Full wwPDB EM Validation Report

Oct 27, 2026 – 09:47 PM JST

PDB ID	:	23EZ / pdb_000023ez
EMDB ID	:	EMD-68916
Title	:	semi-rotated 80S with A/A-P/P tRNA
Authors	:	Wu, M.; Yuan, S.
Deposited on	:	2026-02-04
Resolution	:	3.35 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

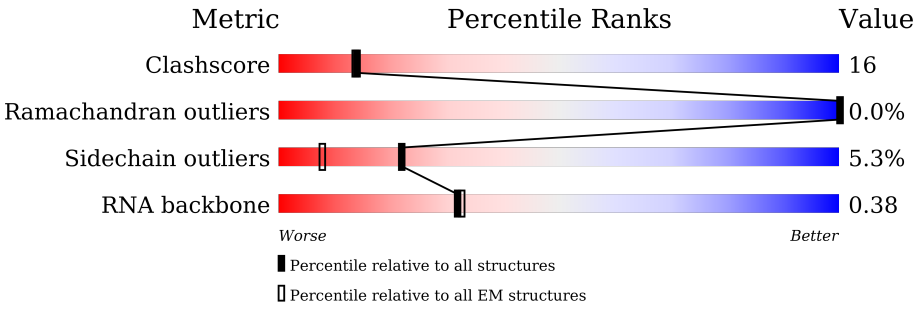
EMDB validation analysis	:	0.0.1.dev133
MolProbity	:	4-5-2 with Phenix2.2
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh &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

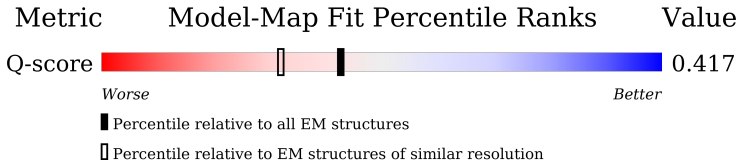
1 Overall quality at a glance

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

The reported resolution of this entry is 3.35 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	14390 (2.85 - 3.85)

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

Mol	Chain	Length	Quality of chain
1	S2	1800	10% 24% 49% 24% ••
2	SL	63	30% 65% 35%
3	SM	53	6% 43% 57%

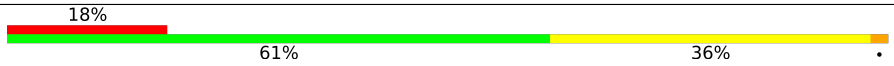
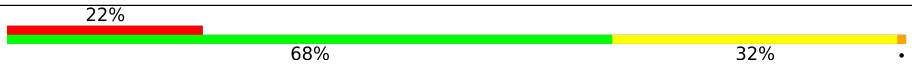
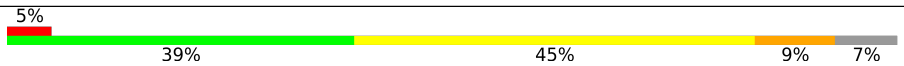
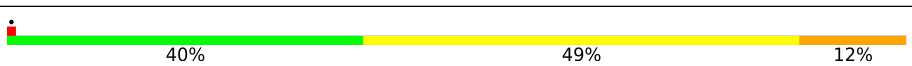
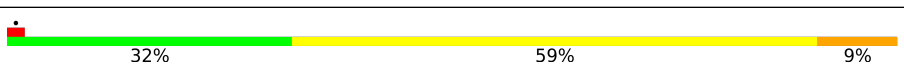
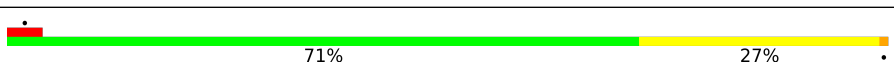
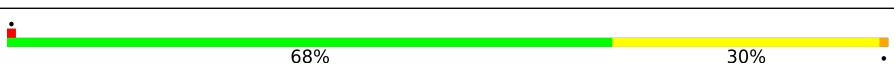
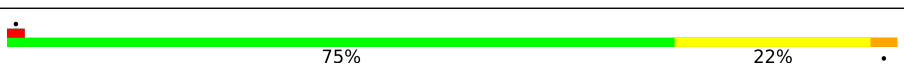
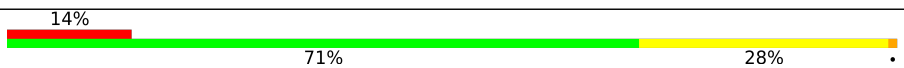
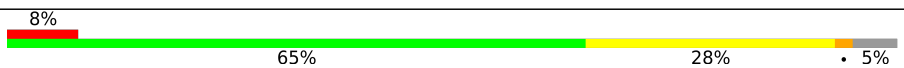
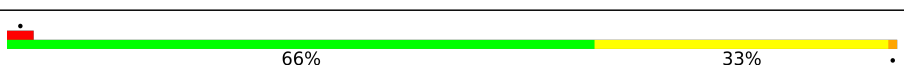
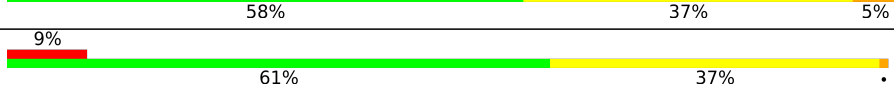
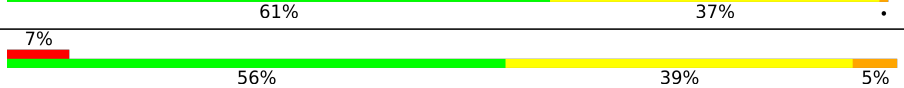
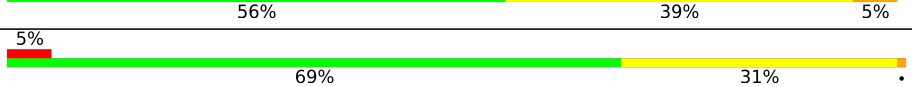
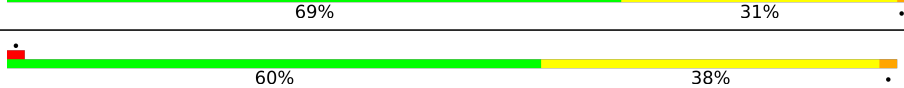
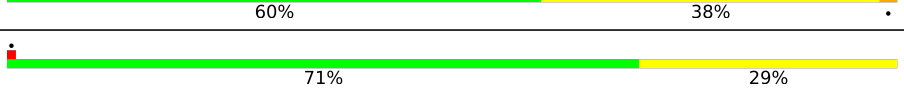
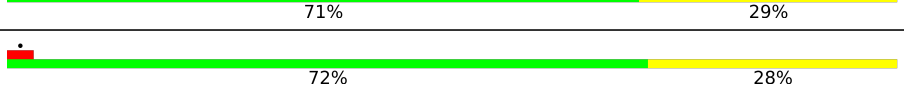
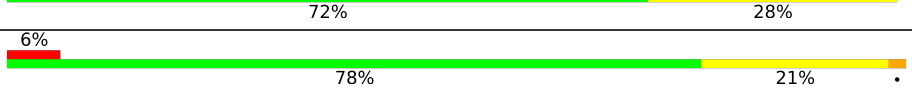
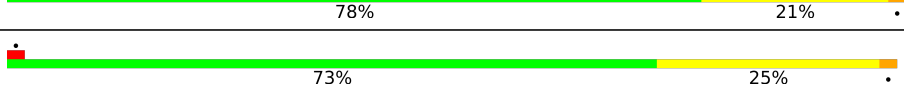
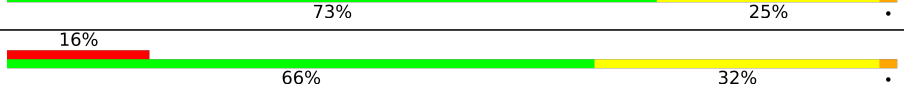
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Mol	Chain	Length	Quality of chain
4	SN	73	70% 58% 36% 5%
5	SO	312	46% 53% 44%
6	SP	206	16% 53% 44%
7	SQ	214	14% 44% 51%
8	SR	216	53% 46%
9	SS	258	7% 59% 40%
10	ST	228	14% 53% 45%
11	SU	184	21% 55% 45%
12	SV	198	7% 61% 33% 6%
13	SW	184	7% 55% 42%
14	SX	142	7% 65% 32%
15	SY	150	7% 57% 40%
16	SZ	127	12% 60% 37%
17	Sa	87	13% 63% 36%
18	Sf	81	16% 67% 33%
19	Sb	129	61% 37%
20	Sc	144	6% 62% 34%
21	SD	121	76% 41% 55%
22	Sd	134	8% 56% 42%
23	Sg	57	21% 67% 33%
24	Se	97	70% 28%
25	SF	141	24% 55% 41%
26	SG	94	16% 54% 46%
27	SH	145	18% 44% 54%
28	SI	143	22% 50% 46%

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Mol	Chain	Length	Quality of chain
29	SJ	100	
30	SK	82	
31	SA	222	
32	SB	206	
33	SE	117	
34	LA	3393	
35	LB	121	
36	LC	158	
37	LD	251	
38	LE	386	
39	LF	361	
40	LG	294	
41	LH	175	
42	LI	222	
43	LJ	233	
44	LK	191	
45	LL	218	
46	LM	169	
47	LN	193	
48	LO	136	
49	LP	203	
50	LQ	197	
51	LR	183	
52	LS	185	
53	LT	188	

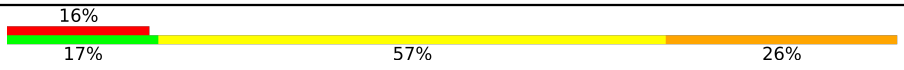
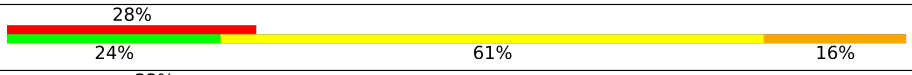
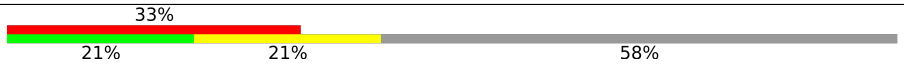
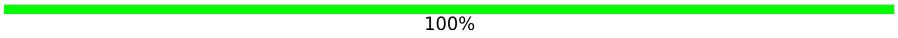
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Mol	Chain	Length	Quality of chain
54	LU	171	58% 39%
55	LV	159	63% 36%
56	LW	100	12% 65% 34%
57	LX	136	5% 68% 31%
58	LY	65	8% 72% 26%
59	LZ	121	74% 23%
60	La	125	7% 52% 44%
61	Lb	135	61% 38%
62	Lc	148	62% 36%
63	Ld	58	5% 78% 21%
64	Le	96	51% 45%
65	Lf	109	11% 66% 32%
66	Lg	127	7% 69% 28%
67	Lh	106	58% 40%
68	Li	112	59% 38%
69	Lj	119	66% 32%
70	Lk	99	5% 67% 31%
71	Ll	81	73% 27%
72	Lm	77	17% 58% 40%
73	Ln	50	70% 28%
74	Lo	52	60% 38%
75	Lp	25	72% 28%
76	Lq	103	75% 25%
77	Lr	91	7% 77% 22%
78	SC	92	23% 50% 47%

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Mol	Chain	Length	Quality of chain
79	Bb	76	
80	Cc	76	
81	pp	24	
82	mR	10	

2 Entry composition

There are 82 unique types of molecules in this entry. The entry contains 201842 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called RNA (1800-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	S2	1770	37719	16863	6681	12405	1770	0	0

- Molecule 2 is a protein called Small ribosomal subunit protein eS28A.

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

- Molecule 3 is a protein called Small ribosomal subunit protein uS14A.

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

- Molecule 4 is a protein called Small ribosomal subunit protein eS31.

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

- Molecule 5 is a protein called Small ribosomal subunit protein RACK1.

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

- Molecule 6 is a protein called Small ribosomal subunit protein uS2A.

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

- Molecule 7 is a protein called Small ribosomal subunit protein eS1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	SQ	214	Total	C	N	O	S	0	0
			1709	1084	310	311	4		

- Molecule 8 is a protein called Small ribosomal subunit protein uS5.

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

- Molecule 9 is a protein called Small ribosomal subunit protein eS4A.

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

- Molecule 10 is a protein called Small ribosomal subunit protein eS6A.

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

- Molecule 11 is a protein called Small ribosomal subunit protein eS7A.

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

- Molecule 12 is a protein called Small ribosomal subunit protein eS8A.

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

- Molecule 13 is a protein called Small ribosomal subunit protein uS4A.

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

- Molecule 14 is a protein called Small ribosomal subunit protein uS17A.

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

- Molecule 15 is a protein called Small ribosomal subunit protein uS15.

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

- Molecule 16 is a protein called Small ribosomal subunit protein uS11B.

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

- Molecule 17 is a protein called Small ribosomal subunit protein eS21A.

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

- Molecule 18 is a protein called Small ribosomal subunit protein eS27A.

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

- Molecule 19 is a protein called Small ribosomal subunit protein uS8A.

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

- Molecule 20 is a protein called Small ribosomal subunit protein uS12A.

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

- Molecule 21 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 22 is a protein called Small ribosomal subunit protein eS24A.

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

- Molecule 23 is a protein called Small ribosomal subunit protein eS30A.

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

- Molecule 24 is a protein called Small ribosomal subunit protein eS26B.

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

- Molecule 25 is a protein called Small ribosomal subunit protein uS9A.

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

- Molecule 26 is a protein called Small ribosomal subunit protein eS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	SG	94	Total	C	N	O	S	0	0
			764	480	147	135	2		

- Molecule 27 is a protein called Small ribosomal subunit protein uS13A.

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

- Molecule 28 is a protein called Small ribosomal subunit protein eS19A.

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

- Molecule 29 is a protein called Small ribosomal subunit protein uS10.

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

- Molecule 30 is a protein called Small ribosomal subunit protein eS25A.

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

- Molecule 31 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 32 is a protein called Small ribosomal subunit protein uS7.

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

- Molecule 33 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 34 is a RNA chain called RNA (3393-MER).

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

- Molecule 35 is a RNA chain called RNA (121-MER).

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

- Molecule 36 is a RNA chain called RNA (158-MER).

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

- Molecule 37 is a protein called Large ribosomal subunit protein uL2A.

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

- Molecule 38 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 39 is a protein called Large ribosomal subunit protein uL4A.

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

- Molecule 40 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 41 is a protein called Large ribosomal subunit protein eL6B.

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

- Molecule 42 is a protein called Large ribosomal subunit protein uL30A.

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

- Molecule 43 is a protein called Large ribosomal subunit protein eL8A.

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

- Molecule 44 is a protein called Large ribosomal subunit protein uL6A.

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

- Molecule 45 is a protein called Large ribosomal subunit protein uL16.

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

- Molecule 46 is a protein called Large ribosomal subunit protein uL5B.

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

- Molecule 47 is a protein called Large ribosomal subunit protein eL13A.

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

- Molecule 48 is a protein called Large ribosomal subunit protein eL14A.

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

- Molecule 49 is a protein called Large ribosomal subunit protein eL15A.

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

- Molecule 50 is a protein called Large ribosomal subunit protein uL13A.

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

- Molecule 51 is a protein called Large ribosomal subunit protein uL22A.

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

- Molecule 52 is a protein called Large ribosomal subunit protein eL18A.

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

- Molecule 53 is a protein called Large ribosomal subunit protein eL19A.

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

- Molecule 54 is a protein called Large ribosomal subunit protein eL20A.

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

- Molecule 55 is a protein called Large ribosomal subunit protein eL21A.

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

- Molecule 56 is a protein called Large ribosomal subunit protein eL22A.

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

- Molecule 57 is a protein called Large ribosomal subunit protein uL14A.

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

- Molecule 58 is a protein called Large ribosomal subunit protein eL24A.

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

- Molecule 59 is a protein called Large ribosomal subunit protein uL23.

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

- Molecule 60 is a protein called Large ribosomal subunit protein uL24A.

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

- Molecule 61 is a protein called Large ribosomal subunit protein eL27A.

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

- Molecule 62 is a protein called Large ribosomal subunit protein uL15.

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

- Molecule 63 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 64 is a protein called Large ribosomal subunit protein eL30.

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

- Molecule 65 is a protein called Large ribosomal subunit protein eL31A.

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

- Molecule 66 is a protein called Large ribosomal subunit protein eL32.

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

- Molecule 67 is a protein called Large ribosomal subunit protein eL33A.

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

- Molecule 68 is a protein called Large ribosomal subunit protein eL34A.

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

- Molecule 69 is a protein called Large ribosomal subunit protein uL29A.

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

- Molecule 70 is a protein called Large ribosomal subunit protein eL36A.

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

- Molecule 71 is a protein called Large ribosomal subunit protein eL37A.

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

- Molecule 72 is a protein called Large ribosomal subunit protein eL38.

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

- Molecule 73 is a protein called Large ribosomal subunit protein eL39.

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

- Molecule 74 is a protein called Large ribosomal subunit protein eL40A.

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

- Molecule 75 is a protein called Large ribosomal subunit protein eL41A.

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

- Molecule 76 is a protein called Large ribosomal subunit protein eL42A.

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

- Molecule 77 is a protein called Large ribosomal subunit protein eL43A.

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

- Molecule 78 is a protein called Small ribosomal subunit protein eS10A.

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

- Molecule 79 is a RNA chain called RNA (76-MER).

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

- Molecule 80 is a RNA chain called RNA (76-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Cc	76	Total	C	N	O	P	0	0
			1628	726	302	524	76		

- Molecule 81 is a protein called PRO-GLN-ARG-HIS-ASP-GLU-LYS-THR-LEU-VAL-GLN -SER-GLN-VAL-ASN-ALA-TYR-ASN-ALA-ASP-MET-ILE-ASP-PRO.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	pp	10	Total	C	N	O	S	0	0
			77	47	12	17	1		

- Molecule 82 is a RNA chain called RNA (5'-R(P*GP*AP*CP*CP*CP*UP*UP*AP*AP*C) -3').

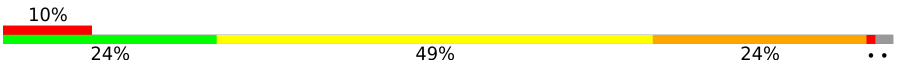
Mol	Chain	Residues	Atoms					AltConf	Trace
82	mR	10	Total	C	N	O	P	0	0
			209	94	36	69	10		

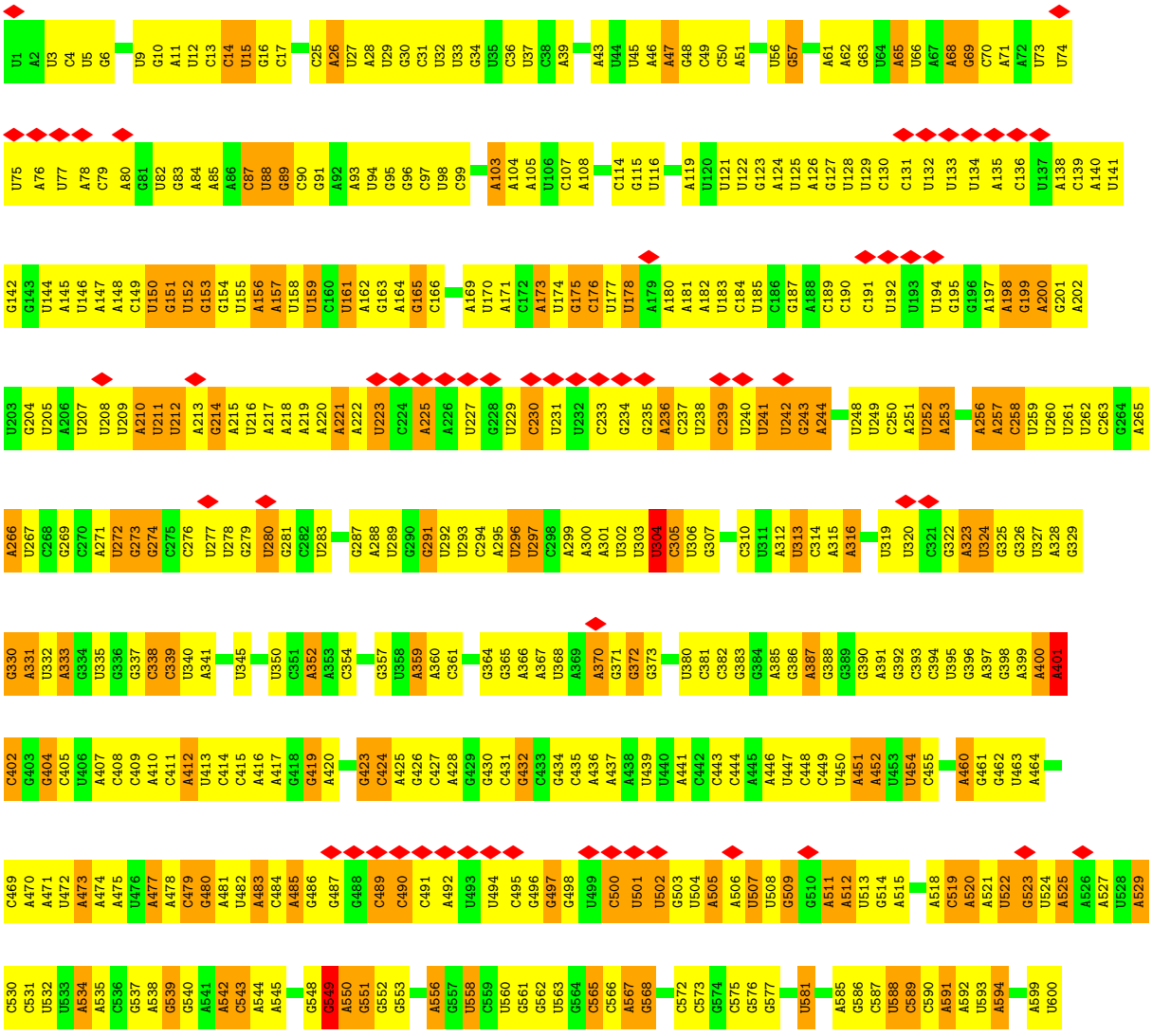
3 Residue-property plots (i)

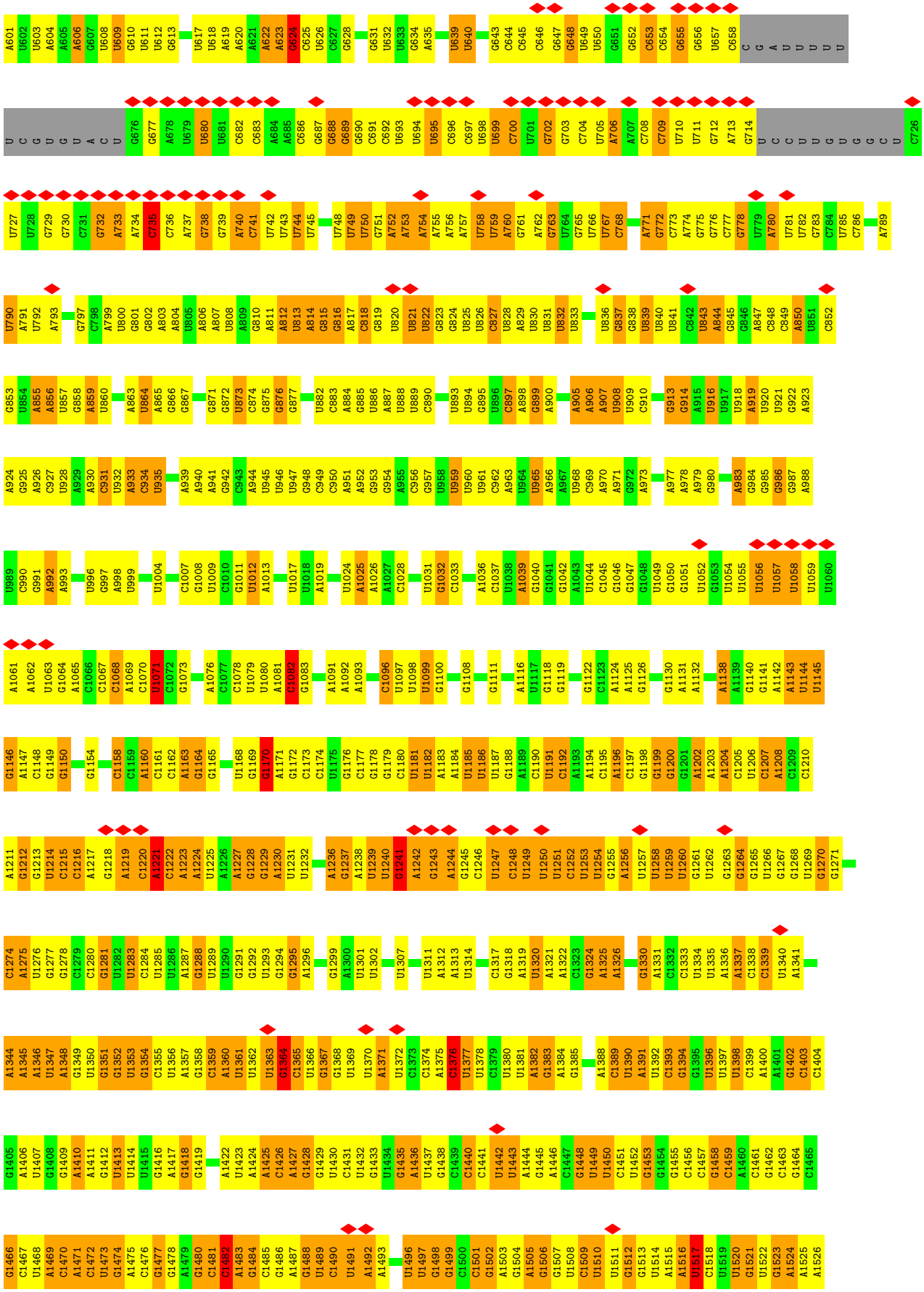
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

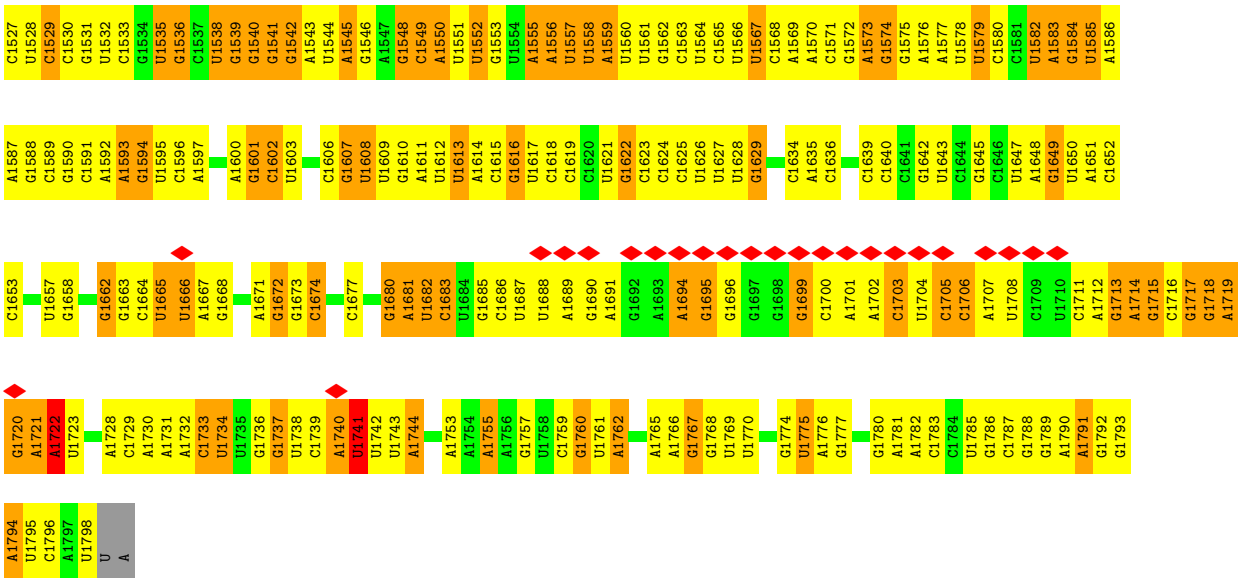
- Molecule 1: RNA (1800-MER)

Chain S2:



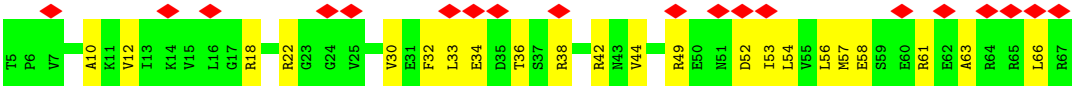




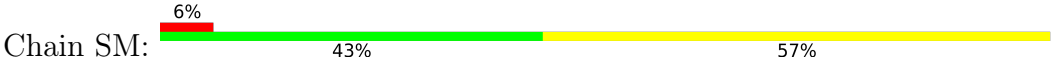


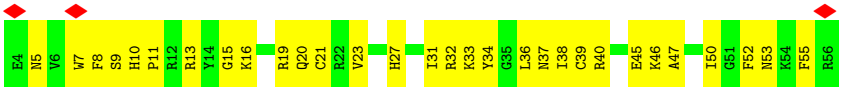
• Molecule 2: Small ribosomal subunit protein eS28A





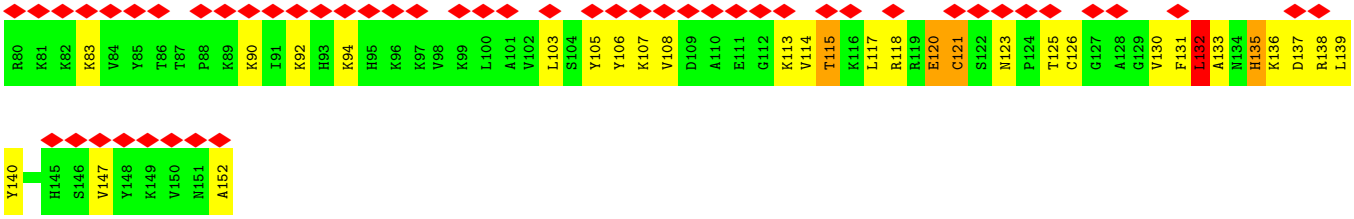
• Molecule 3: Small ribosomal subunit protein uS14A





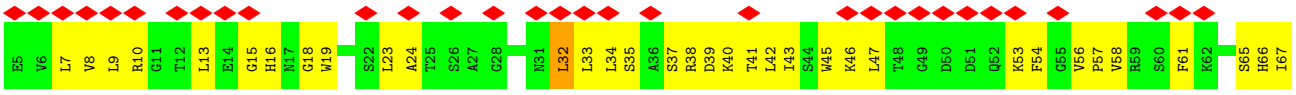
• Molecule 4: Small ribosomal subunit protein eS31

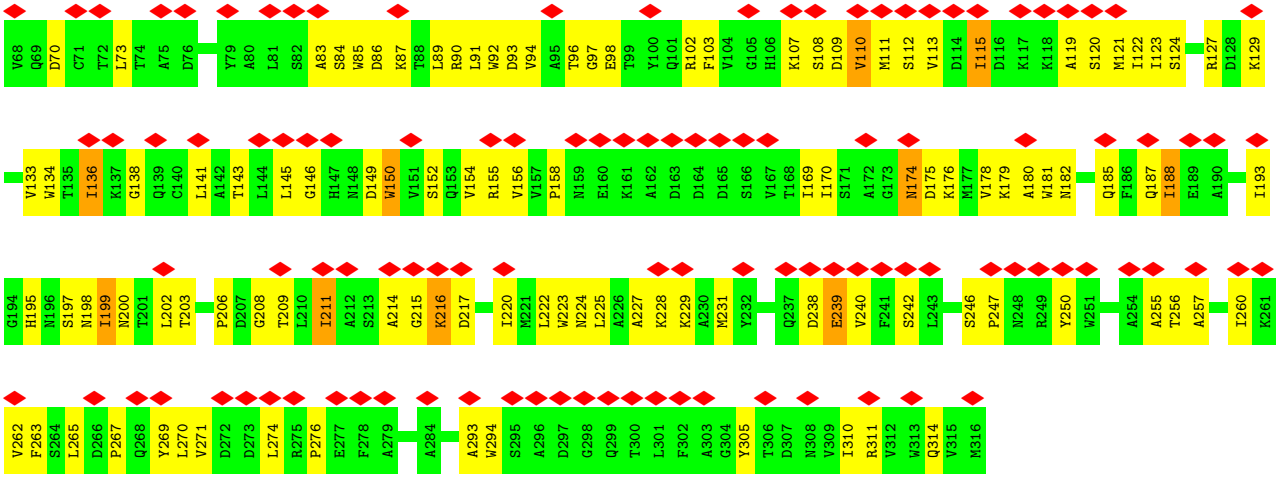




• Molecule 5: Small ribosomal subunit protein RACK1



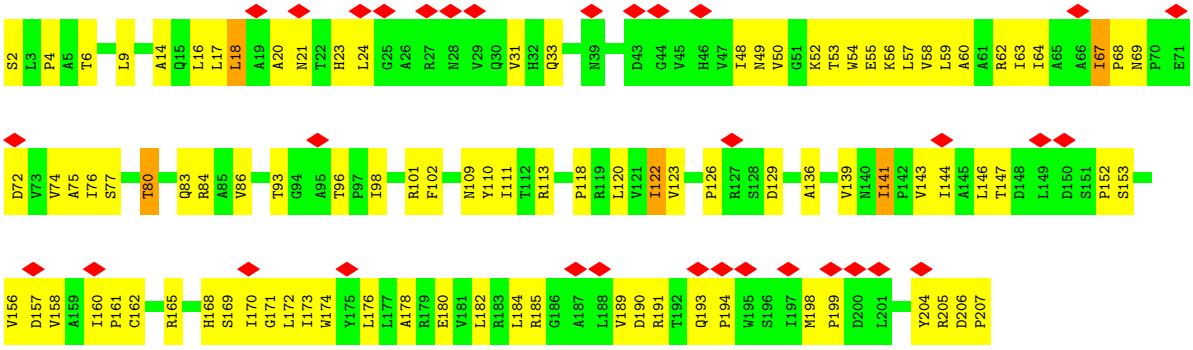




• Molecule 6: Small ribosomal subunit protein uS2A

Chain SP:

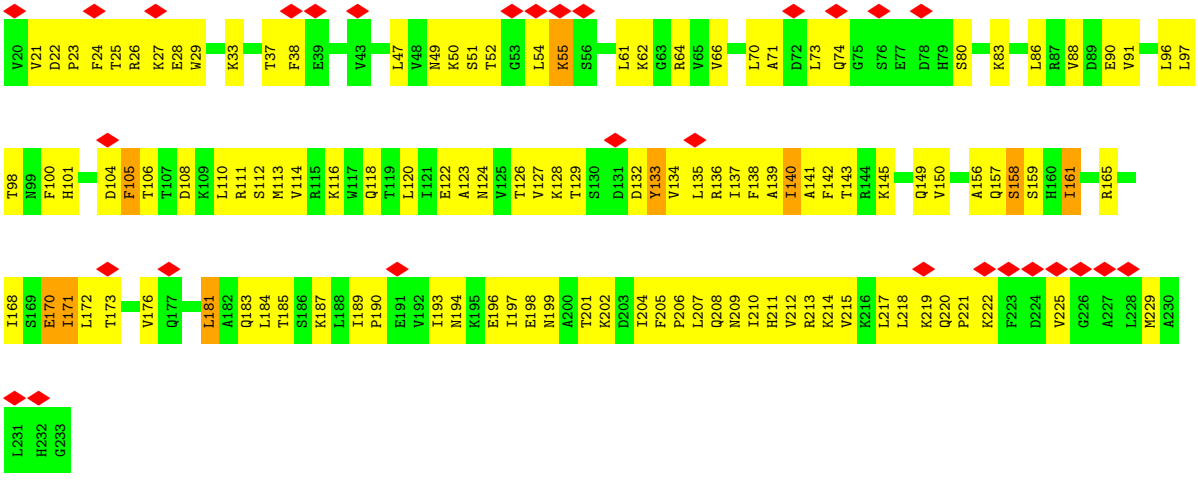




• Molecule 7: Small ribosomal subunit protein eS1A

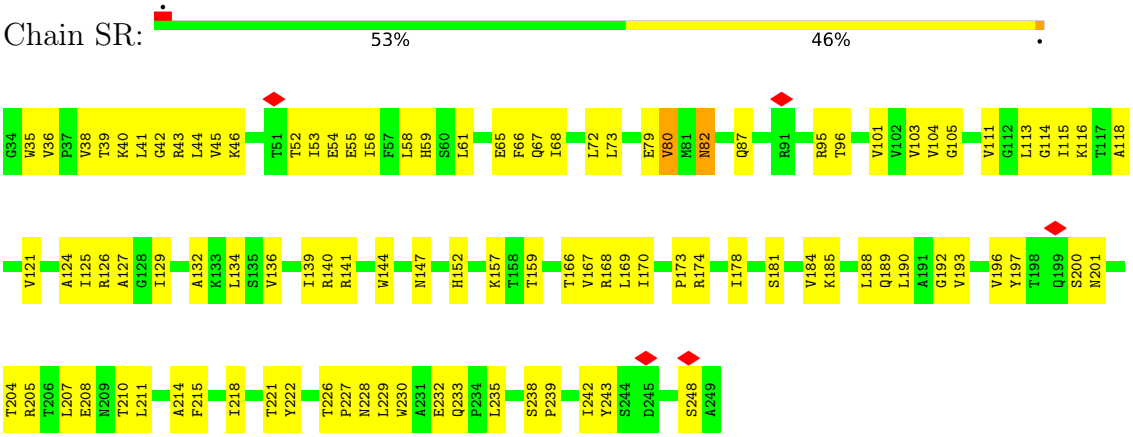
Chain SQ:





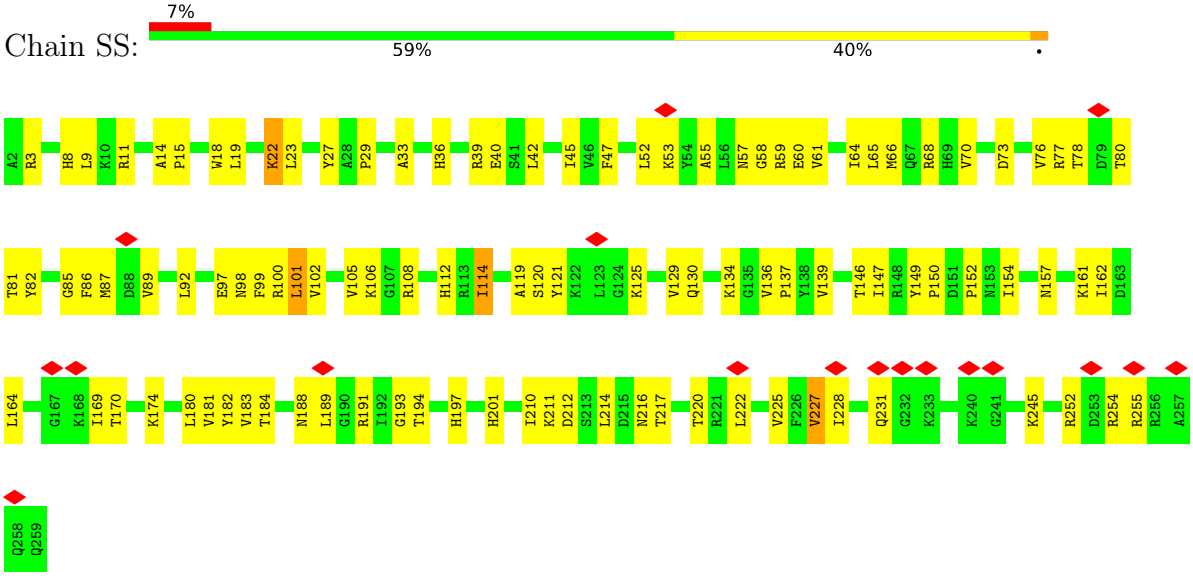
• Molecule 8: Small ribosomal subunit protein uS5

Chain SR:



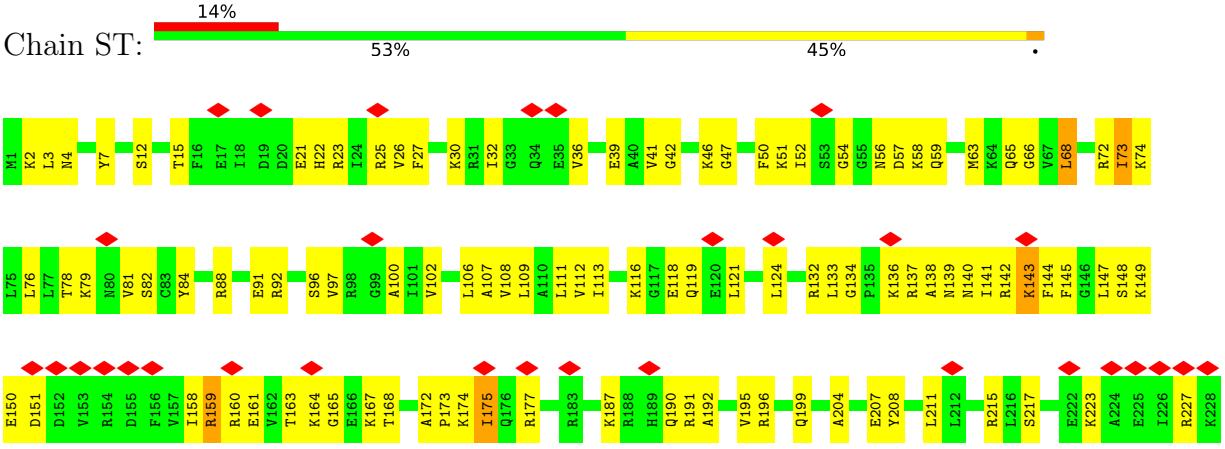
• Molecule 9: Small ribosomal subunit protein eS4A

Chain SS:



• Molecule 10: Small ribosomal subunit protein eS6A

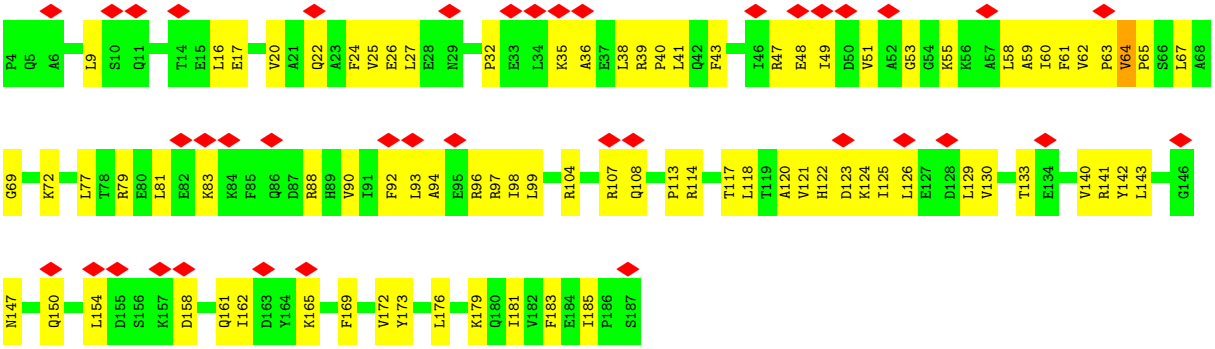
Chain ST:



• Molecule 11: Small ribosomal subunit protein eS7A

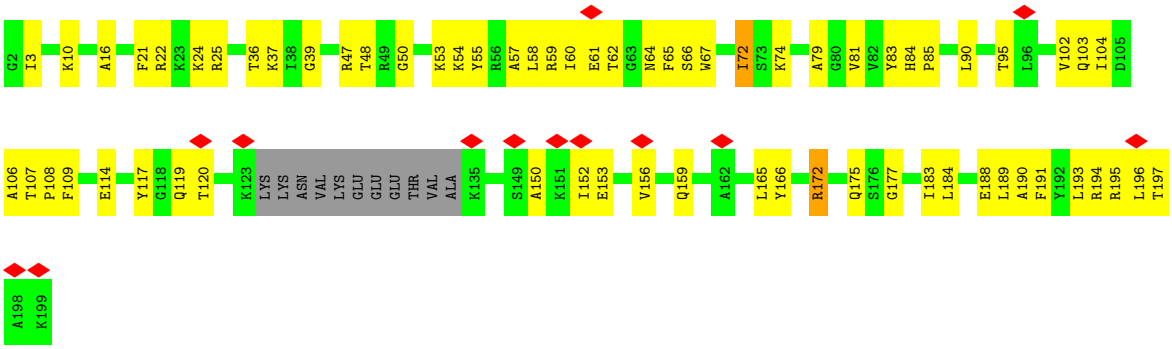
Chain SU:





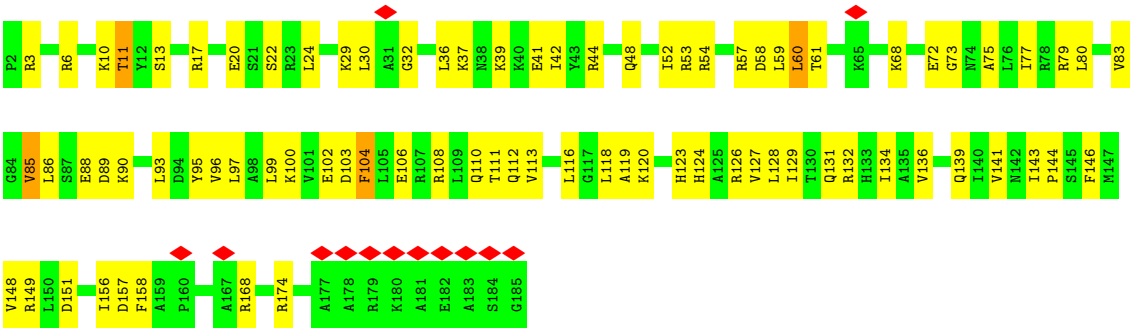
• Molecule 12: Small ribosomal subunit protein eS8A





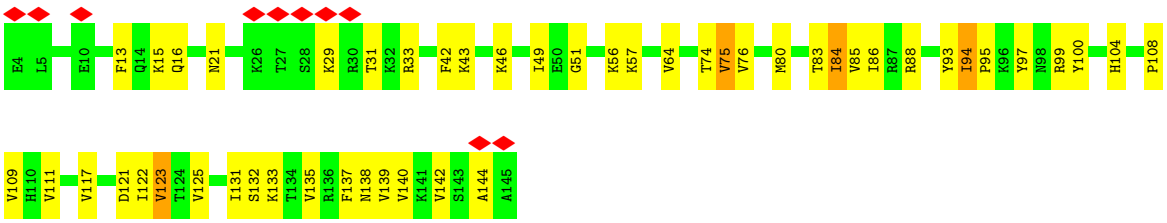
• Molecule 13: Small ribosomal subunit protein uS4A





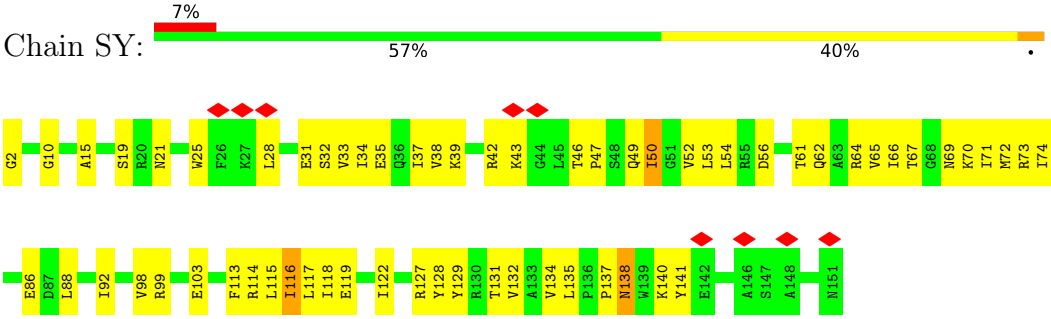
• Molecule 14: Small ribosomal subunit protein uS17A





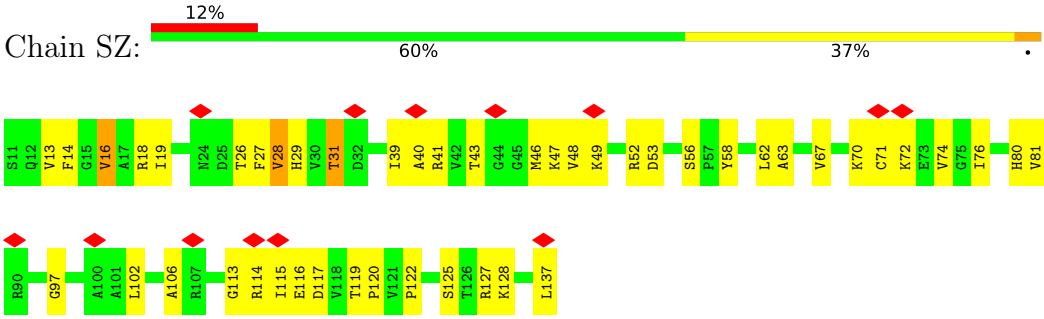
• Molecule 15: Small ribosomal subunit protein uS15

Chain SY:



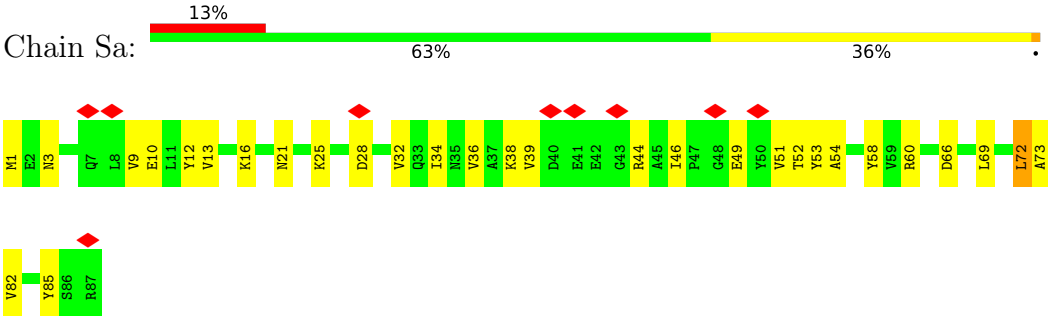
• Molecule 16: Small ribosomal subunit protein uS11B

Chain SZ:



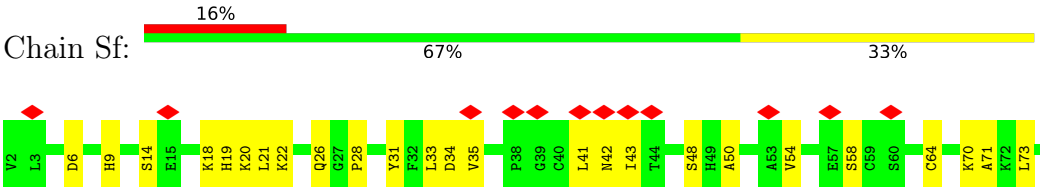
• Molecule 17: Small ribosomal subunit protein eS21A

Chain Sa:



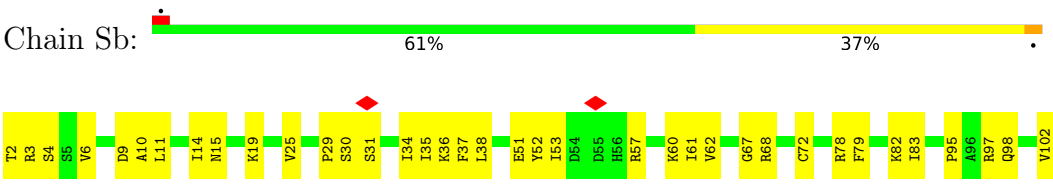
• Molecule 18: Small ribosomal subunit protein eS27A

Chain Sf:



• Molecule 19: Small ribosomal subunit protein uS8A

Chain Sb:

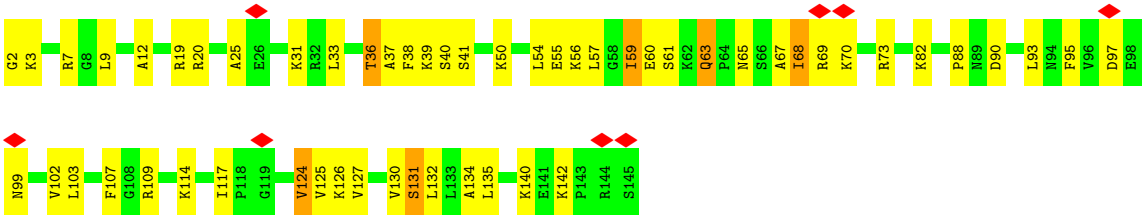




• Molecule 20: Small ribosomal subunit protein uS12A

Chain Sc:

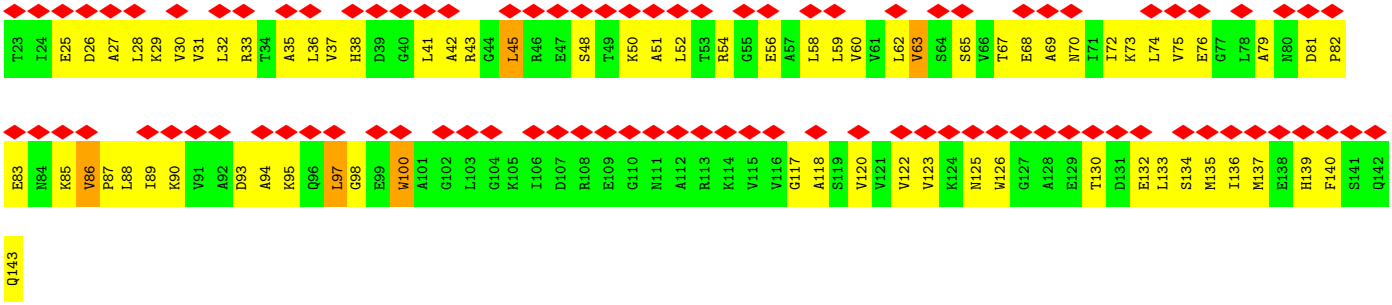




• Molecule 21: Small ribosomal subunit protein eS12

Chain SD:

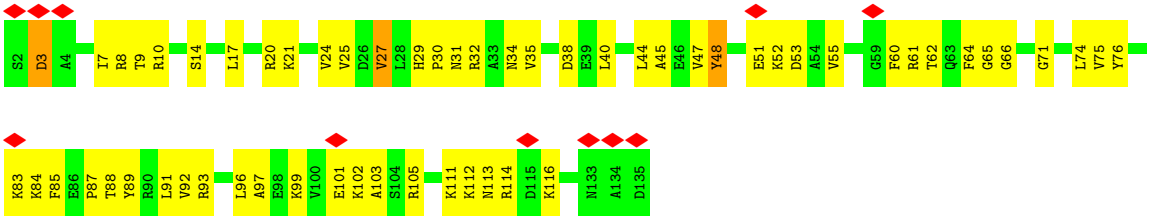




• Molecule 22: Small ribosomal subunit protein eS24A

Chain Sd:

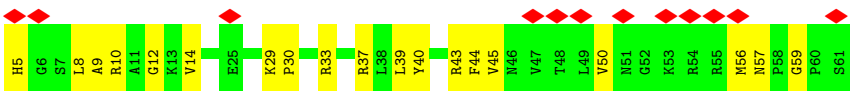




• Molecule 23: Small ribosomal subunit protein eS30A

Chain Sg:

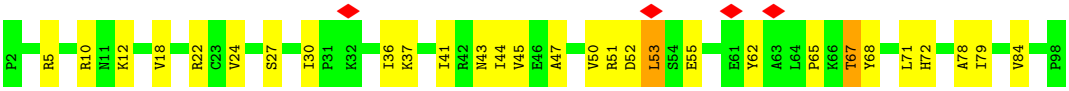




• Molecule 24: Small ribosomal subunit protein eS26B

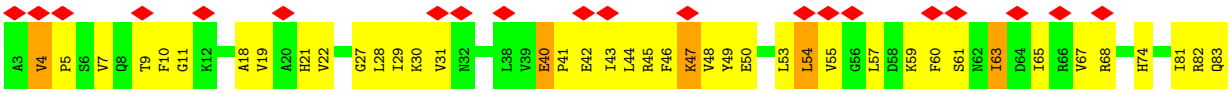
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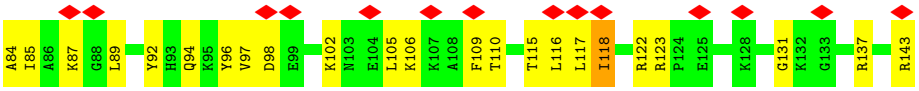




• Molecule 25: Small ribosomal subunit protein uS9A

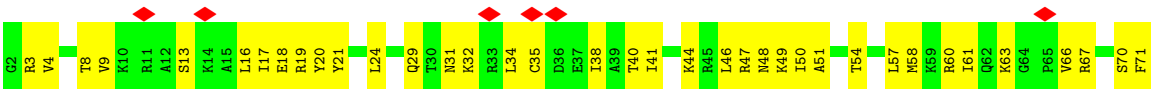


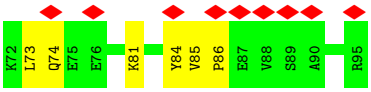




• Molecule 26: Small ribosomal subunit protein eS17A

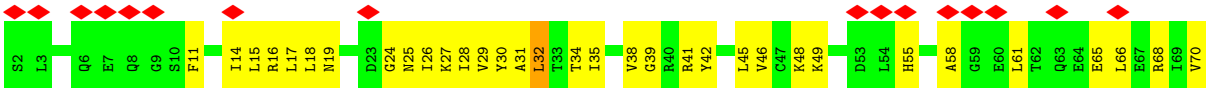


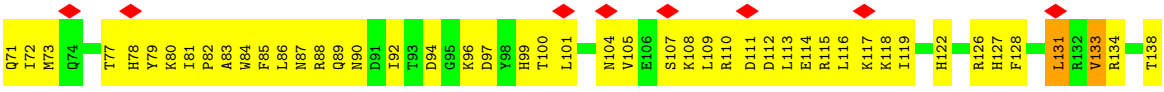


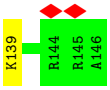


• Molecule 27: Small ribosomal subunit protein uS13A



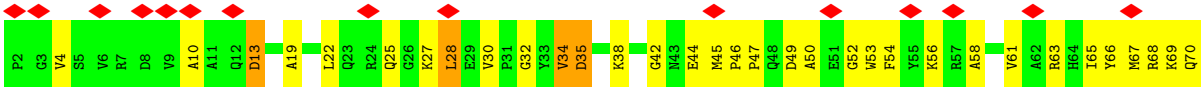


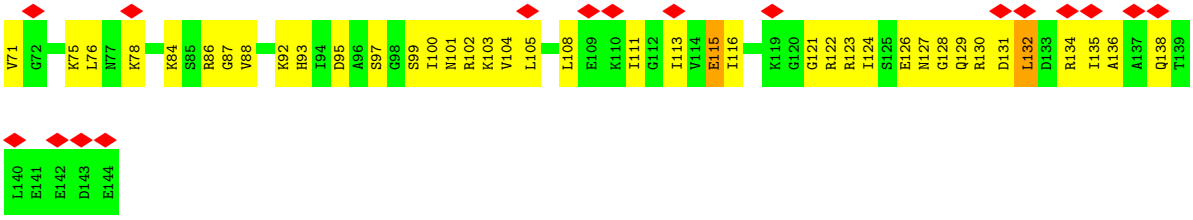




• Molecule 28: Small ribosomal subunit protein eS19A



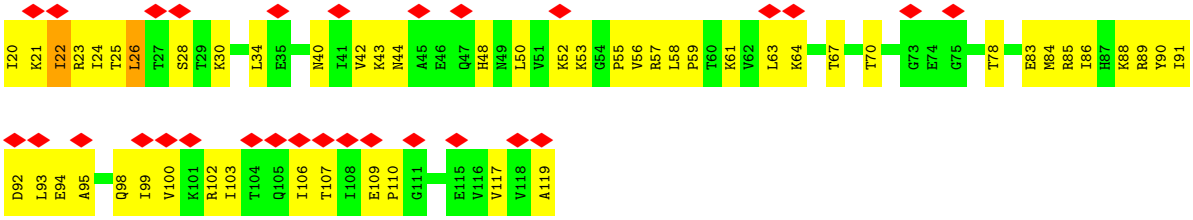




• Molecule 29: Small ribosomal subunit protein uS10

Chain SJ:

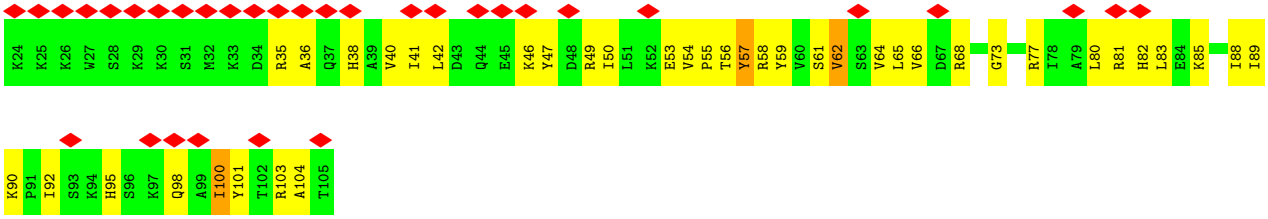




• Molecule 30: Small ribosomal subunit protein eS25A

Chain SK:

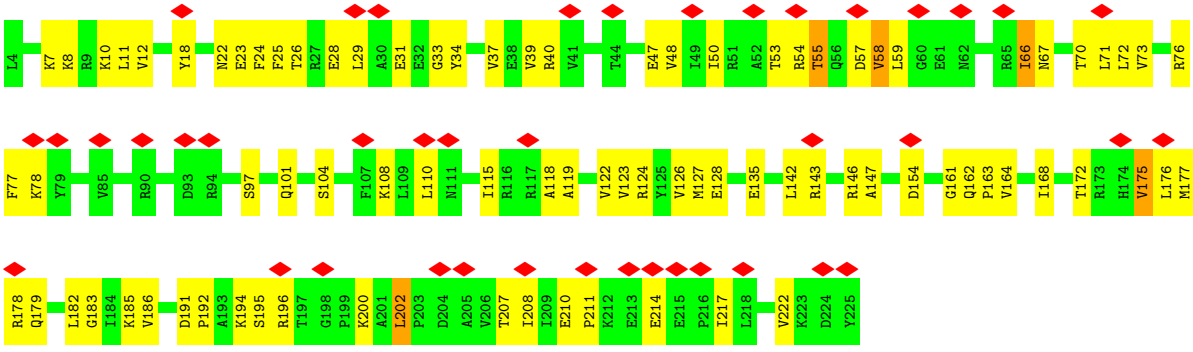




• Molecule 31: Small ribosomal subunit protein uS3

Chain SA:

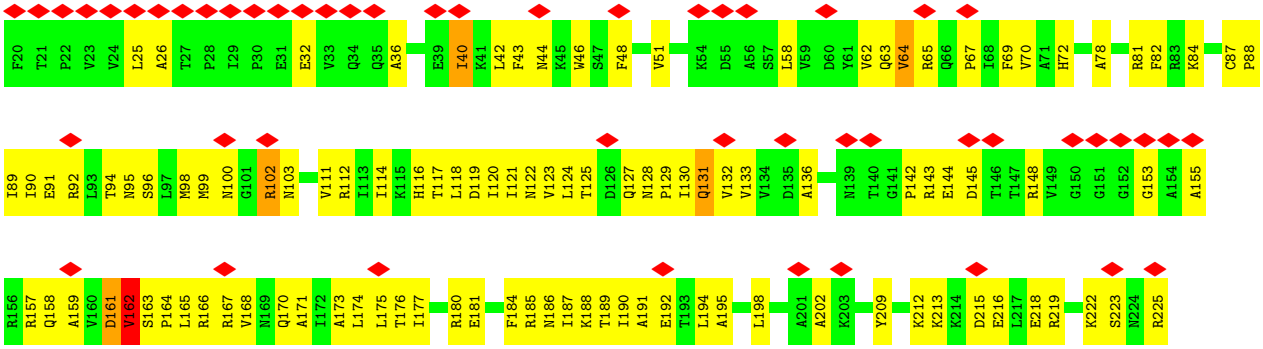




• Molecule 32: Small ribosomal subunit protein uS7

Chain SB:

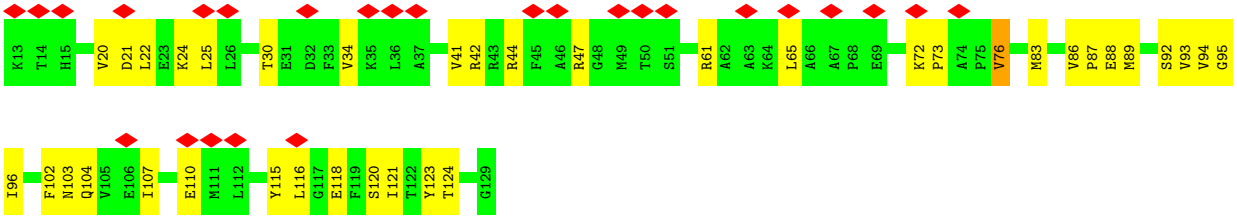




• Molecule 33: Small ribosomal subunit protein uS19

Chain SE:

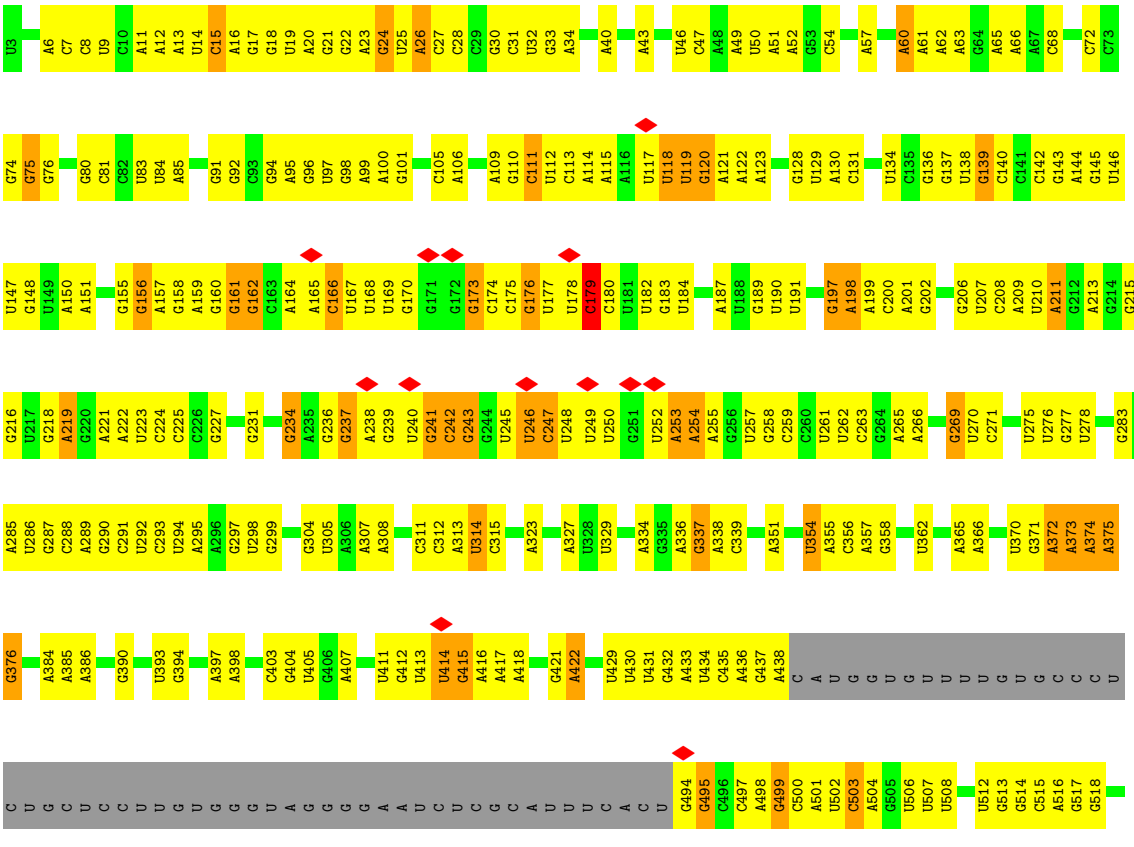


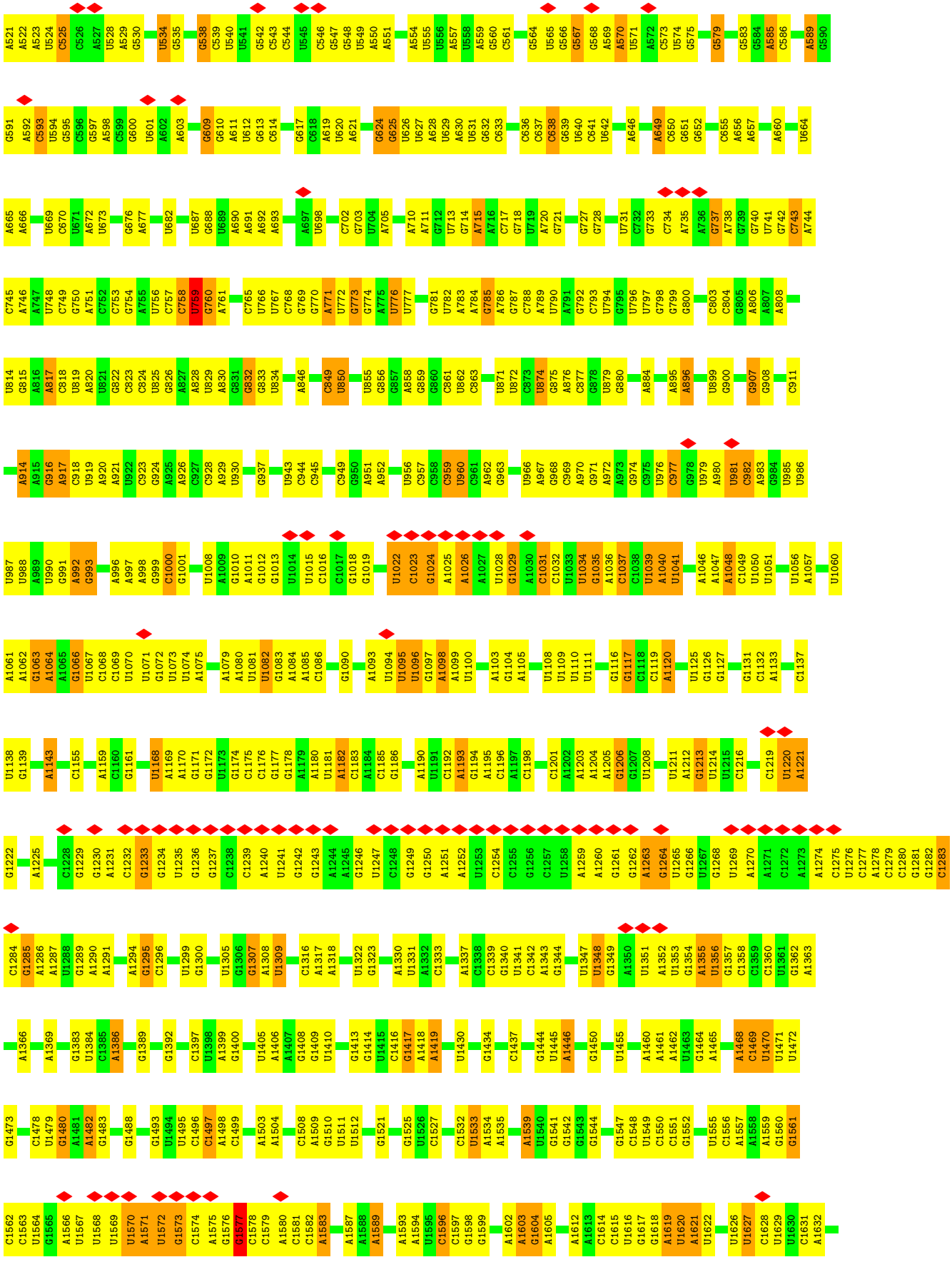


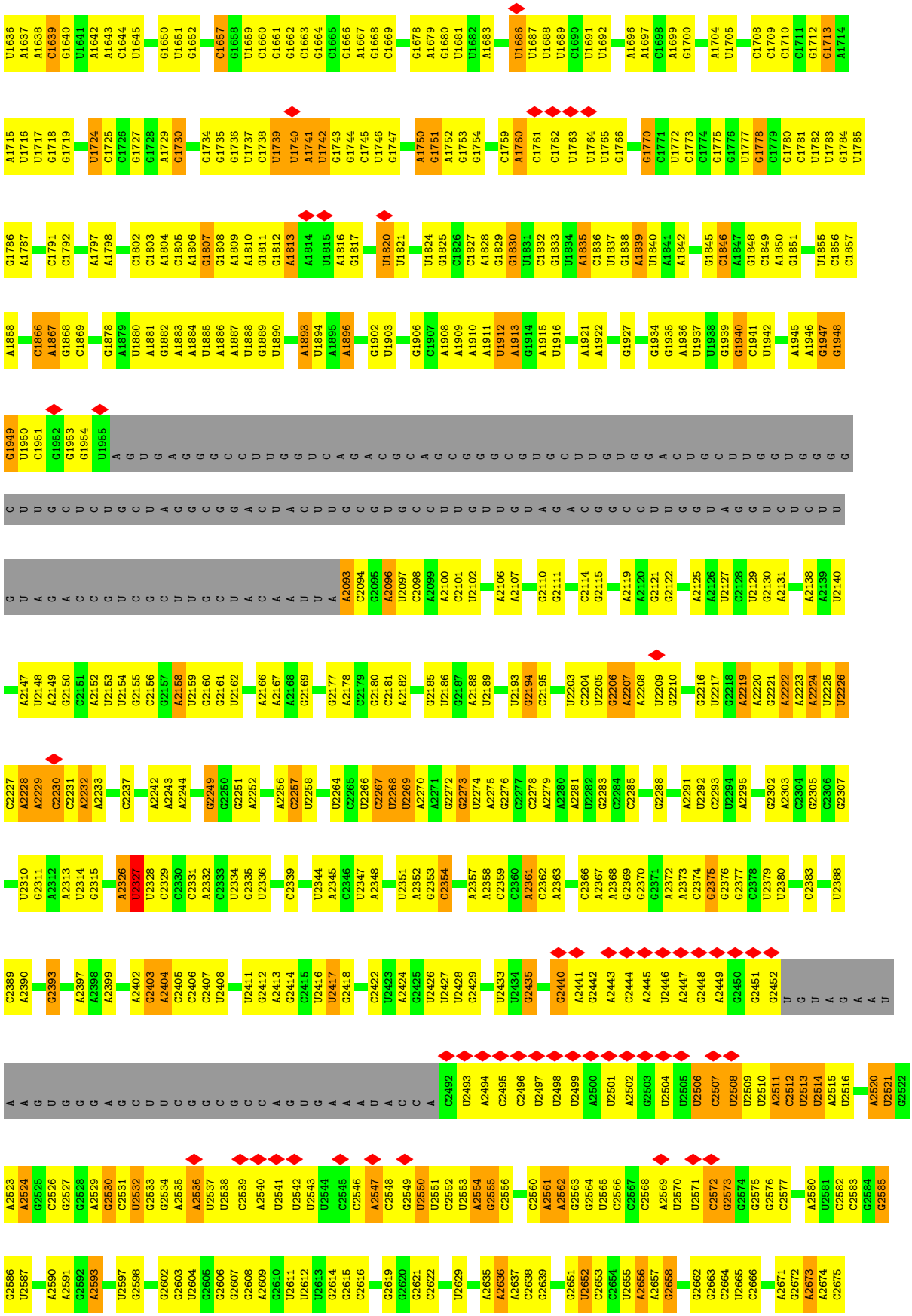
• Molecule 34: RNA (3393-MER)

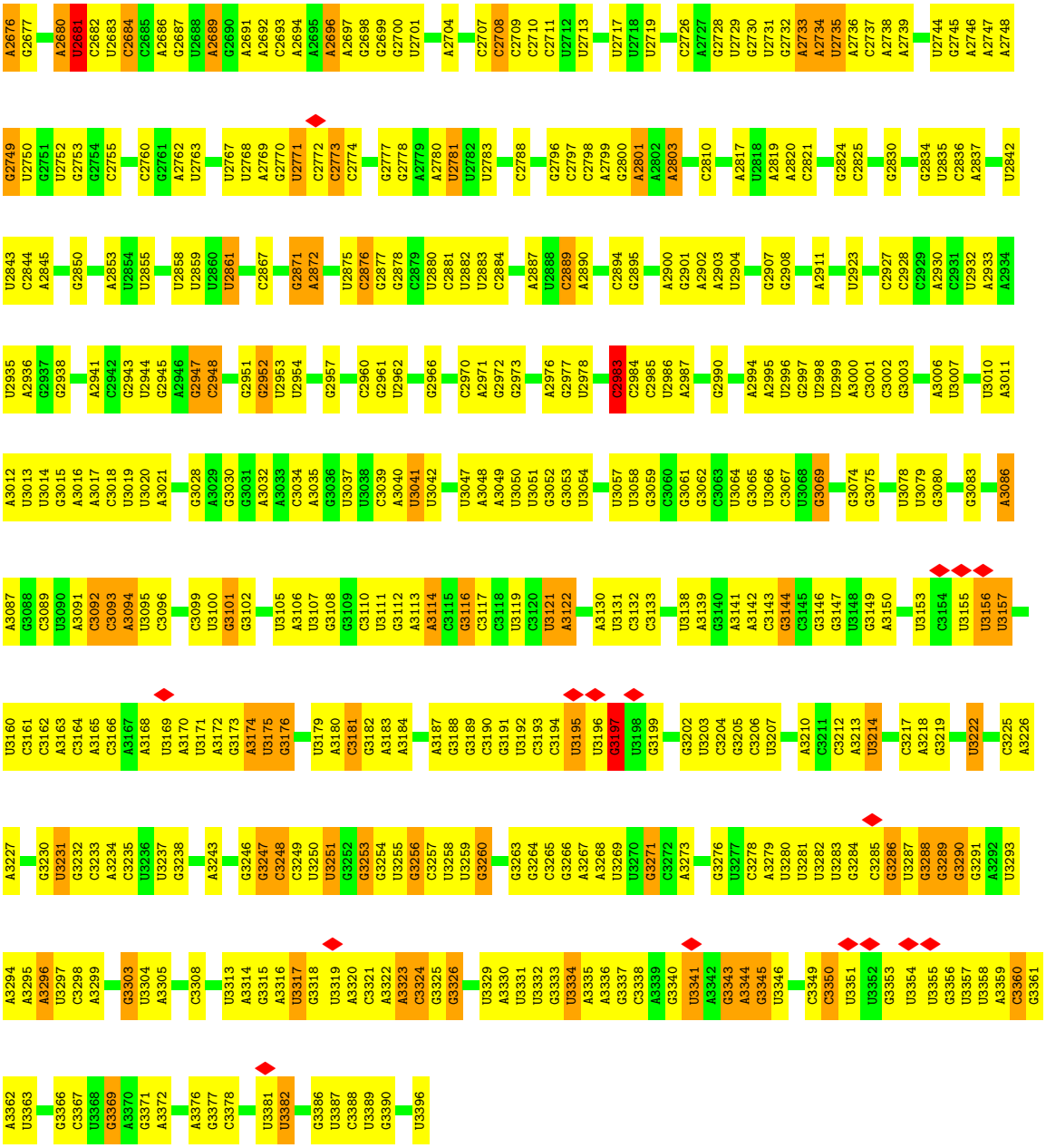
Chain LA:







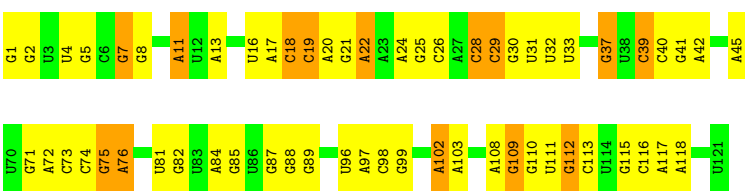




• Molecule 35: RNA (121-MER)

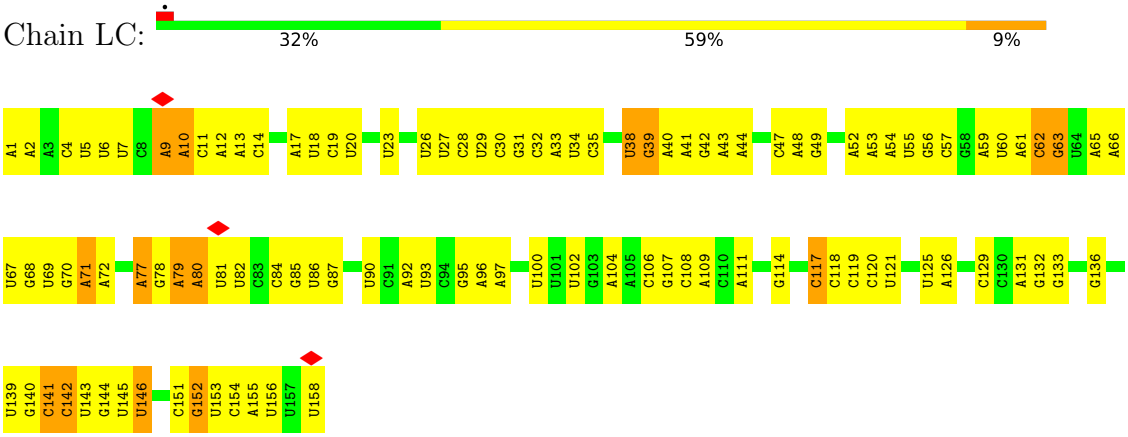
Chain LB:





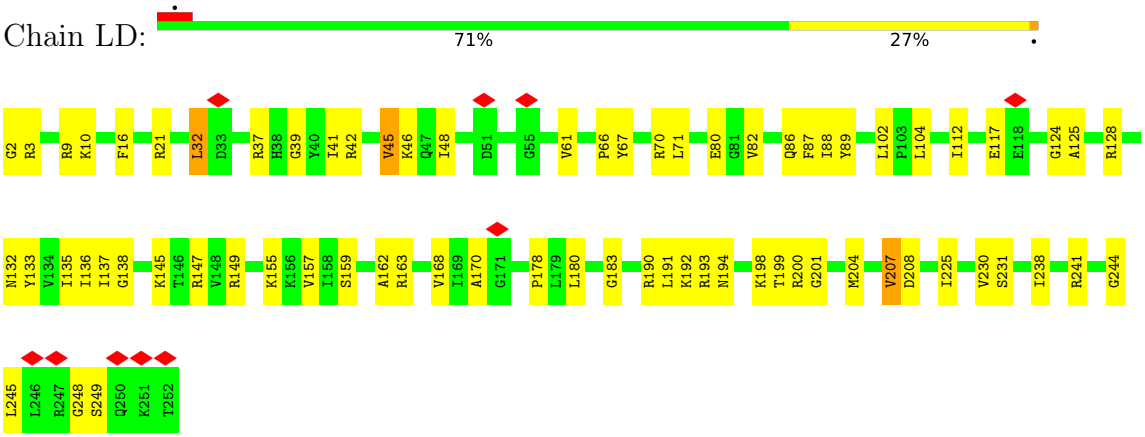
• Molecule 36: RNA (158-MER)

Chain LC:



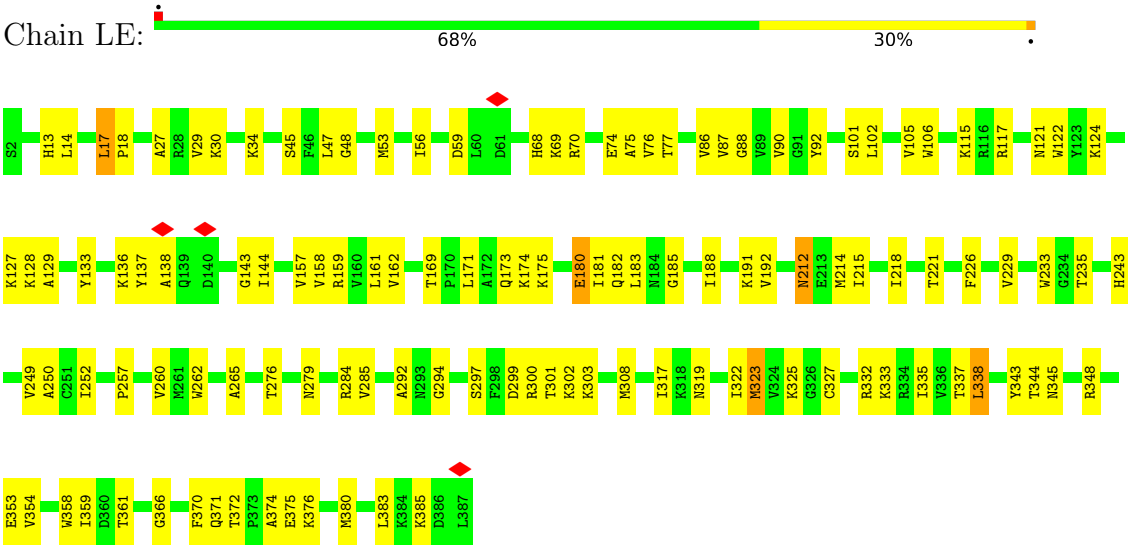
• Molecule 37: Large ribosomal subunit protein uL2A

Chain LD:



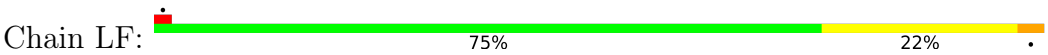
• Molecule 38: Large ribosomal subunit protein uL3

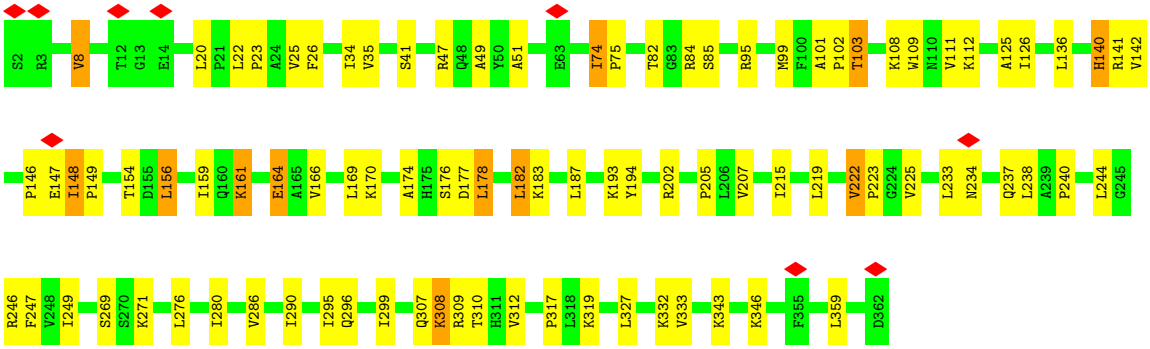
Chain LE:



• Molecule 39: Large ribosomal subunit protein uL4A

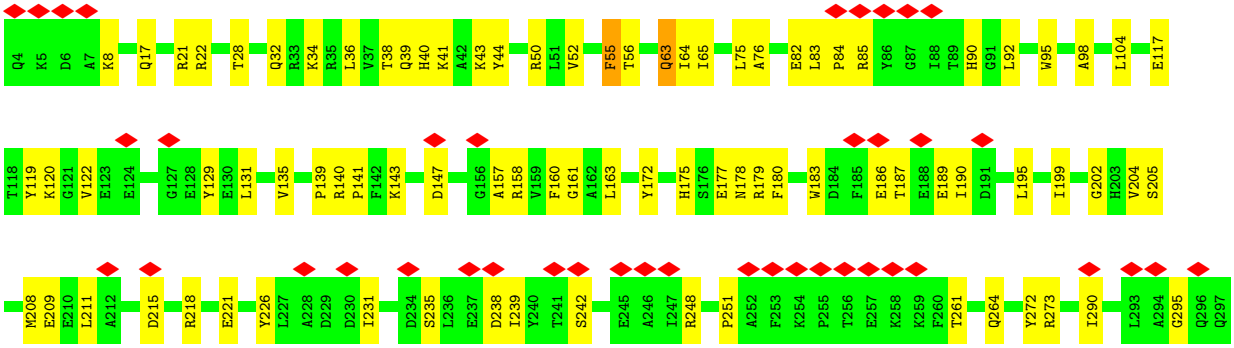
Chain LF:





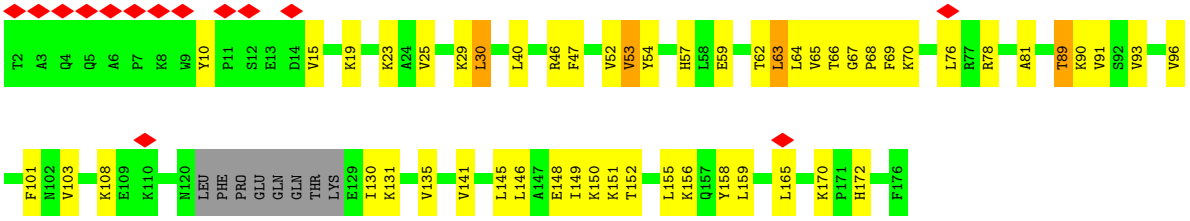
• Molecule 40: Large ribosomal subunit protein uL18





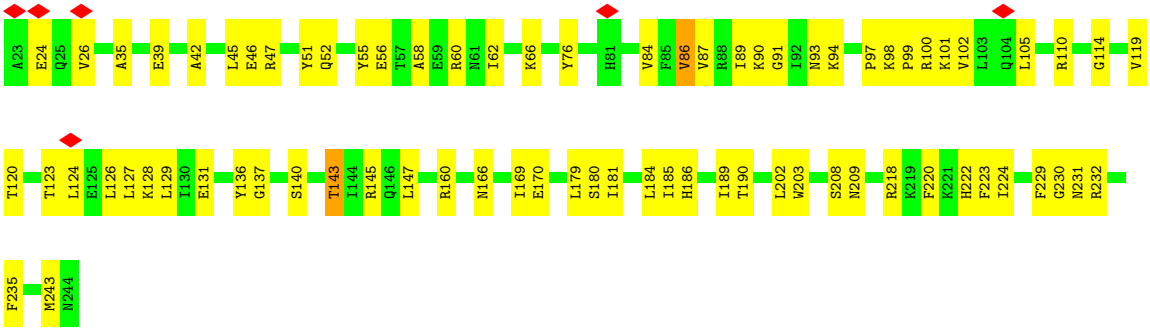
• Molecule 41: Large ribosomal subunit protein eL6B





