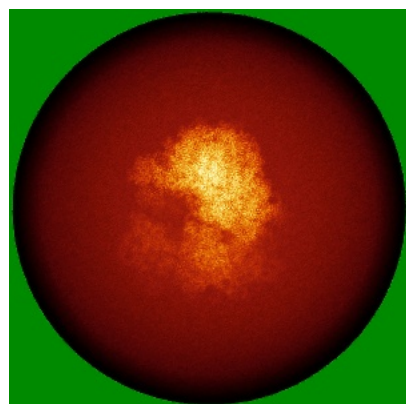


Z Index: 341

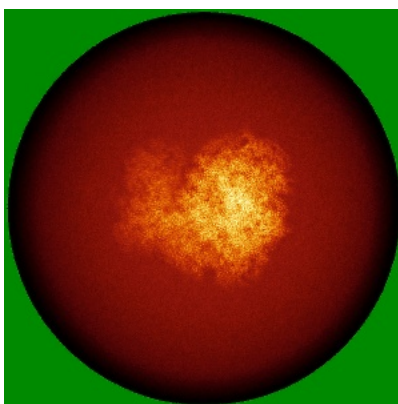
The images above show the largest variance slices of the map in three orthogonal directions.

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

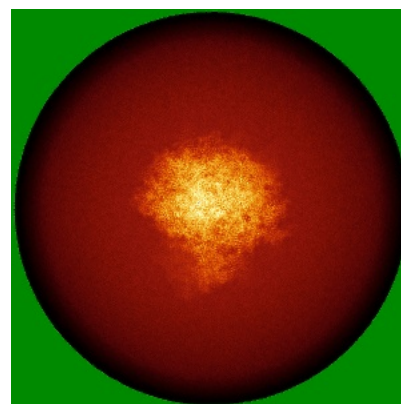
6.4.1 Primary map



X

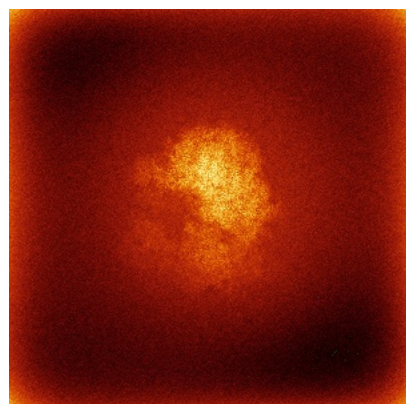


Y

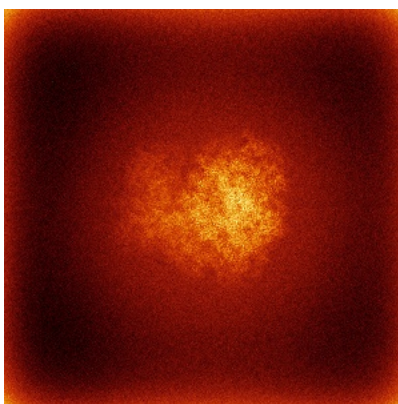


Z

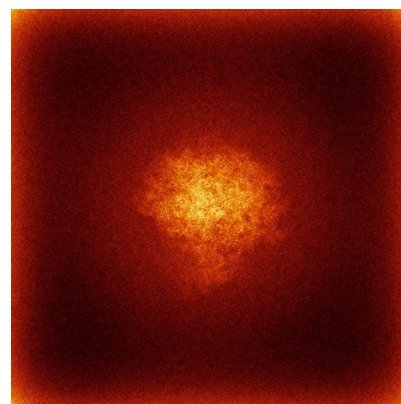
6.4.2 Raw map



X



Y

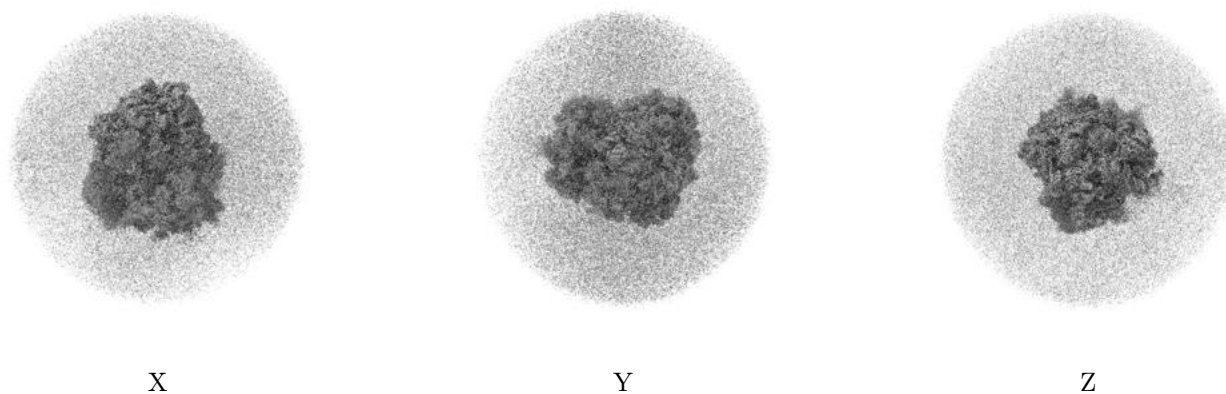


Z

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.

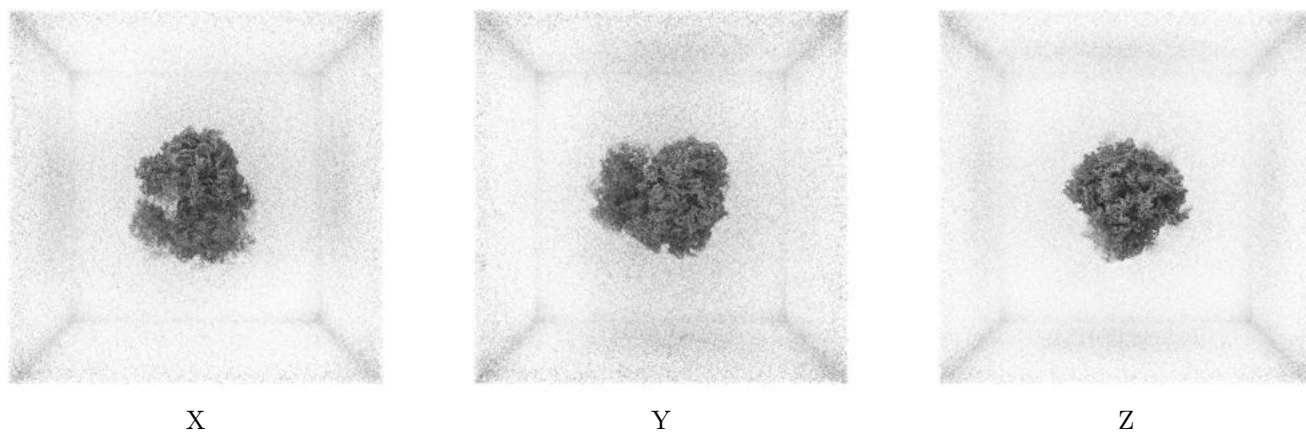
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.22. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