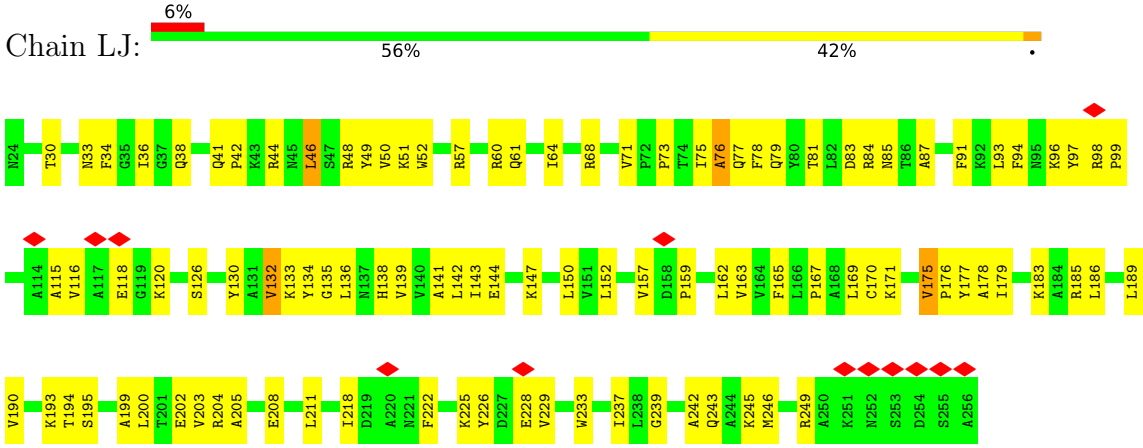
• Molecule 42: Large ribosomal subunit protein uL30A





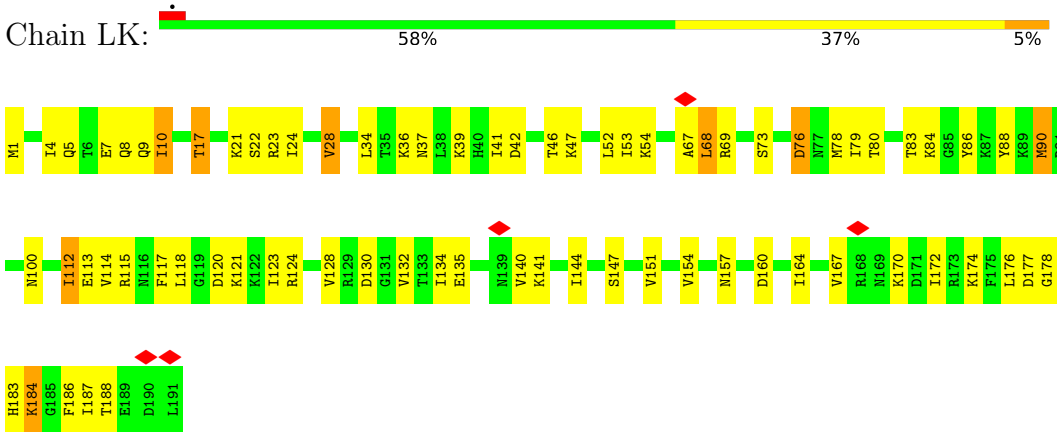
• Molecule 43: Large ribosomal subunit protein eL8A

Chain LJ:



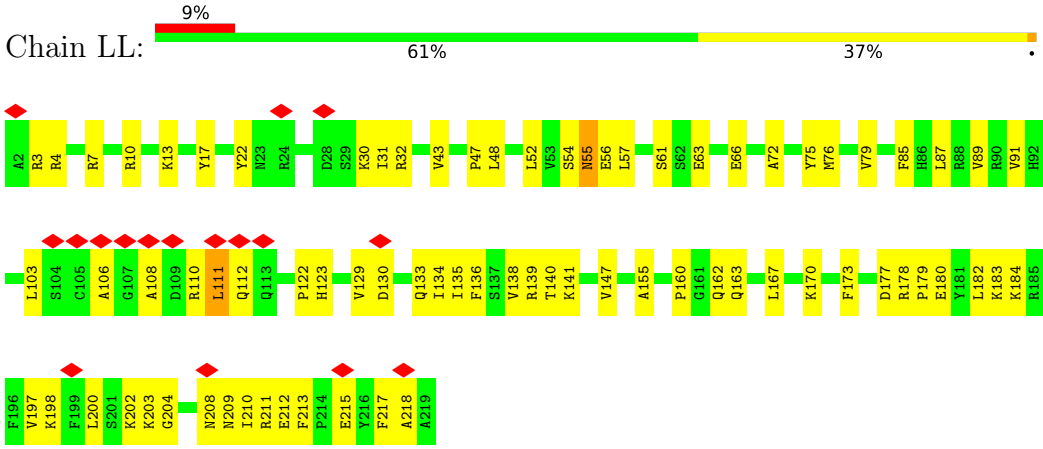
• Molecule 44: Large ribosomal subunit protein uL6A

Chain LK:



• Molecule 45: Large ribosomal subunit protein uL16

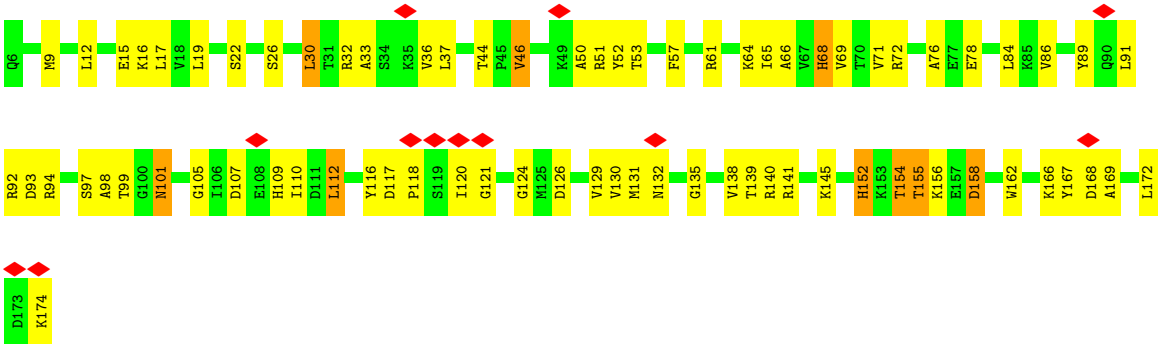
Chain LL:



• Molecule 46: Large ribosomal subunit protein uL5B

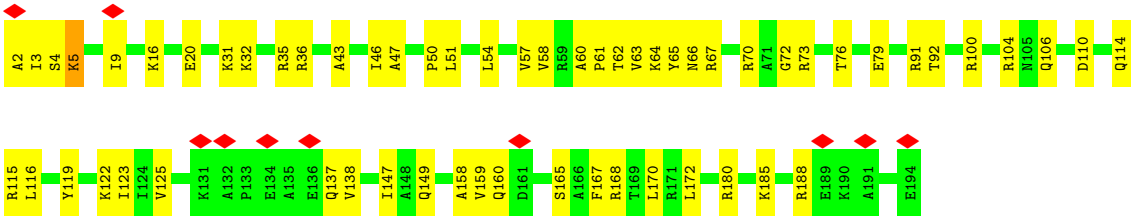
Chain LM:





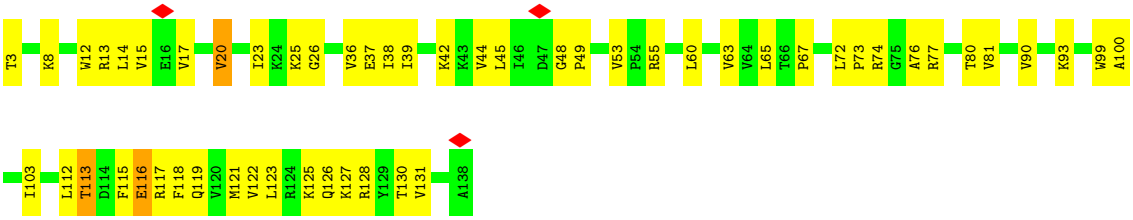
• Molecule 47: Large ribosomal subunit protein eL13A





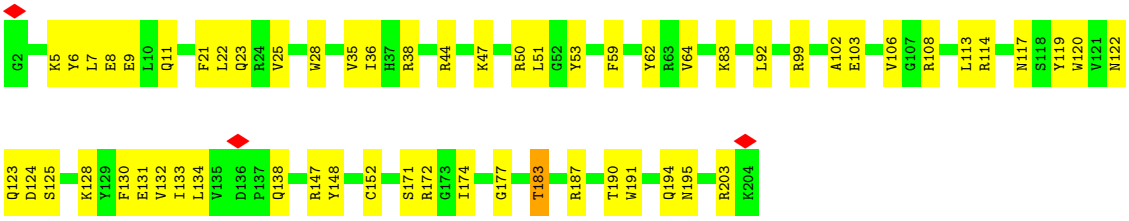
• Molecule 48: Large ribosomal subunit protein eL14A





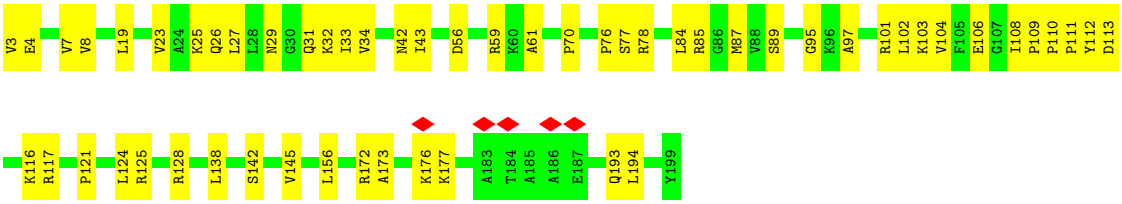
• Molecule 49: Large ribosomal subunit protein eL15A



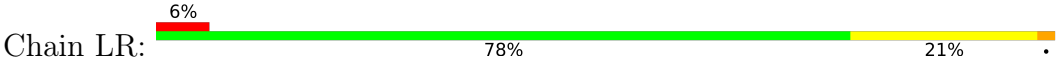


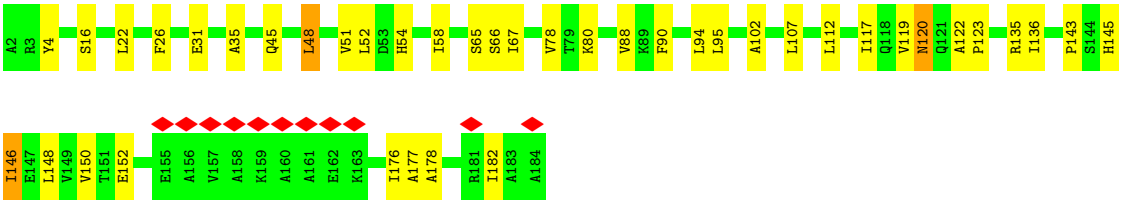
• Molecule 50: Large ribosomal subunit protein uL13A





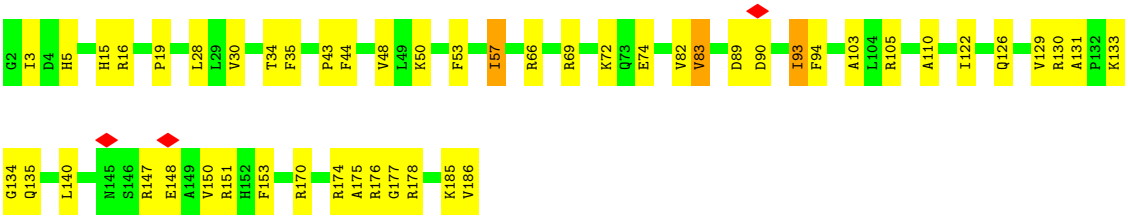
• Molecule 51: Large ribosomal subunit protein uL22A





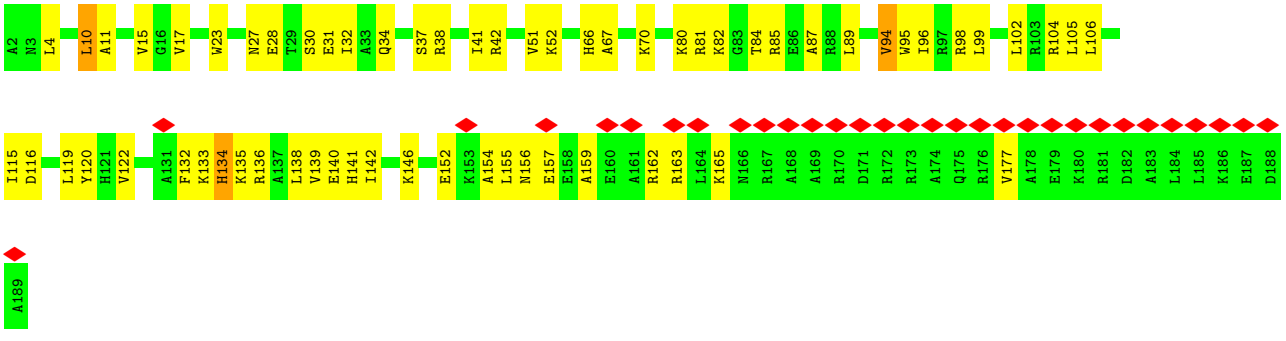
• Molecule 52: Large ribosomal subunit protein eL18A





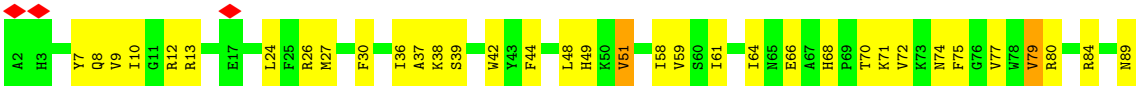
• Molecule 53: Large ribosomal subunit protein eL19A

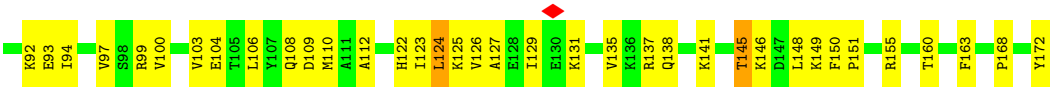




• Molecule 54: Large ribosomal subunit protein eL20A

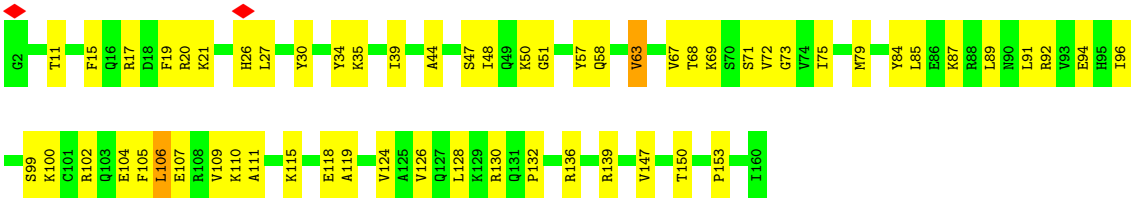






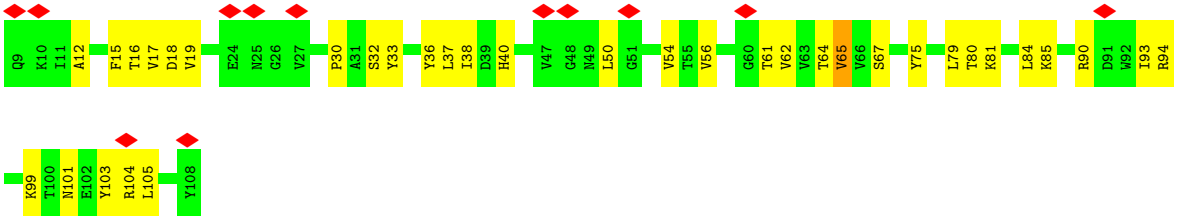
• Molecule 55: Large ribosomal subunit protein eL21A





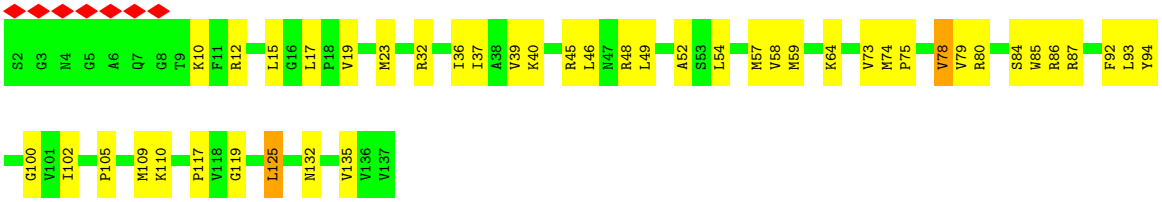
• Molecule 56: Large ribosomal subunit protein eL22A





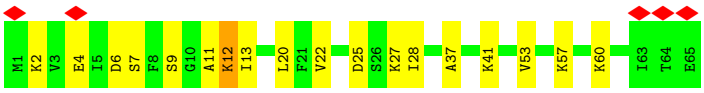
• Molecule 57: Large ribosomal subunit protein uL14A



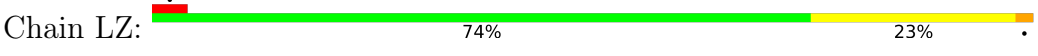


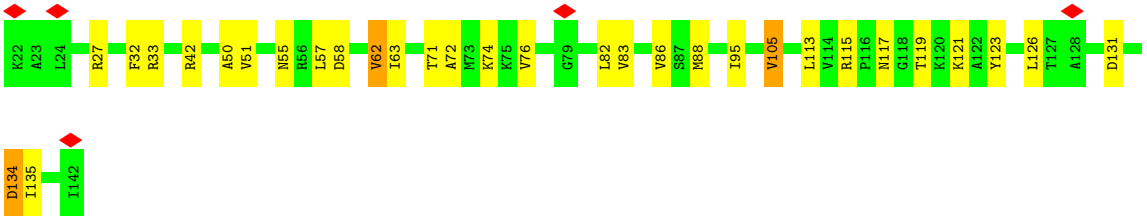
• Molecule 58: Large ribosomal subunit protein eL24A



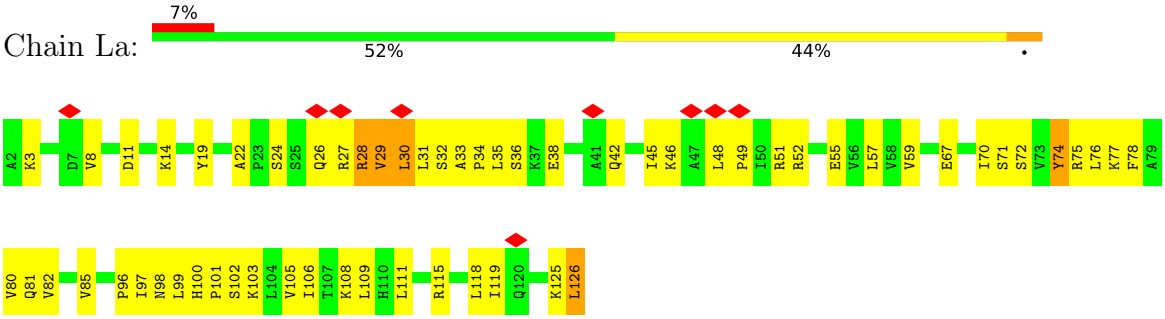


• Molecule 59: Large ribosomal subunit protein uL23

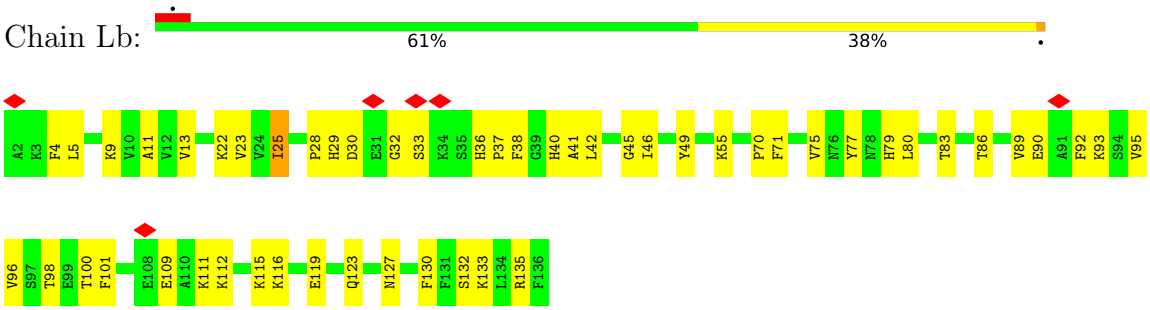




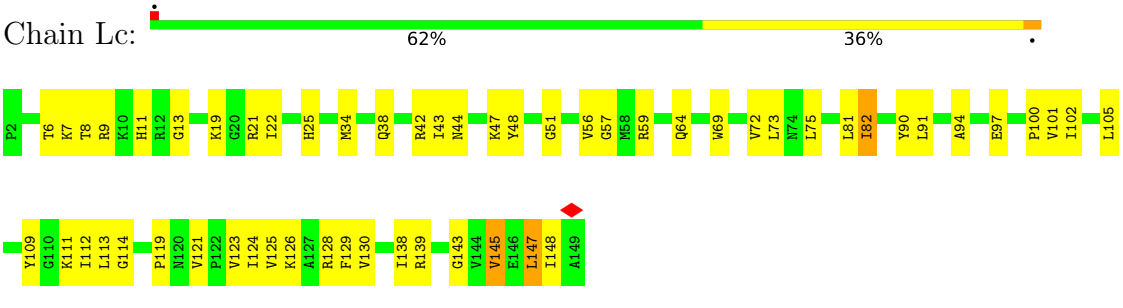
• Molecule 60: Large ribosomal subunit protein uL24A



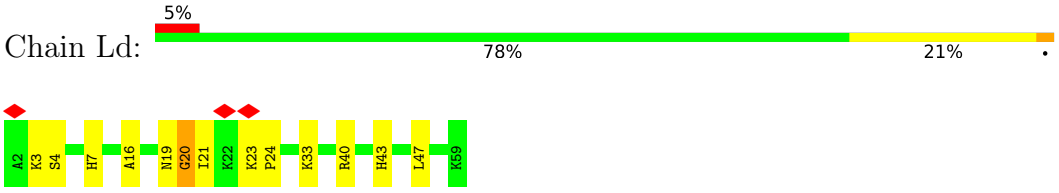
• Molecule 61: Large ribosomal subunit protein eL27A



• Molecule 62: Large ribosomal subunit protein uL15

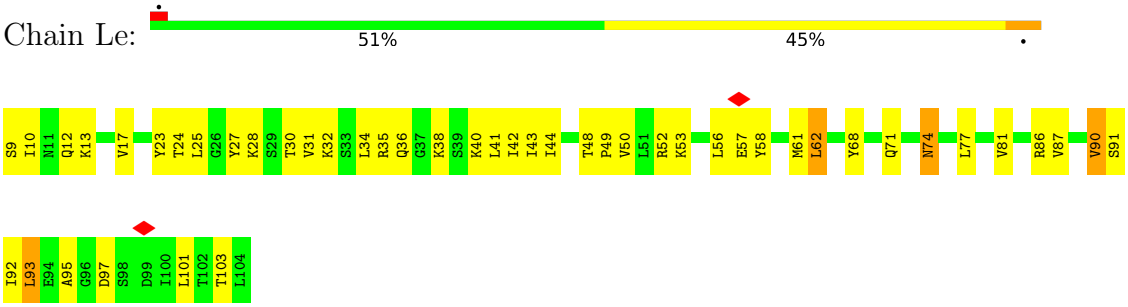


• Molecule 63: Large ribosomal subunit protein eL29



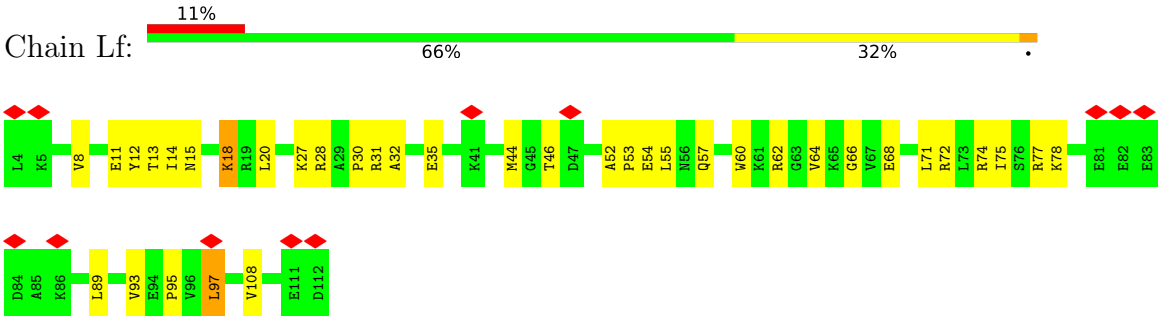
• Molecule 64: Large ribosomal subunit protein eL30

Chain Le:



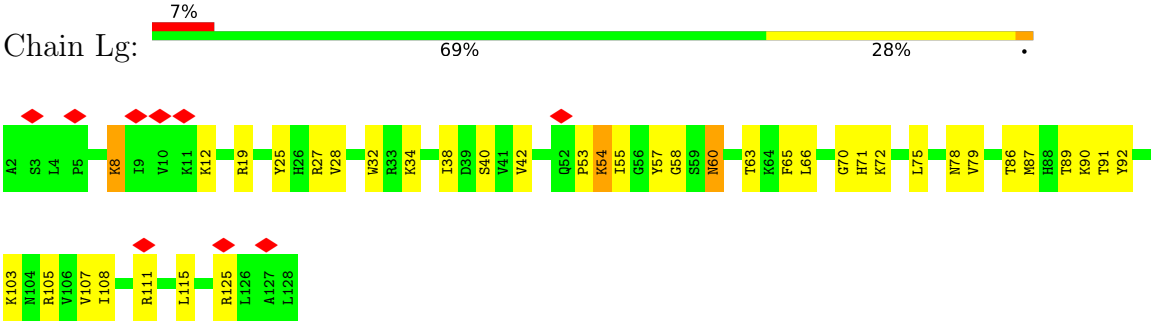
• Molecule 65: Large ribosomal subunit protein eL31A

Chain Lf:



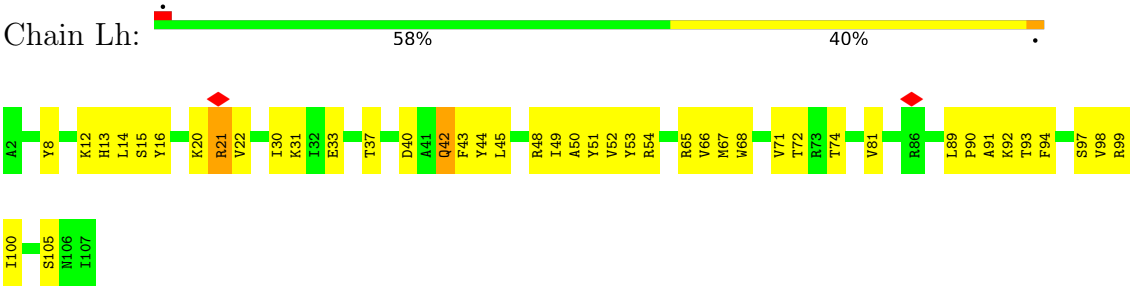
• Molecule 66: Large ribosomal subunit protein eL32

Chain Lg:



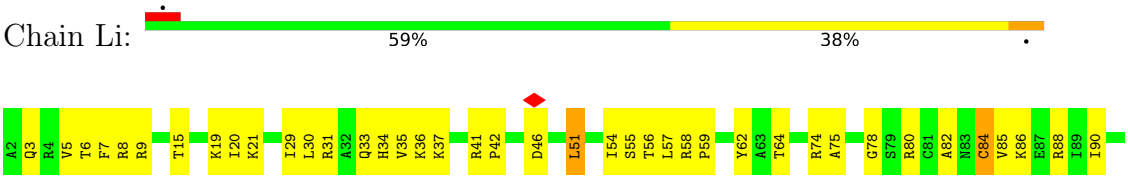
• Molecule 67: Large ribosomal subunit protein eL33A

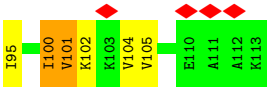
Chain Lh:



• Molecule 68: Large ribosomal subunit protein eL34A

Chain Li:

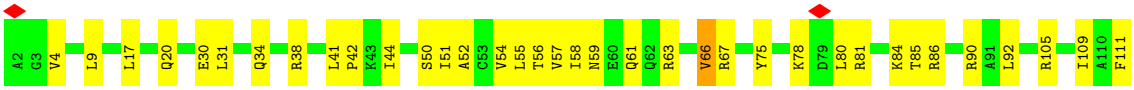


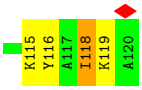


• Molecule 69: Large ribosomal subunit protein uL29A

Chain Lj:



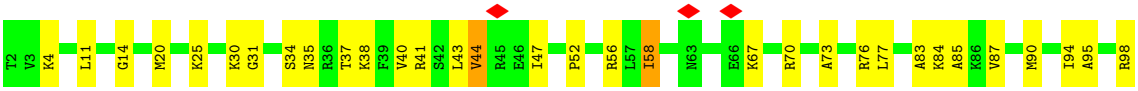




• Molecule 70: Large ribosomal subunit protein eL36A

Chain Lk:



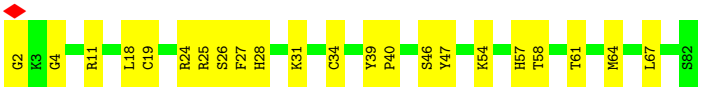




• Molecule 71: Large ribosomal subunit protein eL37A

Chain Ll:

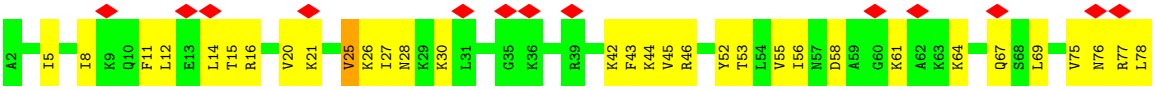




• Molecule 72: Large ribosomal subunit protein eL38

Chain Lm:

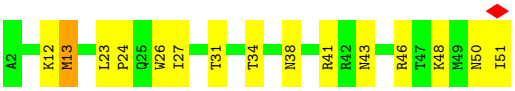




• Molecule 73: Large ribosomal subunit protein eL39

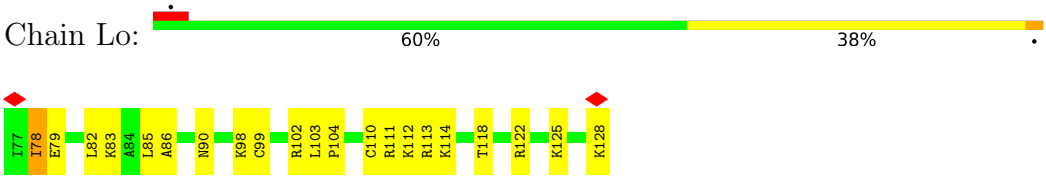
Chain Ln:





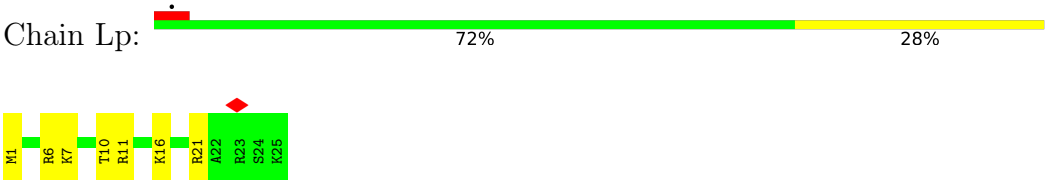
• Molecule 74: Large ribosomal subunit protein eL40A

Chain Lo:



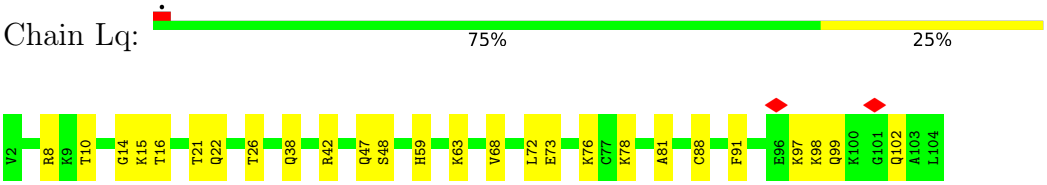
• Molecule 75: Large ribosomal subunit protein eL41A

Chain Lp:



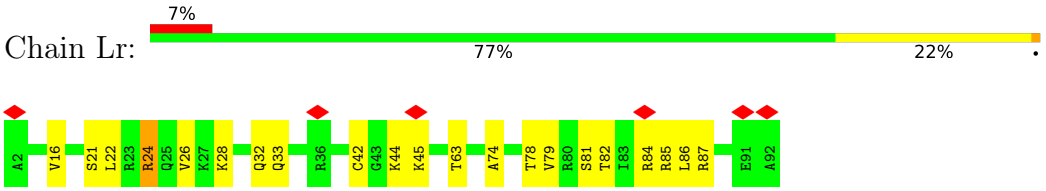
• Molecule 76: Large ribosomal subunit protein eL42A

Chain Lq:



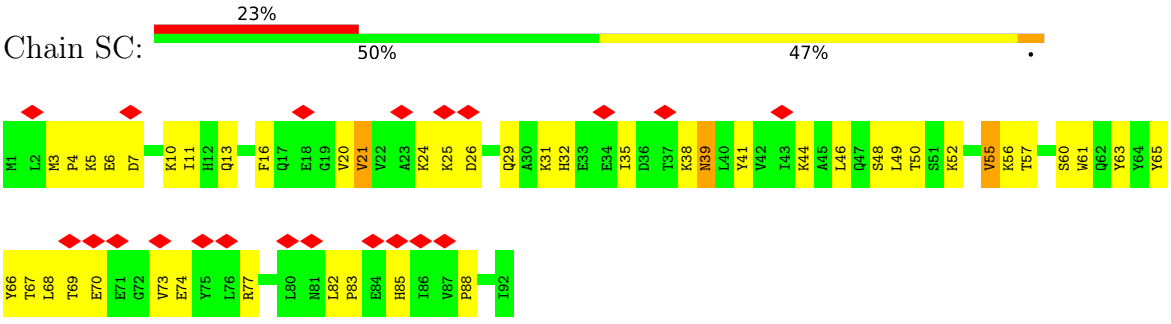
• Molecule 77: Large ribosomal subunit protein eL43A

Chain Lr:



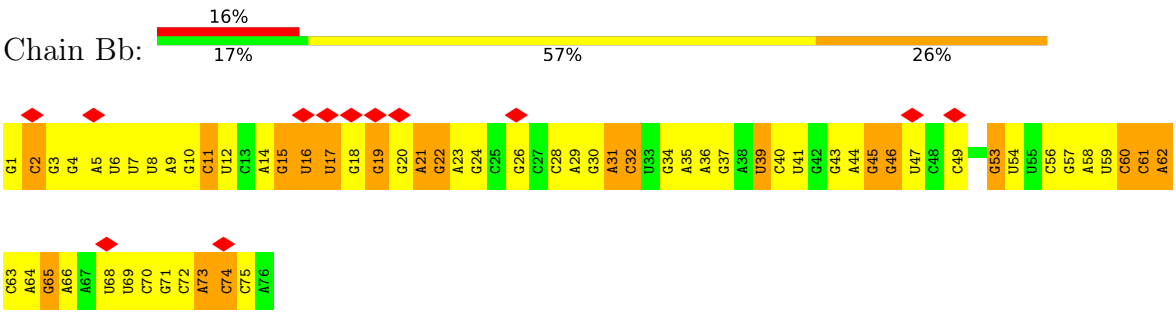
• Molecule 78: Small ribosomal subunit protein eS10A

Chain SC:



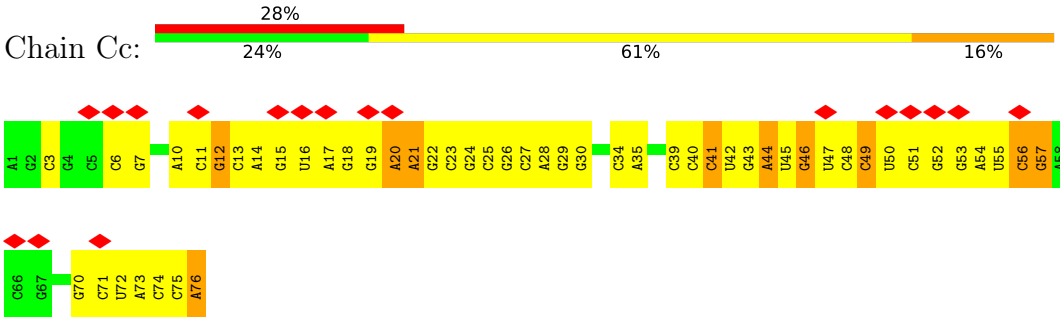
• Molecule 79: RNA (76-MER)

Chain Bb:



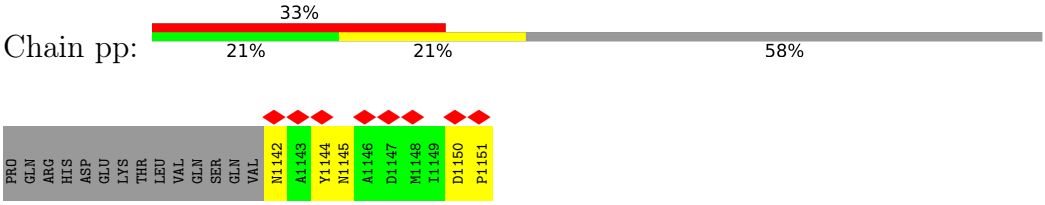
• Molecule 80: RNA (76-MER)

Chain Cc:



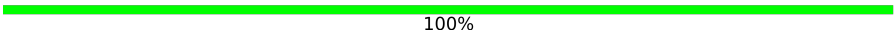
• Molecule 81: PRO-GLN-ARG-HIS-ASP-GLU-LYS-THR-LEU-VAL-GLN-SER-GLN-VAL-ASN-ALA-TYR-ASN-ALA-ASP-MET-ILE-ASP-PRO

Chain pp:



• Molecule 82: RNA (5'-R(P*GP*AP*CP*CP*CP*UP*UP*AP*AP*C)-3')

Chain mR:



There are no outlier residues recorded for this chain.

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	5985	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	JEOL CRYO ARM 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.917	Depositor
Minimum map value	-0.535	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.049	Depositor
Recommended contour level	0.16	Depositor
Map size (Å)	570.0, 570.0, 570.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.95, 0.95, 0.95	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	S2	0.53	0/42189	0.86	63/65739 (0.1%)
2	SL	0.19	0/493	0.48	0/663
3	SM	0.27	0/452	0.51	0/600
4	SN	0.28	0/567	0.75	3/764 (0.4%)
5	SO	0.20	0/2436	0.48	0/3318
6	SP	0.24	0/1644	0.50	0/2249
7	SQ	0.25	0/1735	0.53	1/2335 (0.0%)
8	SR	0.28	0/1656	0.51	0/2251
9	SS	0.23	0/2097	0.45	0/2823
10	ST	0.22	0/1839	0.44	0/2460
11	SU	0.20	0/1498	0.46	0/2019
12	SV	0.24	0/1501	0.40	0/2006
13	SW	0.23	0/1504	0.43	0/2016
14	SX	0.26	0/1168	0.38	0/1575
15	SY	0.26	0/1215	0.46	0/1638
16	SZ	0.22	0/934	0.46	0/1257
17	Sa	0.26	0/682	0.53	0/921
18	Sf	0.22	0/620	0.41	0/838
19	Sb	0.28	0/1038	0.45	0/1395
20	Sc	0.27	0/1139	0.49	0/1518
21	SD	0.22	0/883	0.58	0/1199
22	Sd	0.31	0/1046	0.54	0/1401
23	Sg	0.20	0/459	0.42	0/611
24	Se	0.24	0/778	0.41	0/1042
25	SF	0.22	0/1125	0.51	0/1510
26	SG	0.25	0/773	0.63	0/1033
27	SH	0.21	0/1207	0.47	0/1623
28	SI	0.30	0/1130	0.53	0/1517
29	SJ	0.22	0/807	0.47	0/1091
30	SK	0.21	0/661	0.46	0/888
31	SA	0.22	0/1754	0.44	0/2361
32	SB	0.21	0/1625	0.45	0/2197
33	SE	0.18	0/936	0.40	0/1259
34	LA	0.64	0/75727	0.80	45/118064 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	LB	0.55	0/2883	0.74	0/4491
36	LC	0.63	0/3746	0.81	0/5832
37	LD	0.30	0/1933	0.40	0/2598
38	LE	0.28	0/3146	0.40	0/4228
39	LF	0.28	0/2800	0.39	0/3790
40	LG	0.22	0/2400	0.41	0/3239
41	LH	0.24	0/1329	0.40	0/1794
42	LI	0.30	0/1821	0.46	0/2451
43	LJ	0.26	0/1836	0.45	0/2481
44	LK	0.27	0/1529	0.46	0/2060
45	LL	0.25	0/1801	0.39	0/2416
46	LM	0.23	0/1367	0.45	0/1834
47	LN	0.26	0/1568	0.43	0/2106
48	LO	0.26	0/1068	0.45	0/1438
49	LP	0.30	0/1757	0.40	0/2354
50	LQ	0.29	0/1585	0.42	0/2128
51	LR	0.28	0/1439	0.40	0/1938
52	LS	0.28	0/1465	0.41	0/1965
53	LT	0.28	0/1532	0.47	0/2043
54	LU	0.30	0/1473	0.45	0/1980
55	LV	0.27	0/1296	0.44	0/1739
56	LW	0.22	0/812	0.41	0/1099
57	LX	0.30	0/1018	0.40	0/1369
58	LY	0.38	0/540	0.55	1/717 (0.1%)
59	LZ	0.27	0/979	0.41	0/1321
60	La	0.26	0/995	0.54	0/1329
61	Lb	0.31	0/1106	0.48	0/1485
62	Lc	0.30	0/1200	0.39	0/1607
63	Ld	0.25	0/473	0.43	0/629
64	Le	0.28	0/745	0.50	0/1001
65	Lf	0.26	0/890	0.39	0/1196
66	Lg	0.29	0/1038	0.43	0/1390
67	Lh	0.33	0/868	0.48	0/1168
68	Li	0.28	0/890	0.43	0/1189
69	Lj	0.26	0/978	0.40	0/1301
70	Lk	0.24	0/772	0.40	0/1026
71	Ll	0.29	0/660	0.39	0/875
72	Lm	0.22	0/618	0.45	0/826
73	Ln	0.25	0/443	0.33	0/588
74	Lo	0.27	0/416	0.45	0/553
75	Lp	0.23	0/230	0.43	0/296
76	Lq	0.25	0/836	0.38	0/1104
77	Lr	0.27	0/701	0.47	0/934

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
78	SC	0.25	0/769	0.52	0/1039
79	Bb	0.40	0/1814	0.86	0/2827
80	Cc	0.37	0/1821	0.78	0/2838
81	pp	0.27	0/78	0.62	0/106
All	All	0.49	0/216782	0.71	113/318899 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
6	SP	0	1
11	SU	0	1
20	Sc	0	1
25	SF	0	1
32	SB	0	1
43	LJ	0	2
48	LO	0	1
60	La	0	1
63	Ld	0	2
All	All	0	11

There are no bond length outliers.

All (113) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	SN	132	LEU	CD1-CG-CD2	-8.30	92.54	110.80
1	S2	1585	U	C5-C6-N1	8.09	126.75	122.70
34	LA	179	C	N1-C2-O2	7.80	123.58	118.90
1	S2	1482	C	C2-N1-C1'	7.59	127.15	118.80
1	S2	735	C	N1-C2-O2	7.56	123.44	118.90
34	LA	179	C	C2-N1-C1'	7.55	127.10	118.80
1	S2	1585	U	C2-N1-C1'	7.55	126.76	117.70
34	LA	759	U	C2-N1-C1'	7.53	126.74	117.70
1	S2	1170	G	C4-N9-C1'	7.37	136.07	126.50
34	LA	1561	G	N3-C4-N9	-7.27	121.64	126.00
1	S2	1482	C	N1-C2-O2	7.15	123.19	118.90
34	LA	1496	C	C2-N1-C1'	7.09	126.59	118.80
34	LA	977	C	N3-C2-O2	-7.05	116.97	121.90
1	S2	934	C	C2-N1-C1'	7.01	126.52	118.80
1	S2	934	C	N1-C2-O2	6.92	123.06	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	LA	2237	C	N3-C2-O2	-6.79	117.15	121.90
1	S2	366	A	N9-C4-C5	-6.69	103.12	105.80
1	S2	1170	G	C8-N9-C1'	-6.69	118.30	127.00
1	S2	1682	U	C2-N1-C1'	6.65	125.68	117.70
34	LA	1724	U	N3-C2-O2	-6.58	117.59	122.20
4	SN	120	GLU	CA-C-N	-6.52	111.61	120.87
4	SN	120	GLU	C-N-CA	-6.52	111.61	120.87
34	LA	179	C	N3-C2-O2	-6.48	117.36	121.90
34	LA	2512	C	N1-C2-O2	6.44	122.77	118.90
34	LA	977	C	N1-C2-O2	6.32	122.69	118.90
34	LA	1724	U	N1-C2-O2	6.30	127.21	122.80
34	LA	759	U	N3-C2-O2	-6.22	117.84	122.20
1	S2	1733	C	N3-C2-O2	-6.22	117.55	121.90
1	S2	959	U	C5-C6-N1	6.18	125.79	122.70
34	LA	2435	G	O5'-C5'-C4'	6.14	114.31	109.40
1	S2	1585	U	C6-N1-C2	-6.13	117.32	121.00
34	LA	1577	G	N3-C4-N9	-6.00	122.40	126.00
1	S2	1440	C	N1-C2-O2	-5.98	115.31	118.90
34	LA	567	G	N3-C4-N9	-5.94	122.44	126.00
34	LA	179	C	C6-N1-C1'	-5.89	113.74	120.80
1	S2	1082	C	C2-N1-C1'	5.82	125.20	118.80
1	S2	1501	C	N3-C4-N4	-5.80	113.94	118.00
1	S2	252	U	C2-N1-C1'	5.76	124.61	117.70
58	LY	12	LYS	CB-CG-CD	5.75	124.53	111.30
34	LA	1496	C	C6-N1-C1'	-5.74	113.91	120.80
1	S2	965	U	C2-N1-C1'	5.72	124.57	117.70
34	LA	2512	C	C2-N1-C1'	5.70	125.07	118.80
1	S2	1241	G	P-O3'-C3'	5.67	126.50	119.70
1	S2	549	G	C4-N9-C1'	5.65	133.84	126.50
1	S2	1482	C	C6-N1-C1'	-5.64	114.04	120.80
34	LA	1561	G	C4-N9-C1'	-5.62	119.19	126.50
34	LA	759	U	N1-C2-O2	5.62	126.73	122.80
1	S2	735	C	C2-N1-C1'	5.61	124.97	118.80
1	S2	1482	C	N3-C2-O2	-5.61	117.97	121.90
1	S2	1682	U	N1-C2-O2	5.61	126.72	122.80
1	S2	323	A	N9-C1'-C2'	5.60	118.16	112.00
1	S2	304	U	C2-N1-C1'	5.58	124.39	117.70
34	LA	1037	C	N3-C2-O2	-5.57	118.00	121.90
1	S2	1221	A	N1-C6-N6	-5.57	115.26	118.60
34	LA	3197	G	N3-C4-N9	-5.50	122.70	126.00
34	LA	1724	U	C2-N1-C1'	5.49	124.28	117.70
1	S2	1240	U	N1-C2-O2	5.48	126.63	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	S2	1741	U	C2-N1-C1'	5.47	124.26	117.70
34	LA	1561	G	C8-N9-C1'	5.46	134.10	127.00
34	LA	75	G	C8-N9-C1'	-5.46	119.91	127.00
1	S2	1585	U	N3-C2-O2	-5.44	118.39	122.20
34	LA	1604	G	C4-N9-C1'	5.43	133.56	126.50
1	S2	1071	U	C2-N1-C1'	5.42	124.21	117.70
34	LA	3280	U	O5'-C5'-C4'	5.40	113.72	109.40
1	S2	650	U	C2-N1-C1'	5.39	124.17	117.70
1	S2	1340	U	C2-N1-C1'	5.39	124.17	117.70
34	LA	2226	U	C2-N1-C1'	5.39	124.17	117.70
1	S2	1082	C	N1-C2-O2	5.38	122.13	118.90
34	LA	2681	U	N3-C2-O2	-5.38	118.44	122.20
1	S2	1170	G	N3-C4-N9	5.34	129.20	126.00
1	S2	624	G	O5'-C5'-C4'	5.33	113.66	109.40
34	LA	75	G	C4-N9-C1'	5.33	133.42	126.50
1	S2	1682	U	C5-C6-N1	5.32	125.36	122.70
34	LA	2257	C	N1-C2-O2	5.31	122.09	118.90
34	LA	2093	A	C2-N3-C4	5.31	113.25	110.60
1	S2	934	C	N3-C2-O2	-5.30	118.19	121.90
1	S2	1145	U	N3-C2-O2	-5.30	118.49	122.20
34	LA	1037	C	N1-C2-O2	5.29	122.08	118.90
1	S2	757	A	O5'-C5'-C4'	5.29	113.63	109.40
1	S2	1389	C	C2-N1-C1'	5.29	124.62	118.80
1	S2	608	U	C2-N1-C1'	5.28	124.04	117.70
34	LA	2983	C	C2-N1-C1'	5.27	124.60	118.80
1	S2	1170	G	C6-C5-N7	-5.27	127.24	130.40
34	LA	3181	C	C2-N1-C1'	5.26	124.58	118.80
1	S2	1240	U	O4'-C1'-N1	-5.26	104.82	108.50
1	S2	1585	U	N1-C2-O2	5.25	126.48	122.80
1	S2	252	U	C6-N1-C1'	-5.25	113.85	121.20
7	SQ	170	GLU	N-CA-CB	5.24	118.29	110.22
1	S2	1517	U	O5'-C5'-C4'	5.24	113.59	109.40
1	S2	1694	A	O5'-C5'-C4'	5.22	113.58	109.40
1	S2	1741	U	C5-C6-N1	5.21	125.31	122.70
1	S2	366	A	N3-C4-N9	5.21	131.56	127.40
34	LA	2257	C	C2-N1-C1'	5.19	124.51	118.80
34	LA	2274	U	C2-N1-C1'	5.18	123.91	117.70
1	S2	934	C	C6-N1-C1'	-5.16	114.60	120.80
34	LA	1307	G	P-O3'-C3'	5.16	125.89	119.70
1	S2	401	A	O5'-C5'-C4'	5.15	113.52	109.40
1	S2	1071	U	C6-N1-C1'	-5.15	113.99	121.20
34	LA	1561	G	N3-C4-C5	5.15	131.18	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	LA	2327	U	C2-N1-C1'	5.14	123.87	117.70
34	LA	1604	G	C8-N9-C1'	-5.14	120.32	127.00
34	LA	1577	G	N3-C4-C5	5.10	131.15	128.60
1	S2	1682	U	N3-C2-O2	-5.08	118.64	122.20
1	S2	1722	A	O4'-C1'-N9	5.08	112.26	108.20
1	S2	1364	G	C4-N9-C1'	5.07	133.09	126.50
1	S2	735	C	N3-C2-O2	-5.05	118.36	121.90
1	S2	1376	C	N3-C2-O2	-5.05	118.36	121.90
1	S2	549	G	O5'-C5'-C4'	5.05	113.44	109.40
1	S2	1340	U	N3-C2-O2	-5.03	118.68	122.20
34	LA	3089	C	N3-C2-O2	-5.02	118.39	121.90
1	S2	1145	U	N1-C2-O2	5.02	126.31	122.80
34	LA	525	C	C6-N1-C1'	5.02	126.82	120.80
1	S2	864	U	N1-C2-O2	5.00	126.30	122.80

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
43	LJ	30	THR	Peptide
43	LJ	76	ALA	Peptide
48	LO	12	TRP	Peptide
60	La	30	LEU	Peptide
63	Ld	19	ASN	Peptide
63	Ld	20	GLY	Peptide
32	SB	162	VAL	Peptide
25	SF	40	GLU	Peptide
6	SP	193	GLN	Peptide
11	SU	64	VAL	Peptide
20	Sc	63	GLN	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	S2	37719	0	18978	1102	0
2	SL	491	0	524	21	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	SM	442	0	432	28	0
4	SN	556	0	544	35	0
5	SO	2383	0	2332	117	0
6	SP	1603	0	1610	72	0
7	SQ	1709	0	1784	92	0
8	SR	1626	0	1715	79	0
9	SS	2056	0	2140	79	0
10	ST	1815	0	1894	89	0
11	SU	1473	0	1553	63	0
12	SV	1476	0	1501	53	0
13	SW	1479	0	1556	76	0
14	SX	1142	0	1209	41	0
15	SY	1192	0	1255	53	0
16	SZ	923	0	948	44	0
17	Sa	673	0	662	29	0
18	Sf	610	0	633	17	0
19	Sb	1021	0	1060	41	0
20	Sc	1121	0	1195	52	0
21	SD	875	0	878	63	0
22	Sd	1032	0	1044	53	0
23	Sg	451	0	494	14	0
24	Se	765	0	814	22	0
25	SF	1105	0	1166	61	0
26	SG	764	0	808	42	0
27	SH	1188	0	1216	88	0
28	SI	1112	0	1124	63	0
29	SJ	797	0	863	45	0
30	SK	651	0	682	36	0
31	SA	1729	0	1812	65	0
32	SB	1605	0	1669	98	0
33	SE	916	0	941	33	0
34	LA	67653	0	33997	1279	0
35	LB	2579	0	1304	67	0
36	LC	3353	0	1695	74	0
37	LD	1899	0	1957	72	0
38	LE	3075	0	3142	94	0
39	LF	2748	0	2859	76	0
40	LG	2351	0	2294	77	0
41	LH	1307	0	1377	50	0
42	LI	1784	0	1862	56	0
43	LJ	1804	0	1877	83	0
44	LK	1508	0	1571	53	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
45	LL	1764	0	1804	63	0
46	LM	1346	0	1370	48	0
47	LN	1543	0	1608	48	0
48	LO	1053	0	1149	47	0
49	LP	1720	0	1779	50	0
50	LQ	1555	0	1659	48	0
51	LR	1416	0	1433	27	0
52	LS	1441	0	1543	42	0
53	LT	1515	0	1606	50	0
54	LU	1437	0	1475	56	0
55	LV	1272	0	1312	54	0
56	LW	796	0	812	25	0
57	LX	1003	0	1048	32	0
58	LY	528	0	544	12	0
59	LZ	964	0	1025	28	0
60	La	984	0	1074	52	0
61	Lb	1080	0	1118	38	0
62	Lc	1169	0	1211	55	0
63	Ld	462	0	491	10	0
64	Le	737	0	792	41	0
65	Lf	876	0	912	20	0
66	Lg	1017	0	1081	29	0
67	Lh	850	0	880	32	0
68	Li	880	0	945	33	0
69	Lj	969	0	1078	29	0
70	Lk	766	0	844	28	0
71	Ll	645	0	649	18	0
72	Lm	612	0	682	25	0
73	Ln	436	0	475	13	0
74	Lo	410	0	446	17	0
75	Lp	229	0	273	6	0
76	Lq	824	0	892	18	0
77	Lr	694	0	738	16	0
78	SC	752	0	719	48	0
79	Bb	1622	0	821	43	0
80	Cc	1628	0	827	57	0
81	pp	77	0	65	3	0
82	mR	209	0	0	0	0
All	All	201842	0	148151	5466	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 16.