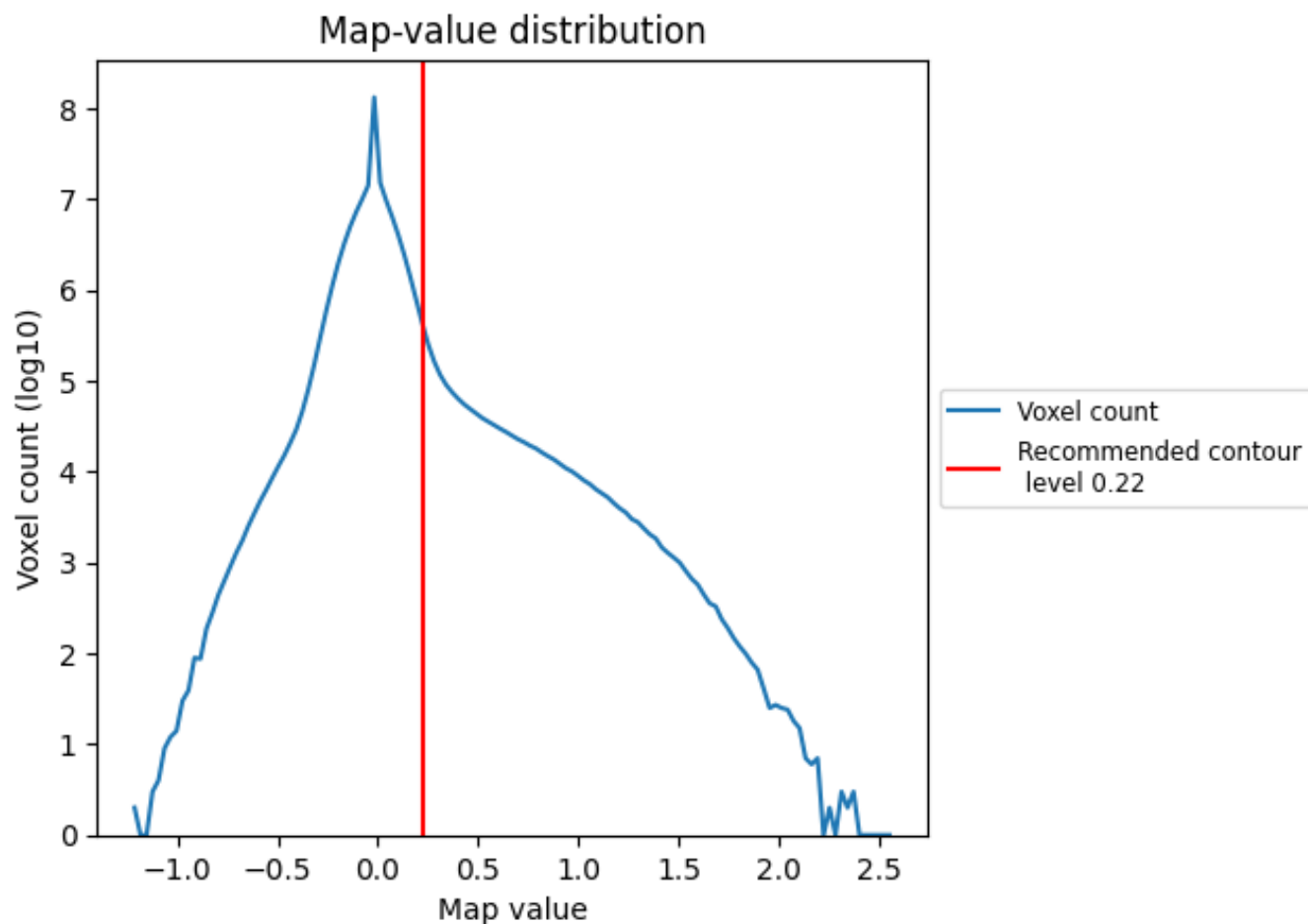
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