All (5466) 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)
1:S2:1673:G:N1	1:S2:1728:A:H2	1.28	1.31
1:S2:1673:G:N1	1:S2:1728:A:C2	2.02	1.20
1:S2:229:U:H3	1:S2:237:C:N4	1.44	1.14
34:LA:3234:A:N6	34:LA:3253:G:H1	1.46	1.13
34:LA:2216:G:H1	34:LA:2228:A:H61	1.06	1.02
34:LA:759:U:H3	34:LA:771:A:N6	1.58	1.00
56:LW:12:ALA:HA	56:LW:67:SER:O	1.60	1.00
1:S2:1683:C:C2	1:S2:1718:G:N2	2.31	0.99
1:S2:1471:A:N6	1:S2:1538:U:C2	2.31	0.97
34:LA:1039:U:HO2'	34:LA:1040:A:H8	1.01	0.95
34:LA:3160:U:H3	34:LA:3290:G:H1	1.03	0.95
1:S2:69:G:H1	1:S2:82:U:H3	1.09	0.94
1:S2:514:G:N2	1:S2:543:C:O2	2.01	0.94
27:SH:68:ARG:HA	27:SH:71:GLN:HE21	1.32	0.93
1:S2:883:C:H42	1:S2:945:U:H3	1.17	0.93
1:S2:1498:G:N2	1:S2:1509:C:O2	2.01	0.92
34:LA:2619:G:H1	80:Cc:76:A:H2	1.09	0.91
38:LE:137:TYR:HD1	38:LE:138:ALA:H	1.18	0.91
1:S2:490:C:O2	1:S2:497:G:N2	2.05	0.90
1:S2:1180:C:H2'	1:S2:1458:G:H22	1.34	0.90
8:SR:228:ASN:HD21	17:Sa:1:MET:HA	1.36	0.90
34:LA:3318:G:N2	34:LA:3388:C:O2	2.05	0.90
34:LA:3166:C:O2	34:LA:3284:G:N2	2.05	0.89
1:S2:204:G:N2	1:S2:263:C:O2	2.04	0.89
35:LB:29:C:O2	35:LB:49:G:N2	2.06	0.89
34:LA:822:G:H4'	37:LD:194:ASN:HD21	1.36	0.89
1:S2:149:C:H42	1:S2:166:C:H42	1.18	0.89
1:S2:397:A:H4'	12:SV:50:GLY:HA2	1.54	0.89
1:S2:1695:G:N2	1:S2:1706:C:O2	2.05	0.88
15:SY:69:ASN:HD22	15:SY:73:ARG:HG2	1.37	0.88
1:S2:1051:G:N2	1:S2:1067:C:O2	2.06	0.88
34:LA:179:C:O2	34:LA:237:G:N2	2.07	0.88
34:LA:15:C:O2	36:LC:144:G:N2	2.08	0.87
34:LA:1023:C:O2	34:LA:1029:G:N2	2.08	0.87
78:SC:10:LYS:HA	78:SC:13:GLN:HE21	1.39	0.87
7:SQ:127:VAL:HG11	7:SQ:173:THR:HG22	1.56	0.87
34:LA:3222:U:H3	34:LA:3263:G:H1	0.91	0.87
1:S2:1673:G:O6	1:S2:1728:A:N1	2.08	0.86
34:LA:512:U:H3	34:LA:579:G:H1	1.21	0.86
1:S2:13:C:H1'	1:S2:1299:G:H21	1.36	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:La:57:LEU:HD13	60:La:67:GLU:HG3	1.58	0.86
12:SV:53:LYS:HZ2	12:SV:55:TYR:HE1	1.22	0.86
1:S2:1501:C:O2	1:S2:1506:G:N2	2.08	0.86
25:SF:42:GLU:HB3	32:SB:112:ARG:HH22	1.41	0.86
5:SO:115:ILE:HD11	5:SO:119:ALA:HA	1.59	0.85
1:S2:575:C:H41	20:Sc:65:ASN:HD21	1.19	0.85
1:S2:1154:G:N2	1:S2:1624:C:O2	2.08	0.85
1:S2:749:U:H5'	19:Sb:83:ILE:HD13	1.57	0.85
1:S2:1356:U:O4	1:S2:1367:G:O6	1.95	0.85
34:LA:655:C:H2'	34:LA:656:A:H8	1.40	0.85
34:LA:166:C:H42	34:LA:255:A:H61	1.24	0.85
56:LW:93:ILE:HD11	56:LW:105:LEU:HB3	1.58	0.85
1:S2:1207:C:N3	1:S2:1455:G:N1	2.25	0.85
35:LB:69:C:O2	35:LB:109:G:N2	2.10	0.84
3:SM:55:PHE:HD1	29:SJ:85:ARG:HE	1.25	0.84
72:Lm:5:ILE:HD11	72:Lm:52:TYR:HB3	1.60	0.84
1:S2:703:G:N2	1:S2:736:C:C2	2.46	0.84
1:S2:1683:C:O2	1:S2:1717:G:N2	2.11	0.84
34:LA:2565:U:H3	34:LA:2576:G:H1	1.26	0.83
1:S2:959:U:H6	15:SY:61:THR:HG1	1.26	0.83
1:S2:1148:C:O2	1:S2:1629:G:N2	2.11	0.83
15:SY:119:GLU:HA	15:SY:122:ILE:HD12	1.60	0.83
21:SD:134:SER:HA	21:SD:137:MET:HE2	1.59	0.83
52:LS:94:PHE:HE2	62:Lc:119:PRO:HD3	1.43	0.83
21:SD:63:VAL:HG22	21:SD:93:ASP:HA	1.60	0.83
34:LA:1664:G:H1	34:LA:1785:U:H3	1.25	0.83
61:Lb:33:SER:H	61:Lb:37:PRO:HA	1.43	0.83
34:LA:688:G:H21	34:LA:692:A:H2	1.26	0.82
1:S2:1207:C:O2	1:S2:1455:G:N2	2.11	0.82
6:SP:18:LEU:HA	6:SP:23:HIS:HE1	1.42	0.82
74:Lo:78:ILE:H	74:Lo:83:LYS:HZ1	1.26	0.82
1:S2:1683:C:N3	1:S2:1718:G:N1	2.27	0.82
68:Li:51:LEU:HD21	68:Li:54:ILE:HD12	1.60	0.82
74:Lo:103:LEU:HD21	74:Lo:110:CYS:HA	1.62	0.82
1:S2:1280:C:O2	1:S2:1428:G:N2	2.13	0.81
1:S2:514:G:H2'	1:S2:515:A:H8	1.45	0.81
1:S2:1081:A:H2	1:S2:1082:C:H42	1.29	0.81
1:S2:1540:G:HO2'	1:S2:1541:G:H8	1.28	0.81
27:SH:48:LYS:HE3	28:SI:35:ASP:HB3	1.62	0.81
34:LA:1666:G:H1	34:LA:1783:U:H3	1.26	0.81
1:S2:477:A:H2'	1:S2:478:A:H8	1.42	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1047:G:N1	1:S2:1071:U:O4	2.14	0.81
1:S2:1374:C:H2'	1:S2:1375:A:C8	2.16	0.81
44:LK:90:MET:HG3	44:LK:144:ILE:HG23	1.61	0.81
36:LC:121:U:H3	36:LC:132:G:H1	1.27	0.81
1:S2:1663:G:H1	1:S2:1737:G:H1	1.29	0.81
34:LA:3345:G:N2	34:LA:3360:C:O2	2.14	0.80
43:LJ:77:GLN:HE22	43:LJ:167:PRO:HG2	1.45	0.80
21:SD:65:SER:H	21:SD:93:ASP:HB3	1.46	0.80
45:LL:170:LYS:HA	45:LL:177:ASP:HA	1.62	0.80
69:Lj:78:LYS:HG3	69:Lj:81:ARG:HH21	1.46	0.80
8:SR:39:THR:HG23	8:SR:42:GLY:H	1.47	0.80
34:LA:3234:A:N1	34:LA:3253:G:N2	2.28	0.80
44:LK:90:MET:HB3	44:LK:181:VAL:HA	1.61	0.80
69:Lj:86:ARG:HG3	69:Lj:90:ARG:HH21	1.47	0.80
30:SK:89:ILE:HB	30:SK:101:TYR:HB3	1.64	0.80
1:S2:752:A:H61	1:S2:797:G:H1	1.30	0.80
11:SU:64:VAL:HG23	11:SU:67:LEU:HB2	1.62	0.80
1:S2:703:G:N2	1:S2:736:C:O2	2.15	0.79
1:S2:803:A:HO2'	1:S2:804:A:H8	1.29	0.79
26:SG:41:ILE:HG12	26:SG:47:ARG:HB3	1.63	0.79
1:S2:1588:G:H1	1:S2:1608:U:H3	0.84	0.79
4:SN:121:CYS:CB	4:SN:132:LEU:HD12	2.11	0.79
34:LA:1661:G:H2'	34:LA:1662:G:C8	2.17	0.79
21:SD:67:THR:HG22	21:SD:68:GLU:HG2	1.64	0.79
1:S2:1501:C:C2	1:S2:1506:G:N2	2.50	0.79
1:S2:1254:U:H2'	1:S2:1255:G:C4	2.18	0.79
7:SQ:141:ALA:HB1	7:SQ:207:LEU:HD11	1.63	0.79
64:Le:30:THR:HG23	64:Le:91:SER:HB3	1.63	0.79
1:S2:273:G:H1	1:S2:283:U:H3	0.81	0.79
1:S2:883:C:N4	1:S2:945:U:H3	1.81	0.79
43:LJ:33:ASN:HB3	43:LJ:38:GLN:HG2	1.63	0.79
43:LJ:205:ALA:HA	43:LJ:208:GLU:HG3	1.63	0.78
59:LZ:72:ALA:HB1	59:LZ:83:VAL:HG21	1.64	0.78
80:Cc:26:G:O6	80:Cc:44:A:N1	2.16	0.78
34:LA:414:U:H5'	34:LA:415:G:C8	2.18	0.78
48:LO:112:LEU:HD11	48:LO:116:GLU:HB2	1.64	0.78
67:Lh:14:LEU:HD11	67:Lh:31:LYS:HB2	1.66	0.78
21:SD:30:VAL:HG21	21:SD:132:GLU:HG3	1.66	0.78
31:SA:72:LEU:HD11	78:SC:65:TYR:HB3	1.64	0.78
48:LO:72:LEU:HD12	48:LO:73:PRO:HD2	1.66	0.78
2:SL:12:VAL:HG22	2:SL:52:ASP:H	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1717:U:H3	34:LA:1727:G:H1	1.30	0.77
1:S2:1483:A:H5'	1:S2:1524:A:H61	1.48	0.77
1:S2:1673:G:C2	1:S2:1728:A:H2	2.02	0.77
1:S2:1673:G:C6	1:S2:1728:A:N1	2.52	0.77
34:LA:727:G:H1	34:LA:743:C:H41	1.32	0.77
25:SF:29:ILE:HG23	25:SF:65:ILE:HB	1.64	0.77
1:S2:1227:A:H1'	1:S2:1229:G:H21	1.47	0.77
1:S2:1368:G:H5"	28:SI:69:LYS:HE2	1.66	0.77
1:S2:1683:C:C2	1:S2:1718:G:C2	2.73	0.77
20:Sc:3:LYS:HD3	20:Sc:7:ARG:HH12	1.50	0.77
25:SF:31:VAL:HG12	25:SF:67:VAL:HB	1.67	0.77
27:SH:38:VAL:HG13	27:SH:42:TYR:HB3	1.67	0.77
5:SO:90:ARG:HE	5:SO:102:ARG:HG2	1.50	0.76
7:SQ:86:LEU:HD13	7:SQ:98:THR:HG21	1.67	0.76
1:S2:1501:C:N3	1:S2:1506:G:N1	2.33	0.76
34:LA:131:C:O2	34:LA:137:G:N2	2.17	0.76
1:S2:1471:A:N6	1:S2:1538:U:N3	2.32	0.76
34:LA:278:U:H3	34:LA:287:G:H1	1.31	0.76
34:LA:1120:A:H61	34:LA:1138:U:H3	1.32	0.76
1:S2:1388:A:H5"	26:SG:48:ASN:HD22	1.50	0.76
21:SD:29:LYS:HB3	21:SD:100:TRP:HE1	1.50	0.76
34:LA:2619:G:N1	80:Cc:76:A:C2	2.52	0.76
1:S2:204:G:N1	1:S2:263:C:N3	2.33	0.76
57:LX:23:MET:HE3	57:LX:100:GLY:HA3	1.67	0.76
1:S2:1683:C:O2	1:S2:1718:G:N2	2.17	0.75
1:S2:703:G:N1	1:S2:736:C:N3	2.35	0.75
42:LI:232:ARG:HB2	42:LI:235:PHE:HB2	1.67	0.75
80:Cc:56:C:H2'	80:Cc:57:G:C8	2.21	0.75
1:S2:502:U:H2'	1:S2:503:G:C8	2.22	0.75
34:LA:624:G:H2'	34:LA:625:G:H8	1.51	0.75
1:S2:126:A:H62	1:S2:291:G:H2'	1.52	0.75
1:S2:1267:G:H2'	1:S2:1268:G:H8	1.51	0.75
1:S2:871:G:H2'	1:S2:872:G:C8	2.21	0.75
34:LA:17:G:H4'	69:Lj:75:TYR:HE2	1.51	0.75
59:LZ:131:ASP:HB3	59:LZ:134:ASP:HB3	1.69	0.75
60:La:3:LYS:HD2	60:La:8:VAL:HG23	1.67	0.75
1:S2:1488:G:H3'	1:S2:1515:A:H61	1.51	0.75
27:SH:126:ARG:HE	27:SH:131:LEU:HB2	1.51	0.75
34:LA:655:C:H2'	34:LA:656:A:C8	2.22	0.75
60:La:49:PRO:HG3	60:La:118:LEU:HD13	1.68	0.75
1:S2:385:A:H5"	12:SV:22:ARG:HG2	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:SK:98:GLN:HE21	32:SB:191:ALA:HB3	1.52	0.75
34:LA:2216:G:H1	34:LA:2228:A:N6	1.84	0.75
35:LB:68:C:O2	35:LB:110:G:N2	2.16	0.75
5:SO:24:ALA:HB3	5:SO:34:LEU:HB3	1.67	0.74
9:SS:184:THR:HA	9:SS:189:LEU:HD13	1.69	0.74
61:Lb:46:ILE:HA	61:Lb:70:PRO:HA	1.70	0.74
1:S2:1615:C:H2'	32:SB:81:ARG:HD2	1.68	0.74
34:LA:1896:A:H61	34:LA:2339:C:H42	1.35	0.74
46:LM:26:SER:HA	46:LM:30:LEU:HD11	1.69	0.74
79:Bb:4:G:H1	79:Bb:69:U:H3	1.35	0.74
27:SH:82:PRO:HB2	27:SH:84:TRP:HD1	1.53	0.74
54:LU:10:ILE:HG13	54:LU:26:ARG:HB2	1.68	0.74
1:S2:480:G:H1	1:S2:508:U:H2'	1.51	0.74
12:SV:184:LEU:HB2	12:SV:189:LEU:HD23	1.70	0.74
26:SG:20:TYR:HE2	31:SA:211:PRO:HD3	1.53	0.74
34:LA:1533:U:HO2'	34:LA:1798:A:H8	1.36	0.74
39:LF:35:VAL:HG21	39:LF:244:LEU:HD11	1.70	0.74
34:LA:2619:G:O6	80:Cc:76:A:N1	2.21	0.74
56:LW:19:VAL:HG21	56:LW:30:PRO:HG3	1.69	0.74
60:La:45:ILE:HG21	60:La:125:LYS:H	1.53	0.74
64:Le:43:ILE:HG22	64:Le:68:TYR:HB3	1.69	0.74
43:LJ:50:VAL:HG21	59:LZ:27:ARG:HG2	1.70	0.73
34:LA:727:G:H1	34:LA:743:C:N4	1.86	0.73
13:SW:80:LEU:HB3	13:SW:86:LEU:HB2	1.70	0.73
29:SJ:57:ARG:HD3	29:SJ:89:ARG:HH21	1.54	0.73
27:SH:110:ARG:O	27:SH:114:GLU:HG2	1.88	0.73
34:LA:3195:U:H2'	34:LA:3197:G:H21	1.52	0.73
46:LM:155:THR:HG23	46:LM:158:ASP:HB2	1.71	0.73
34:LA:2662:G:H2'	34:LA:2663:G:H8	1.54	0.73
55:LV:119:ALA:HB1	55:LV:124:VAL:HG22	1.70	0.73
1:S2:273:G:N2	1:S2:283:U:O2	2.18	0.73
1:S2:1116:A:H62	1:S2:1130:G:H21	1.36	0.73
34:LA:957:C:H1'	62:Lc:43:ILE:HD11	1.70	0.73
66:Lg:8:LYS:HZ1	66:Lg:12:LYS:N	1.87	0.73
79:Bb:20:G:H2'	79:Bb:21:A:H4'	1.71	0.73
70:Lk:35:ASN:HA	70:Lk:38:LYS:HE2	1.70	0.73
13:SW:129:ILE:HD13	13:SW:134:ILE:HD13	1.69	0.73
33:SE:96:ILE:HD11	33:SE:116:LEU:HG	1.71	0.72
1:S2:212:U:H2'	1:S2:213:A:H8	1.54	0.72
19:Sb:2:THR:HG22	19:Sb:3:ARG:HG2	1.69	0.72
34:LA:688:G:N2	34:LA:692:A:C2	2.53	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:800:G:H22	39:LF:101:ALA:HA	1.54	0.72
34:LA:3234:A:H61	34:LA:3253:G:H1	0.76	0.72
20:Sc:135:LEU:HD21	20:Sc:142:LYS:HB3	1.72	0.72
29:SJ:57:ARG:HH11	29:SJ:89:ARG:HE	1.35	0.72
30:SK:83:LEU:HB3	30:SK:88:ILE:HD11	1.70	0.72
1:S2:329:G:H2'	1:S2:330:G:H8	1.53	0.72
38:LE:47:LEU:HD12	38:LE:335:ILE:HD11	1.71	0.72
11:SU:173:TYR:HE1	11:SU:179:LYS:HB2	1.55	0.72
46:LM:92:ARG:HD2	46:LM:172:LEU:HD13	1.70	0.72
1:S2:1335:U:H3	1:S2:1416:G:H1	1.36	0.72
1:S2:1471:A:C6	1:S2:1538:U:C2	2.77	0.72
15:SY:137:PRO:O	15:SY:138:ASN:ND2	2.20	0.72
65:Lf:20:LEU:HD11	65:Lf:32:ALA:HB2	1.71	0.72
1:S2:1057:U:H5"	1:S2:1058:U:H3'	1.71	0.72
1:S2:1501:C:O2	1:S2:1506:G:C2	2.43	0.72
34:LA:3314:A:H5"	38:LE:174:LYS:HG2	1.71	0.72
52:LS:170:ARG:HD2	62:Lc:57:GLY:HA3	1.72	0.72
34:LA:1805:C:H2'	34:LA:1806:A:H8	1.55	0.71
34:LA:3233:C:H2'	34:LA:3234:A:C8	2.25	0.71
45:LL:110:ARG:HH12	80:Cc:74:C:H3'	1.55	0.71
21:SD:89:ILE:HD11	21:SD:140:PHE:HD1	1.54	0.71
1:S2:1795:U:H5'	24:Se:79:ILE:HD11	1.71	0.71
2:SL:10:ALA:HA	2:SL:32:PHE:HA	1.71	0.71
34:LA:1010:G:H1	34:LA:1040:A:H61	1.34	0.71
50:LQ:77[A]:SER:HB2	50:LQ:104[A]:VAL:HG12	1.71	0.71
51:LR:119:VAL:HG13	51:LR:146:ILE:HG22	1.71	0.71
4:SN:106:TYR:HB2	21:SD:74:LEU:HD11	1.73	0.71
35:LB:31:U:H4'	40:LG:218:ARG:HH22	1.56	0.71
66:Lg:91:THR:HG23	66:Lg:92:TYR:HD2	1.55	0.71
67:Lh:37:THR:HG23	67:Lh:40:ASP:H	1.56	0.71
7:SQ:52:THR:HG23	7:SQ:54:LEU:H	1.55	0.71
1:S2:1252:C:H2'	1:S2:1253:U:H6	1.53	0.71
65:Lf:75:ILE:HG22	65:Lf:93:VAL:HG13	1.73	0.71
1:S2:899:G:N2	1:S2:910:C:O2	2.17	0.71
11:SU:141:ARG:HH21	11:SU:143:LEU:HD21	1.55	0.71
34:LA:968:G:H2'	34:LA:969:C:H6	1.55	0.71
2:SL:54:LEU:HD23	32:SB:162:VAL:HG11	1.72	0.71
34:LA:1497:C:H2'	34:LA:1498:A:H8	1.55	0.71
76:Lq:99:GLN:HG3	76:Lq:102:GLN:HB2	1.71	0.71
1:S2:1276:U:H5"	31:SA:147:ALA:HB2	1.71	0.70
5:SO:89:LEU:HB2	5:SO:103:PHE:HB2	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1482:C:H5”	1:S2:1521:G:H22	1.56	0.70
21:SD:62:LEU:HD13	21:SD:75:VAL:HG11	1.72	0.70
54:LU:80:ARG:HG2	54:LU:122:HIS:HB2	1.71	0.70
26:SG:58:MET:HA	26:SG:61:ILE:HG22	1.73	0.70
34:LA:147:U:H5’	43:LJ:136:LEU:HB2	1.72	0.70
22:Sd:35:VAL:HG13	22:Sd:40:LEU:HD11	1.73	0.70
34:LA:772:U:H3’	34:LA:773:G:H5’	1.72	0.70
45:LL:180:GLU:HA	45:LL:183:LYS:HD2	1.73	0.70
53:LT:66:HIS:CD2	53:LT:70:LYS:HD3	2.25	0.70
53:LT:89:LEU:HD21	53:LT:94:VAL:HG23	1.73	0.70
5:SO:66:HIS:HB3	5:SO:86:ASP:HB3	1.71	0.70
62:Lc:100:PRO:HG2	62:Lc:123:VAL:HG12	1.73	0.70
1:S2:939:A:H2’	1:S2:940:A:C8	2.27	0.70
49:LP:120:TRP:HE1	49:LP:123:GLN:HB3	1.56	0.70
1:S2:1683:C:O2	1:S2:1718:G:C2	2.44	0.70
10:ST:138:ALA:HB2	10:ST:177:ARG:HA	1.73	0.70
1:S2:296:U:H2’	1:S2:297:U:H5’	1.74	0.70
31:SA:115:ILE:HD13	31:SA:142:LEU:HD22	1.73	0.70
1:S2:1353:U:H2’	1:S2:1354:G:C8	2.26	0.70
6:SP:98:ILE:HG21	6:SP:102:PHE:HD1	1.55	0.70
7:SQ:171:ILE:HG21	7:SQ:197:ILE:HG12	1.72	0.70
21:SD:98:GLY:HA2	21:SD:117:GLY:HA3	1.73	0.70
54:LU:74:ASN:HB2	54:LU:129:ILE:HG23	1.74	0.70
1:S2:1210:C:H2’	1:S2:1211:A:H8	1.56	0.70
70:Lk:52:PRO:HB2	70:Lk:56:ARG:HH21	1.57	0.70
34:LA:1084:A:H2’	34:LA:1085:A:C8	2.27	0.69
60:La:28:ARG:HD2	60:La:101:PRO:HG3	1.73	0.69
7:SQ:27:LYS:HB3	7:SQ:47:LEU:HD12	1.74	0.69
11:SU:43:PHE:HA	11:SU:63:PRO:HD3	1.74	0.69
50:LQ:23[A]:VAL:O	50:LQ:27[A]:LEU:HD12	1.92	0.69
1:S2:1471:A:C6	1:S2:1538:U:N3	2.60	0.69
34:LA:985:U:H2’	34:LA:986:U:H6	1.56	0.69
3:SM:23:VAL:HG23	78:SC:61:TRP:CD2	2.28	0.69
32:SB:163:SER:HB3	32:SB:166:ARG:HB3	1.74	0.69
4:SN:107:LYS:HB2	4:SN:114:VAL:HG13	1.73	0.69
22:Sd:91:LEU:HB3	22:Sd:97:ALA:HB3	1.74	0.69
31:SA:40:ARG:HB2	31:SA:47:GLU:HG2	1.73	0.69
34:LA:257:U:H2’	34:LA:258:G:H8	1.57	0.69
34:LA:3138:U:H2’	34:LA:3139:A:H8	1.58	0.69
36:LC:1:A:H2’	36:LC:2:A:H8	1.58	0.69
1:S2:542:A:H2’	1:S2:543:C:H2’	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:LT:132:PHE:HZ	53:LT:141:HIS:HD1	1.37	0.69
54:LU:77:VAL:HG12	54:LU:126:VAL:HG22	1.73	0.69
59:LZ:113:LEU:HD21	59:LZ:121:LYS:HD2	1.72	0.69
1:S2:1163:A:H2'	1:S2:1164:G:O4'	1.93	0.69
1:S2:1180:C:H2'	1:S2:1458:G:N2	2.07	0.69
34:LA:3333:G:H22	34:LA:3369:G:H1'	1.55	0.69
36:LC:26:U:H2'	36:LC:27:U:C6	2.27	0.69
41:LH:52:VAL:HG12	41:LH:67:GLY:HA2	1.73	0.69
45:LL:17:TYR:HE2	45:LL:98:ARG:HD3	1.56	0.69
59:LZ:86:VAL:HG21	59:LZ:95:ILE:HD11	1.74	0.69
60:La:106:ILE:HG21	60:La:109:LEU:HD13	1.74	0.69
34:LA:1083:G:H2'	34:LA:1084:A:H8	1.58	0.69
79:Bb:26:G:O6	79:Bb:44:A:N1	2.26	0.69
1:S2:752:A:N6	1:S2:797:G:H1	1.90	0.69
34:LA:2357:A:H2'	34:LA:2358:A:H8	1.56	0.69
59:LZ:82:LEU:HD13	59:LZ:126:LEU:HD11	1.75	0.69
74:Lo:98:LYS:HE3	74:Lo:118:THR:HG21	1.75	0.69
78:SC:21:VAL:HG13	78:SC:66:TYR:HB2	1.75	0.69
1:S2:390:G:H2'	1:S2:391:A:H8	1.57	0.68
6:SP:169:SER:O	6:SP:173:ILE:HD12	1.92	0.68
8:SR:80:VAL:HG11	8:SR:125:ILE:HD12	1.75	0.68
34:LA:289:A:H2'	34:LA:290:G:H8	1.58	0.68
1:S2:395:U:H3	1:S2:399:A:H62	1.40	0.68
5:SO:170:ILE:HD11	5:SO:178:VAL:HG12	1.76	0.68
13:SW:110:GLN:HE22	13:SW:126:ARG:HB2	1.57	0.68
14:SX:21:ASN:HD21	14:SX:31:THR:HA	1.58	0.68
38:LE:88:GLY:HA2	38:LE:105:VAL:O	1.91	0.68
7:SQ:110:LEU:HA	7:SQ:113:MET:HG3	1.74	0.68
34:LA:1023:C:N3	34:LA:1029:G:N1	2.42	0.68
1:S2:1353:U:H2'	1:S2:1354:G:H8	1.58	0.68
45:LL:30:LYS:HG3	45:LL:63:GLU:HB3	1.76	0.68
1:S2:867:G:H1	1:S2:961:U:H3	1.42	0.68
34:LA:17:G:H4'	69:Lj:75:TYR:CE2	2.28	0.68
34:LA:1386:A:H5"	39:LF:141:ARG:HH12	1.59	0.68
34:LA:2107:A:H2	34:LA:3344:A:H8	1.41	0.68
37:LD:39:GLY:HA3	43:LJ:36:ILE:HG12	1.75	0.68
34:LA:2407:C:H2'	34:LA:2408:U:H6	1.58	0.68
36:LC:152:G:H2'	36:LC:153:U:O4'	1.93	0.68
1:S2:165:G:H2'	1:S2:166:C:C6	2.28	0.68
1:S2:325:G:H2'	1:S2:326:G:H8	1.59	0.68
1:S2:1535:U:H3	32:SB:187:ILE:HD13	1.57	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:SZ:16:VAL:HG23	16:SZ:31:THR:HG23	1.76	0.68
52:LS:69:ARG:HA	52:LS:72:LYS:HD2	1.75	0.68
10:ST:141:ILE:HG12	10:ST:158:ILE:HD13	1.76	0.68
31:SA:191:ASP:HB3	31:SA:194:LYS:HB2	1.75	0.68
1:S2:1545:A:H5'	27:SH:133:VAL:HG23	1.76	0.68
6:SP:18:LEU:HA	6:SP:23:HIS:CE1	2.28	0.68
1:S2:1349:G:H2'	1:S2:1350:U:C6	2.29	0.68
3:SM:52:PHE:HZ	29:SJ:63:LEU:HD23	1.58	0.68
5:SO:83:ALA:HB1	5:SO:110:VAL:HG21	1.76	0.68
5:SO:305:TYR:HE1	5:SO:311:ARG:HD2	1.59	0.68
12:SV:74:LYS:HB2	12:SV:109:PHE:HE1	1.58	0.68
34:LA:2221:G:H2'	34:LA:2222:A:H8	1.59	0.68
34:LA:2249:G:H1	34:LA:2267:C:H5	1.40	0.68
72:Lm:25:VAL:HG23	72:Lm:77:ARG:HA	1.76	0.68
3:SM:33:LYS:HA	3:SM:33:LYS:HE2	1.76	0.67
1:S2:1532:U:H3'	30:SK:77:ARG:HH22	1.59	0.67
6:SP:62:ARG:HH21	17:Sa:38:LYS:HA	1.58	0.67
1:S2:204:G:H2'	1:S2:205:U:C6	2.29	0.67
1:S2:1198:G:H5'	1:S2:1199:G:H4'	1.76	0.67
33:SE:22:LEU:HD13	33:SE:25:LEU:HD12	1.77	0.67
17:Sa:32:VAL:HG22	17:Sa:60:ARG:HH22	1.59	0.67
34:LA:3222:U:O4	34:LA:3263:G:O6	2.13	0.67
35:LB:74:C:H2'	35:LB:75:G:C8	2.29	0.67
4:SN:132:LEU:N	4:SN:132:LEU:HD23	2.08	0.67
11:SU:81:LEU:HD12	11:SU:90:VAL:HG11	1.75	0.67
1:S2:1348:A:H2'	1:S2:1349:G:C8	2.29	0.67
5:SO:107:LYS:HD3	5:SO:107:LYS:N	2.09	0.67
20:Sc:70:LYS:HD3	20:Sc:93:LEU:HD21	1.76	0.67
30:SK:50:ILE:O	30:SK:54:VAL:HG13	1.94	0.67
32:SB:123:VAL:HG13	32:SB:124:LEU:HD12	1.75	0.67
34:LA:337:G:H1	36:LC:26:U:H5	1.42	0.67
78:SC:77:ARG:HH22	78:SC:85:HIS:H	1.43	0.67
8:SR:52:THR:HG22	8:SR:54:GLU:H	1.59	0.67
32:SB:81:ARG:HG2	32:SB:82:PHE:CD2	2.30	0.67
34:LA:2960:C:H2'	34:LA:2961:G:H8	1.60	0.67
49:LP:99:ARG:O	49:LP:103:GLU:HG2	1.95	0.67
1:S2:1071:U:OP1	1:S2:1071:U:H4'	1.94	0.67
37:LD:190:ARG:HG3	37:LD:191:LEU:HD22	1.74	0.67
43:LJ:170:CYS:HB3	43:LJ:175:VAL:HG12	1.76	0.67
50:LQ:27[A]:LEU:HD21	50:LQ:102[A]:LEU:HB2	1.76	0.67
79:Bb:43:G:H2'	79:Bb:44:A:H8	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:SU:51:VAL:HG13	11:SU:53:GLY:H	1.59	0.67
28:SI:61:VAL:O	28:SI:65:ILE:HD12	1.95	0.67
36:LC:27:U:H2'	36:LC:28:C:H6	1.60	0.67
1:S2:1227:A:H3'	21:SD:118:ALA:HA	1.77	0.66
5:SO:45:TRP:HZ3	5:SO:57:PRO:HG3	1.58	0.66
38:LE:90:VAL:HG23	38:LE:161:LEU:HD11	1.77	0.66
1:S2:744:U:H2'	1:S2:745:U:O4'	1.94	0.66
5:SO:18:GLY:HA3	5:SO:38:ARG:HB2	1.75	0.66
5:SO:224:ASN:HD21	5:SO:227:ALA:HB3	1.60	0.66
34:LA:2223:A:H2'	34:LA:2224:A:C8	2.29	0.66
34:LA:3160:U:O4	34:LA:3290:G:O6	2.13	0.66
39:LF:286:VAL:HG21	52:LS:28:LEU:HB3	1.77	0.66
57:LX:74:MET:HG3	57:LX:102:ILE:HD11	1.78	0.66
57:LX:84:SER:HA	57:LX:94:TYR:HB3	1.77	0.66
65:Lf:31:ARG:O	65:Lf:35:GLU:HG2	1.95	0.66
1:S2:153:G:H5'	10:ST:108:VAL:HG11	1.75	0.66
19:Sb:102:VAL:HB	19:Sb:113:HIS:HD2	1.61	0.66
34:LA:1555:U:H5	34:LA:1559:A:H61	1.44	0.66
59:LZ:50:ALA:HB1	69:Lj:66:VAL:HG21	1.78	0.66
1:S2:127:G:C2	1:S2:178:U:H1'	2.30	0.66
1:S2:150:U:C4	1:S2:165:G:C6	2.84	0.66
1:S2:1141:G:H2'	1:S2:1142:A:H8	1.58	0.66
1:S2:1437:U:H4'	31:SA:176:LEU:HD11	1.76	0.66
1:S2:1502:G:H8	28:SI:102:ARG:HH22	1.42	0.66
5:SO:214:ALA:HB2	5:SO:220:ILE:HA	1.76	0.66
44:LK:1:MET:HE2	44:LK:1:MET:HA	1.77	0.66
60:La:28:ARG:HE	60:La:31:LEU:HA	1.60	0.66
9:SS:80:THR:HG23	9:SS:81:THR:HG23	1.76	0.66
13:SW:59:LEU:HD11	13:SW:72:GLU:HB2	1.76	0.66
55:LV:84:TYR:HB2	63:Ld:24:PRO:HD3	1.77	0.66
1:S2:150:U:O4	1:S2:165:G:O6	2.13	0.66
5:SO:200:ASN:HD22	5:SO:215:GLY:HA2	1.59	0.66
45:LL:54:SER:HB3	45:LL:135:ILE:HD11	1.77	0.66
53:LT:98:ARG:O	53:LT:102:LEU:HD12	1.96	0.66
34:LA:2662:G:H2'	34:LA:2663:G:C8	2.30	0.66
44:LK:78:MET:HE2	44:LK:78:MET:HA	1.77	0.66
45:LL:47:PRO:HD2	45:LL:141:LYS:HA	1.78	0.66
1:S2:1237:G:H1	1:S2:1250:U:H4'	1.61	0.66
4:SN:135:HIS:HE2	4:SN:140:TYR:HB3	1.61	0.66
34:LA:3034:C:C2	44:LK:120:ASP:HB2	2.30	0.66
34:LA:3051:U:H2'	34:LA:3052:G:H8	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:Lc:94:ALA:HB2	62:Lc:121:VAL:HG22	1.78	0.66
64:Le:53:LYS:O	64:Le:57:GLU:HG3	1.96	0.66
80:Cc:25:C:H2'	80:Cc:26:G:H8	1.59	0.66
1:S2:819:G:H21	1:S2:853:G:H2'	1.60	0.66
7:SQ:139:ALA:HA	7:SQ:213:ARG:H	1.61	0.66
27:SH:113:LEU:O	27:SH:117:LYS:HG2	1.96	0.66
36:LC:78:G:H1'	69:Lj:42:PRO:HG2	1.77	0.66
80:Cc:53:G:H2'	80:Cc:54:A:C8	2.31	0.66
1:S2:14:C:H2'	1:S2:15:U:C6	2.31	0.66
1:S2:1443:U:H4'	1:S2:1446:A:H1'	1.78	0.66
32:SB:84:LYS:HE3	32:SB:92:ARG:HD2	1.78	0.66
34:LA:664:U:H2'	34:LA:665:A:C8	2.31	0.66
36:LC:133:G:H4'	59:LZ:55:ASN:OD1	1.96	0.66
79:Bb:4:G:N2	79:Bb:69:U:O2	2.23	0.66
10:ST:136:LYS:HZ2	10:ST:161:GLU:H	1.43	0.65
34:LA:1680:G:H2'	34:LA:1681:U:H6	1.62	0.65
34:LA:2960:C:H2'	34:LA:2961:G:C8	2.31	0.65
37:LD:180:LEU:HD22	77:Lr:26:VAL:HG21	1.78	0.65
1:S2:1564:U:H2'	1:S2:1565:C:H6	1.60	0.65
1:S2:1647:U:H2'	1:S2:1648:A:H8	1.61	0.65
8:SR:159:THR:HG22	8:SR:168:ARG:HA	1.79	0.65
39:LF:148:ILE:HG13	39:LF:149:PRO:HA	1.78	0.65
34:LA:2532:U:H2'	34:LA:2533:G:C8	2.31	0.65
34:LA:3015:G:H2'	34:LA:3016:A:H8	1.61	0.65
50:LQ:43[A]:ILE:HD11	50:LQ:138[A]:LEU:HD13	1.77	0.65
30:SK:90:LYS:HE3	30:SK:104:ALA:HB2	1.78	0.65
48:LO:126:GLN:O	48:LO:130:THR:HG23	1.96	0.65
39:LF:99:MET:HE2	39:LF:102:PRO:HA	1.77	0.65
1:S2:1470:C:H5"	1:S2:1471:A:H8	1.62	0.65
1:S2:1564:U:H2'	1:S2:1565:C:C6	2.32	0.65
6:SP:60:ALA:O	6:SP:64:ILE:HD12	1.96	0.65
16:SZ:72:LYS:HA	16:SZ:72:LYS:HE3	1.78	0.65
34:LA:2222:A:H2'	34:LA:2223:A:C8	2.32	0.65
44:LK:10:ILE:HG23	44:LK:53:ILE:HB	1.78	0.65
1:S2:866:G:H5"	15:SY:2:GLY:HA3	1.78	0.65
34:LA:1571:A:H4'	34:LA:1573:G:H22	1.62	0.65
1:S2:529:A:H2'	1:S2:530:C:H6	1.61	0.65
1:S2:953:G:H2'	1:S2:954:G:H8	1.60	0.65
12:SV:191:PHE:HD2	14:SX:13:PHE:HD1	1.43	0.65
30:SK:81:ARG:O	30:SK:85:LYS:HG2	1.97	0.65
34:LA:239:G:H2'	34:LA:241:G:H1	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:415:G:H1	36:LC:7:U:H3	1.43	0.65
1:S2:150:U:N3	1:S2:165:G:C6	2.65	0.65
1:S2:884:A:H2'	1:S2:885:G:H8	1.62	0.65
1:S2:1096:C:H4'	1:S2:1099:U:H4'	1.77	0.65
7:SQ:52:THR:HG22	7:SQ:55:LYS:HB3	1.77	0.65
7:SQ:123:ALA:HB3	7:SQ:139:ALA:HB3	1.79	0.65
45:LL:134:ILE:H	45:LL:134:ILE:HD12	1.62	0.65
8:SR:141:ARG:HH12	8:SR:192:GLY:HA3	1.61	0.65
9:SS:162:ILE:HG22	9:SS:169:ILE:HG22	1.79	0.65
21:SD:89:ILE:HG23	21:SD:143:GLN:HE21	1.60	0.65
38:LE:358:TRP:HZ2	38:LE:371:GLN:HE22	1.44	0.65
52:LS:44:PHE:CD2	52:LS:134:GLY:HA3	2.32	0.65
59:LZ:105:VAL:HG21	59:LZ:126:LEU:HD23	1.77	0.65
1:S2:96:G:H21	1:S2:426:G:H5'	1.61	0.64
1:S2:1182:U:H4'	33:SE:124:THR:HG21	1.79	0.64
1:S2:1650:U:H2'	1:S2:1651:A:C8	2.32	0.64
46:LM:117:ASP:HB3	46:LM:120:ILE:HB	1.79	0.64
71:Ll:64:MET:HE3	71:Ll:67:LEU:HB3	1.77	0.64
1:S2:103:A:H4'	1:S2:105:A:C8	2.32	0.64
1:S2:688:G:H2'	1:S2:689:G:C8	2.32	0.64
39:LF:108:LYS:HZ2	49:LP:203:ARG:HG2	1.61	0.64
1:S2:122:U:H2'	1:S2:123:G:C8	2.32	0.64
27:SH:18:LEU:HD11	27:SH:101:LEU:HD13	1.78	0.64
43:LJ:91:PHE:HD1	43:LJ:185:ARG:HH21	1.44	0.64
1:S2:1573:A:H3'	1:S2:1574:G:C5'	2.28	0.64
10:ST:23:ARG:HE	10:ST:42:GLY:HA2	1.62	0.64
27:SH:122:HIS:HB3	33:SE:118:GLU:HB3	1.79	0.64
35:LB:76:A:H61	35:LB:102:A:H3'	1.62	0.64
46:LM:53:THR:H	46:LM:61:ARG:HD2	1.62	0.64
55:LV:17:ARG:HD2	55:LV:47:SER:HB3	1.78	0.64
1:S2:1141:G:H2'	1:S2:1142:A:C8	2.32	0.64
1:S2:1498:G:N1	1:S2:1509:C:N3	2.43	0.64
29:SJ:25:THR:HG22	29:SJ:90:TYR:HB2	1.80	0.64
34:LA:3319:U:H5'	34:LA:3320:A:H5'	1.79	0.64
36:LC:71:A:H5"	60:La:51:ARG:HG3	1.79	0.64
38:LE:158:VAL:HG13	38:LE:188:ILE:HD11	1.80	0.64
79:Bb:57:G:H2'	79:Bb:58:A:C8	2.32	0.64
1:S2:1349:G:H2'	1:S2:1350:U:H6	1.63	0.64
1:S2:1523:G:C6	28:SI:75:LYS:HD3	2.32	0.64
6:SP:67:ILE:HD12	6:SP:68:PRO:HD2	1.79	0.64
10:ST:2:LYS:HB2	10:ST:108:VAL:HG12	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1348:U:H4'	34:LA:1349:G:H5'	1.79	0.64
34:LA:2389:C:H2'	34:LA:2390:A:H8	1.63	0.64
45:LL:192:ASP:HA	45:LL:197:VAL:HG12	1.79	0.64
73:Ln:43:ASN:HB3	73:Ln:46:ARG:HG2	1.80	0.64
1:S2:1611:A:H4'	32:SB:95:ASN:HB3	1.79	0.64
8:SR:230:TRP:CZ2	19:Sb:68:ARG:HB3	2.33	0.64
13:SW:168:ARG:HH12	13:SW:174:ARG:HH12	1.45	0.64
25:SF:81:ILE:H	25:SF:81:ILE:HD12	1.62	0.64
27:SH:24:GLY:HA2	27:SH:58:ALA:HB3	1.80	0.64
41:LH:152:THR:HB	41:LH:155:LEU:HD12	1.79	0.64
1:S2:329:G:H2'	1:S2:330:G:C8	2.33	0.64
1:S2:1330:G:H3'	1:S2:1331:A:H8	1.62	0.64
1:S2:1520:U:H4'	1:S2:1521:G:H5'	1.80	0.64
34:LA:1010:G:H1	34:LA:1040:A:N6	1.96	0.64
5:SO:42:LEU:HB2	5:SO:61:PHE:HB2	1.80	0.64
7:SQ:83:LYS:HE3	7:SQ:106:THR:HG23	1.79	0.64
9:SS:100:ARG:HG3	9:SS:102:VAL:HG13	1.79	0.64
22:Sd:55:VAL:HG23	22:Sd:75:VAL:HG12	1.80	0.64
34:LA:1596:C:H2'	34:LA:1597:C:C6	2.33	0.64
34:LA:2672:G:H2'	34:LA:2673:A:C8	2.32	0.64
1:S2:1426:C:HO2'	1:S2:1428:G:H8	1.46	0.64
1:S2:1584:G:C8	25:SF:122:ARG:HB2	2.33	0.64
5:SO:206:PRO:HG2	5:SO:247:PRO:HA	1.80	0.64
21:SD:35:ALA:HB1	21:SD:41:LEU:HB3	1.80	0.64
34:LA:1283:C:H2'	34:LA:1285:G:C2	2.33	0.64
35:LB:96:U:H2'	35:LB:97:A:H8	1.62	0.64
1:S2:273:G:O6	1:S2:283:U:O4	2.16	0.63
1:S2:1569:A:H2'	1:S2:1570:A:C8	2.33	0.63
6:SP:31:VAL:HG12	6:SP:33:GLN:H	1.63	0.63
32:SB:125:THR:HB	32:SB:127:GLN:HE21	1.62	0.63
34:LA:2404:A:H61	81:pp:1145:ASN:HB2	1.62	0.63
34:LA:3162:C:H2'	34:LA:3163:A:C8	2.33	0.63
80:Cc:71:C:H2'	80:Cc:72:U:H6	1.63	0.63
1:S2:703:G:C2	1:S2:736:C:C2	2.86	0.63
7:SQ:90:GLU:HG3	7:SQ:229:MET:HE2	1.80	0.63
37:LD:48:ILE:HD11	37:LD:82:VAL:HG12	1.78	0.63
1:S2:748:U:H3	1:S2:801:G:H1	1.45	0.63
1:S2:895:G:N1	1:S2:918:U:N3	2.45	0.63
11:SU:122:HIS:HA	11:SU:125:ILE:HD12	1.81	0.63
34:LA:1120:A:N6	34:LA:1138:U:H3	1.97	0.63
37:LD:61:VAL:HG11	37:LD:88:ILE:HD11	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LK:93:VAL:HB	74:Lo:82:LEU:HD12	1.80	0.63
66:Lg:91:THR:HG23	66:Lg:92:TYR:CD2	2.33	0.63
1:S2:877:G:O6	1:S2:951:A:N1	2.31	0.63
1:S2:1569:A:H2'	1:S2:1570:A:H8	1.64	0.63
10:ST:121:LEU:HD13	10:ST:124:LEU:HD23	1.80	0.63
13:SW:119:ALA:HB1	13:SW:124:HIS:HB3	1.81	0.63
30:SK:92:ILE:HD13	30:SK:100:ILE:HG12	1.79	0.63
34:LA:100:A:H3'	34:LA:101:G:H21	1.63	0.63
34:LA:688:G:N2	34:LA:692:A:H2	1.94	0.63
34:LA:2389:C:H5"	51:LR:66:SER:HA	1.81	0.63
34:LA:2597:U:H2'	34:LA:2598:G:H8	1.63	0.63
37:LD:180:LEU:HD13	77:Lr:22:LEU:HD12	1.80	0.63
39:LF:290:ILE:HA	39:LF:295:ILE:HD11	1.78	0.63
1:S2:507:U:H2'	1:S2:508:U:O4'	1.98	0.63
21:SD:62:LEU:HD11	21:SD:72:ILE:HG23	1.79	0.63
33:SE:61:ARG:HD2	33:SE:89:MET:HE1	1.80	0.63
34:LA:1680:G:H2'	34:LA:1681:U:C6	2.34	0.63
39:LF:233:LEU:HD22	39:LF:238:LEU:HD21	1.79	0.63
71:Ll:54:LYS:O	71:Ll:58:THR:HB	1.98	0.63
1:S2:1170:G:H22	1:S2:1469:A:H61	1.45	0.63
1:S2:1244:A:H4'	3:SM:5:ASN:HD21	1.64	0.63
9:SS:114:ILE:HD13	9:SS:119:ALA:HB2	1.81	0.63
10:ST:22:HIS:CE1	38:LE:300:ARG:HD2	2.33	0.63
12:SV:106:ALA:HB3	12:SV:165:LEU:HD13	1.80	0.63
27:SH:81:ILE:HG23	27:SH:83:ALA:H	1.62	0.63
34:LA:1211:U:H2'	34:LA:1212:A:H8	1.63	0.63
72:Lm:42:LYS:HG2	72:Lm:55:VAL:HG22	1.80	0.63
11:SU:58:LEU:HD11	11:SU:88:ARG:HB3	1.79	0.63
29:SJ:110:PRO:HB3	31:SA:40:ARG:HG2	1.80	0.63
34:LA:993:G:N3	34:LA:2637:A:H2'	2.14	0.63
34:LA:2927:C:H2'	34:LA:2928:C:C6	2.34	0.63
50:LQ:61[A]:ALA:HA	50:LQ:70[A]:PRO:HD2	1.80	0.63
50:LQ:109[A]:PRO:HG2	50:LQ:112[A]:TYR:HD2	1.62	0.63
62:Lc:130:VAL:HG21	62:Lc:145:VAL:HG21	1.81	0.63
1:S2:1525:A:H2'	1:S2:1526:A:O4'	1.99	0.63
20:Sc:88:PRO:HD3	20:Sc:124:VAL:HG22	1.79	0.63
25:SF:29:ILE:HG12	25:SF:65:ILE:HD12	1.81	0.63
28:SI:75:LYS:HG3	28:SI:78:LYS:HZ2	1.64	0.63
31:SA:124:ARG:O	31:SA:128:GLU:HG3	1.99	0.63
32:SB:144:GLU:HG2	32:SB:225:ARG:HH21	1.63	0.63
34:LA:429:U:H2'	34:LA:430:U:H6	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:387:A:H2'	1:S2:402:C:H5'	1.81	0.63
1:S2:819:G:N2	1:S2:853:G:H2'	2.13	0.63
6:SP:77:SER:HB2	6:SP:86:VAL:HG11	1.81	0.63
10:ST:141:ILE:HD12	10:ST:144:PHE:HB3	1.81	0.63
34:LA:2251:G:H2'	34:LA:2252:A:H8	1.63	0.63
45:LL:31:ILE:HD11	45:LL:93:PRO:HD3	1.81	0.63
1:S2:213:A:C5	1:S2:214:G:H1'	2.34	0.62
1:S2:1556:A:H4'	1:S2:1557:U:H5	1.63	0.62
7:SQ:143:THR:HB	7:SQ:205:PHE:HE1	1.64	0.62
23:Sg:29:LYS:HE3	23:Sg:30:PRO:HD2	1.79	0.62
29:SJ:93:LEU:HD12	29:SJ:94:GLU:H	1.63	0.62
34:LA:991:G:H2'	34:LA:992:A:C8	2.34	0.62
34:LA:2357:A:H2'	34:LA:2358:A:C8	2.34	0.62
46:LM:92:ARG:HG3	46:LM:174:LYS:HE2	1.81	0.62
50:LQ:173[A]:ALA:HA	50:LQ:176[A]:LYS:HE3	1.81	0.62
1:S2:884:A:H2'	1:S2:885:G:C8	2.34	0.62
10:ST:3:LEU:HD13	10:ST:111:LEU:HD11	1.80	0.62
25:SF:106:LYS:O	25:SF:110:THR:HG23	1.99	0.62
32:SB:64:VAL:HG12	32:SB:65:ARG:H	1.64	0.62
34:LA:411:U:H2'	34:LA:412:G:H8	1.64	0.62
38:LE:218:ILE:HG13	38:LE:276:THR:HG23	1.81	0.62
1:S2:648:G:N2	1:S2:686:C:H2'	2.15	0.62
1:S2:959:U:H6	15:SY:61:THR:OG1	1.82	0.62
7:SQ:222:LYS:HB3	34:LA:2536:A:N1	2.13	0.62
9:SS:180:LEU:HA	9:SS:194:THR:H	1.64	0.62
31:SA:164:VAL:HA	31:SA:168:ILE:HB	1.81	0.62
34:LA:1083:G:H2'	34:LA:1084:A:C8	2.34	0.62
34:LA:1194:G:H2'	34:LA:1195:A:C8	2.34	0.62
69:Lj:52:ALA:O	69:Lj:56:THR:HG23	1.99	0.62
70:Lk:95:ALA:O	70:Lk:99:ARG:HG2	1.98	0.62
1:S2:126:A:N6	1:S2:291:G:H2'	2.15	0.62
34:LA:2206:G:N2	34:LA:2207:A:H61	1.97	0.62
39:LF:317:PRO:C	39:LF:319:LYS:H	2.07	0.62
47:LN:110:ASP:O	47:LN:114:GLN:HG2	1.99	0.62
52:LS:19:PRO:HB3	52:LS:53:PHE:HA	1.82	0.62
58:LY:4:GLU:O	58:LY:13:ILE:HB	2.00	0.62
9:SS:23:LEU:HB3	13:SW:3:ARG:HH22	1.65	0.62
80:Cc:25:C:H2'	80:Cc:26:G:C8	2.35	0.62
7:SQ:70:LEU:HA	7:SQ:73:LEU:HD12	1.81	0.62
36:LC:14:C:H5"	51:LR:123:PRO:HD3	1.82	0.62
39:LF:108:LYS:NZ	49:LP:203:ARG:HG2	2.15	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:LH:53:VAL:HG11	41:LH:145:LEU:HD21	1.79	0.62
1:S2:1220:C:H5”	1:S2:1264:G:H22	1.64	0.62
1:S2:1230:A:C2	1:S2:1256:A:H1’	2.35	0.62
14:SX:99:ARG:HH21	19:Sb:79:PHE:HZ	1.48	0.62
16:SZ:47:LYS:HG3	16:SZ:62:LEU:HB3	1.82	0.62
34:LA:161:G:H2’	34:LA:162:G:C8	2.35	0.62
34:LA:1718:G:H2’	34:LA:1719:G:H8	1.64	0.62
1:S2:5:U:H2’	1:S2:6:G:H8	1.65	0.62
22:Sd:60:PHE:HD1	22:Sd:71:GLY:HA3	1.65	0.62
49:LP:11:GLN:CD	49:LP:44:ARG:HD3	2.25	0.62
1:S2:887:A:H5”	16:SZ:120:PRO:HB3	1.81	0.62
1:S2:888:U:H2’	1:S2:889:U:C6	2.34	0.62
1:S2:1360:A:H2’	1:S2:1361:U:H5’	1.80	0.62
5:SO:121:MET:HE3	5:SO:121:MET:HA	1.80	0.62
8:SR:170:ILE:HB	8:SR:197:TYR:HB2	1.80	0.62
20:Sc:130:VAL:HG13	20:Sc:135:LEU:HD11	1.81	0.62
34:LA:161:G:H2’	34:LA:162:G:H8	1.64	0.62
34:LA:1290:A:H2’	34:LA:1291:A:C8	2.35	0.62
34:LA:2178:A:H3’	37:LD:132:ASN:HD21	1.65	0.62
34:LA:2369:G:H2’	34:LA:2370:G:C8	2.35	0.62
36:LC:78:G:H2’	36:LC:79:A:C8	2.34	0.62
45:LL:212:GLU:HB3	45:LL:213:PHE:HD1	1.64	0.62
47:LN:54:LEU:HD22	47:LN:119:TYR:HD1	1.65	0.62
52:LS:30:VAL:O	52:LS:34:THR:HG23	2.00	0.62
53:LT:119:LEU:HA	53:LT:122:VAL:HG22	1.81	0.62
54:LU:124:LEU:HD12	55:LV:153:PRO:HB2	1.81	0.62
54:LU:135:VAL:HG23	54:LU:141:LYS:HG2	1.82	0.62
79:Bb:2:C:H2’	79:Bb:3:G:C8	2.35	0.62
1:S2:1292:G:H21	6:SP:111:ILE:HD11	1.64	0.62
4:SN:120:GLU:HA	4:SN:132:LEU:CD2	2.28	0.62
34:LA:966:U:H2’	34:LA:967:A:H8	1.64	0.62
34:LA:2735:U:H4’	55:LV:51:GLY:HA2	1.82	0.62
39:LF:205:PRO:HG2	39:LF:225:VAL:HG22	1.82	0.62
43:LJ:139:VAL:HA	43:LJ:142:LEU:HD12	1.82	0.62
46:LM:15:GLU:HG2	46:LM:16:LYS:HG2	1.82	0.62
60:La:81:GLN:HG2	60:La:96:PRO:HB2	1.80	0.62
79:Bb:43:G:H2’	79:Bb:44:A:C8	2.34	0.62
1:S2:1588:G:N2	1:S2:1608:U:O2	2.26	0.61
32:SB:170:GLN:O	32:SB:174:LEU:HD23	2.00	0.61
34:LA:1620:U:H5	34:LA:1820:U:H3	1.47	0.61
34:LA:1948:G:H2’	34:LA:1949:G:C8	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:LB:29:C:N3	35:LB:49:G:N1	2.37	0.61
43:LJ:130:TYR:HB2	43:LJ:204:ARG:HH21	1.64	0.61
43:LJ:237:ILE:H	43:LJ:237:ILE:HD12	1.65	0.61
50:LQ:121[A]:PRO:HA	50:LQ:124[A]:LEU:HD12	1.81	0.61
1:S2:1695:G:N1	1:S2:1706:C:N3	2.48	0.61
5:SO:40:LYS:HG2	5:SO:67:ILE:HA	1.82	0.61
64:Le:36:GLN:HE22	64:Le:38:LYS:HB2	1.65	0.61
1:S2:1419:G:N2	31:SA:162:GLN:HE22	1.98	0.61
3:SM:11:PRO:HB2	3:SM:13:ARG:HG2	1.80	0.61
8:SR:53:ILE:HG21	8:SR:73:LEU:HD11	1.81	0.61
36:LC:10:A:H2'	36:LC:11:C:C6	2.34	0.61
36:LC:78:G:H2'	36:LC:79:A:H8	1.66	0.61
44:LK:79:ILE:O	44:LK:83:THR:HG23	1.99	0.61
11:SU:62:VAL:HG12	11:SU:64:VAL:H	1.65	0.61
16:SZ:18:ARG:HE	16:SZ:82:LYS:HD2	1.66	0.61
16:SZ:26:THR:HG21	16:SZ:97:GLY:HA3	1.81	0.61
34:LA:1262:G:H2'	34:LA:1263:A:H3'	1.83	0.61
34:LA:2697:A:H2'	34:LA:2698:G:C8	2.36	0.61
68:Li:3:GLN:HE22	68:Li:30:LEU:HB2	1.64	0.61
1:S2:1501:C:C2	1:S2:1506:G:C2	2.87	0.61
40:LG:187:THR:HG23	40:LG:189:GLU:HG2	1.82	0.61
25:SF:61:SER:HA	32:SB:25:LEU:HD11	1.82	0.61
28:SI:42:GLY:HA2	28:SI:84:LYS:HD2	1.82	0.61
34:LA:1521:G:H4'	34:LA:1603:A:C2	2.35	0.61
34:LA:1717:U:H2'	34:LA:1718:G:H8	1.65	0.61
41:LH:68:PRO:HG3	41:LH:145:LEU:HD23	1.82	0.61
1:S2:164:A:H2'	1:S2:165:G:C8	2.35	0.61
1:S2:1291:G:O6	1:S2:1324:G:O6	2.19	0.61
1:S2:1695:G:N2	1:S2:1706:C:C2	2.69	0.61
33:SE:83:MET:HB3	33:SE:116:LEU:HD22	1.83	0.61
34:LA:1650:G:H5"	37:LD:70:ARG:HH21	1.66	0.61
57:LX:17:LEU:HD12	57:LX:36:ILE:HD11	1.83	0.61
79:Bb:2:C:H2'	79:Bb:3:G:H8	1.66	0.61
31:SA:196:ARG:H	31:SA:200:LYS:NZ	1.97	0.61
34:LA:1095:U:H4'	34:LA:1096:U:H5'	1.83	0.61
34:LA:2731:U:H2'	34:LA:2732:G:H8	1.64	0.61
39:LF:327:LEU:HD13	42:LI:181:ILE:HD12	1.83	0.61
7:SQ:168:ILE:HG13	7:SQ:197:ILE:HG21	1.83	0.61
7:SQ:208:GLN:HG3	7:SQ:209:ASN:HB2	1.83	0.61
34:LA:3099:C:H2'	34:LA:3100:U:C6	2.36	0.61
57:LX:40:LYS:HD3	57:LX:59:MET:HE2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:600:U:H2'	1:S2:601:A:H8	1.66	0.61
9:SS:89:VAL:HG22	9:SS:100:ARG:HE	1.66	0.61
16:SZ:80:HIS:HA	16:SZ:113:GLY:O	1.99	0.61
21:SD:72:ILE:HD12	21:SD:72:ILE:H	1.65	0.61
22:Sd:91:LEU:HD12	22:Sd:96:LEU:HD11	1.82	0.61
34:LA:407:A:C2	36:LC:17:A:H1'	2.36	0.61
34:LA:759:U:H3	34:LA:771:A:H62	0.76	0.61
57:LX:32:ARG:HD3	57:LX:64:LYS:HE2	1.83	0.61
1:S2:551:G:H2'	1:S2:552:G:H8	1.66	0.60
1:S2:939:A:H2'	1:S2:940:A:H8	1.65	0.60
1:S2:956:C:H2'	1:S2:957:G:H8	1.66	0.60
34:LA:627:U:H2'	34:LA:628:A:H8	1.64	0.60
49:LP:47:LYS:HD3	49:LP:50:ARG:HH11	1.66	0.60
55:LV:39:ILE:HB	55:LV:102:ARG:HG2	1.81	0.60
1:S2:448:C:H5'	9:SS:29:PRO:HB3	1.83	0.60
1:S2:1504:G:H22	27:SH:84:TRP:HZ3	1.47	0.60
1:S2:1609:U:H2'	1:S2:1610:G:O4'	2.01	0.60
12:SV:117:TYR:HB3	12:SV:119:GLN:HG2	1.83	0.60
57:LX:79:VAL:HG23	57:LX:80:ARG:HG3	1.83	0.60
1:S2:859:A:C6	15:SY:73:ARG:HD3	2.36	0.60
1:S2:1227:A:H1'	1:S2:1229:G:N2	2.16	0.60
8:SR:40:LYS:O	8:SR:44:LEU:HG	2.01	0.60
10:ST:22:HIS:ND1	38:LE:300:ARG:HD2	2.16	0.60
27:SH:27:LYS:HE2	27:SH:55:HIS:HA	1.83	0.60
28:SI:4:VAL:HG22	28:SI:136:ALA:HB1	1.82	0.60
34:LA:2546:C:H2'	34:LA:2547:A:C8	2.36	0.60
36:LC:145:U:H2'	36:LC:146:U:C6	2.36	0.60
1:S2:1776:A:H2'	1:S2:1777:G:C8	2.36	0.60
9:SS:45:ILE:HG13	9:SS:61:VAL:HG21	1.83	0.60
28:SI:135:ILE:HD13	28:SI:138:GLN:HE22	1.66	0.60
34:LA:119:U:H4'	34:LA:120:G:H3'	1.83	0.60
34:LA:1174:G:N2	50:LQ:87[A]:MET:HE2	2.16	0.60
34:LA:1896:A:H61	34:LA:2339:C:N4	1.99	0.60
34:LA:2138:A:HO2'	71:Ll:2:GLY:N	1.98	0.60
48:LO:49:PRO:HG3	48:LO:81:VAL:HG23	1.83	0.60
51:LR:112:LEU:HD12	51:LR:112:LEU:H	1.65	0.60
1:S2:122:U:H4'	9:SS:77:ARG:HH21	1.66	0.60
34:LA:1460:A:H2'	34:LA:1461:A:H8	1.65	0.60
78:SC:20:VAL:HG12	78:SC:67:THR:HG23	1.83	0.60
12:SV:172:ARG:HD3	12:SV:175:GLN:HG2	1.84	0.60
27:SH:16:ARG:HE	27:SH:19:ASN:HA	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:8:C:H2'	34:LA:9:U:C6	2.37	0.60
34:LA:627:U:H2'	34:LA:628:A:C8	2.37	0.60
34:LA:1497:C:H2'	34:LA:1498:A:C8	2.36	0.60
34:LA:1616:U:H2'	34:LA:1617:G:H8	1.67	0.60
34:LA:1659:U:H2'	34:LA:1660:C:C6	2.37	0.60
51:LR:122:ALA:HB3	51:LR:143:PRO:HB2	1.83	0.60
73:Ln:23:LEU:HD12	73:Ln:24:PRO:HD2	1.82	0.60
1:S2:69:G:N2	1:S2:82:U:O2	2.31	0.60
1:S2:279:G:H2'	1:S2:280:U:H4'	1.84	0.60
1:S2:1575:G:H21	80:Cc:41:C:H1'	1.66	0.60
5:SO:33:LEU:HD12	5:SO:45:TRP:HD1	1.66	0.60
6:SP:20:ALA:HB2	6:SP:172:LEU:HD13	1.82	0.60
13:SW:32:GLY:HA3	23:Sg:40:TYR:CG	2.37	0.60
34:LA:512:U:O2	34:LA:579:G:N2	2.33	0.60
36:LC:142:C:H2'	36:LC:143:U:H6	1.67	0.60
46:LM:12:LEU:HD11	46:LM:131:MET:HB3	1.81	0.60
50:LQ:23[A]:VAL:HG23	50:LQ:33[A]:ILE:HD12	1.84	0.60
51:LR:112:LEU:HB3	51:LR:150:VAL:HG12	1.83	0.60
68:Li:7:PHE:HE1	68:Li:20:ILE:HG12	1.66	0.60
1:S2:485:A:H2	1:S2:503:G:H2'	1.66	0.60
1:S2:1047:G:C2	1:S2:1071:U:O4	2.55	0.60
12:SV:48:THR:HG21	12:SV:54:LYS:HD2	1.84	0.60
15:SY:47:PRO:HG2	15:SY:86:GLU:OE1	2.02	0.60
27:SH:28:ILE:O	27:SH:32:LEU:HD12	2.01	0.60
32:SB:212:LYS:HZ3	32:SB:213:LYS:HE2	1.66	0.60
42:LI:58:ALA:O	42:LI:62:ILE:HG13	2.02	0.60
46:LM:17:LEU:HD12	46:LM:129:VAL:HG22	1.84	0.60
48:LO:55:ARG:HD2	54:LU:70:THR:HB	1.82	0.60
1:S2:1474:G:H2'	1:S2:1475:A:C8	2.37	0.60
8:SR:56:ILE:HG23	8:SR:61:LEU:HB2	1.84	0.60
42:LI:169:ILE:HD12	42:LI:169:ILE:H	1.65	0.60
46:LM:98:ALA:HA	46:LM:156:LYS:HB2	1.83	0.60
48:LO:44:VAL:HG13	48:LO:60:LEU:HD21	1.84	0.60
8:SR:41:LEU:HD11	8:SR:61:LEU:HB3	1.84	0.60
10:ST:133:LEU:HD12	10:ST:134:GLY:H	1.65	0.60
11:SU:162:ILE:HA	11:SU:165:LYS:HD2	1.84	0.60
11:SU:173:TYR:CE1	11:SU:179:LYS:HB2	2.37	0.60
18:Sf:48:SER:HB2	18:Sf:70:LYS:HD3	1.83	0.60
25:SF:41:PRO:HG2	25:SF:44:LEU:HB2	1.83	0.60
34:LA:370:U:H4'	34:LA:404:G:H5'	1.84	0.60
34:LA:822:G:H4'	37:LD:194:ASN:ND2	2.13	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2697:A:H2'	34:LA:2698:G:H8	1.67	0.60
69:Lj:38:ARG:HH21	69:Lj:41:LEU:HD22	1.67	0.60
1:S2:1503:A:H2'	1:S2:1504:G:C4	2.36	0.59
11:SU:130:VAL:HG12	11:SU:169:PHE:CD1	2.37	0.59
34:LA:968:G:H2'	34:LA:969:C:C6	2.36	0.59
34:LA:2532:U:H2'	34:LA:2533:G:H8	1.67	0.59
34:LA:3371:G:H2'	34:LA:3372:A:C8	2.37	0.59
42:LI:119:VAL:HG13	42:LI:124:LEU:HD21	1.83	0.59
43:LJ:170:CYS:HB2	43:LJ:177:TYR:HD2	1.66	0.59
44:LK:113:GLU:HG2	44:LK:115:ARG:HD3	1.82	0.59
48:LO:25:LYS:HZ3	48:LO:26:GLY:H	1.49	0.59
55:LV:84:TYR:HD1	63:Ld:23:LYS:HD3	1.66	0.59
1:S2:204:G:H4'	9:SS:134:LYS:HZ1	1.67	0.59
1:S2:1266:U:H2'	1:S2:1267:G:C8	2.37	0.59
5:SO:13:LEU:HB2	5:SO:310:ILE:HB	1.84	0.59
8:SR:45:VAL:HG21	8:SR:68:ILE:HG13	1.85	0.59
34:LA:1203:A:H2'	34:LA:1204:A:C8	2.37	0.59
34:LA:3016:A:H2'	34:LA:3017:A:H8	1.67	0.59
42:LI:110:ARG:HH21	52:LS:3:ILE:HG12	1.67	0.59
48:LO:17:VAL:HG11	48:LO:74:ARG:HA	1.82	0.59
1:S2:1007:C:H4'	16:SZ:137:LEU:HD22	1.84	0.59
1:S2:1776:A:H2'	1:S2:1777:G:H8	1.67	0.59
12:SV:83:TYR:HB2	12:SV:196:LEU:HD21	1.82	0.59
32:SB:62:VAL:HG13	32:SB:89:ILE:HB	1.83	0.59
32:SB:195:ALA:HA	32:SB:198:LEU:HD12	1.84	0.59
34:LA:105:C:H2'	34:LA:106:A:H8	1.66	0.59
34:LA:1066:G:H2'	34:LA:1067:U:H6	1.66	0.59
42:LI:102:VAL:HG13	42:LI:126:LEU:HD22	1.84	0.59
1:S2:693:U:H3'	1:S2:695:U:H5	1.67	0.59
30:SK:42:LEU:HB2	30:SK:46:LYS:HB3	1.84	0.59
36:LC:43:A:H2'	36:LC:44:A:H8	1.67	0.59
37:LD:147:ARG:HG2	37:LD:157:VAL:HG22	1.84	0.59
44:LK:147:SER:HB2	44:LK:187:ILE:HD11	1.83	0.59
49:LP:51:LEU:HD13	49:LP:117:ASN:HB3	1.83	0.59
61:Lb:75:VAL:HG21	61:Lb:80:LEU:HD21	1.83	0.59
69:Lj:50:SER:O	69:Lj:54:VAL:HG23	2.03	0.59
1:S2:323:A:H2'	1:S2:324:U:C6	2.38	0.59
1:S2:1236:A:H2'	1:S2:1237:G:H4'	1.83	0.59
8:SR:200:SER:HB3	8:SR:204:THR:HG21	1.84	0.59
11:SU:39:ARG:HG3	11:SU:40:PRO:HD3	1.84	0.59
34:LA:501:A:H2'	34:LA:502:U:C6	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1616:U:H2'	34:LA:1617:G:C8	2.38	0.59
34:LA:2243:A:N7	37:LD:245:LEU:HD12	2.17	0.59
34:LA:2554:A:H5'	37:LD:87:PHE:HE2	1.66	0.59
37:LD:42:ARG:HG3	37:LD:89:TYR:CE2	2.37	0.59
43:LJ:190:VAL:HG11	43:LJ:195:SER:HB3	1.84	0.59
44:LK:84:LYS:HE3	44:LK:188:THR:HG23	1.84	0.59
60:La:45:ILE:HG21	60:La:125:LYS:HG3	1.85	0.59
1:S2:12:U:H2'	1:S2:13:C:C6	2.38	0.59
1:S2:703:G:C2	1:S2:736:C:O2	2.55	0.59
7:SQ:129:THR:HG23	7:SQ:133:TYR:O	2.03	0.59
28:SI:111:ILE:HG23	28:SI:113:ILE:HG12	1.85	0.59
34:LA:990:U:H4'	55:LV:100:LYS:HB3	1.84	0.59
36:LC:72:A:H5'	60:La:75:ARG:HD2	1.84	0.59
37:LD:80:GLU:HG2	37:LD:170:ALA:HA	1.84	0.59
71:Ll:46:SER:HB2	71:Ll:54:LYS:HD2	1.84	0.59
34:LA:656:A:H2'	34:LA:657:A:H8	1.68	0.59
34:LA:1084:A:H2'	34:LA:1085:A:H8	1.68	0.59
34:LA:2672:G:H2'	34:LA:2673:A:H8	1.66	0.59
67:Lh:49:ILE:HG12	67:Lh:100:ILE:HD12	1.84	0.59
1:S2:1289:U:H4'	1:S2:1423:U:N3	2.17	0.59
13:SW:42:ILE:H	13:SW:42:ILE:HD12	1.66	0.59
34:LA:664:U:H2'	34:LA:665:A:H8	1.66	0.59
35:LB:26:C:H5'	40:LG:56:THR:OG1	2.02	0.59
56:LW:56:VAL:HG12	56:LW:65:VAL:HB	1.85	0.59
70:Lk:83:ALA:O	70:Lk:87:VAL:HG13	2.02	0.59
79:Bb:72:C:H2'	79:Bb:73:A:H4'	1.85	0.59
1:S2:1067:C:H5"	7:SQ:150:VAL:HG23	1.85	0.59
1:S2:1116:A:H62	1:S2:1130:G:N2	2.01	0.59
1:S2:1210:C:H2'	1:S2:1211:A:C8	2.38	0.59
1:S2:1583:A:H62	32:SB:78:ALA:N	2.01	0.59
1:S2:1775:U:P	75:Lp:11:ARG:HH12	2.26	0.59
5:SO:197:SER:H	5:SO:217:ASP:HB3	1.67	0.59
10:ST:23:ARG:NE	10:ST:42:GLY:HA2	2.18	0.59
13:SW:132:ARG:NH2	22:Sd:65:GLY:HA2	2.18	0.59
20:Sc:57:LEU:HD11	20:Sc:73:ARG:HD3	1.85	0.59
25:SF:82:ARG:NH2	25:SF:116:LEU:HD23	2.18	0.59
32:SB:100:ASN:HD22	32:SB:180:ARG:HD2	1.66	0.59
34:LA:411:U:H2'	34:LA:412:G:C8	2.38	0.59
36:LC:27:U:H2'	36:LC:28:C:C6	2.37	0.59
38:LE:317:ILE:O	38:LE:317:ILE:HG22	2.03	0.59
39:LF:178:LEU:HD11	39:LF:222:VAL:HG23	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:Bb:34:G:H2'	79:Bb:35:A:C8	2.37	0.59
1:S2:204:G:H2'	1:S2:205:U:H6	1.68	0.59
1:S2:1108:G:H2'	20:Sc:25:ALA:HB1	1.85	0.59
40:LG:44:TYR:HE2	55:LV:35:LYS:HA	1.67	0.59
44:LK:41:ILE:HD12	44:LK:67:ALA:HB1	1.85	0.59
64:Le:40:LYS:HZ3	64:Le:95:ALA:HB2	1.67	0.59
1:S2:985:G:H3'	1:S2:986:G:H8	1.67	0.58
1:S2:996:U:H2'	1:S2:997:G:H8	1.67	0.58
1:S2:1489:U:H4'	1:S2:1490:C:OP1	2.02	0.58
34:LA:1362:G:H2'	34:LA:1363:A:C8	2.38	0.58
34:LA:2820:A:H1'	80:Cc:76:A:O2'	2.03	0.58
52:LS:90:ASP:HB3	52:LS:93:ILE:HG22	1.84	0.58
1:S2:150:U:C4	1:S2:165:G:N1	2.71	0.58
1:S2:331:A:H2'	1:S2:332:U:C6	2.38	0.58
10:ST:145:PHE:HB3	10:ST:147:LEU:HD23	1.84	0.58
32:SB:189:THR:HG22	32:SB:192:GLU:HG2	1.85	0.58
34:LA:503:C:H2'	34:LA:504:A:H8	1.67	0.58
34:LA:756:U:H2'	34:LA:757:C:C6	2.37	0.58
53:LT:95:TRP:CZ2	53:LT:99:LEU:HD22	2.38	0.58
68:Li:54:ILE:HD11	68:Li:78:GLY:HA2	1.85	0.58
77:Lr:74:ALA:O	77:Lr:78:THR:HG23	2.02	0.58
1:S2:762:A:H4'	9:SS:252:ARG:HG3	1.85	0.58
1:S2:925:G:H2'	1:S2:926:A:H8	1.67	0.58
1:S2:1073:G:H4'	15:SY:10:GLY:HA2	1.85	0.58
5:SO:15:GLY:HA3	5:SO:45:TRP:HH2	1.68	0.58
10:ST:187:LYS:HZ3	10:ST:191:ARG:HH12	1.49	0.58
12:SV:37:LYS:HB2	12:SV:59:ARG:HG3	1.85	0.58
16:SZ:19:ILE:HD13	16:SZ:28:VAL:HB	1.84	0.58
34:LA:513:G:H2'	34:LA:514:G:H8	1.68	0.58
34:LA:1062:A:H4'	55:LV:105:PHE:HE2	1.69	0.58
38:LE:29:VAL:HG22	38:LE:218:ILE:HD13	1.85	0.58
39:LF:108:LYS:NZ	49:LP:203:ARG:H	2.02	0.58
42:LI:35:ALA:O	42:LI:39:GLU:HG2	2.02	0.58
46:LM:52:TYR:HA	46:LM:61:ARG:HG3	1.85	0.58
48:LO:25:LYS:NZ	48:LO:26:GLY:H	2.02	0.58
1:S2:477:A:H2'	1:S2:478:A:C8	2.32	0.58
1:S2:1158:C:H41	1:S2:1582:U:H5	1.49	0.58
12:SV:106:ALA:HB1	12:SV:109:PHE:HB2	1.84	0.58
21:SD:35:ALA:HA	21:SD:38:HIS:CE1	2.38	0.58
21:SD:58:LEU:HD12	21:SD:125:ASN:H	1.67	0.58
22:Sd:88:THR:HA	22:Sd:91:LEU:HD23	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:SK:95:HIS:CD2	32:SB:112:ARG:HD2	2.38	0.58
36:LC:142:C:H2'	36:LC:143:U:C6	2.38	0.58
38:LE:212:ASN:ND2	38:LE:354:VAL:H	2.01	0.58
45:LL:17:TYR:CE2	45:LL:98:ARG:HD3	2.38	0.58
45:LL:52:LEU:HD11	45:LL:163:GLN:HB3	1.85	0.58
1:S2:812:A:H4'	1:S2:813:U:H5'	1.84	0.58
1:S2:817:A:H2'	1:S2:818:C:C6	2.38	0.58
1:S2:1206:U:H1'	3:SM:16:LYS:HB2	1.86	0.58
1:S2:1254:U:H2'	1:S2:1255:G:C5	2.37	0.58
34:LA:824:C:H5"	37:LD:21:ARG:HD3	1.84	0.58
34:LA:2424:A:C2	37:LD:230:VAL:HG21	2.37	0.58
34:LA:3037:U:H5"	38:LE:348:ARG:HD2	1.85	0.58
1:S2:354:C:H5"	12:SV:16:ALA:HB2	1.85	0.58
2:SL:10:ALA:HB1	2:SL:30:VAL:HB	1.86	0.58
8:SR:227:PRO:O	8:SR:230:TRP:HB2	2.03	0.58
14:SX:131:ILE:HD13	14:SX:135:VAL:HG22	1.84	0.58
31:SA:25:PHE:CD2	31:SA:50:ILE:HD12	2.39	0.58
31:SA:118:ALA:O	31:SA:122:VAL:HG23	2.04	0.58
32:SB:84:LYS:HE3	32:SB:92:ARG:HH11	1.67	0.58
34:LA:1717:U:H2'	34:LA:1718:G:C8	2.39	0.58
34:LA:1772:U:H5"	34:LA:1773:C:H5'	1.86	0.58
34:LA:2509:U:H2'	34:LA:2510:U:O4'	2.03	0.58
35:LB:87:G:H2'	35:LB:88:G:H8	1.68	0.58
43:LJ:171:LYS:HG2	43:LJ:226:TYR:CD1	2.39	0.58
6:SP:144:ILE:HD12	6:SP:158:VAL:HB	1.85	0.58
10:ST:133:LEU:HD12	10:ST:134:GLY:N	2.18	0.58
11:SU:59:ALA:HB1	11:SU:93:LEU:HD22	1.85	0.58
20:Sc:109:ARG:HG3	20:Sc:114:LYS:HA	1.84	0.58
26:SG:67:ARG:NH1	26:SG:67:ARG:HB3	2.18	0.58
29:SJ:55:PRO:HB3	29:SJ:91:ILE:HD11	1.85	0.58
33:SE:21:ASP:H	33:SE:24:LYS:HZ1	1.51	0.58
34:LA:981:U:H5"	34:LA:982:C:C6	2.38	0.58
34:LA:1211:U:H2'	34:LA:1212:A:C8	2.38	0.58
34:LA:2129:U:H2'	34:LA:2130:G:H8	1.68	0.58
54:LU:104:GLU:O	54:LU:108:GLN:HG2	2.03	0.58
69:Lj:44:ILE:H	69:Lj:44:ILE:HD12	1.67	0.58
1:S2:162:A:H2'	1:S2:163:G:N3	2.19	0.58
1:S2:1482:C:H6	25:SF:74:HIS:HE1	1.51	0.58
1:S2:1585:U:H5"	1:S2:1610:G:H22	1.69	0.58
27:SH:11:PHE:HE2	30:SK:41:ILE:HG12	1.68	0.58
34:LA:2344:U:H2'	34:LA:2345:A:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2561:A:HO2'	34:LA:2562:A:H8	1.51	0.58
34:LA:2585:G:N2	43:LJ:60:ARG:HH12	2.02	0.58
34:LA:2696:A:H2'	34:LA:2697:A:C8	2.39	0.58
1:S2:1602:C:H2'	1:S2:1603:U:C6	2.39	0.58
1:S2:1650:U:H2'	1:S2:1651:A:H8	1.68	0.58
1:S2:1795:U:H3'	24:Se:5:ARG:HH21	1.69	0.58
6:SP:126:PRO:HG2	6:SP:152:PRO:HD2	1.85	0.58
8:SR:115:ILE:HD13	8:SR:208:GLU:HG3	1.86	0.58
25:SF:44:LEU:HD12	25:SF:47:LYS:HG2	1.85	0.58
34:LA:2129:U:H2'	34:LA:2130:G:C8	2.39	0.58
34:LA:3006:A:H2'	34:LA:3007:U:O4'	2.04	0.58
34:LA:3113:A:H5'	44:LK:69:ARG:HH21	1.69	0.58
74:Lo:99:CYS:HB2	74:Lo:114:LYS:HE3	1.85	0.58
1:S2:149:C:H42	1:S2:166:C:N4	1.98	0.58
1:S2:328:A:H2'	1:S2:329:G:H8	1.68	0.58
1:S2:1162:C:H3'	1:S2:1163:A:C8	2.38	0.58
1:S2:1471:A:C5	1:S2:1538:U:N3	2.72	0.58
1:S2:1648:A:H2'	1:S2:1649:G:C8	2.38	0.58
29:SJ:93:LEU:HD12	29:SJ:94:GLU:N	2.18	0.58
34:LA:2393:G:H4'	38:LE:252:ILE:HG12	1.86	0.58
34:LA:2882:U:H2'	34:LA:2883:U:C6	2.39	0.58
60:La:36:SER:HB3	60:La:105:VAL:HB	1.85	0.58
61:Lb:119:GLU:O	61:Lb:123:GLN:HG2	2.04	0.58
1:S2:884:A:H4'	7:SQ:124:ASN:HD21	1.67	0.57
1:S2:1280:C:H2'	1:S2:1281:G:C8	2.39	0.57
1:S2:1474:G:H2'	1:S2:1475:A:H8	1.69	0.57
12:SV:117:TYR:CD2	12:SV:150:ALA:HB2	2.39	0.57
28:SI:130:ARG:O	28:SI:134:ARG:HG2	2.04	0.57
34:LA:2359:C:H4'	34:LA:2399:A:H4'	1.85	0.57
34:LA:2406:C:H2'	34:LA:2407:C:C6	2.39	0.57
35:LB:31:U:H4'	40:LG:218:ARG:HH12	1.68	0.57
50:LQ:173[A]:ALA:O	50:LQ:177[A]:LYS:HG3	2.03	0.57
60:La:48:LEU:HD13	60:La:109:LEU:HD23	1.86	0.57
1:S2:483:A:H2	1:S2:505:A:N1	2.01	0.57
1:S2:592:A:H2'	1:S2:593:U:O4'	2.05	0.57
1:S2:1375:A:H2'	1:S2:1376:C:C6	2.38	0.57
1:S2:1391:A:H2'	1:S2:1392:U:C6	2.40	0.57
1:S2:1583:A:H1'	1:S2:1585:U:C5	2.38	0.57
6:SP:56:LYS:HB3	6:SP:160:ILE:HD13	1.86	0.57
25:SF:49:TYR:HB3	25:SF:53:LEU:HD13	1.86	0.57
34:LA:797:U:H2'	34:LA:798:G:H8	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1696:A:H2'	34:LA:1697:A:C8	2.38	0.57
34:LA:3146:G:H2'	34:LA:3147:G:C8	2.39	0.57
66:Lg:12:LYS:HD2	66:Lg:57:TYR:HA	1.86	0.57
1:S2:827:C:H2'	1:S2:828:U:C6	2.40	0.57
1:S2:930:A:H1'	7:SQ:111:ARG:HH22	1.70	0.57
1:S2:1561:U:H2'	1:S2:1562:G:H8	1.70	0.57
1:S2:1649:G:H5"	20:Sc:73:ARG:HH12	1.69	0.57
5:SO:67:ILE:O	5:SO:85:TRP:HB2	2.03	0.57
11:SU:64:VAL:HG11	11:SU:94:ALA:HB1	1.85	0.57
14:SX:56:LYS:HE3	14:SX:57:LYS:HE3	1.86	0.57
15:SY:49:GLN:HA	15:SY:52:VAL:HG12	1.86	0.57
30:SK:80:LEU:HD11	30:SK:101:TYR:CD2	2.39	0.57
34:LA:137:G:H2'	34:LA:138:U:C6	2.38	0.57
34:LA:985:U:H2'	34:LA:986:U:C6	2.38	0.57
45:LL:106:ALA:HB3	79:Bb:74:C:H5'	1.85	0.57
78:SC:38:LYS:HB2	78:SC:41:TYR:CD2	2.39	0.57
1:S2:431:C:H2'	1:S2:432:G:C8	2.39	0.57
1:S2:961:U:H2'	1:S2:962:C:C6	2.39	0.57
1:S2:1456:C:H5"	1:S2:1457:C:H3'	1.85	0.57
14:SX:94:ILE:HD12	14:SX:95:PRO:HD2	1.86	0.57
21:SD:45:LEU:HG	21:SD:120:VAL:HG22	1.86	0.57
22:Sd:3:ASP:HB3	22:Sd:32:ARG:HH22	1.68	0.57
34:LA:2747:A:H2'	34:LA:2748:A:C8	2.40	0.57
53:LT:154:ALA:O	53:LT:157:GLU:HG3	2.05	0.57
71:Ll:28:HIS:HD2	71:Ll:31:LYS:H	1.51	0.57
76:Lq:8:ARG:HE	76:Lq:10:THR:HG21	1.69	0.57
79:Bb:61:C:H2'	79:Bb:62:A:C4	2.39	0.57
1:S2:690:G:H2'	1:S2:691:C:C6	2.40	0.57
1:S2:1583:A:O2'	1:S2:1585:U:H6	1.87	0.57
16:SZ:43:THR:HG22	16:SZ:46:MET:HG3	1.87	0.57
17:Sa:21:ASN:HB3	19:Sb:67:GLY:HA3	1.87	0.57
27:SH:18:LEU:HD21	27:SH:101:LEU:HD22	1.85	0.57
31:SA:76:ARG:HG3	31:SA:77:PHE:CD1	2.39	0.57
32:SB:46:TRP:CD1	32:SB:129:PRO:HG3	2.39	0.57
34:LA:508:U:H3	34:LA:583:G:H1	1.51	0.57
34:LA:987:U:H2'	34:LA:988:U:C6	2.38	0.57
34:LA:2883:U:H2'	34:LA:2884:C:H6	1.68	0.57
78:SC:55:VAL:HB	78:SC:68:LEU:HA	1.85	0.57
1:S2:123:G:H2'	1:S2:124:A:H8	1.69	0.57
1:S2:229:U:H3'	1:S2:230:C:H4'	1.86	0.57
1:S2:800:U:H2'	1:S2:801:G:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SQ:112:SER:HB3	24:Se:68:TYR:CZ	2.40	0.57
9:SS:65:LEU:HD22	9:SS:78:THR:HA	1.86	0.57
10:ST:195:VAL:O	10:ST:199:GLN:HG2	2.05	0.57
14:SX:94:ILE:HG21	20:Sc:12:ALA:HB1	1.86	0.57
20:Sc:54:LEU:HB3	20:Sc:55:GLU:OE1	2.04	0.57
34:LA:1085:A:H2'	34:LA:1086:C:C6	2.39	0.57
34:LA:1618:G:N2	34:LA:1619:A:H62	2.02	0.57
52:LS:44:PHE:CE2	52:LS:134:GLY:HA3	2.39	0.57
57:LX:85:TRP:CZ2	57:LX:93:LEU:HD21	2.40	0.57
31:SA:177:MET:HE3	31:SA:179:GLN:HG2	1.87	0.57
34:LA:429:U:H2'	34:LA:430:U:C6	2.39	0.57
34:LA:574:U:H2'	34:LA:575:G:H8	1.70	0.57
34:LA:1812:G:O2'	34:LA:1817:G:H1'	2.03	0.57
34:LA:1950:U:H3	34:LA:2096:A:H61	1.53	0.57
38:LE:214:MET:HG3	38:LE:279:ASN:HA	1.87	0.57
60:La:27:ARG:HB3	60:La:75:ARG:HG2	1.86	0.57
72:Lm:61:LYS:HA	72:Lm:64:LYS:HD3	1.87	0.57
1:S2:243:G:H2'	1:S2:244:A:C8	2.40	0.57
1:S2:1274:C:H4'	1:S2:1275:A:H5'	1.87	0.57
1:S2:1673:G:H2'	1:S2:1674:C:C6	2.39	0.57
12:SV:57:ALA:HB2	12:SV:177:GLY:HA2	1.85	0.57
13:SW:75:ALA:O	13:SW:79:ARG:HG3	2.04	0.57
20:Sc:125:VAL:HG23	20:Sc:126:LYS:HG2	1.86	0.57
27:SH:49:LYS:HD3	27:SH:72:ILE:HD11	1.87	0.57
34:LA:7:C:H2'	34:LA:8:C:H6	1.69	0.57
34:LA:94:G:H2'	34:LA:95:A:C8	2.40	0.57
34:LA:2619:G:N1	80:Cc:76:A:H2	1.89	0.57
43:LJ:136:LEU:HD21	43:LJ:162:LEU:HB3	1.85	0.57
43:LJ:249:ARG:CZ	43:LJ:249:ARG:HA	2.35	0.57
48:LO:112:LEU:CD1	48:LO:116:GLU:HB2	2.34	0.57
1:S2:450:U:H2'	1:S2:451:A:C8	2.39	0.57
1:S2:1217:A:C2	78:SC:44:LYS:HD2	2.40	0.57
6:SP:14:ALA:O	6:SP:18:LEU:HD22	2.04	0.57
31:SA:196:ARG:H	31:SA:200:LYS:HZ2	1.53	0.57
34:LA:7:C:H2'	34:LA:8:C:C6	2.40	0.57
34:LA:896:A:H5"	37:LD:183:GLY:HA2	1.85	0.57
34:LA:1051:U:H4'	55:LV:19:PHE:CE1	2.40	0.57
34:LA:1340:G:H2'	34:LA:1341:U:C6	2.39	0.57
34:LA:2366:C:H2'	34:LA:2367:A:H8	1.70	0.57
34:LA:3065:G:H2'	34:LA:3066:U:H6	1.69	0.57
80:Cc:39:C:H2'	80:Cc:40:C:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:123:G:H2’	1:S2:124:A:C8	2.40	0.57
1:S2:128:U:H5’	1:S2:178:U:H3	1.70	0.57
1:S2:183:U:H2’	1:S2:184:C:C6	2.40	0.57
1:S2:514:G:N1	1:S2:543:C:N3	2.50	0.57
31:SA:162:GLN:H	31:SA:162:GLN:CD	2.12	0.57
34:LA:656:A:H2’	34:LA:657:A:C8	2.40	0.57
34:LA:1662:G:H2’	34:LA:1663:C:H6	1.70	0.57
34:LA:3019:U:H2’	34:LA:3020:U:O4’	2.05	0.57
65:Lf:20:LEU:HD13	65:Lf:28:ARG:HG3	1.87	0.57
69:Lj:30:GLU:O	69:Lj:34:GLN:HG2	2.05	0.57
1:S2:210:A:O2’	1:S2:211:U:H5’	2.04	0.56
1:S2:250:C:H2’	1:S2:251:A:H8	1.70	0.56
1:S2:549:G:H2’	1:S2:550:A:C8	2.40	0.56
1:S2:1484:G:N3	1:S2:1607:G:H1’	2.19	0.56
2:SL:32:PHE:HB2	2:SL:34:GLU:O	2.05	0.56
5:SO:122:ILE:O	5:SO:133:VAL:HA	2.05	0.56
32:SB:99:MET:HG3	32:SB:100:ASN:N	2.20	0.56
34:LA:715:A:OP2	62:Lc:113:LEU:HB3	2.05	0.56
34:LA:1108:U:H2’	34:LA:1109:U:C6	2.40	0.56
48:LO:36:VAL:HG11	48:LO:55:ARG:HH12	1.70	0.56
54:LU:79:VAL:HG22	54:LU:123:ILE:HA	1.87	0.56
1:S2:872:G:H2’	1:S2:873:U:O4’	2.05	0.56
6:SP:53:THR:HG22	6:SP:161:PRO:HG2	1.86	0.56
10:ST:63:MET:HE1	10:ST:100:ALA:HA	1.87	0.56
12:SV:74:LYS:HB2	12:SV:109:PHE:CE1	2.38	0.56
27:SH:66:LEU:O	27:SH:70:VAL:HG23	2.04	0.56
33:SE:73:PRO:HG2	33:SE:93:VAL:HG22	1.86	0.56
34:LA:914:A:C8	37:LD:199:THR:HG21	2.40	0.56
34:LA:1340:G:H2’	34:LA:1341:U:H6	1.69	0.56
34:LA:3182:G:H2’	34:LA:3183:A:H8	1.70	0.56
34:LA:3283:U:H2’	34:LA:3284:G:C8	2.40	0.56
1:S2:1172:G:H21	28:SI:88:VAL:HG21	1.71	0.56
1:S2:1212:G:C2	1:S2:1213:G:H1’	2.39	0.56
7:SQ:140:ILE:HG22	7:SQ:213:ARG:HG3	1.86	0.56
10:ST:141:ILE:HD11	10:ST:145:PHE:CD2	2.40	0.56
12:SV:172:ARG:HH11	12:SV:175:GLN:HG2	1.68	0.56
19:Sb:37:PHE:CZ	19:Sb:103:ILE:HD13	2.41	0.56
21:SD:132:GLU:HA	21:SD:135:MET:HE3	1.87	0.56
34:LA:629:U:H2’	34:LA:630:A:C8	2.40	0.56
34:LA:702:C:H2’	34:LA:703:G:H8	1.69	0.56
34:LA:1940:G:H21	34:LA:3362:A:H8	1.51	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2883:U:H2'	34:LA:2884:C:C6	2.40	0.56
34:LA:3232:G:H2'	34:LA:3233:C:C6	2.40	0.56
34:LA:3317:U:H4'	34:LA:3318:G:H5'	1.87	0.56
38:LE:215:ILE:HD12	38:LE:338:LEU:HB3	1.85	0.56
39:LF:108:LYS:HZ3	49:LP:203:ARG:H	1.51	0.56
42:LI:66:LYS:HG2	42:LI:76:TYR:HD2	1.70	0.56
43:LJ:159:PRO:HG2	43:LJ:162:LEU:HD11	1.87	0.56
46:LM:50:ALA:HB2	46:LM:65:ILE:HD11	1.85	0.56
49:LP:113:LEU:HD22	49:LP:134:LEU:HD23	1.87	0.56
49:LP:190:THR:O	49:LP:194:GLN:HG2	2.06	0.56
55:LV:136:ARG:HB3	55:LV:139:ARG:HH22	1.69	0.56
61:Lb:135:ARG:NH1	61:Lb:135:ARG:HB2	2.21	0.56
62:Lc:105:LEU:HD13	62:Lc:128:ARG:HD3	1.86	0.56
65:Lf:13:THR:HA	65:Lf:71:LEU:O	2.04	0.56
67:Lh:52:VAL:HG11	67:Lh:99:ARG:HE	1.70	0.56
78:SC:77:ARG:NH2	78:SC:85:HIS:H	2.02	0.56
80:Cc:42:U:H2'	80:Cc:43:G:H8	1.71	0.56
80:Cc:72:U:H2'	80:Cc:73:A:C8	2.40	0.56
1:S2:395:U:O4	1:S2:399:A:N7	2.39	0.56
1:S2:899:G:H2'	1:S2:900:A:H8	1.70	0.56
1:S2:1540:G:O2'	1:S2:1541:G:H8	1.87	0.56
5:SO:176:LYS:HG2	5:SO:198:ASN:HA	1.87	0.56
5:SO:216:LYS:HA	5:SO:239:GLU:HG2	1.85	0.56
8:SR:157:LYS:HG3	19:Sb:95:PRO:HA	1.86	0.56
16:SZ:40:ALA:HB1	16:SZ:67:VAL:HG12	1.88	0.56
20:Sc:126:LYS:HD2	20:Sc:131:SER:HA	1.87	0.56
22:Sd:88:THR:O	22:Sd:92:VAL:HG23	2.06	0.56
25:SF:22:VAL:HG13	25:SF:63:ILE:HG22	1.87	0.56
25:SF:109:PHE:HB3	25:SF:117:LEU:HD21	1.86	0.56
26:SG:16:LEU:O	26:SG:20:TYR:HB2	2.04	0.56
28:SI:131:ASP:O	28:SI:135:ILE:HG12	2.06	0.56
29:SJ:55:PRO:HA	29:SJ:91:ILE:HG12	1.86	0.56
30:SK:47:TYR:O	30:SK:50:ILE:HG13	2.06	0.56
35:LB:16:U:H2'	35:LB:17:A:C8	2.40	0.56
52:LS:148:GLU:OE1	52:LS:151:ARG:HD3	2.06	0.56
66:Lg:25:TYR:HB2	66:Lg:28:VAL:HG23	1.86	0.56
1:S2:97:C:H2'	1:S2:98:U:C6	2.41	0.56
28:SI:135:ILE:HA	28:SI:138:GLN:NE2	2.20	0.56
34:LA:130:A:H2'	34:LA:131:C:C6	2.40	0.56
34:LA:407:A:H4'	34:LA:1397:C:H5'	1.85	0.56
34:LA:2744:U:H2'	34:LA:2745:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:3146:G:H2'	34:LA:3147:G:H8	1.70	0.56
57:LX:87:ARG:HH21	57:LX:93:LEU:HD13	1.70	0.56
64:Le:74:ASN:HD22	64:Le:86:ARG:HB3	1.71	0.56
1:S2:381:C:H2'	1:S2:382:C:H6	1.71	0.56
1:S2:552:G:C6	1:S2:553:G:C6	2.93	0.56
1:S2:1566:U:H5"	27:SH:39:GLY:H	1.69	0.56
1:S2:1666:U:H5	1:S2:1734:U:H3	1.52	0.56
5:SO:38:ARG:HE	5:SO:67:ILE:HG21	1.70	0.56
12:SV:183:ILE:HD12	12:SV:183:ILE:H	1.71	0.56
33:SE:20:VAL:HB	33:SE:25:LEU:HD21	1.87	0.56
34:LA:991:G:H2'	34:LA:992:A:H8	1.71	0.56
34:LA:1498:A:H2'	34:LA:1499:C:C6	2.41	0.56
42:LI:185:ILE:O	42:LI:189:ILE:HG22	2.05	0.56
61:Lb:42:LEU:HD22	61:Lb:101:PHE:HE2	1.69	0.56
76:Lq:21:THR:HB	76:Lq:76:LYS:HE2	1.86	0.56
1:S2:230:C:H1'	1:S2:236:A:H61	1.70	0.56
1:S2:1591:C:H2'	1:S2:1592:A:H8	1.71	0.56
1:S2:1647:U:H2'	1:S2:1648:A:C8	2.39	0.56
7:SQ:210:ILE:O	7:SQ:210:ILE:HG12	2.06	0.56
9:SS:92:LEU:HD22	22:Sd:17:LEU:HD11	1.87	0.56
11:SU:48:GLU:C	11:SU:49:ILE:HD13	2.31	0.56
21:SD:83:GLU:HG3	21:SD:85:LYS:HB2	1.87	0.56
28:SI:99:SER:O	28:SI:103:LYS:HG2	2.06	0.56
34:LA:1213:G:H5"	54:LU:137:ARG:HH21	1.71	0.56
34:LA:3337:G:H2'	34:LA:3338:C:C6	2.41	0.56
39:LF:8:VAL:HG22	39:LF:20:LEU:HD11	1.86	0.56
44:LK:10:ILE:HD13	44:LK:76:ASP:HB2	1.88	0.56
53:LT:136:ARG:O	53:LT:140:GLU:HG3	2.06	0.56
66:Lg:79:VAL:HG12	66:Lg:111:ARG:HH11	1.70	0.56
67:Lh:45:LEU:HD13	67:Lh:71:VAL:HG12	1.88	0.56
80:Cc:70:G:H2'	80:Cc:71:C:C6	2.41	0.56
1:S2:448:C:H2'	1:S2:449:C:H6	1.71	0.56
1:S2:1097:U:O3'	8:SR:159:THR:HG21	2.06	0.56
4:SN:130:VAL:HG23	4:SN:132:LEU:HD21	1.88	0.56
12:SV:79:ALA:HB3	12:SV:103:GLN:HB2	1.88	0.56
13:SW:102:GLU:H	13:SW:102:GLU:CD	2.14	0.56
34:LA:756:U:H2'	34:LA:757:C:H6	1.71	0.56
34:LA:1533:U:O2'	34:LA:1798:A:H8	1.88	0.56
34:LA:2106:A:H2'	34:LA:2107:A:H8	1.70	0.56
42:LI:90:LYS:HD3	42:LI:220:PHE:CE1	2.41	0.56
42:LI:224:ILE:HD13	54:LU:39:SER:HB2	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:LN:3:ILE:HD11	62:Lc:34:MET:HA	1.86	0.56
64:Le:58:TYR:O	64:Le:61:MET:HG3	2.06	0.56
77:Lr:82:THR:HA	77:Lr:85:ARG:HG2	1.88	0.56
1:S2:931:C:H5'	7:SQ:116:LYS:HB3	1.88	0.56
22:Sd:30:PRO:O	22:Sd:32:ARG:HD2	2.06	0.56
36:LC:119:C:H2'	36:LC:120:C:H6	1.69	0.56
40:LG:204:VAL:O	40:LG:208:MET:HG3	2.06	0.56
48:LO:17:VAL:HG22	48:LO:37:GLU:HA	1.88	0.56
52:LS:94:PHE:CE2	62:Lc:119:PRO:HD3	2.33	0.56
19:Sb:102:VAL:H	19:Sb:113:HIS:CD2	2.24	0.56
20:Sc:127:VAL:HG23	20:Sc:132:LEU:HD21	1.88	0.56
33:SE:30:THR:O	33:SE:34:VAL:HG23	2.06	0.56
34:LA:585:A:H2'	34:LA:586:C:C6	2.41	0.56
34:LA:797:U:H2'	34:LA:798:G:C8	2.41	0.56
34:LA:1460:A:H2'	34:LA:1461:A:C8	2.40	0.56
34:LA:2101:C:O2'	34:LA:2102:U:H5"	2.06	0.56
34:LA:2710:C:H2'	34:LA:2711:C:C6	2.41	0.56
36:LC:43:A:H2'	36:LC:44:A:C8	2.41	0.56
53:LT:135:LYS:O	53:LT:139:VAL:HG23	2.06	0.56
58:LY:37:ALA:O	58:LY:41:LYS:HG2	2.05	0.56
62:Lc:73:LEU:HD21	62:Lc:109:TYR:CE2	2.41	0.56
65:Lf:13:THR:HG22	65:Lf:72:ARG:HD3	1.88	0.56
5:SO:61:PHE:HZ	5:SO:94:VAL:HA	1.72	0.55
19:Sb:103:ILE:HD11	19:Sb:129:VAL:HG12	1.88	0.55
34:LA:207:U:H2'	34:LA:208:C:H6	1.71	0.55
34:LA:1597:C:H2'	34:LA:1598:G:H8	1.70	0.55
34:LA:1791:C:H2'	34:LA:1792:C:C6	2.40	0.55
34:LA:2835:U:H2'	34:LA:2836:C:O2	2.06	0.55
34:LA:3297:U:H2'	34:LA:3298:C:H6	1.72	0.55
34:LA:3371:G:H2'	34:LA:3372:A:H8	1.71	0.55
37:LD:117:GLU:HG2	37:LD:124:GLY:H	1.71	0.55
48:LO:122:VAL:O	48:LO:126:GLN:HG3	2.06	0.55
59:LZ:115:ARG:HH11	59:LZ:121:LYS:HB2	1.70	0.55
61:Lb:127:ASN:HB3	61:Lb:130:PHE:HB3	1.88	0.55
1:S2:5:U:H2'	1:S2:6:G:C8	2.40	0.55
5:SO:93:ASP:HB3	5:SO:97:GLY:H	1.69	0.55
12:SV:84:HIS:CD2	12:SV:90:LEU:HD22	2.40	0.55
24:Se:43:ASN:HD21	24:Se:47:ALA:N	2.04	0.55
34:LA:966:U:H2'	34:LA:967:A:C8	2.40	0.55
34:LA:1915:A:H2'	34:LA:1916:U:C6	2.42	0.55
34:LA:2575:G:H2'	34:LA:2576:G:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2900:A:O2'	34:LA:2901:G:H8	1.89	0.55
38:LE:372:THR:HG22	38:LE:374:ALA:H	1.71	0.55
54:LU:27:MET:HE1	54:LU:44:PHE:HD2	1.72	0.55
60:La:49:PRO:HD2	60:La:115:ARG:HG3	1.88	0.55
74:Lo:86:ALA:O	74:Lo:90:ASN:HB2	2.06	0.55
1:S2:513:U:H2'	1:S2:514:G:C8	2.41	0.55
1:S2:1228:G:H5'	21:SD:45:LEU:H	1.70	0.55
1:S2:1714:A:H2'	1:S2:1715:G:C8	2.42	0.55
9:SS:136:VAL:HG13	9:SS:149:TYR:CE1	2.41	0.55
9:SS:182:TYR:HB2	9:SS:228:ILE:HD13	1.88	0.55
11:SU:69:GLY:HA2	11:SU:72:LYS:HD3	1.88	0.55
11:SU:154:LEU:HD11	11:SU:183:PHE:CD2	2.41	0.55
13:SW:132:ARG:HH21	22:Sd:65:GLY:HA2	1.71	0.55
32:SB:88:PRO:HG2	32:SB:91:GLU:HB3	1.88	0.55
34:LA:182:U:H3	34:LA:234:G:H1	1.54	0.55
34:LA:624:G:H2'	34:LA:625:G:C8	2.37	0.55
34:LA:974:G:H5'	52:LS:16:ARG:HG3	1.87	0.55
34:LA:1261:G:H8	34:LA:1278:A:H2	1.54	0.55
34:LA:3065:G:H2'	34:LA:3066:U:C6	2.41	0.55
43:LJ:46:LEU:HD13	43:LJ:49:TYR:HD2	1.71	0.55
44:LK:24:ILE:HD11	44:LK:39:LYS:HD2	1.89	0.55
64:Le:77:LEU:O	64:Le:81:VAL:HG22	2.07	0.55
1:S2:207:U:H3	1:S2:258:C:H42	1.54	0.55
1:S2:785:U:H2'	1:S2:786:C:C6	2.41	0.55
11:SU:27:LEU:HD11	11:SU:38:LEU:HD11	1.88	0.55
21:SD:130:THR:OG1	21:SD:133:LEU:HD13	2.07	0.55
22:Sd:20:ARG:HD2	22:Sd:74:LEU:HD21	1.88	0.55
26:SG:44:LYS:O	26:SG:47:ARG:HG3	2.06	0.55
34:LA:1139:G:O2'	42:LI:94:LYS:HE3	2.06	0.55
34:LA:2351:U:H2'	34:LA:2352:A:H8	1.71	0.55
38:LE:229:VAL:HG21	38:LE:249:VAL:HG23	1.88	0.55
41:LH:149:ILE:HG23	41:LH:156:LYS:HE3	1.88	0.55
43:LJ:143:ILE:HD11	43:LJ:170:CYS:HA	1.88	0.55
46:LM:33:ALA:O	46:LM:37:LEU:HD12	2.07	0.55
1:S2:623:A:H3'	1:S2:624:G:H5"	1.87	0.55
21:SD:60:VAL:HG12	21:SD:122:VAL:HG13	1.89	0.55
34:LA:2513:U:OP1	43:LJ:245:LYS:HE3	2.06	0.55
34:LA:3174:A:H61	67:Lh:54:ARG:HH21	1.53	0.55
39:LF:140:HIS:CE1	39:LF:247:PHE:H	2.25	0.55
44:LK:114:VAL:HB	44:LK:124:ARG:HB2	1.88	0.55
59:LZ:58:ASP:O	59:LZ:62:VAL:HG12	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:Ll:39:TYR:CD1	71:Ll:40:PRO:HA	2.42	0.55
1:S2:29:U:H2'	1:S2:30:G:H8	1.72	0.55
1:S2:993:A:H62	1:S2:1011:G:H21	1.55	0.55
1:S2:1533:C:H4'	1:S2:1539:G:O6	2.06	0.55
5:SO:263:PHE:HD1	5:SO:270:LEU:HA	1.71	0.55
7:SQ:198:GLU:HG2	7:SQ:210:ILE:HG21	1.89	0.55
16:SZ:71:CYS:HA	16:SZ:74:VAL:HG12	1.89	0.55
25:SF:46:PHE:HA	25:SF:49:TYR:HB2	1.87	0.55
27:SH:11:PHE:CE2	30:SK:41:ILE:HG12	2.42	0.55
34:LA:416:A:H2'	34:LA:417:A:C8	2.42	0.55
34:LA:759:U:O4	34:LA:771:A:N7	2.40	0.55
34:LA:2515:A:H5"	49:LP:28:TRP:CD1	2.42	0.55
38:LE:235:THR:HG21	38:LE:249:VAL:HG22	1.88	0.55
1:S2:1261:G:C4	1:S2:1262:U:H1'	2.42	0.55
1:S2:1344:A:H62	1:S2:1377:U:H2'	1.71	0.55
4:SN:121:CYS:HB3	4:SN:132:LEU:HD12	1.86	0.55
6:SP:139:VAL:HG12	6:SP:141:ILE:HG23	1.88	0.55
7:SQ:66:VAL:HG22	7:SQ:86:LEU:HB2	1.89	0.55
10:ST:58:LYS:HB2	10:ST:59:GLN:NE2	2.22	0.55
14:SX:46:LYS:O	14:SX:49:ILE:HG22	2.07	0.55
27:SH:86:LEU:HA	27:SH:99:HIS:HD2	1.72	0.55
34:LA:629:U:H2'	34:LA:630:A:H8	1.71	0.55
38:LE:87:VAL:O	38:LE:161:LEU:HB2	2.07	0.55
38:LE:212:ASN:HD21	38:LE:354:VAL:H	1.55	0.55
40:LG:218:ARG:HA	40:LG:221:GLU:HG2	1.88	0.55
1:S2:1036:A:H1'	19:Sb:9:ASP:OD1	2.07	0.55
1:S2:1170:G:C8	1:S2:1574:G:H2'	2.40	0.55
31:SA:119:ALA:O	31:SA:123:VAL:HG13	2.07	0.55
34:LA:432:G:H2'	34:LA:433:A:H8	1.71	0.55
34:LA:1948:G:H2'	34:LA:1949:G:H8	1.70	0.55
34:LA:2708:C:H2'	34:LA:2709:C:H6	1.72	0.55
64:Le:40:LYS:HE3	64:Le:93:LEU:O	2.06	0.55
72:Lm:28:ASN:HB3	72:Lm:30:LYS:HZ3	1.71	0.55
79:Bb:21:A:H62	79:Bb:46:G:H1'	1.72	0.55
1:S2:1277:G:C5	1:S2:1436:A:C2	2.94	0.55
3:SM:20:GLN:HE22	3:SM:27:HIS:CD2	2.24	0.55
3:SM:21:CYS:SG	3:SM:23:VAL:HG12	2.47	0.55
5:SO:91:LEU:HD11	5:SO:103:PHE:CE2	2.41	0.55
7:SQ:198:GLU:HG2	7:SQ:210:ILE:HD13	1.89	0.55
13:SW:123:HIS:O	13:SW:127:VAL:HG22	2.07	0.55
15:SY:99:ARG:O	15:SY:103:GLU:HG2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Sf:42:ASN:HD21	18:Sf:58:SER:HB3	1.72	0.55
22:Sd:99:LYS:HZ3	22:Sd:101:GLU:HA	1.72	0.55
32:SB:143:ARG:HH22	32:SB:161:ASP:HB3	1.71	0.55
34:LA:609:G:N7	39:LF:308:LYS:HD3	2.22	0.55
34:LA:1614:C:H2'	34:LA:1615:C:H6	1.71	0.55
34:LA:2428:U:H2'	34:LA:2429:G:H8	1.72	0.55
36:LC:1:A:H8	36:LC:2:A:C8	2.25	0.55
48:LO:23:ILE:H	48:LO:23:ILE:HD12	1.72	0.55
64:Le:9:SER:HB2	64:Le:12:GLN:HG2	1.89	0.55
64:Le:27:TYR:O	64:Le:31:VAL:HG23	2.07	0.55
72:Lm:43:PHE:HE1	72:Lm:56:ILE:HD11	1.72	0.55
80:Cc:62:C:H2'	80:Cc:63:G:C8	2.42	0.55
80:Cc:71:C:H2'	80:Cc:72:U:C6	2.42	0.55
1:S2:968:U:H2'	1:S2:969:C:O4'	2.07	0.55
1:S2:1584:G:N2	1:S2:1610:G:H3'	2.22	0.55
7:SQ:128:LYS:HD3	7:SQ:132:ASP:HA	1.88	0.55
16:SZ:81:VAL:HB	16:SZ:115:ILE:HG13	1.87	0.55
34:LA:434:U:H3	34:LA:625:G:H1	1.54	0.55
34:LA:2217:U:H3	34:LA:2227:C:N4	2.04	0.55
34:LA:2389:C:H2'	34:LA:2390:A:C8	2.42	0.55
34:LA:3232:G:H1	34:LA:3255:U:H3	1.55	0.55
49:LP:64:VAL:HG11	49:LP:102:ALA:HB1	1.89	0.55
56:LW:84:LEU:HD13	56:LW:90:ARG:HD3	1.87	0.55
57:LX:102:ILE:HG23	57:LX:110:LYS:HB3	1.89	0.55
66:Lg:32:TRP:CZ2	66:Lg:53:PRO:HD2	2.42	0.55
1:S2:473:A:H5"	13:SW:44:ARG:HH12	1.72	0.54
1:S2:1240:U:H1'	1:S2:1246:C:C2	2.43	0.54
1:S2:1663:G:N2	1:S2:1737:G:H22	2.05	0.54
5:SO:46:LYS:HB2	5:SO:56:VAL:HB	1.88	0.54
27:SH:28:ILE:H	27:SH:28:ILE:HD12	1.71	0.54
34:LA:50:U:H2'	34:LA:51:A:H8	1.72	0.54
34:LA:1639:C:H2'	34:LA:1640:G:H8	1.71	0.54
34:LA:2180:G:H2'	34:LA:2181:C:C6	2.43	0.54
34:LA:2746:A:H5"	40:LG:178:ASN:HD21	1.72	0.54
34:LA:3174:A:OP2	67:Lh:97:SER:HB2	2.06	0.54
43:LJ:165:PHE:HD1	43:LJ:165:PHE:H	1.55	0.54
47:LN:180:ARG:HD2	70:Lk:11:LEU:HD11	1.89	0.54
78:SC:32:HIS:HB2	78:SC:39:ASN:HD22	1.71	0.54
1:S2:655:G:H5'	1:S2:656:G:C8	2.42	0.54
1:S2:1375:A:O2'	1:S2:1376:C:H5'	2.07	0.54
1:S2:1449:U:H1'	1:S2:1450:U:H5	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SQ:23:PRO:HG2	7:SQ:24:PHE:CD1	2.42	0.54
9:SS:157:ASN:HD21	9:SS:222:LEU:HD21	1.72	0.54
11:SU:77:LEU:O	11:SU:81:LEU:HG	2.08	0.54
30:SK:92:ILE:HB	30:SK:100:ILE:HG23	1.89	0.54
34:LA:1472:U:H2'	34:LA:1473:G:H8	1.72	0.54
35:LB:112:G:H2'	35:LB:113:C:C6	2.42	0.54
40:LG:40:HIS:HB3	40:LG:43:LYS:HG3	1.89	0.54
45:LL:57:LEU:HD12	45:LL:130:ASP:HA	1.89	0.54
45:LL:85:PHE:HA	45:LL:140:THR:HG22	1.89	0.54
52:LS:122:ILE:HB	52:LS:126:GLN:HB2	1.89	0.54
59:LZ:72:ALA:O	59:LZ:76:VAL:HG23	2.06	0.54
60:La:29:VAL:HG23	60:La:30:LEU:H	1.71	0.54
67:Lh:53:TYR:CE2	67:Lh:65:ARG:HB2	2.42	0.54
68:Li:29:ILE:HD11	68:Li:31:ARG:HD2	1.88	0.54
1:S2:885:G:H2'	1:S2:886:U:C6	2.42	0.54
1:S2:895:G:N1	1:S2:918:U:C2	2.75	0.54
11:SU:143:LEU:HB2	11:SU:147:ASN:OD1	2.07	0.54
22:Sd:51:GLU:HG3	22:Sd:53:ASP:H	1.71	0.54
25:SF:60:PHE:HA	25:SF:63:ILE:HD11	1.88	0.54
29:SJ:93:LEU:HD11	29:SJ:95:ALA:HB2	1.88	0.54
31:SA:22:ASN:O	31:SA:26:THR:HG22	2.08	0.54
32:SB:118:LEU:HA	32:SB:121:ILE:HG22	1.88	0.54
34:LA:2416:U:H2'	34:LA:2417:U:C6	2.43	0.54
38:LE:48:GLY:O	38:LE:335:ILE:HD12	2.07	0.54
39:LF:215:ILE:HD11	39:LF:219:LEU:HD12	1.88	0.54
47:LN:64:LYS:HE3	62:Lc:69:TRP:CD1	2.42	0.54
47:LN:64:LYS:HG2	47:LN:65:TYR:CE1	2.42	0.54
52:LS:131:ALA:HB1	52:LS:134:GLY:HA2	1.89	0.54
1:S2:1078:C:H2'	1:S2:1079:U:C6	2.43	0.54
5:SO:260:ILE:HD11	5:SO:274:LEU:HB3	1.88	0.54
6:SP:143:VAL:HG13	6:SP:157:ASP:H	1.72	0.54
14:SX:132:SER:HB3	14:SX:135:VAL:HG12	1.90	0.54
16:SZ:128:LYS:HB3	24:Se:22:ARG:HG3	1.88	0.54
27:SH:115:ARG:O	27:SH:119:ILE:HG12	2.08	0.54
33:SE:86:VAL:HG12	33:SE:88:GLU:H	1.73	0.54
34:LA:3282:U:H2'	34:LA:3283:U:C6	2.42	0.54
35:LB:49:G:H21	35:LB:50:U:H5	1.54	0.54
58:LY:12:LYS:HE2	58:LY:12:LYS:HA	1.88	0.54
78:SC:25:LYS:C	78:SC:25:LYS:HD3	2.32	0.54
80:Cc:51:C:H2'	80:Cc:52:G:H8	1.72	0.54
1:S2:128:U:H5'	1:S2:178:U:N3	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:548:G:C6	1:S2:549:G:H8	2.25	0.54
1:S2:754:A:H5"	1:S2:755:A:H5'	1.89	0.54
1:S2:888:U:H2'	1:S2:889:U:H6	1.70	0.54
9:SS:125:LYS:HE3	9:SS:225:VAL:O	2.08	0.54
10:ST:76:LEU:HD21	10:ST:92:ARG:HB3	1.88	0.54
14:SX:93:TYR:HE1	14:SX:95:PRO:HA	1.73	0.54
34:LA:900:G:H1'	34:LA:1589:A:N6	2.22	0.54
34:LA:1031:C:H2'	34:LA:1032:C:C6	2.42	0.54
34:LA:1341:U:H2'	34:LA:1342:C:C6	2.42	0.54
34:LA:1688:U:H2'	34:LA:1689:U:C6	2.42	0.54
34:LA:1786:G:H2'	34:LA:1787:A:C8	2.43	0.54
34:LA:3334:U:H4'	34:LA:3335:A:H5'	1.89	0.54
40:LG:40:HIS:CE1	55:LV:69:LYS:HA	2.43	0.54
42:LI:166:ASN:OD1	42:LI:180:SER:HB2	2.06	0.54
43:LJ:76:ALA:HA	43:LJ:79:GLN:HE21	1.72	0.54
45:LL:191:LYS:NZ	45:LL:213:PHE:H	2.05	0.54
62:Lc:124:ILE:H	62:Lc:124:ILE:HD12	1.73	0.54
64:Le:10:ILE:H	64:Le:10:ILE:HD12	1.72	0.54
1:S2:238:U:H5"	1:S2:239:C:H5	1.71	0.54
1:S2:859:A:C5	15:SY:73:ARG:HD3	2.42	0.54
1:S2:1202:A:N1	1:S2:1456:C:H2'	2.23	0.54
1:S2:1335:U:H2'	1:S2:1336:A:C8	2.42	0.54
10:ST:7:TYR:HB2	10:ST:124:LEU:HD11	1.90	0.54
15:SY:47:PRO:HA	15:SY:50:ILE:HB	1.89	0.54
31:SA:195:SER:HB3	31:SA:200:LYS:HD2	1.89	0.54
32:SB:219:ARG:HH12	32:SB:223:SER:HB3	1.73	0.54
34:LA:432:G:H2'	34:LA:433:A:C8	2.43	0.54
41:LH:30:LEU:HD21	41:LH:57:HIS:CG	2.42	0.54
1:S2:16:G:H21	1:S2:1138:A:H62	1.55	0.54
1:S2:182:A:H2'	1:S2:183:U:C6	2.43	0.54
1:S2:1480:G:H5'	28:SI:63:ARG:NH2	2.23	0.54
1:S2:1512:G:H2'	1:S2:1513:G:C8	2.42	0.54
10:ST:147:LEU:HB3	10:ST:151:ASP:OD2	2.07	0.54
32:SB:81:ARG:HG2	32:SB:82:PHE:CE2	2.43	0.54
34:LA:246:U:H5'	34:LA:247:C:C6	2.43	0.54
34:LA:1783:U:H2'	34:LA:1784:G:H8	1.72	0.54
34:LA:2177:G:H2'	37:LD:128:ARG:HG3	1.88	0.54
34:LA:2615:G:H2'	34:LA:2616:C:H6	1.72	0.54
34:LA:3049:A:C8	38:LE:53:MET:HE2	2.42	0.54
41:LH:170:LYS:HG3	41:LH:172:HIS:CE1	2.43	0.54
53:LT:37:SER:O	53:LT:41:ILE:HG22	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:Ll:27:PHE:HA	71:Ll:34:CYS:HA	1.89	0.54
1:S2:212:U:H2'	1:S2:213:A:C8	2.38	0.54
1:S2:905:A:C6	1:S2:906:A:H1'	2.42	0.54
1:S2:1259:U:H2'	1:S2:1260:U:O4'	2.08	0.54
1:S2:1648:A:H2'	1:S2:1649:G:H8	1.71	0.54
11:SU:60:ILE:HB	11:SU:92:PHE:HD1	1.73	0.54
13:SW:41:GLU:O	13:SW:44:ARG:HG2	2.08	0.54
18:Sf:20:LYS:HG3	18:Sf:21:LEU:HD12	1.88	0.54
21:SD:50:LYS:O	21:SD:54:ARG:HG2	2.08	0.54
22:Sd:3:ASP:HB3	22:Sd:32:ARG:NH2	2.22	0.54
32:SB:212:LYS:NZ	32:SB:213:LYS:HE2	2.23	0.54
34:LA:2147:A:H2'	34:LA:2148:U:O4'	2.07	0.54
1:S2:1164:G:H2'	1:S2:1165:G:H8	1.72	0.54
1:S2:1191:U:H2'	1:S2:1192:C:C6	2.42	0.54
1:S2:1390:U:H3'	26:SG:3:ARG:NH2	2.23	0.54
1:S2:1601:G:H22	28:SI:88:VAL:HG13	1.72	0.54
7:SQ:197:ILE:HB	7:SQ:210:ILE:HD11	1.90	0.54
8:SR:167:VAL:HG11	8:SR:214:ALA:HA	1.90	0.54
31:SA:66:ILE:HG13	31:SA:67:ASN:N	2.23	0.54
34:LA:507:U:H2'	34:LA:508:U:C6	2.43	0.54
34:LA:2733:A:C6	34:LA:2734:A:C6	2.96	0.54
34:LA:3101:G:H2'	34:LA:3102:G:H8	1.72	0.54
37:LD:117:GLU:HG2	37:LD:124:GLY:N	2.23	0.54
53:LT:132:PHE:CE2	53:LT:138:LEU:HD13	2.42	0.54
67:Lh:20:LYS:HG2	67:Lh:21:ARG:HG2	1.90	0.54
1:S2:14:C:H2'	1:S2:15:U:H6	1.73	0.54
1:S2:253:A:H5'	9:SS:134:LYS:HA	1.90	0.54
1:S2:340:U:H2'	1:S2:341:A:H8	1.72	0.54
1:S2:448:C:H2'	1:S2:449:C:C6	2.42	0.54
4:SN:121:CYS:HB3	4:SN:132:LEU:HB3	1.89	0.54
11:SU:36:ALA:HA	11:SU:39:ARG:HG2	1.90	0.54
12:SV:60:ILE:HD12	12:SV:61:GLU:H	1.73	0.54
31:SA:54:ARG:HB3	31:SA:57:ASP:HB2	1.90	0.54
34:LA:1347:U:H2'	34:LA:1355:A:N6	2.22	0.54
34:LA:1866:C:H5'	34:LA:1867:A:OP2	2.08	0.54
34:LA:2150:G:H5"	37:LD:178:PRO:HB3	1.90	0.54
35:LB:28:C:C5	35:LB:29:C:H1'	2.43	0.54
64:Le:52:ARG:O	64:Le:56:LEU:HD23	2.08	0.54
1:S2:153:G:H1'	10:ST:56:ASN:HD22	1.73	0.53
1:S2:293:U:H2'	1:S2:294:C:C6	2.43	0.53
1:S2:390:G:H2'	1:S2:391:A:C8	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1241:G:H1’	1:S2:1242:A:OP1	2.08	0.53
5:SO:133:VAL:HG13	5:SO:141:LEU:HB3	1.90	0.53
5:SO:182:ASN:HD21	5:SO:185:GLN:HB2	1.73	0.53
6:SP:172:LEU:HD23	6:SP:176:LEU:HD13	1.89	0.53
7:SQ:220:GLN:HG2	7:SQ:221:PRO:HD2	1.90	0.53
10:ST:78:THR:HG22	10:ST:79:LYS:H	1.72	0.53
27:SH:86:LEU:HD12	27:SH:97:ASP:HB3	1.90	0.53
28:SI:113:ILE:HD12	28:SI:128:GLY:HA2	1.90	0.53
34:LA:612:U:H2’	34:LA:613:G:H8	1.73	0.53
34:LA:822:G:H2’	34:LA:823:C:H6	1.72	0.53
34:LA:1478:C:H2’	34:LA:1479:U:C6	2.43	0.53
34:LA:2407:C:H2’	34:LA:2408:U:C6	2.40	0.53
34:LA:2603:G:H2’	34:LA:2604:U:H6	1.73	0.53
34:LA:3150:A:H4’	38:LE:128:LYS:O	2.09	0.53
49:LP:183:THR:HB	49:LP:187:ARG:HB2	1.90	0.53
64:Le:9:SER:N	64:Le:12:GLN:HE21	2.06	0.53
1:S2:305:C:H2’	1:S2:306:U:C6	2.43	0.53
5:SO:109:ASP:HB2	5:SO:127:ARG:HE	1.73	0.53
13:SW:85:VAL:HG21	13:SW:104:PHE:CD1	2.43	0.53
13:SW:108:ARG:HE	13:SW:110:GLN:HB3	1.73	0.53
13:SW:124:HIS:O	13:SW:128:LEU:HG	2.08	0.53
21:SD:62:LEU:HG	21:SD:90:LYS:HG3	1.89	0.53
32:SB:114:ILE:O	32:SB:118:LEU:HG	2.08	0.53
34:LA:308:A:H1’	34:LA:2222:A:H1’	1.90	0.53
34:LA:631:U:H2’	34:LA:632:G:C8	2.43	0.53
34:LA:2550:U:H3	43:LJ:36:ILE:HG22	1.73	0.53
36:LC:9:A:H3’	36:LC:10:A:H5”	1.90	0.53
44:LK:17:THR:HG23	44:LK:28:VAL:HG23	1.90	0.53
45:LL:48:LEU:HA	45:LL:178:ARG:HH22	1.73	0.53
46:LM:109:HIS:O	46:LM:112:LEU:HB2	2.08	0.53
48:LO:20:VAL:HG11	48:LO:90:VAL:HG21	1.90	0.53
72:Lm:8:ILE:O	72:Lm:12:LEU:HD23	2.08	0.53
79:Bb:11:C:H2’	79:Bb:12:U:C6	2.43	0.53
1:S2:325:G:H2’	1:S2:326:G:C8	2.41	0.53
4:SN:135:HIS:CD2	4:SN:135:HIS:N	2.76	0.53
8:SR:36:VAL:HG13	8:SR:36:VAL:O	2.07	0.53
34:LA:16:A:P	59:LZ:42:ARG:HD3	2.48	0.53
34:LA:1889:G:H2’	34:LA:1890:U:C6	2.43	0.53
34:LA:2251:G:H2’	34:LA:2252:A:C8	2.43	0.53
34:LA:2361:A:H2’	34:LA:2362:C:H6	1.73	0.53
53:LT:66:HIS:O	53:LT:70:LYS:HG2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:70:C:H2'	1:S2:71:A:C8	2.43	0.53
1:S2:223:U:H5	1:S2:838:G:H21	1.55	0.53
1:S2:514:G:H2'	1:S2:515:A:C8	2.36	0.53
1:S2:551:G:H2'	1:S2:552:G:C8	2.44	0.53
1:S2:953:G:H2'	1:S2:954:G:C8	2.43	0.53
1:S2:1217:A:N1	78:SC:44:LYS:HD2	2.23	0.53
1:S2:1242:A:H2'	1:S2:1243:G:H5'	1.88	0.53
1:S2:1699:G:H22	1:S2:1703:C:H41	1.57	0.53
1:S2:1732:A:H2'	1:S2:1733:C:C6	2.43	0.53
2:SL:53:ILE:C	2:SL:54:LEU:HD12	2.33	0.53
10:ST:51:LYS:HB3	10:ST:112:VAL:HG22	1.90	0.53
10:ST:58:LYS:HD3	10:ST:107:ALA:HB2	1.89	0.53
13:SW:93:LEU:HD12	13:SW:96:VAL:HG21	1.90	0.53
15:SY:70:LYS:O	15:SY:74:ILE:HG12	2.09	0.53
15:SY:71:ILE:O	15:SY:75:LEU:HG	2.08	0.53
17:Sa:12:TYR:CG	17:Sa:12:TYR:O	2.62	0.53
34:LA:3182:G:H2'	34:LA:3183:A:C8	2.42	0.53
34:LA:3232:G:H2'	34:LA:3233:C:H6	1.72	0.53
35:LB:16:U:H2'	35:LB:17:A:H8	1.74	0.53
41:LH:76:LEU:HD21	41:LH:141:VAL:HG11	1.91	0.53
43:LJ:178:ALA:HA	43:LJ:222:PHE:CD2	2.43	0.53
63:Ld:33:LYS:HA	63:Ld:40:ARG:HH12	1.72	0.53
80:Cc:26:G:H1	80:Cc:44:A:H2	1.55	0.53
1:S2:950:C:H2'	1:S2:951:A:C8	2.44	0.53
9:SS:78:THR:HG22	9:SS:78:THR:O	2.08	0.53
9:SS:194:THR:HG23	9:SS:231:GLN:HE22	1.73	0.53
28:SI:44:GLU:HG3	28:SI:45:MET:HG2	1.90	0.53
34:LA:130:A:H2'	34:LA:131:C:H6	1.74	0.53
34:LA:919:U:H5"	34:LA:920:A:H5'	1.90	0.53
34:LA:1544:G:O2'	34:LA:2167:A:H1'	2.08	0.53
34:LA:1631:C:H5"	34:LA:1632:A:H5"	1.90	0.53
34:LA:3349:C:H2'	34:LA:3350:C:H4'	1.91	0.53
34:LA:3377:G:H21	38:LE:332:ARG:HH22	1.56	0.53
39:LF:126:ILE:HD11	39:LF:233:LEU:HD13	1.90	0.53
49:LP:38:ARG:HB2	49:LP:62:TYR:CZ	2.43	0.53
52:LS:185:LYS:HG2	52:LS:186:VAL:HG22	1.91	0.53
68:Li:102:LYS:HA	68:Li:105:VAL:HG22	1.91	0.53
71:Ll:57:HIS:HA	71:Ll:61:THR:HG21	1.91	0.53
79:Bb:56:C:H2'	79:Bb:57:G:C8	2.43	0.53
1:S2:300:A:H2'	1:S2:301:A:C8	2.44	0.53
1:S2:327:U:H2'	1:S2:328:A:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:409:C:H2'	1:S2:410:A:H8	1.73	0.53
1:S2:1036:A:H2'	1:S2:1037:C:C6	2.44	0.53
1:S2:1227:A:C8	1:S2:1256:A:H2'	2.43	0.53
1:S2:1363:U:H3'	1:S2:1364:G:H8	1.72	0.53
1:S2:1426:C:H3'	1:S2:1427:A:H4'	1.90	0.53
23:Sg:9:ALA:O	23:Sg:10:ARG:HG2	2.09	0.53
29:SJ:58:LEU:HG	29:SJ:59:PRO:HD2	1.90	0.53
34:LA:786:A:H4'	34:LA:787:G:H5'	1.89	0.53
34:LA:1060:U:H2'	34:LA:1061:A:C8	2.44	0.53
34:LA:1419:A:H5"	39:LF:193:LYS:NZ	2.24	0.53
34:LA:1482:A:C2	34:LA:1866:C:H2'	2.43	0.53
34:LA:1660:C:H2'	34:LA:1661:G:H8	1.72	0.53
34:LA:2523:A:H5"	43:LJ:51:LYS:HB2	1.91	0.53
34:LA:3358:U:H2'	34:LA:3359:A:H8	1.73	0.53
35:LB:64:A:H62	45:LL:209:ASN:ND2	2.07	0.53
36:LC:119:C:H2'	36:LC:120:C:C6	2.43	0.53
43:LJ:152:LEU:HD12	43:LJ:178:ALA:HB3	1.91	0.53
79:Bb:11:C:H2'	79:Bb:12:U:H6	1.74	0.53
1:S2:600:U:H2'	1:S2:601:A:C8	2.44	0.53
1:S2:1202:A:C6	1:S2:1456:C:H2'	2.44	0.53
2:SL:56:LEU:HA	32:SB:143:ARG:HH21	1.74	0.53
5:SO:45:TRP:CZ3	5:SO:57:PRO:HG3	2.41	0.53
5:SO:61:PHE:CZ	5:SO:94:VAL:HA	2.44	0.53
10:ST:57:ASP:HA	10:ST:106:LEU:HA	1.89	0.53
13:SW:116:LEU:HB3	13:SW:118:LEU:HD23	1.90	0.53
32:SB:90:ILE:O	32:SB:94:THR:HG23	2.08	0.53
34:LA:118:U:H3	34:LA:121:A:H5"	1.74	0.53
34:LA:710:A:H2'	34:LA:711:A:C8	2.44	0.53
34:LA:1597:C:H2'	34:LA:1598:G:C8	2.44	0.53
34:LA:2881:C:H2'	34:LA:2882:U:C6	2.44	0.53
39:LF:23:PRO:HD2	39:LF:26:PHE:CD1	2.43	0.53
44:LK:46:THR:HG22	44:LK:54:LYS:HB3	1.91	0.53
49:LP:53:TYR:HD1	49:LP:59:PHE:HD2	1.55	0.53
66:Lg:86:THR:HG23	66:Lg:115:LEU:HD13	1.90	0.53
73:Ln:38:ASN:HB3	73:Ln:41:ARG:HG2	1.90	0.53
74:Lo:86:ALA:O	74:Lo:90:ASN:CB	2.57	0.53
1:S2:572:C:H2'	1:S2:573:C:C6	2.44	0.53
1:S2:761:G:H2'	1:S2:762:A:C8	2.44	0.53
1:S2:1267:G:H2'	1:S2:1268:G:C8	2.38	0.53
9:SS:194:THR:HB	9:SS:211:LYS:O	2.08	0.53
10:ST:141:ILE:HD11	10:ST:145:PHE:CE2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:SX:117:VAL:HG12	14:SX:142:VAL:HG11	1.90	0.53
27:SH:78:HIS:C	27:SH:79:TYR:HD1	2.17	0.53
34:LA:1339:C:H2'	34:LA:1340:G:C8	2.44	0.53
34:LA:3175:U:H4'	34:LA:3176:G:H5'	1.91	0.53
80:Cc:27:C:H2'	80:Cc:28:A:H8	1.73	0.53
1:S2:752:A:H8	1:S2:752:A:OP1	1.92	0.53
1:S2:886:U:C2	1:S2:887:A:C8	2.96	0.53
1:S2:948:G:H2'	1:S2:949:C:C6	2.44	0.53
1:S2:1680:G:H4'	1:S2:1722:A:N6	2.23	0.53
2:SL:49:ARG:NH1	32:SB:82:PHE:HB2	2.24	0.53
3:SM:19:ARG:HE	3:SM:32:ARG:HD3	1.73	0.53
5:SO:13:LEU:HD13	5:SO:45:TRP:CD1	2.44	0.53
6:SP:191:ARG:HH21	17:Sa:44:ARG:HG3	1.74	0.53
7:SQ:120:LEU:HD13	7:SQ:142:PHE:HE1	1.74	0.53
10:ST:76:LEU:HD21	10:ST:92:ARG:HE	1.74	0.53
11:SU:96:ARG:HD3	11:SU:121:VAL:HG23	1.90	0.53
16:SZ:19:ILE:HD12	16:SZ:27:PHE:O	2.08	0.53
20:Sc:56:LYS:HB3	20:Sc:70:LYS:HE3	1.89	0.53
21:SD:28:LEU:H	21:SD:28:LEU:HD12	1.73	0.53
25:SF:18:ALA:HA	25:SF:68:ARG:O	2.09	0.53
34:LA:405:U:H4'	34:LA:1416:C:H4'	1.90	0.53
34:LA:745:C:H2'	34:LA:746:A:H8	1.74	0.53
34:LA:1461:A:H2'	34:LA:1462:A:H8	1.73	0.53
34:LA:2576:G:H2'	34:LA:2577:C:C6	2.44	0.53
34:LA:2882:U:H2'	34:LA:2883:U:H6	1.74	0.53
40:LG:211:LEU:HD22	40:LG:215:ASP:HB3	1.89	0.53
45:LL:191:LYS:HG3	45:LL:198:LYS:HB2	1.89	0.53
61:Lb:22:LYS:HE3	61:Lb:132:SER:O	2.09	0.53
77:Lr:28:LYS:HG3	77:Lr:32:GLN:NE2	2.24	0.53
80:Cc:22:G:N7	80:Cc:46:G:O6	2.41	0.53
1:S2:306:U:H2'	1:S2:307:G:C8	2.43	0.53
1:S2:315:A:H4'	1:S2:316:A:H4'	1.91	0.53
1:S2:558:U:H2'	31:SA:143:ARG:HH11	1.73	0.53
1:S2:1477:G:H2'	1:S2:1478:G:H8	1.74	0.53
1:S2:1652:C:H2'	1:S2:1653:C:C6	2.44	0.53
10:ST:21:GLU:O	10:ST:25:ARG:HG2	2.08	0.53
11:SU:47:ARG:HB2	11:SU:59:ALA:HB3	1.91	0.53
17:Sa:36:VAL:HB	17:Sa:51:VAL:HG22	1.90	0.53
25:SF:89:LEU:CD1	25:SF:105:LEU:HD21	2.39	0.53
33:SE:61:ARG:HH11	33:SE:89:MET:HE1	1.74	0.53
34:LA:1066:G:H2'	34:LA:1067:U:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2555:G:H4'	68:Li:88:ARG:HG2	1.91	0.53
34:LA:2603:G:H2'	34:LA:2604:U:C6	2.44	0.53
34:LA:3298:C:C2	34:LA:3299:A:C8	2.97	0.53
42:LI:224:ILE:O	54:LU:36:ILE:HD11	2.09	0.53
53:LT:98:ARG:HG3	53:LT:102:LEU:HD11	1.90	0.53
1:S2:1196:A:H4'	1:S2:1197:C:H5"	1.91	0.52
1:S2:1295:G:H1	1:S2:1302:U:H3	1.55	0.52
11:SU:133:THR:HG21	11:SU:154:LEU:HD23	1.91	0.52
19:Sb:83:ILE:HD12	19:Sb:122:SER:HB3	1.89	0.52
25:SF:55:VAL:HG22	25:SF:59:LYS:HZ2	1.74	0.52
27:SH:81:ILE:HG12	27:SH:86:LEU:HD21	1.91	0.52
32:SB:99:MET:HB3	32:SB:180:ARG:NH1	2.24	0.52
34:LA:160:G:H1	34:LA:261:U:H3	0.77	0.52
34:LA:2767:U:H2'	34:LA:2768:U:C6	2.44	0.52
34:LA:3269:U:O4	41:LH:130:ILE:HA	2.10	0.52
41:LH:66:THR:HG22	41:LH:68:PRO:HA	1.90	0.52
47:LN:46:ILE:HG13	47:LN:46:ILE:O	2.09	0.52
47:LN:57:VAL:HG22	47:LN:147:ILE:HD13	1.91	0.52
48:LO:112:LEU:HG	48:LO:117:ARG:HG3	1.91	0.52
1:S2:1790:A:O2'	1:S2:1791:A:H5'	2.08	0.52
5:SO:224:ASN:O	5:SO:228:LYS:HA	2.09	0.52
6:SP:49:ASN:HB3	6:SP:52:LYS:HG2	1.90	0.52
6:SP:165:ARG:N	6:SP:165:ARG:HD2	2.23	0.52
13:SW:100:LYS:HB3	13:SW:102:GLU:OE1	2.08	0.52
20:Sc:70:LYS:HE2	20:Sc:93:LEU:HD11	1.92	0.52
21:SD:36:LEU:HD11	21:SD:43:ARG:HH22	1.73	0.52
28:SI:130:ARG:HA	28:SI:130:ARG:CZ	2.39	0.52
29:SJ:48:HIS:HB3	29:SJ:50:LEU:HD12	1.89	0.52
34:LA:759:U:O2	34:LA:759:U:H2'	2.10	0.52
34:LA:952:A:H4'	34:LA:968:G:N2	2.24	0.52
34:LA:1220:U:H5'	34:LA:1221:A:C2	2.43	0.52
34:LA:2093:A:H3'	34:LA:2093:A:N3	2.24	0.52
37:LD:138:GLY:HA3	37:LD:147:ARG:HH22	1.73	0.52
42:LI:189:ILE:HG23	42:LI:190:THR:H	1.75	0.52
54:LU:75:PHE:O	54:LU:93:GLU:HA	2.10	0.52
2:SL:61:ARG:HH12	32:SB:225:ARG:HG2	1.74	0.52
4:SN:113:LYS:HD3	21:SD:81:ASP:HA	1.91	0.52
5:SO:70:ASP:HB3	5:SO:113:VAL:HG12	1.90	0.52
8:SR:242:ILE:HG13	8:SR:243:TYR:HD1	1.75	0.52
9:SS:57:ASN:O	9:SS:61:VAL:HG13	2.09	0.52
20:Sc:102:VAL:HG12	20:Sc:127:VAL:HG22	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2572:C:H3'	34:LA:2573:G:H4'	1.90	0.52
34:LA:2781:U:H4'	47:LN:185:LYS:HD3	1.91	0.52
39:LF:207:VAL:HG21	39:LF:219:LEU:HD13	1.91	0.52
40:LG:119:TYR:CZ	40:LG:135:VAL:HG12	2.43	0.52
40:LG:178:ASN:HA	40:LG:183:TRP:CD2	2.45	0.52
43:LJ:64:ILE:O	43:LJ:68:ARG:HG2	2.09	0.52
43:LJ:239:GLY:O	43:LJ:243:GLN:HG2	2.10	0.52
46:LM:132:ASN:HA	46:LM:154:THR:HG21	1.91	0.52
65:Lf:15:ASN:HB3	65:Lf:18:LYS:HE3	1.91	0.52
72:Lm:11:PHE:O	72:Lm:15:THR:HG23	2.10	0.52
1:S2:145:A:H2'	1:S2:146:U:C6	2.45	0.52
1:S2:947:U:H2'	1:S2:948:G:C8	2.44	0.52
9:SS:183:VAL:HG13	9:SS:189:LEU:HA	1.90	0.52
9:SS:211:LYS:HD3	9:SS:217:THR:OG1	2.10	0.52
13:SW:95:TYR:O	13:SW:99:LEU:HD22	2.08	0.52
13:SW:168:ARG:NH1	13:SW:174:ARG:HH12	2.06	0.52
16:SZ:84:ARG:HG3	16:SZ:119:THR:HA	1.91	0.52
19:Sb:31:SER:H	19:Sb:34:ILE:HD12	1.74	0.52
27:SH:113:LEU:HA	27:SH:116:LEU:HD12	1.90	0.52
34:LA:3303:G:C6	34:LA:3305:A:C2	2.97	0.52
38:LE:115:LYS:HD2	38:LE:129:ALA:HB3	1.91	0.52
48:LO:116:GLU:HA	48:LO:119:GLN:HB2	1.92	0.52
1:S2:211:U:H2'	1:S2:212:U:O4'	2.10	0.52
1:S2:1506:G:H2'	1:S2:1507:G:H8	1.74	0.52
3:SM:31:ILE:HD11	3:SM:40:ARG:HA	1.91	0.52
4:SN:139:LEU:HD11	4:SN:152:ALA:HB2	1.91	0.52
10:ST:187:LYS:O	10:ST:190:GLN:HG2	2.10	0.52
18:Sf:14:SER:O	18:Sf:18:LYS:HG3	2.09	0.52
26:SG:29:GLN:HA	26:SG:32:LYS:HG2	1.91	0.52
27:SH:82:PRO:HB2	27:SH:84:TRP:CD1	2.40	0.52
34:LA:24:G:H2'	34:LA:25:U:O4'	2.09	0.52
34:LA:1498:A:H2'	34:LA:1499:C:H6	1.74	0.52
34:LA:2732:G:C4	34:LA:2733:A:C8	2.97	0.52
48:LO:14:LEU:HA	54:LU:151:PRO:HA	1.90	0.52
56:LW:16:THR:HG22	56:LW:64:THR:HG22	1.90	0.52
60:La:49:PRO:HB2	60:La:115:ARG:HE	1.74	0.52
79:Bb:39:U:H2'	79:Bb:40:C:H6	1.75	0.52
1:S2:181:A:C5	1:S2:182:A:H1'	2.45	0.52
1:S2:219:A:N6	1:S2:843:U:H1'	2.25	0.52
1:S2:529:A:H2'	1:S2:530:C:C6	2.44	0.52
1:S2:924:A:H2'	1:S2:925:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1252:C:H2'	1:S2:1253:U:C6	2.40	0.52
1:S2:1602:C:H2'	1:S2:1603:U:H6	1.74	0.52
1:S2:1719:A:C8	1:S2:1720:G:H4'	2.45	0.52
9:SS:58:GLY:HA2	9:SS:61:VAL:HG22	1.91	0.52
11:SU:114:ARG:HA	11:SU:117:THR:HG22	1.92	0.52
11:SU:142:TYR:HE1	19:Sb:52:TYR:HB2	1.75	0.52
21:SD:59:LEU:HD13	21:SD:126:TRP:H	1.75	0.52
22:Sd:30:PRO:C	22:Sd:32:ARG:H	2.16	0.52
22:Sd:89:TYR:HE2	22:Sd:93:ARG:HH21	1.56	0.52
26:SG:34:LEU:O	26:SG:38:ILE:HG22	2.10	0.52
31:SA:39:VAL:HG23	31:SA:48:VAL:HG22	1.90	0.52
32:SB:143:ARG:HB2	32:SB:167:ARG:HE	1.74	0.52
34:LA:632:G:H2'	34:LA:633:C:C6	2.44	0.52
34:LA:1759:C:H2'	34:LA:1760:A:H4'	1.90	0.52
34:LA:1945:A:H2'	34:LA:1946:A:C8	2.44	0.52
34:LA:2907:G:H2'	34:LA:2908:G:H8	1.74	0.52
34:LA:3110:C:H2'	34:LA:3111:U:C6	2.45	0.52
51:LR:51:VAL:HG21	51:LR:58:ILE:HD13	1.90	0.52
52:LS:174:ARG:O	62:Lc:56:VAL:HG21	2.09	0.52
66:Lg:54:LYS:HD3	66:Lg:55:ILE:H	1.73	0.52
1:S2:688:G:H2'	1:S2:689:G:H8	1.72	0.52
1:S2:1202:A:H2'	1:S2:1202:A:N3	2.25	0.52
1:S2:1548:G:H1'	27:SH:89:GLN:HE21	1.74	0.52
7:SQ:193:ILE:O	7:SQ:197:ILE:HG13	2.09	0.52
10:ST:148:SER:HB2	10:ST:151:ASP:HB2	1.92	0.52
29:SJ:26:LEU:O	29:SJ:88:LYS:HA	2.09	0.52
34:LA:529:A:H2'	34:LA:530:G:C8	2.45	0.52
34:LA:3180:A:H5"	50:LQ:116[A]:LYS:HE2	1.92	0.52
39:LF:136:LEU:HD13	39:LF:142:VAL:HG22	1.91	0.52
42:LI:97:PRO:HA	42:LI:100:ARG:HD2	1.91	0.52
54:LU:8:GLN:HB3	54:LU:64:ILE:HD11	1.92	0.52
61:Lb:92:PHE:HA	61:Lb:95:VAL:HG12	1.91	0.52
78:SC:24:LYS:HG3	78:SC:26:ASP:OD1	2.09	0.52
1:S2:1036:A:H2'	1:S2:1037:C:H6	1.75	0.52
1:S2:1451:C:H2'	1:S2:1452:U:C6	2.45	0.52
1:S2:1505:A:O2'	1:S2:1551:U:H1'	2.08	0.52
9:SS:68:ARG:HE	9:SS:76:VAL:HG11	1.75	0.52
12:SV:21:PHE:CE1	12:SV:22:ARG:HG3	2.45	0.52
22:Sd:60:PHE:CD1	22:Sd:71:GLY:HA3	2.45	0.52
28:SI:65:ILE:HB	28:SI:124:ILE:HG12	1.92	0.52
28:SI:105:LEU:HB3	28:SI:122:ARG:HH12	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1718:G:H2'	34:LA:1719:G:C8	2.44	0.52
34:LA:1908:A:H2'	34:LA:1909:A:C8	2.45	0.52
34:LA:2565:U:H2'	34:LA:2566:C:C6	2.44	0.52
34:LA:2565:U:H2'	34:LA:2566:C:H6	1.75	0.52
36:LC:69:U:H2'	36:LC:70:G:O4'	2.10	0.52
43:LJ:152:LEU:CD1	43:LJ:178:ALA:HB3	2.40	0.52
43:LJ:183:LYS:HB2	43:LJ:194:THR:HG23	1.90	0.52
51:LR:67:ILE:HD11	51:LR:80:LYS:HB3	1.91	0.52
57:LX:10:LYS:HB3	57:LX:125:LEU:HD21	1.91	0.52
1:S2:288:A:H2'	1:S2:289:U:C6	2.44	0.52
1:S2:419:G:H2'	1:S2:420:A:O4'	2.10	0.52
1:S2:1457:C:H5'	27:SH:139:LYS:HD2	1.92	0.52
1:S2:1467:C:H2'	1:S2:1468:U:C6	2.44	0.52
7:SQ:23:PRO:HG2	7:SQ:24:PHE:HD1	1.73	0.52
7:SQ:70:LEU:HD11	7:SQ:189:ILE:HD12	1.92	0.52
10:ST:138:ALA:O	10:ST:142:ARG:HB3	2.09	0.52
13:SW:131:GLN:O	13:SW:132:ARG:HG2	2.09	0.52
20:Sc:56:LYS:HB3	20:Sc:70:LYS:CE	2.40	0.52
21:SD:59:LEU:HA	21:SD:87:PRO:HB2	1.91	0.52
29:SJ:21:LYS:NZ	29:SJ:92:ASP:HB2	2.24	0.52
29:SJ:58:LEU:HD13	29:SJ:88:LYS:HE2	1.92	0.52
31:SA:195:SER:O	31:SA:196:ARG:HG3	2.10	0.52
34:LA:173:G:H2'	34:LA:173:G:N3	2.24	0.52
34:LA:1034:U:H3'	34:LA:1035:G:H4'	1.92	0.52
34:LA:1832:C:H2'	34:LA:1833:G:H8	1.75	0.52
34:LA:1838:G:H5"	34:LA:1839:A:H5'	1.92	0.52
34:LA:2158:A:H4'	34:LA:2159:U:H5"	1.90	0.52
38:LE:385:LYS:HE2	38:LE:385:LYS:HA	1.92	0.52
40:LG:95:TRP:CZ2	40:LG:161:GLY:HA2	2.45	0.52
55:LV:20:ARG:O	55:LV:21:LYS:HD2	2.09	0.52
60:La:76:LEU:HD21	73:Ln:31:THR:HG21	1.90	0.52
71:Ll:19:CYS:HB2	71:Ll:27:PHE:HB2	1.91	0.52
1:S2:164:A:H2'	1:S2:165:G:H8	1.74	0.52
1:S2:1504:G:H2'	1:S2:1505:A:N3	2.25	0.52
4:SN:120:GLU:CD	4:SN:132:LEU:HD11	2.35	0.52
5:SO:250:TYR:HB3	5:SO:265:LEU:HG	1.92	0.52
6:SP:191:ARG:H	6:SP:194:PRO:HG2	1.73	0.52
20:Sc:3:LYS:HD3	20:Sc:7:ARG:NH1	2.23	0.52
34:LA:151:A:P	49:LP:147:ARG:HH12	2.32	0.52
34:LA:669:U:H2'	34:LA:670:C:C6	2.44	0.52
39:LF:169:LEU:HD22	39:LF:174:ALA:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:LG:95:TRP:HZ3	40:LG:199:ILE:HG22	1.75	0.52
53:LT:106:LEU:HD21	53:LT:138:LEU:HD11	1.92	0.52
62:Lc:111:LYS:HG3	62:Lc:129:PHE:HB2	1.92	0.52
68:Li:9:ARG:HG2	68:Li:34:HIS:NE2	2.24	0.52
70:Lk:58:ILE:HG23	70:Lk:94:ILE:HD11	1.91	0.52
79:Bb:53:G:H22	79:Bb:62:A:H1'	1.75	0.52
1:S2:256:A:H3'	1:S2:257:A:O4'	2.10	0.51
1:S2:625:C:H2'	1:S2:626:U:C6	2.44	0.51
1:S2:1504:G:H2'	1:S2:1505:A:C4	2.45	0.51
1:S2:1516:A:O2'	1:S2:1517:U:H5'	2.10	0.51
2:SL:57:MET:HG2	32:SB:143:ARG:NE	2.25	0.51
10:ST:174:LYS:HG2	10:ST:175:ILE:HG13	1.92	0.51
10:ST:208:TYR:HA	10:ST:211:LEU:HD12	1.91	0.51
14:SX:121:ASP:HB3	14:SX:144:ALA:HB3	1.92	0.51
21:SD:27:ALA:HA	21:SD:30:VAL:HG22	1.90	0.51
26:SG:24:LEU:HD13	26:SG:31:ASN:OD1	2.10	0.51
26:SG:84:TYR:CZ	26:SG:86:PRO:HD3	2.45	0.51
32:SB:36:ALA:HA	32:SB:40:ILE:O	2.10	0.51
34:LA:254:A:H2'	34:LA:255:A:H8	1.74	0.51
34:LA:290:G:H2'	34:LA:291:C:C6	2.44	0.51
34:LA:507:U:H2'	34:LA:508:U:H6	1.75	0.51
34:LA:999:G:H2'	34:LA:1000:C:C6	2.45	0.51
34:LA:1910:A:H2'	34:LA:1911:A:C8	2.45	0.51
34:LA:3015:G:H2'	34:LA:3016:A:C8	2.44	0.51
34:LA:3053:G:H2'	34:LA:3054:U:H6	1.74	0.51
35:LB:49:G:H4'	35:LB:50:U:H5"	1.91	0.51
38:LE:45:SER:OG	38:LE:181:ILE:HD12	2.10	0.51
45:LL:210:ILE:HA	45:LL:217:PHE:CE2	2.44	0.51
56:LW:12:ALA:CA	56:LW:67:SER:O	2.47	0.51
60:La:31:LEU:HD12	60:La:31:LEU:H	1.74	0.51
61:Lb:89:VAL:HG23	61:Lb:92:PHE:CE1	2.45	0.51
1:S2:591:A:H2'	1:S2:592:A:C8	2.45	0.51
1:S2:1039:A:H2'	1:S2:1040:G:C8	2.45	0.51
1:S2:1067:C:H2'	1:S2:1068:C:C6	2.45	0.51
1:S2:1356:U:H2'	1:S2:1357:A:H8	1.75	0.51
1:S2:1540:G:H1'	1:S2:1541:G:H5'	1.92	0.51
5:SO:10:ARG:HD3	5:SO:314:GLN:HG2	1.91	0.51
8:SR:66:PHE:CE1	8:SR:67:GLN:HG2	2.45	0.51
14:SX:16:GLN:HE22	14:SX:33:ARG:HD3	1.76	0.51
18:Sf:41:LEU:HD23	18:Sf:43:ILE:H	1.76	0.51
27:SH:101:LEU:O	27:SH:105:VAL:HG13	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:SJ:21:LYS:HZ2	29:SJ:92:ASP:HB2	1.74	0.51