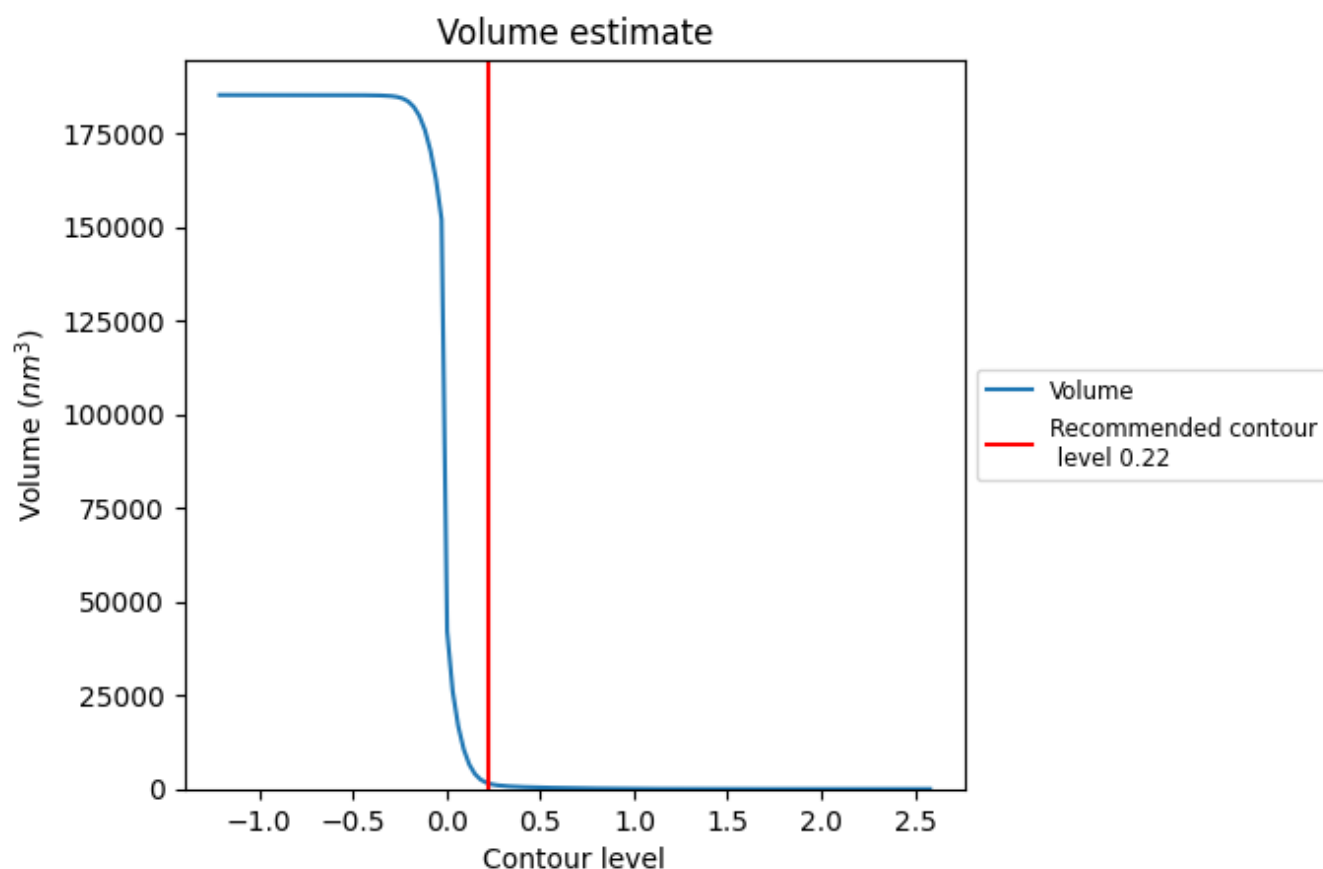
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

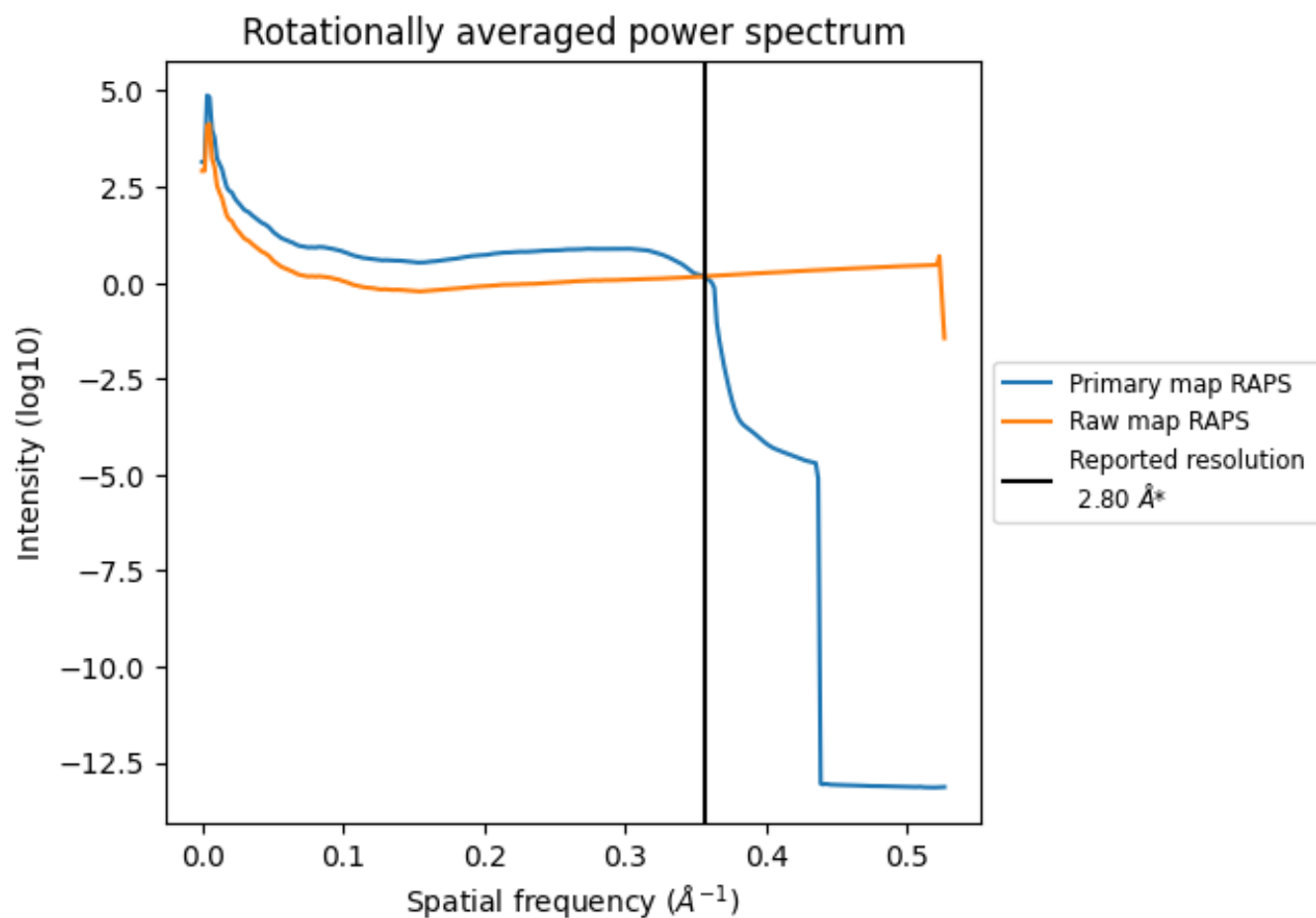
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1553 nm^3 ; this corresponds to an approximate mass of 1403 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 ⓘ

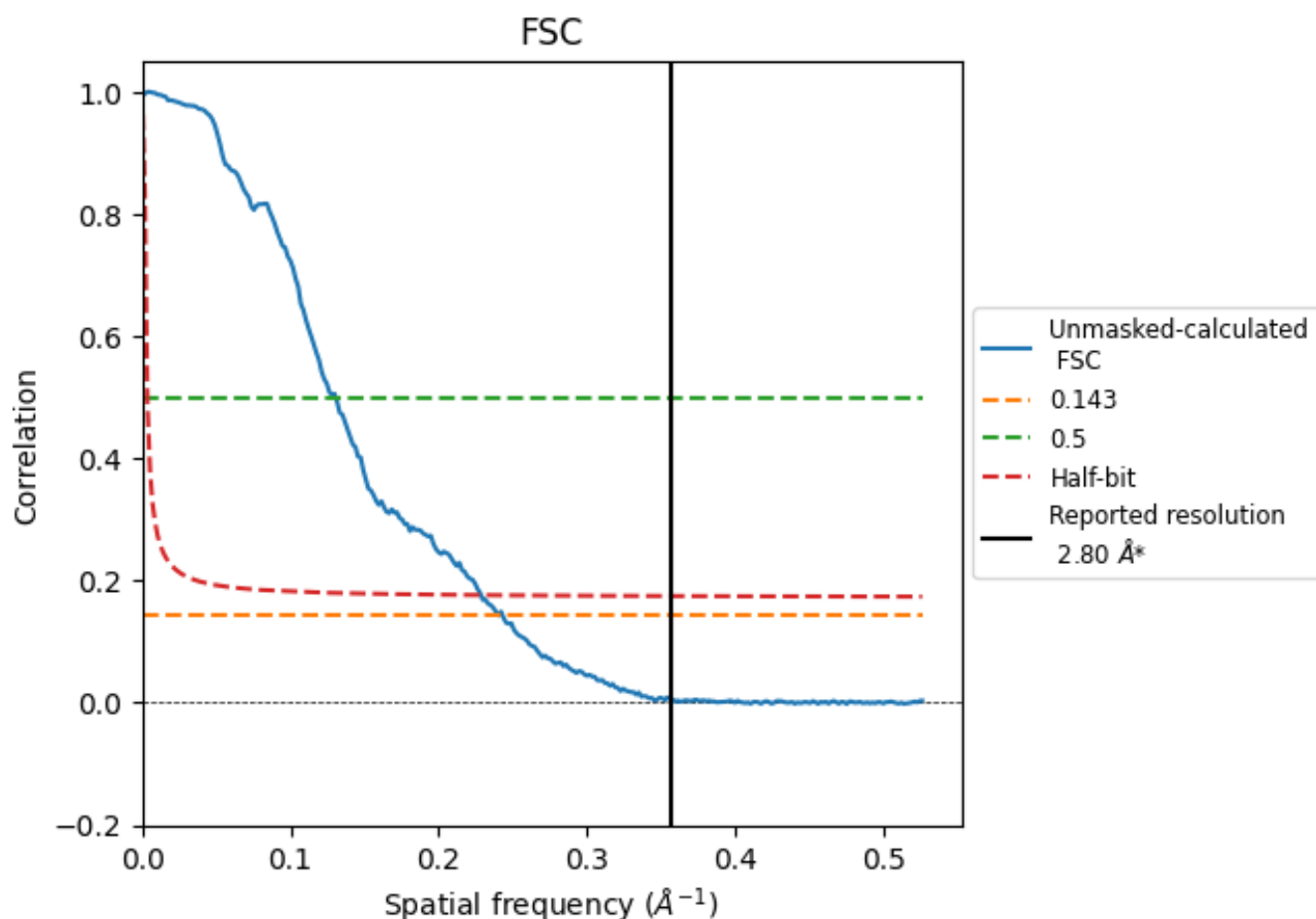


*Reported resolution corresponds to spatial frequency of 0.357 Å⁻¹

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 $0.357 \text{ \AA}^{-1}$

8.2 Resolution estimates [i](#)

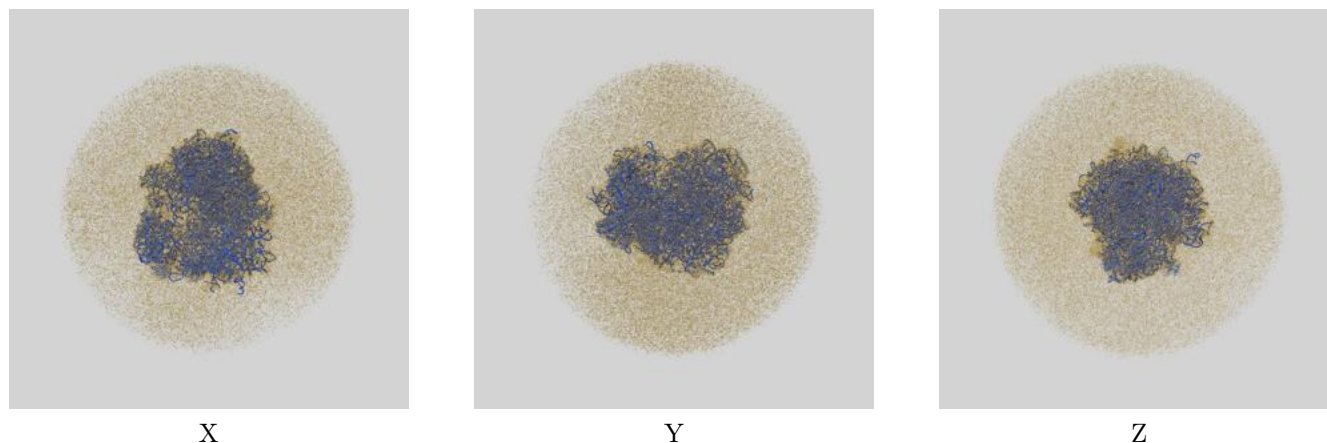
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.80	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.16	7.66	4.37

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.16 differs from the reported value 2.8 by more than 10 %