32:SB:186:ASN:ND2	32:SB:188:LYS:HB2	2.25	0.51
34:LA:1051:U:H4'	55:LV:19:PHE:CD1	2.46	0.51
34:LA:1295:G:H2'	34:LA:1296:C:C6	2.46	0.51
36:LC:19:C:H2'	36:LC:20:U:C6	2.45	0.51
46:LM:110:ILE:H	46:LM:110:ILE:HD12	1.74	0.51
46:LM:135:GLY:O	46:LM:138:VAL:HG12	2.09	0.51
48:LO:125:LYS:O	48:LO:128:ARG:HG2	2.10	0.51
80:Cc:39:C:C2	80:Cc:40:C:C5	2.97	0.51
1:S2:407:A:H2'	1:S2:408:C:C6	2.44	0.51
1:S2:522:U:O2'	1:S2:523:G:H5'	2.09	0.51
1:S2:1523:G:O6	28:SI:68:ARG:HG2	2.11	0.51
1:S2:1564:U:H4'	27:SH:84:TRP:HH2	1.74	0.51
6:SP:49:ASN:O	6:SP:53:THR:HG23	2.10	0.51
6:SP:198:MET:N	6:SP:199:PRO:HD3	2.25	0.51
10:ST:136:LYS:HA	10:ST:141:ILE:HB	1.92	0.51
11:SU:154:LEU:HD11	11:SU:183:PHE:HD2	1.75	0.51
15:SY:114:ARG:HA	15:SY:117:LEU:HD12	1.93	0.51
19:Sb:6:VAL:HB	19:Sb:29:PRO:HD2	1.92	0.51
21:SD:79:ALA:HB2	21:SD:88:LEU:HD21	1.91	0.51
25:SF:55:VAL:HG21	25:SF:105:LEU:HD13	1.92	0.51
30:SK:73:GLY:O	30:SK:77:ARG:HG3	2.10	0.51
34:LA:2708:C:H2'	34:LA:2709:C:C6	2.44	0.51
43:LJ:78:PHE:CD2	43:LJ:179:ILE:HD11	2.46	0.51
43:LJ:130:TYR:CD2	43:LJ:202:GLU:HG3	2.45	0.51
43:LJ:159:PRO:O	43:LJ:162:LEU:HD12	2.10	0.51
1:S2:201:G:H2'	1:S2:202:A:H8	1.75	0.51
1:S2:741:C:O2	11:SU:107:ARG:HD2	2.11	0.51
1:S2:1333:C:H2'	1:S2:1334:U:H6	1.76	0.51
1:S2:1365:C:H2'	1:S2:1366:U:C6	2.46	0.51
1:S2:1652:C:H2'	1:S2:1653:C:H6	1.75	0.51
6:SP:136:ALA:HA	6:SP:141:ILE:HD11	1.92	0.51
6:SP:190:ASP:HA	6:SP:194:PRO:HG2	1.92	0.51
25:SF:9:THR:HB	25:SF:87:LYS:NZ	2.26	0.51
28:SI:101:ASN:HA	28:SI:104:VAL:HG12	1.93	0.51
34:LA:11:A:H2'	34:LA:12:A:H8	1.75	0.51
34:LA:270:U:H2'	34:LA:271:C:H6	1.75	0.51
34:LA:299:G:N1	70:Lk:30:LYS:HD3	2.26	0.51
34:LA:829:U:H3	34:LA:895:A:H62	1.58	0.51
36:LC:57:C:H4'	36:LC:63:G:C8	2.46	0.51
38:LE:343:TYR:CE2	38:LE:345:ASN:HB3	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:LH:146:LEU:HA	41:LH:149:ILE:HG22	1.93	0.51
56:LW:33:TYR:HE2	56:LW:37:LEU:HD11	1.74	0.51
1:S2:758:U:H2'	1:S2:759:U:O2	2.09	0.51
1:S2:1427:A:H1'	31:SA:146:ARG:HH12	1.75	0.51
1:S2:1719:A:H8	1:S2:1720:G:H4'	1.75	0.51
1:S2:1755:A:OP1	20:Sc:63:GLN:HB2	2.11	0.51
7:SQ:126:THR:HG23	7:SQ:136:ARG:HG2	1.91	0.51
8:SR:121:VAL:O	8:SR:125:ILE:HG12	2.10	0.51
8:SR:226:THR:HG23	8:SR:228:ASN:H	1.75	0.51
10:ST:121:LEU:HB2	10:ST:124:LEU:HB3	1.90	0.51
10:ST:174:LYS:HE3	10:ST:175:ILE:HD12	1.91	0.51
16:SZ:83:ILE:HG22	16:SZ:117:ASP:OD1	2.09	0.51
29:SJ:57:ARG:HD3	29:SJ:89:ARG:NH2	2.22	0.51
32:SB:142:PRO:O	32:SB:167:ARG:HG2	2.09	0.51
34:LA:1290:A:H2'	34:LA:1291:A:H8	1.75	0.51
34:LA:1356:U:H5"	34:LA:1357:G:C8	2.46	0.51
34:LA:1936:A:H2'	34:LA:1937:U:C6	2.45	0.51
34:LA:2376:G:H2'	34:LA:2377:G:C8	2.46	0.51
50:LQ:27[A]:LEU:HD23	50:LQ:101[A]:ARG:HB2	1.93	0.51
79:Bb:39:U:H2'	79:Bb:40:C:C6	2.46	0.51
80:Cc:39:C:H2'	80:Cc:40:C:H6	1.75	0.51
1:S2:1419:G:H21	31:SA:162:GLN:HE22	1.59	0.51
1:S2:1662:G:H1	1:S2:1738:U:H3	1.58	0.51
3:SM:15:GLY:O	3:SM:19:ARG:HG3	2.11	0.51
9:SS:181:VAL:HG22	9:SS:193:GLY:HA3	1.93	0.51
27:SH:15:LEU:HD12	27:SH:17:LEU:HD21	1.92	0.51
28:SI:25:GLN:HG3	28:SI:27:LYS:HG2	1.92	0.51
31:SA:33:GLY:HA3	31:SA:53:THR:HG22	1.93	0.51
31:SA:97:SER:O	31:SA:101:GLN:HG2	2.11	0.51
34:LA:72:C:H1'	47:LN:61:PRO:O	2.11	0.51
34:LA:1023:C:H2'	34:LA:1024:G:H4'	1.92	0.51
34:LA:2961:G:H2'	34:LA:2962:U:C6	2.46	0.51
34:LA:3057:U:H5'	34:LA:3086:A:H61	1.76	0.51
34:LA:3066:U:H3	34:LA:3075:G:H1	1.59	0.51
54:LU:155:ARG:HB2	54:LU:172:TYR:CD2	2.44	0.51
69:Lj:105:ARG:HH12	69:Lj:109:ILE:HB	1.75	0.51
78:SC:7:ASP:O	78:SC:11:ILE:HG12	2.11	0.51
1:S2:121:U:H1'	9:SS:33:ALA:O	2.11	0.51
1:S2:330:G:H2'	1:S2:331:A:H8	1.75	0.51
1:S2:821:U:C5	1:S2:822:U:C6	2.99	0.51
1:S2:1212:G:N2	1:S2:1213:G:H1'	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1382:A:H2'	1:S2:1383:G:H8	1.76	0.51
1:S2:1565:C:H2'	1:S2:1566:U:H6	1.76	0.51
1:S2:1585:U:C4	1:S2:1611:A:C6	2.99	0.51
1:S2:1612:U:H3'	1:S2:1613:U:C2	2.45	0.51
1:S2:1790:A:H2'	1:S2:1791:A:C8	2.45	0.51
5:SO:96:THR:HG23	5:SO:98:GLU:OE2	2.10	0.51
11:SU:32:PRO:HA	11:SU:35:LYS:HB2	1.93	0.51
12:SV:184:LEU:HD13	12:SV:188:GLU:OE1	2.10	0.51
34:LA:3001:C:H2'	34:LA:3002:C:C6	2.46	0.51
35:LB:84:A:H2'	35:LB:85:G:C8	2.46	0.51
38:LE:117:ARG:NH1	38:LE:175:LYS:HD3	2.25	0.51
38:LE:294:GLY:HA2	38:LE:359:ILE:HD12	1.92	0.51
40:LG:238:ASP:O	40:LG:242:SER:HB2	2.10	0.51
41:LH:68:PRO:HD3	41:LH:159:LEU:HD23	1.92	0.51
44:LK:94:TYR:HA	44:LK:177:ASP:OD1	2.11	0.51
64:Le:43:ILE:HG13	64:Le:90:VAL:HG13	1.93	0.51
74:Lo:79:GLU:O	74:Lo:83:LYS:HG2	2.11	0.51
1:S2:961:U:P	15:SY:62:GLN:HE22	2.34	0.51
1:S2:1360:A:H1'	1:S2:1364:G:N1	2.25	0.51
6:SP:2:SER:HB3	17:Sa:78:LEU:HA	1.93	0.51
20:Sc:90:ASP:OD1	23:Sg:12:GLY:HA2	2.11	0.51
34:LA:759:U:N3	34:LA:771:A:N6	2.35	0.51
34:LA:862:U:H2'	34:LA:863:C:H6	1.75	0.51
34:LA:929:A:H2'	34:LA:930:U:C6	2.45	0.51
34:LA:1627:U:N3	34:LA:1816:A:C6	2.79	0.51
35:LB:56:A:H4'	46:LM:152:HIS:HB2	1.93	0.51
38:LE:332:ARG:HG2	38:LE:333:LYS:HG3	1.93	0.51
39:LF:332:LYS:HE3	39:LF:333:VAL:HG22	1.92	0.51
40:LG:205:SER:O	40:LG:209:GLU:HG2	2.10	0.51
44:LK:134:ILE:HG22	44:LK:144:ILE:HD11	1.93	0.51
47:LN:76:THR:HG23	47:LN:79:GLU:H	1.76	0.51
47:LN:188:ARG:NH1	47:LN:188:ARG:HB2	2.25	0.51
54:LU:77:VAL:HG21	54:LU:106:LEU:HD12	1.93	0.51
67:Lh:50:ALA:HB2	67:Lh:68:TRP:CZ3	2.46	0.51
67:Lh:51:TYR:HE1	67:Lh:93:THR:HG21	1.76	0.51
79:Bb:21:A:N6	79:Bb:46:G:H1'	2.25	0.51
81:pp:1150:ASP:HB3	81:pp:1151:PRO:HD3	1.91	0.51
1:S2:144:U:H2'	1:S2:145:A:C8	2.46	0.51
1:S2:204:G:N2	1:S2:263:C:C2	2.70	0.51
1:S2:359:A:H61	1:S2:1740:A:N6	2.09	0.51
1:S2:1044:U:H2'	1:S2:1045:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1171:A:H2'	1:S2:1172:G:C8	2.45	0.51
1:S2:1388:A:H5"	26:SG:48:ASN:ND2	2.23	0.51
1:S2:1390:U:H5	26:SG:3:ARG:HB3	1.76	0.51
1:S2:1561:U:H2'	1:S2:1562:G:C8	2.46	0.51
1:S2:1579:U:H2'	1:S2:1580:C:C6	2.46	0.51
1:S2:1673:G:H1	1:S2:1728:A:H2	0.56	0.51
5:SO:127:ARG:HA	5:SO:150:TRP:HB2	1.92	0.51
14:SX:21:ASN:ND2	14:SX:31:THR:HA	2.26	0.51
22:Sd:10:ARG:HB2	22:Sd:24:VAL:HG23	1.93	0.51
34:LA:160:G:O6	34:LA:261:U:O4	2.29	0.51
34:LA:1471:U:H2'	34:LA:1472:U:C6	2.45	0.51
34:LA:1827:C:H2'	34:LA:1828:A:H8	1.75	0.51
34:LA:2767:U:H2'	34:LA:2768:U:H6	1.75	0.51
34:LA:3162:C:H2'	34:LA:3163:A:H8	1.75	0.51
34:LA:3322:A:H2'	34:LA:3323:A:H8	1.74	0.51
35:LB:19:C:H2'	35:LB:20:A:H8	1.75	0.51
40:LG:90:HIS:HB3	40:LG:226:TYR:CZ	2.46	0.51
50:LQ:29[A]:ASN:OD1	67:Lh:14:LEU:HD22	2.11	0.51
56:LW:101:ASN:HA	56:LW:103:TYR:CZ	2.45	0.51
64:Le:24:THR:OG1	64:Le:93:LEU:HD11	2.11	0.51
64:Le:101:LEU:HD23	64:Le:101:LEU:H	1.76	0.51
1:S2:157:A:H2	1:S2:419:G:H8	1.58	0.51
1:S2:312:A:H4'	1:S2:313:U:H5'	1.91	0.51
1:S2:1536:G:C6	1:S2:1538:U:H1'	2.46	0.51
1:S2:1548:G:H1'	27:SH:89:GLN:NE2	2.26	0.51
1:S2:1556:A:C2	1:S2:1560:U:H1'	2.46	0.51
5:SO:123:ILE:HG12	5:SO:169:ILE:HG21	1.92	0.51
7:SQ:64:ARG:O	7:SQ:88:VAL:HG22	2.11	0.51
16:SZ:128:LYS:HE3	24:Se:27:SER:OG	2.10	0.51
26:SG:20:TYR:CE1	26:SG:38:ILE:HG12	2.46	0.51
32:SB:171:ALA:O	32:SB:175:LEU:HD22	2.11	0.51
34:LA:638:C:H2'	34:LA:639:G:H8	1.75	0.51
34:LA:1281:G:H2'	34:LA:1282:G:C8	2.46	0.51
35:LB:71:G:H2'	35:LB:72:A:H8	1.75	0.51
41:LH:66:THR:OG1	41:LH:76:LEU:HD23	2.10	0.51
60:La:45:ILE:CG2	60:La:125:LYS:H	2.22	0.51
67:Lh:13:HIS:HA	67:Lh:30:ILE:HD13	1.92	0.51
1:S2:435:C:H5"	20:Sc:50:LYS:HG3	1.94	0.50
1:S2:752:A:N1	1:S2:797:G:N2	2.50	0.50
1:S2:1376:C:H2'	1:S2:1377:U:C2	2.46	0.50
1:S2:1549:C:H5"	33:SE:42:ARG:NH2	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1742:U:H2'	1:S2:1743:U:C6	2.46	0.50
5:SO:16:HIS:CD2	5:SO:37:SER:HB2	2.46	0.50
5:SO:242:SER:HB3	5:SO:255:ALA:HB3	1.93	0.50
34:LA:20:A:H2'	34:LA:21:G:C8	2.46	0.50
34:LA:75:G:H3'	34:LA:76:G:H8	1.77	0.50
34:LA:370:U:H2'	34:LA:371:G:O4'	2.11	0.50
34:LA:1662:G:H2'	34:LA:1663:C:C6	2.45	0.50
34:LA:3121:U:H1'	34:LA:3122:A:H5"	1.92	0.50
39:LF:51:ALA:HA	39:LF:103:THR:HG23	1.93	0.50
43:LJ:34:PHE:CD1	43:LJ:42:PRO:HD3	2.45	0.50
45:LL:215:GLU:H	45:LL:215:GLU:CD	2.19	0.50
46:LM:15:GLU:HB2	46:LM:132:ASN:CG	2.36	0.50
50:LQ:56[A]:ASP:HA	50:LQ:59[A]:ARG:NH1	2.26	0.50
61:Lb:109:GLU:OE2	61:Lb:109:GLU:HA	2.10	0.50
1:S2:27:U:H2'	1:S2:28:A:C8	2.46	0.50
1:S2:653:C:H41	1:S2:680:U:H3	1.59	0.50
1:S2:1056:U:H1'	7:SQ:202:LYS:HD2	1.94	0.50
9:SS:39:ARG:HB2	9:SS:40:GLU:OE2	2.10	0.50
20:Sc:37:ALA:HA	20:Sc:41:SER:HB2	1.93	0.50
34:LA:314:U:H2'	34:LA:315:C:C6	2.46	0.50
34:LA:896:A:N6	34:LA:2147:A:H8	2.09	0.50
34:LA:2895:G:H5"	74:Lo:102:ARG:NH2	2.27	0.50
36:LC:29:U:H2'	36:LC:30:C:H6	1.76	0.50
44:LK:115:ARG:HD2	44:LK:123:ILE:HD12	1.93	0.50
60:La:11:ASP:HB3	60:La:14:LYS:HB2	1.94	0.50
79:Bb:61:C:H2'	79:Bb:62:A:C5	2.47	0.50
1:S2:310:C:OP1	20:Sc:20:ARG:HD3	2.11	0.50
1:S2:803:A:O2'	1:S2:804:A:H8	1.92	0.50
1:S2:1237:G:N1	1:S2:1250:U:H4'	2.26	0.50
1:S2:1486:G:H5"	29:SJ:64:LYS:HE2	1.93	0.50
7:SQ:185:THR:O	7:SQ:189:ILE:HG12	2.11	0.50
9:SS:59:ARG:HH12	22:Sd:87:PRO:HG3	1.74	0.50
10:ST:223:LYS:HE2	10:ST:227:ARG:NH2	2.26	0.50
21:SD:63:VAL:H	21:SD:120:VAL:HG12	1.76	0.50
24:Se:36:ILE:O	24:Se:36:ILE:HG22	2.11	0.50
26:SG:71:PHE:CE2	26:SG:74:GLN:HB2	2.46	0.50
31:SA:161:GLY:O	31:SA:164:VAL:HG12	2.11	0.50
34:LA:174:C:H2'	34:LA:175:C:C6	2.47	0.50
34:LA:721:G:N2	34:LA:750:G:H1'	2.27	0.50
34:LA:733:G:H1'	34:LA:737:G:N2	2.27	0.50
34:LA:1339:C:H2'	34:LA:1340:G:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1347:U:H2'	34:LA:1355:A:H61	1.75	0.50
34:LA:1577:G:H2'	34:LA:1578:C:C6	2.47	0.50
34:LA:1845:G:H5'	34:LA:1846:C:H5"	1.92	0.50
34:LA:2344:U:H2'	34:LA:2345:A:H8	1.74	0.50
34:LA:2853:A:H5'	45:LL:3:ARG:NH2	2.25	0.50
34:LA:3203:U:H2'	34:LA:3204:C:C6	2.46	0.50
34:LA:3366:G:H2'	34:LA:3367:C:C6	2.45	0.50
34:LA:3377:G:N2	38:LE:332:ARG:HH22	2.09	0.50
43:LJ:115:ALA:HA	43:LJ:118:GLU:HG3	1.92	0.50
72:Lm:20:VAL:HG23	72:Lm:46:ARG:O	2.12	0.50
78:SC:38:LYS:HA	78:SC:38:LYS:HE3	1.92	0.50
1:S2:181:A:C6	1:S2:182:A:H1'	2.47	0.50
1:S2:556:A:H1'	23:Sg:56:MET:HB2	1.94	0.50
1:S2:837:G:P	1:S2:837:G:H8	2.35	0.50
1:S2:916:U:H3	16:SZ:41:ARG:NH1	2.09	0.50
1:S2:1012:U:H4'	37:LD:248:GLY:HA3	1.92	0.50
1:S2:1162:C:H4'	2:SL:22:ARG:NH2	2.27	0.50
1:S2:1422:A:H2'	1:S2:1423:U:H5"	1.93	0.50
1:S2:1549:C:H5"	33:SE:42:ARG:HH21	1.76	0.50
7:SQ:24:PHE:CZ	16:SZ:39:ILE:HG23	2.47	0.50
8:SR:118:ALA:HB3	8:SR:124:ALA:HB2	1.93	0.50
12:SV:66:SER:O	12:SV:183:ILE:HD12	2.10	0.50
22:Sd:31:ASN:OD1	22:Sd:31:ASN:O	2.28	0.50
34:LA:1470:U:H2'	34:LA:1471:U:H6	1.76	0.50
34:LA:1598:G:H2'	34:LA:1599:G:C8	2.47	0.50
34:LA:3095:U:H2'	34:LA:3096:C:C6	2.47	0.50
45:LL:76:MET:SD	45:LL:147:VAL:HG12	2.52	0.50
47:LN:70:ARG:HH12	47:LN:72:GLY:HA2	1.76	0.50
50:LQ:34[A]:VAL:HG12	50:LQ:103[A]:LYS:HB2	1.93	0.50
53:LT:38:ARG:HB3	53:LT:42:ARG:HH12	1.77	0.50
1:S2:603:U:H2'	1:S2:604:A:C8	2.46	0.50
3:SM:31:ILE:HD12	3:SM:38:ILE:O	2.11	0.50
6:SP:4:PRO:HG2	6:SP:6:THR:HG22	1.92	0.50
13:SW:39:LYS:HA	13:SW:42:ILE:CD1	2.42	0.50
22:Sd:20:ARG:HB3	22:Sd:76:TYR:HD1	1.76	0.50
34:LA:832:G:H4'	53:LT:87:ALA:HB2	1.93	0.50
34:LA:1896:A:N6	34:LA:2339:C:H42	2.05	0.50
34:LA:3271:G:N7	41:LH:108:LYS:HE3	2.27	0.50
34:LA:3345:G:N1	34:LA:3360:C:N3	2.52	0.50
45:LL:52:LEU:HB3	45:LL:136:PHE:HB2	1.93	0.50
53:LT:105:LEU:HD13	53:LT:135:LYS:HG3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:Lo:111:ARG:HG3	74:Lo:112:LYS:HD3	1.93	0.50
77:Lr:42:CYS:SG	77:Lr:44:LYS:HG3	2.51	0.50
1:S2:12:U:H2'	1:S2:13:C:H6	1.77	0.50
1:S2:82:U:H2'	1:S2:83:G:O4'	2.12	0.50
1:S2:338:C:H2'	1:S2:339:C:C6	2.47	0.50
1:S2:1391:A:H2'	1:S2:1392:U:H6	1.75	0.50
1:S2:1480:G:H5'	28:SI:63:ARG:HH21	1.76	0.50
1:S2:1483:A:C8	1:S2:1484:G:C2	3.00	0.50
1:S2:1703:C:H5"	1:S2:1704:U:H5	1.75	0.50
5:SO:66:HIS:CG	5:SO:67:ILE:H	2.29	0.50
5:SO:197:SER:N	5:SO:217:ASP:HB3	2.27	0.50
6:SP:93:THR:HG23	6:SP:185:ARG:NH2	2.26	0.50
9:SS:150:PRO:HB2	9:SS:154:ILE:HD12	1.92	0.50
27:SH:27:LYS:HB3	27:SH:30:TYR:HD2	1.76	0.50
34:LA:501:A:H2'	34:LA:502:U:H6	1.76	0.50
34:LA:900:G:H1'	34:LA:1589:A:H61	1.76	0.50
34:LA:1604:G:H4'	34:LA:1835:A:H4'	1.94	0.50
34:LA:2619:G:C6	80:Cc:76:A:N1	2.79	0.50
34:LA:3362:A:H2'	34:LA:3363:U:O4'	2.12	0.50
41:LH:63:LEU:HD11	41:LH:81:ALA:HA	1.94	0.50
63:Ld:43:HIS:O	63:Ld:47:LEU:HD12	2.12	0.50
1:S2:174:U:H2'	1:S2:175:G:C8	2.46	0.50
1:S2:257:A:H2'	1:S2:258:C:C5	2.47	0.50
1:S2:327:U:H2'	1:S2:328:A:H8	1.76	0.50
1:S2:822:U:C2	1:S2:823:G:N2	2.80	0.50
1:S2:1575:G:N2	80:Cc:41:C:H1'	2.25	0.50
8:SR:185:LYS:HG3	8:SR:189:GLN:OE1	2.12	0.50
9:SS:181:VAL:HG12	9:SS:227:VAL:HA	1.93	0.50
12:SV:109:PHE:CE2	12:SV:183:ILE:HD11	2.47	0.50
15:SY:140:LYS:HZ1	34:LA:846:A:H4'	1.76	0.50
16:SZ:63:ALA:O	16:SZ:67:VAL:HG22	2.10	0.50
34:LA:412:G:C2	34:LA:413:U:H1'	2.47	0.50
34:LA:970:A:H2'	34:LA:971:G:C8	2.47	0.50
34:LA:1067:U:H2'	34:LA:1068:C:C6	2.47	0.50
34:LA:1602:A:H62	59:LZ:71:THR:HG21	1.77	0.50
34:LA:1661:G:H2'	34:LA:1662:G:H8	1.73	0.50
34:LA:1739:U:H4'	34:LA:1740:U:OP2	2.12	0.50
34:LA:1827:C:H2'	34:LA:1828:A:C8	2.46	0.50
34:LA:2406:C:H2'	34:LA:2407:C:H6	1.76	0.50
34:LA:2880:U:H1'	38:LE:250:ALA:HB3	1.94	0.50
34:LA:2986:U:H2'	34:LA:2987:A:H8	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:3016:A:H2'	34:LA:3017:A:C8	2.47	0.50
39:LF:187:LEU:HG	39:LF:193:LYS:HD3	1.93	0.50
40:LG:52:VAL:HG12	40:LG:147:ASP:OD2	2.11	0.50
80:Cc:62:C:H2'	80:Cc:63:G:H8	1.76	0.50
1:S2:330:G:H2'	1:S2:331:A:C8	2.47	0.50
1:S2:1488:G:H3'	1:S2:1515:A:N6	2.24	0.50
1:S2:1559:A:C8	27:SH:134:ARG:HG2	2.46	0.50
1:S2:1626:U:H2'	1:S2:1627:U:H6	1.77	0.50
5:SO:38:ARG:HH22	5:SO:85:TRP:NE1	2.10	0.50
15:SY:113:PHE:CE2	15:SY:117:LEU:HD11	2.46	0.50
25:SF:47:LYS:HA	25:SF:50:GLU:HG3	1.93	0.50
27:SH:65:GLU:O	27:SH:68:ARG:HG2	2.11	0.50
34:LA:179:C:N3	34:LA:237:G:N1	2.50	0.50
34:LA:951:A:H5"	34:LA:1143:A:N1	2.27	0.50
34:LA:2426:U:H2'	34:LA:2427:U:C6	2.47	0.50
36:LC:19:C:H2'	36:LC:20:U:H6	1.77	0.50
37:LD:238:ILE:N	37:LD:238:ILE:HD12	2.26	0.50
38:LE:292:ALA:HA	38:LE:303:LYS:H	1.76	0.50
42:LI:52:GLN:HA	42:LI:55:TYR:HD1	1.77	0.50
45:LL:48:LEU:HA	45:LL:178:ARG:NH2	2.27	0.50
57:LX:57:MET:HE2	57:LX:75:PRO:HB2	1.94	0.50
62:Lc:38:GLN:HA	62:Lc:38:GLN:NE2	2.26	0.50
1:S2:394:C:H42	1:S2:401:A:H62	1.60	0.50
1:S2:1293:U:C2	1:S2:1294:G:C8	3.00	0.50
1:S2:1429:G:H2'	1:S2:1430:U:C6	2.47	0.50
1:S2:1527:C:H2'	1:S2:1528:U:C6	2.47	0.50
1:S2:1592:A:H2'	1:S2:1593:A:C8	2.47	0.50
7:SQ:123:ALA:O	7:SQ:138:PHE:HA	2.12	0.50
8:SR:87:GLN:HG2	8:SR:96:THR:HG22	1.94	0.50
10:ST:142:ARG:NH1	10:ST:149:LYS:HA	2.27	0.50
22:Sd:92:VAL:HG11	22:Sd:99:LYS:HB2	1.94	0.50
29:SJ:23:ARG:HB3	29:SJ:117:VAL:HG23	1.94	0.50
34:LA:374:A:N3	34:LA:376:G:H5"	2.26	0.50
34:LA:1550:C:H2'	34:LA:1551:C:C6	2.47	0.50
34:LA:1614:C:H2'	34:LA:1615:C:C6	2.47	0.50
34:LA:2590:A:H2'	34:LA:2591:A:C8	2.46	0.50
53:LT:139:VAL:HA	53:LT:142:ILE:HG22	1.93	0.50
72:Lm:64:LYS:HA	72:Lm:67:GLN:NE2	2.26	0.50
1:S2:1485:C:O2	1:S2:1606:C:H1'	2.12	0.49
1:S2:1541:G:H1'	1:S2:1570:A:H61	1.75	0.49
1:S2:1601:G:N2	28:SI:88:VAL:HG13	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1680:G:H1’	1:S2:1721:A:N6	2.26	0.49
4:SN:106:TYR:HA	4:SN:131:PHE:HZ	1.77	0.49
9:SS:57:ASN:ND2	9:SS:59:ARG:HB2	2.27	0.49
12:SV:166:TYR:O	12:SV:183:ILE:HG23	2.12	0.49
20:Sc:70:LYS:CE	20:Sc:93:LEU:HD11	2.42	0.49
32:SB:148:ARG:HG2	32:SB:157:ARG:HH21	1.75	0.49
34:LA:254:A:H2’	34:LA:255:A:C8	2.47	0.49
34:LA:500:C:H2’	34:LA:501:A:H8	1.75	0.49
34:LA:1770:G:H4’	56:LW:99:LYS:HE3	1.94	0.49
34:LA:1940:G:N2	34:LA:3362:A:C8	2.79	0.49
34:LA:2615:G:H2’	34:LA:2616:C:C6	2.47	0.49
34:LA:2656:A:H4’	76:Lq:98:LYS:HE2	1.94	0.49
34:LA:2700:G:H2’	34:LA:2701:U:C6	2.47	0.49
34:LA:3212:C:H3’	34:LA:3213:A:H8	1.77	0.49
37:LD:145:LYS:HD3	37:LD:159:SER:HA	1.94	0.49
49:LP:35:VAL:HG12	49:LP:36:ILE:HG13	1.93	0.49
50:LQ:85[A]:ARG:HG2	50:LQ:85[A]:ARG:HH11	1.76	0.49
63:Ld:43:HIS:CE1	63:Ld:47:LEU:HD11	2.46	0.49
67:Lh:52:VAL:HA	67:Lh:66:VAL:HG12	1.93	0.49
78:SC:46:LEU:HB3	78:SC:66:TYR:CE1	2.47	0.49
1:S2:762:A:H3’	1:S2:763:G:H5”	1.94	0.49
1:S2:1178:G:C6	1:S2:1179:G:C6	3.01	0.49
1:S2:1216:C:H2’	1:S2:1217:A:H3’	1.93	0.49
1:S2:1330:G:C8	1:S2:1331:A:C8	3.01	0.49
8:SR:39:THR:HG22	8:SR:65:GLU:OE2	2.12	0.49
8:SR:188:LEU:HD12	8:SR:193:VAL:HG21	1.94	0.49
9:SS:97:GLU:HB3	9:SS:99:PHE:HE2	1.77	0.49
21:SD:29:LYS:O	21:SD:32:LEU:HG	2.11	0.49
32:SB:129:PRO:HA	32:SB:132:VAL:HG12	1.94	0.49
34:LA:8:C:H2’	34:LA:9:U:H6	1.77	0.49
34:LA:11:A:H2’	34:LA:12:A:C8	2.47	0.49
34:LA:312:C:H2’	34:LA:313:A:H8	1.76	0.49
34:LA:2948:C:H5”	38:LE:243:HIS:HB3	1.94	0.49
34:LA:3017:A:H2’	34:LA:3018:C:H6	1.77	0.49
34:LA:3183:A:H2’	34:LA:3184:A:H8	1.77	0.49
43:LJ:150:LEU:O	43:LJ:199:ALA:HA	2.12	0.49
54:LU:125:LYS:HE2	54:LU:127:ALA:HB2	1.93	0.49
60:La:125:LYS:O	60:La:126:LEU:HG	2.12	0.49
1:S2:238:U:H5”	1:S2:239:C:C5	2.47	0.49
1:S2:328:A:H2’	1:S2:329:G:C8	2.45	0.49
1:S2:1008:G:H2’	1:S2:1009:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1287:A:H4'	1:S2:1288:G:H5'	1.94	0.49
3:SM:52:PHE:CZ	29:SJ:63:LEU:HD23	2.44	0.49
13:SW:32:GLY:HA3	23:Sg:40:TYR:CD1	2.47	0.49
15:SY:53:LEU:HA	15:SY:56:ASP:HB2	1.93	0.49
18:Sf:64:CYS:HB3	18:Sf:73:LEU:HA	1.94	0.49
28:SI:97:SER:O	28:SI:101:ASN:OD1	2.30	0.49
32:SB:36:ALA:HB1	32:SB:42:LEU:H	1.77	0.49
34:LA:179:C:O2	34:LA:179:C:H2'	2.12	0.49
34:LA:874:U:H3	34:LA:2978:U:H5"	1.77	0.49
34:LA:899:U:H2'	34:LA:900:G:H8	1.77	0.49
38:LE:299:ASP:OD1	38:LE:301:THR:HG22	2.12	0.49
40:LG:95:TRP:CZ3	40:LG:199:ILE:HG22	2.46	0.49
42:LI:84:VAL:HG21	42:LI:127:LEU:HD11	1.95	0.49
46:LM:97:SER:HB3	46:LM:99:THR:HG22	1.93	0.49
57:LX:39:VAL:HG13	57:LX:58:VAL:HG12	1.94	0.49
80:Cc:23:C:H2'	80:Cc:24:G:C8	2.46	0.49
1:S2:26:A:H2'	1:S2:27:U:C6	2.48	0.49
1:S2:399:A:H4'	9:SS:3:ARG:HG2	1.93	0.49
1:S2:1350:U:H4'	25:SF:21:HIS:CD2	2.47	0.49
1:S2:1419:G:H21	31:SA:162:GLN:NE2	2.11	0.49
7:SQ:28:GLU:OE2	7:SQ:50:LYS:HA	2.12	0.49
21:SD:51:ALA:HB3	21:SD:122:VAL:HG21	1.94	0.49
29:SJ:102:ARG:O	29:SJ:106:ILE:HG22	2.12	0.49
29:SJ:106:ILE:HG13	29:SJ:107:THR:N	2.27	0.49
31:SA:162:GLN:N	31:SA:163:PRO:HD2	2.28	0.49
34:LA:855:U:H4'	53:LT:95:TRP:CE2	2.47	0.49
34:LA:998:A:H2'	34:LA:999:G:H8	1.75	0.49
34:LA:1138:U:H2'	34:LA:1139:G:H8	1.77	0.49
34:LA:1168:U:H2'	34:LA:1169:A:H8	1.77	0.49
35:LB:39:C:H2'	35:LB:40:C:C6	2.47	0.49
41:LH:149:ILE:HG13	41:LH:155:LEU:HD13	1.93	0.49
43:LJ:60:ARG:O	43:LJ:64:ILE:HG12	2.12	0.49
43:LJ:139:VAL:O	43:LJ:143:ILE:HG22	2.13	0.49
50:LQ:108[A]:ILE:HG21	50:LQ:113[A]:ASP:HB3	1.92	0.49
51:LR:117:ILE:HG13	51:LR:148:LEU:HB3	1.94	0.49
54:LU:93:GLU:C	54:LU:94:ILE:HD13	2.37	0.49
78:SC:70:GLU:O	78:SC:73:VAL:HG12	2.12	0.49
1:S2:568:G:P	20:Sc:69:ARG:HD3	2.53	0.49
1:S2:925:G:H2'	1:S2:926:A:C8	2.45	0.49
1:S2:1176:G:C6	1:S2:1464:G:C6	2.99	0.49
1:S2:1280:C:H2'	1:S2:1281:G:H8	1.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SQ:22:ASP:O	7:SQ:25:THR:HG22	2.12	0.49
8:SR:144:TRP:CE2	8:SR:173:PRO:HG3	2.46	0.49
8:SR:230:TRP:CE2	19:Sb:68:ARG:HB3	2.47	0.49
11:SU:129:LEU:HD11	11:SU:172:VAL:HG23	1.94	0.49
19:Sb:60:LYS:O	19:Sb:61:ILE:HD13	2.12	0.49
34:LA:589:A:N6	34:LA:610:G:H1'	2.26	0.49
34:LA:776:U:H5'	34:LA:777:U:OP2	2.13	0.49
34:LA:1651:U:H2'	34:LA:1652:G:H8	1.77	0.49
34:LA:1781:C:H2'	34:LA:1782:U:C6	2.47	0.49
34:LA:1912:U:H2'	34:LA:1913:A:H5'	1.93	0.49
34:LA:2177:G:C6	37:LD:125:ALA:HB1	2.47	0.49
34:LA:2279:A:N7	34:LA:2288:G:C8	2.80	0.49
34:LA:2328:U:H2'	34:LA:2329:C:H6	1.78	0.49
34:LA:2554:A:H5'	37:LD:87:PHE:CE2	2.46	0.49
34:LA:2656:A:C5	34:LA:2658:G:C8	3.00	0.49
34:LA:3105:U:C2	34:LA:3106:A:C8	3.00	0.49
34:LA:3107:U:H2'	34:LA:3108:G:H8	1.77	0.49
34:LA:3111:U:H2'	34:LA:3112:G:O4'	2.12	0.49
48:LO:118:PHE:O	48:LO:121:MET:HB3	2.12	0.49
72:Lm:5:ILE:HD11	72:Lm:52:TYR:CB	2.39	0.49
80:Cc:23:C:H2'	80:Cc:24:G:H8	1.77	0.49
1:S2:273:G:H2'	1:S2:274:G:C8	2.48	0.49
1:S2:1624:C:H2'	1:S2:1625:C:H6	1.77	0.49
1:S2:1651:A:H2'	1:S2:1652:C:H6	1.77	0.49
8:SR:152:HIS:CD2	8:SR:174:ARG:HD3	2.47	0.49
10:ST:195:VAL:HG23	10:ST:196:ARG:HD2	1.95	0.49
11:SU:123:ASP:HA	11:SU:126:LEU:CD2	2.42	0.49
12:SV:39:GLY:HA2	12:SV:61:GLU:OE2	2.12	0.49
15:SY:114:ARG:O	15:SY:118:ILE:HG12	2.13	0.49
27:SH:81:ILE:HG13	27:SH:82:PRO:HD2	1.95	0.49
28:SI:70:GLN:HA	28:SI:122:ARG:O	2.13	0.49
31:SA:8:LYS:O	31:SA:12:VAL:HG13	2.12	0.49
34:LA:828:A:H2'	34:LA:829:U:C6	2.46	0.49
34:LA:987:U:H2'	34:LA:988:U:H6	1.77	0.49
34:LA:1067:U:H2'	34:LA:1068:C:H6	1.77	0.49
38:LE:86:VAL:HG22	38:LE:162:VAL:HG12	1.95	0.49
40:LG:55:PHE:CZ	40:LG:158:ARG:HB3	2.48	0.49
79:Bb:16:U:HO2'	79:Bb:17:U:H6	1.59	0.49
1:S2:97:C:H2'	1:S2:98:U:H6	1.76	0.49
1:S2:199:G:H2'	1:S2:200:A:C8	2.47	0.49
1:S2:778:G:H5"	1:S2:780:A:N1	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:800:U:H2'	1:S2:801:G:H8	1.78	0.49
1:S2:998:A:H2'	1:S2:999:U:H6	1.78	0.49
1:S2:1118:G:P	75:Lp:21:ARG:HH22	2.35	0.49
1:S2:1482:C:H6	25:SF:74:HIS:CE1	2.31	0.49
1:S2:1663:G:H22	1:S2:1737:G:H22	1.60	0.49
7:SQ:135:LEU:HD22	7:SQ:215:VAL:HG22	1.94	0.49
8:SR:43:ARG:CZ	8:SR:248:SER:HB3	2.43	0.49
8:SR:52:THR:O	8:SR:55:GLU:HG3	2.13	0.49
12:SV:90:LEU:H	12:SV:90:LEU:HD12	1.77	0.49
22:Sd:27:VAL:HG21	22:Sd:35:VAL:HG11	1.93	0.49
25:SF:54:LEU:HD23	25:SF:109:PHE:HD1	1.77	0.49
27:SH:24:GLY:O	27:SH:26:ILE:HG12	2.12	0.49
34:LA:200:C:H5'	34:LA:221:A:C2	2.48	0.49
34:LA:503:C:H2'	34:LA:504:A:C8	2.47	0.49
34:LA:896:A:H61	34:LA:2147:A:H8	1.60	0.49
34:LA:1117:G:OP1	63:Ld:4:SER:HB2	2.12	0.49
34:LA:1416:C:H2'	34:LA:1417:G:C4	2.47	0.49
34:LA:2734:A:H4'	34:LA:2735:U:OP1	2.11	0.49
34:LA:3332:U:H2'	34:LA:3333:G:O4'	2.12	0.49
35:LB:99:G:O5'	42:LI:128:LYS:HE2	2.13	0.49
42:LI:86:VAL:HG12	42:LI:136:TYR:HB3	1.95	0.49
60:La:34:PRO:HB3	60:La:46:LYS:NZ	2.27	0.49
70:Lk:35:ASN:HA	70:Lk:38:LYS:CE	2.42	0.49
72:Lm:12:LEU:HB3	72:Lm:16:ARG:HH21	1.78	0.49
79:Bb:53:G:H2'	79:Bb:54:U:H6	1.76	0.49
80:Cc:42:U:H2'	80:Cc:43:G:C8	2.47	0.49
1:S2:1241:G:H8	1:S2:1244:A:N3	2.10	0.49
1:S2:1628:U:H2'	1:S2:1629:G:C8	2.47	0.49
5:SO:145:LEU:HD12	5:SO:146:GLY:H	1.77	0.49
5:SO:150:TRP:C	5:SO:150:TRP:CD1	2.91	0.49
7:SQ:171:ILE:HG22	7:SQ:172:LEU:HD23	1.94	0.49
9:SS:106:LYS:HB2	9:SS:108:ARG:HH21	1.77	0.49
16:SZ:18:ARG:NE	16:SZ:82:LYS:HD2	2.27	0.49
27:SH:32:LEU:O	27:SH:35:ILE:HG22	2.12	0.49
29:SJ:42:VAL:HG23	29:SJ:52:LYS:HE3	1.95	0.49
30:SK:62:VAL:O	30:SK:66:VAL:HG23	2.13	0.49
31:SA:25:PHE:HD2	31:SA:50:ILE:HD12	1.78	0.49
34:LA:1013:G:O6	34:LA:1035:G:C2	2.65	0.49
34:LA:1060:U:H2'	34:LA:1061:A:H8	1.76	0.49
34:LA:1261:G:H3'	34:LA:1261:G:N3	2.28	0.49
34:LA:3286:G:C2	34:LA:3287:U:C5	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:LG:41:LYS:HB2	55:LV:68:THR:O	2.13	0.49
41:LH:62:THR:HG22	41:LH:78:ARG:HB2	1.95	0.49
43:LJ:142:LEU:HA	43:LJ:147:LYS:HG3	1.93	0.49
44:LK:23:ARG:HB2	44:LK:39:LYS:HG2	1.95	0.49
44:LK:128:VAL:HB	44:LK:157:ASN:HD21	1.78	0.49
49:LP:36:ILE:HG12	49:LP:64:VAL:HG23	1.95	0.49
62:Lc:47:LYS:HD3	62:Lc:48:TYR:HE1	1.77	0.49
1:S2:256:A:H5'	1:S2:257:A:OP2	2.12	0.49
1:S2:519:C:C5	1:S2:520:A:C8	3.01	0.49
1:S2:1148:C:H2'	1:S2:1149:G:H8	1.77	0.49
1:S2:1543:A:H2'	1:S2:1544:U:O4'	2.13	0.49
1:S2:1736:G:H2'	1:S2:1737:G:C8	2.48	0.49
2:SL:61:ARG:NH1	32:SB:225:ARG:HG2	2.28	0.49
2:SL:61:ARG:HD2	16:SZ:58:TYR:HD2	1.78	0.49
5:SO:61:PHE:HB3	5:SO:92:TRP:CE3	2.48	0.49
5:SO:158:PRO:HD2	5:SO:208:GLY:HA2	1.94	0.49
5:SO:267:PRO:HB2	5:SO:269:TYR:CZ	2.48	0.49
6:SP:120:LEU:HD11	6:SP:144:ILE:HG12	1.95	0.49
12:SV:53:LYS:NZ	12:SV:55:TYR:HE1	2.01	0.49
24:Se:78:ALA:HB1	24:Se:84:VAL:HG22	1.94	0.49
34:LA:76:G:H3'	47:LN:73:ARG:HD2	1.95	0.49
34:LA:1577:G:H2'	34:LA:1578:C:H6	1.76	0.49
34:LA:2361:A:H2'	34:LA:2362:C:C6	2.48	0.49
34:LA:2799:A:H1'	62:Lc:42:ARG:HH12	1.77	0.49
35:LB:117:A:H2'	35:LB:118:A:H8	1.76	0.49
40:LG:95:TRP:CH2	40:LG:161:GLY:HA2	2.48	0.49
50:LQ:8[A]:VAL:HG13	50:LQ:34[A]:VAL:HG23	1.95	0.49
59:LZ:115:ARG:HD3	59:LZ:121:LYS:HE3	1.95	0.49
60:La:35:LEU:HD11	60:La:48:LEU:HD12	1.95	0.49
67:Lh:51:TYR:CE1	67:Lh:93:THR:HG21	2.48	0.49
78:SC:16:PHE:HE1	78:SC:88:PRO:HA	1.76	0.49
1:S2:257:A:H5'	1:S2:258:C:OP1	2.13	0.49
1:S2:460:A:C6	1:S2:461:G:H1'	2.48	0.49
1:S2:567:A:H62	1:S2:576:G:H21	1.61	0.49
1:S2:918:U:H4'	16:SZ:18:ARG:HH11	1.78	0.49
1:S2:1242:A:H3'	1:S2:1244:A:N1	2.28	0.49
1:S2:1503:A:H5"	28:SI:99:SER:HB2	1.95	0.49
1:S2:1600:A:N3	1:S2:1600:A:H2'	2.28	0.49
29:SJ:57:ARG:HA	29:SJ:89:ARG:HG3	1.95	0.49
32:SB:46:TRP:CD1	32:SB:122:ASN:HD22	2.31	0.49
34:LA:12:A:H2'	34:LA:13:A:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:960:U:H4'	34:LA:963:G:C2	2.48	0.49
34:LA:1602:A:H2'	34:LA:1603:A:C8	2.48	0.49
34:LA:2999:U:H2'	34:LA:3000:A:H8	1.77	0.49
34:LA:3174:A:OP1	34:LA:3174:A:H4'	2.13	0.49
34:LA:3333:G:N2	34:LA:3369:G:H1'	2.24	0.49
34:LA:3337:G:H2'	34:LA:3338:C:H6	1.77	0.49
38:LE:27:ALA:HB1	38:LE:218:ILE:HG22	1.95	0.49
39:LF:140:HIS:HE1	39:LF:246:ARG:HD2	1.78	0.49
41:LH:64:LEU:HD12	41:LH:65:VAL:N	2.28	0.49
68:Li:42:PRO:HB2	68:Li:51:LEU:HD22	1.94	0.49
1:S2:198:A:H2'	1:S2:199:G:C8	2.48	0.48
1:S2:689:G:H2'	1:S2:690:G:H8	1.78	0.48
1:S2:898:A:N3	1:S2:899:G:H1'	2.28	0.48
1:S2:1124:A:H2'	1:S2:1125:A:C8	2.48	0.48
1:S2:1574:G:P	1:S2:1574:G:C8	3.06	0.48
5:SO:154:VAL:C	5:SO:155:ARG:HD2	2.37	0.48
5:SO:182:ASN:OD1	5:SO:187:GLN:HG2	2.13	0.48
11:SU:43:PHE:HB2	11:SU:61:PHE:O	2.13	0.48
14:SX:13:PHE:CE2	14:SX:15:LYS:HB3	2.48	0.48
21:SD:36:LEU:HD21	21:SD:43:ARG:HH22	1.77	0.48
27:SH:41:ARG:NH1	28:SI:38:LYS:HG2	2.28	0.48
34:LA:75:G:H5'	47:LN:58:VAL:CG1	2.42	0.48
34:LA:201:A:H2'	34:LA:202:G:H8	1.78	0.48
34:LA:276:U:H2'	34:LA:277:G:C8	2.47	0.48
34:LA:640:U:H2'	34:LA:641:C:C6	2.47	0.48
34:LA:2676:A:H2	34:LA:2680:A:C5	2.31	0.48
34:LA:3267:A:H2'	41:LH:69:PHE:CZ	2.47	0.48
36:LC:55:U:O4	36:LC:62:C:N3	2.46	0.48
38:LE:17:LEU:HD22	38:LE:18:PRO:HA	1.95	0.48
39:LF:25:VAL:HA	39:LF:276:LEU:HD11	1.95	0.48
56:LW:50:LEU:HD11	56:LW:54:VAL:HG23	1.94	0.48
64:Le:48:THR:HG23	64:Le:53:LYS:HB3	1.94	0.48
1:S2:229:U:H3	1:S2:237:C:H42	0.63	0.48
1:S2:699:U:C4	1:S2:740:A:H2	2.31	0.48
1:S2:703:G:N1	1:S2:736:C:C2	2.80	0.48
1:S2:859:A:OP1	11:SU:113:PRO:HB3	2.13	0.48
1:S2:926:A:H2'	1:S2:927:C:C6	2.47	0.48
1:S2:959:U:H5'	15:SY:15:ALA:O	2.12	0.48
1:S2:1450:U:O2	3:SM:7:TRP:HA	2.13	0.48
3:SM:47:ALA:O	3:SM:50:ILE:HG22	2.12	0.48
9:SS:106:LYS:HB2	9:SS:108:ARG:NH2	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Sb:104:LEU:HA	19:Sb:126:LEU:H	1.78	0.48
27:SH:86:LEU:HD22	27:SH:99:HIS:HB2	1.95	0.48
34:LA:96:G:OP1	62:Lc:34:MET:HG2	2.13	0.48
34:LA:597:G:H2'	34:LA:598:A:C8	2.48	0.48
34:LA:597:G:H2'	34:LA:598:A:H8	1.78	0.48
34:LA:1119:C:H2'	34:LA:1120:A:H5"	1.95	0.48
34:LA:1174:G:H2'	34:LA:1175:C:C6	2.48	0.48
34:LA:1488:G:H5"	34:LA:1838:G:O6	2.13	0.48
34:LA:1945:A:H2'	34:LA:1946:A:H8	1.78	0.48
34:LA:2737:C:OP1	55:LV:69:LYS:HB3	2.12	0.48
34:LA:2986:U:C2	34:LA:2987:A:C8	3.01	0.48
34:LA:3000:A:H2'	34:LA:3001:C:C6	2.48	0.48
34:LA:3001:C:H2'	34:LA:3002:C:H6	1.78	0.48
36:LC:12:A:C6	36:LC:13:A:N7	2.81	0.48
38:LE:285:VAL:HG13	38:LE:322:ILE:HD11	1.95	0.48
40:LG:261:THR:O	40:LG:264:GLN:HG2	2.12	0.48
43:LJ:81:THR:HA	43:LJ:179:ILE:HG23	1.95	0.48
51:LR:67:ILE:HG12	51:LR:80:LYS:HD2	1.94	0.48
51:LR:120:ASN:OD1	51:LR:145:HIS:HB2	2.14	0.48
60:La:48:LEU:HG	60:La:119:ILE:HD11	1.94	0.48
62:Lc:8:THR:HA	62:Lc:11:HIS:HB2	1.95	0.48
73:Ln:41:ARG:HD2	73:Ln:41:ARG:HA	1.69	0.48
78:SC:10:LYS:HA	78:SC:13:GLN:NE2	2.19	0.48
78:SC:50:THR:HG21	78:SC:57:THR:OG1	2.12	0.48
78:SC:57:THR:HA	78:SC:65:TYR:O	2.13	0.48
1:S2:400:A:H4'	1:S2:401:A:C5'	2.44	0.48
1:S2:472:U:H5"	13:SW:11:THR:OG1	2.14	0.48
1:S2:625:C:H2'	1:S2:626:U:H6	1.79	0.48
1:S2:1521:G:C8	1:S2:1523:G:C2	3.01	0.48
1:S2:1588:G:H2'	1:S2:1589:C:O4'	2.14	0.48
6:SP:69:ASN:HB2	6:SP:72:ASP:OD2	2.14	0.48
7:SQ:201:THR:O	7:SQ:204:ILE:HG22	2.14	0.48
15:SY:37:ILE:HD11	15:SY:54:LEU:HD22	1.95	0.48
32:SB:173:ALA:O	32:SB:177:ILE:HG22	2.12	0.48
33:SE:72:LYS:HD2	33:SE:73:PRO:HD2	1.94	0.48
34:LA:313:A:H2'	34:LA:314:U:C6	2.48	0.48
34:LA:354:U:O4	34:LA:365:A:N7	2.46	0.48
34:LA:513:G:H2'	34:LA:514:G:C8	2.48	0.48
34:LA:1708:C:H2'	34:LA:1709:C:H6	1.78	0.48
34:LA:2267:C:H2'	34:LA:2268:U:C6	2.48	0.48
34:LA:2683:U:H2'	34:LA:2684:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:LG:290:ILE:O	40:LG:295:GLY:HA3	2.13	0.48
47:LN:92:THR:HG21	69:Lj:111:PHE:HB3	1.95	0.48
47:LN:106:GLN:HG2	70:Lk:20:MET:SD	2.53	0.48
55:LV:73:GLY:HA2	55:LV:89:LEU:O	2.12	0.48
58:LY:9:SER:O	58:LY:53:VAL:HG13	2.13	0.48
60:La:22:ALA:HB1	60:La:26:GLN:HB2	1.94	0.48
78:SC:55:VAL:HA	78:SC:69:THR:HG23	1.95	0.48
1:S2:606:A:H1'	1:S2:609:U:OP1	2.14	0.48
1:S2:768:C:C2	13:SW:143:ILE:HG21	2.49	0.48
1:S2:1289:U:H4'	1:S2:1423:U:C4	2.49	0.48
1:S2:1350:U:H2'	1:S2:1351:G:C8	2.48	0.48
1:S2:1389:C:O2	1:S2:1390:U:H4'	2.14	0.48
15:SY:88:LEU:O	15:SY:92:ILE:HG13	2.13	0.48
25:SF:43:ILE:HG13	25:SF:44:LEU:N	2.28	0.48
27:SH:29:VAL:HA	27:SH:32:LEU:HD12	1.95	0.48
29:SJ:34:LEU:HD21	29:SJ:89:ARG:HD3	1.95	0.48
29:SJ:64:LYS:HB3	29:SJ:83:GLU:OE1	2.14	0.48
43:LJ:48:ARG:HD3	43:LJ:49:TYR:CZ	2.48	0.48
43:LJ:83:ASP:OD2	43:LJ:85:ASN:HB3	2.12	0.48
45:LL:103:LEU:N	45:LL:112:GLN:HE22	2.11	0.48
61:Lb:36:HIS:HB3	61:Lb:38:PHE:CE1	2.48	0.48
62:Lc:73:LEU:HD21	62:Lc:109:TYR:CZ	2.48	0.48
1:S2:381:C:H2'	1:S2:382:C:C6	2.47	0.48
1:S2:789:A:H2'	1:S2:790:U:C6	2.49	0.48
1:S2:837:G:H2'	1:S2:838:G:C8	2.49	0.48
1:S2:877:G:H1	1:S2:951:A:H2	1.57	0.48
1:S2:1229:G:H2'	1:S2:1256:A:H62	1.77	0.48
1:S2:1463:C:H2'	1:S2:1464:G:H8	1.77	0.48
4:SN:133:ALA:HB3	4:SN:140:TYR:HB3	1.94	0.48
7:SQ:37:THR:HG23	7:SQ:38:PHE:CE1	2.49	0.48
7:SQ:176:VAL:HG22	7:SQ:184:LEU:HD21	1.94	0.48
9:SS:42:LEU:HD23	9:SS:101:LEU:HD11	1.95	0.48
13:SW:68:LYS:O	13:SW:72:GLU:HG2	2.14	0.48
15:SY:118:ILE:HG22	15:SY:122:ILE:HD11	1.95	0.48
19:Sb:11:LEU:HD23	19:Sb:72:CYS:C	2.38	0.48
34:LA:246:U:H5'	34:LA:247:C:C5	2.48	0.48
34:LA:2682:C:H2'	34:LA:2683:U:C6	2.48	0.48
34:LA:2763:U:H5'	52:LS:176:ARG:HD2	1.95	0.48
34:LA:2943:G:H2'	34:LA:2944:U:O4'	2.13	0.48
34:LA:3061:G:H2'	34:LA:3062:G:H8	1.78	0.48
34:LA:3214:U:C2	48:LO:121:MET:HE1	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:LK:86:TYR:CD2	44:LK:151:VAL:HB	2.48	0.48
66:Lg:19:ARG:HD3	66:Lg:28:VAL:HG12	1.95	0.48
1:S2:219:A:H8	1:S2:831:U:O2	1.96	0.48
1:S2:409:C:H2'	1:S2:410:A:C8	2.48	0.48
1:S2:460:A:H3'	1:S2:461:G:H8	1.78	0.48
1:S2:562:G:H2'	1:S2:563:U:C6	2.48	0.48
1:S2:1339:C:H42	1:S2:1385:G:H1	1.60	0.48
1:S2:1566:U:C2'	1:S2:1567:U:H5'	2.44	0.48
11:SU:123:ASP:HA	11:SU:126:LEU:HD23	1.94	0.48
12:SV:67:TRP:HB3	12:SV:72:ILE:HG23	1.94	0.48
14:SX:99:ARG:NH2	19:Sb:79:PHE:HZ	2.09	0.48
16:SZ:82:LYS:HG2	16:SZ:116:GLU:OE2	2.14	0.48
17:Sa:34:ILE:O	17:Sa:52:THR:HA	2.13	0.48
32:SB:43:PHE:HE2	32:SB:70:VAL:HA	1.78	0.48
32:SB:128:ASN:HB2	32:SB:131:GLN:HB2	1.96	0.48
32:SB:148:ARG:HD3	32:SB:155:ALA:HB1	1.96	0.48
34:LA:253:A:O2'	34:LA:254:A:H8	1.96	0.48
34:LA:982:C:H2'	34:LA:983:A:C8	2.48	0.48
34:LA:1213:G:H2'	34:LA:1214:U:O2	2.13	0.48
34:LA:1470:U:H2'	34:LA:1471:U:C6	2.49	0.48
34:LA:1743:G:H2'	34:LA:1744:G:H8	1.78	0.48
34:LA:2553:U:C4	68:Li:95:ILE:HG12	2.48	0.48
34:LA:3064:U:H2'	34:LA:3065:G:H8	1.78	0.48
34:LA:3287:U:O2'	34:LA:3288:G:H5'	2.13	0.48
34:LA:3320:A:H2'	34:LA:3321:C:C6	2.48	0.48
36:LC:17:A:H2'	36:LC:18:U:H6	1.79	0.48
37:LD:32:LEU:HG	37:LD:37:ARG:HG2	1.95	0.48
38:LE:74:GLU:OE2	38:LE:75:ALA:N	2.46	0.48
38:LE:380:MET:HA	38:LE:380:MET:HE3	1.95	0.48
39:LF:280:ILE:HD11	52:LS:105:ARG:NE	2.29	0.48
42:LI:62:ILE:O	42:LI:66:LYS:HG3	2.13	0.48
47:LN:57:VAL:HG23	47:LN:115:ARG:HD2	1.95	0.48
48:LO:100:ALA:O	48:LO:103:ILE:HG13	2.12	0.48
49:LP:119:TYR:HE1	49:LP:133:ILE:HD11	1.78	0.48
51:LR:112:LEU:HA	51:LR:152:GLU:HA	1.95	0.48
54:LU:70:THR:C	54:LU:71:LYS:HD3	2.39	0.48
65:Lf:44:MET:HE3	65:Lf:77:ARG:HB2	1.95	0.48
1:S2:1158:C:N4	1:S2:1582:U:H5	2.12	0.48
1:S2:1359:C:H3'	1:S2:1360:A:H8	1.77	0.48
1:S2:1471:A:H4'	1:S2:1472:C:OP1	2.13	0.48
1:S2:1586:A:H2'	1:S2:1587:A:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1588:G:O6	1:S2:1608:U:O4	2.31	0.48
1:S2:1624:C:H2'	1:S2:1625:C:C6	2.47	0.48
6:SP:16:LEU:HD22	6:SP:172:LEU:HD11	1.96	0.48
6:SP:153:SER:O	6:SP:156:VAL:HG12	2.13	0.48
11:SU:22:GLN:O	11:SU:26:GLU:HG2	2.14	0.48
13:SW:79:ARG:O	13:SW:83:VAL:HG12	2.14	0.48
15:SY:98:VAL:HG11	15:SY:115:LEU:HB2	1.94	0.48
18:Sf:26:GLN:CD	19:Sb:57:ARG:HE	2.22	0.48
27:SH:42:TYR:O	27:SH:46:VAL:HG23	2.14	0.48
28:SI:22:LEU:HD22	28:SI:28:LEU:HD11	1.95	0.48
32:SB:58:LEU:HD21	32:SB:167:ARG:HD2	1.95	0.48
34:LA:26:A:H2'	34:LA:27:C:H6	1.79	0.48
34:LA:266:A:N6	70:Lk:30:LYS:HA	2.28	0.48
34:LA:299:G:C8	70:Lk:31:GLY:HA3	2.48	0.48
34:LA:862:U:H2'	34:LA:863:C:C6	2.49	0.48
34:LA:1079:A:H2'	34:LA:1080:A:C8	2.48	0.48
34:LA:1478:C:H2'	34:LA:1479:U:H6	1.78	0.48
34:LA:2515:A:H2'	34:LA:2516:U:O4'	2.14	0.48
34:LA:2524:A:H2	43:LJ:44:ARG:HD2	1.78	0.48
34:LA:3138:U:OP2	38:LE:30:LYS:HG3	2.13	0.48
36:LC:131:A:H2'	36:LC:132:G:H8	1.79	0.48
38:LE:171:LEU:HD21	38:LE:333:LYS:HB3	1.94	0.48
42:LI:86:VAL:O	42:LI:114:GLY:HA2	2.14	0.48
46:LM:172:LEU:H	46:LM:172:LEU:HD12	1.79	0.48
48:LO:39:ILE:HG13	48:LO:44:VAL:HA	1.95	0.48
48:LO:45:LEU:HD21	54:LU:70:THR:O	2.14	0.48
72:Lm:12:LEU:HB3	72:Lm:16:ARG:NH2	2.28	0.48
79:Bb:18:G:H1'	79:Bb:58:A:C4	2.48	0.48
1:S2:567:A:H62	1:S2:576:G:N2	2.12	0.48
1:S2:1240:U:O2	1:S2:1240:U:H2'	2.13	0.48
1:S2:1319:A:H2'	1:S2:1320:U:O4'	2.13	0.48
6:SP:80:THR:HA	6:SP:83:GLN:HE21	1.79	0.48
25:SF:28:LEU:HB3	32:SB:26:ALA:HB3	1.95	0.48
25:SF:94:GLN:HB2	25:SF:102:LYS:HD3	1.95	0.48
34:LA:164:A:H62	34:LA:257:U:H3	1.62	0.48
34:LA:589:A:H1'	34:LA:1337:A:H5"	1.95	0.48
34:LA:2292:U:H2'	34:LA:2293:C:C6	2.49	0.48
34:LA:2417:U:H1'	34:LA:2966:G:H21	1.77	0.48
34:LA:3094:A:H2'	34:LA:3095:U:C6	2.49	0.48
34:LA:3257:C:H2'	34:LA:3258:U:C6	2.48	0.48
34:LA:3322:A:H2'	34:LA:3323:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:LB:37:G:H8	35:LB:37:G:O5'	1.97	0.48
53:LT:23:TRP:HE3	53:LT:51:VAL:HG12	1.79	0.48
54:LU:138:GLN:OE1	54:LU:138:GLN:HA	2.12	0.48
57:LX:117:PRO:HA	57:LX:135:VAL:HG13	1.96	0.48
61:Lb:95:VAL:HG13	61:Lb:96:VAL:HG23	1.95	0.48
78:SC:55:VAL:HB	78:SC:68:LEU:HD12	1.95	0.48
1:S2:119:A:H1'	1:S2:397:A:C5	2.48	0.48
1:S2:702:G:H2'	1:S2:703:G:O4'	2.14	0.48
1:S2:814:A:O2'	1:S2:815:G:H5'	2.14	0.48
1:S2:1483:A:P	1:S2:1521:G:H21	2.37	0.48
1:S2:1616:G:H2'	1:S2:1617:U:C6	2.48	0.48
1:S2:1671:A:H3'	1:S2:1672:G:H8	1.78	0.48
1:S2:1680:G:H4'	1:S2:1722:A:H61	1.78	0.48
5:SO:179:LYS:HB3	5:SO:181:TRP:HZ3	1.78	0.48
6:SP:123:VAL:O	6:SP:146:LEU:HD12	2.14	0.48
9:SS:22:LYS:HG3	9:SS:23:LEU:HD23	1.94	0.48
13:SW:41:GLU:HG3	13:SW:44:ARG:HH21	1.79	0.48
13:SW:108:ARG:O	13:SW:112:GLN:HG2	2.14	0.48
21:SD:58:LEU:HD12	21:SD:125:ASN:N	2.29	0.48
21:SD:62:LEU:HA	21:SD:120:VAL:HG12	1.96	0.48
27:SH:115:ARG:CZ	33:SE:110:GLU:HB2	2.44	0.48
34:LA:19:U:H2'	34:LA:20:A:C8	2.49	0.48
34:LA:1289:G:H2'	34:LA:1290:A:C8	2.49	0.48
34:LA:2106:A:H2'	34:LA:2107:A:C8	2.47	0.48
34:LA:3017:A:H2'	34:LA:3018:C:C6	2.49	0.48
36:LC:52:A:N6	73:Ln:27:ILE:HD13	2.29	0.48
38:LE:319:ASN:HD22	38:LE:319:ASN:N	2.10	0.48
39:LF:161:LYS:O	39:LF:164:GLU:HG2	2.14	0.48
41:LH:63:LEU:H	41:LH:63:LEU:HD12	1.79	0.48
44:LK:151:VAL:HA	44:LK:154:VAL:HG22	1.95	0.48
64:Le:42:ILE:HD11	64:Le:56:LEU:HD12	1.95	0.48
66:Lg:60:ASN:OD1	66:Lg:63:THR:HG22	2.14	0.48
1:S2:237:C:OP2	1:S2:833:U:H5'	2.14	0.48
1:S2:357:G:H4'	1:S2:1740:A:C5'	2.44	0.48
1:S2:1204:A:H5'	1:S2:1205:C:OP2	2.14	0.48
1:S2:1649:G:H2'	1:S2:1650:U:C6	2.49	0.48
9:SS:105:VAL:CG2	9:SS:245:LYS:H	2.27	0.48
16:SZ:127:ARG:HD2	16:SZ:127:ARG:HA	1.62	0.48
23:Sg:29:LYS:HE3	23:Sg:30:PRO:CD	2.43	0.48
25:SF:7:VAL:HG22	25:SF:22:VAL:HB	1.95	0.48
34:LA:183:G:H2'	34:LA:184:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:293:C:O2'	70:Lk:76:ARG:HD3	2.14	0.48
34:LA:1205:A:H2'	34:LA:1206:G:O4'	2.14	0.48
34:LA:2416:U:H2'	34:LA:2417:U:H6	1.77	0.48
43:LJ:141:ALA:HA	43:LJ:144:GLU:HG2	1.96	0.48
44:LK:5:GLN:HG3	44:LK:7:GLU:OE2	2.13	0.48
45:LL:10:ARG:HD2	45:LL:160:PRO:HB2	1.96	0.48
47:LN:63:VAL:HA	47:LN:66:ASN:OD1	2.14	0.48
72:Lm:20:VAL:HG21	72:Lm:45:VAL:CG1	2.44	0.48
74:Lo:122:ARG:HH12	74:Lo:125:LYS:HG3	1.77	0.48
79:Bb:18:G:H4'	79:Bb:60:C:N4	2.29	0.48
1:S2:79:C:H1'	10:ST:173:PRO:HB3	1.96	0.47
1:S2:340:U:H2'	1:S2:341:A:C8	2.49	0.47
1:S2:407:A:H2'	1:S2:408:C:H6	1.78	0.47
1:S2:512:A:H8	1:S2:513:U:C6	2.32	0.47
1:S2:1248:C:C5	1:S2:1249:U:H1'	2.49	0.47
2:SL:66:LEU:HD21	32:SB:158:GLN:HG2	1.94	0.47
5:SO:111:MET:HG2	5:SO:152:SER:HA	1.95	0.47
8:SR:113:LEU:HB3	8:SR:215:PHE:CD2	2.49	0.47
27:SH:58:ALA:O	27:SH:61:LEU:HD12	2.14	0.47
32:SB:116:HIS:O	32:SB:120:ILE:HG12	2.14	0.47
32:SB:117:THR:HG21	32:SB:194:LEU:HD22	1.95	0.47
33:SE:96:ILE:O	33:SE:102:PHE:HA	2.12	0.47
34:LA:497:C:H2'	34:LA:498:A:O4'	2.14	0.47
34:LA:585:A:H4'	67:Lh:72:THR:HG22	1.96	0.47
34:LA:2268:U:H4'	34:LA:2269:U:OP1	2.14	0.47
34:LA:3095:U:H2'	34:LA:3096:C:H6	1.79	0.47
34:LA:3174:A:H61	67:Lh:54:ARG:NH2	2.11	0.47
37:LD:138:GLY:HA3	37:LD:147:ARG:NH2	2.29	0.47
38:LE:285:VAL:HA	38:LE:322:ILE:HD13	1.95	0.47
44:LK:118:LEU:HG	44:LK:177:ASP:OD2	2.14	0.47
55:LV:115:LYS:O	55:LV:118:GLU:HG3	2.14	0.47
1:S2:142:G:H22	1:S2:173:A:H2	1.62	0.47
1:S2:272:U:H2'	1:S2:273:G:C8	2.49	0.47
1:S2:539:G:H21	1:S2:540:G:H1	1.60	0.47
1:S2:895:G:C2	1:S2:918:U:C2	3.02	0.47
1:S2:1626:U:H2'	1:S2:1627:U:C6	2.49	0.47
11:SU:130:VAL:HG12	11:SU:169:PHE:HD1	1.78	0.47
15:SY:64:ARG:HB2	15:SY:70:LYS:HG3	1.96	0.47
15:SY:127:ARG:O	15:SY:131:THR:HG23	2.14	0.47
17:Sa:9:VAL:HG22	17:Sa:10:GLU:H	1.79	0.47
33:SE:103:ASN:HD21	33:SE:120:SER:HA	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:293:C:H2'	34:LA:294:U:O4'	2.14	0.47
34:LA:337:G:N1	36:LC:26:U:H5	2.10	0.47
34:LA:1410:U:H4'	66:Lg:75:LEU:HD22	1.95	0.47
34:LA:2152:A:H2'	34:LA:2153:U:H6	1.79	0.47
34:LA:2194:G:H2'	34:LA:2195:C:C6	2.49	0.47
39:LF:82:THR:HG23	39:LF:85:SER:H	1.80	0.47
40:LG:39:GLN:O	40:LG:41:LYS:HE2	2.14	0.47
46:LM:32:ARG:NH2	46:LM:121:GLY:HA3	2.29	0.47
46:LM:89:TYR:CE2	46:LM:167:TYR:HB3	2.50	0.47
48:LO:93:LYS:HE2	48:LO:93:LYS:HB3	1.67	0.47
72:Lm:20:VAL:HG21	72:Lm:45:VAL:HG12	1.96	0.47
1:S2:1336:A:H2'	1:S2:1337:A:O4'	2.14	0.47
1:S2:1470:C:H5"	1:S2:1471:A:C8	2.45	0.47
1:S2:1525:A:H5'	28:SI:93:HIS:HB2	1.96	0.47
6:SP:9:LEU:HD11	6:SP:50:VAL:HG12	1.96	0.47
9:SS:146:THR:C	9:SS:147:ILE:HD13	2.39	0.47
11:SU:63:PRO:C	11:SU:65:PRO:HD3	2.39	0.47
11:SU:79:ARG:HH11	11:SU:83:LYS:HG3	1.79	0.47
12:SV:191:PHE:HE1	12:SV:195:ARG:HD3	1.80	0.47
14:SX:109:VAL:HG21	14:SX:125:VAL:HG21	1.95	0.47
25:SF:116:LEU:HB2	25:SF:117:LEU:HD22	1.95	0.47
34:LA:631:U:H2'	34:LA:632:G:H8	1.78	0.47
34:LA:849:C:H2'	34:LA:850:U:C6	2.49	0.47
34:LA:1596:C:H2'	34:LA:1597:C:H6	1.75	0.47
34:LA:1713:G:O6	64:Le:28:LYS:HD2	2.14	0.47
34:LA:2158:A:H5'	34:LA:2160:G:O4'	2.15	0.47
34:LA:2331:C:H2'	34:LA:2332:A:C8	2.49	0.47
34:LA:3166:C:C2	34:LA:3284:G:N2	2.81	0.47
38:LE:121:ASN:HD22	38:LE:124:LYS:HE2	1.79	0.47
46:LM:19:LEU:HD23	46:LM:69:VAL:HG13	1.95	0.47
52:LS:94:PHE:N	52:LS:94:PHE:CD1	2.81	0.47
60:La:52:ARG:HG3	60:La:72:SER:HA	1.96	0.47
70:Lk:95:ALA:HA	70:Lk:98:ARG:HE	1.80	0.47
77:Lr:85:ARG:HG3	77:Lr:86:LEU:N	2.30	0.47
78:SC:24:LYS:HE3	78:SC:63:TYR:CE1	2.49	0.47
78:SC:31:LYS:HD2	78:SC:31:LYS:HA	1.61	0.47
1:S2:50:C:P	1:S2:423:G:H21	2.38	0.47
1:S2:241:U:H2'	1:S2:242:U:H5"	1.97	0.47
1:S2:480:G:N1	1:S2:508:U:H2'	2.26	0.47
1:S2:817:A:C5	1:S2:818:C:C4	3.03	0.47
1:S2:882:U:H2'	1:S2:883:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1280:C:N3	1:S2:1428:G:N1	2.51	0.47
5:SO:103:PHE:CE1	5:SO:138:GLY:HA2	2.50	0.47
9:SS:36:HIS:CD2	9:SS:85:GLY:HA3	2.49	0.47
9:SS:52:LEU:HD21	9:SS:99:PHE:CE1	2.50	0.47
11:SU:141:ARG:HA	19:Sb:51:GLU:OE2	2.14	0.47
21:SD:33:ARG:O	21:SD:37:VAL:HG23	2.14	0.47
24:Se:44:ILE:HG12	24:Se:65:PRO:O	2.15	0.47
27:SH:79:TYR:O	27:SH:80:LYS:HD2	2.14	0.47
31:SA:175:VAL:HG13	31:SA:182:LEU:HB2	1.96	0.47
32:SB:48:PHE:CD2	32:SB:67:PRO:HA	2.50	0.47
34:LA:761:A:C5	34:LA:771:A:H2	2.32	0.47
34:LA:794:U:OP1	62:Lc:6:THR:HG23	2.15	0.47
34:LA:911:C:OP2	37:LD:9:ARG:HD2	2.15	0.47
34:LA:1203:A:N6	34:LA:1300:G:H2'	2.29	0.47
34:LA:3266:G:H2'	34:LA:3267:A:C8	2.49	0.47
34:LA:3325:G:O2'	34:LA:3326:G:H8	1.97	0.47
37:LD:133:TYR:CE2	37:LD:135:ILE:HD11	2.50	0.47
42:LI:84:VAL:HA	42:LI:137:GLY:O	2.14	0.47
50:LQ:173[A]:ALA:O	50:LQ:176[A]:LYS:HG2	2.13	0.47
52:LS:44:PHE:CD1	52:LS:44:PHE:C	2.92	0.47
52:LS:126:GLN:HA	52:LS:129:VAL:HG12	1.96	0.47
61:Lb:49:TYR:CE2	61:Lb:133:LYS:HA	2.50	0.47
70:Lk:67:LYS:O	70:Lk:70:ARG:HG2	2.14	0.47
80:Cc:51:C:H2'	80:Cc:52:G:C8	2.48	0.47
1:S2:197:A:H2'	1:S2:198:A:H8	1.79	0.47
1:S2:761:G:H2'	1:S2:762:A:N7	2.30	0.47
1:S2:1355:C:H2'	1:S2:1356:U:C6	2.49	0.47
1:S2:1738:U:H2'	1:S2:1739:C:C6	2.49	0.47
5:SO:38:ARG:HH22	5:SO:85:TRP:HE1	1.62	0.47
6:SP:20:ALA:HB2	6:SP:172:LEU:CD1	2.44	0.47
7:SQ:26:ARG:HH11	7:SQ:49:ASN:ND2	2.12	0.47
7:SQ:171:ILE:HD13	7:SQ:196:GLU:HG2	1.96	0.47
8:SR:72:LEU:C	8:SR:73:LEU:HD12	2.38	0.47
11:SU:98:ILE:HD12	11:SU:121:VAL:HG11	1.95	0.47
13:SW:57:ARG:HG2	13:SW:97:LEU:HD21	1.96	0.47
27:SH:116:LEU:O	27:SH:119:ILE:HG13	2.14	0.47
31:SA:127:MET:HG2	31:SA:154:ASP:OD2	2.14	0.47
34:LA:613:G:H2'	34:LA:614:C:H6	1.79	0.47
34:LA:672:A:H2'	34:LA:673:U:C6	2.49	0.47
34:LA:740:G:H2'	34:LA:741:U:O4'	2.14	0.47
34:LA:1022:U:H5'	34:LA:1023:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1551:C:H2'	34:LA:1552:G:O4'	2.14	0.47
34:LA:1650:G:H2'	34:LA:1651:U:C6	2.50	0.47
34:LA:2514:U:H5'	43:LJ:68:ARG:NH1	2.29	0.47
34:LA:3053:G:H2'	34:LA:3054:U:C6	2.50	0.47
34:LA:3243:A:C8	50:LQ:156[A]:LEU:HD13	2.49	0.47
35:LB:31:U:H4'	40:LG:218:ARG:NH2	2.25	0.47
36:LC:53:A:C4	36:LC:54:A:C8	3.03	0.47
40:LG:38:THR:HG23	55:LV:30:TYR:HB3	1.95	0.47
41:LH:146:LEU:O	41:LH:150:LYS:HG3	2.14	0.47
55:LV:102:ARG:O	55:LV:106:LEU:HD22	2.14	0.47
77:Lr:84:ARG:HA	77:Lr:87:ARG:NH2	2.30	0.47
78:SC:16:PHE:CE2	78:SC:82:LEU:HD21	2.50	0.47
1:S2:511:A:H4'	1:S2:512:A:OP1	2.15	0.47
1:S2:1365:C:H4'	25:SF:30:LYS:NZ	2.30	0.47
1:S2:1673:G:H2'	1:S2:1674:C:H6	1.79	0.47
4:SN:108:VAL:HG22	21:SD:73:LYS:HZ1	1.78	0.47
14:SX:84:ILE:HD11	14:SX:139:VAL:HG21	1.96	0.47
17:Sa:10:GLU:OE1	17:Sa:10:GLU:O	2.33	0.47
20:Sc:57:LEU:HB2	20:Sc:59:ILE:HD13	1.96	0.47
21:SD:42:ALA:HB3	21:SD:122:VAL:H	1.80	0.47
25:SF:97:VAL:HG12	25:SF:98:ASP:H	1.78	0.47
34:LA:23:A:C6	34:LA:24:G:C6	3.02	0.47
34:LA:46:U:H2'	34:LA:47:C:C6	2.49	0.47
34:LA:728:G:H5"	52:LS:43:PRO:HB2	1.95	0.47
34:LA:1444:G:H2'	34:LA:1445:U:O4'	2.13	0.47
34:LA:1651:U:H2'	34:LA:1652:G:C8	2.50	0.47
34:LA:1751:G:O6	72:Lm:44:LYS:HE2	2.14	0.47
34:LA:2689:A:H2'	34:LA:2689:A:N3	2.29	0.47
44:LK:9:GLN:OE1	44:LK:9:GLN:HA	2.14	0.47
47:LN:43:ALA:O	47:LN:47:ALA:HA	2.15	0.47
48:LO:123:LEU:HD23	50:LQ:194[A]:LEU:HG	1.96	0.47
54:LU:68:HIS:C	54:LU:70:THR:H	2.22	0.47
54:LU:72:VAL:HA	54:LU:97:VAL:HA	1.95	0.47
61:Lb:32:GLY:HA2	61:Lb:38:PHE:N	2.30	0.47
61:Lb:71:PHE:HA	61:Lb:111:LYS:HE2	1.97	0.47
61:Lb:90:GLU:OE1	61:Lb:93:LYS:HD3	2.14	0.47
65:Lf:78:LYS:O	65:Lf:89:LEU:HD12	2.15	0.47
1:S2:32:U:H2'	1:S2:33:U:C6	2.49	0.47
1:S2:95:G:H3'	1:S2:96:G:H8	1.79	0.47
1:S2:241:U:H2'	1:S2:243:G:OP1	2.15	0.47
1:S2:933:A:OP2	24:Se:37:LYS:HE3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1146:G:H2'	1:S2:1147:A:C8	2.49	0.47
1:S2:1213:G:H5'	1:S2:1214:U:OP2	2.15	0.47
1:S2:1222:C:H2'	1:S2:1261:G:H22	1.79	0.47
1:S2:1437:U:H2'	1:S2:1438:G:C8	2.50	0.47
1:S2:1583:A:H62	32:SB:78:ALA:H	1.61	0.47
5:SO:276:PRO:HG2	5:SO:305:TYR:OH	2.14	0.47
7:SQ:181:LEU:O	7:SQ:185:THR:HG23	2.13	0.47
8:SR:184:VAL:HG12	8:SR:211:LEU:HD23	1.96	0.47
10:ST:39:GLU:HB2	10:ST:46:LYS:HA	1.97	0.47
10:ST:74:LYS:NZ	10:ST:96:SER:HB3	2.30	0.47
13:SW:29:LYS:HD3	23:Sg:44:PHE:CG	2.50	0.47
13:SW:85:VAL:HG13	13:SW:103:ASP:OD2	2.15	0.47
17:Sa:79:LEU:HD23	17:Sa:82:VAL:HG11	1.96	0.47
24:Se:41:ILE:HA	24:Se:67:THR:O	2.15	0.47
25:SF:4:VAL:HG22	25:SF:5:PRO:HD2	1.95	0.47
25:SF:11:GLY:HA3	25:SF:84:ALA:HB2	1.97	0.47
32:SB:133:VAL:HG23	32:SB:198:LEU:HD22	1.96	0.47
32:SB:144:GLU:HG2	32:SB:225:ARG:NH2	2.28	0.47
34:LA:758:C:H3'	34:LA:759:U:H5"	1.97	0.47
34:LA:1137:C:H2'	34:LA:1138:U:O4'	2.15	0.47
34:LA:1356:U:H5"	34:LA:1357:G:H8	1.78	0.47
34:LA:1419:A:H5"	39:LF:193:LYS:HZ1	1.79	0.47
34:LA:1577:G:C8	34:LA:1578:C:H5	2.32	0.47
34:LA:1667:A:H2'	34:LA:1668:G:C8	2.50	0.47
34:LA:1802:C:H2'	34:LA:1803:C:C6	2.50	0.47
34:LA:1887:A:H1'	38:LE:226:PHE:HD2	1.79	0.47
34:LA:2675:C:N4	34:LA:2676:A:H62	2.13	0.47
34:LA:2830:G:H1'	34:LA:2861:U:C5	2.50	0.47
34:LA:2834:G:H2'	34:LA:2835:U:C6	2.50	0.47
34:LA:2998:U:H2'	34:LA:2999:U:C6	2.50	0.47
34:LA:3237:U:C2	34:LA:3251:U:C2	3.02	0.47
35:LB:87:G:H2'	35:LB:88:G:C8	2.50	0.47
39:LF:156:LEU:O	39:LF:159:ILE:HG22	2.15	0.47
40:LG:248:ARG:HD3	40:LG:251:PRO:HB3	1.97	0.47
44:LK:21:LYS:NZ	48:LO:8:LYS:HE2	2.30	0.47
46:LM:107:ASP:HA	46:LM:124:GLY:HA2	1.96	0.47
50:LQ:42[A]:ASN:OD1	50:LQ:125[A]:ARG:HD3	2.14	0.47
53:LT:80:LYS:HE2	53:LT:80:LYS:HA	1.97	0.47
53:LT:115:ILE:HB	53:LT:119:LEU:HD22	1.97	0.47
61:Lb:36:HIS:HB2	61:Lb:40:HIS:CD2	2.49	0.47
66:Lg:8:LYS:HD2	66:Lg:8:LYS:HA	1.55	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:Li:19:LYS:HE2	68:Li:19:LYS:HA	1.96	0.47
1:S2:156:A:H2'	1:S2:157:A:O4'	2.15	0.47
1:S2:200:A:H2'	1:S2:201:G:C8	2.49	0.47
1:S2:244:A:OP2	1:S2:244:A:H8	1.98	0.47
1:S2:588:U:C6	1:S2:589:C:H4'	2.50	0.47
1:S2:1713:G:H2'	1:S2:1714:A:H8	1.80	0.47
6:SP:80:THR:HA	6:SP:83:GLN:NE2	2.29	0.47
7:SQ:105:PHE:HD2	7:SQ:213:ARG:HA	1.80	0.47
9:SS:254:ARG:HE	9:SS:254:ARG:HB3	1.59	0.47
12:SV:193:LEU:O	12:SV:197:THR:HG22	2.15	0.47
13:SW:53:ARG:NH1	13:SW:57:ARG:HH21	2.13	0.47
15:SY:15:ALA:O	18:Sf:28:PRO:HG3	2.15	0.47
20:Sc:56:LYS:O	20:Sc:57:LEU:HD23	2.14	0.47
29:SJ:21:LYS:HA	29:SJ:21:LYS:HE2	1.95	0.47
29:SJ:106:ILE:HG13	29:SJ:107:THR:H	1.80	0.47
30:SK:61:SER:O	30:SK:65:LEU:HD13	2.14	0.47
32:SB:99:MET:O	32:SB:103:ASN:HB2	2.13	0.47
34:LA:517:G:O2'	34:LA:518:G:H5'	2.15	0.47
34:LA:976:U:H3	34:LA:1105:A:N6	2.13	0.47
34:LA:1203:A:H2'	34:LA:1204:A:H8	1.78	0.47
34:LA:1348:U:H2'	52:LS:35:PHE:HE2	1.80	0.47
34:LA:1430:U:C4	62:Lc:9:ARG:HD2	2.49	0.47
34:LA:1503:A:H2'	34:LA:1504:A:H8	1.80	0.47
34:LA:2347:U:H2'	34:LA:2348:A:O4'	2.15	0.47
34:LA:2368:A:H2'	34:LA:2369:G:H8	1.80	0.47
49:LP:11:GLN:HG2	49:LP:44:ARG:NH1	2.29	0.47
49:LP:119:TYR:CZ	49:LP:131:GLU:HB2	2.50	0.47
53:LT:99:LEU:HD12	53:LT:99:LEU:HA	1.72	0.47
56:LW:38:ILE:HD12	56:LW:50:LEU:HD21	1.97	0.47
62:Lc:90:TYR:CE1	62:Lc:100:PRO:HB3	2.49	0.47
66:Lg:108:ILE:HD13	66:Lg:108:ILE:HA	1.74	0.47
1:S2:107:C:H5"	1:S2:383:G:O2'	2.15	0.47
1:S2:471:A:H5"	13:SW:10:LYS:HE2	1.97	0.47
1:S2:1170:G:C2	1:S2:1574:G:N7	2.83	0.47
1:S2:1180:C:H42	1:S2:1459:C:N4	2.13	0.47
1:S2:1383:G:N3	1:S2:1384:A:H1'	2.29	0.47
1:S2:1571:C:H4'	1:S2:1574:G:N2	2.30	0.47
4:SN:137:ASP:HA	4:SN:152:ALA:HB3	1.97	0.47
5:SO:56:VAL:HG12	5:SO:58:VAL:HG12	1.97	0.47
5:SO:93:ASP:HB3	5:SO:97:GLY:N	2.30	0.47
8:SR:113:LEU:HB3	8:SR:215:PHE:CE2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:ST:134:GLY:HA3	10:ST:160:ARG:HD3	1.97	0.47
14:SX:75:VAL:HA	14:SX:86:ILE:HA	1.95	0.47
22:Sd:7:ILE:HD11	22:Sd:40:LEU:HD23	1.97	0.47
28:SI:135:ILE:HD13	28:SI:138:GLN:NE2	2.29	0.47
29:SJ:40:ASN:HA	29:SJ:43:LYS:HE3	1.97	0.47
34:LA:290:G:H2'	34:LA:291:C:H6	1.78	0.47
34:LA:422:A:C2	34:LA:2363:A:H4'	2.50	0.47
34:LA:1547:G:H5"	49:LP:108:ARG:HH22	1.78	0.47
34:LA:1950:U:H3	34:LA:2096:A:N6	2.12	0.47
34:LA:2368:A:H2'	34:LA:2369:G:C8	2.50	0.47
34:LA:2855:U:OP1	45:LL:10:ARG:HD3	2.15	0.47
34:LA:3329:U:H5"	38:LE:308:MET:HE3	1.96	0.47
36:LC:67:U:H2'	36:LC:68:G:H8	1.79	0.47
36:LC:109:A:C2	36:LC:114:G:C6	3.03	0.47
37:LD:201:GLY:HA2	37:LD:204:MET:CE	2.45	0.47
41:LH:148:GLU:O	41:LH:151:LYS:HG2	2.15	0.47
42:LI:208:SER:O	42:LI:243:MET:HG3	2.15	0.47
43:LJ:93:LEU:HD21	43:LJ:211:LEU:HD13	1.97	0.47
44:LK:124:ARG:HB3	44:LK:164:ILE:HG21	1.95	0.47
46:LM:93:ASP:HB3	46:LM:174:LYS:O	2.15	0.47
47:LN:116:LEU:HD23	47:LN:116:LEU:HA	1.79	0.47
49:LP:11:GLN:HG2	49:LP:44:ARG:HH11	1.80	0.47
54:LU:9:VAL:HG22	54:LU:61:ILE:HD13	1.96	0.47
55:LV:50:LYS:O	55:LV:92:ARG:HD2	2.15	0.47
58:LY:27:LYS:HD3	58:LY:27:LYS:HA	1.65	0.47
63:Ld:16:ALA:O	63:Ld:20:GLY:HA3	2.15	0.47
80:Cc:50:U:H2'	80:Cc:51:C:C6	2.49	0.47
1:S2:812:A:C6	1:S2:858:G:H2'	2.49	0.47
1:S2:875:G:OP1	7:SQ:158:SER:HB3	2.14	0.47
1:S2:1242:A:H5"	1:S2:1244:A:H61	1.80	0.47
1:S2:1760:G:H1'	1:S2:1781:A:H2	1.80	0.47
2:SL:44:VAL:HG13	32:SB:162:VAL:HG12	1.96	0.47
3:SM:38:ILE:HG22	3:SM:39:CYS:O	2.15	0.47
8:SR:59:HIS:CE1	8:SR:238:SER:HA	2.49	0.47
8:SR:105:GLY:O	8:SR:190:LEU:HD11	2.15	0.47
17:Sa:53:TYR:CZ	17:Sa:72:LEU:HD12	2.50	0.47
20:Sc:50:LYS:HG2	20:Sc:103:LEU:HD13	1.97	0.47
22:Sd:3:ASP:H	22:Sd:32:ARG:NH2	2.13	0.47
26:SG:21:TYR:CD1	26:SG:58:MET:HE2	2.50	0.47
28:SI:49:ASP:O	28:SI:53:TRP:HD1	1.98	0.47
32:SB:215:ASP:HA	32:SB:218:GLU:HG2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:500:C:H2'	34:LA:501:A:C8	2.50	0.47
34:LA:1168:U:H1'	42:LI:209:ASN:ND2	2.29	0.47
34:LA:1193:A:H2'	34:LA:1194:G:C8	2.50	0.47
34:LA:1299:U:H2'	34:LA:1300:G:O4'	2.14	0.47
34:LA:2523:A:C6	34:LA:2587:U:C4	3.03	0.47
34:LA:2608:G:H2'	34:LA:2609:A:H8	1.80	0.47
34:LA:2876:C:H2'	34:LA:2877:G:O4'	2.15	0.47
39:LF:74:ILE:HG12	39:LF:75:PRO:HD2	1.97	0.47
40:LG:64:ILE:HD12	40:LG:75:LEU:HD23	1.97	0.47
55:LV:92:ARG:HB3	55:LV:94:GLU:OE1	2.14	0.47
68:Li:82:ALA:O	68:Li:85:VAL:HG12	2.15	0.47
68:Li:101:VAL:O	68:Li:105:VAL:HG13	2.15	0.47
70:Lk:25:LYS:HB3	70:Lk:25:LYS:HE2	1.71	0.47
72:Lm:69:LEU:HD13	72:Lm:75:VAL:HG21	1.96	0.47
78:SC:77:ARG:HH12	78:SC:85:HIS:N	2.12	0.47
1:S2:889:U:H2'	1:S2:890:C:C6	2.50	0.46
1:S2:919:A:C5	1:S2:920:U:C4	3.03	0.46
1:S2:1168:U:H2'	1:S2:1169:G:C8	2.50	0.46
1:S2:1680:G:H1'	1:S2:1721:A:H61	1.81	0.46
6:SP:74:VAL:HG23	6:SP:118:PRO:HB3	1.96	0.46
15:SY:129:TYR:HB3	15:SY:135:LEU:HG	1.97	0.46
31:SA:142:LEU:HD21	31:SA:182:LEU:HD11	1.98	0.46
32:SB:222:LYS:HD3	32:SB:225:ARG:CZ	2.44	0.46
34:LA:275:U:H2'	34:LA:276:U:C6	2.50	0.46
34:LA:998:A:H2'	34:LA:999:G:C8	2.50	0.46
34:LA:1127:G:P	45:LL:98:ARG:HH21	2.38	0.46
34:LA:1176:C:H2'	34:LA:1177:G:N2	2.30	0.46
34:LA:1468:A:H2'	34:LA:1469:C:C6	2.49	0.46
34:LA:2734:A:H2'	34:LA:2734:A:N3	2.31	0.46
40:LG:55:PHE:HZ	40:LG:98:ALA:HB2	1.79	0.46
40:LG:84:PRO:HG3	40:LG:92:LEU:HD22	1.96	0.46
42:LI:110:ARG:NH2	52:LS:3:ILE:HG12	2.29	0.46
45:LL:193:ASP:OD1	45:LL:194:GLY:N	2.47	0.46
46:LM:116:TYR:CE2	46:LM:118:PRO:HA	2.50	0.46
50:LQ:3[A]:VAL:HB	50:LQ:31[A]:GLN:NE2	2.30	0.46
50:LQ:172[A]:ARG:NH1	50:LQ:172[A]:ARG:HB3	2.30	0.46
51:LR:35:ALA:HB2	51:LR:58:ILE:HG23	1.97	0.46
53:LT:133:LYS:HE2	53:LT:134:HIS:HE2	1.81	0.46
59:LZ:117:ASN:OD1	59:LZ:119:THR:HG23	2.16	0.46
61:Lb:23:VAL:HG12	61:Lb:45:GLY:HA3	1.96	0.46
69:Lj:34:GLN:HG3	69:Lj:38:ARG:HH22	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Lp:16:LYS:HA	75:Lp:16:LYS:HD3	1.69	0.46
78:SC:29:GLN:OE1	78:SC:29:GLN:N	2.48	0.46
1:S2:27:U:H2'	1:S2:28:A:H8	1.79	0.46
1:S2:1247:U:H4'	4:SN:94:LYS:N	2.31	0.46
1:S2:1333:C:H2'	1:S2:1334:U:C6	2.49	0.46
5:SO:38:ARG:NE	5:SO:67:ILE:HG21	2.30	0.46
5:SO:149:ASP:OD2	5:SO:174:ASN:HB3	2.15	0.46
5:SO:182:ASN:ND2	5:SO:185:GLN:HB2	2.30	0.46
7:SQ:29:TRP:CH2	7:SQ:47:LEU:HD11	2.51	0.46
9:SS:121:TYR:CD2	9:SS:161:LYS:HG3	2.49	0.46
20:Sc:36:THR:HG22	20:Sc:40:SER:OG	2.15	0.46
20:Sc:61:SER:HB3	20:Sc:67:ALA:H	1.80	0.46
28:SI:76:LEU:HB3	28:SI:101:ASN:HD22	1.79	0.46
31:SA:78:LYS:HE3	31:SA:78:LYS:HB2	1.75	0.46
32:SB:43:PHE:CD1	32:SB:44:ASN:N	2.81	0.46
34:LA:871:U:H2'	34:LA:872:U:C6	2.50	0.46
34:LA:1132:C:H2'	34:LA:1133:A:H8	1.79	0.46
40:LG:82:GLU:CD	40:LG:104:LEU:HD22	2.40	0.46
43:LJ:134:TYR:CG	43:LJ:190:VAL:HG21	2.50	0.46
47:LN:9:ILE:HD13	47:LN:9:ILE:HA	1.81	0.46
50:LQ:78[A]:ARG:HA	50:LQ:78[A]:ARG:HD2	1.60	0.46
1:S2:28:A:H2'	1:S2:29:U:C6	2.51	0.46
1:S2:398:G:P	12:SV:47:ARG:HH12	2.38	0.46
1:S2:484:C:H1'	1:S2:504:U:H3	1.80	0.46
1:S2:767:U:H1'	22:Sd:64:PHE:CG	2.51	0.46
1:S2:843:U:H2'	1:S2:844:A:C5	2.50	0.46
1:S2:899:G:H2'	1:S2:900:A:C8	2.51	0.46
1:S2:923:A:H2'	1:S2:924:A:C8	2.51	0.46
1:S2:1164:G:H2'	1:S2:1165:G:C8	2.49	0.46
1:S2:1198:G:C6	1:S2:1200:G:C6	3.03	0.46
6:SP:20:ALA:HA	6:SP:168:HIS:HB3	1.98	0.46
10:ST:149:LYS:HB2	10:ST:150:GLU:OE2	2.16	0.46
14:SX:99:ARG:HH12	20:Sc:7:ARG:HA	1.79	0.46
15:SY:115:LEU:O	15:SY:119:GLU:HG3	2.15	0.46
34:LA:75:G:H3'	34:LA:76:G:C8	2.50	0.46
34:LA:285:A:H2'	34:LA:285:A:N3	2.30	0.46
34:LA:787:G:H2'	34:LA:788:C:C6	2.50	0.46
34:LA:971:G:H2'	34:LA:972:A:H8	1.79	0.46
34:LA:992:A:O2'	34:LA:993:G:H5'	2.16	0.46
34:LA:1659:U:H2'	34:LA:1660:C:H6	1.78	0.46
34:LA:2148:U:H2'	34:LA:2149:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2203:U:H2'	34:LA:2204:C:C6	2.50	0.46
34:LA:2881:C:H2'	34:LA:2882:U:H6	1.79	0.46
34:LA:3330:A:H4'	38:LE:366:GLY:HA3	1.97	0.46
40:LG:22:ARG:HB3	40:LG:28:THR:HG22	1.98	0.46
40:LG:290:ILE:HD11	45:LL:217:PHE:CD1	2.50	0.46
42:LI:202:LEU:HD23	42:LI:202:LEU:HA	1.72	0.46
43:LJ:98:ARG:HD2	43:LJ:99:PRO:O	2.14	0.46
44:LK:88:TYR:CE2	44:LK:184:LYS:HE3	2.51	0.46
49:LP:6:TYR:CE1	70:Lk:40:VAL:HG22	2.50	0.46
57:LX:74:MET:CG	57:LX:102:ILE:HD11	2.44	0.46
60:La:99:LEU:HD12	60:La:100:HIS:N	2.30	0.46
69:Lj:38:ARG:HE	69:Lj:41:LEU:HD22	1.80	0.46
1:S2:963:A:H62	15:SY:70:LYS:NZ	2.13	0.46
1:S2:1251:U:C2	4:SN:135:HIS:CE1	3.03	0.46
6:SP:123:VAL:HG13	6:SP:129:ASP:OD2	2.16	0.46
14:SX:46:LYS:HA	14:SX:49:ILE:HG22	1.95	0.46
17:Sa:73:ALA:HB1	17:Sa:79:LEU:HB2	1.97	0.46
24:Se:47:ALA:HA	24:Se:50:VAL:HG23	1.96	0.46
26:SG:9:VAL:HG23	26:SG:50:ILE:HG23	1.97	0.46
34:LA:262:U:H2'	34:LA:263:C:O4'	2.15	0.46
34:LA:494:G:H4'	34:LA:495:G:C8	2.51	0.46
34:LA:761:A:C4	34:LA:771:A:H2	2.33	0.46
34:LA:1620:U:H2'	34:LA:1621:A:C8	2.50	0.46
34:LA:1805:C:H2'	34:LA:1806:A:C8	2.42	0.46
34:LA:2367:A:H2'	34:LA:2368:A:C8	2.50	0.46
34:LA:2428:U:H2'	34:LA:2429:G:C8	2.50	0.46
34:LA:3066:U:H2'	34:LA:3067:C:C6	2.51	0.46
34:LA:3183:A:H2'	34:LA:3184:A:C8	2.51	0.46
40:LG:178:ASN:HB2	40:LG:183:TRP:CZ3	2.50	0.46
49:LP:99:ARG:HG3	49:LP:130:PHE:CD1	2.51	0.46
64:Le:41:LEU:HD23	64:Le:92:ILE:HD13	1.98	0.46
69:Lj:34:GLN:CG	69:Lj:38:ARG:HH22	2.28	0.46
71:Ll:18:LEU:HA	71:Ll:25:ARG:HA	1.96	0.46
1:S2:404:G:H4'	10:ST:88:ARG:NH2	2.31	0.46
1:S2:490:C:N3	1:S2:497:G:N1	2.50	0.46
1:S2:706:A:H4'	1:S2:734:A:N6	2.30	0.46
1:S2:984:G:H1	1:S2:1017:U:H3	1.64	0.46
1:S2:1277:G:H2'	1:S2:1278:G:O4'	2.15	0.46
1:S2:1301:U:H2'	1:S2:1302:U:H6	1.80	0.46
1:S2:1436:A:H2'	1:S2:1437:U:O4'	2.15	0.46
5:SO:199:ILE:HA	5:SO:215:GLY:HA3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SQ:101:HIS:O	7:SQ:217:LEU:HG	2.15	0.46
12:SV:10:LYS:HE2	14:SX:133:LYS:HD2	1.97	0.46
15:SY:66:ILE:HG13	15:SY:67:THR:HG23	1.98	0.46
17:Sa:25:LYS:HB2	17:Sa:28:ASP:HB2	1.97	0.46
20:Sc:56:LYS:HD3	20:Sc:70:LYS:NZ	2.30	0.46
25:SF:47:LYS:HE2	25:SF:82:ARG:HD3	1.97	0.46
32:SB:96:SER:OG	32:SB:176:THR:HG21	2.15	0.46
32:SB:194:LEU:HD23	32:SB:198:LEU:HD11	1.96	0.46
33:SE:92:SER:HB2	33:SE:107:ILE:HD12	1.98	0.46
34:LA:131:C:N3	34:LA:137:G:N1	2.56	0.46
34:LA:790:U:H4'	39:LF:112:LYS:O	2.16	0.46
34:LA:945:C:O2'	34:LA:1406:A:H1'	2.15	0.46
34:LA:1010:G:N2	34:LA:1040:A:N1	2.53	0.46
35:LB:64:A:H3'	45:LL:204:GLY:O	2.16	0.46
36:LC:38:U:H3'	36:LC:39:G:H5'	1.97	0.46
39:LF:41:SER:HB2	39:LF:111:VAL:HG11	1.98	0.46
40:LG:177:GLU:HA	40:LG:180:PHE:CE2	2.50	0.46
52:LS:44:PHE:HD2	52:LS:134:GLY:HA3	1.78	0.46
54:LU:27:MET:HE1	54:LU:44:PHE:CD2	2.51	0.46
60:La:28:ARG:HH11	60:La:101:PRO:HG2	1.81	0.46
62:Lc:125:VAL:HG11	62:Lc:138:ILE:HD13	1.98	0.46
68:Li:86:LYS:O	68:Li:90:ILE:HG13	2.15	0.46
69:Lj:34:GLN:HB2	69:Lj:38:ARG:HH22	1.80	0.46
79:Bb:30:G:C2	79:Bb:31:A:C8	3.04	0.46
1:S2:372:G:H1'	1:S2:613:G:O6	2.16	0.46
1:S2:408:C:C2	1:S2:409:C:C5	3.03	0.46
1:S2:532:U:H4'	22:Sd:66:GLY:CA	2.46	0.46
1:S2:603:U:H2'	1:S2:604:A:H8	1.80	0.46
1:S2:1217:A:H5'	1:S2:1219:A:O4'	2.16	0.46
1:S2:1425:A:H5'	1:S2:1426:C:OP2	2.16	0.46
1:S2:1457:C:O2	27:SH:138:THR:HG22	2.16	0.46
1:S2:1486:G:H2'	1:S2:1487:A:C8	2.51	0.46
1:S2:1530:C:H2'	1:S2:1531:G:H8	1.79	0.46
6:SP:170:ILE:HG13	6:SP:171:GLY:N	2.31	0.46
10:ST:46:LYS:HB2	10:ST:119:GLN:HE22	1.81	0.46
10:ST:54:GLY:O	10:ST:109:LEU:HD12	2.16	0.46
10:ST:137:ARG:O	10:ST:141:ILE:HG22	2.15	0.46
13:SW:168:ARG:HH22	13:SW:174:ARG:NH1	2.14	0.46
14:SX:132:SER:HB3	14:SX:135:VAL:CG1	2.45	0.46
31:SA:18:TYR:HE1	31:SA:37:VAL:HG23	1.81	0.46
32:SB:209:TYR:CZ	32:SB:213:LYS:HE3	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1049:C:H2'	34:LA:1050:U:C6	2.51	0.46
34:LA:1232:C:H2'	34:LA:1233:G:H8	1.81	0.46
34:LA:1699:A:H2'	34:LA:1700:G:H8	1.80	0.46
34:LA:1921:A:H2'	34:LA:1922:A:H8	1.81	0.46
34:LA:2194:G:H2'	34:LA:2195:C:H6	1.81	0.46
34:LA:2275:A:H61	34:LA:2311:G:H1'	1.79	0.46
34:LA:3295:A:H2'	34:LA:3296:A:C8	2.51	0.46
40:LG:55:PHE:CE1	40:LG:158:ARG:HB3	2.50	0.46
40:LG:90:HIS:CD2	40:LG:231:ILE:HD12	2.50	0.46
40:LG:235:SER:O	40:LG:239:ILE:HG12	2.14	0.46
43:LJ:178:ALA:HA	43:LJ:222:PHE:HD2	1.81	0.46
48:LO:13:ARG:NH1	48:LO:67:PRO:HG3	2.30	0.46
50:LQ:108[A]:ILE:HD11	50:LQ:117[A]:ARG:HD3	1.98	0.46
53:LT:159:ALA:O	53:LT:162:ARG:HG2	2.16	0.46
54:LU:26:ARG:O	55:LV:150:THR:HA	2.16	0.46
55:LV:89:LEU:HB3	55:LV:91:LEU:HD21	1.97	0.46
55:LV:136:ARG:HB3	55:LV:139:ARG:NH2	2.30	0.46
57:LX:46:LEU:HD12	57:LX:46:LEU:HA	1.82	0.46
66:Lg:105:ARG:HE	66:Lg:125:ARG:HD2	1.81	0.46
1:S2:152:U:H1'	10:ST:4:ASN:HD21	1.80	0.46
1:S2:709:C:N4	1:S2:729:G:H3'	2.31	0.46
1:S2:1258:U:H2'	1:S2:1259:U:C6	2.50	0.46
1:S2:1530:C:H2'	1:S2:1531:G:C8	2.50	0.46
5:SO:149:ASP:HB3	5:SO:175:ASP:OD1	2.16	0.46
6:SP:93:THR:HG23	6:SP:185:ARG:HH22	1.81	0.46
6:SP:178:ALA:O	6:SP:182:LEU:HG	2.16	0.46
10:ST:32:ILE:HB	10:ST:65:GLN:HG2	1.98	0.46
21:SD:86:VAL:HG12	21:SD:88:LEU:HD11	1.98	0.46
22:Sd:35:VAL:HG11	22:Sd:40:LEU:HD21	1.98	0.46
25:SF:43:ILE:HG13	25:SF:44:LEU:HD22	1.97	0.46
34:LA:199:A:C4	34:LA:201:A:C8	3.03	0.46
34:LA:269:G:P	49:LP:44:ARG:HH22	2.39	0.46
34:LA:1615:C:H2'	34:LA:1616:U:C6	2.51	0.46
34:LA:1832:C:H2'	34:LA:1833:G:C8	2.50	0.46
34:LA:2582:C:H2'	34:LA:2583:C:C6	2.50	0.46
34:LA:3101:G:H2'	34:LA:3102:G:C8	2.50	0.46
34:LA:3271:G:C8	41:LH:108:LYS:HE3	2.51	0.46
39:LF:207:VAL:HG22	39:LF:249:ILE:HD12	1.98	0.46
50:LQ:32[A]:LYS:HE2	50:LQ:32[A]:LYS:HB3	1.79	0.46
50:LQ:193[A]:GLN:OE1	50:LQ:193[A]:GLN:HA	2.15	0.46
51:LR:31:GLU:OE1	51:LR:31:GLU:HA	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:Lc:82:ILE:HD11	62:Lc:90:TYR:CE2	2.51	0.46
1:S2:90:C:H2'	1:S2:91:G:H8	1.80	0.46
1:S2:158:U:O2'	1:S2:159:U:H3'	2.16	0.46
1:S2:370:A:H62	8:SR:144:TRP:HZ2	1.62	0.46
1:S2:963:A:H62	15:SY:70:LYS:HZ1	1.63	0.46
1:S2:1345:A:O5'	29:SJ:53:LYS:HB3	2.15	0.46
1:S2:1509:C:C4	1:S2:1510:U:H1'	2.51	0.46
1:S2:1785:U:H2'	1:S2:1786:G:H8	1.81	0.46
1:S2:1789:G:H2'	1:S2:1790:A:H8	1.81	0.46
4:SN:90:LYS:HA	4:SN:92:LYS:NZ	2.31	0.46
5:SO:200:ASN:ND2	5:SO:215:GLY:HA2	2.30	0.46
9:SS:60:GLU:O	9:SS:64:ILE:HG13	2.16	0.46
10:ST:7:TYR:CE2	10:ST:116:LYS:HD3	2.50	0.46
10:ST:196:ARG:HD2	10:ST:196:ARG:N	2.30	0.46
28:SI:71:VAL:HG12	28:SI:75:LYS:HD2	1.98	0.46
31:SA:24:PHE:O	31:SA:28:GLU:HG2	2.15	0.46
31:SA:104:SER:O	31:SA:108:LYS:HG3	2.16	0.46
31:SA:178:ARG:HG2	31:SA:179:GLN:OE1	2.16	0.46
34:LA:976:U:H3	34:LA:1105:A:H62	1.64	0.46
34:LA:1322:U:H2'	34:LA:1323:G:H8	1.80	0.46
34:LA:1472:U:H2'	34:LA:1473:G:C8	2.50	0.46
34:LA:1729:A:C6	64:Le:49:PRO:HD3	2.51	0.46
34:LA:1777:U:H2'	34:LA:1778:G:C8	2.50	0.46
34:LA:1824:U:H2'	34:LA:1825:G:H8	1.81	0.46
34:LA:2417:U:H1'	34:LA:2966:G:N2	2.30	0.46
42:LI:145:ARG:HA	42:LI:185:ILE:HD13	1.97	0.46
45:LL:191:LYS:HZ1	45:LL:213:PHE:H	1.62	0.46
55:LV:79:MET:HA	55:LV:84:TYR:HD2	1.81	0.46
59:LZ:131:ASP:O	59:LZ:135:ILE:HG12	2.15	0.46
70:Lk:44:VAL:HA	70:Lk:47:ILE:HG22	1.97	0.46
80:Cc:49:C:H2'	80:Cc:50:U:C6	2.51	0.46
1:S2:107:C:H2'	1:S2:108:A:H8	1.80	0.46
1:S2:201:G:H2'	1:S2:202:A:C8	2.51	0.46
1:S2:699:U:H5"	1:S2:700:C:C5	2.51	0.46
1:S2:1403:C:P	26:SG:3:ARG:HG2	2.56	0.46
1:S2:1562:G:C6	1:S2:1563:C:C4	3.04	0.46
4:SN:105:TYR:H	4:SN:118:ARG:NH2	2.14	0.46
7:SQ:24:PHE:CE2	16:SZ:39:ILE:HG23	2.51	0.46
10:ST:50:PHE:CE1	10:ST:113:ILE:HG12	2.51	0.46
21:SD:25:GLU:HB3	21:SD:28:LEU:HD13	1.98	0.46
22:Sd:112:LYS:HE3	22:Sd:112:LYS:HB3	1.67	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:SH:68:ARG:HA	27:SH:71:GLN:NE2	2.14	0.46
31:SA:23:GLU:CG	78:SC:61:TRP:HE1	2.29	0.46
34:LA:197:G:H8	34:LA:197:G:O5'	1.98	0.46
34:LA:412:G:H2'	34:LA:413:U:O4'	2.15	0.46
34:LA:971:G:H2'	34:LA:972:A:C8	2.51	0.46
34:LA:1063:G:C6	55:LV:109:VAL:HG22	2.51	0.46
34:LA:1229:G:H2'	34:LA:1230:G:C8	2.51	0.46
34:LA:1383:G:H2'	34:LA:1384:U:C6	2.51	0.46
34:LA:2125:A:N1	34:LA:2328:U:H5	2.14	0.46
34:LA:2328:U:H2'	34:LA:2329:C:C6	2.51	0.46
37:LD:41:ILE:HD12	37:LD:41:ILE:HA	1.80	0.46
37:LD:135:ILE:HB	37:LD:149:ARG:HB3	1.98	0.46
44:LK:37:ASN:OD1	44:LK:39:LYS:HG3	2.16	0.46
45:LL:76:MET:HB3	45:LL:85:PHE:CD2	2.51	0.46
45:LL:108:ALA:O	45:LL:112:GLN:HG2	2.15	0.46
51:LR:4:TYR:CE2	51:LR:16:SER:HB3	2.50	0.46
52:LS:133:LYS:HB2	52:LS:135:GLN:NE2	2.31	0.46
55:LV:104:GLU:HA	55:LV:107:GLU:OE1	2.16	0.46
1:S2:229:U:N3	1:S2:237:C:N4	2.25	0.46
1:S2:807:A:H2'	1:S2:808:U:C6	2.51	0.46
1:S2:813:U:H2'	53:LT:163:ARG:NH2	2.31	0.46
1:S2:1446:A:C6	1:S2:1448:G:C4	3.03	0.46
3:SM:37:ASN:C	3:SM:38:ILE:HD13	2.41	0.46
4:SN:113:LYS:HZ3	4:SN:115:THR:HA	1.81	0.46
8:SR:139:ILE:HD11	8:SR:218:ILE:HD12	1.98	0.46
8:SR:235:LEU:HD11	17:Sa:54:ALA:HB2	1.98	0.46
15:SY:128:TYR:O	15:SY:132:VAL:HG23	2.16	0.46
16:SZ:122:PRO:HB2	16:SZ:125:SER:HB3	1.98	0.46
21:SD:54:ARG:HD3	21:SD:56:GLU:HG3	1.98	0.46
26:SG:58:MET:HA	26:SG:61:ILE:CG2	2.45	0.46
29:SJ:21:LYS:HG3	29:SJ:119:ALA:HA	1.98	0.46
31:SA:31:GLU:OE1	31:SA:31:GLU:N	2.49	0.46
32:SB:111:VAL:O	32:SB:114:ILE:HG22	2.15	0.46
34:LA:80:G:C6	34:LA:106:A:C6	3.04	0.46
34:LA:123:A:C6	34:LA:150:A:C5	3.04	0.46
34:LA:385:A:H2'	34:LA:386:A:C8	2.51	0.46
34:LA:822:G:C4'	37:LD:194:ASN:HD21	2.18	0.46
34:LA:1305:U:C2	38:LE:257:PRO:HB3	2.51	0.46
34:LA:1342:C:H2'	34:LA:1343:A:H8	1.81	0.46
34:LA:2115:G:C2	34:LA:2119:A:C2	3.04	0.46
34:LA:2994:A:H2'	34:LA:2995:A:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:3086:A:C4	34:LA:3087:A:C8	3.04	0.46
34:LA:3232:G:C6	34:LA:3256:G:C6	3.04	0.46
36:LC:47:C:H1'	36:LC:61:A:H2'	1.98	0.46
36:LC:63:G:H22	36:LC:97:A:H2	1.64	0.46
38:LE:122:TRP:CH2	38:LE:127:LYS:HD2	2.51	0.46
39:LF:159:ILE:HG13	39:LF:164:GLU:HG3	1.99	0.46
43:LJ:150:LEU:HA	43:LJ:176:PRO:HG2	1.98	0.46
43:LJ:225:LYS:HA	43:LJ:228:GLU:OE2	2.16	0.46
45:LL:180:GLU:O	45:LL:184:LYS:HG2	2.16	0.46
59:LZ:117:ASN:OD1	59:LZ:117:ASN:C	2.59	0.46
59:LZ:126:LEU:H	59:LZ:126:LEU:HD12	1.80	0.46
62:Lc:47:LYS:HB3	62:Lc:48:TYR:HD1	1.81	0.46
64:Le:97:ASP:OD1	64:Le:97:ASP:C	2.59	0.46
67:Lh:42:GLN:HA	67:Lh:45:LEU:HD23	1.97	0.46
1:S2:443:C:OP2	22:Sd:105:ARG:HB2	2.16	0.45
1:S2:639:U:H4'	1:S2:640:U:O5'	2.16	0.45
1:S2:990:C:H2'	1:S2:991:G:O4'	2.16	0.45
1:S2:1524:A:H2	1:S2:1525:A:N1	2.14	0.45
3:SM:23:VAL:HG23	78:SC:61:TRP:CE2	2.49	0.45
7:SQ:184:LEU:O	7:SQ:187:LYS:HG2	2.16	0.45
9:SS:68:ARG:NE	9:SS:76:VAL:HG11	2.31	0.45
9:SS:120:SER:O	9:SS:164:LEU:HB3	2.16	0.45
13:SW:48:GLN:O	13:SW:52:ILE:HG13	2.16	0.45
17:Sa:32:VAL:HG13	17:Sa:60:ARG:NH2	2.31	0.45
21:SD:26:ASP:O	21:SD:29:LYS:HG2	2.16	0.45
26:SG:18:GLU:CD	26:SG:70:SER:H	2.24	0.45
33:SE:21:ASP:O	33:SE:25:LEU:HG	2.16	0.45
34:LA:30:G:O5'	49:LP:172:ARG:HD2	2.16	0.45
34:LA:208:C:H2'	34:LA:209:A:O4'	2.16	0.45
34:LA:753:C:H2'	34:LA:754:G:H8	1.81	0.45
34:LA:1525:G:C5	34:LA:1829:G:C6	3.03	0.45
34:LA:3138:U:H2'	34:LA:3139:A:C8	2.46	0.45
35:LB:110:G:H2'	35:LB:111:U:C6	2.50	0.45
36:LC:10:A:H2'	36:LC:11:C:H6	1.77	0.45
39:LF:269:SER:C	39:LF:271:LYS:H	2.25	0.45
46:LM:12:LEU:HD23	46:LM:162:TRP:CD2	2.51	0.45
46:LM:141:ARG:O	46:LM:145:LYS:HE3	2.16	0.45
47:LN:160:GLN:OE1	47:LN:160:GLN:HA	2.16	0.45
50:LQ:3[A]:VAL:HG22	67:Lh:33:GLU:OE2	2.16	0.45
59:LZ:57:LEU:HD12	59:LZ:57:LEU:HA	1.81	0.45
60:La:32:SER:HB3	60:La:49:PRO:HA	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:Lb:4:PHE:O	61:Lb:9:LYS:HD2	2.16	0.45
62:Lc:128:ARG:HB2	62:Lc:129:PHE:CD1	2.51	0.45
67:Lh:8:TYR:CZ	67:Lh:99:ARG:HD3	2.51	0.45
79:Bb:44:A:H2'	79:Bb:45:G:C8	2.52	0.45
80:Cc:27:C:C2	80:Cc:28:A:C8	3.04	0.45
80:Cc:40:C:O2'	80:Cc:41:C:H5'	2.16	0.45
1:S2:93:A:H4'	1:S2:94:U:OP2	2.15	0.45
1:S2:531:C:O2'	22:Sd:64:PHE:HA	2.17	0.45
1:S2:1528:U:H2'	1:S2:1529:C:C6	2.51	0.45
4:SN:107:LYS:HD3	4:SN:117:LEU:HD23	1.97	0.45
8:SR:169:LEU:C	8:SR:170:ILE:HD13	2.41	0.45
9:SS:92:LEU:HD12	9:SS:97:GLU:O	2.16	0.45
22:Sd:29:HIS:CE1	22:Sd:34:ASN:HA	2.51	0.45
29:SJ:98:GLN:HG2	29:SJ:99:ILE:N	2.31	0.45
34:LA:207:U:H2'	34:LA:208:C:C6	2.50	0.45
34:LA:996:A:H2'	34:LA:997:A:O4'	2.17	0.45
34:LA:1190:A:H2'	34:LA:1190:A:N3	2.32	0.45
34:LA:1341:U:H2'	34:LA:1342:C:H6	1.80	0.45
34:LA:2927:C:H2'	34:LA:2928:C:H6	1.76	0.45
36:LC:71:A:H2'	60:La:51:ARG:CZ	2.45	0.45
36:LC:143:U:C2	36:LC:144:G:C8	3.04	0.45
38:LE:218:ILE:HB	38:LE:337:THR:OG1	2.15	0.45
45:LL:212:GLU:HB3	45:LL:213:PHE:CD1	2.48	0.45
50:LQ:23[A]:VAL:HG13	50:LQ:84[A]:LEU:HD12	1.98	0.45
50:LQ:97[A]:ALA:O	50:LQ:101[A]:ARG:HG3	2.15	0.45
50:LQ:109[A]:PRO:HG2	50:LQ:112[A]:TYR:CD2	2.49	0.45
52:LS:3:ILE:HB	52:LS:5:HIS:CE1	2.50	0.45
79:Bb:1:G:O2'	79:Bb:2:C:H5'	2.16	0.45
79:Bb:18:G:H1'	79:Bb:58:A:C5	2.52	0.45
1:S2:93:A:H61	1:S2:396:G:H1'	1.80	0.45
1:S2:295:A:C2	1:S2:296:U:H5	2.34	0.45
1:S2:520:A:C5	1:S2:521:A:C8	3.04	0.45
1:S2:906:A:H2'	1:S2:907:A:C8	2.52	0.45
1:S2:926:A:H2'	1:S2:927:C:H6	1.81	0.45
1:S2:1183:A:H2'	1:S2:1184:A:C8	2.51	0.45
1:S2:1204:A:H2'	1:S2:1204:A:N3	2.32	0.45
1:S2:1213:G:C5	1:S2:1214:U:O2	2.70	0.45
1:S2:1448:G:H2'	1:S2:1448:G:N3	2.31	0.45
1:S2:1483:A:H1'	1:S2:1607:G:O2'	2.16	0.45
1:S2:1573:A:C8	1:S2:1574:G:H5"	2.51	0.45
1:S2:1611:A:H5"	32:SB:95:ASN:ND2	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1623:C:C2	1:S2:1624:C:C5	3.04	0.45
1:S2:1663:G:H22	1:S2:1737:G:N2	2.14	0.45
1:S2:1743:U:H2'	1:S2:1744:A:H8	1.81	0.45
8:SR:103:VAL:HG12	8:SR:190:LEU:HD23	1.98	0.45
10:ST:149:LYS:HA	10:ST:149:LYS:HD3	1.80	0.45
13:SW:110:GLN:HB2	13:SW:144:PRO:HB3	1.97	0.45
14:SX:97:TYR:O	14:SX:99:ARG:HG2	2.17	0.45
16:SZ:74:VAL:HG13	16:SZ:76:ILE:H	1.80	0.45
20:Sc:95:PHE:CG	20:Sc:135:LEU:HD23	2.51	0.45
20:Sc:134:ALA:HB1	20:Sc:140:LYS:HB2	1.98	0.45
28:SI:86:ARG:HD2	28:SI:92:LYS:HB3	1.97	0.45
30:SK:57:TYR:OH	30:SK:68:ARG:HD3	2.16	0.45
32:SB:63:GLN:HB3	32:SB:88:PRO:HA	1.98	0.45
32:SB:212:LYS:O	32:SB:216:GLU:HG3	2.17	0.45
34:LA:7:C:H5"	43:LJ:193:LYS:HD2	1.98	0.45
34:LA:18:G:O2'	49:LP:138:GLN:HG3	2.15	0.45
34:LA:1342:C:H2'	34:LA:1343:A:C8	2.51	0.45
34:LA:1783:U:H2'	34:LA:1784:G:C8	2.51	0.45
34:LA:3014:U:H2'	34:LA:3015:G:C8	2.51	0.45
36:LC:139:U:C2	36:LC:140:G:C8	3.04	0.45
42:LI:170:GLU:HB3	42:LI:179:LEU:HA	1.97	0.45
43:LJ:169:LEU:HB2	70:Lk:43:LEU:HD11	1.98	0.45
49:LP:23:GLN:HA	49:LP:122:ASN:HD21	1.81	0.45
63:Ld:21:ILE:O	63:Ld:21:ILE:HG22	2.16	0.45
69:Lj:115:LYS:HE2	69:Lj:115:LYS:HB3	1.89	0.45
1:S2:176:C:H2'	1:S2:177:U:C2	2.52	0.45
1:S2:295:A:N3	1:S2:295:A:H2'	2.31	0.45
1:S2:326:G:H2'	1:S2:327:U:C6	2.52	0.45
1:S2:463:U:H2'	1:S2:464:A:H8	1.81	0.45
1:S2:760:A:H2'	1:S2:761:G:O4'	2.17	0.45
1:S2:1185:U:H3	1:S2:1458:G:H8	1.65	0.45
1:S2:1382:A:H2'	1:S2:1383:G:C8	2.52	0.45
1:S2:1527:C:H2'	1:S2:1528:U:H6	1.80	0.45
6:SP:160:ILE:HG21	6:SP:173:ILE:HG21	1.98	0.45
8:SR:126:ARG:HB3	8:SR:126:ARG:CZ	2.46	0.45
9:SS:121:TYR:CG	9:SS:161:LYS:HE3	2.52	0.45
12:SV:114:GLU:OE2	12:SV:120:THR:HA	2.16	0.45
30:SK:41:ILE:HD12	30:SK:41:ILE:HA	1.80	0.45
34:LA:433:A:C6	34:LA:434:U:C4	3.05	0.45
34:LA:612:U:H2'	34:LA:613:G:C8	2.52	0.45
34:LA:1138:U:H2'	34:LA:1139:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1594:A:OP1	68:Li:36:LYS:HE2	2.16	0.45
34:LA:1621:A:H2'	34:LA:1622:U:C6	2.51	0.45
34:LA:1750:A:H1'	34:LA:1752:A:N7	2.31	0.45
34:LA:1807:G:H8	34:LA:1807:G:O5'	1.99	0.45
34:LA:1811:G:H2'	34:LA:1812:G:C8	2.51	0.45
34:LA:1921:A:H2'	34:LA:1922:A:C8	2.51	0.45
34:LA:1947:G:H5"	34:LA:1948:G:OP2	2.16	0.45
34:LA:2160:G:H2'	34:LA:2161:G:H8	1.81	0.45
34:LA:2999:U:H2'	34:LA:3000:A:C8	2.51	0.45
34:LA:3113:A:C2	34:LA:3114:A:H1'	2.52	0.45
34:LA:3238:G:N2	34:LA:3250:U:H1'	2.31	0.45
35:LB:69:C:N3	35:LB:109:G:N1	2.47	0.45
35:LB:89:G:H4'	54:LU:84:ARG:HD3	1.99	0.45
36:LC:79:A:N6	36:LC:80:A:H2	2.14	0.45
39:LF:146:PRO:HB2	39:LF:147:GLU:OE2	2.17	0.45
42:LI:224:ILE:HG23	54:LU:36:ILE:HD13	1.98	0.45
49:LP:106:VAL:HG11	49:LP:132:VAL:HG21	1.99	0.45
53:LT:146:LYS:HB3	53:LT:146:LYS:HE3	1.68	0.45
53:LT:152:GLU:OE1	53:LT:152:GLU:HA	2.16	0.45
60:La:38:GLU:O	60:La:42:GLN:HB3	2.16	0.45
69:Lj:55:LEU:HD23	69:Lj:55:LEU:HA	1.74	0.45
69:Lj:57:VAL:O	69:Lj:61:GLN:HG2	2.17	0.45
78:SC:46:LEU:O	78:SC:50:THR:HG23	2.16	0.45
1:S2:385:A:H5"	12:SV:22:ARG:CG	2.44	0.45
1:S2:408:C:H2'	1:S2:409:C:H6	1.81	0.45
1:S2:997:G:C6	1:S2:1008:G:C6	3.04	0.45
1:S2:1367:G:H2'	1:S2:1368:G:C8	2.52	0.45
1:S2:1477:G:C4	1:S2:1478:G:C8	3.05	0.45
6:SP:57:LEU:HD11	6:SP:176:LEU:HB3	1.98	0.45
7:SQ:33:LYS:HD3	7:SQ:97:LEU:HG	1.97	0.45
7:SQ:120:LEU:HD13	7:SQ:142:PHE:CE1	2.49	0.45
9:SS:174:LYS:HE3	9:SS:174:LYS:HB3	1.65	0.45
13:SW:89:ASP:OD2	13:SW:90:LYS:HG3	2.15	0.45
14:SX:109:VAL:HG23	14:SX:137:PHE:C	2.41	0.45
17:Sa:85:TYR:CZ	18:Sf:6:ASP:HB3	2.51	0.45
31:SA:59:LEU:HD13	31:SA:66:ILE:HG21	1.98	0.45
32:SB:164:PRO:O	32:SB:168:VAL:HG22	2.16	0.45
34:LA:291:C:H2'	34:LA:292:U:C6	2.52	0.45
34:LA:1389:G:C2	34:LA:1419:A:C6	3.05	0.45
34:LA:1740:U:H3'	34:LA:1740:U:OP1	2.16	0.45
34:LA:1940:G:N2	34:LA:3362:A:H8	2.13	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2193:U:H5”	34:LA:2194:G:H5’	1.98	0.45
34:LA:3191:G:H2’	34:LA:3192:U:O4’	2.16	0.45
35:LB:115:G:H2’	35:LB:116:C:H6	1.81	0.45
37:LD:137:ILE:HD13	37:LD:155:LYS:HG3	1.98	0.45
38:LE:68:HIS:CD2	38:LE:69:LYS:HG3	2.52	0.45
38:LE:77:THR:OG1	38:LE:327:CYS:HA	2.16	0.45
38:LE:106:TRP:HB2	38:LE:133:TYR:CE2	2.51	0.45
39:LF:22:LEU:HD12	39:LF:26:PHE:HB2	1.99	0.45
42:LI:89:ILE:HD11	42:LI:229:PHE:HB3	1.99	0.45
42:LI:110:ARG:HE	52:LS:3:ILE:HD11	1.81	0.45
43:LJ:41:GLN:HG3	43:LJ:42:PRO:HD2	1.99	0.45
43:LJ:218:ILE:HD13	43:LJ:218:ILE:HA	1.78	0.45
54:LU:110:MET:HA	54:LU:110:MET:HE3	1.96	0.45
56:LW:38:ILE:HD11	56:LW:56:VAL:HG22	1.98	0.45
58:LY:6:ASP:HB2	58:LY:11:ALA:O	2.16	0.45
61:Lb:41:ALA:HB2	61:Lb:77:TYR:CE2	2.52	0.45
62:Lc:101:VAL:HG22	62:Lc:124:ILE:HB	1.98	0.45
65:Lf:53:PRO:O	65:Lf:57:GLN:HG3	2.17	0.45
67:Lh:8:TYR:CE1	67:Lh:99:ARG:HD3	2.51	0.45
71:Ll:24:ARG:HG2	71:Ll:24:ARG:HH11	1.82	0.45
72:Lm:5:ILE:HD12	72:Lm:53:THR:O	2.17	0.45
1:S2:98:U:H2’	1:S2:99:C:C6	2.51	0.45
1:S2:410:A:N1	1:S2:423:G:O6	2.49	0.45
1:S2:461:G:H2’	1:S2:462:G:H8	1.82	0.45
1:S2:469:C:H2’	1:S2:470:A:O4’	2.16	0.45
1:S2:485:A:C2	1:S2:503:G:H2’	2.48	0.45
1:S2:882:U:H2’	1:S2:883:C:H6	1.81	0.45
1:S2:946:U:H4’	7:SQ:165:ARG:HD3	1.97	0.45
1:S2:1221:A:O2’	1:S2:1222:C:H5”	2.16	0.45
1:S2:1317:C:H2’	1:S2:1318:G:O4’	2.16	0.45
1:S2:1435:G:H5”	1:S2:1437:U:OP2	2.17	0.45
1:S2:1529:C:O5’	1:S2:1529:C:H6	1.99	0.45
1:S2:1548:G:H2’	1:S2:1549:C:C6	2.52	0.45
5:SO:24:ALA:HB1	5:SO:73:LEU:HD22	1.98	0.45
6:SP:23:HIS:HA	6:SP:48:ILE:HB	1.98	0.45
6:SP:76:ILE:HD12	6:SP:76:ILE:N	2.32	0.45
7:SQ:71:ALA:HB2	7:SQ:80:SER:HA	1.99	0.45
8:SR:239:PRO:HA	8:SR:242:ILE:HG12	1.99	0.45
11:SU:117:THR:HG23	11:SU:120:ALA:HB3	1.99	0.45
14:SX:43:LYS:N	14:SX:43:LYS:HE2	2.31	0.45
16:SZ:31:THR:HA	16:SZ:39:ILE:HD12	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Sb:36:LYS:HG3	19:Sb:110:ILE:HD13	1.98	0.45
27:SH:25:ASN:HB3	30:SK:40:VAL:HG21	1.98	0.45
34:LA:209:A:H4'	34:LA:211:A:C8	2.51	0.45
34:LA:276:U:H2'	34:LA:277:G:H8	1.80	0.45
34:LA:595:G:H1	34:LA:609:G:H5"	1.81	0.45
34:LA:638:C:H2'	34:LA:639:G:C8	2.51	0.45
34:LA:916:G:C6	37:LD:207:VAL:HG11	2.52	0.45
34:LA:959:C:H41	34:LA:2801:A:H2'	1.82	0.45
34:LA:1174:G:H2'	34:LA:1175:C:H6	1.82	0.45
34:LA:1185:C:OP1	48:LO:42:LYS:HD2	2.17	0.45
34:LA:2961:G:H2'	34:LA:2962:U:H6	1.81	0.45
35:LB:112:G:H2'	35:LB:113:C:H6	1.81	0.45
37:LD:178:PRO:HD2	77:Lr:26:VAL:HG23	1.99	0.45
38:LE:34:LYS:HB3	38:LE:34:LYS:HE2	1.65	0.45
39:LF:182:LEU:HD21	39:LF:223:PRO:HG2	1.98	0.45
40:LG:50:ARG:O	40:LG:64:ILE:HA	2.16	0.45
40:LG:117:GLU:HA	40:LG:120:LYS:NZ	2.32	0.45
42:LI:102:VAL:CG1	42:LI:126:LEU:HD22	2.45	0.45
43:LJ:94:PHE:CD2	43:LJ:189:LEU:HD21	2.51	0.45
45:LL:47:PRO:HB2	45:LL:178:ARG:NH1	2.32	0.45
48:LO:14:LEU:HD13	54:LU:149:LYS:HB3	1.99	0.45
49:LP:8:GLU:HB2	49:LP:50:ARG:HH22	1.81	0.45
50:LQ:25[A]:LYS:O	50:LQ:29[A]:ASN:HB2	2.17	0.45
53:LT:4:LEU:HD22	53:LT:32:ILE:HG22	1.98	0.45
53:LT:28:GLU:HG3	53:LT:31:GLU:OE1	2.16	0.45
53:LT:133:LYS:HE2	53:LT:134:HIS:NE2	2.32	0.45
54:LU:42:TRP:HA	54:LU:42:TRP:CE3	2.51	0.45
61:Lb:5:LEU:HD23	61:Lb:5:LEU:HA	1.76	0.45
61:Lb:42:LEU:HD22	61:Lb:101:PHE:CE2	2.52	0.45
1:S2:822:U:C2	1:S2:823:G:C2	3.05	0.45
1:S2:832:U:H2'	1:S2:833:U:C6	2.52	0.45
1:S2:1142:A:C6	1:S2:1143:A:C6	3.04	0.45
1:S2:1162:C:H4'	2:SL:22:ARG:HH22	1.81	0.45
1:S2:1214:U:H2'	1:S2:1215:C:C6	2.52	0.45
1:S2:1471:A:C6	1:S2:1538:U:O2	2.70	0.45
10:ST:30:LYS:O	10:ST:102:VAL:HG12	2.17	0.45
15:SY:39:LYS:O	15:SY:43:LYS:HG2	2.16	0.45
19:Sb:15:ASN:ND2	19:Sb:72:CYS:H	2.14	0.45
27:SH:25:ASN:HA	30:SK:40:VAL:HG21	1.98	0.45
27:SH:87:ASN:H	27:SH:99:HIS:CD2	2.34	0.45
29:SJ:22:ILE:HD13	29:SJ:100:VAL:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:357:A:H2'	34:LA:358:G:C8	2.52	0.45
34:LA:561:C:OP1	48:LO:77:ARG:HG3	2.16	0.45
34:LA:593:C:H5"	41:LH:19:LYS:HE2	1.99	0.45
34:LA:1080:A:H5'	40:LG:139:PRO:HB3	1.97	0.45
34:LA:1691:U:H2'	34:LA:1692:U:C6	2.52	0.45
34:LA:1941:C:H42	34:LA:2107:A:H61	1.65	0.45
34:LA:2219:A:C4	34:LA:2220:A:C8	3.04	0.45
34:LA:2357:A:N1	34:LA:2983:C:H5	2.15	0.45
34:LA:2510:U:H3	34:LA:2511:A:N6	2.15	0.45
34:LA:2511:A:H2'	34:LA:2511:A:N3	2.32	0.45
34:LA:3176:G:N2	34:LA:3213:A:H1'	2.32	0.45
34:LA:3230:G:H2'	34:LA:3231:U:C6	2.52	0.45
41:LH:46:ARG:HG2	41:LH:47:PHE:CD1	2.52	0.45
42:LI:56:GLU:O	42:LI:60:ARG:HG2	2.17	0.45
42:LI:101:LYS:O	42:LI:105:LEU:HG	2.17	0.45
53:LT:11:ALA:HB2	53:LT:41:ILE:HD11	1.99	0.45
57:LX:86:ARG:HB2	57:LX:92:PHE:CZ	2.52	0.45
60:La:55:GLU:HB3	60:La:108:LYS:HB3	1.99	0.45
65:Lf:14:ILE:HG22	65:Lf:71:LEU:HB2	1.99	0.45
68:Li:3:GLN:NE2	68:Li:30:LEU:HB2	2.31	0.45
1:S2:183:U:H2'	1:S2:184:C:H6	1.82	0.45
1:S2:622:A:O2'	1:S2:1032:G:H5'	2.17	0.45
1:S2:812:A:C5	1:S2:858:G:H2'	2.52	0.45
1:S2:1222:C:N4	1:S2:1262:U:H2'	2.31	0.45
1:S2:1552:U:H2'	1:S2:1553:G:O4'	2.17	0.45
1:S2:1649:G:H2'	1:S2:1650:U:H6	1.82	0.45
1:S2:1683:C:C2	1:S2:1718:G:N1	2.83	0.45
3:SM:31:ILE:HD12	3:SM:31:ILE:H	1.82	0.45
6:SP:55:GLU:O	6:SP:58:VAL:HG22	2.17	0.45
9:SS:14:ALA:HB1	9:SS:18:TRP:CE3	2.52	0.45
16:SZ:106:ALA:HB2	24:Se:53:LEU:HD22	1.99	0.45
21:SD:30:VAL:HG23	21:SD:133:LEU:HD11	1.98	0.45
21:SD:136:ILE:HB	21:SD:139:HIS:HB2	1.99	0.45
26:SG:21:TYR:HD2	26:SG:71:PHE:CE2	2.34	0.45
26:SG:71:PHE:CZ	26:SG:74:GLN:HB2	2.52	0.45
33:SE:95:GLY:HA2	33:SE:104:GLN:HA	1.98	0.45
34:LA:415:G:H2'	34:LA:416:A:C8	2.52	0.45
34:LA:506:U:H2'	34:LA:507:U:O4'	2.17	0.45
34:LA:1730:G:H8	34:LA:1730:G:OP2	2.00	0.45
34:LA:2680:A:C2	46:LM:57:PHE:HB3	2.52	0.45
34:LA:3321:C:H2'	34:LA:3322:A:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:LC:48:A:H61	36:LC:54:A:N6	2.14	0.45
37:LD:112:ILE:HG13	77:Lr:79:VAL:HG22	1.99	0.45
38:LE:56:ILE:HG22	38:LE:359:ILE:HA	1.99	0.45
38:LE:88:GLY:CA	38:LE:105:VAL:O	2.62	0.45
38:LE:92:TYR:HB2	38:LE:157:VAL:O	2.16	0.45
38:LE:117:ARG:CZ	38:LE:175:LYS:HD3	2.47	0.45
38:LE:136:LYS:HE3	38:LE:143:GLY:HA3	1.98	0.45
44:LK:52:LEU:C	44:LK:53:ILE:HD13	2.42	0.45
47:LN:32:LYS:O	47:LN:36:ARG:HG3	2.16	0.45
62:Lc:91:LEU:HA	62:Lc:121:VAL:HG21	1.99	0.45
73:Ln:13:MET:HE1	73:Ln:51:ILE:HD11	1.98	0.45
1:S2:107:C:H2'	1:S2:108:A:C8	2.52	0.45
1:S2:198:A:H2'	1:S2:199:G:H8	1.80	0.45
1:S2:222:A:N1	1:S2:838:G:H2'	2.31	0.45
1:S2:1213:G:H2'	1:S2:1213:G:N3	2.32	0.45
1:S2:1242:A:H2'	1:S2:1242:A:N3	2.32	0.45
1:S2:1324:G:H4'	6:SP:113:ARG:HH12	1.82	0.45
1:S2:1344:A:H2'	1:S2:1345:A:C8	2.51	0.45
1:S2:1486:G:H1'	1:S2:1592:A:O2'	2.17	0.45
1:S2:1737:G:H2'	1:S2:1737:G:N3	2.31	0.45
6:SP:75:ALA:HB2	6:SP:122:ILE:HD12	1.99	0.45
7:SQ:194:ASN:ND2	7:SQ:211:HIS:HA	2.30	0.45
10:ST:139:ASN:O	10:ST:143:LYS:HE3	2.16	0.45
12:SV:65:PHE:CD2	12:SV:104:ILE:HD13	2.52	0.45
14:SX:33:ARG:HH21	14:SX:51:GLY:C	2.24	0.45
15:SY:62:GLN:O	15:SY:65:VAL:HG22	2.16	0.45
18:Sf:35:VAL:HG12	18:Sf:79:PHE:HB3	1.98	0.45
20:Sc:36:THR:HA	20:Sc:39:LYS:HG2	1.99	0.45
21:SD:94:ALA:HA	21:SD:97:LEU:HB2	1.98	0.45
27:SH:16:ARG:NE	27:SH:19:ASN:HA	2.32	0.45
32:SB:72:HIS:HB2	32:SB:111:VAL:HG21	1.97	0.45
34:LA:609:G:H3'	34:LA:609:G:N3	2.31	0.45
34:LA:956:U:H2'	34:LA:957:C:C6	2.52	0.45
34:LA:1109:U:H2'	34:LA:1110:U:C6	2.51	0.45
34:LA:1471:U:H2'	34:LA:1472:U:H6	1.81	0.45
34:LA:1699:A:C6	34:LA:1747:G:C6	3.05	0.45
34:LA:2155:G:H2'	34:LA:2156:C:C6	2.51	0.45
34:LA:2227:C:C2	34:LA:2228:A:C8	3.05	0.45
34:LA:3049:A:C5	34:LA:3050:U:C5	3.05	0.45
35:LB:19:C:H2'	35:LB:20:A:C8	2.52	0.45
35:LB:117:A:H2'	35:LB:118:A:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:LD:2:GLY:HA2	37:LD:207:VAL:HG23	1.99	0.45
46:LM:94:ARG:H	46:LM:174:LYS:C	2.25	0.45
52:LS:83:VAL:HG13	52:LS:103:ALA:HB2	1.98	0.45
53:LT:66:HIS:HD2	53:LT:70:LYS:HD3	1.79	0.45
55:LV:44:ALA:HB3	55:LV:58:GLN:HE22	1.82	0.45
79:Bb:14:A:H2'	79:Bb:15:G:H4'	1.99	0.45
1:S2:199:G:H2'	1:S2:200:A:H8	1.80	0.45
1:S2:235:G:H2'	1:S2:235:G:N3	2.32	0.45
1:S2:752:A:N7	1:S2:753:A:C4	2.85	0.45
1:S2:956:C:H2'	1:S2:957:G:C8	2.50	0.45
1:S2:1393:C:C2	1:S2:1394:G:C8	3.05	0.45
1:S2:1503:A:H2'	1:S2:1504:G:C5	2.52	0.45
1:S2:1648:A:C2	1:S2:1649:G:C5	3.05	0.45
1:S2:1663:G:H22	1:S2:1737:G:H1	1.63	0.45
4:SN:107:LYS:HD3	4:SN:117:LEU:CD2	2.47	0.45
4:SN:130:VAL:HG23	4:SN:132:LEU:CD2	2.46	0.45
5:SO:225:LEU:HD23	5:SO:225:LEU:HA	1.77	0.45
7:SQ:55:LYS:HE2	7:SQ:55:LYS:HB2	1.73	0.45
9:SS:211:LYS:HA	9:SS:216:ASN:O	2.16	0.45
13:SW:113:VAL:HG22	13:SW:156:ILE:HD11	1.99	0.45
14:SX:80:MET:HE1	14:SX:83:THR:HB	1.99	0.45
25:SF:10:PHE:HA	25:SF:19:VAL:HA	1.98	0.45
27:SH:108:LYS:HA	27:SH:111:ASP:HB2	1.98	0.45
28:SI:66:TYR:HD1	28:SI:132:LEU:HD21	1.82	0.45
28:SI:116:ILE:HD12	28:SI:122:ARG:HE	1.81	0.45
34:LA:673:U:H4'	39:LF:34:ILE:HD11	1.99	0.45
34:LA:792:G:H2'	34:LA:793:C:C6	2.52	0.45
34:LA:943:U:H3'	62:Lc:13:GLY:HA2	1.99	0.45
34:LA:2871:G:H5"	34:LA:2872:A:H5"	1.98	0.45
34:LA:3006:A:C2	34:LA:3141:A:C4	3.05	0.45
34:LA:3107:U:H2'	34:LA:3108:G:C8	2.51	0.45
35:LB:60:G:H2'	35:LB:61:G:C8	2.52	0.45
38:LE:14:LEU:HD22	38:LE:262:TRP:CZ3	2.52	0.45
44:LK:36:LYS:HE2	44:LK:36:LYS:HB2	1.77	0.45
46:LM:84:LEU:HG	46:LM:89:TYR:CD1	2.52	0.45
47:LN:60:ALA:HB3	47:LN:65:TYR:O	2.17	0.45
47:LN:125:VAL:HG22	69:Lj:116:TYR:HB3	1.98	0.45
50:LQ:26[A]:GLN:HA	50:LQ:26[A]:GLN:OE1	2.17	0.45
53:LT:96:ILE:HD13	53:LT:96:ILE:HA	1.79	0.45
60:La:80:VAL:HG12	60:La:99:LEU:O	2.17	0.45
62:Lc:47:LYS:HB3	62:Lc:48:TYR:CD1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:Li:56:THR:O	68:Li:57:LEU:HD23	2.17	0.45
70:Lk:90:MET:N	70:Lk:90:MET:HE2	2.33	0.45
70:Lk:94:ILE:HD13	70:Lk:94:ILE:HA	1.84	0.45
1:S2:47:A:N1	1:S2:386:G:H1'	2.32	0.44
1:S2:758:U:H2'	1:S2:759:U:C2	2.52	0.44
1:S2:1188:G:C6	1:S2:1198:G:C6	3.06	0.44
1:S2:1227:A:H5'	21:SD:117:GLY:O	2.16	0.44
1:S2:1466:G:H2'	1:S2:1467:C:C6	2.51	0.44
8:SR:226:THR:HG23	8:SR:228:ASN:N	2.31	0.44
10:ST:207:GLU:O	10:ST:211:LEU:HG	2.17	0.44
11:SU:24:PHE:O	11:SU:27:LEU:HG	2.17	0.44
16:SZ:29:HIS:HB3	16:SZ:41:ARG:HA	1.99	0.44
17:Sa:58:TYR:C	17:Sa:58:TYR:CD1	2.95	0.44
25:SF:92:TYR:CD1	25:SF:96:TYR:HD2	2.35	0.44
34:LA:54:C:H4'	34:LA:1548:C:H1'	1.99	0.44
34:LA:366:A:H5"	39:LF:95:ARG:HH22	1.81	0.44
34:LA:1216:C:C4	34:LA:1289:G:C6	3.05	0.44
34:LA:1232:C:H2'	34:LA:1233:G:C8	2.51	0.44
34:LA:2252:A:N1	34:LA:2264:U:H5	2.15	0.44
34:LA:2291:A:H2'	34:LA:2292:U:H6	1.82	0.44
35:LB:115:G:H2'	35:LB:116:C:C6	2.52	0.44
36:LC:66:A:H2'	36:LC:67:U:H6	1.82	0.44
39:LF:82:THR:HG23	39:LF:84:ARG:H	1.82	0.44
45:LL:200:LEU:HD13	45:LL:213:PHE:CD1	2.52	0.44
54:LU:38:LYS:HG2	54:LU:58:ILE:CD1	2.48	0.44
61:Lb:36:HIS:HB3	61:Lb:38:PHE:CZ	2.53	0.44
67:Lh:12:LYS:HE3	67:Lh:12:LYS:HB3	1.78	0.44
68:Li:37:LYS:HD3	68:Li:58:ARG:HH21	1.81	0.44
71:Ll:47:TYR:H	71:Ll:54:LYS:HE3	1.81	0.44
80:Cc:72:U:H2'	80:Cc:73:A:H8	1.81	0.44
1:S2:908:U:O4	1:S2:1009:U:H1'	2.17	0.44
1:S2:1325:A:H2'	1:S2:1326:A:H8	1.82	0.44
1:S2:1705:C:H5"	1:S2:1706:C:H5'	1.99	0.44
1:S2:1775:U:H2'	1:S2:1776:A:H8	1.83	0.44
1:S2:1787:C:H2'	1:S2:1788:G:C8	2.52	0.44
4:SN:123:ASN:O	4:SN:126:CYS:HB2	2.17	0.44
8:SR:95:ARG:HG2	8:SR:95:ARG:HH11	1.82	0.44
8:SR:227:PRO:HA	8:SR:230:TRP:CG	2.52	0.44
19:Sb:35:ILE:HD11	19:Sb:61:ILE:HD11	1.99	0.44
26:SG:32:LYS:HB2	26:SG:47:ARG:NH2	2.33	0.44
34:LA:84:U:H3'	34:LA:85:A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:160:G:H2'	34:LA:161:G:H8	1.81	0.44
34:LA:430:U:H2'	34:LA:431:U:C6	2.52	0.44
34:LA:682:U:C5	39:LF:112:LYS:HD3	2.52	0.44
34:LA:750:G:C2	34:LA:751:A:C8	3.06	0.44
34:LA:952:A:H4'	34:LA:968:G:H21	1.80	0.44
34:LA:1550:C:H2'	34:LA:1551:C:H6	1.82	0.44
34:LA:1602:A:N6	59:LZ:71:THR:HG21	2.32	0.44
34:LA:1686:U:C5	34:LA:1688:U:H4'	2.53	0.44
34:LA:2676:A:C2	34:LA:2680:A:C5	3.05	0.44
34:LA:2769:A:H2'	34:LA:2770:G:C8	2.53	0.44
34:LA:2890:A:O2'	34:LA:2933:A:H1'	2.17	0.44
34:LA:2976:A:H2'	34:LA:2977:G:O4'	2.17	0.44
34:LA:3156:U:H4'	34:LA:3157:U:H5"	1.97	0.44
34:LA:3232:G:N2	34:LA:3255:U:O2	2.48	0.44
34:LA:3268:A:N1	41:LH:135:VAL:HG23	2.32	0.44
34:LA:3287:U:H2'	34:LA:3288:G:C8	2.52	0.44
37:LD:10:LYS:HA	37:LD:16:PHE:CD2	2.51	0.44
43:LJ:249:ARG:HA	43:LJ:249:ARG:NE	2.32	0.44
44:LK:117:PHE:CE1	44:LK:178:GLY:HA2	2.53	0.44
54:LU:48:LEU:HB3	54:LU:49:HIS:ND1	2.32	0.44
60:La:35:LEU:HD11	60:La:48:LEU:HB2	1.99	0.44
62:Lc:59:ARG:HH12	76:Lq:38:GLN:NE2	2.15	0.44
79:Bb:65:G:C2	79:Bb:66:A:C4	3.05	0.44
1:S2:489:C:H1'	1:S2:500:C:N4	2.32	0.44
1:S2:930:A:H2'	7:SQ:114:VAL:HG21	1.98	0.44
1:S2:951:A:H2'	1:S2:952:A:H8	1.82	0.44
1:S2:1039:A:H2'	1:S2:1040:G:H8	1.82	0.44
1:S2:1277:G:C6	1:S2:1278:G:C4	3.06	0.44
1:S2:1357:A:N6	1:S2:1367:G:C6	2.85	0.44
1:S2:1365:C:H4'	25:SF:30:LYS:HZ3	1.82	0.44
1:S2:1621:U:H2'	1:S2:1622:G:O4'	2.17	0.44
1:S2:1699:G:N2	1:S2:1703:C:H41	2.16	0.44
5:SO:211:ILE:O	5:SO:222:LEU:HA	2.17	0.44
6:SP:147:THR:O	6:SP:161:PRO:HA	2.17	0.44
10:ST:21:GLU:N	10:ST:21:GLU:OE1	2.50	0.44
15:SY:47:PRO:HG2	15:SY:72:MET:HE1	1.98	0.44
18:Sf:64:CYS:HB3	18:Sf:73:LEU:HD23	1.97	0.44
22:Sd:61:ARG:HD3	22:Sd:62:THR:N	2.33	0.44
24:Se:41:ILE:HG12	24:Se:68:TYR:CD2	2.52	0.44
29:SJ:109:GLU:OE2	29:SJ:110:PRO:HD2	2.17	0.44
30:SK:57:TYR:C	30:SK:103:ARG:HE	2.25	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:SA:10:LYS:HG2	31:SA:11:LEU:HD22	1.99	0.44
32:SB:119:ASP:C	32:SB:119:ASP:OD1	2.61	0.44
34:LA:111:C:O2'	34:LA:112:U:H5'	2.18	0.44
34:LA:167:U:C4	34:LA:168:U:O4	2.71	0.44
34:LA:270:U:H2'	34:LA:271:C:C6	2.53	0.44
34:LA:1001:G:H1'	34:LA:1041:U:H5'	2.00	0.44
34:LA:1734:G:H2'	34:LA:1735:G:O4'	2.17	0.44
34:LA:1784:G:H2'	34:LA:1785:U:H6	1.83	0.44
34:LA:2413:A:H2'	34:LA:2414:G:H8	1.82	0.44
34:LA:3313:U:H4'	38:LE:173:GLN:HG3	1.98	0.44
35:LB:18:C:H4'	35:LB:19:C:OP1	2.18	0.44
39:LF:346:LYS:HA	39:LF:346:LYS:HD3	1.67	0.44
43:LJ:143:ILE:HD13	43:LJ:169:LEU:HG	1.99	0.44
44:LK:92:TYR:HB3	44:LK:179:ILE:HG12	1.98	0.44
48:LO:127:LYS:HA	48:LO:127:LYS:HD2	1.80	0.44
50:LQ:19[A]:LEU:O	50:LQ:23[A]:VAL:HG12	2.16	0.44
56:LW:36:TYR:HE1	56:LW:40:HIS:CG	2.35	0.44
64:Le:27:TYR:CE1	64:Le:31:VAL:HG21	2.53	0.44
67:Lh:43:PHE:HD2	67:Lh:44:TYR:CE2	2.35	0.44
68:Li:21:LYS:HE3	68:Li:33:GLN:NE2	2.32	0.44
71:Ll:28:HIS:CD2	71:Ll:31:LYS:H	2.34	0.44
1:S2:411:C:H2'	1:S2:412:A:O4'	2.17	0.44
1:S2:617:U:H2'	1:S2:618:U:C6	2.52	0.44
1:S2:803:A:N7	11:SU:104:ARG:HG3	2.33	0.44
1:S2:1471:A:H2'	1:S2:1471:A:N3	2.32	0.44
3:SM:53:ASN:HB2	3:SM:55:PHE:CE2	2.53	0.44
4:SN:114:VAL:HG11	21:SD:74:LEU:HD12	2.00	0.44
5:SO:211:ILE:HG23	5:SO:223:TRP:HE3	1.81	0.44
8:SR:166:THR:HB	8:SR:201:ASN:HB3	1.98	0.44
10:ST:187:LYS:HZ3	10:ST:191:ARG:NH1	2.14	0.44
13:SW:39:LYS:HA	13:SW:42:ILE:HD13	1.99	0.44
25:SF:82:ARG:HG3	25:SF:83:GLN:H	1.82	0.44
27:SH:45:LEU:O	27:SH:49:LYS:HG3	2.18	0.44
34:LA:564:G:H2'	34:LA:564:G:N3	2.31	0.44
34:LA:626:U:H2'	34:LA:627:U:C6	2.52	0.44
34:LA:782:U:H2'	34:LA:783:A:O4'	2.18	0.44
34:LA:2562:A:C4	34:LA:2563:G:C8	3.04	0.44
40:LG:40:HIS:CD2	55:LV:69:LYS:HG3	2.53	0.44
41:LH:145:LEU:O	41:LH:149:ILE:HG22	2.17	0.44
49:LP:7:LEU:HD23	49:LP:7:LEU:HA	1.73	0.44
49:LP:9:GLU:HB3	70:Lk:44:VAL:HG11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:LP:21:PHE:O	49:LP:25:VAL:HG12	2.17	0.44
54:LU:7:TYR:HD2	54:LU:37:ALA:HB2	1.81	0.44
56:LW:81:LYS:HE3	56:LW:90:ARG:HH12	1.82	0.44
67:Lh:90:PRO:C	67:Lh:92:LYS:H	2.25	0.44
68:Li:51:LEU:HD21	68:Li:54:ILE:CD1	2.41	0.44
77:Lr:45:LYS:HD3	77:Lr:45:LYS:HA	1.78	0.44