9 Map-model fit [i](#)

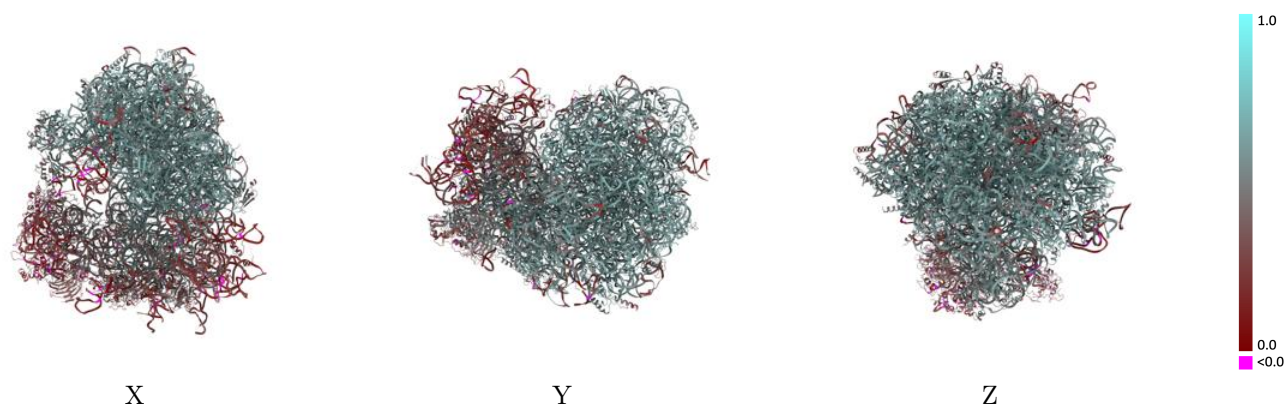
This section contains information regarding the fit between EMDB map EMD-60091 and PDB model 8ZGY. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



The images above show the 3D surface view of the map at the recommended contour level 0.22 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](#)

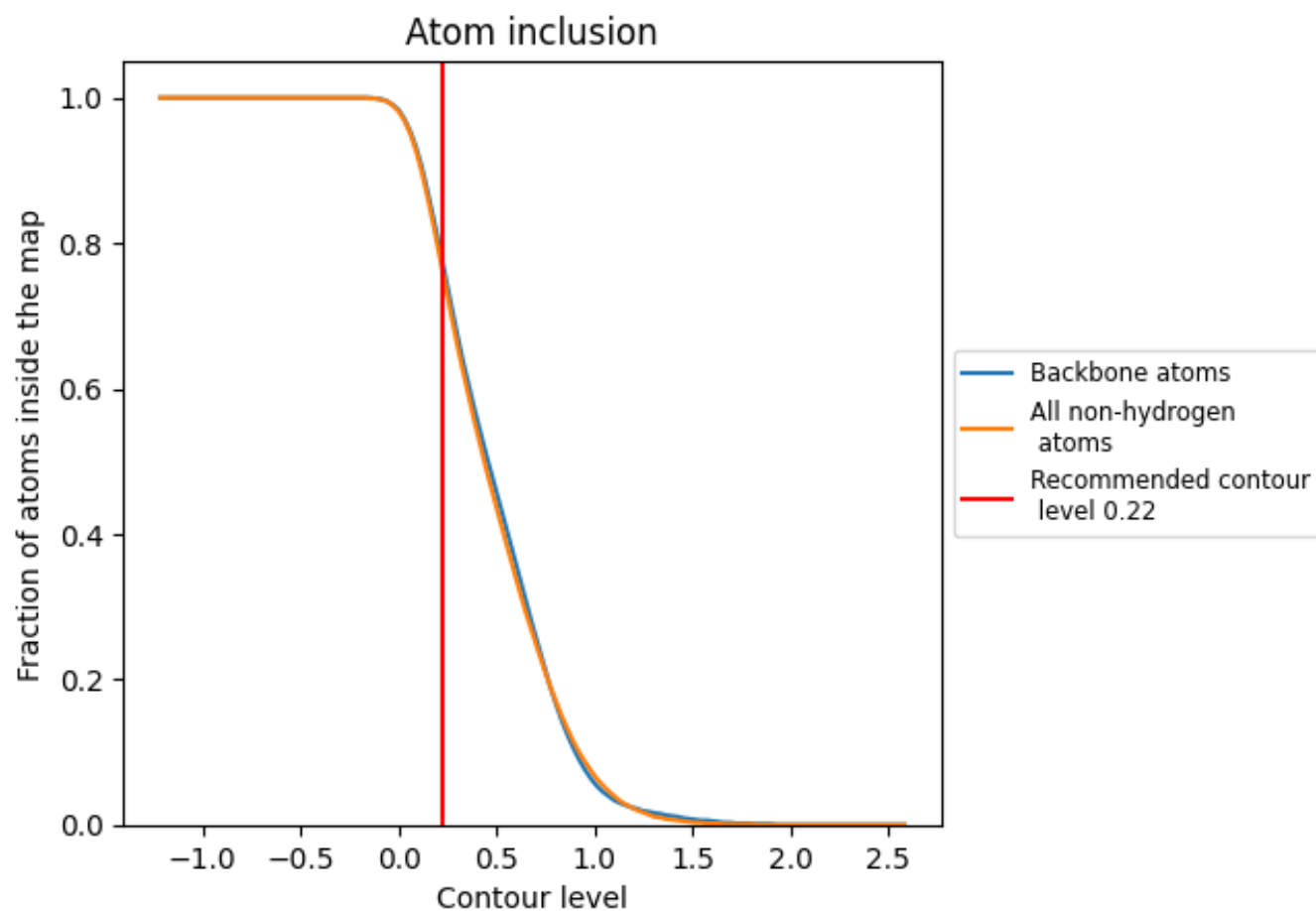


The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

This section was not generated.

9.4 Atom inclusion [i](#)



At the recommended contour level, 78% of all backbone atoms, 77% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.22) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7690	 0.4990
LA	 0.9110	 0.5740
LB	 0.9620	 0.5840
LC	 0.9370	 0.5900
LD	 0.9230	 0.6220
LE	 0.9150	 0.6050
LF	 0.9010	 0.5920
LG	 0.8040	 0.5210
LH	 0.8100	 0.5490
LI	 0.9100	 0.6030
LJ	 0.8370	 0.5460
LK	 0.8470	 0.5700
LL	 0.8640	 0.5860
LM	 0.7450	 0.4820
LN	 0.8770	 0.5790
LO	 0.8770	 0.5750
LP	 0.9460	 0.6250
LQ	 0.9130	 0.5960
LR	 0.9040	 0.6020
LS	 0.9270	 0.6110
LT	 0.8050	 0.5510
LU	 0.9090	 0.6020
LV	 0.9100	 0.5970
LW	 0.7470	 0.4920
LX	 0.8990	 0.6050
LY	 0.9040	 0.5960
LZ	 0.8620	 0.5750
La	 0.8880	 0.5830
Lb	 0.8560	 0.5620
Lc	 0.9190	 0.6040
Ld	 0.8720	 0.5710
Le	 0.8590	 0.5680
Lf	 0.8460	 0.5700
Lg	 0.8750	 0.5870
Lh	 0.9460	 0.6240