1:S2:213:A:N7	1:S2:214:G:H1'	2.33	0.44
1:S2:364:G:C2	1:S2:381:C:C2	3.05	0.44
1:S2:392:G:H5"	1:S2:1729:C:O2'	2.18	0.44
1:S2:424:C:H4'	1:S2:426:G:OP1	2.17	0.44
1:S2:588:U:C5	23:Sg:57:ASN:HB2	2.53	0.44
1:S2:856:A:H8	1:S2:856:A:OP1	2.00	0.44
1:S2:1154:G:N1	1:S2:1624:C:N3	2.45	0.44
1:S2:1223:A:C6	1:S2:1224:A:C5	3.05	0.44
1:S2:1496:U:H2'	1:S2:1497:U:C5	2.52	0.44
8:SR:207:LEU:O	8:SR:210:THR:HG22	2.18	0.44
9:SS:53:LYS:HE3	9:SS:53:LYS:HB3	1.83	0.44
13:SW:106:GLU:HA	13:SW:111:THR:HG21	2.00	0.44
15:SY:86:GLU:CD	15:SY:86:GLU:H	2.24	0.44
27:SH:14:ILE:HD12	27:SH:14:ILE:HA	1.79	0.44
28:SI:126:GLU:HA	28:SI:129:GLN:OE1	2.18	0.44
34:LA:277:G:H2'	34:LA:278:U:C6	2.53	0.44
34:LA:822:G:H2'	34:LA:823:C:C6	2.52	0.44
34:LA:970:A:H2'	34:LA:971:G:H8	1.83	0.44
34:LA:1110:U:H2'	34:LA:1111:U:C6	2.53	0.44
34:LA:1893:A:H2'	34:LA:1894:U:C6	2.53	0.44
34:LA:2433:U:H1'	49:LP:125:SER:HB3	1.99	0.44
34:LA:2526:C:H2'	34:LA:2527:G:H8	1.82	0.44
34:LA:2611:U:H2'	34:LA:2612:U:C6	2.51	0.44
34:LA:3247:G:H2'	34:LA:3248:C:C6	2.52	0.44
40:LG:44:TYR:OH	55:LV:67:VAL:HG21	2.18	0.44
44:LK:8:GLN:OE1	44:LK:68:LEU:HD21	2.17	0.44
47:LN:168:ARG:O	47:LN:172:LEU:HG	2.17	0.44
54:LU:30:PHE:CD2	54:LU:103:VAL:HG21	2.52	0.44
60:La:27:ARG:HD3	60:La:75:ARG:HD3	2.00	0.44
60:La:48:LEU:HB3	60:La:109:LEU:CD2	2.48	0.44
60:La:71:SER:H	60:La:82:VAL:HA	1.82	0.44
62:Lc:19:LYS:HB3	62:Lc:25:HIS:HB2	1.99	0.44
64:Le:23:TYR:HD1	64:Le:25:LEU:HD21	1.83	0.44
65:Lf:11:GLU:OE1	65:Lf:74:ARG:HB2	2.18	0.44
80:Cc:25:C:C2	80:Cc:26:G:C8	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:90:C:H2'	1:S2:91:G:C8	2.51	0.44
1:S2:152:U:H1'	10:ST:4:ASN:ND2	2.33	0.44
1:S2:295:A:H2'	1:S2:296:U:H5"	1.99	0.44
1:S2:479:C:H5'	13:SW:120:LYS:HE3	1.99	0.44
1:S2:839:U:H2'	1:S2:840:U:N1	2.33	0.44
1:S2:1126:G:H5'	75:Lp:11:ARG:HE	1.83	0.44
1:S2:1179:G:C6	1:S2:1180:C:N4	2.86	0.44
5:SO:32:LEU:HD11	5:SO:94:VAL:HG11	1.99	0.44
14:SX:29:LYS:HD3	14:SX:29:LYS:HA	1.81	0.44
19:Sb:115:GLU:O	19:Sb:119:LYS:HG3	2.17	0.44
21:SD:126:TRP:O	21:SD:133:LEU:HD23	2.17	0.44
22:Sd:99:LYS:NZ	22:Sd:101:GLU:HA	2.32	0.44
22:Sd:111:LYS:HA	22:Sd:114:ARG:HH21	1.81	0.44
25:SF:81:ILE:O	25:SF:85:ILE:HG23	2.18	0.44
26:SG:35:CYS:HA	26:SG:38:ILE:HG22	2.00	0.44
26:SG:63:LYS:HE2	26:SG:63:LYS:HB3	1.81	0.44
27:SH:107:SER:HA	27:SH:110:ARG:HE	1.82	0.44
28:SI:108:LEU:CD1	28:SI:113:ILE:HB	2.47	0.44
31:SA:23:GLU:CD	78:SC:61:TRP:HE1	2.26	0.44
33:SE:21:ASP:H	33:SE:24:LYS:NZ	2.13	0.44
33:SE:121:ILE:HD11	33:SE:123:TYR:CE2	2.53	0.44
34:LA:338:A:OP1	39:LF:47:ARG:HA	2.18	0.44
34:LA:435:C:H2'	34:LA:436:A:C8	2.52	0.44
34:LA:436:A:H2'	34:LA:437:G:C8	2.52	0.44
34:LA:702:C:H2'	34:LA:703:G:C8	2.52	0.44
34:LA:1343:A:H2'	34:LA:1344:G:C8	2.53	0.44
34:LA:2230:C:O5'	34:LA:2231:C:H5"	2.18	0.44
34:LA:2510:U:H3	34:LA:2511:A:H62	1.65	0.44
40:LG:63:GLN:HB2	40:LG:65:ILE:HD11	1.98	0.44
40:LG:183:TRP:HA	40:LG:190:ILE:HA	2.00	0.44
44:LK:141:LYS:HA	44:LK:141:LYS:HD3	1.63	0.44
46:LM:64:LYS:HA	46:LM:64:LYS:HD2	1.84	0.44
49:LP:128:LYS:HB3	49:LP:130:PHE:HE2	1.82	0.44
49:LP:152:CYS:HB2	69:Lj:92:LEU:HD11	1.99	0.44
50:LQ:124[A]:LEU:HD13	54:LU:168:PRO:HG3	2.00	0.44
55:LV:100:LYS:O	55:LV:104:GLU:HG2	2.18	0.44
55:LV:102:ARG:HD2	55:LV:102:ARG:HA	1.75	0.44
64:Le:13:LYS:O	64:Le:17:VAL:HG12	2.18	0.44
65:Lf:52:ALA:HB1	65:Lf:54:GLU:OE2	2.18	0.44
76:Lq:38:GLN:HE21	76:Lq:42:ARG:NH2	2.14	0.44
80:Cc:21:A:H61	80:Cc:46:G:H2'	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:36:C:H2'	1:S2:37:U:C6	2.52	0.44
1:S2:250:C:H2'	1:S2:251:A:C8	2.52	0.44
1:S2:447:U:H2'	1:S2:448:C:O4'	2.18	0.44
1:S2:799:A:H4'	9:SS:201:HIS:CD2	2.53	0.44
1:S2:816:G:C2	1:S2:817:A:C5	3.05	0.44
1:S2:1217:A:H5'	1:S2:1219:A:C4'	2.48	0.44
1:S2:1347:U:O2	1:S2:1516:A:H2'	2.17	0.44
1:S2:1582:U:C2	1:S2:1614:A:C5	3.05	0.44
5:SO:47:LEU:HD21	5:SO:54:PHE:HE1	1.82	0.44
7:SQ:24:PHE:CD1	7:SQ:24:PHE:N	2.86	0.44
8:SR:168:ARG:HG2	8:SR:170:ILE:HD11	2.00	0.44
9:SS:86:PHE:CZ	9:SS:87:MET:HE3	2.52	0.44
9:SS:188:ASN:O	9:SS:191:ARG:HG3	2.18	0.44
19:Sb:51:GLU:HB3	19:Sb:62:VAL:CG2	2.48	0.44
20:Sc:93:LEU:HD12	20:Sc:93:LEU:HA	1.74	0.44
25:SF:47:LYS:HG3	25:SF:48:VAL:N	2.33	0.44
25:SF:116:LEU:O	25:SF:117:LEU:HD13	2.18	0.44
29:SJ:20:ILE:HD12	29:SJ:94:GLU:OE2	2.16	0.44
34:LA:61:A:C4	34:LA:62:A:C8	3.06	0.44
34:LA:201:A:H2'	34:LA:202:G:C8	2.53	0.44
34:LA:288:C:H4'	49:LP:171:SER:O	2.18	0.44
34:LA:372:A:H2'	34:LA:373:A:H8	1.82	0.44
34:LA:393:U:H2'	34:LA:394:G:O4'	2.18	0.44
34:LA:1547:G:H5"	49:LP:108:ARG:NH2	2.33	0.44
34:LA:1697:A:H5'	68:Li:33:GLN:OE1	2.17	0.44
34:LA:3260:G:OP2	48:LO:125:LYS:HE2	2.18	0.44
34:LA:3303:G:C4	34:LA:3305:A:C6	3.06	0.44
37:LD:32:LEU:HB2	37:LD:163:ARG:HE	1.83	0.44
38:LE:188:ILE:O	38:LE:192:VAL:HG23	2.18	0.44
38:LE:303:LYS:HD2	38:LE:361:THR:HG21	2.00	0.44
40:LG:202:GLY:HA2	40:LG:205:SER:OG	2.18	0.44
50:LQ:110[A]:PRO:N	50:LQ:111[A]:PRO:HD2	2.33	0.44
51:LR:22:LEU:HD12	51:LR:90:PHE:CE1	2.52	0.44
53:LT:116:ASP:OD1	53:LT:116:ASP:C	2.60	0.44
57:LX:19:VAL:HG22	57:LX:49:LEU:HD22	1.99	0.44
60:La:45:ILE:CG2	60:La:125:LYS:HG3	2.46	0.44
65:Lf:68:GLU:OE2	65:Lf:68:GLU:HA	2.17	0.44
79:Bb:61:C:H3'	79:Bb:62:A:H5"	1.99	0.44
80:Cc:56:C:H2'	80:Cc:57:G:H8	1.79	0.44
1:S2:153:G:N1	1:S2:161:U:N3	2.66	0.44
1:S2:876:G:C2	1:S2:944:A:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:898:A:H4'	16:SZ:46:MET:HE2	2.00	0.44
1:S2:1352:G:N2	1:S2:1374:C:C2	2.86	0.44
1:S2:1356:U:H2'	1:S2:1357:A:C8	2.52	0.44
1:S2:1449:U:H3'	1:S2:1449:U:OP2	2.18	0.44
4:SN:131:PHE:C	4:SN:132:LEU:HD23	2.43	0.44
5:SO:180:ALA:O	5:SO:188:ILE:HD12	2.17	0.44
7:SQ:143:THR:HG21	7:SQ:156:ALA:HB2	2.00	0.44
7:SQ:205:PHE:CG	7:SQ:206:PRO:HD2	2.53	0.44
8:SR:35:TRP:HB3	8:SR:46:LYS:HE2	1.99	0.44
9:SS:73:ASP:HA	9:SS:164:LEU:HD11	2.00	0.44
10:ST:84:TYR:OH	10:ST:91:GLU:HG2	2.18	0.44
13:SW:90:LYS:HD2	13:SW:95:TYR:CE2	2.53	0.44
13:SW:149:ARG:C	13:SW:151:ASP:H	2.26	0.44
20:Sc:82:LYS:HE2	20:Sc:82:LYS:HB2	1.79	0.44
21:SD:125:ASN:CG	21:SD:125:ASN:O	2.61	0.44
25:SF:45:ARG:O	25:SF:48:VAL:HG12	2.18	0.44
25:SF:92:TYR:CD1	25:SF:92:TYR:C	2.96	0.44
27:SH:117:LYS:HZ3	27:SH:128:PHE:N	2.15	0.44
28:SI:45:MET:HE3	28:SI:46:PRO:HD2	1.99	0.44
29:SJ:53:LYS:HD3	29:SJ:92:ASP:OD2	2.16	0.44
31:SA:123:VAL:HA	31:SA:126:VAL:HG12	2.00	0.44
31:SA:172:THR:HG23	31:SA:185:LYS:HG2	1.99	0.44
32:SB:148:ARG:HA	32:SB:157:ARG:HE	1.82	0.44
34:LA:313:A:H2'	34:LA:314:U:H6	1.83	0.44
34:LA:626:U:H2'	34:LA:627:U:H6	1.82	0.44
34:LA:761:A:N6	34:LA:770:G:H1'	2.32	0.44
34:LA:1064:A:O4'	34:LA:1066:G:C8	2.70	0.44
34:LA:1580:A:H1'	59:LZ:33:ARG:HH22	1.82	0.44
34:LA:1598:G:H2'	34:LA:1599:G:H8	1.82	0.44
34:LA:2732:G:H4'	34:LA:2760:C:H4'	2.00	0.44
34:LA:2746:A:H5"	40:LG:178:ASN:ND2	2.32	0.44
34:LA:3323:A:H2'	34:LA:3324:C:O4'	2.17	0.44
34:LA:3381:U:H4'	34:LA:3382:U:C5	2.53	0.44
39:LF:156:LEU:O	39:LF:215:ILE:HD13	2.17	0.44
41:LH:149:ILE:HG12	41:LH:156:LYS:NZ	2.32	0.44
45:LL:130:ASP:OD1	45:LL:133:GLN:HB2	2.18	0.44
46:LM:71:VAL:HG23	46:LM:76:ALA:HB2	1.99	0.44
46:LM:86:VAL:HG21	46:LM:112:LEU:HA	2.00	0.44
51:LR:176:ILE:HD12	51:LR:177:ALA:N	2.33	0.44
60:La:24:SER:HA	60:La:27:ARG:HB2	1.99	0.44
68:Li:100:ILE:O	68:Li:104:VAL:HG13	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:Lq:73:GLU:OE2	76:Lq:78:LYS:HD2	2.17	0.44
78:SC:3:MET:HB2	78:SC:7:ASP:OD2	2.18	0.44
80:Cc:59:A:H2'	80:Cc:60:A:C8	2.53	0.44
1:S2:153:G:H1'	10:ST:56:ASN:ND2	2.33	0.44
1:S2:551:G:C2	1:S2:552:G:C5	3.06	0.44
1:S2:562:G:H2'	1:S2:563:U:H6	1.82	0.44
1:S2:749:U:H2'	1:S2:750:U:C6	2.52	0.44
1:S2:849:C:C4	1:S2:850:A:N7	2.86	0.44
1:S2:1160:A:H2'	1:S2:1161:C:C6	2.53	0.44
1:S2:1228:G:H8	1:S2:1228:G:OP1	2.00	0.44
1:S2:1341:A:H1'	5:SO:65:SER:OG	2.18	0.44
1:S2:1417:A:H2'	1:S2:1418:G:O4'	2.17	0.44
1:S2:1639:C:H2'	1:S2:1640:C:O4'	2.18	0.44
6:SP:144:ILE:CD1	6:SP:158:VAL:HB	2.48	0.44
8:SR:178:ILE:HG23	8:SR:196:VAL:HG12	2.00	0.44
8:SR:233:GLN:OE1	8:SR:233:GLN:HA	2.18	0.44
18:Sf:50:ALA:H	18:Sf:71:ALA:HB2	1.83	0.44
33:SE:83:MET:O	33:SE:116:LEU:HD22	2.18	0.44
34:LA:297:G:H2'	70:Lk:41:ARG:HH12	1.83	0.44
34:LA:355:A:H2'	34:LA:356:C:O4'	2.17	0.44
34:LA:688:G:H1'	34:LA:692:A:H61	1.83	0.44
34:LA:788:C:H2'	34:LA:789:A:C8	2.53	0.44
34:LA:1729:A:N6	77:Lr:42:CYS:HA	2.32	0.44
34:LA:1830:G:N3	34:LA:1830:G:H2'	2.32	0.44
34:LA:1836:C:H2'	34:LA:1837:U:H6	1.83	0.44
34:LA:2267:C:H2'	34:LA:2268:U:O4'	2.18	0.44
34:LA:2326:A:H2'	34:LA:2327:U:O4'	2.17	0.44
35:LB:1:G:C2	35:LB:2:G:C8	3.06	0.44
40:LG:211:LEU:HD23	40:LG:211:LEU:HA	1.82	0.44
45:LL:208:ASN:HA	45:LL:211:ARG:NH1	2.33	0.44
50:LQ:34[A]:VAL:HG21	50:LQ:112[A]:TYR:CE1	2.52	0.44
55:LV:119:ALA:HB3	55:LV:126:VAL:HG23	1.99	0.44
57:LX:37:ILE:HD11	57:LX:73:VAL:HG13	2.00	0.44
58:LY:2:LYS:NZ	58:LY:4:GLU:HG2	2.32	0.44
59:LZ:115:ARG:NH1	59:LZ:121:LYS:HB2	2.32	0.44
61:Lb:4:PHE:CZ	64:Le:62:LEU:HD21	2.53	0.44
68:Li:42:PRO:O	68:Li:51:LEU:HB3	2.18	0.44
1:S2:1211:A:N6	1:S2:1453:G:C6	2.86	0.43
1:S2:1283:U:H5"	1:S2:1284:C:H2'	1.98	0.43
1:S2:1428:G:C2	1:S2:1429:G:C5	3.06	0.43
1:S2:1541:G:H1'	1:S2:1570:A:N6	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SO:119:ALA:O	5:SO:136:ILE:HD13	2.18	0.43
5:SO:262:VAL:HG12	5:SO:271:VAL:HG21	2.00	0.43
7:SQ:26:ARG:HH11	7:SQ:49:ASN:HD21	1.66	0.43
9:SS:15:PRO:HD2	9:SS:18:TRP:CZ3	2.53	0.43
9:SS:82:TYR:CD1	9:SS:82:TYR:C	2.96	0.43
10:ST:164:LYS:HD2	10:ST:165:GLY:N	2.33	0.43
13:SW:146:PHE:CD1	13:SW:146:PHE:C	2.95	0.43
15:SY:62:GLN:HG3	15:SY:64:ARG:HB3	1.99	0.43
21:SD:29:LYS:CB	21:SD:100:TRP:HE1	2.26	0.43
21:SD:35:ALA:HA	21:SD:38:HIS:ND1	2.33	0.43
22:Sd:20:ARG:HB3	22:Sd:76:TYR:CD1	2.52	0.43
27:SH:11:PHE:CE2	30:SK:41:ILE:HG21	2.52	0.43
28:SI:115:GLU:OE2	28:SI:123:ARG:HG2	2.18	0.43
30:SK:59:TYR:CE1	30:SK:61:SER:HB2	2.53	0.43
31:SA:202:LEU:HD23	31:SA:202:LEU:HA	1.82	0.43
34:LA:23:A:H2'	34:LA:24:G:C8	2.53	0.43
34:LA:515:C:H2'	34:LA:516:A:H8	1.83	0.43
34:LA:1048:A:H5"	34:LA:1049:C:H5"	2.00	0.43
34:LA:1190:A:H4'	74:Lo:113:ARG:HH22	1.82	0.43
34:LA:3013:U:H2'	34:LA:3014:U:C6	2.53	0.43
34:LA:3191:G:C6	34:LA:3202:G:C6	3.05	0.43
35:LB:42:A:C8	46:LM:72:ARG:NE	2.86	0.43
36:LC:68:G:H2'	36:LC:69:U:H6	1.83	0.43
37:LD:45:VAL:HG12	37:LD:86:GLN:O	2.18	0.43
37:LD:46:LYS:HA	37:LD:46:LYS:HD3	1.77	0.43
39:LF:141:ARG:HB3	39:LF:176:SER:OG	2.18	0.43
40:LG:36:LEU:HB3	40:LG:50:ARG:HD3	2.00	0.43
43:LJ:96:LYS:HA	43:LJ:96:LYS:HD3	1.68	0.43
44:LK:176:LEU:HD12	74:Lo:86:ALA:HB1	2.00	0.43
45:LL:139:ARG:HG3	45:LL:173:PHE:CD1	2.53	0.43
53:LT:15:VAL:HG22	53:LT:52:LYS:HE2	1.99	0.43
55:LV:67:VAL:HG12	55:LV:72:VAL:HG12	2.00	0.43
56:LW:93:ILE:HD12	56:LW:94:ARG:H	1.83	0.43
60:La:24:SER:HA	60:La:27:ARG:HD2	1.99	0.43
67:Lh:15:SER:HA	67:Lh:94:PHE:CE1	2.53	0.43
1:S2:790:U:H3'	1:S2:791:A:C2	2.52	0.43
1:S2:980:G:H4'	1:S2:1776:A:H4'	2.00	0.43
1:S2:1277:G:O3'	31:SA:183:GLY:HA3	2.18	0.43
1:S2:1294:G:H1'	6:SP:109:ASN:ND2	2.33	0.43
5:SO:16:HIS:NE2	5:SO:43:ILE:HG22	2.32	0.43
8:SR:227:PRO:HA	8:SR:230:TRP:CD1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:SV:107:THR:N	12:SV:108:PRO:HD2	2.33	0.43
13:SW:17:ARG:HD3	13:SW:20:GLU:OE2	2.18	0.43
29:SJ:30:LYS:HD3	29:SJ:30:LYS:HA	1.60	0.43
34:LA:100:A:O2'	34:LA:101:G:H5'	2.18	0.43
34:LA:224:C:H2'	34:LA:225:C:H6	1.83	0.43
34:LA:884:A:OP2	71:Ll:4:GLY:HA3	2.19	0.43
34:LA:1295:G:OP1	54:LU:84:ARG:HG3	2.18	0.43
34:LA:1881:A:H2'	34:LA:1882:G:H8	1.83	0.43
34:LA:2185:G:H2'	34:LA:2186:U:C6	2.53	0.43
34:LA:3295:A:H2'	34:LA:3296:A:H8	1.84	0.43
35:LB:7:G:H2'	35:LB:8:G:C8	2.53	0.43
35:LB:39:C:H2'	35:LB:40:C:H6	1.83	0.43
35:LB:71:G:H2'	35:LB:72:A:C8	2.53	0.43
38:LE:68:HIS:O	38:LE:70:ARG:HG3	2.18	0.43
42:LI:47:ARG:HG2	42:LI:51:TYR:CE2	2.53	0.43
42:LI:147:LEU:HD23	42:LI:147:LEU:HA	1.80	0.43
43:LJ:87:ALA:HB1	43:LJ:185:ARG:NH2	2.33	0.43
47:LN:64:LYS:HG3	62:Lc:69:TRP:CD1	2.53	0.43
48:LO:60:LEU:HA	48:LO:63:VAL:HG22	2.00	0.43
53:LT:155:LEU:HA	53:LT:155:LEU:HD13	1.79	0.43
64:Le:34:LEU:HD23	64:Le:34:LEU:HA	1.77	0.43
66:Lg:90:LYS:HB3	66:Lg:90:LYS:HE2	1.69	0.43
67:Lh:16:TYR:OH	67:Lh:91:ALA:HB2	2.18	0.43
1:S2:332:U:O3'	1:S2:333:A:H8	2.02	0.43
1:S2:534:A:H2'	1:S2:535:A:O4'	2.18	0.43
1:S2:811:A:H5"	1:S2:816:G:O2'	2.18	0.43
1:S2:876:G:H1'	1:S2:944:A:O4'	2.18	0.43
1:S2:1204:A:C4	1:S2:1205:C:C5	3.06	0.43
5:SO:23:LEU:HD23	5:SO:23:LEU:HA	1.78	0.43
6:SP:84:ARG:HD3	6:SP:205:ARG:O	2.17	0.43
6:SP:110:TYR:CE1	6:SP:111:ILE:HG23	2.54	0.43
9:SS:9:LEU:HD23	9:SS:9:LEU:HA	1.79	0.43
20:Sc:33:LEU:HD23	20:Sc:33:LEU:HA	1.79	0.43
21:SD:26:ASP:O	21:SD:30:VAL:HG13	2.19	0.43
21:SD:62:LEU:HD12	21:SD:63:VAL:N	2.34	0.43
21:SD:69:ALA:HA	21:SD:72:ILE:HD13	2.00	0.43
32:SB:212:LYS:HA	32:SB:215:ASP:OD2	2.19	0.43
34:LA:60:A:C8	34:LA:327:A:C6	3.07	0.43
34:LA:68:C:O3'	49:LP:177:GLY:HA2	2.18	0.43
34:LA:224:C:H2'	34:LA:225:C:C6	2.54	0.43
34:LA:649:A:H2'	34:LA:650:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1046:A:H2'	34:LA:1049:C:C5	2.53	0.43
34:LA:1195:A:H2'	34:LA:1309:U:O2	2.19	0.43
34:LA:1461:A:H2'	34:LA:1462:A:C8	2.52	0.43
34:LA:1809:A:H2'	34:LA:1810:A:C8	2.53	0.43
34:LA:2186:U:OP2	37:LD:200:ARG:HD2	2.17	0.43
34:LA:2524:A:C2	43:LJ:44:ARG:HD2	2.54	0.43
36:LC:142:C:C2	36:LC:143:U:C5	3.06	0.43
38:LE:292:ALA:HB2	38:LE:302:LYS:HA	1.99	0.43
39:LF:169:LEU:HD23	39:LF:169:LEU:HA	1.80	0.43
39:LF:286:VAL:O	39:LF:290:ILE:HG13	2.18	0.43
40:LG:64:ILE:HD11	40:LG:76:ALA:HB3	1.99	0.43
41:LH:89:THR:HG22	48:LO:115:PHE:HB2	1.99	0.43
47:LN:70:ARG:NH1	47:LN:72:GLY:HA2	2.34	0.43
47:LN:170:LEU:HD21	62:Lc:147:LEU:HG	1.99	0.43
49:LP:120:TRP:NE1	49:LP:123:GLN:HB3	2.29	0.43
52:LS:57:ILE:HD12	52:LS:147:ARG:NH1	2.34	0.43
52:LS:122:ILE:HG21	52:LS:130:ARG:HH12	1.82	0.43
53:LT:38:ARG:HB3	53:LT:42:ARG:NH1	2.33	0.43
56:LW:33:TYR:CE2	56:LW:37:LEU:HD11	2.52	0.43
62:Lc:43:ILE:HD13	62:Lc:43:ILE:N	2.33	0.43
68:Li:58:ARG:HD2	68:Li:59:PRO:HD2	2.00	0.43
72:Lm:75:VAL:HG12	72:Lm:77:ARG:HG2	2.00	0.43
75:Lp:1:MET:SD	75:Lp:6:ARG:HD3	2.58	0.43
78:SC:46:LEU:HD12	78:SC:66:TYR:CD1	2.53	0.43
78:SC:74:GLU:H	78:SC:74:GLU:CD	2.25	0.43
79:Bb:26:G:C6	79:Bb:44:A:N1	2.86	0.43
80:Cc:26:G:C6	80:Cc:44:A:N1	2.87	0.43
80:Cc:50:U:H2'	80:Cc:51:C:H6	1.82	0.43
1:S2:372:G:H4'	1:S2:612:U:H3	1.84	0.43
1:S2:413:U:H2'	1:S2:414:C:H6	1.82	0.43
1:S2:463:U:C2	1:S2:464:A:C8	3.07	0.43
1:S2:551:G:H5'	1:S2:581:U:C2	2.53	0.43
1:S2:1345:A:H1'	29:SJ:56:VAL:HG13	1.99	0.43
1:S2:1558:U:OP2	1:S2:1559:A:H4'	2.19	0.43
1:S2:1578:U:O2'	1:S2:1579:U:H5'	2.18	0.43
2:SL:42:ARG:HA	2:SL:42:ARG:HD2	1.82	0.43
5:SO:19:TRP:H	5:SO:38:ARG:HG3	1.82	0.43
5:SO:32:LEU:HD23	5:SO:46:LYS:HD3	1.99	0.43
6:SP:146:LEU:HB3	6:SP:162:CYS:SG	2.59	0.43
7:SQ:26:ARG:HD2	7:SQ:49:ASN:ND2	2.34	0.43
7:SQ:145:LYS:HB3	7:SQ:149:GLN:HG2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SQ:157:GLN:C	7:SQ:159:SER:H	2.26	0.43
10:ST:142:ARG:CZ	10:ST:142:ARG:HB2	2.47	0.43
11:SU:64:VAL:CG1	11:SU:94:ALA:HB1	2.47	0.43
13:SW:30:LEU:HD11	13:SW:102:GLU:HB3	1.99	0.43
14:SX:85:VAL:HA	14:SX:108:PRO:HA	2.01	0.43
15:SY:34:ILE:HD11	15:SY:74:ILE:HD12	2.00	0.43
16:SZ:29:HIS:CB	16:SZ:41:ARG:HA	2.49	0.43
24:Se:45:VAL:HG11	24:Se:53:LEU:HG	2.01	0.43
25:SF:41:PRO:C	25:SF:43:ILE:H	2.26	0.43
26:SG:71:PHE:HD2	26:SG:73:LEU:HB3	1.83	0.43
27:SH:49:LYS:HG2	27:SH:80:LYS:NZ	2.33	0.43
30:SK:46:LYS:HA	30:SK:49:ARG:HB3	2.00	0.43
34:LA:1479:U:C3'	34:LA:1480:G:H5'	2.48	0.43
34:LA:1539:A:C6	34:LA:1583:A:C5	3.06	0.43
34:LA:1741:A:H5'	34:LA:1742:U:H5	1.83	0.43
34:LA:2427:U:H2'	34:LA:2428:U:C6	2.54	0.43
34:LA:2638:C:C2	34:LA:2639:G:C8	3.06	0.43
34:LA:3047:U:O2'	34:LA:3048:A:H5'	2.18	0.43
35:LB:4:U:H2'	35:LB:5:G:H8	1.83	0.43
39:LF:233:LEU:HA	39:LF:233:LEU:HD23	1.70	0.43
43:LJ:133:LYS:HE3	43:LJ:138:HIS:HE1	1.83	0.43
48:LO:112:LEU:HD12	48:LO:113:THR:N	2.34	0.43
55:LV:63:VAL:HG22	55:LV:75:ILE:HB	1.99	0.43
56:LW:15:PHE:CD1	56:LW:101:ASN:HB3	2.53	0.43
67:Lh:42:GLN:HA	67:Lh:45:LEU:CD2	2.48	0.43
80:Cc:34:C:H2'	80:Cc:35:A:C8	2.53	0.43
1:S2:454:U:N1	9:SS:66:MET:HG3	2.33	0.43
1:S2:776:G:H2'	1:S2:777:C:C6	2.52	0.43
1:S2:801:G:H2'	1:S2:802:G:C8	2.54	0.43
1:S2:1389:C:O3'	26:SG:49:LYS:HD3	2.18	0.43
1:S2:1396:U:O2	1:S2:1402:G:O6	2.37	0.43
1:S2:1480:G:H3'	1:S2:1481:C:C6	2.53	0.43
1:S2:1645:G:C6	1:S2:1757:G:C6	3.06	0.43
1:S2:1759:C:H2'	1:S2:1760:G:C8	2.53	0.43
5:SO:193:ILE:HG13	31:SA:217:ILE:HG21	2.00	0.43
6:SP:67:ILE:HD12	6:SP:68:PRO:CD	2.49	0.43
15:SY:113:PHE:O	15:SY:116:ILE:HG22	2.18	0.43
19:Sb:38:LEU:HD13	19:Sb:38:LEU:HA	1.85	0.43
25:SF:110:THR:HG22	25:SF:117:LEU:HD23	1.99	0.43
26:SG:13:SER:O	26:SG:17:ILE:HG12	2.19	0.43
28:SI:132:LEU:HD12	28:SI:132:LEU:O	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:SA:34:TYR:CE1	31:SA:37:VAL:HG13	2.54	0.43
31:SA:73:VAL:O	31:SA:77:PHE:HD1	2.01	0.43
34:LA:1413:G:H2'	34:LA:1414:G:H8	1.82	0.43
34:LA:1469:C:H3'	34:LA:1470:U:H5'	1.99	0.43
34:LA:1521:G:H4'	34:LA:1603:A:H2	1.84	0.43
34:LA:1666:G:C6	34:LA:1784:G:C6	3.07	0.43
34:LA:2242:A:H5"	37:LD:244:GLY:HA3	1.99	0.43
34:LA:2291:A:C6	34:LA:2302:G:C6	3.07	0.43
34:LA:3141:A:C6	34:LA:3144:G:C4	3.07	0.43
34:LA:3183:A:H2	34:LA:3188:G:H4'	1.83	0.43
35:LB:21:G:H4'	40:LG:272:TYR:HE1	1.83	0.43
35:LB:55:A:C4	35:LB:56:A:C8	3.07	0.43
37:LD:70:ARG:HD3	37:LD:71:LEU:N	2.33	0.43
38:LE:252:ILE:HD13	38:LE:260:VAL:HG22	2.01	0.43
40:LG:82:GLU:HG3	40:LG:83:LEU:N	2.33	0.43
41:LH:46:ARG:HG2	41:LH:47:PHE:CE1	2.53	0.43
42:LI:124:LEU:HD13	42:LI:124:LEU:HA	1.84	0.43
48:LO:15:VAL:HG12	48:LO:65:LEU:HD11	2.00	0.43
51:LR:48:LEU:HD13	51:LR:88:VAL:HG22	2.00	0.43
55:LV:39:ILE:HG22	55:LV:99:SER:HB3	2.01	0.43
56:LW:18:ASP:HA	56:LW:62:VAL:HG22	2.01	0.43
57:LX:109:MET:HE3	57:LX:132:ASN:HD22	1.82	0.43
60:La:85:VAL:HG23	60:La:85:VAL:O	2.17	0.43
1:S2:151:G:N7	1:S2:164:A:H2	2.16	0.43
1:S2:739:G:H21	1:S2:740:A:H5'	1.84	0.43
1:S2:1012:U:H4'	37:LD:248:GLY:CA	2.48	0.43
1:S2:1208:A:H2'	1:S2:1208:A:N3	2.33	0.43
1:S2:1388:A:H5'	1:S2:1389:C:C6	2.54	0.43
1:S2:1625:C:H2'	1:S2:1626:U:C6	2.53	0.43
6:SP:205:ARG:NH1	6:SP:207:PRO:HD2	2.34	0.43
8:SR:67:GLN:H	8:SR:67:GLN:HG3	1.56	0.43
9:SS:8:HIS:HB3	9:SS:27:TYR:HE2	1.83	0.43
14:SX:42:PHE:C	14:SX:43:LYS:HE2	2.43	0.43
15:SY:42:ARG:HE	15:SY:80:LEU:HD21	1.83	0.43
16:SZ:13:VAL:HG12	16:SZ:76:ILE:HD13	1.99	0.43
16:SZ:81:VAL:HG21	16:SZ:102:LEU:HD11	1.99	0.43
19:Sb:10:ALA:O	19:Sb:14:ILE:HG12	2.18	0.43
19:Sb:98:GLN:OE1	19:Sb:98:GLN:N	2.50	0.43
34:LA:28:C:C2	34:LA:57:A:N1	2.86	0.43
34:LA:291:C:C2	34:LA:292:U:C5	3.07	0.43
34:LA:374:A:H4'	34:LA:375:A:OP1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:412:G:C6	34:LA:413:U:C2	3.06	0.43
34:LA:613:G:H2'	34:LA:614:C:C6	2.54	0.43
34:LA:1073:U:H2'	34:LA:1074:U:C6	2.54	0.43
34:LA:1169:A:C6	34:LA:1170:A:C6	3.07	0.43
34:LA:1405:U:OP1	66:Lg:58:GLY:HA2	2.18	0.43
34:LA:1941:C:H2'	34:LA:1942:U:C6	2.53	0.43
34:LA:2232:A:H2'	34:LA:2233:A:C8	2.53	0.43
34:LA:2877:G:H2'	34:LA:2878:G:C8	2.53	0.43
34:LA:2889:C:H2'	34:LA:2890:A:C8	2.54	0.43
34:LA:2902:A:H3'	34:LA:2903:A:H8	1.83	0.43
34:LA:3041:U:OP1	57:LX:12:ARG:HG3	2.18	0.43
34:LA:3051:U:C2	34:LA:3052:G:C8	3.06	0.43
39:LF:359:LEU:HA	54:LU:8:GLN:OE1	2.18	0.43
53:LT:10:LEU:HD13	53:LT:10:LEU:HA	1.78	0.43
54:LU:13:ARG:NH1	54:LU:51:VAL:HB	2.33	0.43
55:LV:39:ILE:HD13	55:LV:39:ILE:HA	1.88	0.43
72:Lm:64:LYS:HA	72:Lm:67:GLN:HE22	1.83	0.43
76:Lq:88:CYS:SG	76:Lq:91:PHE:HB2	2.58	0.43
1:S2:197:A:H2'	1:S2:198:A:C8	2.53	0.43
1:S2:201:G:C2	1:S2:202:A:C5	3.06	0.43
1:S2:287:G:C2	1:S2:288:A:C8	3.07	0.43
1:S2:430:G:H2'	1:S2:431:C:H6	1.82	0.43
1:S2:599:A:H2'	1:S2:600:U:C6	2.54	0.43
1:S2:983:A:O2'	1:S2:984:G:H5'	2.18	0.43
1:S2:992:A:C2	1:S2:1013:A:C6	3.07	0.43
1:S2:1142:A:H2'	1:S2:1143:A:C8	2.53	0.43
1:S2:1239:U:C6	1:S2:1240:U:H5	2.37	0.43
1:S2:1266:U:H2'	1:S2:1267:G:H8	1.84	0.43
1:S2:1268:G:C2	1:S2:1270:G:C8	3.06	0.43
1:S2:1715:G:OP2	1:S2:1715:G:H8	2.02	0.43
3:SM:46:LYS:HD3	3:SM:46:LYS:HA	1.84	0.43
5:SO:199:ILE:H	5:SO:199:ILE:HG13	1.58	0.43
7:SQ:161:ILE:HG13	7:SQ:165:ARG:HH12	1.82	0.43
14:SX:109:VAL:HA	14:SX:135:VAL:HG23	2.01	0.43
14:SX:125:VAL:CG2	14:SX:137:PHE:HB3	2.49	0.43
18:Sf:19:HIS:HB3	18:Sf:22:LYS:HG3	1.99	0.43
24:Se:24:VAL:HG12	24:Se:72:HIS:O	2.18	0.43
26:SG:60:ARG:HB3	26:SG:66:VAL:HG21	2.00	0.43
27:SH:96:LYS:HG3	27:SH:97:ASP:N	2.32	0.43
32:SB:87:CYS:HB3	32:SB:92:ARG:HE	1.84	0.43
34:LA:538:G:H2'	34:LA:539:C:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1024:G:O2'	34:LA:1026:A:H5"	2.19	0.43
34:LA:1383:G:H4'	39:LF:240:PRO:HB2	2.01	0.43
34:LA:1650:G:H2'	34:LA:1651:U:H6	1.84	0.43
34:LA:1909:A:H2'	34:LA:1910:A:C8	2.53	0.43
34:LA:2894:C:H2'	34:LA:2895:G:H8	1.84	0.43
34:LA:3039:C:H2'	34:LA:3040:A:O4'	2.19	0.43
34:LA:3107:U:OP1	74:Lo:112:LYS:HE3	2.19	0.43
35:LB:4:U:H2'	35:LB:5:G:C8	2.54	0.43
35:LB:81:U:H2'	35:LB:82:G:H8	1.84	0.43
36:LC:57:C:H4'	36:LC:63:G:N7	2.34	0.43
37:LD:198:LYS:HE3	37:LD:198:LYS:HB3	1.55	0.43
38:LE:383:LEU:HD23	38:LE:383:LEU:HA	1.85	0.43
42:LI:120:THR:OG1	55:LV:132:PRO:HB2	2.19	0.43
42:LI:140:SER:O	42:LI:143:THR:HG23	2.18	0.43
43:LJ:203:VAL:HG13	43:LJ:208:GLU:HG2	2.00	0.43
44:LK:124:ARG:HB3	44:LK:164:ILE:CG2	2.48	0.43
52:LS:93:ILE:C	52:LS:94:PHE:HD1	2.27	0.43
56:LW:85:LYS:HE2	56:LW:85:LYS:HA	2.01	0.43
58:LY:57:LYS:HE3	58:LY:57:LYS:HB2	1.61	0.43
59:LZ:32:PHE:C	59:LZ:33:ARG:HD2	2.43	0.43
61:Lb:25:ILE:HD11	61:Lb:28:PRO:HB3	2.00	0.43
80:Cc:12:G:H2'	80:Cc:13:C:O4'	2.17	0.43
1:S2:48:G:C6	1:S2:49:C:C4	3.07	0.43
1:S2:273:G:H2'	1:S2:274:G:H8	1.84	0.43
1:S2:408:C:H2'	1:S2:409:C:C6	2.53	0.43
1:S2:1206:U:H4'	3:SM:27:HIS:CD2	2.54	0.43
1:S2:1251:U:H5"	1:S2:1252:C:C5	2.54	0.43
1:S2:1363:U:H3'	1:S2:1364:G:C8	2.52	0.43
1:S2:1389:C:N4	1:S2:1391:A:O4'	2.51	0.43
1:S2:1398:U:H5	1:S2:1400:A:C5	2.37	0.43
1:S2:1451:C:OP1	3:SM:10:HIS:HB3	2.19	0.43
1:S2:1475:A:H2'	1:S2:1476:C:H6	1.83	0.43
1:S2:1540:G:O2'	1:S2:1541:G:H5'	2.17	0.43
1:S2:1550:A:N1	1:S2:1562:G:C6	2.87	0.43
5:SO:70:ASP:OD2	5:SO:112:SER:HA	2.19	0.43
5:SO:209:THR:O	5:SO:224:ASN:HA	2.19	0.43
6:SP:54:TRP:O	6:SP:58:VAL:HG13	2.18	0.43
10:ST:102:VAL:HG23	10:ST:106:LEU:HD22	2.01	0.43
11:SU:150:GLN:HB3	11:SU:181:ILE:HD13	2.00	0.43
11:SU:172:VAL:O	11:SU:176:LEU:HG	2.18	0.43
13:SW:88:GLU:N	13:SW:88:GLU:OE2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:SW:97:LEU:HA	13:SW:97:LEU:HD23	1.72	0.43
13:SW:131:GLN:C	13:SW:132:ARG:HG2	2.44	0.43
19:Sb:126:LEU:HD12	19:Sb:126:LEU:HA	1.79	0.43
31:SA:207:THR:O	31:SA:208:ILE:HD13	2.18	0.43
33:SE:25:LEU:O	33:SE:87:PRO:HB2	2.19	0.43
34:LA:183:G:H2'	34:LA:184:U:H6	1.83	0.43
34:LA:372:A:H2'	34:LA:373:A:C8	2.53	0.43
34:LA:772:U:H6	34:LA:773:G:H5'	1.84	0.43
34:LA:1618:G:H21	34:LA:1619:A:H62	1.65	0.43
34:LA:2188:A:C5	34:LA:2189:U:C6	3.07	0.43
34:LA:2363:A:C2	34:LA:2376:G:C6	3.06	0.43
34:LA:2736:A:H2'	34:LA:2737:C:O4'	2.18	0.43
34:LA:2769:A:H2'	34:LA:2770:G:H8	1.82	0.43
34:LA:3188:G:H2'	34:LA:3189:G:H8	1.84	0.43
39:LF:166:VAL:HG12	39:LF:170:LYS:HE3	2.01	0.43
42:LI:222:HIS:ND1	42:LI:223:PHE:N	2.67	0.43
44:LK:135:GLU:O	44:LK:144:ILE:HD12	2.18	0.43
45:LL:179:PRO:O	45:LL:182:LEU:HB2	2.19	0.43
46:LM:89:TYR:O	46:LM:169:ALA:HB1	2.19	0.43
50:LQ:85[A]:ARG:HG2	50:LQ:85[A]:ARG:NH1	2.34	0.43
73:Ln:26:TRP:CD1	73:Ln:26:TRP:H	2.37	0.43
1:S2:57:G:H5'	22:Sd:112:LYS:HD2	2.00	0.43
1:S2:631:G:H2'	1:S2:632:U:C6	2.53	0.43
1:S2:883:C:H2'	1:S2:884:A:C8	2.54	0.43
1:S2:1616:G:H4'	2:SL:18:ARG:HD3	2.00	0.43
1:S2:1672:G:H3'	1:S2:1673:G:H8	1.84	0.43
4:SN:83:LYS:HD3	4:SN:83:LYS:HA	1.90	0.43
4:SN:113:LYS:NZ	4:SN:115:THR:HA	2.33	0.43
5:SO:19:TRP:HB2	5:SO:38:ARG:HG3	2.00	0.43
5:SO:23:LEU:HD12	5:SO:293:ALA:HB3	2.01	0.43
5:SO:87:LYS:HD2	5:SO:108:SER:C	2.44	0.43
5:SO:211:ILE:O	5:SO:222:LEU:HD12	2.19	0.43
6:SP:59:LEU:HD22	17:Sa:79:LEU:HD22	2.00	0.43
6:SP:173:ILE:HD12	6:SP:173:ILE:H	1.83	0.43
10:ST:72:ARG:O	10:ST:73:ILE:HD13	2.19	0.43
13:SW:157:ASP:OD1	13:SW:158:PHE:N	2.52	0.43
25:SF:54:LEU:HD23	25:SF:109:PHE:CD1	2.54	0.43
28:SI:19:ALA:CB	28:SI:56:LYS:HD2	2.49	0.43
34:LA:2403:G:N3	34:LA:2405:C:C5	2.87	0.43
34:LA:2412:G:H2'	34:LA:2413:A:C8	2.54	0.43
34:LA:2675:C:H42	34:LA:2676:A:H62	1.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2687:G:OP1	40:LG:8:LYS:HE3	2.17	0.43
34:LA:2771:U:H1'	76:Lq:15:LYS:NZ	2.33	0.43
34:LA:2876:C:C2	34:LA:2952:G:N2	2.86	0.43
35:LB:41:G:N2	35:LB:45:A:C4	2.86	0.43
36:LC:19:C:C2	36:LC:20:U:C5	3.07	0.43
36:LC:65:A:C4	36:LC:66:A:C8	3.07	0.43
40:LG:129:TYR:CG	40:LG:177:GLU:HB3	2.54	0.43
44:LK:117:PHE:HD2	44:LK:124:ARG:CZ	2.32	0.43
45:LL:202:LYS:HA	45:LL:202:LYS:HD3	1.83	0.43
61:Lb:33:SER:HB3	61:Lb:40:HIS:NE2	2.34	0.43
62:Lc:44:ASN:OD1	62:Lc:44:ASN:C	2.61	0.43
1:S2:333:A:P	12:SV:48:THR:HB	2.59	0.43
1:S2:634:G:H4'	19:Sb:4:SER:HA	2.01	0.43
1:S2:1046:G:C6	1:S2:1047:G:N7	2.87	0.43
1:S2:1219:A:C4	1:S2:1264:G:O6	2.71	0.43
1:S2:1292:G:C6	1:S2:1324:G:N1	2.86	0.43
5:SO:111:MET:HG3	5:SO:152:SER:O	2.19	0.43
9:SS:42:LEU:HD21	9:SS:47:PHE:CD1	2.54	0.43
10:ST:192:ALA:HA	10:ST:195:VAL:HG22	2.01	0.43
16:SZ:115:ILE:H	16:SZ:115:ILE:HD12	1.84	0.43
19:Sb:79:PHE:O	19:Sb:125:ILE:HG22	2.19	0.43
28:SI:42:GLY:HA2	28:SI:84:LYS:HB2	2.01	0.43
29:SJ:28:SER:HB3	29:SJ:34:LEU:HD12	2.01	0.43
30:SK:36:ALA:HB1	30:SK:38:HIS:NE2	2.34	0.43
34:LA:91:G:C2	34:LA:96:G:C6	3.07	0.43
34:LA:814:U:H2'	34:LA:815:G:H8	1.84	0.43
34:LA:1174:G:H21	50:LQ:87[A]:MET:HE2	1.80	0.43
34:LA:1570:U:H1'	34:LA:1573:G:C2	2.54	0.43
34:LA:1660:C:H2'	34:LA:1661:G:C8	2.52	0.43
34:LA:1668:G:H2'	34:LA:1669:C:H6	1.83	0.43
34:LA:1745:C:H2'	34:LA:1746:U:C6	2.54	0.43
34:LA:1753:G:H2'	34:LA:1754:G:H8	1.84	0.43
34:LA:2160:G:C2	34:LA:2161:G:N7	2.87	0.43
34:LA:2279:A:C2	34:LA:2283:G:C6	3.07	0.43
34:LA:2440:G:N3	34:LA:2440:G:H2'	2.32	0.43
36:LC:32:C:H2'	36:LC:33:A:C8	2.53	0.43
37:LD:230:VAL:HG22	37:LD:231:SER:N	2.33	0.43
39:LF:205:PRO:HB3	39:LF:247:PHE:CD2	2.54	0.43
40:LG:248:ARG:HD3	40:LG:248:ARG:HA	1.84	0.43
41:LH:93:VAL:O	41:LH:96:VAL:HG22	2.19	0.43
43:LJ:159:PRO:HG2	43:LJ:162:LEU:CD1	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:LQ:89[A]:SER:O	50:LQ:95[A]:GLY:HA3	2.19	0.43
53:LT:102:LEU:HB3	53:LT:138:LEU:HD22	2.01	0.43
55:LV:48:ILE:HD13	55:LV:48:ILE:HA	1.89	0.43
55:LV:111:ALA:HB1	55:LV:115:LYS:HE3	2.01	0.43
56:LW:15:PHE:HB2	56:LW:65:VAL:HG13	2.01	0.43
60:La:27:ARG:O	60:La:28:ARG:HB2	2.18	0.43
63:Ld:21:ILE:HD13	63:Ld:21:ILE:HA	1.79	0.43
64:Le:95:ALA:CB	64:Le:101:LEU:HD22	2.49	0.43
65:Lf:55:LEU:HB2	65:Lf:95:PRO:HD3	2.01	0.43
1:S2:88:U:C4	1:S2:89:G:N7	2.87	0.42
1:S2:122:U:H2'	1:S2:123:G:H8	1.78	0.42
1:S2:306:U:H2'	1:S2:307:G:H8	1.81	0.42
1:S2:409:C:C2	1:S2:410:A:C8	3.07	0.42
1:S2:590:C:H2'	1:S2:591:A:C8	2.53	0.42
1:S2:1172:G:H21	28:SI:88:VAL:CG2	2.32	0.42
1:S2:1172:G:H2'	1:S2:1173:C:O4'	2.19	0.42
1:S2:1178:G:C6	1:S2:1462:G:C6	3.07	0.42
5:SO:250:TYR:HD1	5:SO:265:LEU:HD21	1.84	0.42
6:SP:189:VAL:HG12	17:Sa:44:ARG:HH21	1.84	0.42
8:SR:116:LYS:HG2	8:SR:127:ALA:HB3	2.01	0.42
9:SS:11:ARG:HD3	9:SS:27:TYR:O	2.18	0.42
9:SS:130:GLN:O	9:SS:137:PRO:HA	2.19	0.42
14:SX:75:VAL:HG12	14:SX:121:ASP:O	2.19	0.42
21:SD:93:ASP:OD1	21:SD:95:LYS:HG3	2.19	0.42
21:SD:126:TRP:O	21:SD:126:TRP:CD1	2.72	0.42
22:Sd:44:LEU:HA	22:Sd:47:VAL:HG22	2.00	0.42
22:Sd:113:ASN:O	22:Sd:116:LYS:HG2	2.19	0.42
27:SH:126:ARG:HD2	27:SH:126:ARG:HA	1.83	0.42
32:SB:136:ALA:HB2	32:SB:202:ALA:HB2	2.00	0.42
34:LA:97:U:C2	34:LA:98:G:C8	3.06	0.42
34:LA:299:G:H1	70:Lk:30:LYS:HD3	1.82	0.42
34:LA:749:C:H2'	34:LA:750:G:O4'	2.19	0.42
34:LA:803:C:H2'	34:LA:804:C:C6	2.54	0.42
34:LA:1225:A:C2	34:LA:3116:G:H2'	2.54	0.42
34:LA:1262:G:C4	34:LA:1264:G:H5'	2.54	0.42
34:LA:1446:A:H5"	51:LR:65:SER:HB3	2.01	0.42
34:LA:1534:A:H2'	34:LA:1535:A:C8	2.54	0.42
34:LA:1888:U:H2'	34:LA:1889:G:O4'	2.19	0.42
34:LA:2803:A:H5'	76:Lq:59:HIS:HD2	1.83	0.42
40:LG:178:ASN:HA	40:LG:183:TRP:CG	2.54	0.42
42:LI:42:ALA:O	42:LI:46:GLU:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:LI:131:GLU:HG3	42:LI:230:GLY:HA2	2.00	0.42
43:LJ:84:ARG:HG3	43:LJ:84:ARG:HH11	1.84	0.42
44:LK:112:ILE:HD11	44:LK:134:ILE:HG21	2.01	0.42
45:LL:56:GLU:OE2	45:LL:162:GLN:HB2	2.19	0.42
45:LL:103:LEU:H	45:LL:112:GLN:HE22	1.66	0.42
52:LS:35:PHE:CD1	52:LS:35:PHE:C	2.97	0.42
52:LS:89:ASP:HB2	52:LS:110:ALA:N	2.33	0.42
55:LV:20:ARG:C	55:LV:21:LYS:HD2	2.44	0.42
56:LW:75:TYR:HE1	56:LW:79:LEU:HD21	1.84	0.42
56:LW:80:THR:O	56:LW:84:LEU:HG	2.19	0.42
61:Lb:29:HIS:HD2	61:Lb:40:HIS:HE1	1.66	0.42
61:Lb:83:THR:HA	64:Le:58:TYR:OH	2.19	0.42
64:Le:9:SER:O	64:Le:12:GLN:HG3	2.18	0.42
65:Lf:62:ARG:HB2	65:Lf:66:GLY:O	2.19	0.42
78:SC:3:MET:N	78:SC:3:MET:HE3	2.34	0.42
79:Bb:31:A:C5	79:Bb:32:C:C5	3.07	0.42
80:Cc:6:C:H2'	80:Cc:7:G:H8	1.83	0.42
1:S2:29:U:H2'	1:S2:30:G:C8	2.51	0.42
1:S2:1571:C:H4'	1:S2:1574:G:H22	1.83	0.42
1:S2:1765:A:N6	1:S2:1767:G:N2	2.67	0.42
5:SO:103:PHE:CE1	5:SO:134:TRP:HB3	2.54	0.42
5:SO:229:LYS:HA	31:SA:222:VAL:HG21	2.00	0.42
5:SO:310:ILE:HD12	5:SO:310:ILE:N	2.34	0.42
6:SP:204:TYR:O	6:SP:204:TYR:CG	2.72	0.42
7:SQ:189:ILE:HB	7:SQ:190:PRO:HD3	2.01	0.42
8:SR:147:ASN:OD1	17:Sa:3:ASN:HA	2.19	0.42
12:SV:22:ARG:HD2	12:SV:25:ARG:CZ	2.48	0.42
14:SX:125:VAL:HG23	14:SX:138:ASN:C	2.43	0.42
15:SY:116:ILE:HD12	15:SY:116:ILE:HA	1.71	0.42
16:SZ:114:ARG:HA	24:Se:62:TYR:OH	2.19	0.42
19:Sb:30:SER:OG	19:Sb:61:ILE:HD11	2.19	0.42
21:SD:59:LEU:HD13	21:SD:126:TRP:N	2.34	0.42
26:SG:41:ILE:HD12	26:SG:41:ILE:HA	1.83	0.42
26:SG:51:ALA:O	26:SG:54:THR:HG22	2.19	0.42
26:SG:81:LYS:HD2	26:SG:84:TYR:HD2	1.85	0.42
29:SJ:24:ILE:HD12	29:SJ:24:ILE:HA	1.82	0.42
34:LA:31:C:H2'	34:LA:32:U:C6	2.54	0.42
34:LA:313:A:C6	34:LA:314:U:C4	3.07	0.42
34:LA:669:U:H2'	34:LA:670:C:H6	1.83	0.42
34:LA:1282:G:H3'	34:LA:1283:C:H5"	2.00	0.42
34:LA:1409:G:C6	34:LA:1410:U:C4	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1650:G:H5”	37:LD:70:ARG:NH2	2.34	0.42
34:LA:2291:A:H2’	34:LA:2292:U:C6	2.55	0.42
34:LA:3035:A:C2	44:LK:121:LYS:HG3	2.54	0.42
34:LA:3092:C:O3’	34:LA:3093:C:H3’	2.18	0.42
34:LA:3149:G:H2’	34:LA:3150:A:O4’	2.19	0.42
35:LB:22:A:C8	40:LG:272:TYR:CZ	3.06	0.42
37:LD:66:PRO:HG2	37:LD:67:TYR:CE2	2.54	0.42
37:LD:70:ARG:HA	37:LD:70:ARG:HE	1.84	0.42
39:LF:333:VAL:HG21	42:LI:45:LEU:HD11	2.01	0.42
41:LH:30:LEU:HD11	41:LH:57:HIS:ND1	2.34	0.42
43:LJ:186:LEU:HB3	43:LJ:195:SER:OG	2.19	0.42
46:LM:166:LYS:C	46:LM:168:ASP:H	2.27	0.42
48:LO:14:LEU:CD1	54:LU:149:LYS:HB3	2.49	0.42
48:LO:76:ALA:HB1	48:LO:80:THR:HB	1.99	0.42
54:LU:100:VAL:O	54:LU:103:VAL:HG12	2.19	0.42
56:LW:18:ASP:OD2	56:LW:104:ARG:HB2	2.19	0.42
56:LW:54:VAL:HG12	56:LW:67:SER:CB	2.49	0.42
60:La:28:ARG:NH2	60:La:33:ALA:HB2	2.34	0.42
61:Lb:11:ALA:HA	61:Lb:83:THR:HG23	2.01	0.42
68:Li:80:ARG:HG3	68:Li:84:CYS:SG	2.59	0.42
1:S2:222:A:C2	1:S2:838:G:H2’	2.54	0.42
1:S2:978:A:C4	1:S2:979:A:C8	3.07	0.42
1:S2:1180:C:C4	1:S2:1458:G:C6	3.08	0.42
1:S2:1258:U:OP1	78:SC:3:MET:HE1	2.19	0.42
1:S2:1548:G:H2’	1:S2:1549:C:H6	1.84	0.42
1:S2:1555:A:H4’	33:SE:44:ARG:HH21	1.83	0.42
1:S2:1713:G:H2’	1:S2:1714:A:C8	2.54	0.42
1:S2:1761:U:H1’	1:S2:1762:A:N7	2.34	0.42
2:SL:42:ARG:HA	2:SL:63:ALA:HB3	2.01	0.42
7:SQ:199:ASN:HA	7:SQ:202:LYS:NZ	2.33	0.42
8:SR:82:ASN:ND2	8:SR:82:ASN:C	2.77	0.42
8:SR:144:TRP:CZ2	8:SR:173:PRO:HG3	2.54	0.42
13:SW:110:GLN:OE1	13:SW:126:ARG:HD3	2.19	0.42
13:SW:168:ARG:HD2	13:SW:168:ARG:HA	1.73	0.42
15:SY:35:GLU:HA	15:SY:38:VAL:HG22	2.00	0.42
19:Sb:19:LYS:HE2	19:Sb:19:LYS:HB3	1.80	0.42
19:Sb:52:TYR:C	19:Sb:53:ILE:HD13	2.45	0.42
20:Sc:60:GLU:HA	20:Sc:68:ILE:HB	2.01	0.42
28:SI:47:PRO:HB2	28:SI:53:TRP:CD1	2.53	0.42
34:LA:155:G:H5”	34:LA:156:G:C8	2.52	0.42
34:LA:198:A:C6	34:LA:219:A:C6	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:748:U:H2'	34:LA:749:C:C6	2.54	0.42
34:LA:1572:U:H1'	34:LA:1574:C:H41	1.84	0.42
34:LA:1813:A:H5"	34:LA:1816:A:O2'	2.18	0.42
34:LA:2424:A:N1	37:LD:230:VAL:HG21	2.34	0.42
34:LA:2507:C:H5"	34:LA:2508:U:C6	2.54	0.42
34:LA:2520:A:O2'	34:LA:2521:U:H5'	2.19	0.42
34:LA:2730:G:H2'	34:LA:2731:U:C6	2.54	0.42
34:LA:2970:C:H2'	34:LA:2972:G:C8	2.54	0.42
34:LA:3018:C:C4	34:LA:3019:U:C4	3.07	0.42
36:LC:77:A:H2'	36:LC:78:G:O4'	2.20	0.42
41:LH:165:LEU:HD23	41:LH:165:LEU:HA	1.88	0.42
45:LL:31:ILE:O	45:LL:32:ARG:HD2	2.19	0.42
47:LN:149:GLN:H	47:LN:149:GLN:HG2	1.56	0.42
49:LP:124:ASP:OD1	49:LP:124:ASP:C	2.63	0.42
53:LT:162:ARG:O	53:LT:165:LYS:HB3	2.20	0.42
57:LX:57:MET:HE1	57:LX:105:PRO:HA	2.01	0.42
59:LZ:83:VAL:HG12	59:LZ:123:TYR:CD1	2.54	0.42
62:Lc:6:THR:HG22	62:Lc:8:THR:HG23	2.01	0.42
72:Lm:21:LYS:HA	72:Lm:21:LYS:HD3	1.89	0.42
72:Lm:26:LYS:HG3	72:Lm:27:ILE:N	2.33	0.42
79:Bb:19:G:H2'	79:Bb:20:G:O4'	2.18	0.42
80:Cc:49:C:H2'	80:Cc:50:U:H6	1.83	0.42
1:S2:482:U:H3'	1:S2:483:A:C5	2.54	0.42
1:S2:1224:A:H2'	1:S2:1225:U:C6	2.53	0.42
1:S2:1540:G:C4	1:S2:1541:G:C8	3.08	0.42
1:S2:1608:U:H2'	1:S2:1609:U:C6	2.54	0.42
1:S2:1664:C:H2'	1:S2:1665:U:O4'	2.19	0.42
1:S2:1680:G:H2'	1:S2:1681:A:H8	1.85	0.42
5:SO:240:VAL:HG13	5:SO:240:VAL:O	2.19	0.42
10:ST:136:LYS:HE3	10:ST:159:ARG:HA	2.01	0.42
11:SU:124:LYS:HA	11:SU:124:LYS:HD2	1.80	0.42
11:SU:140:VAL:HB	19:Sb:52:TYR:HB3	2.01	0.42
13:SW:77:ILE:HG22	13:SW:96:VAL:HG21	2.00	0.42
16:SZ:102:LEU:HA	16:SZ:102:LEU:HD12	1.68	0.42
19:Sb:78:ARG:HB3	19:Sb:124:LYS:HB3	2.01	0.42
26:SG:41:ILE:HD11	26:SG:46:LEU:CD2	2.48	0.42
26:SG:63:LYS:H	26:SG:63:LYS:HG2	1.69	0.42
32:SB:51:VAL:HG11	32:SB:64:VAL:HG11	2.01	0.42
32:SB:184:PHE:CE2	32:SB:185:ARG:HG3	2.54	0.42
34:LA:655:C:OP2	66:Lg:27:ARG:HD3	2.19	0.42
34:LA:783:A:H5"	34:LA:784:A:H5"	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:1098:A:OP2	55:LV:130:ARG:HB2	2.19	0.42
34:LA:1283:C:H2'	34:LA:1285:G:N1	2.34	0.42
34:LA:1360:C:C1'	39:LF:307:GLN:HE21	2.31	0.42
34:LA:2156:C:P	37:LD:241:ARG:HH22	2.43	0.42
34:LA:2367:A:H2'	34:LA:2368:A:H8	1.83	0.42
34:LA:2563:G:C4	34:LA:2564:G:C8	3.07	0.42
34:LA:3132:C:H2'	34:LA:3133:C:C6	2.55	0.42
34:LA:3206:C:H2'	48:LO:99:TRP:CZ2	2.55	0.42
34:LA:3265:C:H2'	34:LA:3266:G:H8	1.84	0.42
35:LB:47:C:OP2	40:LG:158:ARG:HD3	2.19	0.42
38:LE:14:LEU:HD13	38:LE:262:TRP:CH2	2.54	0.42
42:LI:97:PRO:O	42:LI:100:ARG:HG2	2.19	0.42
43:LJ:157:VAL:HG21	43:LJ:163:VAL:HG11	2.01	0.42
43:LJ:171:LYS:HG2	43:LJ:226:TYR:CE1	2.54	0.42
44:LK:186:PHE:N	44:LK:186:PHE:CD1	2.84	0.42
47:LN:4:SER:O	62:Lc:44:ASN:ND2	2.52	0.42
55:LV:110:LYS:HE2	55:LV:110:LYS:HB3	1.80	0.42
60:La:74:TYR:HB3	60:La:77:LYS:HB2	2.01	0.42
61:Lb:4:PHE:CE2	64:Le:35:ARG:HA	2.55	0.42
64:Le:40:LYS:NZ	64:Le:95:ALA:HB2	2.34	0.42
64:Le:50:VAL:O	64:Le:53:LYS:HG2	2.19	0.42
67:Lh:45:LEU:HD13	67:Lh:45:LEU:HA	1.76	0.42
69:Lj:67:ARG:CZ	69:Lj:80:LEU:HD12	2.49	0.42
79:Bb:71:G:H2'	79:Bb:72:C:C6	2.54	0.42
80:Cc:26:G:C5	80:Cc:27:C:C5	3.07	0.42
80:Cc:27:C:H2'	80:Cc:28:A:C8	2.53	0.42
80:Cc:40:C:C2'	80:Cc:41:C:H5'	2.49	0.42
1:S2:463:U:H2'	1:S2:464:A:C8	2.55	0.42
1:S2:739:G:N2	1:S2:740:A:H5'	2.34	0.42
1:S2:1187:U:H2'	1:S2:1188:G:C8	2.54	0.42
1:S2:1548:G:H5"	27:SH:90:ASN:HB2	2.01	0.42
4:SN:136:LYS:O	4:SN:138:ARG:HG2	2.20	0.42
7:SQ:74:GLN:O	7:SQ:74:GLN:HG3	2.19	0.42
10:ST:30:LYS:HE3	10:ST:36:VAL:HG22	2.01	0.42
11:SU:16:LEU:O	11:SU:20:VAL:HG13	2.20	0.42
11:SU:118:LEU:O	11:SU:121:VAL:HG12	2.19	0.42
15:SY:25:TRP:CD1	18:Sf:82:LYS:HE2	2.55	0.42
16:SZ:19:ILE:HG23	16:SZ:83:ILE:HA	2.01	0.42
19:Sb:106:THR:HG23	19:Sb:108:ALA:H	1.83	0.42
20:Sc:56:LYS:HE2	20:Sc:97:ASP:O	2.19	0.42
21:SD:48:SER:O	21:SD:52:LEU:HD12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:SH:127:HIS:CE1	27:SH:133:VAL:HG21	2.54	0.42
27:SH:139:LYS:HE3	27:SH:139:LYS:HB2	1.87	0.42
28:SI:131:ASP:C	28:SI:131:ASP:OD1	2.62	0.42
30:SK:54:VAL:N	30:SK:55:PRO:HD2	2.35	0.42
34:LA:76:G:O2'	47:LN:100:ARG:HD2	2.19	0.42
34:LA:713:U:H2'	34:LA:714:G:O4'	2.19	0.42
34:LA:744:A:H2'	34:LA:745:C:O4'	2.19	0.42
34:LA:745:C:H2'	34:LA:746:A:C8	2.54	0.42
34:LA:1804:A:H2'	34:LA:1805:C:C6	2.55	0.42
34:LA:2161:G:H2'	34:LA:2162:U:C6	2.54	0.42
34:LA:2834:G:H2'	34:LA:2835:U:H6	1.84	0.42
35:LB:13:A:OP1	35:LB:111:U:H1'	2.20	0.42
35:LB:32:U:H4'	35:LB:33:U:H5	1.84	0.42
37:LD:136:ILE:N	37:LD:136:ILE:HD13	2.34	0.42
43:LJ:94:PHE:CZ	43:LJ:152:LEU:HD23	2.54	0.42
43:LJ:97:TYR:O	43:LJ:132:VAL:HG12	2.20	0.42
43:LJ:177:TYR:C	43:LJ:177:TYR:CD1	2.98	0.42
49:LP:191:TRP:O	49:LP:195:ASN:HB2	2.18	0.42
51:LR:122:ALA:HB1	51:LR:123:PRO:HD2	2.01	0.42
54:LU:13:ARG:NH2	54:LU:51:VAL:HB	2.34	0.42
64:Le:50:VAL:HA	64:Le:53:LYS:HG2	2.00	0.42
65:Lf:60:TRP:CZ3	65:Lf:64:VAL:HG23	2.54	0.42
70:Lk:84:LYS:HG3	70:Lk:85:ALA:N	2.33	0.42
1:S2:93:A:N6	1:S2:396:G:H1'	2.35	0.42
1:S2:735:C:O2	1:S2:735:C:H2'	2.19	0.42
1:S2:1140:G:C2	1:S2:1141:G:N7	2.88	0.42
1:S2:1475:A:H2'	1:S2:1476:C:C6	2.54	0.42
1:S2:1740:A:C8	1:S2:1741:U:H4'	2.54	0.42
5:SO:39:ASP:O	5:SO:41:THR:HG23	2.19	0.42
5:SO:53:LYS:NZ	5:SO:56:VAL:HG22	2.34	0.42
7:SQ:104:ASP:OD1	7:SQ:214:LYS:HB2	2.20	0.42
8:SR:140:ARG:HB2	8:SR:222:TYR:CD1	2.55	0.42
8:SR:201:ASN:OD1	8:SR:201:ASN:C	2.61	0.42
10:ST:137:ARG:HG3	10:ST:138:ALA:H	1.84	0.42
10:ST:159:ARG:CZ	10:ST:172:ALA:HB3	2.50	0.42
10:ST:163:THR:HG23	10:ST:167:LYS:N	2.35	0.42
12:SV:84:HIS:ND1	12:SV:85:PRO:HD2	2.34	0.42
13:SW:80:LEU:HB3	13:SW:86:LEU:CB	2.45	0.42
22:Sd:30:PRO:C	22:Sd:32:ARG:N	2.77	0.42
30:SK:55:PRO:O	30:SK:56:THR:HG22	2.19	0.42
34:LA:32:U:H2'	34:LA:33:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:72:C:C2	34:LA:74:G:H1'	2.55	0.42
34:LA:417:A:H2'	34:LA:418:A:C8	2.54	0.42
34:LA:651:G:H2'	34:LA:652:G:C8	2.54	0.42
34:LA:1064:A:C8	34:LA:1066:G:C4	3.08	0.42
34:LA:1186:G:N3	54:LU:112:ALA:HB1	2.35	0.42
34:LA:1384:U:OP2	39:LF:202:ARG:HA	2.20	0.42
34:LA:1813:A:H5'	34:LA:1817:G:N3	2.34	0.42
34:LA:1816:A:C8	34:LA:1817:G:C5	3.08	0.42
34:LA:1939:G:C4	34:LA:1940:G:C8	3.08	0.42
34:LA:2161:G:H2'	34:LA:2162:U:H6	1.85	0.42
34:LA:2663:G:H2'	34:LA:2664:C:C6	2.54	0.42
34:LA:2734:A:H1'	34:LA:2735:U:C2	2.54	0.42
34:LA:3119:U:H4'	74:Lo:104:PRO:HG2	2.01	0.42
34:LA:3160:U:H2'	34:LA:3161:C:C6	2.55	0.42
34:LA:3264:G:H2'	34:LA:3265:C:H6	1.85	0.42
34:LA:3360:C:H2'	34:LA:3361:G:C8	2.55	0.42
36:LC:152:G:C6	36:LC:153:U:C2	3.07	0.42
36:LC:155:A:H2'	36:LC:156:U:O4'	2.20	0.42
37:LD:104:LEU:HD12	37:LD:162:ALA:HB3	2.00	0.42
37:LD:133:TYR:HE2	37:LD:135:ILE:HD11	1.84	0.42
39:LF:309:ARG:CZ	39:LF:312:VAL:HG12	2.49	0.42
42:LI:123:THR:O	42:LI:127:LEU:HG	2.20	0.42
43:LJ:116:VAL:O	43:LJ:120:LYS:HA	2.20	0.42
45:LL:96:VAL:CG2	45:LL:122:PRO:HB3	2.49	0.42
47:LN:2:ALA:O	47:LN:3:ILE:HD13	2.20	0.42
47:LN:138:VAL:HG22	69:Lj:118:ILE:HG23	2.00	0.42
49:LP:119:TYR:CE2	49:LP:131:GLU:HB2	2.54	0.42
51:LR:107:LEU:HD13	51:LR:107:LEU:HA	1.89	0.42
57:LX:87:ARG:HH21	57:LX:93:LEU:CD1	2.33	0.42
66:Lg:103:LYS:HE2	66:Lg:103:LYS:HB3	1.92	0.42
68:Li:58:ARG:HD2	68:Li:59:PRO:CD	2.49	0.42
72:Lm:14:LEU:HD23	72:Lm:14:LEU:HA	1.81	0.42
73:Ln:12:LYS:HA	73:Ln:12:LYS:HD3	1.69	0.42
78:SC:82:LEU:HB2	78:SC:83:PRO:HD2	2.00	0.42
1:S2:300:A:H2'	1:S2:301:A:H8	1.83	0.42
1:S2:427:C:C4	1:S2:428:A:N7	2.88	0.42
1:S2:575:C:N4	20:Sc:65:ASN:HD21	2.00	0.42
1:S2:732:G:H8	1:S2:733:A:O4'	2.03	0.42
1:S2:897:C:C4	1:S2:914:G:C2	3.08	0.42
1:S2:977:A:C8	1:S2:1025:A:N6	2.88	0.42
1:S2:1173:C:H2'	1:S2:1174:C:H6	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1186:U:OP2	1:S2:1456:C:H1’	2.19	0.42
1:S2:1381:U:H4’	29:SJ:59:PRO:HB3	2.01	0.42
1:S2:1473:U:O4’	32:SB:190:ILE:HD13	2.19	0.42
1:S2:1506:G:C5	1:S2:1507:G:N7	2.87	0.42
1:S2:1775:U:H2’	1:S2:1776:A:C8	2.54	0.42
1:S2:1794:A:H1’	24:Se:79:ILE:HD13	2.00	0.42
5:SO:176:LYS:HE3	31:SA:214:GLU:HG3	2.01	0.42
6:SP:184:LEU:HD13	6:SP:184:LEU:HA	1.80	0.42
8:SR:114:GLY:N	8:SR:132:ALA:HB2	2.34	0.42
9:SS:129:VAL:HG12	9:SS:139:VAL:HB	2.02	0.42
11:SU:22:GLN:HA	11:SU:25:VAL:HG22	2.01	0.42
13:SW:57:ARG:CG	13:SW:97:LEU:HD21	2.50	0.42
15:SY:15:ALA:HB2	18:Sf:20:LYS:HE3	2.02	0.42
22:Sd:8:ARG:HG2	22:Sd:9:THR:N	2.34	0.42
22:Sd:102:LYS:HG3	22:Sd:103:ALA:O	2.19	0.42
28:SI:58:ALA:HA	28:SI:61:VAL:HG22	2.00	0.42
34:LA:158:G:H2’	34:LA:159:A:H8	1.85	0.42
34:LA:515:C:H2’	34:LA:516:A:C8	2.53	0.42
34:LA:628:A:H2’	34:LA:629:U:H6	1.83	0.42
34:LA:639:G:OP1	66:Lg:40:SER:HB2	2.19	0.42
34:LA:1029:G:OP1	34:LA:1029:G:H4’	2.20	0.42
34:LA:1062:A:H5”	34:LA:1063:G:H5’	2.01	0.42
34:LA:1724:U:H1’	34:LA:1725:C:C6	2.54	0.42
34:LA:1782:U:H2’	34:LA:1783:U:C6	2.55	0.42
34:LA:2506:U:H2’	34:LA:2507:C:O4’	2.19	0.42
34:LA:2635:A:H4’	34:LA:2636:A:N3	2.34	0.42
34:LA:2824:G:C2	34:LA:2825:C:C5	3.08	0.42
34:LA:2972:G:H2’	34:LA:2973:G:H8	1.85	0.42
34:LA:3010:U:O2’	38:LE:13:HIS:HE1	2.02	0.42
34:LA:3234:A:N6	34:LA:3253:G:N1	2.25	0.42
34:LA:3271:G:C5	41:LH:108:LYS:HE3	2.54	0.42
34:LA:3290:G:C6	34:LA:3291:G:C5	3.08	0.42
35:LB:2:G:H4’	40:LG:273:ARG:HH11	1.85	0.42
38:LE:136:LYS:HD2	38:LE:136:LYS:HA	1.85	0.42
41:LH:59:GLU:OE1	41:LH:103:VAL:HG23	2.20	0.42
42:LI:90:LYS:HD2	42:LI:91:GLY:H	1.84	0.42
43:LJ:138:HIS:O	43:LJ:142:LEU:HG	2.20	0.42
43:LJ:242:ALA:O	43:LJ:245:LYS:HG2	2.19	0.42
54:LU:131:LYS:HD3	54:LU:131:LYS:HA	1.71	0.42
57:LX:40:LYS:HA	57:LX:40:LYS:HD2	1.85	0.42
57:LX:86:ARG:HG2	57:LX:87:ARG:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:LZ:88:MET:HE1	59:LZ:119:THR:HA	2.02	0.42
61:Lb:4:PHE:CE1	64:Le:62:LEU:HD21	2.54	0.42
62:Lc:6:THR:HG22	62:Lc:8:THR:H	1.83	0.42
62:Lc:91:LEU:H	62:Lc:91:LEU:HD12	1.84	0.42
74:Lo:128:LYS:HE2	74:Lo:128:LYS:HB2	1.83	0.42
78:SC:32:HIS:HB3	78:SC:35:ILE:HB	2.02	0.42
1:S2:451:A:O2'	1:S2:452:A:H5'	2.20	0.42
1:S2:1413:U:OP1	1:S2:1413:U:H3'	2.20	0.42
3:SM:33:LYS:HD3	3:SM:34:TYR:CD1	2.54	0.42
7:SQ:62:LYS:O	7:SQ:88:VAL:HG23	2.20	0.42
7:SQ:100:PHE:HB3	7:SQ:181:LEU:HD11	2.02	0.42
14:SX:125:VAL:HA	14:SX:140:VAL:HG22	2.02	0.42
16:SZ:48:VAL:HG11	16:SZ:53:ASP:HB3	2.01	0.42
20:Sc:31:LYS:HB3	20:Sc:31:LYS:HE3	1.71	0.42
25:SF:59:LYS:HE2	25:SF:59:LYS:HB2	1.71	0.42
25:SF:115:THR:HA	25:SF:118:ILE:O	2.20	0.42
26:SG:17:ILE:HD13	26:SG:17:ILE:N	2.34	0.42
28:SI:22:LEU:HD23	28:SI:22:LEU:HA	1.78	0.42
28:SI:75:LYS:HG3	28:SI:78:LYS:NZ	2.33	0.42
32:SB:102:ARG:NH2	32:SB:184:PHE:HE1	2.16	0.42
34:LA:144:A:H2'	34:LA:145:G:O4'	2.19	0.42
34:LA:168:U:H2'	34:LA:169:U:C5	2.55	0.42
34:LA:169:U:C4	34:LA:250:U:N3	2.87	0.42
34:LA:222:A:H2'	34:LA:223:U:O4'	2.20	0.42
34:LA:242:C:C2	34:LA:243:G:O6	2.73	0.42
34:LA:849:C:H2'	34:LA:850:U:H6	1.85	0.42
34:LA:991:G:O2'	34:LA:992:A:H5'	2.19	0.42
34:LA:1170:A:OP1	42:LI:218:ARG:HA	2.20	0.42
34:LA:1386:A:N7	39:LF:183:LYS:HD3	2.35	0.42
34:LA:2407:C:C2	34:LA:2408:U:C5	3.08	0.42
34:LA:2435:G:C6	34:LA:2593:A:C8	3.08	0.42
34:LA:2656:A:OP2	76:Lq:97:LYS:HG3	2.20	0.42
34:LA:2819:A:C2	34:LA:2820:A:C4	3.08	0.42
34:LA:2843:U:H5"	34:LA:2844:C:H5	1.84	0.42
39:LF:125:ALA:HA	39:LF:244:LEU:HD12	2.02	0.42
40:LG:157:ALA:HB3	40:LG:160:PHE:CD2	2.55	0.42
40:LG:178:ASN:HB2	40:LG:183:TRP:CH2	2.55	0.42
41:LH:76:LEU:HD13	41:LH:101:PHE:CE2	2.55	0.42
46:LM:36:VAL:HG21	46:LM:109:HIS:CD2	2.55	0.42
1:S2:1213:G:C4	1:S2:1451:C:C2	3.08	0.42
1:S2:1625:C:H2'	1:S2:1626:U:H6	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:SO:10:ARG:CZ	5:SO:314:GLN:HB3	2.49	0.42
8:SR:232:GLU:HA	17:Sa:16:LYS:HZ2	1.85	0.42
9:SS:52:LEU:HD23	9:SS:52:LEU:HA	1.87	0.42
9:SS:99:PHE:HA	9:SS:112:HIS:O	2.20	0.42
12:SV:172:ARG:HD3	12:SV:175:GLN:CG	2.50	0.42
13:SW:136:VAL:HG23	13:SW:141:VAL:HG21	2.00	0.42
15:SY:37:ILE:HD13	15:SY:37:ILE:HA	1.89	0.42
22:Sd:45:ALA:CB	22:Sd:52:LYS:HA	2.49	0.42
25:SF:131:GLY:HA3	25:SF:137:ARG:HA	2.02	0.42
27:SH:87:ASN:H	27:SH:99:HIS:HD2	1.67	0.42
30:SK:35:ARG:HA	30:SK:35:ARG:HD2	1.75	0.42
34:LA:26:A:C4	34:LA:27:C:C6	3.07	0.42
34:LA:51:A:C4	34:LA:52:A:C8	3.07	0.42
34:LA:1056:U:H2'	34:LA:1057:A:O4'	2.20	0.42
34:LA:1099:A:H2'	34:LA:1100:U:C6	2.55	0.42
34:LA:2166:A:H8	34:LA:2166:A:OP1	2.02	0.42
34:LA:2331:C:H2'	34:LA:2332:A:H8	1.84	0.42
34:LA:2353:G:C6	34:LA:2354:C:C4	3.08	0.42
34:LA:2901:G:C4	34:LA:2902:A:C8	3.08	0.42
34:LA:3193:C:H2'	34:LA:3194:C:H6	1.84	0.42
34:LA:3217:C:C4	51:LR:182:ILE:HG23	2.53	0.42
36:LC:66:A:H2'	36:LC:67:U:C6	2.54	0.42
45:LL:87:LEU:HD11	45:LL:136:PHE:CD2	2.55	0.42
47:LN:5:LYS:H	47:LN:5:LYS:HD2	1.85	0.42
50:LQ:59[A]:ARG:NH1	50:LQ:59[A]:ARG:HB2	2.35	0.42
54:LU:145:THR:OG1	54:LU:148:LEU:HB2	2.19	0.42
60:La:19:TYR:CZ	60:La:78:PHE:HD1	2.38	0.42
70:Lk:73:ALA:O	70:Lk:77:LEU:HB2	2.19	0.42
76:Lq:47:GLN:OE1	76:Lq:47:GLN:HA	2.19	0.42
1:S2:31:C:C4	1:S2:32:U:C4	3.08	0.42
1:S2:591:A:H5"	13:SW:24:LEU:HD23	2.02	0.42
1:S2:749:U:O5'	1:S2:749:U:H6	2.03	0.42
1:S2:856:A:P	11:SU:97:ARG:HH21	2.42	0.42
1:S2:887:A:H2'	1:S2:888:U:H6	1.85	0.42
1:S2:1471:A:N7	1:S2:1538:U:O4	2.53	0.42
1:S2:1476:C:H2'	1:S2:1477:G:C8	2.54	0.42
1:S2:1593:A:C2	1:S2:1594:G:C5	3.08	0.42
1:S2:1616:G:C2	1:S2:1617:U:C2	3.08	0.42
1:S2:1789:G:C2	1:S2:1790:A:C5	3.08	0.42
5:SO:66:HIS:CG	5:SO:67:ILE:N	2.88	0.42
5:SO:113:VAL:HG23	5:SO:124:SER:OG	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SQ:201:THR:OG1	7:SQ:207:LEU:HD23	2.18	0.42
8:SR:65:GLU:O	8:SR:68:ILE:HG22	2.19	0.42
10:ST:140:ASN:HA	10:ST:143:LYS:HE3	2.02	0.42
11:SU:64:VAL:O	11:SU:64:VAL:HG22	2.20	0.42
20:Sc:2:GLY:C	20:Sc:3:LYS:HG2	2.45	0.42
20:Sc:19:ARG:HD3	20:Sc:19:ARG:HA	1.56	0.42
24:Se:52:ASP:O	24:Se:55:GLU:HG3	2.19	0.42
27:SH:115:ARG:NH2	33:SE:110:GLU:HB2	2.34	0.42
27:SH:118:LYS:NZ	33:SE:110:GLU:HG3	2.34	0.42
31:SA:55:THR:O	31:SA:58:VAL:HG12	2.20	0.42
34:LA:646:A:C2	34:LA:2375:G:C2	3.07	0.42
34:LA:833:G:H2'	34:LA:834:U:H6	1.85	0.42
34:LA:1125:U:H2'	34:LA:1126:G:C8	2.55	0.42
34:LA:1430:U:H2'	62:Lc:9:ARG:HH12	1.85	0.42
34:LA:1664:G:C6	34:LA:1786:G:C6	3.08	0.42
34:LA:1699:A:H2'	34:LA:1700:G:C8	2.55	0.42
34:LA:1709:C:C2	34:LA:1710:C:C5	3.07	0.42
34:LA:1927:G:N7	77:Lr:16:VAL:HG12	2.34	0.42
34:LA:1940:G:H2'	34:LA:1941:C:C6	2.54	0.42
34:LA:2597:U:H2'	34:LA:2598:G:C8	2.49	0.42
34:LA:2672:G:C2	34:LA:2673:A:C5	3.08	0.42
34:LA:2858:U:H2'	34:LA:2859:U:C2	2.53	0.42
34:LA:2900:A:N3	44:LK:174:LYS:HE3	2.35	0.42
34:LA:2984:C:C2	34:LA:2985:C:C5	3.07	0.42
34:LA:3052:G:H2'	34:LA:3053:G:H8	1.85	0.42
37:LD:3:ARG:H	37:LD:207:VAL:HG23	1.85	0.42
38:LE:159:ARG:HG2	38:LE:182:GLN:HA	2.02	0.42
39:LF:177:ASP:HB3	39:LF:205:PRO:HD3	2.02	0.42
39:LF:296:GLN:HA	39:LF:299:ILE:HD11	2.01	0.42
41:LH:46:ARG:HH21	51:LR:178:ALA:HB2	1.85	0.42
42:LI:24:GLU:OE2	42:LI:26:VAL:HB	2.19	0.42
44:LK:34:LEU:HB2	44:LK:78:MET:SD	2.60	0.42
47:LN:123:ILE:C	47:LN:123:ILE:HD12	2.45	0.42
53:LT:17:VAL:HG11	53:LT:52:LYS:HG2	2.02	0.42
61:Lb:116:LYS:HB2	61:Lb:116:LYS:HE2	1.67	0.42
62:Lc:123:VAL:H	62:Lc:143:GLY:HA3	1.85	0.42
68:Li:57:LEU:HG	68:Li:62:TYR:HE1	1.84	0.42
72:Lm:58:ASP:HB3	72:Lm:61:LYS:HB3	2.00	0.42
77:Lr:21:SER:HA	77:Lr:24:ARG:HE	1.85	0.42
1:S2:30:G:H4'	20:Sc:131:SER:HB2	2.01	0.41
1:S2:94:U:H2'	1:S2:95:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:326:G:C4	1:S2:327:U:C5	3.08	0.41
1:S2:431:C:H2'	1:S2:432:G:H8	1.82	0.41
1:S2:786:C:O5'	1:S2:786:C:H6	2.03	0.41
1:S2:1289:U:H4'	1:S2:1423:U:H3	1.82	0.41
1:S2:1338:C:H1'	1:S2:1410:A:C8	2.54	0.41
1:S2:1524:A:H3'	1:S2:1524:A:OP2	2.19	0.41
1:S2:1584:G:H5'	25:SF:123:ARG:O	2.20	0.41
5:SO:84:SER:C	5:SO:86:ASP:H	2.28	0.41
11:SU:38:LEU:HB2	11:SU:41:LEU:HD12	2.00	0.41
12:SV:36:THR:O	12:SV:95:THR:HA	2.20	0.41
13:SW:60:LEU:HD13	13:SW:60:LEU:HA	1.90	0.41
14:SX:123:VAL:HB	14:SX:142:VAL:HG12	2.02	0.41
29:SJ:61:LYS:H	29:SJ:86:ILE:HG22	1.84	0.41
30:SK:46:LYS:HE3	30:SK:46:LYS:HB2	1.95	0.41
34:LA:714:G:H2'	62:Lc:113:LEU:HD13	2.02	0.41
34:LA:1132:C:H2'	34:LA:1133:A:C8	2.55	0.41
34:LA:2520:A:H2'	34:LA:2521:U:C6	2.55	0.41
34:LA:2681:U:C4	34:LA:2682:C:C4	3.07	0.41
34:LA:2952:G:C2	34:LA:2953:U:C2	3.08	0.41
34:LA:3020:U:C6	34:LA:3021:A:C8	3.08	0.41
34:LA:3343:G:H4'	34:LA:3344:A:OP1	2.19	0.41
37:LD:32:LEU:HB2	37:LD:163:ARG:HH21	1.83	0.41
39:LF:308:LYS:HD2	39:LF:310:THR:HG22	2.02	0.41
40:LG:34:LYS:HA	55:LV:27:LEU:HD11	2.02	0.41
40:LG:195:LEU:HD12	40:LG:195:LEU:HA	1.78	0.41
41:LH:66:THR:CG2	41:LH:68:PRO:HA	2.49	0.41
43:LJ:52:TRP:HB2	43:LJ:57:ARG:HD3	2.02	0.41
45:LL:215:GLU:HA	45:LL:218:ALA:HB3	2.02	0.41
47:LN:122:LYS:O	69:Lj:119:LYS:HG2	2.20	0.41
47:LN:165:SER:C	47:LN:167:PHE:H	2.27	0.41
57:LX:54:LEU:HD21	57:LX:119:GLY:HA3	2.01	0.41
62:Lc:75:LEU:HD13	62:Lc:114:GLY:HA2	2.02	0.41
76:Lq:72:LEU:HB2	76:Lq:81:ALA:HB3	2.02	0.41
78:SC:77:ARG:HH12	78:SC:85:HIS:H	1.68	0.41
79:Bb:22:G:C2	79:Bb:23:A:C8	3.08	0.41
1:S2:359:A:C2	20:Sc:38:PHE:HB3	2.55	0.41
1:S2:508:U:H5'	1:S2:509:G:OP1	2.20	0.41
1:S2:521:A:H4'	22:Sd:34:ASN:OD1	2.21	0.41
1:S2:978:A:H2'	1:S2:979:A:O4'	2.20	0.41
1:S2:1396:U:H2'	1:S2:1397:U:H6	1.85	0.41
1:S2:1767:G:H4'	1:S2:1768:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:SQ:210:ILE:O	7:SQ:210:ILE:CG1	2.67	0.41
8:SR:229:LEU:HD23	8:SR:229:LEU:O	2.20	0.41
10:ST:32:ILE:HD11	10:ST:63:MET:HE2	2.02	0.41
13:SW:36:LEU:HD13	13:SW:36:LEU:HA	1.82	0.41
13:SW:37:LYS:HA	23:Sg:33:ARG:HB2	2.01	0.41
15:SY:28:LEU:HG	15:SY:32:SER:OG	2.20	0.41
25:SF:27:GLY:HA3	32:SB:25:LEU:HD12	2.01	0.41
26:SG:47:ARG:HA	26:SG:50:ILE:HG12	2.02	0.41
27:SH:41:ARG:NH1	28:SI:46:PRO:HG3	2.35	0.41
27:SH:100:THR:OG1	27:SH:105:VAL:HG12	2.20	0.41
31:SA:67:ASN:HA	31:SA:70:THR:HG22	2.03	0.41
32:SB:130:ILE:O	32:SB:133:VAL:HG12	2.20	0.41
34:LA:63:A:H5”	49:LP:174:ILE:HG21	2.01	0.41
34:LA:83:U:H2’	34:LA:84:U:O4’	2.20	0.41
34:LA:150:A:C5	34:LA:151:A:C8	3.08	0.41
34:LA:741:U:H5’	52:LS:74:GLU:OE1	2.20	0.41
34:LA:828:A:H2’	34:LA:829:U:H6	1.85	0.41
34:LA:1317:A:O2’	34:LA:1318:A:H3’	2.20	0.41
34:LA:1934:G:C6	34:LA:1935:G:N7	2.88	0.41
34:LA:2273:G:N2	34:LA:2311:G:H2’	2.34	0.41
34:LA:2621:G:H2’	34:LA:2622:C:C6	2.55	0.41
34:LA:3086:A:H3’	34:LA:3087:A:H8	1.86	0.41
34:LA:3297:U:H2’	34:LA:3298:C:C6	2.53	0.41
34:LA:3314:A:H2’	34:LA:3315:G:C8	2.54	0.41
35:LB:7:G:H2’	35:LB:8:G:H8	1.85	0.41
35:LB:60:G:H2’	35:LB:61:G:H8	1.85	0.41
36:LC:97:A:H5’	69:Lj:63:ARG:CZ	2.50	0.41
37:LD:133:TYR:HB3	37:LD:168:VAL:HG22	2.02	0.41
40:LG:83:LEU:HD12	40:LG:83:LEU:HA	1.79	0.41
41:LH:146:LEU:HA	41:LH:149:ILE:CG2	2.50	0.41
43:LJ:61:GLN:HB3	49:LP:28:TRP:CH2	2.55	0.41
44:LK:134:ILE:CG2	44:LK:144:ILE:HD11	2.50	0.41
47:LN:54:LEU:HD11	47:LN:115:ARG:HH21	1.85	0.41
48:LO:119:GLN:HA	48:LO:122:VAL:HG22	2.03	0.41
51:LR:94:LEU:HD22	51:LR:146:ILE:HD11	2.00	0.41
55:LV:105:PHE:CD1	55:LV:105:PHE:C	2.97	0.41
57:LX:17:LEU:HB2	57:LX:52:ALA:O	2.19	0.41
57:LX:49:LEU:HD23	57:LX:49:LEU:HA	1.77	0.41
58:LY:20:LEU:HD11	58:LY:28:ILE:HG23	2.02	0.41
78:SC:61:TRP:N	78:SC:61:TRP:CD1	2.88	0.41
1:S2:87:C:H3’	1:S2:88:U:H5”	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:326:G:H2'	1:S2:327:U:H6	1.84	0.41
1:S2:545:A:C6	1:S2:594:A:C8	3.09	0.41
1:S2:987:G:N1	37:LD:249:SER:HB2	2.36	0.41
1:S2:1271:G:N2	1:S2:1440:C:O2	2.53	0.41
1:S2:1371:A:N6	1:S2:1374:C:H41	2.19	0.41
5:SO:127:ARG:C	5:SO:129:LYS:H	2.27	0.41
5:SO:238:ASP:OD1	5:SO:257:ALA:HB3	2.21	0.41
11:SU:141:ARG:HE	11:SU:143:LEU:HD21	1.84	0.41
13:SW:58:ASP:O	13:SW:61:THR:HG22	2.20	0.41
13:SW:73:GLY:O	13:SW:77:ILE:HG12	2.19	0.41
14:SX:99:ARG:HB3	20:Sc:9:LEU:HD12	2.02	0.41
17:Sa:38:LYS:HE3	17:Sa:49:GLU:O	2.19	0.41
27:SH:16:ARG:C	27:SH:17:LEU:HD23	2.44	0.41
27:SH:26:ILE:HG13	27:SH:31:ALA:HB2	2.02	0.41
27:SH:77:THR:HA	27:SH:81:ILE:HG22	2.02	0.41
28:SI:30:VAL:HG12	28:SI:32:GLY:H	1.85	0.41
34:LA:166:C:H6	34:LA:166:C:OP1	2.03	0.41
34:LA:665:A:H2'	34:LA:666:A:C8	2.55	0.41
34:LA:760:G:H1'	34:LA:770:G:N2	2.35	0.41
34:LA:929:A:H2'	34:LA:930:U:H6	1.83	0.41
34:LA:1212:A:C6	34:LA:1294:A:N1	2.88	0.41
34:LA:1369:A:H4'	62:Lc:21:ARG:HG3	2.02	0.41
34:LA:1666:G:H2'	34:LA:1667:A:C8	2.55	0.41
34:LA:1709:C:H2'	34:LA:1710:C:H6	1.84	0.41
34:LA:3166:C:O2	34:LA:3284:G:C2	2.72	0.41
34:LA:3331:U:H2'	34:LA:3332:U:O4'	2.20	0.41
35:LB:21:G:H4'	40:LG:272:TYR:CE1	2.56	0.41
36:LC:40:A:H2'	36:LC:41:A:C8	2.56	0.41
37:LD:137:ILE:HD11	37:LD:149:ARG:HB2	2.01	0.41
38:LE:322:ILE:HD13	38:LE:322:ILE:HA	1.88	0.41
43:LJ:46:LEU:HD13	43:LJ:49:TYR:CD2	2.53	0.41
45:LL:61:SER:HB2	45:LL:63:GLU:OE1	2.21	0.41
46:LM:105:GLY:HA2	46:LM:126:ASP:HA	2.02	0.41
51:LR:45:GLN:HG2	51:LR:95:LEU:HD23	2.02	0.41
61:Lb:79:HIS:O	61:Lb:80:LEU:HD23	2.20	0.41
64:Le:25:LEU:HD13	64:Le:87:VAL:HG21	2.02	0.41
66:Lg:65:PHE:HB2	66:Lg:72:LYS:HD3	2.03	0.41
66:Lg:103:LYS:O	66:Lg:107:VAL:HG23	2.20	0.41
80:Cc:70:G:H2'	80:Cc:71:C:H6	1.85	0.41
1:S2:10:G:H2'	1:S2:11:A:O4'	2.19	0.41
1:S2:594:A:OP2	13:SW:37:LYS:HE2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:905:A:O3'	16:SZ:52:ARG:HB3	2.20	0.41
1:S2:1171:A:H2'	1:S2:1172:G:H8	1.83	0.41
1:S2:1240:U:C2	1:S2:1241:G:H2'	2.55	0.41
1:S2:1542:G:H5'	28:SI:87:GLY:C	2.45	0.41
4:SN:126:CYS:HB3	4:SN:132:LEU:CD1	2.50	0.41
5:SO:90:ARG:NE	5:SO:102:ARG:HG2	2.27	0.41
6:SP:21:ASN:HB3	6:SP:24:LEU:CD1	2.50	0.41
8:SR:58:LEU:HB3	8:SR:59:HIS:HD2	1.84	0.41
9:SS:101:LEU:HD22	9:SS:101:LEU:HA	1.82	0.41
10:ST:158:ILE:HD12	10:ST:158:ILE:N	2.34	0.41
20:Sc:59:ILE:HG21	20:Sc:117:ILE:HG23	2.03	0.41
27:SH:31:ALA:O	27:SH:34:THR:HG23	2.19	0.41
34:LA:215:G:H2'	34:LA:216:G:H8	1.85	0.41
34:LA:628:A:H2'	34:LA:629:U:C6	2.55	0.41
34:LA:641:C:H2'	34:LA:642:U:O4'	2.20	0.41
34:LA:819:U:H2'	34:LA:820:A:H8	1.86	0.41
34:LA:1468:A:H61	34:LA:1881:A:H1'	1.85	0.41
34:LA:1493:G:O2'	73:Ln:13:MET:HG3	2.21	0.41
34:LA:1602:A:H2'	34:LA:1603:A:H8	1.86	0.41
34:LA:2686:A:H2'	34:LA:2687:G:O4'	2.19	0.41
34:LA:2877:G:H2'	34:LA:2878:G:H8	1.85	0.41
34:LA:3020:U:H3'	34:LA:3021:A:H8	1.83	0.41
35:LB:109:G:H2'	35:LB:110:G:H8	1.85	0.41
38:LE:122:TRP:CZ3	38:LE:127:LYS:HD2	2.55	0.41
39:LF:276:LEU:HD23	39:LF:276:LEU:HA	1.75	0.41
42:LI:51:TYR:CE1	42:LI:186:HIS:CG	3.07	0.41
43:LJ:136:LEU:HD12	43:LJ:136:LEU:HA	1.86	0.41
43:LJ:177:TYR:CE1	43:LJ:222:PHE:HB3	2.55	0.41
45:LL:31:ILE:HA	45:LL:66:GLU:OE1	2.20	0.41
45:LL:55:ASN:HD22	45:LL:55:ASN:HA	1.58	0.41
48:LO:15:VAL:HG22	54:LU:150:PHE:O	2.20	0.41
53:LT:23:TRP:CE3	53:LT:51:VAL:HG12	2.55	0.41
69:Lj:31:LEU:HD23	69:Lj:31:LEU:HA	1.83	0.41
72:Lm:76:ASN:OD1	72:Lm:78:LEU:HD23	2.20	0.41
80:Cc:24:G:C2	80:Cc:25:C:H1'	2.55	0.41
1:S2:413:U:H2'	1:S2:414:C:C6	2.56	0.41
1:S2:519:C:N4	1:S2:534:A:C5	2.88	0.41
1:S2:737:A:H2'	1:S2:738:G:C8	2.55	0.41
1:S2:1131:A:H2'	1:S2:1132:A:O4'	2.21	0.41
1:S2:1222:C:H42	1:S2:1262:U:H2'	1.86	0.41
1:S2:1451:C:H2'	1:S2:1452:U:H6	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1484:G:C2	1:S2:1607:G:H1'	2.55	0.41
1:S2:1569:A:O5'	1:S2:1569:A:H8	2.03	0.41
1:S2:1740:A:C6	20:Sc:39:LYS:HB3	2.56	0.41
6:SP:9:LEU:HD22	6:SP:14:ALA:HB2	2.02	0.41
7:SQ:61:LEU:HD22	7:SQ:64:ARG:CZ	2.50	0.41
9:SS:210:ILE:HD13	9:SS:220:THR:HG22	2.03	0.41
10:ST:137:ARG:HB3	10:ST:139:ASN:OD1	2.20	0.41
13:SW:123:HIS:CE1	23:Sg:37:ARG:HG3	2.55	0.41
15:SY:33:VAL:HG11	15:SY:66:ILE:HD11	2.02	0.41
15:SY:98:VAL:HG12	15:SY:115:LEU:HD12	2.01	0.41
15:SY:128:TYR:CE1	15:SY:132:VAL:HG21	2.55	0.41
16:SZ:115:ILE:HD12	16:SZ:115:ILE:N	2.35	0.41
21:SD:70:ASN:O	21:SD:73:LYS:HG2	2.21	0.41
27:SH:100:THR:HB	27:SH:108:LYS:HE3	2.02	0.41
28:SI:34:VAL:HG23	28:SI:35:ASP:OD1	2.21	0.41
28:SI:92:LYS:HB2	28:SI:92:LYS:HE2	1.59	0.41
34:LA:100:A:H2'	34:LA:101:G:N3	2.35	0.41
34:LA:227:G:P	60:La:30:LEU:HD12	2.60	0.41
34:LA:312:C:H2'	34:LA:313:A:C8	2.54	0.41
34:LA:687:U:H2'	34:LA:688:G:C8	2.55	0.41
34:LA:858:A:H2'	34:LA:859:G:O4'	2.21	0.41
34:LA:928:C:H2'	34:LA:929:A:C8	2.55	0.41
34:LA:2154:U:H2'	34:LA:2155:G:H8	1.85	0.41
34:LA:2947:G:C2	38:LE:250:ALA:HB1	2.56	0.41
35:LB:96:U:H2'	35:LB:97:A:C8	2.49	0.41
36:LC:9:A:H3'	36:LC:10:A:C5'	2.49	0.41
36:LC:107:G:H2'	36:LC:108:C:C6	2.55	0.41
38:LE:121:ASN:HD22	38:LE:124:LYS:CE	2.33	0.41
40:LG:140:ARG:HB3	40:LG:141:PRO:HD2	2.03	0.41
41:LH:40:LEU:HD11	41:LH:54:TYR:HB3	2.02	0.41
42:LI:160:ARG:HD2	42:LI:203:TRP:CE2	2.55	0.41
45:LL:75:TYR:CZ	45:LL:79:VAL:HG21	2.56	0.41
45:LL:91:VAL:HG11	45:LL:129:VAL:HG12	2.02	0.41
48:LO:48:GLY:HA3	48:LO:53:VAL:HB	2.03	0.41
66:Lg:19:ARG:HB2	66:Lg:32:TRP:HA	2.02	0.41
66:Lg:78:ASN:C	66:Lg:108:ILE:HD11	2.45	0.41
67:Lh:51:TYR:HB3	67:Lh:67:MET:HG2	2.02	0.41
80:Cc:24:G:H2'	80:Cc:25:C:O4'	2.20	0.41
1:S2:142:G:C4	1:S2:266:A:C6	3.09	0.41
1:S2:225:A:H2'	1:S2:225:A:N3	2.36	0.41
1:S2:322:G:H4'	1:S2:323:A:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:400:A:H8	12:SV:24:LYS:O	2.04	0.41
1:S2:450:U:H2'	1:S2:451:A:N7	2.35	0.41
1:S2:501:U:O2'	1:S2:502:U:H5"	2.21	0.41
1:S2:560:U:H2'	1:S2:561:G:H8	1.85	0.41
1:S2:591:A:H5"	13:SW:24:LEU:CD2	2.50	0.41
1:S2:628:G:H21	1:S2:971:A:H62	1.69	0.41
1:S2:739:G:H2'	1:S2:739:G:N3	2.36	0.41
1:S2:1181:U:C2	1:S2:1458:G:C4	3.08	0.41
1:S2:1480:G:H5"	1:S2:1481:C:H5	1.84	0.41
1:S2:1624:C:C2	1:S2:1625:C:C5	3.09	0.41
5:SO:202:LEU:HD23	5:SO:203:THR:N	2.35	0.41
5:SO:250:TYR:CD1	5:SO:265:LEU:HD21	2.56	0.41
7:SQ:168:ILE:HG13	7:SQ:197:ILE:HD13	2.03	0.41
8:SR:235:LEU:HD11	17:Sa:54:ALA:CB	2.51	0.41
9:SS:55:ALA:HB1	9:SS:60:GLU:HB2	2.01	0.41
9:SS:212:ASP:OD2	9:SS:216:ASN:HB2	2.20	0.41
11:SU:55:LYS:HA	11:SU:55:LYS:HD3	1.59	0.41
12:SV:60:ILE:HD12	12:SV:61:GLU:N	2.35	0.41
12:SV:153:GLU:OE1	12:SV:156:VAL:HG13	2.20	0.41
22:Sd:48:TYR:HD1	22:Sd:48:TYR:HA	1.70	0.41
25:SF:60:PHE:HA	25:SF:63:ILE:CD1	2.51	0.41
29:SJ:103:ILE:HD12	29:SJ:103:ILE:HA	1.82	0.41
32:SB:190:ILE:H	32:SB:190:ILE:HG12	1.64	0.41
32:SB:209:TYR:HA	32:SB:212:LYS:HE3	2.02	0.41
33:SE:92:SER:O	33:SE:107:ILE:HG13	2.20	0.41
34:LA:720:A:N3	34:LA:720:A:H2'	2.35	0.41
34:LA:1343:A:H2'	34:LA:1344:G:H8	1.86	0.41
34:LA:1637:A:H2'	34:LA:1638:A:C8	2.56	0.41
34:LA:2535:A:H5"	34:LA:2536:A:OP1	2.21	0.41
34:LA:2733:A:N6	34:LA:2734:A:N6	2.69	0.41
34:LA:3147:G:H4'	38:LE:102:LEU:O	2.21	0.41
34:LA:3253:G:H2'	34:LA:3254:G:C8	2.55	0.41
34:LA:3288:G:HO2'	34:LA:3289:G:H8	1.65	0.41
36:LC:55:U:C2	36:LC:56:G:C8	3.09	0.41
36:LC:117:C:H2'	36:LC:118:C:H6	1.86	0.41
37:LD:135:ILE:C	37:LD:136:ILE:HD13	2.46	0.41
38:LE:76:VAL:HG12	38:LE:325:LYS:HA	2.01	0.41
38:LE:180:GLU:O	38:LE:181:ILE:HD13	2.20	0.41
38:LE:212:ASN:ND2	38:LE:353:GLU:HA	2.35	0.41
39:LF:82:THR:HG23	39:LF:84:ARG:N	2.36	0.41
41:LH:90:LYS:HE3	41:LH:90:LYS:HB2	1.71	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:LH:172:HIS:HD2	67:Lh:40:ASP:CG	2.29	0.41
44:LK:22:SER:O	44:LK:23:ARG:HG2	2.21	0.41
44:LK:160:ASP:O	44:LK:164:ILE:HG12	2.20	0.41
44:LK:180:TYR:HB2	74:Lo:85:LEU:HD21	2.02	0.41
45:LL:85:PHE:CD1	45:LL:85:PHE:C	2.98	0.41
45:LL:111:LEU:HD21	80:Cc:73:A:N3	2.35	0.41
45:LL:200:LEU:HD12	45:LL:200:LEU:HA	1.86	0.41
45:LL:203:LYS:HB2	45:LL:203:LYS:NZ	2.35	0.41
46:LM:30:LEU:H	46:LM:30:LEU:HD12	1.85	0.41
46:LM:101:ASN:OD1	46:LM:130:VAL:HA	2.19	0.41
54:LU:12:ARG:HB3	54:LU:24:LEU:HD22	2.03	0.41
55:LV:87:LYS:HE3	55:LV:87:LYS:HB3	1.74	0.41
57:LX:45:ARG:HD2	57:LX:46:LEU:H	1.85	0.41
61:Lb:89:VAL:HG23	61:Lb:92:PHE:HE1	1.84	0.41
62:Lc:7:LYS:HA	62:Lc:7:LYS:HD3	1.92	0.41
78:SC:10:LYS:HA	78:SC:13:GLN:HG2	2.03	0.41
79:Bb:65:G:C4	79:Bb:66:A:C8	3.09	0.41
80:Cc:20:A:H5"	80:Cc:21:A:OP1	2.20	0.41
1:S2:169:A:O2'	1:S2:170:U:H3'	2.21	0.41
1:S2:883:C:H2'	1:S2:884:A:H8	1.86	0.41
1:S2:1032:G:H2'	1:S2:1033:C:H6	1.85	0.41
1:S2:1221:A:O5'	78:SC:52:LYS:HD3	2.20	0.41
1:S2:1242:A:C5'	1:S2:1244:A:H61	2.33	0.41
1:S2:1402:G:OP1	26:SG:4:VAL:HA	2.21	0.41
1:S2:1556:A:H5'	33:SE:115:TYR:OH	2.20	0.41
1:S2:1765:A:N6	1:S2:1767:G:C2	2.89	0.41
1:S2:1774:G:H5"	75:Lp:7:LYS:NZ	2.36	0.41
5:SO:238:ASP:OD2	5:SO:256:THR:HB	2.20	0.41
6:SP:176:LEU:O	6:SP:180:GLU:HG2	2.21	0.41
8:SR:43:ARG:NE	8:SR:248:SER:HB3	2.36	0.41
8:SR:54:GLU:HG3	8:SR:55:GLU:N	2.35	0.41
10:ST:50:PHE:HE1	10:ST:113:ILE:HG12	1.86	0.41
10:ST:102:VAL:HG23	10:ST:106:LEU:HD13	2.02	0.41
17:Sa:69:LEU:HA	17:Sa:69:LEU:HD12	1.65	0.41
26:SG:19:ARG:C	26:SG:20:TYR:HD2	2.29	0.41
26:SG:41:ILE:HD11	26:SG:46:LEU:HD23	2.03	0.41
27:SH:112:ASP:O	27:SH:115:ARG:HB3	2.20	0.41
31:SA:29:LEU:HD13	31:SA:58:VAL:HG23	2.01	0.41
34:LA:128:G:C2	34:LA:129:U:C2	3.09	0.41
34:LA:384:A:H8	34:LA:384:A:OP1	2.04	0.41
34:LA:744:A:H5"	52:LS:66:ARG:HH21	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:818:C:H2'	34:LA:819:U:O4'	2.21	0.41
34:LA:1082:U:H2'	34:LA:1083:G:O4'	2.21	0.41
34:LA:1509:A:H2'	34:LA:1510:G:O4'	2.20	0.41
34:LA:1681:U:H1'	34:LA:3069:G:N7	2.36	0.41
34:LA:1739:U:H3	68:Li:41:ARG:NH2	2.18	0.41
34:LA:2533:G:C2	34:LA:2547:A:C2	3.09	0.41
34:LA:2671:A:C6	34:LA:2672:G:N7	2.89	0.41
34:LA:2698:G:C4	34:LA:2699:G:C8	3.09	0.41
34:LA:2710:C:H2'	34:LA:2711:C:H6	1.86	0.41
34:LA:2760:C:N3	76:Lq:63:LYS:HE3	2.36	0.41
34:LA:2947:G:OP2	34:LA:2947:G:H4'	2.21	0.41
38:LE:185:GLY:H	38:LE:191:LYS:HZ1	1.68	0.41
38:LE:370:PHE:CG	38:LE:376:LYS:HB2	2.56	0.41
43:LJ:73:PRO:HD3	43:LJ:233:TRP:CE2	2.56	0.41
44:LK:130:ASP:C	44:LK:130:ASP:OD2	2.64	0.41
46:LM:139:THR:HG23	46:LM:140:ARG:HG2	2.03	0.41
47:LN:31:LYS:HB3	47:LN:35:ARG:NH1	2.35	0.41
47:LN:122:LYS:HA	69:Lj:119:LYS:HE2	2.03	0.41
52:LS:177:GLY:O	52:LS:178:ARG:HD2	2.21	0.41
54:LU:92:LYS:HD3	54:LU:109:ASP:OD1	2.20	0.41
62:Lc:101:VAL:HG23	62:Lc:124:ILE:HD13	2.02	0.41
64:Le:71:GLN:OE1	64:Le:71:GLN:HA	2.21	0.41
64:Le:93:LEU:HD12	64:Le:93:LEU:H	1.86	0.41
69:Lj:17:LEU:HD21	69:Lj:57:VAL:HG12	2.02	0.41
79:Bb:15:G:H22	79:Bb:21:A:H1'	1.86	0.41
1:S2:10:G:C4	1:S2:11:A:C8	3.09	0.41
1:S2:435:C:H2'	1:S2:436:A:O4'	2.21	0.41
1:S2:525:A:H5"	22:Sd:93:ARG:HH22	1.86	0.41
1:S2:1539:G:C8	27:SH:30:TYR:CZ	3.09	0.41
1:S2:1686:C:H2'	1:S2:1687:U:O4'	2.21	0.41
3:SM:34:TYR:CE1	29:SJ:63:LEU:HD11	2.56	0.41
5:SO:305:TYR:CE1	5:SO:311:ARG:HD2	2.48	0.41
7:SQ:149:GLN:CD	7:SQ:149:GLN:C	2.89	0.41
8:SR:58:LEU:HD13	17:Sa:12:TYR:HD1	1.86	0.41
11:SU:9:LEU:HD11	11:SU:17:GLU:HG3	2.01	0.41
12:SV:3:ILE:H	12:SV:3:ILE:HD12	1.86	0.41
12:SV:191:PHE:CD1	12:SV:191:PHE:C	2.99	0.41
25:SF:43:ILE:HD12	32:SB:111:VAL:HB	2.03	0.41
26:SG:21:TYR:CD2	26:SG:71:PHE:CZ	3.09	0.41
27:SH:16:ARG:O	27:SH:17:LEU:HD23	2.21	0.41
33:SE:76:VAL:O	33:SE:94:VAL:HA	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:47:C:OP1	47:LN:16:LYS:HE2	2.21	0.41
34:LA:80:G:H2'	34:LA:81:C:H6	1.86	0.41
34:LA:142:C:H2'	34:LA:143:G:O4'	2.21	0.41
34:LA:283:G:O6	34:LA:304:G:H1'	2.21	0.41
34:LA:676:G:C2	34:LA:787:G:C6	3.09	0.41
34:LA:1902:G:H2'	34:LA:1903:U:O4'	2.21	0.41
34:LA:2302:G:C5	34:LA:2303:A:N7	2.89	0.41
34:LA:2507:C:H5	34:LA:2508:U:H1'	1.86	0.41
34:LA:2709:C:H2'	34:LA:2710:C:C6	2.55	0.41
34:LA:2941:A:H8	34:LA:2941:A:OP2	2.04	0.41
34:LA:3052:G:C4	34:LA:3053:G:C8	3.09	0.41
34:LA:3230:G:H2'	34:LA:3231:U:H6	1.86	0.41
34:LA:3345:G:H2'	34:LA:3346:U:C6	2.56	0.41
46:LM:51:ARG:HG2	46:LM:52:TYR:CE2	2.56	0.41
53:LT:106:LEU:HB3	53:LT:120:TYR:CE1	2.55	0.41
54:LU:106:LEU:C	54:LU:106:LEU:HD23	2.45	0.41
55:LV:34:TYR:CE2	55:LV:96:ILE:HD11	2.56	0.41
61:Lb:96:VAL:HA	61:Lb:100:THR:HG21	2.02	0.41
62:Lc:22:ILE:HD13	62:Lc:22:ILE:HA	1.96	0.41
68:Li:101:VAL:O	68:Li:104:VAL:HG22	2.21	0.41
73:Ln:46:ARG:HD2	73:Ln:46:ARG:N	2.36	0.41
79:Bb:28:C:C2	79:Bb:29:A:C8	3.09	0.41
80:Cc:21:A:N6	80:Cc:46:G:H2'	2.36	0.41
1:S2:142:G:C5	1:S2:266:A:C6	3.09	0.41
1:S2:187:G:H2'	1:S2:198:A:H61	1.86	0.41
1:S2:393:C:H2'	1:S2:394:C:C6	2.56	0.41
1:S2:446:A:H62	1:S2:461:G:H21	1.69	0.41
1:S2:690:G:H2'	1:S2:691:C:H6	1.84	0.41
1:S2:692:C:H6	1:S2:692:C:O5'	2.04	0.41
1:S2:771:A:H3'	1:S2:772:G:H8	1.86	0.41
1:S2:913:G:H5'	1:S2:914:G:C8	2.56	0.41
1:S2:922:G:H2'	1:S2:923:A:C8	2.56	0.41
1:S2:1045:C:H2'	1:S2:1046:G:C8	2.55	0.41
1:S2:1179:G:H2'	1:S2:1180:C:C6	2.56	0.41
1:S2:1246:C:H5"	1:S2:1247:U:OP1	2.21	0.41
1:S2:1247:U:H3'	1:S2:1247:U:OP2	2.20	0.41
1:S2:1345:A:H5'	1:S2:1346:A:OP2	2.21	0.41
1:S2:1382:A:H4'	1:S2:1383:G:OP1	2.21	0.41
1:S2:1383:G:C2	1:S2:1384:A:H1'	2.55	0.41
1:S2:1392:U:H2'	1:S2:1393:C:C6	2.56	0.41
1:S2:1501:C:C2	1:S2:1506:G:N1	2.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:1663:G:N2	1:S2:1737:G:H1	2.19	0.41
1:S2:1728:A:H2'	1:S2:1729:C:C6	2.55	0.41
3:SM:8:PHE:O	3:SM:9:SER:C	2.64	0.41
6:SP:55:GLU:OE2	17:Sa:79:LEU:HG	2.19	0.41
8:SR:178:ILE:HD11	8:SR:193:VAL:O	2.20	0.41
9:SS:152:PRO:HD2	10:ST:215:ARG:HH12	1.86	0.41
9:SS:193:GLY:O	9:SS:210:ILE:HG23	2.20	0.41
10:ST:66:GLY:O	10:ST:68:LEU:HD23	2.21	0.41
12:SV:190:ALA:O	12:SV:194:ARG:HG3	2.20	0.41
13:SW:6:ARG:HE	13:SW:6:ARG:HB3	1.63	0.41
13:SW:10:LYS:HA	13:SW:10:LYS:HD3	1.73	0.41
13:SW:126:ARG:HG2	23:Sg:33:ARG:NE	2.36	0.41
14:SX:88:ARG:O	14:SX:104:HIS:HA	2.20	0.41
22:Sd:14:SER:OG	22:Sd:21:LYS:HE2	2.21	0.41
22:Sd:99:LYS:HD3	22:Sd:99:LYS:O	2.21	0.41
25:SF:40:GLU:O	25:SF:40:GLU:CD	2.64	0.41
25:SF:50:GLU:HG2	32:SB:69:PHE:HD2	1.86	0.41
26:SG:21:TYR:HD2	26:SG:71:PHE:CZ	2.39	0.41
27:SH:48:LYS:NZ	28:SI:50:ALA:HB1	2.36	0.41
30:SK:81:ARG:NE	30:SK:81:ARG:HA	2.36	0.41
31:SA:7:LYS:H	31:SA:7:LYS:HG3	1.73	0.41
31:SA:192:PRO:O	31:SA:200:LYS:HE3	2.21	0.41
31:SA:210:GLU:CD	31:SA:211:PRO:HD2	2.46	0.41
32:SB:159:ALA:CB	32:SB:225:ARG:HA	2.51	0.41
34:LA:176:G:N2	34:LA:243:G:H1	2.19	0.41
34:LA:640:U:OP2	66:Lg:38:ILE:HG12	2.21	0.41
34:LA:693:A:H4'	39:LF:234:ASN:OD1	2.21	0.41
34:LA:796:U:H2'	34:LA:797:U:C6	2.56	0.41
34:LA:855:U:C4	34:LA:856:G:C5	3.09	0.41
34:LA:998:A:H4'	35:LB:103:A:C2	2.56	0.41
34:LA:1317:A:H4'	50:LQ:128[A]:ARG:NH2	2.36	0.41
34:LA:1596:C:N3	34:LA:1612:A:C2	2.89	0.41
34:LA:1678:G:H2'	34:LA:1679:A:C8	2.56	0.41
34:LA:1855:U:H2'	34:LA:1856:C:C6	2.56	0.41
34:LA:2217:U:H3	34:LA:2227:C:H41	1.67	0.41
34:LA:2221:G:H2'	34:LA:2222:A:C8	2.46	0.41
34:LA:2278:C:H2'	34:LA:2279:A:H5"	2.03	0.41
34:LA:2692:A:H2'	34:LA:2693:C:O4'	2.21	0.41
34:LA:2773:C:H2'	34:LA:2774:C:H6	1.86	0.41
34:LA:2836:C:H2'	34:LA:2837:A:O4'	2.20	0.41
34:LA:2972:G:C2	34:LA:2973:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:2986:U:H2'	34:LA:2987:A:C8	2.55	0.41
34:LA:3256:G:C6	34:LA:3257:C:C4	3.09	0.41
34:LA:3267:A:H2'	41:LH:69:PHE:HZ	1.86	0.41
34:LA:3335:A:H2'	34:LA:3336:A:C8	2.56	0.41
35:LB:24:A:C4	35:LB:25:G:C8	3.09	0.41
35:LB:31:U:H4'	40:LG:218:ARG:NH1	2.34	0.41
35:LB:97:A:H2'	35:LB:98:C:C6	2.55	0.41
36:LC:30:C:C2	36:LC:31:G:C8	3.09	0.41
37:LD:104:LEU:HD23	37:LD:104:LEU:HA	1.91	0.41
37:LD:178:PRO:HD2	77:Lr:26:VAL:CG2	2.51	0.41
37:LD:204:MET:HB3	37:LD:208:ASP:HB2	2.02	0.41
38:LE:69:LYS:HE2	38:LE:69:LYS:HB3	1.75	0.41
39:LF:332:LYS:HG3	39:LF:333:VAL:N	2.36	0.41
40:LG:17:GLN:HG3	55:LV:20:ARG:O	2.21	0.41
40:LG:32:GLN:O	40:LG:36:LEU:HD23	2.21	0.41
43:LJ:71:VAL:HG12	49:LP:21:PHE:CZ	2.56	0.41
43:LJ:135:GLY:O	43:LJ:139:VAL:HG12	2.21	0.41
45:LL:72:ALA:HB2	45:LL:155:ALA:HB2	2.03	0.41
46:LM:9:MET:HE2	46:LM:9:MET:HB2	1.93	0.41
50:LQ:142[A]:SER:HA	50:LQ:145[A]:VAL:HG22	2.01	0.41
53:LT:82:LYS:HE2	53:LT:82:LYS:HB3	1.87	0.41
55:LV:57:TYR:CD2	55:LV:89:LEU:HD11	2.56	0.41
60:La:49:PRO:C	60:La:115:ARG:HH21	2.29	0.41
60:La:52:ARG:O	60:La:70:ILE:HB	2.21	0.41
64:Le:40:LYS:H	64:Le:40:LYS:HG2	1.51	0.41
65:Lf:97:LEU:HD12	65:Lf:97:LEU:H	1.86	0.41
67:Lh:48:ARG:CZ	67:Lh:48:ARG:HB2	2.50	0.41
68:Li:8:ARG:HB2	68:Li:34:HIS:CD2	2.56	0.41
68:Li:74:ARG:HG2	68:Li:75:ALA:N	2.36	0.41
70:Lk:4:LYS:HG3	70:Lk:14:GLY:HA3	2.03	0.41
71:Ll:25:ARG:O	71:Ll:25:ARG:HG3	2.20	0.41
78:SC:56:LYS:HE2	78:SC:56:LYS:HB2	1.86	0.41
79:Bb:73:A:H2'	79:Bb:74:C:C4	2.56	0.41
1:S2:396:G:N2	1:S2:398:G:H3'	2.36	0.41
1:S2:933:A:C5	1:S2:935:U:C2	3.09	0.41
1:S2:940:A:C4	1:S2:941:A:C8	3.09	0.41
1:S2:1122:G:C2	1:S2:1126:G:C6	3.09	0.41
1:S2:1357:A:C6	1:S2:1358:G:C5	3.09	0.41
1:S2:1437:U:H4'	31:SA:176:LEU:CD1	2.48	0.41
1:S2:1507:G:C6	1:S2:1508:U:C4	3.09	0.41
1:S2:1642:G:H2'	1:S2:1643:U:H6	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:SN:103:LEU:HD12	4:SN:103:LEU:HA	1.96	0.41
6:SP:86:VAL:HG12	6:SP:174:TRP:CZ2	2.56	0.41
8:SR:35:TRP:C	8:SR:35:TRP:CD1	2.99	0.41
8:SR:139:ILE:HD13	8:SR:139:ILE:HA	1.85	0.41
10:ST:47:GLY:HA3	10:ST:118:GLU:OE1	2.21	0.41
10:ST:74:LYS:HZ2	10:ST:96:SER:HB3	1.85	0.41
11:SU:79:ARG:O	11:SU:83:LYS:HG2	2.20	0.41
13:SW:110:GLN:NE2	13:SW:126:ARG:HB2	2.31	0.41
14:SX:93:TYR:CD2	14:SX:100:TYR:HE1	2.39	0.41
14:SX:122:ILE:HD13	14:SX:122:ILE:HA	1.84	0.41
27:SH:88:ARG:HH12	27:SH:108:LYS:HG2	1.86	0.41
30:SK:58:ARG:HG2	32:SB:124:LEU:HG	2.03	0.41
30:SK:82:HIS:HA	30:SK:85:LYS:NZ	2.36	0.41
32:SB:40:ILE:HD13	32:SB:40:ILE:HA	1.86	0.41
32:SB:181:GLU:C	32:SB:181:GLU:CD	2.89	0.41
34:LA:114:A:H2'	34:LA:115:A:O4'	2.21	0.41
34:LA:139:G:C5	34:LA:140:C:C4	3.09	0.41
34:LA:265:A:O3'	49:LP:5:LYS:HE2	2.20	0.41
34:LA:768:C:H2'	34:LA:769:G:C8	2.56	0.41
34:LA:896:A:H5"	37:LD:183:GLY:CA	2.51	0.41
34:LA:1095:U:H3'	34:LA:1095:U:OP2	2.21	0.41
34:LA:1532:C:H2'	34:LA:1533:U:C6	2.55	0.41
34:LA:1615:C:H2'	34:LA:1616:U:H6	1.85	0.41
34:LA:1836:C:H2'	34:LA:1837:U:C6	2.56	0.41
34:LA:2229:A:H8	34:LA:2229:A:O5'	2.04	0.41
34:LA:2555:G:C6	34:LA:2556:C:C4	3.08	0.41
34:LA:2656:A:OP1	76:Lq:98:LYS:HB2	2.21	0.41
34:LA:2664:C:H2'	34:LA:2665:U:C6	2.56	0.41
34:LA:2907:G:C2	34:LA:2908:G:N7	2.89	0.41
34:LA:3032:A:H2	44:LK:170:LYS:HE2	1.86	0.41
38:LE:14:LEU:HD23	38:LE:14:LEU:HA	1.85	0.41
38:LE:218:ILE:CG1	38:LE:276:THR:HG23	2.49	0.41
38:LE:233:TRP:CD1	38:LE:265:ALA:HB1	2.56	0.41
38:LE:372:THR:O	38:LE:375:GLU:HG3	2.21	0.41
39:LF:234:ASN:HB3	39:LF:237:GLN:OE1	2.21	0.41
40:LG:179:ARG:HA	40:LG:179:ARG:HD3	1.77	0.41
41:LH:30:LEU:HD21	41:LH:57:HIS:CD2	2.56	0.41
41:LH:63:LEU:O	41:LH:78:ARG:HA	2.21	0.41
46:LM:46:VAL:HG13	46:LM:68:HIS:CD2	2.56	0.41
47:LN:158:ALA:HA	62:Lc:97:GLU:HA	2.03	0.41
52:LS:50:LYS:HA	52:LS:53:PHE:CE1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:LS:94:PHE:N	52:LS:94:PHE:HD1	2.19	0.41
52:LS:175:ALA:C	62:Lc:51:GLY:HA2	2.46	0.41
53:LT:95:TRP:CE2	53:LT:99:LEU:HD22	2.55	0.41
54:LU:66:GLU:CD	54:LU:99:ARG:H	2.29	0.41
55:LV:11:THR:HB	55:LV:15:PHE:CD1	2.56	0.41
62:Lc:126:LYS:HD2	62:Lc:148:ILE:HG21	2.03	0.41
66:Lg:66:LEU:HD23	66:Lg:70:GLY:O	2.21	0.41
78:SC:4:PRO:O	78:SC:6:GLU:HG3	2.20	0.41
78:SC:77:ARG:HH22	78:SC:85:HIS:N	2.15	0.41
1:S2:68:A:C8	10:ST:132:ARG:NH1	2.89	0.40
1:S2:749:U:OP1	19:Sb:82:LYS:HB2	2.21	0.40
1:S2:874:C:H2'	1:S2:875:G:C8	2.56	0.40
1:S2:1141:G:C2	1:S2:1142:A:C5	3.09	0.40
1:S2:1144:U:H2'	1:S2:1145:U:O2	2.21	0.40
1:S2:1446:A:C5	1:S2:1448:G:C5	3.09	0.40
1:S2:1506:G:H2'	1:S2:1507:G:C8	2.55	0.40
6:SP:63:ILE:O	6:SP:67:ILE:HG22	2.20	0.40
7:SQ:91:VAL:HG12	7:SQ:96:LEU:HG	2.02	0.40
7:SQ:101:HIS:HA	7:SQ:217:LEU:HD21	2.03	0.40
11:SU:150:GLN:C	11:SU:150:GLN:OE1	2.64	0.40
16:SZ:70:LYS:HA	16:SZ:70:LYS:HD3	1.78	0.40
22:Sd:29:HIS:O	22:Sd:32:ARG:HB2	2.21	0.40
25:SF:50:GLU:HG2	32:SB:69:PHE:CD2	2.56	0.40
27:SH:88:ARG:NH2	27:SH:92:ILE:HG22	2.36	0.40
28:SI:10:ALA:HB3	28:SI:13:ASP:OD2	2.20	0.40
34:LA:137:G:H2'	34:LA:138:U:H6	1.82	0.40
34:LA:336:A:O2'	34:LA:337:G:H5'	2.21	0.40
34:LA:503:C:C2	34:LA:504:A:N7	2.89	0.40
34:LA:788:C:H2'	34:LA:789:A:H8	1.85	0.40
34:LA:817:A:N3	71:Ll:11:ARG:HB2	2.36	0.40
34:LA:1109:U:H4'	52:LS:153:PHE:CE1	2.55	0.40
34:LA:1357:G:C6	34:LA:1358:C:C4	3.09	0.40
34:LA:1868:G:H2'	34:LA:1869:C:H6	1.85	0.40
34:LA:2426:U:H2'	34:LA:2427:U:H6	1.85	0.40
34:LA:2663:G:H2'	34:LA:2664:C:H6	1.85	0.40
34:LA:2738:A:H2'	34:LA:2739:A:H8	1.86	0.40
34:LA:2760:C:C4	76:Lq:63:LYS:HE3	2.57	0.40
35:LB:11:A:O2'	35:LB:13:A:H2'	2.21	0.40
35:LB:45:A:C4	35:LB:46:A:C8	3.09	0.40
40:LG:186:GLU:H	40:LG:186:GLU:HG3	1.73	0.40
41:LH:23:LYS:HD3	41:LH:23:LYS:HA	1.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:LI:98:LYS:HB3	42:LI:99:PRO:HD3	2.03	0.40
47:LN:165:SER:HA	62:Lc:139:ARG:HH22	1.85	0.40
53:LT:152:GLU:O	53:LT:156:ASN:OD1	2.39	0.40
55:LV:11:THR:HB	55:LV:15:PHE:HD1	1.86	0.40
57:LX:54:LEU:HA	57:LX:78:VAL:CG2	2.50	0.40
58:LY:25:ASP:OD2	58:LY:27:LYS:HB2	2.20	0.40
59:LZ:63:ILE:HD13	59:LZ:86:VAL:HG12	2.02	0.40
60:La:76:LEU:HD23	60:La:76:LEU:C	2.46	0.40
65:Lf:12:TYR:C	65:Lf:72:ARG:HH11	2.28	0.40
65:Lf:27:LYS:C	65:Lf:30:PRO:HD2	2.46	0.40
80:Cc:55:U:H2'	80:Cc:57:G:OP2	2.21	0.40
1:S2:175:G:H8	1:S2:175:G:OP2	2.04	0.40
1:S2:295:A:H2	1:S2:297:U:C5	2.39	0.40
1:S2:303:U:H2'	1:S2:304:U:H6	1.85	0.40
1:S2:497:G:O5'	1:S2:497:G:H8	2.04	0.40
1:S2:565:C:H2'	1:S2:577:G:N3	2.36	0.40
1:S2:1056:U:O2	7:SQ:202:LYS:HD2	2.21	0.40
1:S2:1229:G:N3	1:S2:1256:A:N7	2.69	0.40
1:S2:1462:G:H2'	1:S2:1463:C:C6	2.56	0.40
1:S2:1491:U:H6	1:S2:1492:A:N3	2.19	0.40
1:S2:1717:G:H2'	1:S2:1718:G:C8	2.56	0.40
9:SS:23:LEU:HA	13:SW:3:ARG:HH12	1.86	0.40
10:ST:63:MET:HB3	10:ST:63:MET:HE3	1.66	0.40
12:SV:159:GLN:HB3	12:SV:165:LEU:HG	2.04	0.40
12:SV:172:ARG:HH11	12:SV:175:GLN:CG	2.34	0.40
12:SV:184:LEU:N	12:SV:184:LEU:HD23	2.36	0.40
13:SW:100:LYS:HE2	13:SW:100:LYS:HB2	1.87	0.40
27:SH:101:LEU:N	27:SH:104:ASN:HB2	2.36	0.40
28:SI:22:LEU:HD13	28:SI:28:LEU:HG	2.02	0.40
30:SK:53:GLU:CD	30:SK:53:GLU:C	2.89	0.40
32:SB:143:ARG:NH2	32:SB:161:ASP:HB3	2.36	0.40
34:LA:499:G:H2'	34:LA:500:C:C6	2.56	0.40
34:LA:907:G:C5	34:LA:926:A:C8	3.10	0.40
34:LA:916:G:H5'	34:LA:917:A:OP1	2.21	0.40
34:LA:1182:A:H2'	34:LA:1183:C:H6	1.87	0.40
34:LA:1657:C:H42	34:LA:1798:A:H2	1.70	0.40
34:LA:1893:A:H2'	34:LA:1894:U:H6	1.86	0.40
34:LA:2205:U:H2'	34:LA:2206:G:C8	2.56	0.40
34:LA:2339:C:P	57:LX:48:ARG:HE	2.45	0.40
34:LA:3052:G:N3	34:LA:3053:G:C8	2.89	0.40
34:LA:3066:U:H2'	34:LA:3067:C:H6	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:3193:C:H2'	34:LA:3194:C:C6	2.56	0.40
34:LA:3386:G:H2'	34:LA:3387:U:C6	2.56	0.40
36:LC:66:A:C4	36:LC:67:U:C5	3.09	0.40
38:LE:183:LEU:HB2	38:LE:191:LYS:HE3	2.02	0.40
38:LE:284:ARG:HB3	38:LE:323:MET:HB2	2.03	0.40
41:LH:150:LYS:HB2	41:LH:150:LYS:HE3	1.95	0.40
42:LI:136:TYR:CZ	42:LI:231:ASN:HB2	2.55	0.40
48:LO:128:ARG:HA	48:LO:131:VAL:HG12	2.03	0.40
50:LQ:7[A]:VAL:HG11	54:LU:163:PHE:CZ	2.56	0.40
62:Lc:81:LEU:HB2	62:Lc:102:ILE:HD12	2.03	0.40
64:Le:36:GLN:NE2	64:Le:38:LYS:HB2	2.34	0.40
66:Lg:34:LYS:HE2	66:Lg:34:LYS:HB2	1.81	0.40
68:Li:46:ASP:HB2	68:Li:80:ARG:HD2	2.03	0.40
70:Lk:95:ALA:HA	70:Lk:98:ARG:HH21	1.87	0.40
76:Lq:14:GLY:C	76:Lq:16:THR:H	2.29	0.40
76:Lq:22:GLN:H	76:Lq:76:LYS:NZ	2.19	0.40
1:S2:221:A:C4	1:S2:840:U:N3	2.89	0.40
1:S2:229:U:O2	1:S2:237:C:N3	2.54	0.40
1:S2:855:A:H8	1:S2:855:A:OP2	2.05	0.40
1:S2:1426:C:O2'	1:S2:1428:G:H8	2.02	0.40
1:S2:1555:A:P	33:SE:47:ARG:HH11	2.44	0.40
1:S2:1566:U:H5"	27:SH:39:GLY:N	2.36	0.40
1:S2:1614:A:C8	1:S2:1615:C:C5	3.09	0.40
1:S2:1652:C:C2	1:S2:1653:C:C5	3.10	0.40
2:SL:38:ARG:HB2	24:Se:51:ARG:HH12	1.86	0.40
5:SO:246:SER:HB2	5:SO:294:TRP:CZ2	2.56	0.40
7:SQ:158:SER:H	7:SQ:161:ILE:HG23	1.86	0.40
7:SQ:170:GLU:HA	7:SQ:173:THR:OG1	2.21	0.40
8:SR:140:ARG:H	8:SR:221:THR:HG21	1.86	0.40
17:Sa:32:VAL:CG2	17:Sa:60:ARG:HH12	2.34	0.40
19:Sb:25:VAL:O	19:Sb:62:VAL:HA	2.21	0.40
20:Sc:70:LYS:HD3	20:Sc:93:LEU:HD11	2.03	0.40
22:Sd:84:LYS:HE3	22:Sd:85:PHE:CZ	2.57	0.40
25:SF:28:LEU:C	25:SF:29:ILE:HG13	2.47	0.40
28:SI:52:GLY:C	28:SI:54:PHE:H	2.29	0.40
32:SB:187:ILE:HD12	32:SB:187:ILE:HA	1.82	0.40
34:LA:8:C:H1'	36:LC:152:G:N2	2.36	0.40
34:LA:156:G:H21	47:LN:91:ARG:NH2	2.19	0.40
34:LA:307:A:O2'	34:LA:2223:A:H1'	2.20	0.40
34:LA:534:U:O2	54:LU:146:LYS:HA	2.21	0.40
34:LA:824:C:H2'	34:LA:825:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:917:A:C6	34:LA:918:C:C4	3.10	0.40
34:LA:1171:G:H2'	34:LA:1172:G:O4'	2.21	0.40
34:LA:1597:C:P	68:Li:31:ARG:HH21	2.44	0.40
34:LA:1650:G:C5'	37:LD:70:ARG:HH21	2.33	0.40
34:LA:1667:A:H2'	34:LA:1668:G:H8	1.84	0.40
34:LA:1704:A:C5	34:LA:1741:A:C2	3.09	0.40
34:LA:1785:U:H2'	34:LA:1786:G:H8	1.87	0.40
34:LA:1856:C:H2'	34:LA:1857:C:H6	1.86	0.40
34:LA:2127:U:H3	34:LA:2326:A:H62	1.70	0.40
34:LA:2181:C:H2'	34:LA:2182:A:H8	1.86	0.40
34:LA:2266:U:H2'	34:LA:2267:C:C2	2.56	0.40
34:LA:2652:U:C4	34:LA:2653:C:C4	3.10	0.40
34:LA:3217:C:H5"	34:LA:3266:G:H22	1.85	0.40
36:LC:11:C:C2	36:LC:12:A:C8	3.10	0.40
36:LC:42:G:C2	36:LC:43:A:C8	3.10	0.40
36:LC:80:A:H1'	36:LC:82:U:C5	2.57	0.40
39:LF:49:ALA:HA	39:LF:109:TRP:CZ2	2.56	0.40
39:LF:317:PRO:C	39:LF:319:LYS:N	2.77	0.40
40:LG:160:PHE:HA	40:LG:163:LEU:HB3	2.04	0.40
42:LI:52:GLN:HA	42:LI:55:TYR:CD1	2.56	0.40
42:LI:160:ARG:HD2	42:LI:203:TRP:NE1	2.36	0.40
46:LM:36:VAL:HB	46:LM:120:ILE:HD11	2.02	0.40
47:LN:62:THR:OG1	47:LN:63:VAL:N	2.54	0.40
50:LQ:77[A]:SER:HB3	50:LQ:106[A]:GLU:HG3	2.02	0.40
51:LR:102:ALA:HA	51:LR:107:LEU:HD23	2.03	0.40
51:LR:135:ARG:O	51:LR:136:ILE:HD13	2.21	0.40
53:LT:81:ARG:H	53:LT:81:ARG:HG2	1.61	0.40
54:LU:80:ARG:HA	54:LU:89:ASN:HA	2.03	0.40
55:LV:57:TYR:N	55:LV:57:TYR:CD1	2.89	0.40
61:Lb:112:LYS:HA	61:Lb:115:LYS:HD2	2.04	0.40
63:Ld:3:LYS:HB3	63:Ld:3:LYS:HE3	1.91	0.40
66:Lg:71:HIS:HB3	66:Lg:92:TYR:C	2.45	0.40
66:Lg:87:MET:HE3	66:Lg:87:MET:HB3	1.87	0.40
67:Lh:92:LYS:O	67:Lh:92:LYS:HG3	2.21	0.40
70:Lk:34:SER:H	70:Lk:37:THR:HG22	1.86	0.40
73:Ln:48:LYS:HA	73:Ln:48:LYS:HD3	1.84	0.40
78:SC:60:SER:HB3	78:SC:65:TYR:HE2	1.85	0.40
79:Bb:36:A:C5	79:Bb:37:G:C8	3.10	0.40
1:S2:50:C:O2'	1:S2:51:A:H5'	2.21	0.40
1:S2:65:A:C4	1:S2:83:G:C2	3.09	0.40
1:S2:501:U:O2	1:S2:502:U:H5	2.05	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S2:558:U:OP1	23:Sg:59:GLY:HA3	2.21	0.40
1:S2:588:U:C4	23:Sg:57:ASN:HB2	2.56	0.40
1:S2:970:A:C8	1:S2:971:A:C8	3.09	0.40
1:S2:1187:U:H2'	1:S2:1188:G:H8	1.86	0.40
1:S2:1191:U:H5'	25:SF:143:ARG:NH2	2.37	0.40
1:S2:1441:C:H3'	1:S2:1442:U:H4'	2.03	0.40
1:S2:1458:G:H5"	1:S2:1459:C:OP2	2.20	0.40
1:S2:1496:U:H3	1:S2:1510:U:H3	1.69	0.40
1:S2:1499:G:OP1	28:SI:121:GLY:HA2	2.20	0.40
1:S2:1555:A:H4'	33:SE:44:ARG:NH2	2.36	0.40
1:S2:1586:A:C6	1:S2:1611:A:N7	2.90	0.40
1:S2:1648:A:C6	1:S2:1753:A:N1	2.89	0.40
3:SM:36:LEU:HD12	3:SM:37:ASN:N	2.36	0.40
5:SO:198:ASN:ND2	5:SO:216:LYS:HD2	2.35	0.40
5:SO:202:LEU:HD21	5:SO:211:ILE:HD11	2.03	0.40
7:SQ:51:SER:HA	7:SQ:55:LYS:HG2	2.02	0.40
7:SQ:218:LEU:HD22	7:SQ:219:LYS:HE3	2.03	0.40
8:SR:104:VAL:HG12	8:SR:132:ALA:CB	2.52	0.40
8:SR:111:VAL:O	8:SR:136:VAL:HA	2.21	0.40
9:SS:19:LEU:HD21	9:SS:108:ARG:HD2	2.03	0.40
10:ST:191:ARG:CZ	10:ST:191:ARG:HB2	2.51	0.40
11:SU:158:ASP:HB2	11:SU:161:GLN:OE1	2.22	0.40
15:SY:31:GLU:O	15:SY:34:ILE:HG22	2.21	0.40
18:Sf:34:ASP:O	18:Sf:79:PHE:HA	2.22	0.40
24:Se:10:ARG:HH11	24:Se:12:LYS:HD3	1.87	0.40
27:SH:45:LEU:HG	27:SH:49:LYS:HE3	2.03	0.40
27:SH:117:LYS:HZ3	27:SH:127:HIS:C	2.29	0.40
34:LA:785:G:N2	34:LA:786:A:H62	2.19	0.40
34:LA:877:C:O2'	34:LA:880:G:H1'	2.22	0.40
34:LA:949:C:O2'	34:LA:971:G:H5"	2.21	0.40
34:LA:1125:U:H2'	34:LA:1126:G:H8	1.86	0.40
34:LA:1666:G:O6	34:LA:1783:U:O4	2.40	0.40
34:LA:2225:U:H6	34:LA:2225:U:H2'	1.69	0.40
34:LA:2302:G:C4	34:LA:2303:A:C8	3.10	0.40
34:LA:2366:C:H2'	34:LA:2367:A:C8	2.51	0.40
34:LA:2379:U:H2'	34:LA:2380:U:C6	2.56	0.40
34:LA:2529:A:H62	34:LA:2530:G:H21	1.69	0.40
34:LA:2683:U:H2'	34:LA:2684:C:H6	1.87	0.40
34:LA:2746:A:O2'	40:LG:175:HIS:HA	2.22	0.40
34:LA:2749:G:H2'	34:LA:2750:U:C6	2.57	0.40
34:LA:3086:A:N3	34:LA:3086:A:H2'	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:LD:192:LYS:HB3	37:LD:193:ARG:NH1	2.36	0.40
41:LH:29:LYS:HD2	41:LH:29:LYS:N	2.36	0.40
41:LH:70:LYS:HD3	41:LH:70:LYS:HA	1.86	0.40
41:LH:158:TYR:HA	48:LO:118:PHE:CE1	2.56	0.40
45:LL:3:ARG:HD2	45:LL:4:ARG:O	2.21	0.40
47:LN:50:PRO:O	47:LN:51:LEU:HB3	2.22	0.40
49:LP:11:GLN:NE2	49:LP:44:ARG:HD3	2.37	0.40
50:LQ:76[A]:PRO:HG2	50:LQ:106[A]:GLU:HG2	2.03	0.40
53:LT:67:ALA:HA	53:LT:70:LYS:HG2	2.03	0.40
54:LU:141:LYS:HE2	54:LU:141:LYS:HB3	1.94	0.40
58:LY:60:LYS:HE3	58:LY:60:LYS:HB2	1.77	0.40
59:LZ:74:LYS:HD3	59:LZ:74:LYS:HA	1.88	0.40
71:Ll:25:ARG:HD3	73:Ln:50:ASN:O	2.22	0.40
77:Lr:87:ARG:CZ	77:Lr:87:ARG:HB3	2.51	0.40
81:pp:1142:ASN:HD21	81:pp:1144:TYR:HD2	1.67	0.40
1:S2:352:A:H8	1:S2:352:A:OP2	2.05	0.40
1:S2:887:A:C4	1:S2:888:U:C5	3.10	0.40
1:S2:1176:G:C6	1:S2:1177:C:C4	3.10	0.40
1:S2:1248:C:OP1	4:SN:94:LYS:HA	2.20	0.40
1:S2:1360:A:H3'	1:S2:1361:U:H6	1.87	0.40
2:SL:58:GLU:O	2:SL:58:GLU:HG2	2.21	0.40
4:SN:106:TYR:HA	4:SN:131:PHE:CZ	2.57	0.40
5:SO:38:ARG:NH2	5:SO:85:TRP:CD1	2.90	0.40
7:SQ:108:ASP:HB2	24:Se:65:PRO:HB2	2.04	0.40
10:ST:204:ALA:O	10:ST:207:GLU:HG2	2.21	0.40
11:SU:96:ARG:NH1	11:SU:124:LYS:HB3	2.36	0.40
18:Sf:31:TYR:HE1	18:Sf:33:LEU:HD22	1.86	0.40
21:SD:72:ILE:O	21:SD:76:GLU:HG2	2.21	0.40
22:Sd:20:ARG:NH1	22:Sd:74:LEU:HD11	2.36	0.40
30:SK:57:TYR:HE1	30:SK:68:ARG:HH11	1.69	0.40
34:LA:189:G:C6	34:LA:206:G:C5	3.10	0.40
34:LA:569:A:C5	34:LA:570:A:H1'	2.57	0.40
34:LA:875:G:C2	34:LA:876:A:C8	3.09	0.40
34:LA:962:A:O2'	34:LA:963:G:H5'	2.21	0.40
34:LA:1048:A:H2'	45:LL:22:TYR:OH	2.22	0.40
34:LA:1155:C:H1'	34:LA:1198:C:O2	2.21	0.40
34:LA:1541:G:H2'	34:LA:1542:G:O4'	2.21	0.40
34:LA:2295:A:C6	57:LX:37:ILE:HG22	2.56	0.40
34:LA:2563:G:OP1	61:Lb:55:LYS:HG2	2.22	0.40
34:LA:3011:A:C8	38:LE:13:HIS:CE1	3.10	0.40
34:LA:3189:G:H2'	34:LA:3190:C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:LA:3341:U:C4	34:LA:3355:U:C2	3.10	0.40
35:LB:112:G:O6	40:LG:21:ARG:HD3	2.21	0.40
36:LC:140:G:C5	36:LC:141:C:C5	3.10	0.40
40:LG:143:LYS:HA	40:LG:172:TYR:O	2.22	0.40
46:LM:22:SER:HA	46:LM:66:ALA:CB	2.52	0.40
48:LO:36:VAL:HG21	48:LO:55:ARG:HH12	1.85	0.40
48:LO:38:ILE:HG22	48:LO:44:VAL:HG12	2.04	0.40
53:LT:30:SER:O	53:LT:34:GLN:HG3	2.21	0.40
58:LY:22:VAL:HG12	58:LY:28:ILE:HD13	2.02	0.40
60:La:48:LEU:CD2	60:La:119:ILE:HD11	2.51	0.40
60:La:59:VAL:HG12	60:La:103:LYS:O	2.22	0.40
71:Ll:54:LYS:HD3	71:Ll:54:LYS:HA	1.65	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	SL	61/63 (97%)	55 (90%)	6 (10%)	0	100	100
3	SM	51/53 (96%)	48 (94%)	3 (6%)	0	100	100
4	SN	71/73 (97%)	52 (73%)	19 (27%)	0	100	100
5	SO	310/312 (99%)	278 (90%)	32 (10%)	0	100	100
6	SP	204/206 (99%)	173 (85%)	31 (15%)	0	100	100
7	SQ	212/214 (99%)	186 (88%)	26 (12%)	0	100	100
8	SR	214/216 (99%)	201 (94%)	13 (6%)	0	100	100
9	SS	256/258 (99%)	233 (91%)	23 (9%)	0	100	100
10	ST	226/228 (99%)	207 (92%)	18 (8%)	1 (0%)	30	58
11	SU	182/184 (99%)	171 (94%)	11 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	SV	183/198 (92%)	171 (93%)	12 (7%)	0	100	100
13	SW	182/184 (99%)	167 (92%)	15 (8%)	0	100	100
14	SX	140/142 (99%)	132 (94%)	8 (6%)	0	100	100
15	SY	148/150 (99%)	136 (92%)	12 (8%)	0	100	100
16	SZ	125/127 (98%)	117 (94%)	8 (6%)	0	100	100
17	Sa	85/87 (98%)	73 (86%)	12 (14%)	0	100	100
18	Sf	79/81 (98%)	69 (87%)	10 (13%)	0	100	100
19	Sb	127/129 (98%)	119 (94%)	8 (6%)	0	100	100
20	Sc	142/144 (99%)	125 (88%)	17 (12%)	0	100	100
21	SD	119/121 (98%)	92 (77%)	26 (22%)	1 (1%)	16	44
22	Sd	132/134 (98%)	124 (94%)	8 (6%)	0	100	100
23	Sg	55/57 (96%)	49 (89%)	6 (11%)	0	100	100
24	Se	95/97 (98%)	89 (94%)	6 (6%)	0	100	100
25	SF	139/141 (99%)	128 (92%)	11 (8%)	0	100	100
26	SG	92/94 (98%)	88 (96%)	4 (4%)	0	100	100
27	SH	143/145 (99%)	132 (92%)	11 (8%)	0	100	100
28	SI	141/143 (99%)	134 (95%)	7 (5%)	0	100	100
29	SJ	98/100 (98%)	93 (95%)	5 (5%)	0	100	100
30	SK	80/82 (98%)	70 (88%)	10 (12%)	0	100	100
31	SA	220/222 (99%)	211 (96%)	9 (4%)	0	100	100
32	SB	204/206 (99%)	182 (89%)	21 (10%)	1 (0%)	24	52
33	SE	115/117 (98%)	106 (92%)	9 (8%)	0	100	100
37	LD	249/251 (99%)	232 (93%)	17 (7%)	0	100	100
38	LE	384/386 (100%)	352 (92%)	32 (8%)	0	100	100
39	LF	359/361 (99%)	337 (94%)	22 (6%)	0	100	100
40	LG	292/294 (99%)	278 (95%)	14 (5%)	0	100	100
41	LH	163/175 (93%)	154 (94%)	9 (6%)	0	100	100
42	LI	220/222 (99%)	207 (94%)	13 (6%)	0	100	100
43	LJ	231/233 (99%)	217 (94%)	14 (6%)	0	100	100
44	LK	189/191 (99%)	167 (88%)	22 (12%)	0	100	100
45	LL	216/218 (99%)	206 (95%)	10 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
46	LM	167/169 (99%)	154 (92%)	13 (8%)	0	100	100
47	LN	191/193 (99%)	175 (92%)	16 (8%)	0	100	100
48	LO	134/136 (98%)	126 (94%)	8 (6%)	0	100	100
49	LP	201/203 (99%)	191 (95%)	10 (5%)	0	100	100
50	LQ	195/197 (99%)	188 (96%)	7 (4%)	0	100	100
51	LR	181/183 (99%)	167 (92%)	14 (8%)	0	100	100
52	LS	183/185 (99%)	166 (91%)	17 (9%)	0	100	100
53	LT	186/188 (99%)	180 (97%)	6 (3%)	0	100	100
54	LU	169/171 (99%)	160 (95%)	9 (5%)	0	100	100
55	LV	157/159 (99%)	148 (94%)	9 (6%)	0	100	100
56	LW	98/100 (98%)	93 (95%)	5 (5%)	0	100	100
57	LX	134/136 (98%)	130 (97%)	4 (3%)	0	100	100
58	LY	63/65 (97%)	61 (97%)	2 (3%)	0	100	100
59	LZ	119/121 (98%)	116 (98%)	3 (2%)	0	100	100
60	La	123/125 (98%)	111 (90%)	11 (9%)	1 (1%)	16	44
61	Lb	133/135 (98%)	123 (92%)	10 (8%)	0	100	100
62	Lc	146/148 (99%)	133 (91%)	13 (9%)	0	100	100
63	Ld	56/58 (97%)	50 (89%)	6 (11%)	0	100	100
64	Le	94/96 (98%)	91 (97%)	3 (3%)	0	100	100
65	Lf	107/109 (98%)	100 (94%)	7 (6%)	0	100	100
66	Lg	125/127 (98%)	114 (91%)	11 (9%)	0	100	100
67	Lh	104/106 (98%)	101 (97%)	3 (3%)	0	100	100
68	Li	110/112 (98%)	107 (97%)	3 (3%)	0	100	100
69	Lj	117/119 (98%)	109 (93%)	8 (7%)	0	100	100
70	Lk	97/99 (98%)	92 (95%)	5 (5%)	0	100	100
71	Ll	79/81 (98%)	74 (94%)	5 (6%)	0	100	100
72	Lm	75/77 (97%)	72 (96%)	3 (4%)	0	100	100
73	Ln	48/50 (96%)	45 (94%)	3 (6%)	0	100	100
74	Lo	50/52 (96%)	45 (90%)	5 (10%)	0	100	100
75	Lp	23/25 (92%)	23 (100%)	0	0	100	100
76	Lq	101/103 (98%)	92 (91%)	9 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
77	Lr	89/91 (98%)	85 (96%)	4 (4%)	0	100 100
78	SC	90/92 (98%)	75 (83%)	14 (16%)	1 (1%)	11 36
81	pp	8/24 (33%)	6 (75%)	2 (25%)	0	100 100
All	All	10887/11074 (98%)	10064 (92%)	818 (8%)	5 (0%)	100 100

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
21	SD	82	PRO
60	La	28	ARG
10	ST	175	ILE
32	SB	162	VAL
78	SC	5	LYS

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	SL	55/56 (98%)	53 (96%)	2 (4%)	31 56
3	SM	47/47 (100%)	46 (98%)	1 (2%)	47 64
4	SN	56/64 (88%)	50 (89%)	6 (11%)	6 23
5	SO	250/257 (97%)	230 (92%)	20 (8%)	11 36
6	SP	170/173 (98%)	161 (95%)	9 (5%)	20 48
7	SQ	191/191 (100%)	175 (92%)	16 (8%)	10 34
8	SR	175/175 (100%)	166 (95%)	9 (5%)	21 48
9	SS	220/220 (100%)	210 (96%)	10 (4%)	24 51
10	ST	189/195 (97%)	174 (92%)	15 (8%)	11 37
11	SU	163/165 (99%)	160 (98%)	3 (2%)	51 66
12	SV	148/159 (93%)	140 (95%)	8 (5%)	20 47
13	SW	156/157 (99%)	147 (94%)	9 (6%)	18 45

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
14	SX	126/127 (99%)	118 (94%)	8 (6%)	16 43
15	SY	127/127 (100%)	118 (93%)	9 (7%)	13 39
16	SZ	90/96 (94%)	82 (91%)	8 (9%)	9 31
17	Sa	71/74 (96%)	66 (93%)	5 (7%)	14 40
18	Sf	70/70 (100%)	68 (97%)	2 (3%)	37 60
19	Sb	110/110 (100%)	107 (97%)	3 (3%)	39 60
20	Sc	119/119 (100%)	112 (94%)	7 (6%)	18 44
21	SD	88/98 (90%)	81 (92%)	7 (8%)	11 36
22	Sd	102/112 (91%)	96 (94%)	6 (6%)	18 44
23	Sg	48/49 (98%)	41 (85%)	7 (15%)	3 12
24	Se	82/83 (99%)	77 (94%)	5 (6%)	17 44
25	SF	117/117 (100%)	111 (95%)	6 (5%)	21 48
26	SG	82/85 (96%)	78 (95%)	4 (5%)	22 49
27	SH	127/128 (99%)	120 (94%)	7 (6%)	19 47
28	SI	115/115 (100%)	105 (91%)	10 (9%)	9 32
29	SJ	93/93 (100%)	86 (92%)	7 (8%)	12 38
30	SK	67/73 (92%)	63 (94%)	4 (6%)	17 44
31	SA	182/182 (100%)	173 (95%)	9 (5%)	22 49
32	SB	172/173 (99%)	163 (95%)	9 (5%)	21 48
33	SE	95/98 (97%)	92 (97%)	3 (3%)	34 58
37	LD	190/193 (98%)	185 (97%)	5 (3%)	40 61
38	LE	318/322 (99%)	306 (96%)	12 (4%)	29 55
39	LF	288/288 (100%)	273 (95%)	15 (5%)	21 48
40	LG	241/243 (99%)	236 (98%)	5 (2%)	47 64
41	LH	139/154 (90%)	130 (94%)	9 (6%)	15 42
42	LI	186/186 (100%)	180 (97%)	6 (3%)	34 58
43	LJ	187/191 (98%)	179 (96%)	8 (4%)	26 52
44	LK	168/171 (98%)	148 (88%)	20 (12%)	5 19
45	LL	185/185 (100%)	175 (95%)	10 (5%)	20 47
46	LM	145/147 (99%)	133 (92%)	12 (8%)	10 35
47	LN	154/154 (100%)	148 (96%)	6 (4%)	28 54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
48	LO	107/107 (100%)	103 (96%)	4 (4%)	30	55
49	LP	175/175 (100%)	169 (97%)	6 (3%)	32	58
50	LQ	160/160 (100%)	159 (99%)	1 (1%)	78	79
51	LR	138/145 (95%)	131 (95%)	7 (5%)	21	48
52	LS	150/150 (100%)	142 (95%)	8 (5%)	20	48
53	LT	152/153 (99%)	144 (95%)	8 (5%)	20	48
54	LU	155/155 (100%)	149 (96%)	6 (4%)	28	54
55	LV	135/136 (99%)	128 (95%)	7 (5%)	21	48
56	LW	87/87 (100%)	83 (95%)	4 (5%)	24	50
57	LX	104/104 (100%)	101 (97%)	3 (3%)	37	60
58	LY	54/57 (95%)	53 (98%)	1 (2%)	50	66
59	LZ	104/105 (99%)	100 (96%)	4 (4%)	29	55
60	La	108/108 (100%)	101 (94%)	7 (6%)	15	42
61	Lb	112/115 (97%)	107 (96%)	5 (4%)	24	51
62	Lc	117/118 (99%)	111 (95%)	6 (5%)	21	48
63	Ld	46/46 (100%)	45 (98%)	1 (2%)	45	63
64	Le	81/81 (100%)	74 (91%)	7 (9%)	10	33
65	Lf	92/96 (96%)	87 (95%)	5 (5%)	20	47
66	Lg	108/109 (99%)	103 (95%)	5 (5%)	24	50
67	Lh	90/90 (100%)	82 (91%)	8 (9%)	9	31
68	Li	95/95 (100%)	85 (90%)	10 (10%)	6	24
69	Lj	104/104 (100%)	94 (90%)	10 (10%)	8	29
70	Lk	80/81 (99%)	78 (98%)	2 (2%)	42	61
71	Ll	67/67 (100%)	66 (98%)	1 (2%)	57	68
72	Lm	68/68 (100%)	67 (98%)	1 (2%)	57	68
73	Ln	45/45 (100%)	43 (96%)	2 (4%)	25	51
74	Lo	45/47 (96%)	44 (98%)	1 (2%)	45	63
75	Lp	22/23 (96%)	21 (96%)	1 (4%)	24	51
76	Lq	87/88 (99%)	84 (97%)	3 (3%)	32	58
77	Lr	71/71 (100%)	67 (94%)	4 (6%)	19	46
78	SC	77/85 (91%)	72 (94%)	5 (6%)	15	42