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Chain	Atom inclusion	Q-score
Li	 0.8880	 0.5960
Lj	 0.8850	 0.5880
Lk	 0.8200	 0.5510
Ll	 0.9530	 0.6250
Lm	 0.6640	 0.4760
Ln	 0.9230	 0.6150
Lo	 0.9040	 0.5990
Lp	 0.8080	 0.5820
Lq	 0.9030	 0.5910
Lr	 0.9000	 0.6110
S2	 0.6620	 0.3880
SA	 0.3020	 0.3020
SB	 0.2620	 0.2990
SC	 0.2420	 0.2470
SD	 0.0360	 0.1900
SE	 0.3710	 0.3240
SF	 0.3410	 0.2960
SG	 0.3570	 0.3150
SH	 0.3800	 0.3150
SI	 0.3290	 0.2810
SJ	 0.2940	 0.2920
SK	 0.1350	 0.2460
SL	 0.3530	 0.3370
SM	 0.3780	 0.3180
SN	 0.0750	 0.1890
SO	 0.1900	 0.2640
SP	 0.5550	 0.4050
SQ	 0.6880	 0.4690
SR	 0.6750	 0.4710
SS	 0.5330	 0.3780
ST	 0.4160	 0.3190
SU	 0.5780	 0.4220
SV	 0.5820	 0.3850
SW	 0.4610	 0.3200
SX	 0.6790	 0.4600
SY	 0.7730	 0.5200
SZ	 0.7280	 0.4800
Sa	 0.6490	 0.4480
Sb	 0.8420	 0.5610
Sc	 0.6470	 0.4560
Sd	 0.4300	 0.3040
Se	 0.8200	 0.5350

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Chain	Atom inclusion	Q-score
Sf	 0.6890	 0.4660
Sg	 0.4210	 0.3010
Tb	 0.3210	 0.2920
mR	 0.3780	 0.3340