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
81	pp	8/22 (36%)	8 (100%)	0	100 100
All	All	9148/9315 (98%)	8663 (95%)	485 (5%)	22 48

All (485) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	SL	33	LEU
2	SL	36	THR
3	SM	45	GLU
4	SN	115	THR
4	SN	121	CYS
4	SN	125	THR
4	SN	132	LEU
4	SN	135	HIS
4	SN	147	VAL
5	SO	7	LEU
5	SO	8	VAL
5	SO	9	LEU
5	SO	32	LEU
5	SO	35	SER
5	SO	110	VAL
5	SO	115	ILE
5	SO	120	SER
5	SO	136	ILE
5	SO	143	THR
5	SO	150	TRP
5	SO	156	VAL
5	SO	174	ASN
5	SO	188	ILE
5	SO	195	HIS
5	SO	199	ILE
5	SO	211	ILE
5	SO	216	LYS
5	SO	231	MET
5	SO	239	GLU
6	SP	17	LEU
6	SP	18	LEU
6	SP	67	ILE
6	SP	80	THR
6	SP	96	THR
6	SP	101	ARG
6	SP	122	ILE

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Mol	Chain	Res	Type
6	SP	141	ILE
6	SP	206	ASP
7	SQ	21	VAL
7	SQ	55	LYS
7	SQ	105	PHE
7	SQ	118	GLN
7	SQ	122	GLU
7	SQ	133	TYR
7	SQ	134	VAL
7	SQ	137	ILE
7	SQ	140	ILE
7	SQ	158	SER
7	SQ	161	ILE
7	SQ	171	ILE
7	SQ	181	LEU
7	SQ	183	GLN
7	SQ	212	VAL
7	SQ	225	VAL
8	SR	38	VAL
8	SR	79	GLU
8	SR	80	VAL
8	SR	82	ASN
8	SR	101	VAL
8	SR	129	ILE
8	SR	134	LEU
8	SR	181	SER
8	SR	205	ARG
9	SS	22	LYS
9	SS	70	VAL
9	SS	98	ASN
9	SS	101	LEU
9	SS	114	ILE
9	SS	170	THR
9	SS	197	HIS
9	SS	214	LEU
9	SS	227	VAL
9	SS	255	ARG
10	ST	12	SER
10	ST	15	THR
10	ST	26	VAL
10	ST	27	PHE
10	ST	41	VAL

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Mol	Chain	Res	Type
10	ST	52	ILE
10	ST	68	LEU
10	ST	73	ILE
10	ST	81	VAL
10	ST	82	SER
10	ST	97	VAL
10	ST	143	LYS
10	ST	159	ARG
10	ST	168	THR
10	ST	217	SER
11	SU	99	LEU
11	SU	108	GLN
11	SU	185	ILE
12	SV	58	LEU
12	SV	62	THR
12	SV	64	ASN
12	SV	72	ILE
12	SV	81	VAL
12	SV	102	VAL
12	SV	152	ILE
12	SV	172	ARG
13	SW	11	THR
13	SW	13	SER
13	SW	22	SER
13	SW	54	ARG
13	SW	60	LEU
13	SW	85	VAL
13	SW	104	PHE
13	SW	139	GLN
13	SW	148	VAL
14	SX	64	VAL
14	SX	74	THR
14	SX	75	VAL
14	SX	76	VAL
14	SX	84	ILE
14	SX	94	ILE
14	SX	111	VAL
14	SX	123	VAL
15	SY	19	SER
15	SY	21	ASN
15	SY	46	THR
15	SY	50	ILE

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Mol	Chain	Res	Type
15	SY	80	LEU
15	SY	116	ILE
15	SY	134	VAL
15	SY	138	ASN
15	SY	141	TYR
16	SZ	14	PHE
16	SZ	16	VAL
16	SZ	28	VAL
16	SZ	31	THR
16	SZ	49	LYS
16	SZ	56	SER
16	SZ	83	ILE
16	SZ	86	THR
17	Sa	13	VAL
17	Sa	39	VAL
17	Sa	46	ILE
17	Sa	66	ASP
17	Sa	72	LEU
18	Sf	9	HIS
18	Sf	54	VAL
19	Sb	97	ARG
19	Sb	104	LEU
19	Sb	126	LEU
20	Sc	36	THR
20	Sc	59	ILE
20	Sc	68	ILE
20	Sc	99	ASN
20	Sc	107	PHE
20	Sc	124	VAL
20	Sc	131	SER
21	SD	31	VAL
21	SD	45	LEU
21	SD	63	VAL
21	SD	86	VAL
21	SD	97	LEU
21	SD	100	TRP
21	SD	123	VAL
22	Sd	3	ASP
22	Sd	25	VAL
22	Sd	27	VAL
22	Sd	38	ASP
22	Sd	48	TYR

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Mol	Chain	Res	Type
22	Sd	83	LYS
23	Sg	5	HIS
23	Sg	8	LEU
23	Sg	14	VAL
23	Sg	39	LEU
23	Sg	43	ARG
23	Sg	45	VAL
23	Sg	50	VAL
24	Se	18	VAL
24	Se	30	ILE
24	Se	53	LEU
24	Se	67	THR
24	Se	71	LEU
25	SF	4	VAL
25	SF	47	LYS
25	SF	54	LEU
25	SF	57	LEU
25	SF	63	ILE
25	SF	118	ILE
26	SG	8	THR
26	SG	40	THR
26	SG	57	LEU
26	SG	85	VAL
27	SH	32	LEU
27	SH	73	MET
27	SH	85	PHE
27	SH	94	ASP
27	SH	109	LEU
27	SH	131	LEU
27	SH	133	VAL
28	SI	13	ASP
28	SI	28	LEU
28	SI	34	VAL
28	SI	35	ASP
28	SI	67	MET
28	SI	95	ASP
28	SI	100	ILE
28	SI	115	GLU
28	SI	127	ASN
28	SI	132	LEU
29	SJ	22	ILE
29	SJ	26	LEU

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Mol	Chain	Res	Type
29	SJ	44	ASN
29	SJ	67	THR
29	SJ	70	THR
29	SJ	78	THR
29	SJ	84	MET
30	SK	57	TYR
30	SK	62	VAL
30	SK	64	VAL
30	SK	100	ILE
31	SA	55	THR
31	SA	58	VAL
31	SA	66	ILE
31	SA	71	LEU
31	SA	110	LEU
31	SA	135	GLU
31	SA	175	VAL
31	SA	186	VAL
31	SA	202	LEU
32	SB	32	GLU
32	SB	40	ILE
32	SB	64	VAL
32	SB	98	MET
32	SB	102	ARG
32	SB	131	GLN
32	SB	145	ASP
32	SB	161	ASP
32	SB	165	LEU
33	SE	41	VAL
33	SE	65	LEU
33	SE	76	VAL
37	LD	32	LEU
37	LD	45	VAL
37	LD	102	LEU
37	LD	207	VAL
37	LD	225	ILE
38	LE	17	LEU
38	LE	59	ASP
38	LE	101	SER
38	LE	144	ILE
38	LE	169	THR
38	LE	180	GLU
38	LE	212	ASN

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Mol	Chain	Res	Type
38	LE	221	THR
38	LE	297	SER
38	LE	323	MET
38	LE	338	LEU
38	LE	344	THR
39	LF	8	VAL
39	LF	74	ILE
39	LF	103	THR
39	LF	140	HIS
39	LF	148	ILE
39	LF	154	THR
39	LF	156	LEU
39	LF	161	LYS
39	LF	164	GLU
39	LF	178	LEU
39	LF	182	LEU
39	LF	194	TYR
39	LF	222	VAL
39	LF	308	LYS
39	LF	343	LYS
40	LG	55	PHE
40	LG	63	GLN
40	LG	85	ARG
40	LG	122	VAL
40	LG	131	LEU
41	LH	10	TYR
41	LH	15	VAL
41	LH	25	VAL
41	LH	30	LEU
41	LH	53	VAL
41	LH	63	LEU
41	LH	89	THR
41	LH	91	VAL
41	LH	131	LYS
42	LI	86	VAL
42	LI	87	VAL
42	LI	93	ASN
42	LI	129	LEU
42	LI	143	THR
42	LI	184	LEU
43	LJ	46	LEU
43	LJ	75	ILE

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Mol	Chain	Res	Type
43	LJ	126	SER
43	LJ	132	VAL
43	LJ	175	VAL
43	LJ	200	LEU
43	LJ	229	VAL
43	LJ	246	MET
44	LK	4	ILE
44	LK	10	ILE
44	LK	17	THR
44	LK	28	VAL
44	LK	42	ASP
44	LK	47	LYS
44	LK	68	LEU
44	LK	73	SER
44	LK	76	ASP
44	LK	80	THR
44	LK	90	MET
44	LK	92	TYR
44	LK	100	ASN
44	LK	112	ILE
44	LK	132	VAL
44	LK	140	VAL
44	LK	167	VAL
44	LK	172	ILE
44	LK	183	HIS
44	LK	184	LYS
45	LL	7	ARG
45	LL	13	LYS
45	LL	43	VAL
45	LL	55	ASN
45	LL	89	VAL
45	LL	96	VAL
45	LL	111	LEU
45	LL	123	HIS
45	LL	138	VAL
45	LL	167	LEU
46	LM	30	LEU
46	LM	44	THR
46	LM	46	VAL
46	LM	68	HIS
46	LM	78	GLU
46	LM	91	LEU

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Mol	Chain	Res	Type
46	LM	101	ASN
46	LM	112	LEU
46	LM	152	HIS
46	LM	154	THR
46	LM	155	THR
46	LM	158	ASP
47	LN	5	LYS
47	LN	20	GLU
47	LN	67	ARG
47	LN	104	ARG
47	LN	137	GLN
47	LN	159	VAL
48	LO	3	THR
48	LO	20	VAL
48	LO	113	THR
48	LO	116	GLU
49	LP	22	LEU
49	LP	83	LYS
49	LP	92	LEU
49	LP	114	ARG
49	LP	148	TYR
49	LP	183	THR
50	LQ	4[A]	GLU
51	LR	26	PHE
51	LR	48	LEU
51	LR	52	LEU
51	LR	54	HIS
51	LR	78	VAL
51	LR	120	ASN
51	LR	146	ILE
52	LS	15	HIS
52	LS	48	VAL
52	LS	57	ILE
52	LS	82	VAL
52	LS	83	VAL
52	LS	93	ILE
52	LS	140	LEU
52	LS	150	VAL
53	LT	10	LEU
53	LT	27	ASN
53	LT	84	THR
53	LT	85	ARG

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Mol	Chain	Res	Type
53	LT	94	VAL
53	LT	104	ARG
53	LT	134	HIS
53	LT	177	VAL
54	LU	51	VAL
54	LU	59	VAL
54	LU	79	VAL
54	LU	124	LEU
54	LU	145	THR
54	LU	160	THR
55	LV	26	HIS
55	LV	63	VAL
55	LV	71	SER
55	LV	85	LEU
55	LV	106	LEU
55	LV	128	LEU
55	LV	147	VAL
56	LW	17	VAL
56	LW	32	SER
56	LW	61	THR
56	LW	65	VAL
57	LX	15	LEU
57	LX	78	VAL
57	LX	125	LEU
58	LY	7	SER
59	LZ	51	VAL
59	LZ	62	VAL
59	LZ	105	VAL
59	LZ	134	ASP
60	La	29	VAL
60	La	74	TYR
60	La	97	ILE
60	La	98	ASN
60	La	102	SER
60	La	111	LEU
60	La	126	LEU
61	Lb	13	VAL
61	Lb	25	ILE
61	Lb	30	ASP
61	Lb	86	THR
61	Lb	98	THR
62	Lc	64	GLN

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Mol	Chain	Res	Type
62	Lc	72	VAL
62	Lc	82	ILE
62	Lc	112	ILE
62	Lc	145	VAL
62	Lc	147	LEU
63	Ld	7	HIS
64	Le	32	LYS
64	Le	44	ILE
64	Le	62	LEU
64	Le	74	ASN
64	Le	90	VAL
64	Le	93	LEU
64	Le	103	THR
65	Lf	8	VAL
65	Lf	18	LYS
65	Lf	46	THR
65	Lf	97	LEU
65	Lf	108	VAL
66	Lg	8	LYS
66	Lg	42	VAL
66	Lg	54	LYS
66	Lg	60	ASN
66	Lg	89	THR
67	Lh	21	ARG
67	Lh	22	VAL
67	Lh	42	GLN
67	Lh	74	THR
67	Lh	81	VAL
67	Lh	89	LEU
67	Lh	98	VAL
67	Lh	105	SER
68	Li	5	VAL
68	Li	6	THR
68	Li	15	THR
68	Li	35	VAL
68	Li	51	LEU
68	Li	55	SER
68	Li	64	THR
68	Li	84	CYS
68	Li	100	ILE
68	Li	101	VAL
69	Lj	4	VAL

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Mol	Chain	Res	Type
69	Lj	9	LEU
69	Lj	20	GLN
69	Lj	51	ILE
69	Lj	58	ILE
69	Lj	59	ASN
69	Lj	66	VAL
69	Lj	84	LYS
69	Lj	85	THR
69	Lj	118	ILE
70	Lk	44	VAL
70	Lk	58	ILE
71	Ll	26	SER
72	Lm	25	VAL
73	Ln	13	MET
73	Ln	34	THR
74	Lo	78	ILE
75	Lp	10	THR
76	Lq	26	THR
76	Lq	48	SER
76	Lq	68	VAL
77	Lr	24	ARG
77	Lr	33	GLN
77	Lr	63	THR
77	Lr	81	SER
78	SC	21	VAL
78	SC	39	ASN
78	SC	48	SER
78	SC	49	LEU
78	SC	55	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (111) such sidechains are listed below:

Mol	Chain	Res	Type
2	SL	27	GLN
3	SM	5	ASN
3	SM	20	GLN
5	SO	69	GLN
5	SO	198	ASN
6	SP	23	HIS
7	SQ	95	ASN
7	SQ	153	HIS
7	SQ	157	GLN

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Mol	Chain	Res	Type
7	SQ	183	GLN
8	SR	59	HIS
8	SR	209	ASN
8	SR	228	ASN
9	SS	36	HIS
9	SS	67	GLN
9	SS	157	ASN
9	SS	197	HIS
10	ST	119	GLN
10	ST	182	GLN
13	SW	139	GLN
15	SY	5	HIS
15	SY	21	ASN
15	SY	69	ASN
15	SY	105	ASN
17	Sa	21	ASN
17	Sa	33	GLN
19	Sb	44	HIS
19	Sb	70	ASN
19	Sb	113	HIS
20	Sc	65	ASN
21	SD	80	ASN
22	Sd	29	HIS
24	Se	43	ASN
24	Se	80	HIS
25	SF	8	GLN
25	SF	74	HIS
27	SH	71	GLN
27	SH	99	HIS
27	SH	136	GLN
28	SI	64	HIS
28	SI	138	GLN
30	SK	98	GLN
32	SB	100	ASN
32	SB	127	GLN
37	LD	132	ASN
37	LD	194	ASN
37	LD	233	GLN
38	LE	182	GLN
38	LE	212	ASN
38	LE	224	HIS
39	LF	9	HIS

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Mol	Chain	Res	Type
39	LF	36	HIS
39	LF	140	HIS
39	LF	196	ASN
39	LF	237	GLN
40	LG	32	GLN
40	LG	63	GLN
40	LG	178	ASN
42	LI	186	HIS
43	LJ	28	HIS
43	LJ	41	GLN
43	LJ	77	GLN
43	LJ	145	ASN
43	LJ	243	GLN
43	LJ	252	ASN
44	LK	59	ASN
44	LK	96	HIS
44	LK	100	ASN
45	LL	12	GLN
45	LL	23	ASN
45	LL	55	ASN
45	LL	92	HIS
45	LL	112	GLN
45	LL	162	GLN
49	LP	32	GLN
51	LR	45	GLN
51	LR	50	GLN
51	LR	92	GLN
51	LR	137	ASN
52	LS	145	ASN
53	LT	27	ASN
53	LT	58	HIS
53	LT	66	HIS
54	LU	122	HIS
56	LW	9	GLN
59	LZ	65	GLN
61	Lb	36	HIS
61	Lb	78	ASN
61	Lb	122	HIS
62	Lc	41	HIS
62	Lc	49	HIS
62	Lc	62	HIS
63	Ld	6	ASN

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Mol	Chain	Res	Type
64	Le	36	GLN
65	Lf	21	HIS
66	Lg	21	HIS
67	Lh	24	ASN
67	Lh	88	ASN
67	Lh	106	ASN
68	Li	33	GLN
69	Lj	61	GLN
71	Ll	20	ASN
71	Ll	69	HIS
73	Ln	33	ASN
76	Lq	38	GLN
77	Lr	32	GLN
78	SC	13	GLN
78	SC	17	GLN
78	SC	47	GLN
78	SC	81	ASN
81	pp	1142	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	S2	1767/1800 (98%)	761 (43%)	20 (1%)
34	LA	3159/3393 (93%)	795 (25%)	30 (0%)
35	LB	120/121 (99%)	19 (15%)	1 (0%)
36	LC	157/158 (99%)	46 (29%)	1 (0%)
79	Bb	75/76 (98%)	36 (48%)	0
80	Cc	75/76 (98%)	29 (38%)	0
82	mR	0/10	-	-
All	All	5353/5634 (95%)	1686 (31%)	52 (0%)

All (1686) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	S2	3	U
1	S2	4	C
1	S2	9	U
1	S2	14	C
1	S2	15	U
1	S2	17	C
1	S2	25	C

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Mol	Chain	Res	Type
1	S2	26	A
1	S2	34	G
1	S2	39	A
1	S2	43	A
1	S2	45	U
1	S2	46	A
1	S2	47	A
1	S2	56	U
1	S2	57	G
1	S2	61	A
1	S2	62	A
1	S2	63	G
1	S2	65	A
1	S2	66	U
1	S2	68	A
1	S2	69	G
1	S2	73	U
1	S2	74	U
1	S2	75	U
1	S2	76	A
1	S2	77	U
1	S2	78	A
1	S2	80	A
1	S2	84	A
1	S2	85	A
1	S2	87	C
1	S2	88	U
1	S2	89	G
1	S2	103	A
1	S2	104	A
1	S2	114	C
1	S2	115	G
1	S2	116	U
1	S2	125	U
1	S2	129	U
1	S2	130	C
1	S2	131	C
1	S2	132	U
1	S2	133	U
1	S2	134	U
1	S2	135	A
1	S2	136	C

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Mol	Chain	Res	Type
1	S2	138	A
1	S2	140	A
1	S2	141	U
1	S2	147	A
1	S2	148	A
1	S2	150	U
1	S2	151	G
1	S2	152	U
1	S2	153	G
1	S2	154	G
1	S2	155	U
1	S2	156	A
1	S2	157	A
1	S2	159	U
1	S2	161	U
1	S2	165	G
1	S2	171	A
1	S2	173	A
1	S2	175	G
1	S2	176	C
1	S2	178	U
1	S2	180	A
1	S2	185	U
1	S2	189	C
1	S2	190	C
1	S2	191	C
1	S2	192	U
1	S2	194	U
1	S2	195	G
1	S2	198	A
1	S2	199	G
1	S2	200	A
1	S2	208	U
1	S2	209	U
1	S2	210	A
1	S2	211	U
1	S2	212	U
1	S2	214	G
1	S2	215	A
1	S2	216	U
1	S2	217	A
1	S2	218	A

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Mol	Chain	Res	Type
1	S2	220	A
1	S2	221	A
1	S2	223	U
1	S2	225	A
1	S2	227	U
1	S2	230	C
1	S2	231	U
1	S2	233	C
1	S2	234	G
1	S2	236	A
1	S2	239	C
1	S2	240	U
1	S2	241	U
1	S2	242	U
1	S2	243	G
1	S2	244	A
1	S2	248	U
1	S2	249	U
1	S2	252	U
1	S2	253	A
1	S2	256	A
1	S2	257	A
1	S2	258	C
1	S2	259	U
1	S2	260	U
1	S2	261	U
1	S2	262	U
1	S2	265	A
1	S2	266	A
1	S2	267	U
1	S2	269	G
1	S2	271	A
1	S2	272	U
1	S2	273	G
1	S2	274	G
1	S2	276	C
1	S2	277	U
1	S2	278	U
1	S2	280	U
1	S2	281	G
1	S2	291	G
1	S2	292	U

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Mol	Chain	Res	Type
1	S2	296	U
1	S2	297	U
1	S2	299	A
1	S2	302	U
1	S2	304	U
1	S2	305	C
1	S2	313	U
1	S2	314	C
1	S2	316	A
1	S2	319	U
1	S2	320	U
1	S2	324	U
1	S2	331	A
1	S2	333	A
1	S2	335	U
1	S2	337	G
1	S2	338	C
1	S2	339	C
1	S2	345	U
1	S2	350	U
1	S2	352	A
1	S2	359	A
1	S2	360	A
1	S2	361	C
1	S2	365	G
1	S2	367	A
1	S2	368	U
1	S2	370	A
1	S2	371	G
1	S2	372	G
1	S2	373	G
1	S2	380	U
1	S2	388	G
1	S2	400	A
1	S2	401	A
1	S2	402	C
1	S2	404	G
1	S2	405	C
1	S2	412	A
1	S2	415	C
1	S2	416	A
1	S2	417	A

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Mol	Chain	Res	Type
1	S2	419	G
1	S2	423	G
1	S2	424	C
1	S2	425	A
1	S2	432	G
1	S2	434	G
1	S2	437	A
1	S2	439	U
1	S2	441	A
1	S2	444	C
1	S2	451	A
1	S2	452	A
1	S2	454	U
1	S2	455	C
1	S2	460	A
1	S2	473	A
1	S2	475	A
1	S2	477	A
1	S2	479	C
1	S2	480	G
1	S2	481	A
1	S2	483	A
1	S2	485	A
1	S2	486	G
1	S2	487	G
1	S2	489	C
1	S2	490	C
1	S2	491	C
1	S2	492	A
1	S2	494	U
1	S2	495	C
1	S2	496	G
1	S2	497	G
1	S2	498	G
1	S2	500	C
1	S2	501	U
1	S2	502	U
1	S2	505	A
1	S2	506	A
1	S2	507	U
1	S2	509	G
1	S2	511	A

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Mol	Chain	Res	Type
1	S2	512	A
1	S2	518	A
1	S2	519	C
1	S2	520	A
1	S2	522	U
1	S2	523	G
1	S2	524	U
1	S2	525	A
1	S2	527	A
1	S2	529	A
1	S2	534	A
1	S2	537	G
1	S2	538	A
1	S2	539	G
1	S2	542	A
1	S2	543	C
1	S2	544	A
1	S2	549	G
1	S2	550	A
1	S2	551	G
1	S2	556	A
1	S2	558	U
1	S2	565	C
1	S2	566	C
1	S2	567	A
1	S2	568	G
1	S2	581	U
1	S2	585	A
1	S2	586	G
1	S2	587	C
1	S2	588	U
1	S2	589	C
1	S2	591	A
1	S2	594	A
1	S2	606	A
1	S2	610	G
1	S2	611	U
1	S2	619	A
1	S2	620	A
1	S2	622	A
1	S2	623	A
1	S2	624	G

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Mol	Chain	Res	Type
1	S2	635	A
1	S2	639	U
1	S2	640	U
1	S2	643	G
1	S2	644	C
1	S2	645	C
1	S2	646	C
1	S2	647	G
1	S2	648	G
1	S2	649	U
1	S2	652	G
1	S2	653	C
1	S2	654	C
1	S2	655	G
1	S2	657	U
1	S2	658	C
1	S2	677	G
1	S2	680	U
1	S2	682	C
1	S2	683	C
1	S2	687	G
1	S2	688	G
1	S2	689	G
1	S2	694	U
1	S2	695	U
1	S2	696	C
1	S2	697	C
1	S2	698	U
1	S2	699	U
1	S2	700	C
1	S2	702	G
1	S2	704	C
1	S2	705	U
1	S2	706	A
1	S2	708	C
1	S2	709	C
1	S2	710	U
1	S2	711	U
1	S2	712	G
1	S2	713	A
1	S2	714	G
1	S2	727	U

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Mol	Chain	Res	Type
1	S2	730	G
1	S2	732	G
1	S2	733	A
1	S2	735	C
1	S2	738	G
1	S2	740	A
1	S2	741	C
1	S2	742	U
1	S2	743	U
1	S2	744	U
1	S2	749	U
1	S2	750	U
1	S2	751	G
1	S2	752	A
1	S2	753	A
1	S2	754	A
1	S2	756	A
1	S2	758	U
1	S2	759	U
1	S2	760	A
1	S2	763	G
1	S2	765	G
1	S2	766	U
1	S2	767	U
1	S2	768	C
1	S2	771	A
1	S2	772	G
1	S2	773	C
1	S2	774	A
1	S2	775	G
1	S2	778	G
1	S2	780	A
1	S2	781	U
1	S2	782	U
1	S2	783	G
1	S2	790	U
1	S2	792	U
1	S2	793	A
1	S2	806	A
1	S2	810	G
1	S2	812	A
1	S2	813	U

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Mol	Chain	Res	Type
1	S2	814	A
1	S2	815	G
1	S2	816	G
1	S2	818	C
1	S2	820	U
1	S2	821	U
1	S2	822	U
1	S2	824	G
1	S2	825	U
1	S2	826	U
1	S2	827	C
1	S2	829	A
1	S2	830	U
1	S2	832	U
1	S2	836	U
1	S2	837	G
1	S2	839	U
1	S2	841	U
1	S2	843	U
1	S2	844	A
1	S2	845	G
1	S2	847	A
1	S2	848	C
1	S2	850	A
1	S2	852	C
1	S2	855	A
1	S2	856	A
1	S2	857	U
1	S2	859	A
1	S2	860	U
1	S2	863	A
1	S2	864	U
1	S2	865	A
1	S2	873	U
1	S2	876	G
1	S2	893	U
1	S2	894	U
1	S2	897	C
1	S2	899	G
1	S2	905	A
1	S2	906	A
1	S2	907	A

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Mol	Chain	Res	Type
1	S2	908	U
1	S2	909	U
1	S2	913	G
1	S2	914	G
1	S2	916	U
1	S2	919	A
1	S2	921	U
1	S2	928	U
1	S2	931	C
1	S2	932	U
1	S2	933	A
1	S2	934	C
1	S2	935	U
1	S2	942	G
1	S2	960	U
1	S2	965	U
1	S2	966	A
1	S2	973	A
1	S2	983	A
1	S2	986	G
1	S2	988	A
1	S2	992	A
1	S2	1004	U
1	S2	1012	U
1	S2	1019	A
1	S2	1024	U
1	S2	1025	A
1	S2	1026	A
1	S2	1028	C
1	S2	1031	U
1	S2	1032	G
1	S2	1039	A
1	S2	1042	G
1	S2	1049	U
1	S2	1050	G
1	S2	1052	U
1	S2	1054	U
1	S2	1055	U
1	S2	1056	U
1	S2	1057	U
1	S2	1058	U
1	S2	1059	U

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Mol	Chain	Res	Type
1	S2	1061	A
1	S2	1062	A
1	S2	1063	U
1	S2	1064	G
1	S2	1065	A
1	S2	1068	C
1	S2	1069	A
1	S2	1070	C
1	S2	1071	U
1	S2	1076	A
1	S2	1080	U
1	S2	1082	C
1	S2	1083	G
1	S2	1091	A
1	S2	1092	A
1	S2	1093	A
1	S2	1096	C
1	S2	1098	U
1	S2	1099	U
1	S2	1100	G
1	S2	1111	G
1	S2	1119	G
1	S2	1138	A
1	S2	1144	U
1	S2	1146	G
1	S2	1150	G
1	S2	1158	C
1	S2	1160	A
1	S2	1163	A
1	S2	1164	G
1	S2	1170	G
1	S2	1181	U
1	S2	1182	U
1	S2	1185	U
1	S2	1186	U
1	S2	1190	C
1	S2	1192	C
1	S2	1194	A
1	S2	1195	C
1	S2	1196	A
1	S2	1199	G
1	S2	1200	G

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Mol	Chain	Res	Type
1	S2	1202	A
1	S2	1203	A
1	S2	1204	A
1	S2	1207	C
1	S2	1208	A
1	S2	1212	G
1	S2	1214	U
1	S2	1215	C
1	S2	1216	C
1	S2	1218	G
1	S2	1219	A
1	S2	1220	C
1	S2	1221	A
1	S2	1222	C
1	S2	1223	A
1	S2	1224	A
1	S2	1227	A
1	S2	1228	G
1	S2	1229	G
1	S2	1230	A
1	S2	1231	U
1	S2	1232	U
1	S2	1236	A
1	S2	1237	G
1	S2	1238	A
1	S2	1239	U
1	S2	1242	A
1	S2	1243	G
1	S2	1244	A
1	S2	1245	G
1	S2	1247	U
1	S2	1248	C
1	S2	1249	U
1	S2	1250	U
1	S2	1251	U
1	S2	1252	C
1	S2	1254	U
1	S2	1256	A
1	S2	1257	U
1	S2	1258	U
1	S2	1259	U
1	S2	1260	U

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Mol	Chain	Res	Type
1	S2	1263	G
1	S2	1264	G
1	S2	1265	G
1	S2	1269	U
1	S2	1270	G
1	S2	1275	A
1	S2	1281	G
1	S2	1283	U
1	S2	1285	U
1	S2	1288	G
1	S2	1295	G
1	S2	1296	A
1	S2	1307	U
1	S2	1311	U
1	S2	1312	A
1	S2	1313	A
1	S2	1314	U
1	S2	1320	U
1	S2	1321	A
1	S2	1322	A
1	S2	1324	G
1	S2	1325	A
1	S2	1326	A
1	S2	1330	G
1	S2	1337	A
1	S2	1339	C
1	S2	1344	A
1	S2	1345	A
1	S2	1346	A
1	S2	1347	U
1	S2	1348	A
1	S2	1351	G
1	S2	1352	G
1	S2	1353	U
1	S2	1354	G
1	S2	1359	C
1	S2	1360	A
1	S2	1361	U
1	S2	1362	U
1	S2	1363	U
1	S2	1364	G
1	S2	1365	C

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Mol	Chain	Res	Type
1	S2	1367	G
1	S2	1369	U
1	S2	1370	U
1	S2	1371	A
1	S2	1372	U
1	S2	1376	C
1	S2	1377	U
1	S2	1378	U
1	S2	1380	U
1	S2	1382	A
1	S2	1383	G
1	S2	1390	U
1	S2	1391	A
1	S2	1393	C
1	S2	1394	G
1	S2	1396	U
1	S2	1398	U
1	S2	1399	C
1	S2	1402	G
1	S2	1403	C
1	S2	1404	C
1	S2	1406	A
1	S2	1407	U
1	S2	1409	G
1	S2	1410	A
1	S2	1411	A
1	S2	1412	G
1	S2	1413	U
1	S2	1414	U
1	S2	1418	G
1	S2	1424	A
1	S2	1425	A
1	S2	1426	C
1	S2	1427	A
1	S2	1428	G
1	S2	1431	C
1	S2	1432	U
1	S2	1433	G
1	S2	1435	G
1	S2	1436	A
1	S2	1442	U
1	S2	1443	U

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Mol	Chain	Res	Type
1	S2	1444	A
1	S2	1445	G
1	S2	1448	G
1	S2	1449	U
1	S2	1450	U
1	S2	1453	G
1	S2	1458	G
1	S2	1459	C
1	S2	1461	C
1	S2	1466	G
1	S2	1469	A
1	S2	1470	C
1	S2	1471	A
1	S2	1472	C
1	S2	1473	U
1	S2	1474	G
1	S2	1477	G
1	S2	1480	G
1	S2	1481	C
1	S2	1482	C
1	S2	1483	A
1	S2	1484	G
1	S2	1488	G
1	S2	1489	U
1	S2	1490	C
1	S2	1491	U
1	S2	1492	A
1	S2	1493	A
1	S2	1496	U
1	S2	1497	U
1	S2	1498	G
1	S2	1499	G
1	S2	1502	G
1	S2	1505	A
1	S2	1506	G
1	S2	1509	C
1	S2	1510	U
1	S2	1511	U
1	S2	1512	G
1	S2	1514	U
1	S2	1516	A
1	S2	1517	U

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Mol	Chain	Res	Type
1	S2	1518	C
1	S2	1520	U
1	S2	1521	G
1	S2	1522	U
1	S2	1523	G
1	S2	1524	A
1	S2	1529	C
1	S2	1535	U
1	S2	1536	G
1	S2	1538	U
1	S2	1539	G
1	S2	1540	G
1	S2	1541	G
1	S2	1542	G
1	S2	1545	A
1	S2	1546	G
1	S2	1548	G
1	S2	1549	C
1	S2	1550	A
1	S2	1552	U
1	S2	1555	A
1	S2	1556	A
1	S2	1557	U
1	S2	1558	U
1	S2	1559	A
1	S2	1567	U
1	S2	1568	C
1	S2	1572	G
1	S2	1573	A
1	S2	1574	G
1	S2	1576	A
1	S2	1577	A
1	S2	1579	U
1	S2	1582	U
1	S2	1583	A
1	S2	1584	G
1	S2	1590	G
1	S2	1593	A
1	S2	1594	G
1	S2	1595	U
1	S2	1596	C
1	S2	1597	A

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Mol	Chain	Res	Type
1	S2	1601	G
1	S2	1602	C
1	S2	1607	G
1	S2	1608	U
1	S2	1613	U
1	S2	1616	G
1	S2	1618	C
1	S2	1619	C
1	S2	1622	G
1	S2	1629	G
1	S2	1634	C
1	S2	1635	A
1	S2	1636	C
1	S2	1649	G
1	S2	1657	U
1	S2	1658	G
1	S2	1662	G
1	S2	1665	U
1	S2	1666	U
1	S2	1667	A
1	S2	1668	G
1	S2	1672	G
1	S2	1674	C
1	S2	1677	C
1	S2	1680	G
1	S2	1681	A
1	S2	1682	U
1	S2	1683	C
1	S2	1685	G
1	S2	1688	U
1	S2	1689	A
1	S2	1690	G
1	S2	1691	A
1	S2	1694	A
1	S2	1695	G
1	S2	1696	G
1	S2	1699	G
1	S2	1700	C
1	S2	1701	A
1	S2	1702	A
1	S2	1703	C
1	S2	1705	C

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Mol	Chain	Res	Type
1	S2	1706	C
1	S2	1707	A
1	S2	1708	U
1	S2	1711	C
1	S2	1712	A
1	S2	1713	G
1	S2	1714	A
1	S2	1715	G
1	S2	1716	C
1	S2	1717	G
1	S2	1718	G
1	S2	1719	A
1	S2	1720	G
1	S2	1721	A
1	S2	1722	A
1	S2	1723	U
1	S2	1730	A
1	S2	1731	A
1	S2	1734	U
1	S2	1737	G
1	S2	1740	A
1	S2	1741	U
1	S2	1744	A
1	S2	1755	A
1	S2	1760	G
1	S2	1762	A
1	S2	1766	A
1	S2	1767	G
1	S2	1769	U
1	S2	1770	U
1	S2	1775	U
1	S2	1780	G
1	S2	1782	A
1	S2	1783	C
1	S2	1791	A
1	S2	1792	G
1	S2	1793	G
1	S2	1794	A
1	S2	1796	C
1	S2	1798	U
34	LA	6	A
34	LA	14	U

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Mol	Chain	Res	Type
34	LA	15	C
34	LA	22	G
34	LA	24	G
34	LA	26	A
34	LA	34	A
34	LA	40	A
34	LA	43	A
34	LA	49	A
34	LA	60	A
34	LA	65	A
34	LA	66	A
34	LA	92	G
34	LA	99	A
34	LA	109	A
34	LA	110	G
34	LA	111	C
34	LA	113	C
34	LA	117	U
34	LA	118	U
34	LA	119	U
34	LA	120	G
34	LA	122	A
34	LA	134	U
34	LA	136	G
34	LA	139	G
34	LA	146	U
34	LA	148	G
34	LA	156	G
34	LA	157	A
34	LA	162	G
34	LA	165	A
34	LA	166	C
34	LA	170	G
34	LA	173	G
34	LA	176	G
34	LA	177	U
34	LA	178	U
34	LA	179	C
34	LA	180	C
34	LA	187	A
34	LA	190	U
34	LA	191	U

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Mol	Chain	Res	Type
34	LA	198	A
34	LA	210	U
34	LA	211	A
34	LA	213	A
34	LA	218	G
34	LA	219	A
34	LA	231	G
34	LA	234	G
34	LA	236	G
34	LA	237	G
34	LA	238	A
34	LA	240	U
34	LA	241	G
34	LA	242	C
34	LA	243	G
34	LA	245	U
34	LA	246	U
34	LA	247	C
34	LA	248	U
34	LA	249	U
34	LA	252	U
34	LA	253	A
34	LA	254	A
34	LA	259	C
34	LA	269	G
34	LA	286	U
34	LA	295	A
34	LA	298	U
34	LA	305	U
34	LA	311	C
34	LA	314	U
34	LA	323	A
34	LA	329	U
34	LA	334	A
34	LA	337	G
34	LA	339	C
34	LA	351	A
34	LA	354	U
34	LA	362	U
34	LA	373	A
34	LA	375	A
34	LA	376	G

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Mol	Chain	Res	Type
34	LA	390	G
34	LA	397	A
34	LA	398	A
34	LA	403	C
34	LA	414	U
34	LA	415	G
34	LA	421	G
34	LA	422	A
34	LA	438	A
34	LA	495	G
34	LA	499	G
34	LA	503	C
34	LA	521	A
34	LA	522	A
34	LA	523	A
34	LA	524	U
34	LA	525	C
34	LA	528	U
34	LA	534	U
34	LA	535	G
34	LA	538	G
34	LA	540	U
34	LA	542	G
34	LA	543	C
34	LA	544	C
34	LA	546	C
34	LA	547	G
34	LA	548	G
34	LA	549	U
34	LA	550	A
34	LA	551	A
34	LA	554	A
34	LA	555	U
34	LA	557	A
34	LA	559	A
34	LA	560	G
34	LA	565	U
34	LA	566	G
34	LA	567	G
34	LA	568	G
34	LA	570	A
34	LA	571	U

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Mol	Chain	Res	Type
34	LA	573	C
34	LA	579	G
34	LA	585	A
34	LA	589	A
34	LA	591	G
34	LA	592	A
34	LA	593	C
34	LA	594	U
34	LA	600	G
34	LA	601	U
34	LA	603	A
34	LA	609	G
34	LA	611	A
34	LA	617	G
34	LA	619	A
34	LA	620	U
34	LA	621	A
34	LA	625	G
34	LA	636	C
34	LA	637	C
34	LA	638	C
34	LA	649	A
34	LA	660	A
34	LA	677	A
34	LA	690	A
34	LA	691	A
34	LA	698	U
34	LA	705	A
34	LA	715	A
34	LA	717	C
34	LA	718	G
34	LA	731	U
34	LA	734	C
34	LA	735	A
34	LA	737	G
34	LA	738	A
34	LA	742	G
34	LA	743	C
34	LA	758	C
34	LA	759	U
34	LA	760	G
34	LA	765	C

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Mol	Chain	Res	Type
34	LA	766	U
34	LA	767	U
34	LA	771	A
34	LA	773	G
34	LA	774	G
34	LA	776	U
34	LA	781	G
34	LA	785	G
34	LA	799	G
34	LA	806	A
34	LA	808	A
34	LA	817	A
34	LA	826	G
34	LA	830	A
34	LA	832	G
34	LA	849	C
34	LA	850	U
34	LA	861	C
34	LA	874	U
34	LA	879	U
34	LA	896	A
34	LA	907	G
34	LA	908	G
34	LA	914	A
34	LA	916	G
34	LA	917	A
34	LA	921	A
34	LA	923	C
34	LA	924	G
34	LA	937	G
34	LA	944	C
34	LA	959	C
34	LA	960	U
34	LA	977	C
34	LA	979	U
34	LA	980	A
34	LA	981	U
34	LA	982	C
34	LA	992	A
34	LA	993	G
34	LA	1000	C
34	LA	1008	U

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Mol	Chain	Res	Type
34	LA	1011	A
34	LA	1012	G
34	LA	1015	U
34	LA	1016	C
34	LA	1018	G
34	LA	1019	G
34	LA	1022	U
34	LA	1023	C
34	LA	1024	G
34	LA	1025	A
34	LA	1026	A
34	LA	1028	U
34	LA	1029	G
34	LA	1031	C
34	LA	1034	U
34	LA	1035	G
34	LA	1036	A
34	LA	1037	C
34	LA	1039	U
34	LA	1040	A
34	LA	1041	U
34	LA	1047	A
34	LA	1048	A
34	LA	1063	G
34	LA	1064	A
34	LA	1066	G
34	LA	1069	C
34	LA	1070	U
34	LA	1071	U
34	LA	1072	G
34	LA	1075	A
34	LA	1081	U
34	LA	1082	U
34	LA	1090	G
34	LA	1093	A
34	LA	1095	U
34	LA	1096	U
34	LA	1097	G
34	LA	1098	A
34	LA	1103	A
34	LA	1104	G
34	LA	1116	G

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Mol	Chain	Res	Type
34	LA	1117	G
34	LA	1120	A
34	LA	1131	G
34	LA	1143	A
34	LA	1159	A
34	LA	1161	G
34	LA	1168	U
34	LA	1178	G
34	LA	1180	A
34	LA	1181	U
34	LA	1182	A
34	LA	1192	C
34	LA	1193	A
34	LA	1196	C
34	LA	1201	C
34	LA	1206	G
34	LA	1208	U
34	LA	1213	G
34	LA	1219	C
34	LA	1220	U
34	LA	1221	A
34	LA	1222	G
34	LA	1231	A
34	LA	1233	G
34	LA	1234	G
34	LA	1235	U
34	LA	1236	G
34	LA	1237	G
34	LA	1239	C
34	LA	1240	A
34	LA	1241	U
34	LA	1242	G
34	LA	1243	G
34	LA	1246	G
34	LA	1247	U
34	LA	1249	G
34	LA	1250	G
34	LA	1251	A
34	LA	1252	A
34	LA	1254	C
34	LA	1259	A
34	LA	1260	A

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Mol	Chain	Res	Type
34	LA	1263	A
34	LA	1264	G
34	LA	1265	U
34	LA	1266	G
34	LA	1268	G
34	LA	1269	U
34	LA	1270	A
34	LA	1274	A
34	LA	1275	C
34	LA	1276	U
34	LA	1277	C
34	LA	1279	C
34	LA	1280	C
34	LA	1283	C
34	LA	1284	C
34	LA	1285	G
34	LA	1286	A
34	LA	1287	A
34	LA	1295	G
34	LA	1307	G
34	LA	1308	A
34	LA	1309	U
34	LA	1316	C
34	LA	1330	A
34	LA	1331	U
34	LA	1333	C
34	LA	1348	U
34	LA	1351	U
34	LA	1352	A
34	LA	1353	U
34	LA	1354	G
34	LA	1355	A
34	LA	1356	U
34	LA	1366	A
34	LA	1386	A
34	LA	1392	G
34	LA	1399	A
34	LA	1400	G
34	LA	1408	G
34	LA	1417	G
34	LA	1418	A
34	LA	1419	A

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Mol	Chain	Res	Type
34	LA	1434	G
34	LA	1437	C
34	LA	1446	A
34	LA	1450	G
34	LA	1455	U
34	LA	1464	G
34	LA	1465	A
34	LA	1468	A
34	LA	1469	C
34	LA	1470	U
34	LA	1480	G
34	LA	1482	A
34	LA	1483	G
34	LA	1495	U
34	LA	1497	C
34	LA	1508	C
34	LA	1511	U
34	LA	1512	U
34	LA	1527	C
34	LA	1533	U
34	LA	1539	A
34	LA	1549	U
34	LA	1556	C
34	LA	1557	A
34	LA	1560	G
34	LA	1561	G
34	LA	1562	C
34	LA	1563	C
34	LA	1564	U
34	LA	1566	A
34	LA	1567	U
34	LA	1568	U
34	LA	1569	U
34	LA	1570	U
34	LA	1571	A
34	LA	1572	U
34	LA	1573	G
34	LA	1575	A
34	LA	1576	G
34	LA	1577	G
34	LA	1579	C
34	LA	1581	C

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Mol	Chain	Res	Type
34	LA	1583	A
34	LA	1587	A
34	LA	1589	A
34	LA	1593	A
34	LA	1596	C
34	LA	1603	A
34	LA	1605	A
34	LA	1619	A
34	LA	1620	U
34	LA	1621	A
34	LA	1626	U
34	LA	1627	U
34	LA	1628	C
34	LA	1629	U
34	LA	1636	U
34	LA	1639	C
34	LA	1642	A
34	LA	1643	A
34	LA	1644	C
34	LA	1645	U
34	LA	1657	C
34	LA	1683	A
34	LA	1686	U
34	LA	1687	U
34	LA	1705	U
34	LA	1712	G
34	LA	1713	G
34	LA	1715	A
34	LA	1716	U
34	LA	1730	G
34	LA	1736	G
34	LA	1737	U
34	LA	1738	C
34	LA	1739	U
34	LA	1740	U
34	LA	1741	A
34	LA	1742	U
34	LA	1750	A
34	LA	1751	G
34	LA	1760	A
34	LA	1761	C
34	LA	1762	C

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Mol	Chain	Res	Type
34	LA	1763	U
34	LA	1764	U
34	LA	1766	G
34	LA	1770	G
34	LA	1775	G
34	LA	1778	G
34	LA	1780	G
34	LA	1797	A
34	LA	1808	G
34	LA	1813	A
34	LA	1820	U
34	LA	1821	U
34	LA	1830	G
34	LA	1835	A
34	LA	1839	A
34	LA	1840	U
34	LA	1842	A
34	LA	1846	C
34	LA	1848	G
34	LA	1849	C
34	LA	1850	A
34	LA	1851	G
34	LA	1858	A
34	LA	1866	C
34	LA	1867	A
34	LA	1878	G
34	LA	1880	U
34	LA	1883	A
34	LA	1884	A
34	LA	1885	U
34	LA	1886	A
34	LA	1893	A
34	LA	1896	A
34	LA	1906	G
34	LA	1912	U
34	LA	1913	A
34	LA	1940	G
34	LA	1948	G
34	LA	1949	G
34	LA	1951	C
34	LA	1953	G
34	LA	1954	G

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Mol	Chain	Res	Type
34	LA	2094	C
34	LA	2096	A
34	LA	2097	U
34	LA	2098	C
34	LA	2100	A
34	LA	2110	G
34	LA	2111	G
34	LA	2114	C
34	LA	2121	G
34	LA	2122	G
34	LA	2131	A
34	LA	2140	U
34	LA	2158	A
34	LA	2169	G
34	LA	2194	G
34	LA	2206	G
34	LA	2207	A
34	LA	2208	A
34	LA	2209	U
34	LA	2210	G
34	LA	2219	A
34	LA	2222	A
34	LA	2224	A
34	LA	2226	U
34	LA	2228	A
34	LA	2229	A
34	LA	2230	C
34	LA	2232	A
34	LA	2244	A
34	LA	2249	G
34	LA	2256	A
34	LA	2257	C
34	LA	2258	U
34	LA	2268	U
34	LA	2269	U
34	LA	2270	A
34	LA	2272	G
34	LA	2273	G
34	LA	2276	G
34	LA	2281	A
34	LA	2285	C
34	LA	2305	G

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Mol	Chain	Res	Type
34	LA	2307	G
34	LA	2310	U
34	LA	2313	A
34	LA	2314	U
34	LA	2315	G
34	LA	2326	A
34	LA	2327	U
34	LA	2334	U
34	LA	2335	G
34	LA	2336	U
34	LA	2354	C
34	LA	2361	A
34	LA	2372	A
34	LA	2373	A
34	LA	2374	C
34	LA	2375	G
34	LA	2383	C
34	LA	2388	U
34	LA	2393	G
34	LA	2397	A
34	LA	2402	A
34	LA	2403	G
34	LA	2404	A
34	LA	2411	U
34	LA	2417	U
34	LA	2418	G
34	LA	2422	C
34	LA	2440	G
34	LA	2441	A
34	LA	2442	G
34	LA	2443	A
34	LA	2444	C
34	LA	2445	A
34	LA	2446	U
34	LA	2447	A
34	LA	2448	G
34	LA	2449	A
34	LA	2451	G
34	LA	2452	G
34	LA	2493	U
34	LA	2494	A
34	LA	2495	C

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Mol	Chain	Res	Type
34	LA	2496	C
34	LA	2497	U
34	LA	2498	U
34	LA	2499	U
34	LA	2502	A
34	LA	2504	U
34	LA	2506	U
34	LA	2507	C
34	LA	2508	U
34	LA	2511	A
34	LA	2512	C
34	LA	2513	U
34	LA	2514	U
34	LA	2520	A
34	LA	2521	U
34	LA	2524	A
34	LA	2530	G
34	LA	2531	C
34	LA	2532	U
34	LA	2534	G
34	LA	2536	A
34	LA	2537	U
34	LA	2538	U
34	LA	2539	C
34	LA	2540	A
34	LA	2541	U
34	LA	2542	U
34	LA	2543	U
34	LA	2547	A
34	LA	2548	C
34	LA	2549	G
34	LA	2550	U
34	LA	2551	U
34	LA	2552	C
34	LA	2554	A
34	LA	2555	G
34	LA	2560	C
34	LA	2561	A
34	LA	2562	A
34	LA	2568	C
34	LA	2569	A
34	LA	2570	U

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Mol	Chain	Res	Type
34	LA	2571	U
34	LA	2572	C
34	LA	2573	G
34	LA	2580	A
34	LA	2585	G
34	LA	2586	G
34	LA	2593	A
34	LA	2602	G
34	LA	2606	G
34	LA	2607	G
34	LA	2614	G
34	LA	2629	U
34	LA	2636	A
34	LA	2651	G
34	LA	2652	U
34	LA	2656	A
34	LA	2657	A
34	LA	2658	G
34	LA	2666	C
34	LA	2674	A
34	LA	2676	A
34	LA	2677	G
34	LA	2680	A
34	LA	2681	U
34	LA	2684	C
34	LA	2689	A
34	LA	2691	A
34	LA	2694	A
34	LA	2696	A
34	LA	2704	A
34	LA	2708	C
34	LA	2713	U
34	LA	2717	U
34	LA	2719	U
34	LA	2726	C
34	LA	2728	G
34	LA	2729	U
34	LA	2733	A
34	LA	2734	A
34	LA	2735	U
34	LA	2749	G
34	LA	2752	U

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Mol	Chain	Res	Type
34	LA	2753	G
34	LA	2755	C
34	LA	2762	A
34	LA	2771	U
34	LA	2772	C
34	LA	2773	C
34	LA	2777	G
34	LA	2778	G
34	LA	2780	A
34	LA	2781	U
34	LA	2783	U
34	LA	2788	C
34	LA	2796	G
34	LA	2797	C
34	LA	2798	C
34	LA	2800	G
34	LA	2801	A
34	LA	2803	A
34	LA	2810	C
34	LA	2817	A
34	LA	2821	C
34	LA	2842	U
34	LA	2845	A
34	LA	2850	G
34	LA	2861	U
34	LA	2867	C
34	LA	2871	G
34	LA	2872	A
34	LA	2875	U
34	LA	2876	C
34	LA	2887	A
34	LA	2889	C
34	LA	2904	U
34	LA	2911	A
34	LA	2923	U
34	LA	2930	A
34	LA	2932	U
34	LA	2935	U
34	LA	2936	A
34	LA	2938	G
34	LA	2945	G
34	LA	2947	G

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Mol	Chain	Res	Type
34	LA	2948	C
34	LA	2951	G
34	LA	2952	G
34	LA	2954	U
34	LA	2957	G
34	LA	2971	A
34	LA	2983	C
34	LA	2990	G
34	LA	2996	U
34	LA	2997	G
34	LA	3003	G
34	LA	3012	A
34	LA	3028	G
34	LA	3030	G
34	LA	3041	U
34	LA	3042	U
34	LA	3058	U
34	LA	3059	G
34	LA	3069	G
34	LA	3074	G
34	LA	3078	U
34	LA	3079	U
34	LA	3080	G
34	LA	3083	G
34	LA	3086	A
34	LA	3091	A
34	LA	3092	C
34	LA	3093	C
34	LA	3094	A
34	LA	3101	G
34	LA	3114	A
34	LA	3116	G
34	LA	3117	C
34	LA	3121	U
34	LA	3122	A
34	LA	3130	A
34	LA	3131	U
34	LA	3142	A
34	LA	3143	C
34	LA	3144	G
34	LA	3153	U
34	LA	3155	U

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Mol	Chain	Res	Type
34	LA	3156	U
34	LA	3157	U
34	LA	3164	C
34	LA	3165	A
34	LA	3168	A
34	LA	3169	U
34	LA	3170	A
34	LA	3171	U
34	LA	3172	A
34	LA	3173	G
34	LA	3174	A
34	LA	3175	U
34	LA	3176	G
34	LA	3179	U
34	LA	3181	C
34	LA	3187	A
34	LA	3195	U
34	LA	3196	U
34	LA	3197	G
34	LA	3199	G
34	LA	3205	G
34	LA	3207	U
34	LA	3210	A
34	LA	3214	U
34	LA	3218	A
34	LA	3219	G
34	LA	3222	U
34	LA	3226	A
34	LA	3227	A
34	LA	3231	U
34	LA	3235	C
34	LA	3246	G
34	LA	3247	G
34	LA	3248	C
34	LA	3249	C
34	LA	3251	U
34	LA	3253	G
34	LA	3256	G
34	LA	3259	U
34	LA	3260	G
34	LA	3271	G
34	LA	3273	A

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Mol	Chain	Res	Type
34	LA	3276	G
34	LA	3278	C
34	LA	3279	A
34	LA	3281	U
34	LA	3285	C
34	LA	3286	G
34	LA	3288	G
34	LA	3289	G
34	LA	3290	G
34	LA	3293	U
34	LA	3294	A
34	LA	3296	A
34	LA	3303	G
34	LA	3304	U
34	LA	3308	C
34	LA	3316	A
34	LA	3317	U
34	LA	3324	C
34	LA	3326	G
34	LA	3334	U
34	LA	3340	G
34	LA	3341	U
34	LA	3344	A
34	LA	3345	G
34	LA	3351	U
34	LA	3353	G
34	LA	3354	U
34	LA	3356	G
34	LA	3357	U
34	LA	3360	C
34	LA	3369	G
34	LA	3376	A
34	LA	3378	C
34	LA	3382	U
34	LA	3389	U
34	LA	3390	G
34	LA	3396	U
35	LB	7	G
35	LB	11	A
35	LB	19	C
35	LB	22	A
35	LB	28	C

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Mol	Chain	Res	Type
35	LB	29	C
35	LB	30	G
35	LB	37	G
35	LB	39	C
35	LB	52	G
35	LB	54	U
35	LB	65	G
35	LB	73	C
35	LB	75	G
35	LB	76	A
35	LB	102	A
35	LB	108	A
35	LB	109	G
35	LB	112	G
36	LC	4	C
36	LC	5	U
36	LC	6	U
36	LC	9	A
36	LC	10	A
36	LC	23	U
36	LC	34	U
36	LC	35	C
36	LC	38	U
36	LC	39	G
36	LC	49	G
36	LC	59	A
36	LC	60	U
36	LC	62	C
36	LC	63	G
36	LC	71	A
36	LC	77	A
36	LC	79	A
36	LC	80	A
36	LC	81	U
36	LC	84	C
36	LC	85	G
36	LC	86	U
36	LC	87	G
36	LC	90	U
36	LC	92	A
36	LC	93	U
36	LC	95	G

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Mol	Chain	Res	Type
36	LC	96	A
36	LC	100	U
36	LC	102	U
36	LC	104	A
36	LC	106	C
36	LC	111	A
36	LC	117	C
36	LC	125	U
36	LC	126	A
36	LC	129	C
36	LC	136	G
36	LC	141	C
36	LC	142	C
36	LC	146	U
36	LC	151	C
36	LC	152	G
36	LC	154	C
36	LC	158	U
79	Bb	2	C
79	Bb	5	A
79	Bb	6	U
79	Bb	7	U
79	Bb	8	U
79	Bb	9	A
79	Bb	10	G
79	Bb	11	C
79	Bb	15	G
79	Bb	16	U
79	Bb	17	U
79	Bb	19	G
79	Bb	21	A
79	Bb	22	G
79	Bb	24	G
79	Bb	31	A
79	Bb	32	C
79	Bb	39	U
79	Bb	41	U
79	Bb	45	G
79	Bb	46	G
79	Bb	47	U
79	Bb	49	C
79	Bb	53	G

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Mol	Chain	Res	Type
79	Bb	59	U
79	Bb	60	C
79	Bb	61	C
79	Bb	62	A
79	Bb	63	C
79	Bb	64	A
79	Bb	65	G
79	Bb	68	U
79	Bb	70	C
79	Bb	73	A
79	Bb	74	C
79	Bb	75	C
80	Cc	3	C
80	Cc	10	A
80	Cc	11	C
80	Cc	12	G
80	Cc	14	A
80	Cc	15	G
80	Cc	16	U
80	Cc	17	A
80	Cc	18	G
80	Cc	19	G
80	Cc	20	A
80	Cc	21	A
80	Cc	29	G
80	Cc	30	G
80	Cc	41	C
80	Cc	44	A
80	Cc	45	U
80	Cc	46	G
80	Cc	47	U
80	Cc	48	C
80	Cc	49	C
80	Cc	56	C
80	Cc	57	G
80	Cc	59	A
80	Cc	60	A
80	Cc	61	C
80	Cc	64	A
80	Cc	75	C
80	Cc	76	A

All (52) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	S2	139	C
1	S2	330	G
1	S2	387	A
1	S2	400	A
1	S2	474	A
1	S2	511	A
1	S2	566	C
1	S2	609	U
1	S2	639	U
1	S2	740	A
1	S2	1143	A
1	S2	1191	U
1	S2	1241	G
1	S2	1253	U
1	S2	1274	C
1	S2	1353	U
1	S2	1382	A
1	S2	1471	A
1	S2	1481	C
1	S2	1489	U
34	LA	161	G
34	LA	197	G
34	LA	372	A
34	LA	374	A
34	LA	624	G
34	LA	849	C
34	LA	916	G
34	LA	1094	U
34	LA	1307	G
34	LA	1468	A
34	LA	1582	C
34	LA	1626	U
34	LA	1739	U
34	LA	1765	U
34	LA	1807	G
34	LA	1947	G
34	LA	2267	C
34	LA	2268	U
34	LA	2501	U
34	LA	2541	U
34	LA	2655	U
34	LA	2673	A
34	LA	2707	C

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Mol	Chain	Res	Type
34	LA	2734	A
34	LA	2875	U
34	LA	3121	U
34	LA	3225	C
34	LA	3323	A
34	LA	3343	G
34	LA	3350	C
35	LB	18	C
36	LC	85	G

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

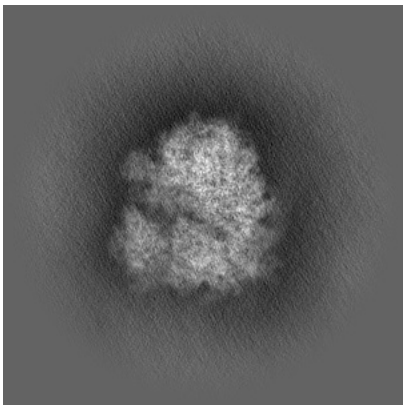
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-68916. These allow visual inspection of the internal detail of the map and identification of artifacts.

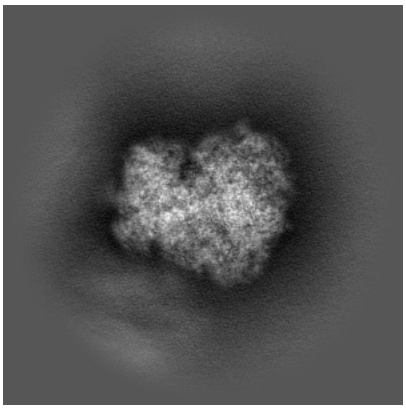
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

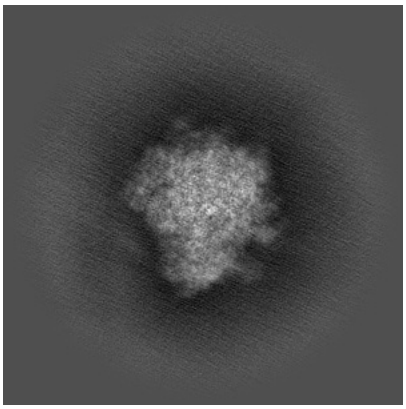
6.1.1 Primary map



X

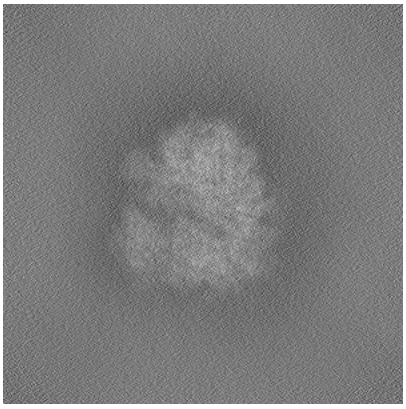


Y

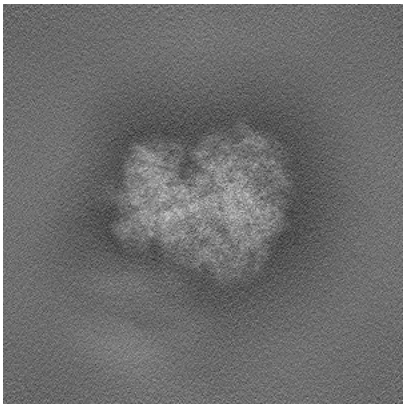


Z

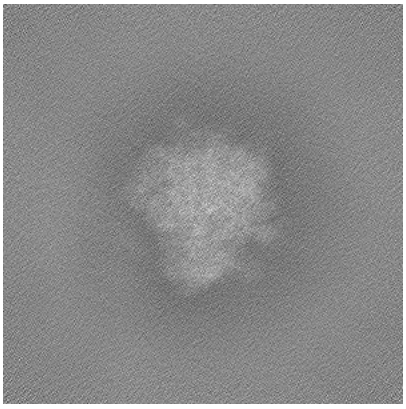
6.1.2 Raw map



X



Y

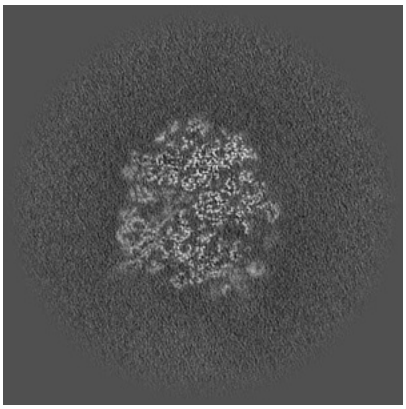


Z

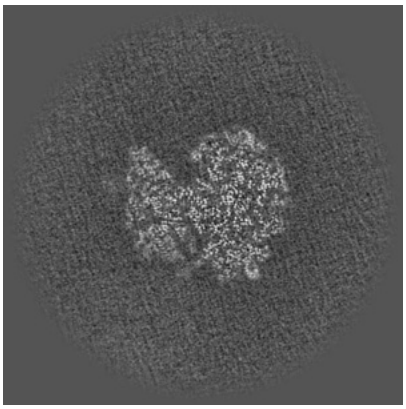
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

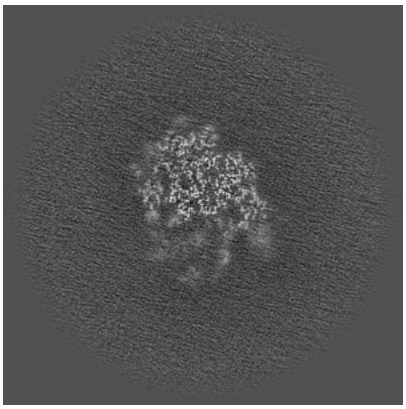
6.2.1 Primary map



X Index: 300

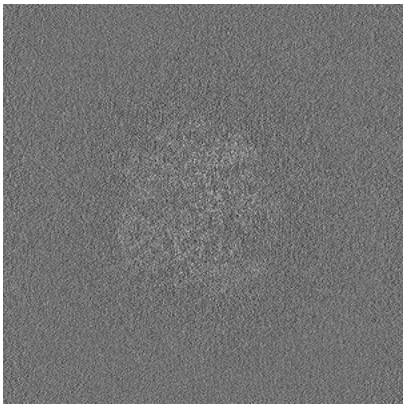


Y Index: 300

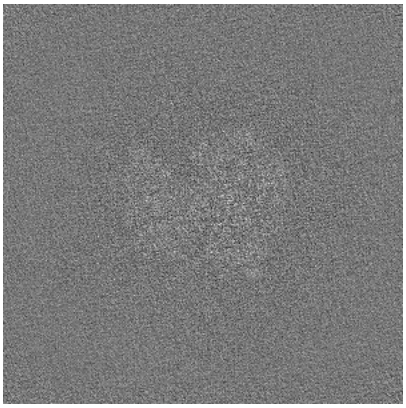


Z Index: 300

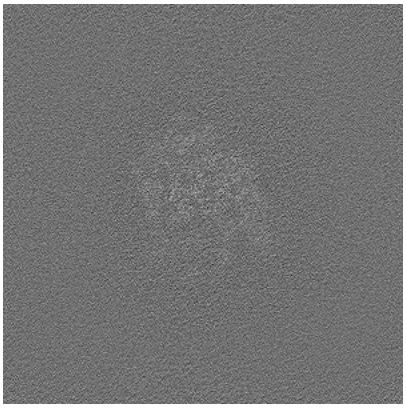
6.2.2 Raw map



X Index: 300



Y Index: 300

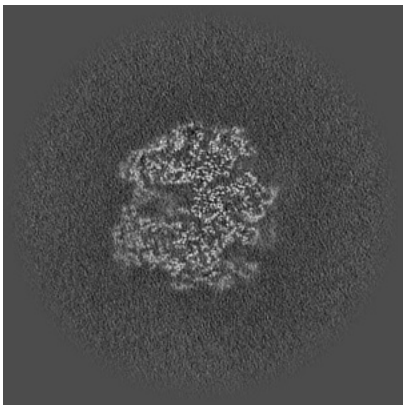


Z Index: 300

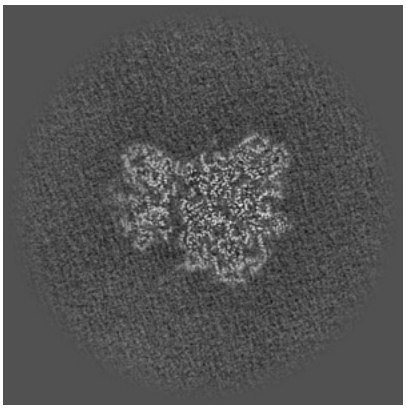
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

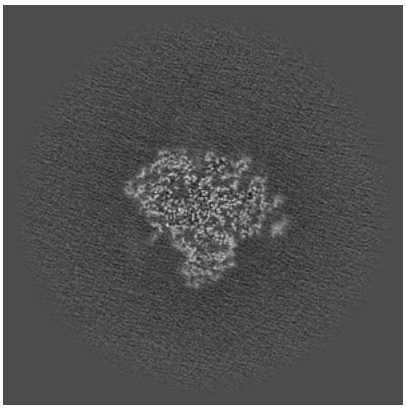
6.3.1 Primary map



X Index: 288

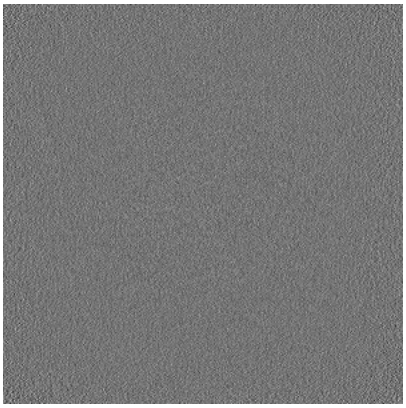


Y Index: 320

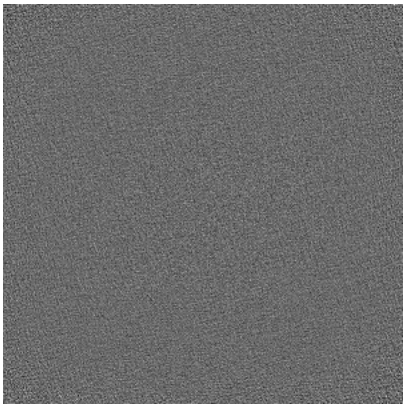


Z Index: 356

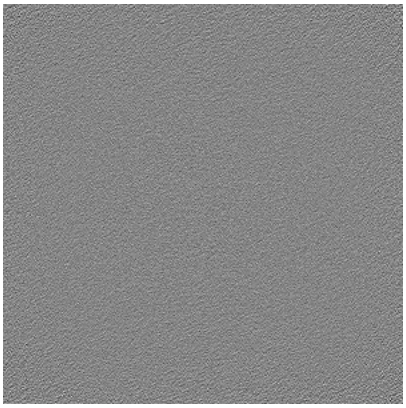
6.3.2 Raw map



X Index: 0



Y Index: 0

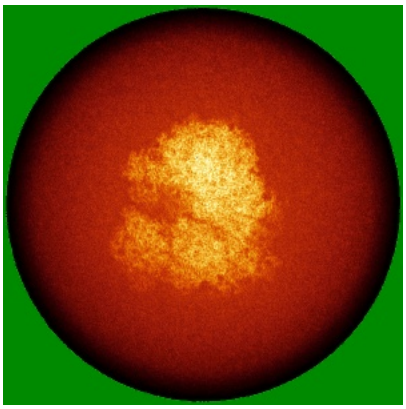


Z Index: 0

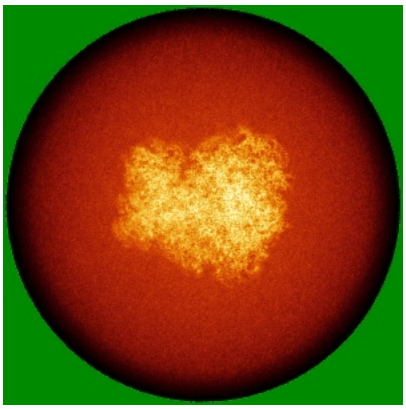
The images above show the largest variance slices of the map in three orthogonal directions.

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

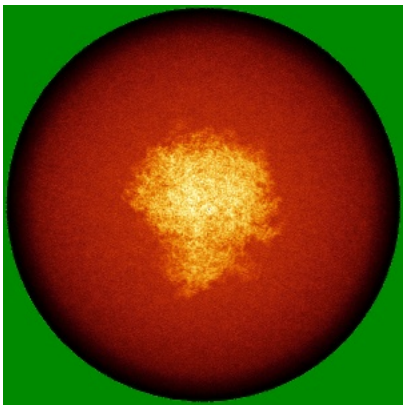
6.4.1 Primary map



X

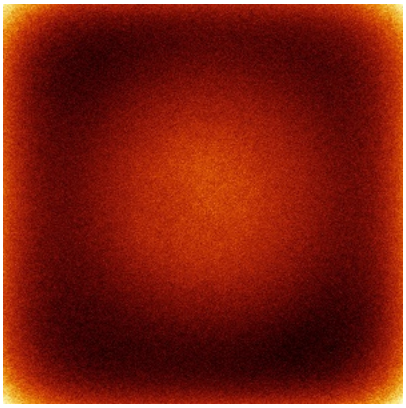


Y

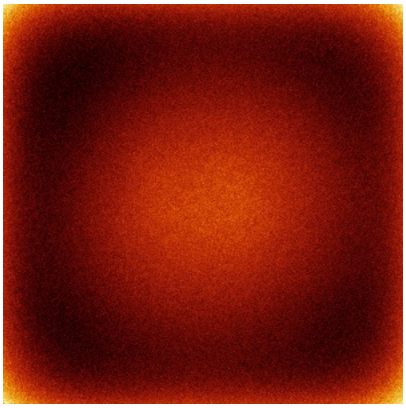


Z

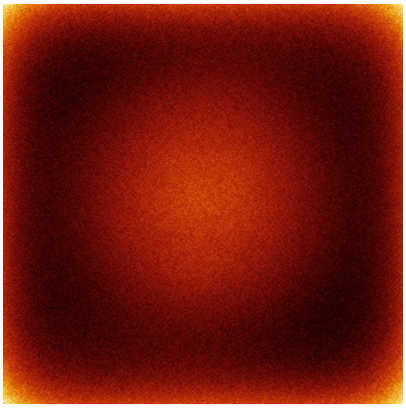
6.4.2 Raw map



X



Y

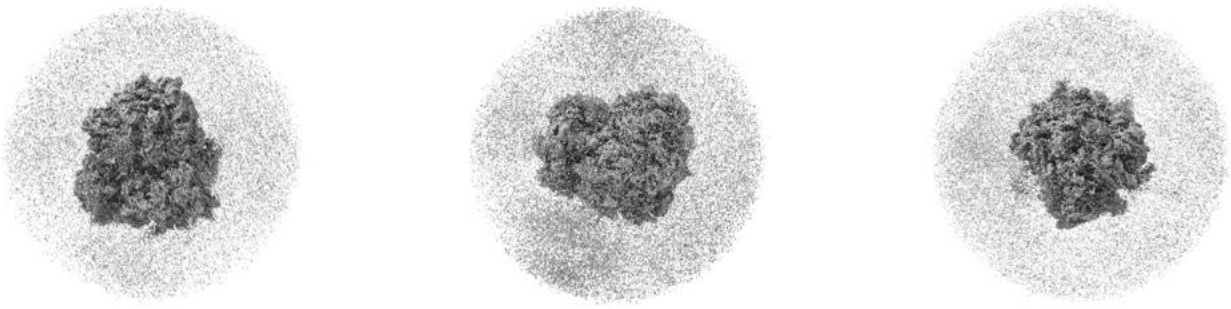


Z

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

6.5 Orthogonal surface views (i)

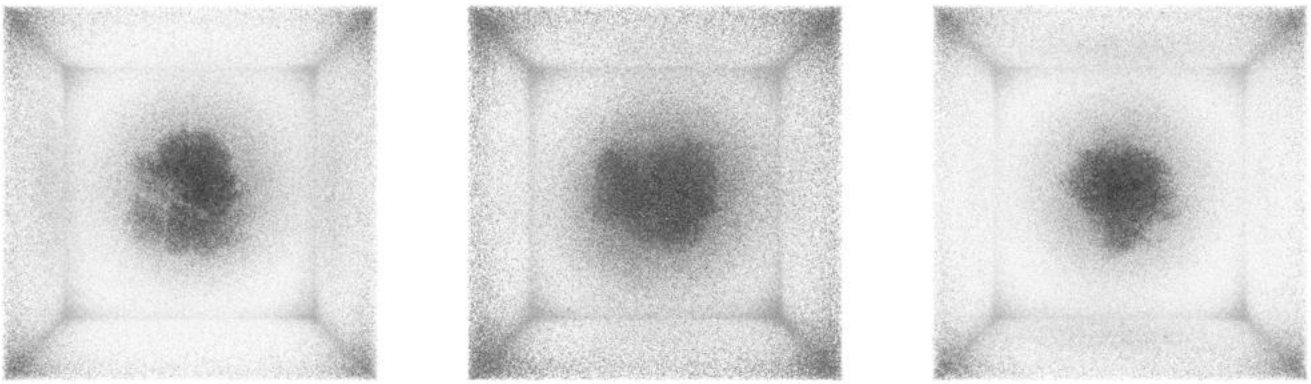
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.16. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

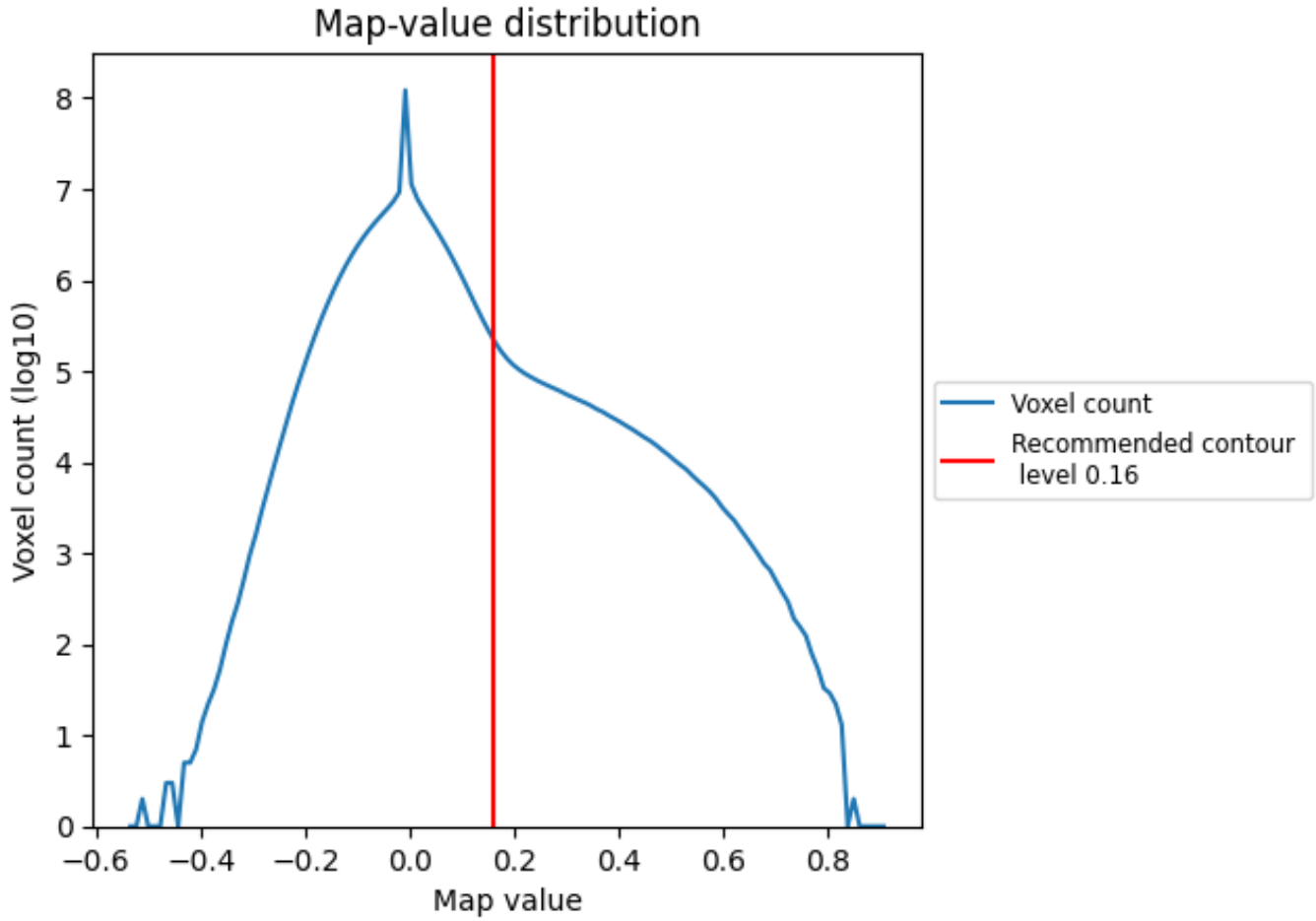
6.6 Mask visualisation (i)

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

7 Map analysis

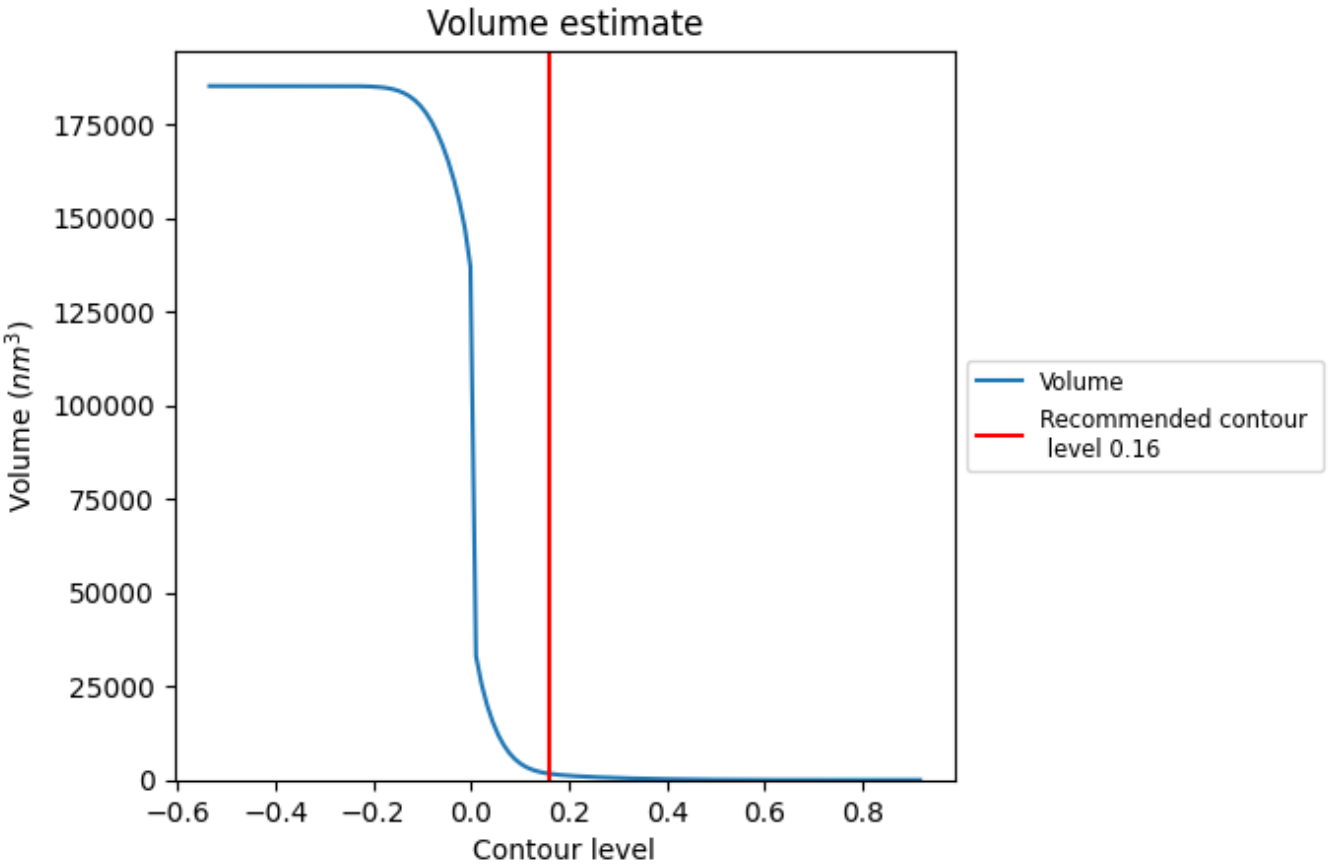
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

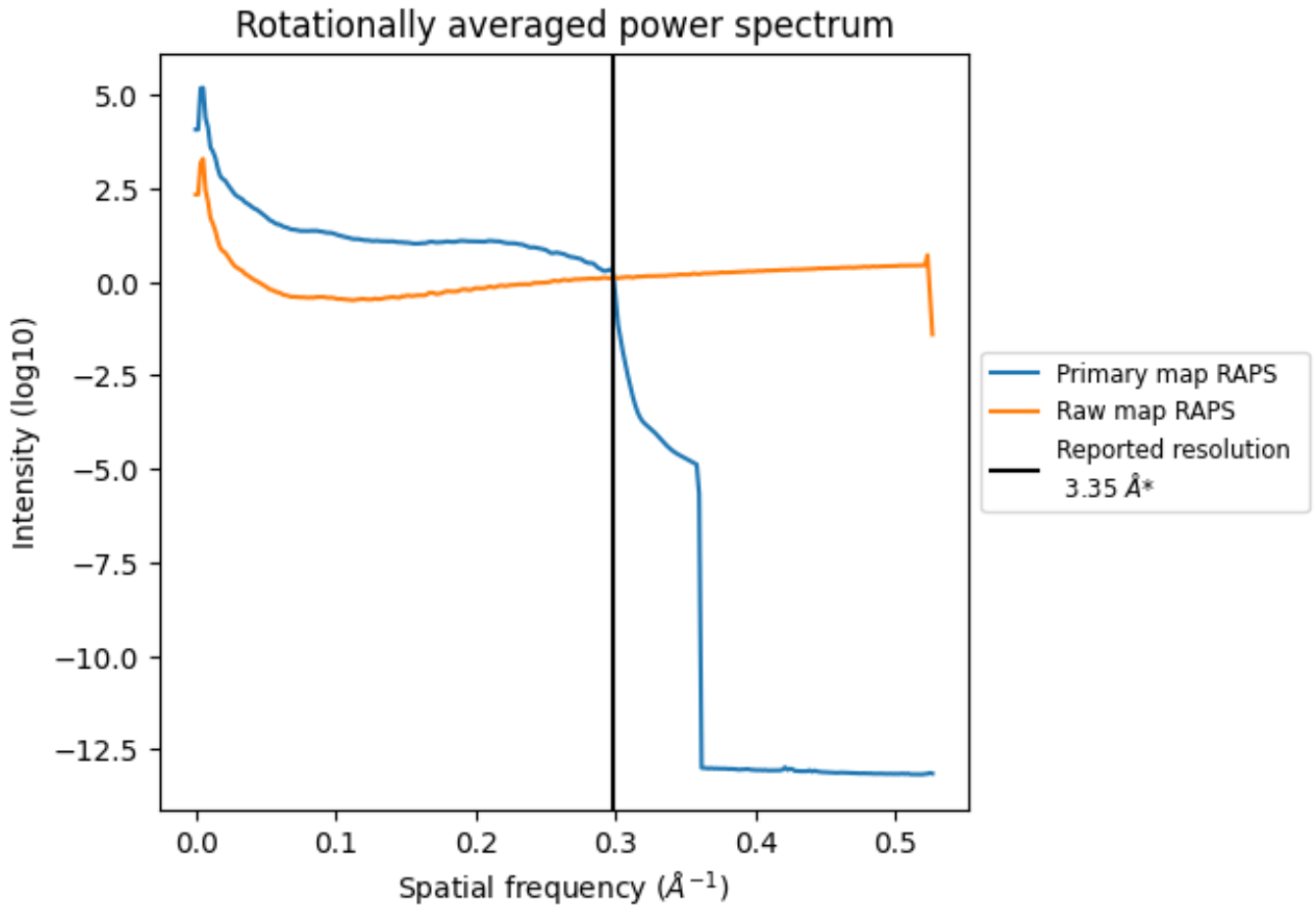
7.2 Volume estimate



The volume at the recommended contour level is 1670 nm^3; this corresponds to an approximate mass of 1508 kDa.

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

7.3 Rotationally averaged power spectrum (i)

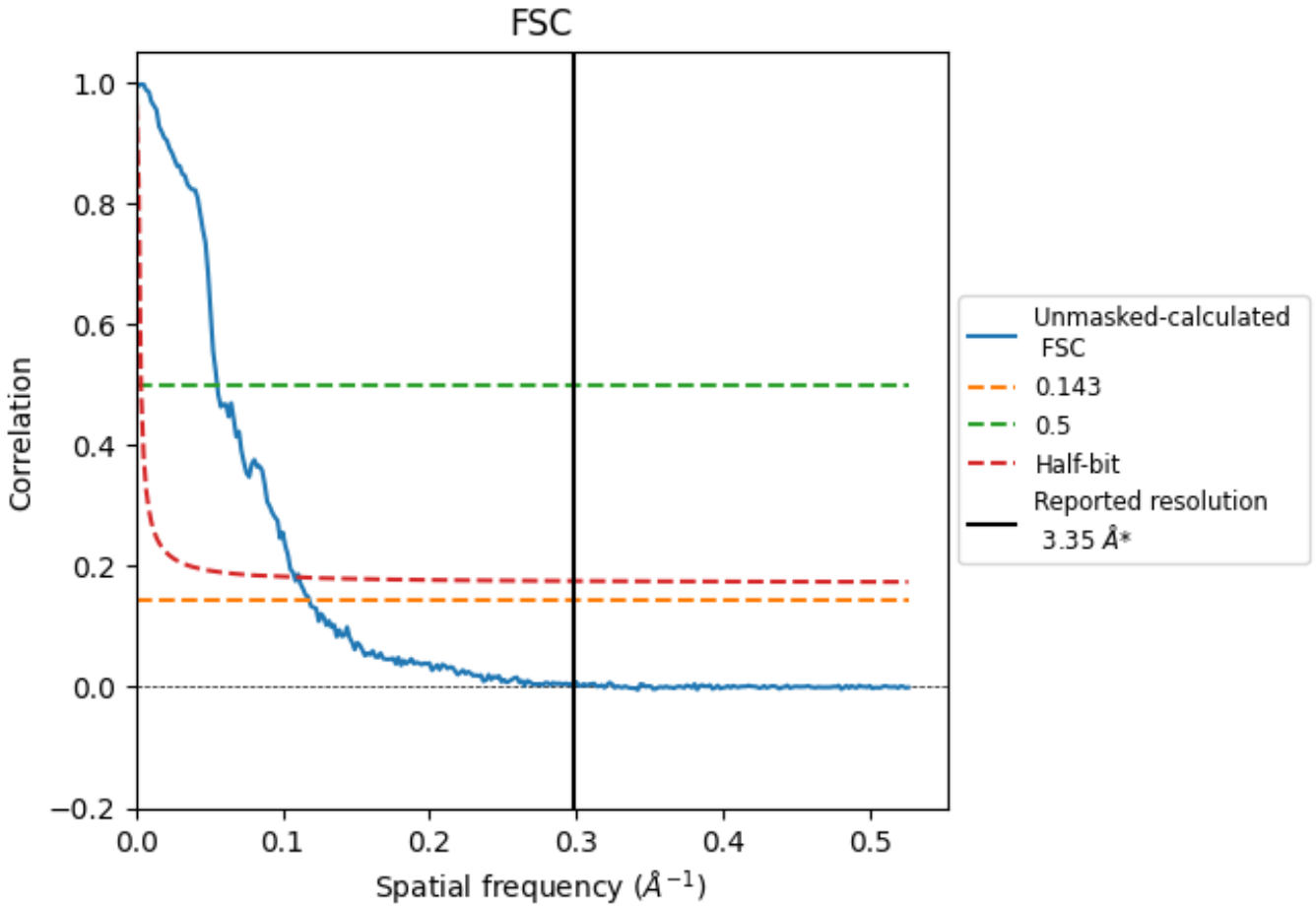


*Reported resolution corresponds to spatial frequency of 0.299 $Å^{-1}$

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.299 Å^{-1}

8.2 Resolution estimates (i)

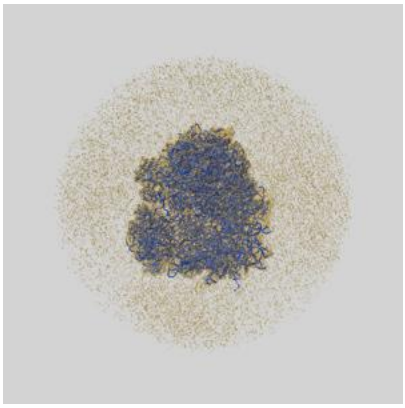
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.35	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	8.46	18.05	9.26

*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 8.46 differs from the reported value 3.35 by more than 10 %

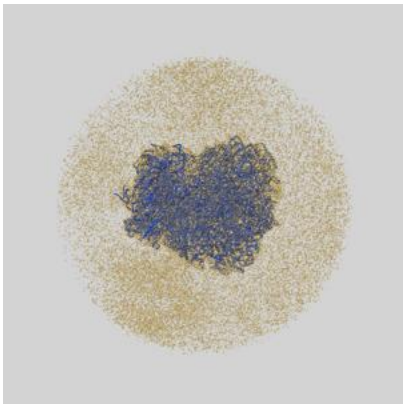
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-68916 and PDB model 23EZ. Per-residue inclusion information can be found in section 3 on page 19.

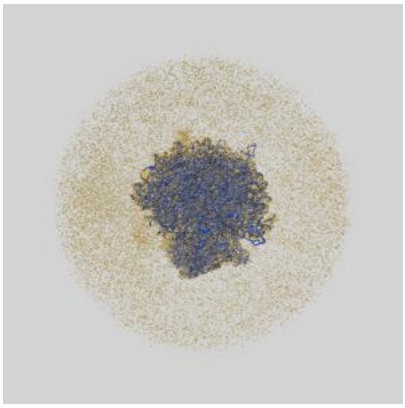
9.1 Map-model overlay



X



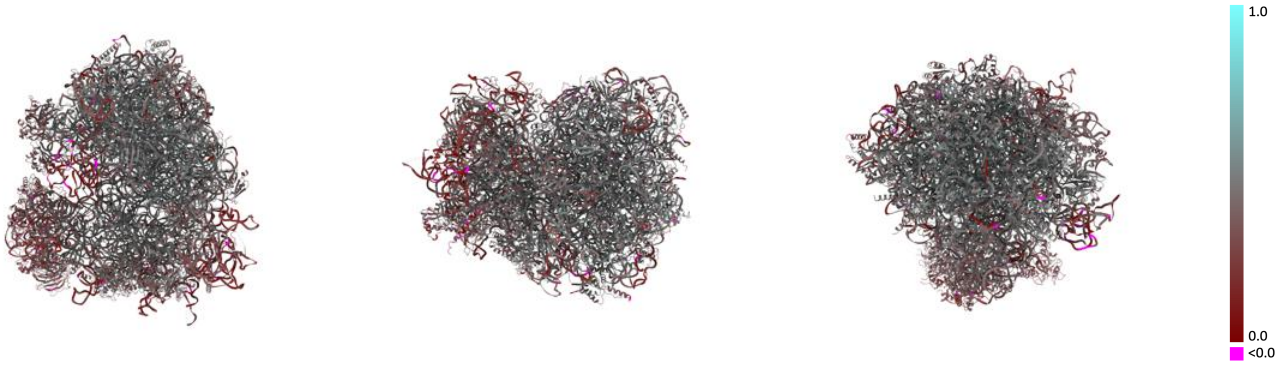
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.16 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

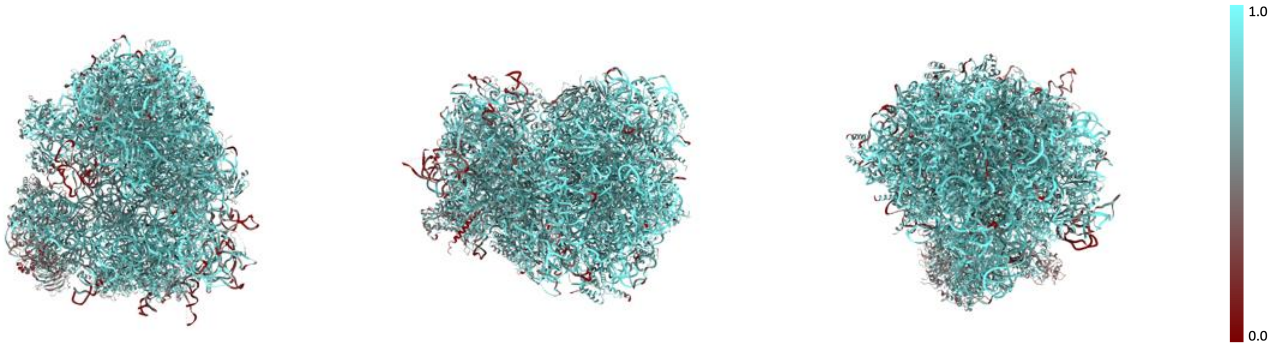
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

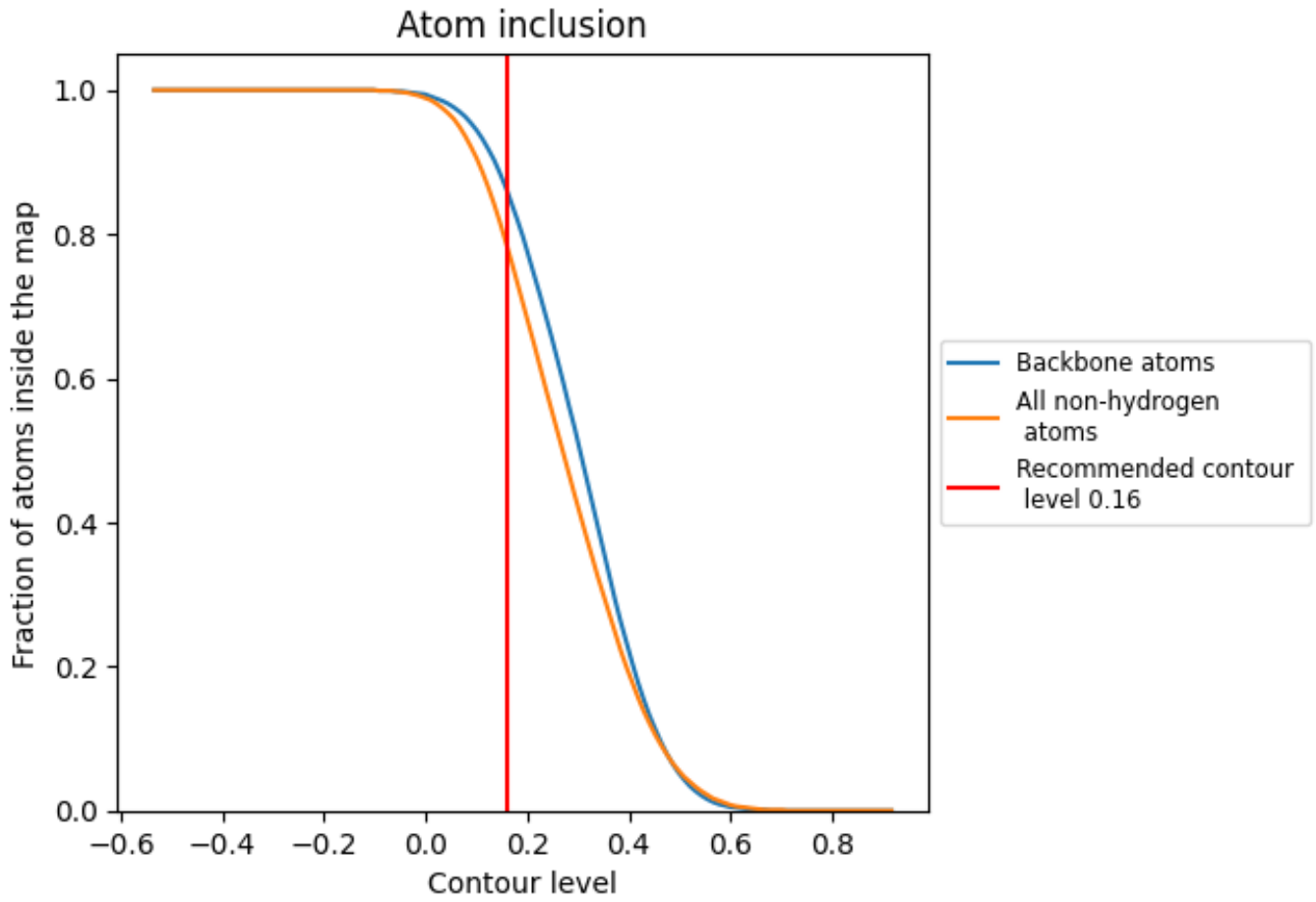
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.16).

9.4 Atom inclusion (i)



At the recommended contour level, 86% of all backbone atoms, 78% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.16) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7840	0.4170
Bb	0.5330	0.3010
Cc	0.5540	0.3100
LA	0.8720	0.4350
LB	0.9190	0.4170
LC	0.8970	0.4420
LD	0.7760	0.5070
LE	0.8130	0.4890
LF	0.8230	0.4860
LG	0.6800	0.3820
LH	0.7520	0.4370
LI	0.8030	0.4810
LJ	0.7390	0.4280
LK	0.7620	0.4600
LL	0.7520	0.4560
LM	0.7190	0.3850
LN	0.8040	0.4770
LO	0.7770	0.4430
LP	0.8190	0.5100
LQ	0.7860	0.4800
LR	0.7990	0.4850
LS	0.8190	0.5010
LT	0.6780	0.4220
LU	0.7950	0.4810
LV	0.8170	0.4870
LW	0.7070	0.3920
LX	0.7540	0.5010
LY	0.8030	0.4830
LZ	0.7810	0.4620
La	0.7550	0.4280
Lb	0.7250	0.4280
Lc	0.8300	0.5020
Ld	0.8030	0.4760
Le	0.7280	0.4490
Lf	0.7690	0.4620



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Chain	Atom inclusion	Q-score
Lg	0.7610	0.4760
Lh	0.8100	0.5050
Li	0.7540	0.4850
Lj	0.8090	0.4600
Lk	0.7630	0.4450
Ll	0.8630	0.5110
Lm	0.6330	0.4020
Ln	0.7900	0.4950
Lo	0.8460	0.4900
Lp	0.6540	0.4860
Lq	0.7900	0.4990
Lr	0.7400	0.4800
S2	0.7990	0.3640
SA	0.5790	0.3880
SB	0.5390	0.3230
SC	0.5890	0.3540
SD	0.2680	0.2660
SE	0.6350	0.3360
SF	0.5600	0.3300
SG	0.6400	0.3650
SH	0.6130	0.3540
SI	0.5900	0.3340
SJ	0.5490	0.3460
SK	0.4570	0.2870
SL	0.5010	0.3400
SM	0.6880	0.4050
SN	0.3190	0.2140
SO	0.4450	0.2650
SP	0.6220	0.3850
SQ	0.6100	0.3930
SR	0.7220	0.4400
SS	0.7070	0.4250
ST	0.6520	0.3790
SU	0.5670	0.3760
SV	0.7320	0.4300
SW	0.7100	0.3960
SX	0.7360	0.4540
SY	0.7120	0.4320
SZ	0.6720	0.4220
Sa	0.6660	0.4200
Sb	0.7680	0.4630
Sc	0.7220	0.4650

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Chain	Atom inclusion	Q-score
Sd	0.7270	0.4050
Se	0.7500	0.4650
Sf	0.6540	0.4130
Sg	0.6600	0.4070
mR	0.8520	0.3900
pp	0.3550	0.4180